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DATA REPORT FOR THE APOLLO FS-2 MODEL IN THE NAAL WIND TUNNEL (NAAL 485)

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NORTH AMERICAN AVIATION, INC.

SPACE and INFORMATION SYSTEMS DIVISION

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FOREWORD

The FS-2 model tests were conducted under NASA Apollo Contract NAS9-150.

This report was prepared by D. G. Cummings of the Wind Tunnel Projects Group, Los Angeles Division of North American Aviation, Inc.

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ABSTRACT

Data are presented for wind tests of the 0.105-scale FS-2 model of the command module and the launch escape vehicle conducted at Mach numbers of 0.26 and 0.185 in the North American Aerodynamics Laboratory. The model configurations and installation are described, and the operating conditions and instrumentation are specified. The six-component force and moment data are presented in both tabular and plotted form.

This report presents basic wind tunnel test data only to make the test results available at the earliest possible date. Analyses and summary of results will be reported in a separate document.

CO[redacted]

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I. INTRODUCTION

The Apollo force model FS-2 was tested in the NAAL 7.75- by 11-foot wind tunnel from 17 July to 31 July 1962. These tests were conducted to investigate the aerodynamic force and stability characteristics of the launch escape vehicle (Figure 1) through an angle of attack range of -10 to +90 degrees. The command module (Figure 2) was tested over an angle of attack range of -10 to +180 degrees to determine aerodynamic characteristics. Data were obtained at nominal Mach numbers of 0.26 and 0.184 with corresponding Reynolds numbers of 2.49 and 1.77 x 10^6 respectively.

Two rocket base skirts were attached to the aft end of the launch escape motor to determine their effect on the stability of the launch escape vehicle. These configurations are illustrated in Figures 3, and 4. The tower assembly is shown in Figure 5.

Steady-state aerodynamic characteristics in the angle-of-attack range from -10 to +180 degrees were defined for the command module at the low subsonic regime. Discontinuities in all parameters were observed at $\alpha \approx 57$ degrees. Flow studies of this problem were performed using tufts and kerosene-talcum visualization methods. These flow studies shown in Figures 9 and 10, indicate that a large area of the heat shield is subject to sudden flow attachment and detachment in this angle range. This phenomenon also exhibited considerable hysteresis which caused the angle of attack at which the discontinuities occurred to be a function of the direction (decreasing or increasing α) in which the critical point was approached. This phenomenon is shown in the plotted data. A summary of completed runs and configurations tested is contained in Appendix A.

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II. MODEL DESCRIPTION

The FS-2 model is a 0.105-scale replica of the launch escape vehicle (LEV) consisting of the Apollo command module and launch escape system (Figure 1). To cover the required angle-of-attack range, three basic command modules were constructed. The modules consisted of steel balance blocks enclosed by cast aluminum shells. All modules were identical except that the balance cavities were positioned such that 10 different balance installations were possible in which the angle between the model axis and balance axis was varied. These modules were constructed to accept the escape tower configuration and various detachable escape motor configurations.

Structural analysis of the basic model is presented in the structural analysis report[1], and detailed model drawings are included in the pre-test report[2].

INSTRUMENTATION

Forces on the model were measured by means of the 2.5-inch Mark III-C internal balance with a 1500-pound rating for each normal force element and a 250-pound rating for the force element.

Base pressures were not required, but one balance chamber pressure was measured with a Statham differential pressure transducer.

[1]McClain, C. B. Structural Analysis of the 0.105-Scale Apollo Wind Tunnel Model (FS-2). NAA/S&ID, SID 62-104 (12 March 1962).

[2]Cummings, D. G. Pretest Report for the 0.105-Scale Apollo Force Model (FS-2) in the NAAL Wind Tunnel. NAA/S&ID, SID 62-738 (25 June 1962).

[redacted]

MODEL NOMENCLATURE

References to the model description and nomenclature are given in the following listing.

Symbol	Description	NAA Drawing Number	Sketch
C_2	Command Module Dia. = 154 in.	7121-01077 -3, -4, -5	Figure 2
T_9	Tower Structure Length = 114.51 in.	7121-0179 -11	Figure 5
E_{20}	Escape Motor Length = 252.89 in. 30° flared skirt with 1.8 diameter ratio 65.0 in. disc mounted fwd. of flared skirt	7121-01080 -2, -9, -10, -11 -18 and -21	Figure 3
E_{35}	Escape Motor Length = 252.39 36°55' flared skirt with 2.0 diameter ratio	7121-1080 -18, -9, -2	Figure 4
	General Arrangement		Figure 1

FULL-SCALE DIMENSIONS

The full-scale dimensions of the FS-2 test model are presented in the following outline.

Command Module, C_2	
Max. diameter, in.	154.0
Radius of spherical blunt end, in.	184.8
Corner radius, in.	7.7
Nose cone semiangle, deg.	33.0
Nose cone vertex radius, in.	9.152
Total height, in.	135.021
Frontal area, ft^2	129.351

[redacted]

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Tower Structure, T_9	
Tower length, in.	114.51
Number of longitudinal members	4
Diameter of longitudinal member, in.	3.57
Diameter of cross braces, in.	2.38
Distance between attachment points at command module, in.	46.752
Distance between attachment points at escape motor, in.	21.905
Escape Motor, E_{20}	
Diameter of escape rocket base, in.	52.0
Skirt diameter ratio, Ds/Dm	2.0
Skirt-disc ratio Dd/Dm	2.5
Distance of skirt disc from skirt, in.	0.5
Total length, including forward jettison motor, in.	252.89
Length of jettison motor, in.	48.0
Diameter of escape rocket and jettison motor, in.	26.0
Skirt flare angle, deg.	30.0
Nose radius, in.	2.0
Nose included angle, deg.	30.0
Escape Motor, E_{35}	
Diameter of escape rocket base, in.	54.6
Skirt diameter ratio, Ds/Dm	2.0
Total length, including forward jettison motor, in.	252.39
Length of jettison motor, in.	48.00
Diameter of escape rocket and jettison motor, in.	26.00
Skirt flare angle, deg.	36.925°
Nose radius, in.	2.0
Nose included angle, deg.	30.0
Diameter ring around the intersection of flared skirt with the rocket, in.	28.87

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III. TEST PROCEDURE

TEST NOMENCLATURE

Nomenclature for the FS-2 model tests is presented in the following listing.

Mach	Test section free-stream Mach number
RN	Reynolds number x 10^{-6} (based on reference diameter)
q = Q	Test section free-stream dynamic pressure, lb/ft^2
Po	Test section free-stream static pressure, lb/ft^2
PBC	Balance chamber pressure, lb/ft^2
DP/q	Balance chamber pressure coefficient, PBC-Po/q
α	Angle of attack of model, degrees
ψ	Angle of yaw of model, degrees
ϕB	Model roll angle relative to the balance plane of symmetry, degrees
θ	Angle between balance axis and model axis of symmetry, degrees
A	Model reference area, 1.4261 ft^2 (maximum cross-sectional sectional area of command module)
d = D	Model reference diameter, 1.3475 ft (maximum diameter of command module)
$\bar{x}$	Distance along model ℄ from command module apex to center of gravity, inches; negative when aft of apex
$\bar{z}$	Perpendicular distance from model ℄ to center of gravity, inches; positive when below model ℄

[redacted]

Stability system of axes with origin at center gravity

C_D Drag coefficient, drag/qA

C_L Life coefficient, lift/qA

C_{mcg} Pitching-moment coefficient, pitching moment/qAd

C_Y Side-force coefficient, side force/qA

C_{NS} Yawing-moment coefficient, yawing moment/qAd

C_{LS} Rolling-moment coefficient, rolling moment/qAd

L/D Lift to drag ratio, C_L/C_D

Body system of axes with origin at center of gravity

C_A Axial-force coefficient, axial force/qA

C_N Normal-force coefficient, normal force/qA

C_{NB} Yawing-moment coefficient, yawing moment/qAd

C_{LB} Rolling-moment coefficient, rolling moment/qAd

Body system of axes with origin at command module projected cone apex

C_{MA} Pitching-moment coefficient, pitching moment/qAd

XCPN/D Location of normal force center of pressure divided by the command module diameter, measured from the command module apex, C_{MA}/C_N

Subscripts

S Referenced to the stability axes system

B Referenced to the body axes system

MODEL INSTALLATION

The FS-2 Apollo force model was installed on the Task 2-1/2-inch Mark III-C internal balance and adapter mounted to the sting assembly as shown in Figure 6.

During the operation of this test in NAAL wind tunnel, an angle-of-attack range of -30 to +30 degrees was covered with the sting support system. This range, combined with the various model offset angles (θ) allowed adequate coverage for the angles of attack on the model.

The model was positioned in the yaw plane by rotating the model 90 degrees with respect to the balance, thereby measuring normal forces on the side force gages. This was done to increase the data accuracy. Angles of attack were then accomplished by pitching the model in the yaw plane.

Photographs of tunnel installations are presented in Figures 7 and 8.

INSTRUMENTATION

Six-component force data were measured by the internal balance. The output of each force element was recorded on Leeds and Northrop Speed-O-Max strip chart recorders set to monitor several seconds of data at each point. The average values from the chart paper were transmitted to the 8B014 program which was reduced by the IBM-709. The final computed data, presented in tabulated and card form, was then plotted on a Bensen-Lehner digital plotter.

Balance chamber pressure was measured with a Statham differential pressure transducer, type PM5TC ± 0.25 -350 (±0.25 psid), referenced to the Po reference system.

Typical photographs of Kerosene-talcum tests are presented in Figure 9, and typical photographs of tuft tests are shown in Figure 10.

DATA REDUCTION CONSTANTS

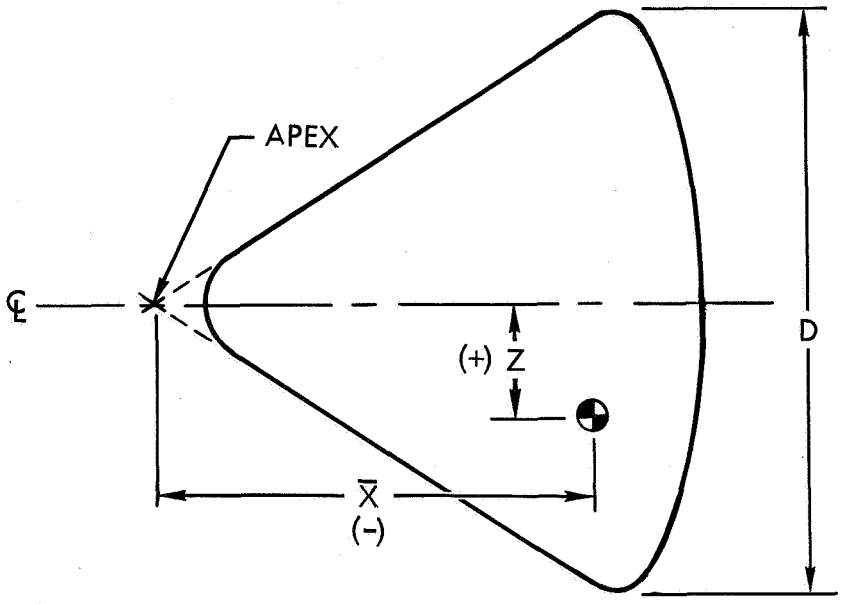
Force and moment coefficients were computed based on the following geometric constants:

A Model reference area, 1.4261 ft^2
(maximum cross-sectional area)

D Model reference diameter, 1.3475 ft.
(maximum diameter of command module)

Reference center of gravity locations for the launch escape vehicle was $\bar{x}/D = -0.315$ and $\bar{z}/D = 0.044$; for the command module alone, the reference center of gravity locations were $\bar{x}/D = -0.686$ and $\bar{z}/D = 0.059$.

[redacted]



IBM program 8B104 was used to reduce the data from the chart paper on the IBM 7090 computer.

All angle-of-attack data were corrected for sting and balance deflection. Although balance pressure was measured, no corrections were made to the data for base drag.

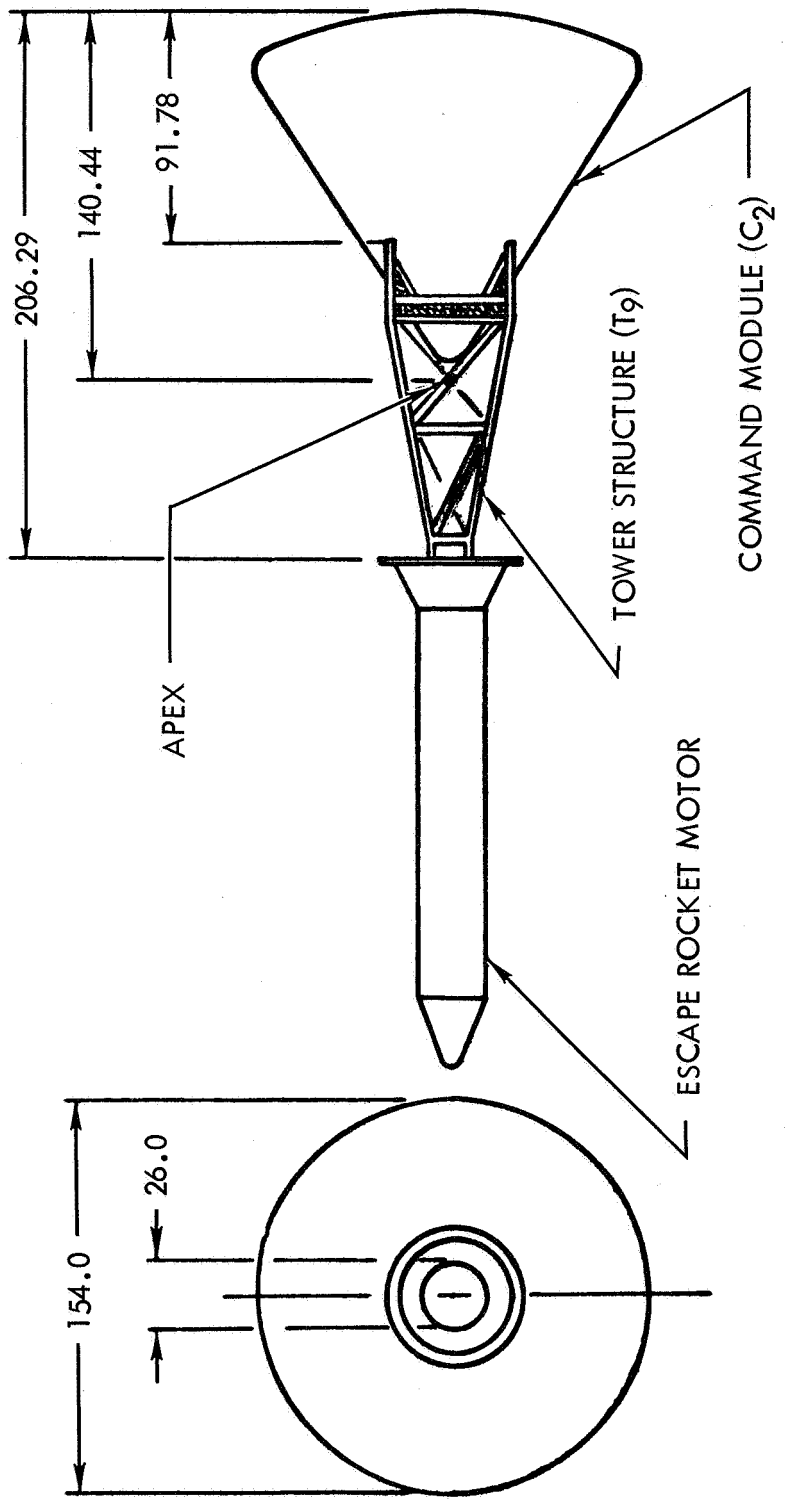
DATA ACCURACY

The balance and recording instrumentation were set to provide maximum sensitivity possible within the capabilities of the amplifying instrumentation and the limits established by keeping maximum loads less than full scale on the recorder. The probable coefficient errors for all test conditions are listed below:

Mach	RN x 10^{-6}	$\pm\Delta CN$	$\pm\Delta CA$	$\pm Cm_{c.g.}$	$\pm\Delta CMA$	$\pm\Delta CL$	$\pm\Delta CD$
0.26	2.49	0.002	0.002	0.0005	0.0014	0.002	0.002
0.185	1.77	0.003	0.003	0.0010	0.0027	0.003	0.003

[redacted]

[redacted]



NOTE: DIMENSIONS ARE FULL-SCALE INCHES.

Figure 1. Launch Escape Vehicle

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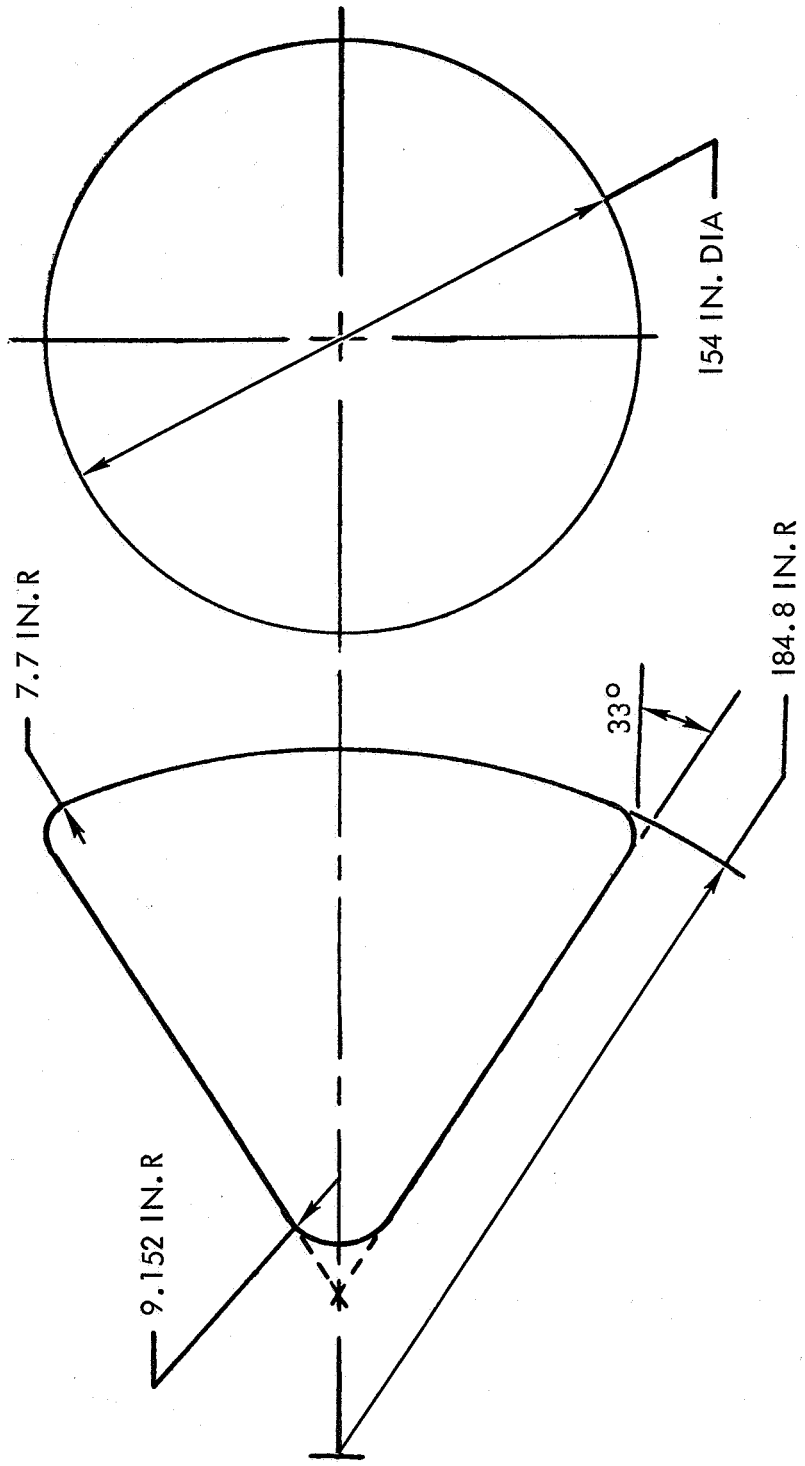

Figure 2. Command Module C_2

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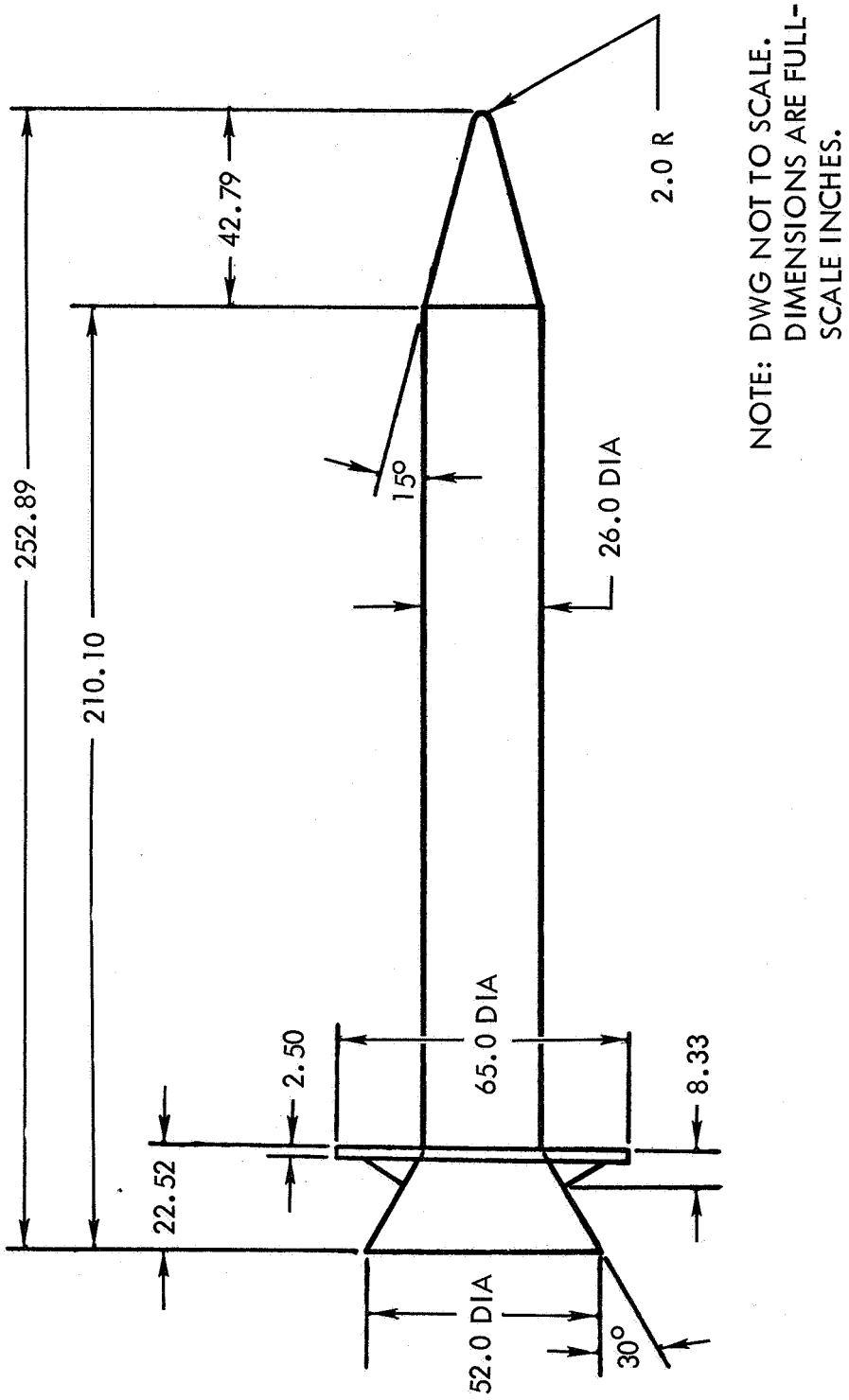

Figure 3. Rocket Motor E_{20}

[redacted]

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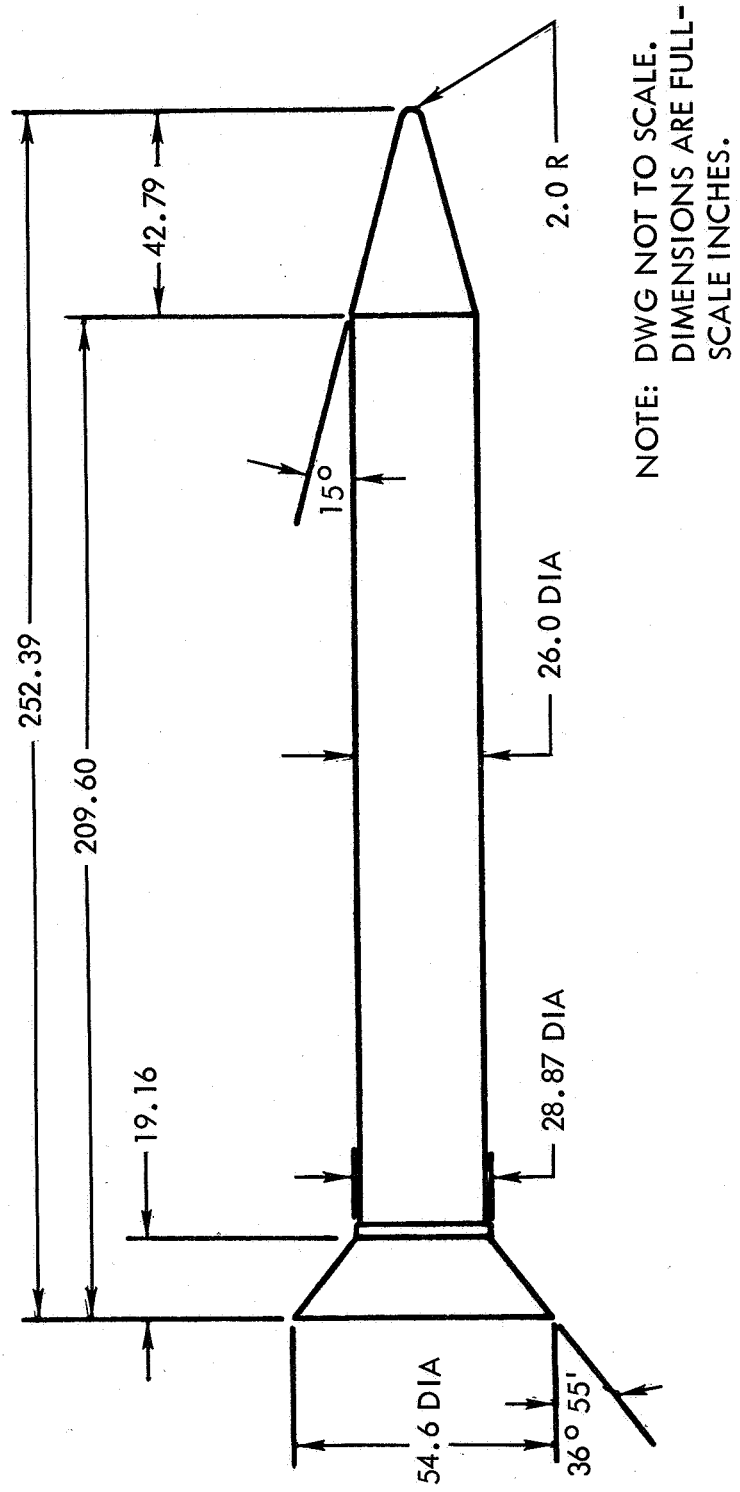

Figure 4. Rocket Motor E_{35}

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[redacted]

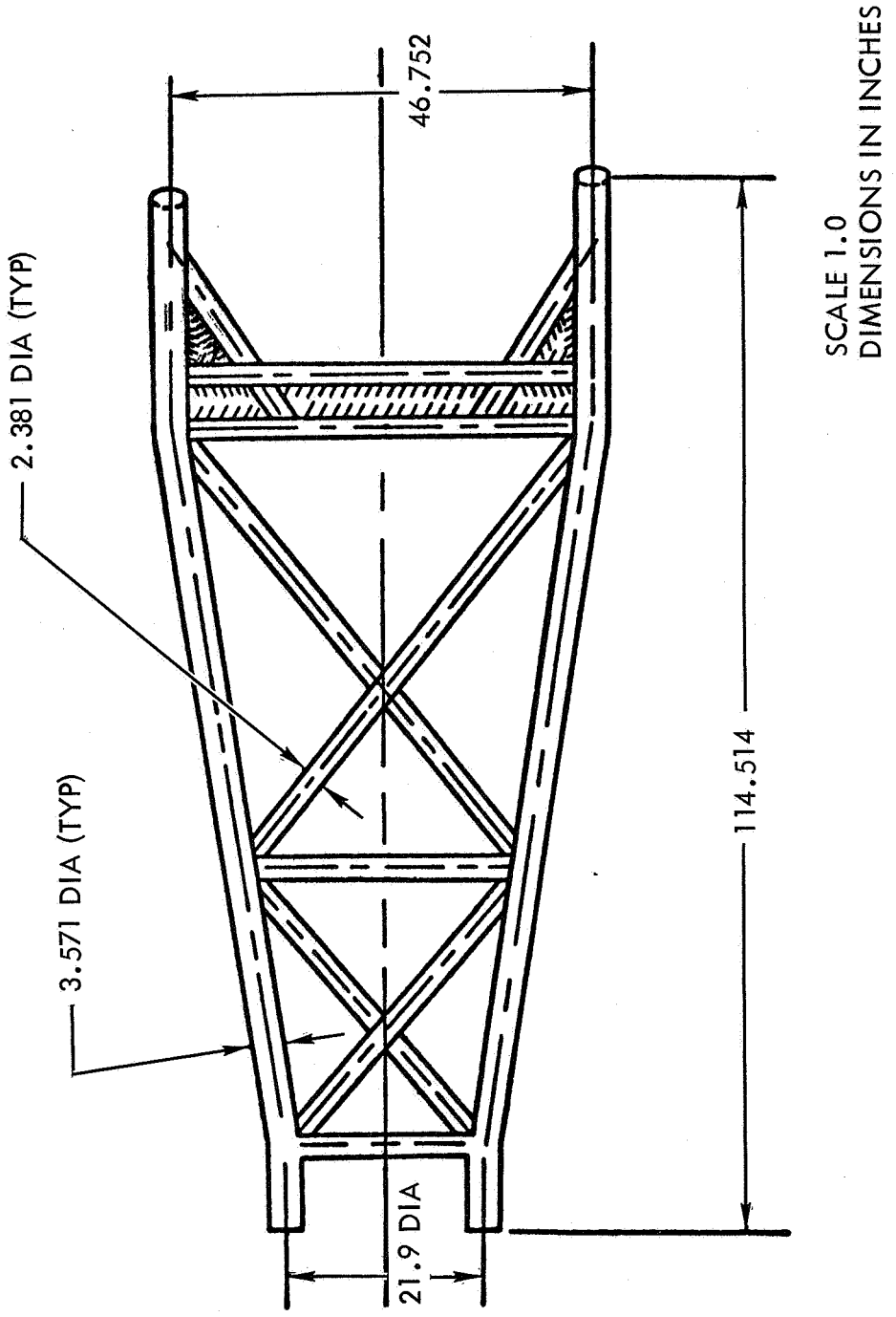

Figure 5. Escape Tower Structure T9

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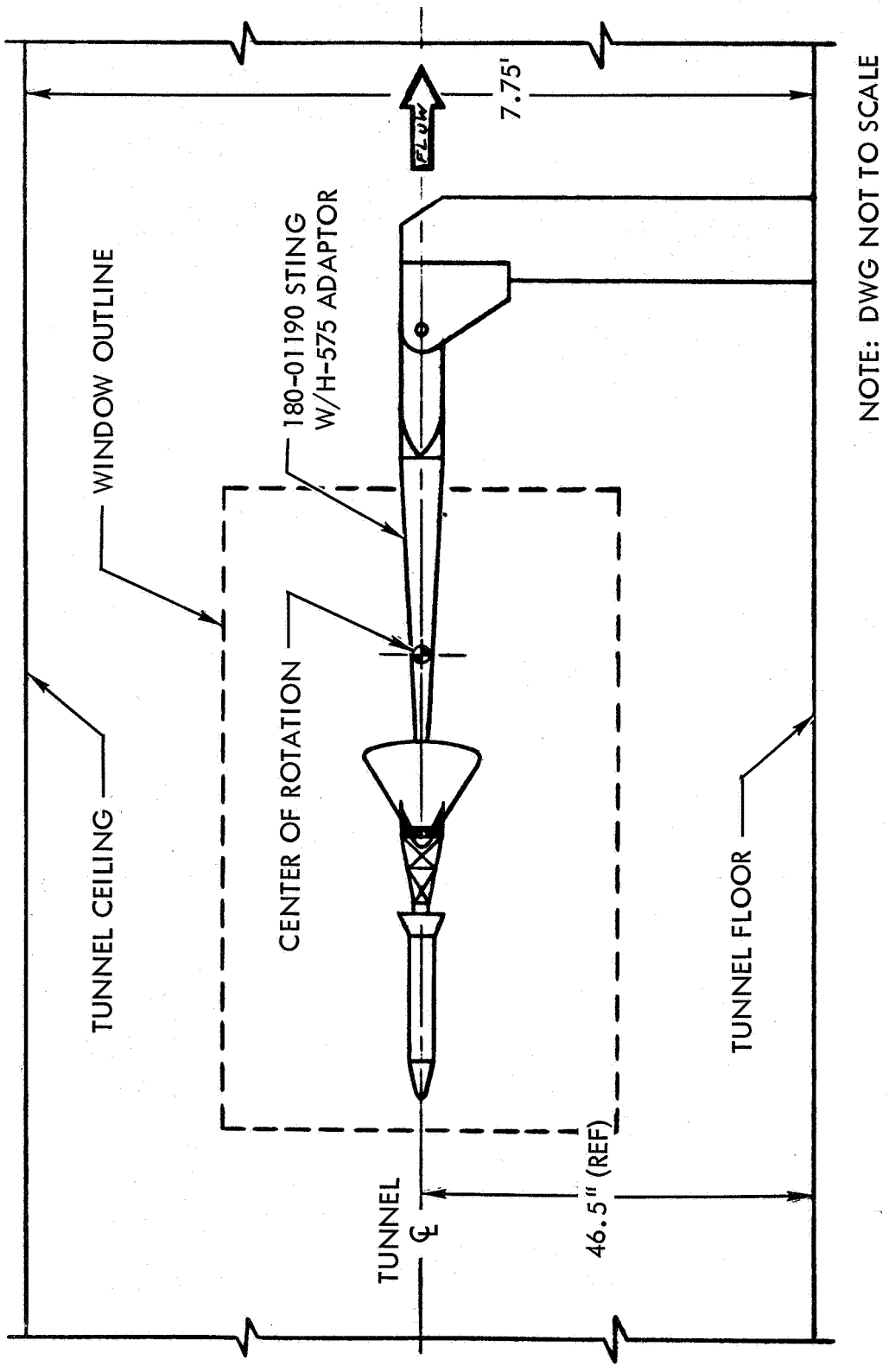

Figure 6. Typical Model Installation

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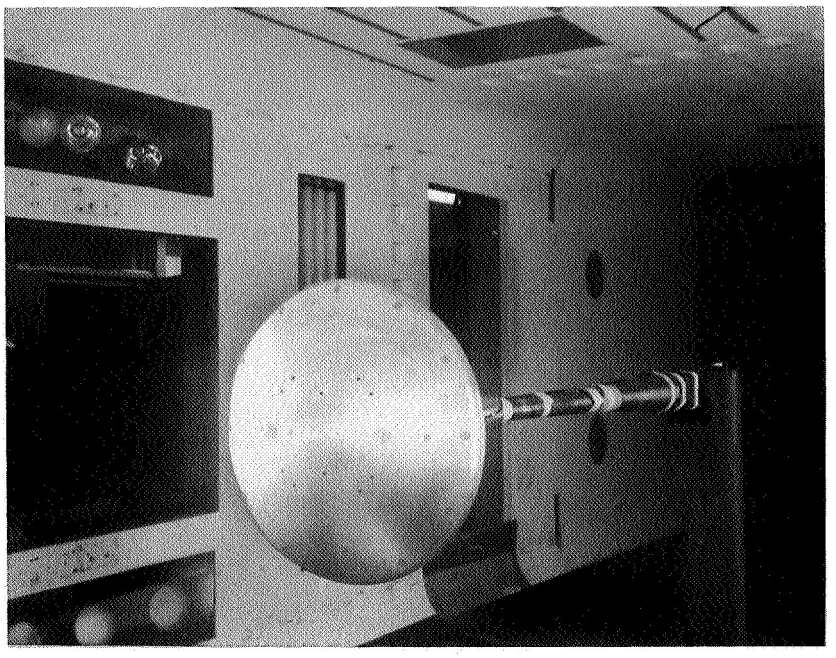
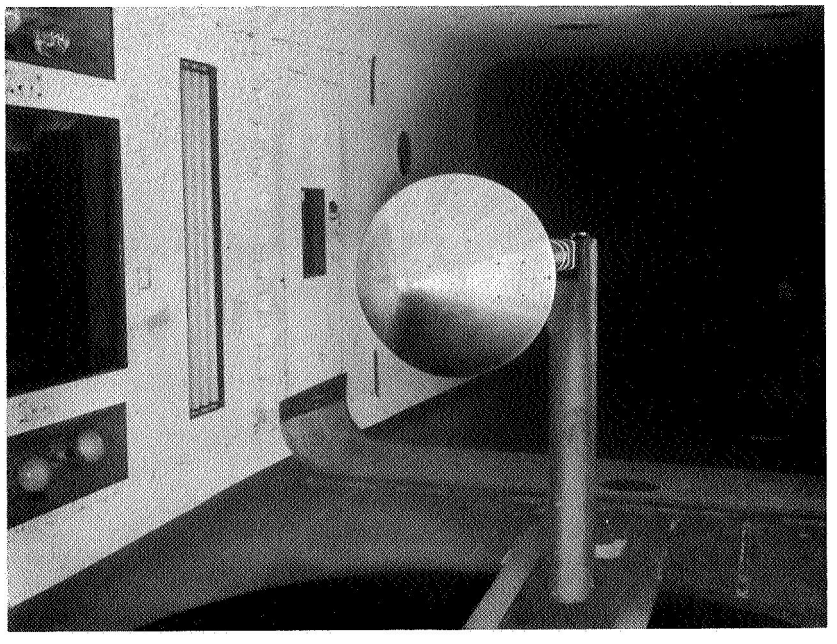


θ = 180 DEGREES



θ = 0 DEGREES

Figure 7. Command Module C_2 Installed in Tunnel

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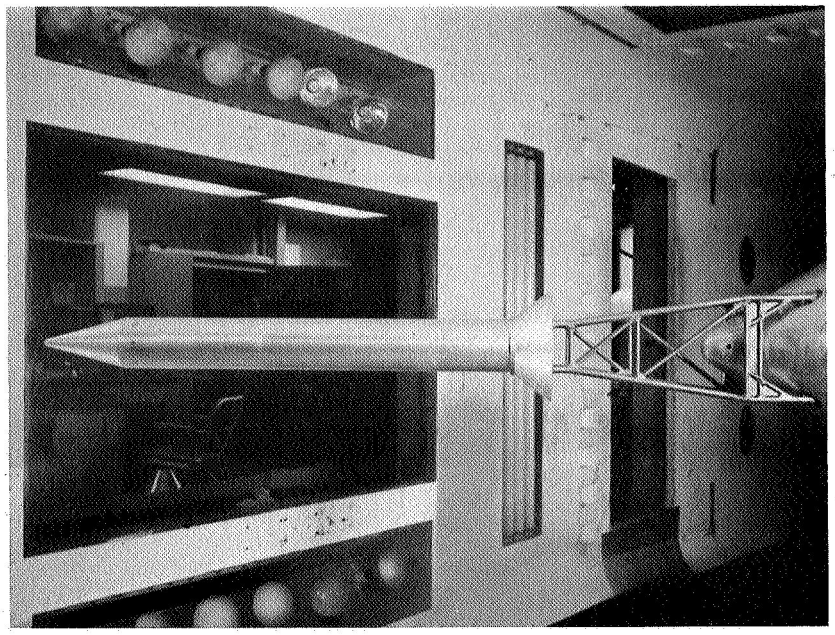
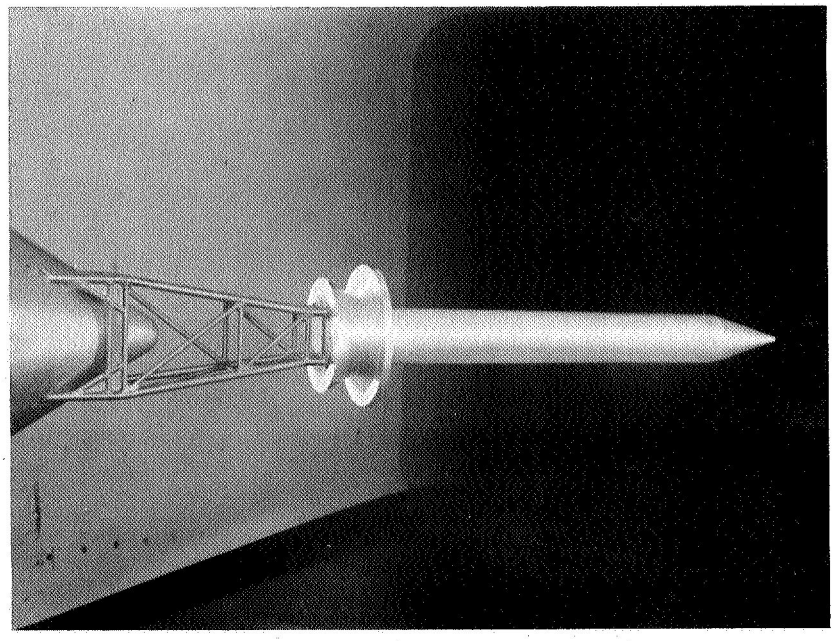
[redacted]



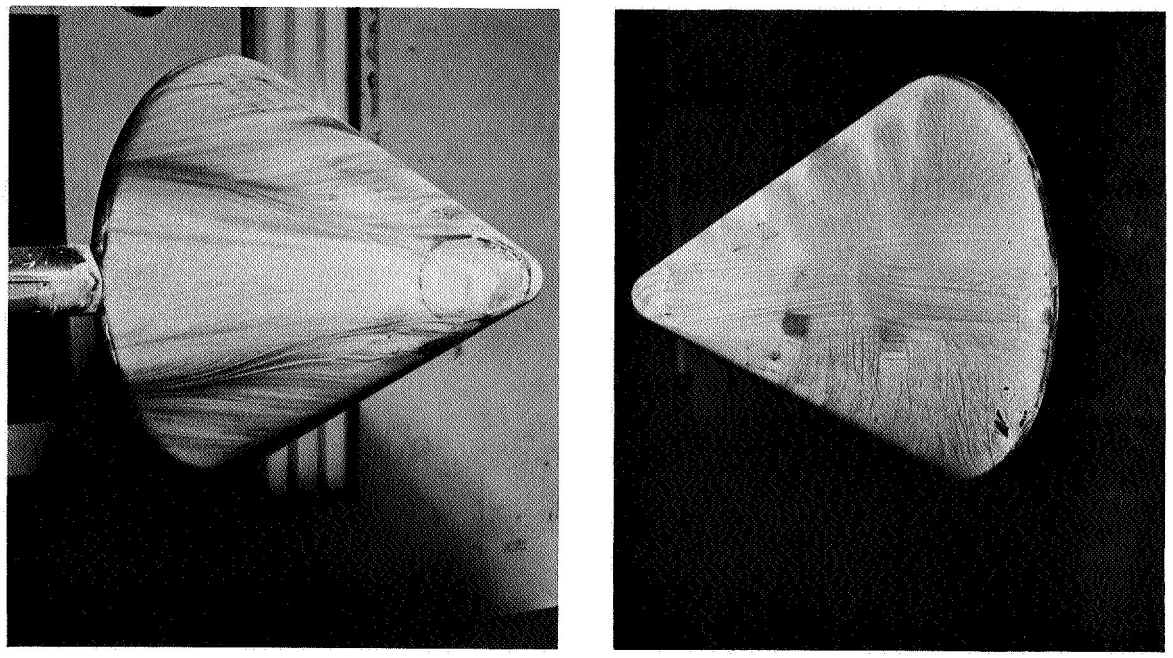
$E_{35}T_9C_2$



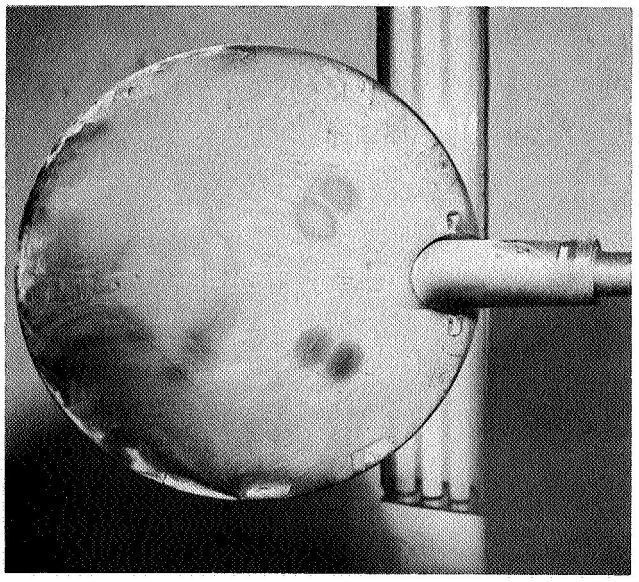
$E_{20}T_9C_2$

Figure 8. Launch Escape Vehicle Installed in Tunnel

[redacted]

