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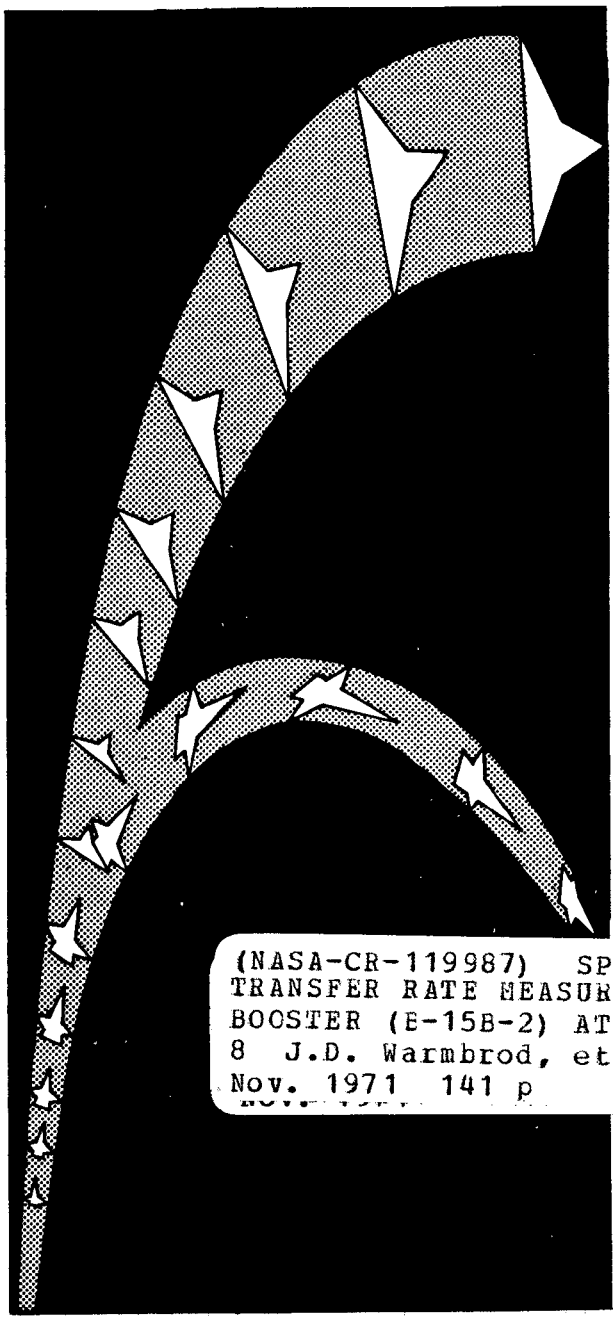

—SPACE SHUTTLE—

HEAT TRANSFER RATE MEASUREMENTS ON CONVAIR BOOSTER (B-15B-2) AT NOMINAL MACH NUMBER OF 8

by

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VFK 50-INCH HYPERSONIC TUNNEL B

ARNOLD ENGINEERING DEVELOPMENT CENTER

SADSAC SPACE SHUTTLE
AEROTHERMODYNAMIC
DATA MANAGEMENT SYSTEM

CONTRACT NAS8-4016
MARSHALL SPACE FLIGHT CENTER

SPACE DIVISION CHRYSLER CORPORATION

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SADSAC/SPACE SHUTTLE

WIND TUNNEL TEST DATA REPORT

CONFIGURATION: Convair Booster (B-15B-2)

TEST PURPOSE: Heat-Transfer Rate Measurement for Reentry of Booster Configuration at Nominal Mach Number of 8

TEST FACILITY: AEDC VKF 50-Inch Hypersonic Tunnel B

TESTING AGENCY: AEDC - MSFC

TEST NO. & DATE: VT 1162-2; May 28, 1971

FACILITY COORDINATOR: Mr. L. L. Trimmer - ARO, Inc.

PROJECT ENGINEER(S): Mr. R. Martindale - ARO, Inc.
Mr. R. K. Matthews - ARO, Inc.
Mr. J. D. Warmbrod - MSFC

DATA MANAGEMENT SERVICES

LIAISON: NA

DATA OPERATIONS: J. R. Ziler

RELEASE APPROVAL: N. E. Kemp, Supervisor
Aero Thermo Data Group

CONTRACT NAS 8-4016 AMENDMENT 153 DRL 184-58

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A B S T R A C T

Plotted and tabulated heat transfer data from the thin-skin thermocouple test phase of a joint AEDC-MSFC experimental test program are presented herein. This document being designated as Volume II of III presents data representative of the reentry event of the booster alone configuration. Volume I of this series presents heat transfer data applicable to the Ascent Configuration, Booster plus Orbiter Configuration.

The model from which these data were generated is a 0.009 scale replica of the Convair B-15B-2 Delta Wing Booster. The test was conducted in the AEDC VKF 50-Inch Hypersonic Tunnel B at a nominal freestream Mach 8, Reynolds number 3.7×10^6 per foot, and angle of attack range of 0 degrees to 60 degrees.

Thermocouple measurements are reduced to heat transfer coefficient ratio (H(TO)/HREF), and these data are presented as plotted variations versus longitudinal, lateral, and vertical local model positions. Tabulated values of these data are presented in the Appendix of this report.

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SUMMARY

A joint AEDC-MSFC experimental test program in the VKF 50-Inch Hypersonic Tunnel B has been conducted to determine detailed heat-transfer distributions on Phase B space shuttle configurations. This report presents the data for the Booster reentry event taken during the thin-skin thermocouple phase of these tests.

The configuration investigated was a 0.009 scale replica of the Convair B-15B-2 booster. Data were obtained at a nominal freestream Mach number of 8 and Reynolds number of 3.7×10^6 per foot. Angle of attack was varied from 0 degrees to 60 degrees. During the higher angle of attack ($\alpha \geq 30$ deg.) portion of the reentry configuration tests it was desired to obtain turbulent boundary layer flow over as large a portion of the model as possible. To accomplish this carborundum grit was placed on the windward surfaces (bottom) of the booster. The application method consisted of dabbing small dots of Barco Bond® expoxy in about 1 inch intervals over the entire bottom surfaces of the model and then sprinkling the surfaces with No. 46 grit ($\approx$ 0.015-in. diameter). Several pieces of grit adhered to each dot, resulting in model surface irregularities approximately 0.025-in. high. Test runs where this technique was used are noted in Table 2 Test Conditions as - grit-on.

Data generated from this test are presented as plotted variations of heat transfer coefficient ratio (H(TO)/HREF) versus non-dimensional longitudinal,

lateral, and vertical local positions of the model. These data are arranged per component of the booster and as a function of angle of attack. Tabulated values of the plotted data are located in the Appendix of this document.

CONFIGURATION INVESTIGATED

The booster model was a 0.009 scale replica of the Convair B-15B-2 Delta Wing Booster furnished by the Convair Aerospace Division of General Dynamics Corporation. It was machined from 17-3 PH steel to a nominal skin thickness of 0.04 inch.

Configuration details are tabulated in Tables 3 through 7 and a model photograph is presented as Figure 1.

MODEL INSTRUMENTATION

The booster model was instrumented with 342 iron-constantan thermocouples of which 291 were used during the booster reentry event of the tests. Thermocouple locations are shown graphically in Figure 2 and a tabulation of the locations of the thermocouples used during booster reentry test is given in Table 1

Thermocouple outputs were recorded on magnetic tape by a Beckman digital data system at the rate of 20 times per second from the start of the model injection cycle until about 5 seconds after the completion of the pitch mode, and the model returned to angle of attack of 0 degrees.

TABLE 1

BOOSTER THERMOCOUPLE COORDINATES

SADSAC NO.	TC NUMBER	FUSELAGE X/L	FUSELAGE PHI
1	1	0.0	0
2	2	0.0137	0
3	3	.0137	180
4	4	.0274	0
5	5		30
6	6		60
7	7		90
8	8		120
9	9		150
10	10		180
11	12	.0543	0
12	13		30
13	14		60
14	15		90
15	16		120
16	17		150
17	18		180
18	20	.079	0
19	23	.103	0
20	24		15
21	25		30
22	26		45
23	27		60
24	28		75
25	29		90
26	31		120
27	33		150
28	35		180
29	38	.143	0
30	41	.169	0
31	42		15
32	43		30
33	44		45
34	45		60
35	46		75
36	47		90
37	49		120
38	51		150
39	53		180
40	400	.242	0
41	401		15
42	402		30
43	403		45
44	404		60
45	405		75
46	406		90
47	408		120
48	410		150
49	412		180
50	413	.283	0
51	414		15
52	415		30
53	416		45
54	417		60
55	418		75
56	419		90
57	420		105
58	421		120
59	422		135
60	423		150
61	425		180
62	426	.316	0
63	427		15
64	428		30
65	429		45
66	430		60
67	431		75
68	432		90
69	433		105
70	434		120
71	435		135
72	436		150
73	437		165
74	438		180
75	439	.354	0
76	440		15
77	441		30
78	442		45
79	443		60
80	444		75
81	445		90
82	446		105
83	447		120
84	448		135
85	450		165
86	451		180

SADSAC NO.	TC NUMBER	FUSELAGE X/L	FUSELAGE PHI
87	452	.380	0
88	454		30
89	455		45
90	456		60
91	457		75
92	458		90
93	459		105
94	460		120
95	461		135
96	462		150
97	464		180
98	106	.440	0
99	107		30
100	108		60
101	109		90
102	110		120
103	111		150
104	112		180
105	113	.488	0
106	114		37.3
107	115		60
108	116		90
109	117		120
110	118		150
111	119		180
112	120	.520	0
113	121	.550	0
114	122		30
115	195		43
116	123		60
117	125		75
118	126		82.5
119	127		90
120	129		120
121	130		150
122	131		180
123	132	.586	0
124	133	.625	0
125	134		60
126	136		75
127	138		90
128	140		120
129	141		150
130	142		180
131	143	.660	0
132	144	.700	0
133	145		30
134	146		60
135	148		75
136	149		82.5
137	150		90
138	152		120
139	153		150
140	154		180
141	155	.734	0
142	156	.770	0
143	157		30
144	158		60
145	159		90
146	160		120
147	161		150
148	162		180
149	163	.800	0
150	164	.830	0
151	165		30
152	166	.862	0
153	167	.895	0
154	168		30
155	169		60
156	170		90
157	171		120
158	172		150
159	173	.928	0
160	174	.960	0

		UPPER CANARD SURFACE X/C	UPPER CANARD SURFACE Y/S
161	350	0.0	.25
162	351	.25	
163	352	.50	
164	353	.70	
165	357	0.0	.50
166	358	.25	
167	359	.50	
168	360	.70	

TABLE 1 (CONT.)

BOOSTER THERMOCOUPLE COORDINATES

SADSAC NO.	TC NUMBER	LOWER CANARD SURFACE X/C	Y/S
169	354	.25	.25
170	355	.50	↓
171	356	.70	
172	361	.25	.50
173	362	.50	↓
174	363	.70	
		VERTICAL STABILIZER	
		X/C	Z/S
175	175	0.0	.10
176	176	.10	↓
177	177	.25	
178	178	.50	
179	179	.75	
180	180	0.0	.25
181	181	.10	↓
182	182	.25	
183	183	.50	
184	184	.75	
185	185	0.0	.50
186	186	.1	↓
187	187	.25	
188	188	.50	
189	189	.75	
190	190	0.0	.75
191	191	.10	↓
192	192	.25	
193	193	.50	
194	194	.75	
		UPPER WING SURFACE	
		X/C	Y/S
195	201	.10	.10
196	202	.20	↓
197	203	.33	
198	204	.40	
199	205	.60	
200	206	.70	
201	207	.91	
202	231	.10	.25
203	232	.40	↓
204	233	.50	
205	234	.60	
206	235	.833	
207	236	.867	
208	237	.901	
209	238	.935	
210	278	.10	.50
211	280	.40	↓
212	281	.50	
213	282	.60	
214	283	.877	
215	297	.10	.60
216	299	.40	↓
217	300	.60	
218	301	.793	
219	302	.851	
		LOWER WING SURFACE	
		X/C	Y/S
220	200	0.0	.10
221	208	.10	↓
222	209	.20	
223	210	.33	
224	211	.40	.15
225	212	.60	.15
226	213	.70	.10
227	214	.91	.10
228	215	0.0	.15
229	216	.05	.15
230	217	0.0	.20
231	224	.05	↓
232	225	.10	
233	226	.20	
234	227	.40	
235	228	.60	
236	229	.70	
237	230	0.0	.25
238	239	.05	↓
239	240	.10	
240	241	.40	

SADSAC NO.	TC NUMBER	LOWER WING SURFACE X/C	Y/S
241	242	.50	.25
242	243	.60	↓
243	244	.833	
244	245	.867	
245	246	.901	
246	247	.935	
247	248	0.0	.30
248	253	.05	↓
249	254	.10	
250	255	.15	
251	256	.20	
252	257	.40	
253	258	.60	
254	259	0.0	.35
255	261	.05	↓
256	262	.10	
257	263	0.0	.40
258	267	.05	↓
259	268	.10	
260	269	.15	
261	270	.20	
262	271	.40	
263	272	.60	
264	273	0.0	.45
265	276	.10	.45
266	277	0.0	.50
267	284	.05	↓
268	285	.10	
269	286	.15	
270	287	.20	
271	288	.40	
272	289	.50	
273	290	.60	
274	291	.877	
275	292	0.0	.55
276	294	.05	↓
277	295	.10	
278	296	0.0	.60
279	303	.05	↓
280	304	.10	
281	305	.20	
282	306	.40	
283	307	.50	
284	308	.60	
285	309	.793	
286	310	.851	
287	313	.05	.65
288	314	.10	.65
289	318	.10	.70
290	319	.20	↓
291	320	.50	

TABLE 1 (Continued)

BOOSTER WING THERMOCOUPLE COORDINATES

WING THERMOCOUPLE IDENTIFICATION NUMBERS
o - Lower Surface
• - Upper Surface

% Span	% Chord													
	0% (L.E.)	5%	10%	15%	20%	33%	40%	50%	60%	70%	81%			
10% Upper	200		201		202	203	204		205	206	207			
10% Lower			208		209	210				213	214			
15% Upper	215													
15% Lower		216					211		212					
20% Upper	217	218	219		220		221		222	223				
20% Lower		224	225		226		227		228	229	83.3%	86.7%	90.1%	93.5%
25% Upper	230		231				232	233	234		235	236	237	238
25% Lower		239	240				241	242	243		244	245	246	247
30% Upper	248		249		250		251		252					
30% Lower		253	254	255	256		257		258					
35% Upper	259		260											
35% Lower		261	262											
40% Upper	263		264				265		266					
40% Lower		267	268	269	270		271		272					
45% Upper	273		274											
45% Lower		275	276								87.7%			
50% Upper	277		278		279		280	281	282		283			
50% Lower		284	285	286	287		288	289	290		291			
55% Upper	292		293											
55% Lower		294	295								82%	88.1%		
60% Upper	296		297		298		299		300		301	302		
60% Lower		303	304		305		306	307	308		309	310		
65% Upper		311	312											
65% Lower		313	314											
70% Upper			315		316			317						
70% Lower			318		319			320						

TEST FACILITY DESCRIPTION

Tunnel B is a continuous, closed-circuit, variable density wind tunnel with an axisymmetric contoured nozzle and a 50-in.-diam. test section. The tunnel can be operated at a nominal Mach number of 6 or 8 at stagnation pressures from 20 to 300 and 50 to 900 psia, respectively, at stagnation temperatures up to 1350°R. The model may be injected into the tunnel for a test run and then retracted for model cooling or model changes without interrupting the tunnel flow.

TABLE 2

TEST CONDITIONS

TEST TITLE: AEDC-MSFC Phase B Heating Study - Thin-Skin Thermocouple Phase

TEST NUMBER: VT1162 **TEST FACILITY:** AEDC Tunnel B

TEST DATE: May 26-29, 1971 **TEST ENGINEER:** W. R. Martindale & R. K. Matthews

Run No.	Model Configuration Identification	δ_c	δ_e	Model Scale	Free Stream Mach Number	Total Pressure (psia)	Total Temp. (^oR)	T_{aw} * / T_{total}	RNX10^6/Ft	Phase Change Temp. (^oF)	Booster-Orbiter Spacing (in.) XD	ZD	GRIT	Model Position (degrees) β	ϕ_M	α
1	Booster + Orbiter	0	0	0.009	8.00	857	1339	1.00	3.75	NA	2.22	.234	Off	0	0	0
2	↓	↓	↓	↓	↓	858	1347	↓	3.72	↓	↓	↓	↓	↓	↓	-5
3	↓	↓	↓	↓	↓	856	1346	↓	3.72	↓	↓	↓	↓	↓	↓	5
4	↓	↓	↓	↓	↓	858	1341	↓	3.75	↓	1.72	↓	↓	↓	↓	0
5	↓	↓	↓	↓	↓	859	1347	↓	3.73	↓	2.72	↓	↓	↓	↓	↓
6	↓	↓	↓	↓	↓	858	1338	↓	3.76	↓	2.22	.118	↓	↓	↓	↓
7	↓	↓	↓	↓	↓	859	1346	↓	3.73	↓	↓	.318	↓	↓	↓	↓
8	↓	↓	↓	↓	7.93	149	1249	↓	0.74	↓	↓	.234	↓	↓	↓	↓
9	↓	↓	↓	↓	↓	148	1234	↓	0.75	↓	↓	↓	↓	↓	↓	-5
10	↓	↓	↓	↓	↓	151	1233	↓	0.77	↓	↓	↓	↓	↓	↓	5
11	↓	↓	↓	↓	8.00	857	1342	↓	3.74	↓	↓	↓	↓	-5	↓	0
12	Booster	↓	↓	↓	↓	861	1342	↓	3.76	↓	-	-	↓	0	↓	↓
13	↓	↓	↓	↓	↓	860	1341	↓	3.75	↓	-	-	↓	↓	↓	-5

** X axis parallel to stream (+downstream, -upstream)
Y axis (+right, -left, as viewed from the rear)
Z axis (+up, -down)

* T_{aw} = adiabatic wall temperature

TABLE 2 - Continued

TEST CONDITIONS

TEST TITLE: AEDC-MSFC Phase B Heating Study - Thin-Skin Thermocouple Phase

TEST NUMBER: VT1162 **TEST FACILITY:** AEDC Tunnel B

TEST DATE: May 26-29, 1971 **TEST ENGINEER:** W. R. Martindale & R. K. Matthews

Run No.	Model Configuration Identification	δ_c	δ_e	Model Scale	Free Stream Mach Number	Total Pressure (psia)	Total Temp. (^oR)	$\frac{T_{aw}*}{T_{total}}$	$\frac{RNX10^6}{Ft}$	Phase Change Temp. (^oF)	Booster-Orbiter Spacing (in.) XD	ZD	GRIT	Model Position (degrees) β	ϕ_M	α
14	Booster	0	0	0.009	8.00	858	1347	1.00	3.72	NA	-	-	Off	0	0	5
15	"	"	"	"	7.93	149	1225	"	0.76	"	"	"	"	"	"	0
16	"	"	"	"	"	150	1223	"	0.77	"	"	"	"	"	"	-5
17	"	"	"	"	"	149	1219	"	0.77	"	"	"	"	"	"	5
18	"	60	"	"	8.00	857	1353	"	3.69	"	"	"	"	"	"	60
19	"	50	"	"	"	855	1340	"	3.74	"	"	"	"	"	"	50
20	"	40	"	"	"	857	1338	"	3.76	"	"	"	"	"	"	40
21	"	40	"	"	"	856	1342	"	3.73	"	"	"	On	"	"	40
22	"	60	"	"	"	860	1343	"	3.75	"	"	"	On	"	"	60
23	"	10	"	"	"	856	1344	"	3.73	"	"	"	Off	"	"	10
24	"	20	"	"	"	856	1342	"	3.73	"	"	"	"	"	"	20
25	"	30	"	"	"	857	1346	"	3.72	"	"	"	"	"	"	30
26	"	30	-15	"	"	857	1342	"	3.74	"	"	"	"	"	"	30

** X axis parallel to stream (+downstream, -upstream)
Y axis (+right, -left, as viewed from the rear)
Z axis (+up, -down)

* T_{aw} = adiabatic wall temperature

TABLE 2 - Continued

TEST CONDITIONS

TEST TITLE: AEDC-MSFC Phase B Heating Study - Thin-Skin Thermocouple Phase

TEST NUMBER: VT1162 **TEST FACILITY:** AEDC Tunnel B

TEST DATE: May 26-29, 1971 **TEST ENGINEER:** W. R. Martindale & R. K. Matthews

Run No.	Model Configuration Identification	δ_c	δ_e	Model Scale	Free Stream Mach Number	Total Pressure (psia)	Total Temp. (^oR)	$\frac{T_{aw}*}{T_{total}}$	$\frac{RNX10^6}{Ft}$	Phase Change Temp. (^oF)	Booster-Orbiter Spacing (in.) XD	ZD	GRIT	Model Position (degrees) β	ϕ_M	α
27	Booster	30	15	0.009	8.00	859	1342	1.00	3.74	NA	-	-	Off	0	0	30
28	Booster	0	0			858	1342		3.74							0
29	Orbiter	-				859	1339		3.76				On			50
30						857	1337		3.76				On			40
31						857	1343		3.74				On			30
32						856	1340		3.74				Off			30
33						856	1343		3.73							40
34						858	1347		3.72							50
35						555	1305		2.52							50
36						553	1311		2.50							40
37						554	1311		2.50							30
38						554	1308		2.51							20
39						553	1307		2.51							10

** X axis parallel to stream (+downstream, -upstream)
Y axis (+right, -left, as viewed from the rear)
Z axis (+up, -down)

* T_{aw} = adiabatic wall temperature

TABLE 2 - Concluded

TEST CONDITIONS

TEST TITLE: AEDC-MSFC Phase B Heating Study - Thin-Skin Thermocouple Phase

TEST NUMBER: VT1162 **TEST FACILITY:** AEDC Tunnel B

TEST DATE: May 26-29, 1971 **TEST ENGINEER:** W. R. Martindale & R. K. Matthews

Run No.	Model Configuration Identification	δ_c	δ_e	Model Scale	Free Stream Mach Number	Total Pressure (psia)	Total Temp. (^oR)	$\frac{T_{aw}*}{T_{total}}$	$\frac{RNX10^6}{Ft}$	Phase Change Temp. (^oF)	Booster-Orbiter Spacing (in.) XD	ZD	GRIT	Model Position (degrees) β	ϕ_M	α
40	Orbiter	-	0	0.009	7.94	166	1254	1.00	0.82	NA	-	-	Off	0	0	10
41						165	1237		0.83							20
42						166	1228		0.84							30
43						167	1232		0.85							5
44						167	1237		0.84							0
45						165	1241		0.83							-5
46					8.00	856	1324		3.81							-5
47						863	1335		3.79							0
48						861	1344		3.75							20
49						856	1342		3.74							10
50						858	1344		3.74				*** On			10
51			-10			858	1346		3.73				Off			30

** X axis parallel to stream (+downstream, -upstream)
Y axis (+right, -left, as viewed from the rear)
Z axis (+up, -down)

* T_{aw} = adiabatic wall temperature

***Nose only

DATA REDUCTION

The reduction of thin-skin thermocouple data normally involves only the calorimetric heat balance which in coefficient form is:

$$h = wb\ c_p \left(\frac{dT_w/dt}{T_o - T_w} \right) \tag{1}$$

Radiation and conduction losses are neglected in this heat balance and data reduction simply requires evaluation of dT_w/dt from the temperature-time data and determination of model material properties. For the present tests radiation effects were negligible; however, conduction effects were significant in several regions of the models. To permit identification of these regions and improve evaluation of the data the following procedure was used.

Separation of variables and integration of Equation (1) assuming constant w, b, c_p, and T_o yields

$$\frac{h}{wb\ c_p}\ (t - t_i) = \ell n \left(\frac{T_o - T_{wi}}{T_o - T_w} \right) \tag{2}$$

Differentiation of Equation (2) with respect to time gives

$$\frac{h}{wb\ c_p} = \frac{d}{dt} \left[\ell n \left(\frac{T_o - T_{wi}}{T_o - T_w} \right) \right] \tag{3}$$

Since the left side of Equation (3) is a constant, plotting $\ell n \left(\frac{T_o - T_{wi}}{T_o - T_w} \right)$ versus time will give a straight line if conduction is negligible. Thus, deviation from a straight line can be interpreted as conduction effects.

DATA REDUCTION
(Continued)

The data were evaluated in this manner and generally a reasonably linear portion of the curve could be found for all thermocouples. For high heating rates, such as experienced in the nose, leading edge, and interference regions, the linear portion was quite short. A linear least squares curve fit of $\ell n \left(\frac{T_o - T_{wi}}{T_o - T_w} \right)$ versus time was applied to the data beginning at the time which the model reached uniform flow and extending for a time span which was a function of the heating rate, shown below:

Heating Rate, R/sec	Time Span of Data Used, sec.	Number of Data Points Used
$16 \leq dT_w/dt$	0.2	5
$4 \leq dT_w/dt < 16$	0.4	9
$2 \leq dT_w/dt < 4$	0.6	13
$dT_w/dt < 2$	1.0	21

In general, the above time spans were adequate to keep the evaluation of the right side of Equation (3) within the linear region. Strictly, the value of c_p is not constant as assumed and the relation

$$c_p = 0.0608 + 1.295 \times 10^{-4} T_w - 6.35 \times 10^{-8} T_w^2 \qquad (4)$$

was used with the value of T_w at the midpoint of the curve fit. The maximum variation of c_p over any curve fit was less than one percent; thus the assumption of constancy was not grossly violated. A constant 485 LB_m/ft^3 was used for w and measured values of b for each thermocouple were used.

SUMMARY DATA PLOT INDEX

COMPONENT IDENTIFICATION	PLOTTING SCHEDULE	CONDITIONS VARYING	PAGES
Fuselage	A	PHI	31-39
Fuselage	B	X/L	40-66
Canard	C	Upper, Lower Surfaces Deflection Angle, and Y/S	67-75
Upper Wing Surface	C	Elevon Deflection Angle and Y/S	76-86
Lower Wing Surface	C	Elevon Deflection Angle and Y/S	87-97
Vertical Stabilizer	C	Z/S	98-106

SCHEDULE A:

H(TO)/HREF vs. X/L

SCHEDULE B:

H(TO)/HREF vs PHI

SCHEDULE C:

H(TO)/HREF vs. X/C

Note: Angle of attack range 0 degrees to 60 degrees.
Data measured at selected angles of attack
(40 degrees and 60 degrees) for grit-on configuration.

