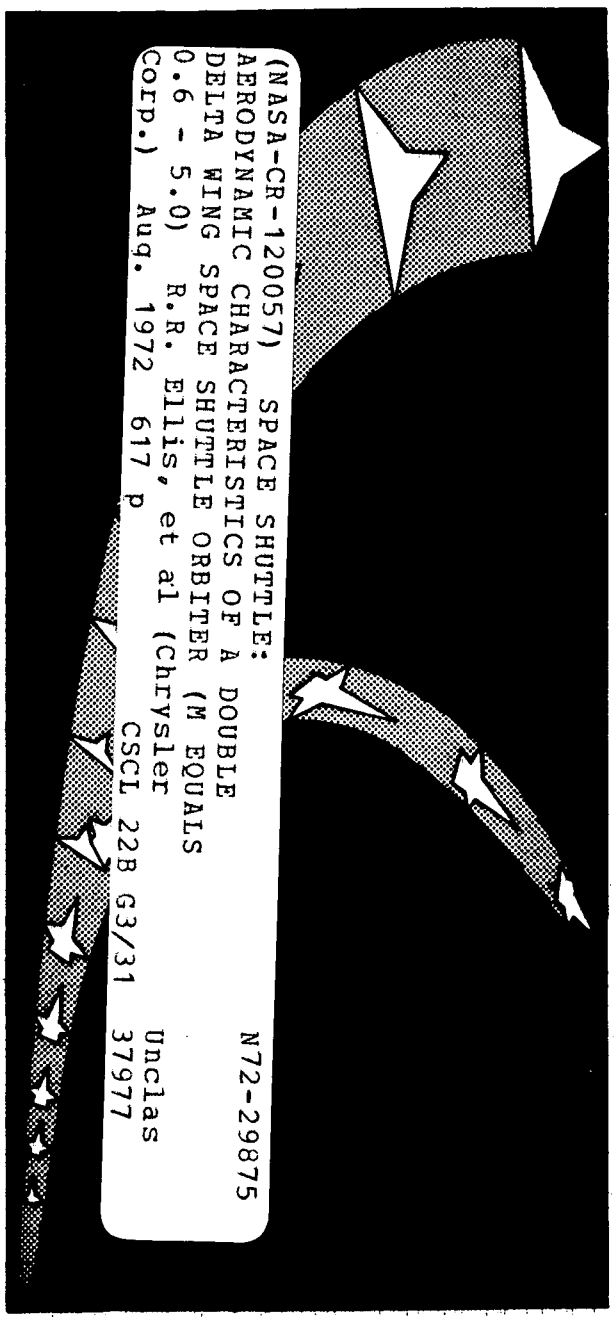
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DMS-DR-1254
CR-120,057
AUGUST 1972



(NASA-CR-120057) SPACE SHUTTLE: AERODYNAMIC CHARACTERISTICS OF A DOUBLE DELTA WING SPACE SHUTTLE ORBITER (M EQUALS 0.6 - 5.0) R.R. Ellis, et al (Chrysler Corp.) Aug. 1972 617 p CSCL 22B G3/31 37977 Unclas
N72-29875

SADSAC SPACE SHUTTLE
AEROTHERMODYNAMIC
DATA MANAGEMENT SYSTEM

CONTRACT NAS8-4016
MARSHALL SPACE FLIGHT CENTER

SPACE DIVISION CHRYSLER CORPORATION

—SPACE SHUTTLE—

AERODYNAMIC CHARACTERISTICS OF A DOUBLE DELTA WING SPACE SHUTTLE ORBITER (M = 0.6 - 5.0)

by

Roger R. Ellis, LMSC/HREC
Mickey Gamble, LMSC/HREC

MSFC 14-INCH TRISONIC
WIND TUNNEL

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INPUT BRANCH

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DMS-DR-1254
CR-120,057
AUGUST, 1972

SADSAC/SPACE SHUTTLE

WIND TUNNEL TEST DATA REPORT

CONFIGURATION: Double-Delta Wing Space Shuttle Orbiter

TEST PURPOSE: To Obtain Static Aerodynamic and Control Effectiveness of a Space Shuttle Orbiter Configuration

TEST FACILITY: NASA/MSFC 14 x 14 -Inch Trisonic Wind Tunnel

TESTING AGENCY: IMSC/HREC

TEST NO. & DATE: MSFC 542; May 18-25, 1972

FACILITY COORDINATOR: Mr. Jim Weaver NASA/MSFC

PROJECT ENGINEER(S): Mr. Roger R. Ellis (IMSC/HREC)
Mr. Mickey Gamble (IMSC/HREC)

DATA MANAGEMENT SERVICES

LIAISON: John E. Vaughn
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FOR W. R. Morgan

RELEASE APPROVAL: J. T. Glynn
FOR N. D. Kemp, Supervisor
Aero Thermo Data Group

CONTRACT NAS 8-4016 AMENDMENT 174 DRL 297 - 84a

This report has been prepared by Chrysler Corporation Space Division under a Data Management Contract to the NASA. Chrysler assumes no responsibility for the data presented herein other than its display characteristics.

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AERODYNAMIC CHARACTERISTICS OF A DOUBLE DELTA WING SPACE SHUTTLE ORBITER (M = 0.6 TO 5.0)

By

Roger R. Ellis and Mickey Gamble

SUMMARY

This test program was the first wind tunnel investigation of a double delta wing Space Shuttle Orbiter. The 0.004 scale model used for this test was the first model constructed of this configuration and as such lacked certain refinements incorporated in later models, the principal differences being that the wing is located 0.1 inches model scale (25 inches full scale) further forward than later models and that the nose contours are slightly different.

The test was conducted May 18 - 25, 1972 in the MSFC 14x14 Inch Trisonic Wind Tunnel. An extensive test program including longitudinal and lateral-directional force data with a variety of control surface deflections was planned; however, the program was severely curtailed, especially in obtaining lateral-directional data, by the loss of the balance rolling moment gage during the test. The original test program is planned for completion at a later date. A complete listing of configurations and the conditions for which they were tested appears in the data set collation sheets.

NOMENCLATURE
General

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

SUBSCRIPTS

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

NOMENCLATURE (Continued)

Body-Axis System

SYMBOL	SADSAC SYMBOL	DEFINITION
C_N	CN	normal-force coefficient; $\frac{\text{normal force}}{qS}$
C_A	CA	axial-force coefficient; $\frac{\text{axial force}}{qS}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_{A_b}	CAB	base-force coefficient; $\frac{\text{base force}}{qS}$ $-A_b(p_b - p_\infty)/qS$
C_{A_f}	CAF	forebody axial force coefficient, $C_A - C_{A_b}$
C_m	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS\ell_{REF}}$
C_n	CYN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qSb}$
C_ℓ	CBL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qSb}$
		Stability-Axis System
C_L	CL	lift coefficient; $\frac{\text{lift}}{qS}$
C_D	CD	drag coefficient; $\frac{\text{drag}}{qS}$
C_{D_b}	CDB	base-drag coefficient; $\frac{\text{base drag}}{qS}$
C_{D_f}	CDF	forebody drag coefficient; $C_D - C_{D_b}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_m	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS\ell_{REF}}$
C_n	CLN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qSb}$
C_ℓ	CSL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qSb}$
L/D	L/D	lift-to-drag ratio; C_L/C_D

SURFACE DEFINITIONS

SYMBOL	SADSAC SYMBOL	DEFINITION
δ_e	ELEVON	elevon, surface deflection angle, positive deflection, trailing edge down; degrees.
δ_{e_L}	ELVN-L	left elevon, surface deflection angle, positive deflection, trailing edge down; degrees.
δ_{e_R}	ELVN-R	right elevon, surface deflection angle, positive deflection, trailing edge down; degrees.
$\Delta\delta_e$	DLTELV	incremental elevon deflection, surface deflection angle, positive deflection, trailing edge down, $\Delta\delta_e = (\delta_{e=xx} - \delta_{e=o})$ degrees.
δ_r	RUDDER	rudder, surface deflection angle, positive deflection, trailing edge to the left; degrees.
δ_{rf}	RFLARE	rudder flare, split rudder deflection angle, left split rudder trailing edge left and right split rudder trailing edge right, $\delta_{rf} = (\delta_{rL} + \delta_{rR})/2$, positive deflection; degrees.
δ_{rfL}		left vertical tail rudder flare, split rudder deflection angle, left split rudder trailing edge left and right split rudder trailing edge right, $\delta_{rf} = (\delta_{rL} + \delta_{rR})/2$, positive deflection; degrees.
δ_{rfR}		right vertical tail rudder flare, split rudder deflection angle, left split rudder trailing edge left and right split rudder trailing edge right, $\delta_{rf} = (\delta_{rL} + \delta_{rR})/2$, positive deflection; degrees.
δ_f	BFLAP	body flap, surface deflection angle, positive deflection, trailing edge down; degrees

ADDITIONS TO NOMENCLATURE
FOR MSFC TWT TEST 542

SYMBOL	SADSAC SYMBOL	DEFINITION
C_{l_α}local	CL/A	local lift coefficient derivative with alpha; per degree.
C_{m_α}local	CLM/A	local pitching moment coefficient derivative with alpha; per degree.
$\partial_{C_m}/\partial_{C_L}$	DCLM/CL	local longitudinal stability slope DCLM/CL = (CLM/A)/(CL/A)
C.P.	XCP/L	longitudinal center of pressure based on body length $XCP/L = \left[XMRP-(CLM/CN)\right] \frac{L_{REF}}{\text{Body Length}}$
C_{y_β}local	CYBETA	local side force coefficient derivative with respect to beta; per degree.
C_{n_β}local	CYNBET	local yawing moment coefficient derivative with respect to beta; body axis system; per degree.
C_{l_β}local	CBLBET	local rolling moment coefficient derivative with respect to beta; body axis system; per degree.
Δ_{C_N}	DLTCN	incremental normal force coefficient, algebraic difference of two runs.
Δ_{C_L}	DLTCL	incremental lift coefficient, algebraic difference of two runs.
Δ_{C_m}	DLTCLM	incremental pitching moment coefficient, algebraic difference of two runs.
Δ_{C_A}	DLTCA	incremental axial force coefficient, algebraic difference of two runs.

CONFIGURATIONS INVESTIGATED

The model geometry (0.004-scale) is specified in Fig. 2. The model was constructed using aluminum for the body and 17-4 PH stainless steel (elevons, fins and rudder flares). The capability to obtain wing-body-tail, wing-body and body-alone data will be provided. In addition, the model has deflectable elevons, rudders/rudder flare, and body flap.

The following is a list of model components:

Symbol	
A1	abort SRM pods
B1	orbiter body, including canopy and housing along top centerline
B2	B1 with off-block for body alone
P1	ACPS pods (wing upper surface)
V11	twin vertical tails (5-degree L.E. semivertex angle)
W4	wing (including glove)
R2	nozzle shroud
F2	body flap

The data set collation sheets (Table II) illustrate the various configuration combinations tested, data set identifiers, parametric data and tunnel run number associated with each data set.

TEST FACILITY DESCRIPTION

The MSFC 14 x 14 Inch 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 0.2 to 5.85 is covered by utilizing two interchangeable test sections. The transonic section permits testing at Mach 2.75 to 5.85. Mach numbers between 0.2 and 0.9 are obtained by using a controllable diffuser. The range from 0.95 to 1.3 is achieved through the use of plenum suction and perforated walls. Mach numbers of 1.46, 1.96 and 2.48 are produced by interchangeable sets of fixed contour nozzle blocks. Above Mach 2.48 a set of fixed contour nozzle blocks are tilted and translated automatically to produce any desired Mach number in 0.25 increments.

Air is supplied to a 6000 cubic foot storage tank at approximately $-40^{\circ}F$ 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 $180^{\circ}F$. 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° ($\pm 10^{\circ}$). Sting offsets and extensions are available for obtaining various maximum angles of attack up to 90°.

DATA REDUCTION

Six component aerodynamic force and moment data were measured using MSFC balance #201. All runs from 117/1 on do not have rolling moment recorded due to the loss of the balance rolling moment gage. Two base pressures and one cavity pressure were recorded. These pressures were used to compute a base axial force coefficient by the use of the following equations.

$$CAB = (CPBAVG)\frac{A_b - A_c}{S_{ref}} - (CPC)\frac{A_c}{S_{ref}}$$

where: CPBAVG = average base pressure coefficient

$$= \frac{P_{bavg} - P_\infty}{q}$$

$$CPC = \text{cavity pressure coefficient} = \frac{P_c - P_\infty}{q}$$

Data Reduction Constants

1. Moment Reference Center Location

   XMRP = 3.682 inches from nose

   YMRP = 0 inches from model center line

   ZMRP = 0 inches from model center line

2. Base Areas

   A_b = 0.732 in.^{2} A_c = 0.314 in.^{2}

3. Reference Areas

   S_{ref} = 7.880 in.^{2}

4. Reference Lengths

   ℓ_{ref} = 2.028 in. b_{ref} = 4.460 in.

TABLE I

TEST CONDITIONS
TEST TWT 542

MACH NUMBER	REYNOLDS NUMBER per unit length	DYNAMIC PRESSURE (pounds/sq. inch)	STAGNATION TEMPERATURE (degrees Fahrenheit)
.60	4.5×10^6	4.0	100
.90	5.7	6.7	↓
1.20	6.1	8.3	↓
1.96	6.8	9.9	↓
3.50	6.4	6.9	140
4.96	5.0	3.1	↓

BALANCE UTILIZED: MSFC #201

	CAPACITY:		ACCURACY:	COEFFICIENT TOLERANCE: 5 psi	10 psi
NF	120 lbs.		.6 lbs.	.0152	.0076
SF	40 lbs		.2 lbs.	.0050	.0025
AF	30 lbs.		.15 lbs.	.0038	.0019
PM	120 in-lbs.on	either gage	1.2 in-lbs	.0150	.0075
YM	40 in-lbs.on	either gage	.4 in-lbs.	.0022	.0011
RM	25 in-lbs.		.125 in-lbs.	.0008	.0004

COMMENTS:

TABLE II

TEST TWT 542 DATA SET/RUN NUMBER

COLLATION SUMMARY

11

1 of 3

☐ PRETEST

☒ POSTTEST

DATA SET IDENTIFIER	CONFIGURATION	SCHD. α	SCHD. β	PARAMETERS/VALUES δ_{EL}	δ_{ER}	δ_{RFL}	δ_{RFI}	NO. of RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE) δ_F	0.6	0.9	1.2	1.46	1.96	3.5	4.96	TEST RUN NUMBERS
R69001	B1F2W4V11P1	A	0	0	0	0	0		0	012/0	011/0	010/0		118/0	131/0	130/0	
002		B	0							036/0	035/0	034/0					
003		C	0											125/0	139/0	138/0	
004		0	D							049/0	050/0	051/0					
005	↓	10	D	↓	↓	↓	↓		↓	048/0	047/0	046/0					
007	B1F2W4V11P1	A	0	-10	-10	0	0		0	013/0	014/0	015/0		119/0		132/0	
008		B	0							037/0	038/0	039/0					
009		C	0											124/0		137/0	
010		0	D	↓	↓					054/0	053/0	052/0					
011		A	0	-30	-30					018/0	017/0	016/0		120/0		133/0	
012		B	0							042/0	041/0	040/0					
013		C	0	↓	↓									123/0		136/0	
014		A	0	+10	+10					019/0	020/0	021/0		121/0		134/0	
015		B	0							043/0	044/0	045/0					
016	↓	C	0											122/0		135/0	
017	B1F2W4V11P1A1	A	0	↓	↓					024/0	023/0	022/0					
018		A	0	-10	-10					025/0	026/0	027/0					
019		A	0	0	0					030/0	029/0	028/0					
020	↓	B	0	↓	↓	↓	↓		↓	031/0	032/0	033/0					

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

CLM | CN | CY | CBL | CYN | CA | CAB | CAF | CPC | CPB | 1.0

IDPVAR(1) | IDPVAR(2) | NDV

COEFFICIENTS: α or β SCHEDULES

α: A = -4° to 10° ($\Delta\alpha$ = 2°); B = 10° to 20° ($\Delta\alpha$ = 2°)

C = 10° to 30° ($\Delta\alpha$ = 2°)

β: D = -6°, -3°, -2°, -1°, 0°, 1°, 2°, 3°, 6°

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TABLE II (CONTINUED)

TEST TWT 542 DATA SET/RUN NUMBER

COLLATION SUMMARY

2 of 3

☐ PRETEST

☒ POSTTEST

DATA SET IDENTIFIER	CONFIGURATION	SCHD. α	SCHD. β	PARAMETERS/VALUES δ_{EL}	δ_{ER}	δ_{RF_I}	δ_{RF_O}	NO. of RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE) δ_F			0.6	0.9	1.2	1.46	1.96	3.5	4.96			TEST RUN NUMBERS
R69021	B1F2W4V11P1A1	0	D	0	0	0	0		0			060/0	059/0	058/0							
022	↓	0	D	-10	-10	↓	↓		↓			055/0	056/0	057/0							
023	B1F2W4V11P1	A	0	0	0	30/0	30/0					108/0	107/0	106/0							
024	↓	0	D	↓	↓	↓	↓					061/0	064/0	062/0							
025		10	D			↓	↓					078/0	077/0	076/0							
026		A	0			30/-30	30/-30					097/0	098/0	099/0							
027		0	D			↓	↓					090/0	089/0	088/0							
028		10	D			↓	↓					085/0	086/0	087/0							
029	↓	20	D			↓	↓					096/0	095/0	094/0							
030	B1F2W4V11P1R2	A	0			↓	↓					102/0	101/0	100/0							
031	↓	0	D			↓	↓					091/0	092/0	093/0							
032		10	D			↓	↓					084/0	083/0	082/0							
033		A	0			30/0	30/0					103/0	104/0	105/0							
034		0	D			↓	↓					066/0	065/0	064/0							
035		10	D			↓	↓					079/0	080/0	081/0							
036		A	0			0	0					114/0	113/0	112/0		126/0		129/0			
037		0	D			↓	↓					061/0	062/0	063/0							
[illegible]	↓	10	D			↓	↓					115/0	116/0	117/0							
039	B1F2W4V11P1A1	A	0			30/0	30/0					107/0	110/0	111/0							
040	↓	0	D	↓	↓	↓	↓		↓			077/0	071/0	070/0							

1	7	13	19	25	31	37	43	49	55	61	67	75	76
CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB				1.0

IDPVAR(1) | IDPVAR(2) | NDV

COEFFICIENTS: α or β SCHEDULES

α: A = -4° to 10° (Δα = 2°); B = 10° to 20° (Δα = 2°)
C = 10° to 30° (Δα = 2°)

B: D = -6°, -3°, -2°, -1°, 0°, 1°, 2°, 3°, 6°

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TABLE II (CONTINUED)

TEST TWT 542 DATA SET/RUN NUMBER

COLLATION SUMMARY

3 of 3

☐ PRETEST

☒ POSTTEST

DATA SET IDENTIFIER	CONFIGURATION	SCHD. α	SCHD. β	PARAMETERS/VALUES δ_{EL}	δ_{ER}	δ_{RFL}	δ_{RFR}	NO. of RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE) δ_F			0.6	0.9	1.2	1.46	1.96	3.5	4.96			TEST RUN NUMBERS
R69041	B1F2W4V11P1A1	10	D	0	0	30/0	30/0		0			013/0	074/0	075/0							
042	B1F2W4V11P1	A	0	↓	↓	0	0		64							127/0	143/0	142/0			
043	↓	C	0	↓	↓	↓	↓		↓			154/0	153/0	152/1		126/0	140/0	141/0			
044	B1F2W4P1	A	0	↓	↓	—	—		0							151/0		144/0			
047	B2	A	0	—	—	—	—		—			155/0	156/0	157/0		150/0	146/0	145/0			
048	↓	B	0	↓	↓	↓	↓		↓			160/0	159/0	158/0							
049	↓	C	0	↓	↓	↓	↓		↓							149/0	147/0	148/0			
052	B1F2W4V11P1 (NO GRIT)	A	0	+10	+10	0	0		0			004/0		005/0		003/0					
053	↓	A	0	0	0	↓	↓		↓			008/0		009/0		001/0					
054	↓	A	0	-10	-10	↓	↓		↓			007/0		006/0		002/0					

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

CLM | CN | CY | CBL | CYN | CA | CAB | CAF | CPC | CPB | 1 0

IDPVAR(1) | IDPVAR(2) | NDV

COEFFICIENTS: α or β SCHEDULES

α: A = -4° to 10° (Δα = 2°); B = 10° to 20° (Δα = 2°)

C = 10° to 30° (Δα = 2°)

β: D = -6°, -3°, -2°, -1°, 0°, 1°, 2°, 3°, 6°

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TABLE III - DIMENSIONAL DATA

MODEL COMPONENT: BODY - B1

GENERAL DESCRIPTION: Basic orbiter body including canopy and manipulator arm housing.

DRAWING NUMBER

DIMENSION:	FULL SCALE	MODEL SCALE (.004)
Length	1315 in.	5.260 in.
Max Width (P.L. Bay/Base)	208/220 in.	.832/.880 in.
Max Depth	235 in.	.940 in.
Fineness Ratio	6.32	6.32
Area		
Max Cross-Sectional		
Planform		
Wetted	6250 ft.^{2}	14.40 in.^{2}
Base Projected	317.7 ft.^{2}	.732 in.^{2}

TABLE III (CONTINUED)

MODEL COMPONENT: BODY - B2

GENERAL DESCRIPTION: Identical to B1 except has filler block for body alone testing

DRAWING NUMBER

DIMENSION:	FULL SCALE	MODEL SCALE
Length	1315 in.	5.260 in.
Max Width P.L. Bay/Base	208/220 in.	.832/880 in.
Max Depth	235 in.	.940 in.
Fineness Ratio	6.32	6.32
Area		
Max Cross-Sectional		
Planform		
Wetted	6250 ft.^{2}	14.40 in.^{2}
Base	317.7 ft.^{2}	.732 in.^{2}

TABLE III (CONTINUED)

MODEL COMPONENT: F2

GENERAL DESCRIPTION: Body flap.

DRAWING NUMBER:

DIMENSIONS:	FULL-SCALE	MODEL SCALE (.004)
Area	70.1 ft.^{2}	.1615 in.^{2}
Span (equivalent)	222.5 in	.890 in.
Inb'd equivalent chord	47.5 in	.190 in.
Outb'd equivalent chord	0.0	0.0
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	-	-
At Outb'd equiv. chord	-	-
Sweep Back Angles, degrees		
Leading Edge	0.0	0.0
Tailing Edge	-11° 55'	-11° 55'
Hingeline	0.0	0.0
Area Moment (Normal to hinge line)	-	-

NASA-M FC-MAF

TABLE III (CONTINUED)

MODEL COMPONENT: W4

GENERAL DESCRIPTION: Double delta wing

DRAWING NUMBER:

DIMENSIONS:	FULL-SCALE	MODEL SCALE (.004)
TOTAL DATA		
Area		
Planform Basic/Glove	3420/1187 ft.^{2}	7.880/2.735 in.^{2}
Wetted Basic/Glove	4925/819 ft.^{2}	11.347/1.887 in.^{2}
Span (equivalent)	1115 in.	4.460 in.
Aspect Ratio Basic/Glove	2.5/1.9	2.5/1.9
Rate of Taper	-	-
Taper Ratio Basic/Glove	0.20/0.10	0.20/0.10
Dihedral Angle, degrees	7°	7°
Incidence Angle, degrees	1.5°	1.5°
Aerodynamic Twist, degrees	-	-
Toe-In Angle	-	-
Cant Angle	-	-
Sweep Back Angles, degrees		
Leading Edge Basic/Glove	35°/75°	35°/ 75°
Trailing Edge	-19.6°	-19.6°
0.25 Element Line	-	-
Chords:		
Root (Wing Sta. 0.0) B/G	736/720 in.	2.944/2.880 in.
Tip, (equivalent)	147 in.	0.588 in.
MAC Basic	507 in.	2.028 in.
Fus. Sta. of .25 MAC	-	-
W.P. of .25 MAC	-	-
B.L. of .25 MAC	217 in.	0.868 in.
Airfoil Section		
Root	0008-64	0008-64
Tip	0008-64	0008-64
EXPOSED DATA		
Area Basic/Glove	1218.95/162.55 ft.^{2}	2.806/0.374 in.^{2}
Span, (equivalent)	453.5 in.	1.814 in.
Aspect Ratio	-	-
Taper Ratio	-	-
Chords		
Root Basic/Glove	626.87/404.74 in.	2.507/1.619 in.
Tip	147 in.	0.588 in.
MAC	-	-
Fus. Sta. of .25 MAC	-	-
W.P. of .25 MAC	-	-
B.L. of .25 MAC	-	-

TABLE III (CONTINUED)

MODEL COMPONENT: V11

GENERAL DESCRIPTION: Twin vertical tails. (Dimensions are for a single panel)

DRAWING NUMBER: _____

DIMENSIONS:	FULL-SCALE	MODEL SCALE (.004)
TOTAL DATA		
Area		
Planform	-	-
Wetted	525 ft.^{2}	1.21 in.^{2}
Span (equivalent)	-	-
Aspect Ratio	-	-
Rate of Taper	-	-
Taper Ratio	-	-
Dihedral 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	45°	45°
Trailing Edge	20°	20°
0.25 Element Line	-	-
Chords:		
Root (Wing Sta. 0.0)	-	-
Tip, (equivalent)	-	-
MAC	-	-
Fus. Sta. of .25 MAC	-	-
W.P. of .25 MAC	-	-
B.L. of .25 MAC	-	-
Airfoil Section		
Root	5° wedge (60/40)	5° wedge (60/40)
Tip	5° wedge (60/40)	5° wedge (60/40)
EXPOSED DATA		
Area	250 ft.^{2}	0.576 in.^{2}
Span, (equivalent)	240 in.	0.96 in.
Aspect Ratio	1.6	1.6
Taper Ratio	0.35	0.35
Chords		
Root	230 in.	0.920 in.
Tip	80 in.	0.320 in.
MAC	-	-
Fus. Sta. of .25 MAC	-	-
W.P. of .25 MAC	-	-
B.L. of .25 MAC	-	-

TABLE III (CONTINUED)

MODEL COMPONENT: BODY - P1

GENERAL DESCRIPTION: ACPS pods. One mounted on the upper tip of each wing. Consists of rectangular base capped by a hemisphere. Contoured to match wing tip and with the bottom beveled to match wing surface.

DRAWING NUMBER

DIMENSION:	FULL SCALE	MODEL SCALE
Length, ft.	192.5 in.	.770 in.
Max Width, inches	43.8 in.	.175 in.
Max Depth, inches	43.8 in.	.175 in.
Fineness Ratio	-	-
Area, ft^2		
Max Cross-Sectional	8.29 $ft.^2$	.0191 $in.^2$
Planform	-	-
Wetted	-	-
Base	-	-

TABLE III (CONTINUED)

MODEL COMPONENT: BODY - A1

GENERAL DESCRIPTION: Abort SRM pods. Cone cylinders with a 22.5° half angle nose cone. Rocket nozzle is a 22.5 cone. Nose radius is .034 in. model scale and 8.5 in. full scale.

DRAWING NUMBER

DIMENSION:	FULL SCALE	MODEL SCALE (.004)
Length	342 in.	1.368 in.
Max Diameter	62 in.	.248 in.
Max Depth	-	-
Fineness Ratio	5.52	5.52
Area		
Max Cross-Sectional	22.3 ft.^{2}	.0515 in.^{2}
Planform	-	-
Wetted	-	-
Base	-	-

TABLE III (CONTINUED)

MODEL COMPONENT: BODY - R2

GENERAL DESCRIPTION: Rocket nozzle shroud. Consists of a 15° half cone mounted on the top of the aft body with the base cut on an 11° angle to match the inclination of the base

DRAWING NUMBER

DIMENSION:	FULL SCALE	MODEL SCALE
Length	191.3 in.	.765 in.
Max Diameter	52.5 in.	.210 in.
Max Depth	-	-
Fineness Ratio	-	-
Area		
Max Cross-Sectional	-	-
Planform	-	-
Wetted	-	-
Base	14.97 ft.^{2}	.0345 in.^{2}

DR

TABLE III (CONTINUED)

MODEL COMPONENT: E1

GENERAL DESCRIPTION: Wing elevon. Dimensions refer to a single panel.

DRAWING NUMBER:

DIMENSIONS:	FULL-SCALE	MODEL SCALE
Area, ft^2	371.3 $ft.^2$	.855 $in.^2$
Span (equivalent), inches	399.0 in.	1.596 in.
Inb'd equivalent chord, inches	204.0 in.	.816 in.
Outb'd equivalent chord, inches	64.0 in.	.256 in.
Ratio Elevator chord/horizontal tail chord		
At Inb'd equiv. chord	-	-
At Outb'd equiv. chord	-	-
Sweep Back Angles, degrees		
Leading Edge	0.0	0.0
Tailing Edge	$-19^{\circ}36'$	$-19^{\circ}36'$
Hingeline	0.0	0.0
Area Moment (Normal to hinge line) ft^3	-	-

NASA-M FC-MAF

TABLE III (CONTINUED)

MODEL COMPONENT: R1

GENERAL DESCRIPTION: Rudder

DRAWING NUMBER:

DIMENSIONS:	FULL-SCALE	MODEL SCALE
Area, ft	102.4 ft.^{2}	.236 in.^{2}
Span (equivalent), inches	233.3 in.	.933 in.
Inb'd equivalent chord, inches	94.5 in.	.378 in.
Outb'd equivalent chord, inches	32.0 in.	.128 in.
Ratio Rudder chord/horizontal tail chord		
At Inb'd equiv. chord	.40	.40
At Outb'd equiv. chord	.40	.40
Sweep Back Angles, degrees		
Leading Edge	32° 36'	32° 36'
Tailing Edge	20° 34'	20° 34'
Hingeline	32° 36'	32° 36'
Area Moment (Normal to hinge line) ft^3	-	-

TABLE IV

INDEX OF MODEL FIGURES

FIGURE		PAGE
1.	Axis System	28
2.	General Arrangement, Space Shuttle Orbit	29
3.	Definition of Base and Cavity Areas for Axial Force Corrections	30
4.	Photograph of Model	31

TABLE V

INDEX OF DATA FIGURES

TITLE	CONDITION VARYING	PLOTTED COEFFICIENT SCHEDULE	PAGE NO.
Baseline Longitudinal Characteristics	Mach No.	A	1-8
Baseline Lateral-Directional Characteristics	Alpha	B	9-11
Effect of Elevons (Without Abort SRM)	Elevon Deflection	A,B	12-68
Effect of Elevons (With Abort SRM)	Elevon Deflection	A,B	69-101
Effect of Body Flap	Body Flap Deflection	A	102-125
Effect of Rudders (Without Shroud)	Rudder Deflection, Alpha	A,C,B	126-167
Effect of Rudders (With Shroud)	Rudder Deflection, Alpha	A,C,B	168-209
Effect of Rudders (With Abort SRM)	Rudder Deflection, Alpha	A,C,B	210-251
Effect of Rudder Flare (Without Shroud)	Rudder Flare, Alpha	A,C,B	252-293
Effect of Rudder Flare (With Shroud)	Rudder Flare, Alpha	A,C,B	294-335
Effect of Abort SRM	Configuration	A,B	336-368
Effect of Shroud	Configuration	A,B	369-401

TABLE V (CONTINUED)

TITLE	CONDITION VARYING	PLOTTED COEFFICIENT SCHEDULE	PAGE NO.
Configuration Buildup	Configuration	A,C	402-515
C. P. Location versus Mach Number (Baseline)	Alpha	D	516
C. P. Location versus Mach Number (With Flares)	Alpha	D	517
C. P. Location versus Mach Number (With Abort SRM)	Alpha	D	518
C. P. Location versus Mach Number (With Elevons)	Alpha, Elevon Deflection	D	519-521
Longitudinal Stability Derivatives versus Mach Number (Baseline)	Alpha	E	522
Longitudinal Stability Derivatives versus Mach Number (Flare)	Alpha	E	523
Lateral-Directional Stability Derivatives versus Mach Number (Baseline)	Alpha	F	524-526
Elevon Effectiveness (Baseline)	DLTELV	G	527-546
Elevon Effectiveness (With Abort SAM)	DLTELV	G	547-558

PLOTTED COEFFICIENT SCHEDULE

(A) CLM, CN, CA, CAB, CL, CD, L/D versus Alpha; CL vs CLM

(B) CY, CYN & CBL vs Beta

(C) CY, CYN & CBL vs Alpha

(D) XCP/L vs Mach

(E) CL/A, CLM/A & DCLMCL vs Mach

(F) CBLBET, CYNBET, CYBETA vs Mach

(G) DLTCN, DLTCL, DLTCLM & DLTCA vs Alpha

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.

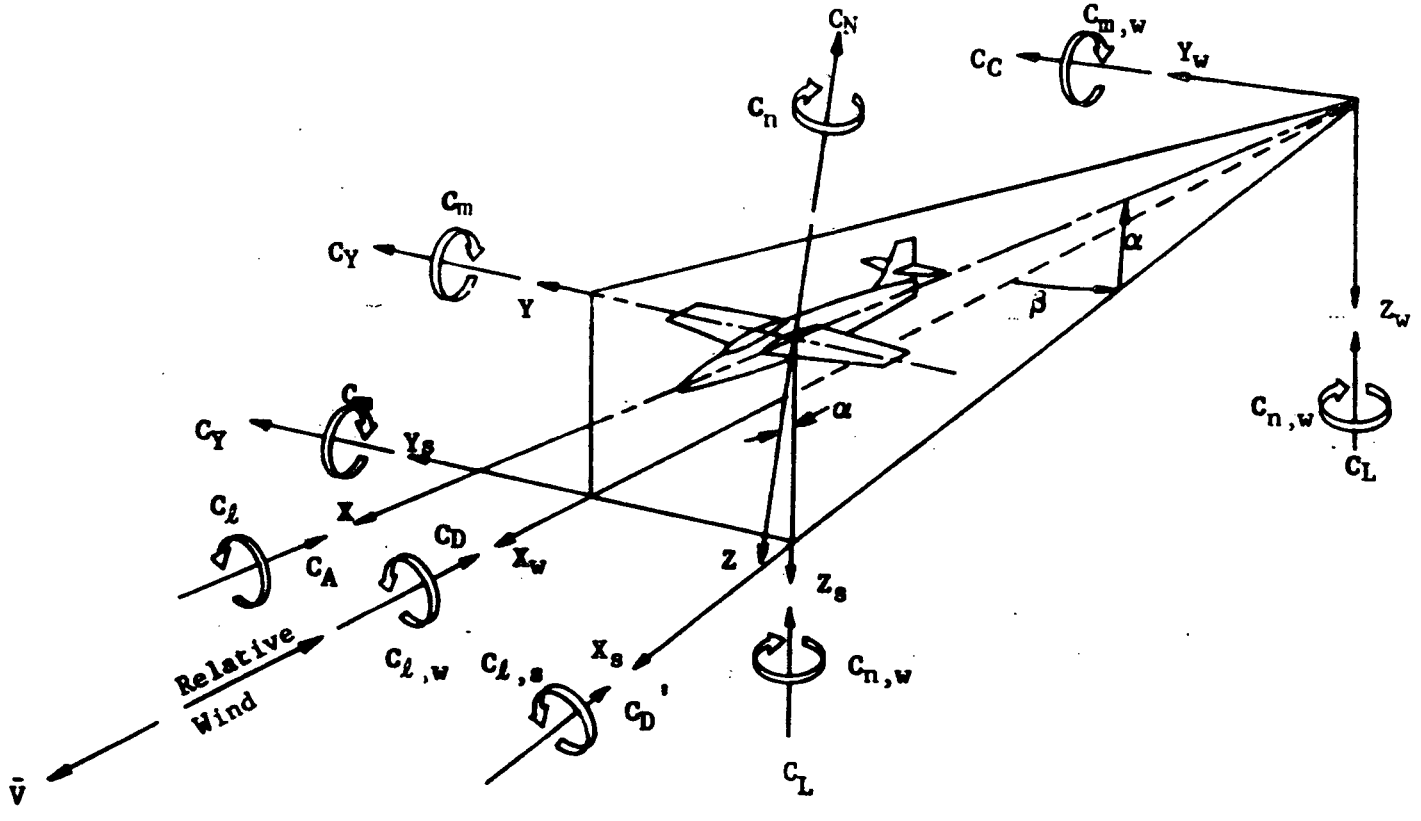


Figure 1. Axis systems, showing direction and sense of force and moment coefficients, angle of attack, and sideslip angle

Note: All dimensions are model scale, inches

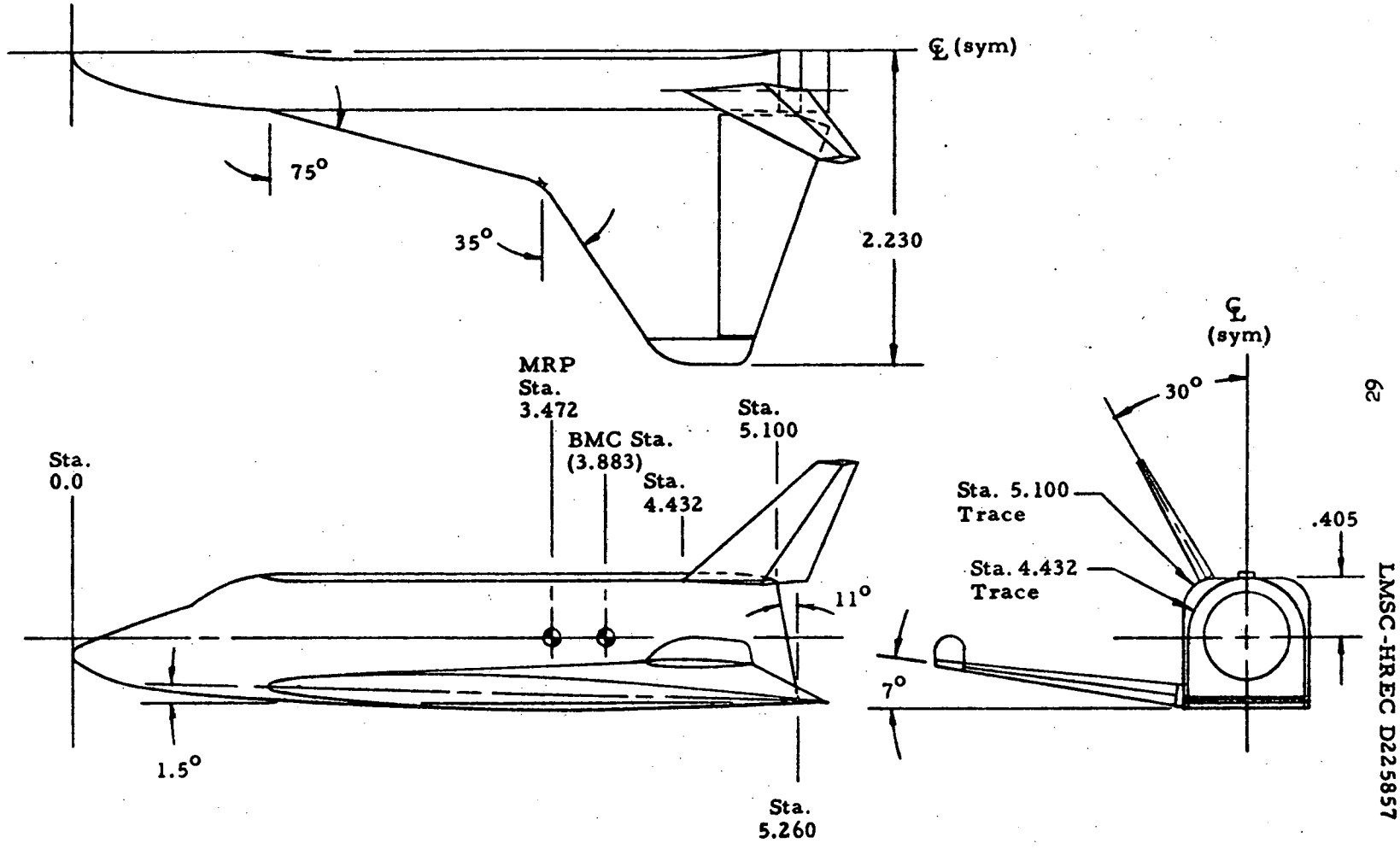


Fig. 2 - General Arrangement, Space Shuttle Orbiter

Fig. 3 - Definition of Base and Cavity Areas for Axial Force Corrections

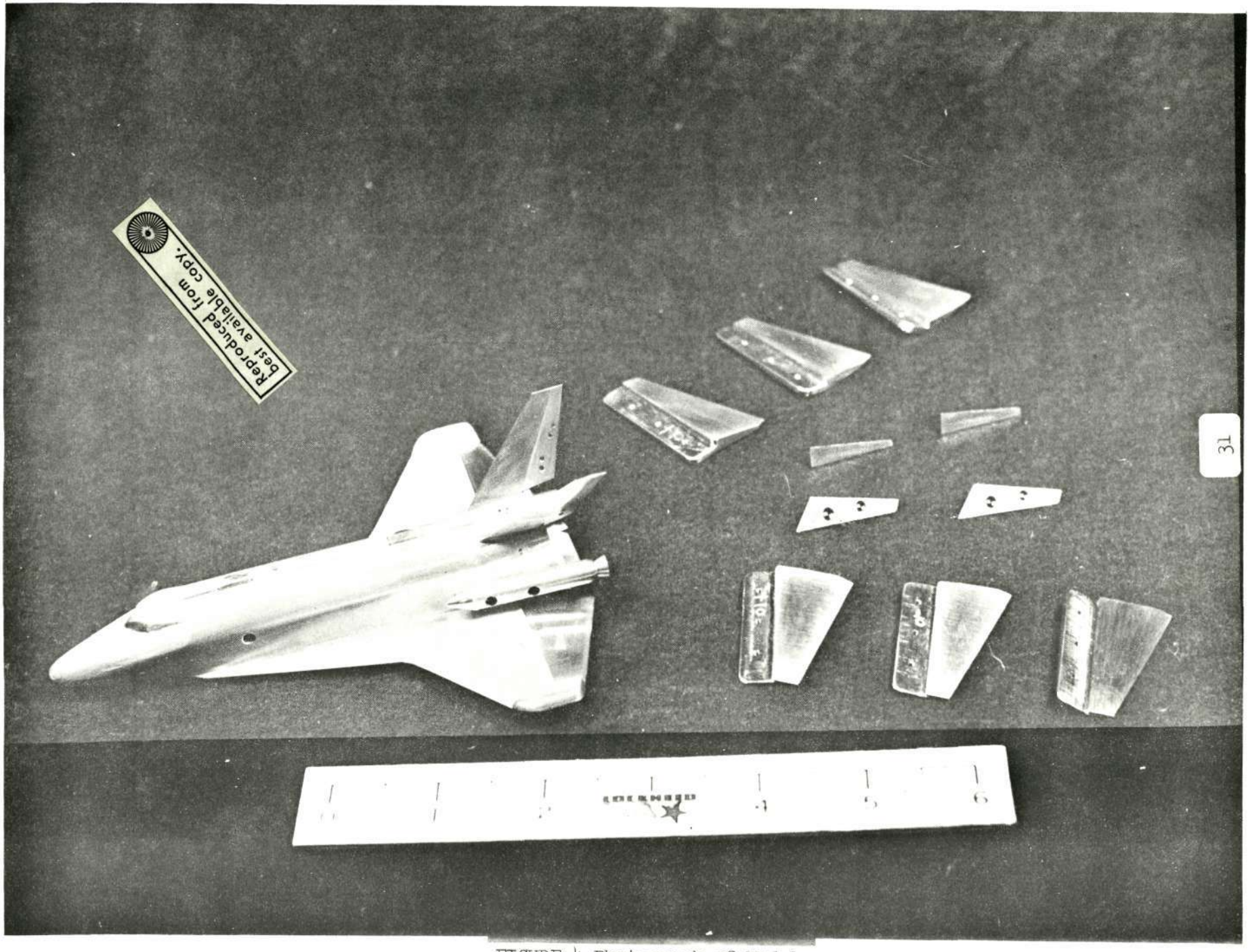
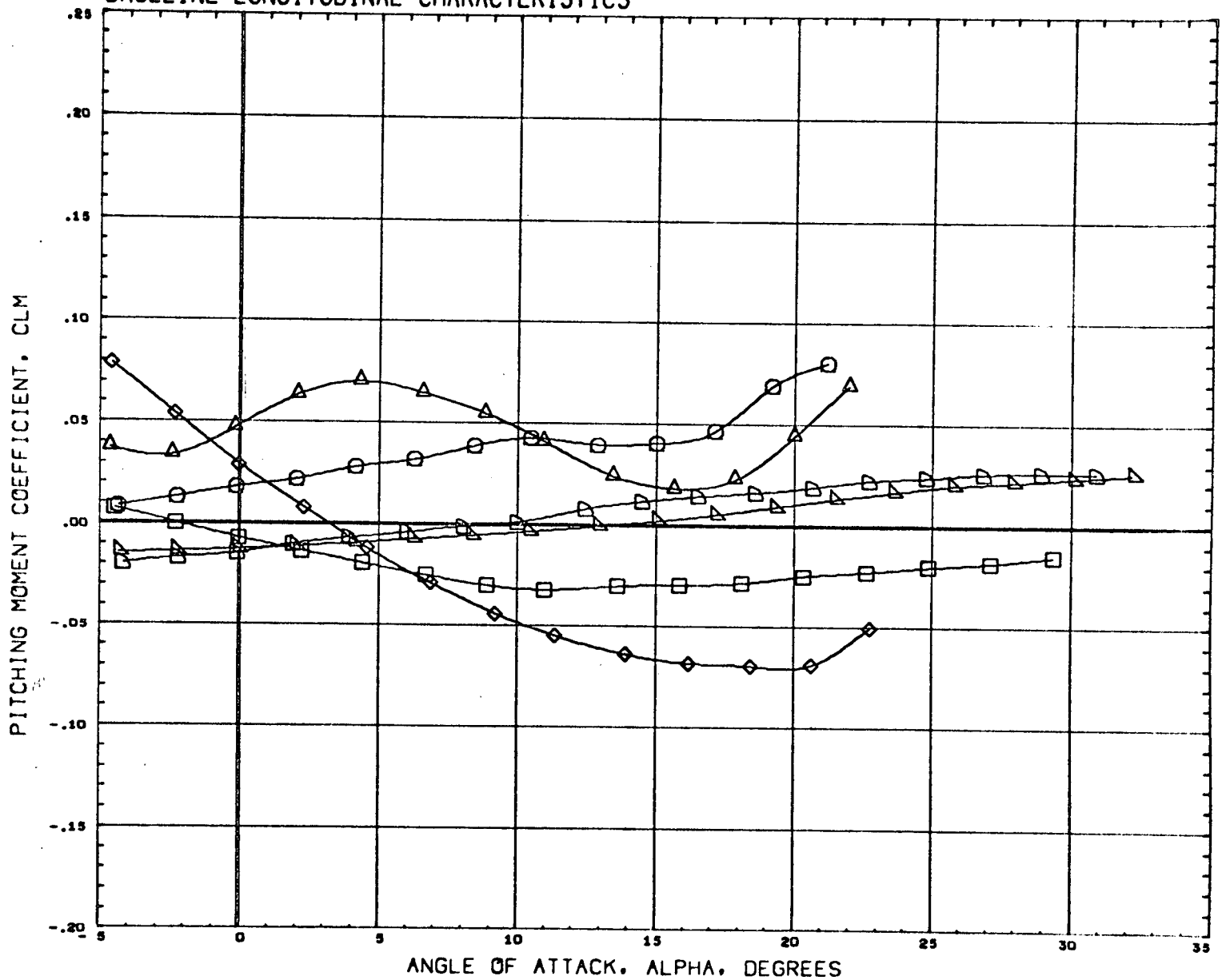


FIGURE 4 Photograph of Model

DATA FIGURES

Tabulations of the plotted data are available from SADSAC Operations. Source data is presented as an appendix to the report.

BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH		PARAMETRIC VALUES		
○	0.599	BETA	0.000	ELEVON	0.000
△	0.900	RUDDER	0.000	RFLARE	0.000
◇	1.195	BFLAP	0.000		
□	1.951				
▽	3.479				
D	4.960	DATA HIST. CODE	*GTV		

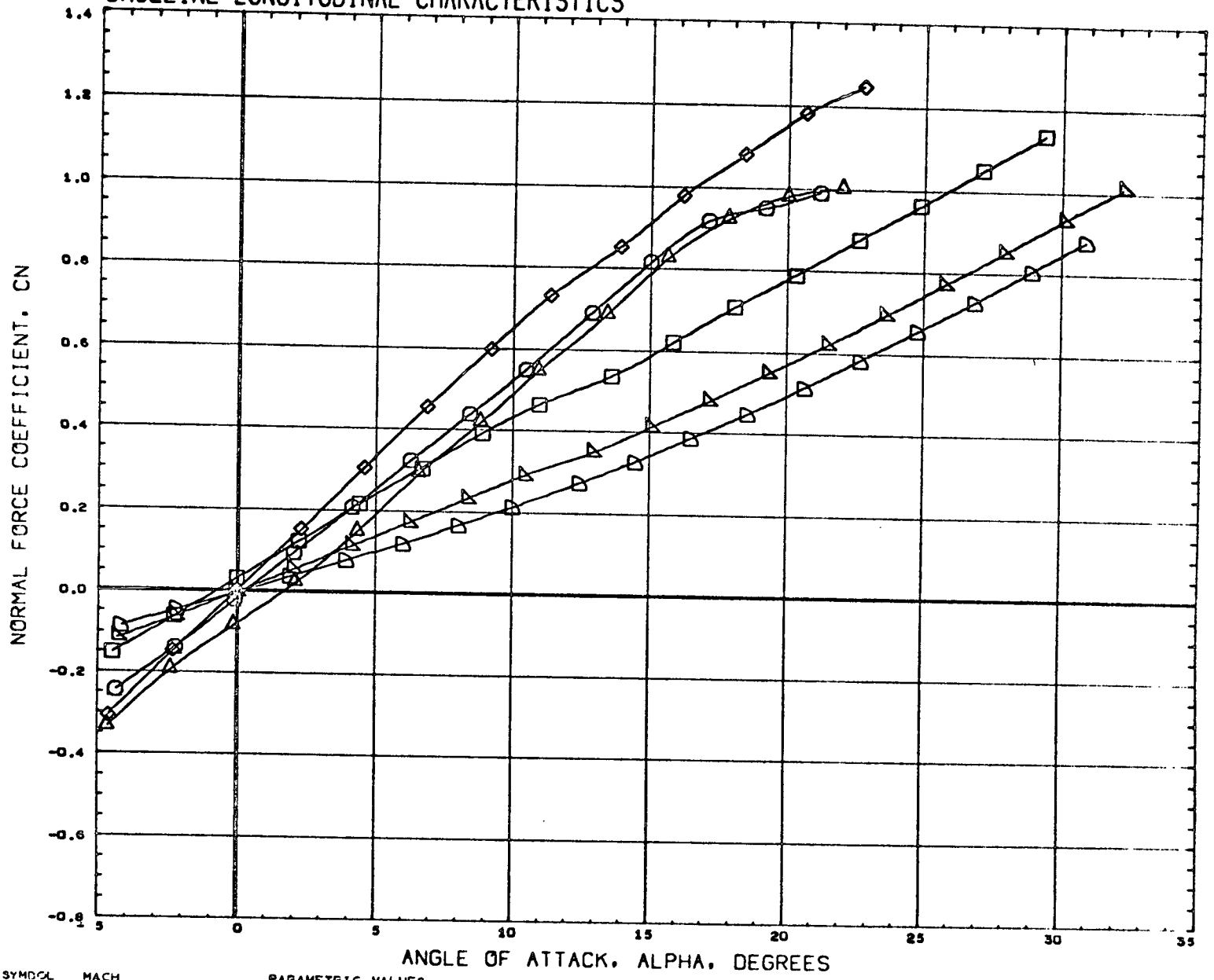
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ZMRP	0.0000	IN.
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MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (B69S01) 22 JUN 72 PAGE 1

Re

BASELINE LONGITUDINAL CHARACTERISTICS

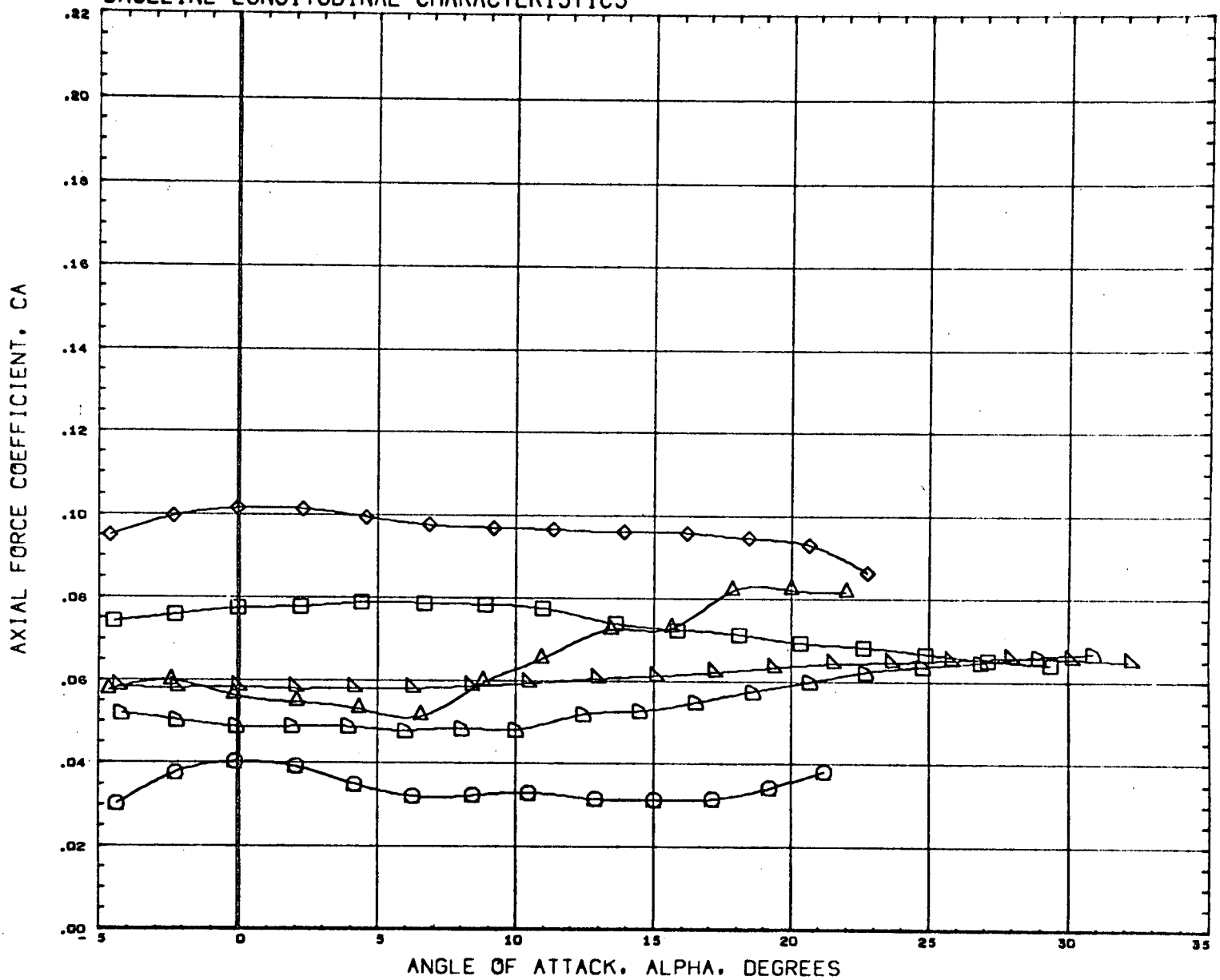


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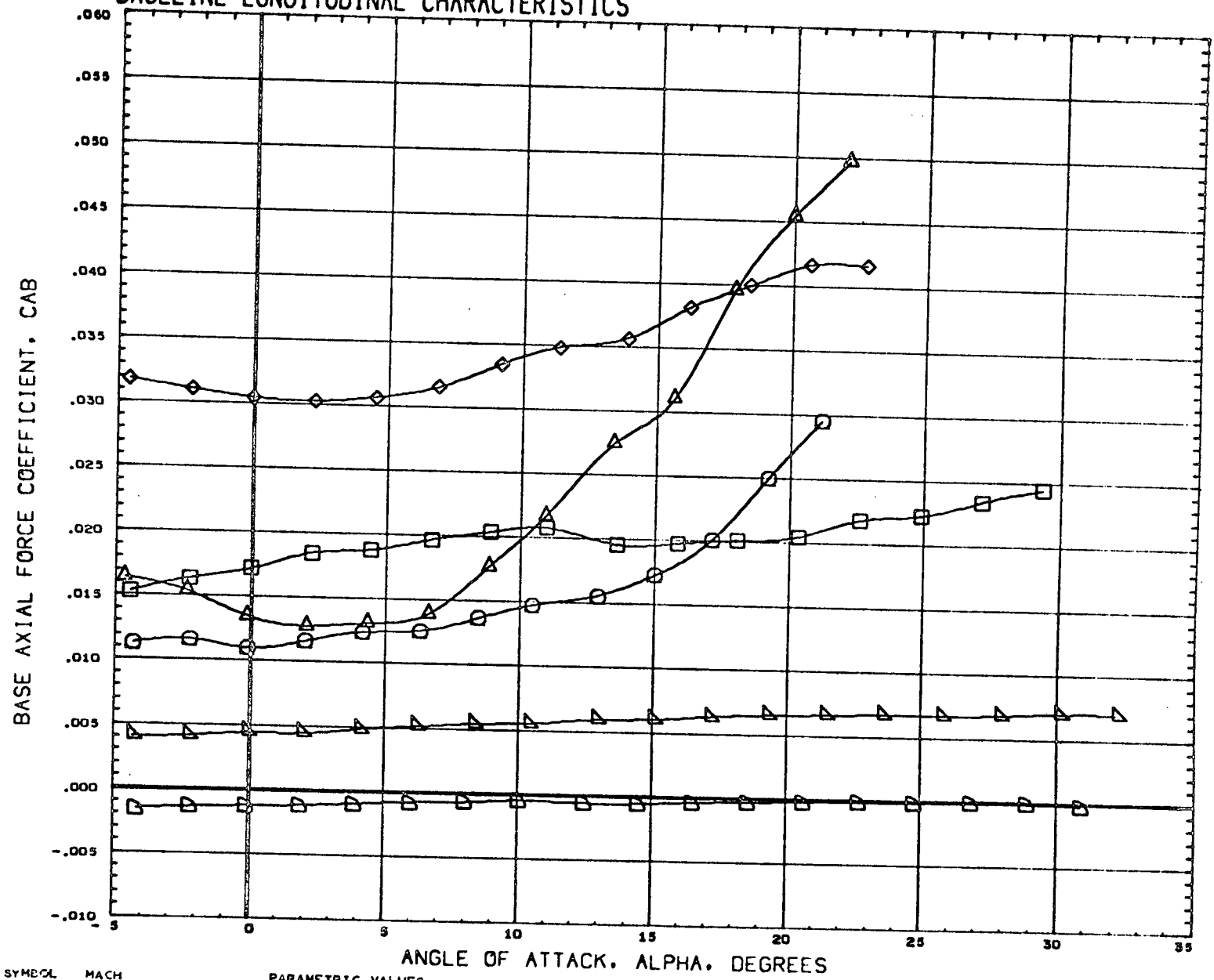


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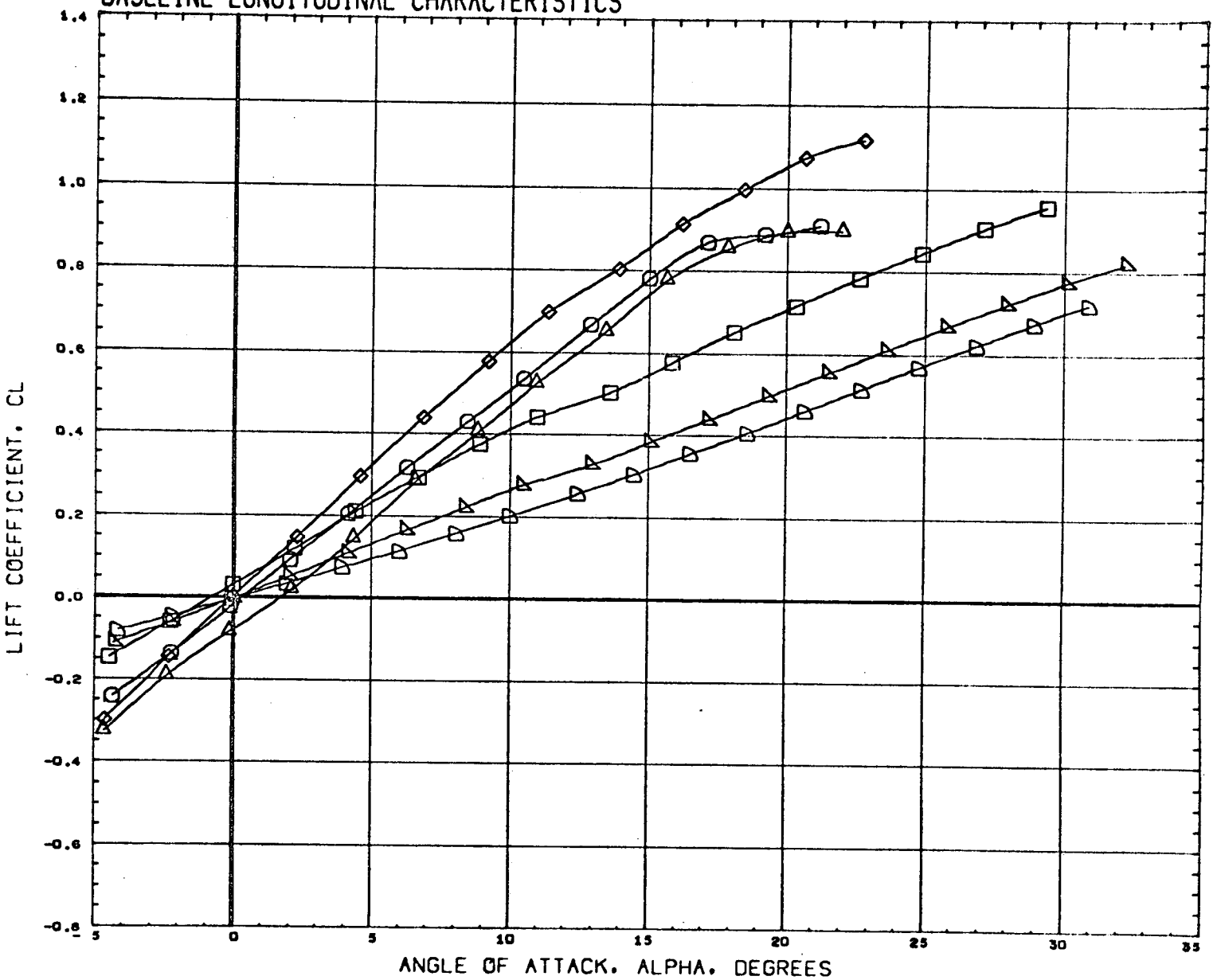


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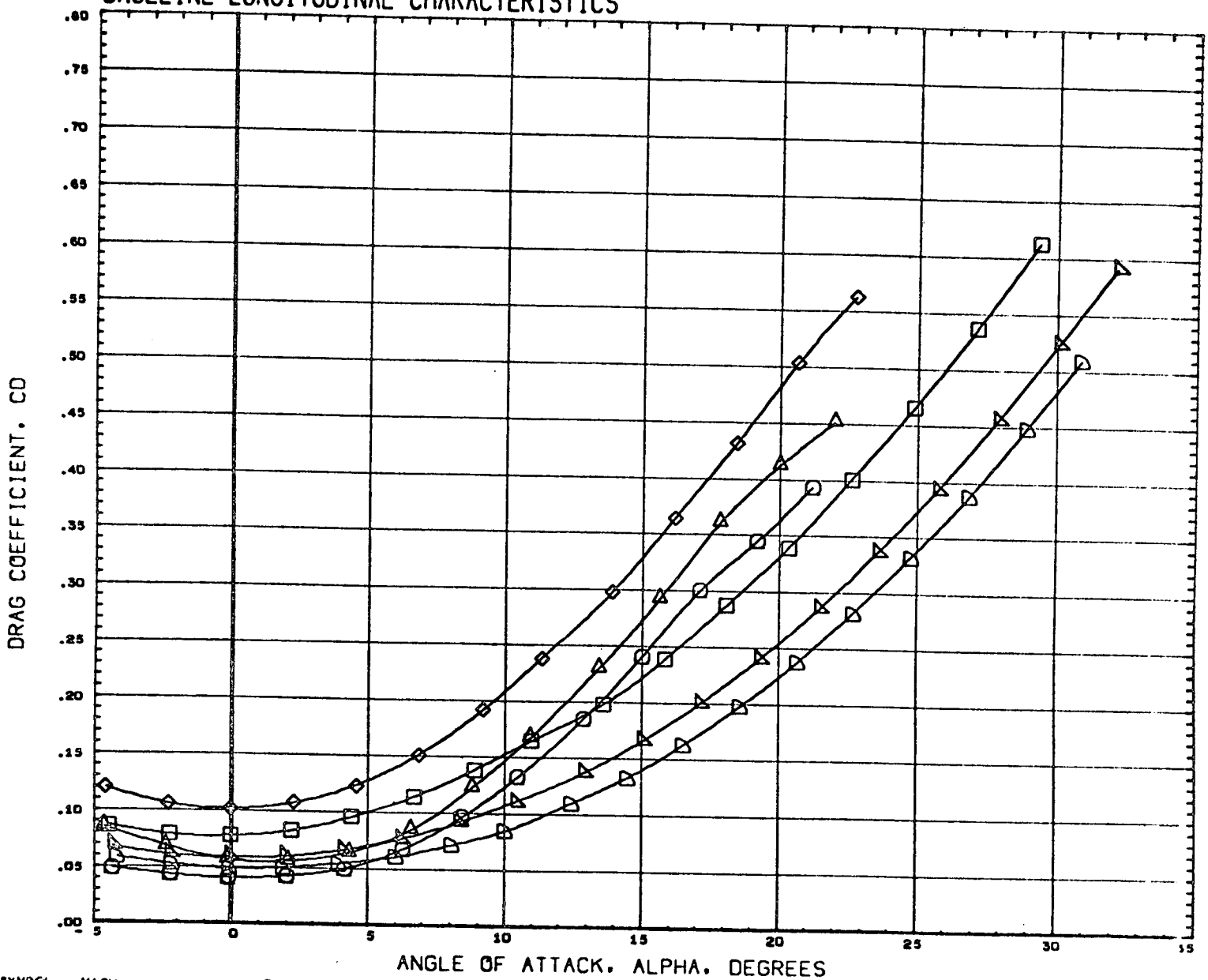


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□	1.951				
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BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH
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◇	1.195
□	1.951
▽	3.479
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PARAMETRIC VALUES

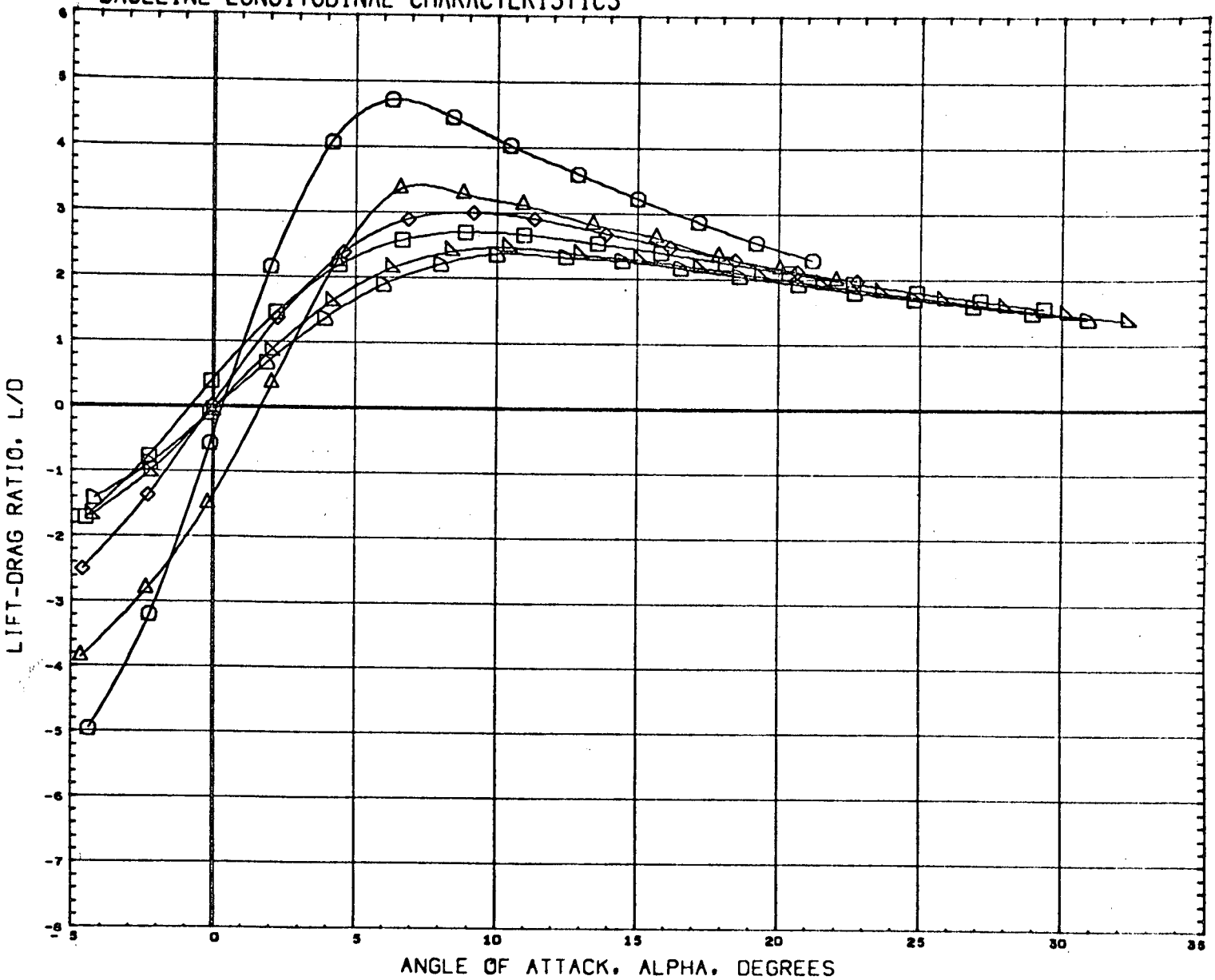
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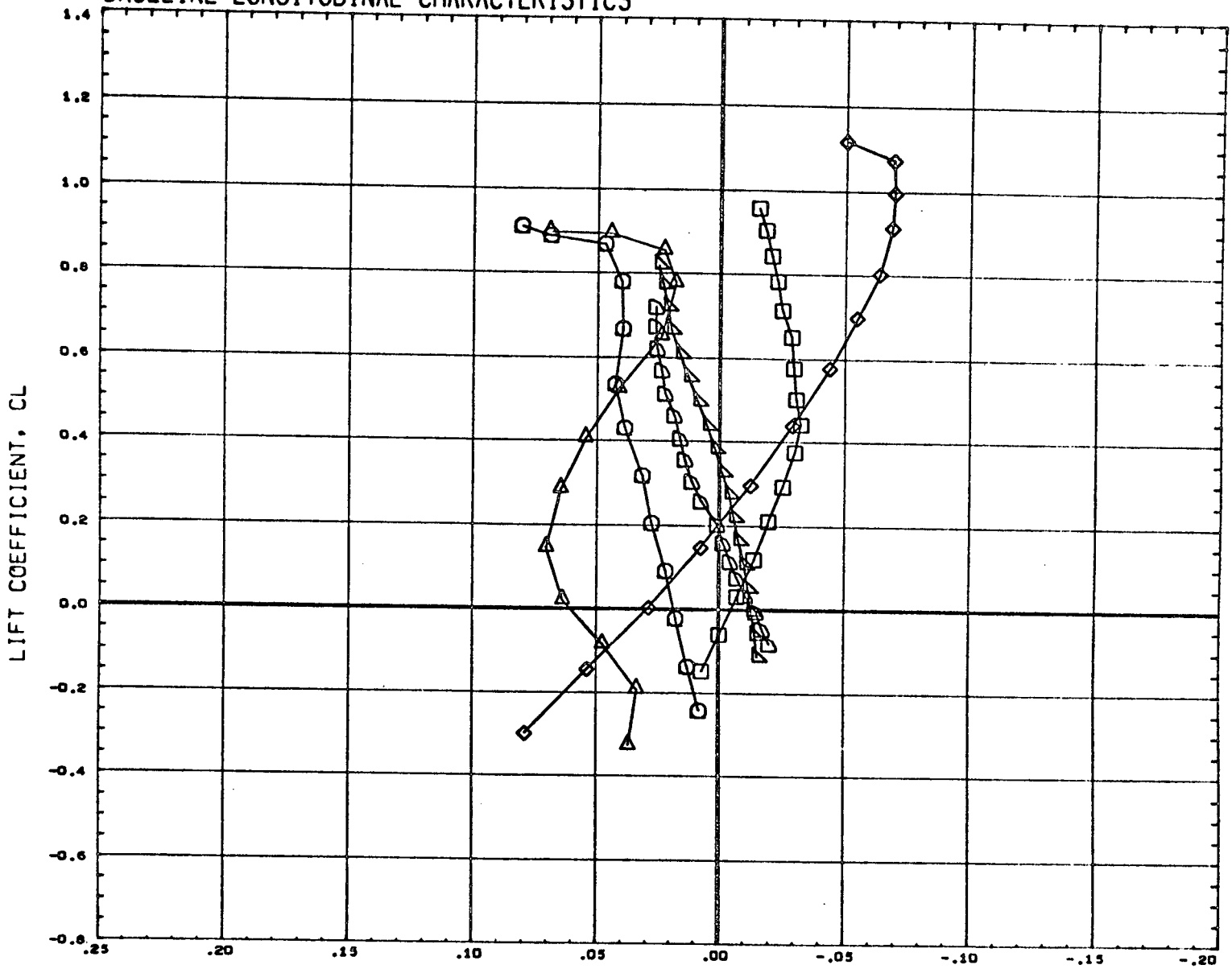


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BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH
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□	1.951
⌐	3.479
▷	4.960

PARAMETRIC VALUES

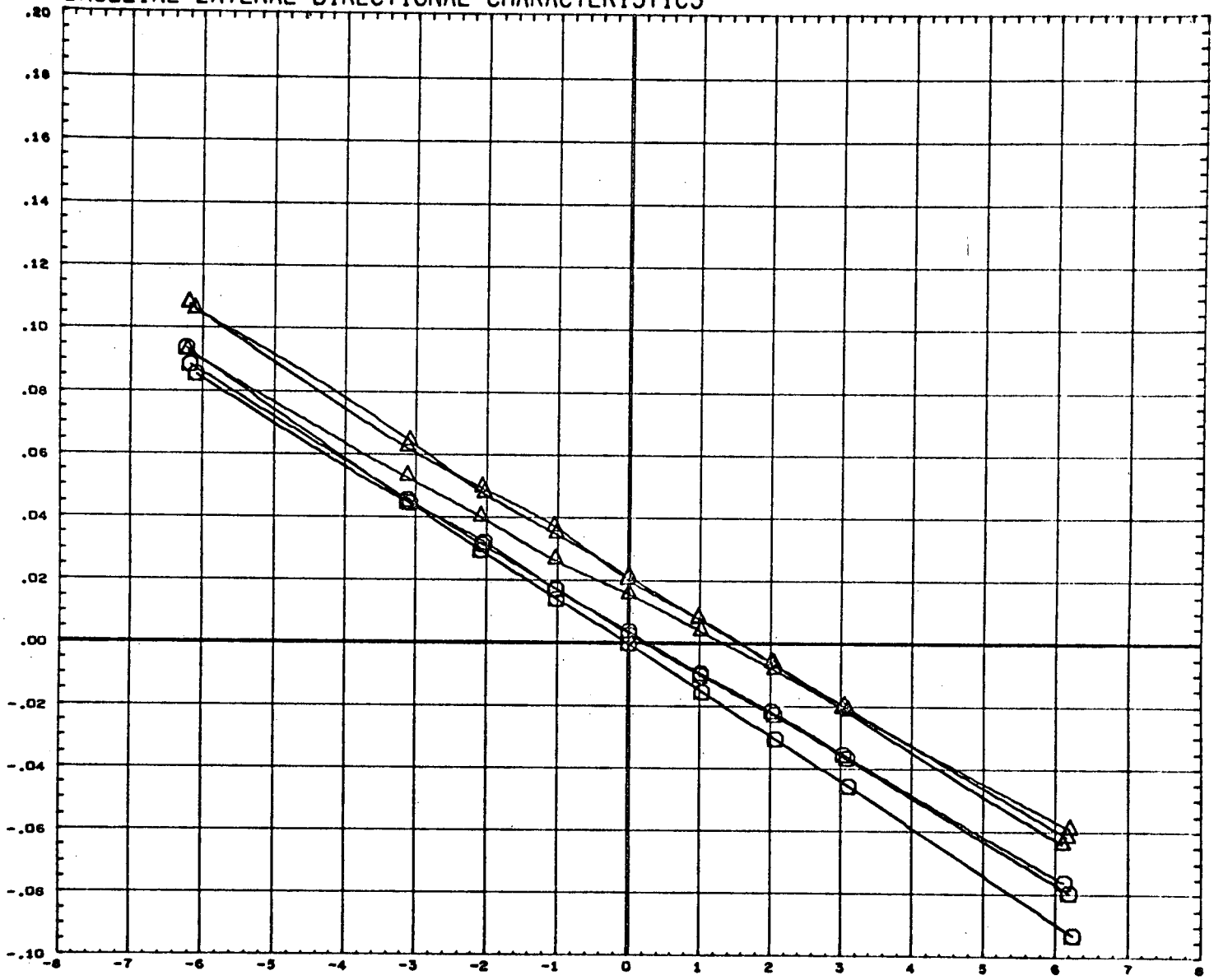
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ZMRP	0.0000	IN.
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BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS

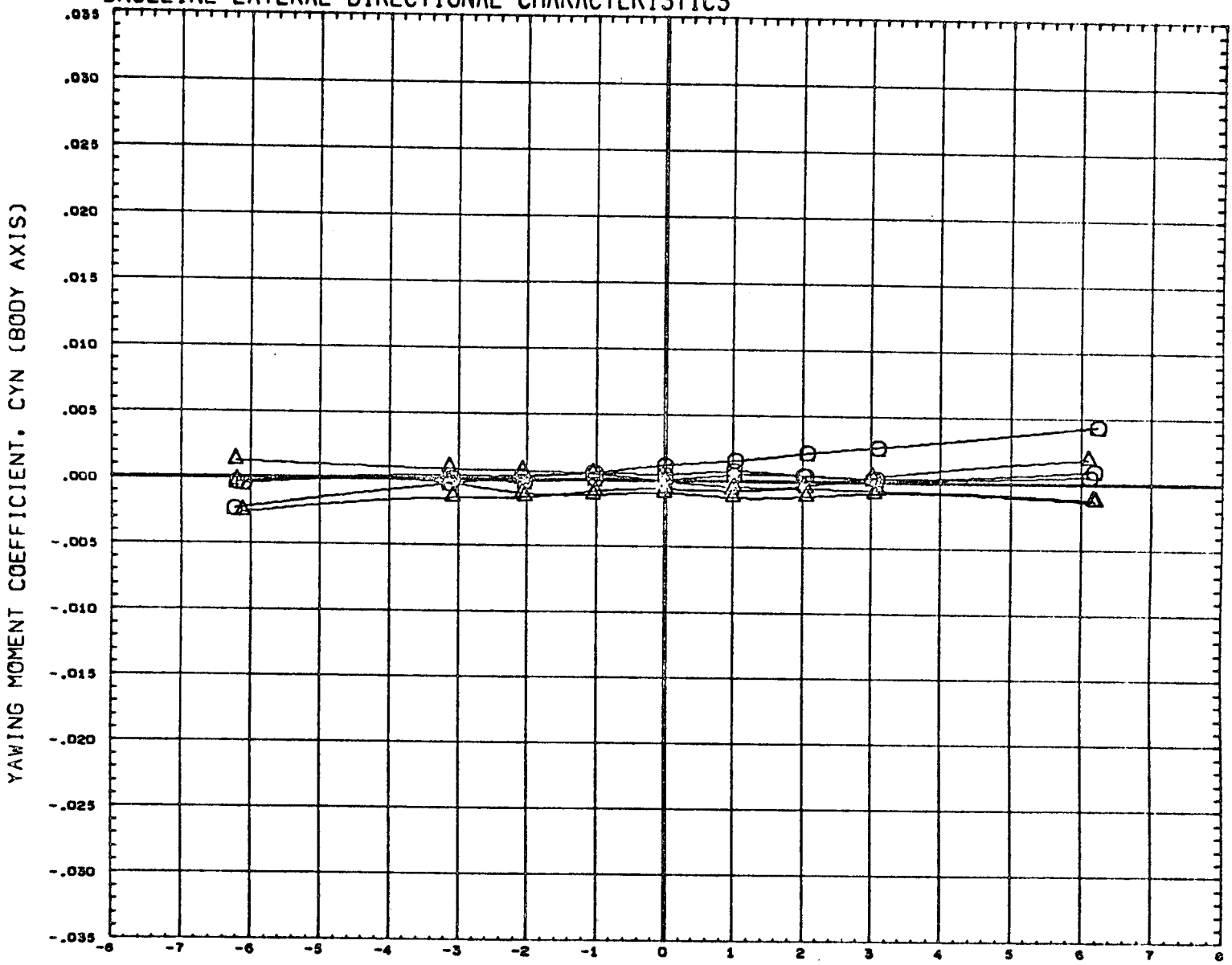


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(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

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MACH .60 .90 1.20

BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS

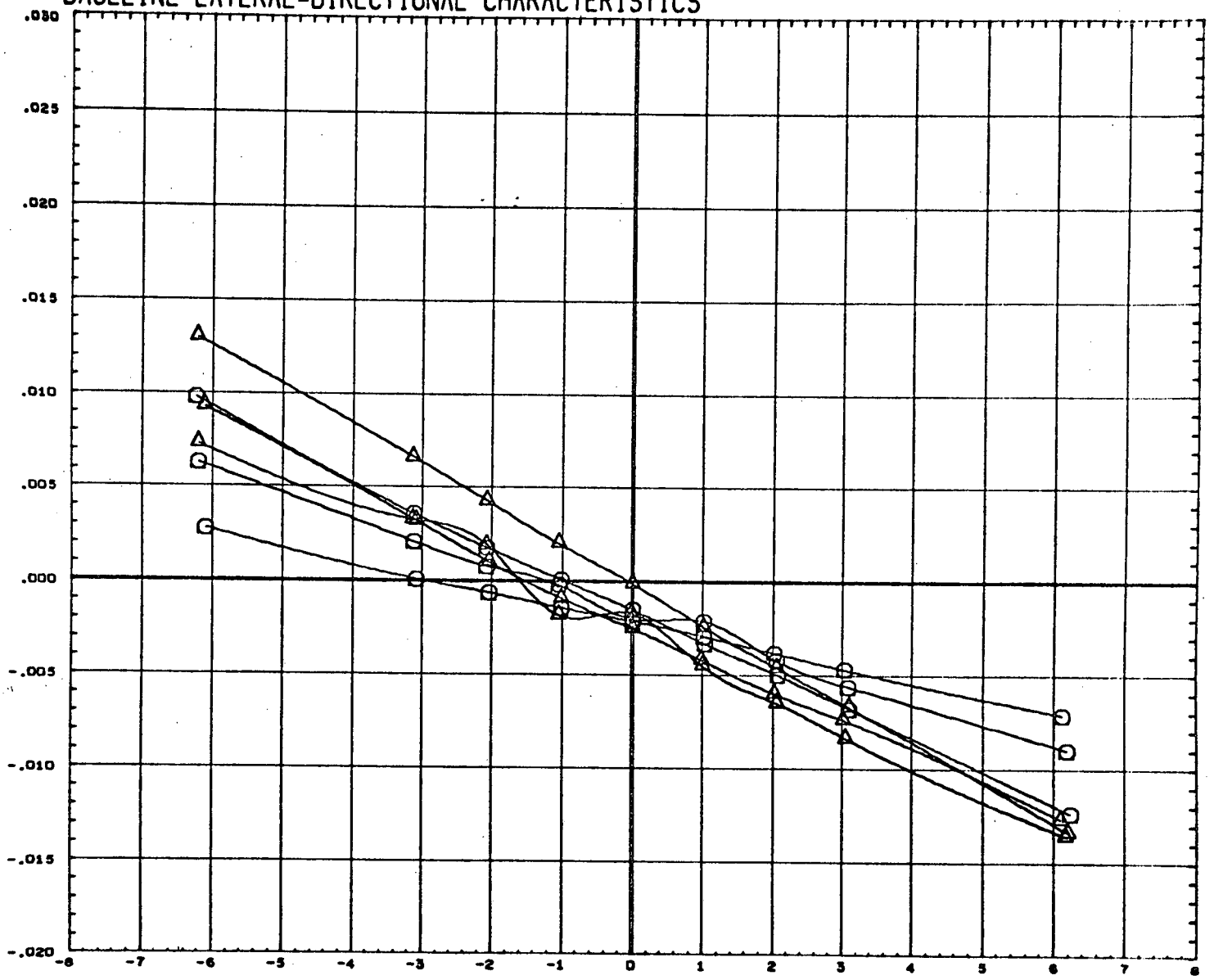


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MACH .60 .90 1.20

BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS

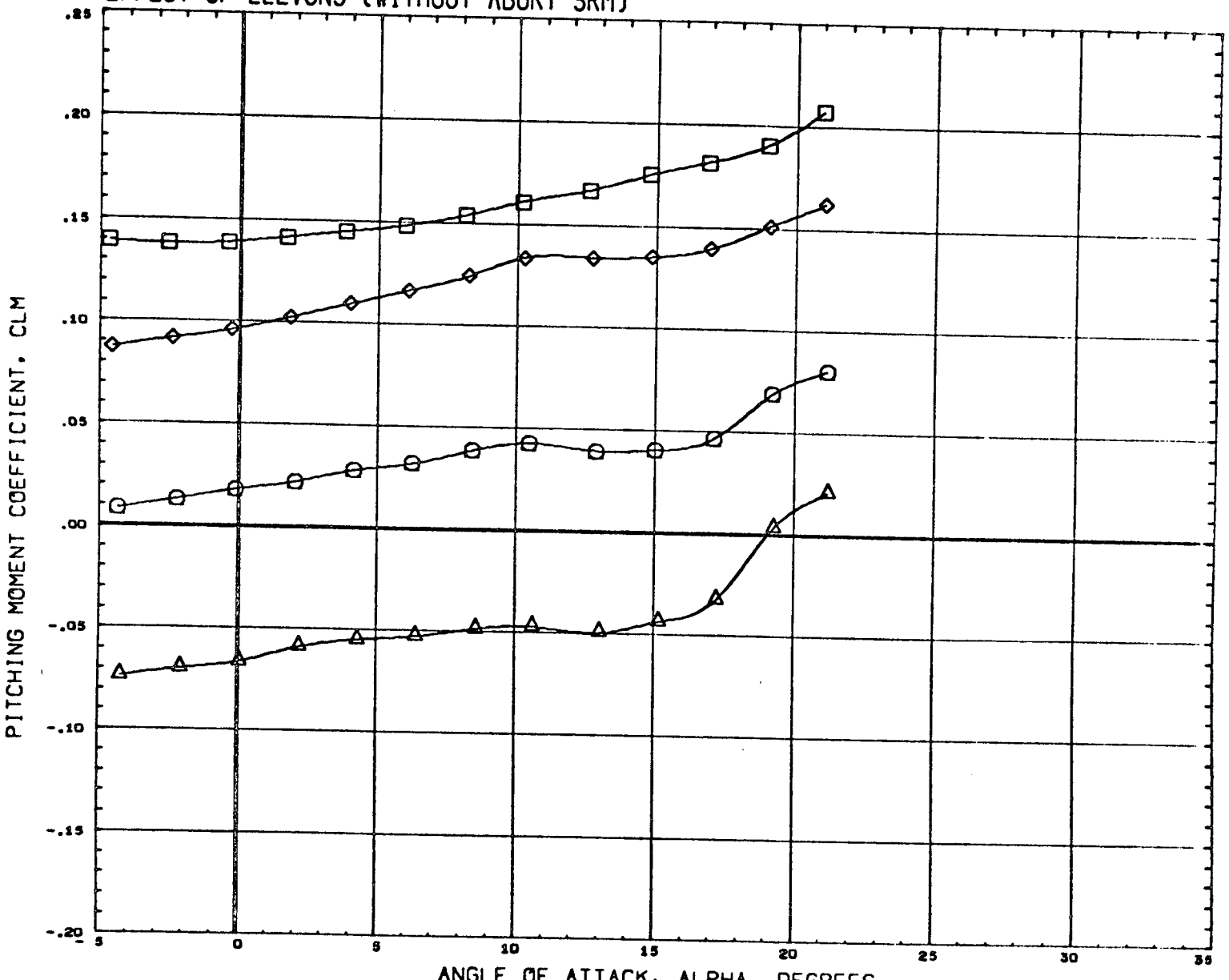


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MACH .60 .90 1.20

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

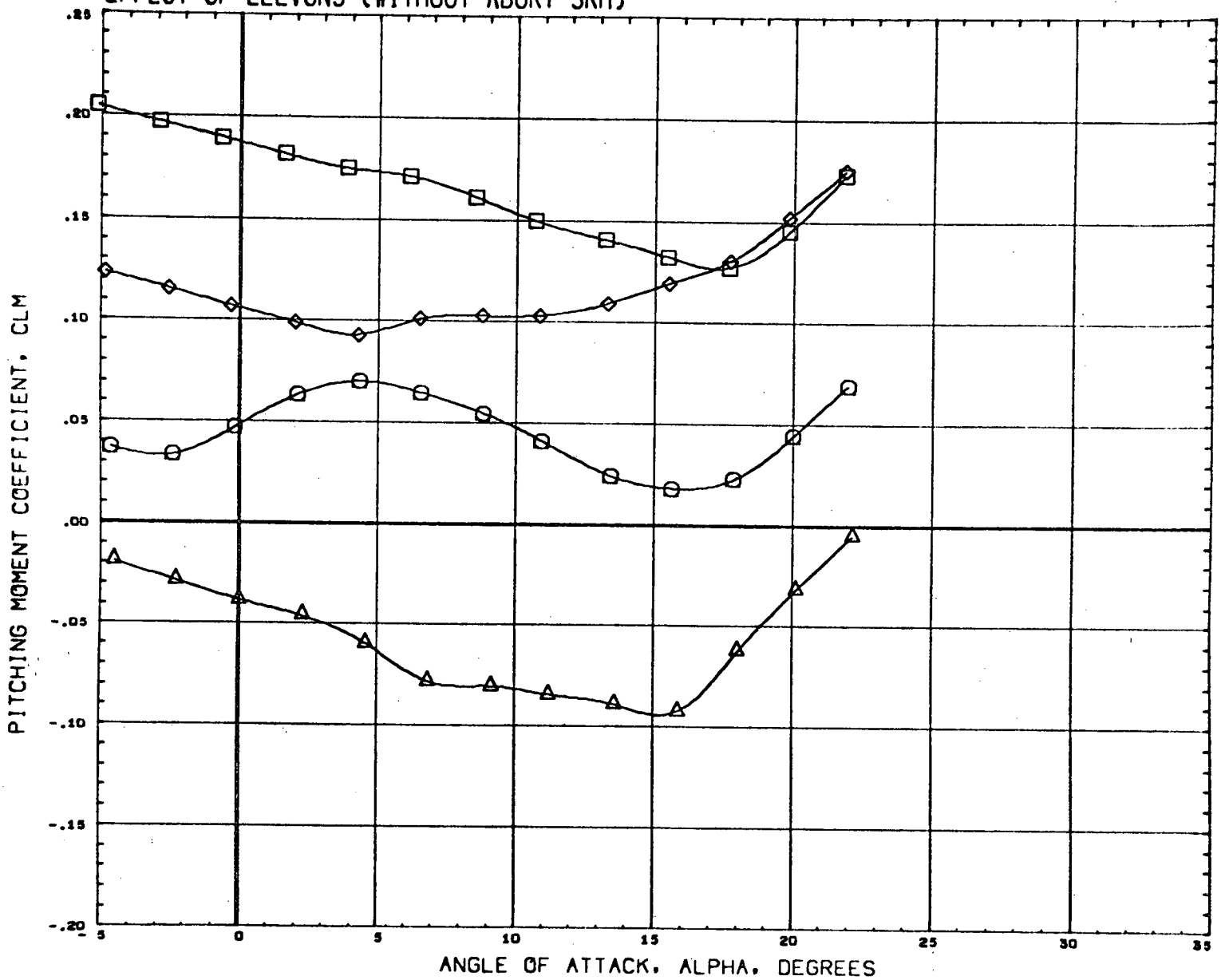


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(869S07)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
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REFERENCE INFORMATION		
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BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
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SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

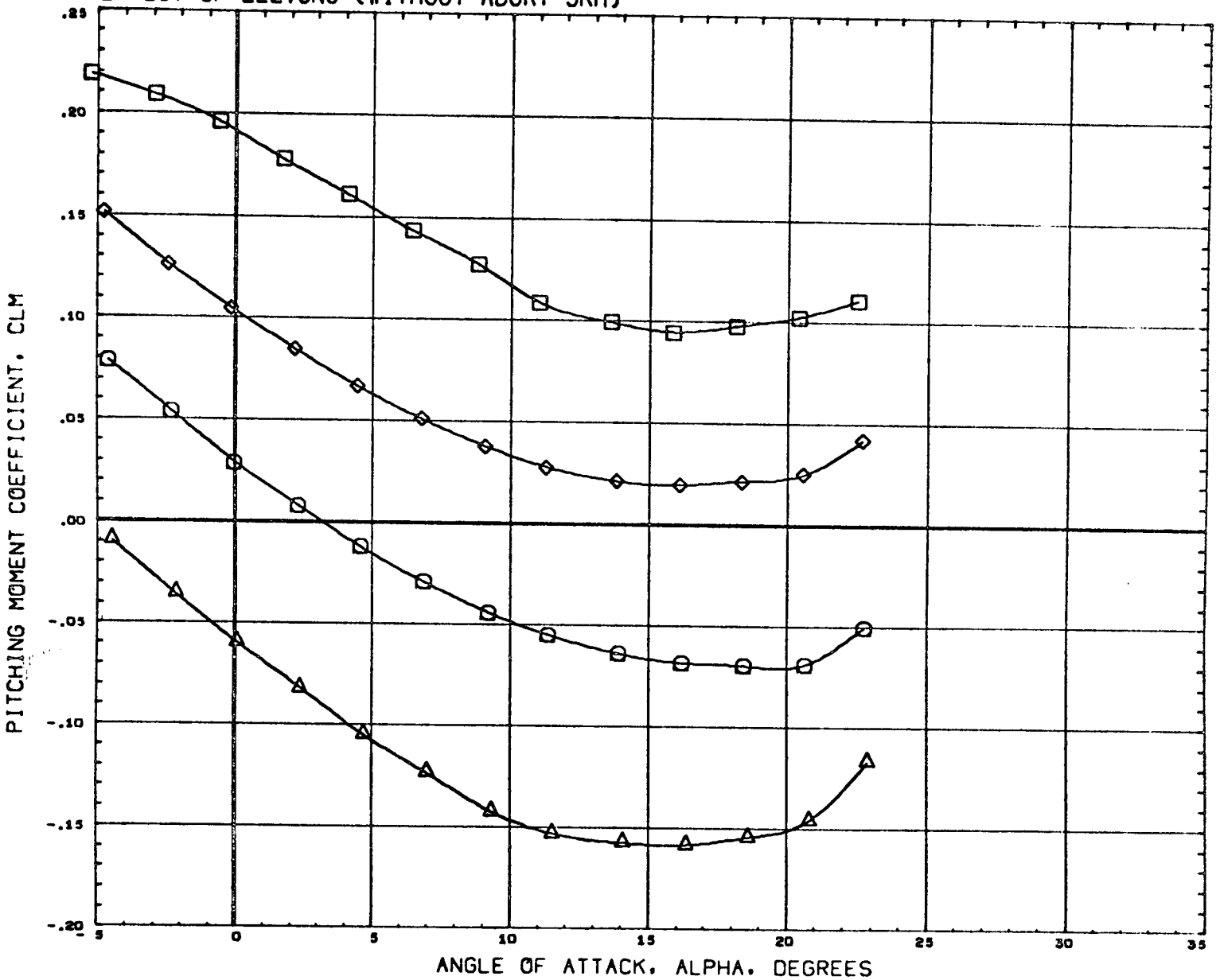


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

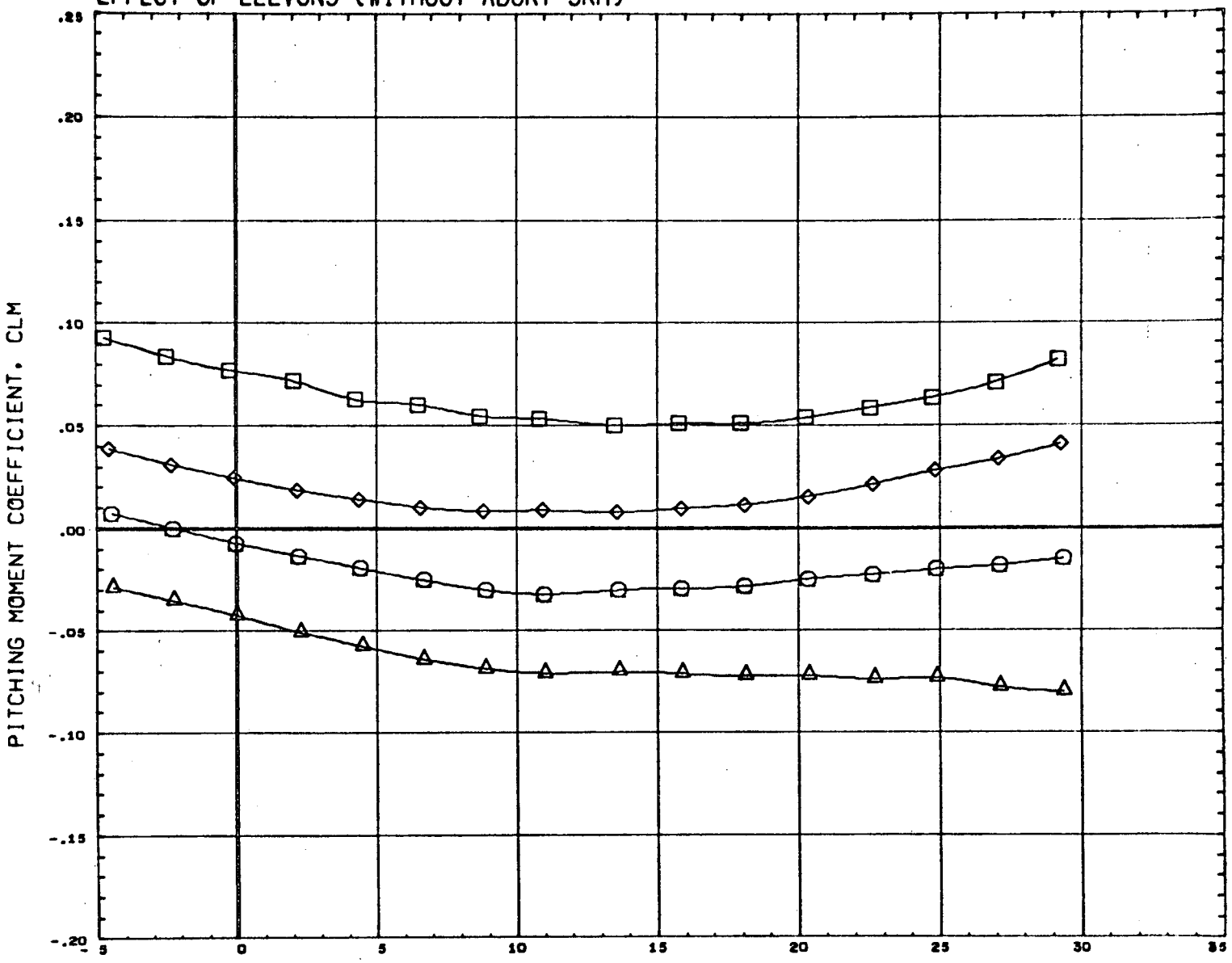


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07) ⊠	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11) □	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

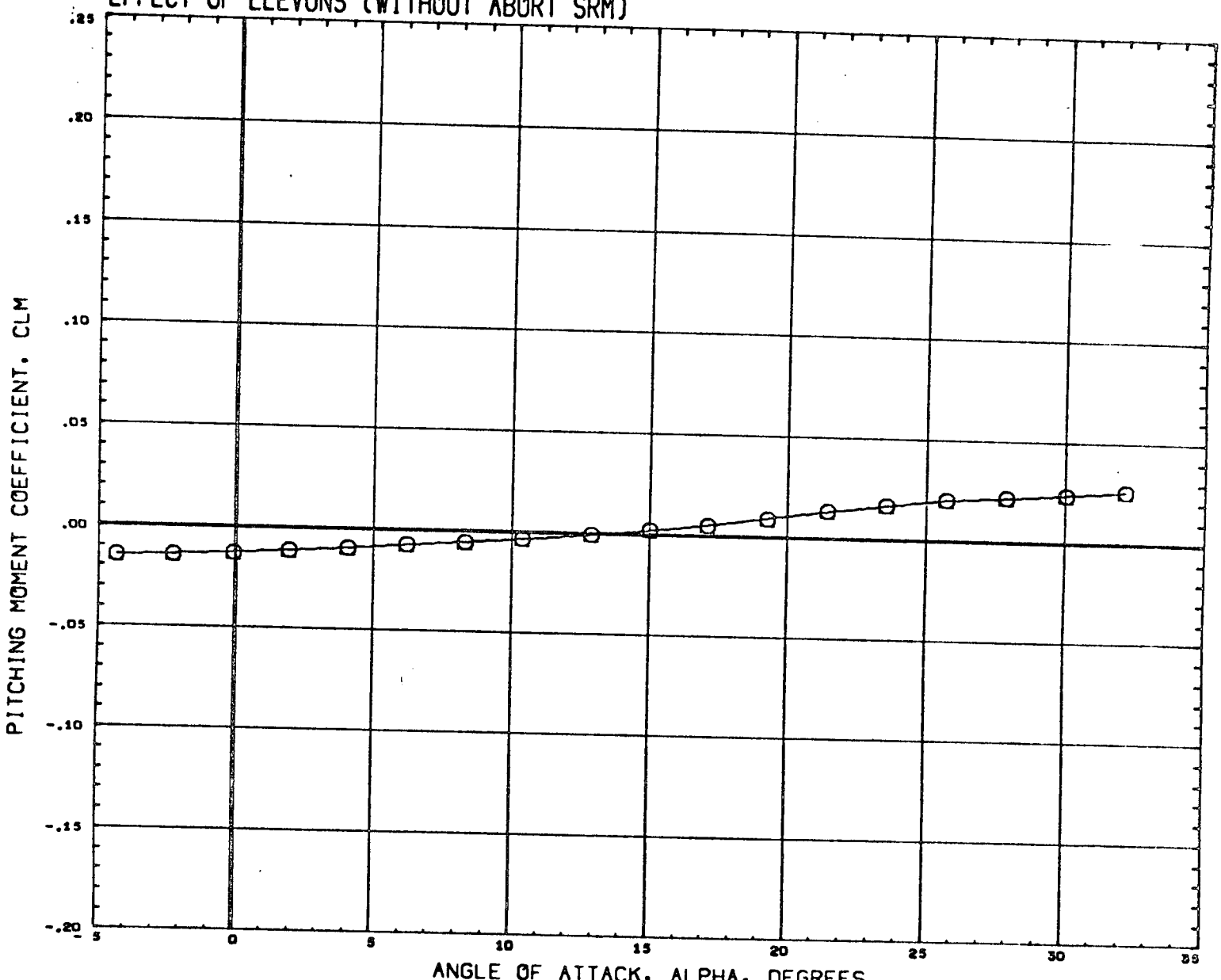


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	⊠	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

EFFECT OF ELEVONS (WITHOUT ABORT SRM)



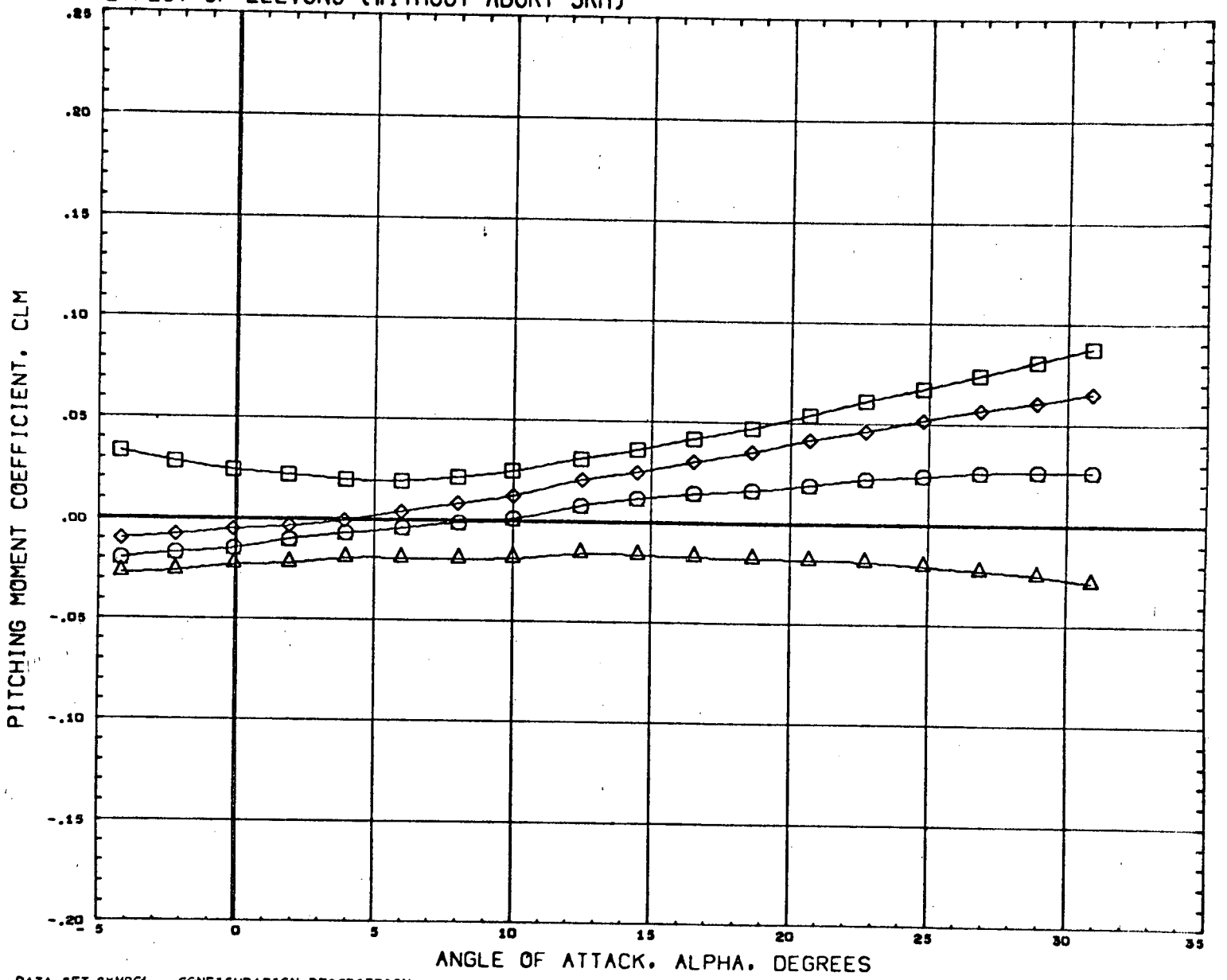
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(869814)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS
(869801)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(869807)	◇	DATA NOT AVAILABLE FOR ALL CONDITIONS
(869811)	□	DATA NOT AVAILABLE FOR ALL CONDITIONS

ELEVON	RUDDER	RFLARE	BFLAP
10.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000
-10.000	0.000	0.000	0.000
-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

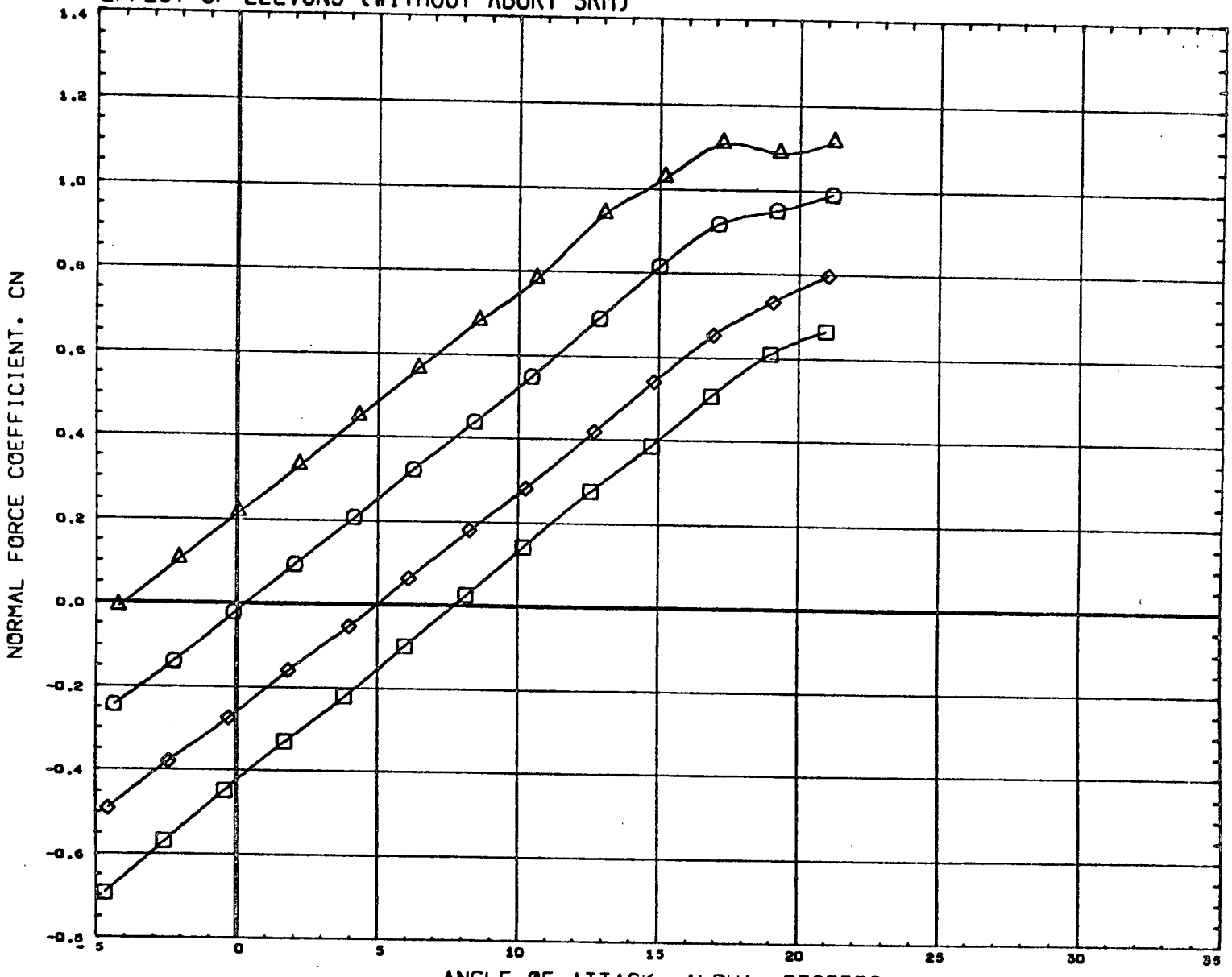


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(869S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(869S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

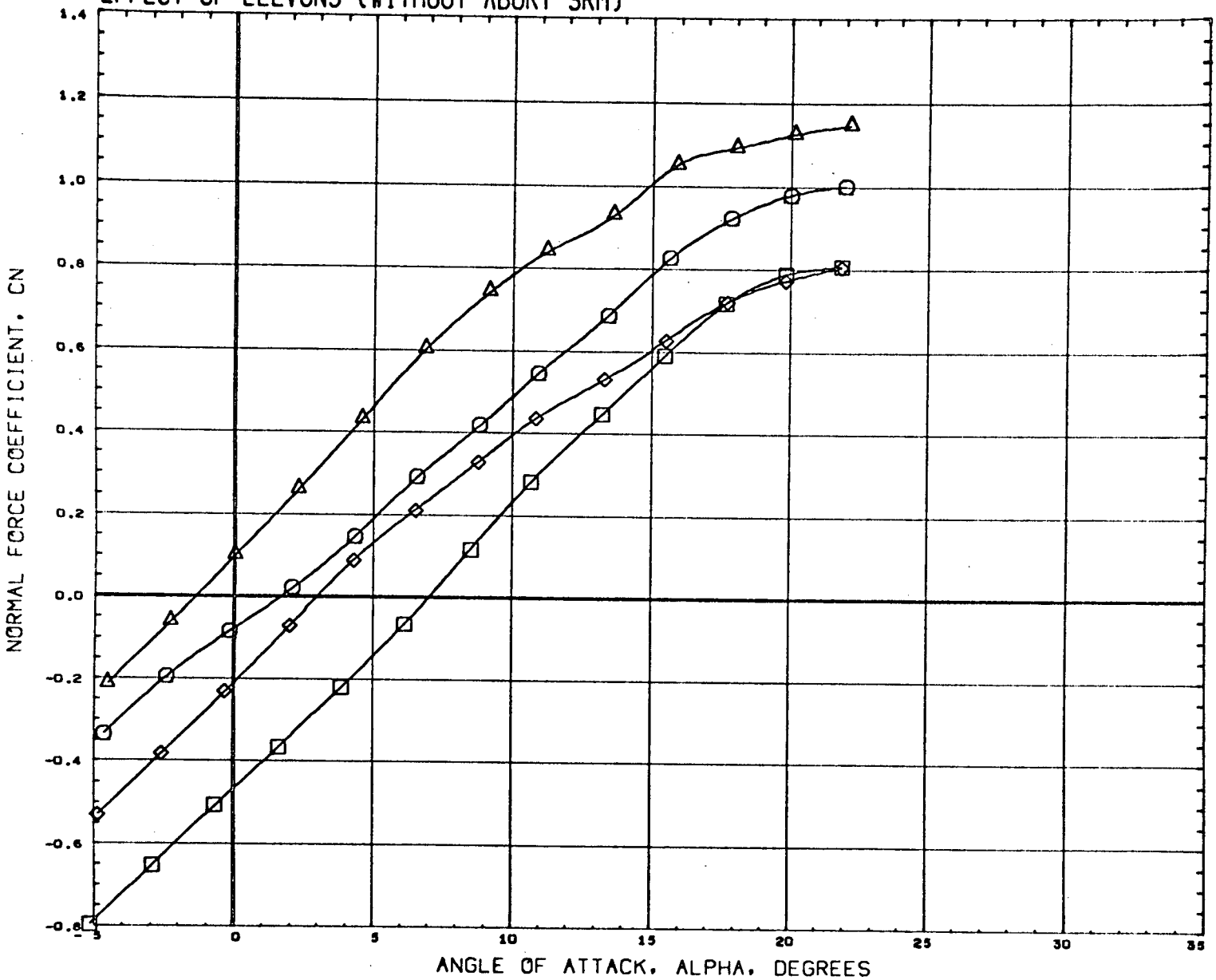


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(869S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(869S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

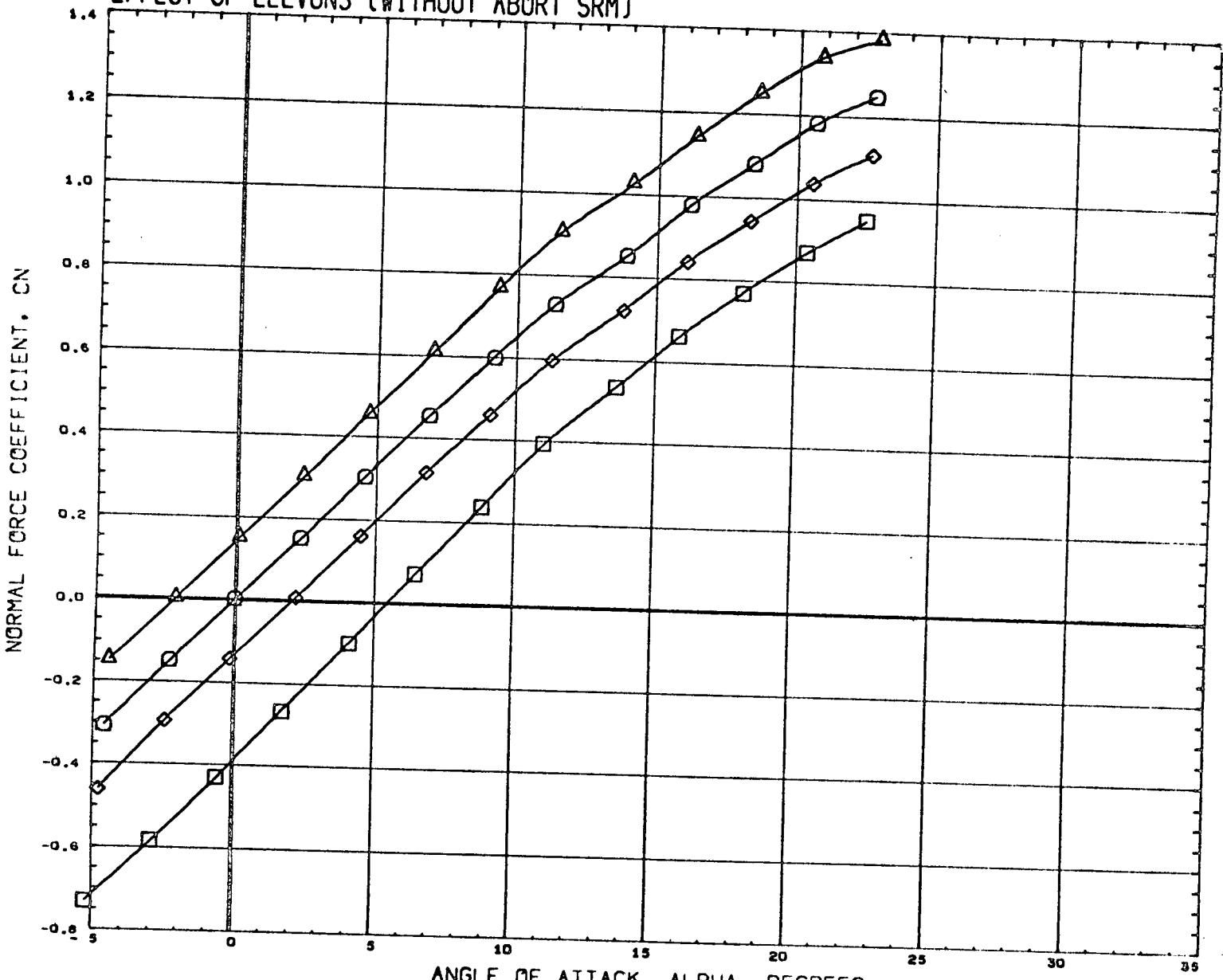


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

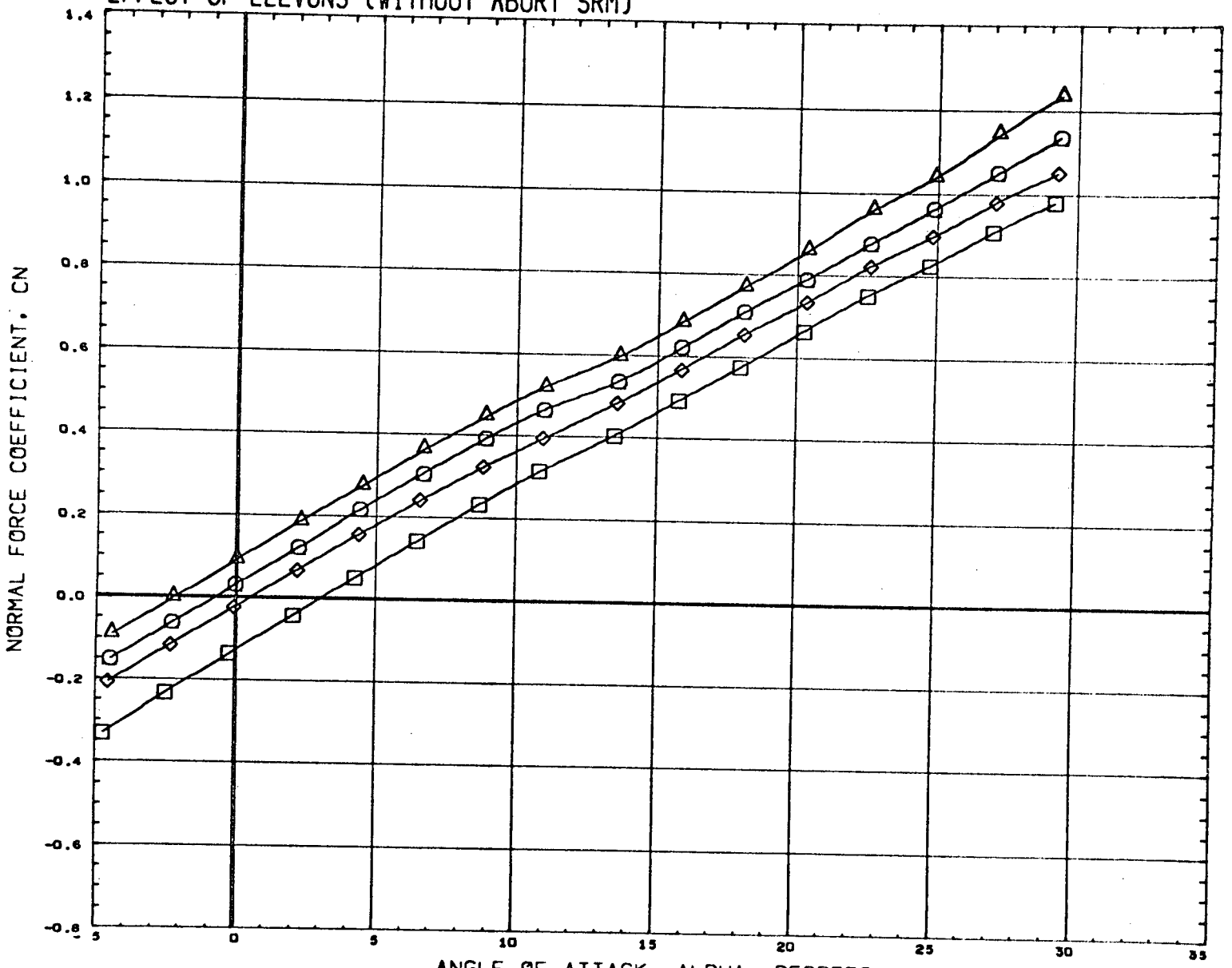


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869014)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869007)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(869011)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF ELEVONS (WITHOUT ABORT SRM)



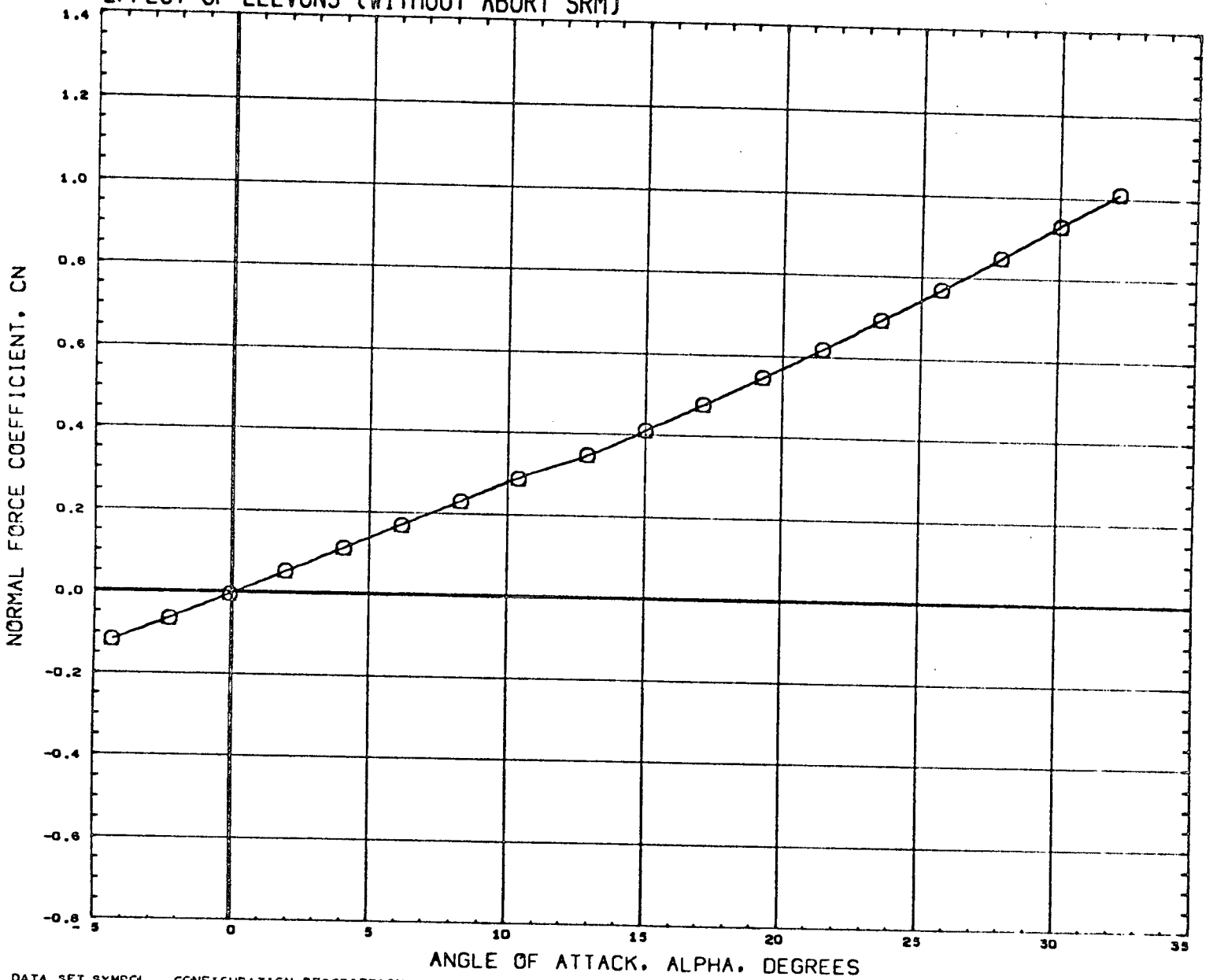
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

EFFECT OF ELEVONS (WITHOUT ABORT SRM)



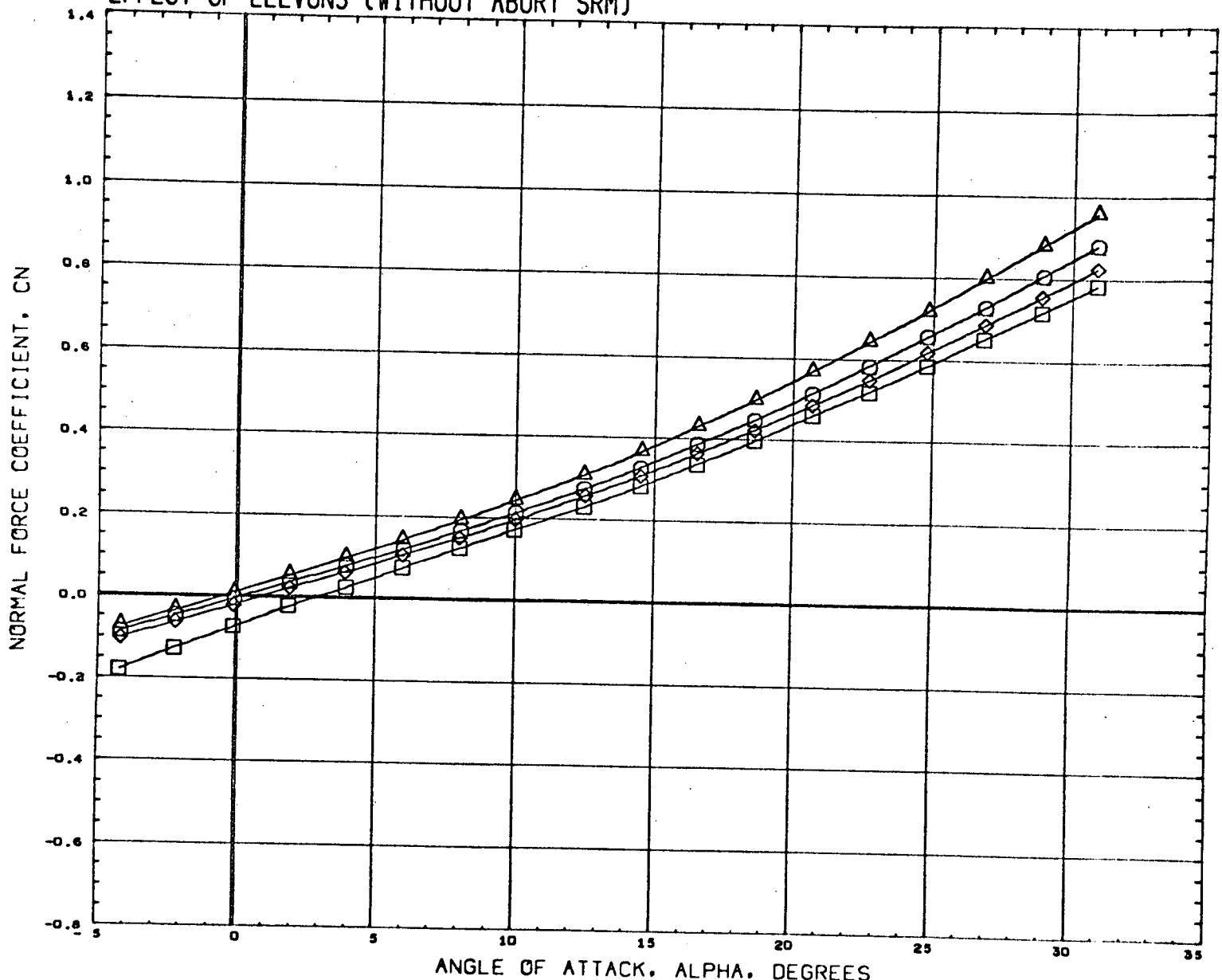
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(B69S14)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(B69S07)	⊗	DATA NOT AVAILABLE FOR ALL CONDITIONS
(B69S11)	□	DATA NOT AVAILABLE FOR ALL CONDITIONS

ELEVON	RUDDER	RFLARE	BFLAP
10.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000
-10.000	0.000	0.000	0.000
-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

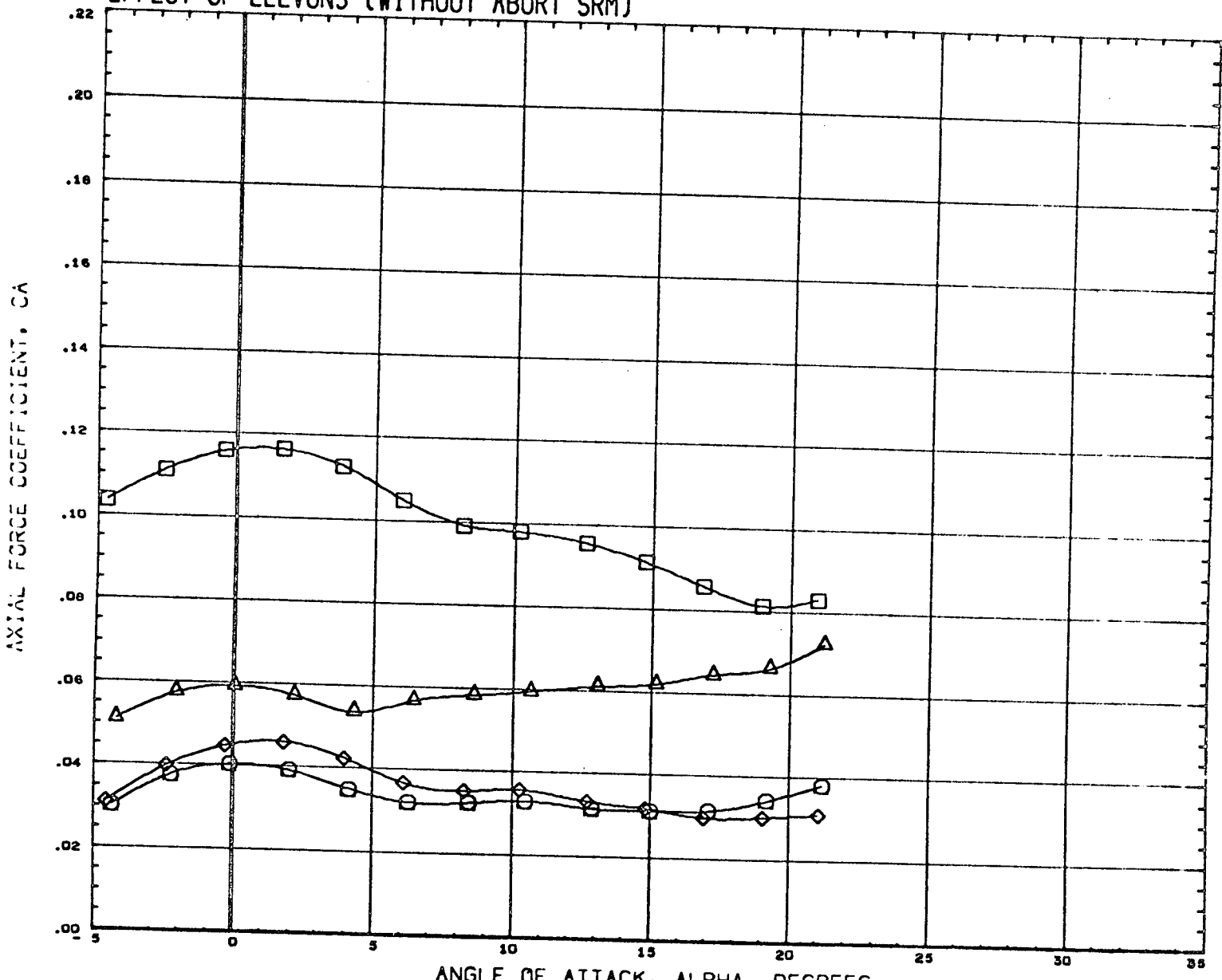


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

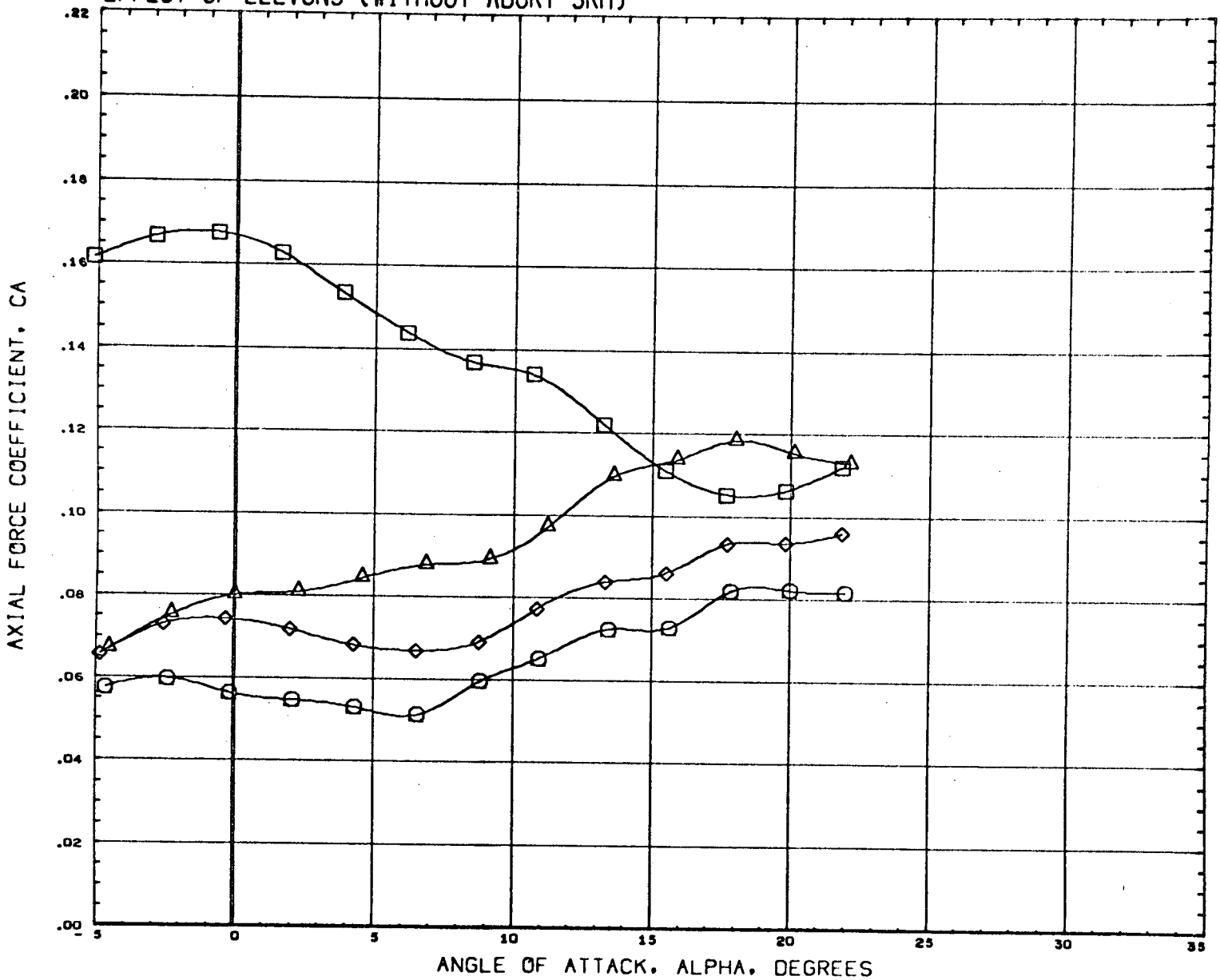


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(869S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(869S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITHOUT ABORT SRM)



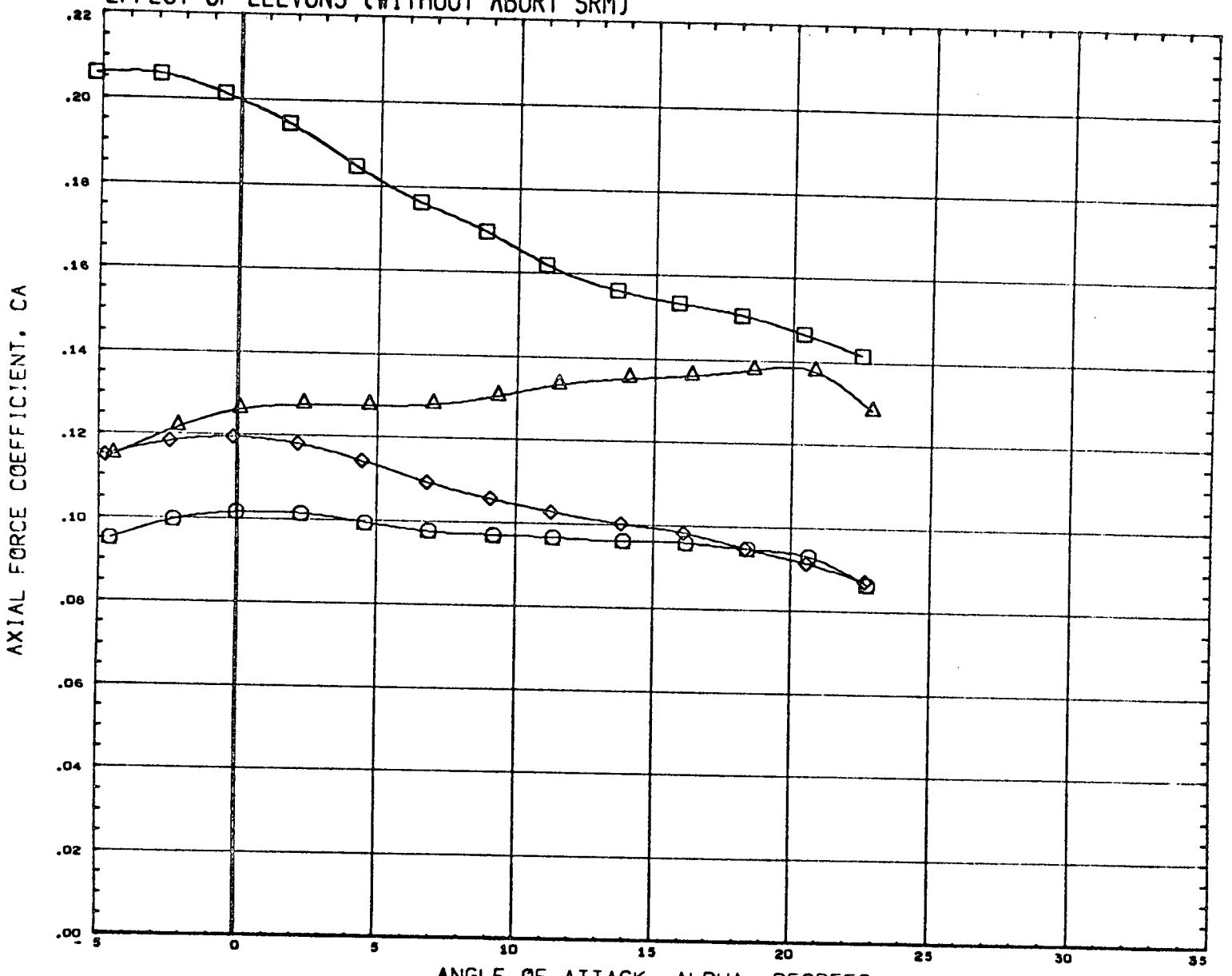
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11) □	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

C2

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

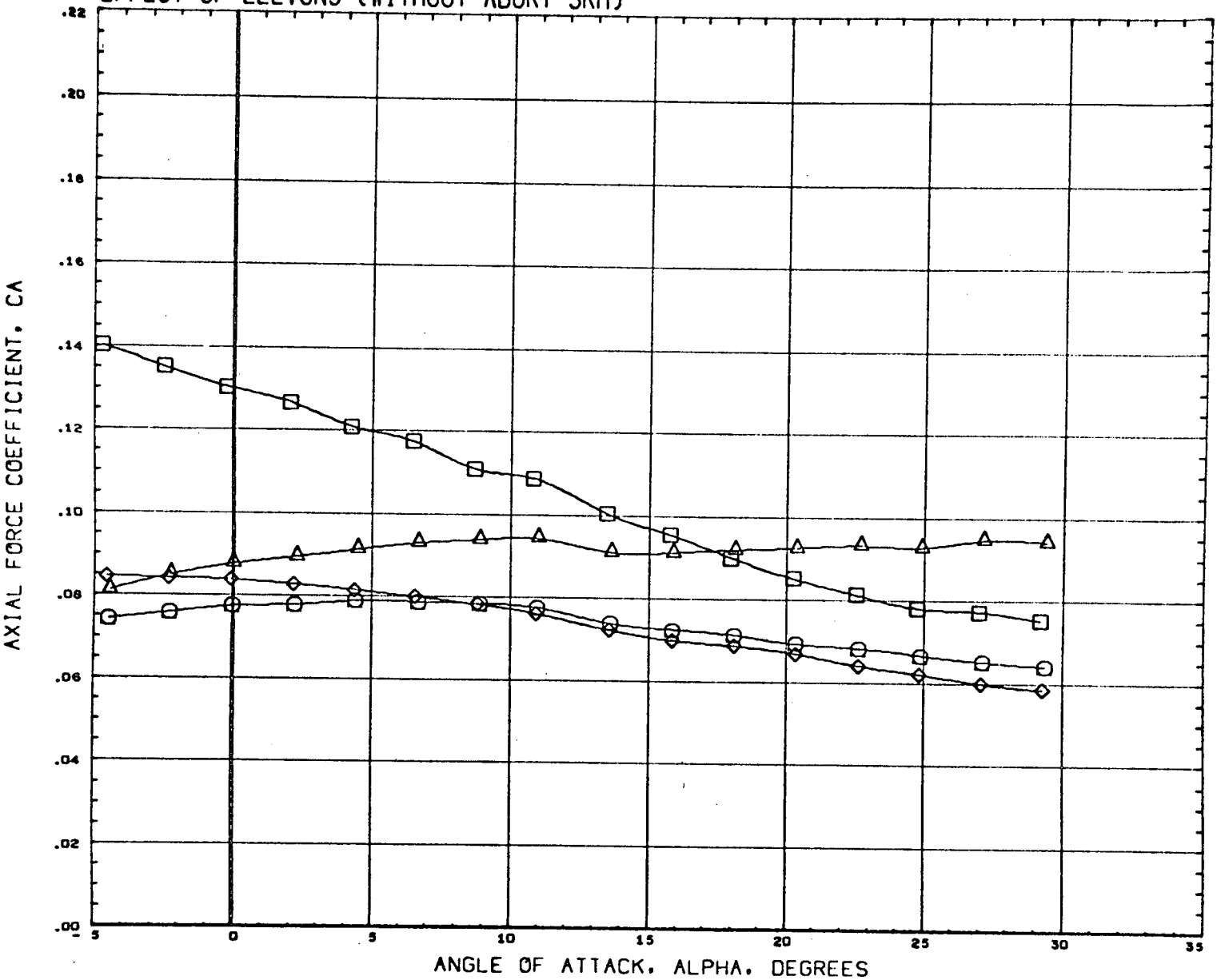


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(869S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(869S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

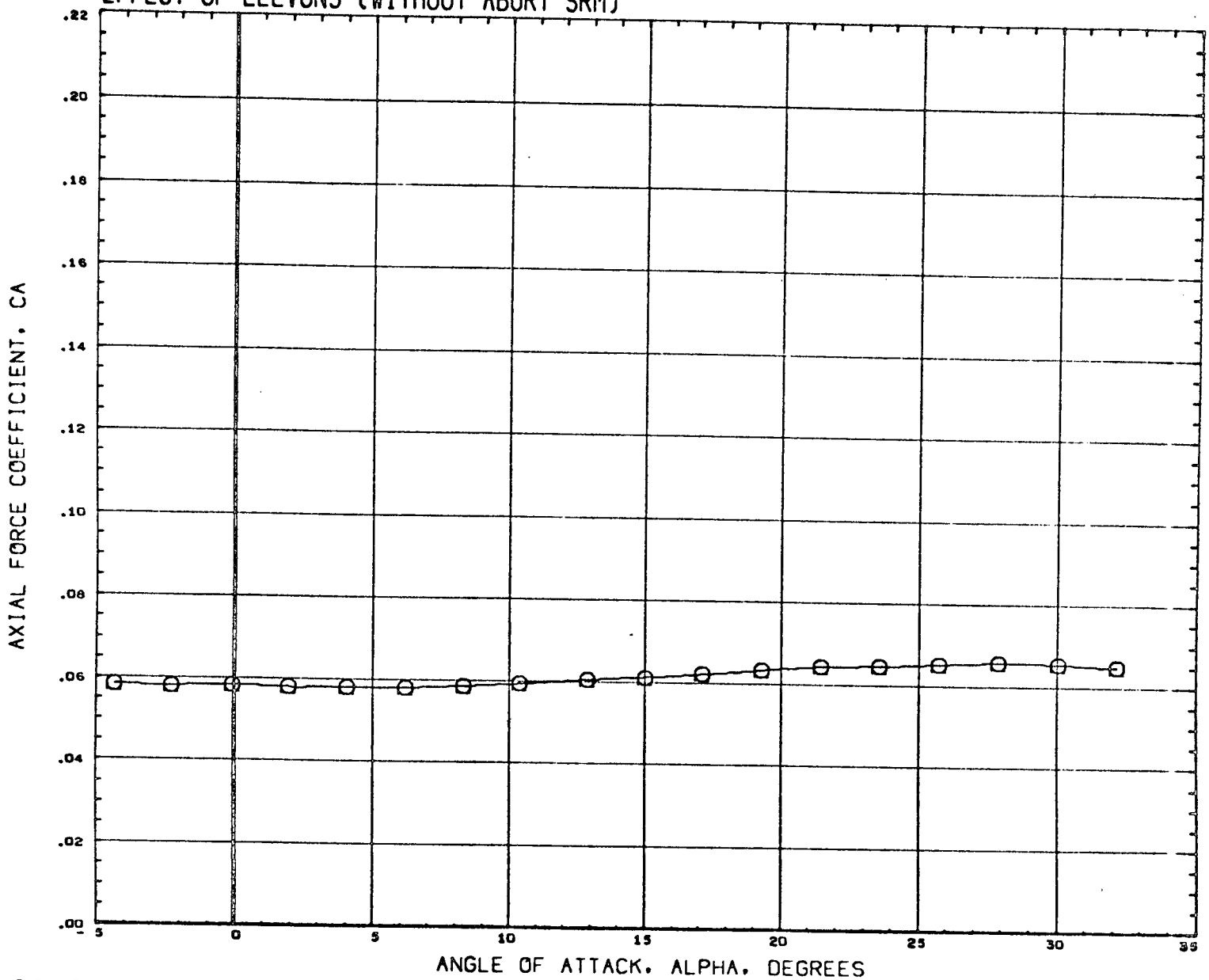


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S1↓)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

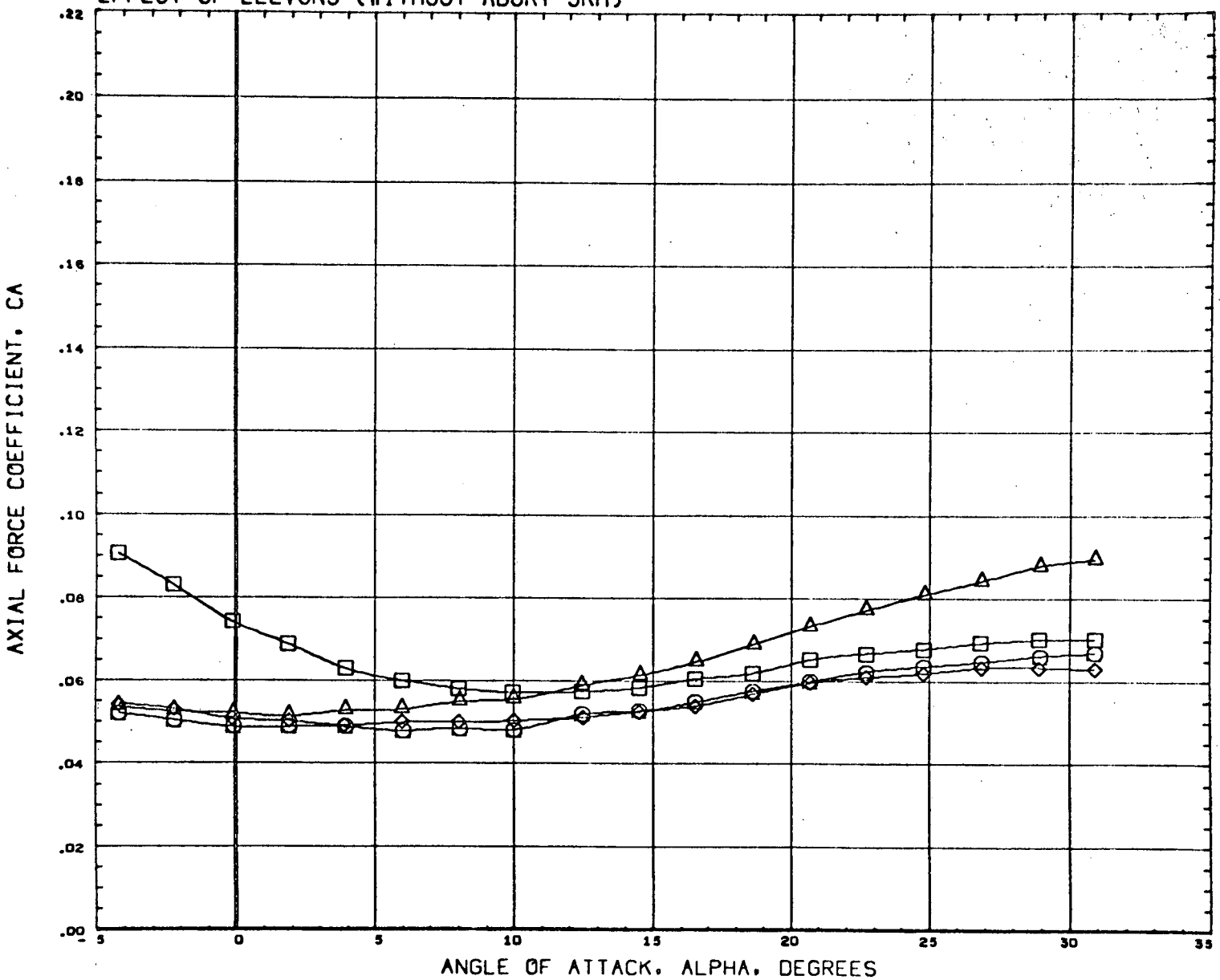


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869514)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS	10.000	0.000	0.000	0.000
(869501)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER 81F2W4V11P1	0.000	0.000	0.000	0.000
(869507)	◇	DATA NOT AVAILABLE FOR ALL CONDITIONS	-10.000	0.000	0.000	0.000
(869511)	□	DATA NOT AVAILABLE FOR ALL CONDITIONS	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

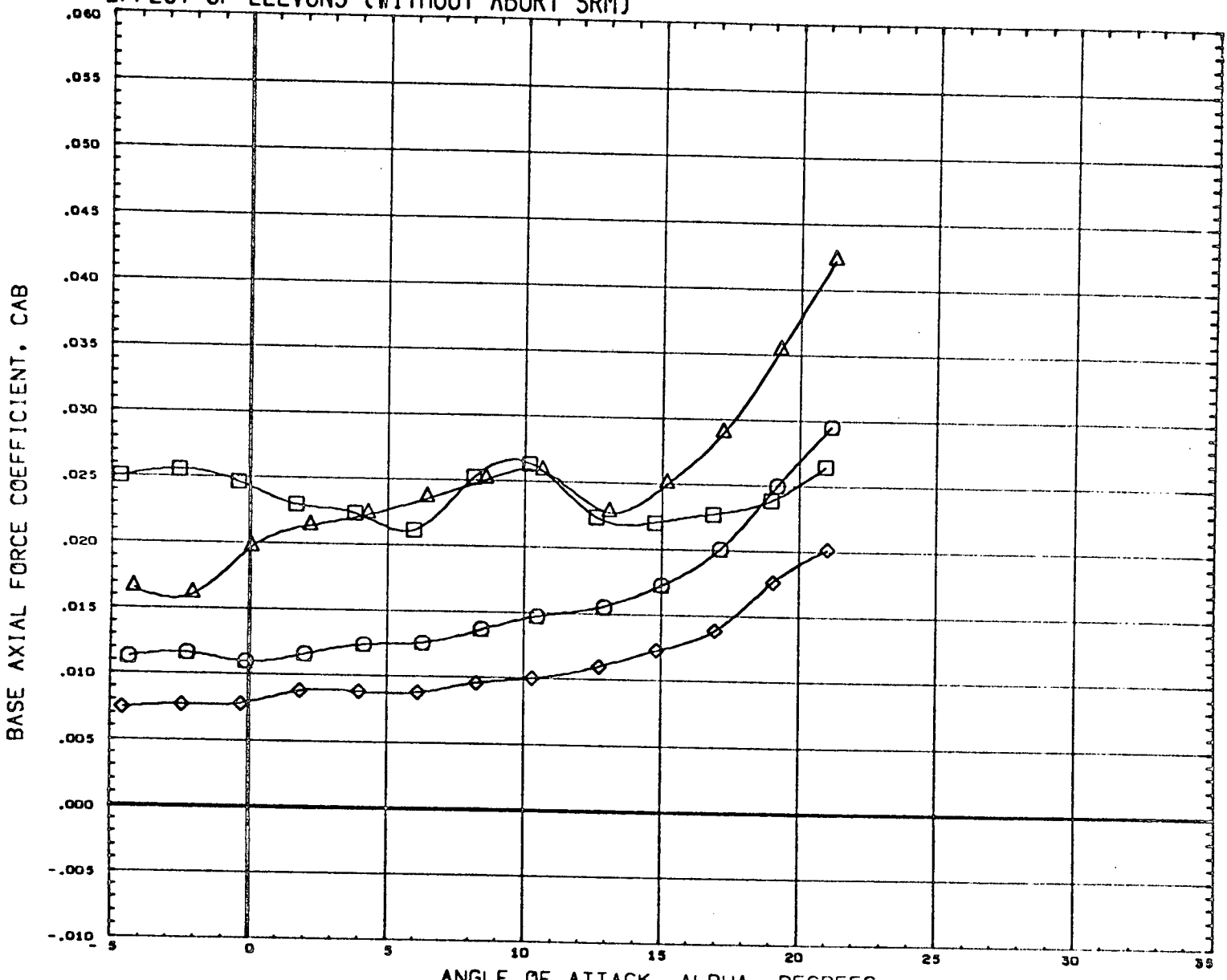


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869S14) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(869S01) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869S07) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(869S11) □	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

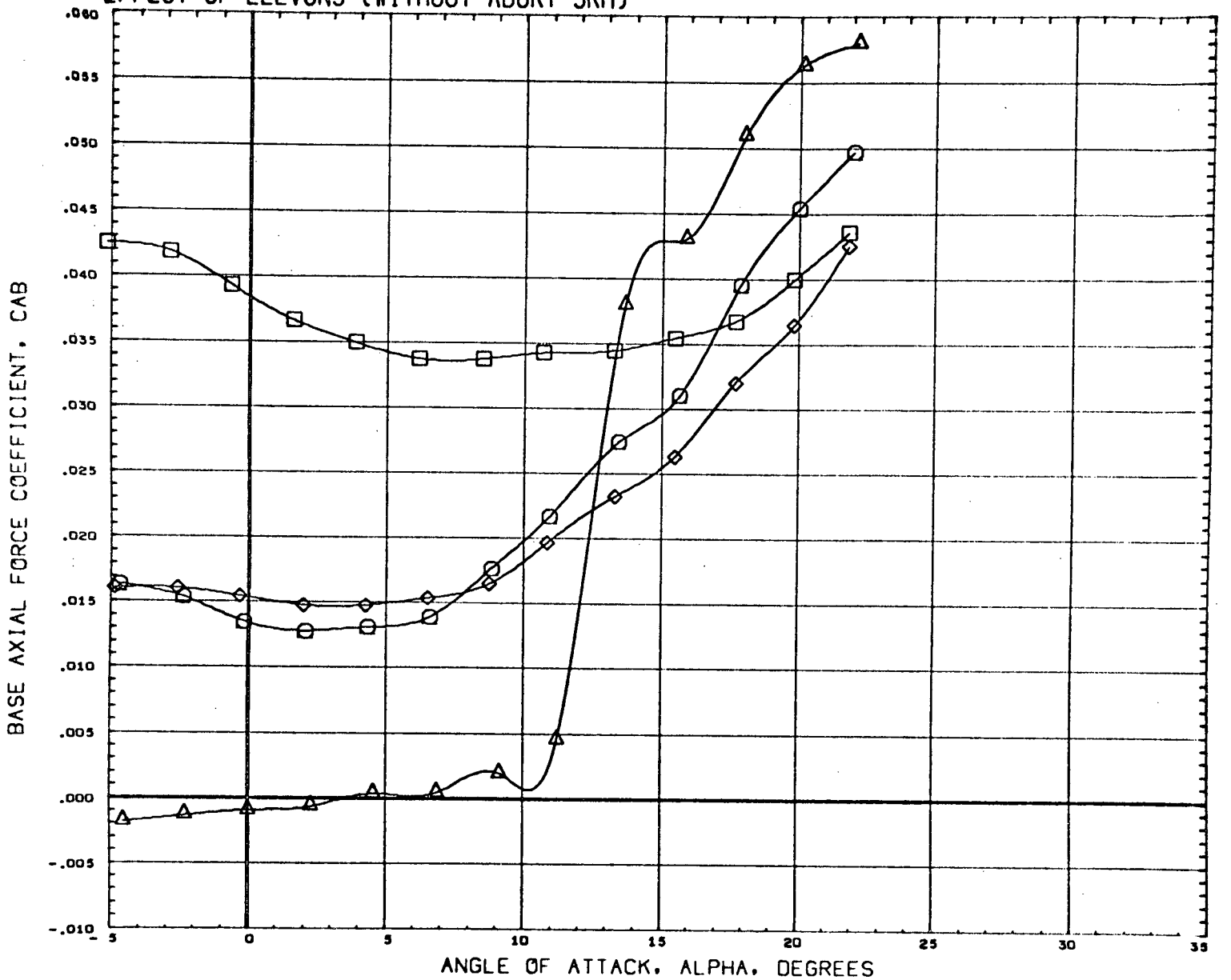


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(869S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(869S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

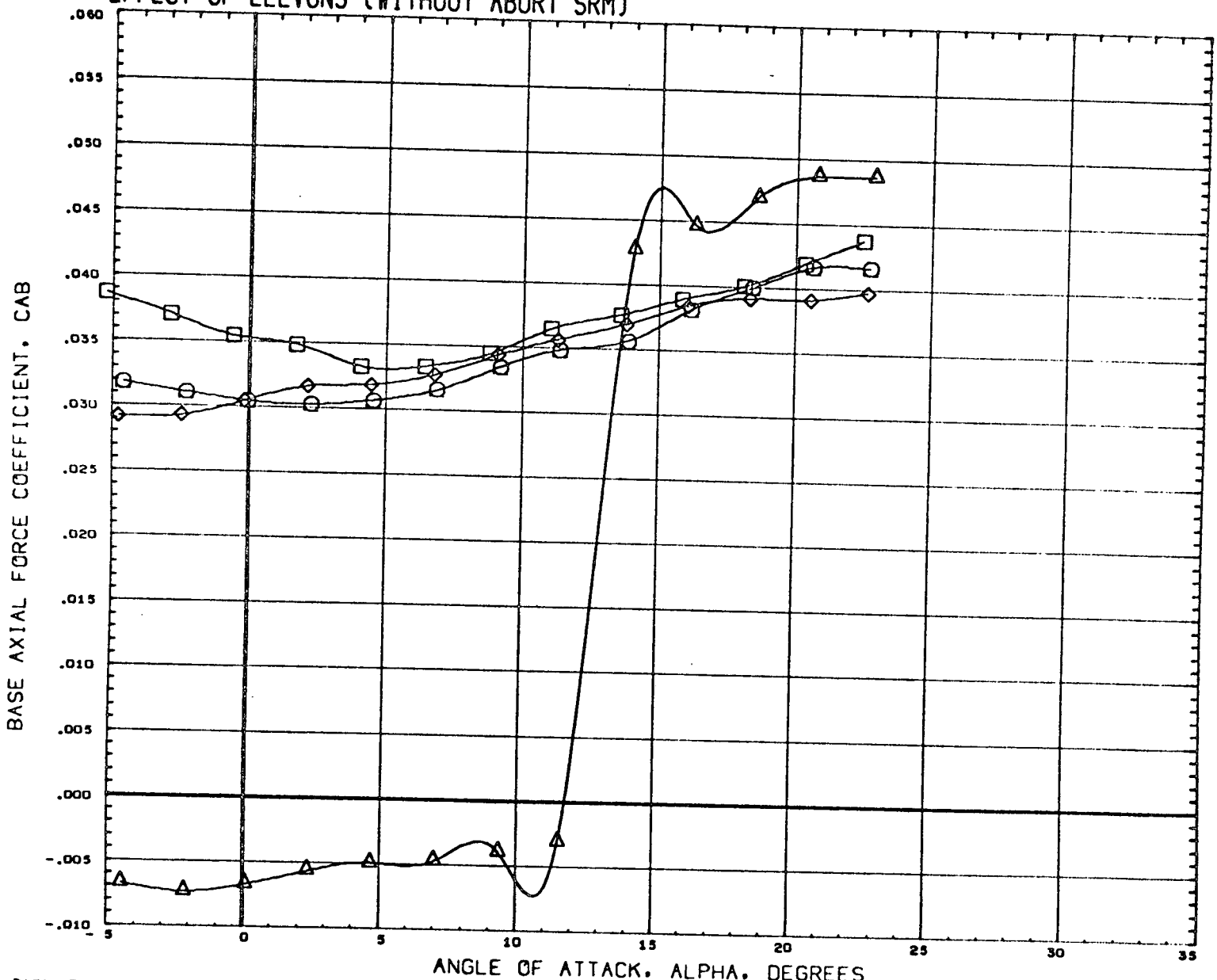


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(69514)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(69501)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(69507)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(69511)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

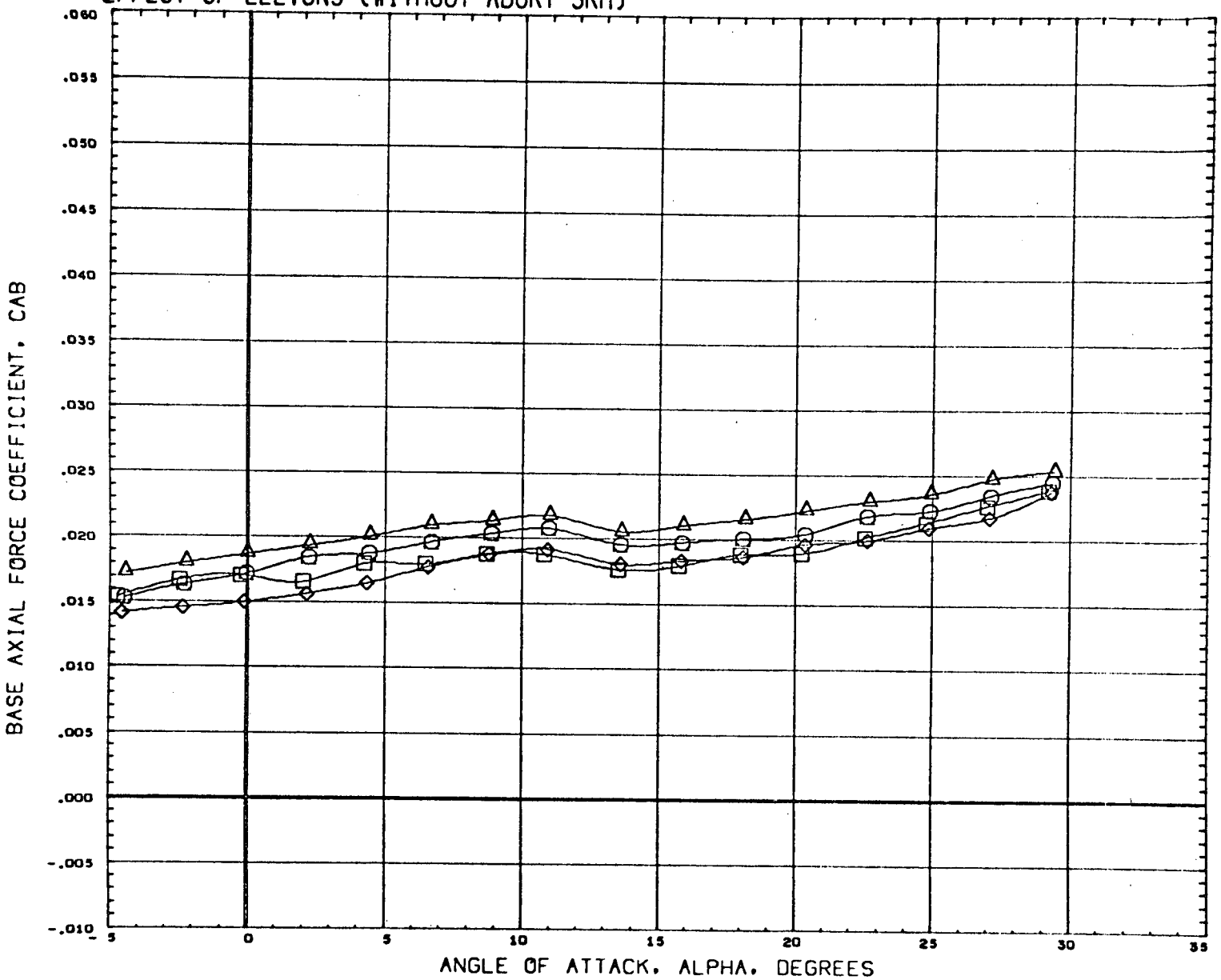


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(869S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(869S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

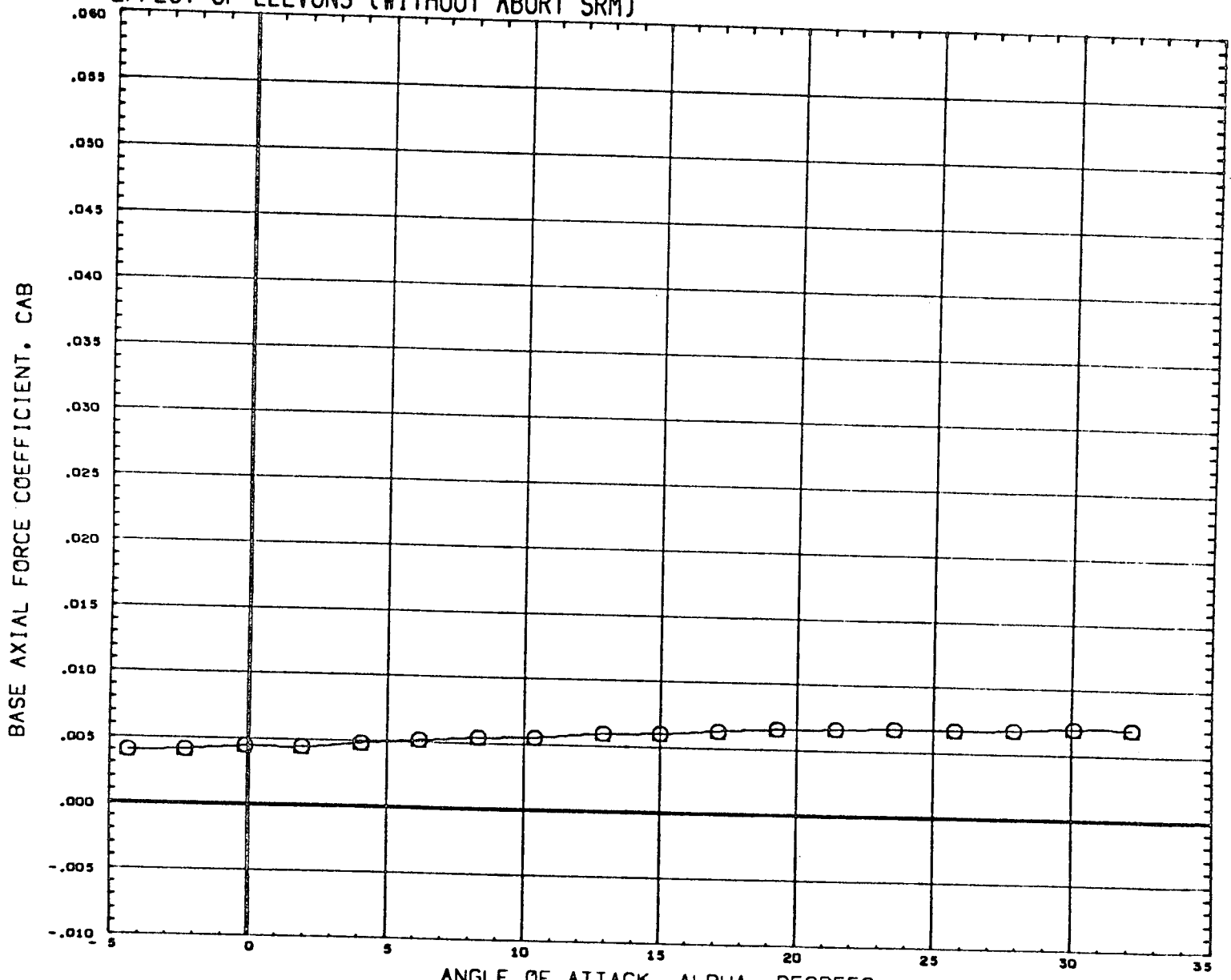


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(869S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869S07)	⊗	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(869S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

EFFECT OF ELEVONS (WITHOUT ABORT SRM)



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(869S14)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS
(869S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(869S07)	⊠	DATA NOT AVAILABLE FOR ALL CONDITIONS
(869S11)	□	DATA NOT AVAILABLE FOR ALL CONDITIONS

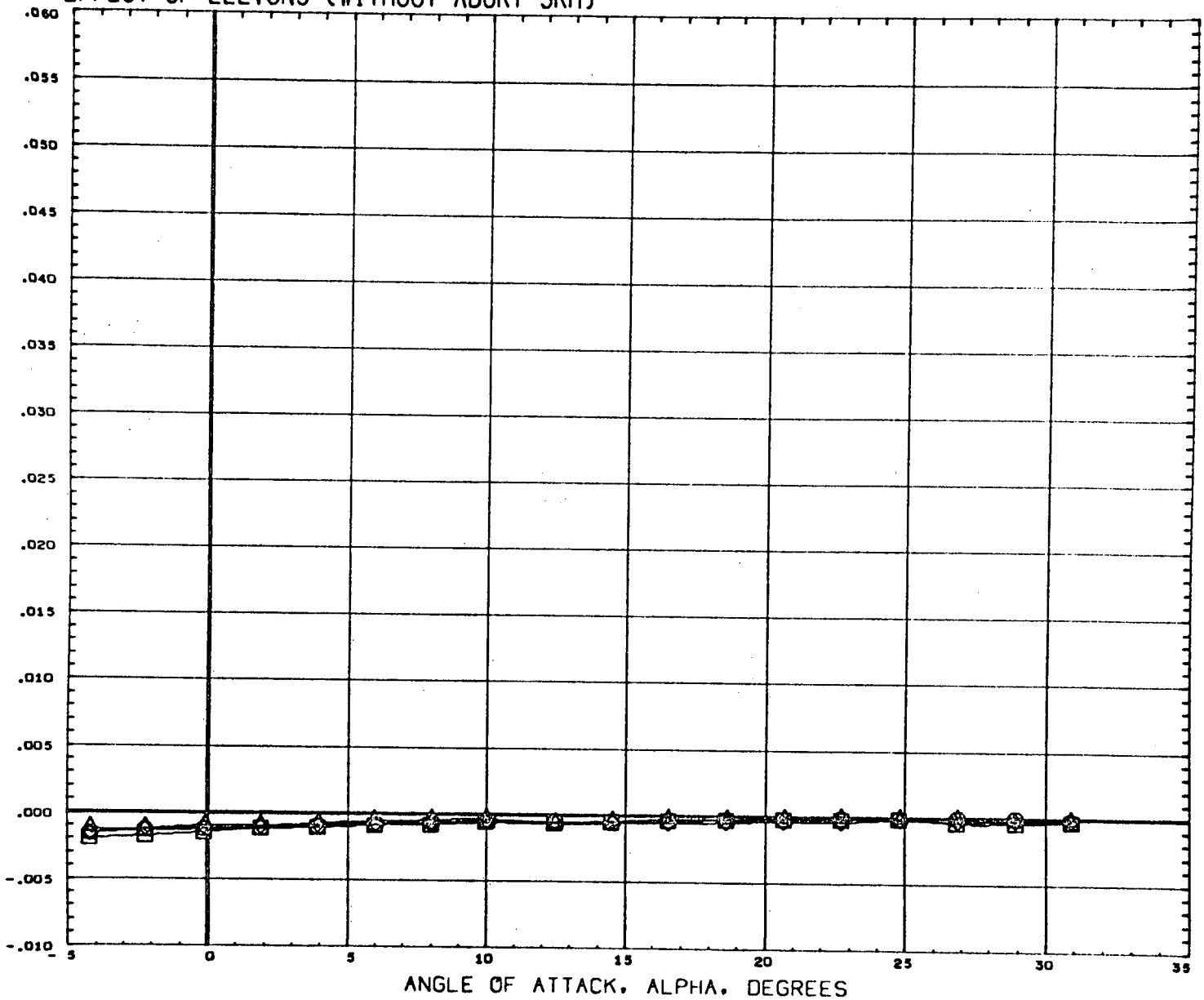
ELEVON	RUDDER	RFLARE	BFLAP
10.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000
-10.000	0.000	0.000	0.000
-30.000	0.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

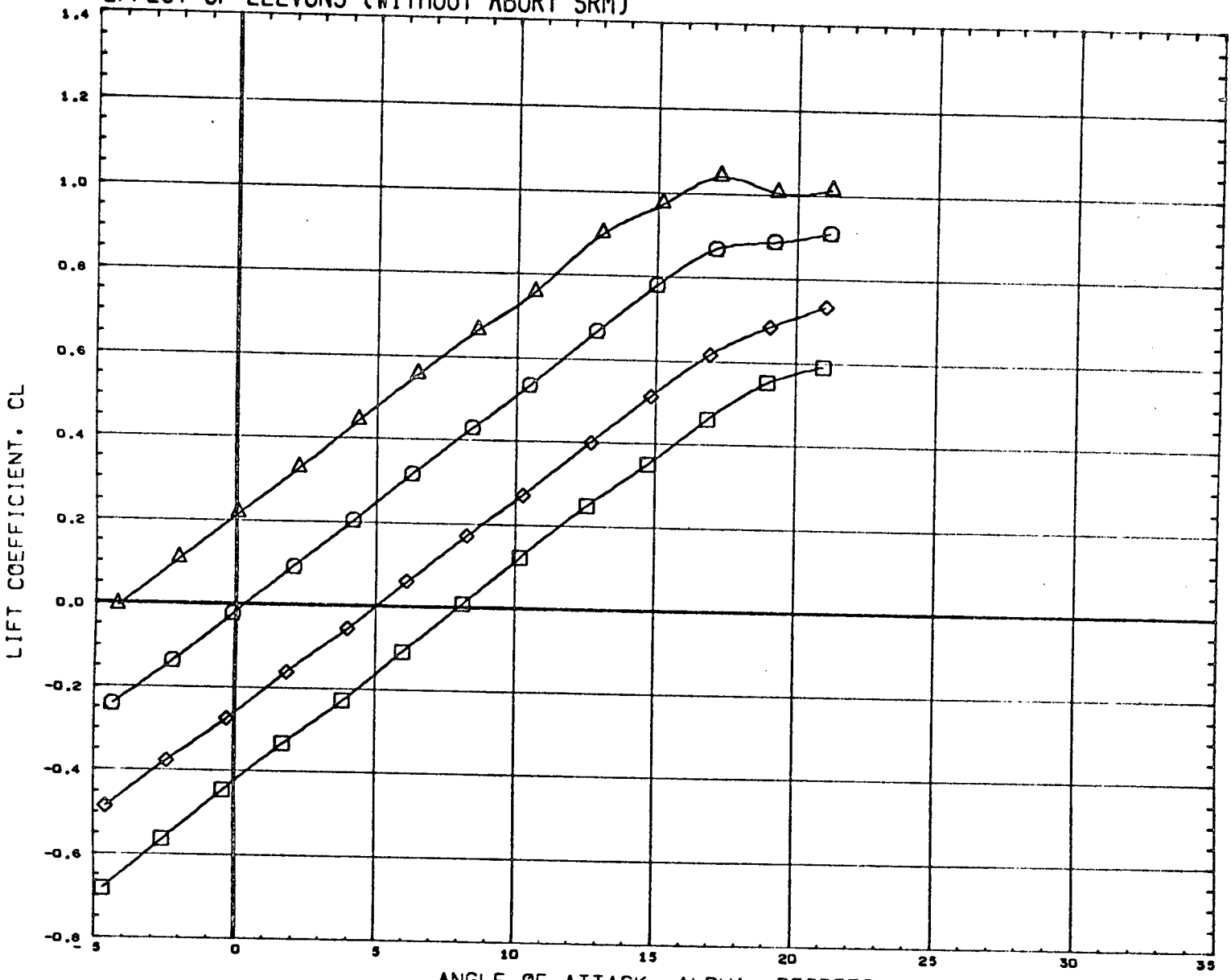


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(869S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(869S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

EFFECT OF ELEVONS (WITHOUT ABORT SRM)



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

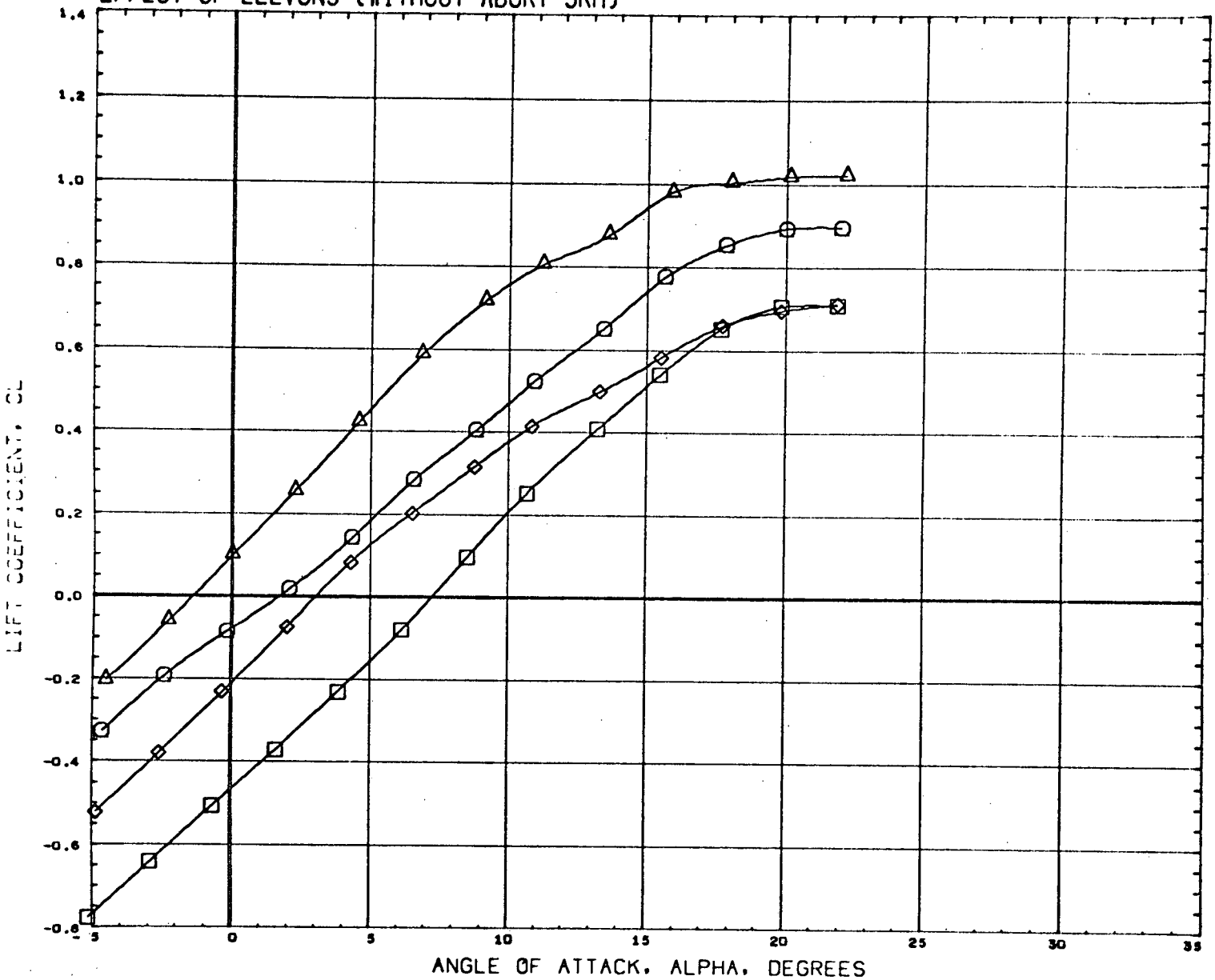
REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

RC

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

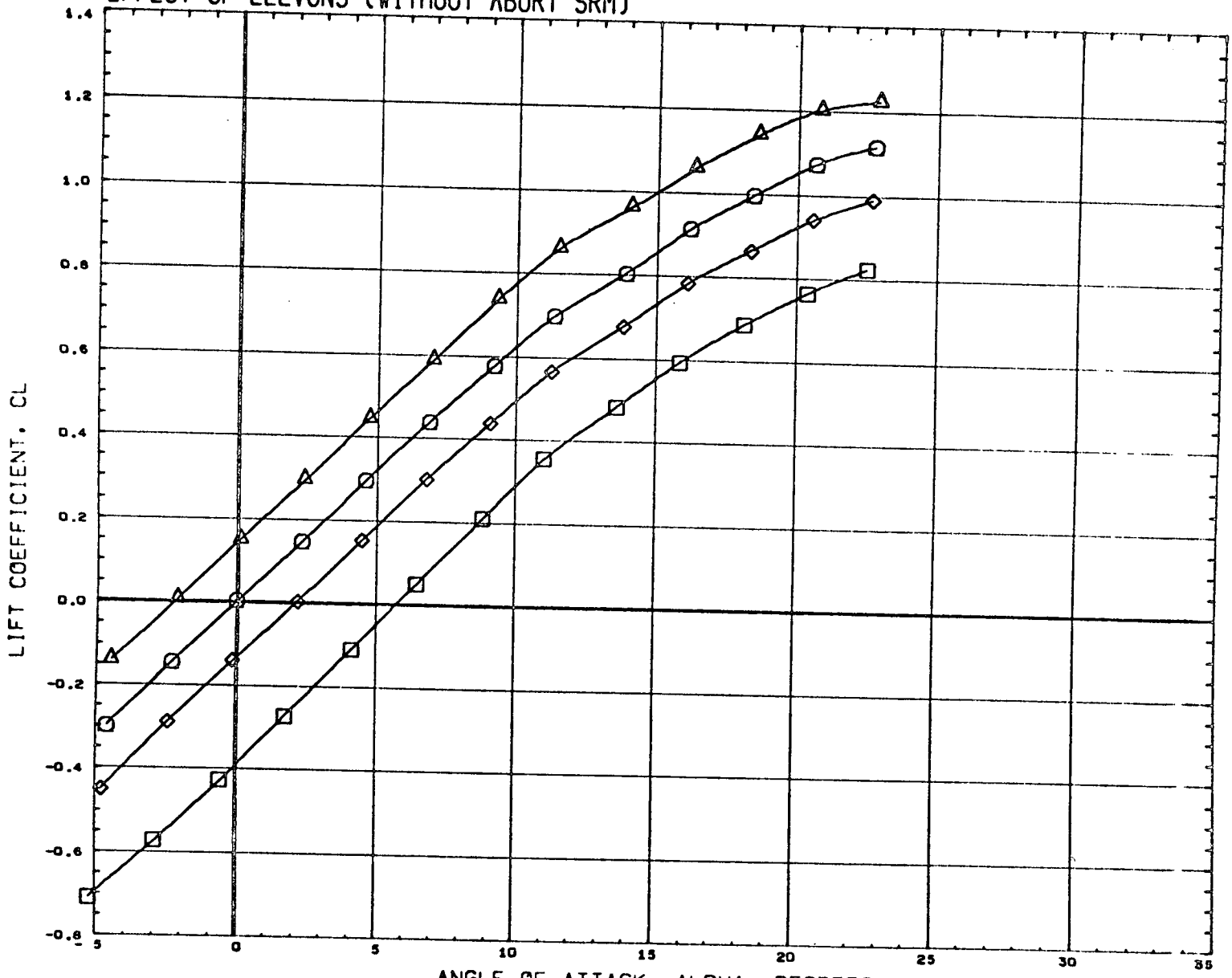


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITHOUT ABORT SRM)



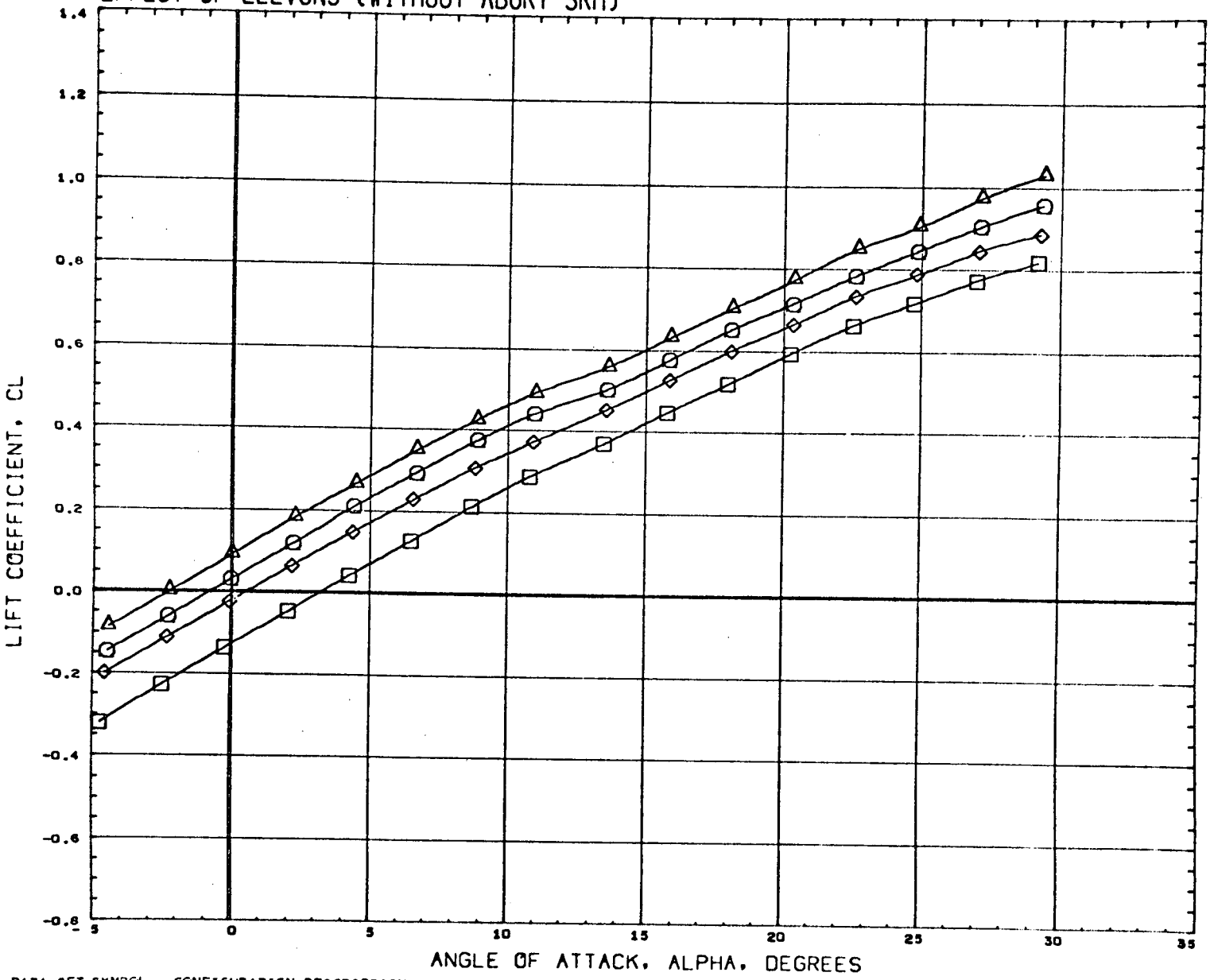
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869514)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(869501)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869507)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(869511)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

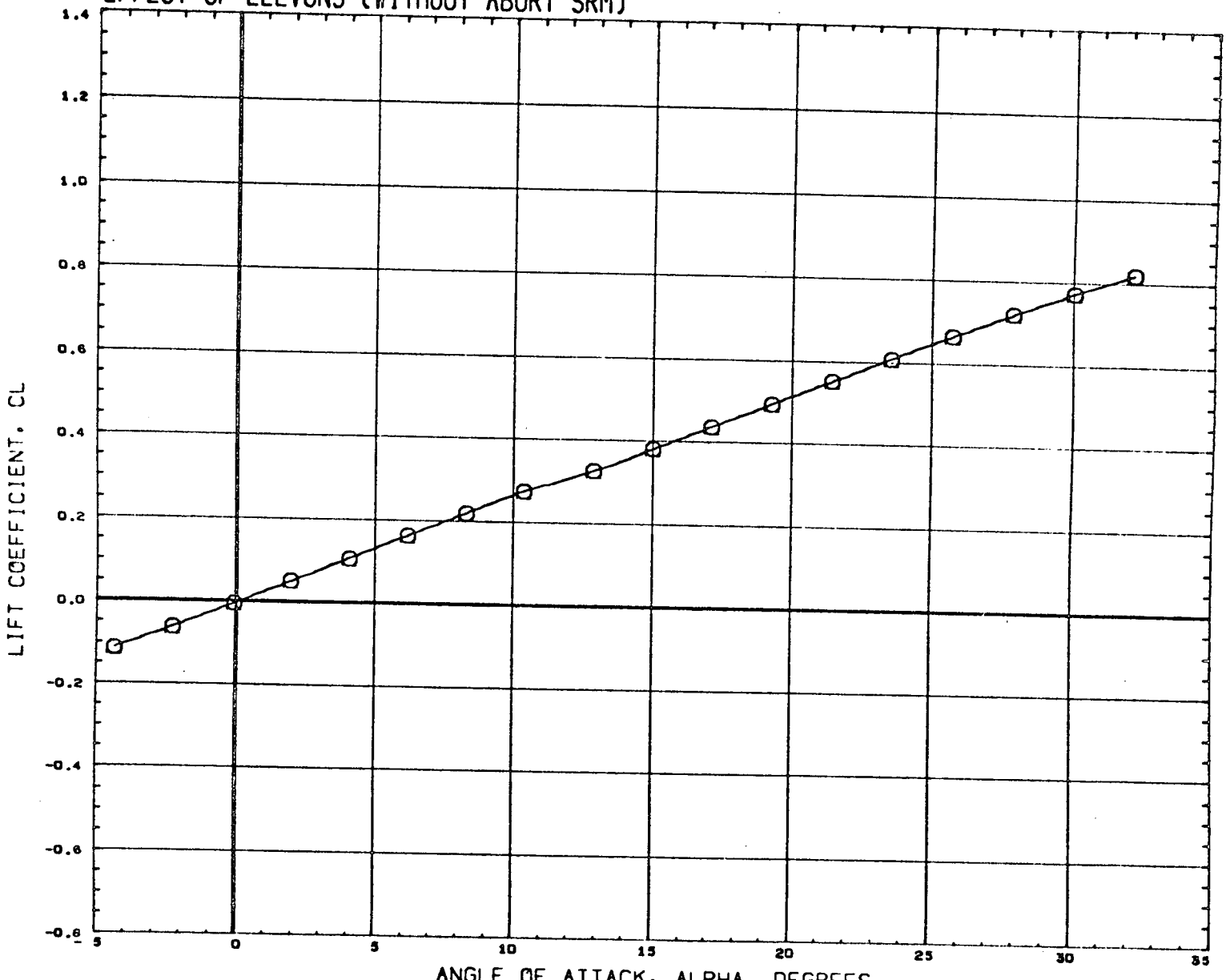


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869514)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(869501)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869507)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(869511)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

EFFECT OF ELEVONS (WITHOUT ABORT SRM)



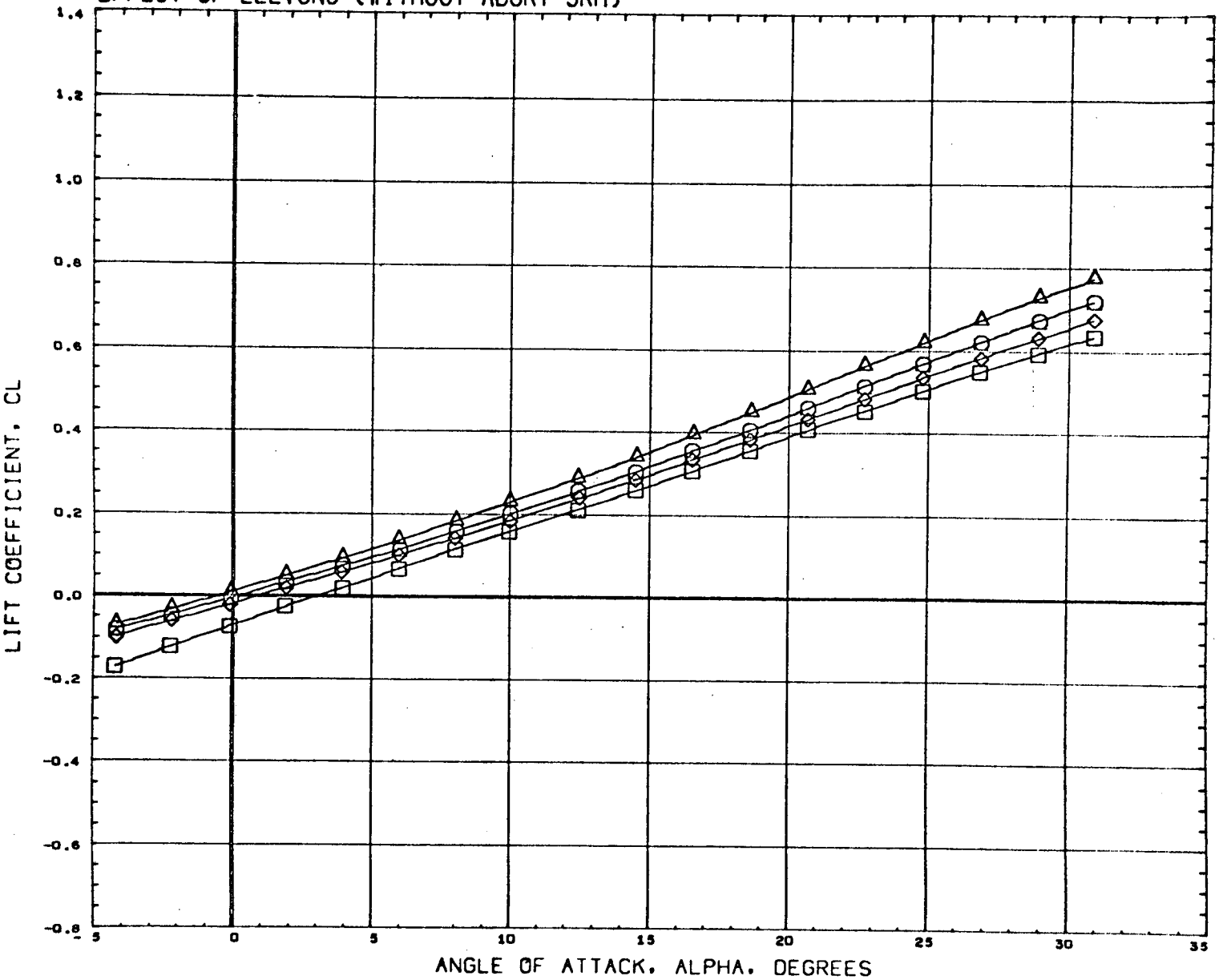
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(869314)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS
(869301)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(869307)	⊗	DATA NOT AVAILABLE FOR ALL CONDITIONS
(869311)	□	DATA NOT AVAILABLE FOR ALL CONDITIONS

ELEVON	RUDDER	RFLARE	BFLAP
10.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000
-10.000	0.000	0.000	0.000
-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

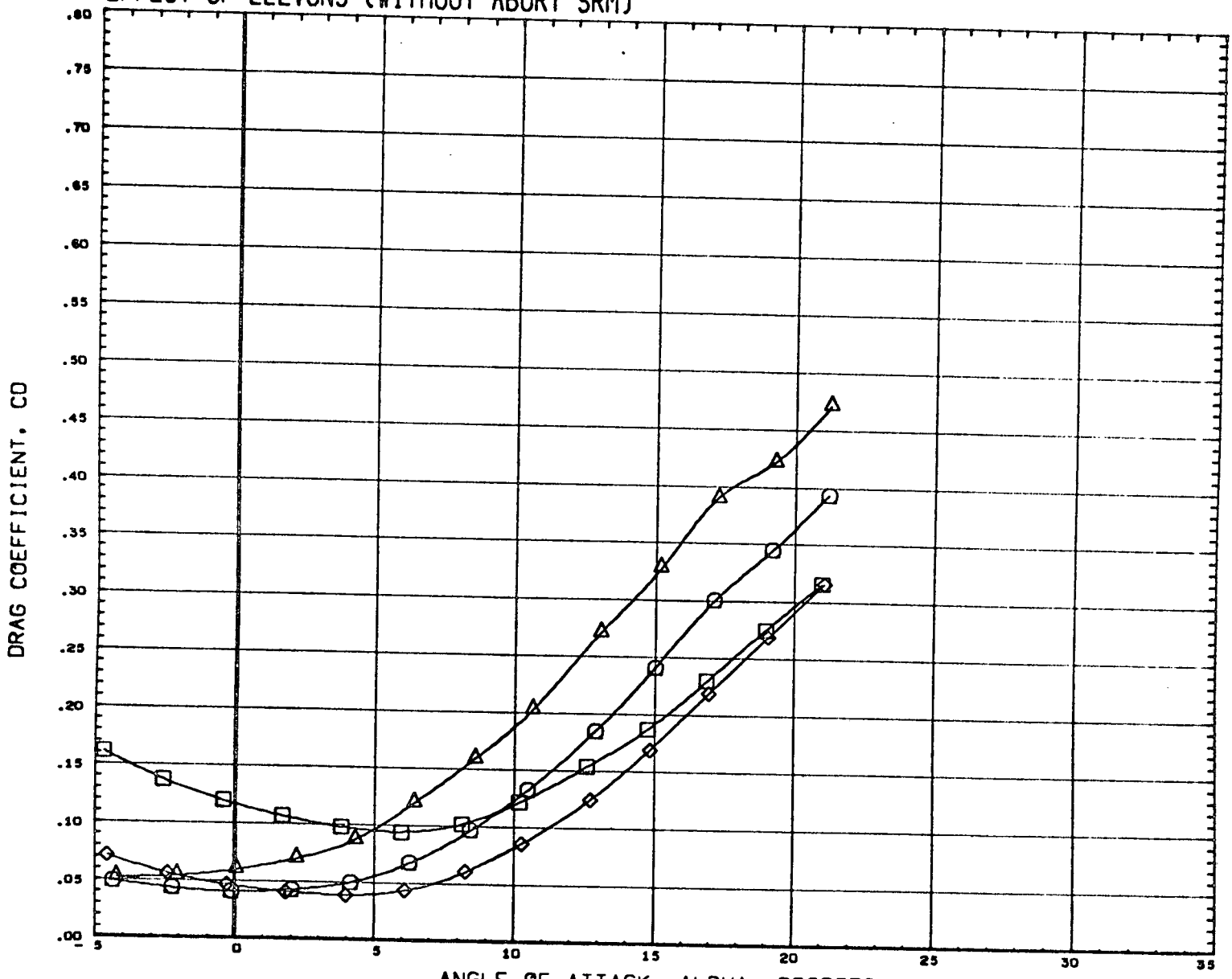


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

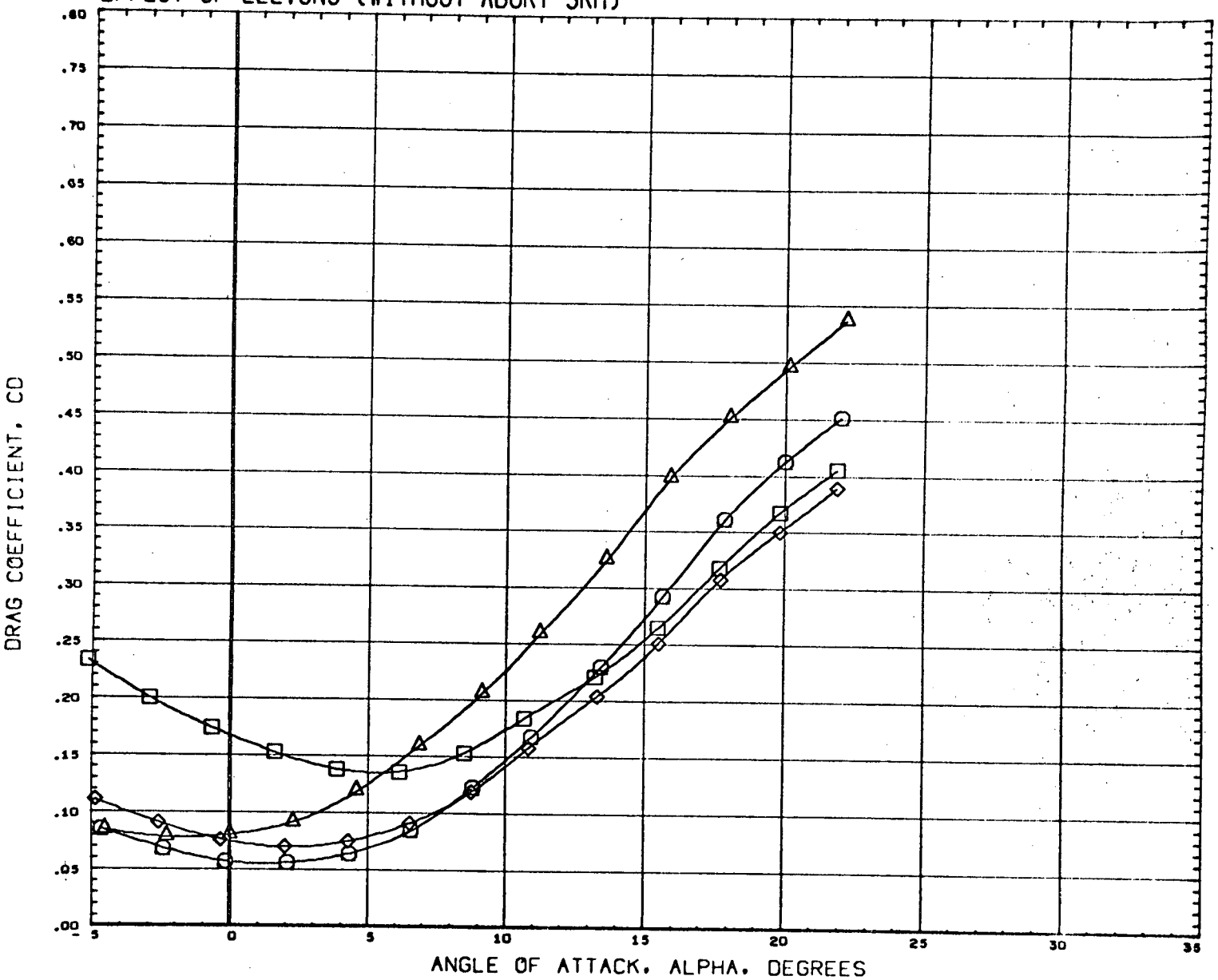


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

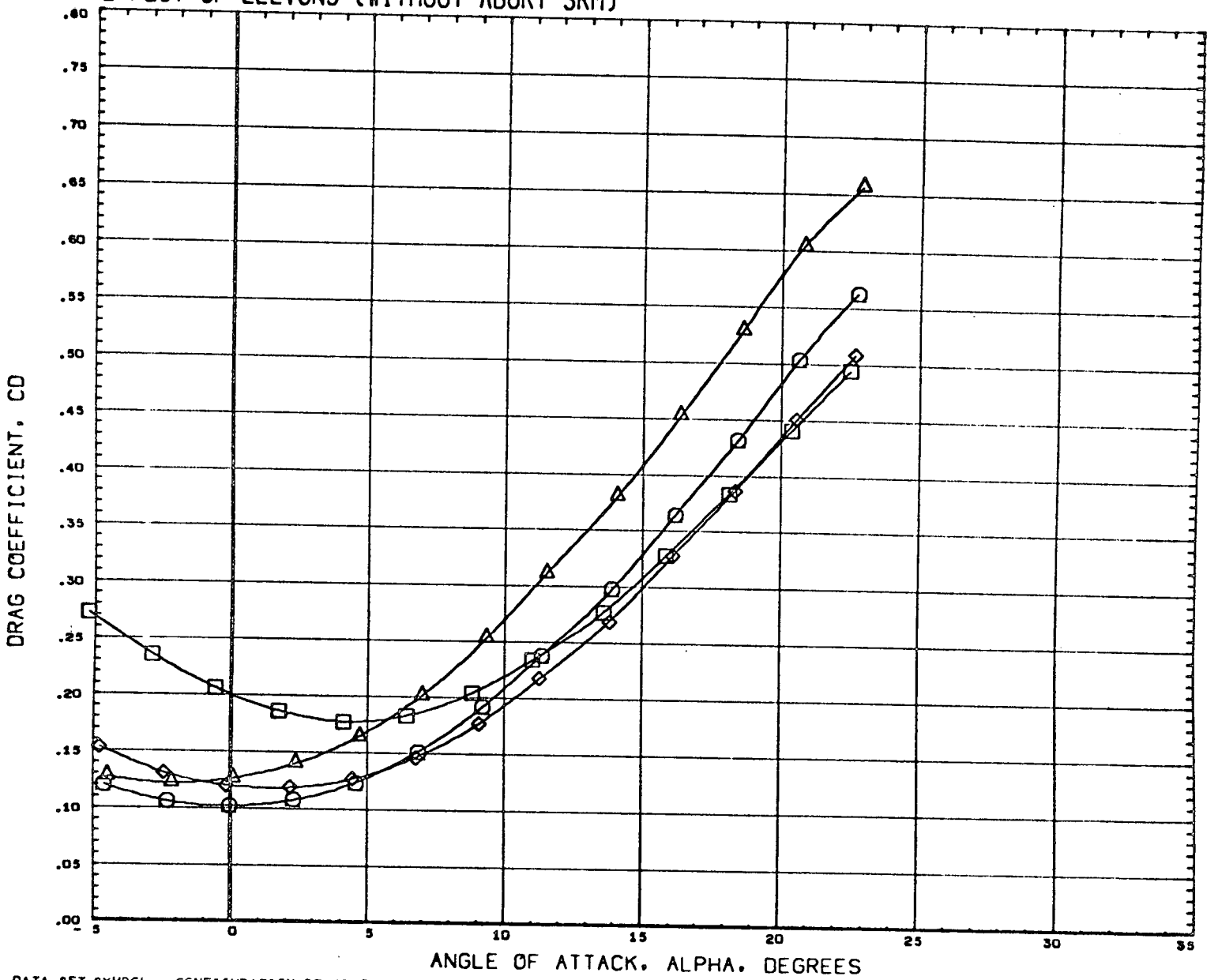


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

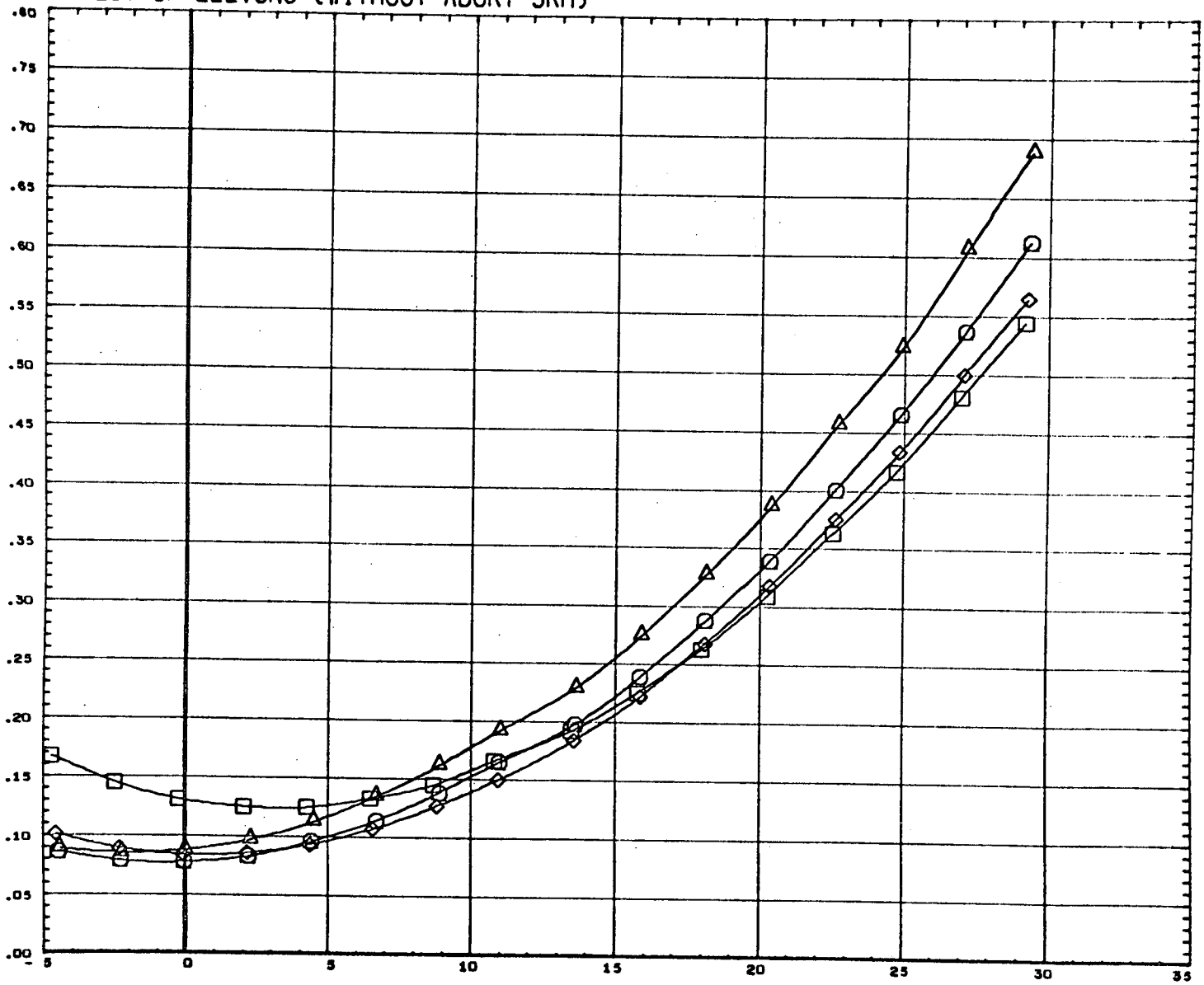


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

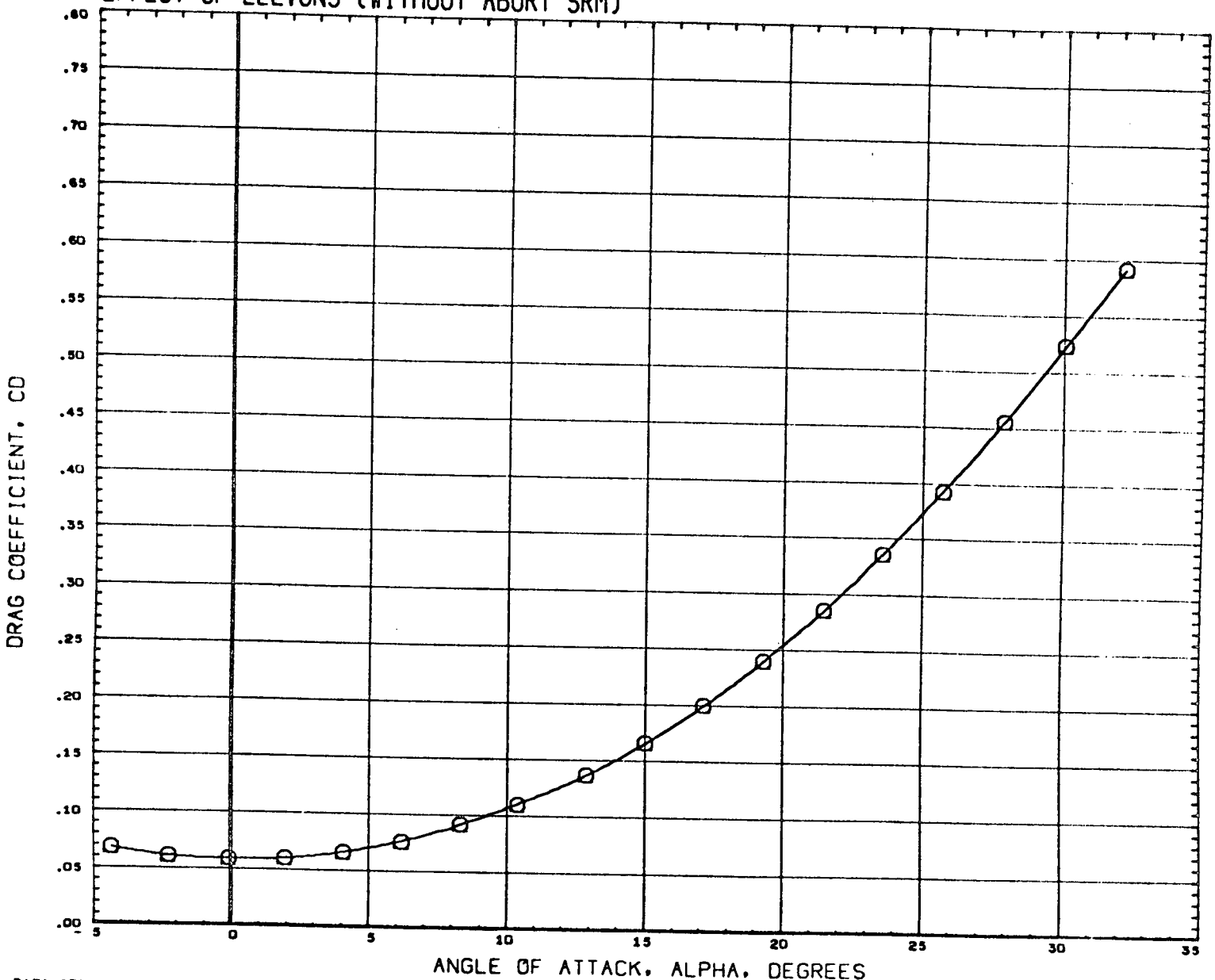


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

EFFECT OF ELEVONS (WITHOUT ABORT SRM)



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(B69S14)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(B69S07)	⊠	DATA NOT AVAILABLE FOR ALL CONDITIONS
(B69S11)	□	DATA NOT AVAILABLE FOR ALL CONDITIONS

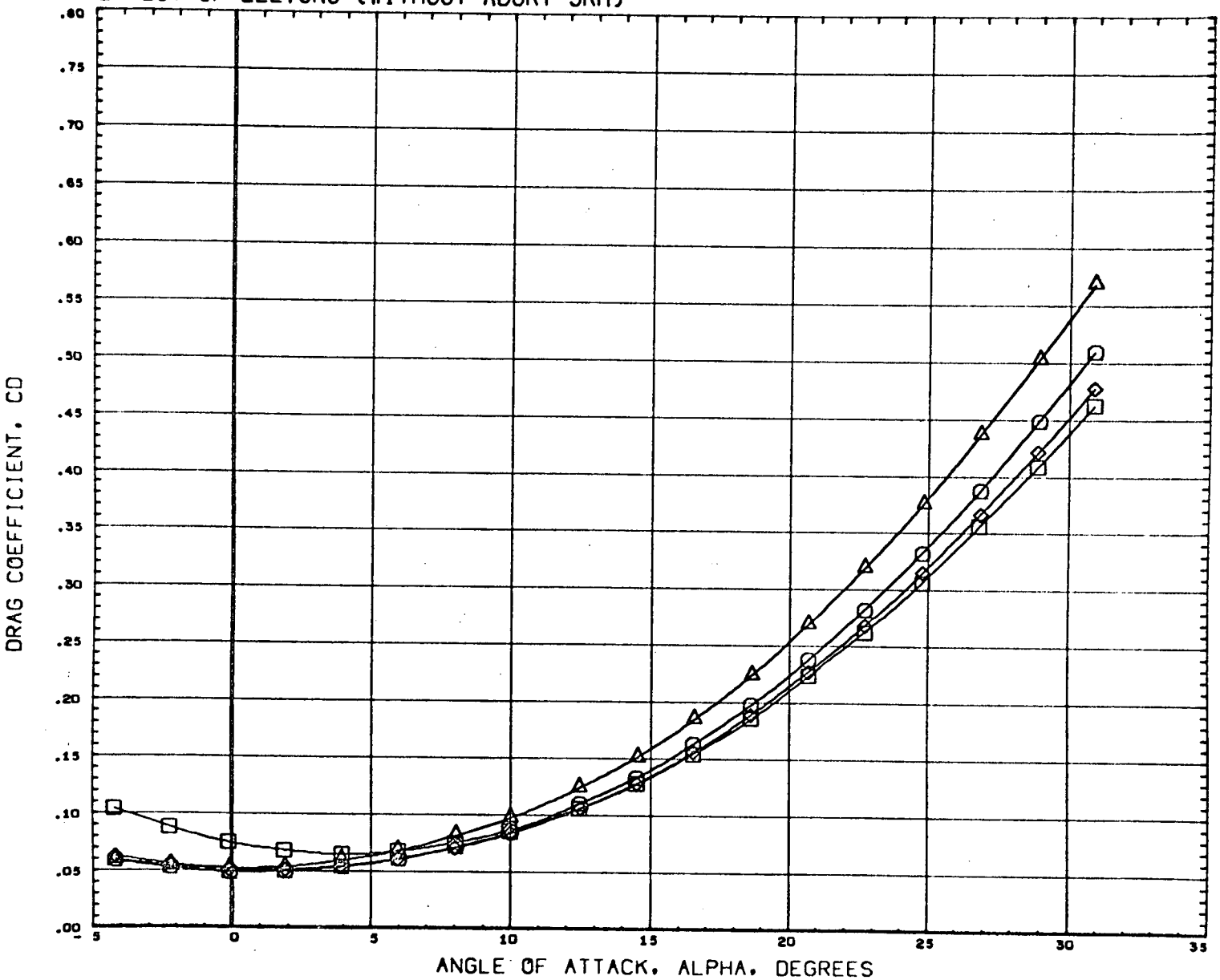
ELEVON	RUDDER	RFLARE	BFLAP
10.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000
-10.000	0.000	0.000	0.000
-30.000	0.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

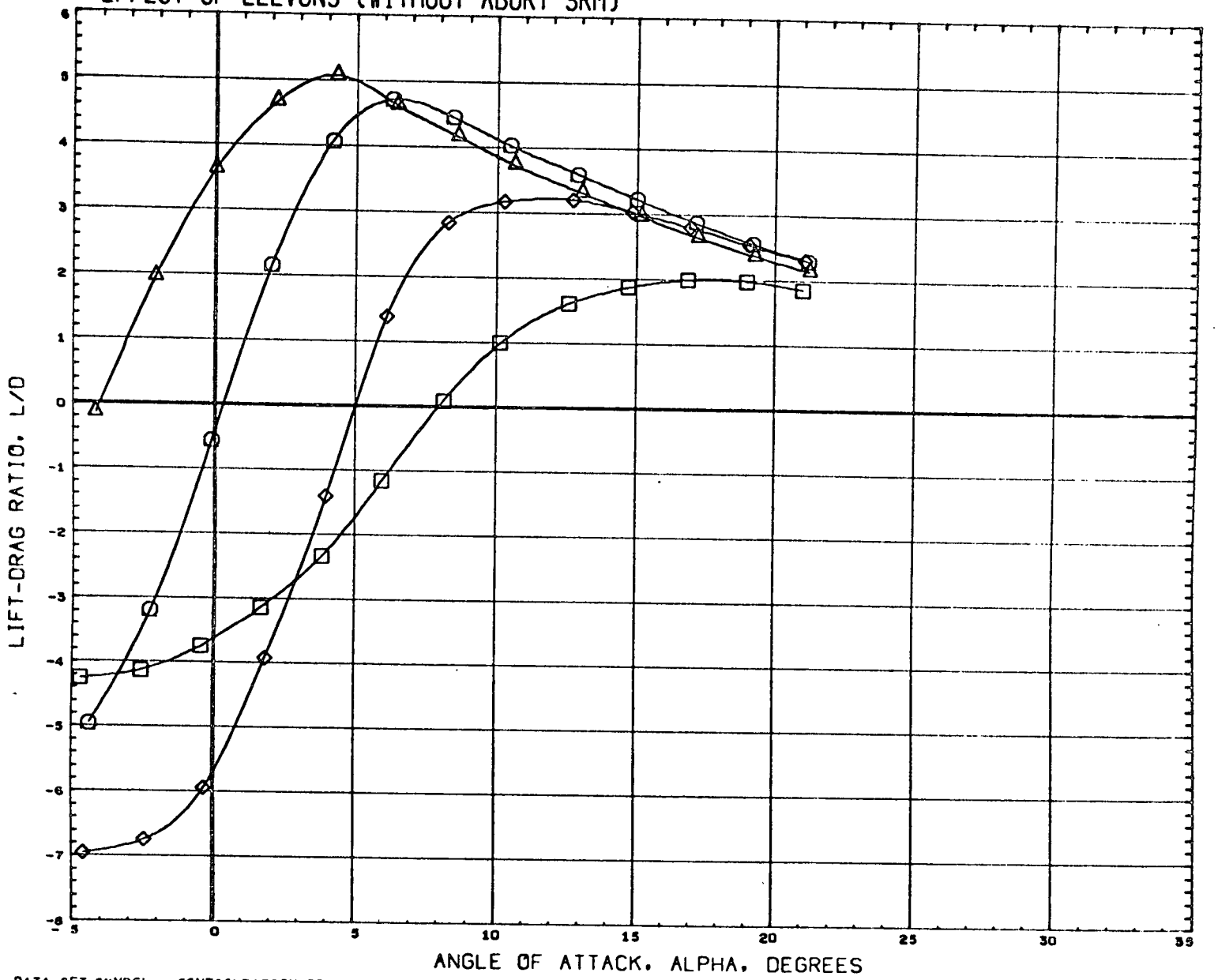


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

EFFECT OF ELEVONS (WITHOUT ABORT SRM)



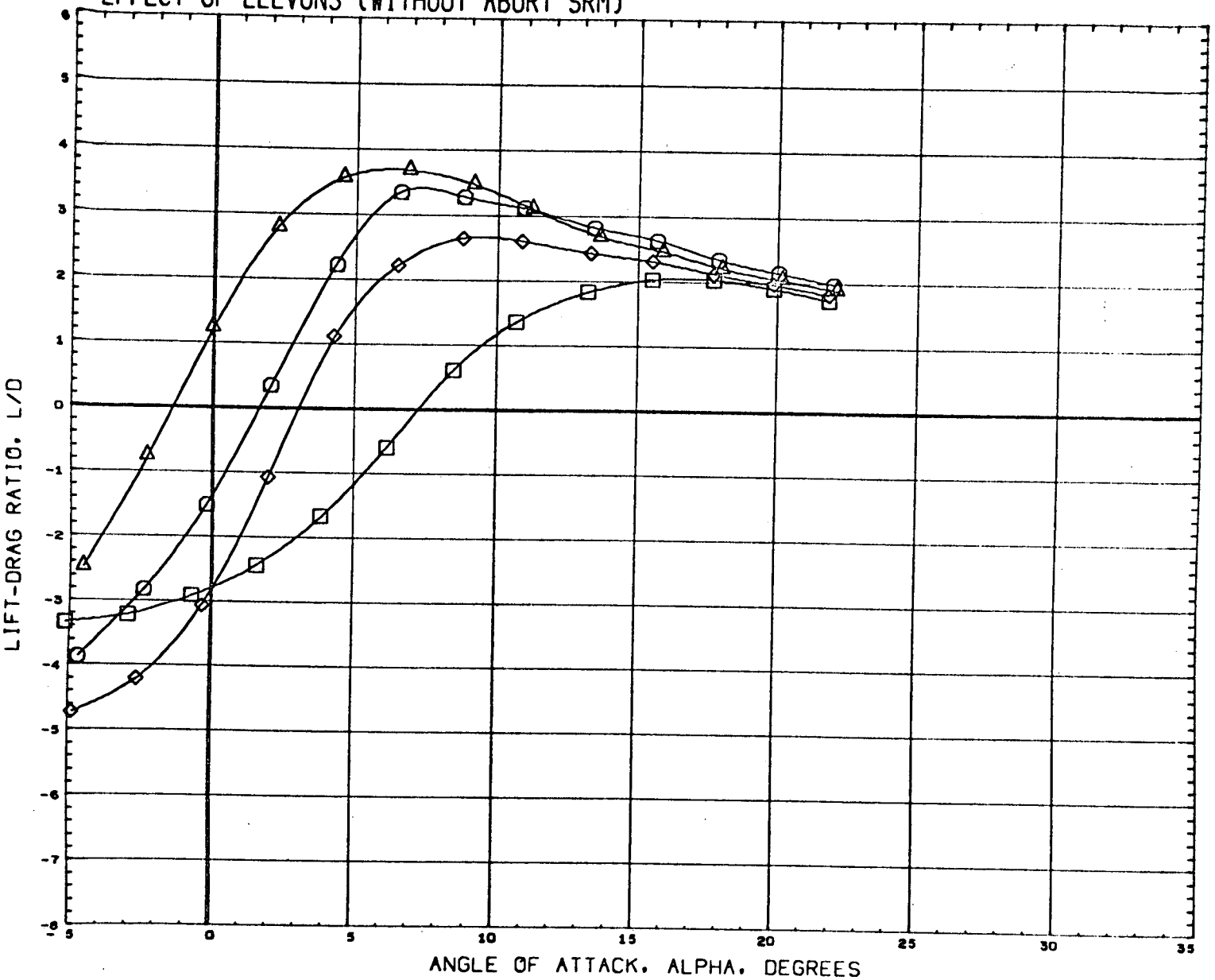
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

DR

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

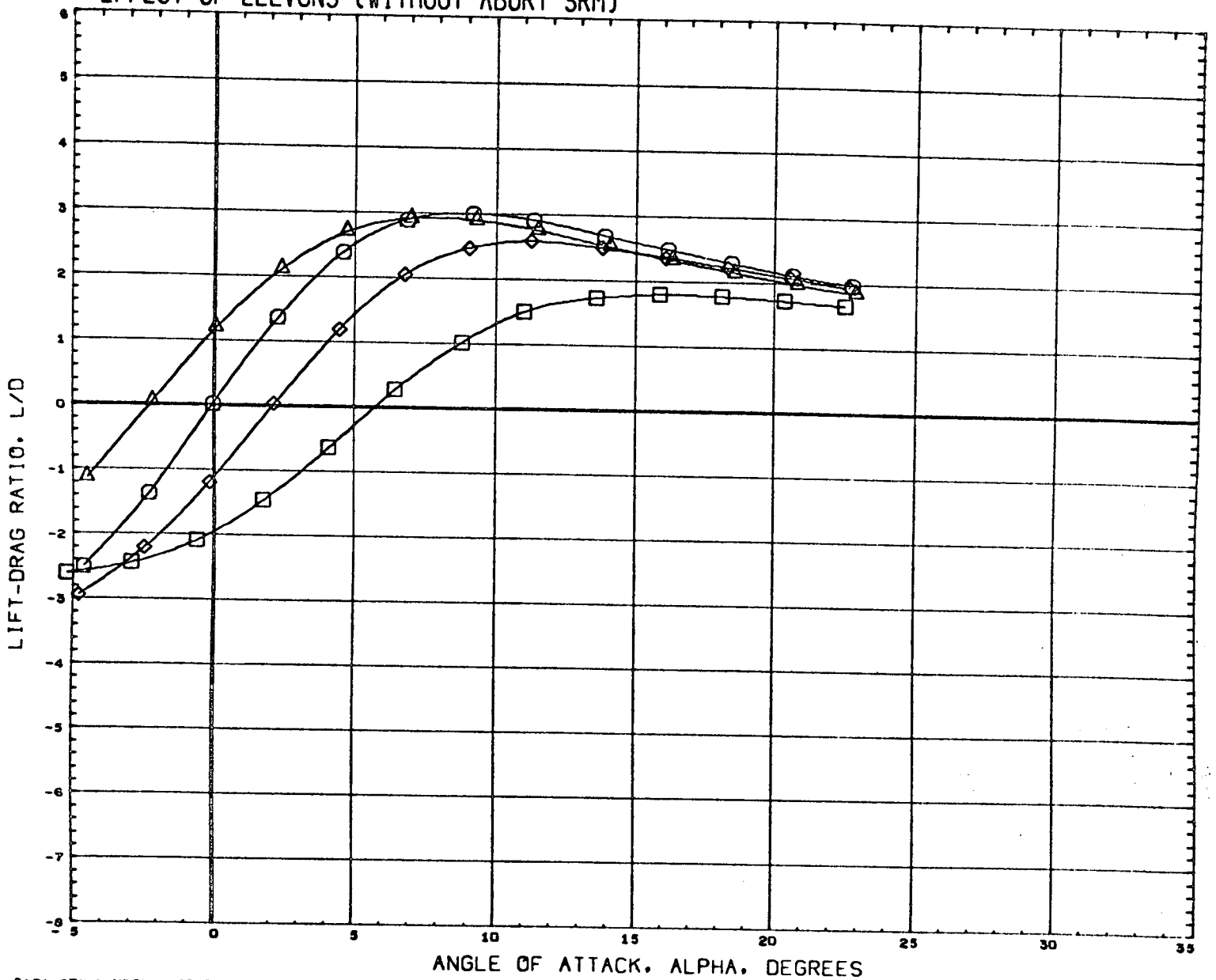


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

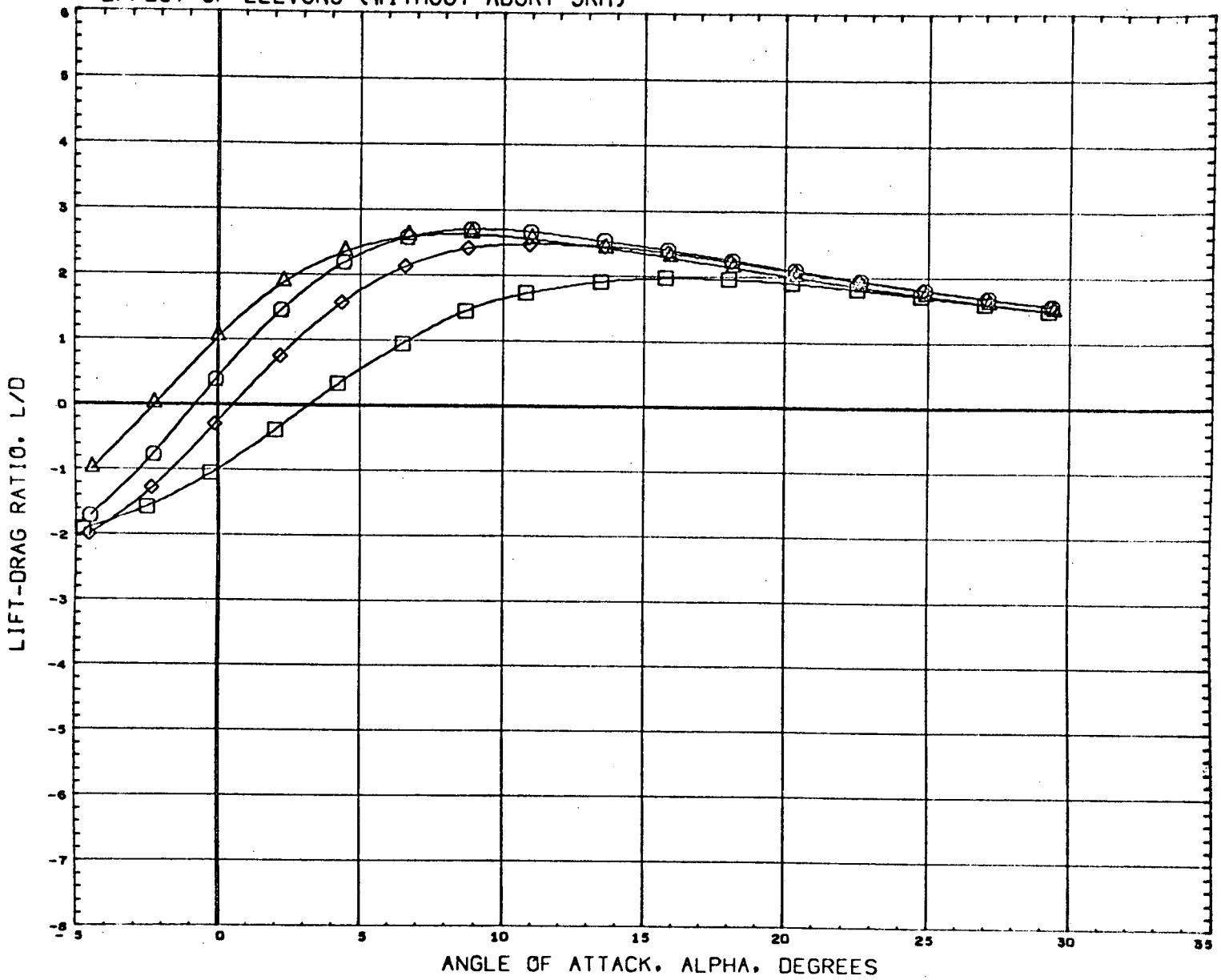


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869314)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(869301)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869307)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(869311)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

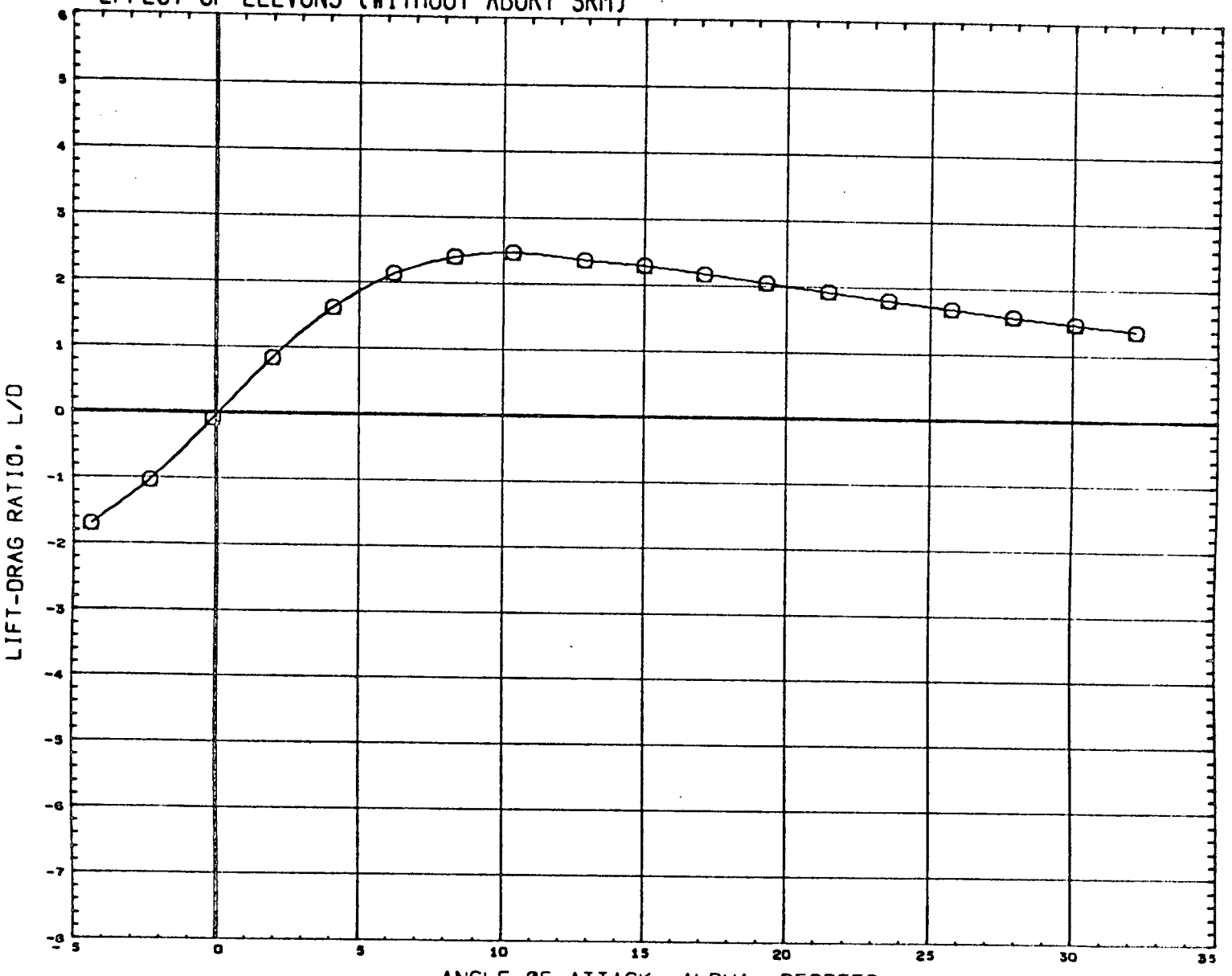


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

EFFECT OF ELEVONS (WITHOUT ABORT SRM)



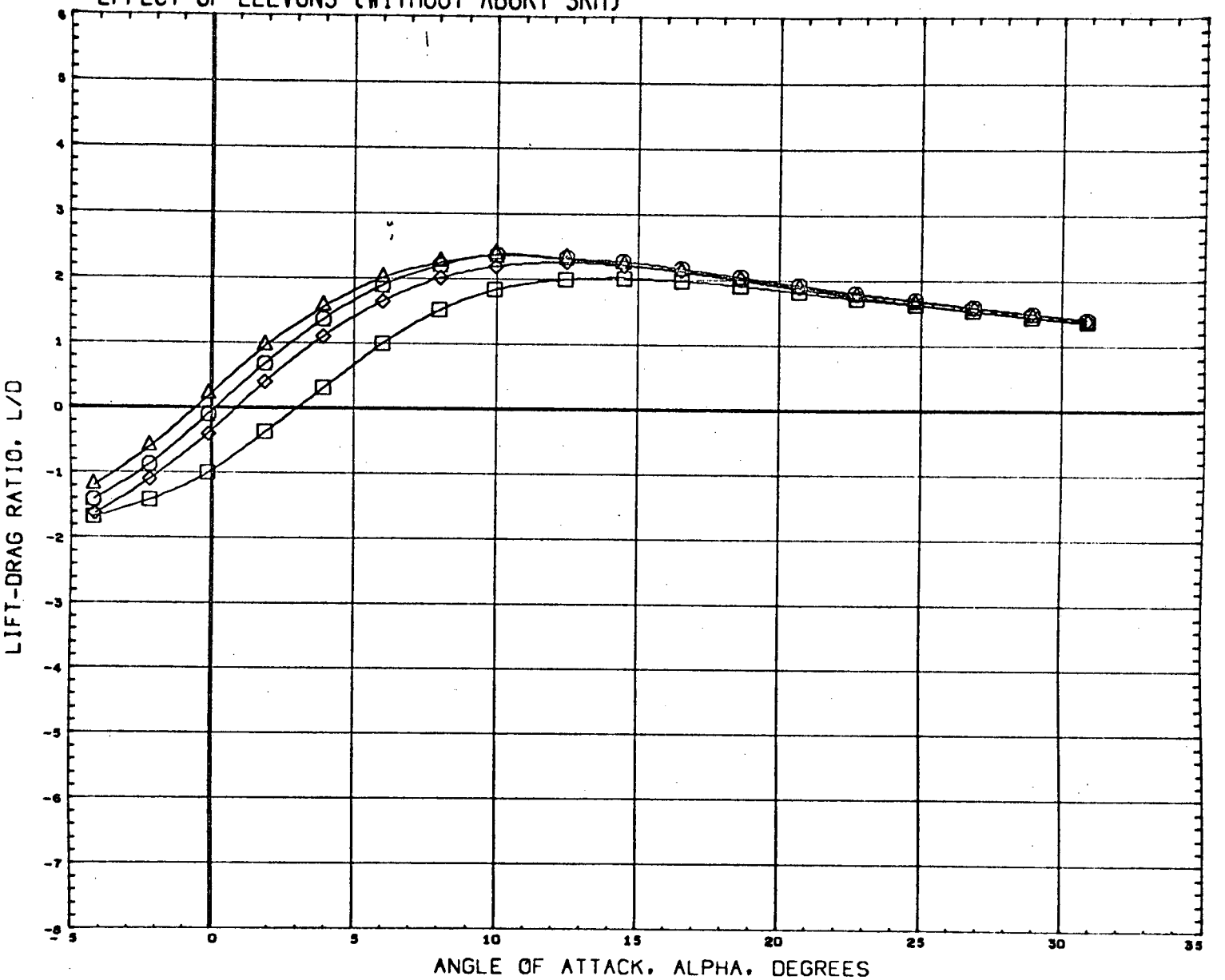
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(B69S14)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(B69S07)	◇	DATA NOT AVAILABLE FOR ALL CONDITIONS
(B69S11)	□	DATA NOT AVAILABLE FOR ALL CONDITIONS

ELEVON	RUDDER	RFLARE	BFLAP
10.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000
-10.000	0.000	0.000	0.000
-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

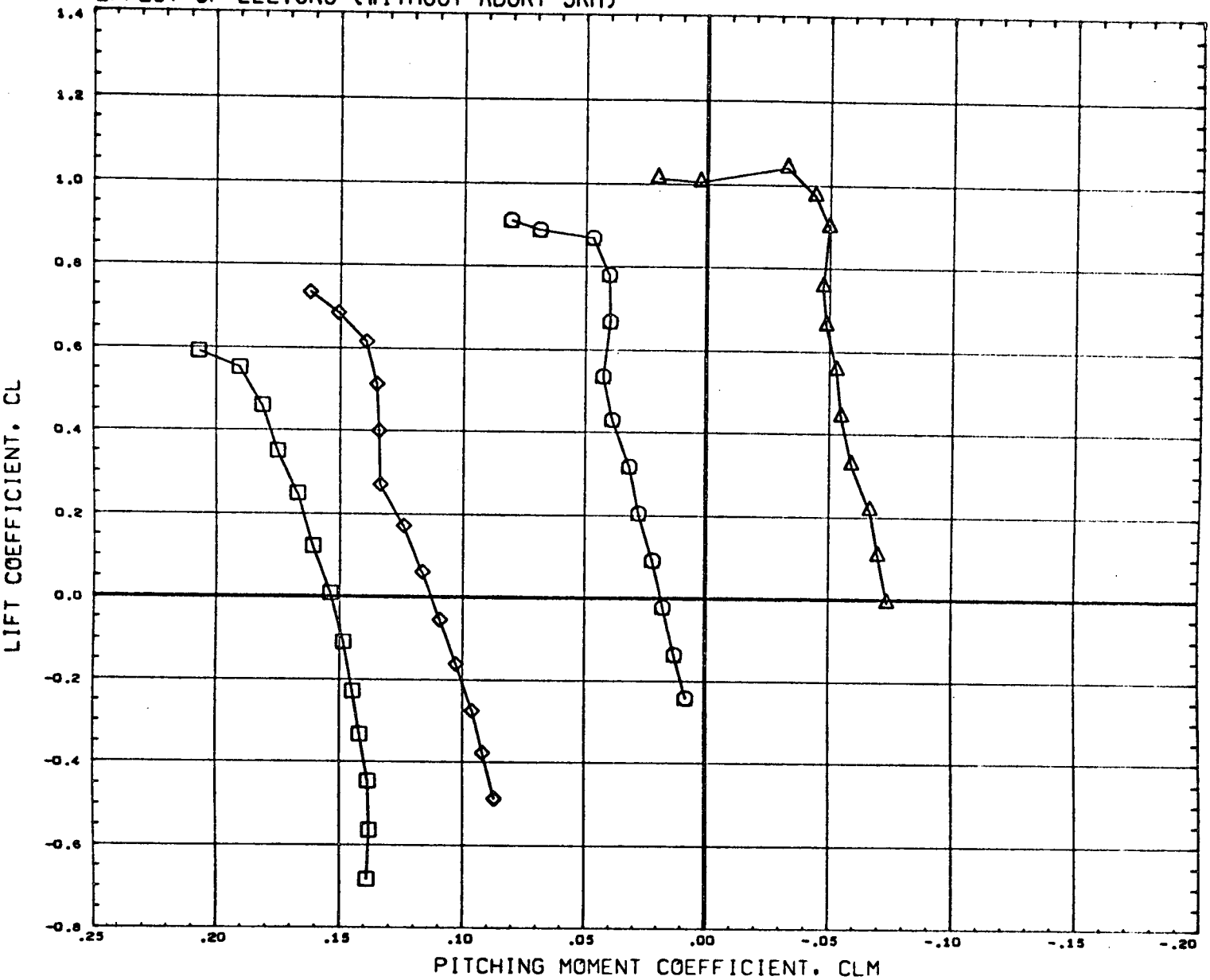


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11) □	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

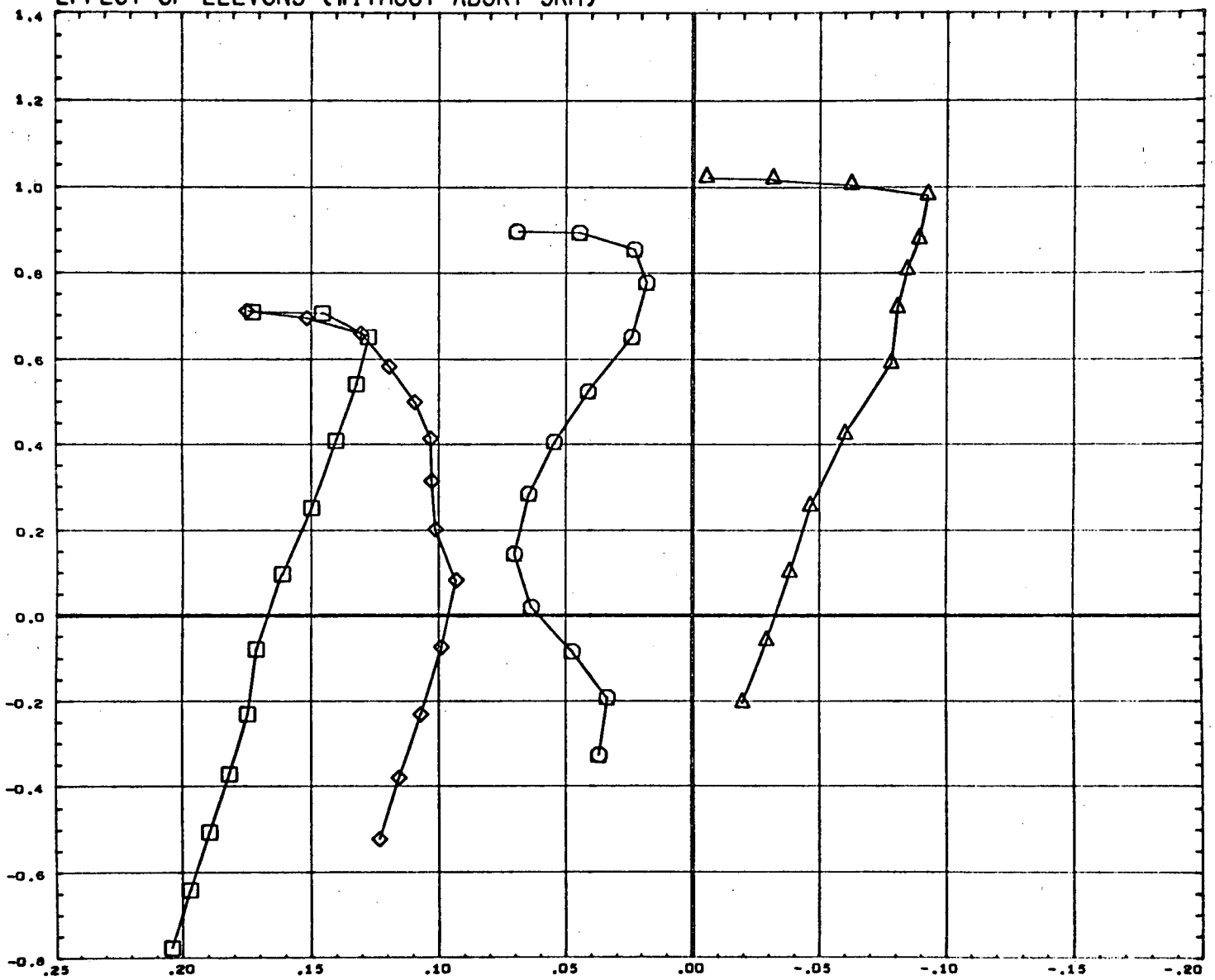


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

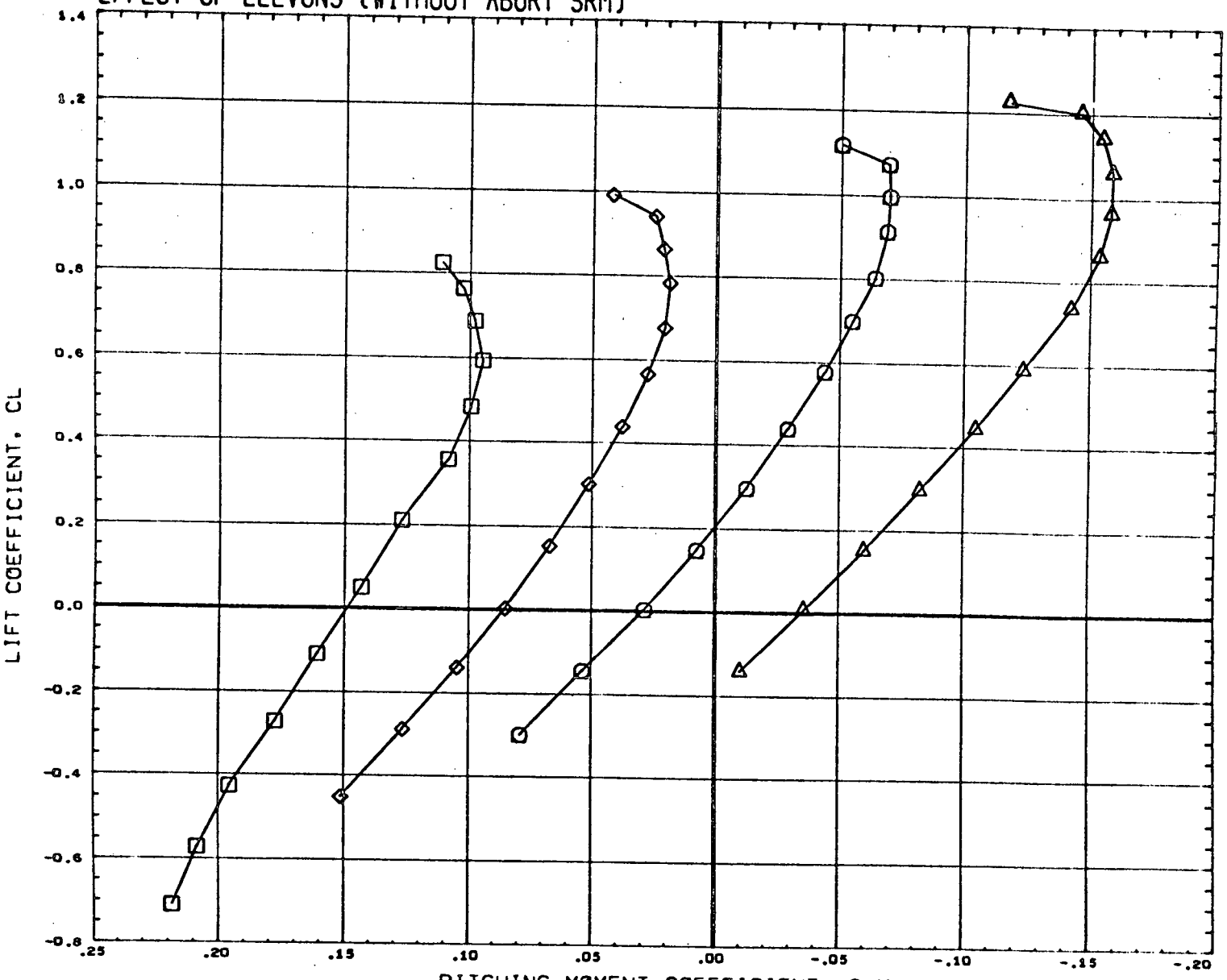


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07) ⊠	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11) □	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

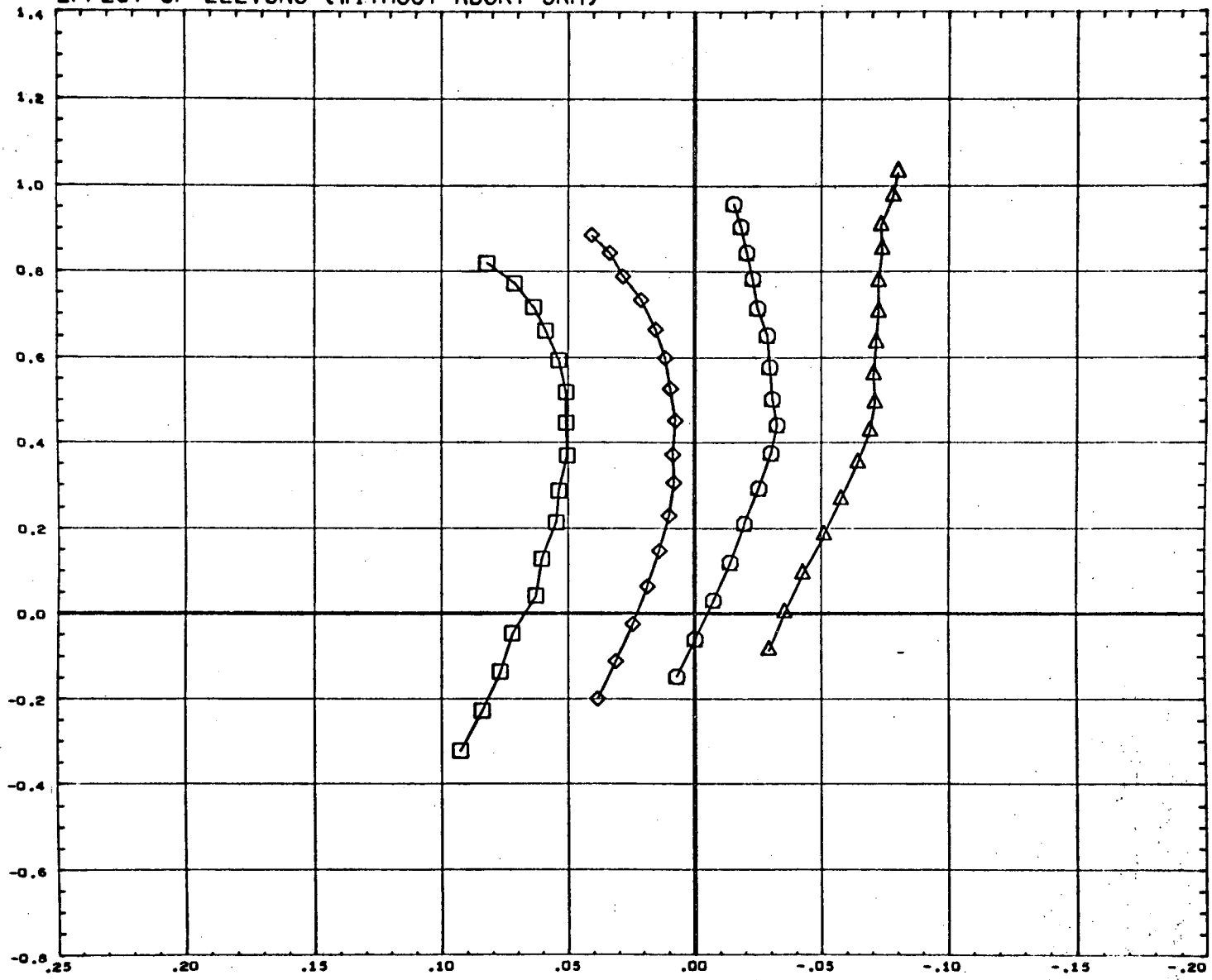


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

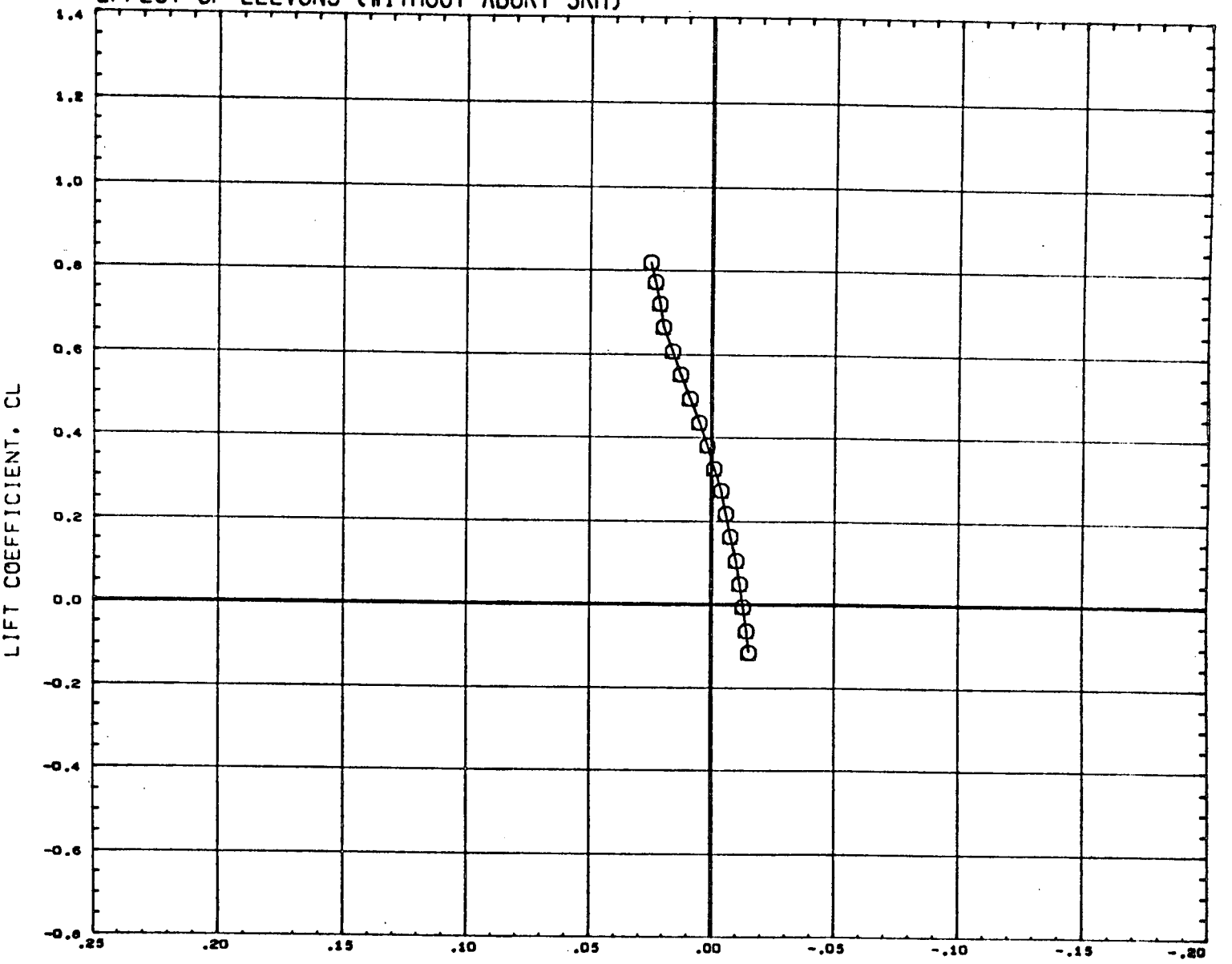


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(869S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(869S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

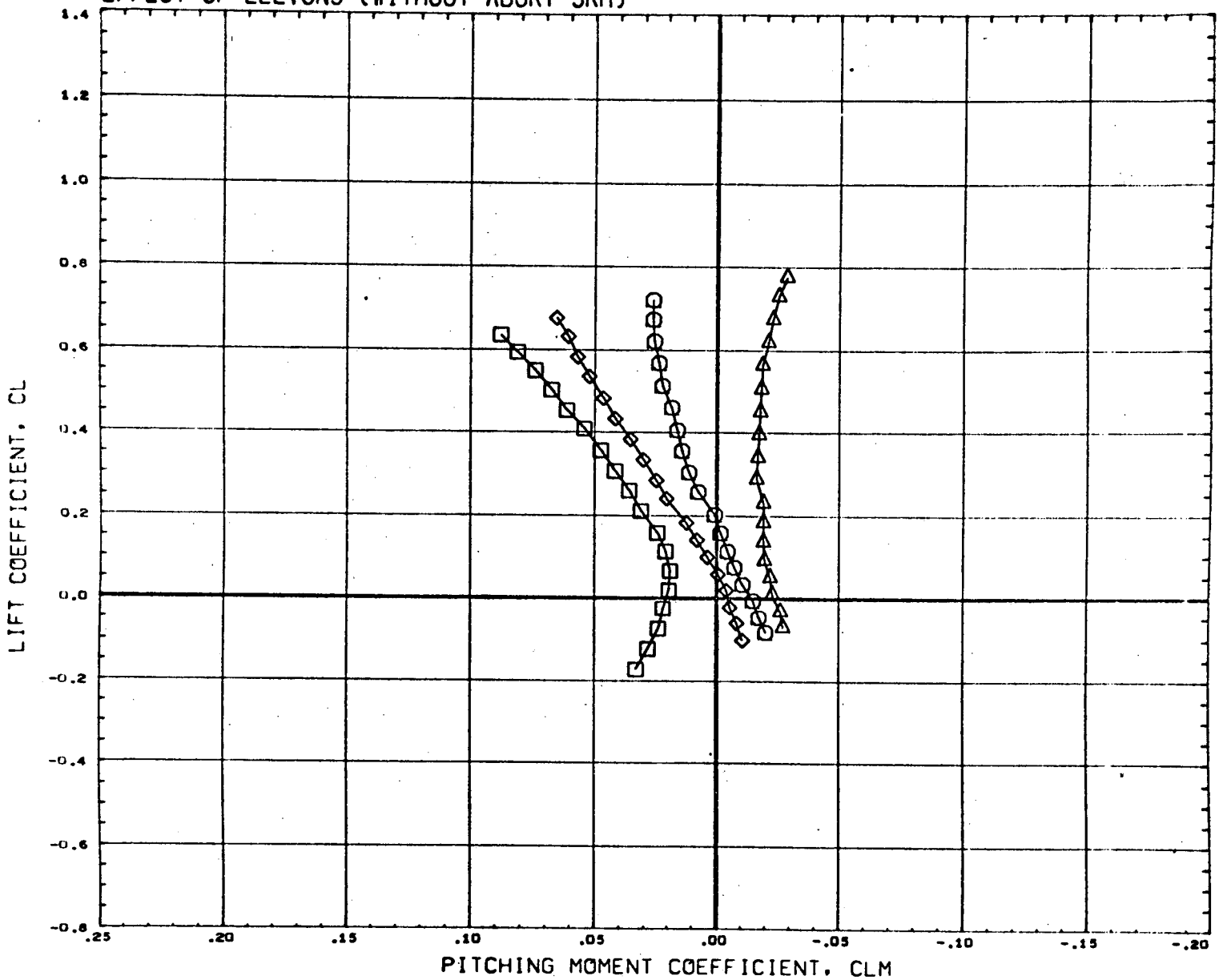


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869S14)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS	10.000	0.000	0.000	0.000
(869S01)	○	MSFC TWT 342 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869S07)	⊠	DATA NOT AVAILABLE FOR ALL CONDITIONS	-10.000	0.000	0.000	0.000
(869S11)	□	DATA NOT AVAILABLE FOR ALL CONDITIONS	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

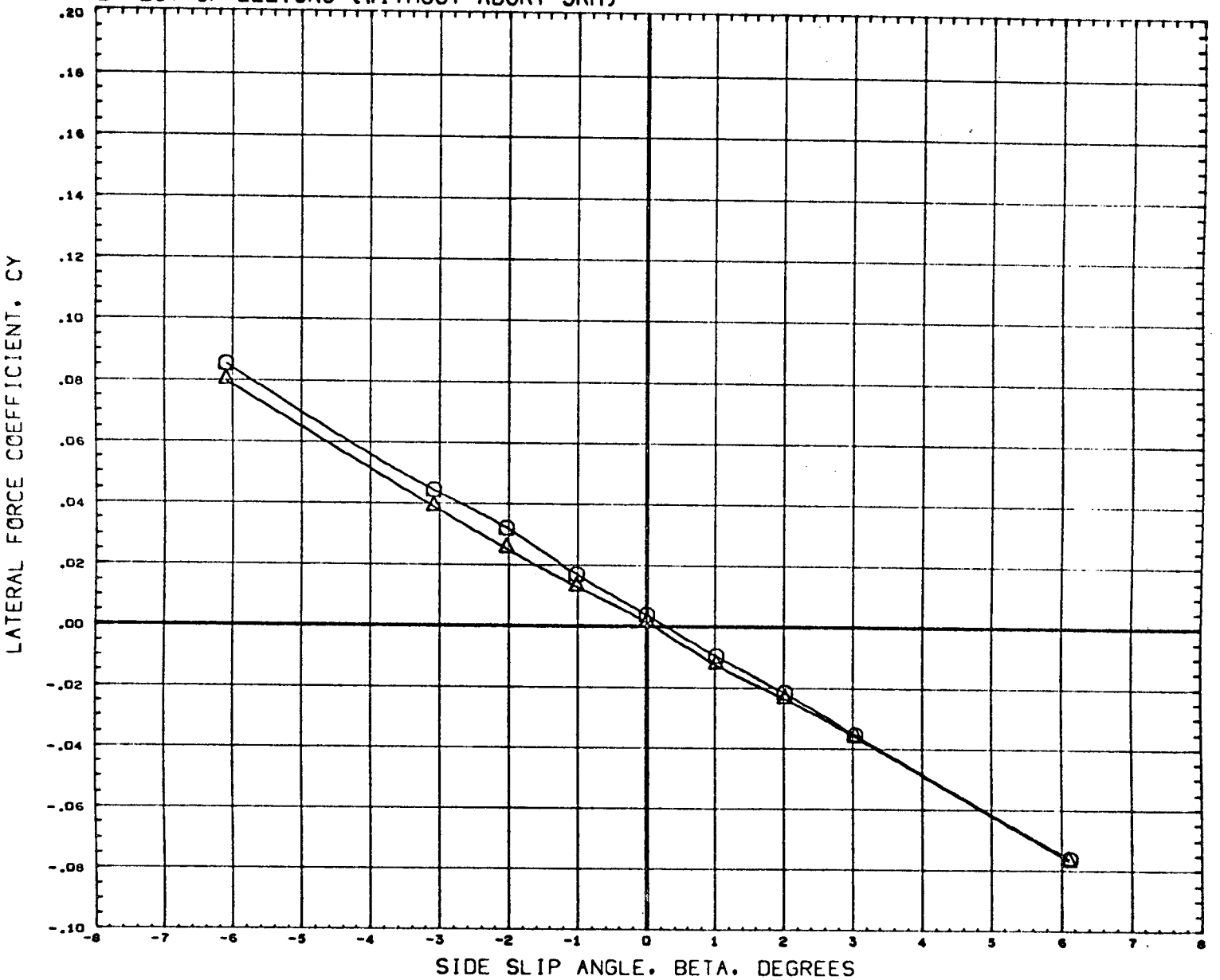


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S14)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(B69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

EFFECT OF ELEVONS (WITHOUT ABORT SRM)



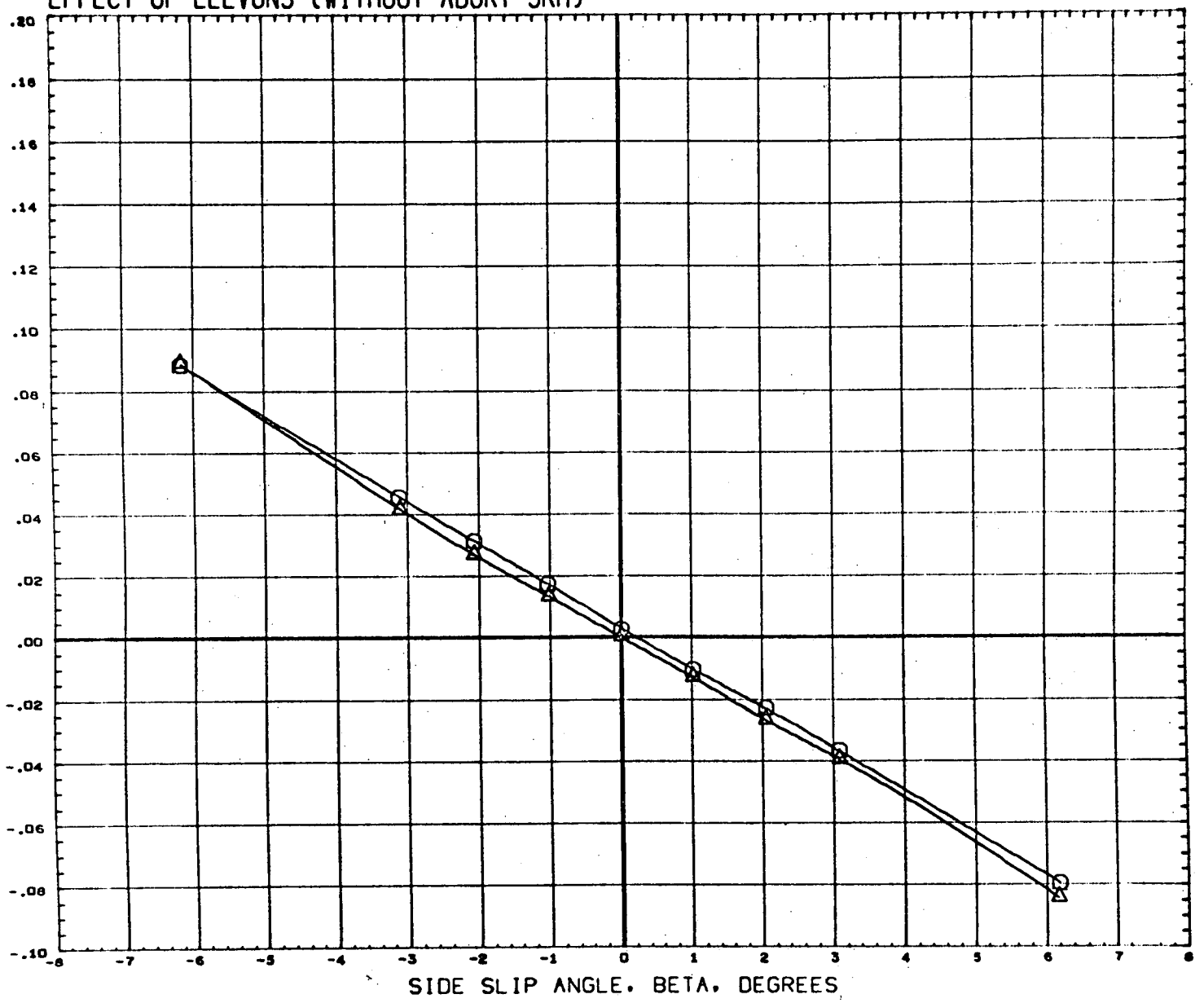
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69010)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.6800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

Re

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

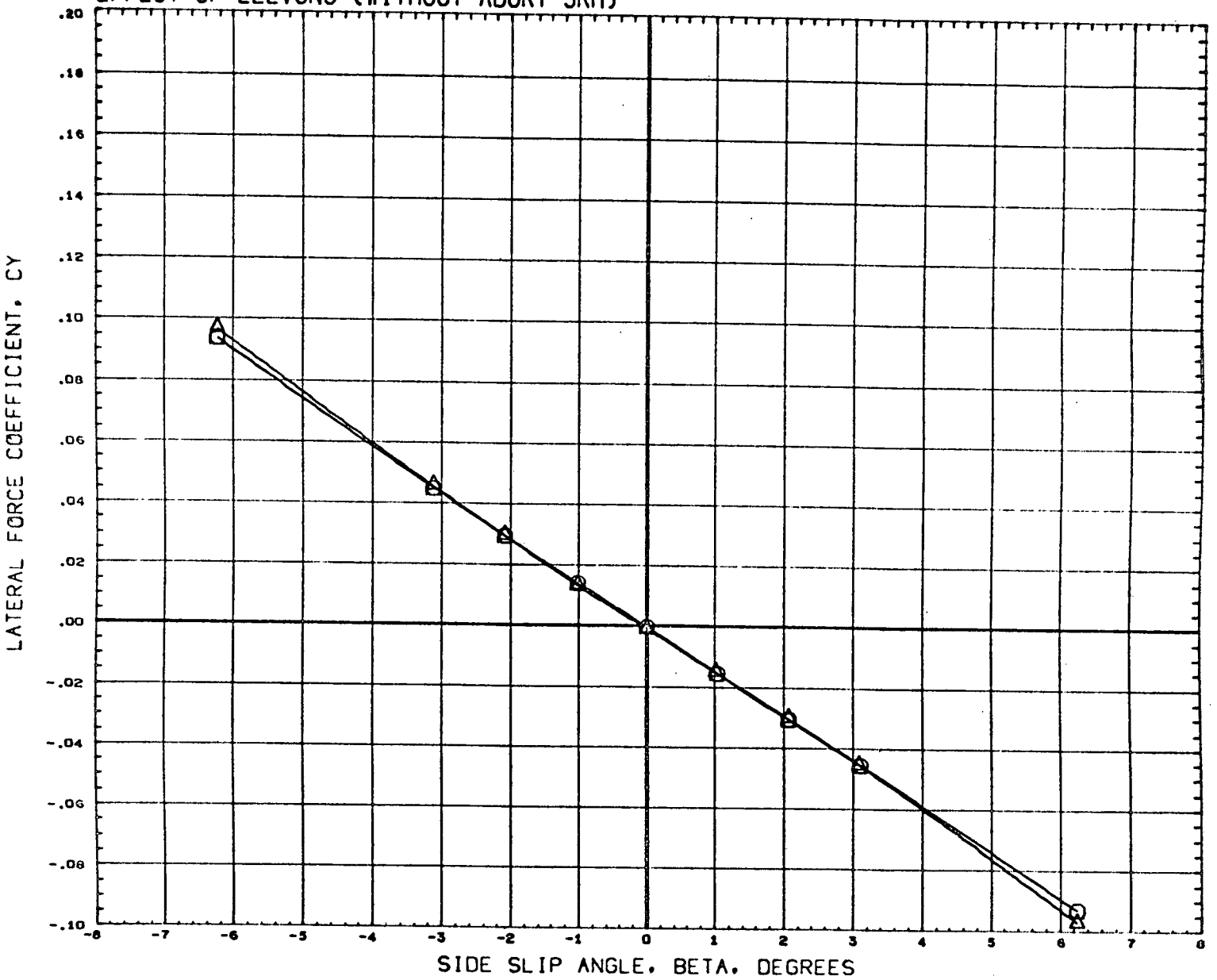


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69010)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

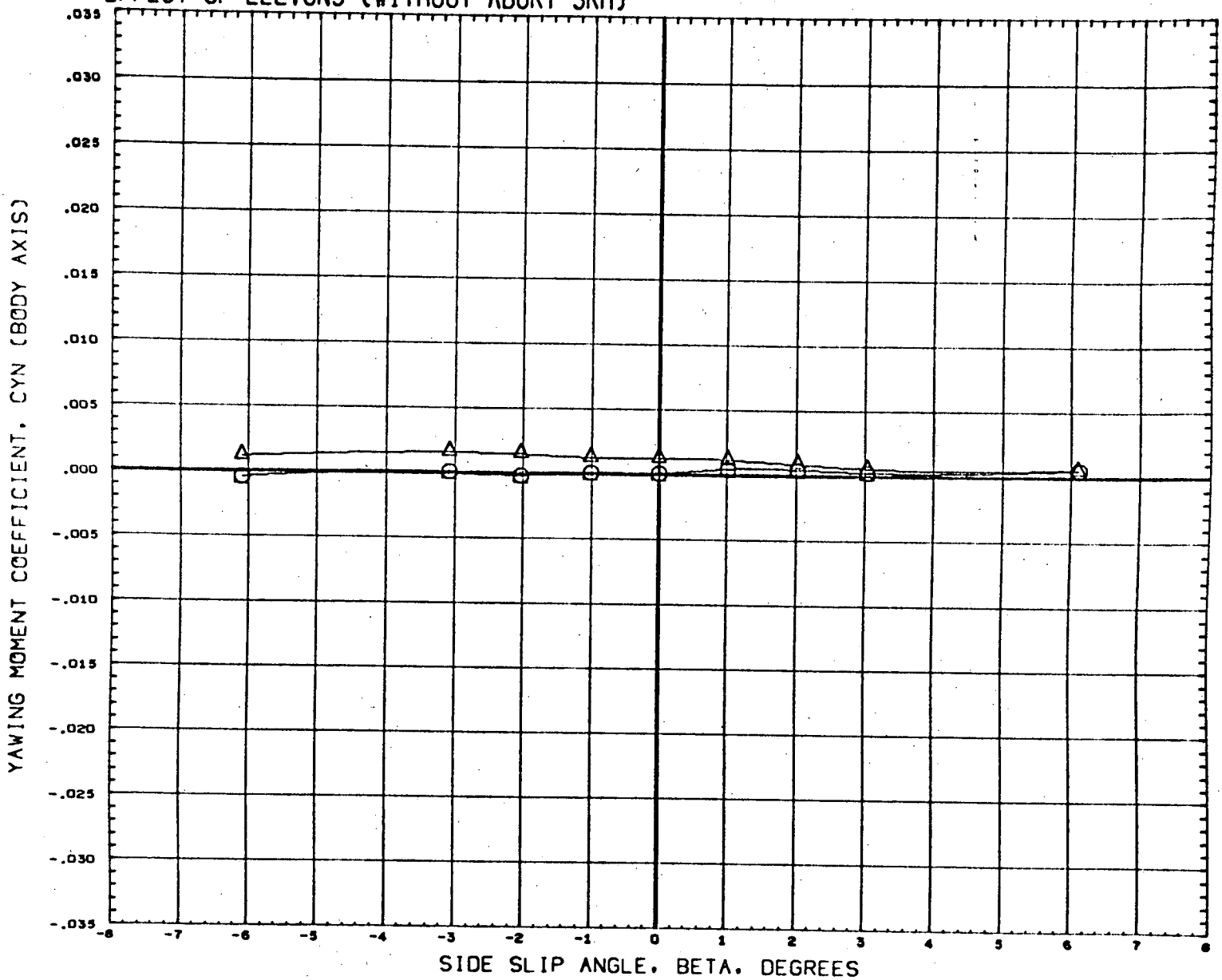


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69010)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

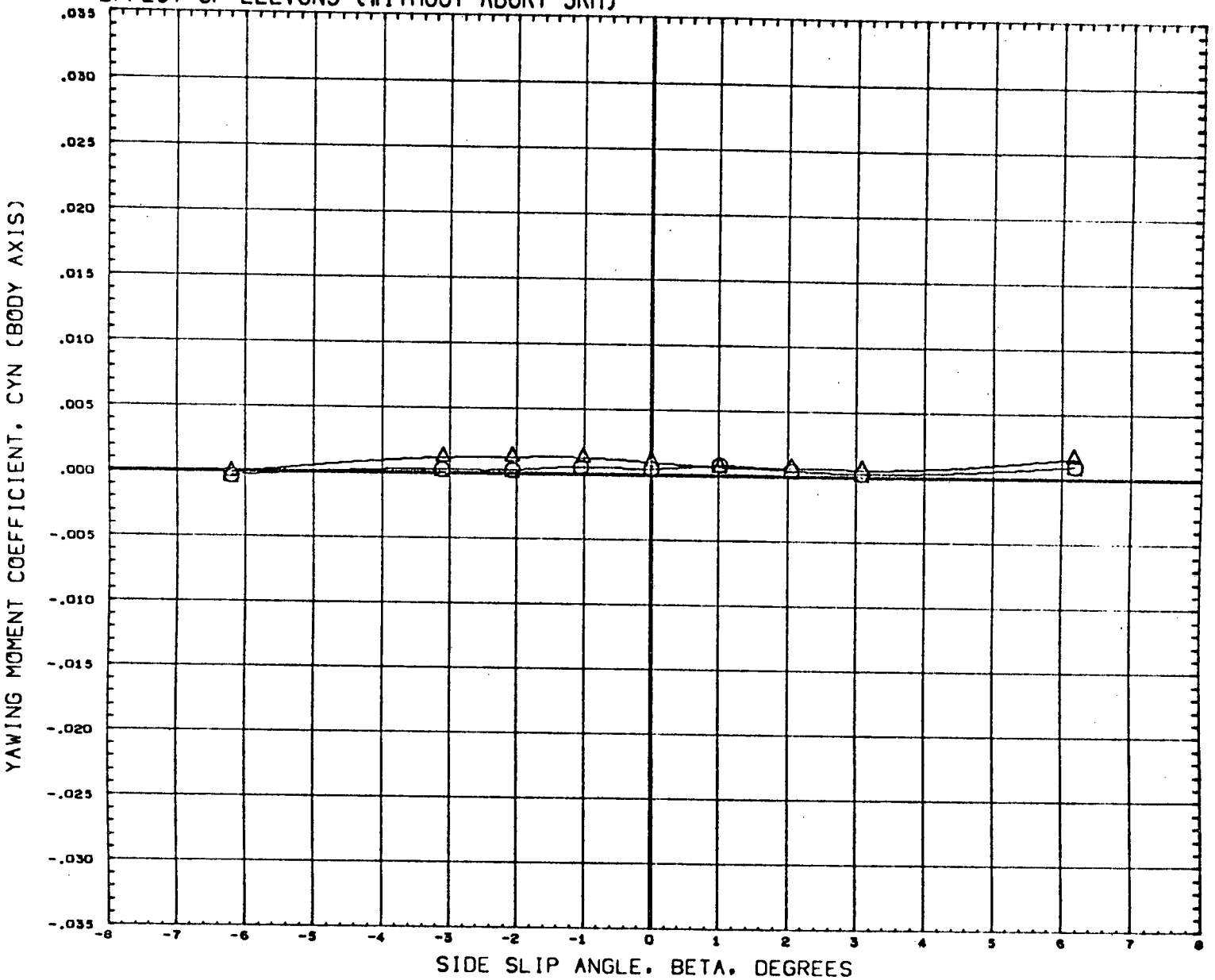


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69010)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

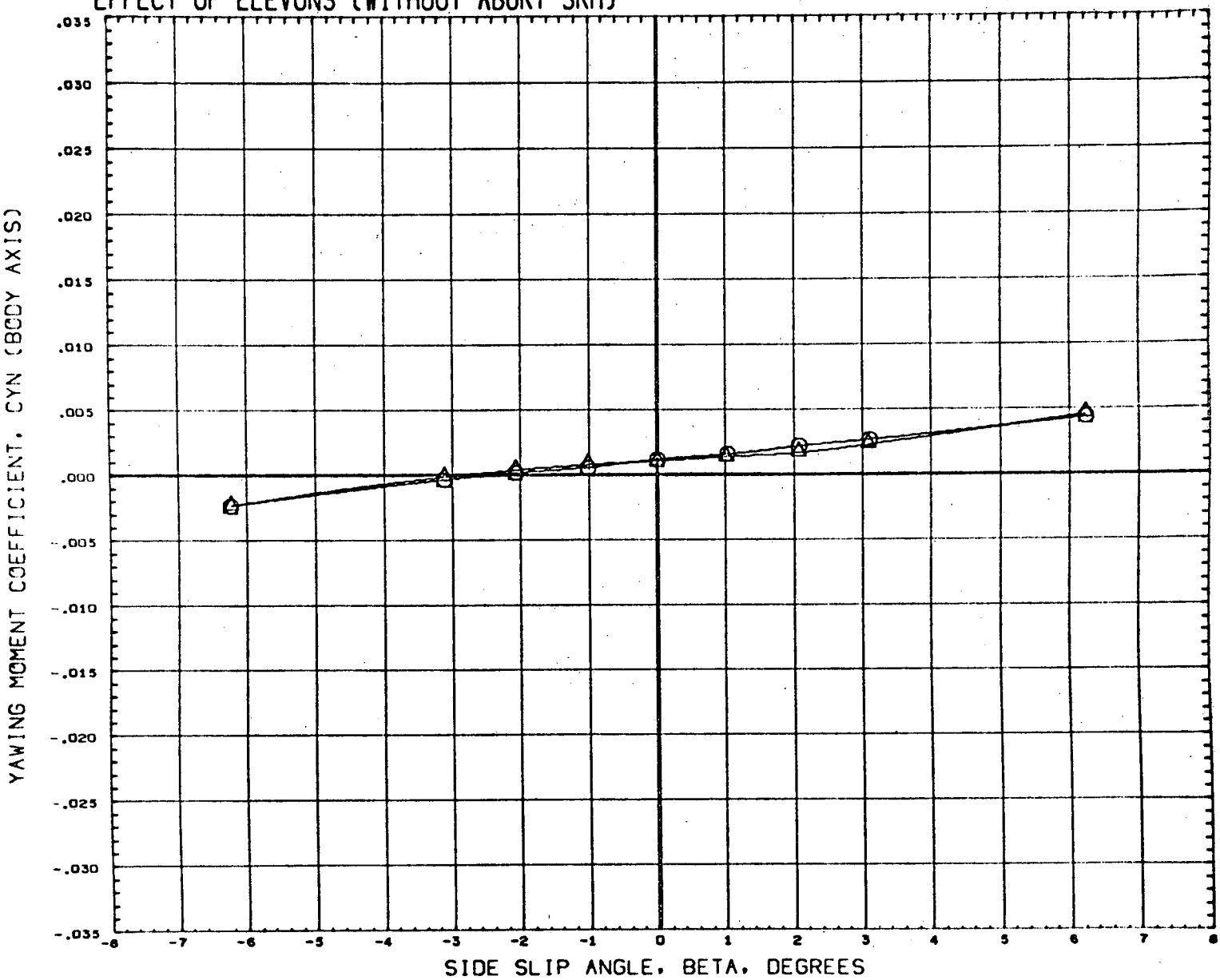


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69010)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

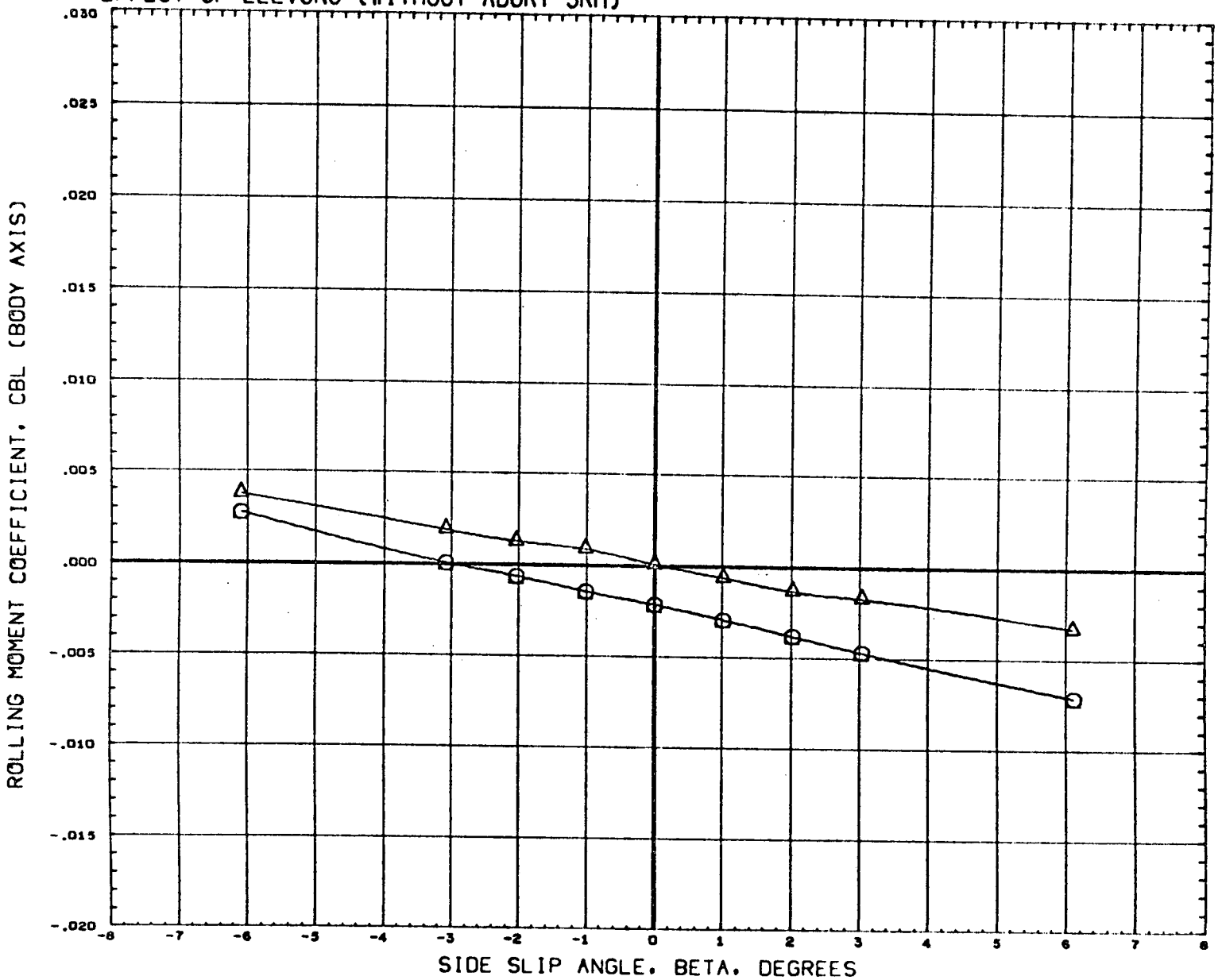


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69010)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