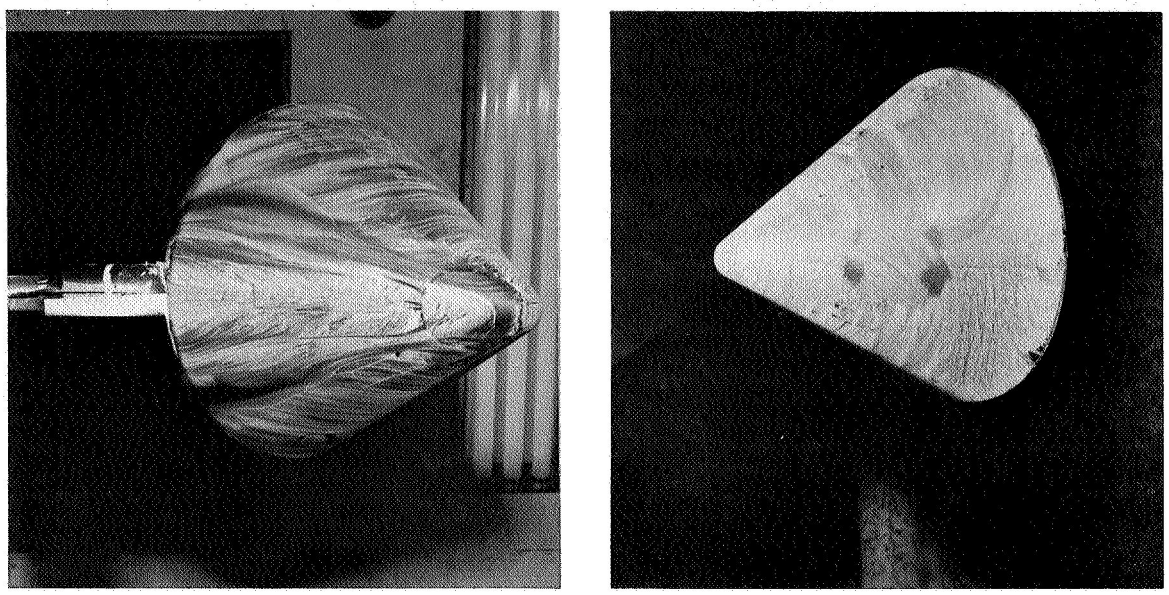


α = 52 DEGREES



α = 52 DEGREES

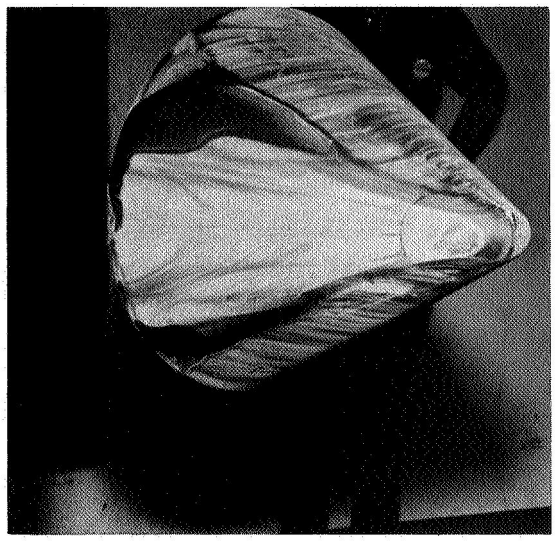
Figure 9. Kerosene-Talcum Flow Visualization Tests (Sheet 1 of 3)

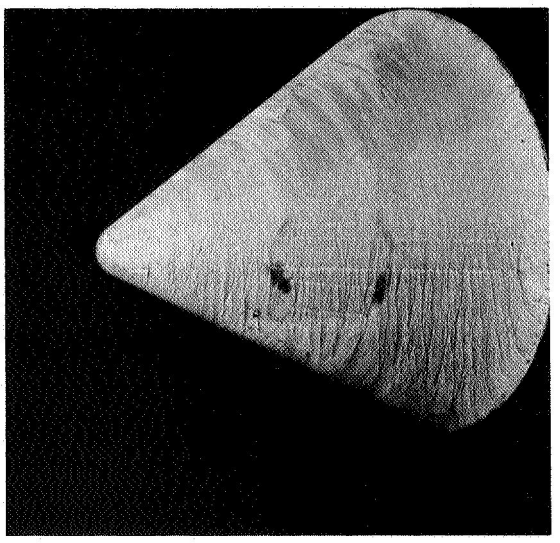


α = 57 DEGREES

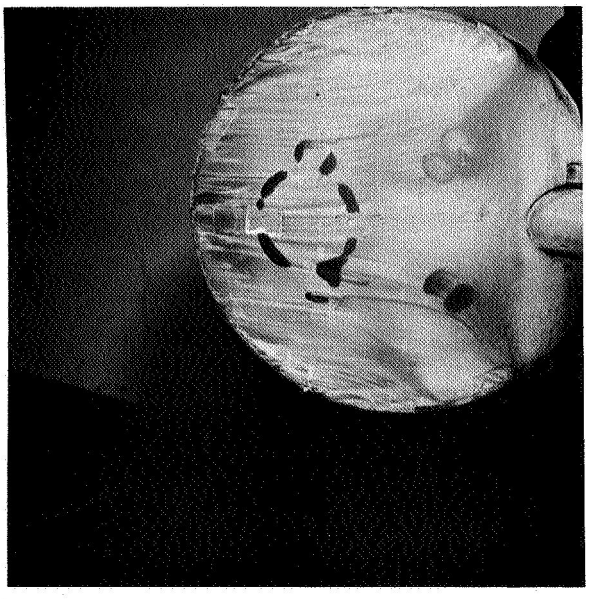
α = 57 DEGREES

Figure 9. Kerosene-Talcum Flow Visualization Tests (Sheet 2 of 3)



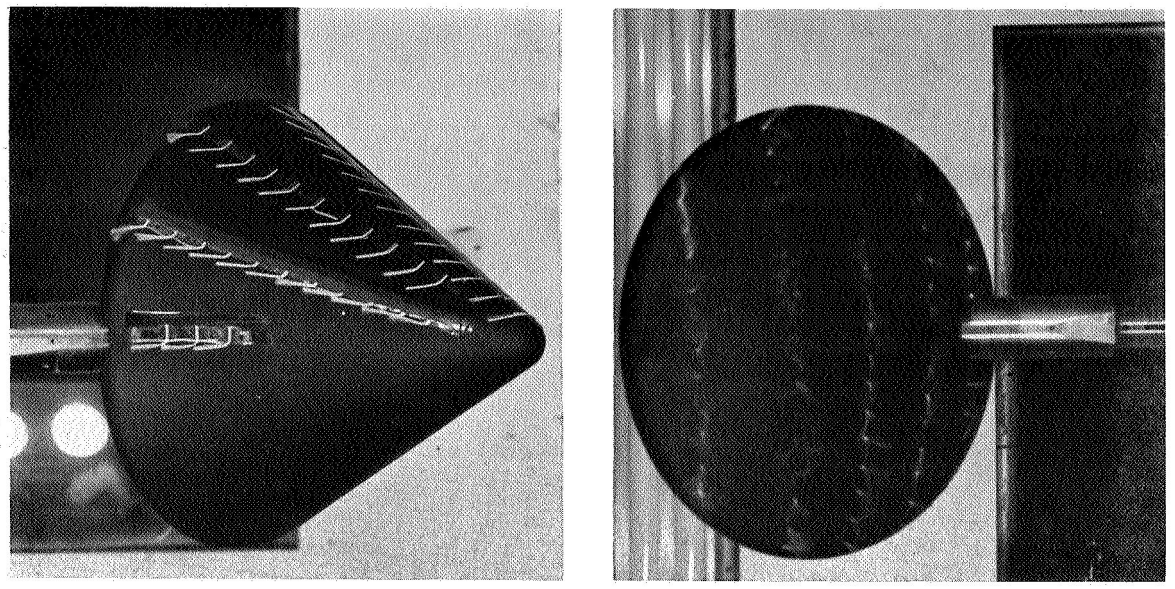


α = 62 DEGREES

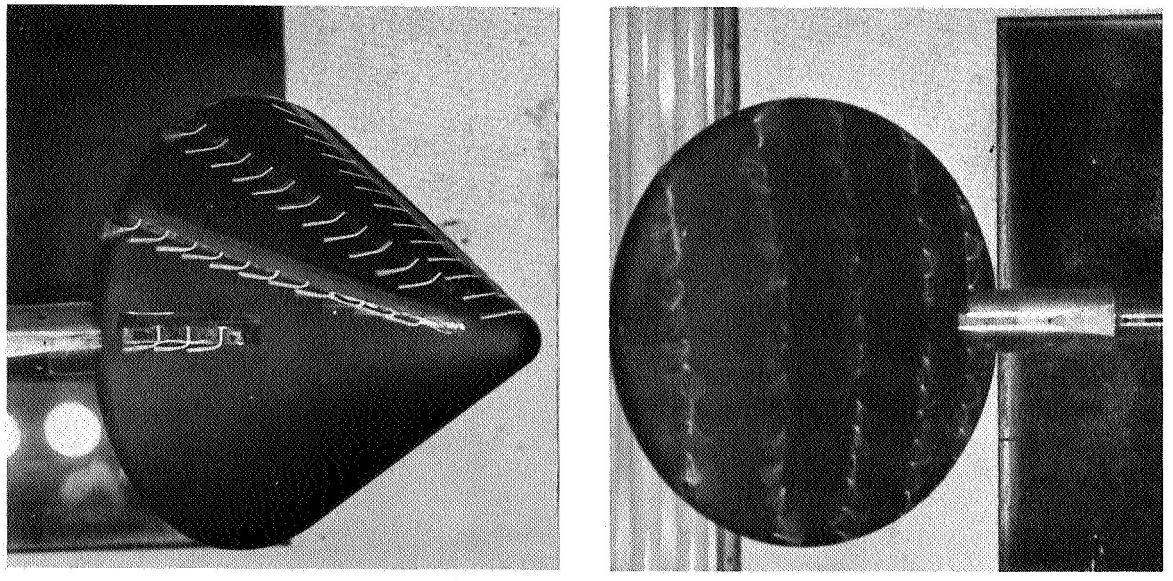


α = 62 DEGREES

Figure 9. Kerosene-Talcum Flow Visualization Tests (Sheet 3 of 3)



α = 40 DEGREES



α=44 DEGREES

Figure 10. Tuft Flow Visualization Tests (Sheet 1 of 10)

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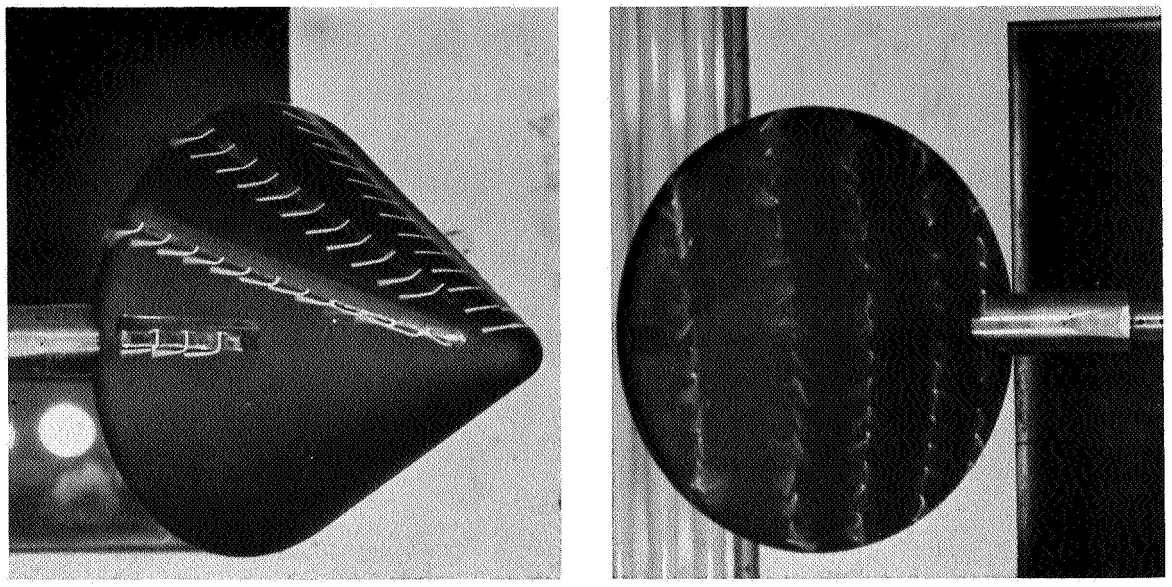
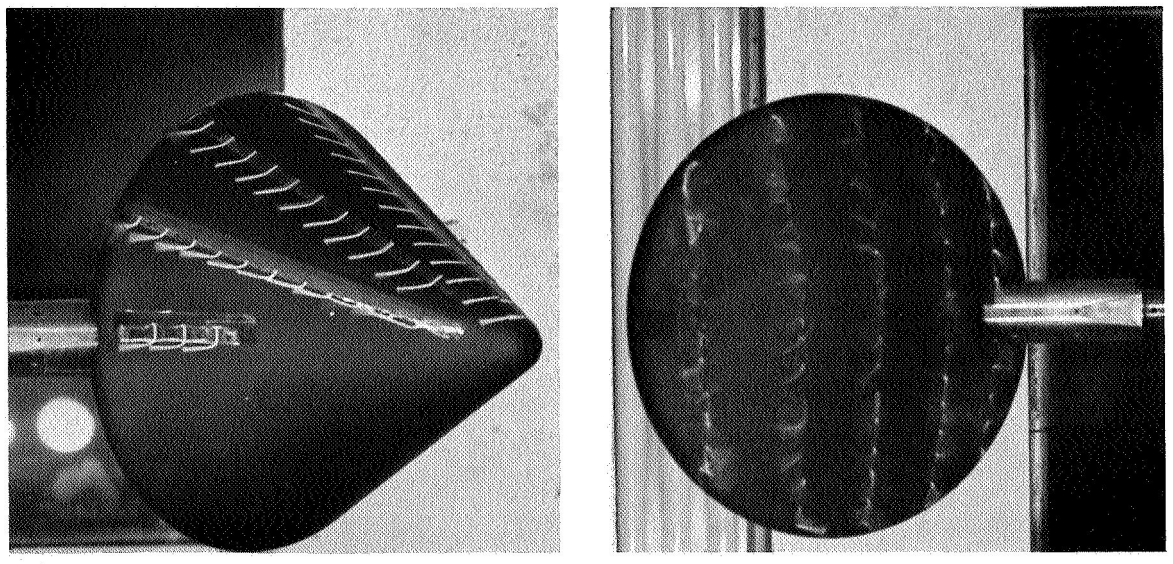


α = 46 DEGREES



α = 48 DEGREES

Figure 10. Tuft Flow Visualization Tests (Sheet 2 of 10)

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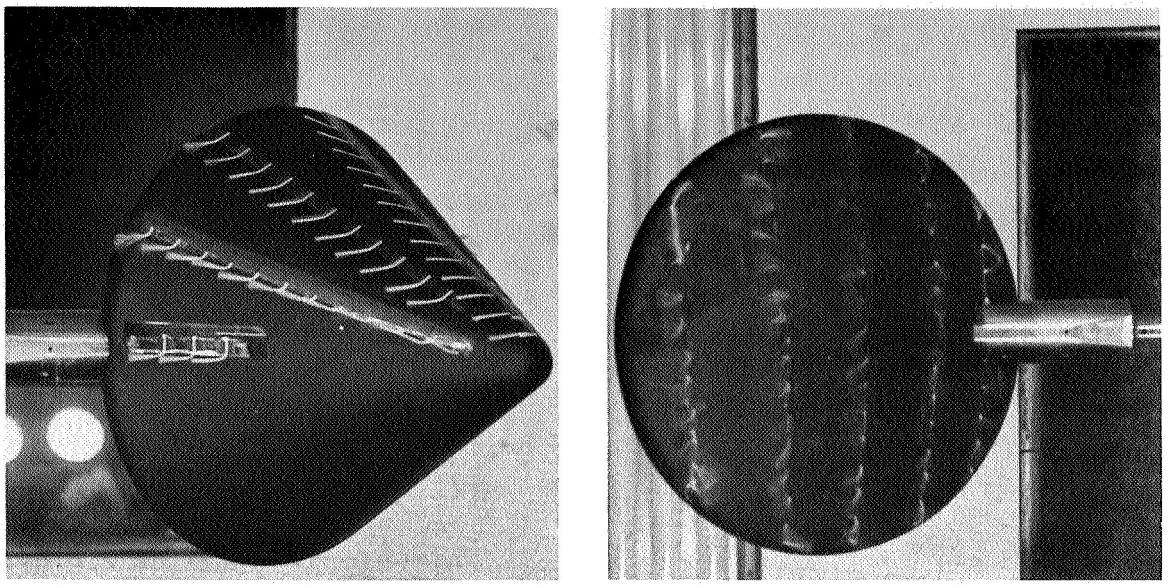
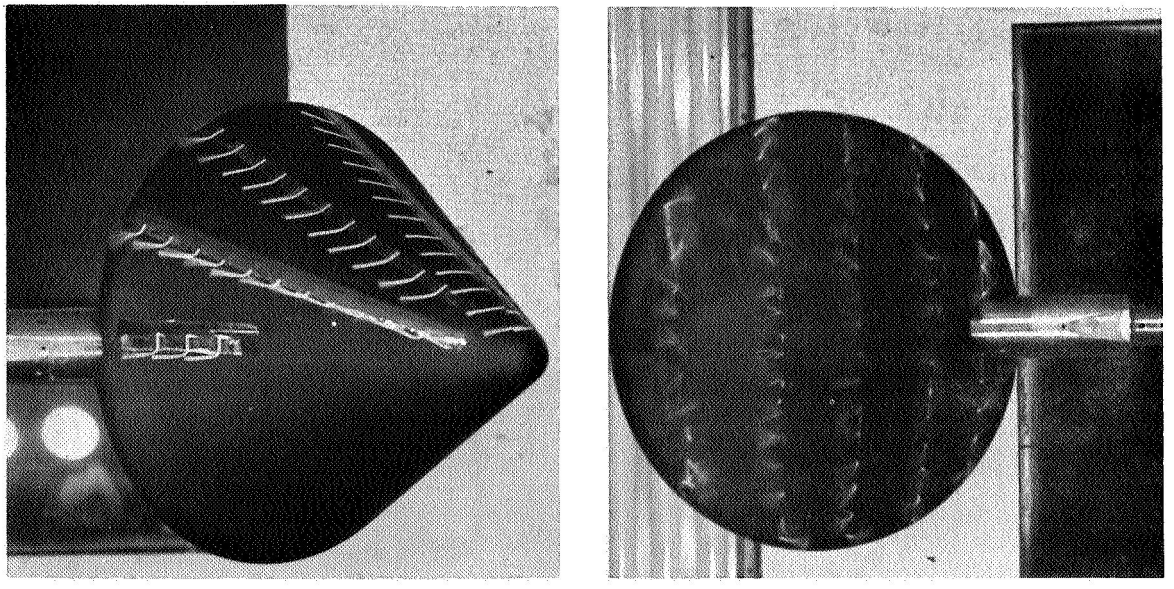


α = 50 DEGREES



α = 52 DEGREES

Figure 10. Tuft Flow Visualization Tests (Sheet 3 of 10)

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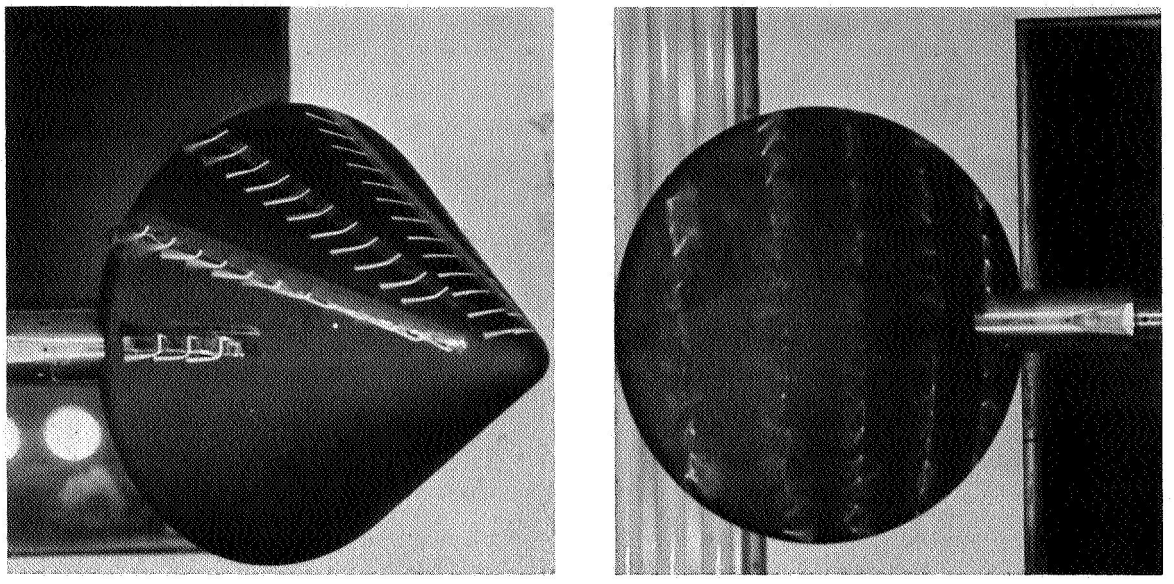
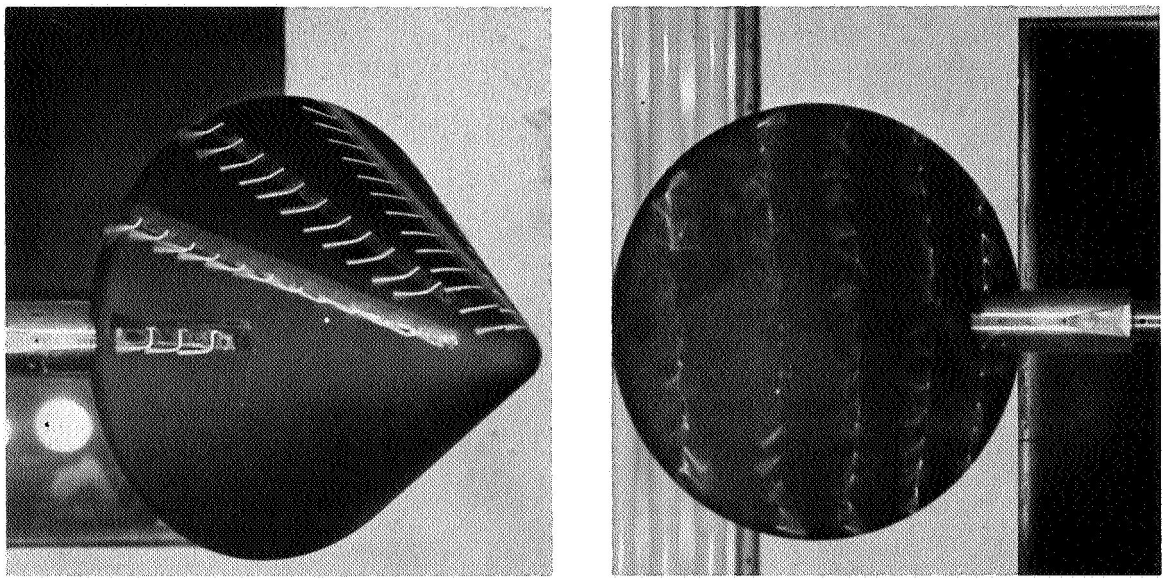


α = 53 DEGREES



α = 54 DEGREES

Figure 10. Tuft Flow Visualization Tests (Sheet 4 of 10)

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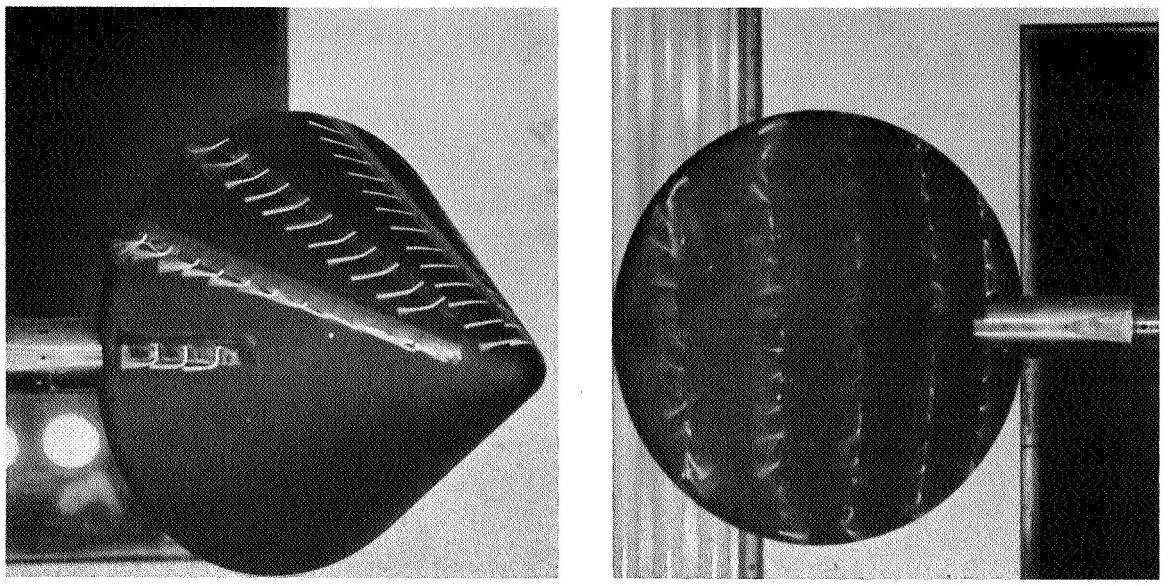
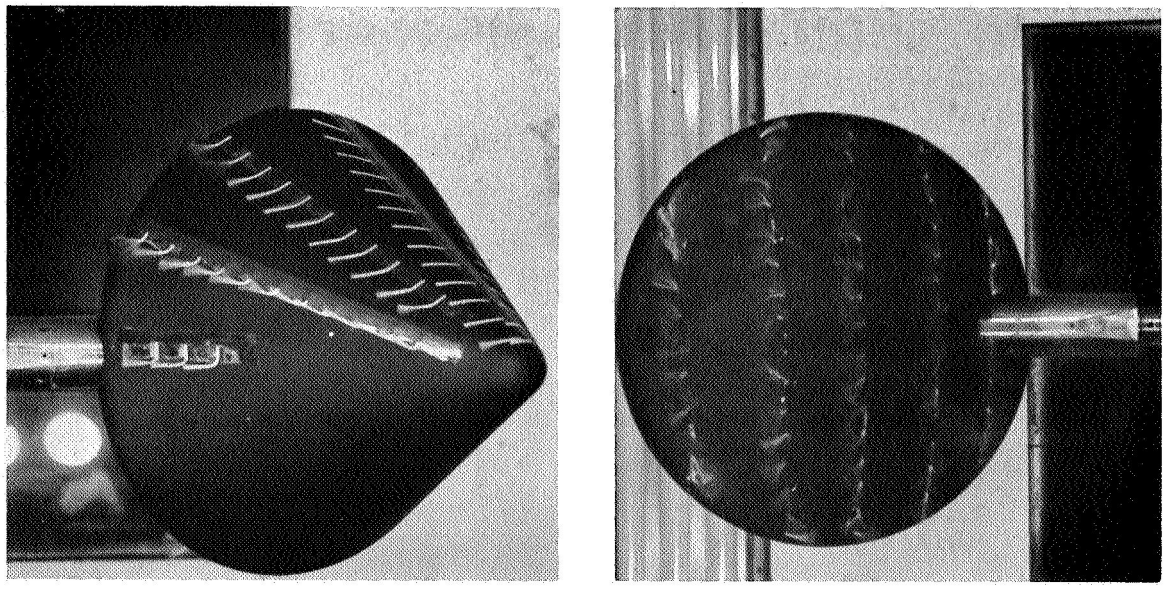


α = 55 DEGREES



α = 56 DEGREES

Figure 10. Tuft Flow Visualization Tests (Sheet 5 of 10)

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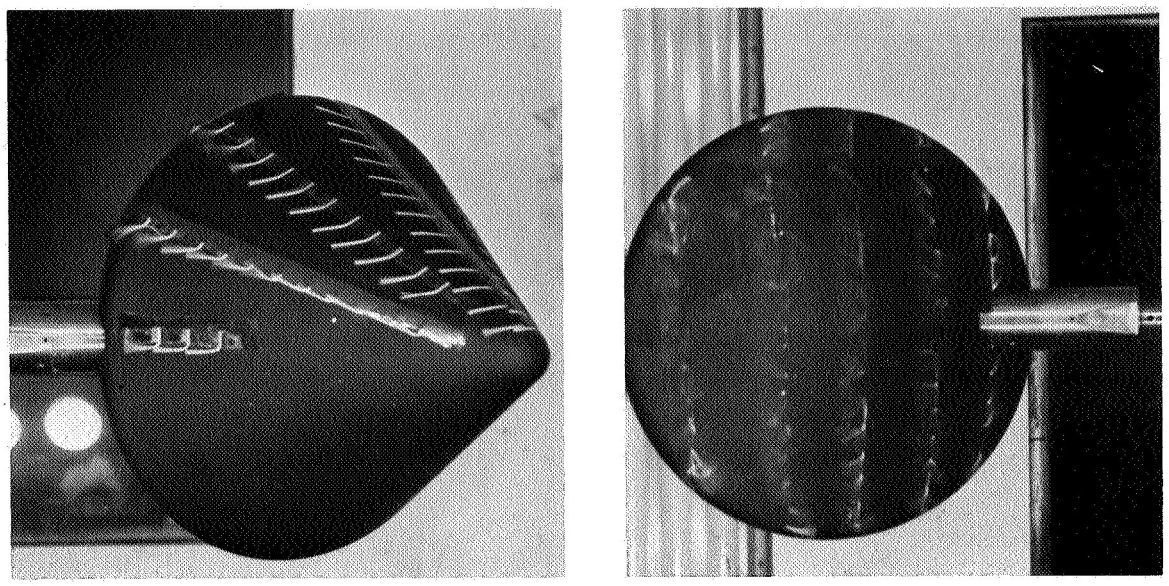
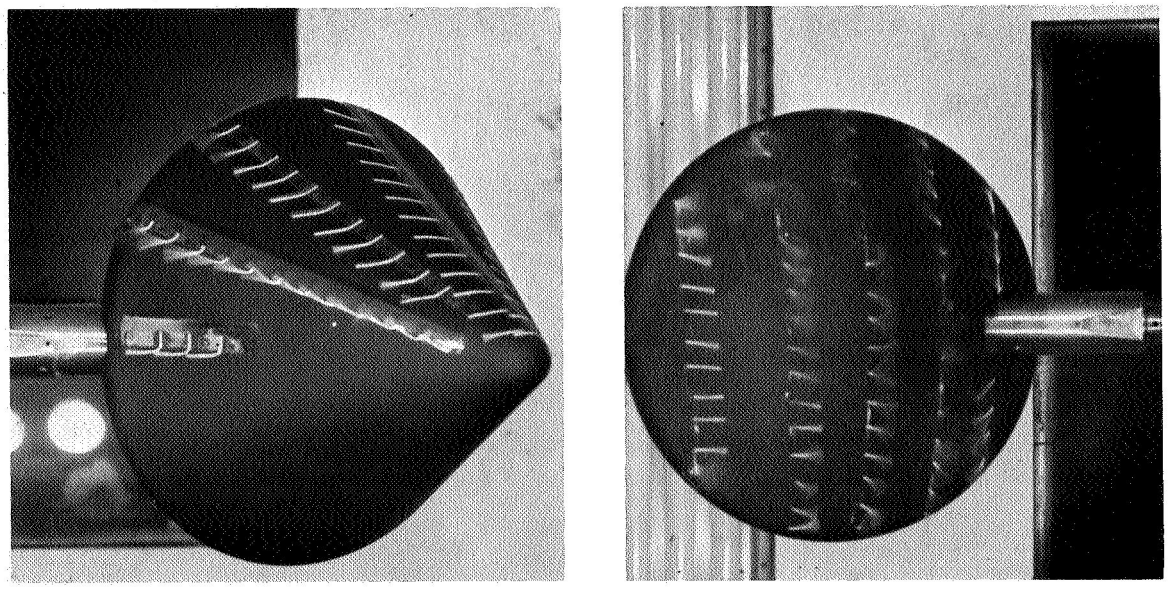


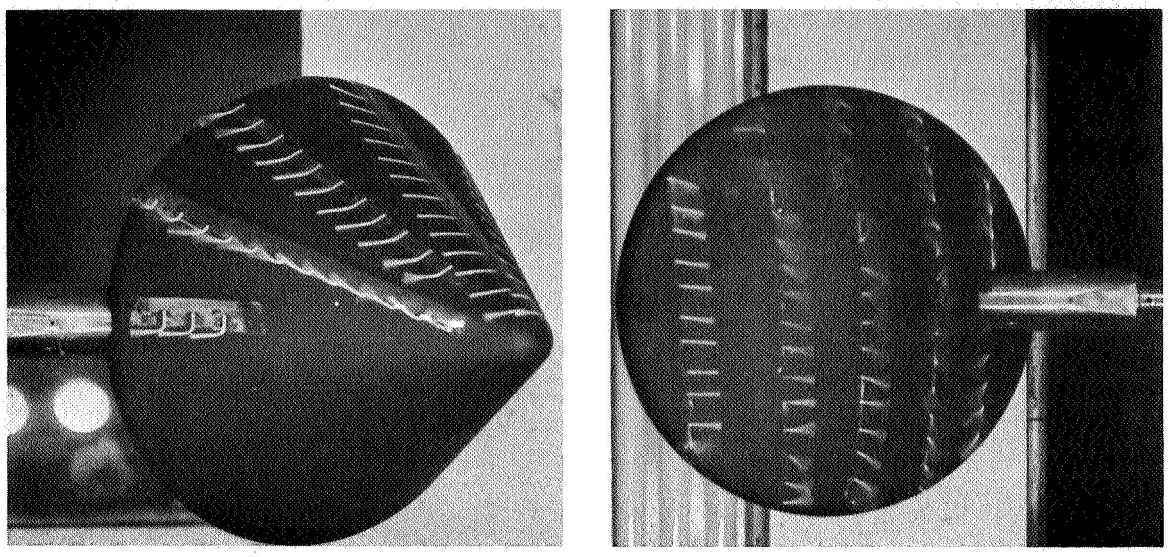
α= 57 DEGREES



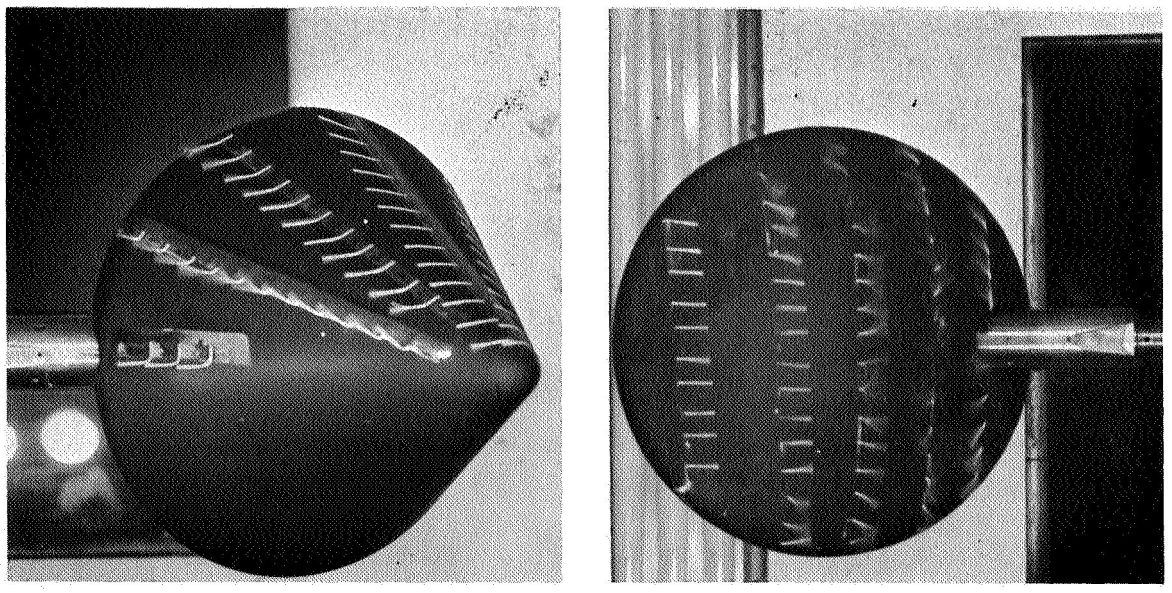
α= 58 DEGREES

Figure 10. Tuft Flow Visualization Tests (Sheet 6 of 10)

CONFIDENTIAL



α = 59 DEGREES



α=60 DEGREES

Figure 10. Tuft Flow Visualization Tests (Sheet 7 of 10)

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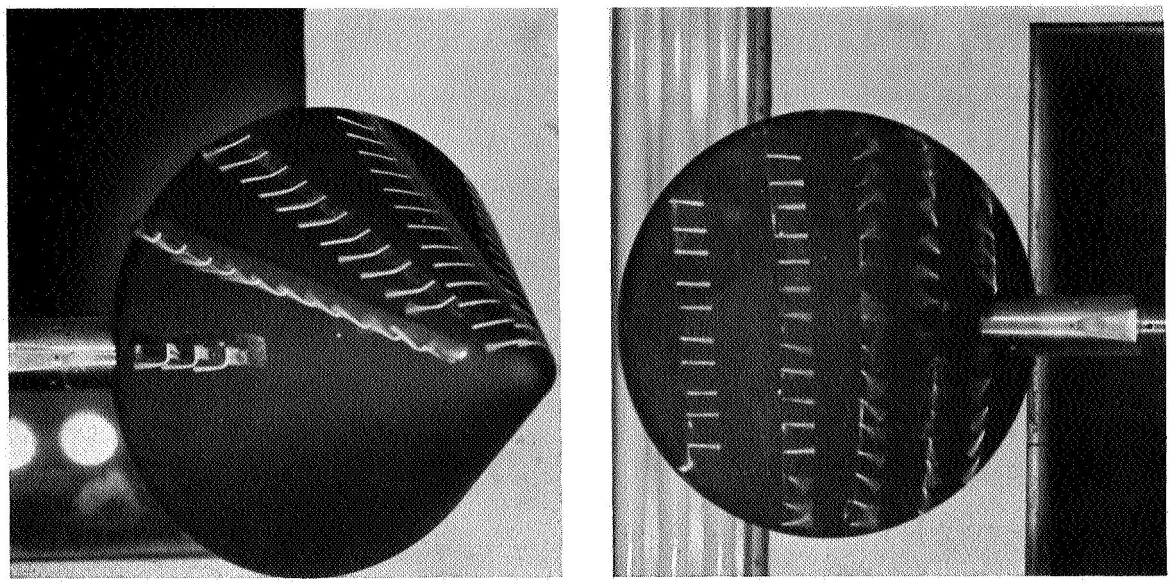
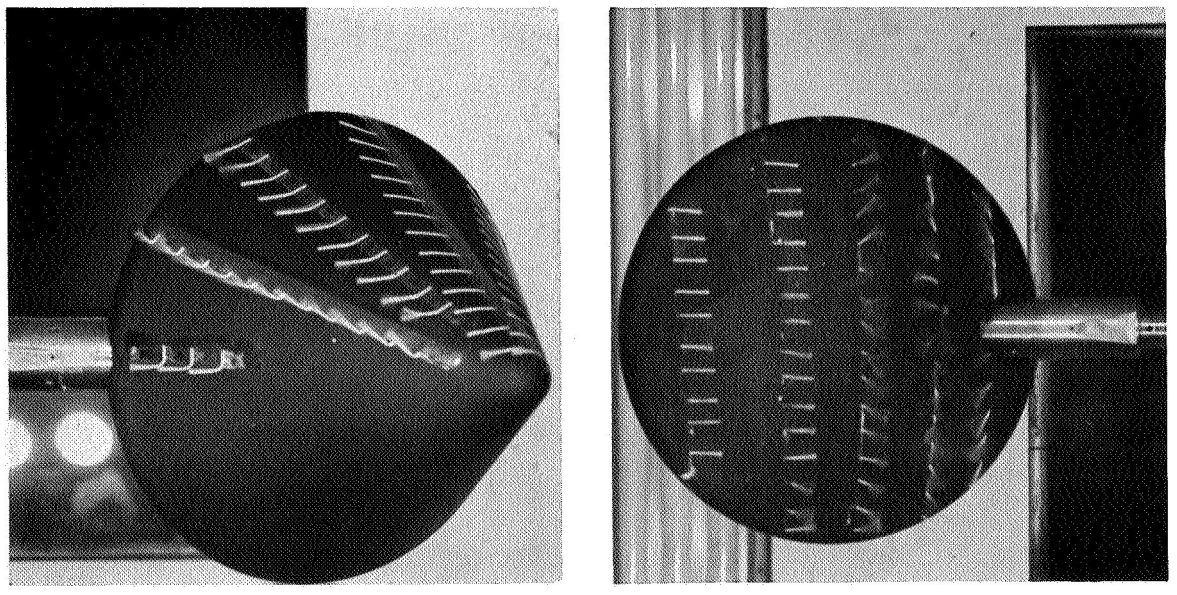