F I G U R E S

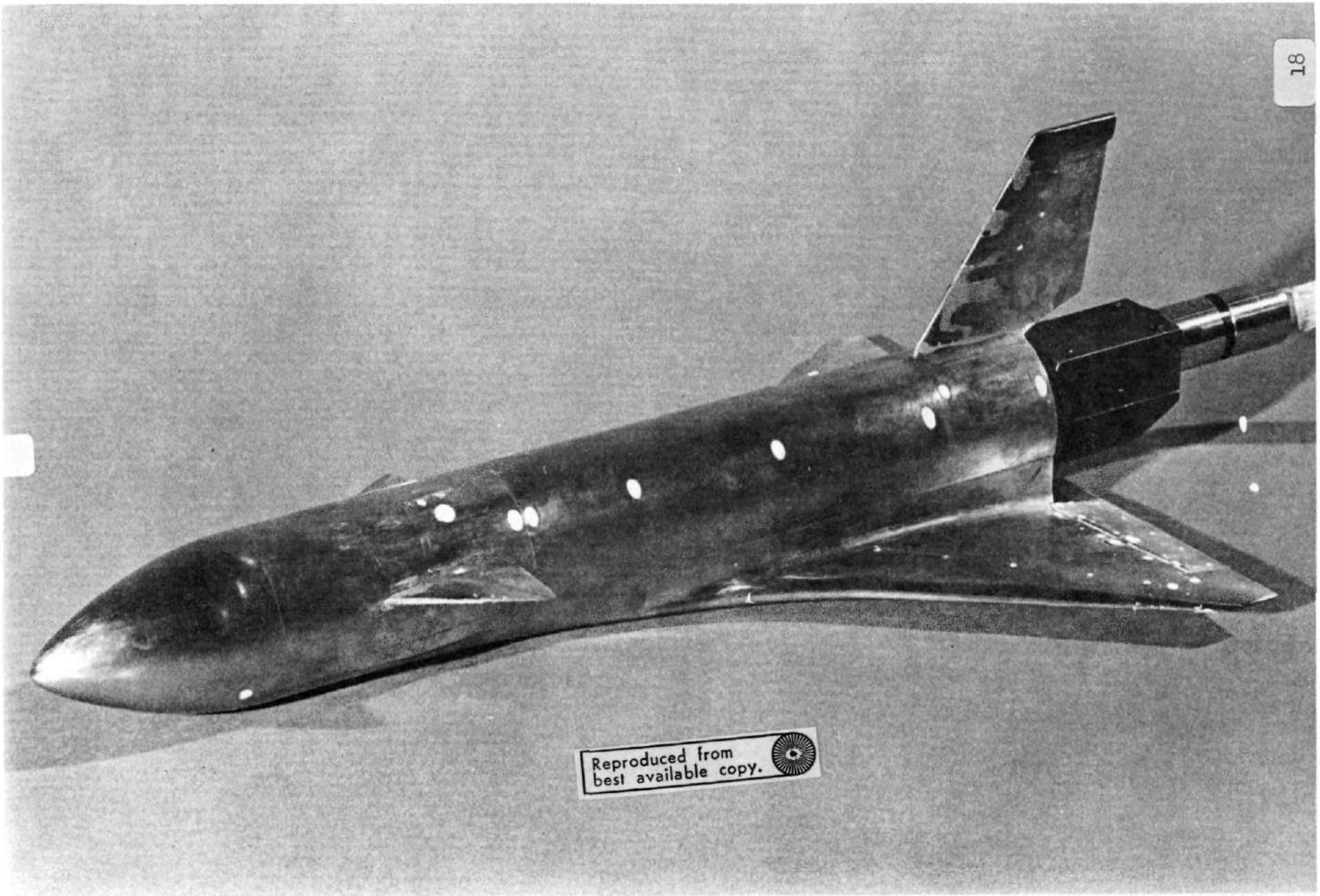


Figure 1. Booster Model Photograph

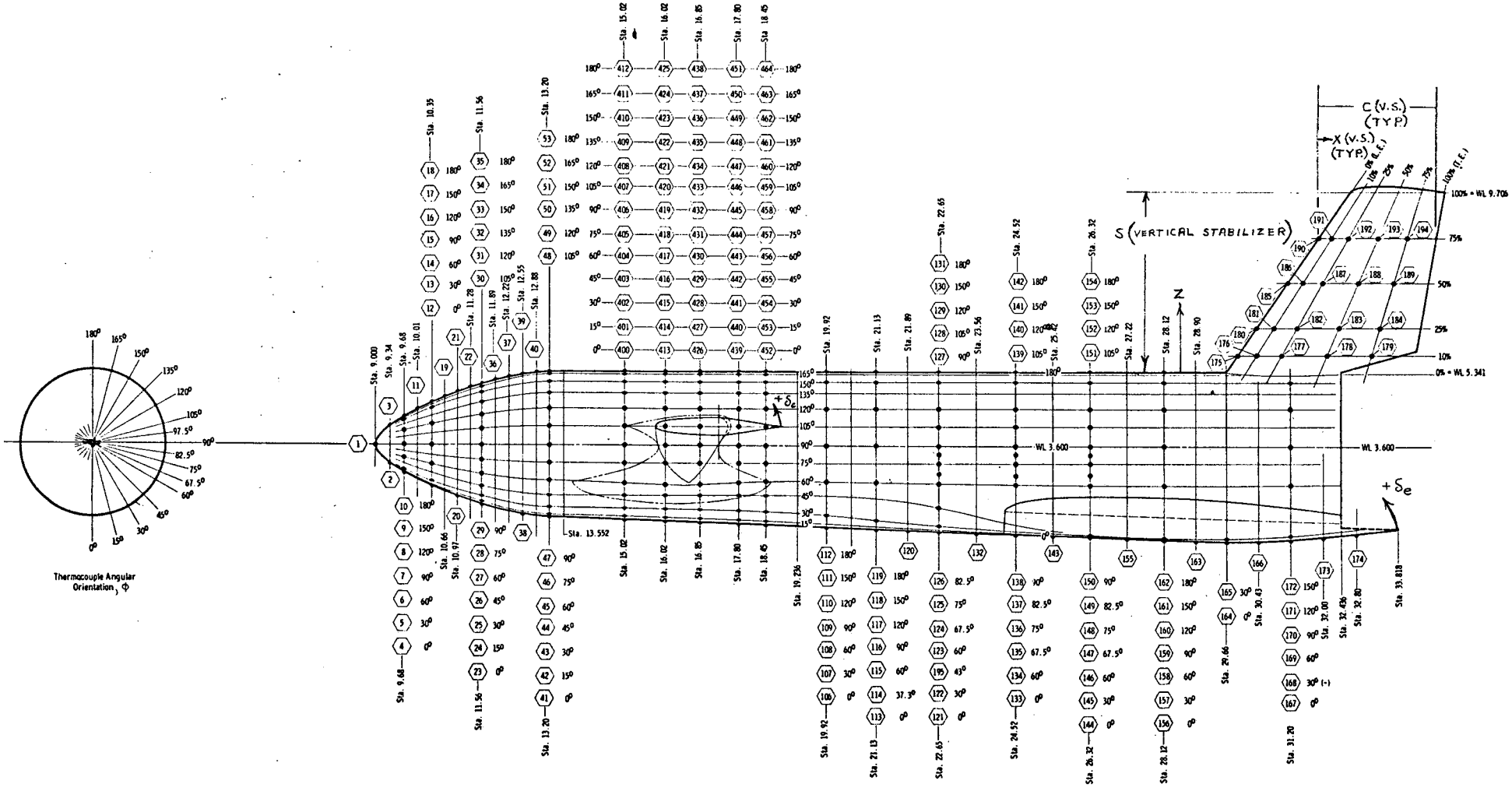


Figure 2. Booster Thermocouple Locations

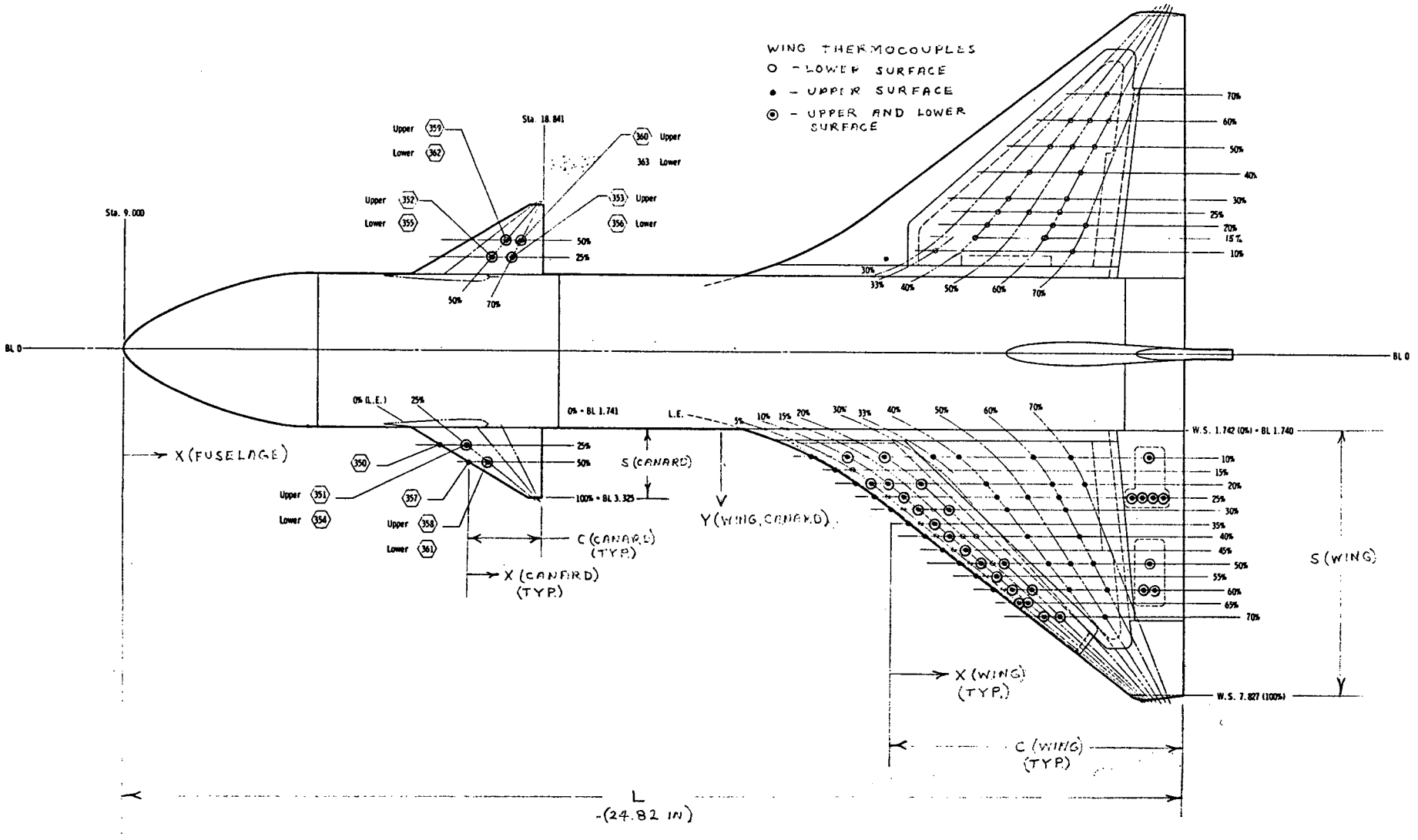


Figure 2. Continued

MODEL COMPONENT DESCRIPTION SHEETS

Table 3. Booster Fuselage Details

MODEL COMPONENT: BODY - B_{24}

GENERAL DESCRIPTION: Basic Fuselage for the B-15B-2 Booster Configuration

DRAWING NUMBER: WT-71-105129

DIMENSIONS:	FULL-SCALE	MODEL SCALE
Length	2757 in.	24.81 in.
Max. Width	387 in.	3.48 in.
Max. Depth	453 in.	4.08 in.
Fineness Ratio	6.08	6.08
Area		
Max. Cross-Sectional	183837 in^2	14.89 in^2
Planform	1010612 in^2	81.86 in^2
Wetted		
Base	159510 in^2	12.19 in^2

Table 4. Booster Canard Details

MODEL COMPONENT: Canard C4

GENERAL DESCRIPTION: Basic Canard for B-15B-2 Booster Configuration

DRAWING NUMBER: WT-71-105129

DIMENSIONS:	FULL-SCALE	MODEL SCALE
Area	66286 in^2	5.37 in^2
Span (equivalent)	352 in.	3.17 in.
Inb'd equivalent chord	341 in.	3.07 in.
Outb'd equivalent chord	36 in.	0.324 in.
Ratio Elevator chord/horizontal tail chord		
At Inb'd equiv. chord		
At Outb'd equiv. chord		
Sweep Back Angles, degrees		
Leading Edge	60	60
Tailing Edge	0	0
Hingeline		
Area Moment (Normal to hinge line)		

Table 5. Booster Wing Details

MODEL COMPONENT: Wing - W_{15}

GENERAL DESCRIPTION: Basic Wing for the B-15B-2 Booster Configuration - C_L Design = 0.215

DRAWING NUMBER: WT-71-105125

DIMENSIONS:	FULL-SCALE	MODEL SCALE
TOTAL DATA		
Area		
Planform	1241959 in^2	100.60 in^2
Wetted		
Span (equivalent)	1739 in.	15.65 in.
Aspect Ratio	2.436	2.436
Rate of Taper		
Taper Ratio	0.106	0.106
Dichedral Angle, degrees	3 (TE)	3 (TE)
Incidence Angle, degrees	2	2
Aerodynamic Twist, degrees	0	0
Toe-In Angle		
Cant Angle		
Sweep Back Angles, degrees		
Leading Edge	53	53
Trailing Edge	0	0
0.25 Element Line	44.85	44.85
Chords:		
Root (Wing Sta. 0.0)	1291 in.	11.62 in.
Tip, (equivalent)	137 in.	1.23 in.
MAC, inches	869.4 in.	7.82 in.
Fus. Sta. of .25 MAC		
W.P. of .25 MAC		
Airfoil Section		
Root		NACA-0010-64 (Mod)
Tip		NACA-0010-63 (Mod)
EXPOSED DATA		
Area	812980 in^2	65.85 in^2
Span, (equivalent)	1373 in.	12.36 in.
Aspect Ratio	2.25	2.25
Taper Ratio	0.1306	0.1306
Chords		
Root	1048 in.	9.43 in.
Tip	137 in.	1.23 in.
MAC	709.1 in.	6.38 in.
Fus. Sta. of .25 MAC		
W.P. of .25 MAC		

Table 6. Booster Elevon Details

MODEL COMPONENT: Elevon

GENERAL DESCRIPTION: Basic Elevon for the W_{15} Wing

DRAWING NUMBER: WT-71-105125

DIMENSIONS:	FULL-SCALE	MODEL SCALE
Area	69178 in^2	5.60 in^2
Span (equivalent)	486 in.	4.37 in.
Inb'd equivalent chord	172 in.	1.55 in.
Outb'd equivalent chord	114 in.	1.03 in.
Ratio Elevator chord/horizontal tail chord		
At Inb'd equiv. chord	0.167	0.167
At Outb'd equiv. chord	0.294	0.294
Sweep Back Angles, degrees		
Leading Edge	6.73	6.73
Tailing Edge	0.0	0.0
Hingeline	6.73	6.73
Area Moment (Normal to hinge line)		

Table 7. Booster Tail Details

MODEL COMPONENT: Vertical, V_7

GENERAL DESCRIPTION: Basic Vertical Tail for B-15B-2 Booster Configuration

DRAWING NUMBER: WT-71-105129

DIMENSIONS:	FULL-SCALE	MODEL SCALE
Area	177306 in.^{2}	14.36 in.^{2}
Span (equivalent)	485 in.	4.36 in.
Inb'd equivalent chord	504 in.	4.53 in.
Outb'd equivalent chord	252 in.	2.27 in.
Ratio Elevator chord/horizontal tail chord		
At Inb'd equiv. chord		
At Outb'd equiv. chord		
Sweep Back Angles, degrees		
Leading Edge	35	35
Tailing Edge	10	10
Hingeline	19.83	19.83
Area Moment (Normal to hinge line)		

NOMENCLATURE

SYMBOL		DEFINITION
TEXT	DATA PRINTOUT	
b		Skin thickness, ft.
c	C	Local chord length, in.
c_p		Specific heat, BTU/lb_m-^oR
dT_w/dt	DTWDT	Derivative of the model skin temperature with respect to time, ^oR/sec
h	H(TO)	Heat transfer coefficient based on T_o, BTU/ft^2-sec-^oR
	H(9TO)	Heat transfer coefficient based on 0.9 T_o, BTU/ft^2-sec-^oR
	H(.85TO)	Heat transfer coefficient based on 0.85 T_o, BTU/ft^2-sec-^oR
h_{ref}	HREF	Theoretical stagnation point heat transfer coefficient for a 0.009-foot (1 scale foot) radius sphere calculated from Fay-Riddell theory using a wall temperature of 560 R, BTU/ft^2-sec-^oR
L	L	Fuselage length (See Fig. 2 continued)
	MACH	Free-stream Mach number
	MU-INF	Free-stream viscosity, lb/sec-ft^2
	P-INF	Free-stream pressure, psia
	PO	Tunnel-stilling chamber pressure, psia

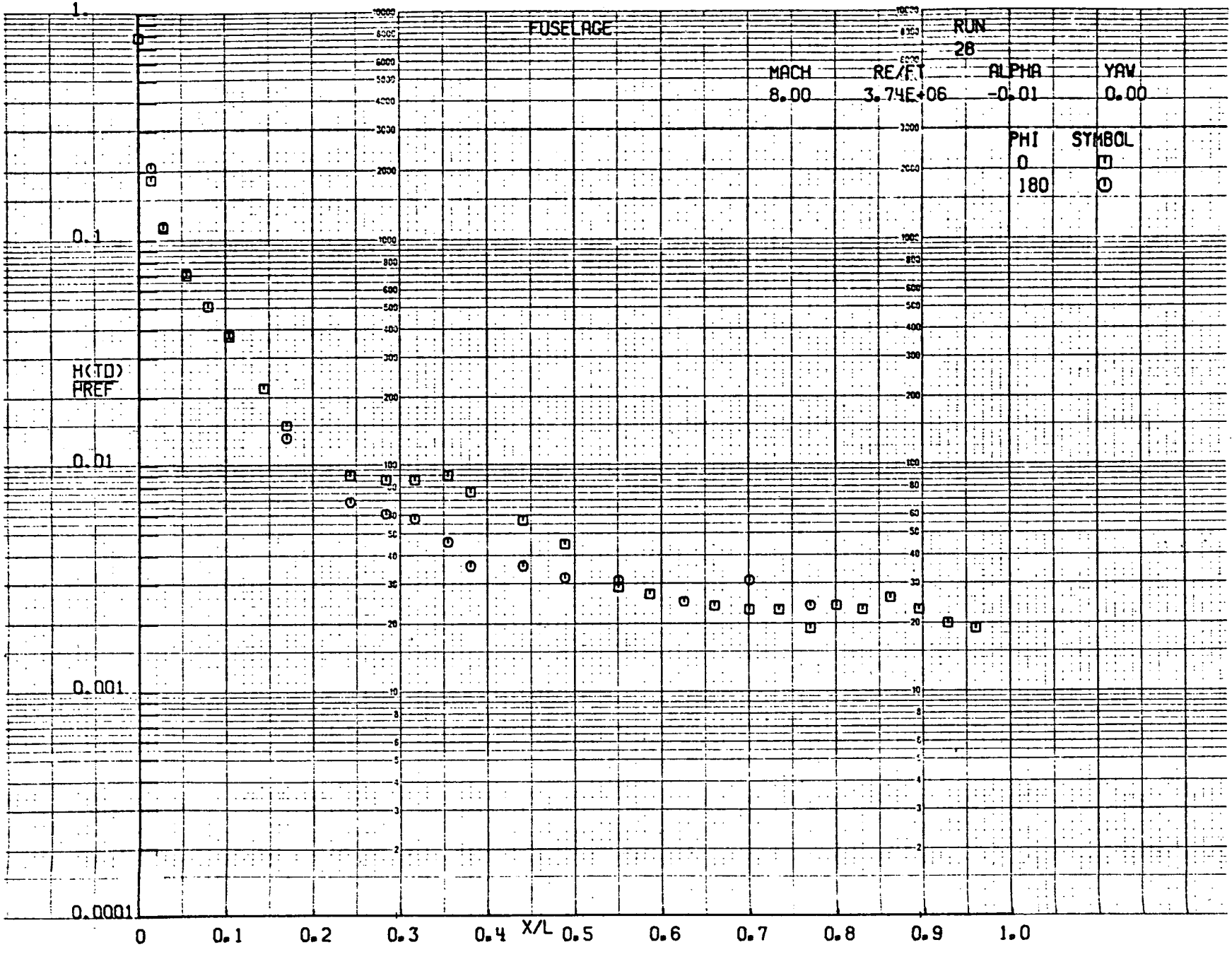
NOMENCLATURE
(Continued)

SYMBOL		DEFINITION
TEXT	DATA PRINTOUT	
	Q-DOT	Heat transfer rate, BTU/ft^2-sec
	Q-INF	Free-stream dynamic pressure, psia
	RE/FT	Free-stream unit Reynolds number ft^{-1}
	RHO-INF	Free-stream density, slugs/ft^3
	ROLL-MODEL	Model roll angle, deg.
S	S	Semispan, wing, canard, vertical stabilizer (see Figs. 2 and 2 continued)
	ST-FR	Theoretical stagnation point Stanton number for a 0.009-foot (1 scale foot) radius sphere calculated from Fay-Riddell theory using a wall temperature of 560°R
t		Time, sec.
	T-INF	Free-stream temperature, °R
T_o	TO	Tunnel stilling chamber temperature, °R
T_w	TW	Model skin temperature, °R
	V-INF	Free-stream velocity, ft/sec
w		Model skin density, lb_m/ft^3
X	X	Axial coordinate (see Figs. 2 and 2 continued)
XD		Axial distance from the orbiter nose to the booster nose, in.

NOMENCLATURE
(Continued)

SYMBOL		DEFINITION
TEXT	DATA PRINTOUT	
Y	Y	Lateral coordinate (see Figs. 2 and 2 continued)
	YAW	Model yaw angle (equal to -), deg.
	YMAX	Local maximum fuselage width, in.
Z	Z	Vertical coordinate (see Figs. 2)
ZD		Vertical distance from the top of the booster to the bottom of the orbiter, in.
α	ALPHA-MODEL	Model angle of attack, deg.
	ALPHA-PREBEND	Sting prebend angle, deg.
	ALPHA-SECTOR	Tunnel sector angle, deg.
β		Sideslip angle, deg.
ϕ	PHI	Orientation angle on the booster (see Fig. 2), deg.
ϕ_M		Model roll angle, deg.
δ_C		Canard deflection angle (see Fig. 2), deg.
δ_e		Elevon deflection angle (see Fig. 2), deg.
SUBSCRIPT		
i		Initial conditions