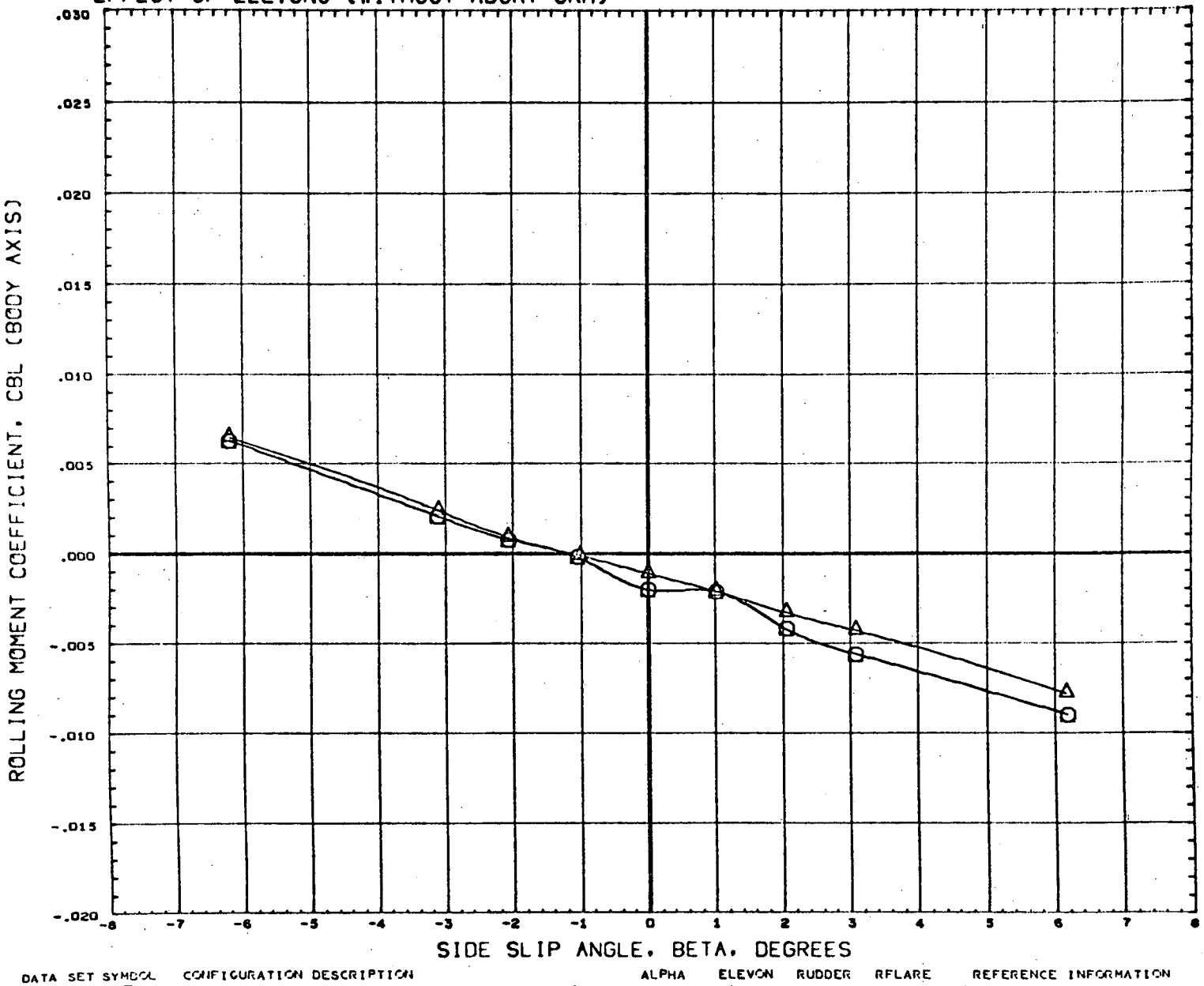


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69010)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

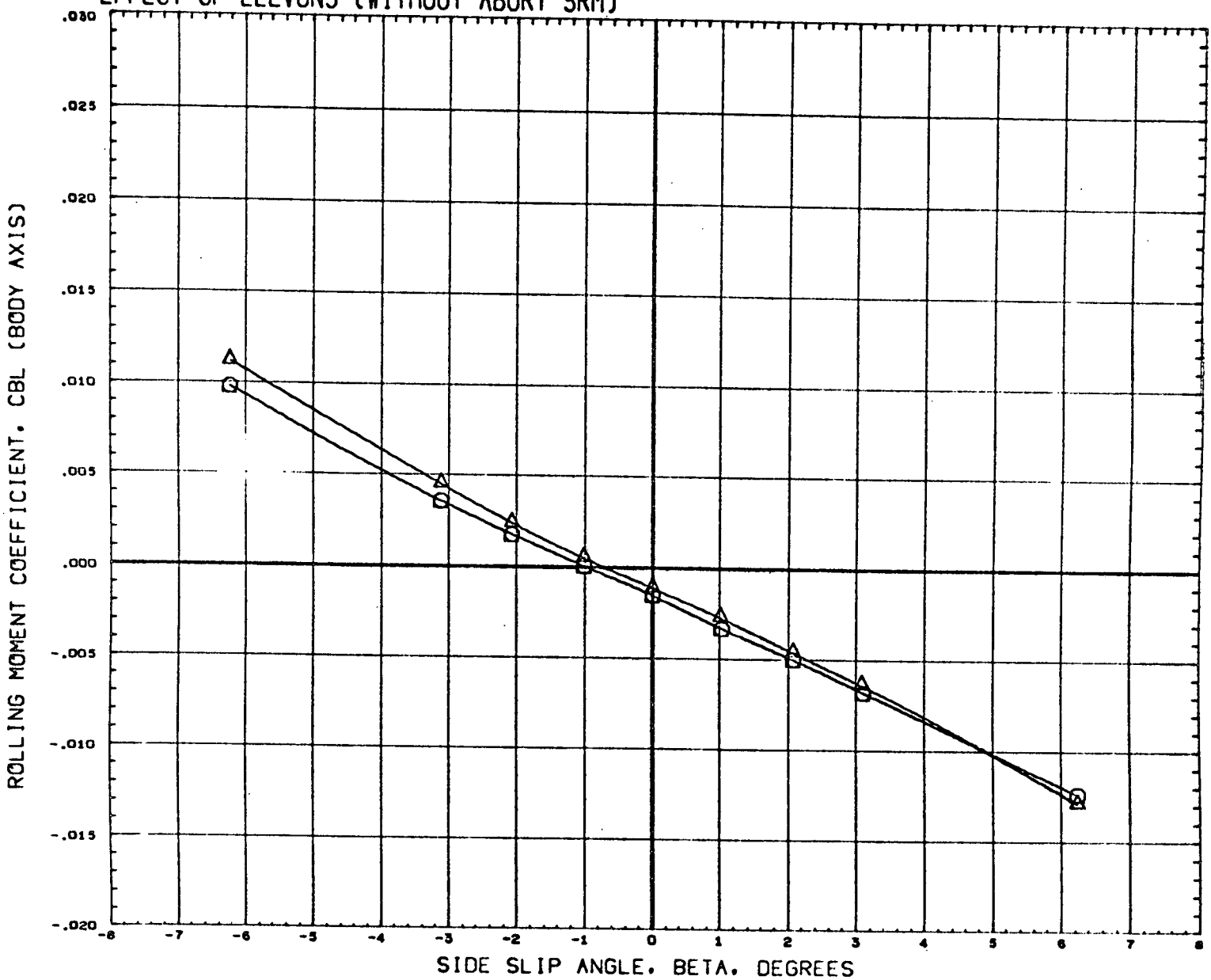


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69010)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITHOUT ABORT SRM)

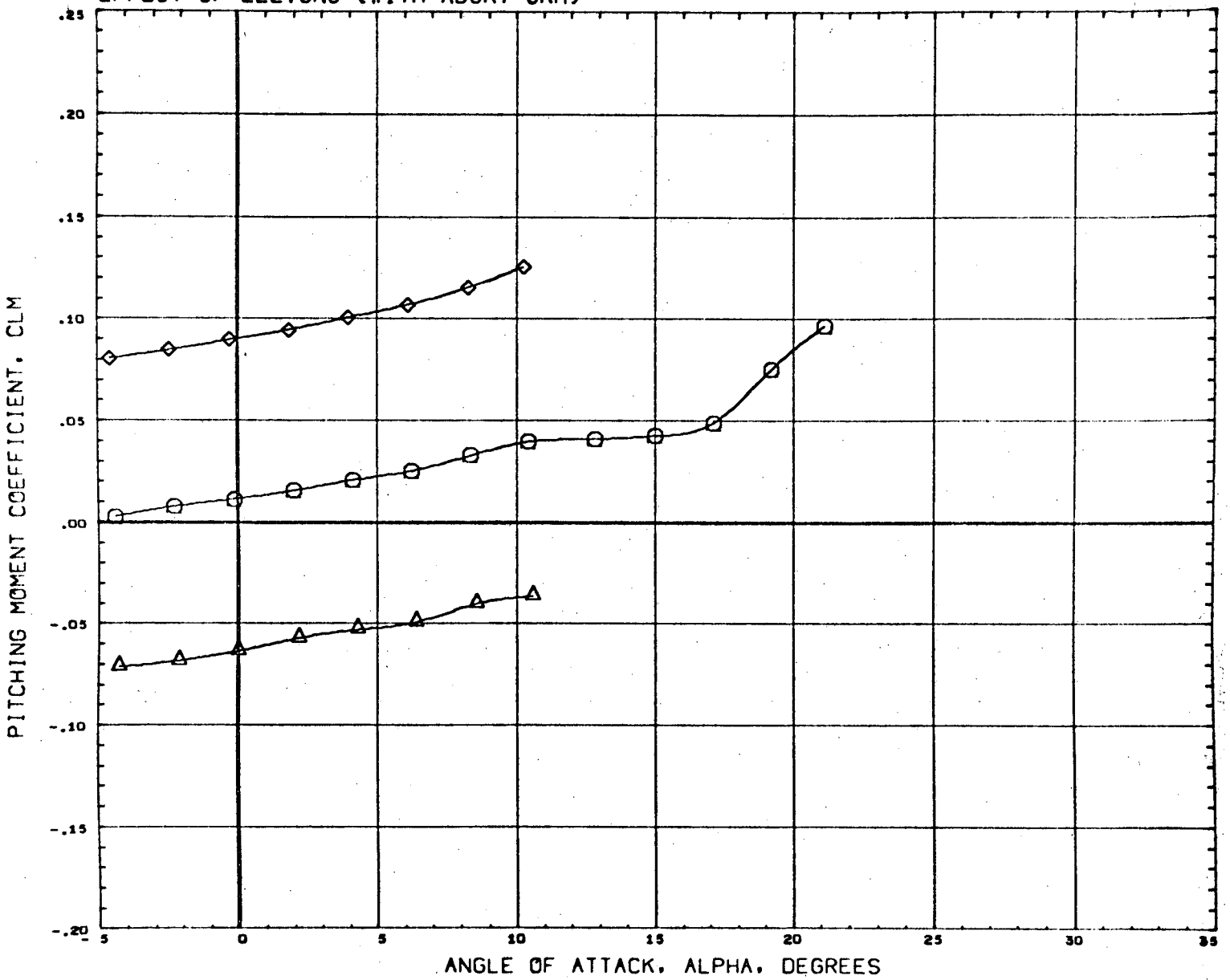


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69010)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF ELEVONS (WITH ABORT SRM)

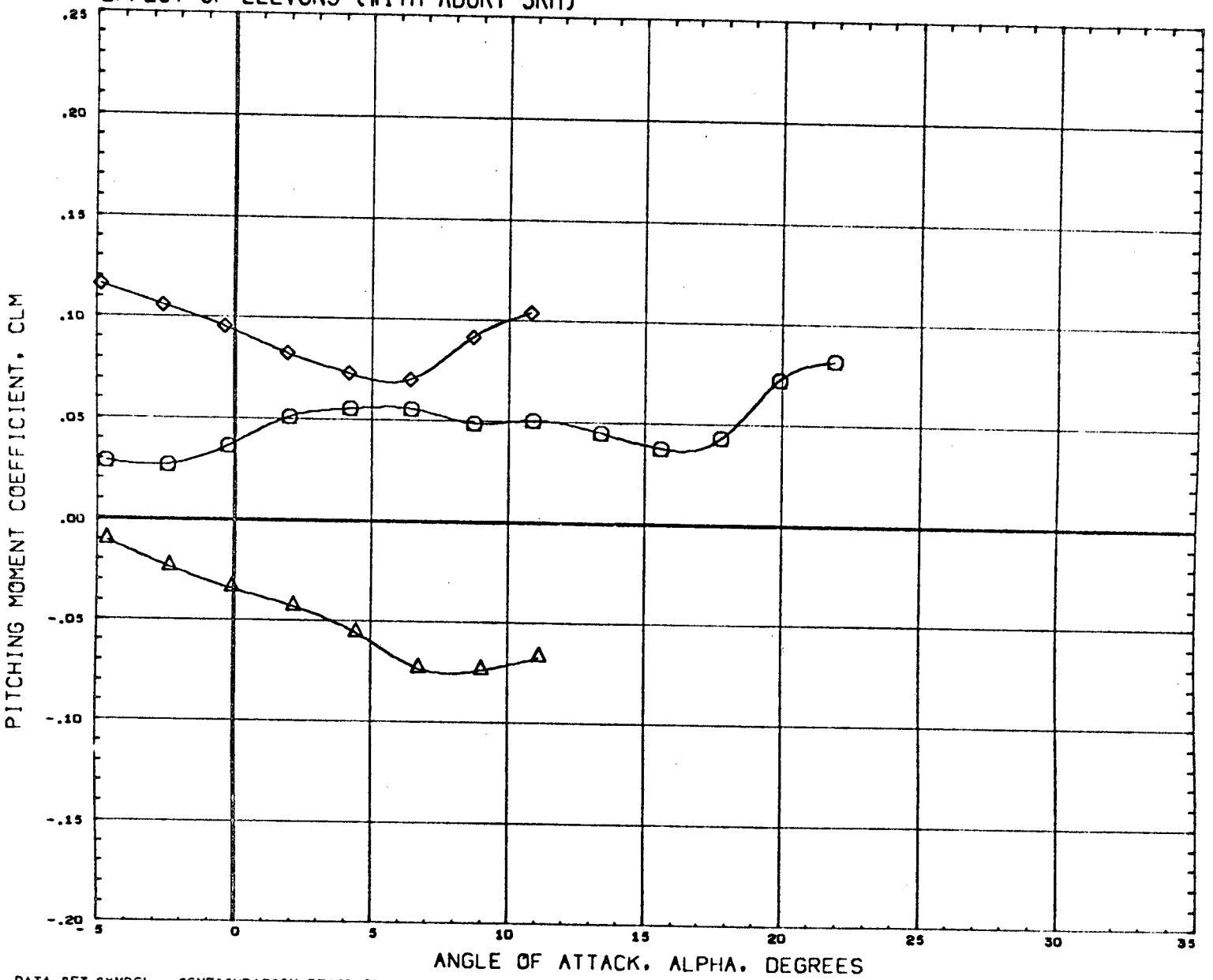


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(869319)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(869018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITH ABORT SRM)

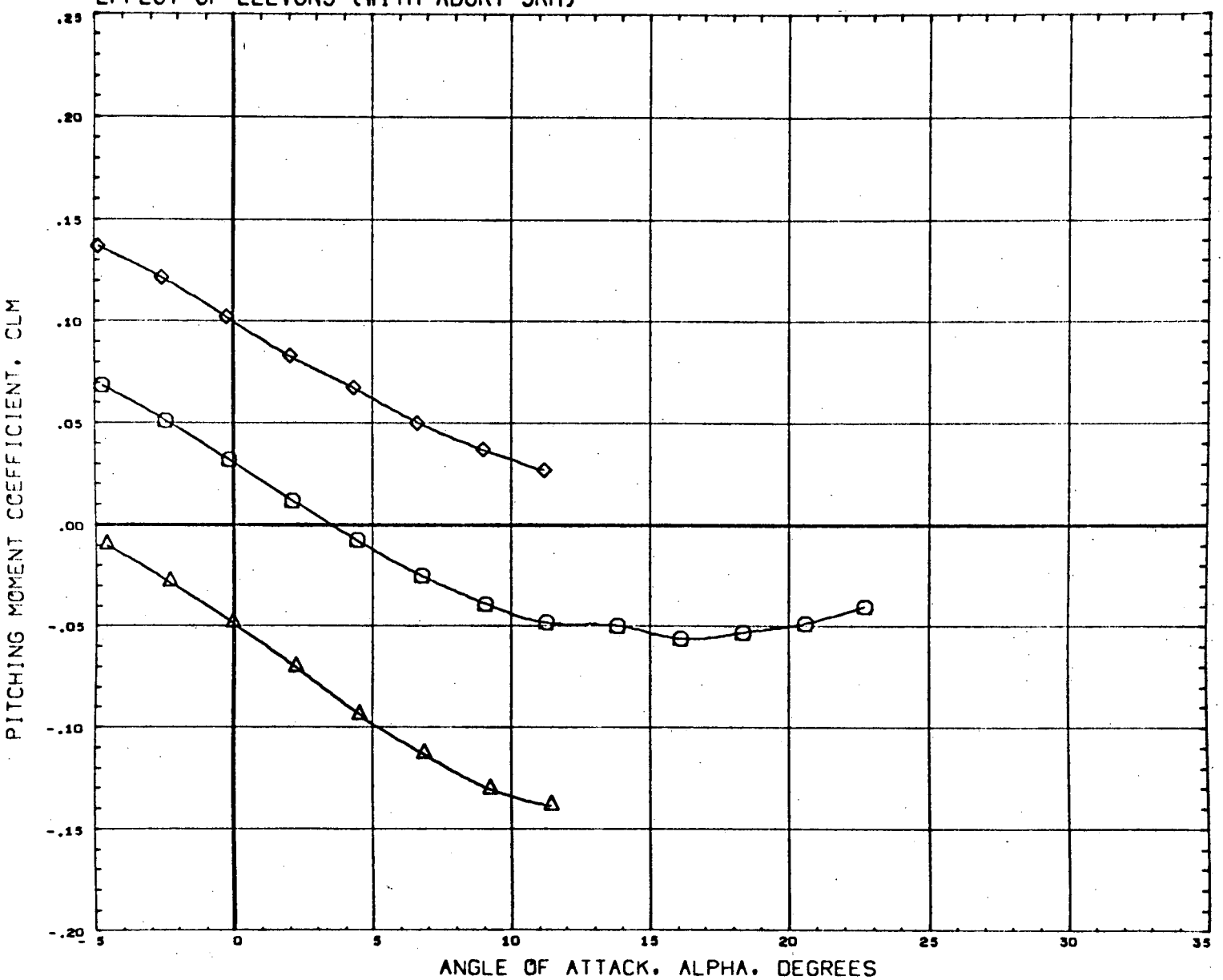


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(B69S19)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(B69018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITH ABORT SRM)

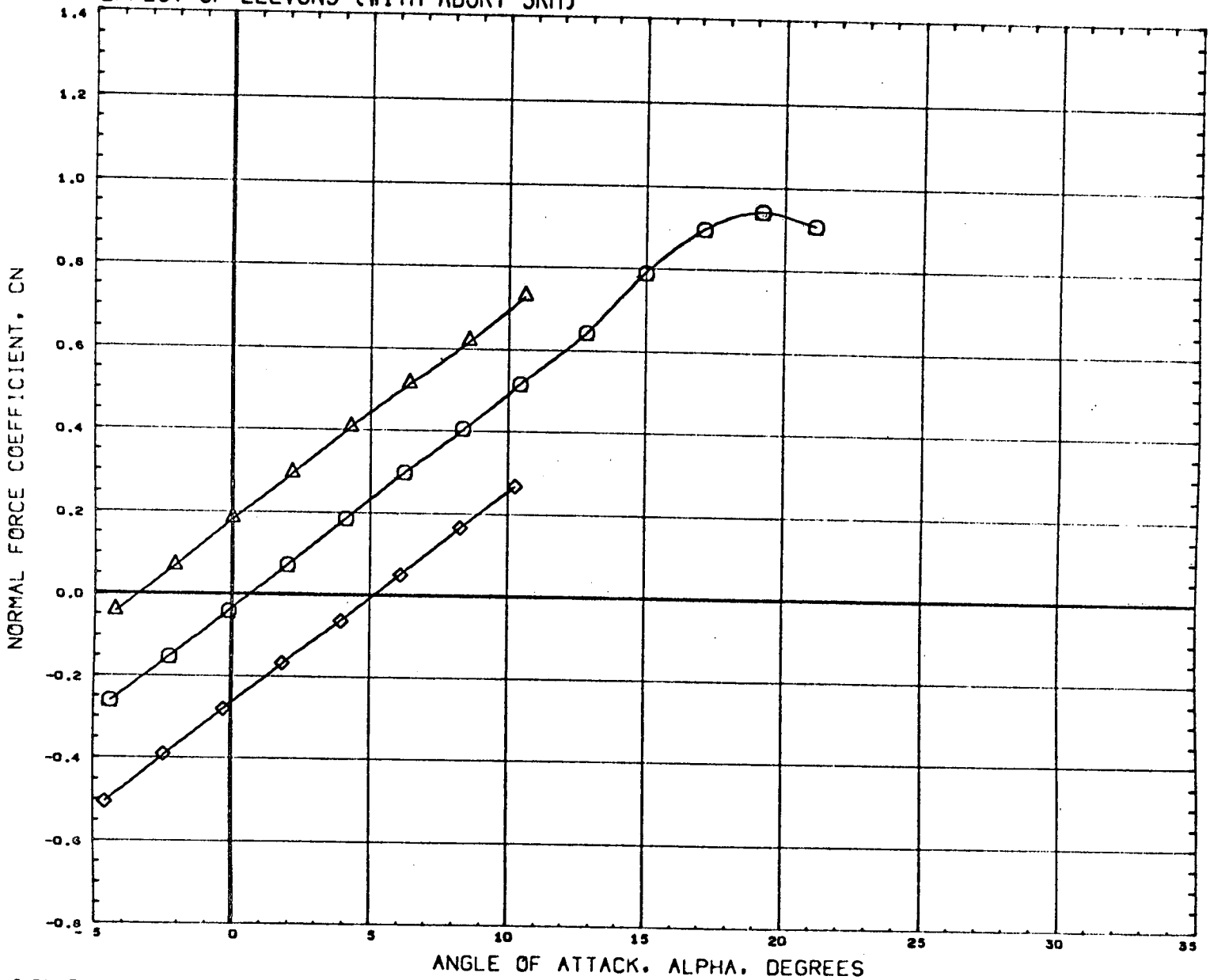


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(869519)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(869018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF ELEVONS (WITH ABORT SRM)



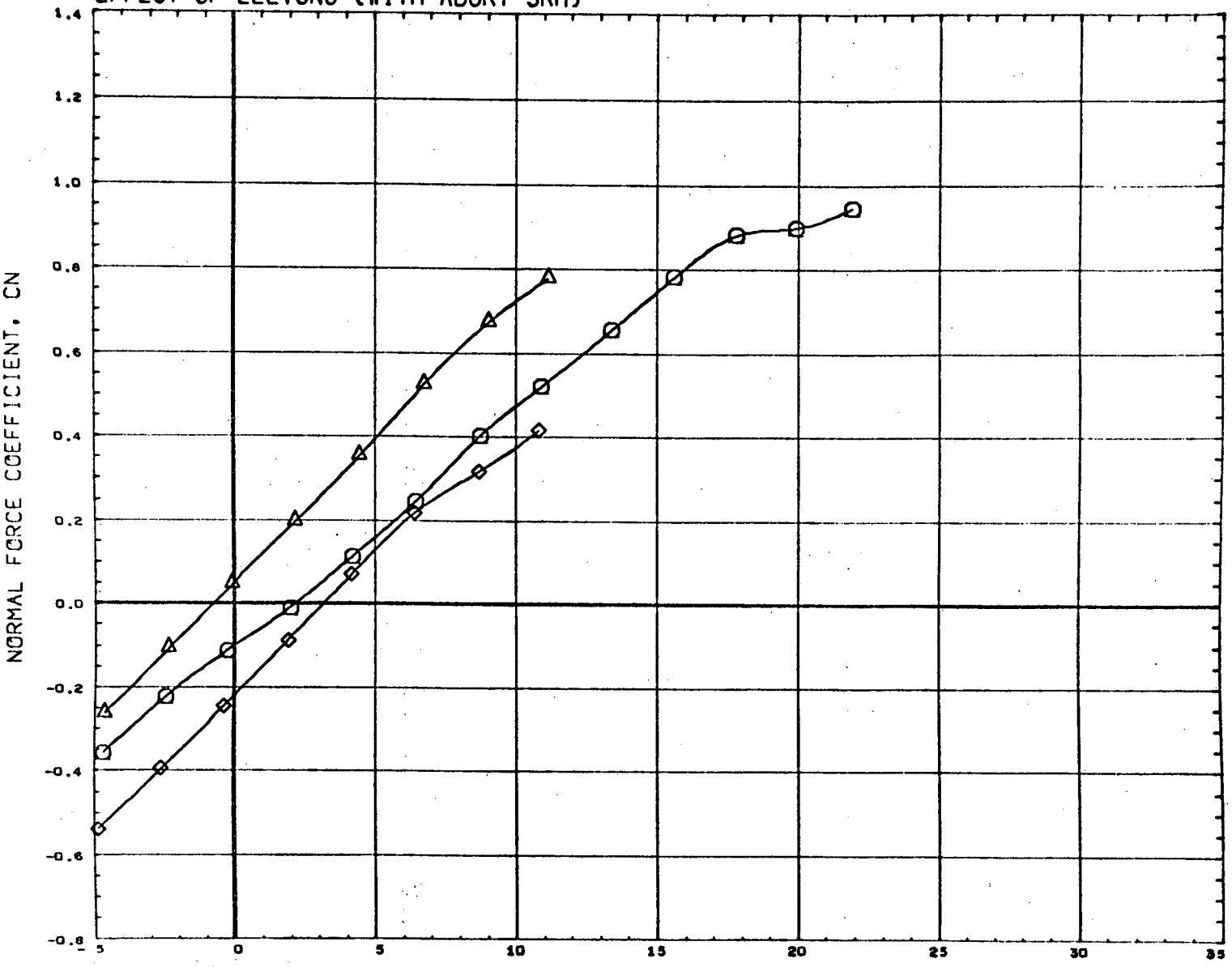
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(869319)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(869018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

Fn

EFFECT OF ELEVONS (WITH ABORT SRM)

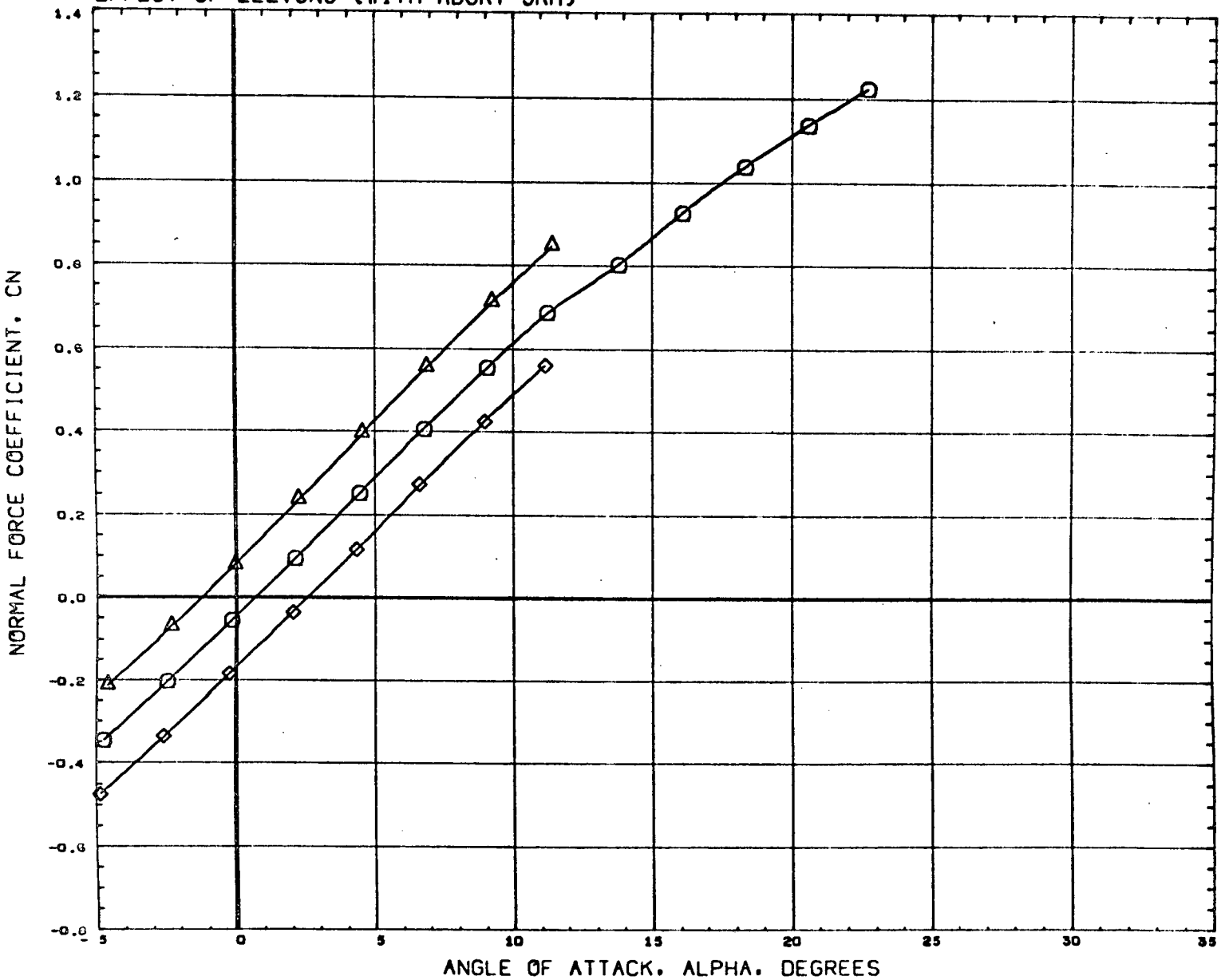


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(E69017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(E69S19)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(E69018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITH ABORT SRM)

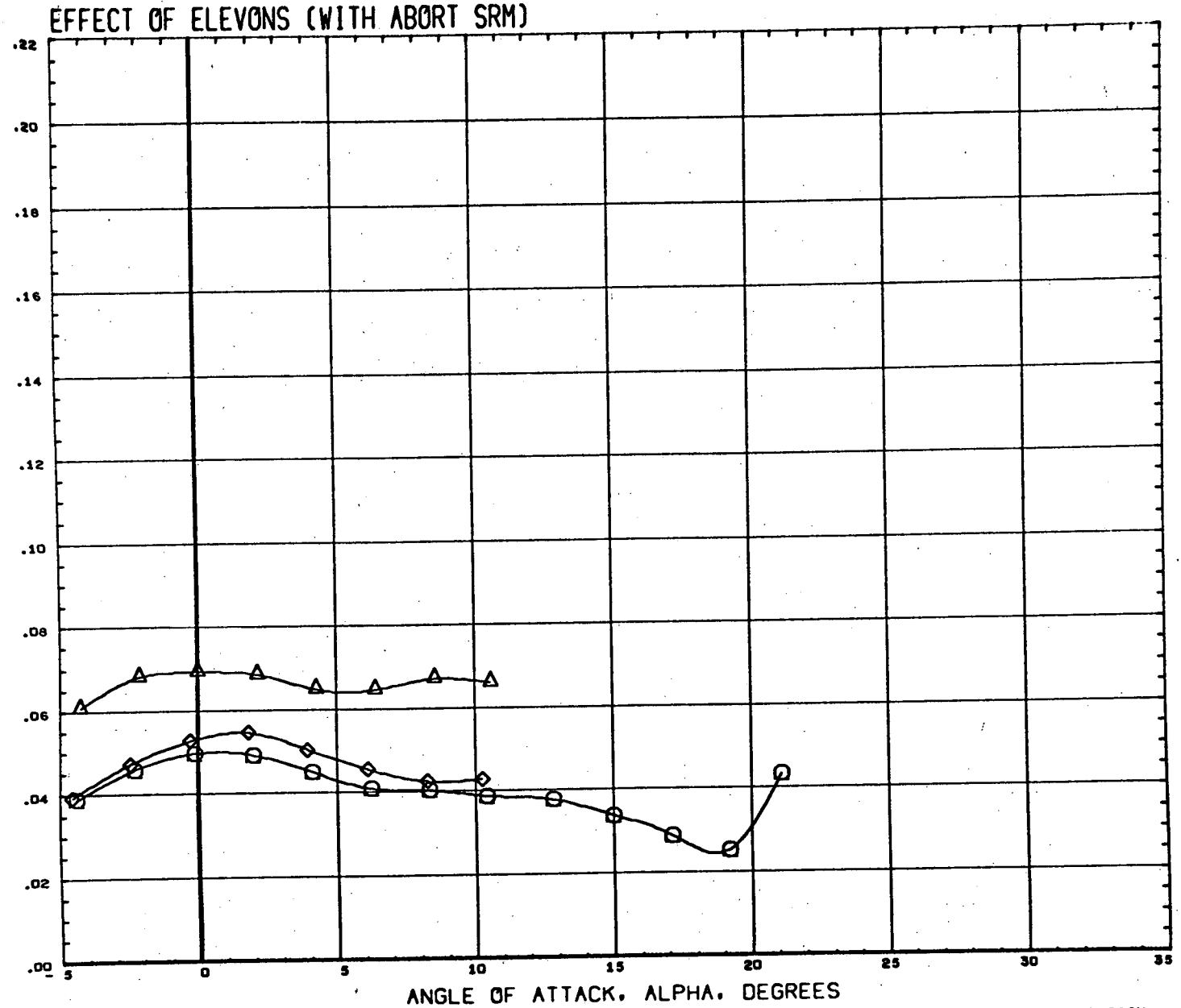


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(B69019)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(B69018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF ELEVONS (WITH ABORT SRM)

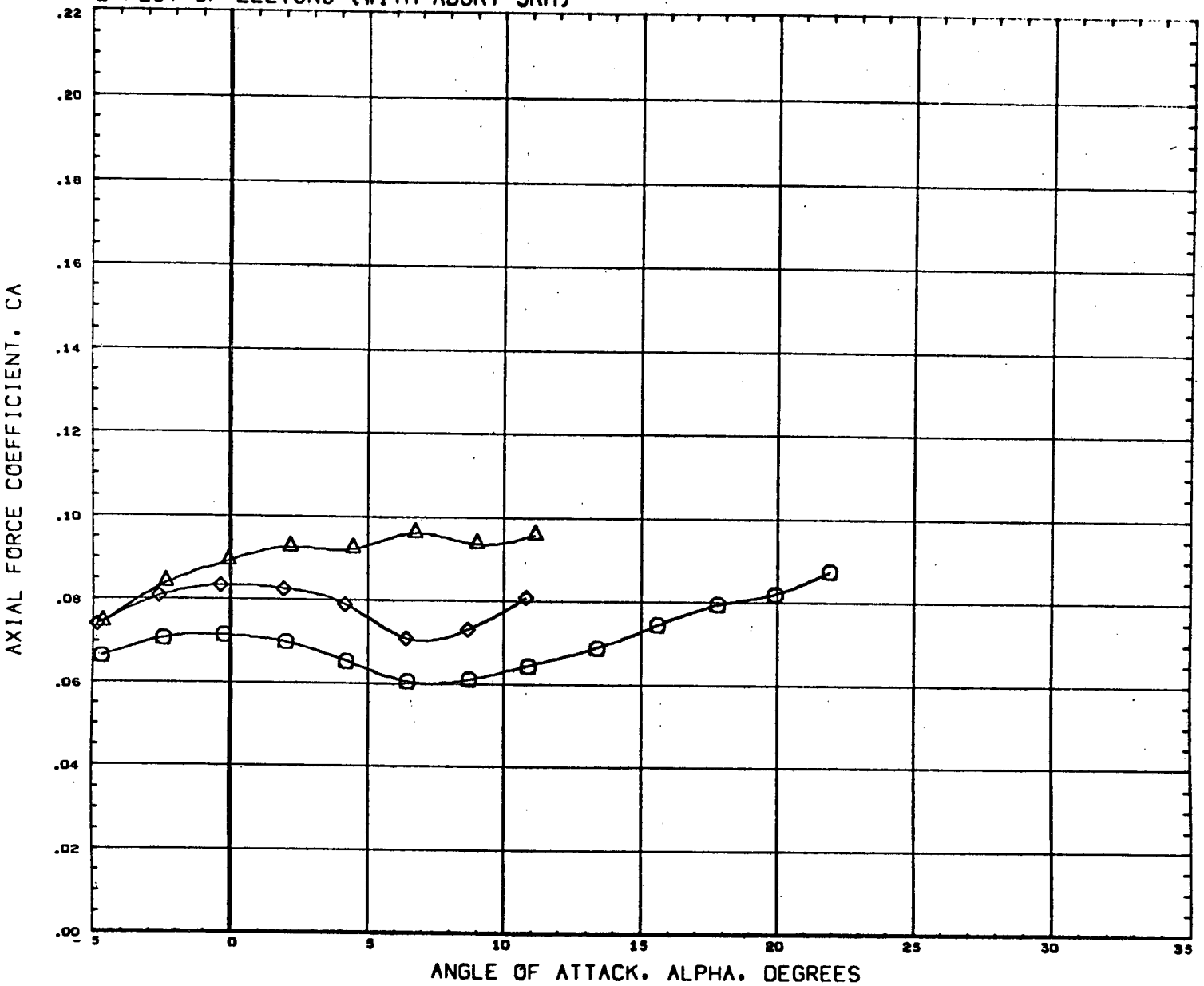


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(B69519)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(B69018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITH ABORT SRM)

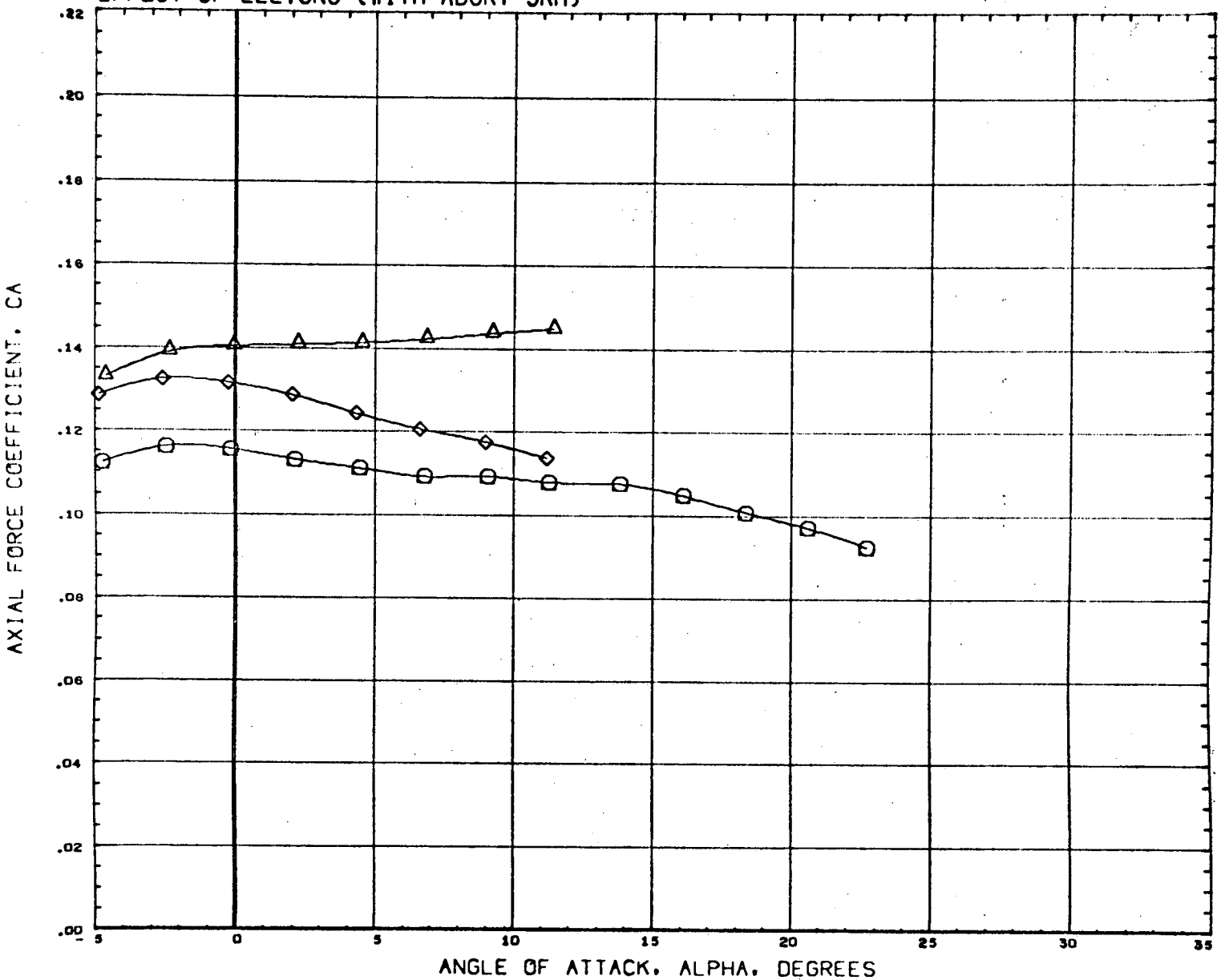


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(B69S19)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(B69018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITH ABORT SRM)

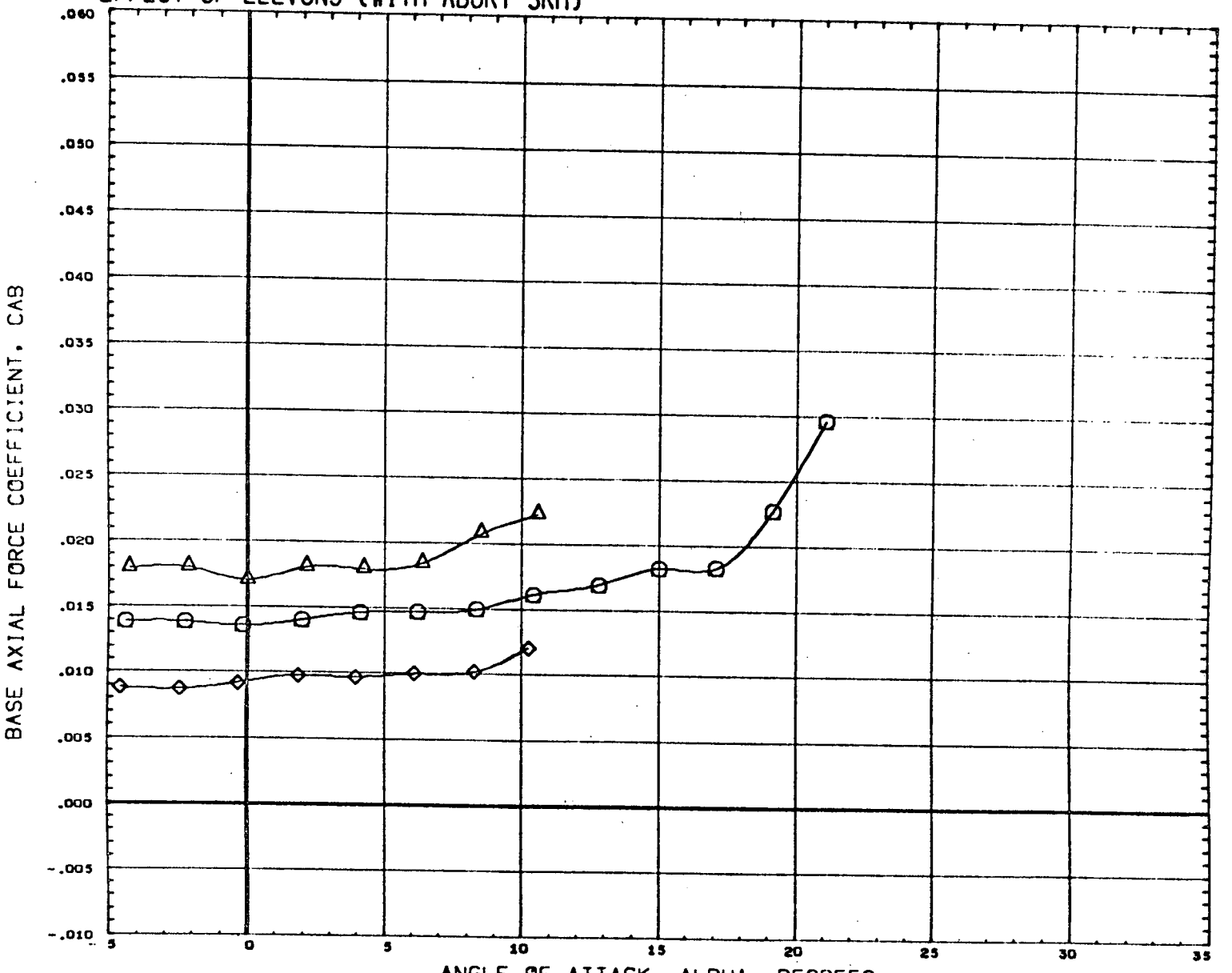


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(869519)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(869018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF ELEVONS (WITH ABORT SRM)

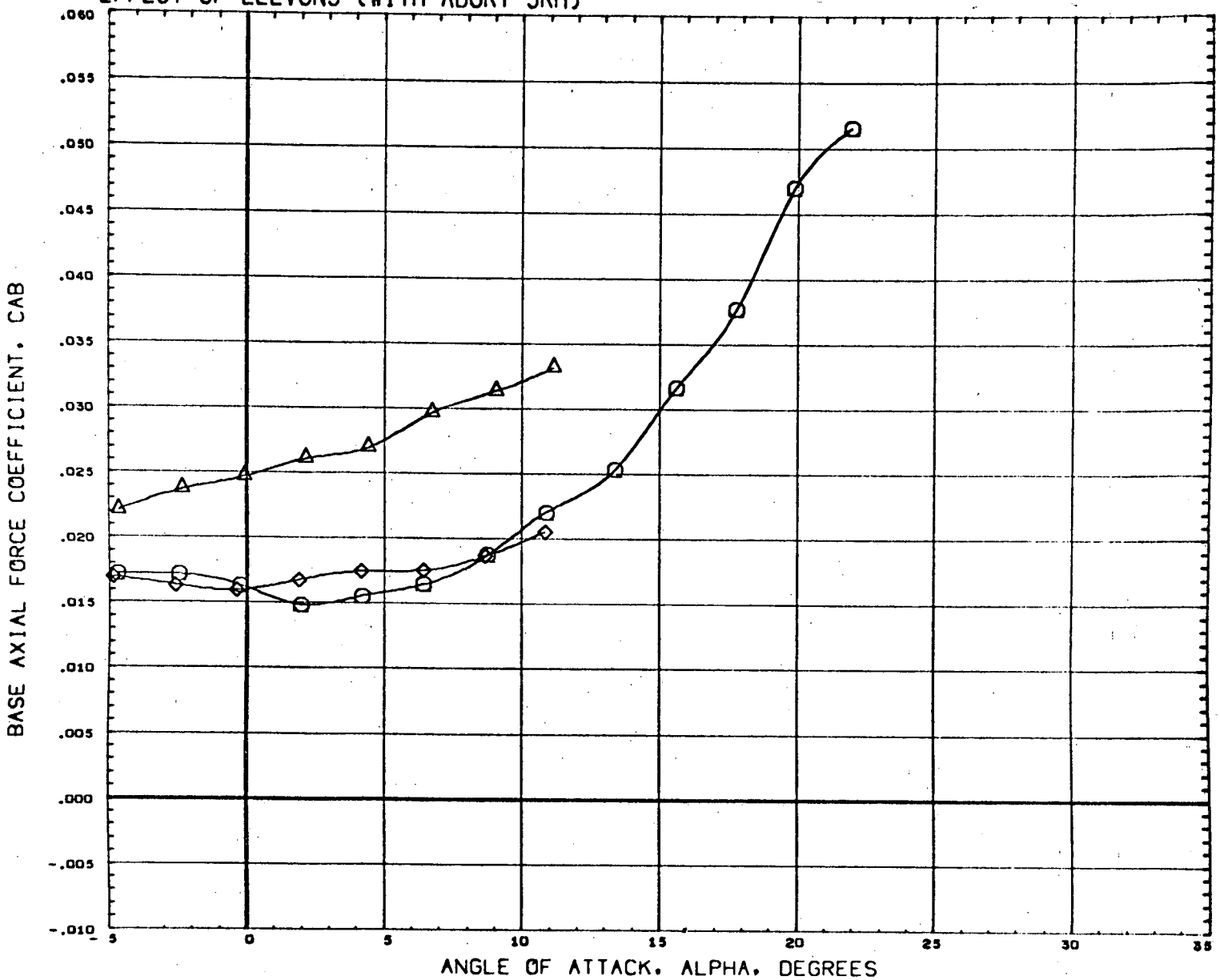


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(869519)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(869018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITH ABORT SRM)

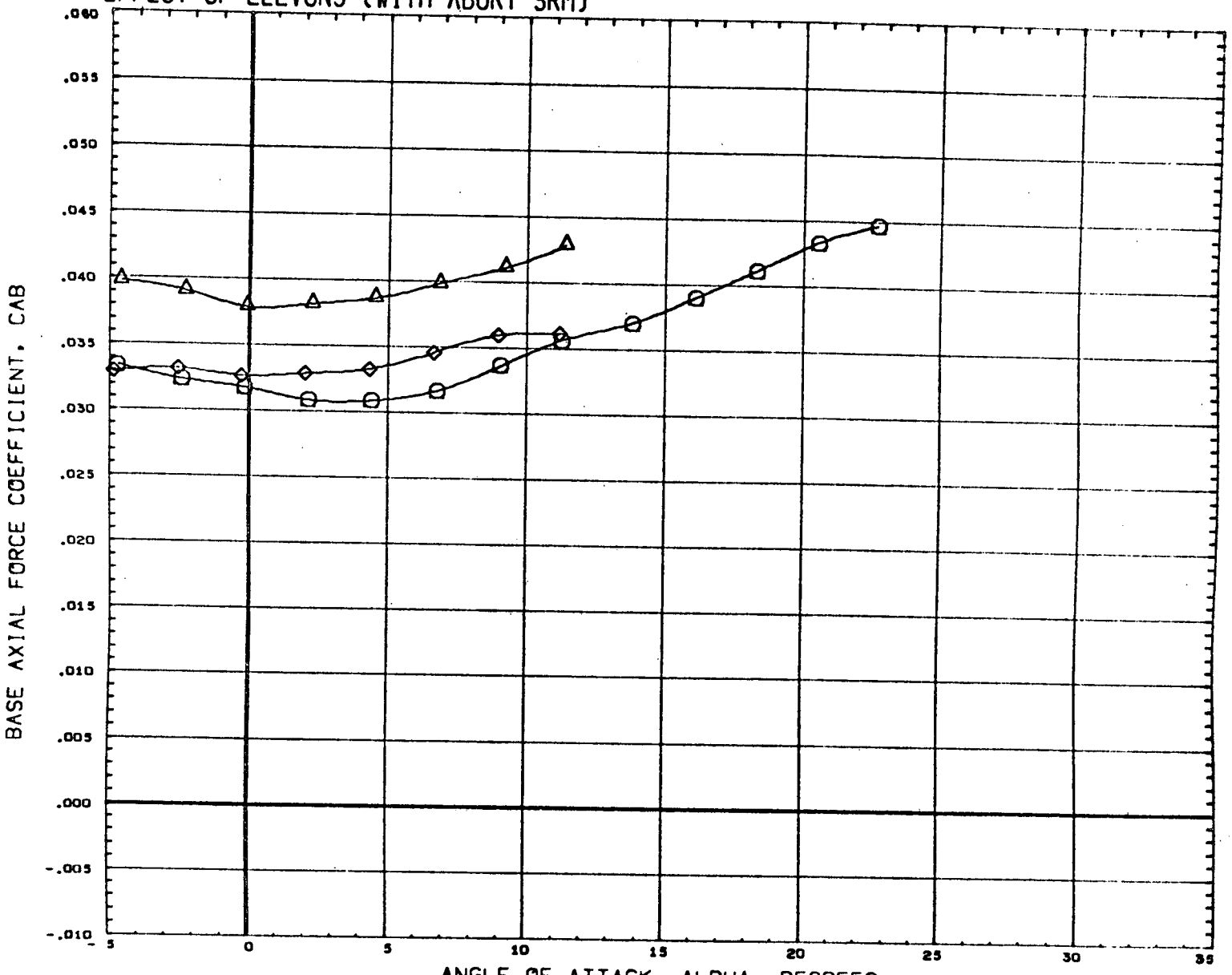


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(869319)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(869018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITH ABORT SRM)

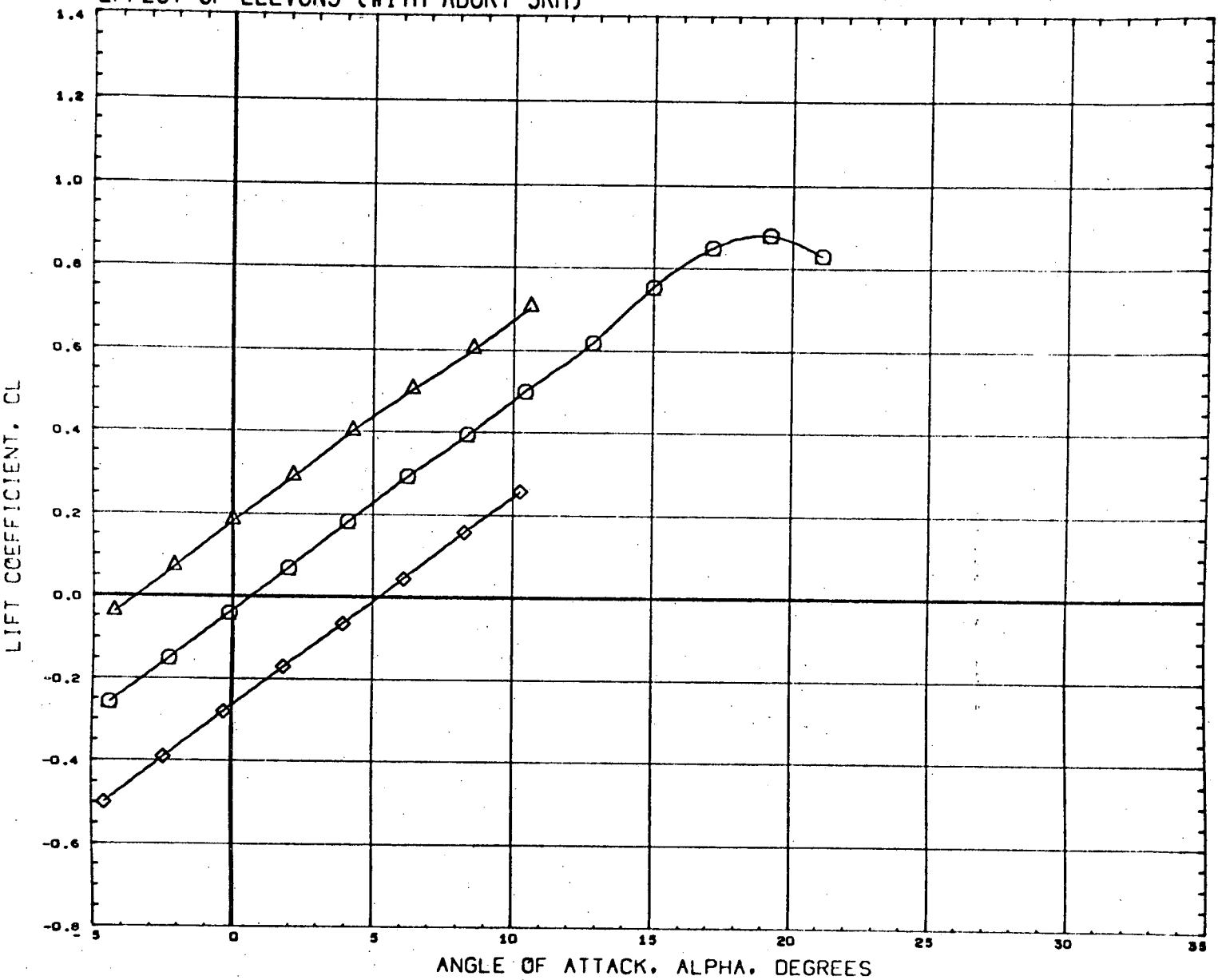


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69017) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(B69319) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(B69018) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF ELEVONS (WITH ABORT SRM)

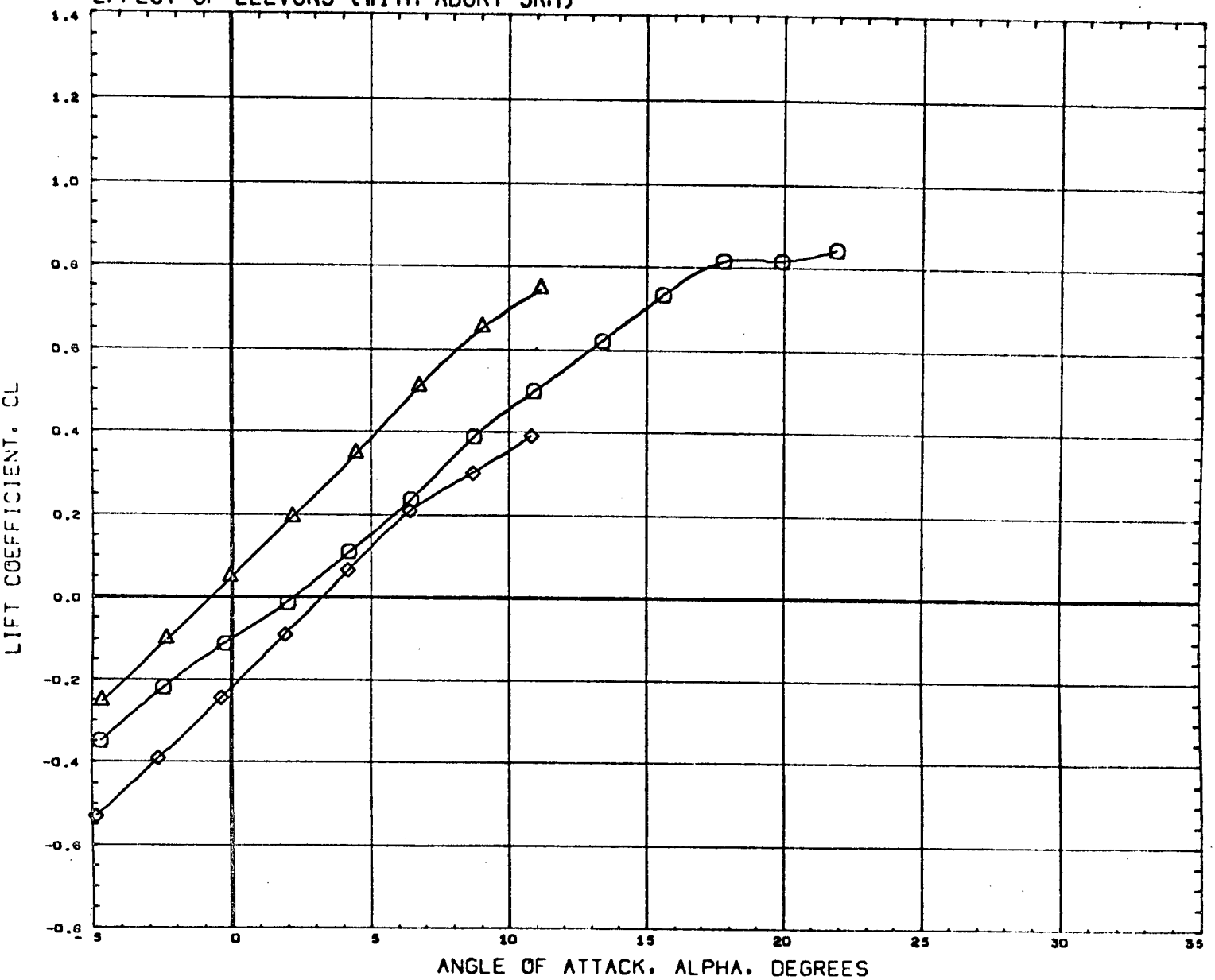


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869017) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(869019) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(869018) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITH ABORT SRM)

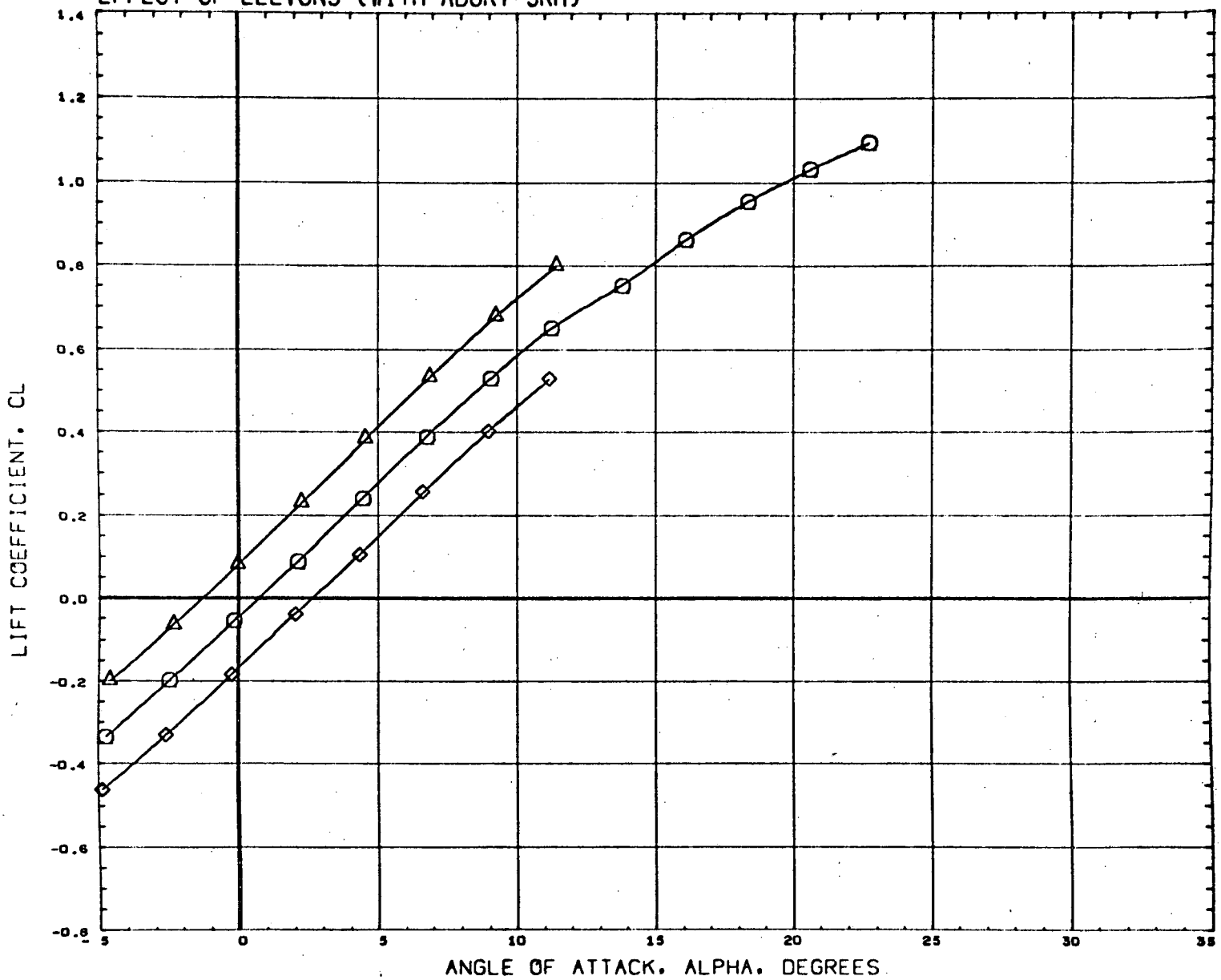


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869017) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(869019) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(869018) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITH ABORT SRM)

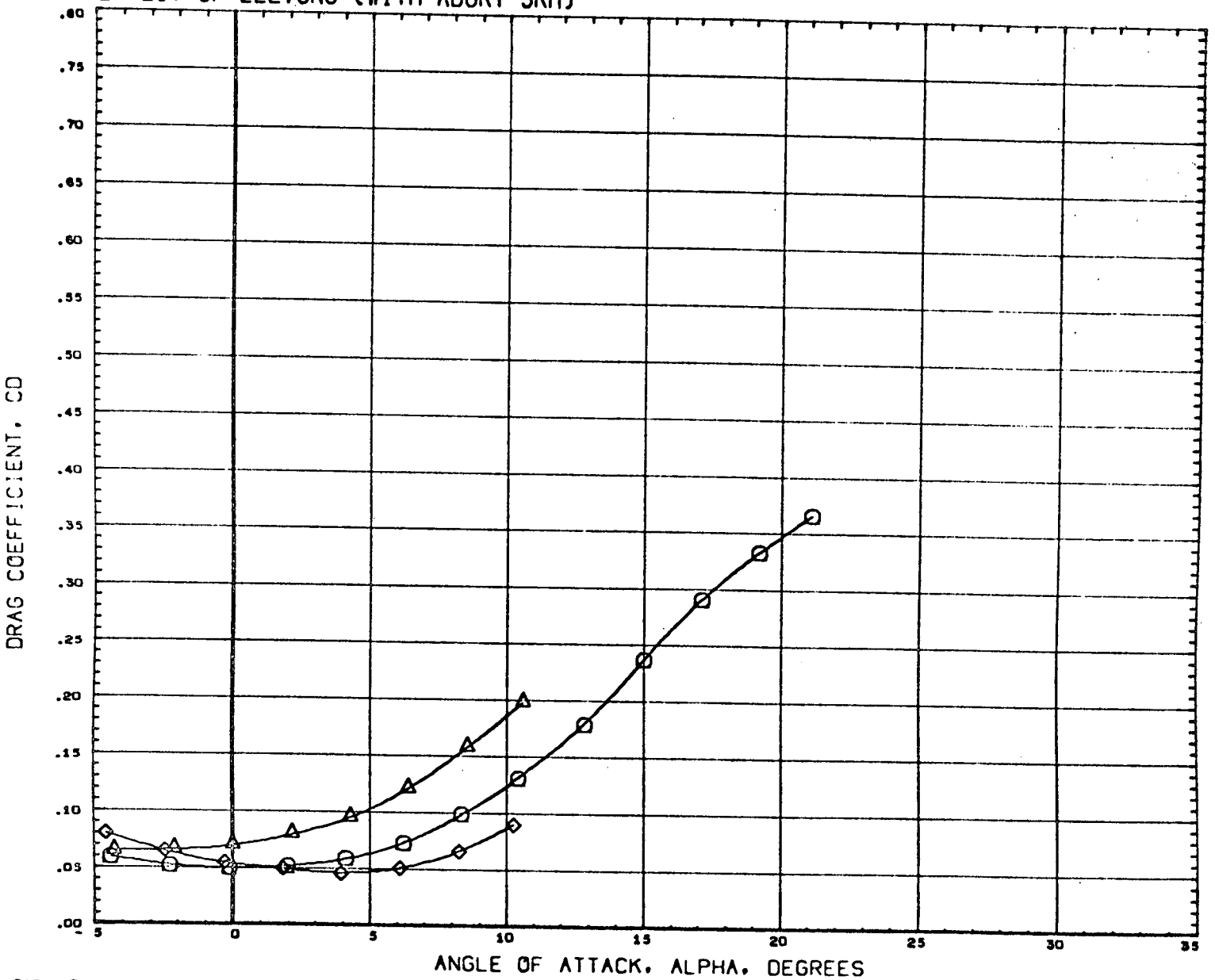


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(B69S19)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(B69018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF ELEVONS (WITH ABORT SRM)



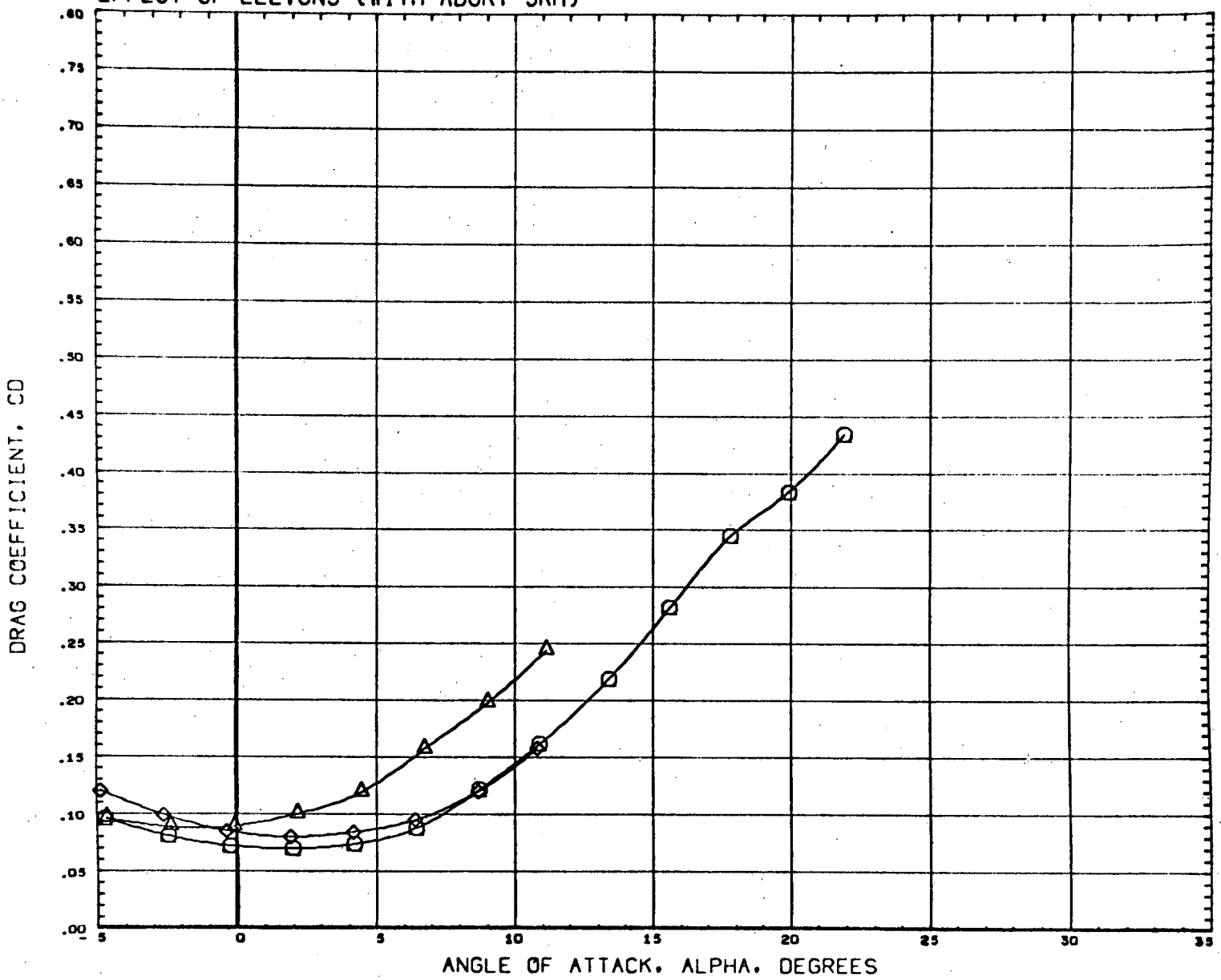
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(869319)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(869018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

C3

EFFECT OF ELEVONS (WITH ABORT SRM)

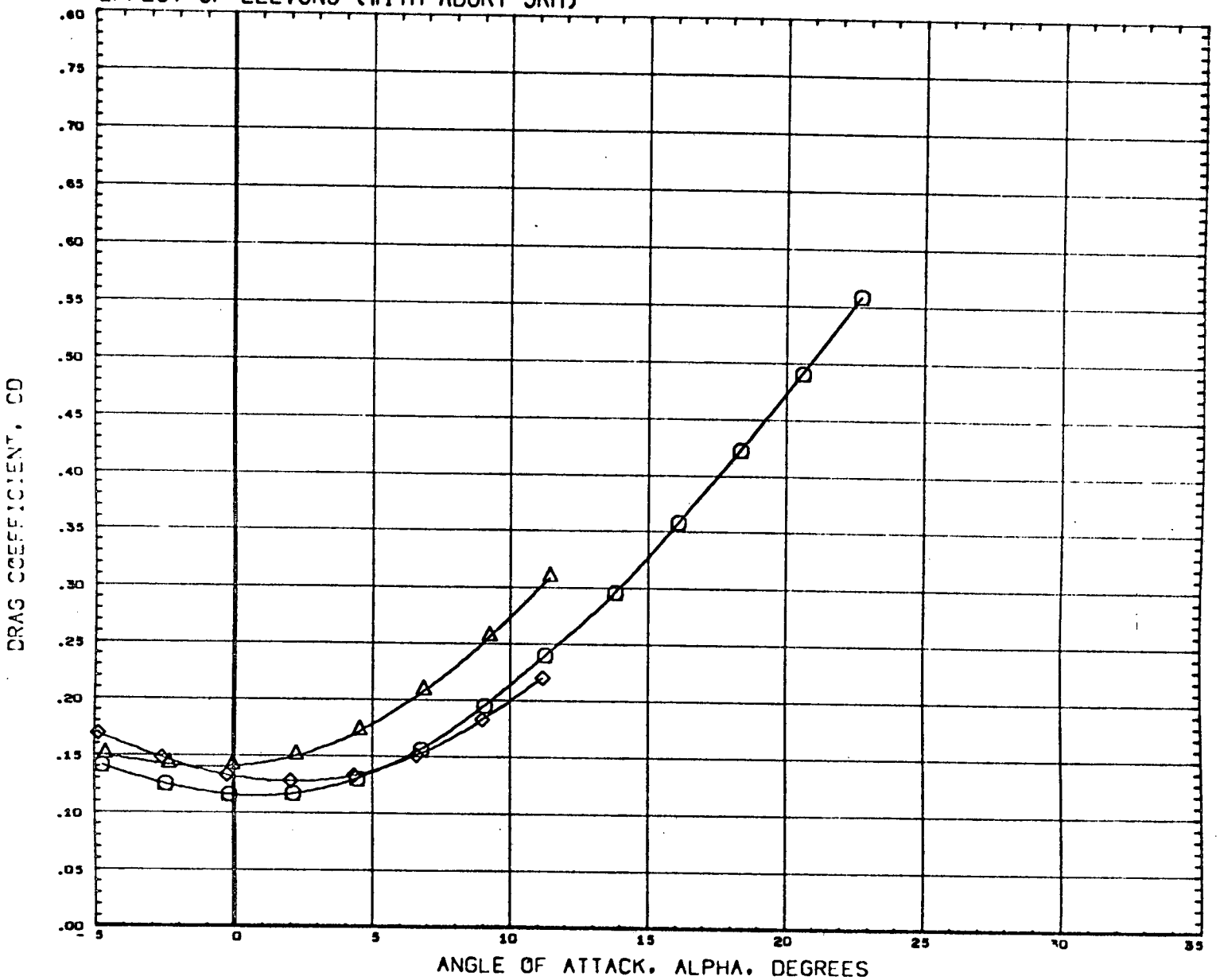


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(869S19)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(869018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITH ABORT SRM)

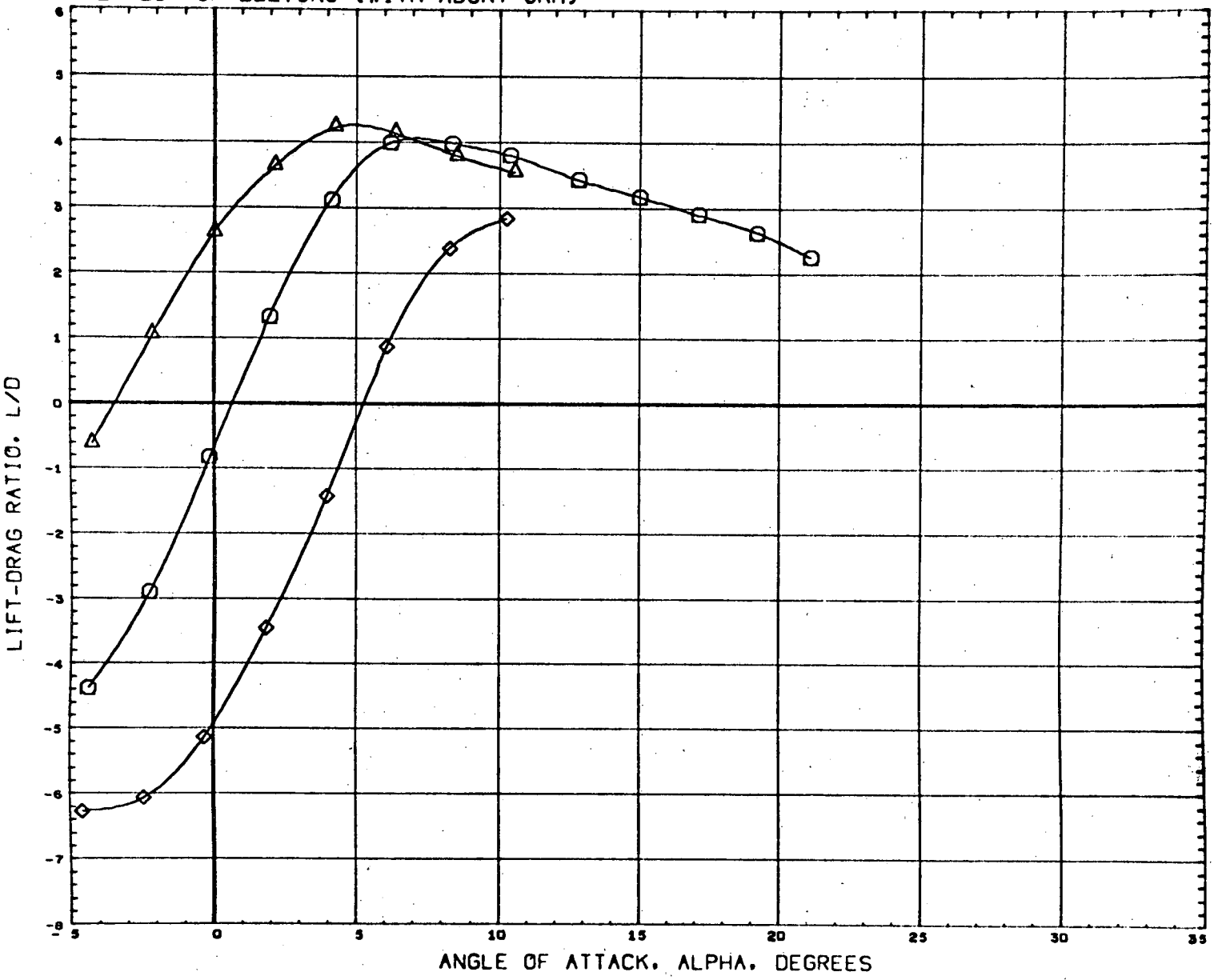


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(869S19)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(869018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF ELEVONS (WITH ABORT SRM)

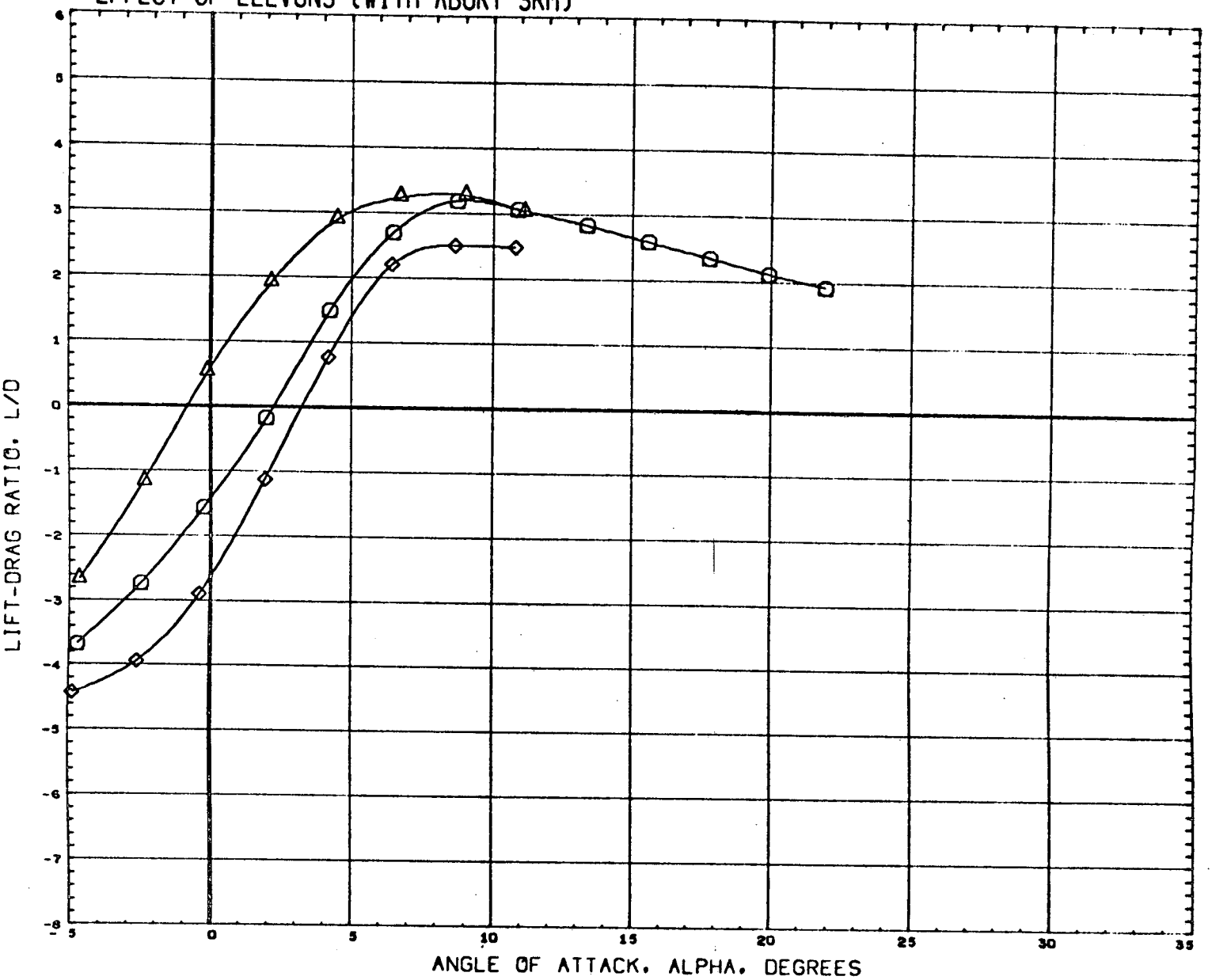


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(B69519)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(B69018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITH ABORT SRM)

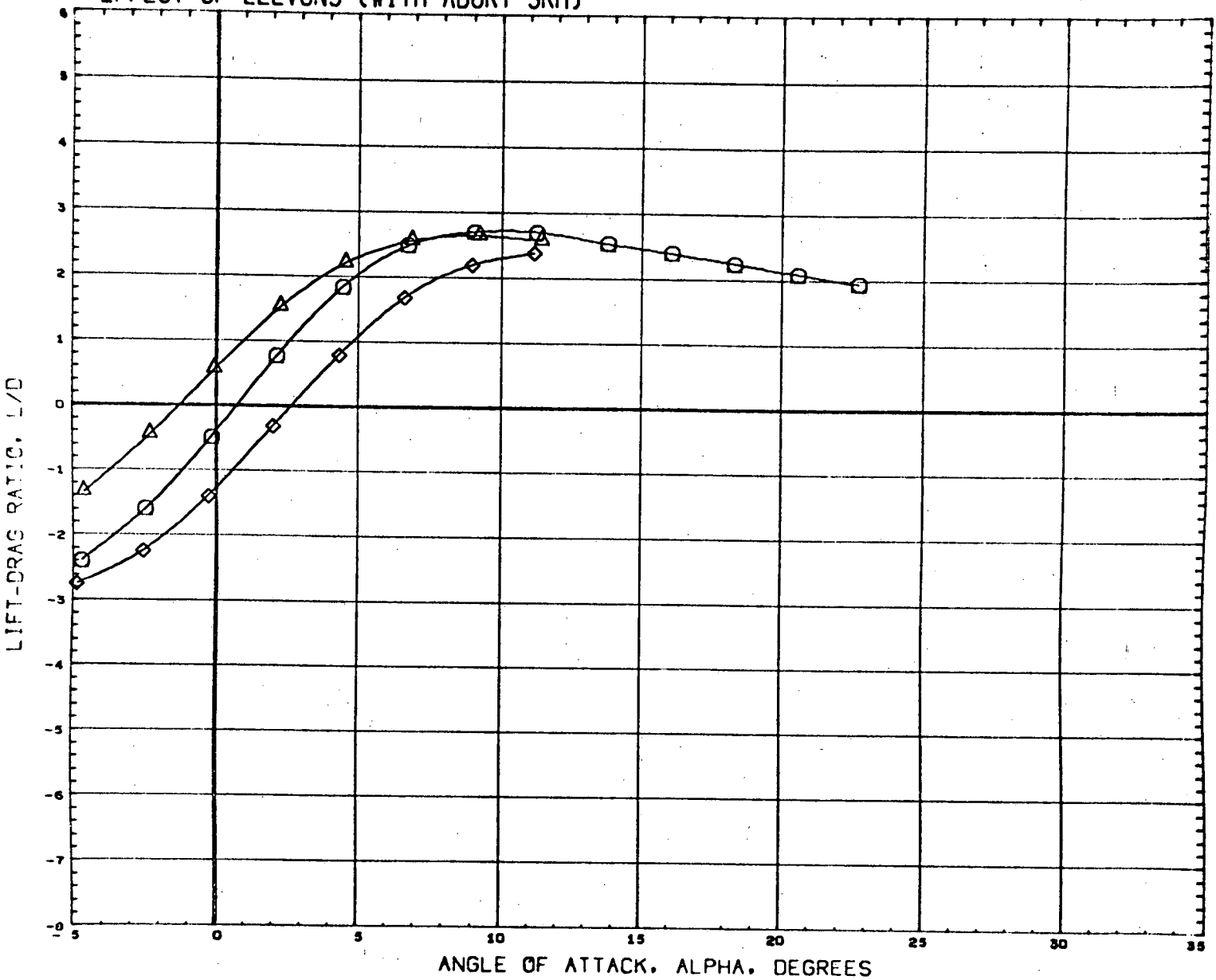


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(869519)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(869018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITH ABORT SRM)

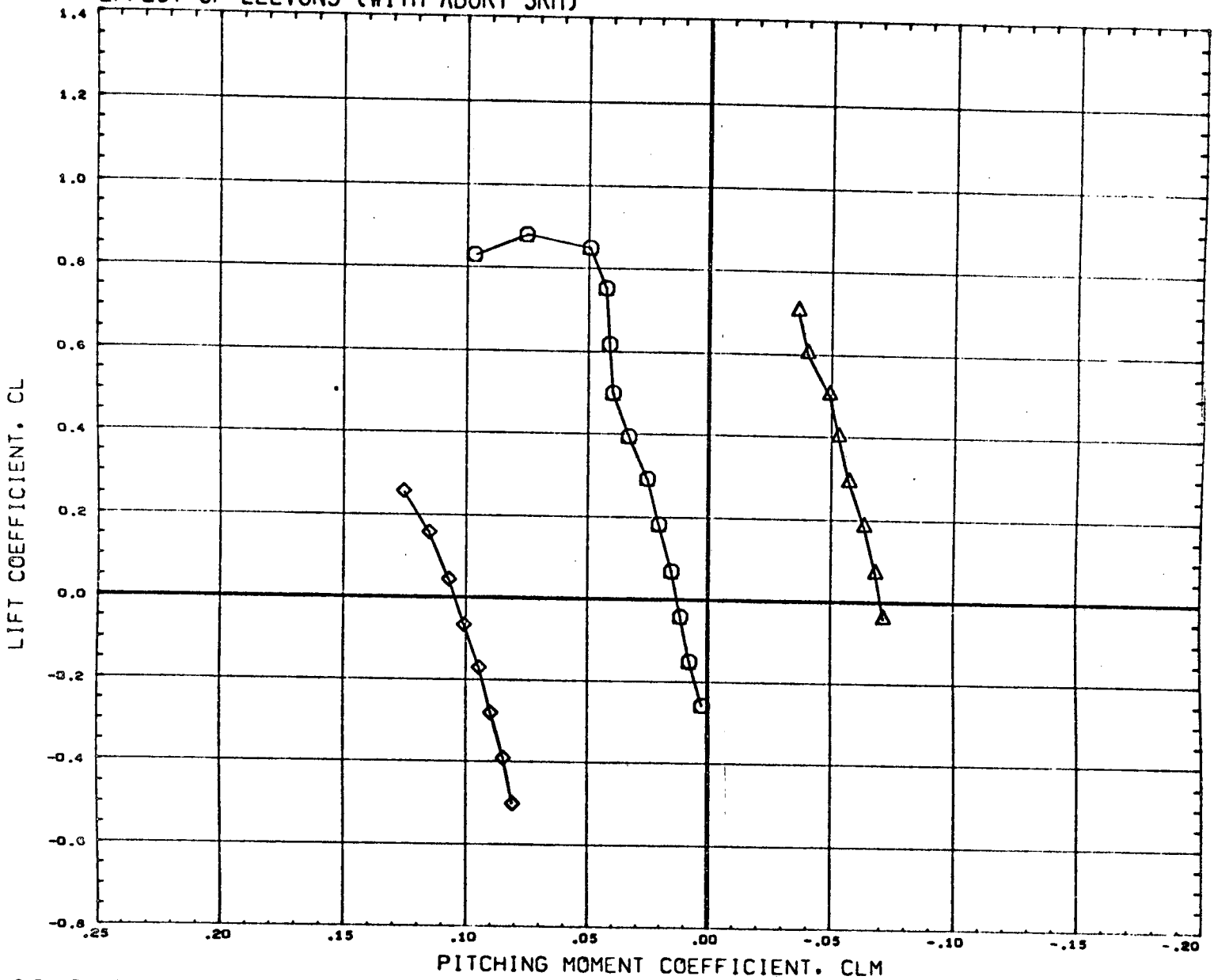


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(869319)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(869018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF ELEVONS (WITH ABORT SRM)

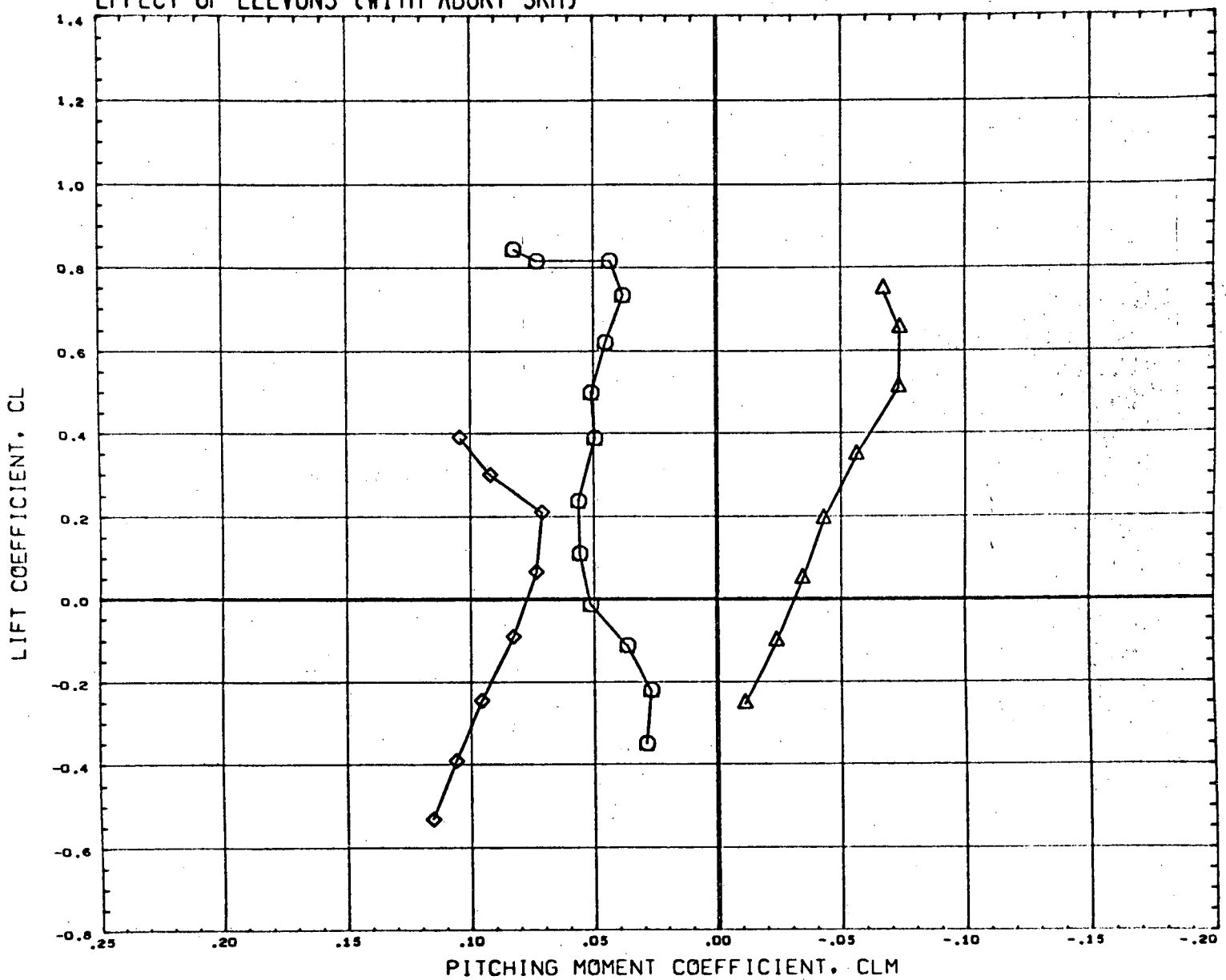


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(869319)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(869018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITH ABORT SRM)

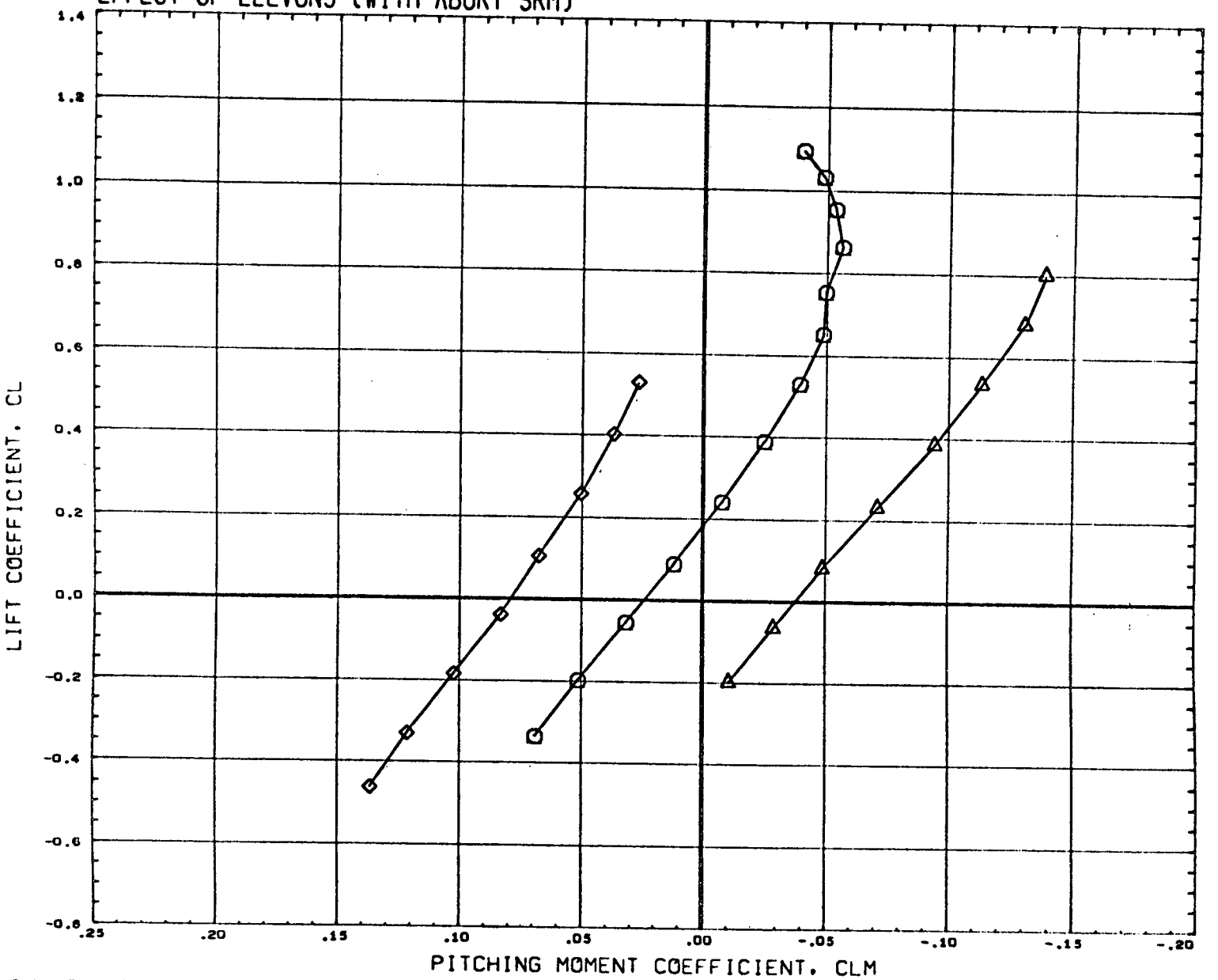


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(869319)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(869018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITH ABORT SRM)

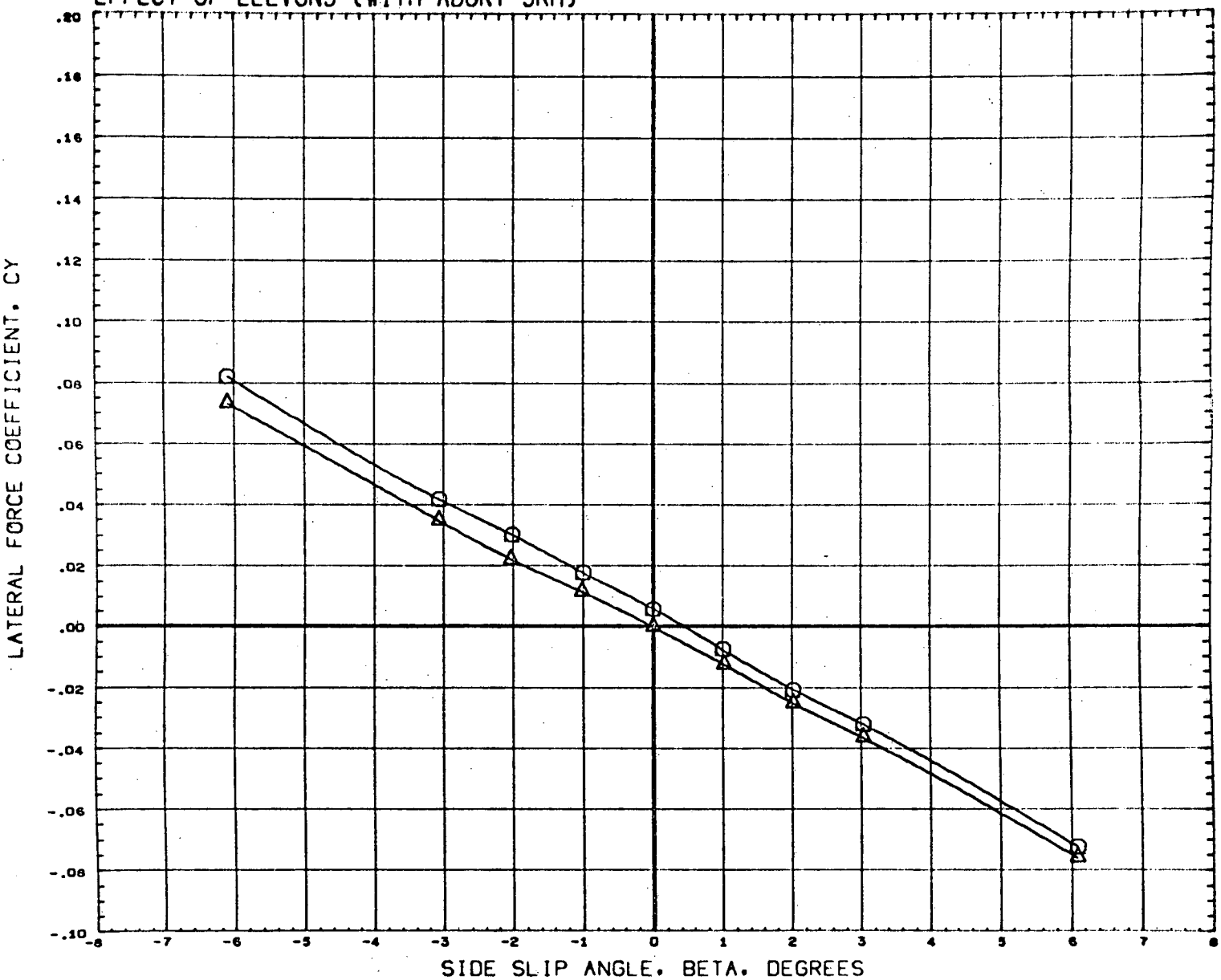


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869017)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(869519)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(869018)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF ELEVONS (WITH ABORT SRM)

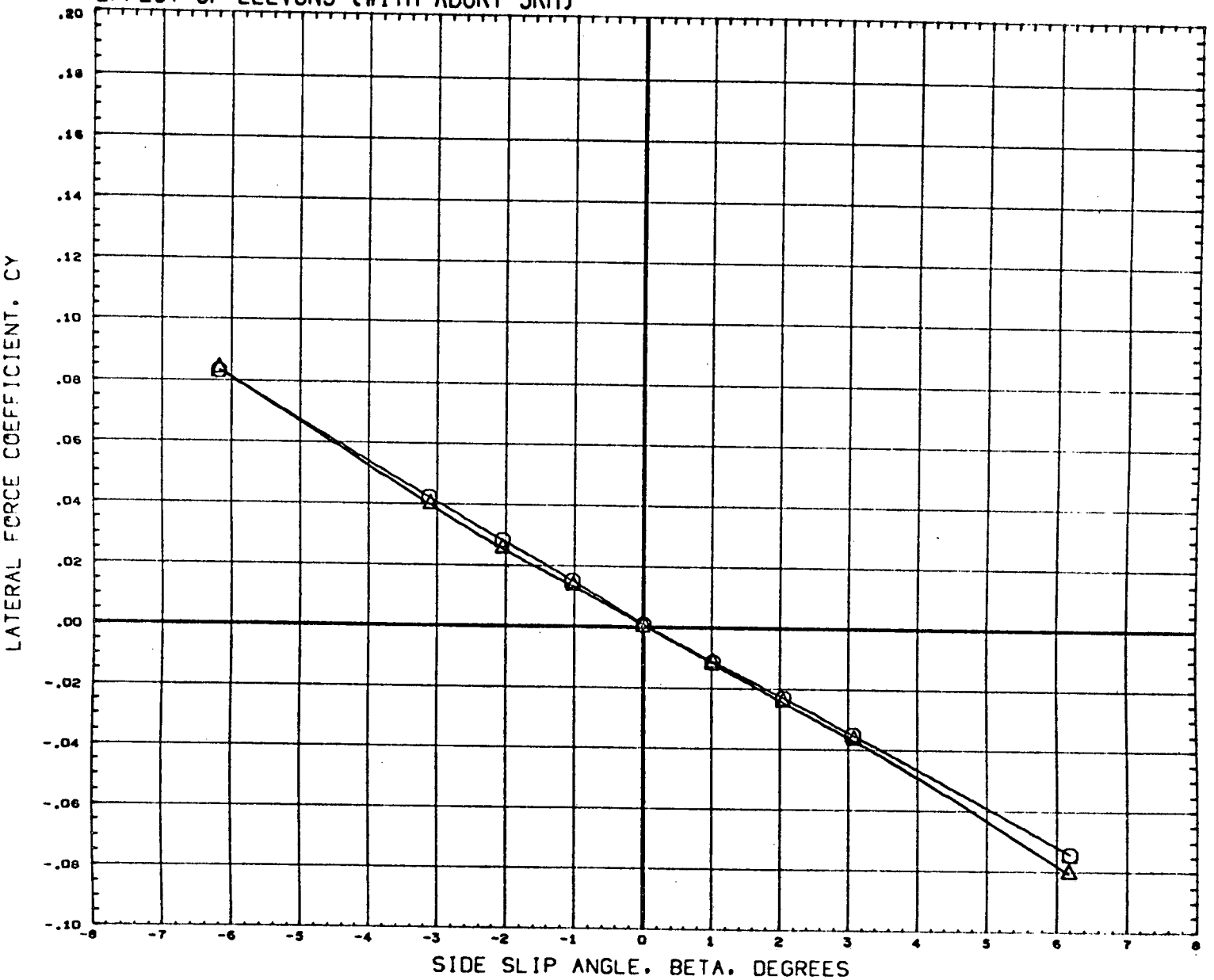


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69021)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(A69022)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITH ABORT SRM)

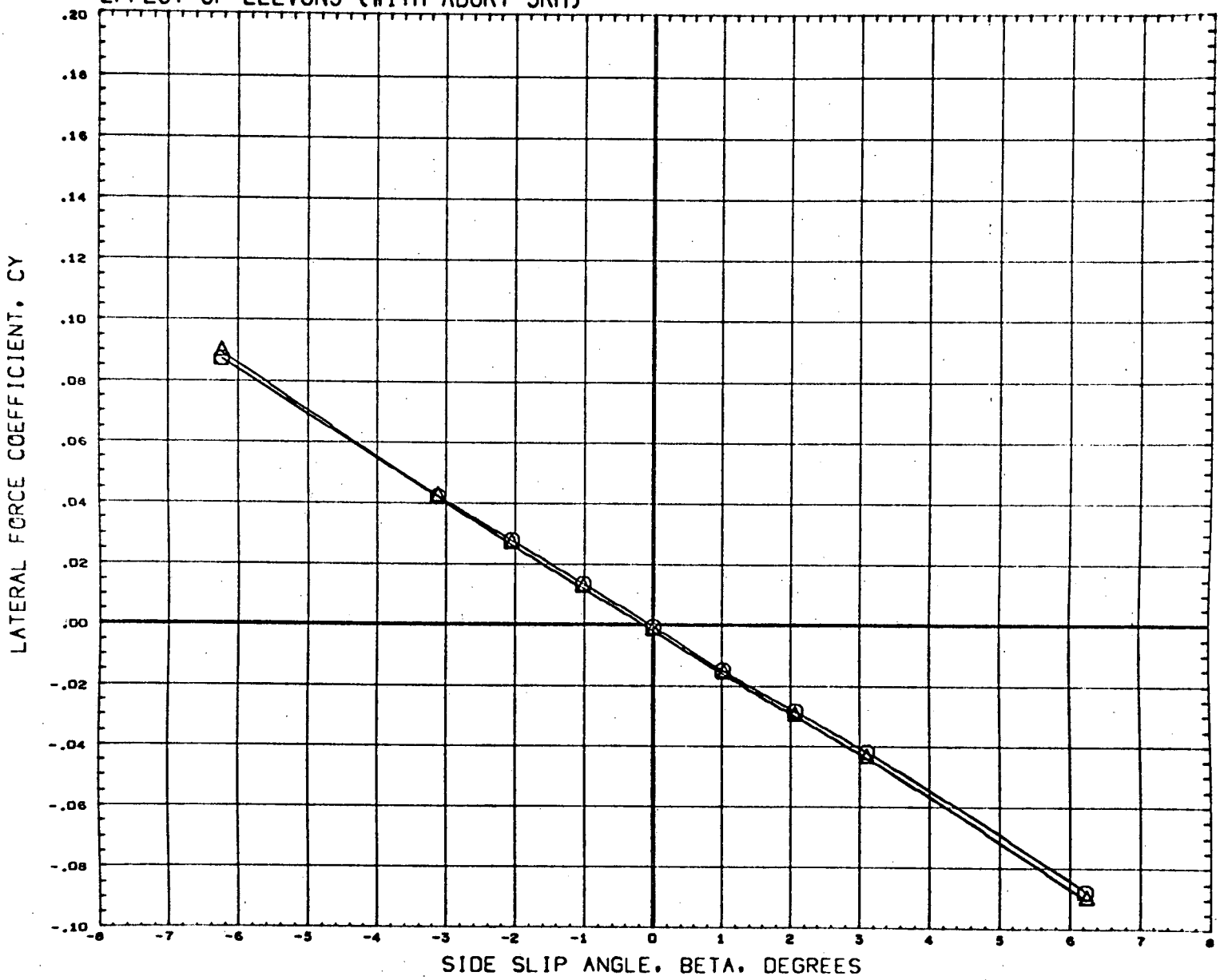


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69021)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(A69022)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITH ABORT SRM)



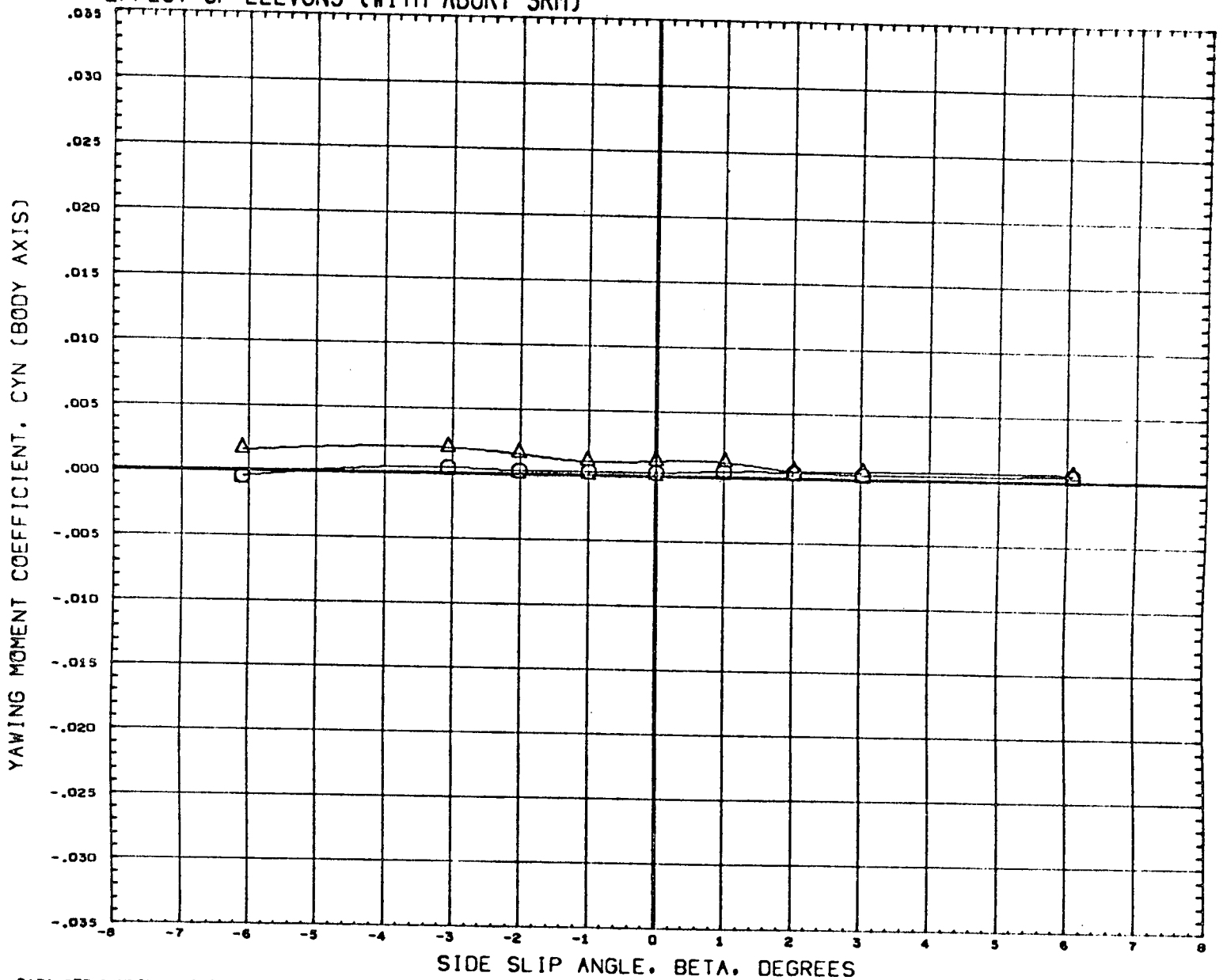
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69021)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(A69022)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

RC

EFFECT OF ELEVONS (WITH ABORT SRM)

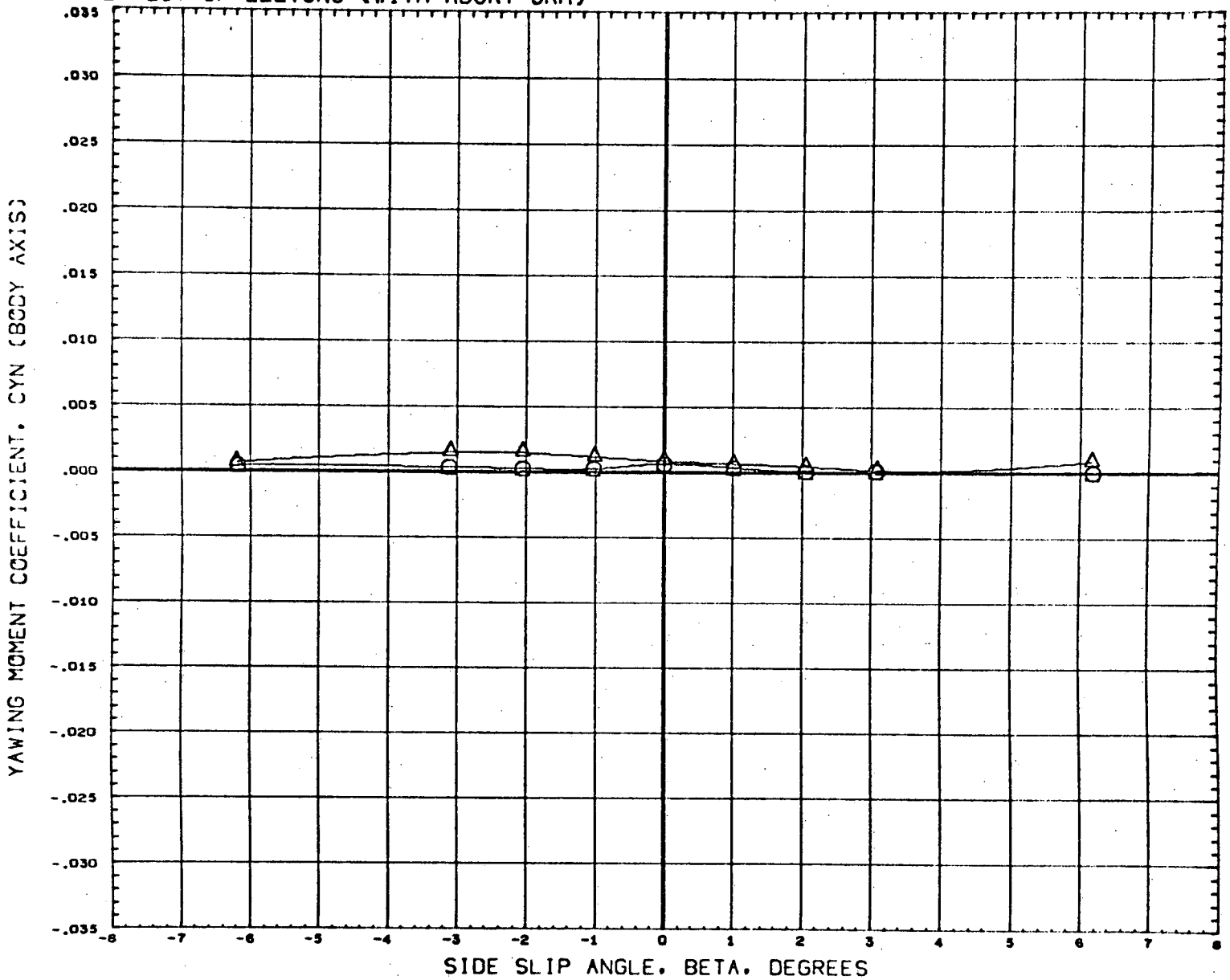


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69021)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(A69022)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITH ABORT SRM)

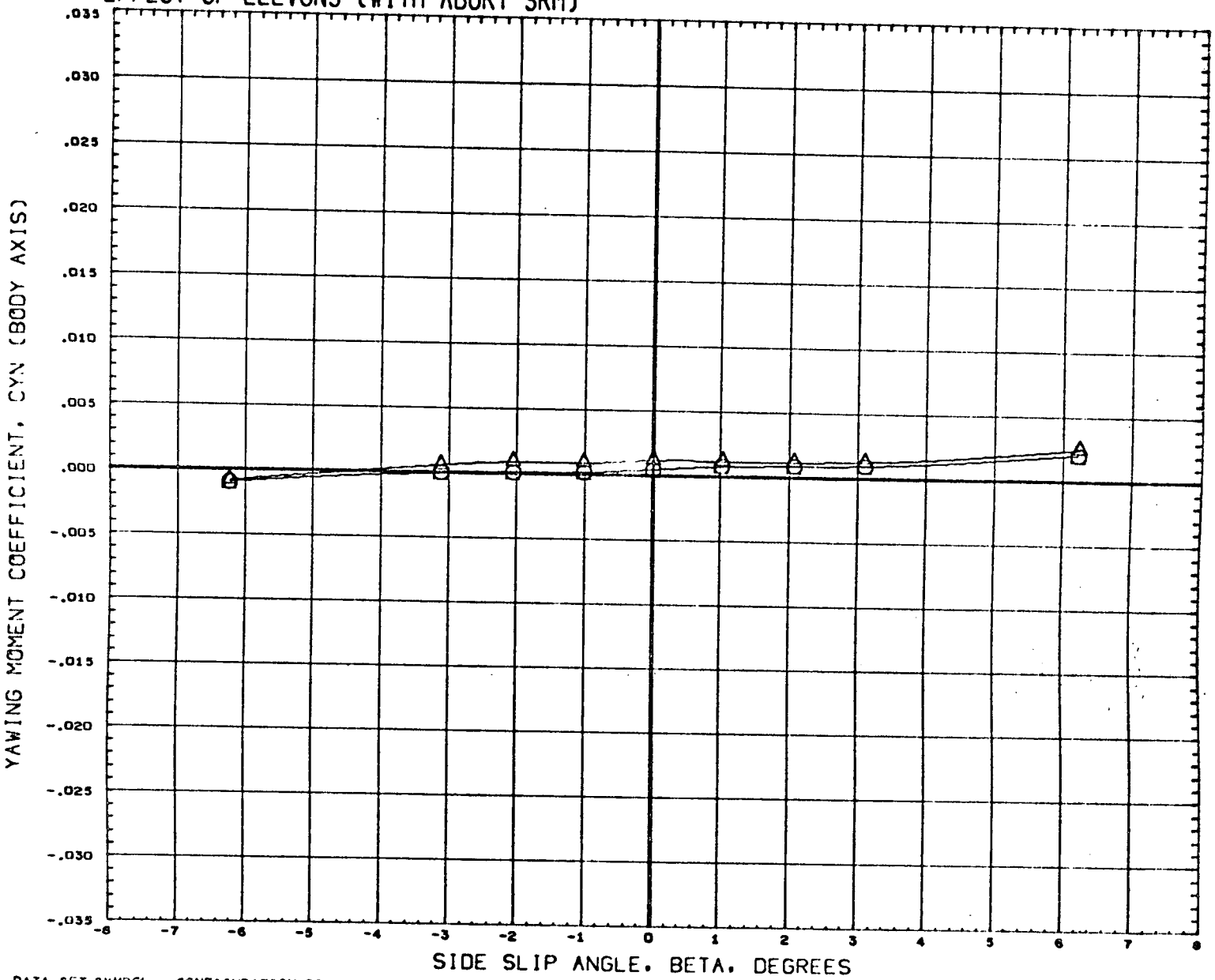


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69021)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(A69022)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.6800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITH ABORT SRM)

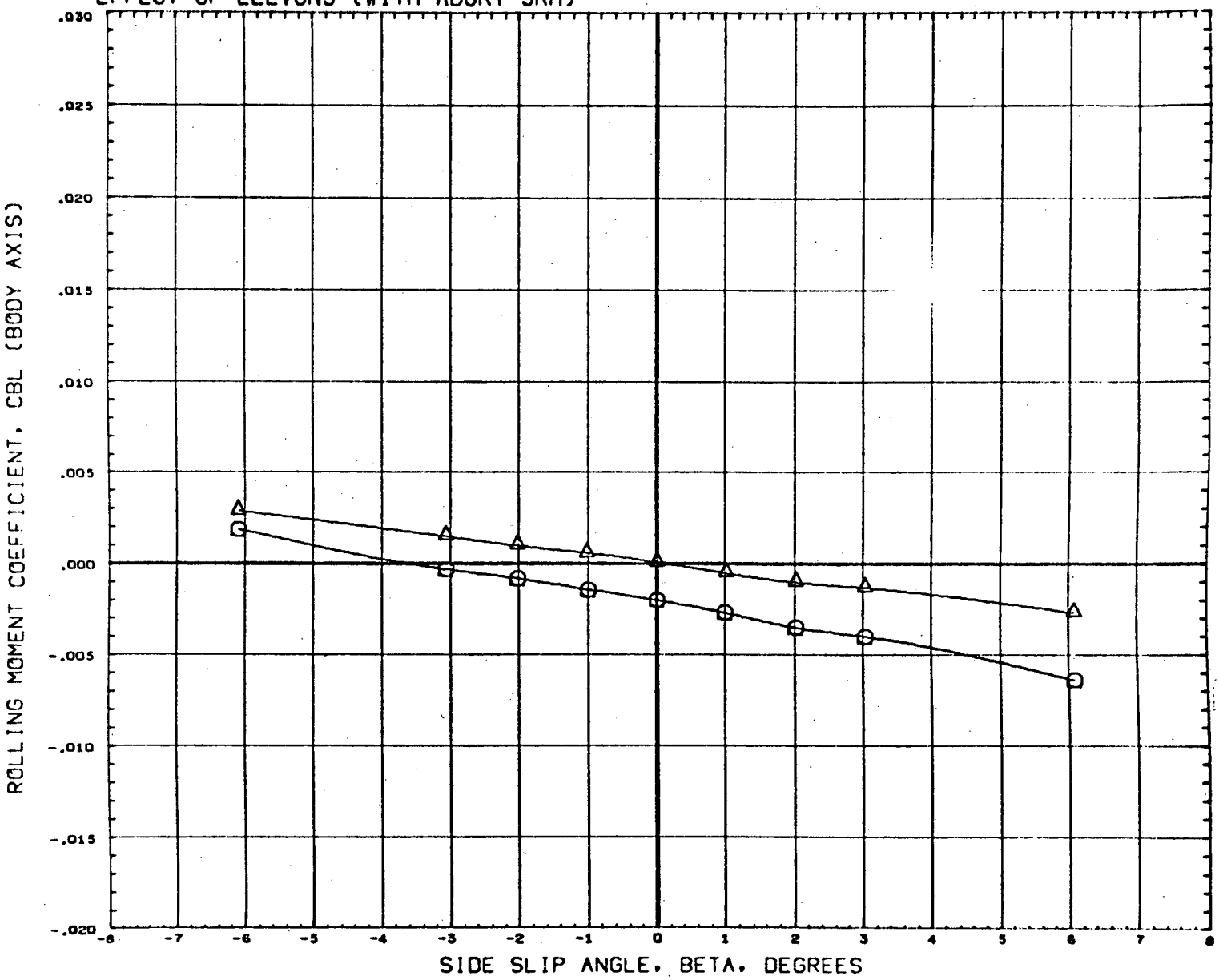


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69021)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(A69022)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF ELEVONS (WITH ABORT SRM)

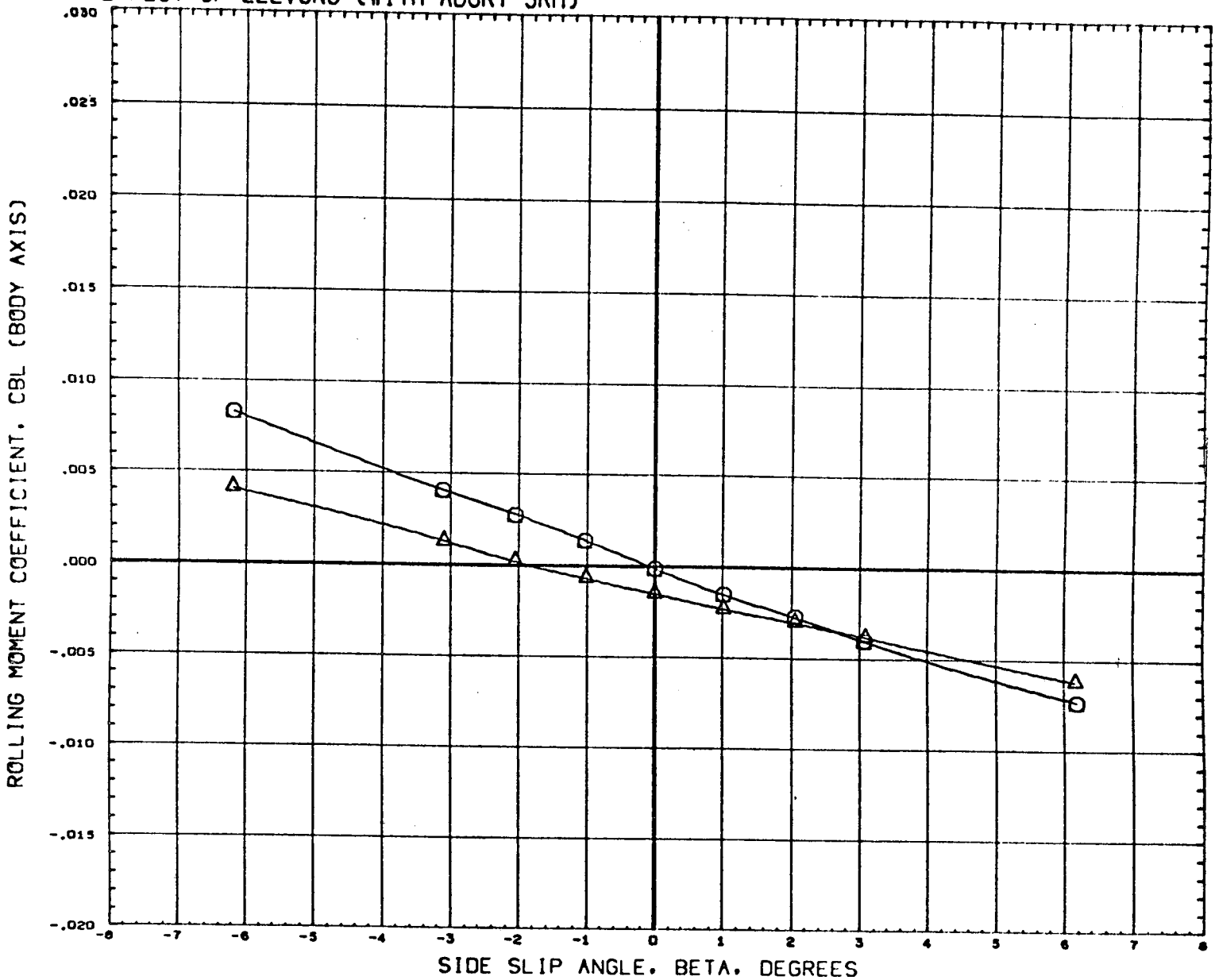


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69021)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(A69022)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ELEVONS (WITH ABORT SRM)

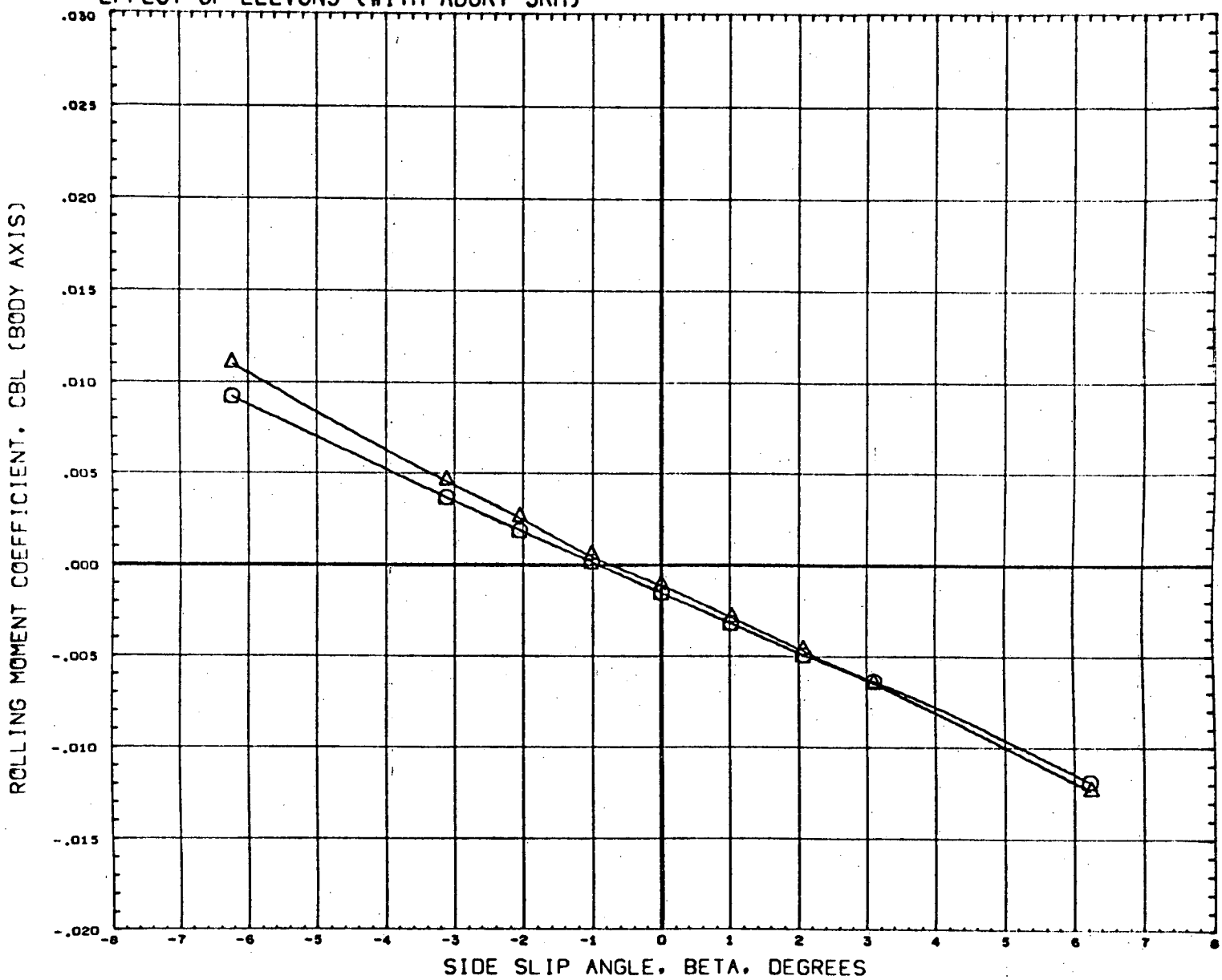


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69021)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(A69022)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ELEVONS (WITH ABORT SRM)

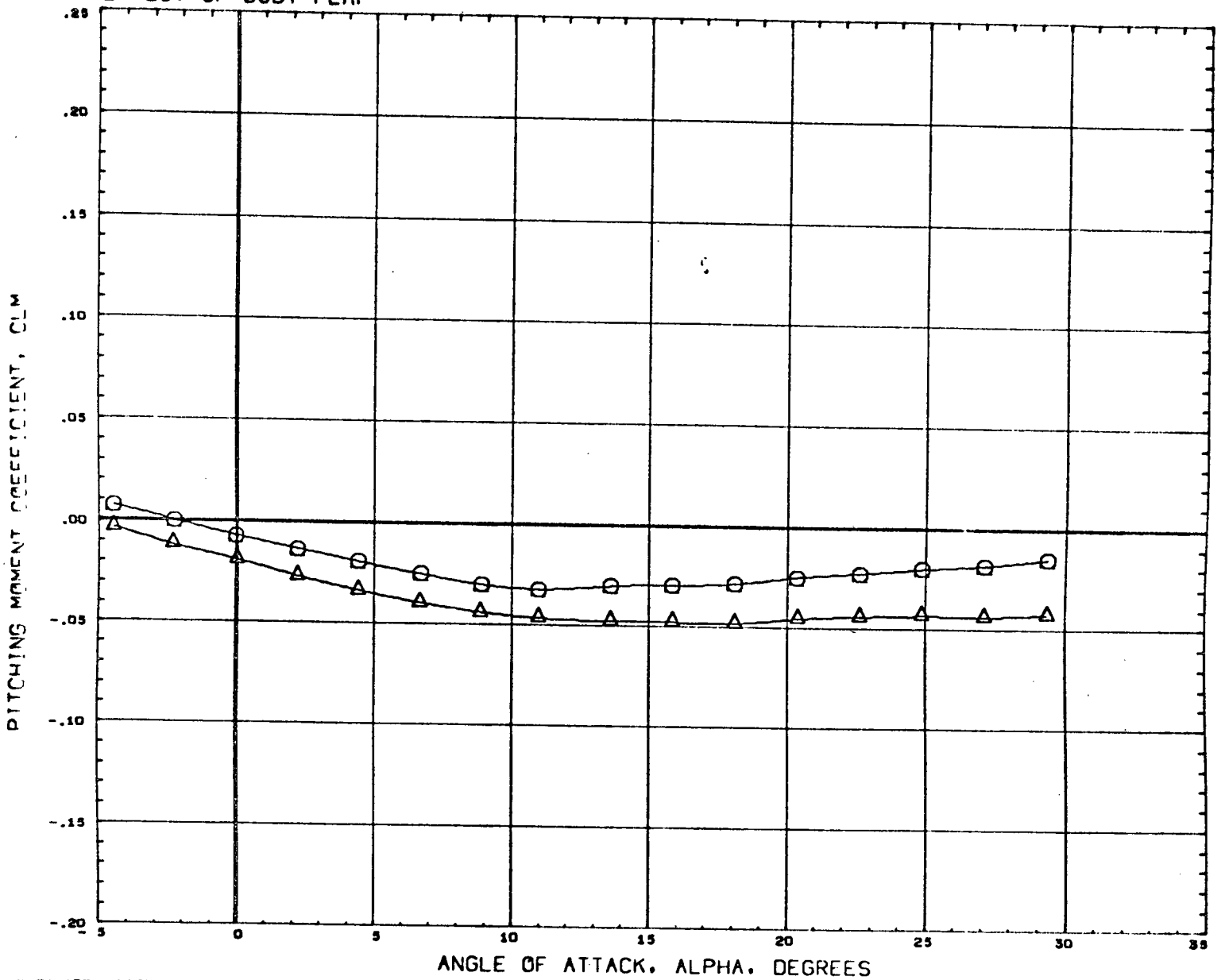


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69021)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000
(A69022)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	-10.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF BODY FLAP

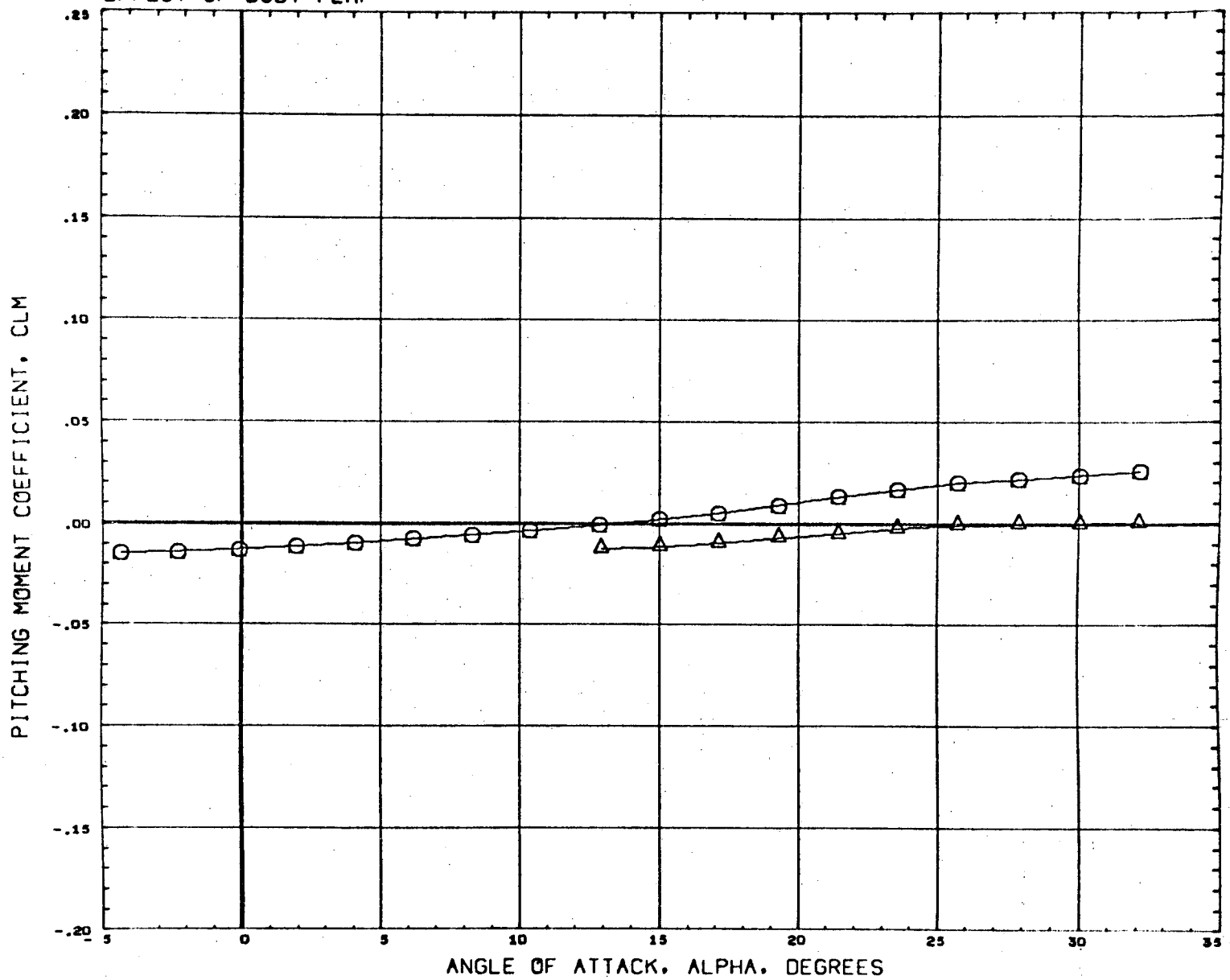


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869501)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
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REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

EFFECT OF BODY FLAP

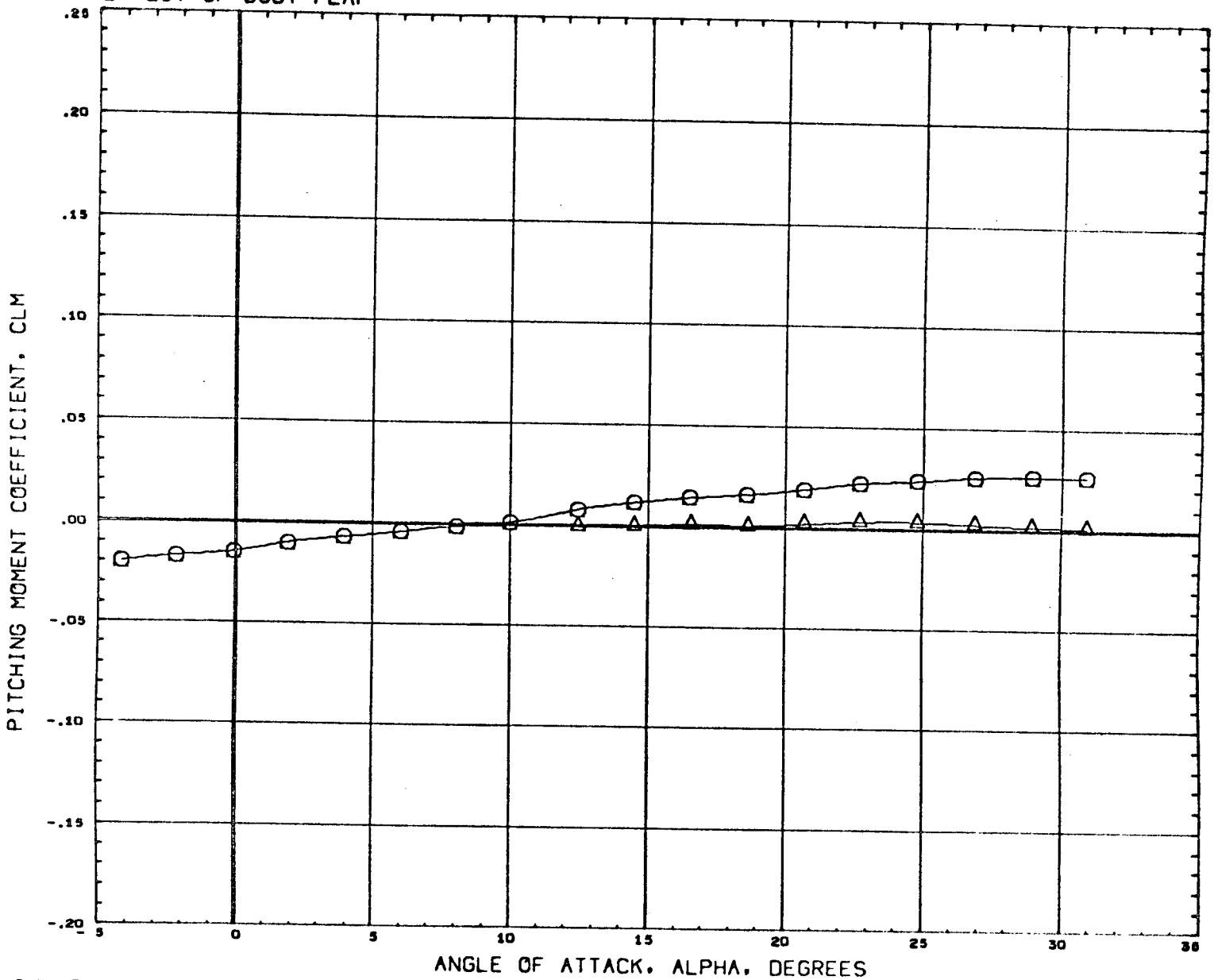


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S42)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

EFFECT OF BODY FLAP

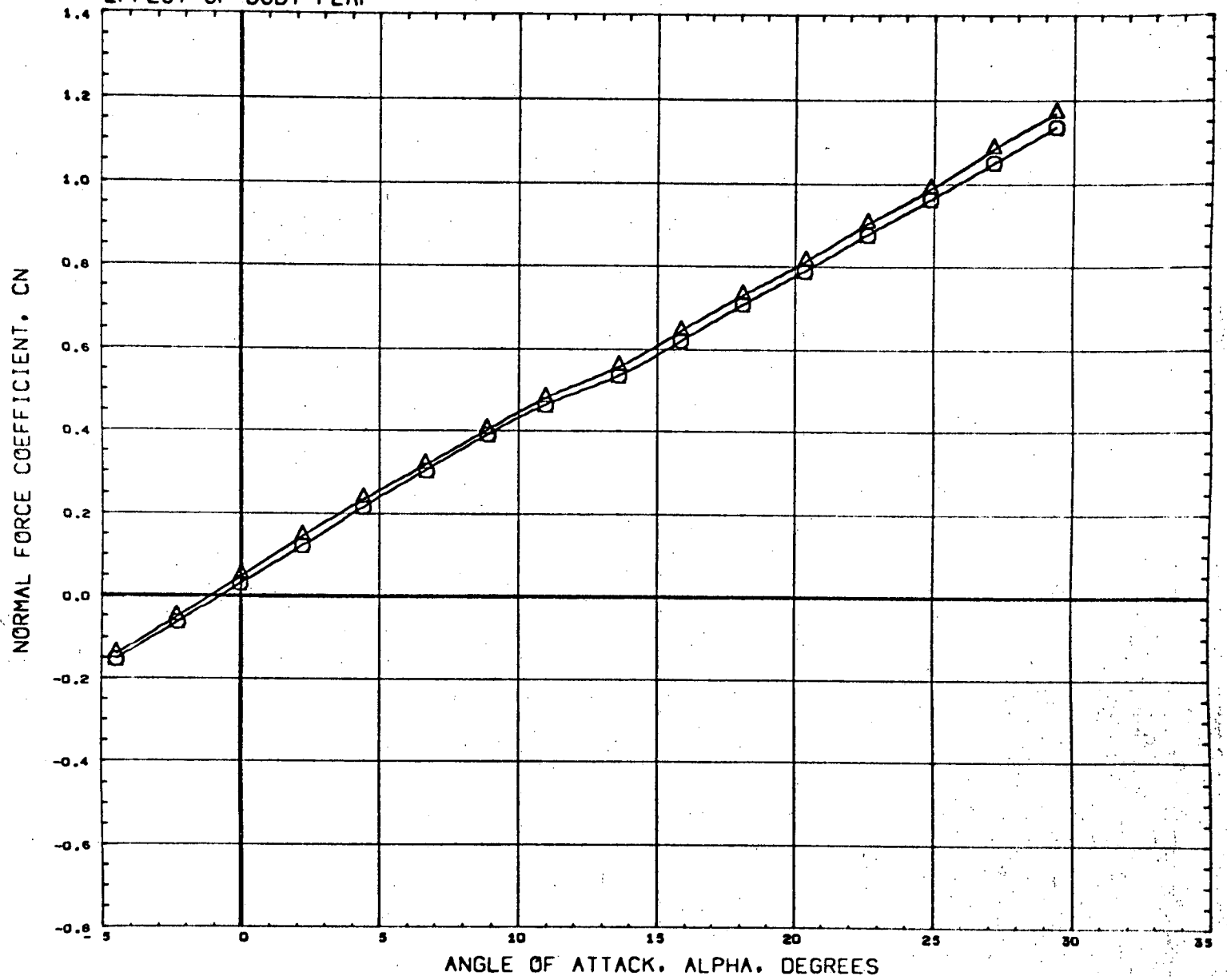


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869301)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869342)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

EFFECT OF BODY FLAP

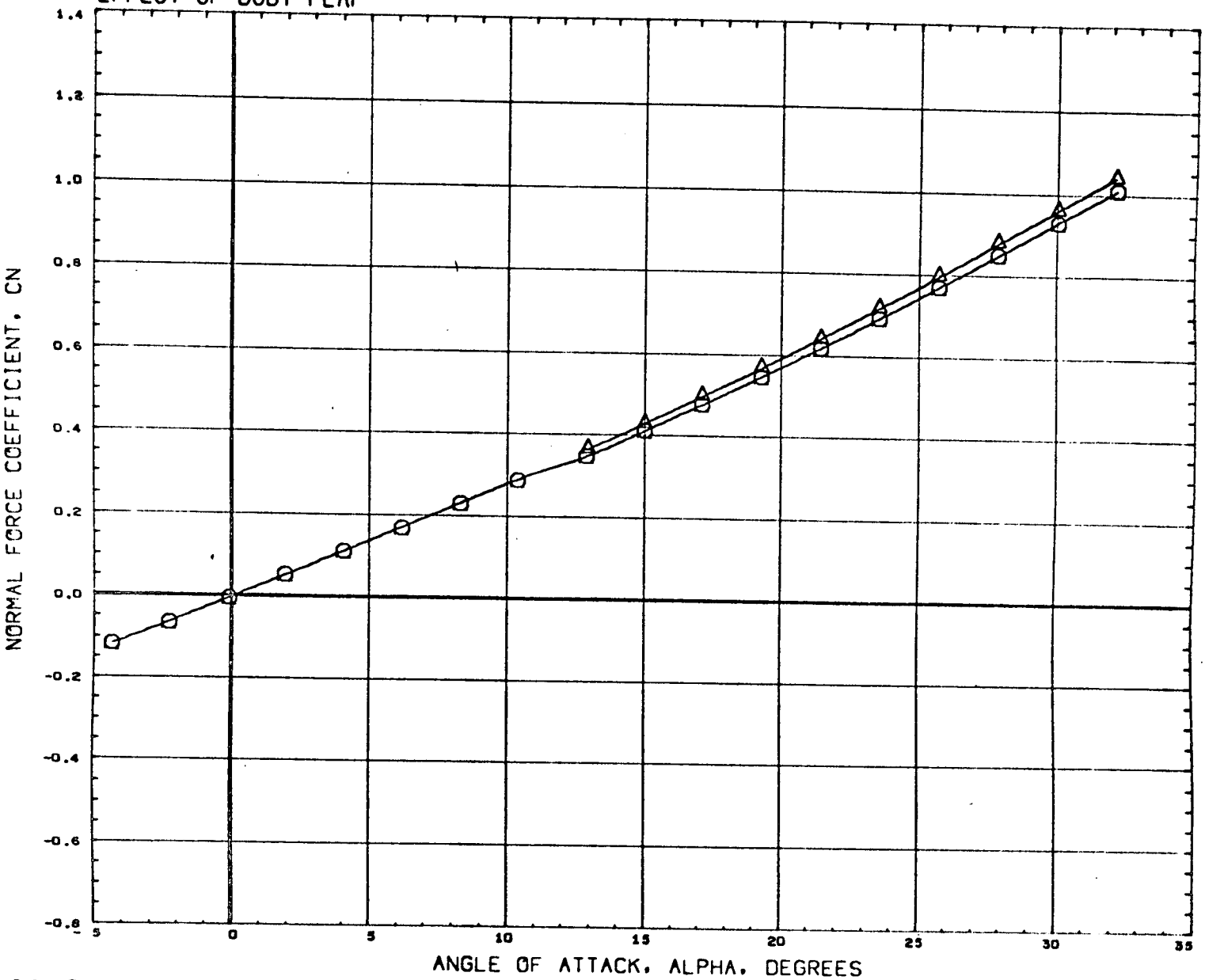


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69501)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69542)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

EFFECT OF BODY FLAP

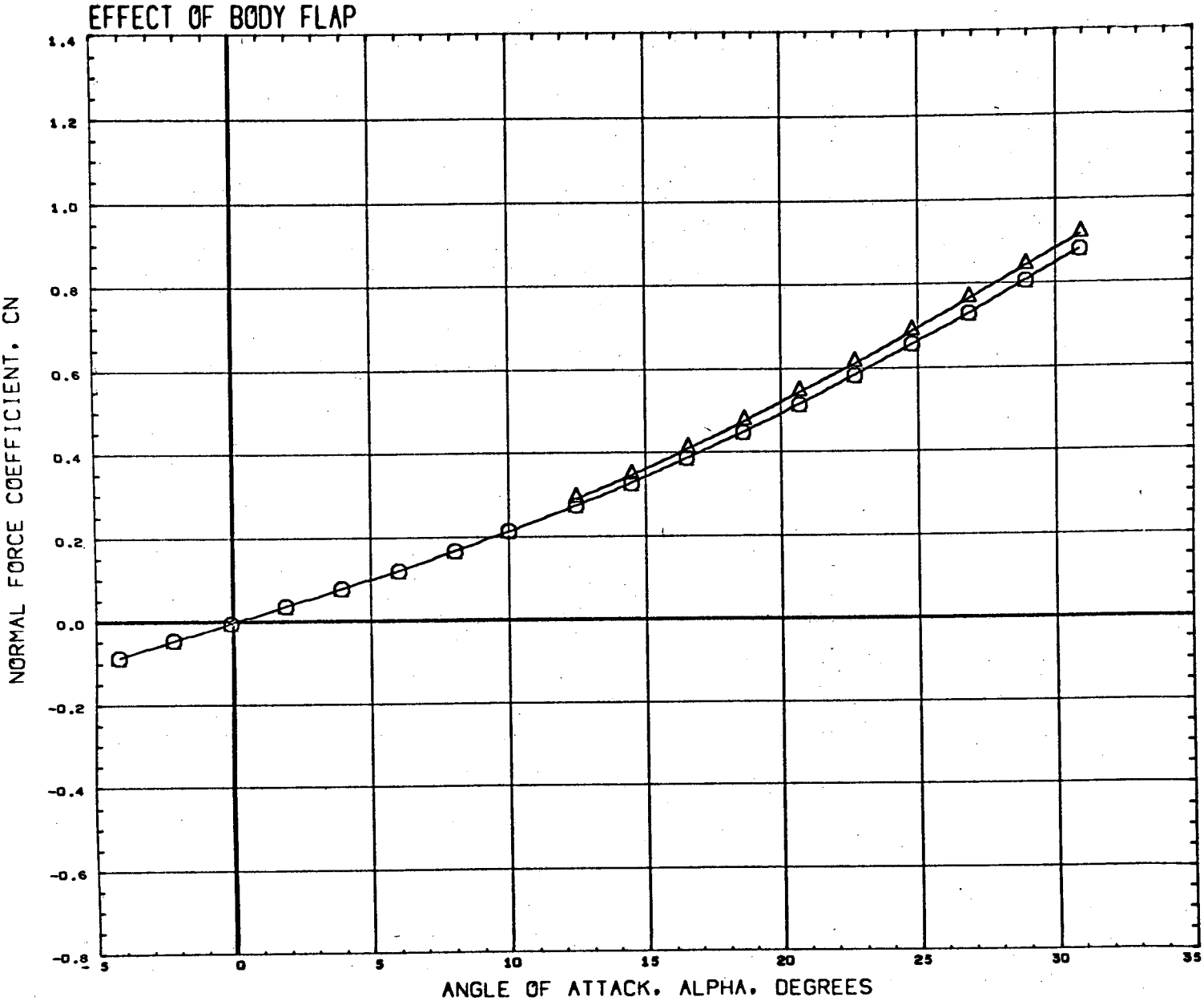


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869501)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869542)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.8820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

EFFECT OF BODY FLAP

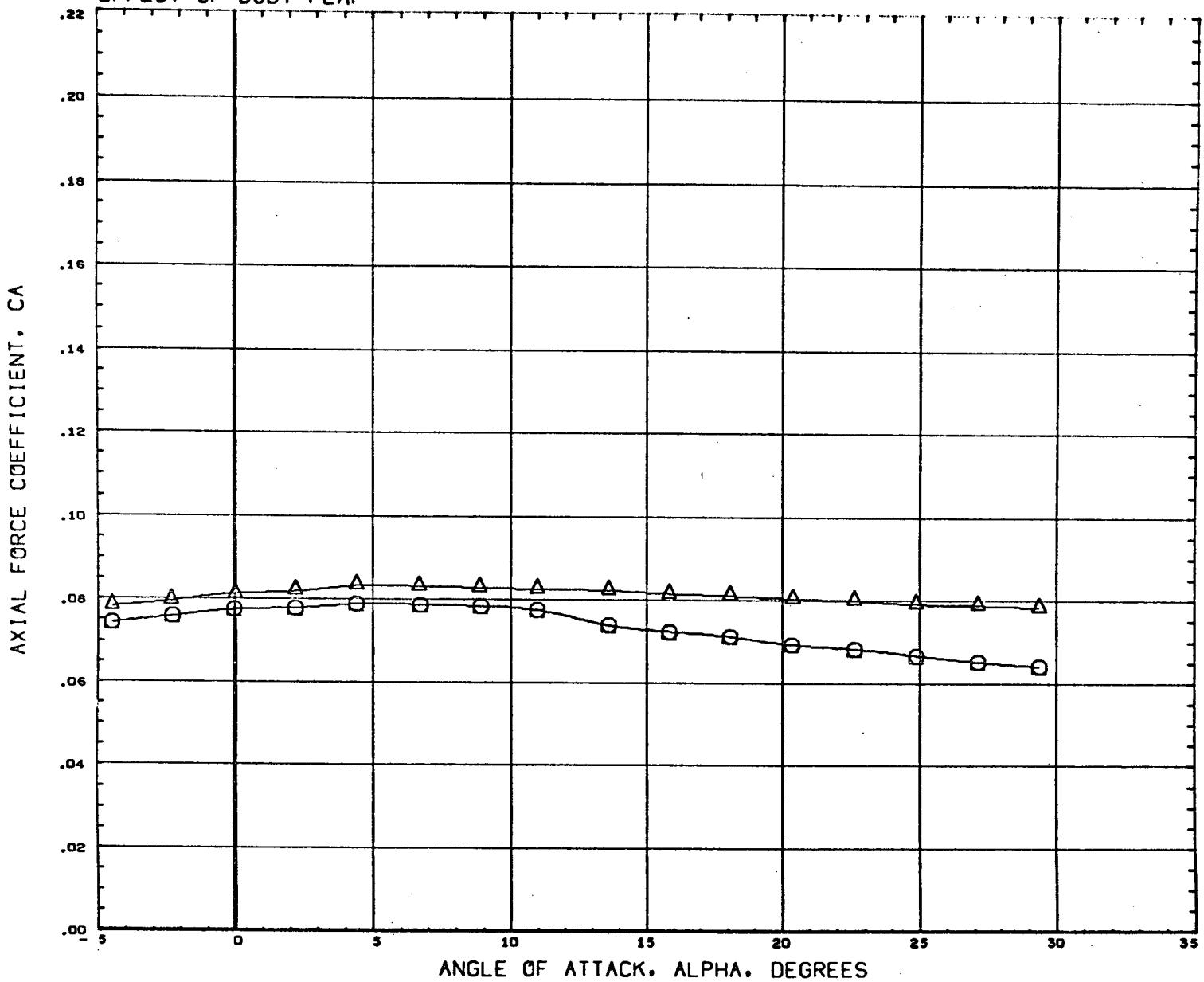


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69SD1)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S42)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

EFFECT OF BODY FLAP

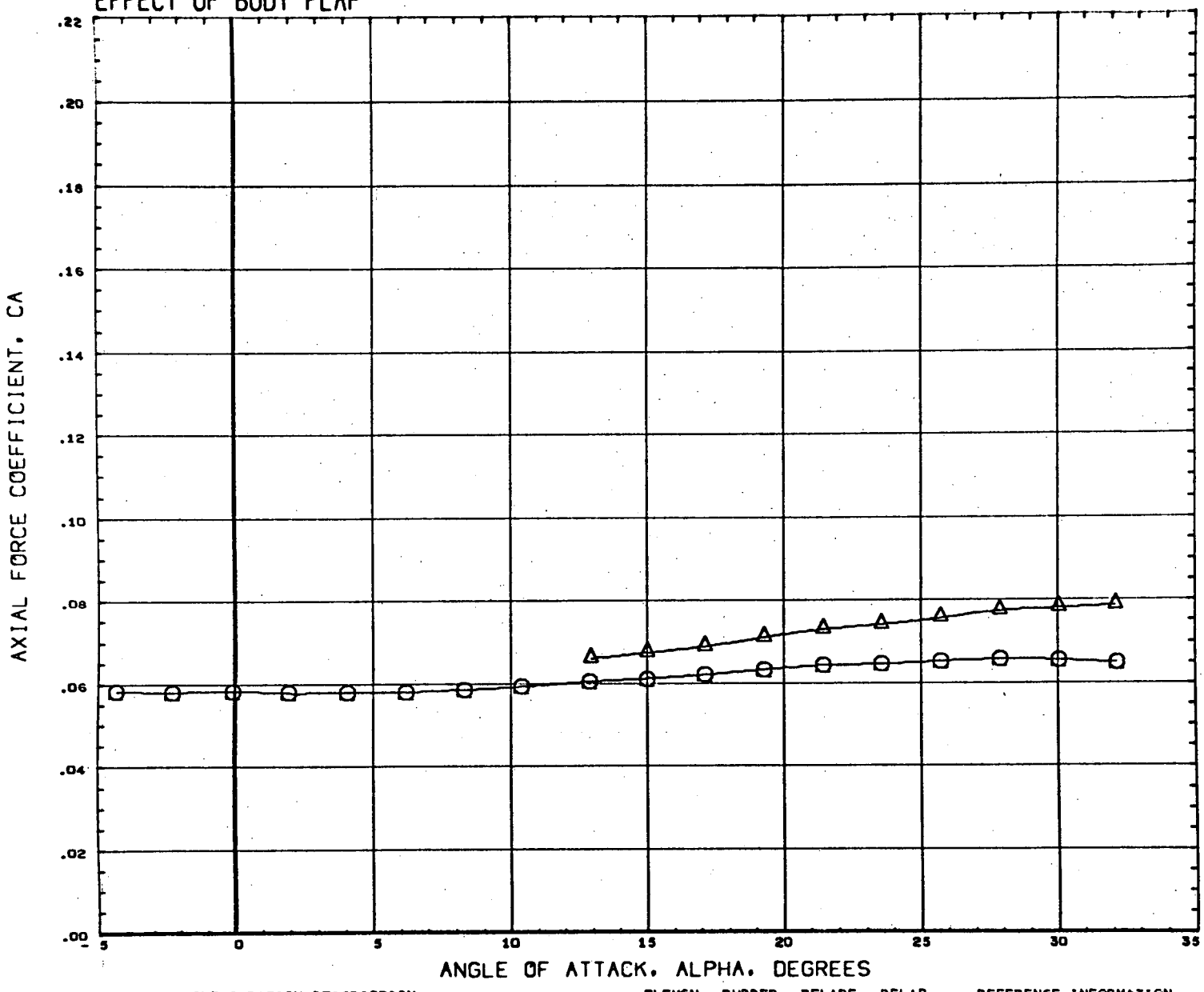


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S42)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

EFFECT OF BODY FLAP

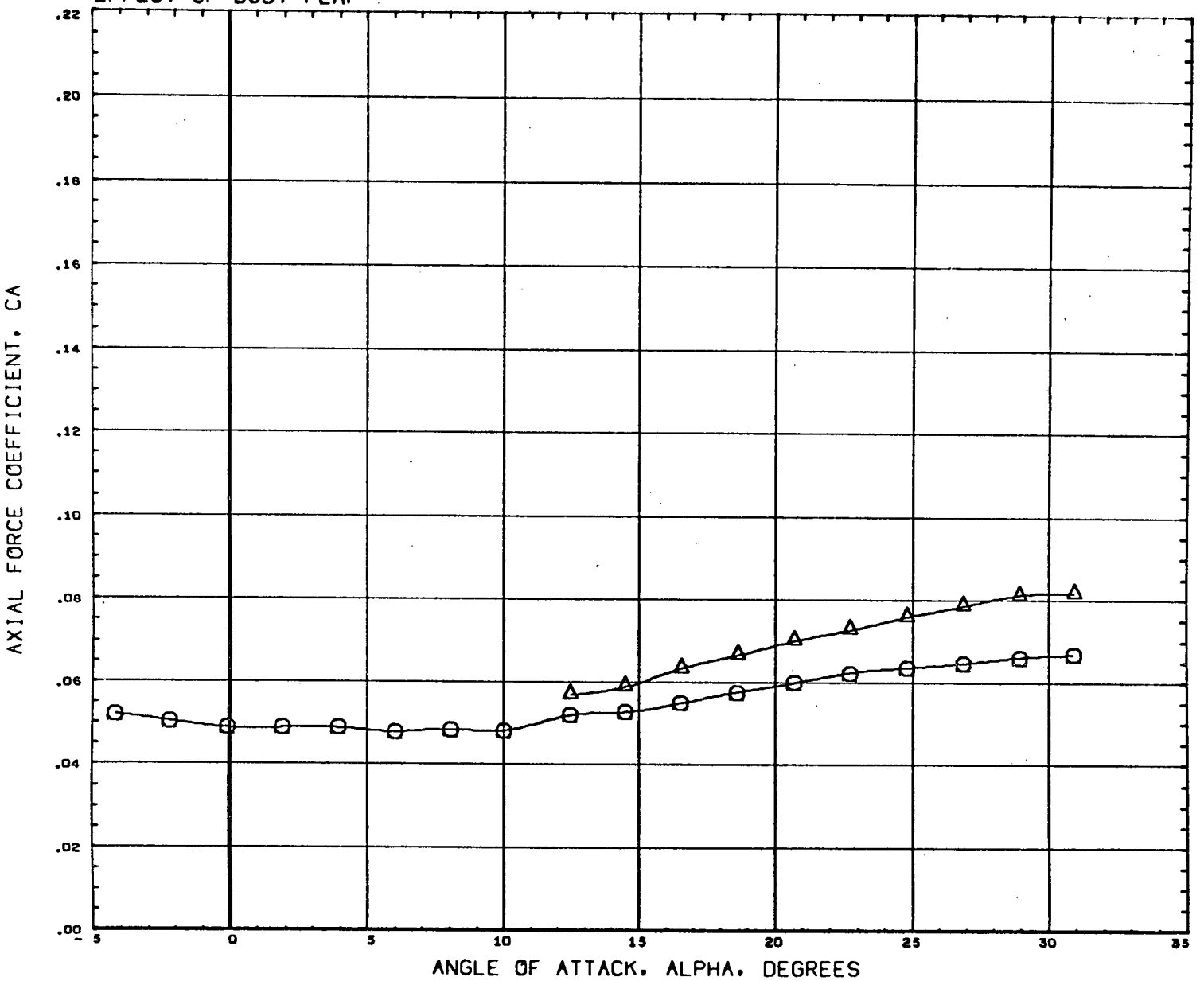


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S42)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

EFFECT OF BODY FLAP

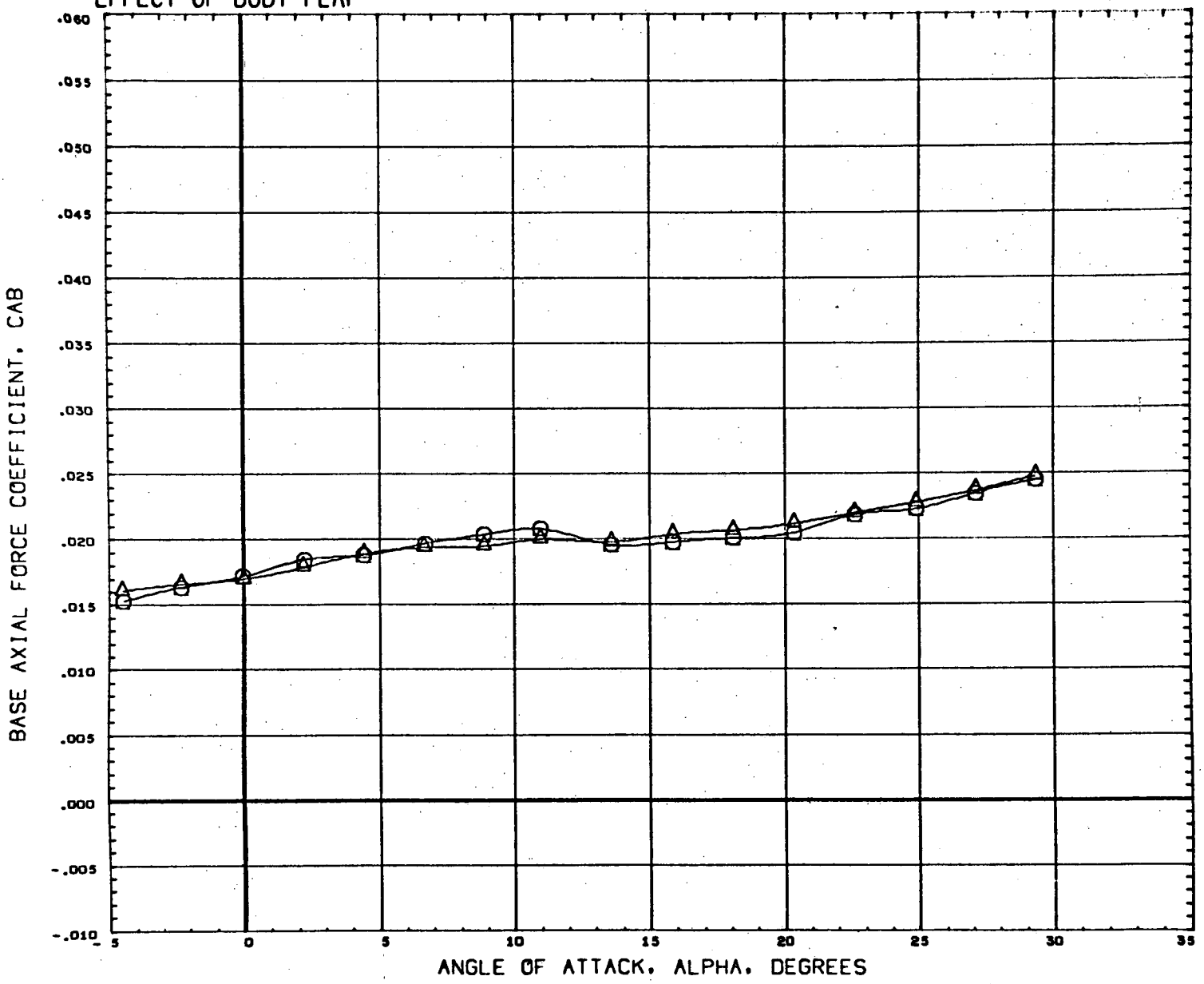


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S42)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

EFFECT OF BODY FLAP

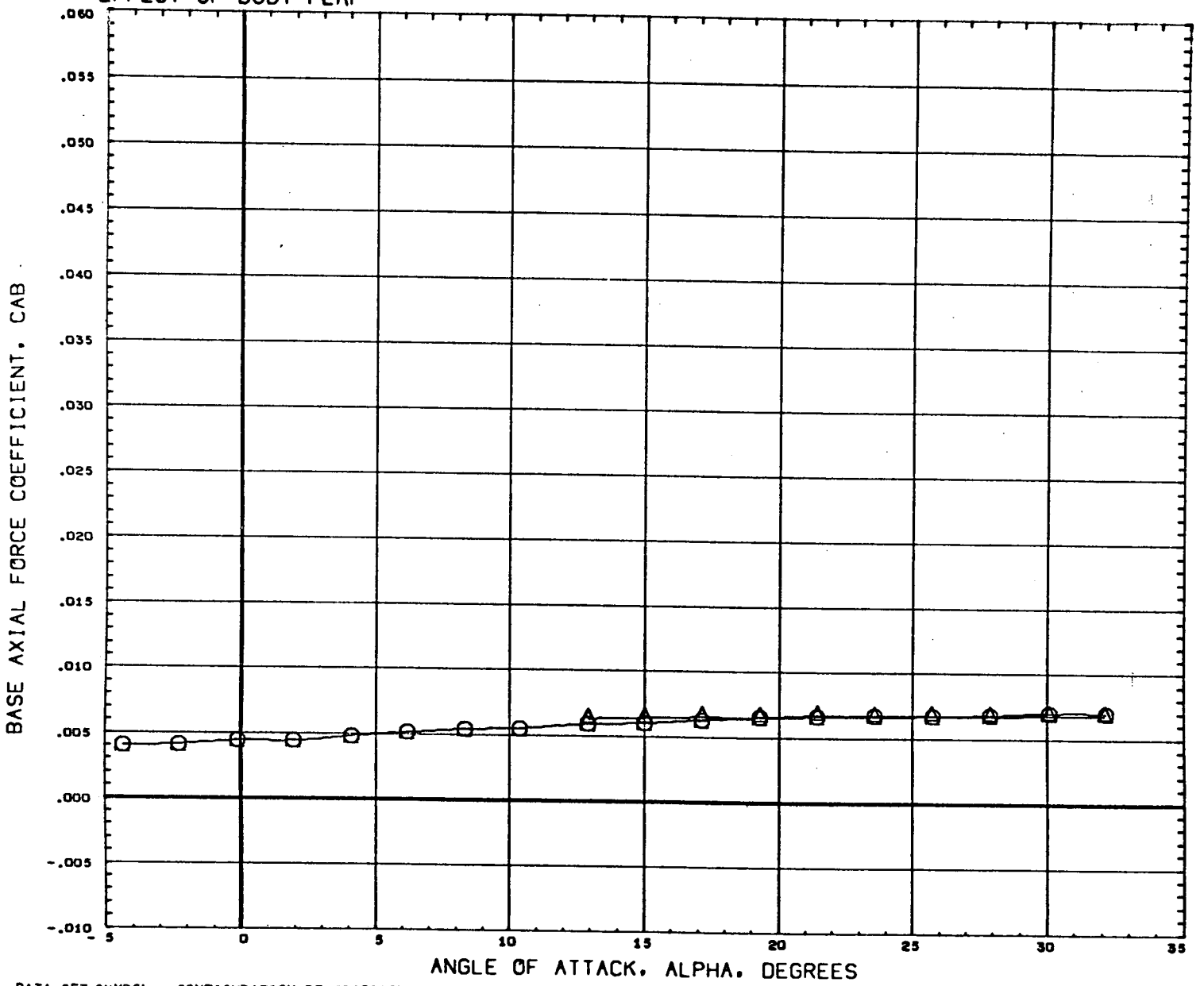


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S01)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S42)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

EFFECT OF BODY FLAP

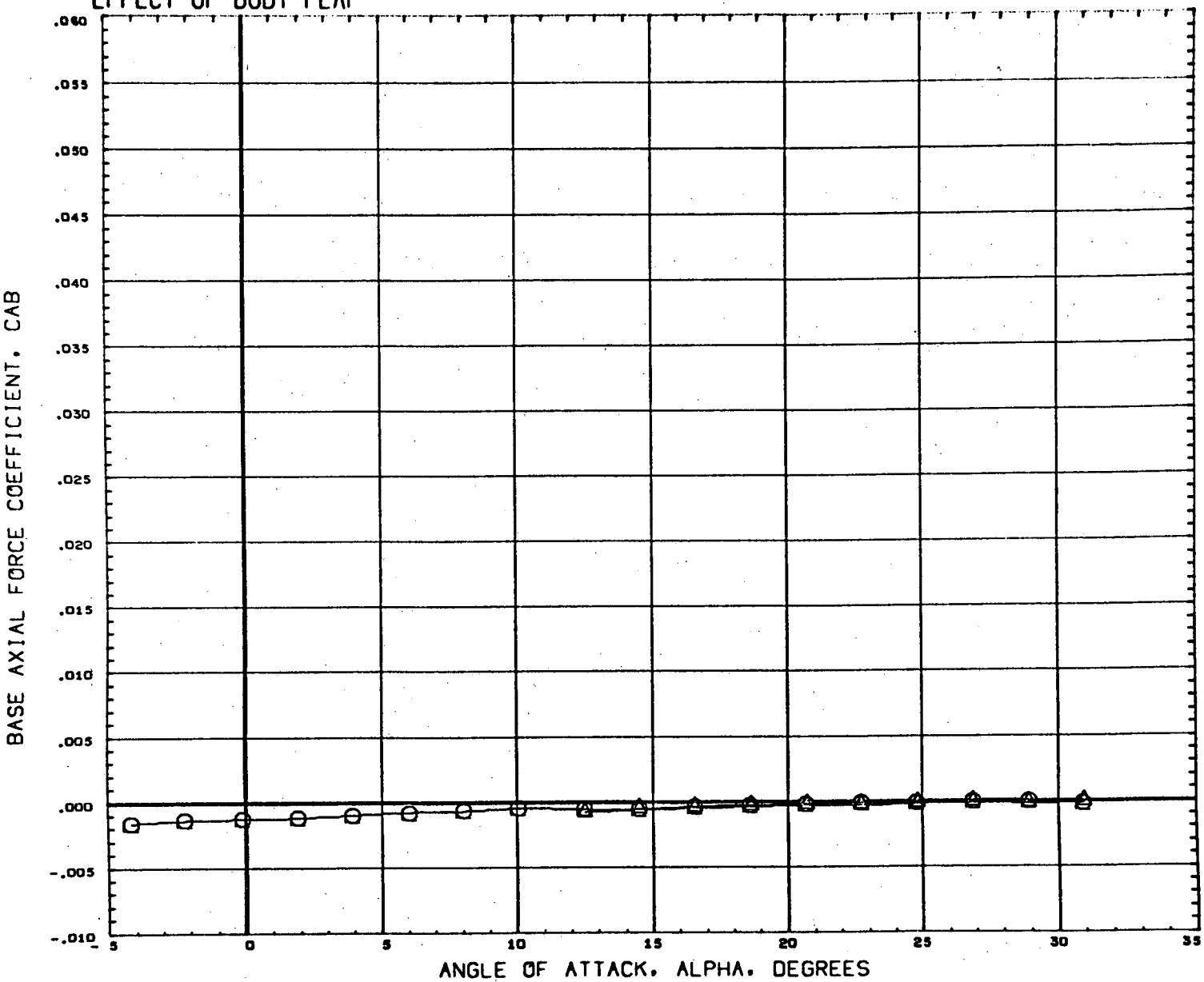


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S01)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S42)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

EFFECT OF BODY FLAP

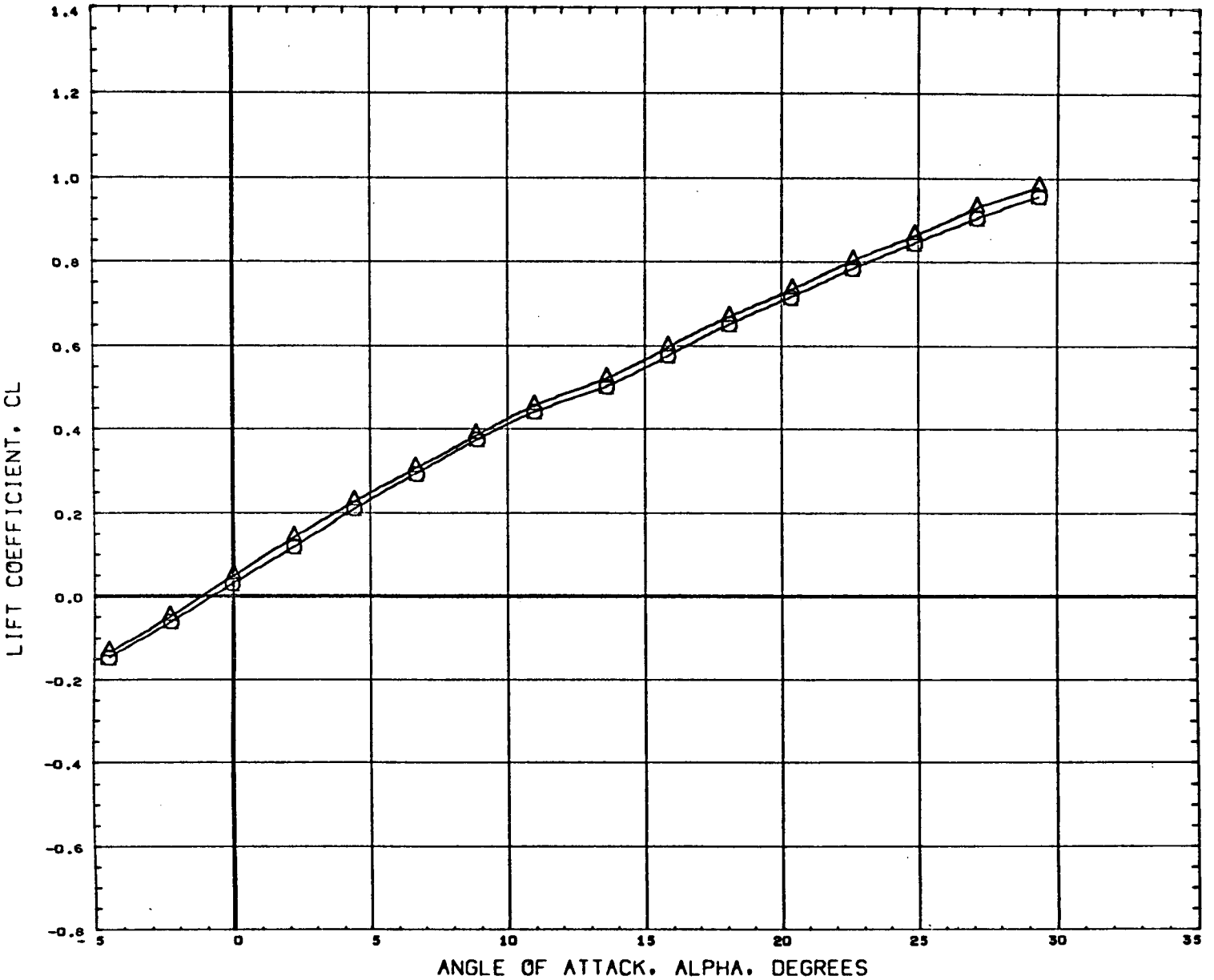


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S01)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S42)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

EFFECT OF BODY FLAP

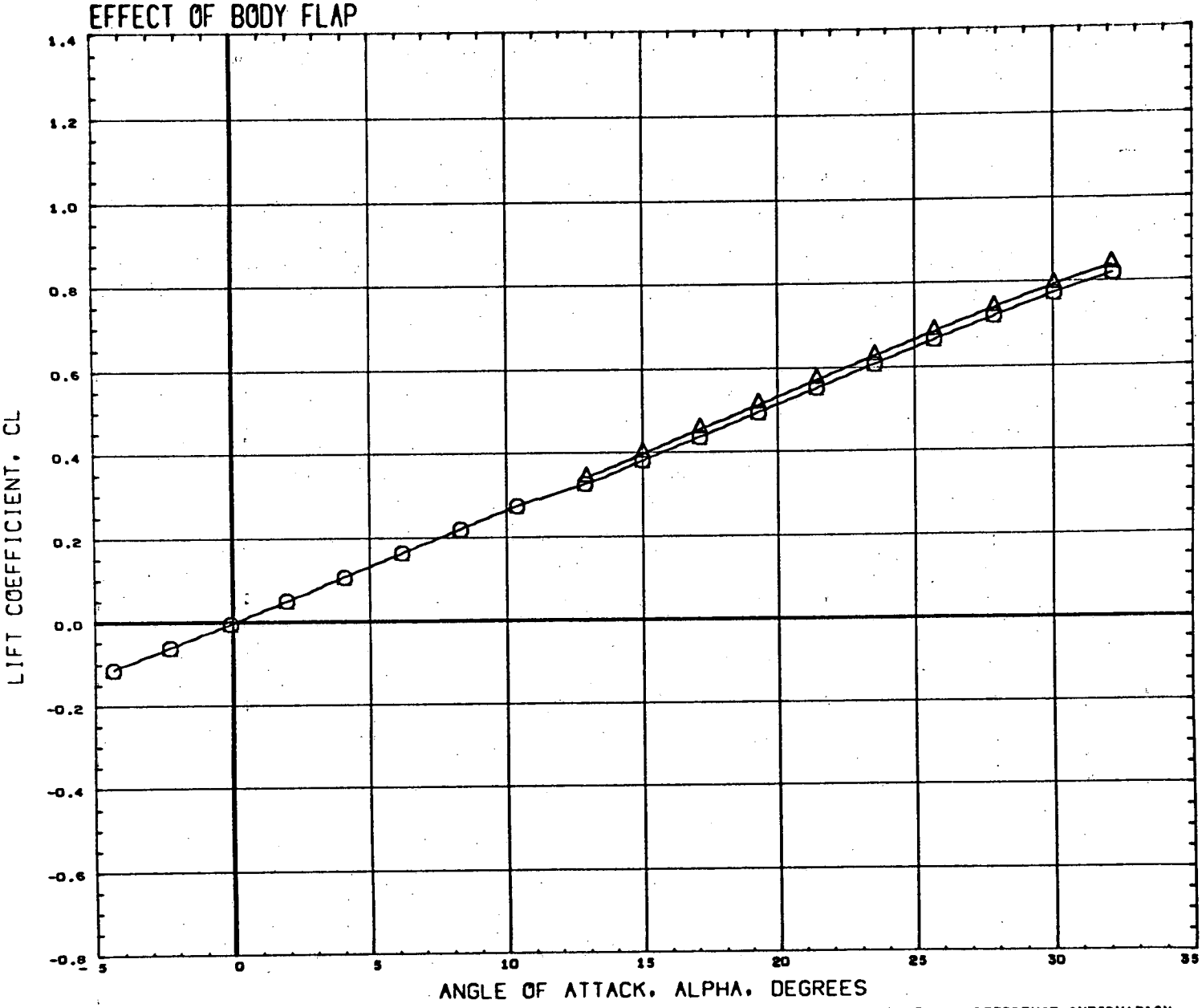


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S01)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S42)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

EFFECT OF BODY FLAP

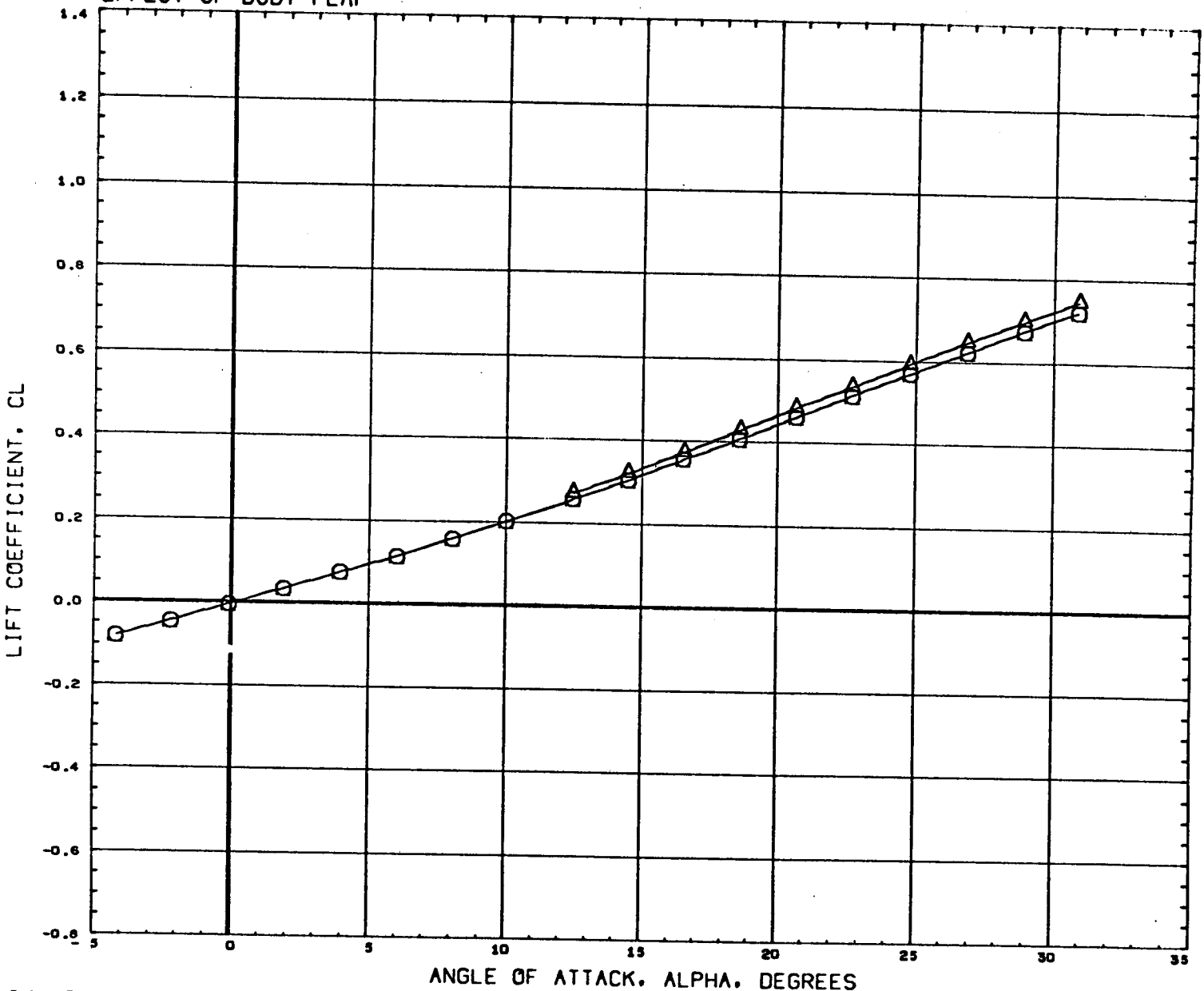


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S42)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

EFFECT OF BODY FLAP

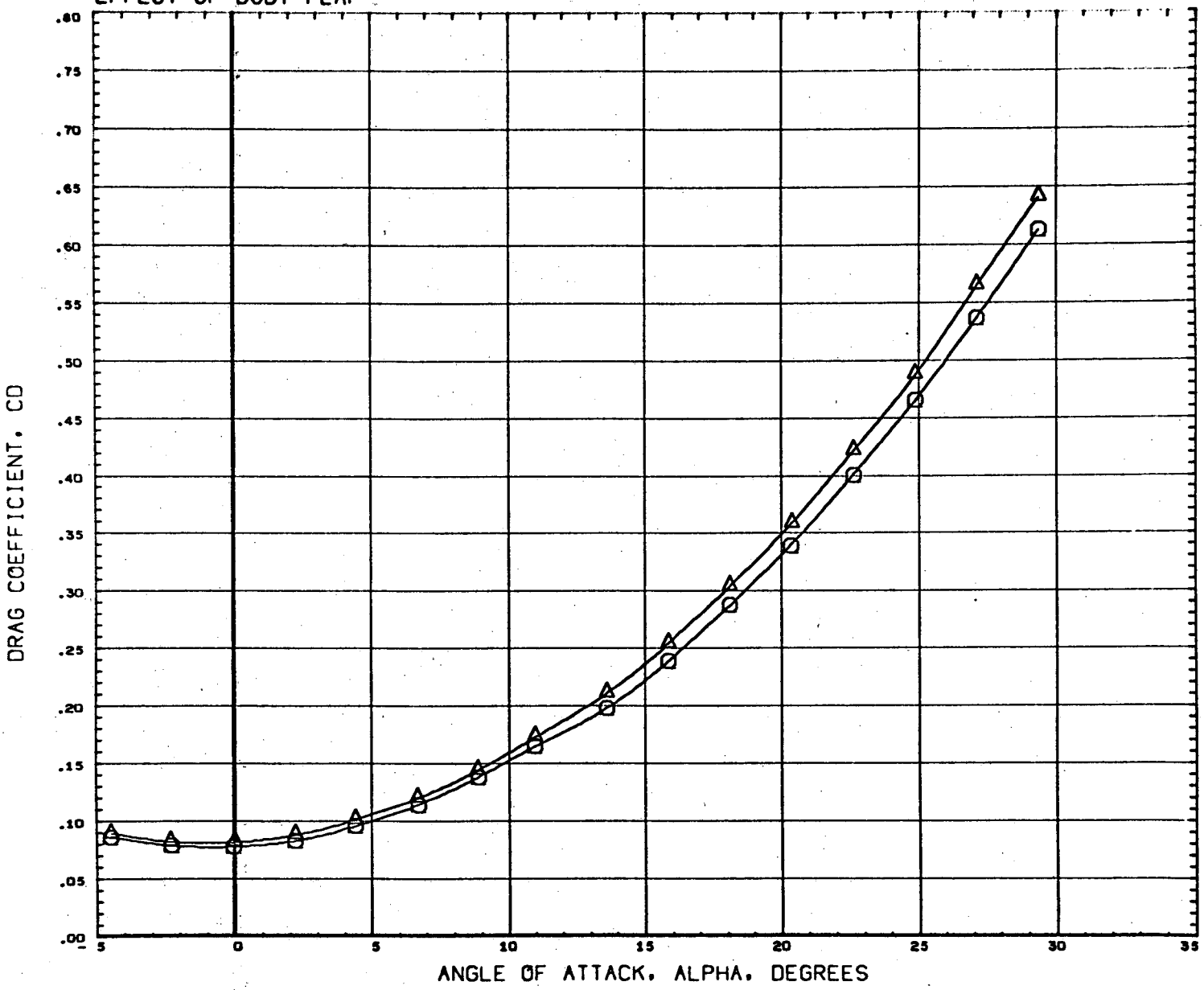


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S42)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

EFFECT OF BODY FLAP

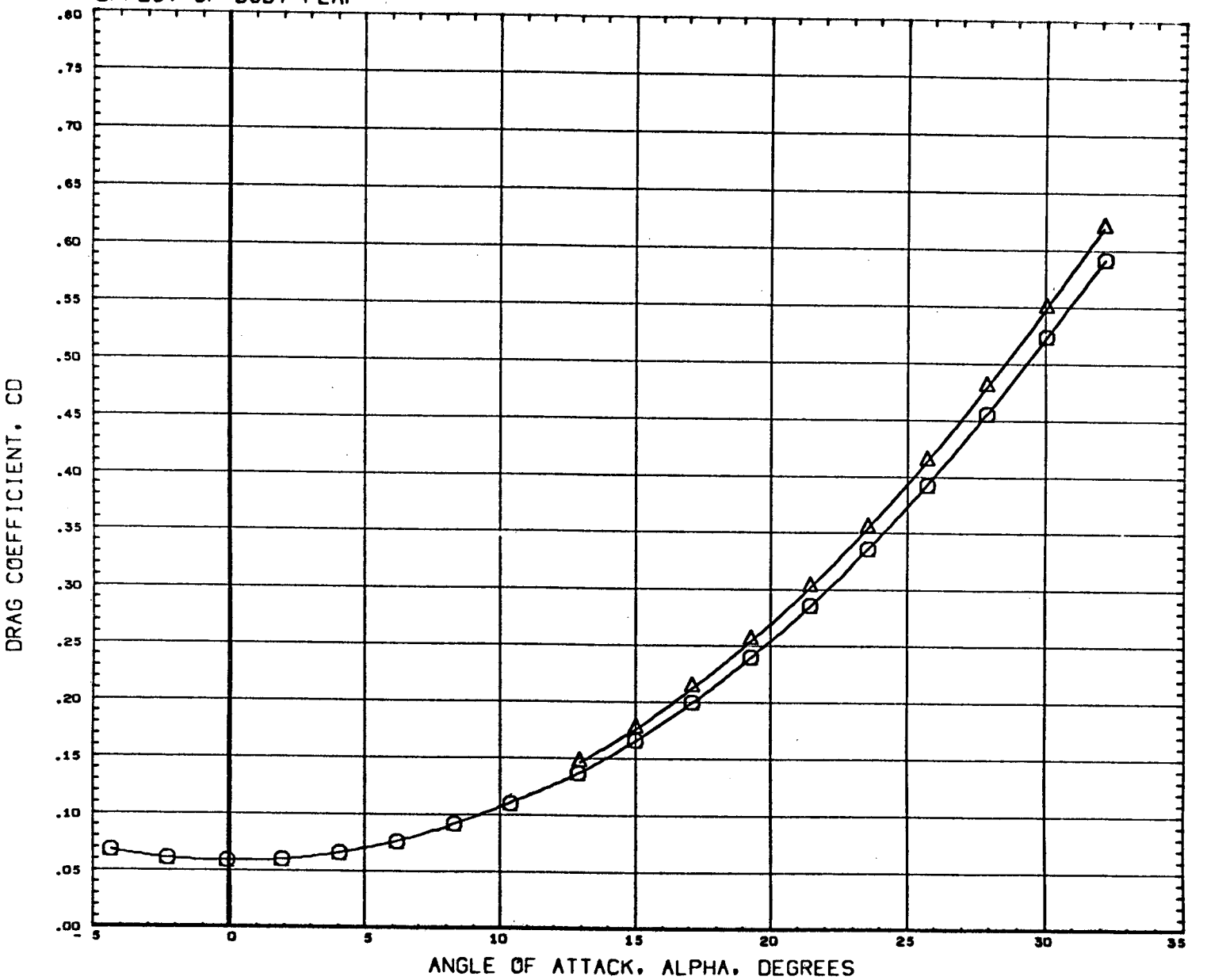


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S42)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

EFFECT OF BODY FLAP

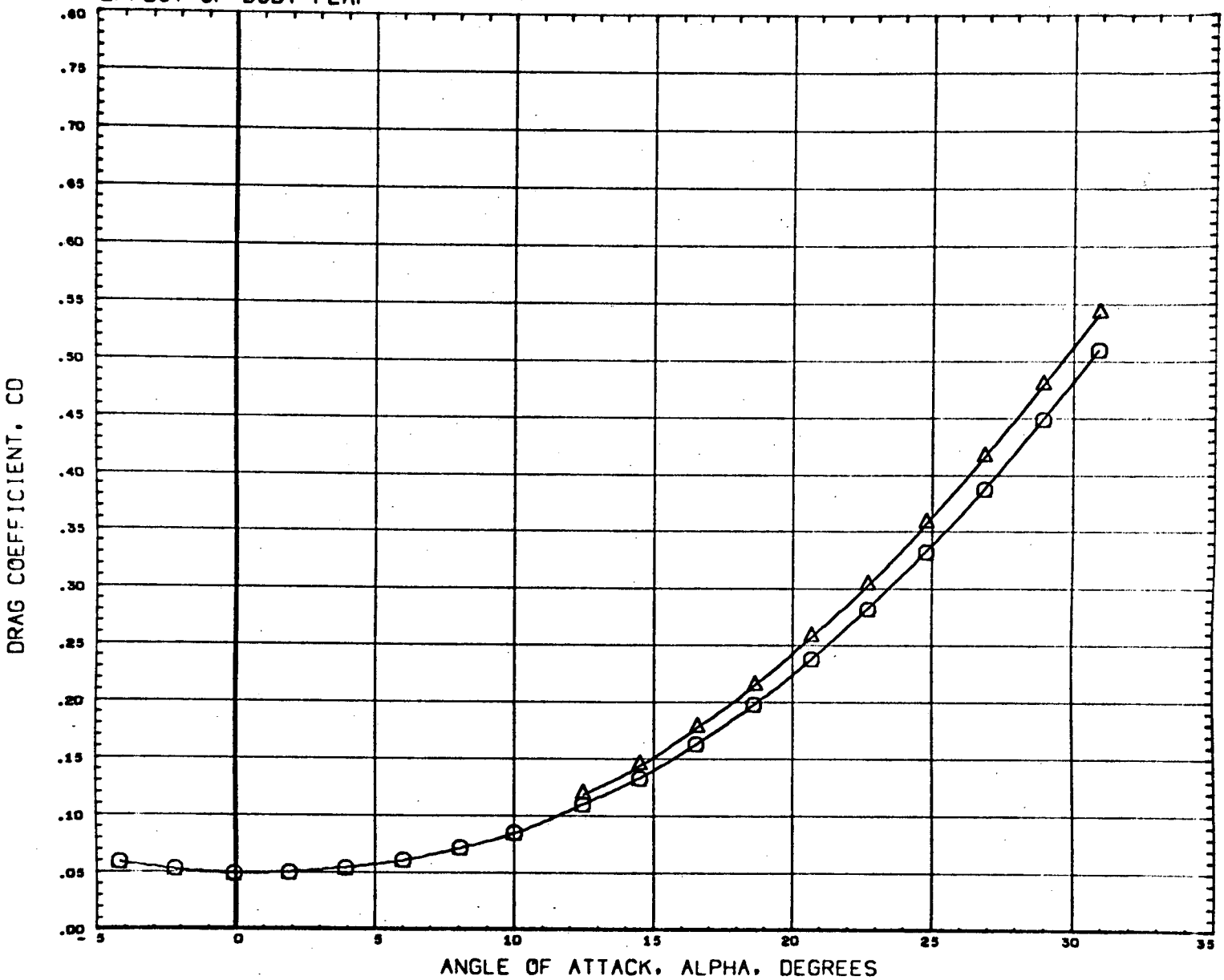


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S42)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

EFFECT OF BODY FLAP

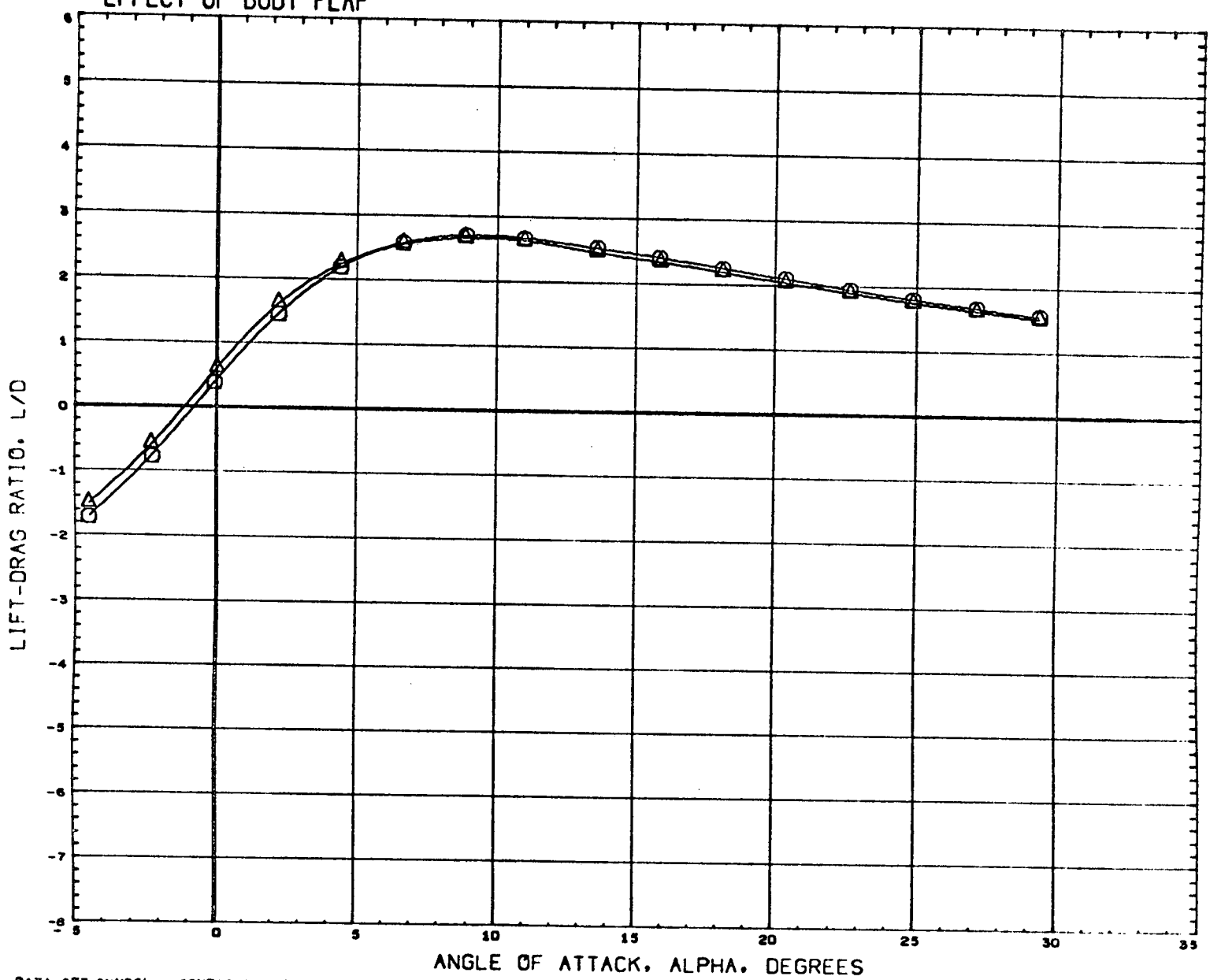


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869301)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869342)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

EFFECT OF BODY FLAP

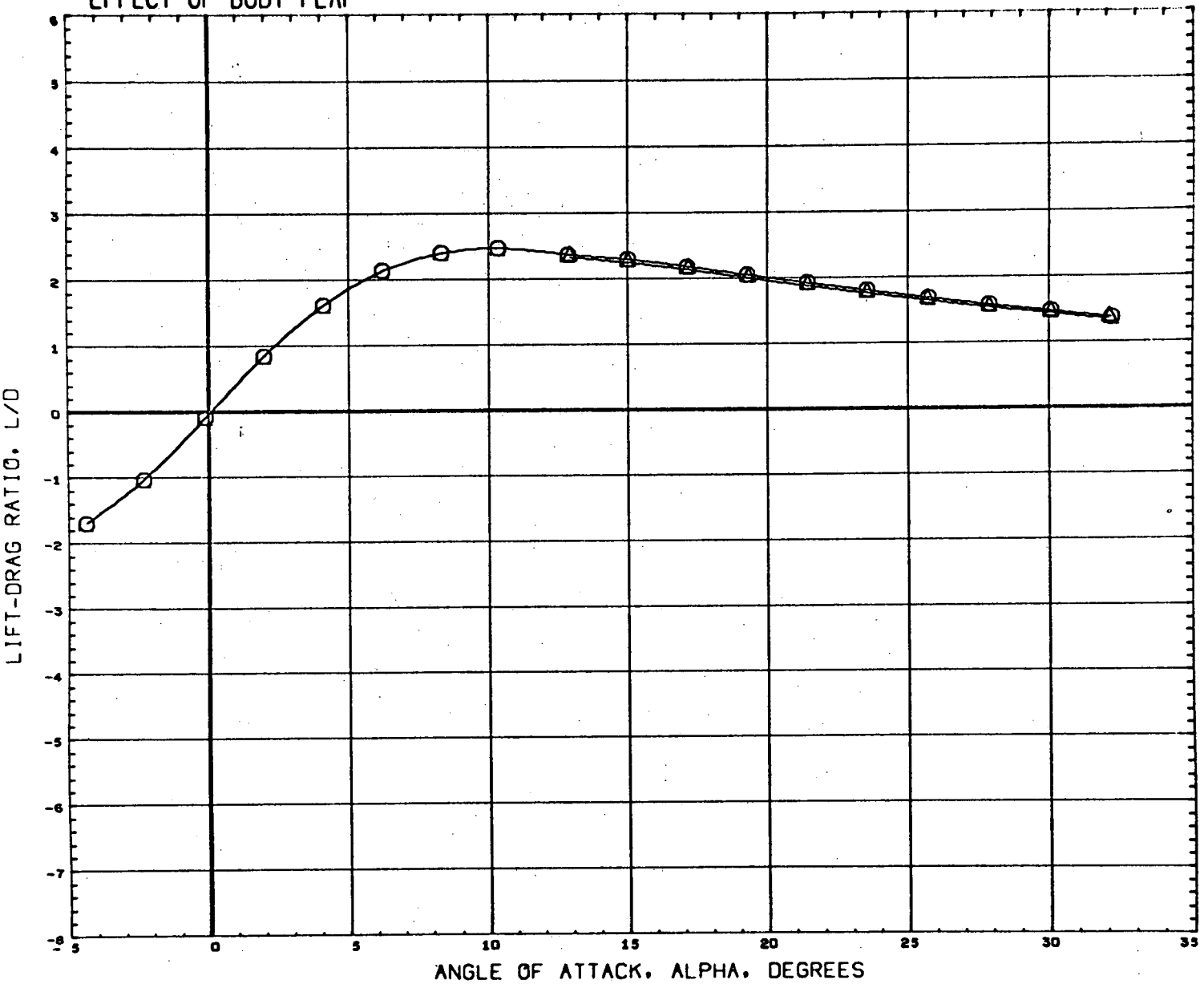


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869301)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869342)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

EFFECT OF BODY FLAP

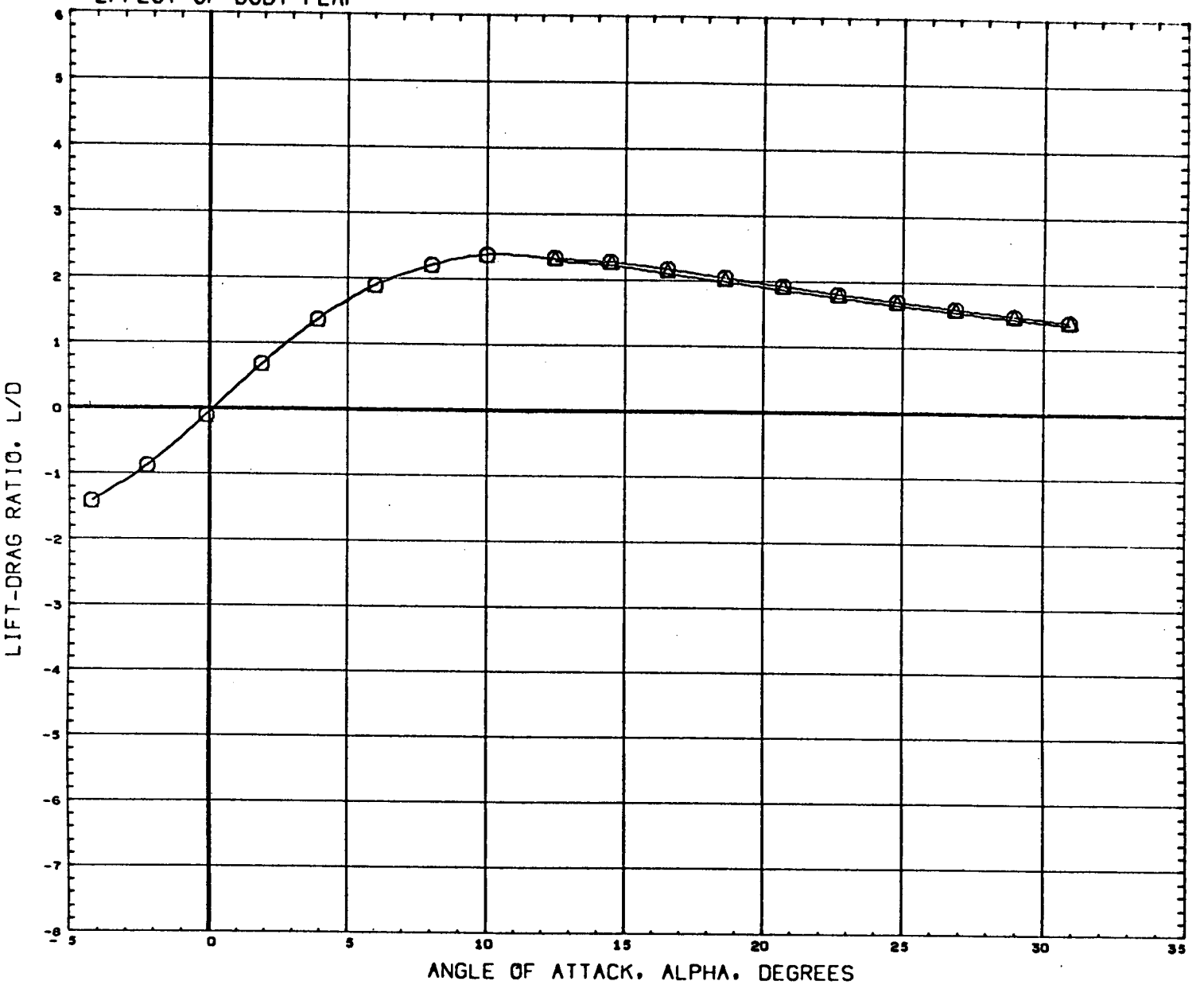


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S01)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S42)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

EFFECT OF BODY FLAP

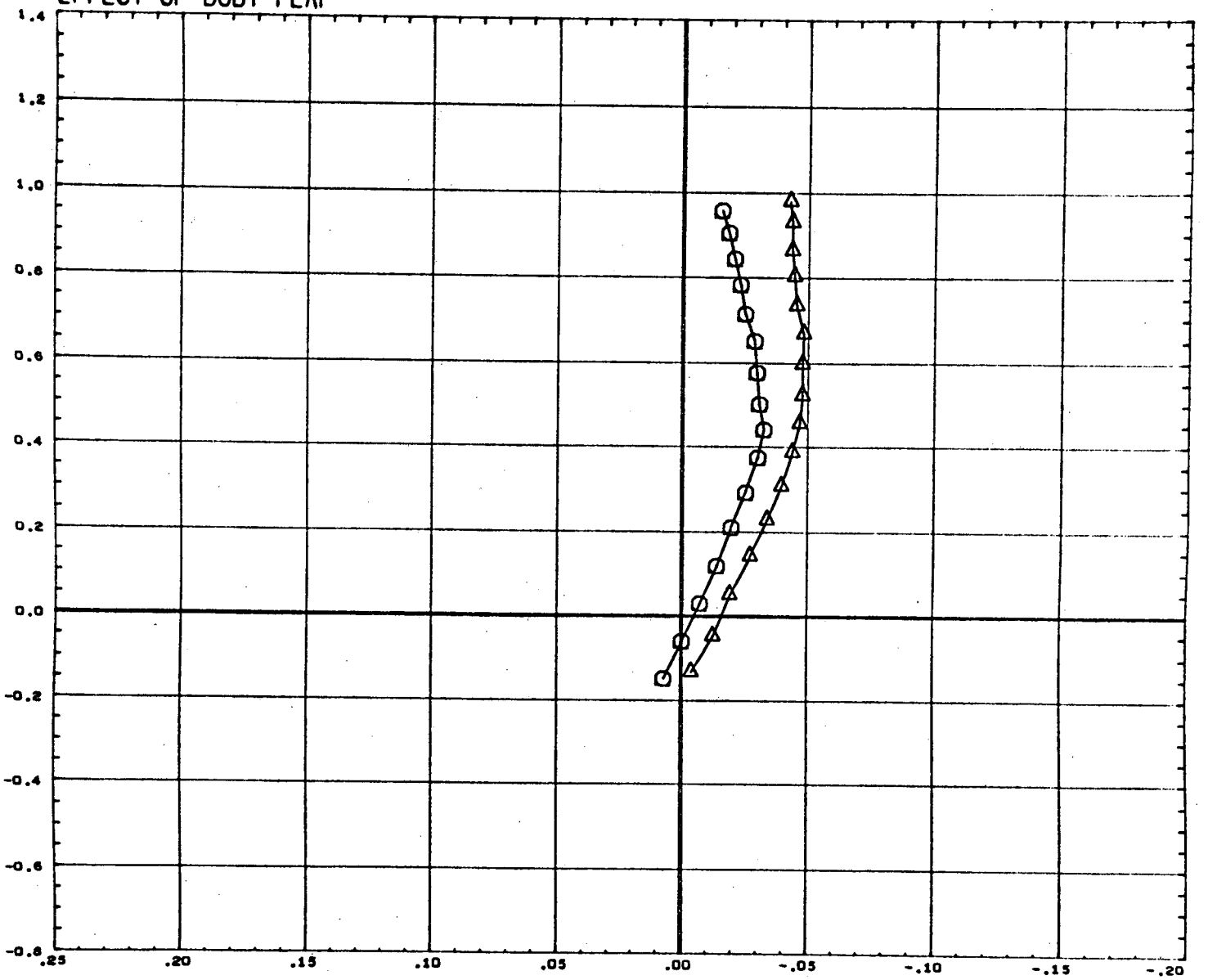


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S01)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S42)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

EFFECT OF BODY FLAP

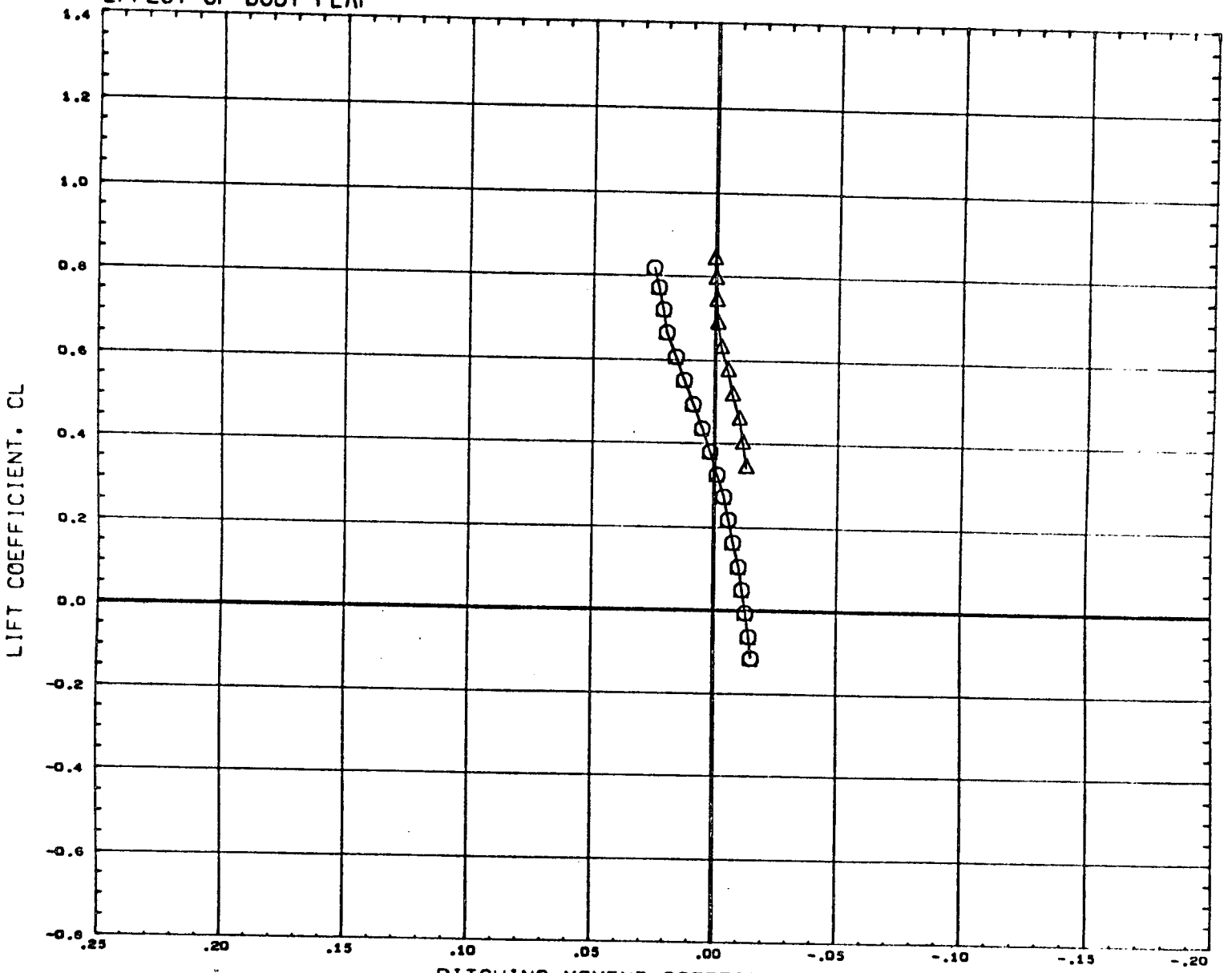


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869S01)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869S42)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.6800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

EFFECT OF BODY FLAP

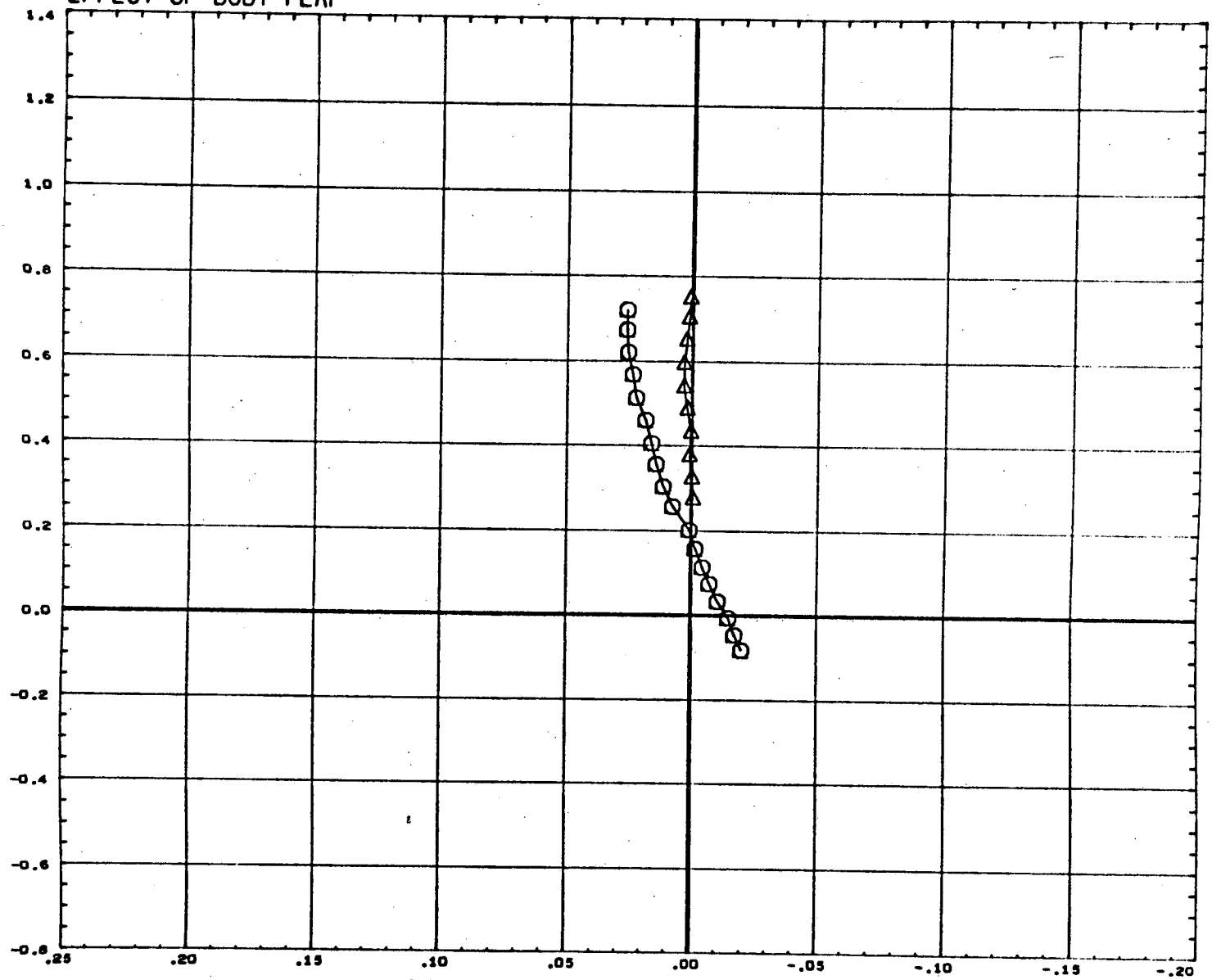


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869S01)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869S42)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

EFFECT OF BODY FLAP

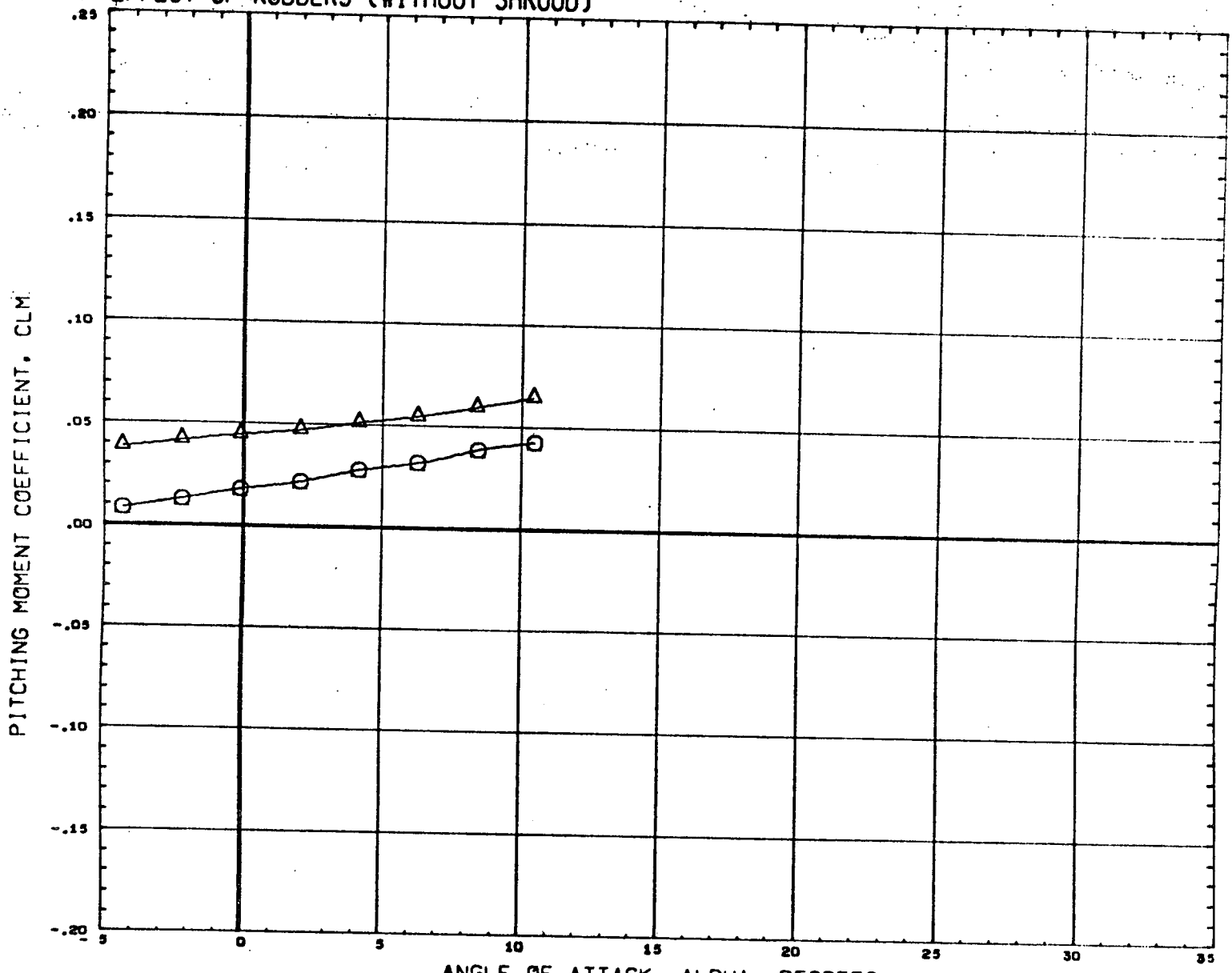


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69S01)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69S42)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	64.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

EFFECT OF RUDDERS (WITHOUT SHROUD)

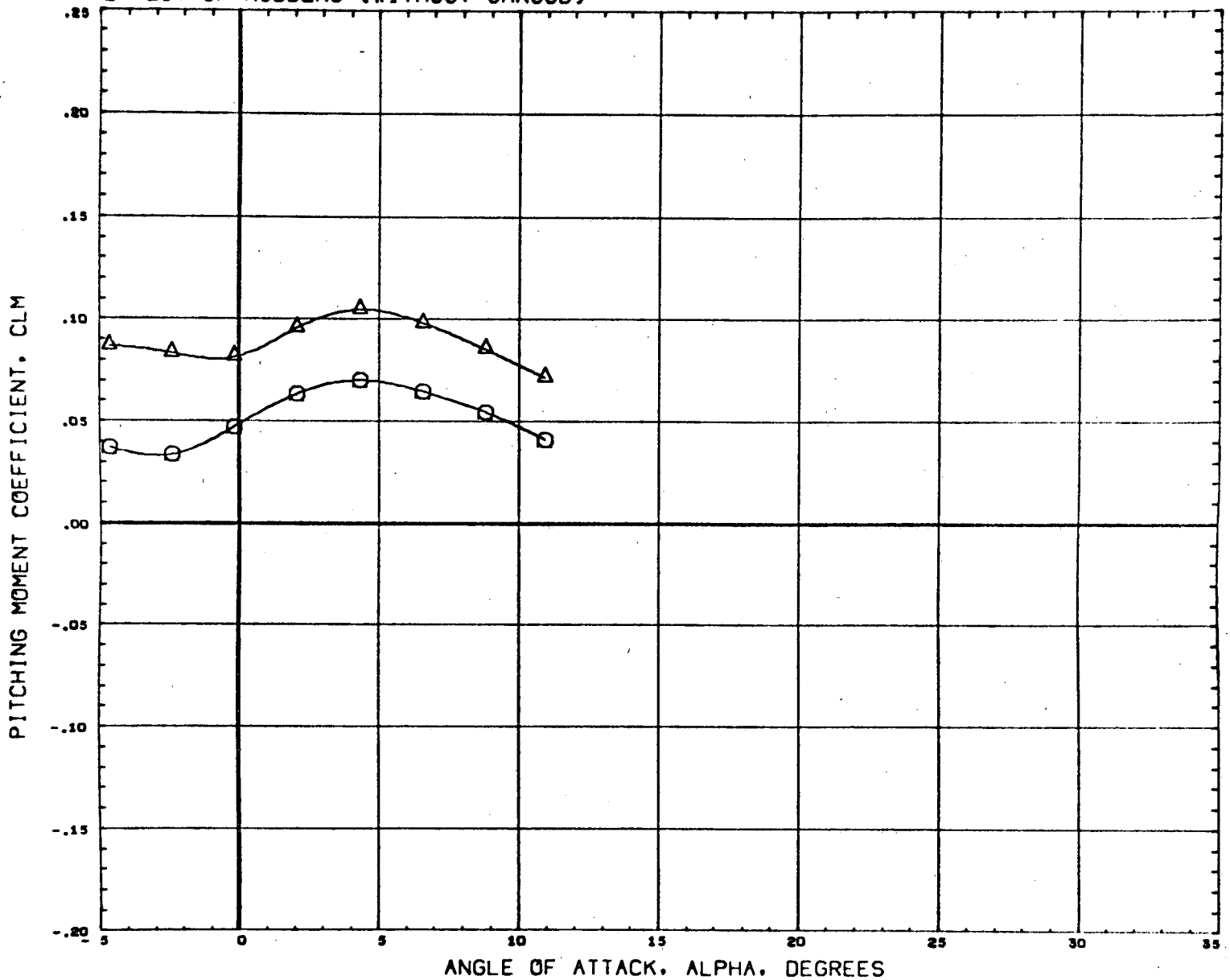


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITHOUT SHROUD)

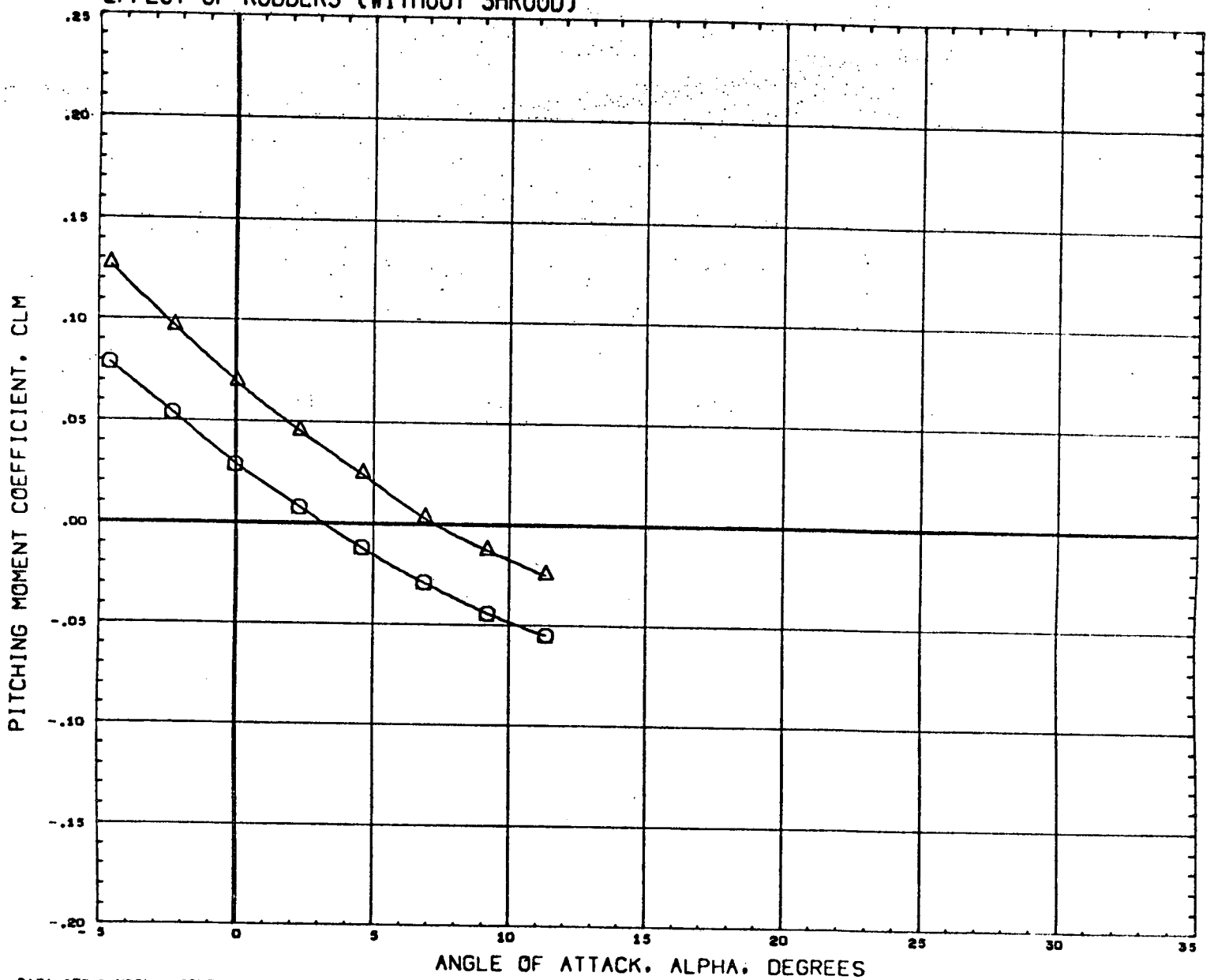


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITHOUT SHROUD)

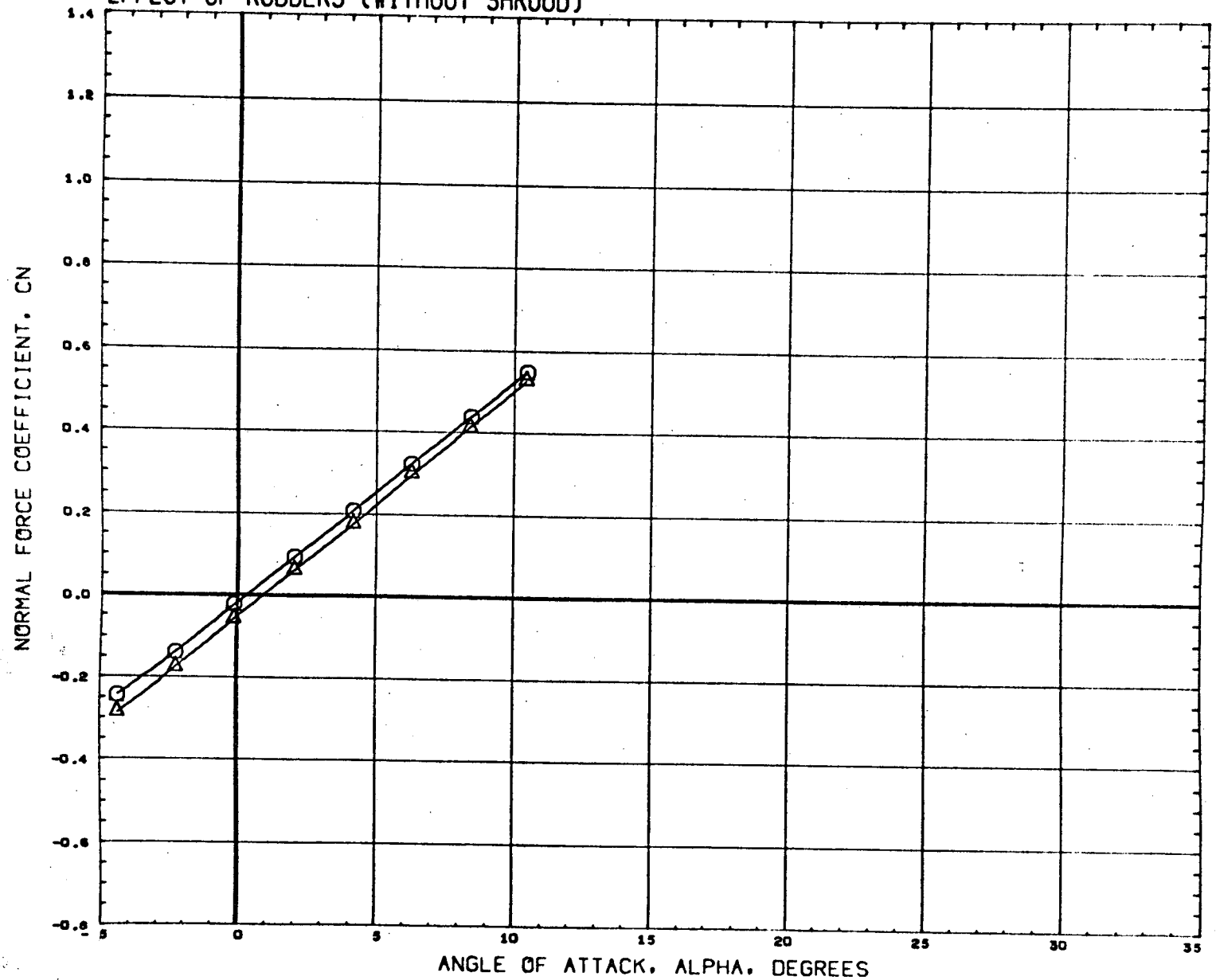


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITHOUT SHROUD)

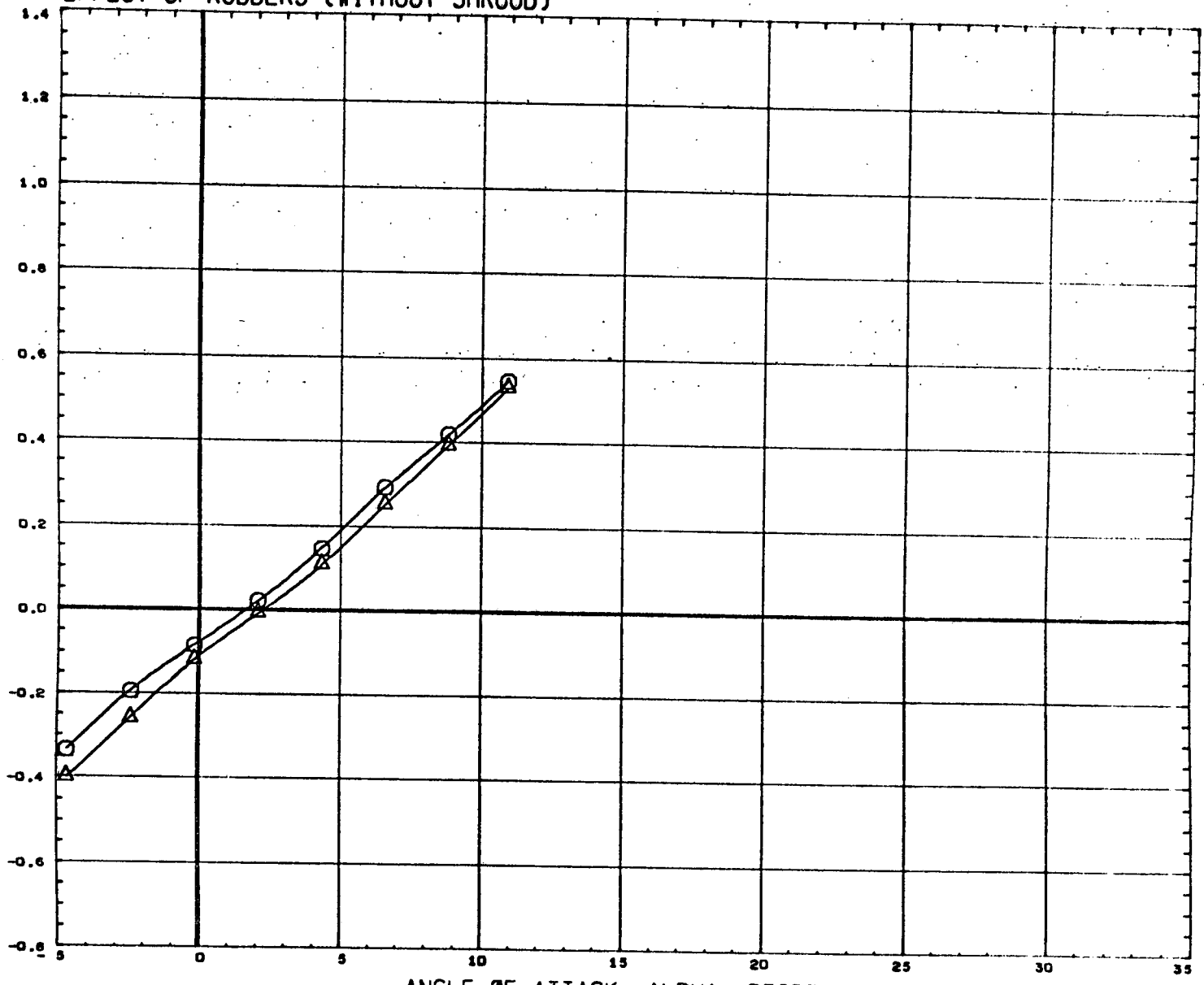


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITHOUT SHROUD)

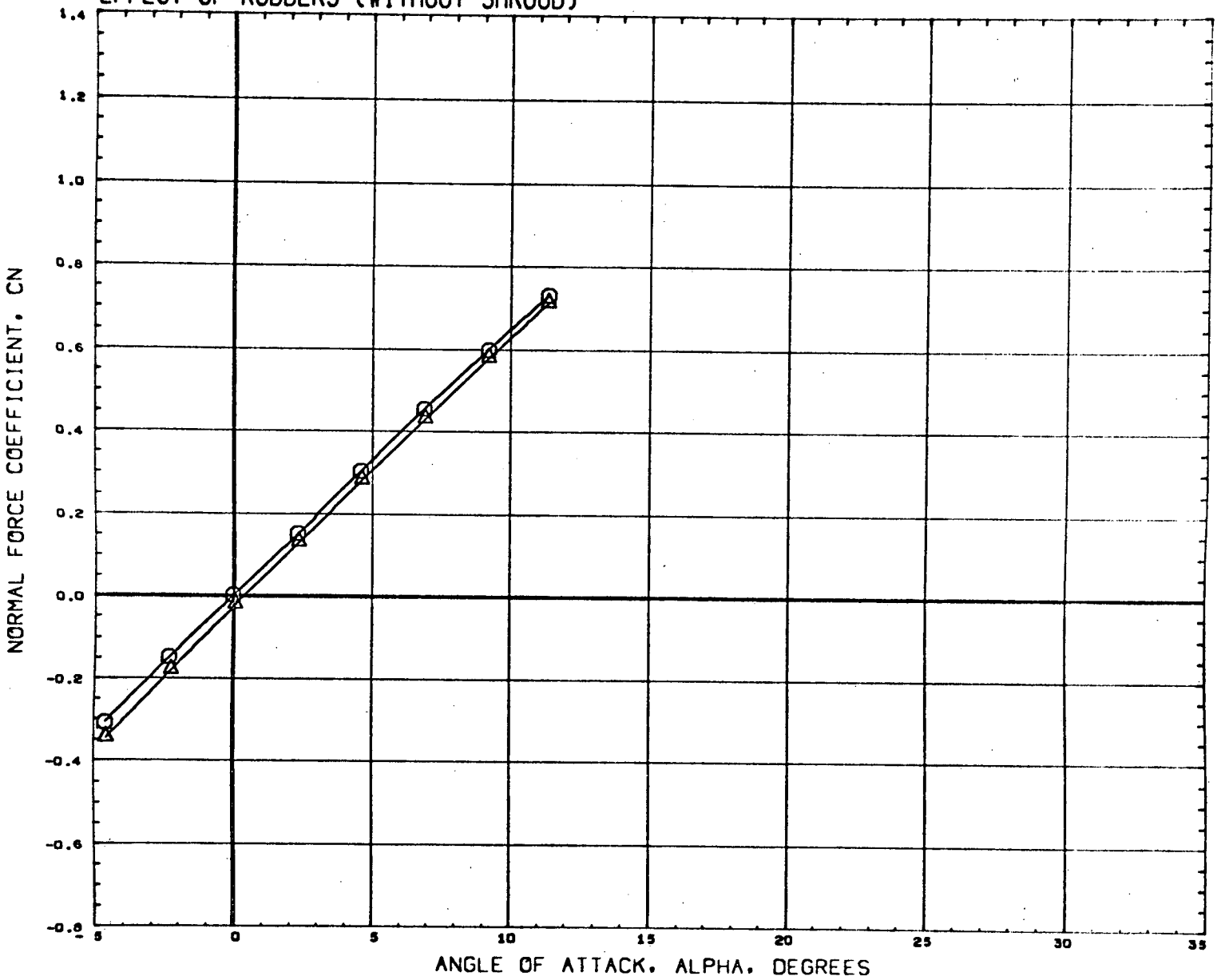


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITHOUT SHROUD)

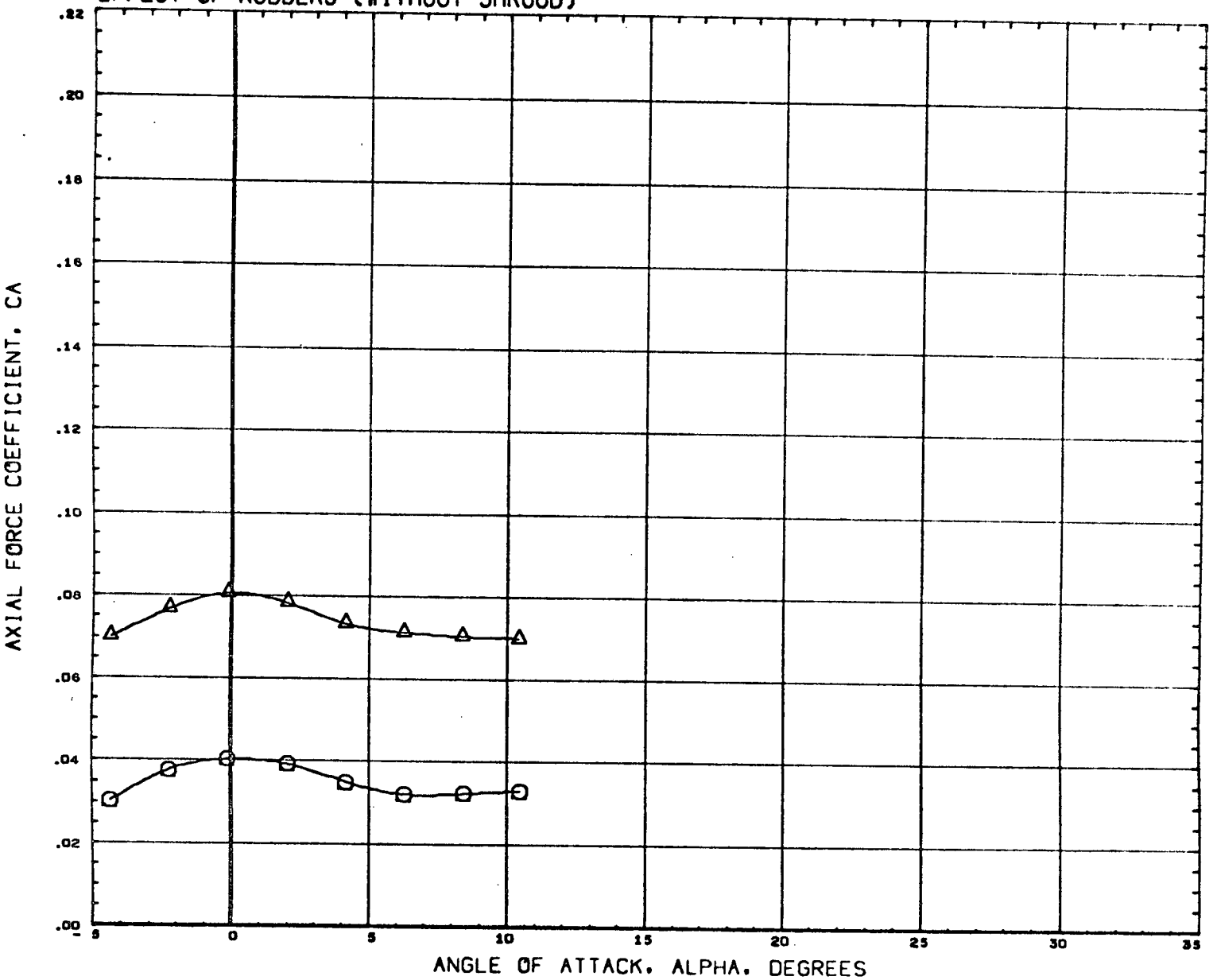


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITHOUT SHROUD)

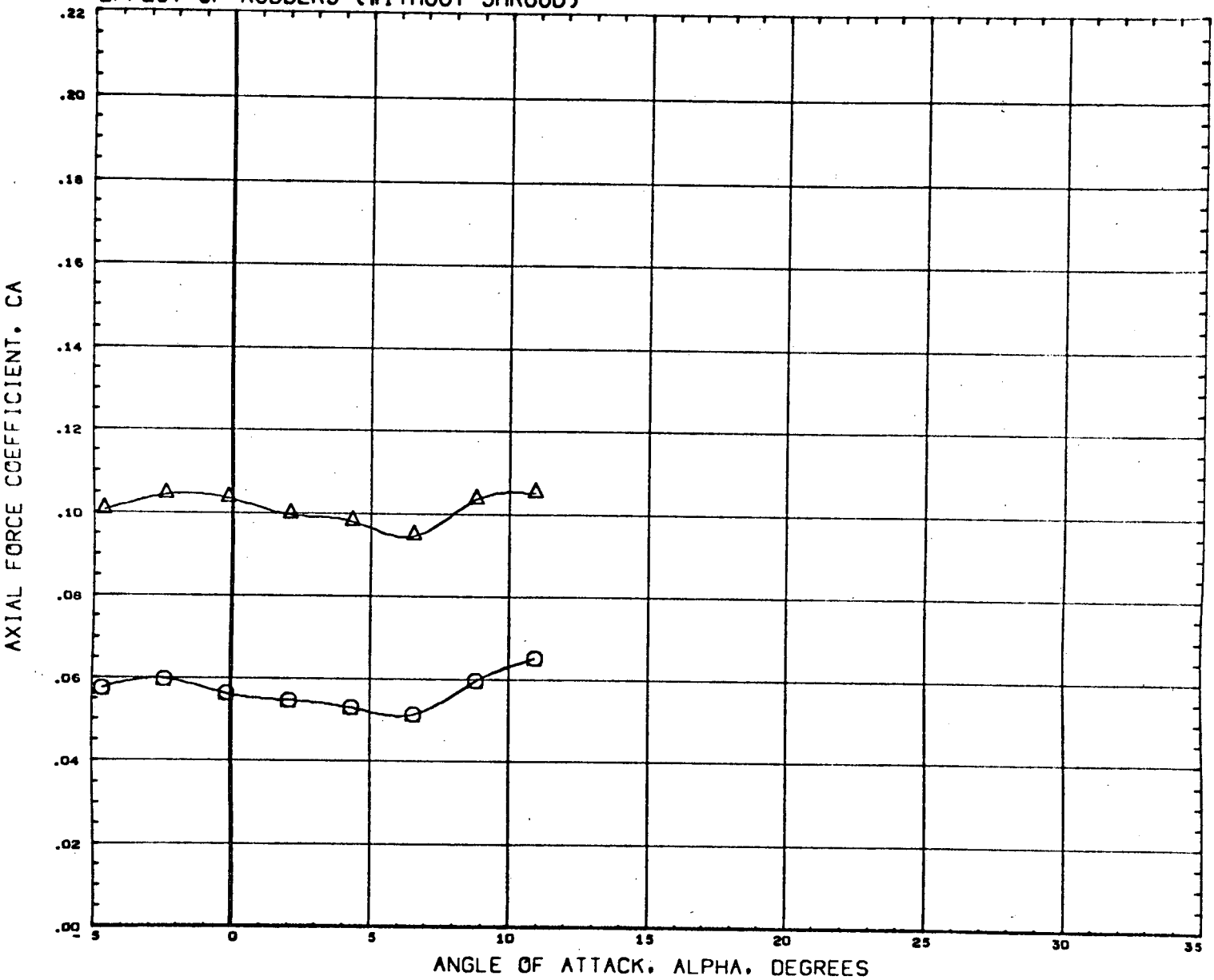


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITHOUT SHROUD)

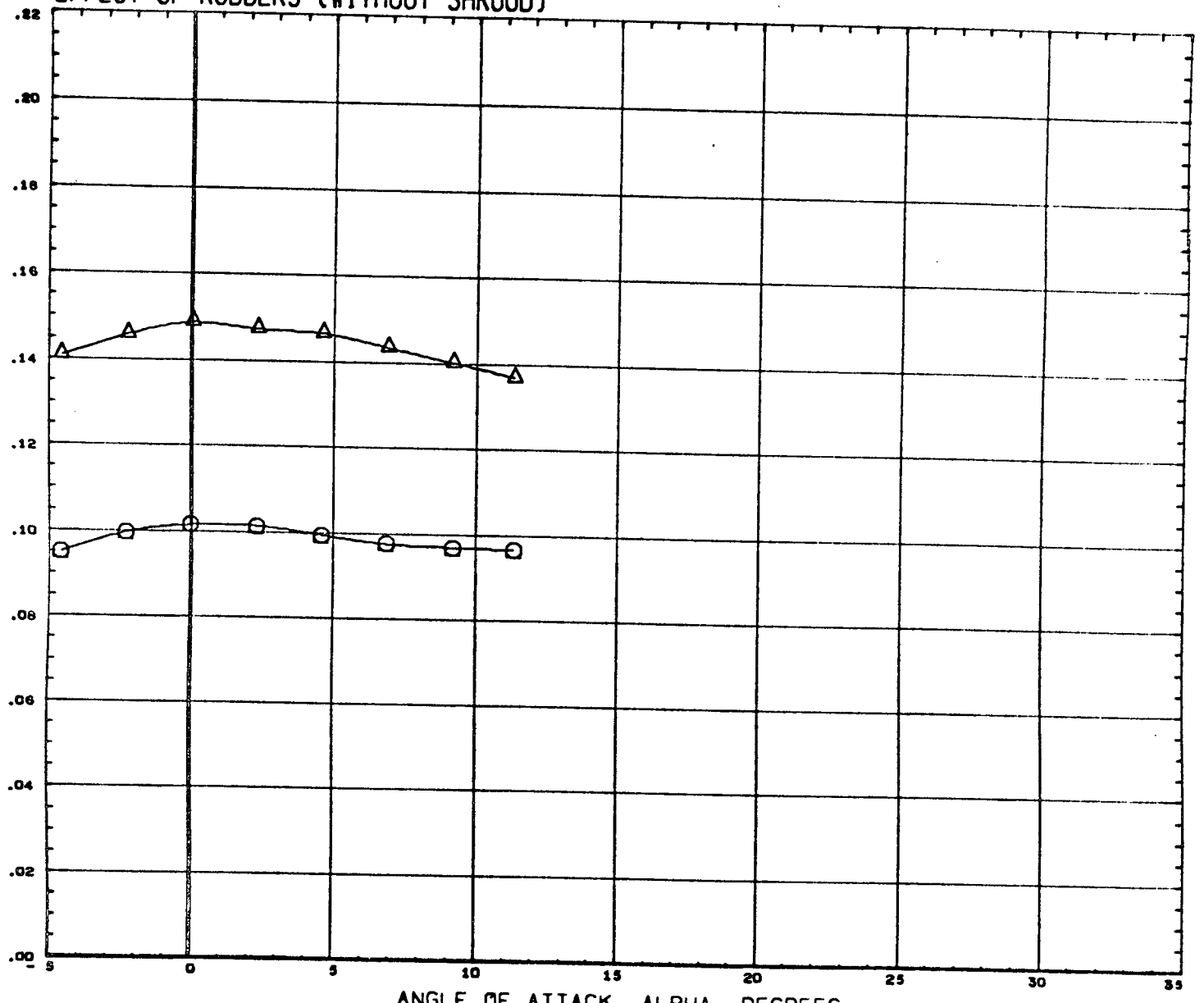


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69023)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITHOUT SHROUD)



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(869001)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(869023)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1

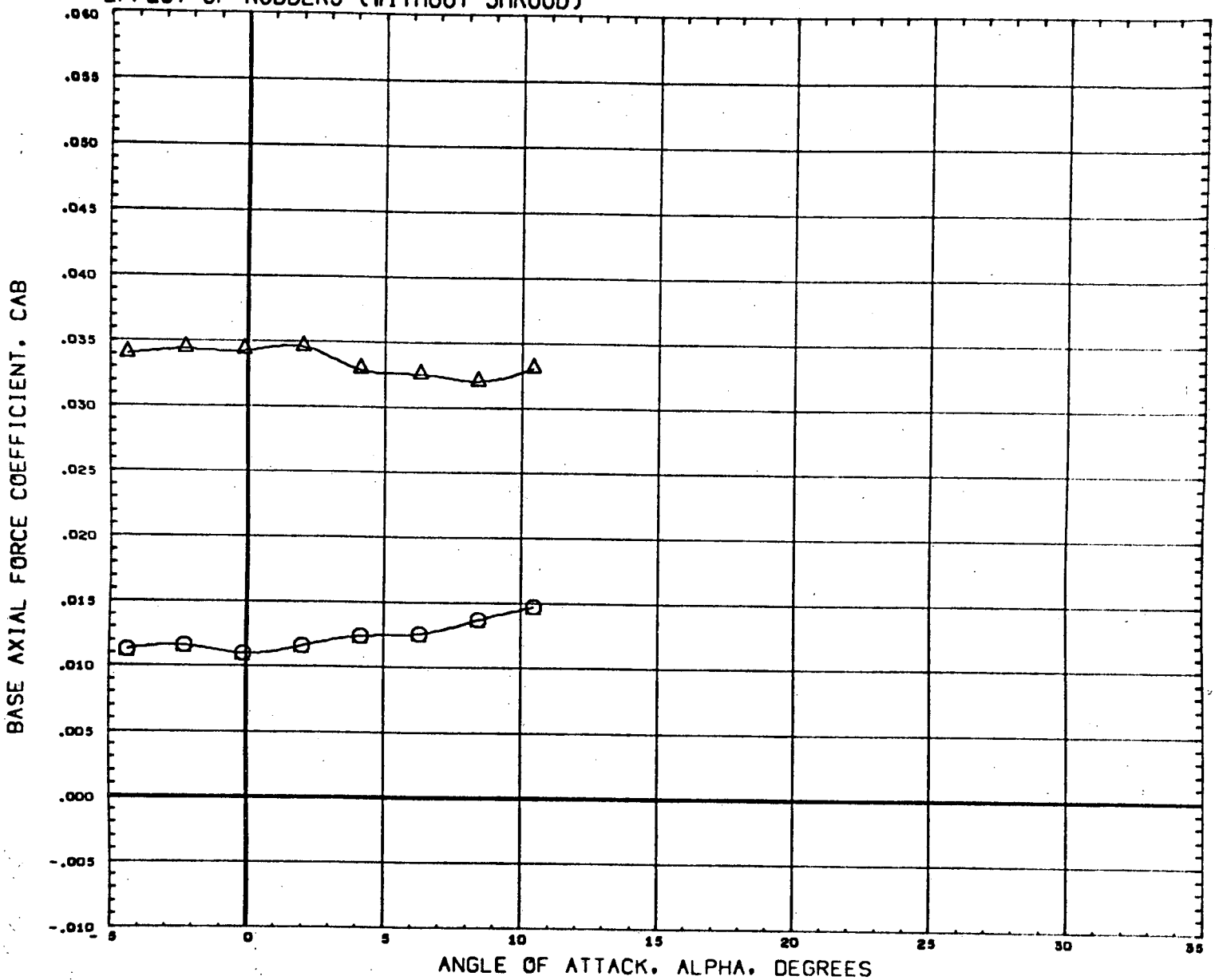
ELEVON	RUDDER	RFLARE	BFLAP
0.000	0.000	0.000	0.000
0.000	30.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITHOUT SHROUD)

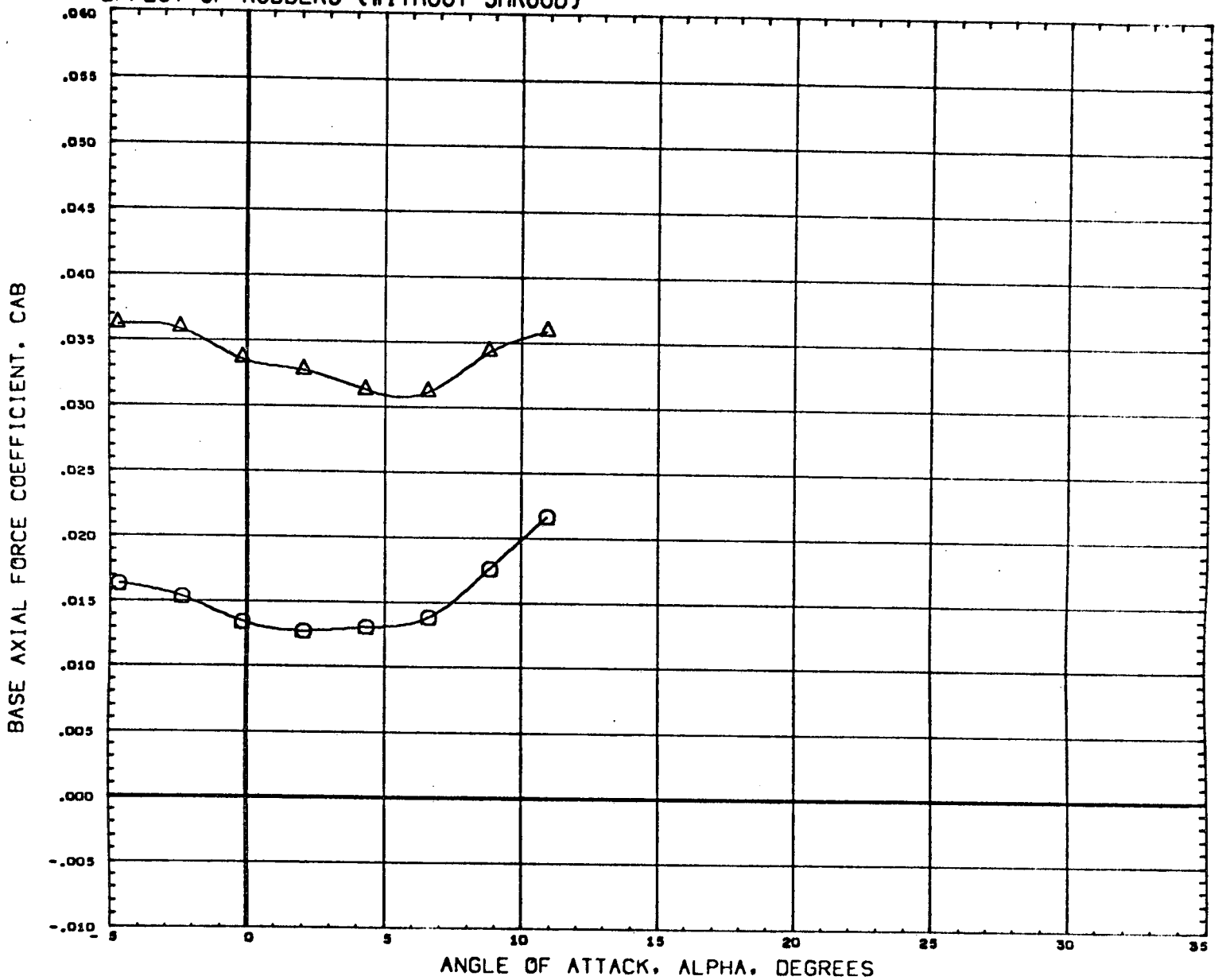


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITHOUT SHROUD)

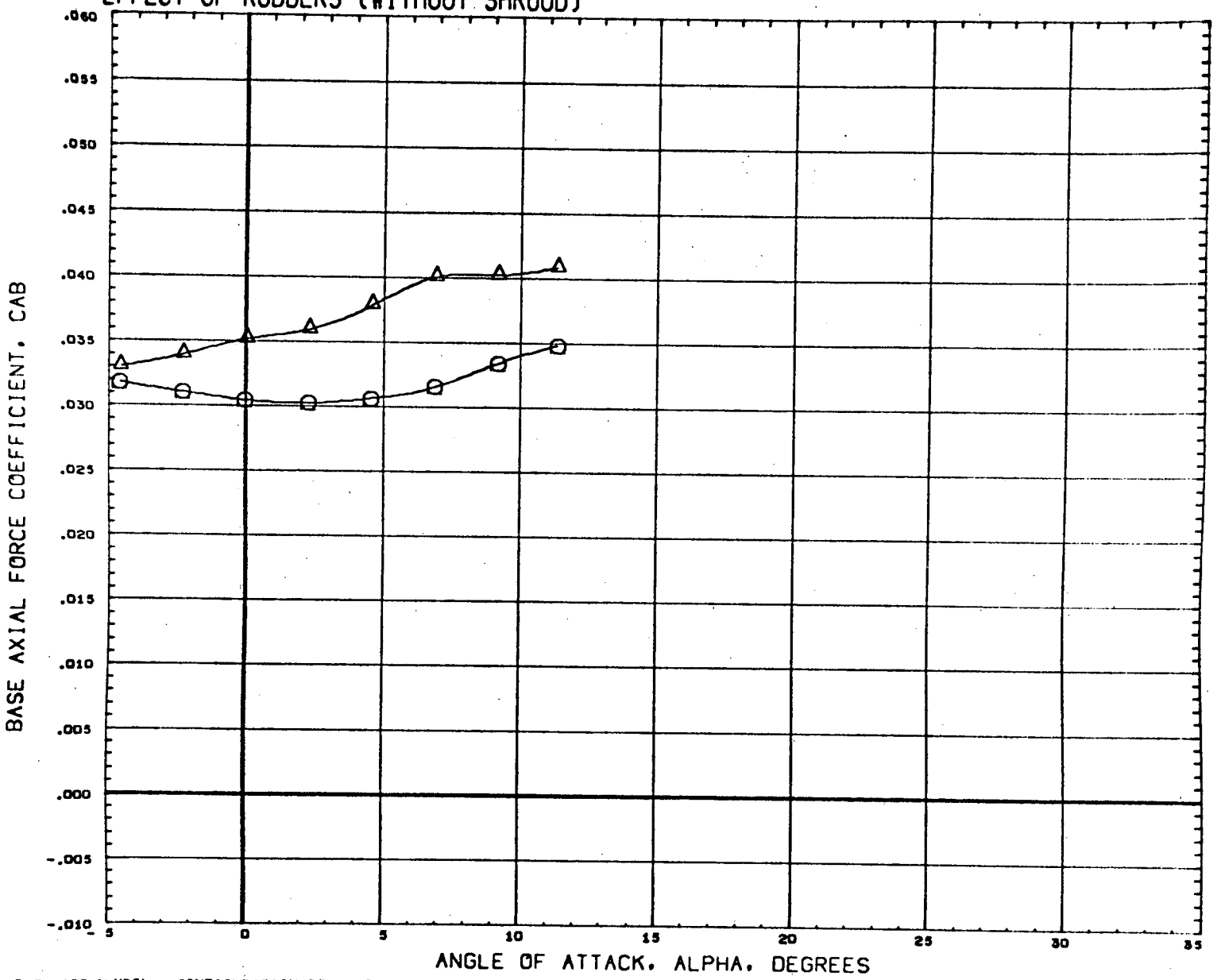


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITHOUT SHROUD)

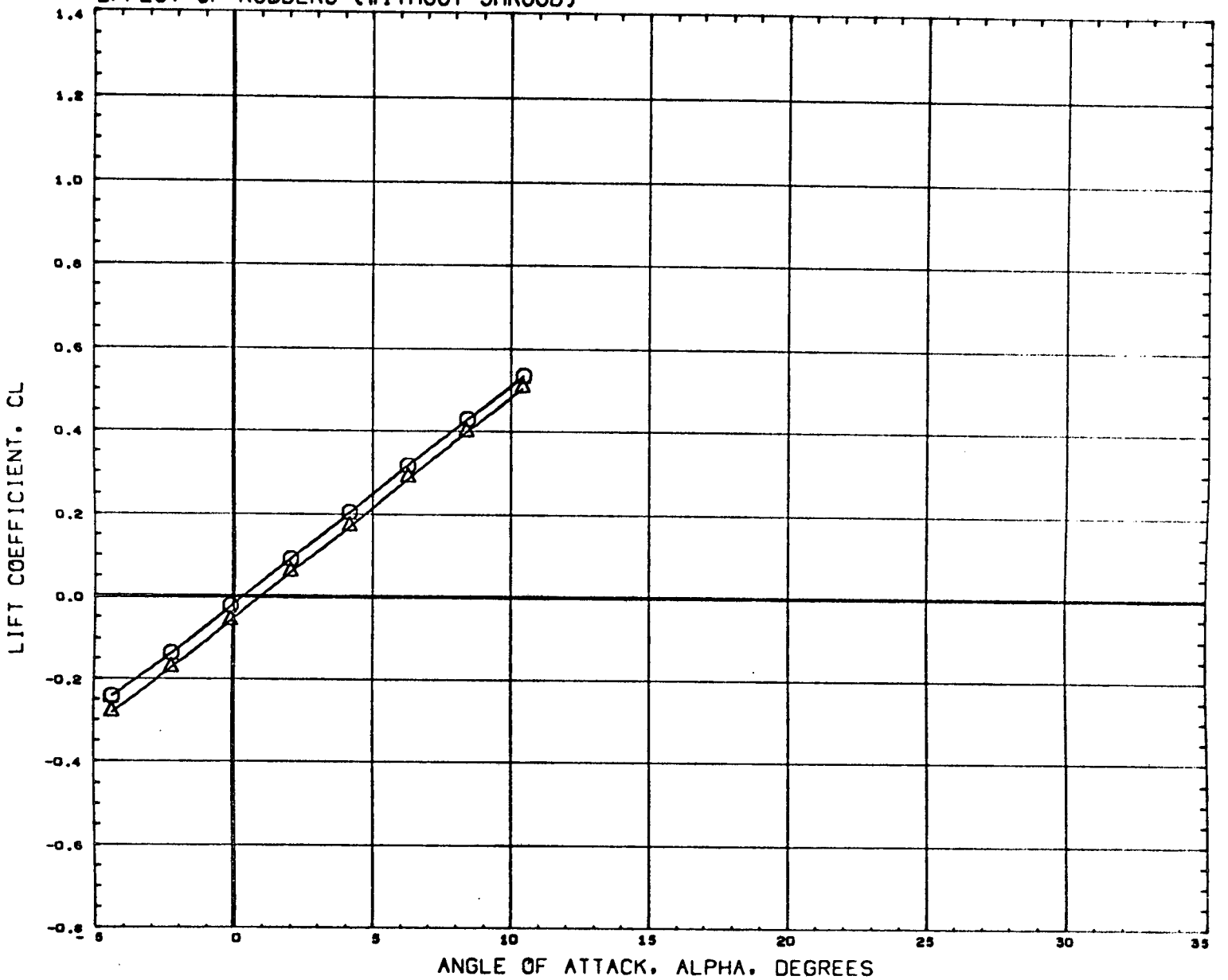


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITHOUT SHROUD)

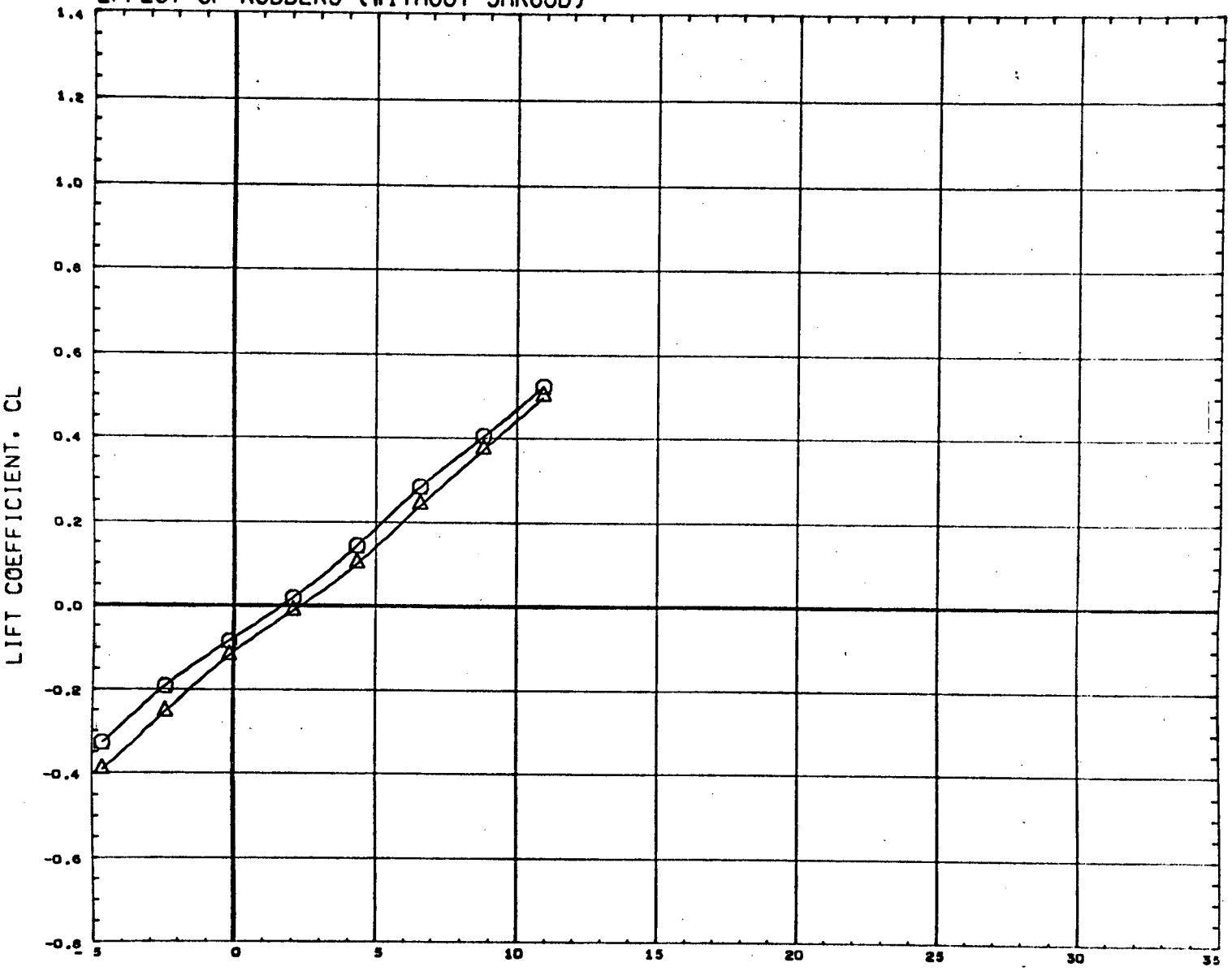


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITHOUT SHROUD)

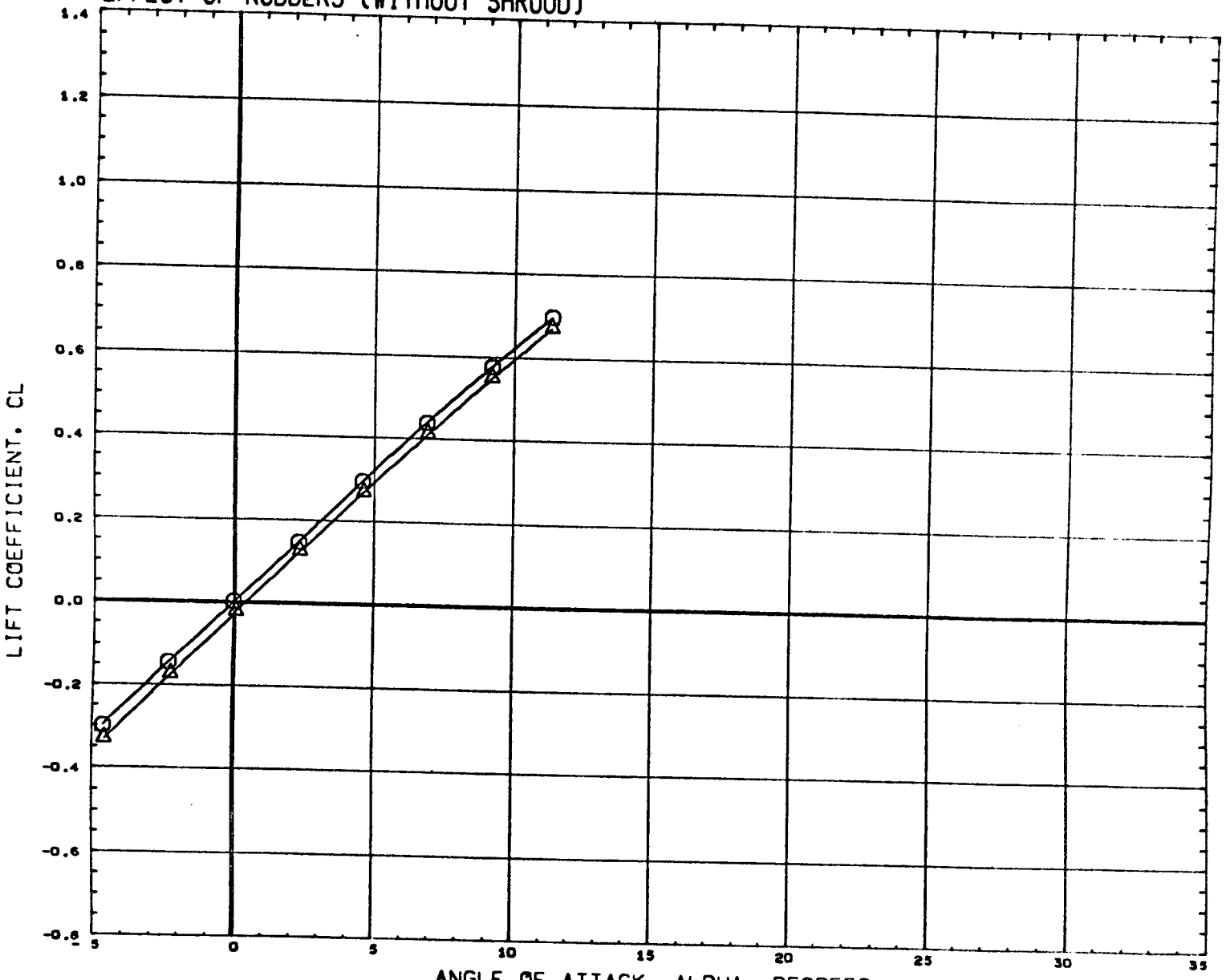


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITHOUT SHROUD)

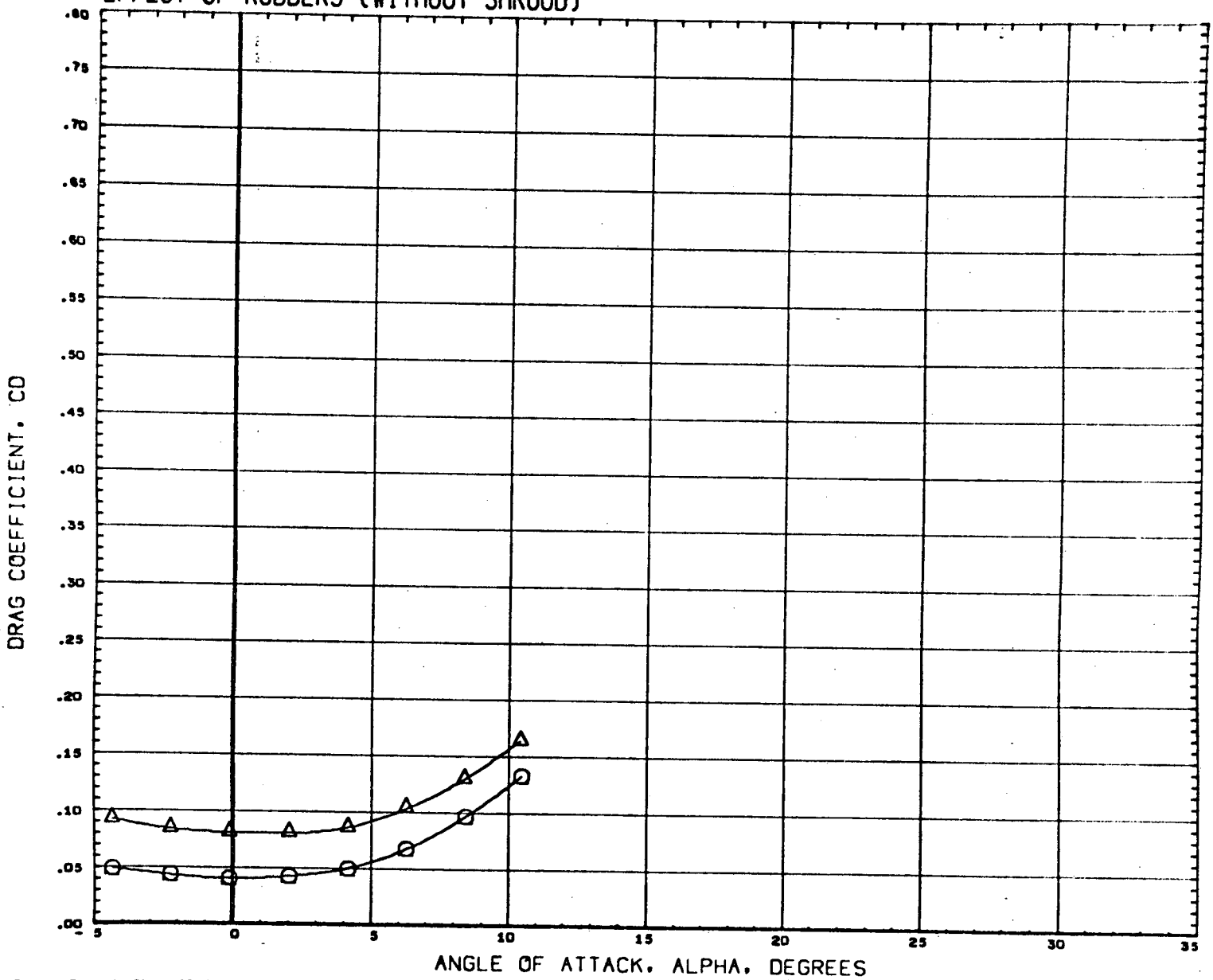


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITHOUT SHROUD)

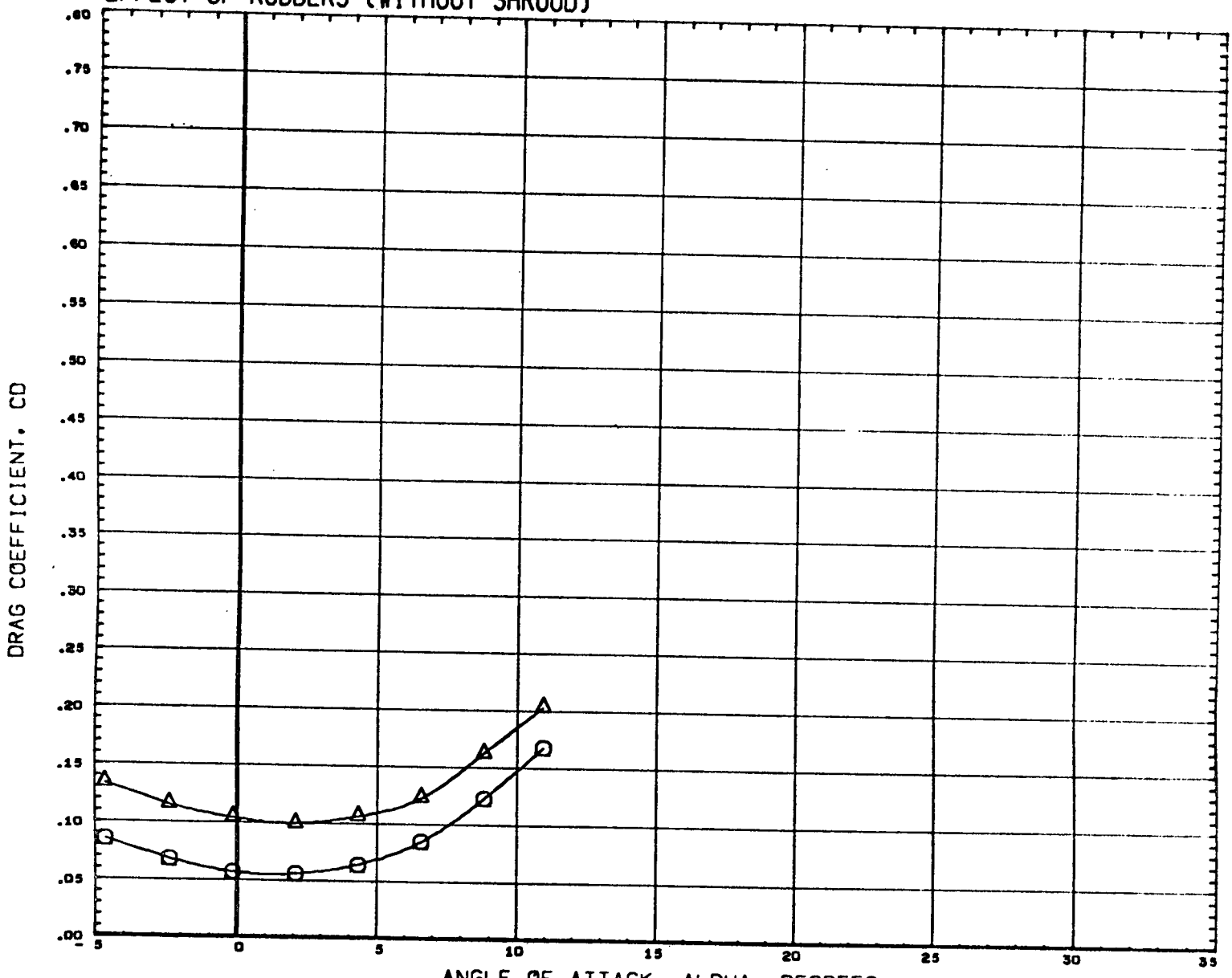


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITHOUT SHROUD)

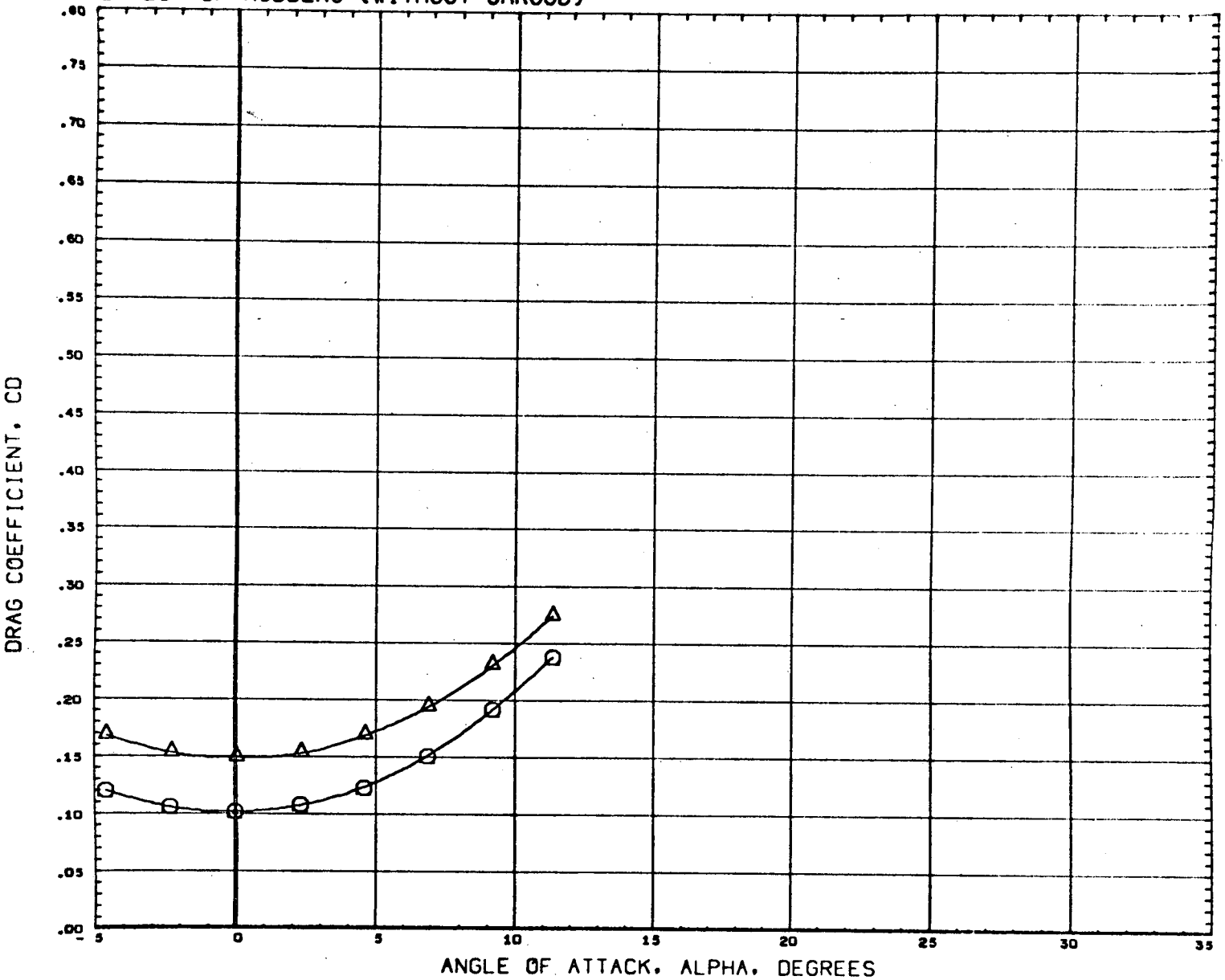


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITHOUT SHROUD)