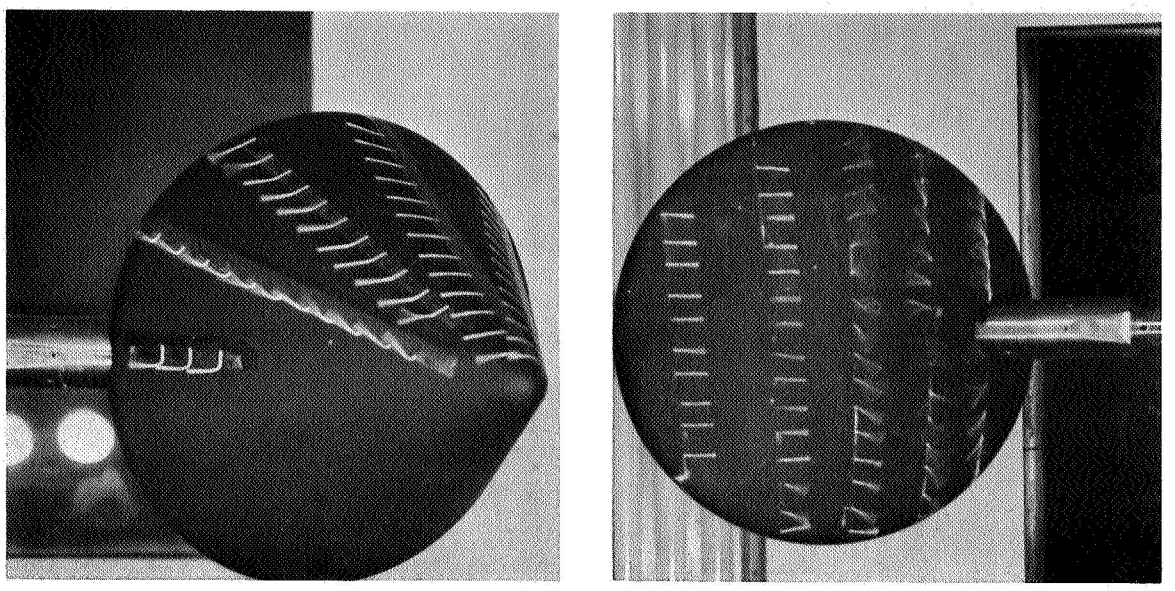
α = 61 DEGREES



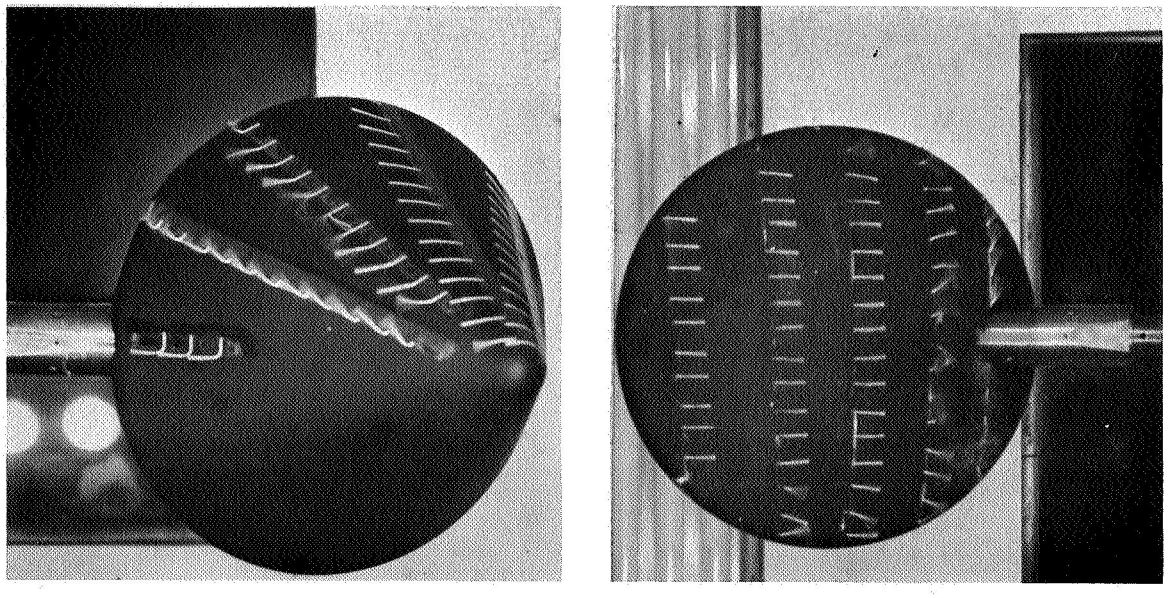
α = 62 DEGREES

Figure 10. Tuft Flow Visualization Tests (Sheet 8 of 10)

CONFIDENTIAL



α = 64 DEGREES



α = 66 DEGREES

Figure 10. Tuft Flow Visualization Tests (Sheet 9 of 10)

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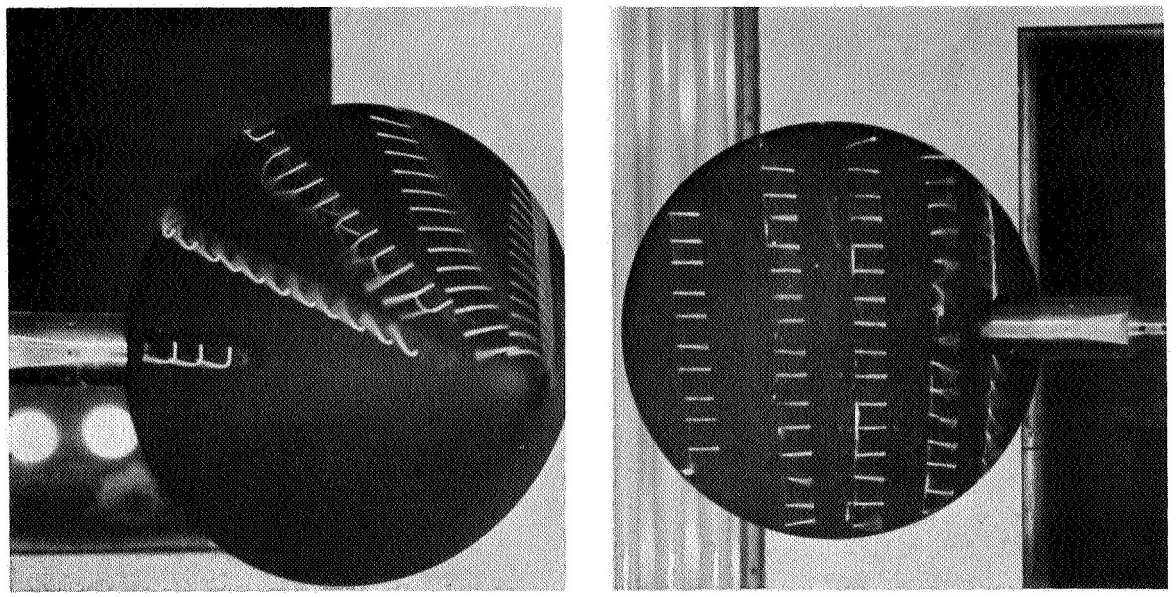
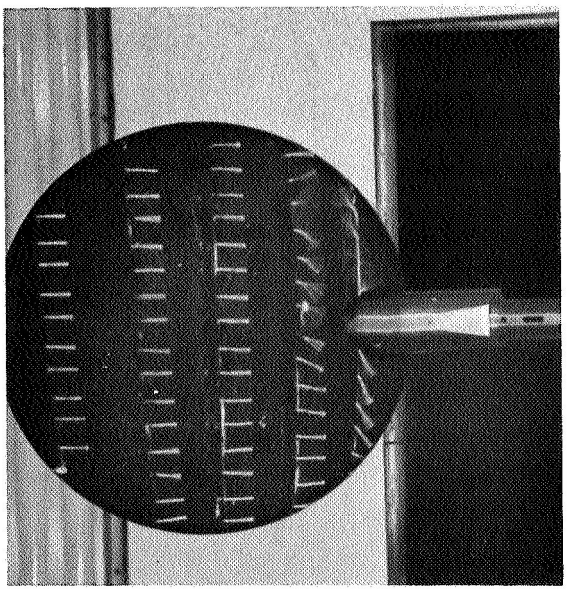
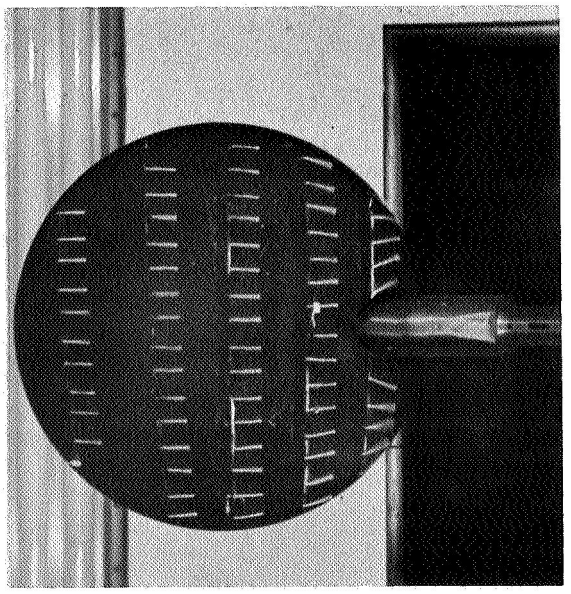


α = 70 DEGREES



α = 75 DEGREES



α = 80 DEGREES

Figure 10. Tuft Flow Visualization Tests (Sheet 10 of 10)

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APPENDIX A

TABULATED DATA

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RUN INDEX

Run numbers for the various configurations and Mach numbers are presented in the following summary of Completed Runs.

NAAL 485

Facility-NAAL 7.75' x 11'
Model - 0.105-Scale FS-2

Configuration	Range (deg)	Mach Number	
		0.185	0.26
$E_{20}T_9C_2$	-10 to +15		1
	15 to 40		3
	30 to 50		10
	40 to 90		4
$E_{35}T_9C_2$	-10 to +15		11
	15 to 40		13
	40 to 90		14
C_2	-10 to 20		2
	15 to 40		6
	30 to 90	19	17, 18, 20
	40 to 80	22	5
	50 to 70		21, *23, *24
	80 to 120		7, 15
	110 to 170		16
	120 to 160		9
	160 to 190		8, 12

*Indicates tufts test

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DATA FORMAT

The key to reading the tabulated data is as follows:

The first line at the top of each page identifies the type of data. The second line at the top of each page contains the following identification:

1. Run number
2. Configuration tested
3. Theta = model offset angle (θ)
4. Phi = model roll angle (ϕ)
5. Type P6 = Pitch condition using six force components
6. Mach number
7. RN = Reynolds number x 10^{-6} (based on command module diameter, 16.17 inches)
8. Q = Test section free-stream dynamic pressure, lb/ft^2
9. NAAL 485 = Test number

First Page - Body-Axis Coefficients

Alpha = Model angle of attack, deg
Yaw = Model angle of yaw, deg
CA = Axial-force coefficient
CN = Normal-force coefficient
CMA = Pitching-moment coefficient about the command module apex
CNB = Yawing-moment coefficient
CLB = Rolling-moment coefficient
XCPN/D = Location of normal force center of pressure divided by the command module diameter, measured from the command module apex, positive forward
DP/Q = Balance chamber pressure coefficient

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Second Page - Stability Axis Coefficient

Alpha = Model angle of attack, deg
Yaw = Model angle of yaw, deg
CD = Drag coefficient
CL = Lift coefficient
C_{mcg} = Pitching-moment coefficient about C.G.
CY = Side-force coefficient
CNS = Yawing-moment coefficient
CLS = Rolling-moment coefficient
L/D = Lift to drag ratio

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BODY-AXIS COEFFICIENTS

RUN 1 CONF. E20T9C2 THETA = 0 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	-10.15	0.	0.67034	-0.2746	0.1299	0.0041	-0.0011	-0.4730	-0.3960
2	-8.14	-0.	0.63016	-0.2430	0.1083	0.0032	-0.0010	-0.4459	-0.3962
3	-5.11	-0.	0.58656	-0.1968	0.0931	0.0036	-0.0010	-0.4732	-0.3963
4	-3.08	-0.	0.56248	-0.1460	0.0750	0.0038	-0.0010	-0.5136	-0.3962
5	-2.06	-0.	0.54397	-0.1145	0.0618	0.0037	-0.0009	-0.5399	-0.3958
6	-1.04	-0.	0.52013	-0.0825	0.0473	0.0039	-0.0008	-0.5735	-0.3953
7	-0.01	-0.	0.48879	-0.0126	0.0082	0.0043	-0.0008	-0.6504	-0.3247
8	1.04	-0.	0.51386	0.0703	-0.0381	0.0043	-0.0007	-0.5417	-0.3826
9	2.05	-0.	0.53962	0.1025	-0.0533	0.0035	-0.0005	-0.5200	-0.3955
10	3.07	-0.	0.55505	0.1338	-0.0666	0.0040	-0.0004	-0.4975	-0.3962
11	4.09	-0.	0.57161	0.1622	-0.0772	0.0038	-0.0004	-0.4758	-0.3963
12	5.10	-0.	0.58511	0.1876	-0.0863	0.0036	-0.0003	-0.4599	-0.3964
13	7.13	-0.	0.60950	0.2237	-0.0980	0.0033	-0.0001	-0.4382	-0.3964
14	10.15	-0.	0.66023	0.2644	-0.1196	0.0045	-0.0003	-0.4522	-0.3959
15	12.16	-0.	0.62616	0.2698	-0.1073	0.0032	-0.0003	-0.3977	-0.3958
16	15.18	-0.	0.60844	0.2953	-0.1090	0.0028	-0.0003	-0.3691	-0.3930

STABILITY AXIS COEFFICIENTS

RUN 1 CONF. E20T9C2 THETA = 0 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	-10.15	0.	0.70824	-0.1521	0.0727	-0.0101	0.0038	-0.0018	-0.215
2	-8.14	-0.	0.65821	-0.1513	0.0594	-0.0107	0.0031	-0.0014	-0.230
3	-5.11	-0.	0.60176	-0.1438	0.0568	-0.0139	0.0035	-0.0013	-0.239
4	-3.08	-0.	0.56951	-0.1155	0.0537	-0.0156	0.0038	-0.0012	-0.203
5	-2.06	-0.	0.54774	-0.0948	0.0496	-0.0149	0.0037	-0.0010	-0.173
6	-1.04	-0.	0.52154	-0.0730	0.0442	-0.0158	0.0039	-0.0009	-0.140
7	-0.01	-0.	0.48879	-0.0126	0.0257	-0.0176	0.0043	-0.0008	-0.026
8	1.04	-0.	0.51505	0.0610	0.0067	-0.0195	0.0043	-0.0006	0.119
9	2.05	-0.	0.54295	0.0831	0.0028	-0.0154	0.0035	-0.0003	0.153
10	3.07	-0.	0.56142	0.1039	0.0001	-0.0161	0.0041	-0.0002	0.185
11	4.09	-0.	0.58172	0.1210	-0.0008	-0.0157	0.0038	-0.0001	0.208
12	5.10	-0.	0.59948	0.1348	-0.0013	-0.0154	0.0036	0.0000	0.225
13	7.13	-0.	0.63254	0.1463	-0.0006	-0.0153	0.0033	0.0003	0.231
14	10.15	-0.	0.69648	0.1439	-0.0071	-0.0182	0.0044	0.0005	0.207
15	12.16	-0.	0.66895	0.1319	0.0054	-0.0186	0.0032	0.0004	0.197
16	15.18	-0.	0.66453	0.1257	0.0110	-0.0177	0.0028	0.0004	0.189

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BODY-AXIS COEFFICIENTS

RUN 2 CONF. C2 THETA = 0 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	-10.08	-0.	0.52654	-0.1821	0.1346	0.0016	-0.0018	-0.7389	-0.3948
2	-5.04	-0.	0.55298	-0.1001	0.0734	-0.0021	-0.0007	-0.7337	-0.3949
3	-3.03	-0.	0.56626	-0.0729	0.0542	-0.0033	-0.0008	-0.7438	-0.3949
4	-2.02	-0.	0.57306	-0.0531	0.0414	-0.0033	-0.0008	-0.7807	-0.3951
5	-1.02	-0.	0.56433	-0.0366	0.0287	-0.0005	-0.0008	-0.7847	-0.3951
6	-0.01	-0.	0.57204	-0.0201	0.0161	-0.0001	-0.0010	-0.8022	-0.3952
7	1.00	-0.	0.57636	-0.0072	0.0067	-0.0013	-0.0010	-0.9377	-0.3952
8	2.00	-0.	0.57715	0.0098	-0.0047	-0.0032	-0.0008	-0.4765	-0.3949
9	3.01	-0.	0.57749	0.0305	-0.0183	-0.0026	-0.0007	-0.6007	-0.3949
10	4.02	-0.	0.57748	0.0433	-0.0278	-0.0036	-0.0005	-0.6408	-0.3952
11	5.03	-0.	0.56761	0.0585	-0.0381	-0.0049	-0.0006	-0.6514	-0.3948
12	8.05	-0.	0.54694	0.1137	-0.0801	-0.0058	0.0003	-0.7043	-0.3950
13	10.06	-0.	0.52663	0.1504	-0.1104	-0.0065	0.0002	-0.7340	-0.3956
14	12.08	-0.	0.51074	0.1788	-0.1321	-0.0044	0.0003	-0.7386	-0.3959
15	15.10	-0.	0.49428	0.2235	-0.1629	-0.0032	0.0001	-0.7290	-0.3963
16	20.13	-0.	0.45989	0.2958	-0.2130	-0.0027	-0.0007	-0.7201	-0.3962

STABILITY AXIS COEFFICIENTS

RUN 2 CONF. C2 THETA = 0 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	-10.08	-0.	0.55029	-0.0872	0.0408	-0.0281	0.0012	-0.0021	-0.158
2	-5.04	-0.	0.55964	-0.0511	0.0374	-0.0107	-0.0021	-0.0005	-0.091
3	-3.03	-0.	0.56932	-0.0429	0.0377	-0.0119	-0.0033	-0.0006	-0.075
4	-2.02	-0.	0.57458	-0.0328	0.0389	-0.0122	-0.0033	-0.0006	-0.057
5	-1.02	-0.	0.56489	-0.0266	0.0369	-0.0132	-0.0005	-0.0008	-0.047
6	-0.01	-0.	0.57205	-0.0200	0.0361	-0.0175	-0.0001	-0.0010	-0.035
7	1.00	-0.	0.57614	-0.0172	0.0358	-0.0169	-0.0013	-0.0010	-0.030
8	2.00	-0.	0.57714	-0.0104	0.0361	-0.0143	-0.0031	-0.0009	-0.018
9	3.01	-0.	0.57829	0.0001	0.0367	-0.0136	-0.0025	-0.0008	0.000
10	4.02	-0.	0.57910	0.0028	0.0360	-0.0105	-0.0035	-0.0008	0.005
11	5.03	-0.	0.57055	0.0085	0.0355	-0.0133	-0.0048	-0.0011	0.015
12	8.05	-0.	0.55748	0.0360	0.0301	0.0029	-0.0058	-0.0005	0.065
13	10.06	-0.	0.54481	0.0561	0.0238	0.0016	-0.0064	-0.0009	0.103
14	12.08	-0.	0.53685	0.0680	0.0206	0.0015	-0.0043	-0.0006	0.127
15	15.10	-0.	0.53542	0.0870	0.0194	-0.0026	-0.0031	-0.0007	0.163
16	20.13	-0.	0.53359	0.1195	0.0169	-0.0167	-0.0023	-0.0016	0.224

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BODY-AXIS COEFFICIENTS

RUN 3 CONF. E20T9C2 THETA =20 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	15.04	-0.	0.63112	0.2841	-0.1061	0.0028	-0.0006	-0.3733	-0.3963
2	17.06	-0.	0.61482	0.3089	-0.1112	0.0032	-0.0007	-0.3599	-0.3962
3	20.09	-0.	0.58779	0.3433	-0.1166	0.0037	-0.0010	-0.3396	-0.3961
4	25.14	-0.	0.55958	0.4207	-0.1317	0.0047	-0.0013	-0.3130	-0.3960
5	30.22	-0.	0.55389	0.5524	-0.1899	0.0049	-0.0009	-0.3438	-0.3963
6	35.28	0.	0.47922	0.6160	-0.1931	0.0134	-0.0080	-0.3135	-0.3963
7	40.33	0.	0.43171	0.6601	-0.1813	0.0284	-0.0215	-0.2747	-0.3961

STABILITY AXIS COEFFICIENTS

RUN 3 CONF. E20T9C2 THETA =20 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	15.04	-0.	0.68322	0.1106	0.0113	-0.0229	0.0029	0.0001	0.162
2	17.06	-0.	0.67840	0.1150	0.0133	-0.0224	0.0032	0.0003	0.170
3	20.09	-0.	0.66995	0.1206	0.0176	-0.0207	0.0038	0.0004	0.180
4	25.14	-0.	0.68532	0.1431	0.0257	-0.0183	0.0048	0.0008	0.209
5	30.22	-0.	0.75665	0.1986	0.0088	-0.0166	0.0046	0.0017	0.262
6	35.28	0.	0.74702	0.2261	0.0223	-0.0123	0.0155	0.0012	0.303
7	40.33	0.	0.75634	0.2238	0.0459	0.0081	0.0356	0.0020	0.296

BODY-AXIS COEFFICIENTS

RUN 4 CONF. E20T9C2 THETA =60 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	40.06	-0.	0.45514	0.6525	-0.1915	0.0271	0.0295	-0.2935	-0.3947
2	45.14	-0.	0.38943	0.7069	-0.1621	0.0487	0.0561	-0.2294	-0.3947
3	50.21	-0.	0.31794	0.7413	-0.1209	0.0623	0.0872	-0.1630	-0.3946
4	60.26	0.	0.27774	0.7367	-0.0392	-0.0144	-0.0128	-0.0532	-0.3694
5	70.07	0.	0.47572	0.4640	0.0815	-0.0061	-0.0082	0.1757	-0.0362
6	80.23	0.	0.34135	0.6320	0.0816	-0.0165	-0.0253	0.1291	-0.2608
7	90.37	0.	0.13164	0.6842	0.0891	0.0025	-0.0006	0.1302	-0.3700

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STABILITY AXIS COEFFICIENTS

RUN 4 CONF. E2QT9C2 THETA =60 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	40.06	-0.	0.76828	0.2065	0.0344	-0.0324	0.0017	0.0400	0.269
2	45.14	-0.	0.77574	0.2226	0.0780	-0.0507	-0.0054	0.0741	0.287
3	50.21	-0.	0.77307	0.2301	0.1270	-0.0375	-0.0272	0.1037	0.298
4	60.26	0.	0.77742	0.1242	0.2055	0.0323	0.0040	-0.0189	0.160
5	70.07	0.	0.59833	-0.2891	0.2489	0.0069	0.0057	-0.0085	-0.483
6	80.23	0.	0.68075	-0.2292	0.2960	0.0072	0.0221	-0.0206	-0.337
7	90.37	0.	0.68334	-0.1360	0.3107	-0.0003	0.0006	0.0025	-0.199

BODY-AXIS COEFFICIENTS

RUN 5 CONF. C2 THETA =60 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	39.98	0.	0.24861	0.4533	-0.3106	0.0011	0.0010	-0.6850	-0.3936
2	50.03	0.	0.14615	0.4492	-0.3108	0.0047	0.0031	-0.6919	-0.3932
3	60.05	0.	0.08697	0.3967	-0.2814	0.0044	0.0021	-0.7095	-0.3570
4	69.94	-0.	0.06487	0.0566	-0.1295	-0.0006	-0.0013	-2.2883	0.1803
5	80.03	-0.	-0.08031	0.1187	-0.1544	-0.0005	-0.0012	-1.3003	0.2439

STABILITY AXIS COEFFICIENTS

RUN 5 CONF. C2 THETA =60 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	39.98	0.	0.48180	0.1876	0.0149	0.0015	0.0002	0.0015	0.389
2	50.03	0.	0.43813	0.1765	0.0058	0.0306	0.0006	0.0056	0.403
3	60.05	0.	0.38713	0.1227	-0.0044	0.0390	0.0003	0.0048	0.317
4	69.94	-0.	0.07542	-0.0415	-0.0869	-0.0053	0.0010	-0.0010	-0.551
5	80.03	-0.	0.10305	0.0997	-0.0777	-0.0085	0.0011	-0.0007	0.967

BODY-AXIS COEFFICIENTS

RUN 6 CONF. C2 THETA =20 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	15.01	-0.	0.49158	0.2641	-0.1885	-0.0006	-0.0043	-0.7137	-0.3929
2	17.02	-0.	0.47715	0.2881	-0.2045	-0.0005	-0.0029	-0.7098	-0.3929
3	20.05	-0.	0.44633	0.3194	-0.2245	-0.0014	-0.0035	-0.7030	-0.3929
4	25.08	-0.	0.39266	0.3656	-0.2550	-0.0015	-0.0041	-0.6975	-0.3929
5	30.11	-0.	0.33647	0.4088	-0.2830	-0.0019	-0.0051	-0.6924	-0.3929
6	35.13	-0.	0.28015	0.4361	-0.3021	-0.0017	-0.0051	-0.6928	-0.3929
7	40.14	-0.	0.23882	0.4348	-0.3020	-0.0046	-0.0073	-0.6946	-0.3877

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STABILITY AXIS COEFFICIENTS

RUN 6 CONF. C2 THETA =20 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	15.01	-0.	0.54321	0.1278	0.0216	-0.0178	0.0005	-0.0043	0.235
2	17.02	-0.	0.54060	0.1358	0.0211	-0.0136	0.0003	-0.0029	0.251
3	20.05	-0.	0.52876	0.1470	0.0208	-0.0179	-0.0001	-0.0038	0.278
4	25.08	-0.	0.51060	0.1647	0.0188	-0.0218	0.0004	-0.0044	0.323
5	30.11	-0.	0.49612	0.1848	0.0170	-0.0267	0.0009	-0.0054	0.373
6	35.13	-0.	0.48005	0.1954	0.0134	-0.0268	0.0015	-0.0051	0.407
7	40.14	-0.	0.46285	0.1784	0.0102	-0.0432	0.0012	-0.0086	0.385

BODY-AXIS COEFFICIENTS

RUN 7 CONF. C2 THETA =100 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	79.96	-0.	-0.01516	0.0831	-0.1327	0.0004	-0.0011	-1.5966	0.3211
2	90.03	-0.	-0.13376	0.1108	-0.1176	-0.0043	-0.0024	-1.0611	0.2282
3	99.95	-0.	0.04492	0.2150	-0.1504	-0.0039	-0.0008	-0.6996	-0.1443
4	110.06	-0.	-0.13161	0.2139	-0.1072	-0.0052	-0.0007	-0.5015	-0.1255
5	120.18	0.	-0.33026	0.1318	-0.0211	0.0002	0.0009	-0.1599	-0.3083

STABILITY AXIS COEFFICIENTS

RUN 7 CONF. C2 THETA =100 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	79.96	-0.	0.07922	0.0294	-0.0766	-0.0081	0.0012	0.0002	0.371
2	90.03	-0.	0.11088	0.1337	-0.0495	-0.0524	0.0024	-0.0043	1.206
3	99.95	-0.	0.20401	-0.0814	-0.0004	-0.0276	0.0014	-0.0037	-0.399
4	110.06	-0.	0.24603	0.0503	0.0316	-0.0391	0.0025	-0.0046	0.204
5	120.18	0.	0.28000	0.2192	0.0498	0.0189	-0.0009	-0.0003	0.783

BODY-AXIS COEFFICIENTS

RUN 8 CONF. C2 THETA =180 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	160.02	-0.	-0.97561	-0.0038	0.0509	-0.0016	-0.0012	-13.3634	-0.3945
2	170.02	-0.	-0.98312	-0.0182	0.0357	-0.0004	-0.0015	-1.9604	-0.3939
3	175.01	-0.	-0.97394	-0.0102	0.0194	0.0000	-0.0018	-1.9038	-0.3935
4	180.00	-0.	-0.97020	-0.0001	0.0019	-0.0004	-0.0015	-36.2554	-0.3935
5	184.98	-0.	-0.97089	0.0255	-0.0269	0.0003	-0.0011	-1.0534	-0.3935
6	189.97	-0.	-0.98180	0.0319	-0.0434	-0.0001	-0.0013	-1.3615	-0.3938

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STABILITY AXIS COEFFICIENTS

RUN 8 CONF. C2 THETA =180 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	160.02	-0.	0.91562	0.3369	-0.0092	-0.0173	0.0019	0.0006	0.368
2	170.02	-0.	0.96509	0.1883	-0.0348	-0.0224	0.0007	0.0014	0.195
3	175.01	-0.	0.96936	0.0948	-0.0451	-0.0294	0.0001	0.0018	0.098
4	180.00	-0.	0.97020	0.0001	-0.0554	-0.0239	0.0004	0.0015	0.000
5	184.98	-0.	0.96502	-0.1097	-0.0667	-0.0191	-0.0004	0.0011	-0.114
6	189.97	-0.	0.96145	-0.2014	-0.0795	-0.0230	-0.0001	0.0013	-0.209

BODY-AXIS COEFFICIENTS

RUN 9 CONF. C2 THETA =140 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	120.07	-0.	-0.30923	0.1241	-0.0220	-0.0016	-0.0012	-0.1776	-0.2683
2	130.24	-0.	-0.68439	0.0349	0.0522	0.0001	0.0013	1.4970	-0.3935
3	140.31	-0.	-0.83122	-0.0051	0.0858	-0.0003	0.0014	-16.8321	-0.3940
4	145.34	-0.	-0.91435	-0.0108	0.0885	-0.0014	0.0023	-8.2204	-0.3941
5	150.32	-0.	-0.92414	0.0095	0.0568	-0.0002	0.0022	5.9576	-0.3941
6	155.31	-0.	-0.92236	0.0134	0.0412	0.0006	0.0015	3.0628	-0.3938
7	160.31	-0.	-0.93833	0.0108	0.0316	0.0010	0.0011	2.9187	-0.3932

STABILITY AXIS COEFFICIENTS

RUN 9 CONF. C2 THETA =140 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	120.07	-0.	0.26239	0.2054	0.0448	-0.0213	0.0018	-0.0008	0.783
2	130.24	-0.	0.46870	0.4999	0.0357	-0.0202	-0.0011	-0.0008	1.067
3	140.31	-0.	0.63635	0.5348	0.0333	-0.0247	-0.0006	-0.0013	0.840
4	145.34	-0.	0.74592	0.5289	0.0272	-0.0334	-0.0001	-0.0027	0.709
5	150.32	-0.	0.80763	0.4493	0.0089	-0.0234	-0.0009	-0.0020	0.556
6	155.31	-0.	0.84367	0.3730	-0.0040	-0.0164	-0.0011	-0.0011	0.442
7	160.31	-0.	0.88714	0.3059	-0.0163	-0.0128	-0.0014	-0.0007	0.345

BODY-AXIS COEFFICIENTS

RUN 10 CONF. E20T9C2 THETA =40 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	30.07	0.	0.57410	0.5415	-0.1860	0.0041	-0.0081	-0.3435	-0.3932
2	35.14	-0.	0.51035	0.6035	-0.1862	0.0048	-0.0007	-0.3085	-0.3932
3	40.20	-0.	0.45198	0.6630	-0.1856	0.0040	0.0157	-0.2799	-0.3932
4	45.27	-0.	0.37339	0.7108	-0.1603	-0.0027	0.0639	-0.2255	-0.3932
5	50.20	-0.	0.47991	0.5587	-0.0211	-0.0172	0.0485	-0.0378	-0.3333

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STABILITY AXIS COEFFICIENTS

RUN 10 CONF. E20T9C2 THETA =40 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	30.07	0.	0.76818	0.1810	0.0101	-0.0092	0.0076	-0.0049	0.236
2	35.14	-0.	0.76470	0.1998	0.0267	-0.0181	0.0043	0.0022	0.261
3	40.20	-0.	0.77316	0.2146	0.0435	-0.0311	-0.0071	0.0146	0.278
4	45.27	-0.	0.76774	0.2349	0.0804	-0.0542	-0.0473	0.0430	0.306
5	50.20	-0.	0.73642	-0.0111	0.1763	0.0468	-0.0483	0.0178	-0.015

BODY-AXIS COEFFICIENTS

RUN 11 CONF. E35T9C2 THETA =0 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	-10.13	-0.	0.52109	-0.2217	0.0832	0.0024	-0.0010	-0.3753	-0.3951
2	-8.12	0.	0.54548	-0.2032	0.0840	0.0018	-0.0009	-0.4137	-0.3949
3	-5.10	-0.	0.51596	-0.1717	0.0762	0.0028	-0.0009	-0.4439	-0.3953
4	-3.07	-0.	0.48734	-0.1323	0.0646	0.0028	-0.0008	-0.4885	-0.3951
5	-2.05	-0.	0.46872	-0.0974	0.0503	0.0028	-0.0008	-0.5158	-0.3945
6	-1.03	-0.	0.45668	-0.0578	0.0314	0.0023	-0.0007	-0.5428	-0.3801
7	0.00	-0.	0.44929	-0.0012	0.0031	0.0025	-0.0006	-2.6232	-0.3476
8	1.03	-0.	0.45927	0.0557	-0.0265	0.0030	-0.0005	-0.4763	-0.3885
9	2.05	-0.	0.47140	0.0958	-0.0456	0.0034	-0.0005	-0.4756	-0.3951
10	3.07	-0.	0.48581	0.1266	-0.0582	0.0030	-0.0004	-0.4601	-0.3953
11	4.08	-0.	0.50339	0.1496	-0.0656	0.0029	-0.0004	-0.4382	-0.3955
12	5.10	-0.	0.52121	0.1686	-0.0715	0.0026	-0.0003	-0.4237	-0.3957
13	7.11	-0.	0.54492	0.1864	-0.0745	0.0019	-0.0002	-0.3997	-0.3949
14	10.13	-0.	0.51869	0.2168	-0.0779	0.0021	-0.0002	-0.3593	-0.3949
15	12.15	-0.	0.50699	0.2412	-0.0834	0.0023	-0.0003	-0.3456	-0.3945
16	15.17	-0.	0.48881	0.2736	-0.0886	0.0027	-0.0005	-0.3238	-0.3803

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STABILITY AXIS COEFFICIENTS

RUN 11 CONF. E35T9C2 THETA =0 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	-10.13	-0.	0.55197	-0.1266	0.0362	-0.0088	0.0022	-0.0014	-0.229
2	-8.12	0.	0.56870	-0.1241	0.0439	-0.0058	0.0017	-0.0011	-0.218
3	-5.10	-0.	0.52918	-0.1252	0.0447	-0.0111	0.0027	-0.0011	-0.237
4	-3.07	-0.	0.49374	-0.1060	0.0443	-0.0122	0.0027	-0.0009	-0.215
5	-2.05	-0.	0.47191	-0.0806	0.0401	-0.0135	0.0028	-0.0009	-0.171
6	-1.03	-0.	0.45765	-0.0496	0.0332	-0.0117	0.0023	-0.0007	-0.108
7	0.00	-0.	0.44929	-0.0012	0.0225	-0.0115	0.0025	-0.0006	-0.003
8	1.03	-0.	0.46019	0.0474	0.0113	-0.0133	0.0030	-0.0005	0.103
9	2.05	-0.	0.47453	0.0788	0.0054	-0.0153	0.0035	-0.0004	0.166
10	3.07	-0.	0.49189	0.1004	0.0031	-0.0136	0.0031	-0.0002	0.204
11	4.08	-0.	0.51277	0.1134	0.0038	-0.0150	0.0029	-0.0002	0.221
12	5.10	-0.	0.53413	0.1217	0.0047	-0.0146	0.0026	-0.0001	0.228
13	7.11	-0.	0.56379	0.1175	0.0083	-0.0147	0.0020	0.0000	0.208
14	10.13	-0.	0.54874	0.1222	0.0133	-0.0157	0.0021	0.0001	0.223
15	12.15	-0.	0.54640	0.1292	0.0151	-0.0186	0.0023	0.0001	0.236
16	15.17	-0.	0.54338	0.1362	0.0192	-0.0190	0.0027	0.0002	0.251

BODY-AXIS COEFFICIENTS

RUN 12 CONF. C2 THETA =180 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	160.02	-0.	-0.96897	-0.0005	0.0491	0.0001	-0.0007	-99.2256	-0.3968
2	170.02	-0.	-0.98623	-0.0246	0.0404	0.0005	-0.0009	-1.6441	-0.3964
3	175.01	-0.	-0.97467	-0.0054	0.0164	0.0008	-0.0009	-3.0094	-0.3959
4	179.99	-0.	-0.97060	0.0082	-0.0045	0.0009	-0.0010	-0.5426	-0.3954
5	184.98	-0.	-0.96925	0.0198	-0.0230	0.0002	-0.0006	-1.1621	-0.3960
6	189.97	-0.	-0.97981	0.0252	-0.0383	0.0003	-0.0006	-1.5203	-0.3964

STABILITY AXIS COEFFICIENTS

RUN 12 CONF. C2 THETA =180 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	160.02	-0.	0.91050	0.3315	-0.0084	-0.0100	0.0001	0.0007	0.364
2	170.02	-0.	0.96706	0.1951	-0.0346	-0.0129	-0.0003	0.0010	0.202
3	175.01	-0.	0.97050	0.0902	-0.0449	-0.0159	-0.0007	0.0010	0.093
4	179.99	-0.	0.97060	-0.0081	-0.0561	-0.0175	-0.0009	0.0010	-0.008
5	184.98	-0.	0.96386	-0.1039	-0.0666	-0.0120	-0.0003	0.0006	-0.108
6	189.97	-0.	0.96064	-0.1945	-0.0788	-0.0130	-0.0004	0.0006	-0.202

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BODY-AXIS COEFFICIENTS

RUN 13 CONF. E35T9C2 THETA =180 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	15.06	-0.	0.51119	0.2696	-0.0888	0.0030	-0.0007	-0.3294	-0.3958
2	17.08	-0.	0.49801	0.2965	-0.0939	0.0028	-0.0008	-0.3168	-0.3956
3	20.11	-0.	0.47357	0.3330	-0.0995	0.0034	-0.0011	-0.2987	-0.3954
4	25.17	-0.	0.44417	0.4031	-0.1079	0.0051	-0.0016	-0.2677	-0.3954
5	30.24	-0.	0.44115	0.5314	-0.1577	0.0073	-0.0021	-0.2967	-0.3960
6	35.31	0.	0.36617	0.5922	-0.1506	0.0101	-0.0045	-0.2542	-0.3955
7	40.35	0.	0.29977	0.6103	-0.1283	0.0217	-0.0141	-0.2102	-0.3948

STABILITY AXIS COEFFICIENTS

RUN 13 CONF. E35T9C2 THETA =180 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	15.06	-0.	0.56368	0.1275	0.0187	-0.0233	0.0030	0.0001	0.226
2	17.08	-0.	0.56312	0.1371	0.0215	-0.0219	0.0029	0.0000	0.244
3	20.11	-0.	0.55920	0.1499	0.0264	-0.0216	0.0036	0.0001	0.268
4	25.17	-0.	0.57342	0.1759	0.0388	-0.0221	0.0053	0.0008	0.307
5	30.24	-0.	0.64876	0.2369	0.0294	-0.0325	0.0074	0.0019	0.365
6	35.31	0.	0.64111	0.2717	0.0524	-0.0227	0.0108	0.0022	0.424
7	40.35	0.	0.62357	0.2711	0.0775	-0.0302	0.0257	0.0033	0.435

BODY-AXIS COEFFICIENTS

RUN 14 CONF. E35T9C2 THETA =20 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	40.13	-0.	0.33137	0.6494	-0.1546	0.0052	0.0005	-0.2381	-0.3940
2	45.19	-0.	0.25704	0.6719	-0.1440	0.0154	0.0045	-0.2143	-0.3941
3	50.27	-0.	0.19413	0.7377	-0.1027	0.0606	0.0641	-0.1392	-0.3941
4	60.35	-0.	0.09931	0.7511	-0.0505	0.0992	0.1133	-0.0672	-0.3603
5	65.03	-0.	0.47189	0.3616	0.0949	0.0571	0.0711	0.2624	-0.0777
6	70.07	-0.	0.41320	0.4205	0.0645	0.0447	0.0592	0.1533	-0.0968
7	75.13	0.	0.35420	0.4879	0.0415	-0.0380	-0.0396	0.0850	-0.2096
8	80.20	0.	0.29065	0.5552	0.0510	-0.0315	-0.0468	0.0919	-0.3548
9	85.29	0.	0.20582	0.6186	0.0838	-0.0069	-0.0147	0.1355	-0.3945
10	90.35	0.	0.09654	0.6252	0.0926	-0.0025	-0.0039	0.1482	-0.3944

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STABILITY AXIS COEFFICIENTS

RUN 14 CONF. F35T9C2 THETA =20 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	40.13	-0.	0.67191	0.2829	0.0649	-0.0113	0.0036	0.0037	0.421
2	45.19	-0.	0.65784	0.2912	0.0793	-0.0387	0.0077	0.0141	0.443
3	50.27	-0.	0.69145	0.3222	0.1386	-0.0781	-0.0106	0.0875	0.466
4	60.35	-0.	0.70191	0.2852	0.1909	-0.1187	-0.0494	0.1423	0.406
5	65.03	-0.	0.52706	-0.2751	0.2297	-0.0597	-0.0403	0.0818	-0.522
6	70.07	-0.	0.53614	-0.2451	0.2153	-0.0383	-0.0404	0.0622	-0.457
7	75.13	0.	0.56245	-0.2171	0.2110	0.0162	0.0285	-0.0469	-0.386
8	80.20	0.	0.59656	-0.1919	0.2390	0.0267	0.0407	-0.0390	-0.322
9	85.29	0.	0.63339	-0.1543	0.2881	0.0009	0.0140	-0.0081	-0.244
10	90.35	0.	0.62458	-0.1004	0.2941	0.0107	0.0040	-0.0024	-0.161

BODY-AXIS COEFFICIENTS

RUN 15 CONF. C2 THETA =60 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	79.95	-0.	0.01127	0.0835	-0.1326	-0.0004	-0.0008	-1.5870	0.3340
2	84.99	-0.	-0.06439	0.1059	-0.1344	-0.0035	-0.0008	-1.2691	0.2817
3	89.98	-0.	-0.04342	0.1323	-0.1328	-0.0045	-0.0057	-1.0036	0.0801
4	94.91	-0.	0.10687	0.2142	-0.1611	-0.0096	0.0002	-0.7522	-0.1650
5	99.92	-0.	0.09353	0.2240	-0.1542	-0.0043	0.0002	-0.6885	-0.1667
6	104.98	-0.	0.01236	0.2160	-0.1270	-0.0021	-0.0002	-0.5882	-0.1295
7	110.05	-0.	-0.11207	0.2101	-0.1034	-0.0020	-0.0001	-0.4919	-0.1300
8	115.11	-0.	-0.21914	0.1903	-0.0745	-0.0016	0.0005	-0.3917	-0.1903
9	120.18	0.	-0.32647	0.1279	-0.0184	-0.0009	0.0020	-0.1441	-0.3054

STABILITY AXIS COEFFICIENTS

RUN 15 CONF. C2 THETA =60 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	79.95	-0.	0.08422	0.0035	-0.0746	-0.0050	0.0007	-0.0006	0.041
2	84.99	-0.	0.09987	0.0734	-0.0656	-0.0246	0.0005	-0.0036	0.735
3	89.98	-0.	0.13231	0.0435	-0.0447	-0.0915	0.0057	-0.0045	0.328
4	94.91	-0.	0.20430	-0.1248	-0.0080	-0.0434	0.0006	-0.0096	-0.611
5	99.92	-0.	0.20451	-0.1307	0.0049	-0.0188	0.0005	-0.0043	-0.639
6	104.98	-0.	0.20545	-0.0678	0.0217	-0.0168	0.0008	-0.0020	-0.330
7	110.05	-0.	0.23582	0.0332	0.0341	-0.0164	0.0008	-0.0018	0.141
8	115.11	-0.	0.26532	0.1177	0.0430	-0.0082	0.0003	-0.0016	0.443
9	120.18	0.	0.27468	0.2179	0.0500	0.0171	-0.0012	-0.0018	0.793