PLOTTED DATA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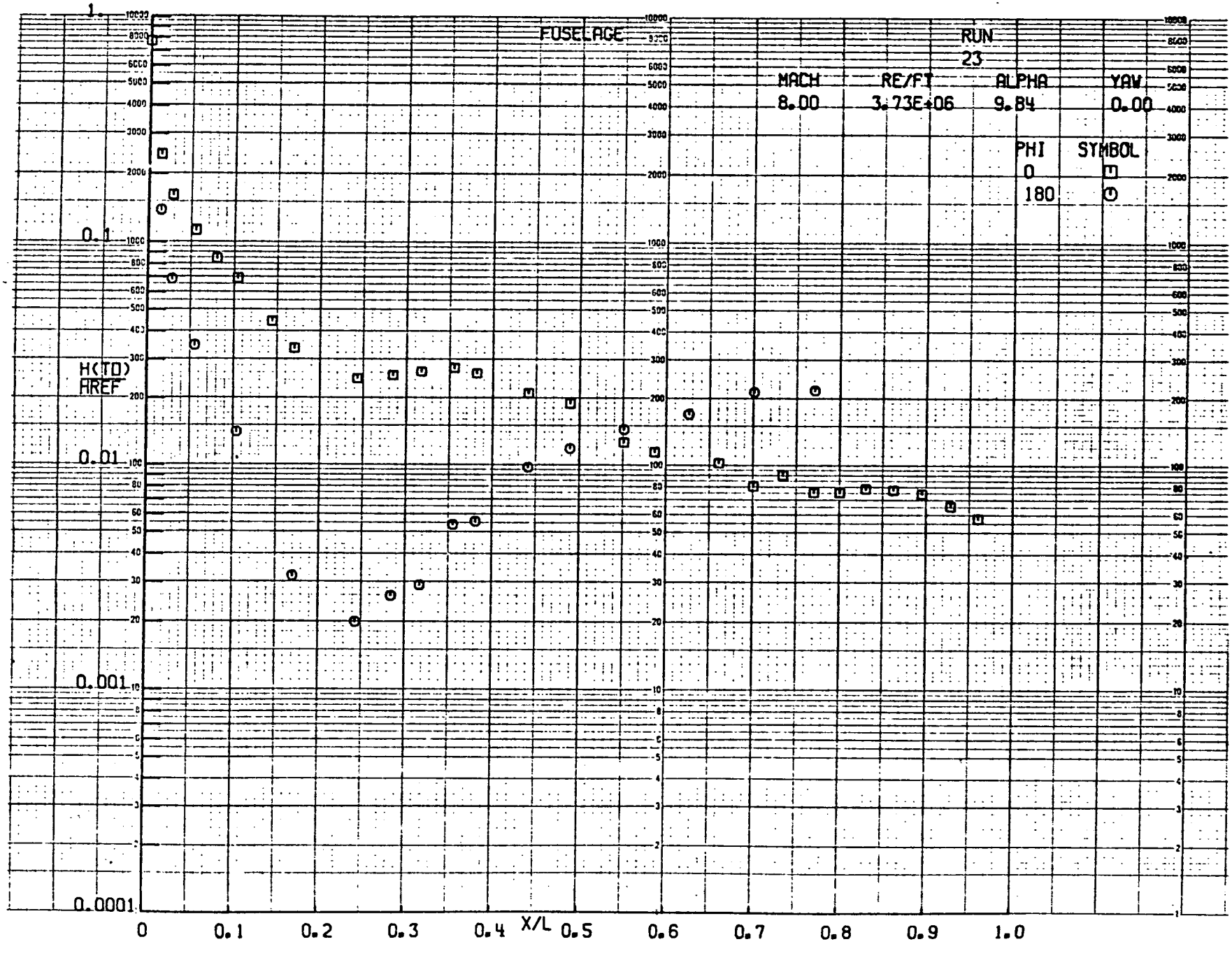
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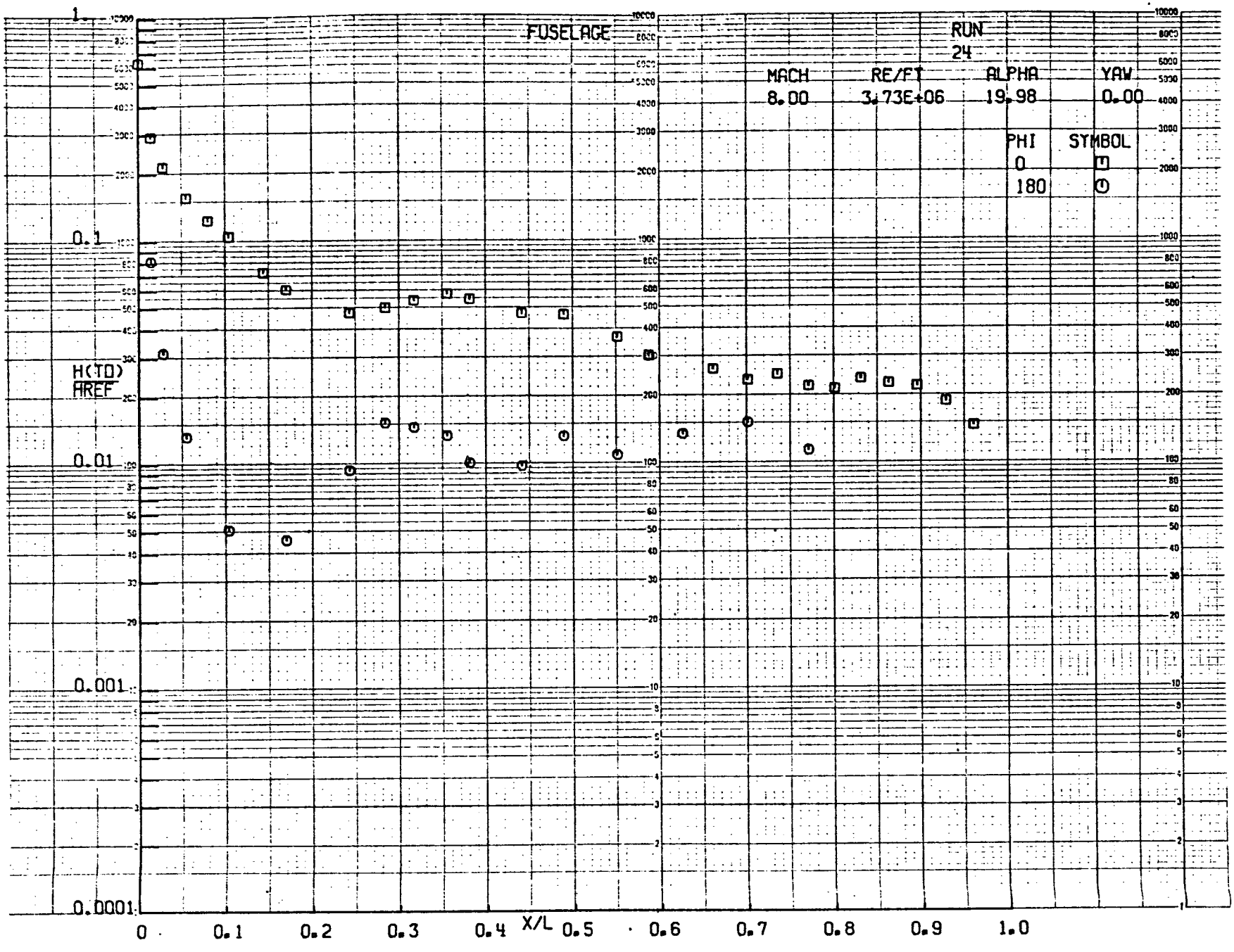
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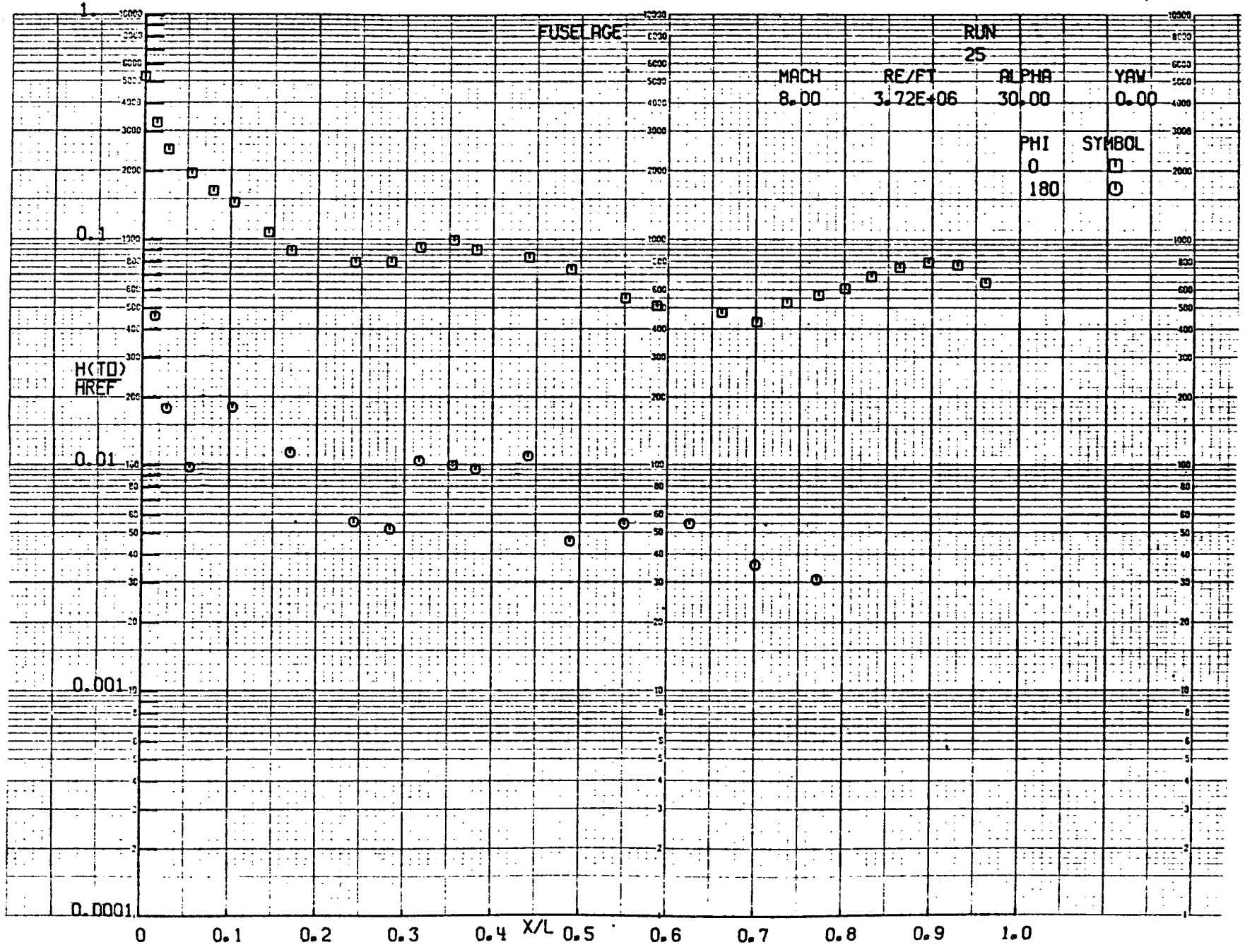
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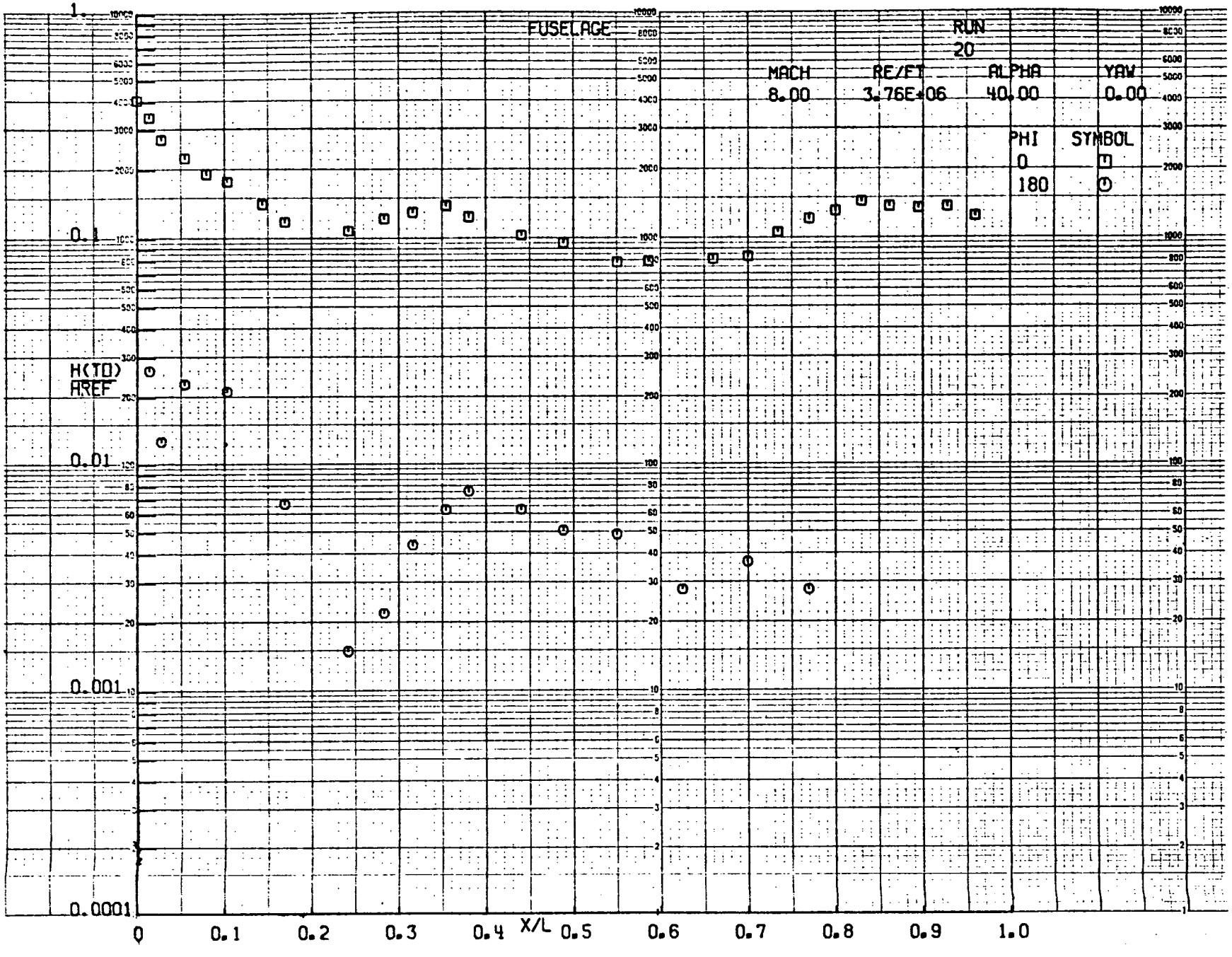
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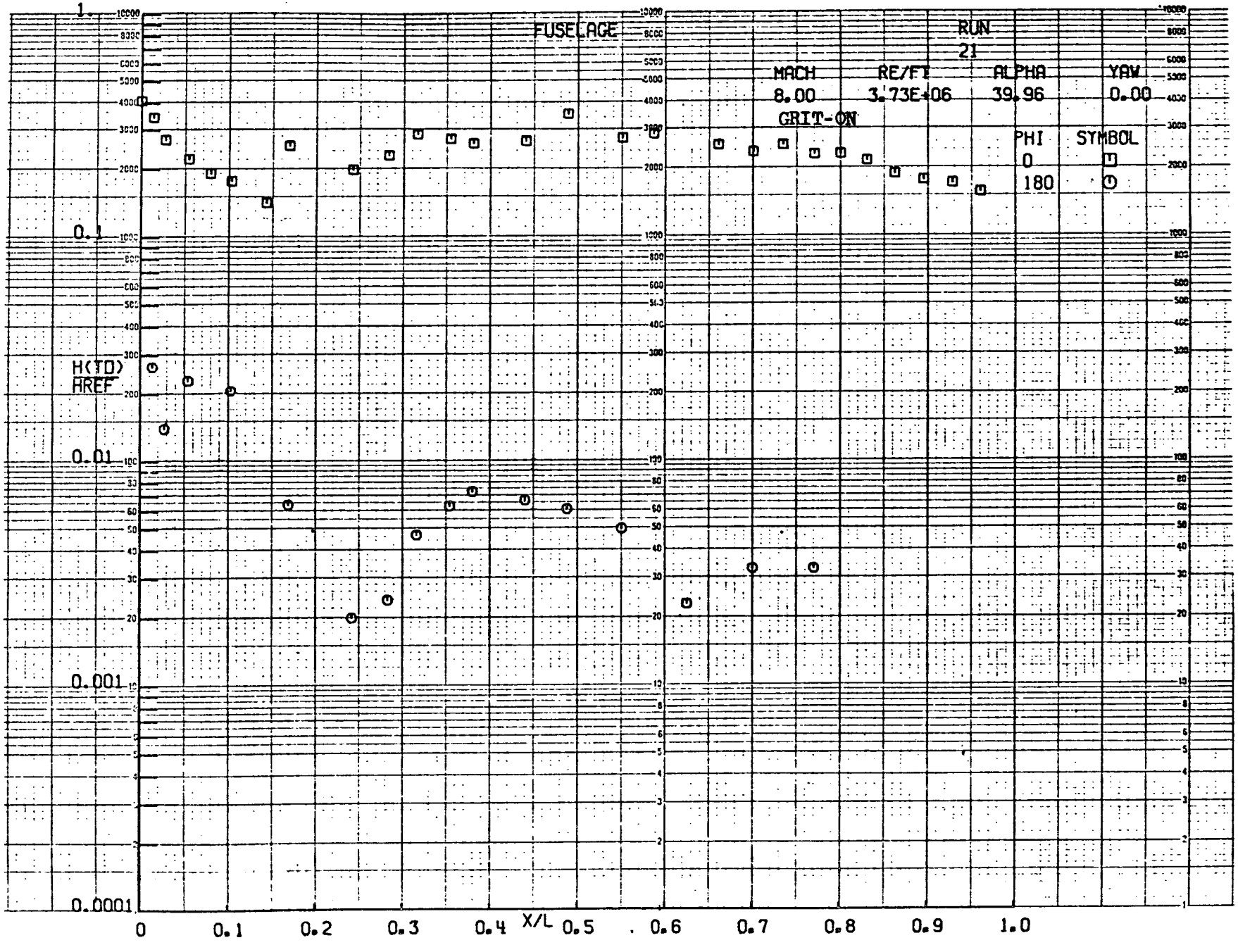
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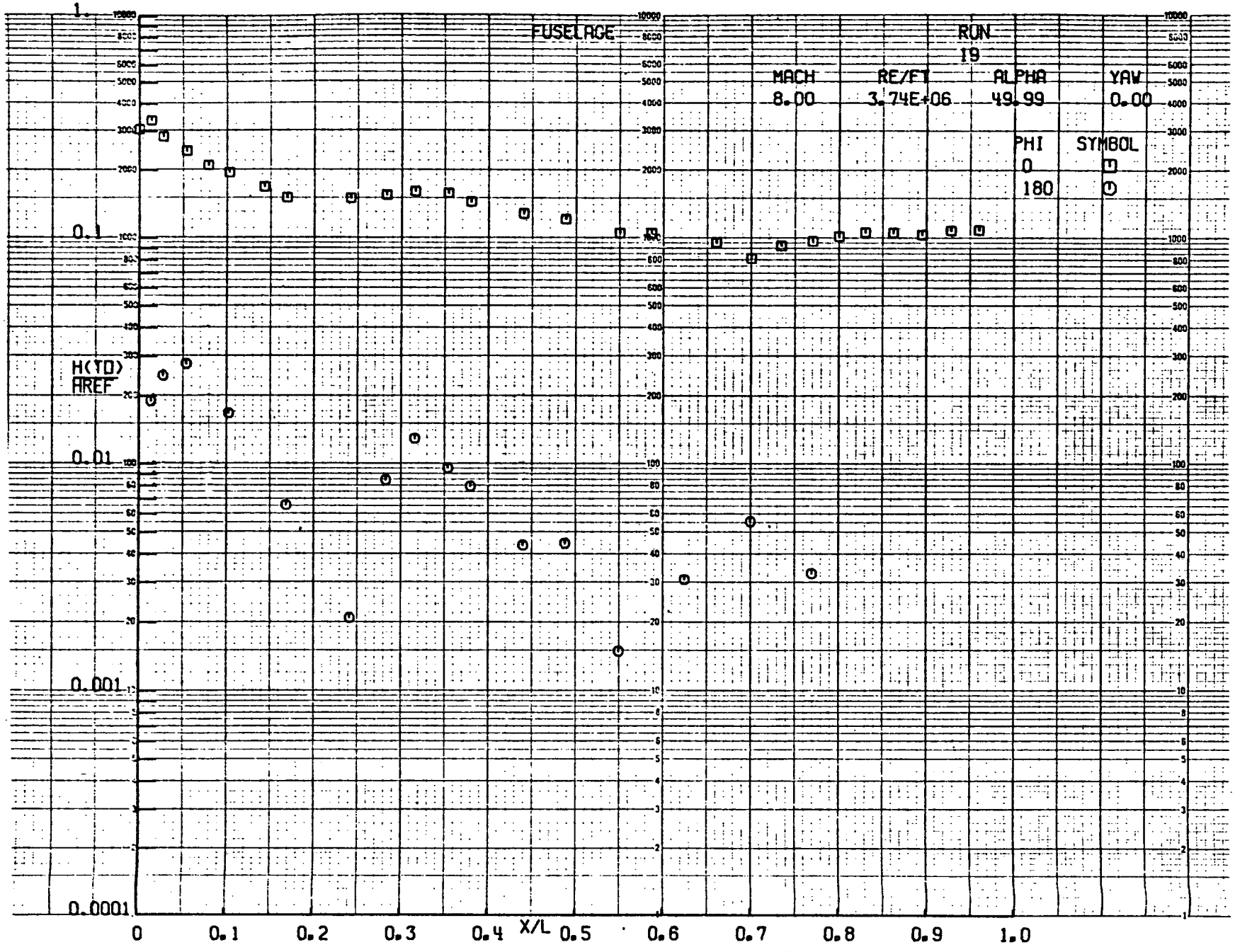
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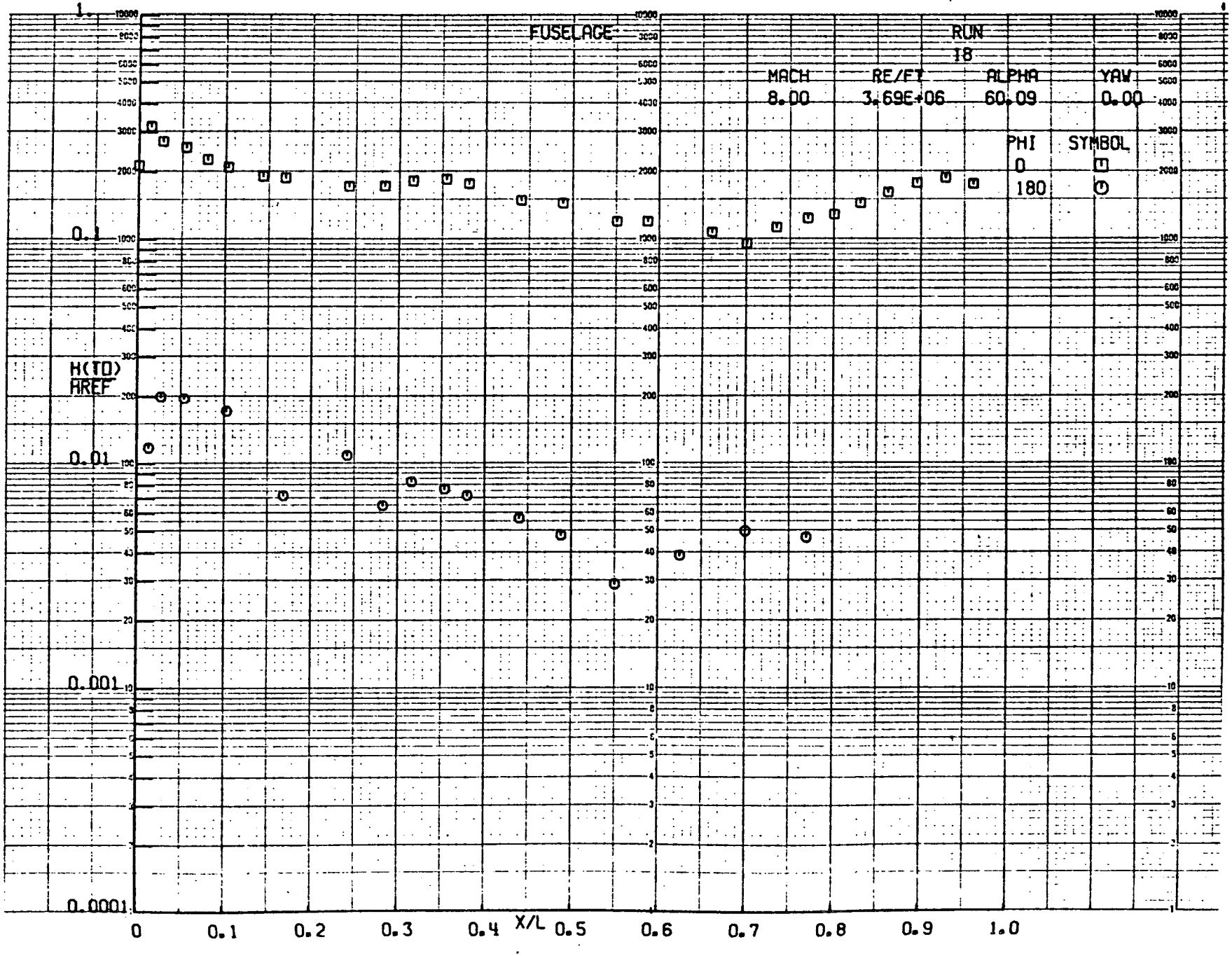
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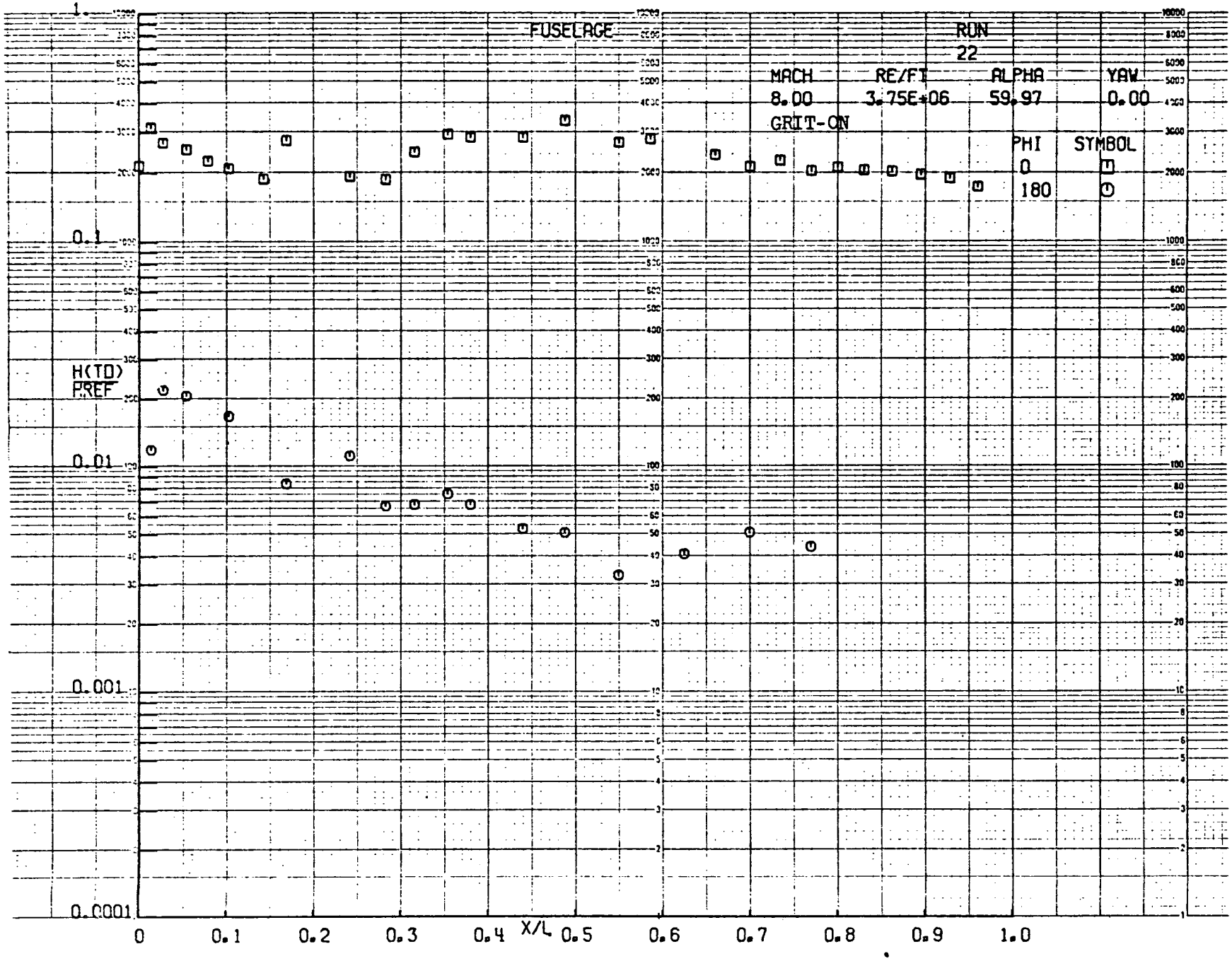
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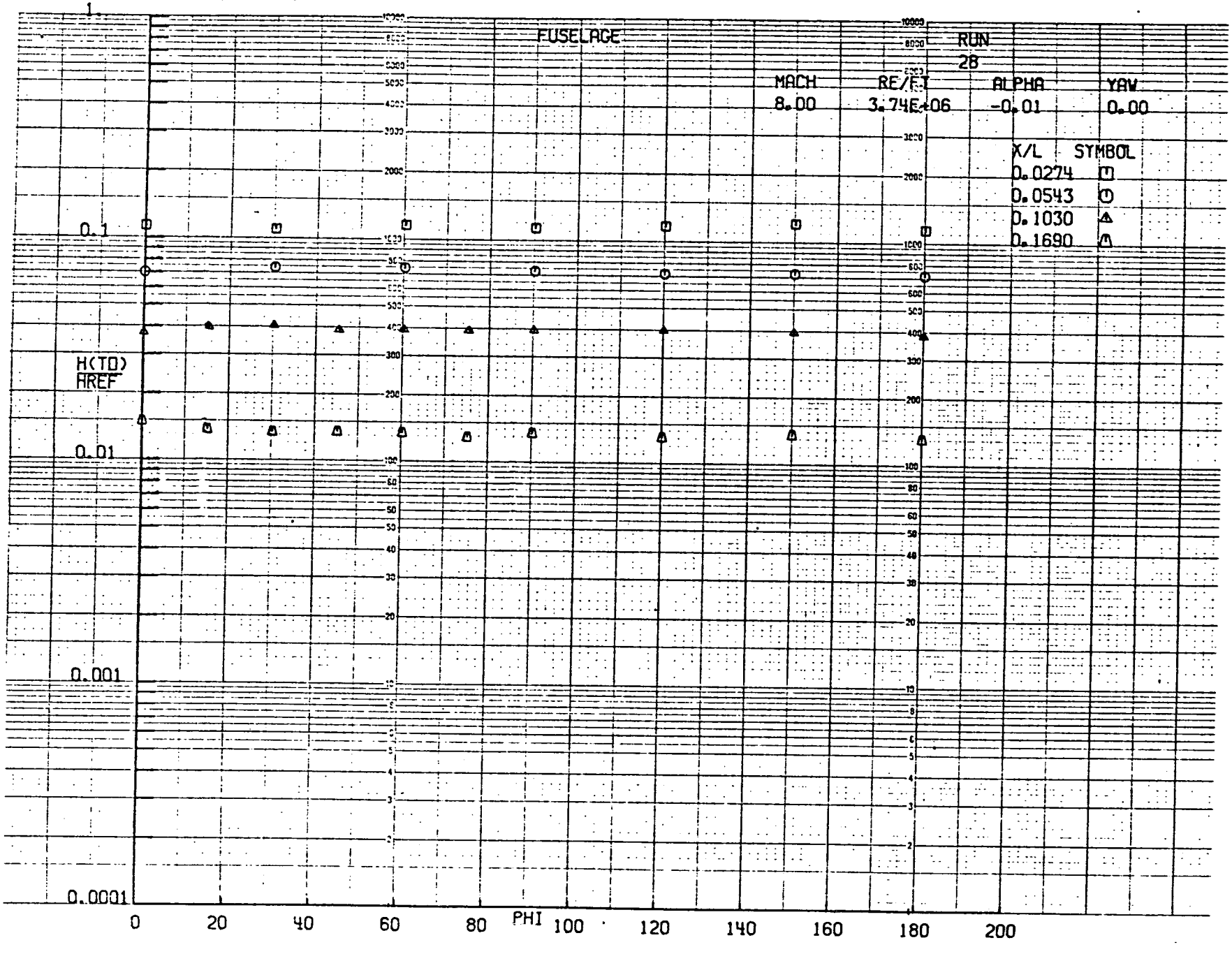
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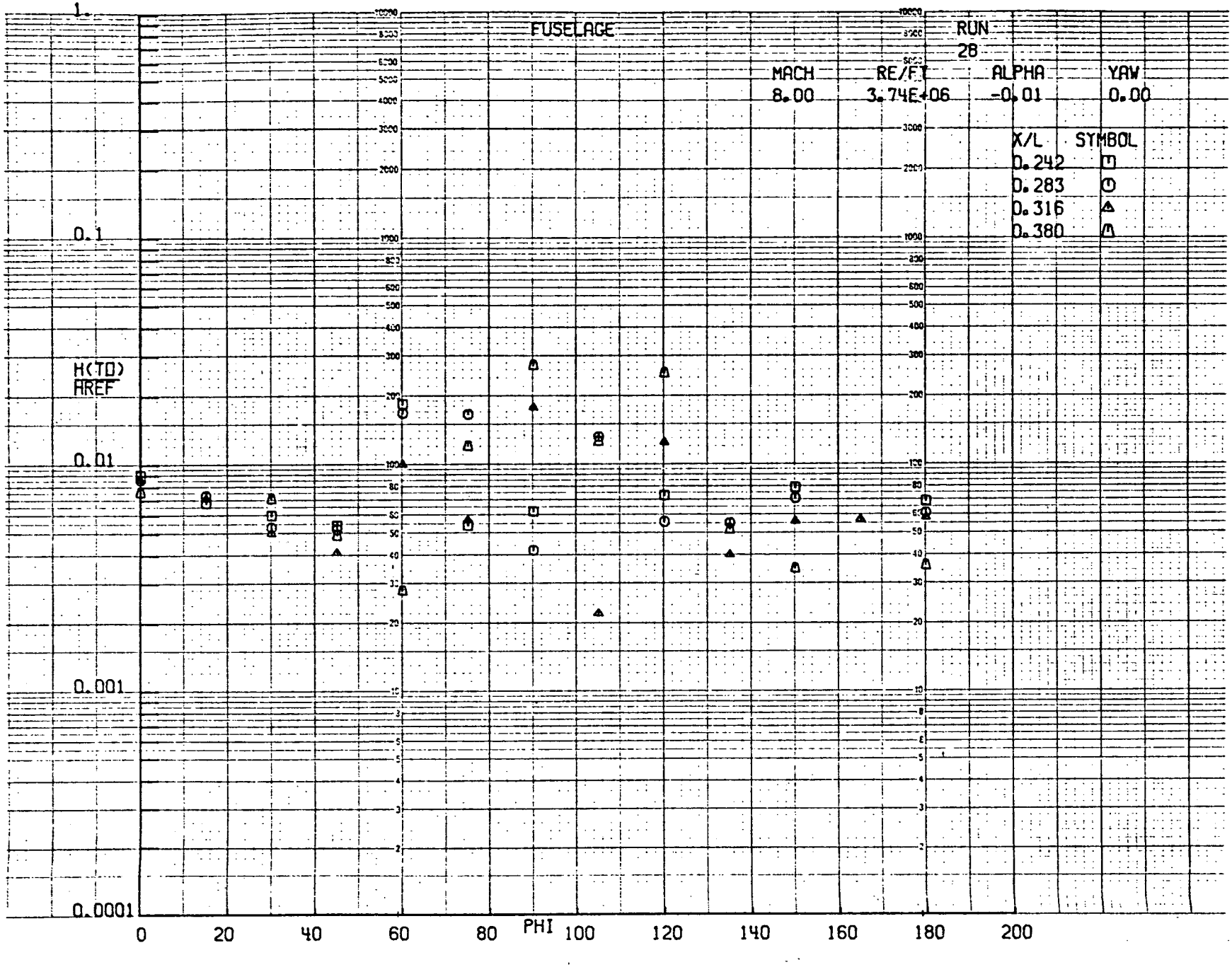
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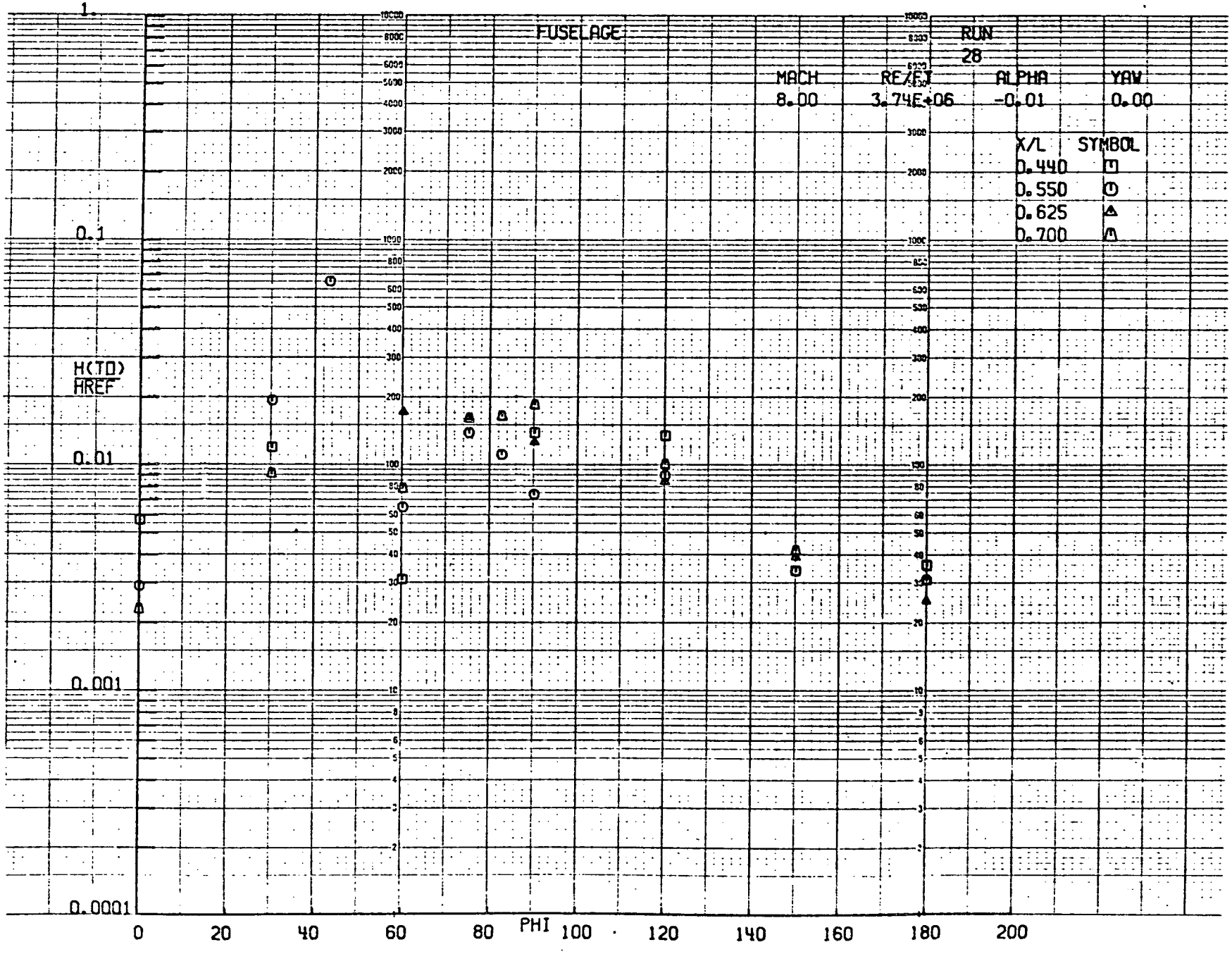
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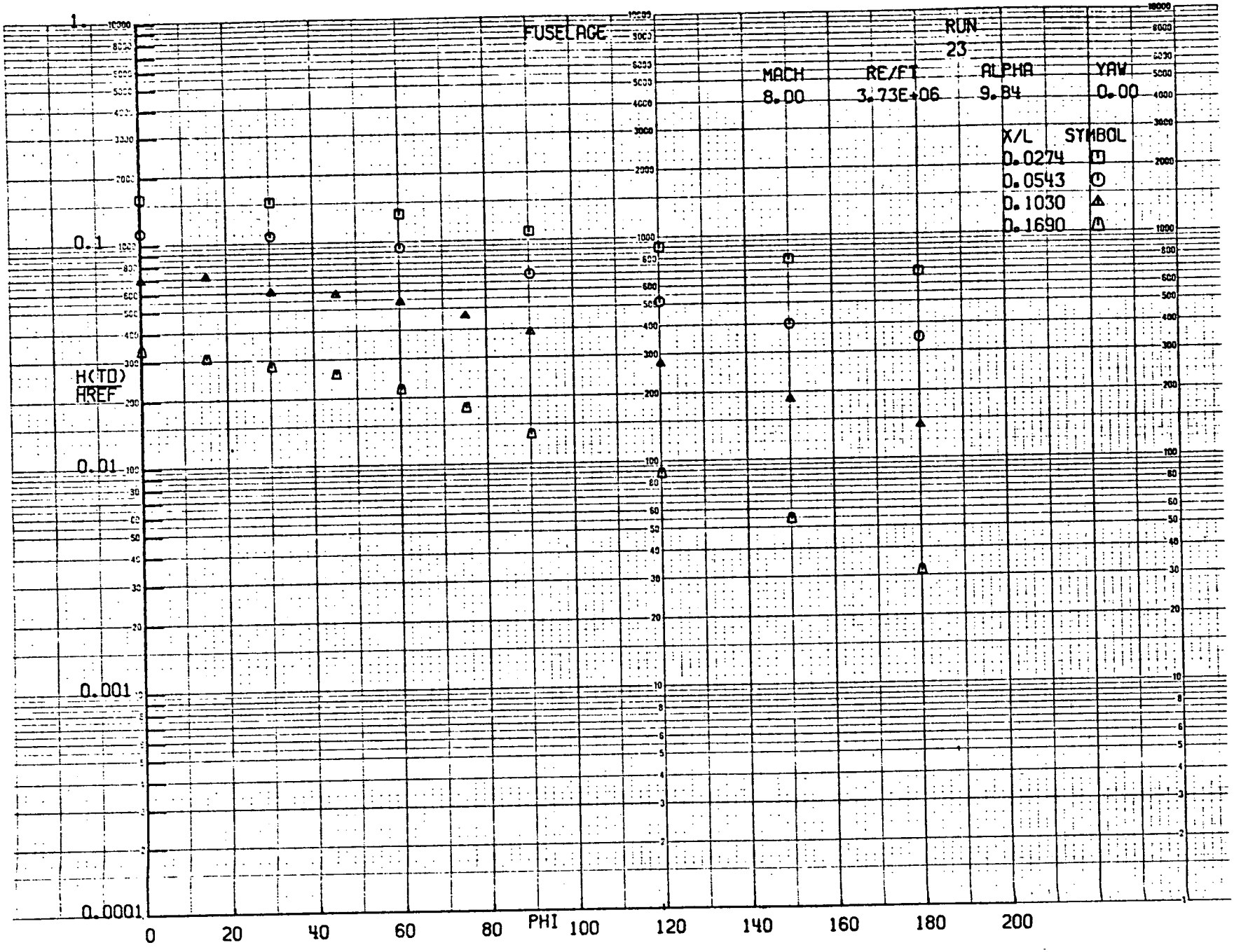
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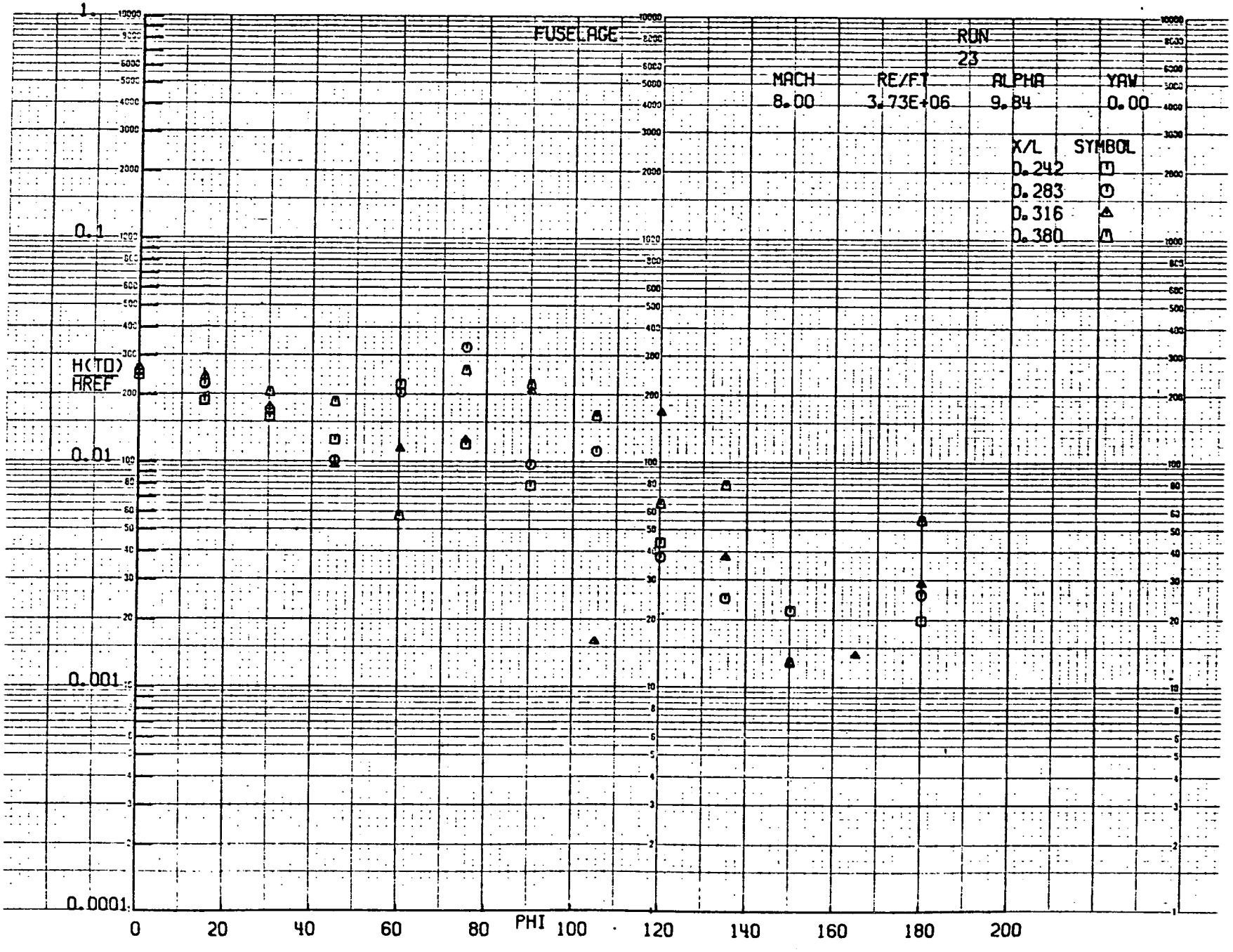
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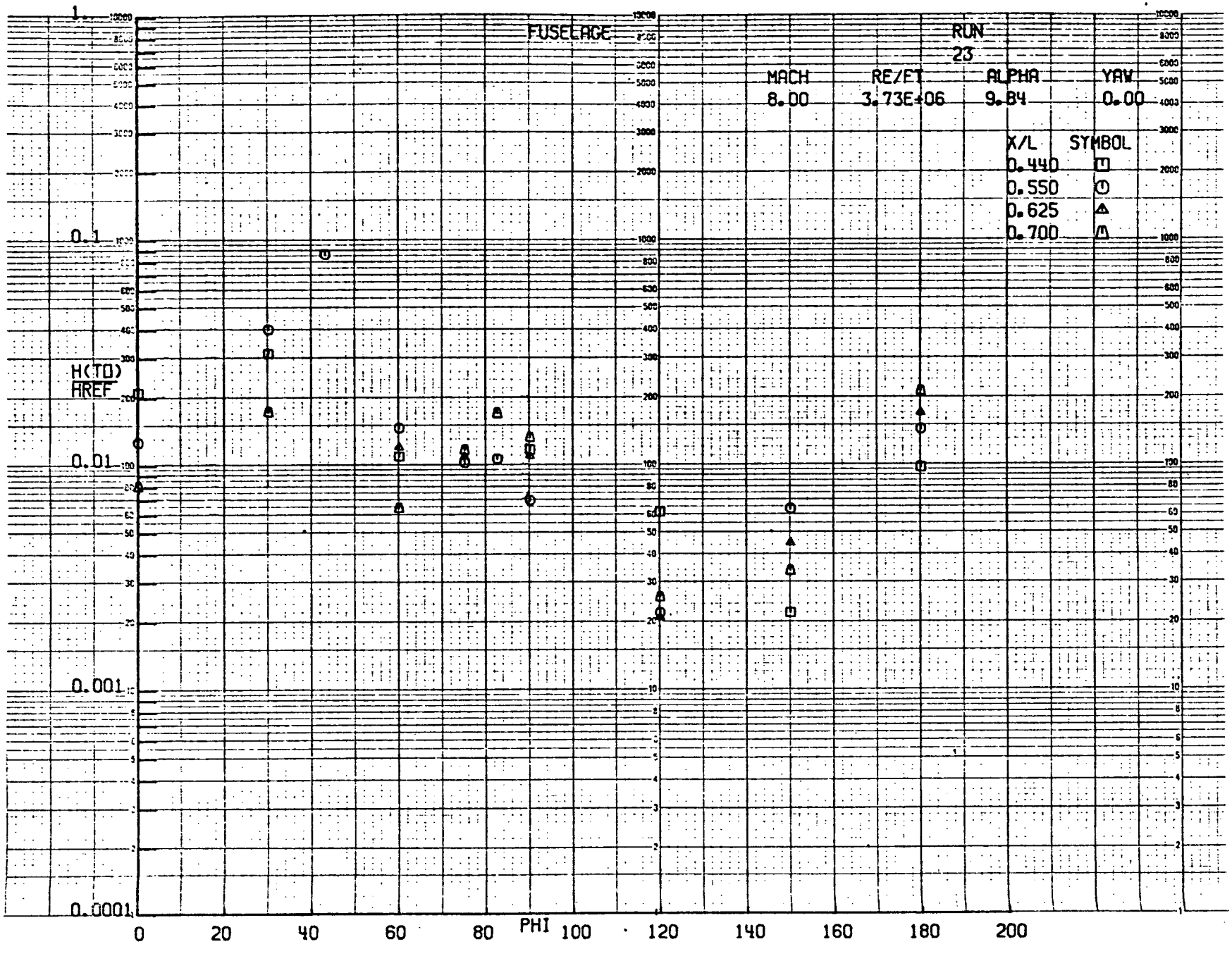
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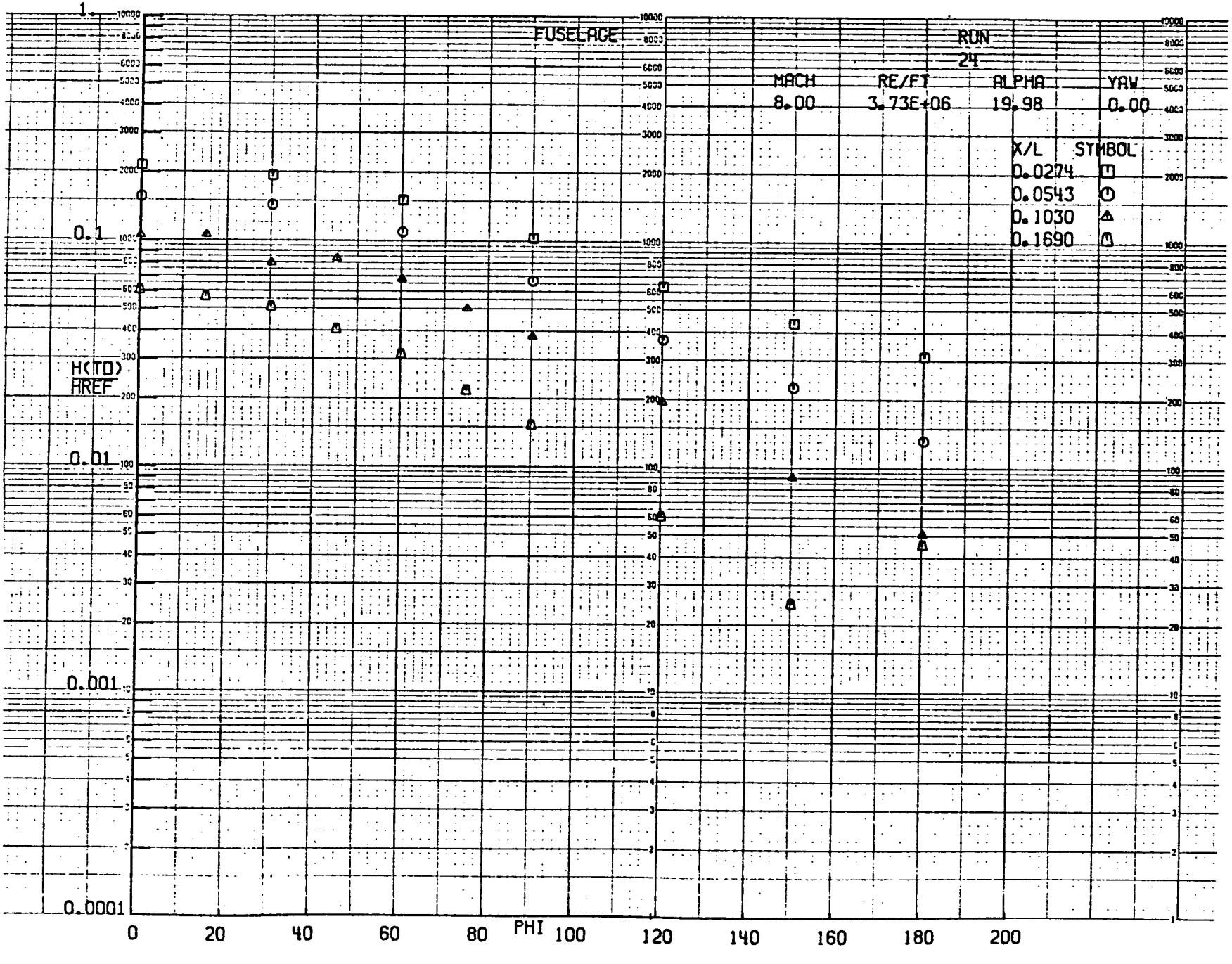
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0.0543
0.1030
0.1690
H(TO)
HREF
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0.0001
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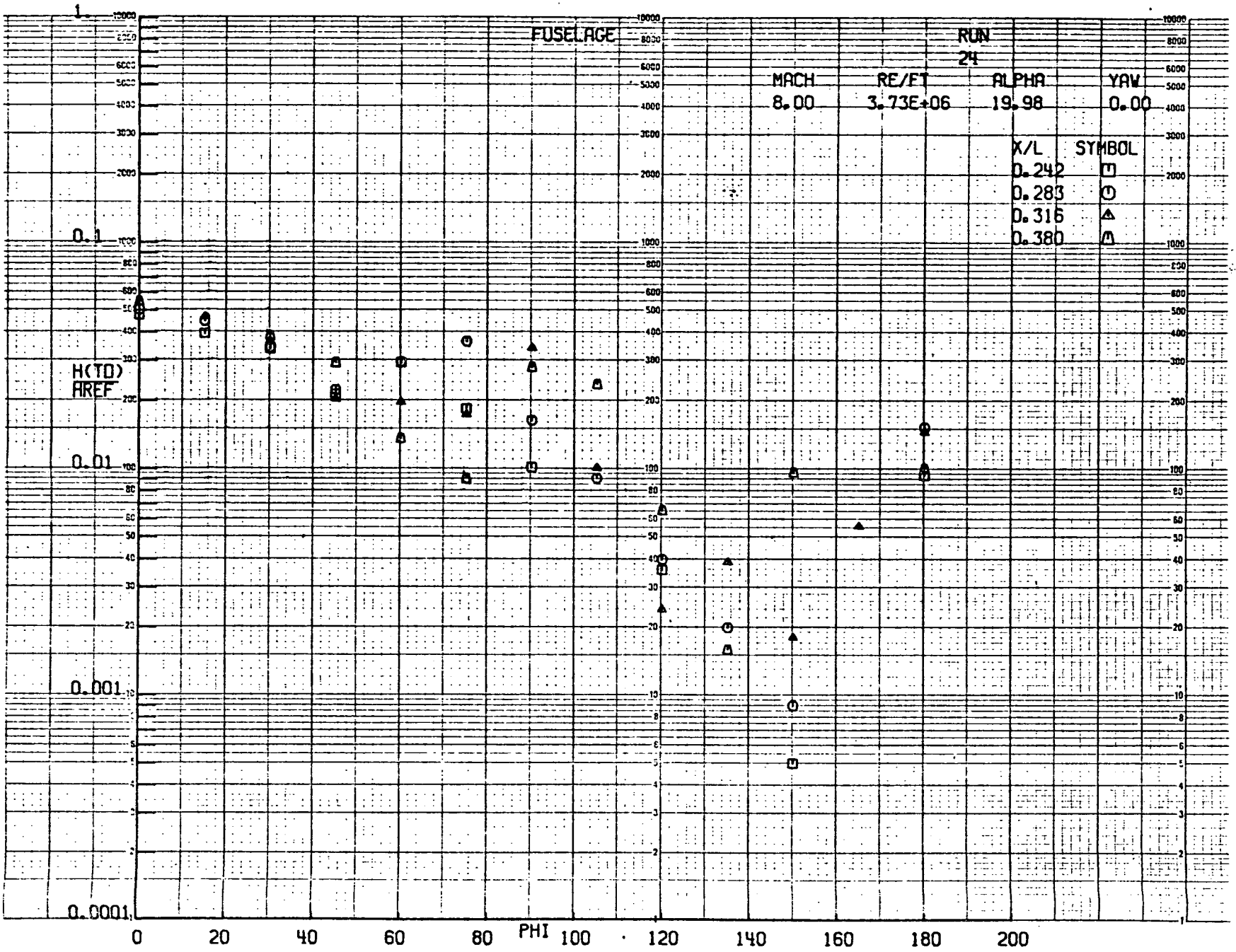
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ALPHA
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YAW
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X/L
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0.316
0.380
1.
0.1
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0.001
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H(TD)
AREF
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PHI
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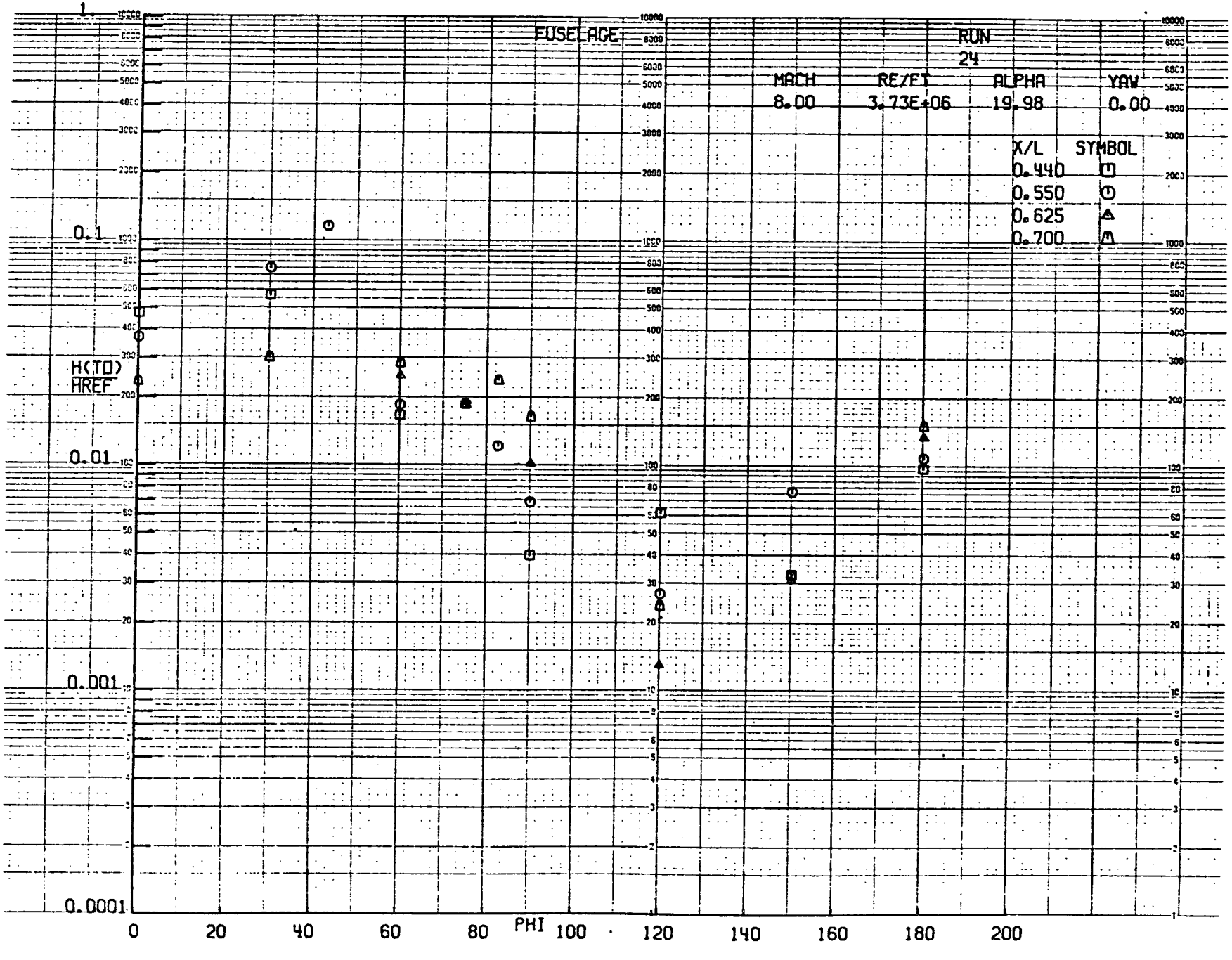
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X/L
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0.550
0.625
0.700
H(TD)
AREF
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0.0001
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PHI
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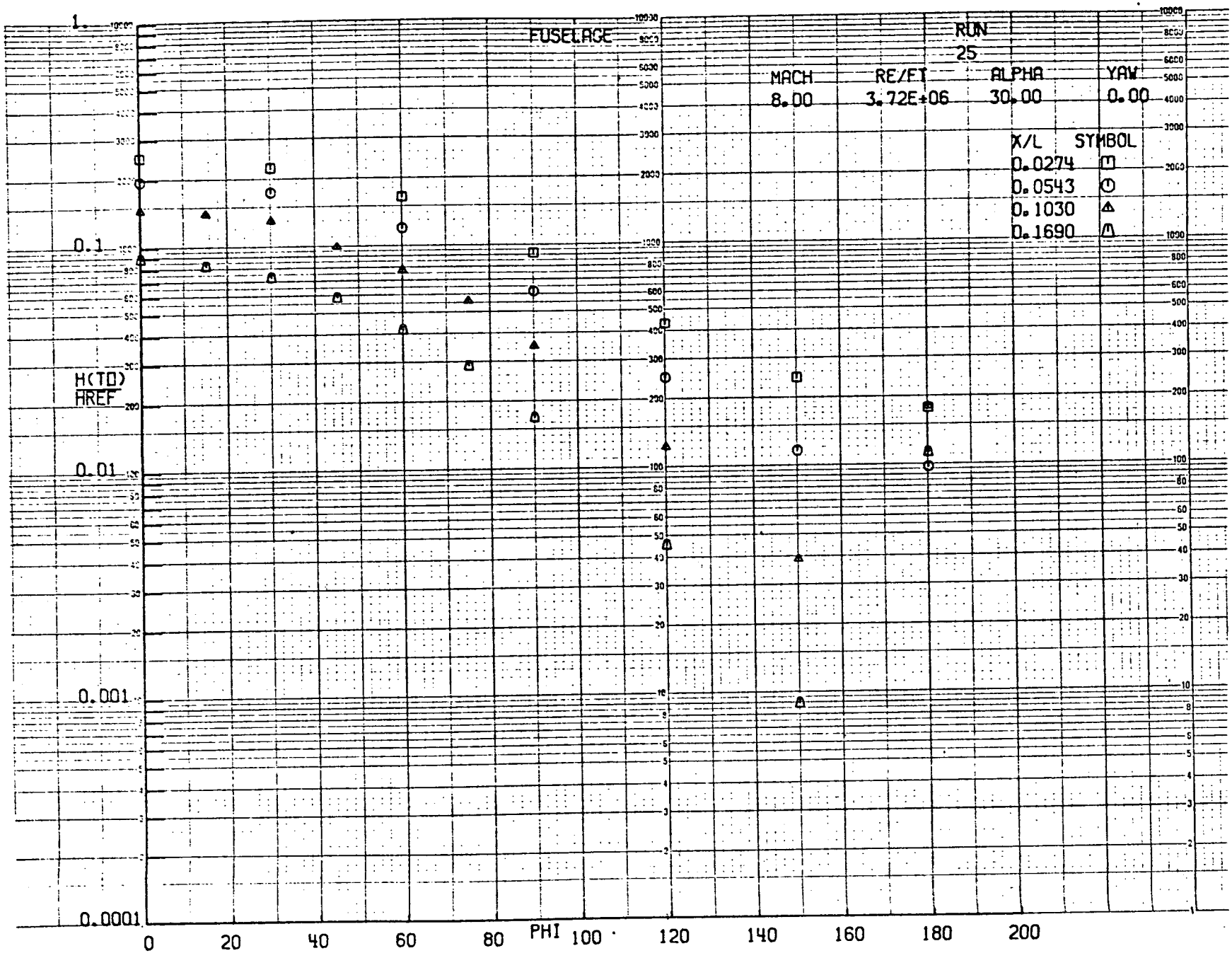
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0.1030
0.1690
H(TO)
HREF
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0.001
0.0001
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PHI
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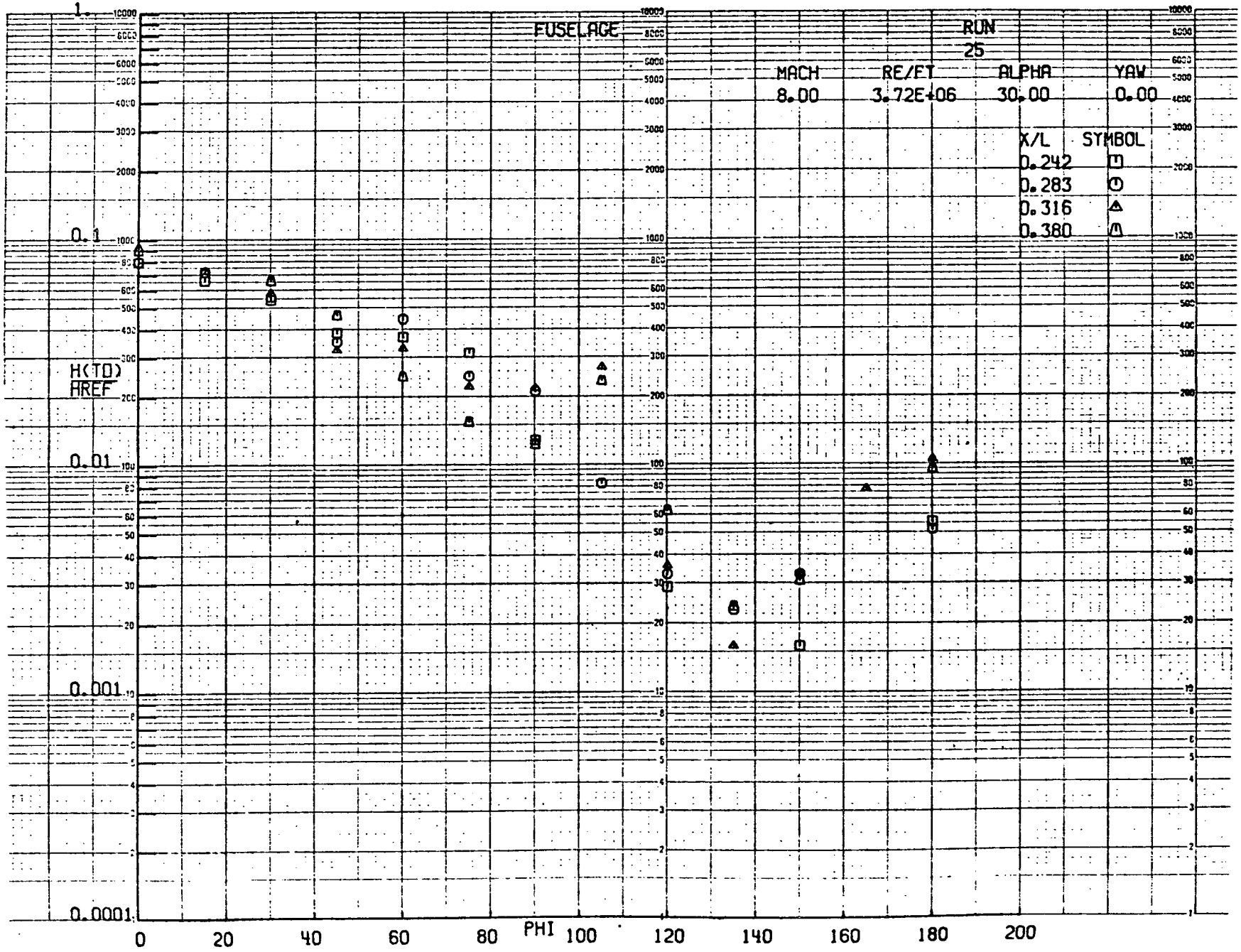
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0.316
0.380
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HREF
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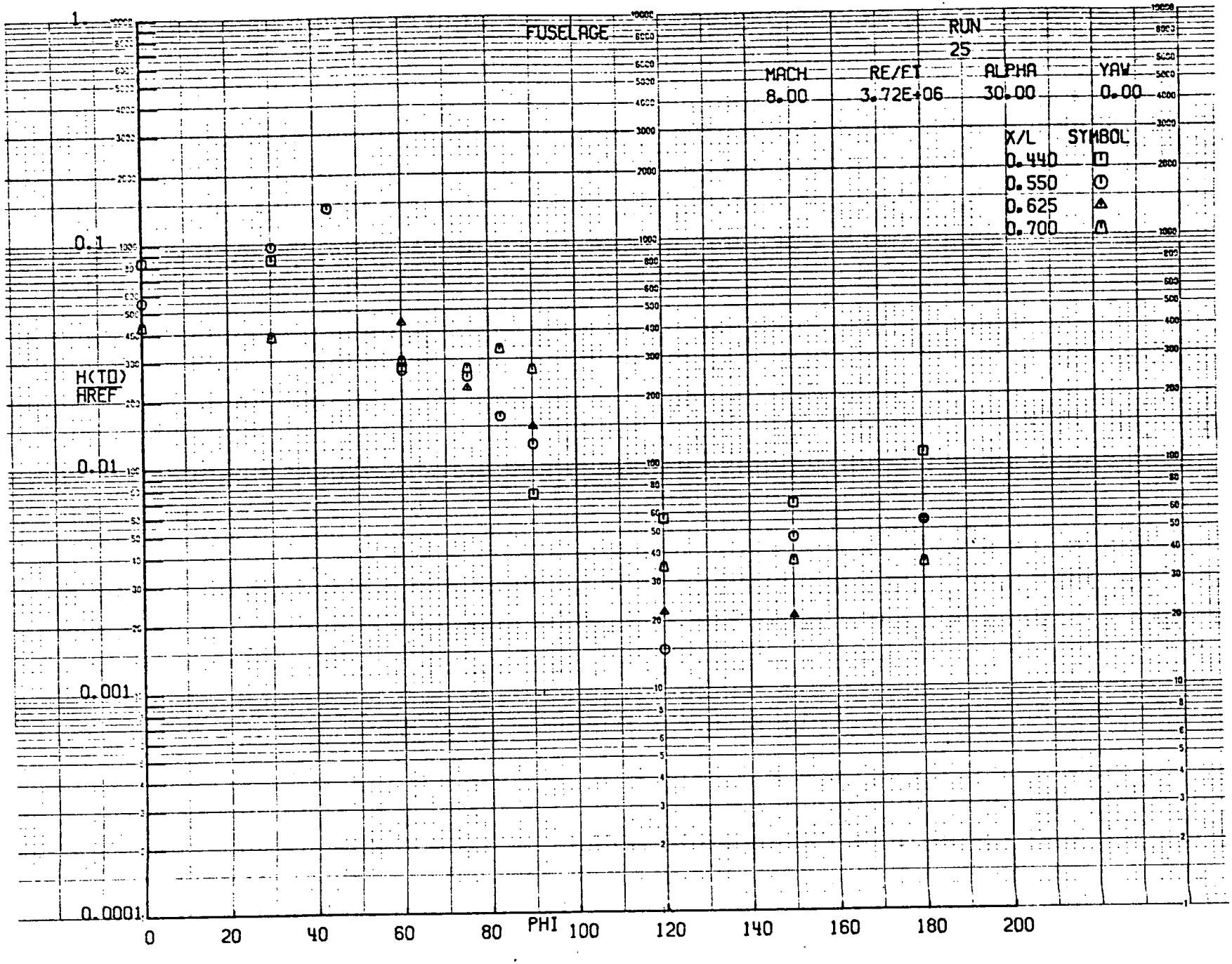
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X/L
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0.550
0.625
0.700
H(TO)
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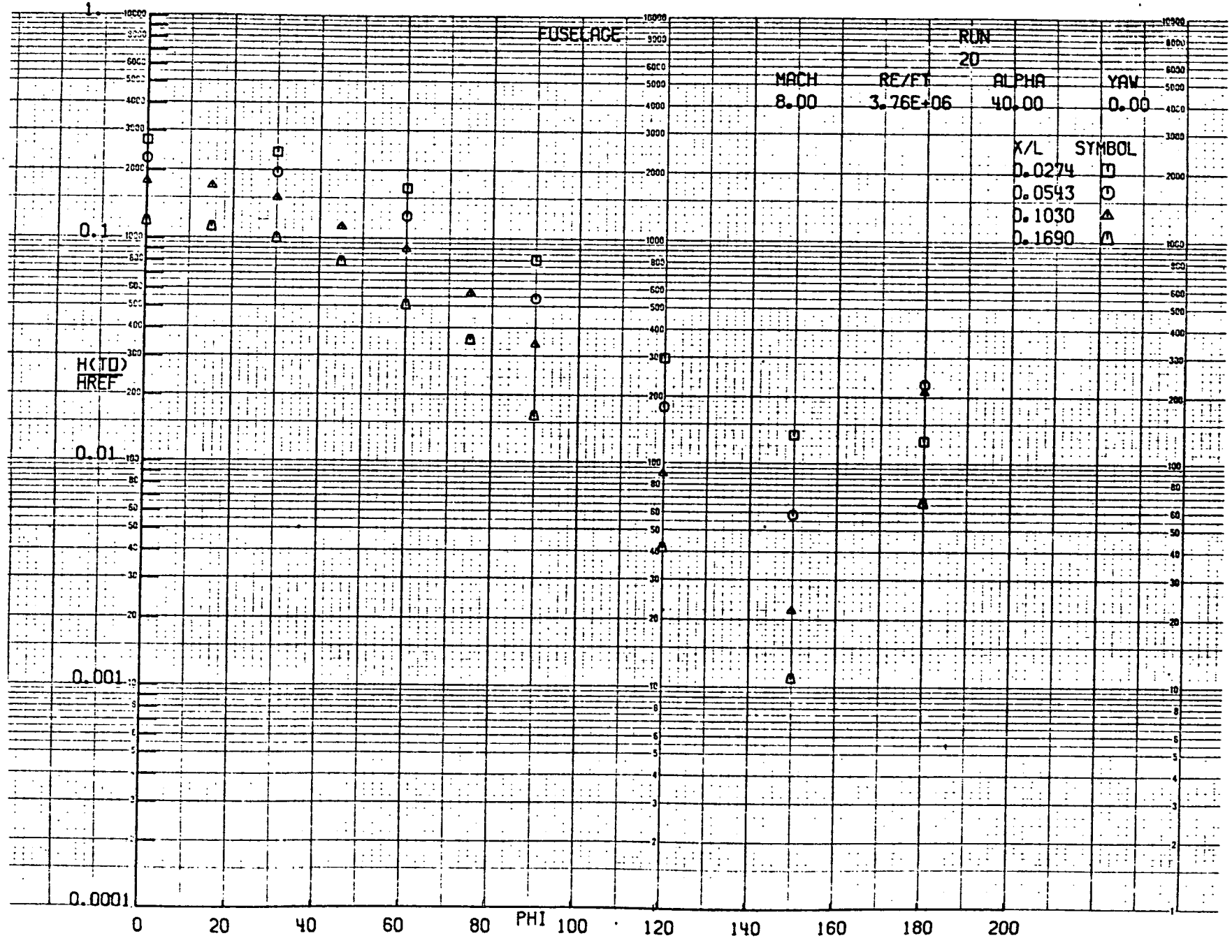