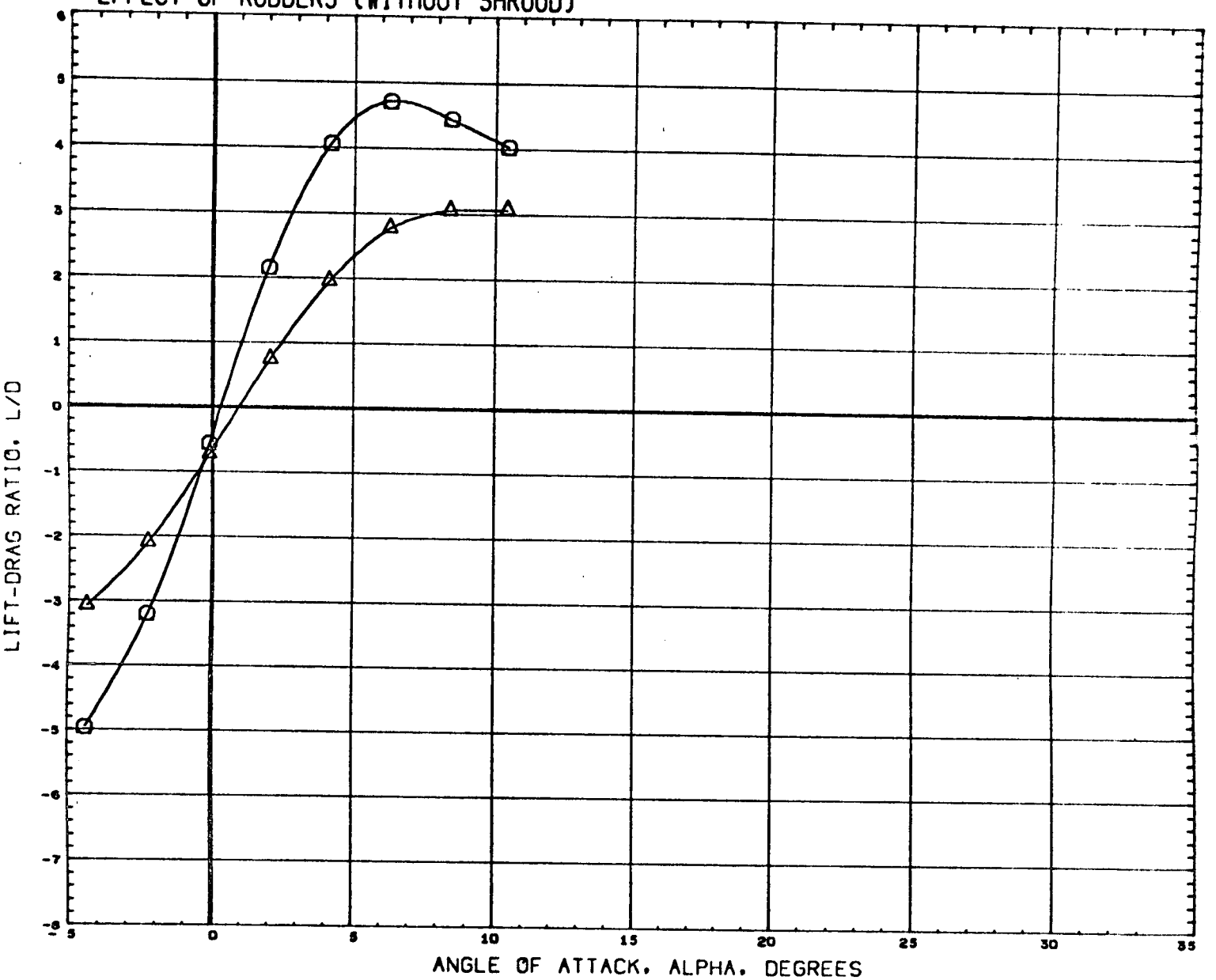
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69023)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

C4

EFFECT OF RUDDERS (WITHOUT SHROUD)

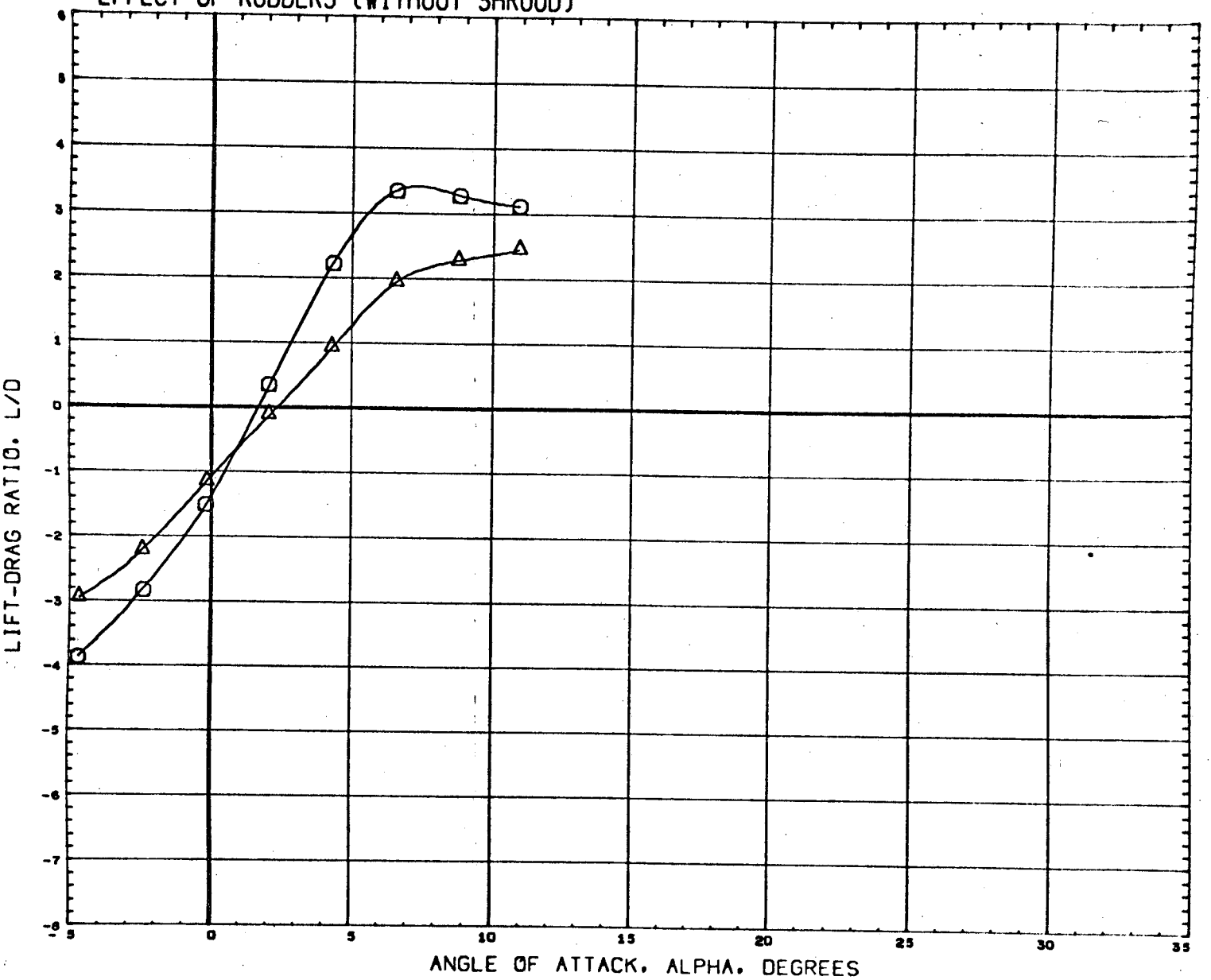


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITHOUT SHROUD)

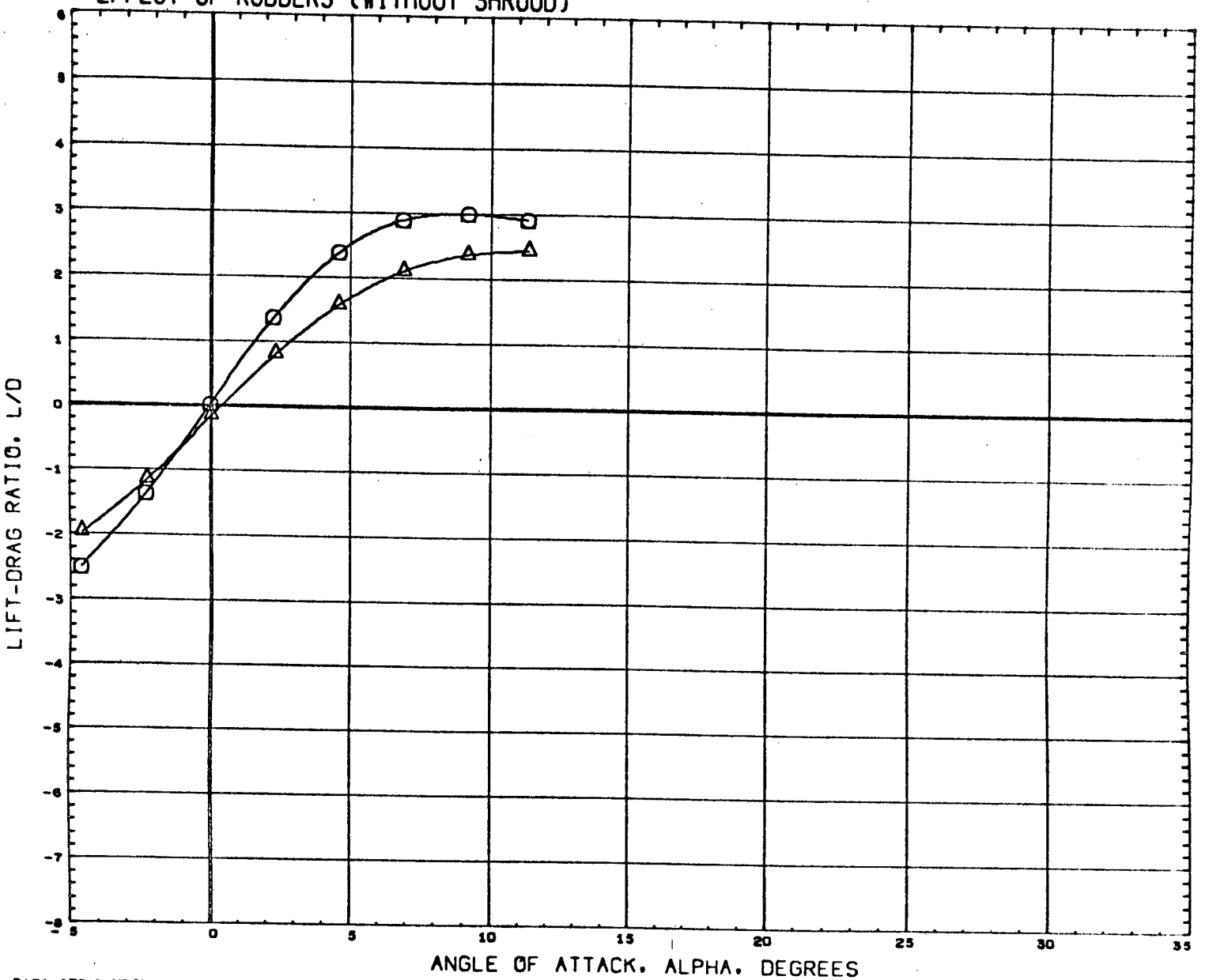


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITHOUT SHROUD)

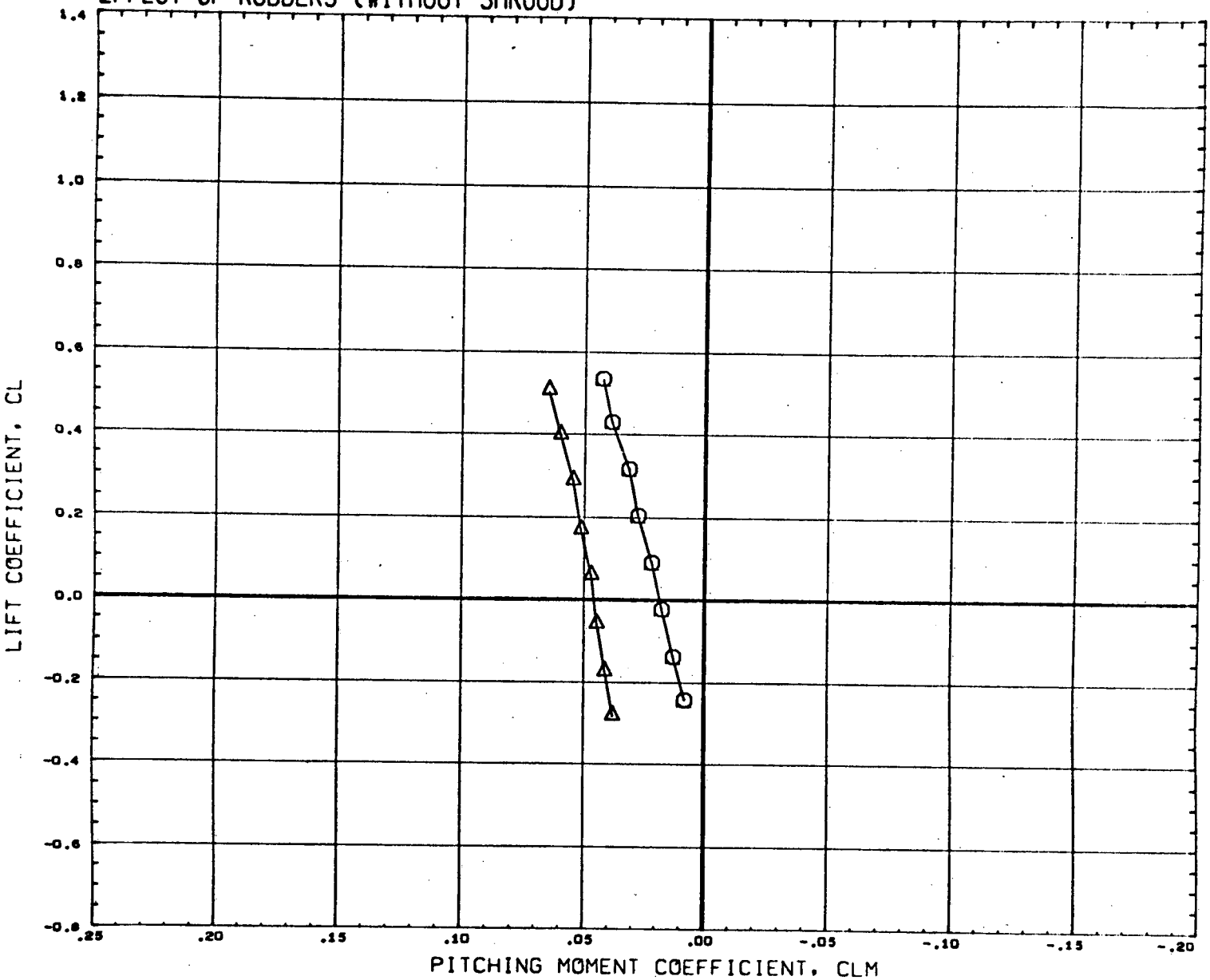


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.6800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITHOUT SHROUD)

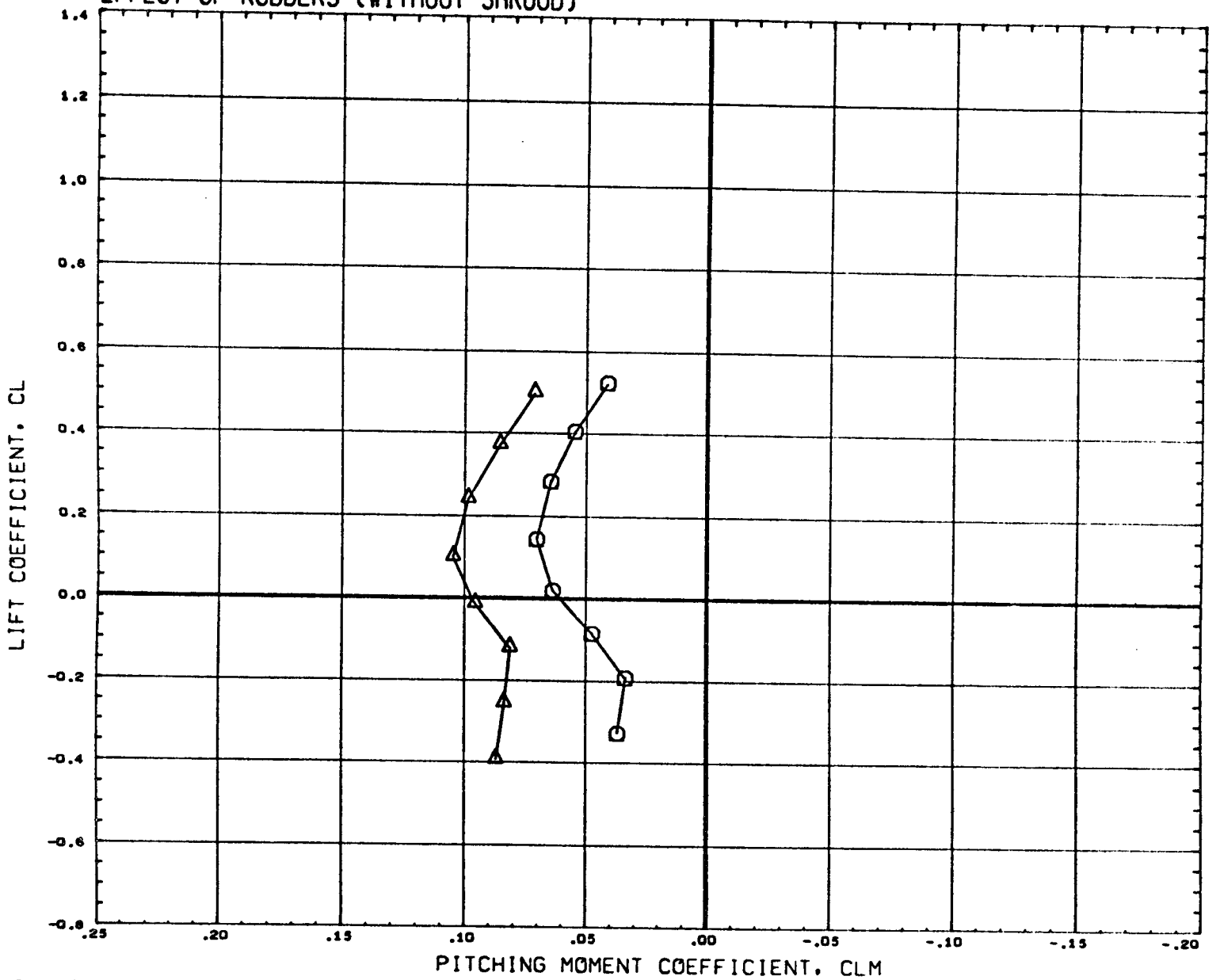


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITHOUT SHROUD)

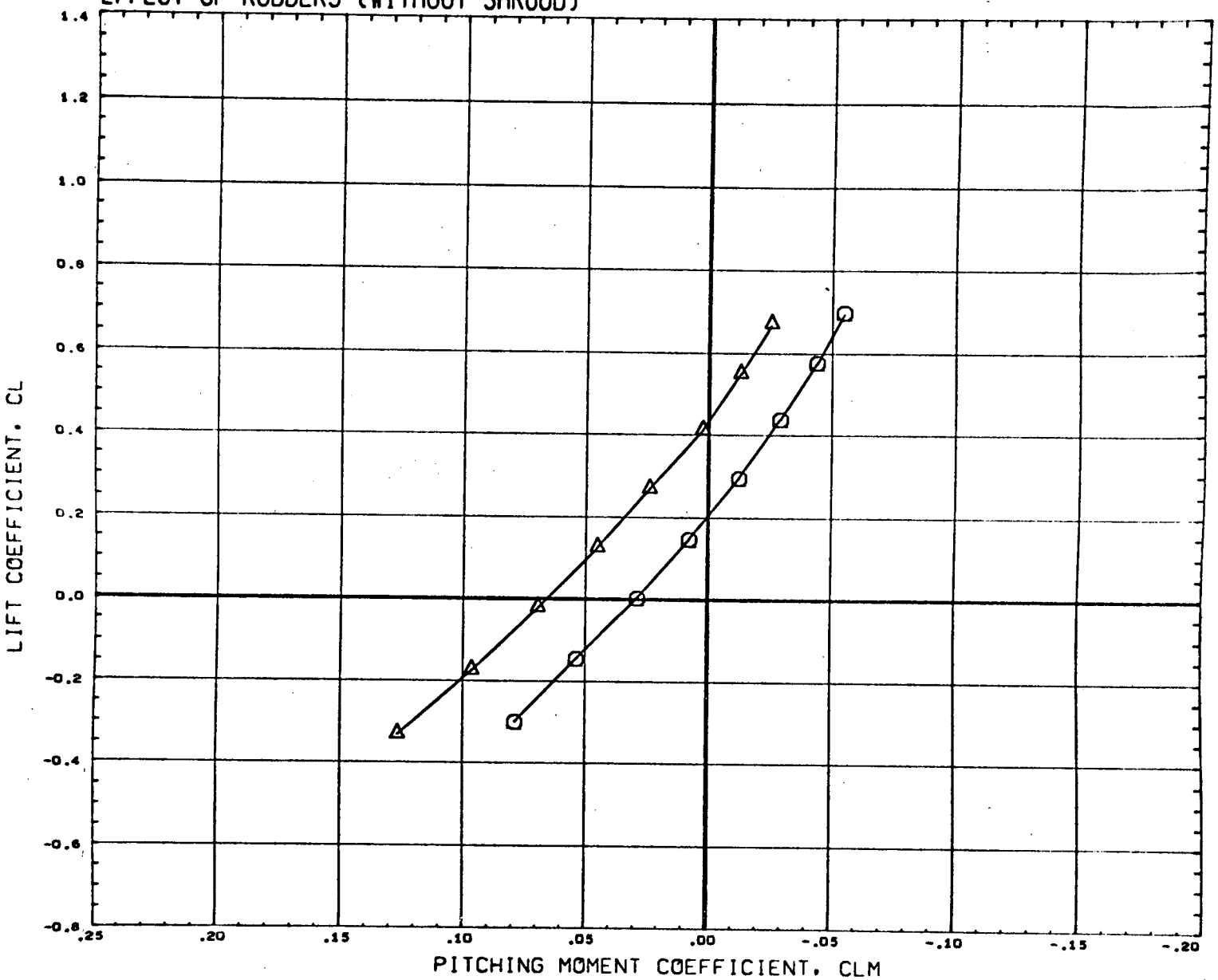


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITHOUT SHROUD)

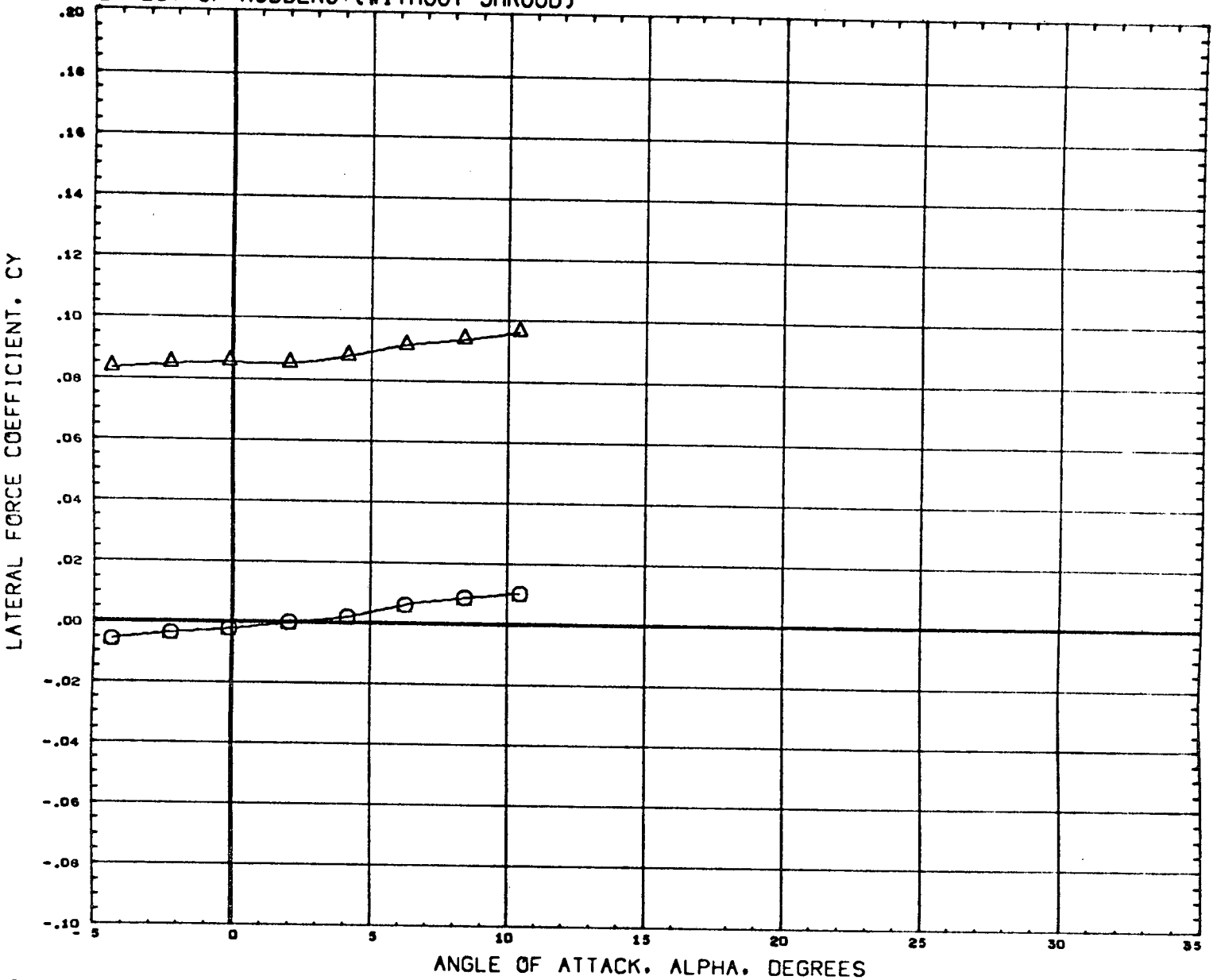


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITHOUT SHROUD)

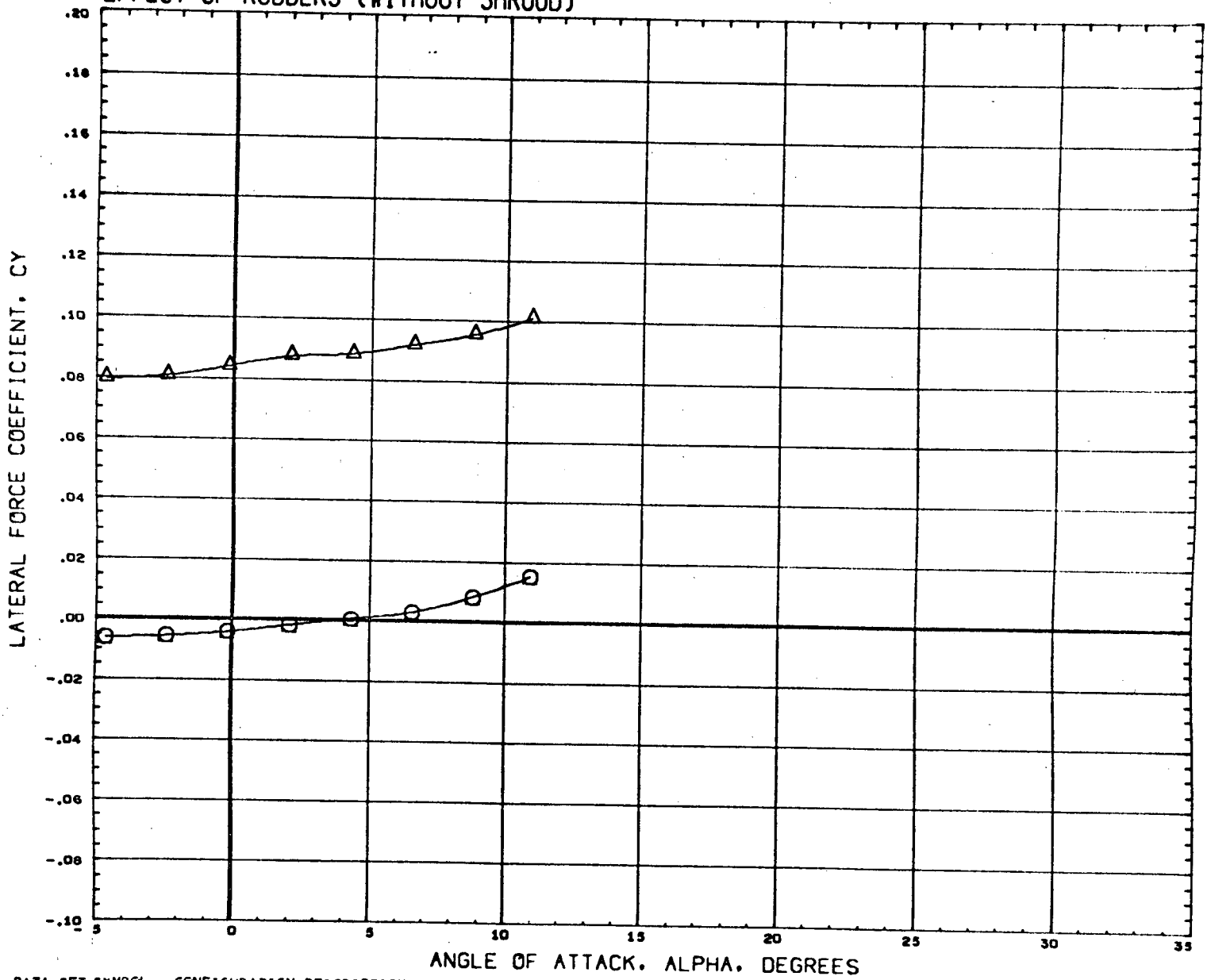


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITHOUT SHROUD)

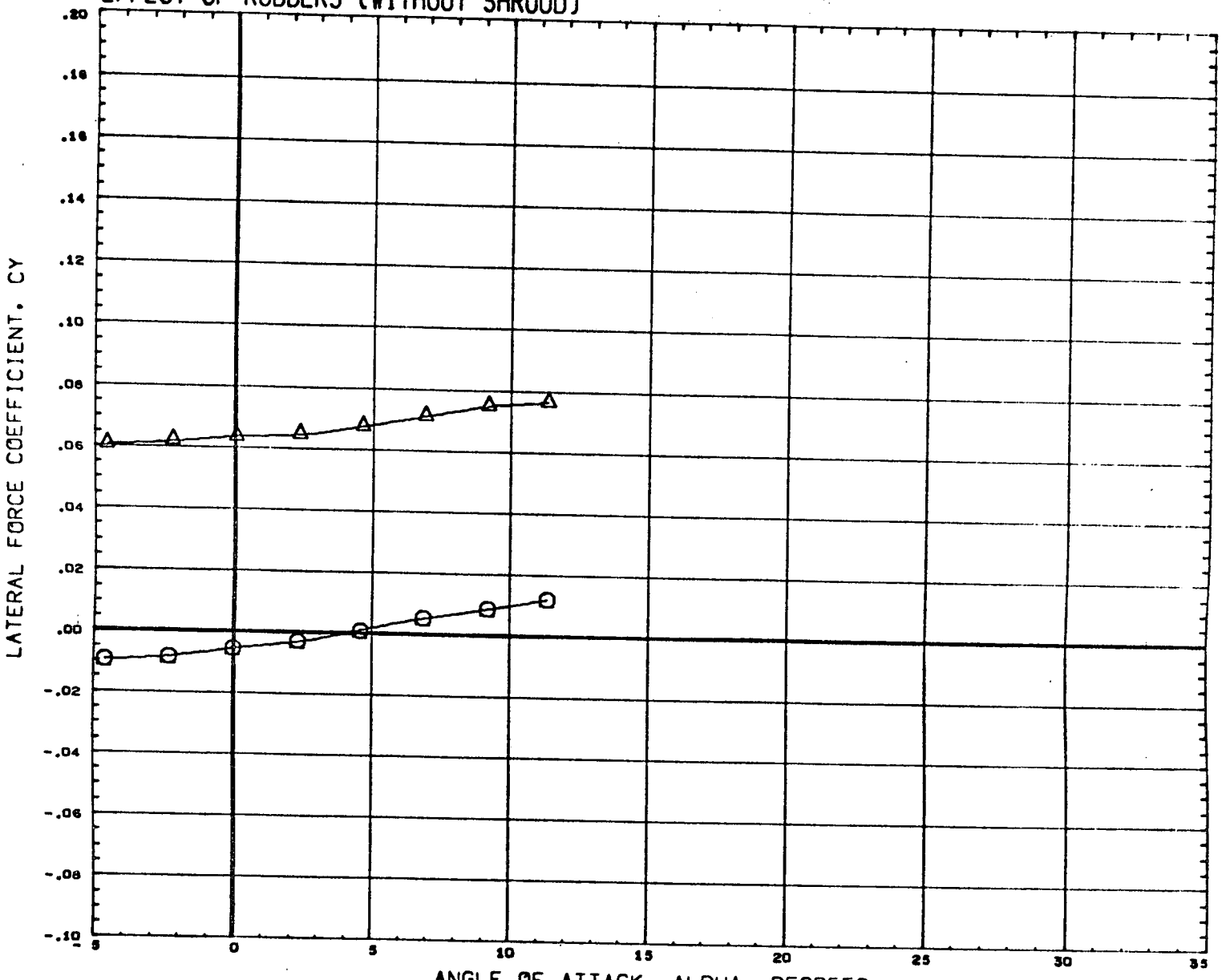


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITHOUT SHROUD)

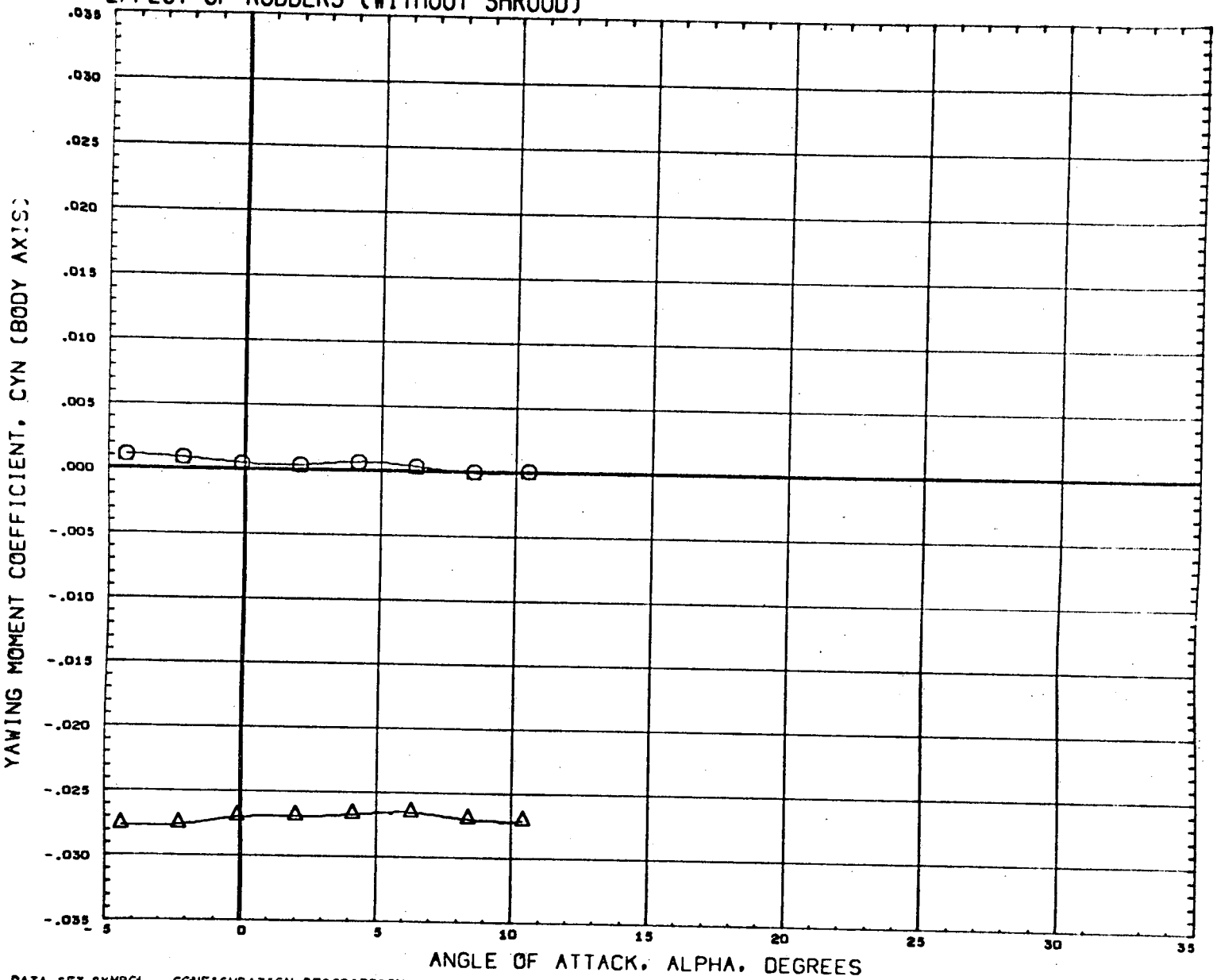


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69023)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITHOUT SHROUD)

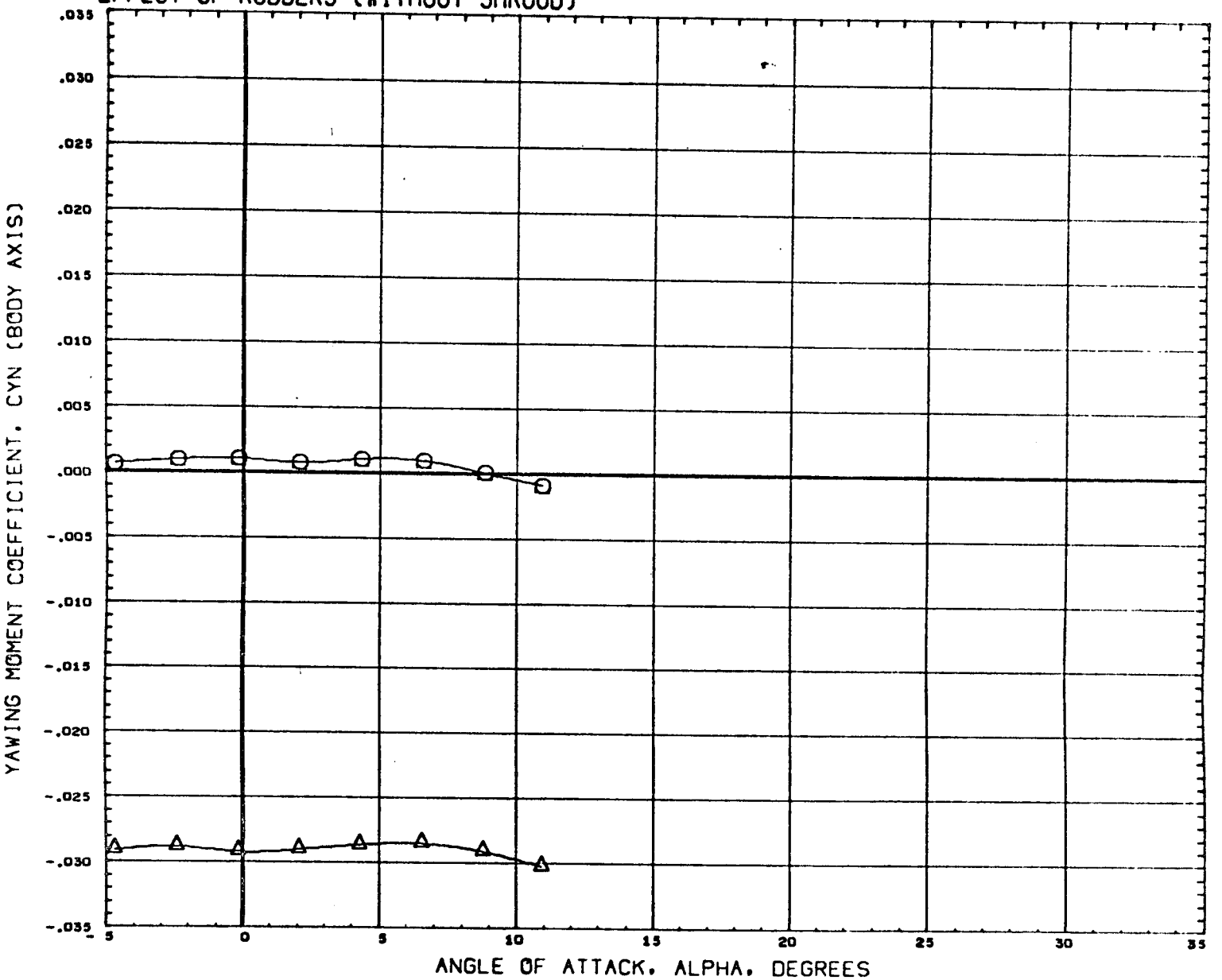


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITHOUT SHROUD)

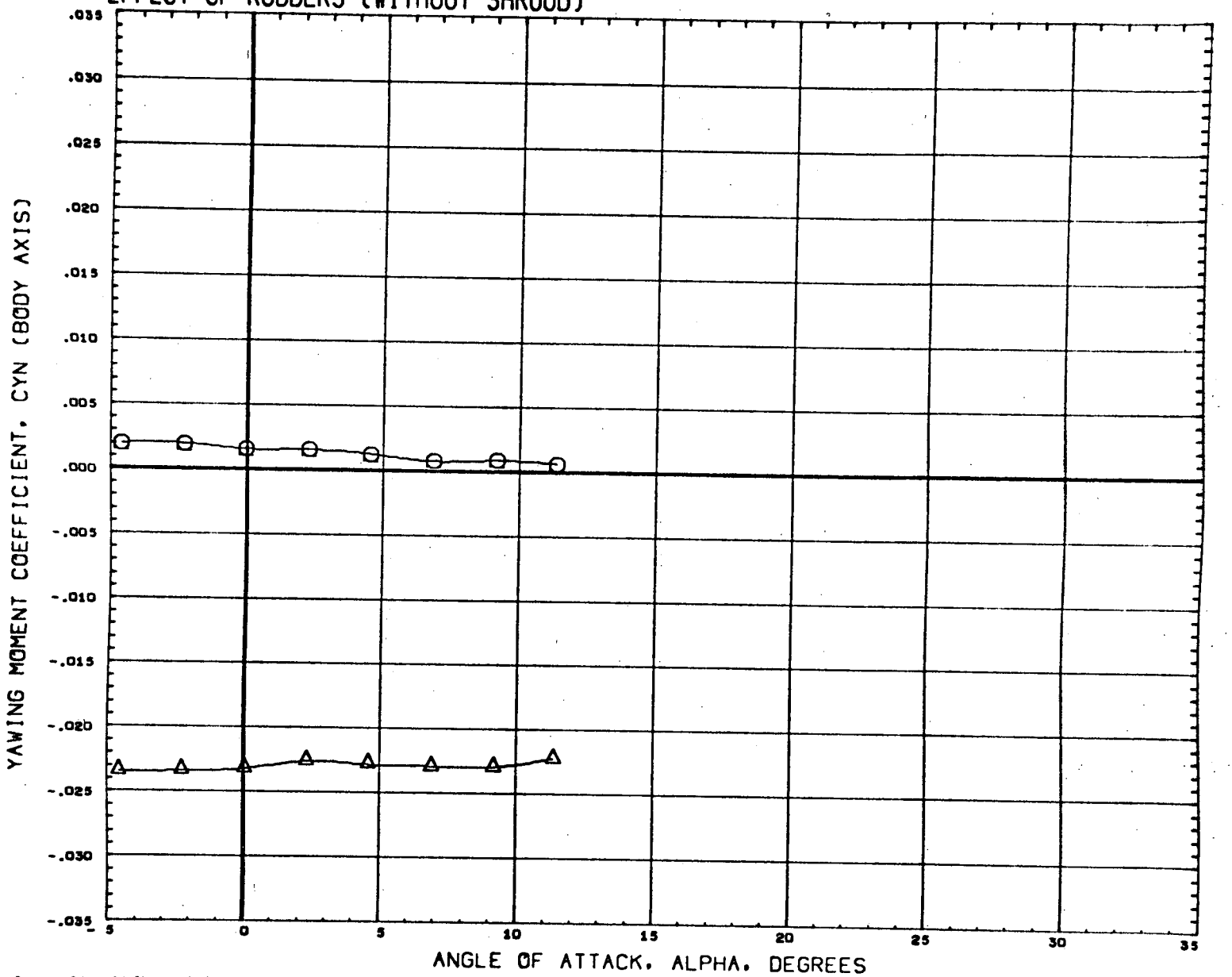


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITHOUT SHROUD)



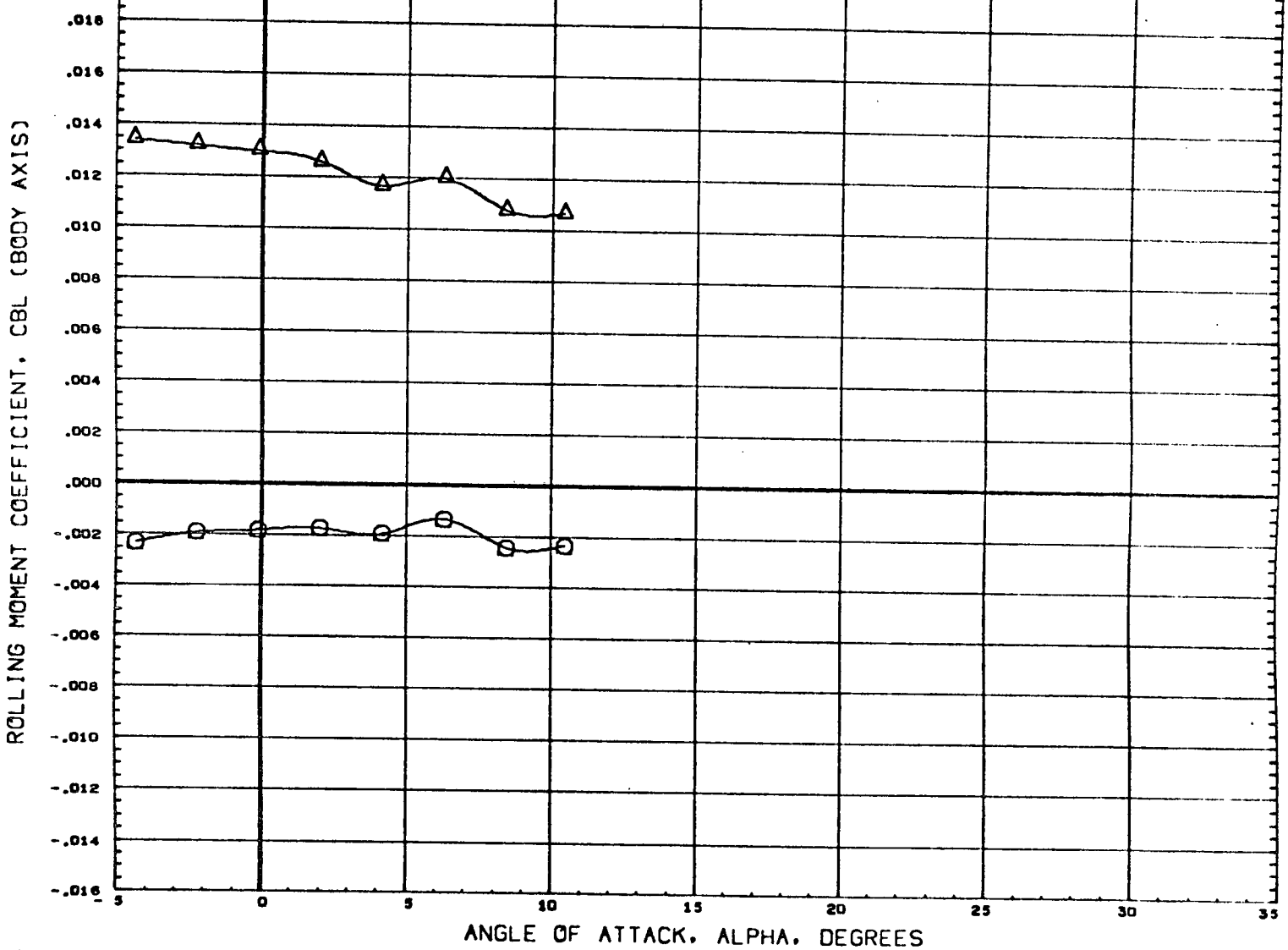
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69023)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITHOUT SHROUD)

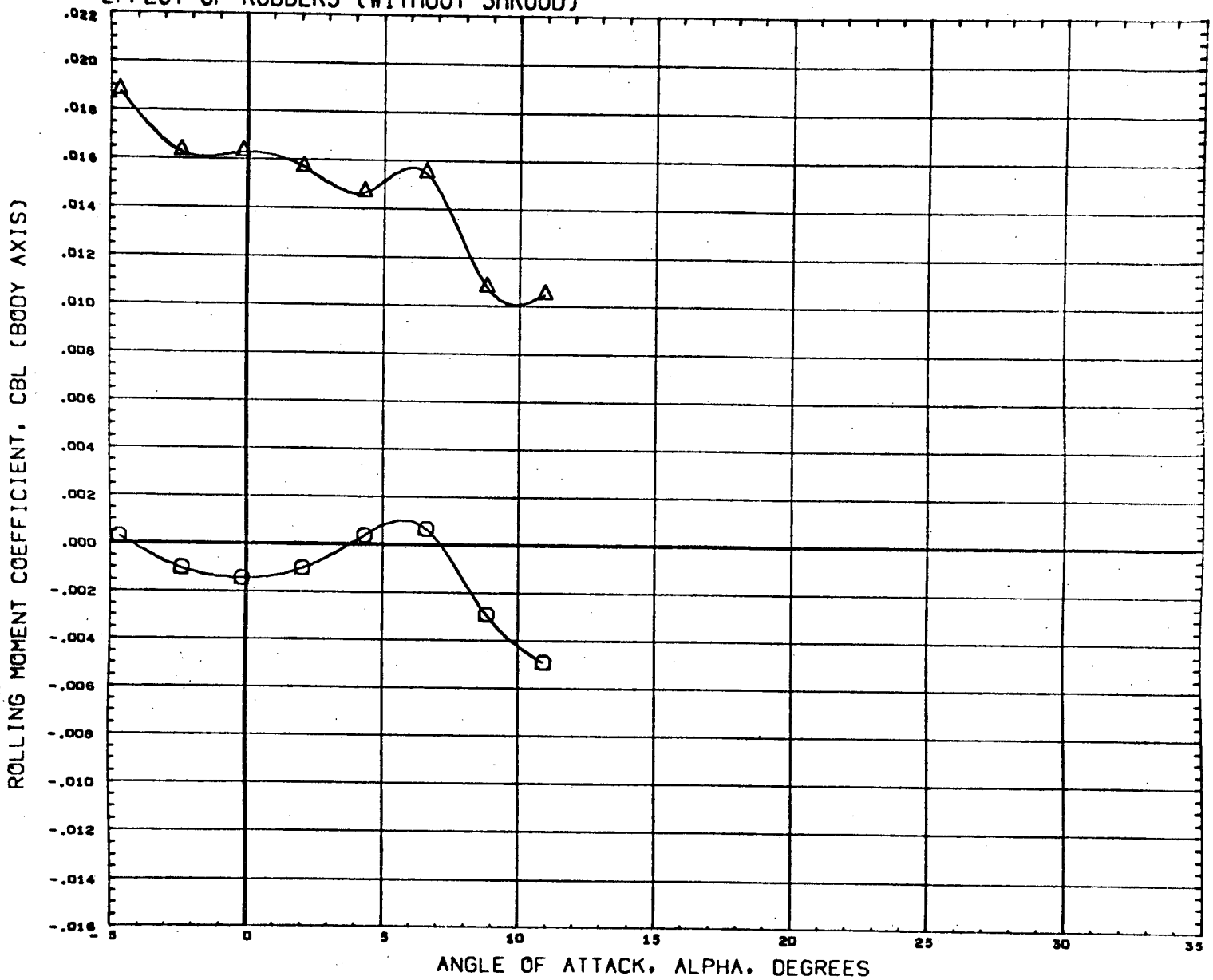


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITHOUT SHROUD)

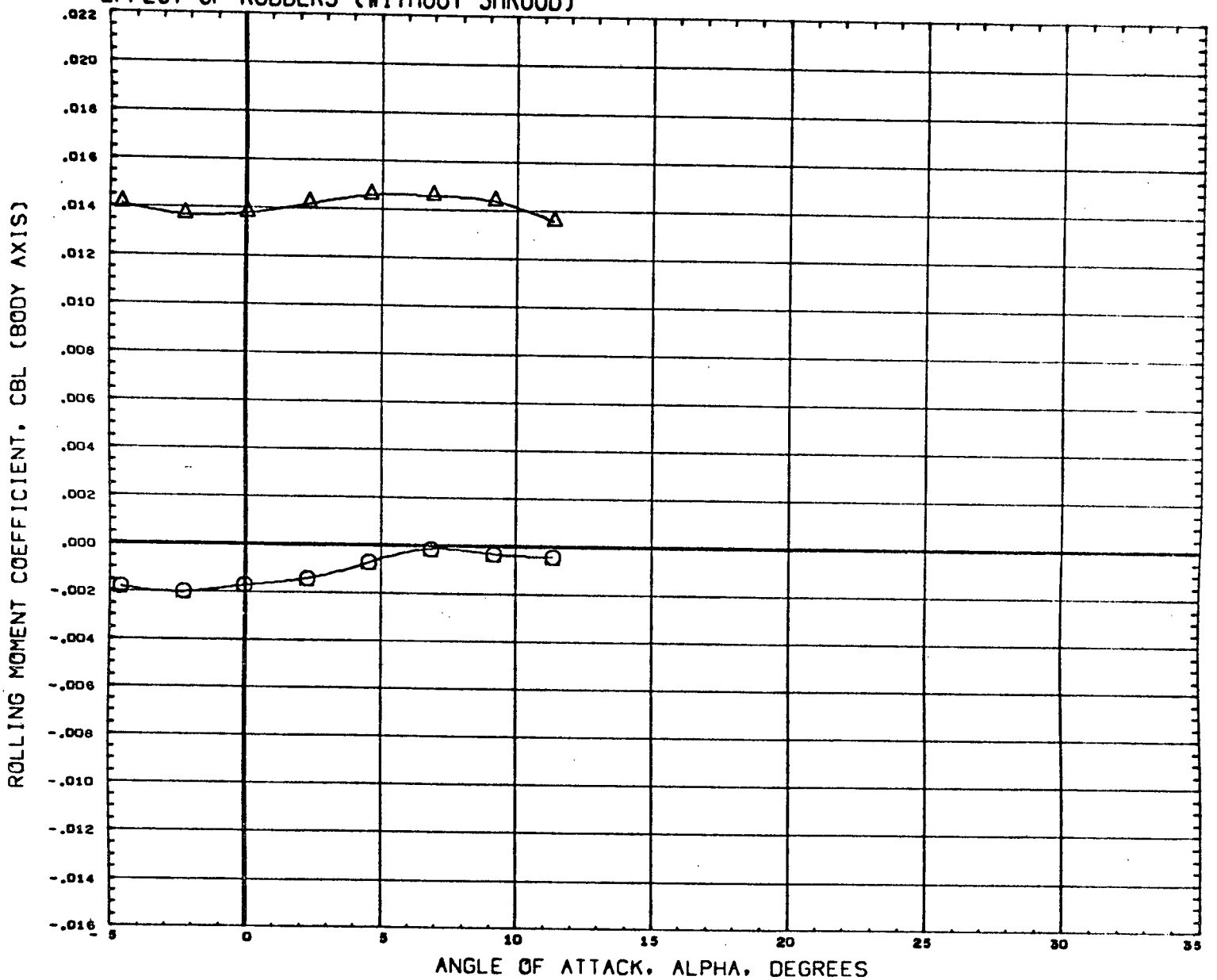


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69023) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITHOUT SHROUD)

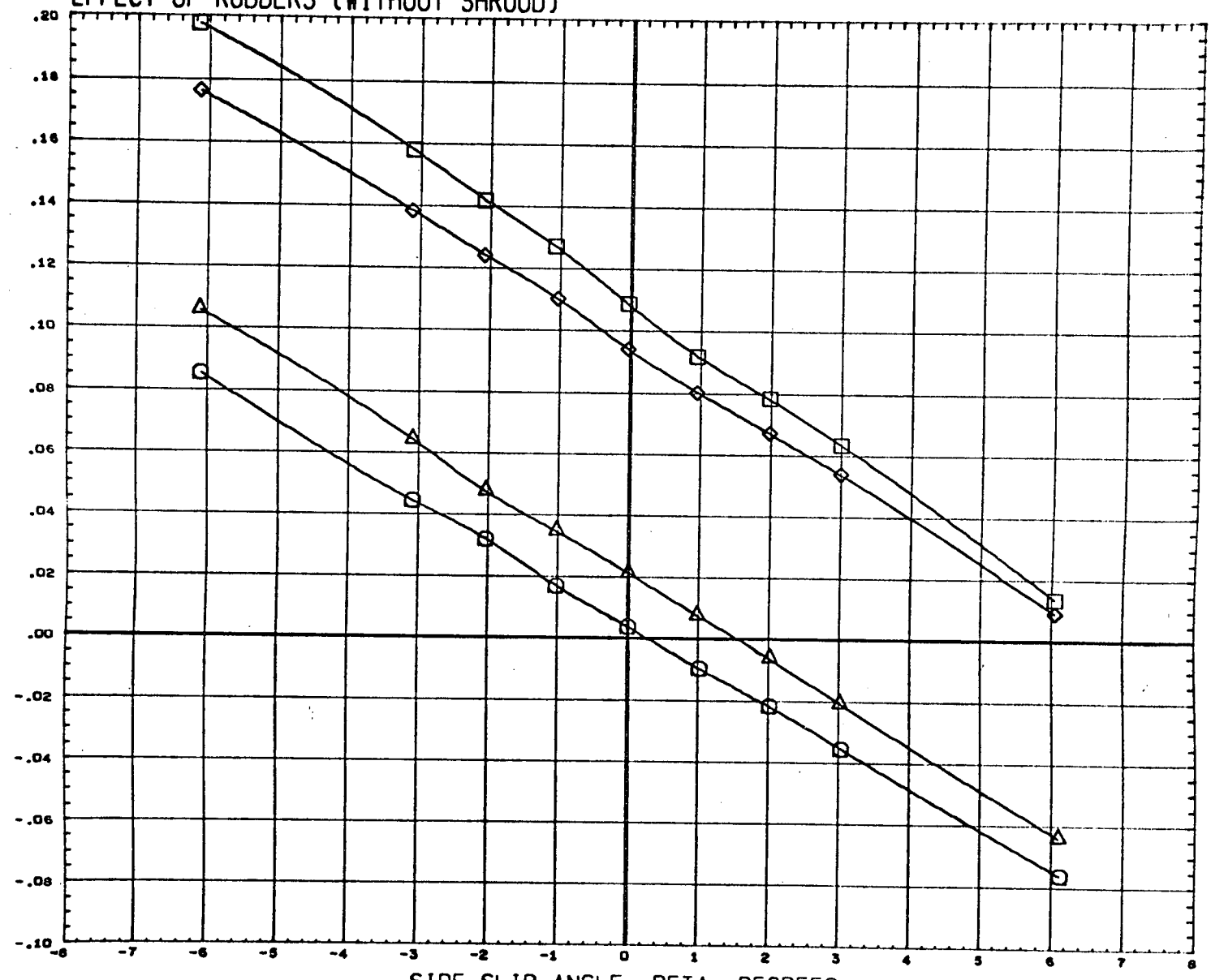


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69023)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITHOUT SHROUD)

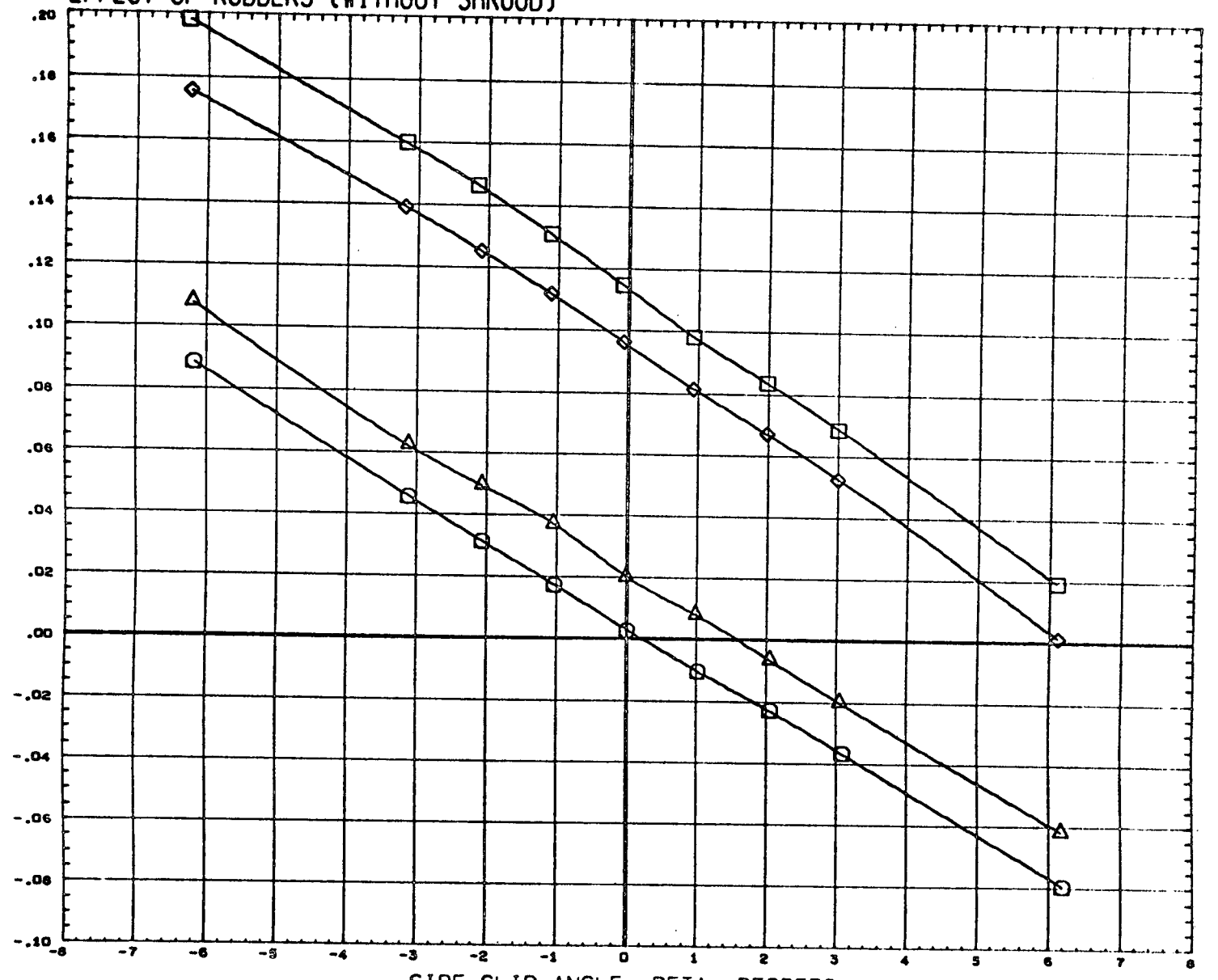


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69024) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000
(A69025) □	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITHOUT SHROUD)

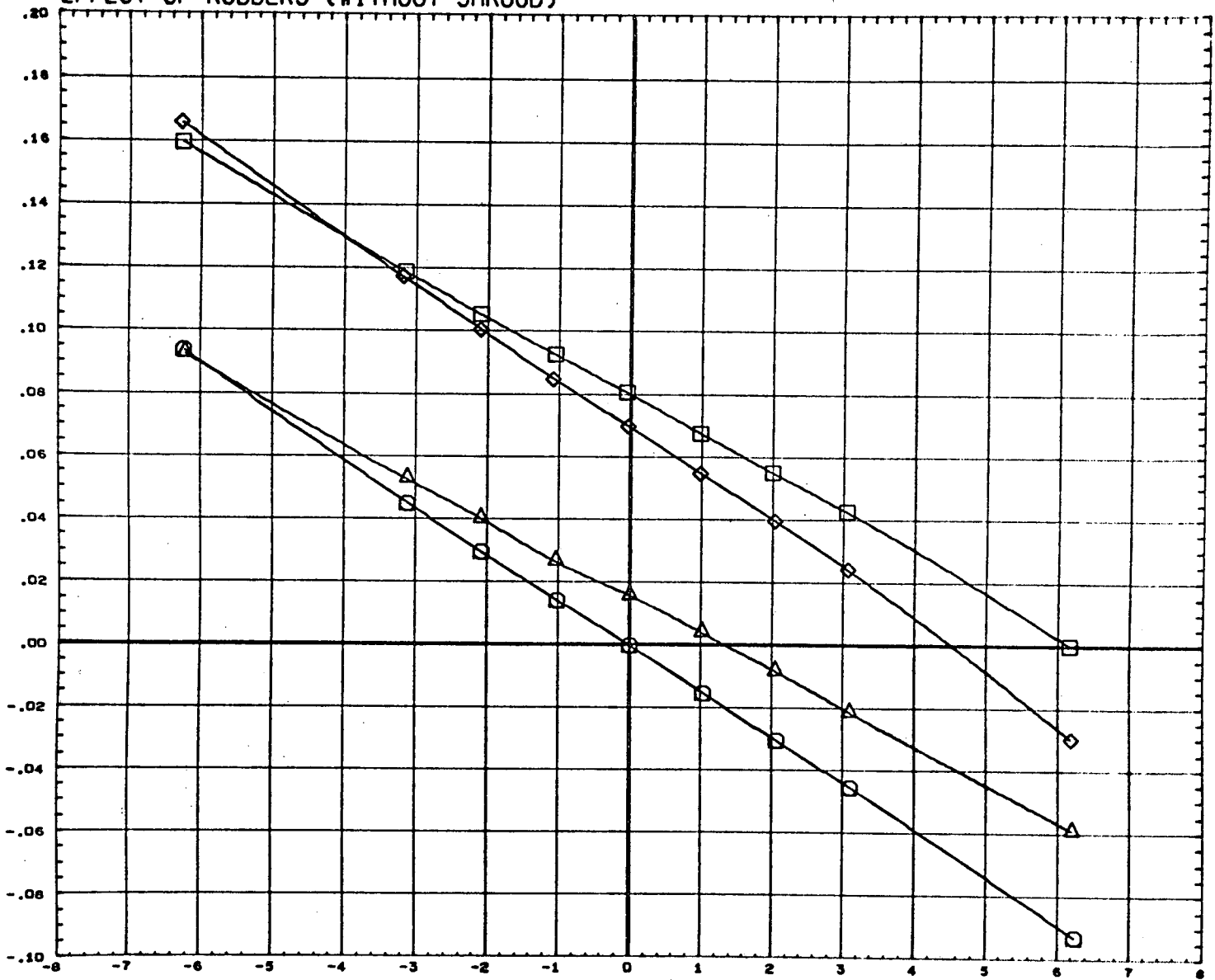


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69024)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000
(A69025)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITHOUT SHROUD)

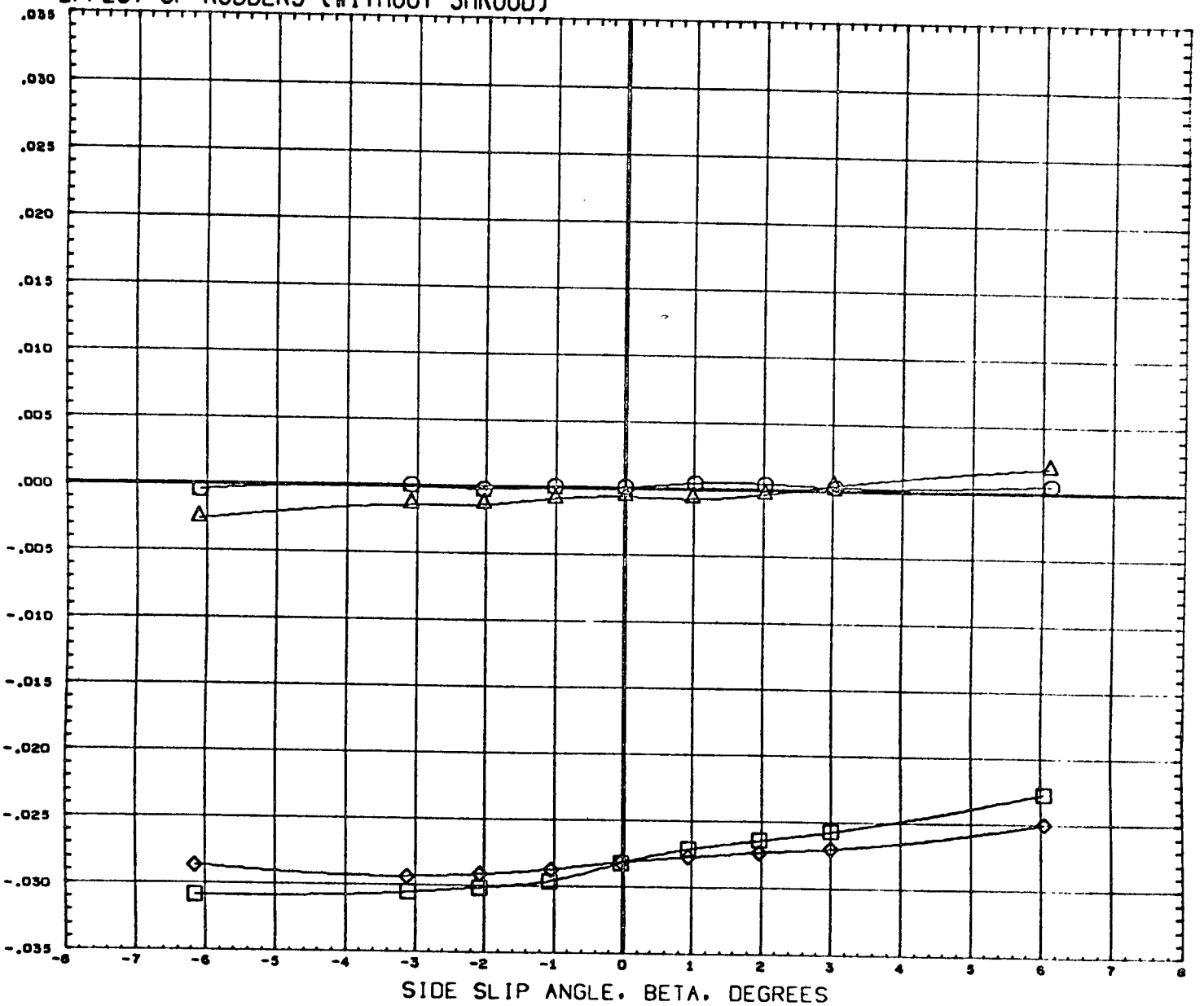


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69024)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000
(A69025)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF RUDDERS (WITHOUT SHROUD)

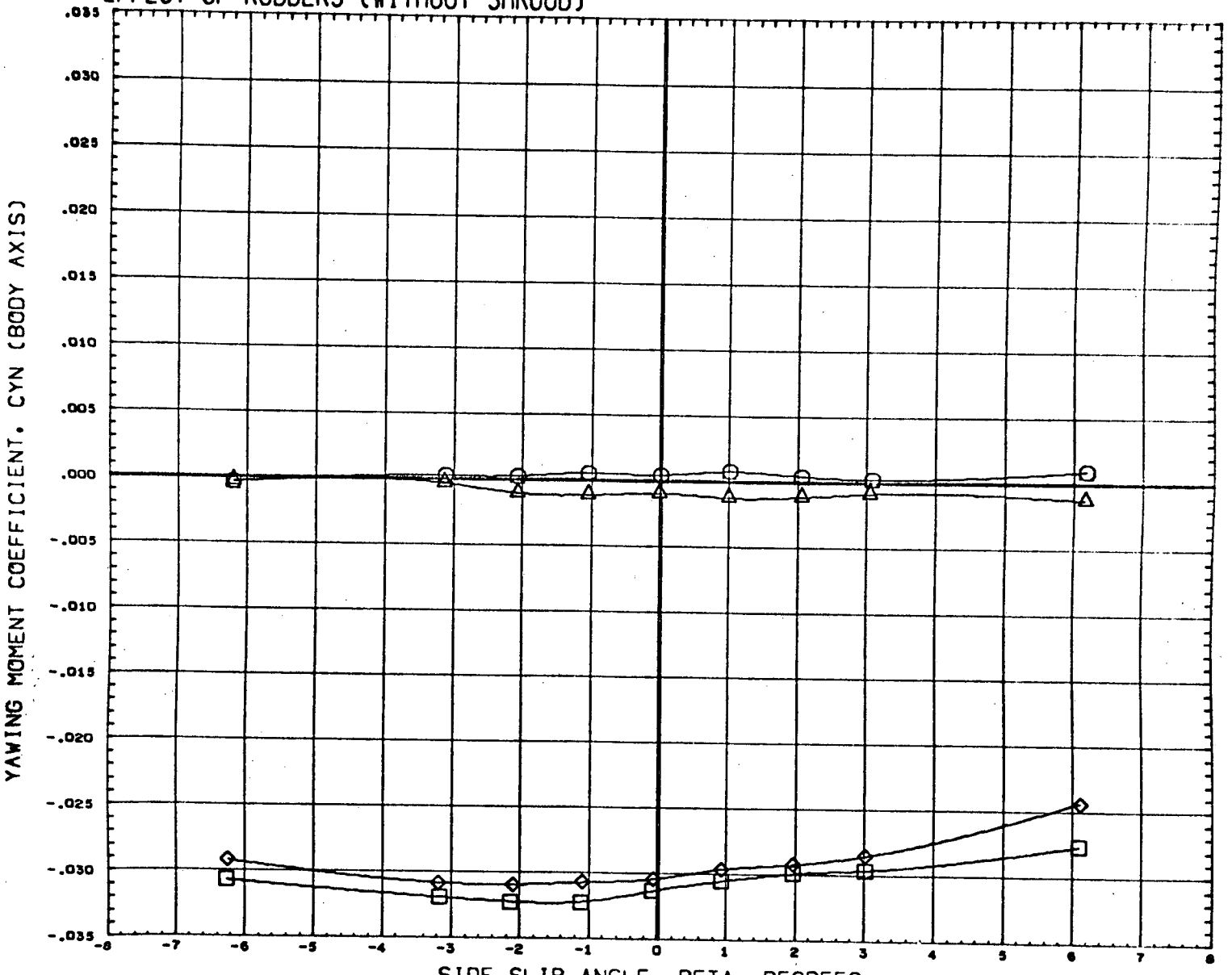


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69024)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000
(A69025)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITHOUT SHROUD)

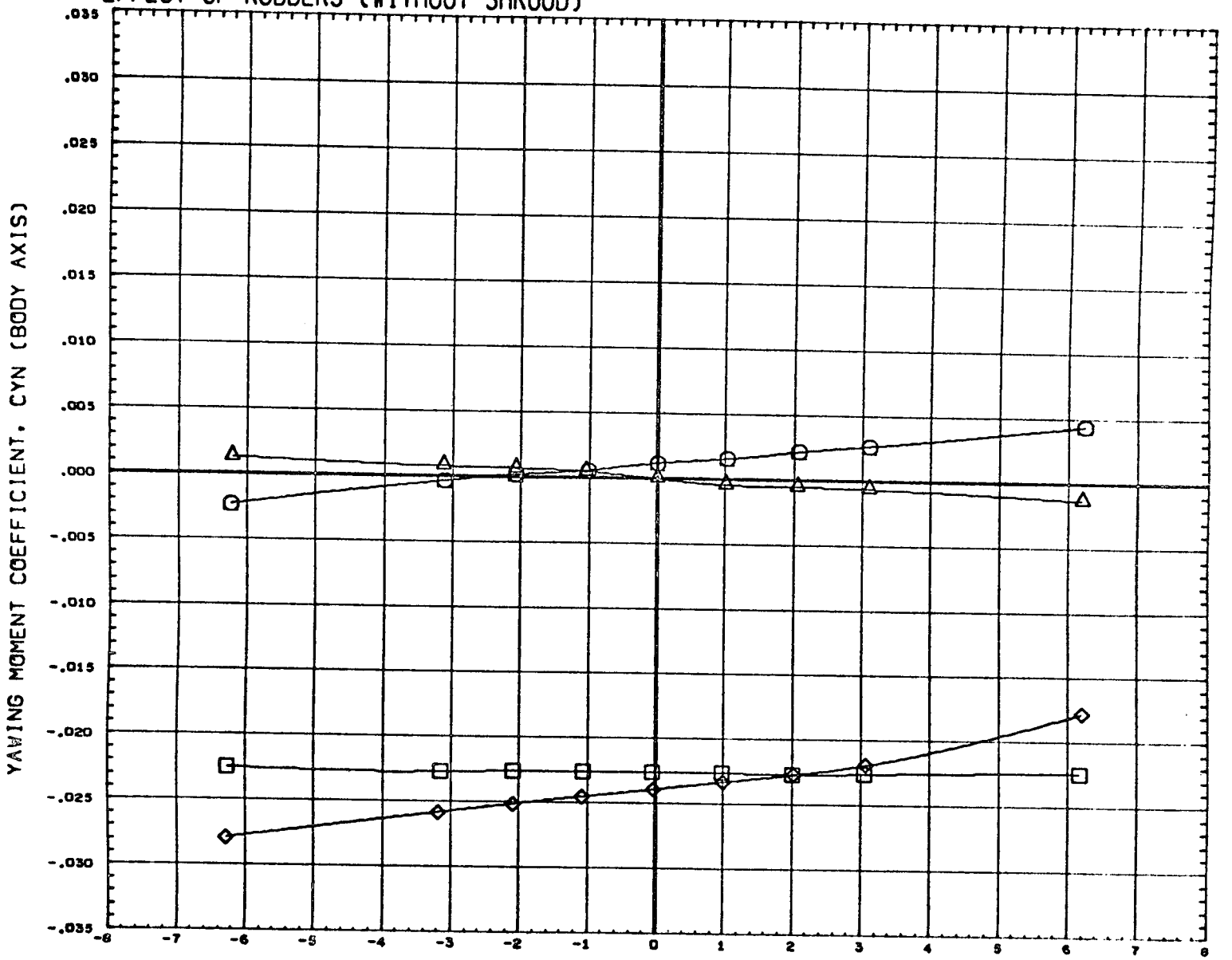


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69024)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000
(A69025)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITHOUT SHROUD)

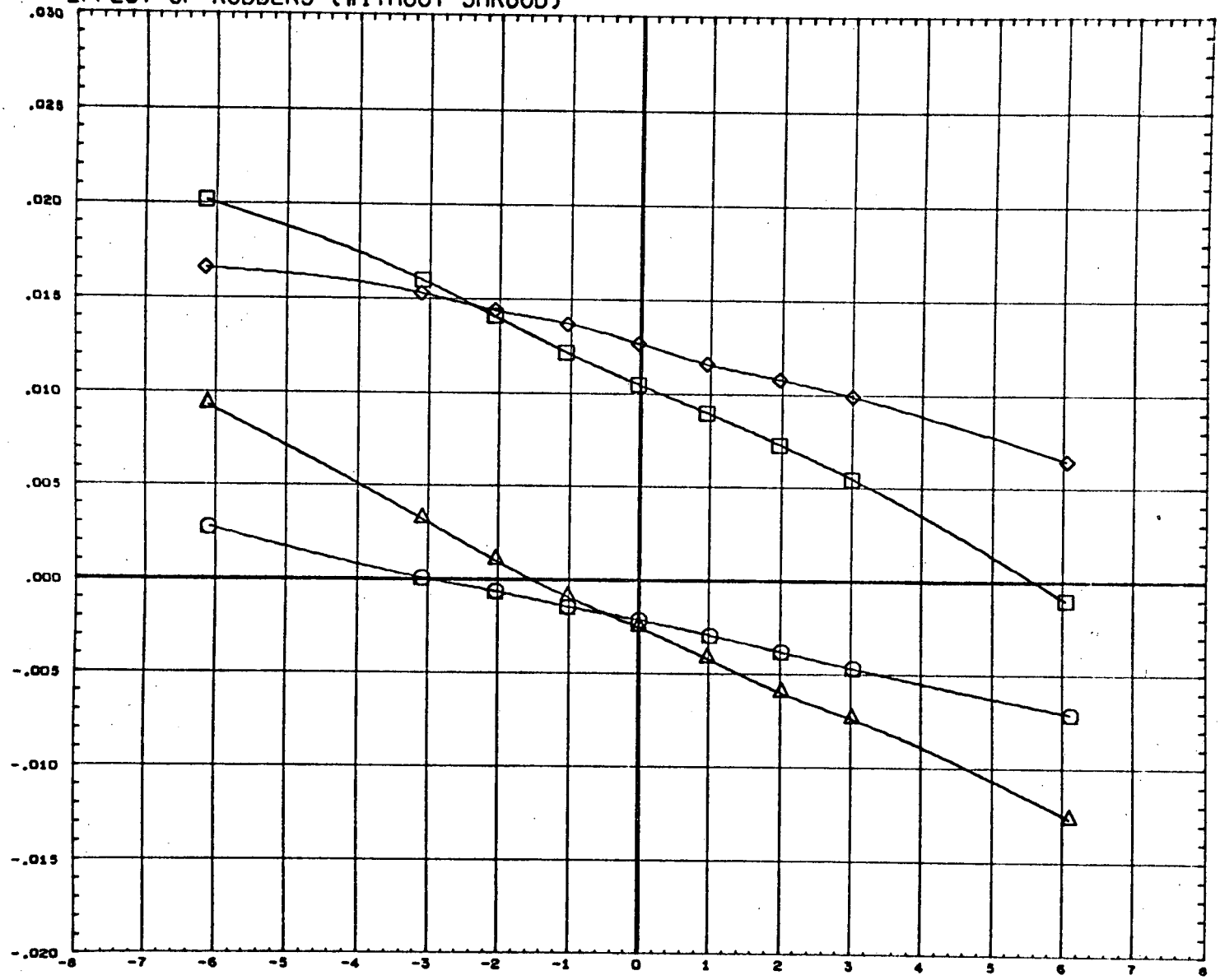


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69024)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000
(A69025)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF RUDDERS (WITHOUT SHROUD)

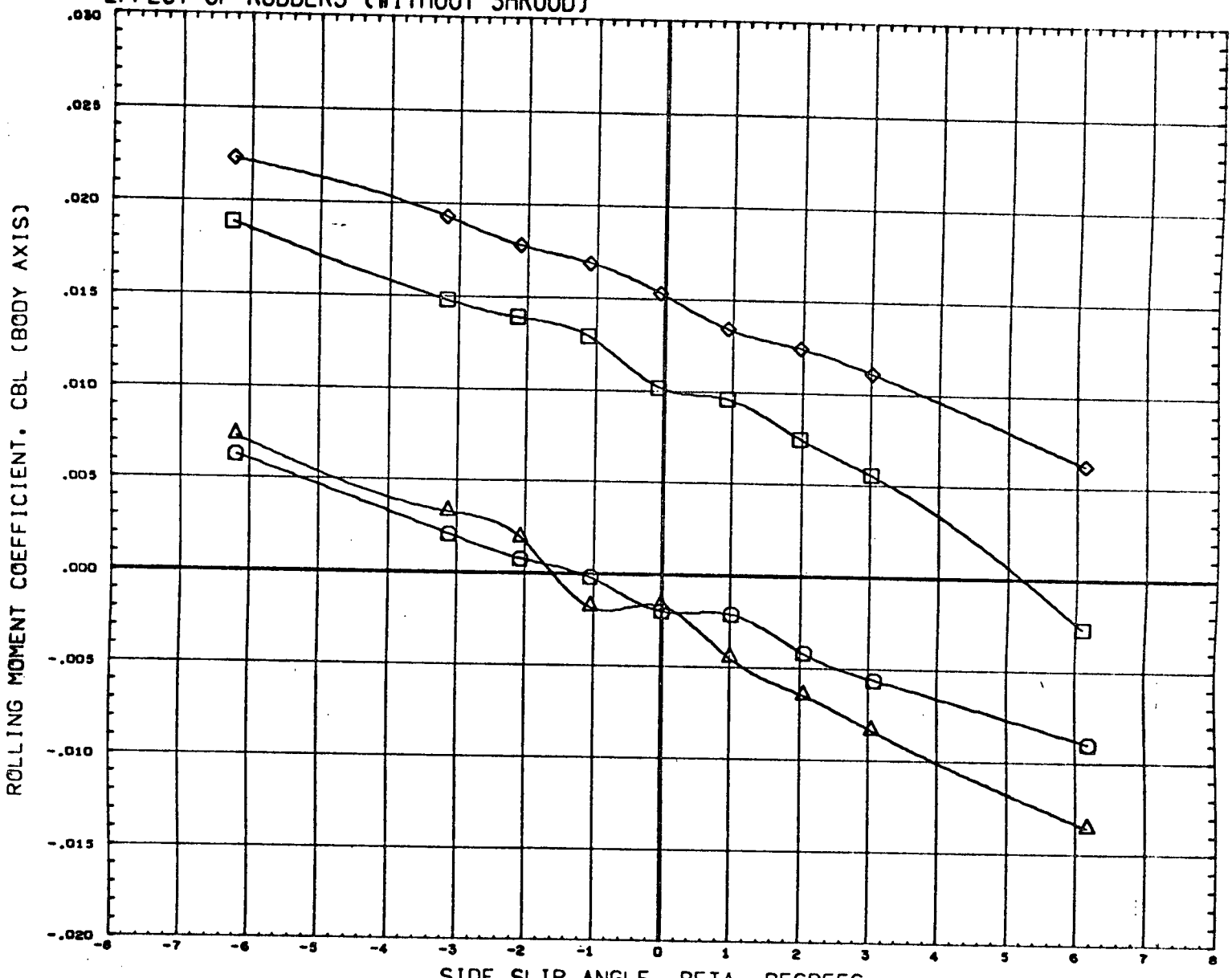


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69024)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000
(A69025)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITHOUT SHROUD)



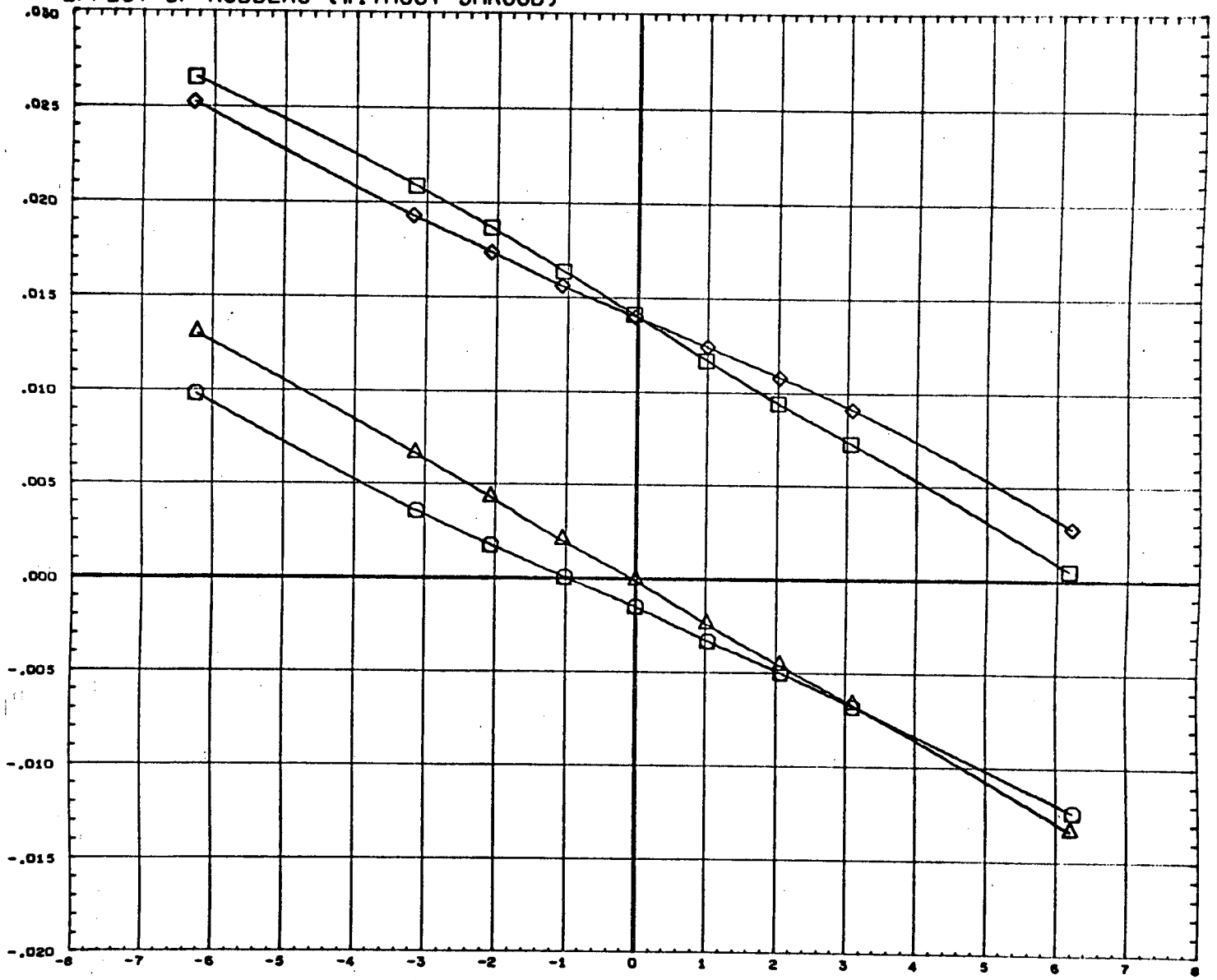
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69024)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000
(A69025)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

Dh

EFFECT OF RUDDERS (WITHOUT SHROUD)

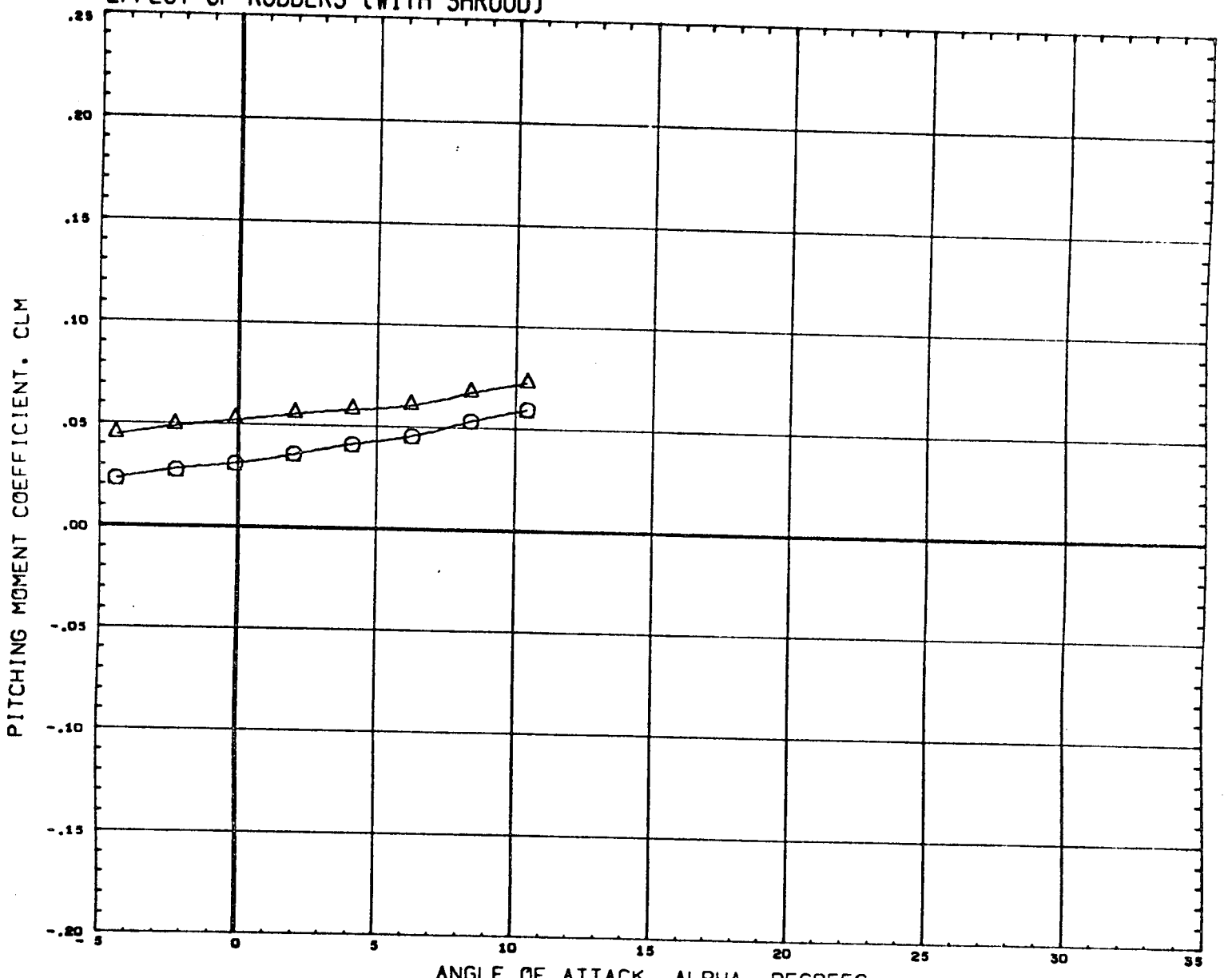


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69024)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000
(A69025)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF RUDDERS (WITH SHROUD)

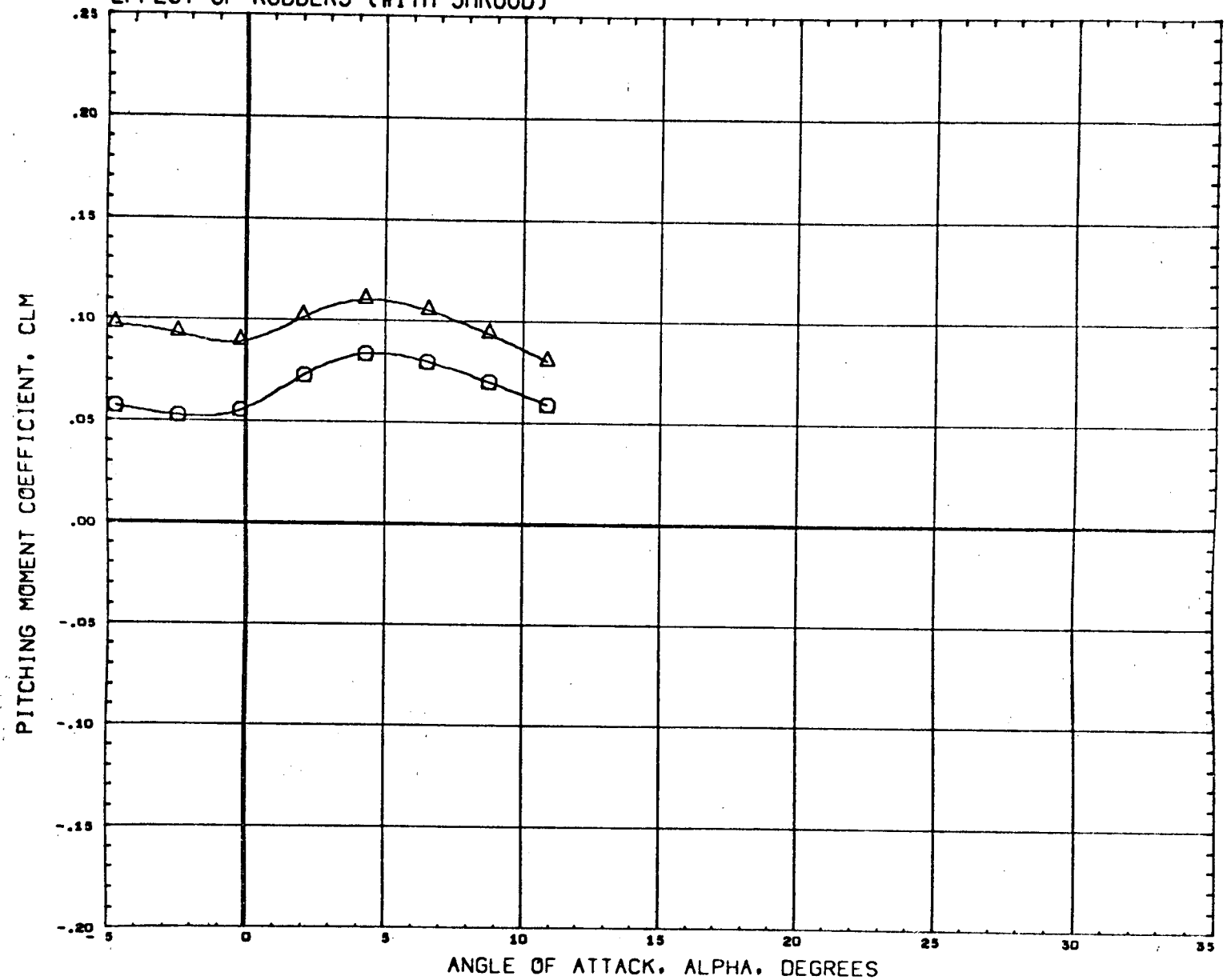


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH SHROUD)

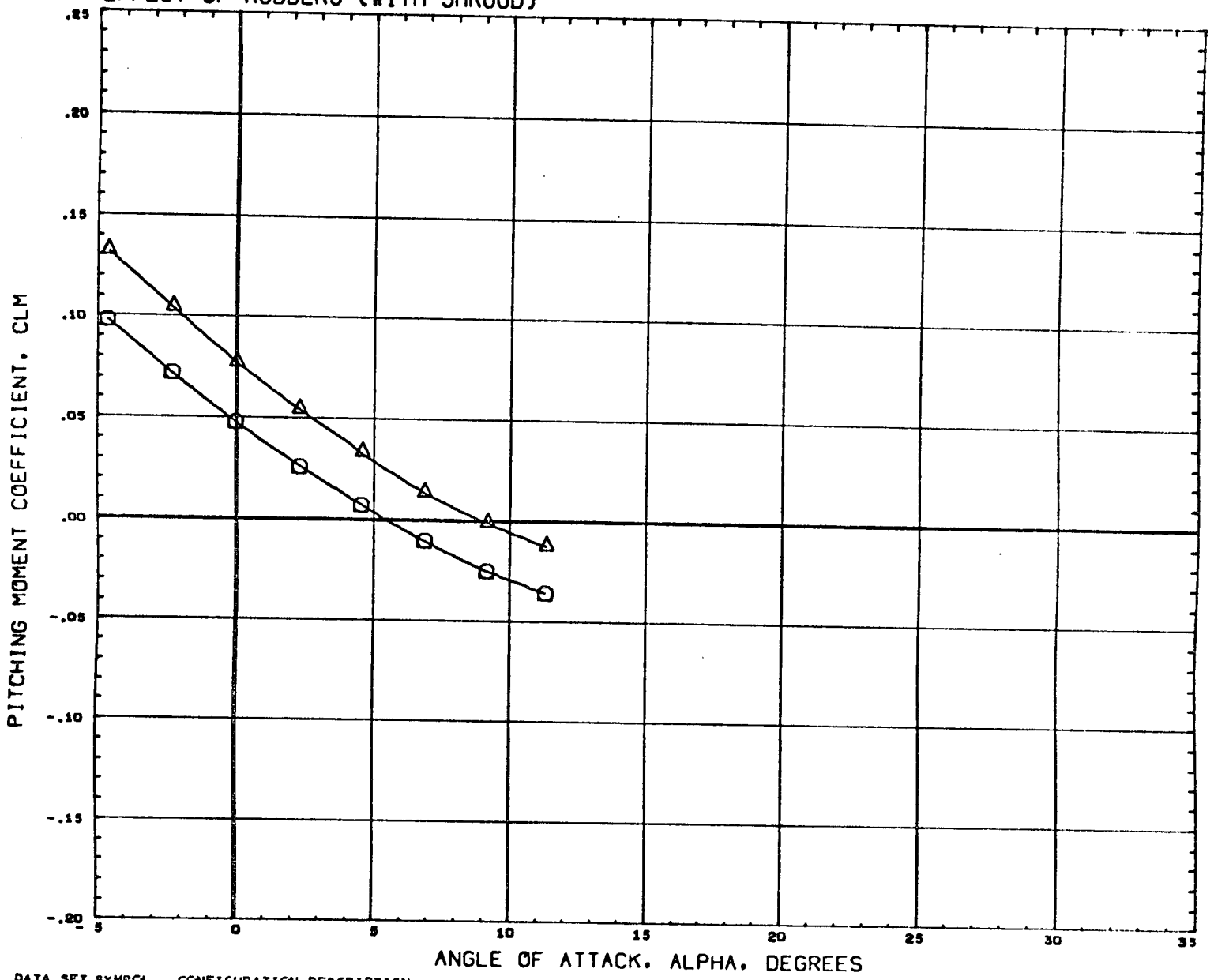


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH SHROUD)

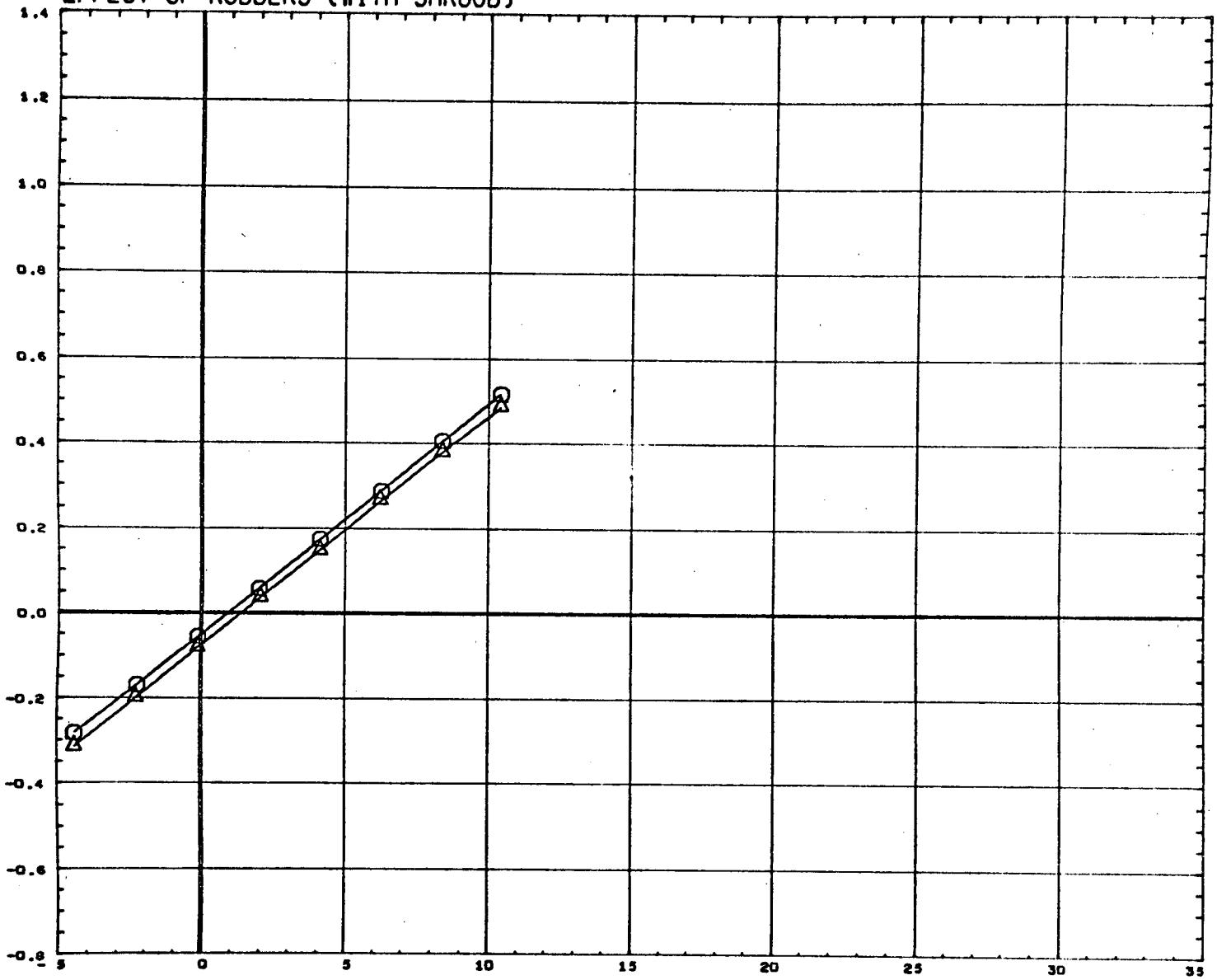


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH SHROUD)

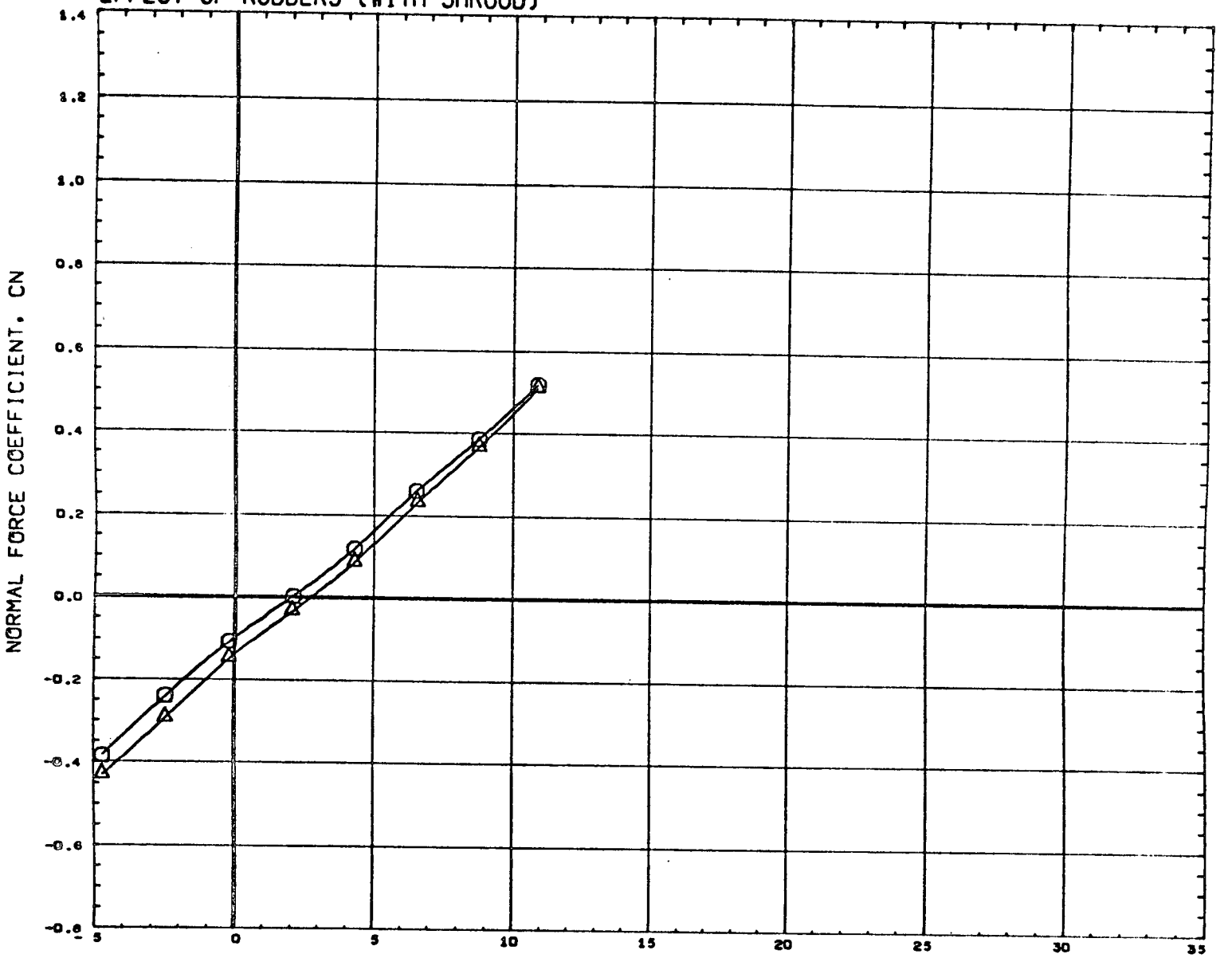


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH SHROUD)

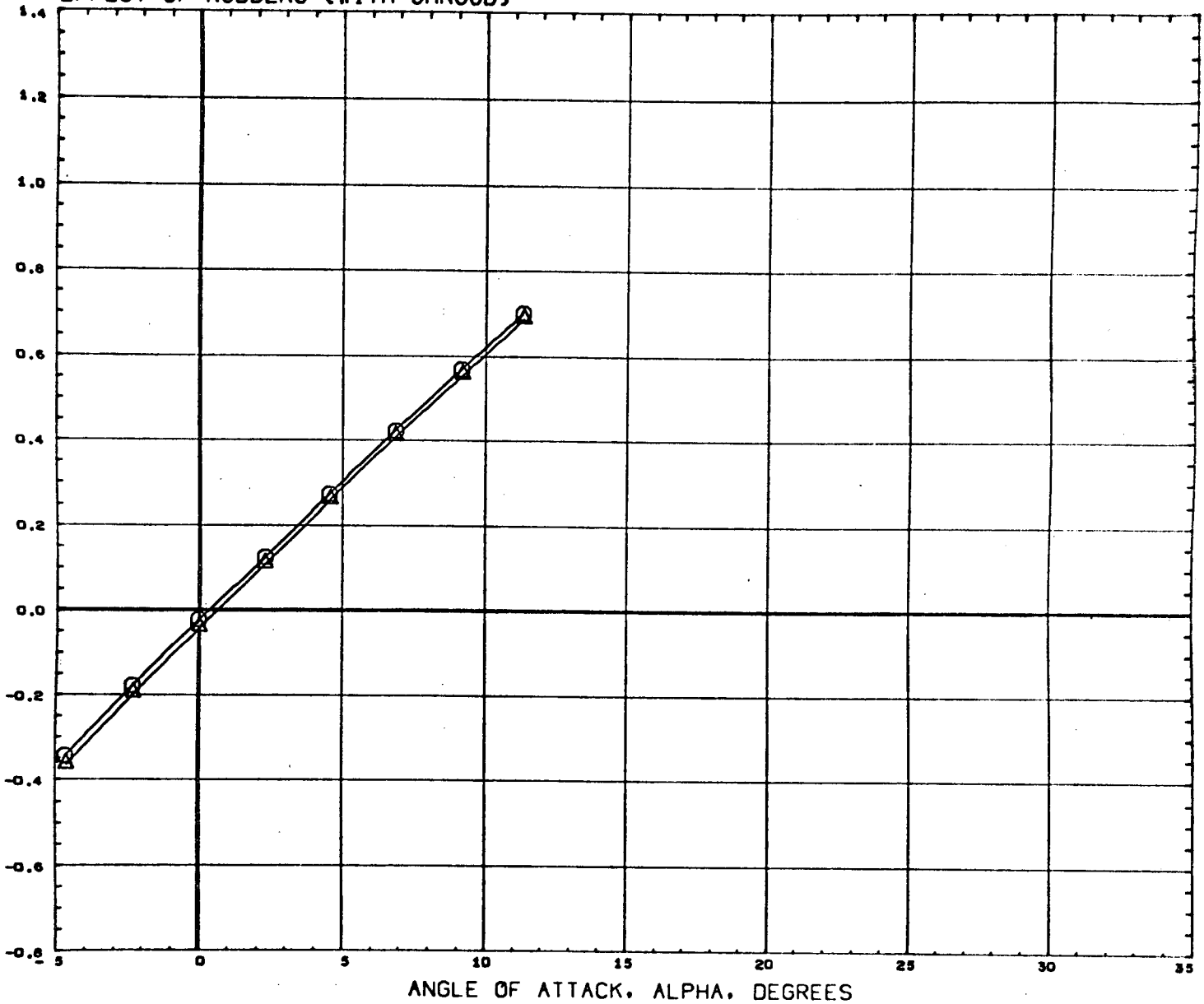


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH SHROUD)

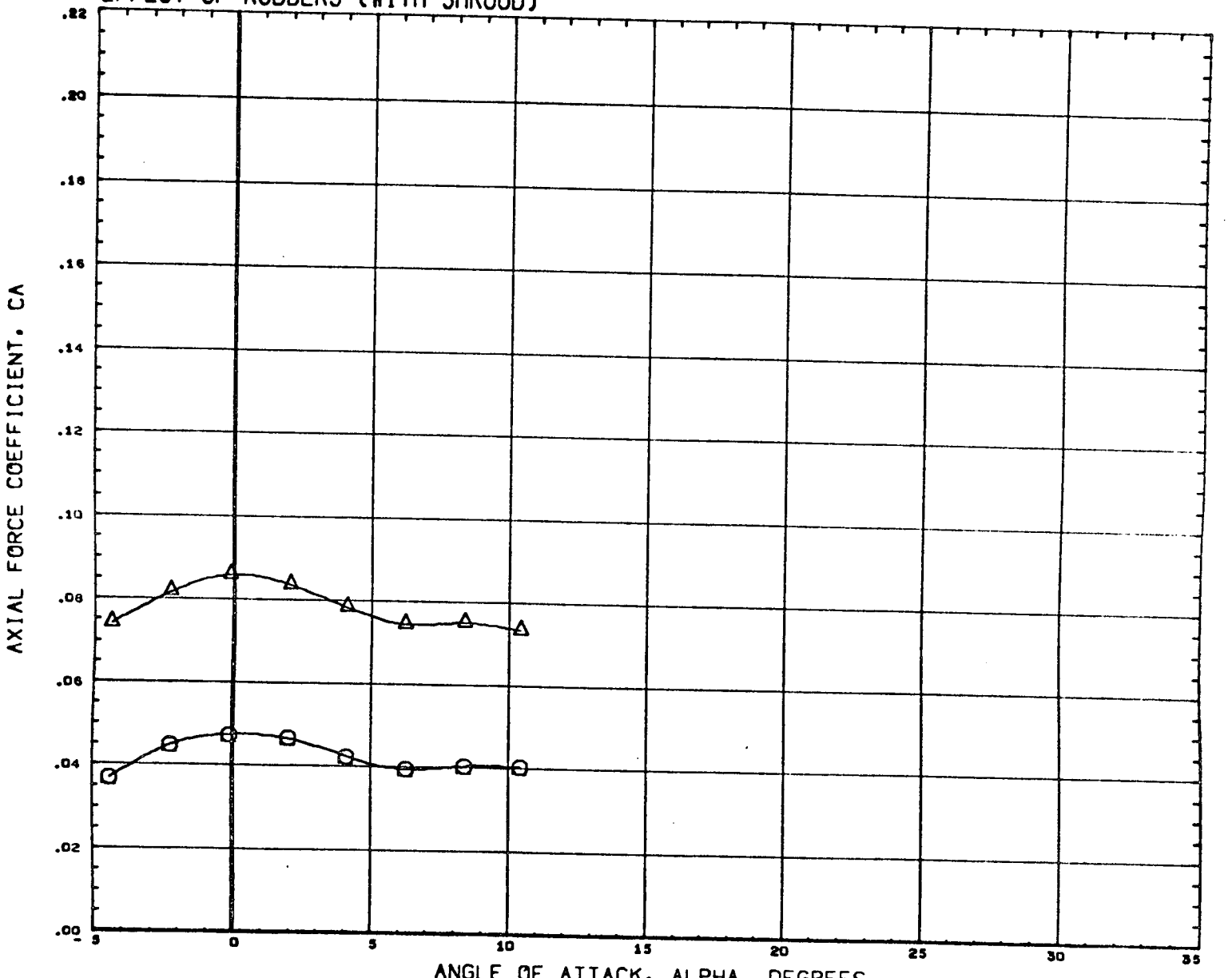


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH SHROUD)

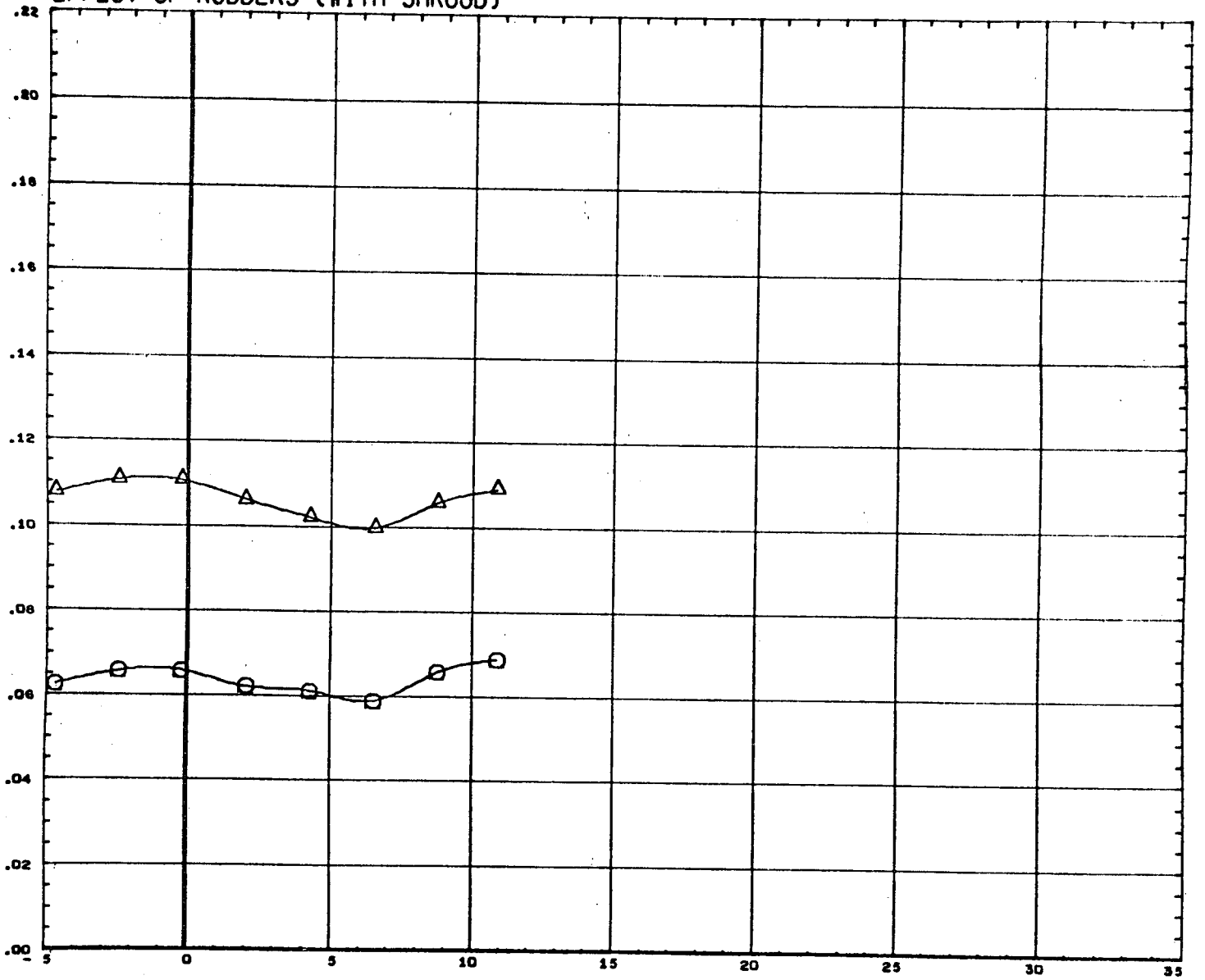


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH SHROUD)

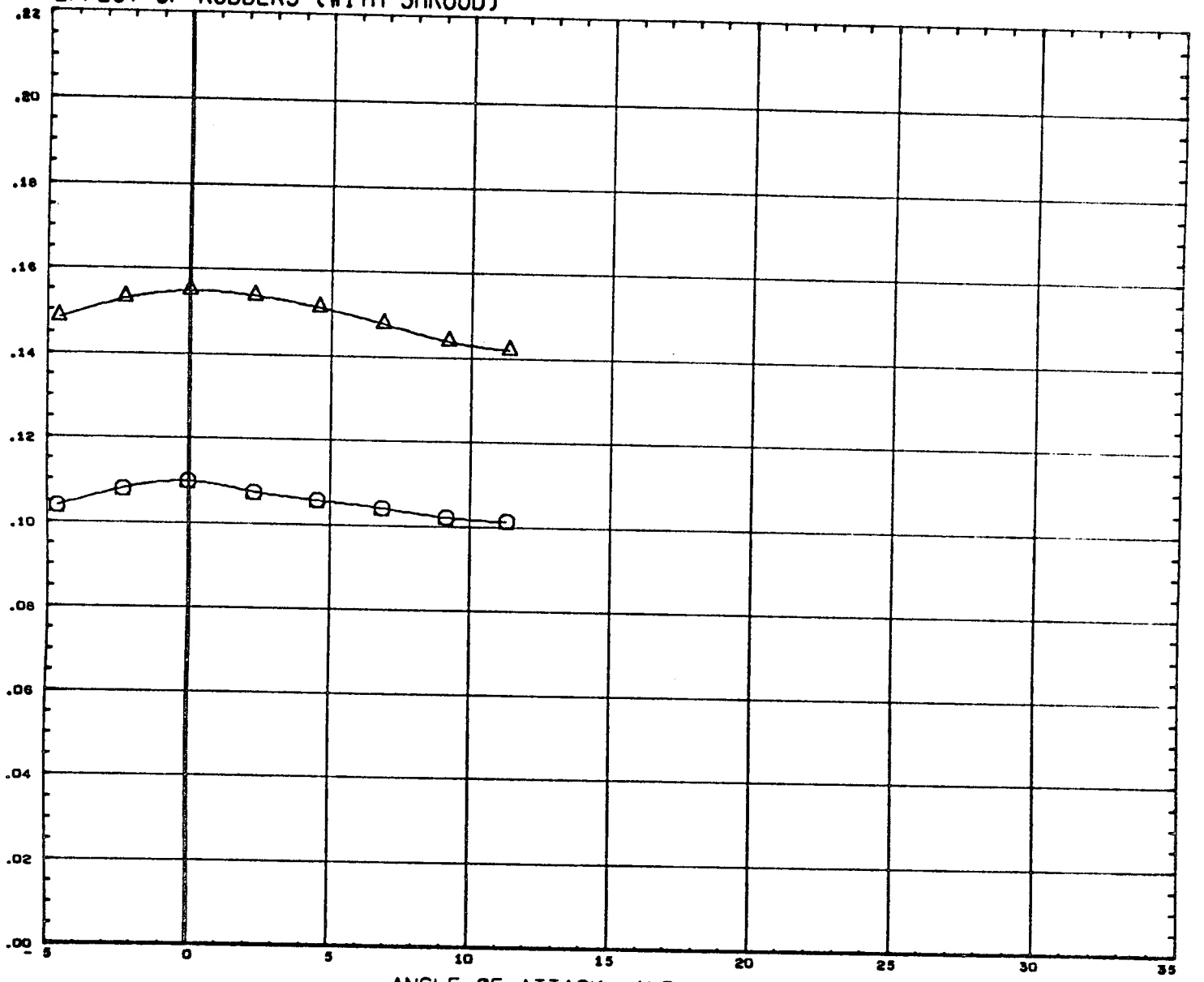


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH SHROUD)

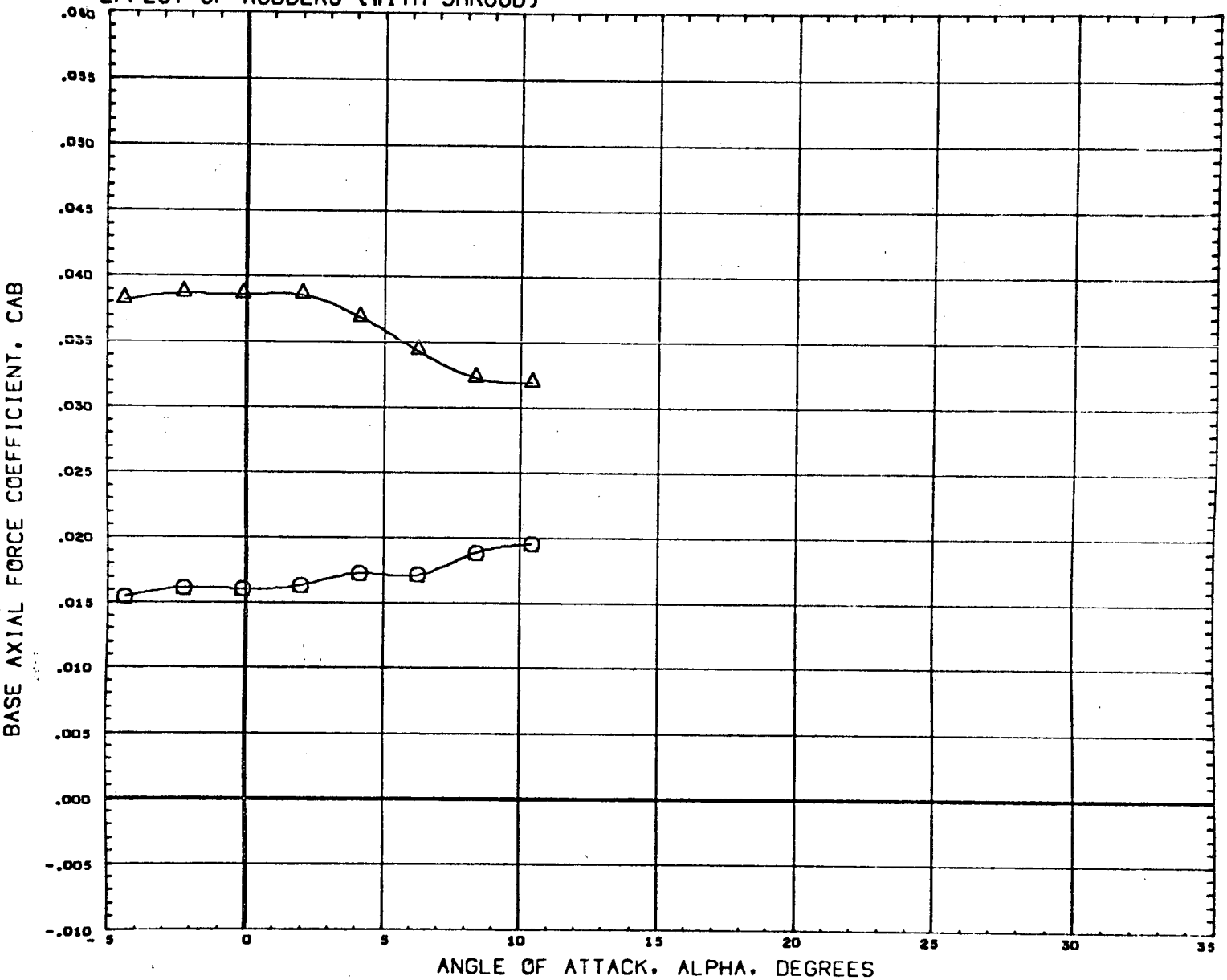


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH SHROUD)

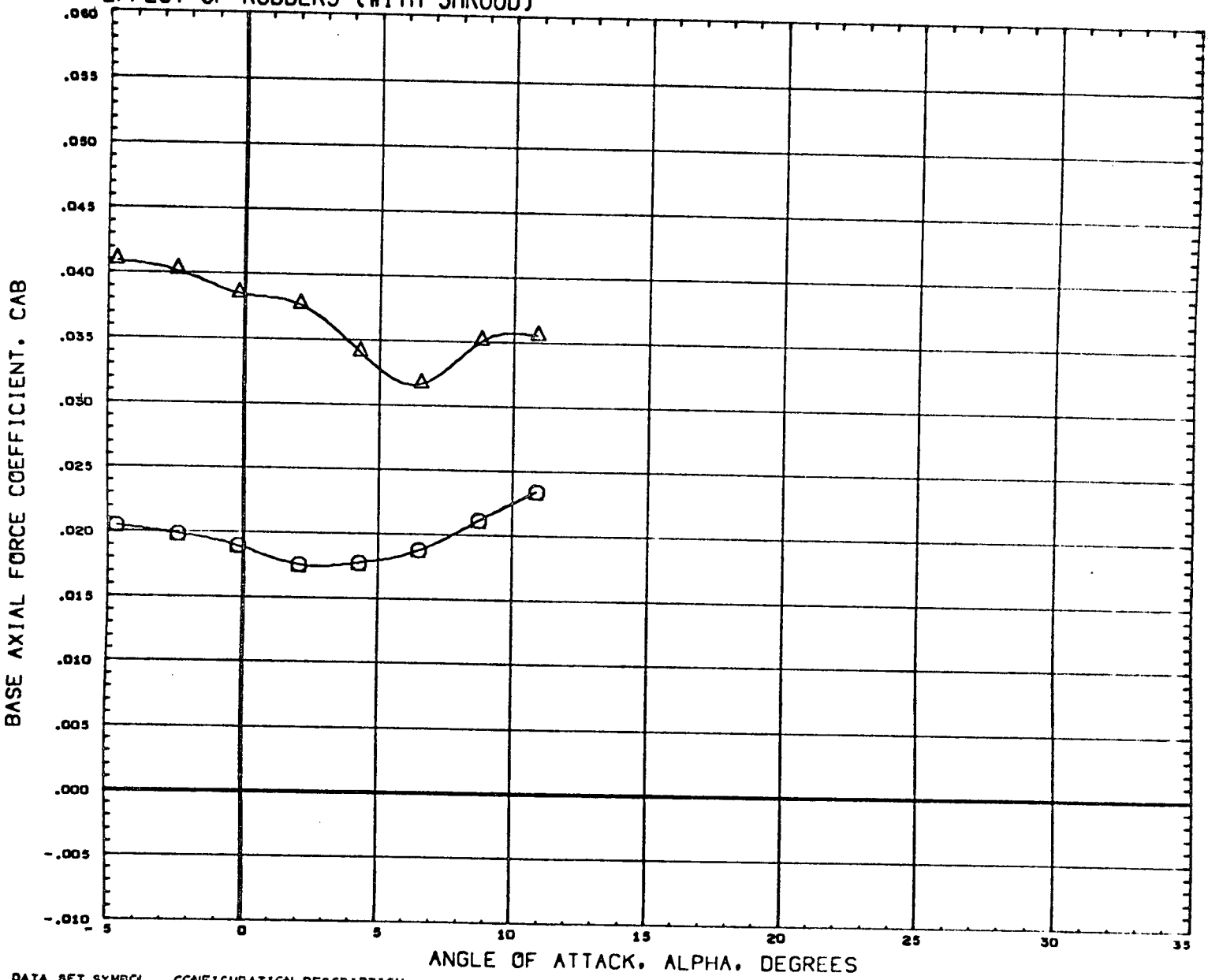


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH SHROUD)

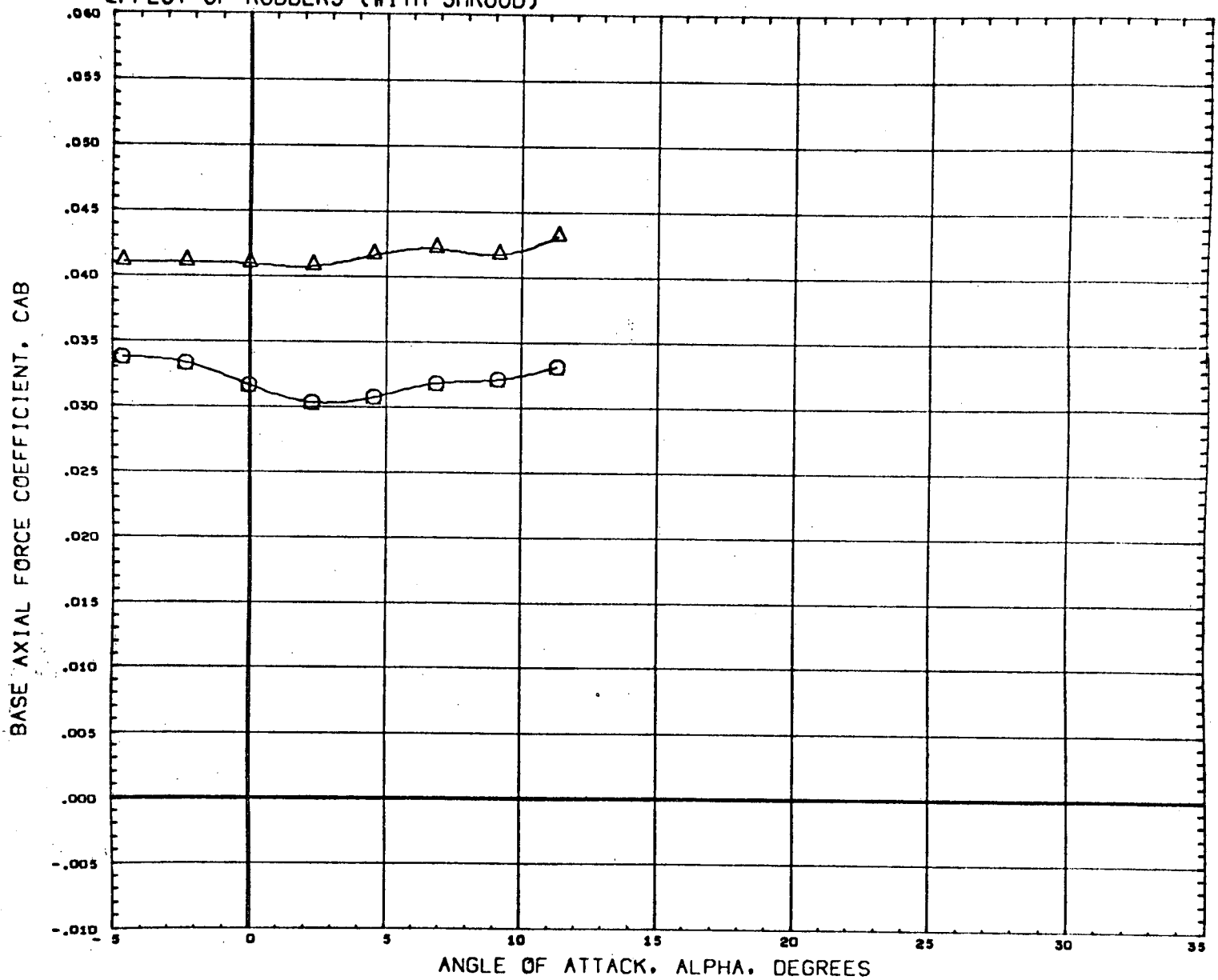


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH SHROUD)

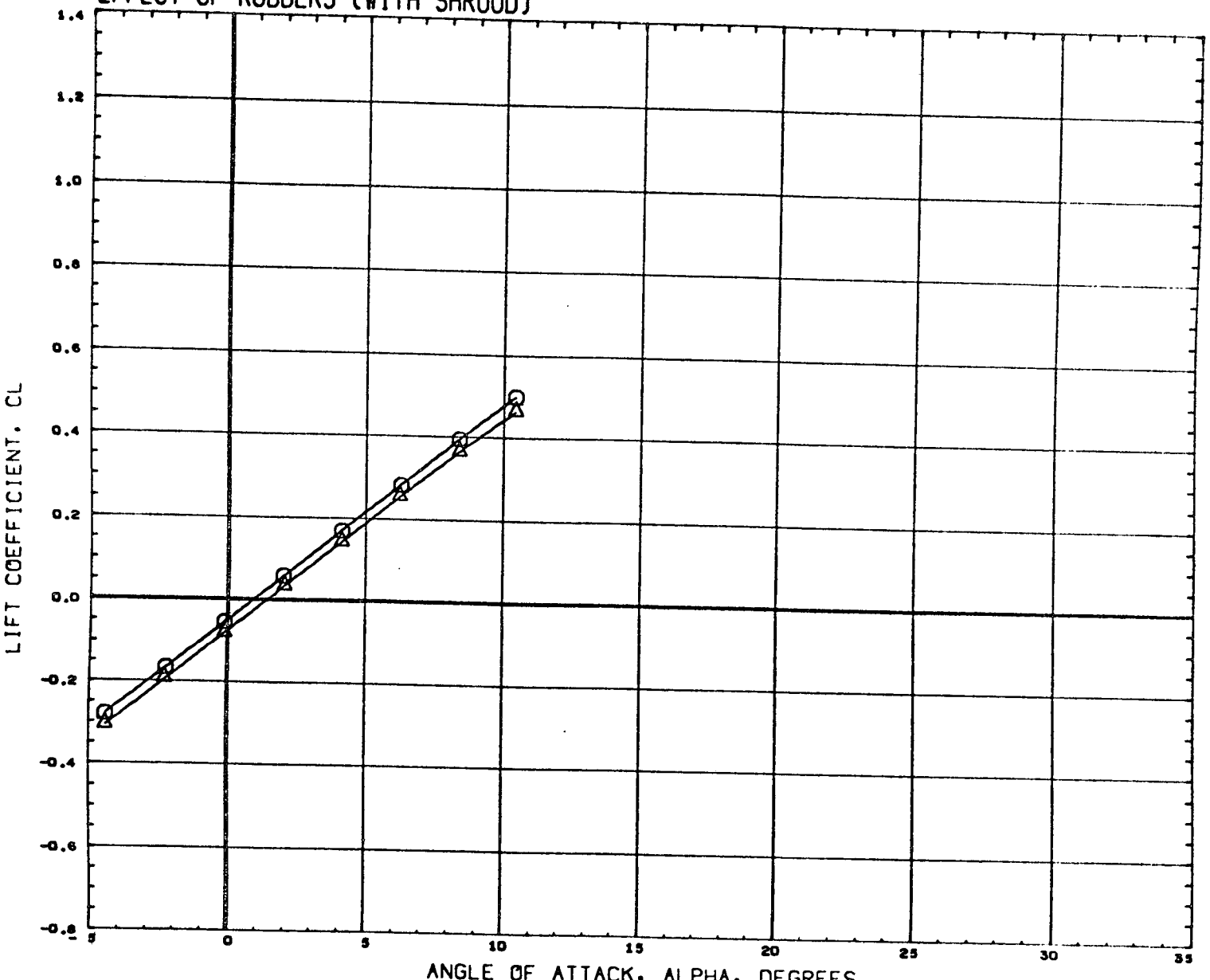


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH SHROUD)

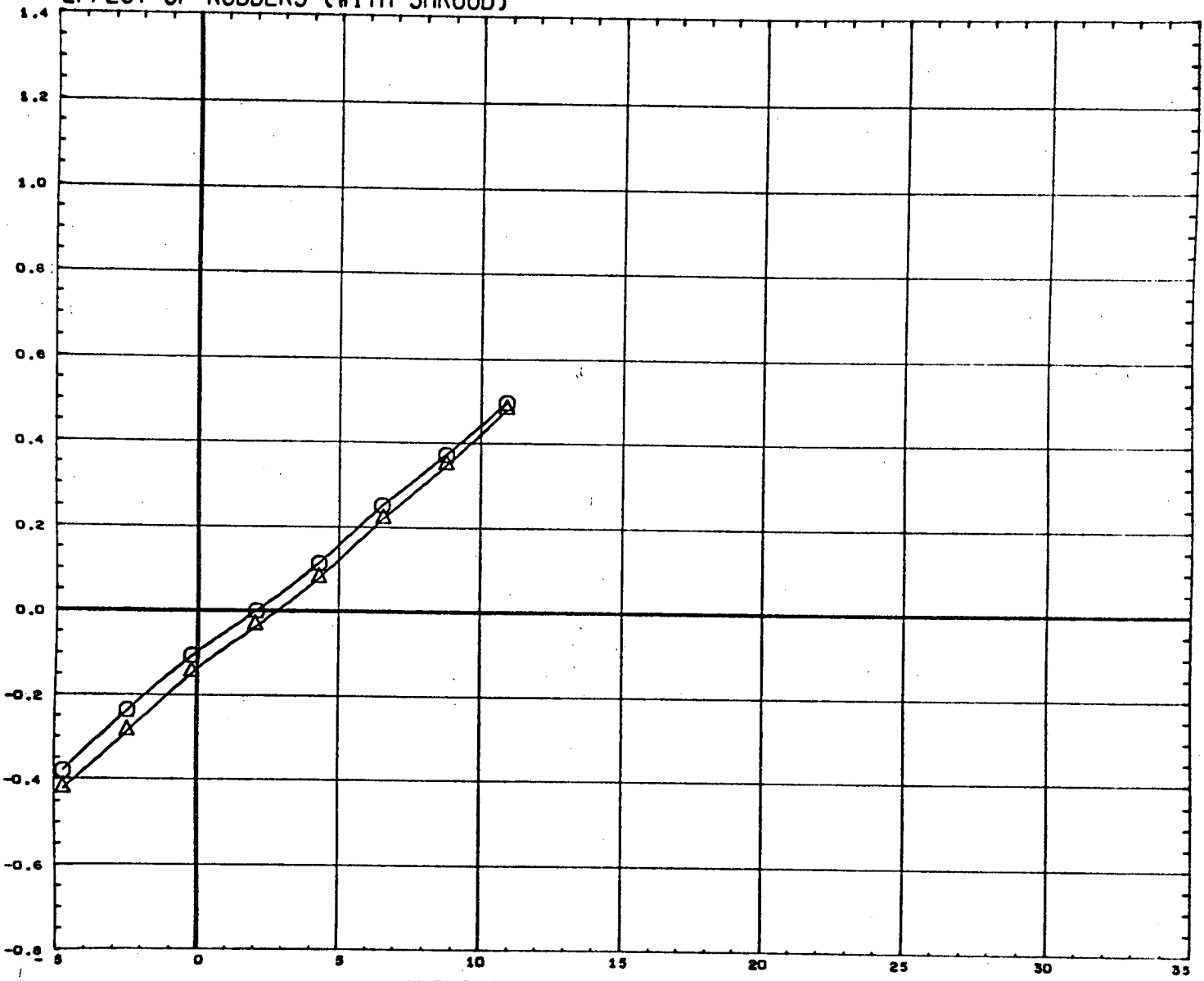


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH SHROUD)

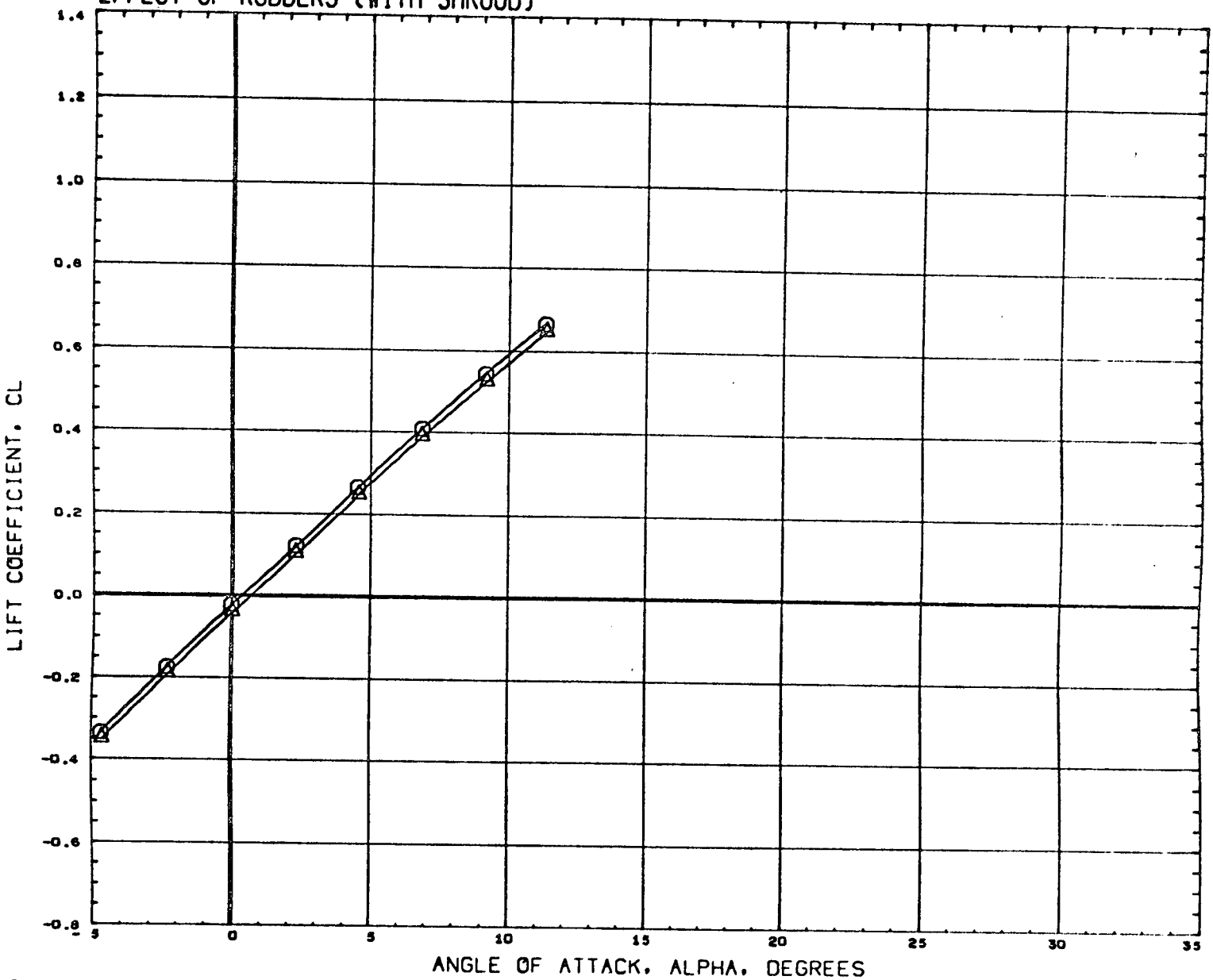


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6020	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH SHROUD)

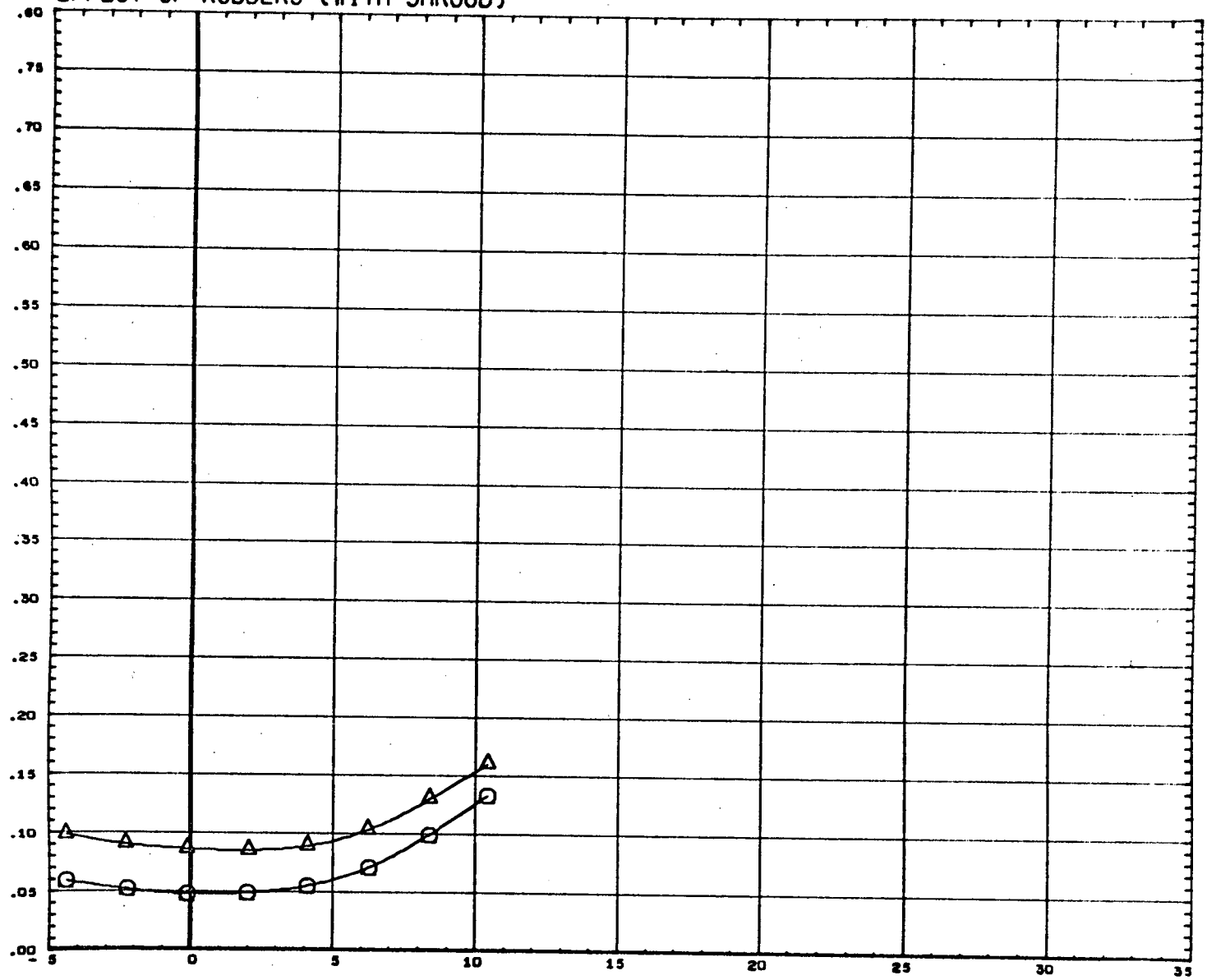


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH SHROUD)

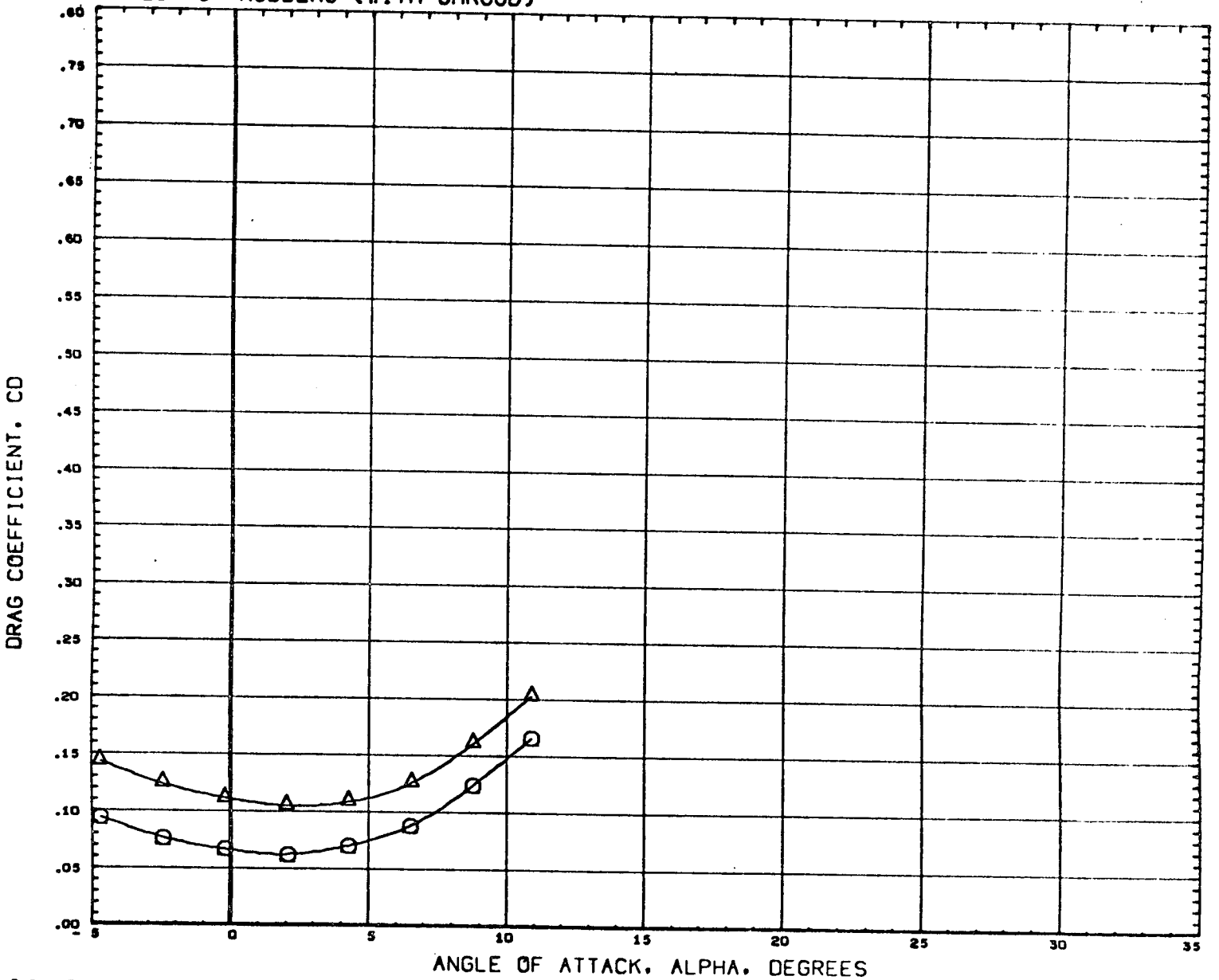


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(B69033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH SHROUD)



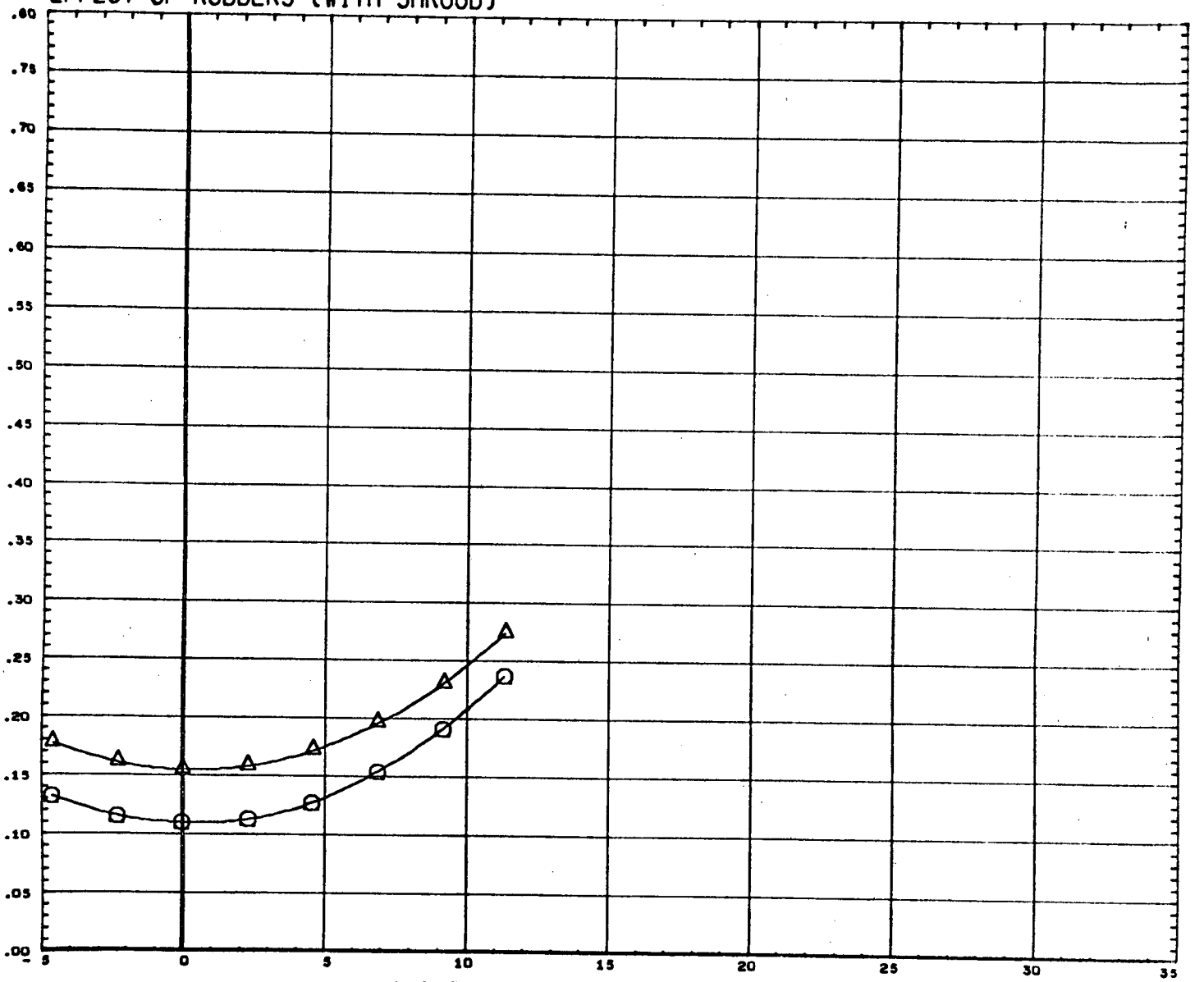
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(B69033)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH SHROUD)

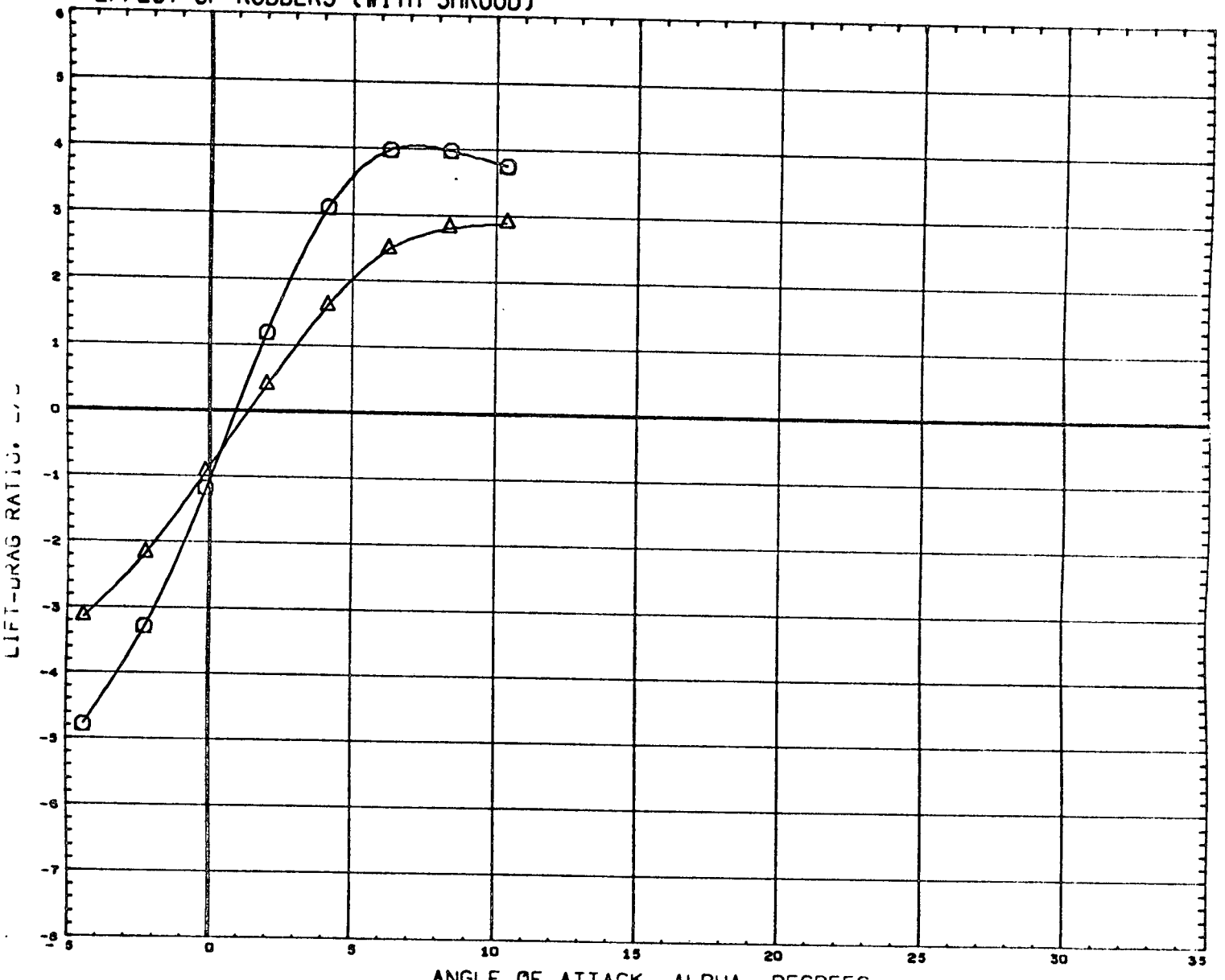


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69036)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(B69033)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH SHROUD)

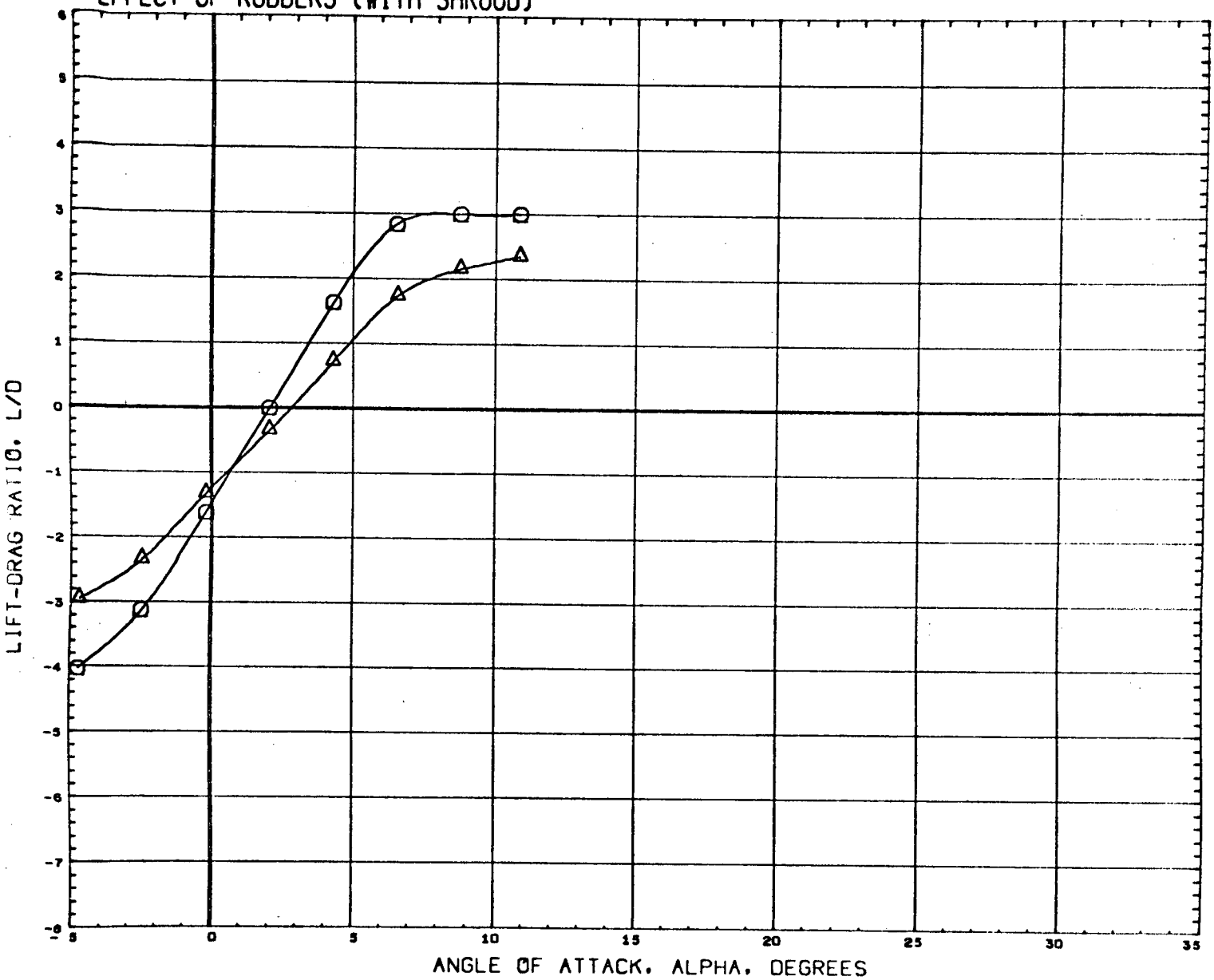


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH SHROUD)

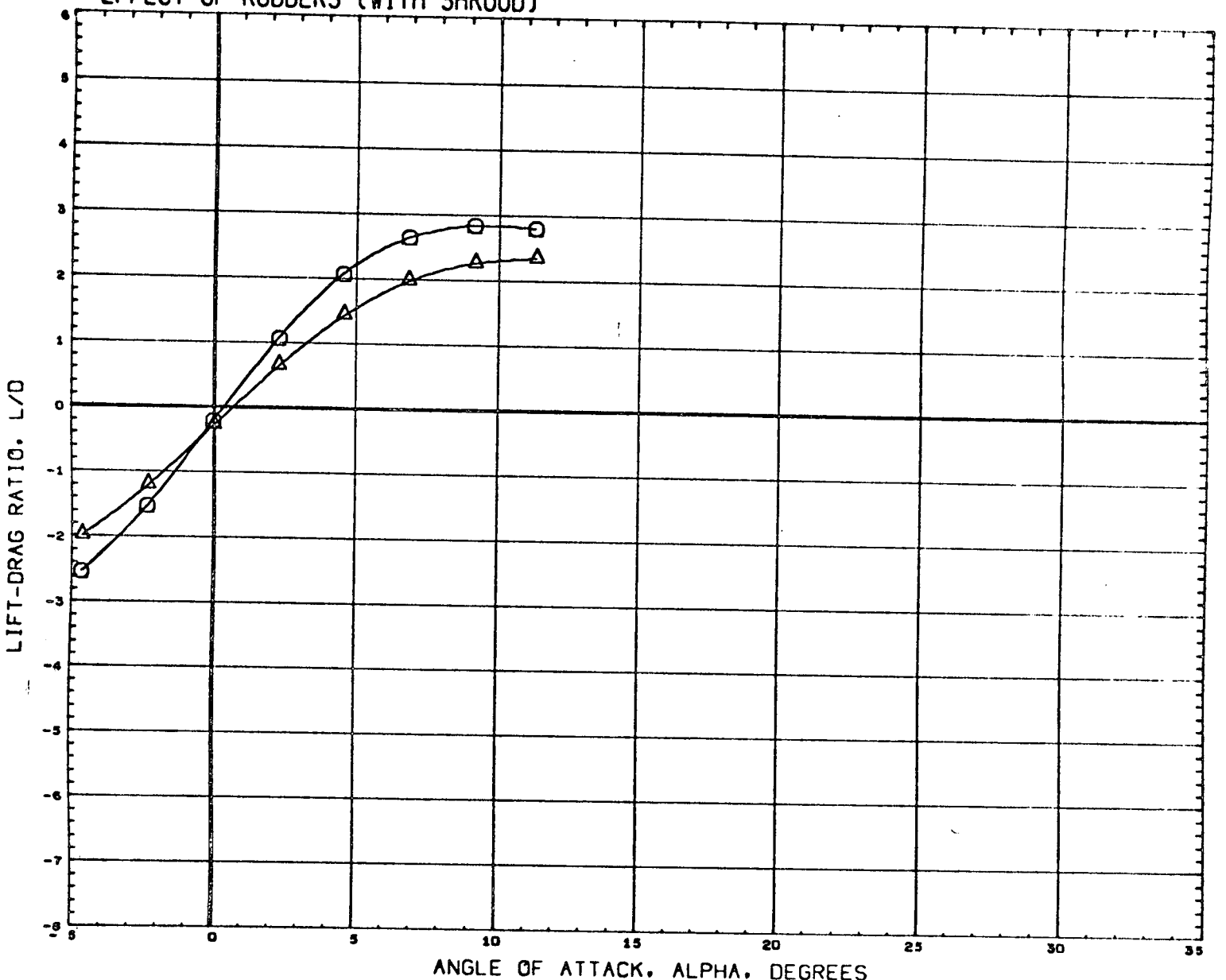


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH SHROUD)

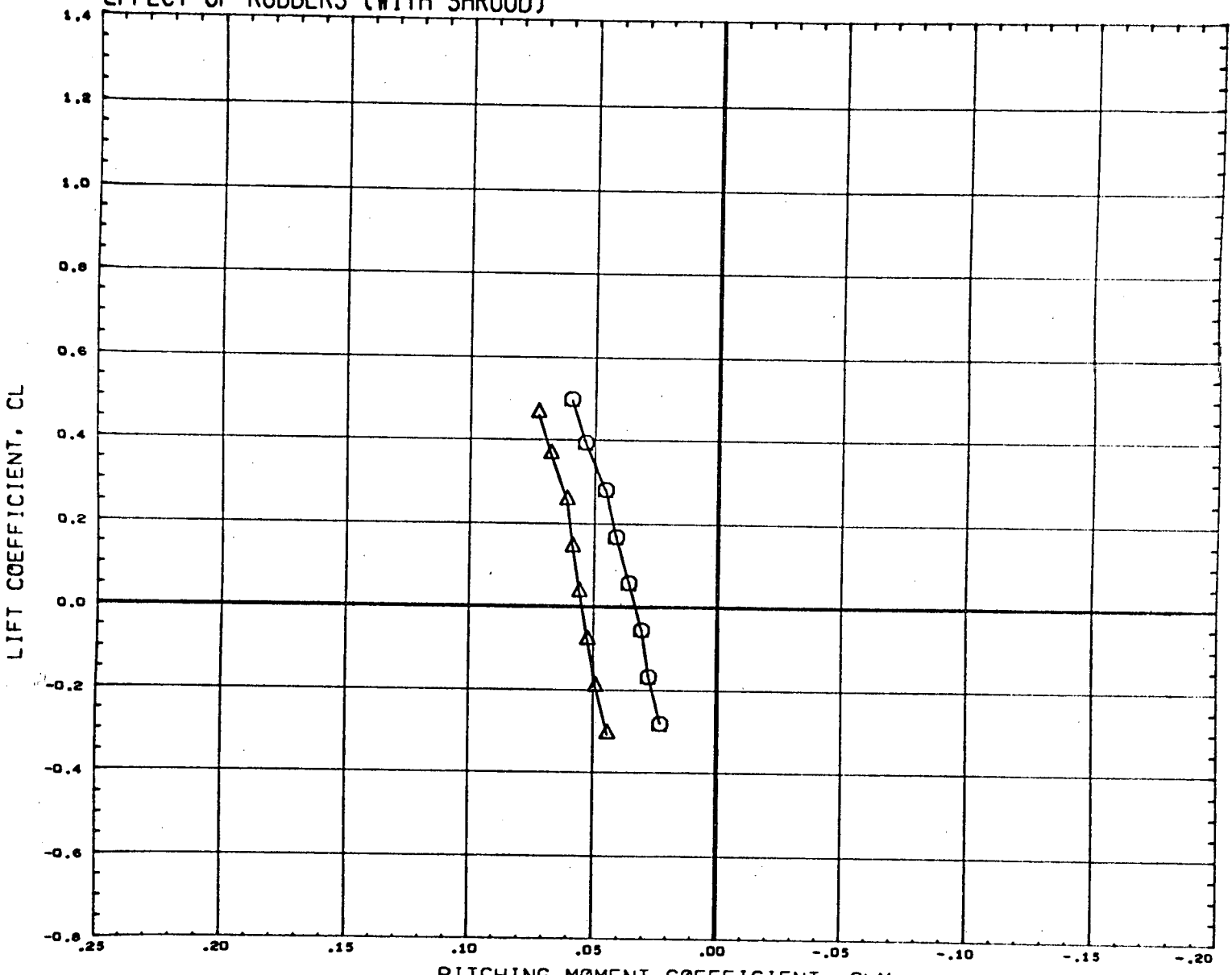


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(B69033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH SHROUD)

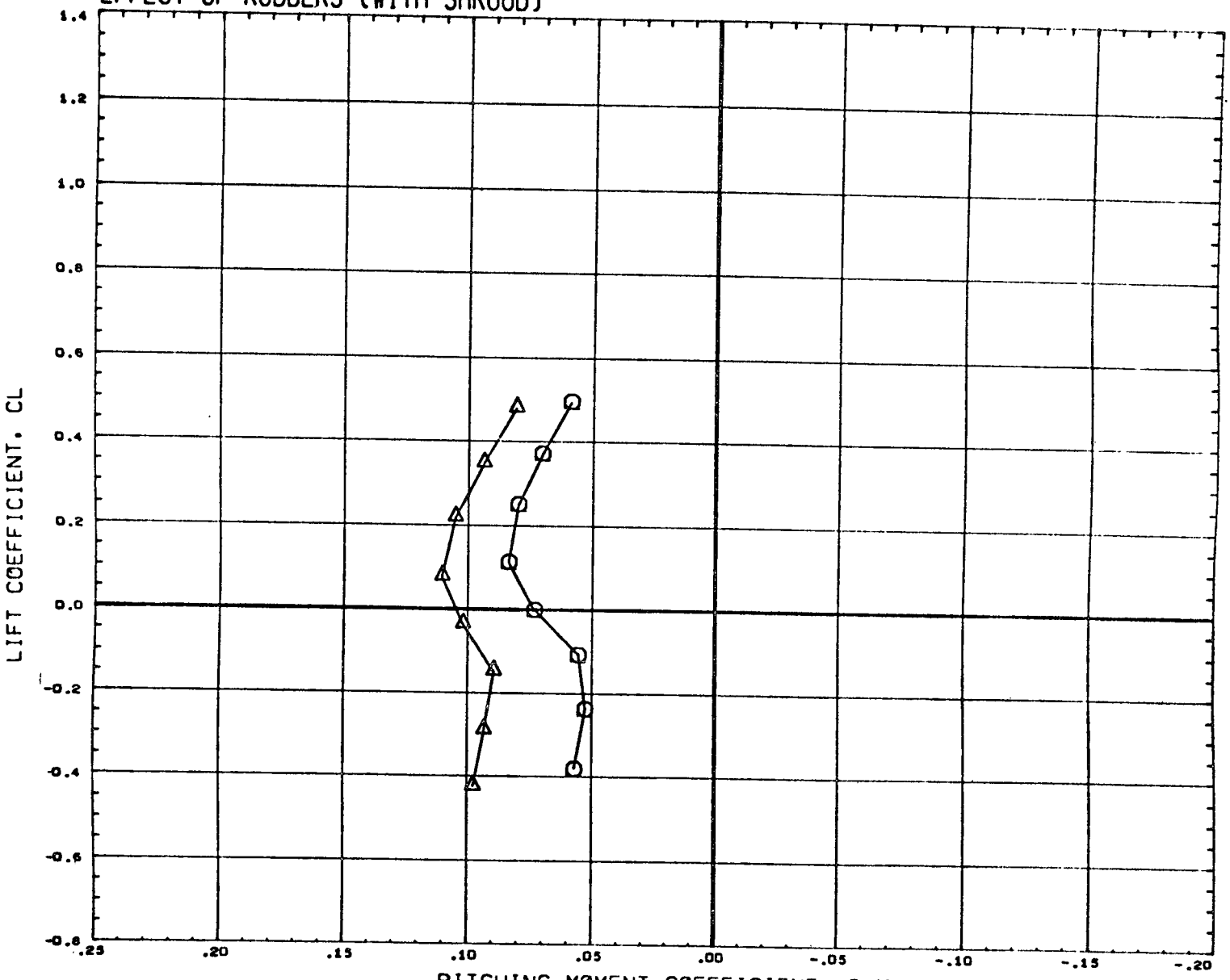


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(869033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH SHROUD)



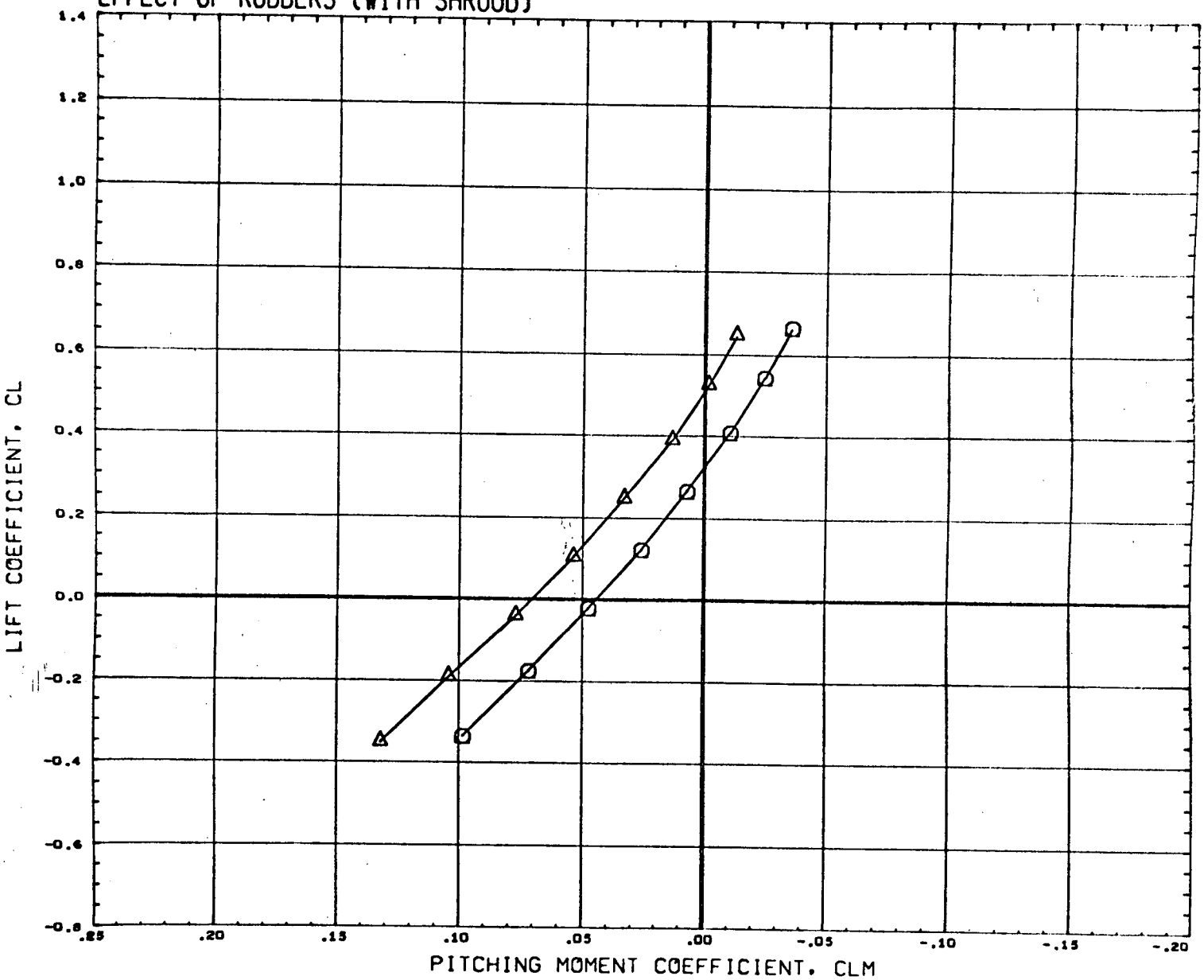
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(86036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(86033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

FF

EFFECT OF RUDDERS (WITH SHROUD)

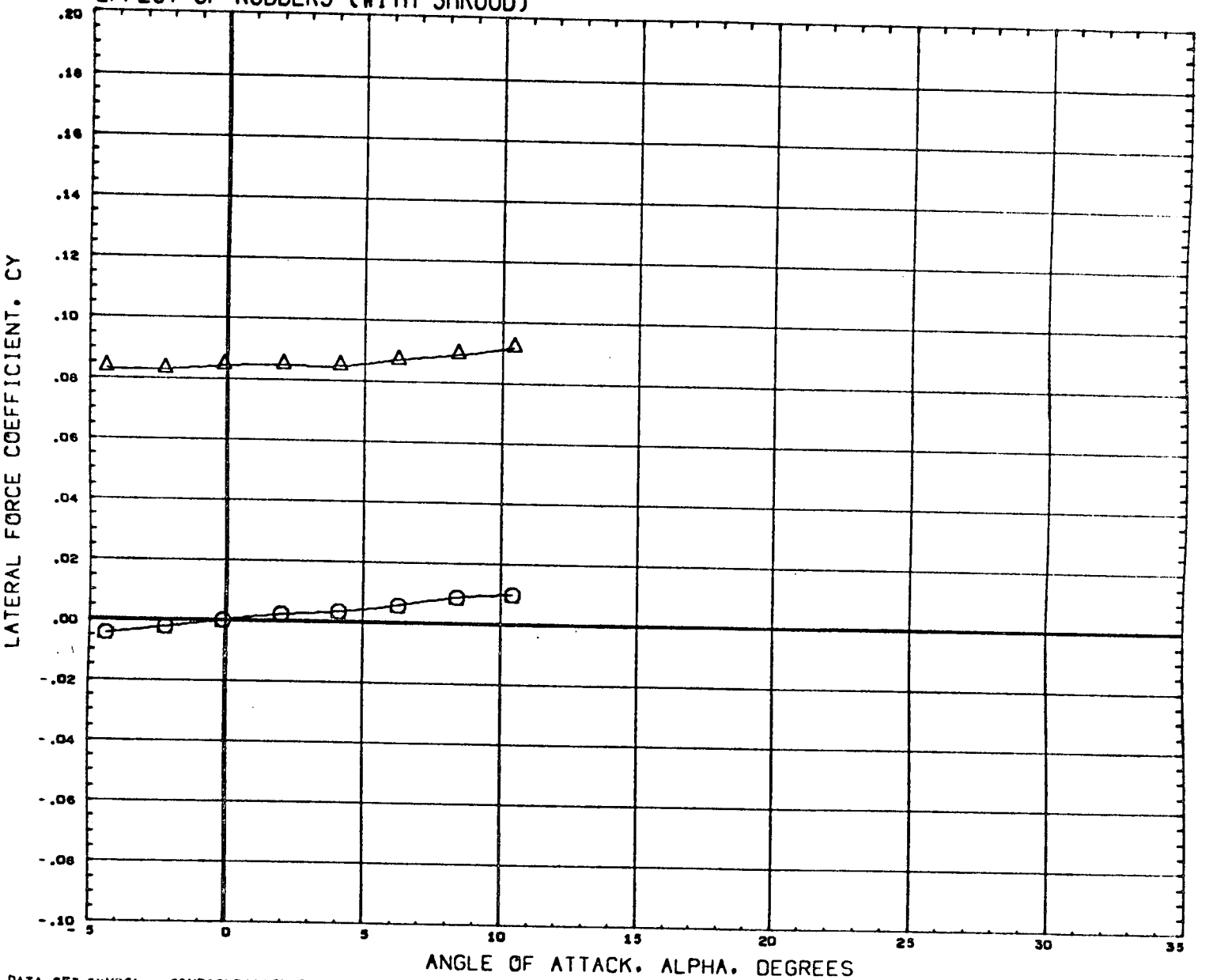


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69036)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(B69033)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.6800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH SHROUD)

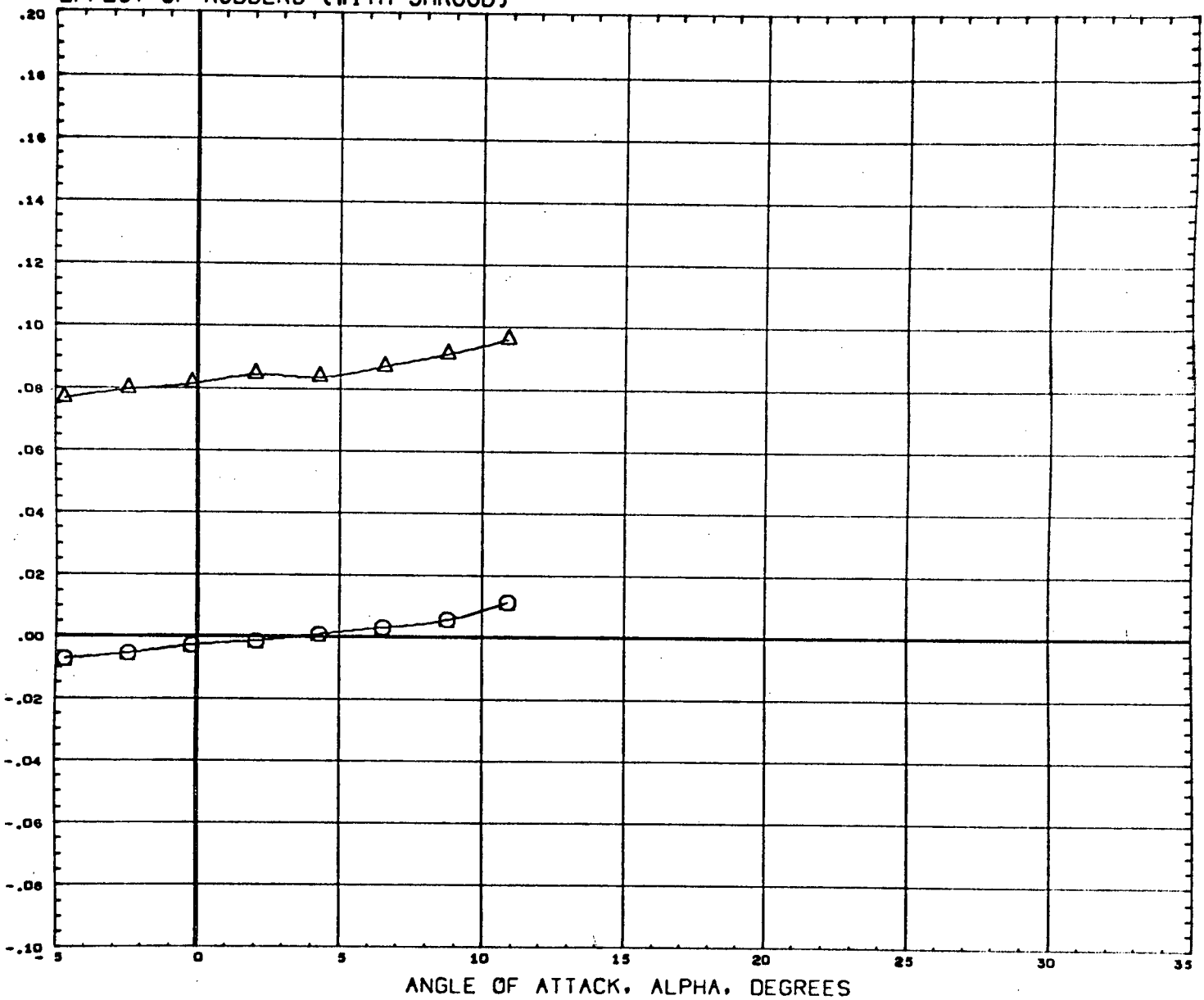


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69036)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69033)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH SHROUD)

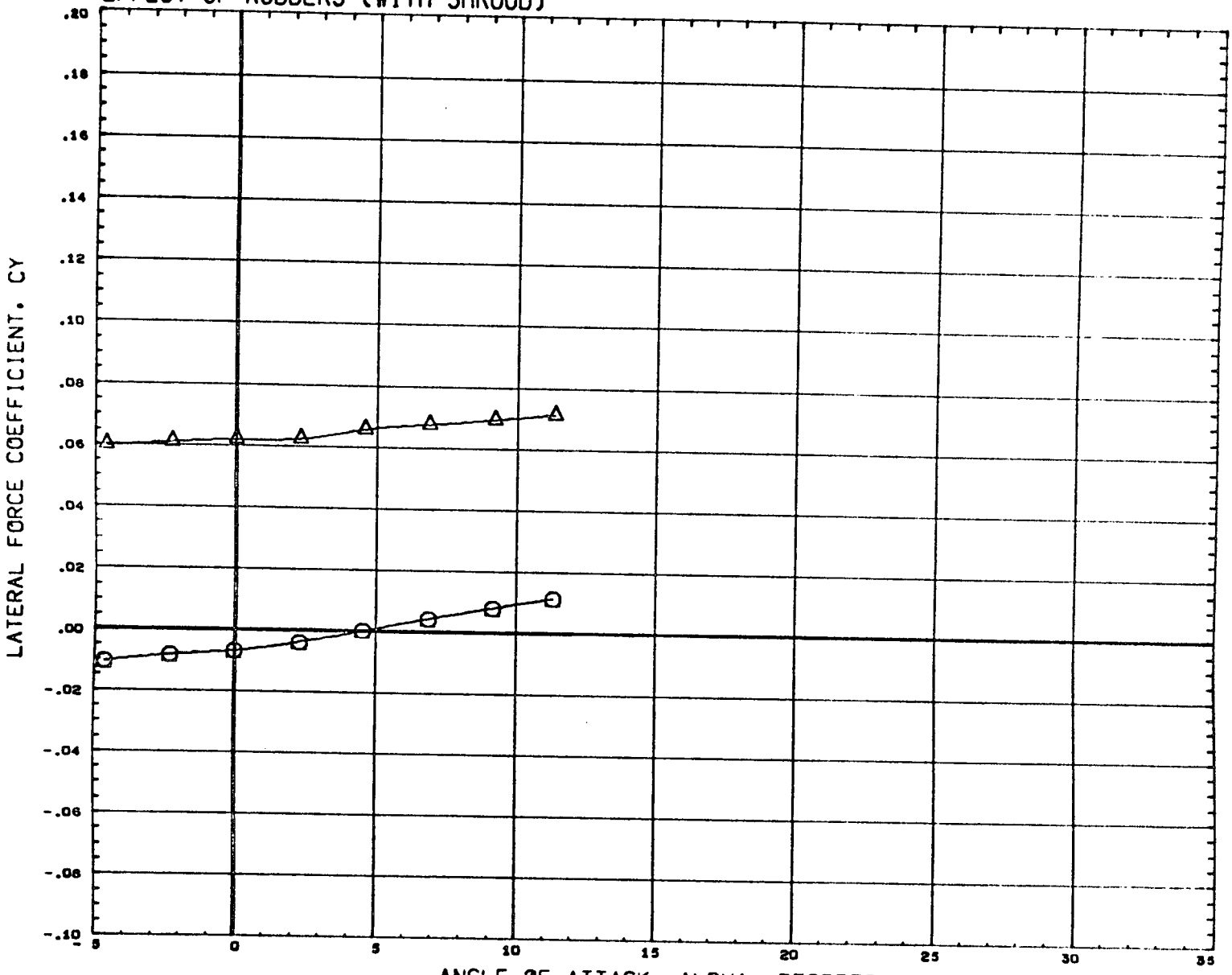


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH SHROUD)

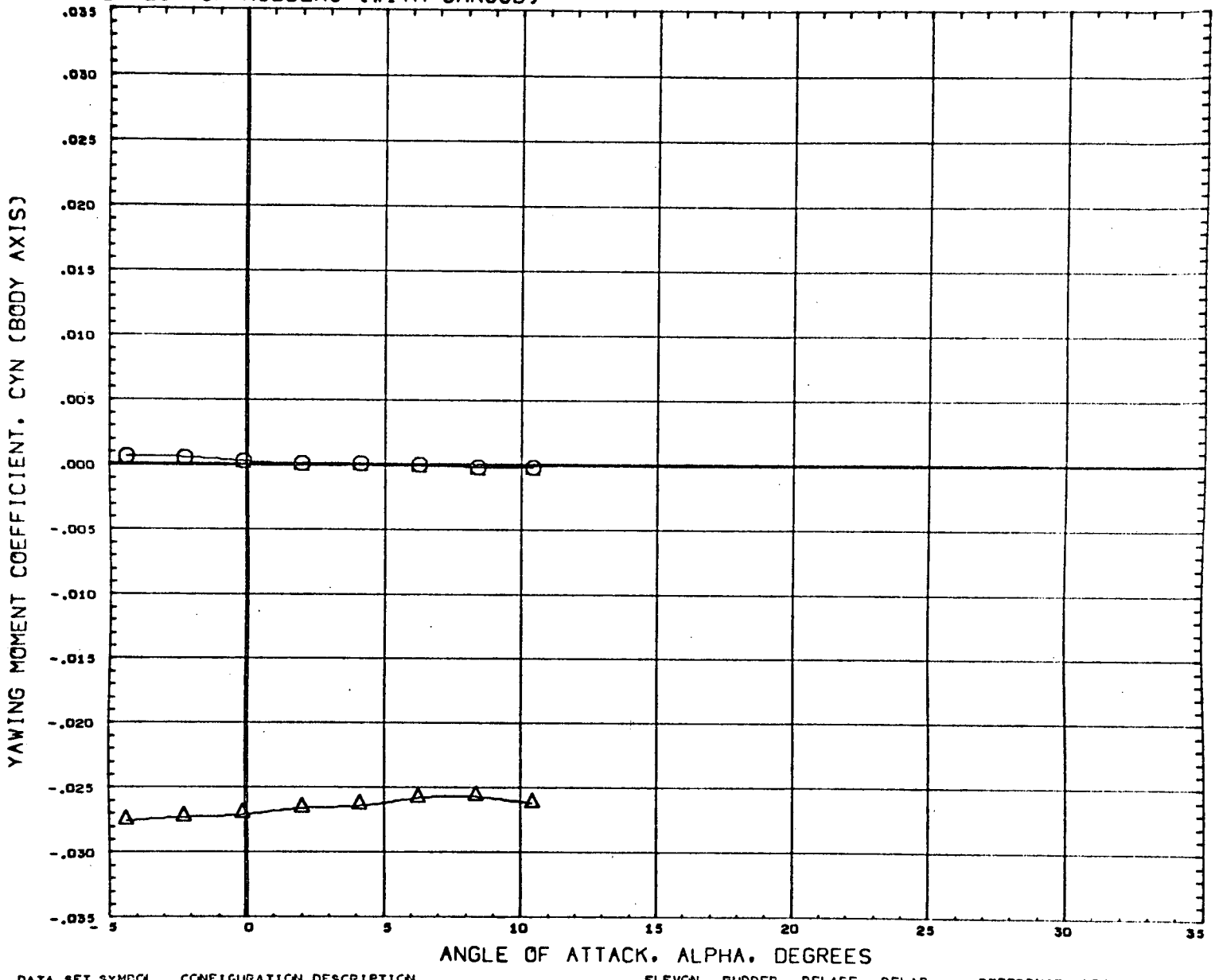


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH SHROUD)

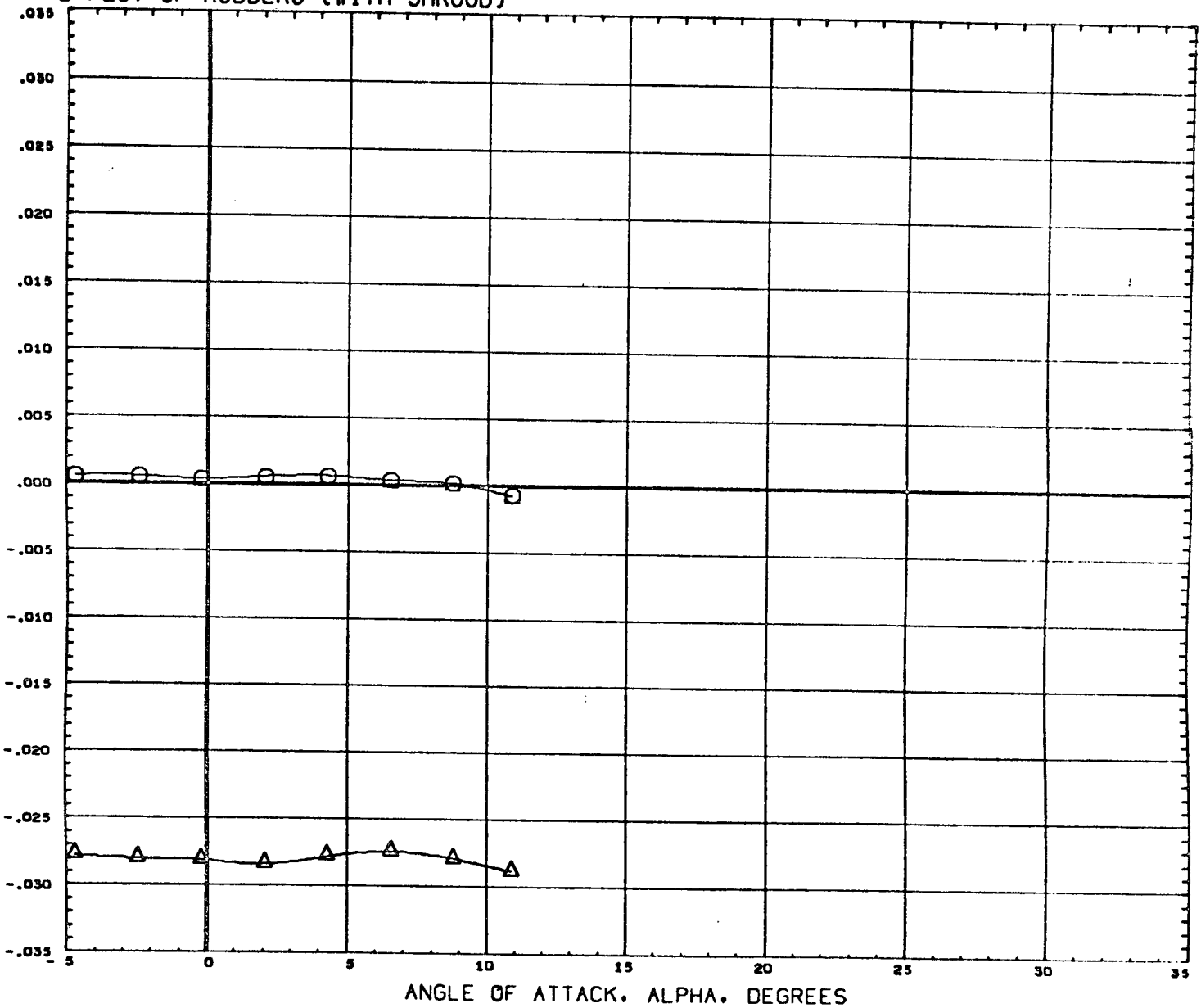


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH SHROUD)

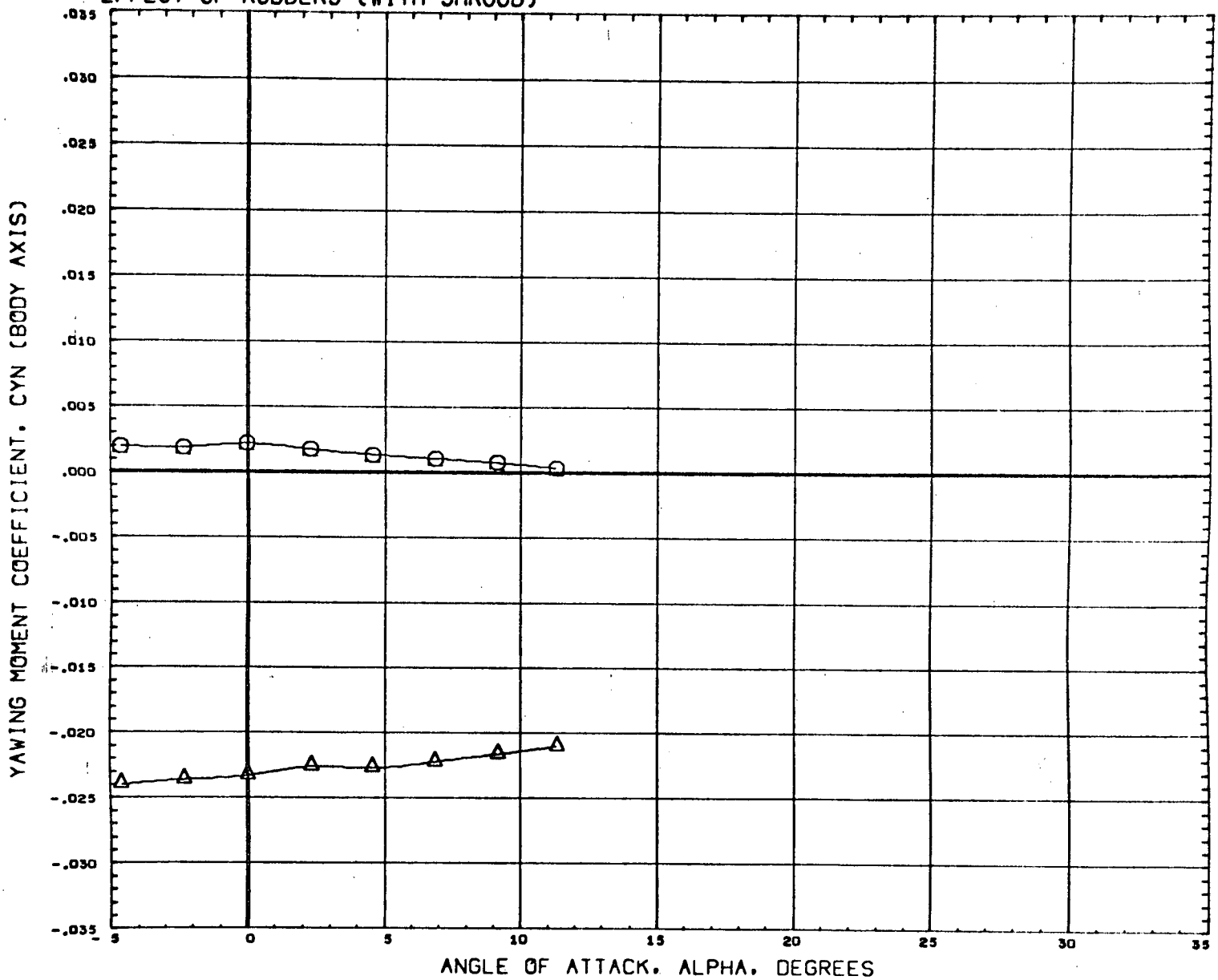


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH SHROUD)



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH SHROUD)

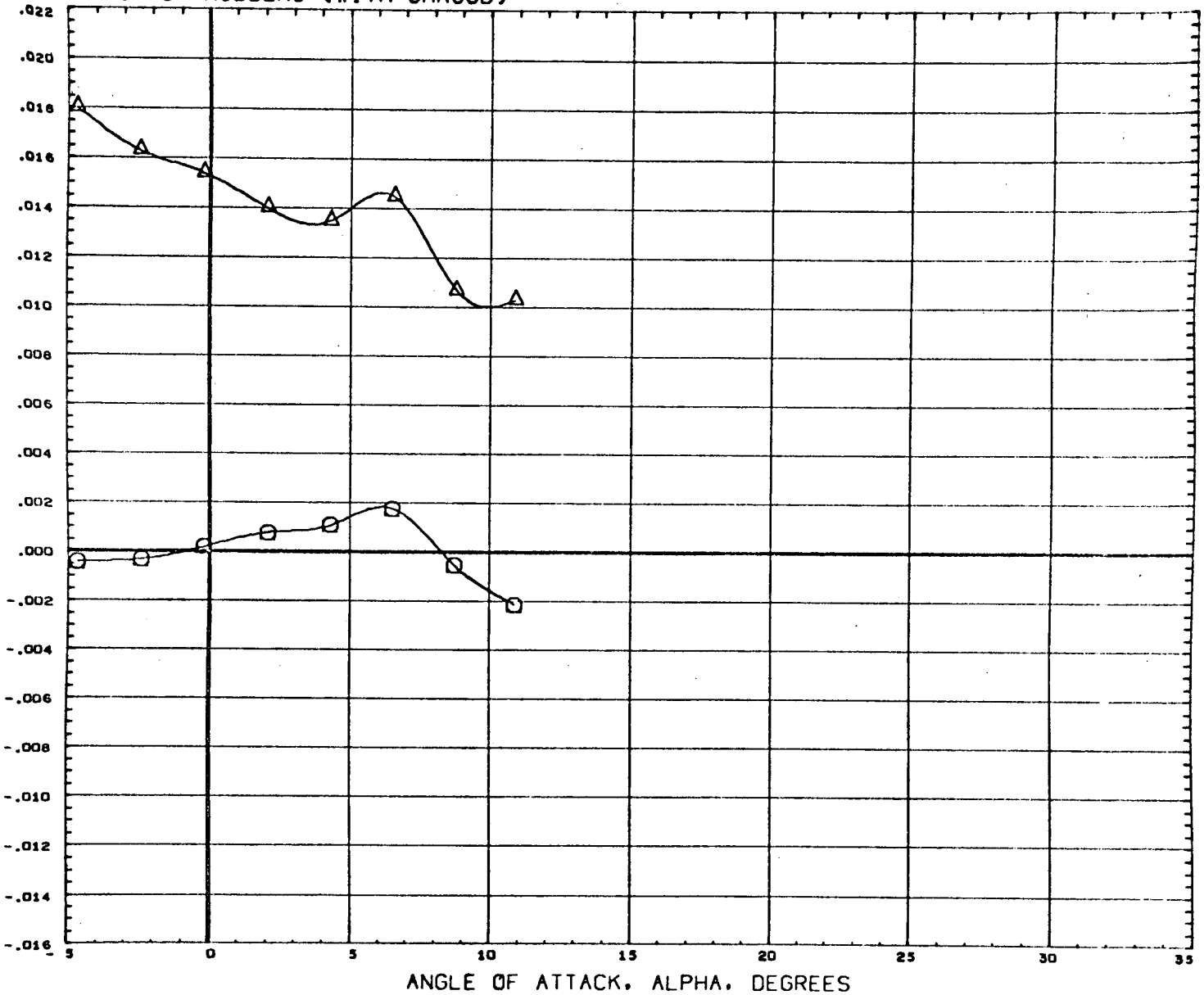


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH SHROUD)

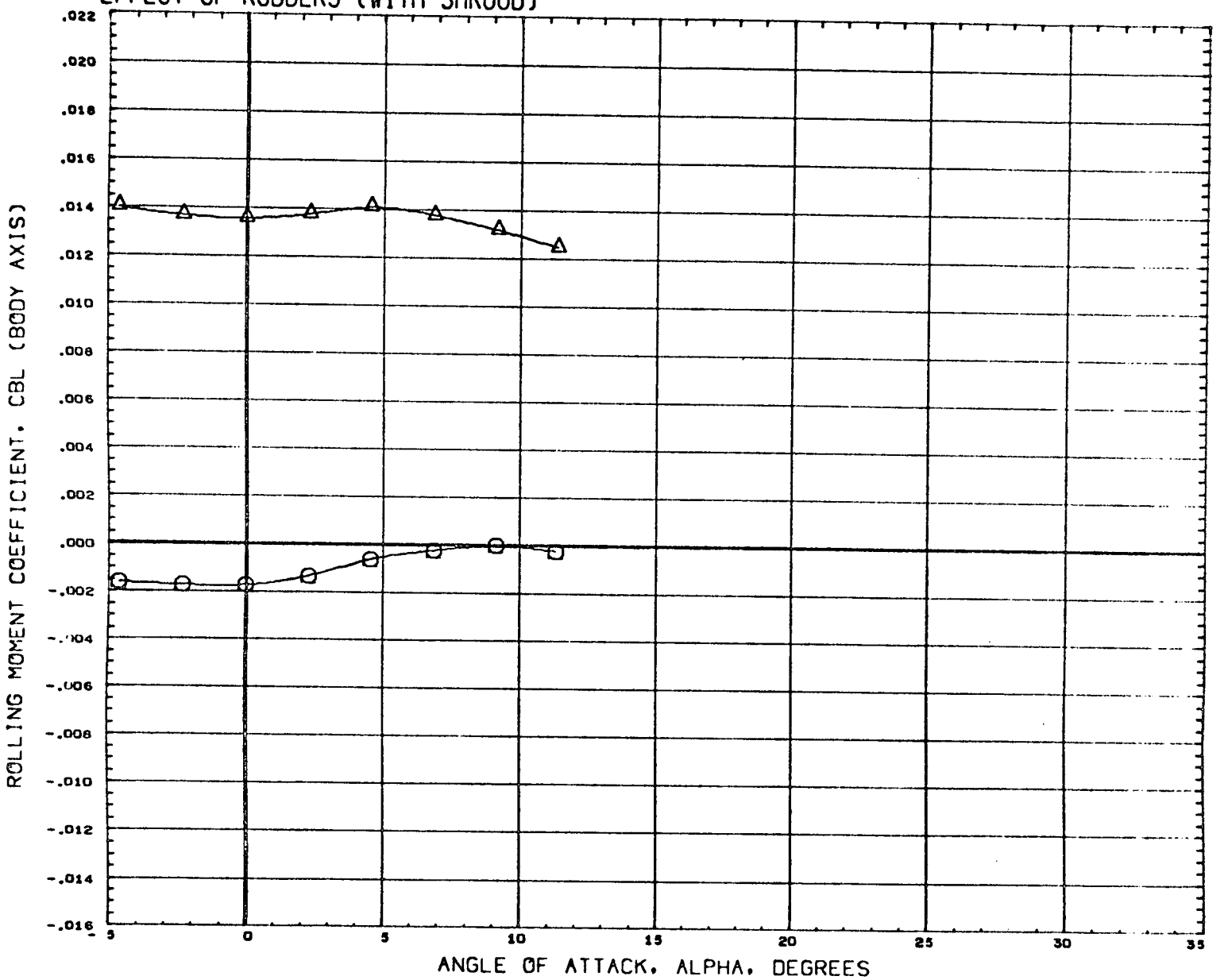


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69036)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69033)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH SHROUD)

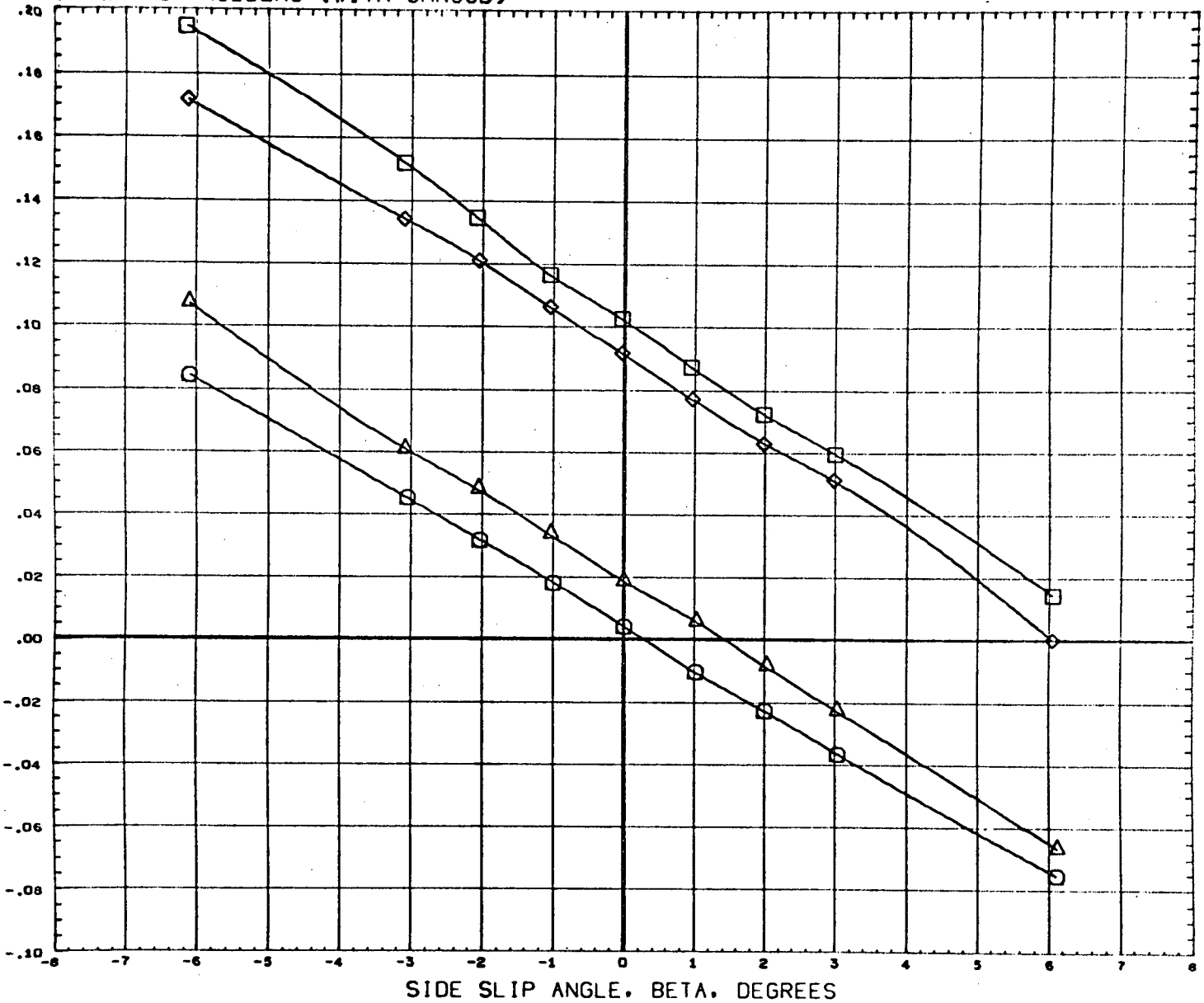


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(AG9036)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69033)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH SHROUD)

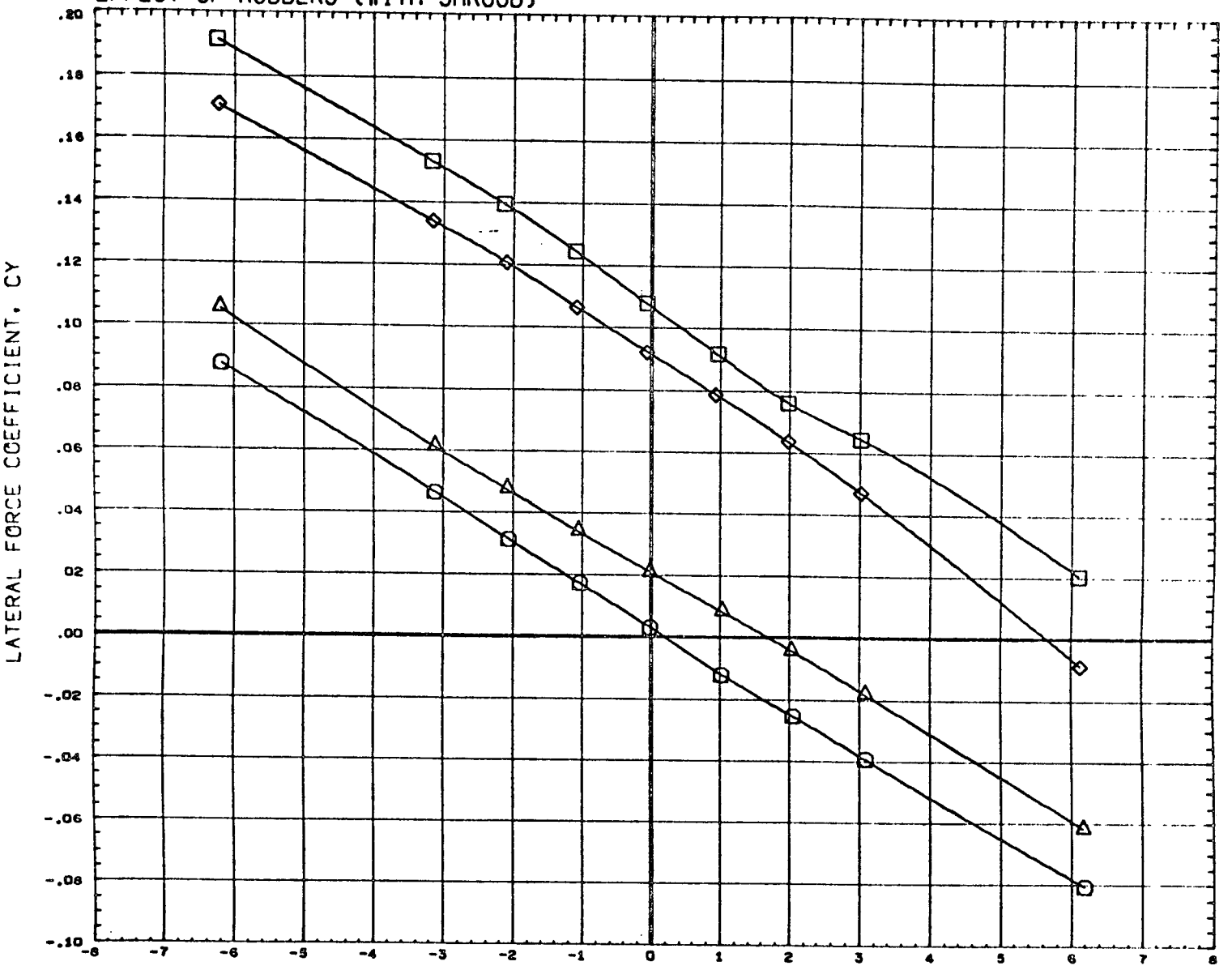


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69037)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69038)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	0.000
(A69034)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000
(A69035)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH SHROUD)



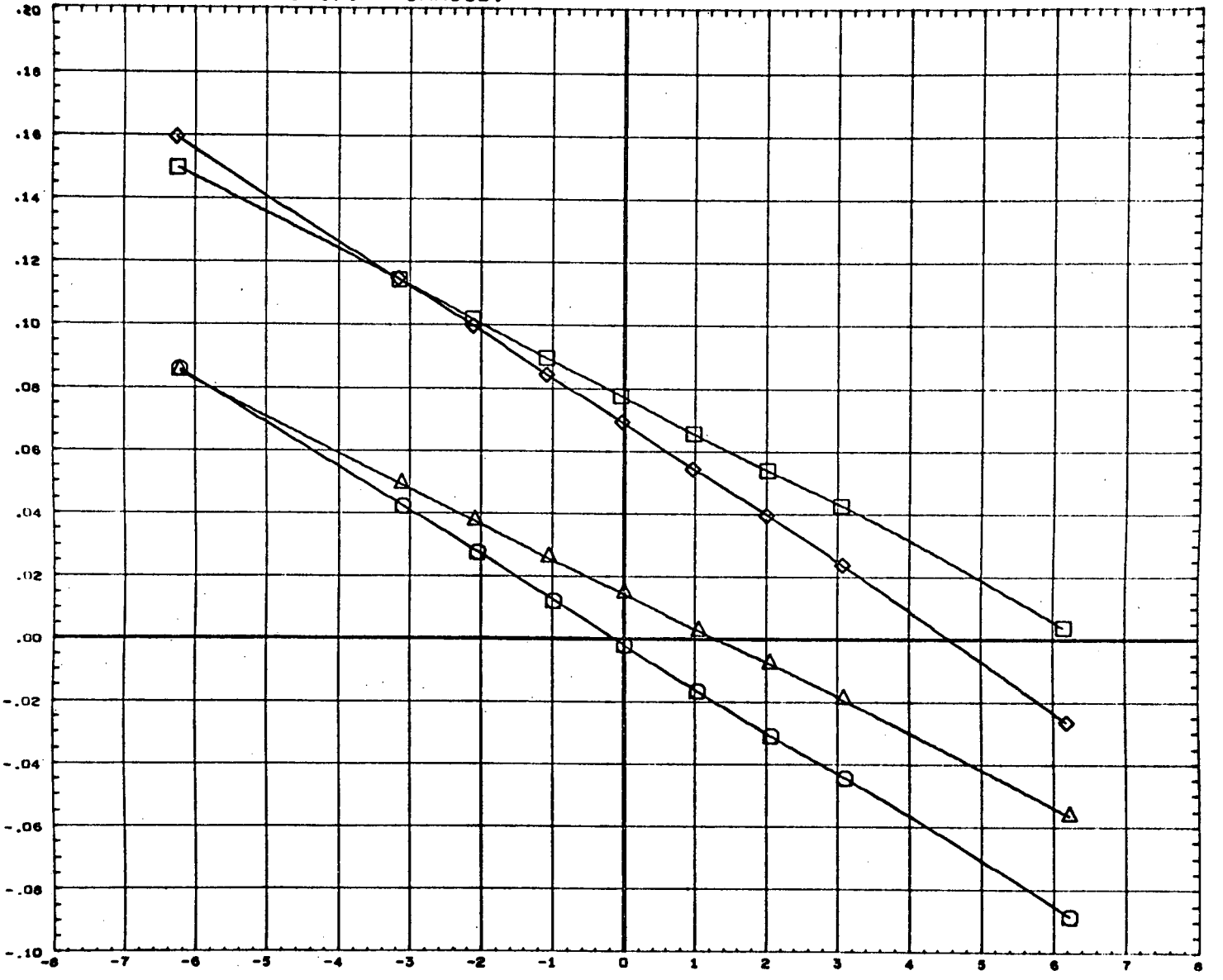
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69037)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69038)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	0.000
(A69034)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000
(A69035)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

C5

EFFECT OF RUDDERS (WITH SHROUD)

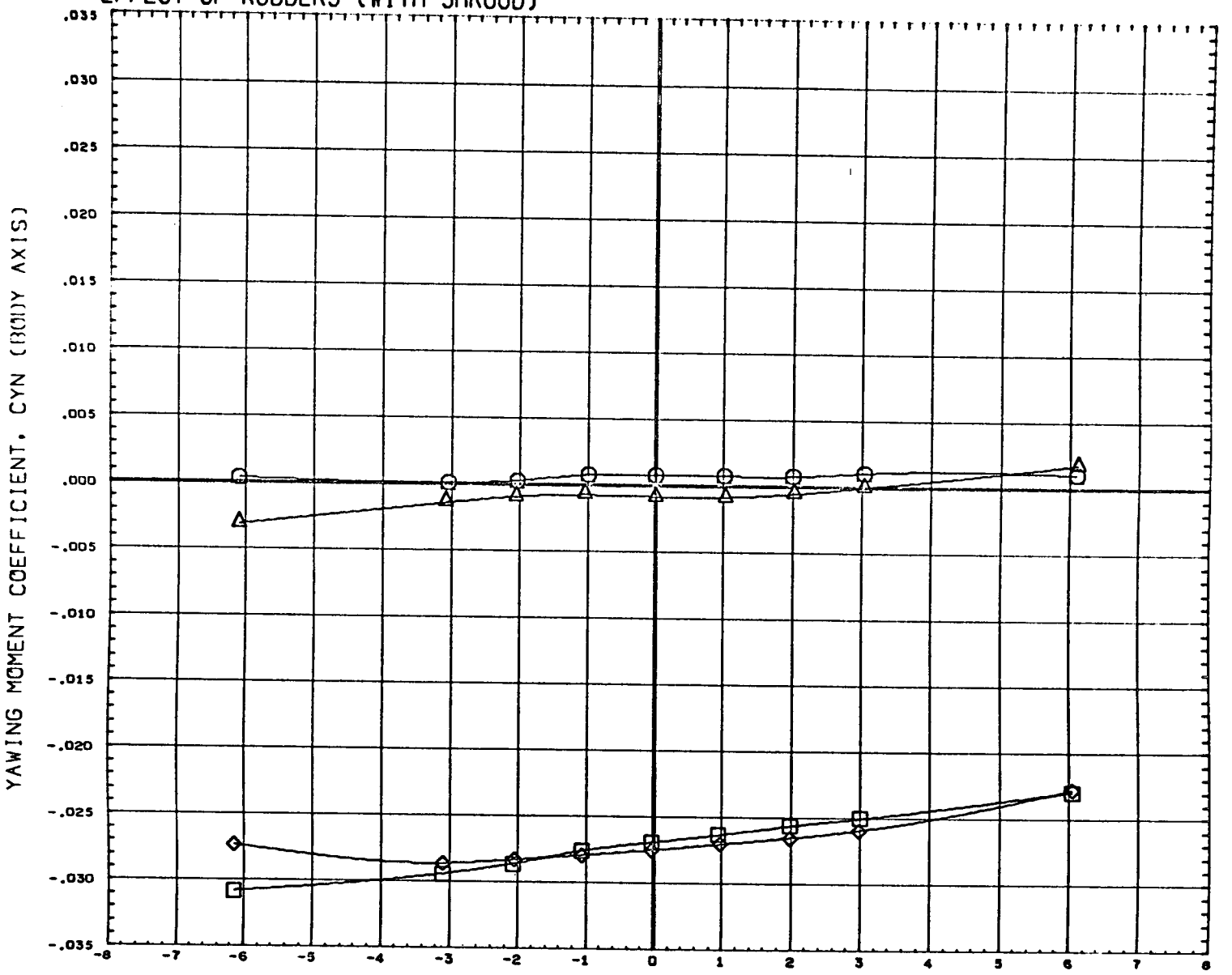


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69037)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69038)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	0.000
(A69034)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000
(A69035)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF RUDDERS (WITH SHROUD)

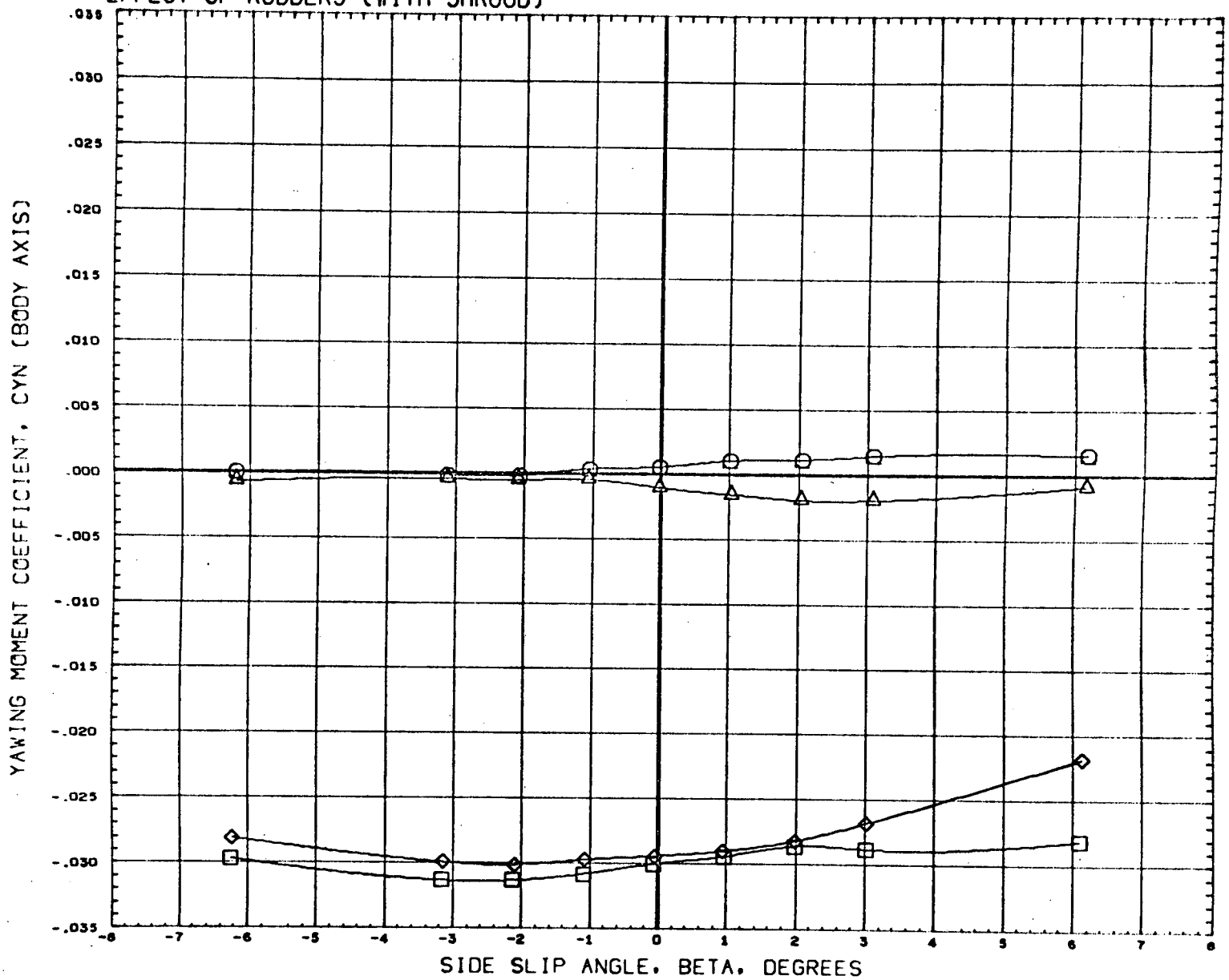


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69037)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69038)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	0.000
(A69034)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000
(A69035)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH SHROUD)

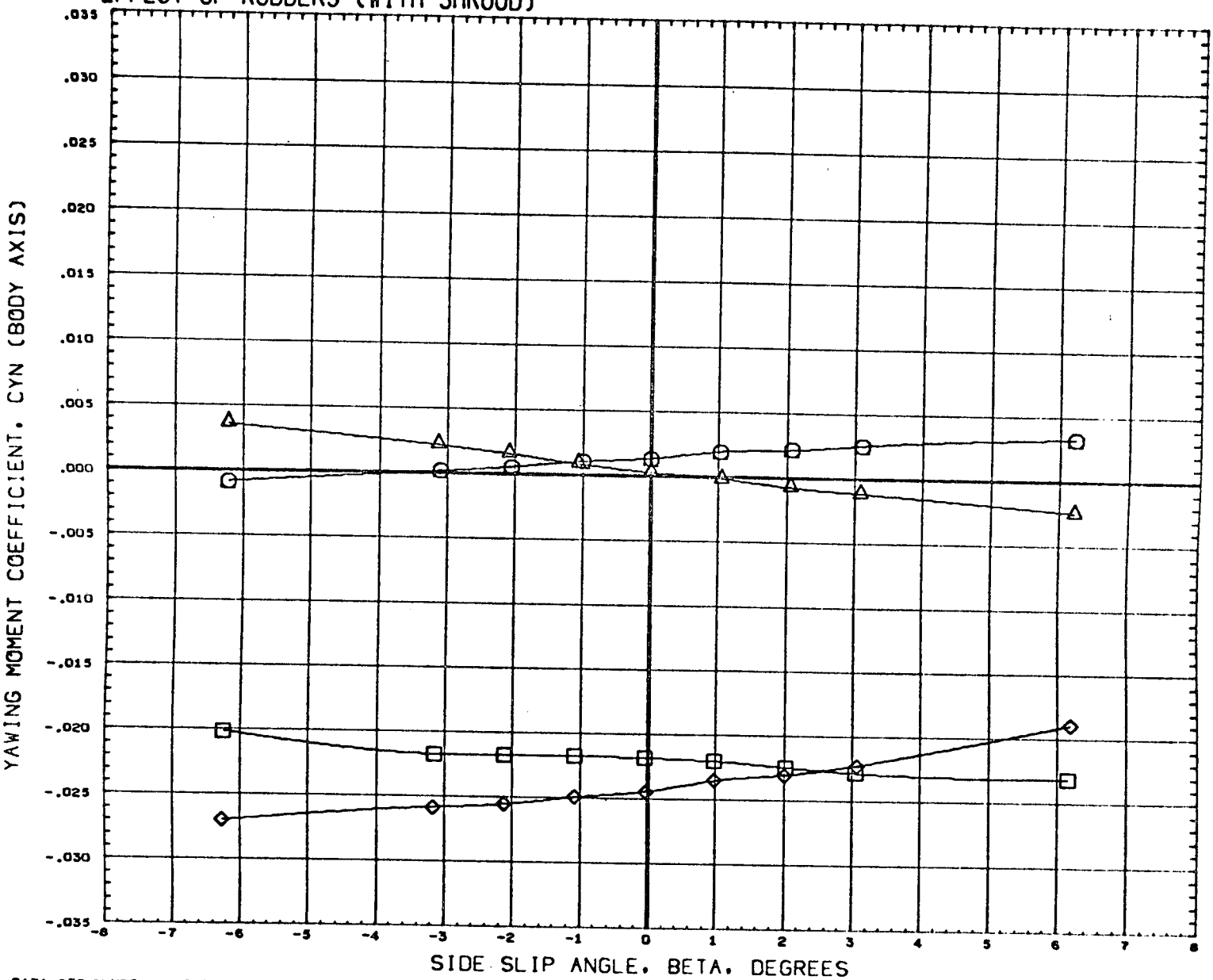


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69037)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69038)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	0.000
(A69034)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000
(A69035)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH SHROUD)

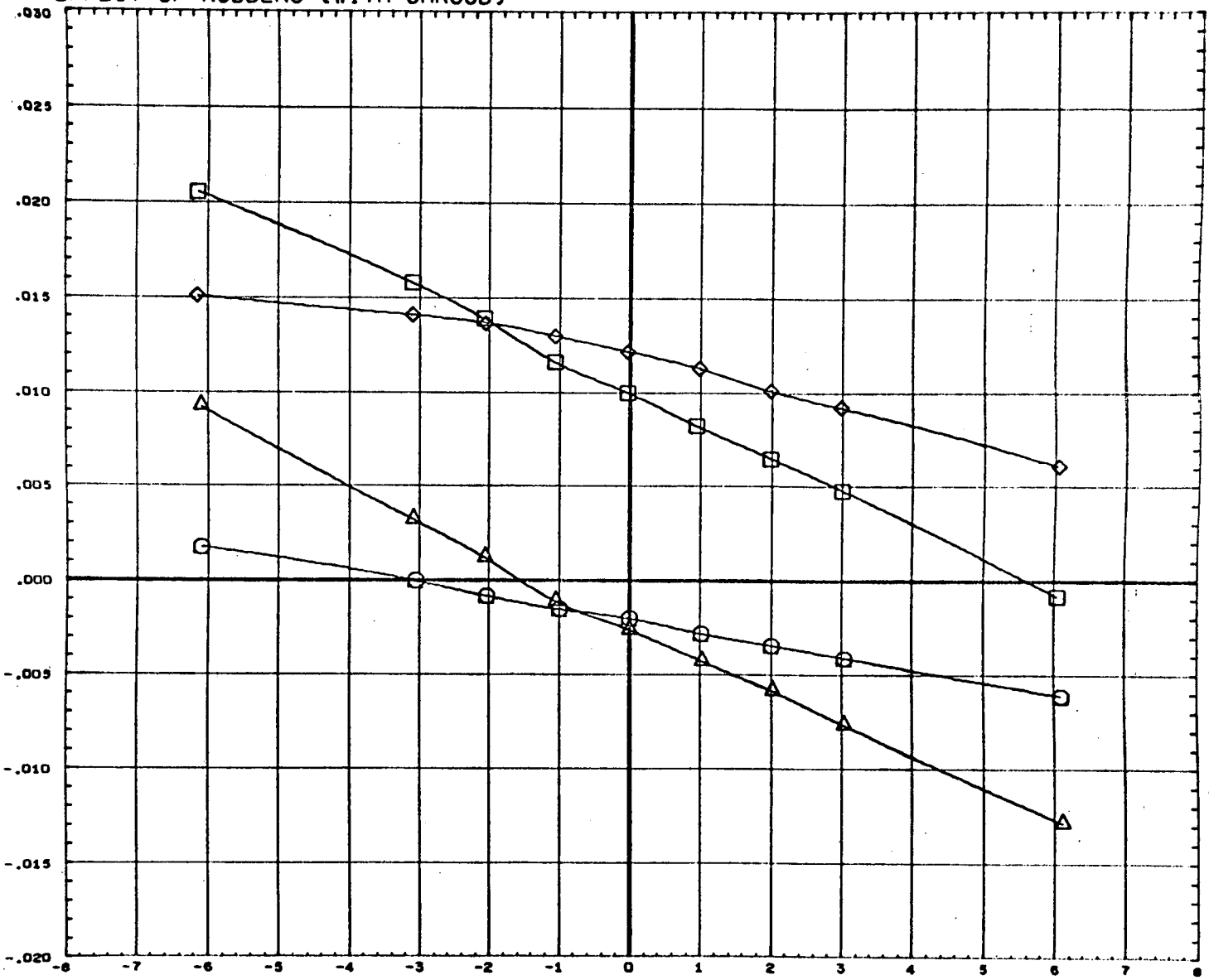


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69037)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69038)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	0.000
(A69034)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000
(A69035)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF RUDDERS (WITH SHROUD)

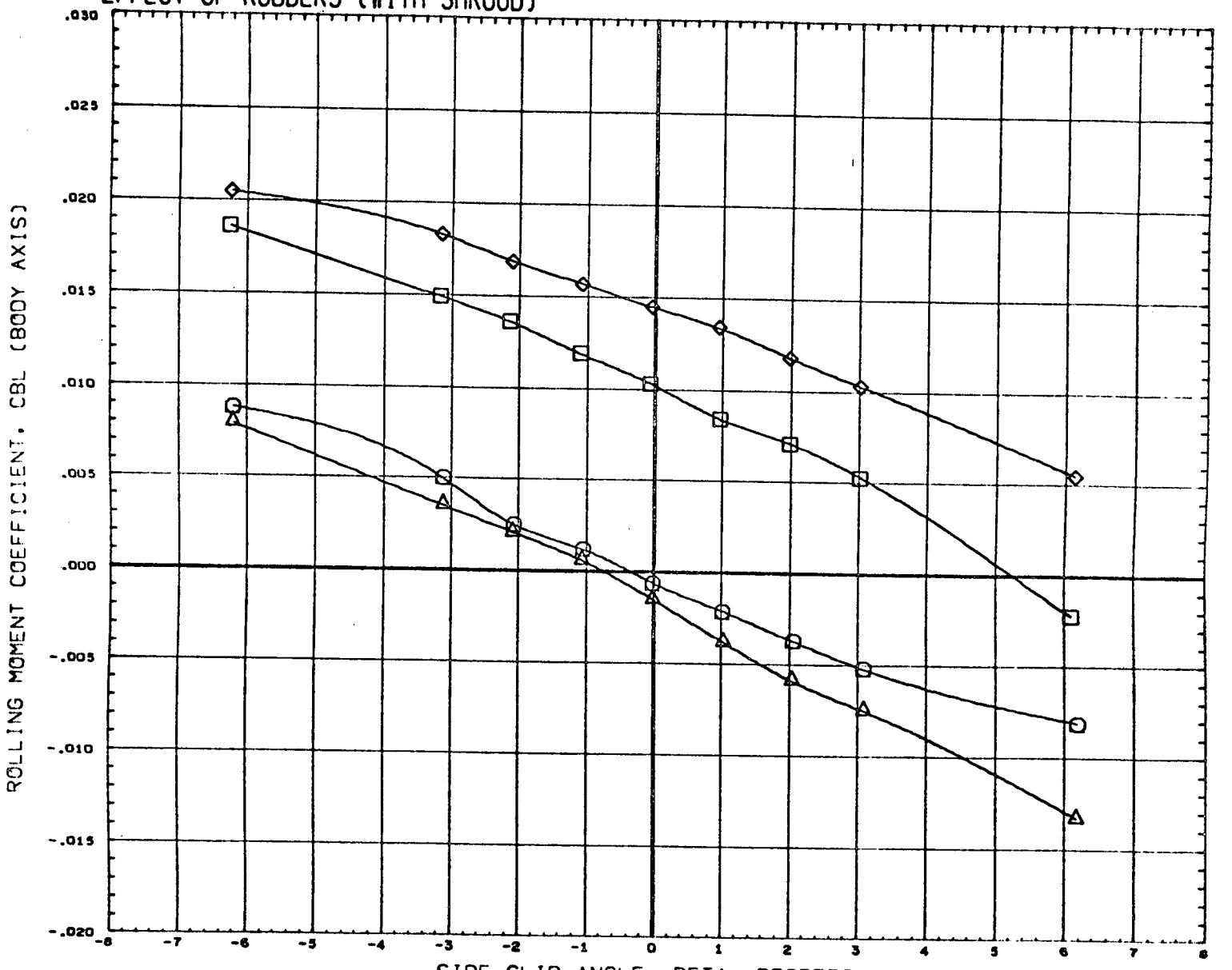


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69037)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69038)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	0.000
(A69034)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000
(A69035)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH SHROUD)

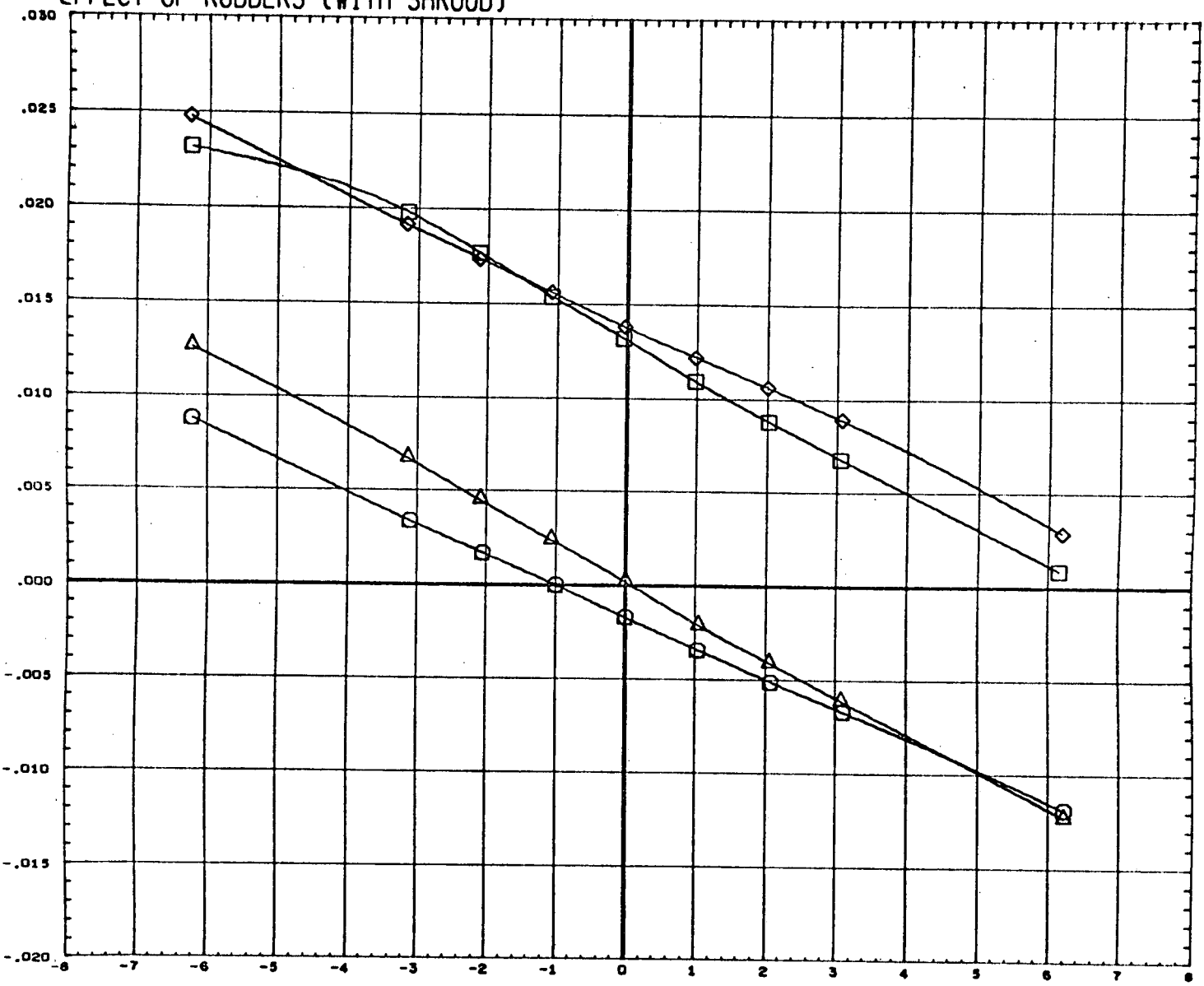


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69037)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69038)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	0.000
(A69034)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000
(A69035)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH SHROUD)

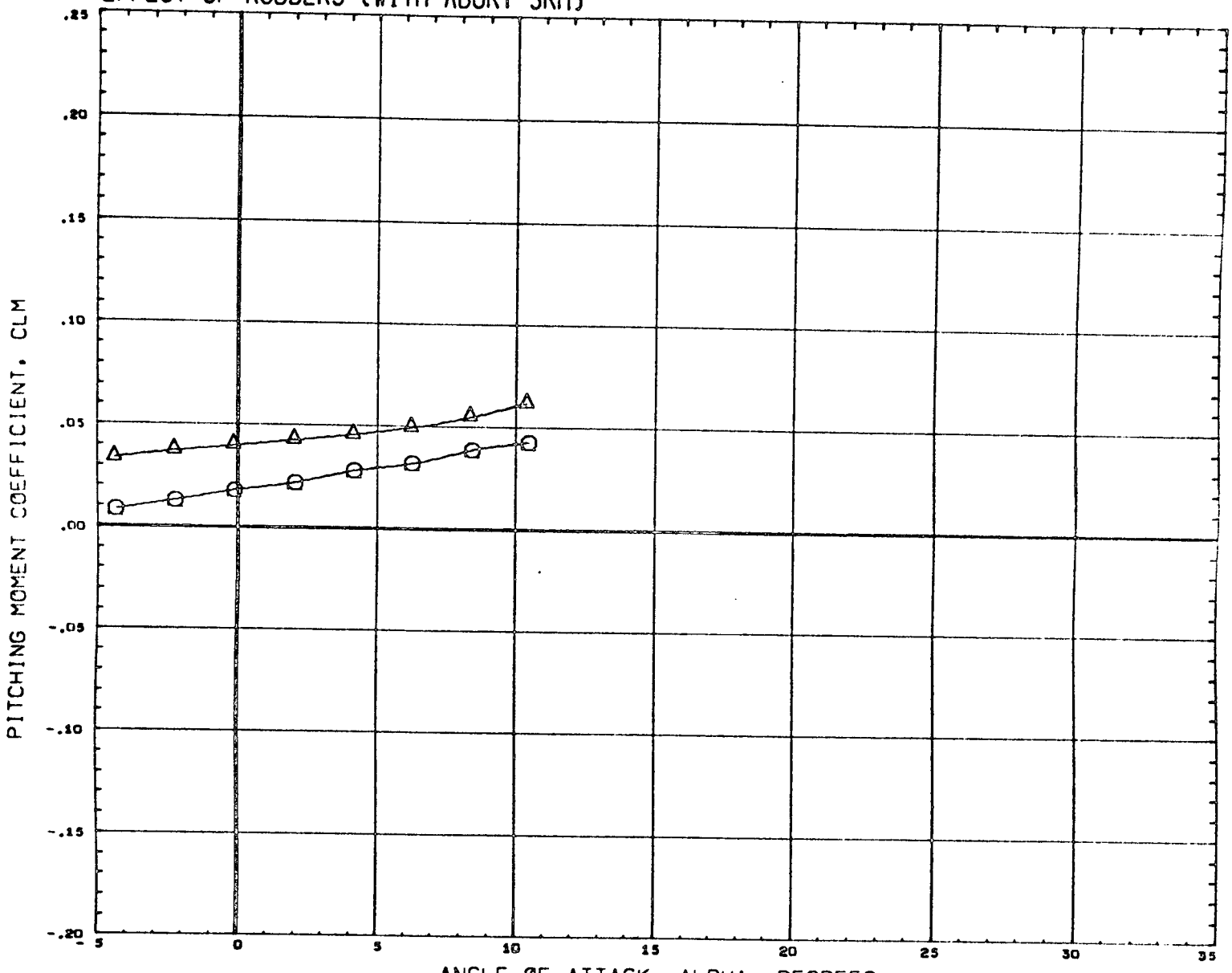


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69037)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000
(A69038)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	0.000
(A69034)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000
(A69035)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF RUDDERS (WITH ABORT SRM)

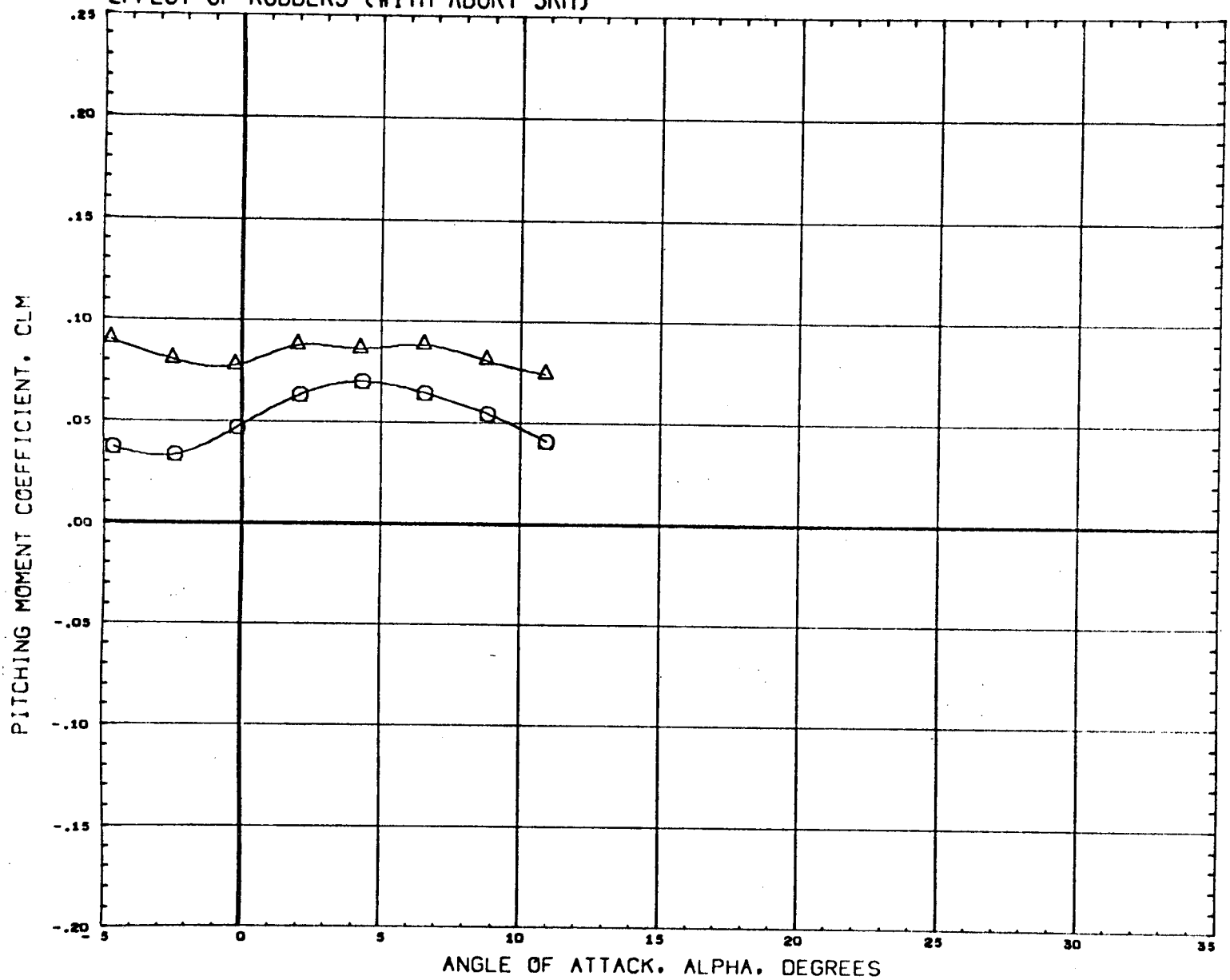


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH ABORT SRM)

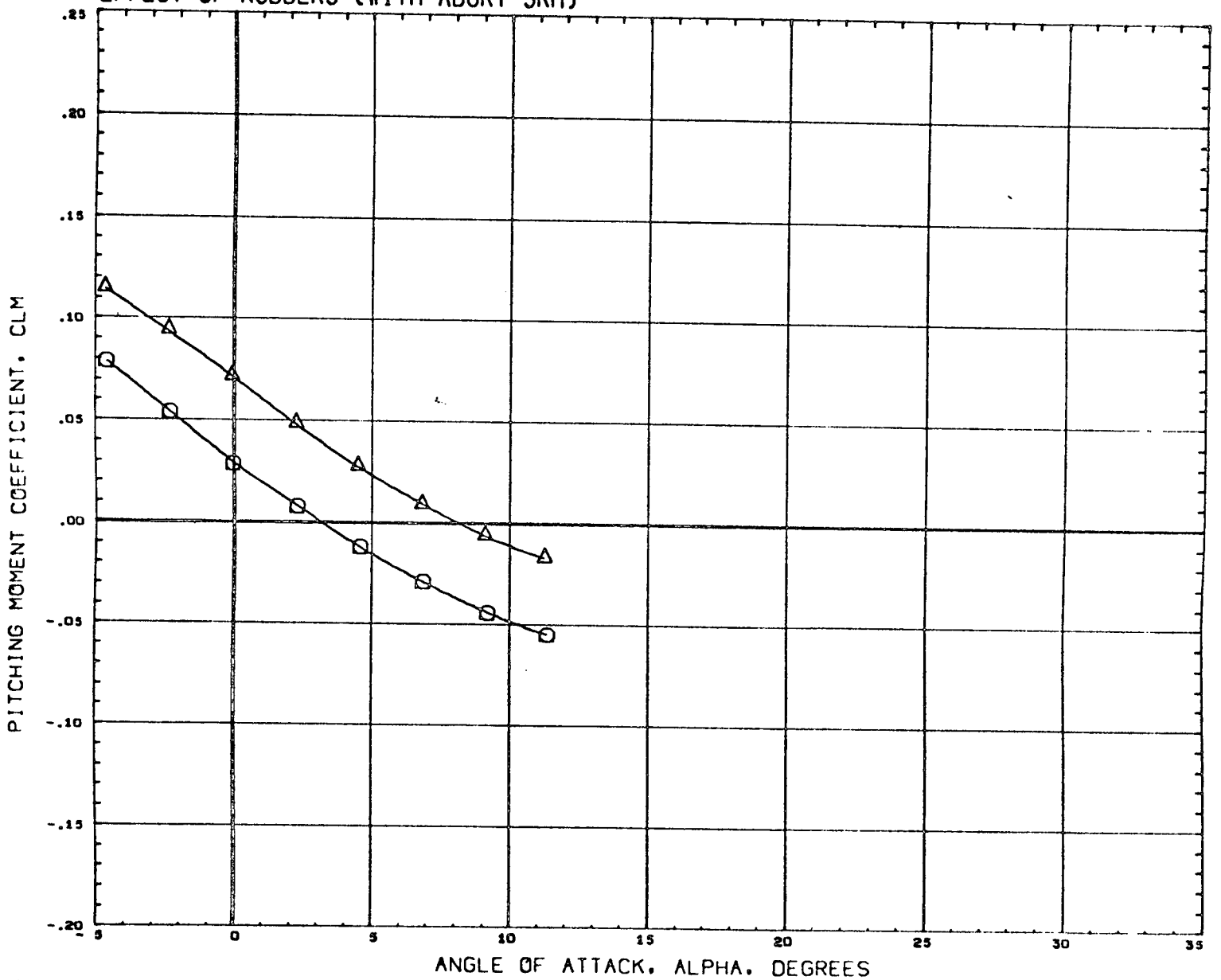


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH ABORT SRM)

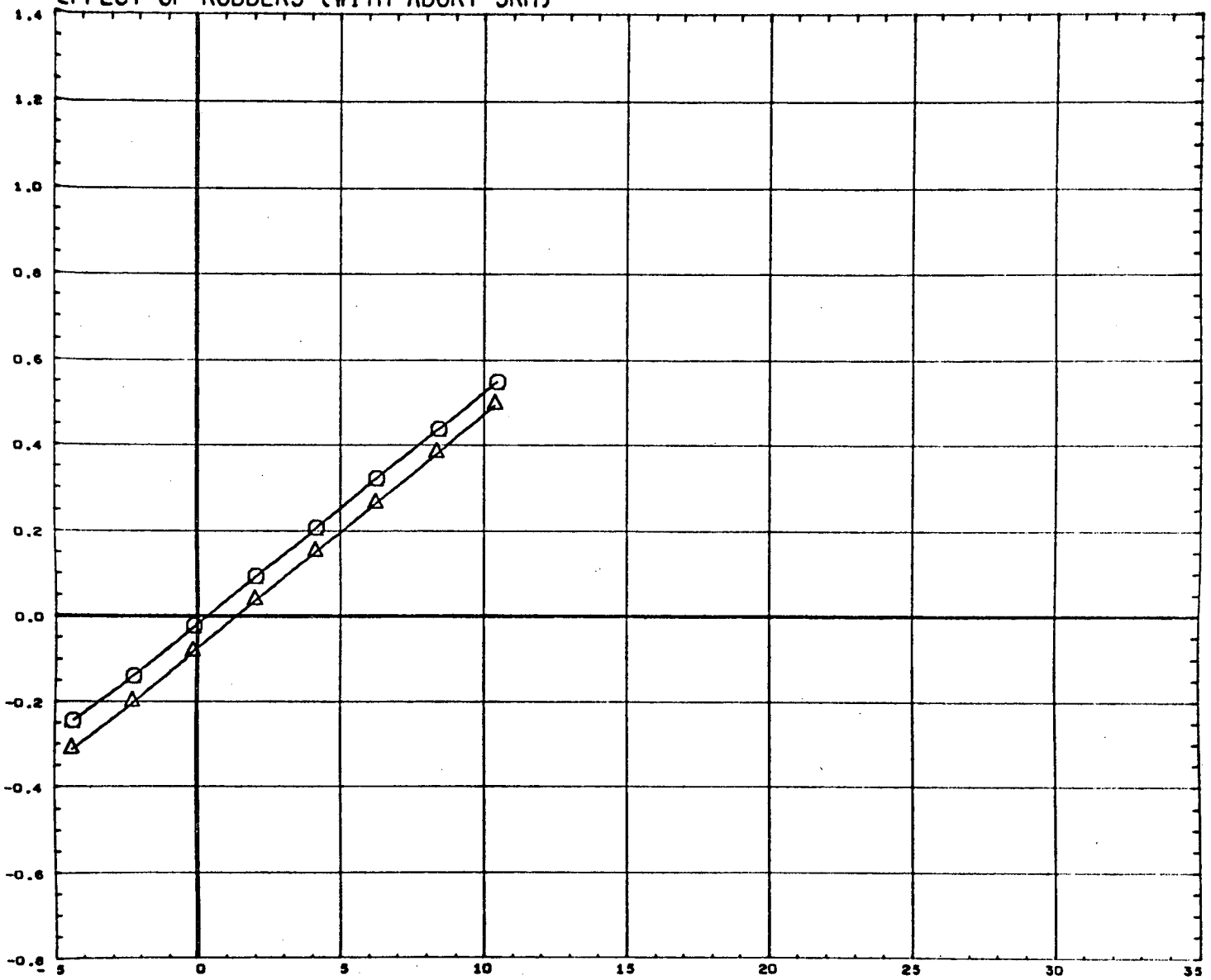


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH ABORT SRM)



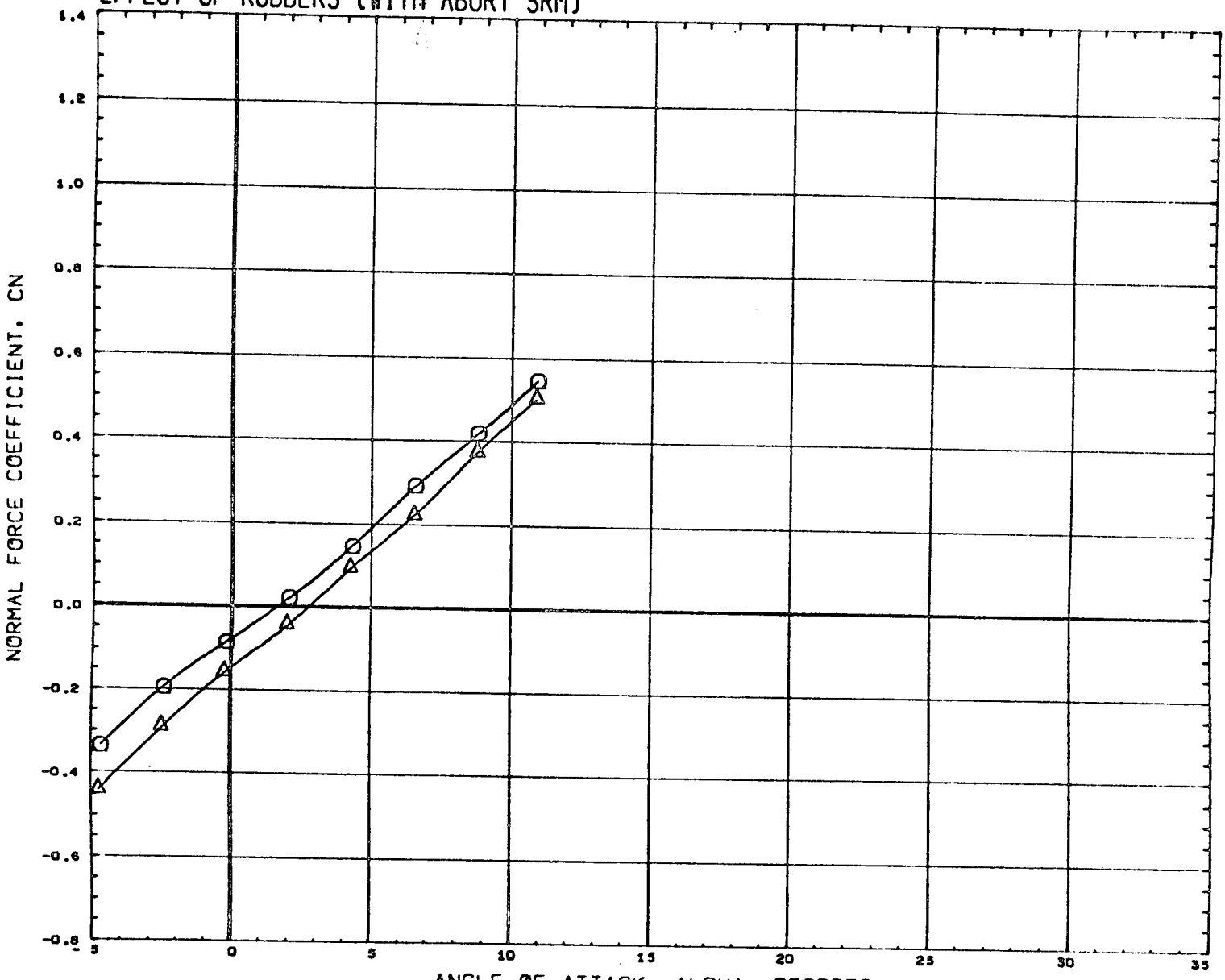
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.6800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

RC

EFFECT OF RUDDERS (WITH ABORT SRM)

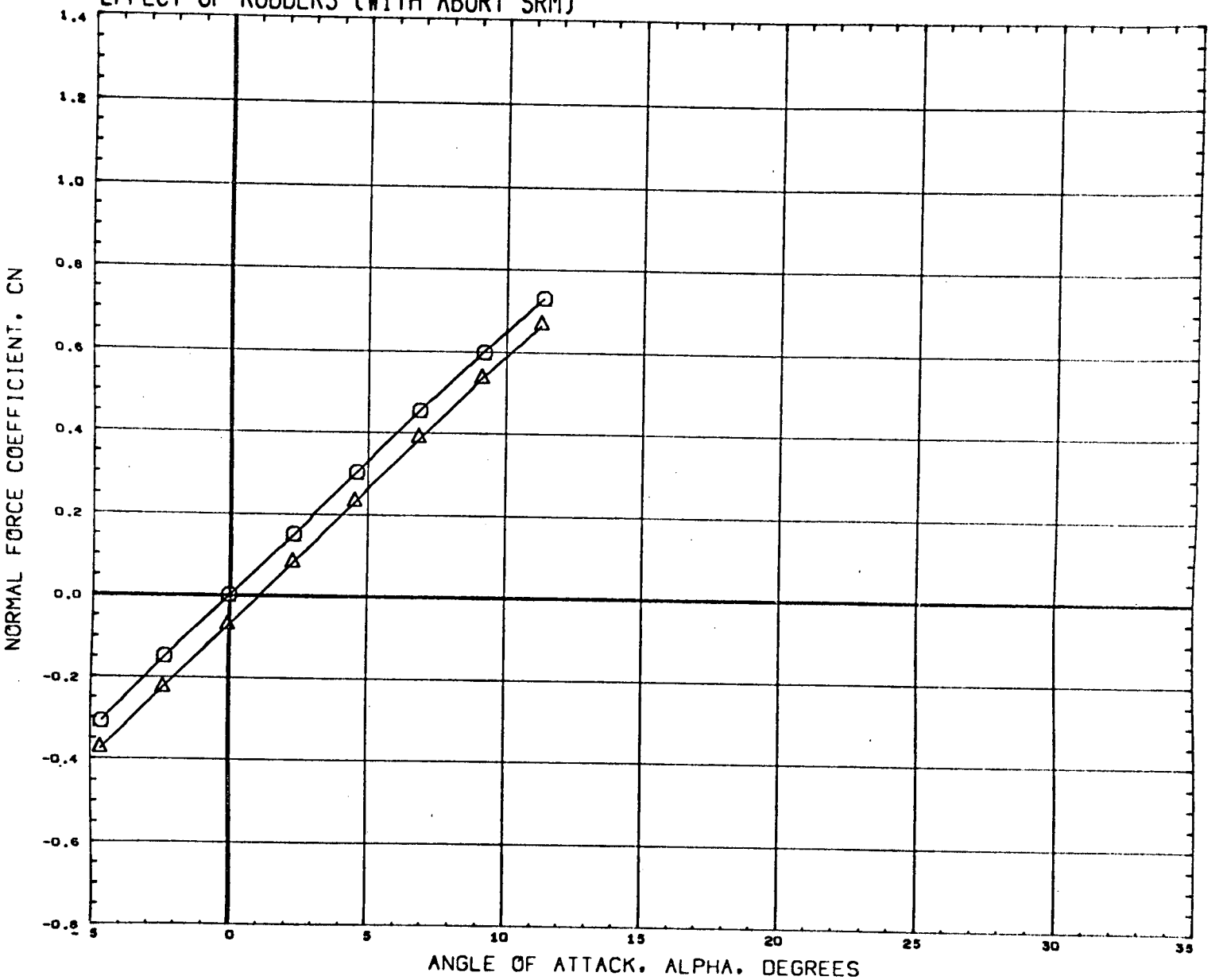


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH ABORT SRM)

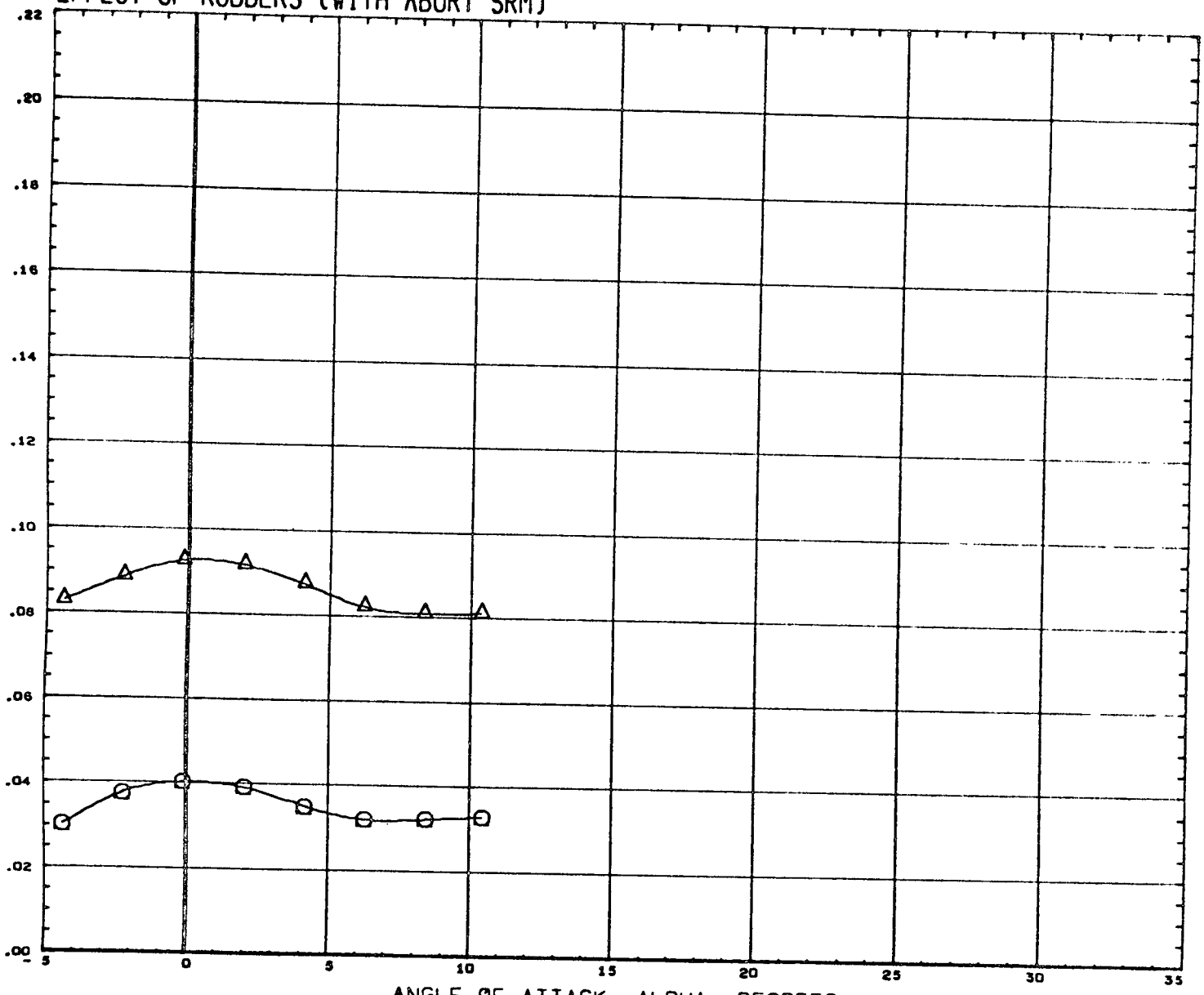


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH ABORT SRM)

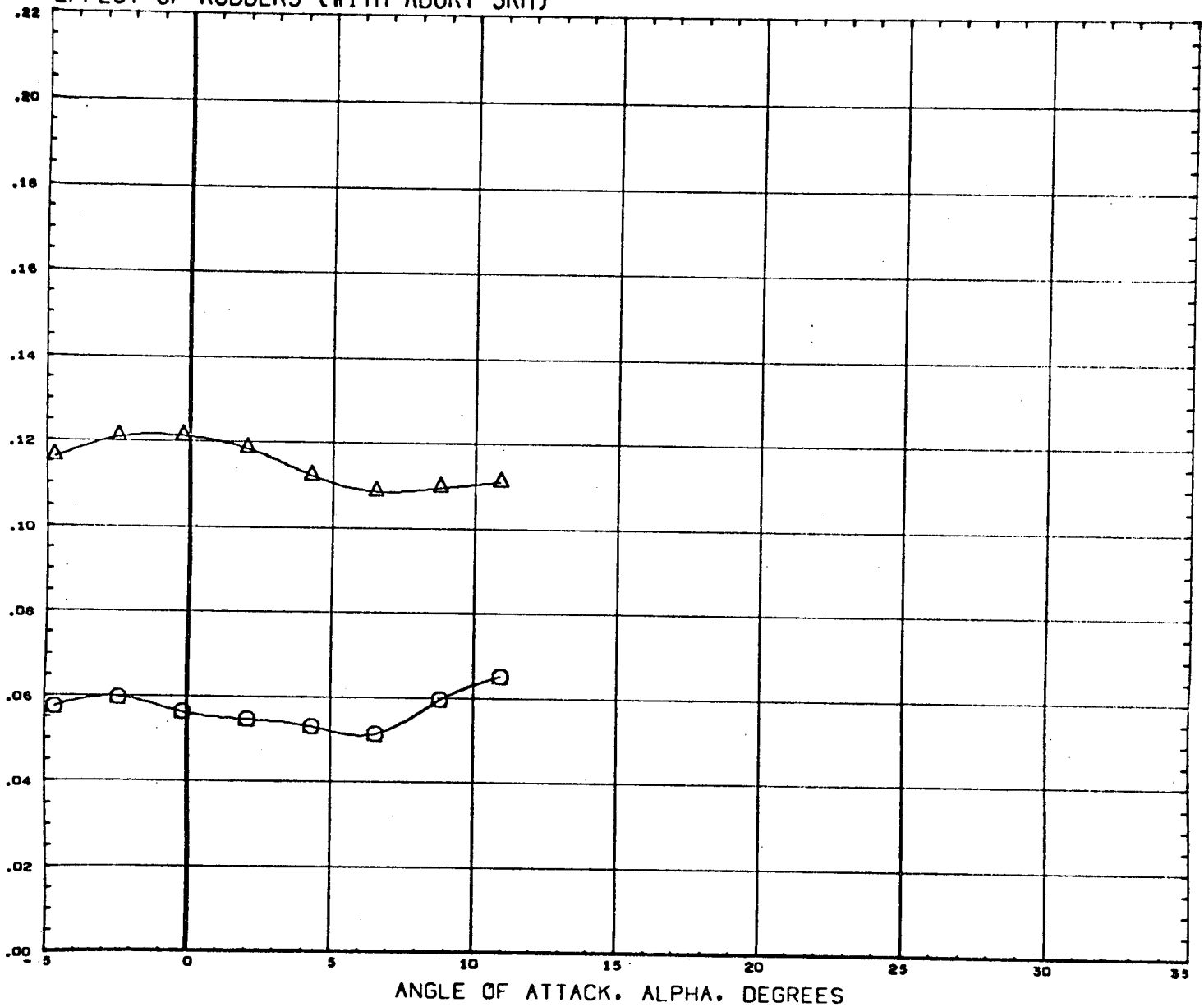


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH ABORT SRM)

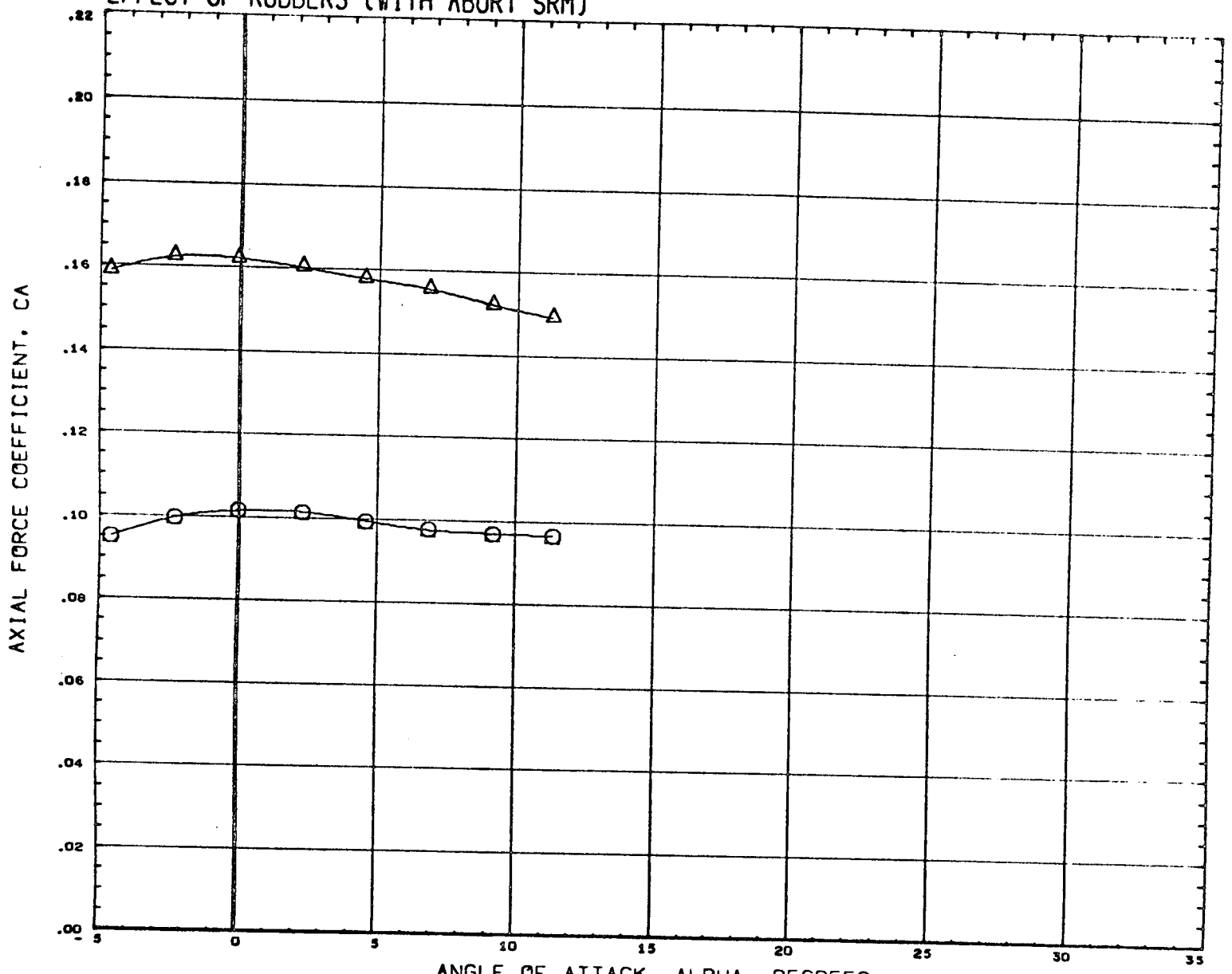


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69039)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH ABORT SRM)

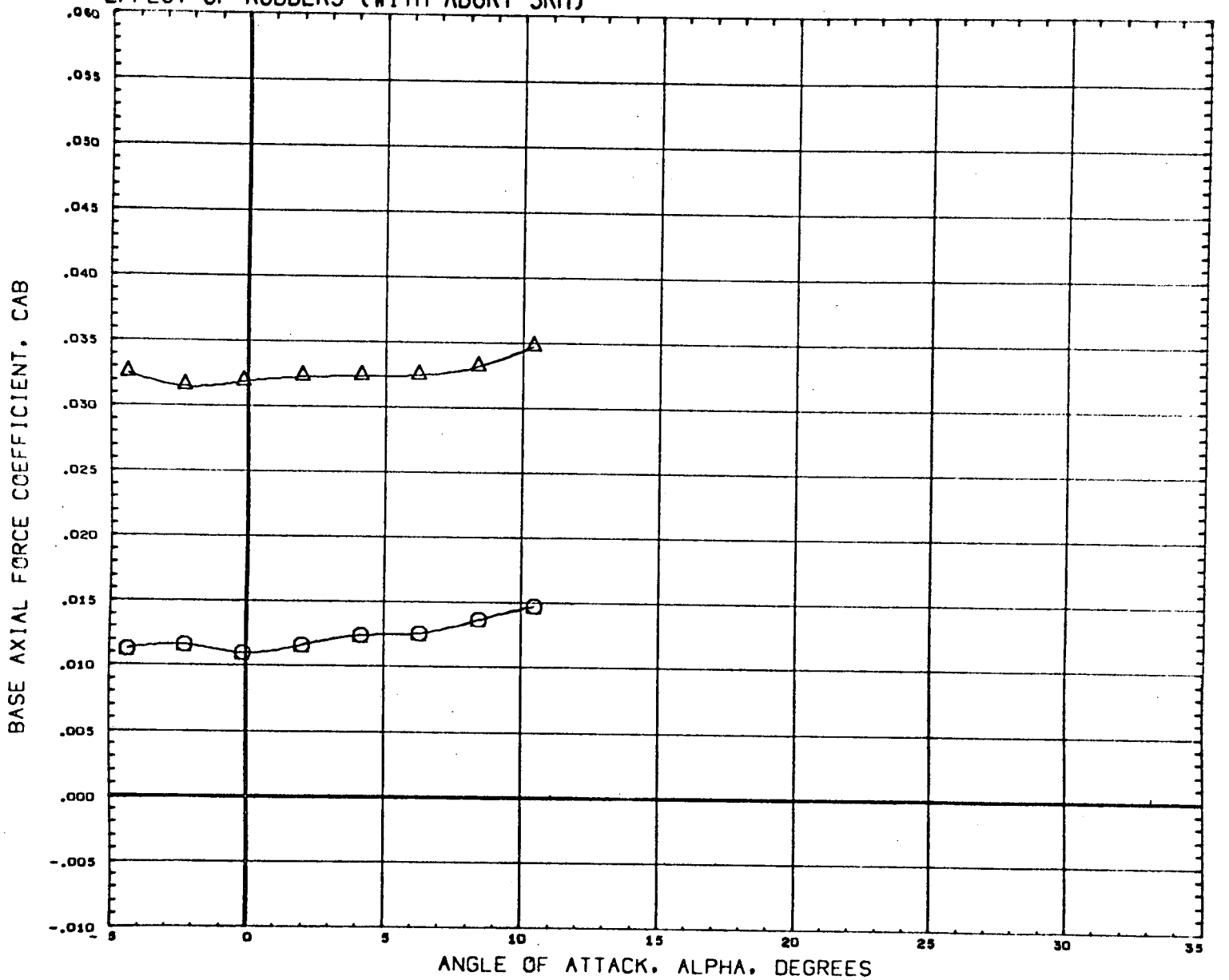


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.8620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH ABORT SRM)

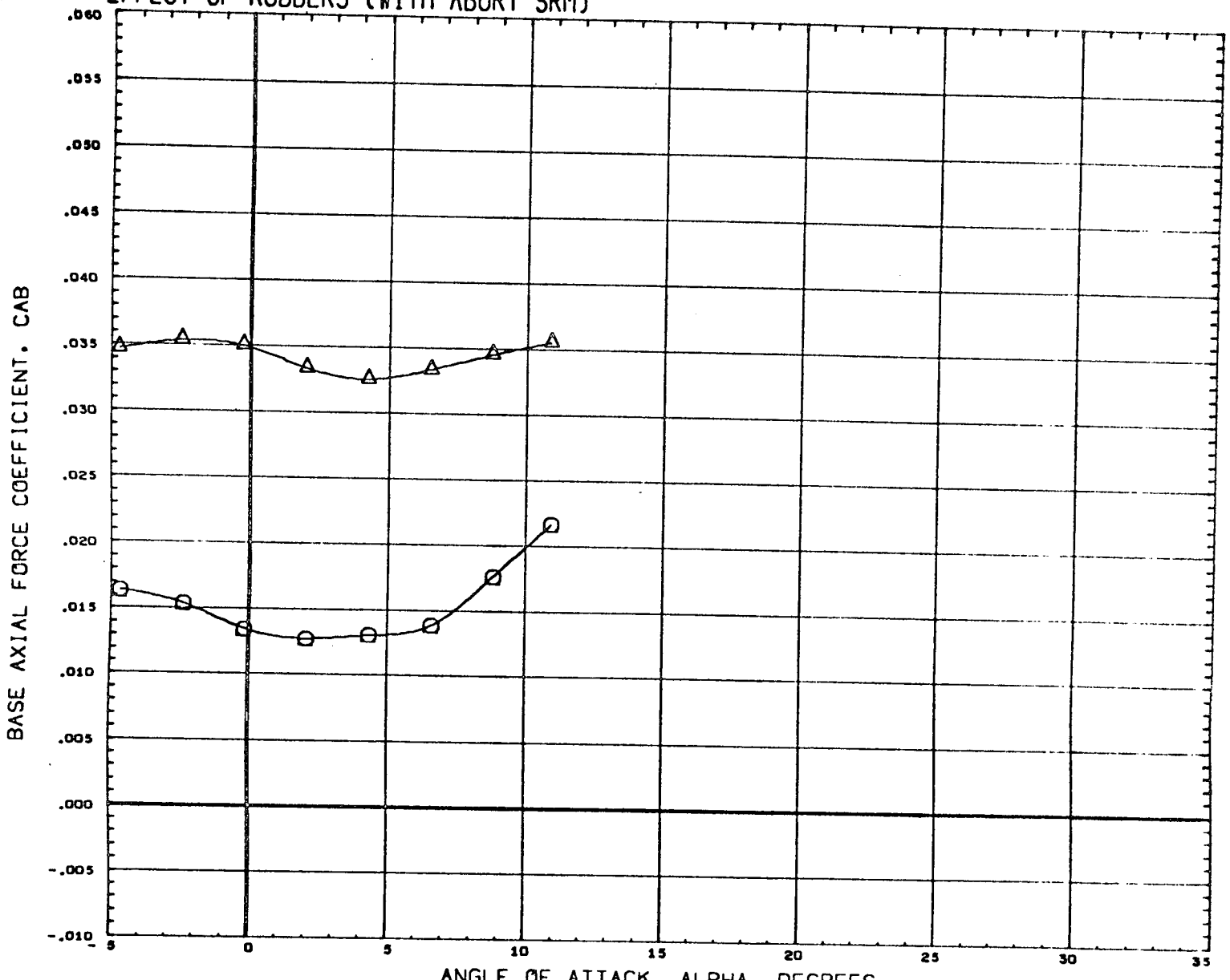


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH ABORT SRM)

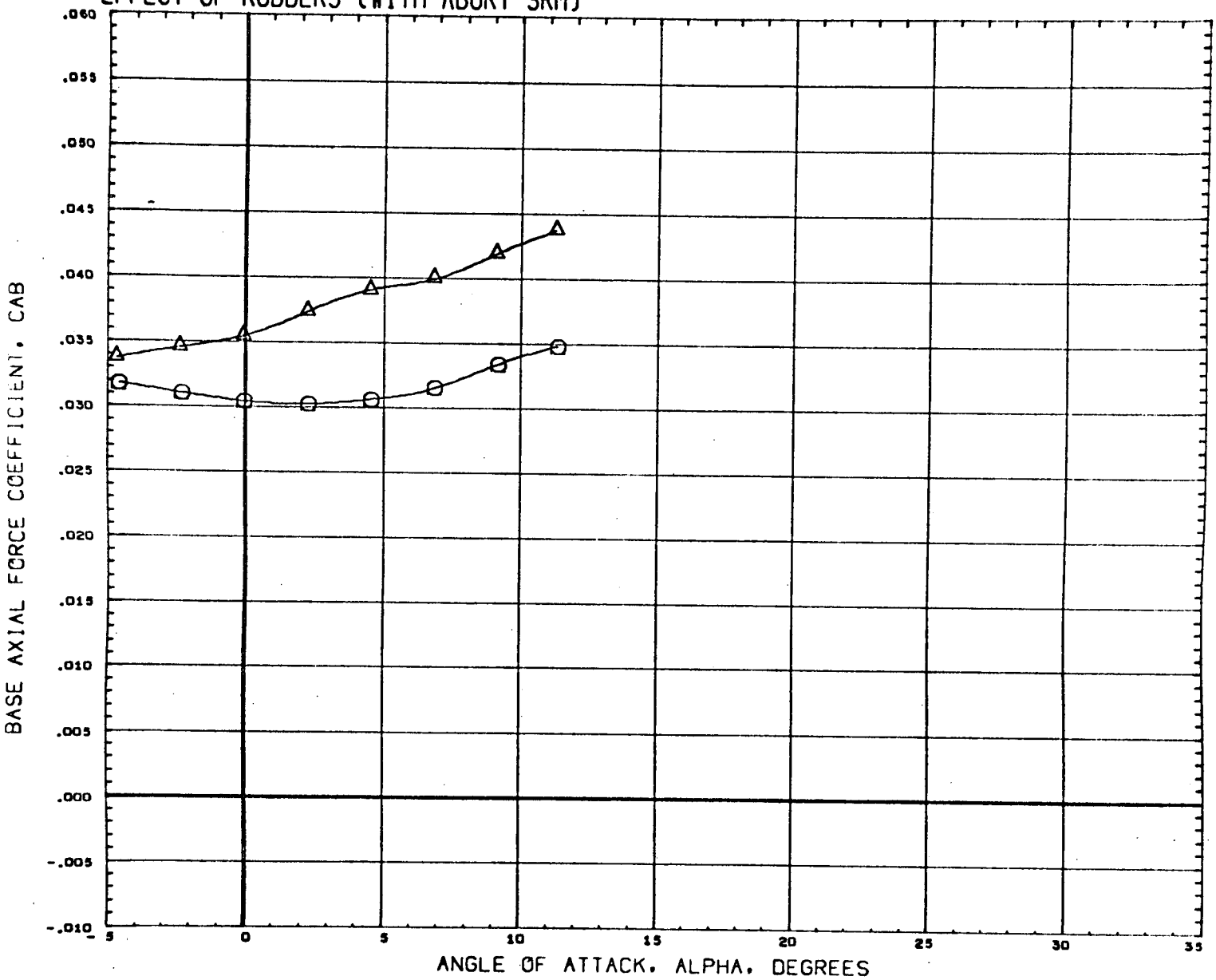


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH ABORT SRM)

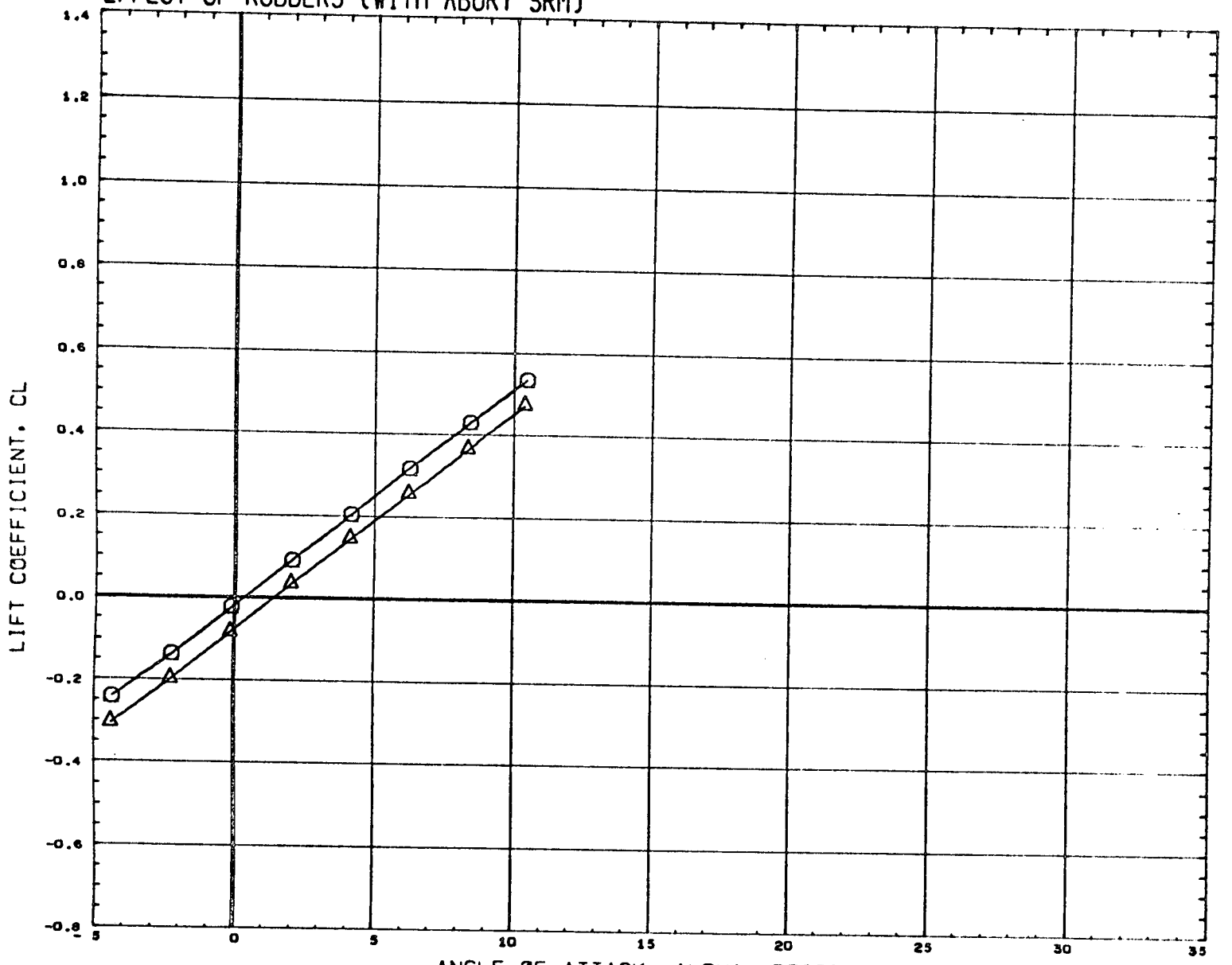


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH ABORT SRM)