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BODY-AXIS COEFFICIENTS

RUN 16 CONF. C2 THETA =100 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	109.97	-0.	-0.14042	0.2022	-0.0998	-0.0008	0.0011	-0.4937	-0.2621
2	115.02	-0.	-0.20802	0.1648	-0.0566	-0.0033	0.0045	-0.3437	-0.2415
3	120.06	-0.	-0.25843	0.1311	-0.0177	0.0003	0.0008	-0.1347	-0.2355
4	125.17	-0.	-0.52446	0.0736	0.0268	-0.0029	0.0051	0.3636	-0.3944
5	130.23	-0.	-0.64715	0.0350	0.0596	-0.0010	-0.0006	1.7032	-0.3942
6	135.28	-0.	-0.73571	-0.0025	0.0883	0.0022	0.0002	-35.3515	-0.3943
7	140.30	-0.	-0.81731	-0.0061	0.0895	0.0011	0.0002	-14.7103	-0.3951
8	145.33	-0.	-0.90273	-0.0119	0.0905	-0.0040	0.0020	-7.5837	-0.3952
9	150.31	-0.	-0.90406	0.0099	0.0562	-0.0026	0.0004	5.6732	-0.3953
10	155.32	-0.	-0.93096	0.0021	0.0496	0.0002	0.0004	23.2582	-0.3949
11	160.32	-0.	-0.93635	0.0022	0.0368	-0.0016	0.0021	16.9873	-0.3944
12	165.32	-0.	-0.94920	-0.0042	0.0302	-0.0008	0.0015	-7.1544	-0.3942
13	170.32	-0.	-0.97010	-0.0085	0.0226	-0.0010	0.0008	-2.6503	-0.3942

STABILITY AXIS COEFFICIENTS

RUN 16 CONF. C2 THETA =100 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	109.97	-0.	0.23803	0.0629	0.0305	-0.0114	-0.0008	-0.0011	0.264
2	115.02	-0.	0.23730	0.1188	0.0441	-0.0335	-0.0027	-0.0049	0.501
3	120.06	-0.	0.24290	0.1580	0.0570	-0.0065	-0.0009	-0.0002	0.651
4	125.17	-0.	0.36227	0.3863	0.0463	-0.0159	-0.0025	-0.0053	1.066
5	130.23	-0.	0.44469	0.4715	0.0454	-0.0195	0.0011	-0.0004	1.060
6	135.28	-0.	0.52098	0.5195	0.0432	-0.0040	-0.0017	0.0014	0.997
7	140.30	-0.	0.62499	0.5267	0.0371	-0.0117	-0.0009	0.0006	0.843
8	145.33	-0.	0.73568	0.5233	0.0290	-0.0497	0.0022	-0.0039	0.711
9	150.31	-0.	0.79031	0.4391	0.0097	-0.0357	0.0020	-0.0016	0.556
10	155.32	-0.	0.84681	0.3868	-0.0038	-0.0152	-0.0004	-0.0003	0.457
11	160.32	-0.	0.88236	0.3134	-0.0170	-0.0281	0.0008	-0.0025	0.355
12	165.32	-0.	0.91714	0.2447	-0.0287	-0.0236	0.0004	-0.0017	0.267
13	170.32	-0.	0.95485	0.1715	-0.0404	-0.0195	0.0009	-0.0009	0.180

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BODY-AXIS COEFFICIENTS

RUN 17 CONF. C2 THETA =140 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	29.91	-0.	0.36256	0.3720	-0.2529	-0.0021	-0.0024	-0.6798	-0.3724
2	34.95	0.	0.29485	0.4206	-0.2874	0.0018	0.0014	-0.6834	-0.3793
3	39.98	0.	0.25095	0.4548	-0.3124	0:0012	0.0009	-0.6870	-0.3862
4	44.95	-0.	0.26942	0.3901	-0.2773	-0.0042	-0.0002	-0.7110	-0.3738
5	49.98	-0.	0.21035	0.3872	-0.2763	-0.0046	-0.0014	-0.7137	-0.3475
6	54.92	-0.	0.24901	0.2454	-0.1957	-0.0128	-0.0101	-0.7977	-0.1706
7	59.88	-0.	0.17527	0.0180	-0.0986	0.0004	0.0006	-5.4784	0.1025
8	64.93	0.	0.07753	0.0591	-0.1290	0.0022	0.0023	-2.1837	0.0940
9	69.95	0.	0.04344	0.0642	-0.1350	0.0012	0.0014	-2.1038	0.2285
10	75.00	0.	-0.03335	0.0917	-0.1466	0.0012	0.0015	-1.5988	0.2346
11	80.03	-0.	-0.08510	0.1146	-0.1508	-0.0005	-0.0000	-1.3157	0.2831
12	85.01	0.	0.00080	0.1528	-0.1660	0.0027	0.0020	-1.0863	0.1139
13	89.98	-0.	0.09277	0.2230	-0.2067	0.0001	0.0002	-0.9269	-0.0889

STABILITY AXIS COEFFICIENTS

RUN 17 CONF. C2 THETA =140 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	29.91	-0.	0.49979	0.1417	0.0235	-0.0118	-0.0006	-0.0031	0.284
2	34.95	0.	0.48261	0.1758	0.0183	0.0055	0.0006	0.0022	0.364
3	39.98	0.	0.48453	0.1872	0.0142	0.0015	0.0003	0.0015	0.386
4	44.95	-0.	0.46626	0.0857	0.0060	-0.0739	-0.0028	-0.0031	0.184
5	49.98	-0.	0.43179	0.0879	0.0015	-0.0712	-0.0019	-0.0044	0.204
6	54.92	-0.	0.34391	-0.0628	-0.0128	-0.1255	0.0009	-0.0163	-0.183
7	59.88	-0.	0.10352	-0.1426	-0.0759	-0.0004	-0.0003	0.0006	-1.377
8	64.93	0.	0.08635	-0.0452	-0.0839	0.0072	-0.0011	0.0030	-0.523
9	69.95	0.	0.07519	-0.0188	-0.0885	0.0015	-0.0009	0.0016	-0.250
10	75.00	0.	0.07996	0.0560	-0.0857	0.0015	-0.0011	0.0016	0.700
11	80.03	-0.	0.09817	0.1037	-0.0773	-0.0128	-0.0001	-0.0005	1.056
12	85.01	0.	0.15233	0.0125	-0.0612	0.0299	-0.0018	0.0029	0.082
13	89.98	-0.	0.22300	-0.0927	-0.0483	-0.0057	-0.0002	0.0001	-0.416

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BODY-AXIS COEFFICIENTS

RUN 18 CONF. C2 THETA =60 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	29.91	-0.	0.36807	0.3579	-0.2429	-0.0033	-0.0026	-0.6786	-0.
2	34.95	-0.	0.29340	0.4006	-0.2726	-0.0028	-0.0019	-0.6805	-0.
3	39.98	-0.	0.25120	0.4358	-0.2987	-0.0041	-0.0032	-0.6853	-0.
4	44.94	-0.	0.29773	0.3696	-0.2646	-0.0064	-0.0007	-0.7159	-0.
5	49.89	-0.	0.32773	0.2760	-0.2163	-0.0037	0.0008	-0.7838	-0.
6	54.90	-0.	0.26613	0.2091	-0.1804	-0.0146	-0.0117	-0.8628	-0.
7	59.88	0.	0.17520	0.0230	-0.1015	0.0011	0.0027	-4.4065	-0.
8	64.93	0.	0.08296	0.0584	-0.1293	0.0023	0.0033	-2.2128	-0.
9	69.95	-0.	0.04479	0.0691	-0.1385	0.0015	0.0030	-2.0056	-0.
10	74.99	0.	-0.01123	0.0908	-0.1455	0.0020	0.0033	-1.6026	-0.
11	80.01	-0.	-0.04006	0.1225	-0.1585	-0.0024	0.0002	-1.2946	-0.
12	85.00	-0.	0.07261	0.2541	-0.2256	-0.0013	-0.0008	-0.8876	-0.
13	89.97	-0.	0.10556	0.2223	-0.2057	-0.0007	-0.0003	-0.9257	-0.
14	80.01	-0.	-0.04098	0.1234	-0.1590	-0.0024	-0.0004	-1.2891	-0.
15	69.95	-0.	0.04013	0.0692	-0.1387	0.0016	0.0024	-2.0032	-0.
16	64.93	0.	0.08219	0.0553	-0.1268	0.0024	0.0032	-2.2936	-0.
17	59.88	0.	0.17450	0.0204	-0.0995	0.0014	0.0026	-4.8879	-0.
18	54.90	-0.	0.26926	0.2216	-0.1875	-0.0135	-0.0102	-0.8463	-0.
19	49.89	-0.	0.32375	0.2825	-0.2215	-0.0028	0.0024	-0.7839	-0.
20	39.98	-0.	0.25529	0.4368	-0.2989	-0.0050	-0.0041	-0.6842	-0.
21	29.91	-0.	0.36623	0.3669	-0.2493	-0.0029	-0.0017	-0.6796	-0.
22	59.88	0.	0.17591	0.0212	-0.1003	0.0019	0.0024	-4.7250	-0.

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STABILITY AXIS COEFFICIENTS

RUN 18 CONF. C2 THETA =60 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	29.91	-0.	0.49751	0.1268	0.0242	-0.0196	-0.0015	-0.0039	0.255
2	34.95	-0.	0.46999	0.1603	0.0193	-0.0197	-0.0012	-0.0031	0.341
3	39.98	-0.	0.47252	0.1726	0.0149	-0.0273	-0.0010	-0.0051	0.365
4	44.94	-0.	0.47180	0.0513	0.0064	-0.0888	-0.0040	-0.0050	0.109
5	49.89	-0.	0.42223	-0.0728	-0.0078	-0.0784	-0.0030	-0.0023	-0.173
6	54.90	-0.	0.32407	-0.0975	-0.0214	-0.1240	0.0012	-0.0187	-0.301
7	59.88	0.	0.10785	-0.1400	-0.0754	0.0067	-0.0018	0.0023	-1.298
8	64.93	0.	0.08809	-0.0504	-0.0844	0.0081	-0.0021	0.0035	-0.572
9	69.95	-0.	0.08023	-0.0184	-0.0885	-0.0005	-0.0023	0.0024	-0.229
10	74.99	0.	0.08476	0.0344	-0.0839	0.0065	-0.0027	0.0028	0.405
11	80.01	-0.	0.11366	0.0607	-0.0770	-0.0315	-0.0006	-0.0023	0.534
12	85.00	-0.	0.25947	-0.0502	-0.0471	-0.0063	0.0007	-0.0014	-0.193
13	89.97	-0.	0.22230	-0.1055	-0.0471	-0.0045	0.0003	-0.0007	-0.474
14	80.01	-0.	0.11439	0.0618	-0.0769	-0.0344	-0.0000	-0.0025	0.540
15	69.95	-0.	0.07879	-0.0140	-0.0889	-0.0003	-0.0017	0.0023	-0.177
16	64.93	0.	0.08492	-0.0510	-0.0841	0.0075	-0.0018	0.0035	-0.601
17	59.88	0.	0.10519	-0.1407	-0.0753	0.0048	-0.0015	0.0025	-1.338
18	54.90	-0.	0.33612	-0.0929	-0.0197	-0.1206	0.0006	-0.0169	-0.276
19	49.89	-0.	0.42467	-0.0656	-0.0087	-0.0745	-0.0036	-0.0005	-0.154
20	39.98	-0.	0.47626	0.1707	0.0156	-0.0338	-0.0012	-0.0064	0.358
21	29.91	-0.	0.50038	0.1354	0.0238	-0.0183	-0.0016	-0.0029	0.271
22	59.88	0.	0.10664	-0.1415	-0.0754	0.0071	-0.0011	0.0029	-1.327

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BODY-AXIS COEFFICIENTS

RUN 19 CONF. C2 THETA =60 PHI = 90 TYPE P6 MACH = 0.185 RN = 1.77 Q =50 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	29.95	0.	0.38363	0.3879	-0.2666	0.0018	0.0025	-0.6872	-0.3855
2	34.97	-0.	0.31083	0.4275	-0.2940	-0.0026	-0.0033	-0.6877	-0.3917
3	39.99	-0.	0.25516	0.4513	-0.3110	0.0003	-0.0006	-0.6892	-0.3840
4	45.00	-0.	0.20555	0.4390	-0.3031	-0.0072	-0.0090	-0.6904	-0.3914
5	50.01	-0.	0.15979	0.4361	-0.3025	-0.0052	-0.0080	-0.6936	-0.3835
6	55.02	-0.	0.11417	0.4247	-0.2961	-0.0049	-0.0078	-0.6973	-0.3771
7	60.03	-0.	0.05738	0.4082	-0.2867	-0.0037	-0.0069	-0.7023	-0.3697
8	65.04	-0.	-0.00632	0.3883	-0.2763	-0.0004	-0.0045	-0.7117	-0.3440
9	69.97	0.	0.05407	0.0602	-0.1320	-0.0007	-0.0032	-2.1930	0.2128
10	75.00	-0.	-0.03614	0.0895	-0.1444	0.0013	0.0014	-1.6136	0.2169
11	80.02	-0.	-0.09614	0.1089	-0.1470	0.0004	-0.0001	-1.3505	0.2769
12	85.05	0.	-0.17867	0.1350	-0.1505	0.0011	0.0005	-1.1150	0.2703
13	90.08	0.	-0.27437	0.1572	-0.1487	0.0012	0.0011	-0.9462	0.2673
14	80.02	-0.	-0.09689	0.1096	-0.1479	0.0002	0.0006	-1.3499	0.2765
15	69.97	-0.	0.05556	0.0591	-0.1314	-0.0010	-0.0020	-2.2233	0.2139
16	59.94	-0.	0.17673	0.0222	-0.0995	0.0004	-0.0004	-4.4819	0.0908
17	50.01	-0.	0.15587	0.4407	-0.3049	-0.0060	-0.0076	-0.6920	-0.3859
18	39.99	-0.	0.26376	0.4510	-0.3106	-0.0008	-0.0009	-0.6887	-0.3921
19	29.95	0.	0.38390	0.3856	-0.2649	0.0014	0.0026	-0.6871	-0.3829

STABILITY AXIS COEFFICIENTS

RUN 19 CONF. C2 THETA =60 PHI = 90 TYPE P6 MACH = 0.185 RN = 1.77 Q =50 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	29.95	0.	0.52605	0.1445	0.0220	0.0058	0.0004	0.0031	0.275
2	34.97	-0.	0.49976	0.1721	0.0174	-0.0201	-0.0002	-0.0042	0.344
3	39.99	-0.	0.48550	0.1818	0.0134	-0.0088	0.0006	-0.0003	0.374
4	45.00	-0.	0.45578	0.1651	0.0100	-0.0652	0.0013	-0.0115	0.362
5	50.01	-0.	0.43679	0.1578	0.0059	-0.0663	0.0028	-0.0091	0.361
6	55.02	-0.	0.41340	0.1499	0.0018	-0.0688	0.0036	-0.0084	0.363
7	60.03	-0.	0.38225	0.1542	-0.0035	-0.0603	0.0041	-0.0067	0.403
8	65.04	-0.	0.34938	0.1696	-0.0105	-0.0363	0.0039	-0.0022	0.485
9	69.97	0.	0.07509	-0.0302	-0.0876	-0.0075	0.0027	-0.0018	-0.402
10	75.00	-0.	0.07707	0.0581	-0.0852	-0.0005	-0.0010	0.0016	0.753
11	80.02	-0.	0.09057	0.1136	-0.0781	-0.0044	0.0002	0.0004	1.254
12	85.05	0.	0.11906	0.1897	-0.0685	0.0051	-0.0004	0.0012	1.593
13	90.08	0.	0.15754	0.2742	-0.0572	0.0060	-0.0011	0.0012	1.740
14	80.02	-0.	0.09112	0.1144	-0.0785	-0.0023	-0.0006	0.0003	1.256
15	69.97	-0.	0.07455	-0.0320	-0.0876	-0.0062	0.0015	-0.0016	-0.429
16	59.94	-0.	0.10774	-0.1418	-0.0738	-0.0124	0.0006	0.0001	-1.317
17	50.01	-0.	0.43782	0.1638	0.0064	-0.0672	0.0019	-0.0095	0.374
18	39.99	-0.	0.49193	0.1761	0.0141	-0.0157	-0.0000	-0.0012	0.358
19	29.95	0.	0.52516	0.1425	0.0221	0.0027	-0.0001	0.0029	0.271

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BODY-AXIS COEFFICIENTS

RUN 20 CONF. C2 THETA =60 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	30.01	-0.	0.36060	0.4030	-0.2800	-0.0007	0.0022	-0.6948	-0.4080
2	35.05	-0.	0.29262	0.4411	-0.3059	-0.0014	0.0018	-0.6935	-0.4080
3	40.08	-0.	0.23476	0.4647	-0.3223	-0.0024	-0.0011	-0.6936	-0.4082
4	45.10	0.	0.16709	0.4514	-0.3130	0.0006	0.0052	-0.6934	-0.4078
5	50.08	-0.	0.15838	0.3933	-0.2833	-0.0050	0.0039	-0.7204	-0.3687
6	59.89	-0.	0.36915	0.1698	-0.1864	-0.0022	0.0009	-1.0983	0.2992
7	64.94	-0.	0.28957	0.2125	-0.2140	-0.0022	0.0011	-1.0070	0.3117
8	69.97	-0.	0.02039	0.0729	-0.1418	-0.0015	-0.0001	-1.9450	0.2985
9	75.02	-0.	-0.05266	0.1098	-0.1582	-0.0016	-0.0007	-1.4410	0.2596
10	80.07	-0.	-0.13578	0.1449	-0.1680	-0.0017	-0.0010	-1.1595	0.2287
11	84.99	-0.	0.16437	0.2244	-0.2153	-0.0020	-0.0014	-0.9593	-0.1206
12	90.03	-0.	0.08550	0.2396	-0.2090	-0.0026	-0.0031	-0.8723	-0.1044

STABILITY AXIS COEFFICIENTS

RUN 20 CONF. C2 THETA =60 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	30.01	-0.	0.51383	0.1686	0.0175	-0.0003	-0.0017	0.0015	0.328
2	35.05	-0.	0.49288	0.1931	0.0138	-0.0048	-0.0021	0.0007	0.392
3	40.08	-0.	0.47880	0.2044	0.0101	-0.0146	-0.0012	-0.0024	0.427
4	45.10	0.	0.43766	0.2003	0.0063	0.0102	-0.0032	0.0041	0.458
5	50.08	-0.	0.40324	0.1309	-0.0044	-0.0248	-0.0062	-0.0014	0.325
6	59.89	-0.	0.33203	-0.2342	-0.0483	-0.0092	-0.0019	-0.0015	-0.705
7	64.94	-0.	0.31513	-0.1723	-0.0512	-0.0090	-0.0019	-0.0016	-0.547
8	69.97	-0.	0.07549	0.0058	-0.0906	-0.0091	-0.0004	-0.0015	0.077
9	75.02	-0.	0.09245	0.0793	-0.0861	-0.0106	0.0003	-0.0018	0.857
10	80.07	-0.	0.11930	0.1587	-0.0767	-0.0115	0.0007	-0.0018	1.331
11	84.99	-0.	0.23794	-0.1441	-0.0518	-0.0171	0.0012	-0.0021	-0.606
12	90.03	-0.	0.23959	-0.0856	-0.0397	-0.0238	0.0031	-0.0026	-0.357

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BØDY-AXIS CØEFFICIENTS

RUN 21A CØNF. C2 THETA =40 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

PØINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	50.11	0.	0.11392	0.4444	-0.3104	0.0061	0.0085	-0.6983	-0.3991
2	51.06	-0.	0.16249	0.3635	-0.2632	-0.0094	-0.0036	-0.7242	-0.3433
3	52.04	-0.	0.18180	0.3294	-0.2474	-0.0107	-0.0054	-0.7512	-0.3268
4	53.00	-0.	0.22118	0.2736	-0.2180	-0.0125	-0.0094	-0.7968	-0.3039
5	54.02	0.	0.19899	0.2969	-0.2339	0.0142	0.0125	-0.7879	-0.2633
6	55.02	0.	0.19286	0.2840	-0.2283	0.0145	0.0148	-0.8039	-0.2433
7	56.01	0.	0.19266	0.2626	-0.2179	0.0142	0.0172	-0.8298	-0.2149
8	56.85	-0.	0.22924	-0.0406	-0.0701	-0.0004	-0.0000	1.7254	0.3097
9	57.87	-0.	0.20501	-0.0266	-0.0799	-0.0005	-0.0001	3.0030	0.3043
10	58.88	-0.	0.18114	-0.0130	-0.0893	-0.0003	-0.0001	6.8698	0.2999
11	59.89	-0.	0.16010	-0.0031	-0.0971	-0.0003	-0.0002	31.0947	0.2979
12	60.91	-0.	0.13771	0.0094	-0.1053	-0.0001	-0.0003	-11.1748	0.2944
13	61.92	0.	0.11443	0.0220	-0.1132	0.0001	-0.0005	-5.1522	0.2942
14	62.93	0.	0.09776	0.0298	-0.1185	0.0002	-0.0005	-3.9725	0.2977
15	63.94	-0.	0.08397	0.0373	-0.1228	-0.0001	-0.0002	-3.2975	0.3025
16	64.94	-0.	0.07379	0.0423	-0.1258	-0.0001	0.0002	-2.9735	0.3071

STABILITY AXIS CØEFFICIENTS

RUN 21A CØNF. C2 THETA =40 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

PØINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	50.11	0.	0.41409	0.1976	0.0010	0.0377	-0.0026	0.0101	0.477
2	51.06	-0.	0.38485	0.1020	-0.0045	-0.0676	-0.0031	-0.0096	0.265
3	52.04	-0.	0.37151	0.0592	-0.0109	-0.0761	-0.0023	-0.0118	0.159
4	53.00	-0.	0.35164	-0.0120	-0.0174	-0.0930	0.0000	-0.0156	-0.034
5	54.02	0.	0.35712	0.0134	-0.0187	0.0920	-0.0017	0.0188	0.037
6	55.02	0.	0.34329	0.0048	-0.0222	0.0953	-0.0038	0.0204	0.014
7	56.01	0.	0.32541	-0.0129	-0.0265	0.0966	-0.0063	0.0214	-0.040
8	56.85	-0.	0.09131	-0.2142	-0.0845	-0.0038	-0.0002	-0.0003	-2.346
9	57.87	-0.	0.08650	-0.1878	-0.0861	-0.0047	-0.0002	-0.0005	-2.171
10	58.88	-0.	0.08248	-0.1618	-0.0876	-0.0043	-0.0000	-0.0003	-1.962
11	59.89	-0.	0.07761	-0.1401	-0.0898	-0.0043	0.0000	-0.0004	-1.805
12	60.91	-0.	0.07520	-0.1157	-0.0908	-0.0037	0.0002	-0.0002	-1.539
13	61.92	0.	0.07325	-0.0906	-0.0914	-0.0031	0.0005	-0.0001	-1.237
14	62.93	0.	0.07105	-0.0735	-0.0923	-0.0030	0.0006	-0.0000	-1.034
15	63.94	-0.	0.07036	-0.0591	-0.0923	-0.0037	0.0002	-0.0002	-0.839
16	64.94	-0.	0.06959	-0.0489	-0.0925	-0.0033	-0.0002	-0.0000	-0.703

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BODY-AXIS COEFFICIENTS

RUN 21B CONF. C2 THETA =40 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	63.94	-0.	0.08310	0.0371	-0.1226	-0.0006	0.0002	-3.3075	0.3024
2	62.93	-0.	0.09838	0.0289	-0.1179	-0.0003	0.0000	-4.0800	0.2975
3	61.92	-0.	0.11542	0.0204	-0.1127	-0.0003	-0.0000	-5.5134	0.2935
4	60.91	-0.	0.13694	0.0086	-0.1051	-0.0004	0.0001	-12.2520	0.2932
5	59.90	-0.	0.15443	0.0024	-0.0992	-0.0005	0.0002	-41.5489	0.2953
6	58.88	-0.	0.17771	-0.0112	-0.0905	-0.0006	0.0002	8.0661	0.2980
7	57.87	-0.	0.20079	-0.0234	-0.0818	-0.0007	0.0006	3.5032	0.3031
8	56.86	-0.	0.22571	-0.0370	-0.0722	-0.0007	0.0007	1.9520	0.3083
9	55.84	-0.	0.25026	-0.0496	-0.0622	-0.0006	0.0007	1.2531	0.3114
10	54.83	-0.	0.27701	-0.0644	-0.0513	-0.0007	0.0006	0.7972	0.3143
11	53.82	-0.	0.30156	-0.0776	-0.0409	-0.0007	0.0010	0.5275	0.3143
12	52.81	-0.	0.32475	-0.0879	-0.0318	-0.0013	-0.0002	0.3616	0.3126
13	52.02	-0.	0.21114	0.3002	-0.2306	-0.0118	-0.0068	-0.7682	-0.3215
14	51.07	-0.	0.16159	0.3707	-0.2693	-0.0094	-0.0031	-0.7264	-0.3435
15	50.12	0.	0.11591	0.4479	-0.3129	0.0052	0.0088	-0.6986	-0.4033
16	49.11	0.	0.12390	0.4527	-0.3155	0.0051	0.0076	-0.6970	-0.4049

STABILITY AXIS COEFFICIENTS

RUN 21B CONF. C2 THETA =40 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	63.94	-0.	0.06980	-0.0584	-0.0923	-0.0035	-0.0004	-0.0004	-0.836
2	62.93	-0.	0.07052	-0.0744	-0.0923	-0.0029	-0.0001	-0.0003	-1.056
3	61.92	-0.	0.07237	-0.0922	-0.0919	-0.0027	-0.0001	-0.0002	-1.274
4	60.91	-0.	0.07408	-0.1155	-0.0912	-0.0030	-0.0003	-0.0003	-1.559
5	59.90	-0.	0.07952	-0.1324	-0.0884	-0.0034	-0.0004	-0.0004	-1.665
6	58.88	-0.	0.08223	-0.1579	-0.0877	-0.0032	-0.0005	-0.0004	-1.921
7	57.87	-0.	0.08701	-0.1825	-0.0860	-0.0025	-0.0009	-0.0003	-2.097
8	56.86	-0.	0.09244	-0.2092	-0.0842	-0.0017	-0.0010	-0.0002	-2.263
9	55.84	-0.	0.09944	-0.2350	-0.0814	-0.0020	-0.0009	-0.0001	-2.363
10	54.83	-0.	0.10694	-0.2635	-0.0791	-0.0018	-0.0009	-0.0002	-2.464
11	53.82	-0.	0.11544	-0.2892	-0.0763	-0.0013	-0.0012	0.0001	-2.505
12	52.81	-0.	0.12631	-0.3118	-0.0729	-0.0066	-0.0006	-0.0011	-2.469
13	52.02	-0.	0.36658	0.0183	-0.0124	-0.0786	-0.0019	-0.0135	0.050
14	51.07	-0.	0.38993	0.1073	-0.0056	-0.0617	-0.0035	-0.0092	0.275
15	50.12	0.	0.41801	0.1983	0.0010	0.0383	-0.0034	0.0096	0.474
16	49.11	0.	0.42333	0.2026	0.0021	0.0353	-0.0024	0.0088	0.479

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BODY-AXIS COEFFICIENTS

RUN 22A CONF. C2 THETA =40 PHI = 90 TYPE P6 MACH = 0.185 RN =1.77 Q =50 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	50.03	-0.	0.19570	0.3887	-0.2824	-0.0132	-0.0044	-0.7265	-0.3699
2	51.03	-0.	0.19161	0.3720	-0.2704	-0.0102	-0.0029	-0.7269	-0.3279
3	52.02	-0.	0.20189	0.3383	-0.2531	-0.0105	-0.0033	-0.7483	-0.2796
4	53.01	-0.	0.20710	0.3218	-0.2442	-0.0113	-0.0046	-0.7588	-0.2512
5	53.98	-0.	0.28269	0.2480	-0.2163	-0.0131	-0.0043	-0.8718	-0.3183
6	54.98	-0.	0.26644	0.2420	-0.2126	-0.0132	-0.0066	-0.8784	-0.2805
7	55.99	-0.	0.23414	0.2444	-0.2115	-0.0137	-0.0086	-0.8652	-0.2163
8	57.00	-0.	0.19005	0.2366	-0.2049	-0.0121	-0.0100	-0.8663	-0.1229
9	58.02	-0.	0.12548	0.3025	-0.2378	-0.0076	-0.0032	-0.7862	-0.2053
10	59.02	-0.	0.12573	0.2885	-0.2306	-0.0115	-0.0053	-0.7992	-0.2402
11	59.95	-0.	0.16803	-0.0034	-0.0946	-0.0017	0.0013	27.9222	0.2712
12	60.95	-0.	0.14771	0.0046	-0.1014	-0.0016	0.0012	-22.1449	0.2717
13	61.96	-0.	0.12186	0.0209	-0.1108	-0.0016	0.0010	-5.3038	0.2739
14	62.96	-0.	0.10576	0.0252	-0.1151	-0.0014	0.0009	-4.5593	0.2796
15	63.97	-0.	0.08590	0.0344	-0.1203	-0.0016	0.0002	-3.4935	0.2860
16	64.97	-0.	0.06643	0.0424	-0.1257	-0.0011	0.0001	-2.9609	0.2919
17	65.98	-0.	0.05045	0.0488	-0.1290	-0.0012	0.0005	-2.6460	0.2974
18	66.98	-0.	0.03377	0.0559	-0.1332	-0.0007	0.0001	-2.3815	0.3025
19	67.98	-0.	0.01974	0.0613	-0.1366	-0.0005	-0.0002	-2.2274	0.3047
20	68.99	-0.	0.00390	0.0689	-0.1397	-0.0001	-0.0003	-2.0278	0.3044
21	69.99	-0.	-0.00928	0.0740	-0.1416	0.0003	0.0000	-1.9129	0.3011
22	75.01	-0.	-0.07400	0.0978	-0.1492	0.0008	-0.0018	-1.5261	0.2622
23	80.03	0.	-0.14954	0.1316	-0.1585	0.0011	-0.0020	-1.2039	0.2332

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STABILITY AXIS COEFFICIENTS

RUN 22A CONF. C2* THETA =40 PHI = 90 TYPE P6 MACH = 0.185 RN =1.77 Q =50 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	50.03	-0.	0.42363	0.0997	-0.0044	-0.0945	-0.0051	-0.0130	0.235
2	51.03	-0.	0.40976	0.0850	-0.0041	-0.0759	-0.0042	-0.0098	0.208
3	52.02	-0.	0.39087	0.0490	-0.0093	-0.0757	-0.0039	-0.0103	0.125
4	53.01	-0.	0.38167	0.0282	-0.0114	-0.0849	-0.0031	-0.0118	0.074
5	53.98	-0.	0.36686	-0.0828	-0.0295	-0.0914	-0.0042	-0.0131	-0.226
6	54.98	-0.	0.35107	-0.0794	-0.0309	-0.0962	-0.0022	-0.0146	-0.226
7	55.99	-0.	0.33359	-0.0574	-0.0301	-0.0980	-0.0006	-0.0162	-0.172
8	57.00	-0.	0.30191	-0.0305	-0.0316	-0.0849	0.0018	-0.0157	-0.101
9	58.02	-0.	0.32309	0.0538	-0.0230	-0.0611	-0.0013	-0.0081	0.166
10	59.02	-0.	0.31204	0.0407	-0.0254	-0.0715	-0.0014	-0.0126	0.130
11	59.95	-0.	0.08122	-0.1471	-0.0870	-0.0113	-0.0020	-0.0008	-1.812
12	60.95	-0.	0.07573	-0.1269	-0.0895	-0.0116	-0.0018	-0.0008	-1.676
13	61.96	-0.	0.07573	-0.0977	-0.0893	-0.0114	-0.0016	-0.0010	-1.290
14	62.96	-0.	0.07057	-0.0827	-0.0916	-0.0106	-0.0014	-0.0009	-1.172
15	63.97	-0.	0.06863	-0.0621	-0.0916	-0.0115	-0.0009	-0.0014	-0.904
16	64.97	-0.	0.06656	-0.0422	-0.0926	-0.0107	-0.0005	-0.0010	-0.635
17	65.98	-0.	0.06508	-0.0262	-0.0926	-0.0096	-0.0009	-0.0009	-0.403
18	66.98	-0.	0.06467	-0.0092	-0.0928	-0.0091	-0.0004	-0.0006	-0.143
19	67.98	-0.	0.06427	0.0047	-0.0934	-0.0082	0.0000	-0.0006	0.073
20	68.99	-0.	0.06572	0.0211	-0.0923	-0.0069	0.0002	-0.0002	0.320
21	69.99	-0.	0.06637	0.0340	-0.0914	-0.0047	0.0001	0.0003	0.513
22	75.01	-0.	0.07532	0.0968	-0.0866	-0.0079	0.0019	0.0003	1.285
23	80.03	0.	0.10376	0.1701	-0.0771	-0.0069	0.0021	0.0007	1.639

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STABILITY AXIS COEFFICIENTS

RUN 22B CONF. C2 THETA =40 PHI = 90 TYPE P6 MACH = 0.185 RN =1.77 Q =50 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	85.06	-0.	0.13480	0.2303	-0.0647	-0.0099	0.0019	0.0005	1.708
2	90.02	-0.	0.21885	-0.0602	-0.0442	-0.0152	0.0028	0.0001	-0.275
3	95.05	-0.	0.26068	0.0455	-0.0202	-0.0230	0.0042	0.0002	0.175
4	69.99	-0.	0.06721	0.0339	-0.0913	-0.0066	0.0012	-0.0003	0.504
5	68.99	-0.	0.06488	0.0184	-0.0927	-0.0080	0.0001	-0.0006	0.283
6	67.99	-0.	0.06555	0.0059	-0.0925	-0.0088	-0.0004	-0.0010	0.090
7	66.98	-0.	0.06732	-0.0078	-0.0920	-0.0091	-0.0006	-0.0008	-0.115
8	65.98	-0.	0.06695	-0.0247	-0.0930	-0.0091	-0.0007	-0.0009	-0.369
9	64.97	-0.	0.06998	-0.0384	-0.0924	-0.0079	-0.0007	-0.0007	-0.549
10	63.97	-0.	0.07035	-0.0602	-0.0921	-0.0079	-0.0007	-0.0007	-0.855
11	62.96	-0.	0.07324	-0.0779	-0.0904	-0.0068	-0.0015	-0.0006	-1.063
12	61.96	-0.	0.07791	-0.0956	-0.0886	-0.0057	-0.0020	-0.0000	-1.228
13	60.95	-0.	0.08009	-0.1215	-0.0883	-0.0053	-0.0020	0.0001	-1.517
14	59.95	-0.	0.08413	-0.1468	-0.0870	-0.0026	-0.0028	0.0005	-1.745
15	58.94	-0.	0.08941	-0.1702	-0.0848	-0.0019	-0.0029	0.0007	-1.904
16	57.93	-0.	0.09633	-0.1955	-0.0821	0.0009	-0.0031	0.0011	-2.030
17	56.92	-0.	0.10089	-0.2283	-0.0812	0.0026	-0.0036	0.0017	-2.263
18	55.92	-0.	0.10982	-0.2481	-0.0774	0.0051	-0.0044	0.0023	-2.259
19	54.91	-0.	0.11948	-0.2773	-0.0747	0.0040	-0.0053	0.0026	-2.321
20	53.90	-0.	0.13674	-0.3178	-0.0696	0.0057	-0.0070	0.0036	-2.324
21	52.89	-0.	0.14978	-0.3519	-0.0665	0.0063	-0.0072	0.0040	-2.349
22	51.89	-0.	0.15837	-0.3707	-0.0643	0.0070	-0.0068	0.0038	-2.341
23	50.89	-0.	0.16543	-0.3780	-0.0628	0.0077	-0.0054	0.0032	-2.285

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BODY-AXIS COEFFICIENTS

RUN 22B CONF. C2 THETA =40 PHI = 90 TYPE P6 MACH = 0.185 RN =1.77 Q =50 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	85.06	-0.	-0.21781	0.1541	-0.1575	0.0007	-0.0018	-1.0217	0.1873
2	90.02	-0.	0.06012	0.2189	-0.1978	0.0001	-0.0028	-0.9038	-0.0901
3	95.05	-0.	-0.06830	0.2557	-0.1914	-0.0001	-0.0042	-0.7488	-0.0644
4	69.99	-0.	-0.00886	0.0747	-0.1421	0.0001	-0.0012	-1.9004	0.3013
5	68.99	-0.	0.00611	0.0672	-0.1391	-0.0005	-0.0004	-2.0716	0.3047
6	67.99	-0.	0.01909	0.0630	-0.1368	-0.0011	0.0000	-2.1724	0.3044
7	66.98	-0.	0.03347	0.0589	-0.1343	-0.0010	0.0002	-2.2800	0.3027
8	65.98	-0.	0.04983	0.0511	-0.1309	-0.0011	0.0003	-2.5629	0.2989
9	64.97	-0.	0.06439	0.0472	-0.1285	-0.0009	0.0004	-2.7245	0.2930
10	63.97	-0.	0.08494	0.0368	-0.1223	-0.0010	0.0004	-3.3225	0.2869
11	62.96	-0.	0.10264	0.0298	-0.1169	-0.0012	0.0011	-3.9172	0.2791
12	61.96	-0.	0.12105	0.0238	-0.1120	-0.0010	0.0018	-4.7071	0.2726
13	60.95	-0.	0.14512	0.0110	-0.1044	-0.0009	0.0018	-9.4798	0.2712
14	59.95	-0.	0.16917	-0.0007	-0.0965	-0.0009	0.0027	140.7932	0.2717
15	58.94	-0.	0.19196	-0.0112	-0.0884	-0.0009	0.0028	7.8651	0.2763
16	57.93	-0.	0.21685	-0.0222	-0.0797	-0.0007	0.0032	3.5923	0.2798
17	56.92	-0.	0.24638	-0.0401	-0.0683	-0.0005	0.0039	1.7039	0.2853
18	55.92	-0.	0.26703	-0.0481	-0.0602	-0.0006	0.0049	1.2530	0.2857
19	54.91	-0.	0.29562	-0.0617	-0.0499	-0.0009	0.0059	0.8092	0.2842
20	53.90	-0.	0.33732	-0.0767	-0.0369	-0.0013	0.0078	0.4808	0.2754
21	52.89	-0.	0.37100	-0.0928	-0.0248	-0.0011	0.0082	0.2666	0.2739
22	51.89	-0.	0.38941	-0.1042	-0.0158	-0.0012	0.0077	0.1519	0.2769
23	50.89	-0.	0.39763	-0.1101	-0.0108	-0.0009	0.0062	0.0979	0.2772

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STABILITY AXIS COEFFICIENTS

RUN 23 CONF. C2+TUFTSTHETA =60 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	39.99	-0.	0.46409	0.1848	0.0172	-0.0164	0.0002	0.0006	0.398
2	43.99	-0.	0.45129	0.1471	0.0137	-0.0473	-0.0024	-0.0024	0.326
3	46.02	-0.	0.43668	0.1812	0.0126	-0.0341	-0.0000	-0.0023	0.415
4	48.03	-0.	0.41339	0.1703	0.0109	-0.0216	-0.0000	-0.0001	0.412
5	50.03	-0.	0.40488	0.1657	0.0087	-0.0212	0.0005	-0.0013	0.409
6	52.04	-0.	0.39320	0.1665	0.0064	-0.0251	0.0009	-0.0031	0.423
7	53.05	-0.	0.38714	0.1652	0.0046	-0.0290	0.0015	-0.0048	0.427
8	53.96	-0.	0.39914	0.0241	-0.0140	-0.0453	0.0071	-0.0077	0.060
9	55.05	-0.	0.38039	0.1658	0.0028	-0.0246	0.0009	-0.0042	0.436
10	55.86	-0.	0.26574	-0.1701	-0.0377	-0.1284	0.0016	-0.0175	-0.640
11	57.86	-0.	0.20852	-0.1703	-0.0529	-0.1165	0.0034	-0.0206	-0.817
12	58.88	-0.	0.13517	-0.1493	-0.0660	-0.0227	0.0008	-0.0039	-1.105
13	59.89	-0.	0.12915	-0.1242	-0.0683	-0.0256	0.0008	-0.0042	-0.962
14	60.90	-0.	0.12315	-0.1078	-0.0710	-0.0293	0.0010	-0.0049	-0.875
15	61.91	-0.	0.11834	-0.0944	-0.0738	-0.0295	0.0011	-0.0051	-0.797
16	63.93	-0.	0.11135	-0.0596	-0.0780	-0.0310	0.0012	-0.0056	-0.535
17	65.94	-0.	0.10912	-0.0421	-0.0813	-0.0353	0.0023	-0.0080	-0.386
18	69.94	-0.	0.10647	-0.0498	-0.0842	-0.0459	0.0031	-0.0076	-0.468

BODY-AXIS COEFFICIENTS

RUN 23 CONF. C2+TUFTSTHETA =60 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	39.99	-0.	0.23680	0.4398	-0.2983	0.0005	0.0003	-0.6781	-0.3790
2	43.99	-0.	0.22253	0.4193	-0.2868	-0.0034	-0.0001	-0.6841	-0.3790
3	46.02	-0.	0.17282	0.4401	-0.2993	-0.0016	-0.0016	-0.6802	-0.3744
4	48.03	-0.	0.14990	0.4212	-0.2867	-0.0001	-0.0001	-0.6806	-0.3551
5	50.03	-0.	0.13306	0.4168	-0.2849	-0.0007	-0.0012	-0.6835	-0.3515
6	52.04	-0.	0.11056	0.4124	-0.2829	-0.0019	-0.0026	-0.6858	-0.3469
7	53.05	-0.	0.10076	0.4087	-0.2815	-0.0029	-0.0041	-0.6887	-0.3405
8	53.96	-0.	0.21538	0.3369	-0.2576	-0.0020	-0.0103	-0.7647	-0.3400
9	55.05	-0.	0.08195	0.4068	-0.2809	-0.0029	-0.0032	-0.6905	-0.3349
10	55.86	-0.	0.28993	0.1245	-0.1402	-0.0136	-0.0111	-1.1261	-0.0001
11	57.86	-0.	0.25516	0.0860	-0.1269	-0.0157	-0.0138	-1.4758	0.0329
12	58.88	-0.	0.19769	0.0385	-0.1041	-0.0029	-0.0026	-2.7016	0.0407
13	59.89	-0.	0.17227	0.0494	-0.1123	-0.0032	-0.0027	-2.2742	0.0412
14	60.90	-0.	0.15408	0.0552	-0.1179	-0.0038	-0.0032	-2.1364	0.0430
15	61.91	-0.	0.13898	0.0600	-0.1231	-0.0040	-0.0034	-2.0524	0.0540
16	63.93	-0.	0.10249	0.0738	-0.1347	-0.0045	-0.0035	-1.8246	0.0641
17	65.94	-0.	0.08292	0.0825	-0.1427	-0.0064	-0.0054	-1.7303	0.0981
18	69.94	-0.	0.08329	0.0829	-0.1460	-0.0060	-0.0055	-1.7601	0.1962

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STABILITY AXIS COEFFICIENTS

RUN 24 CONF. C2+TUFTS THETA =60 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CD	CL	CMCG	CY	CNS	CLS	L/D
1	40.00	-0.	0.44909	0.1912	0.0166	-0.0287	0.0010	-0.0058	0.426
2	44.02	-0.	0.42455	0.1930	0.0130	-0.0418	0.0018	-0.0095	0.455
3	45.99	-0.	0.44390	0.0911	0.0453	-0.0413	0.0021	-0.0093	0.205
4	48.04	-0.	0.40699	0.1977	0.0093	-0.0413	0.0027	-0.0091	0.486
5	50.05	-0.	0.39815	0.2029	0.0077	-0.0400	0.0030	-0.0083	0.510
6	52.02	0.	0.39063	0.1272	0.0026	0.0214	0.0056	-0.0039	0.326
7	53.02	0.	0.38215	0.1232	0.0019	0.0245	0.0061	-0.0035	0.322
8	54.07	-0.	0.38512	0.1966	0.0027	-0.0392	0.0035	-0.0077	0.510
9	55.05	0.	0.37939	0.1628	0.0012	-0.0059	0.0051	-0.0036	0.429
10	56.07	-0.	0.38014	0.1966	0.0006	-0.0365	0.0036	-0.0068	0.517
11	57.08	-0.	0.37670	0.1989	0.0000	-0.0353	0.0036	-0.0063	0.528
12	57.86	-0.	0.23891	-0.1773	-0.0512	-0.0831	0.0022	-0.0098	-0.742
13	58.86	-0.	0.21969	-0.1727	-0.0558	-0.0795	0.0025	-0.0109	-0.786
14	59.86	-0.	0.19109	-0.1732	-0.0622	-0.0643	0.0035	-0.0113	-0.906
15	60.88	-0.	0.13563	-0.1331	-0.0731	-0.0103	0.0001	0.0018	-0.981
16	61.90	-0.	0.13019	-0.1113	-0.0750	-0.0167	0.0005	0.0002	-0.855
17	63.92	-0.	0.11660	-0.0745	-0.0794	-0.0275	0.0016	-0.0027	-0.639
18	65.89	-0.	0.11201	-0.1274	-0.0813	-0.0271	0.0037	-0.0057	-1.137
19	69.93	-0.	0.10879	-0.0564	-0.0831	-0.0444	0.0026	-0.0056	-0.518
20	74.99	-0.	0.11969	0.0259	-0.0805	-0.0619	0.0007	-0.0048	0.217
21	79.89	-0.	0.21355	-0.1920	-0.0673	-0.0493	0.0022	-0.0046	-0.899