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ALPHA
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YAW
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X/L
SYMBOL
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0.0543
0.1030
0.1690
H(TD)
HREF
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PHI
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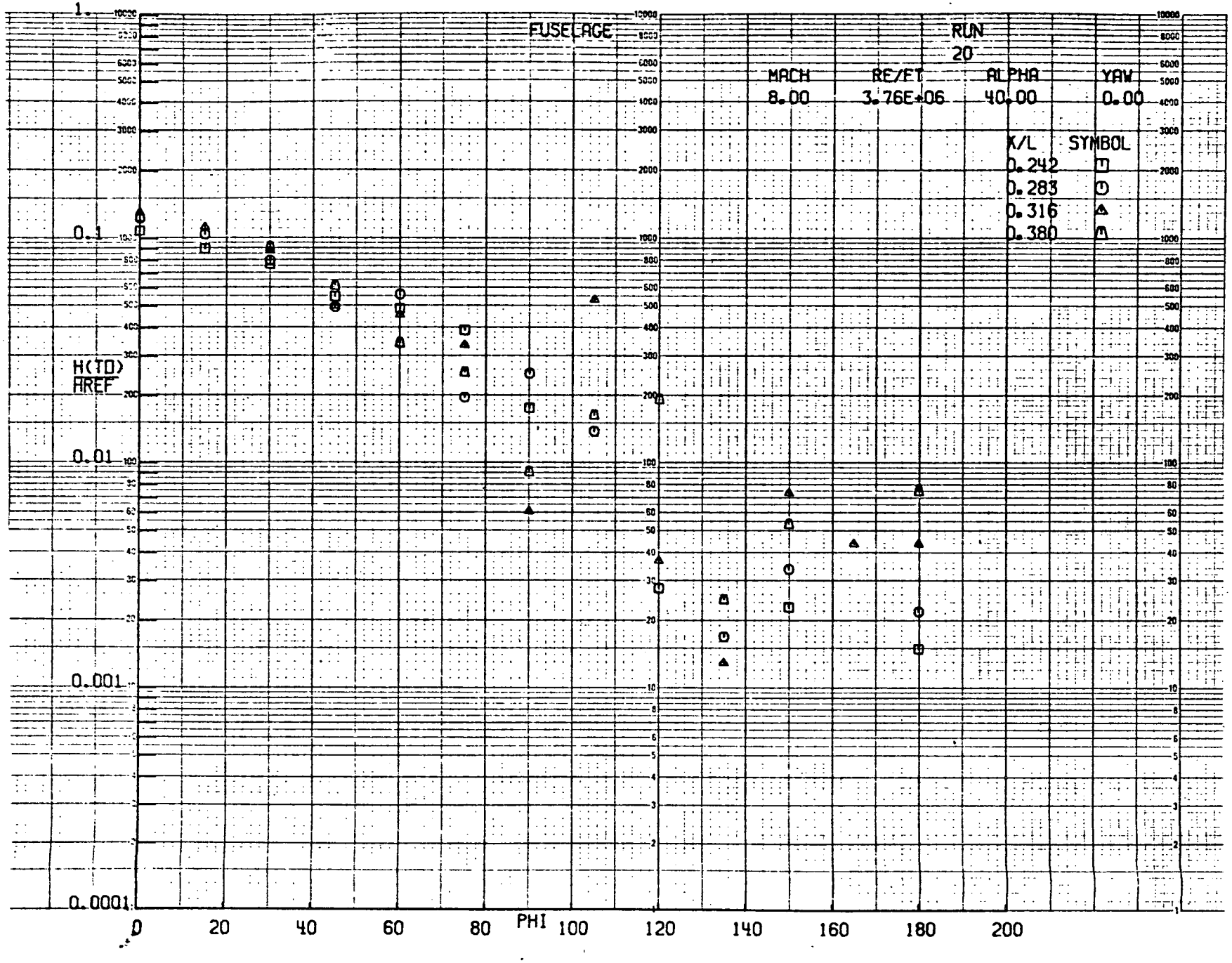
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YAW
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X/L
SYMBOL
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0.283
0.316
0.380
H(TD)
AREF
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0.0001
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PHI
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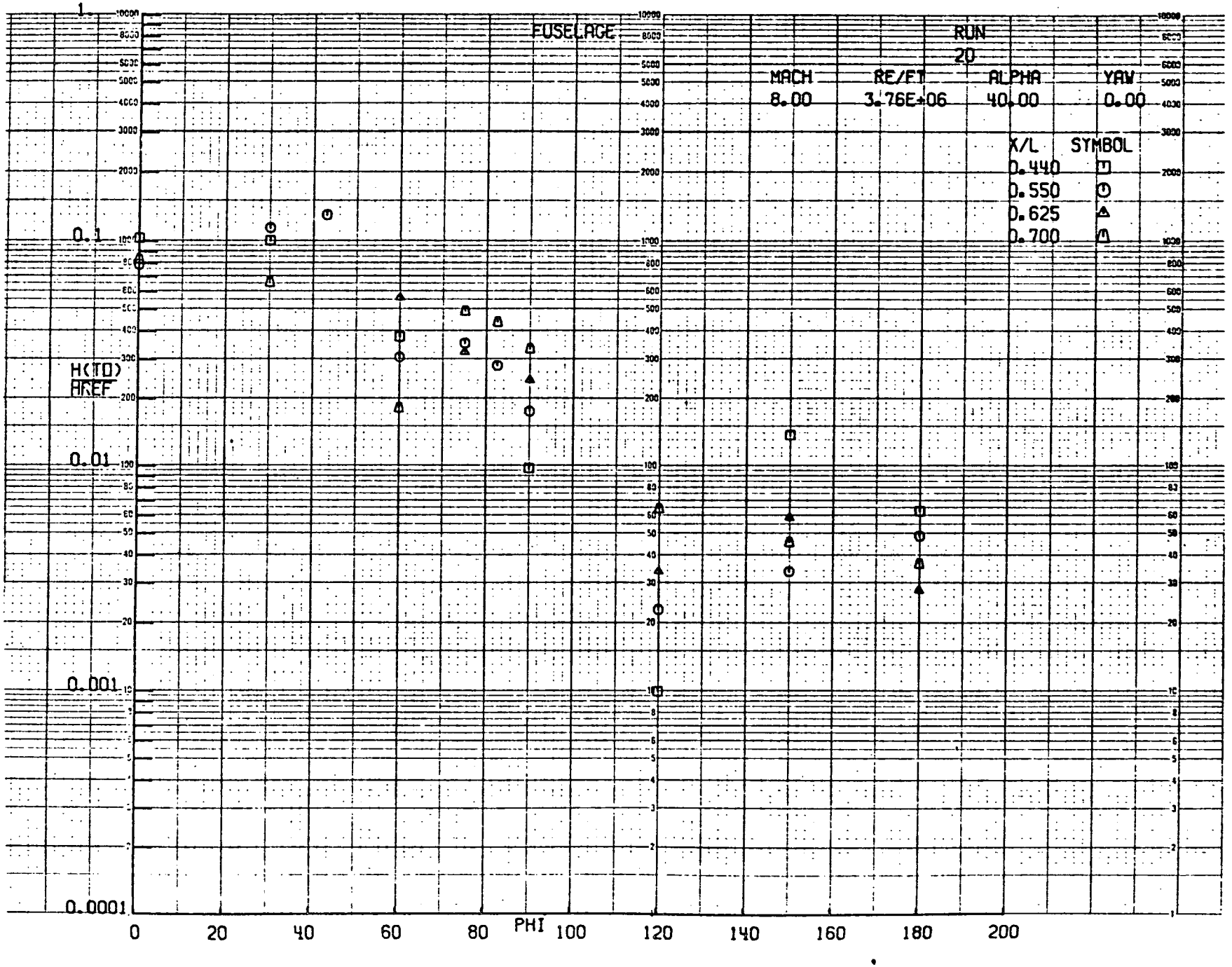
FUSELAGE
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MACH
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ALPHA
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YAW
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X/L
SYMBOL
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0.550
0.625
0.700
H(TO)
AREF
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PHI
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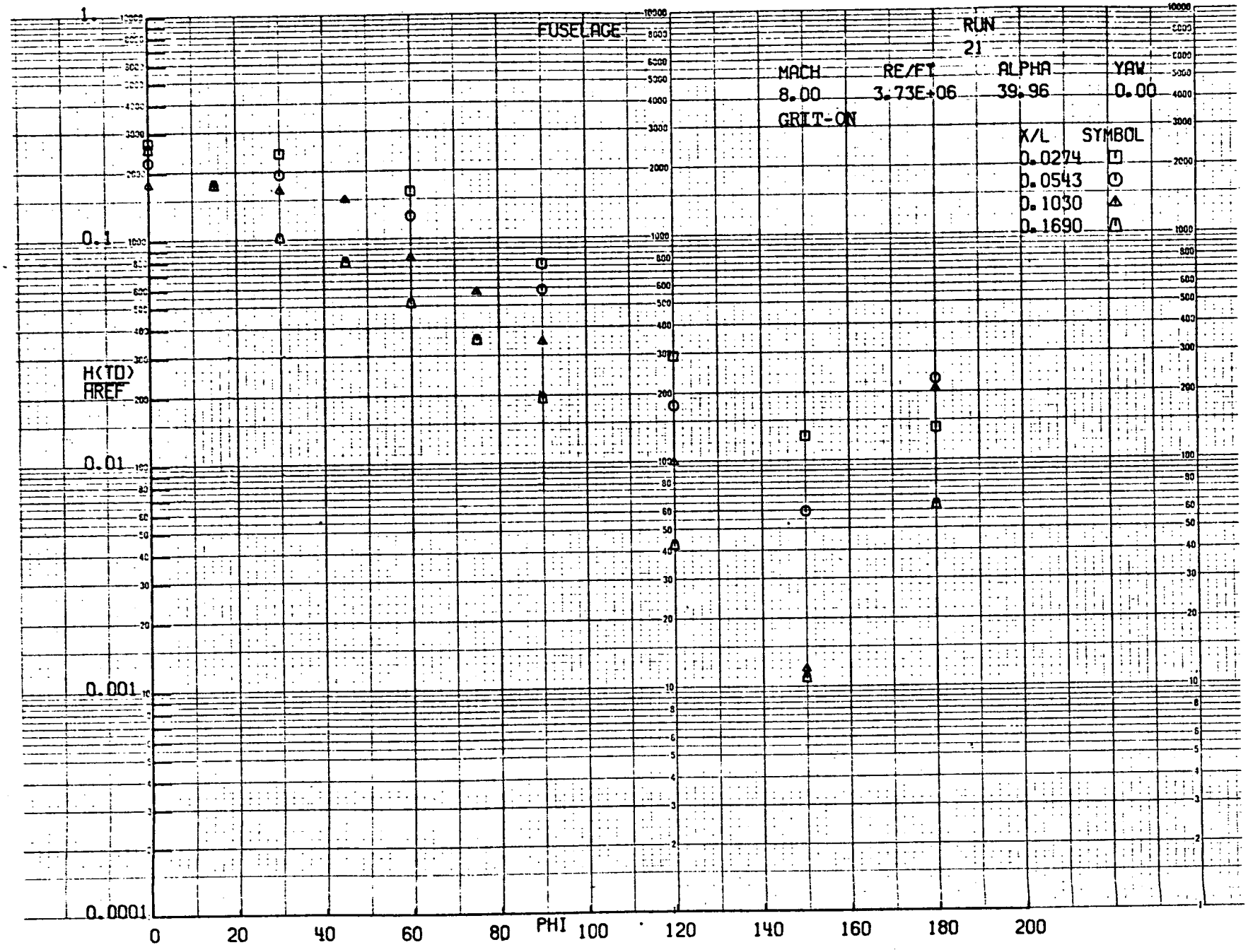
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YAW
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GRIT-ON
X/L
SYMBOL
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0.0543
0.1030
0.1690
H(TD)
AREF
1.
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0.0001
PHI
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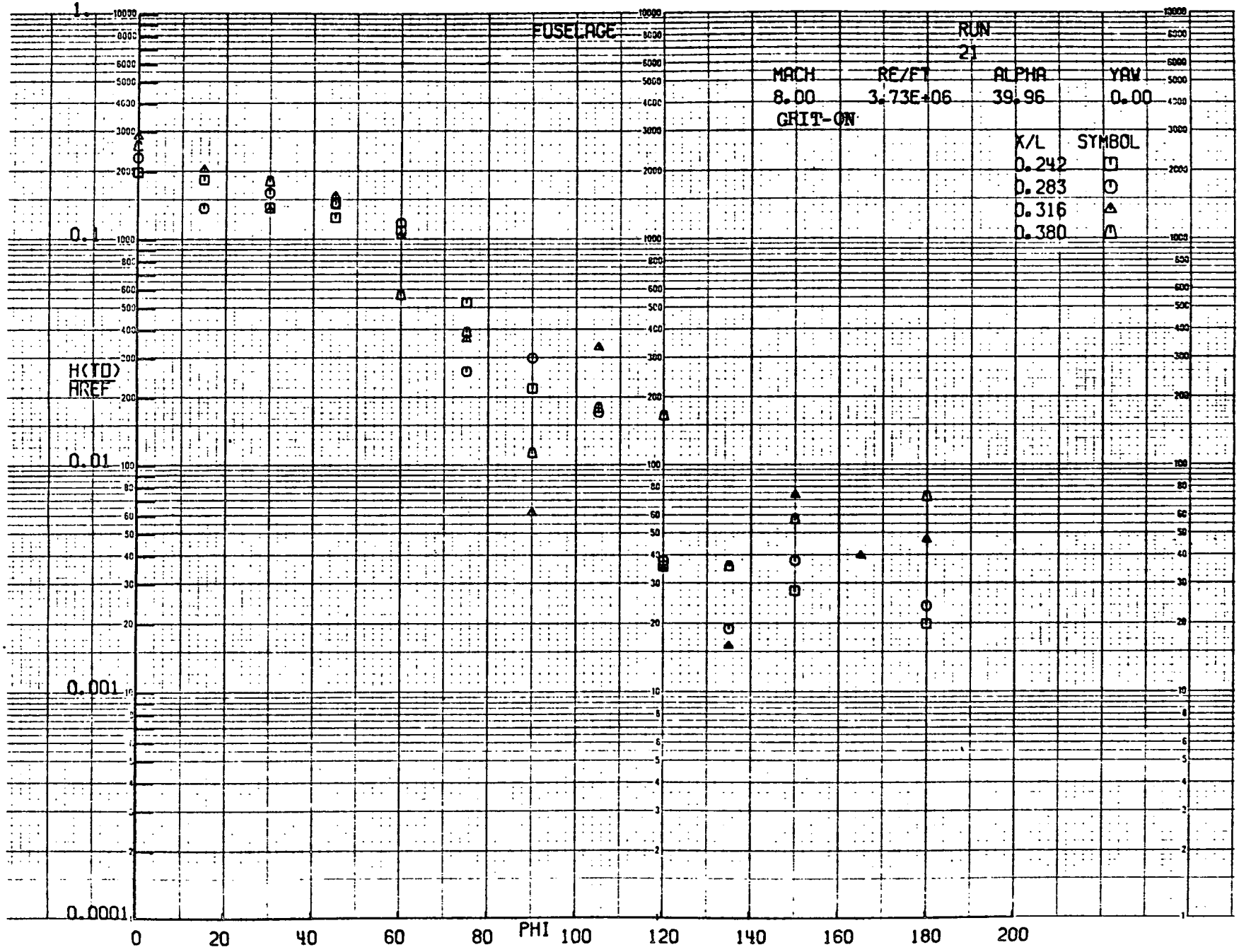
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MACH
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GRIT-ON
RE/FT
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ALPHA
39.96
YAW
0.00
X/L
SYMBOL
0.242
0.283
0.316
0.380
H(TO)
AREF
PHI
1.
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0.01
0.001
0.0001
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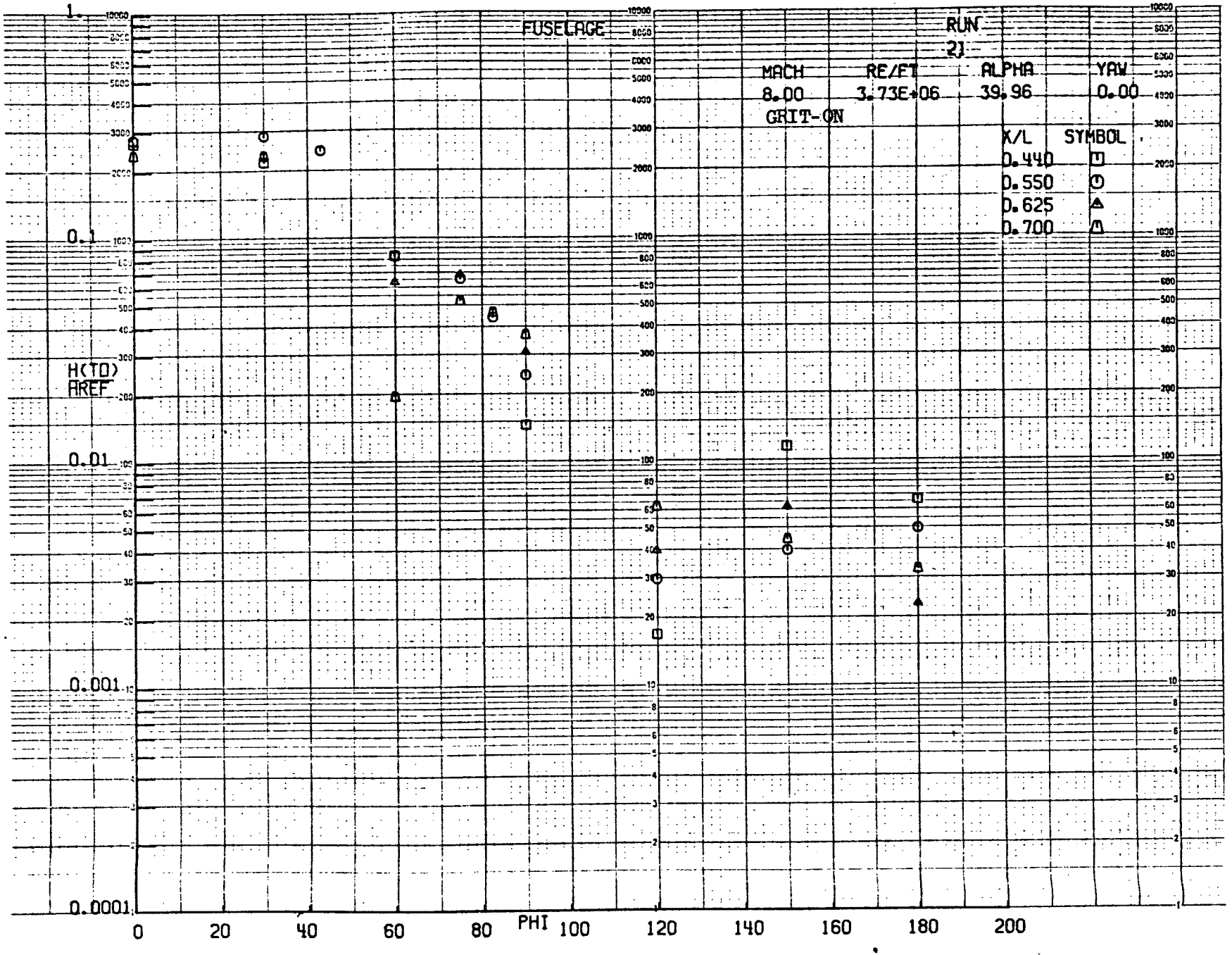
FUSELAGE
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MACH
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YAW
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GRIT-ON
X/L
SYMBOL
0.440
0.550
0.625
0.700
H(TD)
AREF
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PHI
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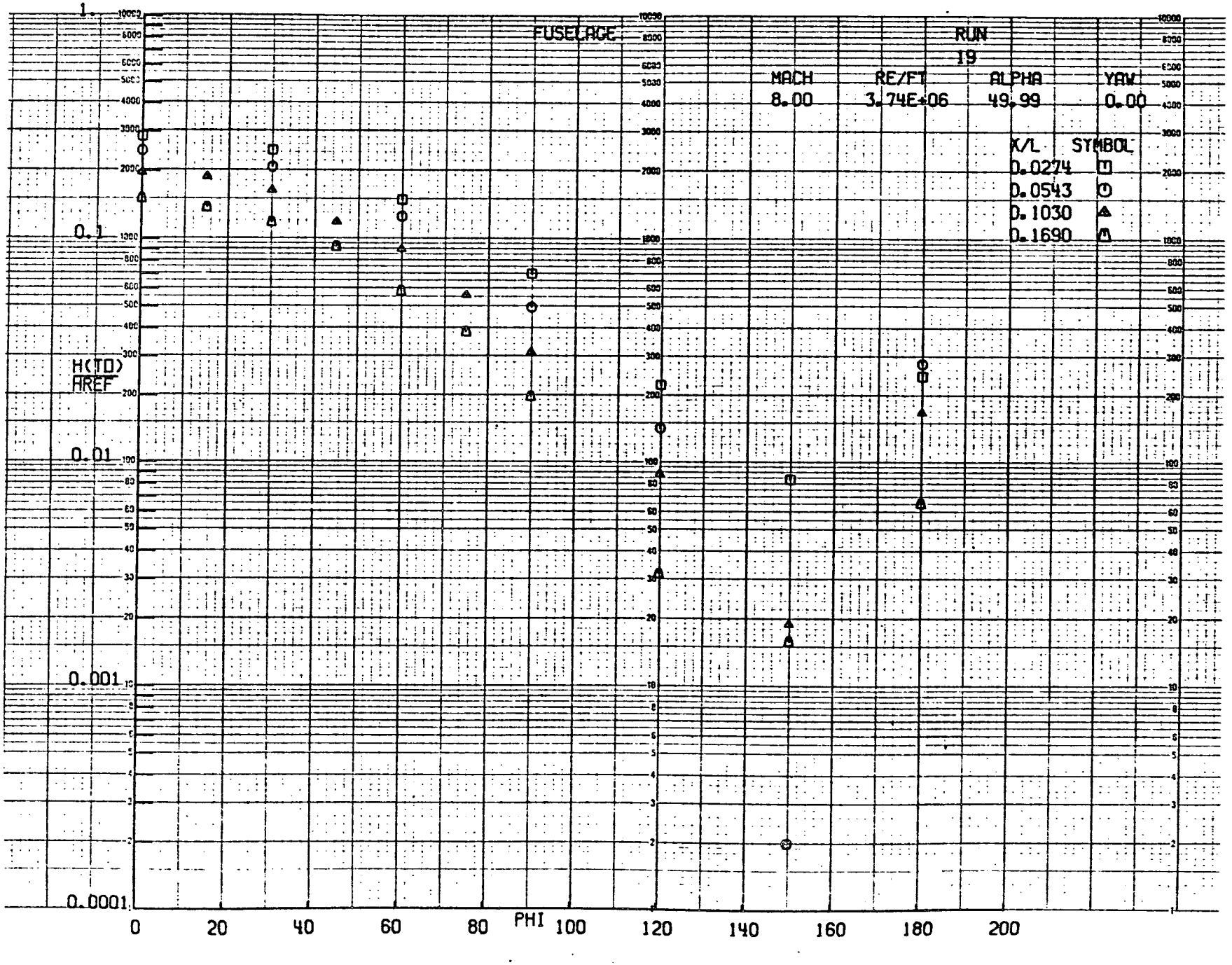
FUSELAGE
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X/L
SYMBOL
0.0274
0.0543
0.1030
0.1690
1.
0.1
0.01
0.001
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H(TD)
HREF
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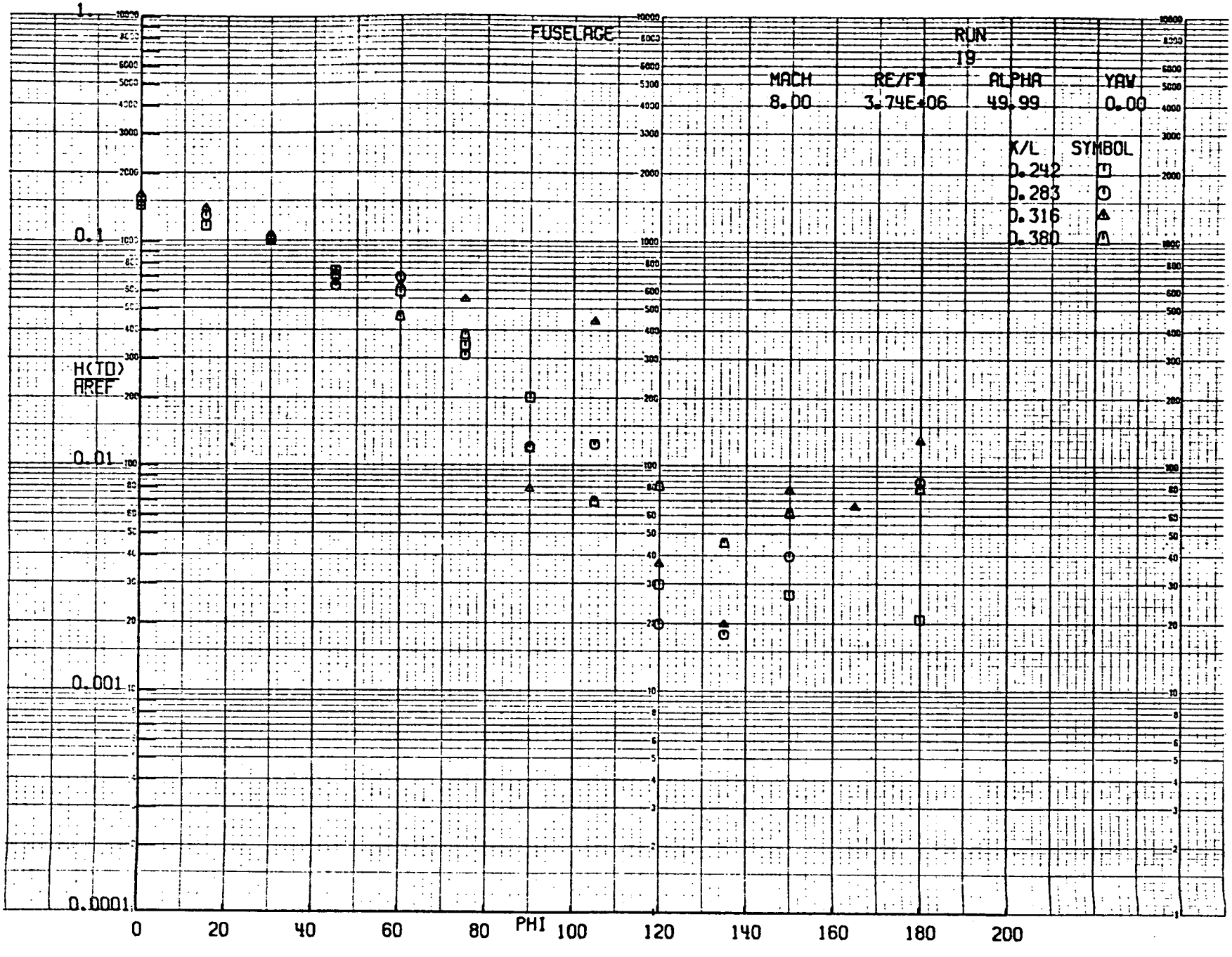
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YAW
0.00
X/L
SYMBOL
0.242
0.283
0.316
0.380
H(TD)
AREF
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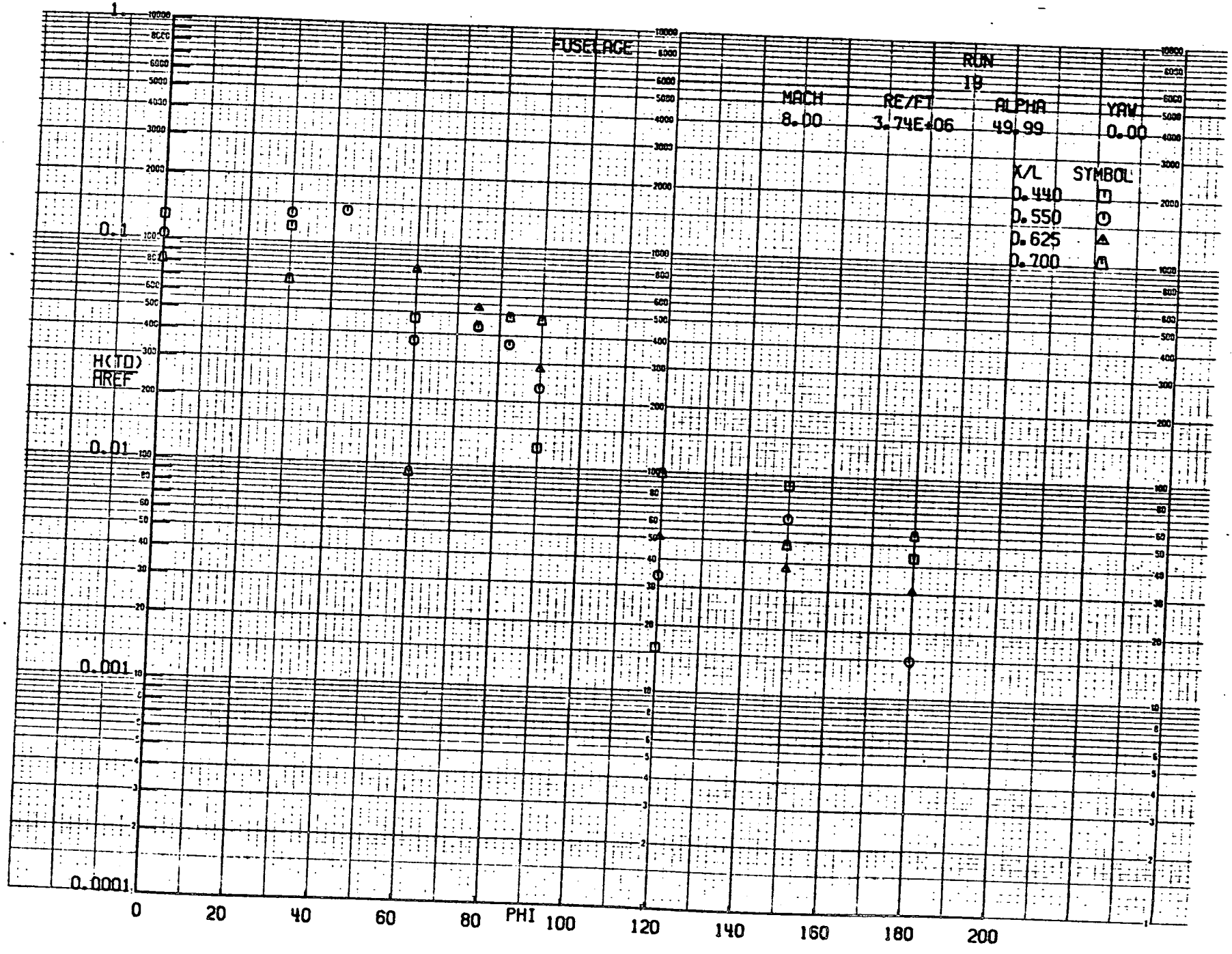
FUSELAGE
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MACH
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RE/FT
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ALPHA
49.99
YAW
0.00
X/L
SYMBOL
0.440