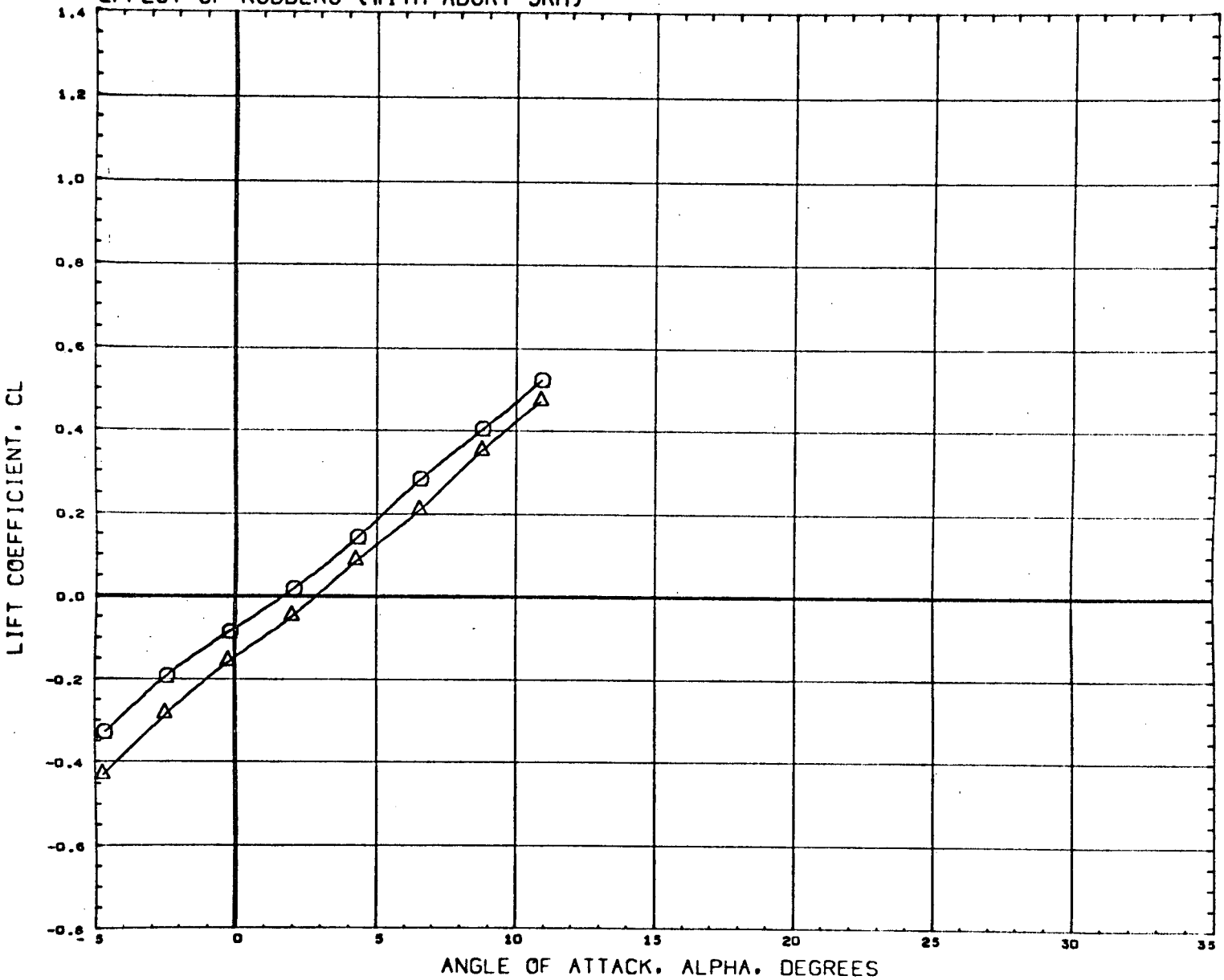


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH ABORT SRM)

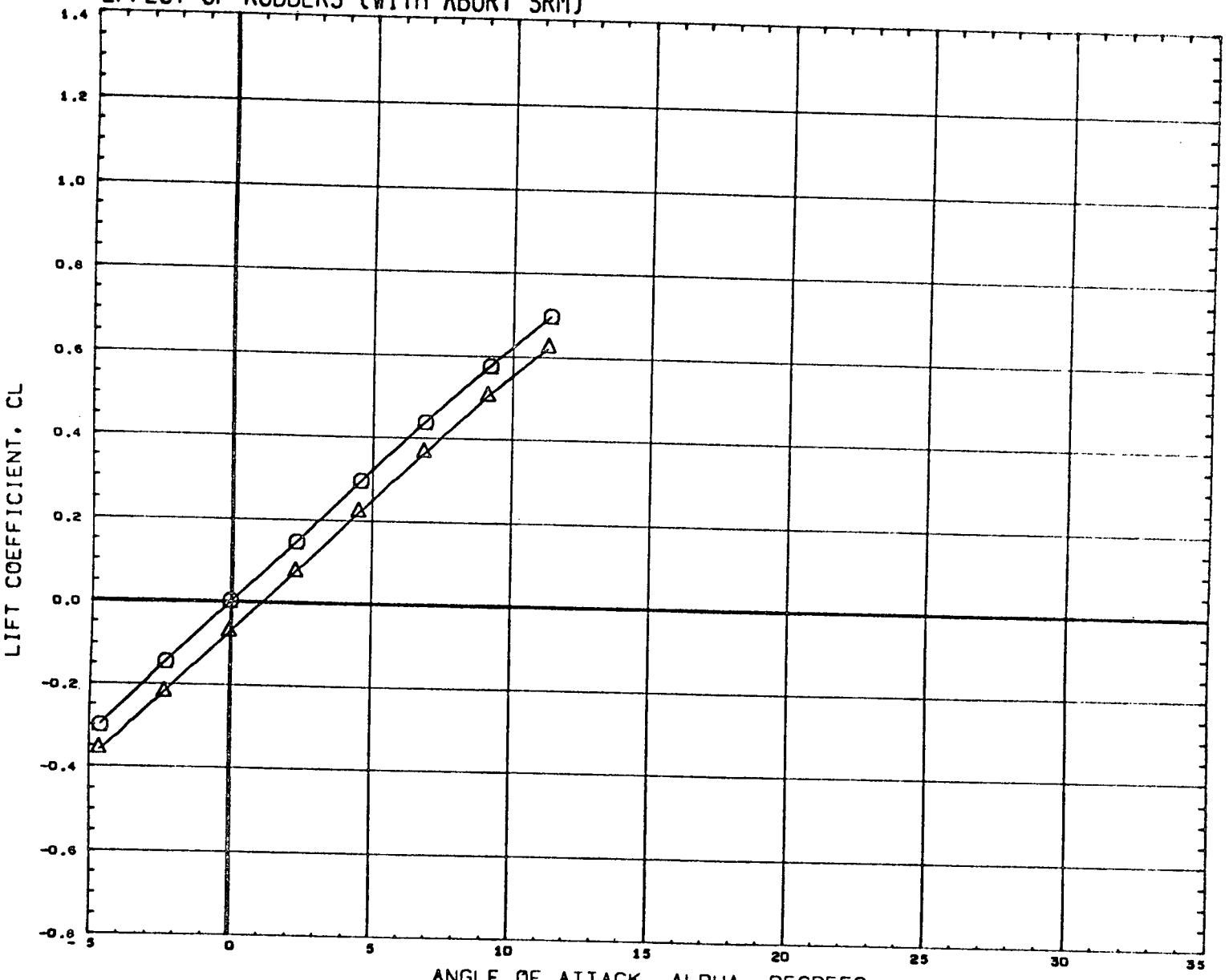


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH ABORT SRM)



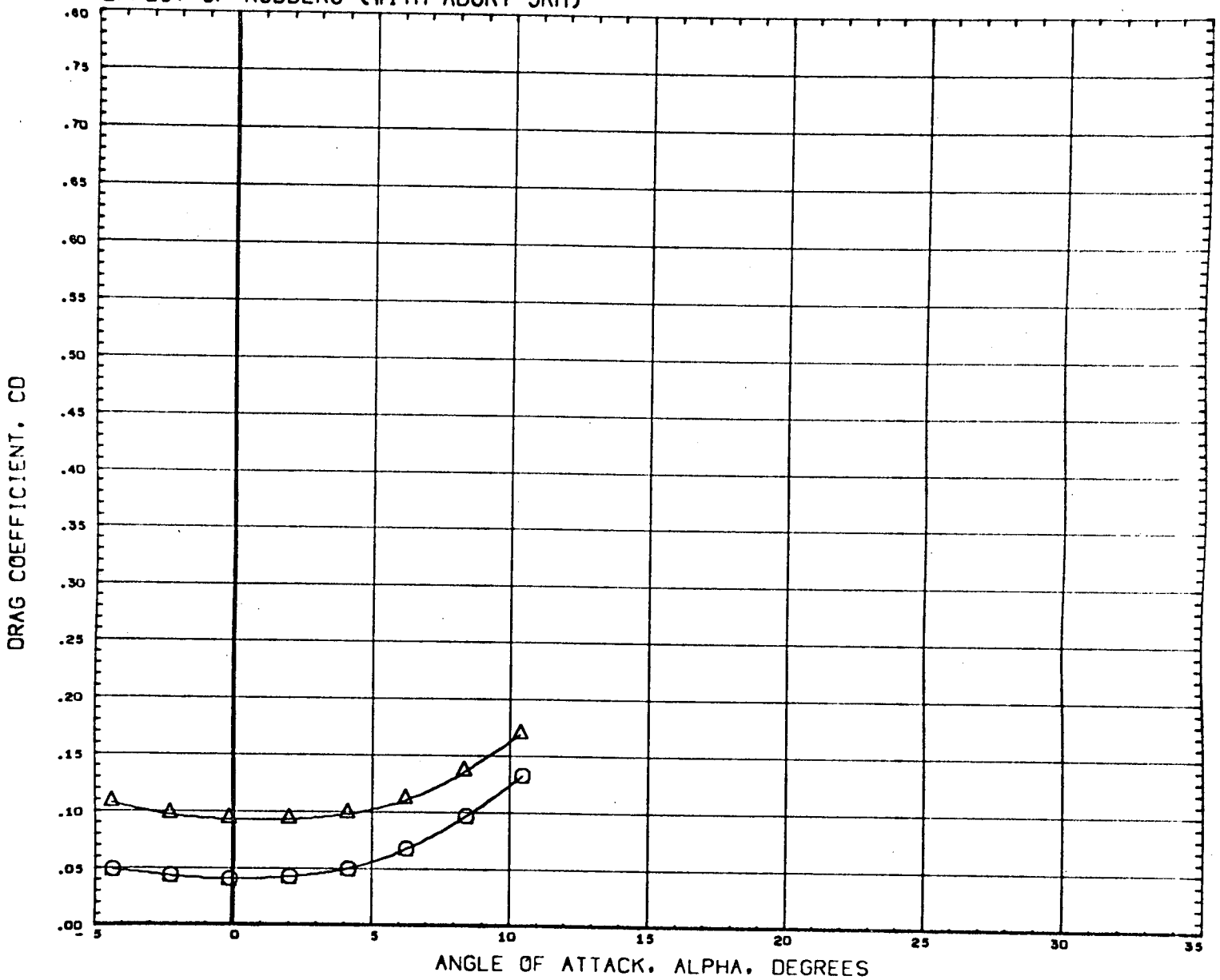
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH ABORT SRM)

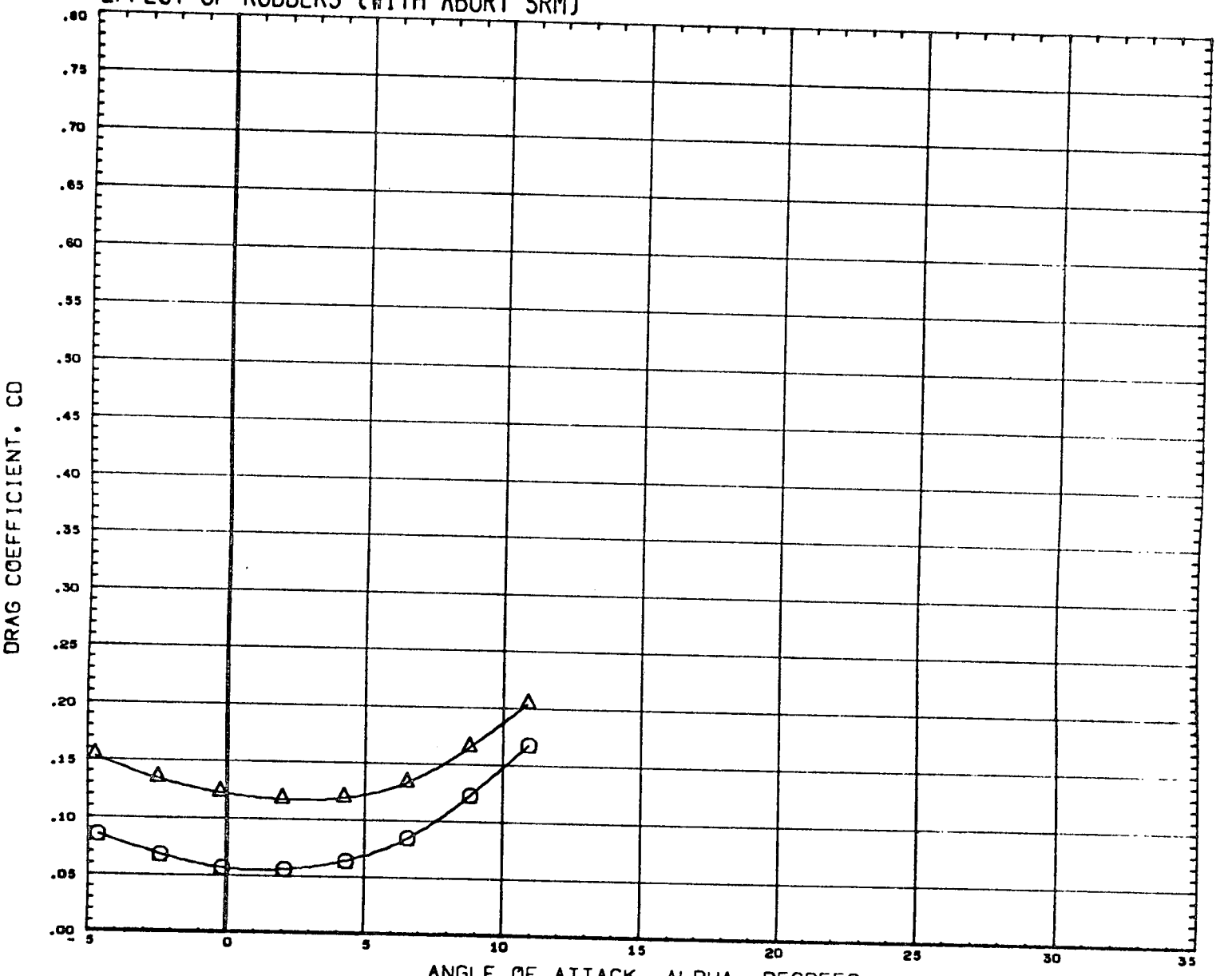


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69039)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH ABORT SRM)

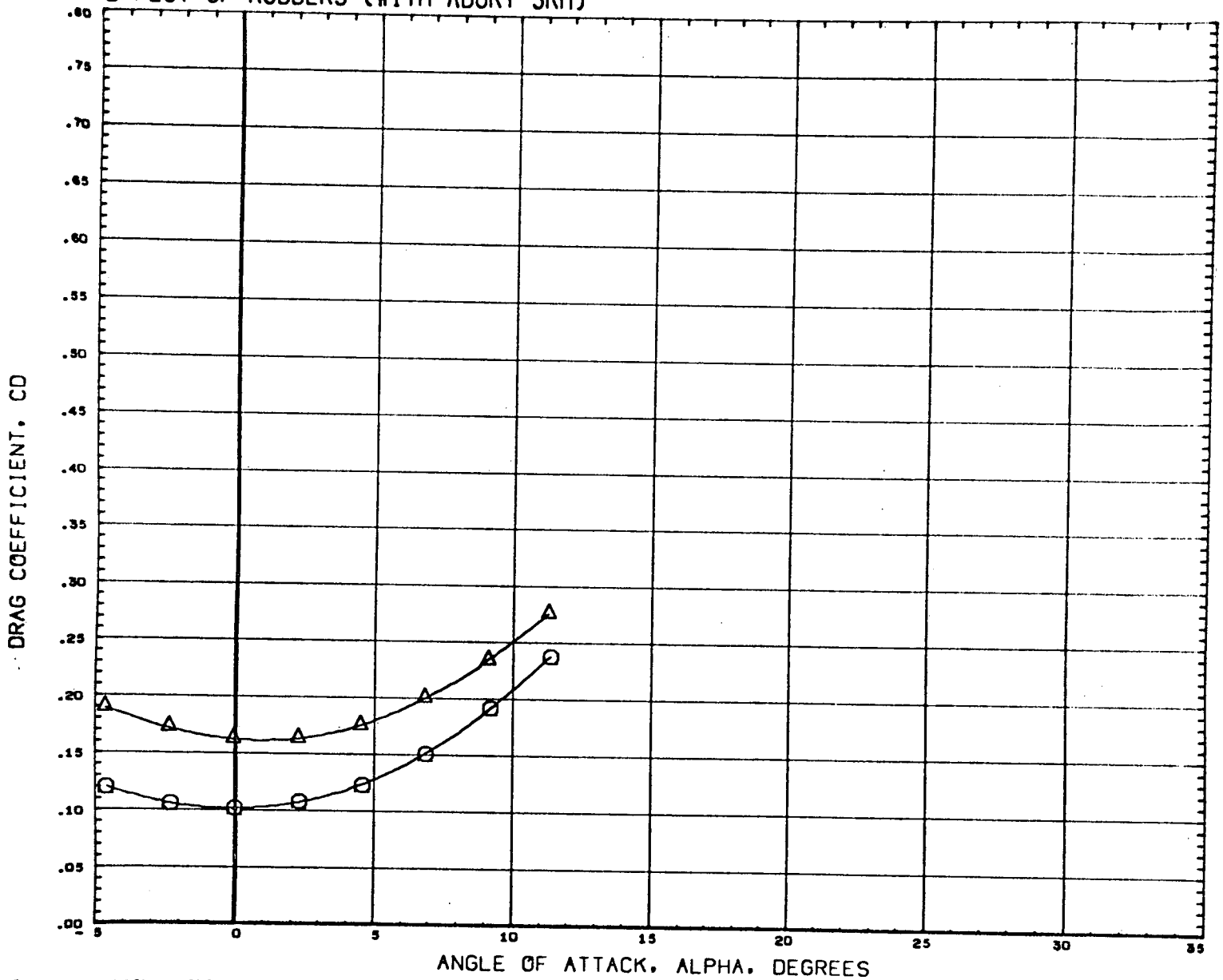


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH ABORT SRM)

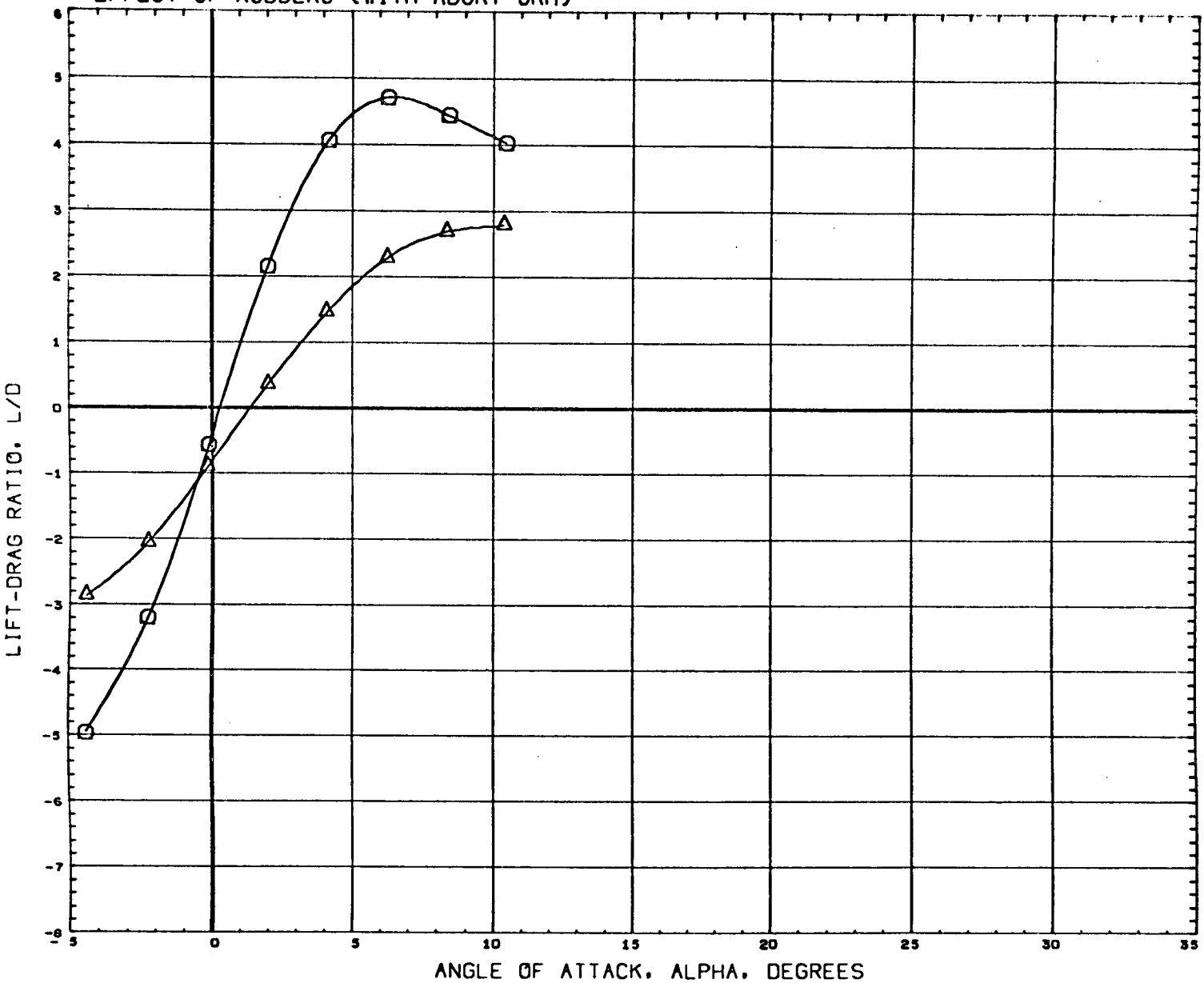


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69039)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH ABORT SRM)

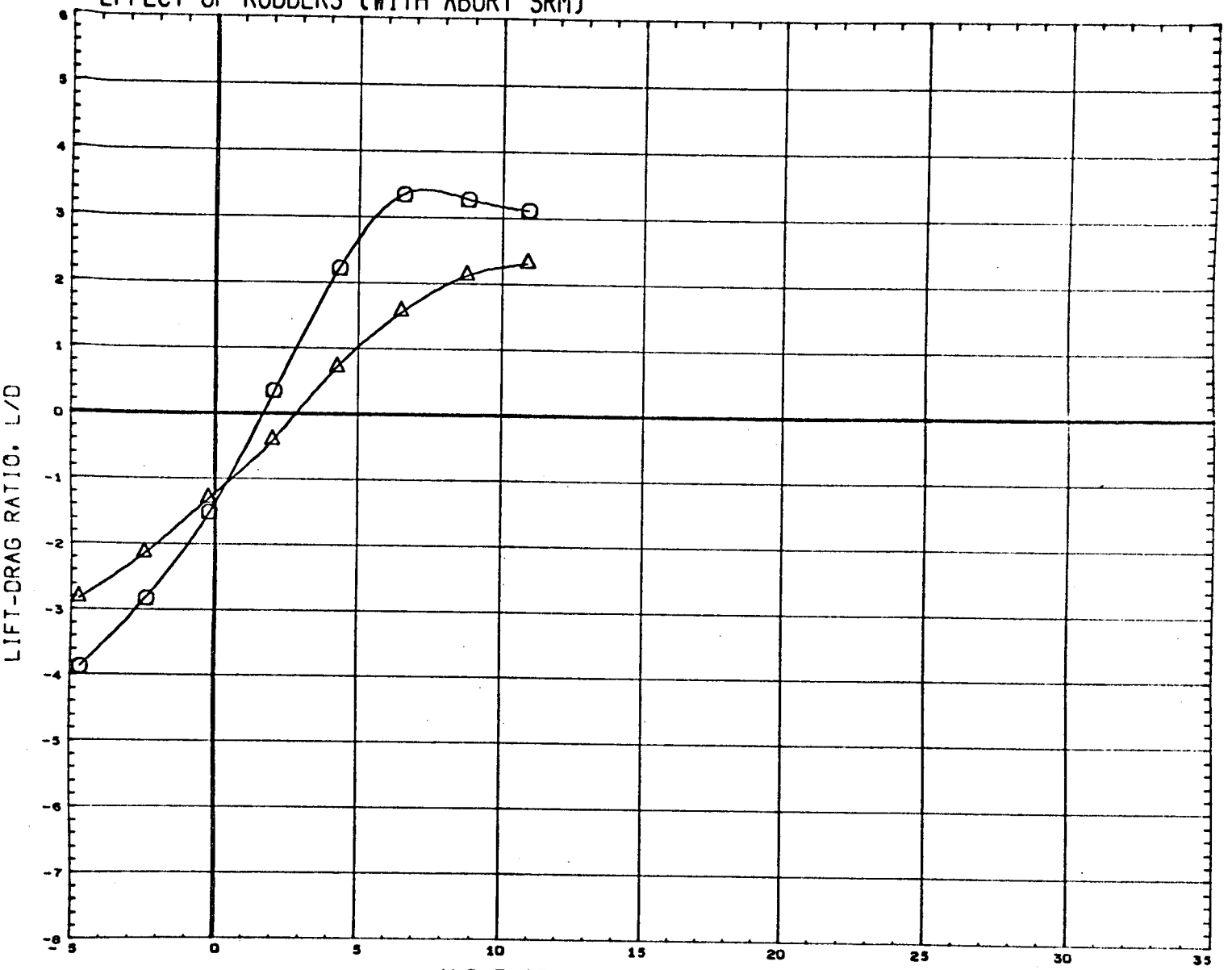


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69039) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH ABORT SRM)

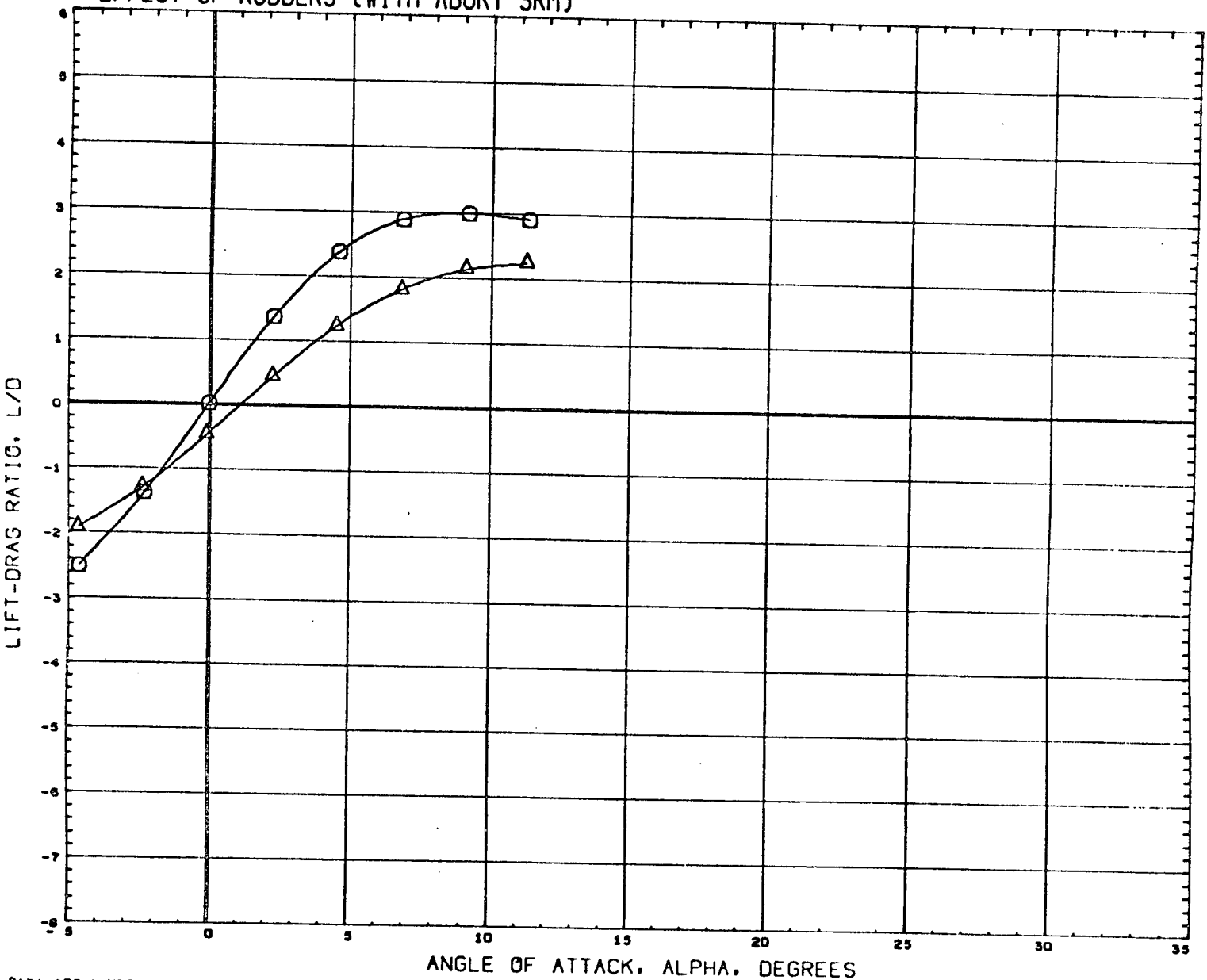


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869039)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH ABORT SRM)

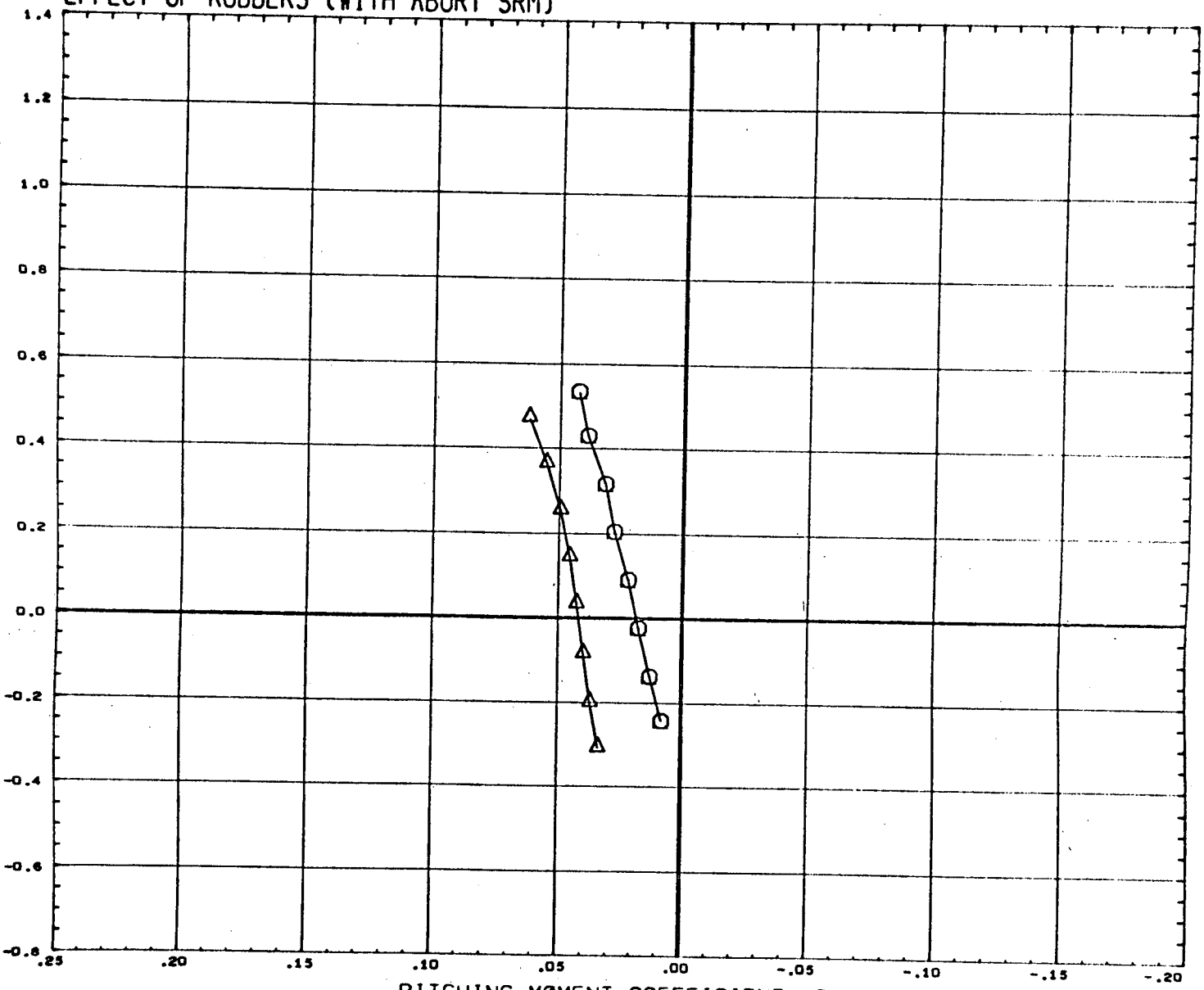


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH ABORT SRM)

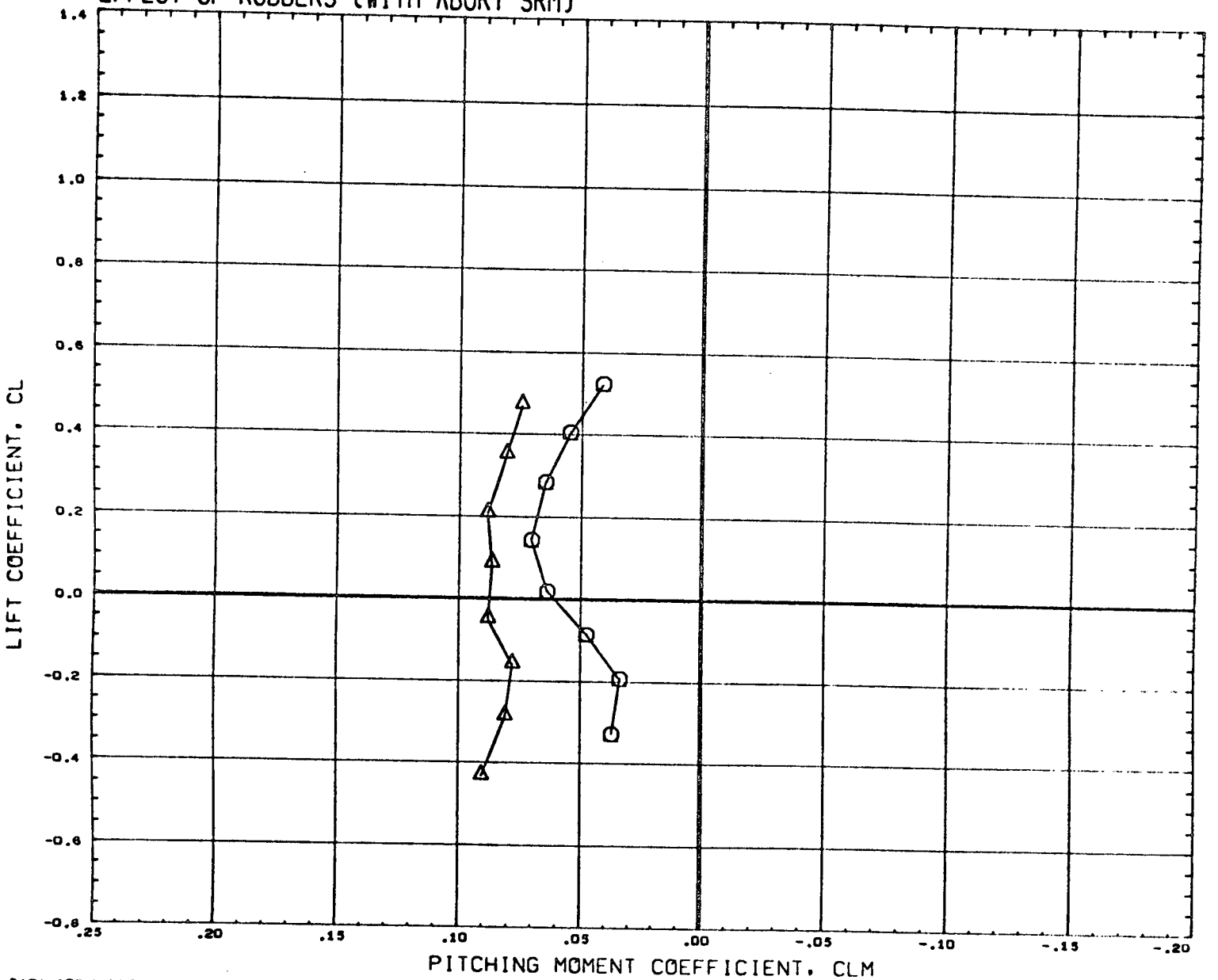


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH ABORT SRM)

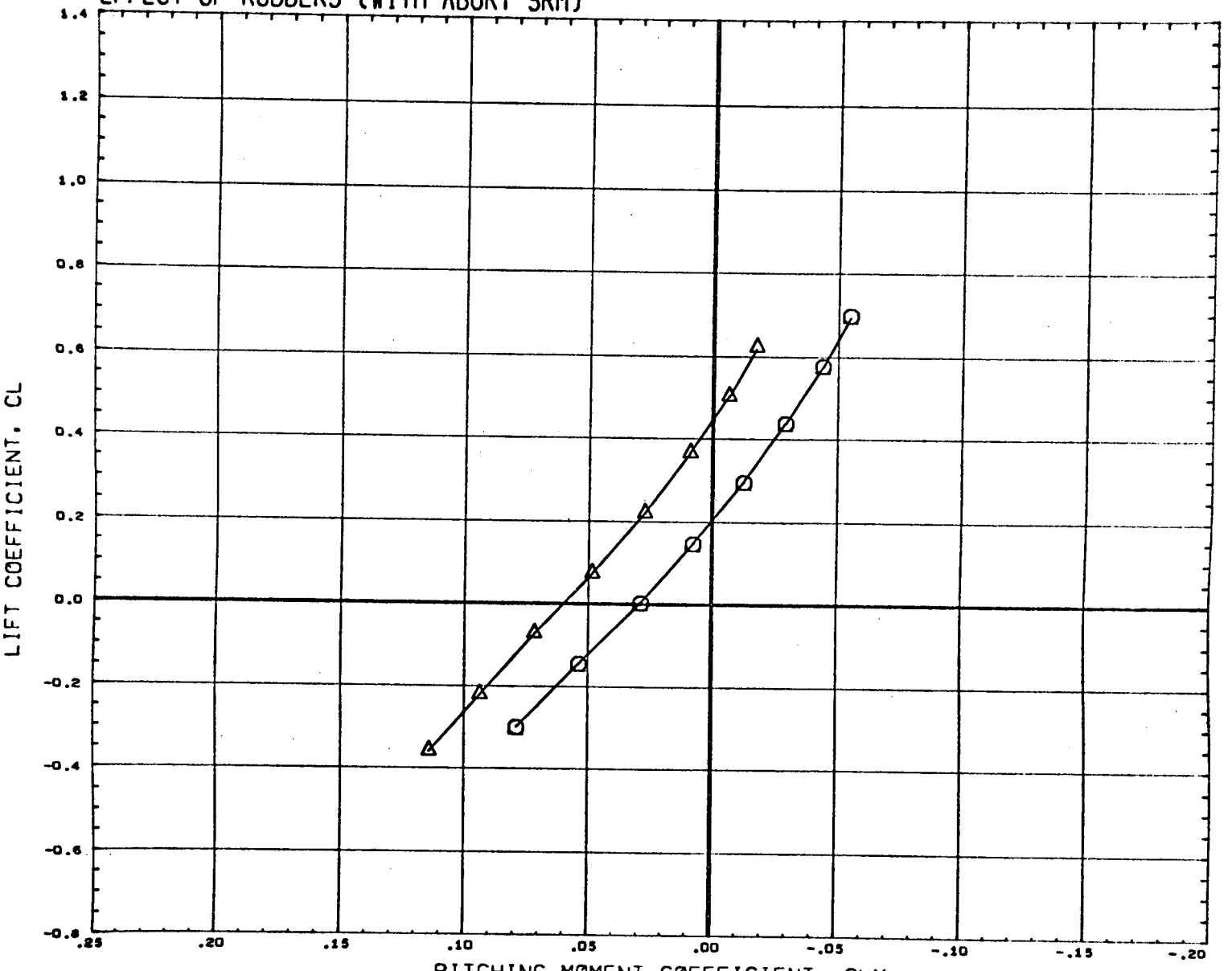


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869039)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH ABORT SRM)

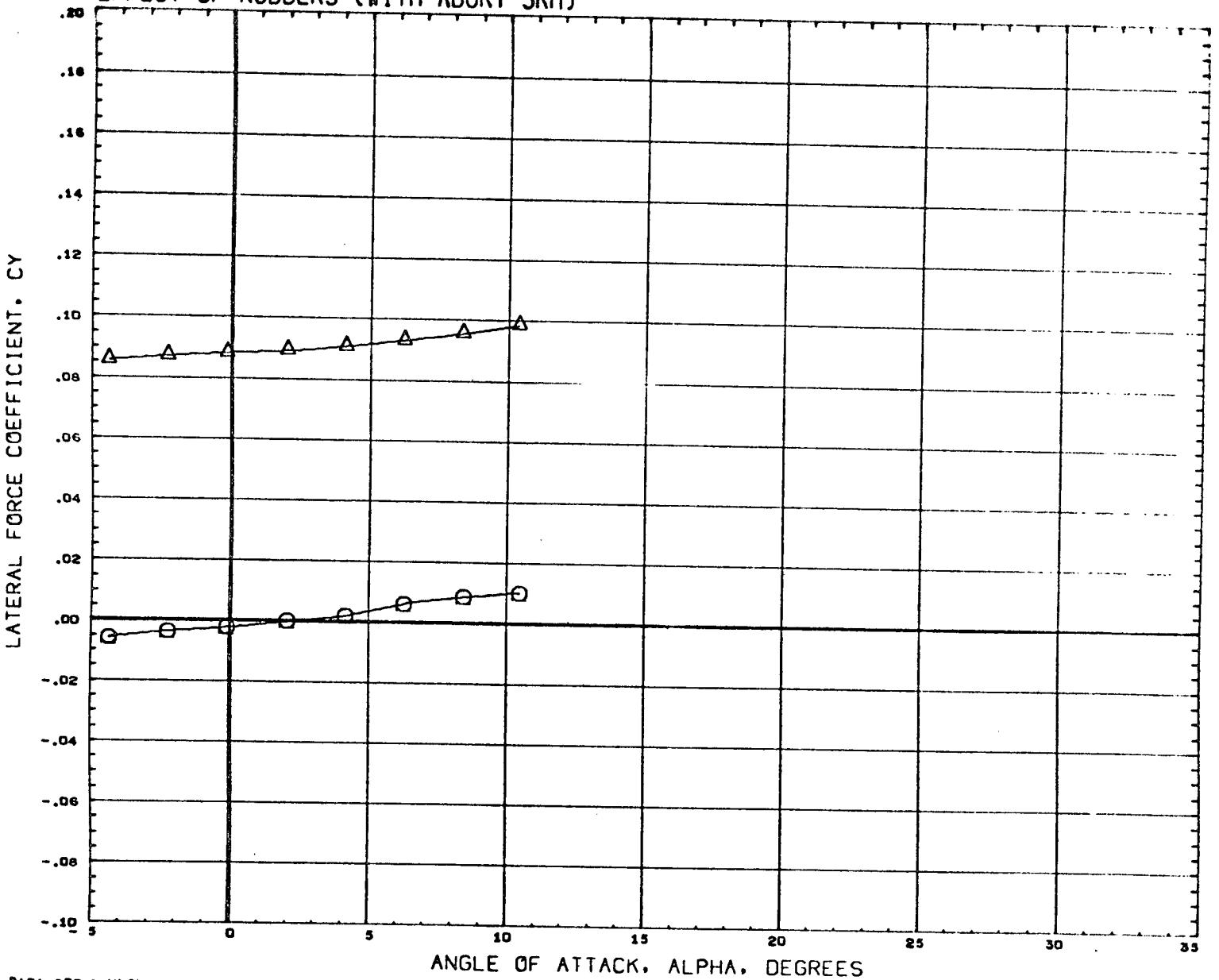


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869039)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH ABORT SRM)

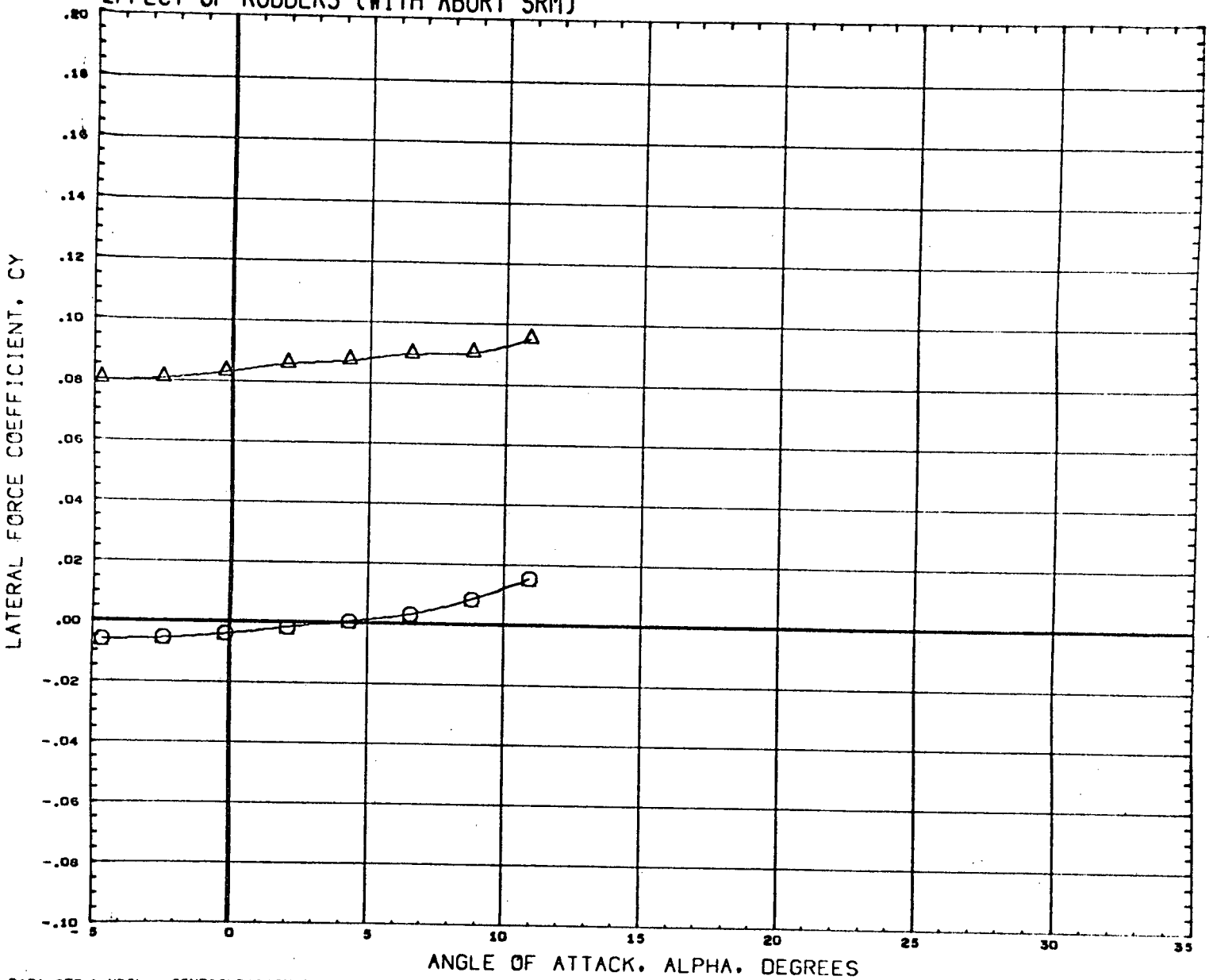


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69039)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH ABORT SRM)

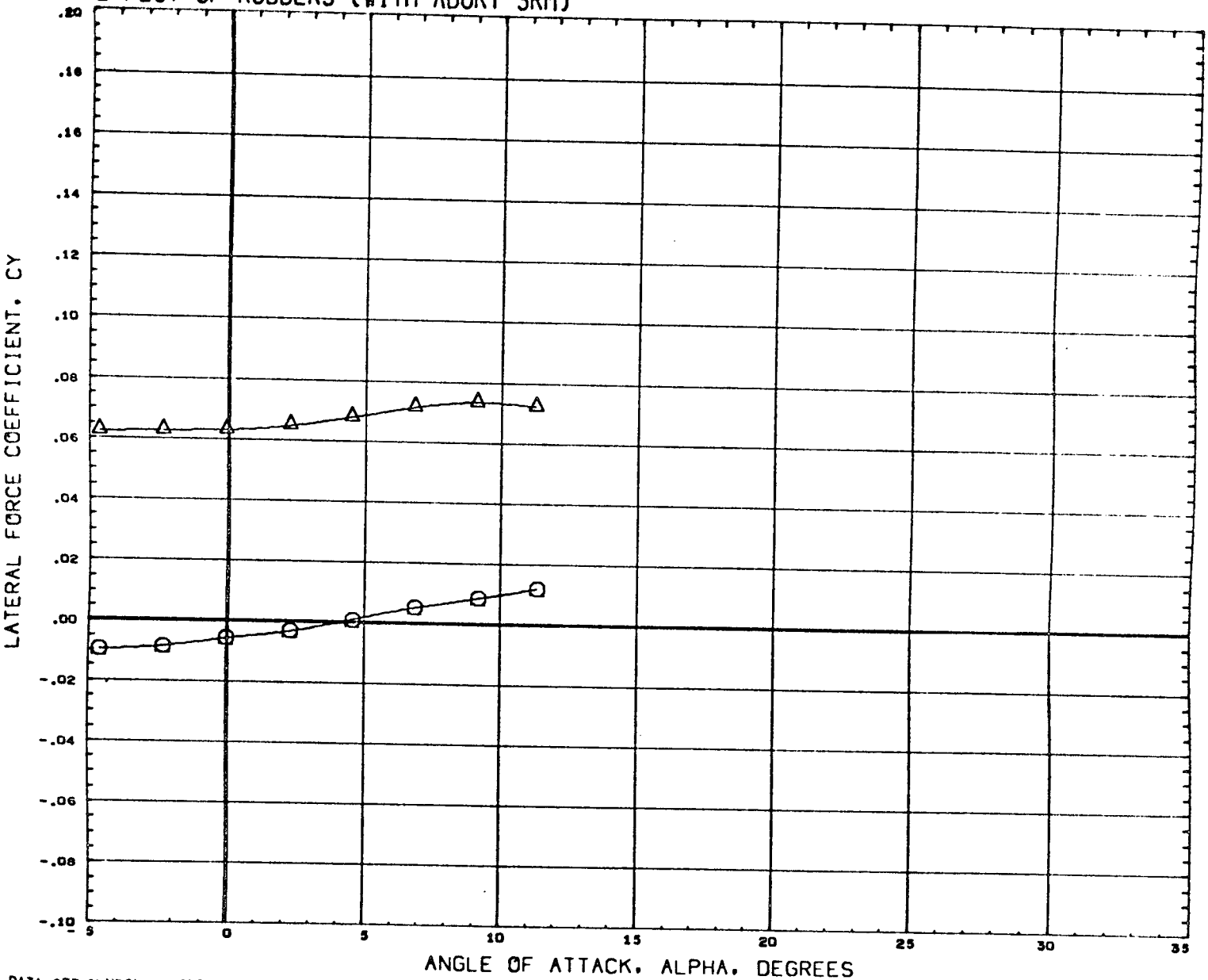


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH ABORT SRM)

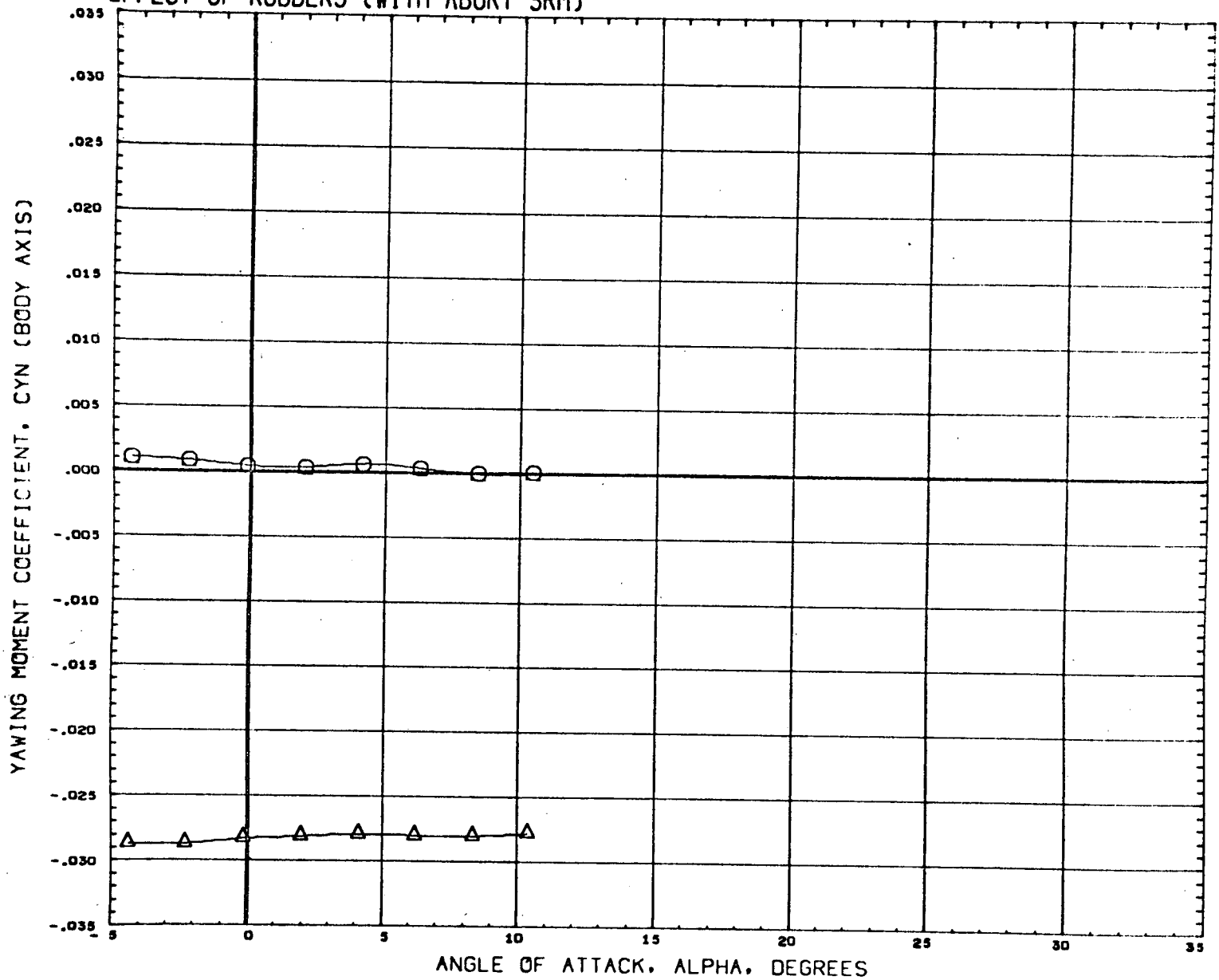


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6920	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH ABORT SRM)

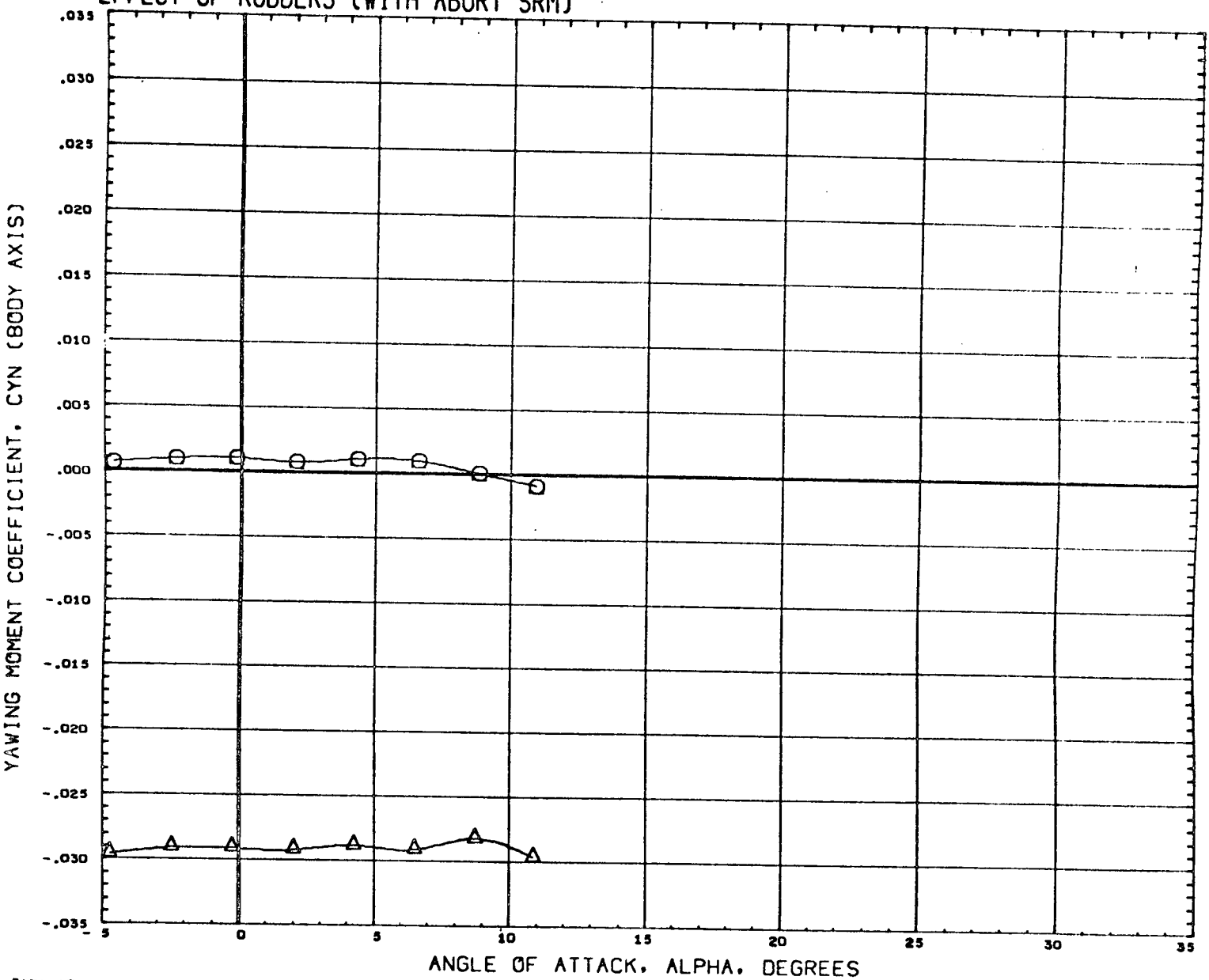


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH ABORT SRM)

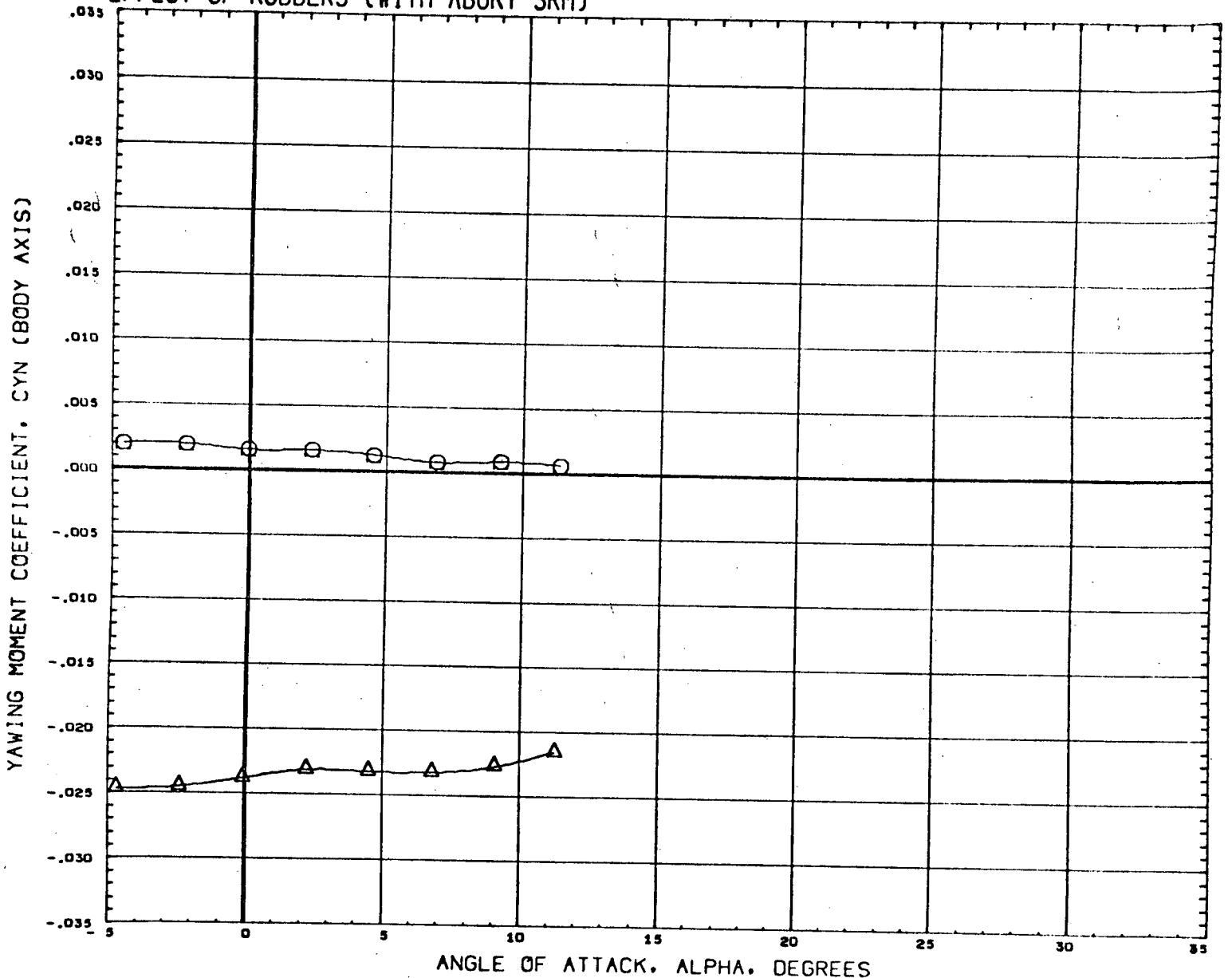


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH ABORT SRM)

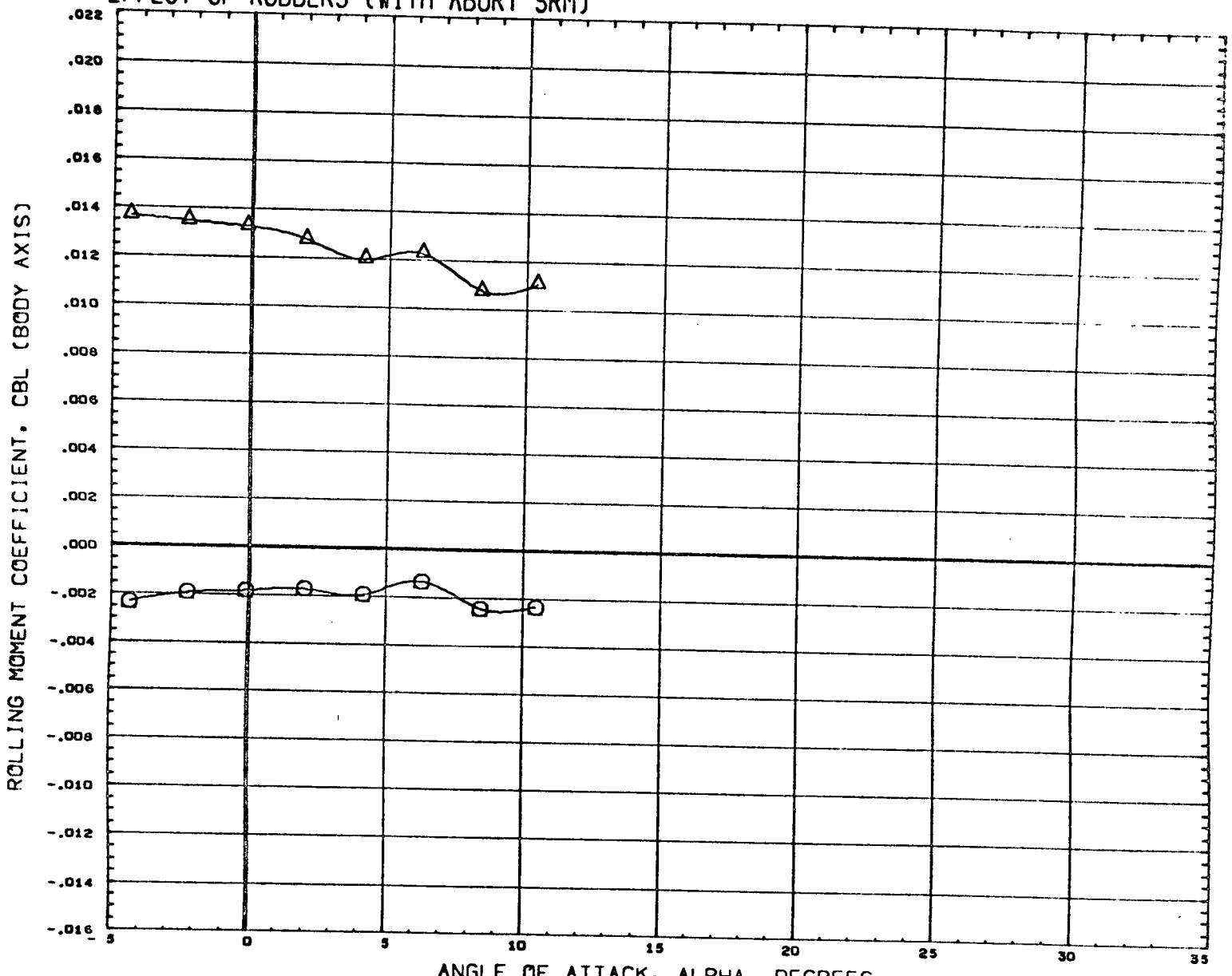


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.9800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH ABORT SRM)

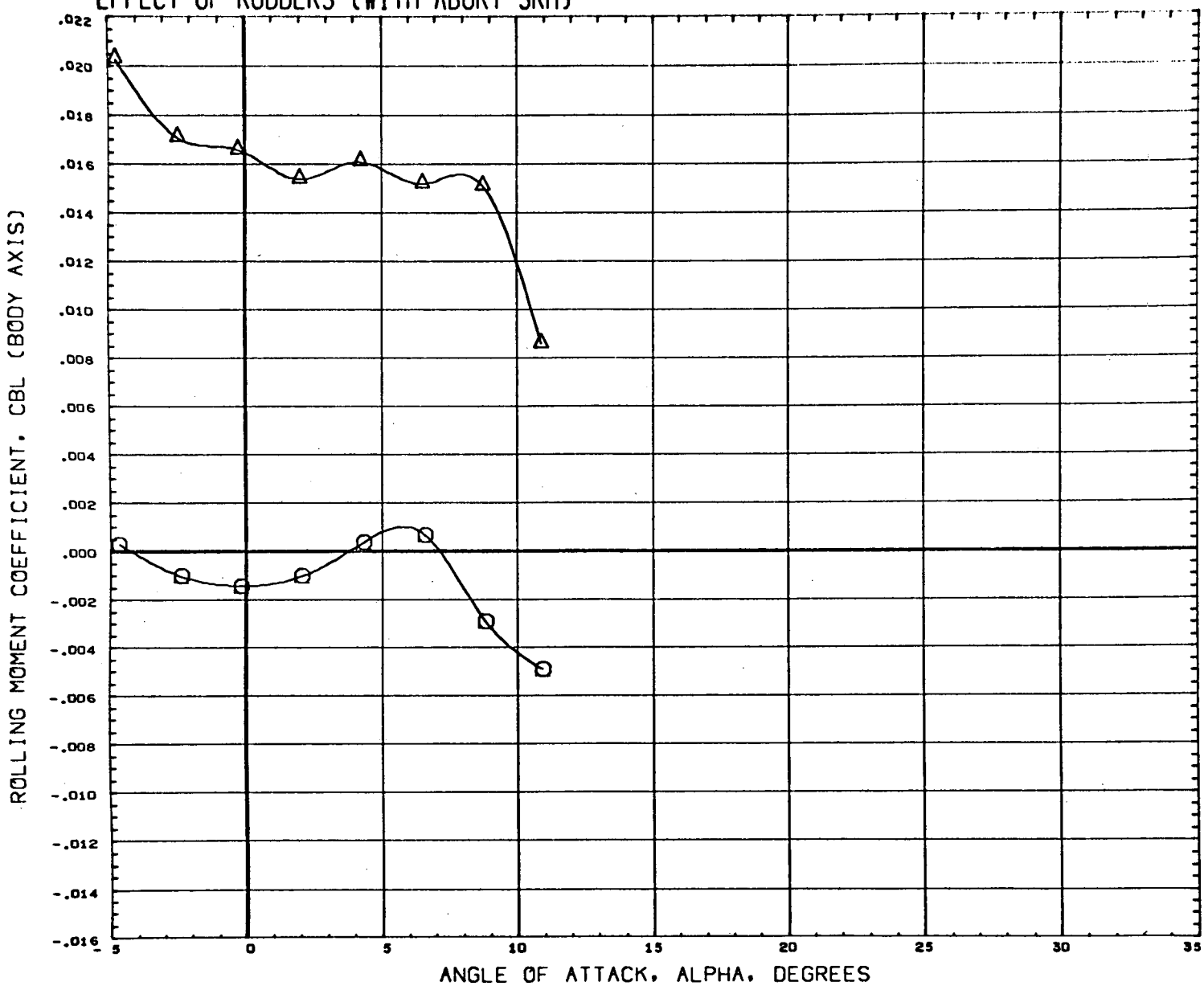


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH ABORT SRM)

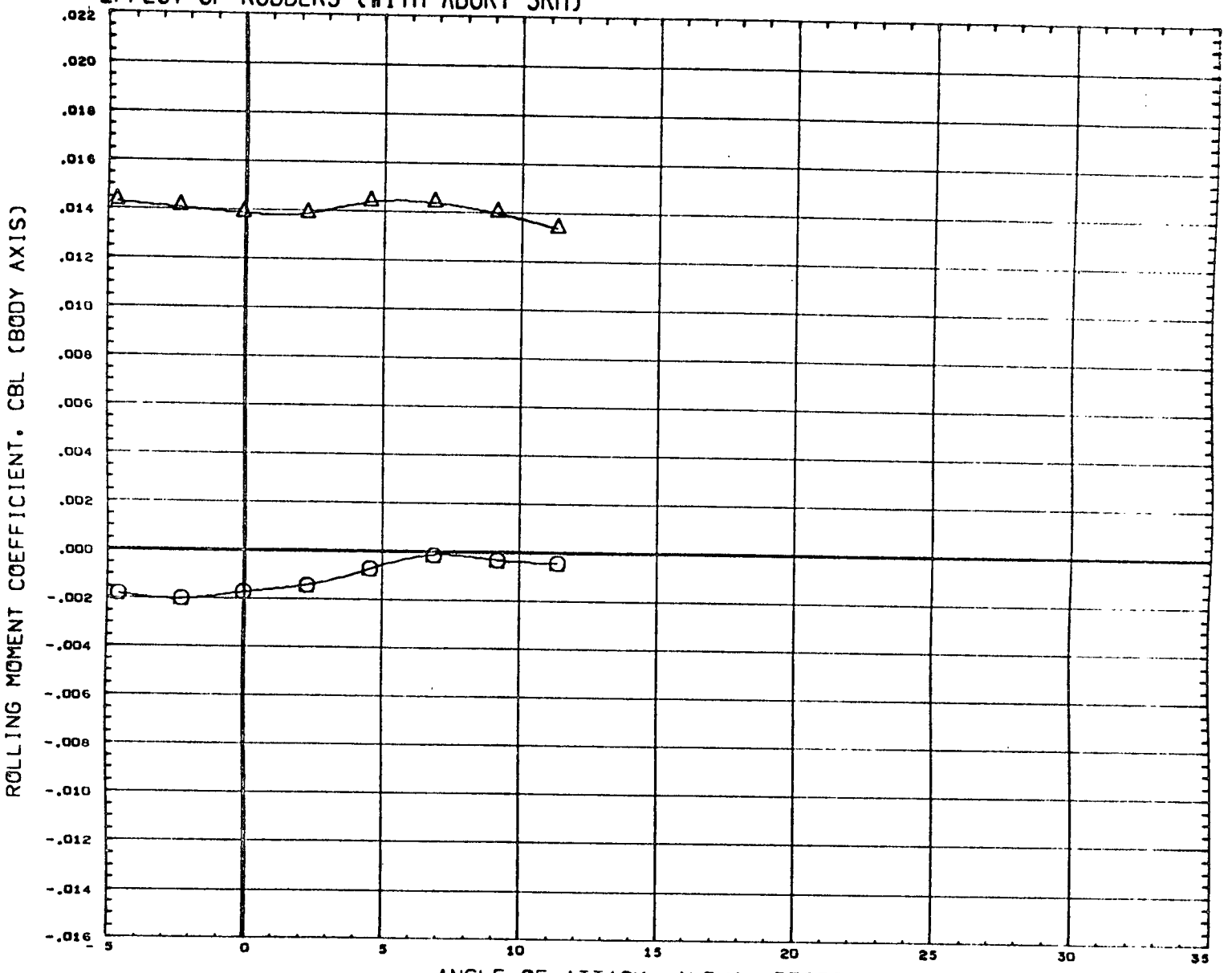


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH ABORT SRM)

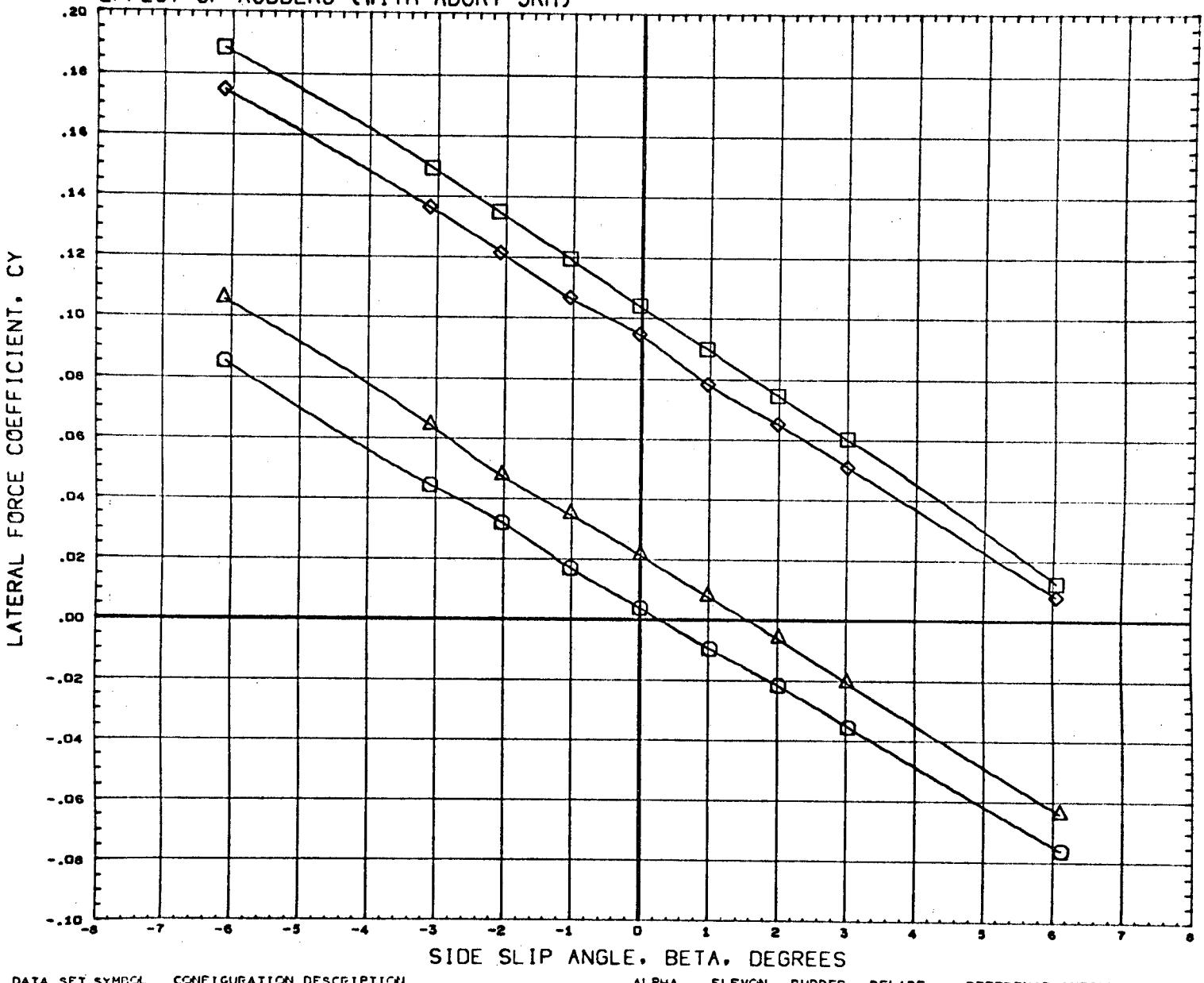


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69039)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDERS (WITH ABORT SRM)

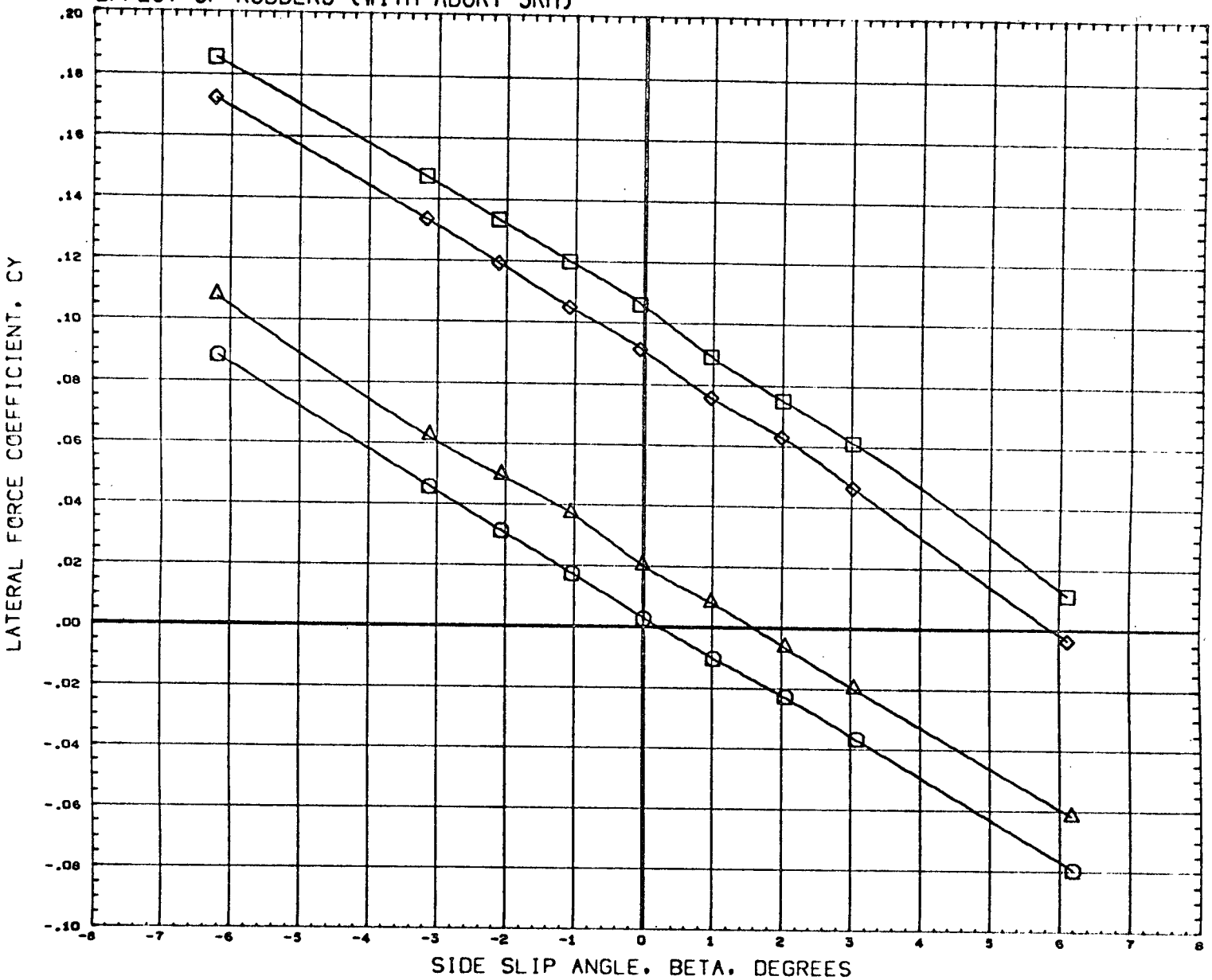


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69040)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	30.000	0.000
(A69041)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH ABORT SRM)

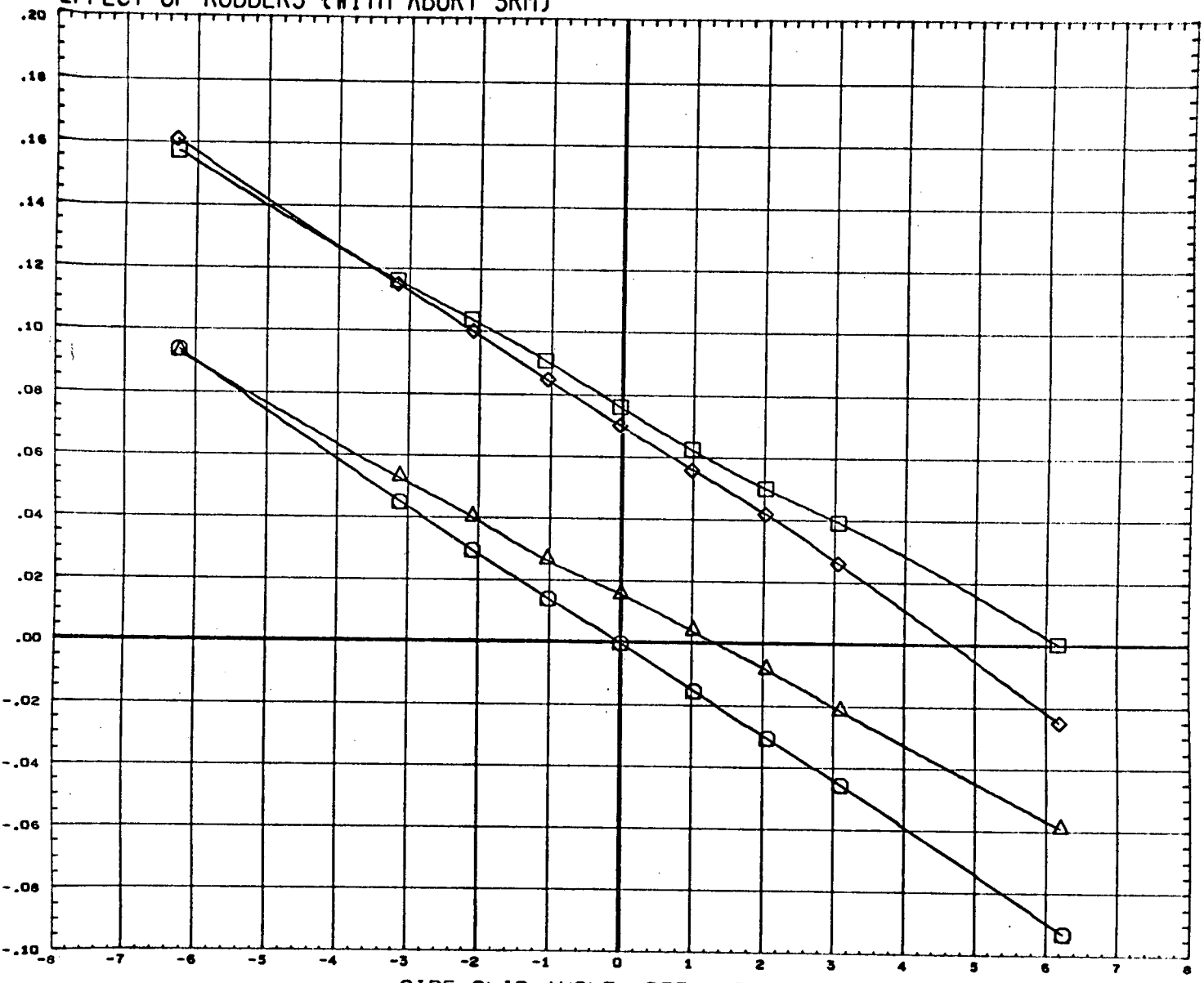


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69040)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	30.000	0.000
(A69041)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH ABORT SRM)

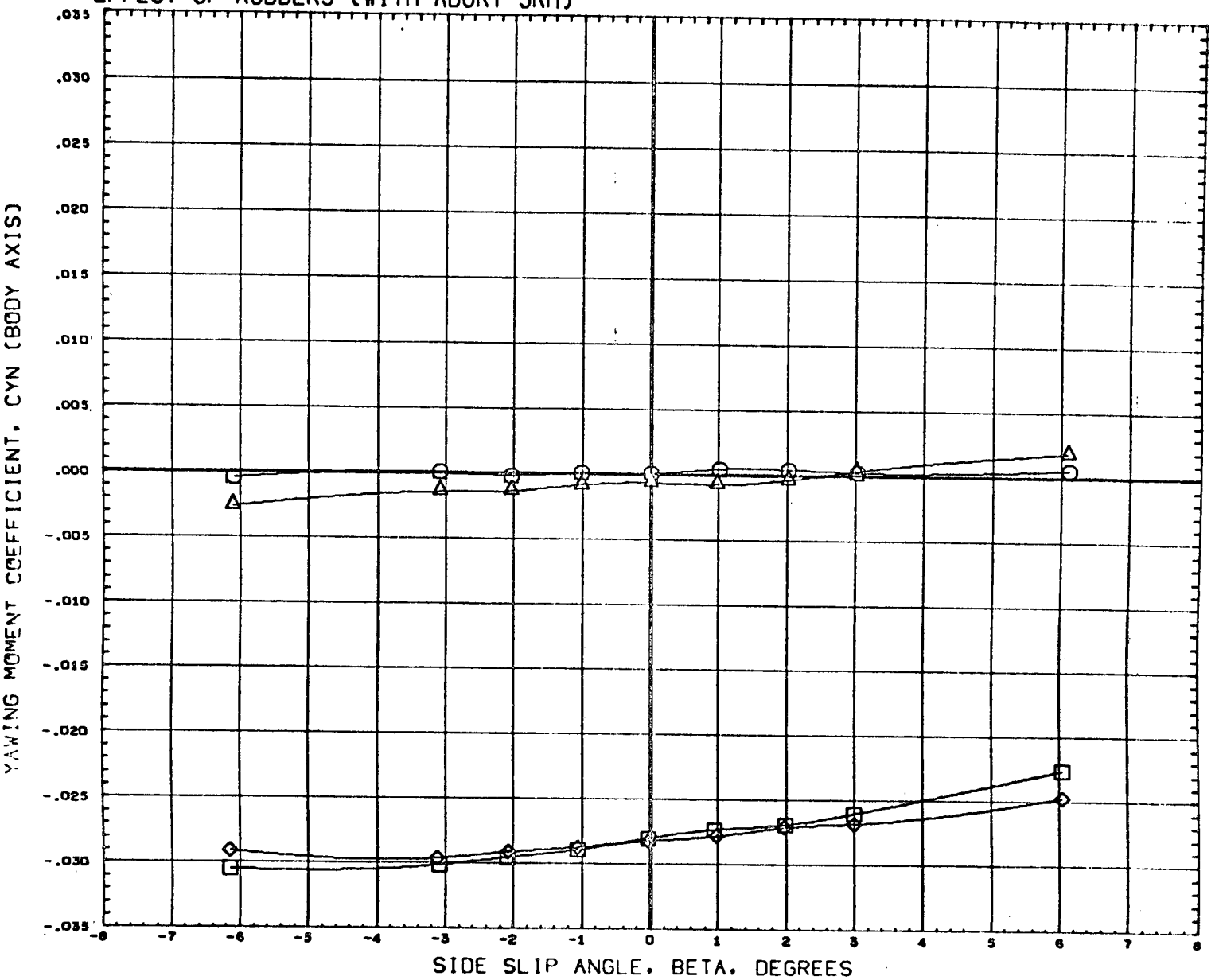


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69040)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	30.000	0.000
(A69041)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF RUDDERS (WITH ABORT SRM)

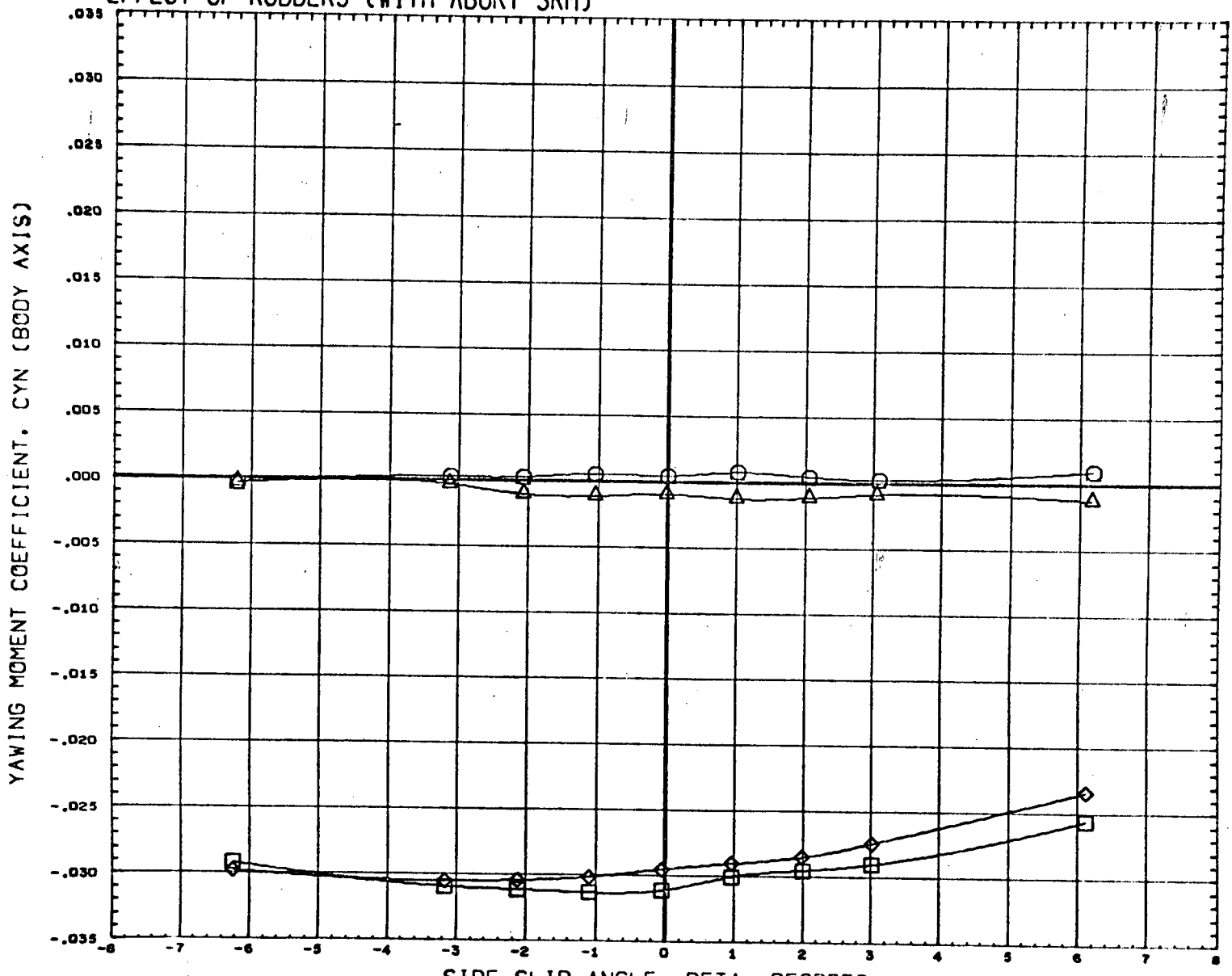


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69040)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	30.000	0.000
(A69041)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH ABORT SRM)

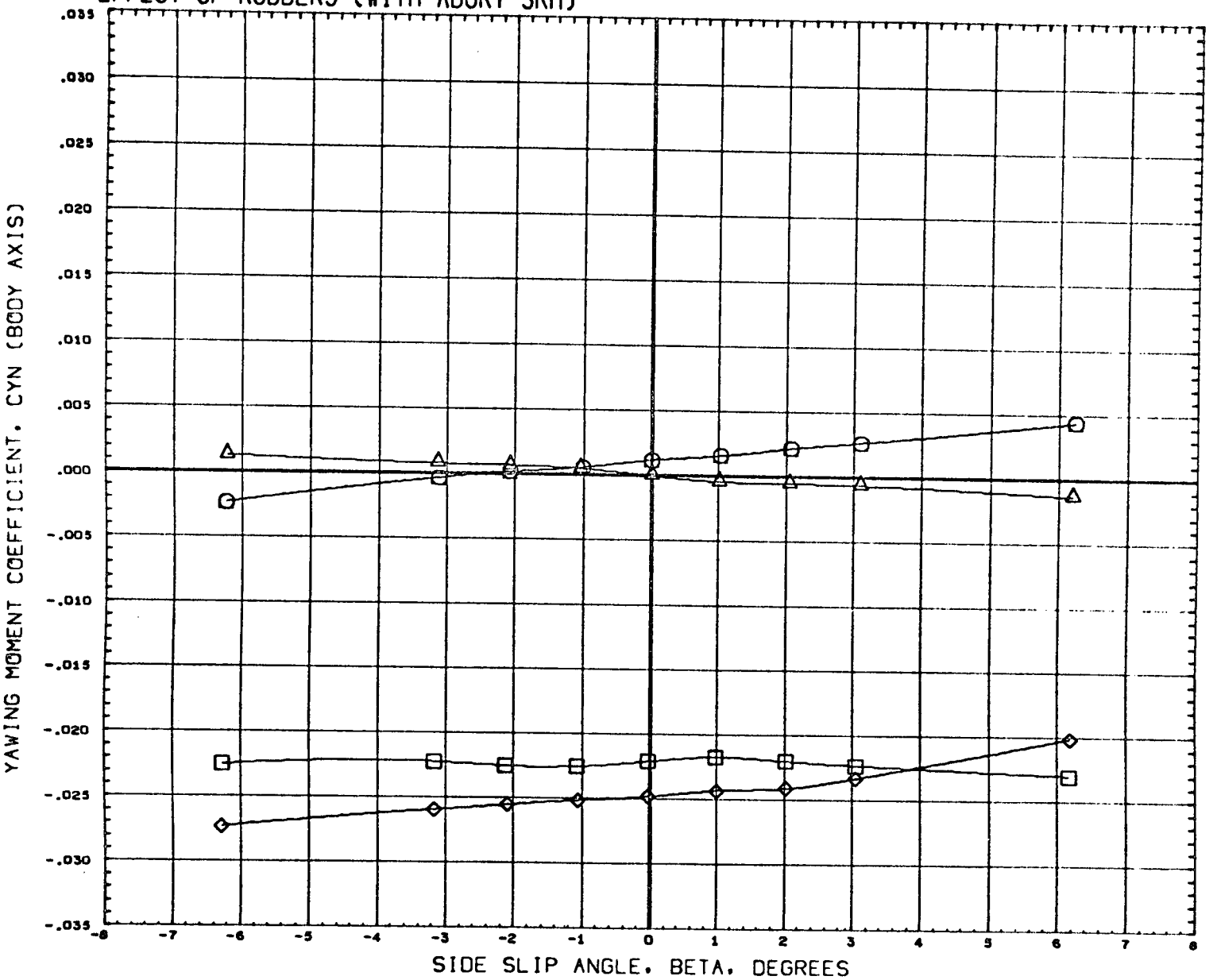


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69040)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	30.000	0.000
(A69041)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH ABORT SRM)

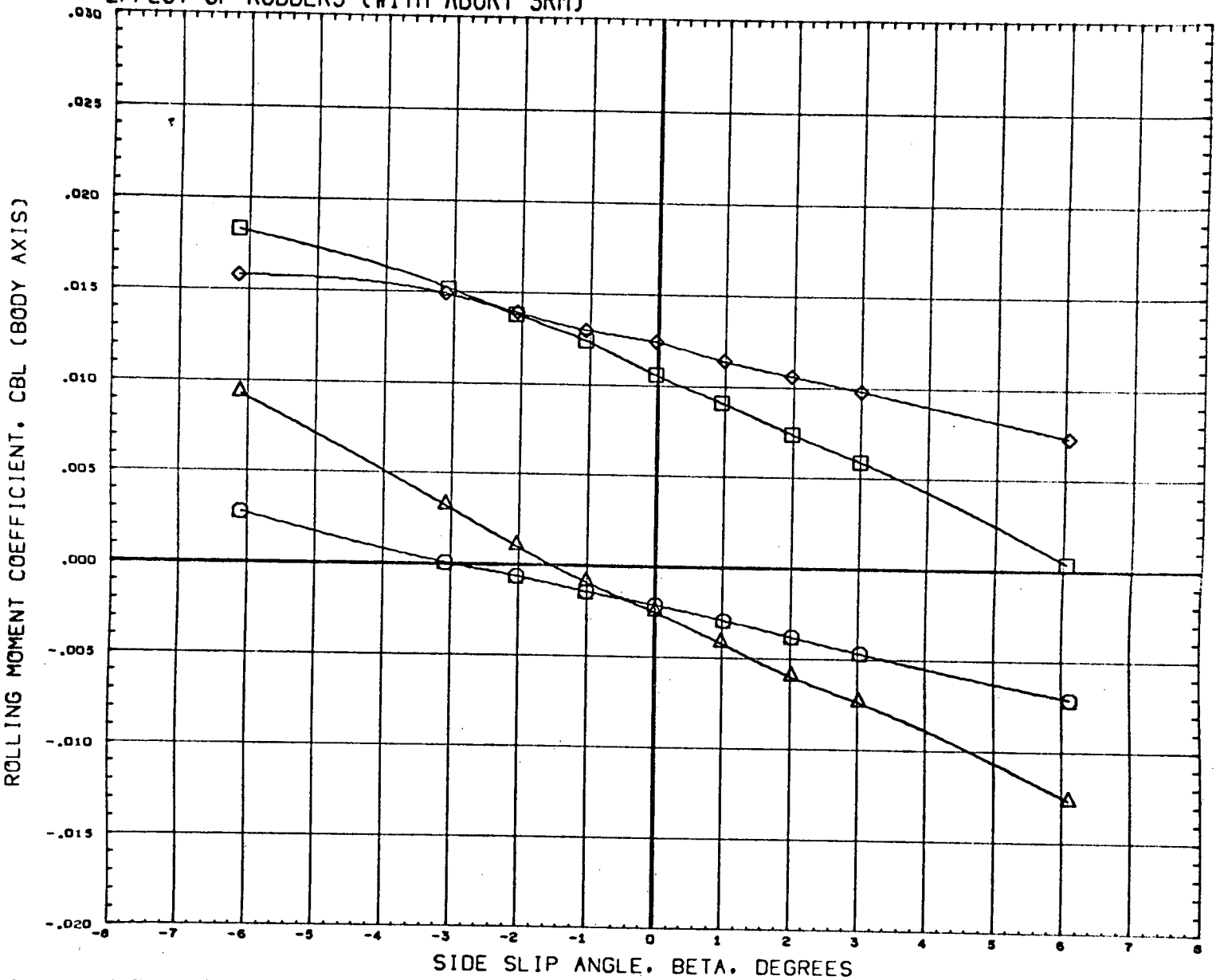


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69040)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	30.000	0.000
(A69041)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF RUDDERS (WITH ABORT SRM)

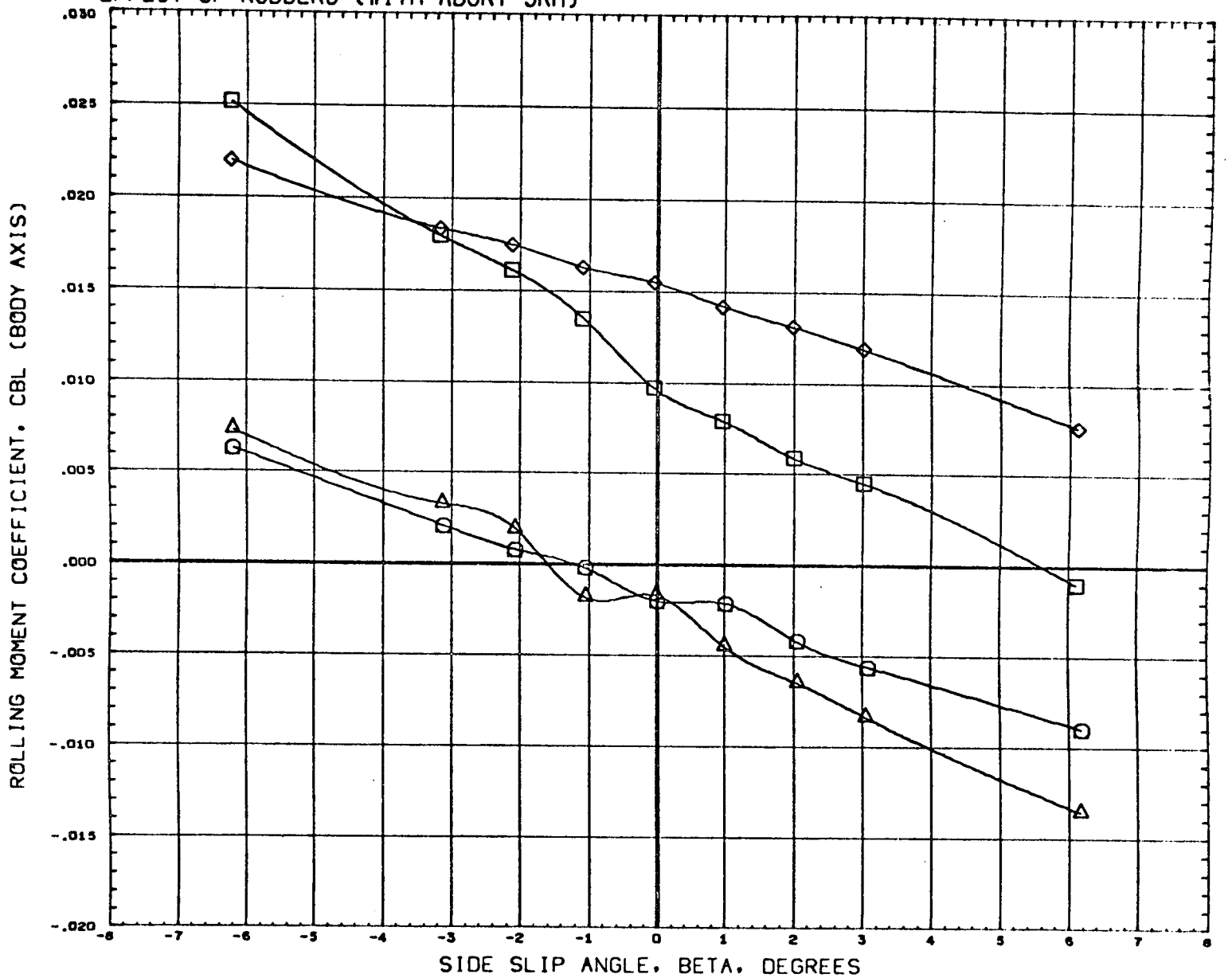


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69040)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	30.000	0.000
(A69041)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDERS (WITH ABORT SRM)

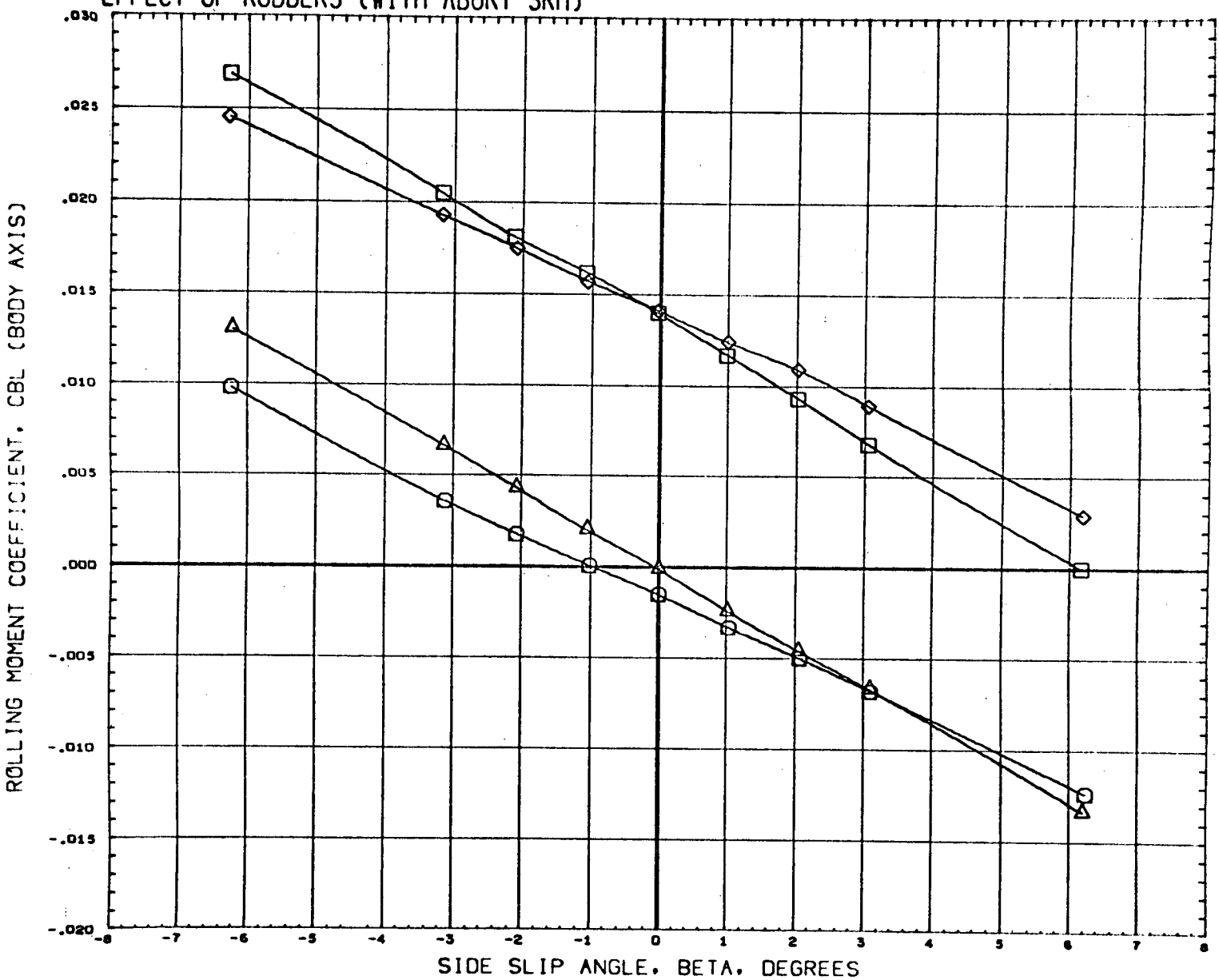


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69040)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	30.000	0.000
(A69041)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDERS (WITH ABORT SRM)

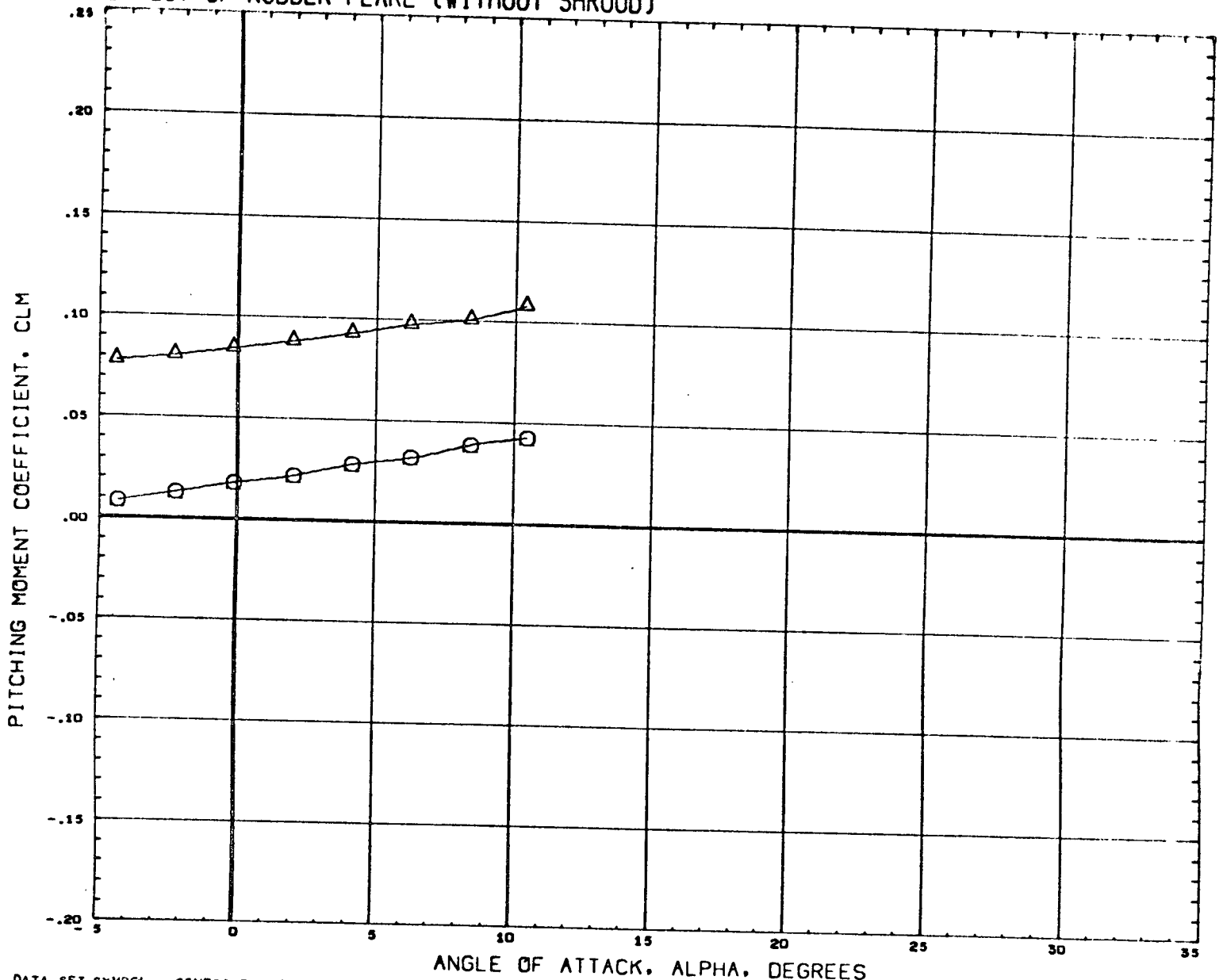


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69040)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	30.000	0.000
(A69041)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

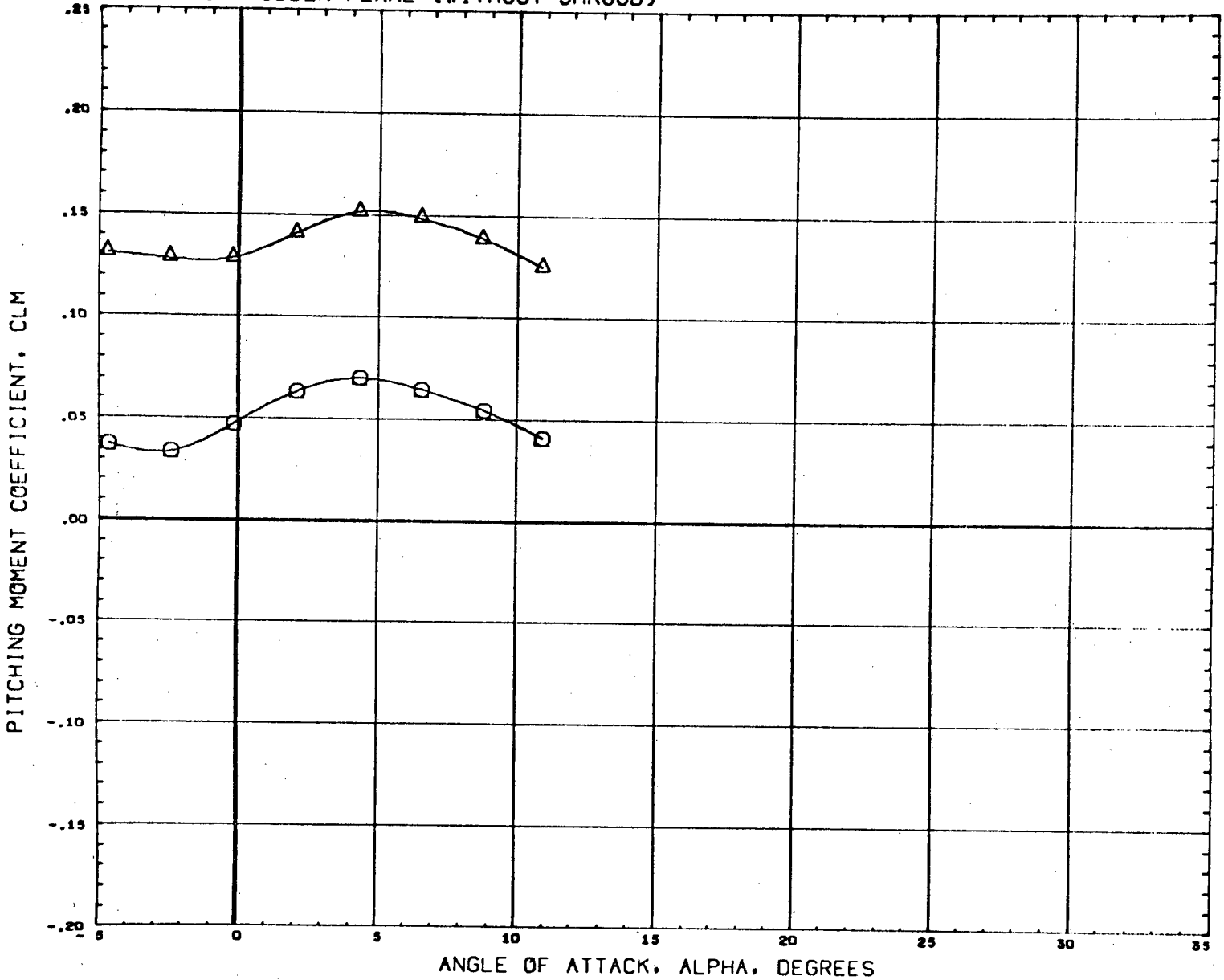


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B60001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0200	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

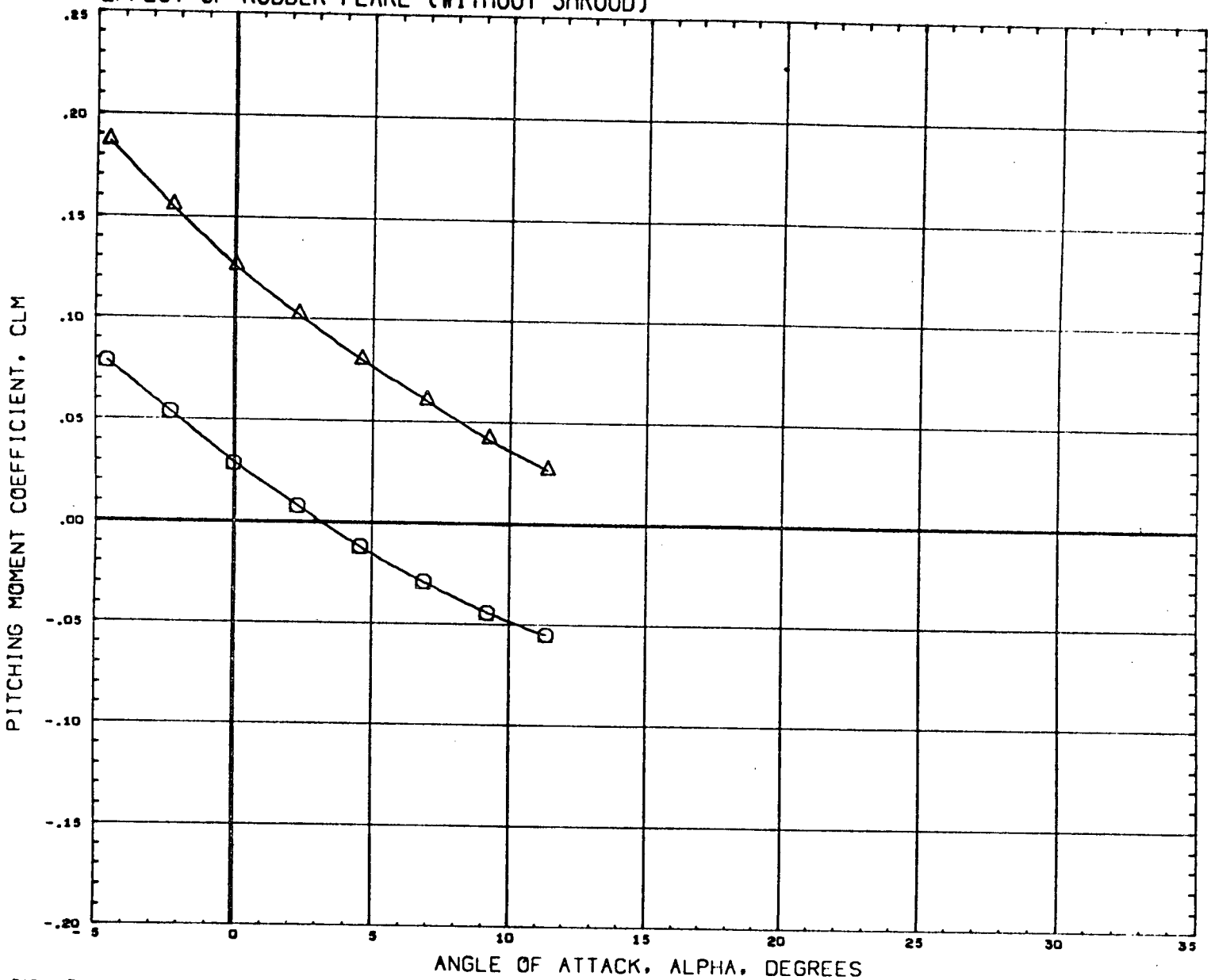


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869026)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

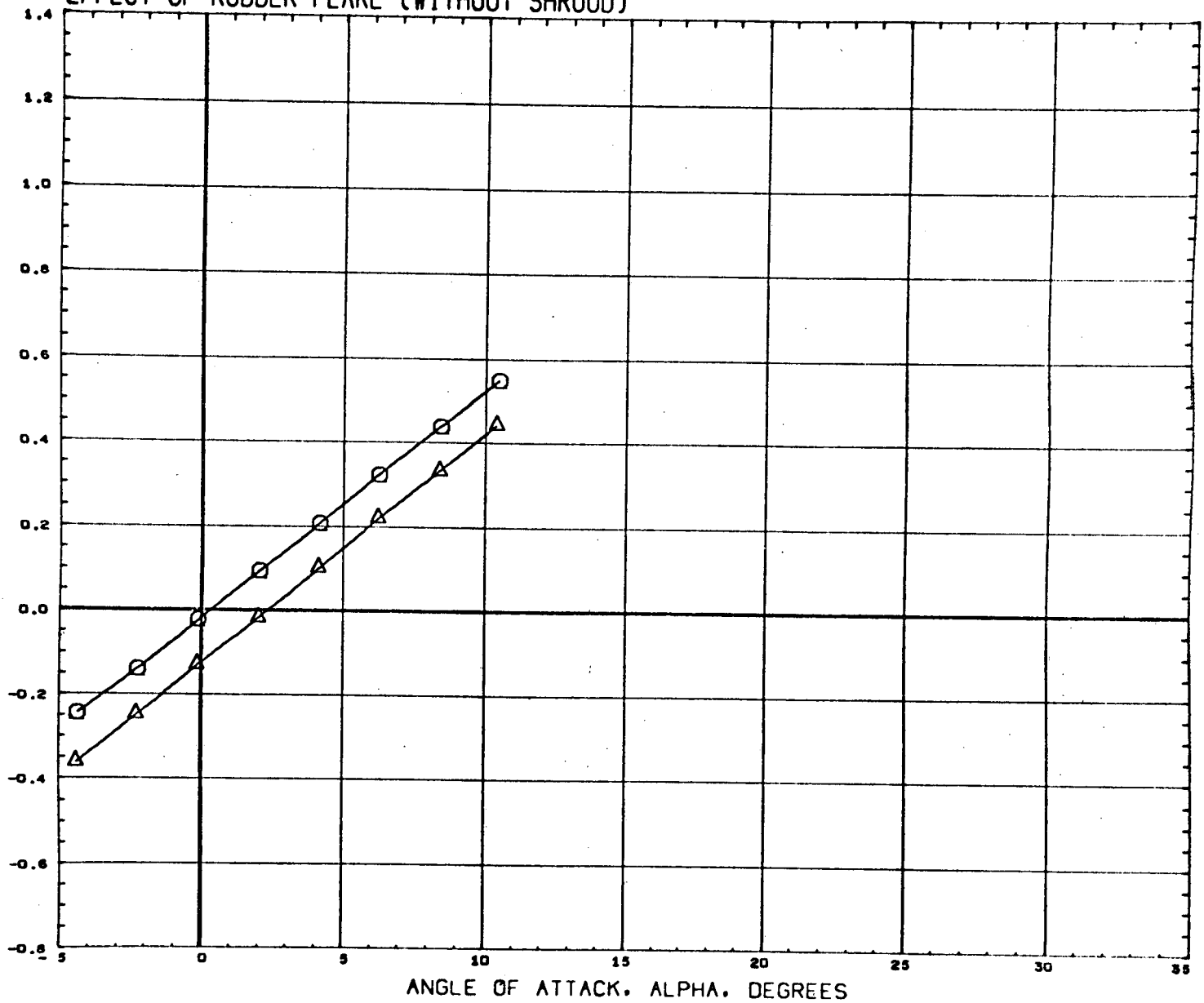


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

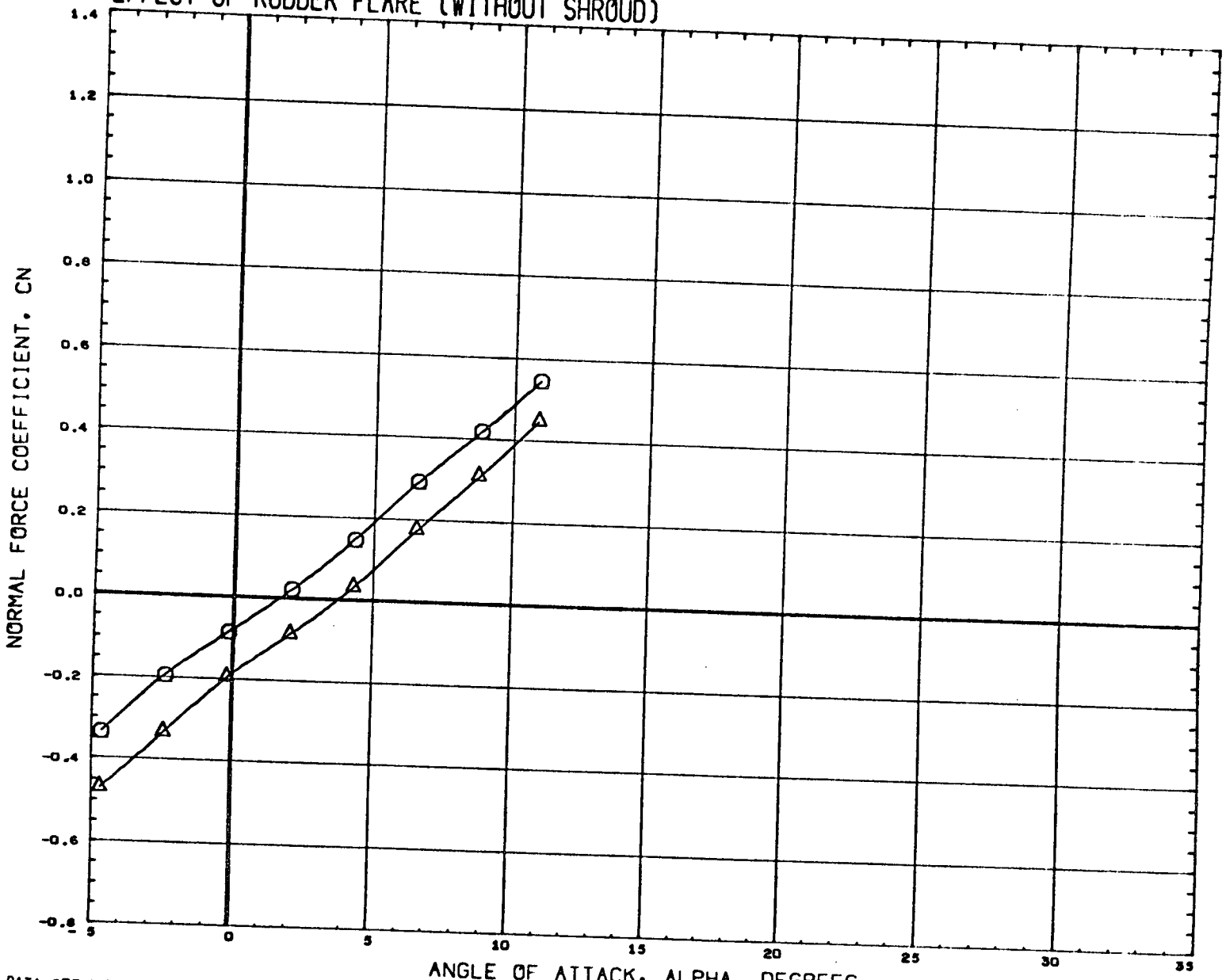


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

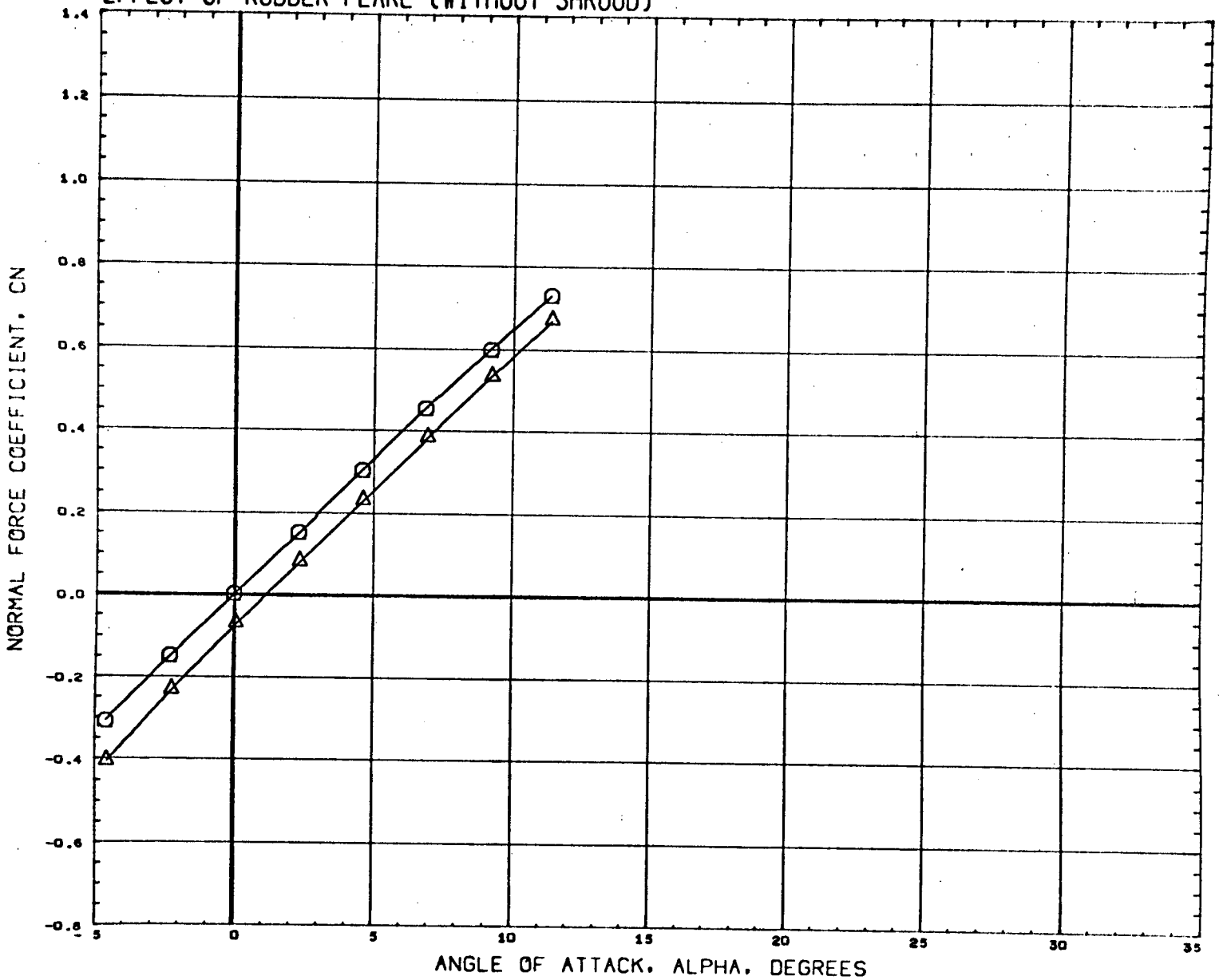


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)



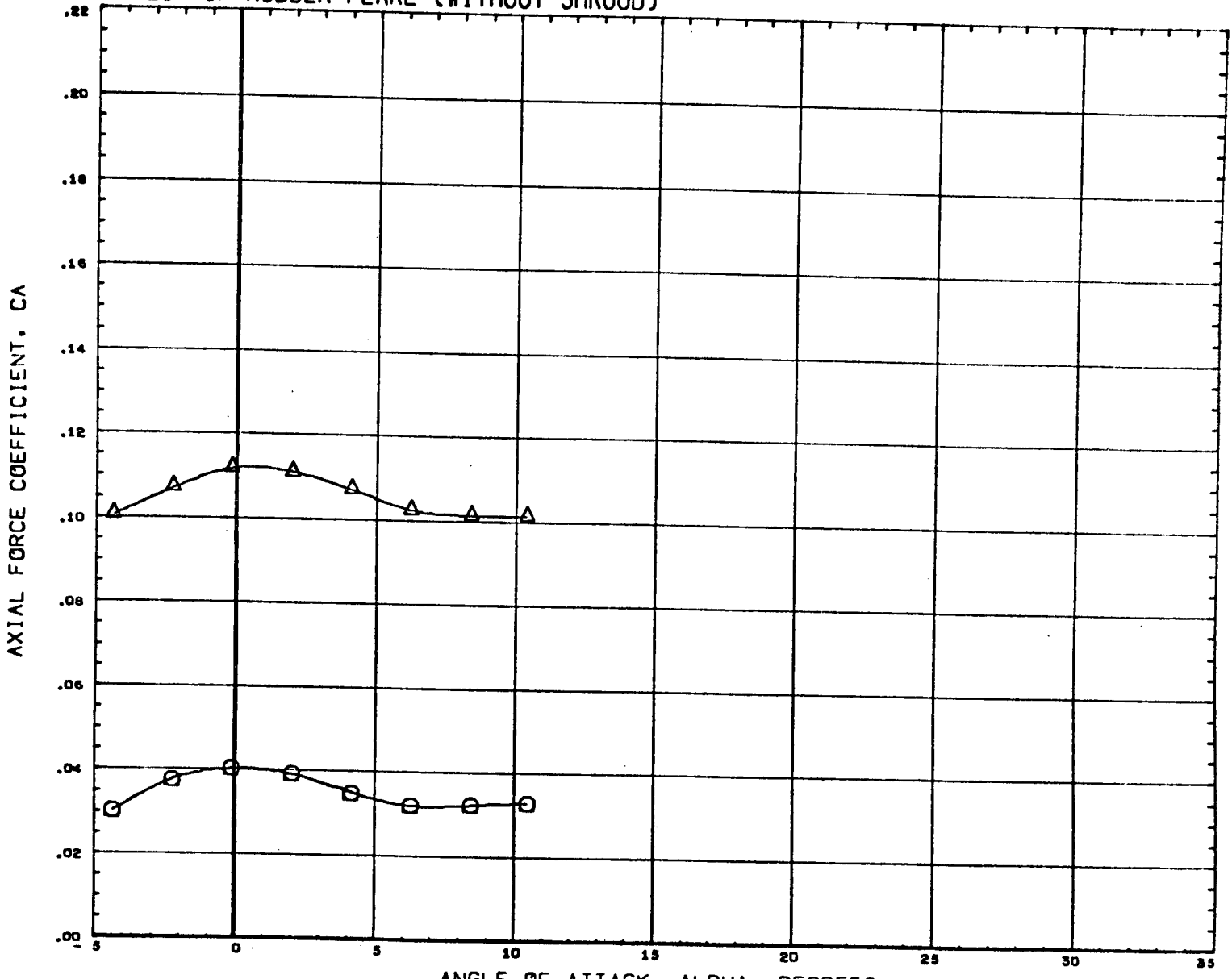
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

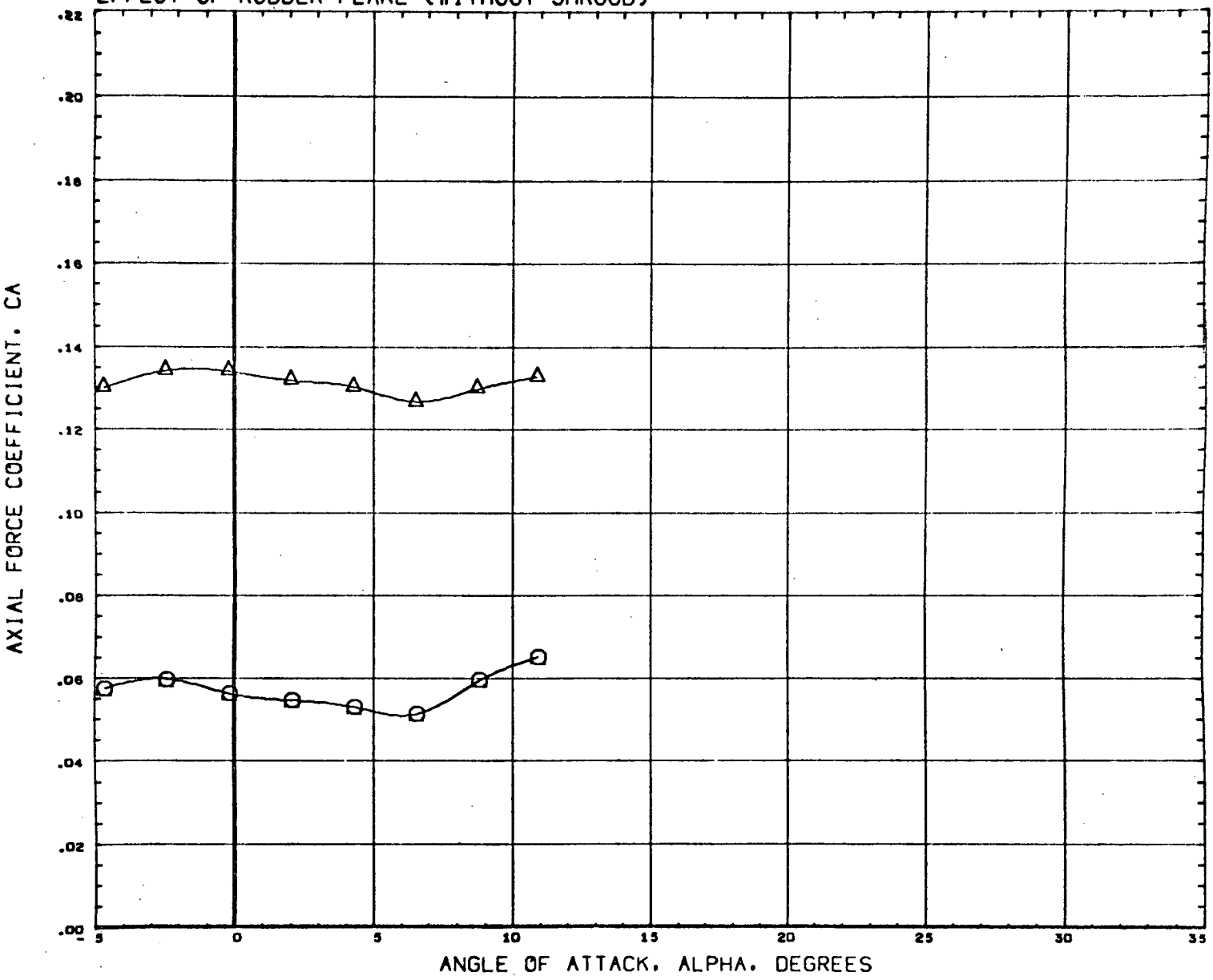


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

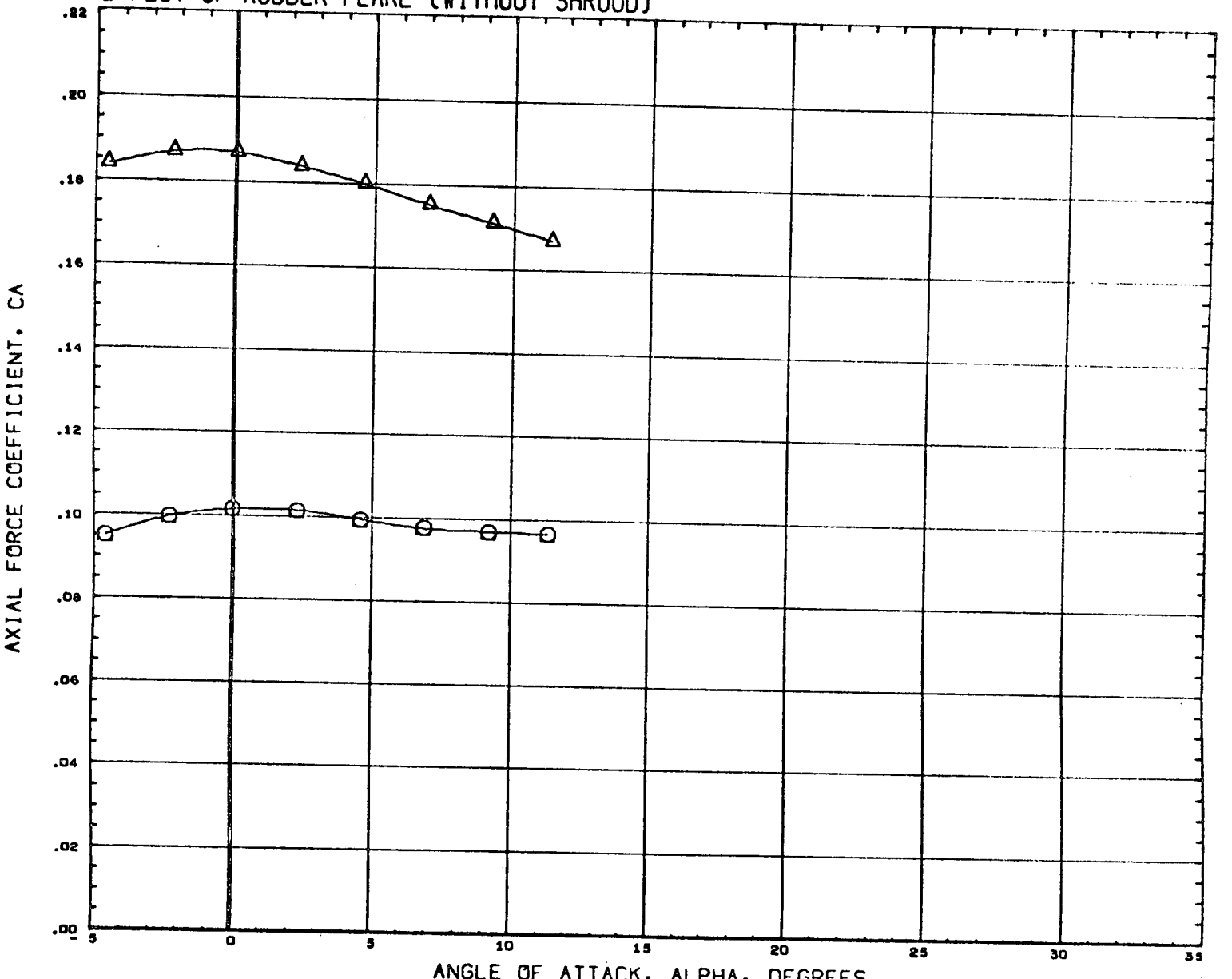


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

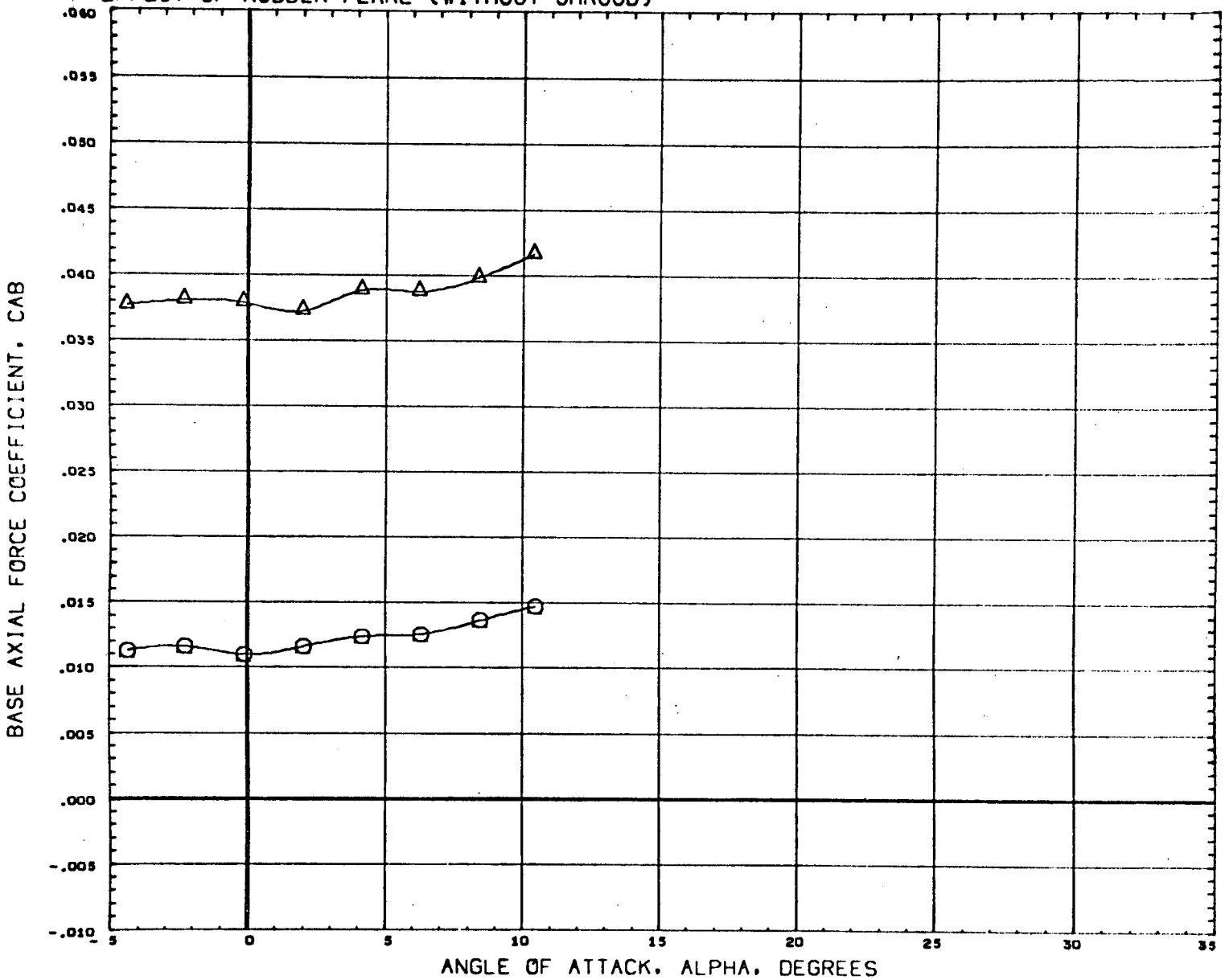


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869026)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)



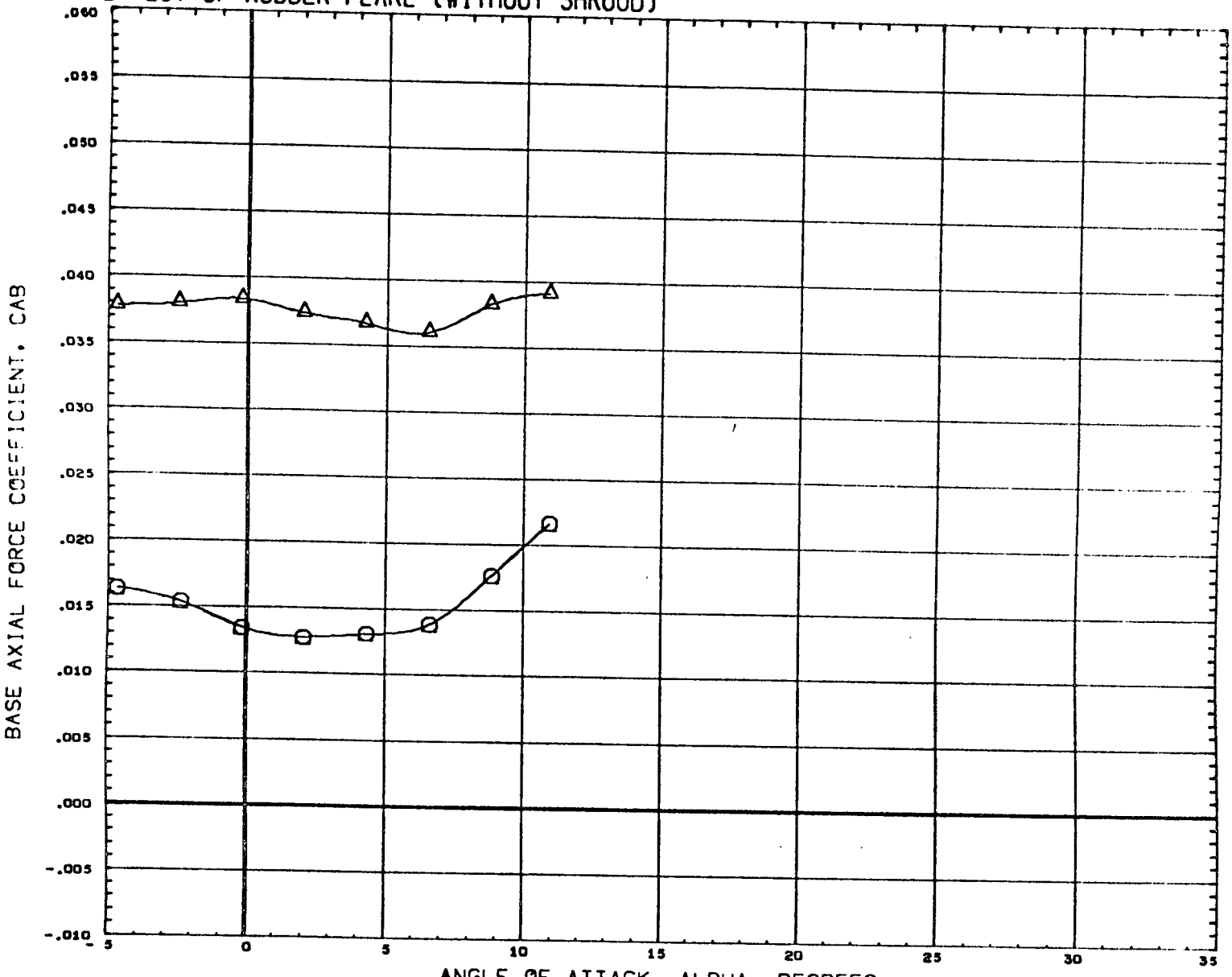
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

C6

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

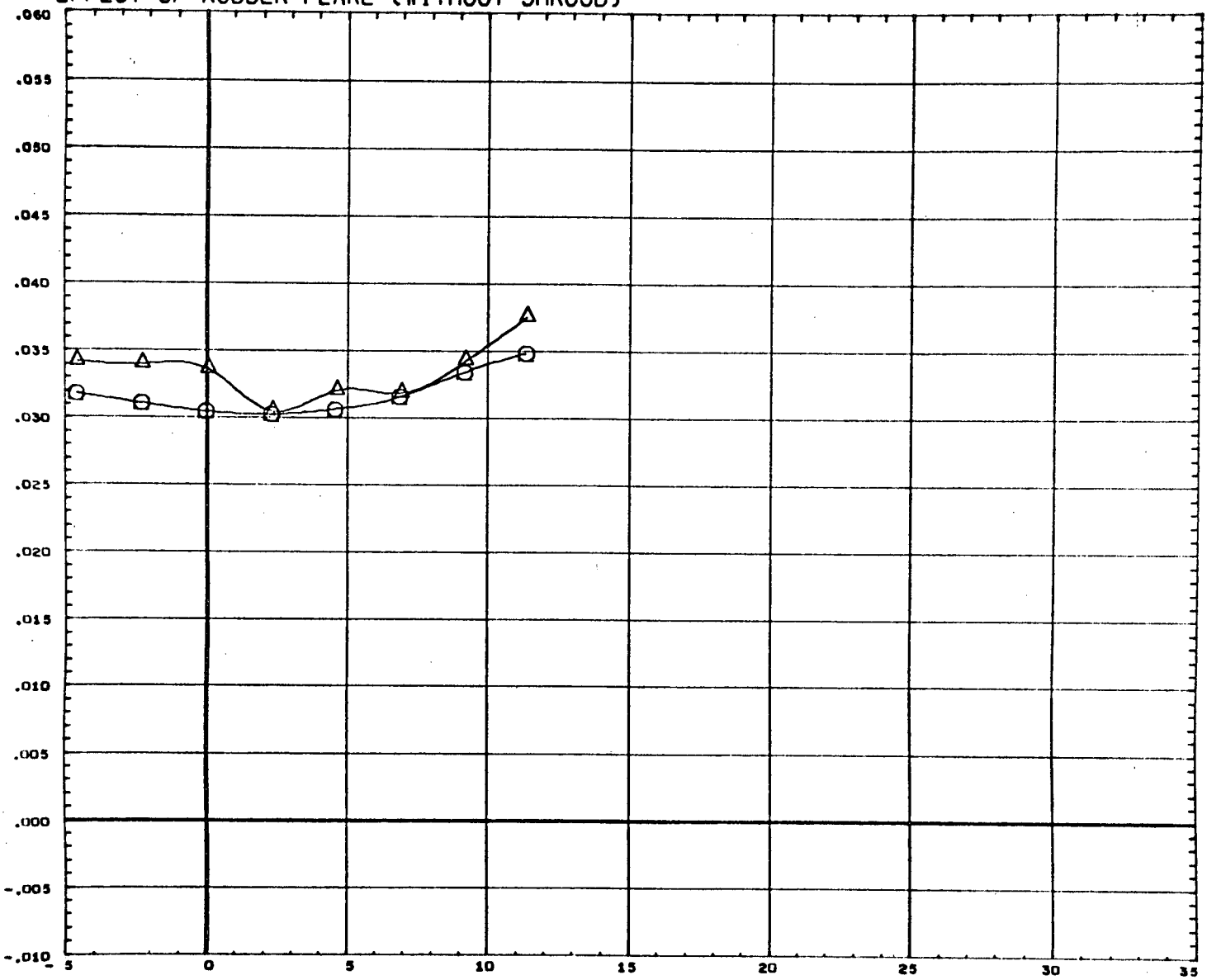


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69026)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

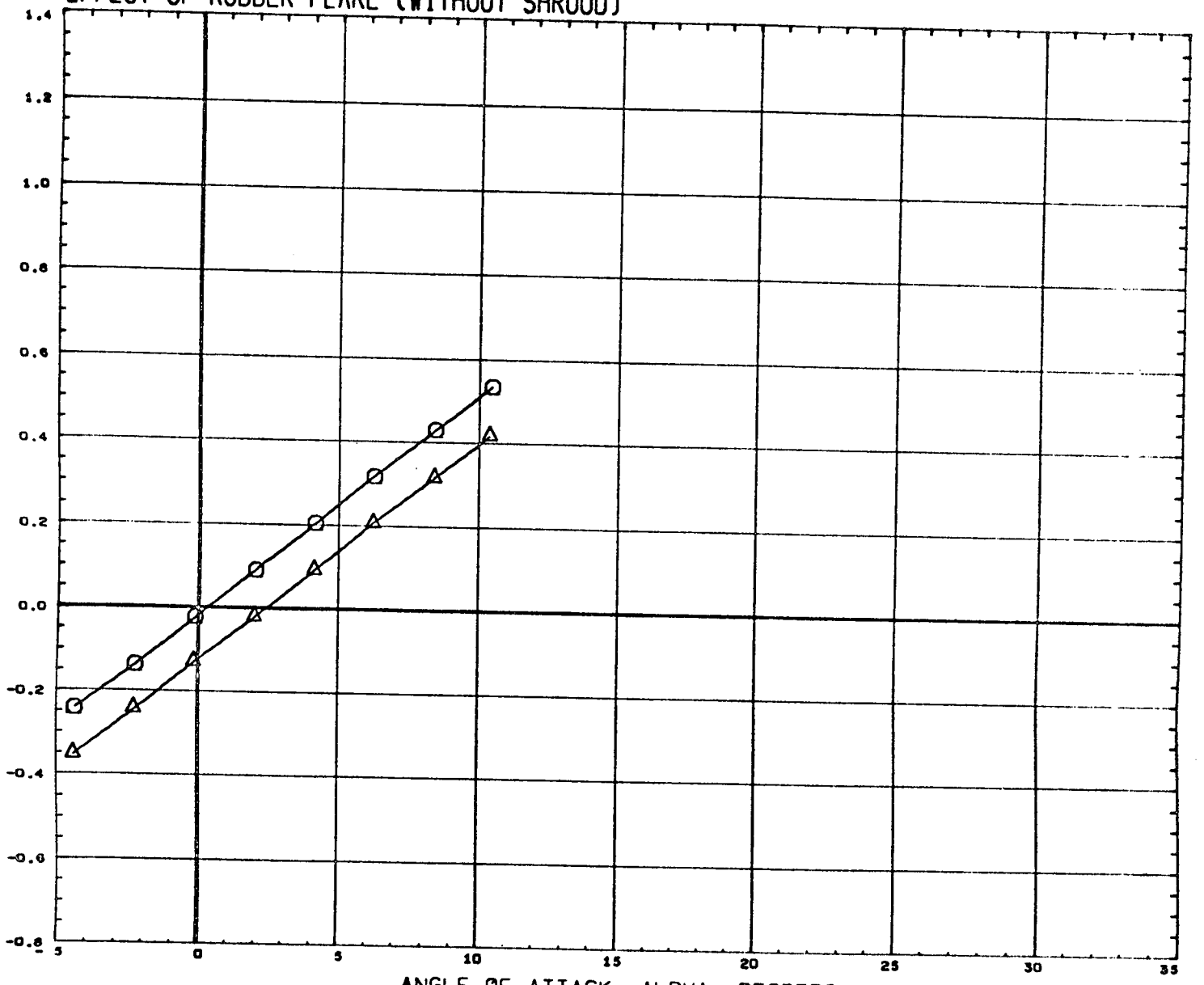


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

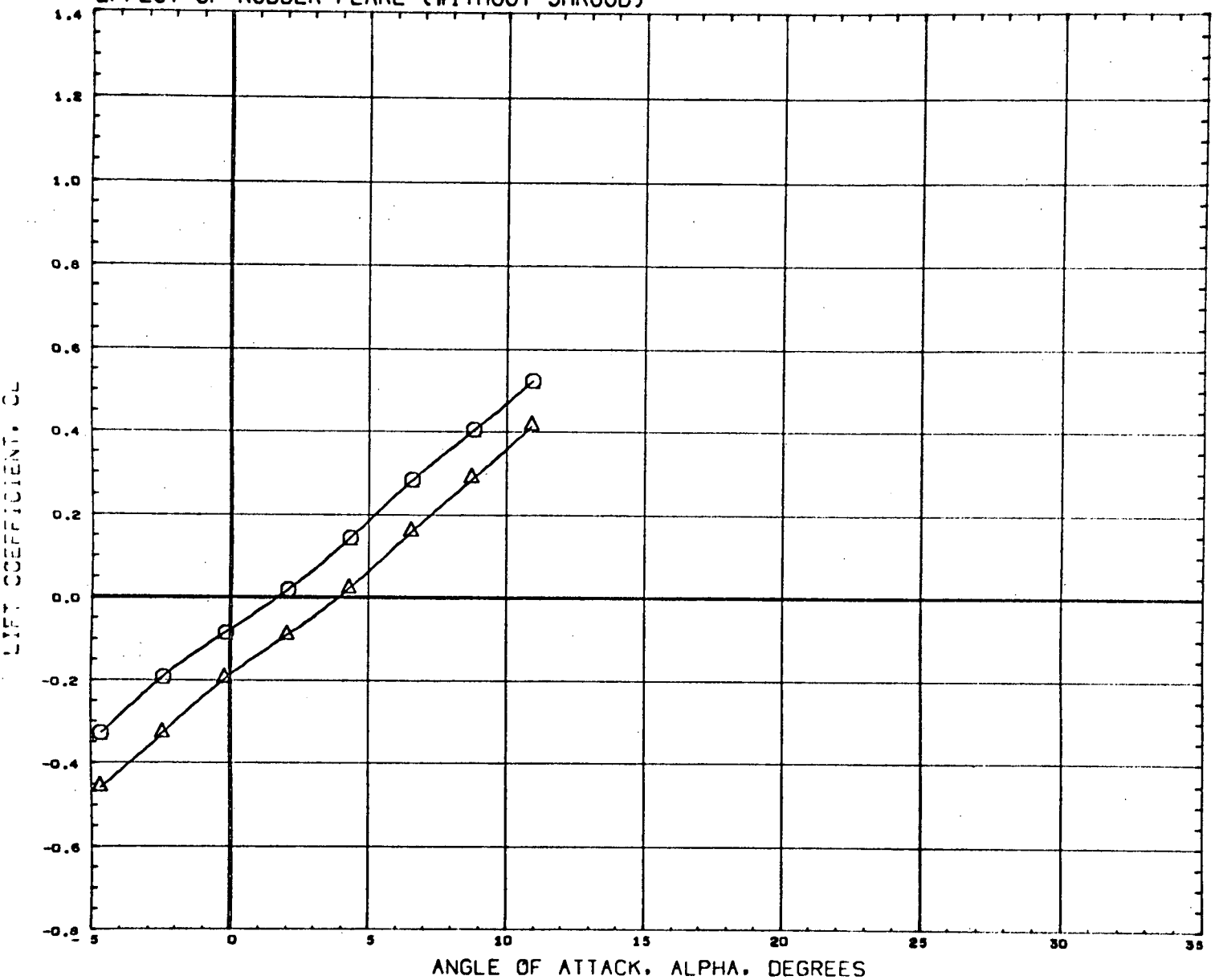


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

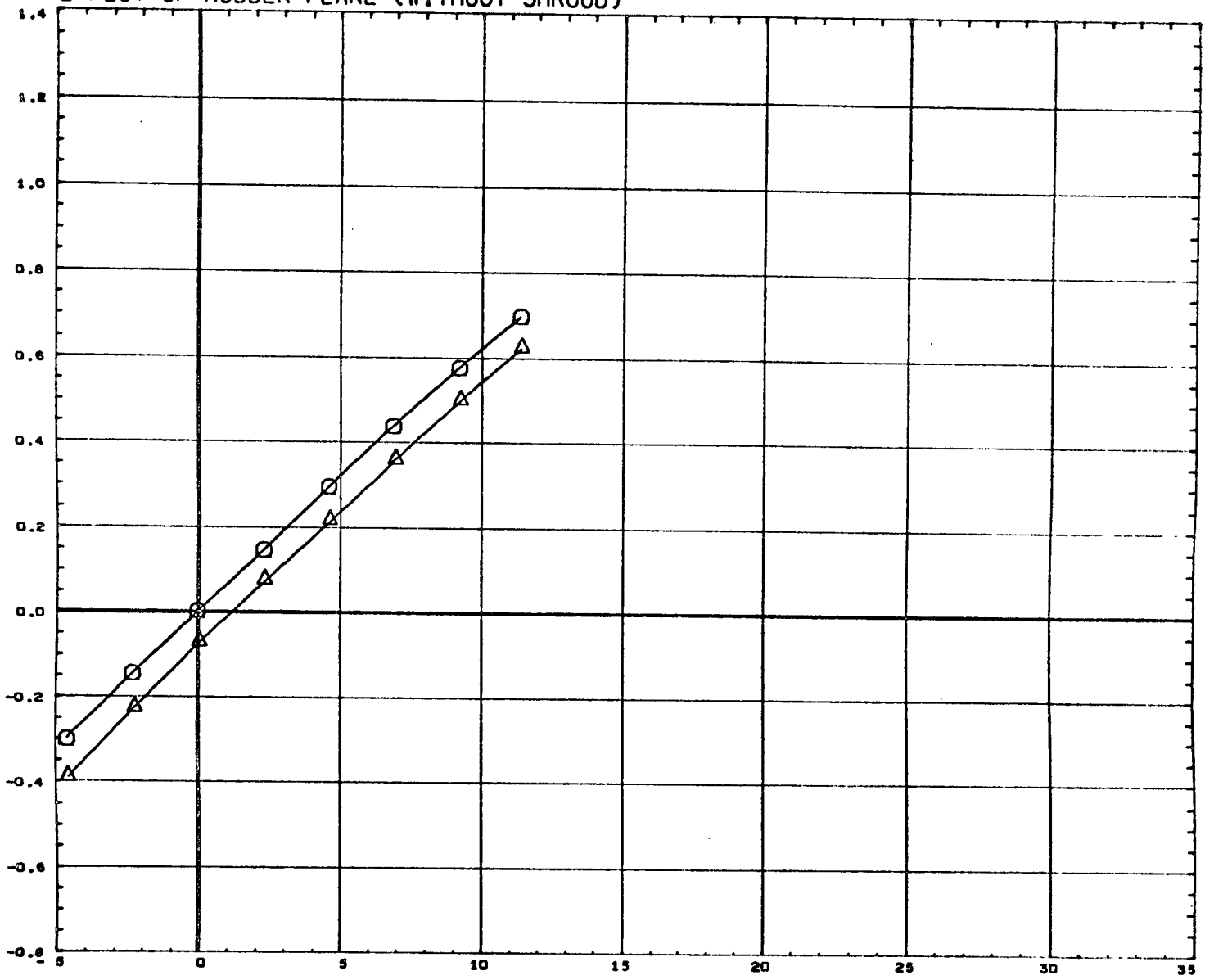


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.6800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

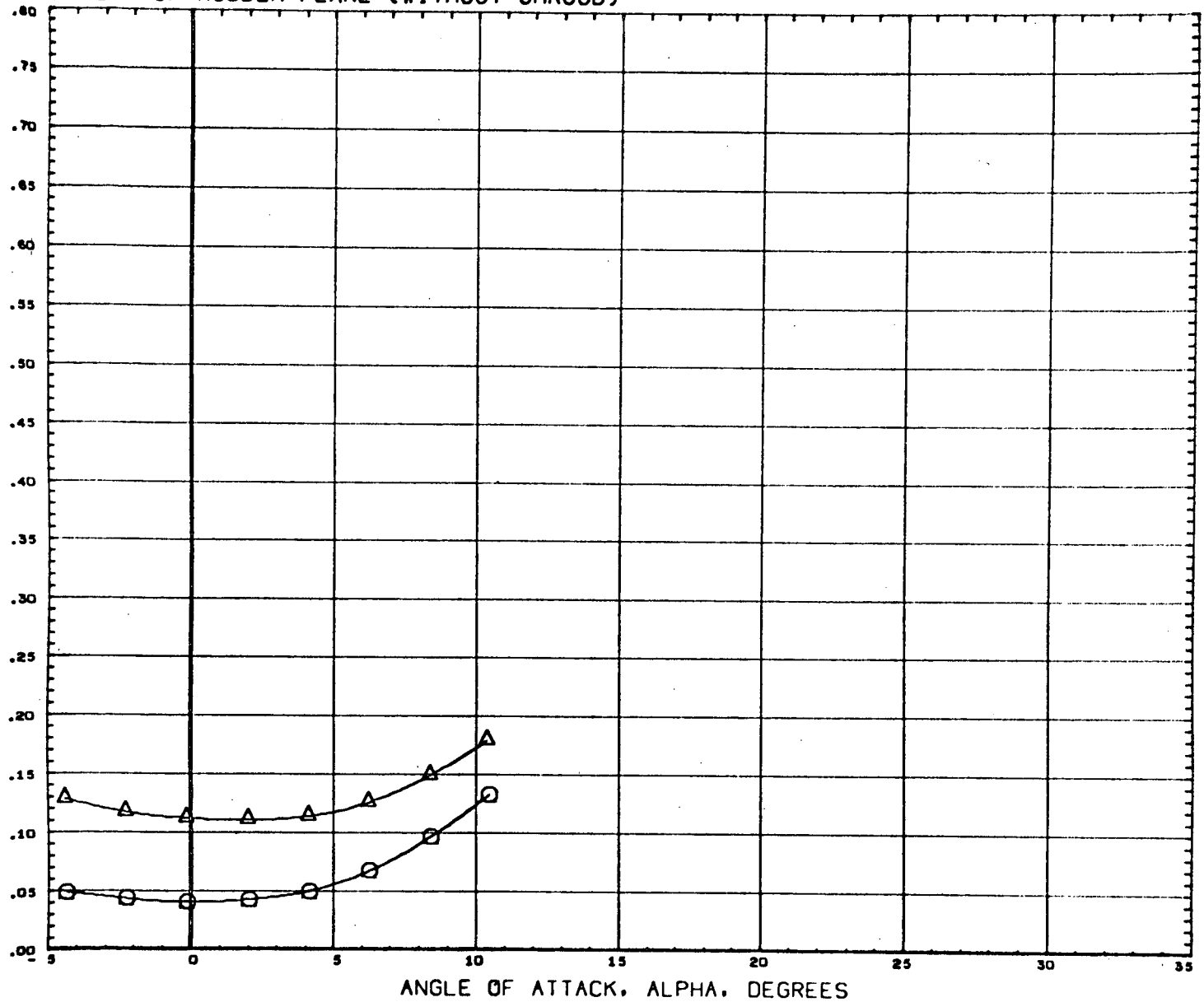


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

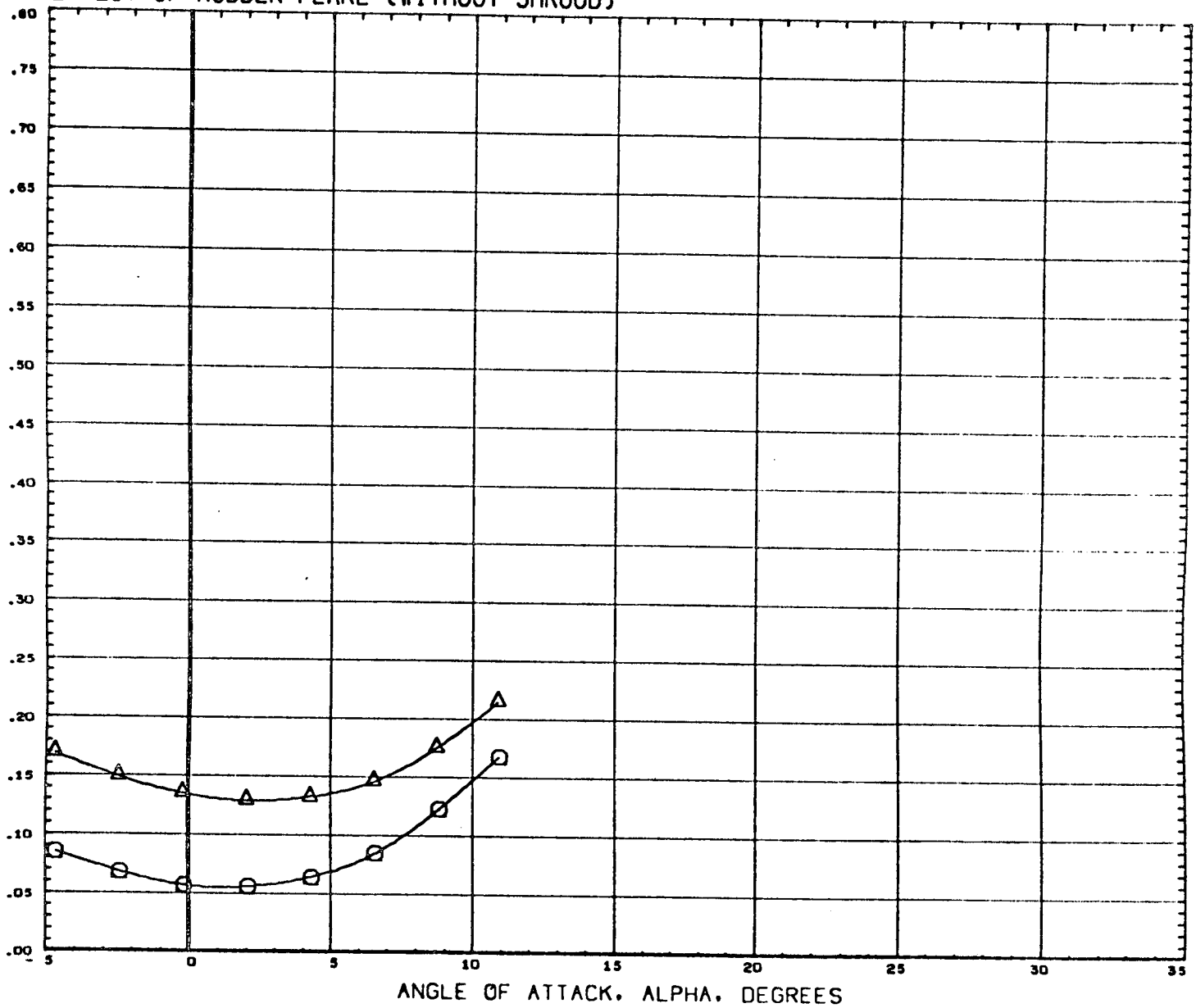


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

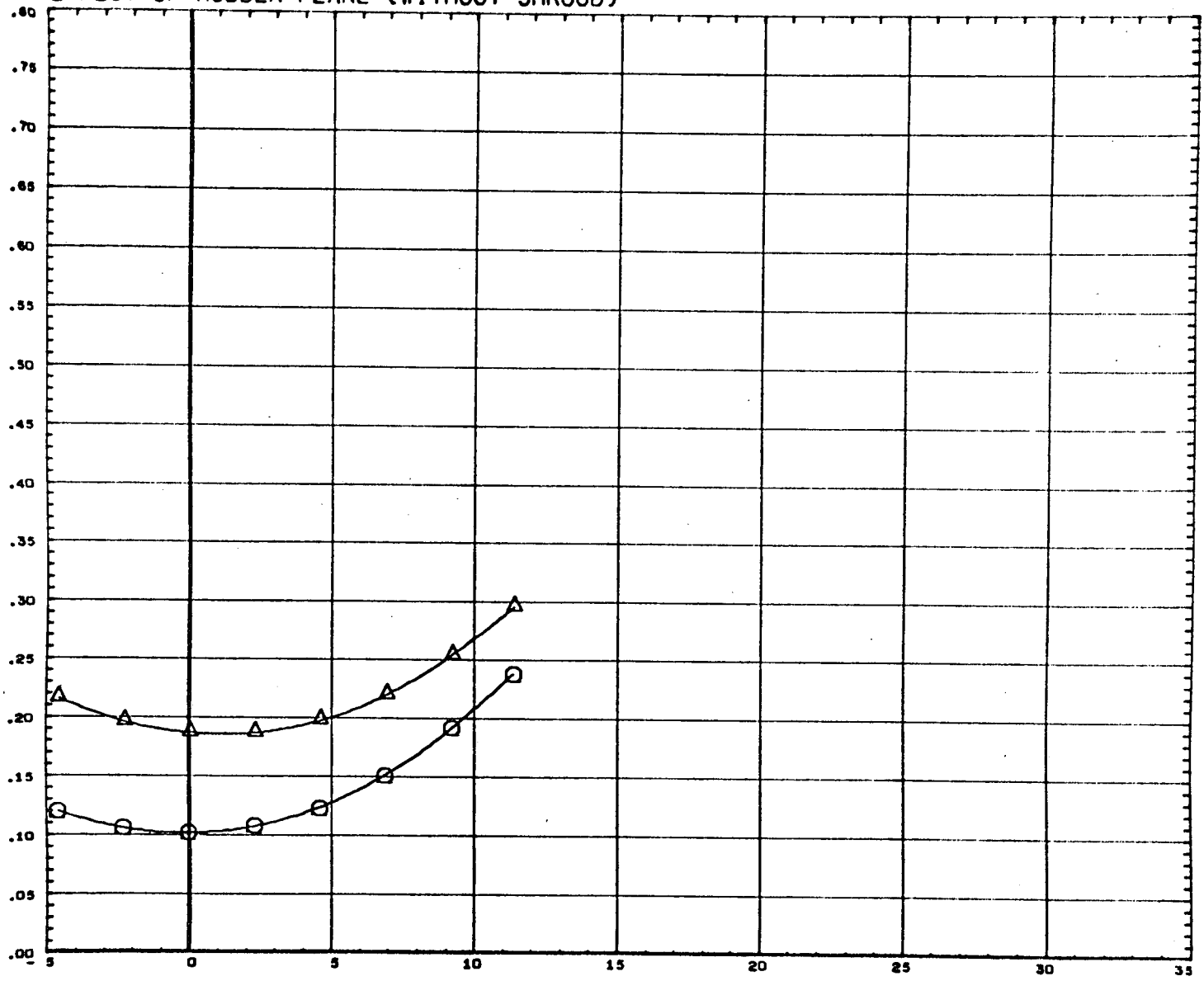


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(069001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(069026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

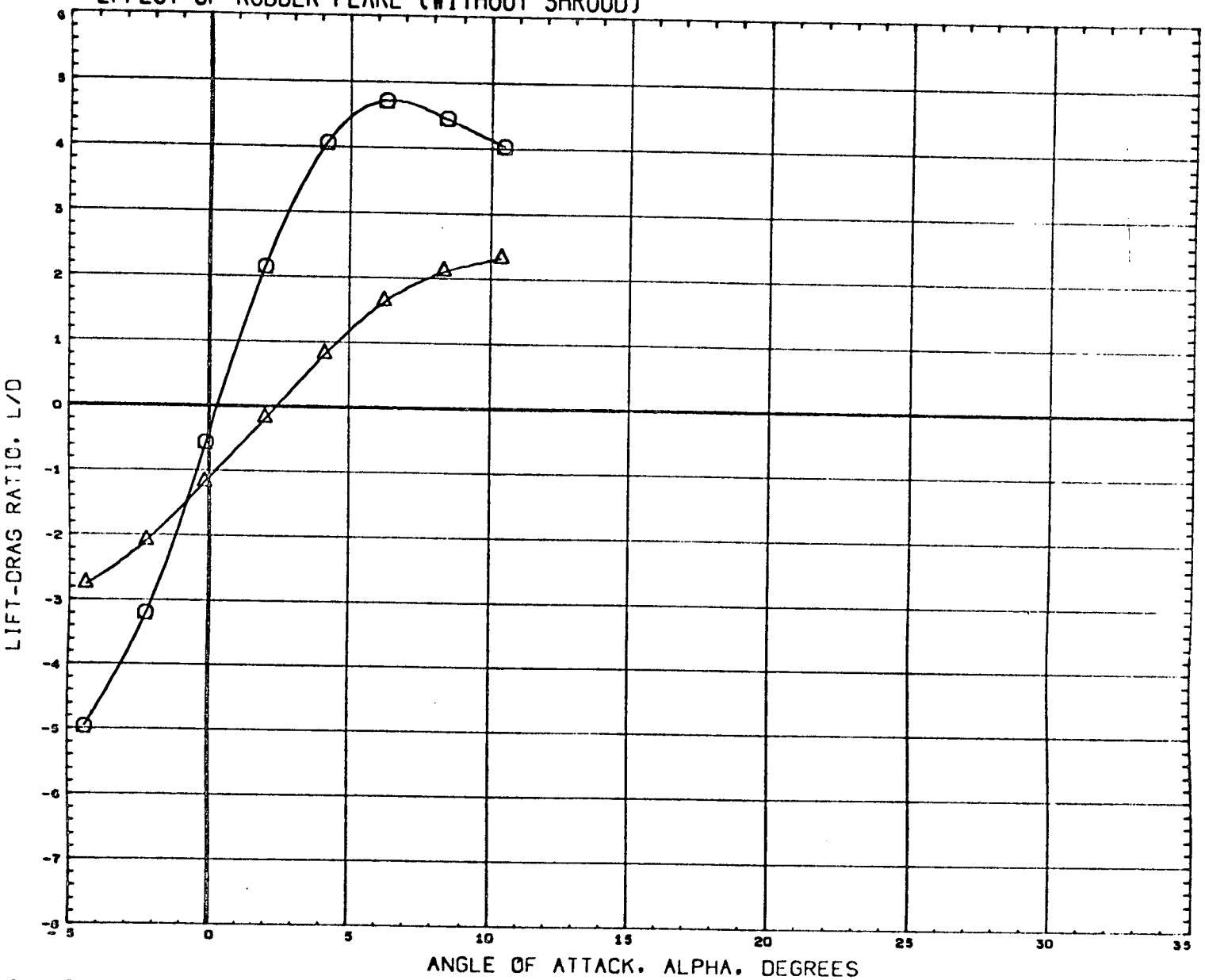


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869026)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

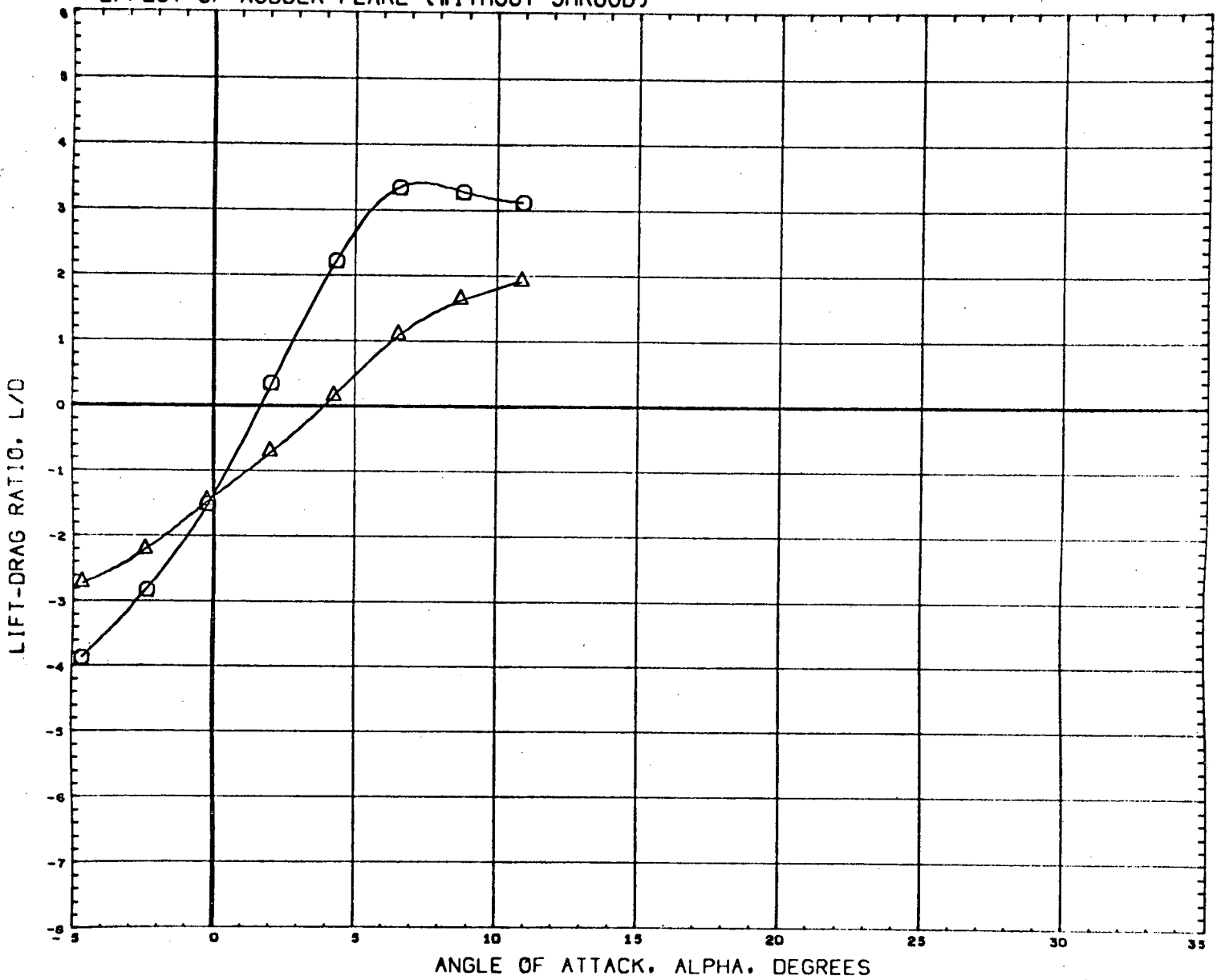


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

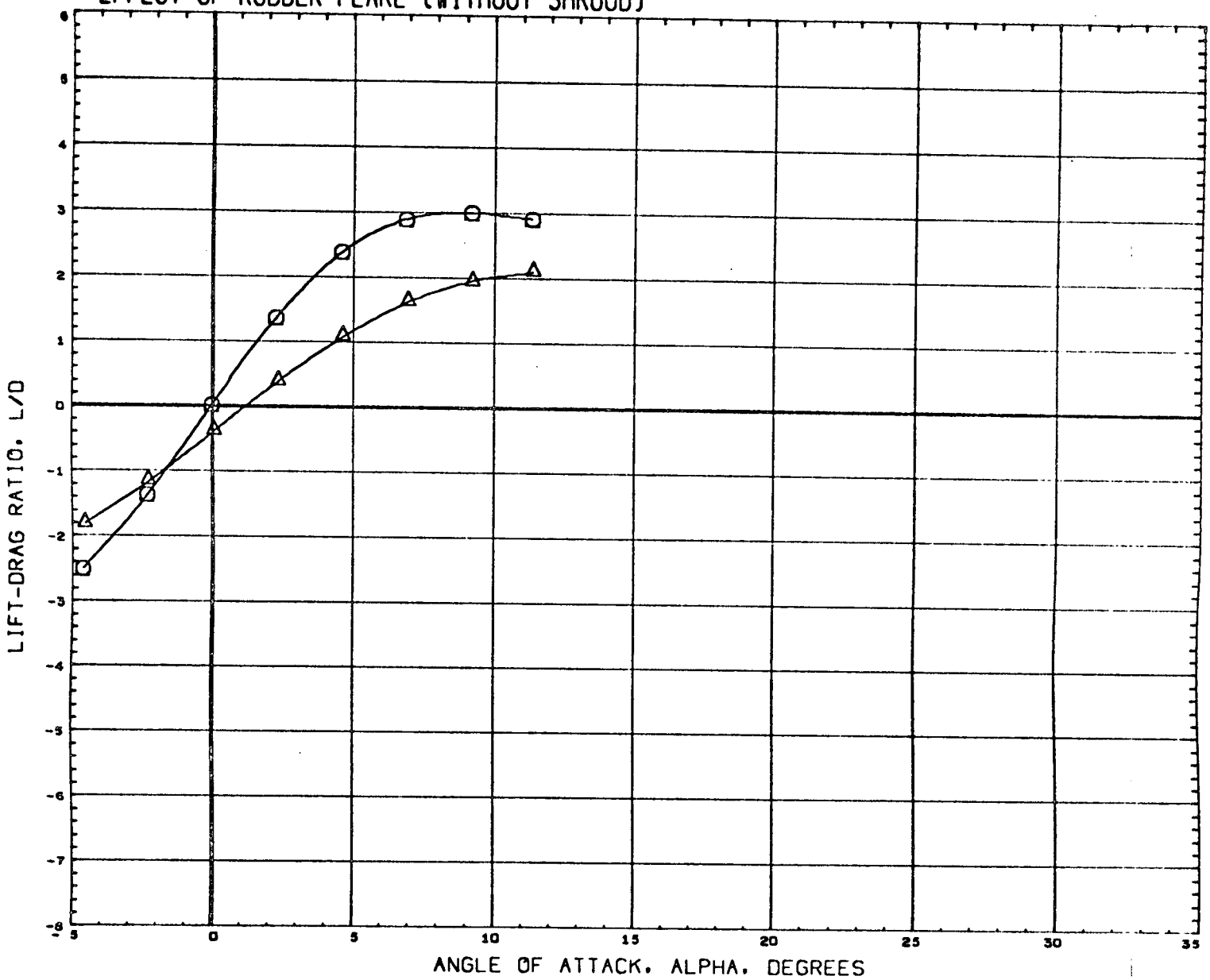


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869026)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.6800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)



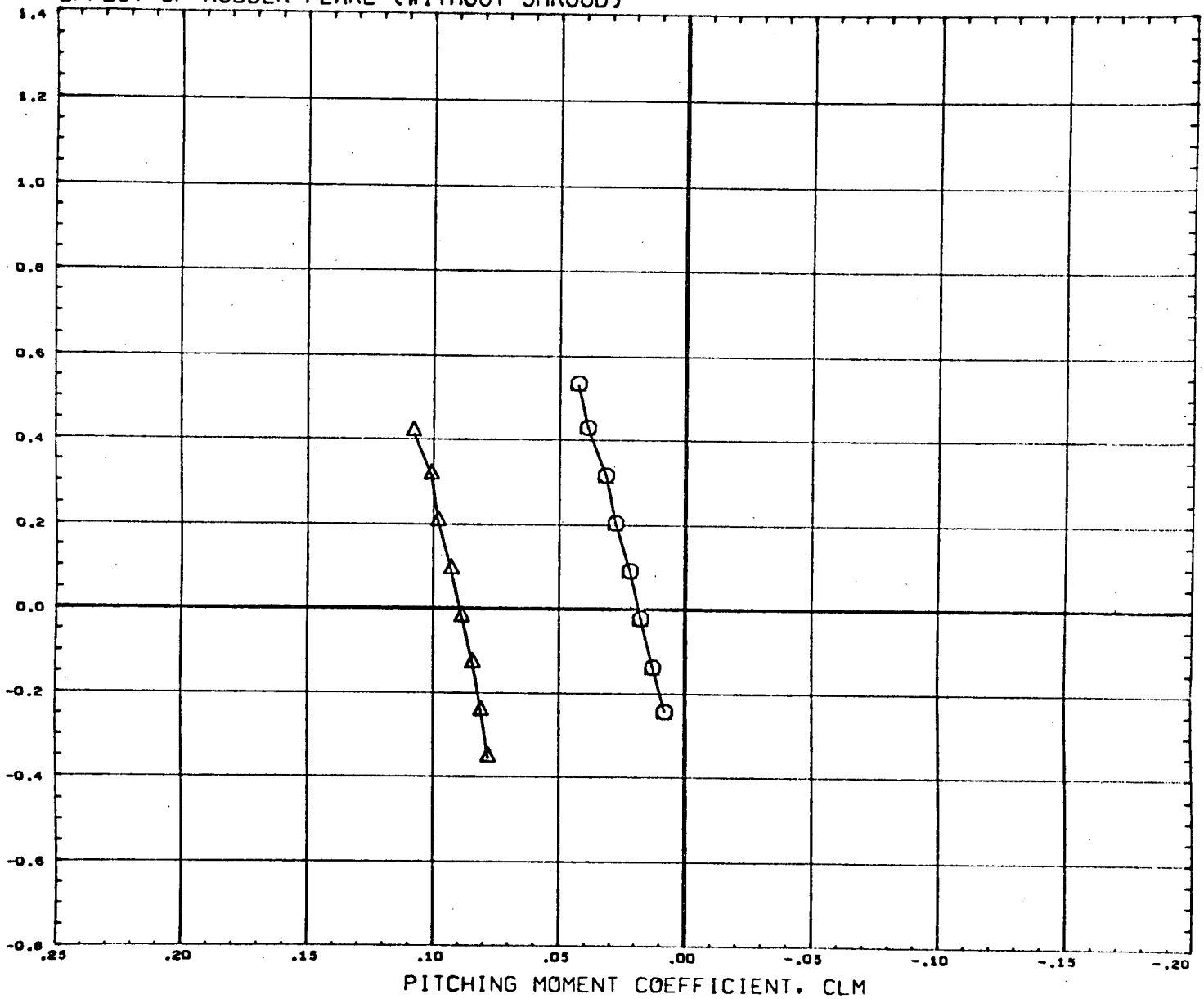
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869026) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

RC

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

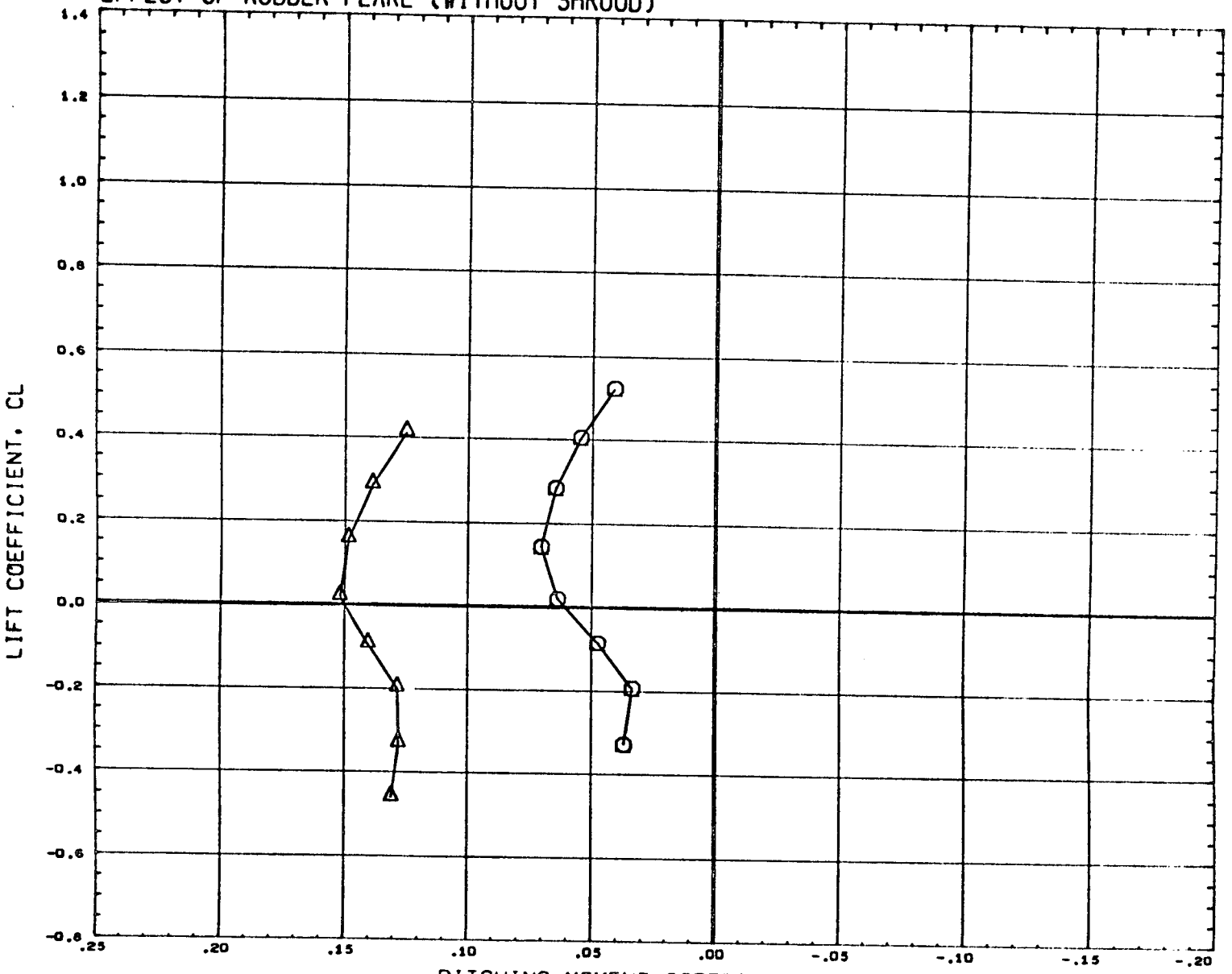


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

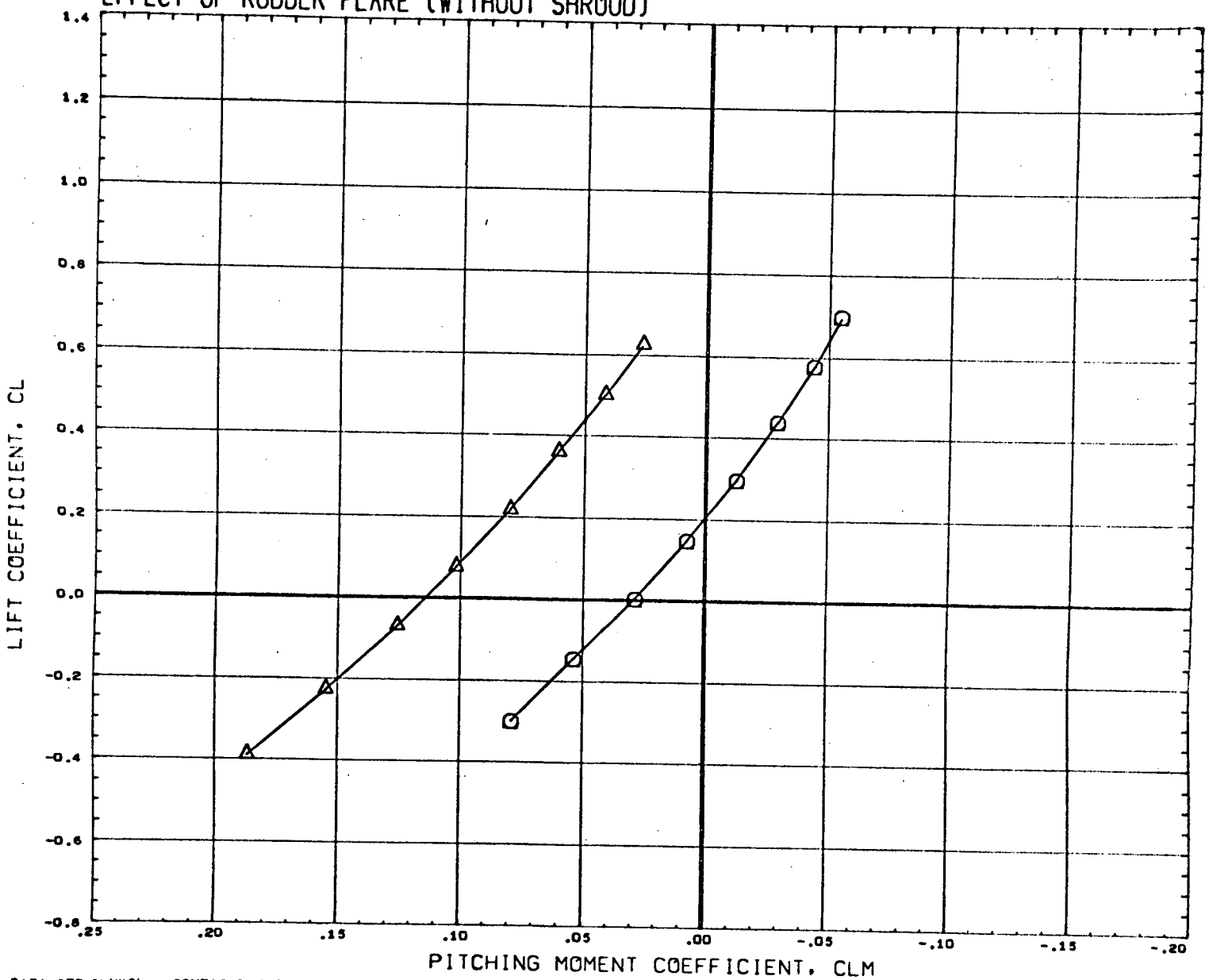


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69026)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

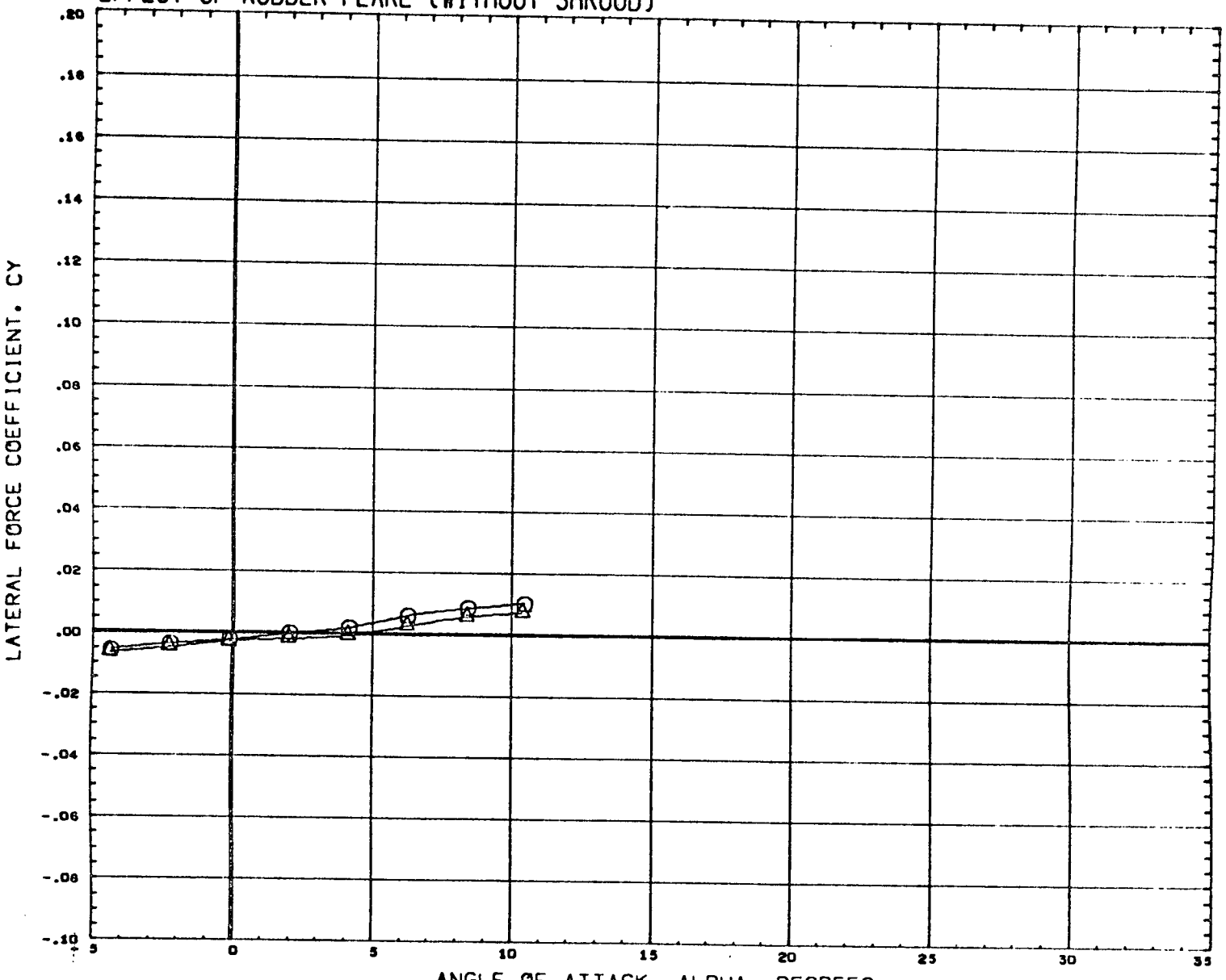


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

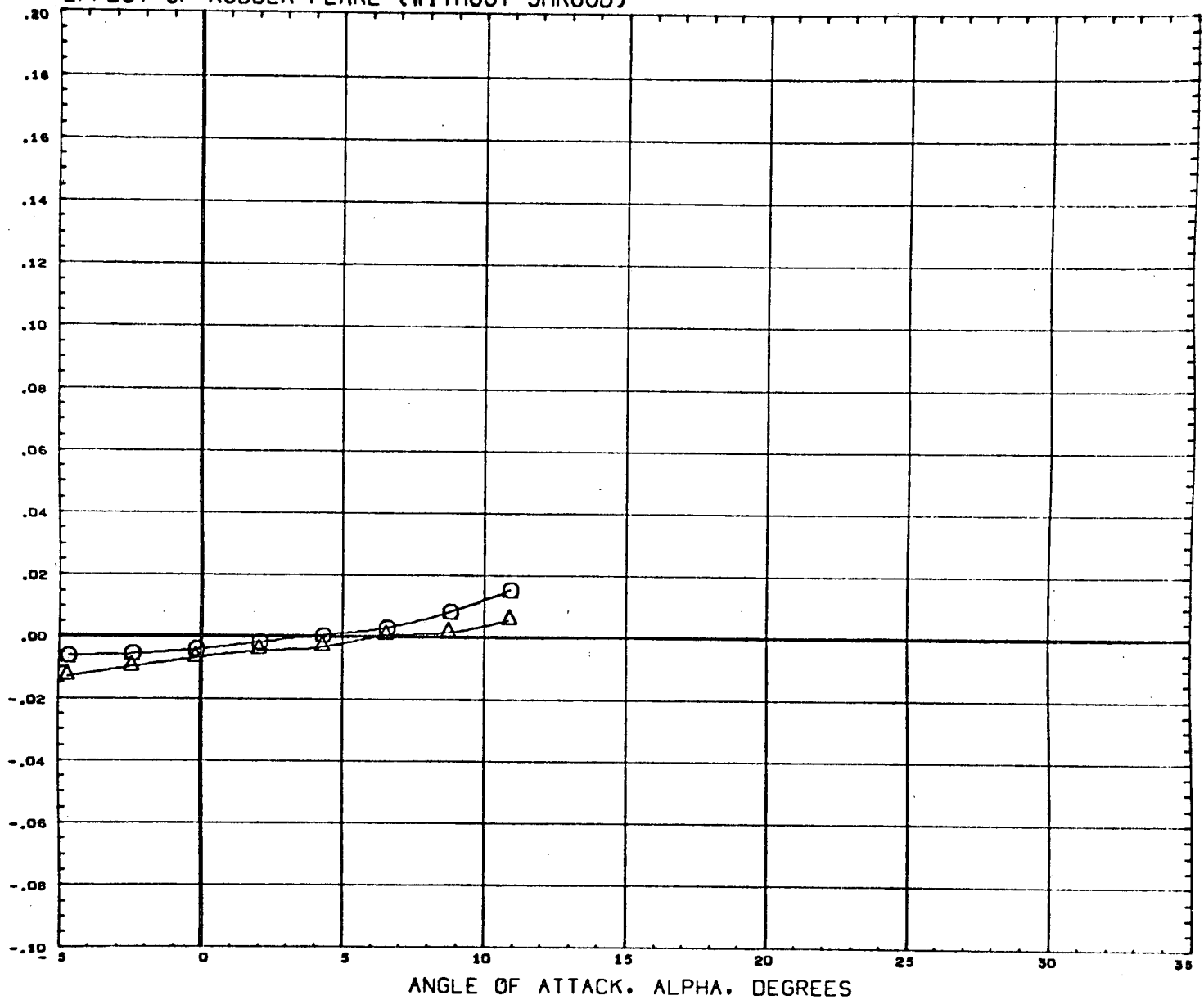


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69026)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

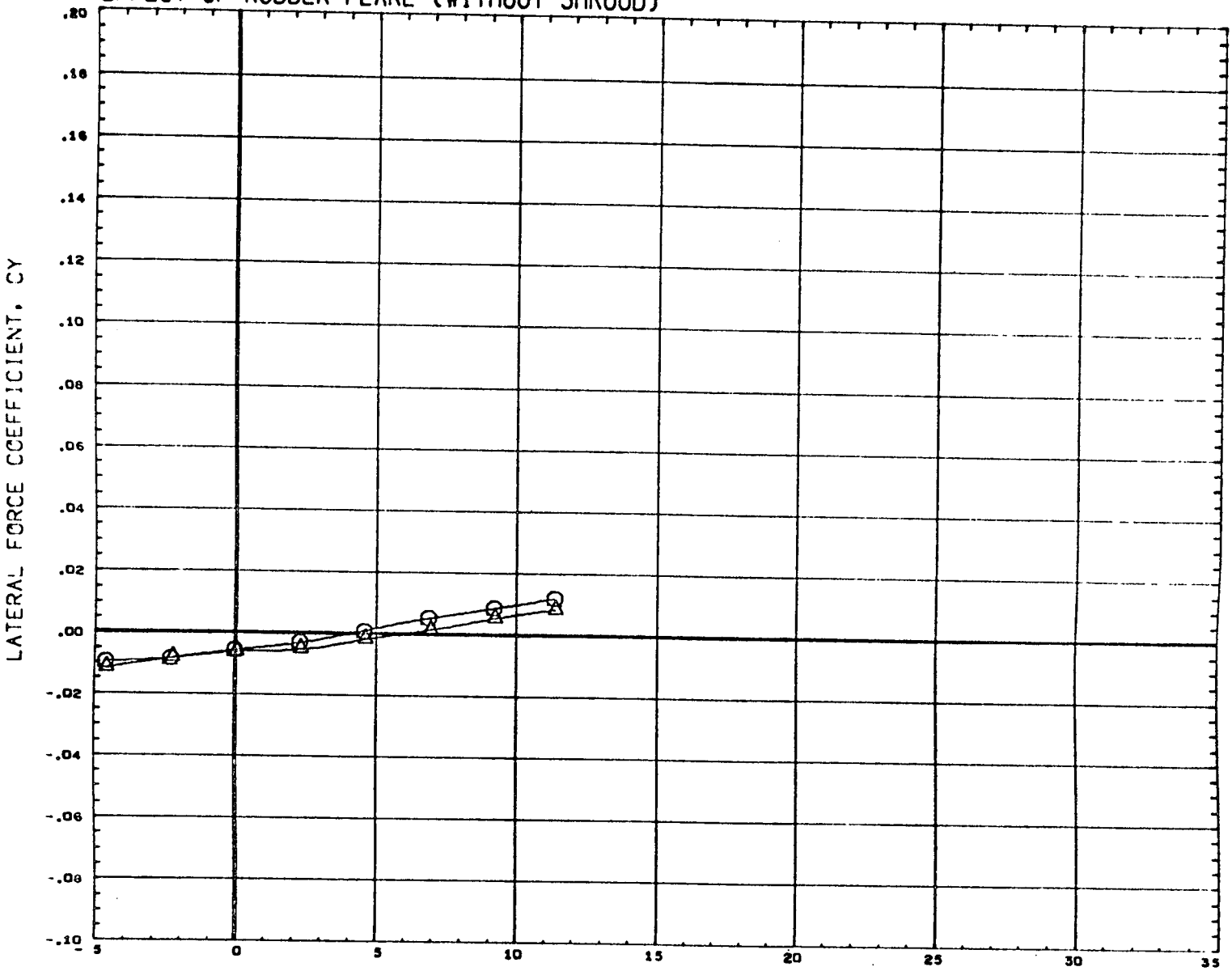


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

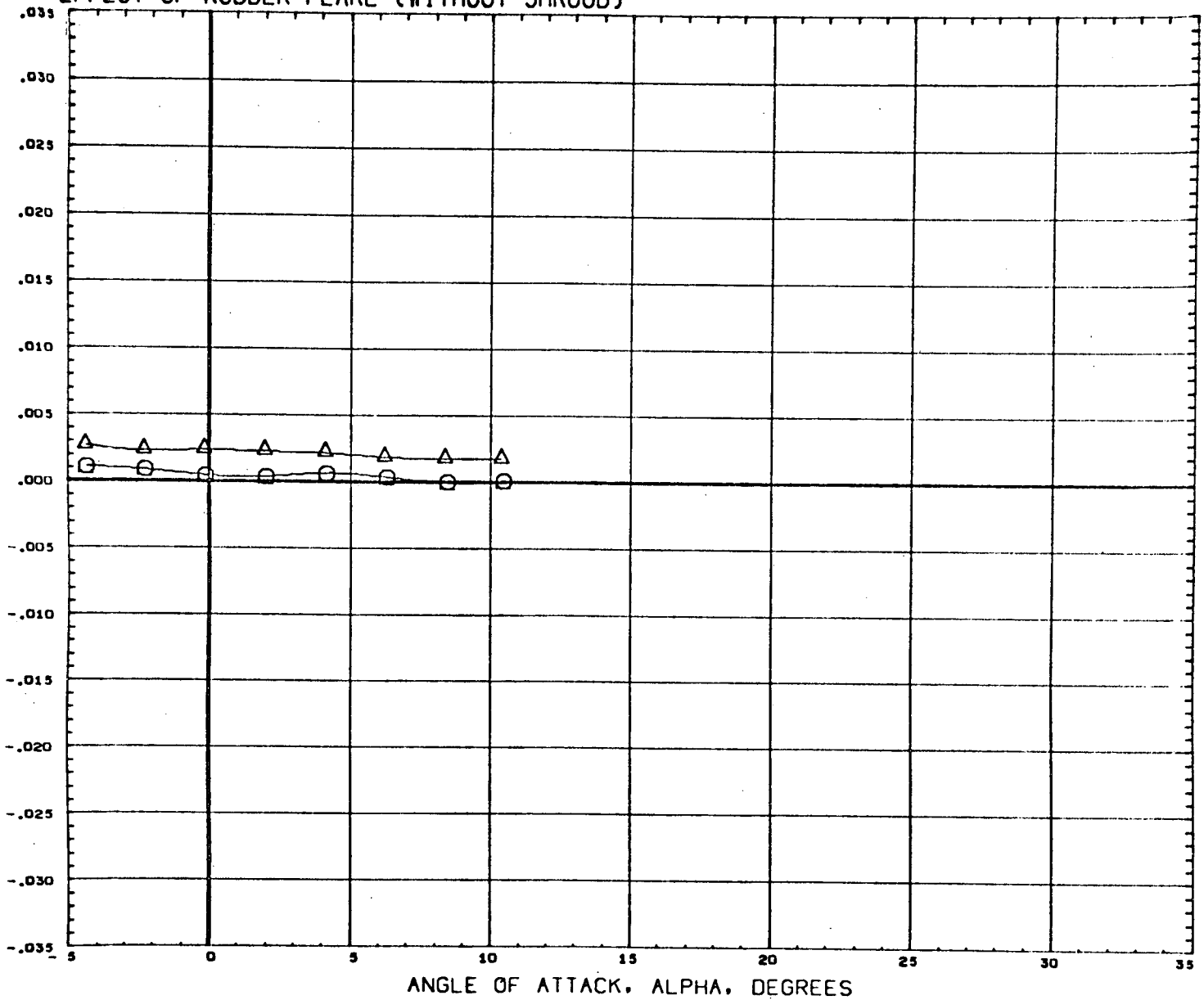


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A6|001)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A6|026)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

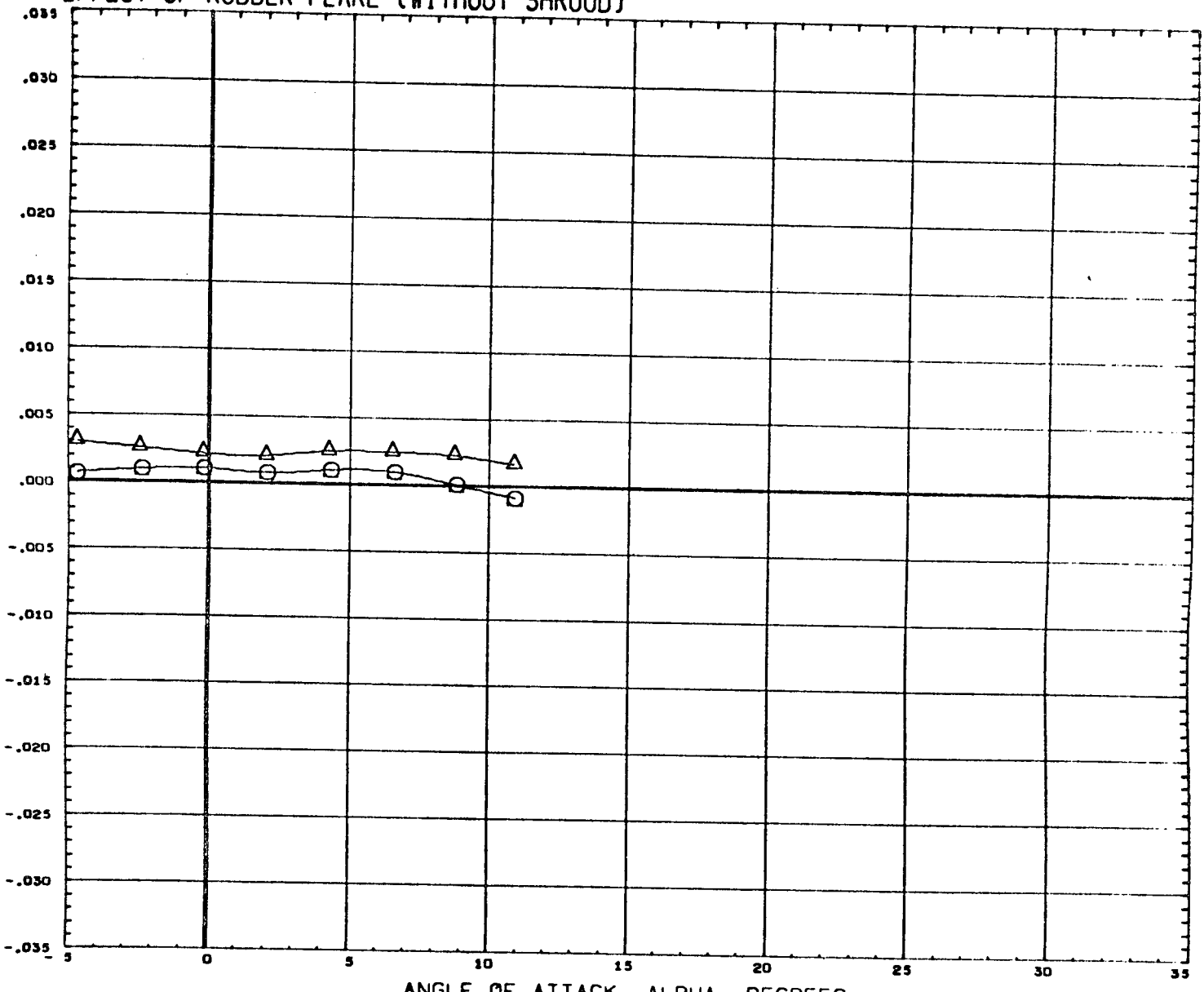


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

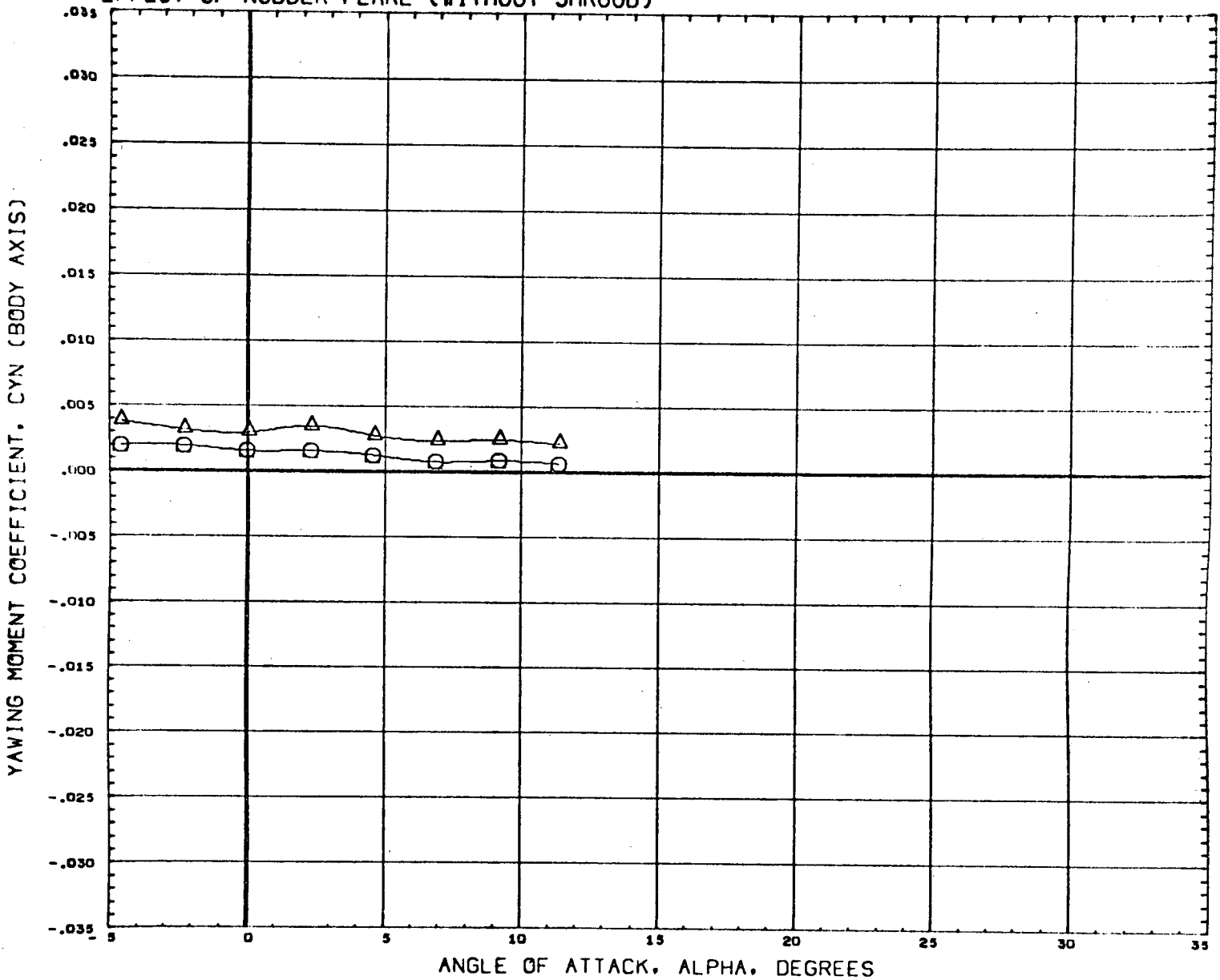


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

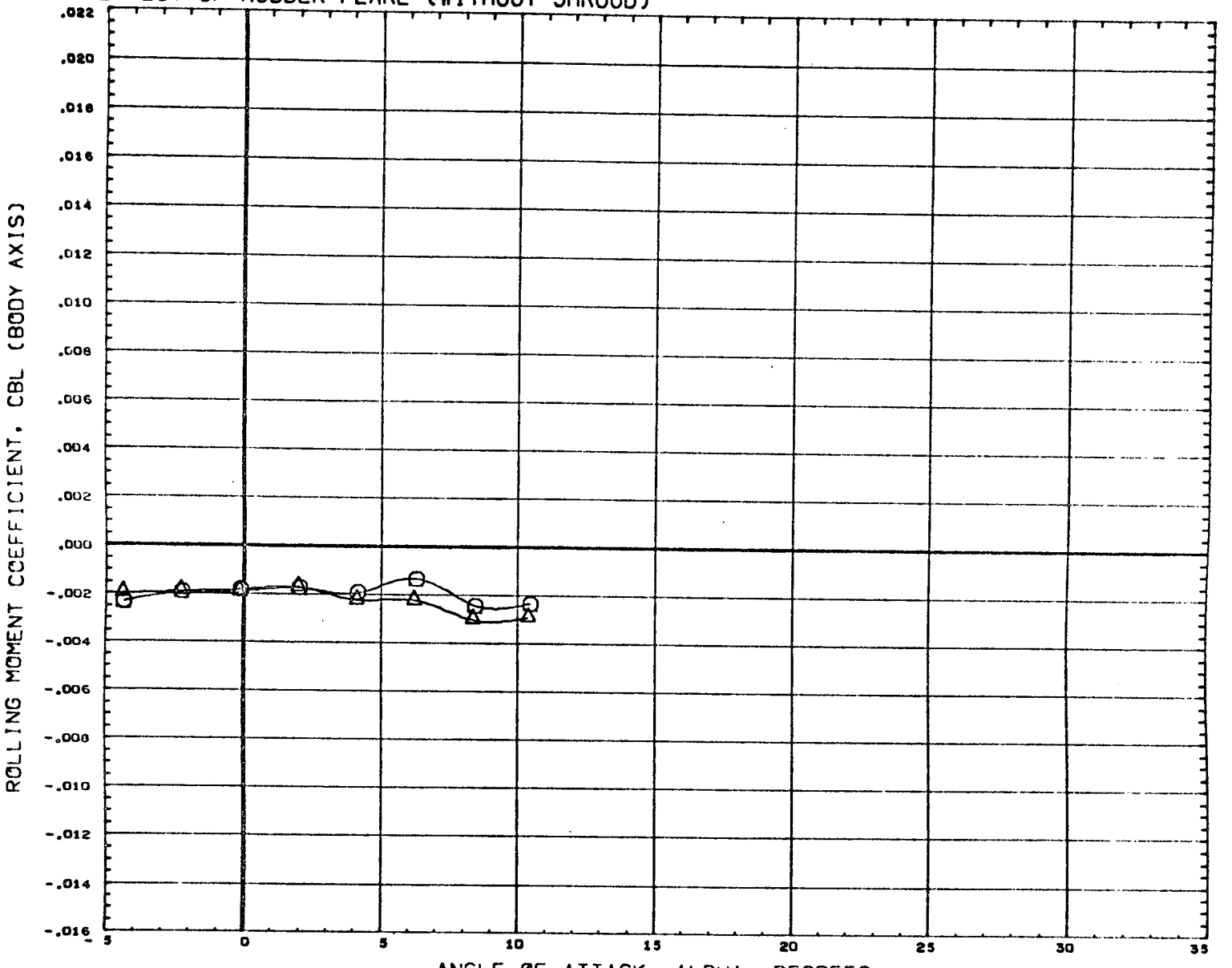


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

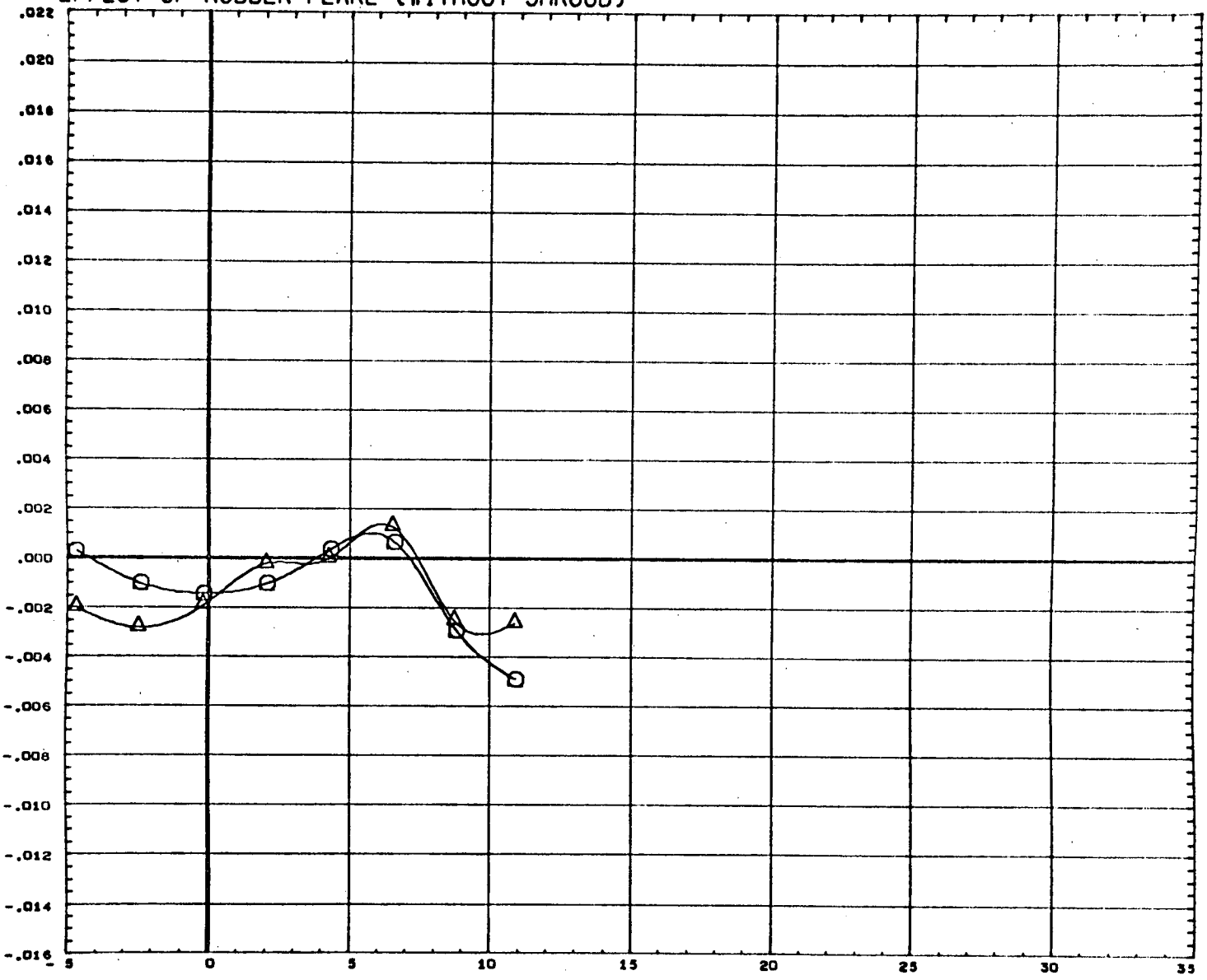


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69026)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

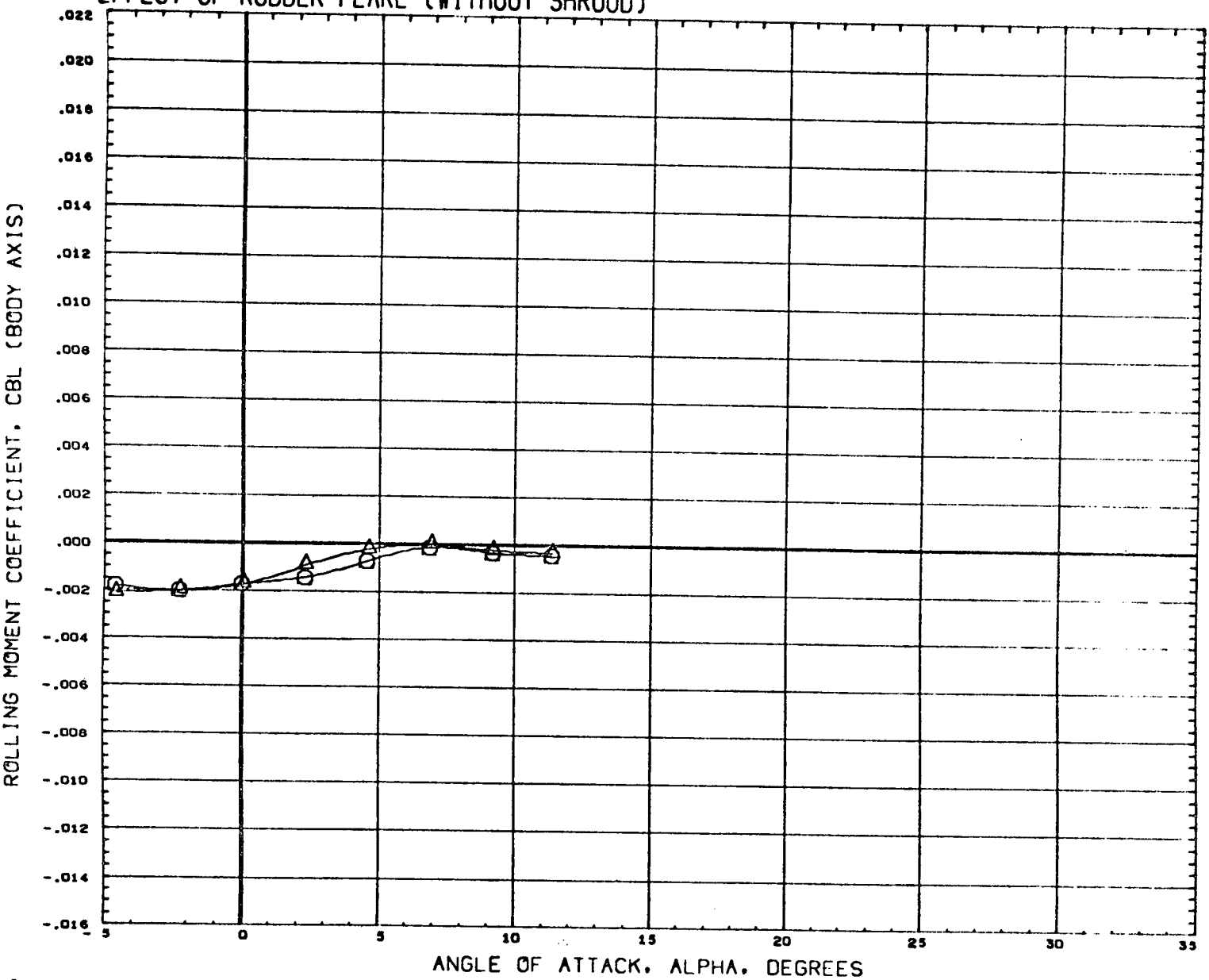


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69026)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)



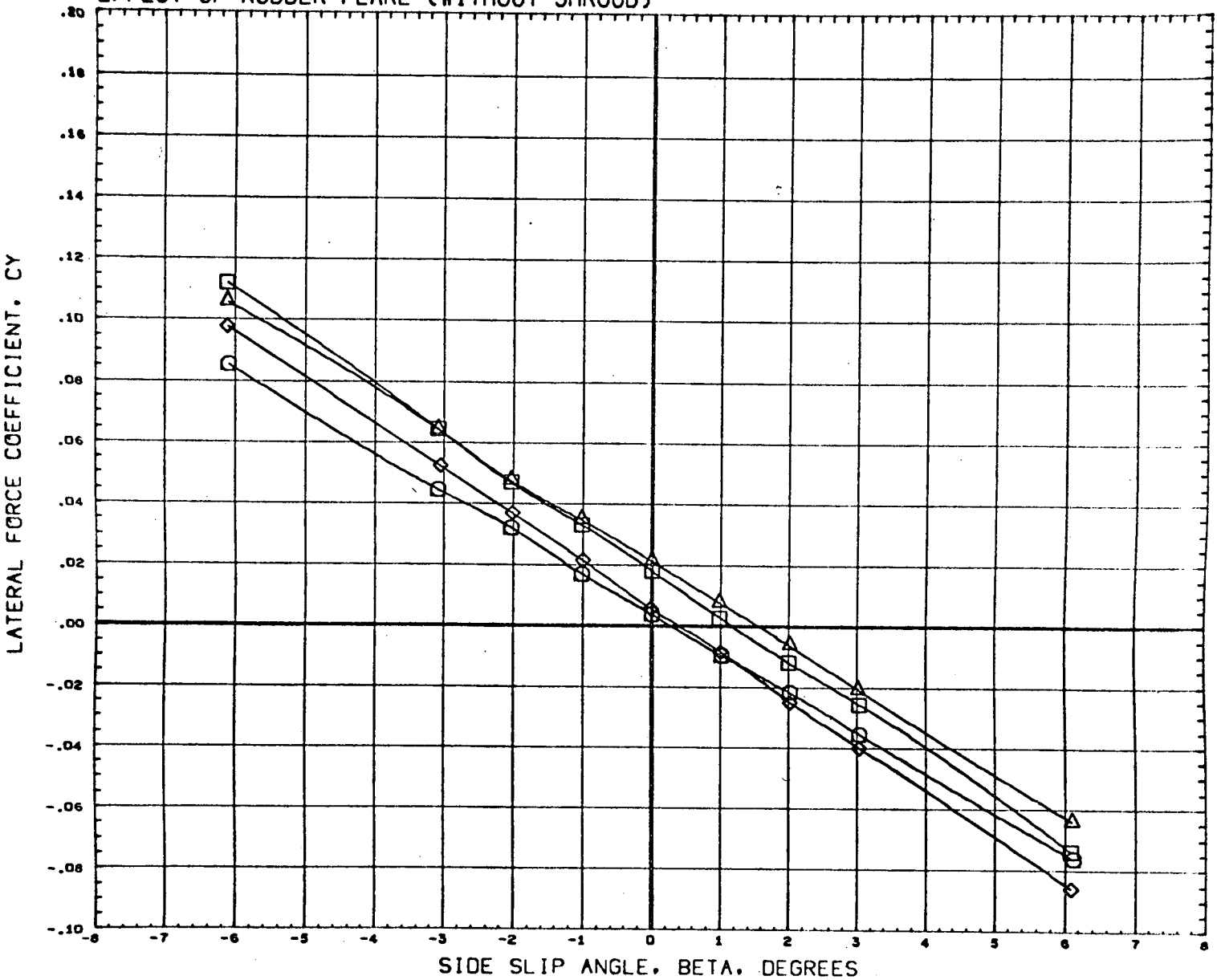
DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69026)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

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EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

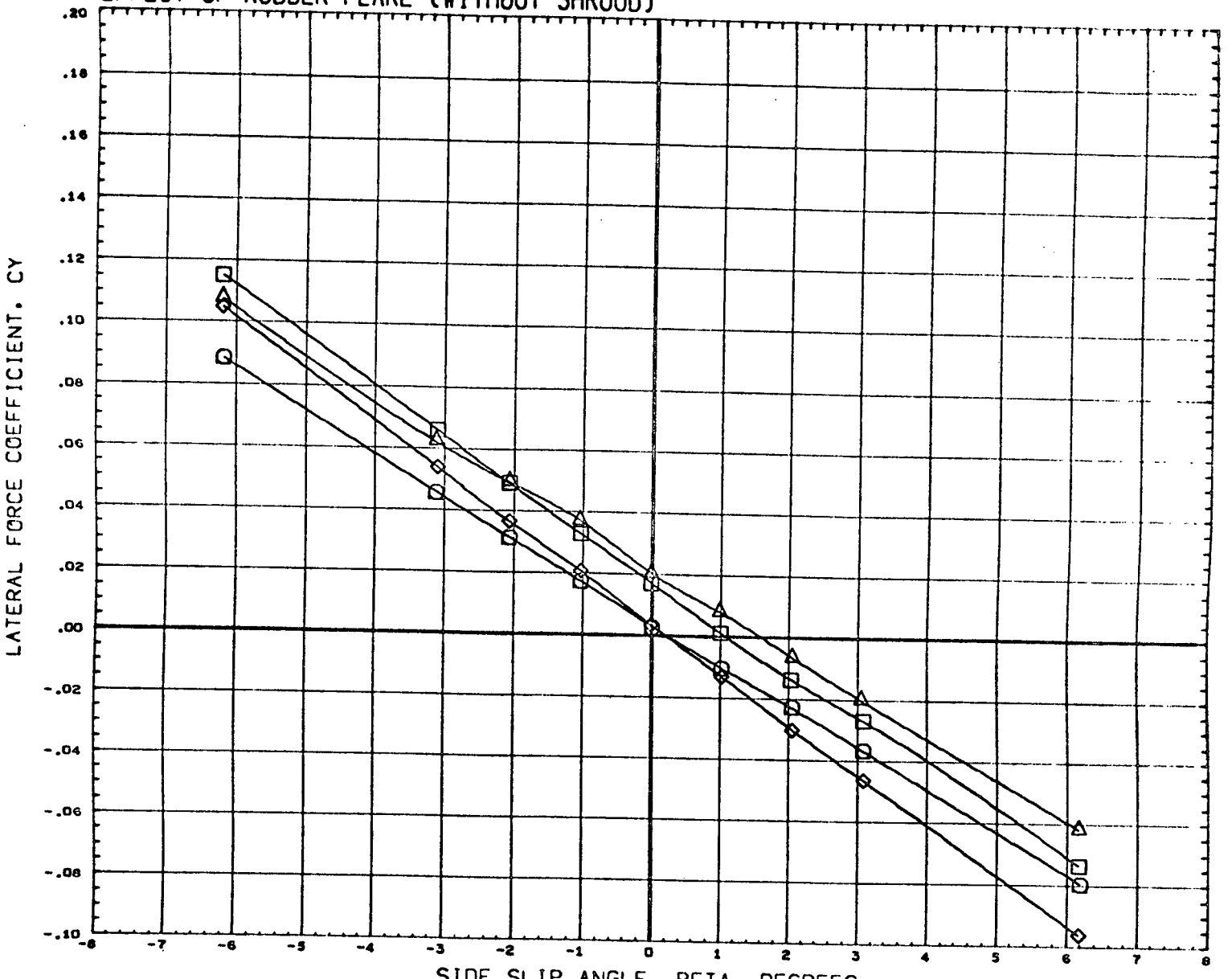


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69027)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	30.000
(A69028)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

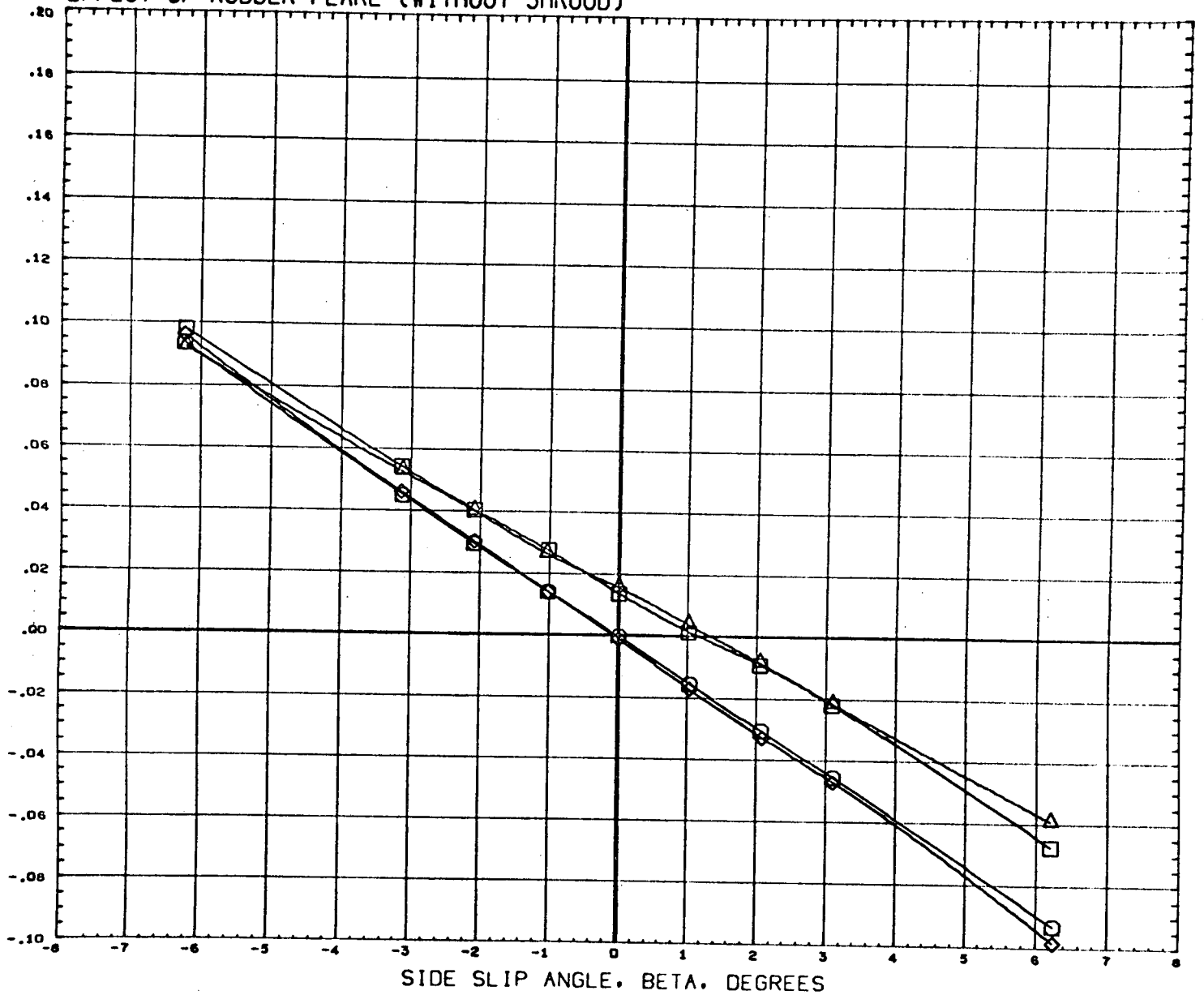


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A1-9004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A1-9005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A1-9027)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	30.000
(A1-9028)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

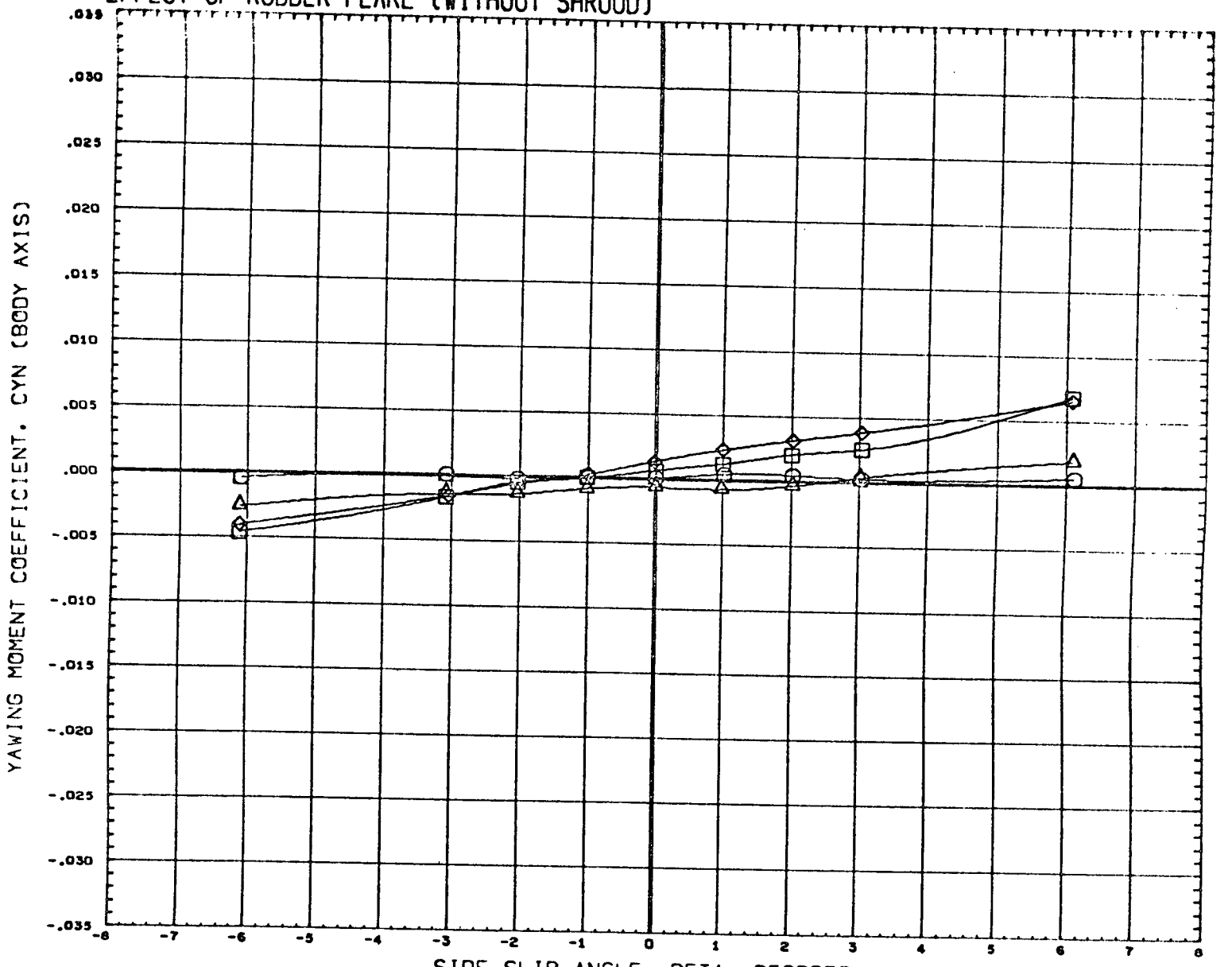


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69027)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	30.000
(A69028)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

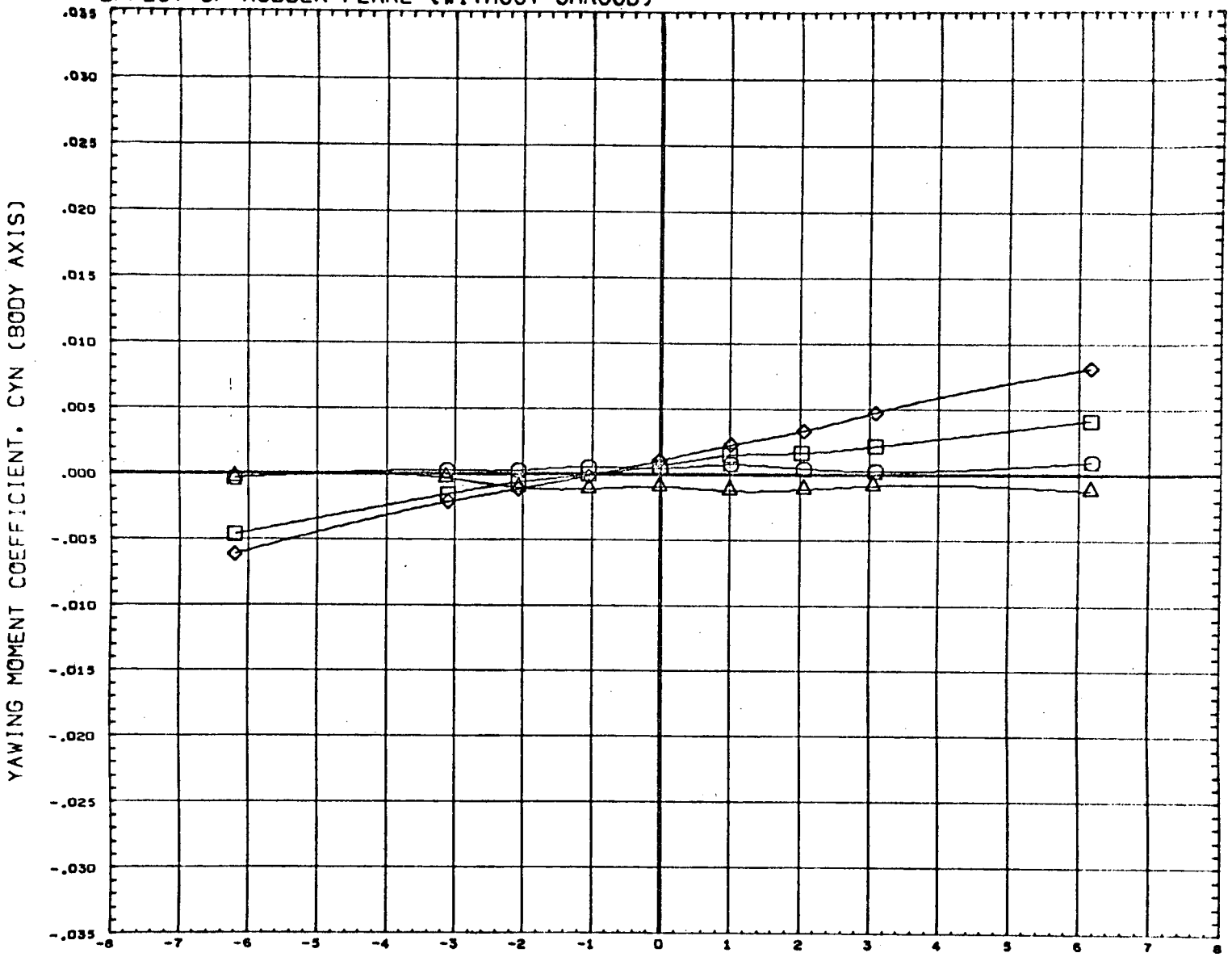


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69027)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	30.000
(A69028)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

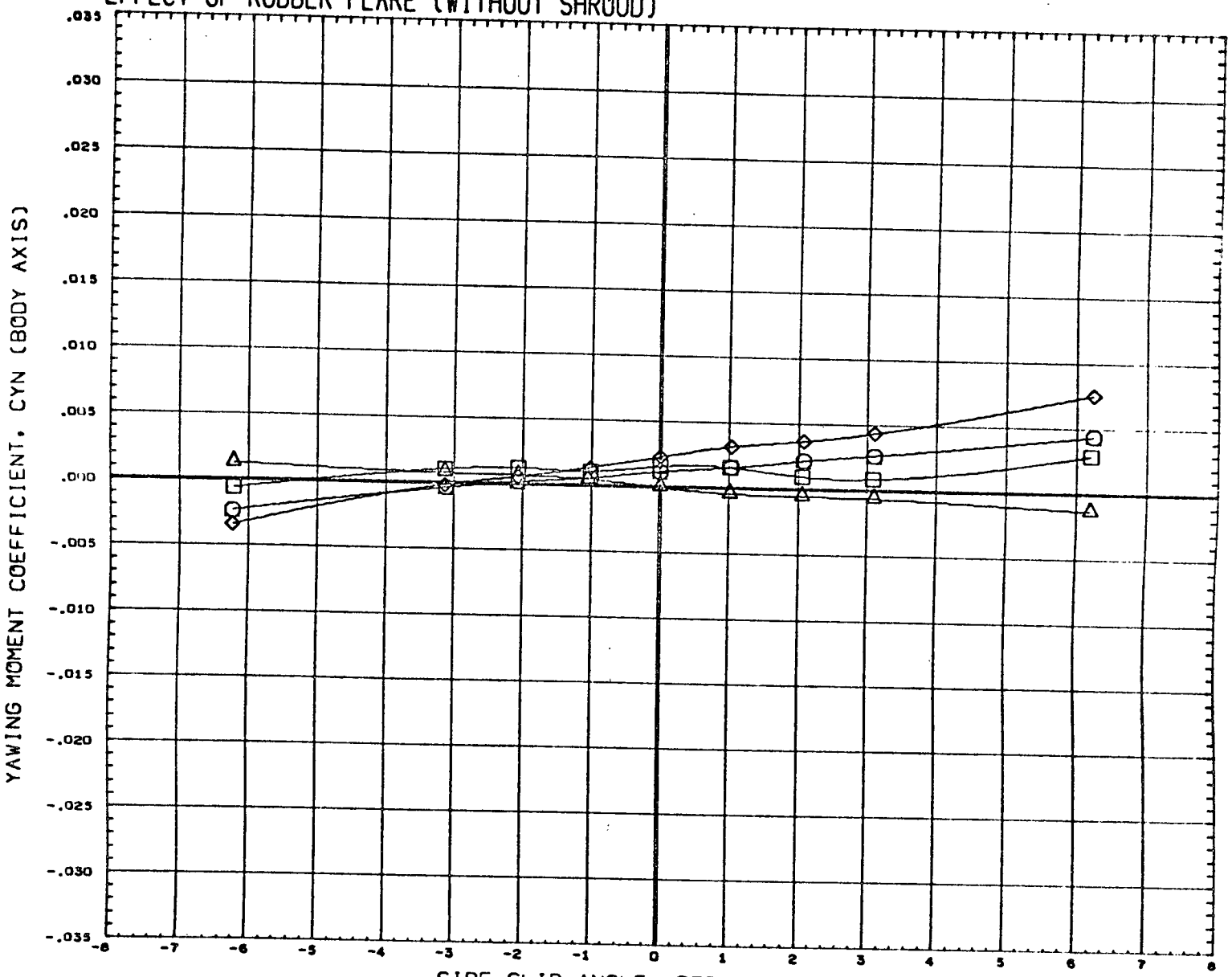


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69027)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	30.000
(A69028)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

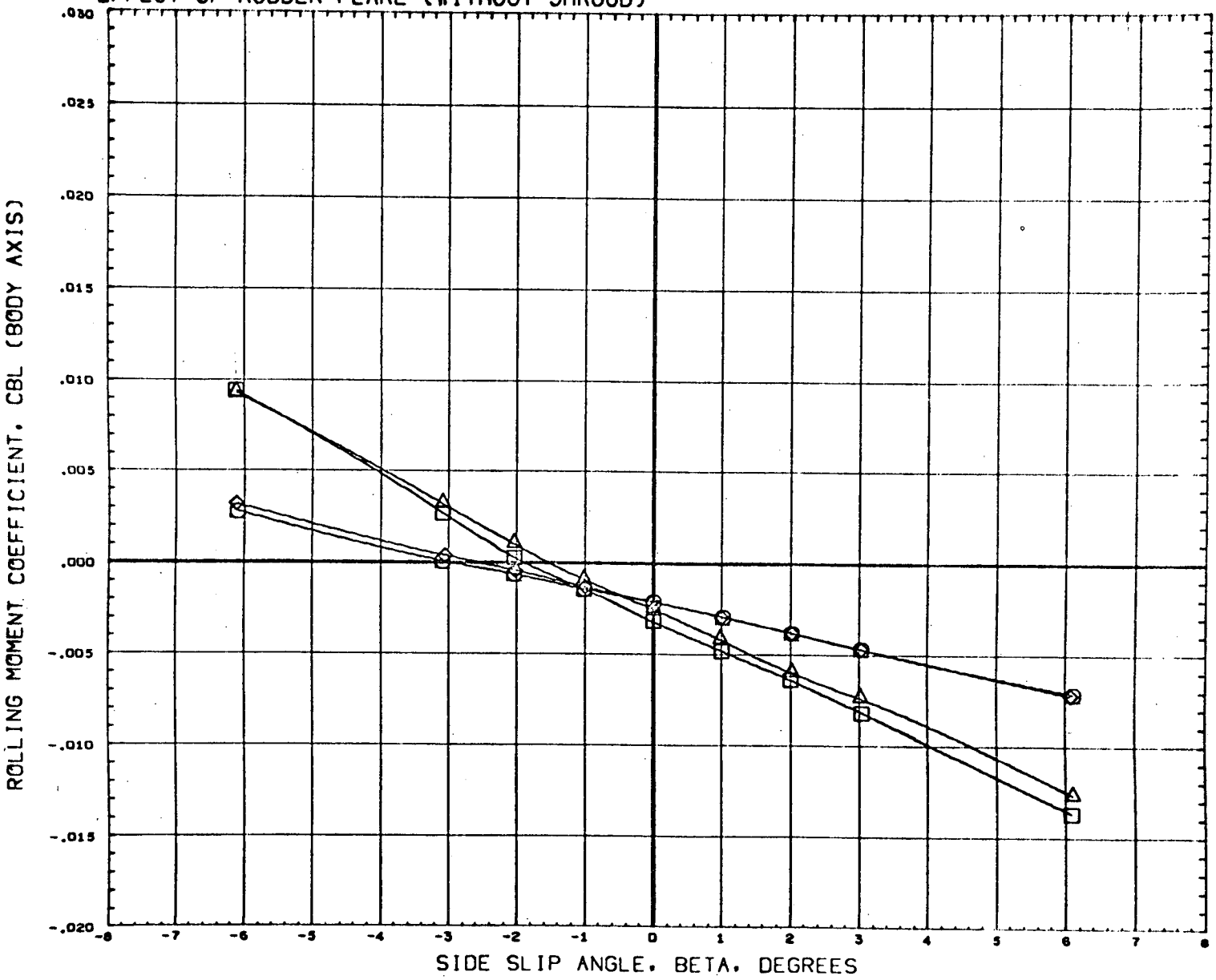


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69027)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	30.000
(A69028)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

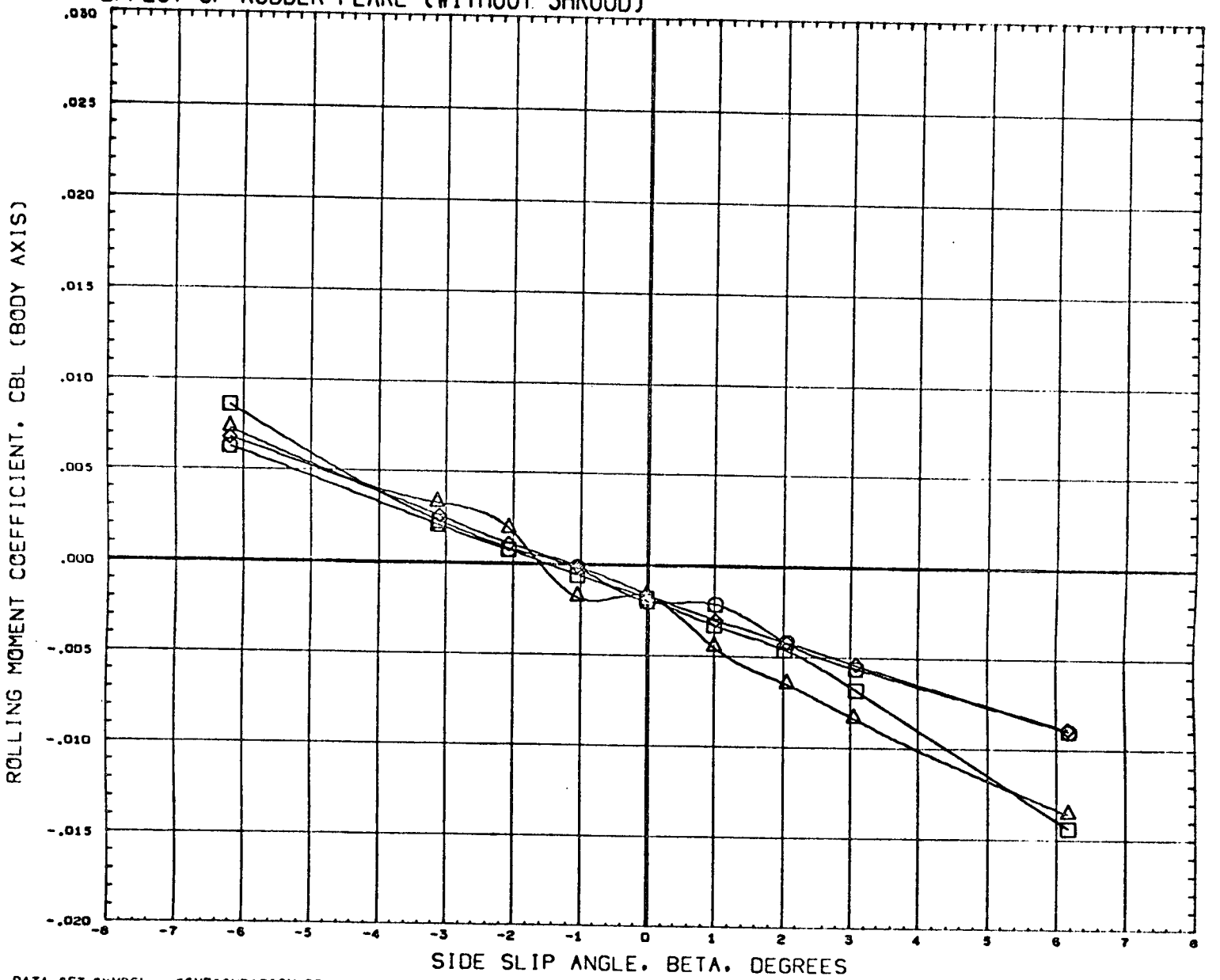


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69027)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	30.000
(A69028)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

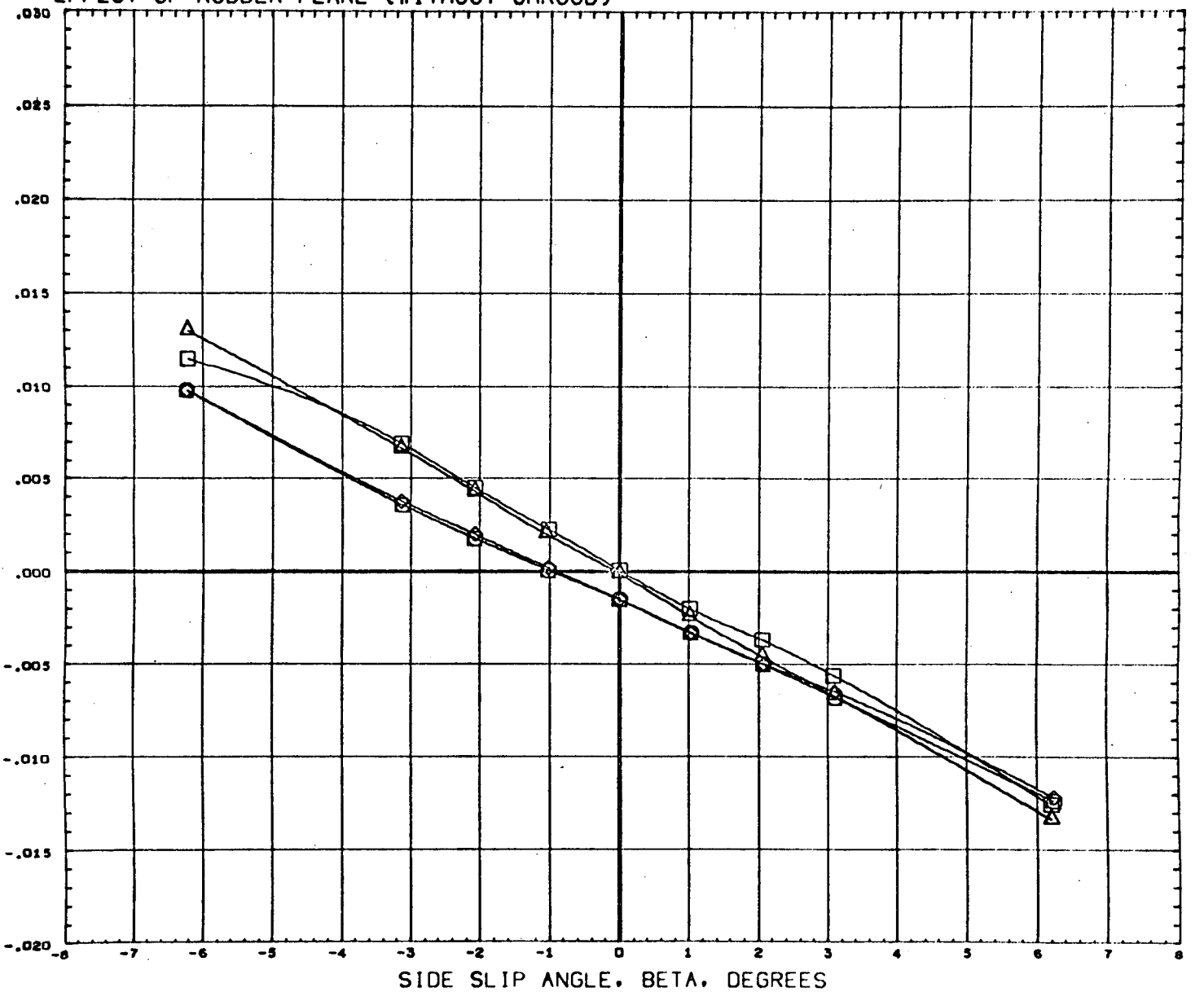


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69027)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	30.000
(A69028)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6020	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITHOUT SHROUD)

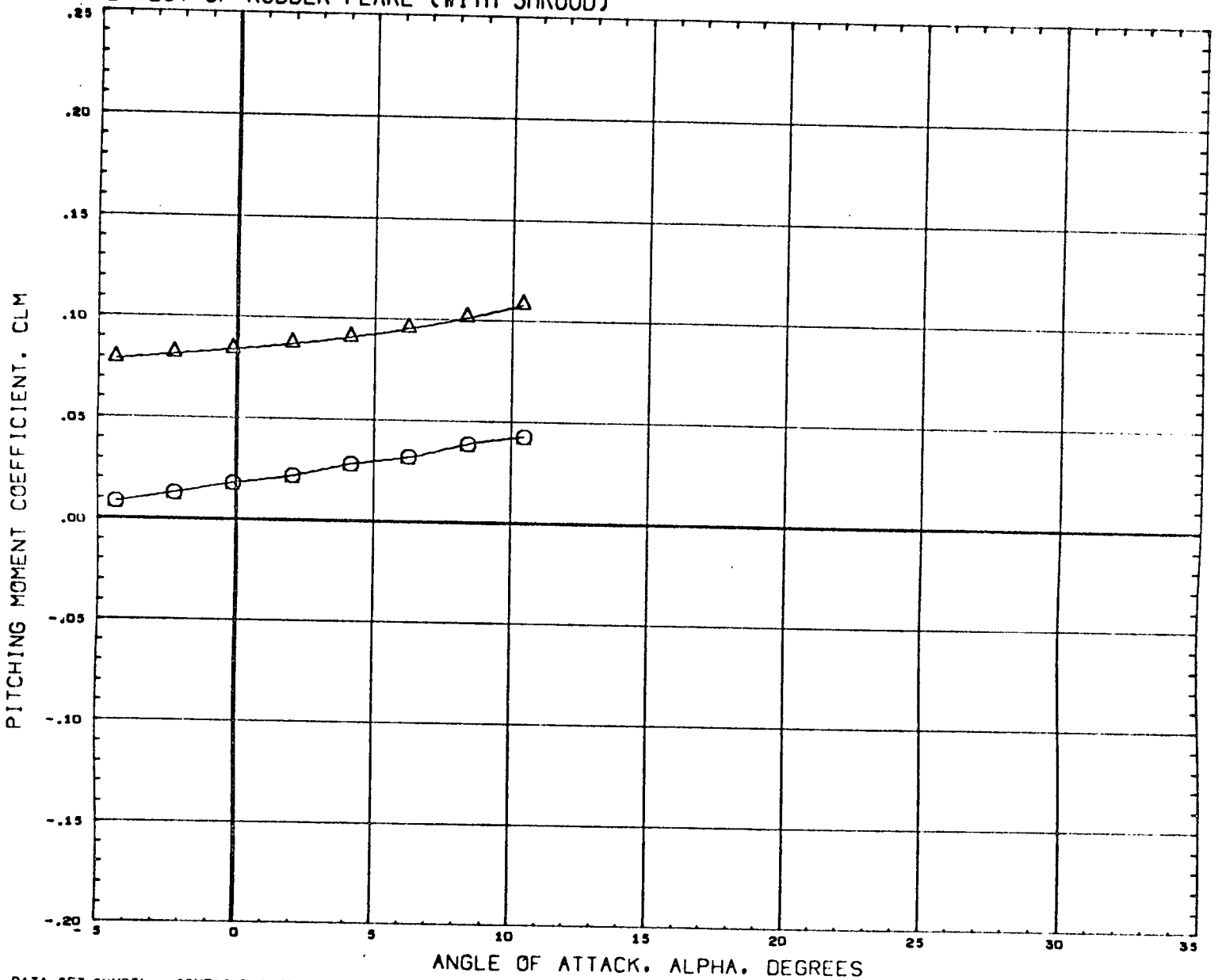


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69027)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	30.000
(A69028)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF RUDDER FLARE (WITH SHROUD)

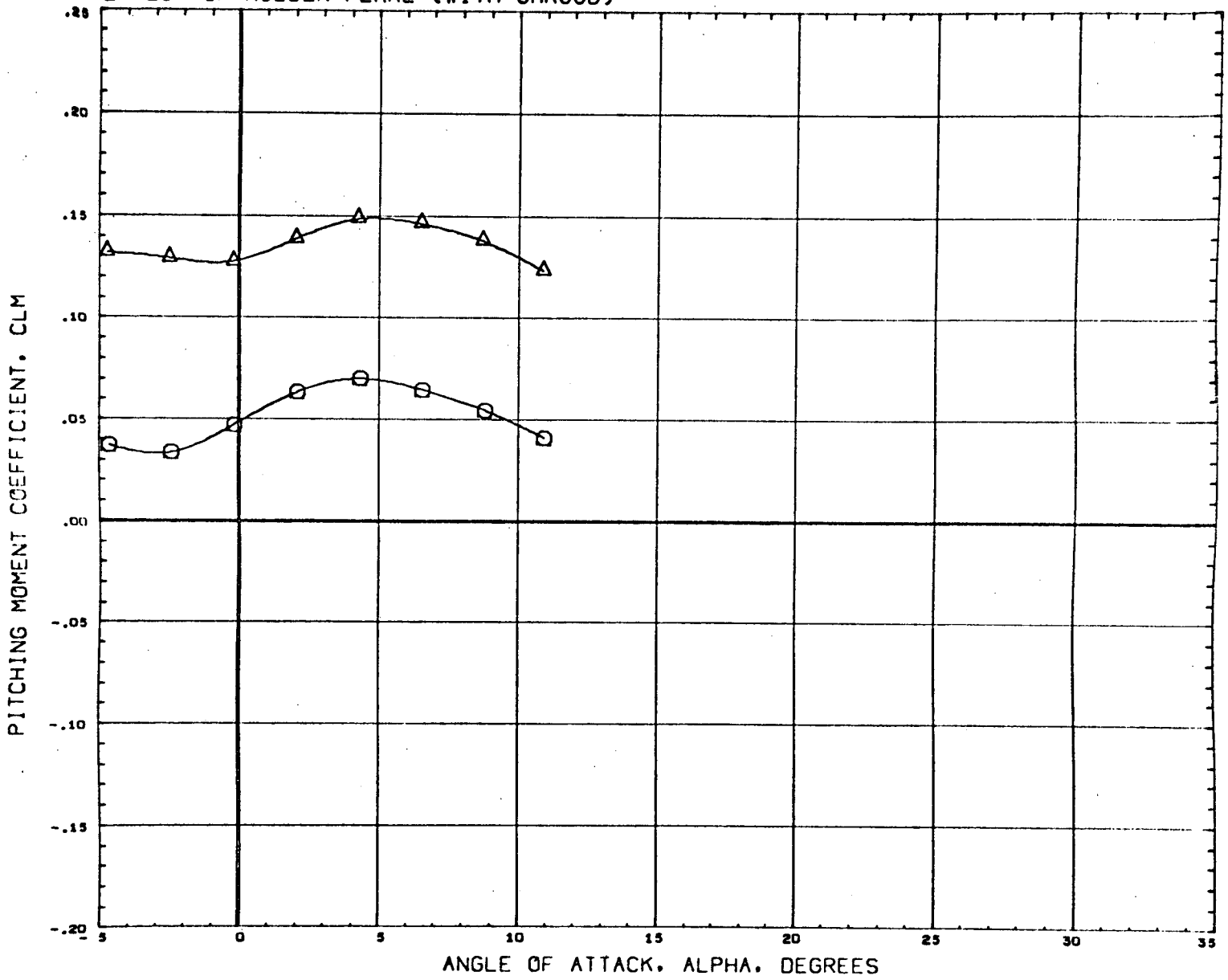


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITH SHROUD)

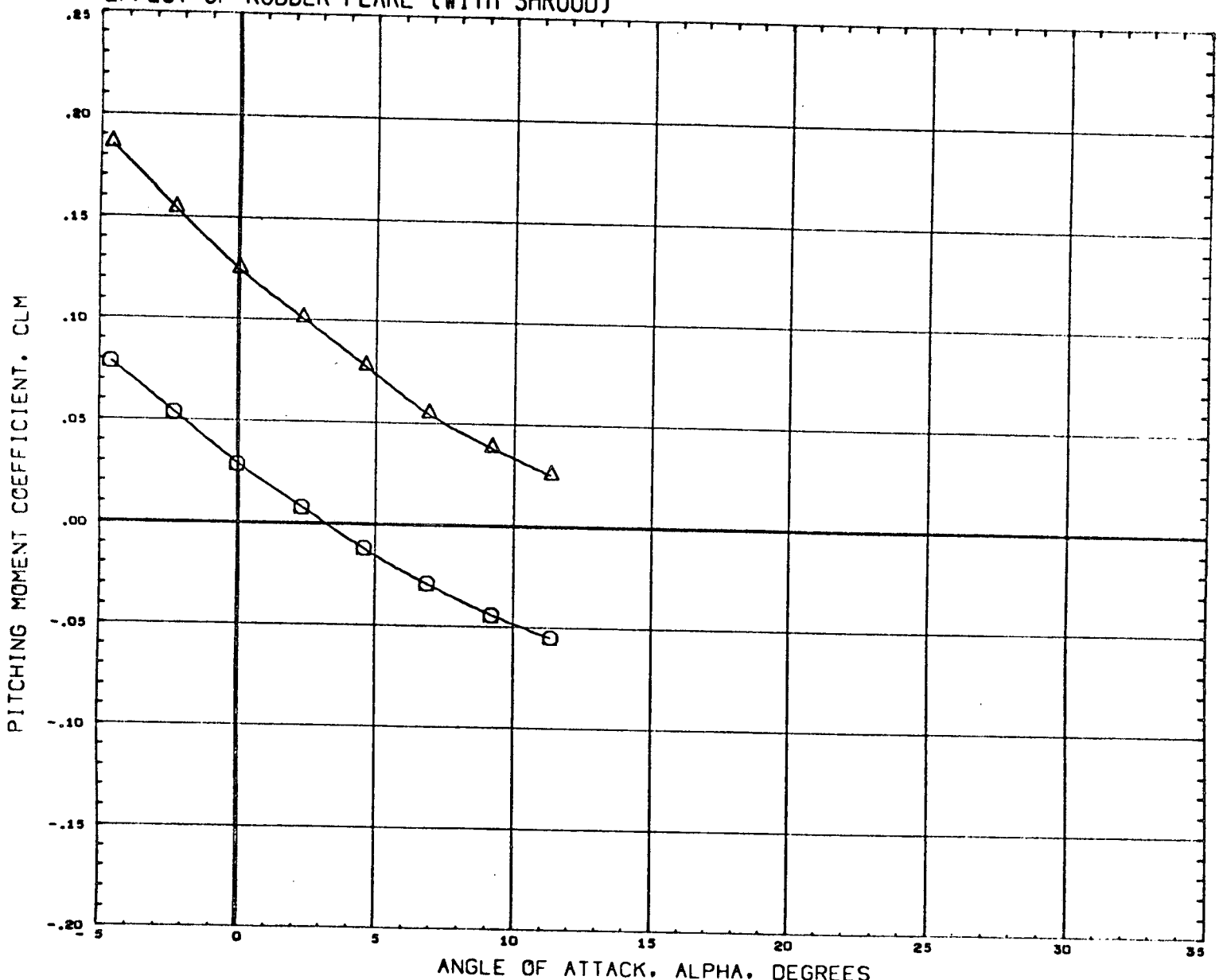


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITH SHROUD)

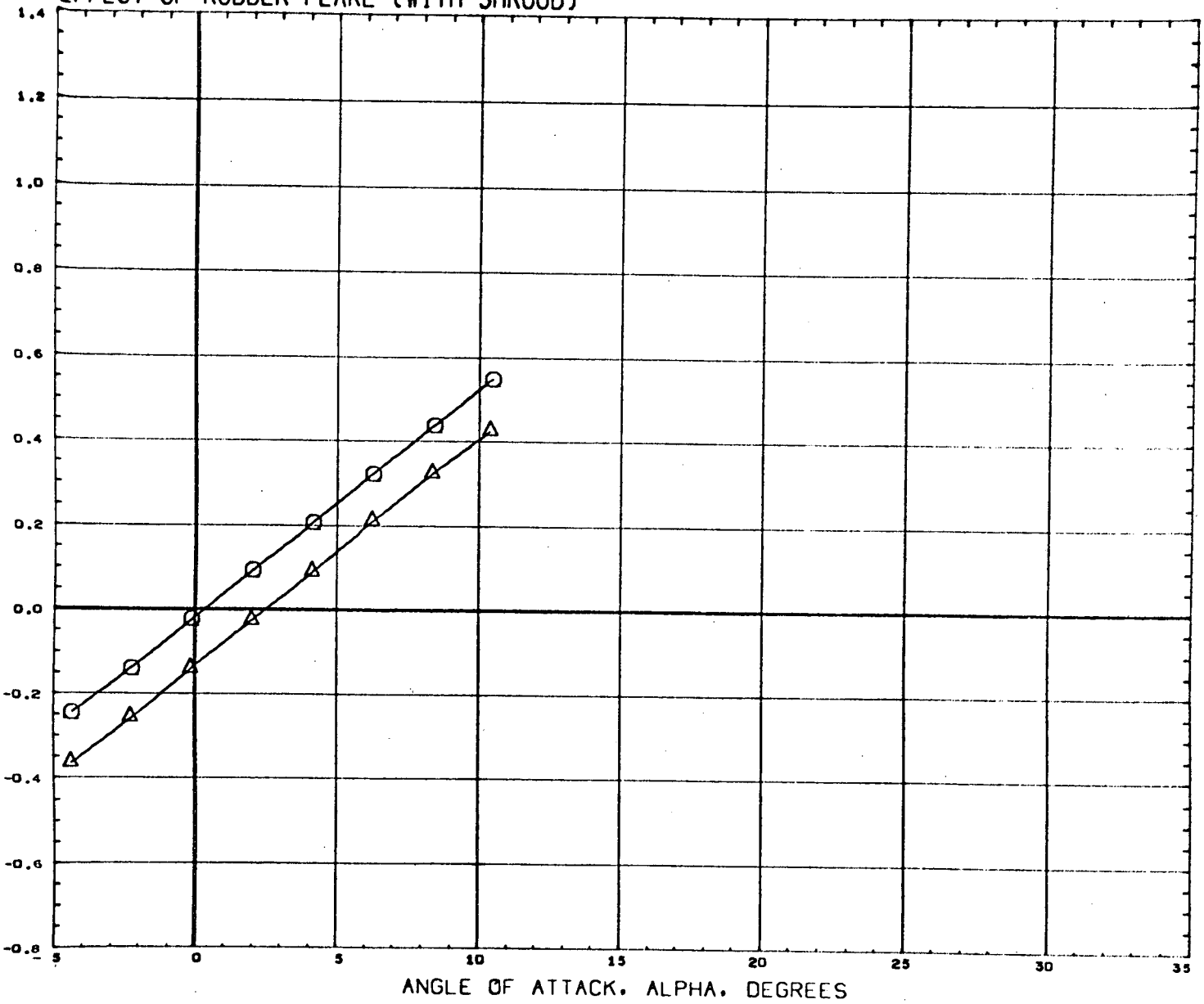


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869030)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITH SHROUD)

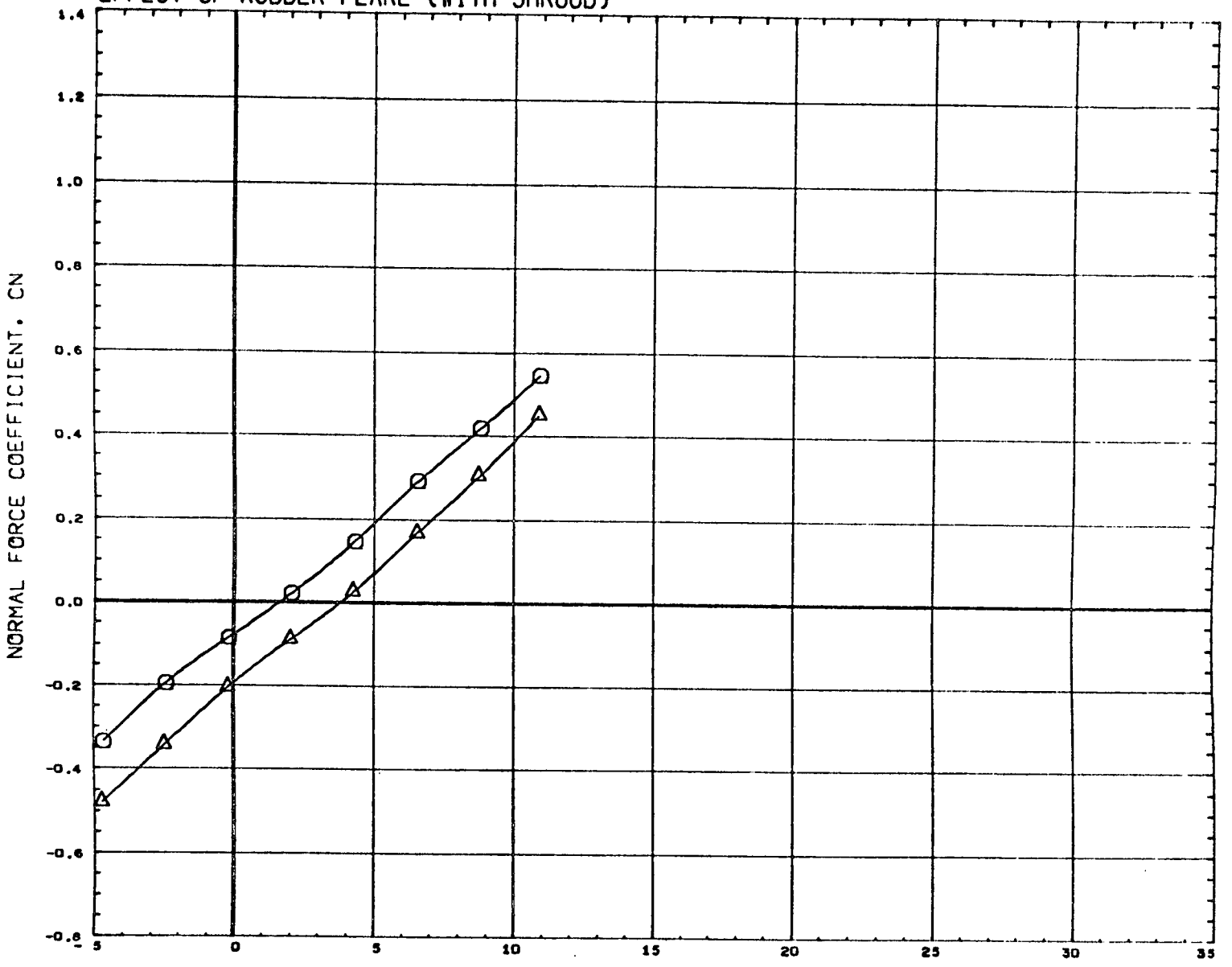


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITH SHROUD)

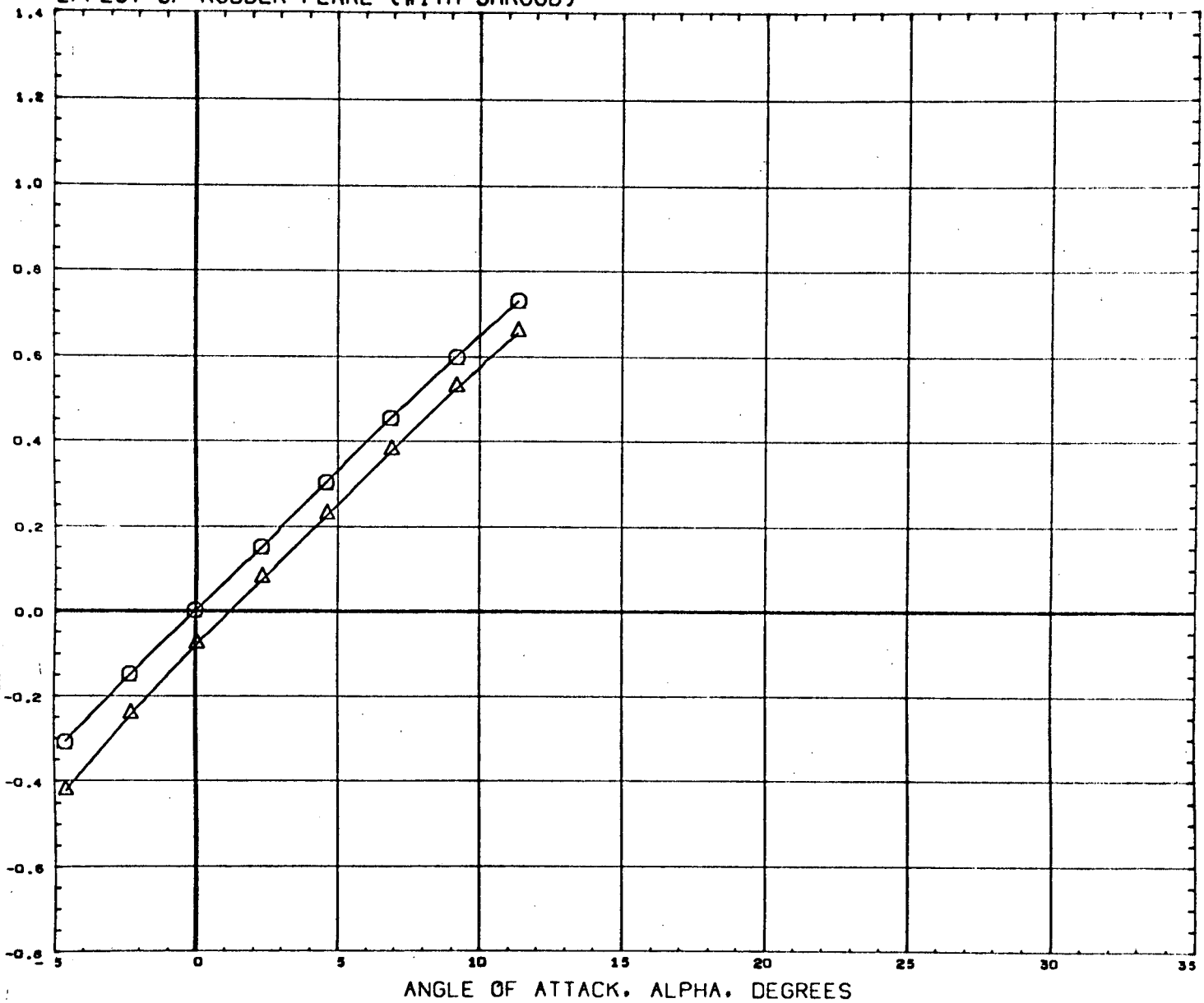


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 342 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69030)	△	MSFC TWT 342 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITH SHROUD)

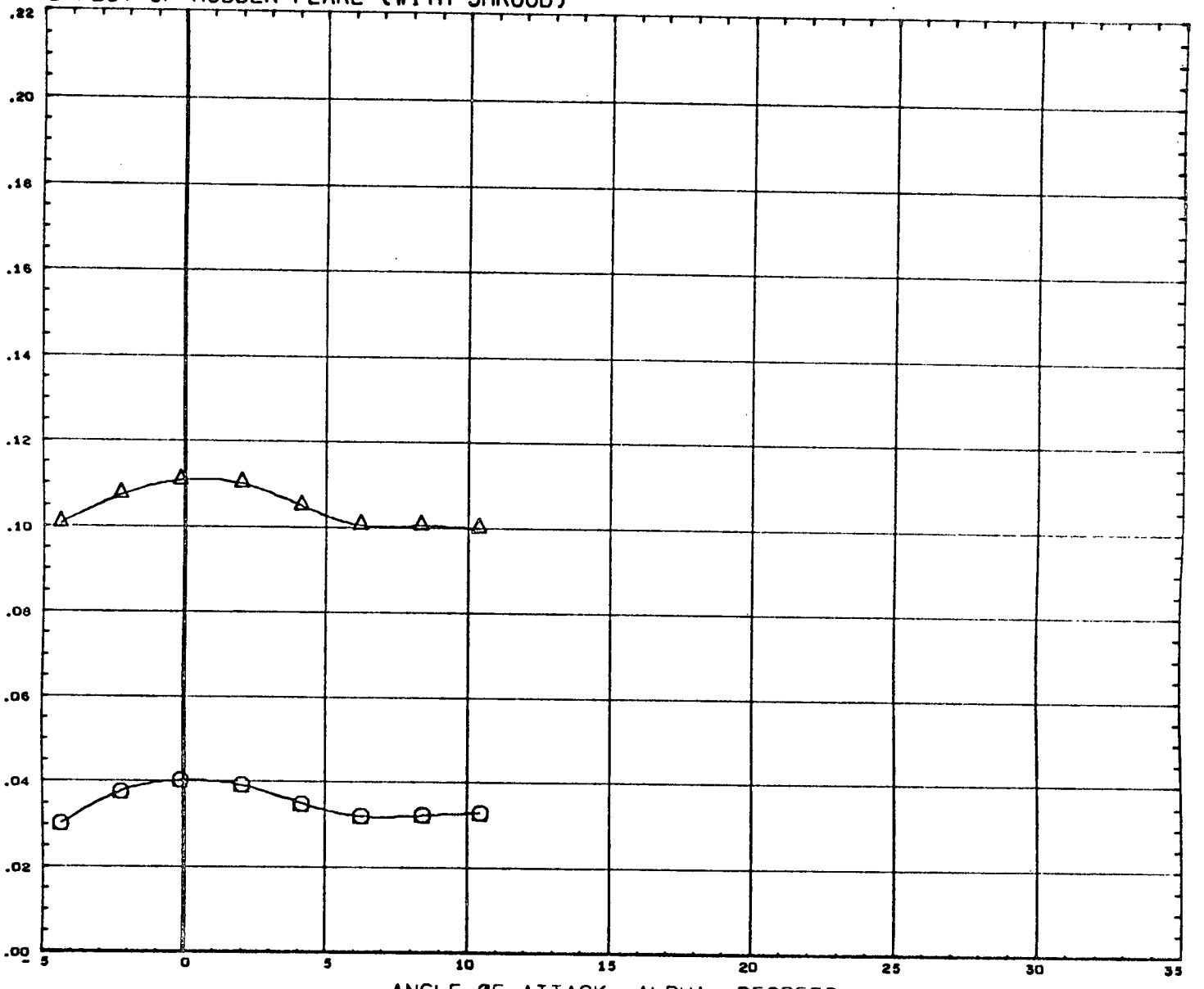


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITH SHROUD)

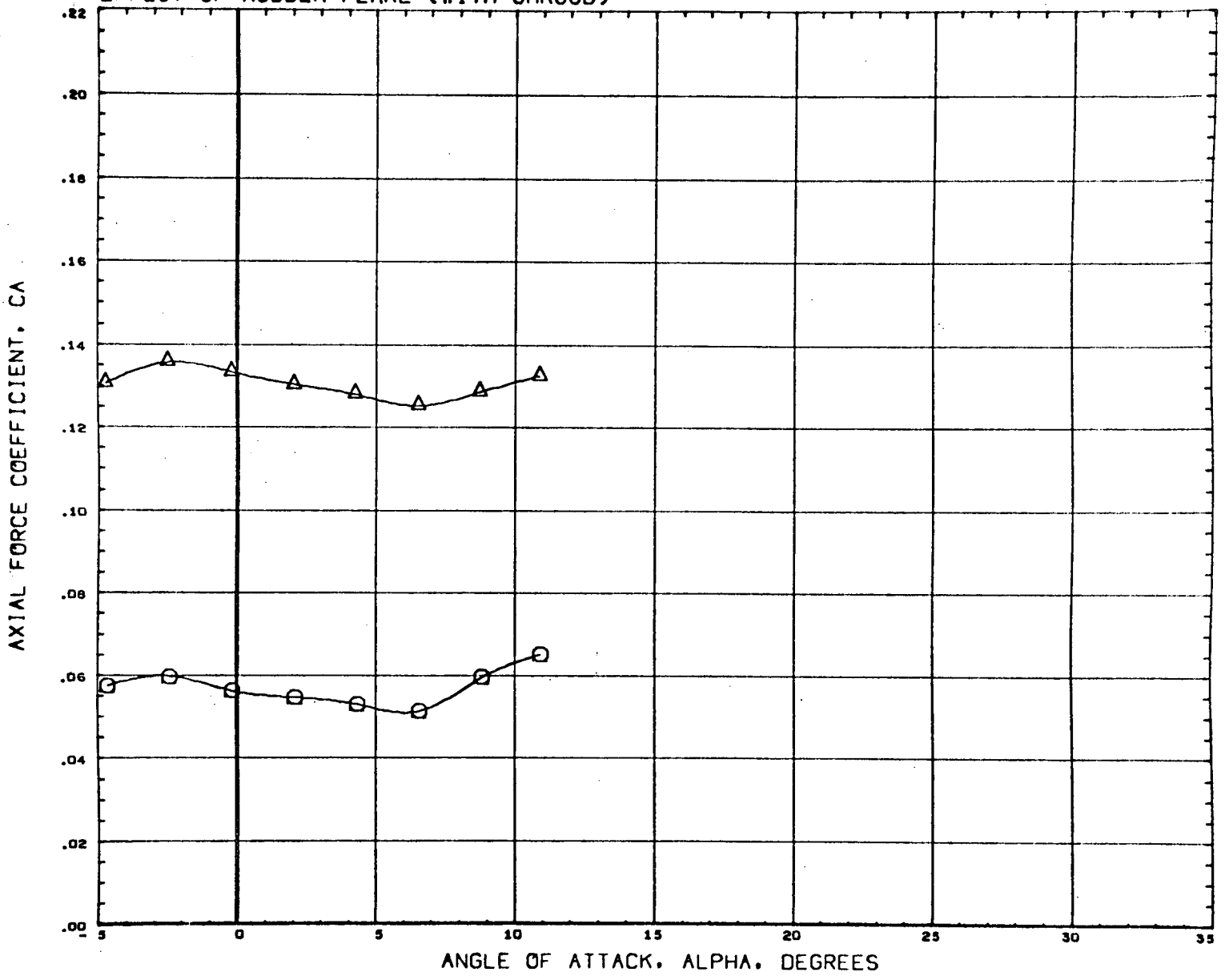


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITH SHROUD)