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BODY-AXIS COEFFICIENTS

RUN 24 CONF. C2+TUFTSTHETA =60 PHI = 90 TYPE P6 MACH = 0.26 RN = 2.49 Q =100 NAAL 485

POINT	ALPHA	YAW	CA	CN	CMA	CNB	CLB	XCPN/D	DP/Q
1	40.00	-0.	0.22119	0.4351	-0.2947	-0.0029	-0.0051	-0.6773	-0.3767
2	44.02	-0.	0.17120	0.4338	-0.2945	-0.0053	-0.0081	-0.6788	-0.3675
3	45.99	-0.	0.24289	0.3826	-0.2313	-0.0052	-0.0079	-0.6047	-0.3638
4	48.04	-0.	0.12506	0.4349	-0.2962	-0.0050	-0.0081	-0.6811	-0.3565
5	50.05	-0.	0.10009	0.4355	-0.2967	-0.0044	-0.0076	-0.6814	-0.3551
6	52.02	0.	0.14011	0.3862	-0.2705	0.0004	-0.0068	-0.7003	-0.3299
7	53.02	0.	0.13143	0.3794	-0.2659	0.0009	-0.0070	-0.7009	-0.3244
8	54.07	-0.	0.06683	0.4272	-0.2941	-0.0042	-0.0073	-0.6883	-0.3519
9	55.05	0.	0.08388	0.4042	-0.2809	-0.0000	-0.0062	-0.6948	-0.3510
10	56.07	-0.	0.04904	0.4251	-0.2937	-0.0037	-0.0067	-0.6908	-0.3501
11	57.08	-0.	0.03778	0.4243	-0.2931	-0.0033	-0.0065	-0.6907	-0.3482
12	57.86	-0.	0.27720	0.1080	-0.1416	-0.0071	-0.0071	-1.3109	-0.0033
13	58.86	-0.	0.26147	0.0987	-0.1389	-0.0080	-0.0078	-1.4069	0.0315
14	59.86	-0.	0.24571	0.0783	-0.1303	-0.0080	-0.0087	-1.6643	0.1059
15	60.88	-0.	0.18227	0.0537	-0.1207	0.0016	0.0008	-2.2466	0.0609
16	61.90	-0.	0.15951	0.0624	-0.1272	0.0005	-0.0004	-2.0385	0.0646
17	63.92	-0.	0.11822	0.0719	-0.1357	-0.0018	-0.0026	-1.8863	0.0728
18	65.89	-0.	0.16202	0.0502	-0.1253	-0.0037	-0.0057	-2.4948	0.2205
19	69.93	-0.	0.09026	0.0828	-0.1453	-0.0044	-0.0044	-1.7533	0.1857
20	74.99	-0.	0.00597	0.1223	-0.1647	-0.0045	-0.0019	-1.3463	0.1114
21	79.89	-0.	0.22655	0.1765	-0.2017	-0.0042	-0.0030	-1.1427	0.0082

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APPENDIX B

PLOTTED DATA

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INDEX OF PLOTTED DATA

Description	Figure
Launch Escape System Characteristics	
C_D, C_L, $C_{m_{c.g.}}$, C_A, C_N, C_{m_A}, X_{CP}/D vs α	
Configuration: $E_{20}T_9C_2$	
Mach = 0.26	A-1
Configuration: $E_{35}T_9C_2$	
Mach = 0.26	A-2
Command Module Characteristics	
C_D, C_L, L/D, $C_{m_{c.g.}}$, C_A, C_N, C_{m_A}, X_{CP}/D vs α	
Configuration: C_2	
Mach = 0.26	A-3
Mach = 0.26	
Direction of Effect	A-4
Mach = 0.185	
Direction of Effect	A-5
Configuration: C_2 With Tufts	
Mach = 0.26	A-6

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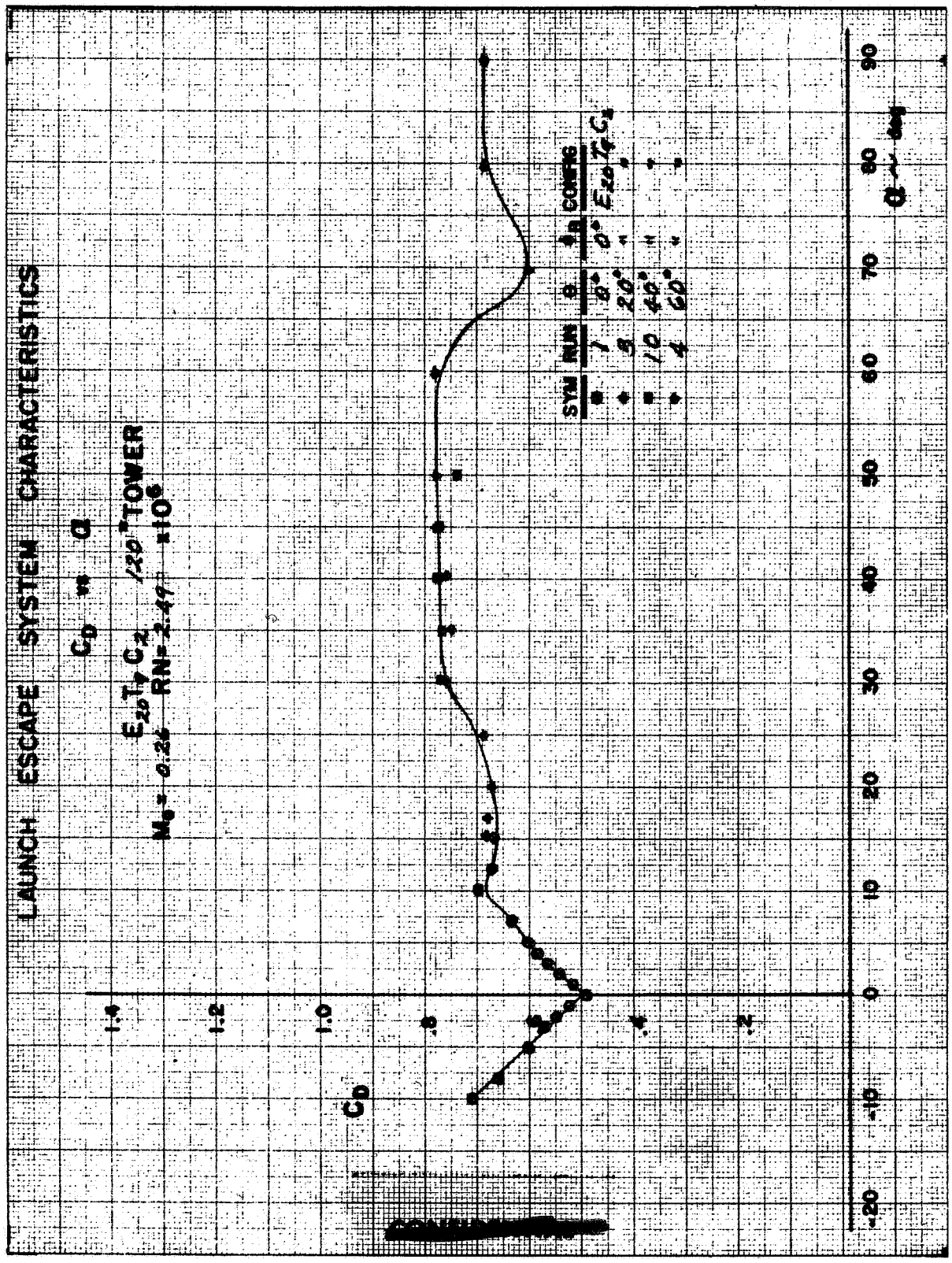

Figure A-1

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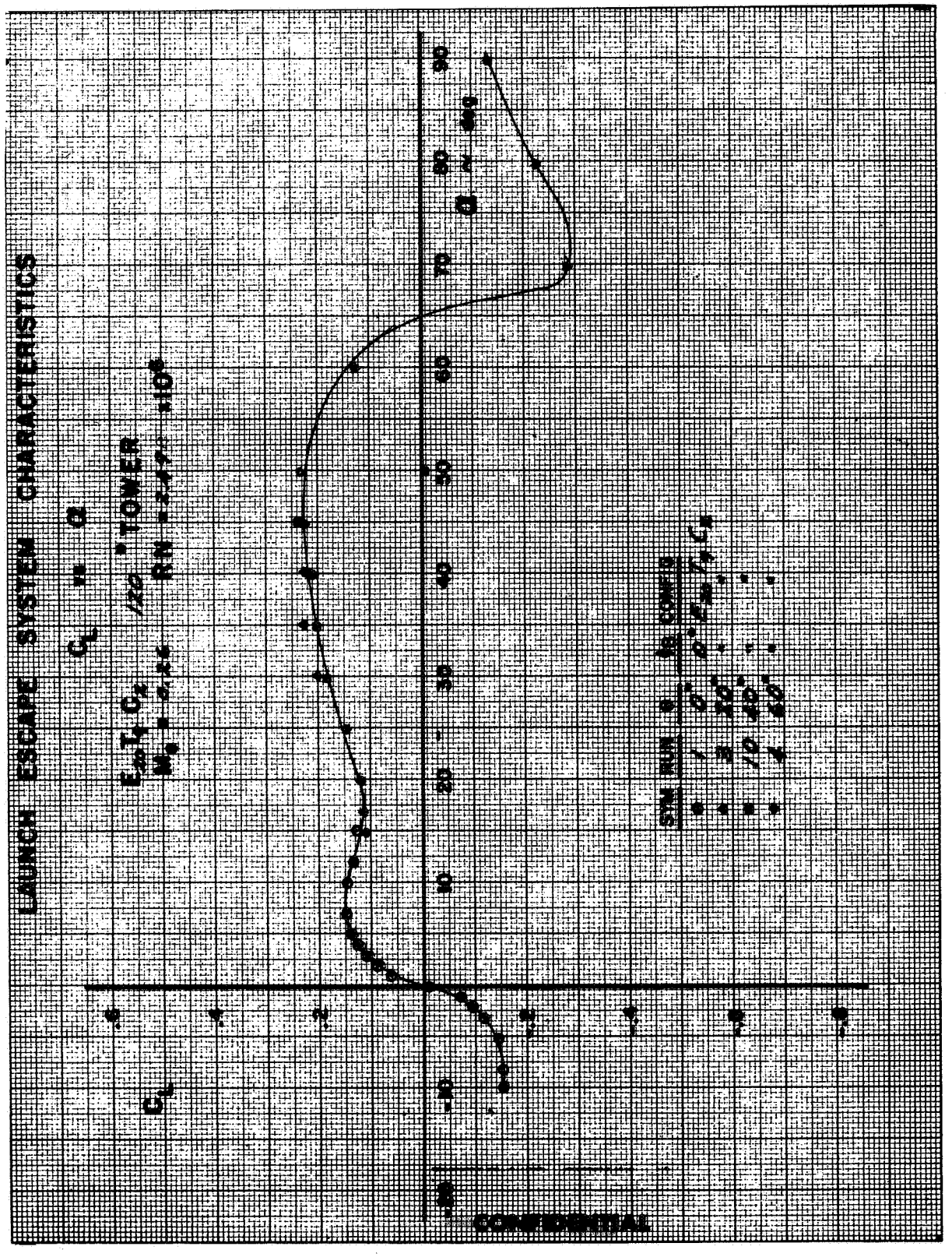

Figure A-1

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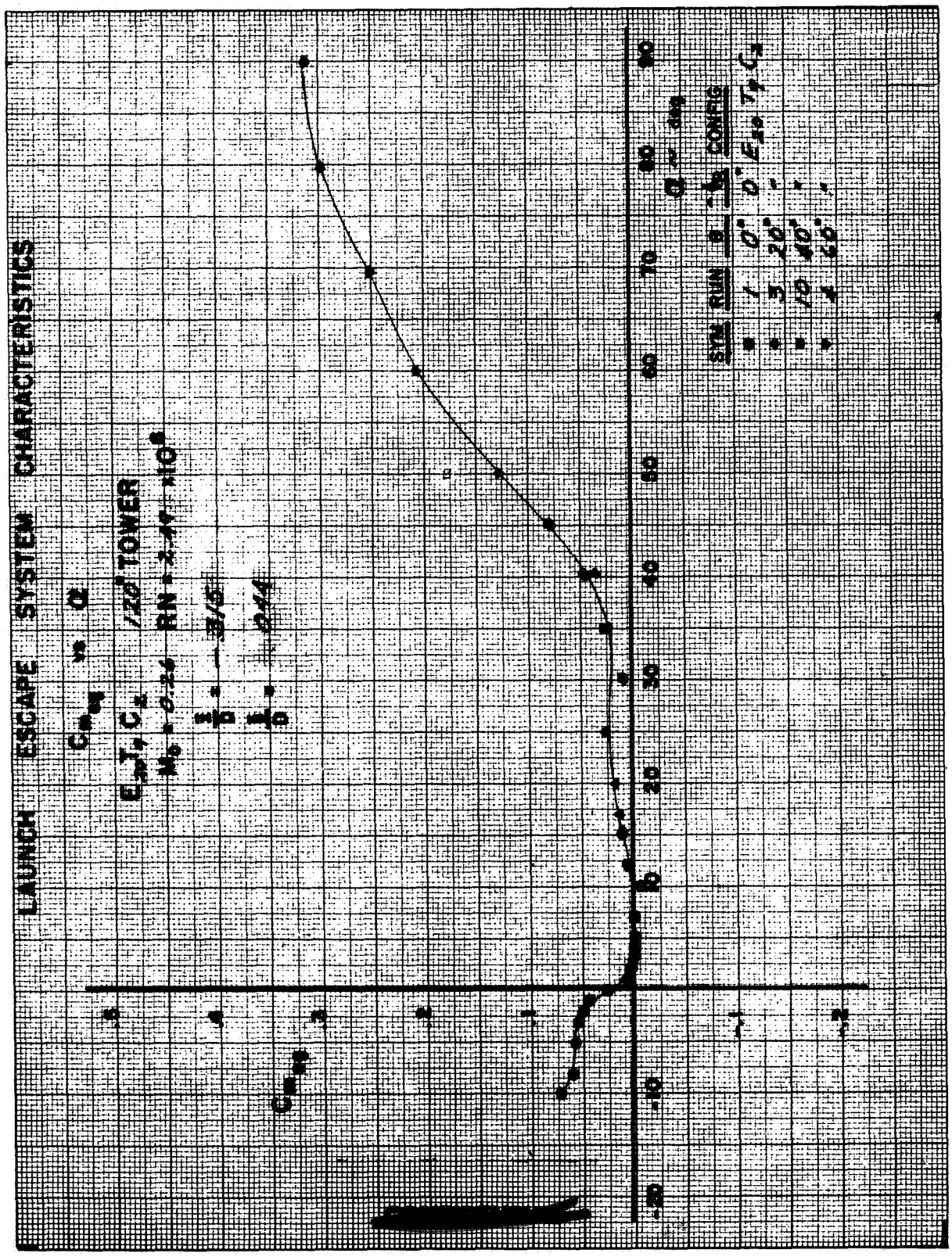

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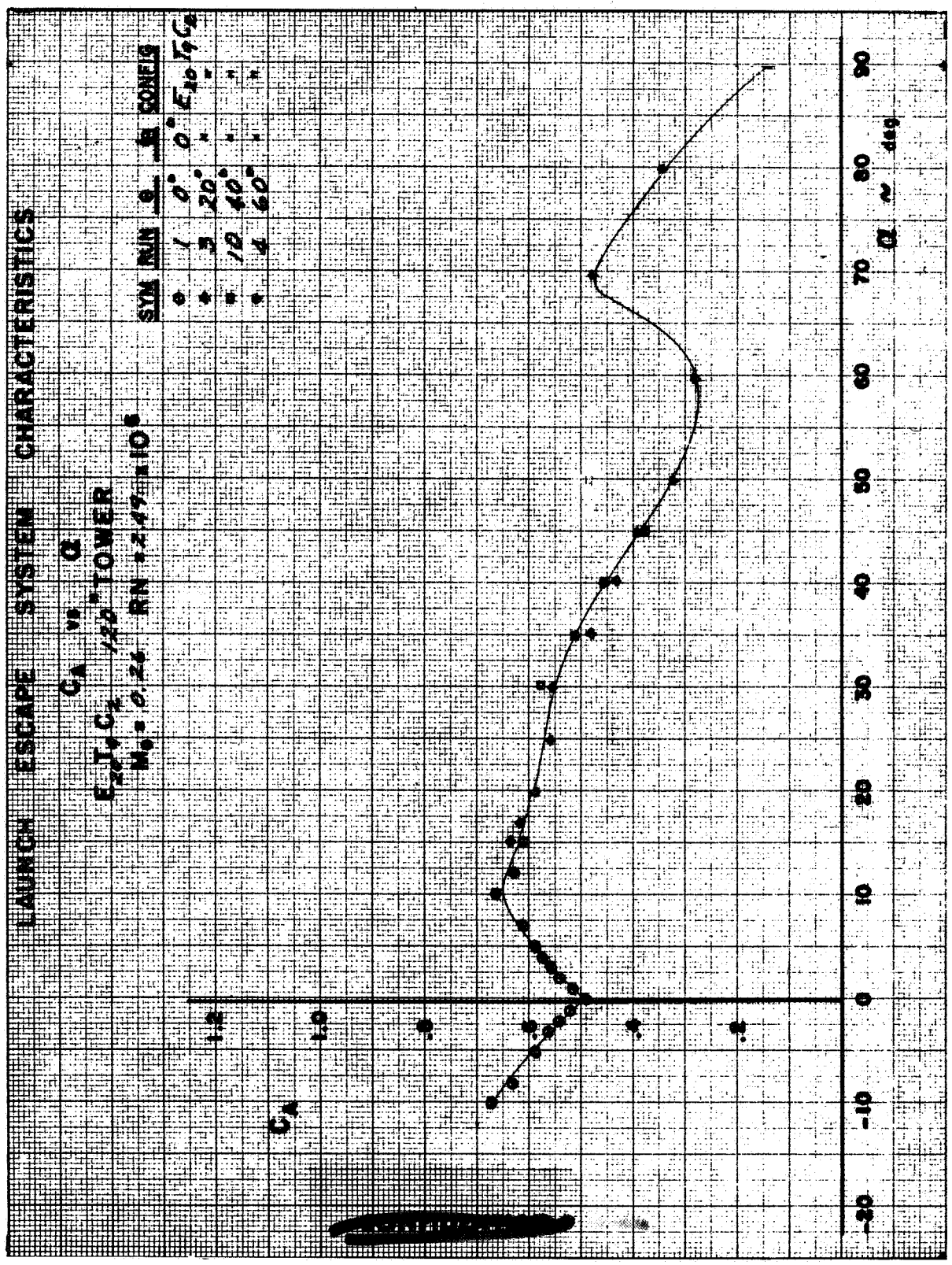

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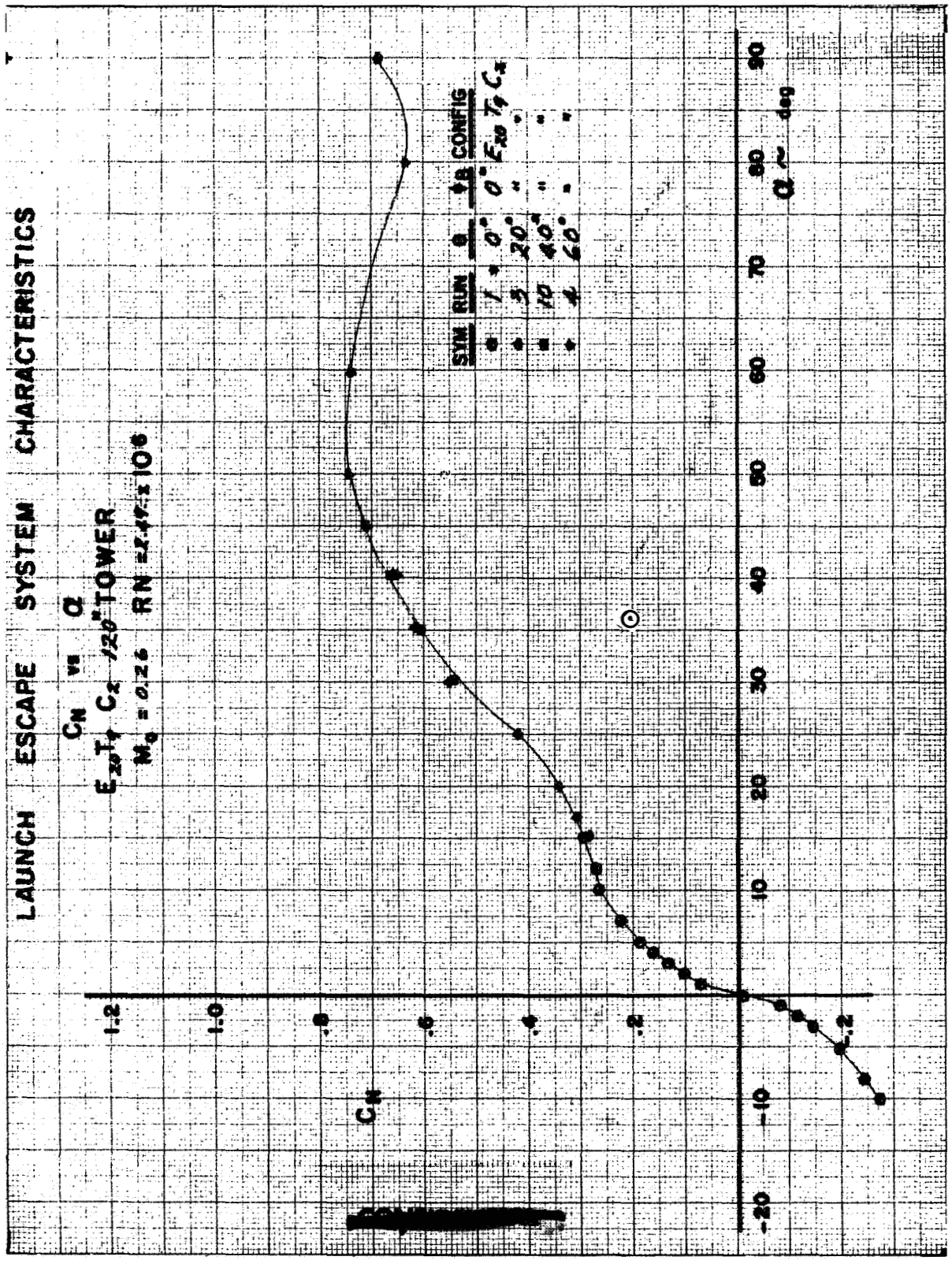

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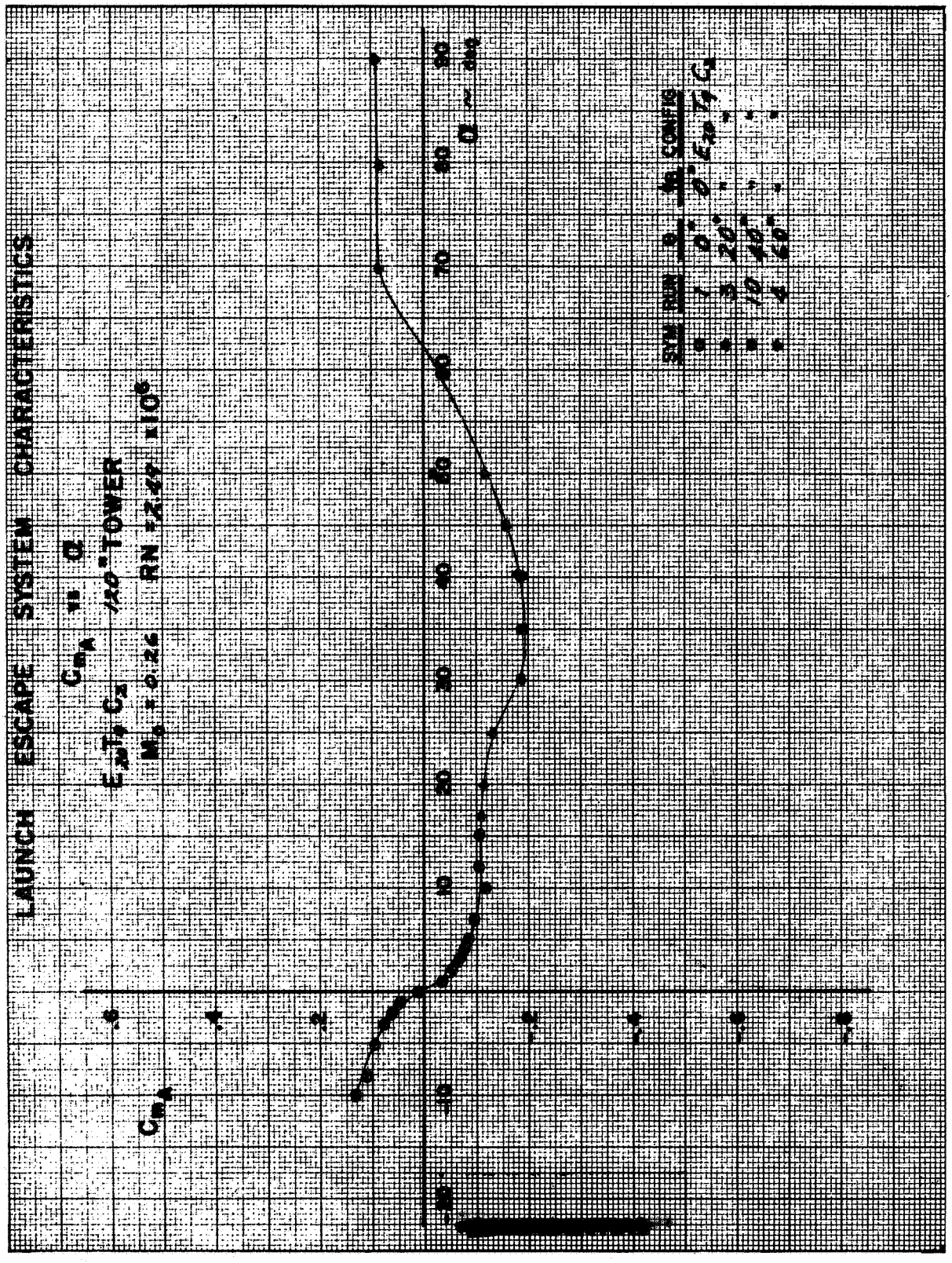

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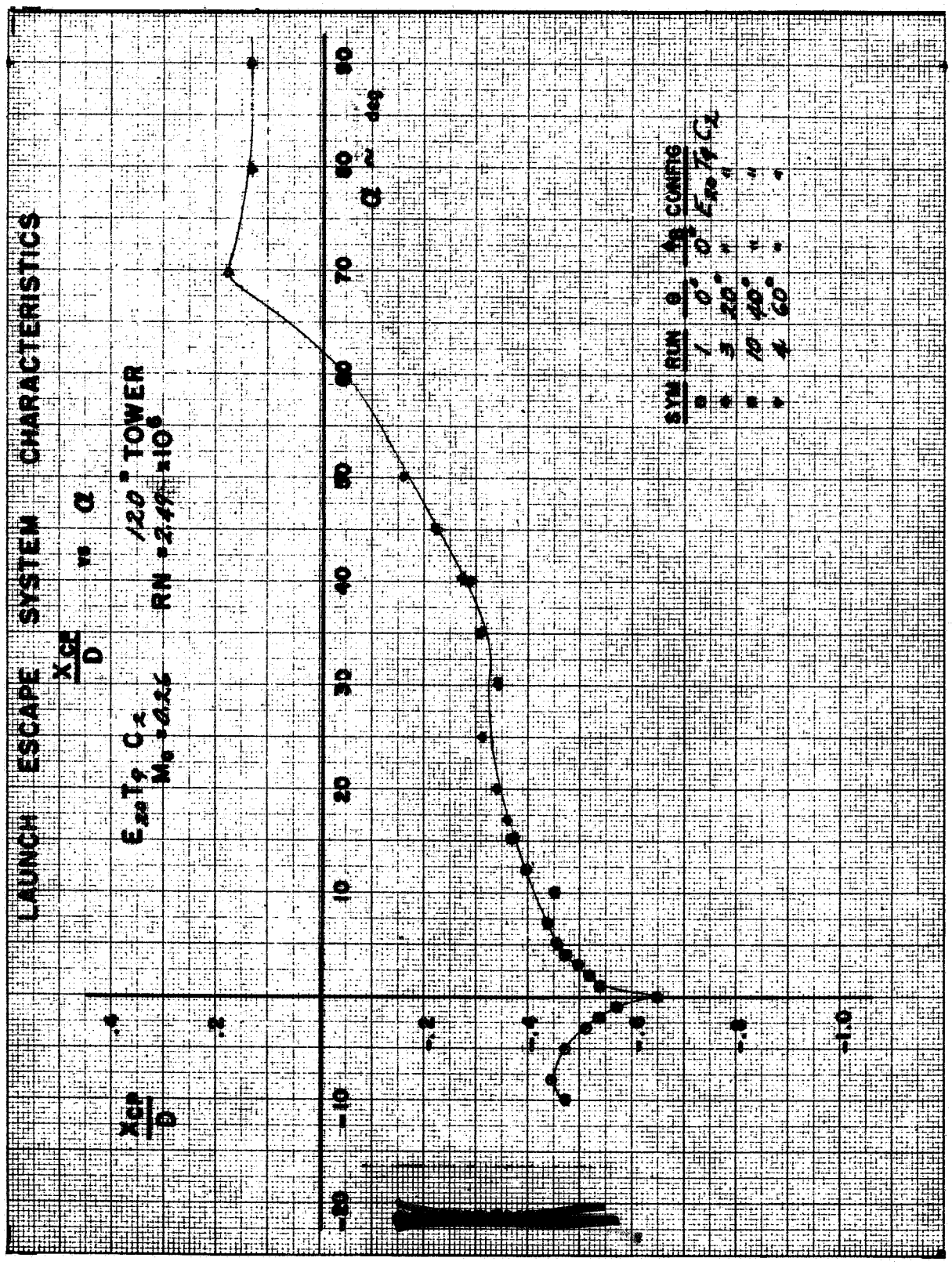

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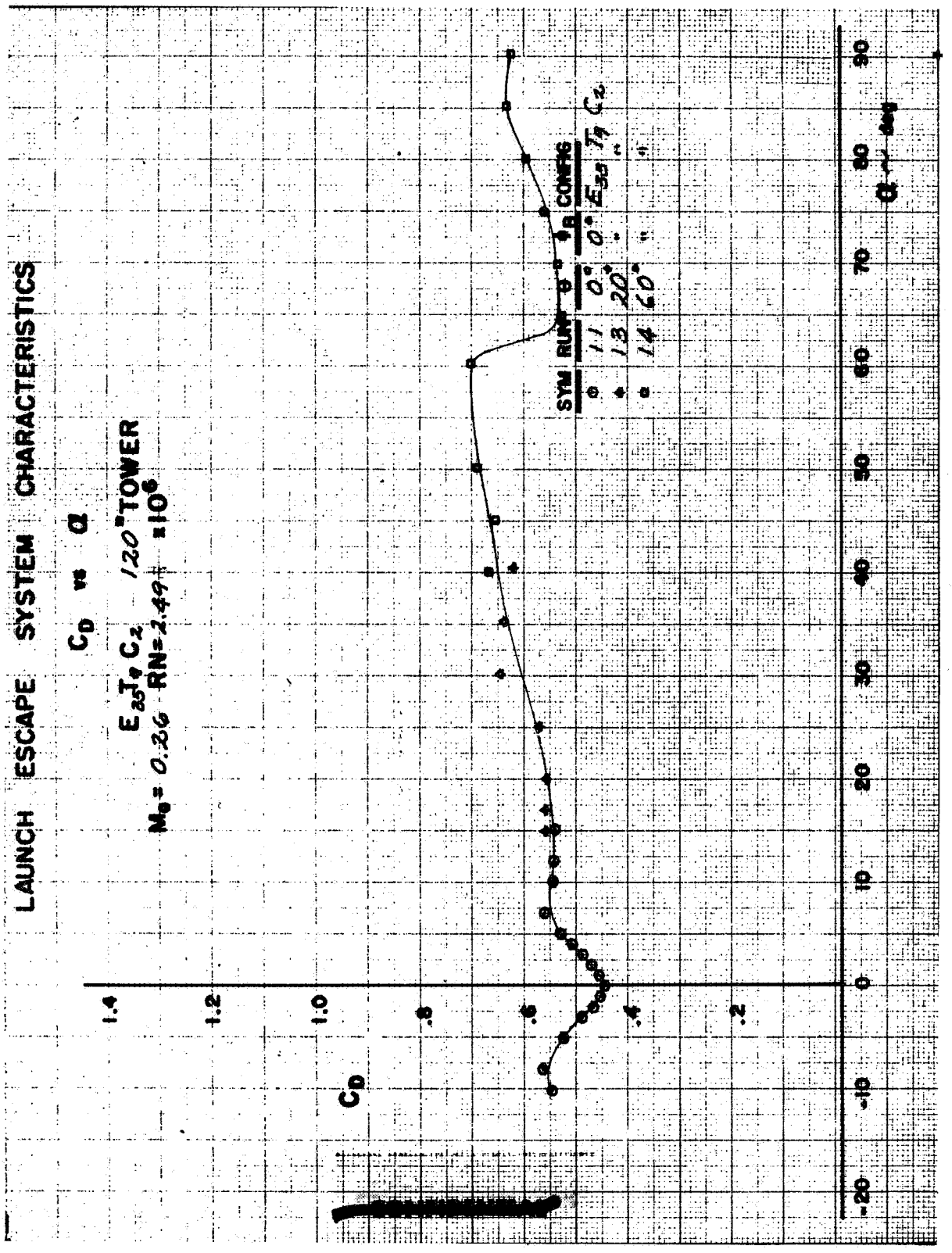

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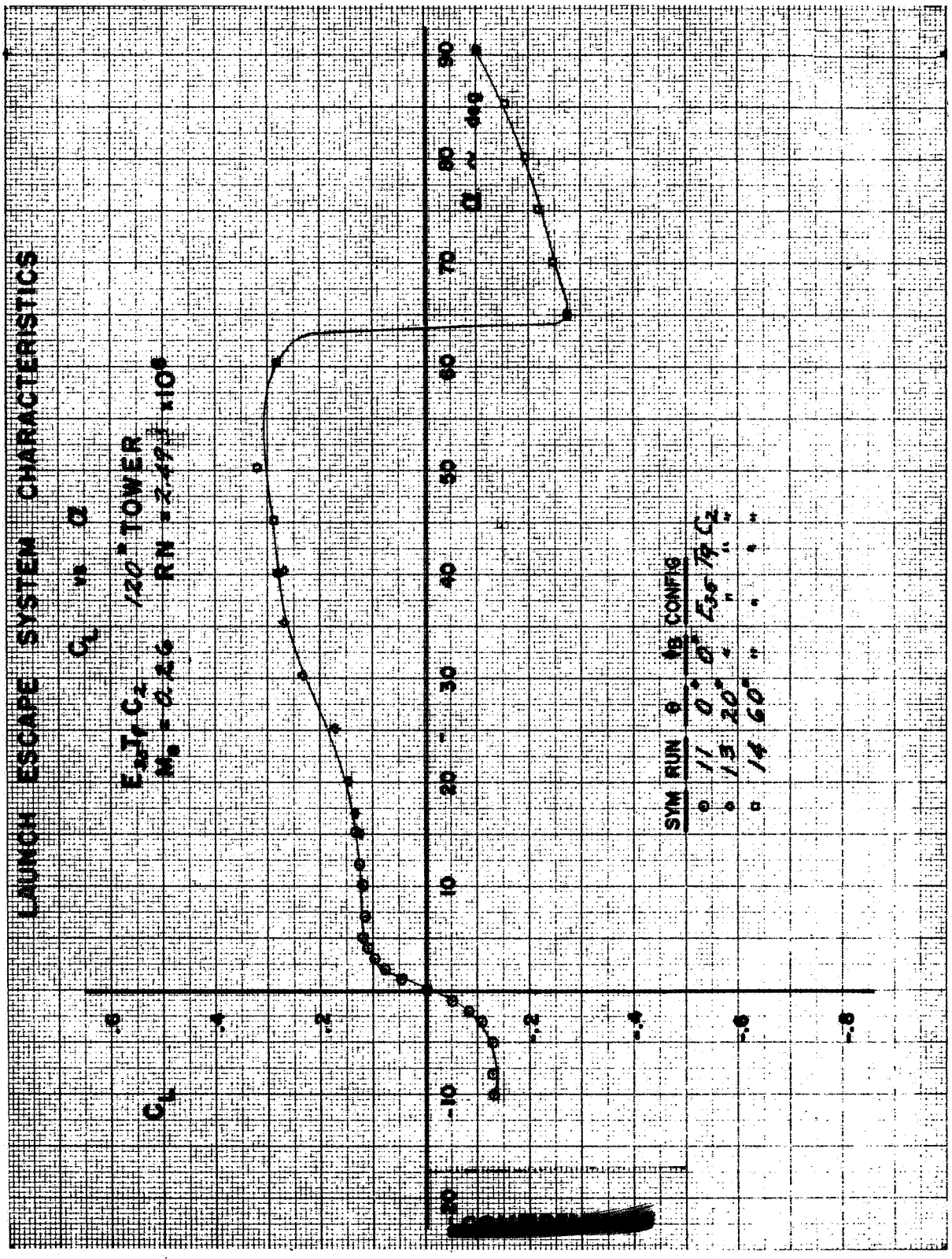

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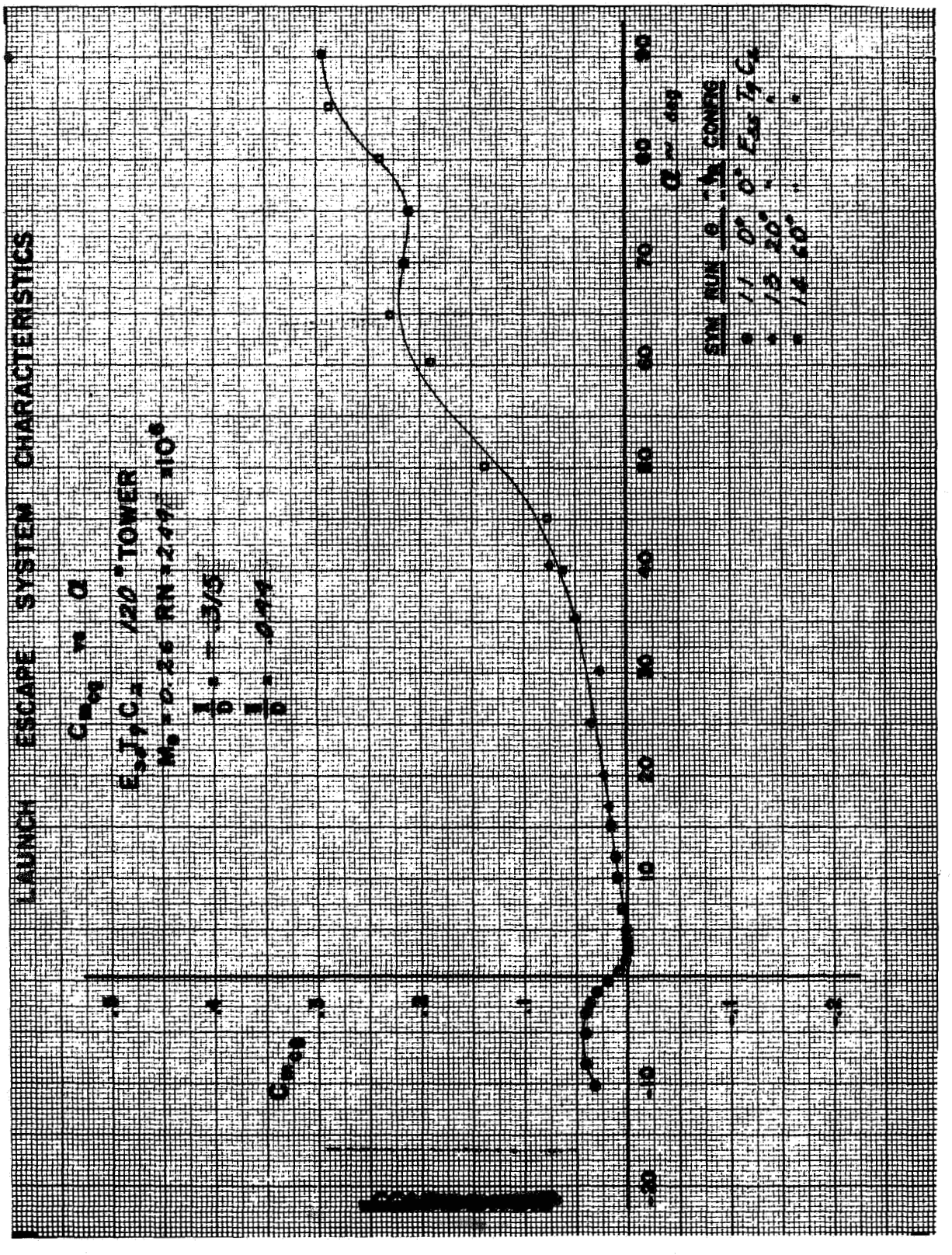

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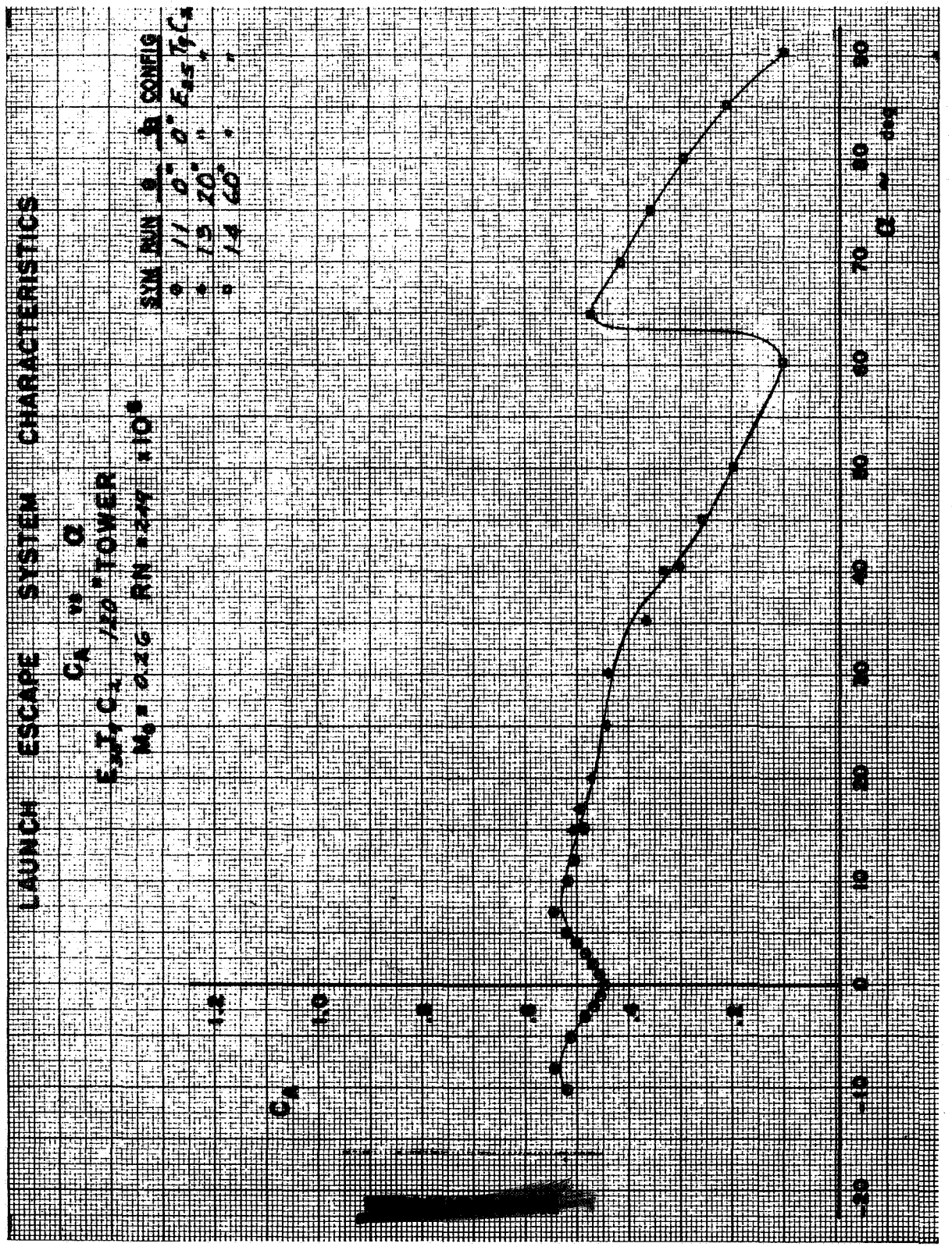