0.550
0.625
0.700
H(TD)
AREF
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0.001
0.0001
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PHI
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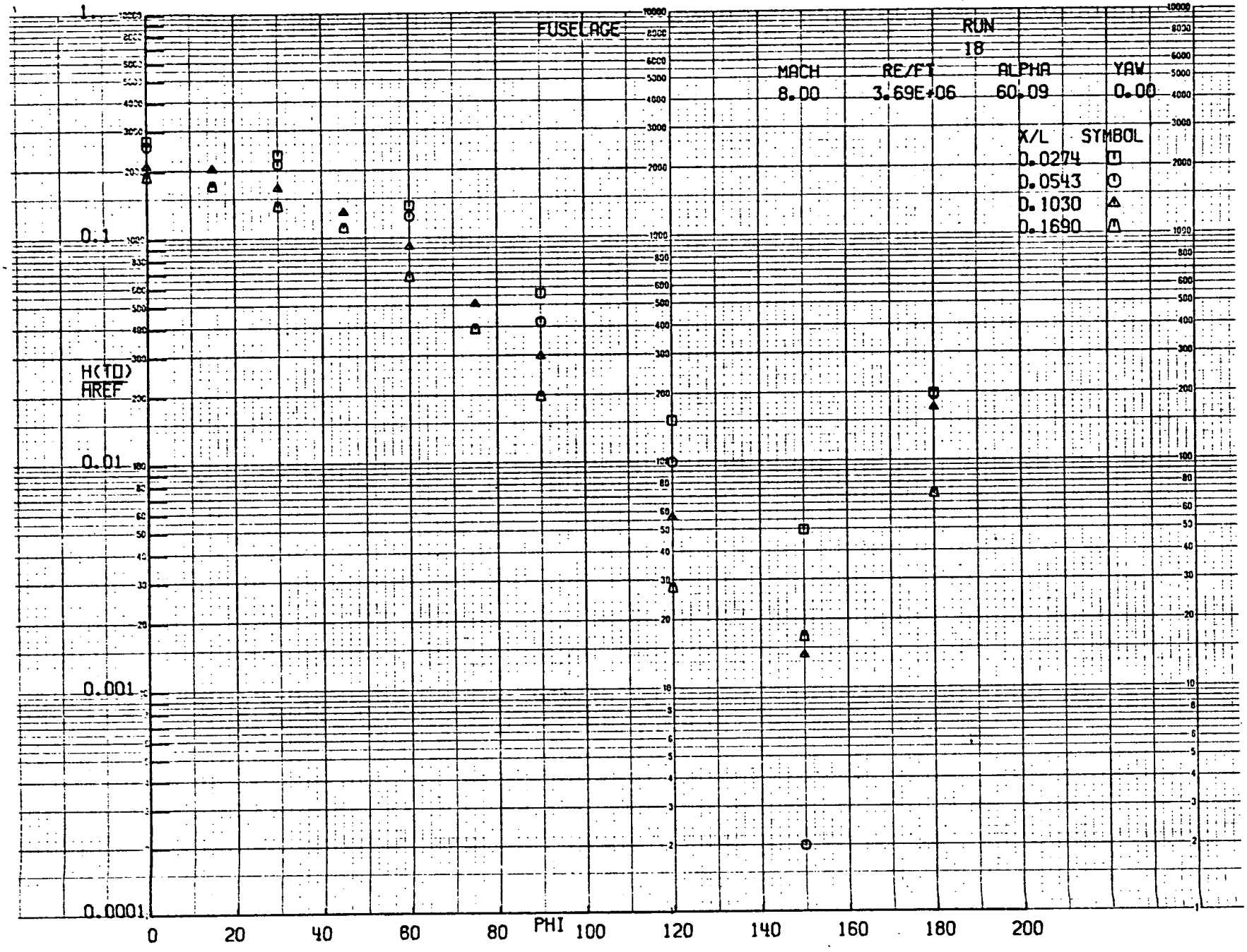
FUSELAGE
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YAW
0.00
X/L
SYMBOL
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0.0543
0.1030
0.1690
H(TD)
AREF
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0.001
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PHI
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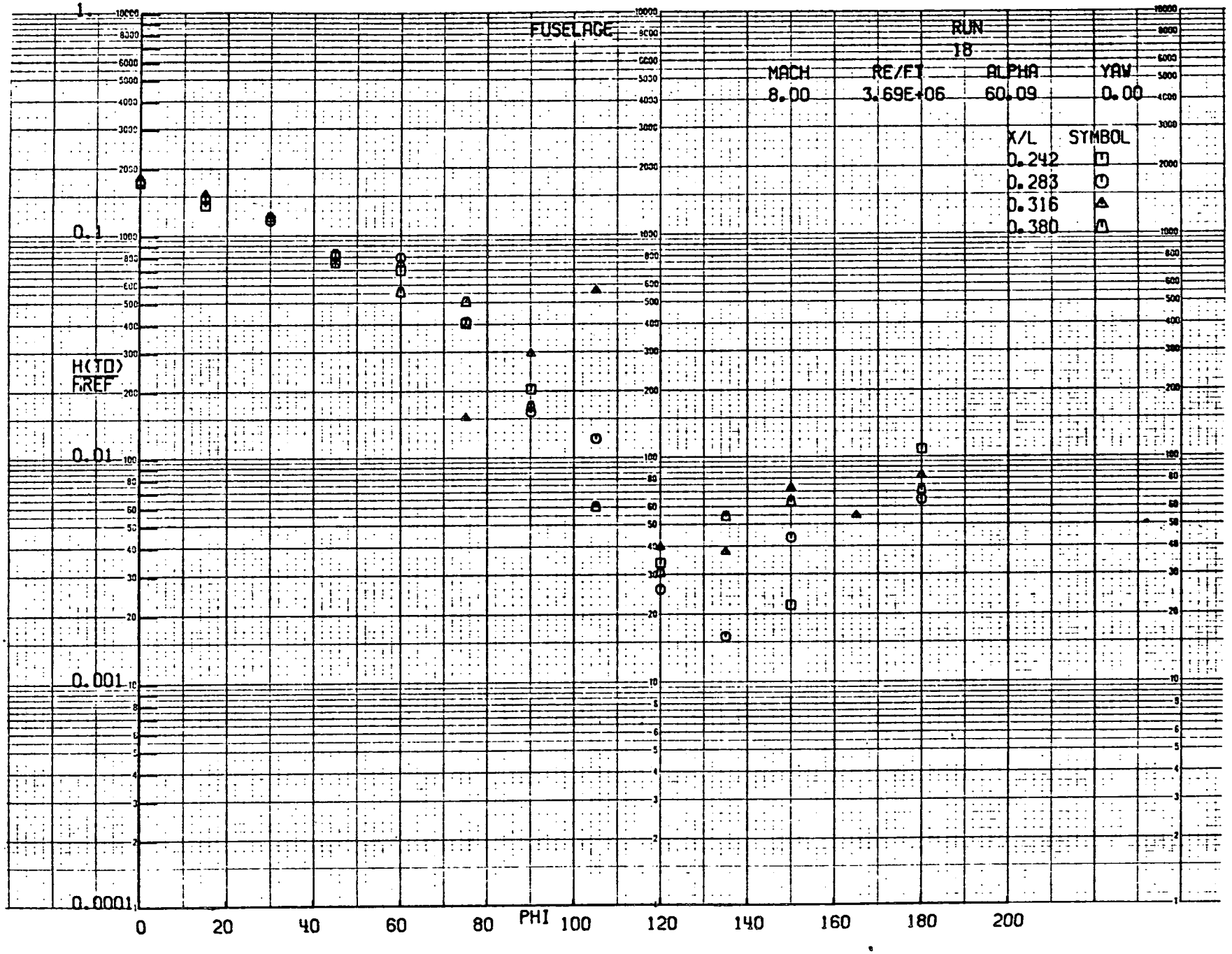
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RE/FT
3.69E+06
ALPHA
60.09
YAW
0.00
X/L
SYMBOL
0.242
0.283
0.316
0.380
H(TD)
FREF
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PHI
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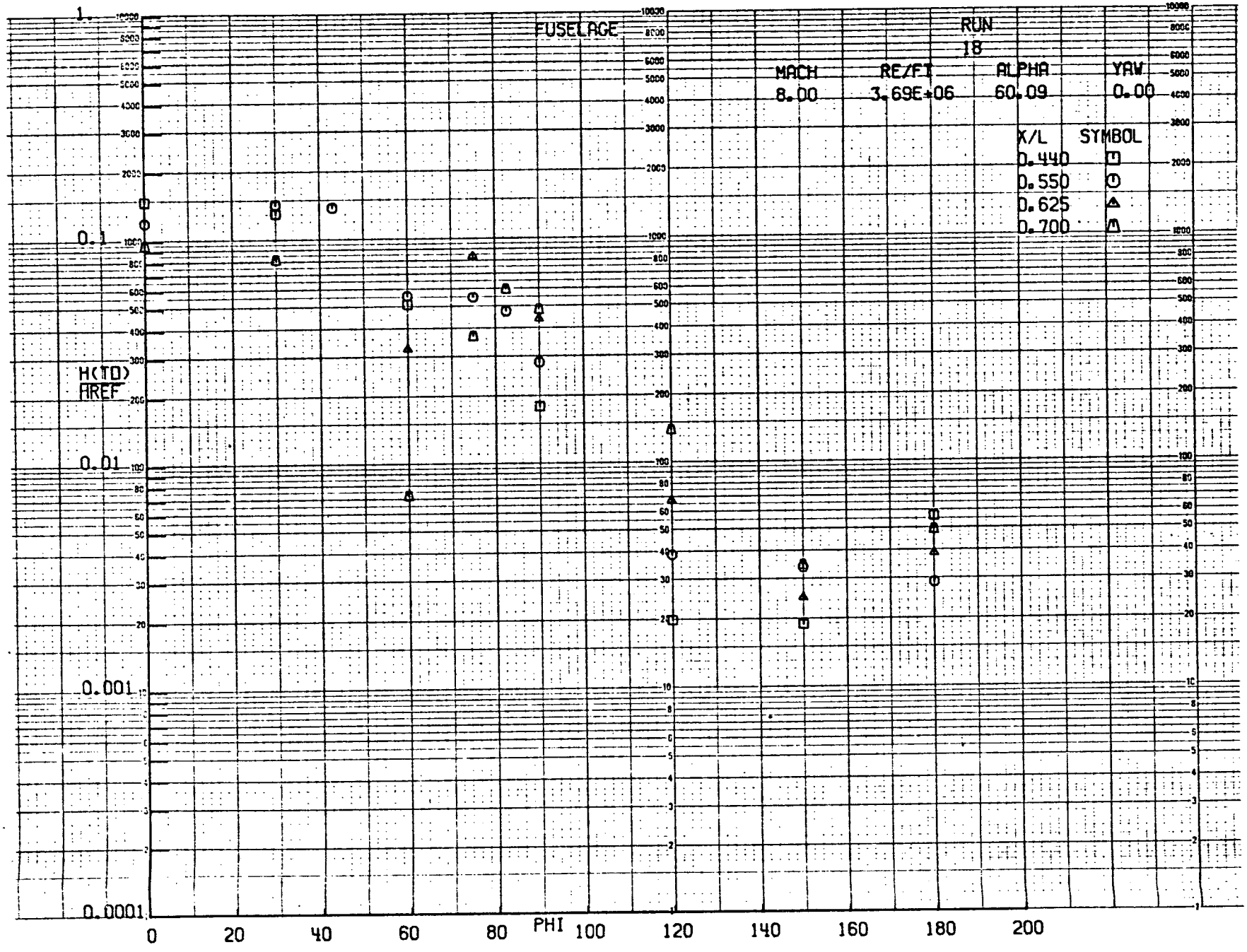
FUSELAGE
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RE/FT
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ALPHA
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YAW
0.00
X/L
SYMBOL
0.440
0.550
0.625
0.700
H(TO)
AREF
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0.001
0.0001
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PHI
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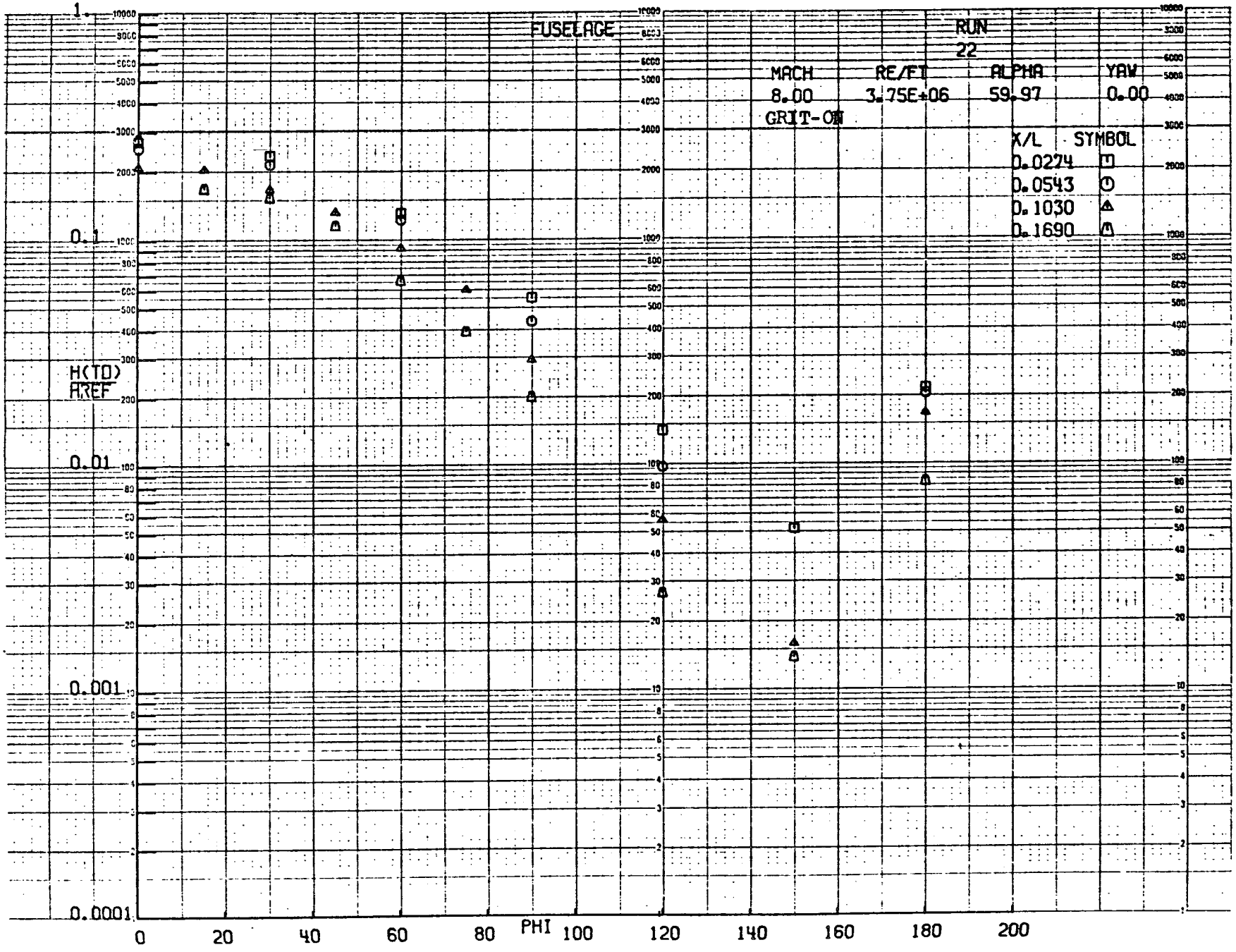
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ALPHA
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YAW
0.00
GRIT-ON
X/L
SYMBOL
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0.0543
0.1030
0.1690
H(TO)
AREF
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0.01
0.001
0.0001
0
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80
PHI
100
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140
160
180
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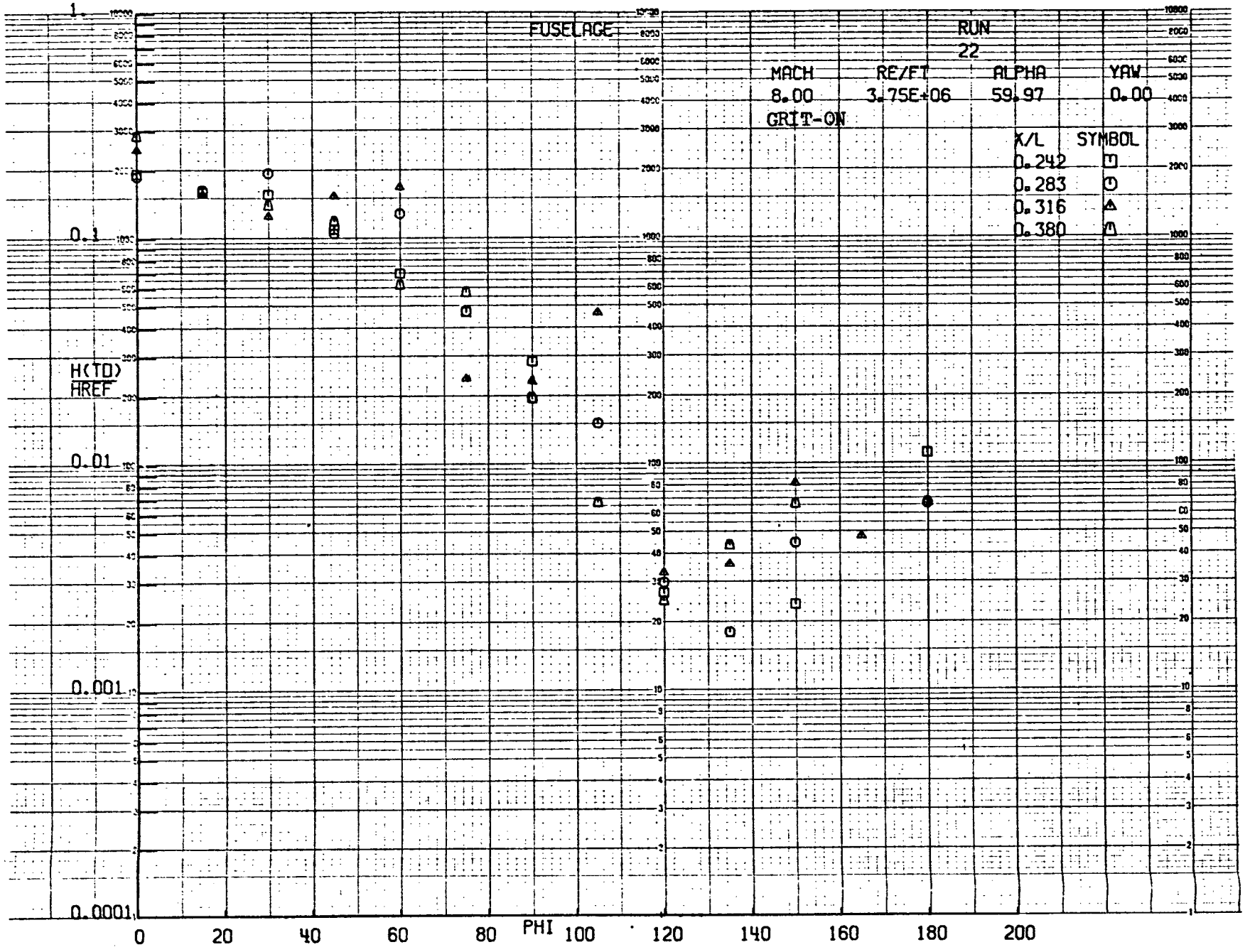
FUSELAGE
RUN
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MACH
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RE/FT
3.75E+06
ALPHA
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YAW
0.00
GRIT-ON
X/L
SYMBOL
0.242
0.283
0.316
0.380
H(TD)
HREF
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0.001
0.0001
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PHI
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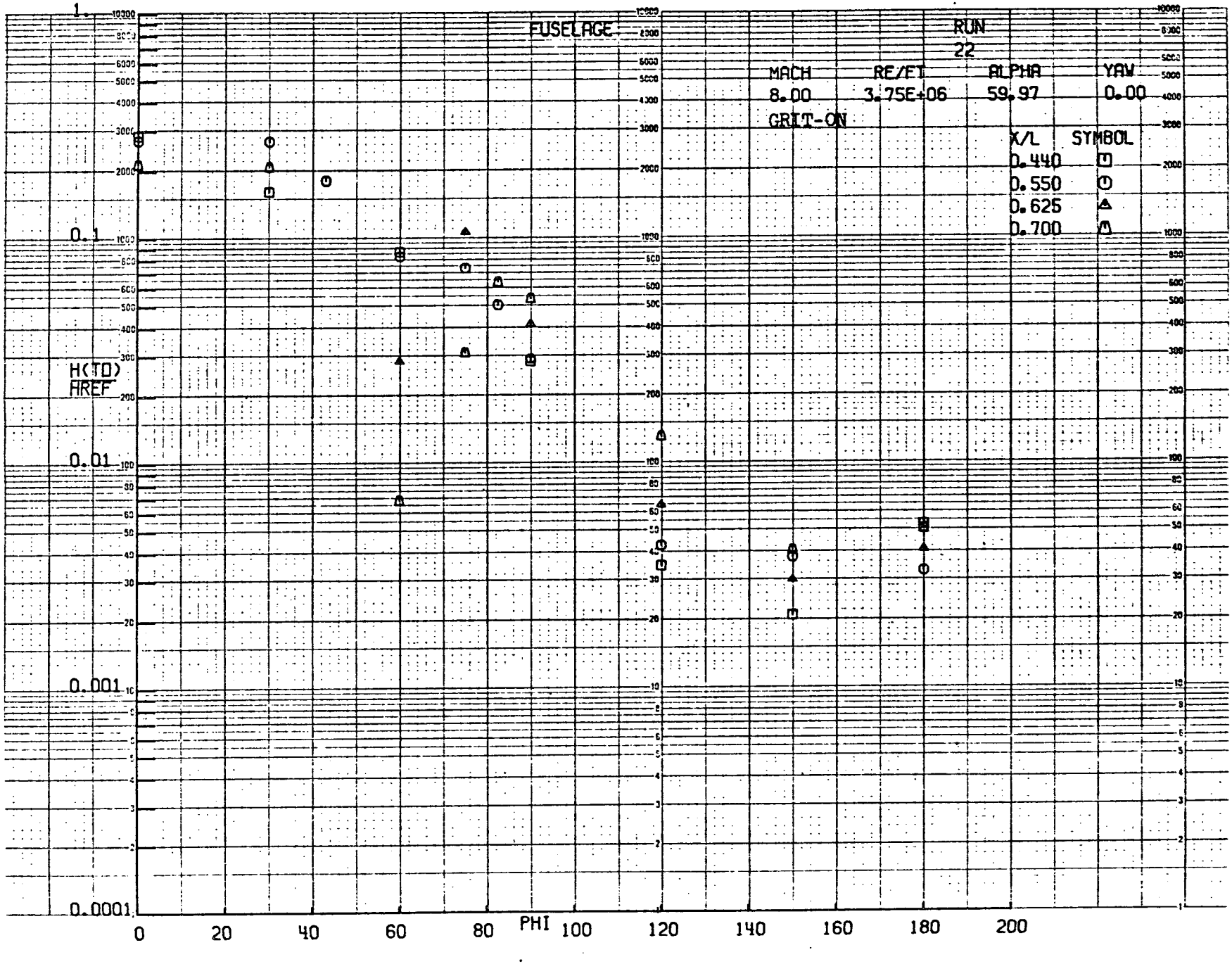
FUSELAGE
RUN
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MACH
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RE/FT
3.75E+06
ALPHA
59.97
YAW
0.00
GRIT-ON
X/L
SYMBOL
0.440
0.550
0.625
0.700
H(TD)
HREF
1.
0.1
0.01
0.001
0.0001
0
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80
PHI
100
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140
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180
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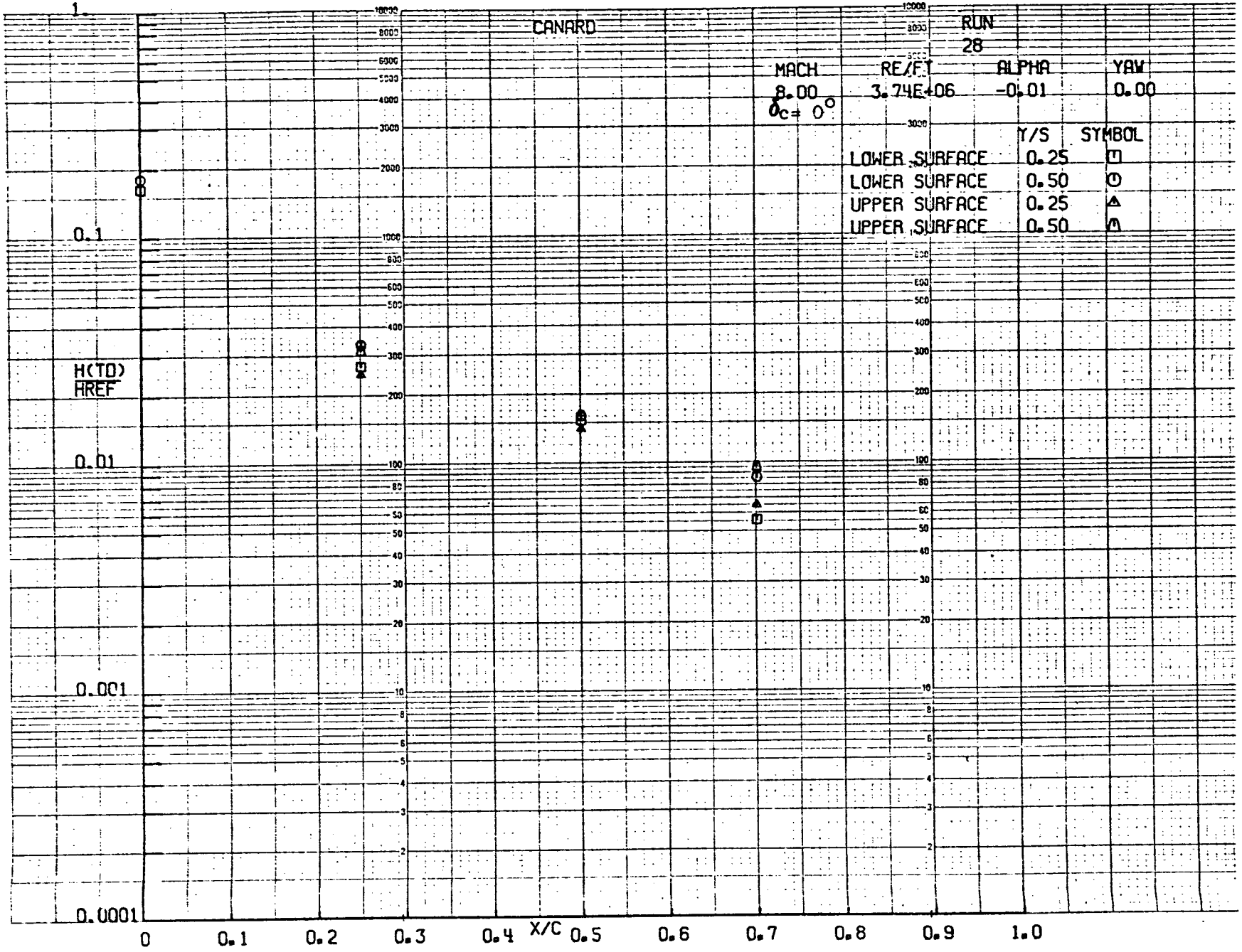
CANARD
RUN
28
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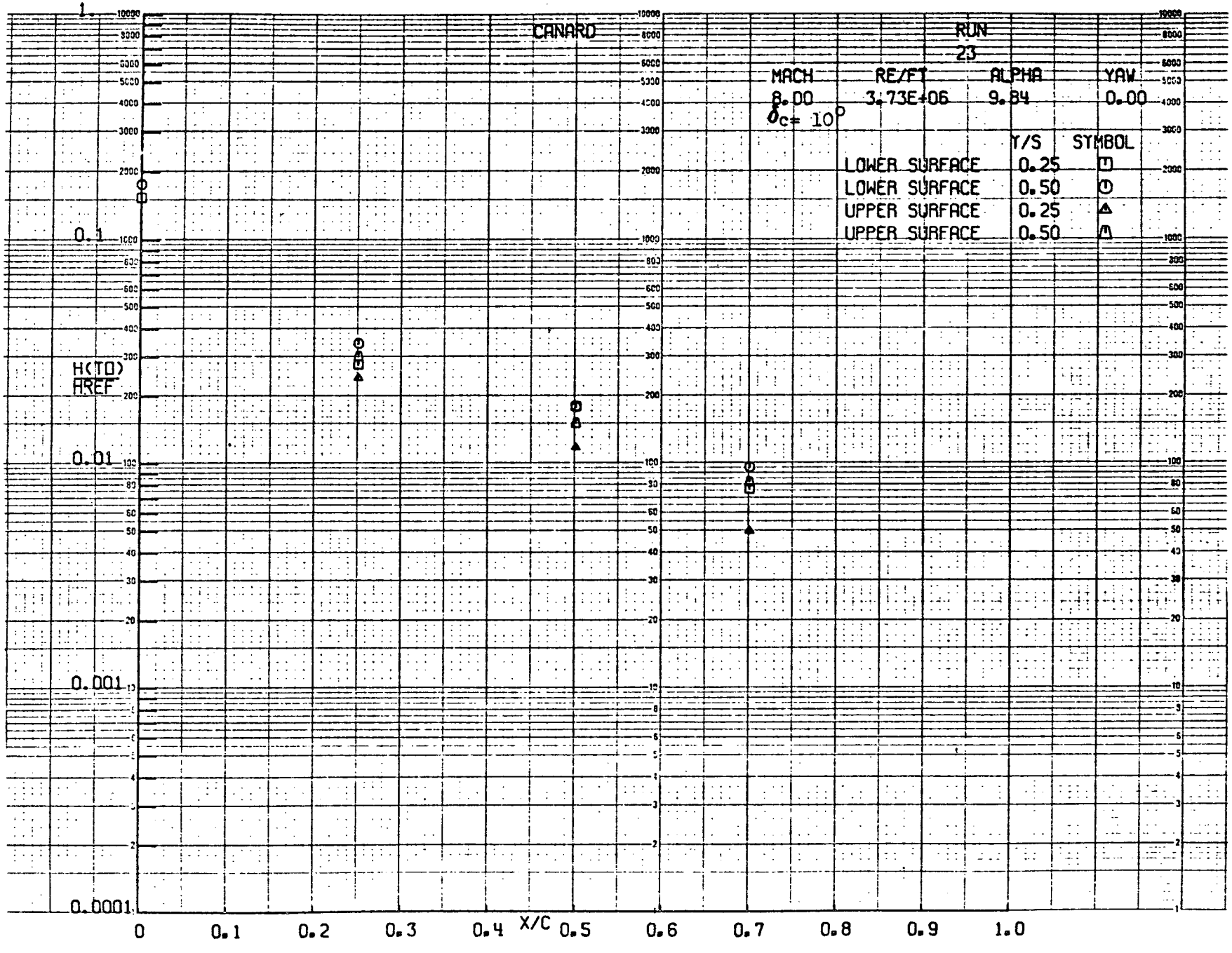
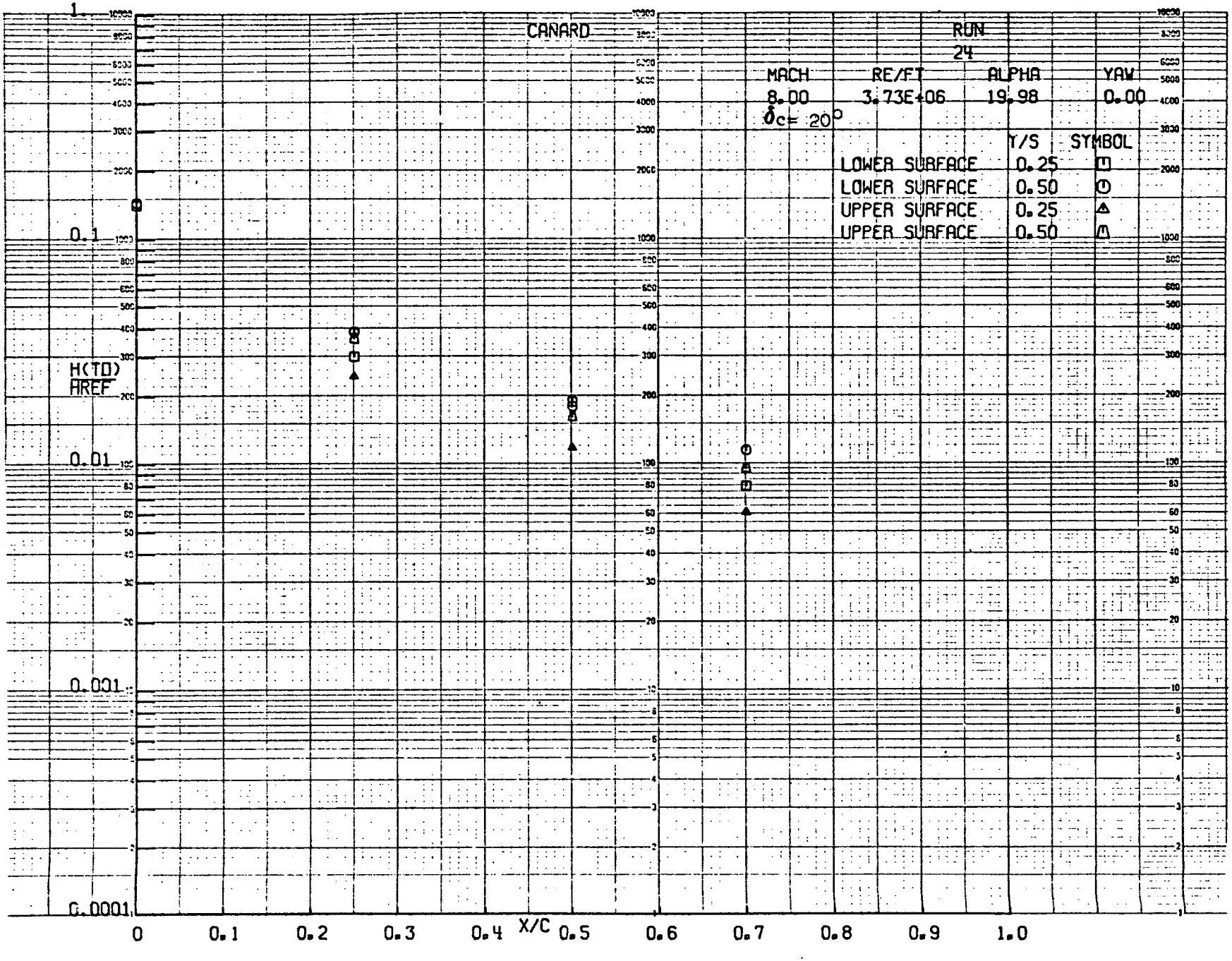
8.00
RE/FT
3.74E+06
ALPHA
-0.01
YAW
0.00
δ_c= 0°
Y/S
SYMBOL
LOWER SURFACE 0.25
LOWER SURFACE 0.50
UPPER SURFACE 0.25
UPPER SURFACE 0.50
H(TO)
HREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0