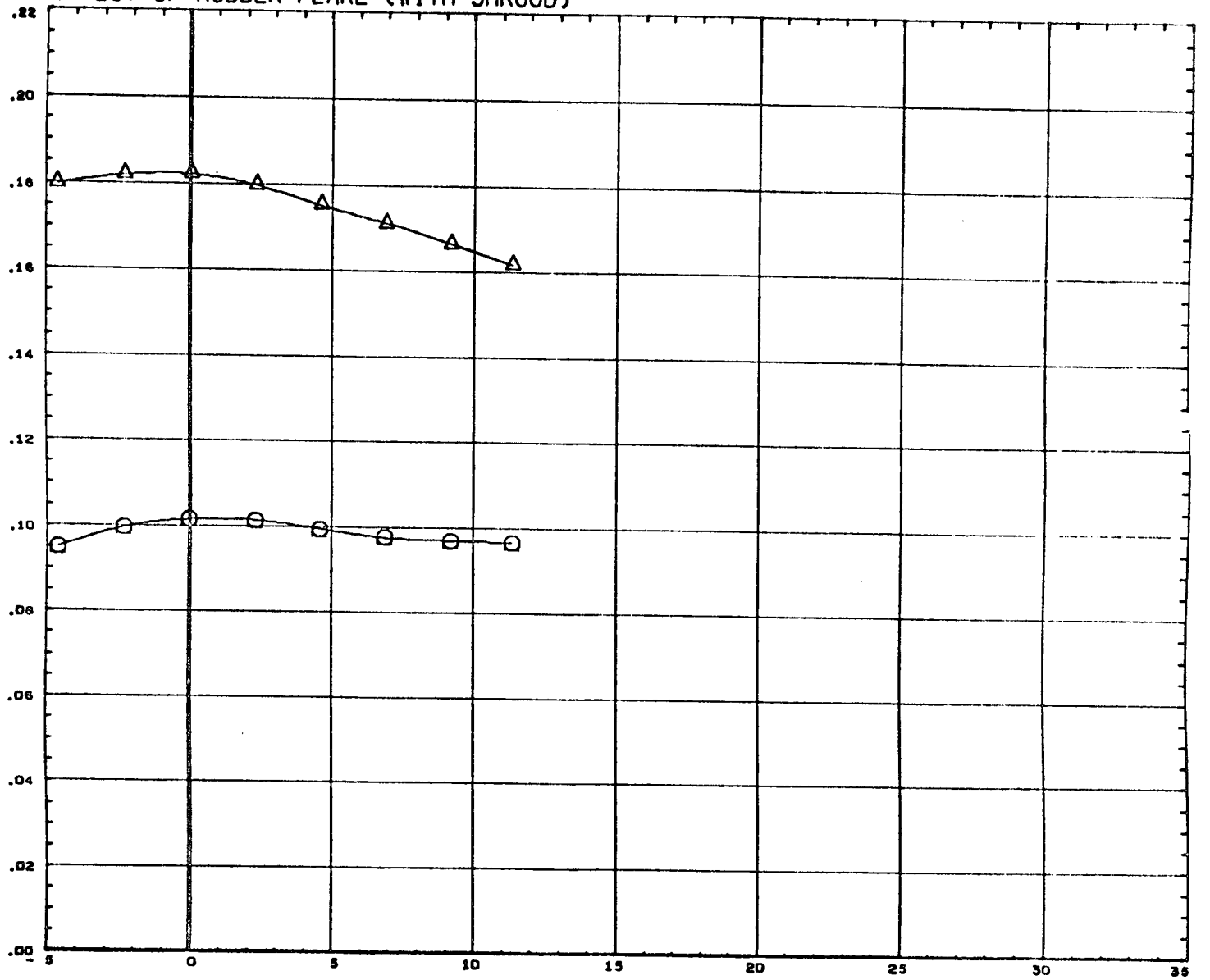


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITH SHROUD)

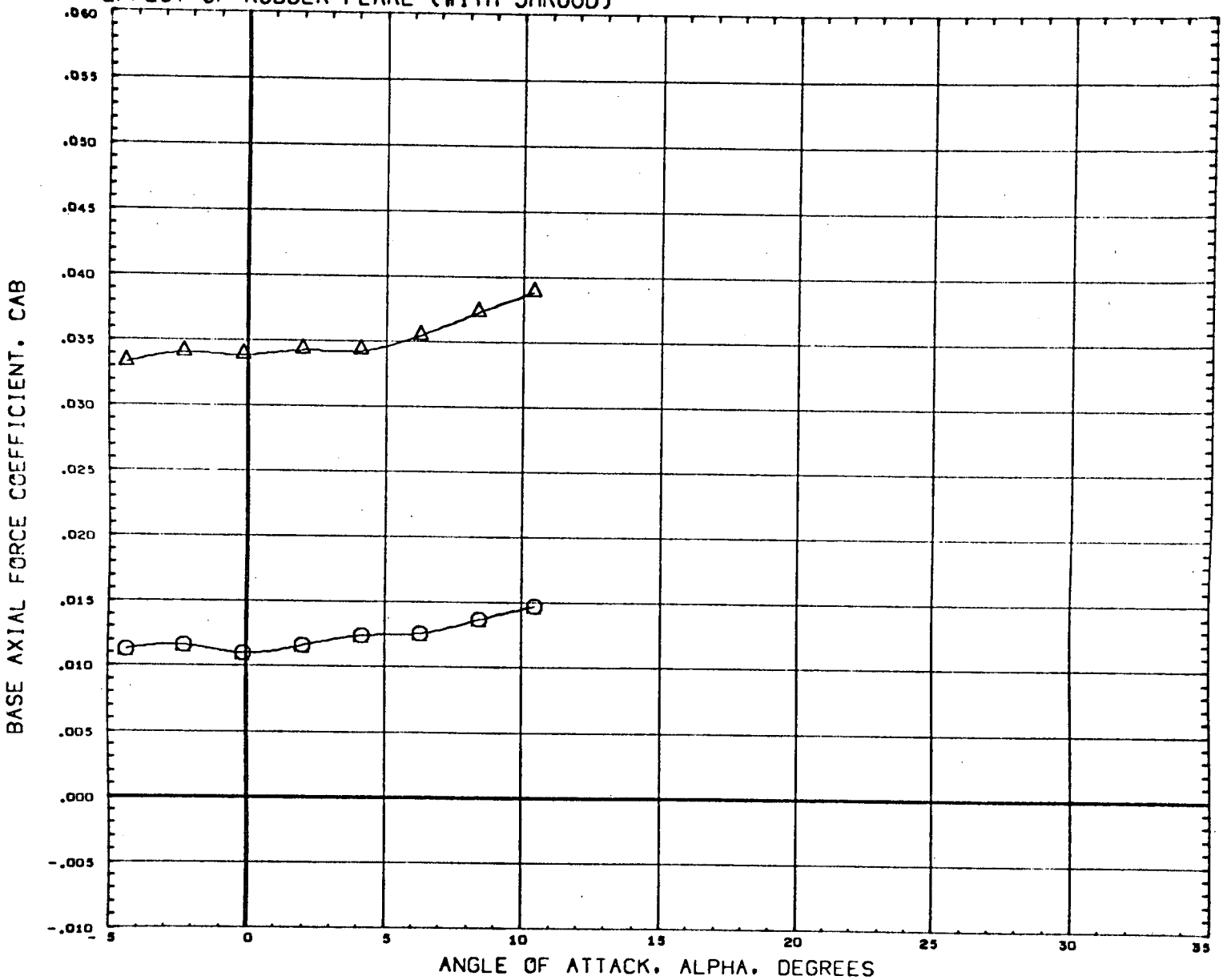


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITH SHROUD)

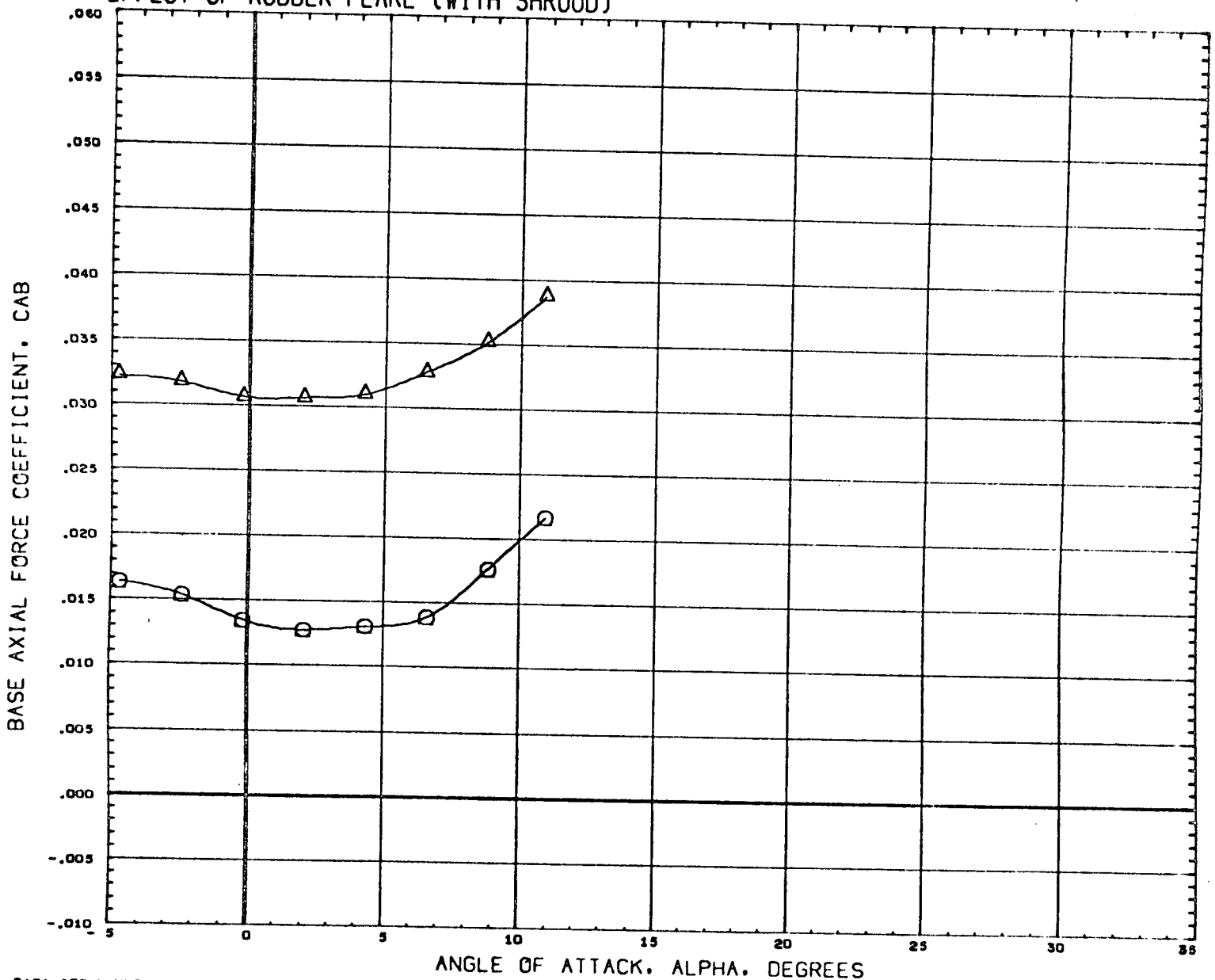


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.6800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITH SHROUD)

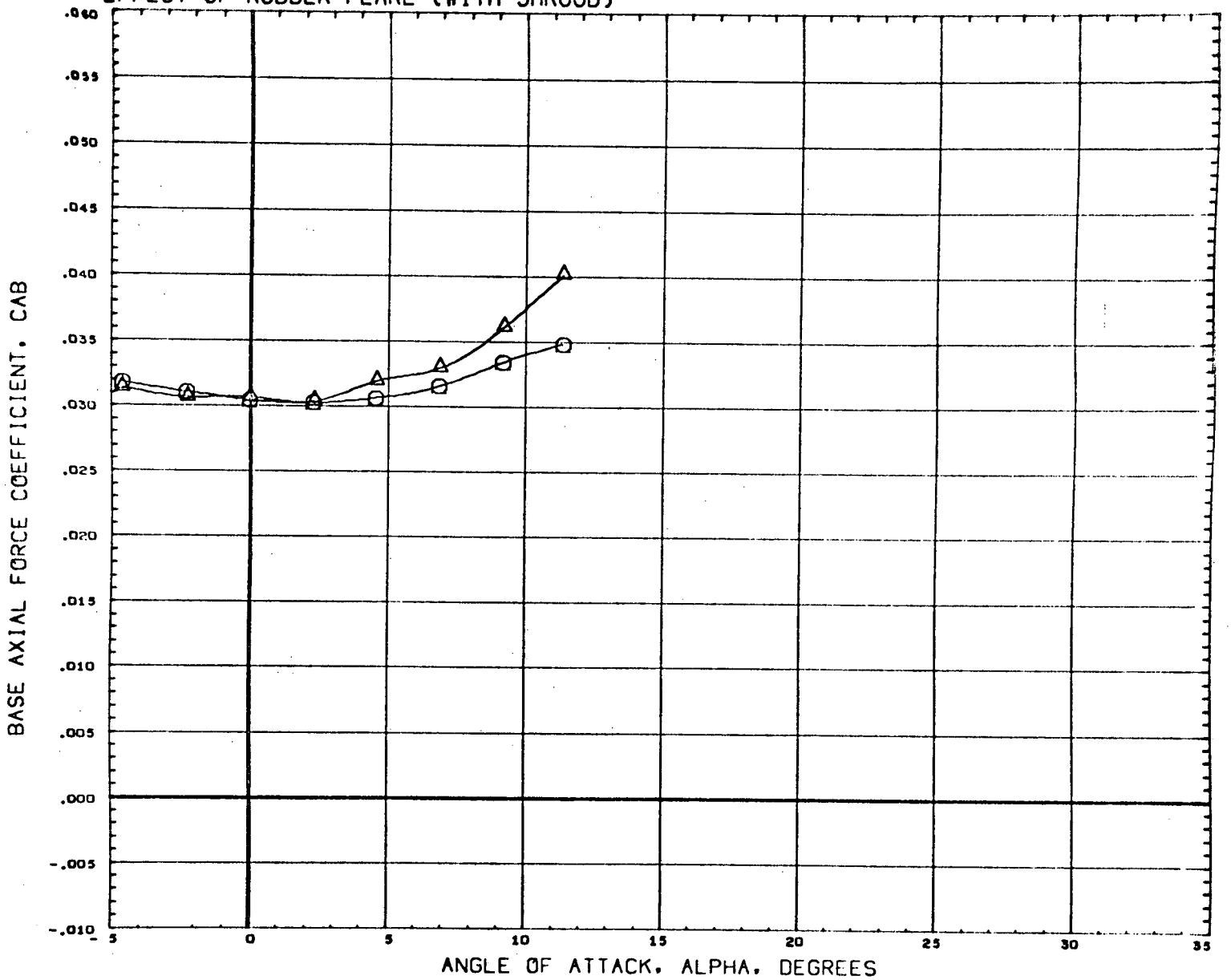


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITH SHROUD)

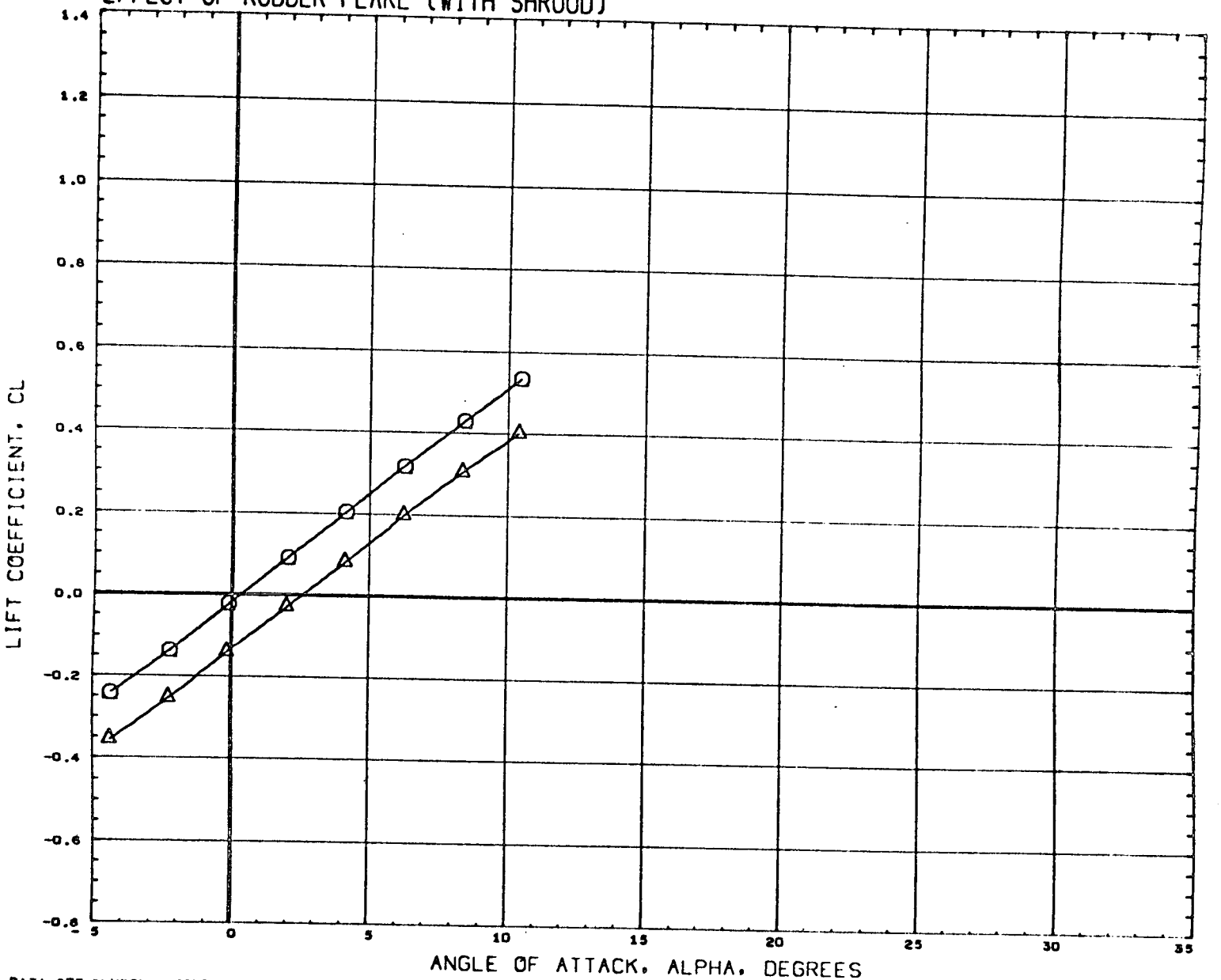


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0230	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITH SHROUD)

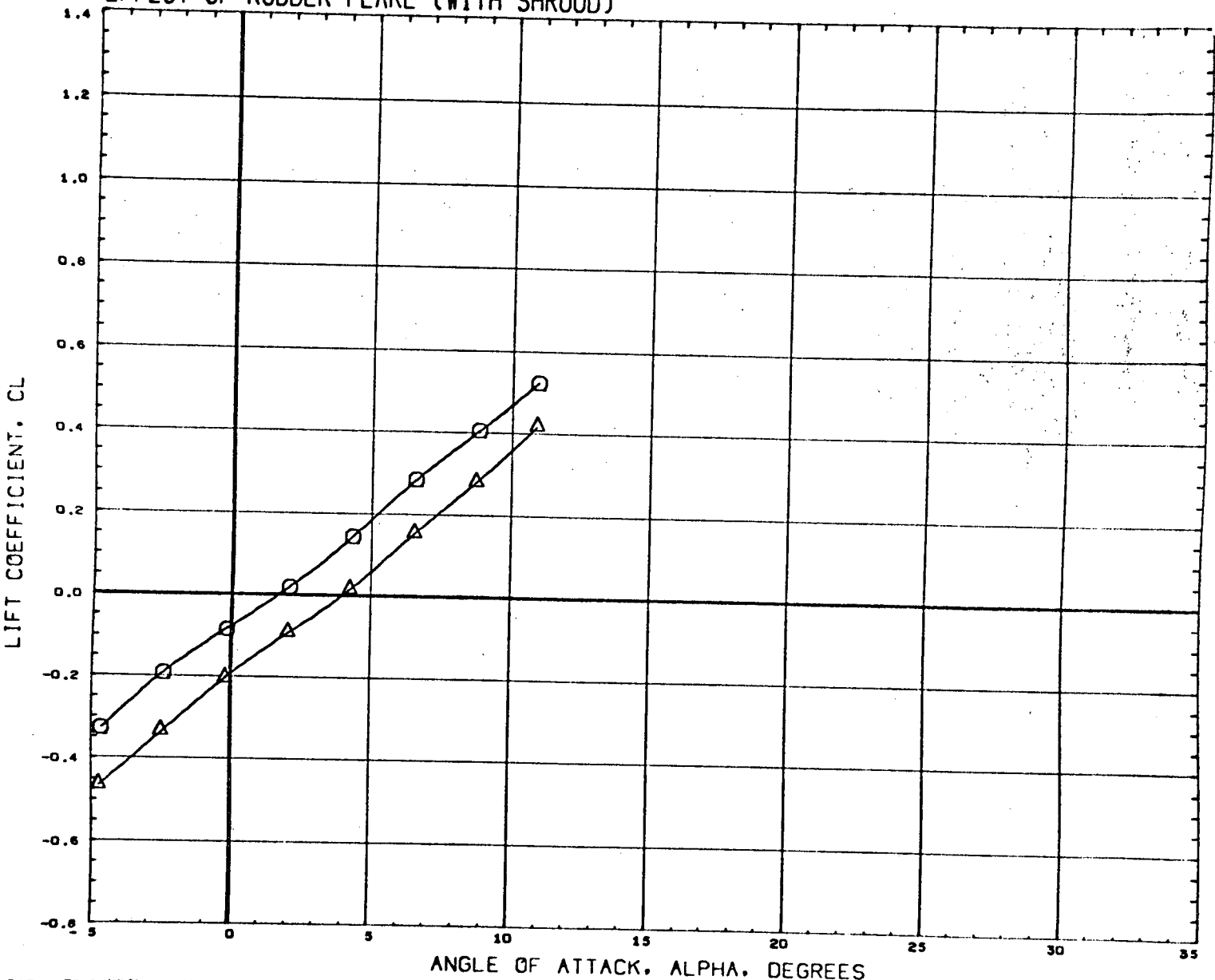


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITH SHROUD)

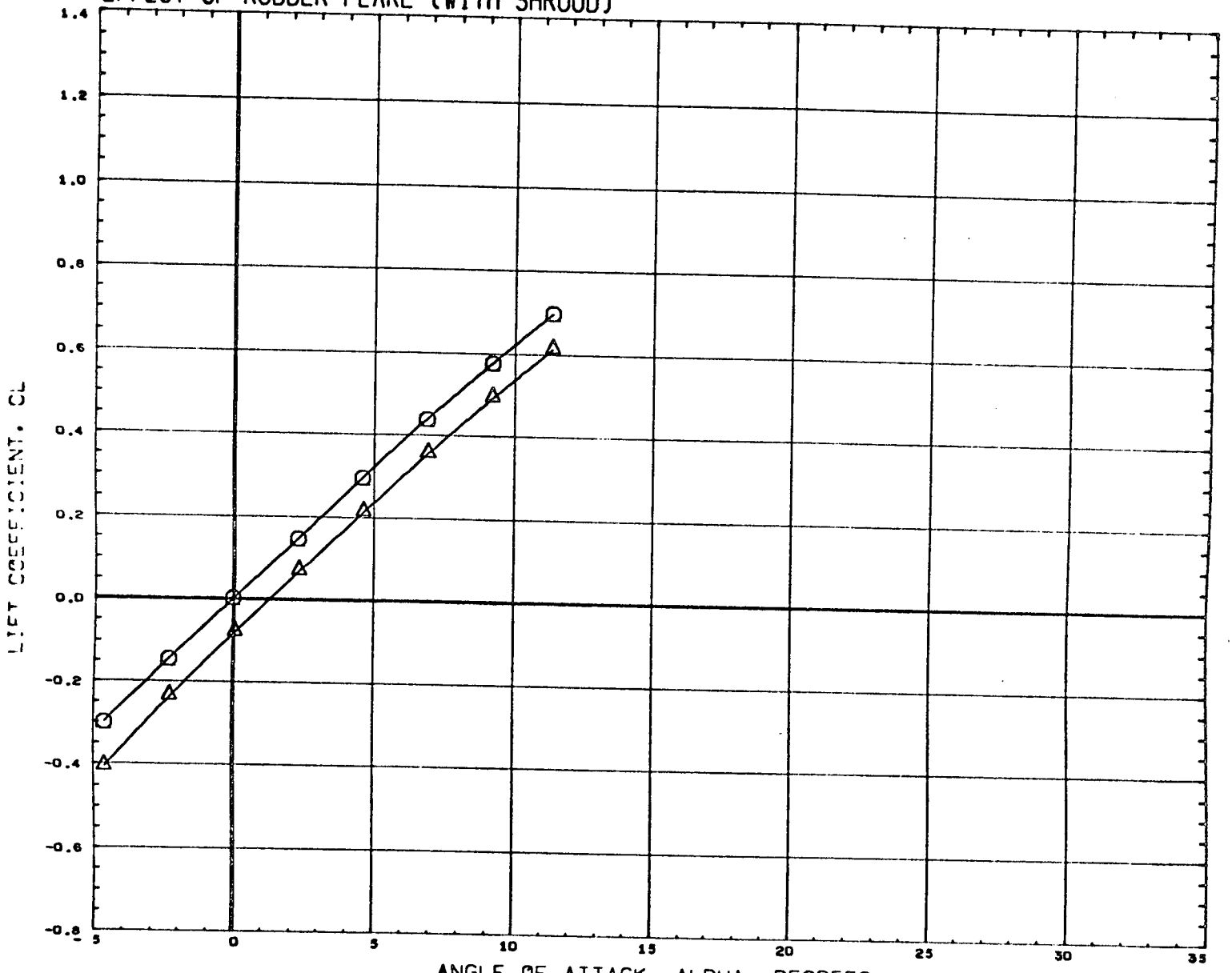


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869030) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITH SHROUD)



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

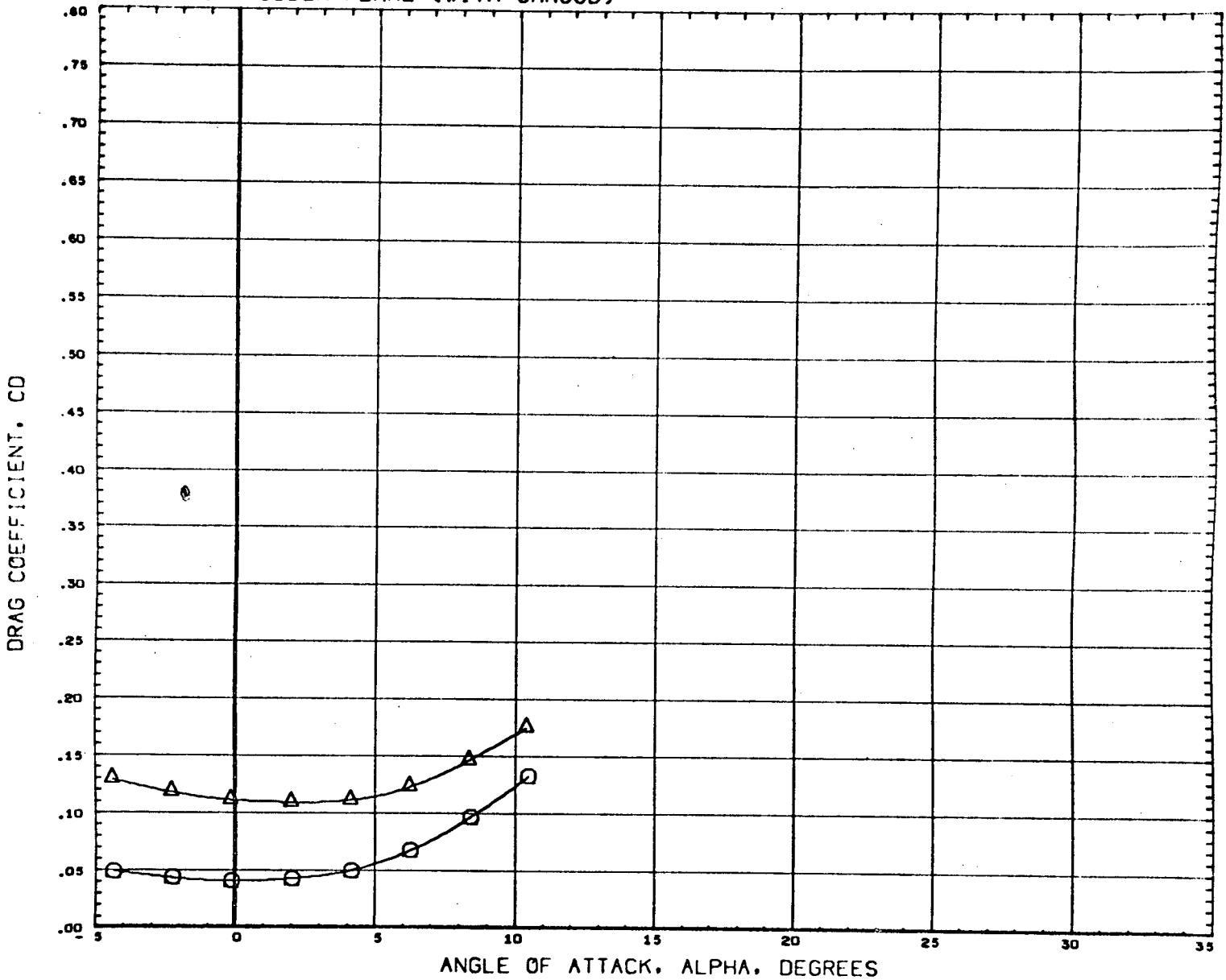
REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

Fn

EFFECT OF RUDDER FLARE (WITH SHROUD)

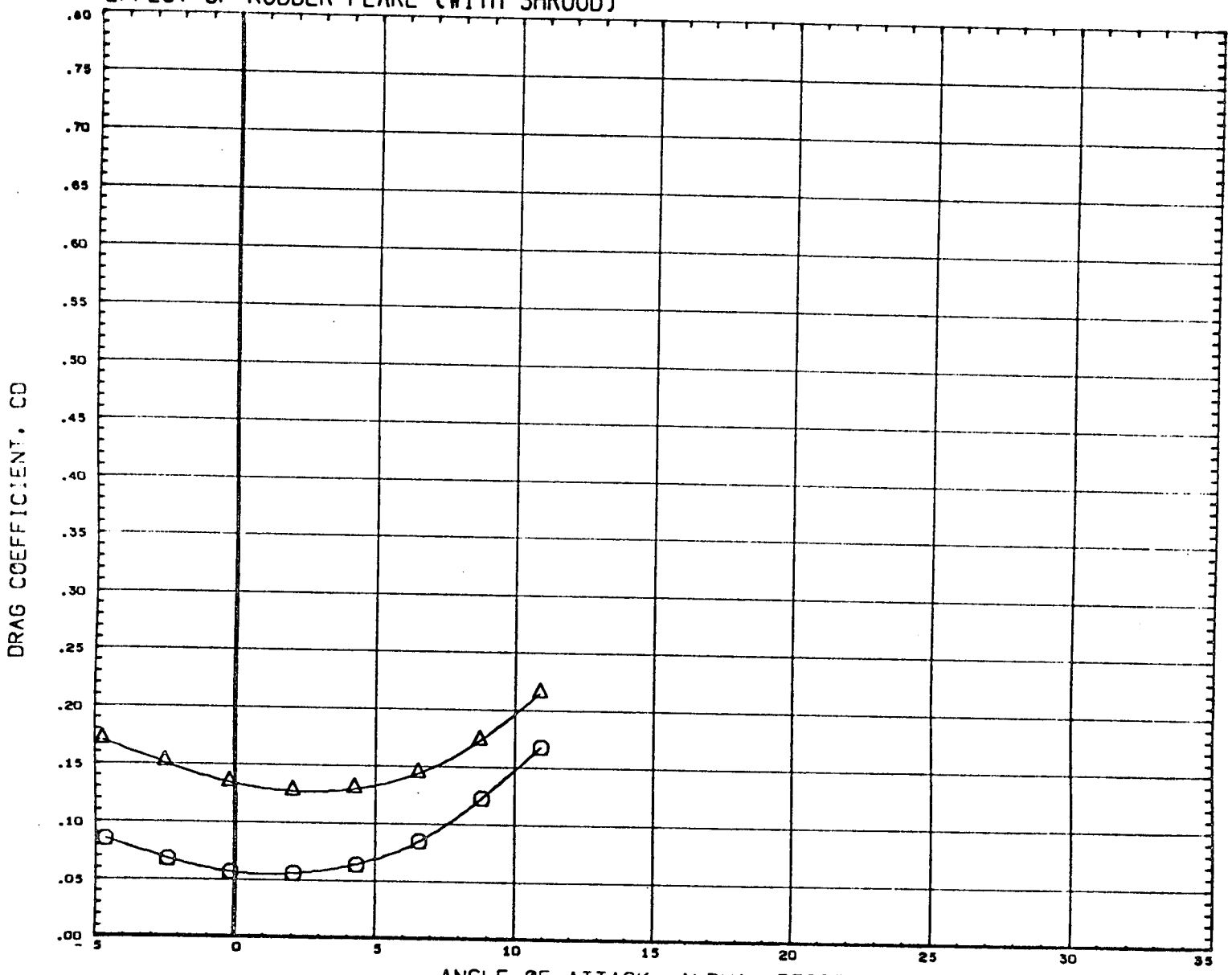


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B60001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B60030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITH SHROUD)

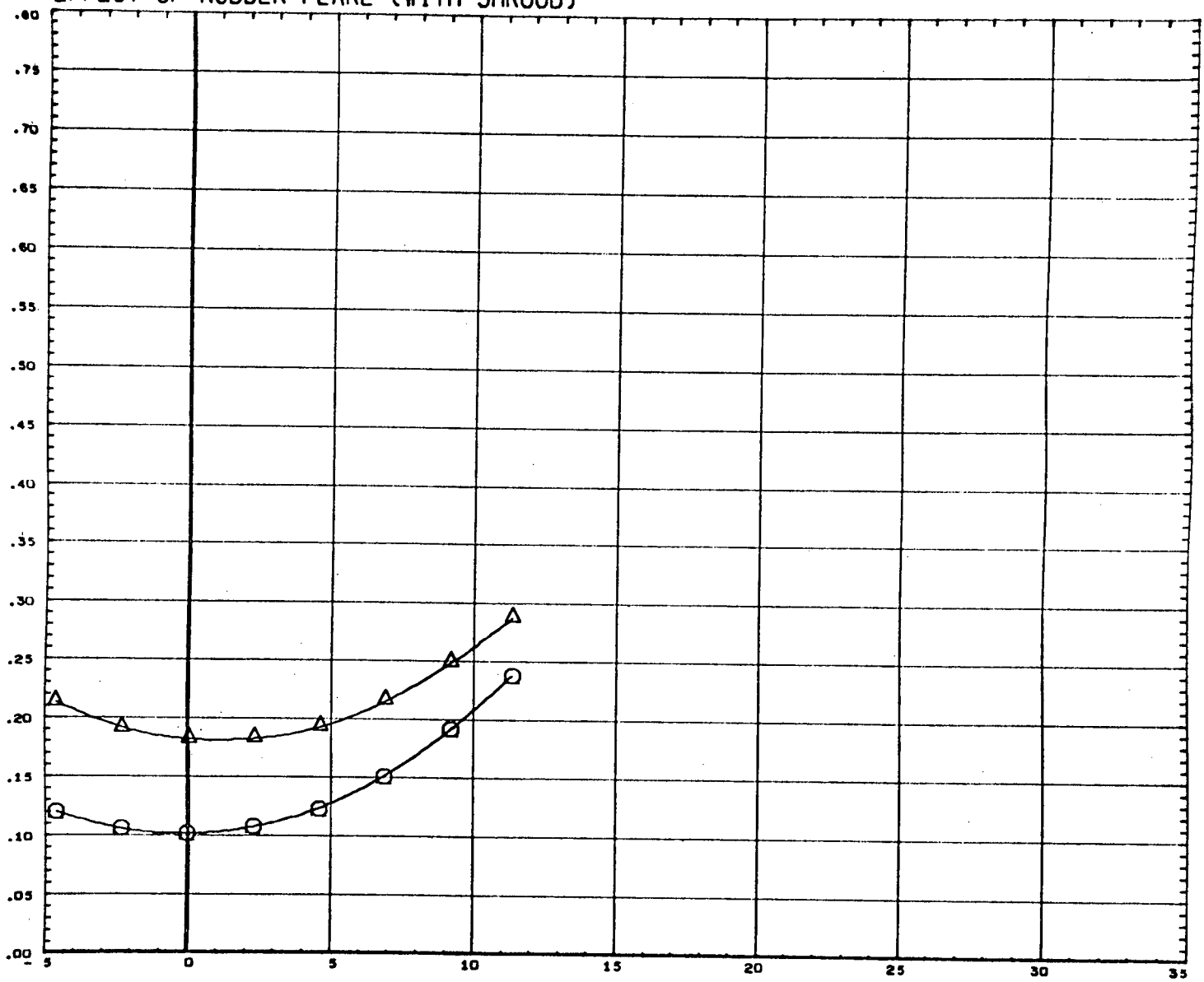


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITH SHROUD)

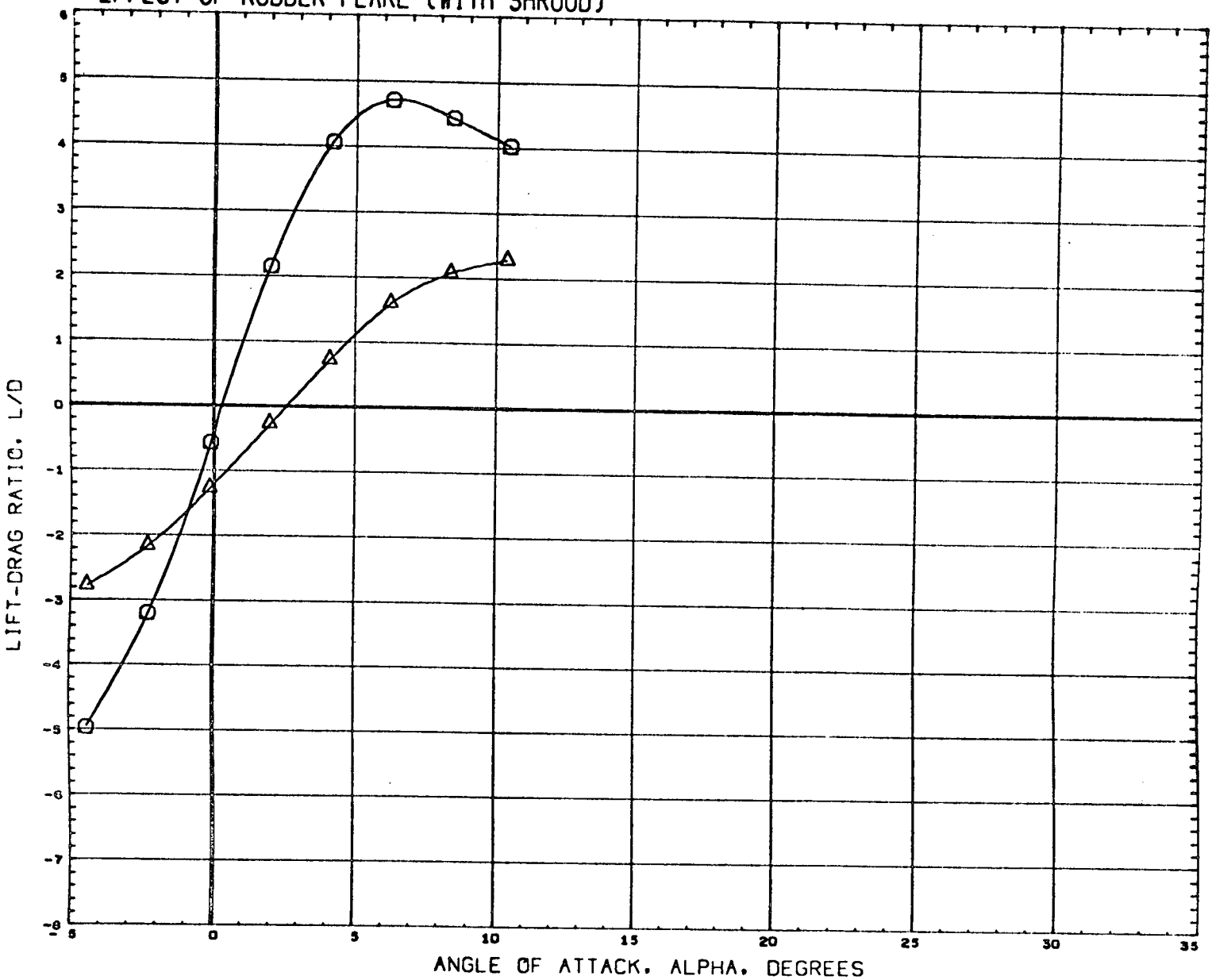


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITH SHROUD)

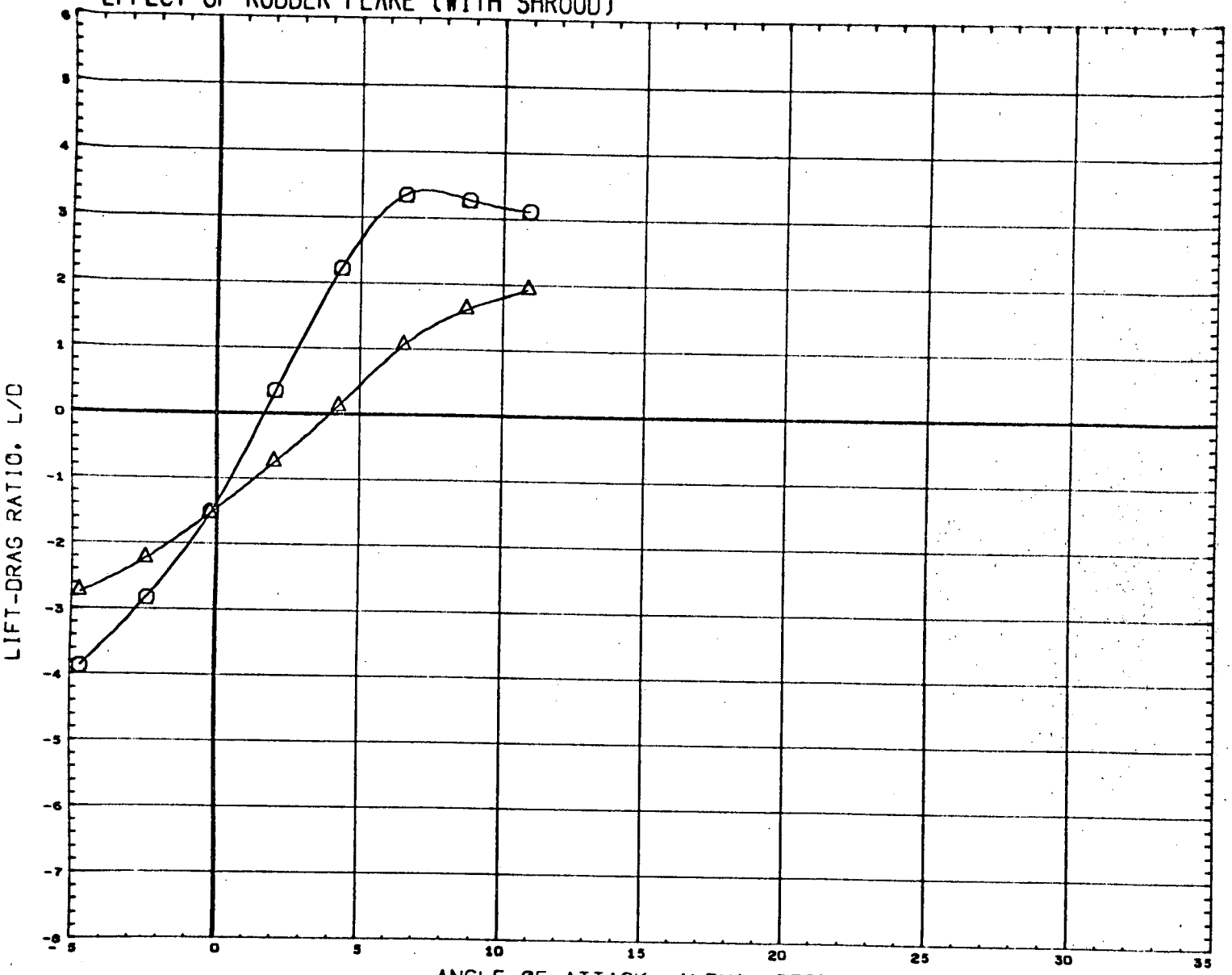


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITH SHROUD)

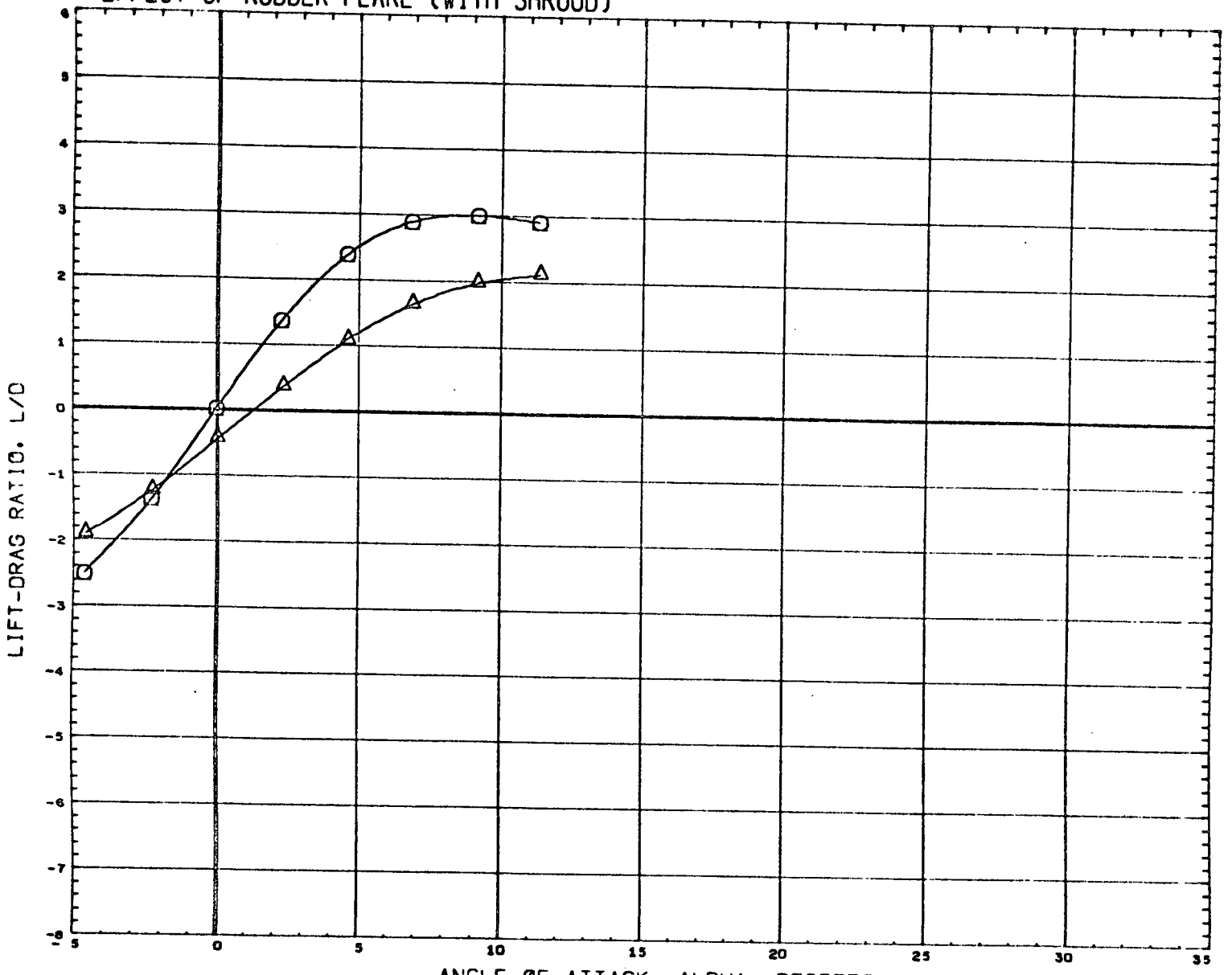


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869030)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITH SHROUD)

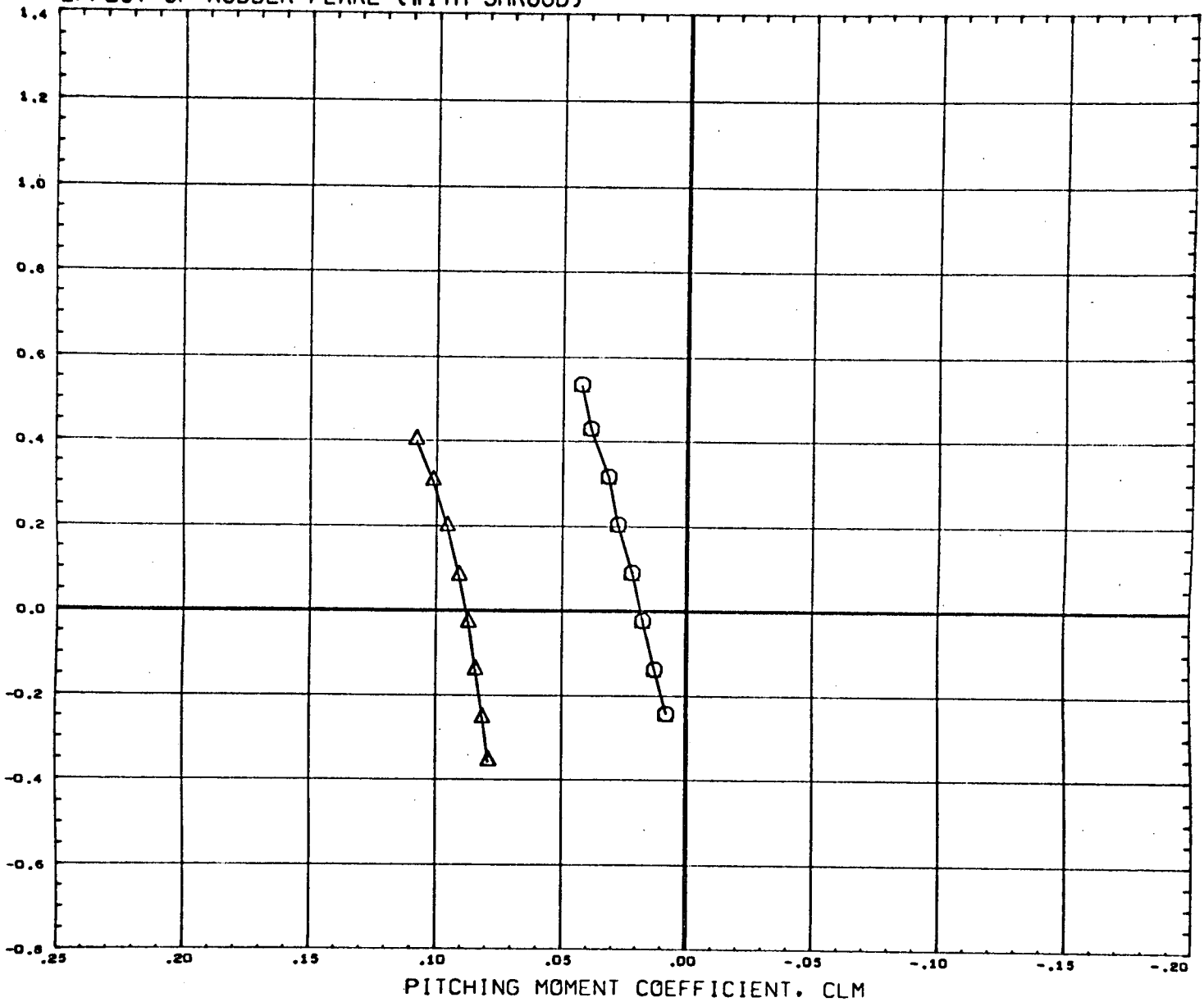


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69039)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITH SHROUD)

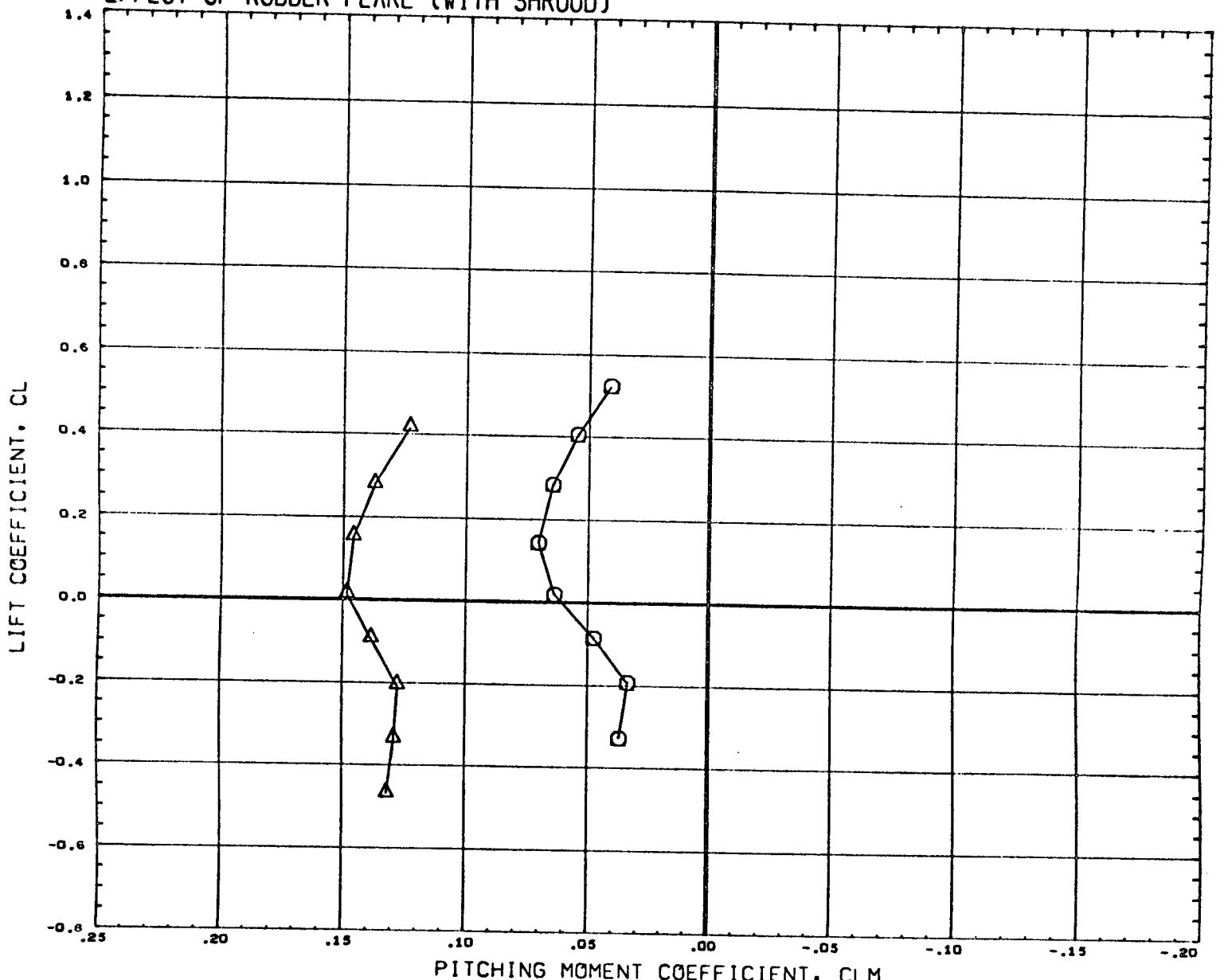


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITH SHROUD)

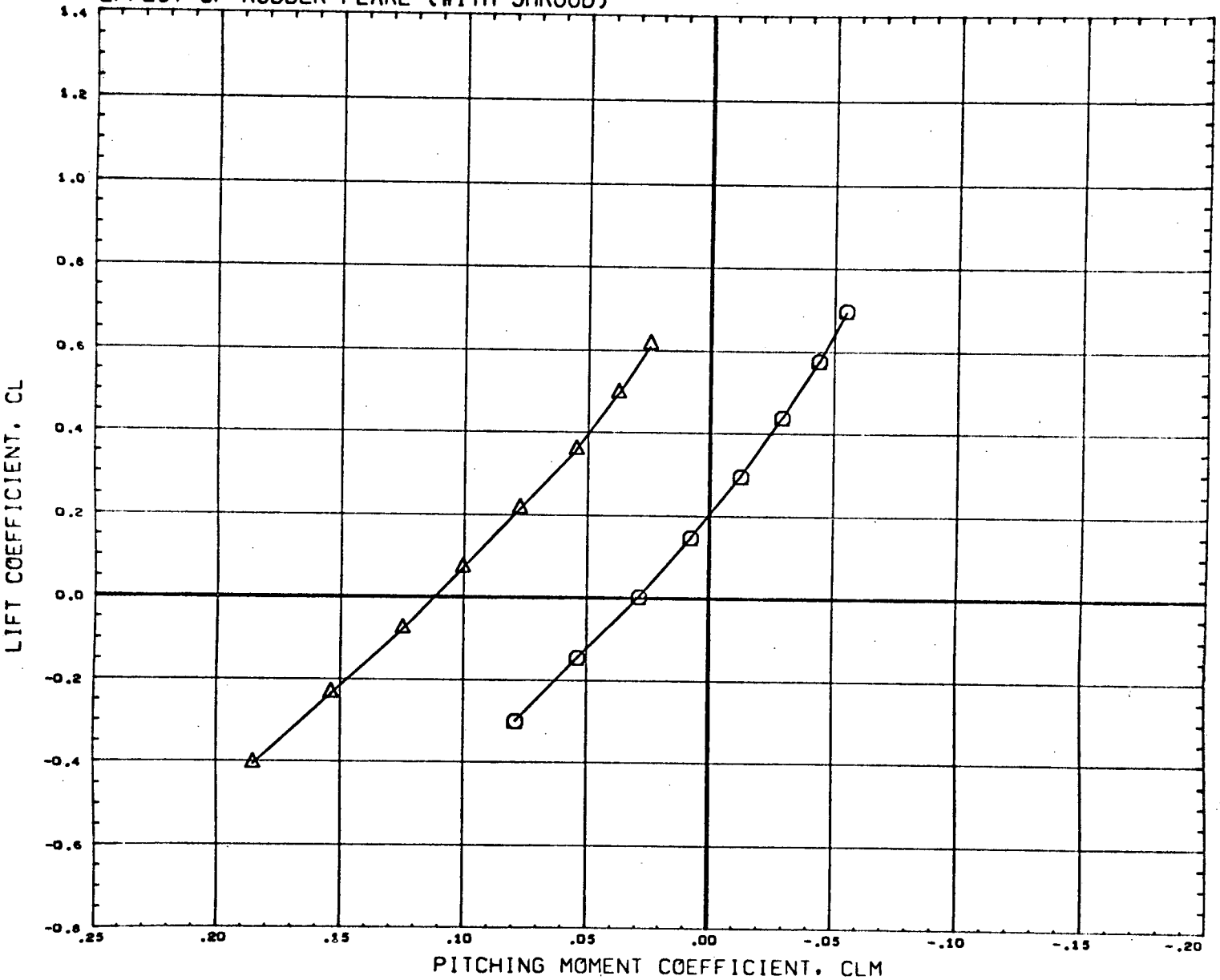


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITH SHROUD)

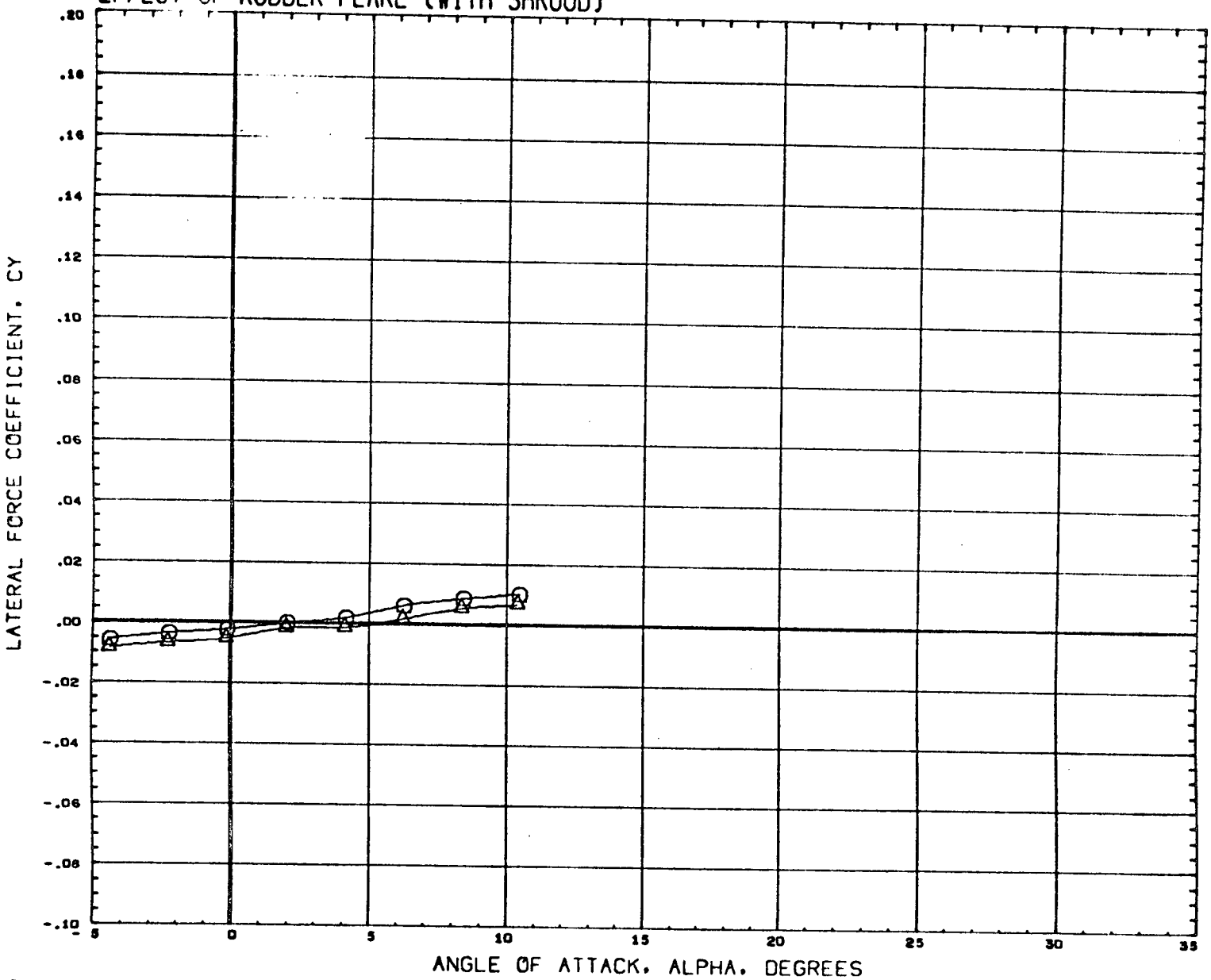


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITH SHROUD)

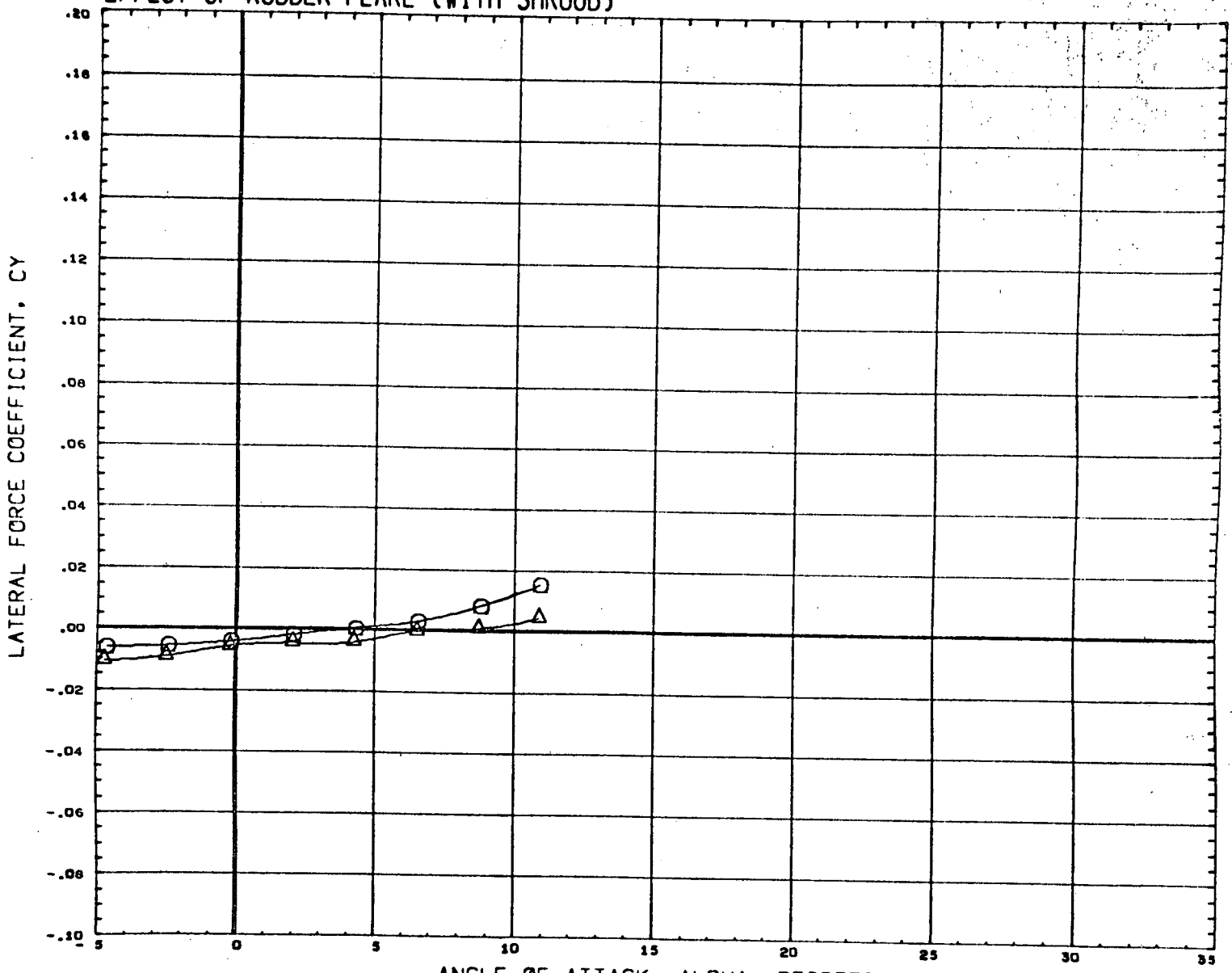


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.6800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITH SHROUD)



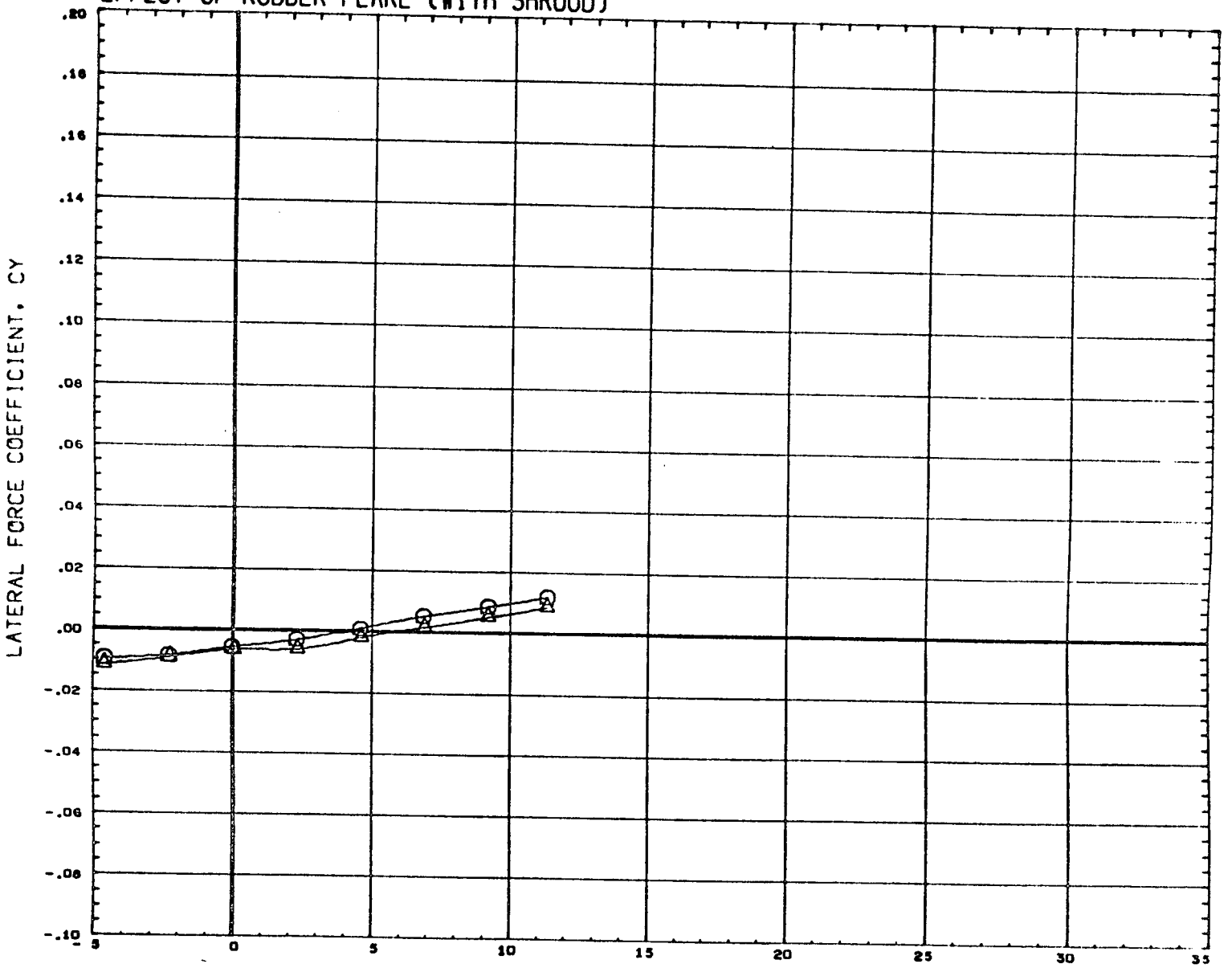
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITH SHROUD)



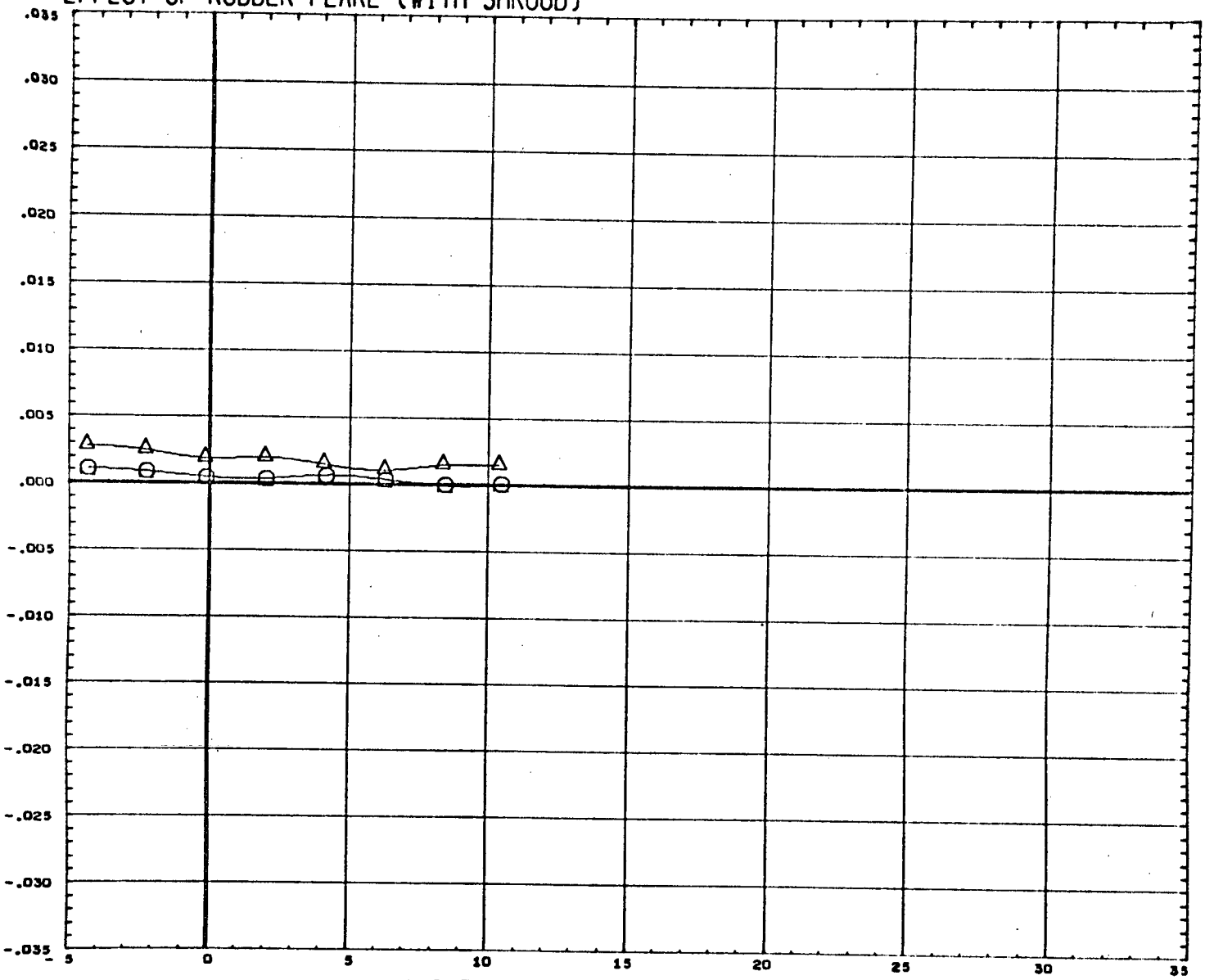
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69030)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6920	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

C7

EFFECT OF RUDDER FLARE (WITH SHROUD)

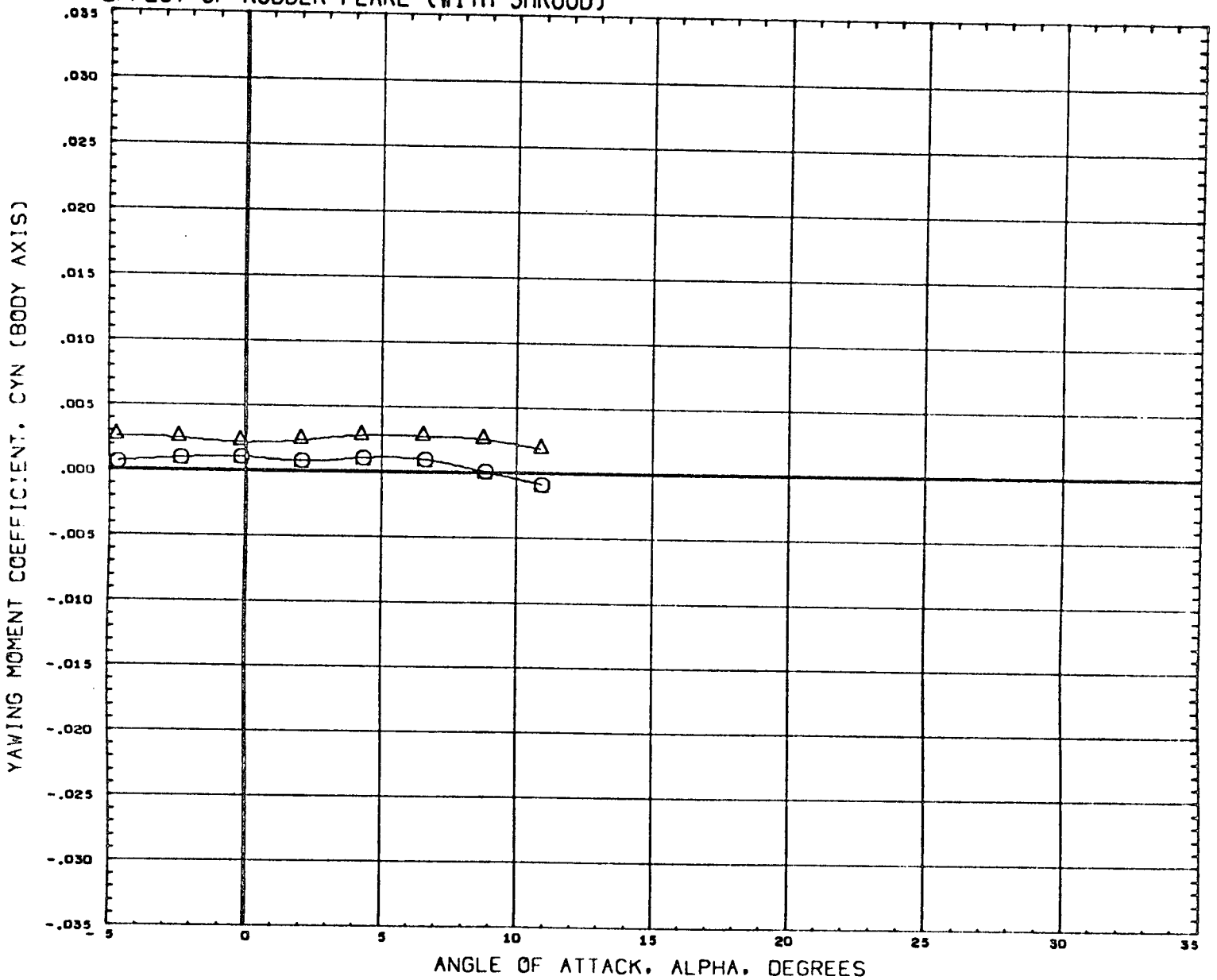


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITH SHROUD)

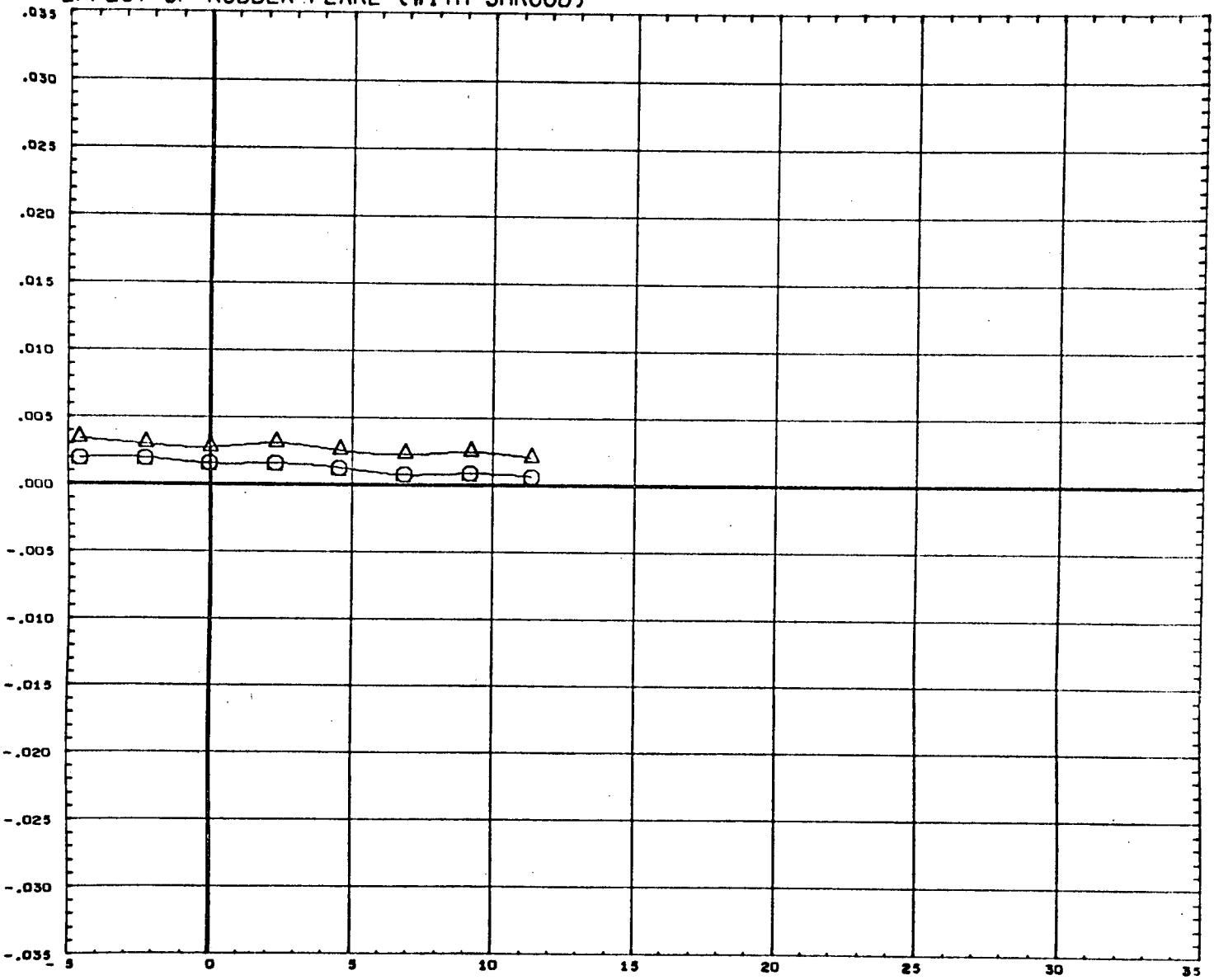


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITH SHROUD)

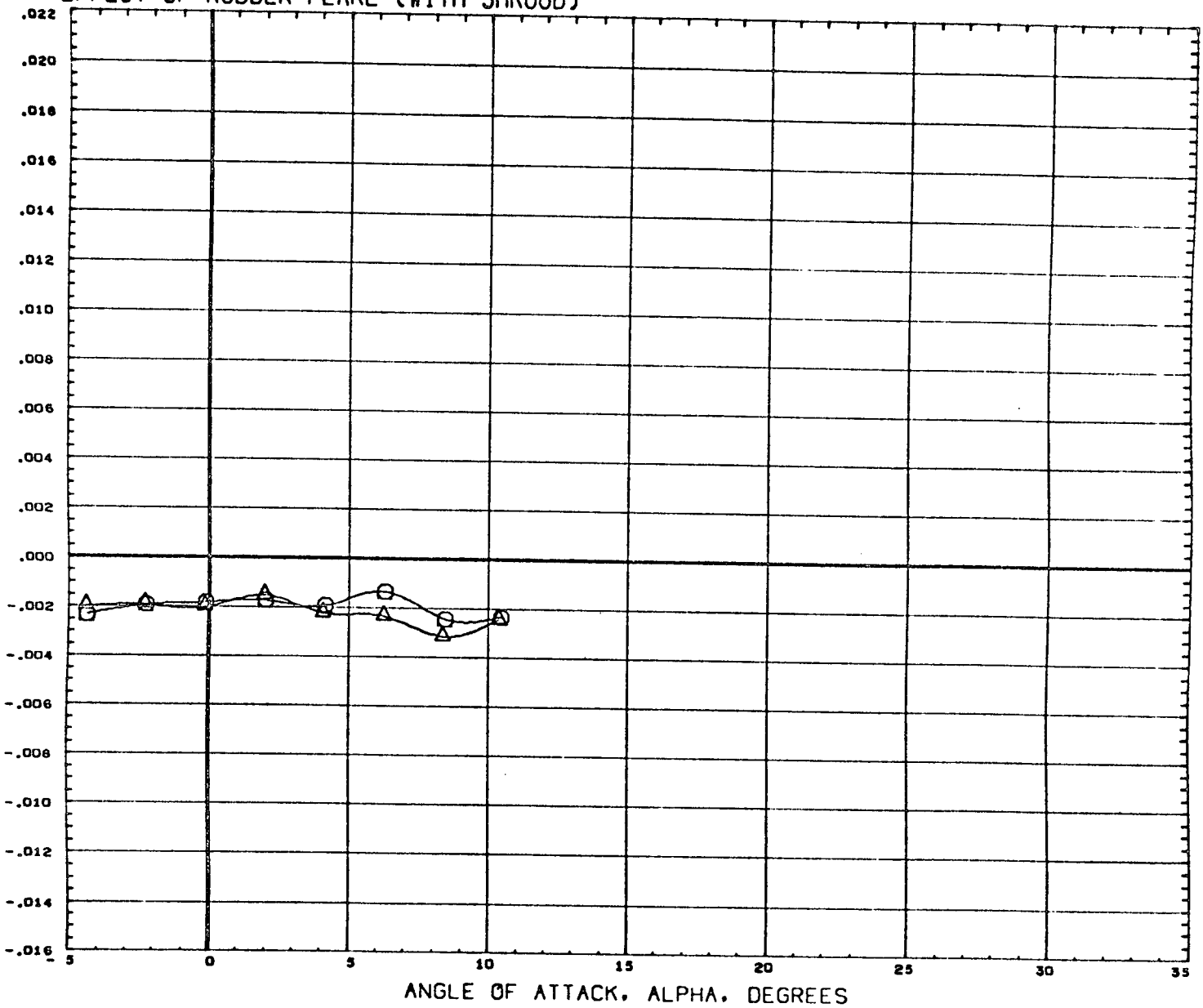


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITH SHROUD)

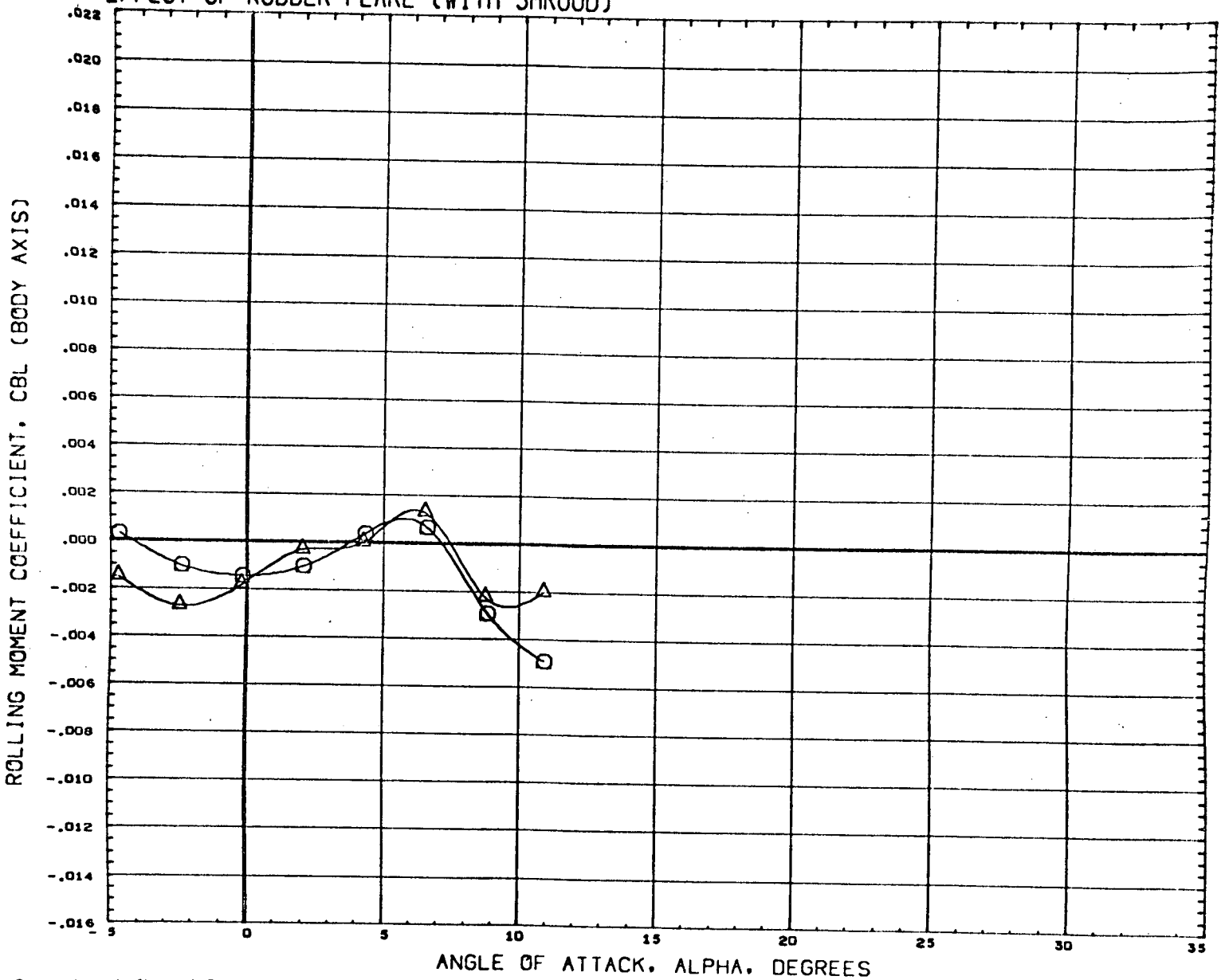


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITH SHROUD)

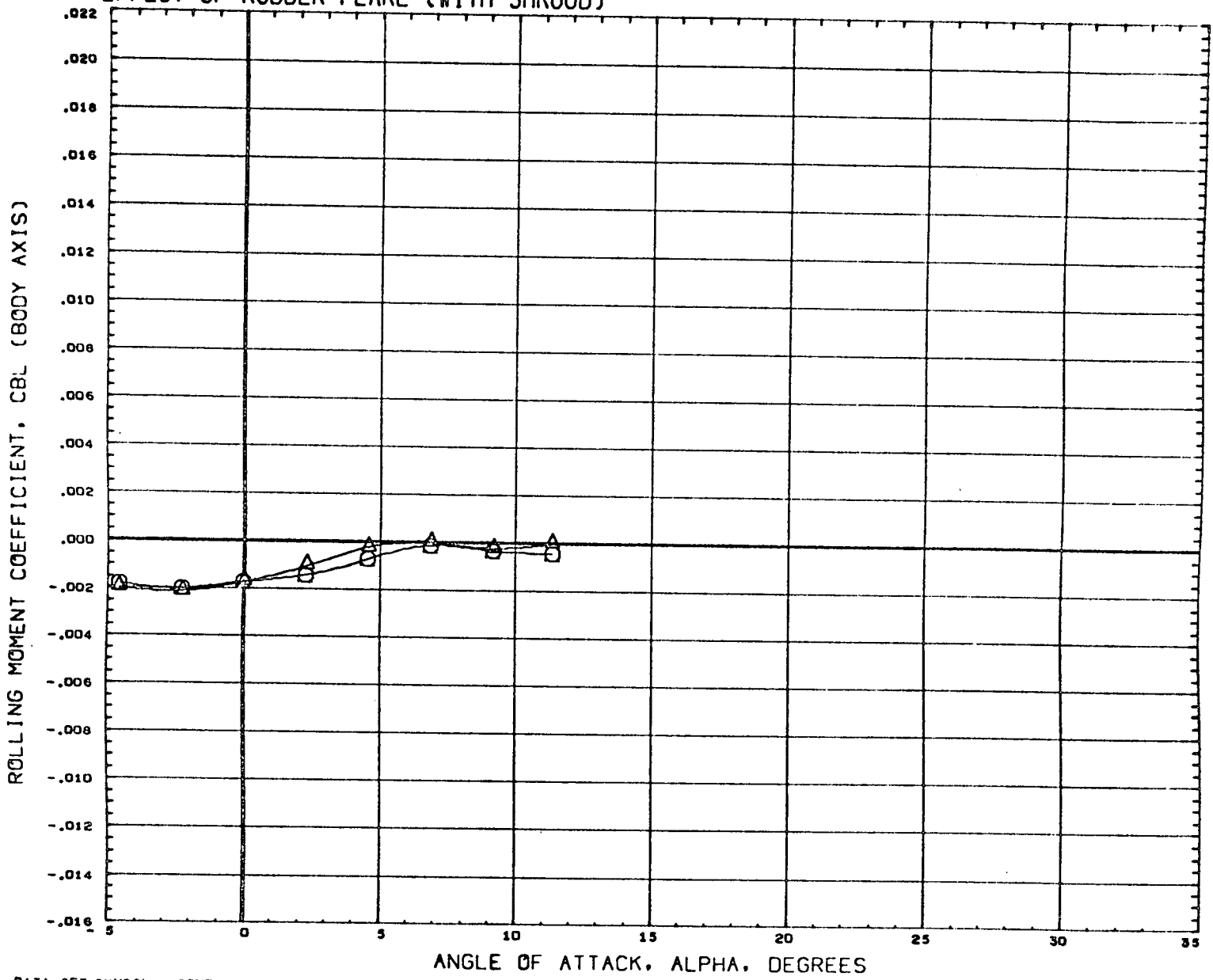


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITH SHROUD)



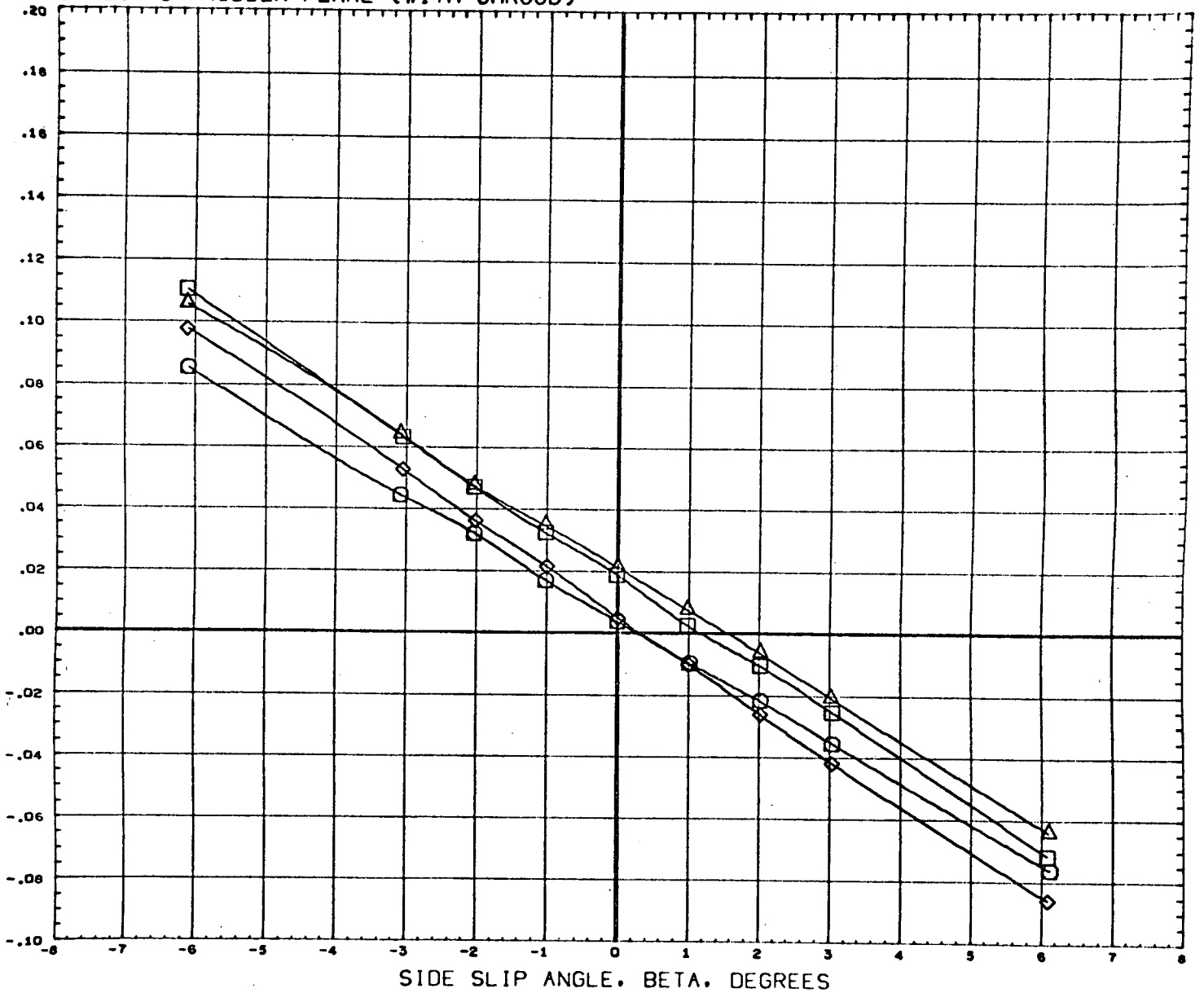
DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69030)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	30.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF RUDDER FLARE (WITH SHROUD)

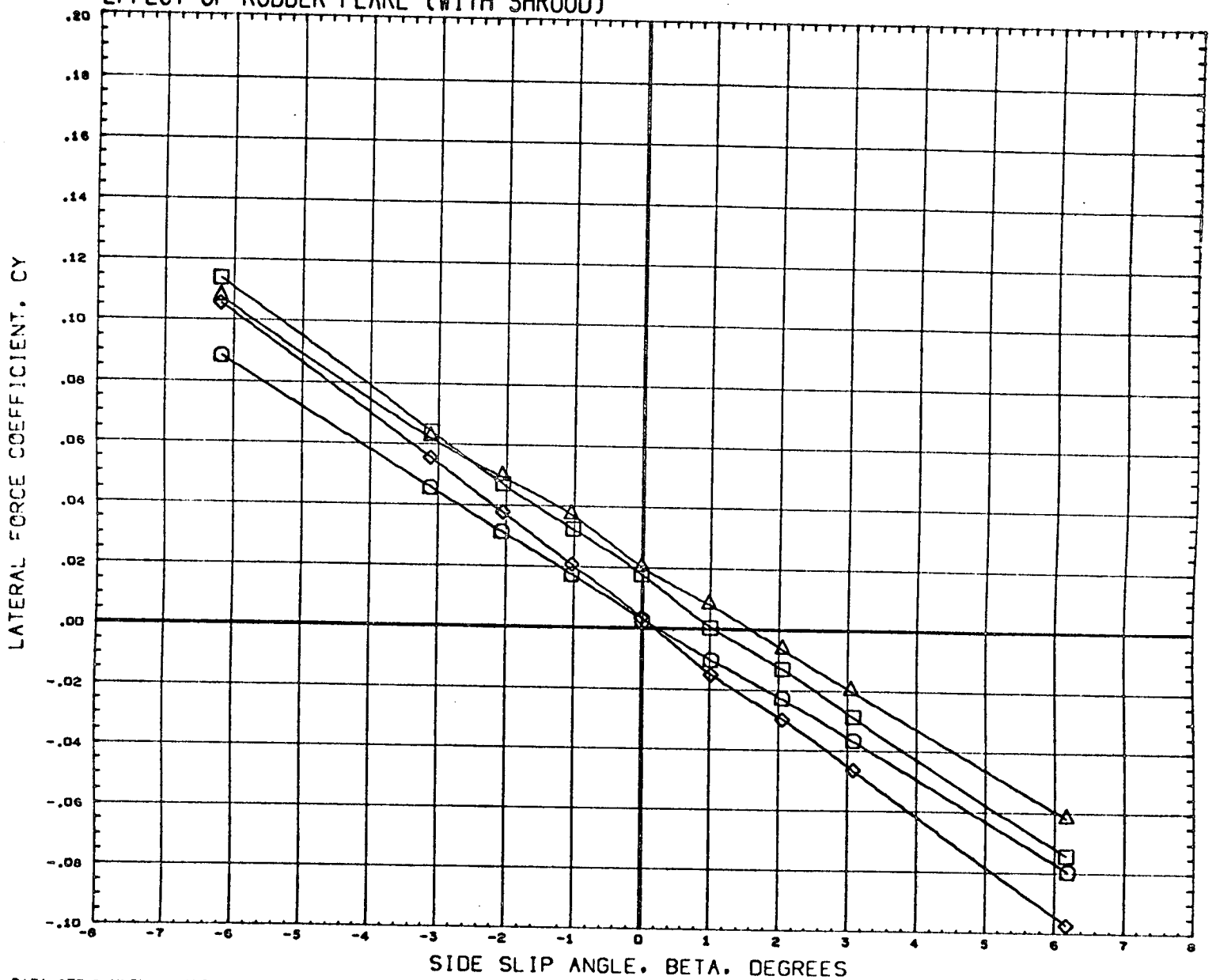


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69031)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	30.000
(A69032)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITH SHROUD)

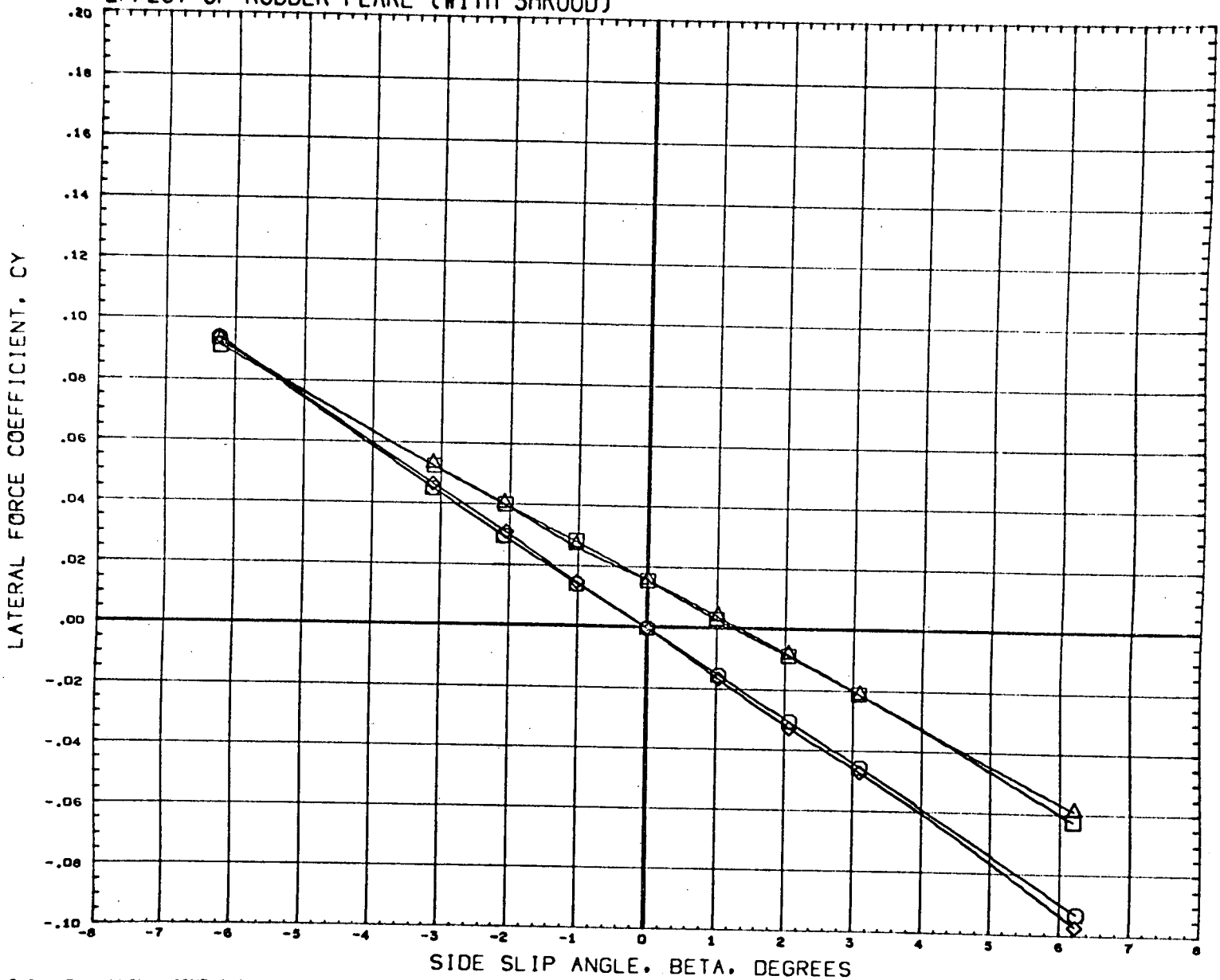


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69031)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	30.000
(A69032)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITH SHROUD)

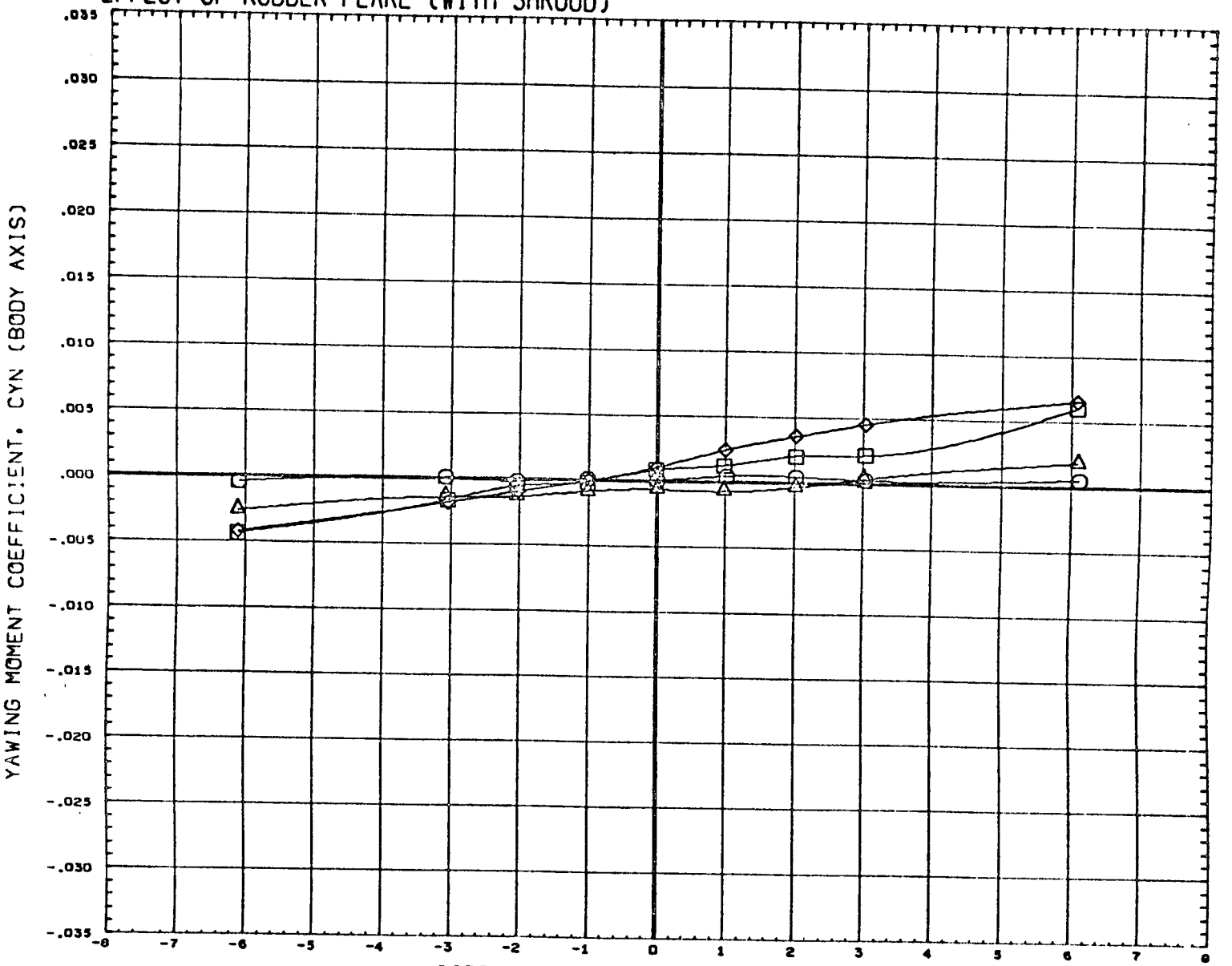


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69031)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	30.000
(A69032)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF RUDDER FLARE (WITH SHROUD)

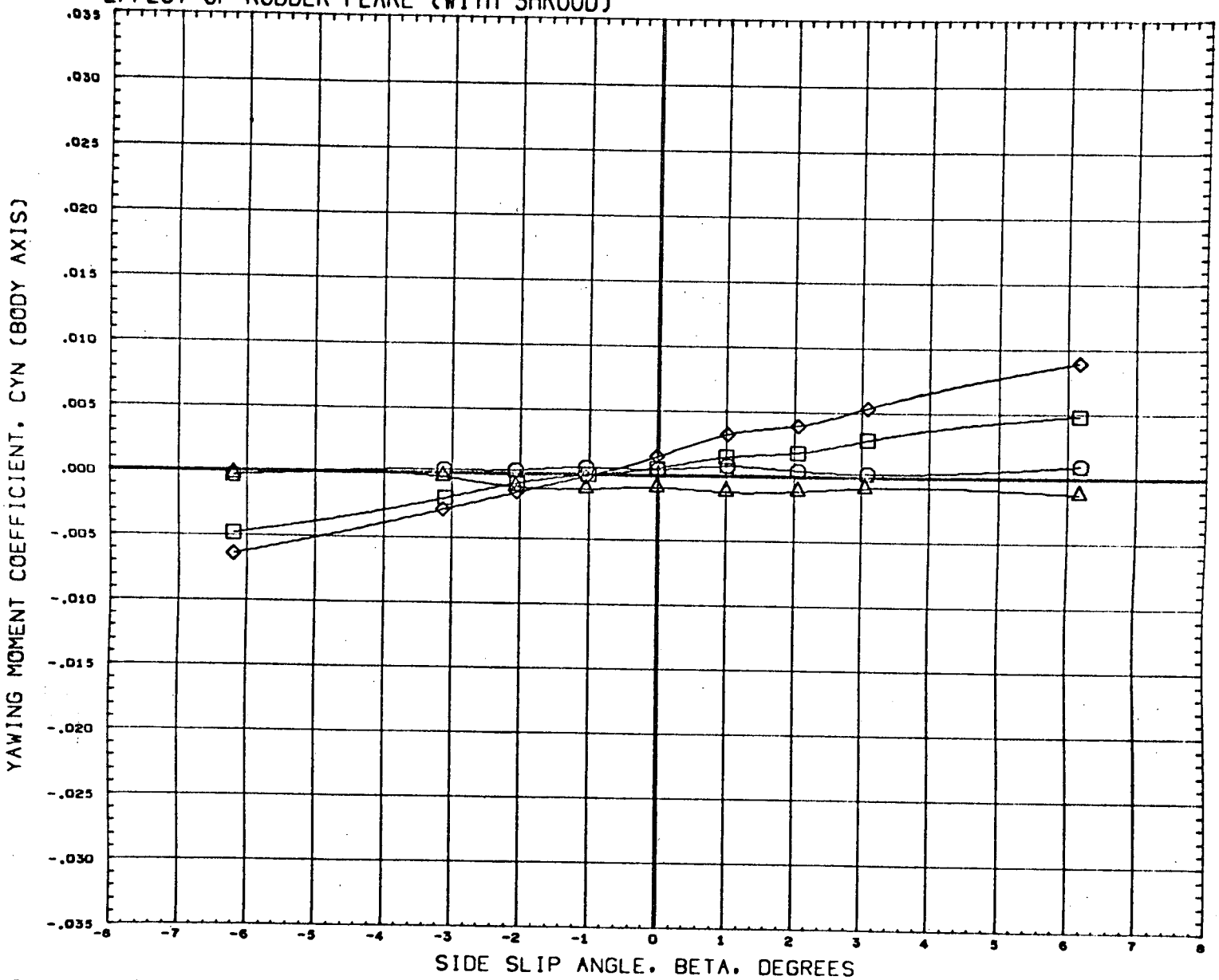


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69031)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	30.000
(A69032)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITH SHROUD)

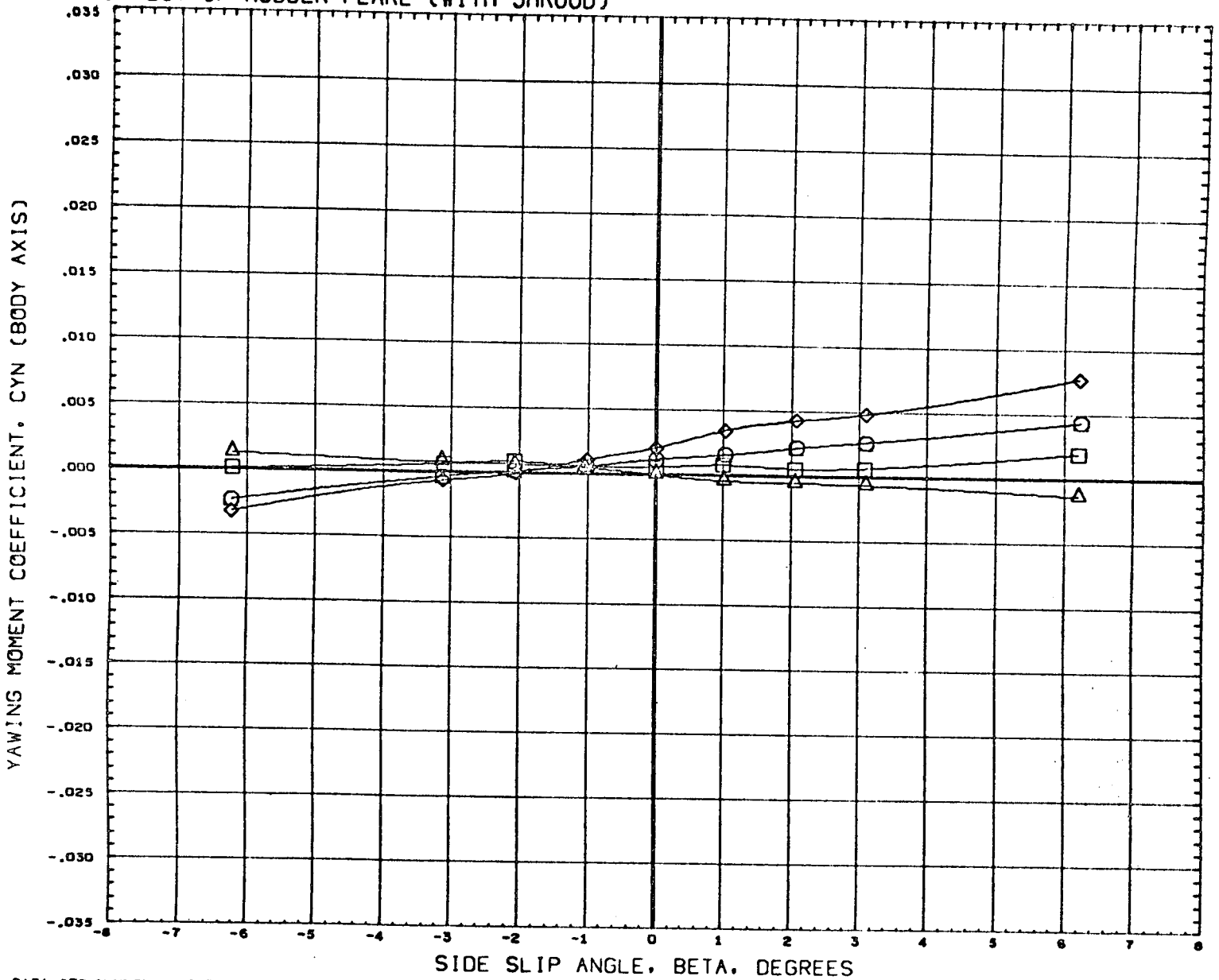


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69031)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	30.000
(A69032)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITH SHROUD)

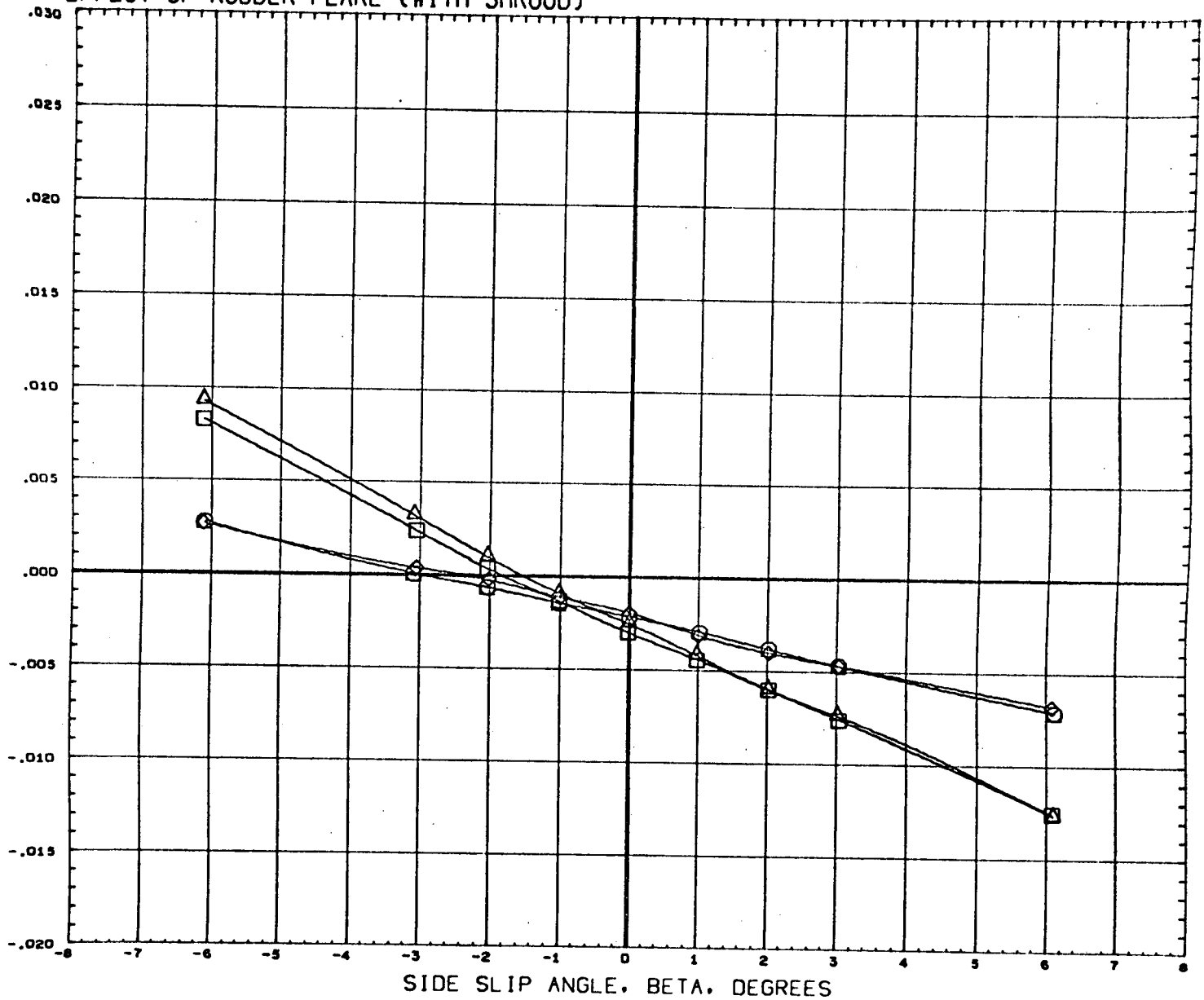


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	☆	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69031)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	30.000
(A69032)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF RUDDER FLARE (WITH SHROUD)

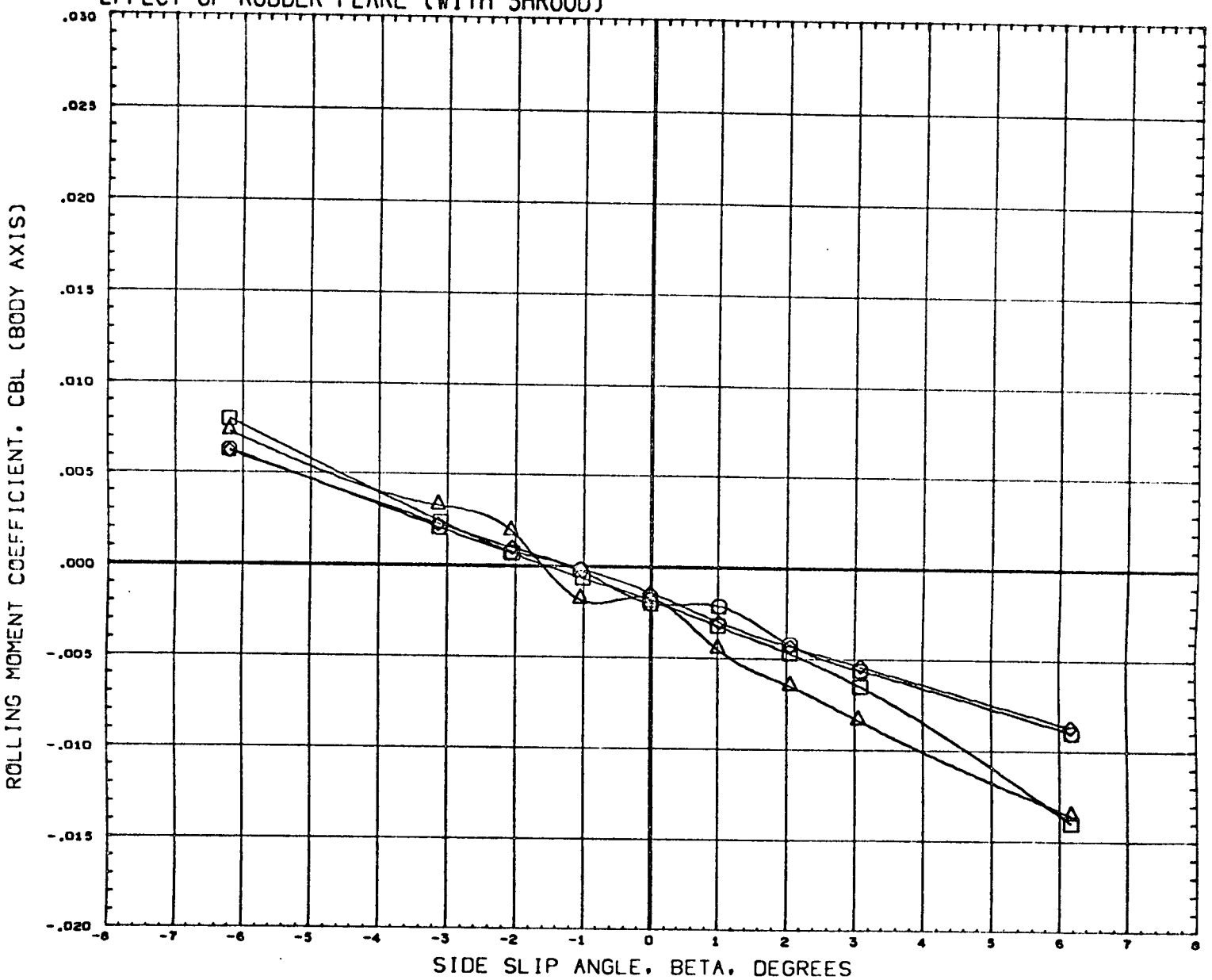


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69031)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	30.000
(A69032)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF RUDDER FLARE (WITH SHROUD)

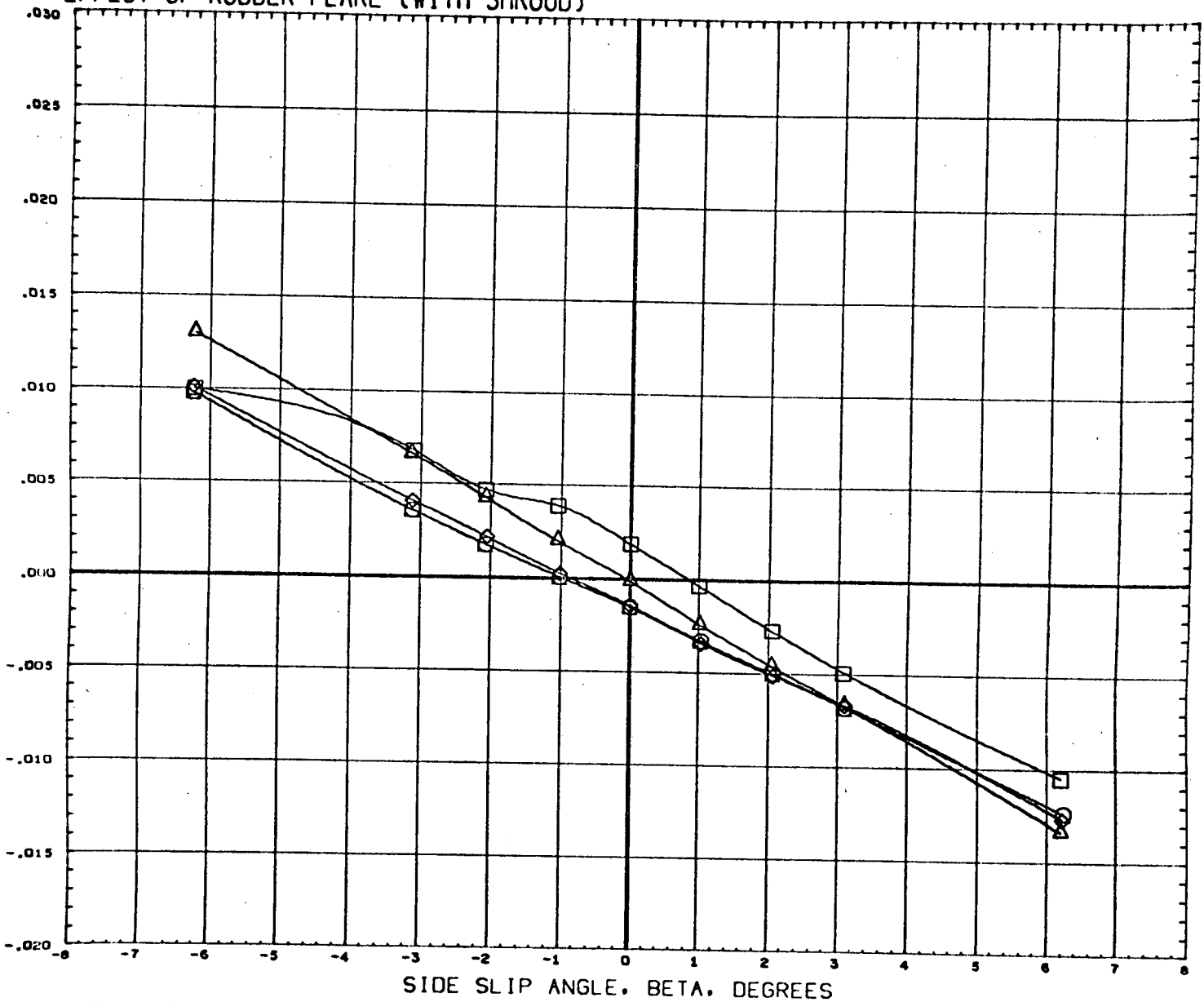


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69031)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	30.000
(A69032)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF RUDDER FLARE (WITH SHROUD)

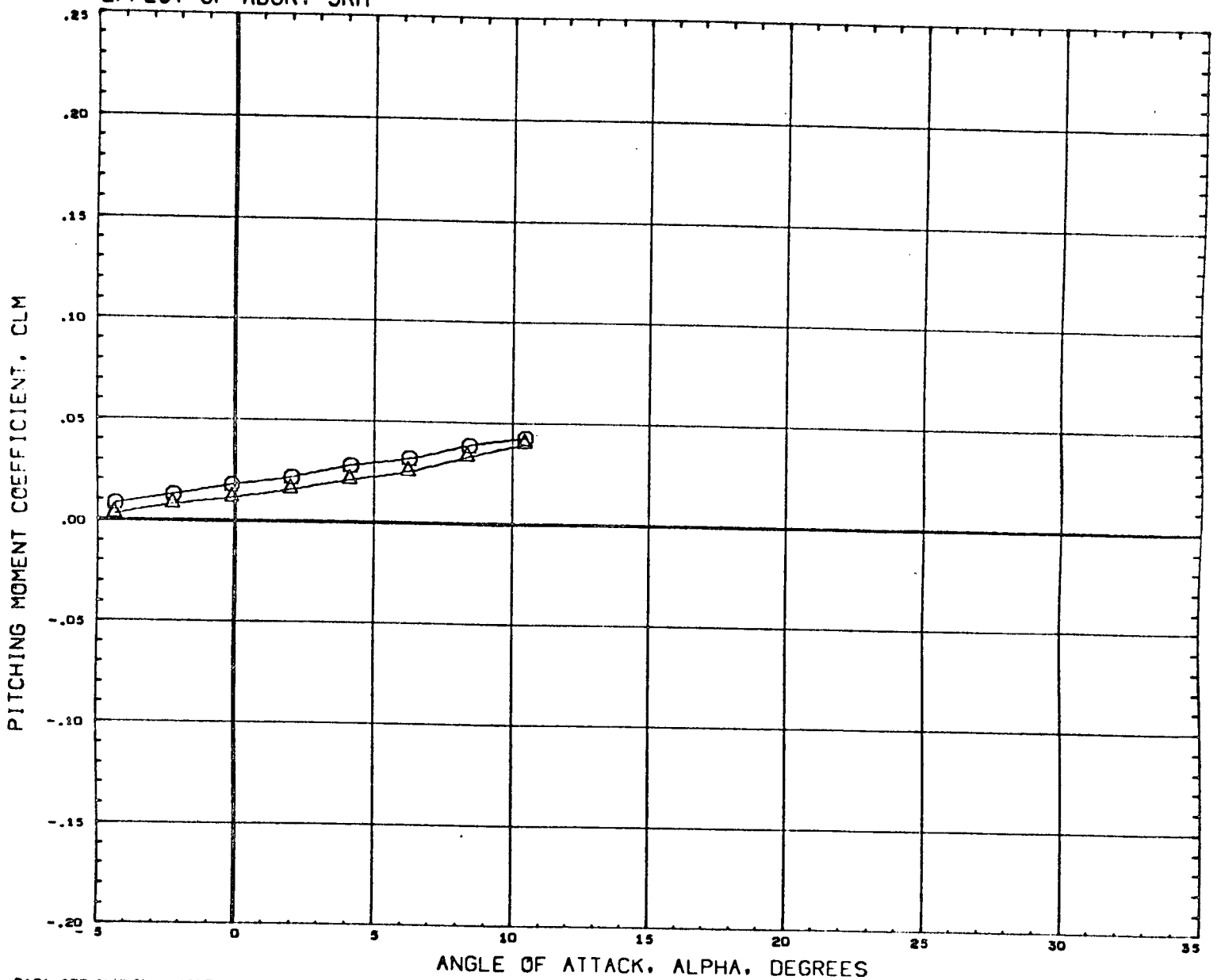


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(A69031)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	30.000
(A69032)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	10.000	0.000	0.000	30.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF ABORT SRM

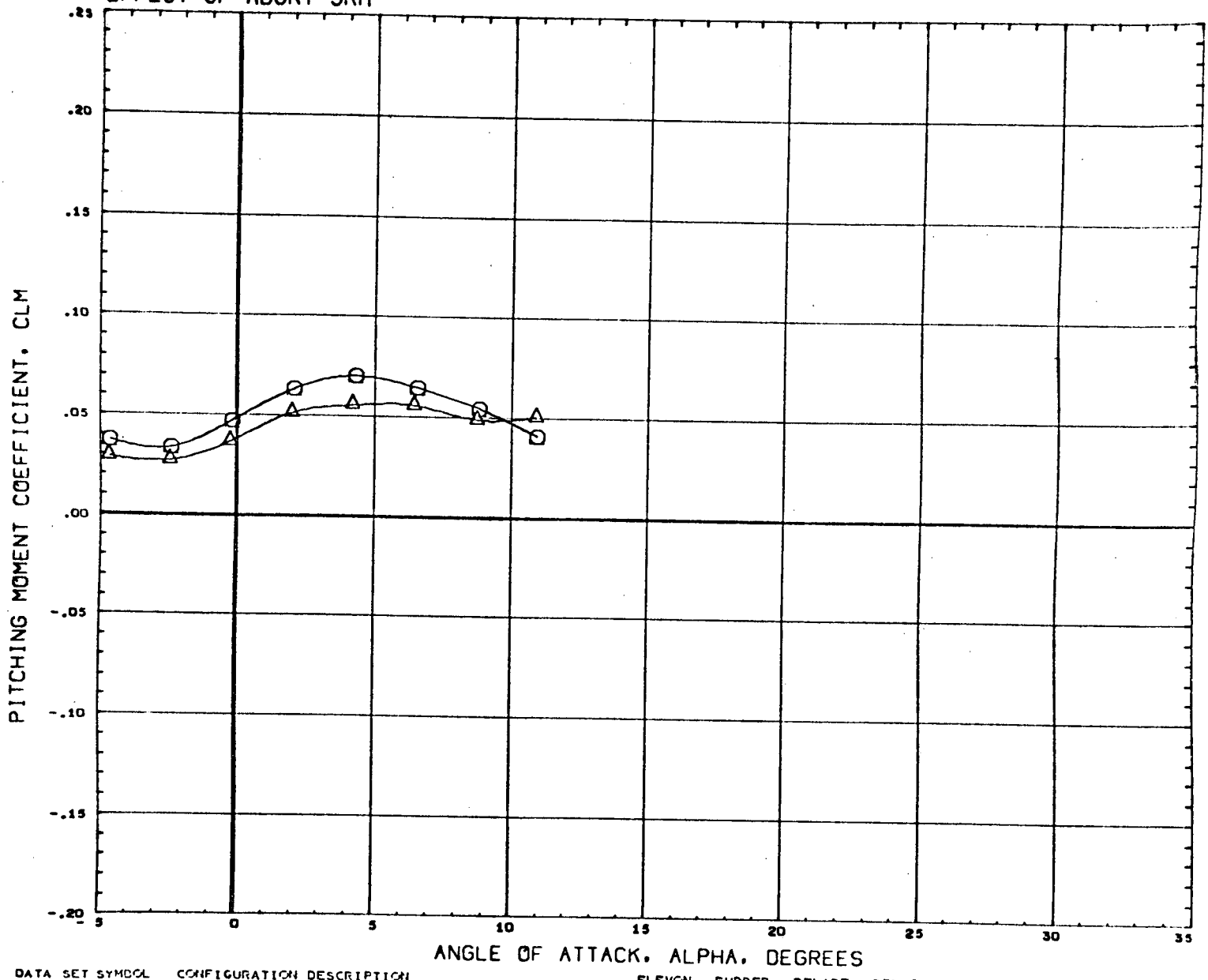


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ABORT SRM



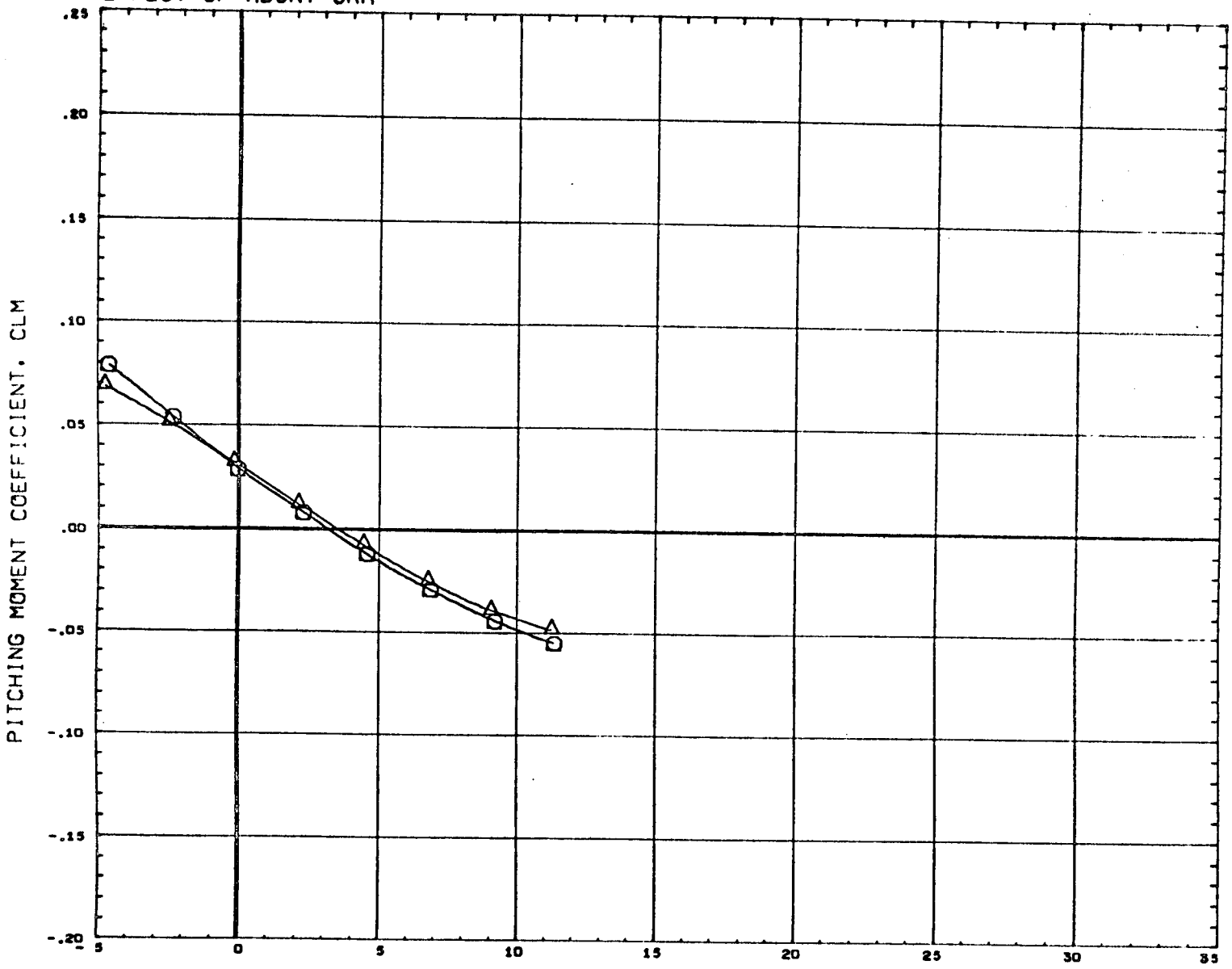
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ABORT SRM

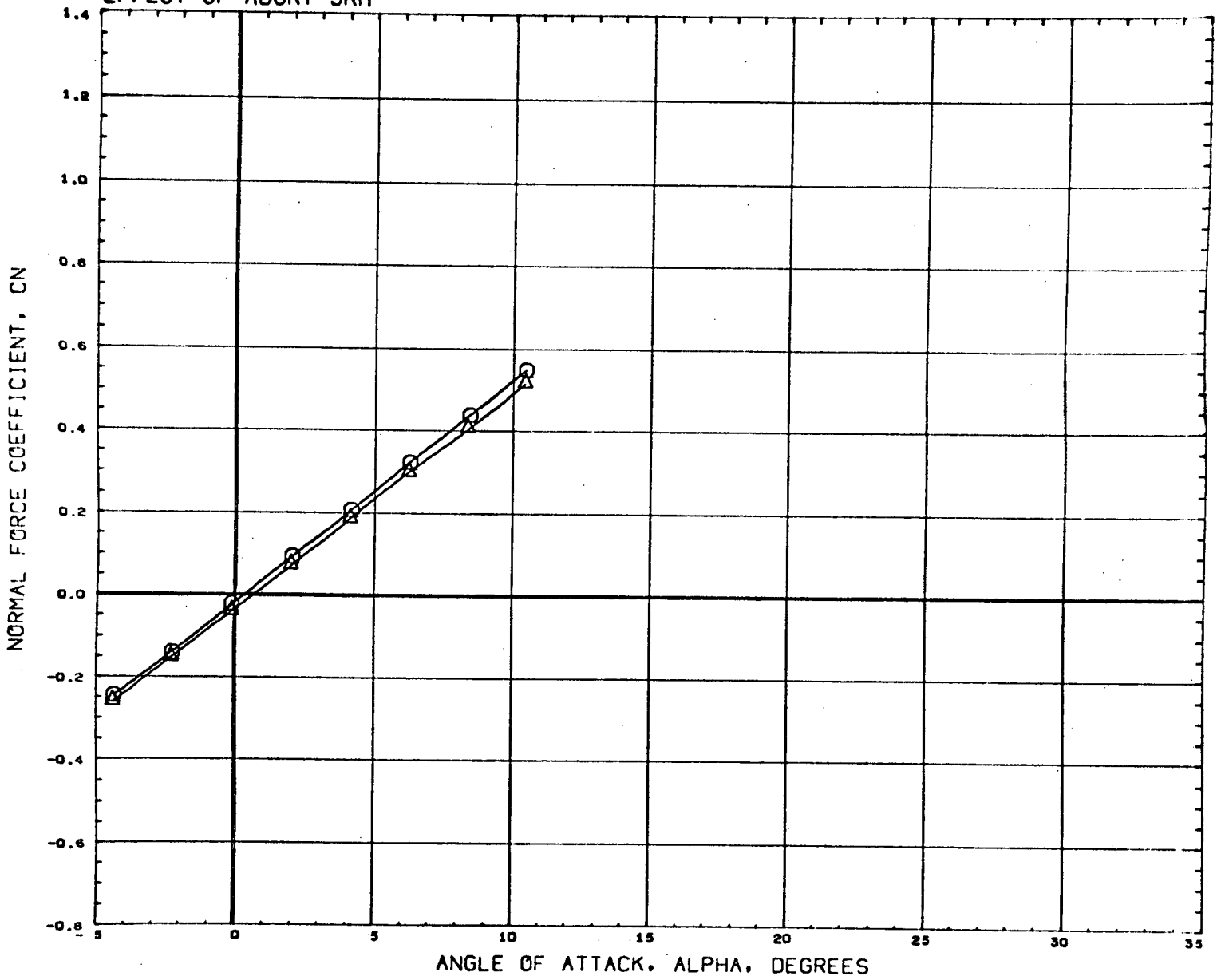


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF ABORT SRM

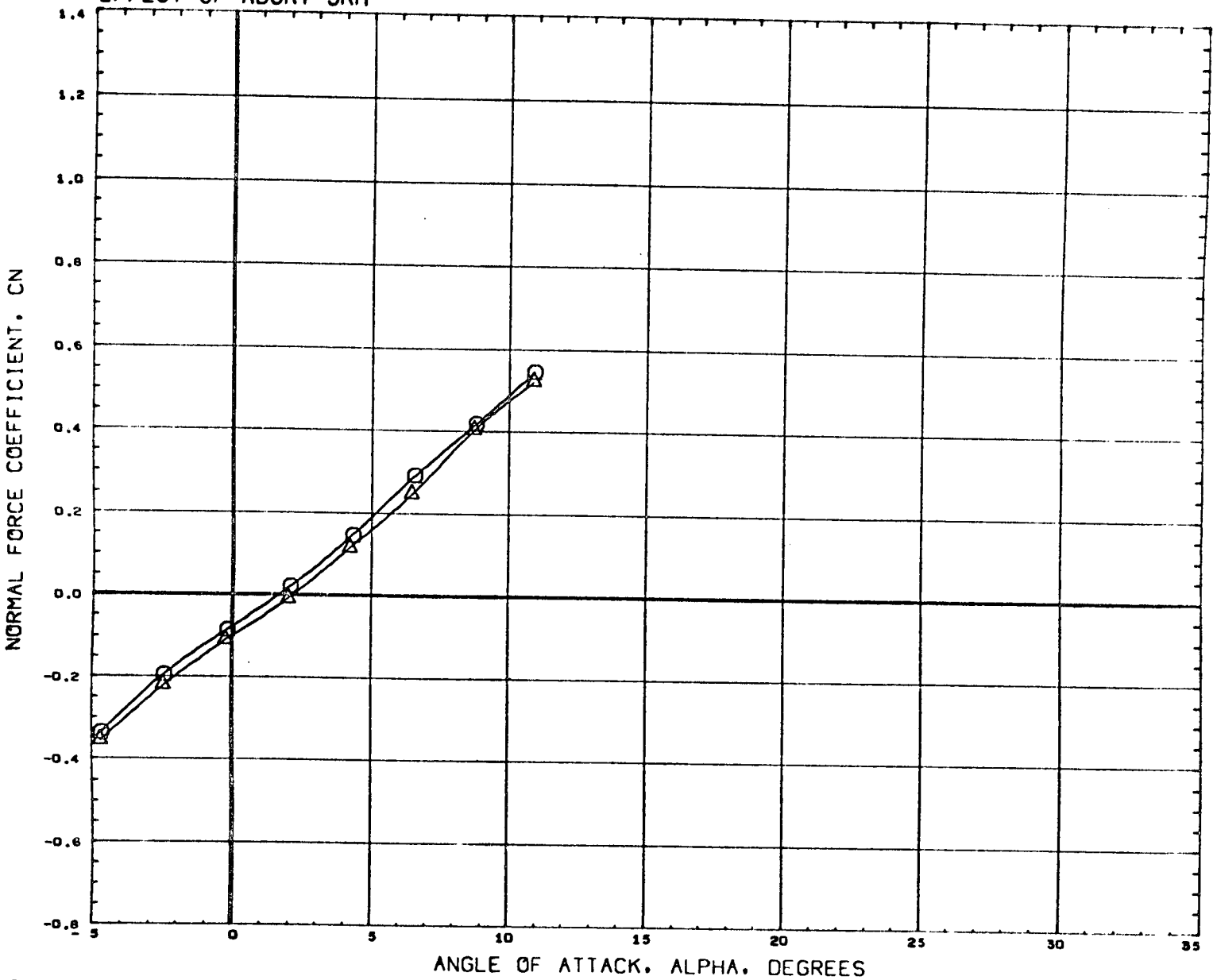


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ABORT SRM

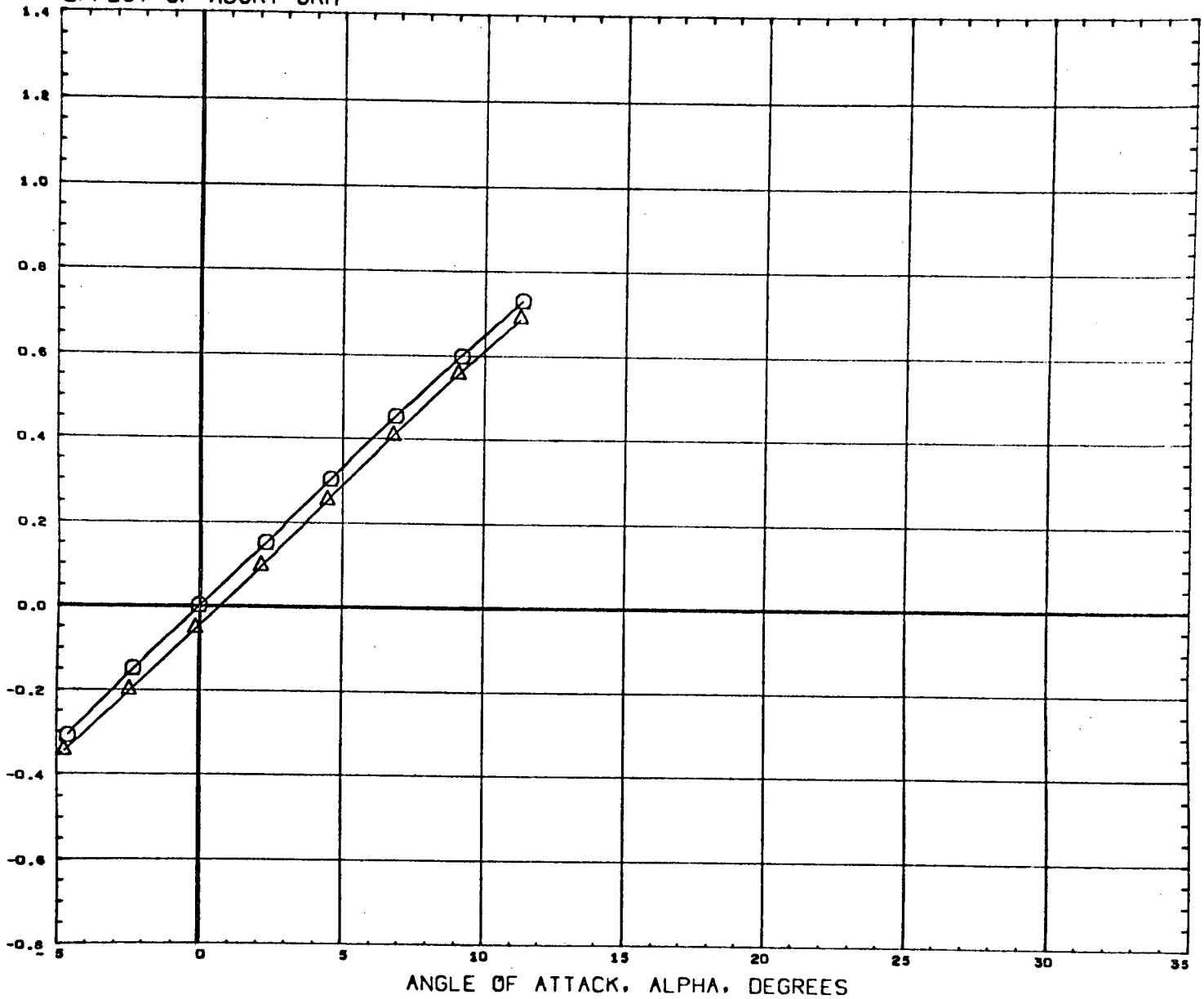


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(D69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(D69019)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ABORT SRM

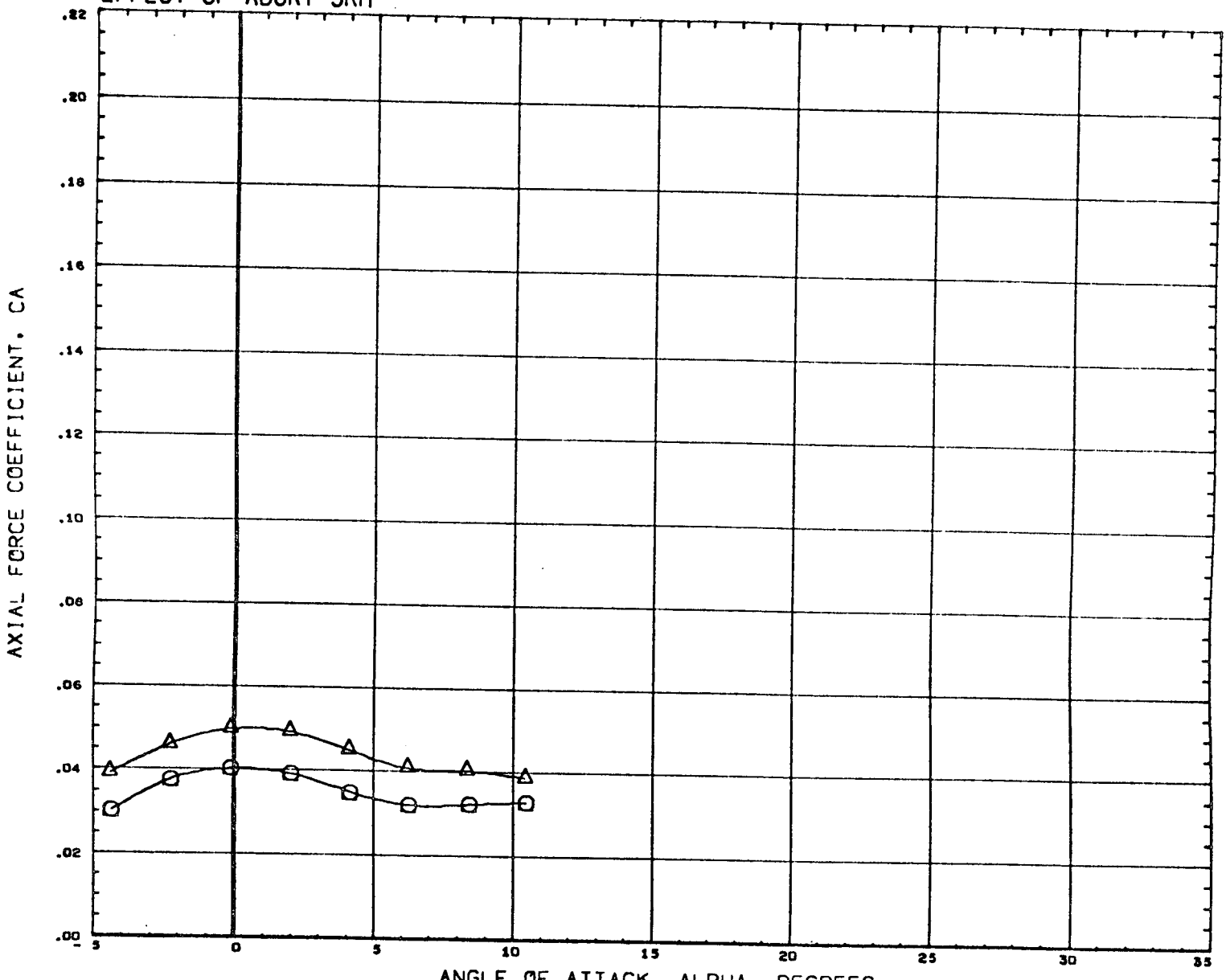


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
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BREF	4.4600	IN.
XMRP	3.5620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF ABORT SRM

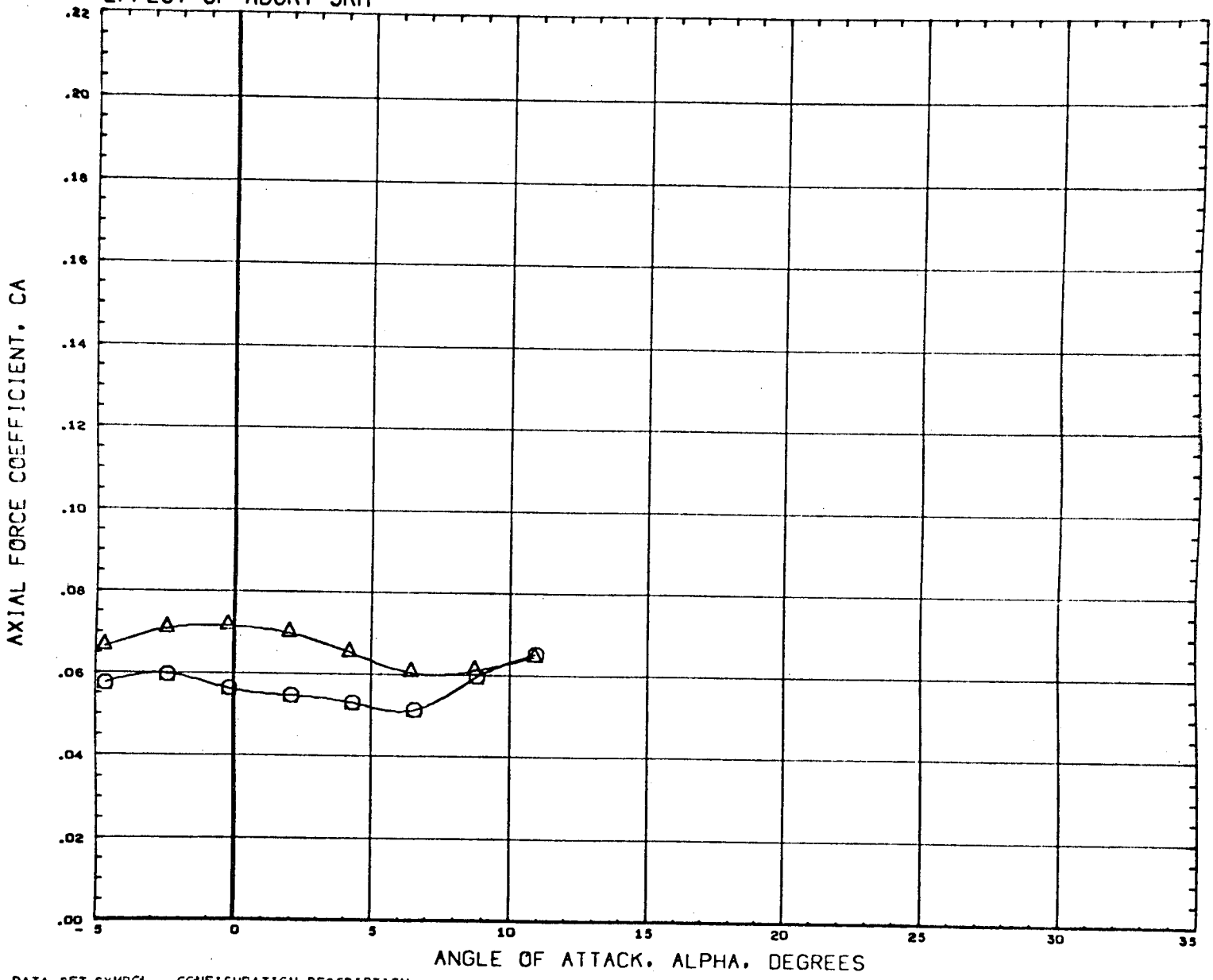


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ABORT SRM



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69019)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

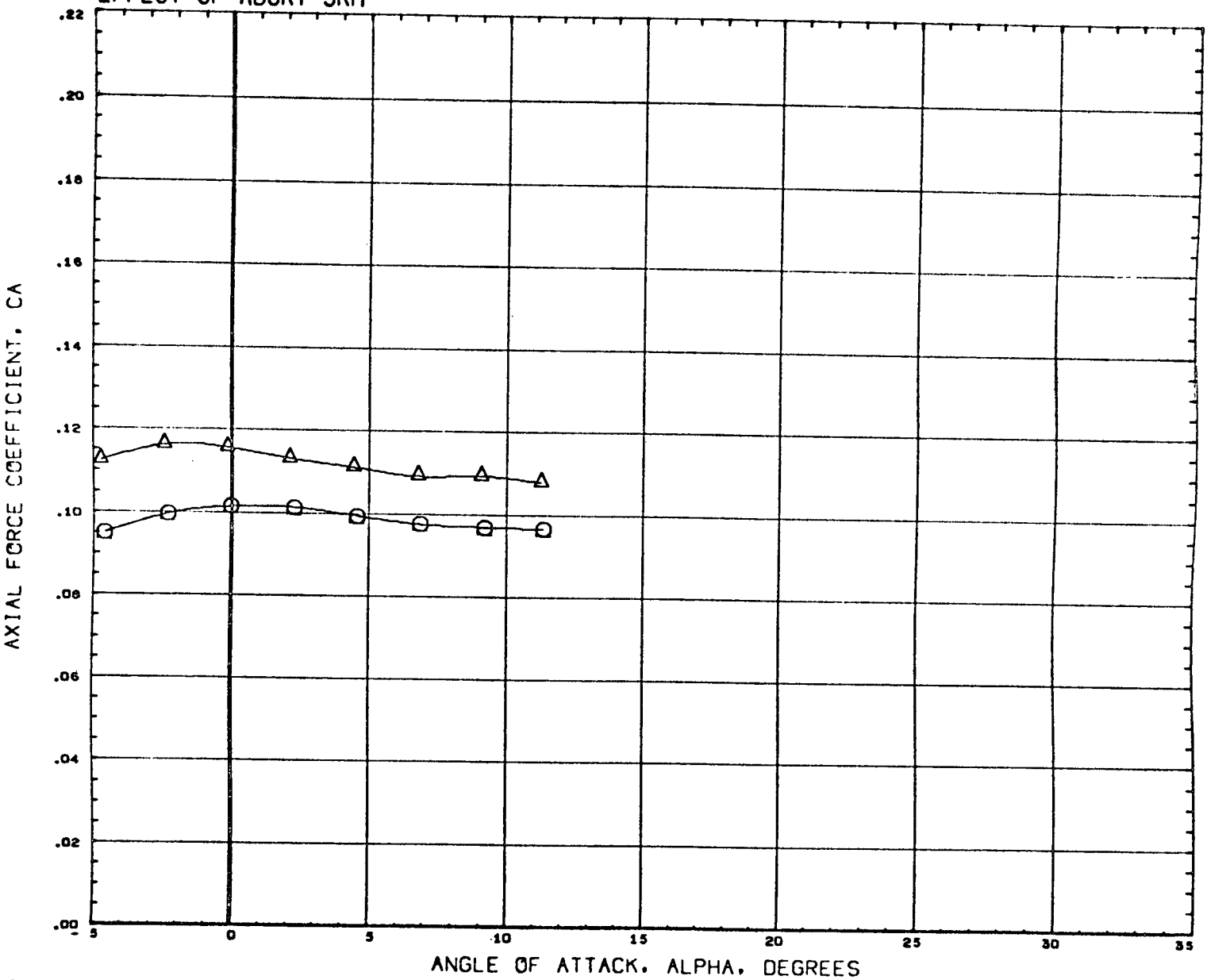
REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

D

EFFECT OF ABORT SRM

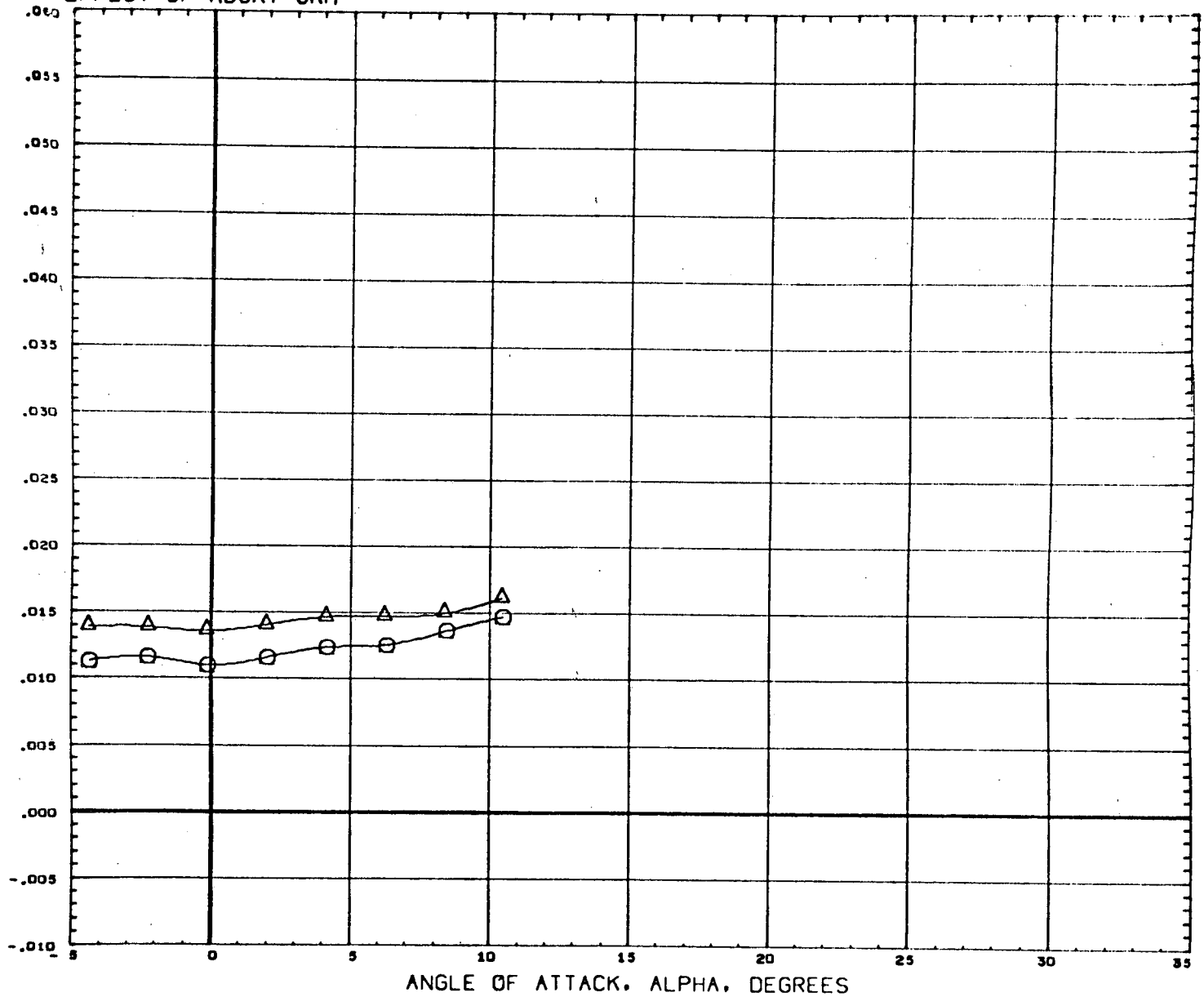


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69019)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF ABORT SRM

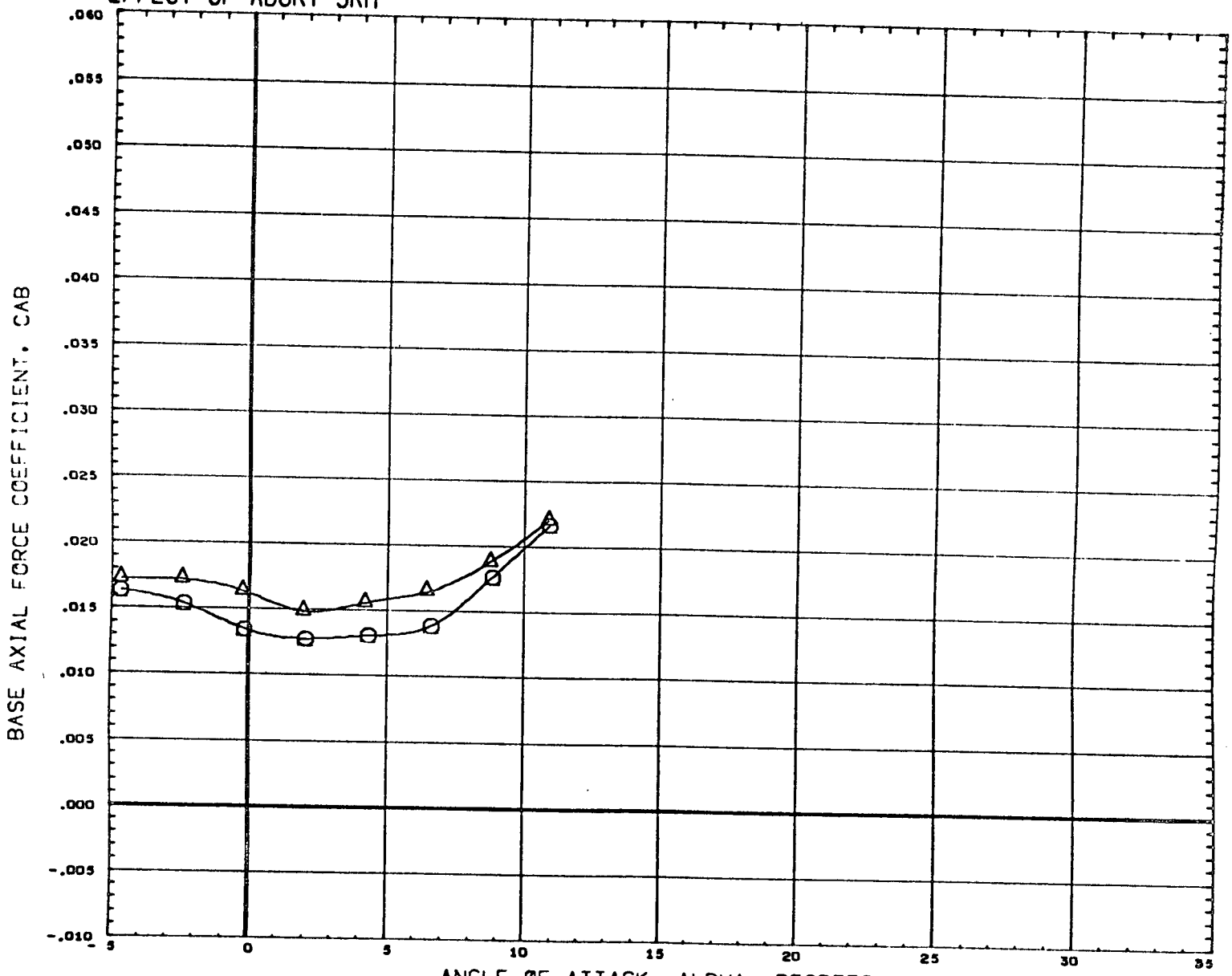


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ABORT SRM

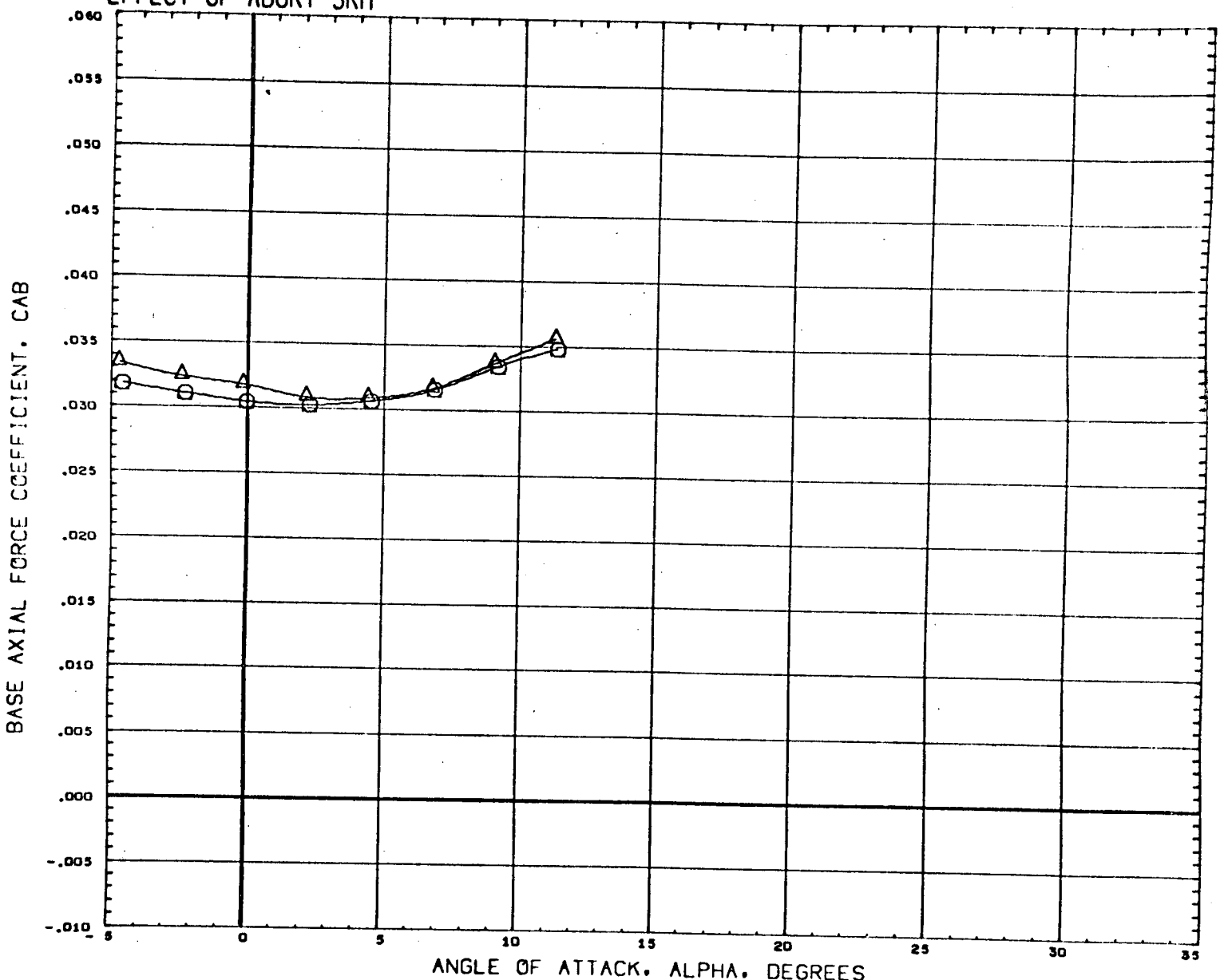


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ABORT SRM



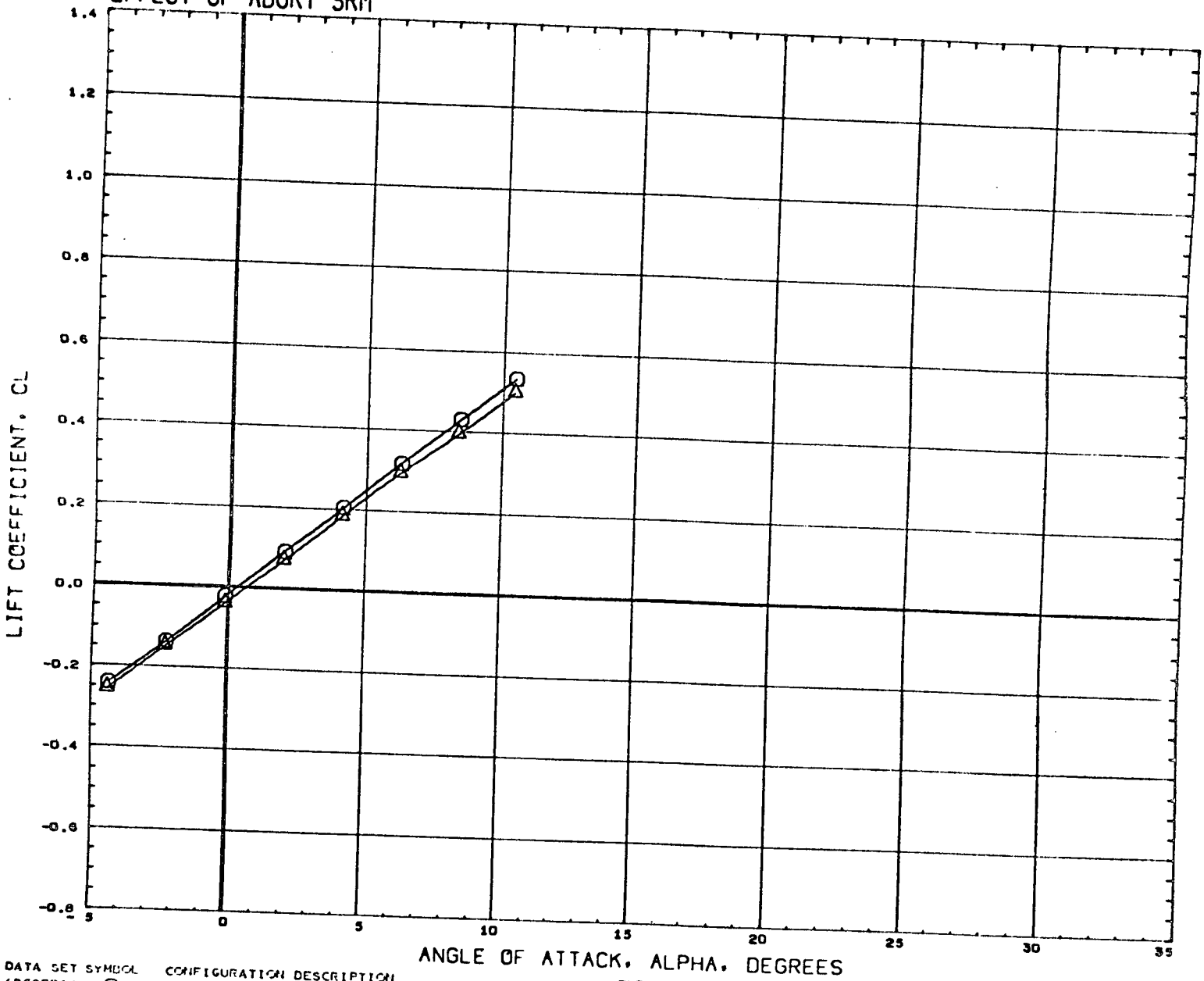
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF ABORT SRM



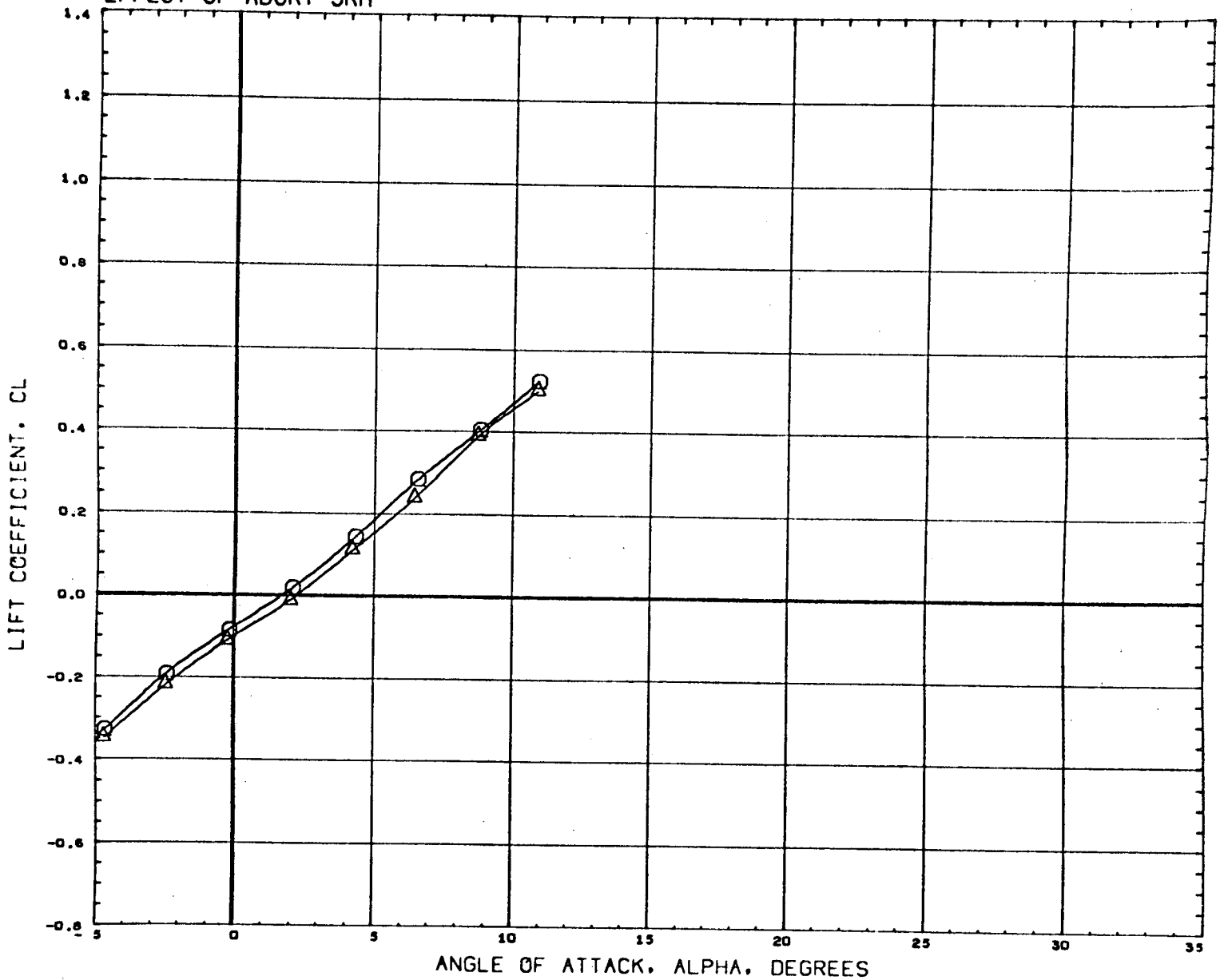
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69019)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ABORT SRM



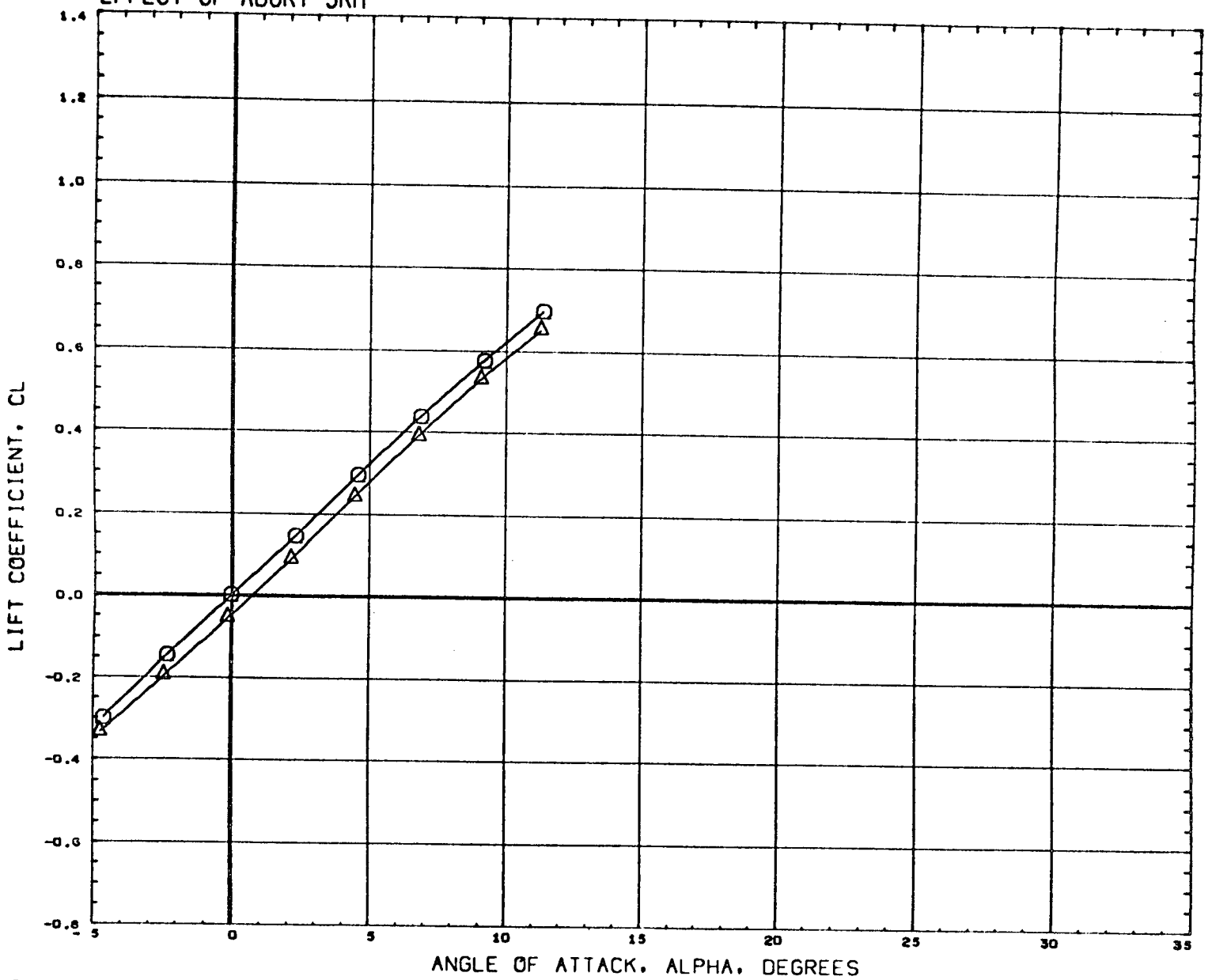
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ABORT SRM

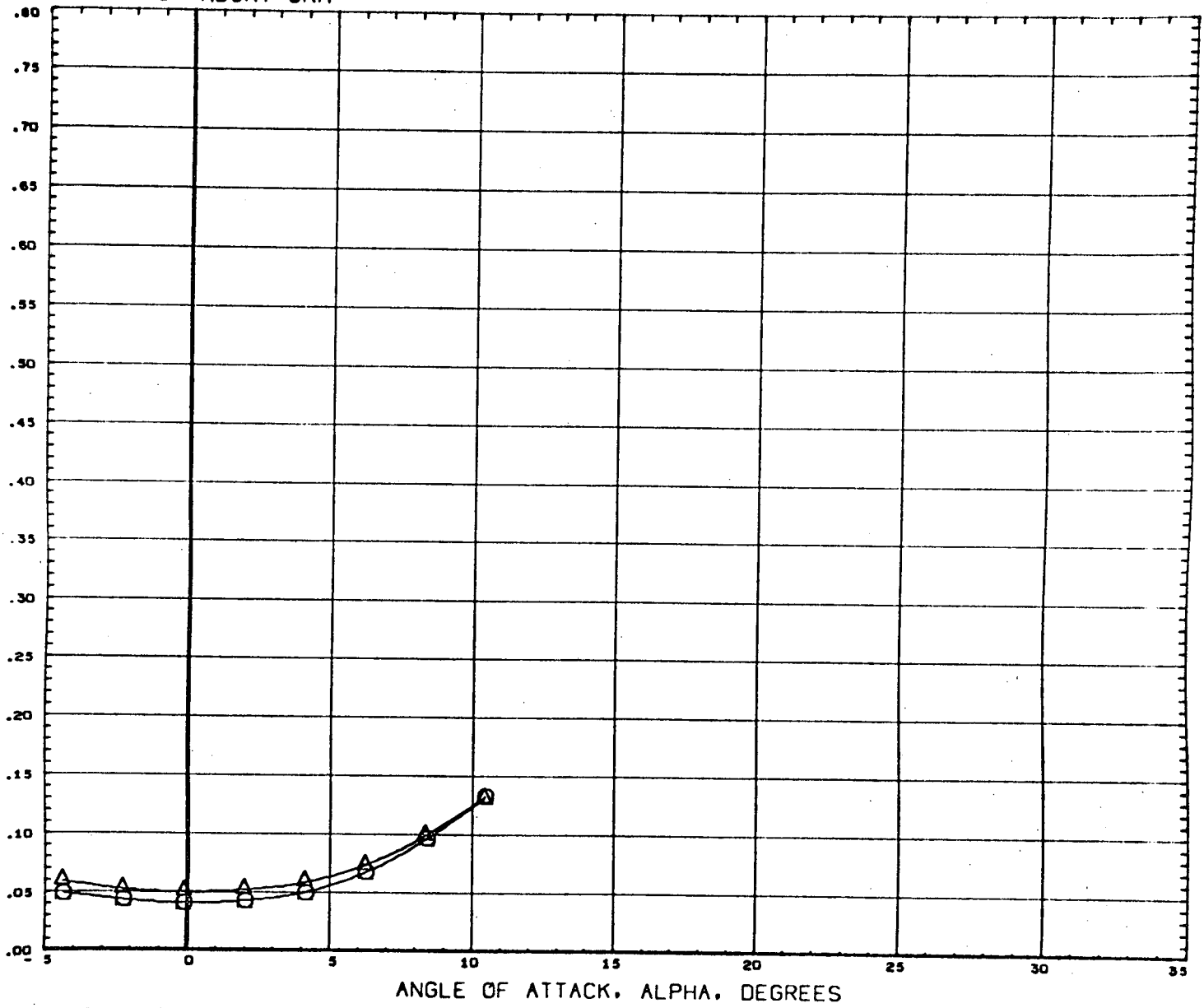


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF ABORT SRM

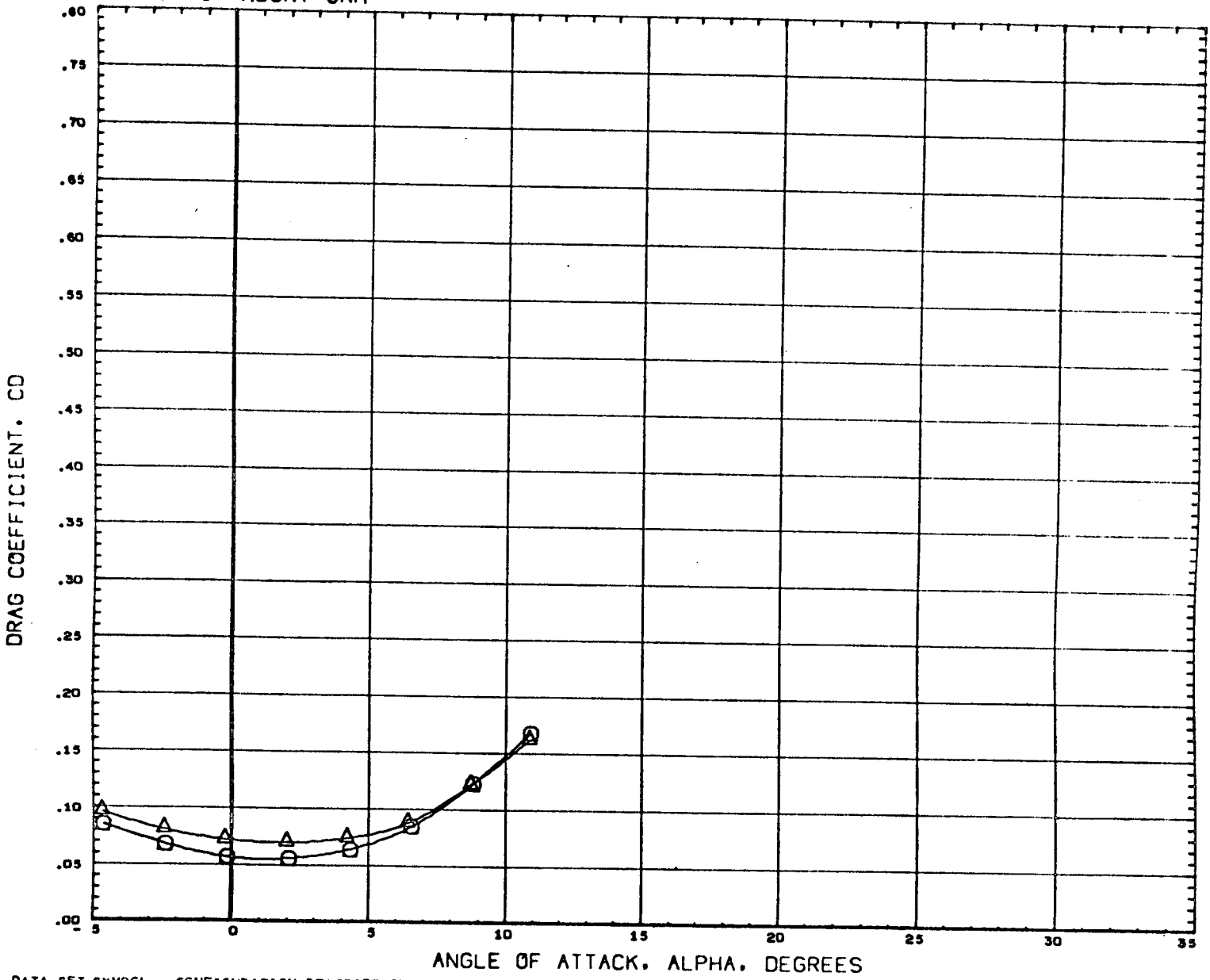


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ABORT SRM

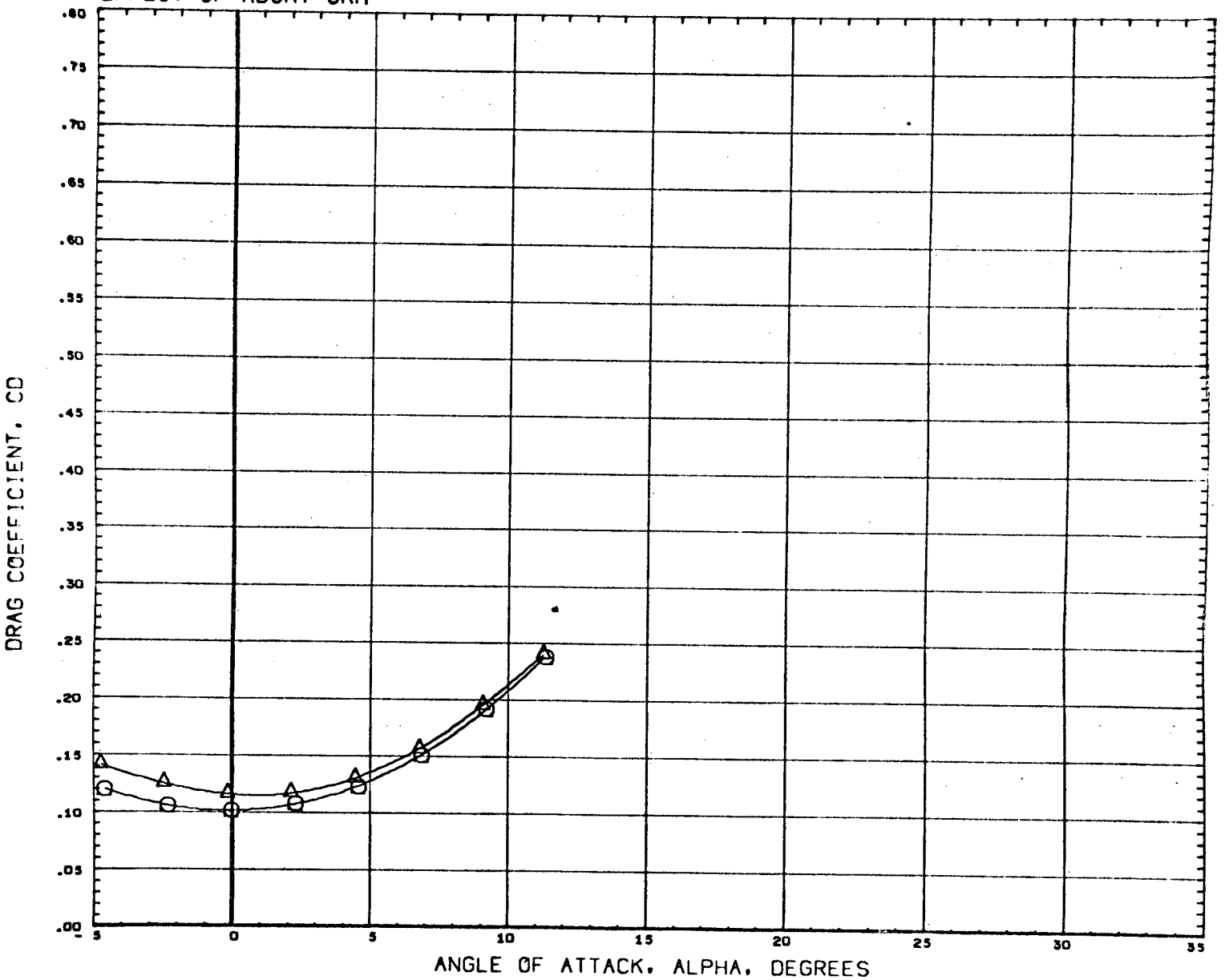


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ABORT SRM

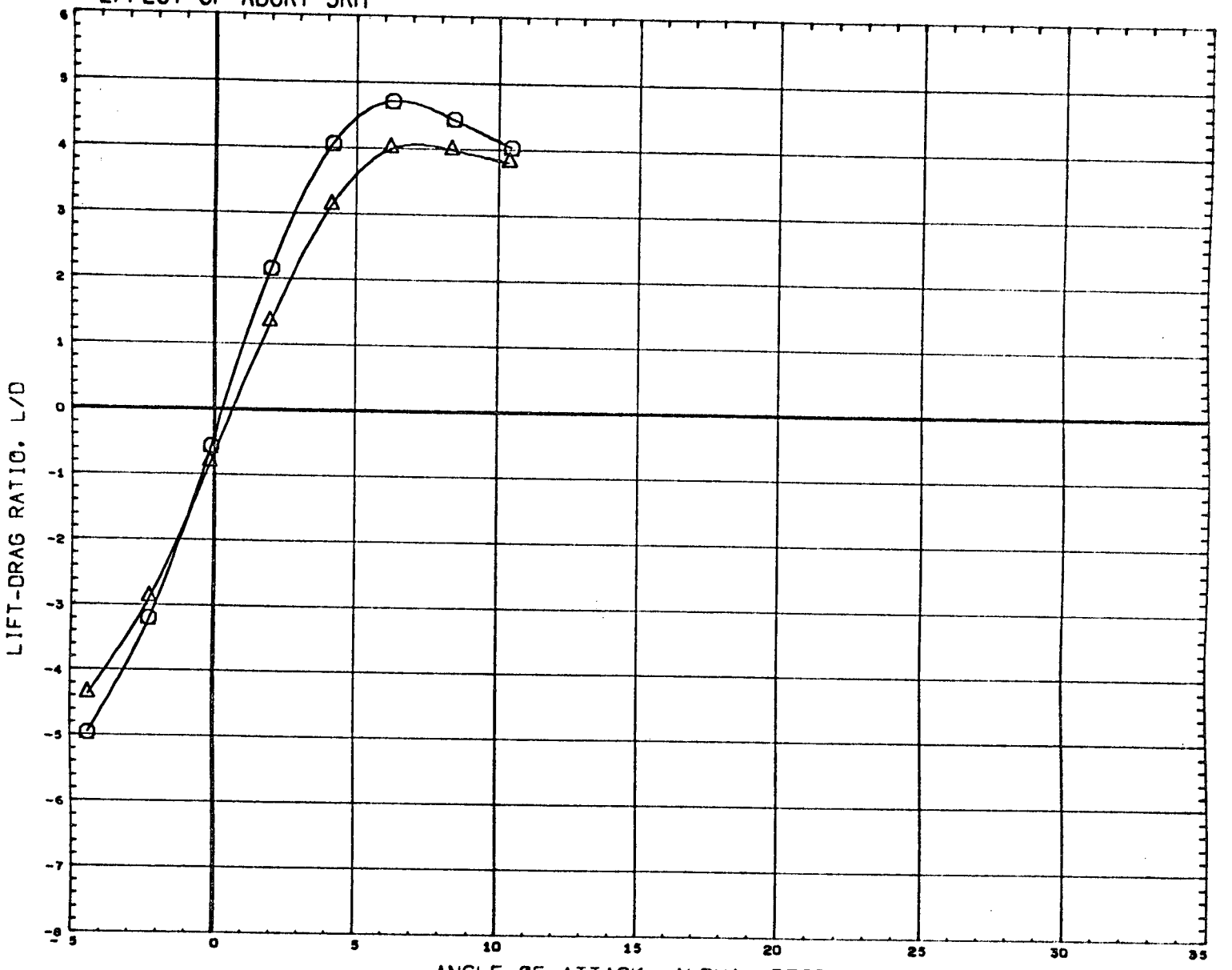


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF ABORT SRM

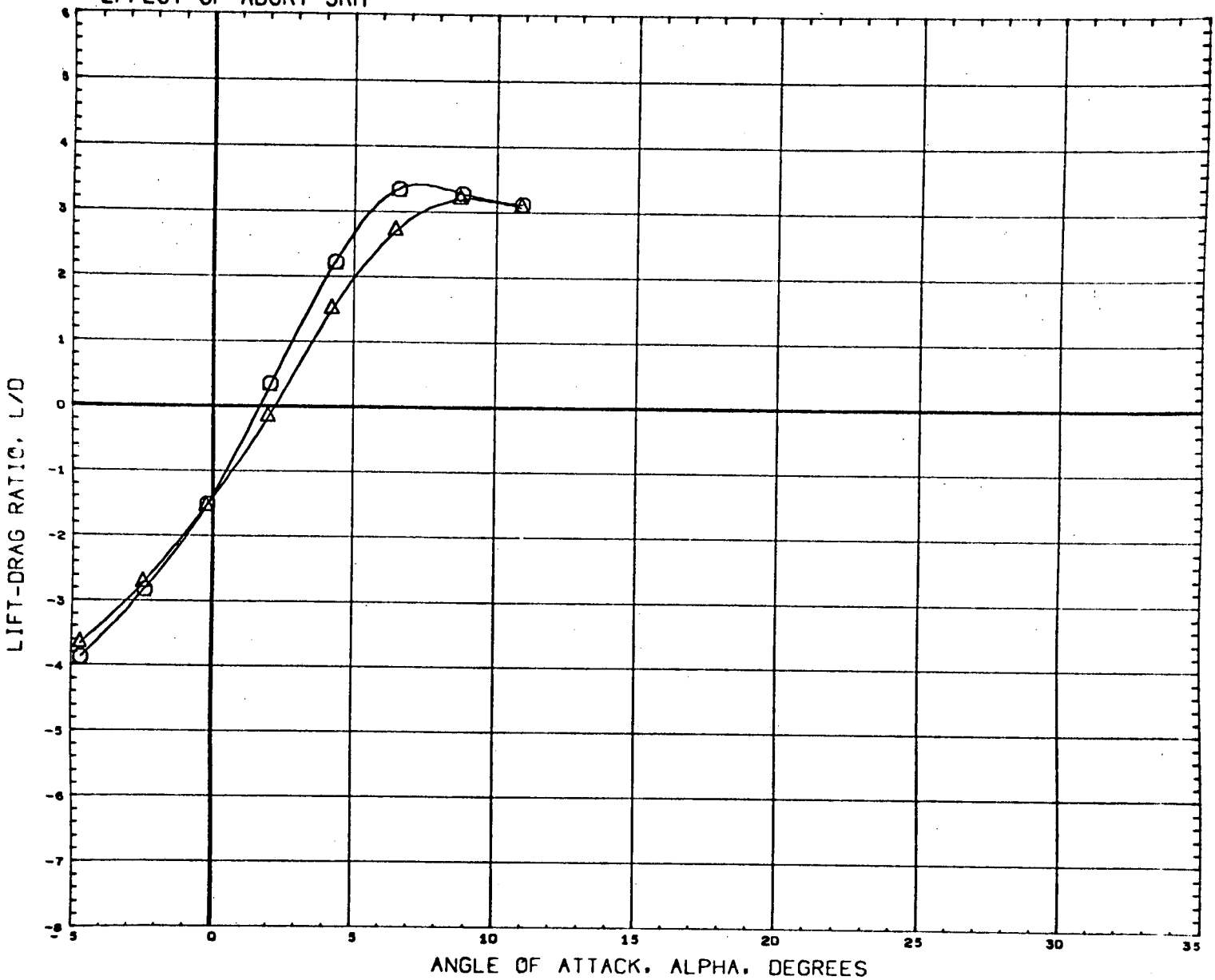


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.6800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ABORT SRM



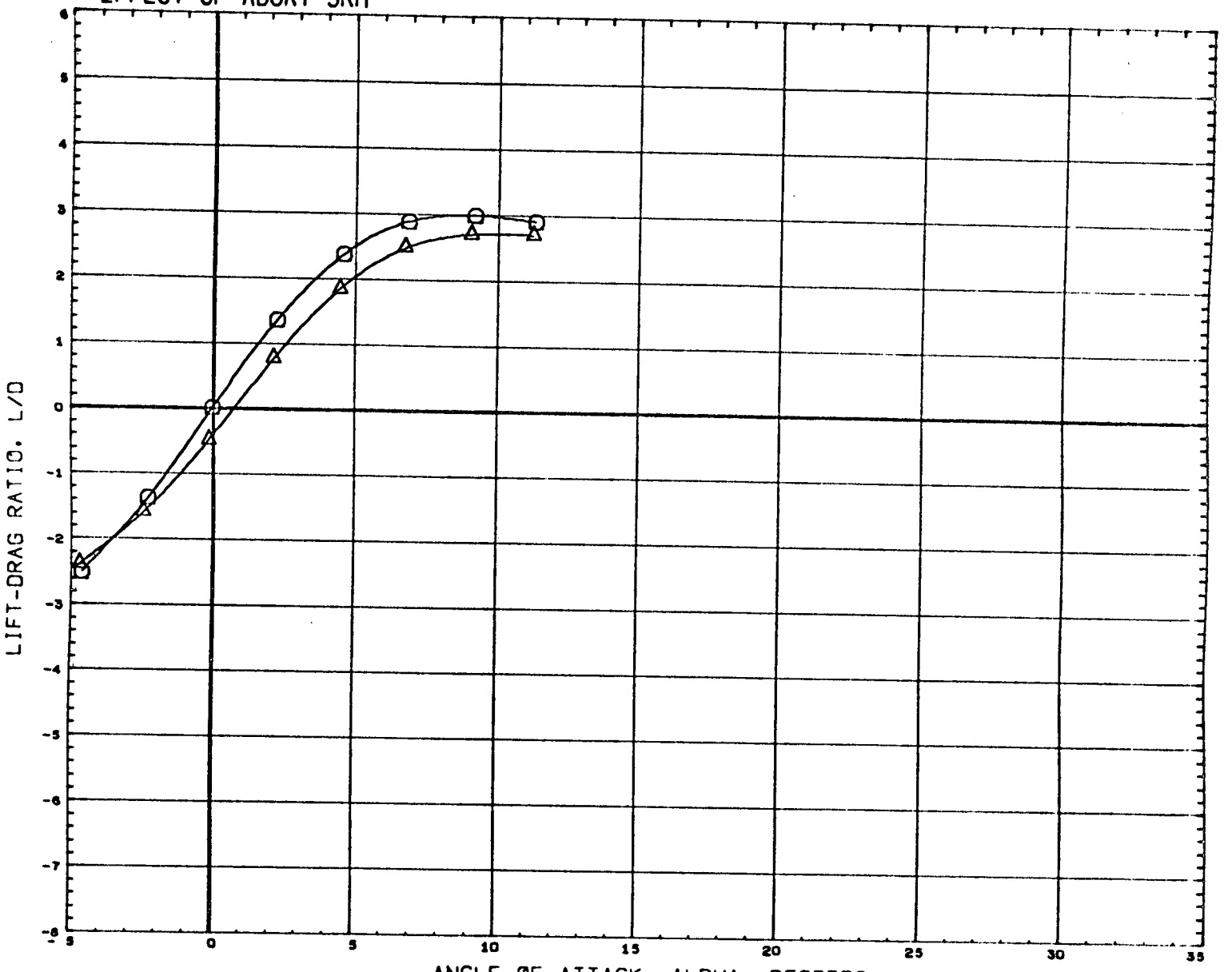
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(E69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(E69019)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

E

EFFECT OF ABORT SRM

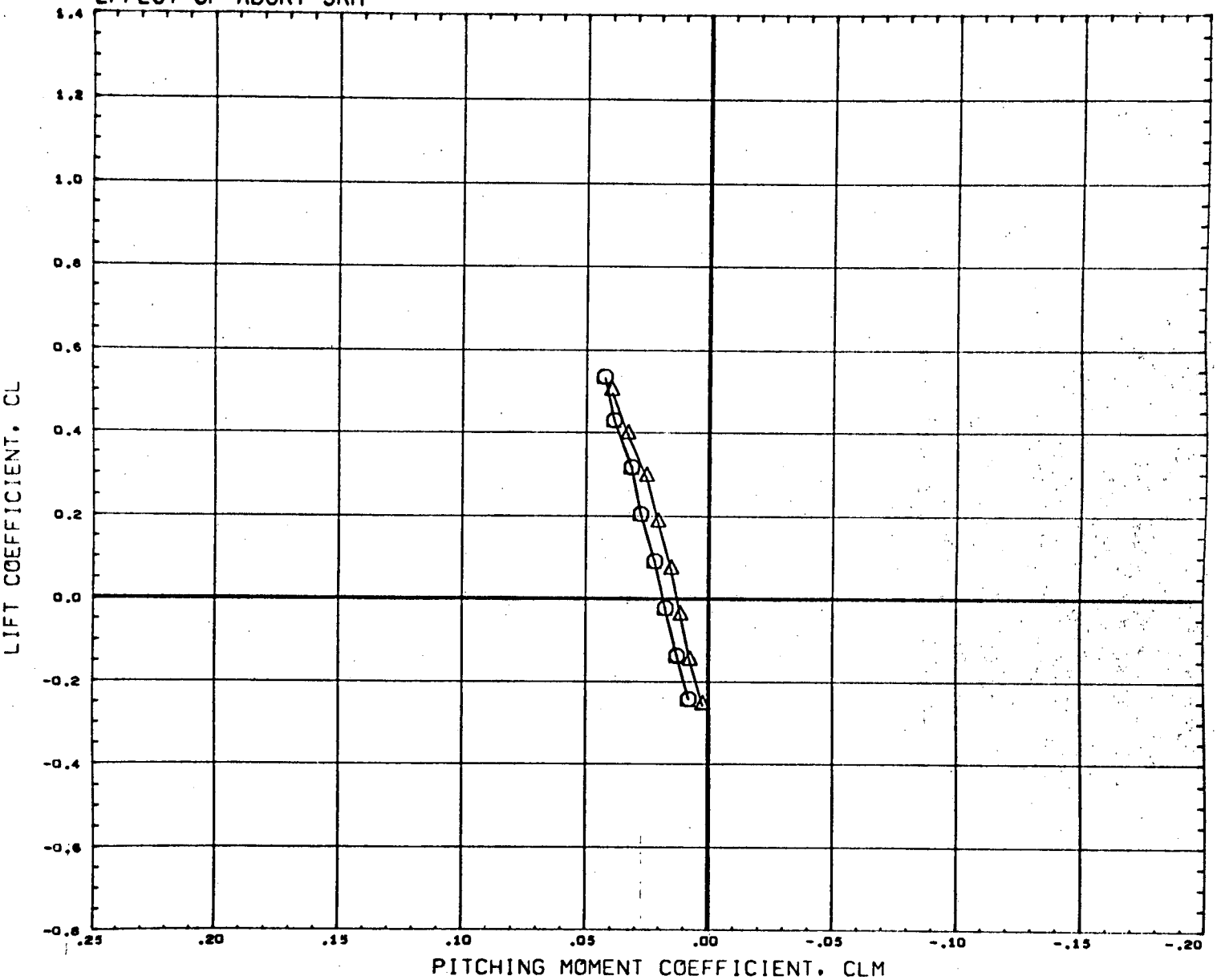


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF ABORT SRM

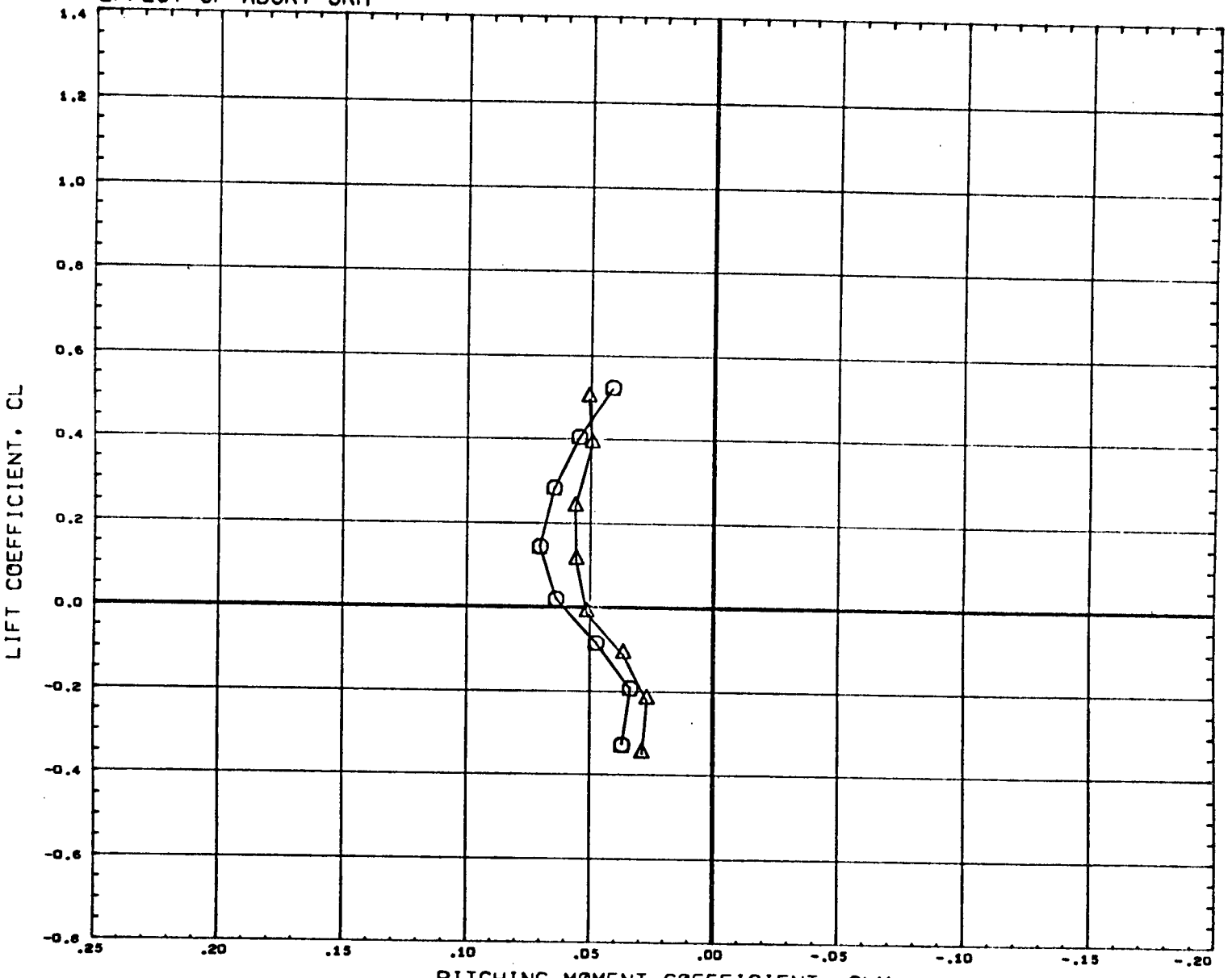


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	M3FC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)	△	M3FC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ABORT SRM

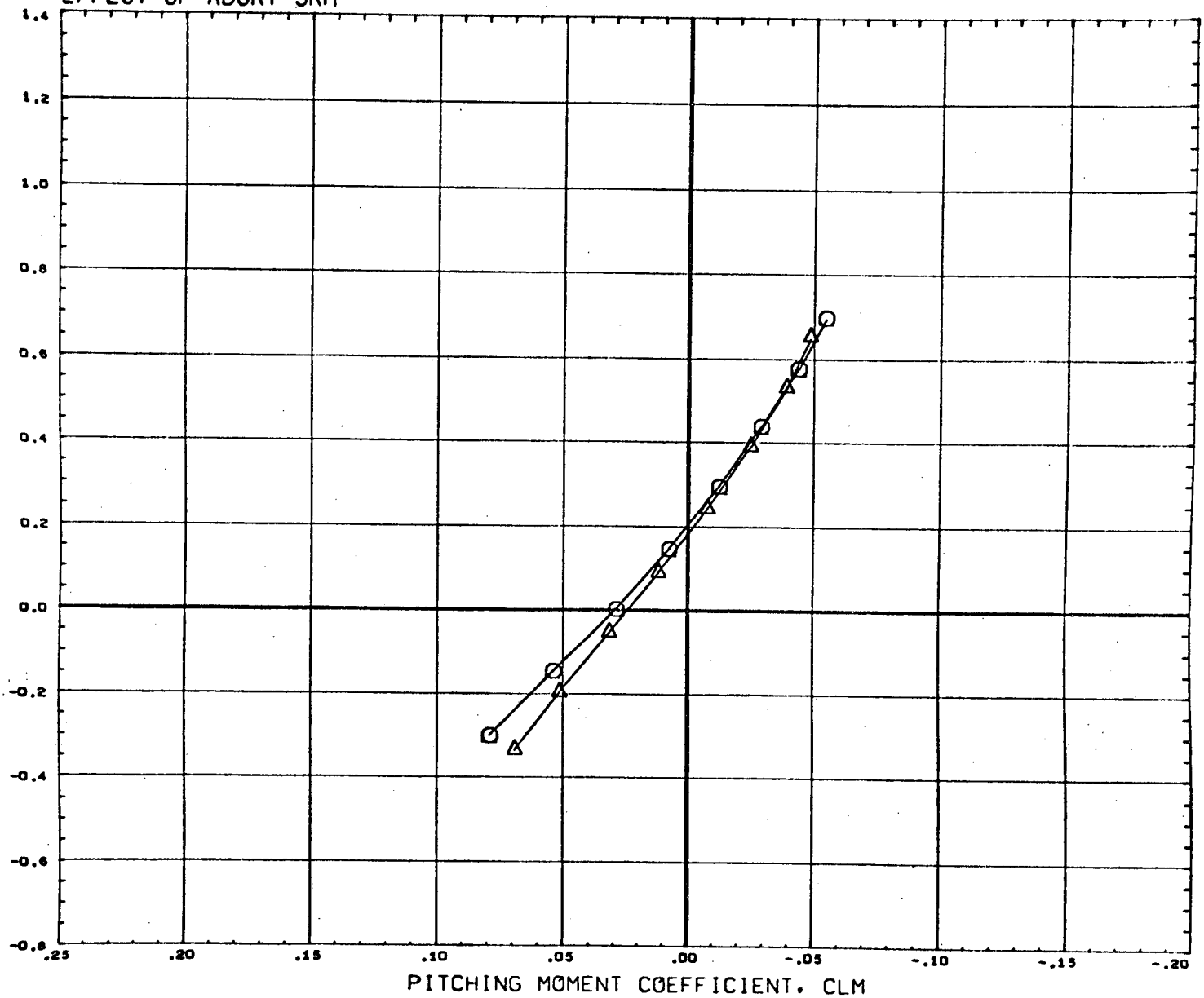


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ABORT SRM

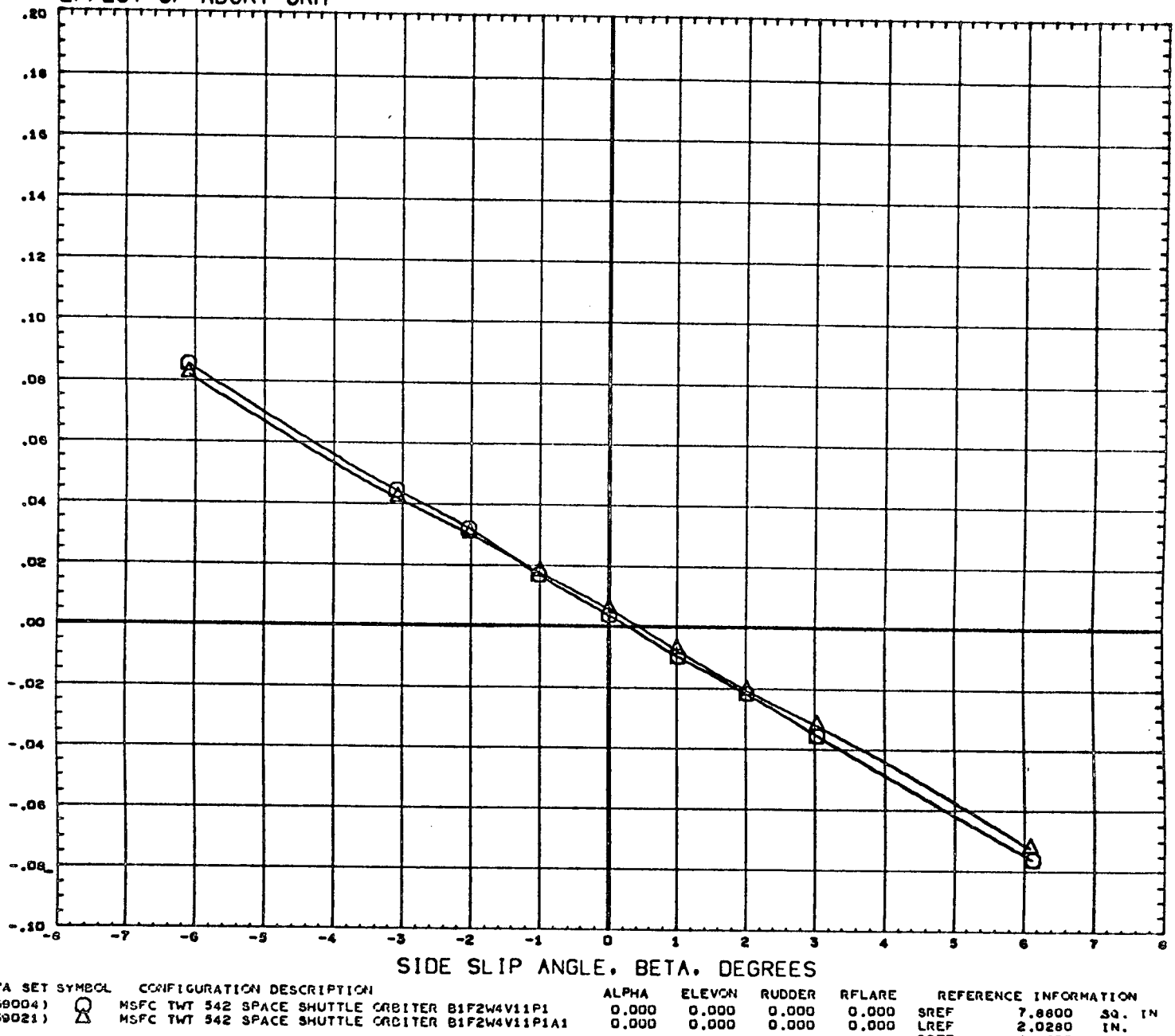


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869019)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.6800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF ABORT SRM

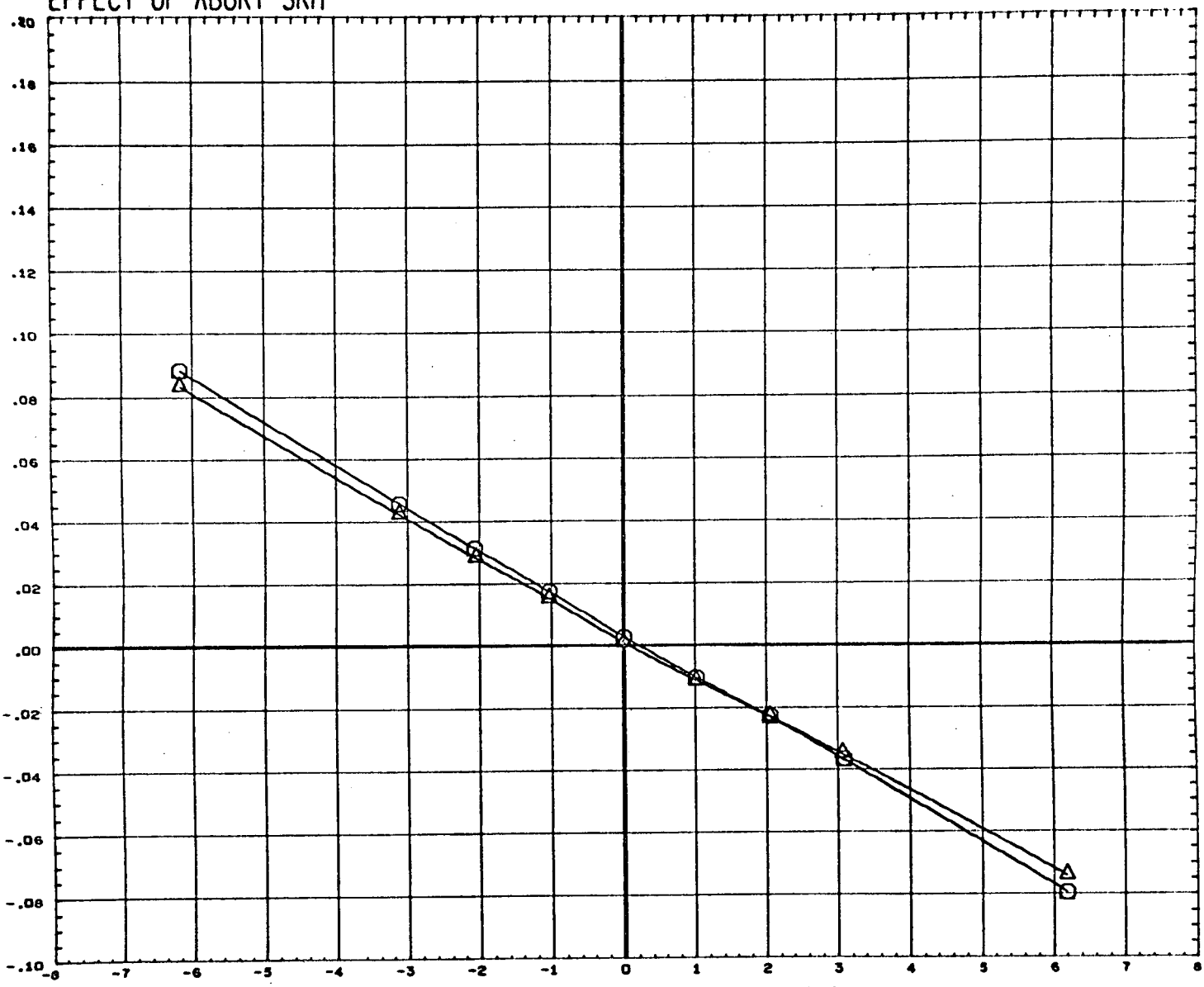


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69021)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ABORT SRM

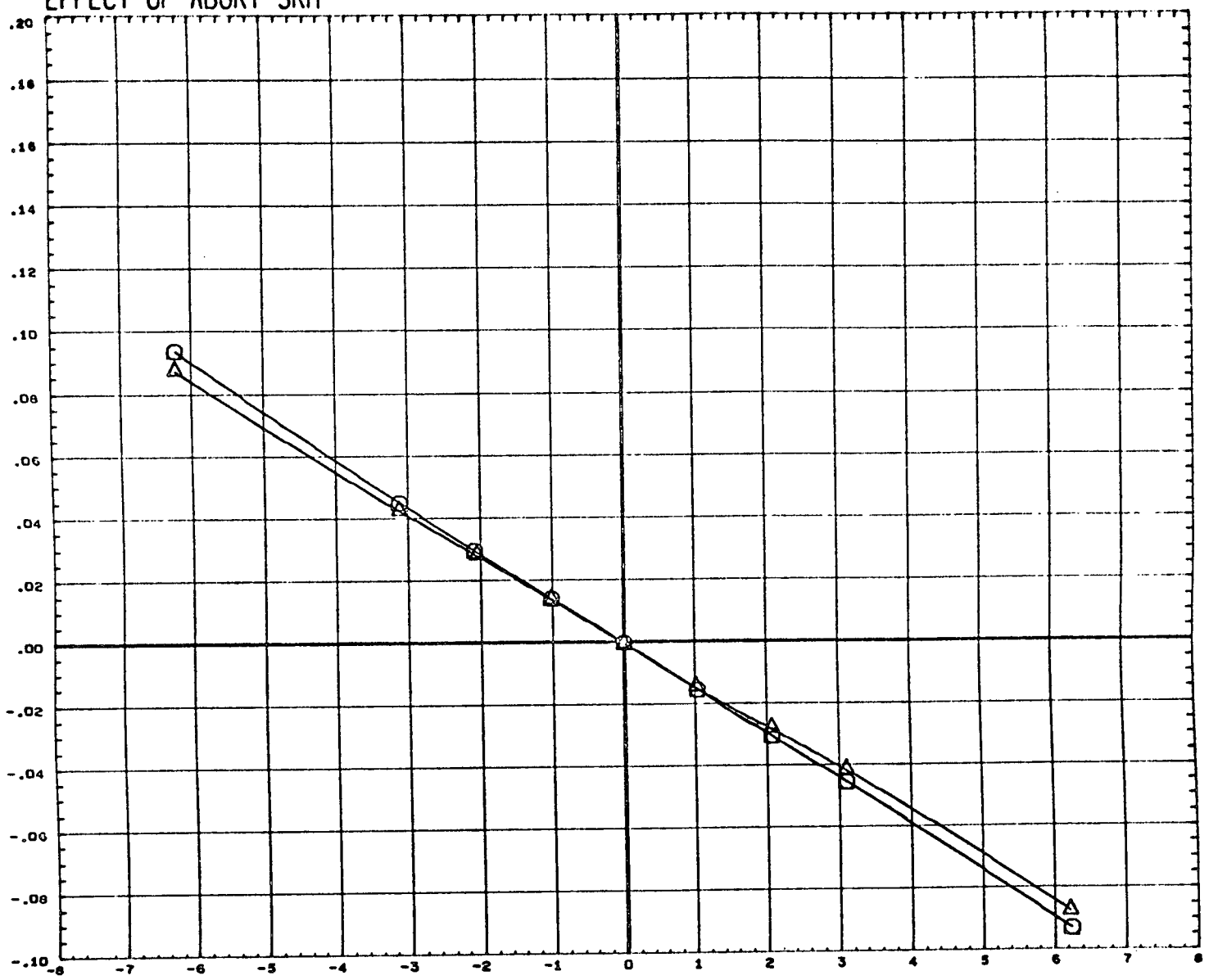


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69021)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ABORT SRM



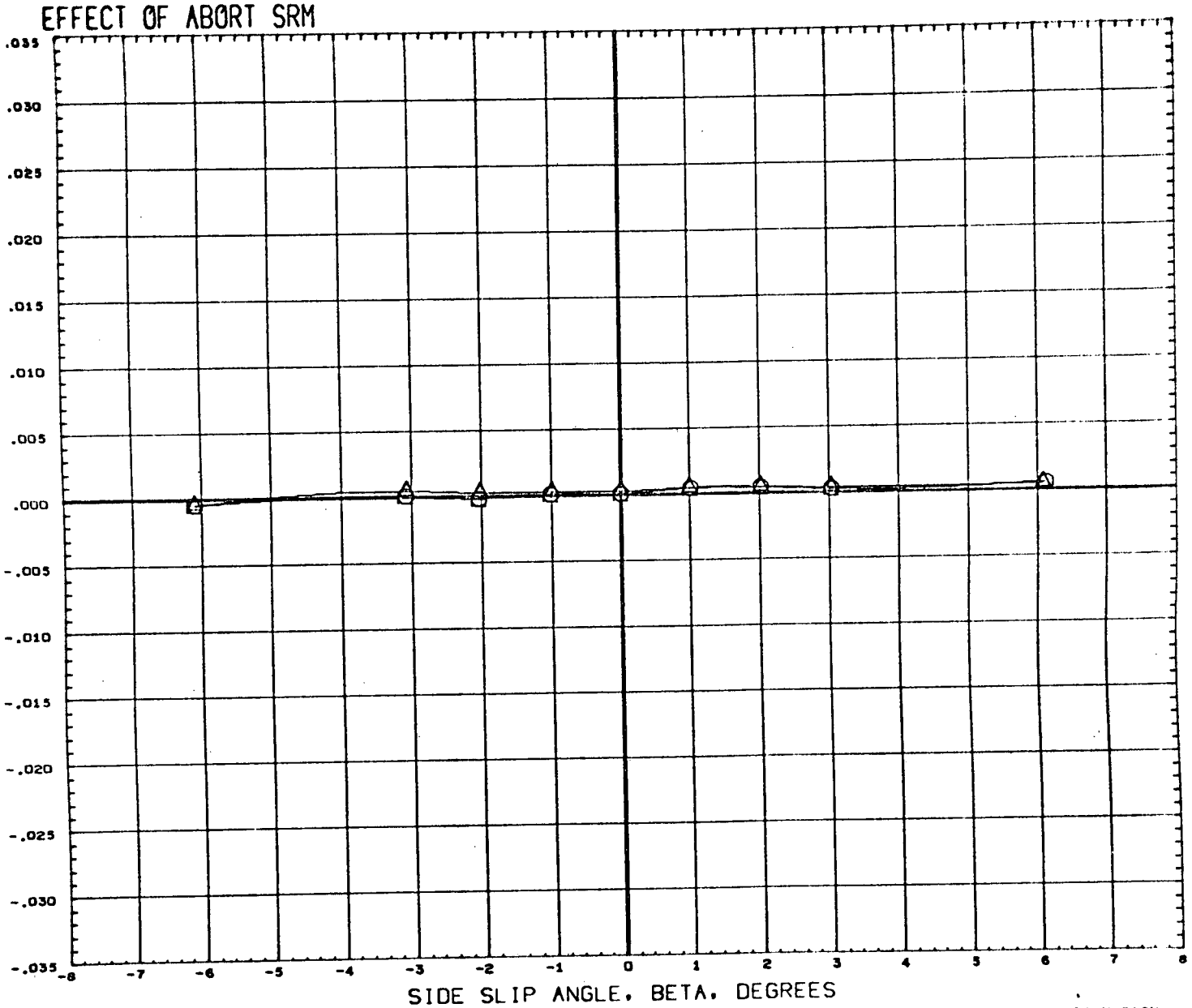
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69021)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF ABORT SRM

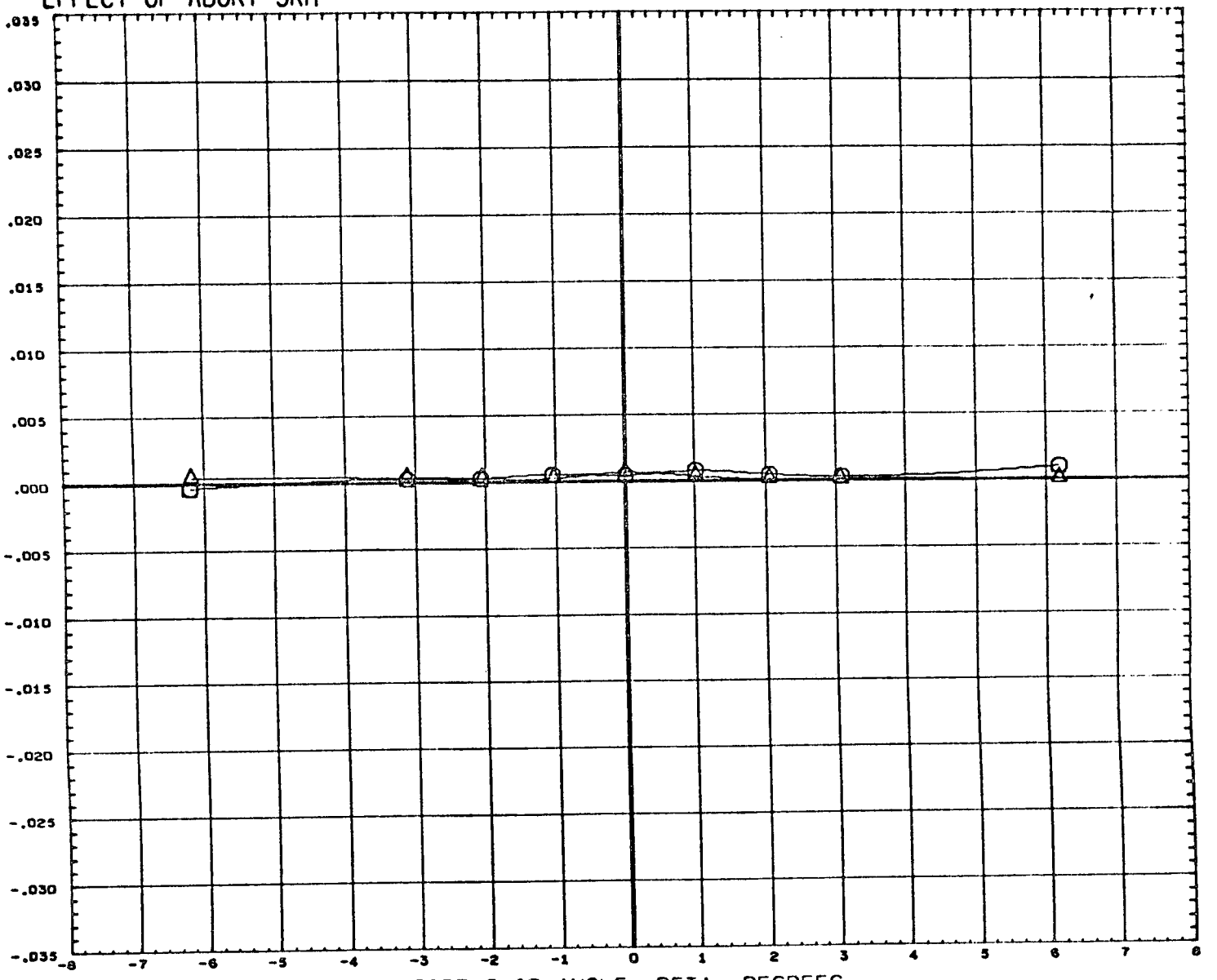


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69021)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ABORT SRM

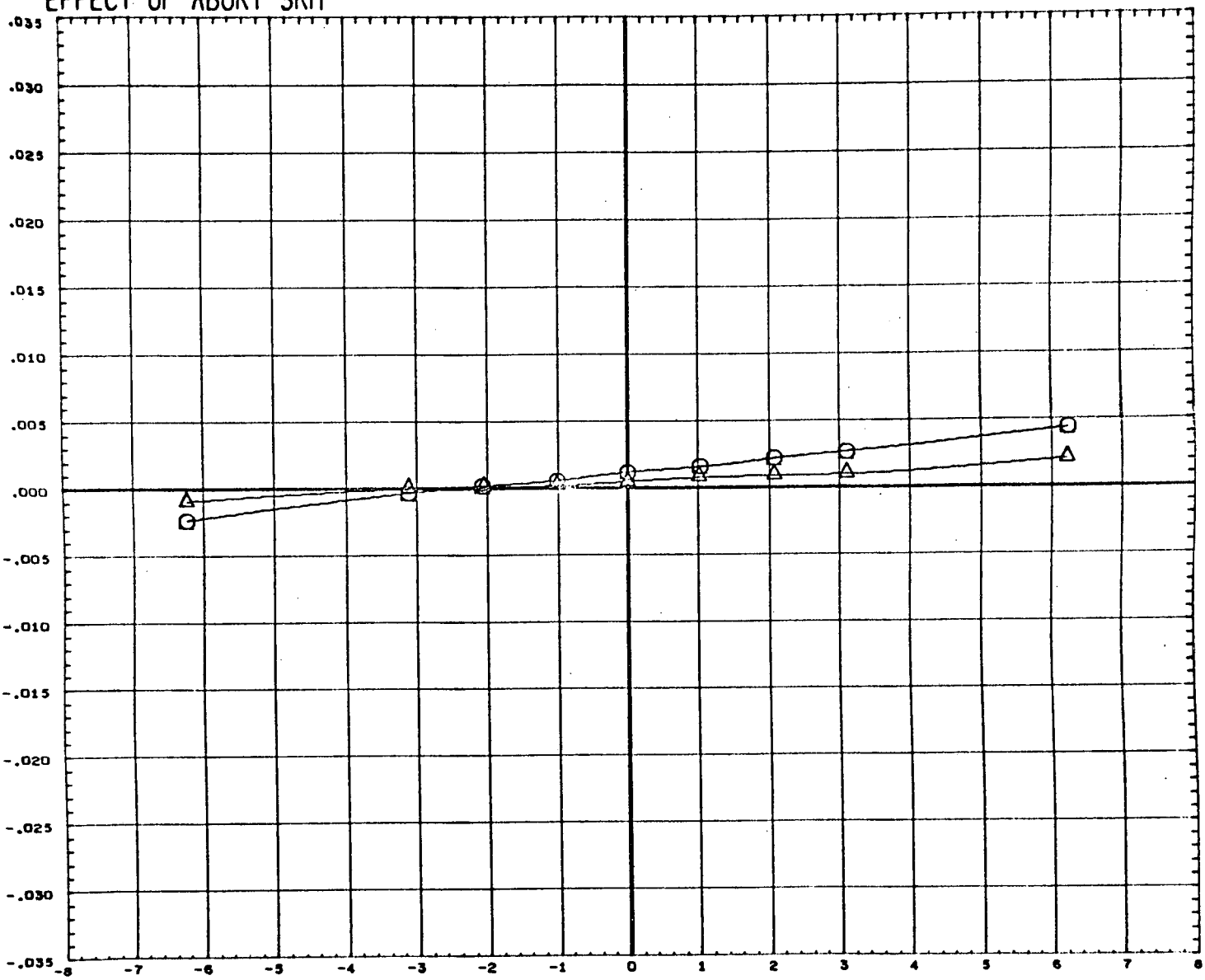


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69021)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF ABORT SRM

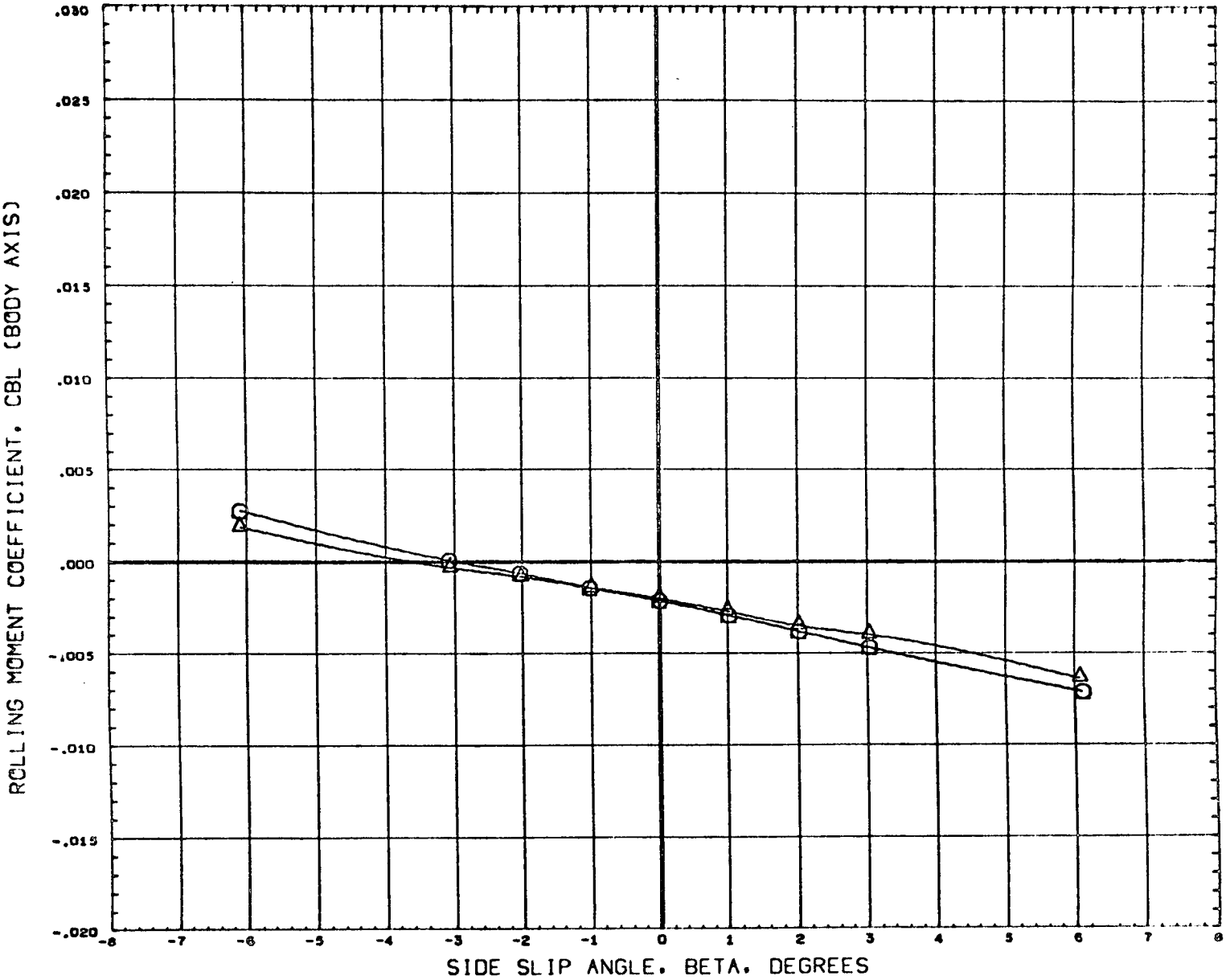


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69021)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF ABORT SRM

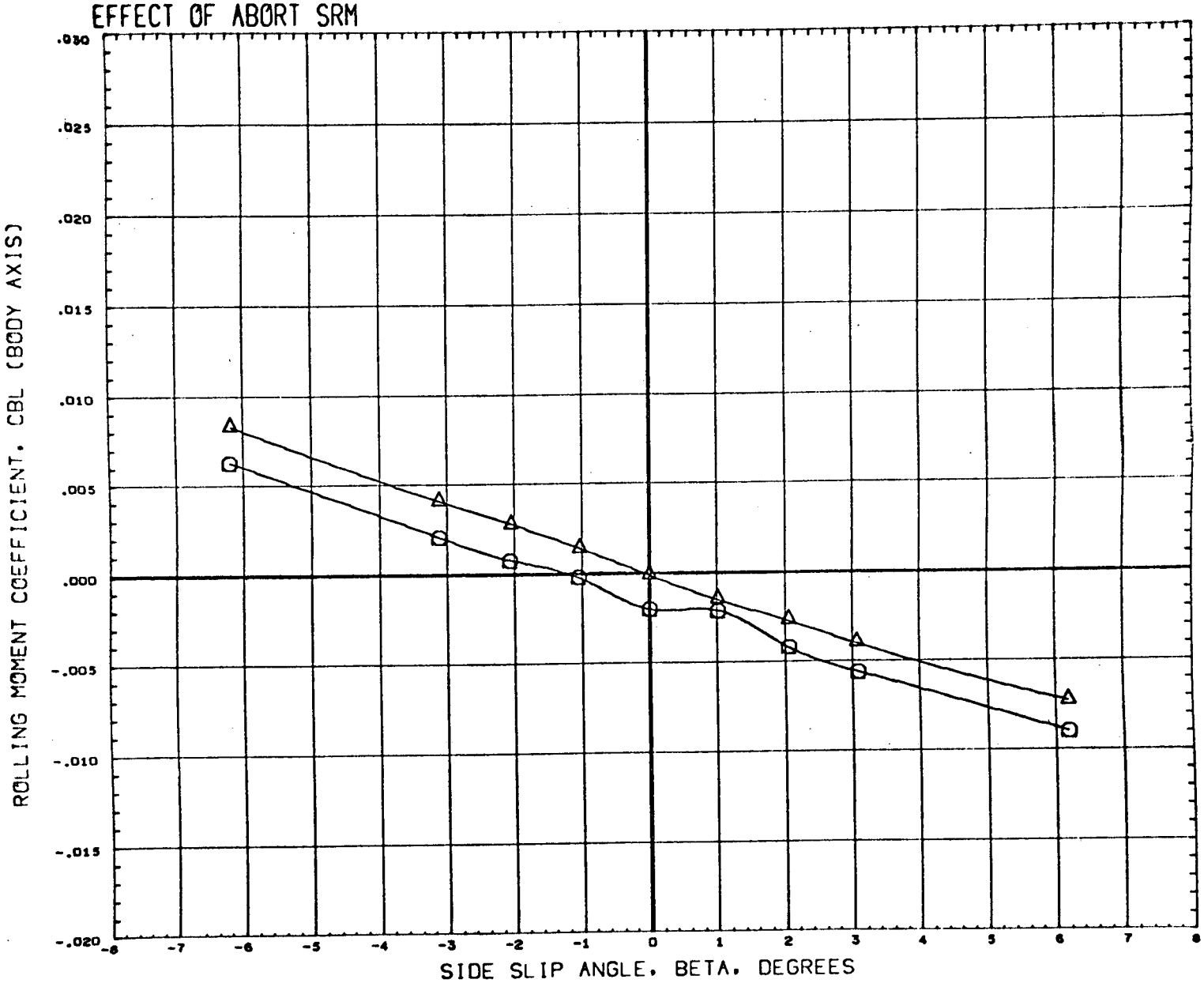


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69021)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF ABORT SRM



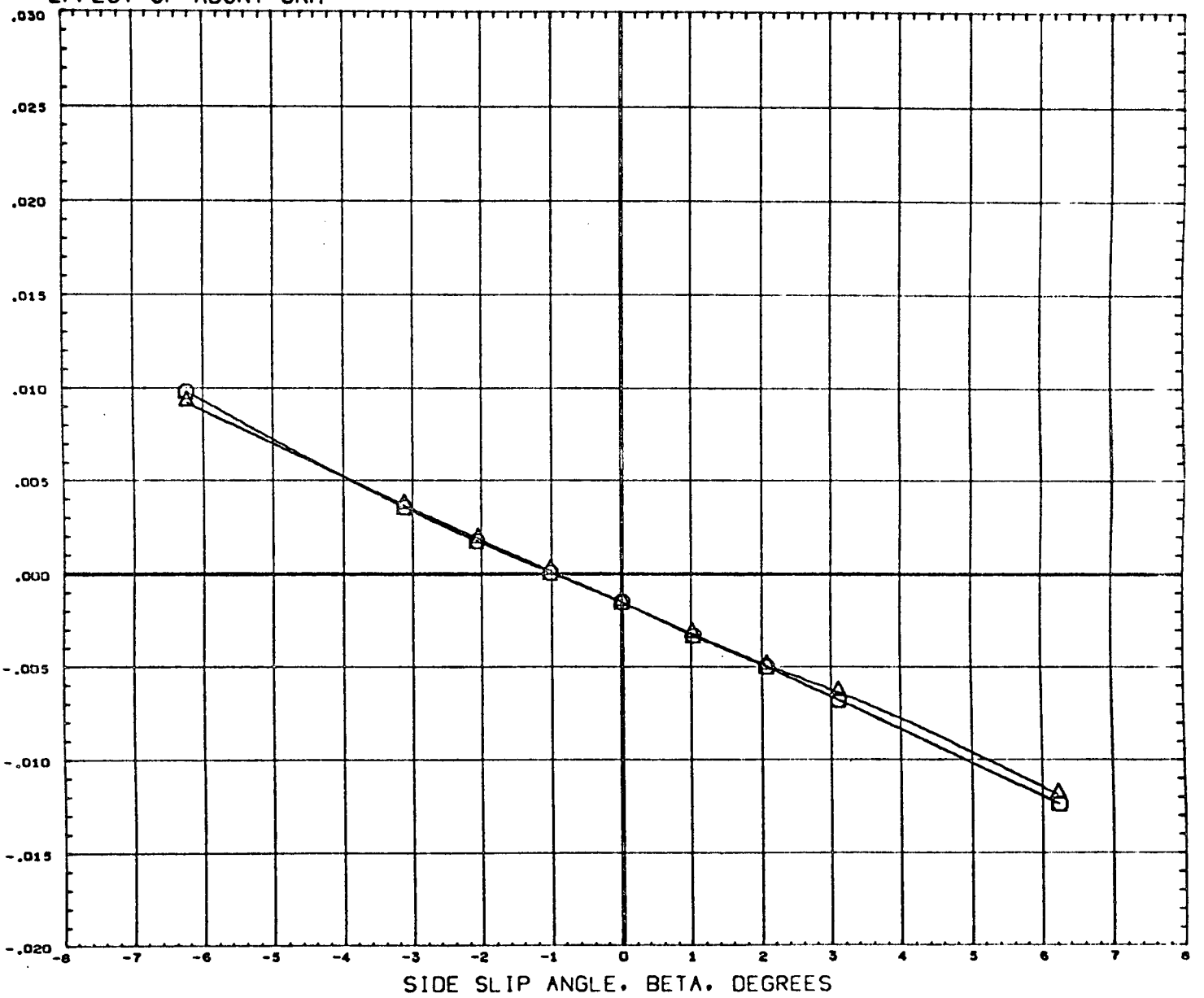
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69021)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

F

EFFECT OF ABORT SRM

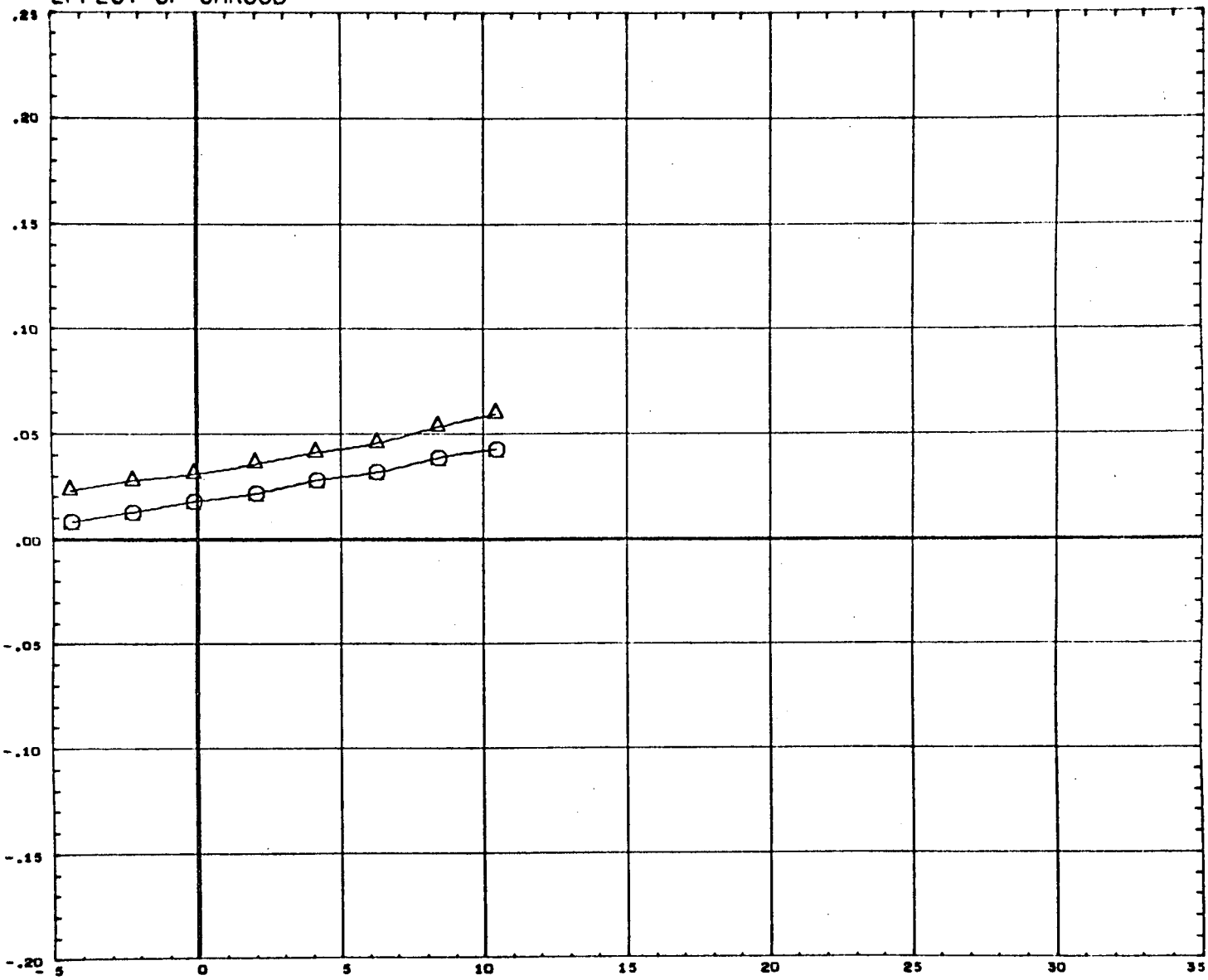


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69021)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF SHROUD

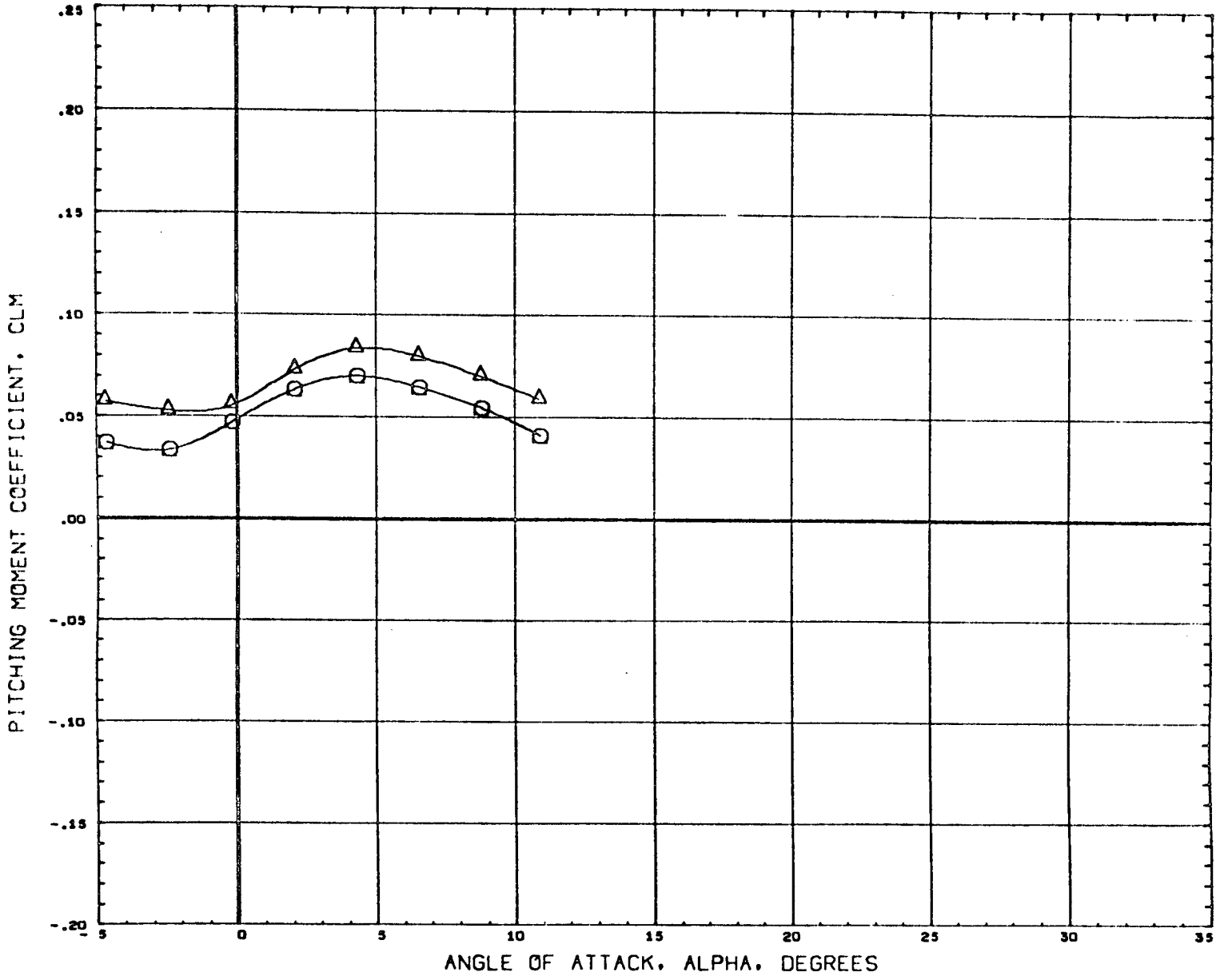


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69036) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF SHROUD

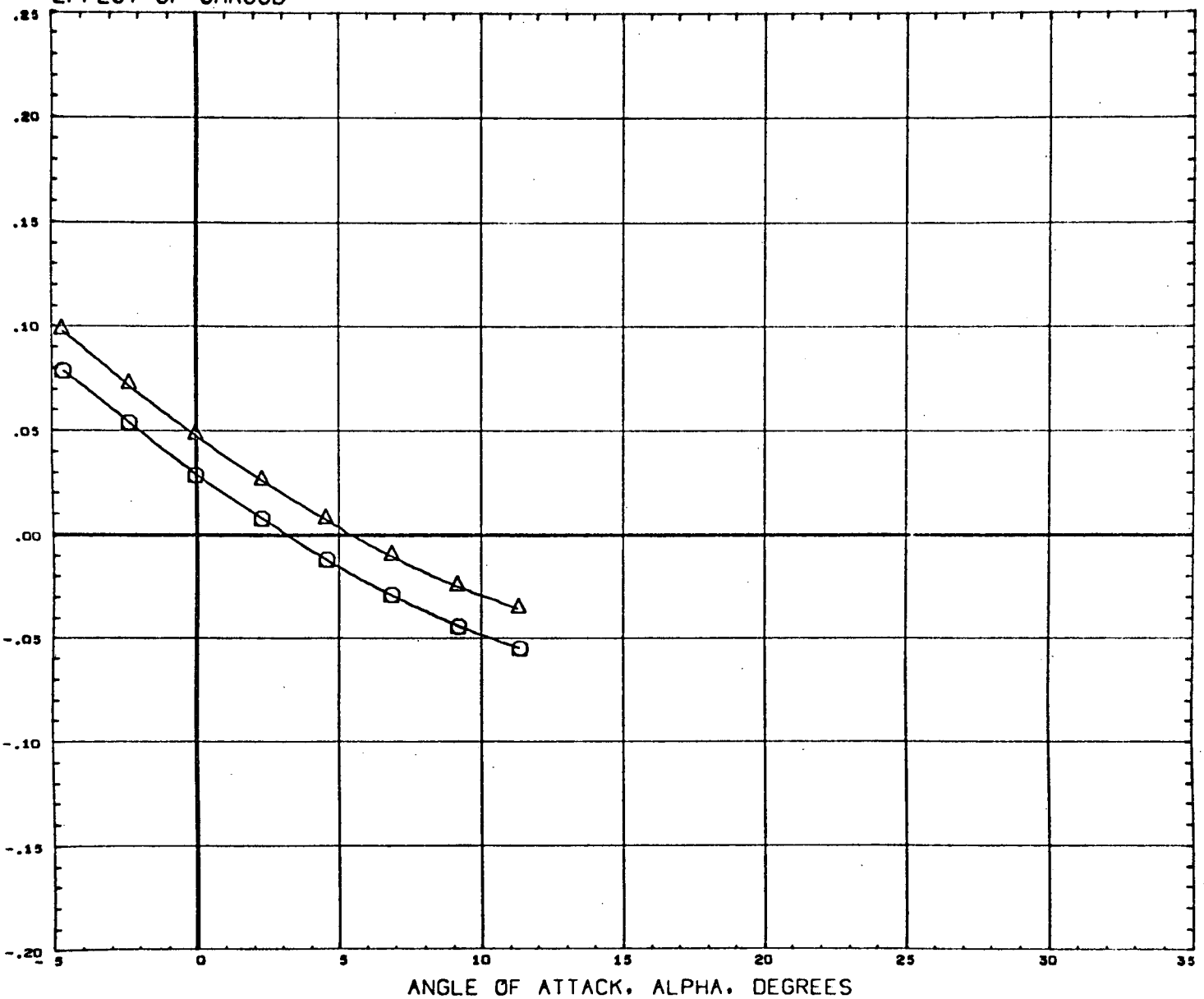


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF SHROUD

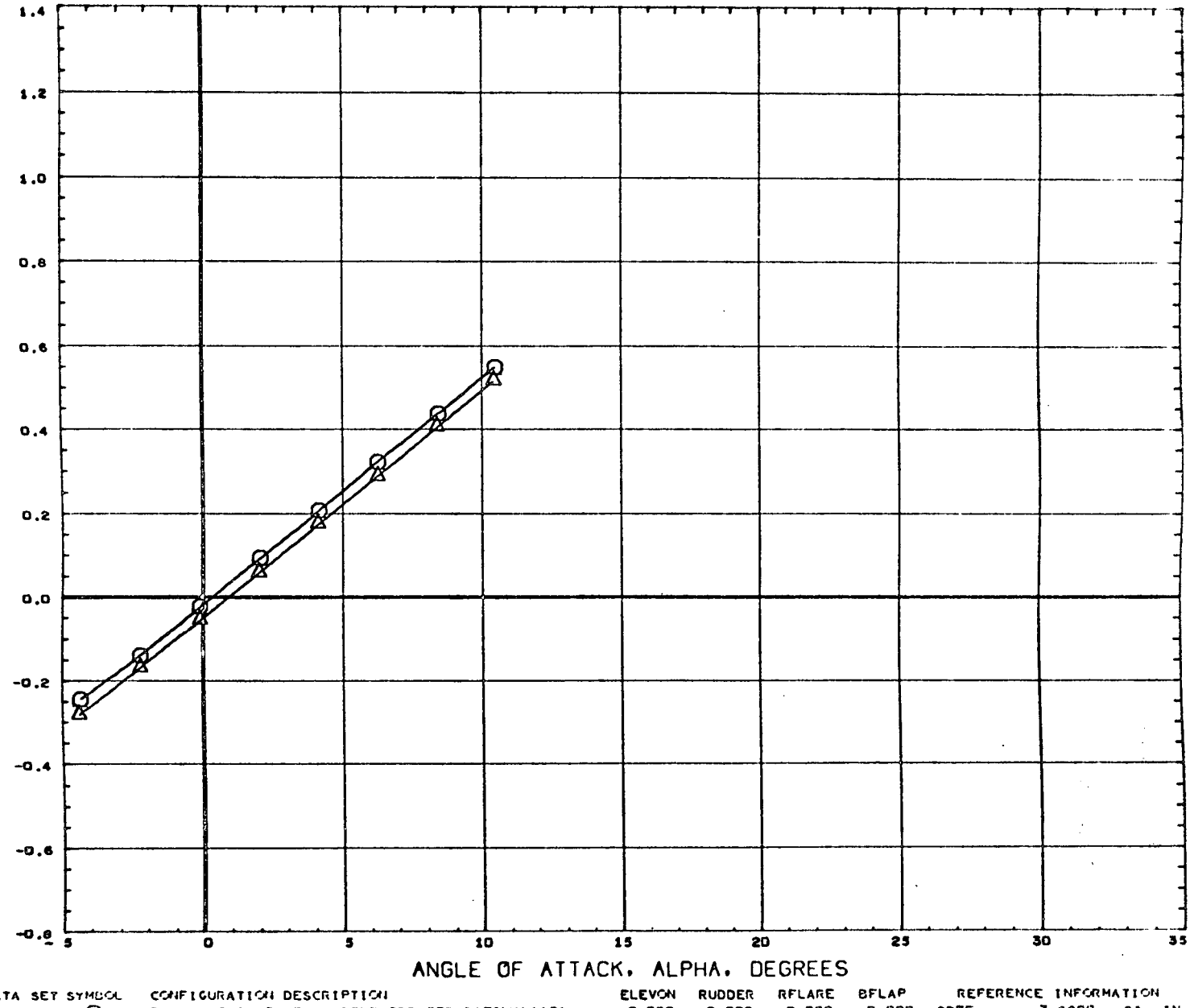


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(D69036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF SHROUD

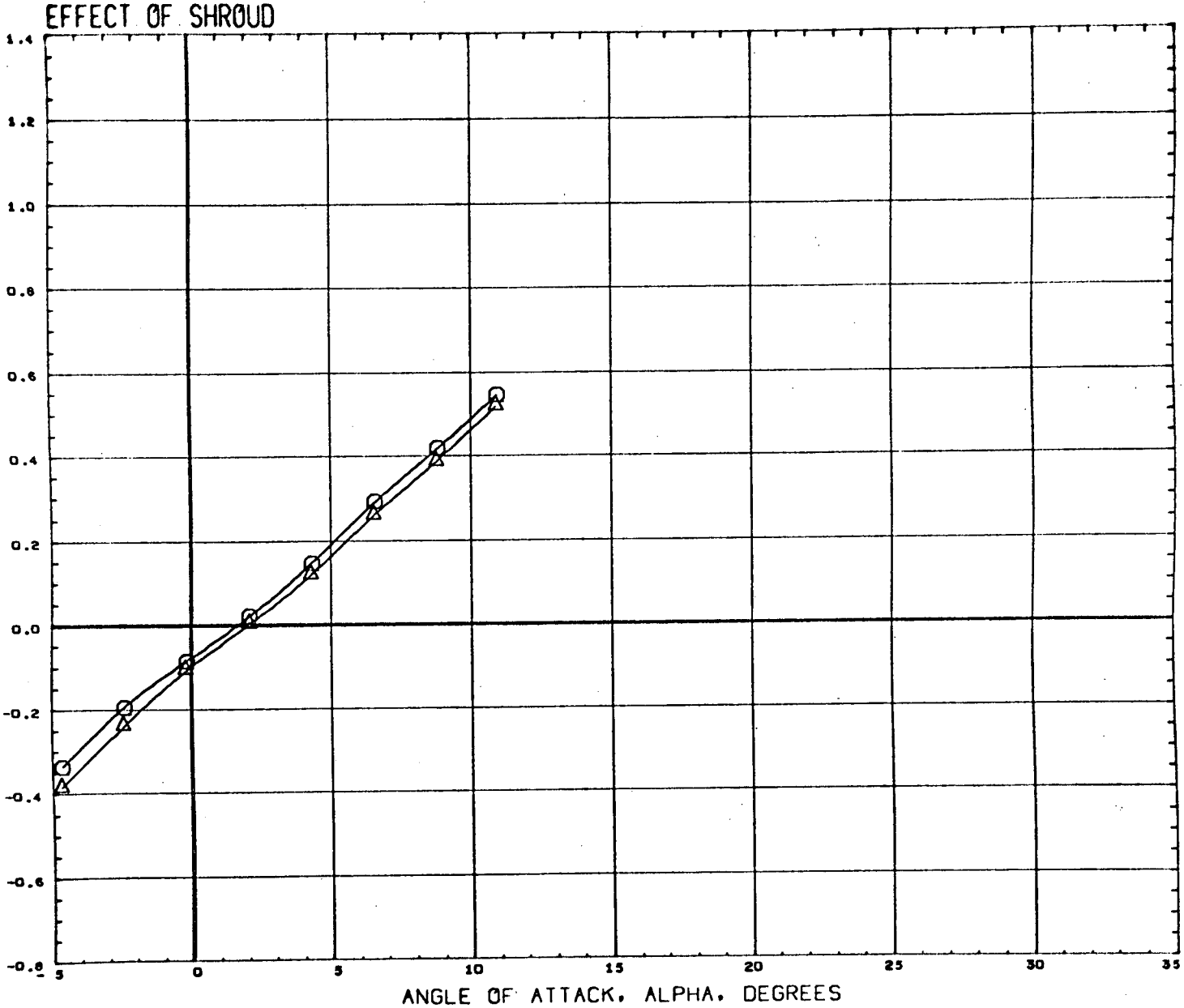


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869036)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF SHROUD

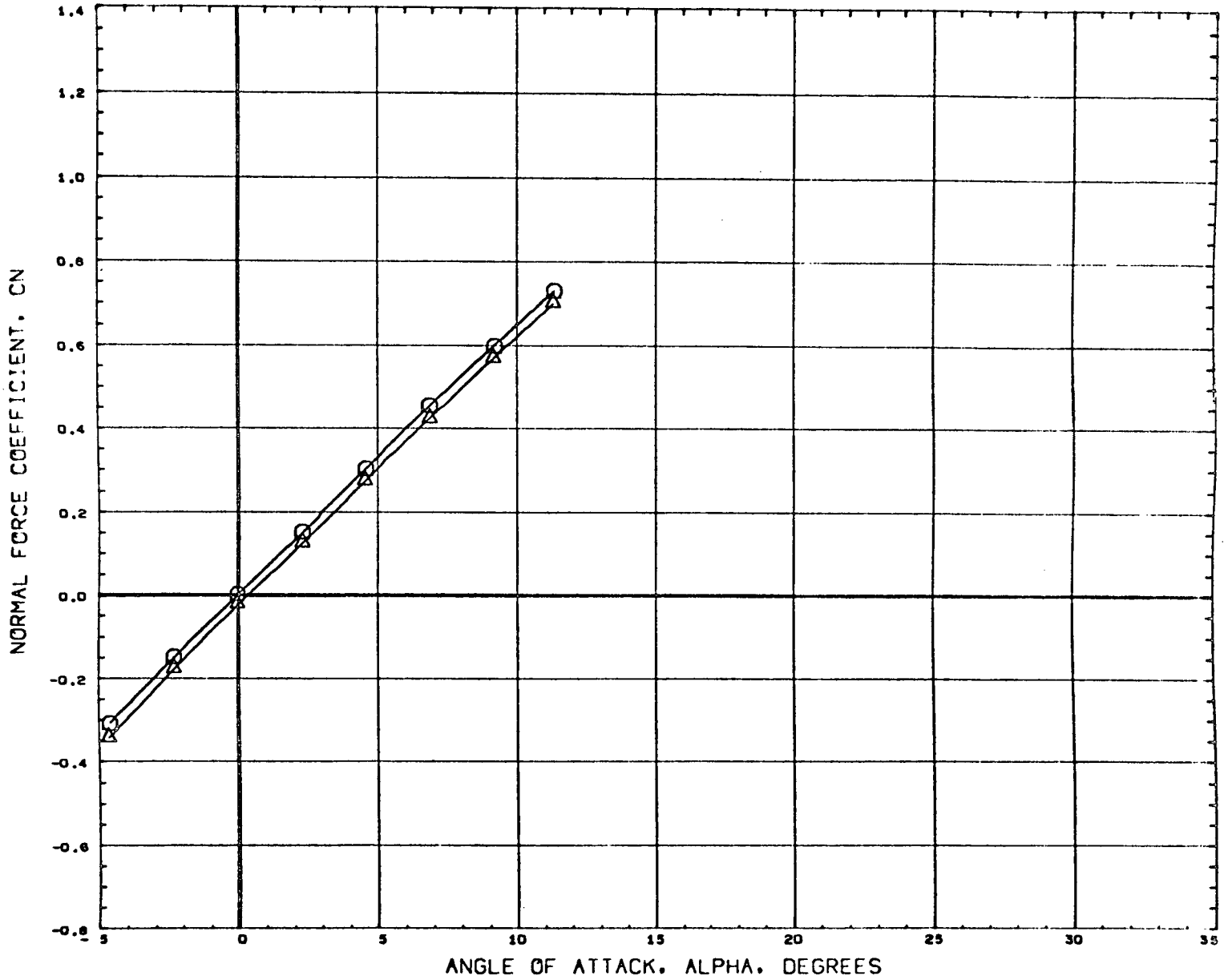


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF SHROUD

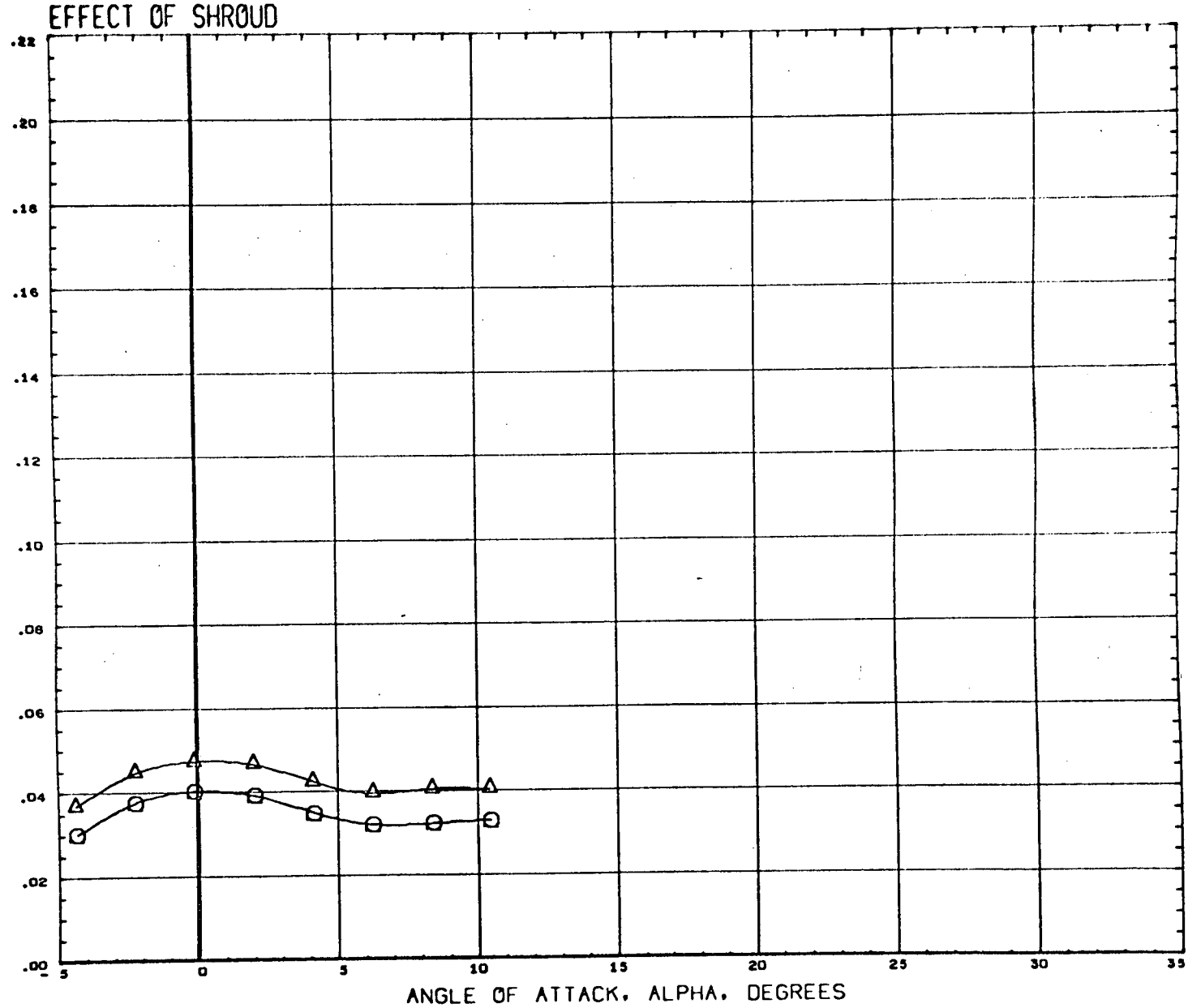


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869030)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF SHROUD

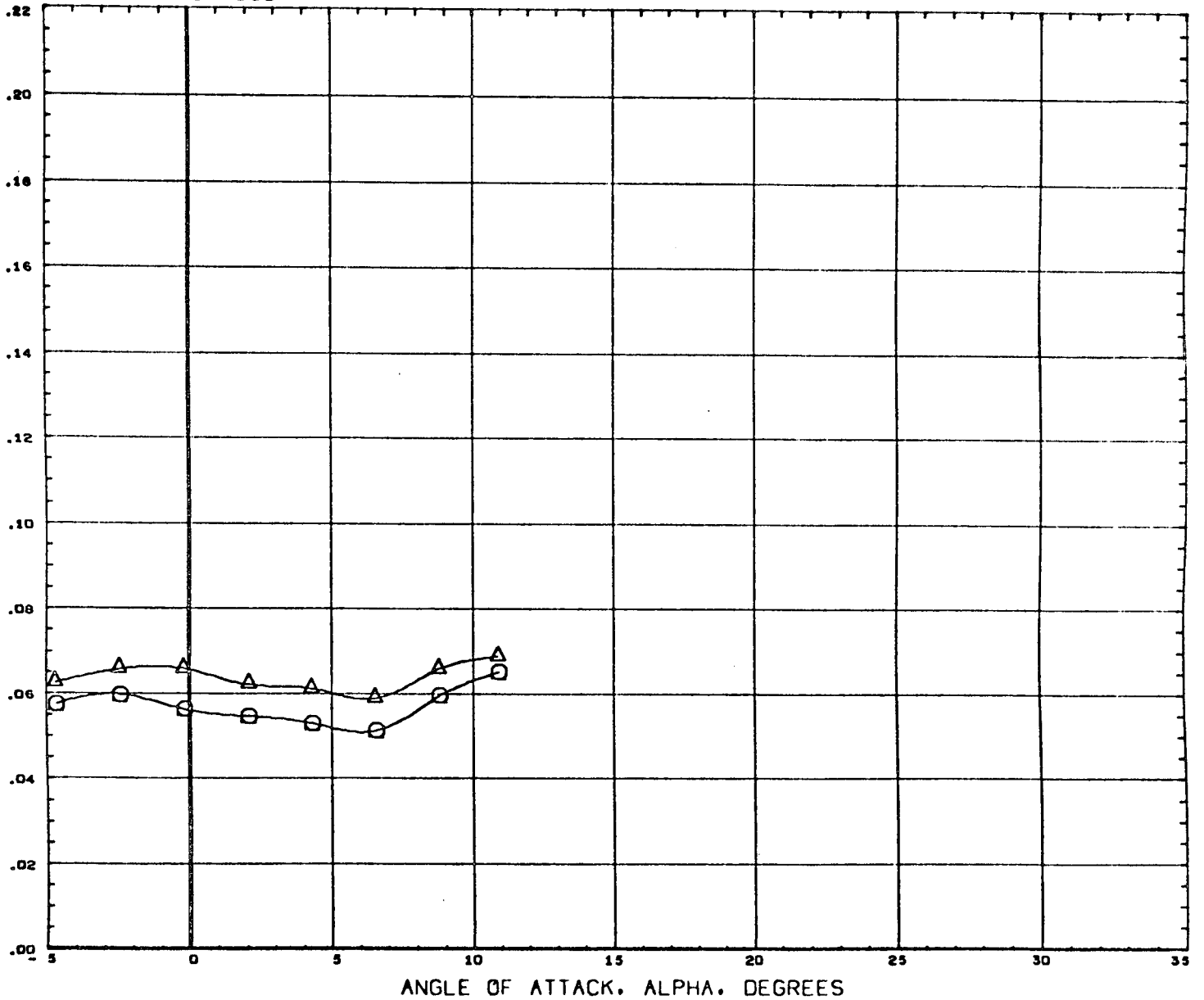


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF SHROUD

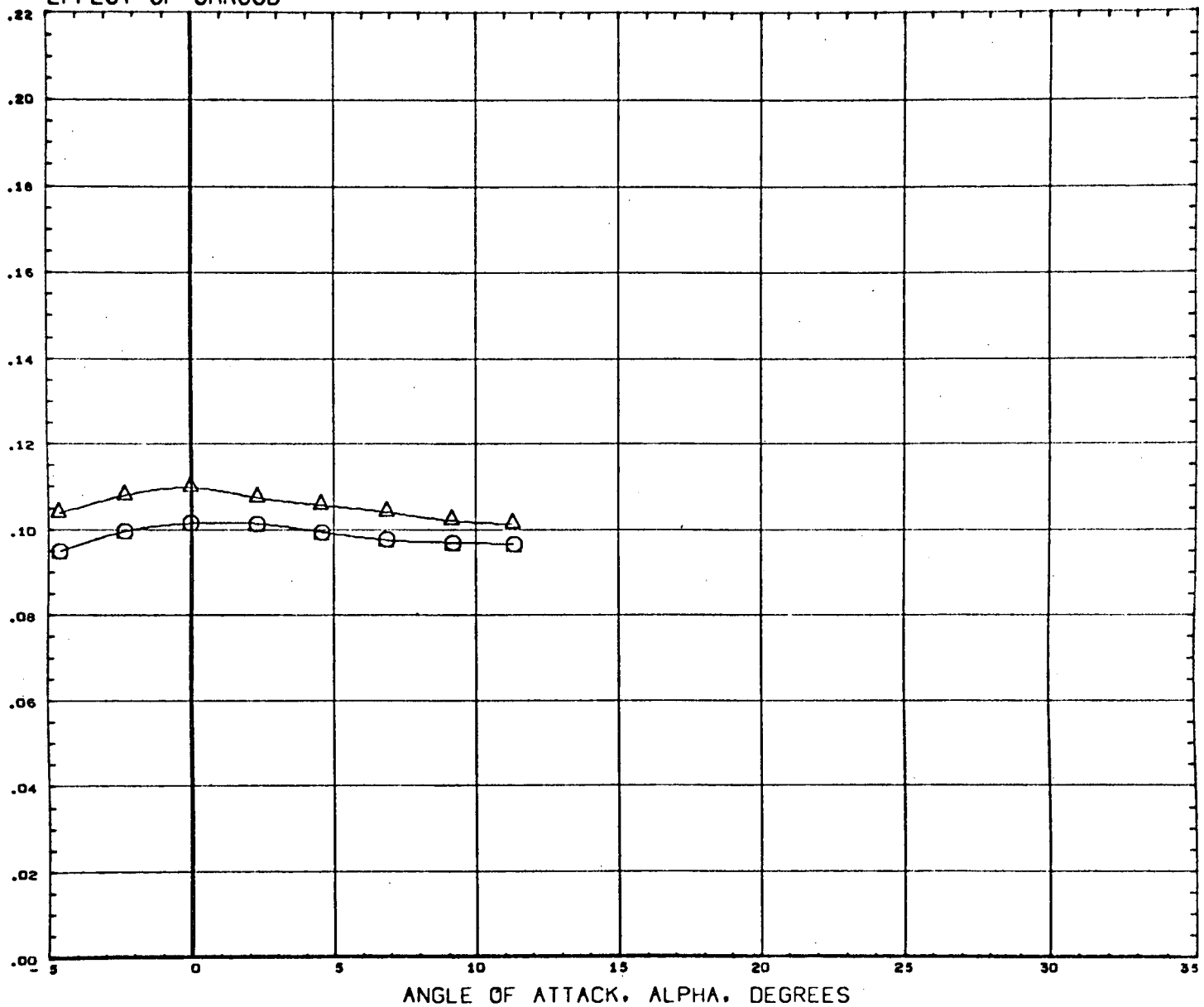


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.6800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF SHROUD

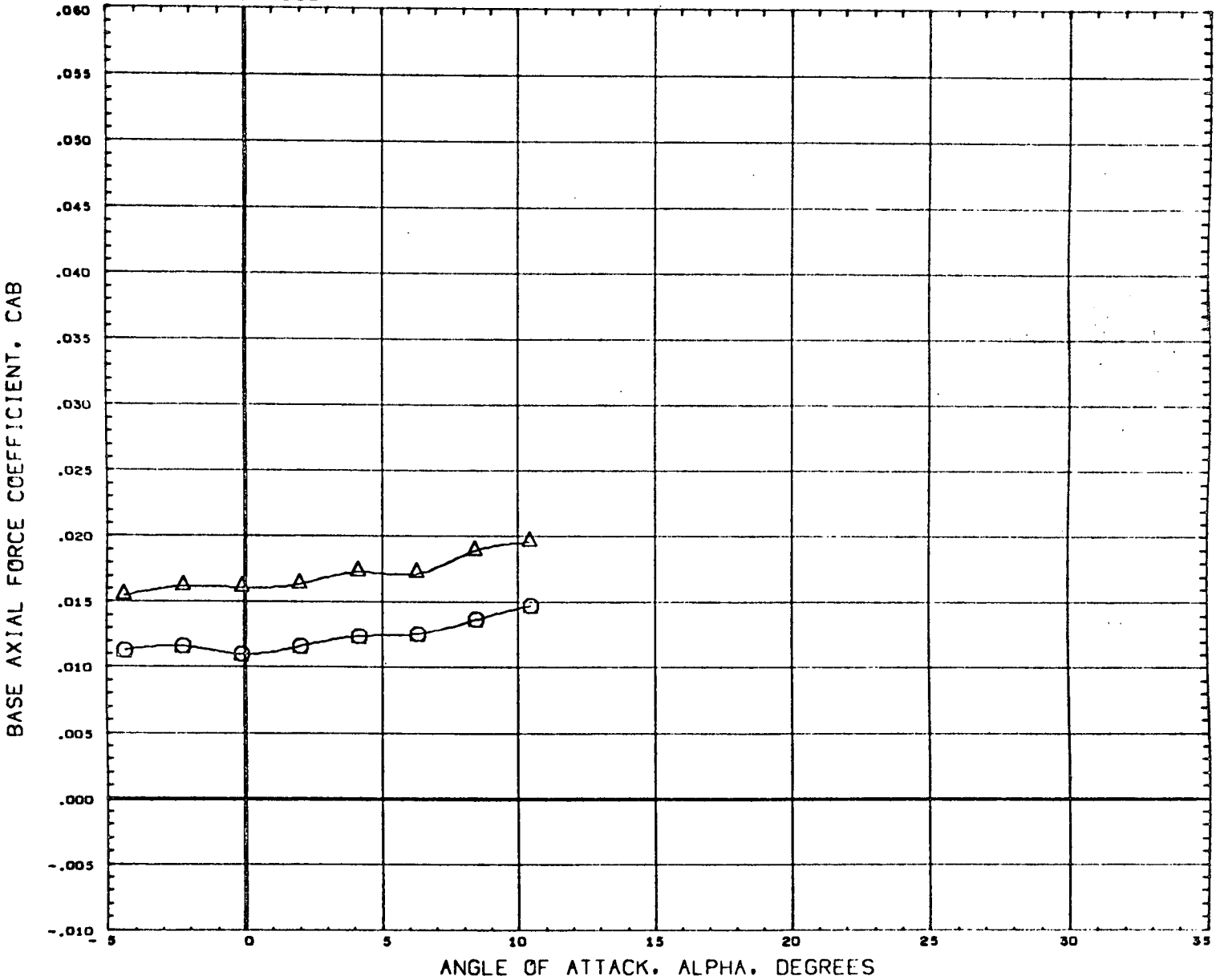


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF SHROUD

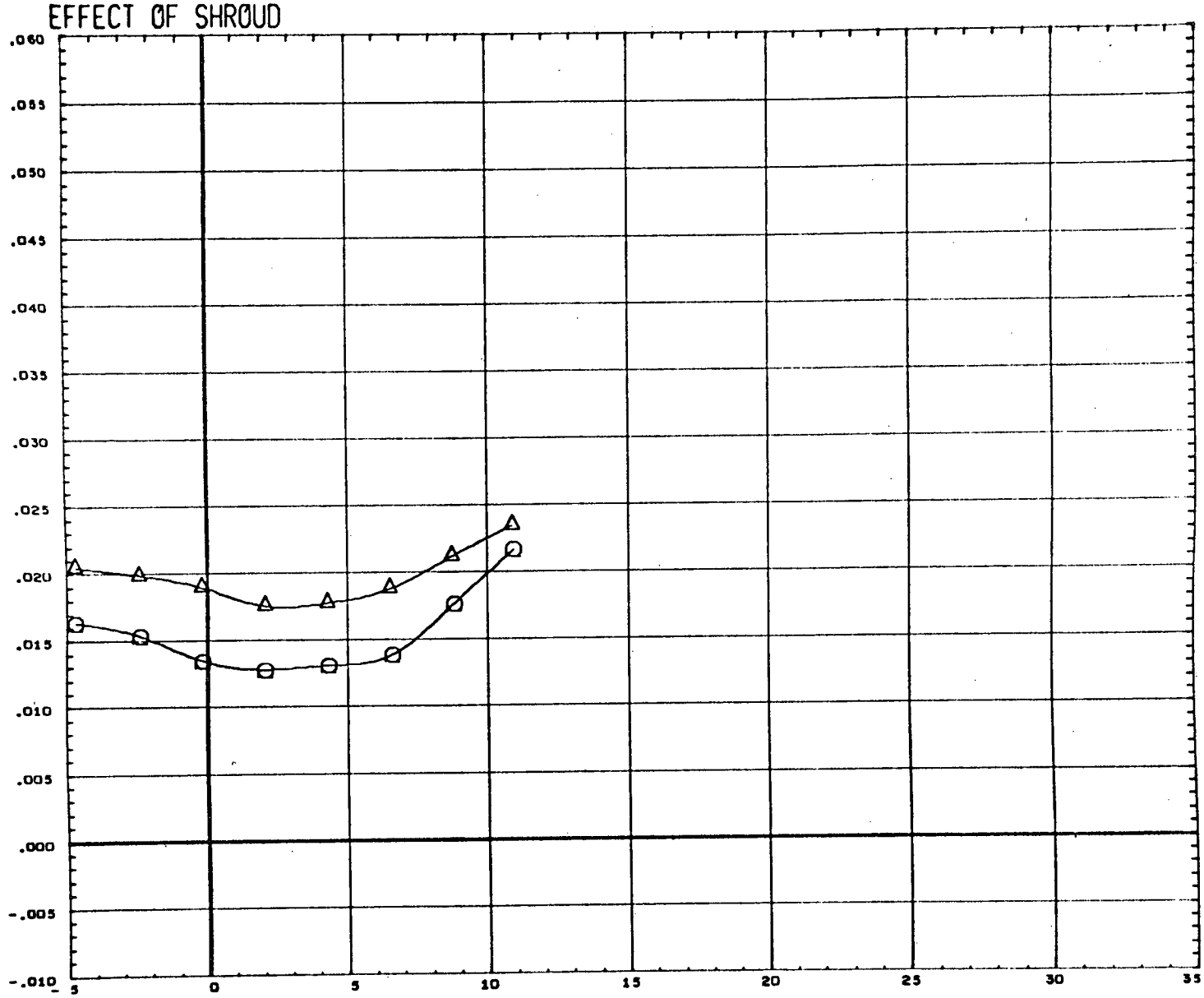


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869036)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF SHROUD