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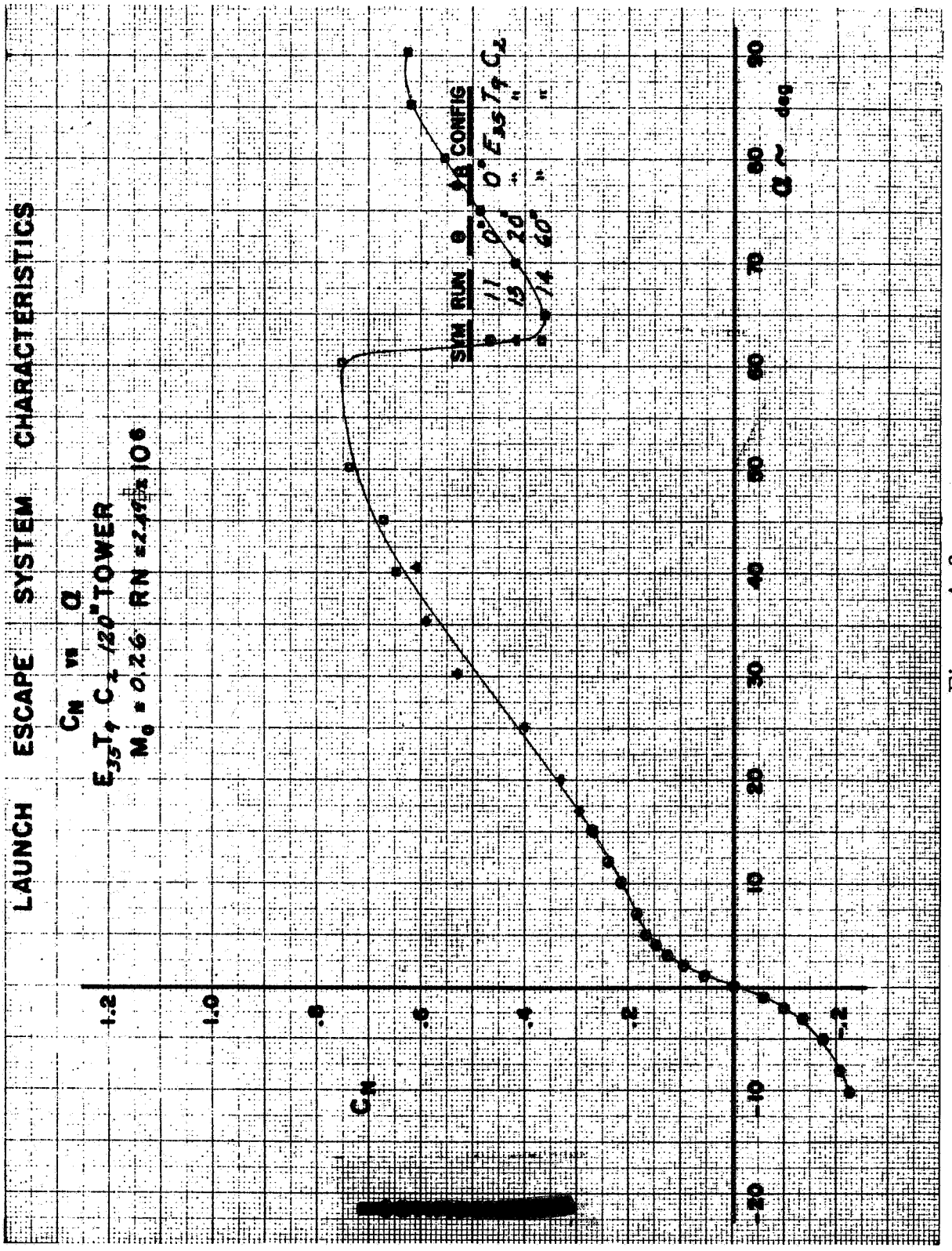

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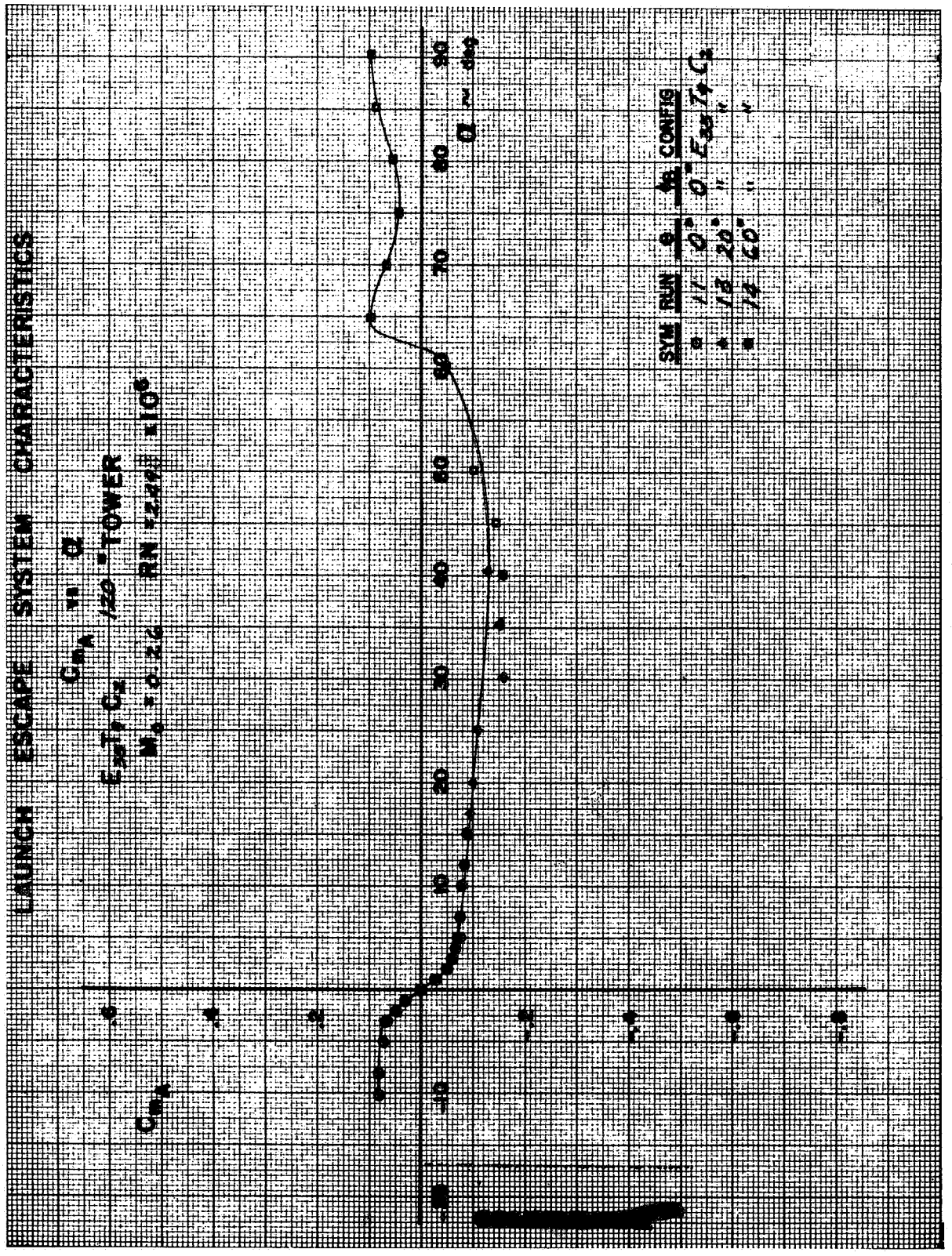

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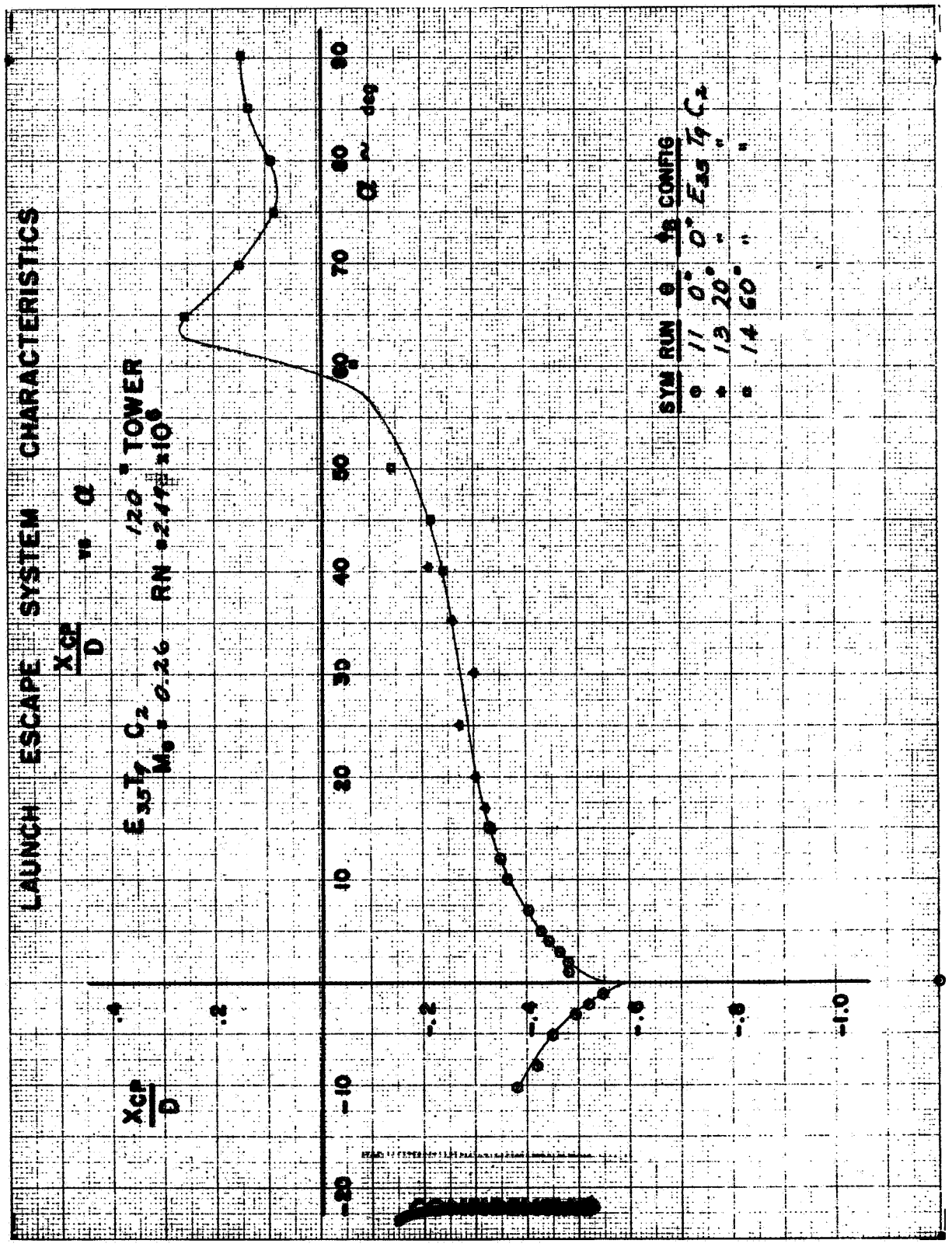

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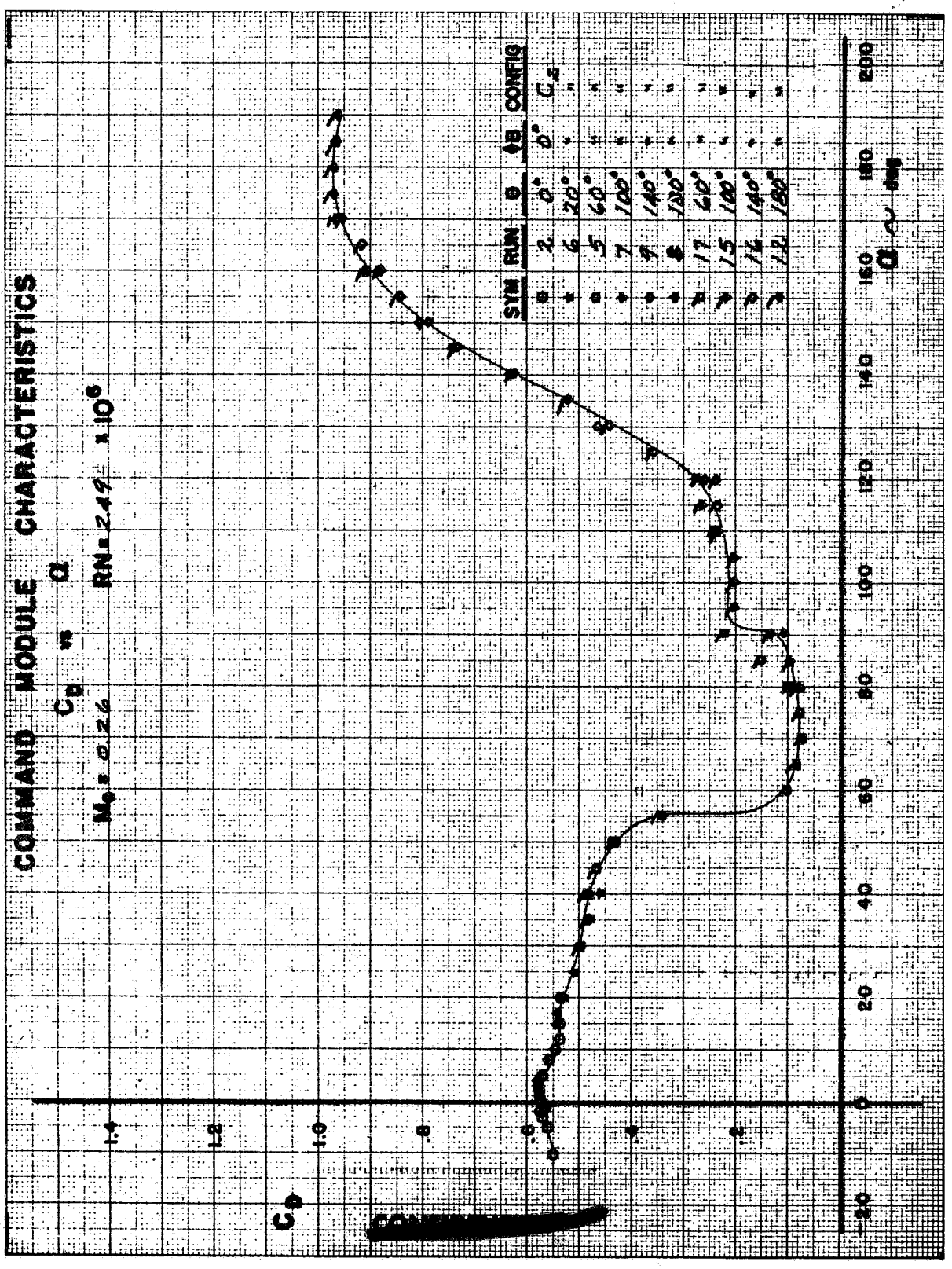

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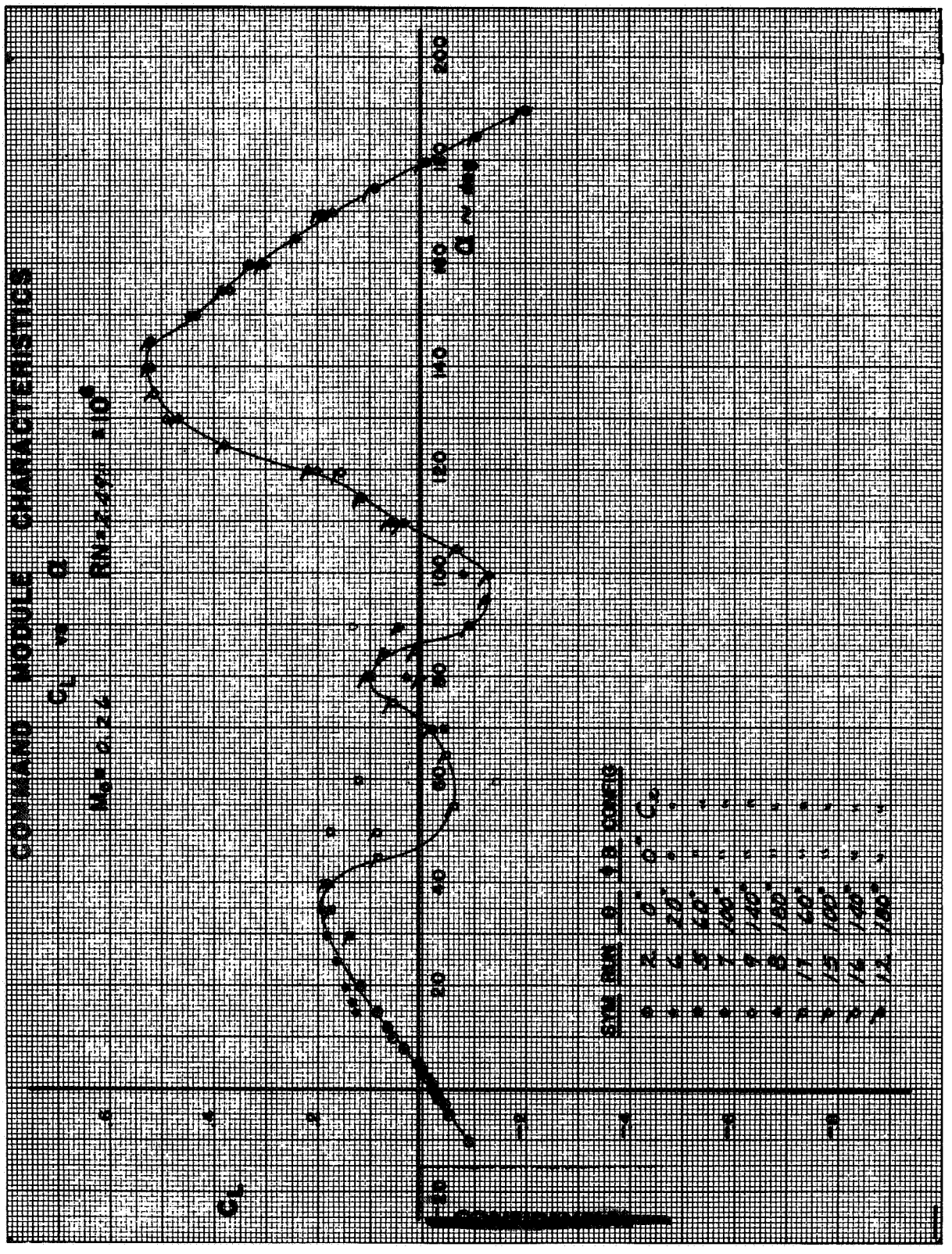

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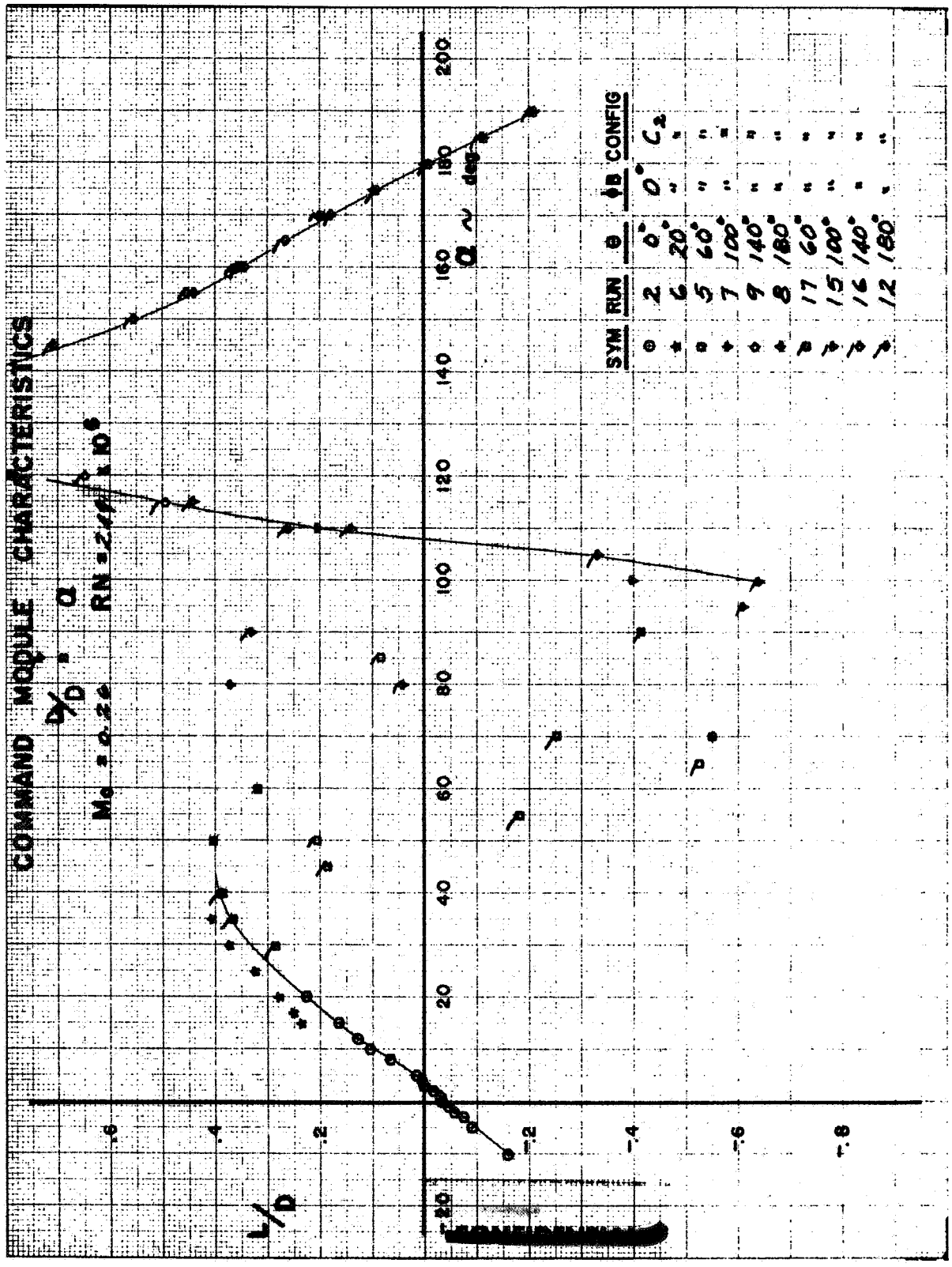

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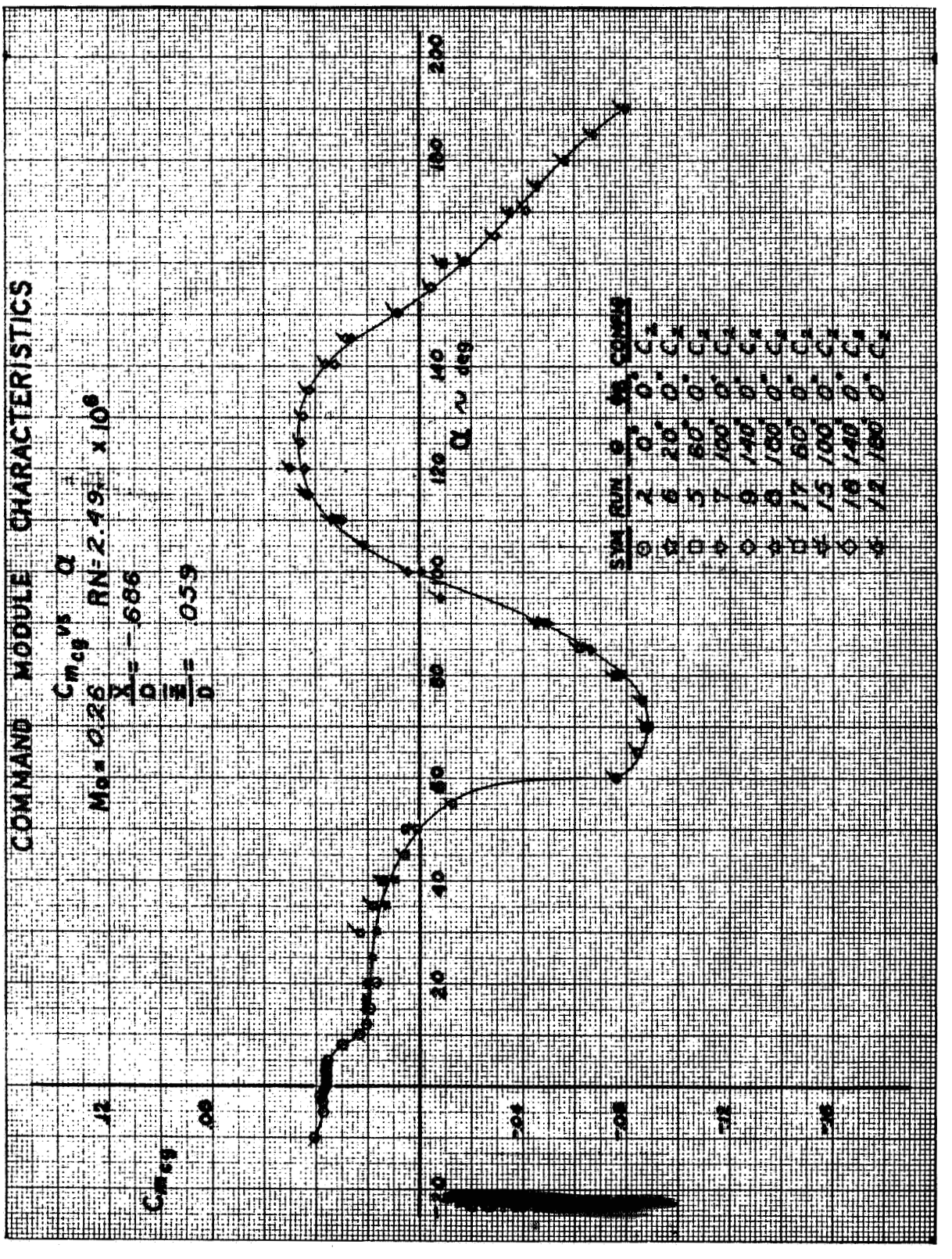

Figure A-3

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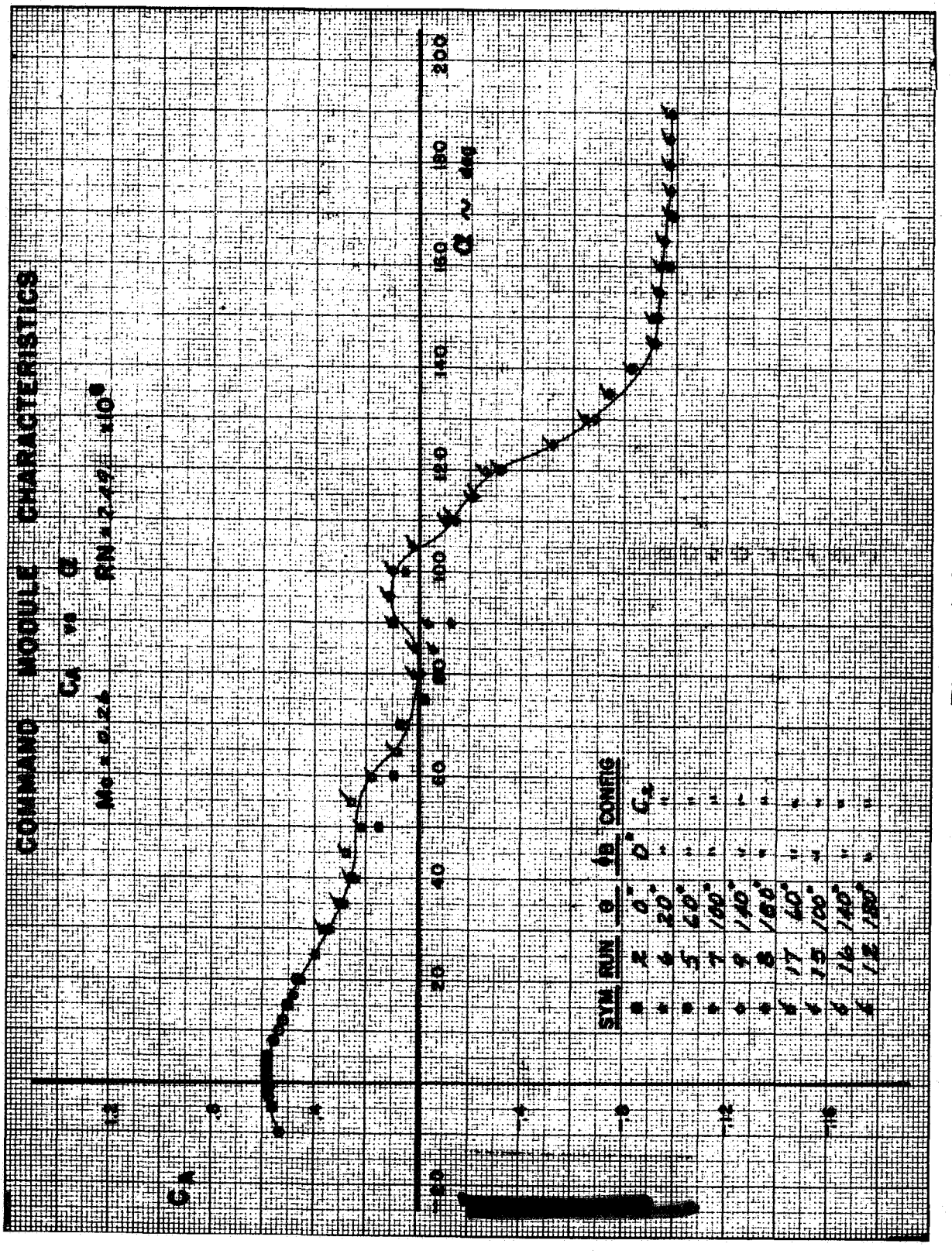

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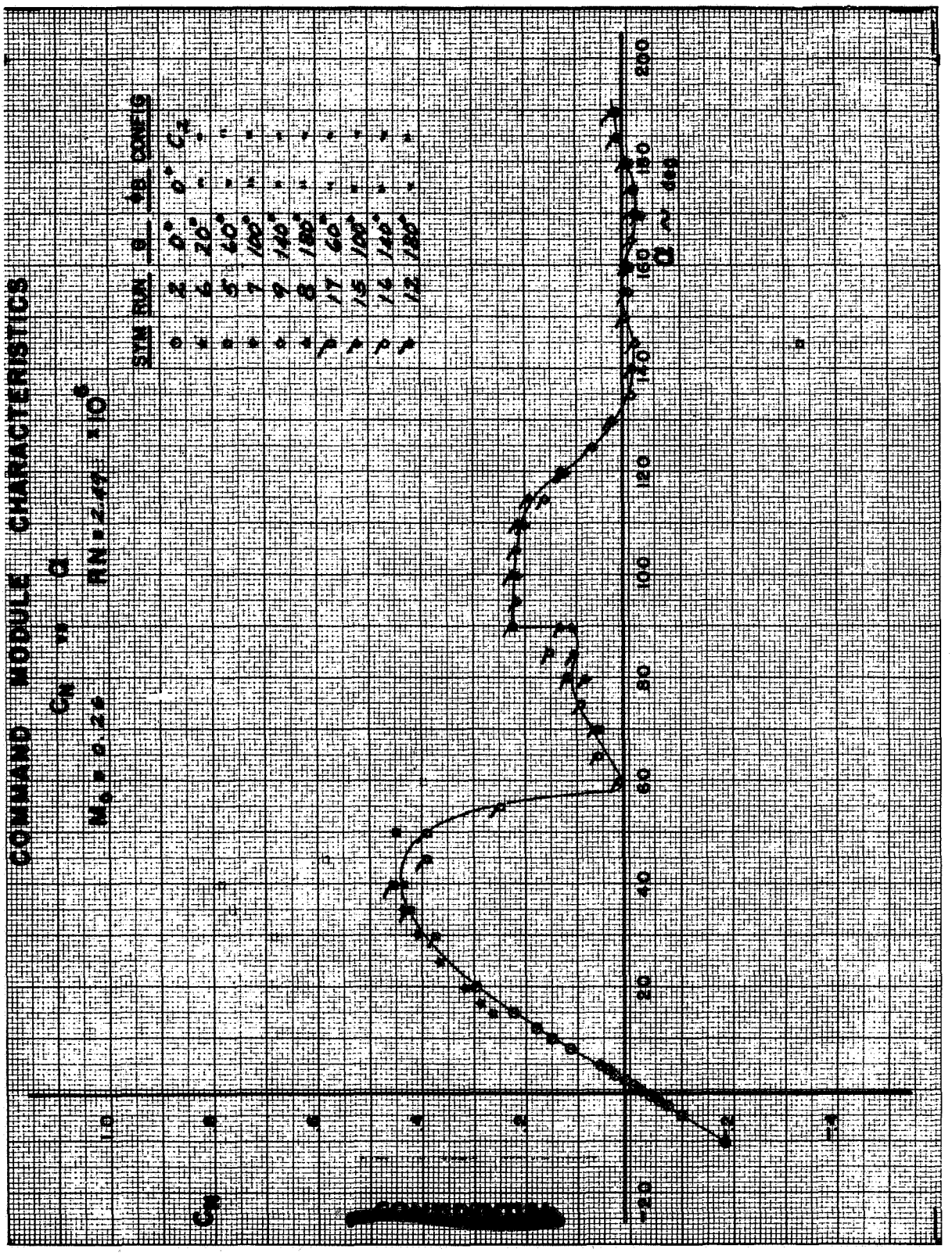

Figure A-3

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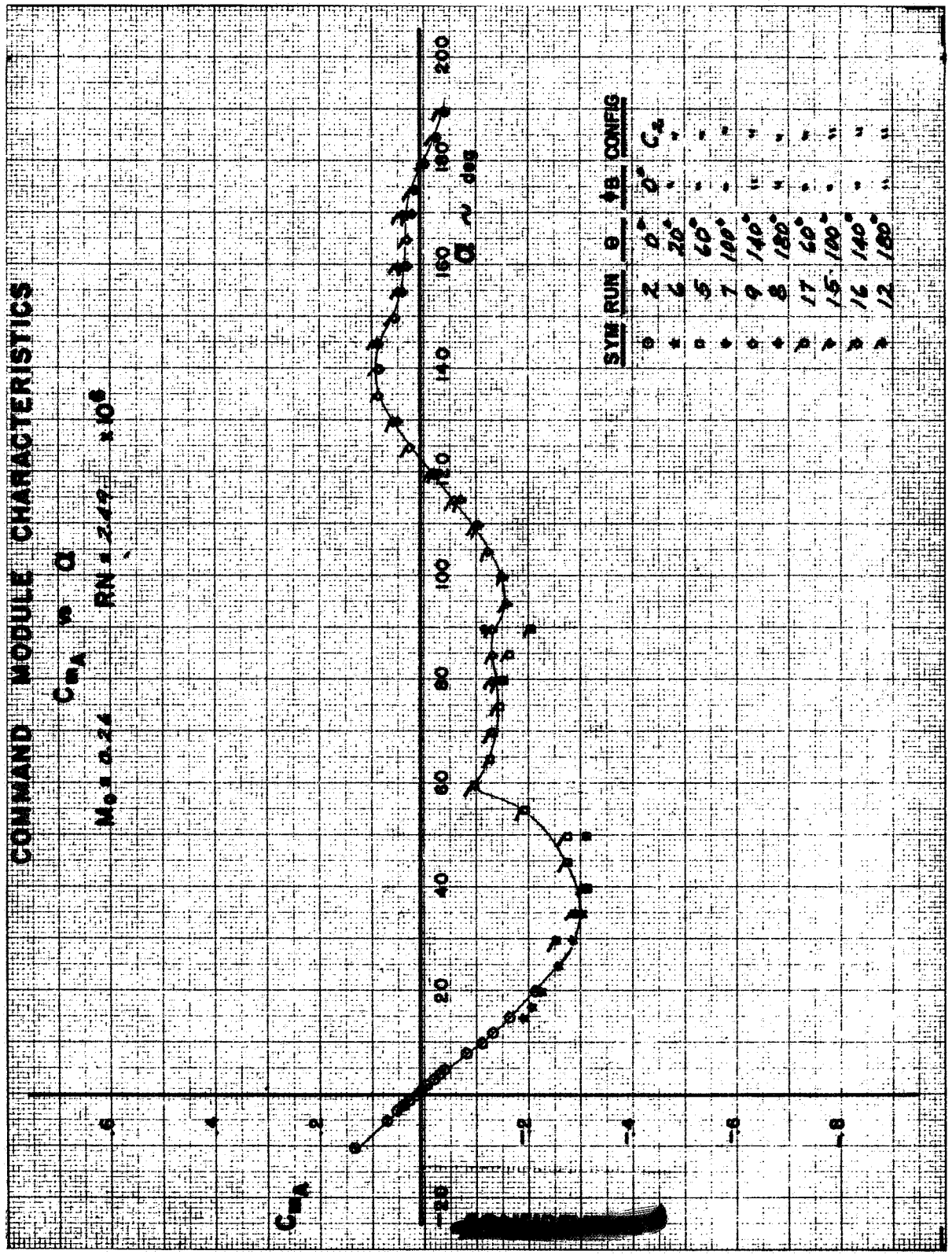

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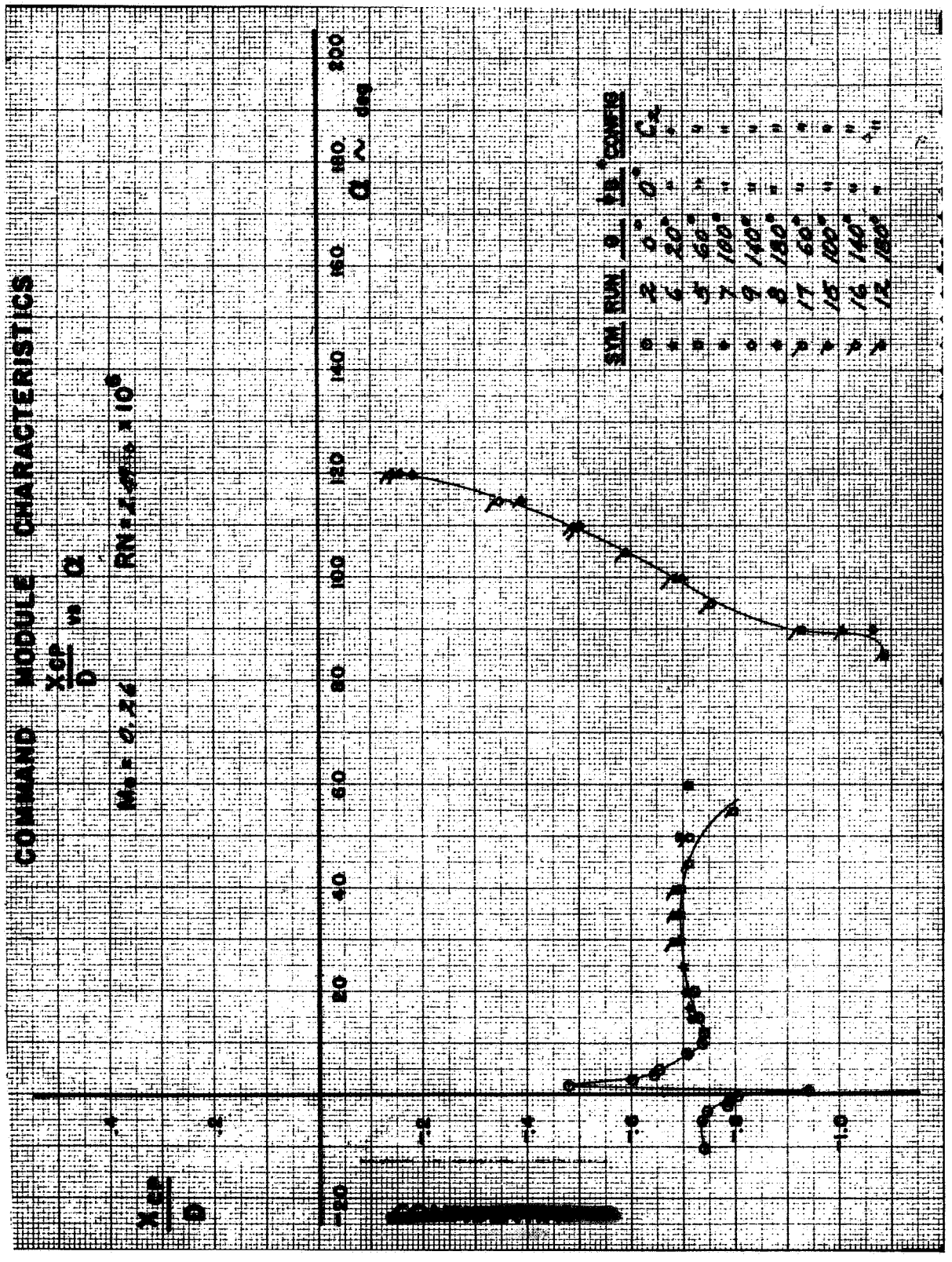