CANARD
RUN
23
MACH
8.00
RE/FT
3.73E+06
ALPHA
9.84
YAW
0.00
δ_c= 10°
Y/S
SYMBOL
LOWER SURFACE 0.25
LOWER SURFACE 0.50
UPPER SURFACE 0.25
UPPER SURFACE 0.50
H(TO)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0


CANARD
RUN
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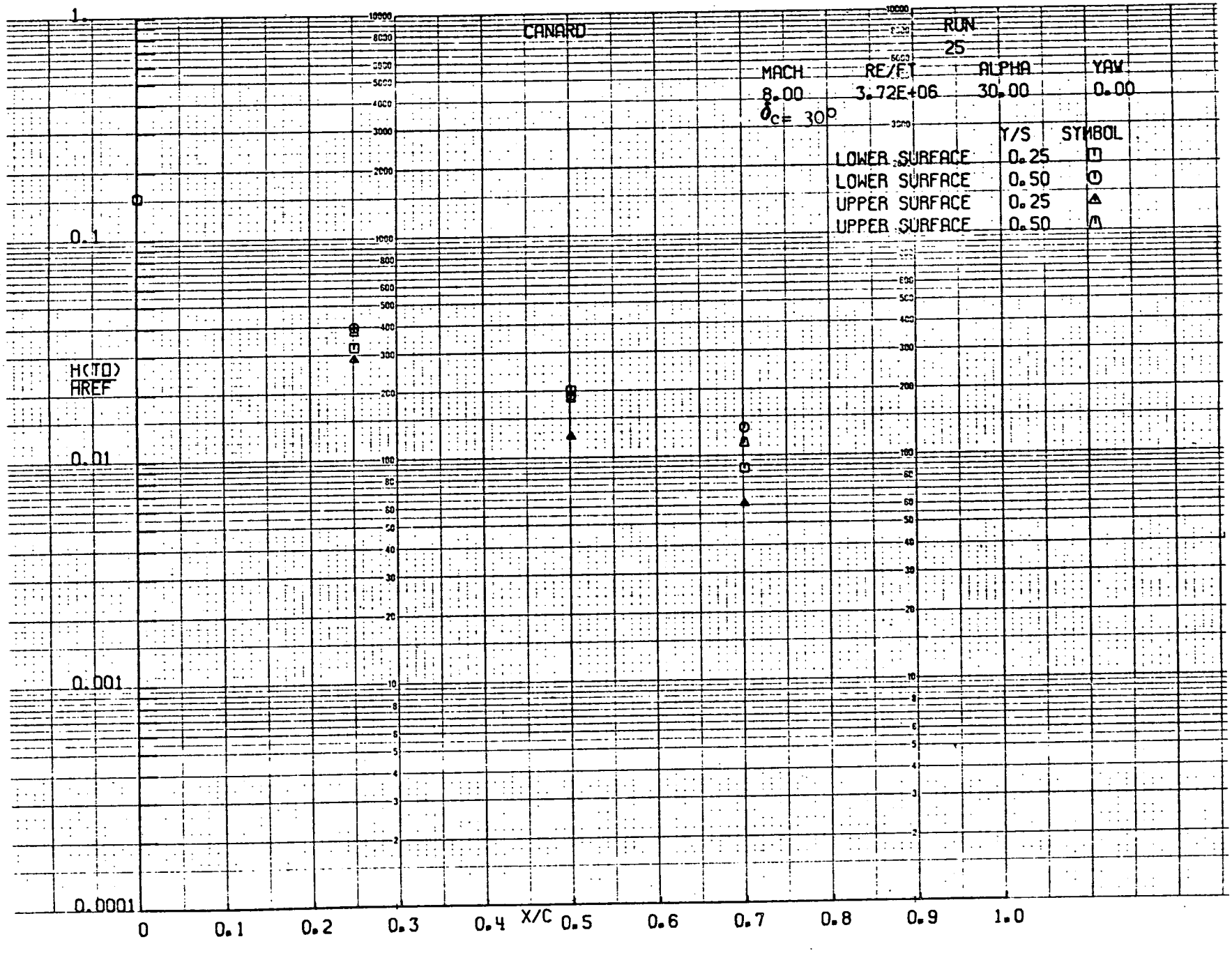
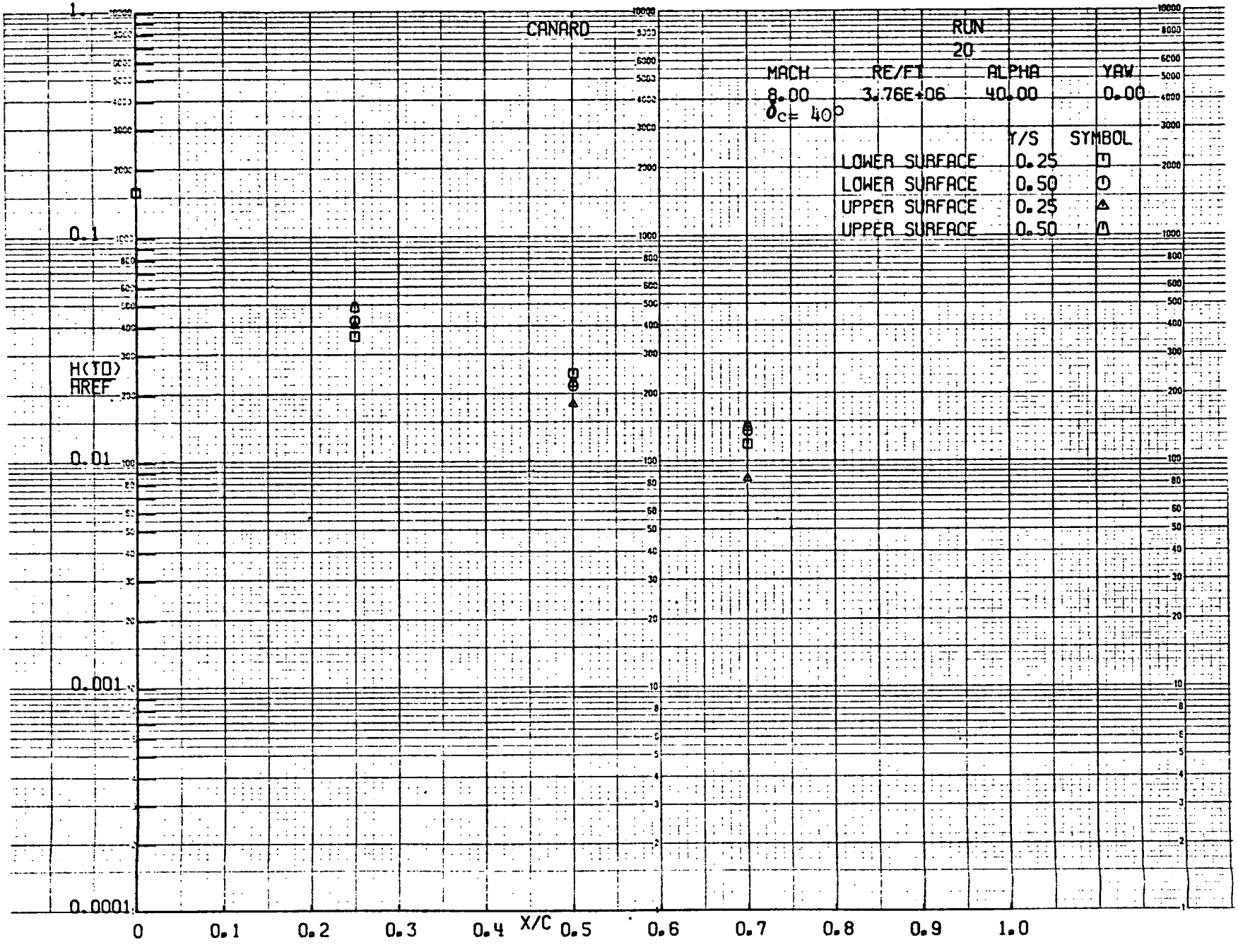
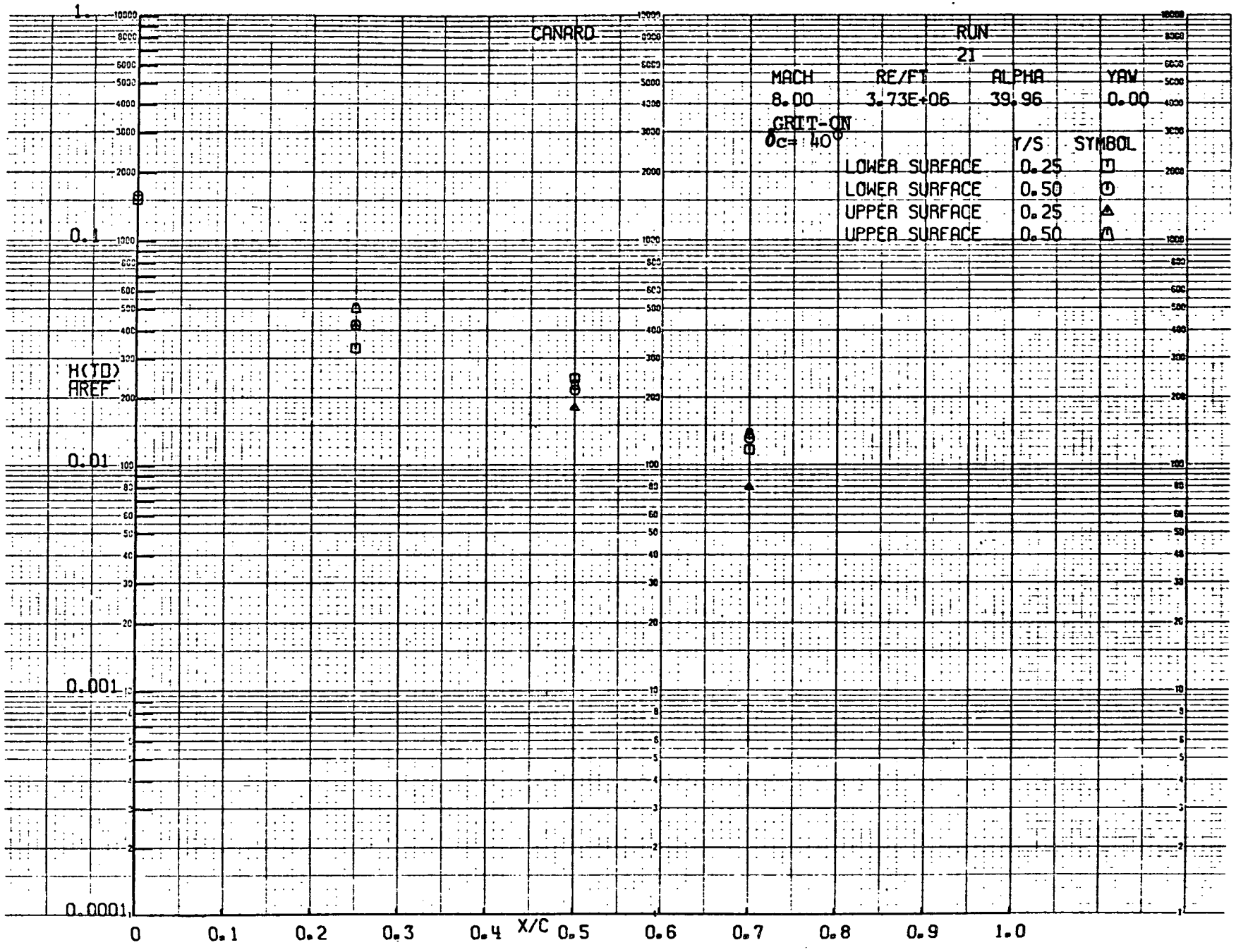
MACH
8.00
RE/FT
3.73E+06
ALPHA
19.98
YAW
0.00
δ_c= 20°
Y/S
SYMBOL
LOWER SURFACE
0.25
LOWER SURFACE
0.50
UPPER SURFACE
0.25
UPPER SURFACE
0.50
1.
0.1
0.01
0.001
0.0001
H(TO)
HREF
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0