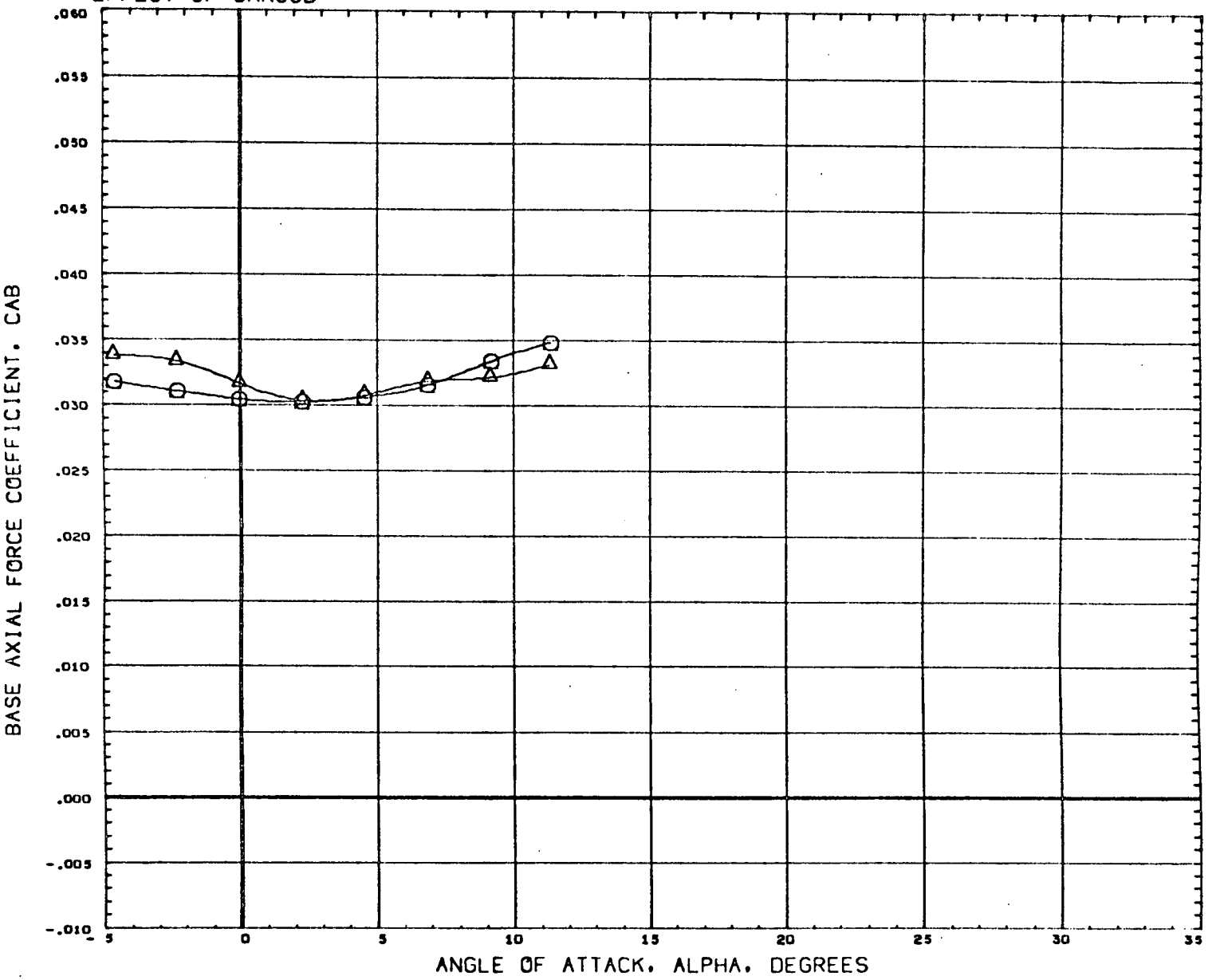


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF SHROUD

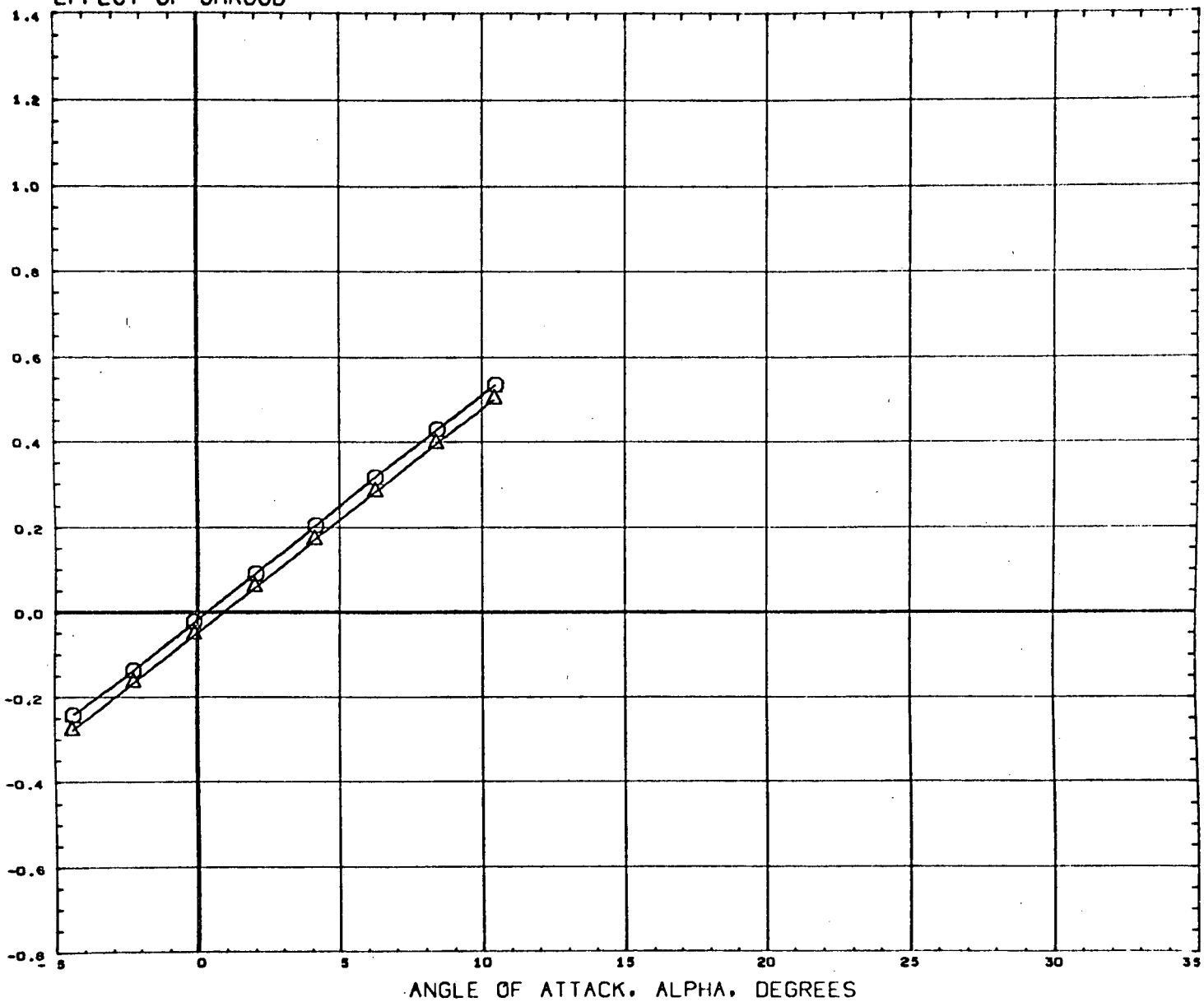


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF SHROUD

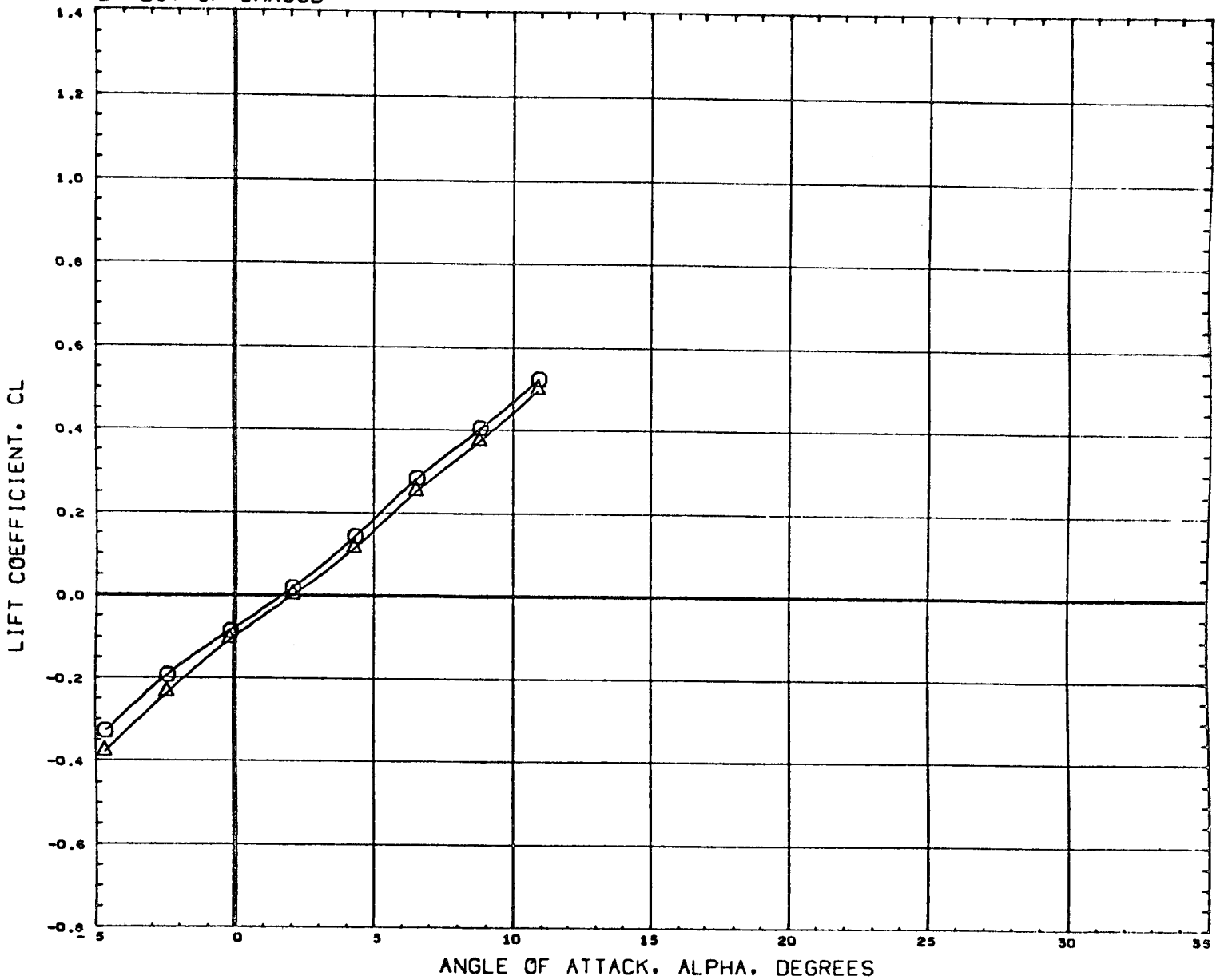


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF SHROUD

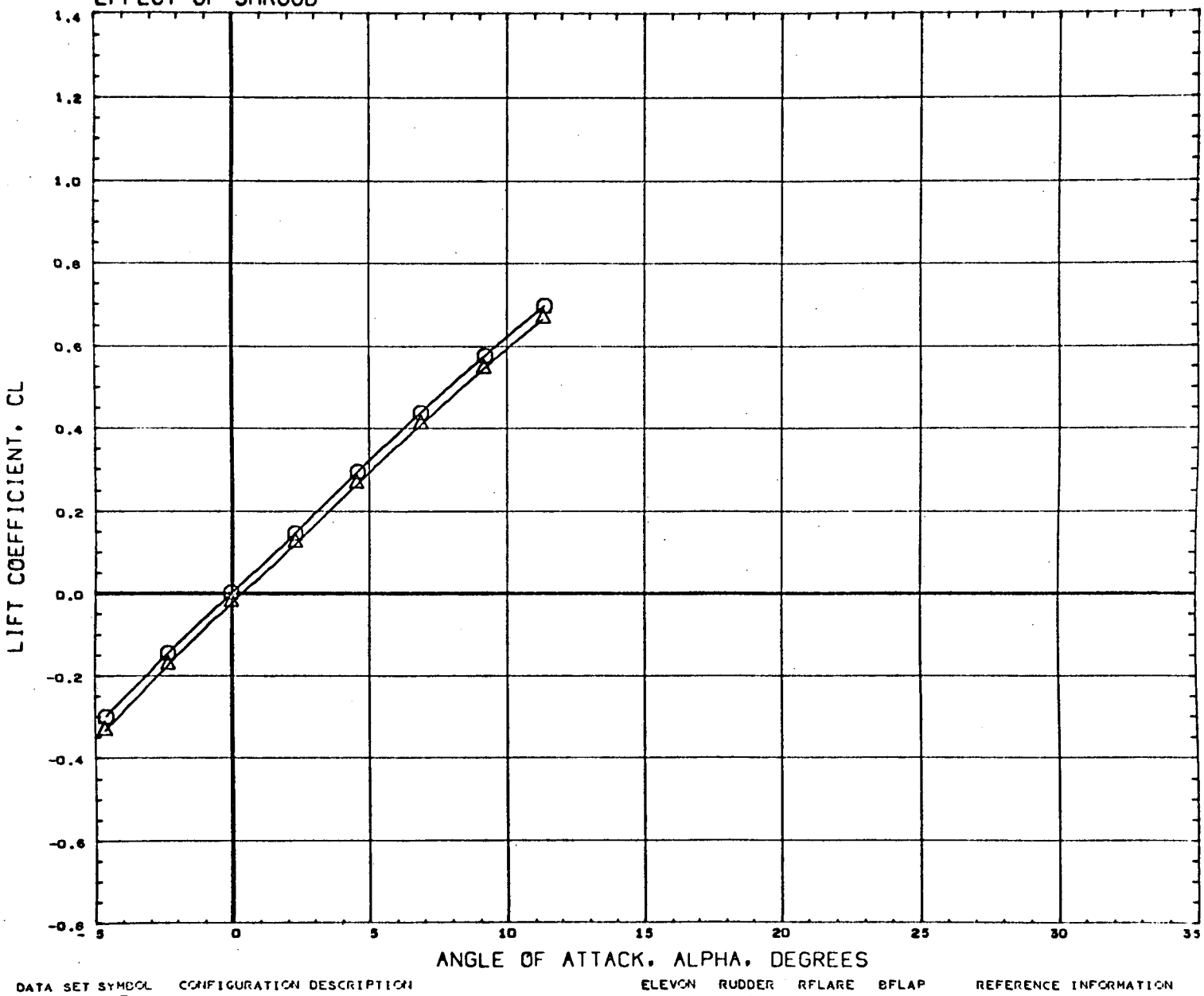


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869036)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF SHROUD

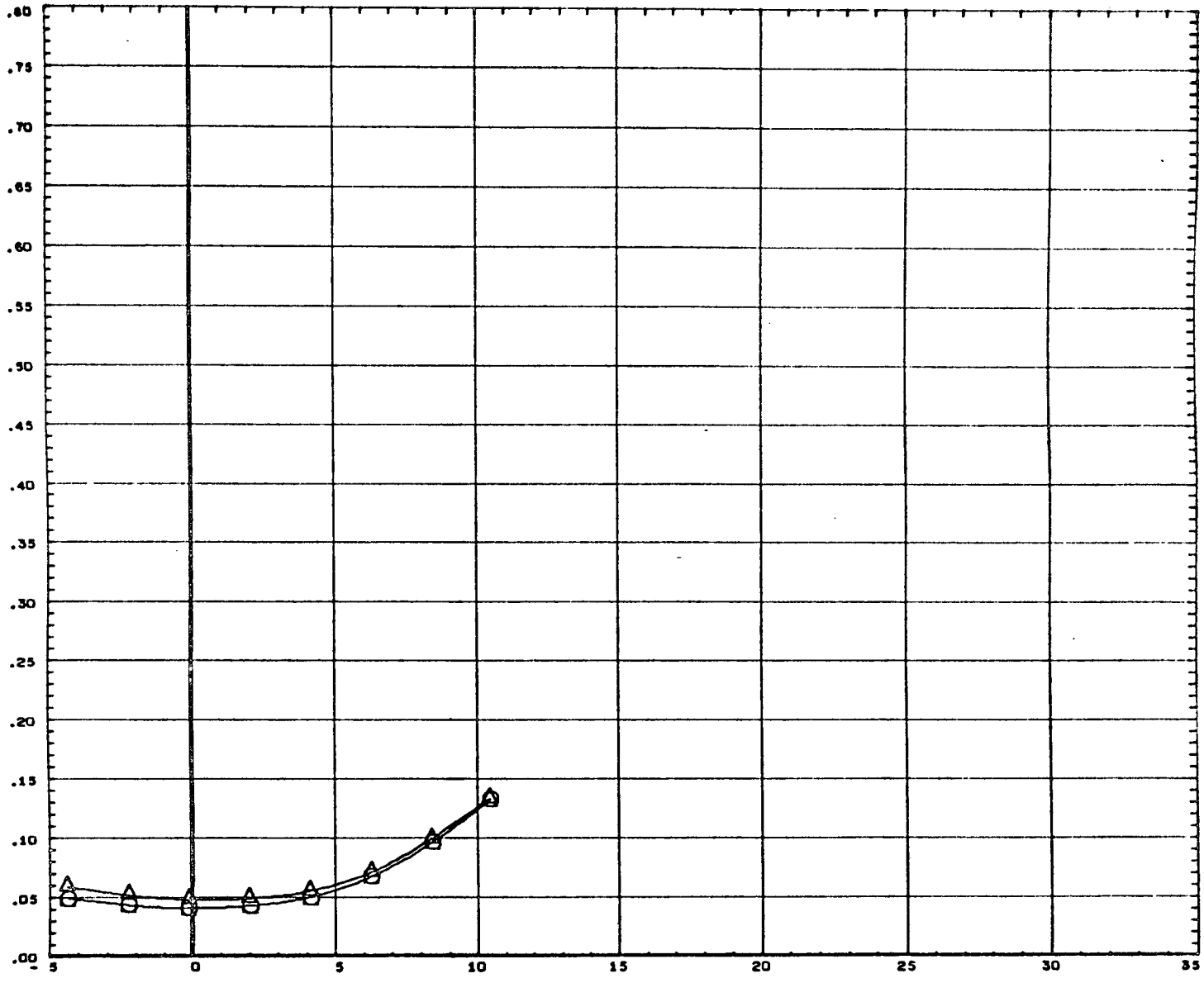


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF SHROUD

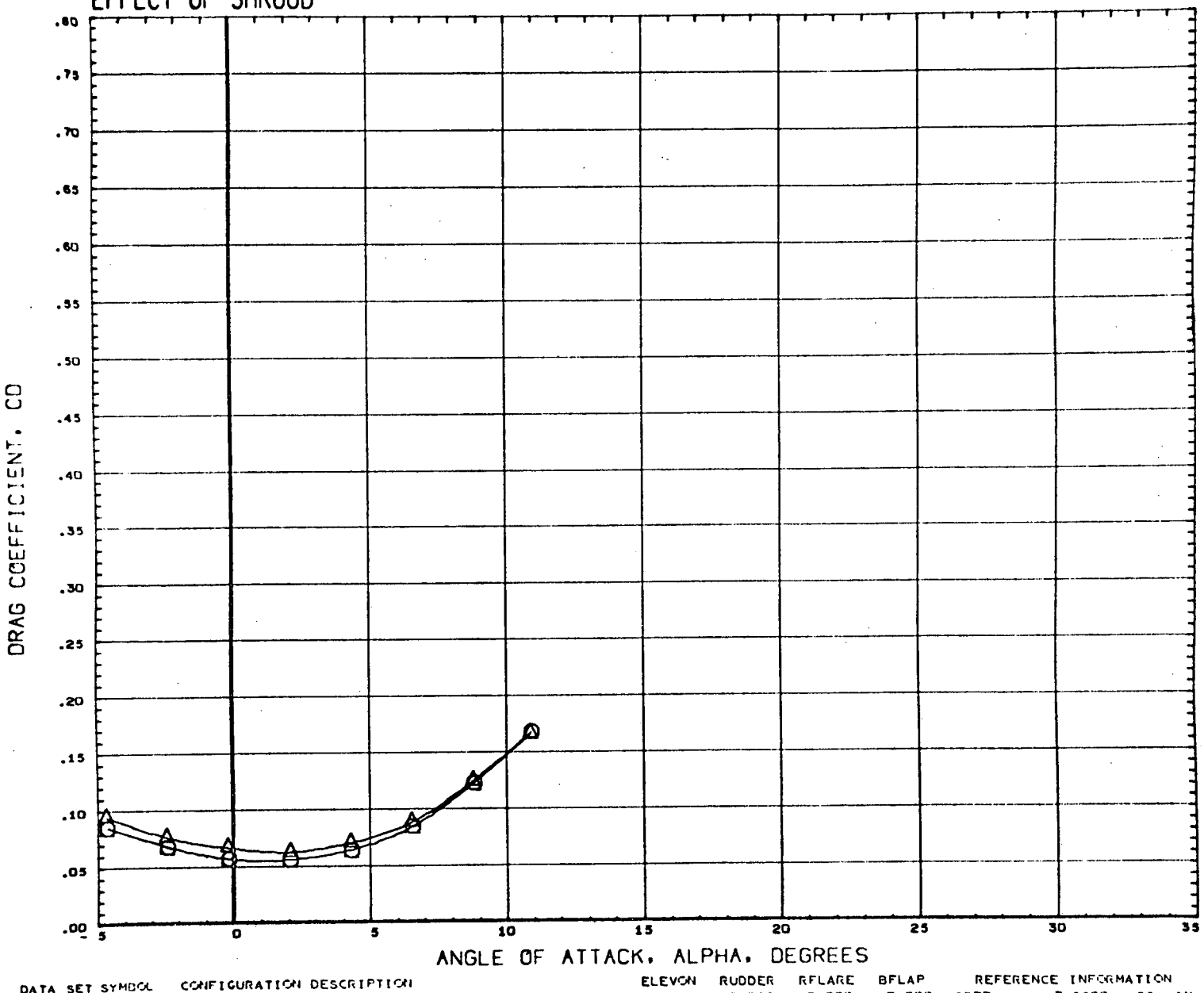


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69036)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF SHROUD

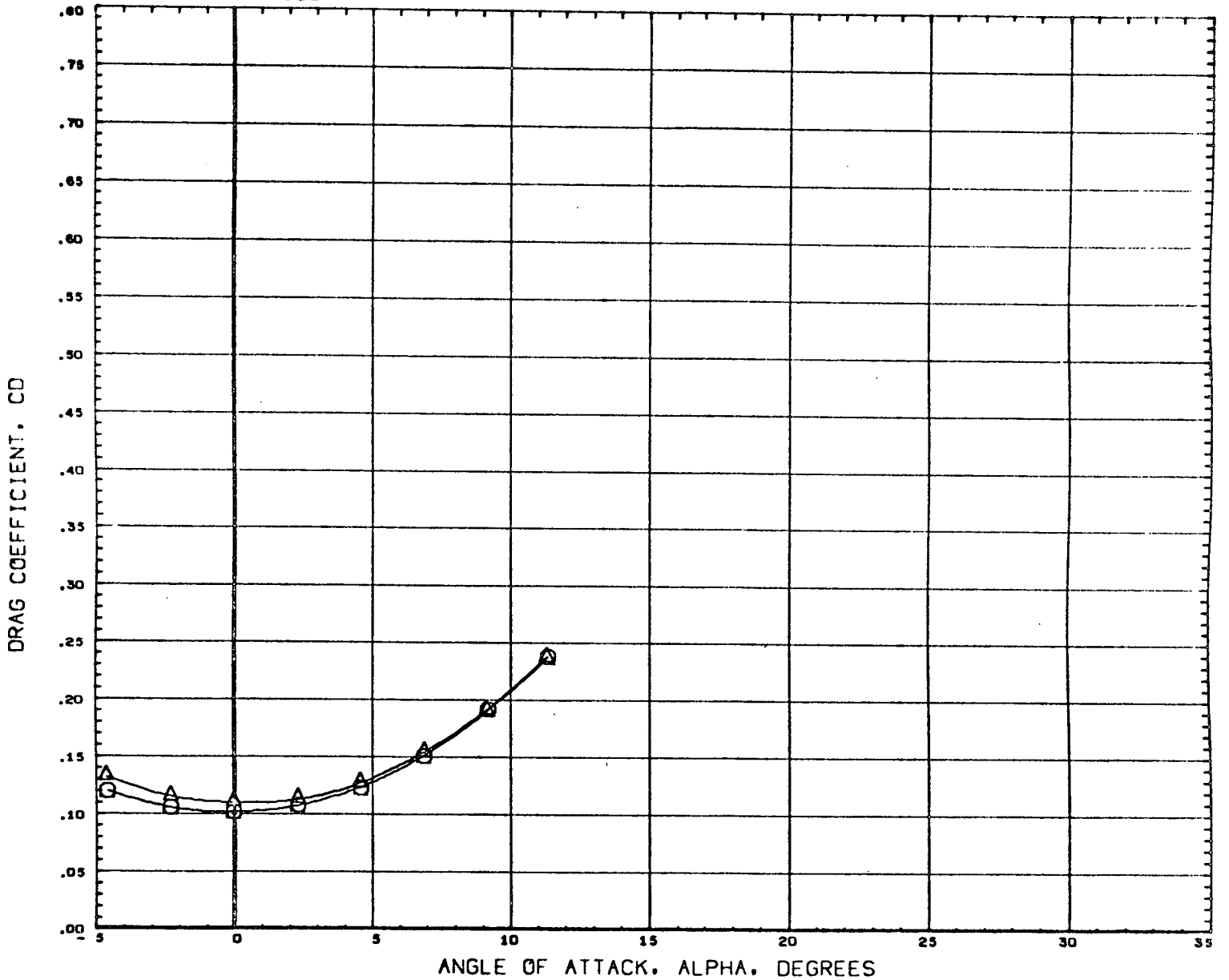


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869036)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF SHROUD

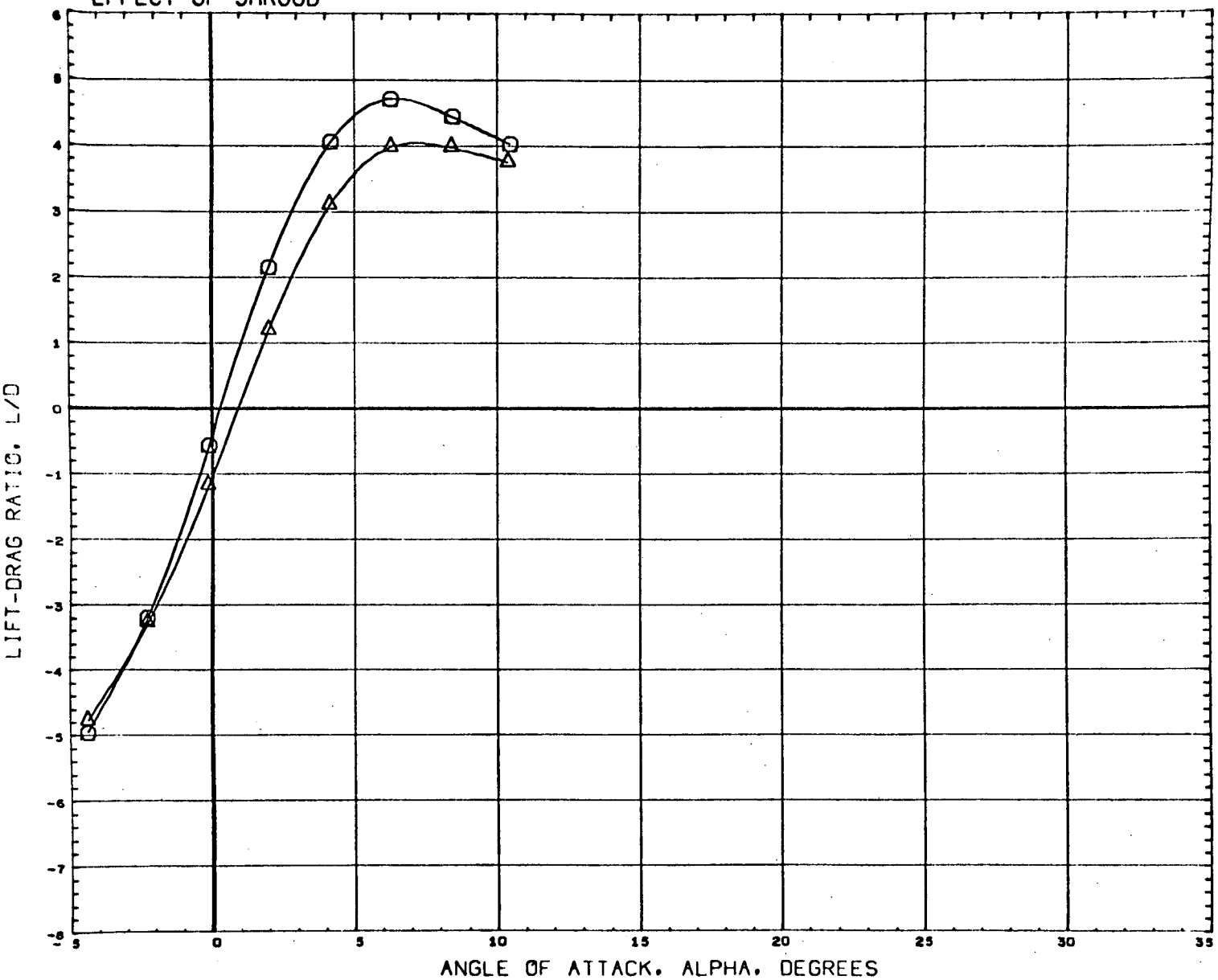


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF SHROUD

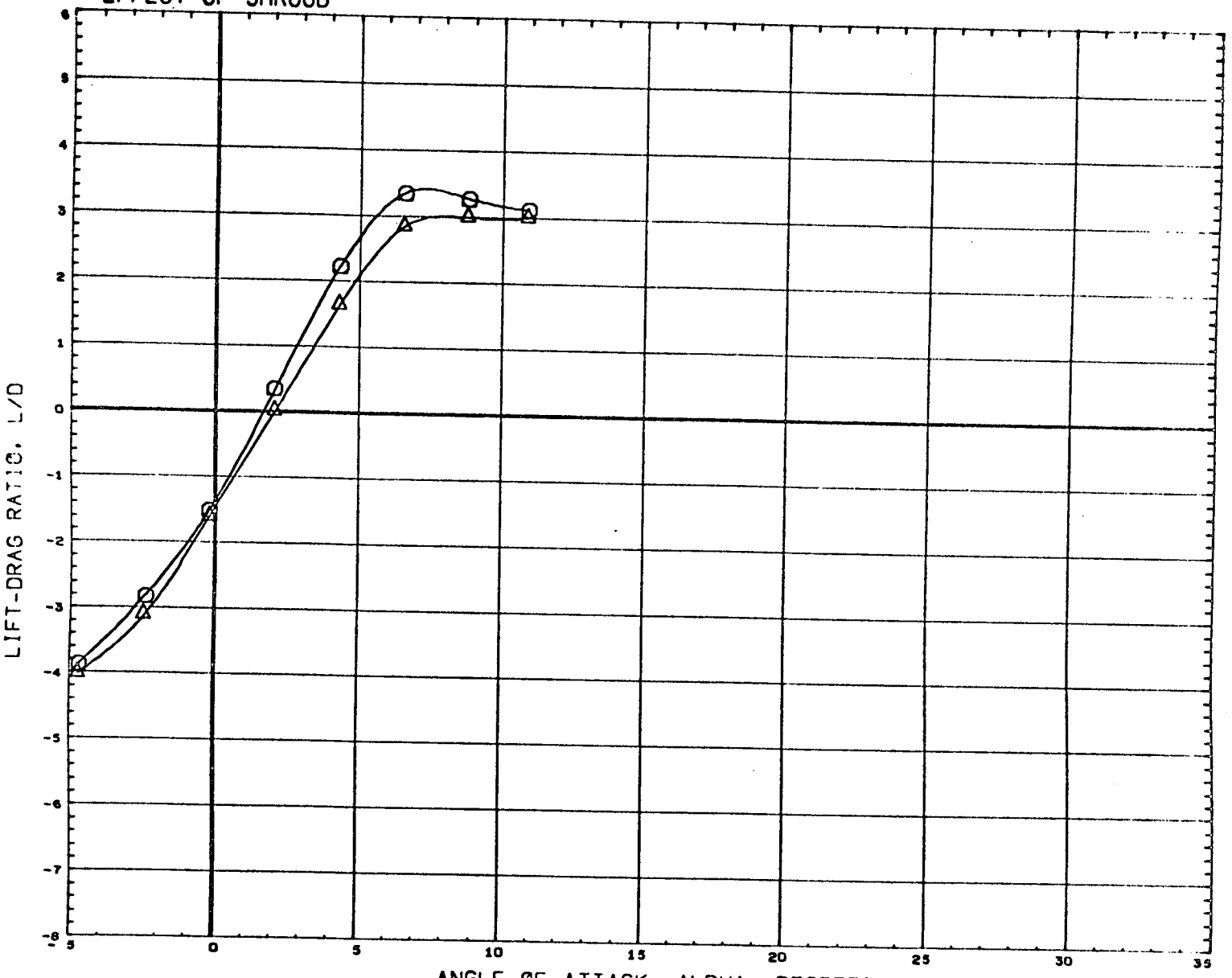


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF SHROUD

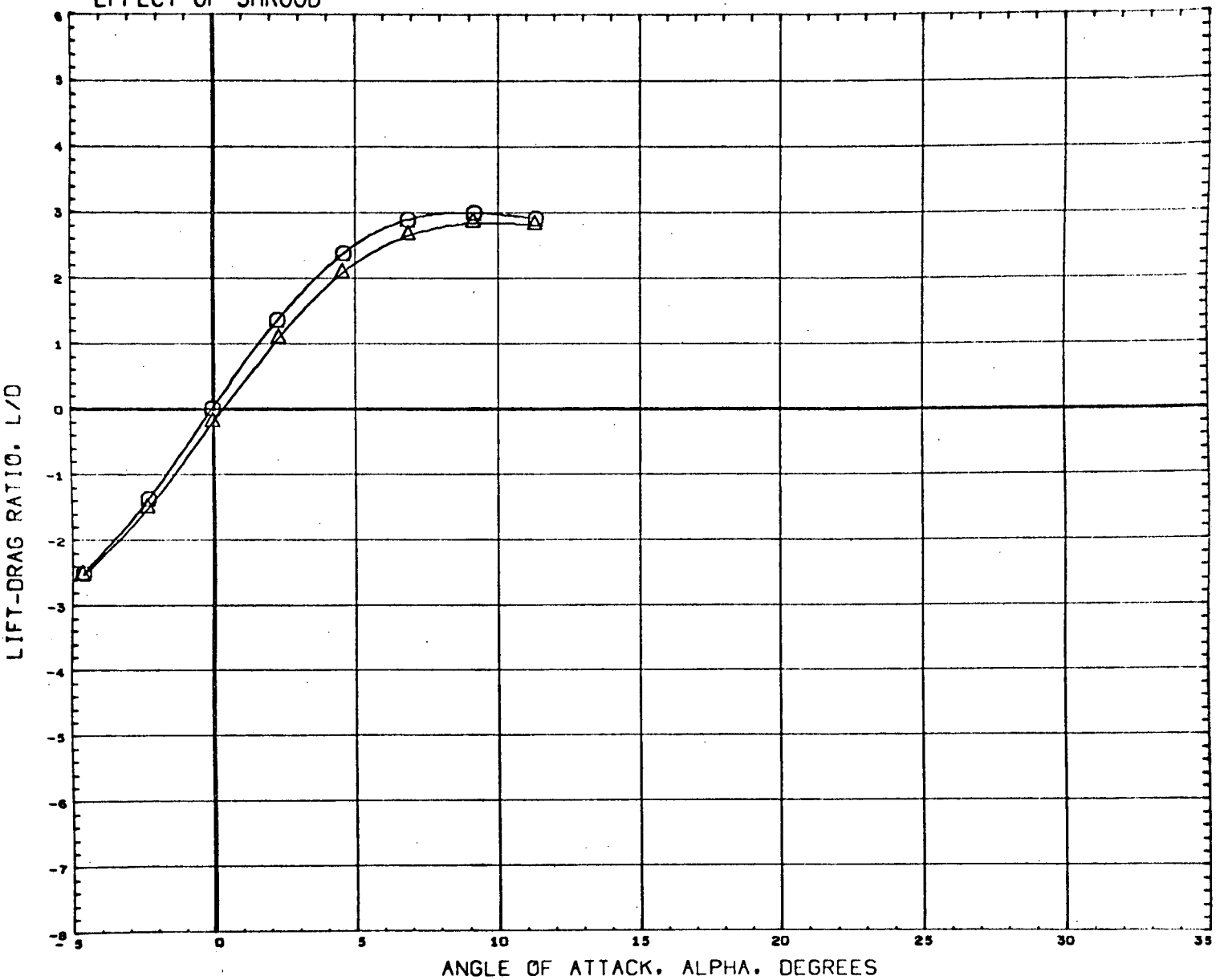


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(C69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(C69036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF SHROUD

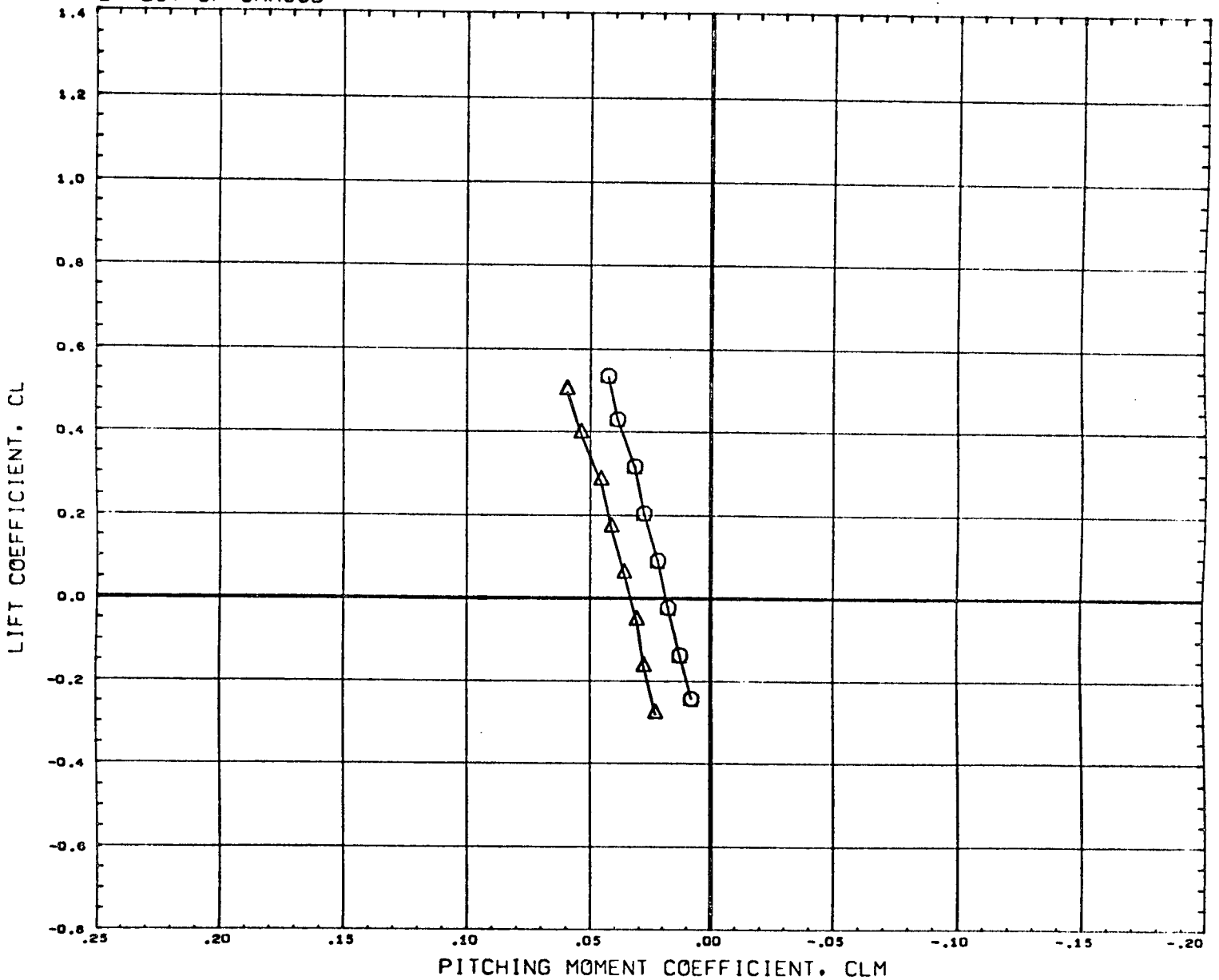


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF SHROUD

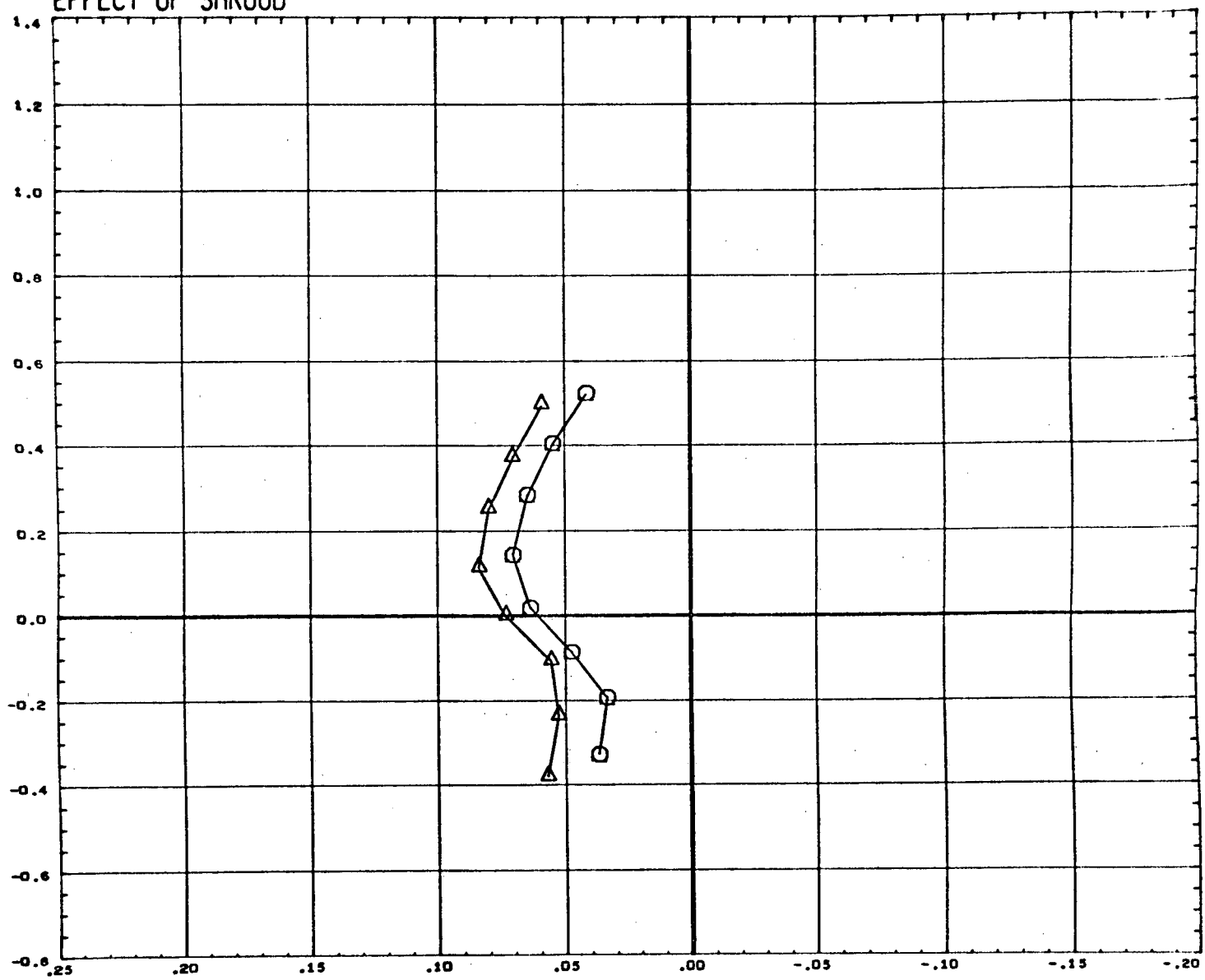


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF SHROUD

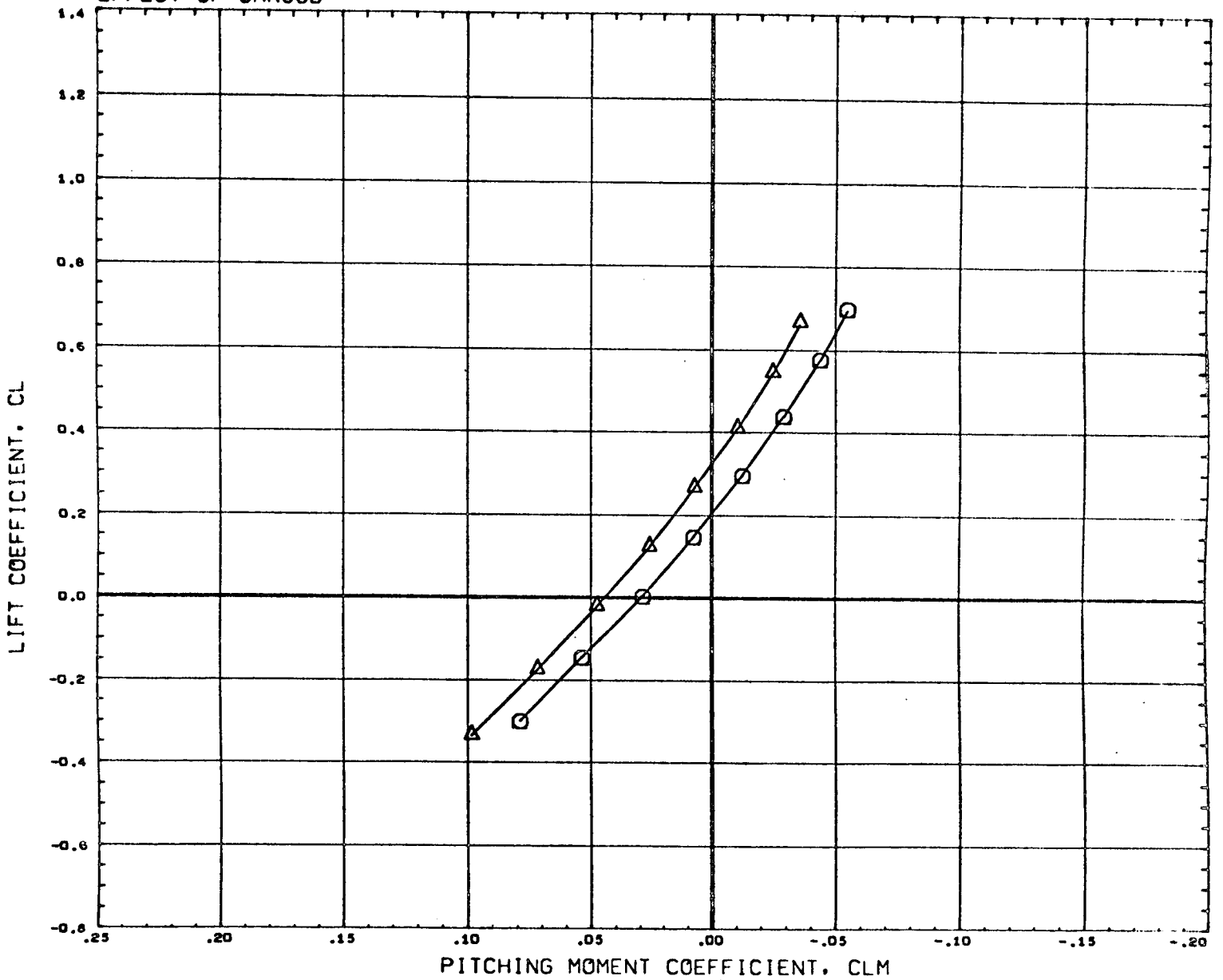


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF SHROUD

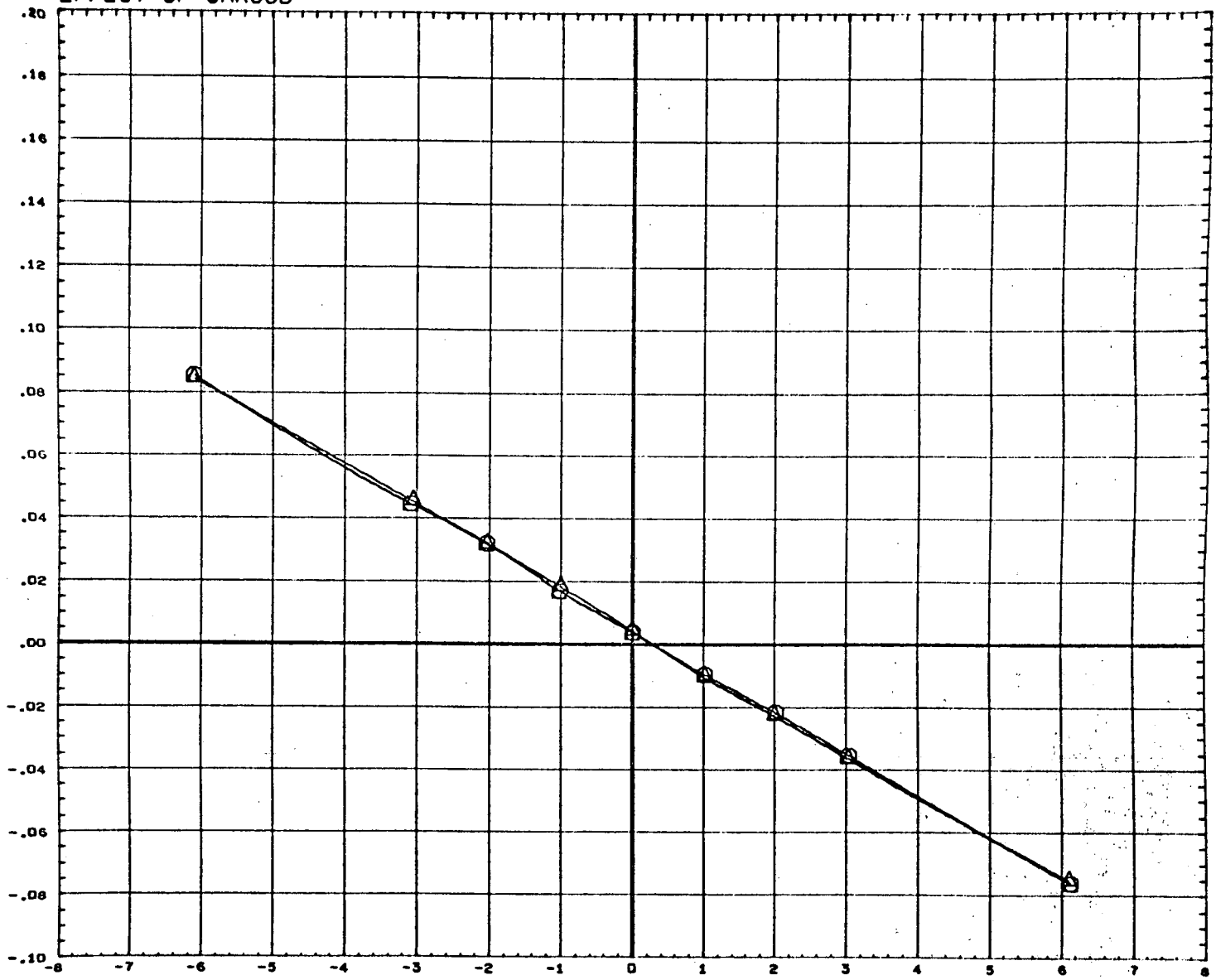


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869036)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

EFFECT OF SHROUD

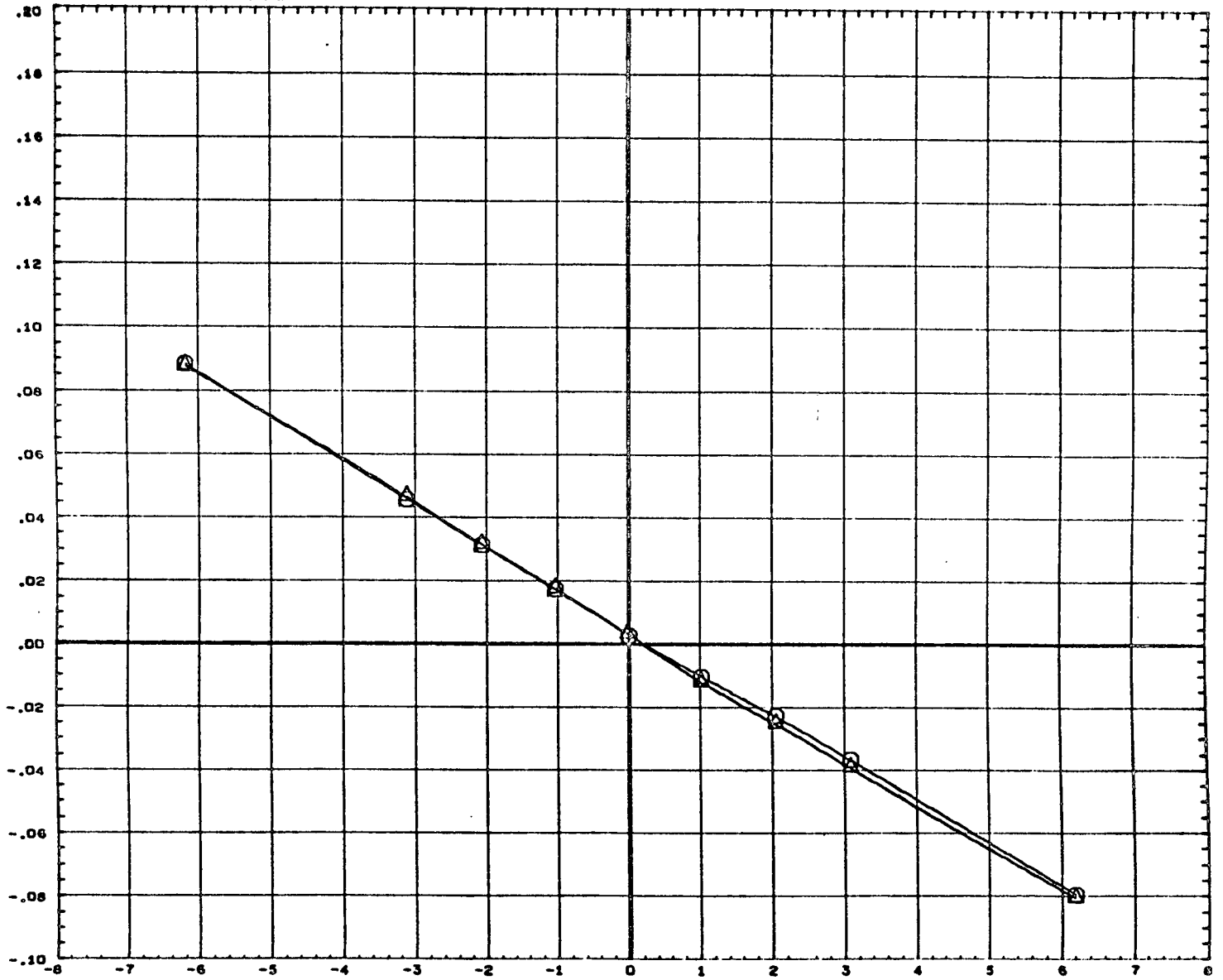


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69037)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF SHROUD

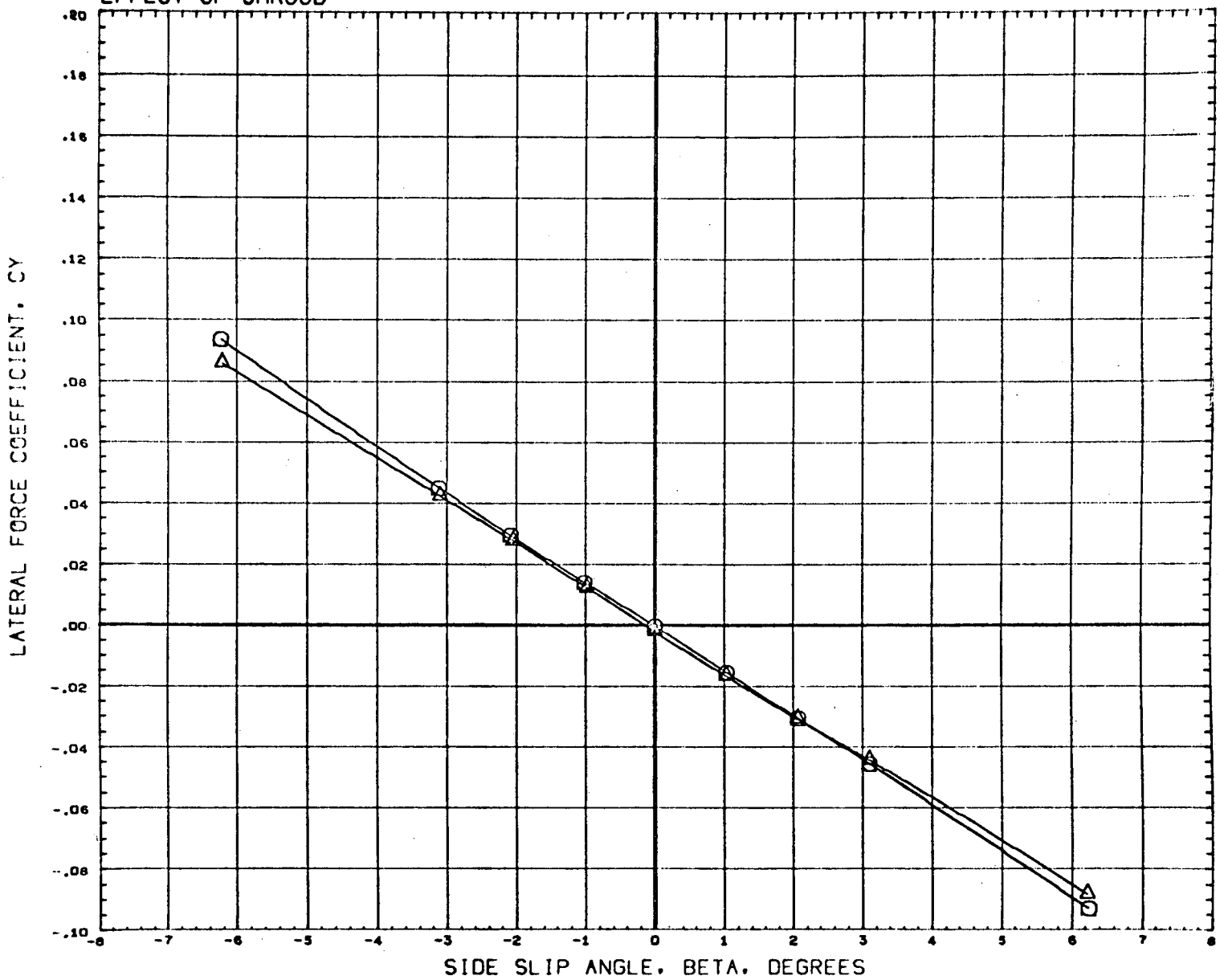


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69037)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF SHROUD

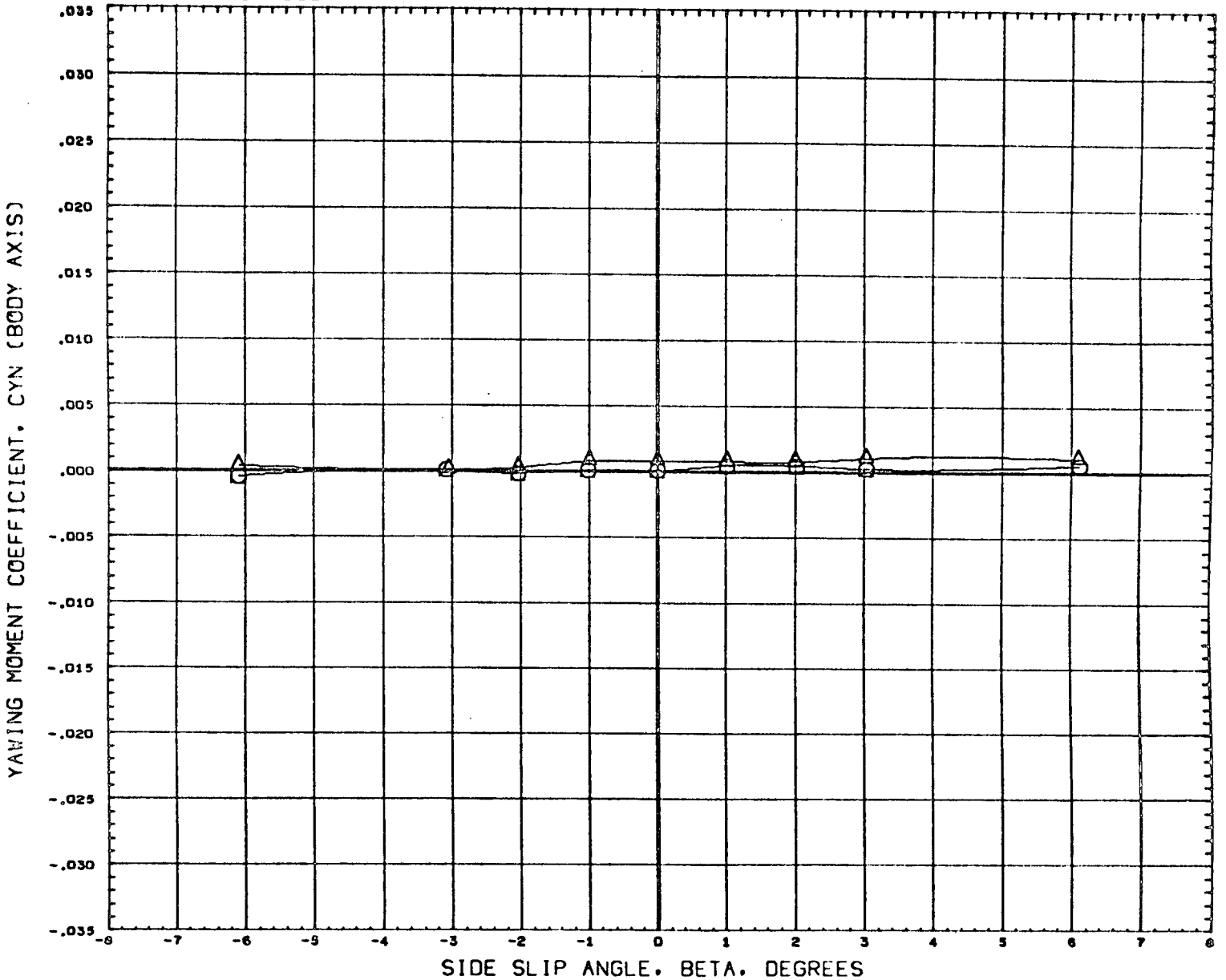


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69037)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF SHROUD

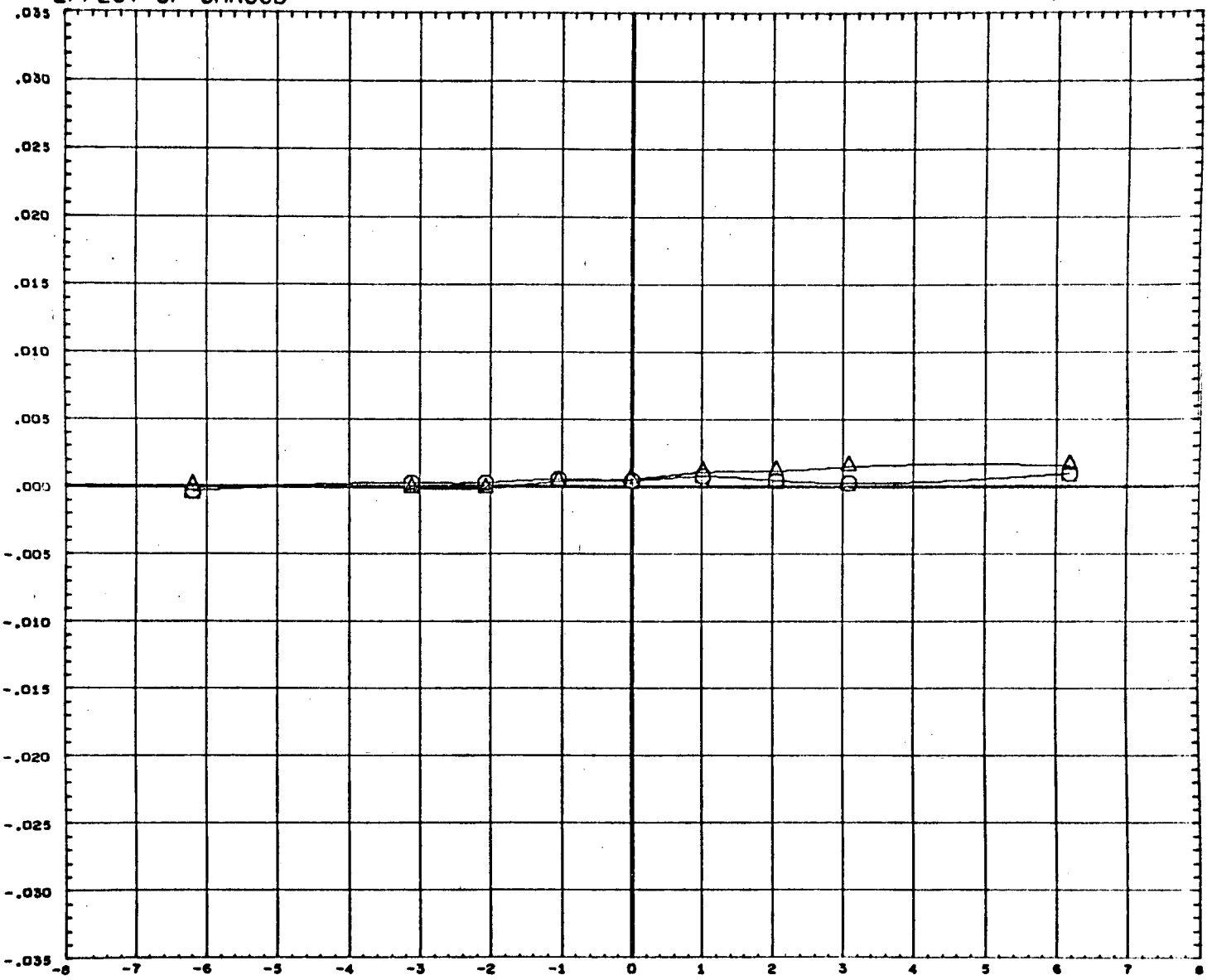


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69037)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF SHROUD



YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)

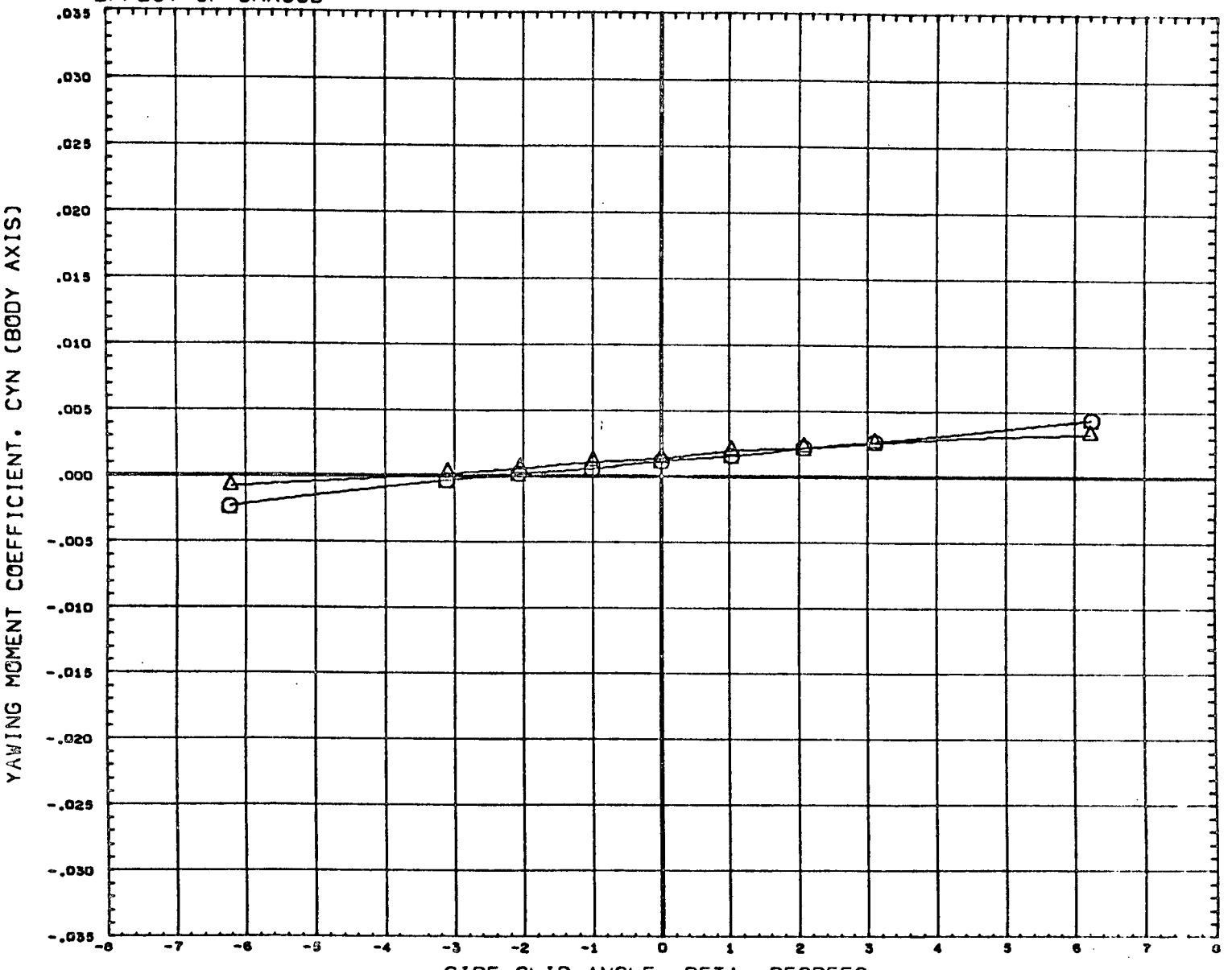
SIDE SLIP ANGLE, BETA, DEGREES

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69037)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF SHROUD

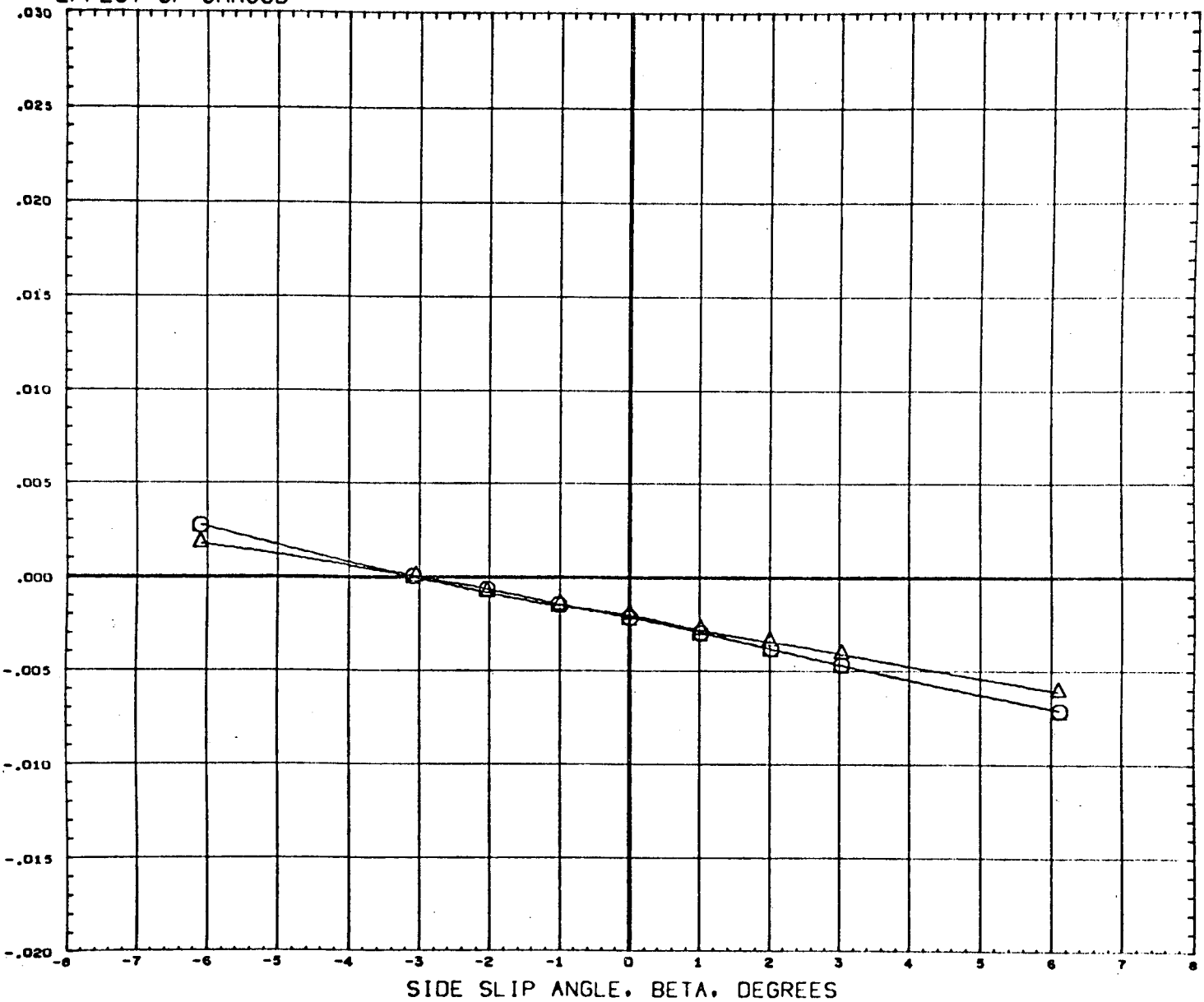


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69037)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

EFFECT OF SHROUD

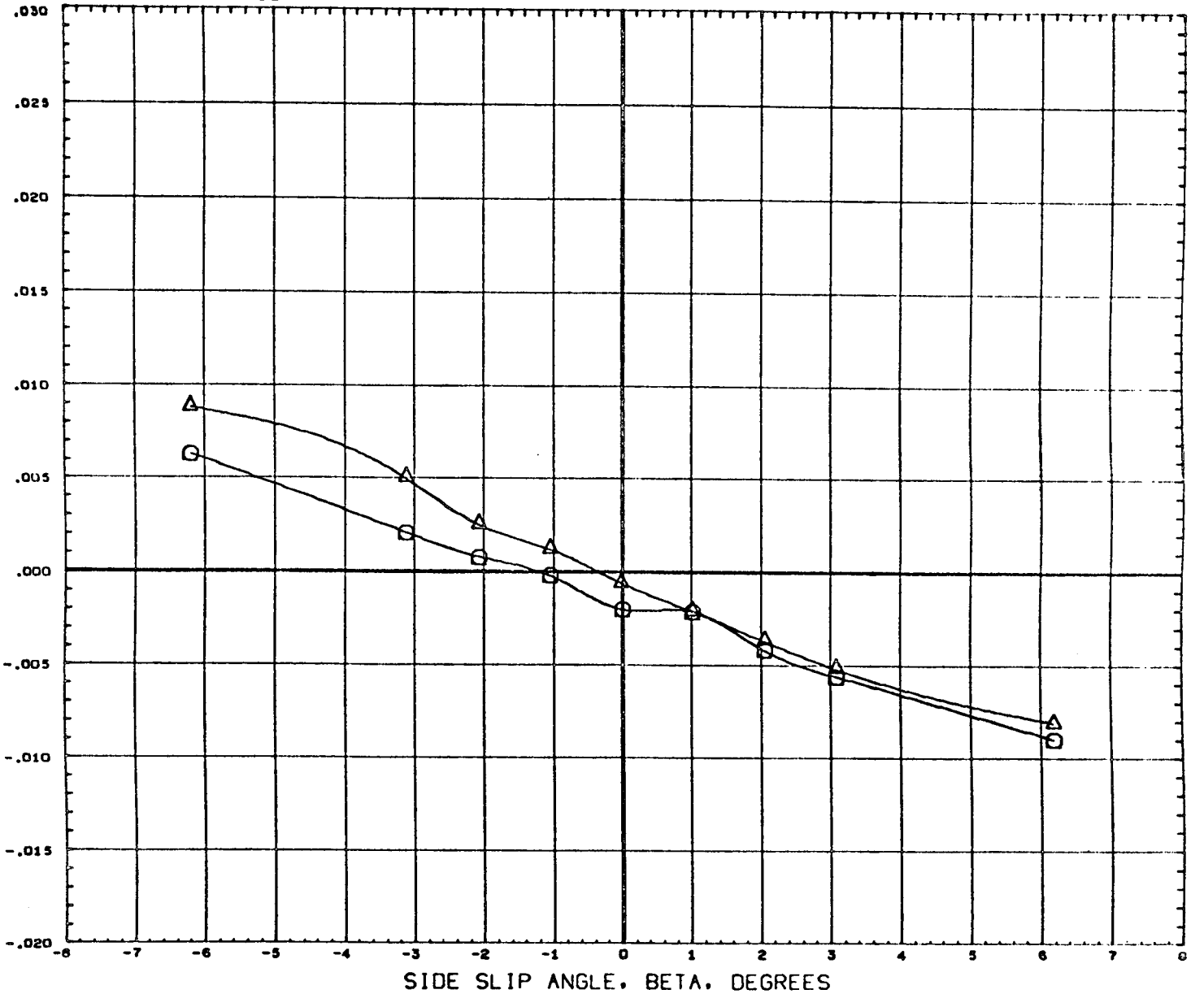


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69037)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

EFFECT OF SHROUD

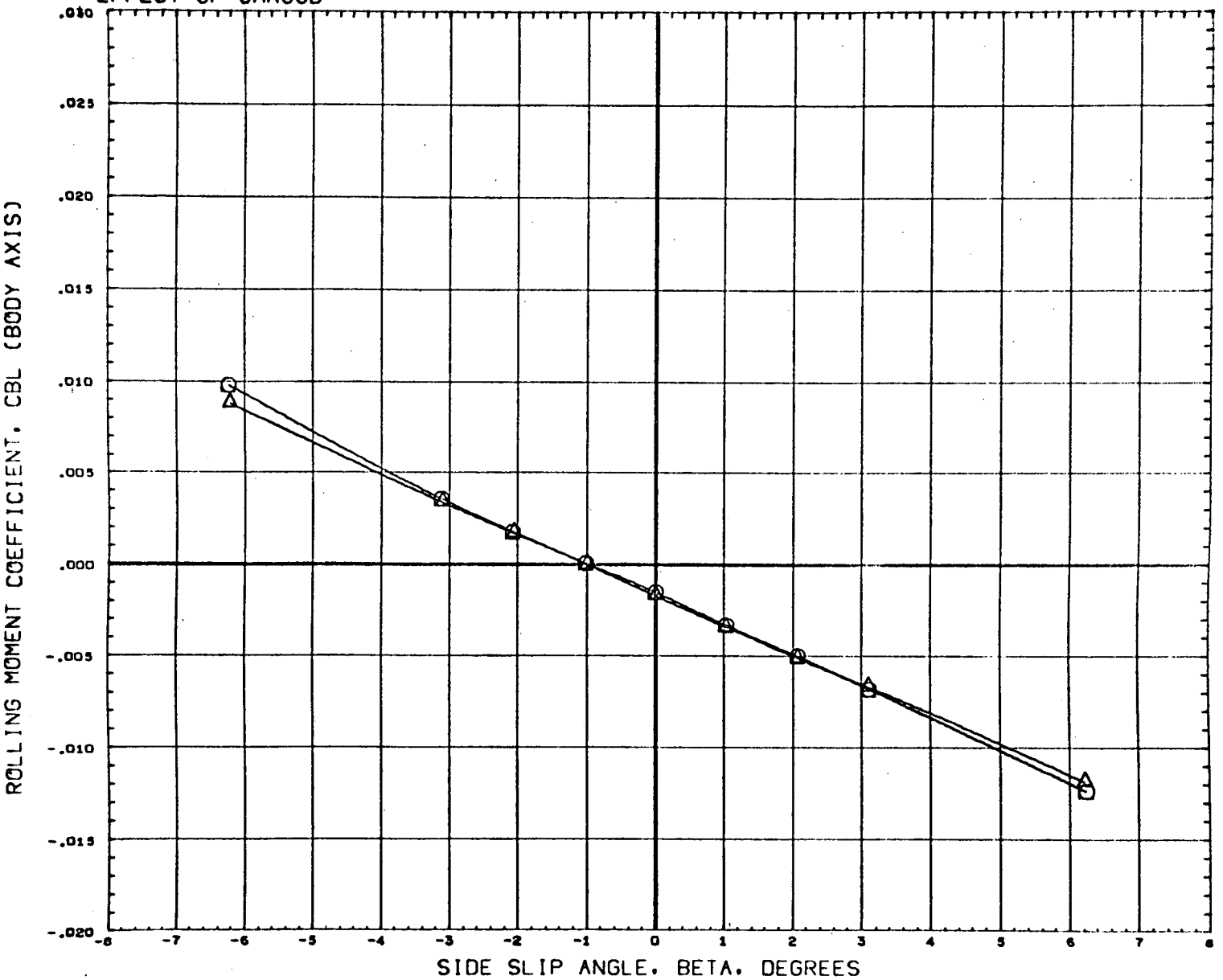


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69037)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

EFFECT OF SHROUD

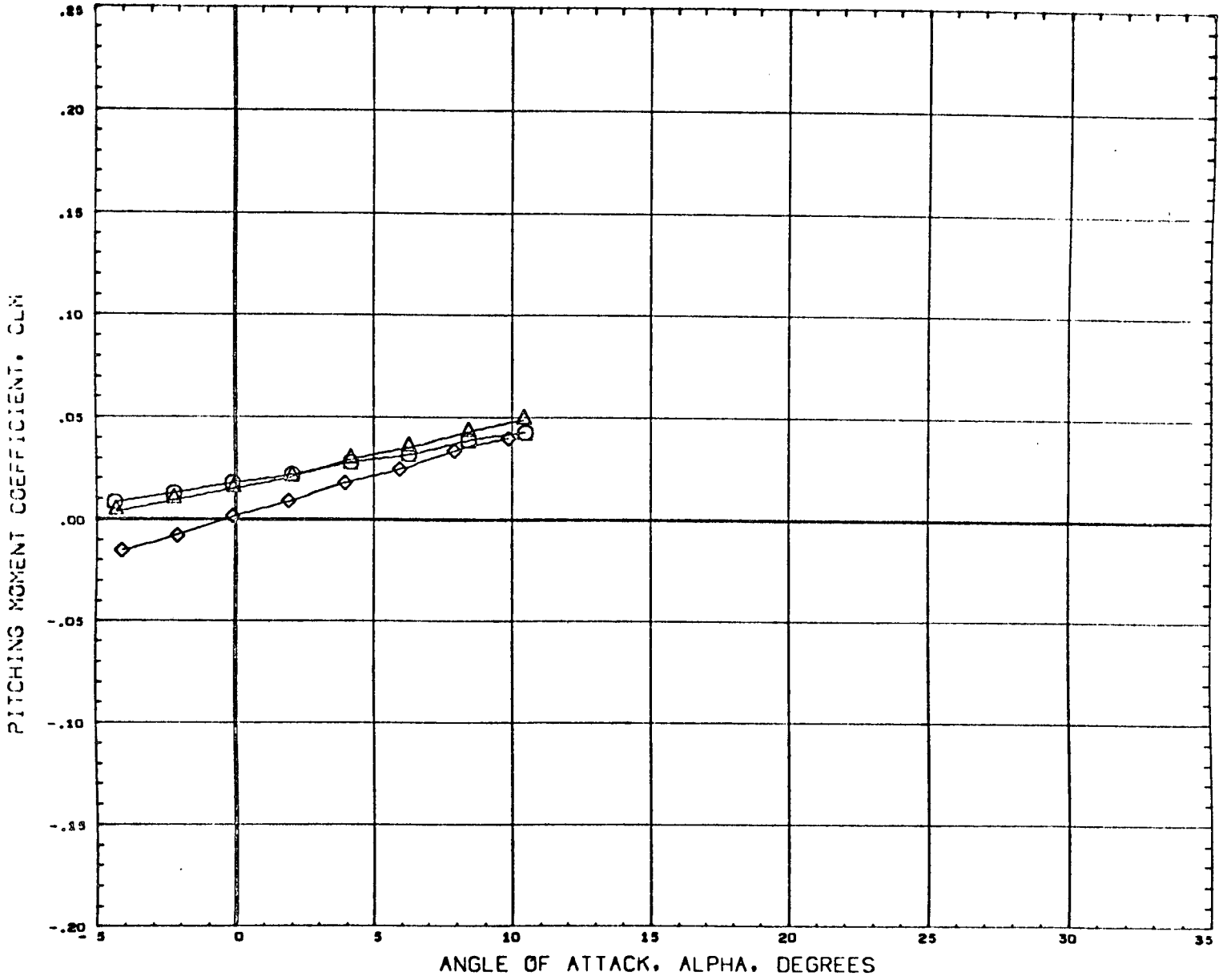


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69037)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2	0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

CONFIGURATION BUILDUP



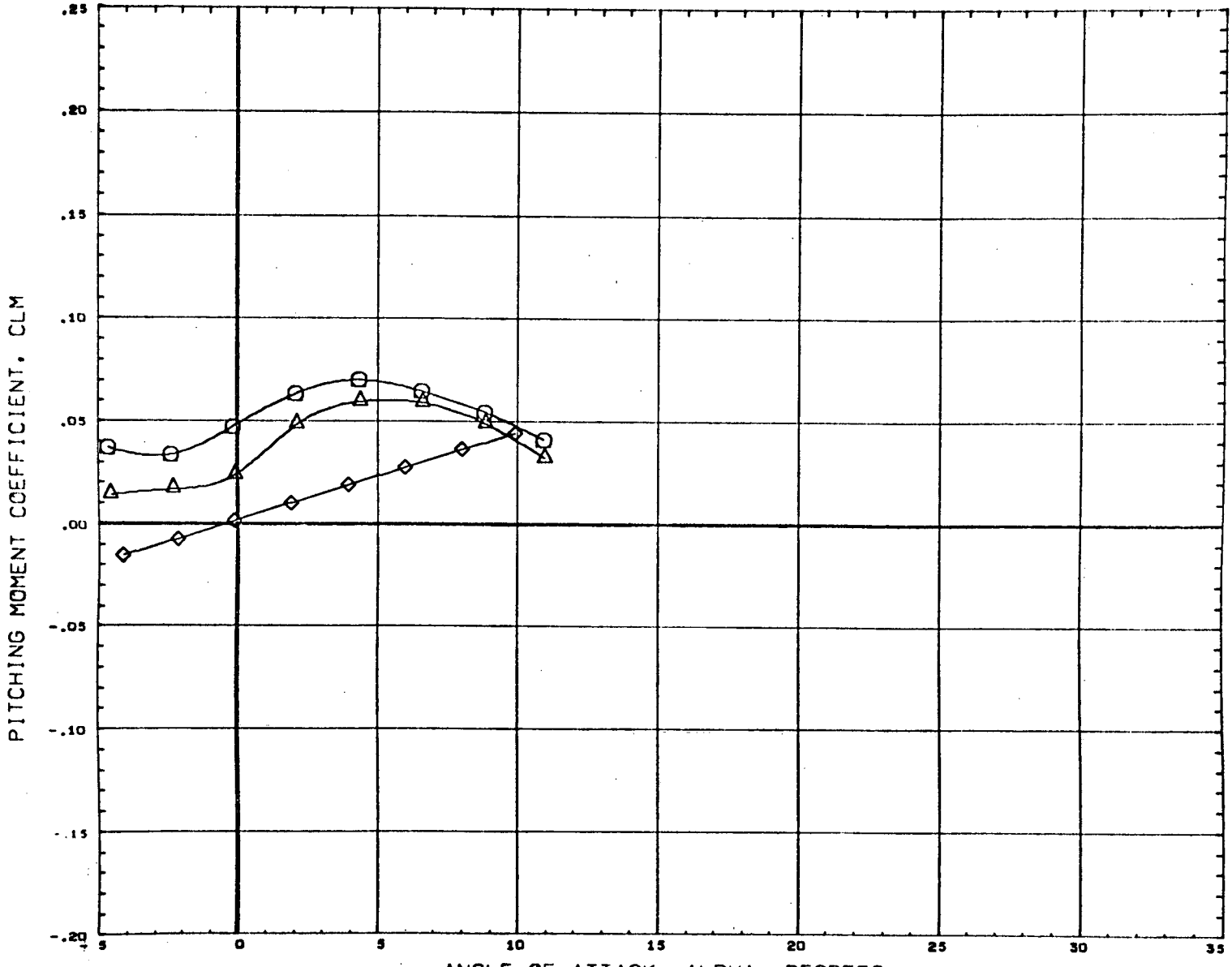
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

D

CONFIGURATION BUILDUP

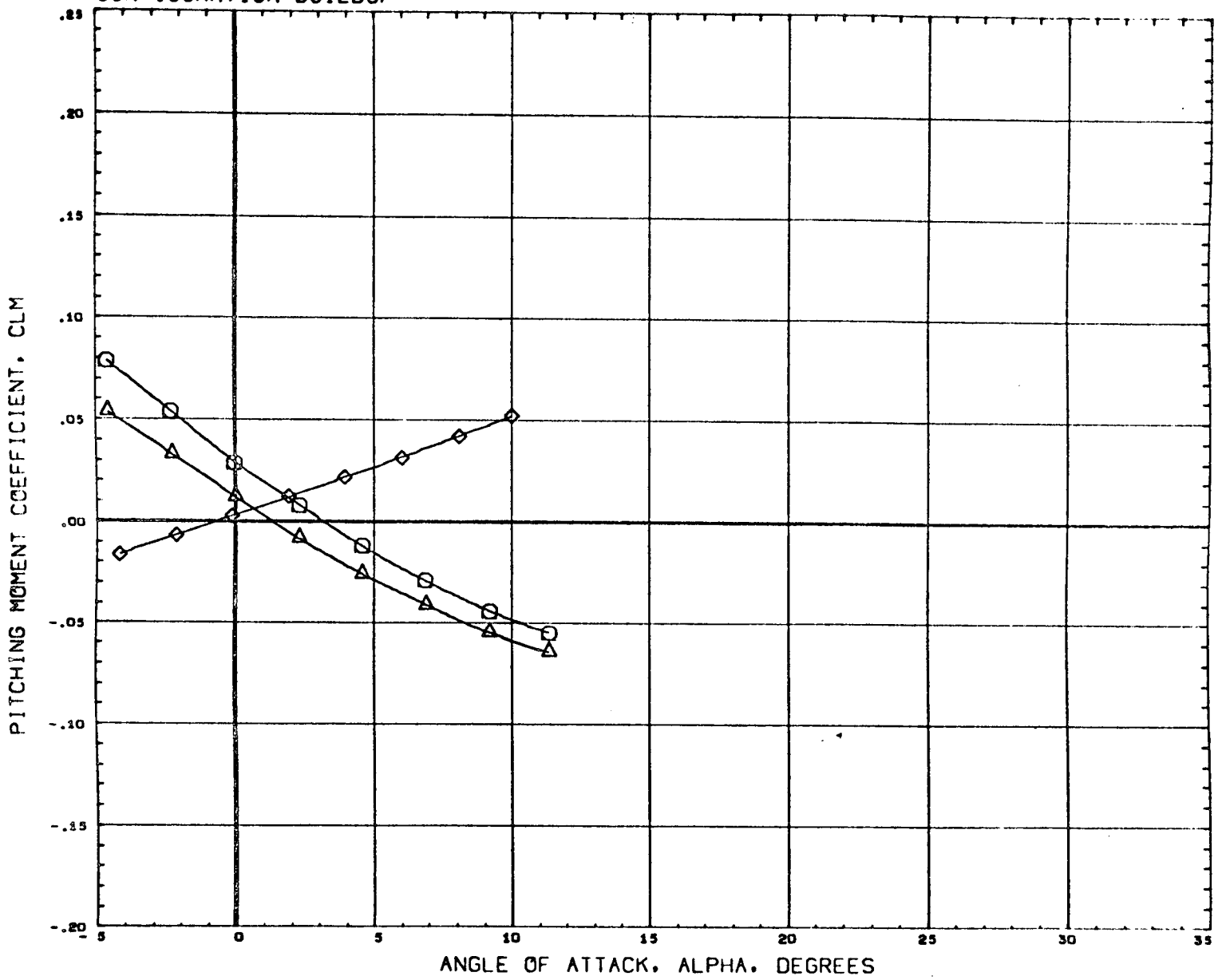


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(B69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP

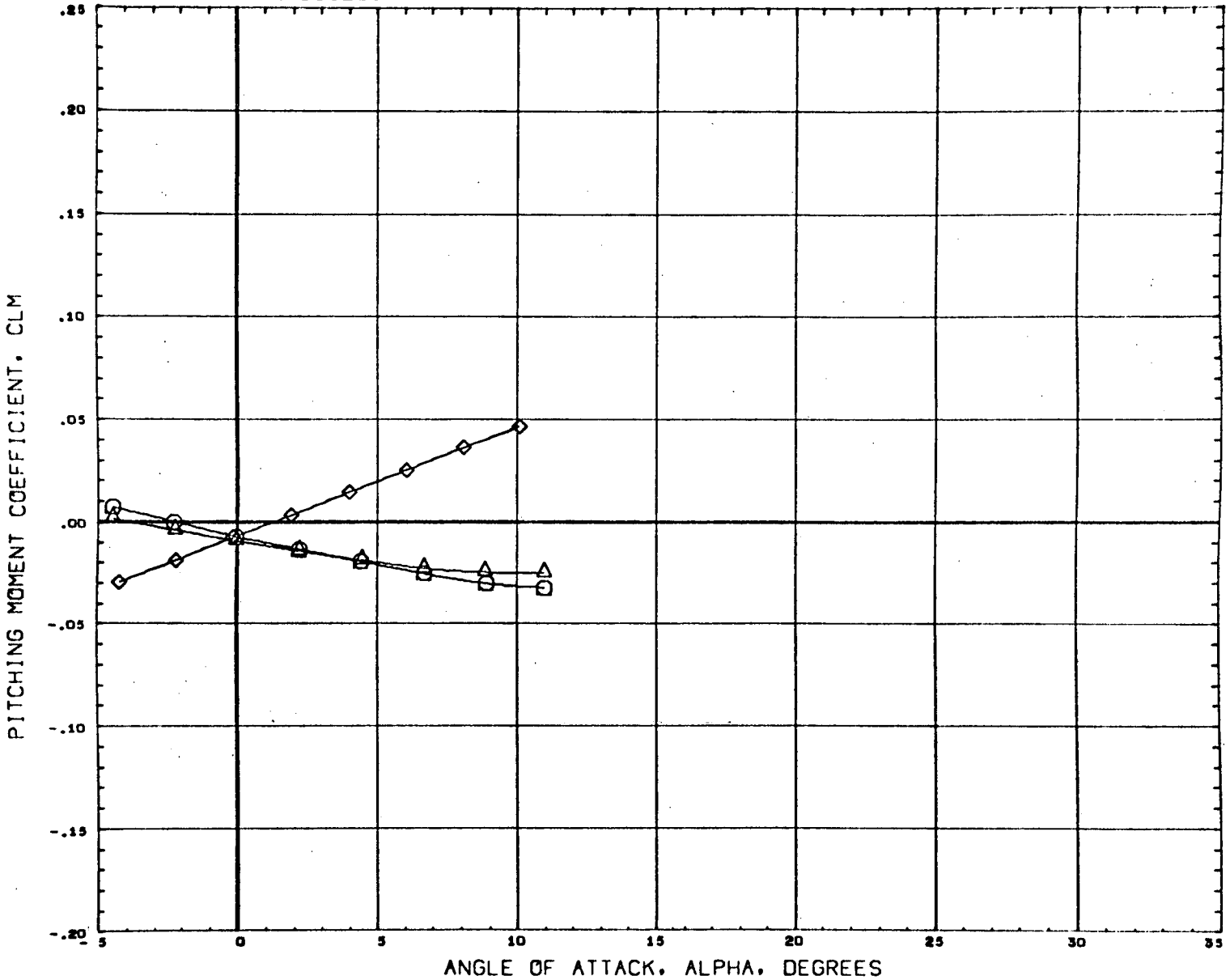


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(B69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

CONFIGURATION BUILDUP

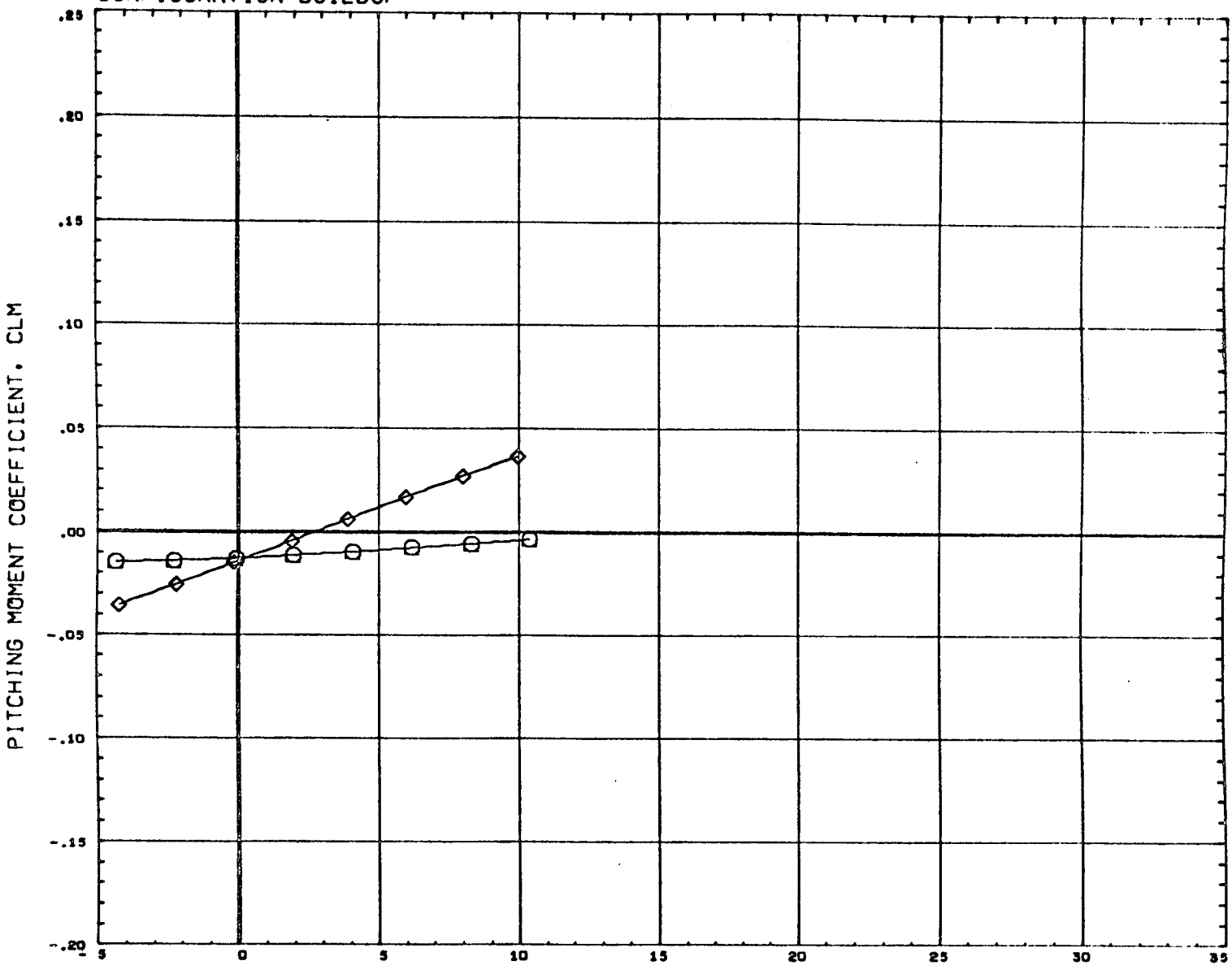


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(B69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP

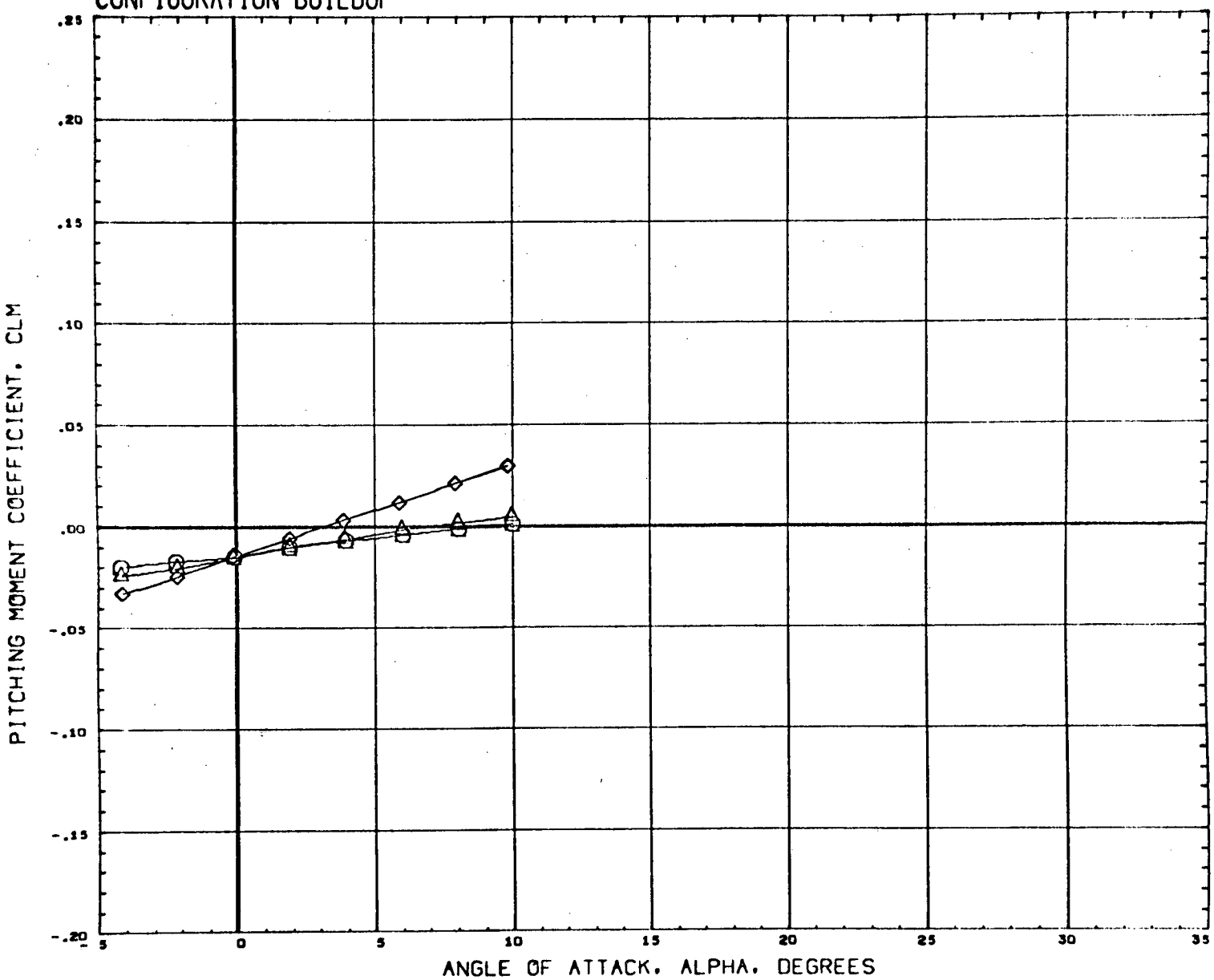


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP

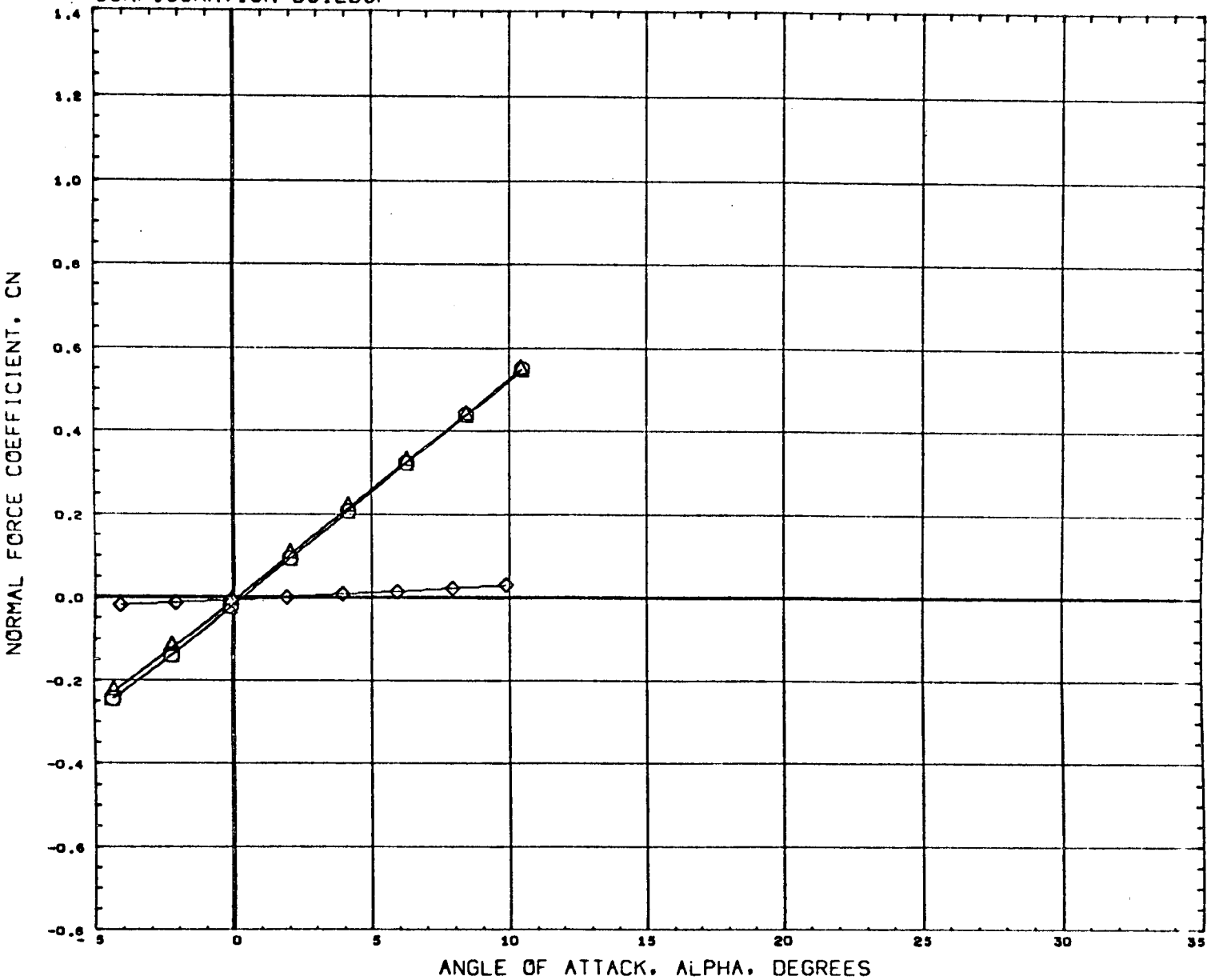


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

CONFIGURATION BUILDUP

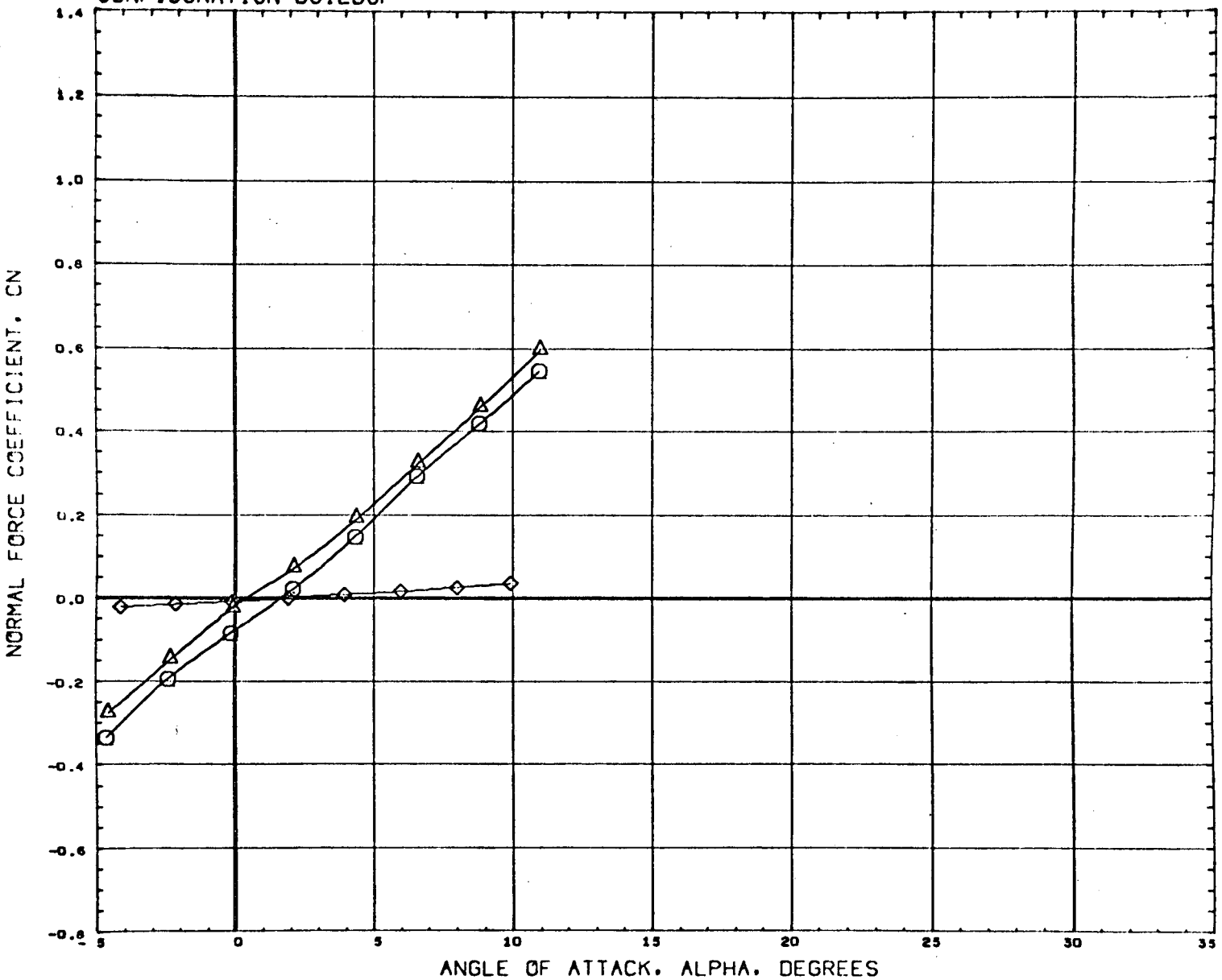


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(B69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

CONFIGURATION BUILDUP

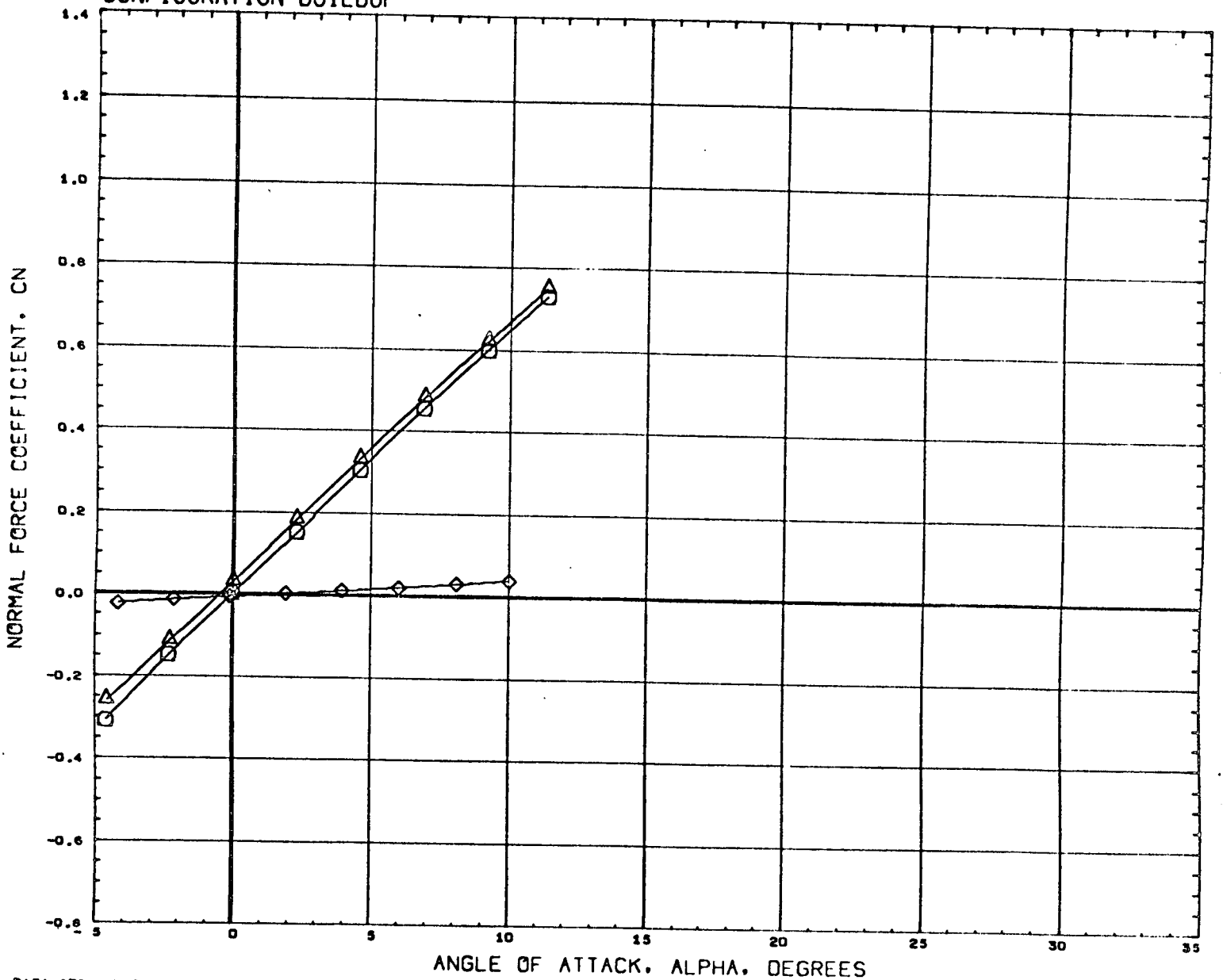


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(B69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP



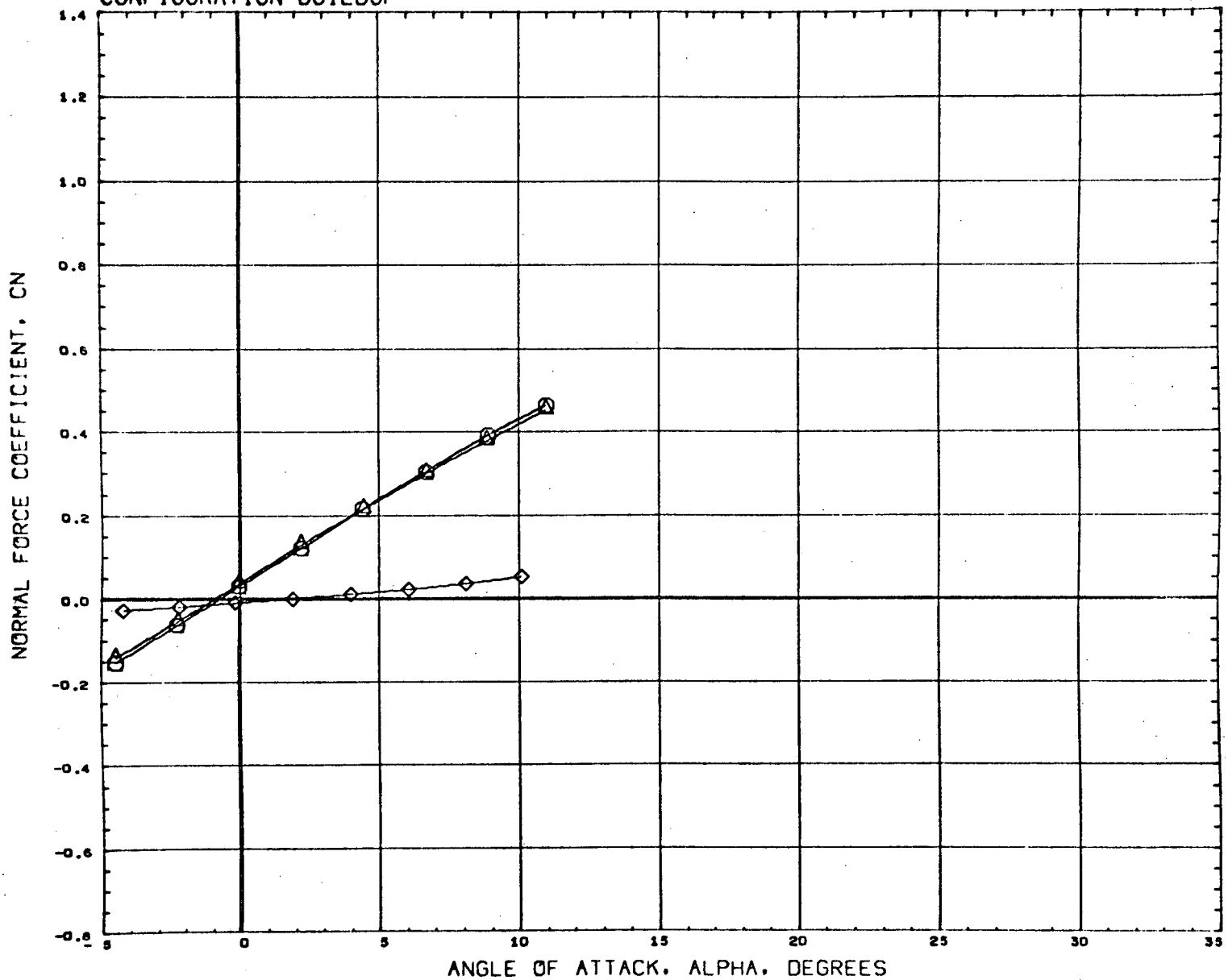
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(B69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1
(B69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2

ELEVON	RUDDER	RFLARE	BFLAP
0.000	0.000	0.000	0.000
0.000			0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

CONFIGURATION BUILDUP

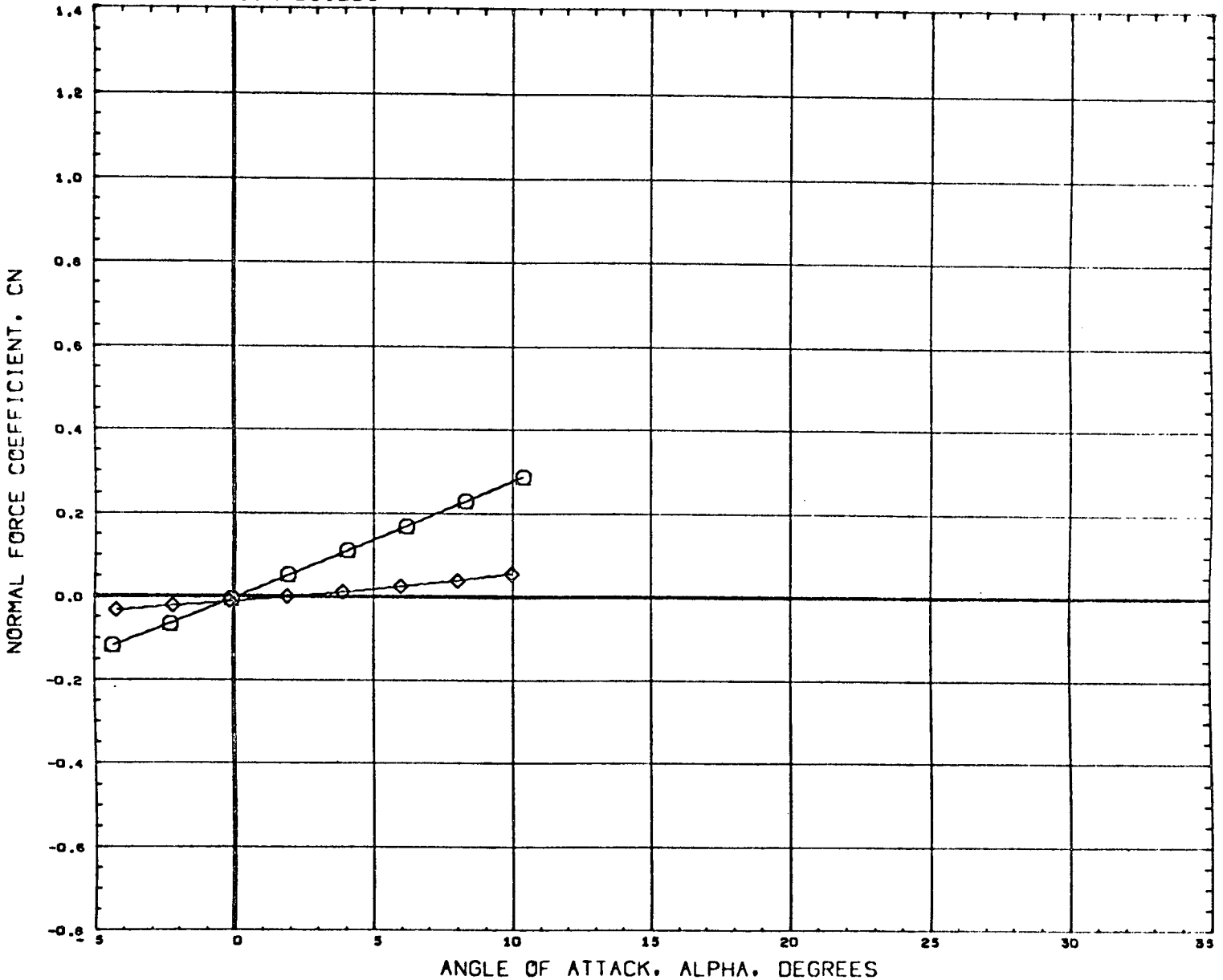


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP

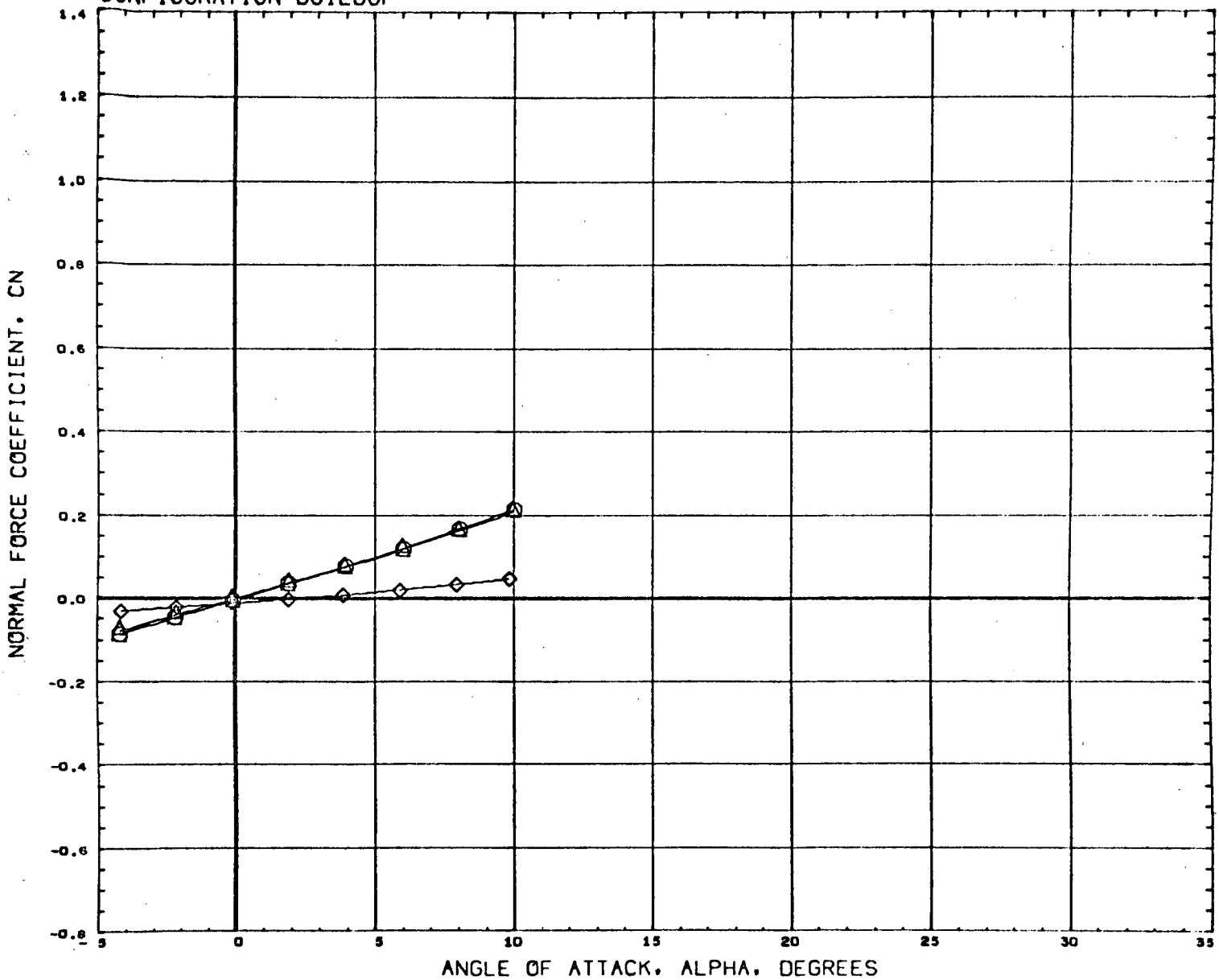


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP

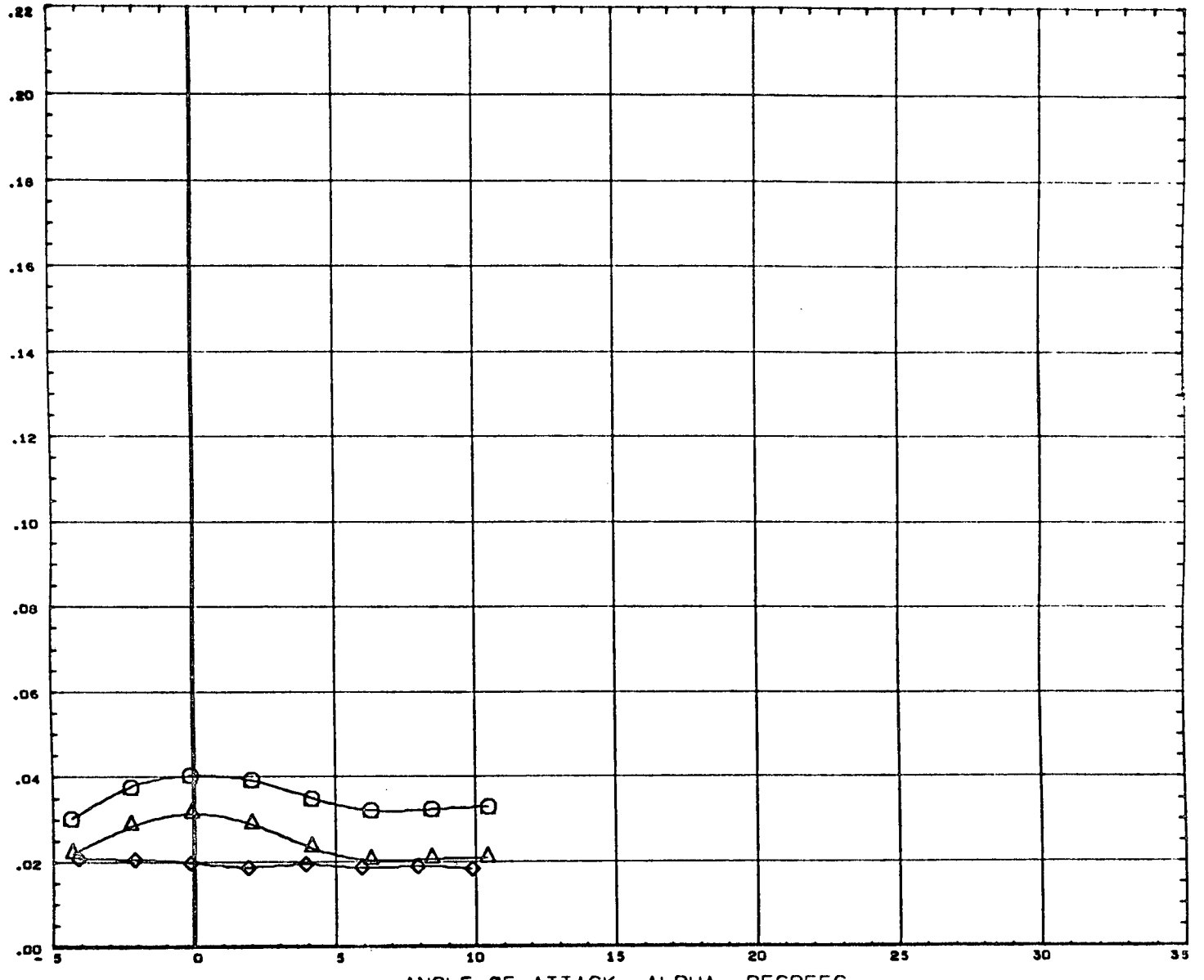


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(B69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

CONFIGURATION BUILDUP



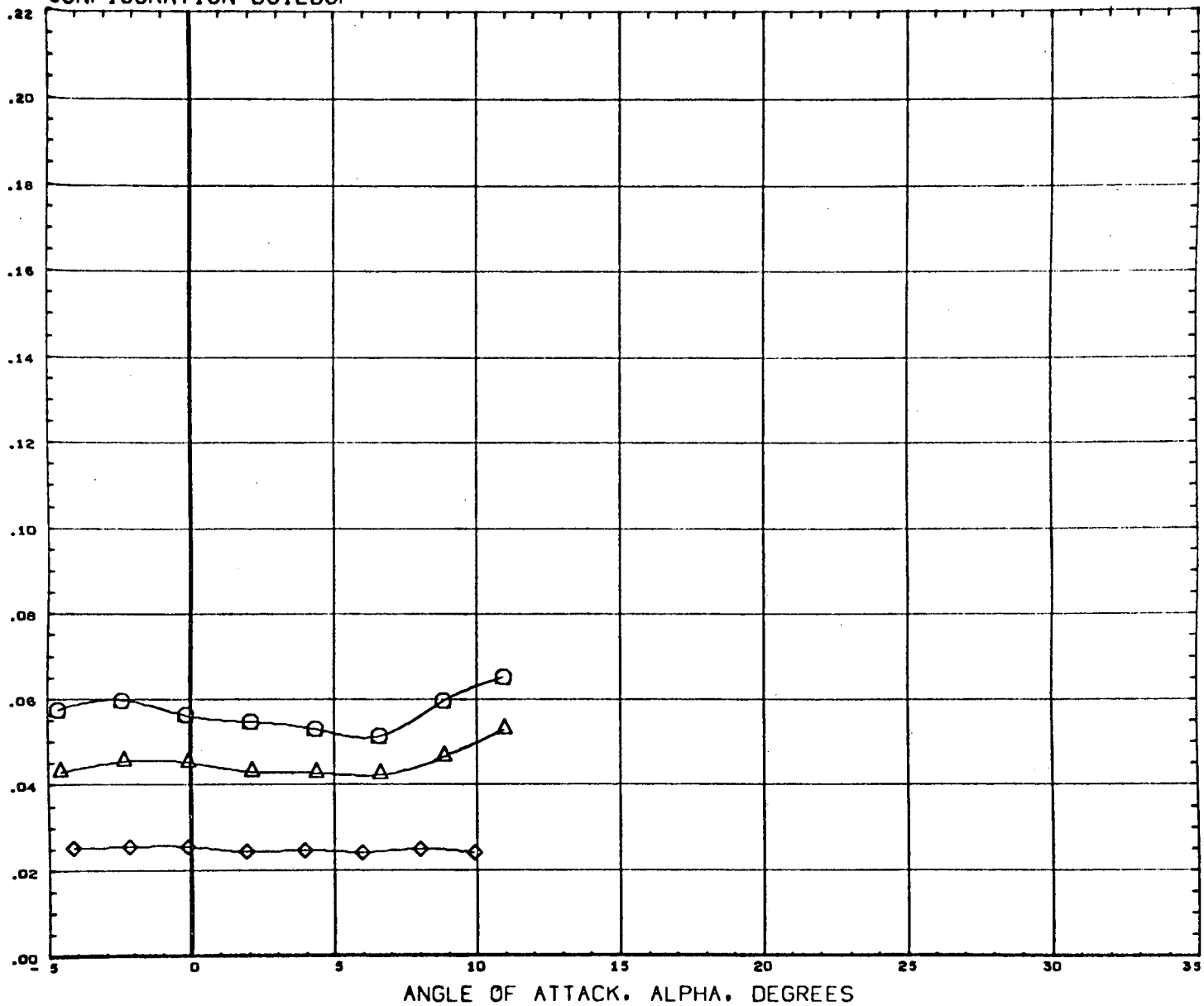
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

E

CONFIGURATION BUILDUP

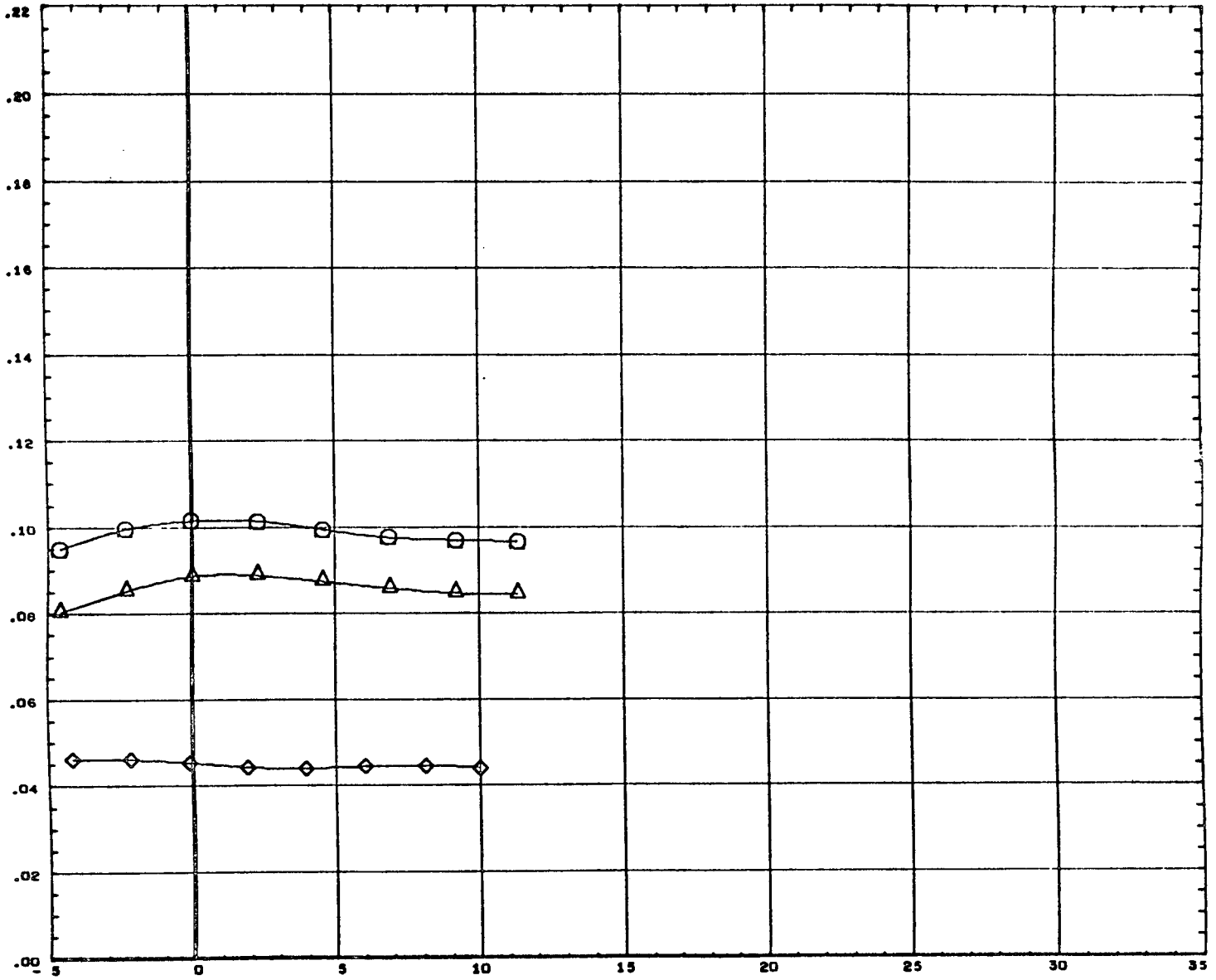


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP

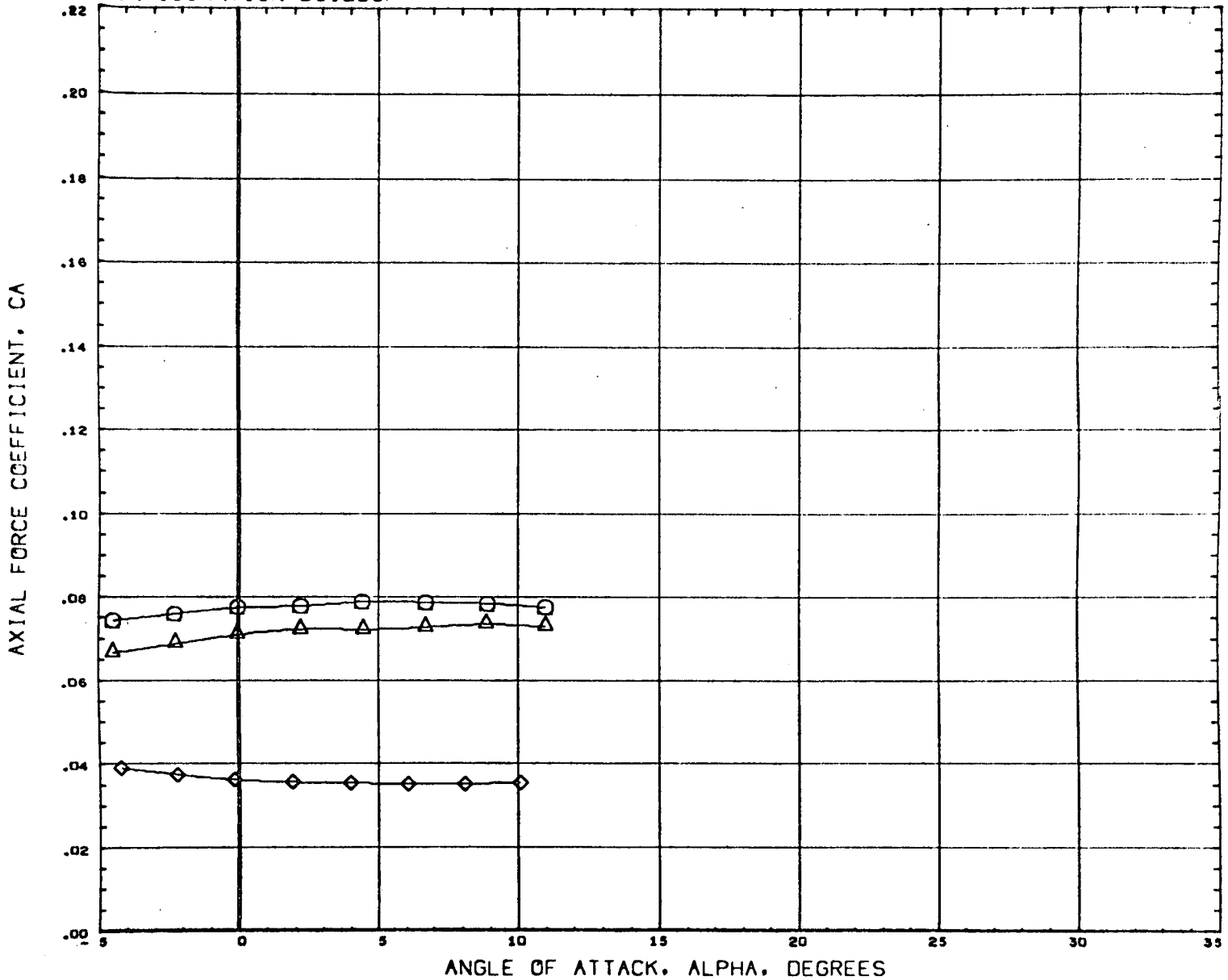


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0200	IN.
BREF	4.4600	IN.
XMRP	3.6020	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

CONFIGURATION BUILDUP

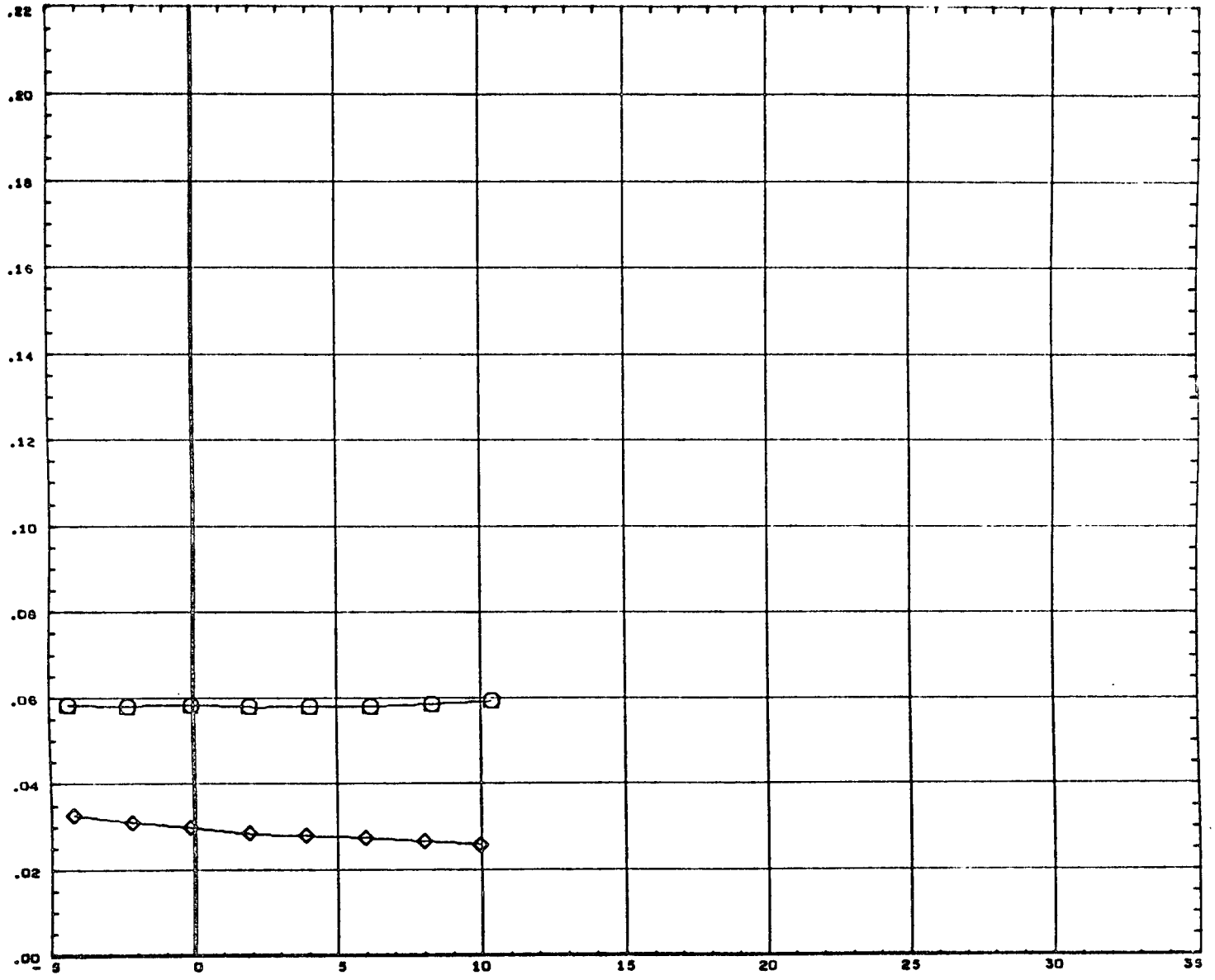


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP

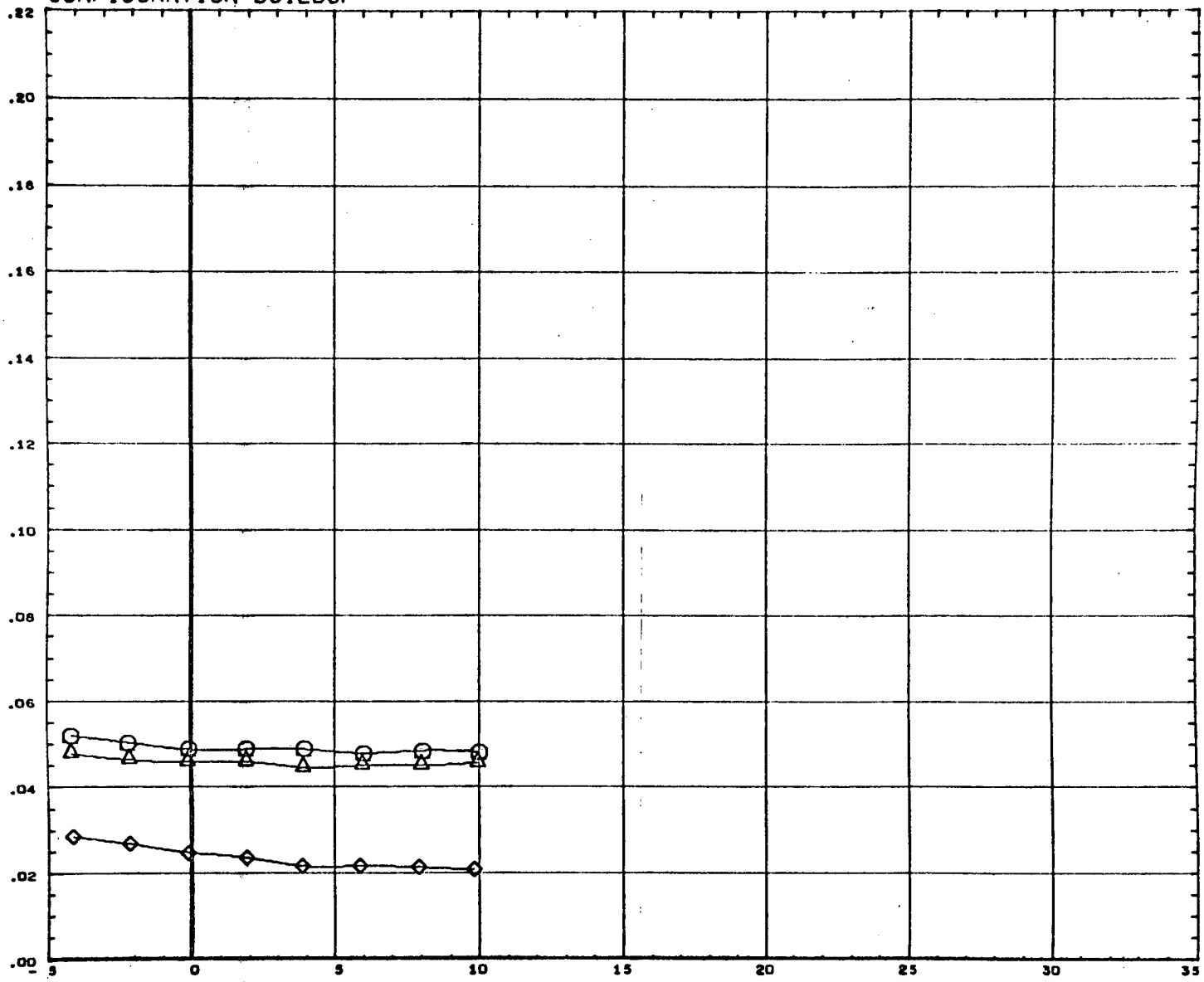


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	⊠	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP

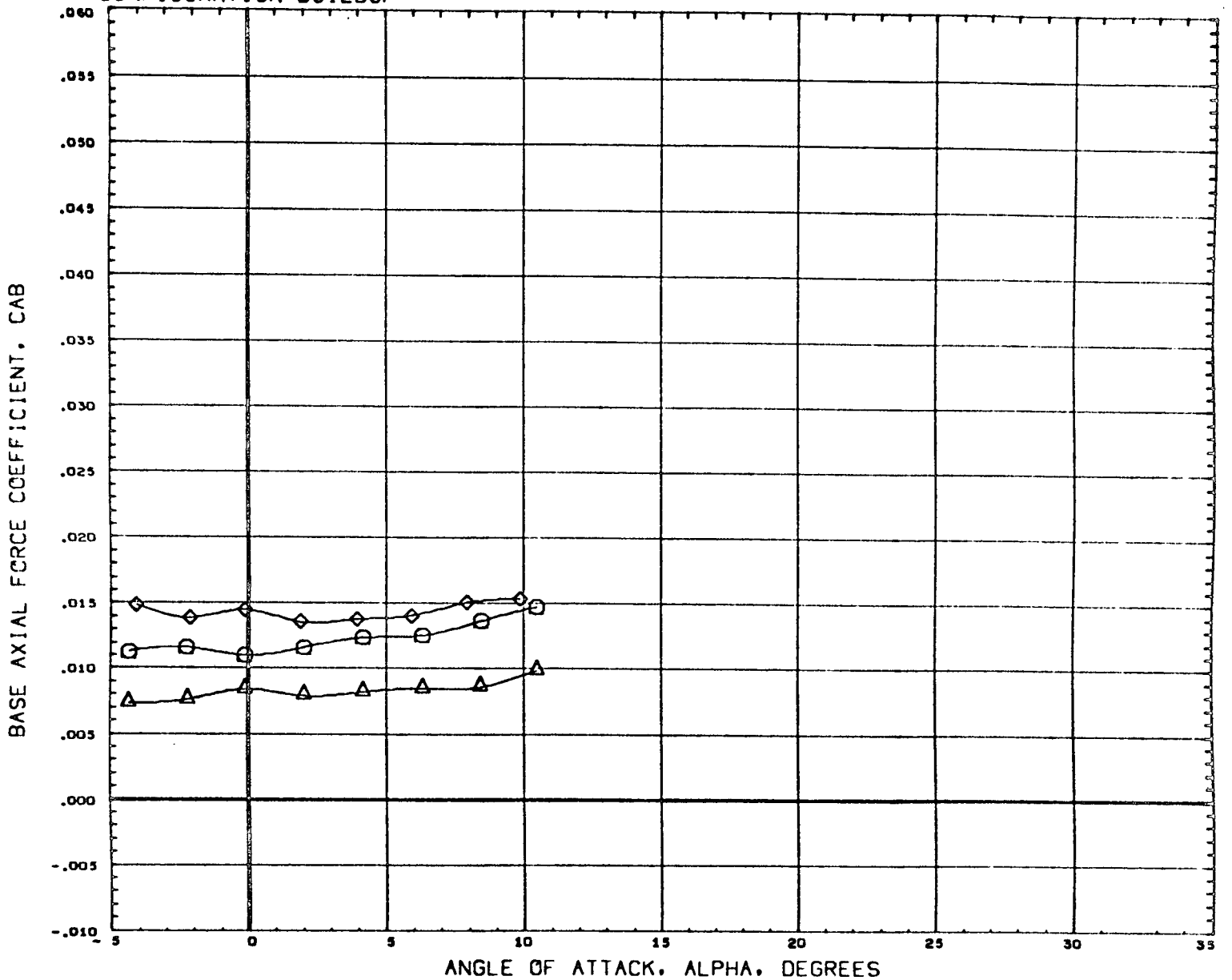


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

CONFIGURATION BUILDUP

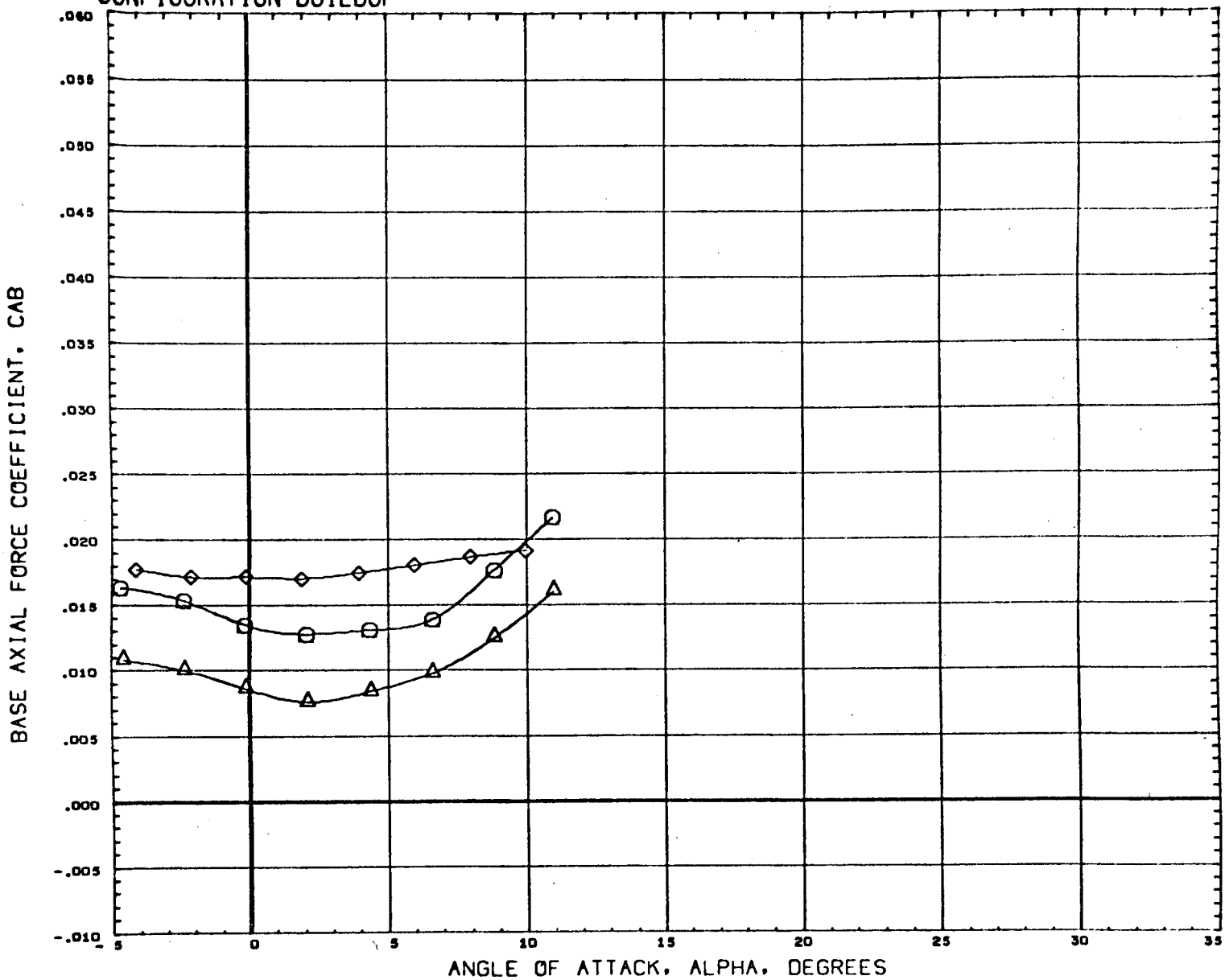


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

CONFIGURATION BUILDUP

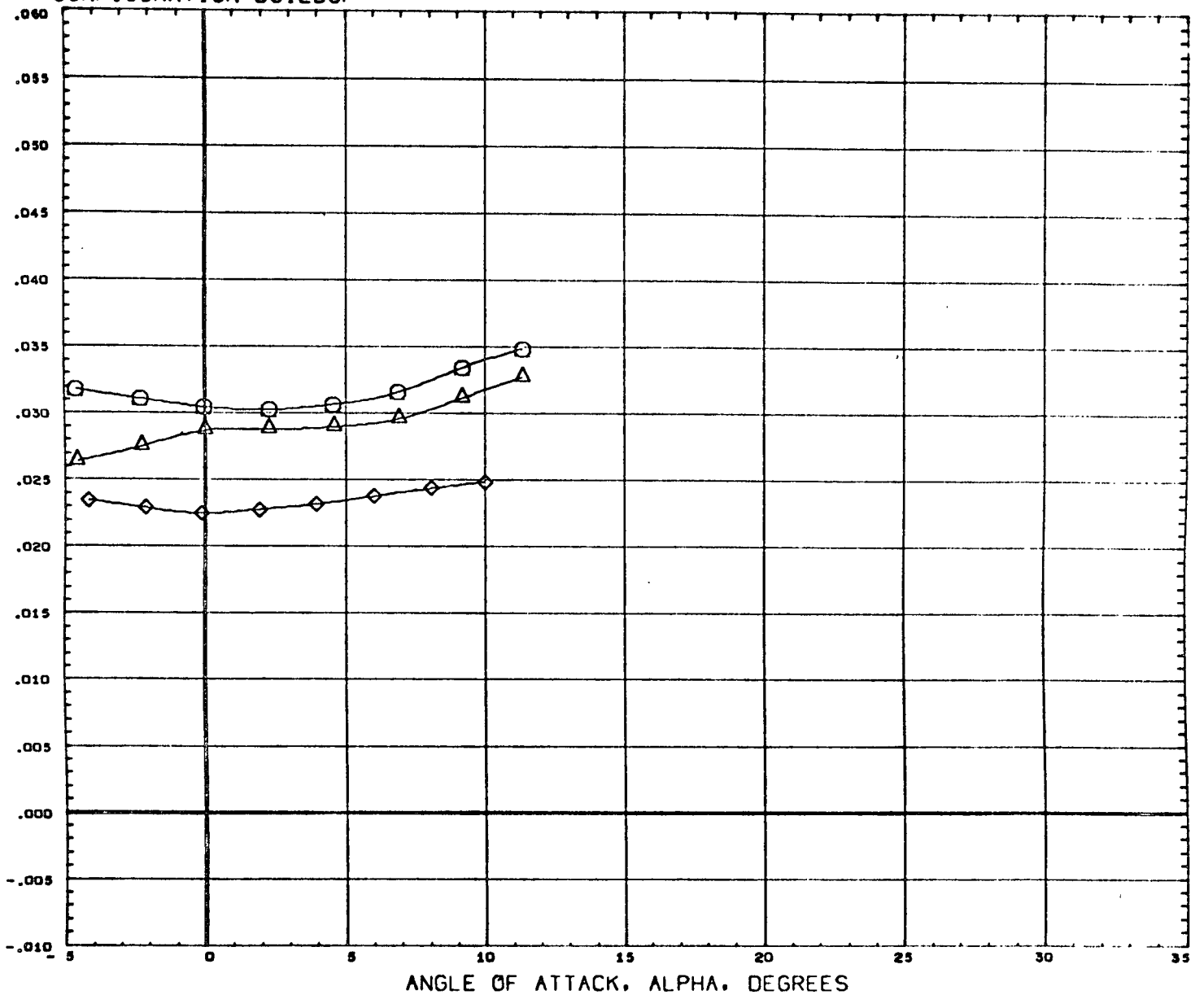


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(B69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP

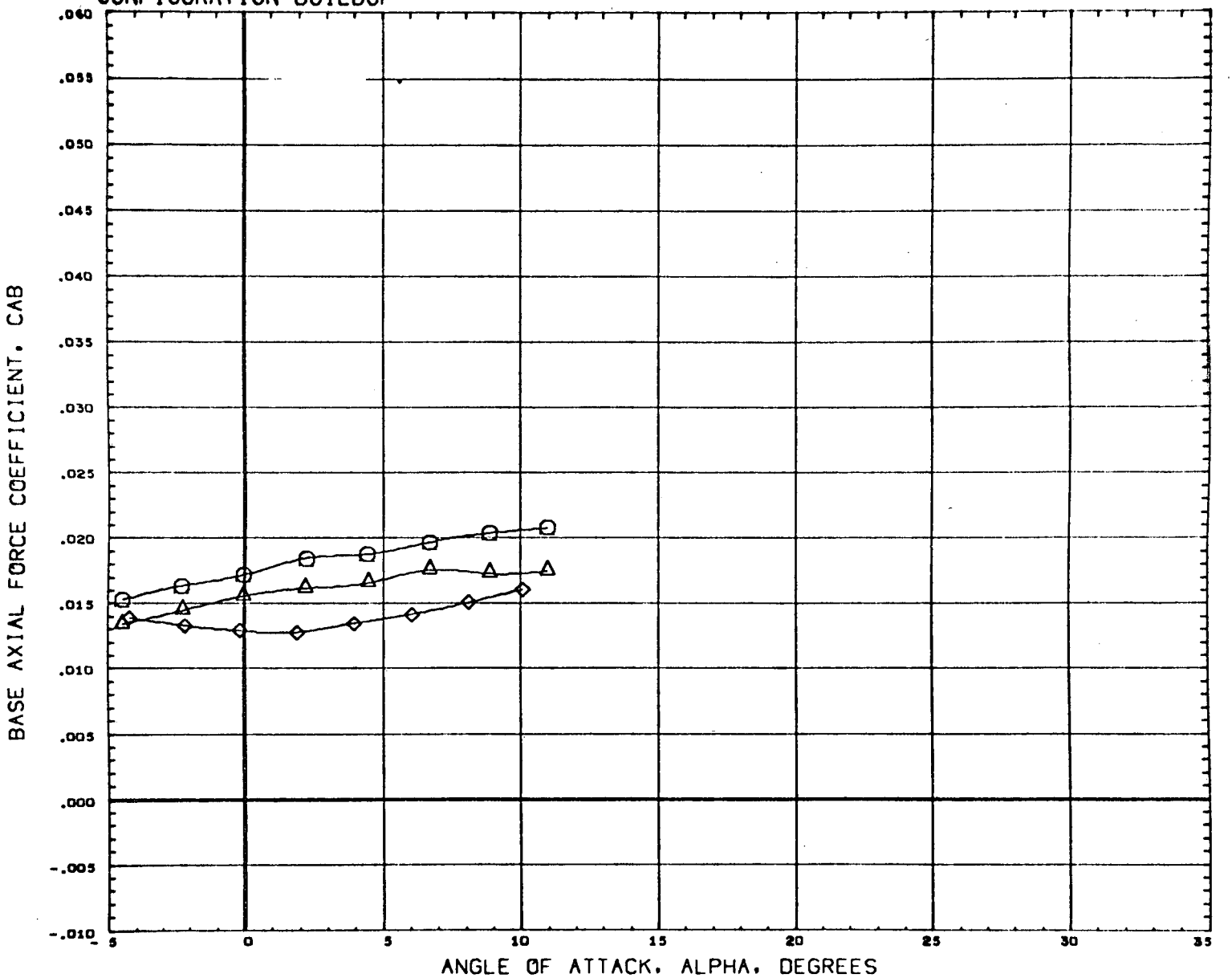


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

CONFIGURATION BUILDUP

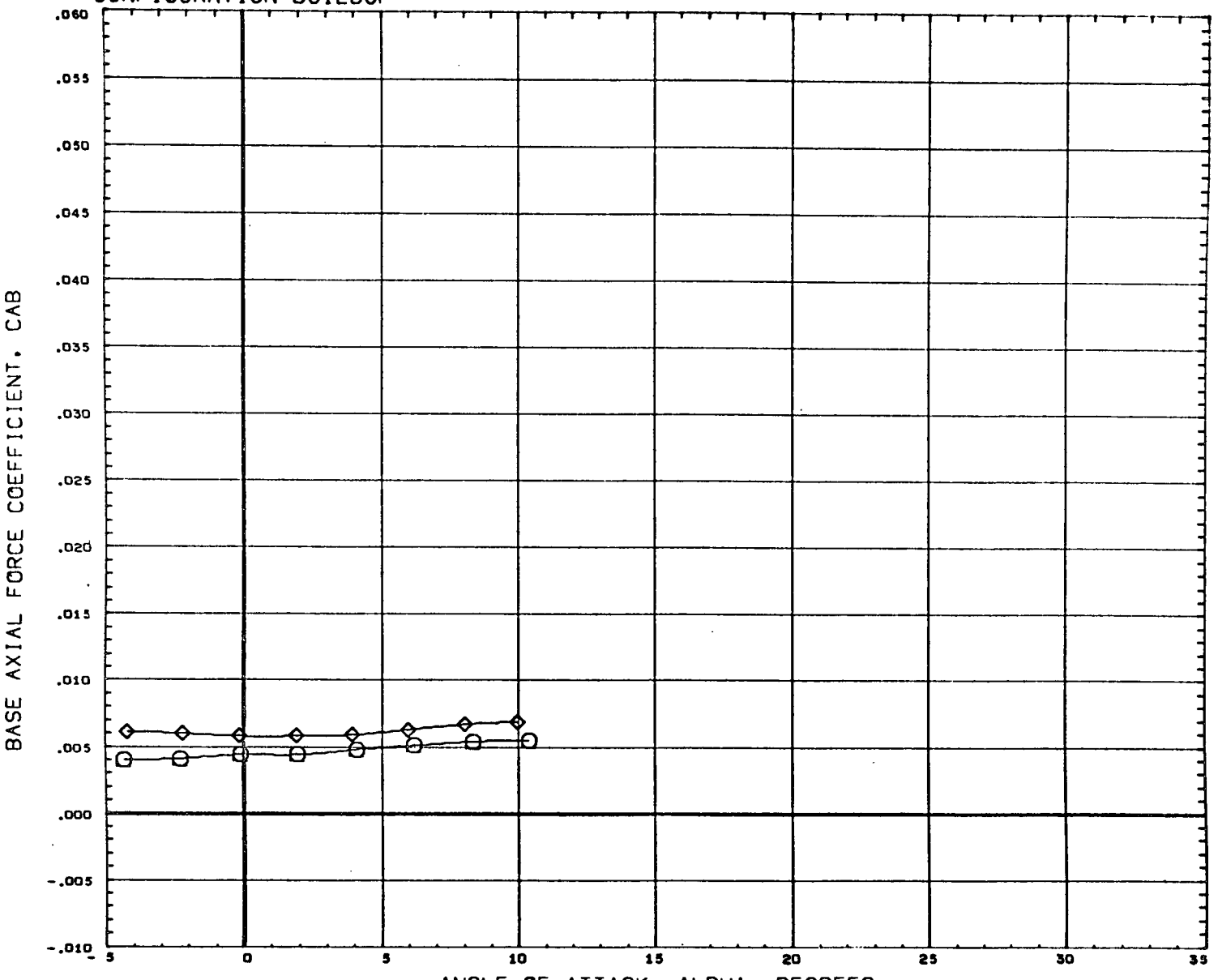


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP

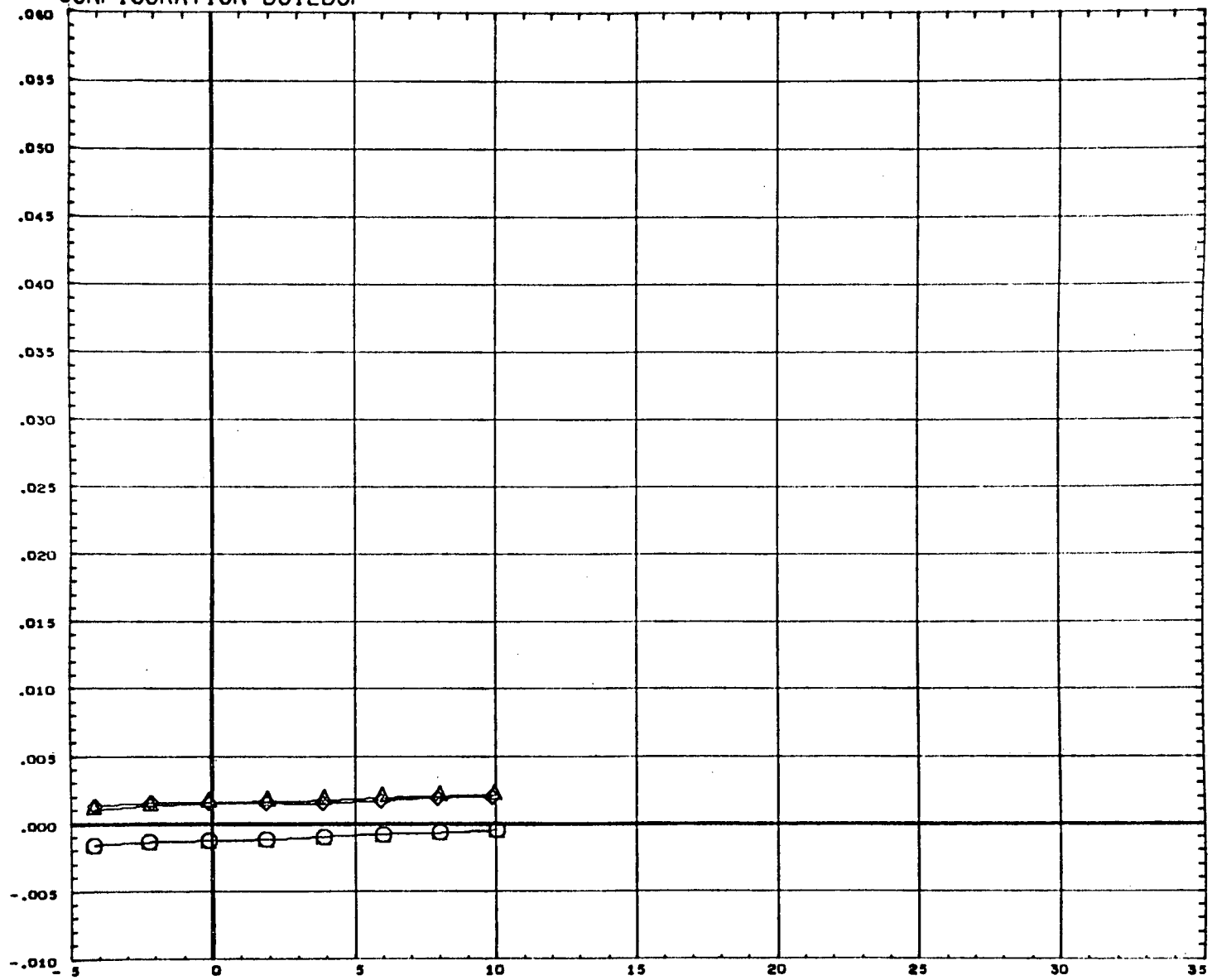


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP

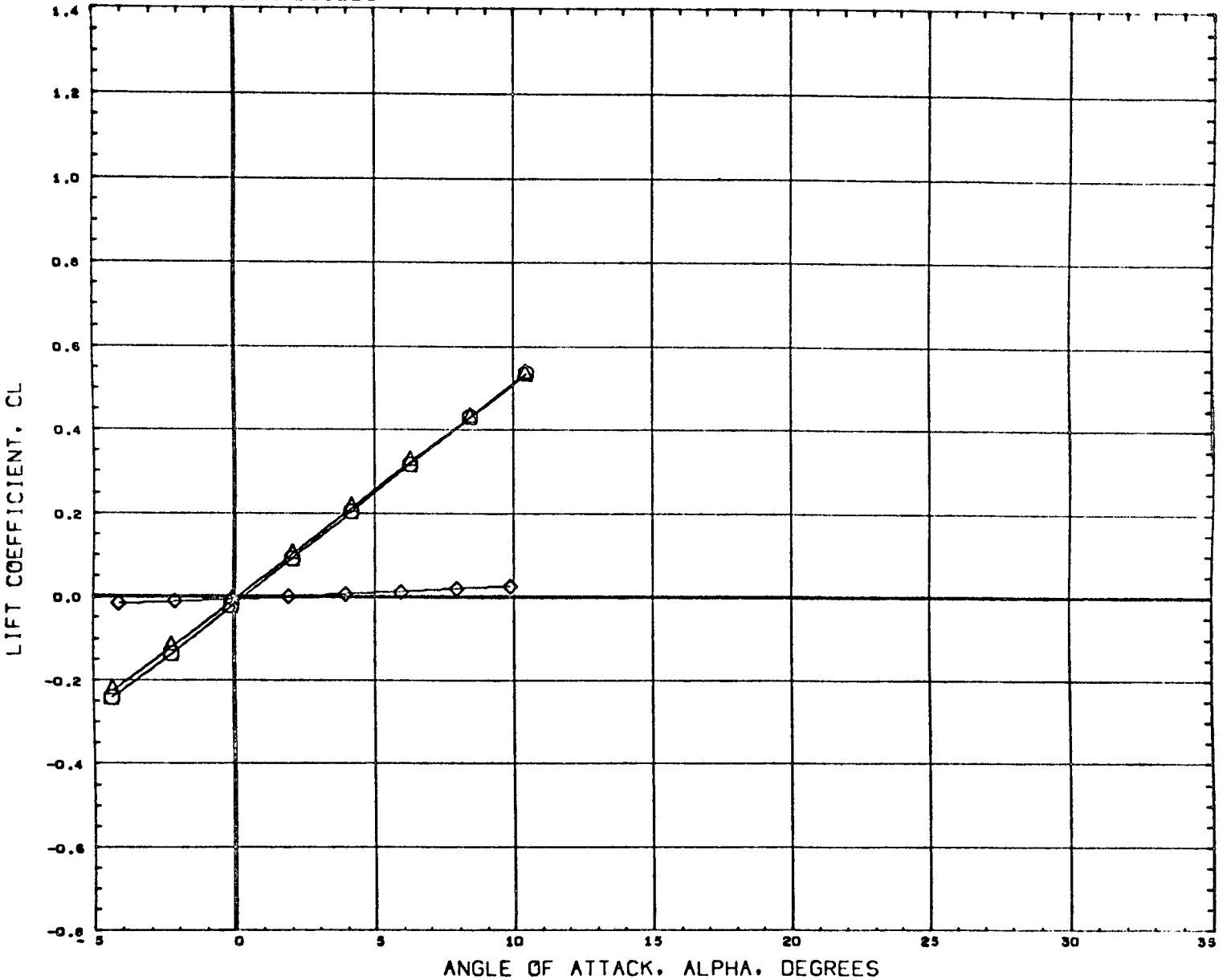


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

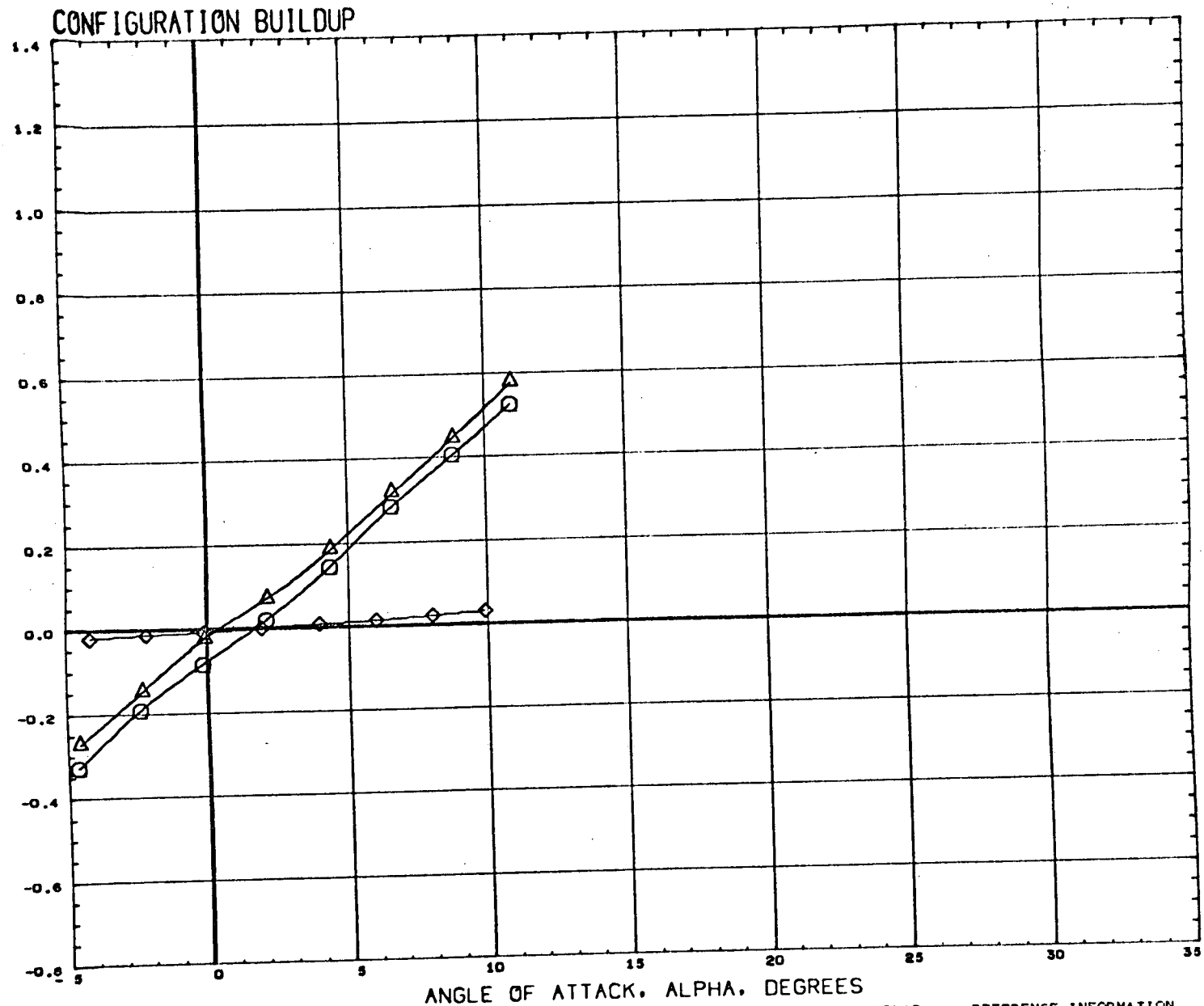
CONFIGURATION BUILDUP



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6920	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60



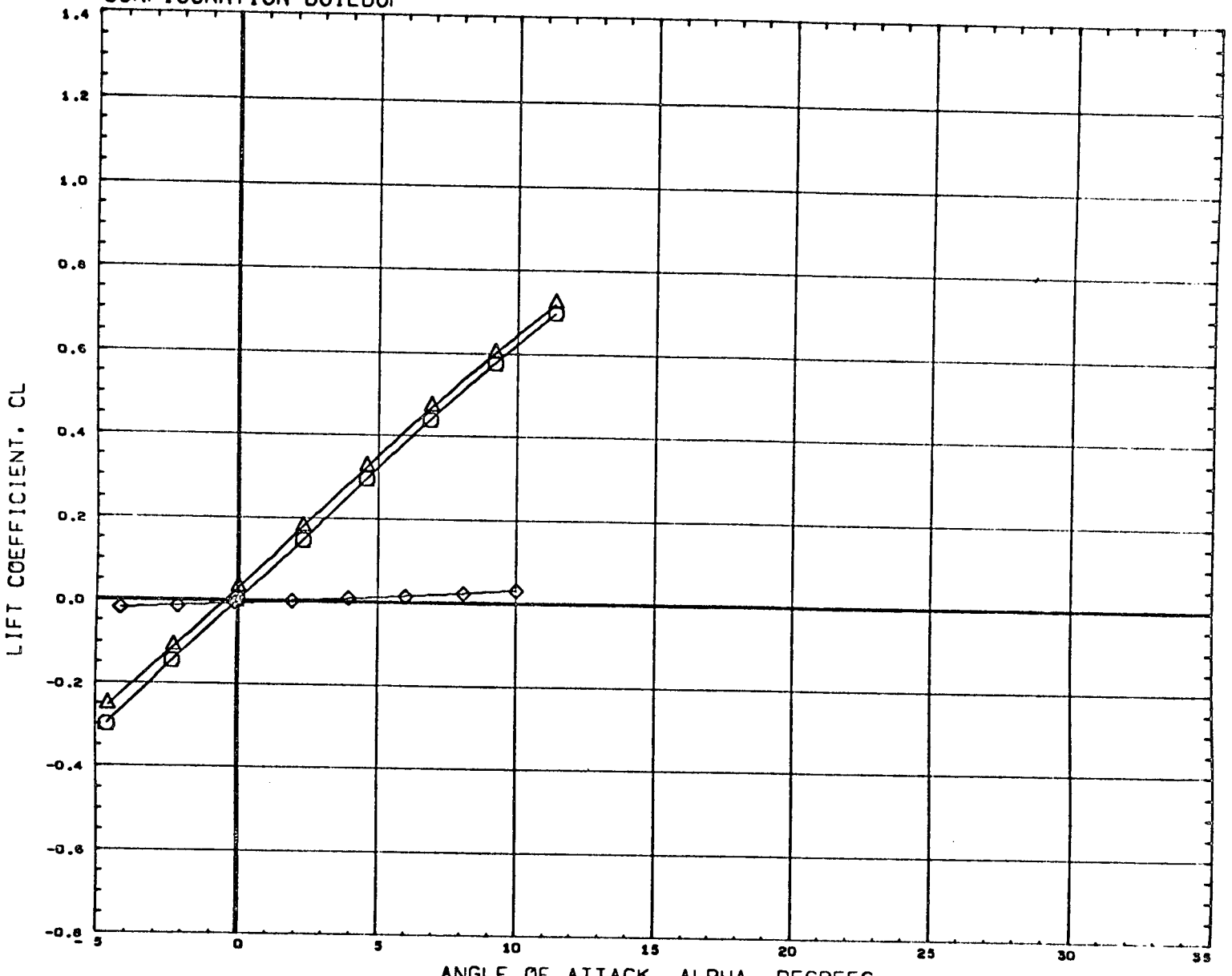
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2

ELEVON	RUDDER	RFLARE	BFLAP
0.000	0.000	0.000	0.000
0.000			0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP



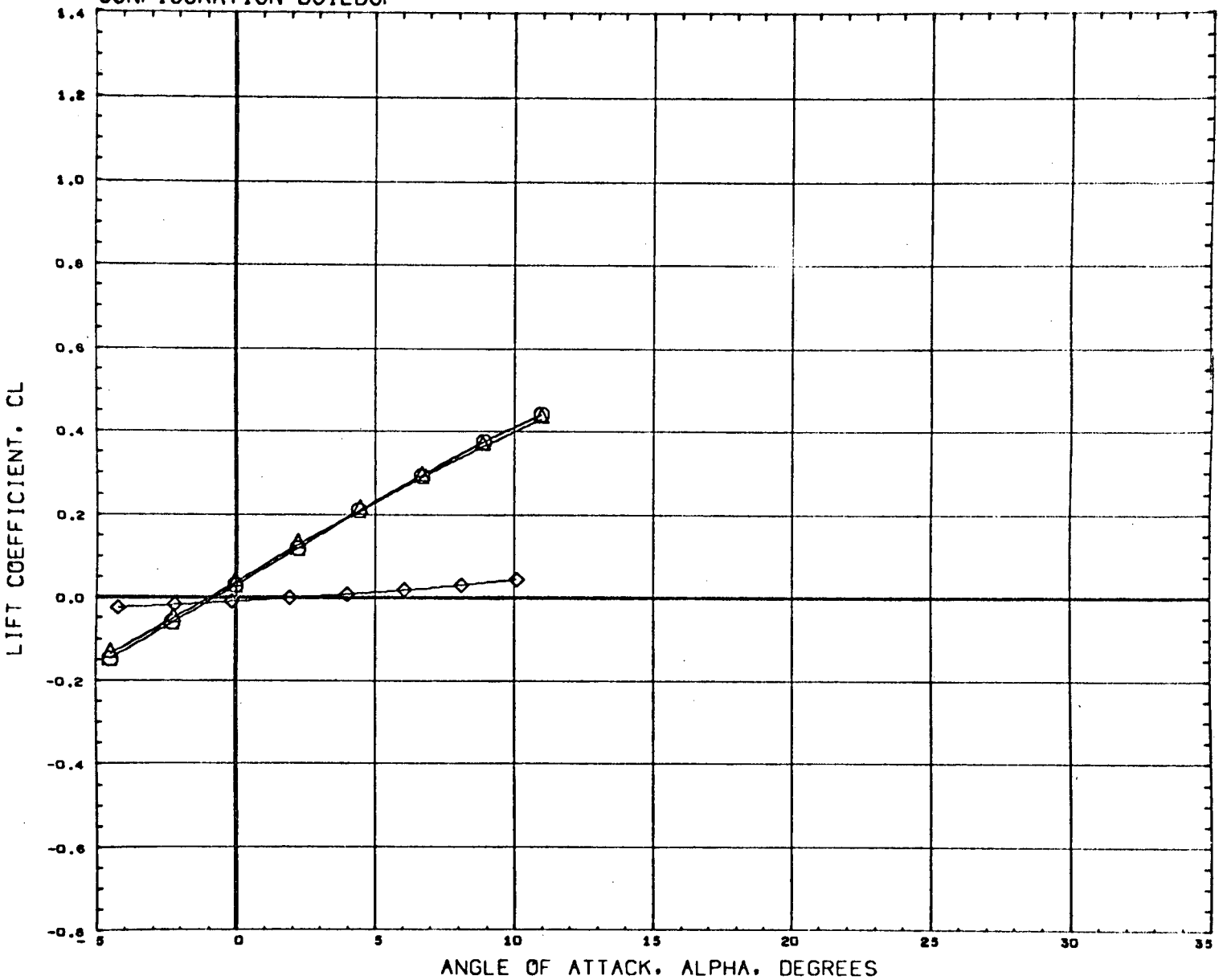
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2

ELEVON	RUDDER	RFLARE	BFLAP
0.000	0.000	0.000	0.000
0.000			0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

CONFIGURATION BUILDUP

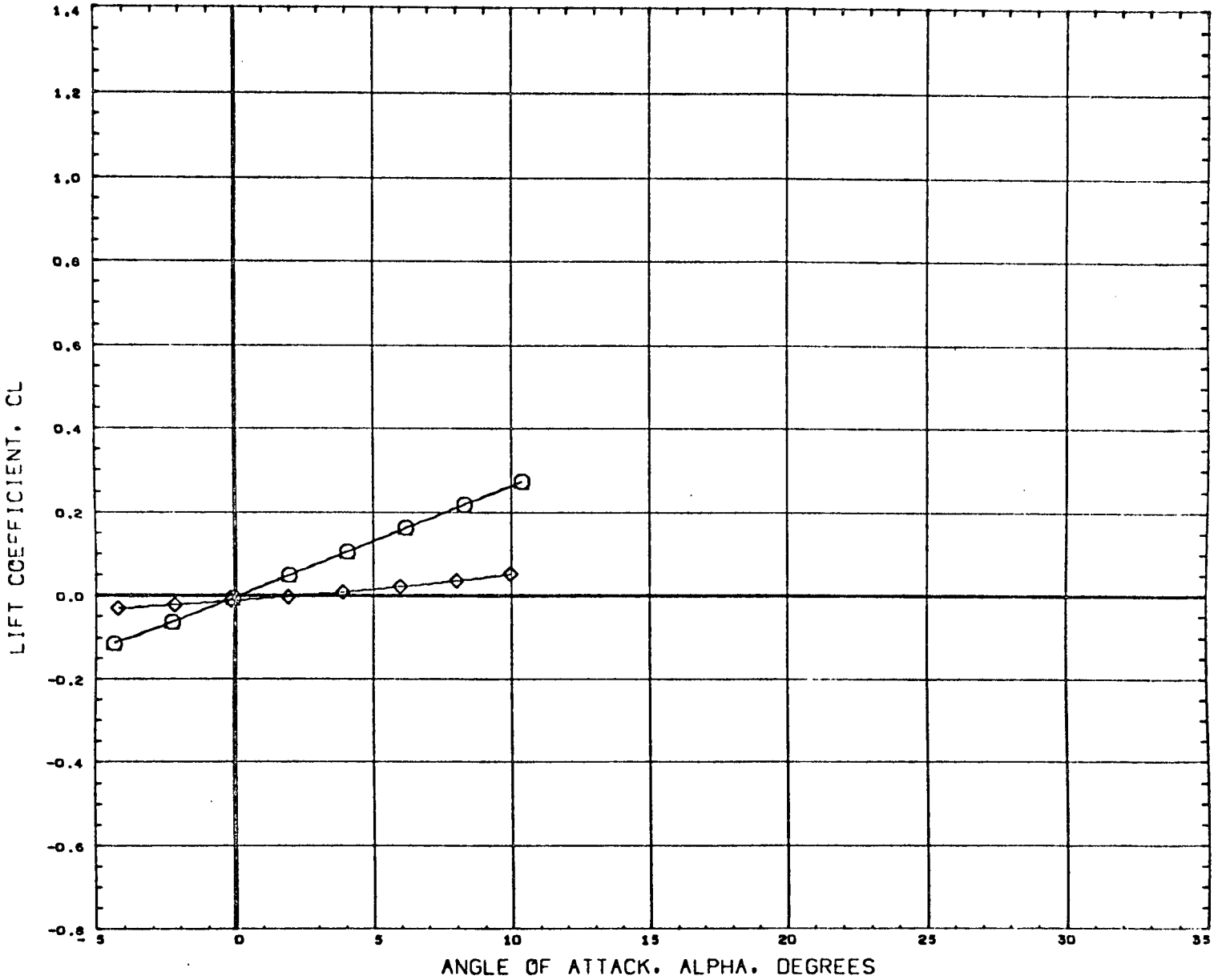


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP

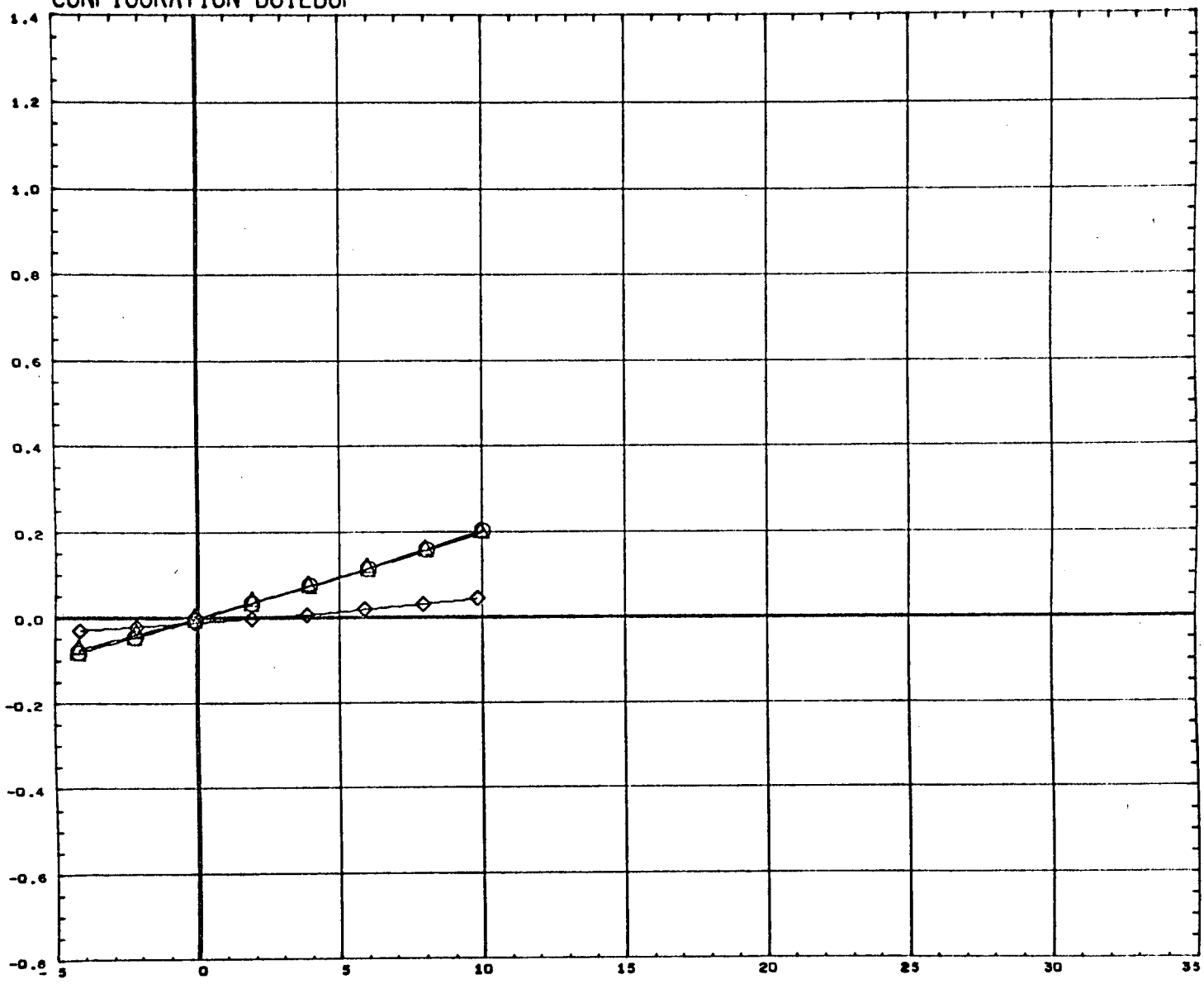


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69044)	⊠	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000			0.000
(B69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP

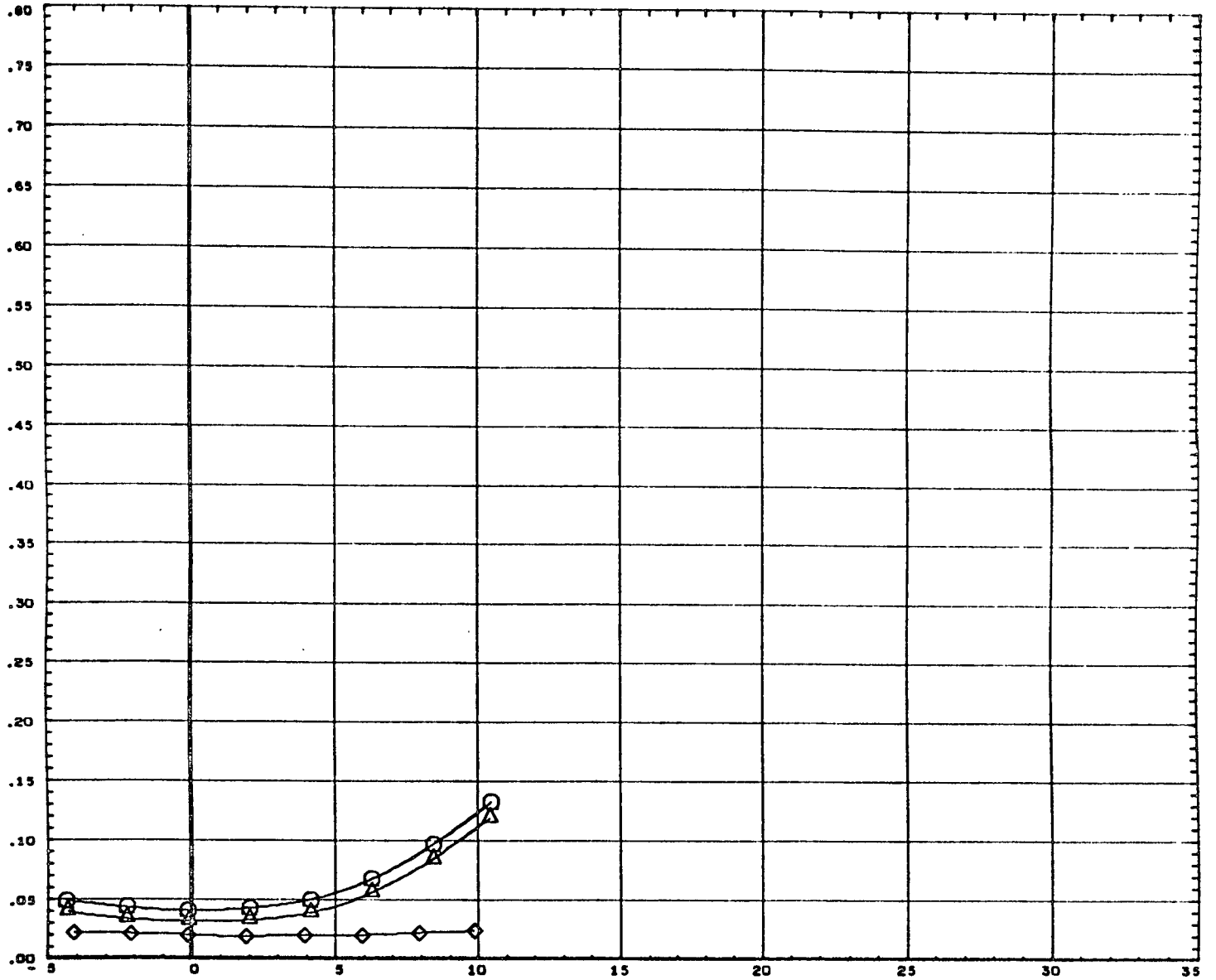


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

CONFIGURATION BUILDUP

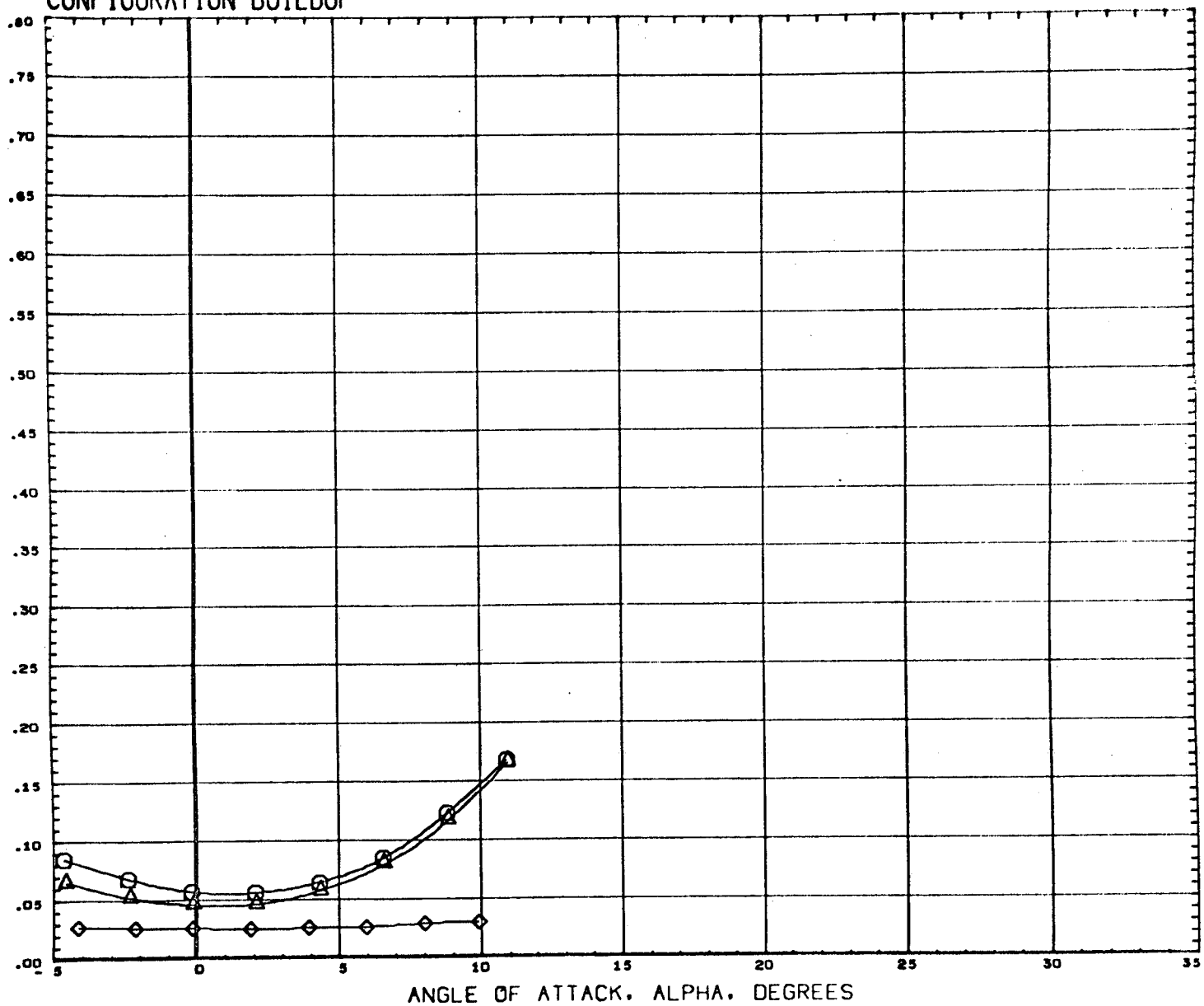


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

CONFIGURATION BUILDUP



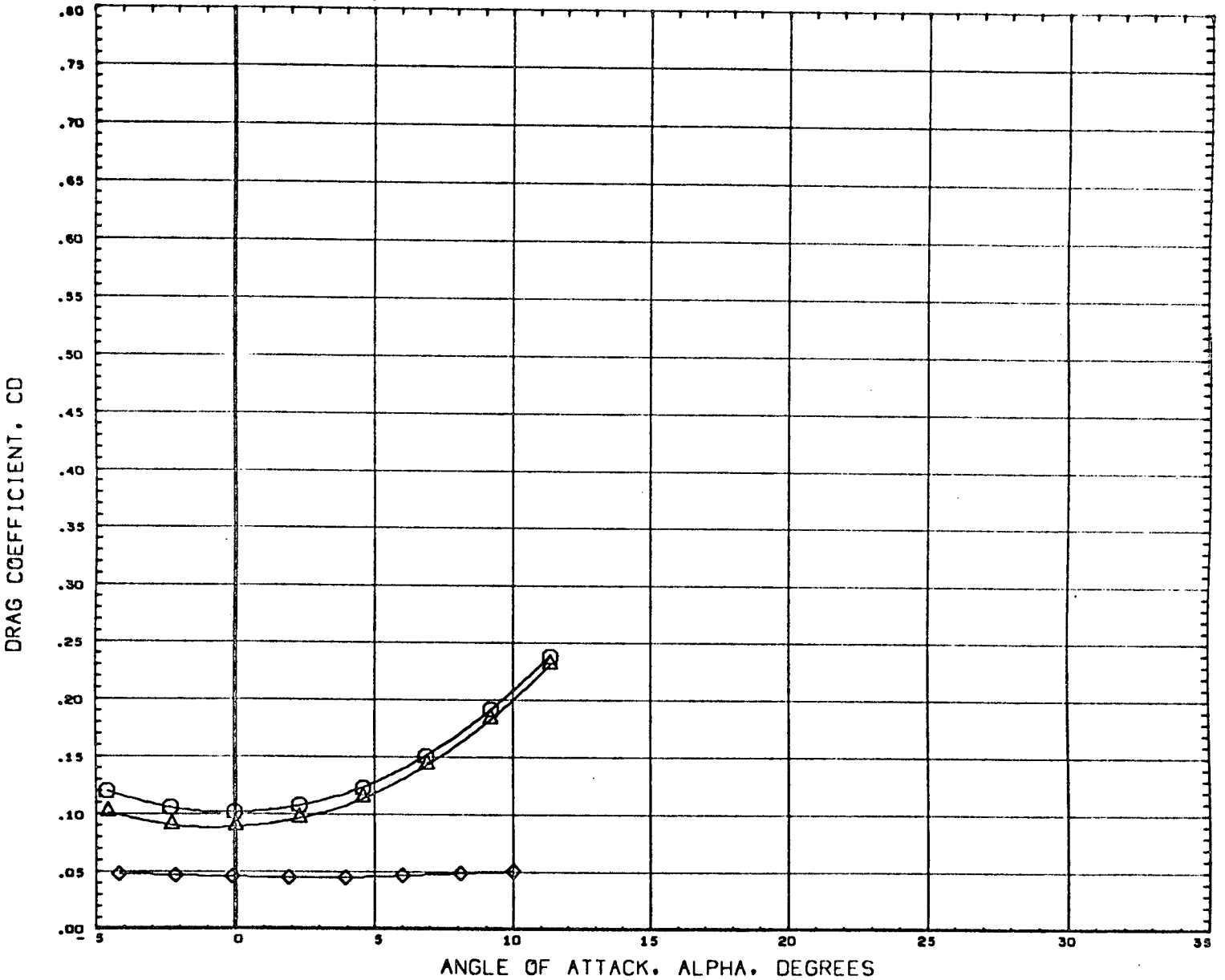
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(B69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1
(B69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2

ELEVON	RUDDER	RFLARE	BFLAP
0.000	0.000	0.000	0.000
0.000			0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP

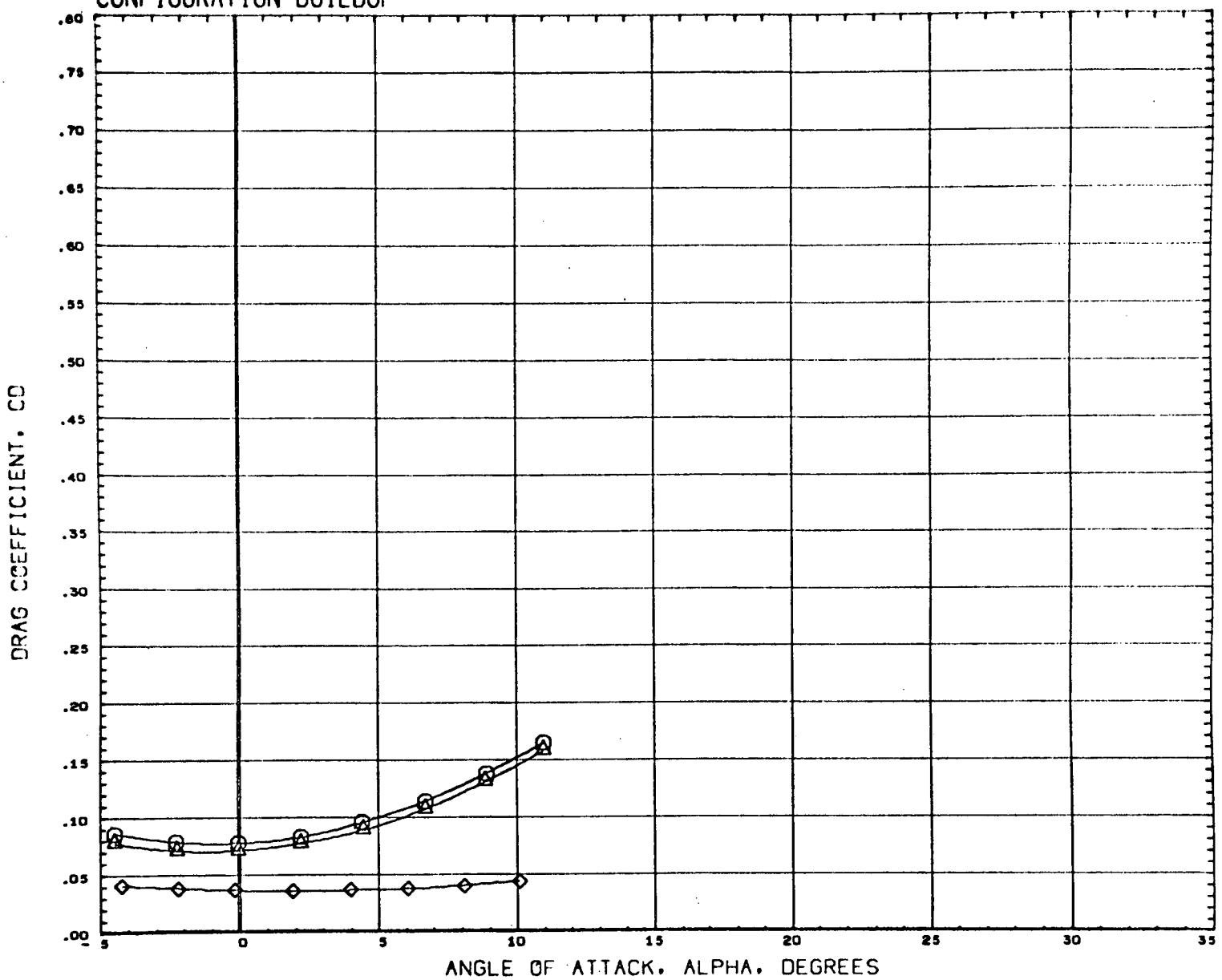


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(B69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

CONFIGURATION BUILDUP

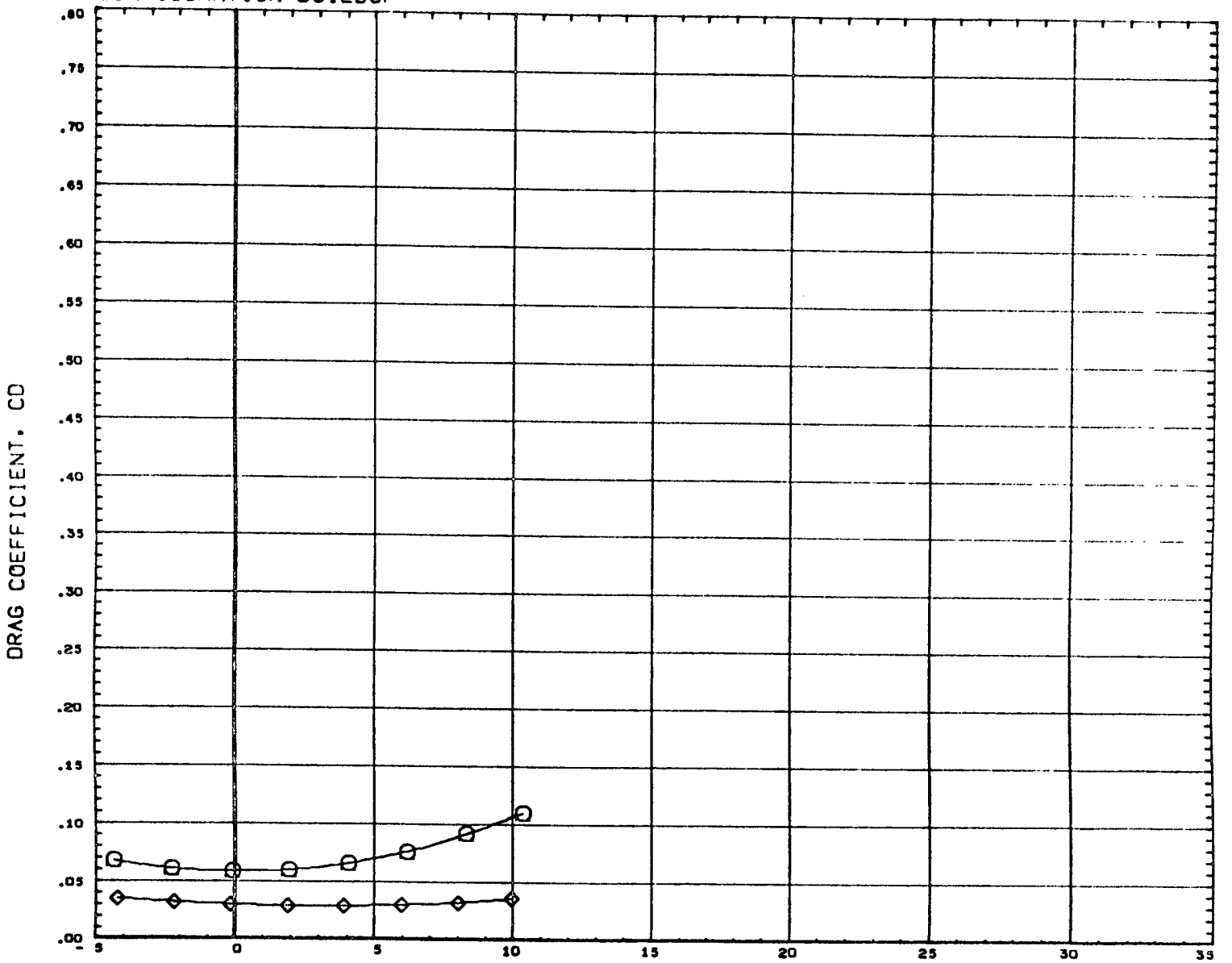


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP



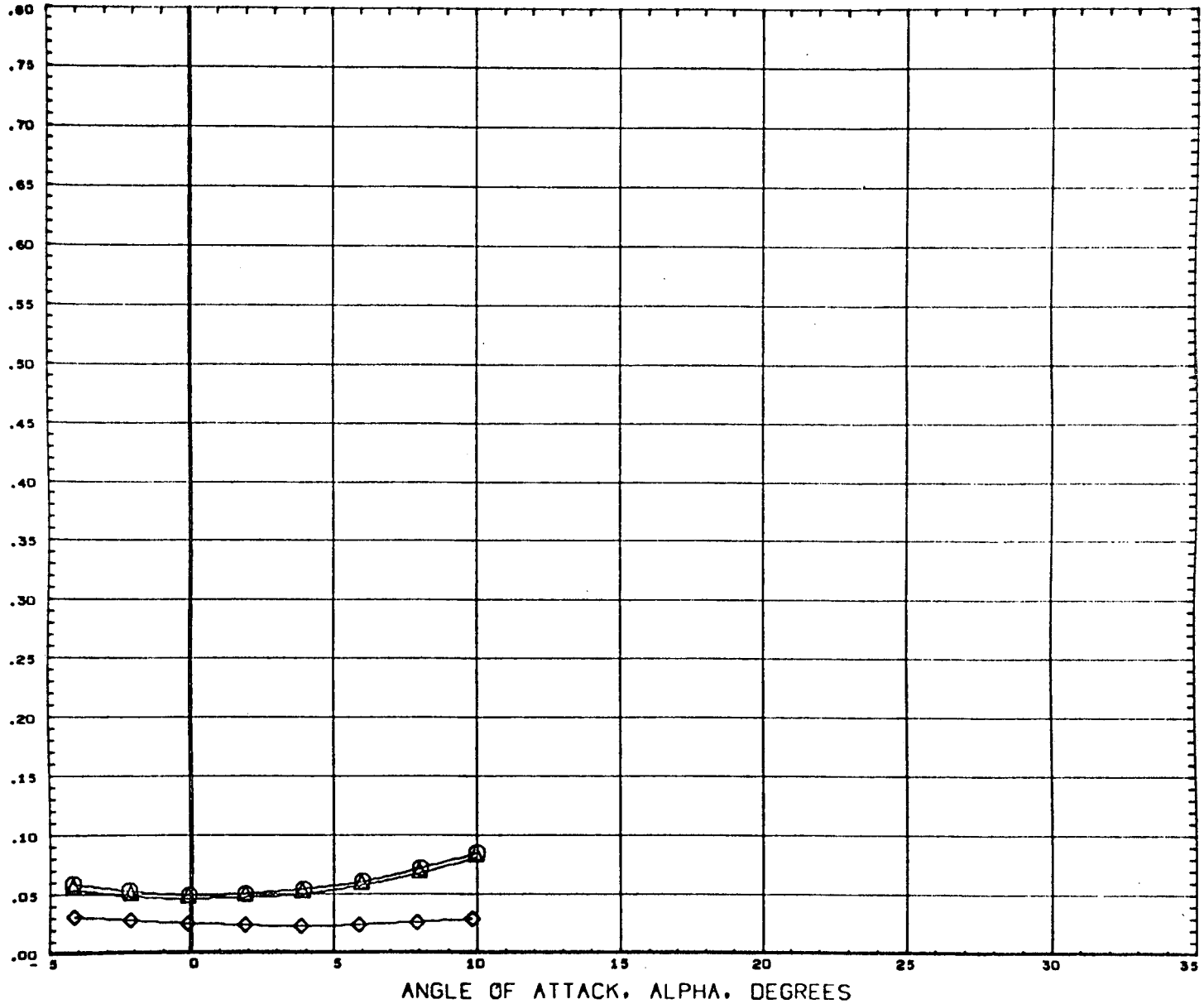
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(869044)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2

ELEVON	RUDDER	RFLARE	BFLAP
0.000	0.000	0.000	0.000
0.000			0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP

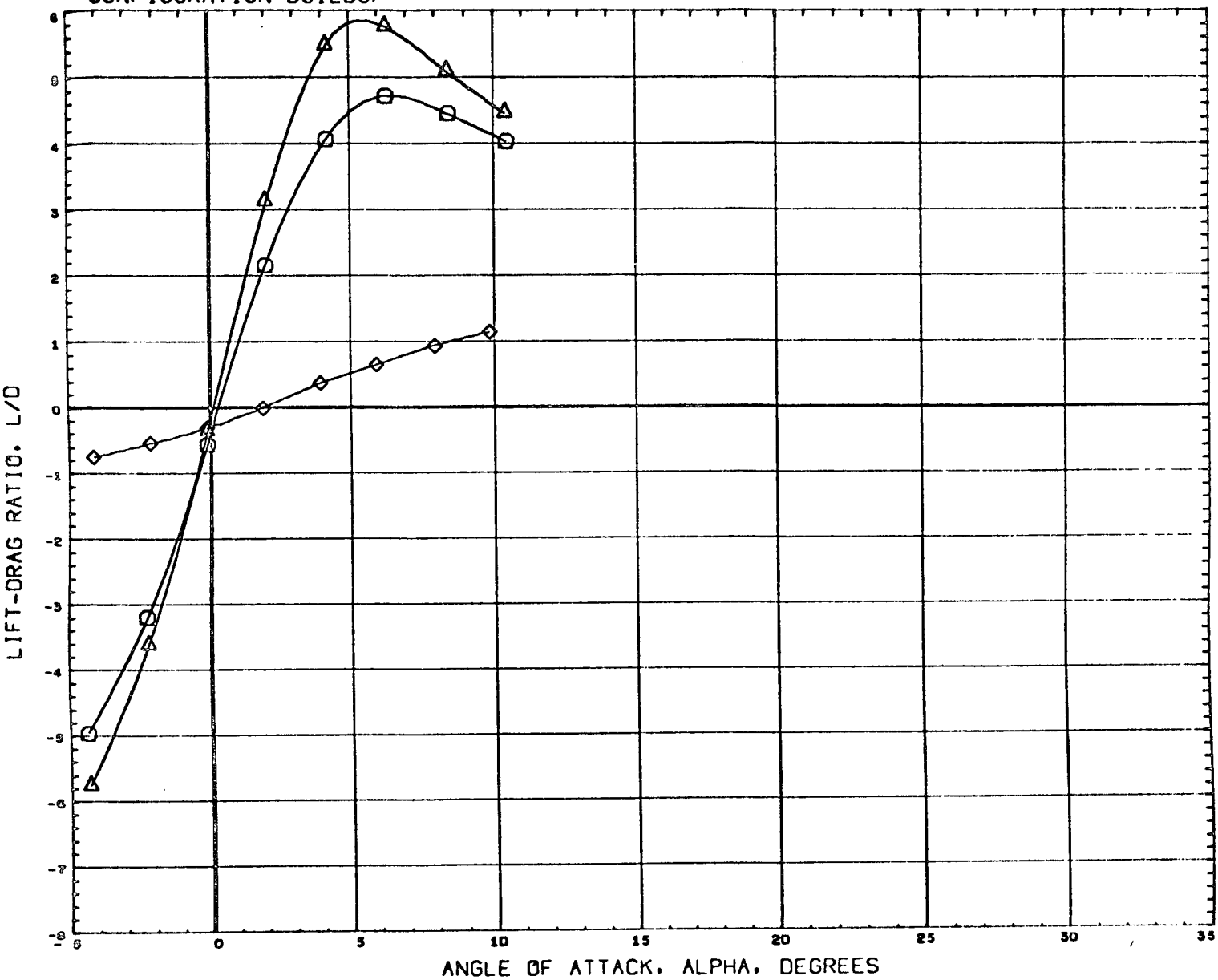


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(B69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

CONFIGURATION BUILDUP



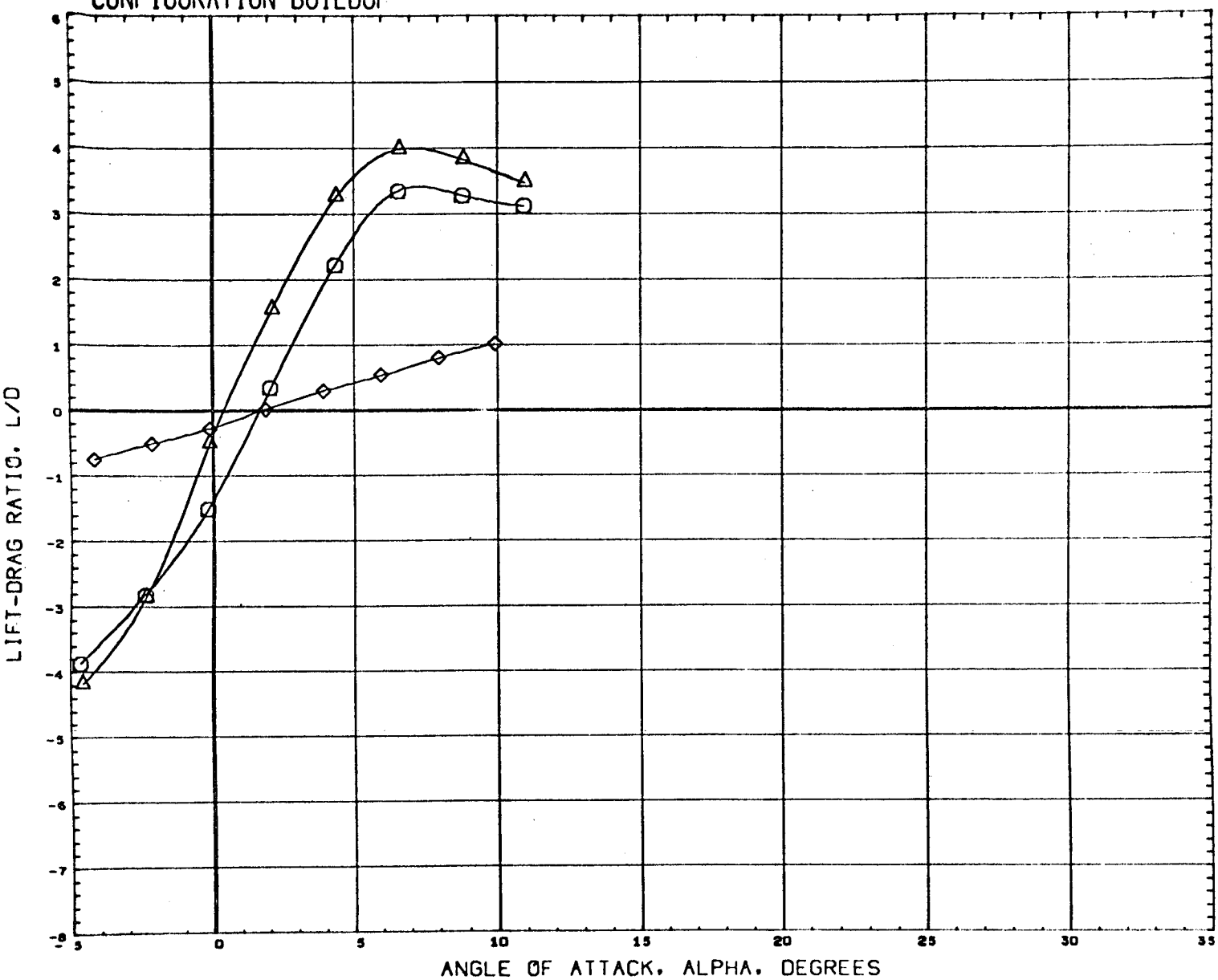
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

C 9

CONFIGURATION BUILDUP

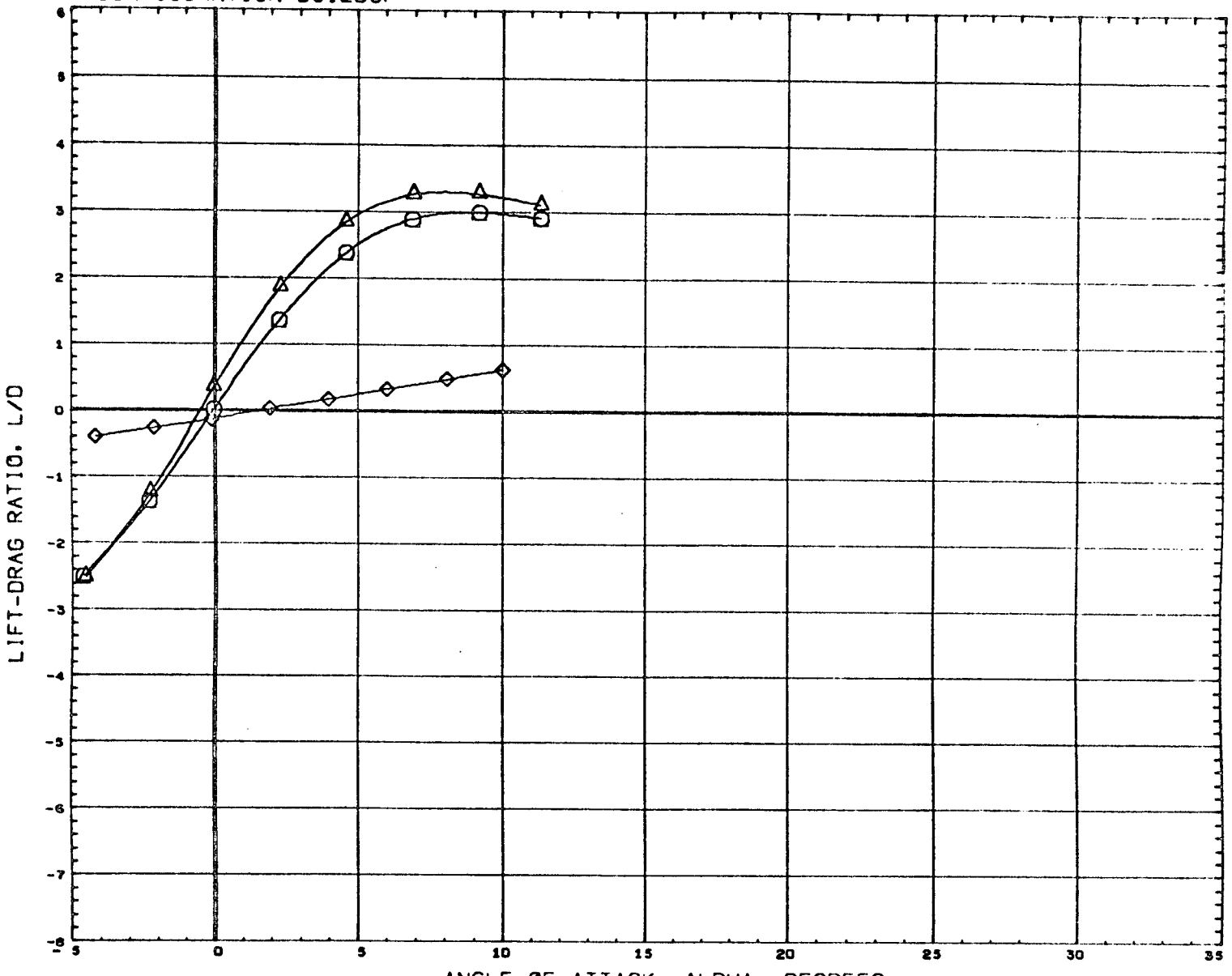


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP

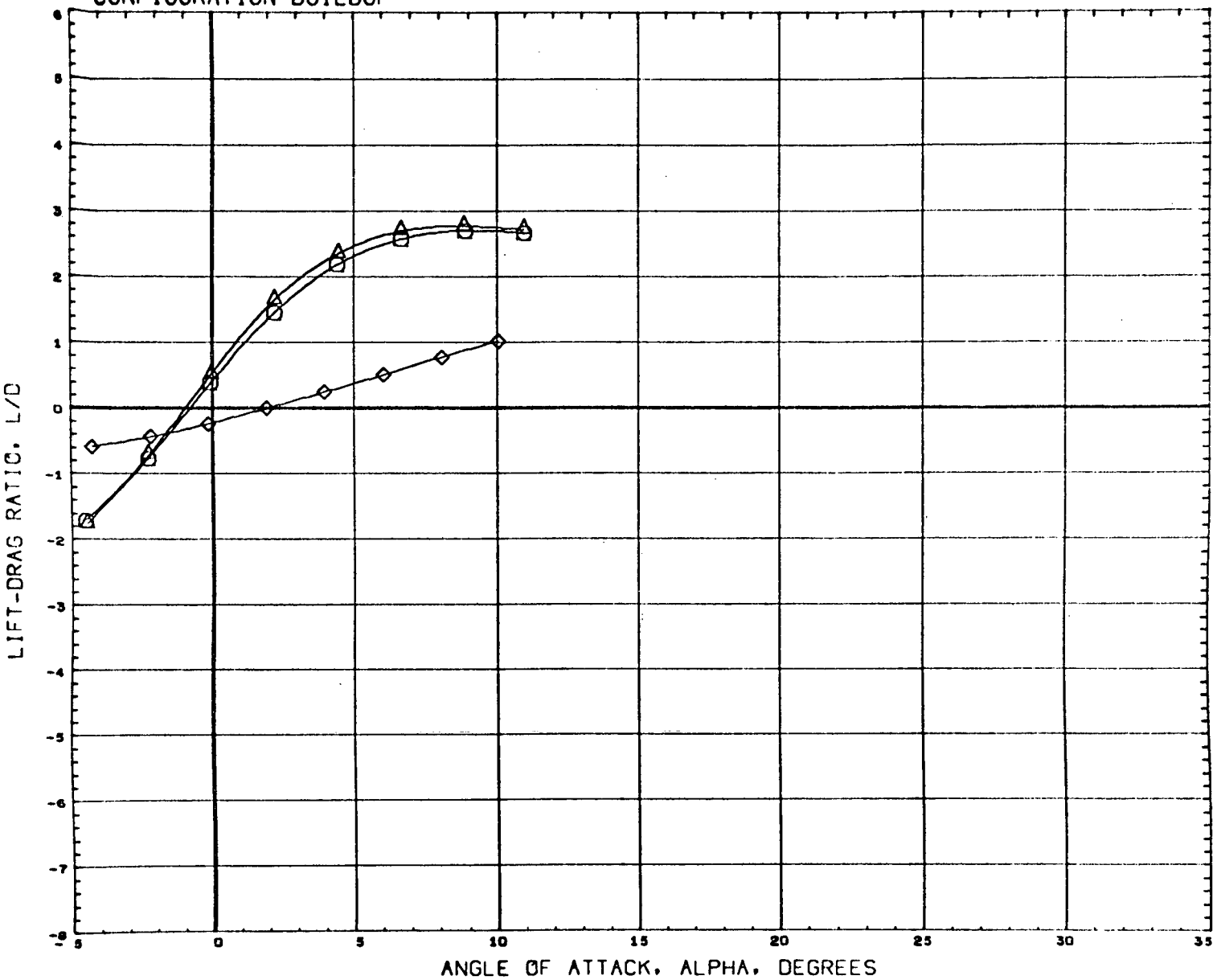


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

CONFIGURATION BUILDUP

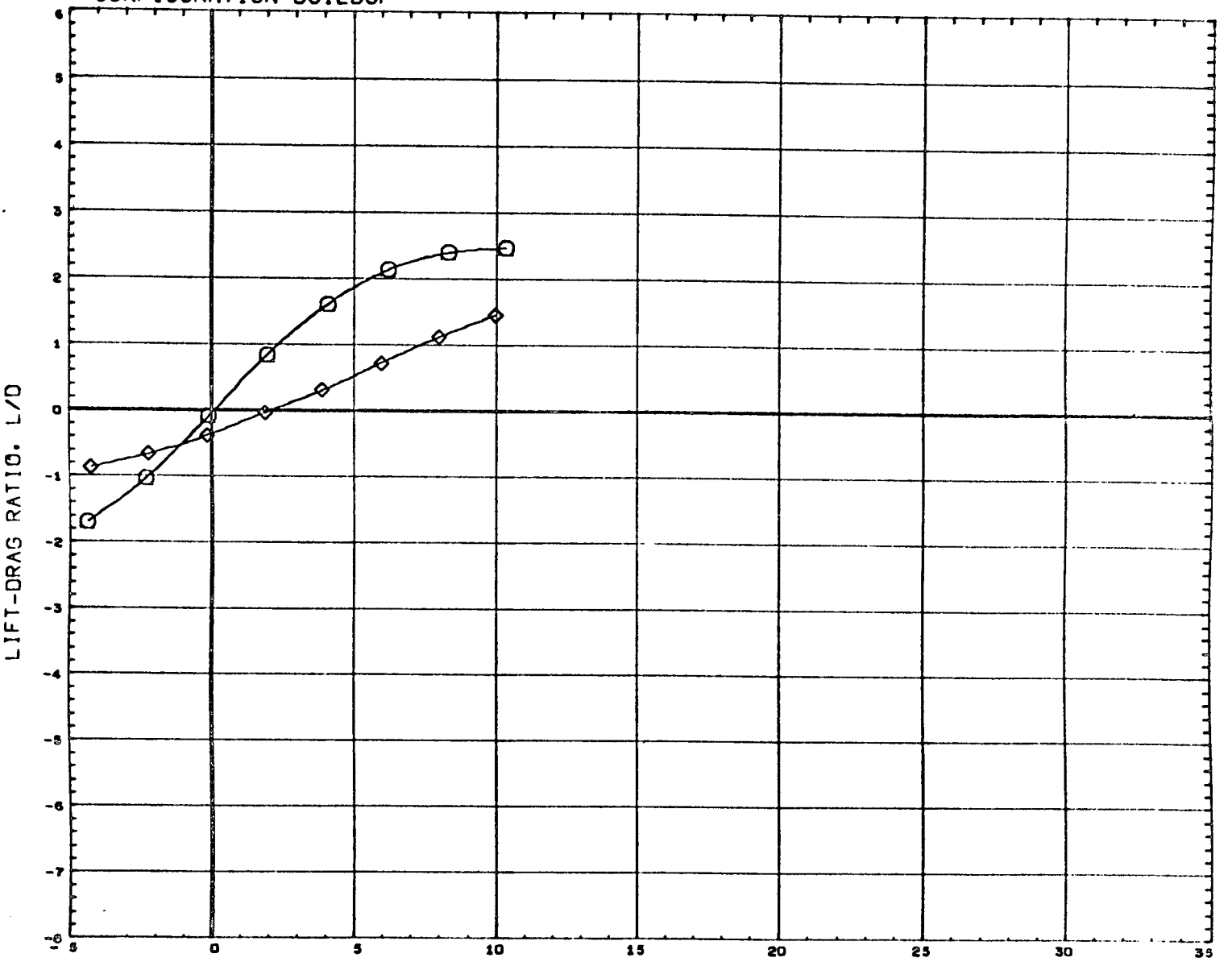


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(069001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(069044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(069047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP



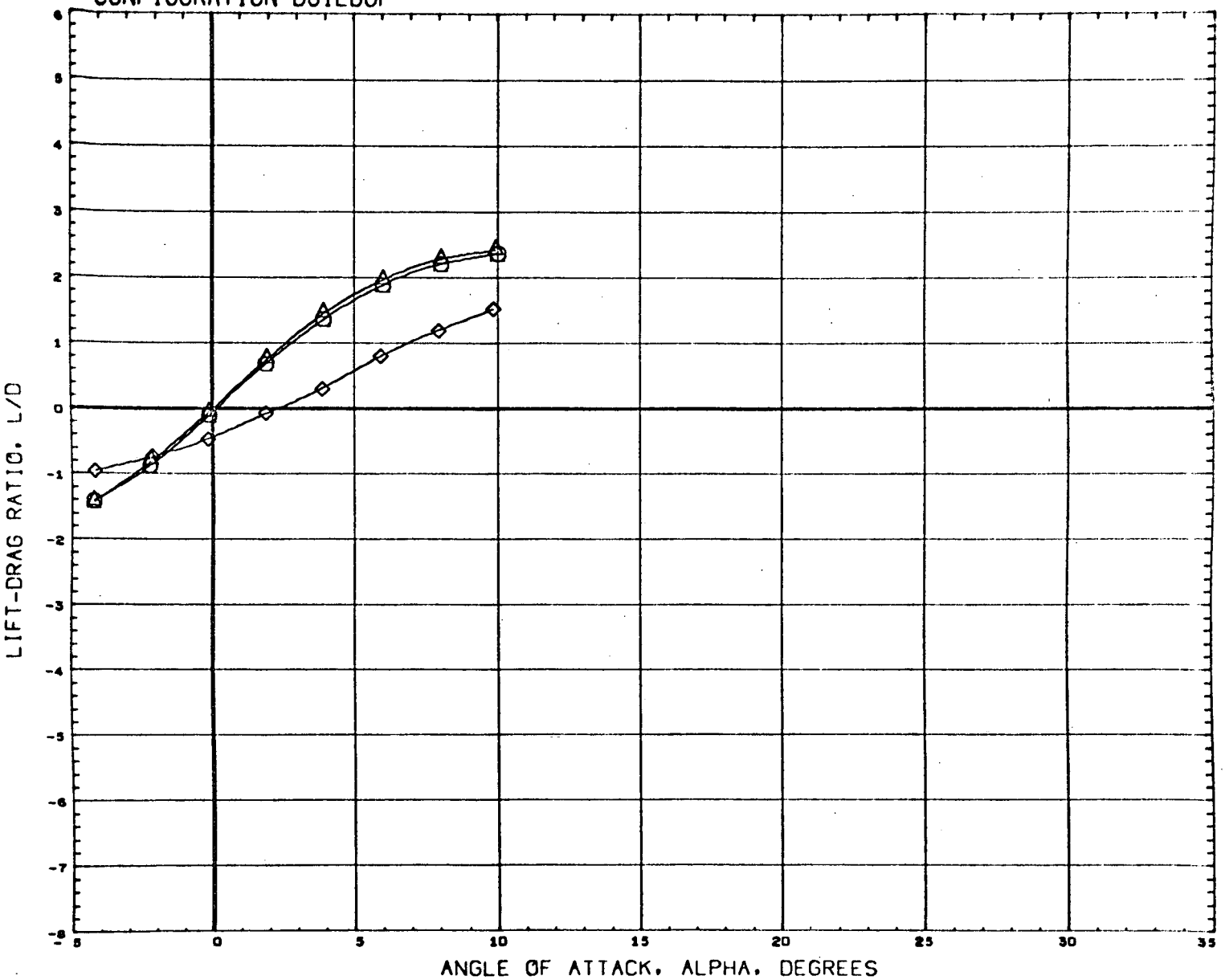
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION

SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP

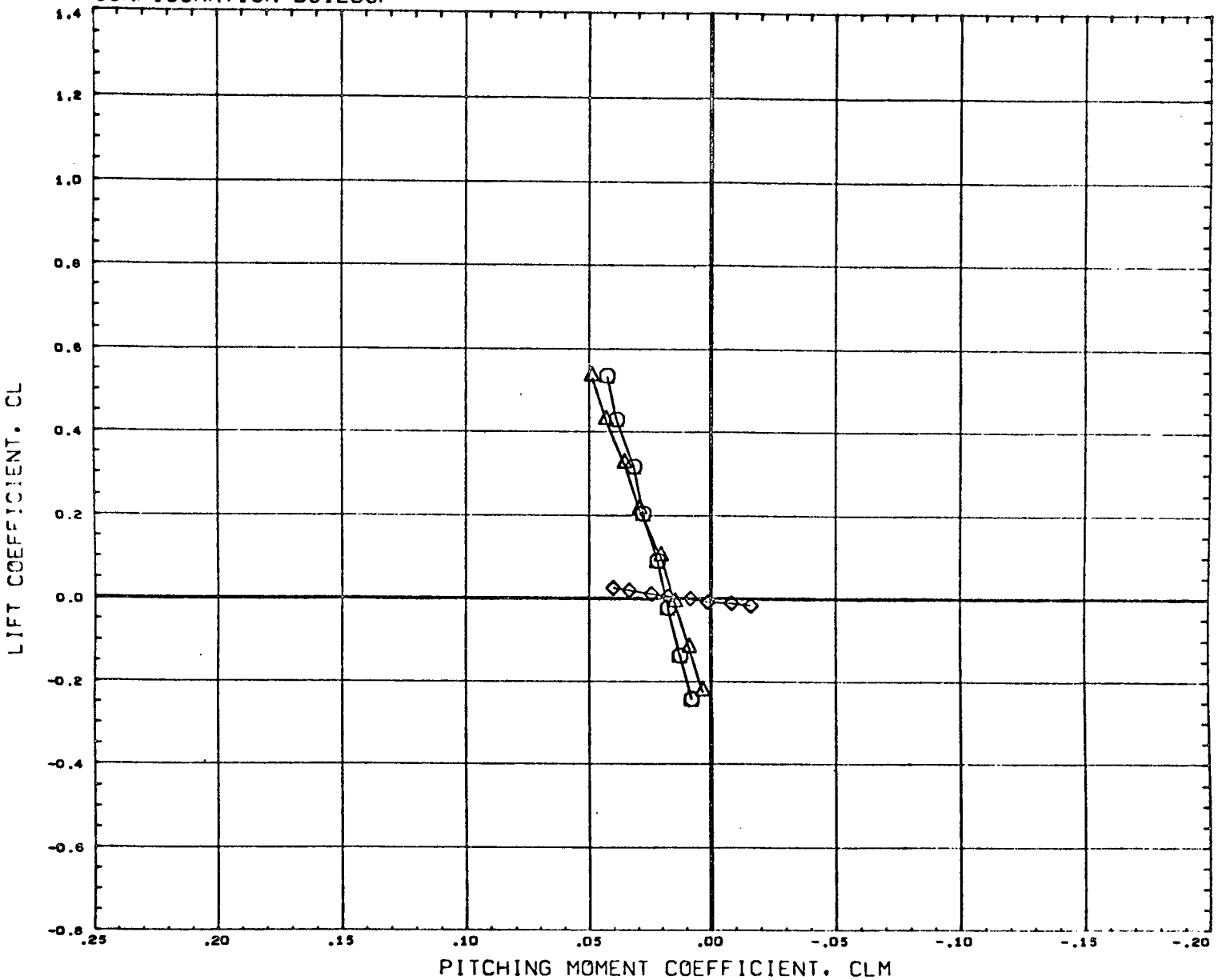


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

CONFIGURATION BUILDUP

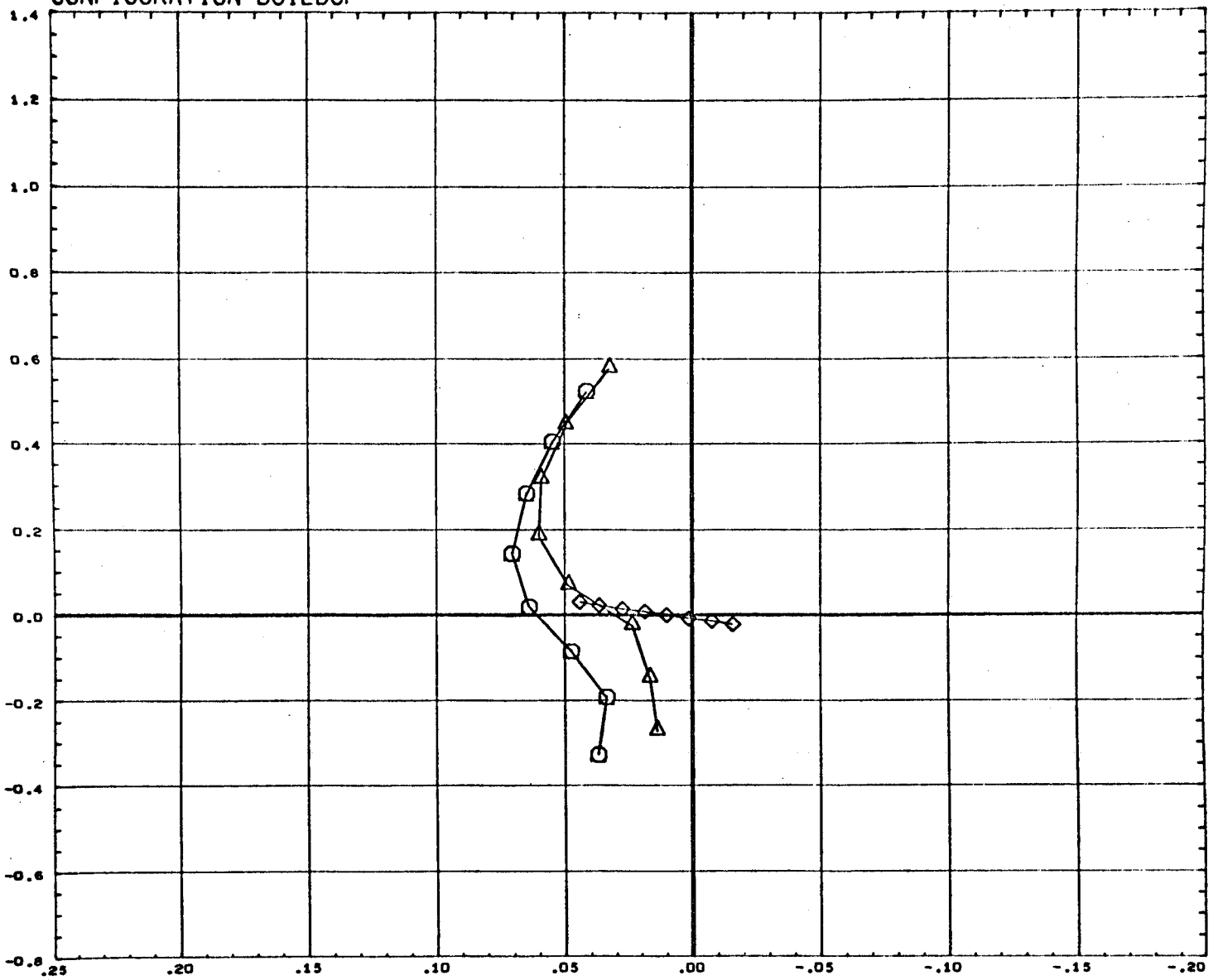


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(B69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

CONFIGURATION BUILDUP

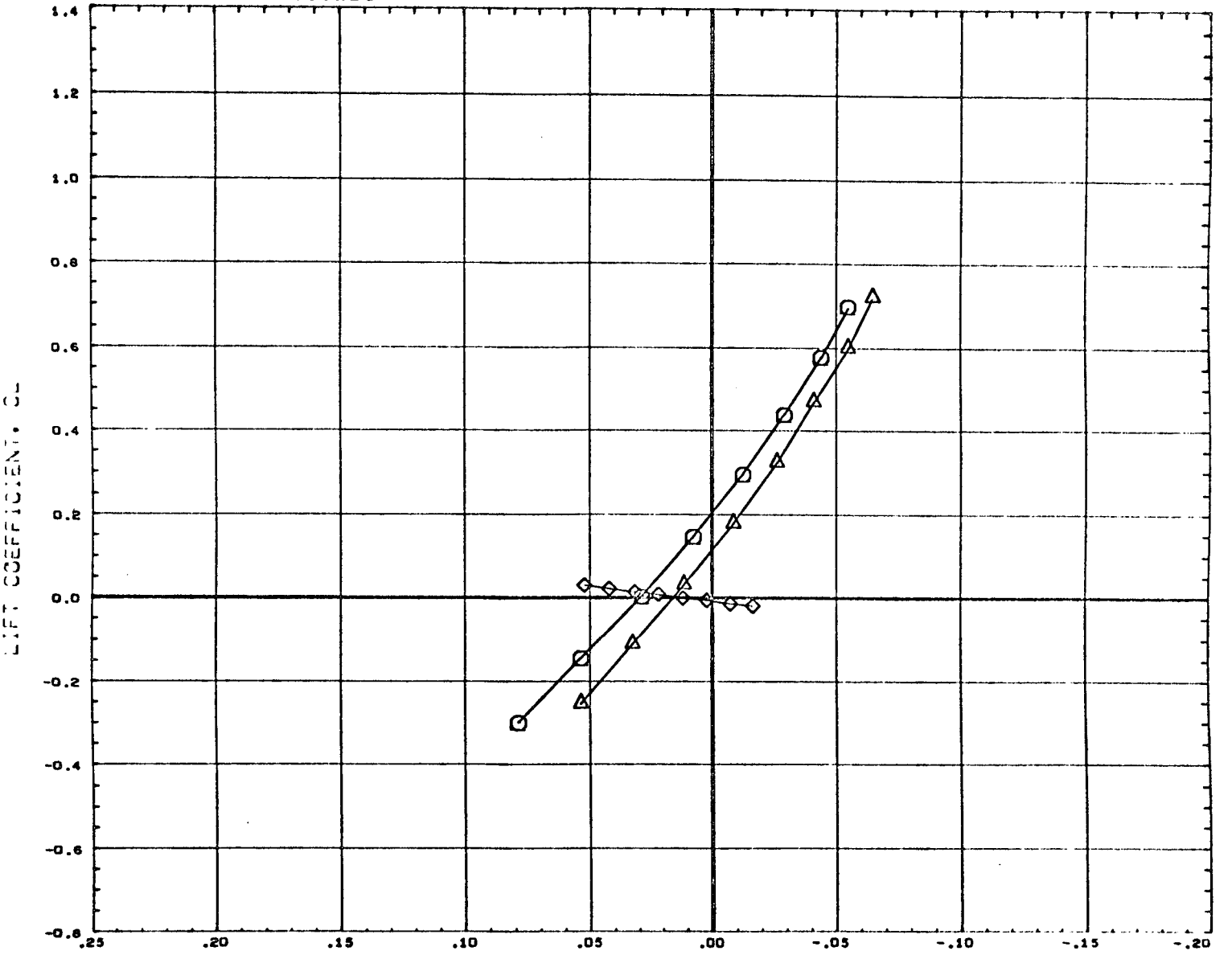


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(B69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP

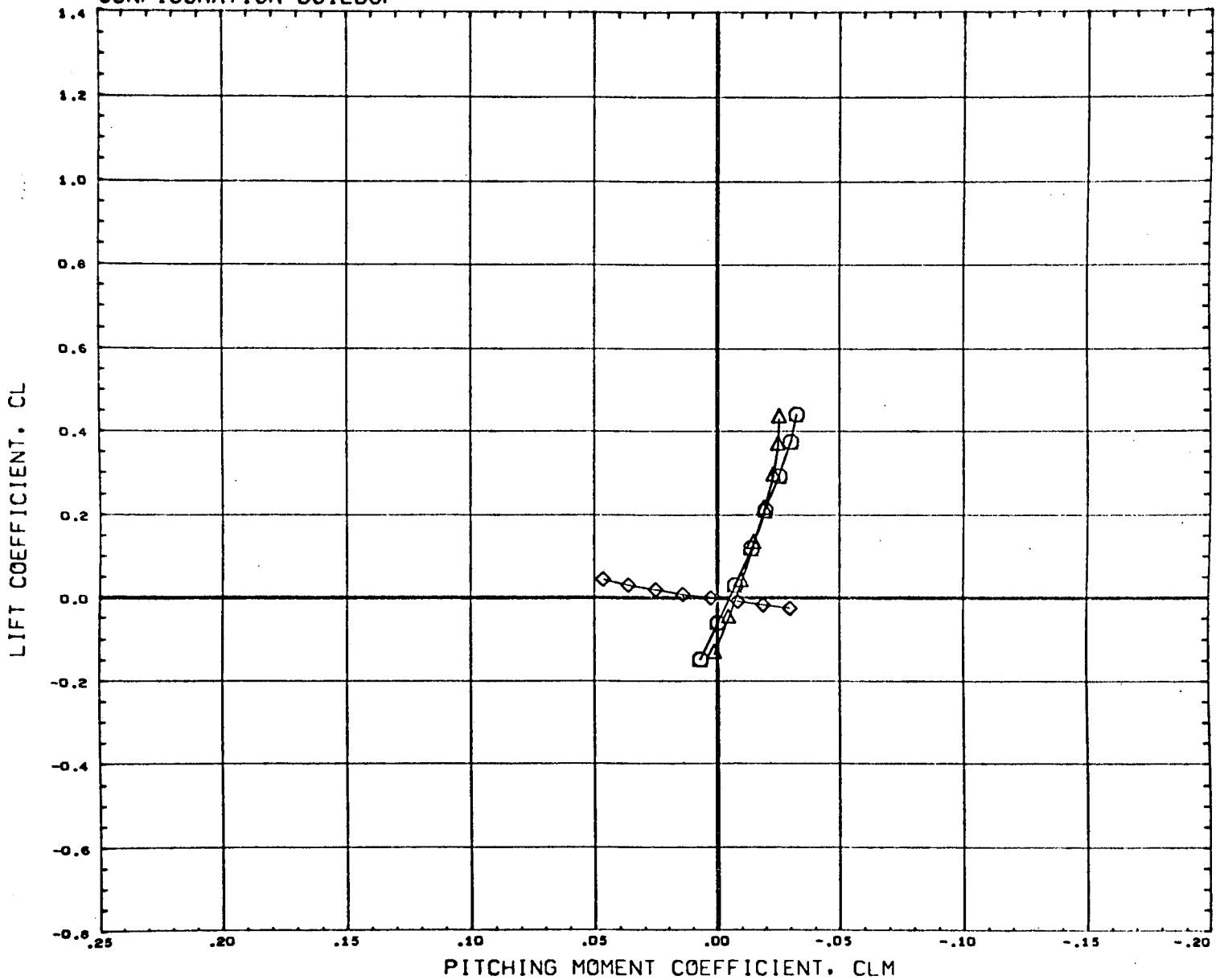


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

CONFIGURATION BUILDUP

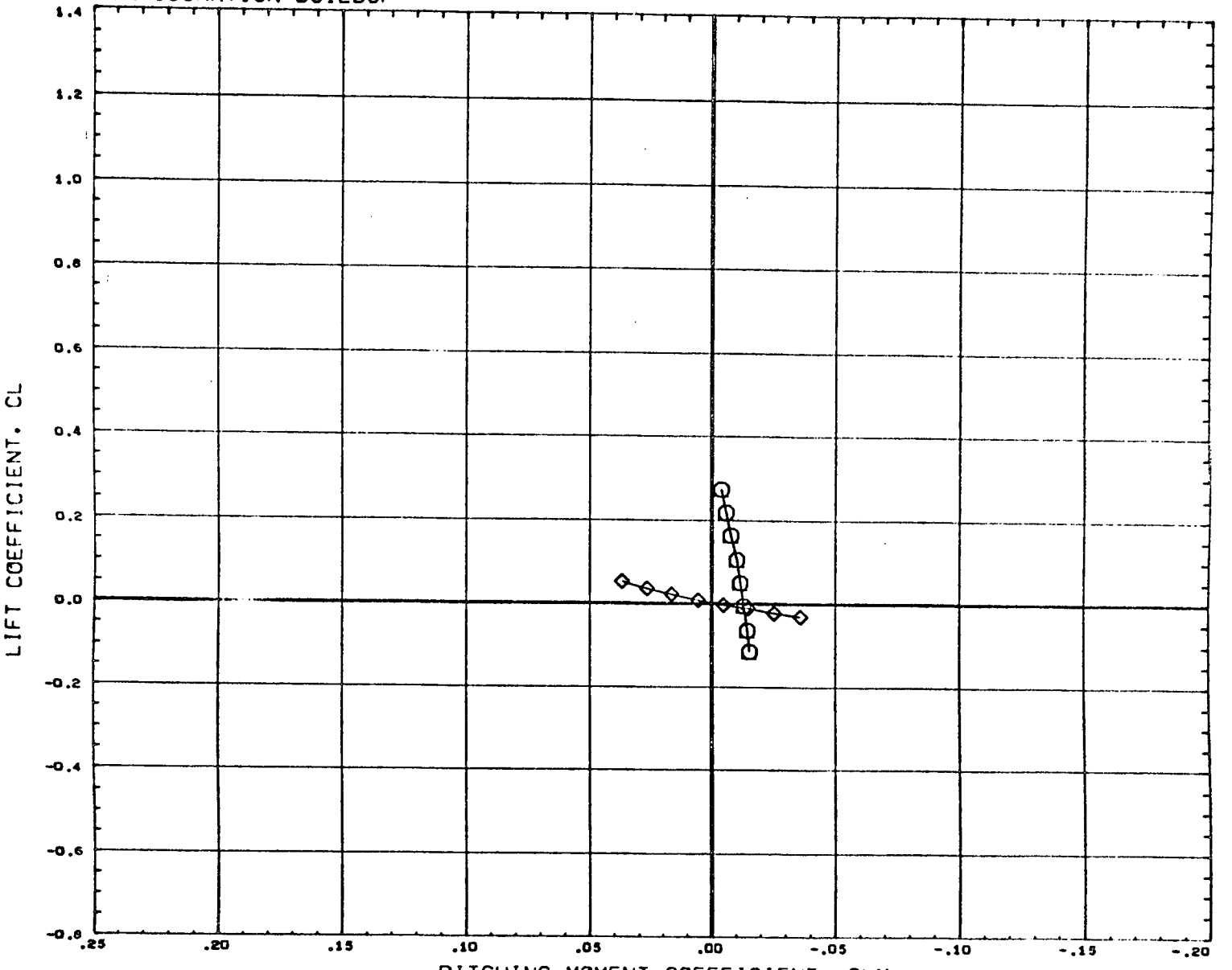


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(B69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP



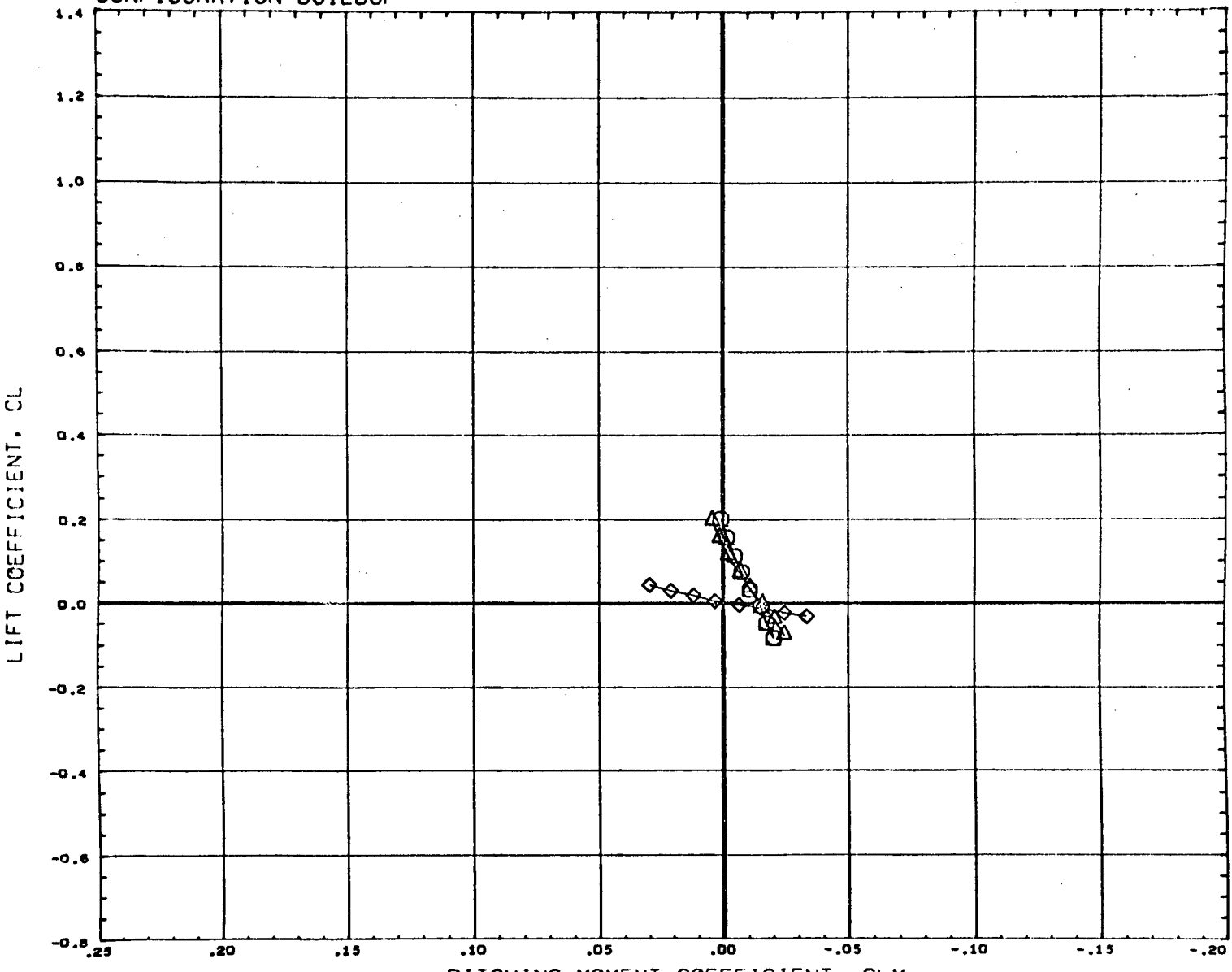
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(869001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(869044)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS
(869047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2

ELEVON	RUDDER	RFLARE	BFLAP
0.000	0.000	0.000	0.000
0.000			0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP



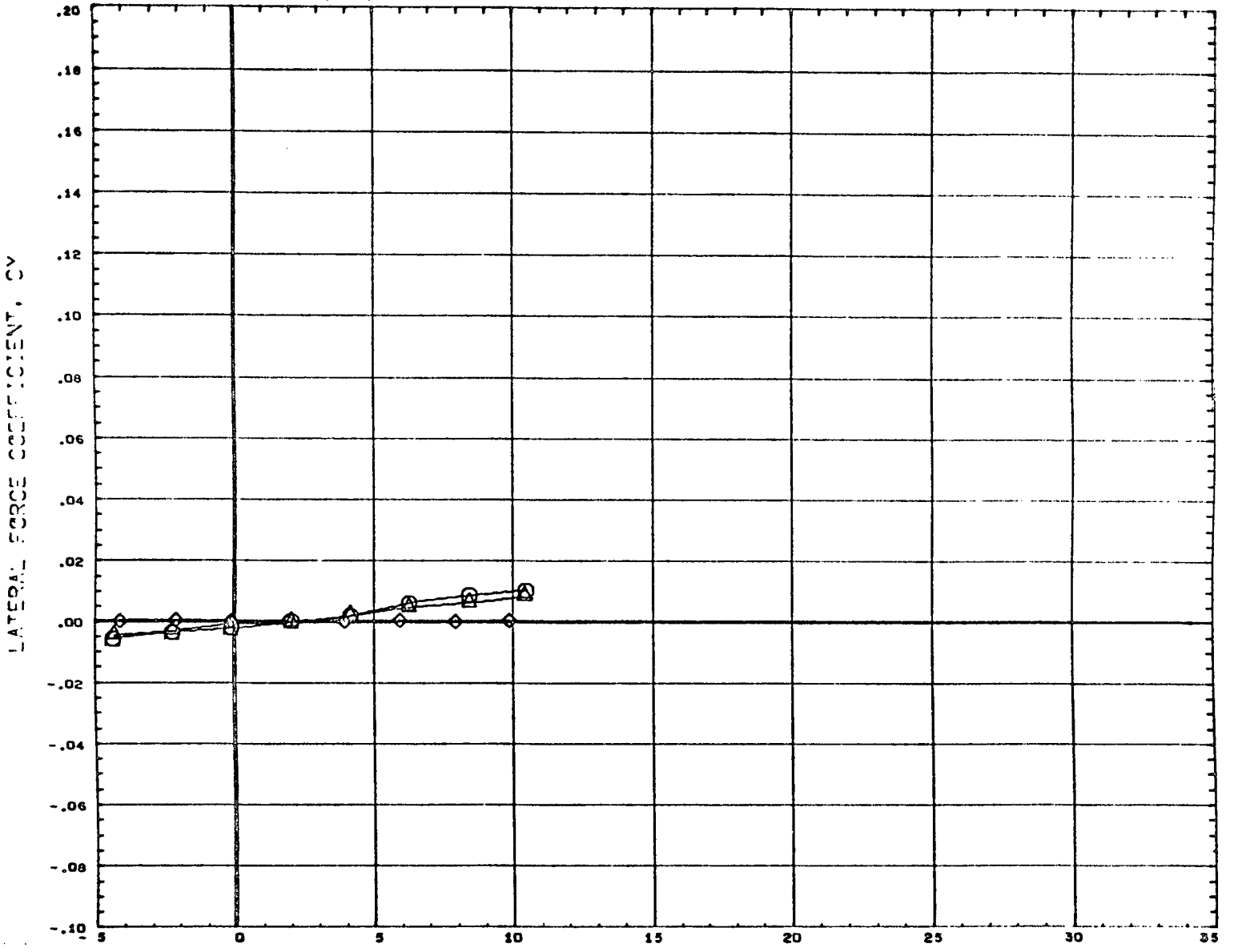
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69044)	☒	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(B69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

RL

CONFIGURATION BUILDUP

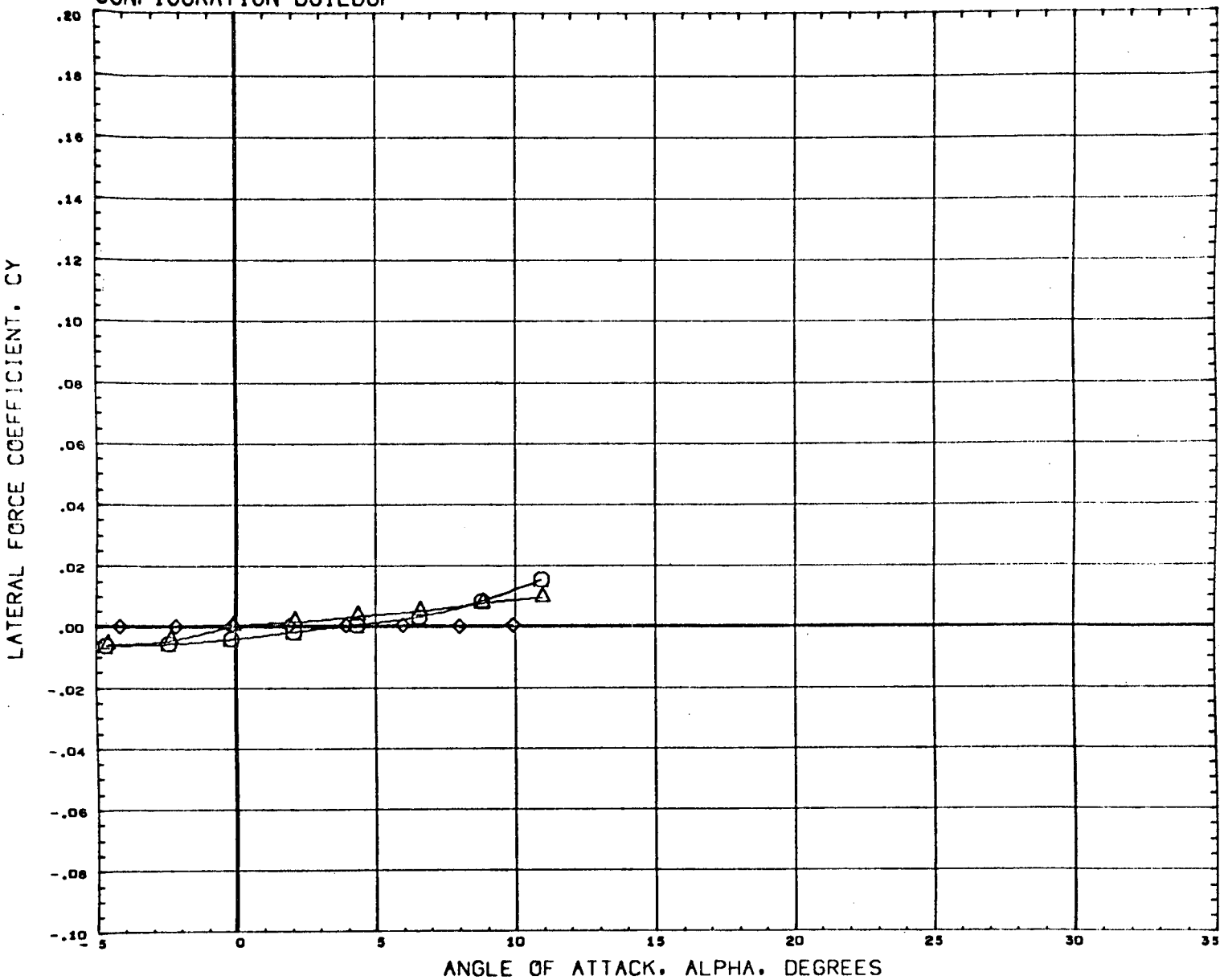


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

CONFIGURATION BUILDUP

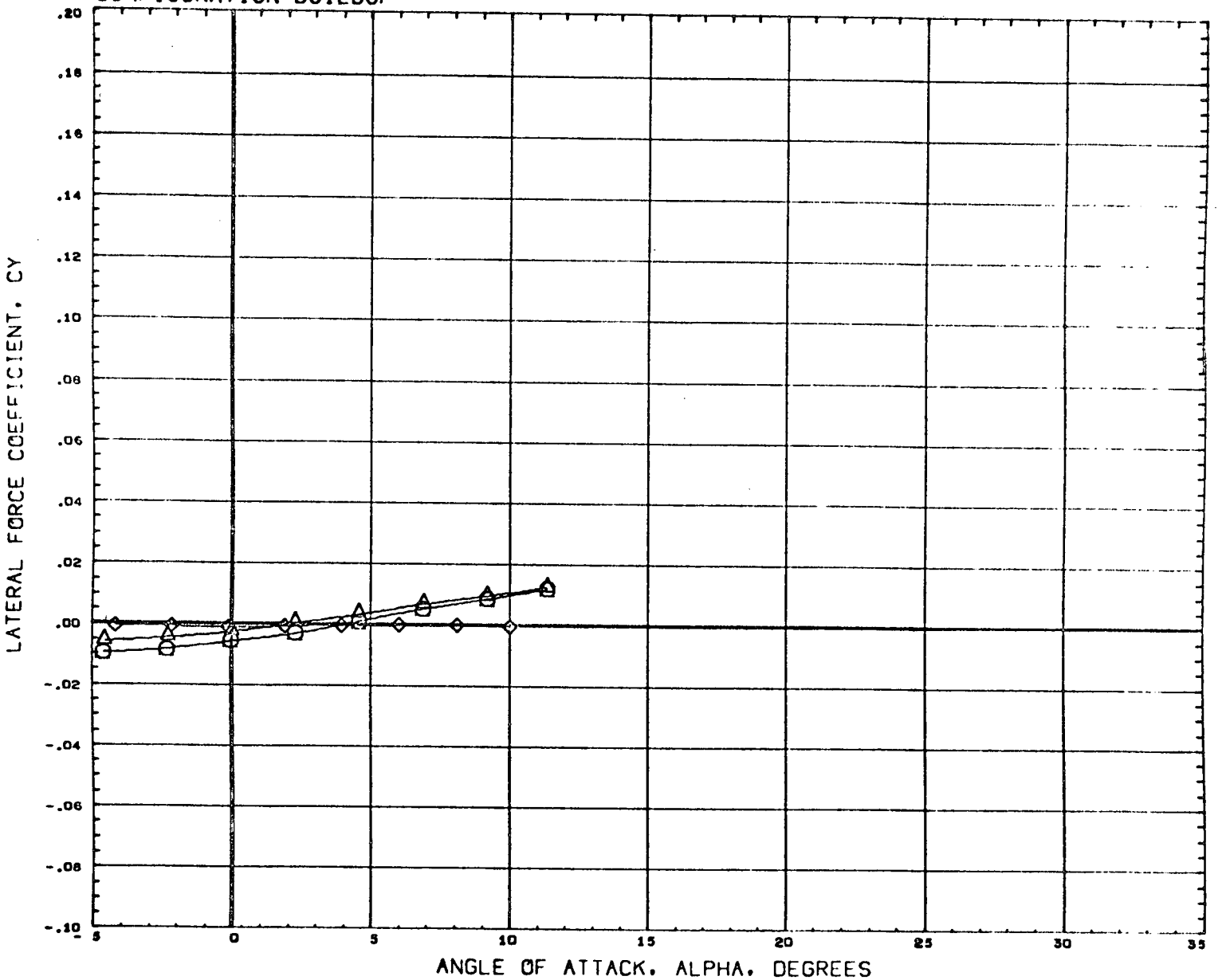


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP

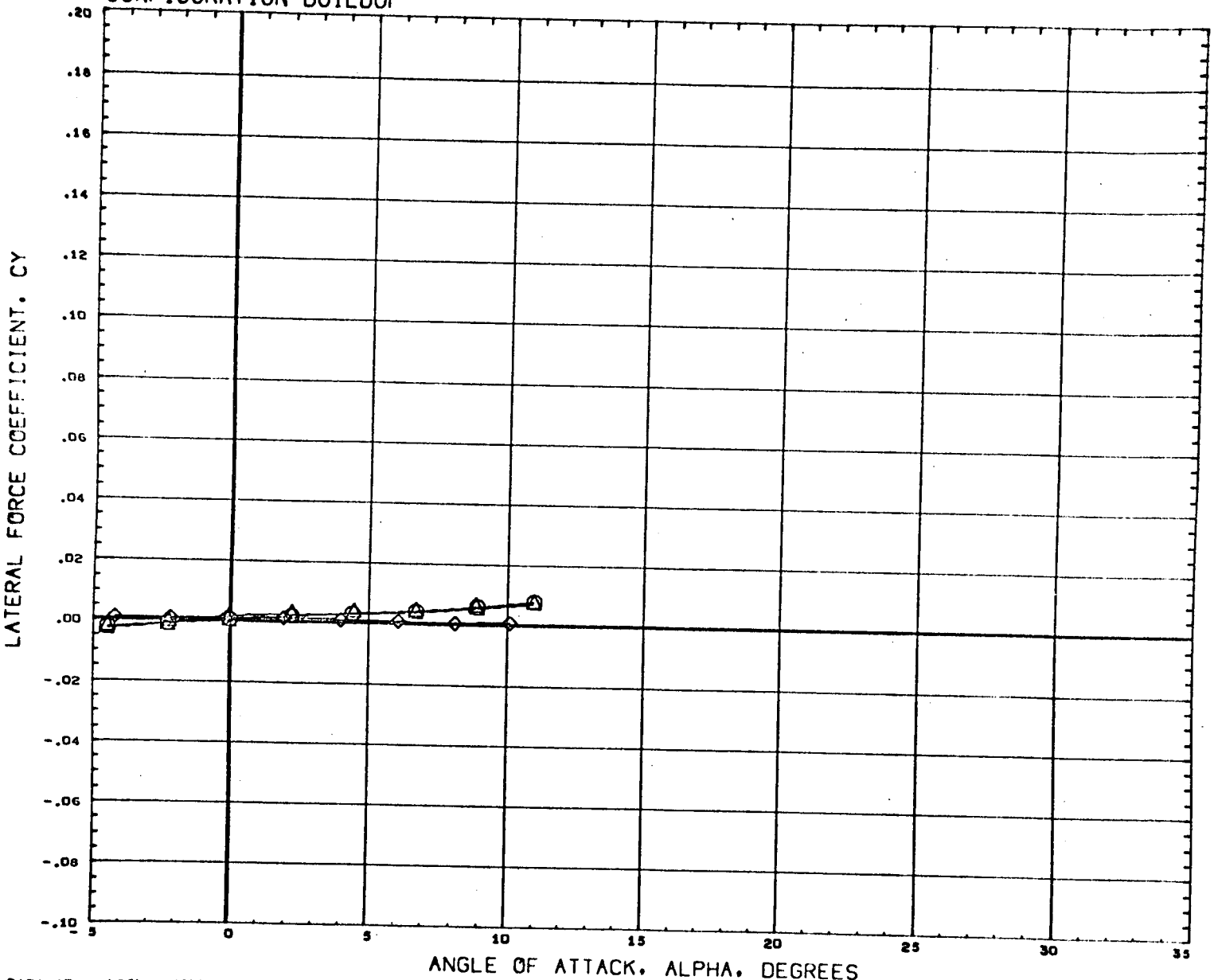


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

CONFIGURATION BUILDUP

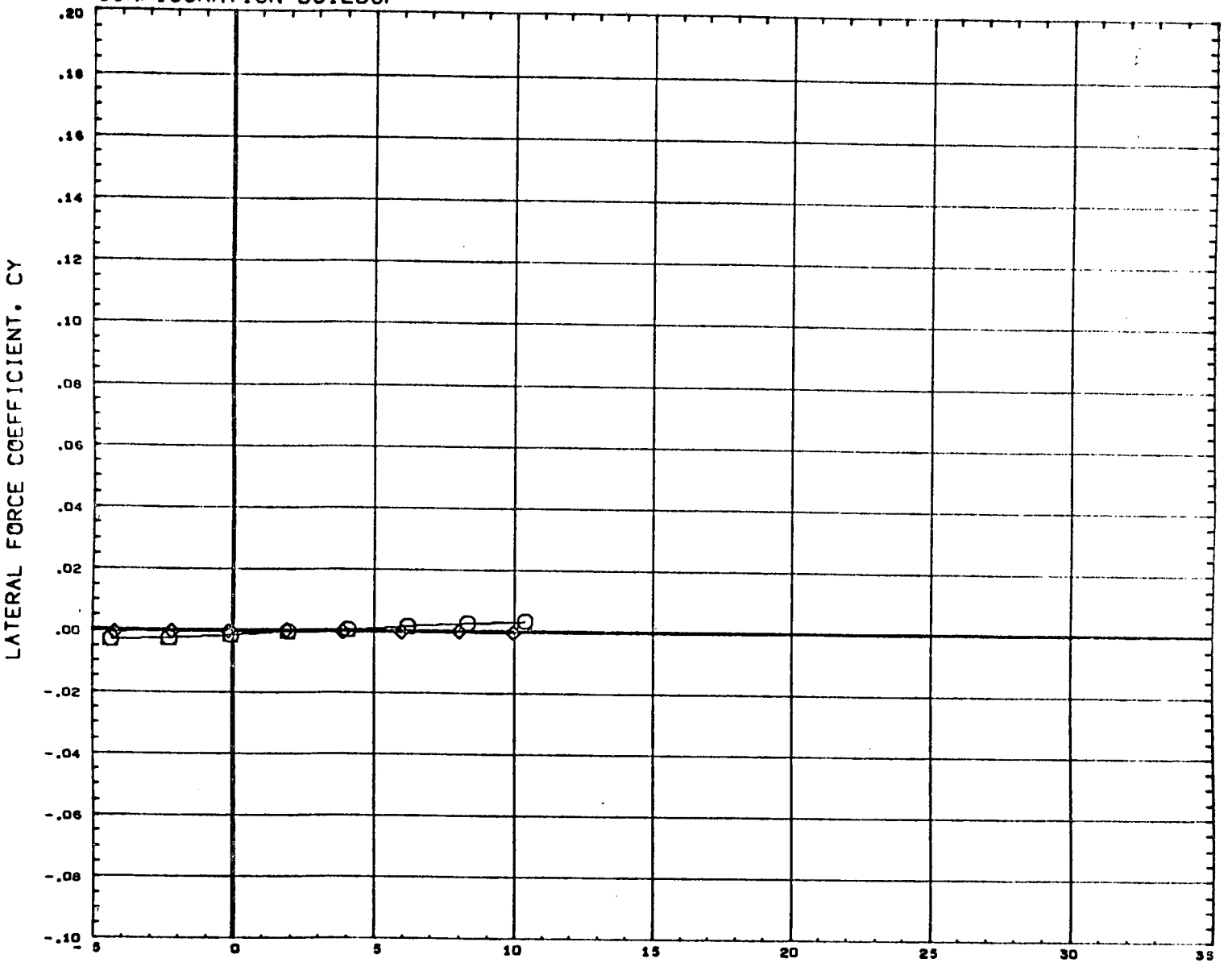


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP



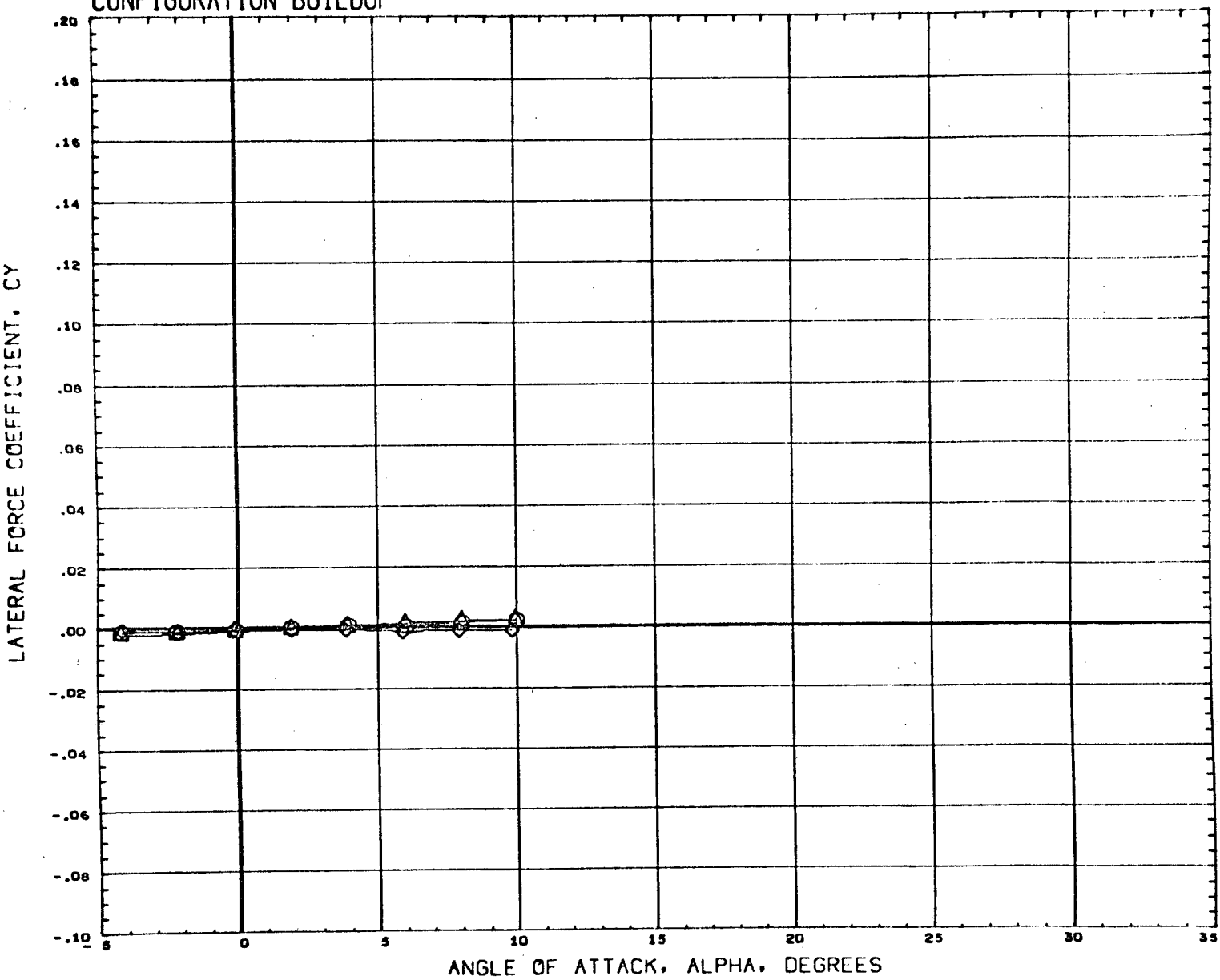
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(A69044)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2

ELEVON	RUDDER	RFLARE	BFLAP
0.000	0.000	0.000	0.000
0.000			0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP