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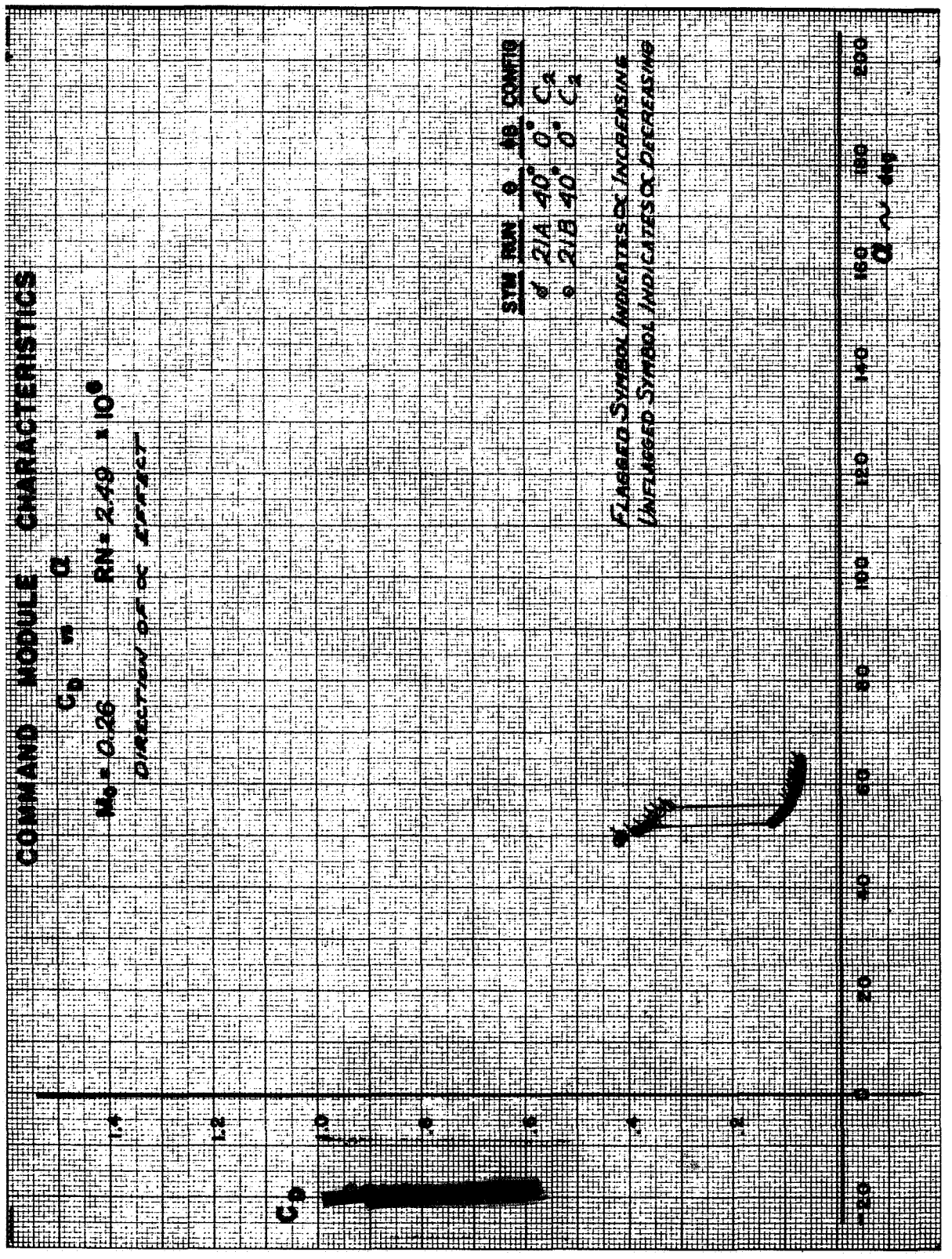

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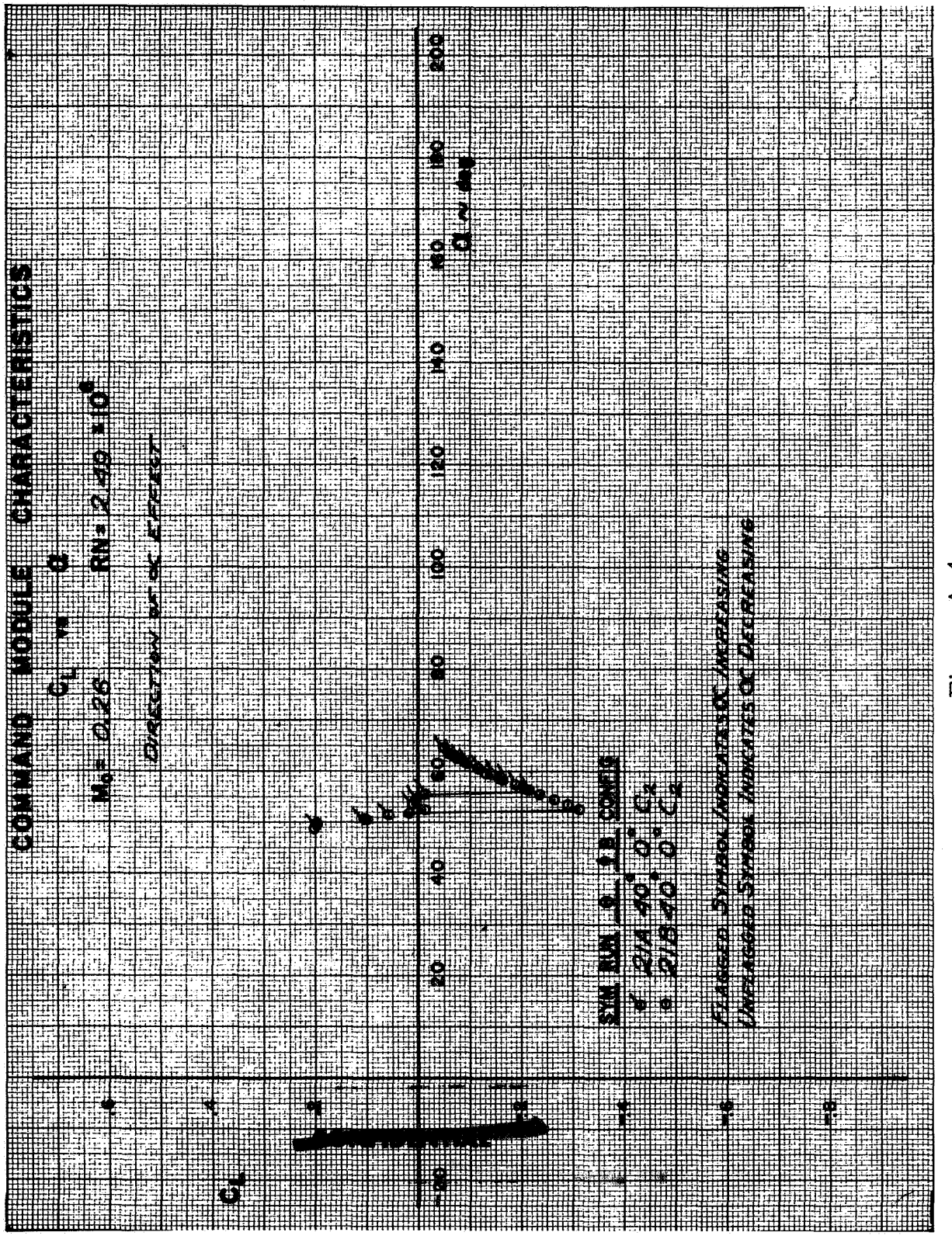

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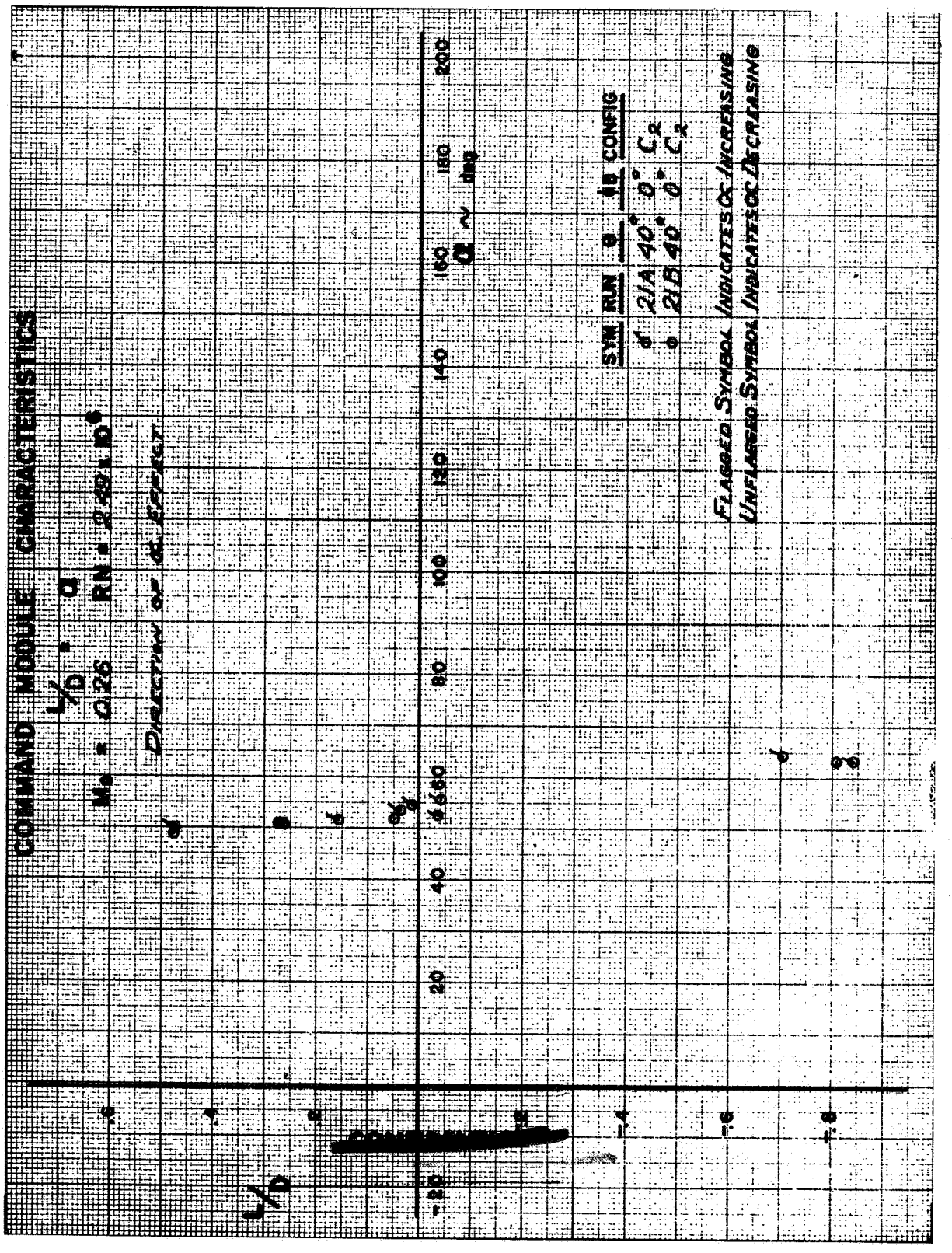

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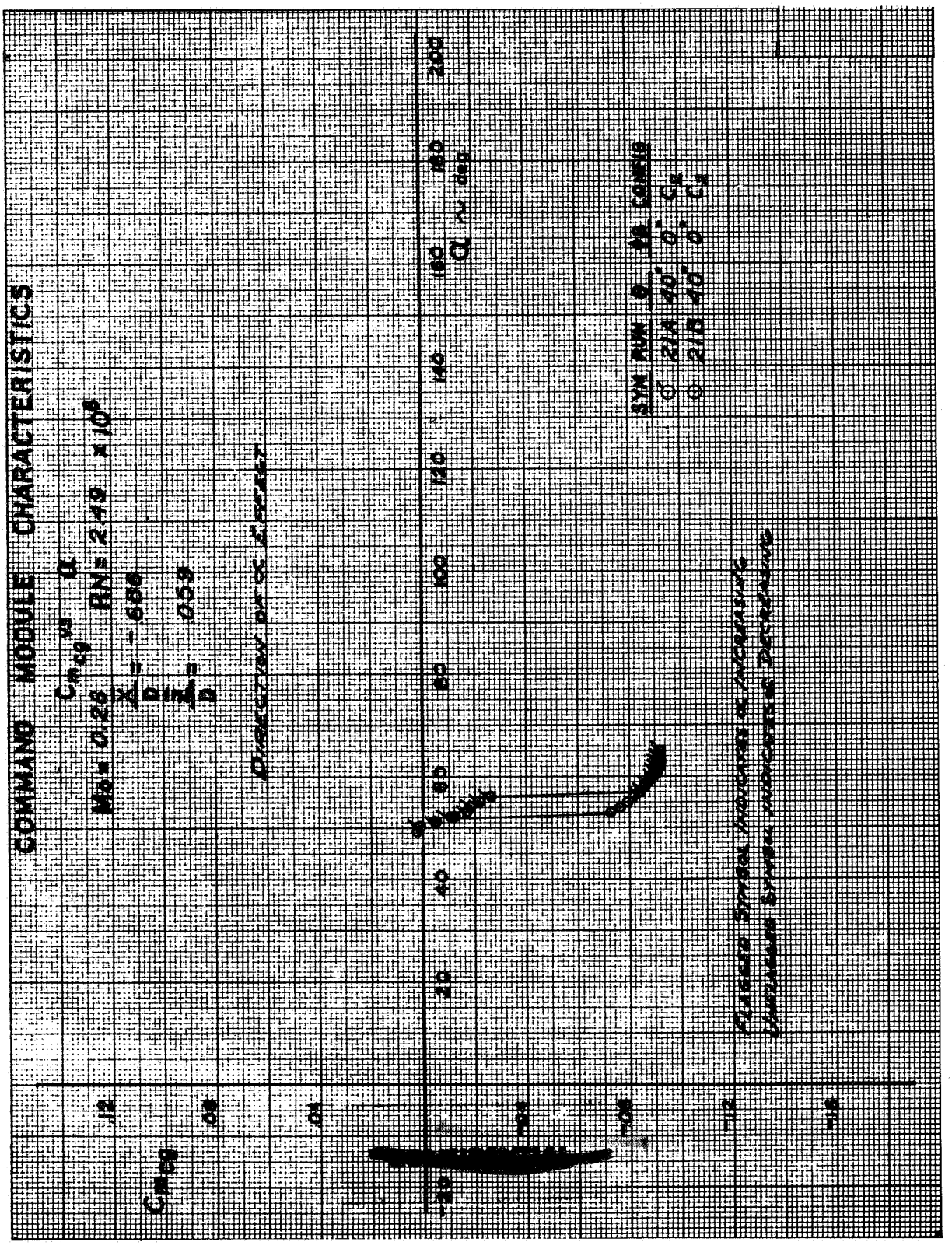

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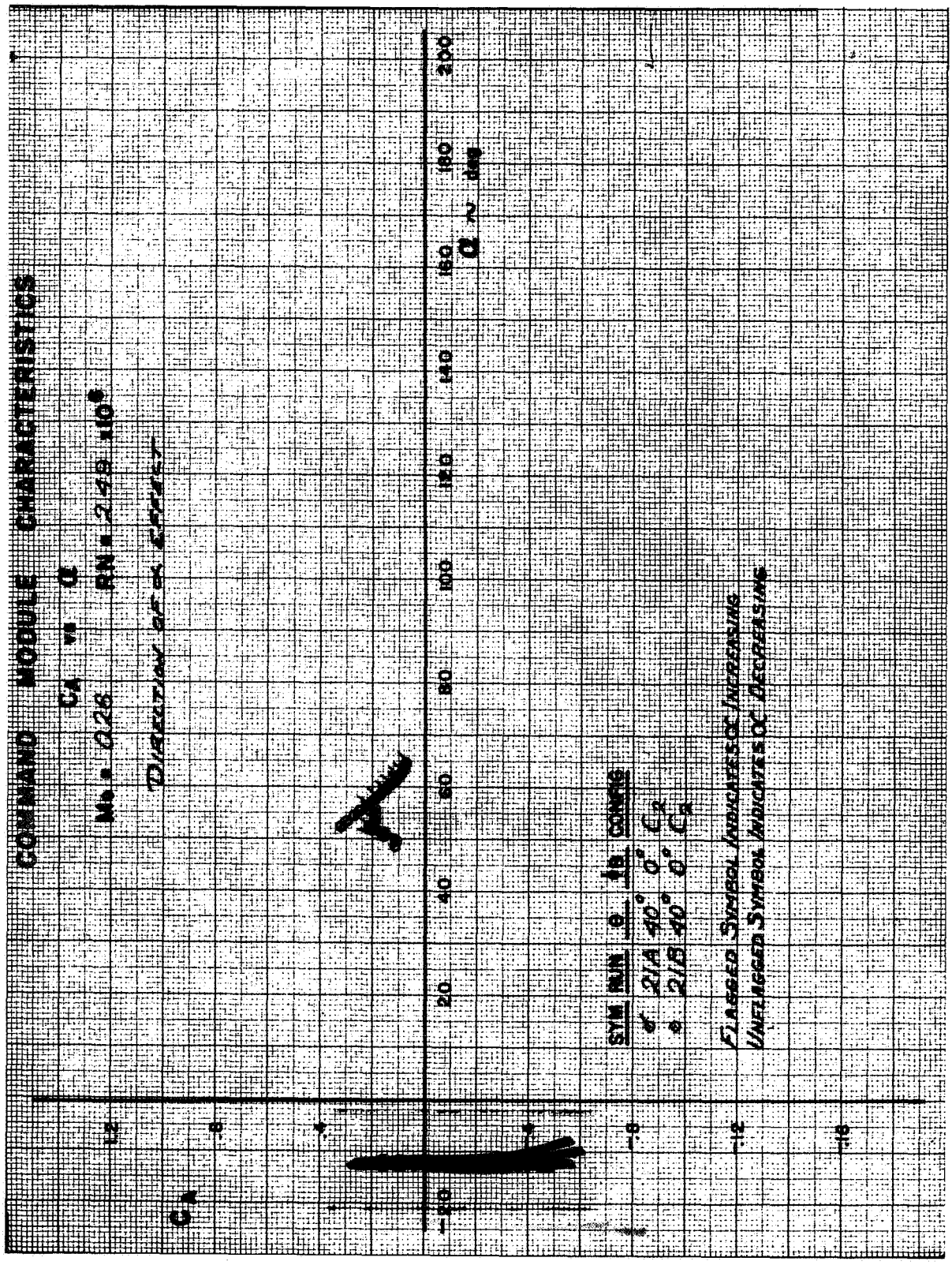

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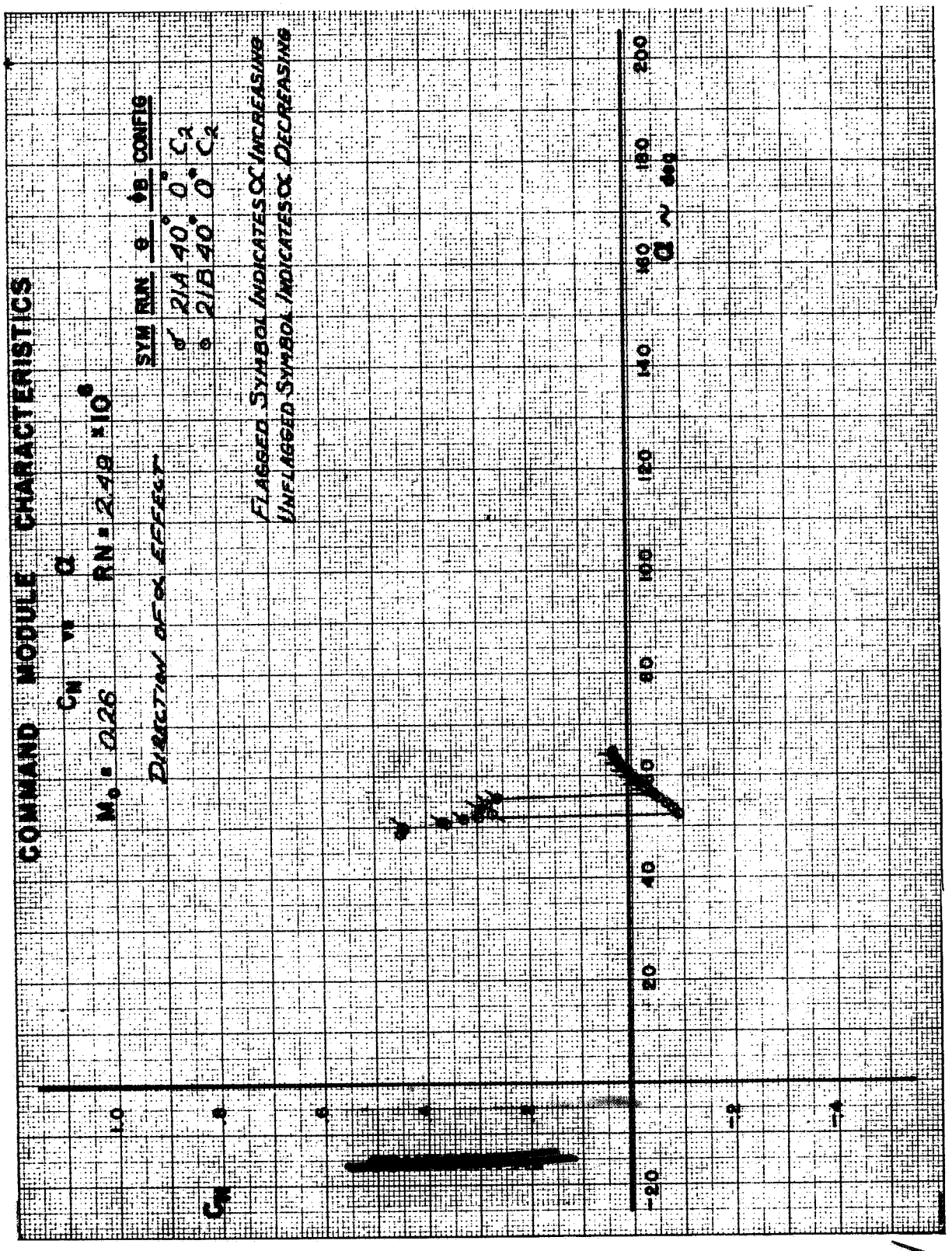

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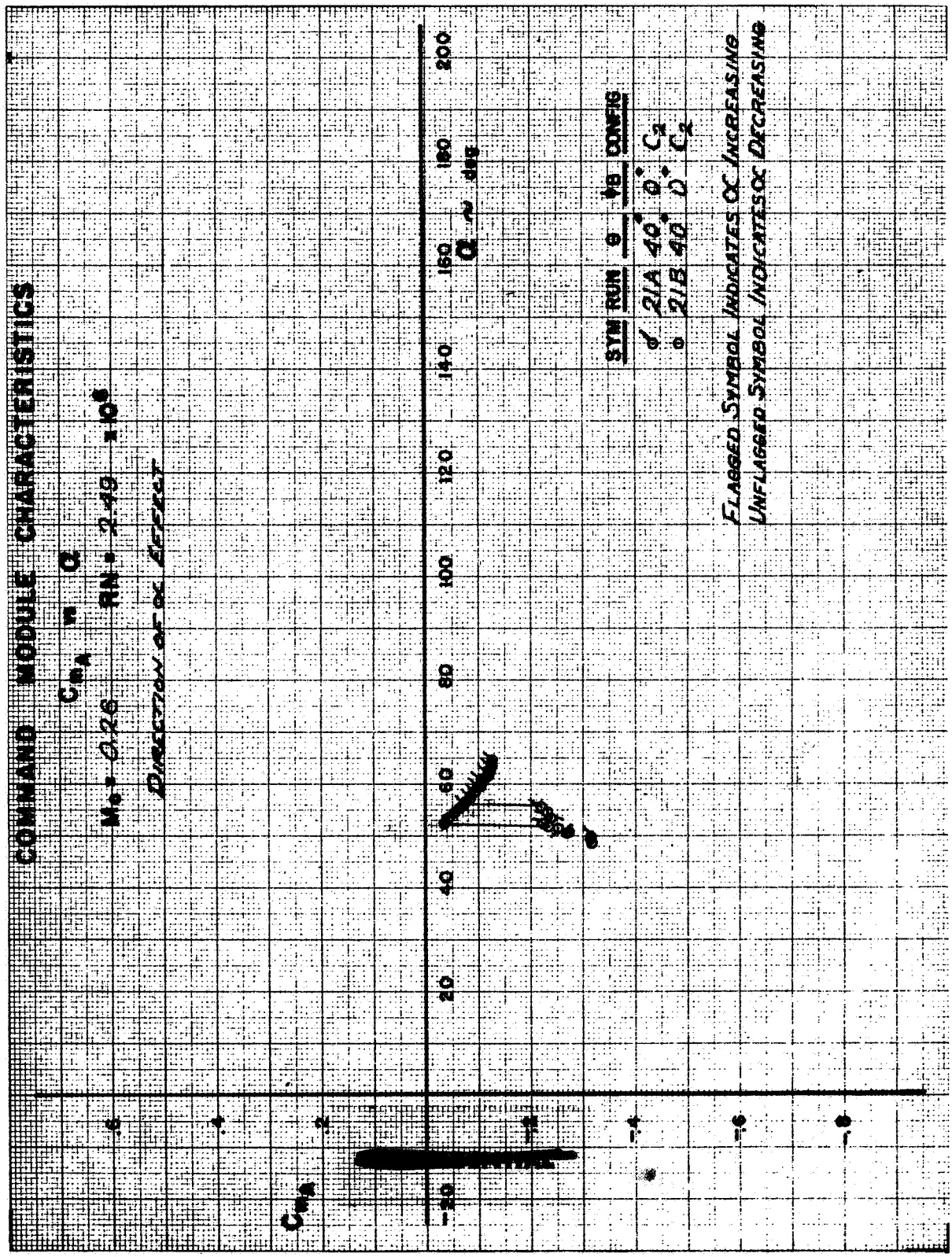

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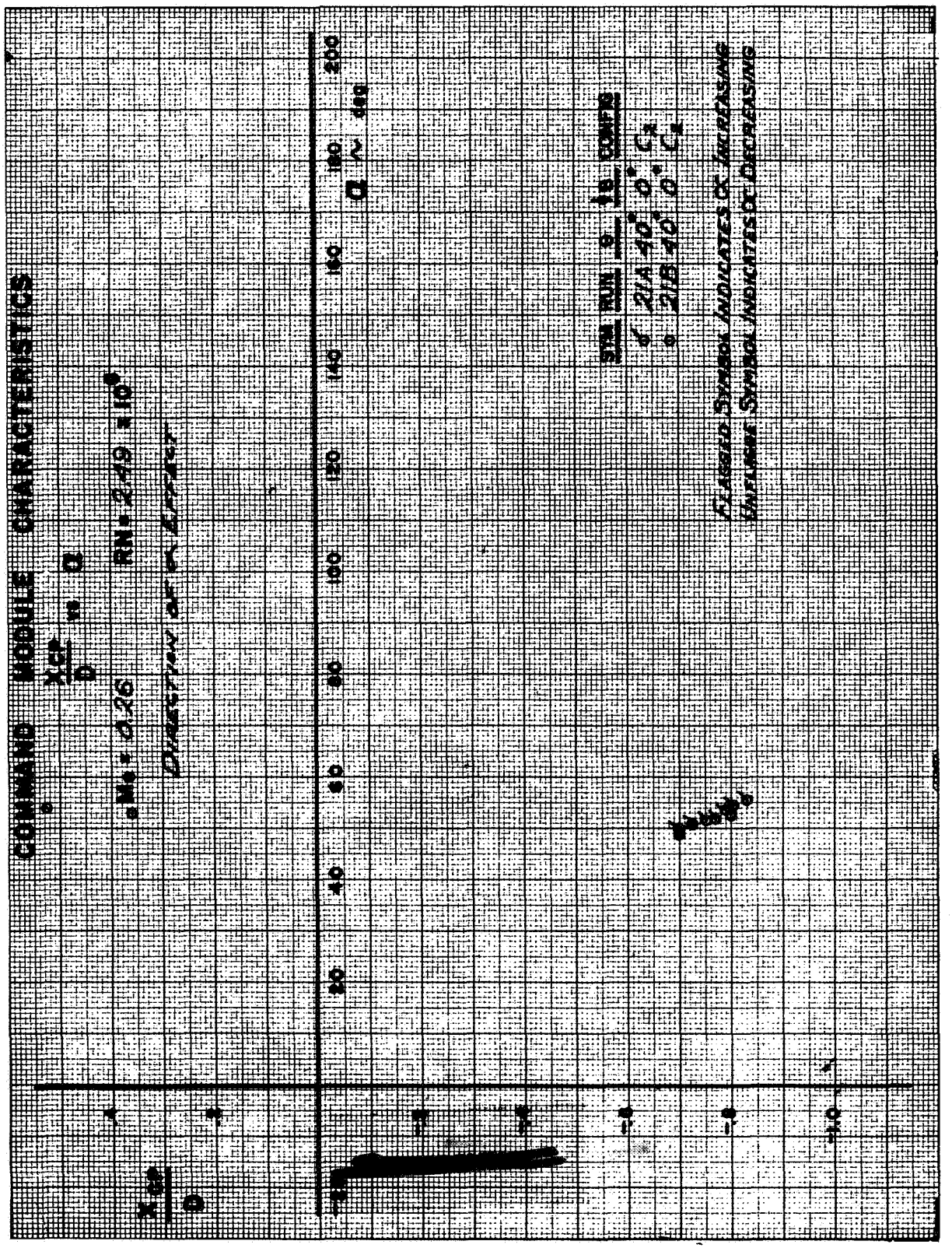

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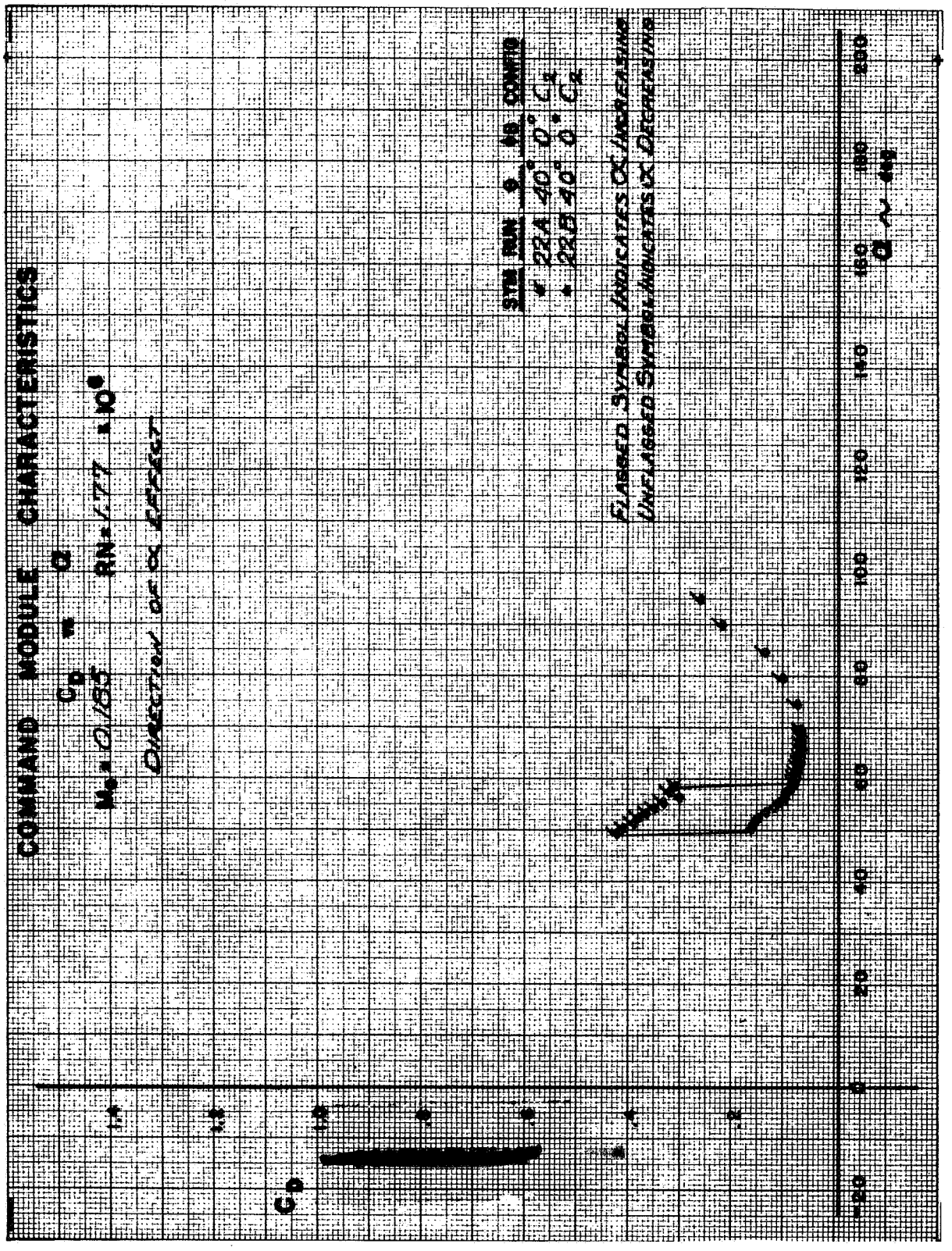

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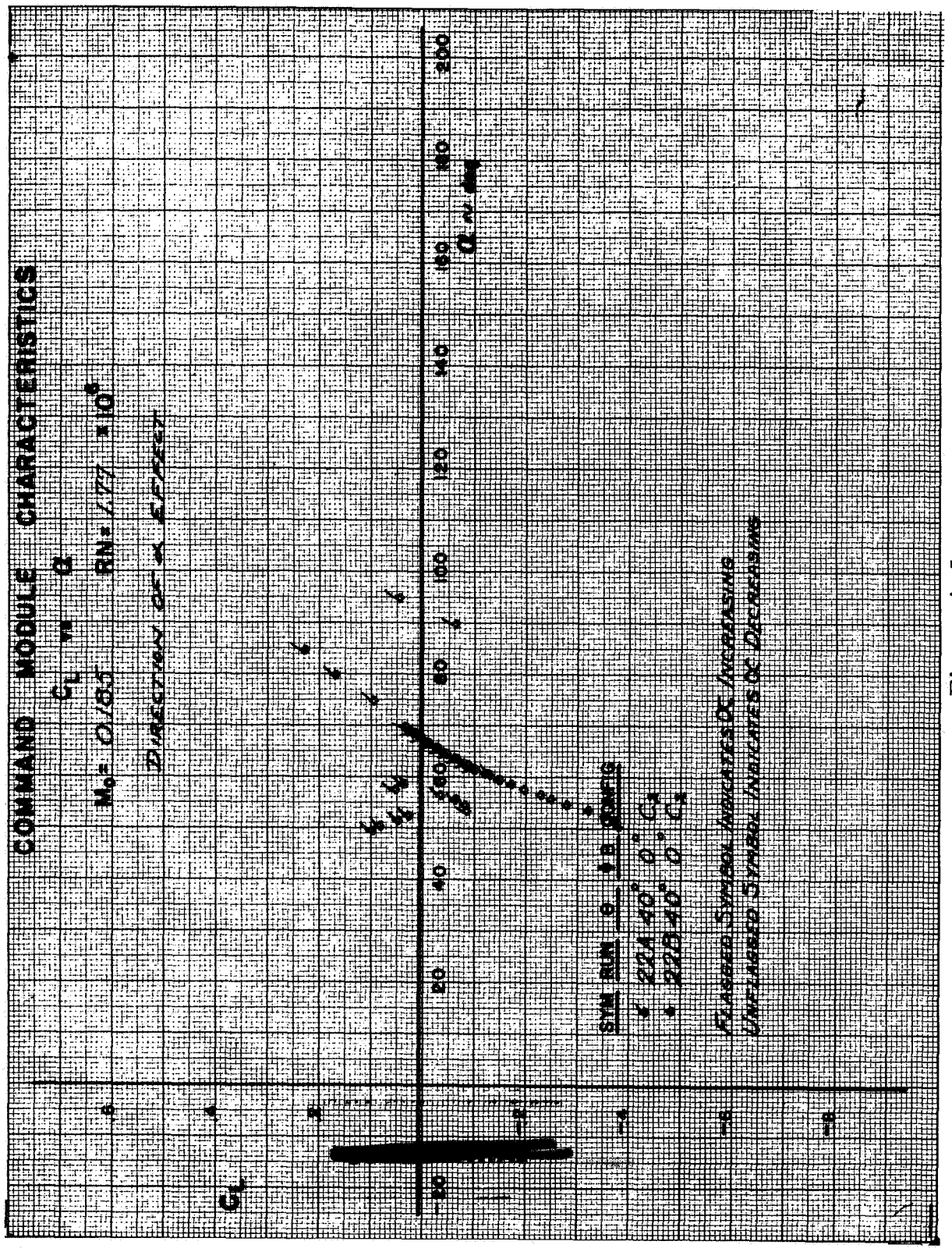

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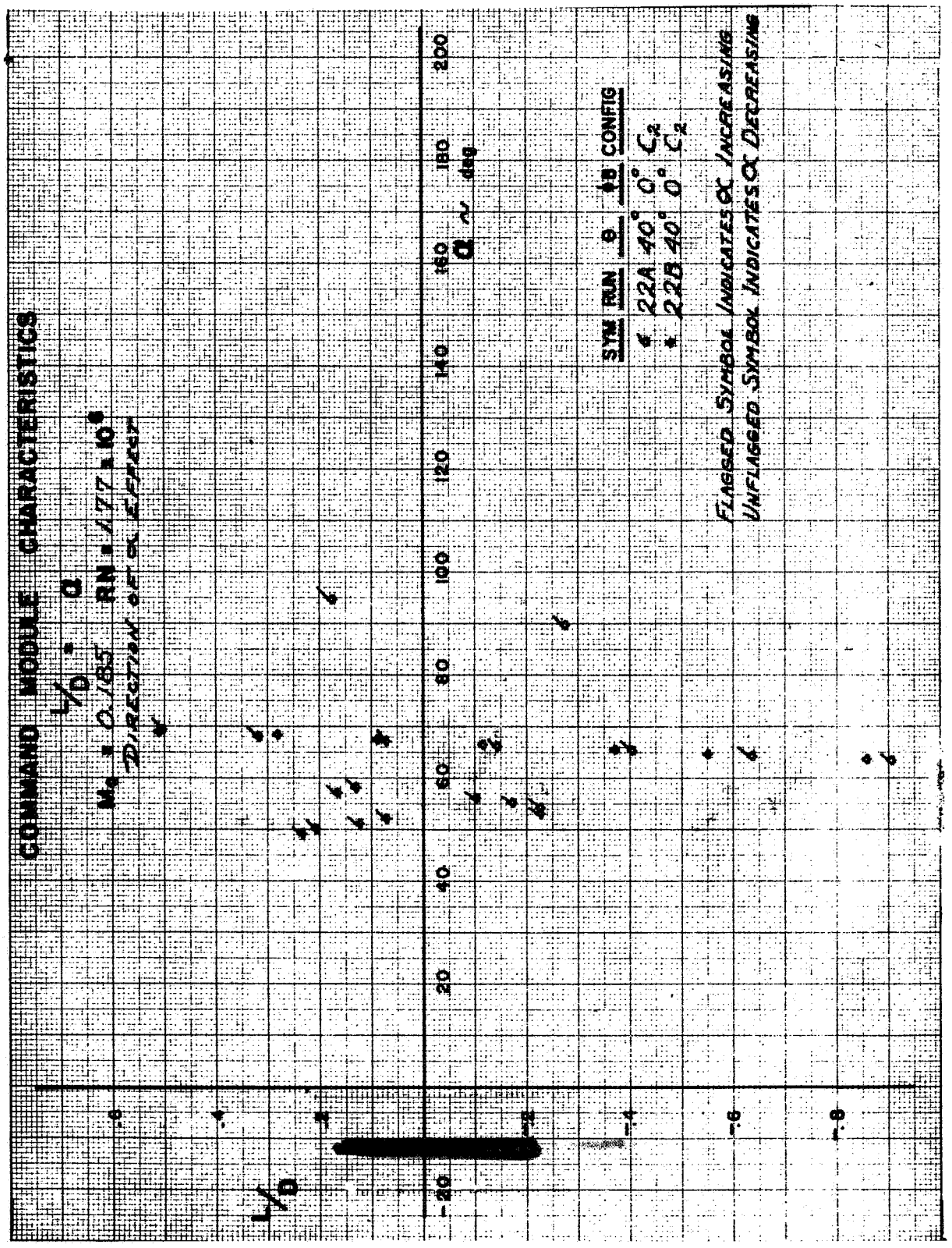

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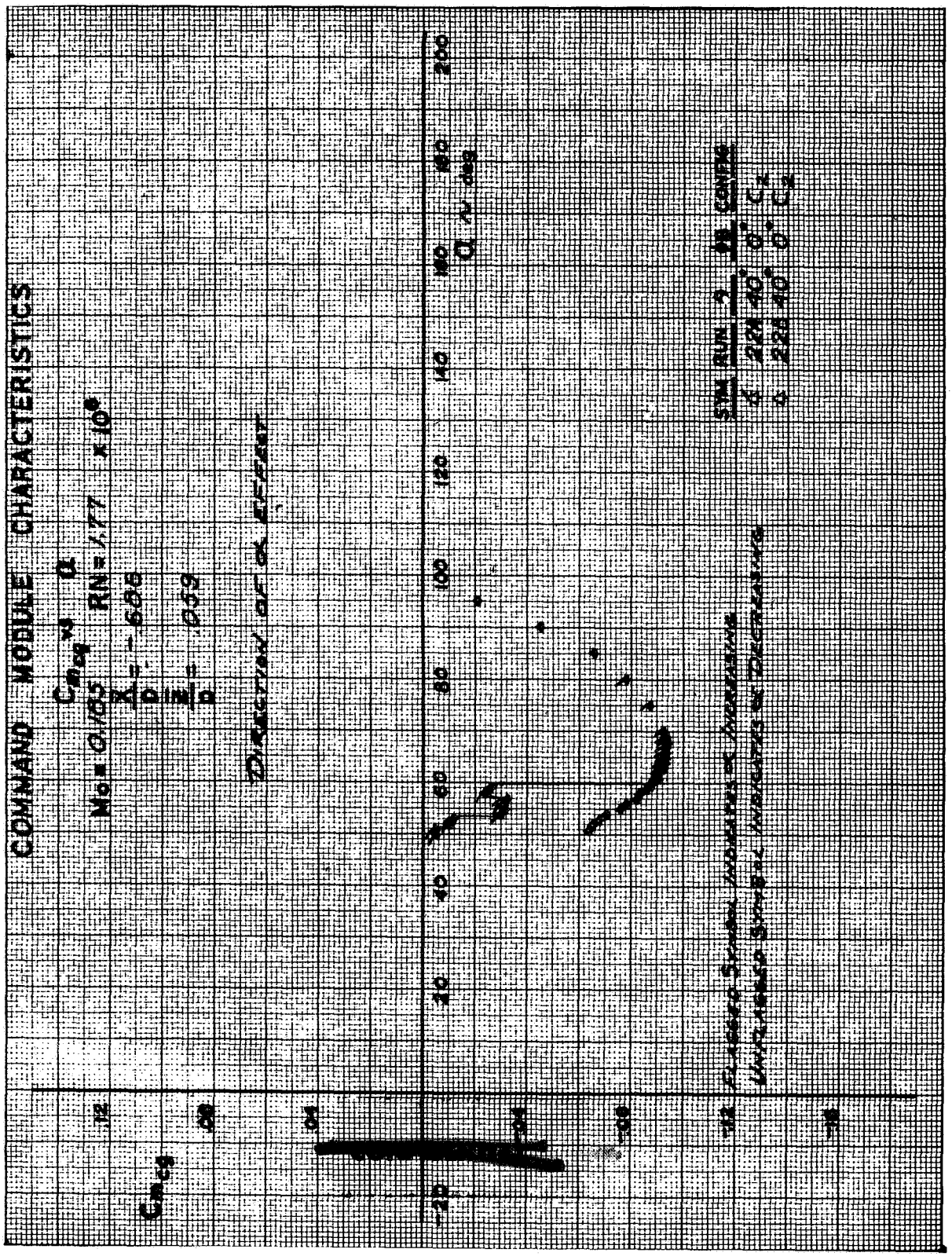