CANARD
RUN
25
MACH
8.00
RE/FT
3.72E+06
ALPHA
30.00
YAW
0.00
δ_c= 30°
Y/S
SYMBOL
LOWER SURFACE
0.25
LOWER SURFACE
0.50
UPPER SURFACE
0.25
UPPER SURFACE
0.50
H(TO)
HREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0


CANARD
RUN
20
MACH
8.00
RE/FT
3.76E+06
ALPHA
40.00
YAW
0.00
δ_c= 40°
Y/S
SYMBOL
LOWER SURFACE
0.25
LOWER SURFACE
0.50
UPPER SURFACE
0.25
UPPER SURFACE
0.50
H(TO)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0


CANARD
RUN
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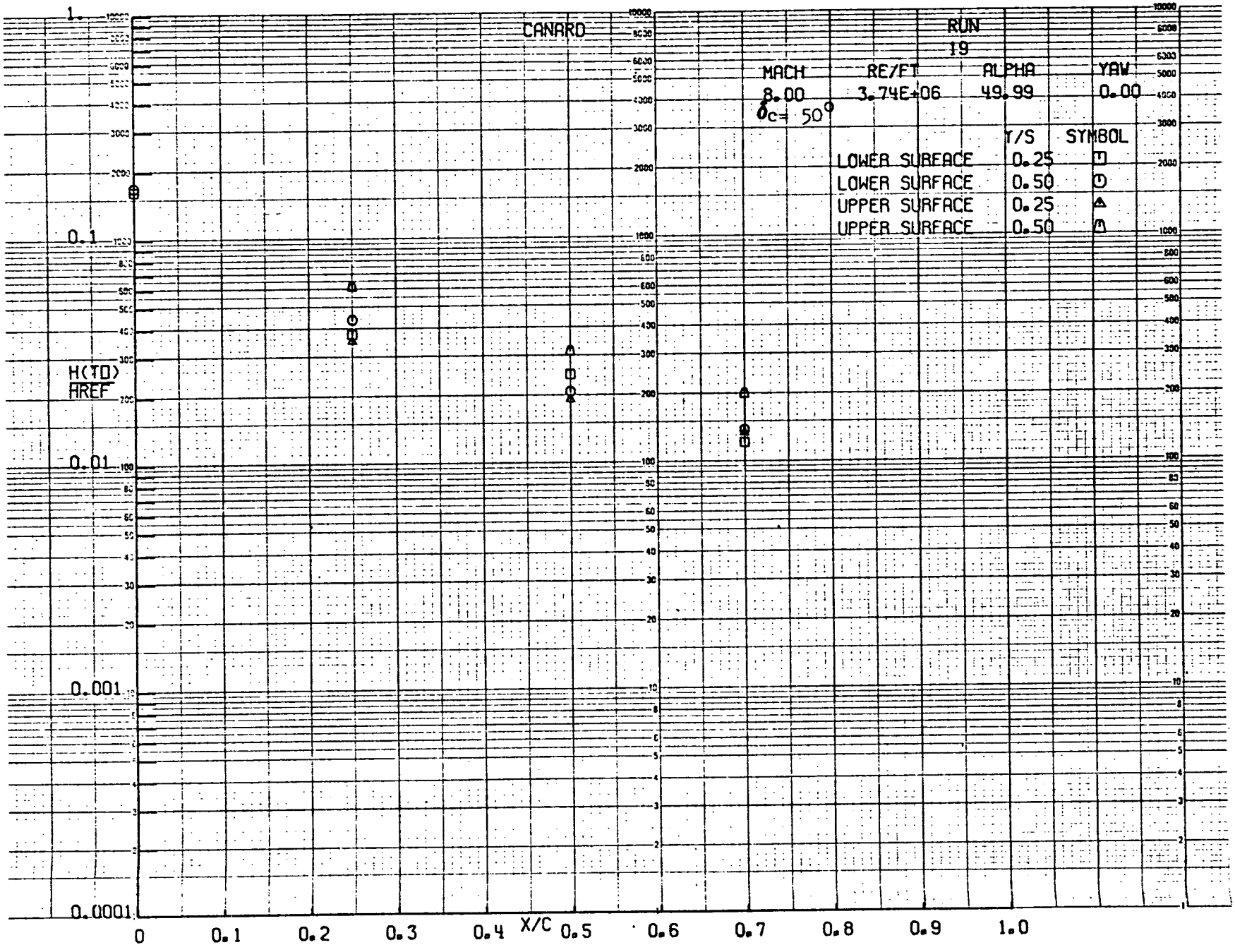
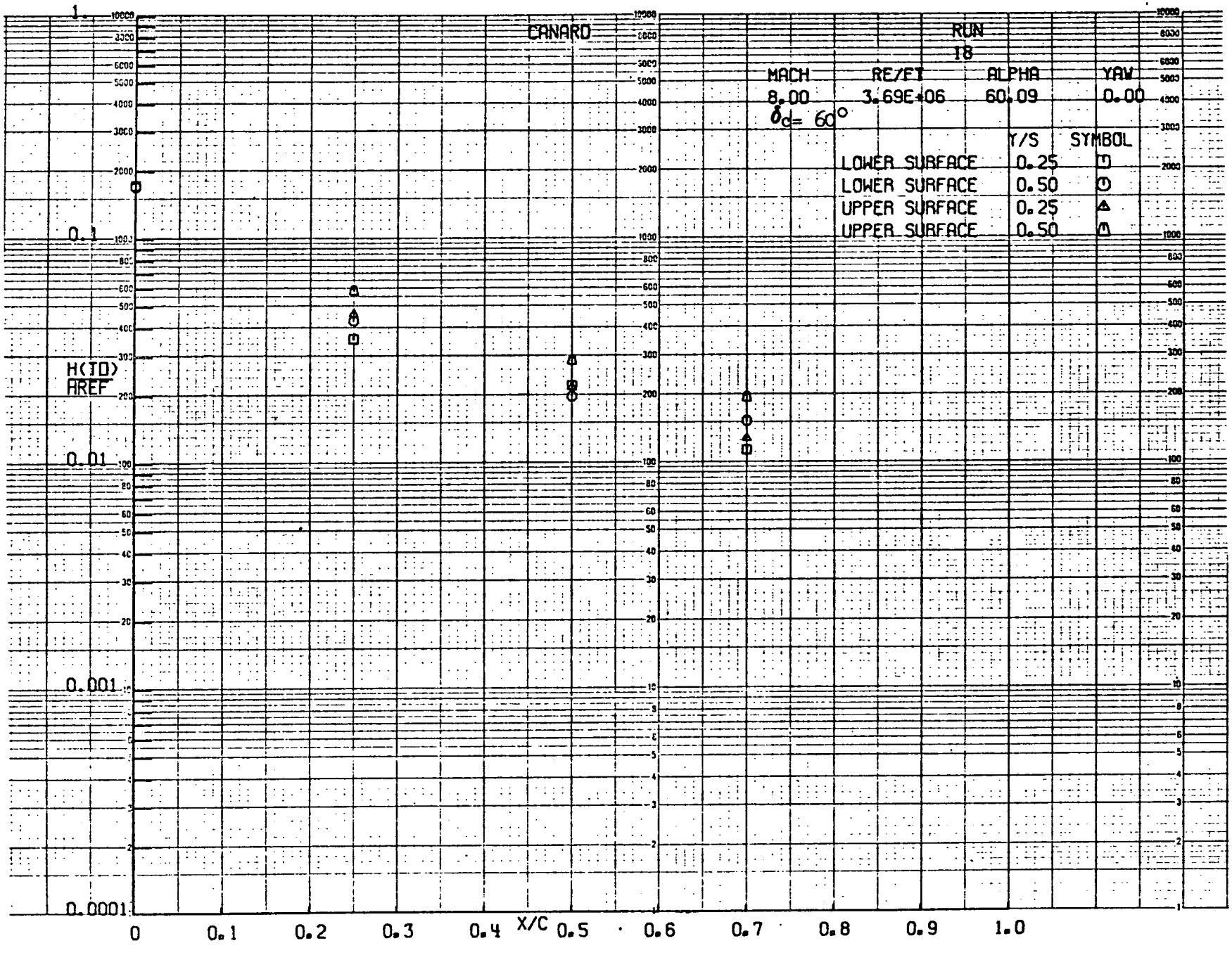
MACH
8.00
RE/FT
3.73E+06
ALPHA
39.96
YAW
0.00
GRIT-ON
δc= 40°
Y/S
SYMBOL
LOWER SURFACE
0.25
LOWER SURFACE
0.50
UPPER SURFACE
0.25
UPPER SURFACE
0.50
H(TD)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0


CANARD
RUN
19
MACH
8.00
RE/FT
3.74E+06
ALPHA
49.99
YAW
0.00
δc= 50°
Y/S
SYMBOL
LOWER SURFACE 0.25
LOWER SURFACE 0.50
UPPER SURFACE 0.25
UPPER SURFACE 0.50
H(TO)
HREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0