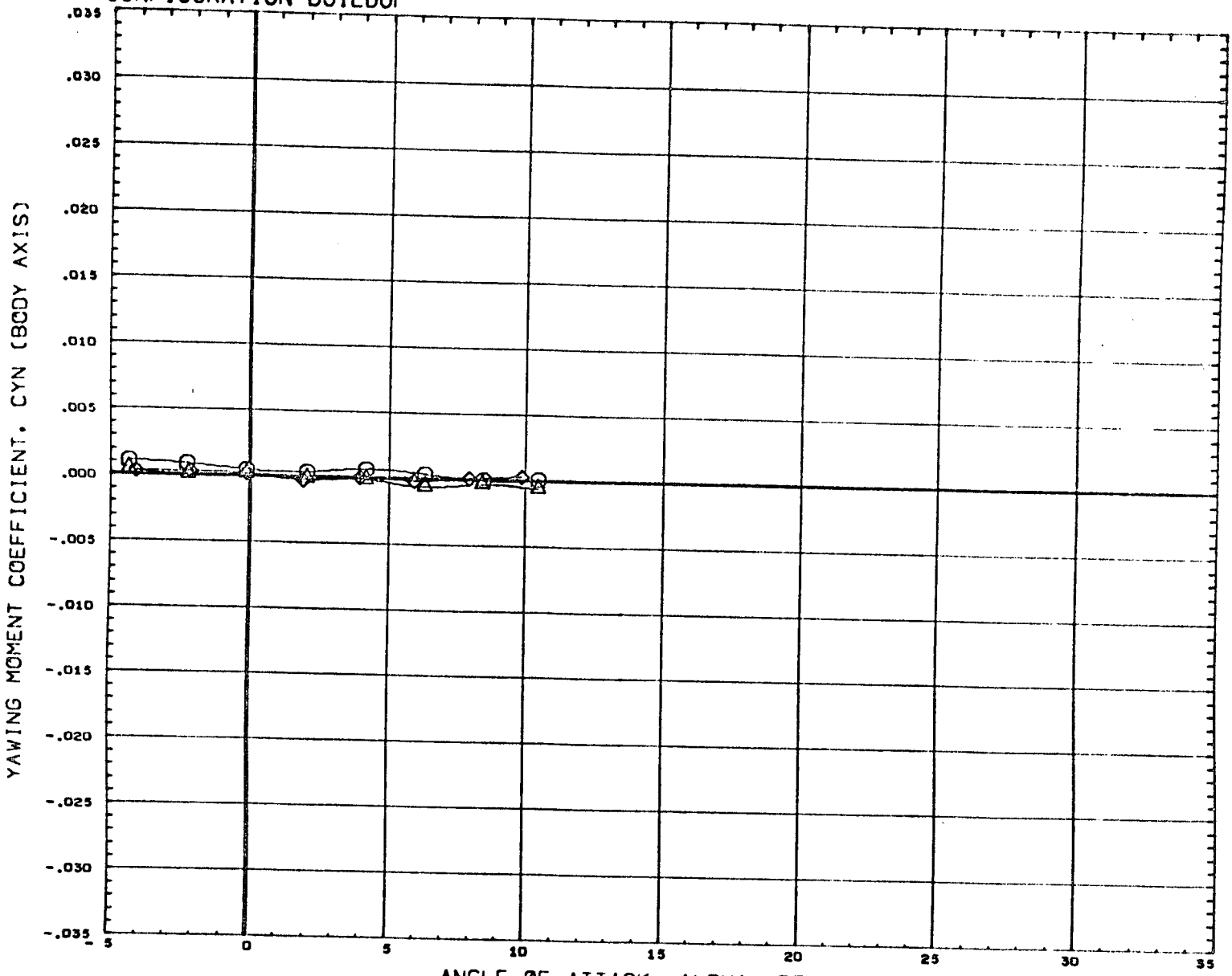


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

CONFIGURATION BUILDUP

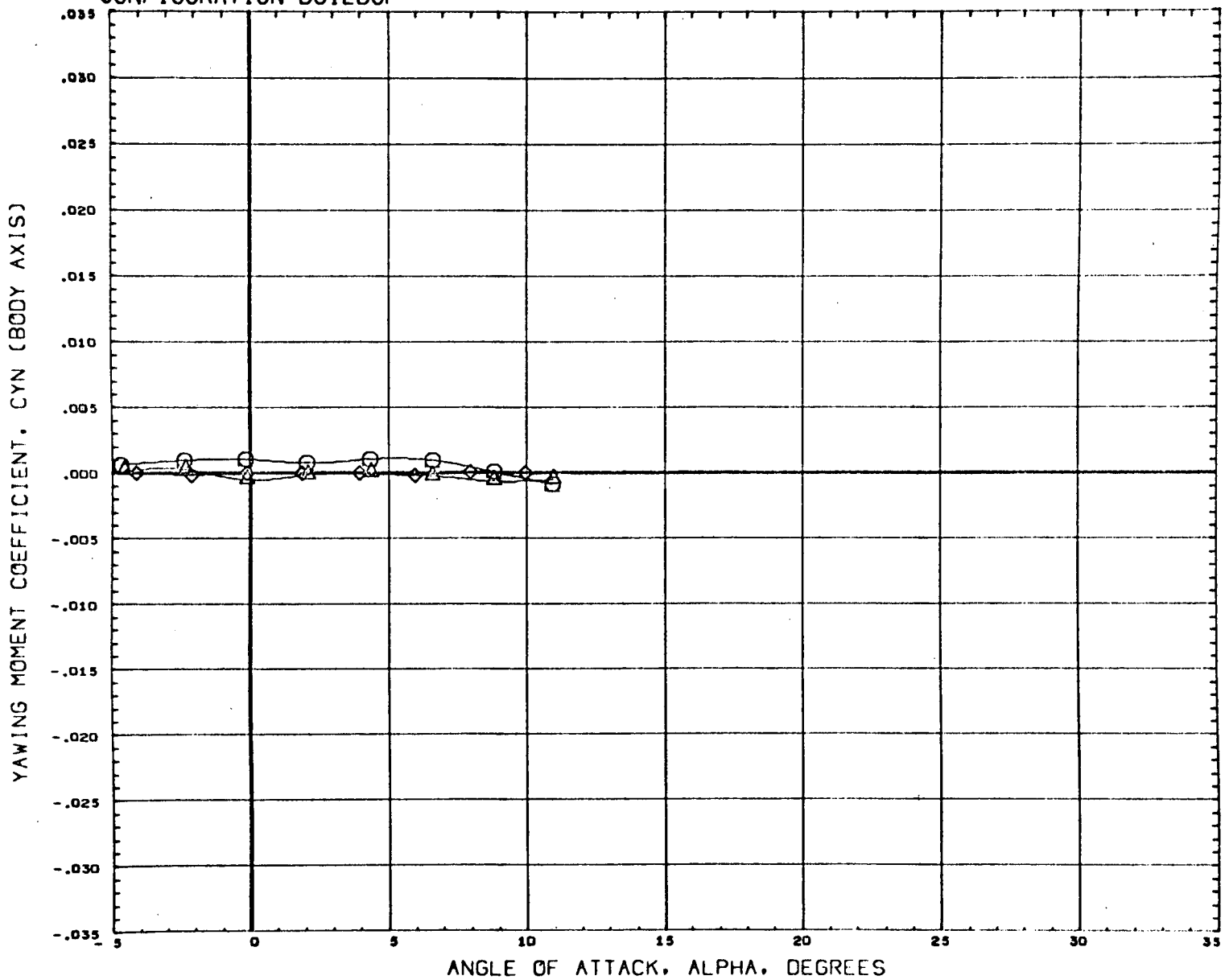


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

CONFIGURATION BUILDUP

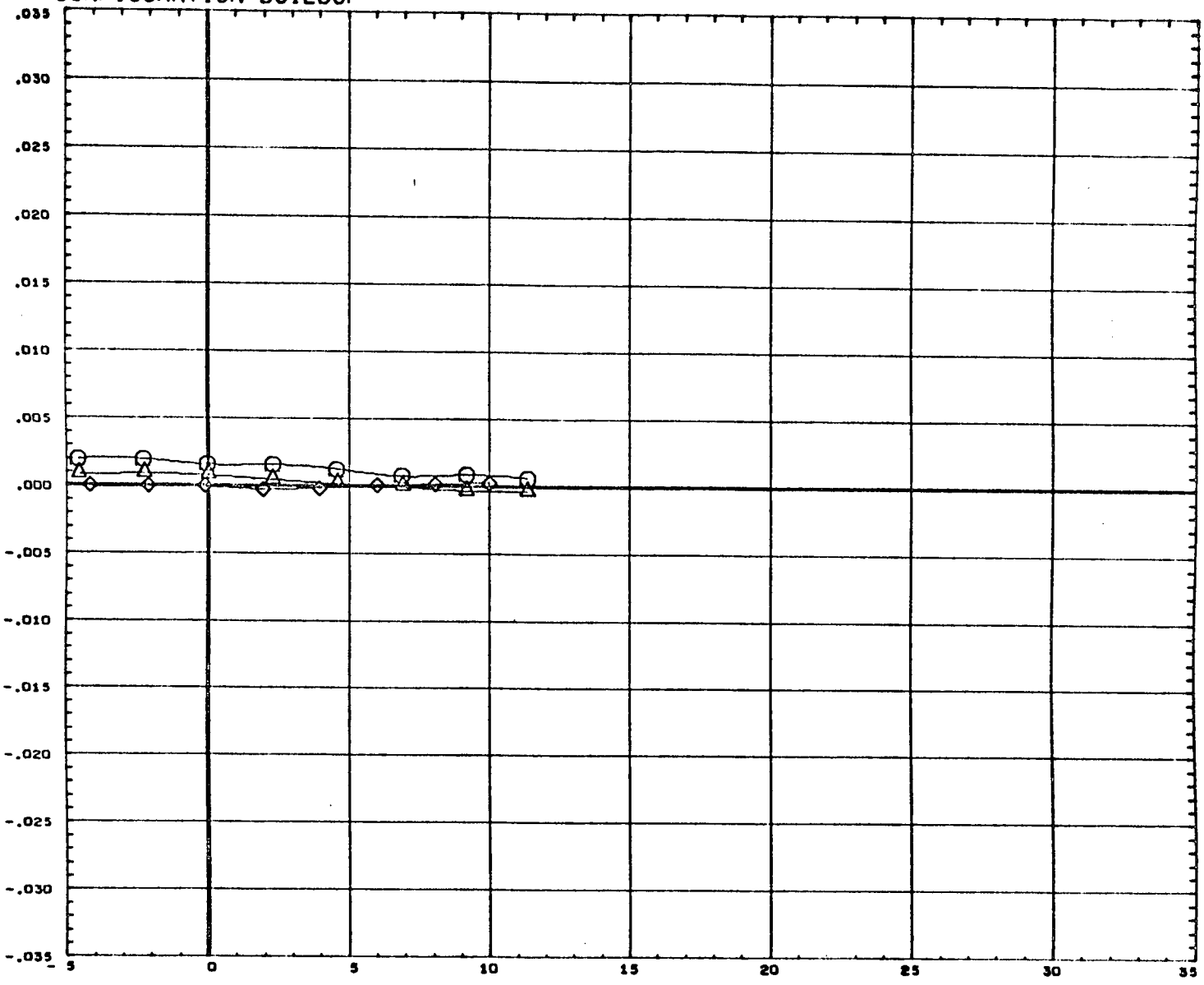


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP

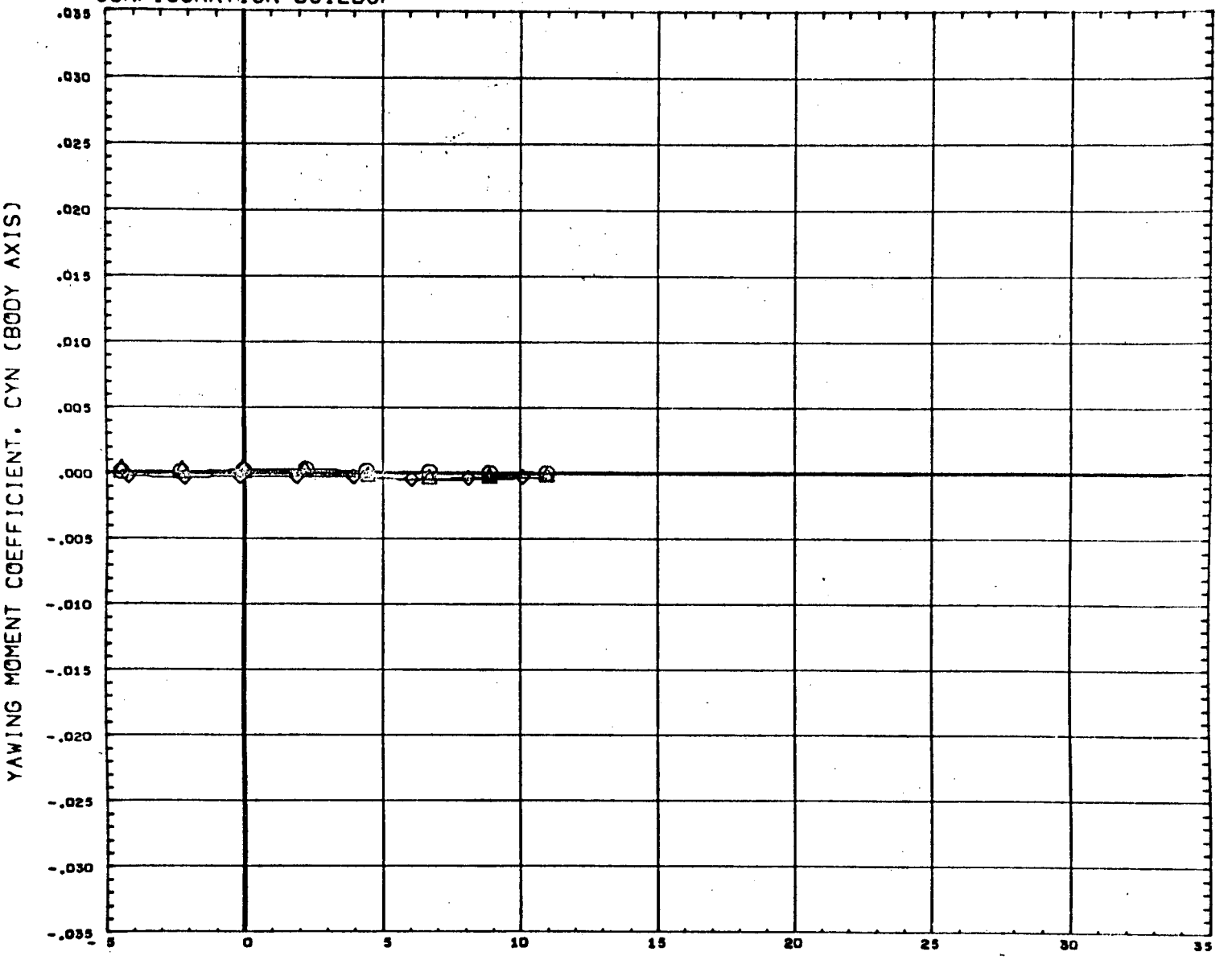


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

CONFIGURATION BUILDUP

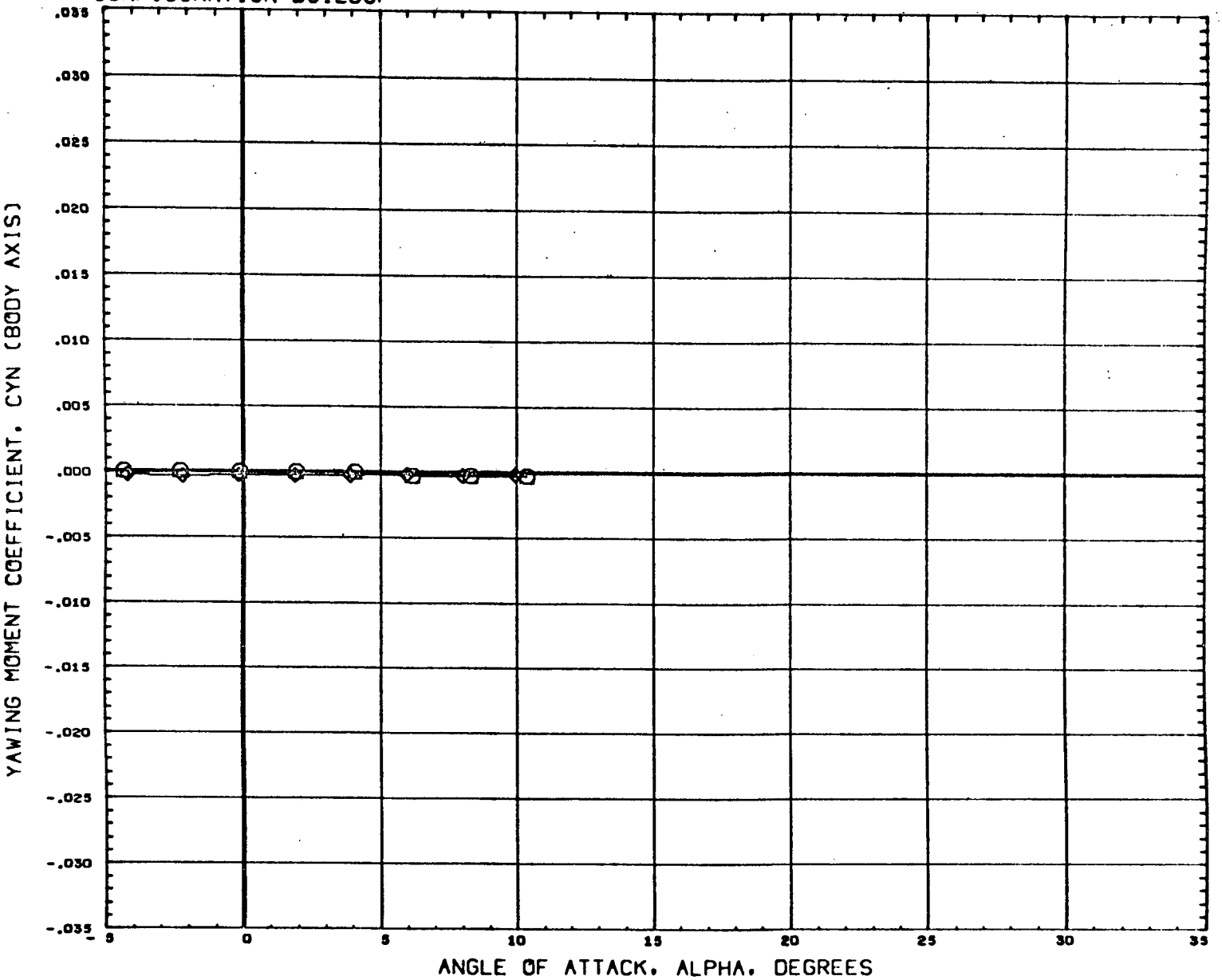


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP

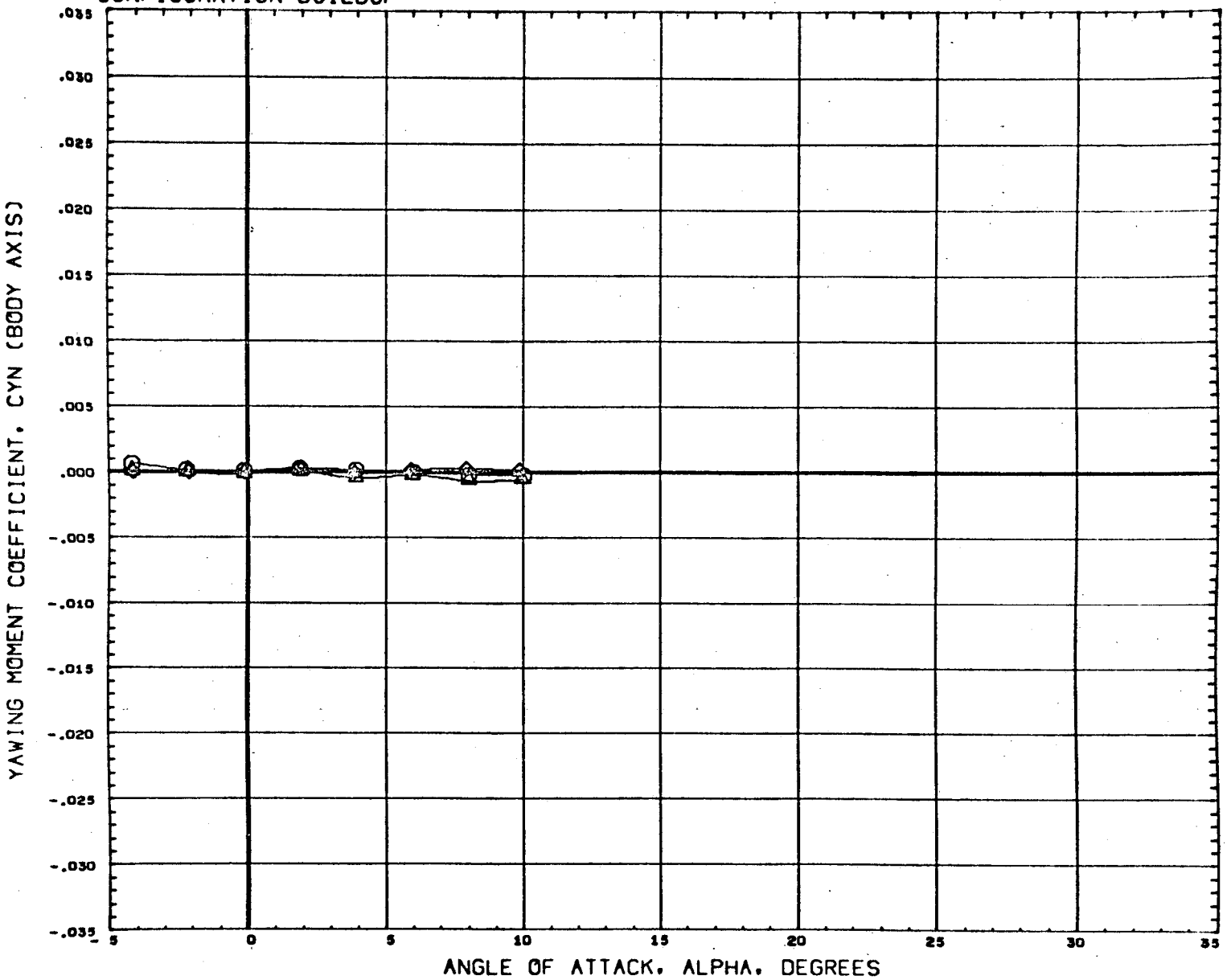


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP

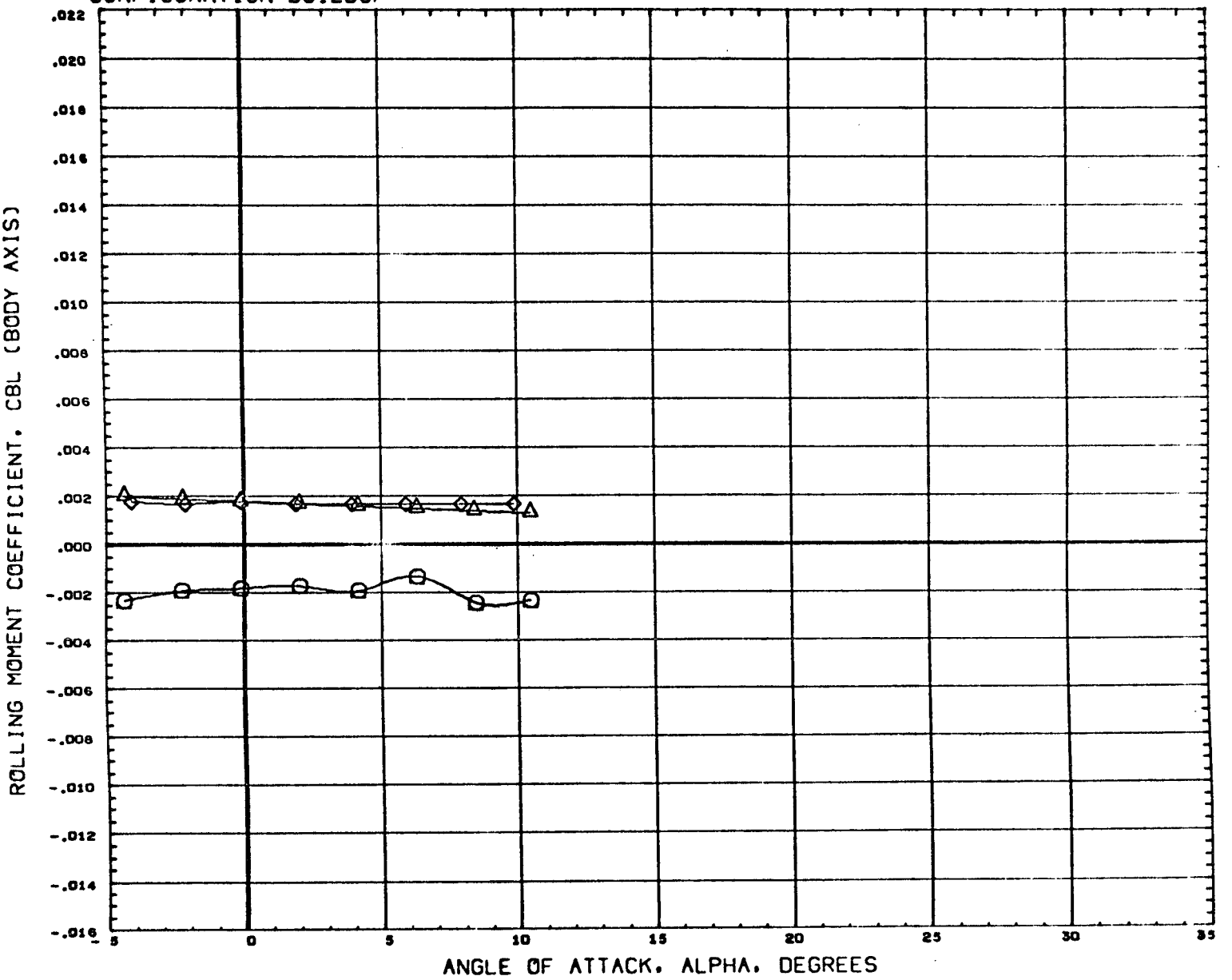


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

CONFIGURATION BUILDUP

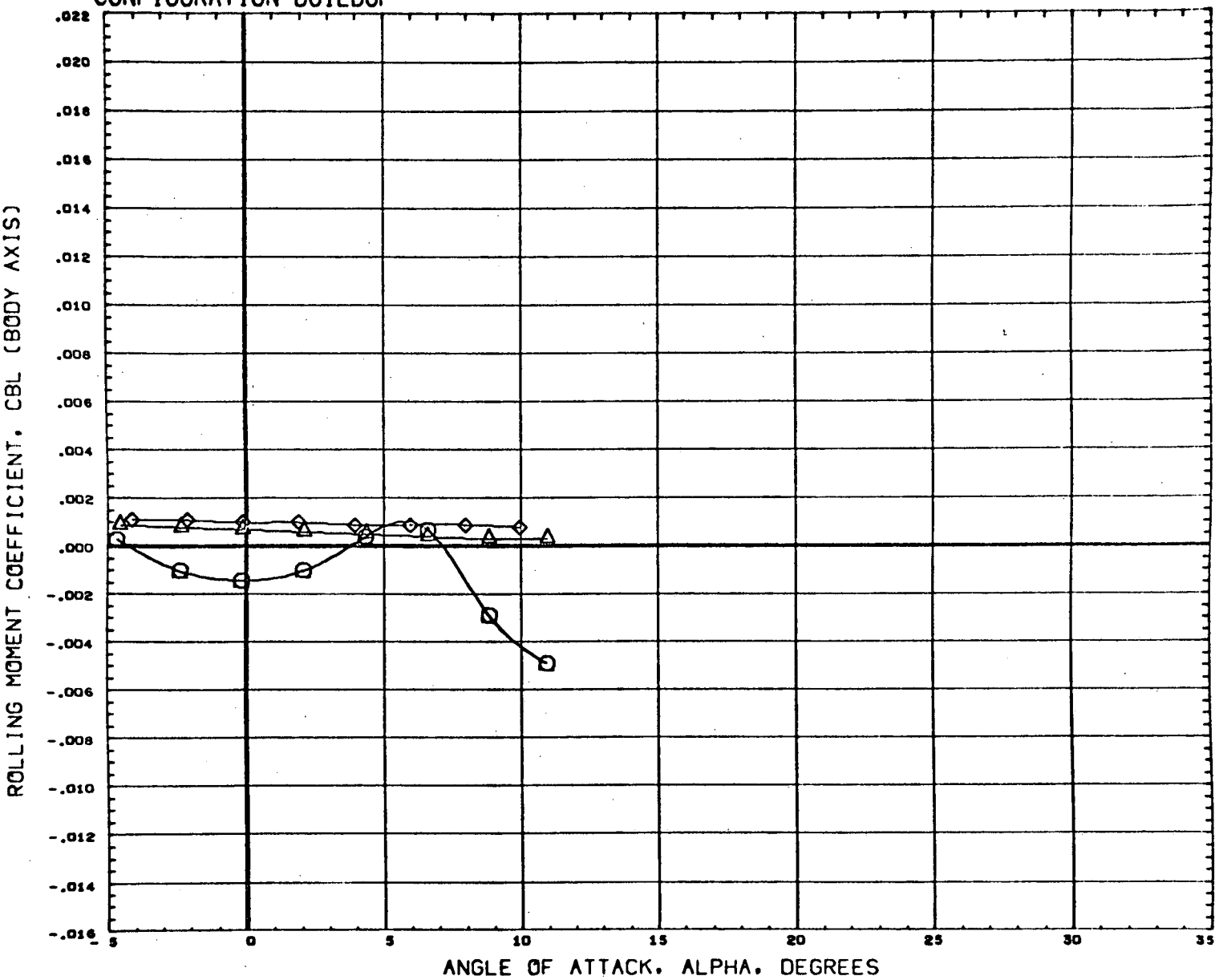


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.6800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

CONFIGURATION BUILDUP

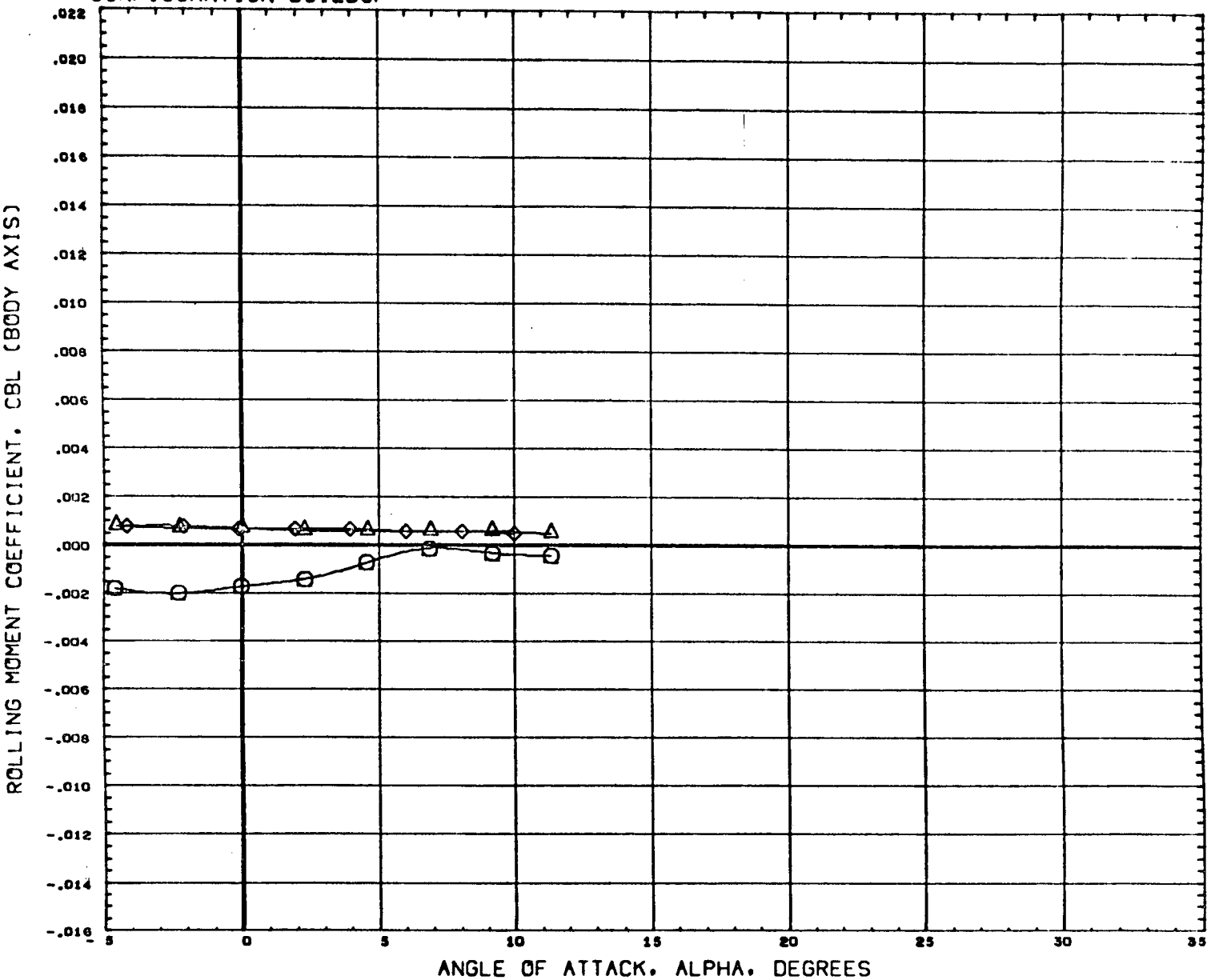


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP

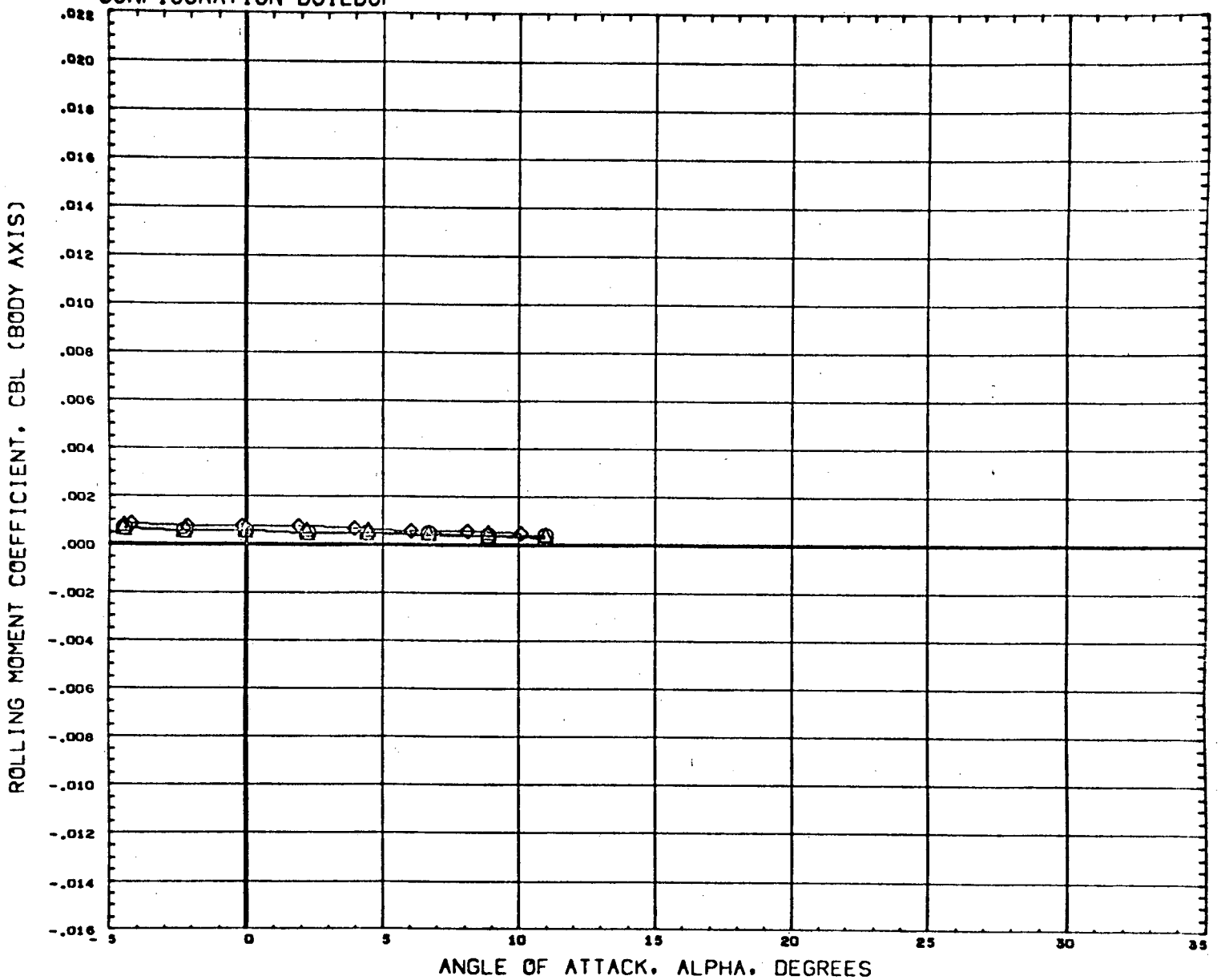


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.19

CONFIGURATION BUILDUP

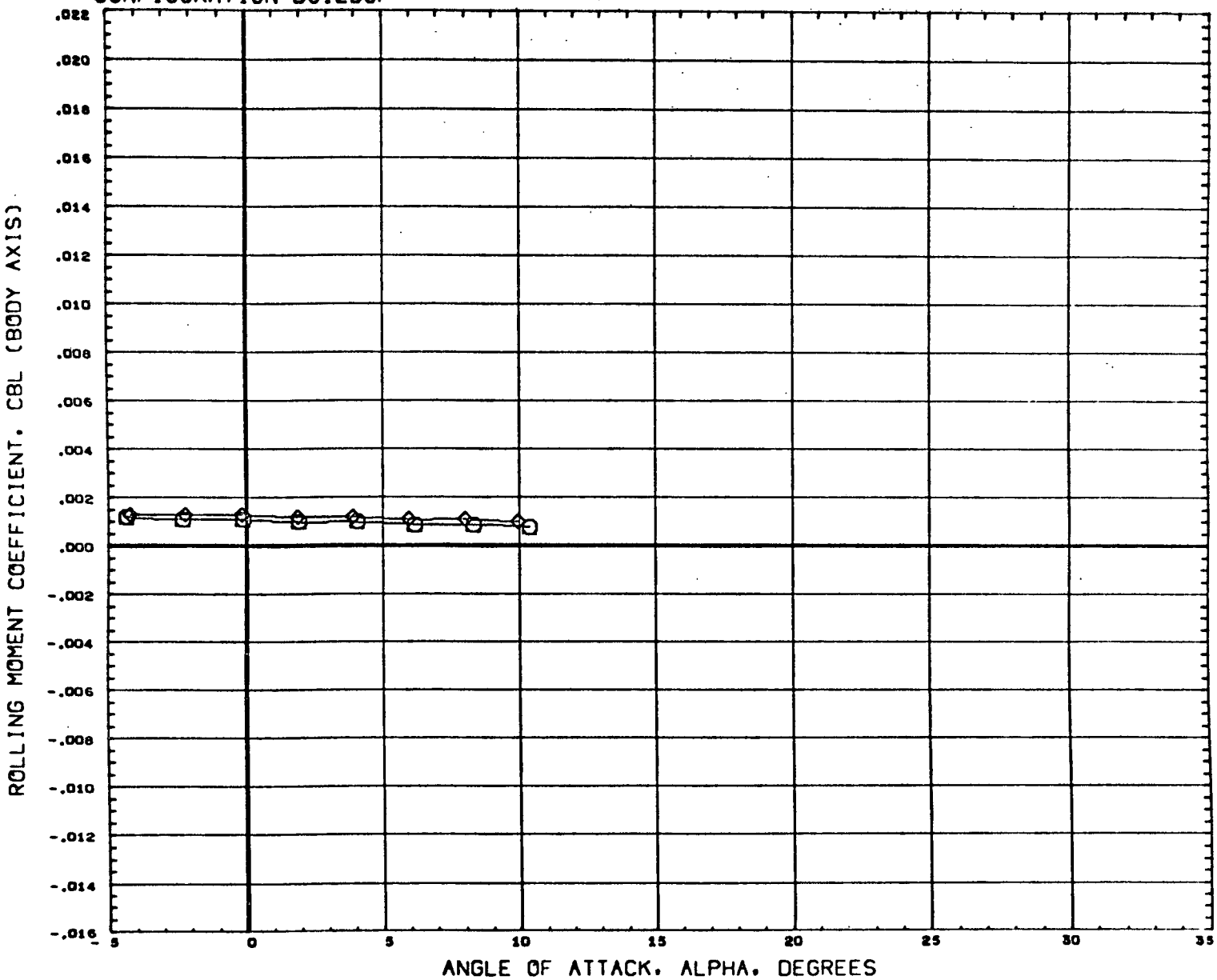


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP

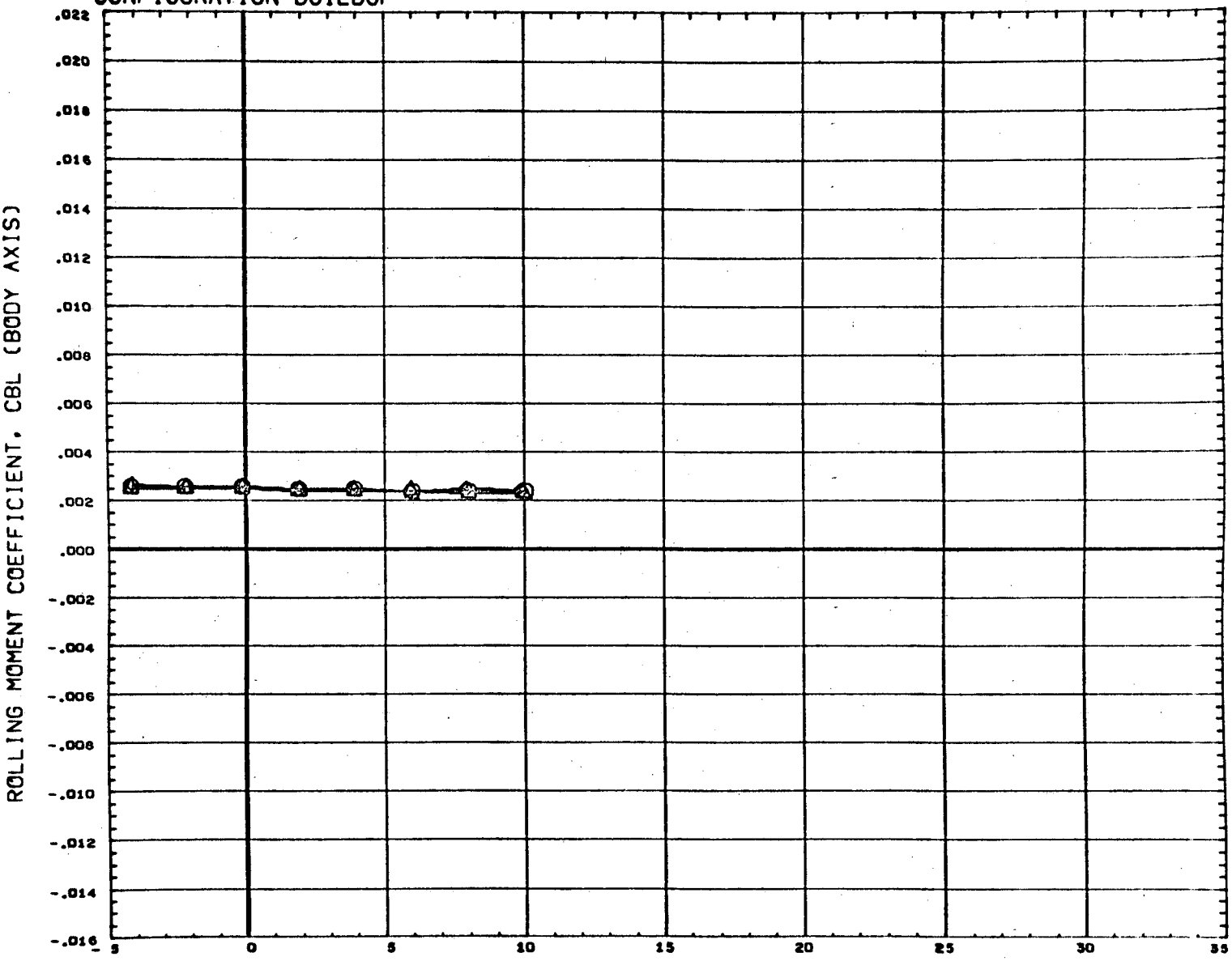


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP

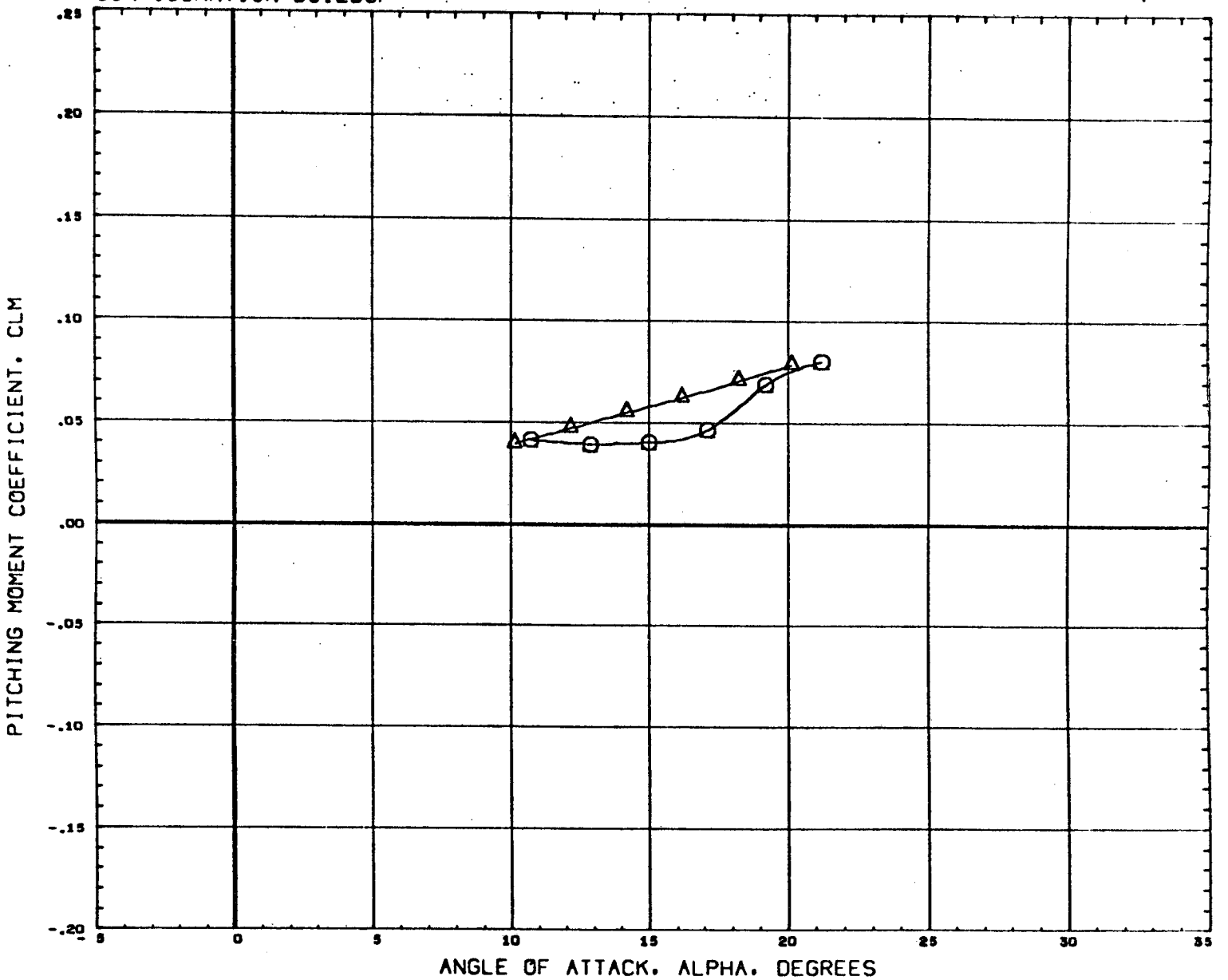


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(A69001)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69044)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1	0.000			0.000
(A69047)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

CONFIGURATION BUILDUP

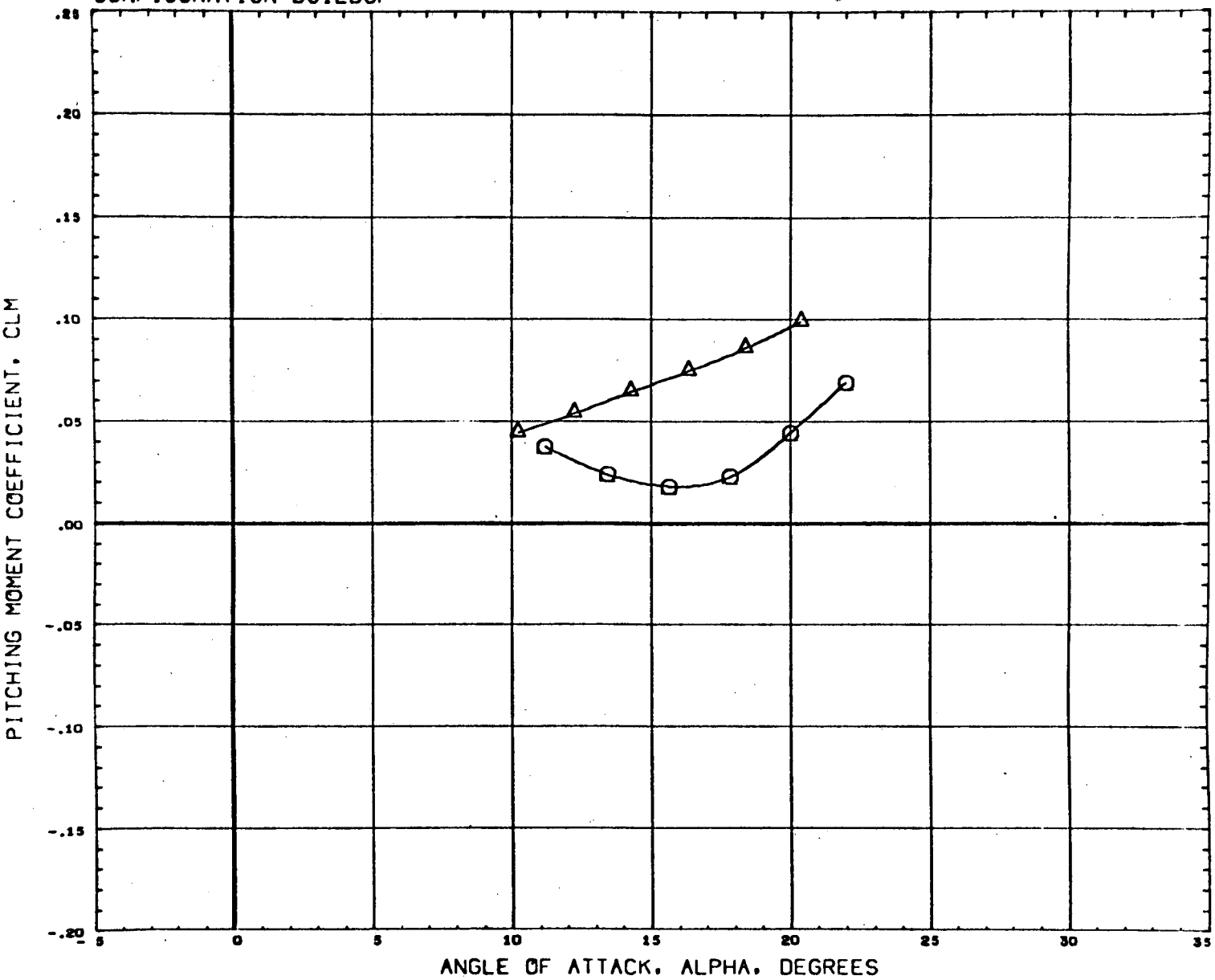


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69002)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69048)		MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

CONFIGURATION BUILDUP

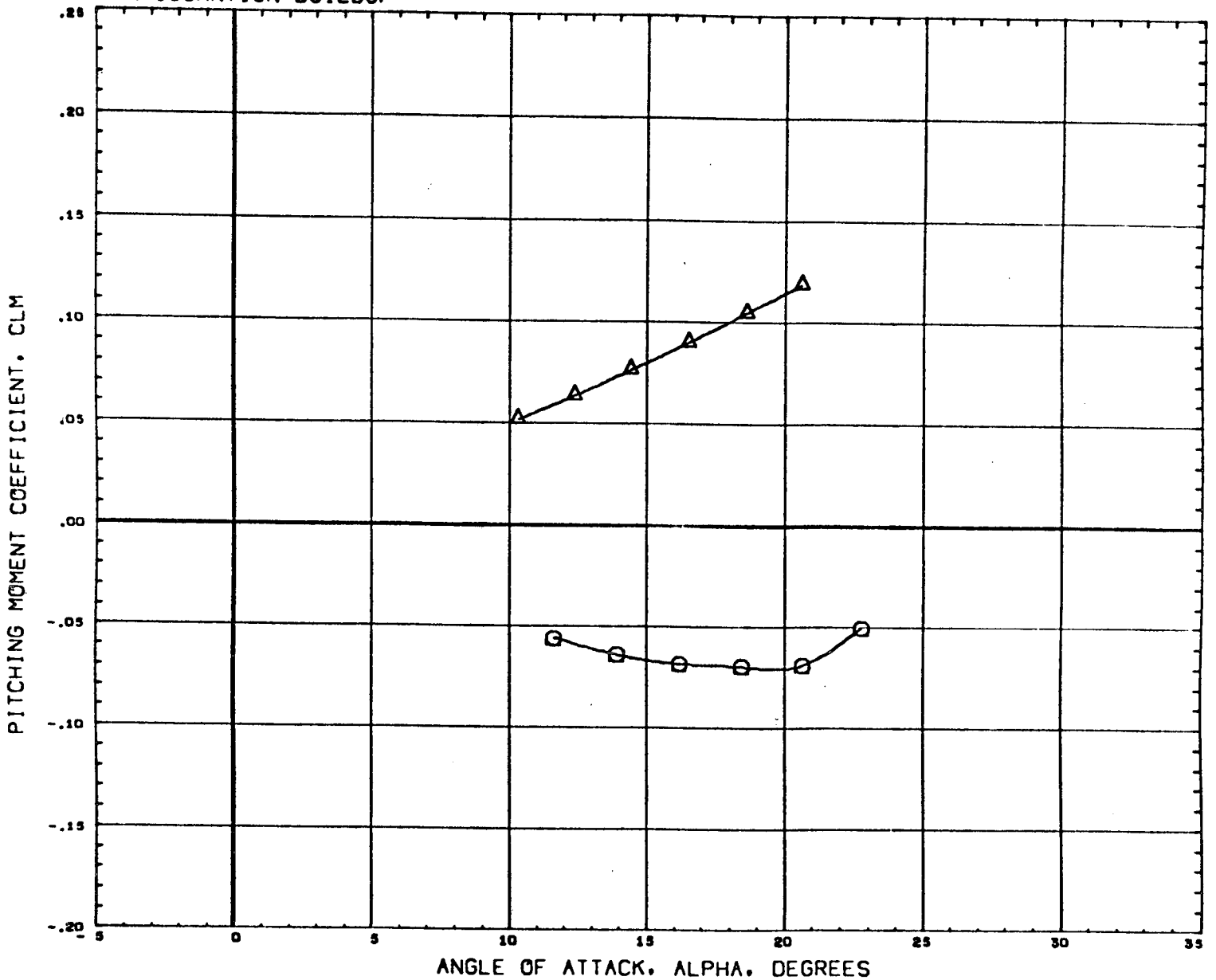


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP

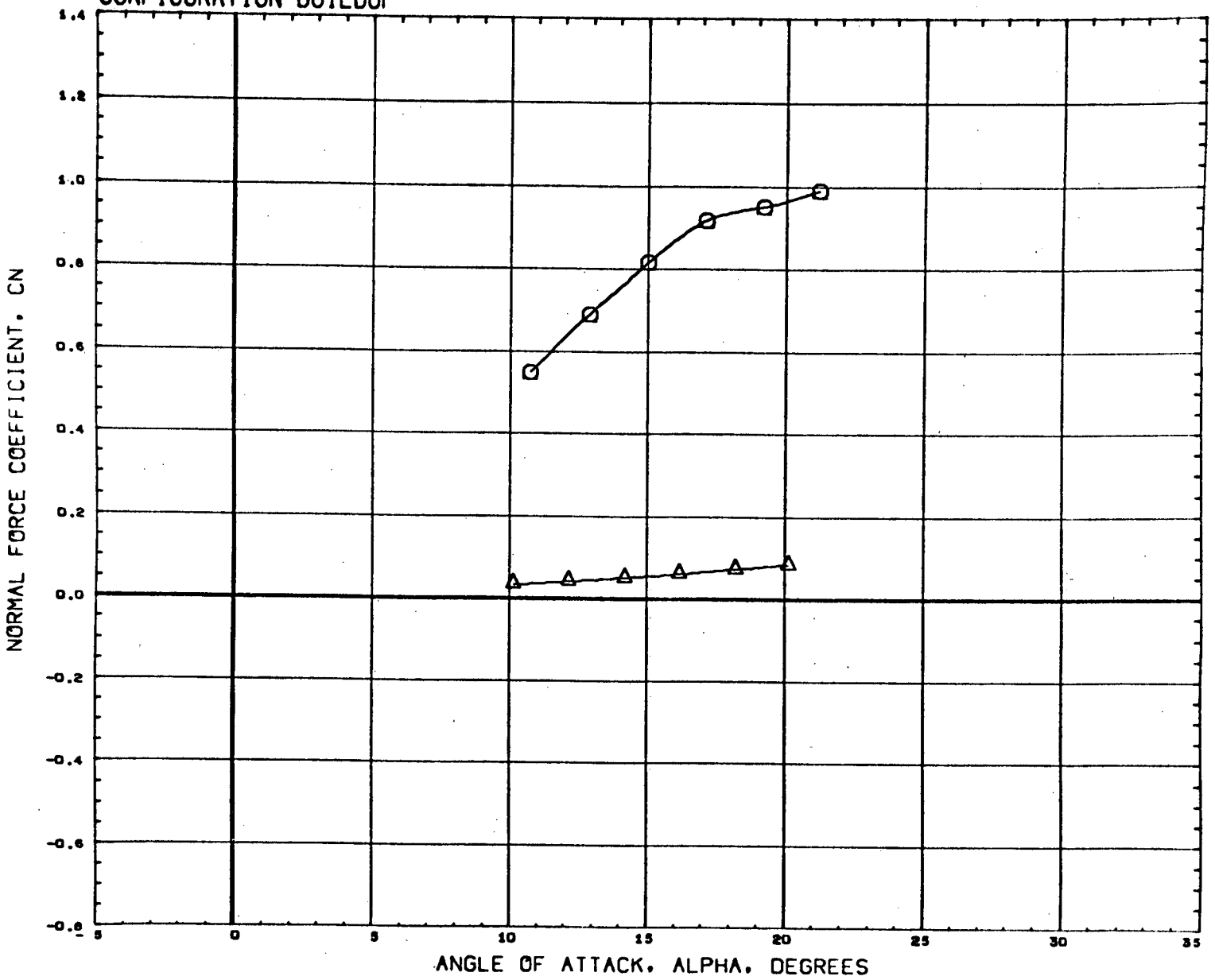


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

CONFIGURATION BUILDUP

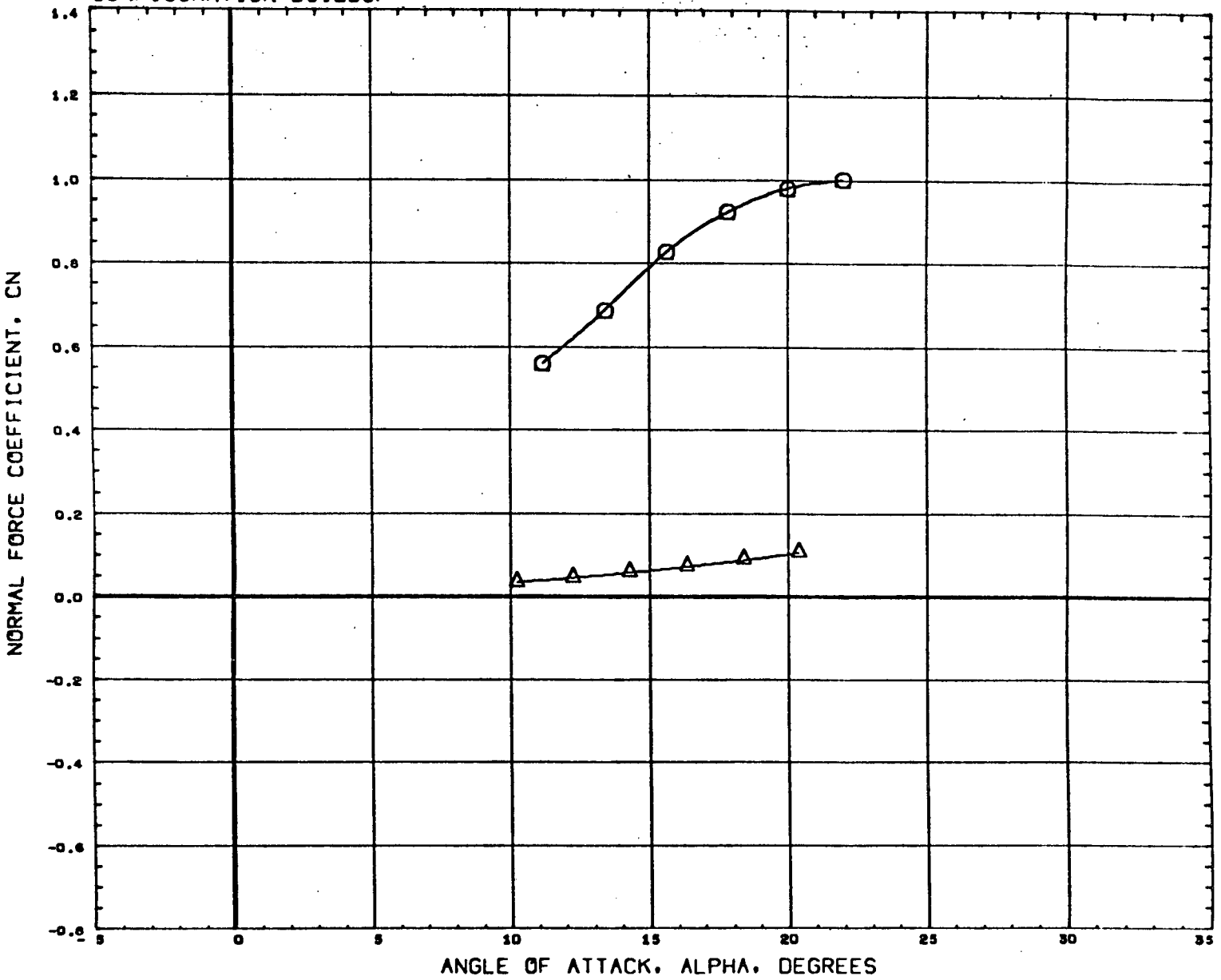


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.6800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

CONFIGURATION BUILDUP

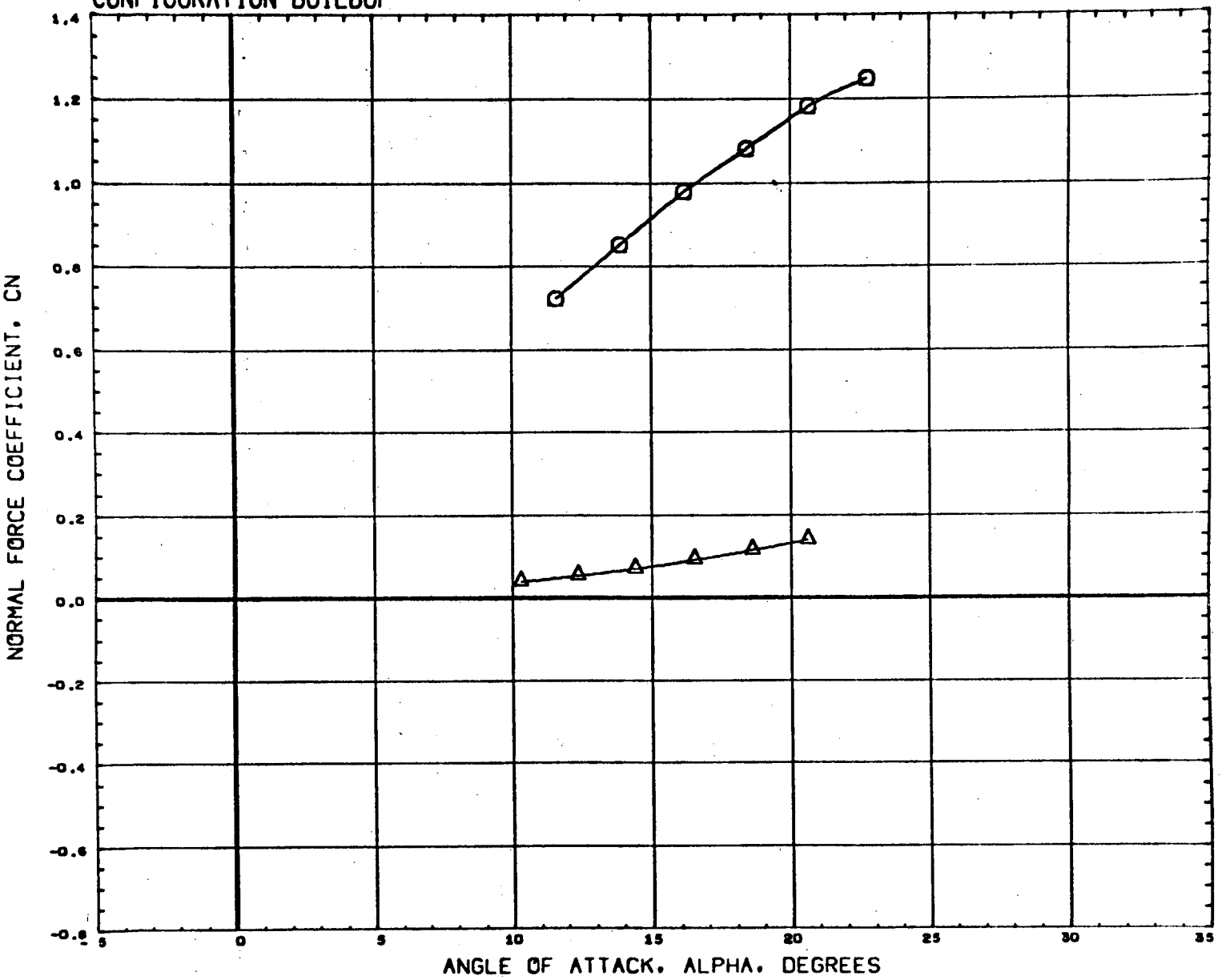


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP



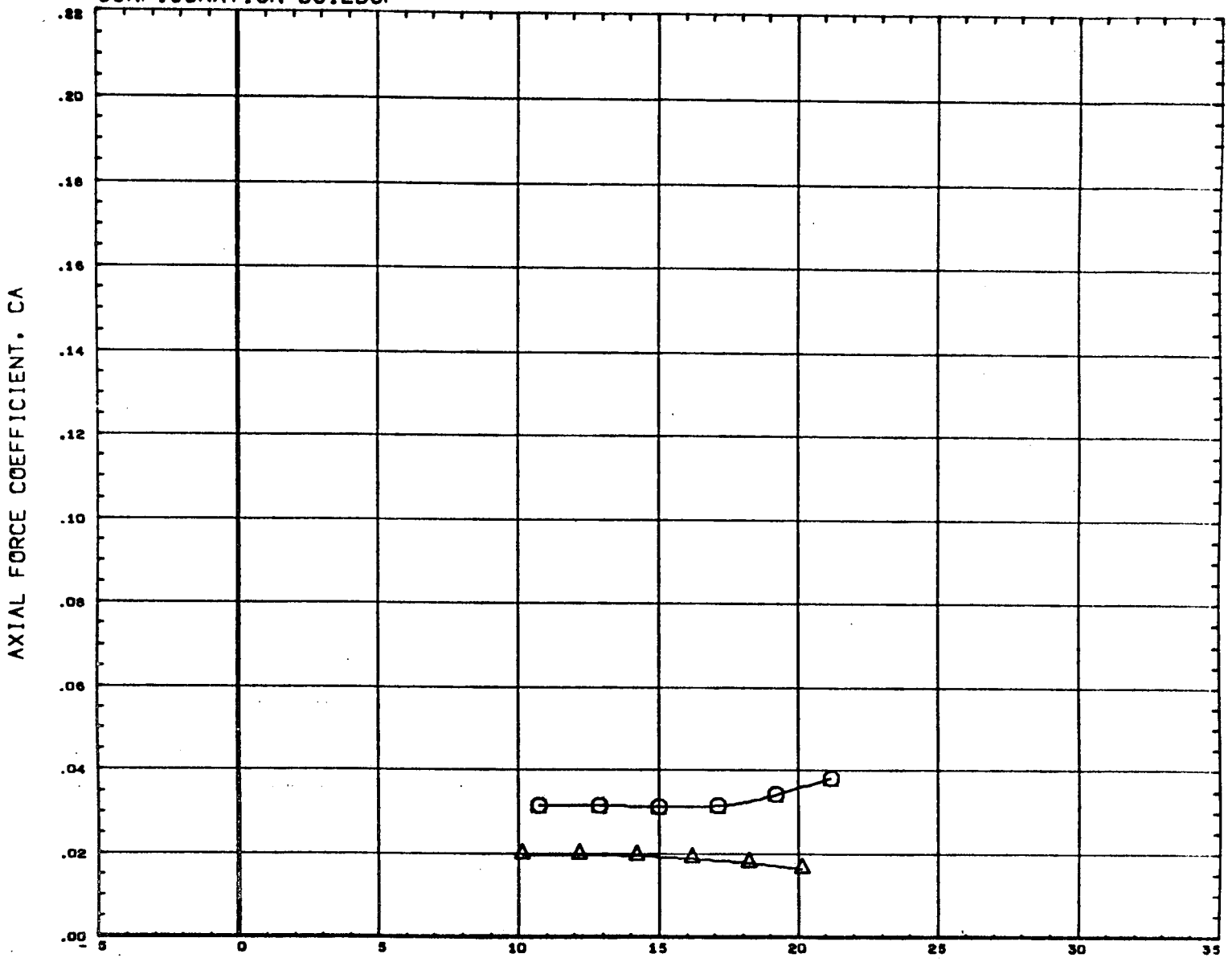
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

E

CONFIGURATION BUILDUP

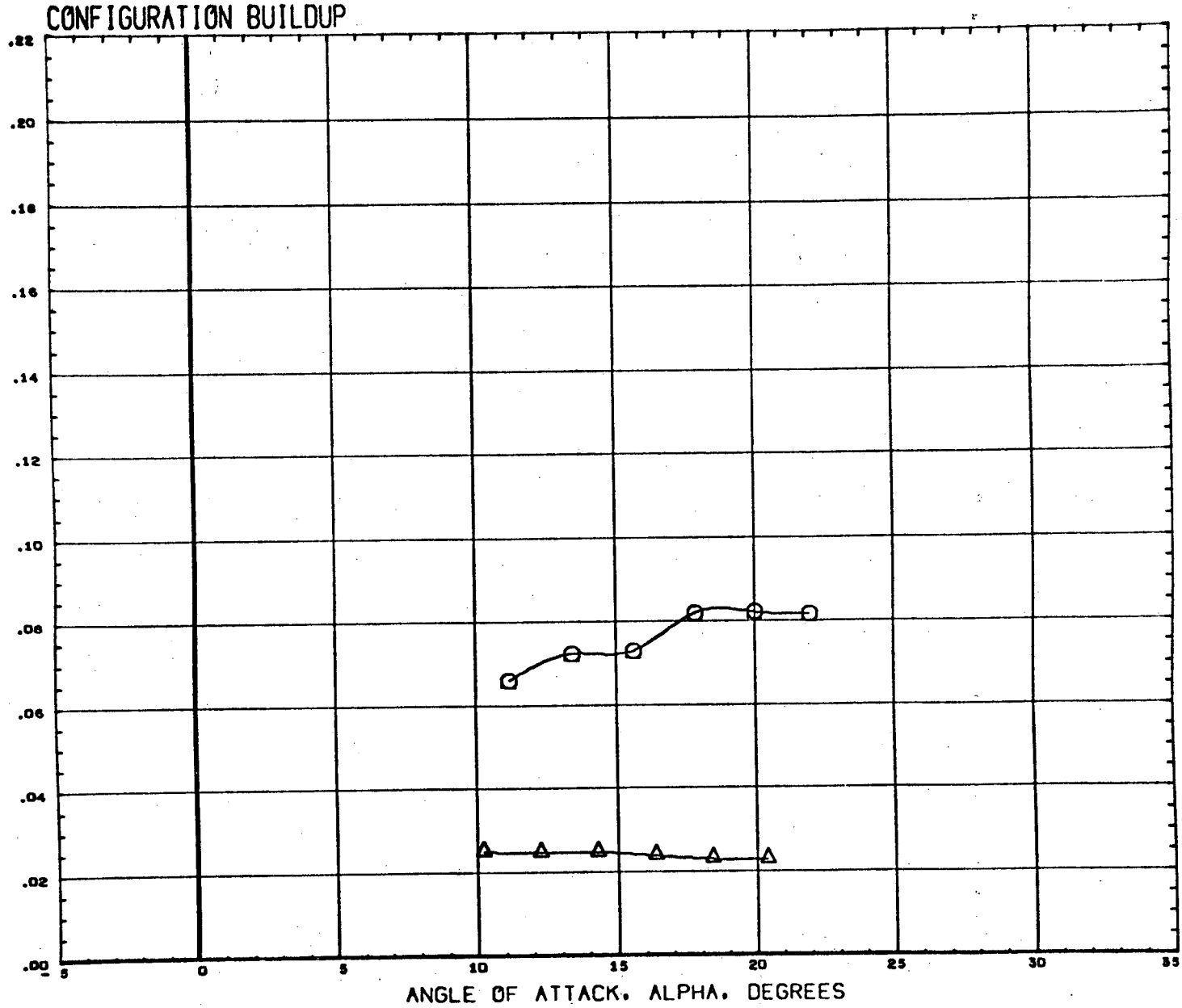


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

CONFIGURATION BUILDUP



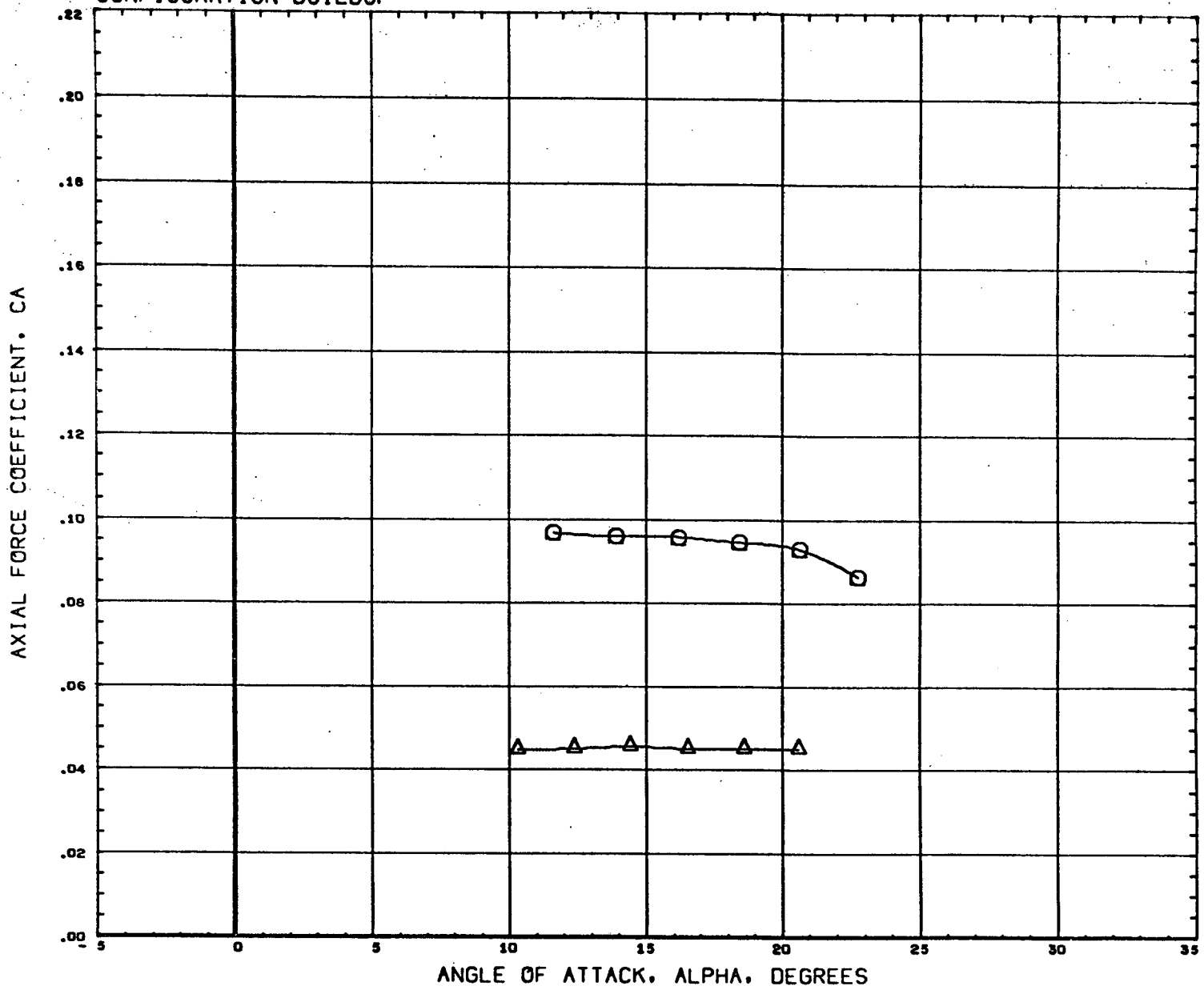
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(B69002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(B69048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2

ELEVON	RUDDER	RFLARE	BFLAP
0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

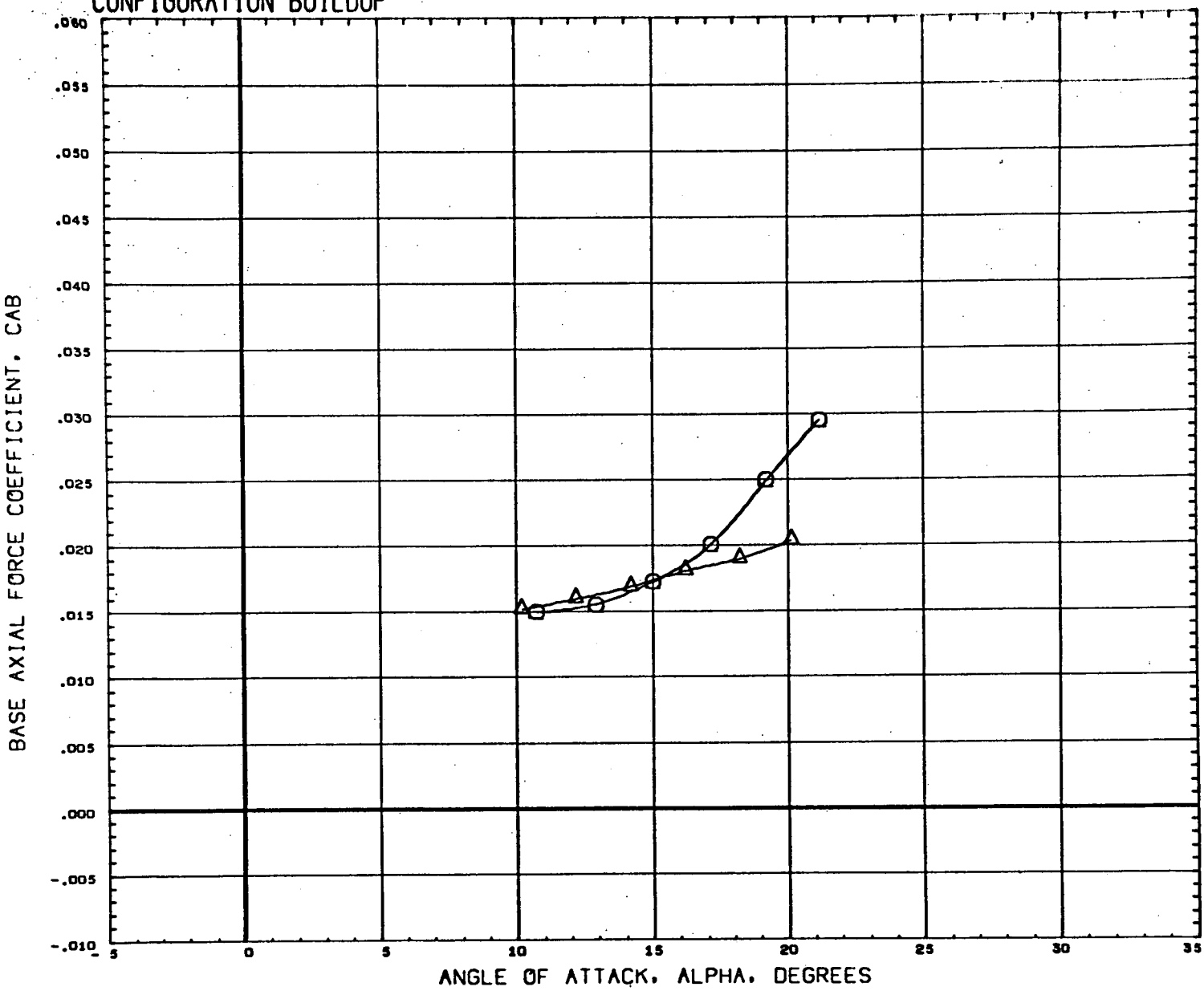
CONFIGURATION BUILDUP



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

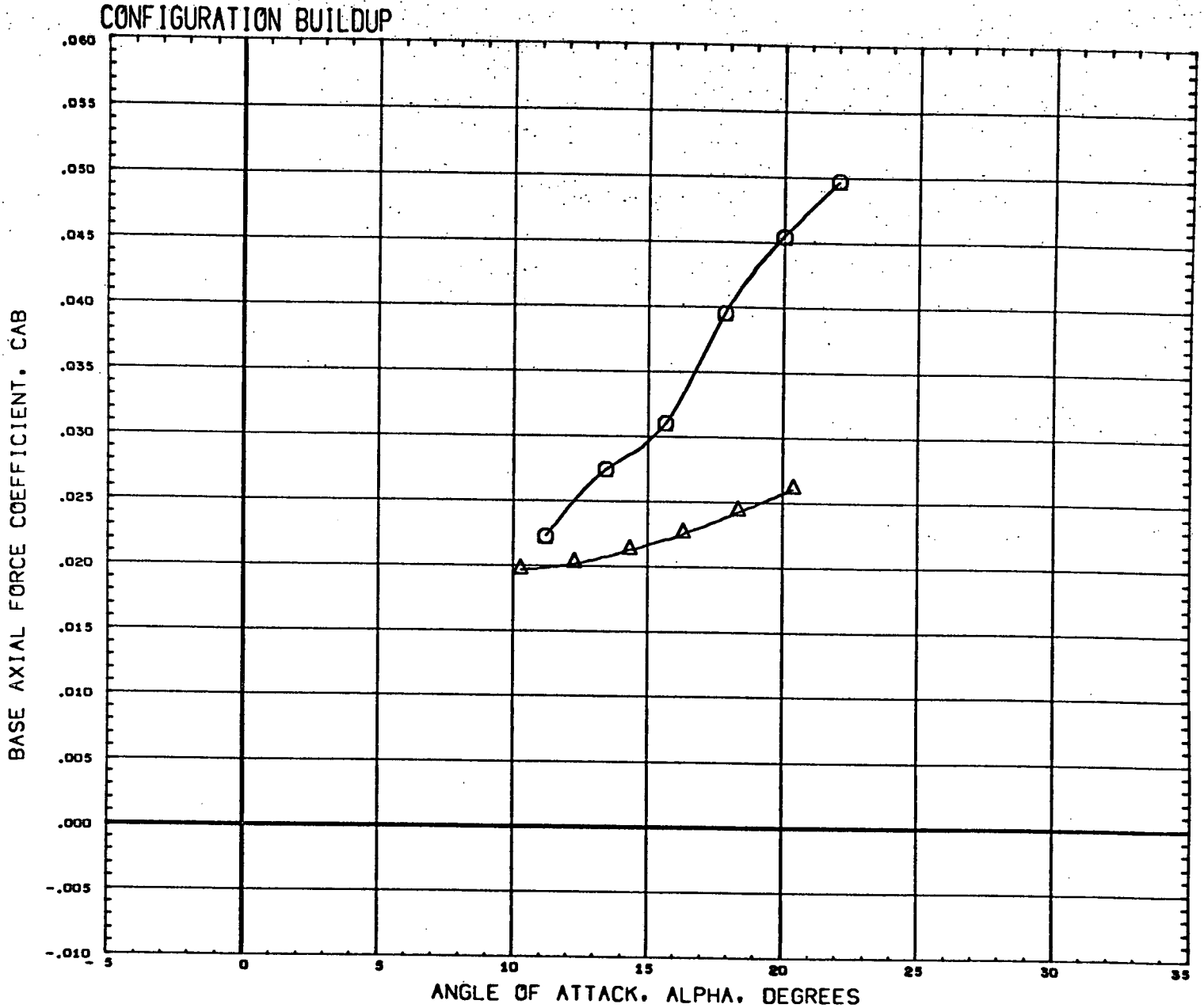
MACH 1.20



DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60



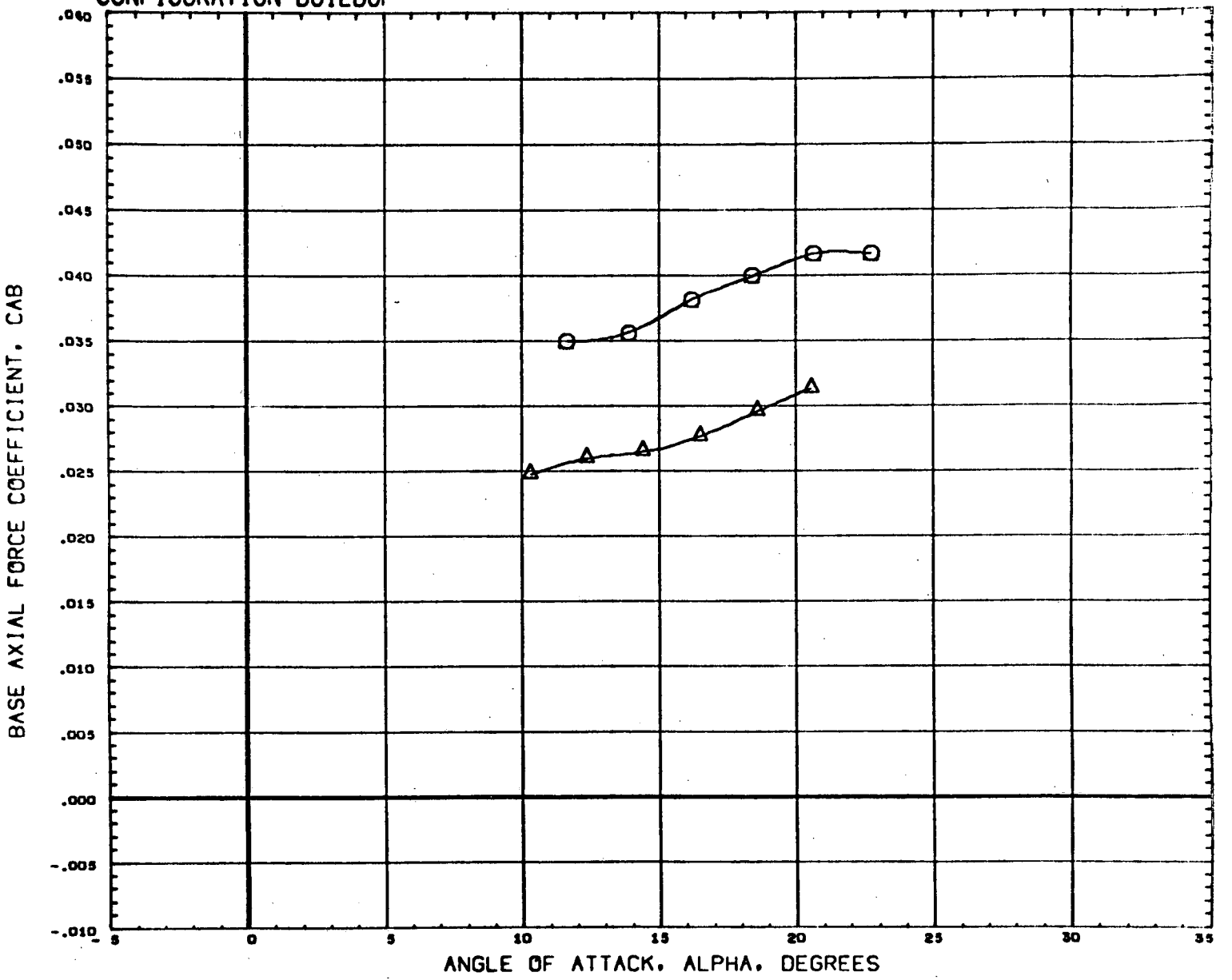
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(B69002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(B69048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2

ELEVON	RUDDER	RFLARE	BFLAP
0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP

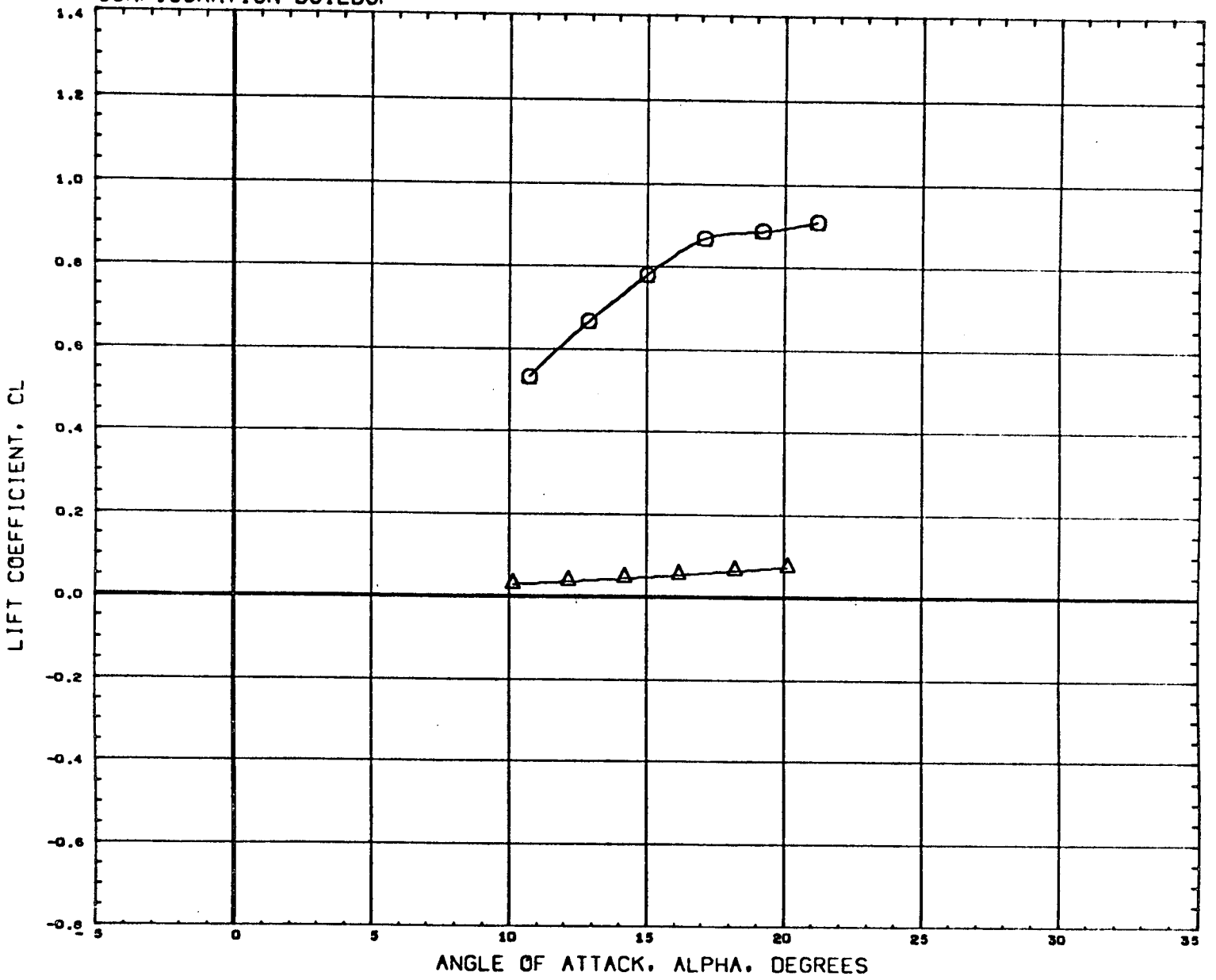


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869002)	O	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869048)	Δ	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

CONFIGURATION BUILDUP

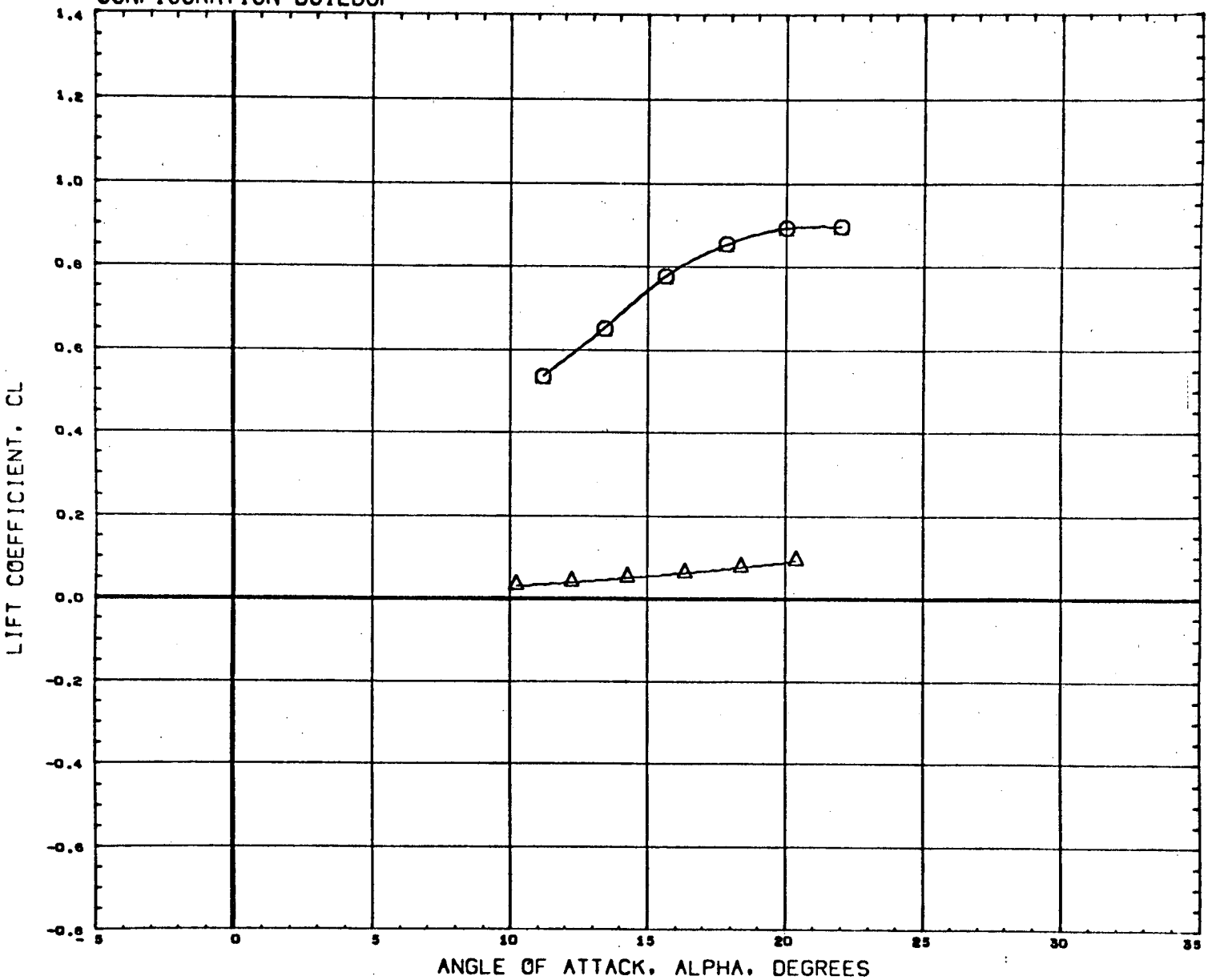


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

CONFIGURATION BUILDUP

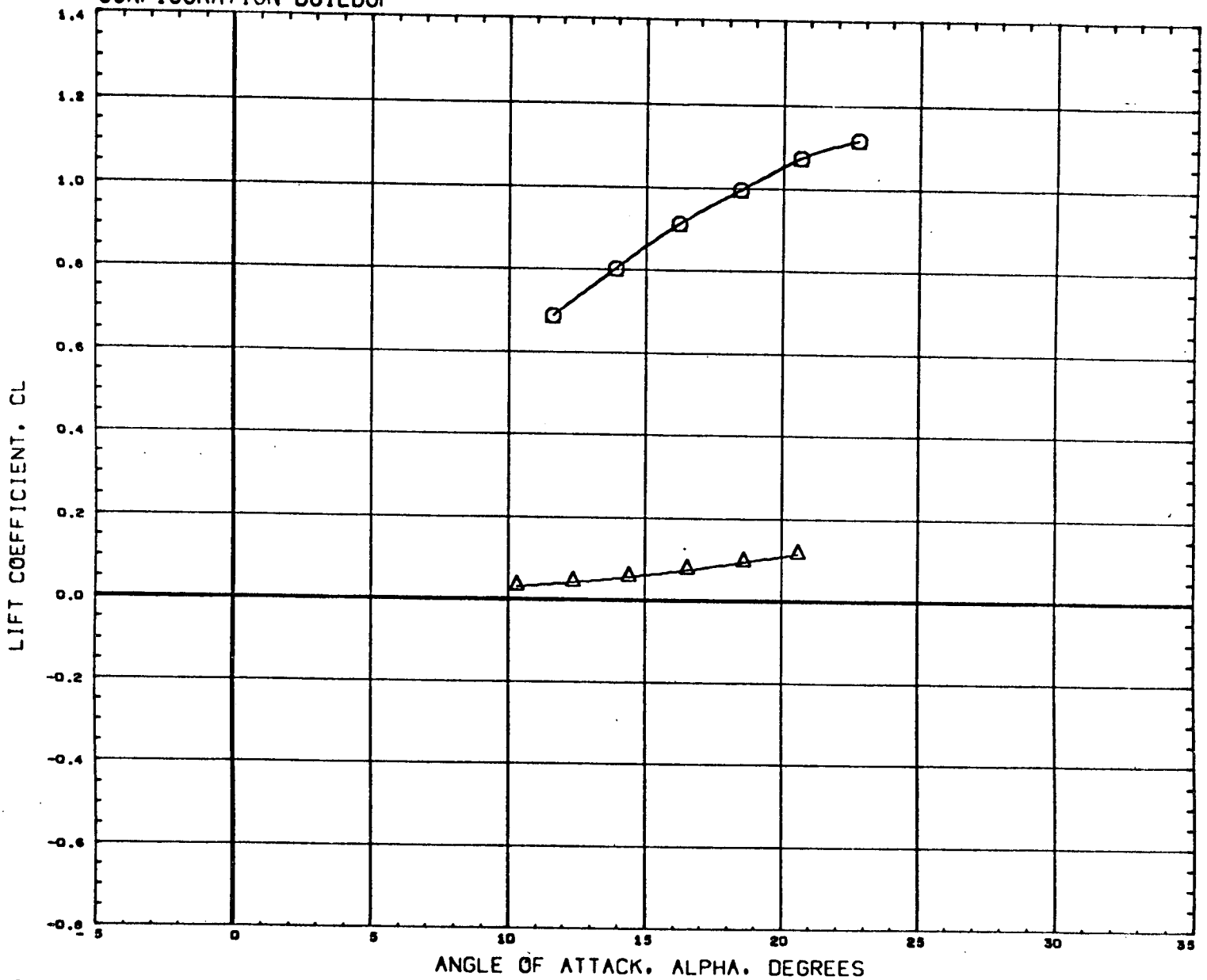


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69040)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP

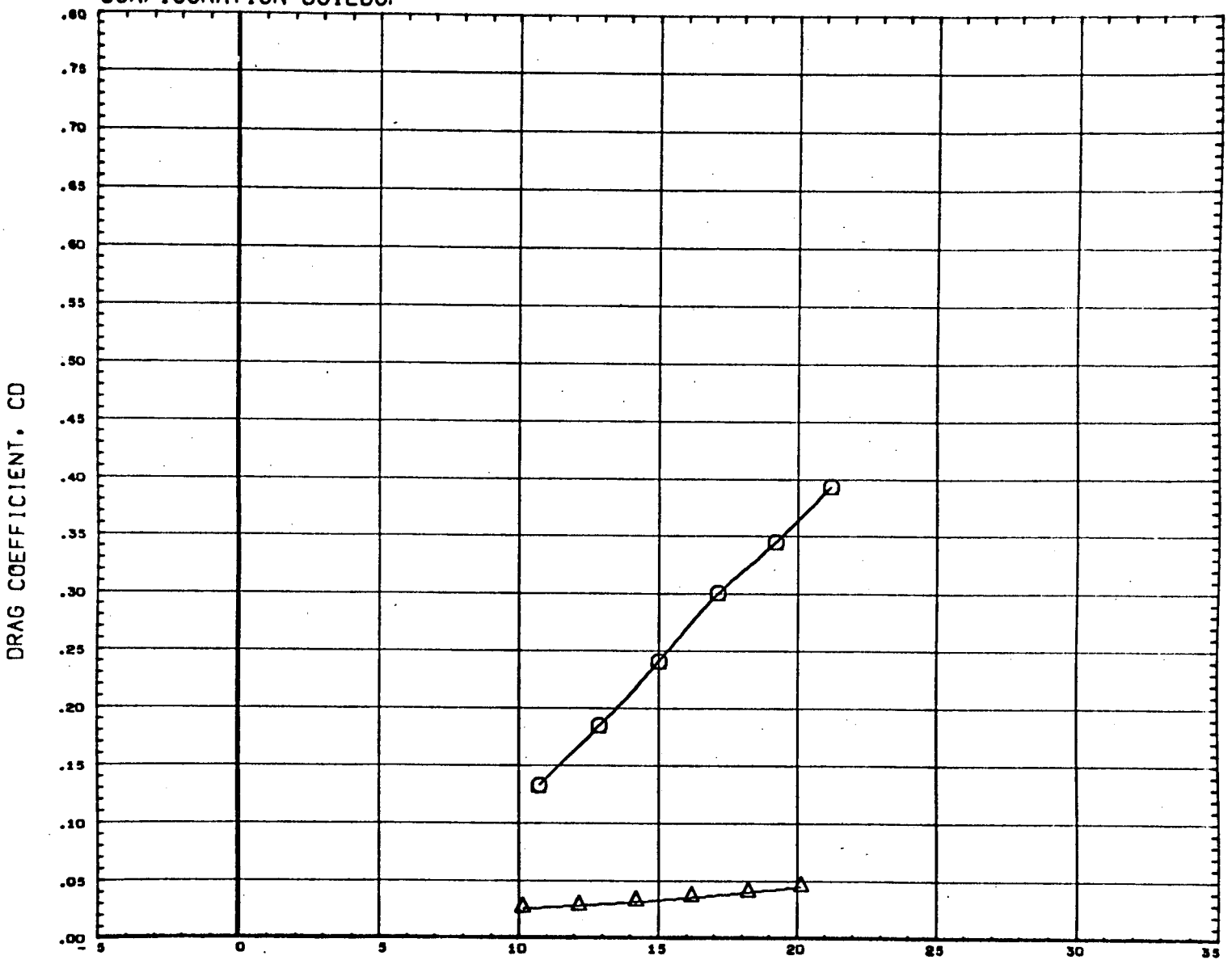


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

CONFIGURATION BUILDUP

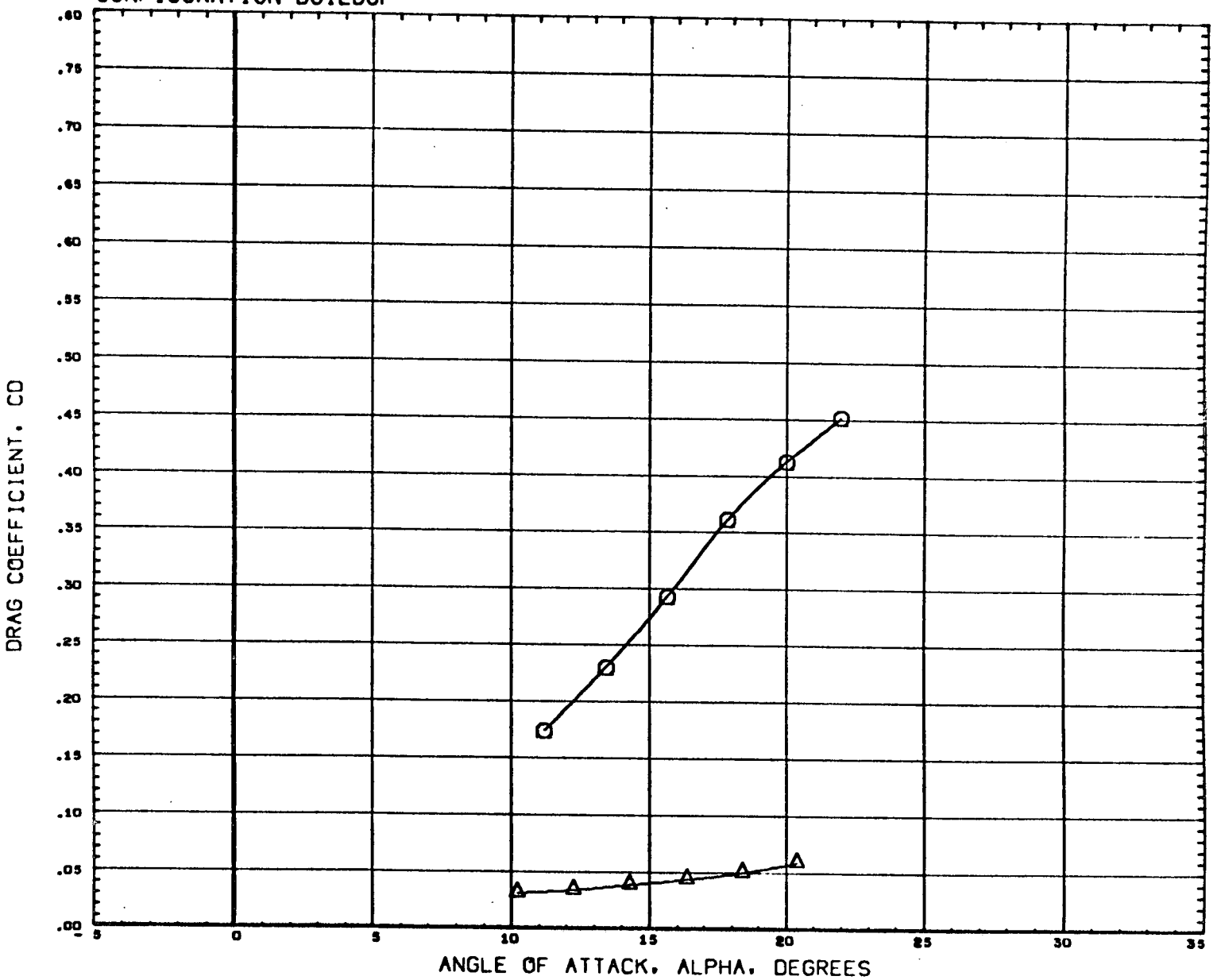


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

CONFIGURATION BUILDUP



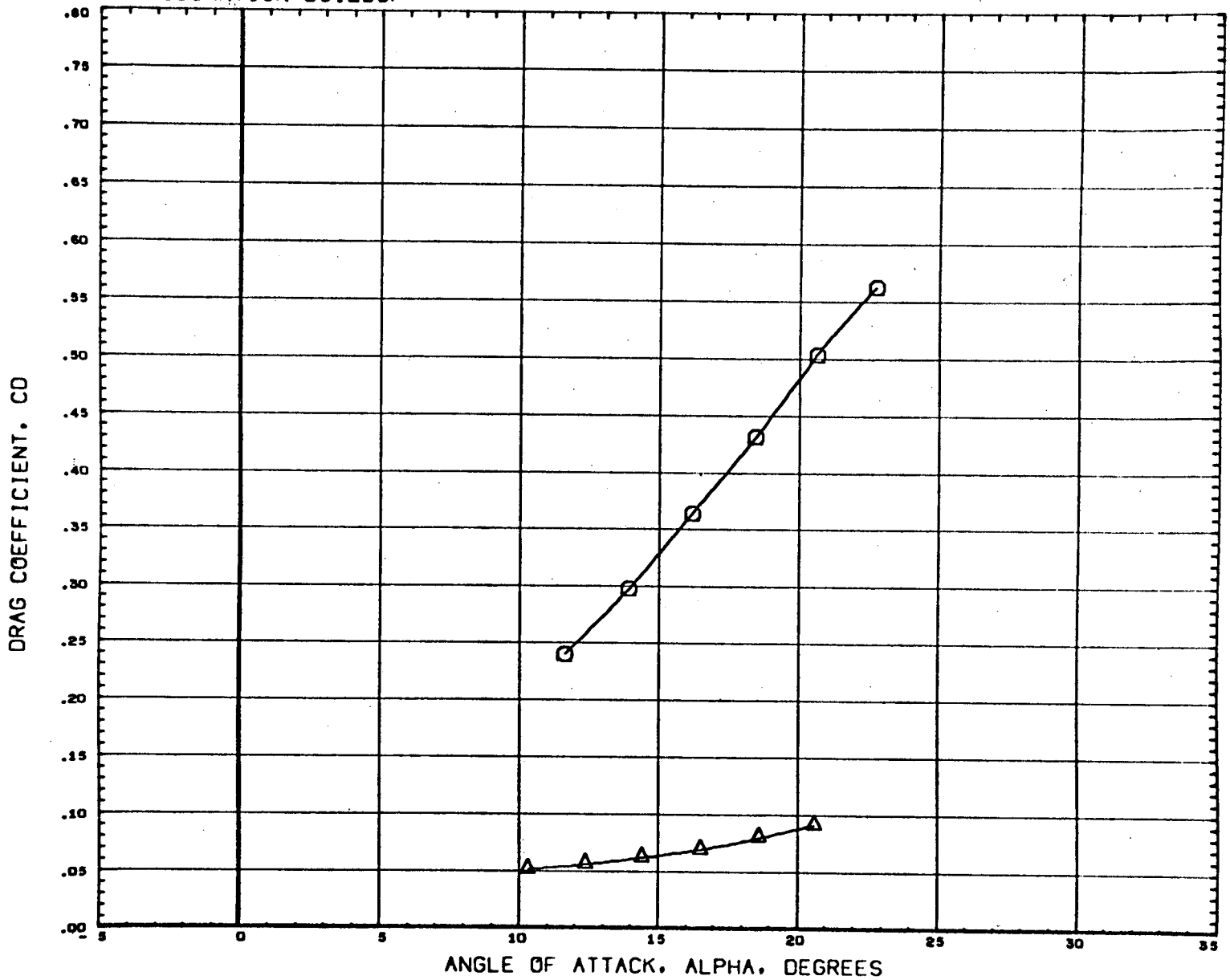
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(869002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(869048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2

ELEVON	RUDDER	RFLARE	BFLAP
0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP



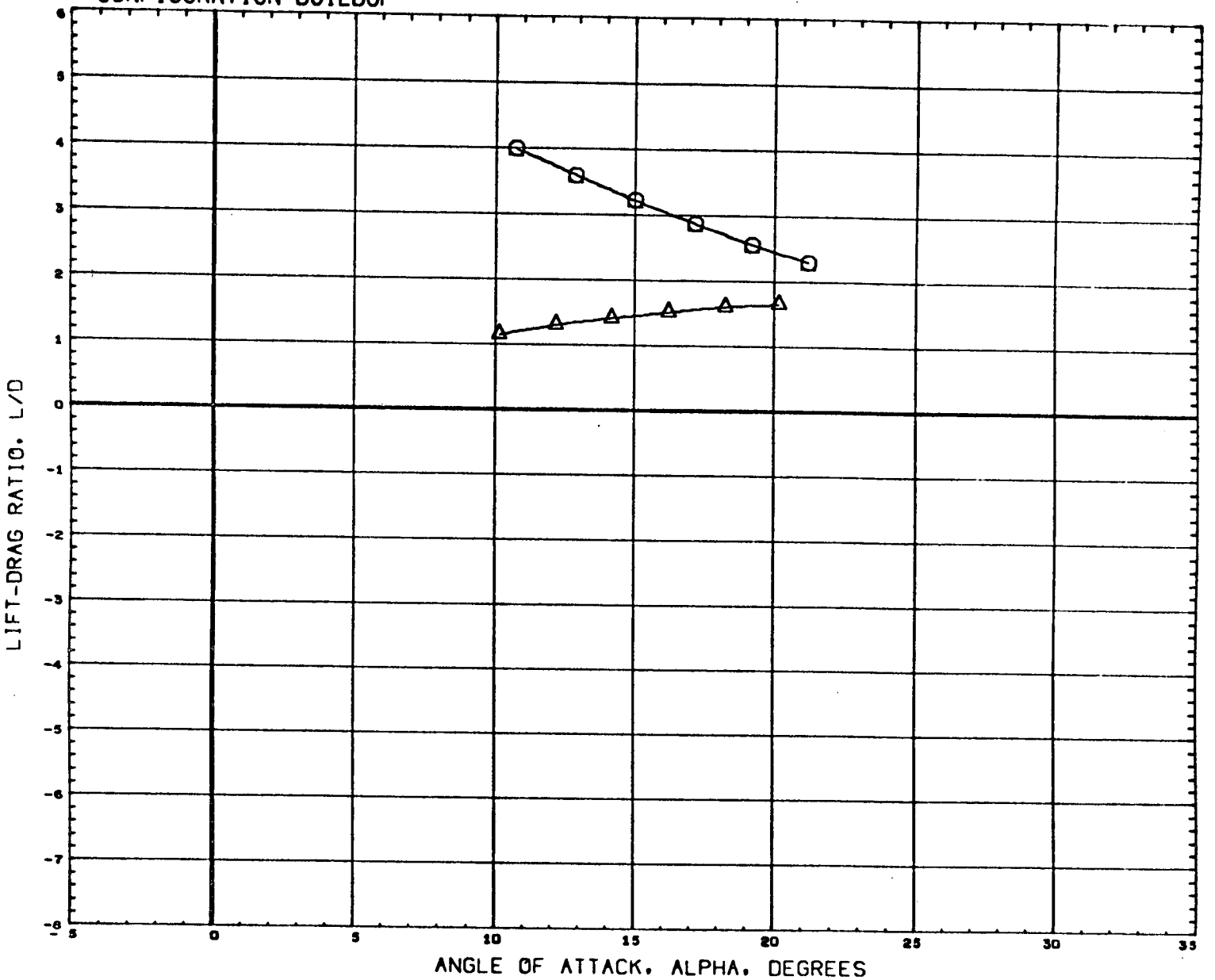
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

F

CONFIGURATION BUILDUP



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(B69002)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(B69048)		MSFC TWT 542 SPACE SHUTTLE ORBITER B2

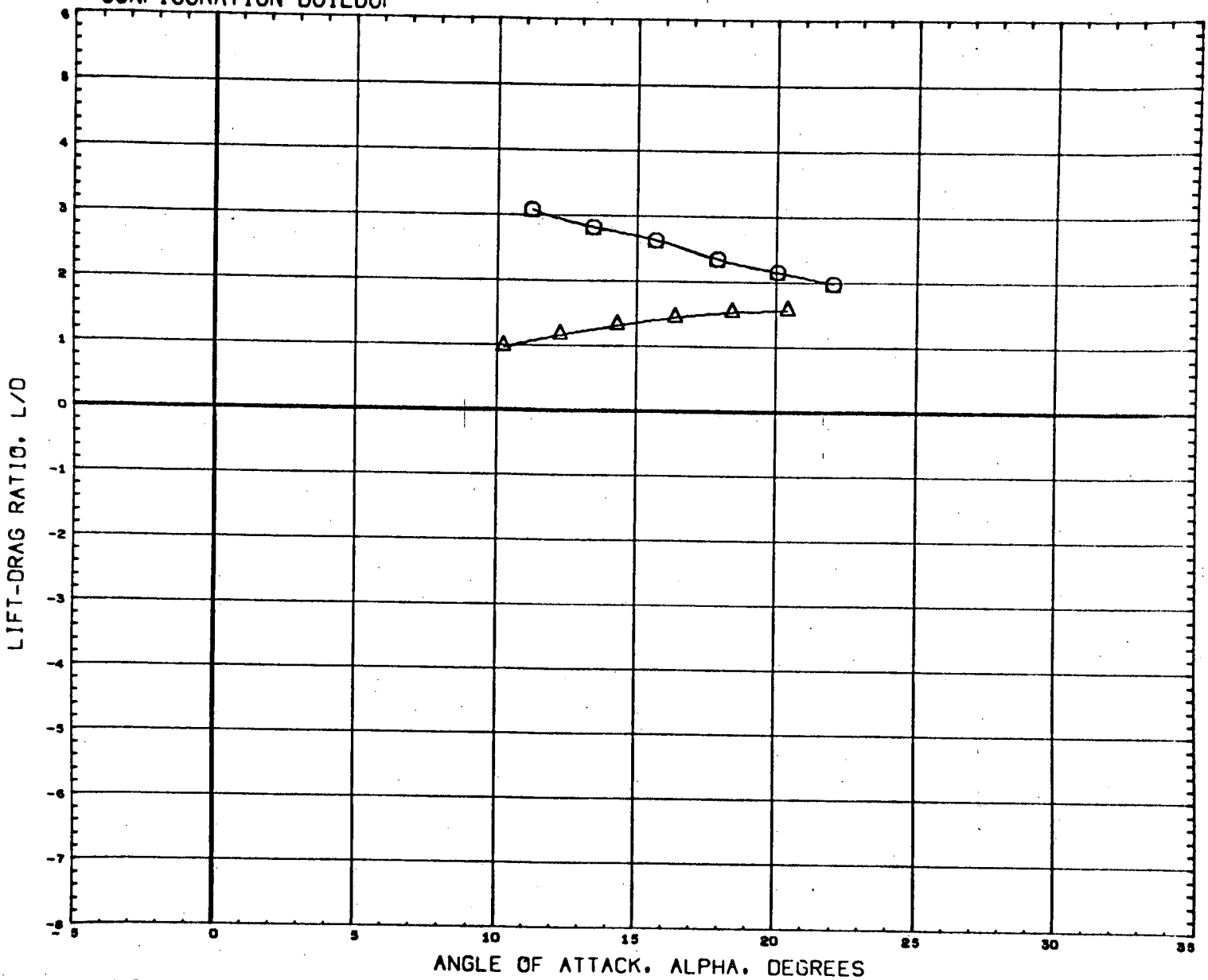
ELEVON	RUDDER	RFLARE	BFLAP
0.000	0.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

CONFIGURATION BUILDUP



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(869002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(869048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2

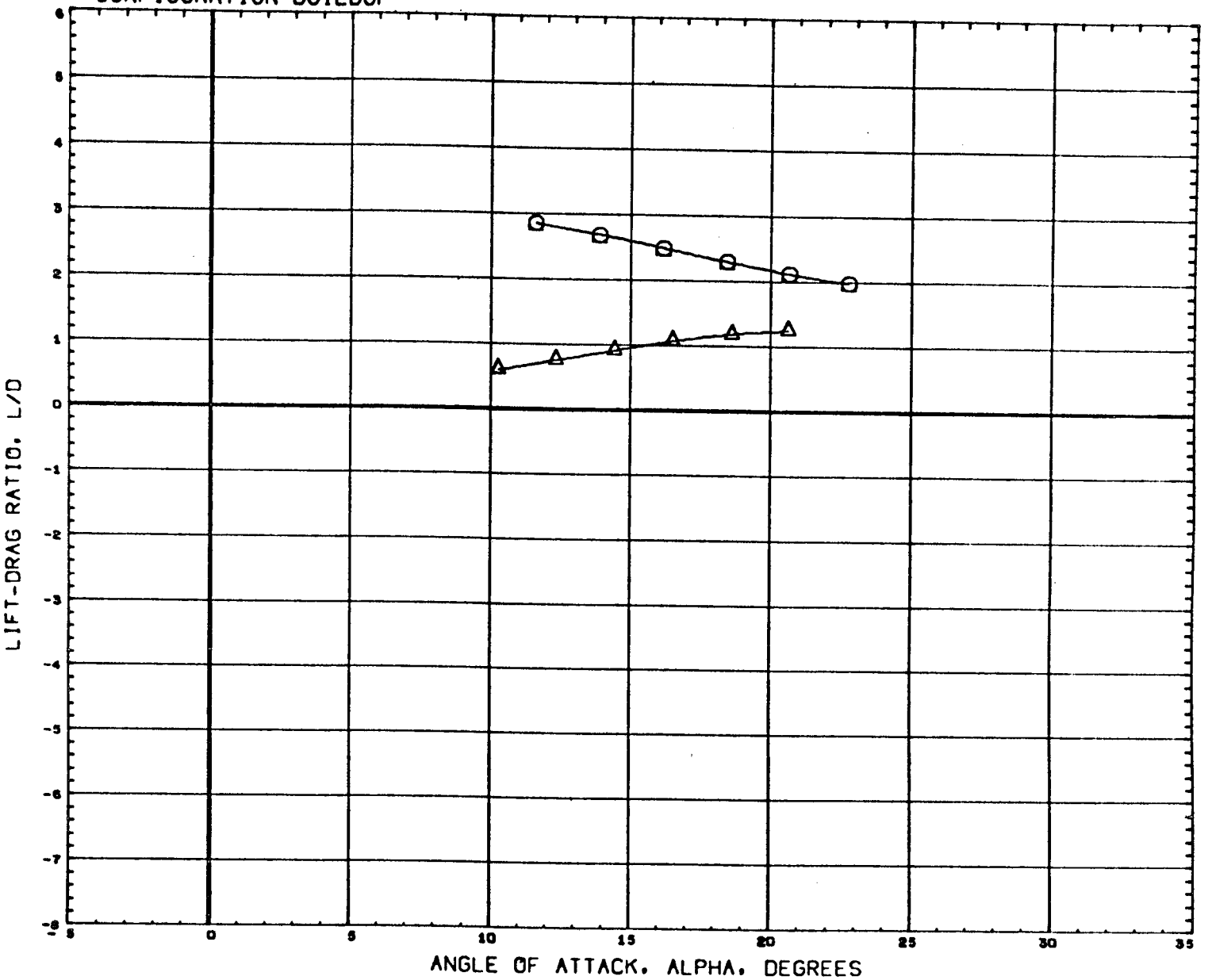
ELEVON	RUDDER	RFLARE	BFLAP
0.000	0.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP



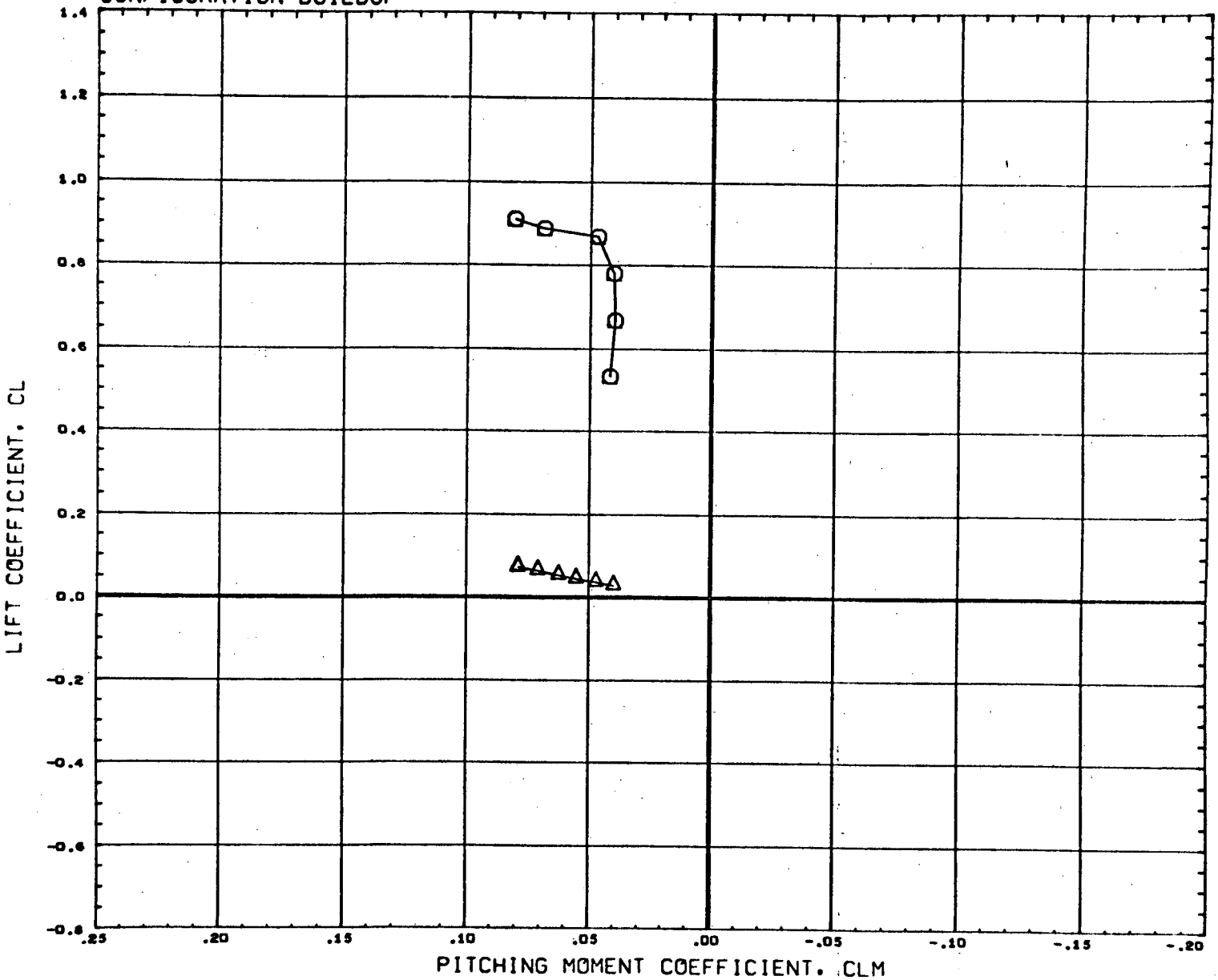
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(869002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(869048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2

ELEVON	RUDDER	RFLARE	BFLAP
0.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

CONFIGURATION BUILDUP

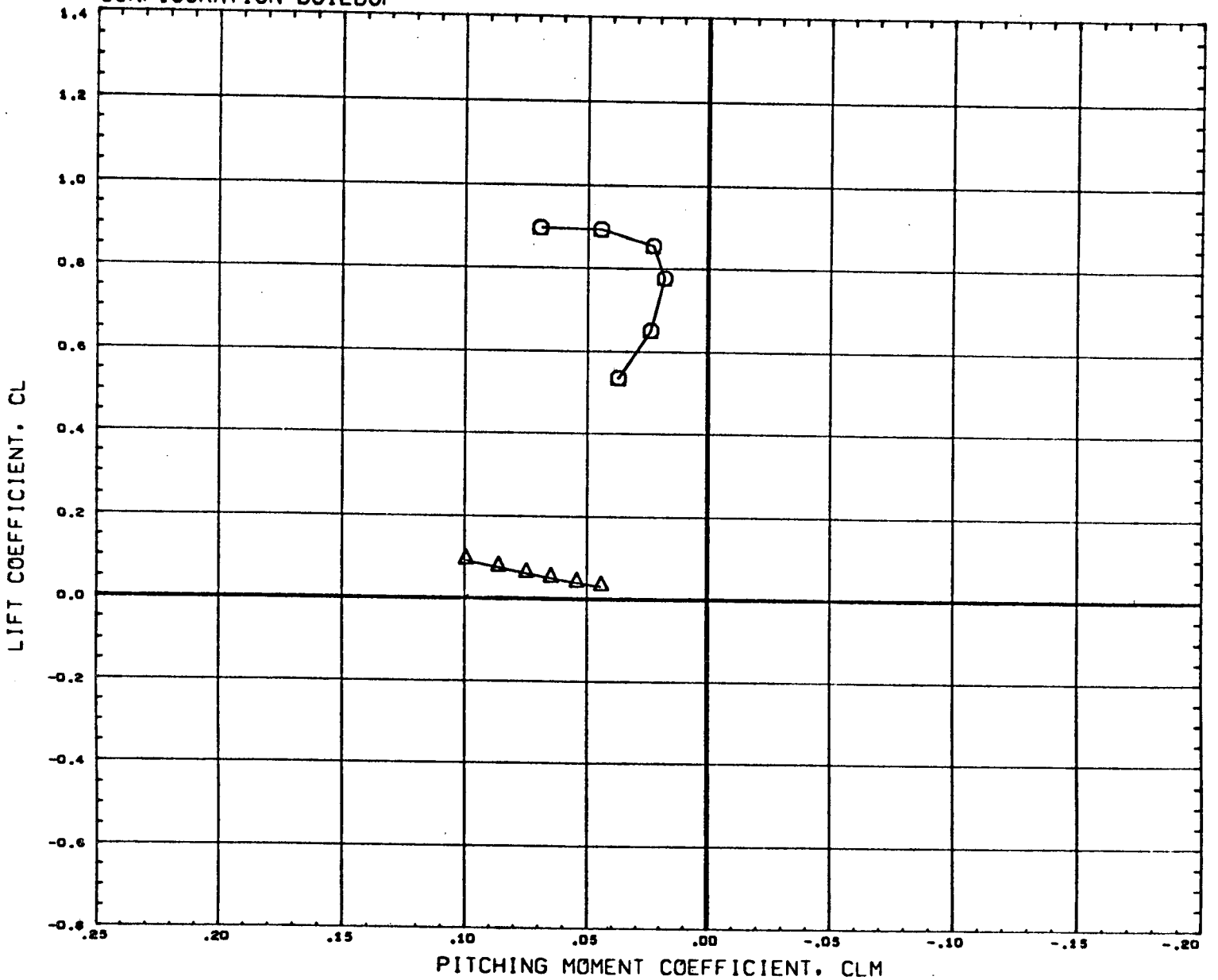


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.6800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

CONFIGURATION BUILDUP



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(869002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(869048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2

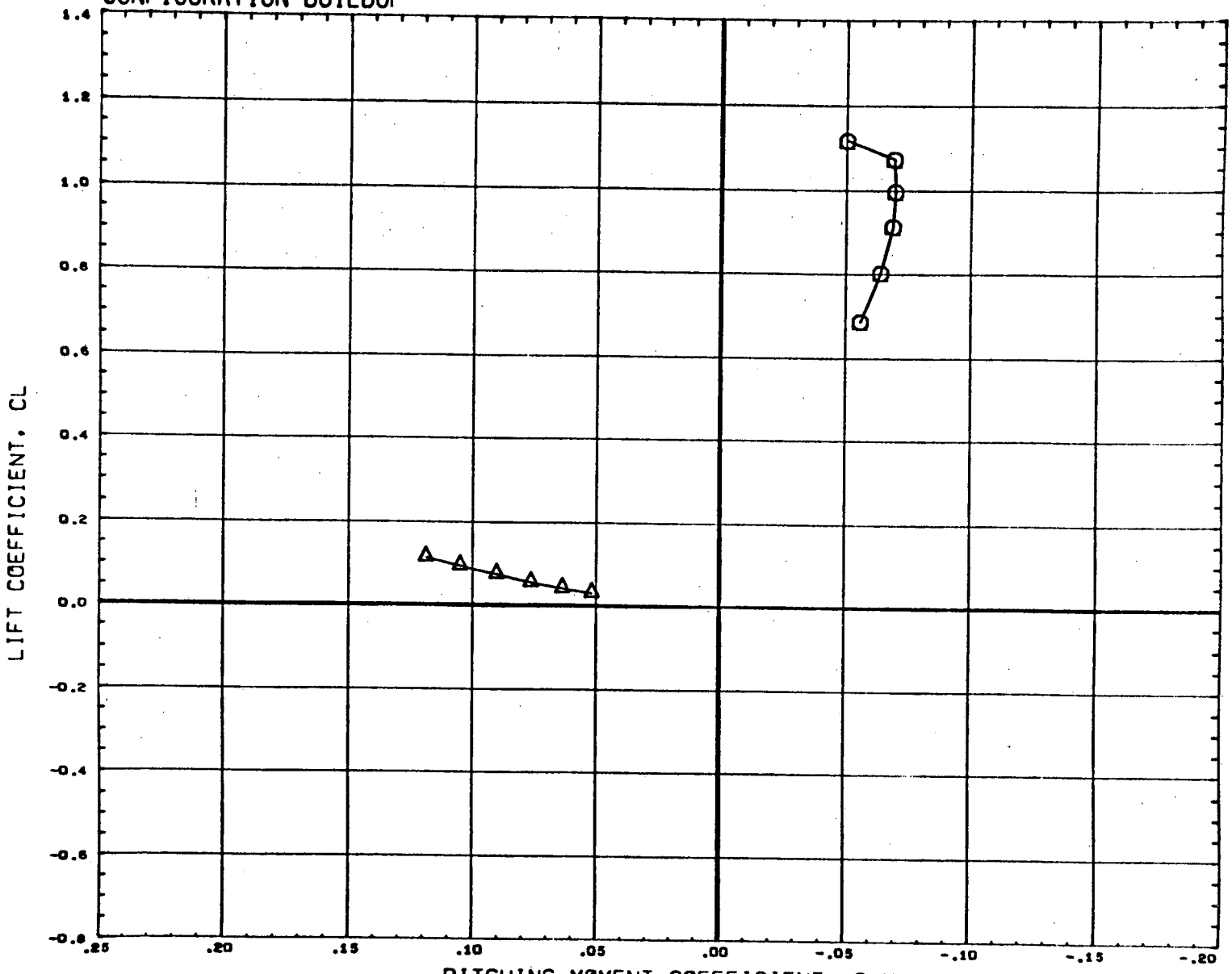
ELEVON	RUDDER	RFLARE	BFLAP
0.000	0.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

CONFIGURATION BUILDUP



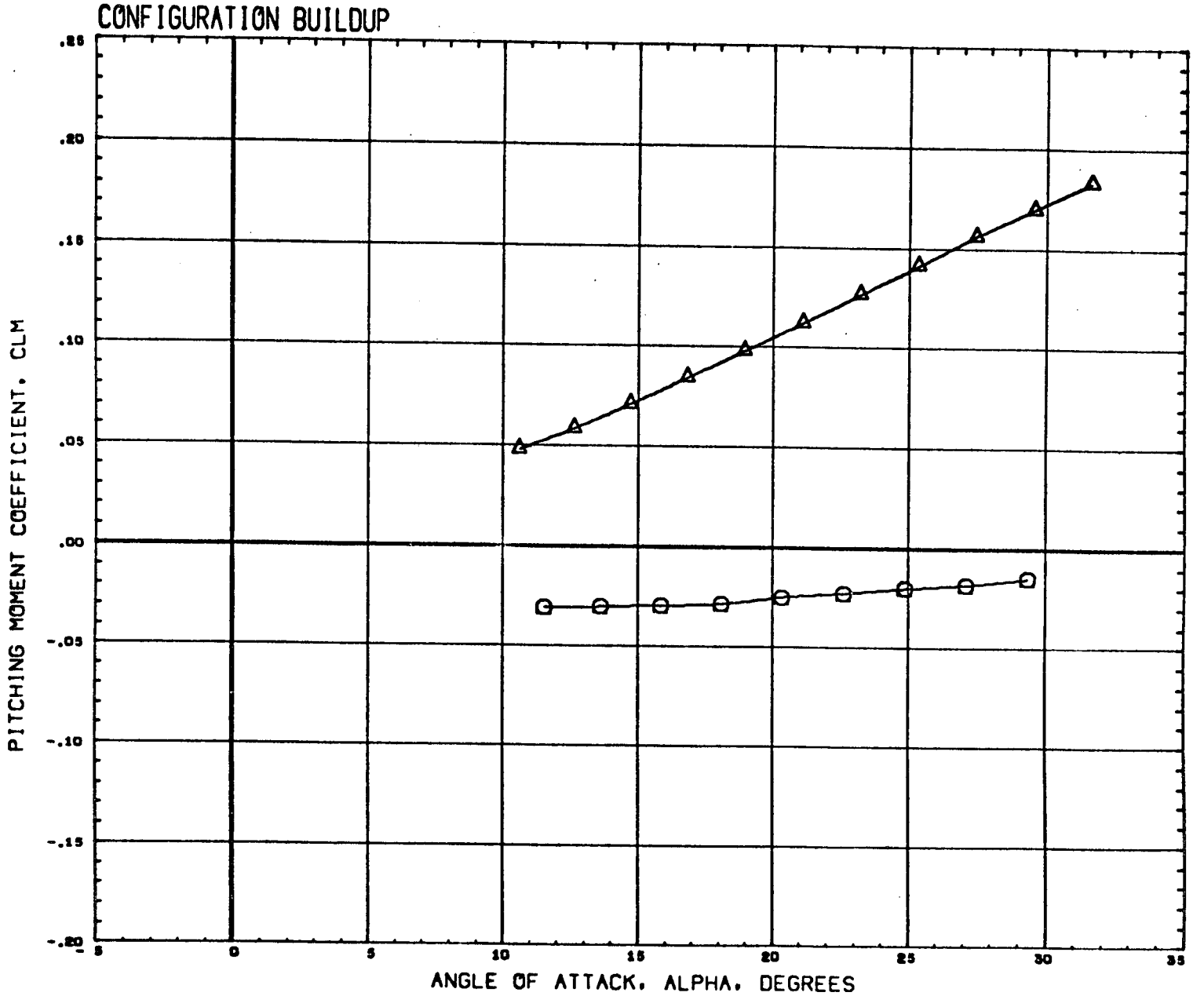
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(869002)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1
(869048)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2

ELEVON	RUDDER	RFLARE	BFLAP
0.000	0.000	0.000	0.000

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

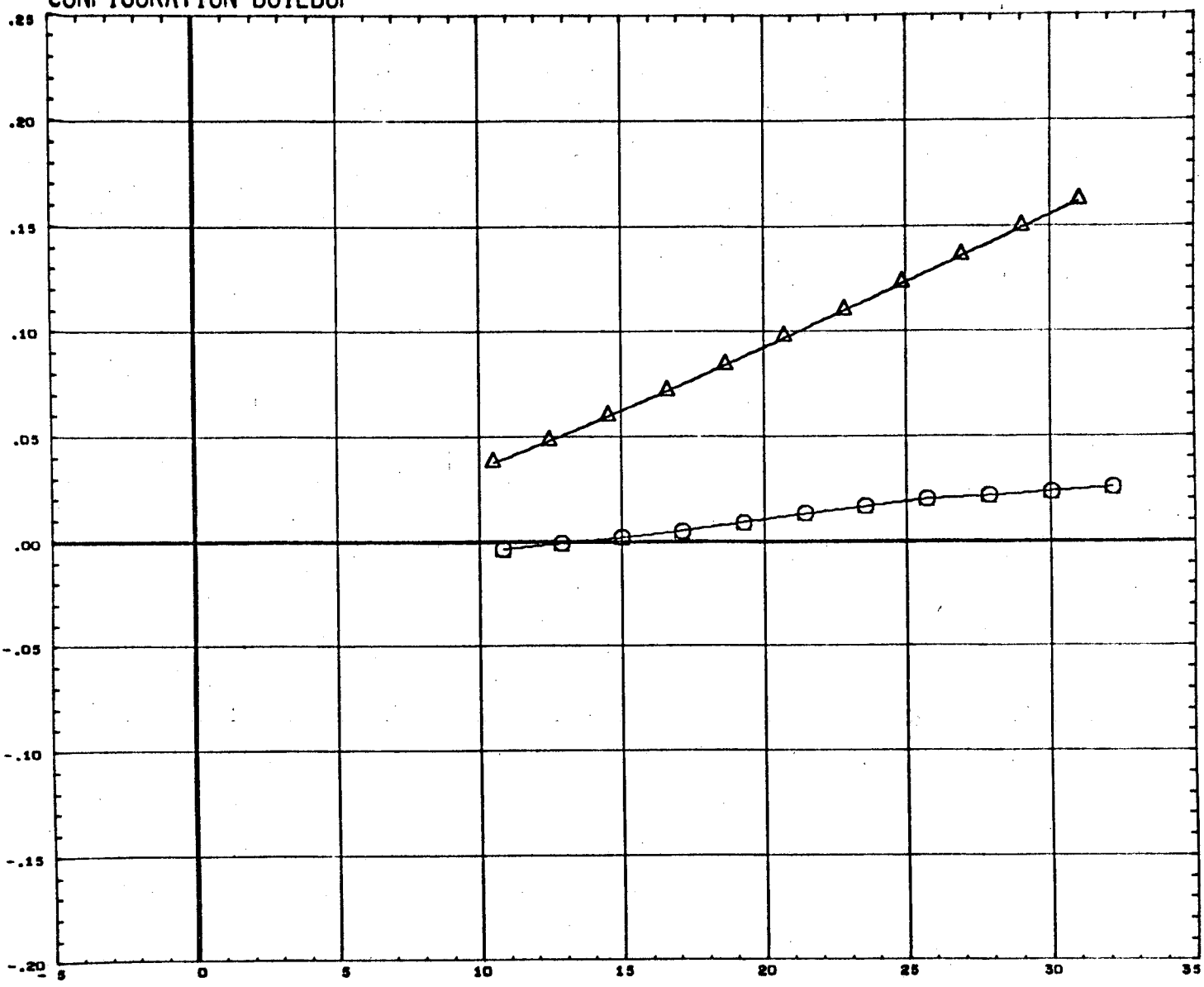


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69003)		MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69049)		MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP

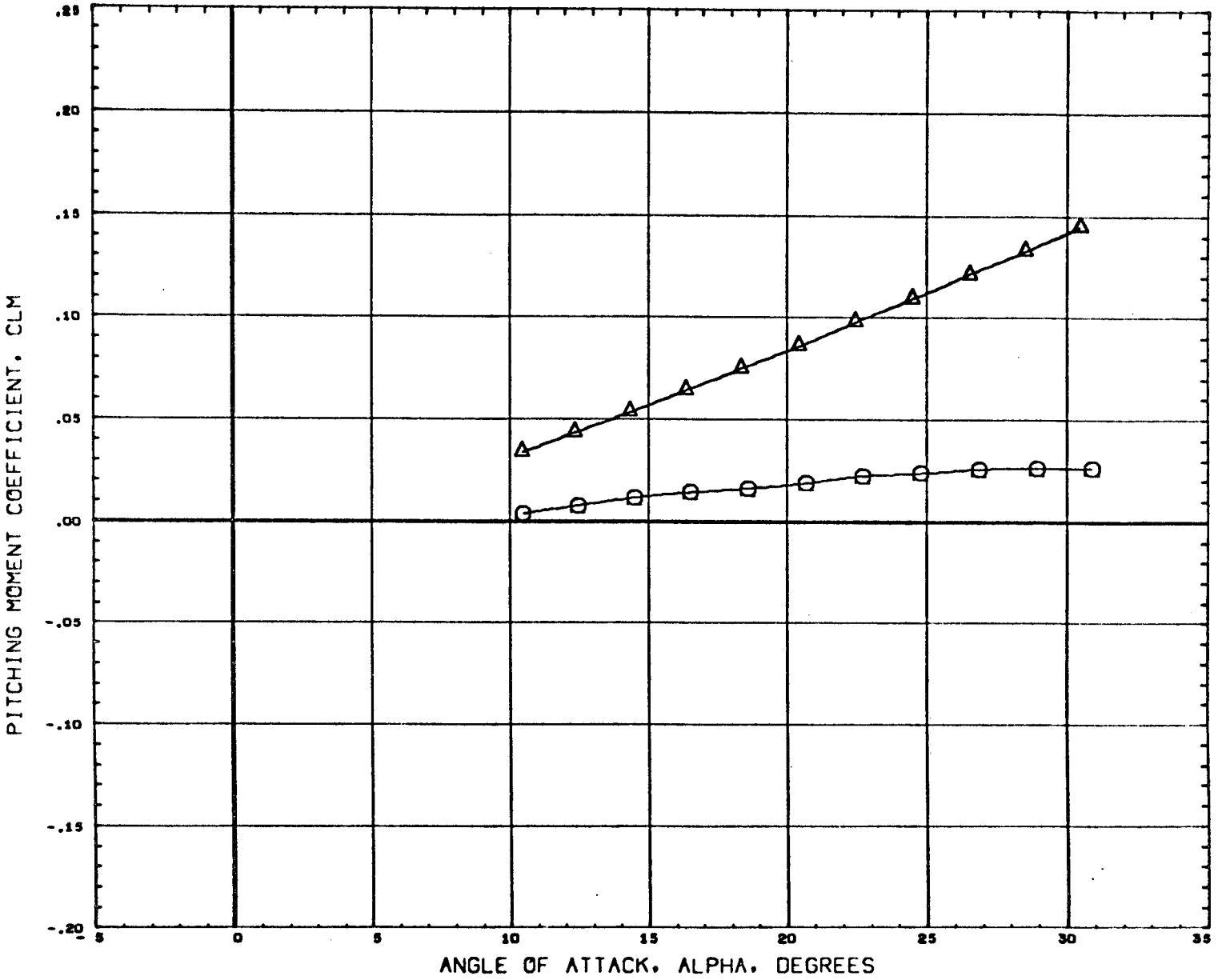


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP

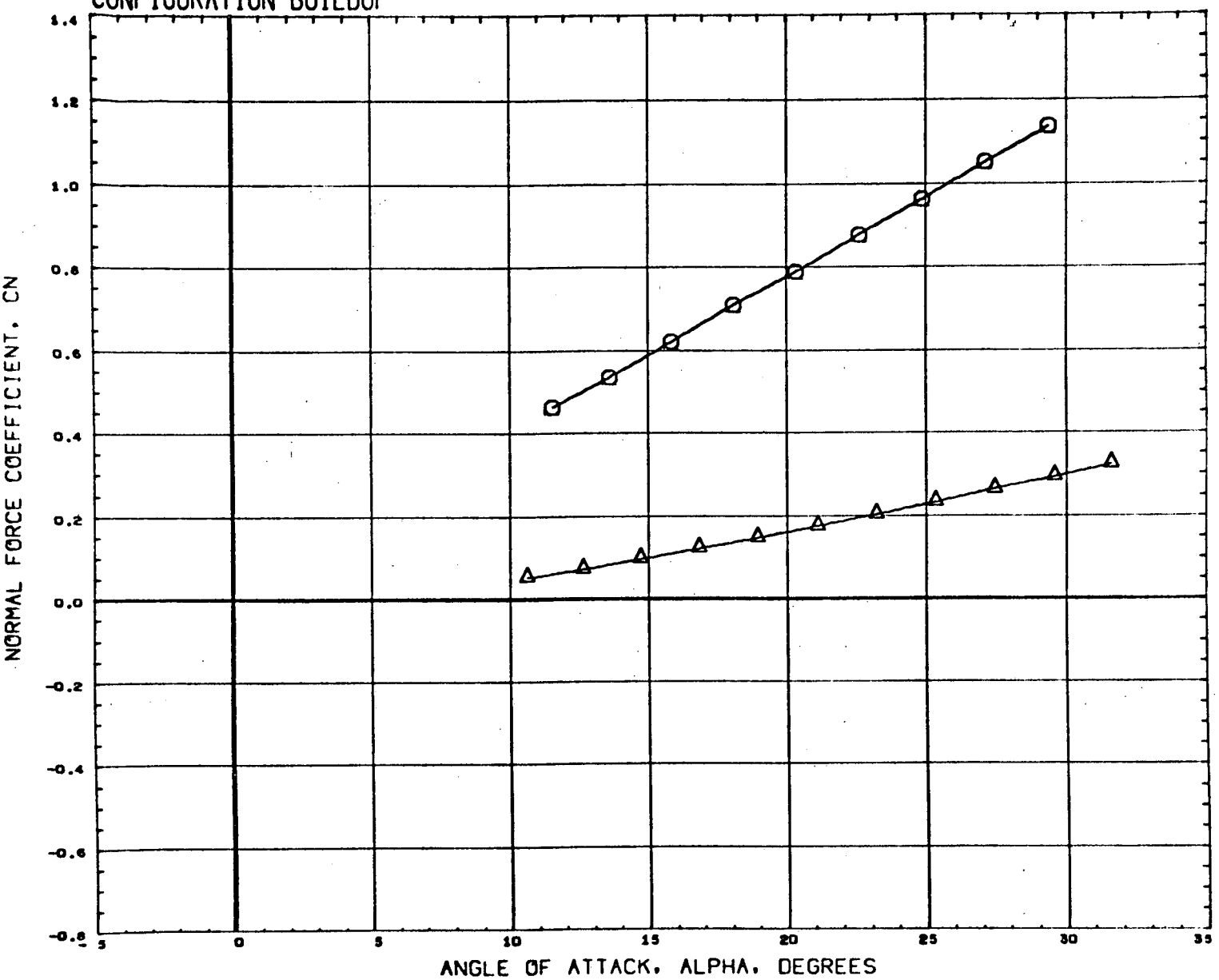


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

CONFIGURATION BUILDUP

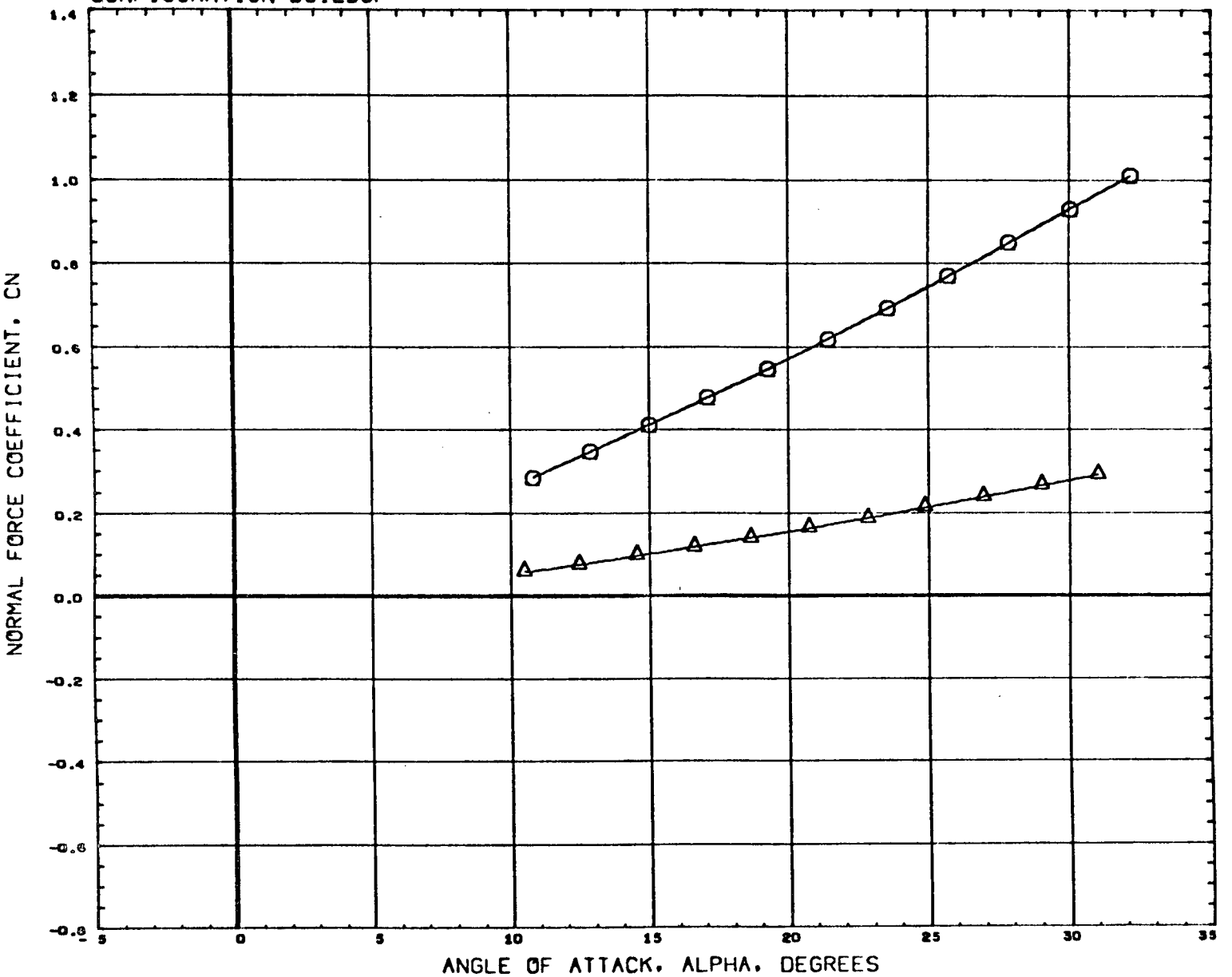


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

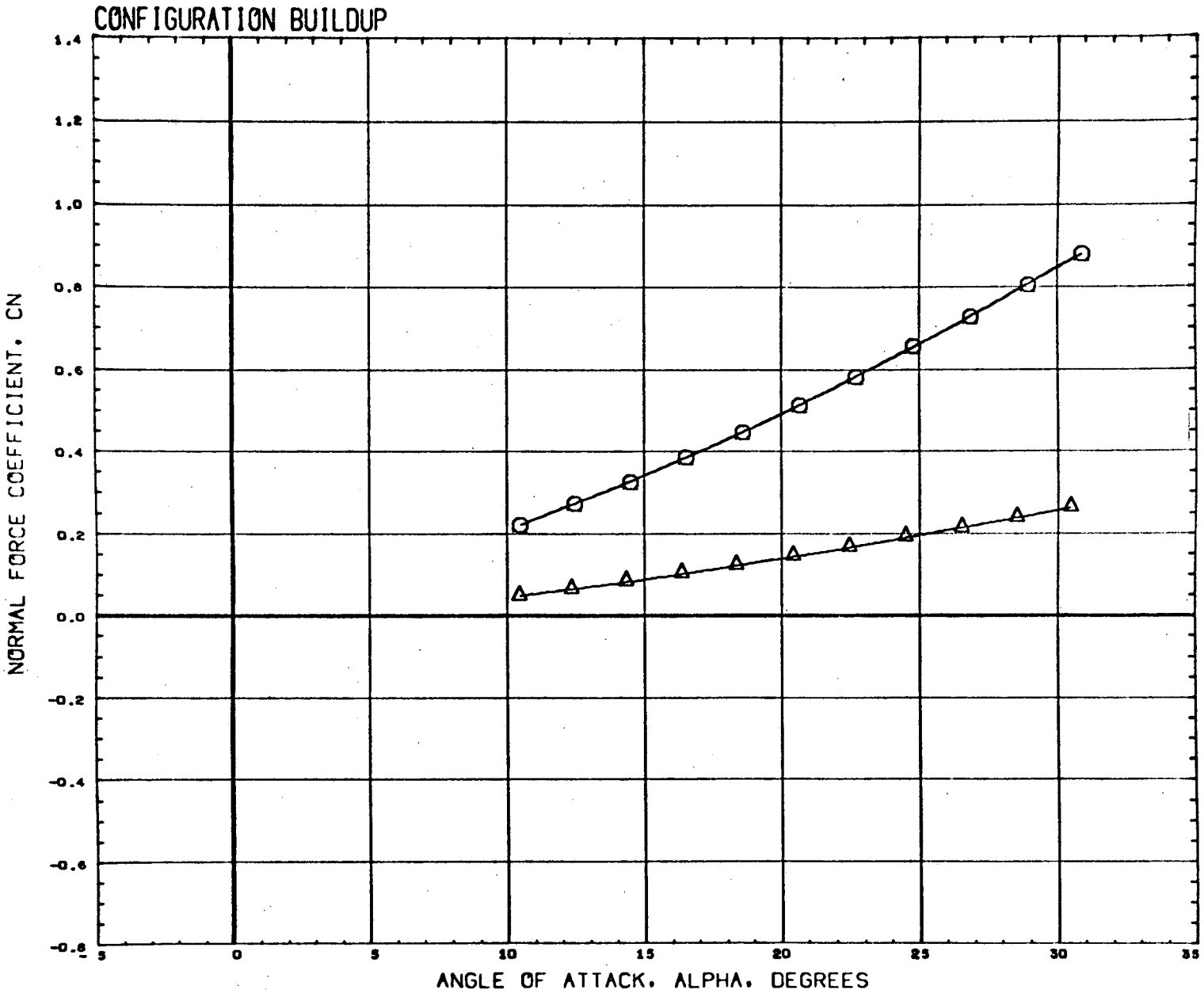
CONFIGURATION BUILDUP



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

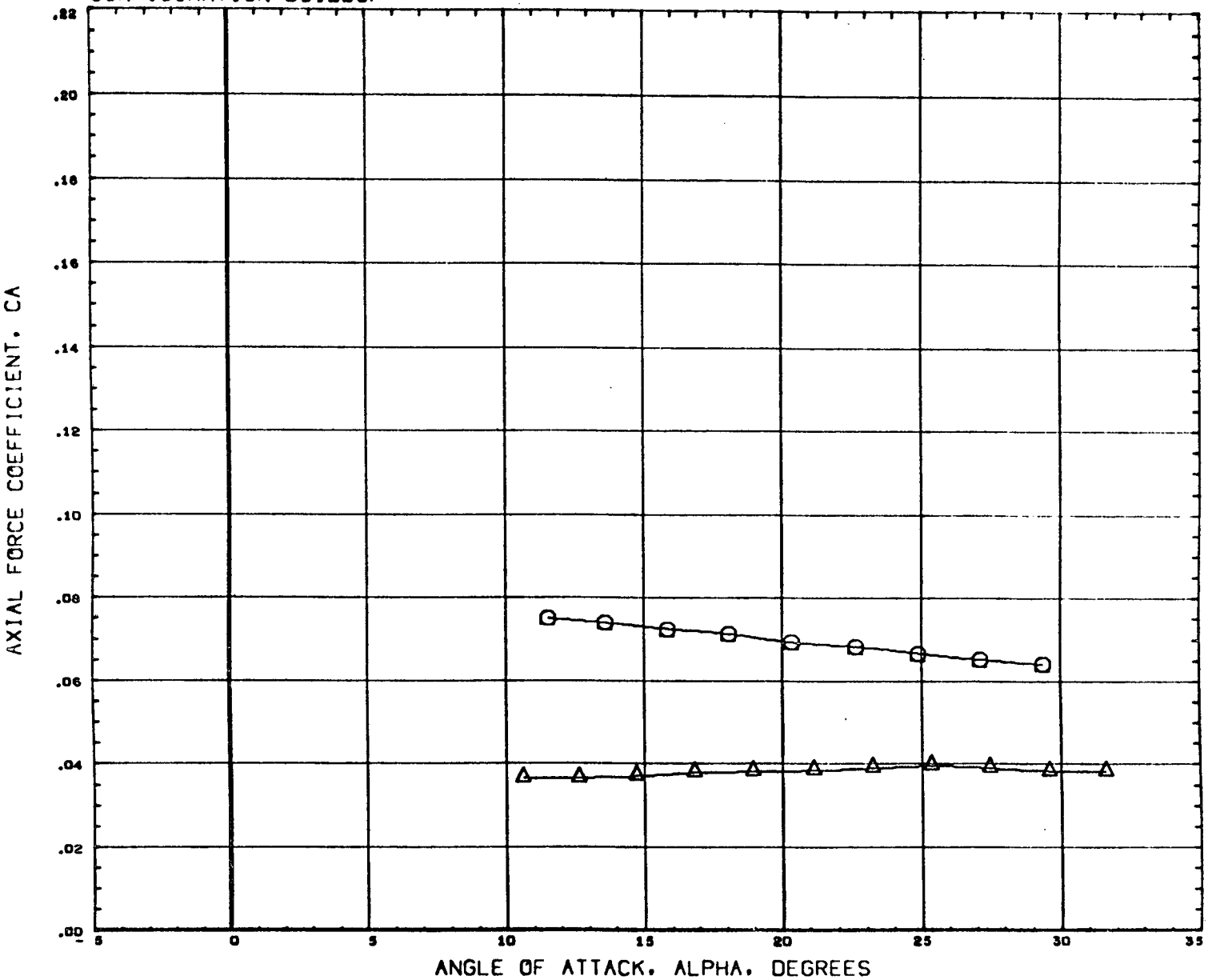


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69003) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69049) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

CONFIGURATION BUILDUP

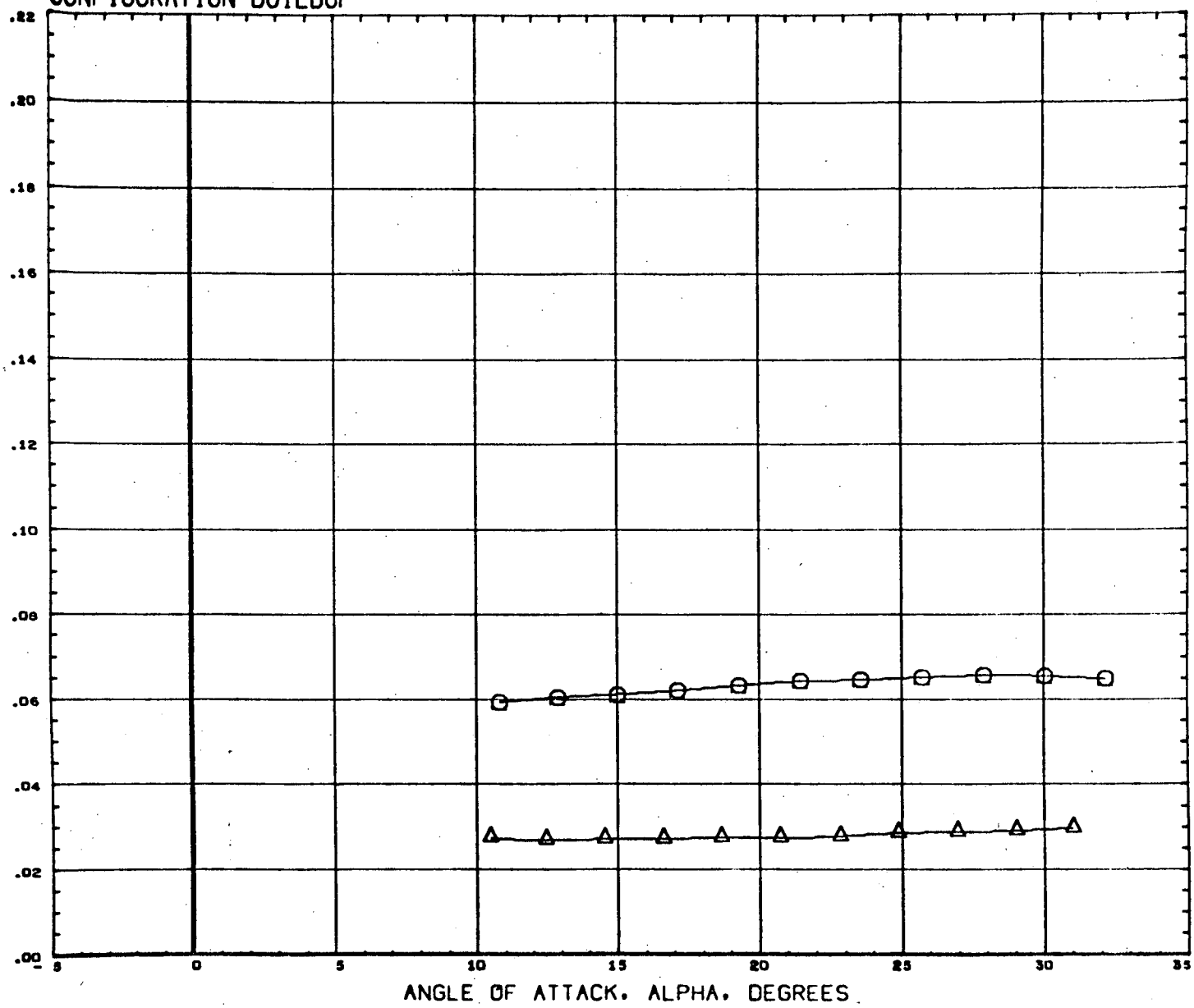


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP

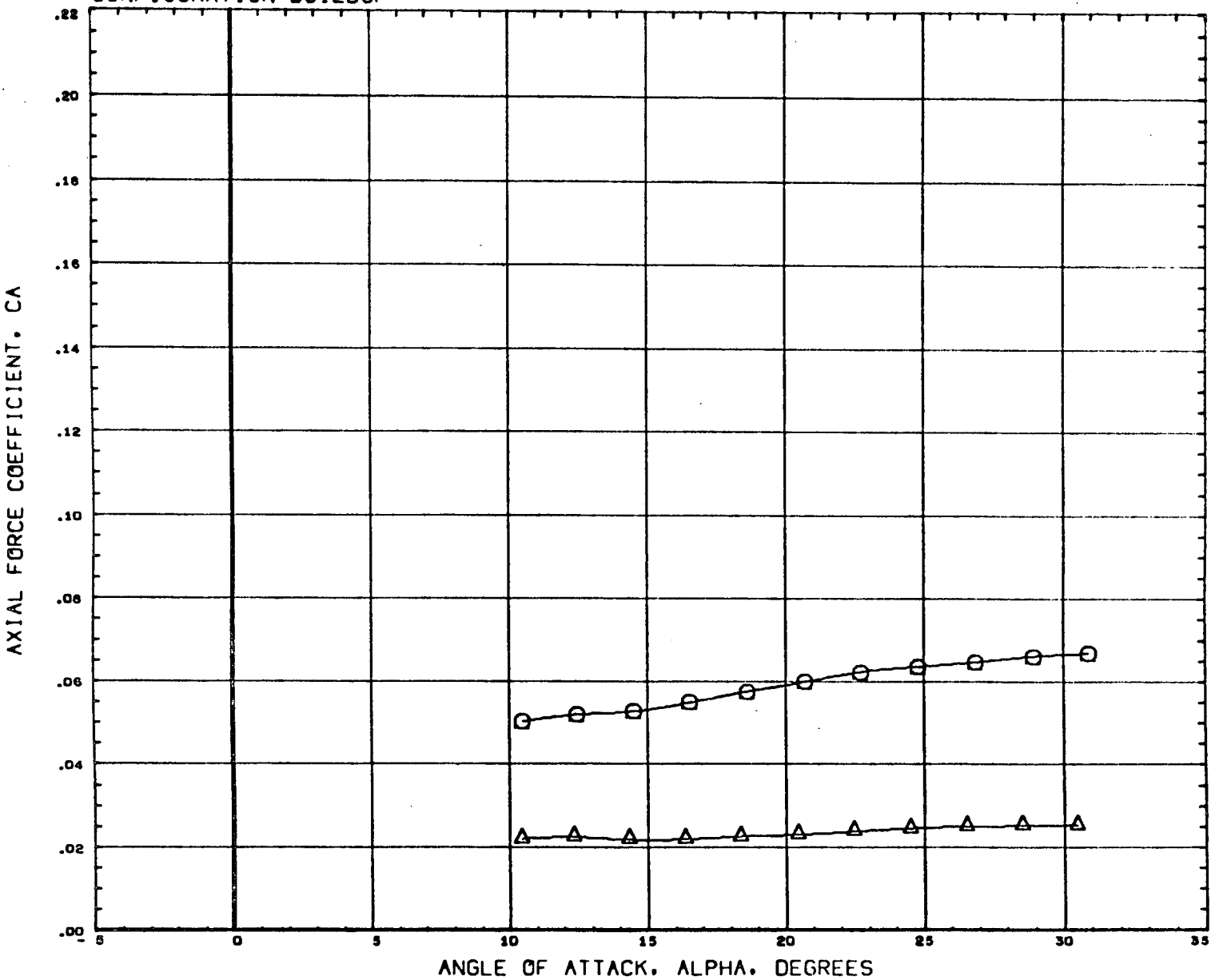


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

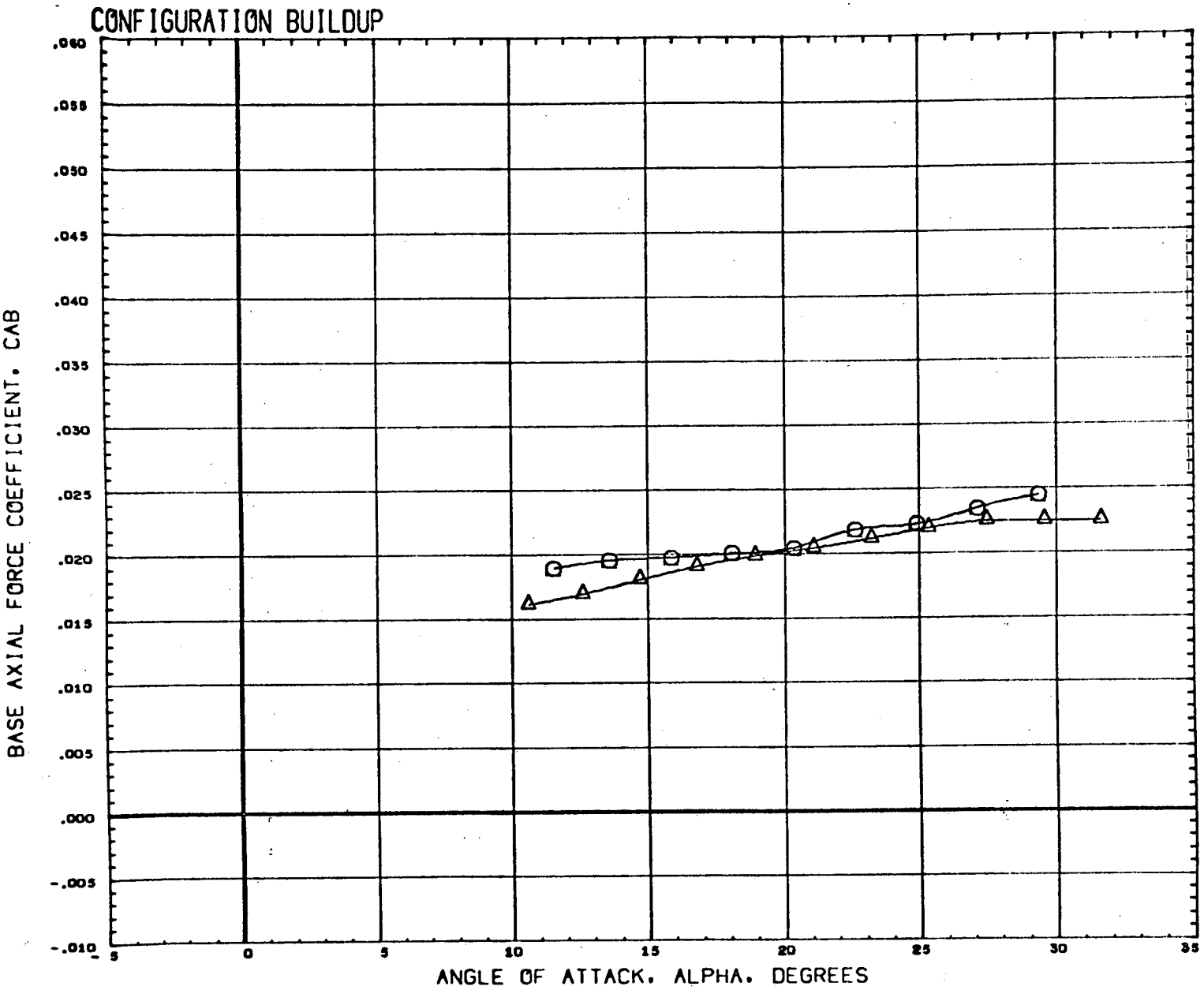
CONFIGURATION BUILDUP



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

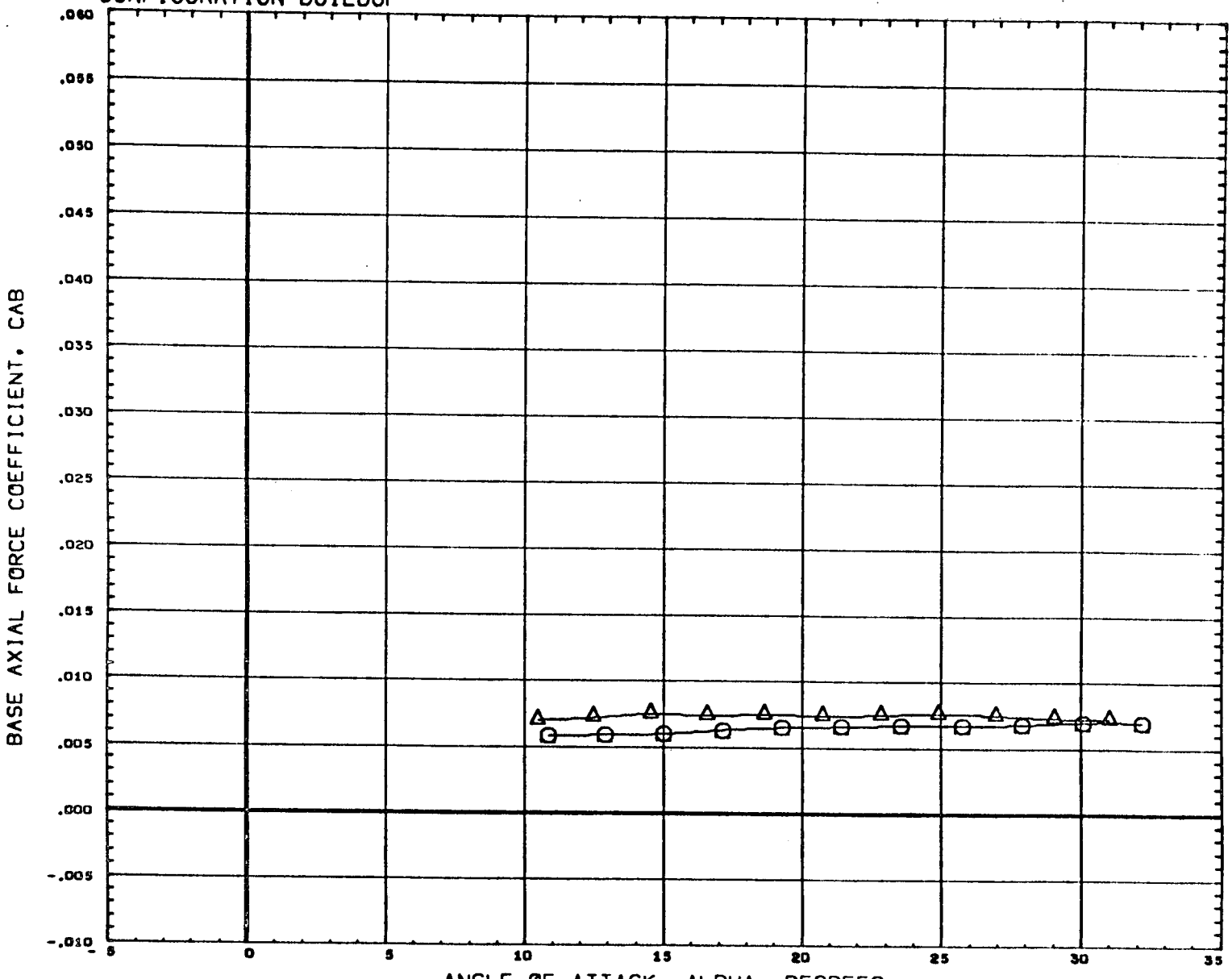


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP

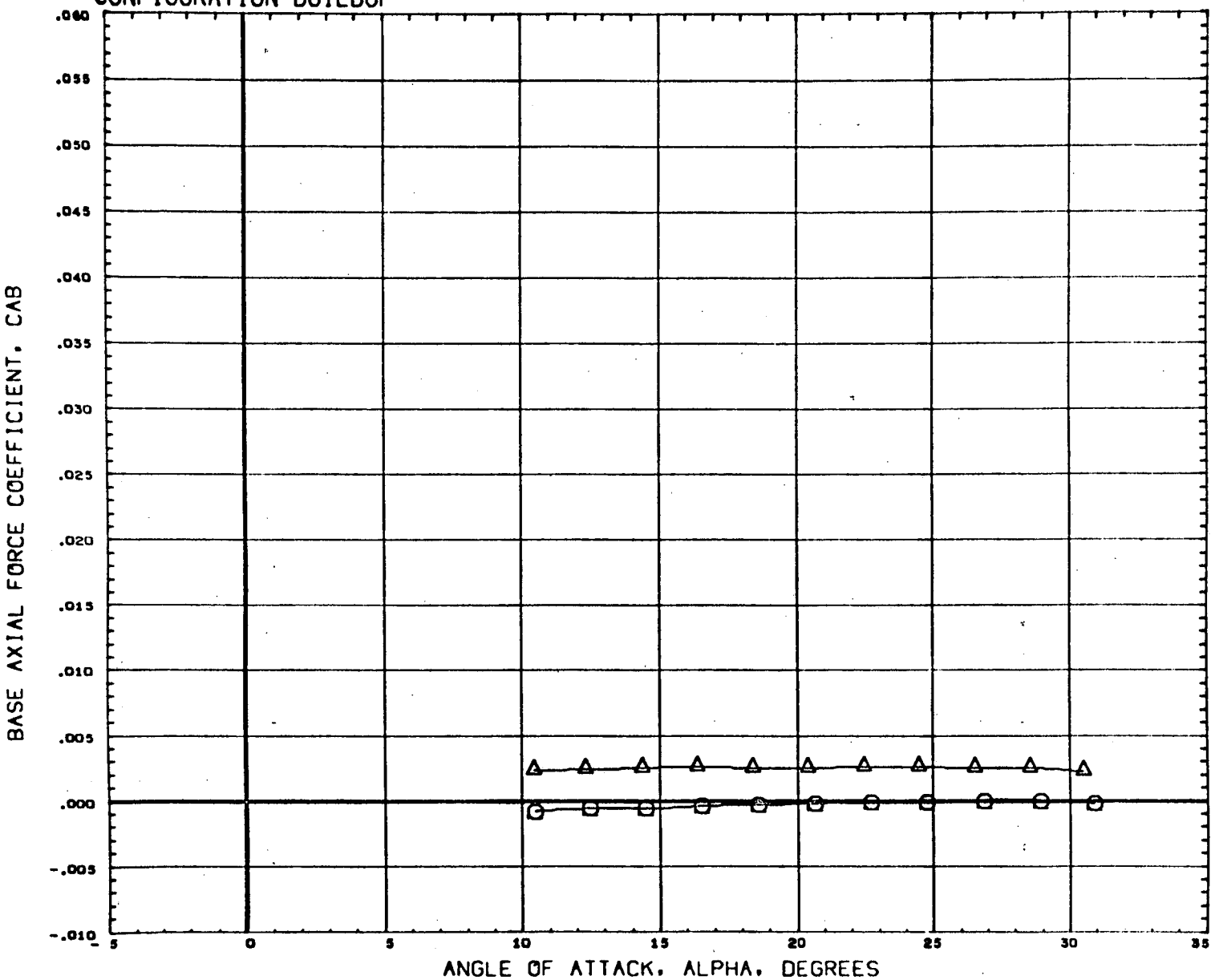


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER 81F2W4V11P1	0.000	0.000	0.000	0.000
(869049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER 82				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP

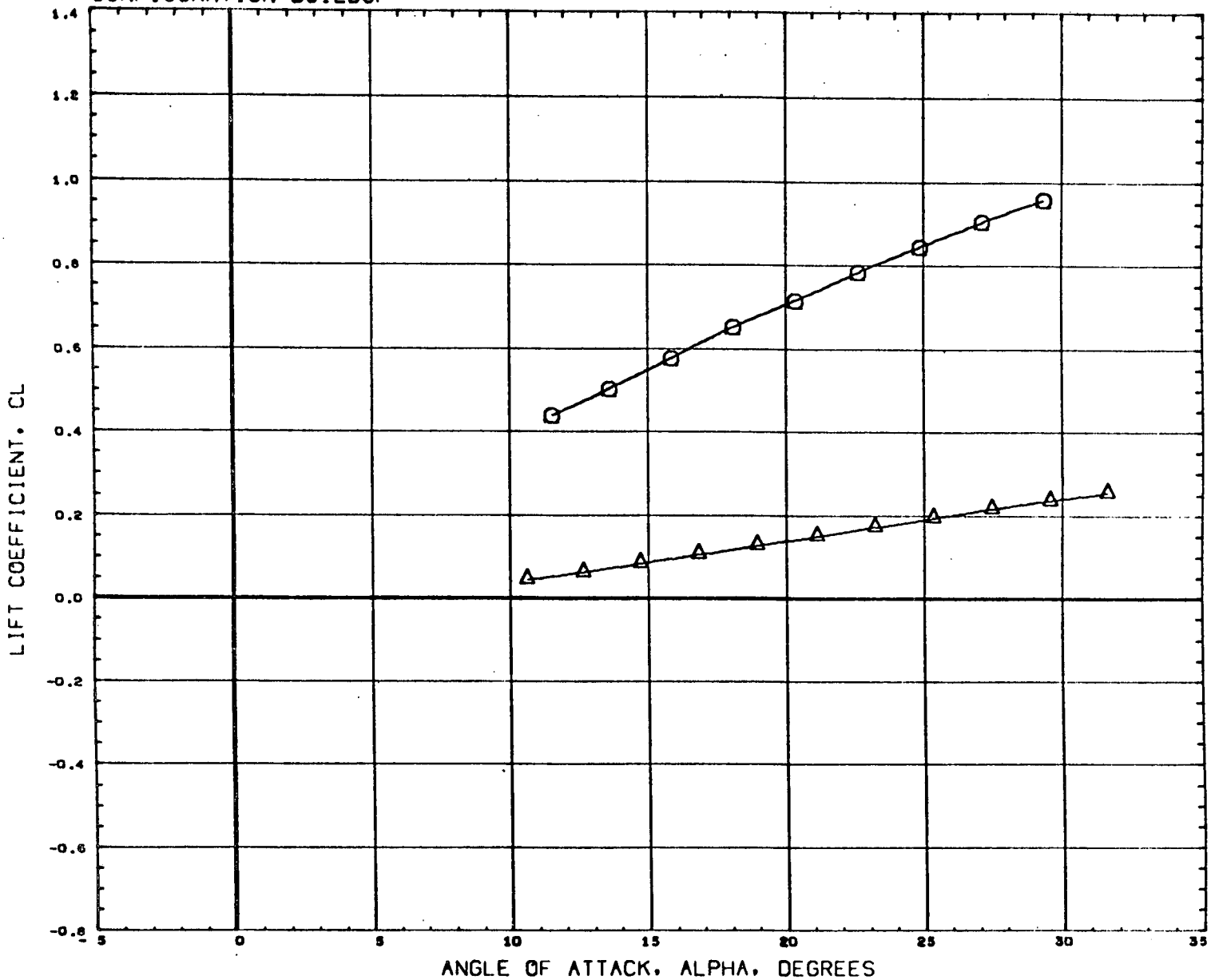


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

CONFIGURATION BUILDUP

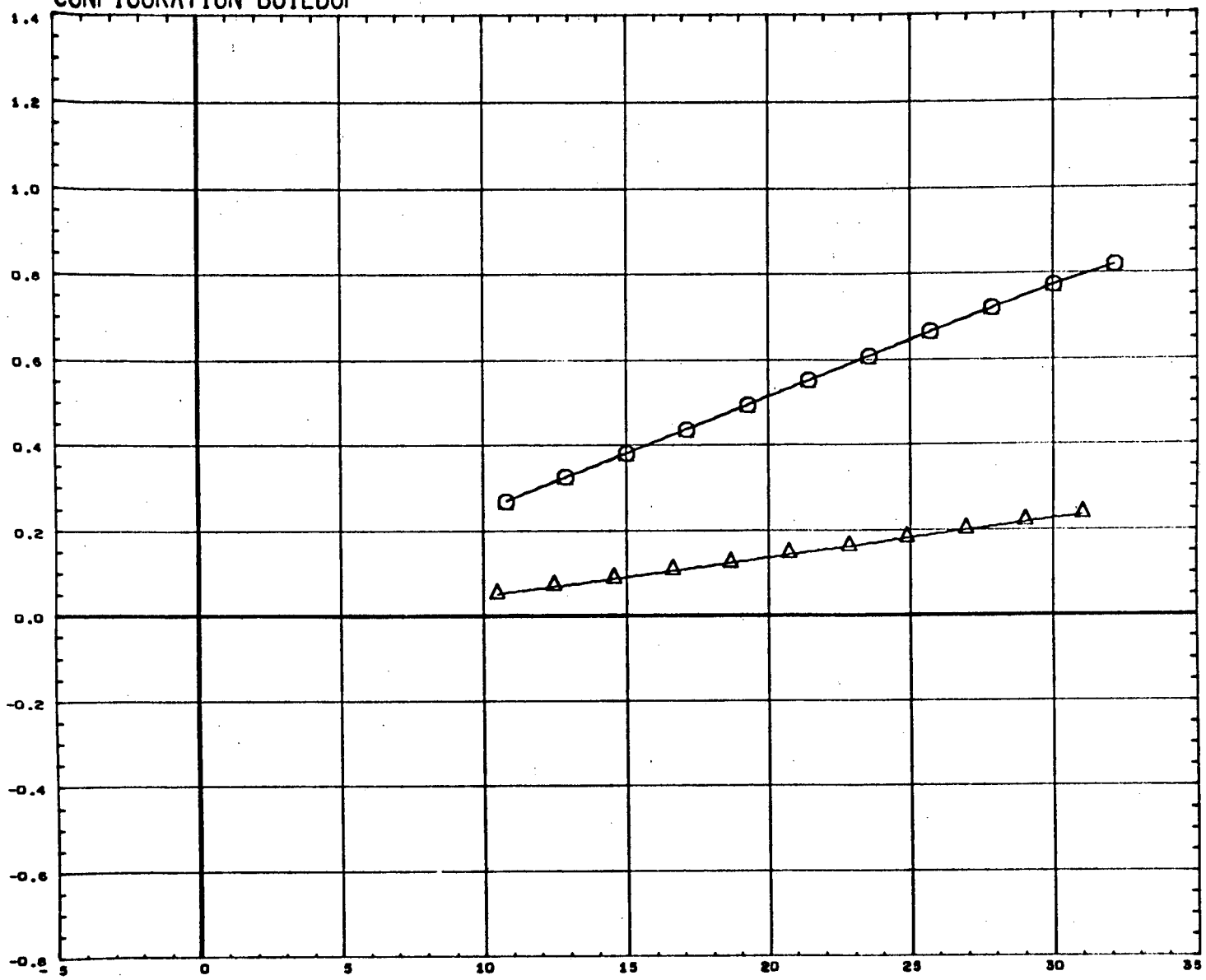


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP

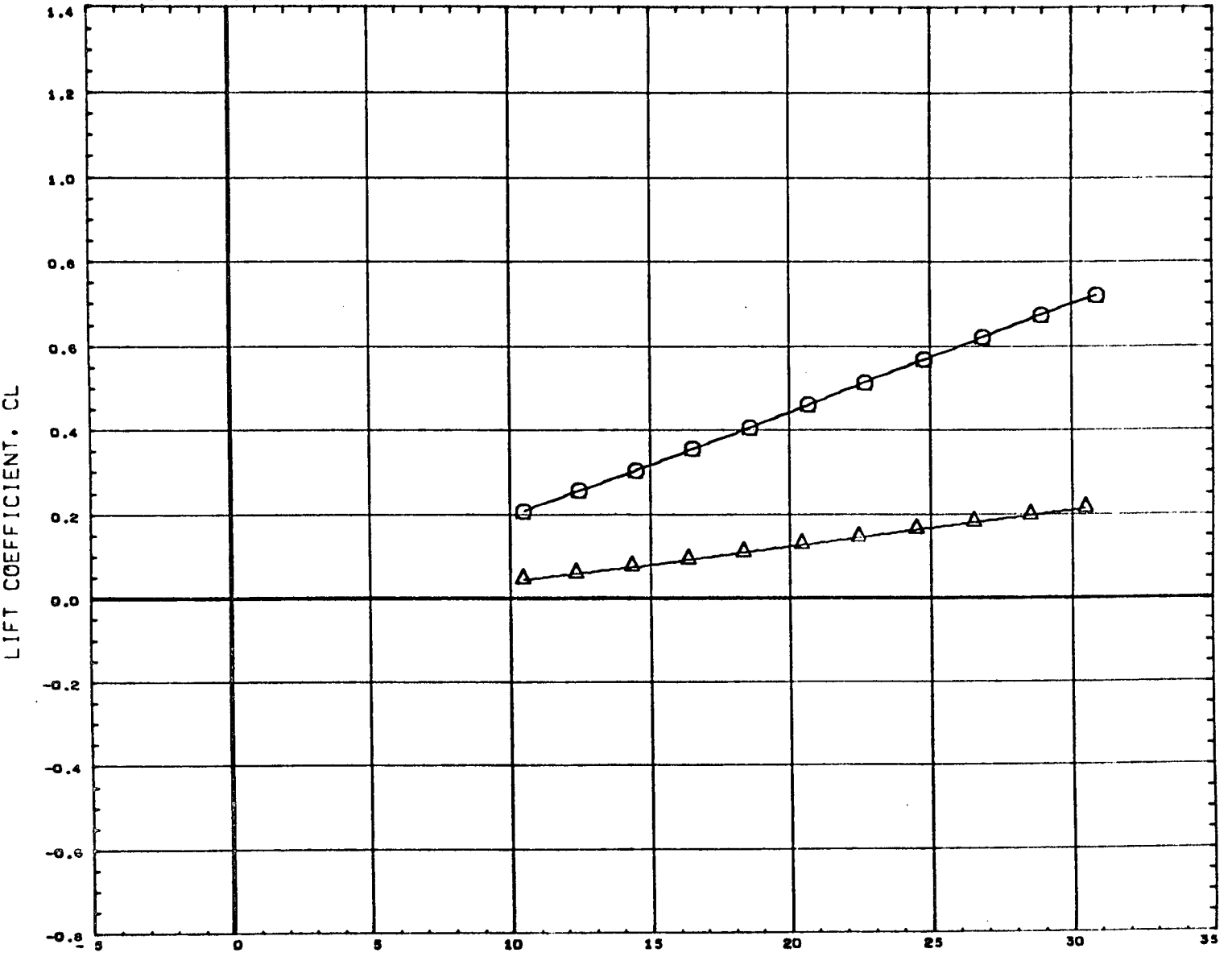


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP

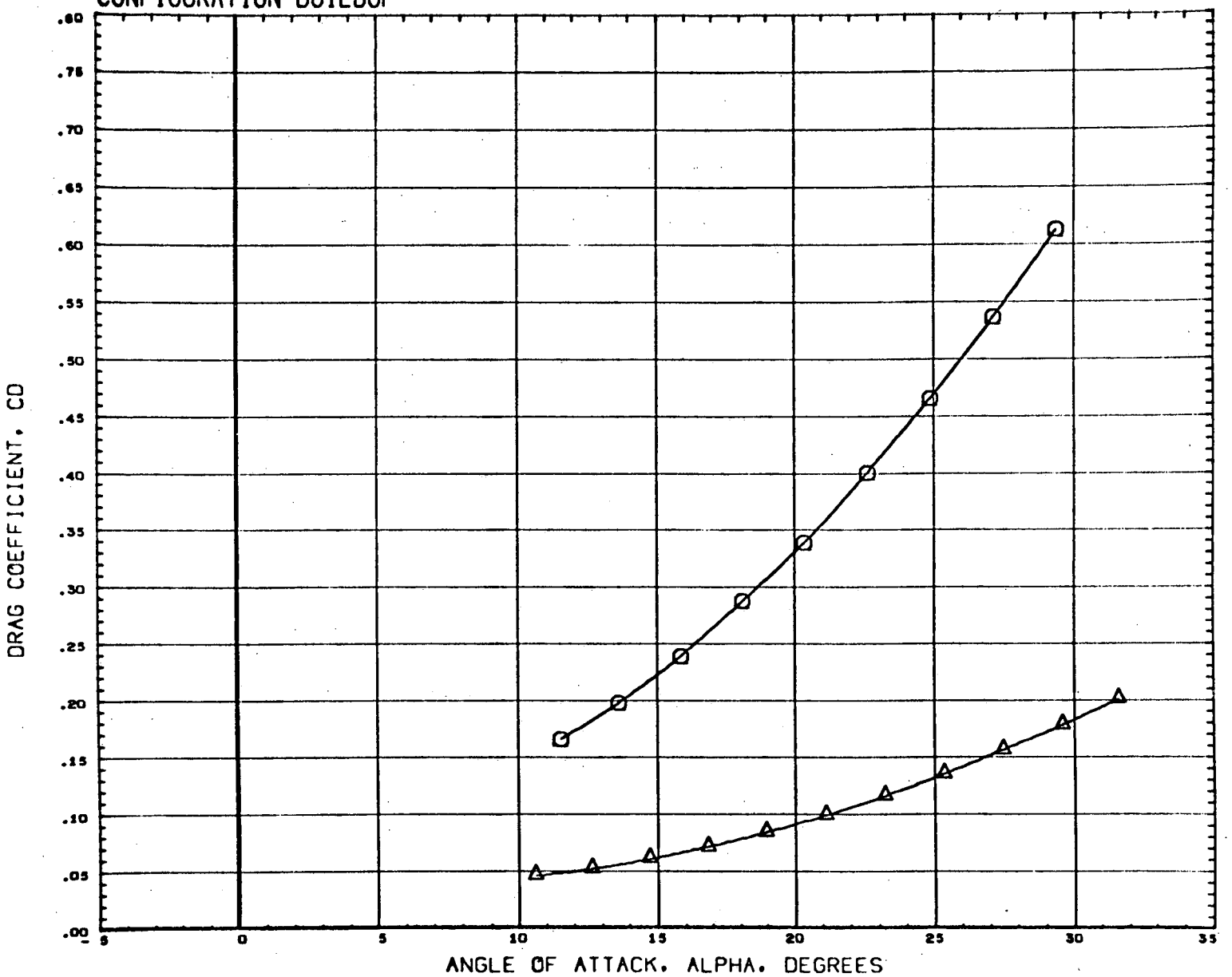


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

CONFIGURATION BUILDUP

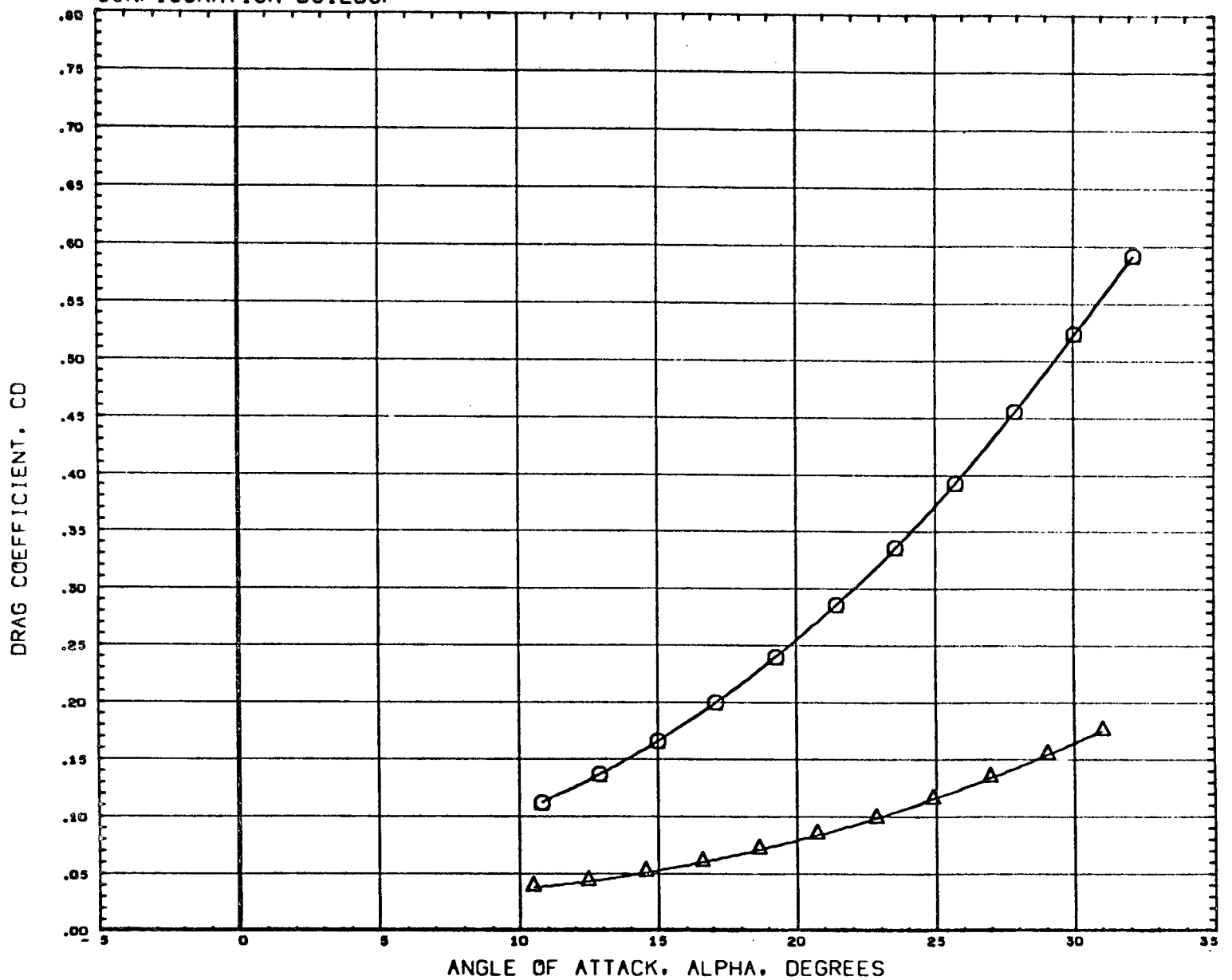


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP

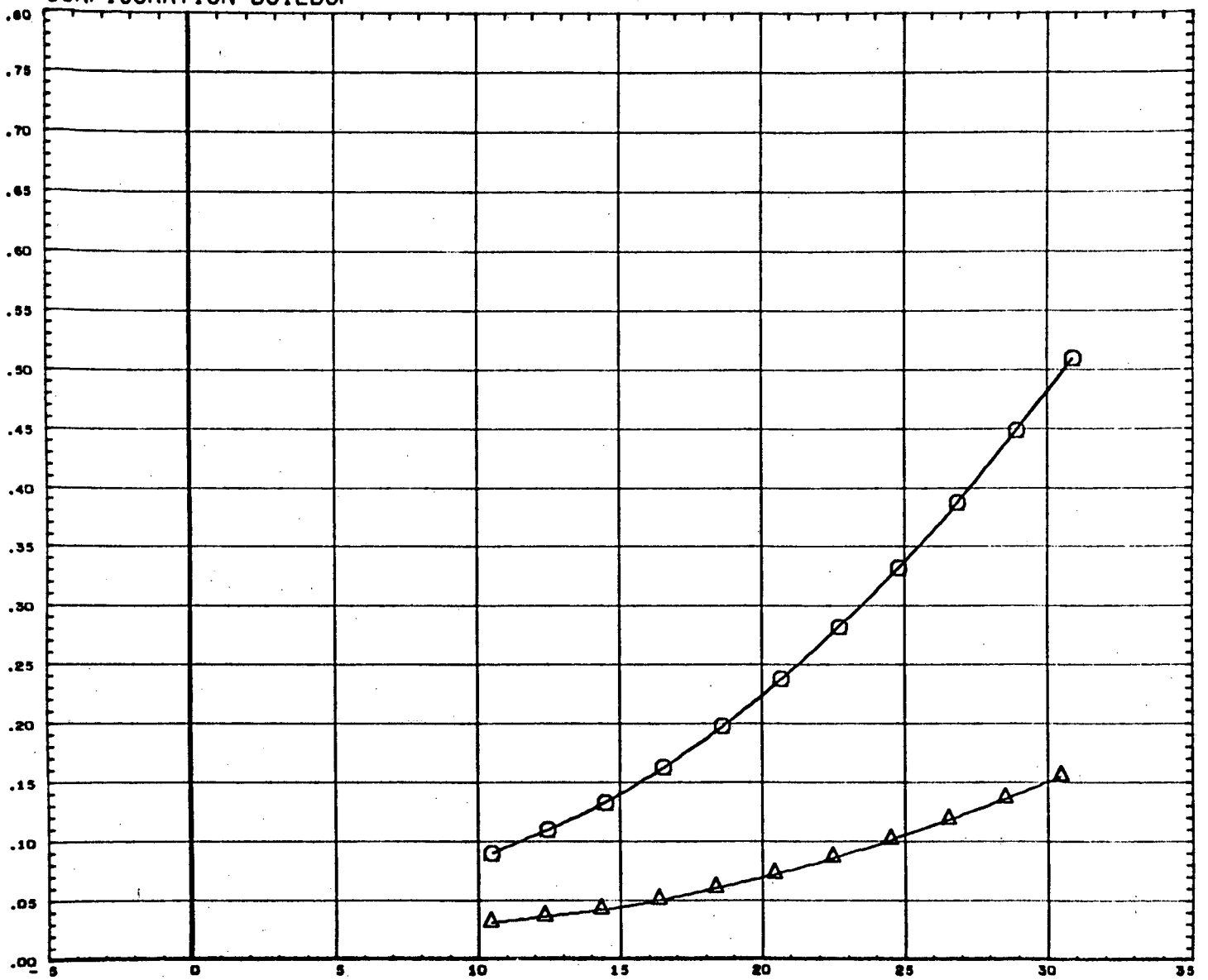


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP

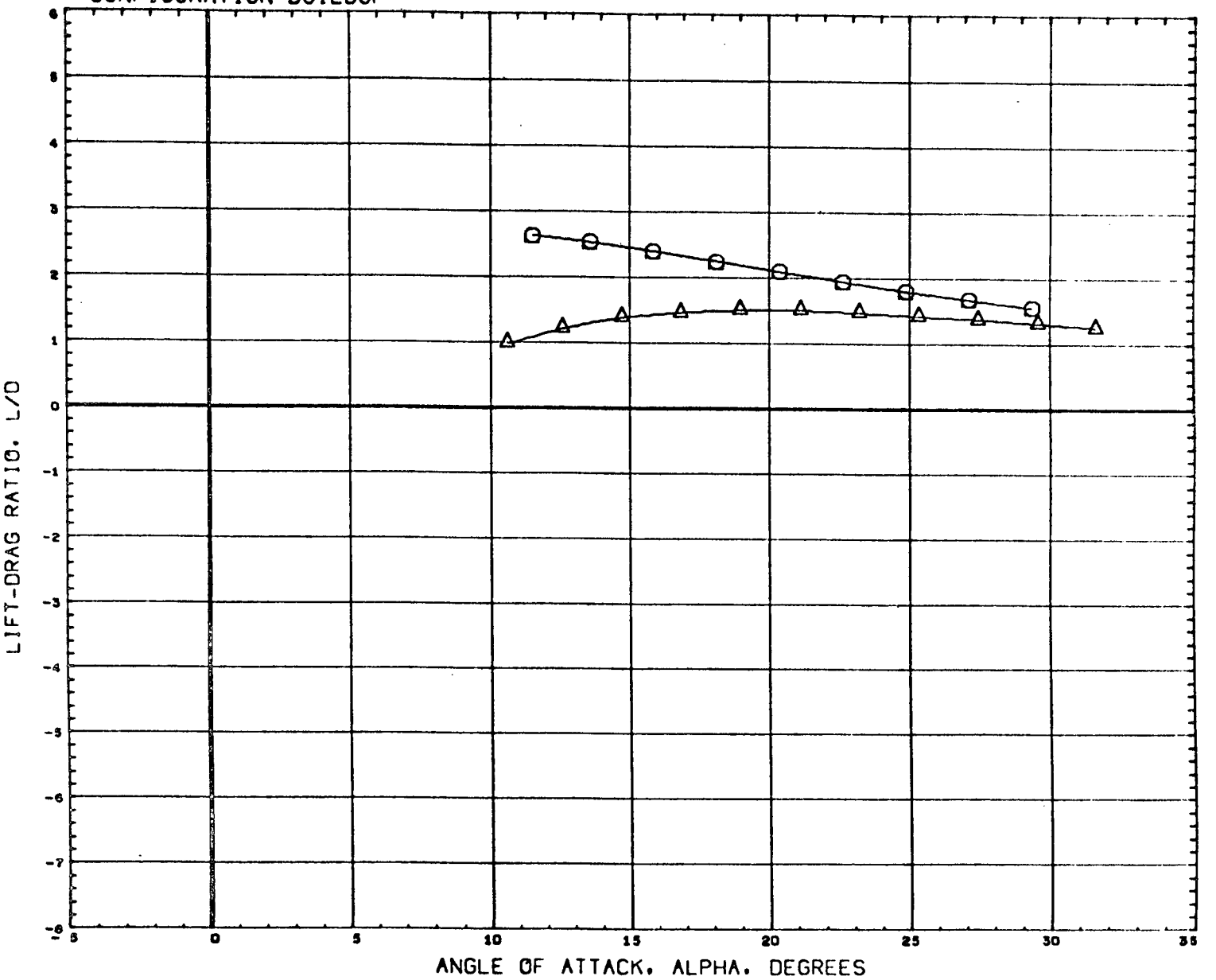


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869003) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869049) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

CONFIGURATION BUILDUP

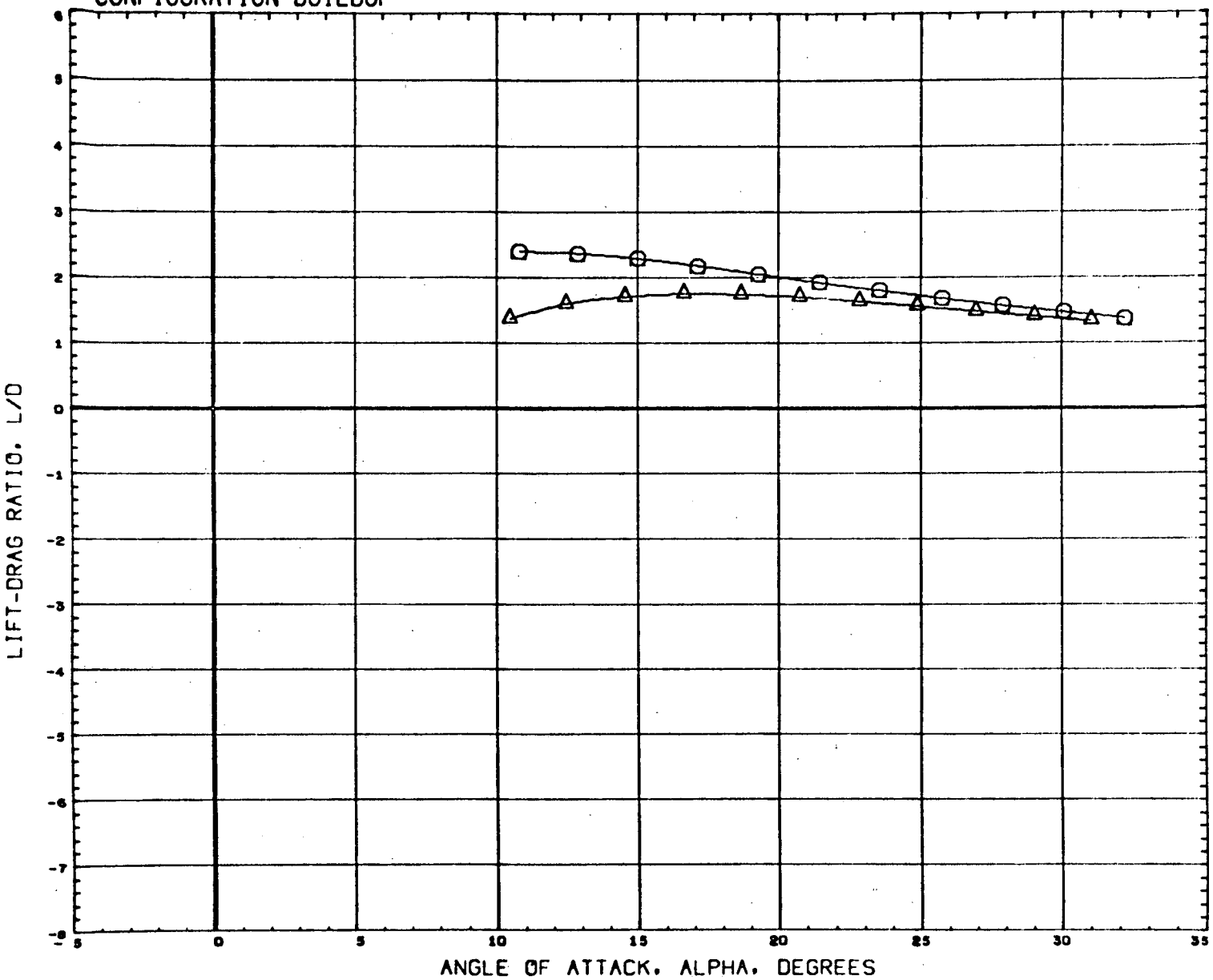


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP

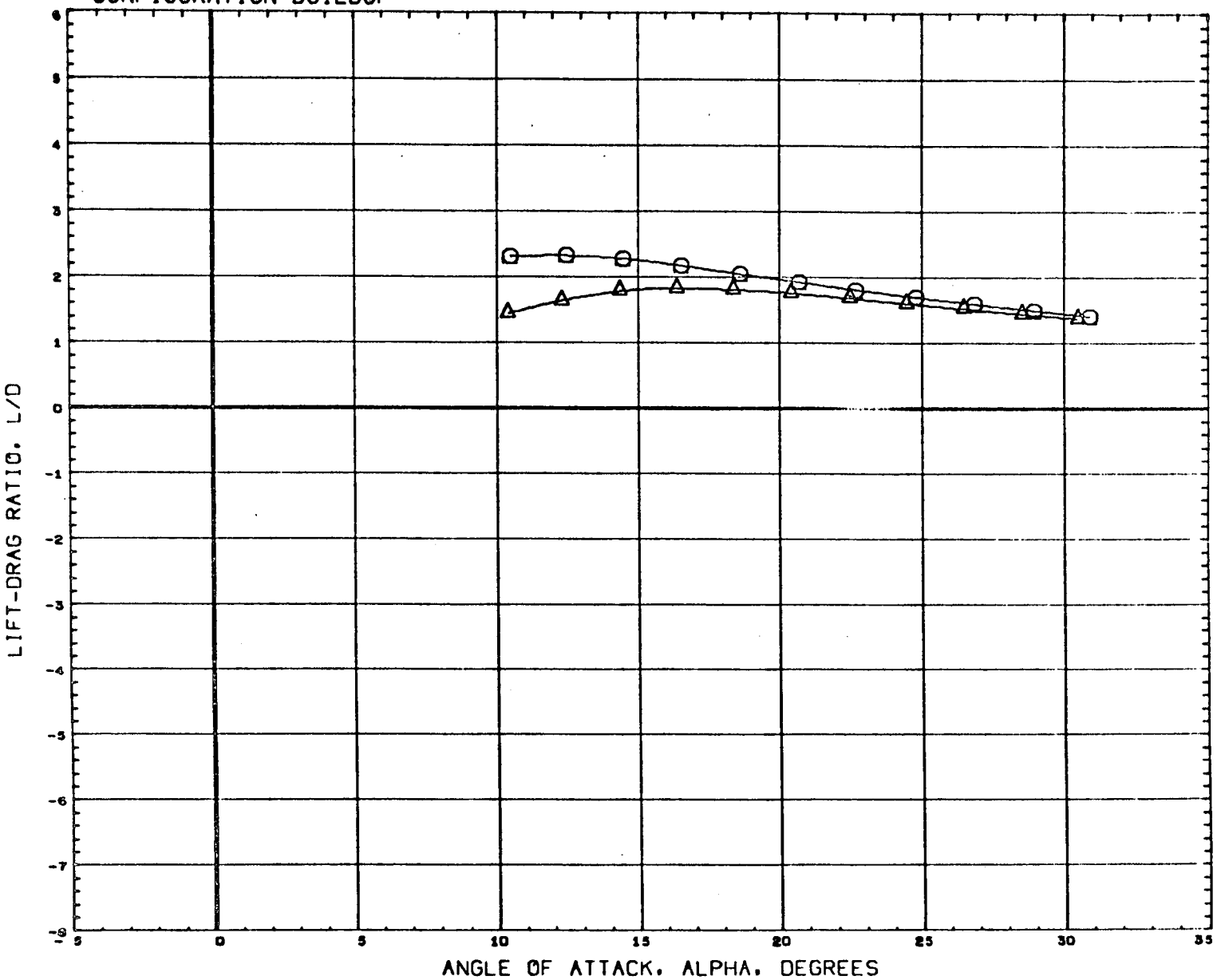


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP

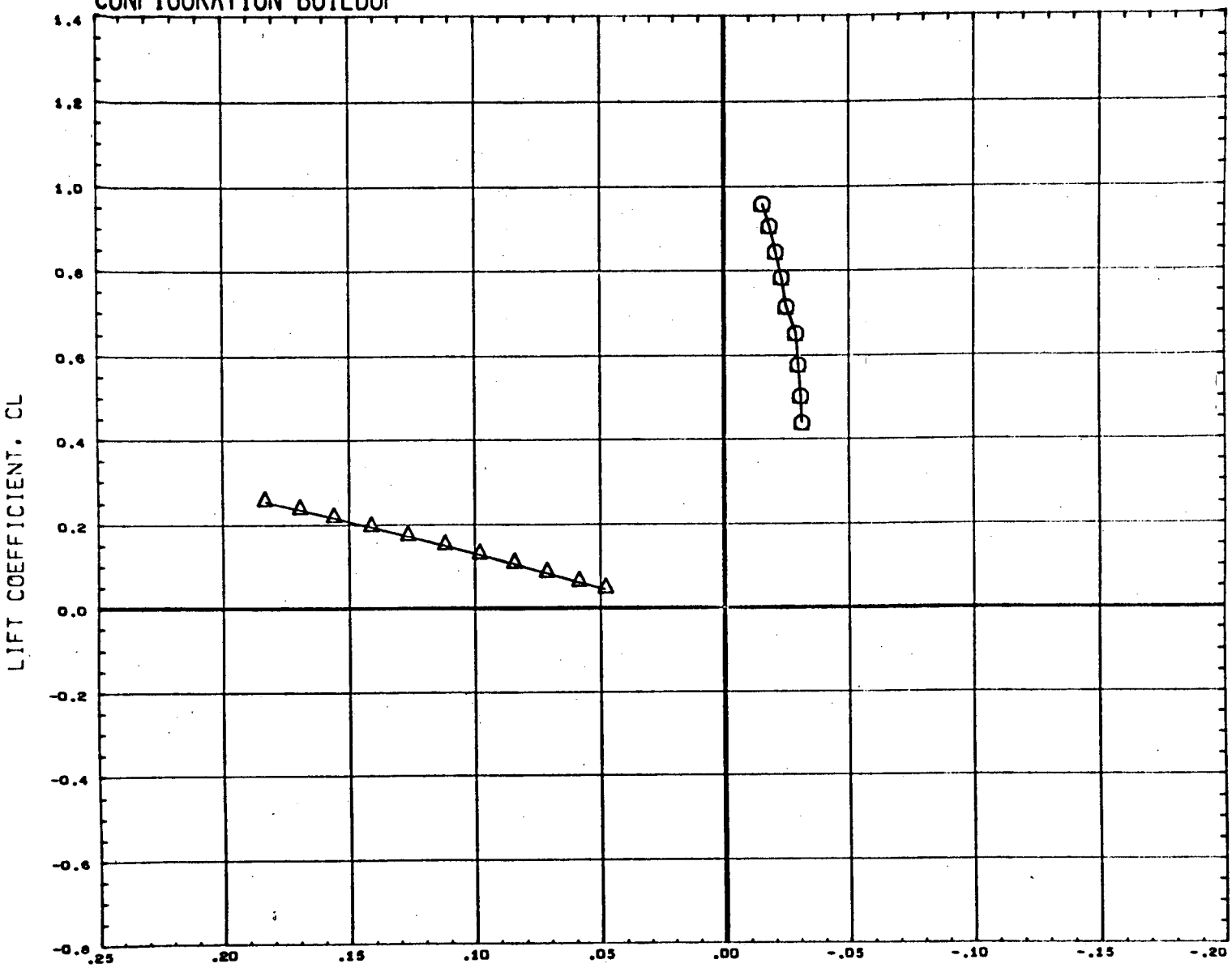


DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

CONFIGURATION BUILDUP

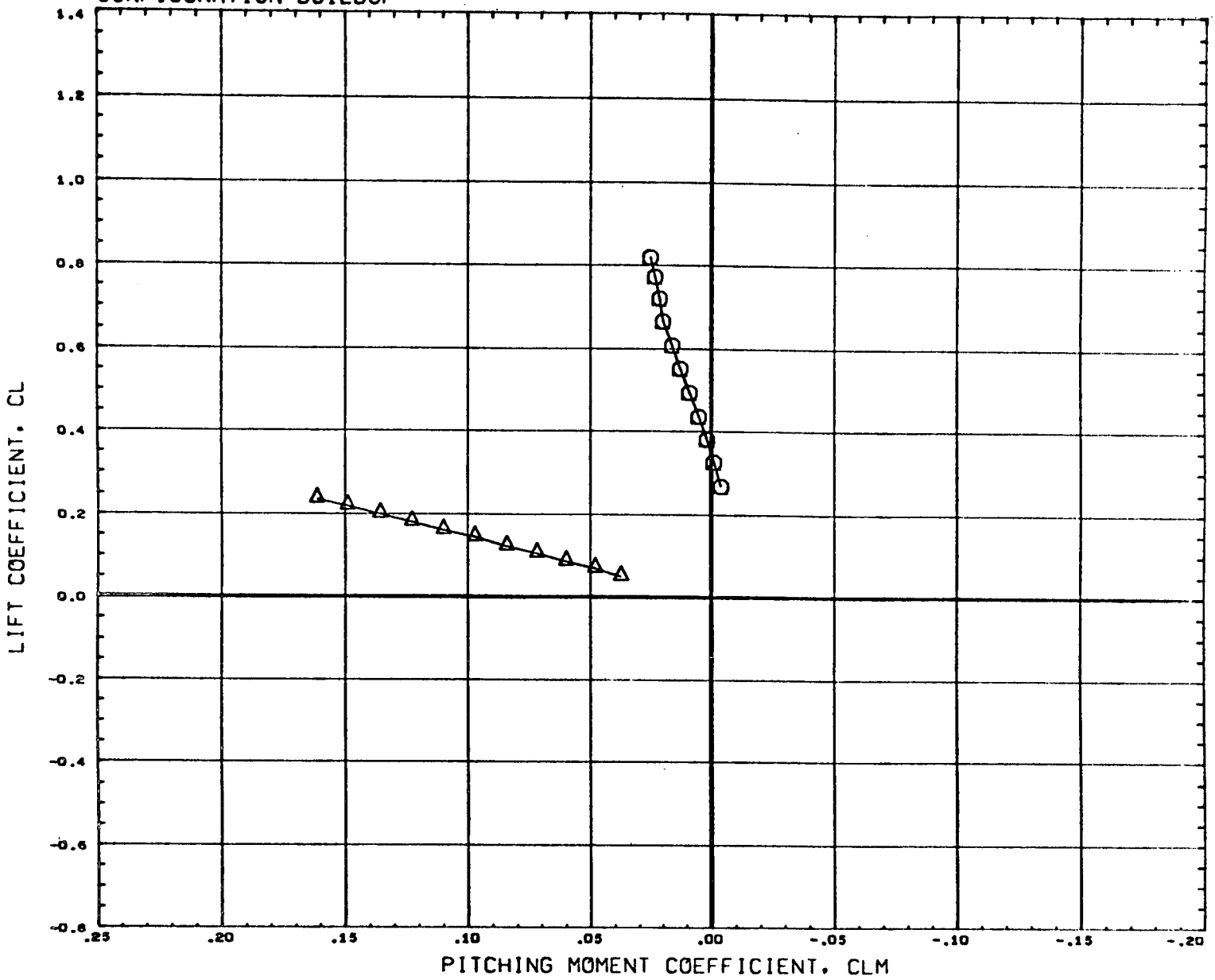


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.95

CONFIGURATION BUILDUP

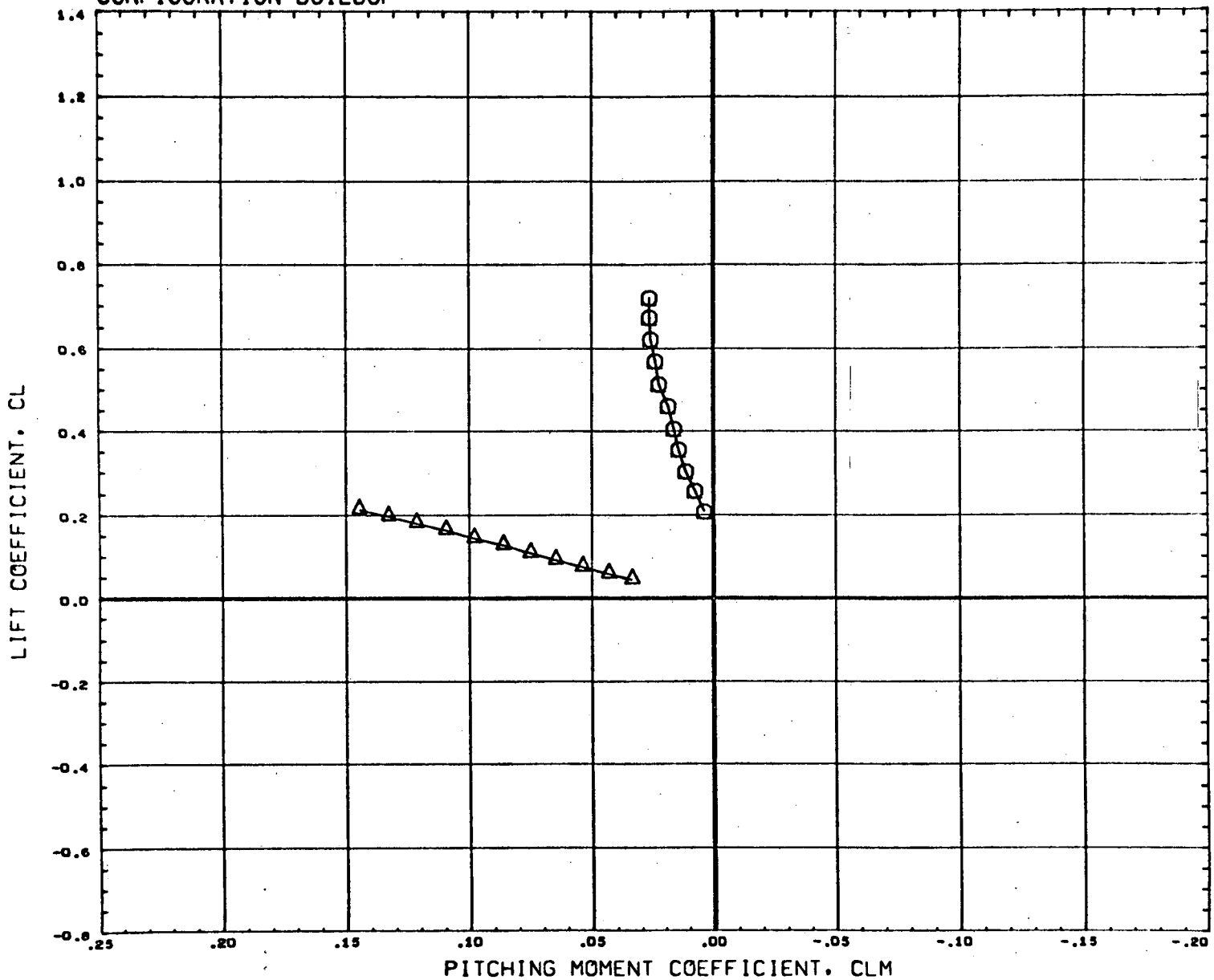


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(869003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(869049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 3.48

CONFIGURATION BUILDUP

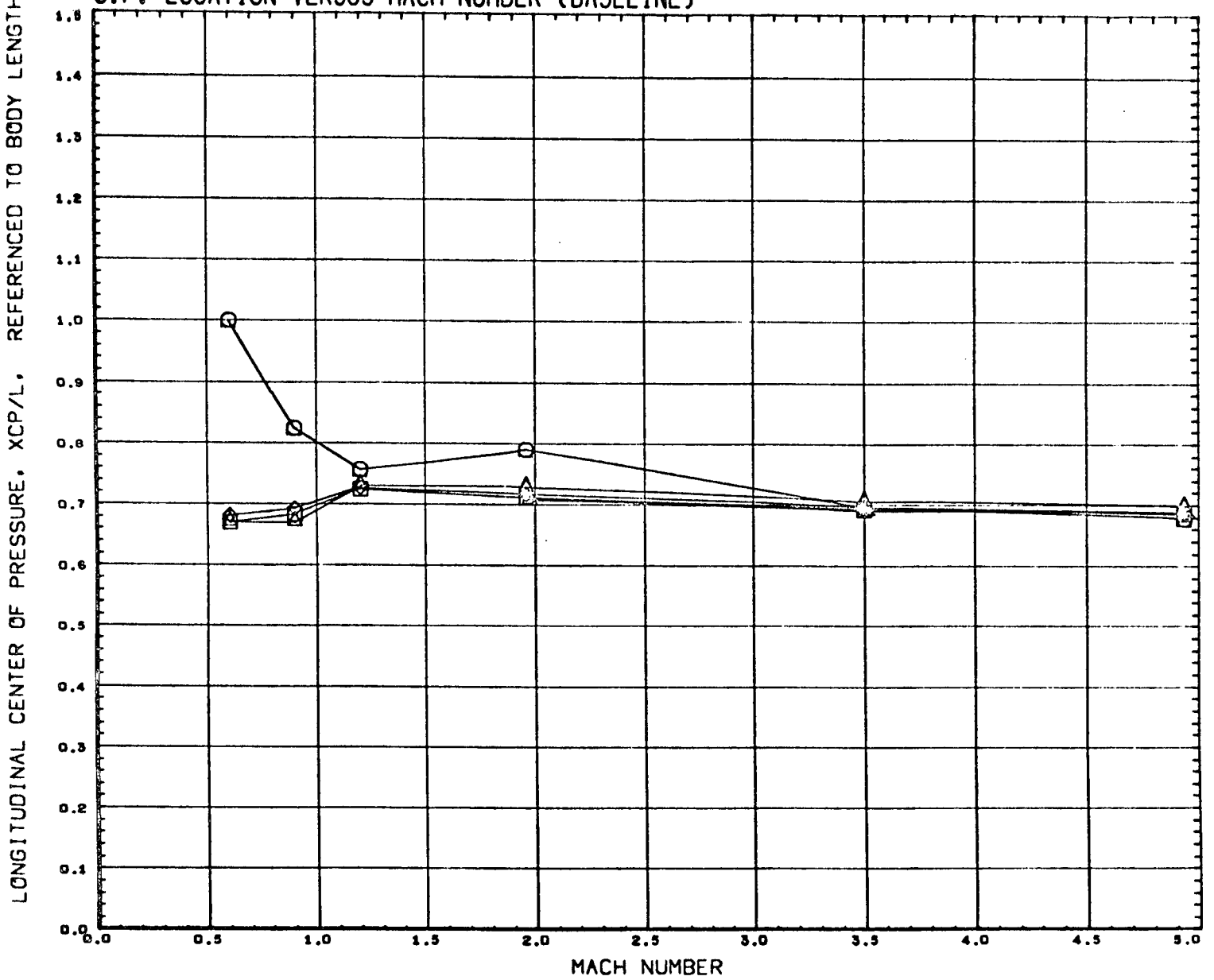


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(B69003)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(B69049)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B2				

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

C.P. LOCATION VERSUS MACH NUMBER (BASELINE)



SYMBOL	ALPHA
○	0.000
△	10.000
◇	16.000
□	20.000
▽	26.000

PARAMETRIC VALUES

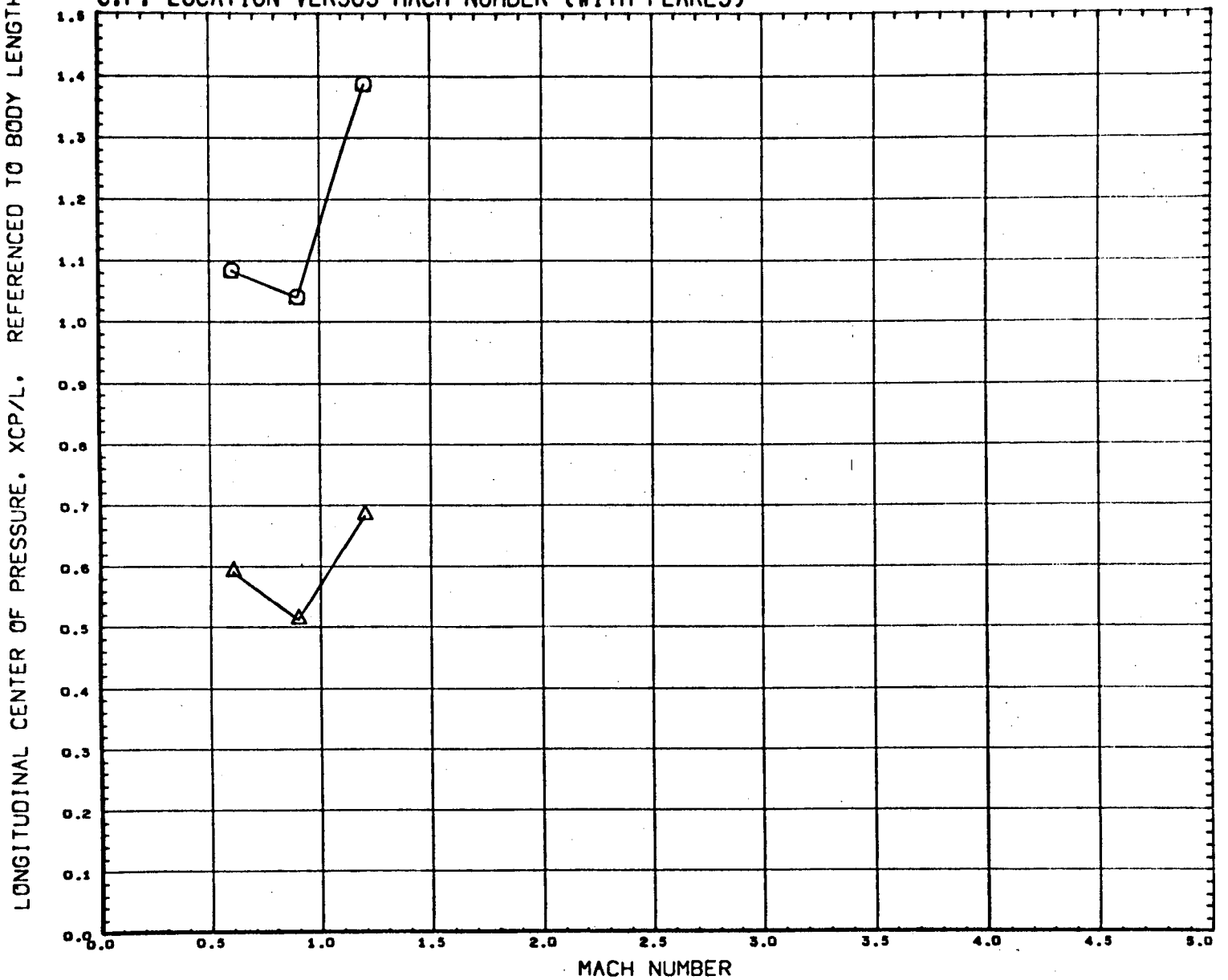
BETA	0.000	ELEVON	0.000	
RUDDER	0.000	RFLARE	0.000	
BFLAP	0.000			

DATA HIST. CODE *GTVGRCIP#G

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

C.P. LOCATION VERSUS MACH NUMBER (WITH FLARES)

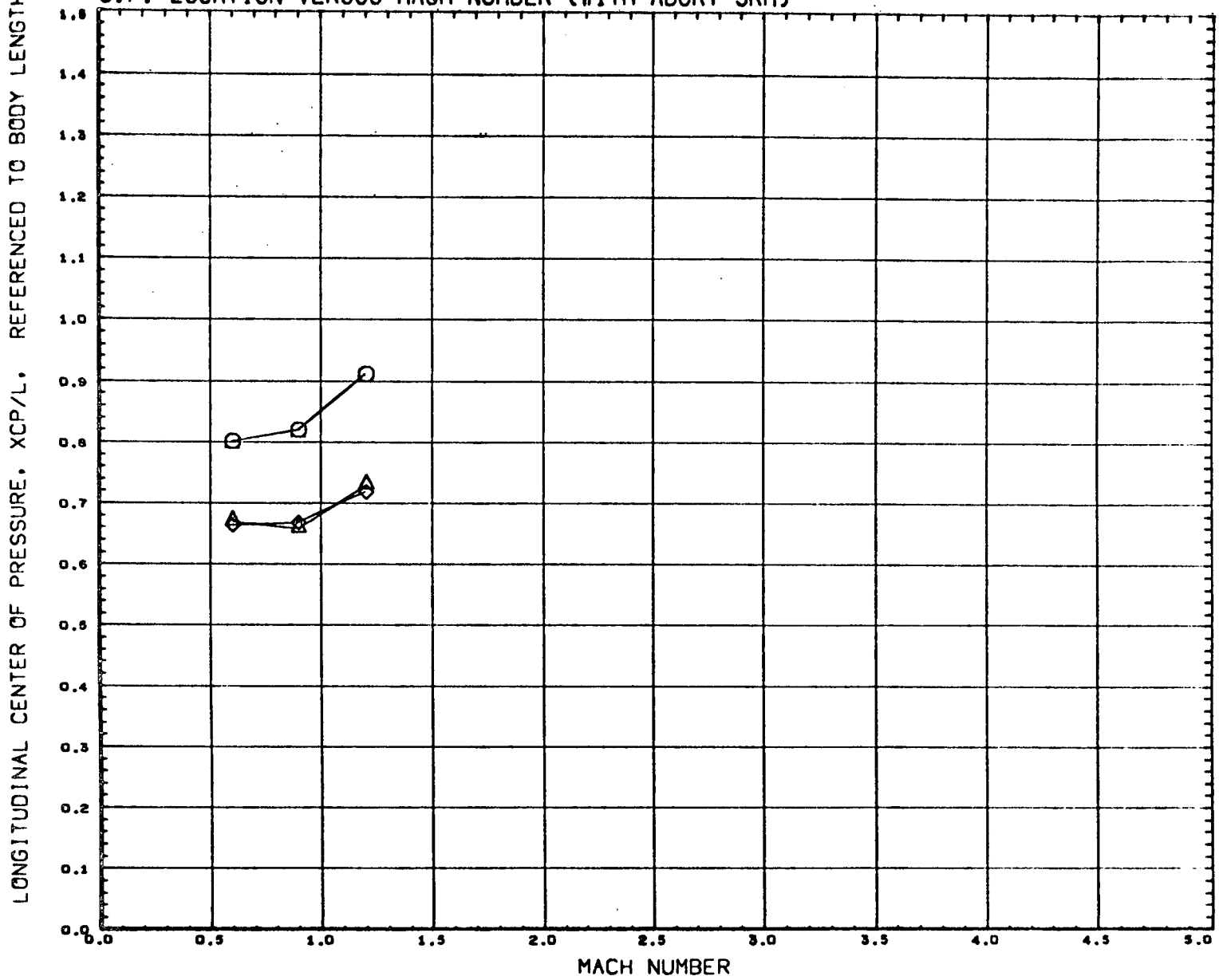


SYMBOL	ALPHA		PARAMETRIC VALUES		
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△	10.000	RUDDER	0.000	RFLARE	30.000
		BFLAP	0.000		

DATA HIST. CODE TVRCI

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

C.P. LOCATION VERSUS MACH NUMBER (WITH ABORT SRM)

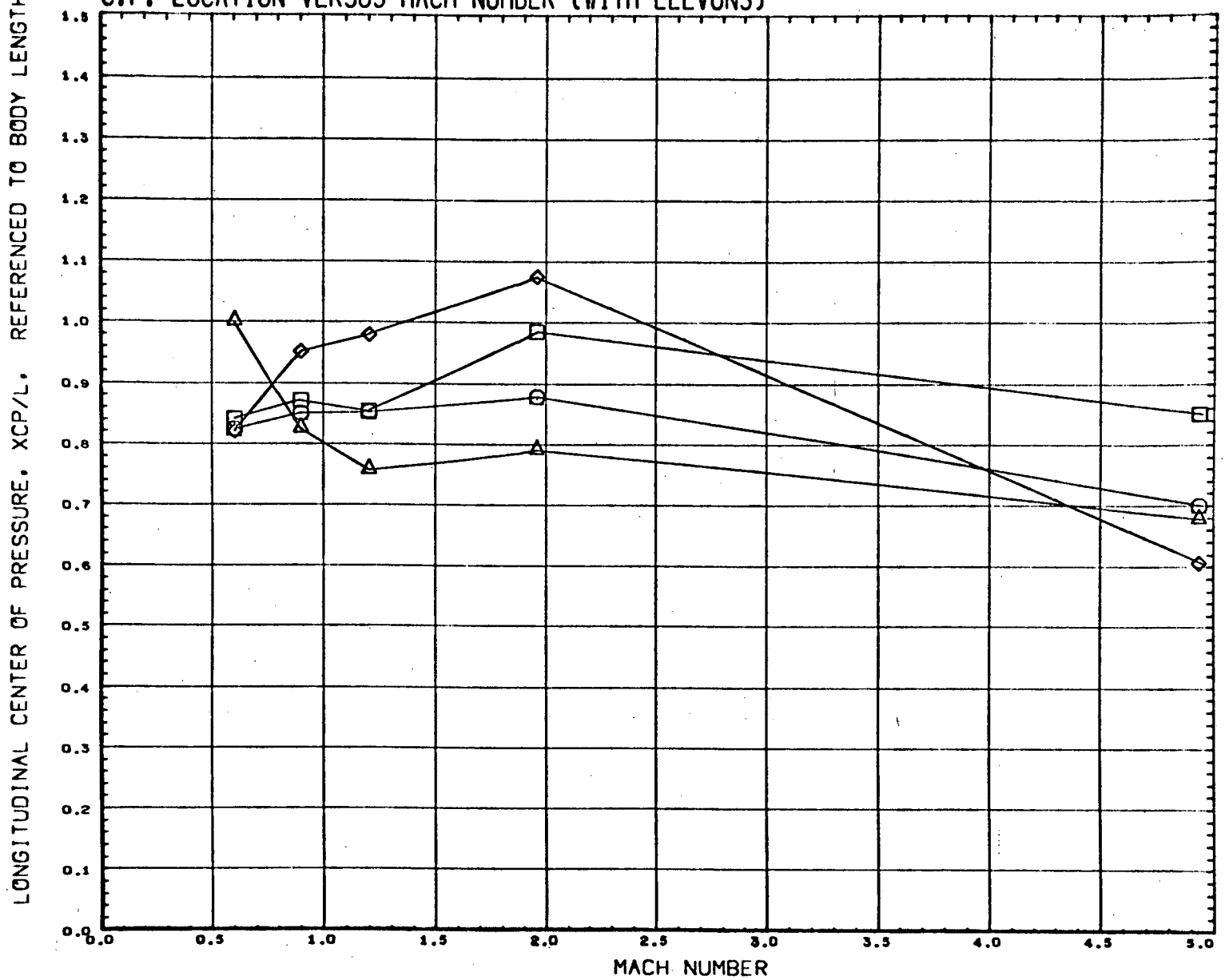


SYMBOL	ALPHA		PARAMETRIC VALUES		
○	0.000	BETA	0.000	ELEVON	0.000
△	10.000	RUDDER	0.000	RFLARE	0.000
◇	20.000	BFLAP	0.000		

DATA HIST. CODE *GTVRCI

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

C.P. LOCATION VERSUS MACH NUMBER (WITH ELEVONS)

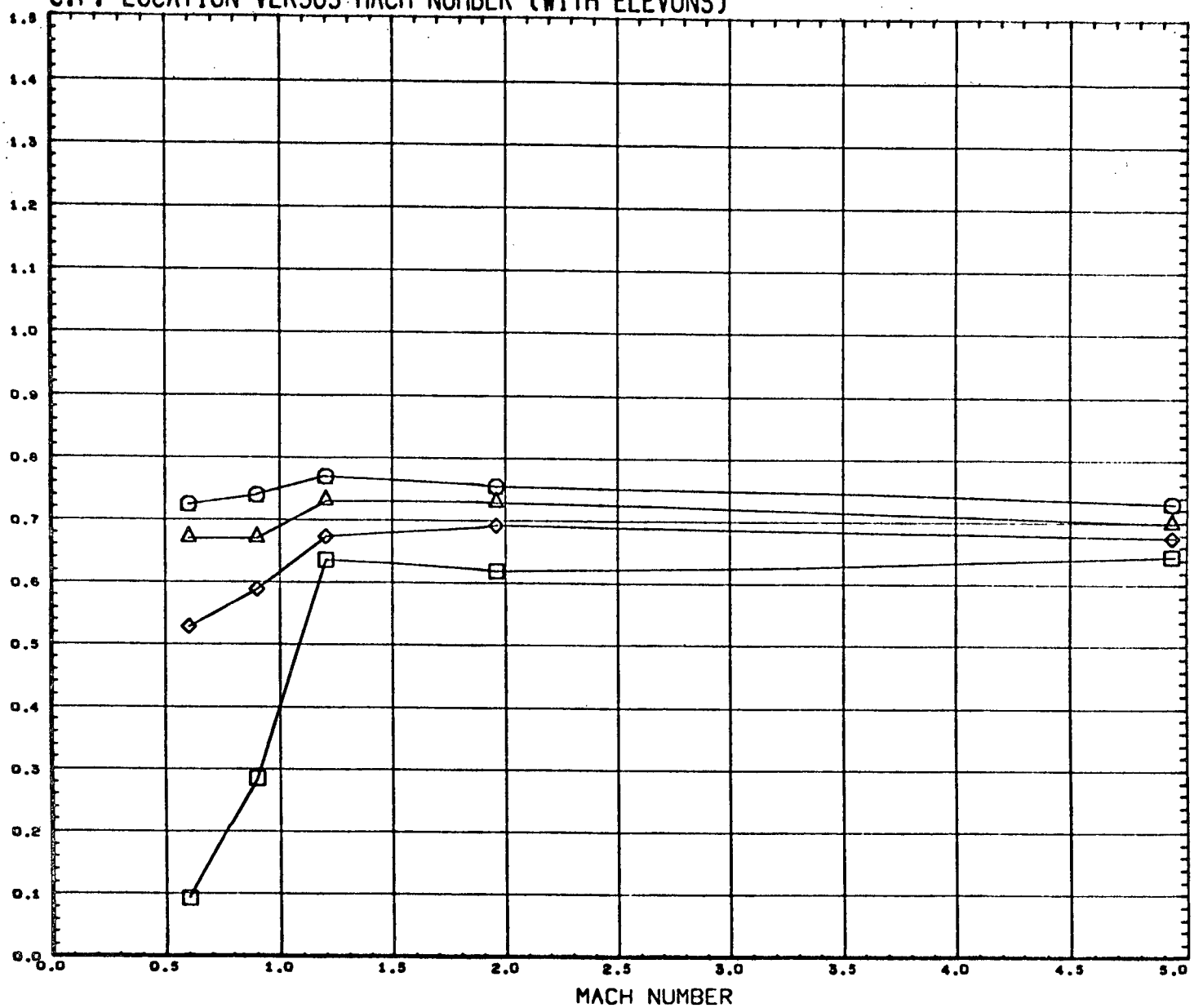


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(N69S14)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(N69S01)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(N69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(N69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6620	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

ALPHA .00

C.P. LOCATION VERSUS MACH NUMBER (WITH ELEVONS)



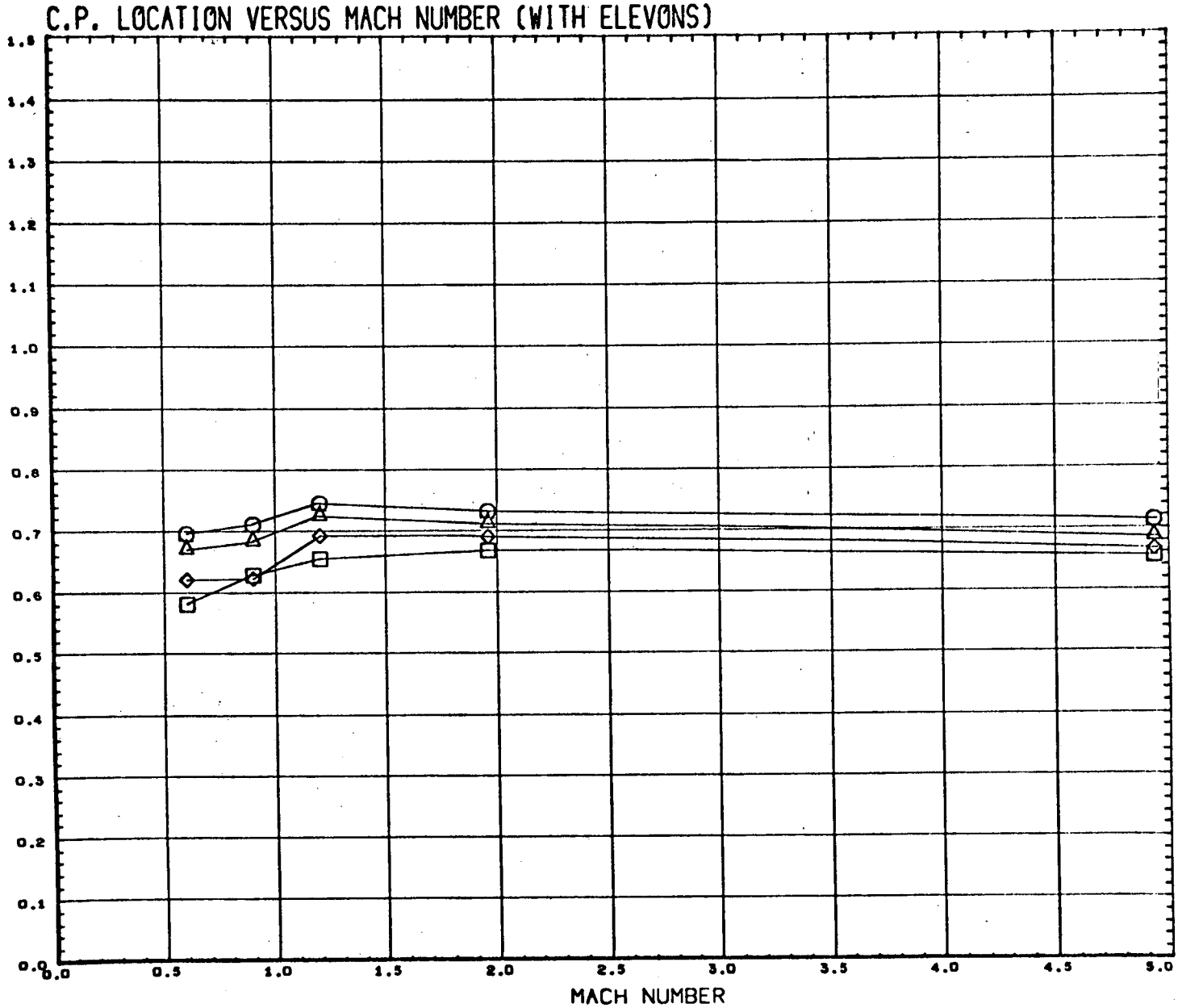
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(N69514)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(N69501)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(N69507)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(N69511)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

ALPHA 10.00

D

C.P. LOCATION VERSUS MACH NUMBER (WITH ELEVONS)

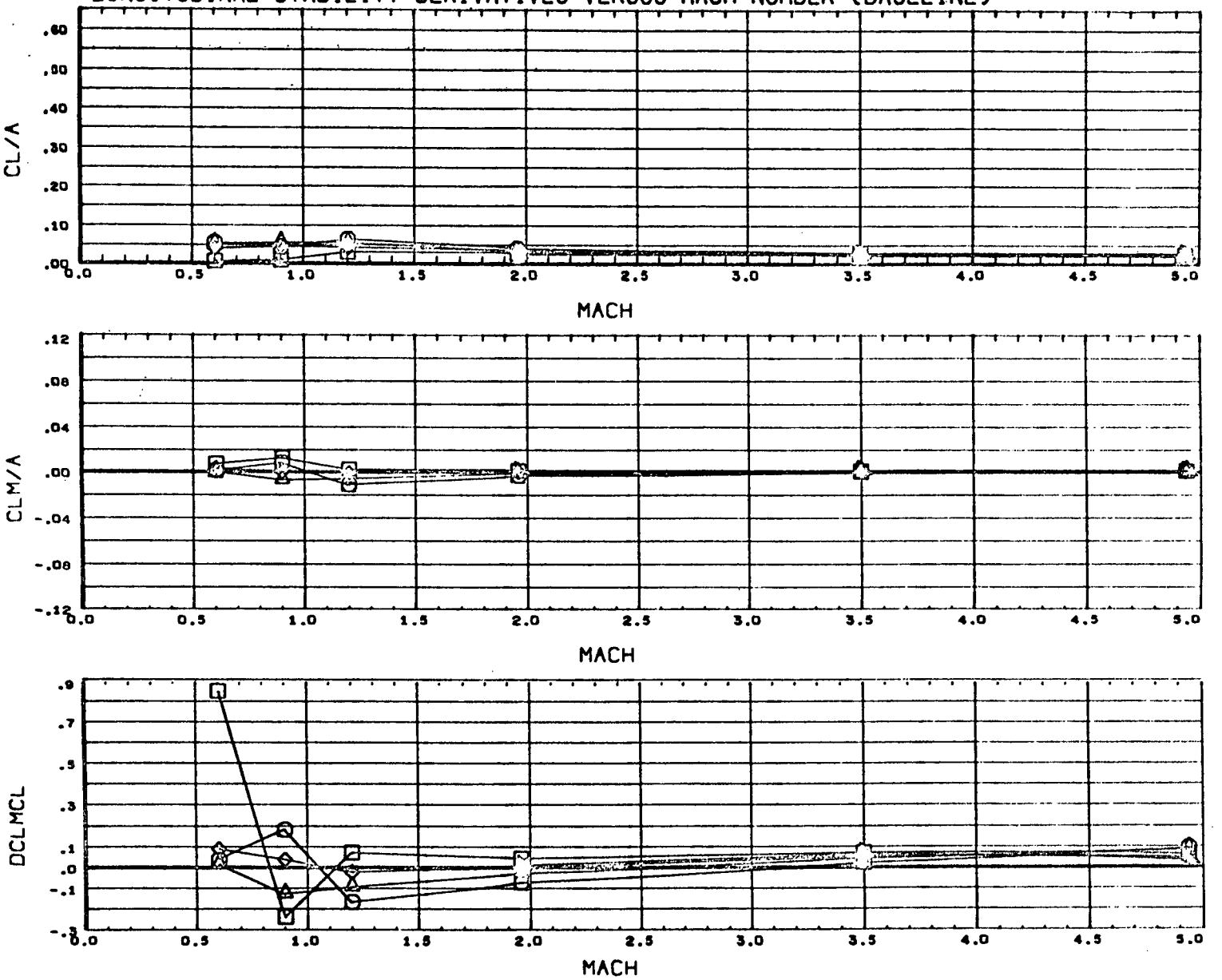


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	RUDDER	RFLARE	BFLAP
(N69S14)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000
(N69S01)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(N69S07)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(N69S11)	□	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

ALPHA 20.00

LONGITUDINAL STABILITY DERIVATIVES VERSUS MACH NUMBER (BASELINE)



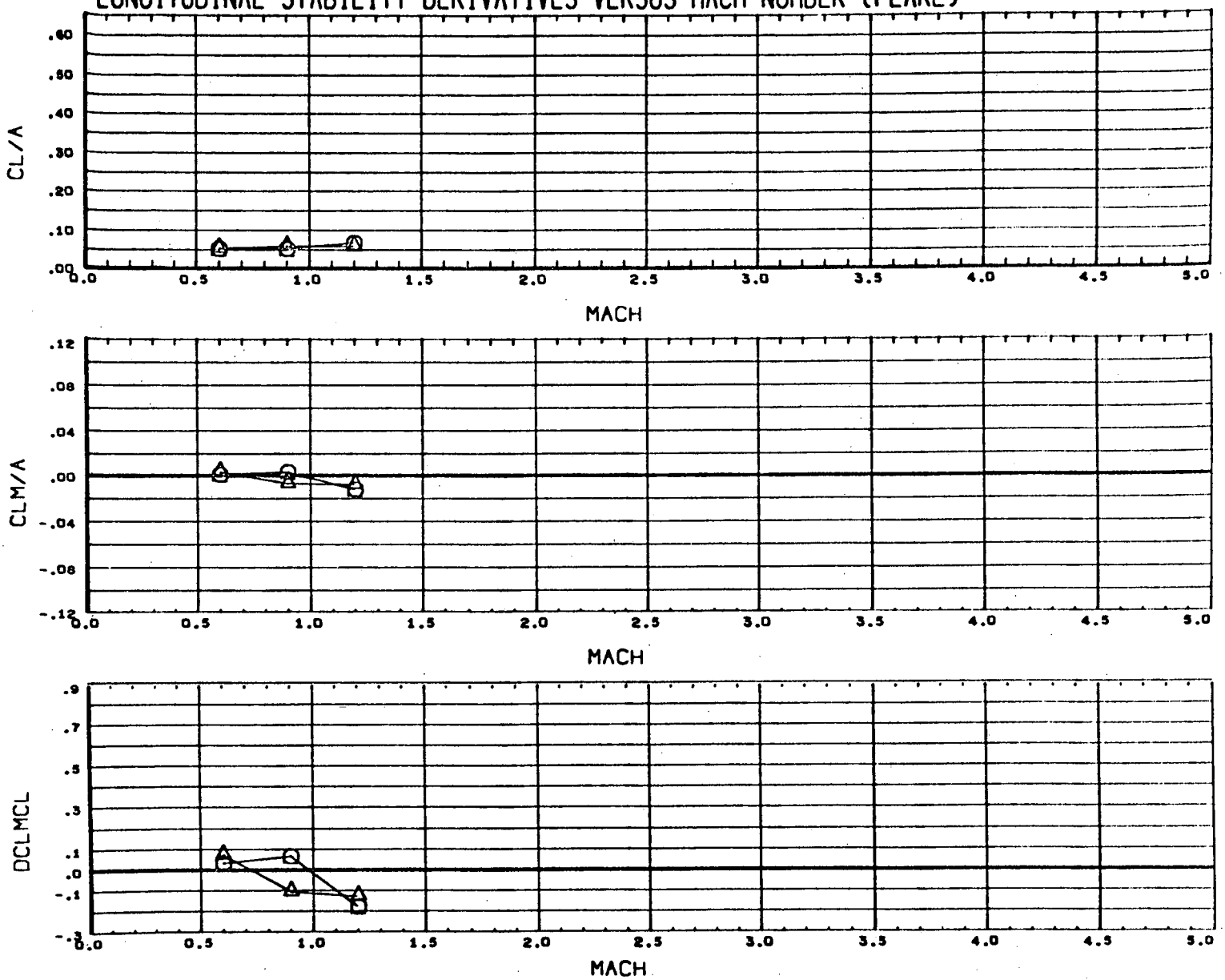
SYMBOL	ALPHA		PARAMETRIC VALUES		
○	0.000	BETA	0.000	ELEVON	0.000
△	10.000	RUDDER	0.000	RFLARE	0.000
◇	16.000	BFLAP	0.000		
□	20.000				
▽	26.000				

DATA HIST. CODE #GTVGRCIP#G

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

LONGITUDINAL STABILITY DERIVATIVES VERSUS MACH NUMBER (FLARE)



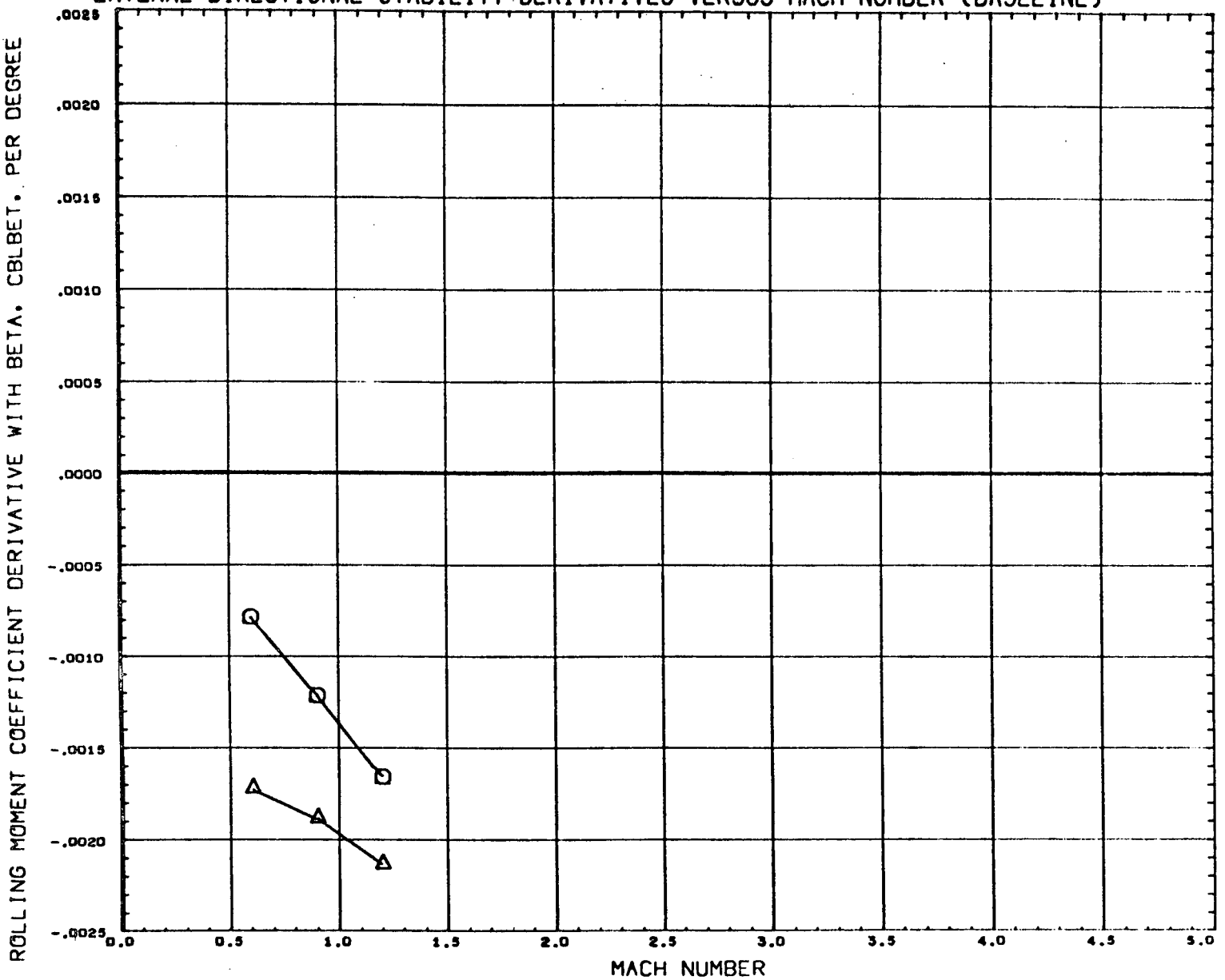
SYMBOL	ALPHA		PARAMETRIC VALUES		
○	0.000	BETA	0.000	ELEVON	0.000
△	10.000	RUDDER	0.000	RFLARE	30.000
		BFLAP	0.000		

DATA HIST. CODE TVGRCI

REFERENCE INFORMATION

SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

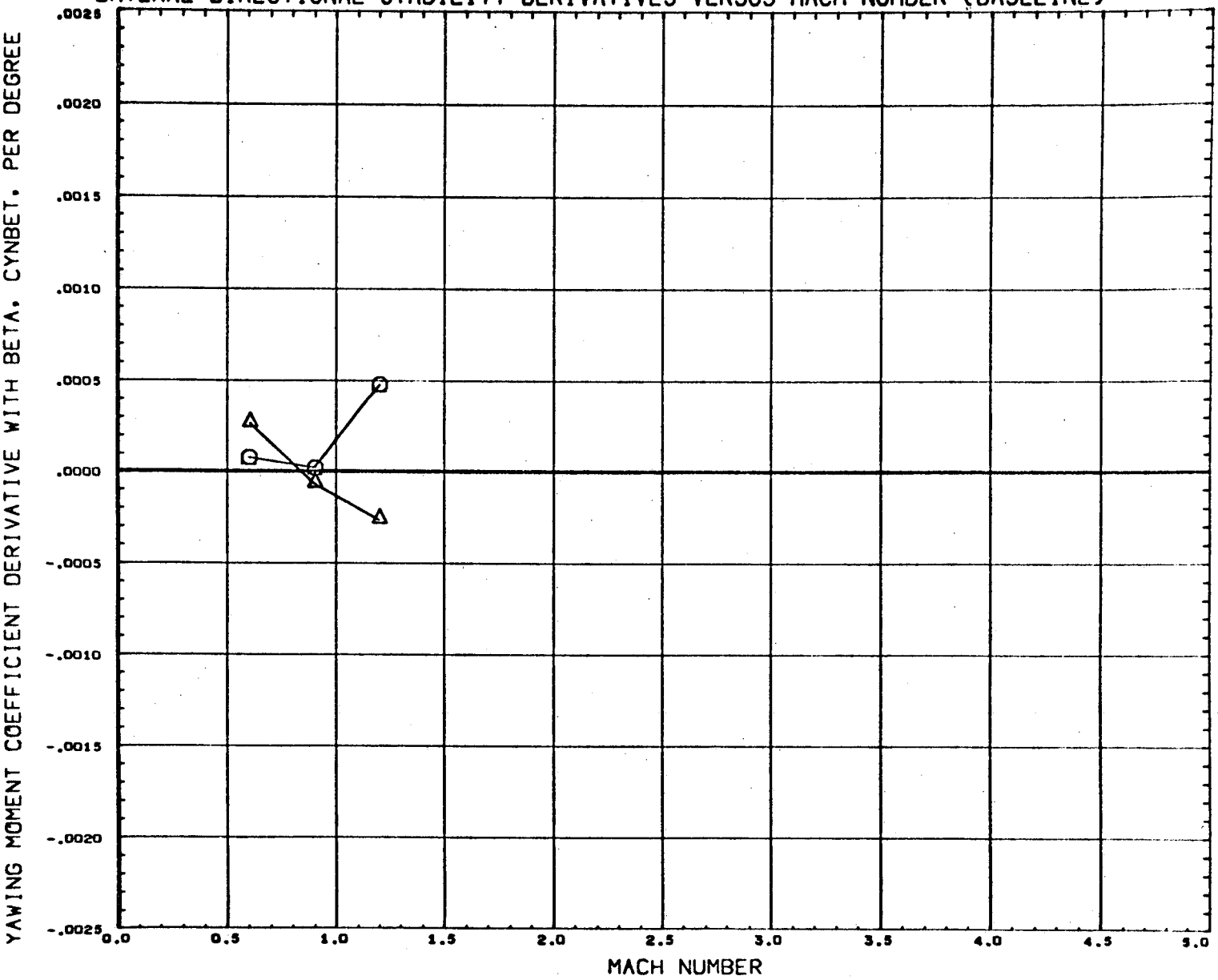
LATERAL-DIRECTIONAL STABILITY DERIVATIVES VERSUS MACH NUMBER (BASELINE)



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

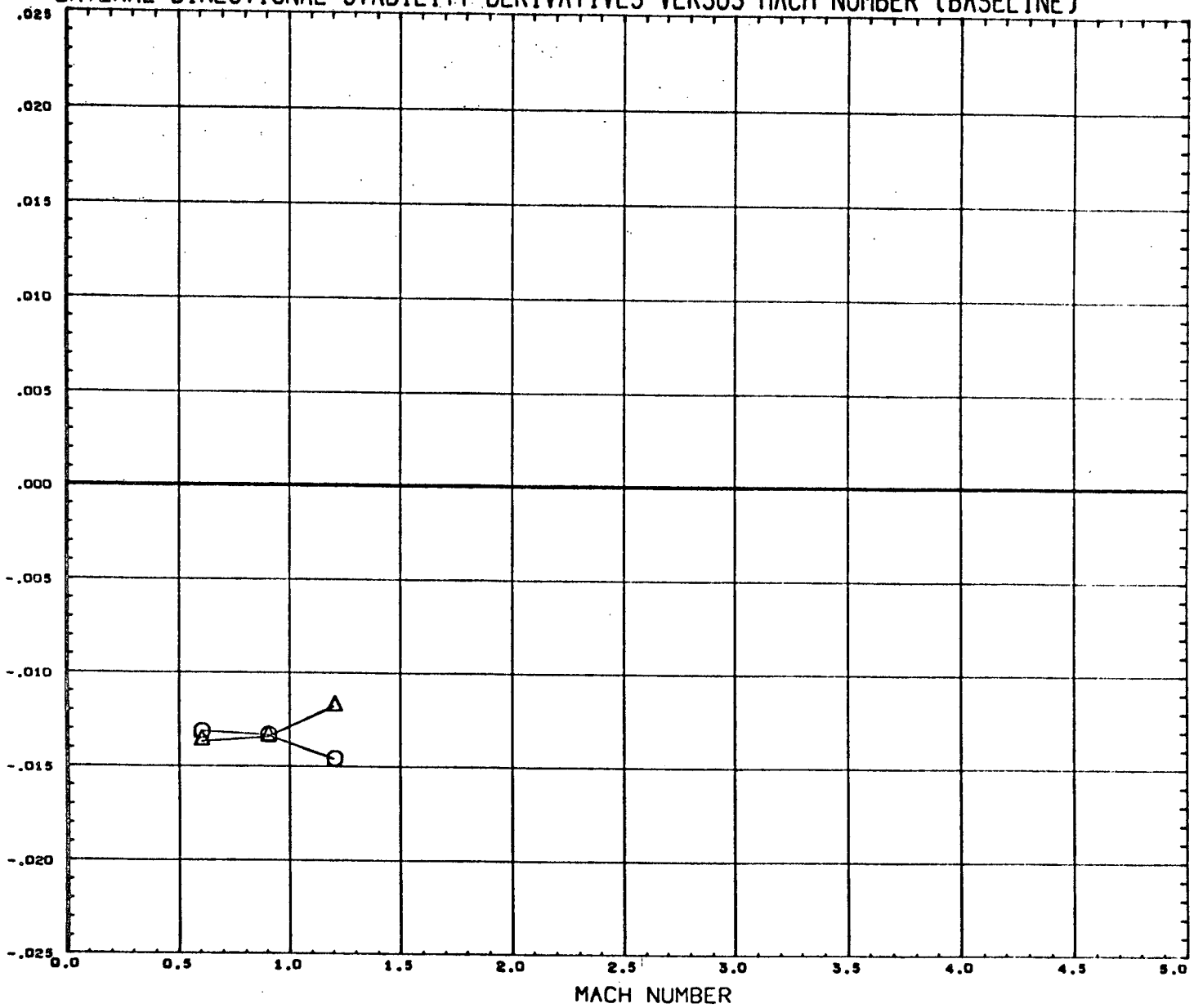
LATERAL-DIRECTIONAL STABILITY DERIVATIVES VERSUS MACH NUMBER (BASELINE)



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

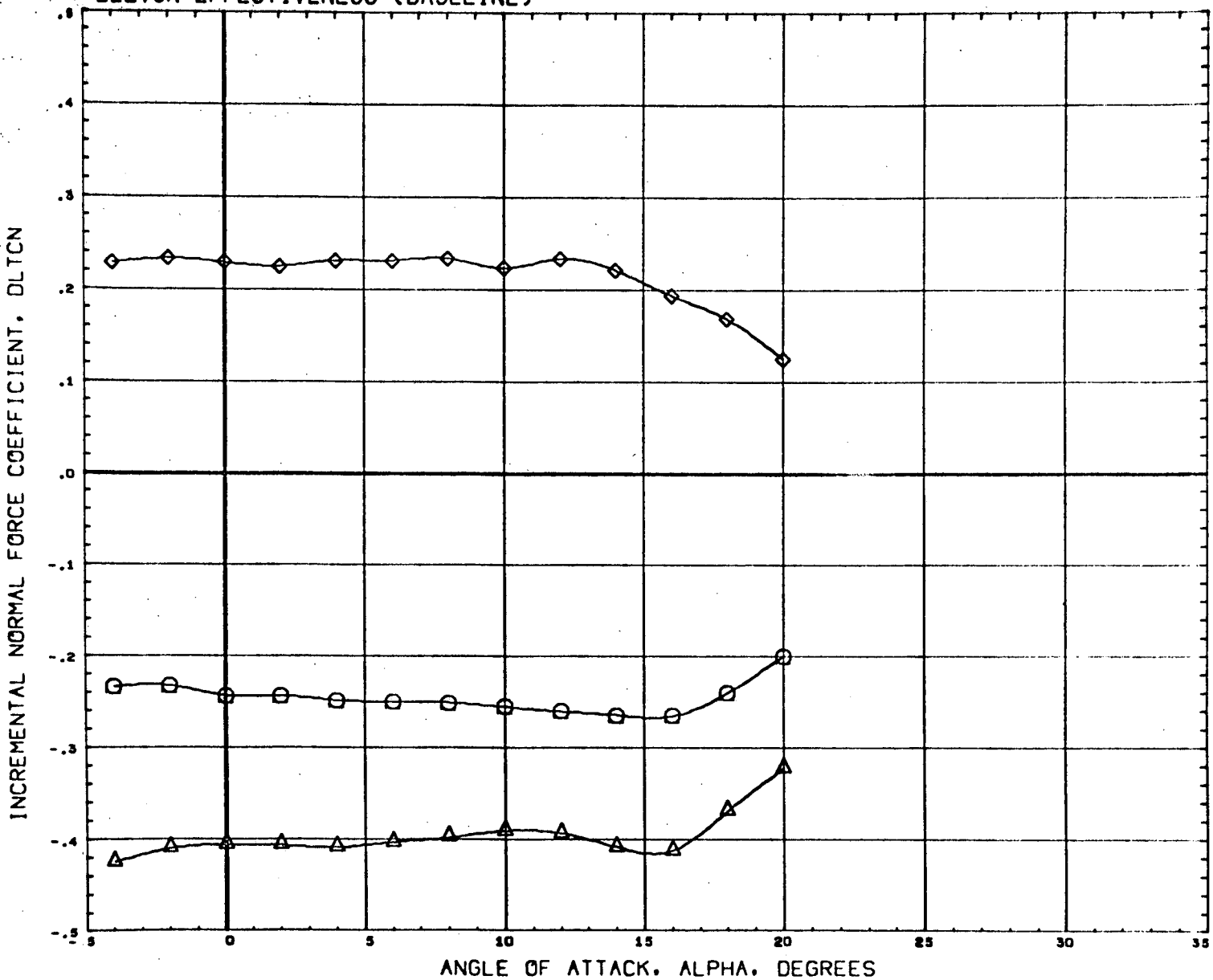
LATERAL-DIRECTIONAL STABILITY DERIVATIVES VERSUS MACH NUMBER (BASELINE)



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	RUDDER	RFLARE
(A69004)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	0.000	0.000	0.000	0.000
(A69005)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

ELEVON EFFECTIVENESS (BASELINE)

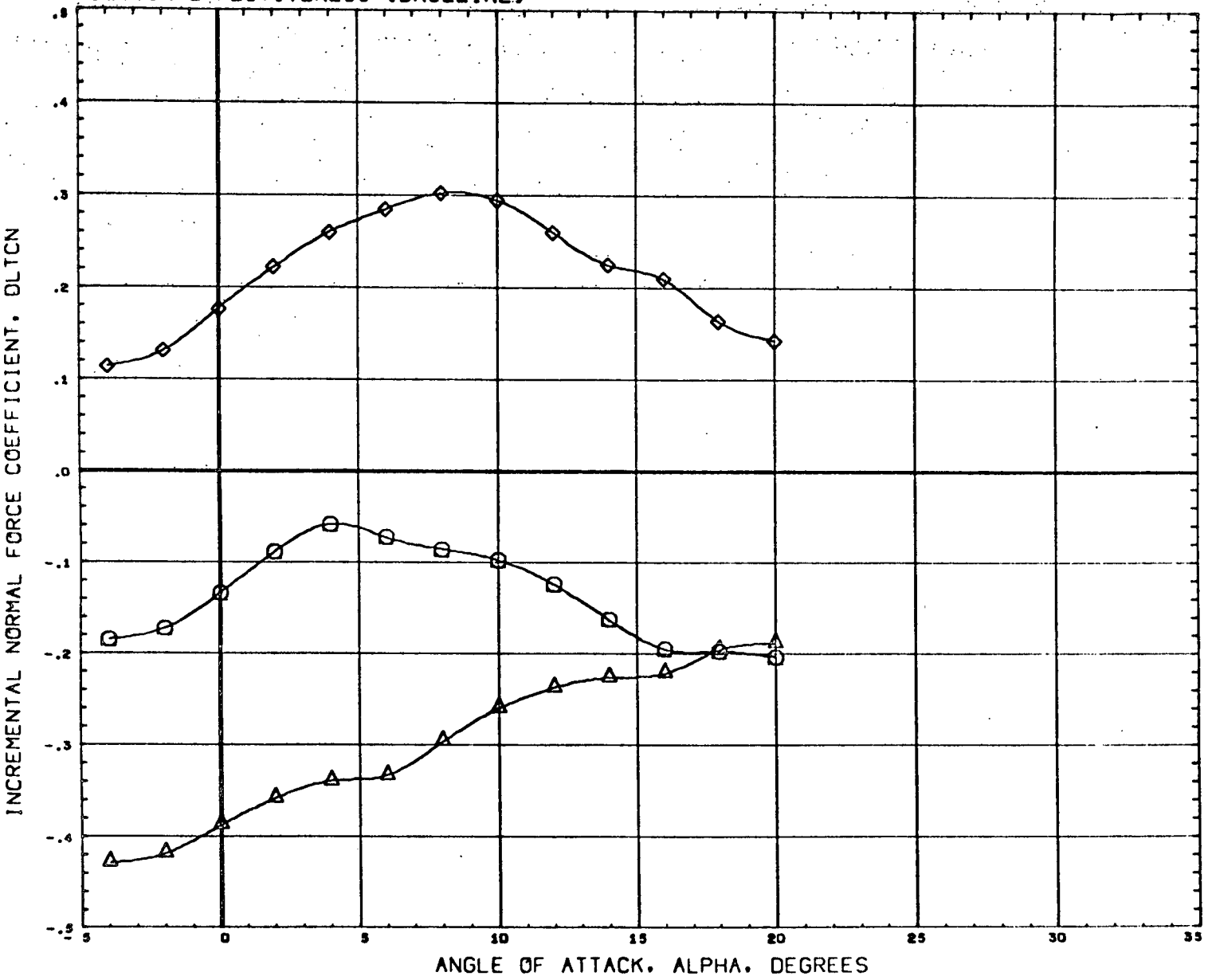


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69S0A)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E69S0B)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E69S0C)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

ELEVON EFFECTIVENESS (BASELINE)

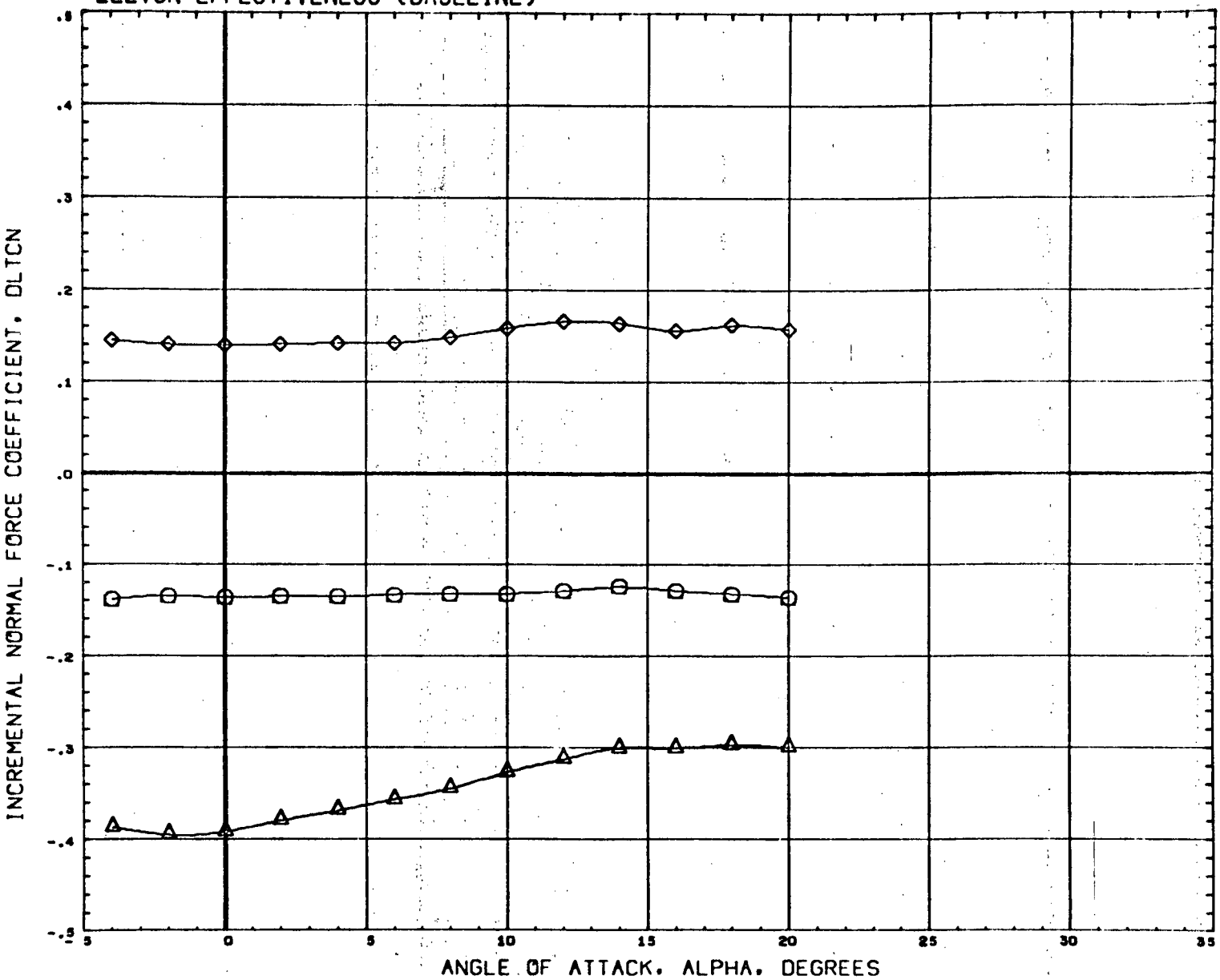


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69S0A)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E69S0B)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E69S0C)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

ELEVON EFFECTIVENESS (BASELINE)

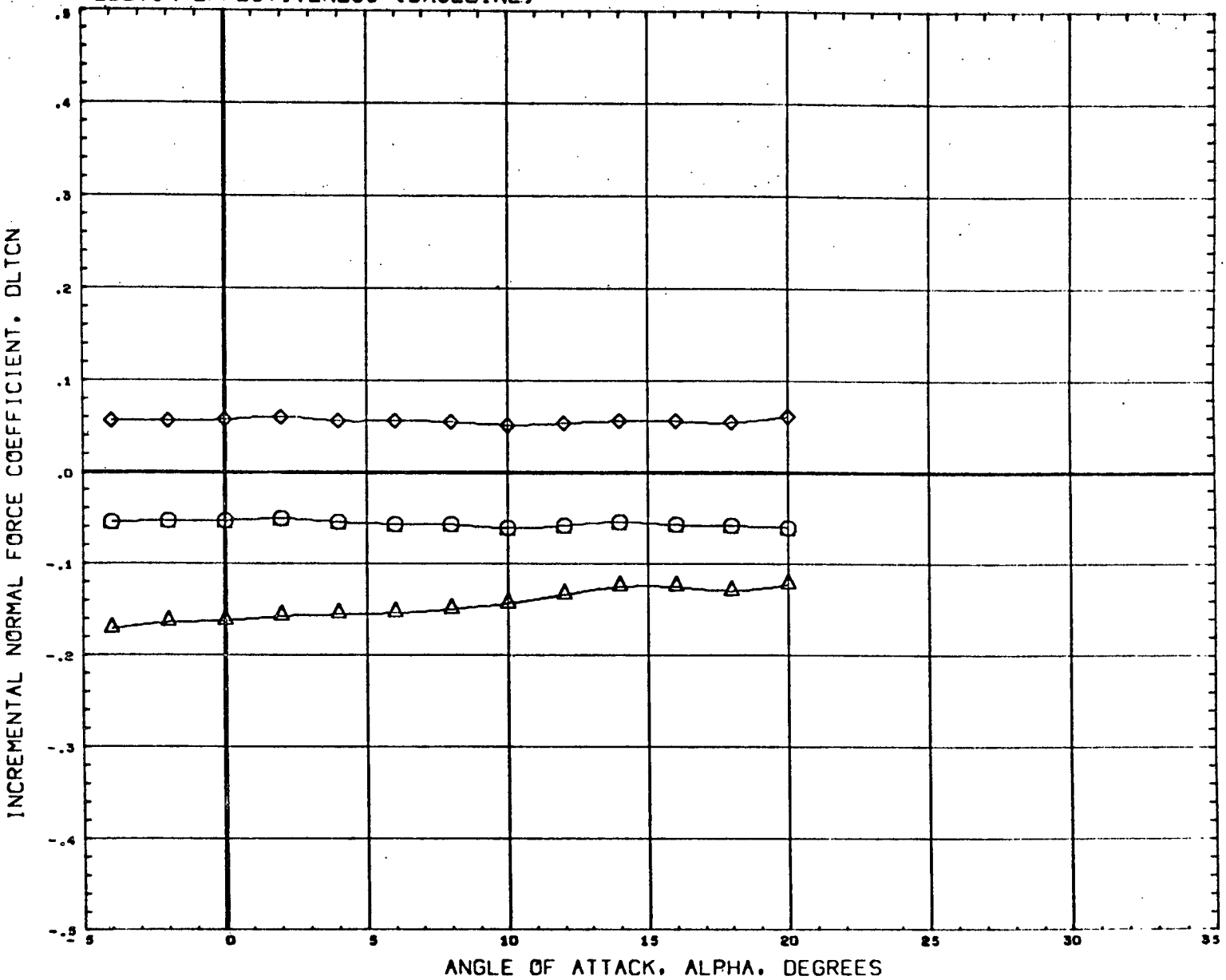


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E6930A)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E6930B)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E6930C)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

ELEVON EFFECTIVENESS (BASELINE)

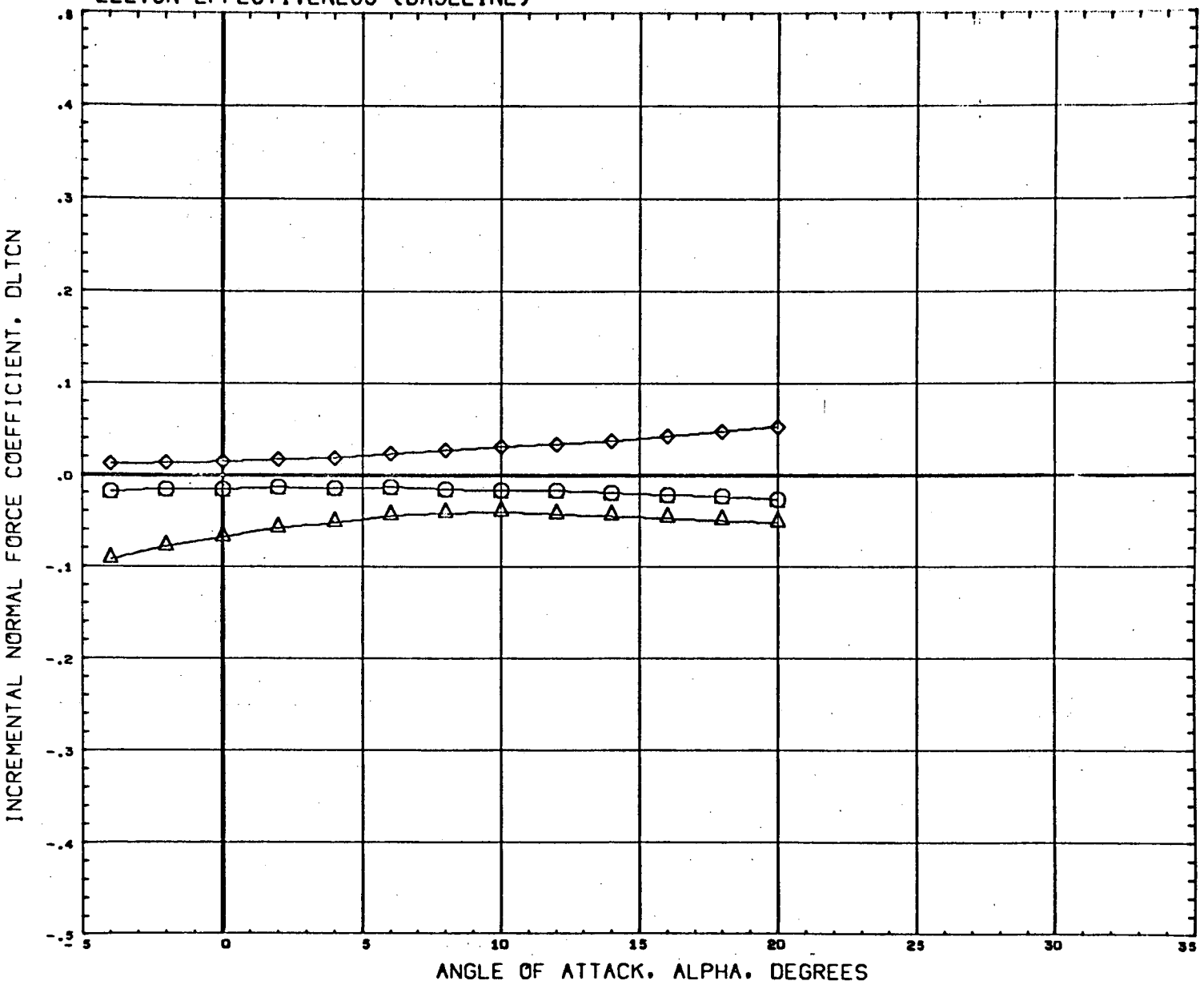


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E693OA)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E693OB)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E693OC)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.96

ELEVON EFFECTIVENESS (BASELINE)

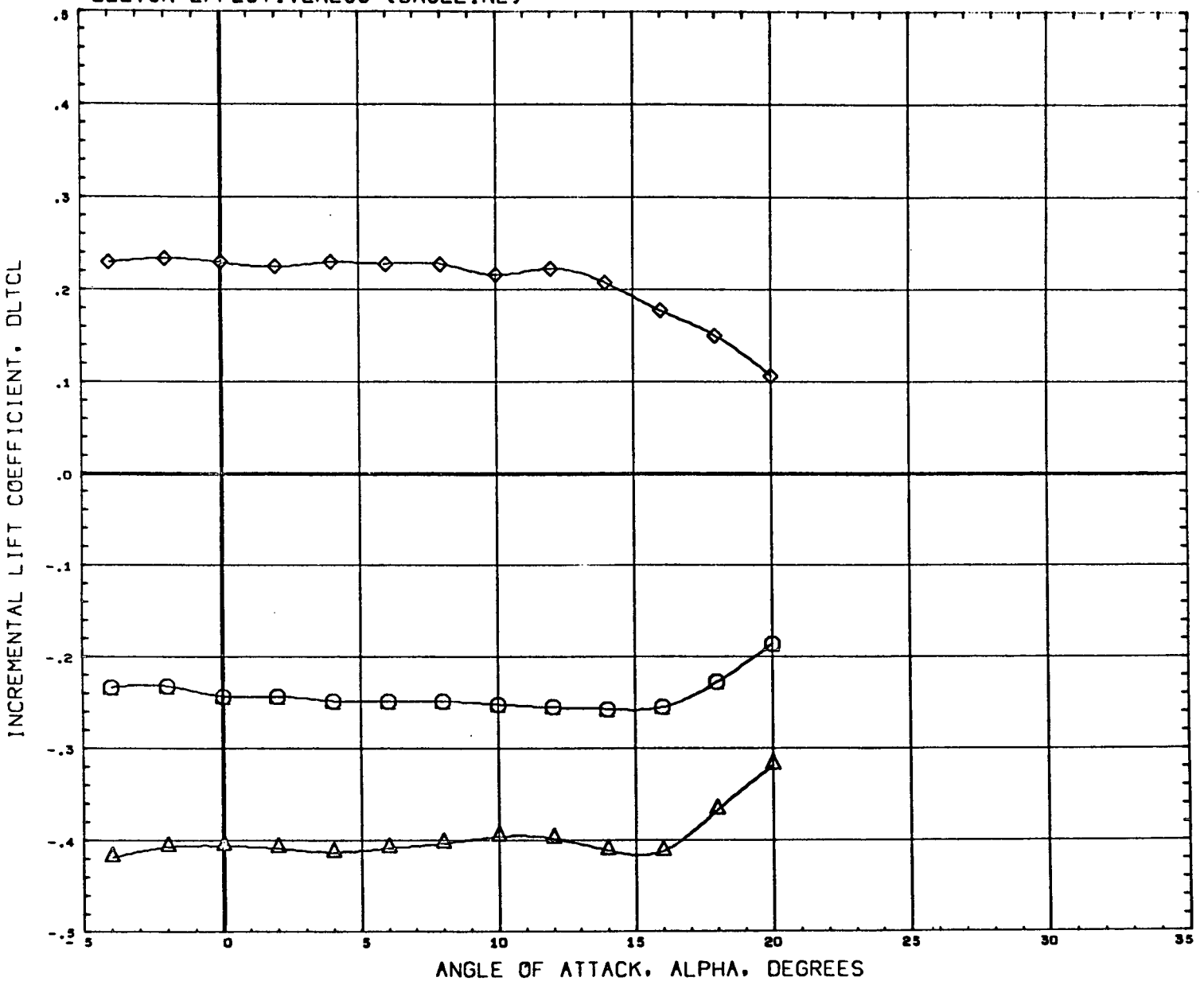


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69S0A)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E69S0B)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E69S0C)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

ELEVON EFFECTIVENESS (BASELINE)



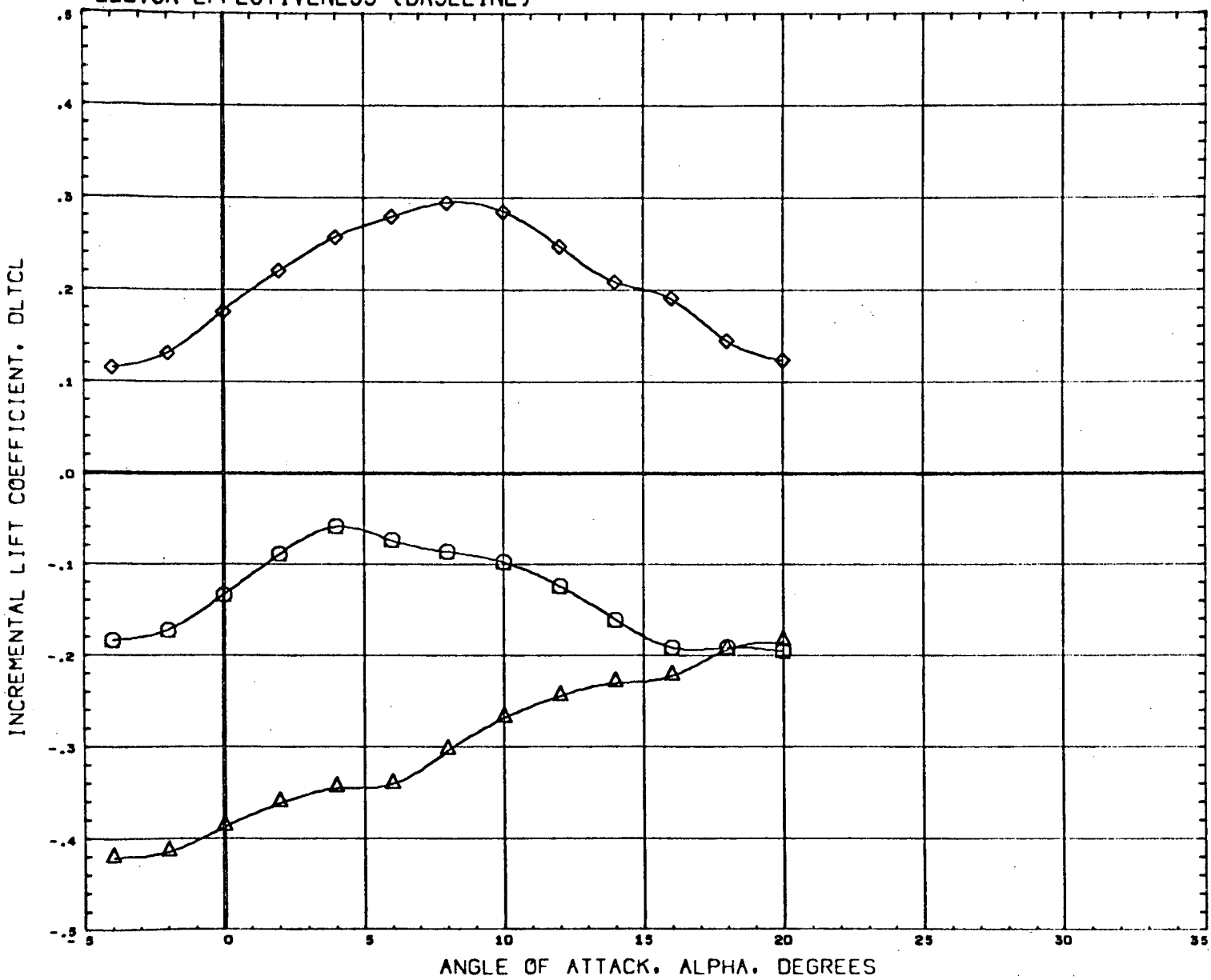
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69S0A)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E69S0B)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E69S0C)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

E

ELEVON EFFECTIVENESS (BASELINE)

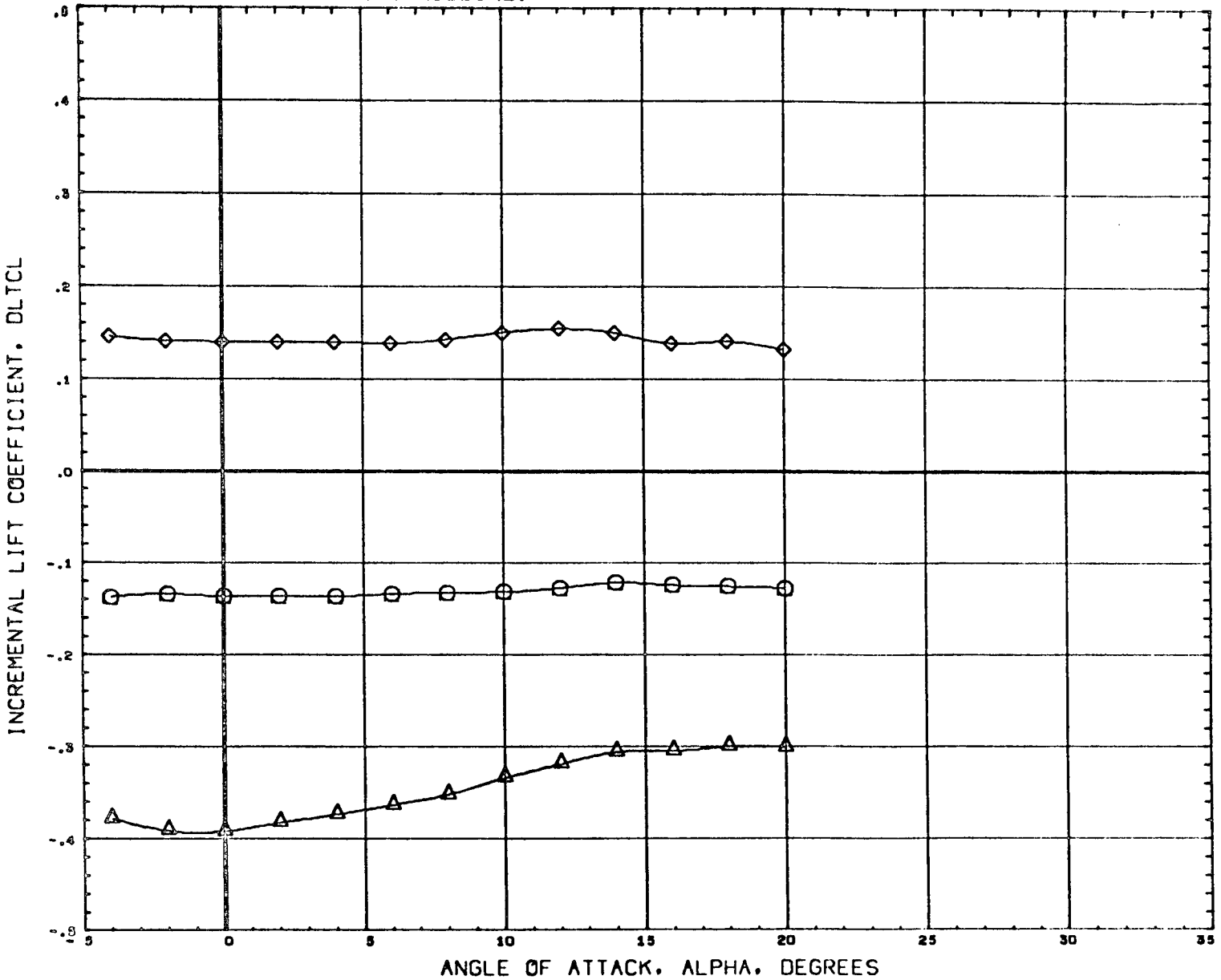


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69S0A)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E69S0B)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E69S0C)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

ELEVON EFFECTIVENESS (BASELINE)