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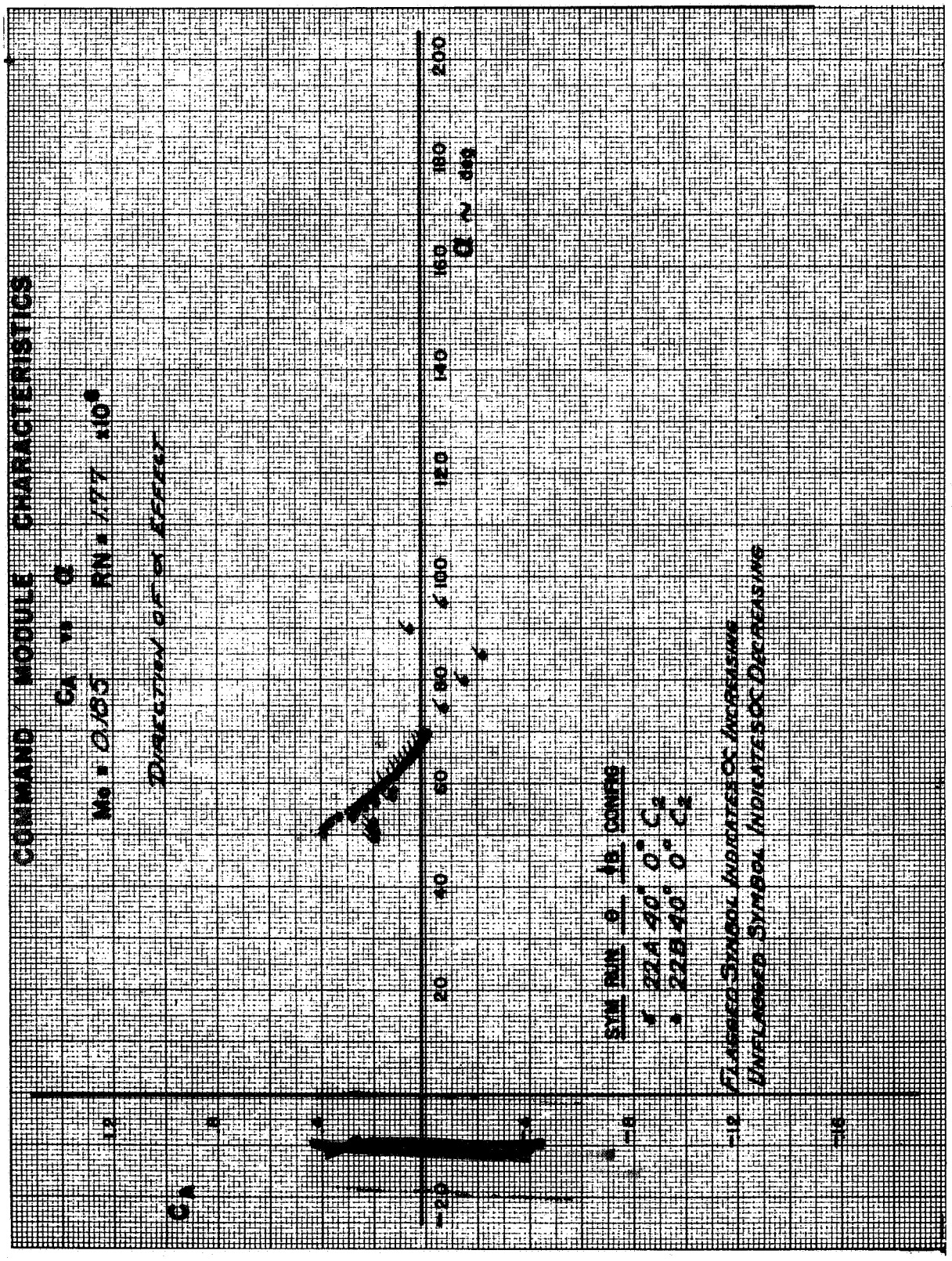

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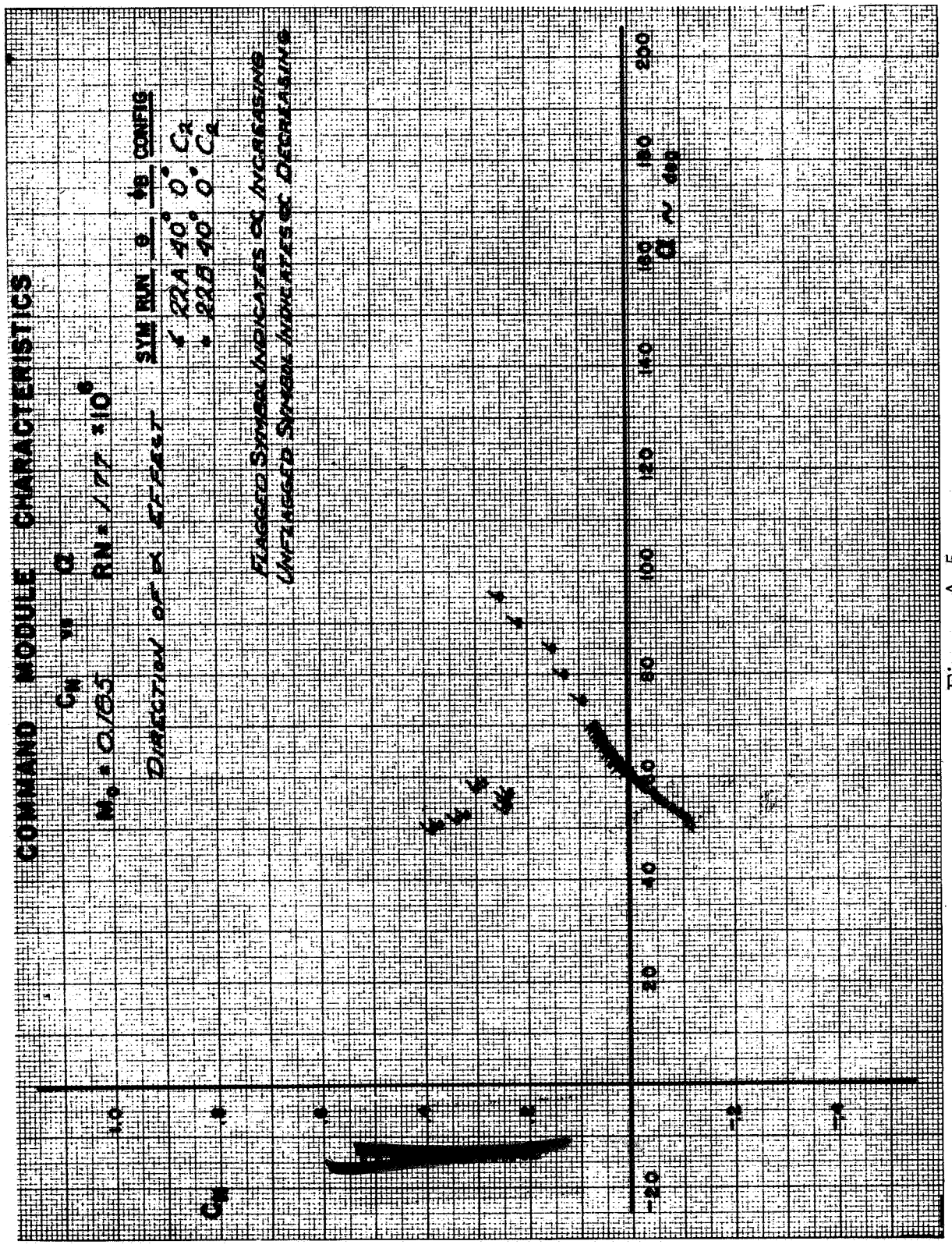

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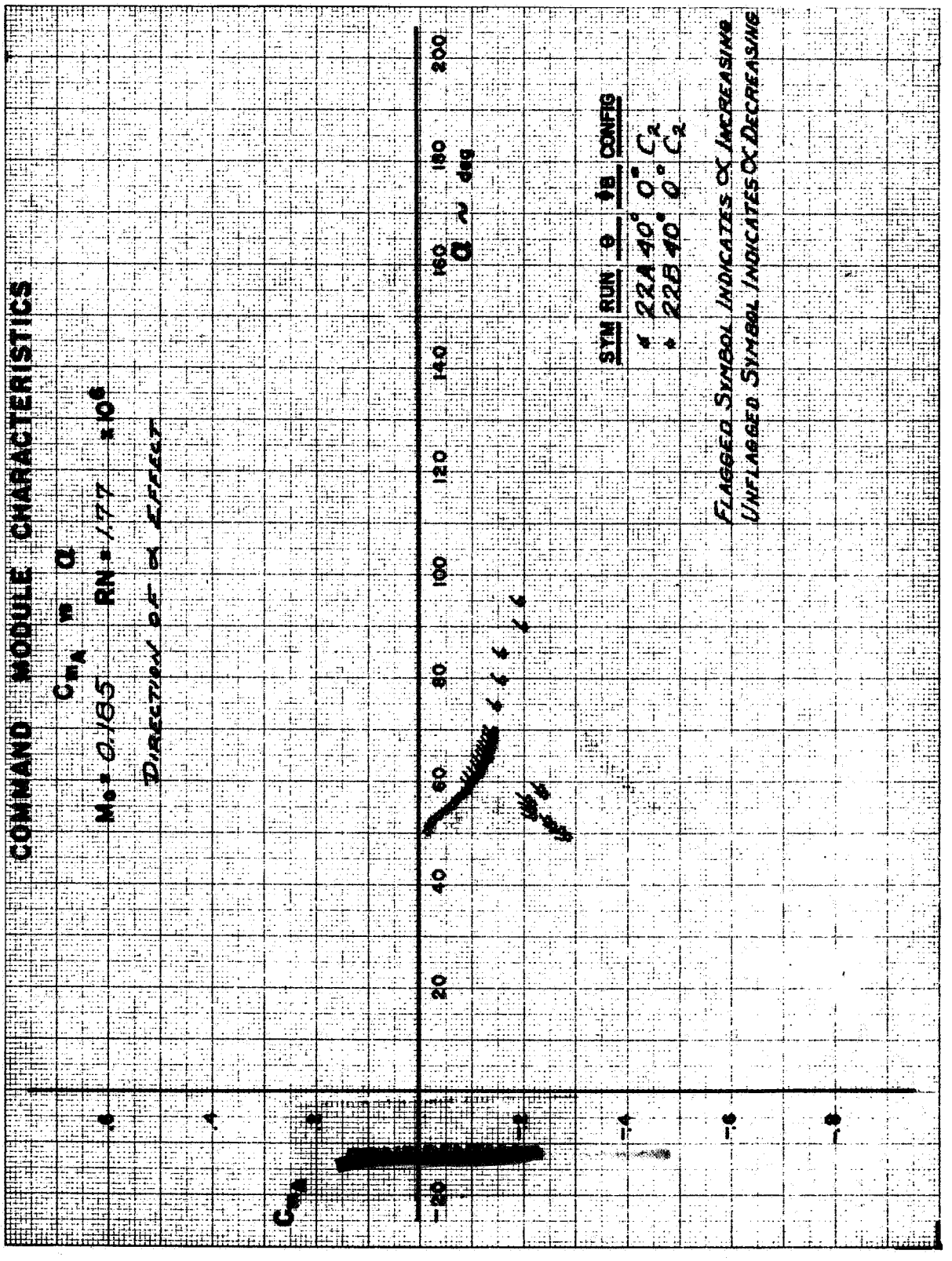

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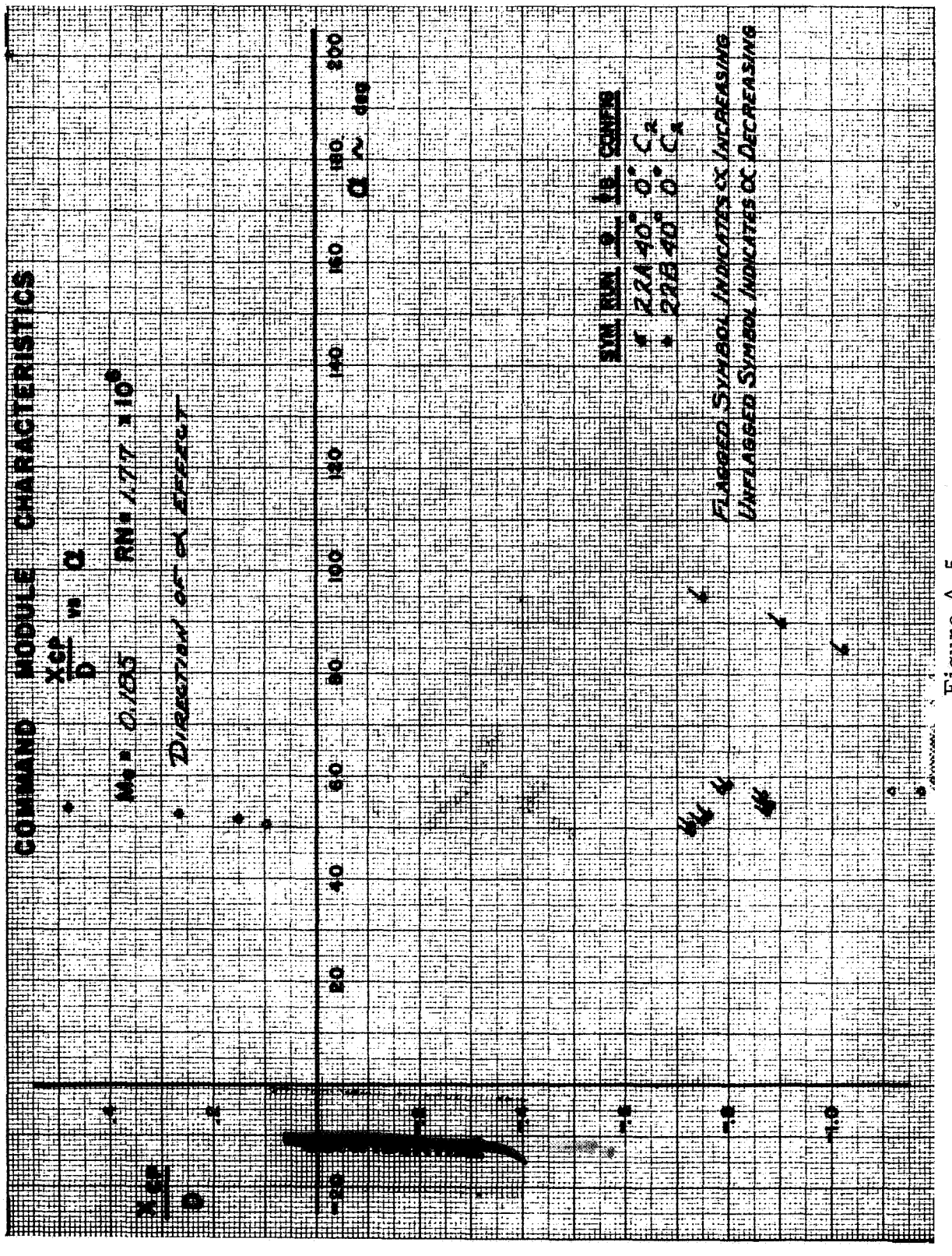

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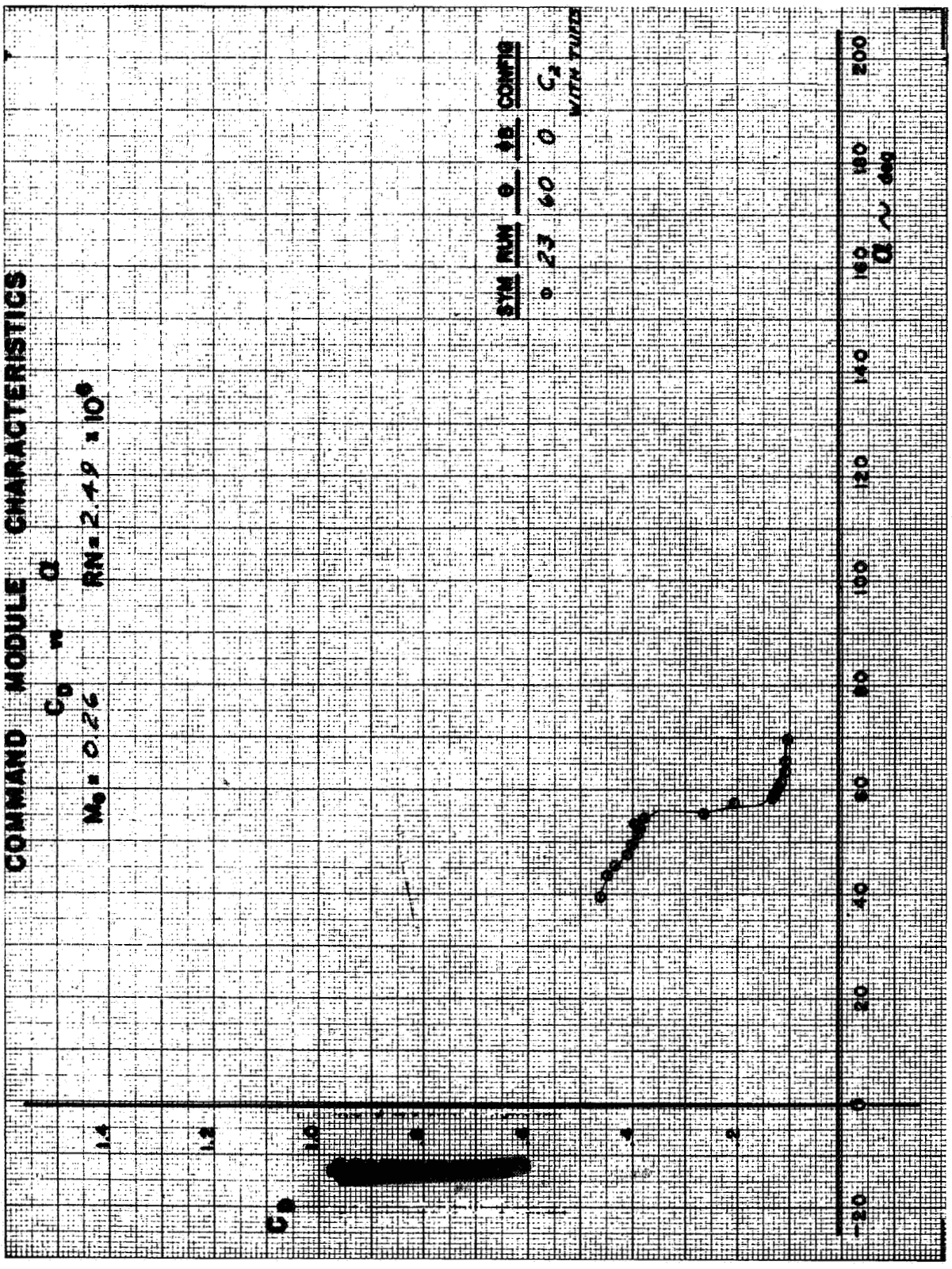

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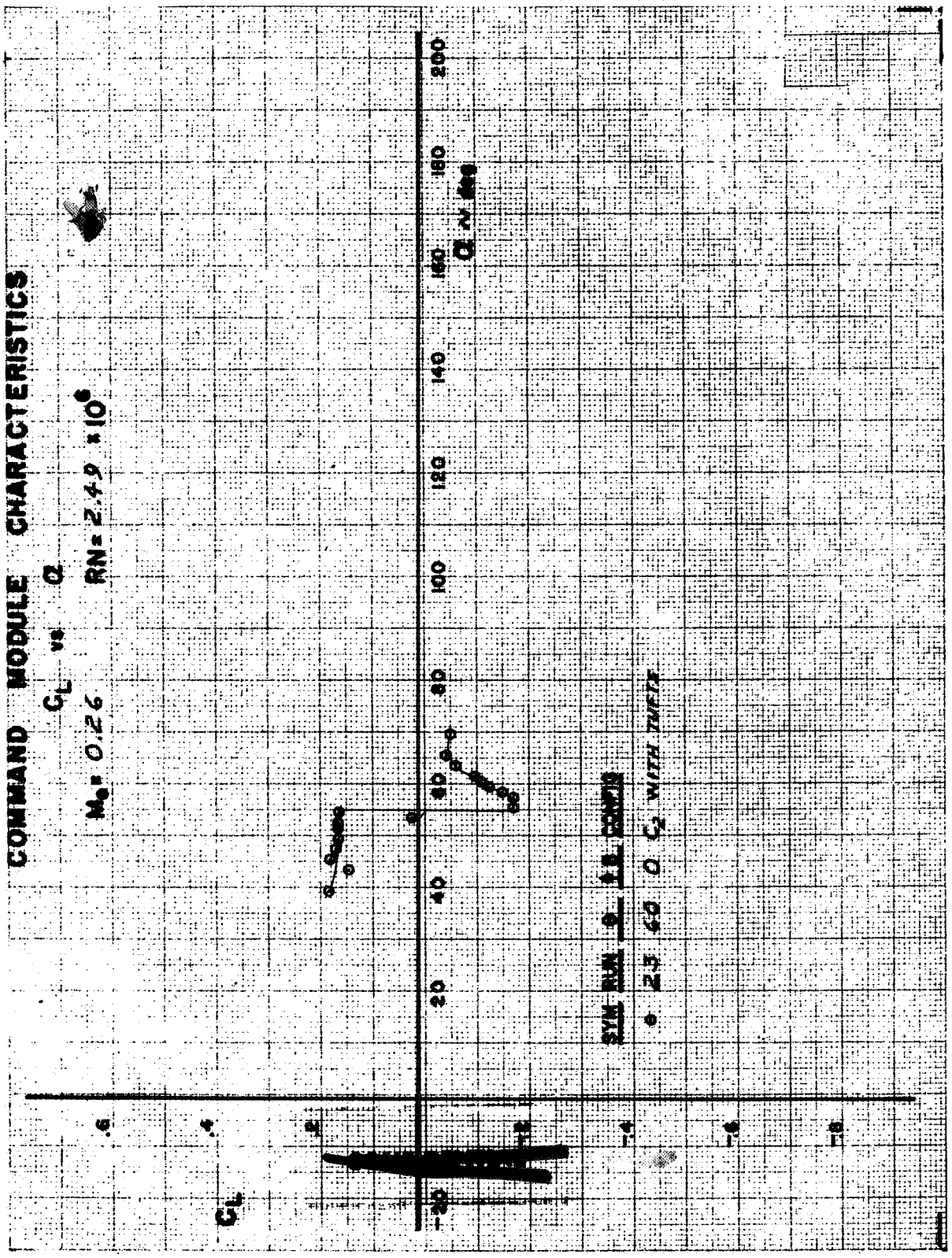

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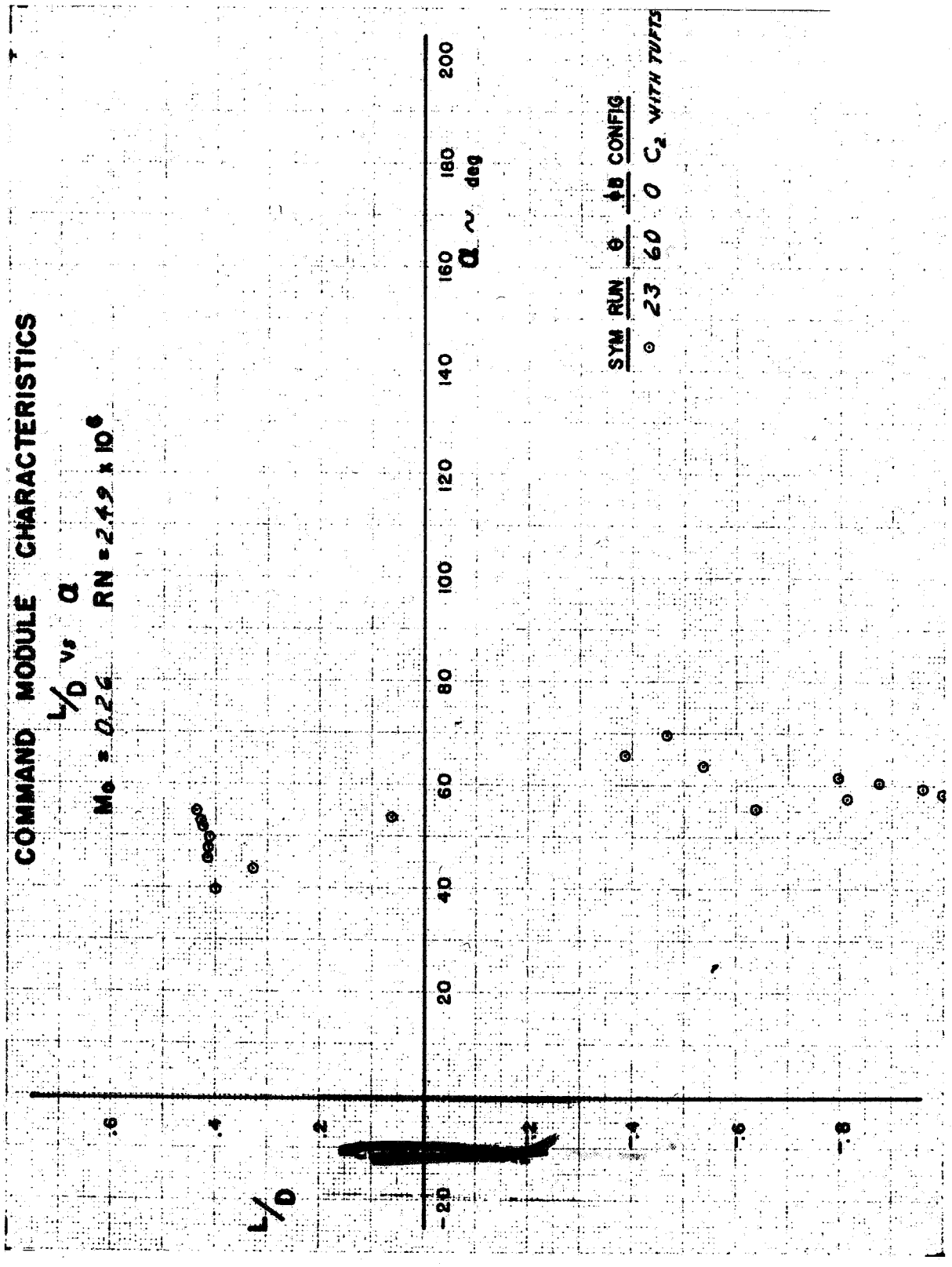

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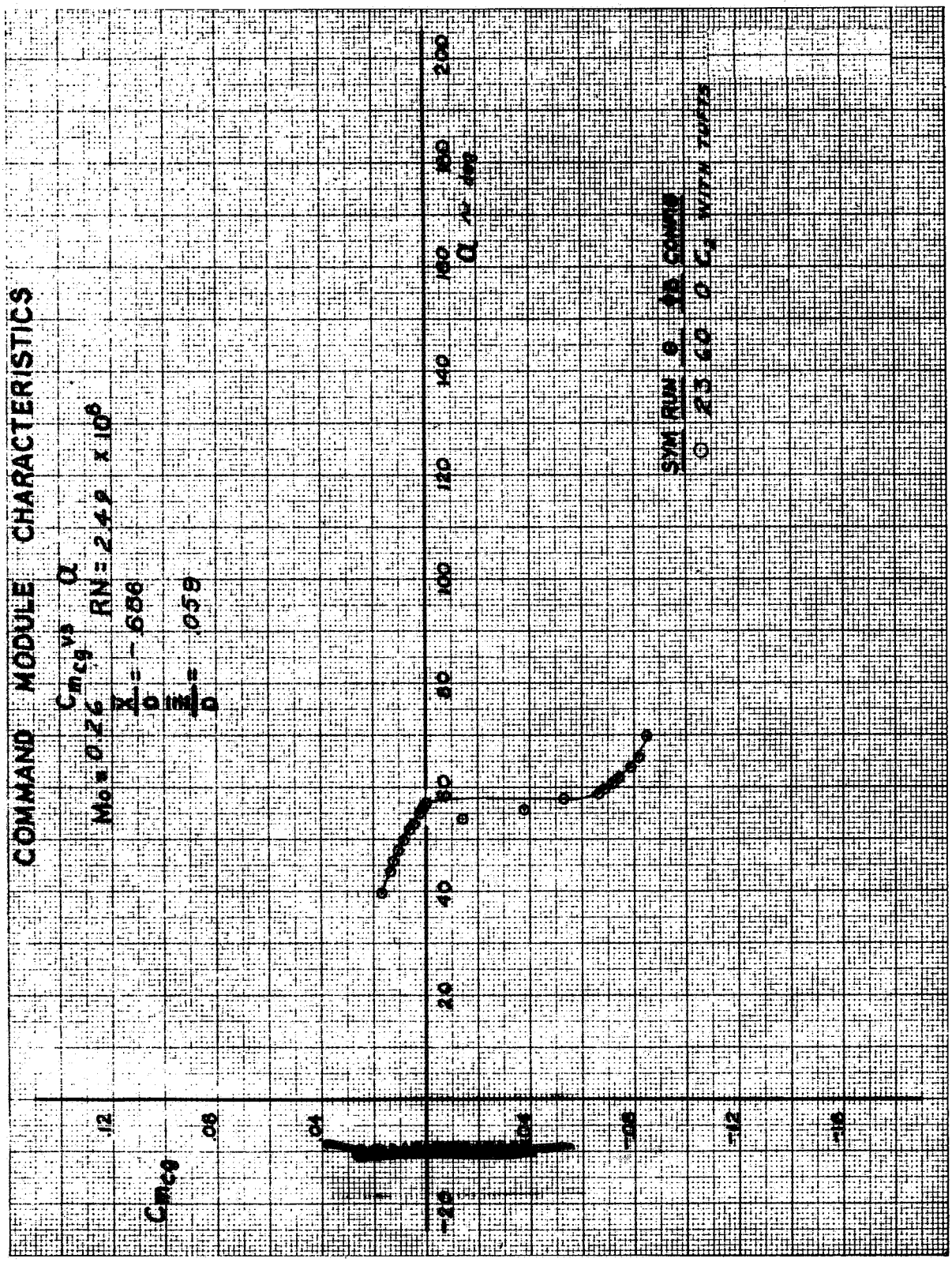

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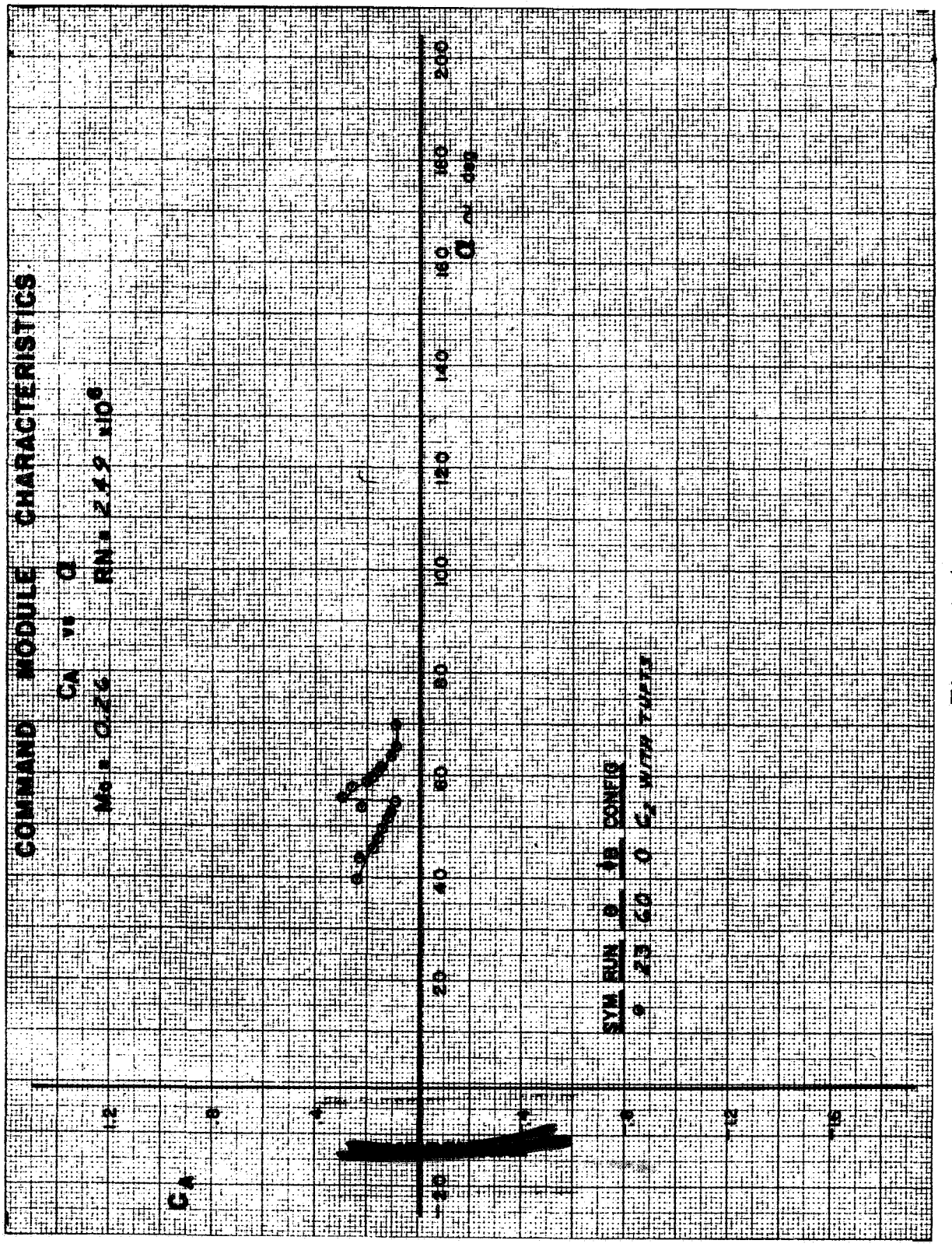

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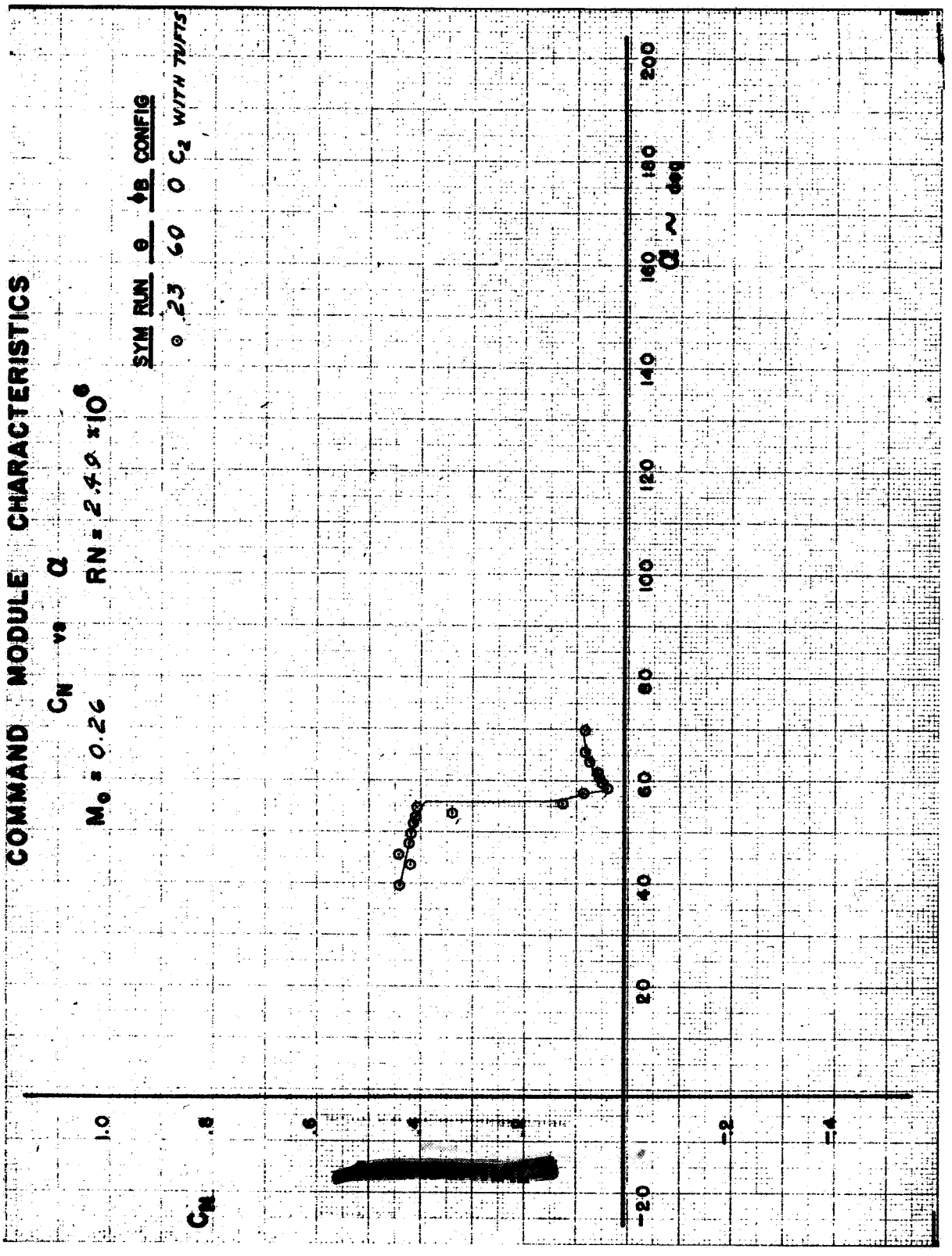

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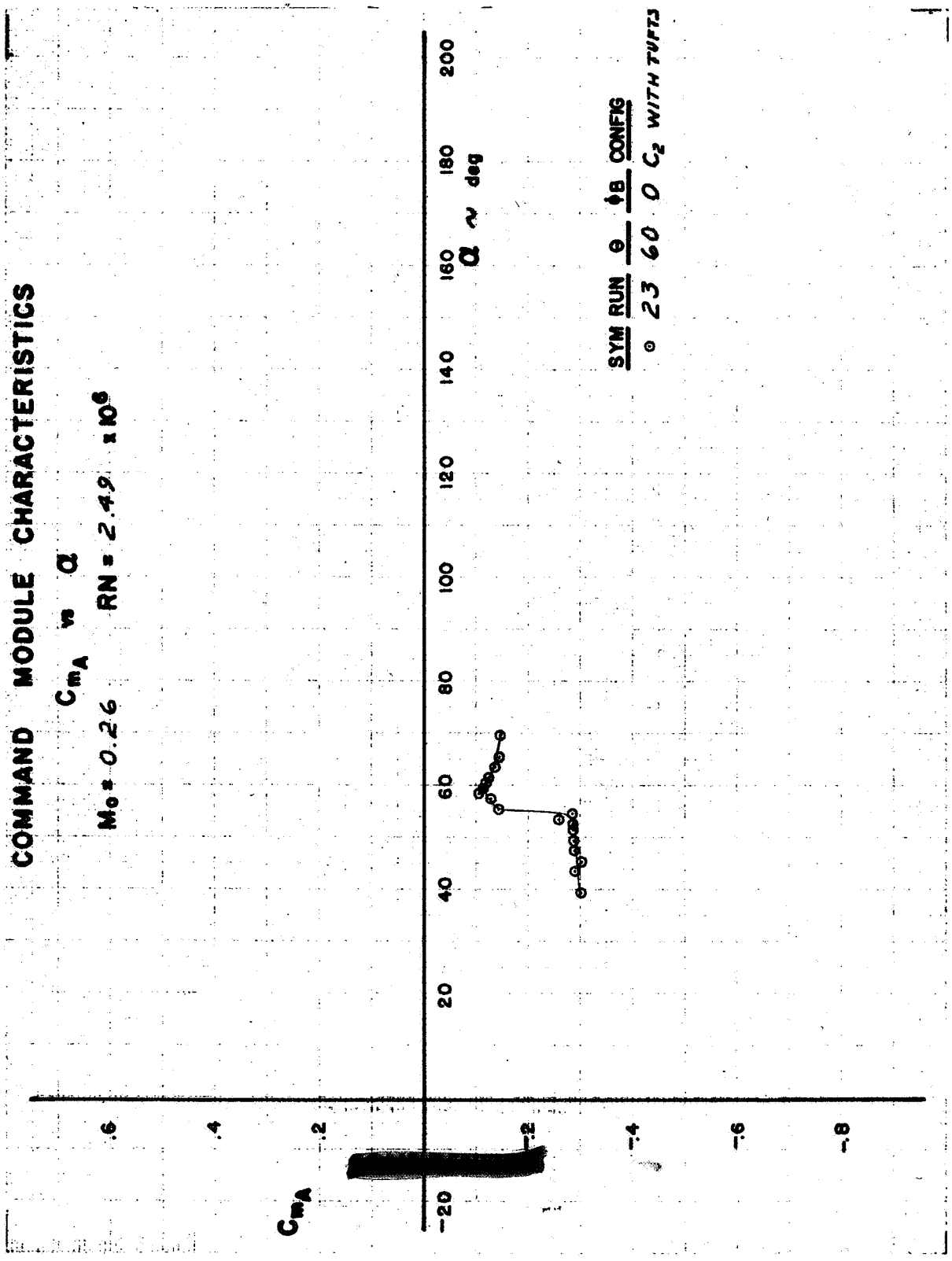

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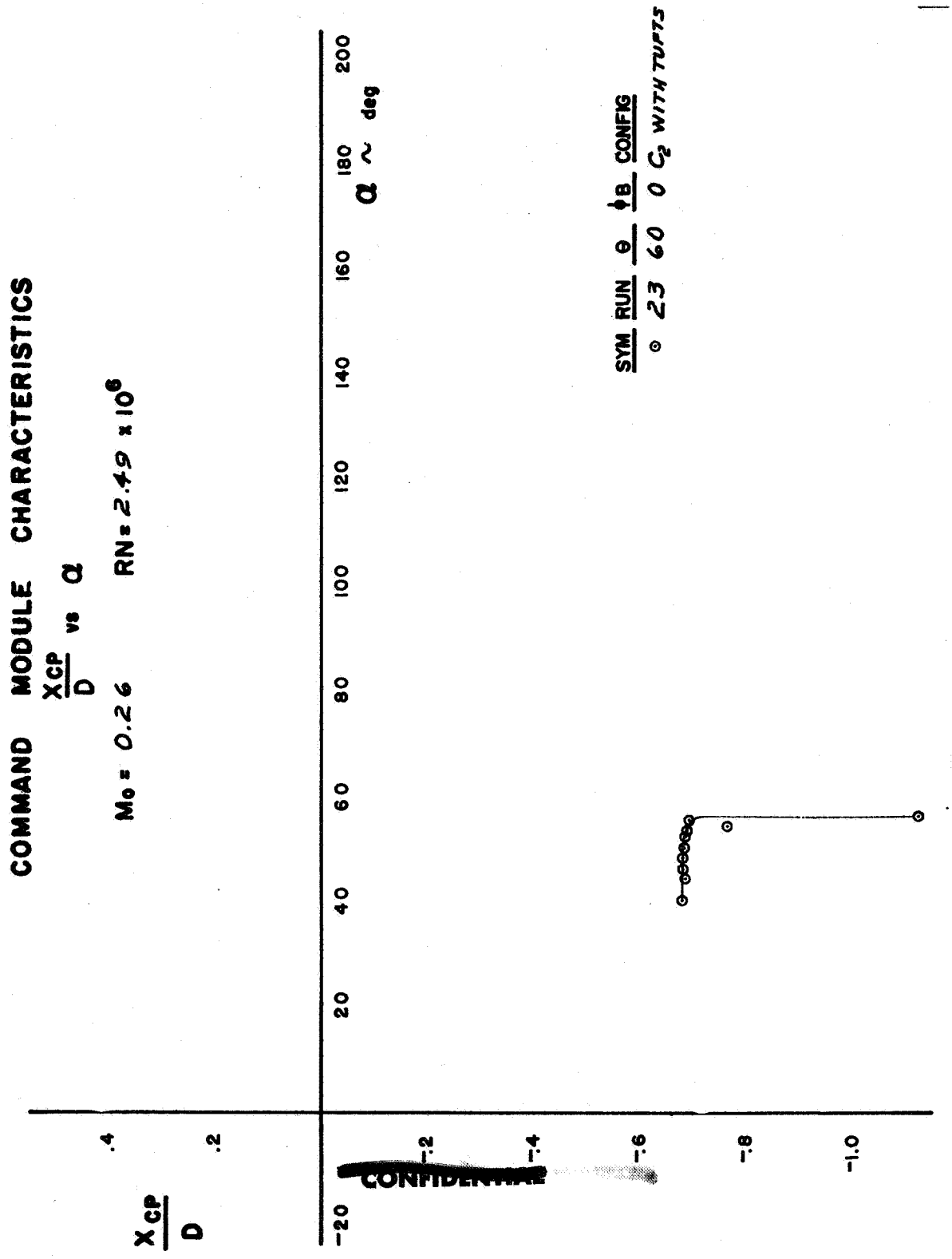

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