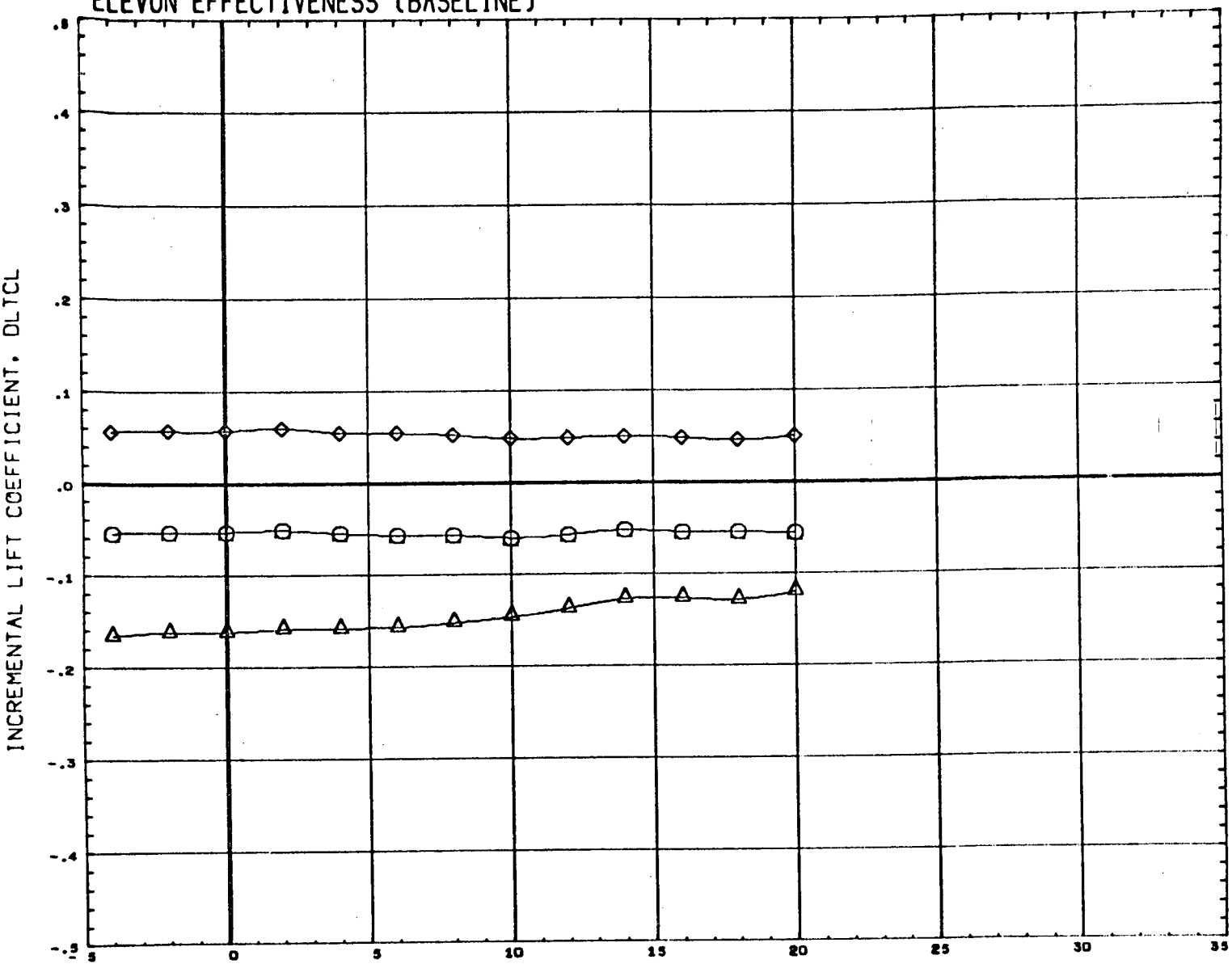


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E6930A)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E6930B)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E6930C)	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

ELEVON EFFECTIVENESS (BASELINE)

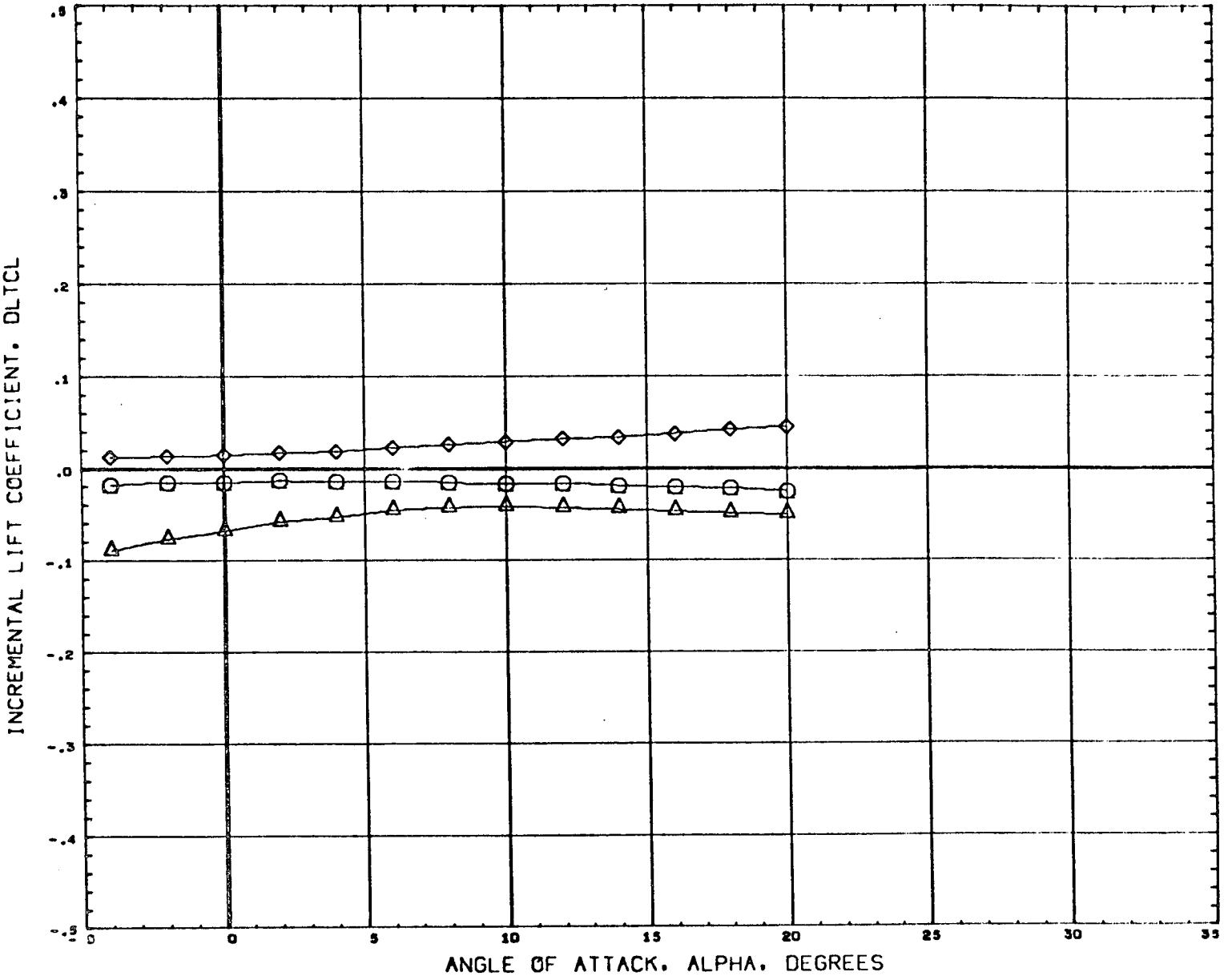


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69S0A) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E69S0B) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E69S0C) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0260	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.96

ELEVON EFFECTIVENESS (BASELINE)

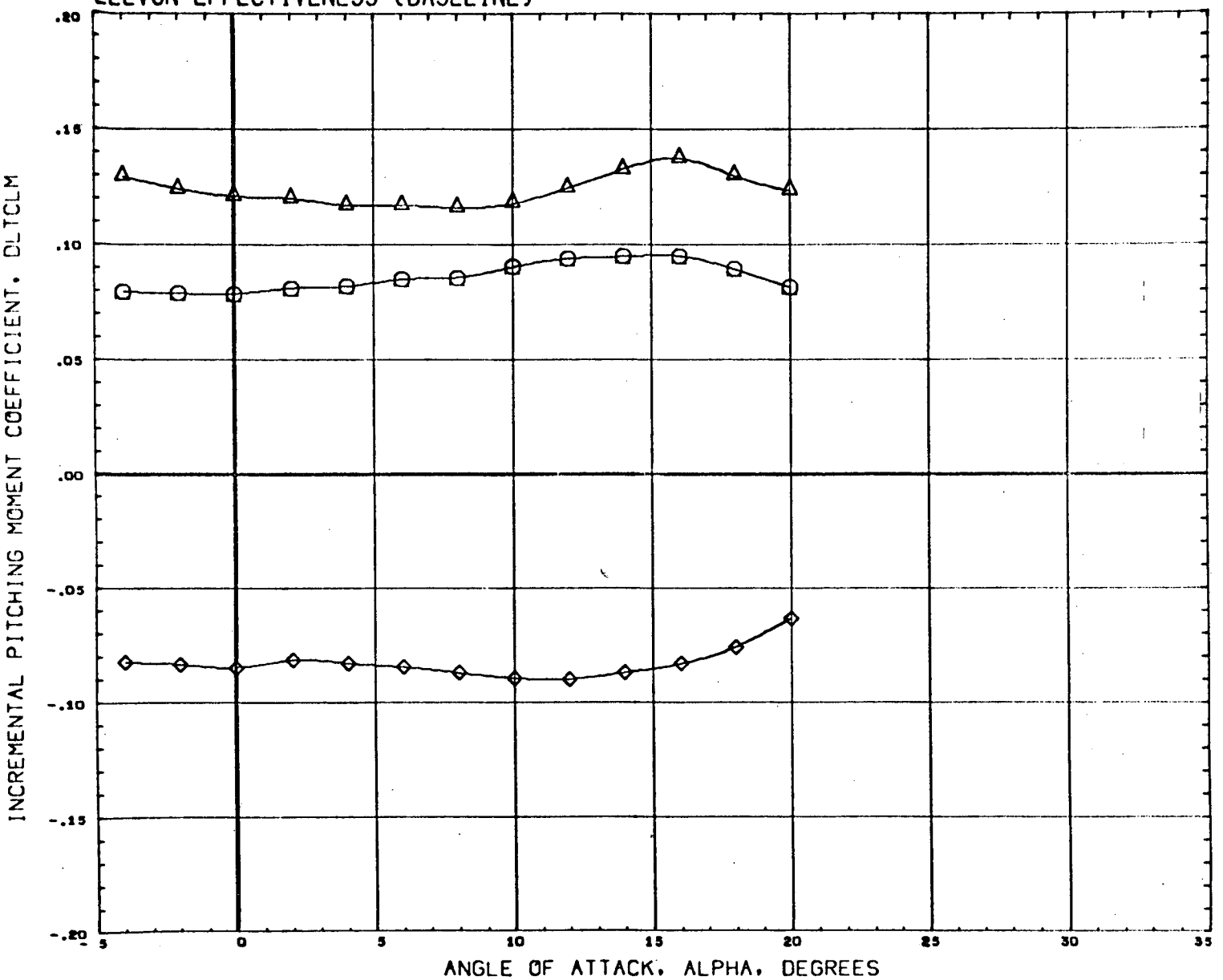


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E6930A) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E6950B) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E6950C) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

ELEVON EFFECTIVENESS (BASELINE)

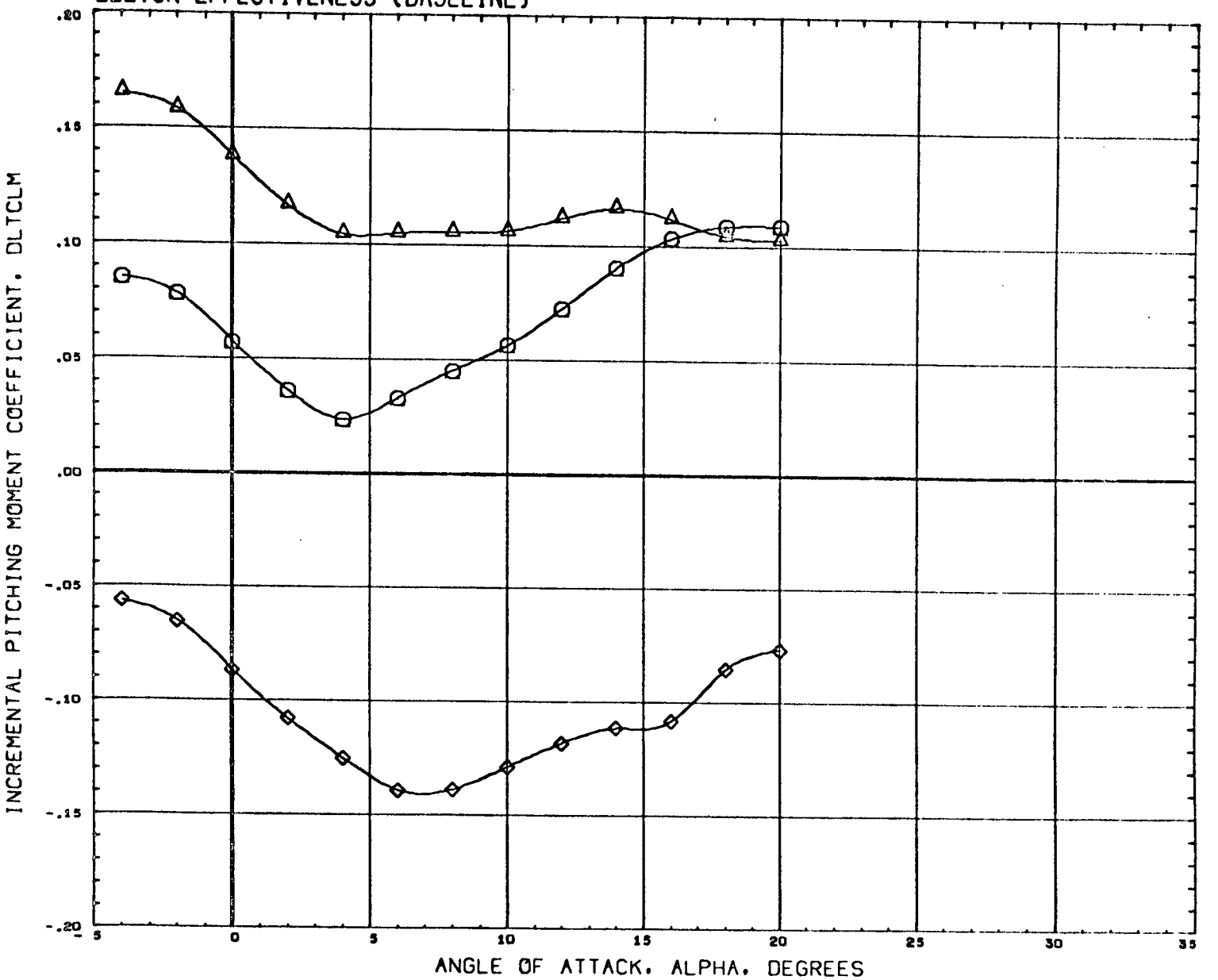


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69SDA) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E69SDB) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E69SDC) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

ELEVON EFFECTIVENESS (BASELINE)

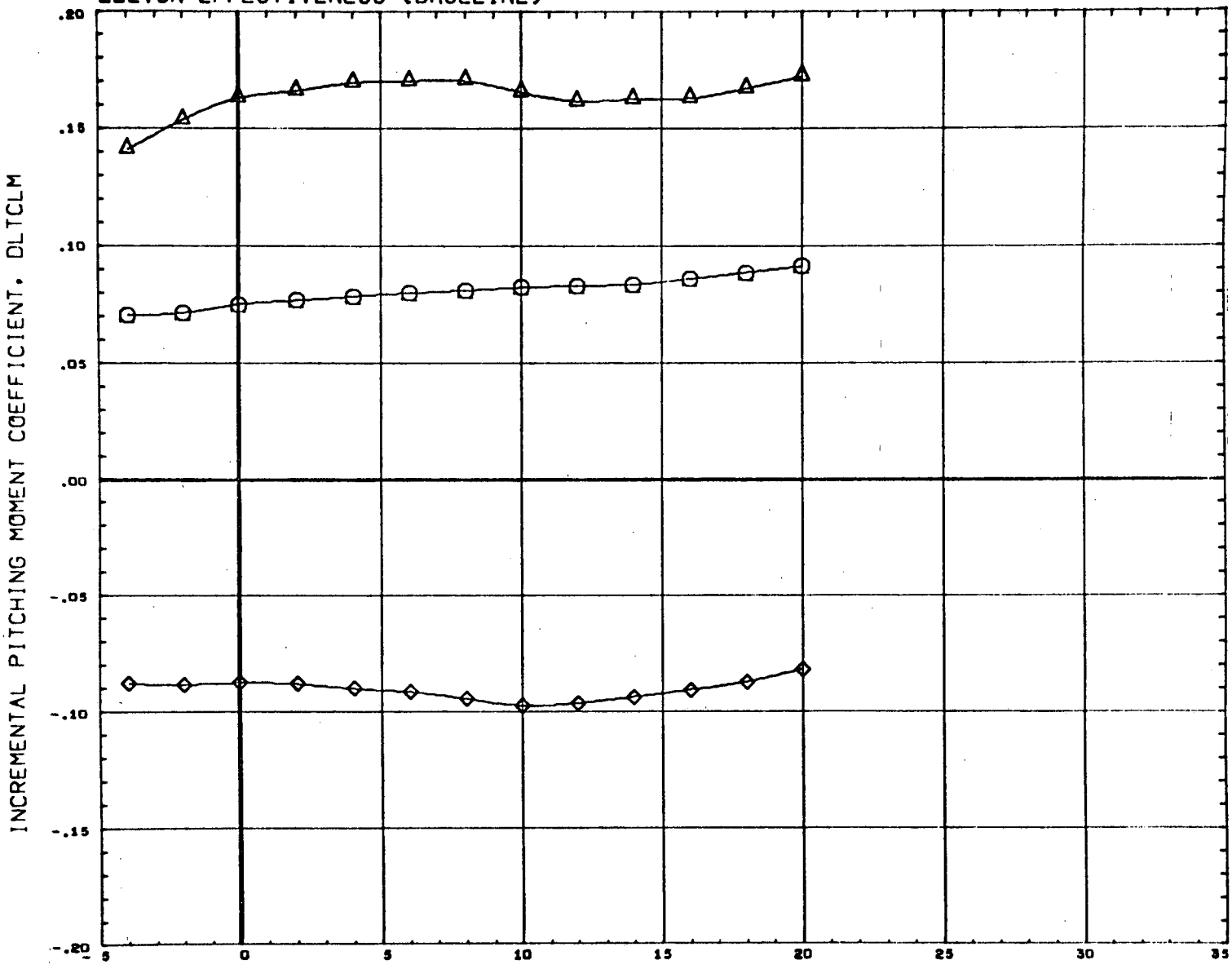


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69S0A) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E69S0B) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E69S0C) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

ELEVON EFFECTIVENESS (BASELINE)

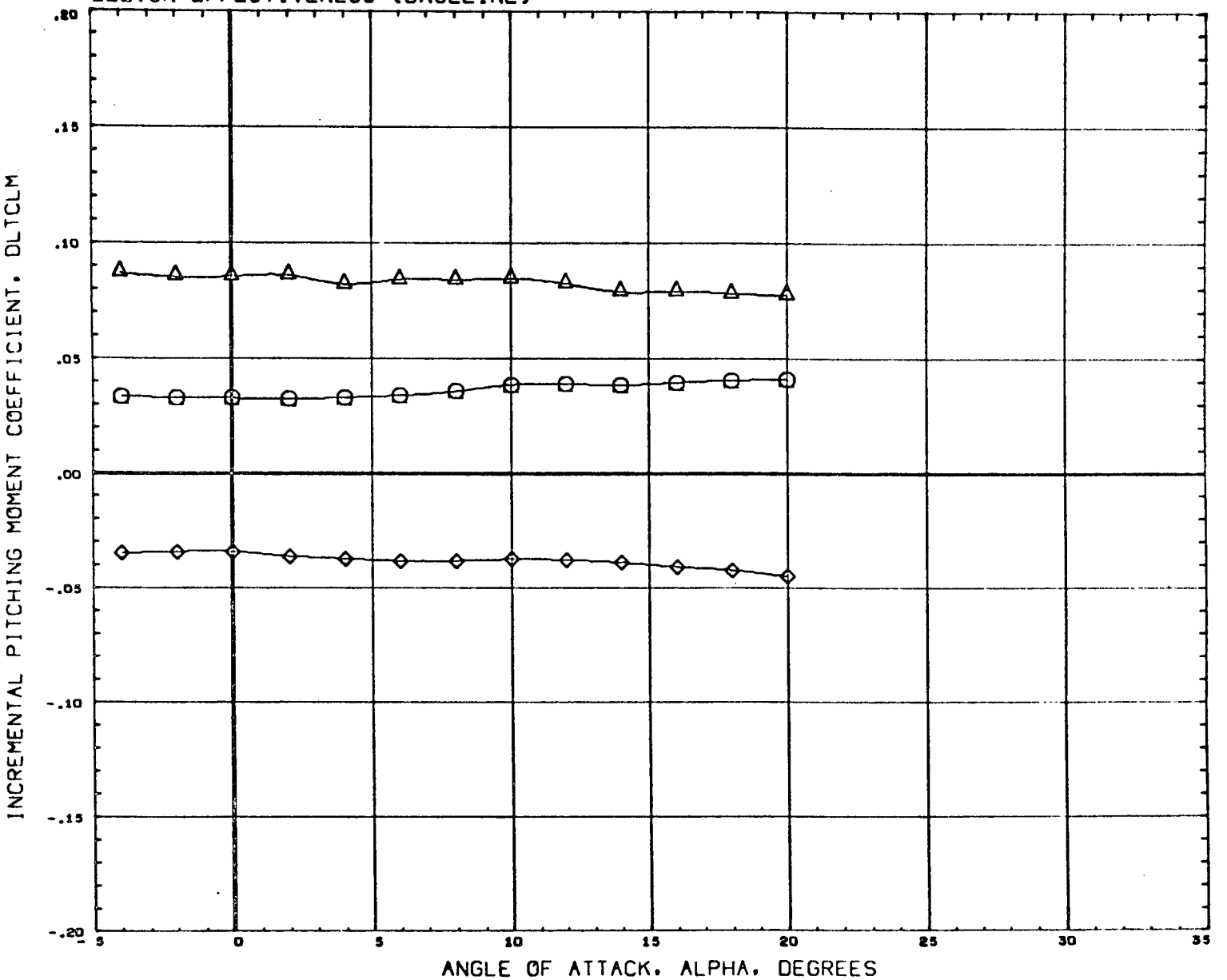


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E6950A) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E6950B) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E6950C) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

ELEVON EFFECTIVENESS (BASELINE)

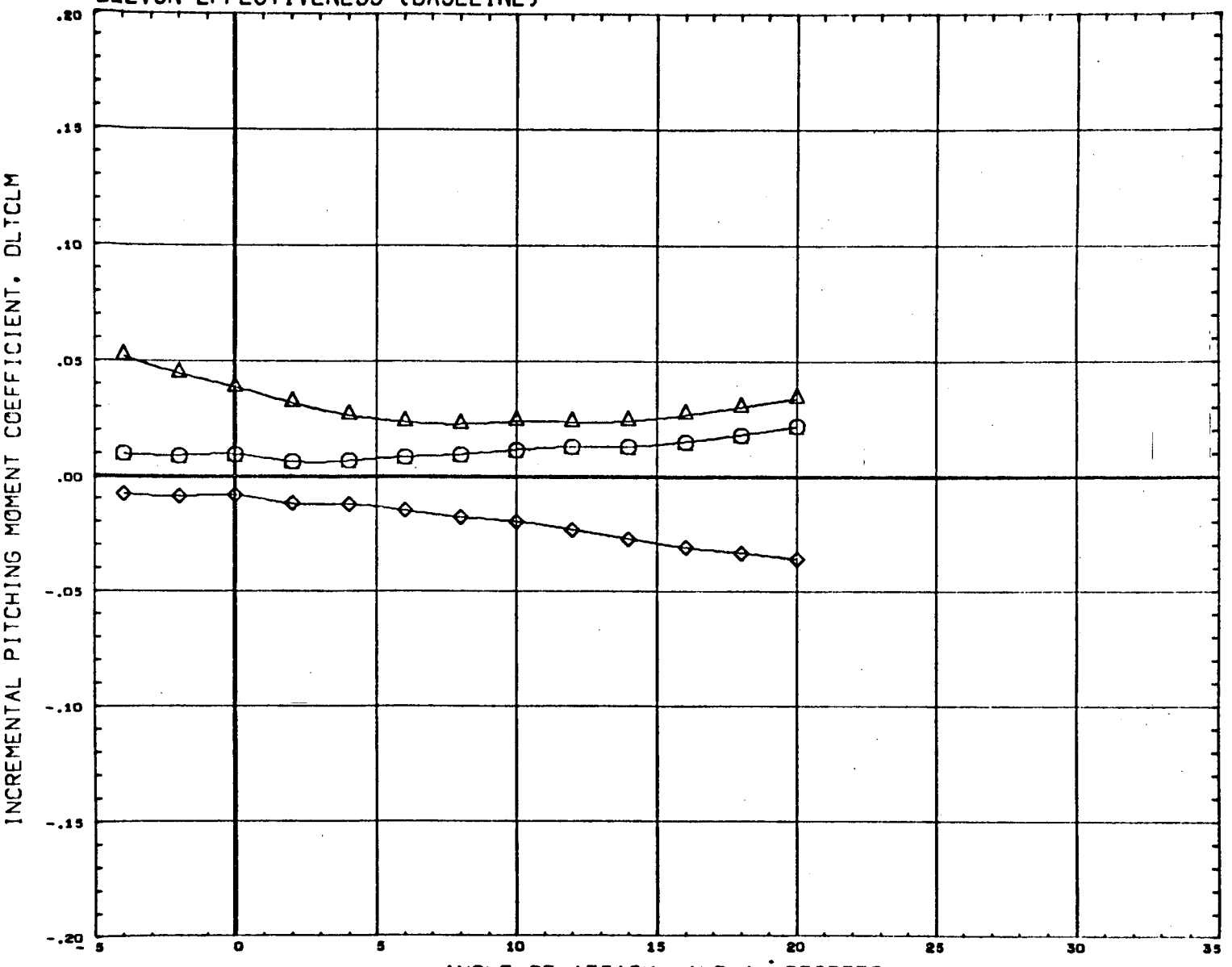


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69S0A) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E69S0B) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E69S0C) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.96

ELEVON EFFECTIVENESS (BASELINE)

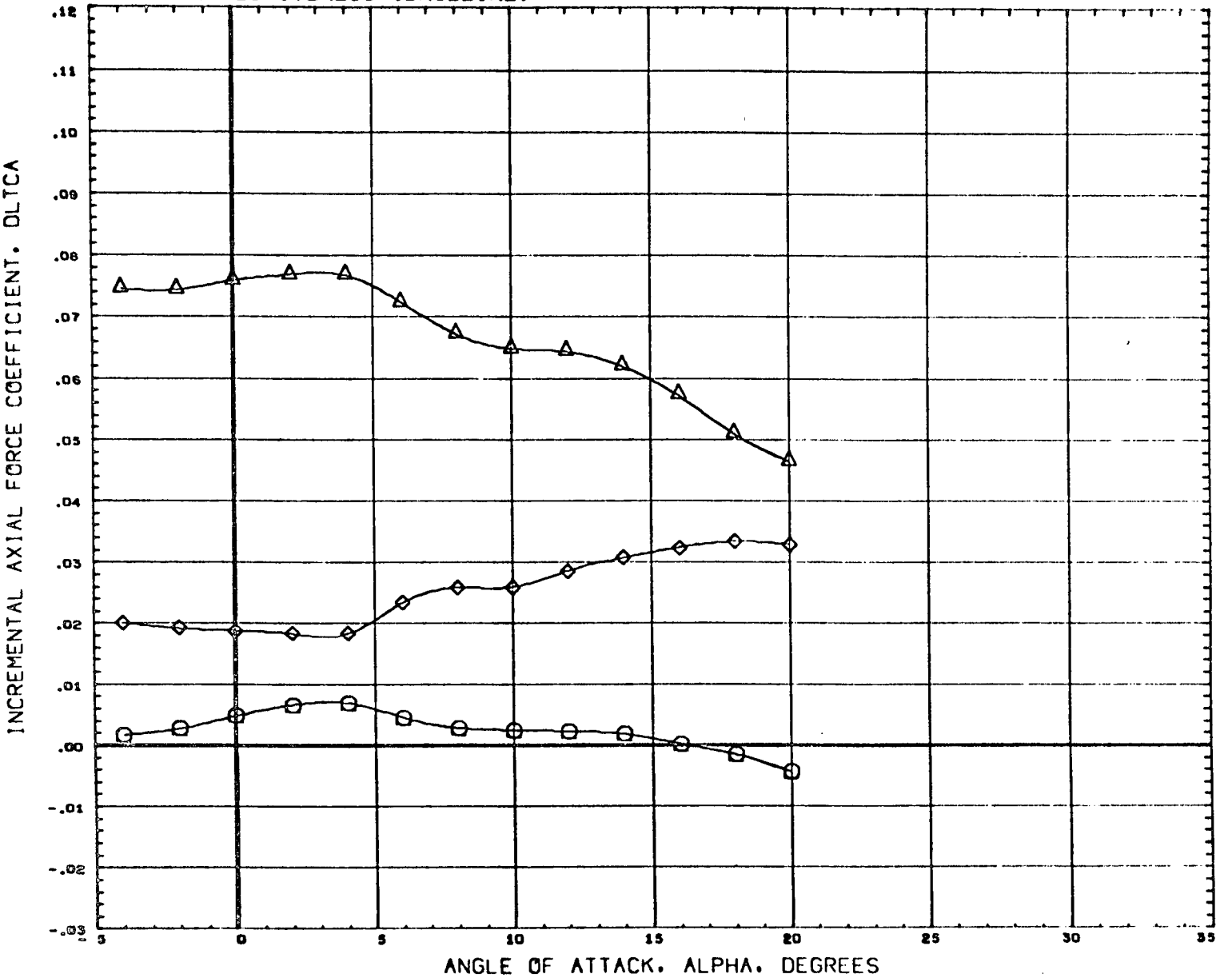


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E6950A)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E6950C)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E6950C)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

ELEVON EFFECTIVENESS (BASELINE)

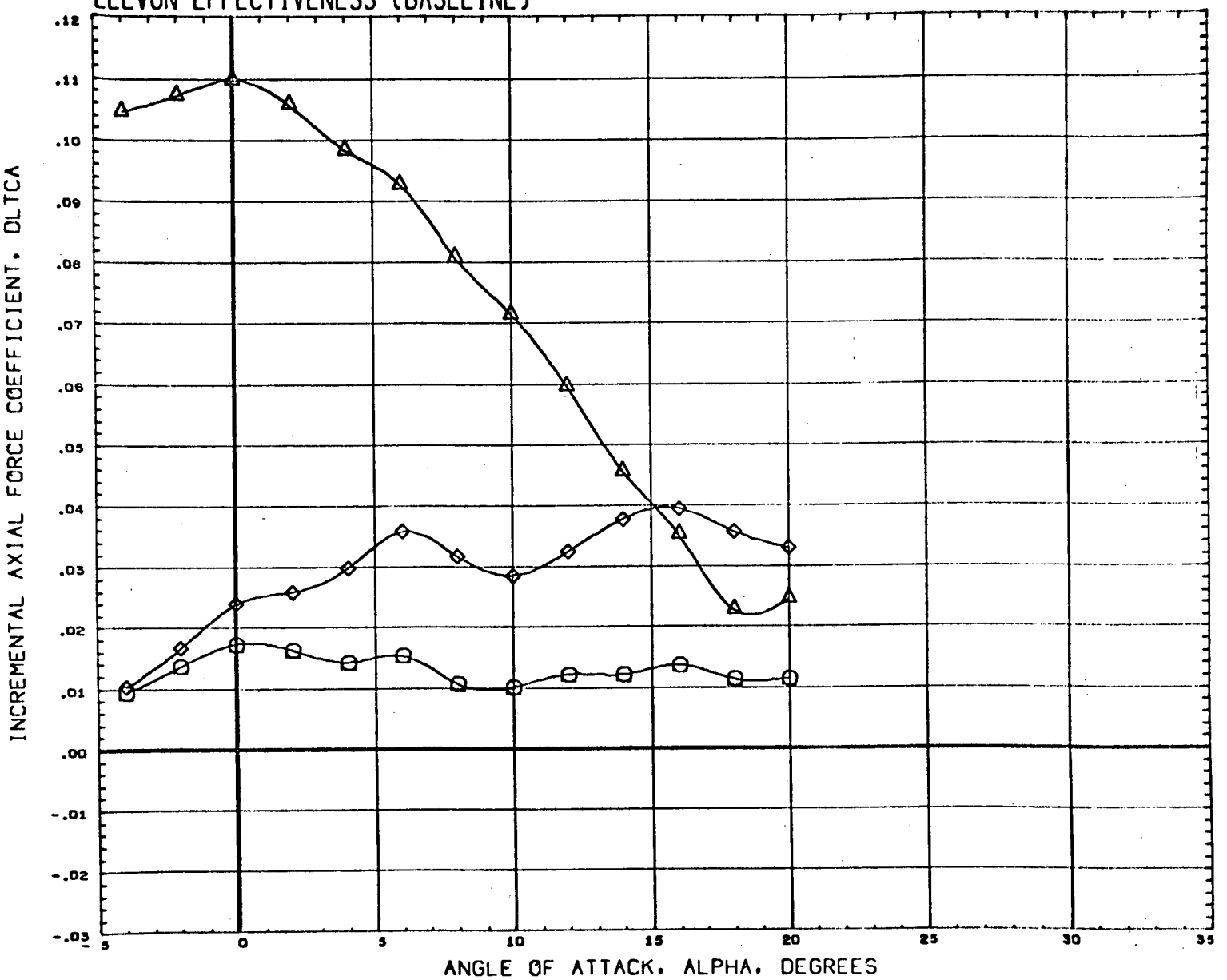


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69S0A)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E69S0B)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E69S0C)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

ELEVON EFFECTIVENESS (BASELINE)

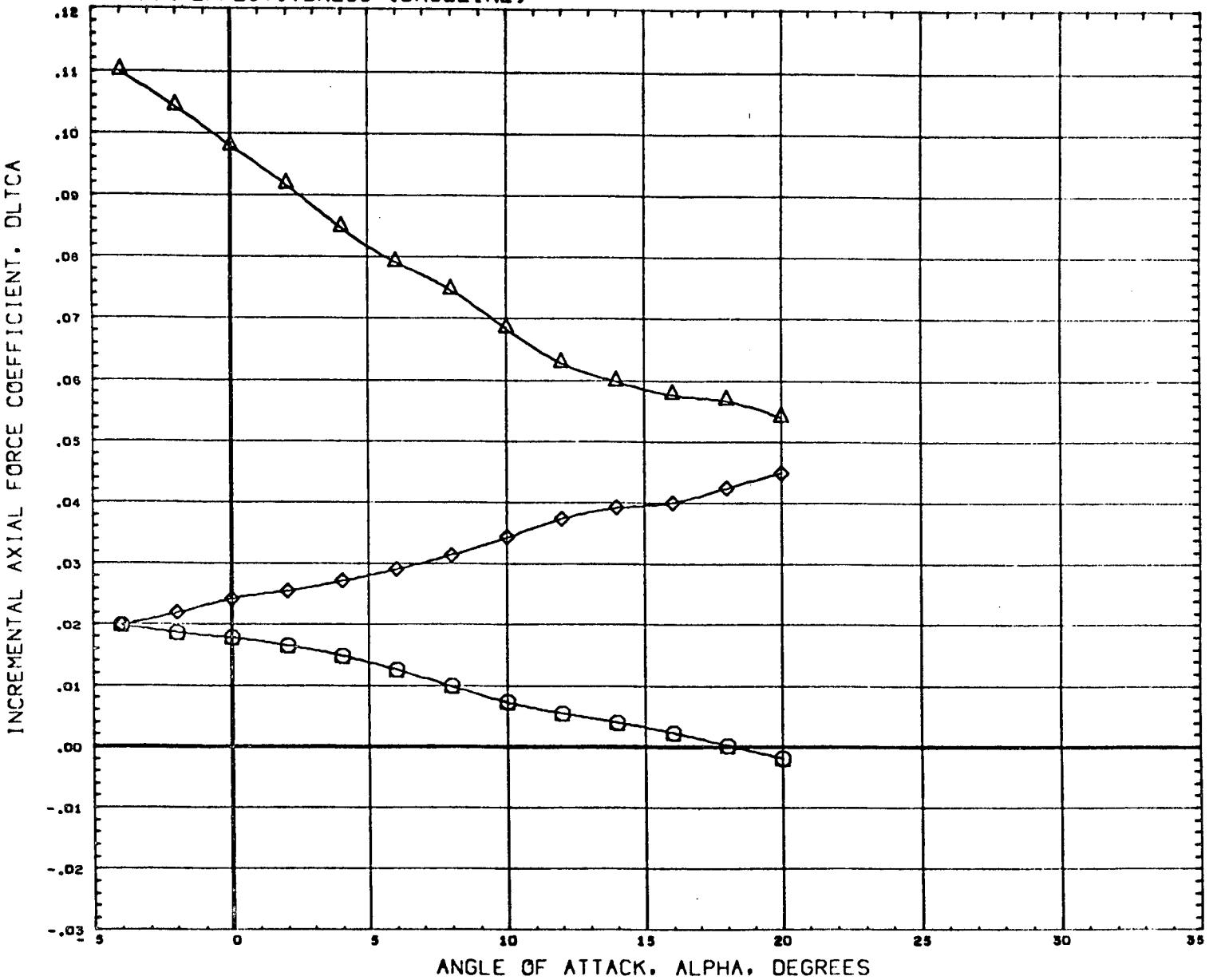


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E6950A) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E6950B) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E6950C) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

ELEVON EFFECTIVENESS (BASELINE)



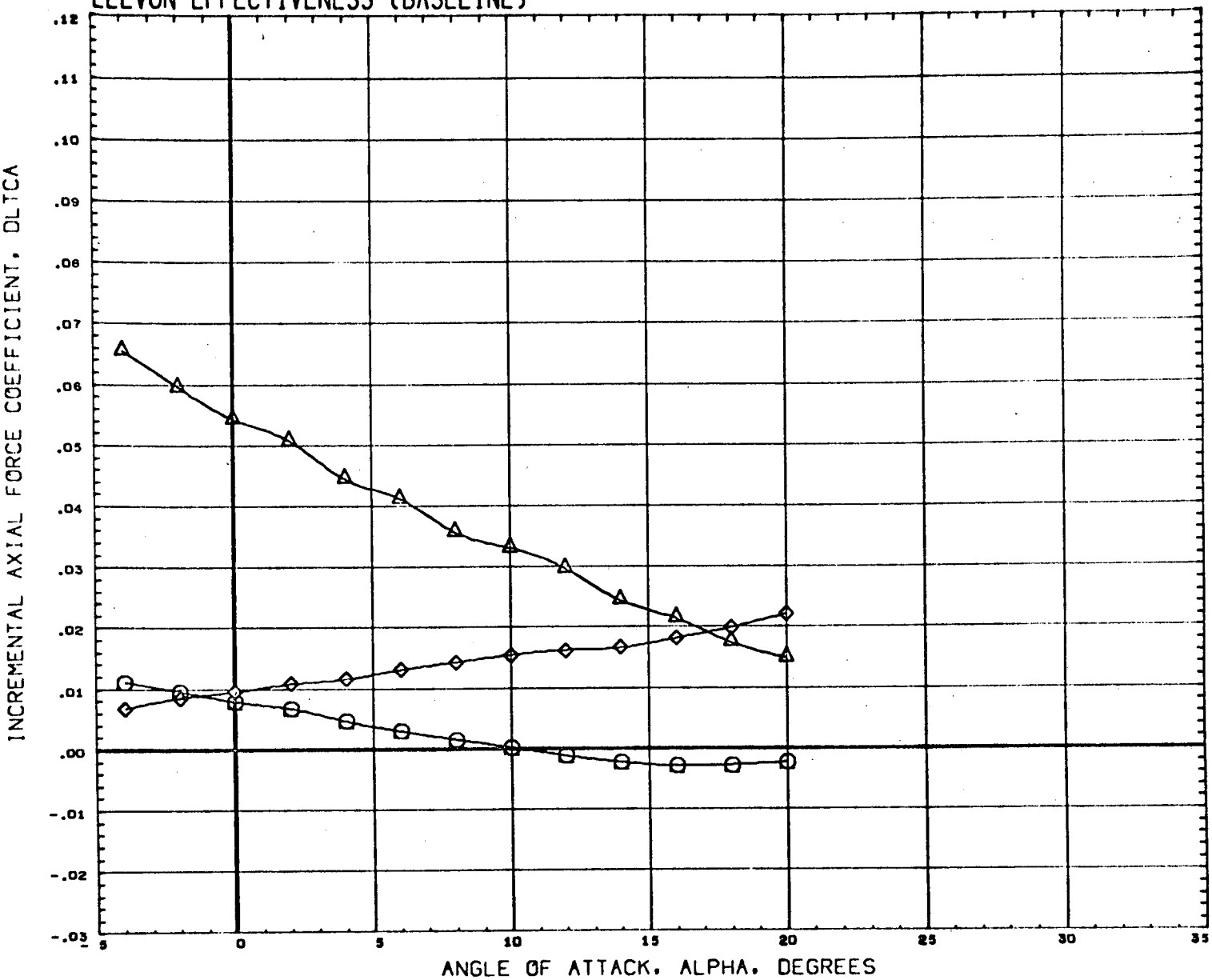
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69S0A)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E69S0B)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E69S0C)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

F

ELEVON EFFECTIVENESS (BASELINE)

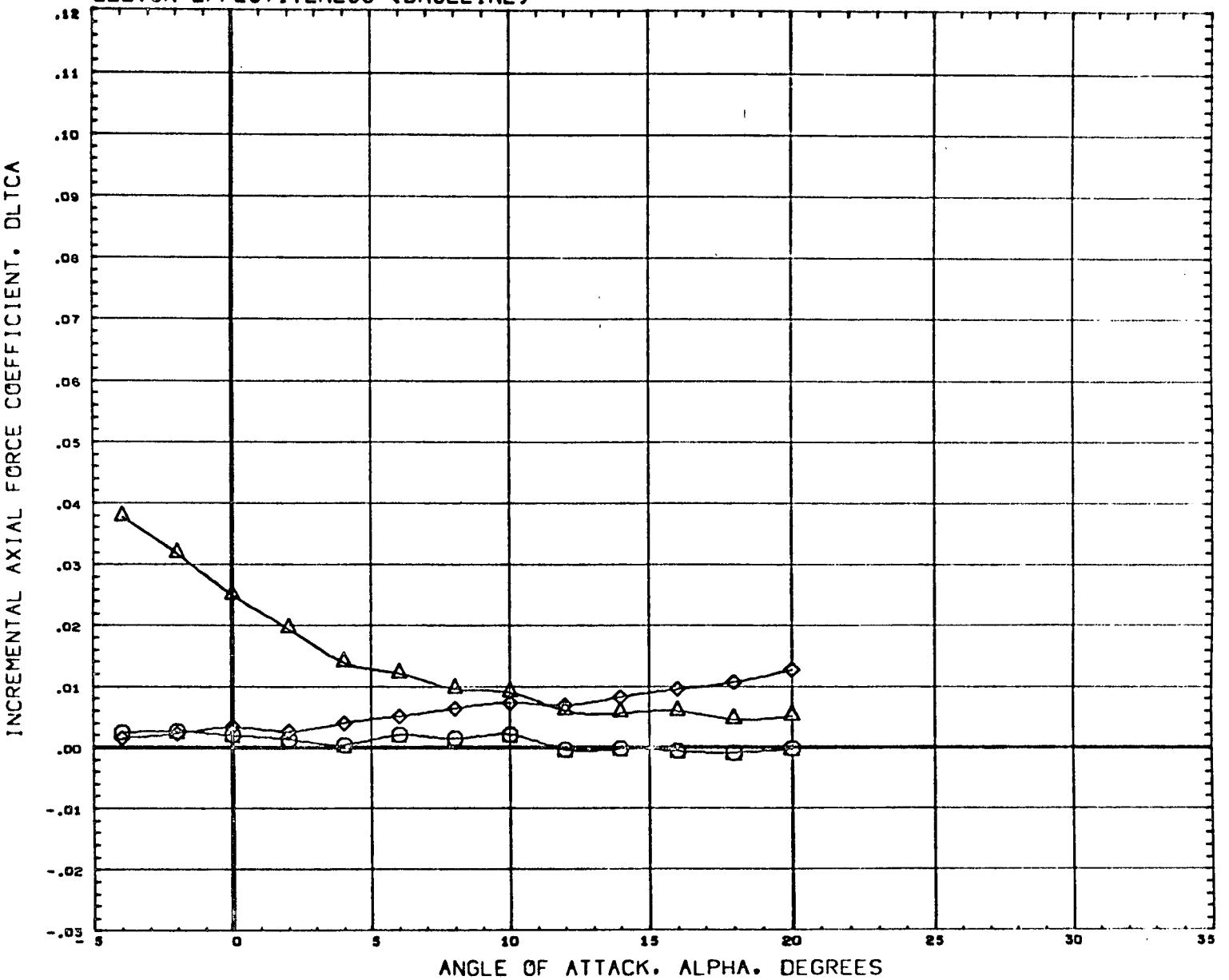


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69S0A) ○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E69S0B) △	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E69S0C) ◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.96

ELEVON EFFECTIVENESS (BASELINE)

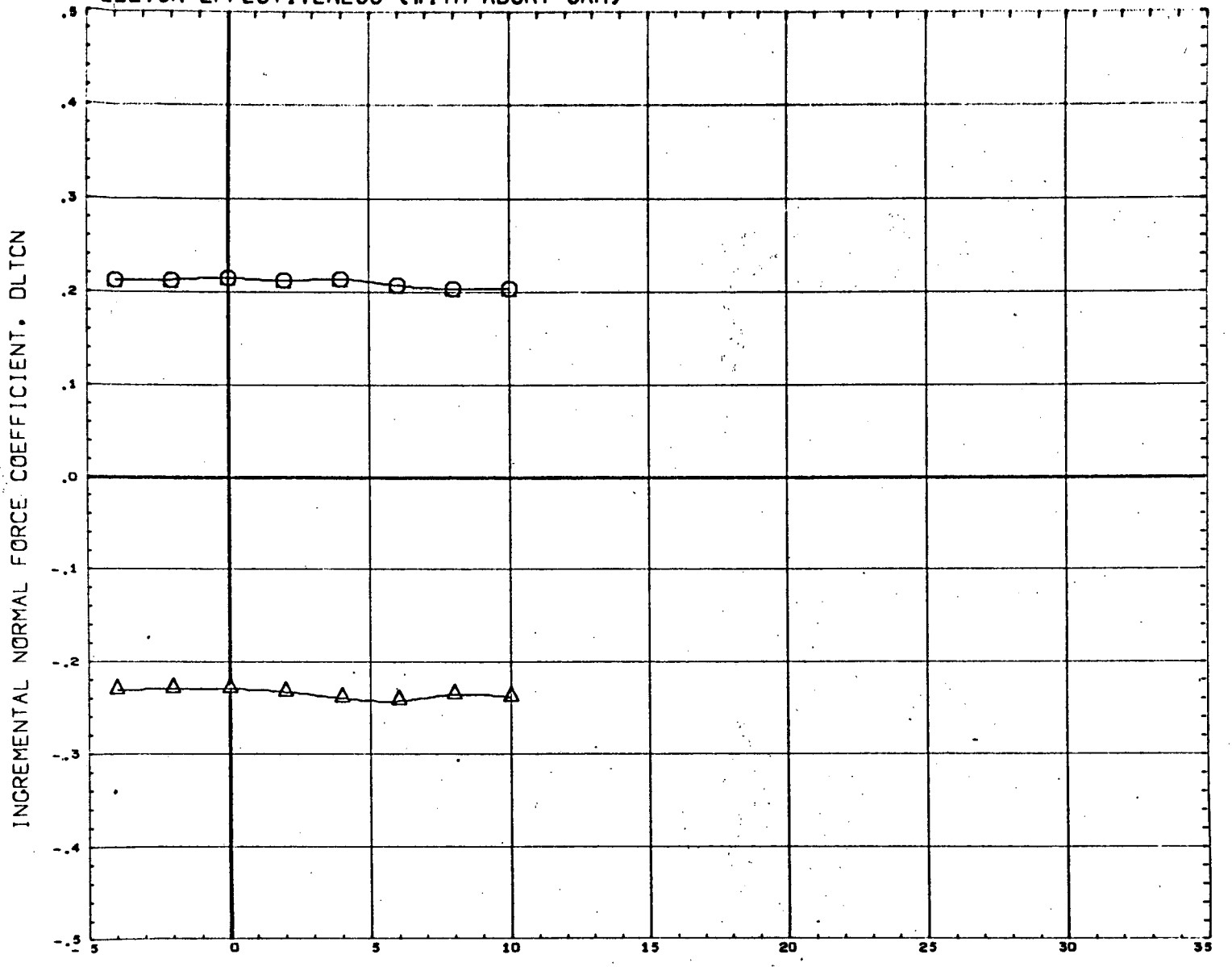


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69S0A)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-10.000	0.000	0.000	0.000
(E69S0B)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	-30.000	0.000	0.000	0.000
(E69S0C)	◇	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1	10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 4.96

ELEVON EFFECTIVENESS (WITH ABORT SRM)

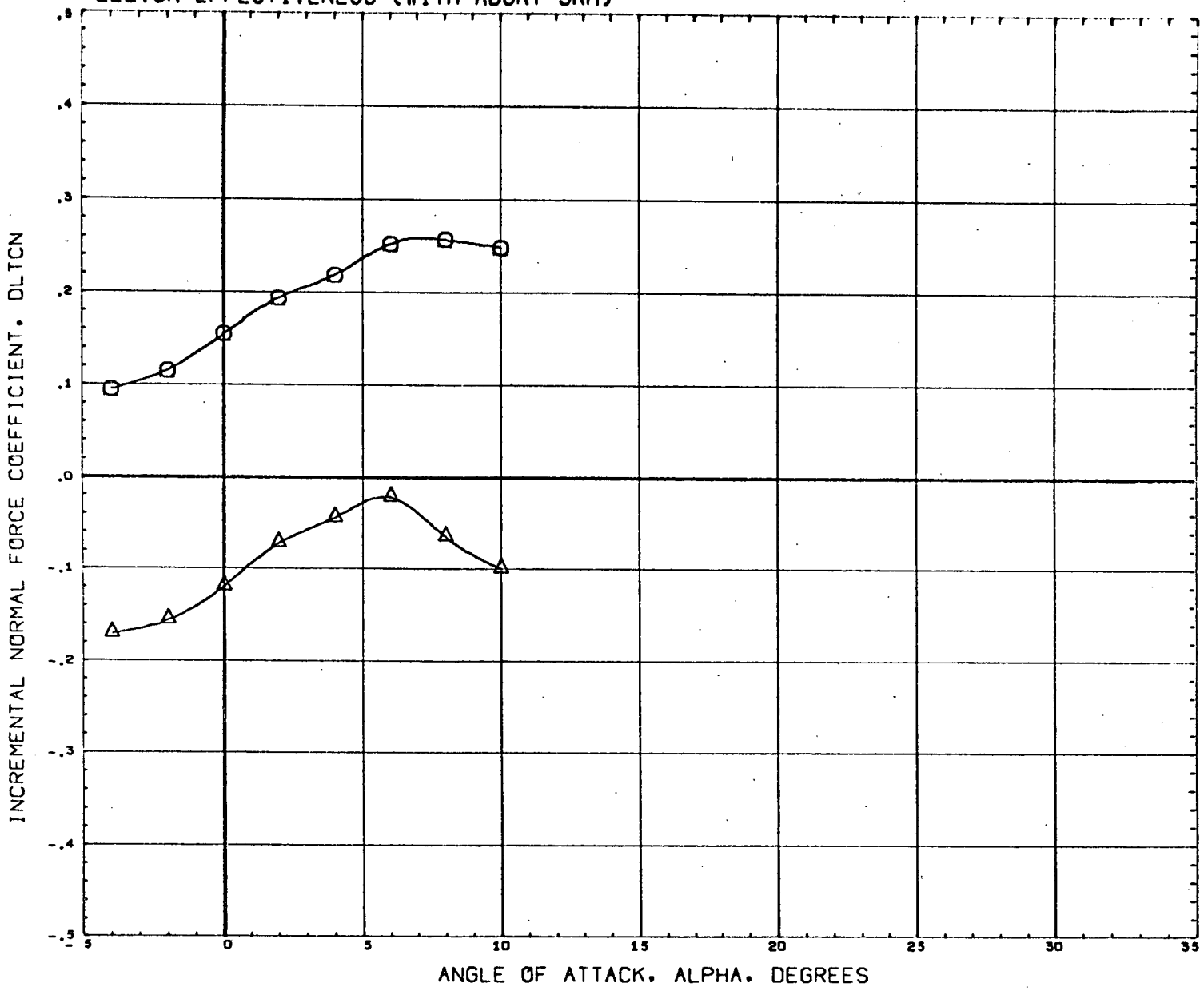


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69017)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(E69018)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

ELEVON EFFECTIVENESS (WITH ABORT SRM)

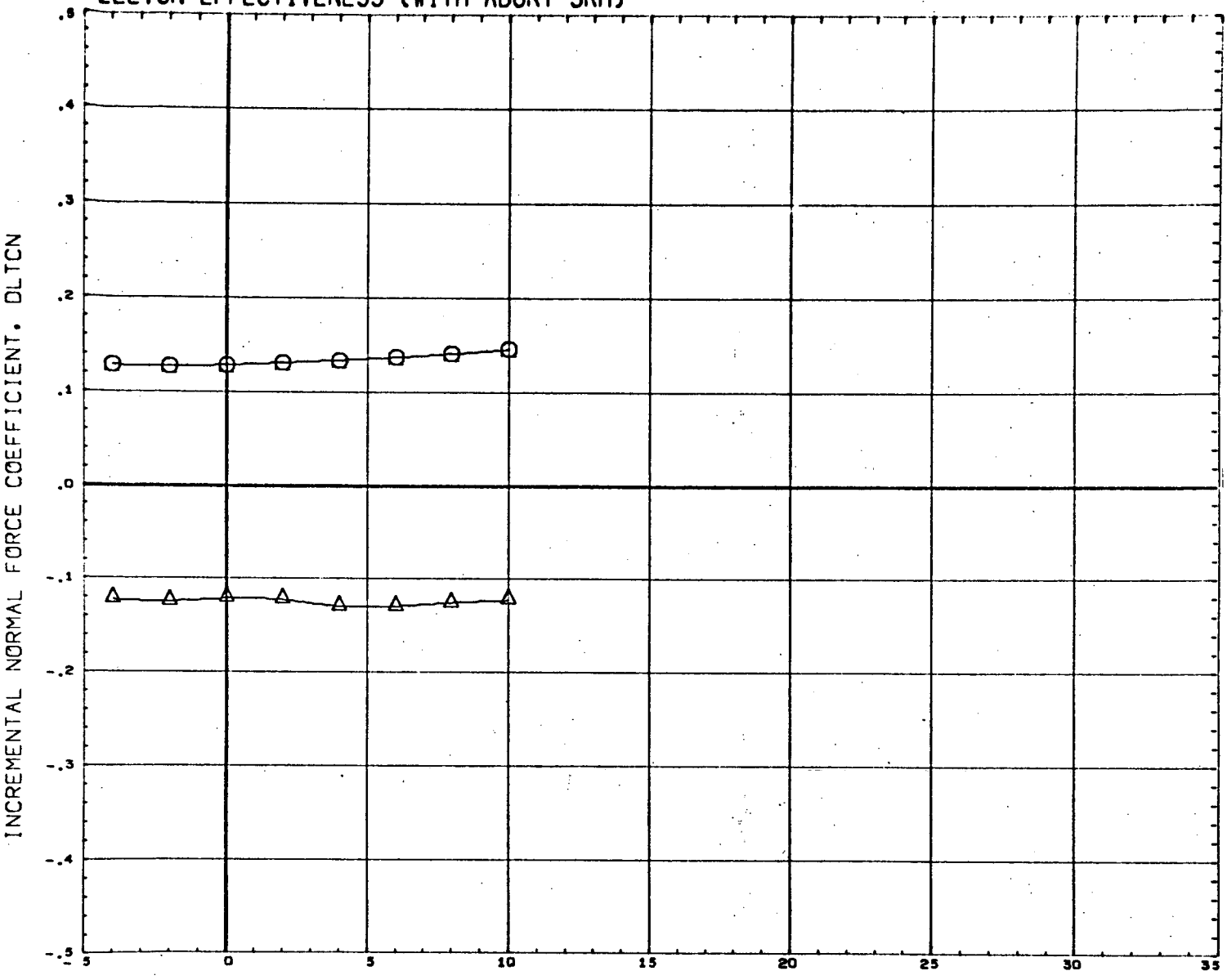


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69017)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(E69018)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

ELEVON EFFECTIVENESS (WITH ABORT SRM)

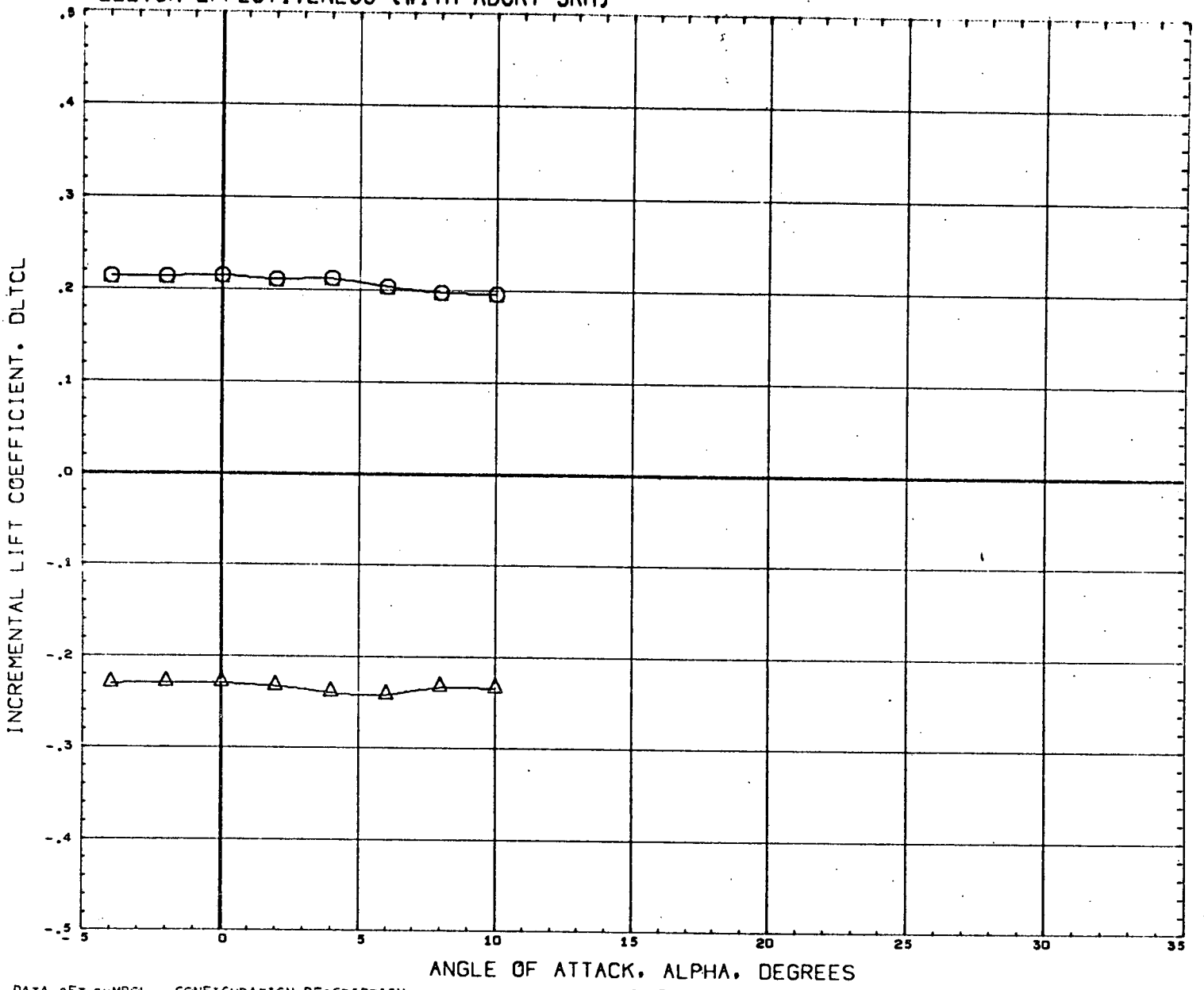


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69017)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(E69018)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

ELEVON EFFECTIVENESS (WITH ABORT SRM)

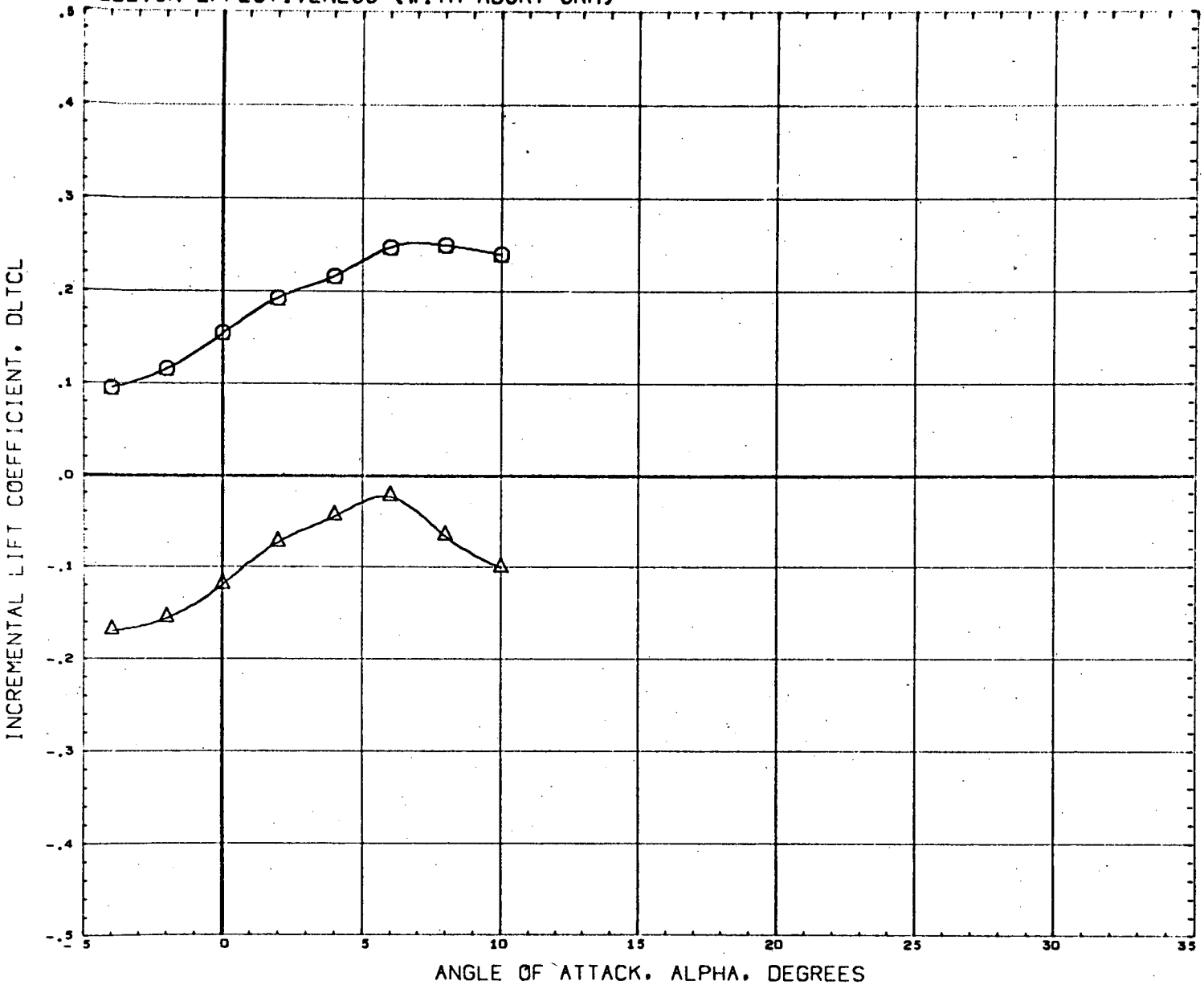


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69017)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(E69018)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

ELEVON EFFECTIVENESS (WITH ABORT SRM)

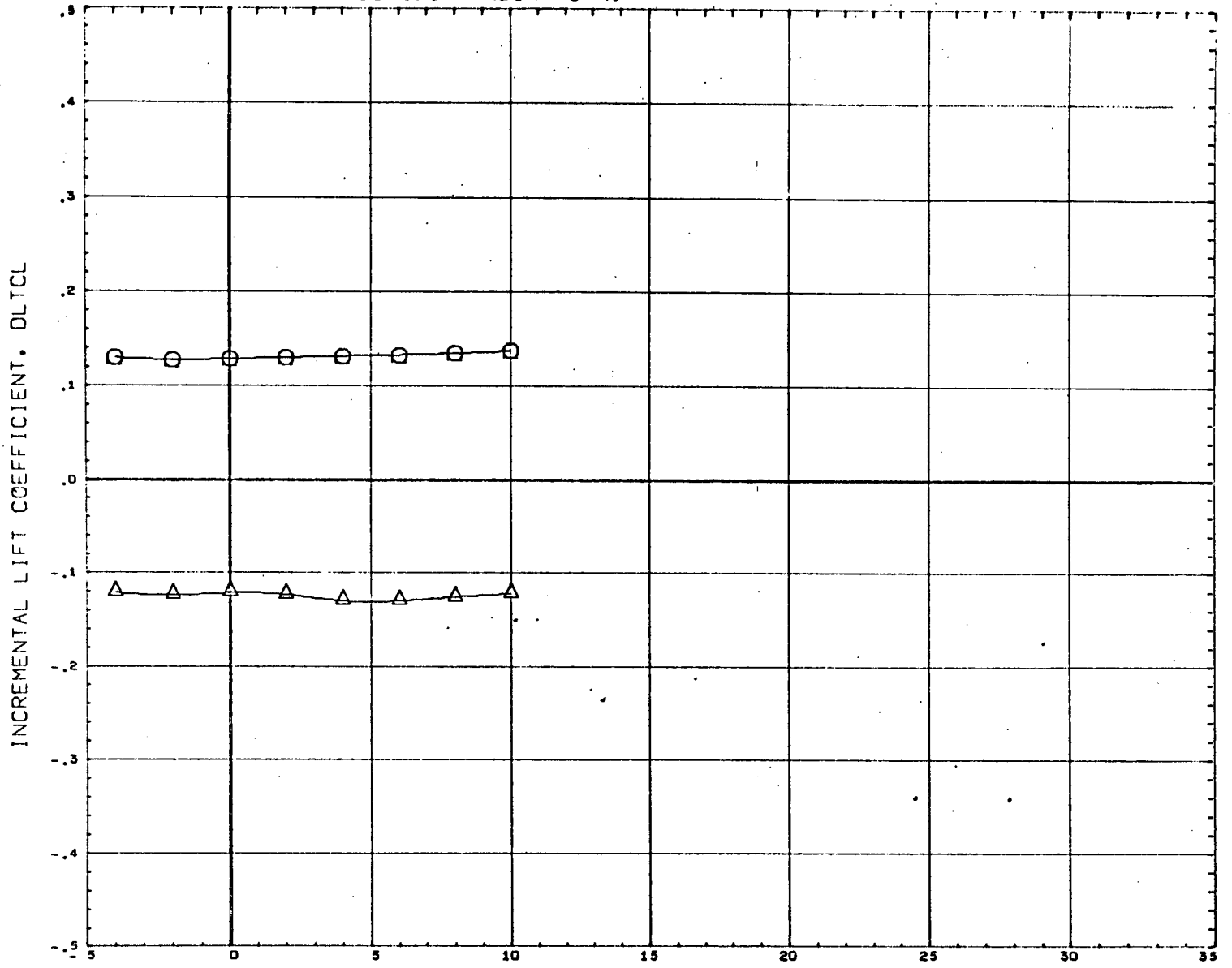


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69017)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(E69018)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

ELEVON EFFECTIVENESS (WITH ABORT SRM)

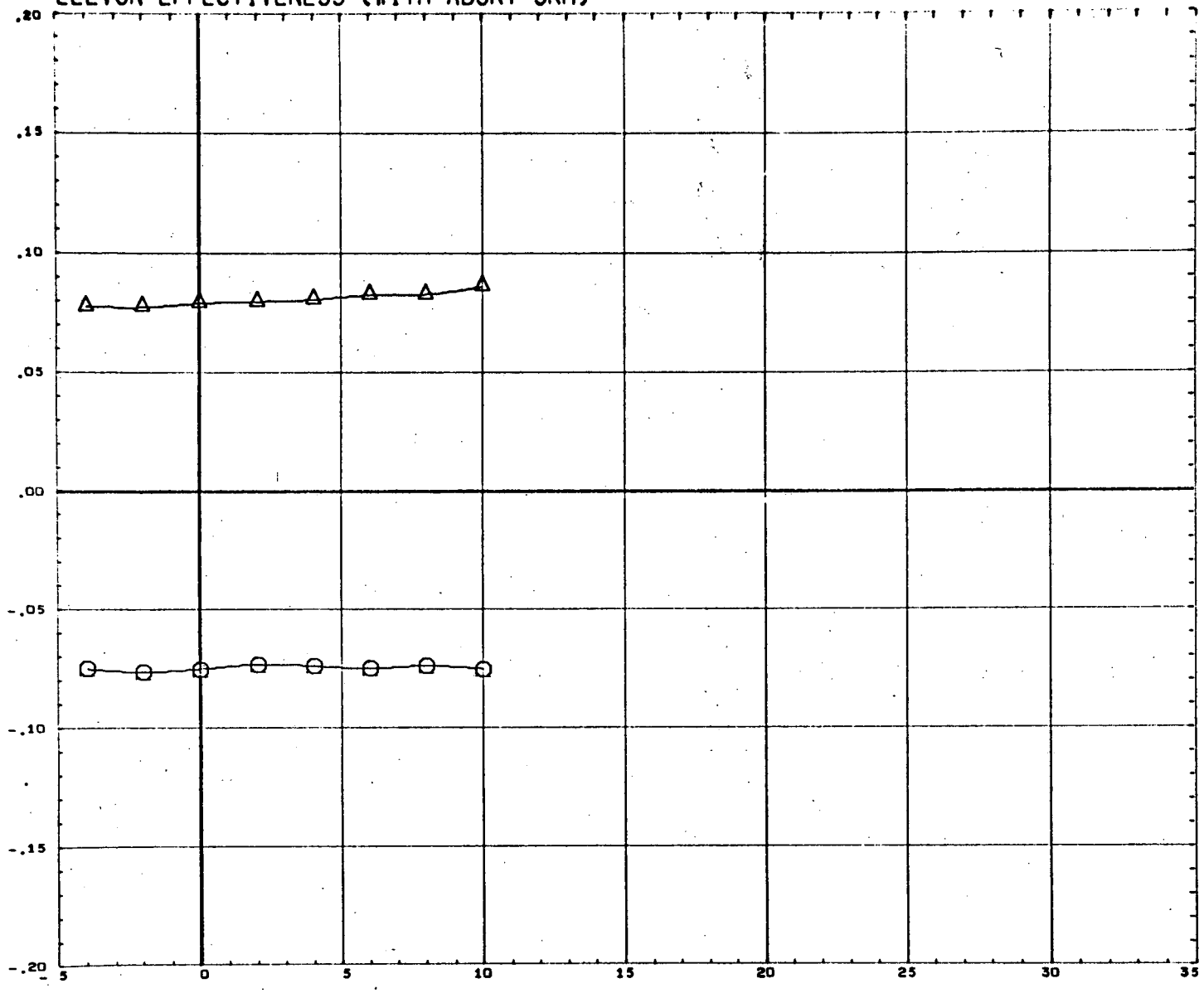


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69017)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(E69018)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

ELEVON EFFECTIVENESS (WITH ABORT SRM)

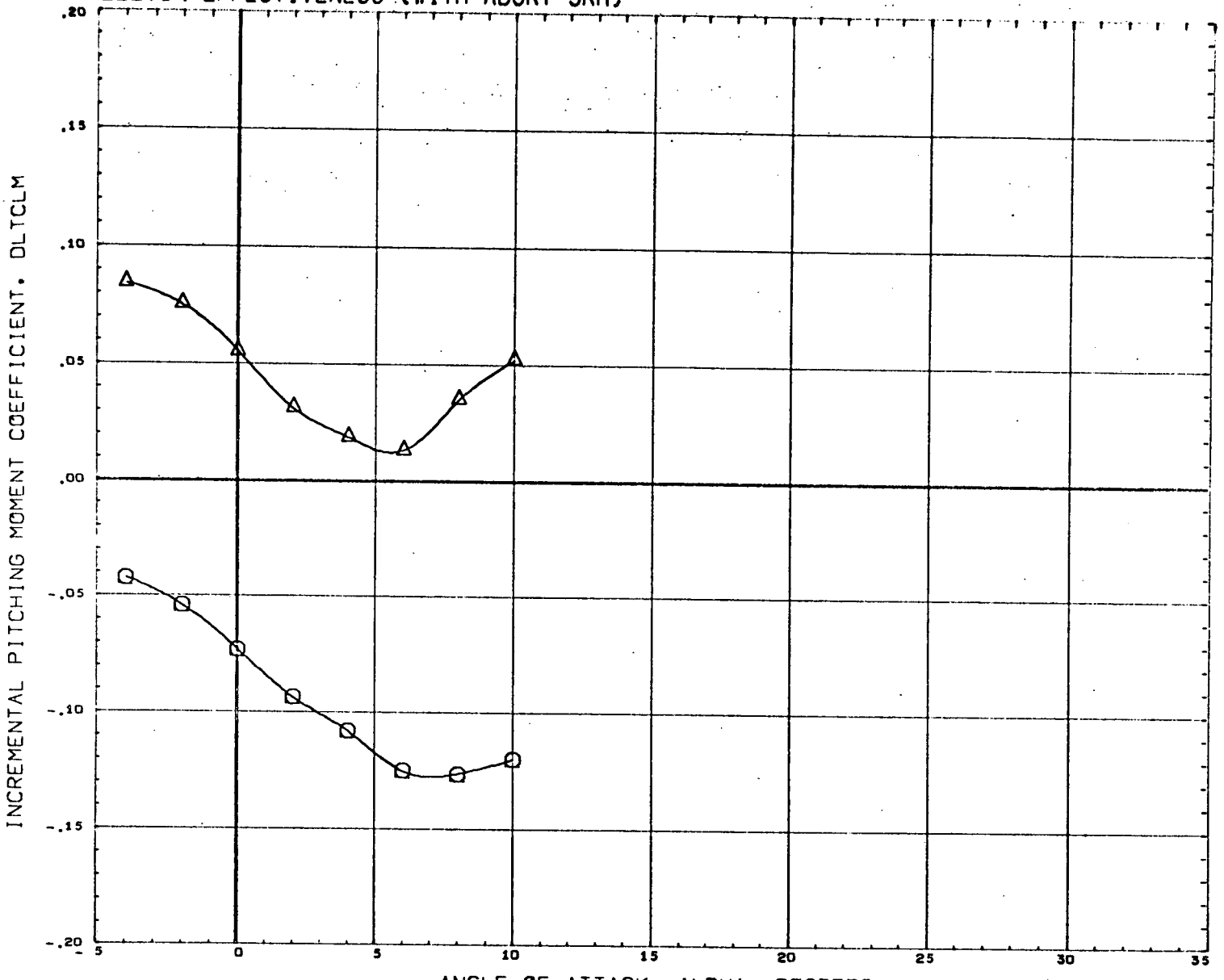


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69017)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(E69018)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8600	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

ELEVON EFFECTIVENESS (WITH ABORT SRM)

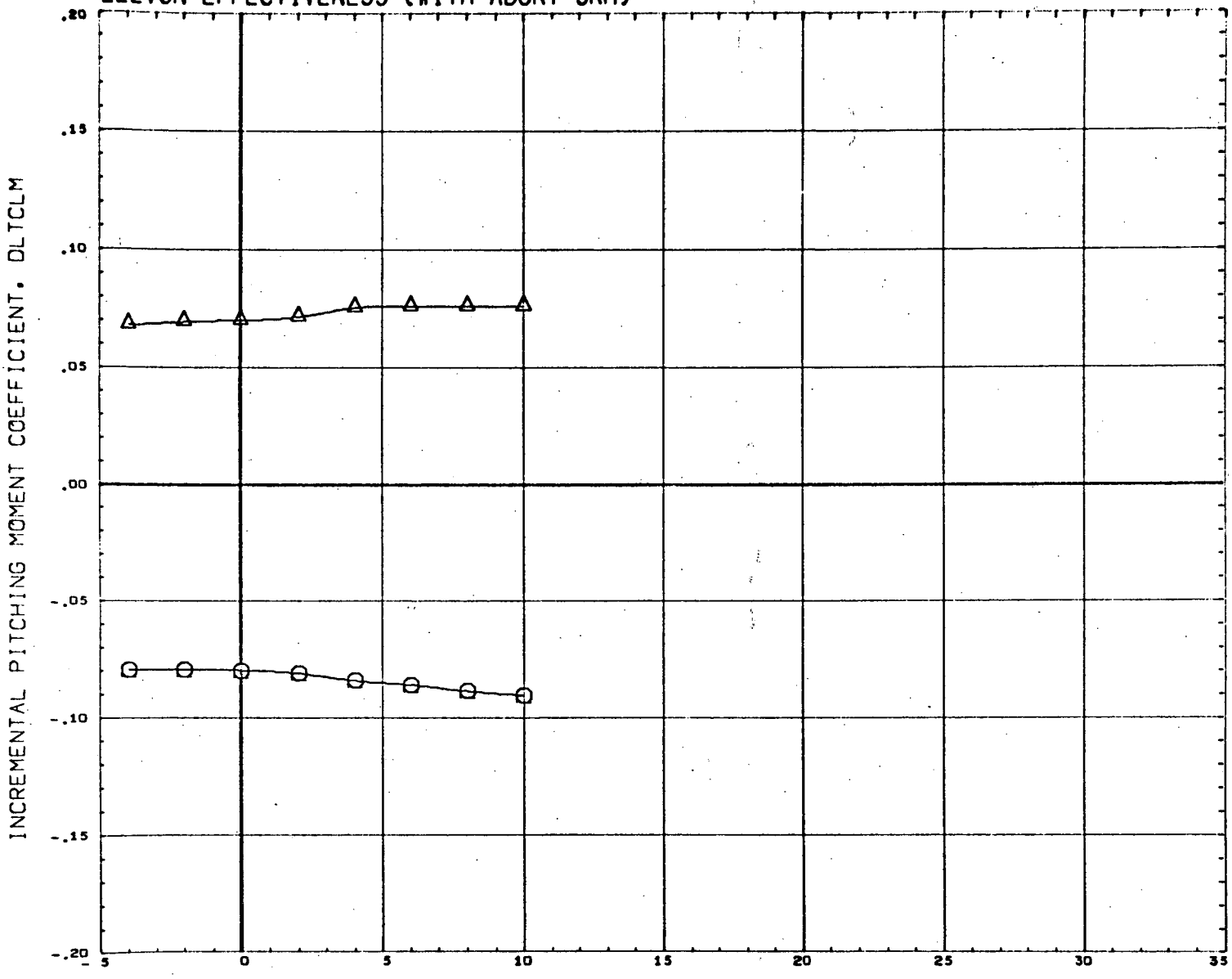


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69017)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(E69018)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

ELEVON EFFECTIVENESS (WITH ABORT SRM)

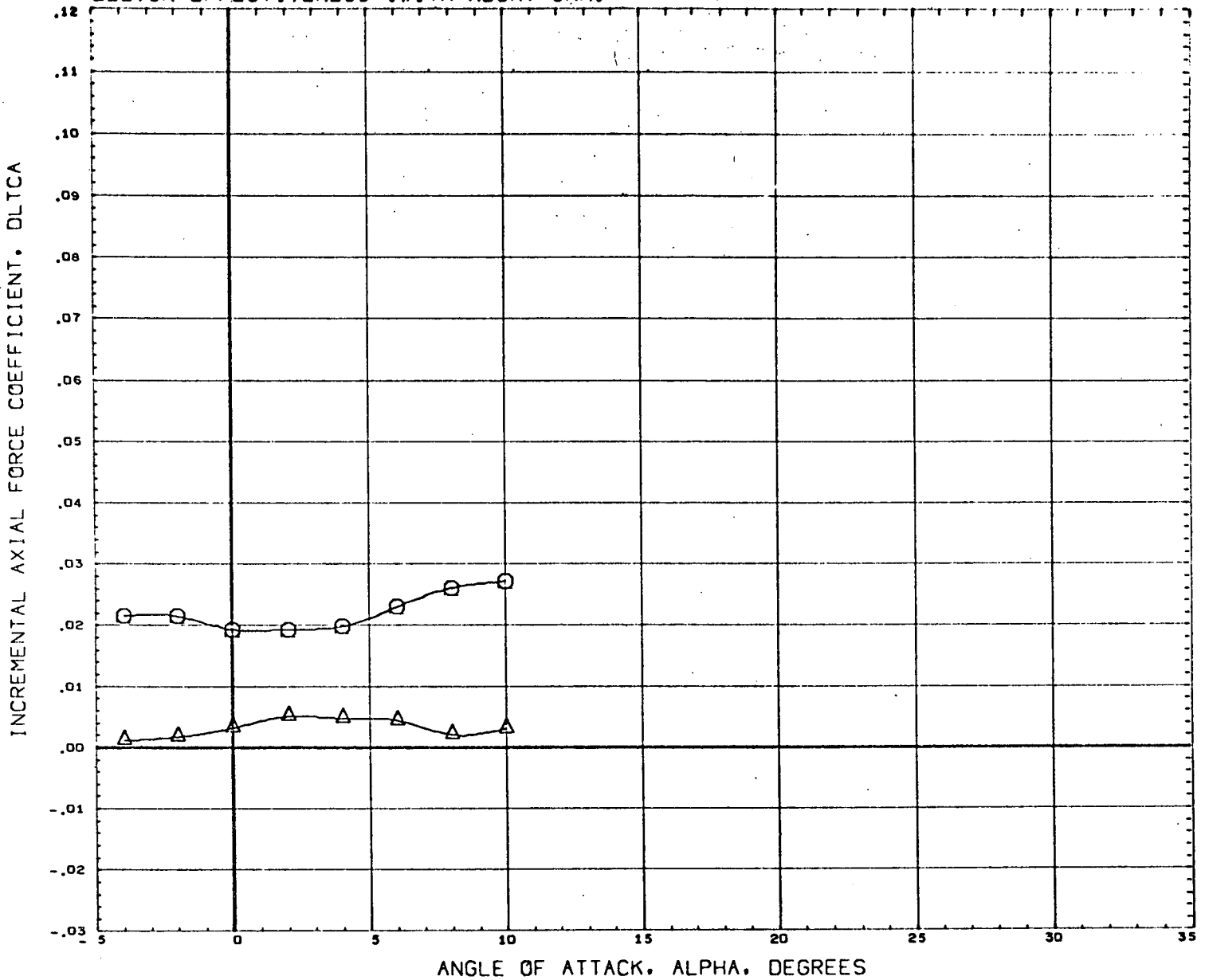


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69017)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(E69018)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

ELEVON EFFECTIVENESS (WITH ABORT SRM)



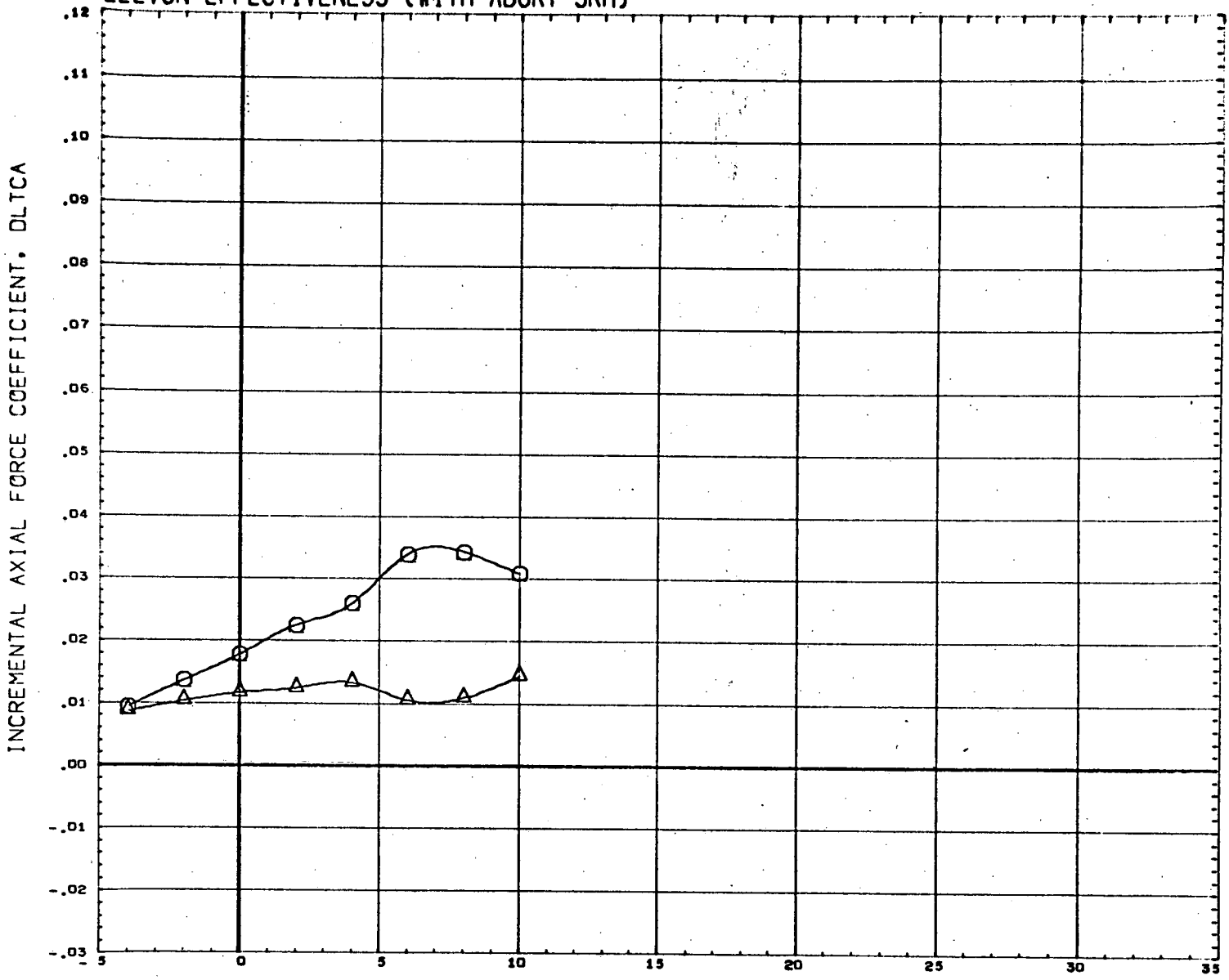
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69017)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(E69018)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .60

C11

ELEVON EFFECTIVENESS (WITH ABORT SRM)

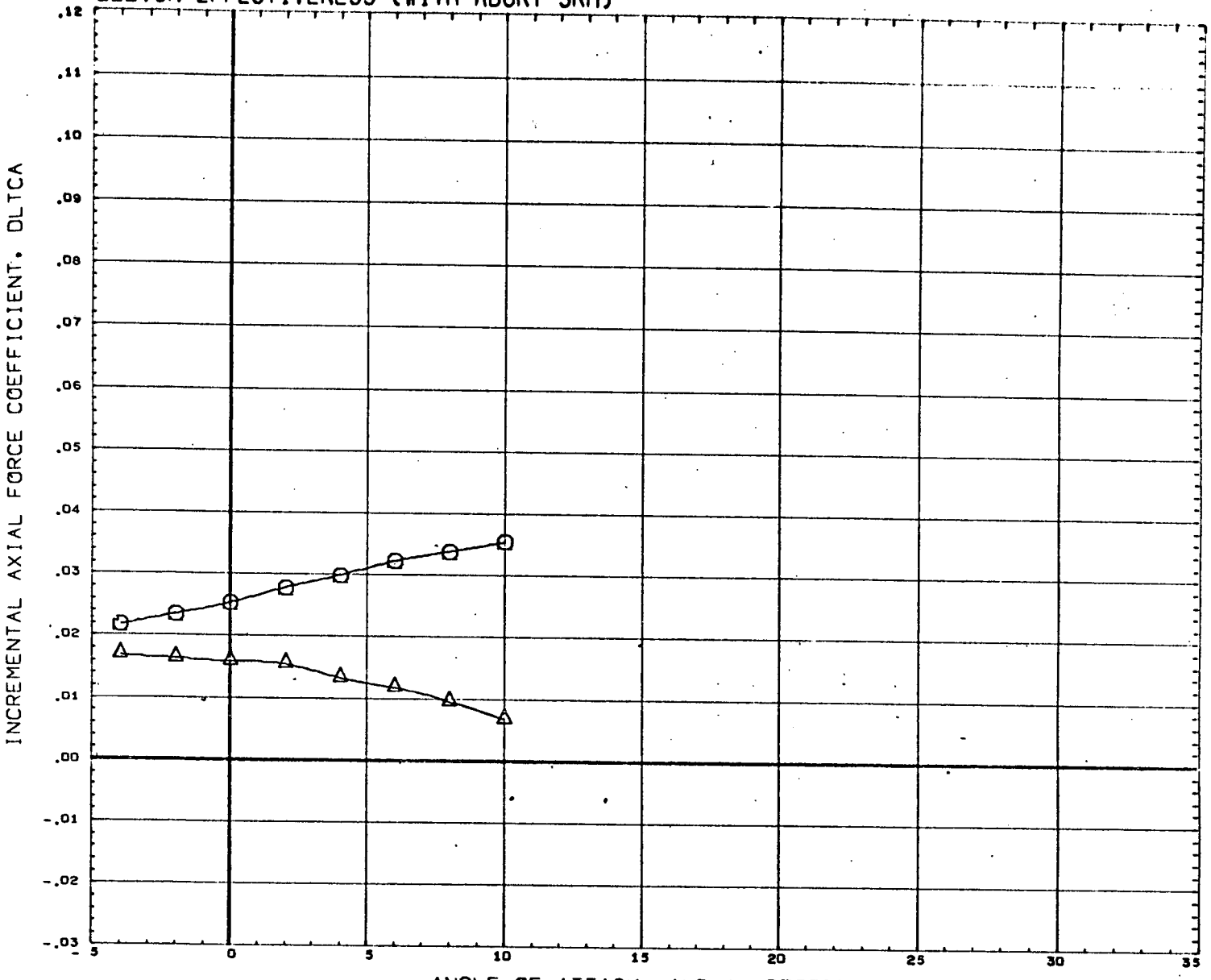


DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69017)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(E69018)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH .90

ELEVON EFFECTIVENESS (WITH ABORT SRM)



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DLTELV	RUDDER	RFLARE	BFLAP
(E69017)	○	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	10.000	0.000	0.000	0.000
(E69018)	△	MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1	-10.000	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	7.8800	SQ. IN
LREF	2.0280	IN.
BREF	4.4600	IN.
XMRP	3.6820	IN.
YMRP	0.0000	IN.
ZMRP	0.0000	IN.
SCALE	0.0040	SCALE

MACH 1.20

APPENDIX

Partial Tabulated Data Listing

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69001) (30 MAY 72)

REFERENCE DATA

SREF =	7.8800 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

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PARAMETRIC DATA

BETA =	.000	ELEVON =	.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	.000		

RUN NO. 12/ 0 RN/L = 4.53 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.599	-4.390	.00820	-.24520	-.00570	-.00230	.00110	.03010	.01130	.01880	-.10010	-.13830
.599	-2.200	.01290	-.13870	-.00350	-.00190	.00090	.03770	.01160	.02610	-.10360	-.14100
.599	-.130	.01790	-.02230	-.00220	-.00180	.00050	.04030	.01100	.02930	-.09500	-.13590
.599	2.000	.02190	.09360	.00000	-.00170	.00040	.03920	.01100	.02760	-.10660	-.13870
.599	4.150	.02800	.20070	.00210	-.00190	.00070	.03500	.01240	.02250	-.11370	-.15000
.599	6.260	.03180	.32390	.00620	-.00130	.00040	.03210	.01200	.01950	-.11740	-.14980
.599	8.440	.03880	.43930	.00870	-.00240	.00000	.03230	.01370	.01850	-.13220	-.15980
.599	10.470	.04270	.55030	.01050	-.00230	.00010	.03300	.01480	.01820	-.14320	-.17180
	GRADIENT	.00228	.05324	.00090	.00005	-.00006	.00053	.00010	.00042	-.00142	-.00099

RUN NO. 11/ 0 RN/L = 5.70 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.900	-4.700	.03690	-.33430	-.00620	.00030	.00070	.05760	.01640	.04110	-.15970	-.19010
.900	-2.420	.03300	-.19410	-.00560	-.00100	.00100	.05980	.01540	.04430	-.14760	-.18110
.900	-.190	.04720	-.08490	-.00410	-.00140	.00110	.05630	.01350	.04270	-.11900	-.16090
.900	2.000	.06350	.02170	-.00170	-.00100	.00080	.05470	.01200	.04190	-.11320	-.15700
.900	4.310	.07020	.14800	.00070	.00040	.00110	.05300	.01310	.03990	-.12020	-.15720
.900	6.580	.06470	.29200	.00330	.00070	.00100	.05140	.01390	.03740	-.13330	-.16330
.900	8.820	.05400	.41900	.00600	-.00290	.00010	.05000	.01770	.04180	-.17700	-.20160
.900	10.920	.04110	.54600	.01550	-.00490	-.00080	.06530	.02170	.04350	-.21760	-.24610
	GRADIENT	.00428	.05247	.00079	.00001	.00003	-.00063	-.00041	-.00021	.00504	.00400

RUN NO. 10/ 0 RN/L = 6.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.195	-4.640	.07890	-.30700	-.00970	-.00180	.00200	.09490	.03180	.06310	-.32830	-.35290
1.195	-2.330	.05380	-.14800	-.00840	-.00200	.00200	.09900	.03110	.06850	-.32300	-.34490
1.195	-.040	.02890	.00340	-.00560	-.00170	.00160	.10150	.03050	.07090	-.32540	-.33190
1.195	2.200	.00800	.15120	-.00300	-.00140	.00160	.10140	.03030	.07110	-.31970	-.33180
1.195	4.500	-.01200	.30340	.00110	-.00070	.00130	.09950	.03070	.06870	-.32540	-.33560
1.195	6.870	-.02910	.45510	.00530	-.00010	.00080	.09700	.03160	.06600	-.33670	-.34320
1.195	9.180	-.04360	.60050	.00870	-.00030	.00090	.09700	.03350	.06340	-.36240	-.36110
1.195	11.350	-.05490	.73100	.01210	-.00040	.00070	.09600	.03490	.06160	-.37580	-.37670
	GRADIENT	-.00990	.06614	.00117	.00012	-.00008	.00048	-.00013	.00060	.00040	.00205

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69001) (30 MAY 72)

REFERENCE DATA

SREF =	7.6800 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

BETA =	.000	ELEVON =	.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	.000		

RUN NO. 118/ 0 RN/L = 6.82 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPD
1.951	-4.510	.00730	-.15370	-.00250	.00070	.00010	.07430	.01530	.05890	-.15580	-.17230
1.951	-2.300	.00010	-.06310	-.00100	.00000	.00010	.07590	.01640	.05950	-.16610	-.18450
1.951	-.000	-.00720	.03100	.00040	.00000	.00020	.07750	.01720	.06020	-.17680	-.19320
1.951	2.210	-.01350	.12350	.00190	.00050	.00030	.07790	.01850	.05940	-.19430	-.20330
1.951	4.410	-.01940	.21590	.00320	.00050	.00020	.07890	.01880	.06000	-.19600	-.20820
1.951	6.670	-.02510	.30550	.00450	.00050	.00010	.07880	.01970	.05900	-.20620	-.21700
1.951	8.880	-.03090	.39180	.00610	.00040	.00000	.07850	.02040	.05810	-.21300	-.22460
1.951	10.970	-.03210	.46470	.00810	.00040	.00000	.07700	.02080	.05680	-.22020	-.22720
	GRADIENT	-.00300	.04142	.00064	-.00002	.00002	.00050	.00041	.00009	-.00494	-.00405

RUN NO. 131/ 0 RN/L = 6.37 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPD
3.479	-4.300	-.01490	-.11860	-.00300	.00120	.00000	.05840	.00400	.05430	-.04110	-.04500
3.479	-2.320	-.01400	-.06450	-.00230	.00110	.00000	.05810	.00410	.05400	-.04180	-.04600
3.479	-.120	-.01200	-.00480	-.00140	.00110	.00000	.05840	.00440	.05400	-.04480	-.04970
3.479	1.940	-.01130	.05230	-.00010	.00100	.00000	.05790	.00440	.05350	-.04520	-.04980
3.479	4.000	-.00900	.11000	.00040	.00100	.00000	.05810	.00480	.05330	-.04960	-.05440
3.479	6.100	-.00700	.17020	.00170	.00090	-.00020	.05810	.00510	.05300	-.05200	-.05700
3.479	8.300	-.00560	.23030	.00270	.00050	-.00020	.05800	.00540	.05320	-.05610	-.05900
3.479	10.300	-.00300	.28000	.00340	.00060	-.00020	.05930	.00550	.05370	-.05890	-.06070
	GRADIENT	.00063	.02720	.00043	-.00002	.00010	-.00004	.00009	-.00012	-.00097	-.00101

RUN NO. 130/ 0 RN/L = 5.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPD
4.960	-4.220	-.01980	-.08620	-.00120	.00200	.00070	.05200	-.00160	.05360	.02770	.01000
4.960	-2.220	-.01700	-.04720	-.00090	.00260	.00020	.05040	-.00140	.05190	.02300	.00990
4.960	-.120	-.01480	-.00450	-.00050	.00200	.00010	.04880	-.00130	.05010	.02150	.00890
4.960	1.890	-.01010	.03620	.00020	.00250	.00030	.04880	-.00120	.05010	.01970	.00870
4.960	3.910	-.00700	.07770	.00080	.00250	.00020	.04880	-.00100	.04990	.01770	.00610
4.960	5.990	-.00420	.12030	.00070	.00240	.00000	.04790	-.00080	.04870	.01570	.00490
4.960	8.030	-.00120	.16070	.00160	.00240	-.00010	.04850	-.00070	.04930	.01440	.00380
4.960	10.010	.00100	.21320	.00200	.00240	-.00020	.04820	-.00050	.04880	.01170	.00130
	GRADIENT	.00159	.02019	.00025	-.00001	-.00004	-.00030	.00007	-.00045	-.00118	-.00044

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69002) (30 MAY 72)

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REFERENCE DATA

SREF =	7.8800 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

BETA =	.000	ELEVON =	.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	.000		

RUN NO. 36/ 0 RN/L = 4.59 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.602	10.730	.04150	.54920	.01300	-.00250	-.00040	.03160	.01500	.01660	-.14200	-.17680
.602	12.880	.03960	.69130	.01580	-.00350	-.00040	.03150	.01560	.01590	-.14490	-.18680
.602	15.010	.04040	.81580	.02060	-.00440	-.00010	.03130	.01730	.01400	-.16200	-.20510
.602	17.140	.04680	.91900	.02490	-.00650	-.00050	.03150	.02010	.01140	-.18280	-.24260
.602	19.210	.06310	.95150	.02190	-.00130	.00040	.03420	.02500	.00920	-.23080	-.29210
.602	21.190	.08070	.99070	.01520	-.00080	.00180	.03830	.02960	.00870	-.29980	-.33370
	GRADIENT	.00394	.04224	.00047	.00017	.00018	.00056	.00141	-.00085	-.01479	-.01545

RUN NO. 35/ 0 RN/L = 5.74 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.899	11.200	.03750	.50060	.01460	-.00410	-.00100	.06610	.02230	.04370	-.23120	-.24790
.899	13.430	.02410	.68850	.02150	-.00630	-.00180	.07240	.02750	.04490	-.28390	-.30520
.899	15.650	.01820	.82790	.03180	-.00750	-.00350	.07300	.03110	.04180	-.32200	-.34520
.899	17.860	.02290	.92390	.02530	-.00500	-.00250	.08210	.03960	.04250	-.41470	-.43540
.899	20.010	.04400	.98070	.01010	-.00490	-.00070	.08220	.04550	.03670	-.47000	-.50020
.899	22.020	.06050	1.00140	.01440	-.00070	.00000	.08180	.04980	.03200	-.51140	-.55510
	GRADIENT	.00291	.04194	-.00017	.00030	.00012	.00155	.00263	-.00107	-.02722	-.02900

RUN NO. 34/ 0 RN/L = 6.10 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.198	11.600	-.05570	.72290	.01320	-.00030	.00040	.09680	.03500	.06170	-.37770	-.37770
1.198	13.890	-.06390	.85240	.01600	-.00040	.00010	.09000	.03570	.06020	-.37800	-.39090
1.198	16.180	-.06830	.97870	.01790	-.00060	.00030	.09590	.03820	.05700	-.40300	-.41790
1.198	18.430	-.06960	1.08170	.02020	-.00120	.00000	.09460	.04000	.05460	-.42160	-.43030
1.198	20.650	-.06880	1.18290	.02250	-.00150	-.00030	.09300	.04170	.05120	-.44460	-.45300
1.198	22.780	-.05010	1.24910	.02320	-.00190	-.00040	.08650	.04170	.04470	-.45220	-.44800
	GRADIENT	.00013	.04756	.00002	-.00015	-.00007	-.00078	.00068	-.00146	-.00753	-.00719

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69003) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = .000
RUDDER = .000 RFLARE = .000
BFLAP = .000

RUN NO. 125/ 0 RN/L = 6.79 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.954	11.510	-.03070	.46320	.00780	.00030	-.00010	.07510	.01900	.05610	-.20250	-.20640
1.954	13.590	-.03020	.53570	.00880	.00030	.00000	.07400	.01960	.05440	-.21060	-.21130
1.954	15.850	-.02930	.62060	.00970	.00030	-.00010	.07250	.01980	.05260	-.21330	-.21480
1.954	18.100	-.02840	.70900	.01080	.00020	-.00010	.07130	.02010	.05120	-.21510	-.21820
1.954	20.340	-.02480	.78950	.01250	.00020	.00000	.06930	.02050	.04870	-.21840	-.22310
1.954	22.630	-.02260	.87800	.01470	.00010	.00030	.06830	.02190	.04640	-.23460	-.23730
1.954	24.900	-.02010	.96300	.01600	.00010	.00050	.06670	.02230	.04430	-.24310	-.23930
1.954	27.130	-.01810	1.04990	.01610	.00000	.00080	.06520	.02350	.04170	-.25390	-.25270
1.954	29.370	-.01500	1.13590	.01870	.00000	.00020	.06410	.02450	.03960	-.26360	-.26470
	GRADIENT	.00092	.03777	.00061	-.00002	.00004	-.00063	.00030	-.00093	-.00337	-.00316

RUN NO. 139/ 0 RN/L = 6.33 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
3.480	10.820	-.00350	.28590	.00390	.00080	-.00020	.05940	.00500	.05360	-.06180	-.06380
3.480	12.880	-.00090	.34720	.00400	.00070	-.00010	.06050	.00590	.05460	-.06240	-.06530
3.480	14.990	.00190	.41100	.00560	.00070	-.00010	.06120	.00600	.05510	-.06380	-.06600
3.480	17.130	.00520	.47700	.00660	.00060	-.00010	.06210	.00630	.05580	-.06610	-.06980
3.480	19.290	.00820	.54650	.00750	.00000	-.00010	.06330	.00650	.05680	-.06700	-.07280
3.480	21.440	.01320	.61830	.00870	.00050	-.00010	.06430	.00660	.05760	-.06910	-.07410
3.480	23.570	.01660	.69180	.01010	.00050	-.00020	.06460	.00670	.05780	-.07120	-.07390
3.480	25.740	.02000	.76030	.01120	.00040	-.00020	.06520	.00670	.05840	-.07270	-.07310
3.480	27.900	.02170	.84920	.01260	.00030	-.00040	.06570	.00680	.05880	-.07290	-.07510
3.480	30.070	.02380	.93130	.01240	.00030	.00000	.06550	.00700	.05850	-.07470	-.07680
3.480	32.180	.02570	1.00930	.01390	.00020	-.00020	.06480	.00700	.05770	-.07370	-.07730
	GRADIENT	.00145	.03393	.00048	-.00003	-.00000	.00029	.00006	.00023	-.00065	-.00063

RUN NO. 138/ 0 RN/L = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
4.959	10.470	.00380	.22100	.00340	.00240	-.00010	.05030	-.00080	.05120	.01900	.00210
4.959	12.460	.00780	.27370	.00400	.00240	.00000	.05190	-.00060	.05260	.01470	.00110
4.959	14.470	.01160	.32750	.00460	.00230	.00000	.05270	-.00060	.05330	.01670	.00010
4.959	16.540	.01430	.38710	.00560	.00230	.00000	.05490	-.00040	.05540	.01270	-.00030
4.959	18.620	.01630	.44060	.00670	.00220	-.00030	.05760	-.00030	.05790	.00960	-.00060
4.959	20.680	.01900	.51500	.00770	.00210	-.00040	.05990	-.00020	.06010	.00790	-.00210
4.959	22.700	.02240	.58360	.00870	.00210	.00000	.06230	-.00010	.06240	.00640	-.00210
4.959	24.790	.02390	.65570	.00930	.00200	-.00040	.06360	-.00010	.06370	.00580	-.00240
4.959	26.870	.02590	.72890	.01140	.00190	-.00050	.06470	.00000	.06480	.00510	-.00210
4.959	28.940	.02640	.80720	.01230	.00190	-.00020	.06610	.00000	.06610	.00360	-.00210
4.959	30.920	.02640	.88050	.01270	.00180	-.00040	.06680	-.00020	.06710	.00890	-.00160
	GRADIENT	.00113	.03235	.00048	-.00003	-.00002	.00087	.00004	.00084	-.00066	-.00019

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69004) (30 MAY 72)

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REFERENCE DATA

SREF =	7.8800 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

ALPHA =	.000	ELEVON =	.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	.000		

RUN NO. 49/ 0 RN/L = 4.54 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.601	-6.110	.01310	.00260	.08560	.00280	-.00040	.03700	.01390	.02300	-.13160	-.16460
.601	-3.080	.01610	-.00070	.04450	.00010	.00010	.03880	.01270	.02600	-.11210	-.15570
.601	-2.040	.01640	-.00100	.03220	-.00060	-.00010	.03930	.01300	.02630	-.11490	-.15950
.601	-1.020	.01660	-.00480	.01710	-.00140	.00010	.04000	.01280	.02720	-.11590	-.15470
.601	.000	.01780	-.00470	.00380	-.00210	.00010	.04040	.01240	.02800	-.11260	-.15060
.601	1.010	.01790	-.00360	-.00970	-.00290	.00050	.04090	.01250	.02840	-.11690	-.14810
.601	2.020	.01770	-.00140	-.02180	-.00380	.00050	.04040	.01220	.02810	-.11570	-.14400
.601	3.040	.01660	-.00170	-.03550	-.00470	.00030	.03910	.01190	.02710	-.11300	-.14110
.601	6.120	.01370	.00010	-.07630	-.00710	.00060	.03680	.01270	.02410	-.12030	-.14960
	GRADIENT	.00020	-.00009	-.01315	-.00078	.00008	.00014	-.00015	.00028	-.00019	.00285

RUN NO. 50/ 0 RN/L = 5.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.901	-6.200	.04460	-.05650	.08850	.00630	-.00030	.05420	.01690	.03720	-.15850	-.20040
.901	-3.120	.04970	-.05690	.04580	.00210	.00030	.05670	.01550	.04110	-.14210	-.18700
.901	-2.070	.04940	-.05640	.03140	.00080	.00030	.05620	.01460	.04150	-.13130	-.17790
.901	-1.040	.04930	-.05480	.01760	-.00020	.00060	.05610	.01490	.04110	-.13650	-.17970
.901	.000	.04810	-.05700	.00300	-.00200	.00050	.05590	.01500	.04090	-.13620	-.18050
.901	1.020	.04810	-.05420	-.01040	-.00210	.00080	.05600	.01400	.04220	-.13390	-.17470
.901	2.050	.04330	-.04400	-.02290	-.00420	.00050	.05740	.01470	.04260	-.13590	-.17610
.901	3.080	.04130	-.04670	-.03670	-.00560	.00030	.05620	.01460	.04100	-.13650	-.17370
.901	6.190	.03480	-.03050	-.07940	-.00999	.00100	.05290	.01600	.03690	-.16450	-.17840
	GRADIENT	-.00133	.00103	-.01329	-.00121	.00002	.00005	-.00010	.00017	.00036	.00160

RUN NO. 51/ 0 RN/L = 6.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.202	-6.250	.02490	.01670	.09370	.00980	-.00230	.09890	.03100	.06790	-.32800	-.33920
1.202	-3.120	.02610	.01730	.04510	.00360	-.00030	.10040	.03070	.06960	-.32500	-.33610
1.202	-2.080	.02600	.01770	.02950	.00180	.00020	.10080	.03070	.07010	-.32400	-.33600
1.202	-1.020	.02690	.01650	.01420	.00010	.00060	.10070	.03060	.07010	-.32250	-.33500
1.202	.000	.02650	.01830	-.00020	-.00150	.00120	.10070	.03080	.06990	-.32450	-.33700
1.202	1.030	.02700	.01780	-.01560	-.00330	.00160	.10090	.03000	.07000	-.32800	-.33590
1.202	2.070	.02700	.01750	-.03060	-.00500	.00220	.10130	.03140	.06980	-.32890	-.34560
1.202	3.110	.02780	.01560	-.04570	-.00680	.00270	.10110	.03180	.06930	-.33280	-.34990
1.202	6.240	.02710	.01300	-.09310	-.01240	.00440	.09980	.03330	.06650	-.35280	-.36300
	GRADIENT	.00019	-.00015	-.01455	-.00166	.00048	.00011	.00017	-.00005	-.00133	-.00212

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69005) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

ALPHA = 10.000 ELEVON = .000
RUDDER = .000 RFLARE = .000
BFLAP = .000

RUN NO. 48/ 0 RN/L = 4.55 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.604	-6.120	.03330	.58120	.10600	.00930	-.00260	.02940	.01590	.01340	-.14690	-.19110
.604	-3.060	.03600	.58640	.06400	.00320	-.00140	.03160	.01530	.01630	-.14330	-.18080
.604	-2.040	.03700	.58080	.04760	.00100	-.00130	.03150	.01500	.01650	-.14020	-.17700
.604	-1.020	.03940	.58600	.03470	-.00090	-.00080	.03230	.01480	.01750	-.14350	-.17170
.604	.000	.04010	.58030	.02130	-.00250	-.00060	.03180	.01490	.01690	-.14370	-.17390
.604	.980	.04070	.57700	.00780	-.00420	-.00070	.03200	.01500	.01690	-.14580	-.17490
.604	2.020	.04100	.57450	-.00630	-.00600	-.00030	.03190	.01440	.01750	-.14010	-.16720
.604	3.020	.04110	.58000	-.02080	-.00740	.00040	.03240	.01460	.01770	-.14280	-.16900
.604	6.100	.03990	.57430	-.06410	-.01270	.00190	.02990	.01510	.01440	-.14680	-.17580
	GRADIENT	.00087	-.00144	-.01309	-.00173	.00026	.00010	-.00011	.00020	-.00002	.00187

RUN NO. 47/ 0 RN/L = 5.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.901	-6.210	.02750	.60301	.10780	.00730	-.00030	.00080	.02130	.03940	-.22210	-.23520
.901	-3.130	.03150	.60280	.06220	.00330	-.00030	.06370	.02200	.04170	-.22350	-.24770
.901	-2.070	.03160	.60050	.04930	.00190	-.00100	.06470	.02330	.04130	-.23420	-.26490
.901	-1.050	.03100	.59030	.03720	-.00180	-.00110	.06780	.02310	.04470	-.23460	-.25640
.901	-.010	.03410	.59490	.02030	-.00170	-.00090	.06530	.02300	.04170	-.23610	-.26030
.901	.990	.03330	.59340	.00800	-.00450	-.00120	.06650	.02340	.04310	-.23640	-.26400
.901	2.050	.03390	.59040	-.00640	-.00650	-.00110	.06700	.02340	.04350	-.24240	-.26030
.901	3.000	.03450	.59110	-.02020	-.00840	-.00080	.06680	.02390	.04280	-.25180	-.26270
.901	6.170	.03430	.59140	-.06180	-.01360	-.00120	.06390	.02340	.04040	-.24310	-.26030
	GRADIENT	.00054	-.00181	-.01344	-.00189	-.00006	.00044	.00022	.00021	-.00344	-.00158

RUN NO. 46/ 0 RN/L = 6.09 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.202	-6.230	-.05740	.73200	.09260	.01300	.00130	.09420	.03390	.06020	-.36210	-.36360
1.202	-3.130	-.05690	.73760	.05270	.00660	.00080	.09570	.03490	.06080	-.37150	-.37090
1.202	-2.080	-.05600	.73700	.04000	.00430	.00070	.09600	.03510	.06080	-.37640	-.37960
1.202	-1.040	-.05530	.73720	.02640	.00200	.00050	.09570	.03520	.06040	-.37920	-.38010
1.202	.000	-.05440	.73610	.01570	-.00010	.00000	.09490	.03500	.05990	-.37530	-.37850
1.202	1.020	-.05420	.73580	.00380	-.00240	-.00040	.09510	.03420	.06090	-.36360	-.37190
1.202	2.060	-.05470	.73940	-.00860	-.00460	-.00050	.09570	.03450	.06110	-.36810	-.37560
1.202	3.100	-.05460	.73860	-.02150	-.00670	-.00060	.09560	.03490	.06070	-.37130	-.38010
1.202	6.210	-.05370	.73800	-.05920	-.01340	-.00130	.09500	.03520	.06030	-.37090	-.38530
	GRADIENT	.00037	.00022	-.01180	-.00214	-.00026	-.00005	-.00008	.00003	.00112	.00043

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69007) (30 MAY 72)

REFERENCE DATA

SREF =	7.8800 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

BETA =	.000	ELEVON =	-10.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	.000		

RUN NO. 13/ 0 RN/L = 4.54 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.601	-4.590	.08720	-.49230	-.01040	.00120	.00170	.03090	.00740	.02350	-.06300	-.09230
.601	-2.430	.09170	-.37850	-.00840	.00000	.00140	.03980	.00770	.03200	-.06500	-.09810
.601	-.310	.09610	-.27490	-.00570	.00020	.00120	.04480	.00780	.03690	-.06380	-.10080
.601	1.820	.10260	-.15930	-.00450	.00000	.00130	.04600	.00880	.03720	-.07190	-.11280
.601	3.970	.10960	-.05120	-.00200	.00050	.00120	.04240	.00880	.03360	-.07540	-.10940
.601	6.110	.11670	.06520	-.00050	.00040	.00120	.03670	.00880	.02780	-.07280	-.11280
.601	8.200	.12430	.17870	.00370	.00000	.00100	.03510	.00960	.02540	-.07920	-.12290
.601	10.270	.13370	.28290	.00440	.00040	.00140	.03570	.01000	.02560	-.07990	-.12890
	GRADIENT	.00261	.05154	.00097	-.00007	-.00005	.00137	.00018	.00119	-.00148	-.00229

RUN NO. 14/ 0 RN/L = 5.73 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.905	-4.890	.12320	-.53000	-.01260	.00010	.00140	.06550	.01610	.04930	-.16600	-.17980
.905	-2.610	.11560	-.38350	-.01090	-.00040	.00140	.07290	.01610	.05670	-.16870	-.17780
.905	-.340	.10700	-.23180	-.00890	-.00110	.00100	.07430	.01550	.05880	-.16130	-.17100
.905	1.900	.09920	-.07110	-.00690	-.00140	.00120	.07180	.01480	.05700	-.15550	-.16280
.905	4.200	.09320	.08920	-.00370	-.00150	.00140	.06810	.01480	.05320	-.15560	-.16240
.905	6.500	.10120	.21170	.00070	-.00270	.00090	.06690	.01540	.05140	-.16050	-.17090
.905	8.750	.10290	.32990	.00440	-.00460	.00070	.06910	.01650	.05250	-.17380	-.18190
.905	10.840	.10320	.43770	.01160	-.00510	.00000	.07740	.01970	.05770	-.21350	-.21120
	GRADIENT	-.00334	.06781	.00095	-.00018	-.00001	.00018	-.00017	.00035	.00149	.00218

RUN NO. 15/ 0 RN/L = 6.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.196	-4.810	.15160	-.46130	-.01170	-.00100	.00210	.11490	.02920	.08570	-.30500	-.32260
1.196	-2.480	.12650	-.29350	-.00910	-.00080	.00190	.11830	.02930	.08890	-.30550	-.32440
1.196	-.180	.10490	-.14140	-.00680	-.00110	.00170	.11950	.03050	.08890	-.31890	-.33560
1.196	2.130	.08520	.00900	-.00450	-.00120	.00200	.11810	.03170	.08630	-.33780	-.34530
1.196	4.440	.06690	.16200	-.00170	-.00060	.00200	.11420	.03190	.08230	-.34470	-.34330
1.196	6.760	.05110	.31720	.00190	-.00070	.00190	.10940	.03280	.07660	-.35050	-.35560
1.196	9.070	.03780	.46260	.00640	-.00090	.00140	.10560	.03440	.07120	-.36170	-.37700
1.196	11.280	.02780	.59760	.01000	-.00100	.00130	.10280	.03570	.06710	-.38020	-.38910
	GRADIENT	-.00912	.06703	.00106	-.00002	-.00000	-.00007	.00034	-.00041	-.00403	-.00269

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69007) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = -10.000
RUDDER = .000 RFLARE = .000
BFLAP = .000

RUN NO. 119/ 0 RN/L = 6.77 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.960	-4.580	.03860	-.20890	-.00350	.00050	.00000	.08440	.01420	.07020	-.15550	-.15150
1.960	-2.350	.03120	-.11680	-.00180	.00050	.00020	.08430	.01460	.06960	-.15820	-.15740
1.960	-.120	.02450	-.02440	-.00080	.00040	.00030	.08390	.01500	.06880	-.15900	-.16490
1.960	2.150	.01660	.06840	.00050	.00040	.00040	.08290	.01570	.06710	-.16810	-.17120
1.960	4.340	.01420	.15480	.00210	.00030	.00000	.08160	.01650	.06510	-.17580	-.17930
1.960	6.560	.01030	.23080	.00370	.00030	-.00010	.08000	.01780	.06210	-.19050	-.19410
1.960	8.790	.00830	.32330	.00520	.00030	.00020	.07830	.01880	.05950	-.20140	-.20340
1.960	10.930	.00870	.39410	.00700	.00020	.00030	.07620	.01920	.05700	-.20670	-.20790
	GRADIENT	-.00275	.04085	.00060	-.00002	.00001	-.00031	.00026	-.00057	-.00226	-.00311

RUN NO. 132/ 0 RN/L = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
4.960	-4.210	-.01010	-.10510	-.00130	.00240	.00040	.05430	-.00160	.05600	.02740	.01020
4.960	-2.230	-.00810	-.06300	-.00030	.00240	.00060	.05310	-.00130	.05450	.02280	.00890
4.960	-.130	-.00530	-.02030	.00000	.00240	.00020	.05080	-.00120	.05210	.02020	.00870
4.960	1.880	-.00370	.02230	-.00070	.00230	.00000	.05020	-.00110	.05130	.01820	.00790
4.960	3.990	-.00050	.06250	.00000	.00230	.00000	.04920	-.00090	.05020	.01570	.00640
4.960	5.980	.00410	.10040	.00170	.00230	.00030	.04990	-.00080	.05070	.01390	.00460
4.960	8.020	.00820	.15990	.00130	.00220	.00000	.04990	-.00070	.05070	.01440	.00380
4.960	9.990	.01240	.19540	.00170	.00220	.00000	.05030	-.00060	.05090	.01160	.00330
	GRADIENT	.00116	.02068	.00011	-.00001	-.00007	-.00065	.00008	-.00073	-.00130	-.00042

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69008) (30 MAY 72)

REFERENCE DATA

SREF =	7.8800 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

BETA =	.000	ELEVON =	-10.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	.000		

RUN NO. 37/ 0 RN/L = 4.56 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.598	10.540	.13150	.28510	.00570	.00010	.00110	.03440	.01000	.02430	-.08600	-.12390
.598	12.710	.13430	.41910	.00850	.00020	.00130	.03320	.01100	.02210	-.09670	-.13620
.598	14.840	.13500	.54110	.01030	.00020	.00180	.03180	.01230	.01940	-.10780	-.15210
.598	16.960	.13950	.65410	.01390	-.00050	.00190	.02990	.01300	.01600	-.11940	-.17310
.598	19.080	.15120	.73540	.01730	-.00060	.00210	.03020	.01770	.01240	-.16000	-.20920
	GRADIENT	.00282	.04926	.00093	-.00010	.00017	-.00038	.00008	-.00136	-.01016	-.01090

RUN NO. 38/ 0 RN/L = 5.76 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.898	11.120	.10200	.44390	.01170	-.00410	.00000	.07820	.02060	.05760	-.22270	-.22150
.898	13.300	.10940	.53270	.01530	-.00470	-.00020	.08400	.02330	.06060	-.25350	-.25060
.898	15.490	.11950	.62760	.02030	-.00370	-.00060	.08620	.02640	.05970	-.28720	-.28200
.898	17.700	.13060	.72090	.01790	-.00250	.00000	.09330	.03210	.06110	-.34310	-.34[illegible]
.898	19.840	.15200	.77350	.01580	-.00330	.00090	.09360	.03650	.05700	-.39120	-.39[illegible]
	21.870	.17510	.80700	.01250	.00010	.00130	.09600	.04260	.05340	-.43080	-.47940
	GRADIENT	.00665	.03488	.00005	.00035	.00014	.00166	.00205	-.00040	-.01996	-.02364

RUN NO. 39/ 0 RN/L = 6.16 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.193	11.510	.02560	.59240	.01120	-.00070	.00120	.10230	.03590	.06640	-.38790	-.38550
1.193	13.800	.02120	.72170	.01400	-.00080	.00080	.10020	.03700	.06310	-.40090	-.39720
1.193	16.090	.01950	.84300	.01580	-.00150	.00080	.09830	.03850	.05980	-.41560	-.41420
1.193	18.340	.02150	.94260	.01880	-.00110	.00080	.09480	.03920	.05550	-.41610	-.42730
1.193	20.500	.02900	1.03870	.02030	-.00100	.00050	.09140	.03920	.05220	-.41630	-.42600
1.193	22.[illegible]0	.04200	1.10960	.02590	-.00300	-.00100	.08730	.03980	.04750	-.41920	-.43550
	GRADIENT	.00120	.04645	.00121	-.00015	-.00015	-.00134	.00034	-.00168	-.00261	-.00449

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69009) (30 MAY 72)

REFERENCE DATA

SREF =	7.8000 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

BETA =	.000	ELEVON =	-10.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	.000		

RUN NO. 124/ 0 RN/L = 6.81 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.948	11.470	.00630	.40980	.00700	.00030	.00020	.07440	.01750	.05680	-.18800	-.19040
1.948	13.570	.00780	.48370	.00820	.00030	.00020	.07230	.01810	.05420	-.19440	-.19520
1.948	15.630	.00950	.56670	.00910	.00020	.00020	.06990	.01840	.05150	-.19380	-.20120
1.948	18.080	.01140	.65400	.01030	.00020	.00020	.06870	.01870	.04990	-.19820	-.20370
1.948	20.350	.01530	.73470	.01220	.00010	.00030	.06690	.01970	.04710	-.21070	-.21420
1.948	22.620	.02130	.82280	.01450	.00000	.00060	.06410	.02000	.04400	-.21210	-.21830
1.948	24.860	.02820	.89750	.01640	.00000	.00070	.06210	.02100	.04110	-.21770	-.23290
1.948	27.080	.03350	.97990	.01720	.00000	.00100	.05990	.02180	.03810	-.22600	-.24170
1.948	29.310	.04090	1.05010	.01740	.00000	.00090	.05850	.02380	.03470	-.25170	-.25980
	GRADIENT	.00196	.03629	.00065	-.00002	.00005	-.00090	.00032	-.00121	-.00308	-.00368

RUN NO. 137/ 0 RN/L = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
4.959	10.470	.01440	.20650	.00320	.00200	.00030	.04950	-.00080	.05040	.01900	.00190
4.959	12.480	.02070	.25650	.00390	.00200	.00030	.05120	-.00000	.05190	.01500	.00160
4.959	14.510	.02490	.30000	.00550	.00190	.00030	.05260	-.00050	.05310	.01290	.00000
4.959	16.540	.03020	.36450	.00550	.00190	.00000	.05400	-.00000	.05460	.01500	.00030
4.959	18.620	.03540	.42400	.00620	.00180	.00020	.05600	-.00050	.05740	.01190	.00060
4.959	20.640	.04160	.48600	.00800	.00180	.00030	.05960	-.00040	.06010	.01140	.00000
4.959	22.720	.04630	.54920	.00860	.00170	.00000	.06100	-.00040	.06150	.01090	.00080
4.959	24.800	.05200	.61730	.01070	.00160	.00020	.06190	-.00020	.06210	.00740	-.00160
4.959	26.870	.05700	.68660	.01030	.00160	.00020	.06330	-.00030	.06300	.00830	.00030
4.959	28.930	.06090	.75640	.01150	.00150	.00000	.06340	-.00020	.06370	.00790	-.00040
4.959	30.910	.06550	.82460	.01210	.00150	.00000	.06290	-.00020	.06320	.00730	-.00060
	GRADIENT	.00251	.03038	.00045	-.00003	-.00001	.00074	.00003	.00072	-.00052	-.00011

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69010) (30 MAY 72)

REFERENCE DATA

SREF = 7.8600 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

ALPHA = .000 ELEVON = -10.000
RUDDER = .000 RFLARE = .000
BFLAP = .000

RUN NO. 54/ 0 RN/L = 4.55 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPD
.605	-6.110	.09460	-.23780	.07990	.00380	.00120	.04220	.01010	.03210	-.08700	-.12530
.605	-3.080	.09690	-.24790	.03890	.00190	.00160	.04400	.00970	.03420	-.08310	-.12060
.605	-2.040	.09730	-.25100	.02530	.00130	.00150	.04390	.00960	.03420	-.08480	-.11750
.605	-1.020	.09850	-.25060	.01310	.00090	.00130	.04510	.00940	.03560	-.08380	-.11580
.605	.000	.09800	-.24530	.00130	.00010	.00130	.04510	.00930	.03580	-.08430	-.11230
.605	1.010	.09780	-.24700	-.01260	-.00060	.00120	.04490	.00960	.03520	-.09200	-.11320
.605	2.020	.09700	-.24530	-.02380	-.00130	.00090	.04420	.00990	.03420	-.09090	-.11530
.605	3.040	.09560	-.24870	-.03630	-.00170	.00060	.04410	.00960	.03450	-.09590	-.10940
.605	6.100	.09360	-.24080	-.07670	-.00330	.00060	.04200	.01020	.03170	-.10920	-.11120
	GRADIENT	-.00018	.00042	-.01226	-.00061	-.00015	.00003	.00002	.00002	-.00248	.00143

RUN NO. 53/ 0 RN/L = 5.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPD
.904	-6.200	.09990	-.19060	.08900	.00650	-.00010	.07080	.01930	.05140	-.21330	-.20470
.904	-3.100	.10520	-.19720	.04170	.00240	.00120	.07370	.01770	.05600	-.18510	-.19480
.904	-2.070	.10580	-.19620	.02690	.00090	.00130	.07400	.01740	.05660	-.18330	-.19070
.904	-1.010	.10640	-.19620	.01330	-.00010	.00130	.07400	.01740	.05660	-.18340	-.19140
.904	.000	.10720	-.19440	.00000	-.00110	.00100	.07440	.01690	.05750	-.17730	-.18590
.904	1.020	.10810	-.20110	-.01300	-.00210	.00070	.07510	.01730	.05780	-.18080	-.19170
.904	2.050	.10800	-.19770	-.02680	-.00330	.00070	.07510	.01700	.05740	-.18120	-.19720
.904	3.080	.10000	-.19300	-.03950	-.00430	.00000	.07440	.01720	.05710	-.17650	-.19310
.904	6.180	.09980	-.19030	-.08430	-.00760	.00100	.07000	.01630	.05360	-.17200	-.17990
	GRADIENT	.00030	.00010	-.01310	-.00106	-.00012	.00019	-.00004	.00021	.00113	-.00028

RUN NO. 52/ 0 RN/L = 6.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPD
1.198	-6.250	.09800	-.12110	.09680	.01120	-.00230	.11500	.03100	.08390	-.32750	-.35120
1.198	-3.120	.10150	-.12410	.04570	.00450	-.00010	.11800	.03130	.08670	-.32080	-.35010
1.198	-2.080	.10200	-.12550	.02950	.00240	.00040	.11840	.03100	.08740	-.31380	-.35000
1.198	-1.020	.10350	-.12680	.01340	.00050	.00080	.11850	.03110	.08740	-.31340	-.35150
1.198	.000	.10410	-.12750	-.00090	-.00110	.00110	.11810	.03060	.08750	-.31430	-.34070
1.198	1.010	.10400	-.12700	-.01520	-.00270	.00140	.11800	.03120	.08770	-.32660	-.34290
1.198	2.070	.10370	-.12720	-.03030	-.00460	.00170	.11870	.03120	.08740	-.32530	-.34430
1.198	3.090	.10350	-.12780	-.04560	-.00640	.00230	.11860	.03150	.08700	-.32760	-.34860
1.198	6.250	.09900	-.12290	-.09700	-.01290	.00460	.11600	.03140	.08460	-.32690	-.34640
	GRADIENT	.00030	-.00051	-.01458	-.00172	.00036	.00010	.00004	.00004	-.00195	.00084

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69011) (30 MAY 72)

REFERENCE DATA

SREF = 7.6800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = -30.000
RUDDER = .000 RFLARE = .000
BFLAP = .000

RUN NO. 18/ 0 RN/L = 4.54 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPO
.600	-4.730	.13900	-.69420	-.01400	.00180	.00270	.10360	.02500	.07860	-.26220	-.27580
.600	-2.590	.13790	-.57000	-.00990	.00200	.00210	.11110	.02500	.08550	-.26320	-.28570
.600	-.450	.13880	-.44720	-.00940	.00150	.00180	.11580	.02470	.09110	-.25500	-.27410
.600	1.670	.14170	-.33000	-.00680	.00110	.00180	.11640	.02300	.09330	-.24390	-.25170
.600	3.820	.14480	-.22000	-.00490	.00120	.00190	.11270	.02240	.09030	-.23970	-.24360
.600	5.960	.14840	-.09700	-.00350	.00100	.00190	.10490	.02120	.08360	-.23030	-.22730
.600	8.130	.15390	.02490	.00000	.00110	.00150	.09920	.02530	.07390	-.31510	-.24070
.600	10.160	.16090	.14160	.00200	.00040	.00160	.09790	.02640	.07150	-.33000	-.24980
	GRADIENT	.00072	.05551	.00100	-.00010	-.00009	.00110	-.00036	.00146	.00301	.00460

RUN NO. 17/ 0 RN/L = 5.74 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPO
.906	-5.200	.20450	-.79470	-.01720	.00110	.00270	.16130	.04250	.11870	-.44820	-.46470
.906	-2.940	.19710	-.65120	-.01530	-.00010	.00220	.16670	.04190	.12480	-.44080	-.45910
.906	-.690	.18900	-.50720	-.01250	.00010	.00190	.16760	.03930	.12820	-.41490	-.43050
.906	1.580	.18180	-.36580	-.00970	.00000	.00190	.16290	.03670	.12620	-.38690	-.40120
.906	3.840	.17500	-.21980	-.00730	.00010	.00170	.15330	.03500	.11820	-.37020	-.38210
.906	6.150	.17140	-.06430	-.00500	.00110	.00180	.14390	.03300	.11000	-.35800	-.36950
.906	8.490	.16140	.11780	-.00190	.00100	.00220	.13690	.03330	.10310	-.35480	-.37090
.906	10.660	.14990	.28140	.00030	.00040	.00180	.13400	.03430	.09960	-.35480	-.38050
	GRADIENT	-.00328	.06349	.00119	.00005	-.00007	-.00199	-.00103	-.00097	.01057	.01151

RUN NO. 16/ 0 RN/L = 6.09 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPO
1.194	-5.280	.21890	-.73120	-.01870	.00050	.00240	.20500	.03360	.16720	-.40380	-.42520
1.194	-2.940	.20890	-.58480	-.01600	-.00020	.00250	.20580	.03710	.16800	-.39070	-.40650
1.194	-.610	.19590	-.42950	-.01480	-.00070	.00250	.20130	.03550	.16580	-.36440	-.38260
1.194	1.730	.17790	-.26540	-.01090	-.00070	.00200	.19450	.03490	.15950	-.36380	-.38620
1.194	4.080	.16100	-.09760	-.00740	-.00050	.00190	.18470	.03330	.15130	-.34260	-.37200
1.194	6.430	.14350	.07170	-.00380	.00000	.00200	.17630	.03340	.14280	-.34610	-.37070
1.194	8.800	.12720	.23850	.00130	.00030	.00130	.16960	.03450	.13510	-.36210	-.37940
1.194	11.010	.10870	.39390	.00440	.00010	.00160	.16190	.03650	.12530	-.38390	-.40120
	GRADIENT	-.00691	.06948	.00137	-.00004	-.00010	-.00300	-.00051	-.00249	.00636	.00470

MSFC TWT 542 SPACE SHUTTLE ORBITER 01F2W4V11P1 (A69011) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = -30.000
RUDDER = .000 RFLARE = .000
BFLAP = .000

RUN NO. 120/ 0 RN/L = 6.76 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.960	-4.760	.09290	-.33340	-.00570	.00030	.00000	.14010	.01540	.12470	-.20580	-.13730
1.960	-2.510	.08400	-.23340	-.00370	.00030	-.00010	.13510	.01670	.11840	-.21980	-.15050
1.960	-.270	.07710	-.13830	-.00250	.00020	.00000	.13040	.01710	.11330	-.21390	-.16200
1.960	2.010	.07210	-.04220	-.00130	.00020	.00010	.12680	.01660	.11010	-.19910	-.16420
1.960	4.220	.06290	.05090	-.00240	.00010	.00000	.12100	.01800	.10300	-.20630	-.18490
1.960	6.470	.06040	.14120	.00020	.00010	.00020	.11750	.01800	.09940	-.20890	-.18310
1.960	8.690	.05480	.23230	.00260	.00010	.00040	.11100	.01880	.09220	-.20840	-.19790
1.960	10.810	.05340	.31400	.00460	.00010	.00050	.10880	.01800	.08990	-.20890	-.19870
	GRADIENT	-.00320	.04270	.00040	-.00002	.00006	-.00207	.00023	-.00230	.00088	-.00484

RUN NO. 133/ 0 RN/L = 4.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
4.960	-4.250	.03300	-.18120	-.00290	.00260	.00040	.09050	-.00200	.09250	.02870	.01690
4.960	-2.250	.02830	-.12750	-.00170	.00260	.00000	.08300	-.00180	.08480	.02030	.01350
4.960	-.150	.02420	-.07410	-.00170	.00260	.00020	.07420	-.00150	.07570	.02350	.01090
4.960	1.870	.02200	-.02250	-.00020	.00200	.00030	.06870	-.00120	.07000	.01970	.00870
4.960	3.910	.01970	.02510	-.00050	.00250	.00000	.06290	-.00110	.06400	.01820	.00710
4.960	5.970	.01930	.07480	.00030	.00200	-.00020	.06000	-.00090	.06090	.01590	.00510
4.960	7.990	.02130	.12370	.00090	.00250	-.00020	.05810	-.00090	.05890	.01570	.00330
4.960	9.940	.02450	.17070	.00180	.00250	.00000	.05720	-.00060	.05780	.01310	.00230
	GRADIENT	-.00161	.02532	.00027	-.00001	-.00005	-.00340	.00012	-.00351	-.00150	-.00115

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69012) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = -30.000
RUDDER = .000 RFLARE = .000
BFLAP = .000

RUN NO. 42/ 0 RN/L = 4.57 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.600	10.430	.16170	.14960	.00360	.00070	.00170	.09850	.02310	.07530	-.24410	-.25390
.600	12.590	.16710	.27710	.00520	.00110	.00200	.09550	.02240	.07300	-.22180	-.25720
.600	14.730	.17510	.38720	.00710	.00150	.00210	.09130	.02210	.06920	-.20290	-.26570
.600	16.870	.18170	.50820	.00800	.00170	.00280	.08580	.02280	.06290	-.20110	-.27980
.600	18.980	.19060	.61070	.00950	.00140	.00290	.08140	.02390	.05740	-.20670	-.29650
	GRADIENT	.00412	.05006	.00045	.00007	.00019	-.00168	.00030	-.00198	.00094	-.00627

RUN NO. 41/ 0 RN/L = 5.73 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.898	10.930	.14760	.29200	.00270	.00060	.00130	.13360	.03440	.09920	-.35370	-.38290
.898	13.230	.14070	.44800	.00040	.00060	.00110	.12200	.03450	.08740	-.34700	-.39020
.898	15.480	.13230	.59200	.01050	.00100	.00060	.11090	.03590	.07530	-.35530	-.40370
.898	17.690	.12740	.71650	.01230	.00050	.00100	.10530	.03690	.06850	-.36940	-.41740
.898	19.840	.14550	.78900	.01400	.00000	.00010	.10640	.04000	.06640	-.40090	-.44670
.898	21.860	.17310	.80890	.01230	.00120	.00000	.11220	.04360	.06850	-.43080	-.49390
	GRADIENT	.00171	.04806	.00098	.00001	-.00006	-.00211	.00062	-.00294	-.00808	-.01055

RUN NO. 40/ 0 RN/L = 6.14 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.195	11.200	.10610	.30500	.00640	.00010	.00110	.15900	.03620	.12270	-.37000	-.39090
1.195	13.530	.09960	.53900	.00020	.00000	.00000	.15610	.03770	.11830	-.39540	-.41450
1.195	15.800	.09490	.66140	.01000	-.00010	.00130	.15330	.03990	.11430	-.40790	-.42930
1.195	18.120	.09800	.77140	.01250	.00020	.00150	.15080	.04010	.11070	-.41870	-.44150
1.195	20.370	.10200	.87070	.01400	-.00010	.00110	.14660	.04200	.10460	-.43530	-.46510
1.195	22.500	.11120	.95100	.01750	-.00010	.00030	.14150	.04380	.09770	-.45810	-.48270
	GRADIENT	.00046	.04954	.00093	-.00001	-.00004	-.00150	.00066	-.00216	-.00667	-.00739

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69013) (30 MAY 72)

REFERENCE DATA

SREF =	7.8800 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

BETA =	.000	ELEVON =	-30.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	.000		

RUN NO. 123/ 0 RN/L = 6.80 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.950	11.370	.04990	.32510	.00580	.00000	.00020	.10430	.01710	.08720	-.18130	-.18760
1.950	13.480	.05010	.40460	.00640	.00000	.00040	.10050	.01770	.08270	-.19010	-.19200
1.950	15.750	.05100	.49130	.00750	.00000	.00030	.09550	.01800	.07740	-.19180	-.19690
1.950	17.990	.05100	.57500	.00880	.00000	.00020	.09010	.01890	.07110	-.20070	-.20730
1.950	20.240	.05380	.66350	.01020	-.00010	.00030	.08520	.01900	.06610	-.20170	-.20840
1.950	22.530	.05870	.75120	.01200	-.00010	.00040	.08140	.02020	.06120	-.22230	-.21540
1.950	24.760	.06380	.82580	.01430	-.00020	.00040	.07820	.02140	.05680	-.23130	-.23010
1.950	27.000	.07110	.90720	.01140	-.00020	.00160	.07740	.02270	.05470	-.24430	-.24430
1.950	29.230	.08210	.98050	.01610	-.00030	.00040	.07530	.02390	.05140	-.25830	-.25000
	GRADIENT	.00167	.03697	.00055	-.00002	.00004	-.00170	.00037	-.00207	-.00425	-.00378

RUN NO. 136/ 0 RN/L = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
4.959	10.400	.02020	.17930	.00340	.00210	.00000	.05700	-.00080	.05780	.02060	.00000
4.959	12.440	.03120	.22950	.00370	.00200	-.00010	.05740	-.00070	.05820	.01780	.00090
4.959	14.500	.03000	.28270	.00490	.00200	.00000	.05840	-.00050	.05890	.01370	-.00030
4.959	16.530	.04180	.33950	.00560	.00190	.00000	.06050	-.00040	.06090	.01140	-.00040
4.959	18.610	.04740	.39740	.00650	.00190	-.00020	.06190	-.00030	.06220	.00940	-.00000
4.959	20.670	.05410	.46070	.00790	.00180	.00010	.06520	-.00020	.06550	.00760	-.00040
4.959	22.710	.06120	.52030	.00820	.00170	-.00010	.06670	-.00020	.06690	.00760	-.00040
4.959	24.790	.06760	.58470	.00960	.00160	-.00020	.06780	-.00010	.06800	.00580	-.00000
4.959	26.850	.07430	.65200	.01050	.00160	-.00050	.06920	-.00040	.06970	.01110	-.00010
4.959	28.920	.08130	.71810	.01050	.00150	-.00020	.07010	-.00040	.07050	.00900	.00030
4.959	30.900	.08700	.78290	.01150	.00150	-.00030	.07020	-.00030	.07060	.00910	.00050
	GRADIENT	.00305	.02966	.00042	-.00003	-.00002	.00075	.00002	.00073	-.00049	.00001

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69014) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = 10.000
RUDDER = .000 RFLARE = .000
BFLAP = .000

RUN NO. 19/ 0 RN/L = 4.54 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	Cy	CBL	CyN	CA	CAB	CAF	CPC	CPB
.600	-4.250	-.07400	-.01110	.00020	-.00100	.00000	.05100	.01650	.03450	-.15280	-.19640
.600	-2.100	-.07000	.10280	.00290	-.00070	-.00020	.05740	.01610	.04120	-.14320	-.19740
.600	.020	-.06640	.21500	.00450	-.00000	-.00040	.05920	.01970	.03940	-.23520	-.19640
.600	2.180	-.05090	.32820	.00490	-.00240	-.00020	.05720	.02140	.03570	-.20270	-.19200
.600	4.300	-.05400	.44050	.00730	-.00290	-.00050	.05350	.02230	.03110	-.29520	-.19980
.600	6.430	-.05200	.56360	.01250	-.00420	-.00100	.05660	.02360	.03290	-.31280	-.21100
.600	8.590	-.04850	.67940	.01580	-.00350	-.00090	.05830	.02510	.03320	-.33120	-.22450
.600	10.620	-.04700	.78150	.01830	-.00320	-.00150	.05950	.02580	.03360	-.33250	-.23840
	GRADIENT	.00233	.05335	.00076	-.00026	-.00005	.00023	.00079	-.00057	-.01984	-.00009

RUN NO. 20/ 0 RN/L = 5.72 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	Cy	CBL	CyN	CA	CAB	CAF	CPC	CPB
.901	-4.570	-.01940	-.21300	-.00300	-.00130	.00040	.06680	-.00190	.06880	.36070	-.23340
.901	-2.310	-.02880	-.06200	-.00120	-.00120	.00030	.07530	-.00140	.07680	.35830	-.24210
.901	-.020	-.03020	.09090	.00250	-.00120	.00000	.08010	-.00100	.08120	.35510	-.24650
.901	2.200	-.04000	.25020	.00360	-.00110	.00030	.08100	-.00070	.08170	.34050	-.24200
.901	4.590	-.05080	.43150	.00610	-.00110	.00000	.08440	.00030	.08400	.33950	-.26180
.901	6.850	-.07830	.60230	.00910	-.00090	.00000	.08780	.00040	.08730	.35190	-.27240
.901	9.140	-.08050	.74140	.01700	-.00350	-.00090	.08930	.00190	.08730	.34400	-.29560
.901	11.220	-.08440	.84000	.01900	-.00410	-.00170	.09720	.00450	.09270	.34930	-.34730
	GRADIENT	-.00430	.07062	.00110	.00002	-.00004	.00179	.00022	.00155	-.00264	-.00251

RUN NO. 21/ 0 RN/L = 6.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	Cy	CBL	CyN	CA	CAB	CAF	CPC	CPB
1.197	-4.510	-.00990	-.15210	-.00500	-.00070	.00070	.11480	-.00680	.12170	.72530	-.41500
1.197	-2.200	-.03580	.00100	-.00400	-.00100	.00070	.12160	-.00740	.12910	.72250	-.40170
1.197	.000	-.06000	.15110	-.00110	-.00000	.00040	.12610	-.00690	.13300	.70330	-.39020
1.197	2.370	-.08220	.30070	.00160	-.00070	.00030	.12740	-.00570	.13310	.67720	-.40030
1.197	4.680	-.10490	.45610	.00590	.00010	-.00010	.12750	-.00500	.13250	.66400	-.40340
1.197	6.990	-.12380	.60900	.00900	.00000	-.00010	.12800	-.00480	.13280	.67020	-.41190
1.197	9.330	-.14270	.76820	.01320	-.00070	-.00020	.13040	-.00400	.13450	.67370	-.42880
1.197	11.520	-.15330	.90580	.01630	-.00110	-.00030	.13330	-.00310	.13640	.66800	-.44320
	GRADIENT	-.01030	.06006	.00119	.00008	-.00009	.00136	.00023	.00111	-.00732	.00112

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69014) (30 MAY 72)

REFERENCE DATA

SREF =	7.8800 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

BETA =	.000	ELEVON =	10.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	.000		

RUN NO. 121/ 0 RNVL = 6.82 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.948	-4.400	-.02870	-.09410	-.00110	.00080	-.00030	.08130	.01720	.06400	-.18140	-.18900
1.948	-2.250	-.03530	-.00290	.00060	.00070	-.00010	.08500	.01800	.06700	-.18830	-.19800
1.948	.000	-.04250	.09170	.00180	.00060	-.00010	.08770	.01870	.06890	-.19550	-.20600
1.948	2.270	-.05080	.18690	.00330	.00000	-.00020	.08950	.01940	.07010	-.20340	-.21350
1.948	4.470	-.05770	.27410	.00450	.00000	-.00030	.09130	.02010	.07110	-.21180	-.22150
1.948	6.700	-.06420	.36300	.00590	.00050	-.00040	.09300	.02100	.07190	-.22210	-.23030
1.948	8.900	-.06880	.44630	.00740	.00050	-.00040	.09300	.02140	.07240	-.22640	-.23490
1.948	11.000	-.07090	.51980	.00900	.00050	-.00040	.09430	.02180	.07240	-.23120	-.23800
	GRADIENT	-.00328	.04139	.00062	-.00002	-.00000	.00109	.00032	.00077	-.00339	-.00354

RUN NO. 134/ 0 RNVL = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
4.960	-4.220	-.02720	-.07480	-.00160	.00250	.00050	.05350	-.00130	.05480	.02440	.00770
4.960	-2.220	-.02590	-.03450	-.00080	.00240	.00000	.05250	-.00130	.05380	.02180	.00820
4.960	-.100	-.02290	.01000	.00010	.00250	.00020	.05210	-.00100	.05310	.01750	.00610
4.960	1.890	-.02200	.05270	.00060	.00240	.00000	.05140	-.00100	.05250	.01690	.00640
4.960	3.930	-.01930	.09660	.00060	.00240	.00000	.05270	-.00080	.05350	.01440	.00460
4.960	5.970	-.01910	.14250	.00140	.00230	-.00040	.05300	-.00060	.05370	.01270	.00280
4.960	8.030	-.01900	.19330	.00250	.00230	-.00030	.05490	-.00050	.05540	.01100	.00210
4.960	9.000	-.01870	.24200	.00330	.00230	-.00040	.05550	-.00040	.05600	.01090	.00110
	GRADIENT	.00097	.02107	.00028	-.00001	-.00005	-.00013	.00006	-.00019	-.00122	-.00039

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69015) (30 MAY 72)

REFERENCE DATA

SREF =	7.8600 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

BETA =	.000	ELEVON =	10.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	.000		

RUN NO. 43/ 0 RN/L = 4.55 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPD
.598	10.080	-.04720	.79230	.01940	-.00430	-.00160	.05900	.02090	.03800	-.19970	-.24570
.598	13.050	-.04940	.93840	.02310	-.00540	-.00120	.06100	.02280	.03810	-.21480	-.27010
.598	15.180	-.04350	1.02610	.02840	-.00880	-.00130	.06200	.02500	.03690	-.23690	-.29470
.598	17.230	-.03250	1.10810	.03310	-.00990	-.00160	.06440	.02900	.03540	-.26270	-.33510
.598	19.270	.00320	1.08750	.02050	.00210	.00040	.06620	.03540	.03070	-.35210	-.40320
.598	21.240	.02070	1.11530	.01400	-.00020	.00190	.07230	.04230	.03000	-.42170	-.48060
	GRADIENT	.00696	.02978	-.00039	.00057	.00030	.00116	.00204	-.00087	-.02151	-.02216

RUN NO. 44/ 0 RN/L = 5.74 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPD
.902	11.470	-.03020	.84600	.02180	-.00320	-.00190	.09900	.03250	.06650	-.34100	-.35760
.902	13.620	-.03020	.92980	.03310	-.00900	-.00410	.10970	.03800	.07160	-.39650	-.41950
.902	15.670	-.02230	1.05200	.04030	-.01040	-.00480	.11370	.04310	.07060	-.45000	-.47530
.902	18.010	-.06240	1.09340	.02900	-.00500	-.00290	.11850	.05100	.06750	-.54060	-.55500
.902	20.130	-.03140	1.12600	.02040	-.00340	-.00090	.11530	.05640	.05890	-.59170	-.61920
.902	22.150	-.00490	1.14720	.01970	-.00160	-.00090	.11300	.05800	.05490	-.60810	-.63730
	GRADIENT	.00934	.02854	-.00078	.00040	.00022	.00123	.00254	-.00131	-.02034	-.02772

RUN NO. 45/ 0 RN/L = 6.10 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPD
1.194	11.740	-.15190	.89040	.01580	-.00110	-.00040	.13130	.04130	.09000	-.44300	-.44670
1.194	14.070	-.15700	1.02570	.01860	-.00130	-.00050	.13510	.04280	.09230	-.45800	-.46320
1.194	16.340	-.15830	1.14300	.02080	-.00170	-.00070	.13610	.04470	.09140	-.47720	-.48420
1.194	18.590	-.15450	1.25010	.02230	-.00180	-.00090	.13770	.04700	.09070	-.50040	-.51070
1.194	20.800	-.14600	1.33870	.02480	-.00190	-.00100	.13770	.04870	.08890	-.51760	-.53060
1.194	22.900	-.11700	1.38460	.02560	-.00280	-.00080	.12820	.04870	.07950	-.50900	-.53050
	GRADIENT	.00268	.04505	.00089	-.00013	-.00005	-.00006	.00073	-.00080	-.00683	-.00867

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69016) (30 MAY 72)

REFERENCE DATA

SREF =	7.8800 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

BETA =	.000	ELEVON =	10.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	.000		

RUN NO. 122/ 0 RN/L = 6.81 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.949	11.550	-.06920	.52020	.00930	.00040	-.00040	.09090	.02010	.07080	-.21700	-.21620
1.949	13.640	-.07030	.59710	.01050	.00040	-.00050	.09110	.02060	.07040	-.22080	-.22390
1.949	15.900	-.07130	.68280	.01140	.00030	-.00050	.09120	.02110	.07010	-.22600	-.22890
1.949	18.100	-.07240	.77130	.01240	.00030	-.00050	.09200	.02160	.07040	-.23230	-.23270
1.949	20.400	-.07230	.86000	.01400	.00020	-.00020	.09260	.02230	.07030	-.23950	-.24140
1.949	22.700	-.07400	.95980	.01640	.00020	-.00010	.09320	.02300	.07020	-.24840	-.24730
1.949	24.930	-.07340	1.04050	.01610	.00010	.00060	.09290	.02360	.06930	-.25440	-.25480
1.949	27.190	-.07800	1.14400	.01890	.00010	.00020	.09460	.02480	.06970	-.26500	-.26030
1.949	29.440	-.08020	1.23590	.02230	.00010	-.00050	.09420	.02540	.06870	-.27140	-.27640
1.949	31.720	-.08260	1.32730	.02350	.00010	-.00050	.09430	.02600	.06830	-.27970	-.28160
	GRADIENT	-.00061	.04027	.00070	-.00002	.00002	.00020	.00030	-.00011	-.00320	-.00333

RUN NO. 135/ 0 RN/L = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
4.959	10.400	-.01670	.25400	.00380	.00220	.00000	.05600	-.00080	.05690	.02080	.00120
4.959	12.470	-.01610	.30790	.00450	.00220	-.00010	.05890	-.00070	.05960	.01800	.00040
4.959	14.520	-.01640	.36630	.00570	.00210	-.00050	.06140	-.00050	.06200	.01550	-.00030
4.959	16.550	-.01720	.43030	.00630	.00210	-.00050	.06400	-.00030	.06500	.01140	-.00110
4.959	18.630	-.01750	.49740	.00700	.00200	-.00000	.06680	-.00030	.06910	.01040	-.00060
4.959	20.690	-.01810	.56090	.00950	.00200	-.00000	.07330	-.00020	.07350	.00810	-.00110
4.959	22.730	-.01860	.64240	.01010	.00190	-.00050	.07720	-.00010	.07730	.00600	-.00240
4.959	24.820	-.02060	.71880	.01150	.00190	-.00080	.08100	-.00010	.08120	.00630	-.00190
4.959	26.880	-.02260	.79200	.01220	.00180	-.00080	.08430	-.00010	.08450	.00590	-.00130
4.959	28.950	-.02490	.88010	.01390	.00180	-.00050	.08790	-.00030	.08820	.01090	-.00210
4.959	30.920	-.02850	.95080	.01410	.00170	-.00100	.08950	-.00020	.08970	.00830	-.00210
	GRADIENT	-.00053	.03404	.00054	-.00002	-.00004	.00174	.00003	.00171	-.00059	-.00015

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1 (A69017) (30 MAY 72)

REFERENCE DATA

SREF =	7.8800 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

BETA =	.000	ELEVON =	10.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	.000		

RUN NO. 24/ 0 RN/L = 4.54 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAD	CAF	CPC	CPB
.601	-4.280	-.07140	-.04400	-.00610	-.00010	.00100	.06090	.01790	.04300	-.16340	-.21500
.601	-2.140	-.06810	.06720	-.00370	.00000	.00120	.06810	.01800	.05010	-.16630	-.21500
.601	.000	-.06330	.18210	-.00170	.00000	.00050	.06920	.01710	.05210	-.16070	-.20330
.601	2.140	-.05700	.29200	-.00070	-.00130	.00080	.06850	.01810	.05030	-.17160	-.21360
.601	4.250	-.05280	.40710	.00170	-.00100	.00040	.06480	.01800	.04680	-.17530	-.20850
.601	6.380	-.04910	.51240	.00020	-.00350	-.00040	.06460	.01850	.04610	-.17920	-.21430
.601	8.540	-.04010	.61750	.00910	-.00340	.00000	.06700	.02080	.04620	-.20020	-.24230
.601	10.570	-.03600	.72090	.01090	-.00150	.00120	.06600	.02230	.04370	-.21500	-.25990
	GRADIENT	.00226	.05281	.00037	-.00020	-.00007	.00039	.00001	.00037	-.00136	.00067

RUN NO. 23/ 0 RN/L = 5.72 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAD	CAF	CPC	CPB
.900	-4.670	-.01070	-.20270	-.00630	-.00110	.00030	.07430	.02210	.05210	-.22530	-.24830
.900	-2.380	-.02370	-.10710	-.00430	-.00080	.00010	.08390	.02370	.06010	-.24630	-.26300
.900	-.110	-.03420	.04690	-.00140	-.00100	-.00010	.08920	.02470	.06440	-.26210	-.27020
.900	2.140	-.04270	.19570	.00030	-.00070	.00030	.09260	.02610	.06650	-.27090	-.28090
.900	4.430	-.05590	.35380	.00070	.00050	.00000	.09220	.02700	.06520	-.27830	-.30020
.900	6.710	-.07320	.52370	.00510	.00140	.00070	.09620	.02970	.06640	-.31310	-.32620
.900	9.030	-.07390	.67430	.00800	.00000	.00120	.09350	.03140	.06210	-.33120	-.34330
.900	11.130	-.06730	.77880	.01230	-.00630	-.00120	.09590	.03320	.06270	-.35020	-.36350
	GRADIENT	-.00482	.06700	.00082	.00015	.00004	.00196	.00054	.00144	-.00575	-.00571

RUN NO. 22/ 0 RN/L = 6.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAD	CAF	CPC	CPB
1.193	-4.650	-.01020	-.21320	-.00710	-.00050	.00040	.13300	.03980	.09310	.67870	-.42940
1.193	-2.340	-.02040	-.06080	-.00520	-.00080	.00040	.13900	.03910	.09990	.52810	-.42140
1.193	-.070	-.04850	.07930	-.00290	-.00100	.00030	.14050	.03790	.10260	-.13390	-.40880
1.193	2.250	-.07080	.23590	-.00010	-.00070	.00040	.14090	.03820	.10270	-.39850	-.41150
1.193	4.540	-.09410	.39540	.00400	.00000	.00010	.14140	.03870	.10260	-.40150	-.41740
1.193	6.860	-.11350	.55480	.00870	.00000	.00000	.14230	.03990	.10230	-.42250	-.43000
1.193	9.230	-.13080	.71100	.01210	-.00050	-.00010	.14370	.04120	.10240	-.43050	-.44400
1.193	11.420	-.13890	.84630	.01420	-.00110	.00000	.14490	.04290	.10200	-.44630	-.46220
	GRADIENT	-.00915	.06630	.00119	.00005	-.00003	.00081	-.00013	.00095	-.13432	.00147

MSFC TWT 542 SPACE SHUTTLE ORBITER D1F2W4V11P1A1 (A69018) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = -10.000
RUDDER = .000 RFLARE = .000
BFLAP = .000

RUN NO. 25/ 0 RN/L = 4.55 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.603	-4.610	.08070	-.50580	-.00920	.00170	.00170	.03940	.00880	.03050	-.08060	-.10680
.603	-2.460	.08480	-.39170	-.00780	.00010	.00140	.04740	.00870	.03860	-.07750	-.10660
.603	-.330	.08990	-.27930	-.00580	.00040	.00120	.05270	.00920	.04350	-.08080	-.11350
.603	1.820	.09490	-.16040	-.00370	.00030	.00130	.05460	.00980	.04470	-.08790	-.11980
.603	3.940	.10070	-.06140	-.00200	.00050	.00100	.05040	.00970	.04070	-.08580	-.11870
.603	6.080	.10710	.05030	-.00040	.00070	.00120	.04560	.01000	.03560	-.08800	-.12290
.603	8.260	.11540	.16570	.00190	.00000	.00080	.04250	.01020	.03230	-.09100	-.12390
.603	10.260	.12580	.26840	.00330	.00000	.00130	.04280	.01210	.03070	-.11260	-.14380
	GRADIENT	.00234	.05202	.00087	-.00010	-.00007	.00137	.00014	.00124	-.00097	-.00173

RUN NO. 26/ 0 RN/L = 5.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.902	-4.900	.11580	-.54020	-.01070	.00020	.00100	.07400	.01700	.05690	.37850	-.18390
.902	-2.630	.10590	-.39340	-.00910	-.00050	.00120	.08080	.01640	.06440	.38730	-.17670
.902	-.390	.09570	-.24570	-.00610	-.00000	.00100	.08340	.01600	.06730	.39100	-.17320
.902	1.900	.08270	-.08610	-.00340	-.00150	.00080	.08270	.01630	.06590	.38950	-.18090
.902	4.160	.07300	.07190	-.00160	-.00200	.00110	.07900	.01750	.06140	.39020	-.18930
.902	6.410	.07060	.21980	.00160	-.00270	.00070	.07100	.01700	.05330	.38470	-.19010
.902	8.600	.09200	.31730	.00730	-.00400	.00020	.07320	.01870	.05440	.37510	-.20220
.902	10.820	.10410	.41620	.01100	-.00510	-.00060	.08080	.02060	.06010	.38030	-.22200
	GRADIENT	-.00480	.06762	.00106	-.00024	-.00001	.00052	.00006	.00046	.00113	-.00066

RUN NO. 27/ 0 RN/L = 6.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.194	-4.880	.13690	-.47570	-.01060	-.00110	.00190	.12870	.03290	.09570	.73880	-.35510
1.194	-2.590	.12150	-.33660	-.00920	-.00150	.00160	.13250	.03320	.09920	.73020	-.35770
1.194	-.290	.10230	-.18450	-.00670	-.00160	.00160	.13170	.03270	.09900	.73580	-.35210
1.194	2.000	.08320	-.03410	-.00470	-.00150	.00170	.12880	.03230	.09590	.72830	-.35450
1.194	4.310	.06730	.11610	-.00190	-.00090	.00170	.12440	.03330	.09100	.71920	-.35060
1.194	6.620	.05020	.27280	.00240	-.00080	.00140	.12060	.03460	.08600	.73280	-.37260
1.194	8.960	.03690	.42620	.00650	-.00080	.00140	.11760	.03600	.08160	.73060	-.38770
1.194	11.190	.02670	.56160	.00910	-.00120	.00140	.11370	.03620	.07740	.72670	-.39070
	GRADIENT	-.00773	.06470	.00095	.00002	-.00001	-.00054	.00002	-.00055	-.00179	-.00017

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1 (A69019) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = .000
RUDDER = .000 RFLARE = .000
BFLAP = .000

RUN NO. 30/ 0 RN/L = 4.53 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.599	-4.410	.00280	-.26230	-.00540	-.00220	.00110	.03890	.01390	.02500	-.33350	-.14980
.599	-2.290	.00780	-.15250	-.00340	-.00190	.00080	.04600	.01390	.03200	-.33010	-.15060
.599	-.160	.01140	-.04040	-.00220	-.00180	.00070	.04970	.01300	.03610	-.32840	-.14640
.599	1.900	.01560	.07130	.00110	-.00160	.00080	.04920	.01410	.03510	-.33830	-.15210
.599	4.100	.02080	.18620	.00320	-.00200	.00070	.04500	.01470	.03030	-.34220	-.15840
.599	6.210	.02530	.29830	.00610	-.00130	.00030	.04090	.01480	.02600	-.33730	-.16000
.599	8.360	.03300	.40500	.00890	-.00320	.00010	.04030	.01500	.02530	-.33770	-.16160
.599	10.410	.03970	.51540	.01030	-.00200	.00010	.03880	.01620	.02250	-.34220	-.17510
	GRADIENT	.00206	.05269	.00102	.00003	-.00004	.00072	.00000	.00064	-.00120	-.00088

RUN NO. 29/ 0 RN/L = 5.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.899	-4.740	.02870	-.35700	-.00780	.00000	.00030	.06620	.01720	.04900	.38190	-.18500
.899	-2.490	.02710	-.22200	-.00780	-.00230	.00080	.07080	.01720	.05360	.38120	-.18530
.899	-.260	.03660	-.11180	-.00570	-.00100	.00070	.07150	.01640	.05500	.38510	-.17700
.899	1.900	.05120	-.00930	-.00380	.00040	.00070	.06990	.01490	.05490	.38630	-.16000
.899	4.200	.05560	.11520	-.00160	.00220	.00090	.06530	.01560	.04970	.37980	-.16790
.899	6.430	.05590	.24540	.00150	-.00110	.00080	.06050	.01650	.04400	.37530	-.17790
.899	8.730	.04910	.40300	.00850	-.00210	.00050	.06100	.01880	.04210	.38210	-.20310
.899	10.890	.05070	.52090	.00970	-.00300	-.00040	.06450	.02210	.04240	.37020	-.23020
	GRADIENT	.00349	.05185	.00073	.00024	.00005	-.00012	-.00025	.00012	.00004	.00268

RUN NO. 28/ 0 RN/L = 6.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.194	-4.750	.00870	-.34690	-.01030	-.00170	.00140	.11230	.03340	.07880	.73240	-.36040
1.194	-2.470	.01140	-.20300	-.00740	-.00190	.00130	.11620	.03240	.08380	.73410	-.34950
1.194	-.170	.01180	-.05550	-.00580	-.00190	.00110	.11570	.03180	.08390	.73670	-.34230
1.194	2.120	.01200	.09400	-.00330	-.00170	.00140	.11320	.03090	.08220	.73010	-.33300
1.194	4.430	-.00760	.25110	.00040	-.00100	.00130	.11120	.03090	.08030	.73780	-.33300
1.194	6.750	-.02480	.40590	.00510	-.00060	.00090	.10920	.03170	.07740	.72770	-.34220
1.194	9.060	-.03680	.55500	.00860	-.00040	.00070	.10930	.03370	.07550	.72520	-.36330
1.194	11.280	-.04830	.68640	.01090	-.00080	.00070	.10790	.03570	.07220	.72380	-.38530
	GRADIENT	-.00837	.06507	.00111	.00007	-.00009	-.00023	-.00028	.00006	.00030	.00308

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1 (A69020) (30 MAY 72)

REFERENCE DATA

SREF =	7.8800 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

BETA =	.000	ELEVON =	.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	.000		

RUN NO. 31/ 0 RN/L = 4.52 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPD
.598	10.680	.03860	.51690	.01150	-.00270	.00010	.03970	.01570	.02390	-.32890	-.16910
.598	12.820	.04100	.64220	.01380	-.00200	.00010	.03780	.01700	.02080	-.33150	-.18300
.598	14.900	.04260	.78930	.01640	-.00260	.00050	.03380	.01830	.01550	-.33970	-.19800
.598	17.110	.04920	.89080	.01910	-.00330	.00000	.02880	.01840	.01030	-.33880	-.19840
.598	19.180	.07540	.94080	.02370	-.00390	-.00010	.02520	.02280	.00240	-.34550	-.24550
.598	21.100	.09690	.90660	.01440	-.00030	.00190	.04330	.02970	.01350	-.33770	-.32000
	GRADIENT	.00543	.04056	.00066	.00007	.00011	-.00037	.00118	-.00155	-.00118	-.01273

RUN NO. 32/ 0 RN/L = 5.69 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPD
.894	11.160	.04780	.52840	.01120	-.00340	-.00050	.06590	.02170	.04410	.37740	-.23420
.894	13.360	.04500	.65610	.01300	-.00210	-.00020	.06090	.02540	.04350	.37400	-.27370
.894	15.600	.03780	.78290	.01660	-.00200	-.00060	.07400	.03170	.04280	.37110	-.34170
.894	17.800	.04320	.88250	.02620	-.00540	-.00240	.07950	.03780	.04160	.37140	-.40720
.894	19.900	.07260	.89890	.01390	-.00330	.00020	.08210	.04710	.03500	.36630	-.50710
.894	21.930	.08210	.94580	.01130	-.00060	.00020	.08750	.05160	.03590	.37030	-.55500
	GRADIENT	.00339	.03872	.00019	.00009	.00004	.00202	.00292	-.00089	-.00036	-.03134

RUN NO. 33/ 0 RN/L = 6.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPD
1.191	11.510	-.04920	.67920	.01180	-.00060	.00050	.10920	.03570	.07340	.73100	-.38400
1.191	13.800	-.04950	.80300	.01310	-.00100	.00080	.10700	.03710	.07040	.72860	-.40000
1.191	16.101	-.05000	.92850	.01630	-.00110	.00030	.10480	.03910	.06570	.73290	-.42100
1.191	18.340	-.05310	1.03800	.01910	-.00160	.00010	.10090	.04120	.05970	.72600	-.44360
1.191	20.580	-.04850	1.13740	.02010	-.00200	.00010	.09720	.04340	.05380	.72930	-.46720
1.191	22.730	-.04000	1.22560	.02110	-.00190	-.00010	.09200	.04480	.04780	.73120	-.48290
	GRADIENT	.00065	.04888	.00089	-.00013	-.00007	-.00150	.00085	-.00233	-.00005	-.00910

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1 (A69021) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

ALPHA = .000 ELEVON = .000
RUDDER = .000 RFLARE = .000
BFLAP = .000

RUN NO. 60/ 0 RN/L = 4.55 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.604	-6.110	.00700	-.01740	.08200	.00190	-.00040	.04570	.01430	.03140	-.13650	-.16730
.604	-3.070	.01050	-.02240	.04180	-.00030	.00050	.04850	.01410	.03440	-.13020	-.16800
.604	-2.020	.01020	-.02150	.03010	-.00080	.00030	.04830	.01390	.03430	-.12990	-.16540
.604	-1.000	.01110	-.02110	.01780	-.00140	.00030	.05000	.01370	.03620	-.12920	-.16210
.604	.000	.01250	-.01900	.00600	-.00200	.00030	.05010	.01360	.03640	-.12920	-.16020
.604	1.000	.01160	-.02480	-.00750	-.00270	.00050	.04890	.01330	.03560	-.12300	-.15930
.604	2.020	.01110	-.02290	-.02070	-.00350	.00050	.04970	.01310	.03660	-.12280	-.15550
.604	3.040	.01070	-.02190	-.03230	-.00400	.00040	.04950	.01360	.03580	-.13090	-.15900
.604	6.090	.00760	-.01610	-.07250	-.00640	.00050	.04710	.01390	.03310	-.14270	-.15530
	GRADIENT	.00010	-.00017	-.01229	-.00063	.00001	.00017	-.00012	.00029	.00064	.00175

RUN NO. 59/ 0 RN/L = 5.70 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.903	-6.190	.03170	-.08120	.08340	.00830	.00050	.00020	.01750	.05060	-.18500	-.19190
.903	-3.120	.03530	-.08600	.04220	.00410	.00040	.00020	.01670	.05240	-.17260	-.18600
.903	-2.000	.03650	-.08600	.02050	.00280	.00030	.00000	.01650	.05330	-.16810	-.18040
.903	-1.030	.03650	-.08740	.01530	.00140	.00030	.00000	.01600	.05380	-.16330	-.18050
.903	.000	.03690	-.08620	.00110	-.00010	.00070	.00000	.01630	.05440	-.16090	-.18210
.903	1.020	.03690	-.08570	-.01130	-.00150	.00040	.00000	.01620	.05440	-.16020	-.17910
.903	2.050	.03530	-.08510	-.02310	-.00270	.00010	.00020	.01600	.05340	-.17780	-.18410
.903	3.070	.03450	-.08270	-.03510	-.00400	.00010	.00000	.01600	.05320	-.18230	-.18090
.903	6.190	.02010	-.07520	-.07420	-.00750	.00000	.00630	.01600	.04950	-.17300	-.18030
	GRADIENT	-.00015	.00057	-.01254	-.00132	-.00004	.00013	.00004	.00011	-.00184	.00093

RUN NO. 58/ 0 RN/L = 6.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.201	-6.240	.02740	-.04020	.08750	.00920	-.00090	.11270	.03260	.08010	-.35170	-.35080
1.201	-3.120	.02990	-.04000	.04240	.00370	.00000	.11390	.03140	.08240	-.34010	-.33740
1.201	-2.000	.03030	-.04150	.02800	.00190	.00010	.11400	.03120	.08280	-.33350	-.33770
1.201	-1.020	.03050	-.04230	.01380	.00020	.00020	.11390	.03070	.08310	-.32520	-.33590
1.201	.000	.03030	-.04180	-.00050	-.00150	.00050	.11390	.03000	.08320	-.32240	-.33490
1.201	1.010	.03030	-.04230	-.01490	-.00320	.00080	.11450	.03130	.08310	-.33130	-.34150
1.201	2.040	.03090	-.04310	-.02850	-.00490	.00090	.11530	.03240	.08290	-.34260	-.35380
1.201	3.110	.03060	-.04440	-.04200	-.00640	.00100	.11540	.03290	.08250	-.34550	-.36120
1.201	6.230	.02810	-.04000	-.08760	-.01190	.00210	.11450	.03390	.08060	-.35750	-.37150
	GRADIENT	.00011	-.00050	-.01363	-.00163	.00018	.00027	.00026	.00002	-.00139	-.00377

MSFC TWT 542 SPACE SHUTTLE ORBITER 01F2W4V11P1A1 (A69022) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

ALPHA = .000 ELEVON = -10.000
RUDDER = .000 RFLARE = .000
BFLAP = .000

RUN NO. 55/ 0 RN/L = 4.53 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.601	-6.100	.08680	-.25470	.07330	.00290	.00160	.05060	.01190	.03860	-.11530	-.13870
.601	-3.070	.09170	-.26160	.03480	.00150	.00200	.05260	.01150	.04100	-.11390	-.13240
.601	-2.030	.09110	-.26320	.02210	.00100	.00160	.05240	.01150	.04090	-.11070	-.13500
.601	-1.020	.09220	-.26230	.01150	.00060	.00110	.05280	.01150	.04120	-.11090	-.13420
.601	.000	.09310	-.26300	-.00030	.00010	.00120	.05370	.01160	.04210	-.11210	-.13550
.601	1.010	.09250	-.26100	-.01250	-.00050	.00120	.05370	.01180	.04190	-.11440	-.13670
.601	2.020	.09110	-.26130	-.02520	-.00100	.00060	.05280	.01200	.04080	-.12410	-.13370
.601	3.040	.09110	-.26470	-.03680	-.00130	.00060	.05340	.01250	.04090	-.13560	-.13370
.601	6.090	.08910	-.25640	-.07610	-.00270	.00060	.05130	.01300	.03820	-.14770	-.13590
	GRADIENT	-.00005	-.00015	-.01171	-.00047	-.00021	.00014	.00015	.00001	-.00335	-.00014

RUN NO. 56/ 0 RN/L = 5.70 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.901	-6.200	.08570	-.19870	.08380	.00410	.00070	.07860	.01830	.06020	-.19200	-.20180
.901	-3.100	.09150	-.21210	.03960	.00130	.00150	.08160	.01820	.06330	-.19680	-.19680
.901	-2.060	.09260	-.21040	.02550	.00080	.00150	.08170	.01790	.06380	-.19470	-.19130
.901	-1.010	.09230	-.20440	.01320	-.00070	.00120	.08150	.01720	.06420	-.18730	-.18450
.901	.000	.09310	-.20560	.00080	-.00150	.00090	.08230	.01770	.06450	-.19410	-.18090
.901	1.020	.09320	-.20480	-.01190	-.00230	.00070	.08270	.01730	.06540	-.18890	-.18430
.901	2.050	.09400	-.20940	-.02470	-.00300	.00050	.08220	.01720	.06500	-.19390	-.17950
.901	3.090	.09210	-.20740	-.03710	-.00380	.00020	.08160	.01800	.06360	-.20350	-.18000
.901	6.170	.08710	-.20640	-.08060	-.00620	.00090	.07800	.01710	.06090	-.18400	-.18520
	GRADIENT	.00019	.00055	-.01235	-.00081	-.00022	.00008	-.00007	.00016	-.00069	.00186

RUN NO. 57/ 0 RN/L = 6.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.203	-6.250	.09470	-.16360	.08940	.01100	-.00080	.12650	.03200	.09440	-.33020	-.35600
1.203	-3.120	.09790	-.16400	.04200	.00460	.00060	.12900	.03190	.09700	-.32970	-.35470
1.203	-2.060	.09850	-.16470	.02650	.00260	.00090	.12980	.03180	.09800	-.32580	-.35590
1.203	-1.020	.09950	-.16740	.01210	.00050	.00090	.12940	.03130	.09800	-.32130	-.34950
1.203	.000	.10010	-.16760	-.00200	-.00110	.00120	.12970	.03090	.09880	-.31940	-.34260
1.203	1.030	.10060	-.16790	-.01630	-.00290	.00120	.12990	.03090	.09890	-.32040	-.34360
1.203	2.070	.10080	-.16940	-.03010	-.00470	.00120	.13010	.03140	.09860	-.32650	-.34740
1.203	3.110	.10010	-.16970	-.04400	-.00650	.00130	.12970	.03180	.09790	-.33170	-.35120
1.203	6.240	.09710	-.17020	-.09060	-.01240	.00250	.12780	.03240	.09530	-.34100	-.35630
	GRADIENT	.00042	-.00093	-.01378	-.00177	.00010	.00011	-.00005	.00017	-.00022	.00115

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69023) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = .000
RUDDER = 30.000 RFLARE = .000
BFLAP = .000

RUN NO. 108/ 0 RNL = 4.53 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.598	-4.400	.03800	-.28880	.08320	.01340	-.02770	.07000	.03400	.03600	-.29740	-.41840
.598	-2.270	.04140	-.17800	.08470	.01320	-.02760	.07670	.03440	.04230	-.30150	-.42200
.598	-.130	.04460	-.05860	.08540	.01300	-.02700	.08060	.03430	.04630	-.27880	-.43790
.598	2.020	.04710	.06240	.08530	.01200	-.02690	.07830	.03460	.04370	-.28710	-.43770
.598	4.120	.05110	.17360	.08780	.01170	-.02670	.07350	.03290	.04050	-.25320	-.43040
.598	6.280	.05480	.29740	.09170	.01200	-.02650	.07130	.03260	.03870	-.24040	-.43490
.598	8.400	.05970	.41300	.09370	.01080	-.02700	.07040	.03210	.03830	-.24870	-.41900
.598	10.430	.06400	.52640	.09640	.01070	-.02710	.07000	.03310	.03690	-.25490	-.43250
	GRADIENT	.00150	.05465	.00046	-.00019	.00013	.00041	-.00009	.00049	.00481	-.00187

RUN NO. 107/ 0 RNL = 5.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.901	-4.700	.08700	-.40260	.07950	.01880	-.02910	.10040	.03620	.06410	-.33070	-.43530
.901	-2.440	.08350	-.25980	.08070	.01630	-.02880	.10430	.03590	.06830	-.31800	-.43030
.901	-.170	.08140	-.11940	.08410	.01630	-.02920	.10390	.03300	.06990	-.28950	-.41610
.901	2.000	.09570	-.00810	.08760	.01570	-.02900	.09960	.03280	.06670	-.28220	-.40670
.901	4.300	.10490	.10760	.08870	.01470	-.02860	.09810	.03130	.06680	-.27440	-.38400
.901	6.570	.09830	.25230	.09200	.01550	-.02850	.09460	.03120	.06340	-.29060	-.37030
.901	8.790	.08540	.39200	.09500	.01080	-.02910	.10350	.03430	.06920	-.33000	-.39400
.901	10.920	.07150	.52990	.10150	.01050	-.03020	.10510	.03590	.06910	-.35910	-.40740
	GRADIENT	.00213	.05655	.00112	-.00039	.00004	-.00041	-.00057	.00017	.00601	.00001

RUN NO. 106/ 0 RNL = 6.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.194	-4.600	.12670	-.34530	.06050	.01410	-.02350	.14070	.03300	.10760	-.32670	-.37750
1.194	-2.270	.09660	-.18080	.06170	.01370	-.02340	.14570	.03400	.11160	-.35270	-.37770
1.194	.020	.06930	-.02190	.06350	.01380	-.02320	.14860	.03520	.11330	-.36830	-.38780
1.194	2.330	.04520	.12990	.06450	.01420	-.02260	.14730	.03600	.11120	-.37650	-.39750
1.194	4.590	.02400	.28090	.06750	.01460	-.02280	.14650	.03790	.10860	-.39500	-.41830
1.194	6.890	.00260	.43110	.07120	.01460	-.02290	.14340	.04010	.10330	-.41920	-.44190
1.194	9.190	-.01290	.58020	.07490	.01440	-.02290	.14010	.04030	.09970	-.42330	-.44340
1.194	11.370	-.02510	.71250	.07650	.01360	-.02220	.13690	.04090	.09590	-.41830	-.45750
	GRADIENT	-.01118	.06802	.00073	.00006	.00010	.00058	.00051	.00007	-.00698	-.00441

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69024) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

ALPHA = .000 ELEVON = .000
RUDDER = 30.000 RFLARE = .000
BFLAP = .000

RUN NO. 67/ 0 RN/L = 4.54 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.603	-6.150	.04110	-.04380	.17640	.01660	-.02860	.08080	.03090	.04980	-.28360	-.37090
.603	-3.120	.04300	-.04660	.13870	.01530	-.02930	.08000	.03220	.04770	-.30820	-.37670
.603	-2.080	.04390	-.04620	.12440	.01440	-.02910	.08050	.03310	.04740	-.31870	-.38550
.603	-1.040	.04400	-.04810	.11050	.01370	-.02870	.08080	.03250	.04830	-.31600	-.37530
.603	-.040	.04420	-.04730	.09430	.01270	-.02810	.08000	.03150	.04840	-.28930	-.37820
.603	.950	.04440	-.04570	.08040	.01160	-.02770	.08010	.03090	.04910	-.27510	-.37760
.603	1.980	.04500	-.04770	.06710	.01080	-.02730	.08030	.03120	.04900	-.29310	-.36900
.603	3.000	.04460	-.04600	.05380	.00990	-.02700	.07980	.03340	.04640	-.34080	-.37490
.603	6.060	.04320	-.04550	.00910	.00650	-.02500	.07700	.03110	.04580	-.31890	-.34810
	GRADIENT	.00026	-.00002	-.01403	-.00090	.00040	-.00006	-.00006	.00000	-.00022	.00127

RUN NO. 68/ 0 RN/L = 5.70 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.897	-6.260	.08070	-.11330	.17570	.02230	-.02920	.10350	.03280	.07060	-.31240	-.38460
.897	-3.190	.08560	-.11240	.13020	.01930	-.03080	.10260	.03300	.06950	-.32780	-.37730
.897	-2.110	.08600	-.11330	.12550	.01780	-.03090	.10190	.03310	.06880	-.33490	-.37300
.897	-1.100	.08580	-.10800	.11170	.01600	-.03070	.10070	.03280	.06780	-.33240	-.36990
.897	-.070	.08630	-.11220	.09630	.01530	-.03040	.10030	.03250	.06770	-.32990	-.37020
.897	.930	.08660	-.10770	.08150	.01340	-.02900	.10120	.03310	.06810	-.33470	-.37280
.897	1.980	.08510	-.10390	.06710	.01240	-.02920	.10040	.03400	.06630	-.36470	-.36080
.897	3.010	.08220	-.10300	.05250	.01110	-.02850	.09820	.03420	.06400	-.38480	-.35650
.897	6.130	.07670	-.09650	.00140	.00620	-.02430	.09420	.03270	.06140	-.35190	-.35360
	GRADIENT	-.00039	.00170	-.01413	-.00135	.00040	-.00055	.00020	-.00074	-.00009	.00240

RUN NO. 69/ 0 RN/L = 6.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.196	-6.300	.07030	-.02480	.16000	.02530	-.02790	.14560	.03570	.10980	-.37430	-.39290
1.196	-3.190	.07180	-.02370	.11740	.01930	-.02580	.14790	.03530	.11200	-.36470	-.39170
1.196	-2.100	.07190	-.02190	.10070	.01740	-.02510	.14860	.03510	.11340	-.36320	-.39020
1.196	-1.080	.07150	-.02260	.08490	.01560	-.02450	.14790	.03440	.11340	-.35600	-.38240
1.196	-.040	.07230	-.02320	.06990	.01400	-.02390	.14860	.03440	.11410	-.35720	-.38140
1.196	.990	.07180	-.02300	.05470	.01240	-.02330	.14790	.03460	.11320	-.36140	-.38230
1.196	2.030	.07260	-.02420	.03980	.01080	-.02270	.14800	.03450	.11340	-.35930	-.38170
1.196	3.070	.07290	-.02550	.02410	.00910	-.02190	.14720	.03450	.11270	-.36010	-.38010
1.196	6.200	.06060	-.02110	-.02990	.00280	-.01780	.14070	.03230	.10830	-.33390	-.35960
	GRADIENT	.00017	-.00036	-.01484	-.00161	.00061	-.00011	-.00012	.00000	.00056	.00178

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69025) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

ALPHA = 10.000 ELEVON = .000
RUDDER = 30.000 RFLARE = .000
BFLAP = .000

RUN NO. 78/ 0 RNVL = 4.51 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.596	-6.160	.06500	.54150	.19810	.02020	-.03080	.07030	.03840	.03190	-.37670	-.44180
.596	-3.100	.06300	.54850	.15790	.01600	-.03050	.06980	.03750	.03230	-.39970	-.40660
.596	-2.080	.06230	.54370	.14200	.01410	-.03010	.06930	.03700	.03230	-.39820	-.39910
.596	-1.070	.06230	.54950	.12720	.01220	-.02960	.06970	.03730	.03240	-.38800	-.41170
.596	-.040	.06280	.54710	.10080	.01050	-.02820	.06960	.03460	.03490	-.33720	-.40040
.596	.950	.06330	.54670	.09200	.00900	-.02710	.06940	.03090	.03840	-.26410	-.38460
.596	1.980	.06400	.54900	.07820	.00730	-.02640	.06930	.02990	.03930	-.23590	-.38750
.596	3.000	.06290	.54210	.06350	.00550	-.02570	.06760	.02940	.03820	-.23850	-.37500
.596	6.000	.05040	.54440	.01370	-.00100	-.02270	.06420	.03330	.03080	-.30800	-.39720
	GRADIENT	.00014	-.00040	-.01568	-.00170	.00085	-.00024	-.00158	.00132	.03275	.00904

RUN NO. 77/ 0 RNVL = 5.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.903	-6.280	.06320	.56510	.19840	.01890	-.03070	.10830	.03780	.07050	-.37010	-.43560
.903	-3.160	.06640	.56220	.15980	.01480	-.03190	.10810	.03800	.06950	-.41100	-.42020
.903	-2.150	.06620	.56390	.14650	.01390	-.03220	.10760	.03830	.06920	-.41430	-.41200
.903	-1.110	.06660	.56380	.13100	.01290	-.03220	.10660	.03770	.06890	-.41350	-.40030
.903	-.080	.06770	.55630	.11470	.01020	-.03130	.10670	.03700	.06970	-.40740	-.39190
.903	.930	.06620	.56670	.09830	.00960	-.03090	.10610	.03740	.06860	-.39980	-.40550
.903	1.980	.06750	.56200	.08360	.00750	-.02990	.10670	.03790	.06880	-.40440	-.41120
.903	3.010	.06820	.56210	.06970	.00560	-.02960	.10620	.03830	.06780	-.42500	-.40380
.903	6.110	.06610	.55500	.01930	-.00270	-.02760	.10310	.03440	.06860	-.34210	-.39330
	GRADIENT	.00026	-.00000	-.01496	-.00151	.00046	-.00028	-.00007	-.00021	-.00030	.00150

RUN NO. 76/ 0 RNVL = 6.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.199	-6.280	-.02130	.70890	.15970	.02660	-.02250	.13530	.04100	.09420	-.42850	-.45270
1.199	-3.160	-.02550	.72060	.11880	.02090	-.02270	.13750	.04140	.09600	-.43820	-.45210
1.199	-2.100	-.02450	.72100	.10540	.01870	-.02260	.13790	.04140	.09640	-.43890	-.45190
1.199	-1.060	-.02410	.72140	.09270	.01640	-.02260	.13750	.04140	.09610	-.43670	-.45300
1.199	-.050	-.02330	.72060	.08050	.01410	-.02260	.13720	.04080	.09630	-.42940	-.44750
1.199	.980	-.02380	.72140	.06760	.01170	-.02260	.13660	.04040	.09620	-.42670	-.44150
1.199	2.010	-.02420	.72250	.05490	.00940	-.02270	.13640	.04150	.09490	-.45140	-.44330
1.199	3.050	-.02390	.72300	.04250	.00730	-.02260	.13640	.04210	.09420	-.46420	-.44600
1.199	6.170	-.02490	.72340	.00010	.00050	-.02240	.13370	.04080	.09280	-.42060	-.45470
	GRADIENT	.00020	.00042	-.01229	-.00222	.00000	-.00025	.00005	-.00029	-.00322	.00158

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69026) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = .000
RUDDER = .000 RFLARE = 30.000
BFLAP = .000

RUN NO. 97/ 0 RN/L = 4.55 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPD
.602	-4.430	.07780	-.36330	-.00650	-.00200	.00270	.10040	.03770	.06260	-.35480	-.44540
.602	-2.300	.08070	-.24970	-.00480	-.00190	.00230	.10700	.03810	.06890	-.36950	-.44130
.602	-.170	.08440	-.13220	-.00270	-.00190	.00240	.11170	.03790	.07370	-.38150	-.42910
.602	1.960	.08850	-.01730	-.00170	-.00170	.00230	.11110	.03730	.07370	-.38170	-.41670
.602	4.100	.09290	.10020	-.00050	-.00220	.00220	.10700	.03890	.06810	-.39970	-.43300
.602	6.230	.09780	.21800	.00270	-.00220	.00190	.10250	.03880	.06360	-.40810	-.42660
.602	8.370	.10110	.33250	.00590	-.00300	.00180	.10140	.03990	.06140	-.41830	-.43970
.602	10.370	.10810	.44230	.00740	-.00290	.00180	.10120	.04170	.05950	-.41210	-.47660
	GRADIENT	.00178	.05433	.00071	-.00001	-.00005	.00081	.00007	.00074	-.00478	.00226

RUN NO. 98/ 0 RN/L = 5.68 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPD
.900	-4.740	.13080	-.47300	-.01300	-.00280	.00300	.13000	.03780	.09210	-.39050	-.41990
.900	-2.490	.12820	-.33630	-.00980	-.00280	.00260	.13420	.03800	.09610	-.39970	-.41750
.900	-.230	.12870	-.19870	-.00690	-.00190	.00220	.13410	.03840	.09570	-.41320	-.41380
.900	2.000	.14070	-.08790	-.00450	-.00020	.00210	.13190	.03740	.09450	-.40420	-.40190
.900	4.250	.15180	.03040	-.00330	.00000	.00250	.13040	.03670	.09370	-.39700	-.39300
.900	6.530	.14850	.17430	.00050	.00130	.00250	.12930	.03610	.09060	-.39720	-.39060
.900	8.740	.13090	.30900	.00180	-.00250	.00230	.12990	.03830	.09160	-.41280	-.41280
.900	10.870	.12520	.44670	.00580	-.00260	.00170	.13280	.03920	.09350	-.41380	-.42900
	GRADIENT	.00242	.05587	.00110	.00029	-.00007	-.00007	-.00012	.00007	-.00084	.00303

RUN NO. 99/ 0 RN/L = 6.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPD
1.197	-4.580	.18680	-.40620	-.01180	-.00210	.00380	.18370	.03420	.14940	-.33230	-.39040
1.197	-2.270	.15480	-.23440	-.00840	-.00200	.00320	.18680	.03400	.15280	-.33700	-.38900
1.197	.030	.12560	-.07100	-.00610	-.00170	.00300	.18680	.03360	.15320	-.33360	-.38370
1.197	2.330	.10170	.08200	-.00520	-.00090	.00350	.18380	.03050	.15330	-.29580	-.35330
1.197	4.620	.07980	.23050	-.00170	-.00020	.00280	.17980	.03210	.14760	-.33140	-.35700
1.197	6.940	.06030	.38350	.00150	.00000	.00240	.17520	.03190	.14320	-.29880	-.37710
1.197	9.220	.04150	.53330	.00550	-.00020	.00250	.17110	.03430	.13670	-.33430	-.39710
1.197	11.400	.02660	.66970	.00860	-.00030	.00220	.16700	.03700	.12940	-.38140	-.42380
	GRADIENT	-.01161	.06912	.00102	.00021	-.00007	-.00047	-.00033	-.00013	.00187	.00498

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69027) (30 MAY 72)

REFERENCE DATA

SREF = 7.6800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

ALPHA = .000 ELEVON = .000
RUDDER = .000 RFLARE = 30.000
BFLAP = .000

RUN NO. 90/ 0 RN/L = 4.55 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.600	-6.120	.08090	-.10960	.09810	.00320	-.00400	.10400	.03590	.06810	-.35990	-.40640
.600	-3.000	.08250	-.11140	.05240	.00040	-.00150	.10760	.03870	.06880	-.41430	-.41920
.600	-2.020	.08340	-.11230	.03710	-.00040	-.00050	.10960	.03870	.07090	-.41450	-.41840
.600	-1.000	.08310	-.11070	.02150	-.00130	.00030	.10990	.03800	.07190	-.41070	-.40870
.600	-.010	.08240	-.11230	.00580	-.00210	.00140	.10900	.03600	.07200	-.38370	-.40800
.600	1.000	.08370	-.11140	-.00830	-.00290	.00240	.11020	.03500	.07510	-.36080	-.39010
.600	2.020	.08390	-.10980	-.02500	-.00380	.00320	.11020	.03320	.07690	-.32360	-.38420
.600	3.040	.08300	-.10750	-.04000	-.00470	.00390	.10870	.03230	.07630	-.30360	-.38220
.600	6.090	.08200	-.10680	-.08590	-.00720	.00660	.10570	.03370	.07190	-.32520	-.39260
	GRADIENT	.00011	.00056	-.01519	-.00084	.00091	.00017	-.00117	.00133	.01985	.00697

RUN NO. 89/ 0 RN/L = 5.72 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.903	-6.210	.12520	-.17100	.10510	.00680	-.00610	.12600	.03610	.08980	-.37730	-.39800
.903	-3.110	.12800	-.17140	.05380	.00260	-.00210	.12940	.03590	.09340	-.39210	-.39290
.903	-2.070	.12900	-.17200	.03660	.00110	-.00110	.12960	.03570	.09380	-.39360	-.37800
.903	-1.040	.12820	-.16710	.02090	-.00010	-.00010	.12870	.03530	.09330	-.39110	-.37340
.903	-.010	.12690	-.17100	.00350	-.00160	.00110	.12840	.03550	.09280	-.39550	-.37200
.903	1.020	.12740	-.17080	-.01310	-.00300	.00230	.12920	.03530	.09380	-.38600	-.37680
.903	2.050	.12680	-.16090	-.03020	-.00420	.00340	.12860	.03430	.09430	-.36540	-.37220
.903	3.080	.12680	-.17060	-.04650	-.00540	.00480	.12850	.03450	.09400	-.36660	-.37640
.903	6.180	.12190	-.17210	-.09620	-.00890	.00820	.12480	.03610	.08870	-.38950	-.38830
	GRADIENT	-.00037	.00010	-.01623	-.00130	.00111	-.00015	-.00024	.00011	.00476	.00100

RUN NO. 88/ 0 RN/L = 6.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.202	-6.240	.12250	-.06070	.09630	.00980	-.00340	.17830	.03070	.14750	-.28060	-.36380
1.202	-3.140	.12560	-.06760	.04590	.00380	-.00010	.18200	.03000	.15260	-.27070	-.36250
1.202	-2.080	.12540	-.06650	.03040	.00200	.00060	.18280	.03000	.15270	-.26830	-.36430
1.202	-1.020	.12540	-.06730	.01410	.00020	.00140	.18290	.02980	.15310	-.27100	-.35820
1.202	.000	.12600	-.06620	-.00110	-.00150	.00230	.18400	.02960	.15440	-.27180	-.35530
1.202	1.030	.12590	-.06590	-.01720	-.00330	.00320	.18390	.02940	.15440	-.27120	-.35200
1.202	2.080	.12610	-.06020	-.03280	-.00500	.00370	.18230	.02890	.15340	-.26620	-.34510
1.202	3.110	.12700	-.07070	-.04710	-.00650	.00440	.18210	.02920	.15290	-.27080	-.34850
1.202	6.240	.12290	-.06770	-.09820	-.01220	.00760	.17910	.02970	.14940	-.28850	-.34400
	GRADIENT	.00021	-.00039	-.01500	-.00166	.00074	-.00005	-.00017	.00012	.00013	.00297

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69028) (30 MAY 72)

REFERENCE DATA

SREF = 7.6800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

ALPHA = 10.000 ELEVON = .000
RUDDER = .000 RFLARE = 30.000
BFLAP = .000

RUN NO. 85/ 0 RN/L = 4.56 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.601	-6.120	.09030	.48700	.11230	.00940	-.00460	.09360	.04040	.05320	-.36560	-.48710
.601	-3.080	.09880	.47770	.06430	.00270	-.00160	.09690	.04010	.05670	-.39090	-.46290
.601	-2.040	.10070	.47520	.04700	.00030	-.00040	.09730	.04020	.05700	-.39720	-.46110
.601	-1.020	.10210	.47680	.03320	-.00140	.00000	.09820	.03990	.05830	-.39980	-.45260
.601	.000	.10340	.48110	.01820	-.00320	.00070	.09910	.03950	.06050	-.37060	-.44870
.601	.990	.10390	.47270	.00290	-.00480	.00130	.09830	.03680	.06140	-.33470	-.44300
.601	2.000	.10470	.47300	-.01190	-.00640	.00210	.09870	.03590	.06270	-.31450	-.44200
.601	3.040	.10350	.47610	-.02500	-.00820	.00260	.09810	.03430	.06370	-.29860	-.42400
.601	6.090	.09940	.48010	-.07380	-.01370	.00690	.09630	.03310	.06320	-.28550	-.40970
	GRADIENT	.00084	-.00046	-.01469	-.00174	.00066	.00023	-.00102	.00125	.01780	.00579

RUN NO. 86/ 0 RN/L = 5.73 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.899	-6.210	.10200	.50530	.11540	.00800	-.00460	.12330	.03990	.08330	-.38360	-.46570
.899	-3.110	.11370	.49210	.06590	.00230	-.00150	.13070	.03940	.09120	-.41620	-.43180
.899	-2.070	.11670	.48770	.04900	.00080	-.00060	.13120	.03900	.09150	-.42590	-.42820
.899	-1.040	.11820	.48670	.03300	-.00001	.00000	.13170	.03950	.09210	-.42670	-.42550
.899	-.010	.11870	.49090	.01720	-.00180	.00070	.13310	.03730	.09570	-.38460	-.41520
.899	1.000	.11920	.49250	.00120	-.00330	.00150	.13370	.03650	.09710	-.35800	-.42010
.899	2.030	.11890	.49170	-.01370	-.00460	.00170	.13280	.03600	.09670	-.35030	-.41690
.899	3.060	.11870	.49520	-.02700	-.00680	.00220	.13390	.03540	.09850	-.33450	-.41610
.899	6.180	.11330	.48990	-.07300	-.01440	.00420	.13040	.03620	.09420	-.37430	-.40240
	GRADIENT	.00071	.00080	-.01513	-.00142	.00060	.00051	-.00077	.00129	.01613	.00261

RUN NO. 87/ 0 RN/L = 6.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.198	-6.230	.02540	.66180	.09820	.01150	-.00060	.16060	.03430	.12630	-.35470	-.38110
1.198	-3.140	.02280	.67920	.05430	.00690	.00110	.16320	.03240	.13070	-.30460	-.38370
1.198	-2.080	.02330	.68010	.04050	.00450	.00130	.16420	.03540	.12880	-.35070	-.40460
1.198	-1.020	.02410	.68350	.02750	.00230	.00110	.16560	.03660	.12890	-.36990	-.41370
1.198	.000	.02510	.68240	.01380	.00010	.00160	.16550	.03630	.12910	-.35980	-.41470
1.198	1.020	.02480	.68120	.00150	-.00200	.00160	.16430	.03680	.12750	-.37870	-.40980
1.198	2.060	.02580	.67950	-.00920	-.00370	.00100	.16390	.03810	.12580	-.41110	-.41110
1.198	3.090	.02650	.67820	-.02190	-.00560	.00090	.16280	.03720	.12560	-.40920	-.39530
1.198	6.210	.02580	.67270	-.06740	-.01200	.00290	.15940	.03810	.12130	-.41840	-.40540
	GRADIENT	.00058	-.00022	-.01220	-.00201	-.00002	-.00010	.00060	-.00078	-.01531	-.00154

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69029) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

ALPHA = 20.000 ELEVON = .000
RUDDER = .000 RFLARE = 30.000
BFLAP = .000

RUN NO. 96/ 0 RN/L = 4.55 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.602	-6.120	.13650	.98520	.11460	.00770	-.00070	.09460	.05760	.03690	-.61630	-.62410
.602	-3.050	.13970	.96300	.06580	.00440	.00080	.09950	.05560	.04390	-.58410	-.60930
.602	-2.030	.14180	.96690	.04850	.00240	.00160	.09950	.05330	.04620	-.51390	-.61900
.602	-1.010	.14110	.95450	.03000	.00140	.00230	.09960	.04990	.04970	-.44790	-.60550
.602	.000	.14110	.95720	.01060	-.00010	.00360	.10190	.04720	.05460	-.41910	-.57570
.602	1.030	.14110	.95660	-.00840	-.00160	.00450	.10240	.04960	.05270	-.44110	-.60450
.602	2.050	.14020	.96180	-.02340	-.00300	.00520	.10280	.04930	.05340	-.46250	-.58370
.602	3.000	.14130	.96020	-.03630	-.00630	.00590	.10290	.04850	.05440	-.46590	-.56530
.602	6.110	.14050	.96060	-.07030	-.01320	.00700	.09780	.04550	.05230	-.40940	-.55130
	GRADIENT	.00006	.00037	-.01712	-.00165	.00087	.00069	-.00104	.00171	.01626	.00713

RUN NO. 95/ 0 RN/L = 5.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.899	-6.230	.12720	.99440	.10640	.00780	.00860	.13290	.05860	.07420	-.66450	-.60700
.899	-3.100	.13120	.99830	.06460	.00350	.00320	.13700	.06100	.07600	-.67410	-.64420
.899	-2.090	.13060	.99800	.05150	.00220	.00200	.13640	.06010	.07630	-.67190	-.62920
.899	-1.090	.12620	1.00130	.03410	.00100	.00120	.13510	.05850	.07660	-.61690	-.64000
.899	.000	.12630	.99680	.01950	-.00030	.00080	.13500	.05630	.07870	-.56690	-.63540
.899	1.040	.12770	.99940	.00320	-.00230	.00060	.13750	.05610	.08130	-.55610	-.64150
.899	2.080	.13020	.99870	-.01200	-.00390	.00040	.13990	.05560	.08430	-.55400	-.63250
.899	3.110	.13130	.99420	-.02630	-.00550	-.00040	.14050	.05480	.08560	-.55090	-.62000
.899	6.230	.13300	.99120	-.06460	-.01090	-.00520	.13900	.05300	.08540	-.52890	-.61440
	GRADIENT	.00003	-.00044	-.01488	-.00147	-.00051	.00069	-.00104	.00171	.02301	.00223

RUN NO. 94/ 0 RN/L = 6.09 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.198	-6.270	.03310	1.14630	.11800	.01200	.00040	.15240	.04750	.10460	-.47520	-.53970
1.198	-3.160	.03220	1.15880	.08080	.00540	-.00240	.15410	.05390	.10010	-.56550	-.59250
1.198	-2.100	.03180	1.16190	.06340	.00340	-.00170	.15400	.05230	.10220	-.55990	-.56660
1.198	-1.050	.03140	1.16310	.04380	.00110	-.00070	.15640	.05270	.10370	-.56570	-.56940
1.198	.000	.03170	1.16730	.02510	-.00100	.00020	.15870	.05280	.10590	-.57340	-.56510
1.198	1.050	.03340	1.15980	.00210	-.00340	.00180	.15920	.04900	.11010	-.49410	-.55310
1.198	2.090	.03630	1.15590	-.01510	-.00560	.00230	.16000	.04980	.11010	-.49760	-.56640
1.198	3.140	.03710	1.15600	-.03080	-.00770	.00270	.16030	.04930	.11090	-.49830	-.55680
1.198	6.260	.03520	1.15670	-.06970	-.01470	.00070	.15510	.05190	.10320	-.55300	-.56370
	GRADIENT	.00087	-.00080	-.01816	-.00210	.00088	.00110	-.00077	.00186	.01353	.00423

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2 (A69030) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = .000
RUDDER = .000 RFLARE = 30.000
BFLAP = .000

RUN NO. 102/ 0 RN/L = 4.52 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.598	-4.430	.07870	-.36630	-.00870	-.00200	.00280	.10060	.03330	.06720	-.32200	-.38000
.598	-2.310	.08150	-.25080	-.00690	-.00190	.00250	.10730	.03410	.07310	-.33380	-.39370
.598	-.180	.08410	-.14250	-.00530	-.00200	.00190	.11080	.03390	.07680	-.33630	-.38820
.598	1.960	.08710	-.02670	-.00170	-.00150	.00200	.11010	.03430	.07570	-.34030	-.39220
.598	4.080	.09090	.08850	-.00120	-.00220	.00150	.10500	.03430	.07060	-.35010	-.38520
.598	6.240	.09500	.20910	.00180	-.00230	.00110	.10050	.03550	.06490	-.37700	-.38780
.598	8.350	.10130	.32300	.00540	-.00310	.00150	.10040	.03730	.06300	-.40510	-.40020
.598	10.370	.10800	.42560	.00680	-.00240	.00150	.09990	.03890	.06100	-.41970	-.41870
	GRADIENT	.00141	.05363	.00095	.00000	-.00015	.00054	.00010	.00044	-.00294	.00023

RUN NO. 101/ 0 RN/L = 5.70 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.903	-4.760	.13190	-.48050	-.01080	-.00150	.00260	.13060	.03220	.09830	-.28100	-.39770
.903	-2.500	.12920	-.34300	-.00910	-.00270	.00250	.13570	.03180	.10390	-.27720	-.39180
.903	-.240	.12760	-.20550	-.00570	-.00180	.00220	.13340	.03070	.10270	-.27130	-.37620
.903	2.010	.13070	-.08900	-.00450	-.00030	.00240	.13040	.03070	.09970	-.28050	-.36820
.903	4.230	.14860	.02520	-.00410	.00000	.00280	.12800	.03100	.09700	-.30510	-.35650
.903	6.510	.14630	.16760	-.00010	.00130	.00280	.12530	.03280	.09240	-.33640	-.36580
.903	8.730	.13780	.30340	.00090	-.00220	.00260	.12860	.03520	.09340	-.37260	-.38470
.903	10.880	.12350	.45080	.00460	-.00200	.00190	.13260	.03680	.09380	-.40800	-.42530
	GRADIENT	.00190	.05625	.00080	.00024	.00001	-.00047	-.00016	-.00030	-.00228	.00471

RUN NO. 100/ 0 RN/L = 6.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.195	-4.620	.18540	-.42250	-.01170	-.00200	.00340	.17970	.03140	.14820	-.30400	-.36410
1.195	-2.290	.15400	-.24470	-.00910	-.00210	.00300	.18180	.03070	.15110	-.27780	-.37030
1.195	.010	.12460	-.07900	-.00640	-.00170	.00280	.18210	.03070	.15130	-.29690	-.35730
1.195	2.330	.10060	.07700	-.00610	-.00100	.00310	.17960	.03040	.14920	-.25530	-.38240
1.195	4.600	.07770	.22720	-.00200	-.00020	.00260	.17510	.03200	.14300	-.26240	-.40680
1.195	6.900	.05450	.37980	.00180	.00000	.00230	.17120	.03300	.13810	-.28960	-.40520
1.195	9.200	.03800	.52770	.00530	-.00020	.00250	.16650	.03620	.13020	-.34570	-.42390
1.195	11.370	.02510	.65640	.00870	.00000	.00210	.16170	.04020	.12150	-.41970	-.44300
	GRADIENT	-.01166	.07031	.00097	.00020	-.00006	-.00049	.00004	-.00053	.00459	-.00422

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2 (A69031) (30 MAY 72)

REFERENCE DATA

SREF =	7.8600 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

ALPHA =	.000	ELEVON =	.000
RUDDER =	.000	RFLARE =	30.000
BFLAP =	.000		

RUN NO. 91/ 0 RN/L = 4.53 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.599	-6.120	.08260	-.12190	.09810	.00270	-.00420	.10730	.03590	.07140	-.34080	-.42110
.599	-3.060	.08380	-.12560	.05290	.00040	-.00180	.10990	.03220	.07760	-.30520	-.37900
.599	-2.020	.08240	-.12610	.03630	-.00020	-.00090	.10900	.03010	.07880	-.29020	-.34970
.599	-1.000	.08390	-.12570	.02150	-.00110	.00000	.11030	.03140	.07890	-.32120	-.35150
.599	.000	.08340	-.12680	.00520	-.00190	.00110	.11060	.03350	.07710	-.34220	-.37450
.599	1.000	.08350	-.12570	-.01000	-.00310	.00250	.11150	.03640	.07500	-.36050	-.40200
.599	2.020	.08280	-.12340	-.02630	-.00400	.00360	.11120	.03530	.07580	-.37060	-.38820
.599	3.040	.08210	-.12260	-.04210	-.00470	.00460	.11080	.03400	.07610	-.34130	-.39720
.599	6.090	.07880	-.12170	-.08600	-.00680	.00660	.10780	.03510	.07260	-.34390	-.40430
	GRADIENT	-.00017	.00051	-.01556	-.00088	.00108	.00029	.00079	-.00051	-.01154	-.00638

RUN NO. 92/ 0 RN/L = 5.73 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.899	-6.210	.12400	-.18790	.10000	.00620	-.00640	.12680	.03370	.09310	-.30590	-.40610
.899	-3.130	.12690	-.18670	.05560	.00230	-.00280	.13090	.02820	.10270	-.26100	-.33590
.899	-2.050	.12750	-.18040	.03770	.00100	-.00140	.13190	.02950	.10230	-.27310	-.35240
.899	-1.040	.12750	-.18250	.02090	-.00010	-.00010	.13250	.02930	.10310	-.26640	-.35370
.899	-.010	.12750	-.18320	.00370	-.00140	.00150	.13230	.03000	.10220	-.27100	-.36370
.899	1.020	.12690	-.18210	-.01520	-.00300	.00330	.13260	.03060	.10190	-.28600	-.36240
.899	2.050	.12490	-.18110	-.02980	-.00430	.00400	.13190	.03850	.09330	-.39500	-.43010
.899	3.080	.12470	-.18210	-.04660	-.00540	.00540	.13200	.03910	.09280	-.39350	-.45040
.899	6.180	.12140	-.17870	-.09700	-.00870	.00900	.12870	.03950	.08910	-.38030	-.45930
	GRADIENT	-.00043	.00045	-.01654	-.00127	.00134	.00012	.00180	-.00169	-.02185	-.01756

RUN NO. 93/ 0 RN/L = 6.09 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.199	-6.240	.12000	-.08040	.09420	.01010	-.00320	.17540	.02960	.14580	-.28910	-.34110
1.199	-3.120	.12310	-.07630	.04650	.00410	-.00000	.18020	.02920	.15090	-.26120	-.35590
1.199	-2.060	.12310	-.07690	.03090	.00220	.00000	.18040	.03140	.14900	-.26190	-.39660
1.199	-1.020	.12390	-.07770	.01480	.00030	.00110	.18100	.02980	.15120	-.24820	-.37650
1.199	.000	.12360	-.07710	-.00020	-.00140	.00210	.18000	.02860	.15130	-.26560	-.32640
1.199	1.030	.12310	-.07550	-.01670	-.00340	.00350	.17950	.03010	.14930	-.32260	-.32680
1.199	2.070	.12380	-.07690	-.03280	-.00510	.00430	.18010	.02890	.15110	-.28340	-.33360
1.199	3.110	.12370	-.07890	-.04730	-.00670	.00490	.17940	.03020	.14910	-.30260	-.34260
1.199	6.230	.11910	-.07330	-.09700	-.01270	.00780	.17610	.03260	.14350	-.33520	-.36350
	GRADIENT	.00008	-.00019	-.01518	-.00175	.00095	-.00015	-.00006	-.00011	-.00831	.00740

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V1P1R2 (A69032) (30 MAY 72)

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REFERENCE DATA

SREF = 7.6800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

ALPHA = 10.000 ELEVON = .000
RUDDER = .000 RFLARE = 30.000
BFLAP = .000

RUN NO. 84/ 0 RN/L = 4.58 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.600	-6.120	.09130	.47490	.11000	.00830	-.00430	.09450	.04090	.05350	-.36910	-.49510
.600	-3.060	.09930	.46750	.06340	.00240	-.00100	.09700	.04080	.05610	-.36080	-.48410
.600	-2.040	.10170	.46380	.04710	.00040	-.00050	.09810	.04080	.05720	-.35190	-.47050
.600	-1.020	.10190	.45850	.03240	-.00130	-.00010	.09790	.04040	.05740	-.35280	-.46750
.600	-.010	.10390	.47020	.01890	-.00300	.00000	.09940	.03910	.06020	-.37070	-.45900
.600	.990	.10440	.46150	.00280	-.00440	.00130	.09900	.03840	.06050	-.36020	-.44790
.600	2.020	.10560	.46540	-.01050	-.00600	.00210	.09870	.03720	.06140	-.36230	-.43070
.600	3.040	.10480	.46310	-.02540	-.00760	.00220	.09720	.03450	.06270	-.30920	-.41800
.600	6.090	.10050	.46650	-.07160	-.01200	.00610	.09610	.03370	.06230	-.28670	-.42140
	GRADIENT	.00094	-.00025	-.01447	-.00162	.00063	.00010	-.00099	.00110	.01051	.01083

RUN NO. 83/ 0 RN/L = 5.74 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.902	-6.210	.10440	.50100	.11410	.00800	-.00480	.12640	.03620	.09010	-.29950	-.45800
.902	-3.100	.11360	.49040	.06410	.00240	-.00190	.13080	.03800	.09270	-.34820	-.45000
.902	-2.050	.11540	.48150	.04700	.00070	-.00070	.13110	.03930	.09180	-.38020	-.45500
.902	-1.020	.11730	.48130	.03240	-.00060	.00000	.13230	.04040	.09180	-.40070	-.46100
.902	-.010	.11780	.48640	.01770	-.00180	.00060	.13340	.03870	.09470	-.37430	-.44970
.902	1.000	.11840	.48870	.00070	-.00320	.00150	.13310	.03750	.09550	-.36040	-.43690
.902	2.050	.11820	.48790	-.01300	-.00470	.00190	.13250	.03590	.09660	-.33940	-.42190
.902	3.060	.11830	.48430	-.02880	-.00650	.00290	.13250	.03300	.09880	-.30030	-.40880
.902	6.170	.11550	.48000	-.07420	-.01400	.00490	.13130	.03610	.09510	-.36230	-.40910
	GRADIENT	.00072	.00006	-.01496	-.00139	.00073	.00030	-.00080	.00110	.00922	.00811

RUN NO. 82/ 0 RN/L = 6.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.200	-6.220	.02950	.64490	.09130	.01000	.00010	.16270	.03720	.12550	-.36970	-.42400
1.200	-3.110	.02430	.66480	.05240	.00680	.00070	.16340	.03910	.12420	-.37580	-.45650
1.200	-2.070	.02440	.66780	.03090	.00470	.00090	.16380	.04050	.12320	-.39750	-.46020
1.200	-1.040	.02610	.66360	.02020	.00390	.00060	.16260	.04130	.12130	-.41210	-.46910
1.200	.000	.02670	.66330	.01570	.00190	.00060	.16210	.04150	.12050	-.42410	-.46450
1.200	1.000	.02700	.66350	.00310	-.00030	.00080	.16200	.04170	.12030	-.44150	-.45490
1.200	2.060	.02630	.66400	-.00900	-.00270	.00060	.16150	.03930	.12210	-.39960	-.44140
1.200	3.090	.02720	.66330	-.02120	-.00490	.00070	.16290	.03730	.12560	-.37750	-.41970
1.200	6.200	.03350	.65990	-.06270	-.01050	.00200	.16550	.03630	.12920	-.38130	-.39810
	GRADIENT	.00046	-.00042	-.01189	-.00187	-.00001	-.00023	-.00026	.00004	-.00132	.00003

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2 (A69033) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = .000
RUDDER = 30.000 RFLARE = .000
BFLAP = .000

RUN NO. 103/ 0 RN/L = 4.53 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.601	-4.420	.04420	-.31540	.08310	.01280	-.02760	.07410	.03820	.03590	-.39330	-.42530
.601	-2.290	.04680	-.19950	.08300	.01250	-.02730	.08170	.03870	.04300	-.39850	-.43050
.601	-.150	.05210	-.08090	.08430	.01230	-.02710	.08590	.03860	.04730	-.38840	-.43610
.601	2.000	.05550	.03590	.08480	.01210	-.02660	.08370	.03860	.04510	-.37880	-.44400
.601	4.110	.05820	.14830	.08470	.01110	-.02640	.07840	.03690	.04150	-.34620	-.43590
.601	6.240	.06080	.26500	.08720	.01110	-.02580	.07460	.03440	.04010	-.30270	-.42190
.601	8.370	.06740	.37970	.08910	.01000	-.02570	.07510	.03230	.04270	-.26140	-.41420
.601	10.400	.07270	.48490	.09180	.01000	-.02620	.07350	.03200	.04150	-.24960	-.41610
	GRADIENT	.00163	.05446	.00023	-.00018	.00015	.00050	-.00013	.00062	.00533	-.00163

RUN NO. 104/ 0 RN/L = 5.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.903	-4.740	.09750	-.43280	.07650	.01800	-.02780	.10760	.04090	.06660	-.43430	-.44630
.903	-2.480	.09330	-.29300	.07950	.01630	-.02800	.11080	.04020	.07050	-.42500	-.43990
.903	-.210	.08930	-.14810	.08140	.01540	-.02810	.11060	.03850	.07200	-.39550	-.43040
.903	2.040	.10170	-.03250	.08440	.01400	-.02840	.10610	.03770	.06840	-.38930	-.41840
.903	4.270	.11040	.08590	.08370	.01350	-.02780	.10220	.03410	.06800	-.33570	-.39240
.903	6.550	.10530	.23140	.08720	.01450	-.02740	.09970	.03170	.06800	-.29000	-.37980
.903	8.770	.09390	.36740	.09130	.01070	-.02790	.10570	.03510	.07050	-.35230	-.39770
.903	10.900	.08070	.51010	.09020	.01030	-.02880	.10900	.03560	.07330	-.35530	-.40550
	GRADIENT	.00151	.05759	.00086	-.00050	-.00002	-.00069	-.00071	.00003	.01032	.00573

RUN NO. 105/ 0 RN/L = 6.88 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.197	-4.630	.13200	-.36450	.05970	.01400	-.02400	.14810	.04110	.10690	-.39320	-.48100
1.197	-2.310	.10400	-.19870	.06090	.01370	-.02300	.15280	.04110	.11170	-.39870	-.47520
1.197	-.010	.07710	-.04100	.06190	.01360	-.02330	.15480	.04100	.11370	-.40870	-.46720
1.197	2.290	.05380	.10950	.06240	.01380	-.02260	.15380	.04080	.11300	-.41860	-.45580
1.197	4.560	.03290	.26010	.06570	.01410	-.02270	.15130	.04170	.10960	-.43550	-.45930
1.197	6.860	.01350	.40900	.06760	.01380	-.02220	.14770	.04220	.10540	-.44320	-.46320
1.197	9.170	-.00120	.55370	.06950	.01320	-.02160	.14380	.04180	.10190	-.42780	-.46770
1.197	11.350	-.01270	.68850	.07140	.01250	-.02100	.14190	.04320	.09870	-.43940	-.48400
	GRADIENT	-.01081	.06778	.00059	.00001	.00016	.00032	.00004	.00029	-.00454	.00274

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2 (A69034) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6020 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

ALPHA = .000 ELEVON = .000
RUDDER = 30.000 RFLARE = .000
BFLAP = .000

RUN NO. 66/ 0 RN/L = 4.54 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.602	-6.150	.04730	-.05860	.17190	.01510	-.02730	.08690	.03260	.05430	-.26230	-.41820
.602	-3.100	.05030	-.06460	.13440	.01410	-.02860	.08630	.03590	.05030	-.33830	-.42410
.602	-2.060	.05190	-.06360	.12140	.01370	-.02830	.08660	.03640	.05020	-.35300	-.42220
.602	-1.000	.05200	-.06660	.10640	.01300	-.02790	.08610	.03630	.04970	-.34280	-.42730
.602	-.040	.05240	-.06670	.09190	.01220	-.02750	.08610	.03540	.05070	-.33150	-.41920
.602	.970	.05250	-.06650	.07710	.01130	-.02700	.08580	.03590	.04990	-.33980	-.42200
.602	1.990	.05190	-.06530	.06310	.01010	-.02650	.08470	.03700	.04700	-.39410	-.41440
.602	2.980	.05210	-.06200	.05120	.00920	-.02590	.08490	.03810	.04670	-.40640	-.41420
.602	6.000	.05030	-.06110	.00030	.00610	-.02280	.08100	.03170	.04920	-.31820	-.35990
	GRADIENT	.00021	.00016	-.01394	-.00083	.01144	-.00029	.00030	-.00060	-.00998	.00176

RUN NO. 65/ 0 RN/L = 5.70 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.900	-6.250	.08690	-.13760	.17070	.02050	-.02810	.11130	.03700	.07420	-.34140	-.44180
.900	-3.160	.09160	-.13770	.13410	.01830	-.02990	.11120	.03740	.07380	-.30990	-.42740
.900	-2.110	.09220	-.13640	.12100	.01690	-.03010	.11040	.03720	.07320	-.37210	-.42230
.900	-1.080	.09170	-.13470	.10650	.01570	-.02970	.10880	.03780	.07100	-.38600	-.42350
.900	-.000	.09150	-.13290	.09230	.01450	-.02940	.10810	.03810	.06990	-.39610	-.42150
.900	.940	.09080	-.13400	.07860	.01340	-.02900	.10750	.03880	.06870	-.42830	-.40970
.900	1.990	.08940	-.12980	.06360	.01180	-.02820	.10610	.03830	.06780	-.42640	-.40210
.900	3.020	.08810	-.12500	.04720	.01030	-.02680	.10600	.03770	.06830	-.41830	-.39700
.900	6.140	.08320	-.11600	-.00880	.00550	-.02180	.10330	.03440	.06890	-.35250	-.38400
	GRADIENT	-.00059	.00181	-.01403	-.00127	.00048	-.00089	.00014	-.00103	-.01028	.00505

RUN NO. 64/ 0 RN/L = 6.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.196	-6.280	.08000	-.04650	.15960	.02480	-.02700	.15280	.04120	.11150	-.42360	-.45930
1.196	-3.180	.08030	-.04450	.11480	.01920	-.02580	.15460	.03960	.11500	-.40360	-.44400
1.196	-2.120	.08080	-.04570	.09990	.01740	-.02550	.15470	.03940	.11530	-.40300	-.44020
1.196	-1.080	.08110	-.04440	.08430	.01560	-.02490	.15570	.03920	.11650	-.40290	-.43680
1.196	-.040	.08110	-.04410	.06940	.01380	-.02440	.15570	.03940	.11620	-.40470	-.43950
1.196	.970	.08100	-.04410	.05450	.01220	-.02350	.15560	.03980	.11570	-.40970	-.44320
1.196	2.010	.08150	-.04520	.03980	.01060	-.02300	.15490	.03970	.11520	-.40650	-.44320
1.196	3.070	.08100	-.04630	.02380	.00890	-.02220	.15410	.03990	.11410	-.40630	-.44030
1.196	6.190	.07770	-.04360	-.02660	.00290	-.01890	.14740	.03770	.10970	-.39020	-.41850
	GRADIENT	.00012	-.00014	-.01456	-.00165	.00059	-.00004	.00007	-.00013	-.00075	-.00087

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2 (A69035) (30 MAY 72)

REFERENCE DATA

SREF = 7.8600 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

ALPHA = 10.000 ELEVON = .000
RUDDER = 30.000 RFLARE = .000
BFLAP = .000

RUN NO. 79/ 0 RN/L = 4.53 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.600	-6.100	.06900	.51850	.19510	.02060	-.03080	.07130	.03980	.03140	-.40810	-.44520
.600	-3.100	.07250	.52080	.15210	.01580	-.02940	.07380	.04030	.03340	-.43820	-.43140
.600	-2.080	.07290	.51810	.13470	.01390	-.02860	.07390	.03980	.03400	-.42240	-.43410
.600	-1.000	.07200	.51220	.11670	.01100	-.02760	.07290	.03600	.03690	-.33510	-.42740
.600	-.040	.07430	.52030	.10280	.01000	-.02690	.07460	.03380	.04070	-.27780	-.43000
.600	.950	.07420	.51890	.08740	.00820	-.02630	.07410	.03200	.04140	-.23890	-.43660
.600	1.990	.07500	.51300	.07230	.00650	-.02560	.07370	.03180	.04180	-.23600	-.42300
.600	3.000	.07410	.51340	.05970	.00480	-.02500	.07290	.03110	.04180	-.23530	-.41100
.600	6.060	.07200	.51250	.01460	-.00080	-.02290	.07040	.03680	.03300	-.33000	-.44230
	GRADIENT	.00039	-.00091	-.01516	-.00180	.00072	-.00007	-.00165	.00159	.03781	.00261

RUN NO. 80/ 0 RN/L = 5.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.904	-6.260	.07170	.54230	.19150	.01860	-.02970	.11110	.04000	.07100	-.42310	-.43800
.904	-3.170	.07300	.53780	.15320	.01490	-.03130	.11150	.03980	.07160	-.43110	-.42820
.904	-2.140	.07650	.53600	.13970	.01360	-.03130	.11210	.04000	.07200	-.43530	-.42790
.904	-1.100	.07680	.53840	.12400	.01190	-.03080	.11170	.04000	.07160	-.43680	-.42760
.904	-.070	.07730	.53750	.10800	.01030	-.03000	.11130	.04030	.07100	-.44090	-.42940
.904	.960	.07640	.54240	.09180	.00840	-.02940	.11130	.03820	.07310	-.37290	-.44150
.904	1.990	.07700	.54330	.07610	.00710	-.02860	.11190	.03880	.07300	-.38200	-.44570
.904	3.020	.07700	.54520	.06460	.00530	-.02880	.11110	.04130	.06980	-.44890	-.44150
.904	6.110	.07810	.53760	.02060	-.00220	-.02810	.10870	.03950	.06910	-.39500	-.44900
	GRADIENT	.00037	.00141	-.01474	-.00157	.00049	-.00007	.00001	-.00007	.00405	-.00309

RUN NO. 81/ 0 RN/L = 6.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.199	-6.260	-.00660	.67680	.14990	.02320	-.02010	.13820	.04110	.09700	-.41950	-.46080
1.199	-3.150	-.01340	.69330	.11440	.01980	-.02170	.14100	.04260	.09830	-.45000	-.46620
1.199	-2.120	-.01270	.69470	.10200	.01770	-.02170	.14240	.04240	.09990	-.43880	-.47130
1.199	-1.080	-.01180	.69360	.08950	.01540	-.02170	.14290	.04260	.10030	-.44130	-.47190
1.199	-.050	-.01190	.69620	.07770	.01320	-.02180	.14290	.04190	.10090	-.42960	-.46870
1.199	.980	-.01170	.69300	.06550	.01090	-.02200	.14180	.04120	.10050	-.42770	-.45690
1.199	2.020	-.01190	.69740	.05390	.00880	-.02240	.14250	.04240	.10010	-.44870	-.46260
1.199	3.050	-.01180	.69770	.04280	.00680	-.02280	.14230	.04320	.09900	-.46770	-.46450
1.199	6.160	-.01220	.69770	.00380	.00090	-.02310	.14070	.04490	.09570	-.46790	-.49630
	GRADIENT	.00022	.00064	-.01158	-.00212	-.00017	.00010	.00001	.00009	-.00205	.00129

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2 (A69036) (30 MAY 72)

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REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = .000
RUDDER = .000 RFLARE = .000
BFLAP = .000

RUN NO. 114/ 0 RN/L = 4.54 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.599	-4.410	.02290	-.28280	-.00430	-.00170	.00070	.03670	.01550	.02110	-.13960	-.18770
.599	-2.280	.02780	-.17030	-.00210	-.00140	.00060	.04470	.01620	.02840	-.14930	-.19300
.599	-.150	.03090	-.05550	.00030	-.00080	.00030	.04740	.01610	.03120	-.14410	-.19670
.599	1.980	.03580	.00010	.00230	-.00090	.00010	.04660	.01640	.03010	-.15130	-.19720
.599	4.110	.04120	.17370	.00350	-.00140	.00010	.04240	.01730	.02500	-.16430	-.20350
.599	6.260	.04560	.28850	.00590	-.00120	.00000	.03050	.01720	.02230	-.16710	-.20040
.599	8.380	.05340	.40570	.00880	-.00240	-.00010	.04050	.01890	.02160	-.18550	-.21790
.599	10.410	.05940	.51640	.01000	-.00230	-.00010	.04030	.01900	.02070	-.19160	-.22000
	GRADIENT	.00209	.05368	.00094	.00005	-.00008	.00062	.00018	.00045	-.00241	-.00165

RUN NO. 113/ 0 RN/L = 5.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.898	-4.730	.05720	-.38500	-.00720	-.00040	.00060	.06250	.02050	.04200	-.21000	-.22900
.898	-2.470	.05280	-.23990	-.00540	-.00030	.00060	.06570	.01990	.04580	-.19540	-.22830
.898	-.210	.05560	-.10670	-.00280	.00020	.00040	.06580	.01900	.04680	-.17910	-.22420
.898	2.050	.07300	.00240	-.00130	.00080	.00060	.06210	.01700	.04440	-.16710	-.20670
.898	4.270	.08390	.11910	.00100	.00110	.00070	.06120	.01780	.04330	-.17060	-.20750
.898	6.520	.08010	.25900	.00320	.00180	.00040	.05090	.01880	.04010	-.18550	-.21570
.898	8.750	.07030	.38680	.00570	-.00050	.00020	.06570	.02120	.04440	-.20580	-.24550
.898	10.880	.05910	.51980	.01140	-.00210	-.00070	.06880	.02350	.04520	-.23540	-.26770
	GRADIENT	.00326	.05553	.00091	.00018	.00001	-.00027	-.00034	.00005	.00482	.00287

RUN NO. 112/ 0 RN/L = 6.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.194	-4.670	.09830	-.34400	-.01070	-.00160	.00200	.10380	.03340	.07000	-.36080	-.36640
1.194	-2.350	.07190	-.17900	-.00840	-.00170	.00190	.10800	.03340	.07460	-.36050	-.35910
1.194	-.050	.04760	-.02250	-.00690	-.00170	.00220	.10980	.03170	.07810	-.33460	-.34720
1.194	2.270	.02600	.12530	-.00380	-.00130	.00180	.10750	.03040	.07710	-.31920	-.33460
1.194	4.520	.00720	.27410	.00020	-.00060	.00140	.10570	.03080	.07490	-.31970	-.34070
1.194	6.850	-.01030	.42330	.00440	-.00020	.00110	.10410	.03190	.07220	-.32910	-.35470
1.194	9.130	-.02470	.56810	.00820	.00000	.00080	.10210	.03220	.06980	-.33240	-.35800
1.194	11.310	-.03550	.69990	.01160	-.00020	.00040	.10130	.03320	.06800	-.34690	-.36650
	GRADIENT	-.00992	.06698	.00115	.00010	-.00006	.00015	-.00039	.00054	.00537	.00331

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2 (A69036) (30 MAY 72)

REFERENCE DATA

SREF =	7.8800 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

BETA =	.000	ELEVON =	.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	.000		

RUN NO. 128/ 0 RN/L = 6.78 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.952	-4.550	.02520	-.18190	-.00370	.00060	.00030	.07990	.01420	.06570	-.14790	-.15600
1.952	-2.340	.01600	-.08790	-.00200	.00060	.00040	.08110	.01560	.06550	-.16610	-.16960
1.952	-.030	.00640	.01340	-.00050	.00050	.00030	.08220	.01650	.06560	-.17760	-.17920
1.952	2.180	-.00200	.10840	.00090	.00050	.00030	.08260	.01790	.06470	-.19580	-.19110
1.952	4.400	-.00900	.20160	.00190	.00040	.00030	.08320	.01800	.06460	-.20400	-.19740
1.952	6.650	-.01530	.29000	.00380	.00040	.00000	.08260	.01940	.06310	-.21150	-.20730
1.952	8.870	-.02000	.37520	.00580	.00040	.00000	.08220	.01970	.06240	-.21290	-.21220
1.952	11.000	-.02170	.44870	.00690	.00030	.00000	.08110	.02070	.06030	-.22290	-.22290
	GRADIENT	-.00385	.04297	.00063	-.00002	-.00000	.00036	.00050	-.00013	-.00633	-.00457

RUN NO. 129/ 0 RN/L = 5.04 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
4.900	-4.220	-.01640	-.09250	-.00120	.00200	.00060	.05430	-.00140	.05580	.02640	.00820
4.900	-2.230	-.01380	-.05410	.00050	.00270	.00040	.05270	-.00130	.05400	.02310	.00870
4.900	-.120	-.01150	-.00950	.00070	.00260	.00030	.05200	-.00120	.05330	.02150	.00790
4.900	1.890	-.00800	.03310	.00170	.00260	.00070	.05110	-.00130	.05240	.02430	.00690
4.900	3.900	-.00460	.07390	.00200	.00250	.00060	.05080	-.00110	.05190	.02130	.00560
4.900	5.960	-.00230	.11850	.00320	.00250	.00040	.05080	-.00080	.05170	.01920	.00230
4.900	8.010	.00080	.16550	.00280	.00240	.00050	.05140	-.00070	.05220	.01690	.00160
4.900	10.010	.00270	.21250	.00350	.00240	.00000	.05140	-.00000	.05210	.01570	.00080
	GRADIENT	.00144	.02063	.00037	-.00001	.00001	-.00042	.00003	-.00046	-.00044	-.00034

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2[illegible]P1R2 (A69037) (30 MAY 72)

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REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0260 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

ALPHA = .000 ELEVON = .000
RUDDER = .000 RFLARE = .000
BFLAP = .000

RUN NO. 61/ 0 RN/L = 4.59 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.603	-6.110	.02780	-.02380	.08450	.00180	.00040	.04540	.01780	.02760	-.16640	-.21090
.603	-3.000	.02930	-.02970	.04520	.00000	.00010	.04660	.01620	.03190	-.14700	-.19620
.603	-2.040	.02950	-.03190	.03190	-.00080	.00030	.04660	.01570	.03080	-.14600	-.18750
.603	-1.000	.03040	-.03050	.01830	-.00150	.00080	.04810	.01610	.03200	-.15090	-.19070
.603	.000	.03020	-.03220	.00420	-.00200	.00080	.04760	.01610	.03150	-.15270	-.18940
.603	1.010	.03010	-.03410	-.01050	-.00280	.00080	.04740	.01630	.03110	-.15870	-.18960
.603	2.000	.02970	-.03240	-.02290	-.00340	.00080	.04710	.01600	.03100	-.15250	-.18820
.603	3.040	.03000	-.03300	-.03670	-.00410	.00110	.04730	.01600	.03130	-.15410	-.18630
.603	6.100	.02810	-.03130	-.07530	-.00610	.00110	.04520	.01570	.02940	-.14790	-.18650
	GRADIENT	.00008	-.00051	-.01353	-.00066	.00014	.00009	.00001	.00009	-.00149	.00104

RUN NO. 62/ 0 RN/L = 5.70 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.903	-6.200	.05850	-.09460	.08770	.00880	.00000	.06510	.02080	.04430	-.19380	-.24730
.903	-3.120	.05900	-.09120	.04650	.00500	-.00010	.06560	.01950	.04610	-.18490	-.23010
.903	-2.070	.05980	-.09000	.03140	.00250	-.00010	.06520	.01890	.04620	-.18030	-.22110
.903	-1.040	.05890	-.08960	.01730	.00120	.00040	.06650	.01890	.04760	-.18540	-.21800
.903	-.010	.05750	-.09050	.00310	-.00060	.00060	.06580	.01850	.04720	-.18200	-.21290
.903	1.020	.05650	-.08660	-.01220	-.00210	.00110	.06600	.01800	.04730	-.18390	-.21370
.903	2.050	.05520	-.07800	-.02530	-.00370	.00120	.06520	.01840	.04680	-.18230	-.21090
.903	3.080	.05390	-.07650	-.03930	-.00520	.00150	.06540	.01850	.04680	-.18390	-.21210
.903	6.190	.05220	-.07810	-.08000	-.00810	.00160	.06290	.01940	.04340	-.18860	-.22550
	GRADIENT	-.00093	.00283	-.01385	-.00160	.00028	-.00004	-.00015	.00010	.00002	.00273

RUN NO. 63/ 0 RN/L = 6.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.201	-6.230	.04410	-.02000	.08000	.00880	-.00080	.10630	.03180	.07440	-.33400	-.35020
1.201	-3.110	.04480	-.01600	.04240	.00340	.00020	.10760	.03140	.07620	-.33200	-.34320
1.201	-2.050	.04550	-.01760	.02770	.00170	.00060	.10770	.03060	.07710	-.32220	-.33570
1.201	-.990	.04600	-.01810	.01240	.00000	.00110	.10810	.03070	.07740	-.32270	-.33660
1.201	.000	.04610	-.01820	-.00210	-.00170	.00140	.10870	.03120	.07750	-.32950	-.34150
1.201	1.030	.04590	-.01730	-.01660	-.00340	.00200	.10870	.03150	.07710	-.33290	-.34490
1.201	2.070	.04570	-.01890	-.03100	-.00510	.00220	.10800	.03100	.07700	-.32640	-.33940
1.201	3.110	.04630	-.02060	-.04450	-.00670	.00260	.10840	.03220	.07610	-.33910	-.35350
1.201	6.230	.04570	-.02210	-.08850	-.01190	.00330	.10760	.03310	.07450	-.34770	-.36400
	GRADIENT	.00017	-.00047	-.01408	-.00164	.00039	.00012	.00014	-.00003	-.00137	-.00160

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1R2 (A69038) (30 MAY 72)

REFERENCE DATA

SREF =	7.8800 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

ALPHA =	10.000	ELEVON =	.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	.000		

RUN NO. 115/ 0 RN/L = 4.56 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.599	-6.110	.04820	.55580	.10740	.00920	-.00310	.03570	.02240	.01330	-.21230	-.26340
.599	-3.080	.05300	.54930	.06090	.00320	-.00140	.03790	.02130	.01650	-.20570	-.24770
.599	-2.000	.05510	.55730	.04780	.00120	-.00090	.03910	.02120	.01780	-.20760	-.24510
.599	-1.040	.05560	.55210	.03350	-.00110	-.00070	.03940	.02150	.01780	-.21210	-.24640
.599	.000	.05640	.54640	.01870	-.00260	-.00080	.03950	.02110	.01830	-.21250	-.23990
.599	1.030	.05710	.54640	.00580	-.00430	-.00080	.03960	.02070	.01890	-.20920	-.23370
.599	2.030	.05760	.54590	-.00860	-.00590	-.00050	.03950	.02050	.01890	-.20880	-.23130
.599	3.040	.05720	.54650	-.02290	-.00770	.00000	.03930	.02040	.01890	-.20910	-.22770
.599	6.120	.05240	.54910	-.06670	-.01290	.00180	.03590	.02070	.01520	-.20720	-.23460
	GRADIENT	.00067	-.00129	-.01370	-.00175	.00017	.00018	-.00017	.00037	-.00034	.00351

RUN NO. 116/ 0 RN/L = 5.74 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.895	-6.210	.04500	.56000	.10560	.00790	-.00070	.06700	.02590	.04110	-.26700	-.29830
.895	-3.120	.05210	.56040	.06110	.00350	-.00040	.06830	.02430	.04400	-.24380	-.27580
.895	-2.090	.05290	.55880	.04750	.00210	-.00050	.06860	.02420	.04430	-.24140	-.27560
.895	-1.000	.05490	.55670	.03400	.00060	-.00040	.06870	.02460	.04410	-.24100	-.28280
.895	-.010	.05560	.55730	.02100	-.00150	-.00100	.06930	.02490	.04470	-.24350	-.27050
.895	1.030	.05650	.55310	.00830	-.00380	-.00150	.06900	.02430	.04530	-.24560	-.27400
.895	2.040	.05670	.54980	-.00420	-.00590	-.00190	.06940	.02380	.04550	-.24130	-.26780
.895	3.080	.05520	.54910	-.01820	-.00750	-.00190	.06950	.02360	.04480	-.23740	-.26800
.895	6.170	.05280	.55350	-.06170	-.01330	-.00080	.06740	.02480	.04260	-.25560	-.27580
	GRADIENT	.00064	-.00192	-.01268	-.00184	-.00029	.00011	-.00011	.00021	.00053	.00165

RUN NO. 117/ 0 RN/L = 6.13 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.199	-6.220	-.03870	.70430	.08510	.01260	.00360	.10140	.03490	.06640	-.37070	-.38050
1.199	-3.130	-.03720	.70030	.04920	.00670	.00220	.10240	.03460	.06780	-.36310	-.37980
1.199	-2.090	-.03640	.70830	.03750	.00450	.00160	.10240	.03470	.06770	-.36300	-.38150
1.199	-1.060	-.03560	.70670	.02580	.00240	.00090	.10220	.03430	.06790	-.35830	-.37780
1.199	.000	-.03480	.70740	.01430	.00020	.00030	.10200	.03350	.06840	-.35080	-.36940
1.199	1.050	-.03450	.70850	.00260	-.00210	-.00010	.10110	.03350	.06760	-.35450	-.36520
1.199	2.060	-.03300	.70980	-.00810	-.00410	-.00070	.10080	.03350	.06730	-.36450	-.35790
1.199	3.080	-.03360	.70870	-.01940	-.00610	-.00110	.10000	.03350	.06650	-.36730	-.35610
1.199	6.230	-.03450	.71000	-.05660	-.01230	-.00240	.10190	.03490	.06690	-.36780	-.38270
	GRADIENT	.00060	.00010	-.01103	-.00207	-.00053	-.00040	-.00022	-.00017	-.00039	.00451

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1 (A69039) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = .000
RUDDER = 30.000 RFLARE = .000
BFLAP = .000

RUN NO. 109/ 0 RN/L = 4.52 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.597	-4.430	.03340	-.31470	.08560	.01370	-.02870	.08290	.03250	.05040	-.26670	-.41260
.597	-2.300	.03700	-.20320	.08710	.01350	-.02870	.08870	.03150	.05710	-.25420	-.40390
.597	-.170	.03970	-.08400	.08830	.01330	-.02830	.09250	.03190	.06060	-.26210	-.40450
.597	1.980	.04260	.03640	.08920	.01280	-.02810	.09160	.03230	.05930	-.27090	-.40660
.597	4.090	.04560	.14960	.09090	.01200	-.02790	.08740	.03240	.05490	-.27660	-.40380
.597	6.220	.04950	.26350	.09320	.01230	-.02800	.08220	.03250	.04970	-.27990	-.40230
.597	8.360	.05490	.38180	.09560	.01080	-.02800	.08090	.03320	.04700	-.29420	-.40590
.597	10.390	.06210	.49500	.09860	.01110	-.02780	.08110	.03480	.04630	-.31270	-.42210
	GRADIENT	.00141	.05479	.00060	-.00019	.00010	.00056	.00003	.00053	-.00171	.00070

RUN NO. 110/ 0 RN/L = 5.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.902	-4.770	.09040	-.44230	.07970	.02030	-.02900	.11610	.03470	.08130	-.31130	-.42130
.902	-2.500	.08060	-.29250	.08070	.01710	-.02910	.12100	.03540	.08550	-.32950	-.42150
.902	-.200	.07790	-.15950	.08300	.01600	-.02910	.12130	.03500	.08630	-.32510	-.41590
.902	1.990	.08790	-.04370	.08590	.01540	-.02920	.11850	.03340	.08510	-.30840	-.39890
.902	4.230	.08640	.09350	.08730	.01610	-.02880	.11220	.03260	.07960	-.30250	-.39700
.902	6.500	.08800	.22190	.08970	.01520	-.02910	.10860	.03340	.07510	-.31990	-.39090
.902	8.750	.08090	.37270	.09040	.01510	-.02820	.10950	.03460	.07480	-.35510	-.38720
.902	10.880	.07440	.50320	.09530	.00860	-.02960	.11110	.03500	.07550	-.37470	-.39030
	GRADIENT	-.00003	.05871	.00091	-.00045	.00007	-.00046	-.00028	-.00017	.00172	.00400

RUN NO. 111/ 0 RN/L = 6.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.200	-4.700	.11420	-.37570	.06210	.01430	-.02470	.15870	.03370	.12490	-.33330	-.38620
1.200	-2.410	.09380	-.22870	.06270	.01410	-.02450	.16220	.03460	.12750	-.35000	-.38980
1.200	-.110	.07180	-.07470	.06300	.01390	-.02380	.16210	.03550	.12660	-.36530	-.39500
1.200	2.220	.04820	.07970	.06470	.01390	-.02310	.16020	.03740	.12270	-.38050	-.42030
1.200	4.480	.02740	.23090	.06780	.01440	-.02320	.15780	.03910	.11860	-.40170	-.43690
1.200	6.820	.00920	.38580	.07150	.01440	-.02320	.15550	.04000	.11540	-.41100	-.44600
1.200	9.100	-.00620	.53350	.07350	.01400	-.02270	.15210	.04200	.11000	-.43600	-.46540
1.200	11.280	-.01700	.66430	.07230	.01340	-.02150	.14920	.04380	.10540	-.45860	-.48140
	GRADIENT	-.00954	.06619	.00058	-.00000	.00019	-.00017	.00059	-.00076	-.00728	-.00574

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1 (A69040) (30 MAY 72)

REFERENCE DATA

SREF = 7.6800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

ALPHA = .000 ELEVON = .000
RUDDER = 30.000 RFLARE = .000
BFLAP = .000

RUN NO. 72/ 0 RN/L = 4.52 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.597	-6.150	.03530	-.00000	.17490	.01580	-.02910	.09090	.02940	.06140	-.26930	-.35300
.597	-3.120	.03740	-.06440	.13660	.01490	-.02960	.09180	.02870	.06300	-.25530	-.35100
.597	-2.090	.03810	-.06670	.12180	.01390	-.02910	.09130	.02900	.06220	-.25430	-.35090
.597	-1.060	.03730	-.06660	.10660	.01300	-.02870	.08990	.02820	.06160	-.24370	-.34900
.597	-.040	.03930	-.06900	.09480	.01240	-.02820	.09110	.02820	.06280	-.24410	-.35000
.597	.970	.03880	-.06590	.07840	.01140	-.02780	.09030	.02850	.06180	-.24510	-.35400
.597	1.990	.03930	-.06620	.06520	.01060	-.02710	.09090	.02910	.06180	-.25090	-.36090
.597	3.000	.03880	-.06620	.05110	.00980	-.02680	.08960	.02790	.06170	-.23690	-.34920
.597	6.000	.03690	-.05920	.00810	.00730	-.02470	.08620	.02640	.05970	-.22740	-.32850
	GRADIENT	.00026	-.00013	-.01396	-.00082	.00047	-.00025	-.00007	-.00016	.00213	-.00024

RUN NO. 71/ 0 RN/L = 5.72 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.906	-6.250	.07180	-.14070	.17240	.02200	-.02980	.11850	.03630	.08210	-.37030	-.40740
.906	-3.180	.07960	-.14090	.13360	.01840	-.03050	.11880	.03400	.08480	-.33050	-.39390
.906	-2.120	.08190	-.14870	.11940	.01750	-.03040	.12050	.03380	.08670	-.33050	-.38940
.906	-1.090	.07940	-.14510	.10520	.01630	-.03010	.11860	.03300	.08500	-.32440	-.39000
.906	-.000	.08010	-.13990	.09170	.01550	-.02950	.11910	.03320	.08580	-.32020	-.38680
.906	.900	.07620	-.13470	.07570	.01420	-.02900	.11770	.03350	.08420	-.32910	-.38440
.906	1.990	.07440	-.13260	.06280	.01310	-.02850	.11720	.03290	.08430	-.31530	-.38450
.906	3.020	.07370	-.12880	.04640	.01190	-.02740	.11620	.03170	.08450	-.29000	-.38050
.906	6.120	.06830	-.11960	-.00340	.00760	-.02340	.11020	.03150	.07860	-.31210	-.35930
	GRADIENT	-.00124	.00335	-.01400	-.00105	.00049	-.00053	-.00030	-.00022	.00510	.00193

RUN NO. 70/ 0 RN/L = 6.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.197	-6.290	.07280	-.07810	.16100	.02460	-.02730	.16060	.03780	.12270	-.39280	-.41930
1.197	-3.180	.07520	-.07750	.11520	.01930	-.02590	.16150	.03640	.12500	-.37000	-.40400
1.197	-2.100	.07550	-.07730	.10000	.01750	-.02550	.16220	.03630	.12590	-.37830	-.40060
1.197	-1.060	.07570	-.07790	.08480	.01570	-.02510	.16230	.03580	.12640	-.37540	-.39400
1.197	-.040	.07570	-.07750	.07020	.01410	-.02480	.16160	.03510	.12650	-.36770	-.38680
1.197	.990	.07530	-.07740	.05600	.01240	-.02430	.16140	.03500	.12630	-.36690	-.38550
1.197	2.020	.07520	-.07800	.04190	.01090	-.02410	.16160	.03540	.12620	-.37010	-.38970
1.197	3.060	.07390	-.07590	.02620	.00890	-.02330	.16050	.03510	.12540	-.36810	-.38580
1.197	6.190	.07040	-.07060	-.02490	.00290	-.02010	.15550	.03360	.12180	-.33610	-.38260
	GRADIENT	-.00017	.00009	-.01420	-.00164	.00039	-.00017	-.00022	.00006	.00188	.00293

F

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1A1 (A69041) (30 MAY 72)

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REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

ALPHA = 10.000 ELEVON = .000
RUDDER = 30.000 RFLARE = .000
BFLAP = .000

RUN NO. 73/ 0 RN/L = 4.55 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.603	-6.150	.06290	.49760	.18860	.01830	-.03050	.07900	.03350	.04540	-.29990	-.40720
.603	-3.060	.06000	.50560	.14960	.01520	-.03010	.07880	.03200	.04670	-.27500	-.39040
.603	-2.100	.06010	.50750	.13500	.01380	-.02950	.07900	.03150	.04740	-.27530	-.38830
.603	-1.060	.06080	.51050	.11990	.01240	-.02890	.07910	.03130	.04780	-.26970	-.38750
.603	-.040	.06100	.51220	.10430	.01060	-.02800	.07820	.03090	.04720	-.26670	-.38110
.603	.950	.06090	.50990	.09020	.00910	-.02730	.07750	.03200	.04550	-.28250	-.39180
.603	1.990	.06180	.50910	.07450	.00740	-.02690	.07700	.03250	.04450	-.28920	-.39650
.603	3.000	.06250	.51170	.06020	.00590	-.02600	.07710	.03390	.04310	-.29860	-.41630
.603	6.000	.05700	.51940	.01270	.00040	-.02260	.07270	.03020	.04250	-.27480	-.36310
	GRADIENT	.00039	.00074	-.01473	-.00155	.00067	-.00038	.00030	-.00067	-.00392	-.00202

RUN NO. 74/ 0 RN/L = 5.70 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.903	-6.250	.07770	.51370	.18570	.02520	-.02920	.11460	.03850	.07610	-.40000	-.42090
.903	-3.100	.07910	.50930	.14740	.01800	-.03090	.11440	.03600	.07750	-.36920	-.41850
.903	-2.120	.07700	.51310	.13360	.01610	-.03110	.11210	.03580	.07630	-.34330	-.41810
.903	-1.090	.07650	.51930	.12030	.01350	-.03130	.11190	.03600	.07580	-.33950	-.42450
.903	-.060	.07330	.53040	.10630	.00970	-.03110	.11080	.03590	.07480	-.34780	-.41610
.903	.900	.07380	.53020	.08940	.00790	-.03000	.11130	.03560	.07560	-.35360	-.40660
.903	2.000	.07400	.53390	.07500	.00590	-.02950	.11220	.03590	.07620	-.36710	-.40220
.903	3.020	.07340	.53320	.06120	.00450	-.02900	.11250	.03620	.07620	-.36610	-.40000
.903	6.120	.06860	.53670	.01140	-.00100	-.02500	.10610	.03440	.07100	-.32270	-.40670
	GRADIENT	-.00089	.00430	-.01408	-.00230	.00035	-.00021	-.00008	-.00015	-.00180	.00281

RUN NO. 75/ 0 RN/L = 6.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.200	-6.270	-.01470	.66400	.15750	.02690	-.02250	.14750	.04030	.10710	-.41900	-.44640
1.200	-3.180	-.01390	.66770	.11630	.02050	-.02220	.15080	.04260	.10820	-.45010	-.46500
1.200	-2.120	-.01350	.66740	.10380	.01810	-.02250	.15090	.04350	.10740	-.46610	-.47070
1.200	-1.080	-.01460	.66770	.09070	.01620	-.02250	.15010	.04360	.10640	-.46760	-.47230
1.200	-.040	-.01580	.66900	.07610	.01400	-.02210	.14890	.04360	.10520	-.46140	-.47580
1.200	.980	-.01630	.67040	.06250	.01170	-.02170	.14920	.04330	.10580	-.44420	-.48420
1.200	2.020	-.01650	.67070	.05010	.00930	-.02200	.14890	.04320	.10560	-.43600	-.48770
1.200	3.050	-.01670	.67320	.03940	.00680	-.02230	.14950	.04290	.10660	-.43500	-.48210
1.200	6.170	-.01900	.67610	.00050	.00000	-.02300	.14560	.04150	.10400	-.41000	-.47470
	GRADIENT	-.00055	.00089	-.01262	-.00218	.00005	-.00030	.00000	-.00031	.00438	-.00335

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2WAV11P1 (A69042) (30 MAY 72)

REFERENCE DATA

SREF =	7.8800 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

BETA =	.000	ELEVON =	.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	64.000		

RUN NO. 127/ 0 RN/L = 6.79 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.956	-4.330	-.00380	-.14180	-.00270	.00060	.00000	.07820	.01610	.06210	-.17100	-.17530
1.956	-2.330	-.01200	-.05190	-.00140	.00060	.00000	.07960	.01660	.06300	-.17700	-.18020
1.956	-.010	-.01910	.04950	.00030	.00050	.00000	.08130	.01700	.06420	-.17790	-.18850
1.956	2.200	-.02600	.14450	.00160	.00050	.00000	.08190	.01790	.06390	-.18620	-.19870
1.956	4.410	-.03370	.23430	.00310	.00050	.00000	.08330	.01890	.06430	-.19870	-.20800
1.956	6.650	-.03940	.31800	.00460	.00040	-.00040	.08320	.01940	.06380	-.20770	-.21050
1.956	8.870	-.04380	.40330	.00630	.00040	-.00030	.08290	.01950	.06330	-.21030	-.21110
1.956	10.990	-.04640	.48170	.00780	.00040	-.00030	.08260	.02000	.06260	-.21270	-.21780
	GRADIENT	-.00333	.04233	.00065	-.00001	.00000	.00056	.00031	.00024	-.00280	-.00374

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4V11P1 (A69043) (30 MAY 72)

REFERENCE DATA

SREF = 7.8600 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = .000
RUDDER = .000 RFLARE = .000
BFLAP = 64.000

RUN NO. 126/ 0 RN/L = 6.80 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.953	11.510	-.04680	.48280	.00810	.00030	-.00020	.08290	.01980	.06310	-.21040	-.21510
1.953	13.590	-.04740	.55750	.00950	.00030	-.00030	.08230	.01900	.06240	-.21120	-.21630
1.953	15.660	-.04770	.64390	.01020	.00030	-.00030	.08160	.02040	.06120	-.21720	-.22150
1.953	18.100	-.04800	.73040	.01120	.00020	-.00030	.08110	.02070	.06040	-.22060	-.22610
1.953	20.370	-.04530	.81290	.01310	.00020	.00000	.08040	.02120	.05910	-.22610	-.23120
1.953	22.640	-.04400	.90390	.01500	.00010	.00010	.08000	.02200	.05800	-.23520	-.23870
1.953	24.900	-.04320	.98820	.01680	.00010	.00030	.07920	.02280	.05640	-.24350	-.24820
1.953	27.120	-.04340	1.08410	.01720	.00000	.00060	.07890	.02370	.05520	-.25020	-.25880
1.953	29.370	-.04230	1.16880	.01960	.00000	.00000	.07840	.02480	.05360	-.26340	-.27000
	GRADIENT	.00032	.03852	.00064	-.00002	.00004	-.00025	.00028	-.00053	-.00295	-.00307

RUN NO. 140/ 0 RN/L = 6.33 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
3.480	10.820	-.01450	.30150	.00500	.00080	-.00050	.06410	.00620	.05790	-.06550	-.06770
3.480	12.910	-.01250	.36450	.00560	.00070	-.00020	.06600	.00630	.05970	-.06590	-.06820
3.480	15.000	-.01150	.42890	.00690	.00070	-.00040	.06740	.00640	.06100	-.06740	-.07040
3.480	17.140	-.00960	.49800	.00780	.00060	-.00030	.06890	.00650	.06240	-.06940	-.07080
3.480	19.300	-.00710	.56810	.00860	.00050	-.00040	.07110	.00650	.06450	-.07050	-.07110
3.480	21.440	-.00490	.64160	.00970	.00050	-.00040	.07290	.00670	.06620	-.07130	-.07320
3.480	23.570	-.00240	.71740	.01090	.00040	-.00040	.07410	.00660	.06740	-.07140	-.07230
3.480	25.730	-.00090	.79630	.01330	.00040	-.00070	.07560	.00670	.06890	-.07140	-.07330
3.480	27.910	-.00030	.87900	.01340	.00030	-.00040	.07740	.00670	.07070	-.06990	-.07460
3.480	30.070	.00010	.96150	.01350	.00030	-.00040	.07810	.00680	.07130	-.07160	-.07580
3.480	32.130	.00060	1.04110	.01510	.00030	-.00060	.07880	.00680	.07190	-.07230	-.07560
	GRADIENT	.00077	.03477	.00049	-.00002	-.00001	.00072	.00003	.00069	-.00028	-.00036

RUN NO. 141/ 0 RN/L = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
4.959	10.480	-.00230	.23560	.00360	.00230	-.00020	.05430	-.00100	.05540	.02610	.00070
4.959	12.470	-.00040	.28960	.00510	.00230	.00000	.05690	-.00080	.05780	.02060	.00010
4.959	14.500	.00000	.34650	.00550	.00220	-.00020	.05880	-.00060	.05950	.01600	.00030
4.959	16.550	.00100	.40870	.00660	.00220	.00000	.06330	-.00050	.06390	.01240	.00060
4.959	18.630	.00070	.47380	.00700	.00210	-.00040	.06650	-.00040	.06700	.01110	.00060
4.959	20.690	.00190	.54360	.00840	.00210	-.00050	.07010	-.00030	.07050	.00940	.00030
4.959	22.730	.00340	.61200	.01030	.00200	-.00060	.07280	-.00030	.07310	.00810	.00000
4.959	24.810	.00350	.68750	.01030	.00200	-.00060	.07600	-.00020	.07630	.00690	-.00010
4.959	26.880	.00250	.76430	.01200	.00190	-.00070	.07860	-.00010	.07880	.00580	-.00030
4.959	28.950	.00160	.84220	.01300	.00180	-.00070	.08130	-.00020	.08150	.00530	-.00010
4.959	30.930	.00110	.91750	.01340	.00180	-.00070	.08170	-.00010	.08190	.00530	-.00060
	GRADIENT	.00018	.03351	.00049	-.00003	-.00004	.00144	.00004	.00140	-.00093	-.00005

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1 (A69044) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BFLAP = .000

RUN NO. 154/ 0 RN/L = 4.30 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.602	-4.360	.00360	-.22800	-.00460	.00200	.00040	.02190	.00730	.01450	-.07500	-.08280
.602	-2.250	.00930	-.12160	-.00310	.00190	.00000	.02840	.00760	.02070	-.07610	-.08780
.602	-.120	.01510	-.01150	-.00080	.00180	.00010	.03130	.00840	.02280	-.08450	-.09610
.602	2.010	.02080	.10220	-.00030	.00170	-.00010	.02880	.00790	.02090	-.07910	-.08980
.602	4.160	.02930	.21490	.00200	.00160	-.00010	.02320	.00820	.01500	-.08160	-.09320
.602	6.280	.03530	.32700	.00480	.00150	-.00060	.02030	.00850	.01180	-.08850	-.09430
.602	8.410	.04300	.43630	.00630	.00140	-.00030	.02060	.00860	.01200	-.08700	-.09770
.602	10.440	.04900	.54540	.00840	.00130	-.00060	.02070	.00990	.01080	-.10060	-.11130
	GRADIENT	.00295	.05210	.00075	-.00005	-.00005	.00014	.00010	.00005	-.00076	-.00107

RUN NO. 153/ 0 RN/L = 5.36 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.907	-4.600	.01410	-.27690	-.00590	.00090	.00020	.04290	.01080	.03210	-.11380	-.11950
.907	-2.370	.01670	-.14990	-.00450	.00080	.00030	.04540	.01000	.03530	-.10280	-.11190
.907	-.120	.02350	-.02280	.00000	.00070	-.00050	.04520	.00860	.03650	-.08990	-.09560
.907	2.110	.04840	.07280	.00160	.00060	-.00010	.04300	.00760	.03530	-.07600	-.08720
.907	4.360	.05970	.19030	.00340	.00050	.00000	.04270	.00840	.03420	-.08450	-.09530
.907	6.610	.05900	.32440	.00520	.00040	-.00020	.04230	.00980	.03240	-.10000	-.11040
.907	8.840	.04910	.45850	.00780	.00030	-.00060	.04650	.01250	.03400	-.12780	-.13090
.907	10.980	.03200	.59690	.00970	.00030	-.00050	.05290	.01610	.03670	-.17440	-.17390
	GRADIENT	.00549	.05158	.00110	-.00004	-.00004	-.00013	-.00032	.00019	.00377	.00326

RUN NO. 152/ 1 RN/L = 5.72 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.199	-4.580	.05360	-.26170	-.00580	.00080	.00080	.08030	.02640	.05380	-.27410	-.29270
1.199	-2.290	.03270	-.11490	-.00450	.00070	.00090	.08540	.02750	.05780	-.27020	-.30980
1.199	-.020	.01180	.03160	-.00250	.00070	.00080	.08870	.02870	.06000	-.30050	-.31680
1.199	2.270	-.00850	.18220	.00040	.00060	.00050	.08880	.02880	.06000	-.29950	-.31800
1.199	4.580	-.02590	.33240	.00340	.00060	.00020	.08740	.02900	.05830	-.31130	-.31410
1.199	6.880	-.04100	.48220	.00690	.00060	.00000	.08590	.02900	.05630	-.31980	-.31790
1.199	9.180	-.05470	.62130	.00970	.00060	-.00030	.08470	.03120	.05350	-.33900	-.33390
1.199	11.350	-.06460	.75190	.01260	.00050	-.00030	.08450	.03280	.05160	-.35600	-.35180
	GRADIENT	-.00875	.06492	.00102	-.00002	-.00007	.00077	.00028	.00049	-.00418	-.00223

MSFC TWT 542 SPACE SHUTTLE ORBITER B1F2W4P1 (A69044) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4000 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BFLAP = .000

RUN NO. 151/ 0 RN/L = 6.29 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.962	-4.300	.00160	-.14230	-.00290	.00070	.00020	.06650	.01340	.05300	-.14500	-.14540
1.962	-2.270	-.00410	-.05320	-.00100	.00060	.00010	.06870	.01450	.05410	-.15460	-.15890
1.962	-.050	-.00920	.03710	.00150	.00060	.00030	.07090	.01560	.05530	-.16730	-.16890
1.962	2.200	-.01440	.13060	.00250	.00050	.00010	.07220	.01620	.05590	-.17540	-.17500
1.962	4.450	-.01880	.21570	.00310	.00050	-.00030	.07220	.01660	.05550	-.17800	-.18080
1.962	6.670	-.02200	.30050	.00400	.00040	-.00050	.07270	.01760	.05510	-.18460	-.19320
1.962	8.850	-.02460	.37900	.00570	.00040	-.00040	.07340	.01730	.05610	-.18570	-.18810
1.962	10.990	-.02490	.45320	.00730	.00030	-.00030	.07280	.01750	.05530	-.18860	-.18900
	GRADIENT	-.00228	.04022	.00069	-.00002	-.00004	.00067	.00036	.00030	-.00388	-.00388

RUN NO. 144/ 0 RN/L = 5.15 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
4.960	-4.220	-.02410	-.04040	-.00220	.00250	.00000	.04770	.00100	.04660	-.00090	-.02000
4.960	-2.180	-.02020	-.04020	-.00170	.00250	.00000	.04640	.00130	.04510	-.00540	-.02100
4.960	-.140	-.01540	-.00260	-.00090	.00250	-.00010	.04580	.00150	.04430	-.00990	-.02230
4.960	1.910	-.01030	.03740	-.00030	.00240	.00010	.04590	.00160	.04420	-.01150	-.02330
4.960	3.900	-.00650	.07560	.00070	.00240	-.00040	.04460	.00170	.04290	-.01170	-.02410
4.960	5.970	-.00170	.11830	.00140	.00240	-.00020	.04500	.00190	.04300	-.01470	-.02560
4.960	8.010	.00150	.16210	.00220	.00230	-.00060	.04500	.00200	.04300	-.01530	-.02630
4.960	9.950	.00460	.20720	.00240	.00230	-.00050	.04570	.00210	.04350	-.01730	-.02740
	GRADIENT	.00222	.01916	.00035	-.00001	-.00003	-.00033	.00008	-.00041	-.00136	-.00052

MSFC TWT 542 SPACE SHUTTLE ORBITER B2 (A69047) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000

RUN NO. 155/ 0 RN/L = 4.29 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.598	-4.140	-.01540	-.01810	.00030	.00180	.00030	.02070	.01490	.00580	-.15010	-.16980
.598	-2.150	-.00780	-.01220	.00070	.00170	.00030	.02060	.01390	.00670	-.13880	-.15830
.598	-.130	.00140	-.00610	.00000	.00180	.00020	.01980	.01450	.00530	-.14670	-.16450
.598	1.880	.00880	.00060	.00020	.00170	-.00020	.01870	.01360	.00500	-.14390	-.14980
.598	3.920	.01790	.00890	.00000	.00170	.00000	.01940	.01380	.00550	-.14680	-.15080
.598	5.910	.02450	.01510	.00040	.00170	-.00010	.01850	.01410	.00430	-.15160	-.15300
.598	7.930	.03380	.02350	.00010	.00170	.00010	.01890	.01510	.00380	-.16060	-.16450
.598	9.850	.04020	.03020	.00070	.00170	.00030	.01830	.01540	.00290	-.16210	-.16900
	GRADIENT	.00413	.00332	-.00005	-.00001	-.00005	-.00022	-.00012	-.00011	.00007	.00221

RUN NO. 156/ 0 RN/L = 5.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.905	-4.180	-.01540	-.02170	.00020	.00110	.00000	.02520	.01780	.00740	-.18670	-.19650
.905	-2.170	-.00730	-.01400	.00030	.00110	-.00010	.02550	.01720	.00820	-.17720	-.19200
.905	-.130	.00150	-.00690	.00050	.00100	.00000	.02550	.01720	.00820	-.17930	-.19010
.905	1.890	.01020	.00140	.00060	.00100	.00000	.02430	.01710	.00710	-.18040	-.18850
.905	3.920	.01900	.00960	.00070	.00090	.00000	.02470	.01750	.00710	-.18890	-.18890
.905	5.960	.02740	.01670	.00060	.00090	-.00010	.02420	.01810	.00600	-.19450	-.19620
.905	7.990	.03630	.02680	.00000	.00050	.00010	.02500	.01870	.00630	-.20240	-.20120
.905	9.930	.04420	.03540	.00050	.00080	.00000	.02410	.01920	.00480	-.20860	-.20630
	GRADIENT	.00426	.00385	.00006	-.00002	.00000	-.00011	-.00003	-.00008	-.00038	.00095

RUN NO. 157/ 0 RN/L = 5.80 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.198	-4.200	-.01620	-.02260	-.00070	.00080	.00000	.04630	.02350	.02270	-.24070	-.26300
1.198	-2.160	-.00690	-.01390	-.00070	.00080	.00000	.04610	.02290	.02310	-.23310	-.25730
1.198	-.130	.00260	-.00590	-.00100	.00070	.00000	.04540	.02250	.02290	-.23100	-.25100
1.198	1.910	.01210	.00340	-.00060	.00070	-.00020	.04430	.02280	.02140	-.23920	-.25180
1.198	3.950	.02190	.01120	-.00010	.00070	-.00010	.04400	.02320	.02080	-.24530	-.25320
1.198	6.000	.03170	.02070	.00000	.00060	.00010	.04440	.02380	.02050	-.25580	-.25770
1.198	8.070	.04220	.03050	.00030	.00060	.00020	.04460	.02440	.02020	-.26190	-.26330
1.198	10.000	.05210	.04070	-.00010	.00050	.00030	.04410	.02490	.01920	-.26750	-.26930
	GRADIENT	.00467	.00417	.00006	-.00001	-.00002	-.00031	-.00003	-.00027	-.00075	.00132

MSFC TWT 542 SPACE SHUTTLE ORBITER B2 (A69047) (30 MAY 72)

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REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000

RUN NO. 150/ 0 RN/L = 6.26 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.961	-4.270	-.02940	-.02680	.00090	.00090	-.00020	.03890	.01390	.02490	-.15130	-.14940
1.961	-2.210	-.01850	-.01610	.00100	.00080	-.00030	.03740	.01330	.02400	-.14680	-.14170
1.961	-.170	-.00770	-.00870	.00100	.00080	-.00020	.03620	.01290	.02330	-.14040	-.13920
1.961	1.900	.00320	.00120	.00130	.00080	-.00020	.03560	.01280	.02270	-.14090	-.13690
1.961	3.960	.01440	.01160	.00110	.00070	-.00020	.03540	.01350	.02180	-.15040	-.14300
1.961	6.030	.02530	.02300	.00080	.00060	-.00040	.03510	.01420	.02090	-.15600	-.15090
1.961	8.080	.03640	.03690	.00070	.00060	-.00030	.03520	.01510	.02000	-.16640	-.16090
1.961	10.060	.04660	.05240	.00090	.00050	-.00020	.03540	.01610	.01930	-.17440	-.17290
	GRADIENT	.00531	.00467	.00003	-.00002	.00000	-.00043	-.00006	-.00036	.00037	.00085

RUN NO. 146/ 0 RN/L = 6.42 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
3.479	-4.270	-.03550	-.03290	-.00050	.00130	-.00020	.03270	.00610	.02660	-.06460	-.06660
3.479	-2.220	-.02520	-.02230	-.00010	.00130	-.00030	.03110	.00600	.02510	-.06370	-.06530
3.479	-.180	-.01470	-.01150	-.00010	.00130	-.00020	.02980	.00580	.02390	-.06160	-.06390
3.479	1.880	-.00440	.00010	.00000	.00120	-.00020	.02840	.00580	.02260	-.06140	-.06390
3.479	3.880	.00610	.01100	-.00020	.00120	-.00020	.02790	.00590	.02190	-.06240	-.06600
3.479	5.950	.01690	.02490	-.00030	.00110	-.00010	.02740	.00630	.02110	-.06550	-.06970
3.479	8.000	.02710	.04020	.00000	.00110	-.00020	.02660	.00670	.01990	-.06970	-.07400
3.479	9.960	.03680	.05730	-.00020	.00100	-.00010	.02590	.00690	.01890	-.07330	-.07660
	GRADIENT	.00510	.00540	.00003	-.00001	.00000	-.00060	-.00003	-.00058	.00033	.00013

RUN NO. 145/ 0 RN/L = 5.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
4.960	-4.180	-.03300	-.03130	-.00050	.00270	.00000	.02840	.00130	.02710	-.00130	-.02400
4.960	-2.170	-.02420	-.02130	-.00120	.00260	.00000	.02680	.00150	.02520	-.00740	-.02330
4.960	-.150	-.01480	-.01140	-.00060	.00260	.00000	.02480	.00150	.02330	-.00970	-.02200
4.960	1.880	-.00580	-.00080	-.00050	.00250	.00030	.02360	.00150	.02200	-.01220	-.02030
4.960	3.860	.00330	.00840	-.00050	.00250	.00000	.02160	.00150	.02010	-.01200	-.02030
4.960	5.900	.01190	.02150	-.00120	.00240	.00020	.02160	.00170	.01990	-.01400	-.02230
4.960	7.920	.02120	.03450	-.00080	.00250	.00030	.02130	.00190	.01940	-.01550	-.02430
4.960	9.840	.03000	.04620	-.00100	.00240	.00020	.02070	.00200	.01870	-.01680	-.02560
	GRADIENT	.00452	.00496	.00003	-.00002	.00002	-.00083	.00002	-.00085	-.00130	.00052

MSFC TWT 542 SPACE SHUTTLE ORBITER B2 (A69048) (30 MAY 72)

REFERENCE DATA

SREF =	7.8800 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

BETA = .000

RUN NO. 160/ 0 RN/L = 4.37 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.599	10.140	.03960	.03310	.00170	.00170	.00060	.01970	.01520	.00450	-.16180	-.16570
.599	12.160	.04710	.04160	.00180	.00170	.00050	.01960	.01600	.00360	-.16970	-.17550
.599	14.180	.05500	.05090	.00250	.00160	.00060	.01950	.01690	.00250	-.17600	-.18670
.599	16.200	.06240	.06120	.00330	.00160	.00070	.01880	.01810	.00060	-.18790	-.20100
.599	18.230	.07090	.07350	.00320	.00160	.00070	.01780	.01900	-.00110	-.19730	-.21100
.599	20.150	.07890	.08450	.00210	.00160	.00060	.01640	.02040	-.00390	-.20780	-.22940
	GRADIENT	.00392	.00516	.00010	-.00001	.00001	-.00032	.00051	-.00082	-.00462	-.00625

RUN NO. 159/ 0 RN/L = 5.48 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.899	10.220	.04430	.03490	.00050	.00080	.00030	.02490	.01970	.00520	-.21880	-.20790
.899	12.260	.05390	.04570	.00000	.00080	.00020	.02460	.02020	.00430	-.22100	-.21580
.899	14.300	.06460	.05360	-.00120	.00070	.00020	.02470	.02130	.00330	-.23130	-.22900
.899	16.350	.07480	.07250	-.00210	.00070	.00020	.02380	.02260	.00120	-.24380	-.24320
.899	18.400	.08620	.08800	-.00390	.00070	.00000	.02290	.02430	-.00130	-.26330	-.26100
.899	20.390	.09940	.10630	-.00660	.00060	.00000	.02270	.02610	-.00340	-.27970	-.28200
	GRADIENT	.00536	.00698	-.00067	-.00002	-.00003	-.00024	.00064	-.00087	-.00622	-.00733

RUN NO. 158/ 0 RN/L = 5.82 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.196	10.260	.05170	.03930	.00000	.00050	.00050	.04470	.02480	.01990	-.26030	-.26800
1.196	12.350	.06370	.05320	.00070	.00040	.00060	.04510	.02600	.01910	-.27580	-.28320
1.196	14.420	.07600	.07050	.00120	.00040	.00080	.04560	.02650	.01910	-.28040	-.28970
1.196	16.510	.09030	.09080	.00110	.00030	.00070	.04510	.02770	.01740	-.29130	-.30340
1.196	18.600	.10500	.11480	.00110	.00020	.00000	.04500	.02960	.01540	-.31070	-.32520
1.196	20.590	.11880	.13890	.00040	.00010	.00080	.04500	.03140	.01360	-.32810	-.34570
	GRADIENT	.00653	.00971	.00000	-.00004	.00003	.00001	.00062	-.00061	-.00586	-.00725

MSFC TWT 542 SPACE SHUTTLE ORBITER B2 (A69049) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000

RUN NO. 149/ 0 RN/L = 6.26 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.939	10.590	.04780	.05220	.00090	.00050	.00000	.03640	.01620	.02020	-.17180	-.17640
1.939	12.610	.05800	.07230	.00060	.00040	-.00010	.03[illegible]70	.01700	.01960	-.18310	-.18350
1.939	14.710	.07110	.09630	-.00020	.00040	.00000	.03700	.01810	.01880	-.19140	-.19840
1.939	16.820	.08430	.12090	-.00010	.00030	.00010	.03780	.01910	.01860	-.20430	-.20820
1.939	18.940	.09790	.14670	.00000	.00020	.00030	.03810	.01990	.01820	-.21430	-.21550
1.939	21.090	.11200	.17490	.00260	.00020	.00050	.03840	.02050	.01790	-.21910	-.22220
1.939	23.220	.12670	.20320	.00410	.00010	.00060	.03890	.02120	.01760	-.22870	-.22910
1.939	25.340	.14130	.23260	.00430	.00000	.00060	.03950	.02200	.01740	-.23650	-.23810
1.939	27.460	.15620	.26380	.00410	.00000	.00080	.03900	.02250	.01650	-.24050	-.24480
1.939	29.580	.16970	.29280	.00310	.00000	.00080	.03830	.02250	.01580	-.24380	-.24110
1.939	31.630	.18330	.32220	.00300	-.00010	.00080	.03810	.02250	.01550	-.24420	-.24080
	GRADIENT	.00653	.01296	.00021	-.00003	.00005	.00011	.00032	-.00021	-.00357	-.00329

RUN NO. 147/ 0 RN/L = 6.39 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
3.480	10.470	.03750	.05740	.00020	.00100	.00000	.02730	.00700	.02030	.55930	-.07550
3.480	12.470	.04800	.07610	.00060	.00090	.00000	.02680	.00720	.01960	.55900	-.07800
3.480	14.530	.05980	.09650	.00090	.00090	.00000	.02710	.00750	.01960	.55900	-.08110
3.480	16.600	.07180	.11770	.00160	.00080	.00010	.02720	.00740	.01980	.55840	-.07970
3.480	18.650	.08420	.13950	.00130	.00070	.00030	.02740	.00750	.01980	.55870	-.08140
3.480	20.740	.09720	.16330	.00140	.00070	.00030	.02740	.00740	.01990	.55870	-.08000
3.480	22.840	.10990	.18690	.00170	.00060	.00040	.02780	.00750	.02030	.55840	-.08090
3.480	24.890	.12200	.21230	.00150	.00050	.00050	.02850	.00760	.02090	.55810	-.08230
3.480	26.970	.13570	.23780	.00150	.00050	.00050	.02880	.00750	.02130	.55840	-.08140
3.480	29.050	.14910	.26490	.00160	.00040	.00050	.02910	.00730	.02180	.55840	-.07920
3.480	31.090	.16170	.29090	.00160	.00030	.00050	.02970	.00720	.02250	.55840	-.07820
	GRADIENT	.00608	.01137	.00006	-.00003	.00003	.00013	.00001	.00012	-.00004	-.00010

MSFC TWT 542 SPACE SHUTTLE ORBITER B2 (A69049) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000

RUN NO. 148/ 0 RN/L = 4.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
4.959	10.410	.03350	.04890	.00000	.00260	.00000	.02200	.00230	.01960	1.45390	-.02580
4.959	12.310	.04330	.06510	.00010	.00260	.00040	.02240	.00240	.01990	1.45350	-.02600
4.959	14.340	.05350	.08250	.00000	.00250	.00050	.02180	.00250	.01930	1.45220	-.02710
4.959	16.370	.06440	.10190	.00040	.00250	.00040	.02190	.00260	.01930	1.45220	-.02810
4.959	18.370	.07510	.12240	.00050	.00240	.00050	.02260	.00250	.02010	1.45180	-.02710
4.959	20.420	.08610	.14360	.00090	.00230	.00020	.02300	.00250	.02040	1.45140	-.02780
4.959	22.480	.09820	.16610	.00110	.00230	.00040	.02380	.00260	.02110	1.45180	-.02830
4.959	24.490	.10940	.18980	.00180	.00220	.00040	.02450	.00260	.02190	1.45180	-.02810
4.959	26.520	.12130	.21350	.00130	.00210	.00060	.02500	.00250	.02240	1.45140	-.02780
4.959	28.550	.13280	.23780	.00120	.00210	.00050	.02510	.00250	.02250	1.45140	-.02710
4.959	30.500	.14480	.26200	.00140	.00200	.00050	.02520	.00220	.02290	1.45100	-.02430
	GRADIENT	.00554	.01066	.00008	-.00003	.00001	.00019	.00000	.00019	-.00012	.00001

MSFC TWT 542 SHUTTLE ORBITER B1F2W4V11P1 NO GRIT (A69052) (30 MAY 72)

REFERENCE DATA

SREF =	7.8800 SQ. IN	XMRP =	3.6820 IN.		
LREF =	2.0280 IN.	YMRP =	.0000 IN.		
BREF =	4.4600 IN.	ZMRP =	.0000 IN.		
SCALE =	.0040 SCALE				

PARAMETRIC DATA

BETA =	.000	ELEVON =	10.000
RUDDER =	.000	RFLARE =	.000
BFLAP =	.000		

RUN NO. 4/ 0 RN/L = 4.54 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.601	-4.210	-.08920	.02190	.00080	-.00060	.00010	.05090	.01860	.03230	-.17310	-.22170
.601	-2.080	-.08700	.14050	.00320	-.00040	.00000	.05660	.01890	.03770	-.17480	-.22530
.601	.050	-.08460	.25960	.00510	-.00080	-.00050	.05790	.01770	.04020	-.16280	-.21220
.601	2.200	-.06730	.35420	.00600	-.00370	.00000	.05440	.01840	.03590	-.17110	-.21880
.601	4.310	-.05090	.45790	.00650	-.00220	-.00040	.05020	.01770	.03250	-.16740	-.20800
.601	6.450	-.05360	.56870	.01230	-.00540	-.00140	.05300	.01910	.03380	-.18130	-.22550
.601	8.590	-.04780	.66660	.01470	-.00300	-.00090	.05560	.01980	.03580	-.18820	-.23210
.601	10.000	-.04560	.78870	.01790	-.00570	-.00140	.05420	.02040	.03370	-.19410	-.24020
	GRADIENT	.00377	.05092	.00067	-.00031	-.00005	-.00017	-.00011	-.00007	.00071	.00159

RUN NO. 5/ 0 RN/L = 6.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.197	-4.540	-.00770	-.16000	-.00570	-.00050	.00070	.10750	.03000	.07150	-.37560	-.39000
1.197	-2.220	-.03390	-.00400	-.00370	-.00080	.00050	.11440	.03520	.07910	-.36760	-.38050
1.197	.060	-.05030	.14040	-.00050	-.00100	.00030	.11900	.03520	.08370	-.37270	-.38480
1.197	2.370	-.08470	.30360	.00240	-.00090	.00010	.12170	.03570	.08000	-.37720	-.38980
1.197	4.680	-.10810	.46000	.00620	.00000	-.00020	.12330	.03560	.08760	-.37890	-.38820
1.197	7.010	-.12610	.61370	.00900	-.00030	-.00020	.12370	.03690	.08690	-.39790	-.39790
1.197	9.330	-.14230	.77000	.01300	-.00060	-.00030	.12590	.03870	.08720	-.41720	-.41720
1.197	11.520	-.15070	.90050	.01680	-.00110	-.00050	.12790	.04020	.08700	-.43560	-.43240
	GRADIENT	-.01092	.06726	.00130	.00004	-.00010	.00160	-.00001	.00170	-.00070	.00070

RUN NO. 3/ 0 RN/L = 6.79 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.960	-4.500	-.03050	-.09350	-.00060	.00050	-.00020	.07760	.01840	.05920	-.19370	-.20190
1.960	-2.250	-.03700	-.00230	.00050	.00050	-.00010	.08120	.01920	.06190	-.20230	-.21090
1.960	-.010	-.04430	.09000	.00190	.00030	.00000	.08460	.01980	.06480	-.20870	-.21810
1.960	2.230	-.05130	.18100	.00370	.00000	.00000	.08740	.02050	.06690	-.21770	-.22360
1.960	4.470	-.05670	.26780	.00520	-.00010	-.00030	.08910	.02130	.06770	-.22740	-.23170
1.960	6.680	-.06180	.35370	.00710	-.00010	-.00050	.09040	.02170	.06860	-.23150	-.23690
1.960	8.940	-.06430	.43500	.00850	-.00010	-.00030	.09130	.02160	.06960	-.23470	-.23270
1.960	11.030	-.06500	.51080	.01020	-.00020	-.00030	.09210	.02170	.07040	-.23580	-.23340
	GRADIENT	-.00295	.04041	.00066	-.00008	-.00000	.00130	.00032	.00098	-.00369	-.00322

MSFC TWT 542 SHUTTLE ORBITER B1F2W4V11P1 NO GRIT (A69053) (30 MAY 72)

REFERENCE DATA

SREF = 7.8600 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = .000
RUDDER = .000 RFLARE = .000
BFLAP = .000

RUN NO. 8/ 0 RN/L = 4.51 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.596	-4.390	.00820	-.24940	-.00560	-.00200	.00100	.02430	.01090	.01330	-.09690	-.13430
.596	-2.260	.01200	-.13740	-.00290	-.00180	.00080	.03030	.01100	.01930	-.09530	-.13570
.596	-.130	.01620	-.01900	-.00100	-.00110	.00070	.03430	.01150	.02270	-.10480	-.13020
.596	1.990	.02150	.09000	.00200	-.00130	.00040	.03390	.01190	.02190	-.10720	-.14440
.596	4.150	.02760	.20440	.00290	-.00150	.00020	.02980	.01210	.01760	-.10930	-.14750
.596	6.270	.03010	.32750	.00700	-.00140	.00000	.02740	.01310	.01430	-.12140	-.15580
.596	8.430	.03690	.43720	.00890	-.00170	-.00020	.02780	.01330	.01450	-.12540	-.15720
.596	10.460	.04090	.55250	.01120	-.00440	-.00050	.02770	.01480	.01290	-.13970	-.17400
	GRADIENT	.00226	.05321	.00103	.00007	-.00009	.00003	.00015	.00052	-.00172	-.00165

RUN NO. 9/ 0 RN/L = 6.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.195	-4.640	.08050	-.30900	-.00900	-.00180	.00170	.08830	.03120	.05700	-.32430	-.34530
1.195	-2.330	.05510	-.14900	-.00780	-.00180	.00160	.09270	.03070	.06200	-.31620	-.34170
1.195	-.040	.03100	.00270	-.00500	-.00190	.00150	.09450	.02910	.06540	-.30770	-.31840
1.195	2.270	.00780	.15440	-.00180	-.00140	.00140	.09510	.02940	.06570	-.30770	-.32350
1.195	4.570	-.01300	.30830	.00180	-.00070	.00130	.09530	.03000	.06520	-.31970	-.32670
1.195	6.880	-.03110	.46000	.00540	-.00010	.00090	.09430	.03130	.06300	-.33440	-.33910
1.195	9.200	-.04450	.60490	.00950	.00000	.00050	.09380	.03310	.06060	-.35020	-.35630
1.195	11.390	-.05440	.73220	.01330	.00000	.00010	.09310	.03460	.05850	-.37270	-.37270
	GRADIENT	-.01018	.06603	.00120	.00011	-.00004	.00071	-.00016	.00087	.00077	.00240

RUN NO. 1/ 0 RN/L = 6.73 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.966	-4.550	.00530	-.15190	-.00160	.00000	.00010	.06990	.01590	.05400	-.16230	-.17790
1.966	-2.300	-.00120	-.06140	-.00060	.00010	.00040	.07200	.01740	.05460	-.18050	-.19260
1.966	-.000	-.00730	.03010	.00030	.00000	.00050	.07400	.01810	.05590	-.18770	-.20030
1.966	2.180	-.01310	.11990	.00180	-.00020	.00060	.07530	.01900	.05630	-.20100	-.20800
1.966	4.430	-.01800	.20850	.00400	-.00040	.00010	.07570	.02000	.05570	-.21440	-.21600
1.966	6.630	-.02300	.29530	.00560	-.00040	.00000	.07590	.02000	.05590	-.21010	-.21950
1.966	8.880	-.02550	.37790	.00720	-.00040	.00020	.07610	.02050	.05560	-.21780	-.22290
1.966	10.900	-.02580	.45120	.00870	-.00050	.00020	.07550	.02120	.05430	-.22680	-.23030
	GRADIENT	-.00266	.04020	.00061	-.00005	.00001	.00066	.00044	.00023	-.00556	-.00408

MSFC TWT 542 SHUTTLE ORBITER B1F2W4V11P1 NO GRIT (A69054) (30 MAY 72)

REFERENCE DATA

SREF = 7.8800 SQ. IN XMRP = 3.6820 IN.
LREF = 2.0280 IN. YMRP = .0000 IN.
BREF = 4.4600 IN. ZMRP = .0000 IN.
SCALE = .0040 SCALE

PARAMETRIC DATA

BETA = .000 ELEVON = -10.000
RUDDER = .000 RFLARE = .000
BFLAP = .000

RUN NO. 7/ 0 RN/L = 4.54 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
.602	-4.570	.09240	-.49850	-.01020	.00090	.00210	.02650	.00650	.01990	-.05470	-.08290
.602	-2.470	.10230	-.40220	-.00790	-.00110	.00180	.03410	.00690	.02710	-.05760	-.08780
.602	-.320	.10880	-.29150	-.00510	-.00020	.00190	.04090	.00760	.03330	-.06390	-.09570
.602	1.810	.11420	-.18180	-.00370	.00000	.00170	.04130	.00780	.03350	-.06420	-.09910
.602	3.960	.11760	-.06480	-.00290	.00150	.00130	.03800	.00790	.03010	-.06520	-.10010
.602	6.100	.12440	.05410	.00050	.00000	.00130	.03320	.00940	.02380	-.07850	-.11830
.602	8.260	.13030	.17180	.00110	.00000	.00130	.03140	.00950	.02180	-.07600	-.12370
.602	10.280	.13610	.27700	.00330	.00010	.00140	.03100	.00990	.02110	-.07840	-.12840
	GRADIENT	.00292	.05102	.00088	.00011	-.00008	.00141	.00017	.00125	-.00129	-.00214

RUN NO. 6/ 0 RN/L = 6.09 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.197	-4.820	.16120	-.40030	-.01140	-.00050	.00190	.11090	.02870	.08210	-.29990	-.31670
1.197	-2.490	.13590	-.30900	-.00810	-.00080	.00160	.11400	.02900	.08490	-.30290	-.32010
1.197	-.180	.11070	-.14760	-.00580	-.00090	.00140	.11480	.03010	.08470	-.31530	-.33110
1.197	2.140	.08850	.00680	-.00350	-.00090	.00160	.11370	.03150	.08220	-.33570	-.34200
1.197	4.450	.07020	.15960	-.00070	-.00040	.00160	.11070	.03190	.07870	-.34640	-.34270
1.197	6.760	.05250	.31590	.00240	-.00040	.00180	.10600	.03240	.07360	-.35170	-.34710
1.197	9.090	.03910	.46340	.00690	-.00040	.00110	.10290	.03460	.06830	-.36880	-.37530
1.197	11.280	.02960	.59610	.01060	-.00080	.00100	.10050	.03590	.06450	-.38360	-.39020
	GRADIENT	-.00990	.06887	.00112	.00000	-.00003	-.00003	.00038	-.00041	-.00543	-.00322

RUN NO. 2/ 0 RN/L = 6.81 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CLM	CN	CY	CBL	CYN	CA	CAB	CAF	CPC	CPB
1.944	-4.620	.03920	-.21320	-.00300	.00040	.00020	.08140	.01600	.06530	-.17750	-.16900
1.944	-2.360	.03330	-.12150	-.00140	.00040	.00040	.08130	.01620	.06500	-.17830	-.17320
1.944	-.120	.02750	-.02940	-.00040	.00030	.00060	.08140	.01650	.06480	-.17880	-.17810
1.944	2.130	.02090	.06280	.00070	.00000	.00050	.08100	.01700	.06390	-.17770	-.18750
1.944	4.370	.01630	.15230	.00190	-.00020	.00060	.07970	.01780	.06180	-.18790	-.19490
1.944	6.600	.01100	.24160	.00360	-.00030	.00030	.07820	.01870	.05940	-.20490	-.19990
1.944	8.880	.00810	.33420	.00570	-.00030	.00020	.07740	.01960	.05780	-.21630	-.20750
1.944	10.990	.00620	.41080	.00720	-.00060	.00030	.07580	.01980	.05590	-.21030	-.21680
	GRADIENT	-.00259	.04073	.00053	-.00007	.00004	-.00016	.00020	-.00036	-.00090	-.00294

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