CANARD
RUN
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MACH
8.00
RE/FT
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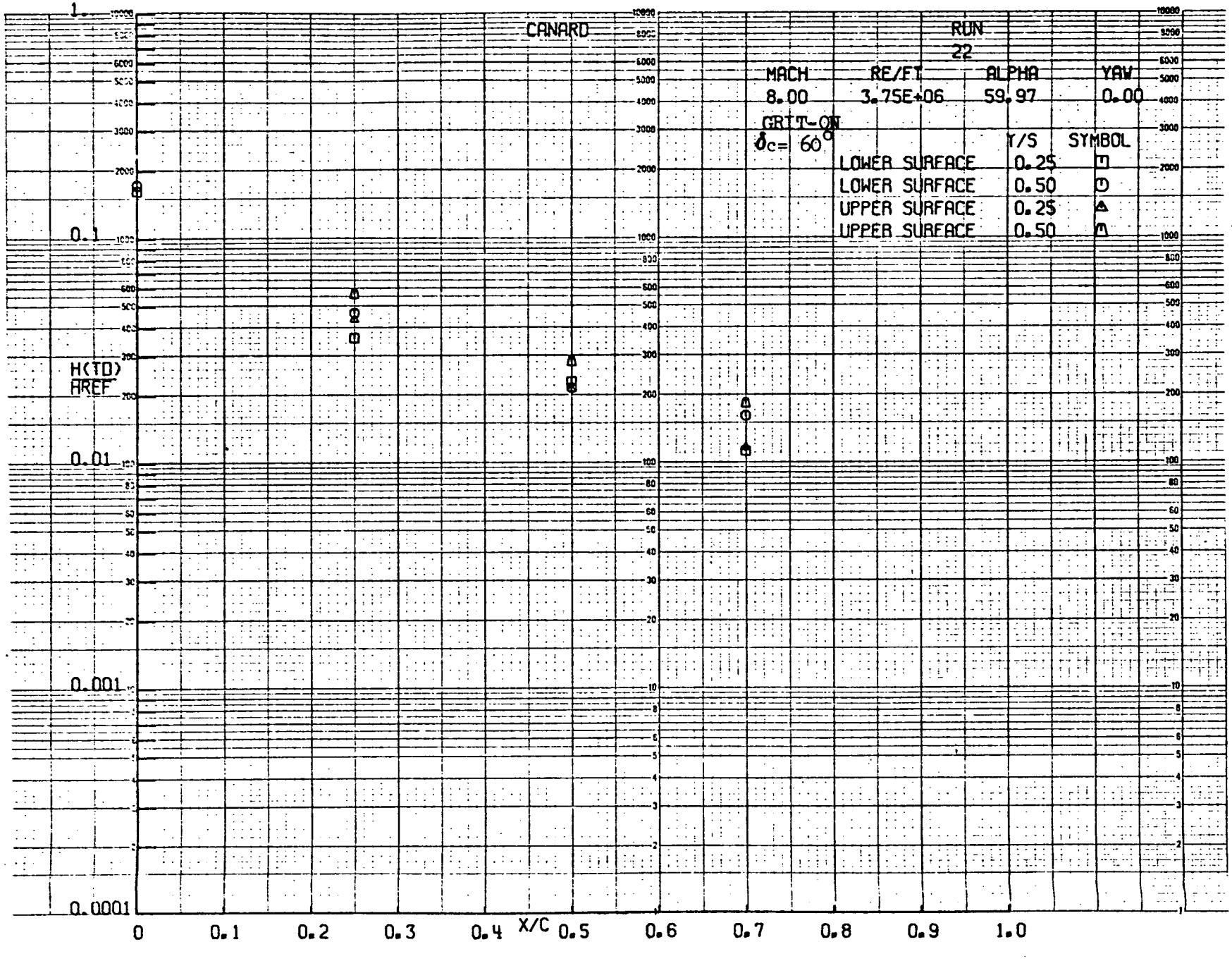
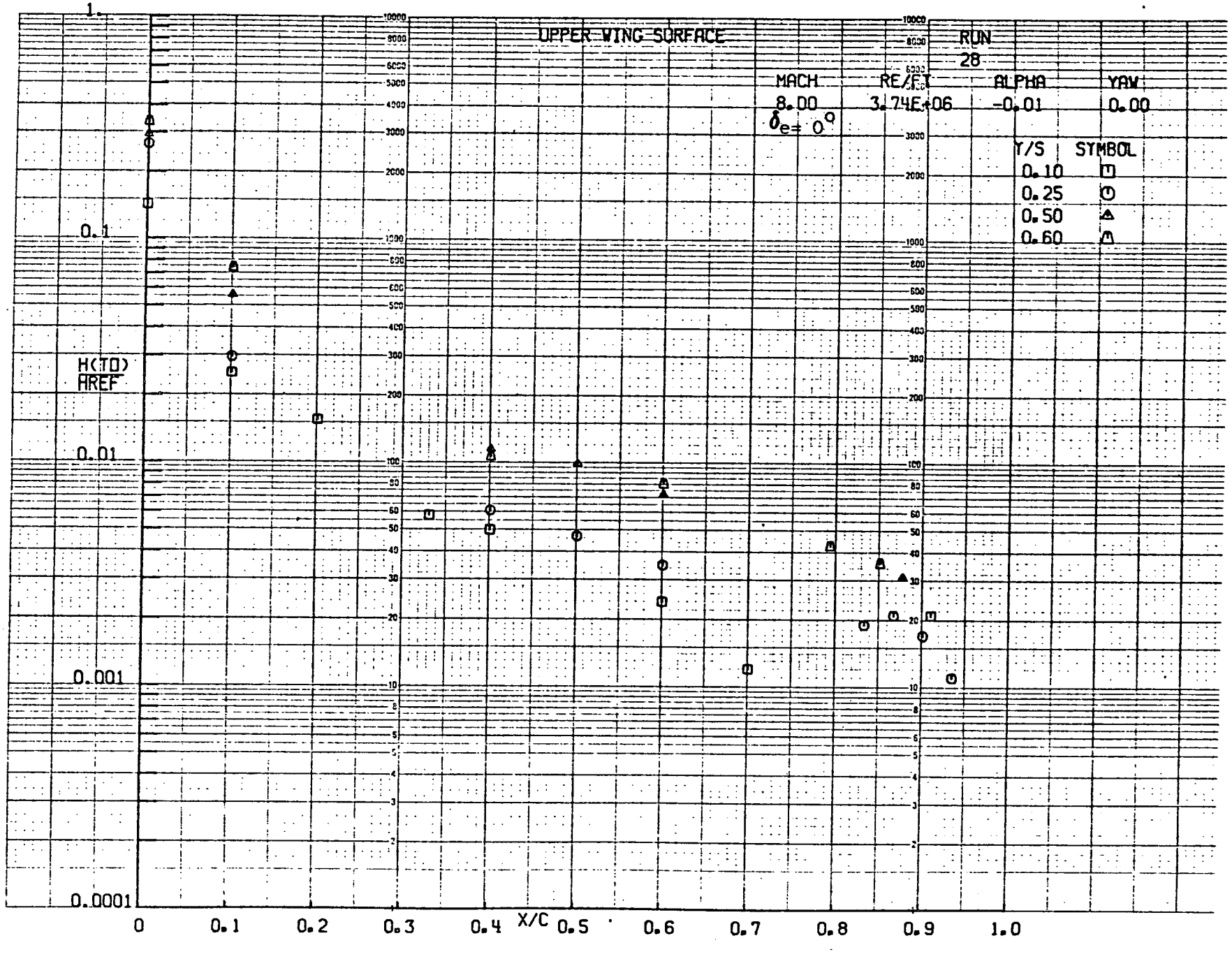
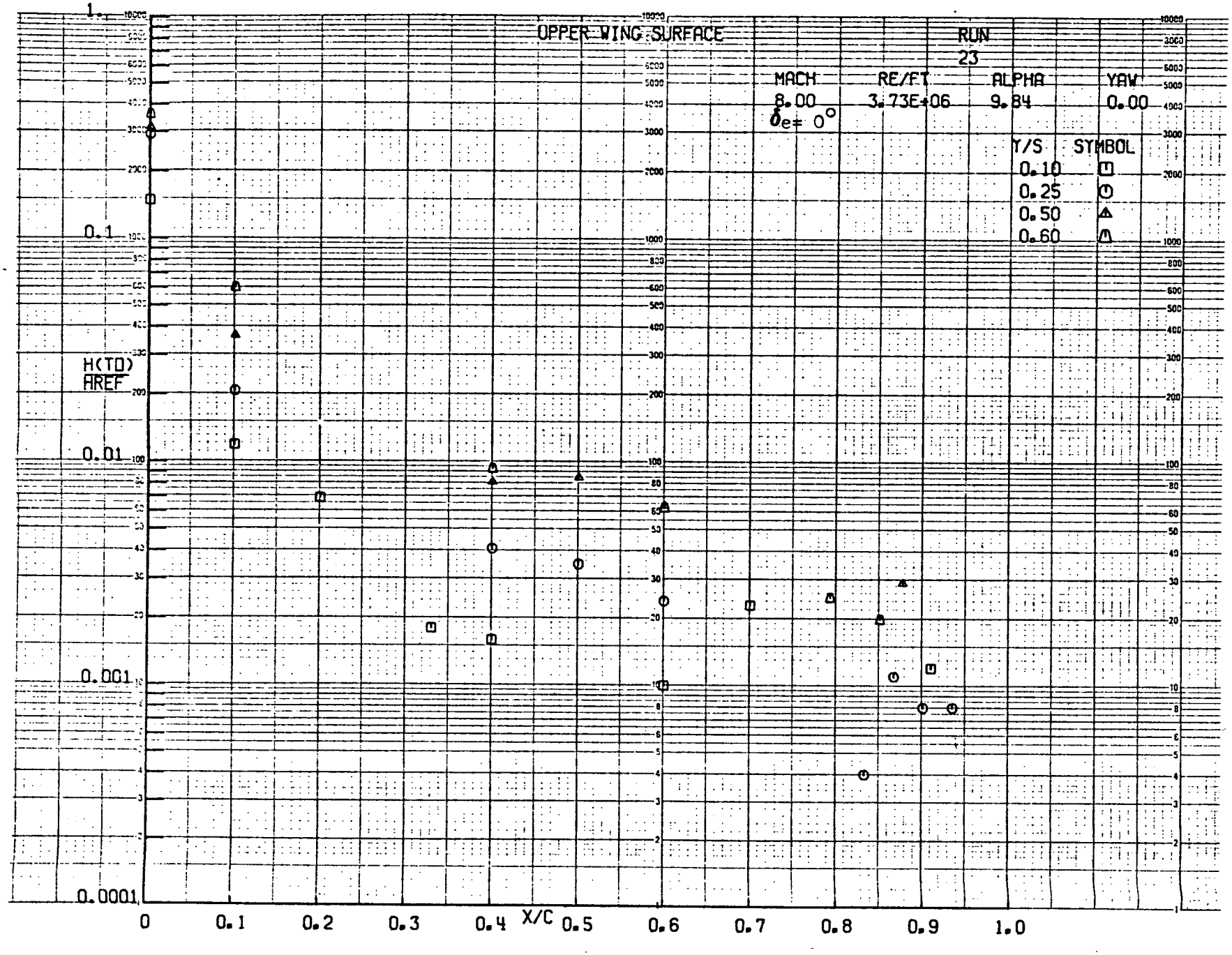
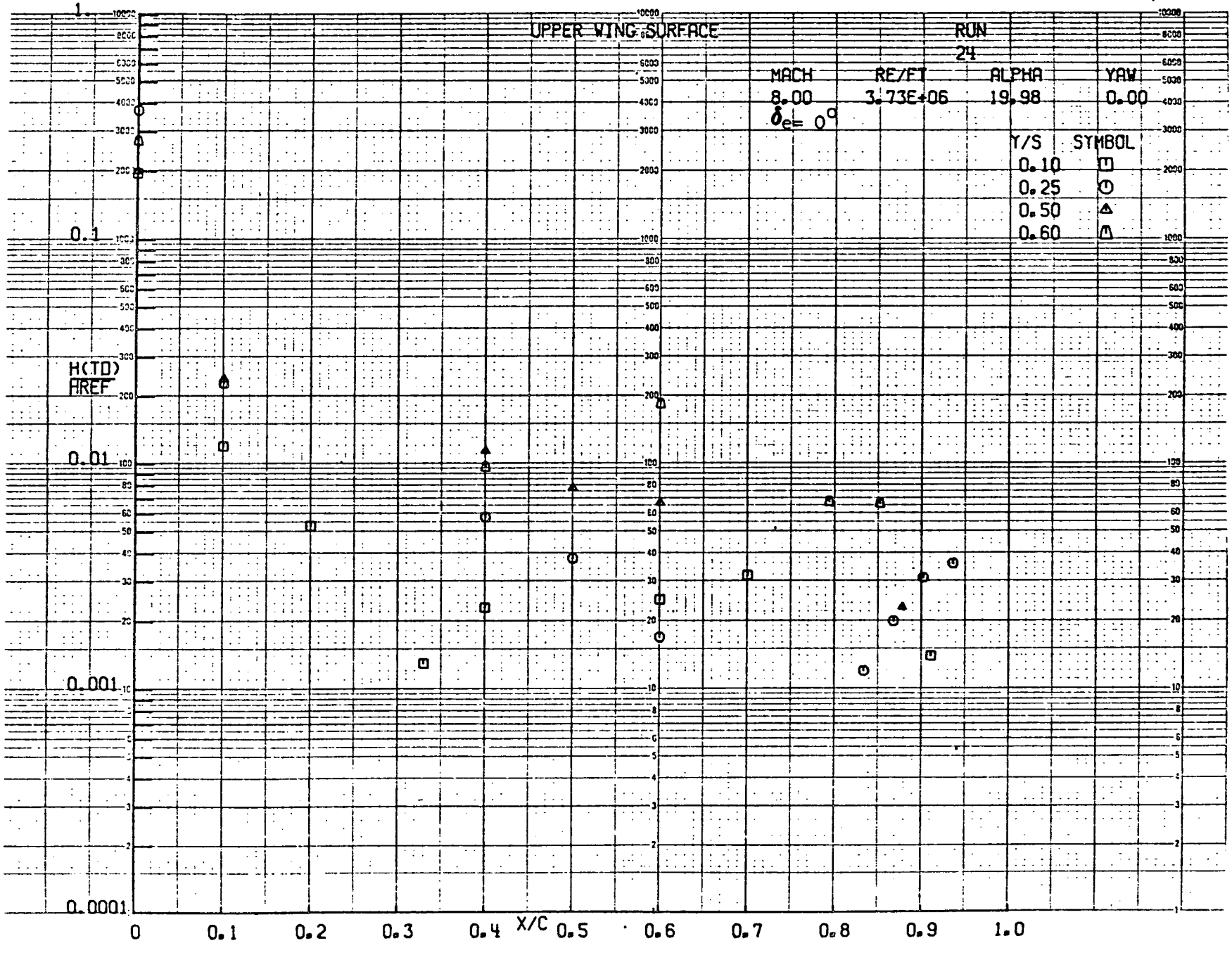
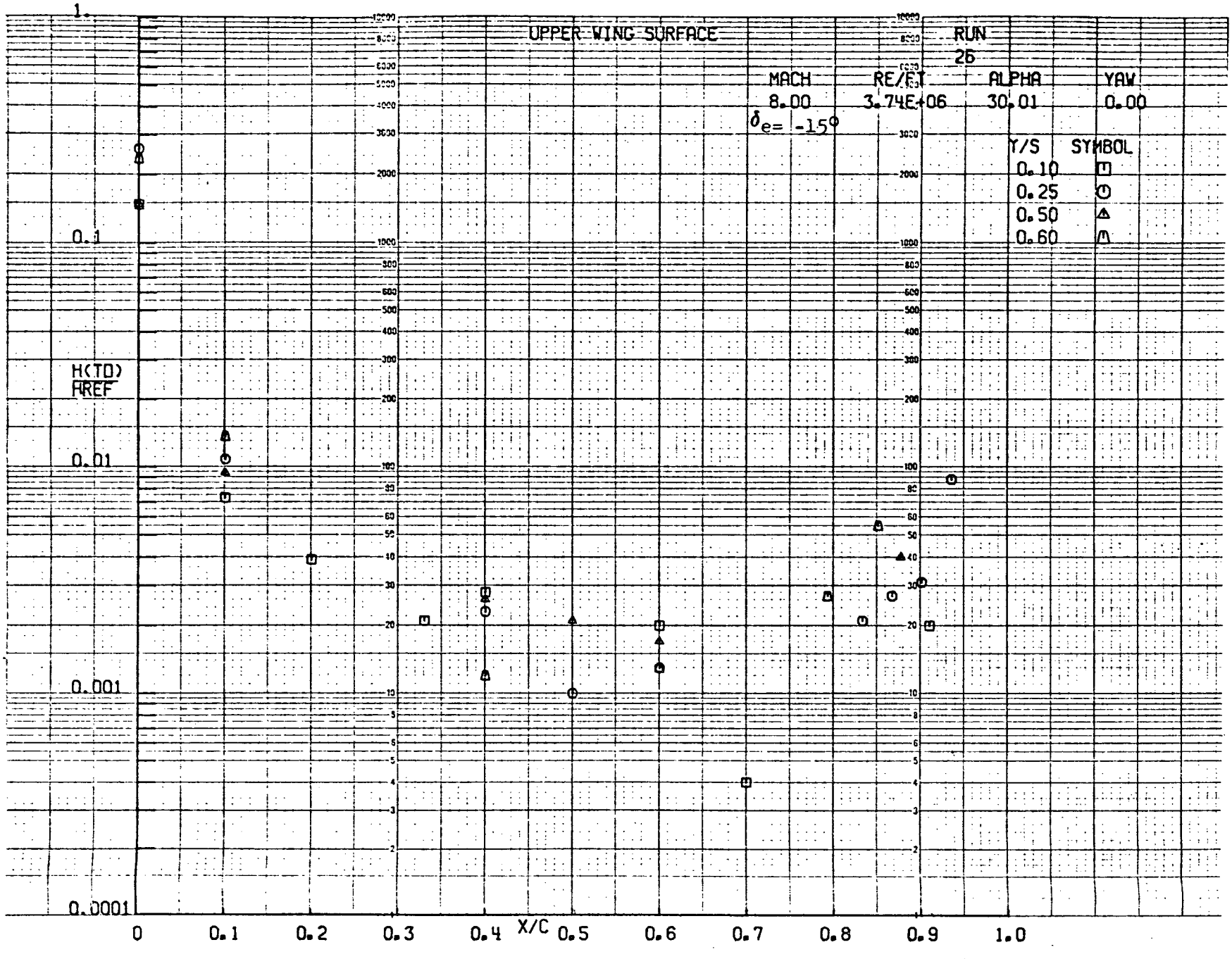
ALPHA
60.09
YAW
0.00
δ_c= 60°
Y/S
SYMBOL
LOWER SURFACE
0.25
LOWER SURFACE
0.50
UPPER SURFACE
0.25
UPPER SURFACE
0.50
H(TD)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

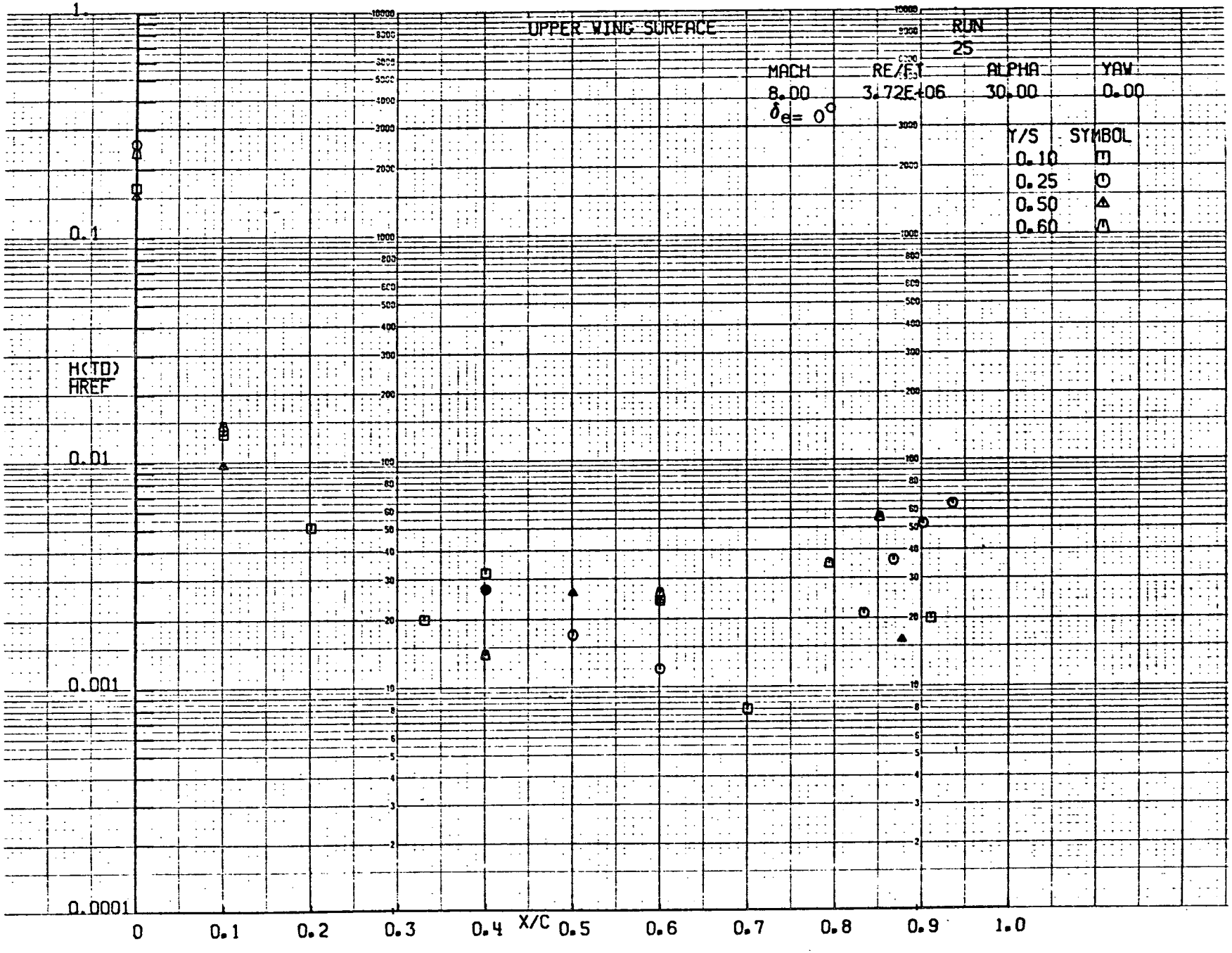

CANARD
RUN
22
MACH
8.00
RE/FT
3.75E+06
ALPHA
59.97
YAW
0.00
GRIT-ON
δ_c= 60°
Y/S
SYMBOL
LOWER SURFACE
0.25
LOWER SURFACE
0.50
UPPER SURFACE
0.25
UPPER SURFACE
0.50
H(TD)
HREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

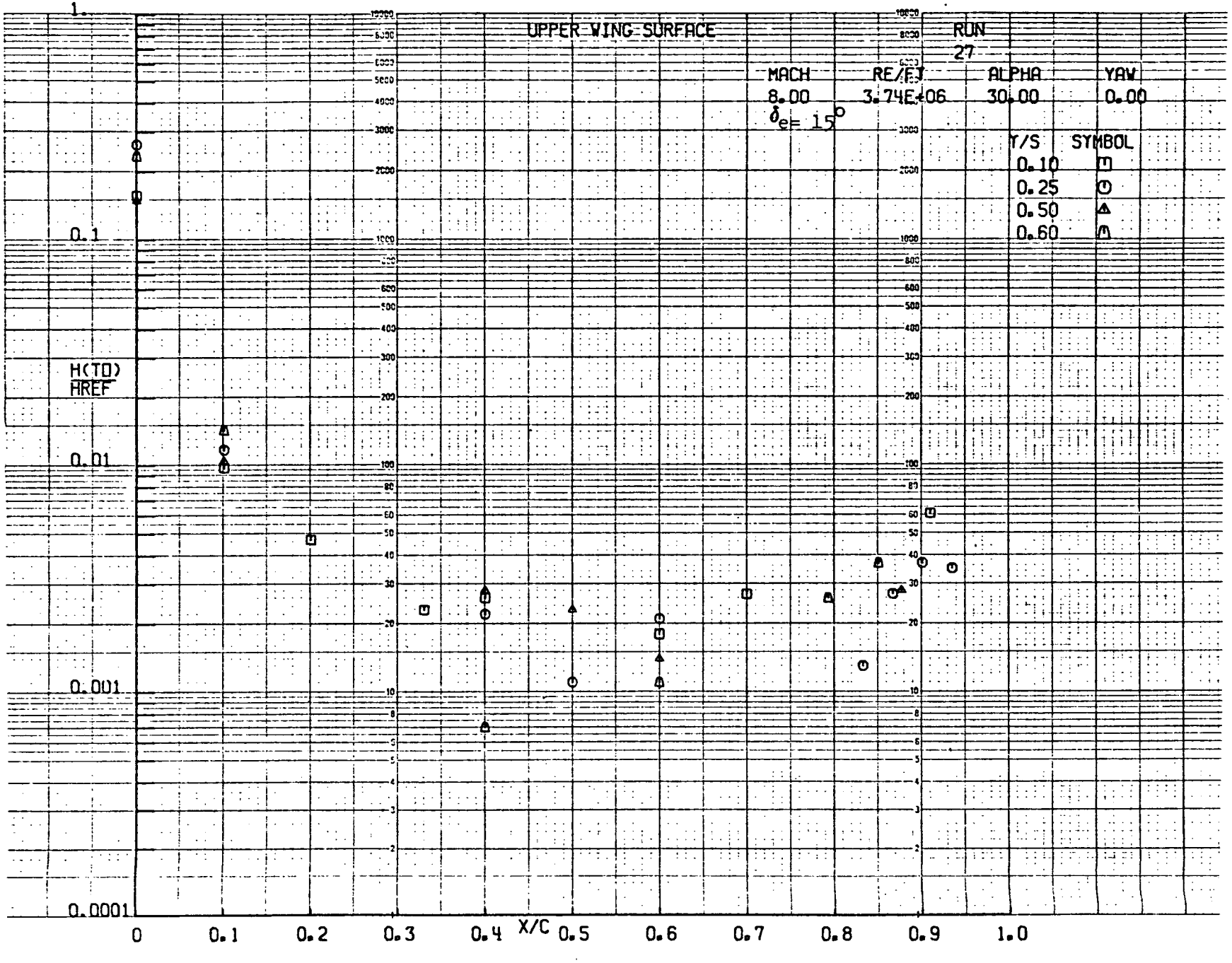

UPPER WING SURFACE
RUN
28
MACH
8.00
RE/FT
3.74E+06
ALPHA
-0.01
YAW
0.00
δ_e= 0°
Y/S
SYMBOL
0.10
0.25
0.50
0.60
H(TO)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

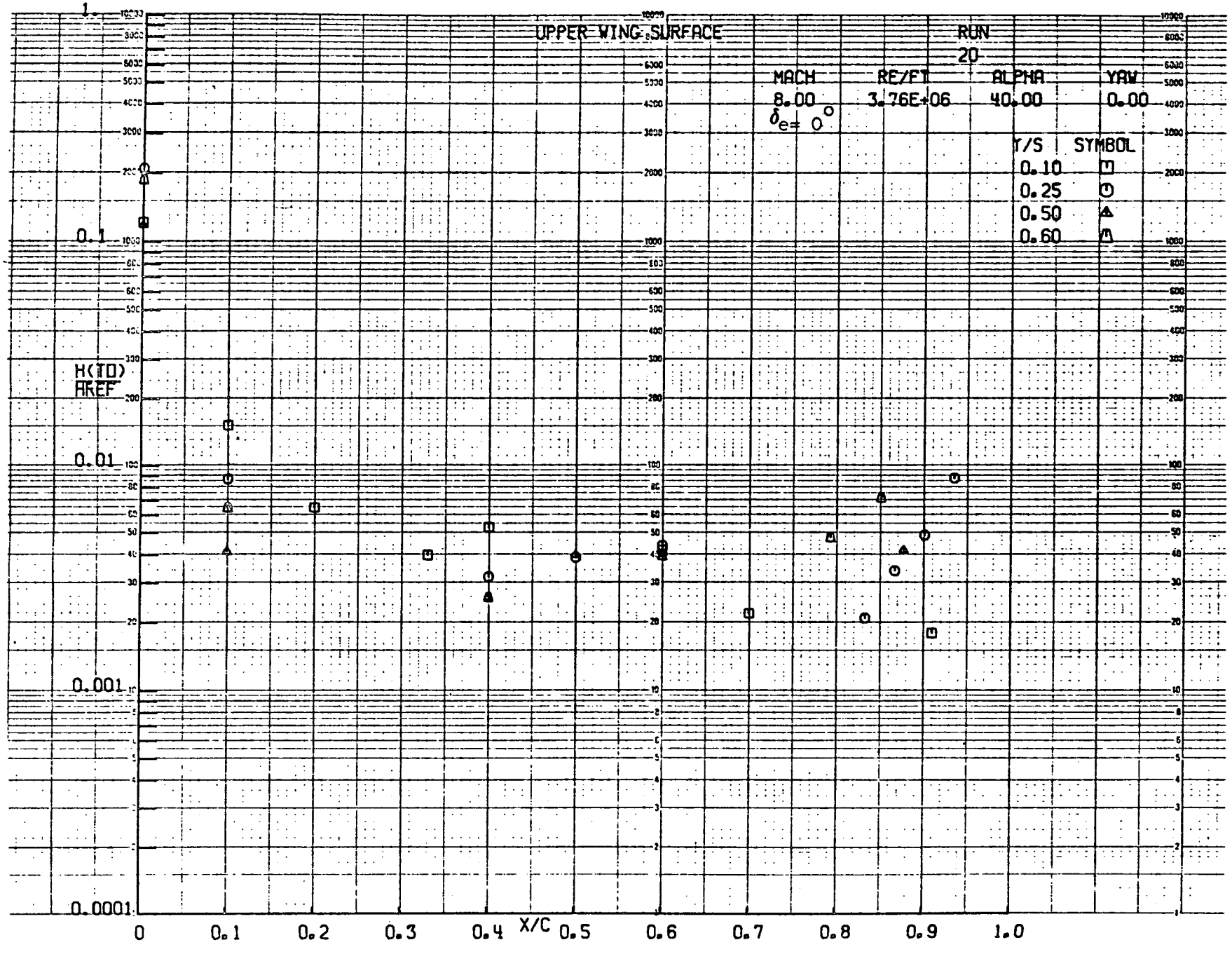

UPPER WING SURFACE
RUN
23
MACH
8.00
δ_e= 0°
RE/FT
3.73E+06
ALPHA
9.84
YAW
0.00
T/S
SYMBOL
0.10
0.25
0.50
0.60
H(TD)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

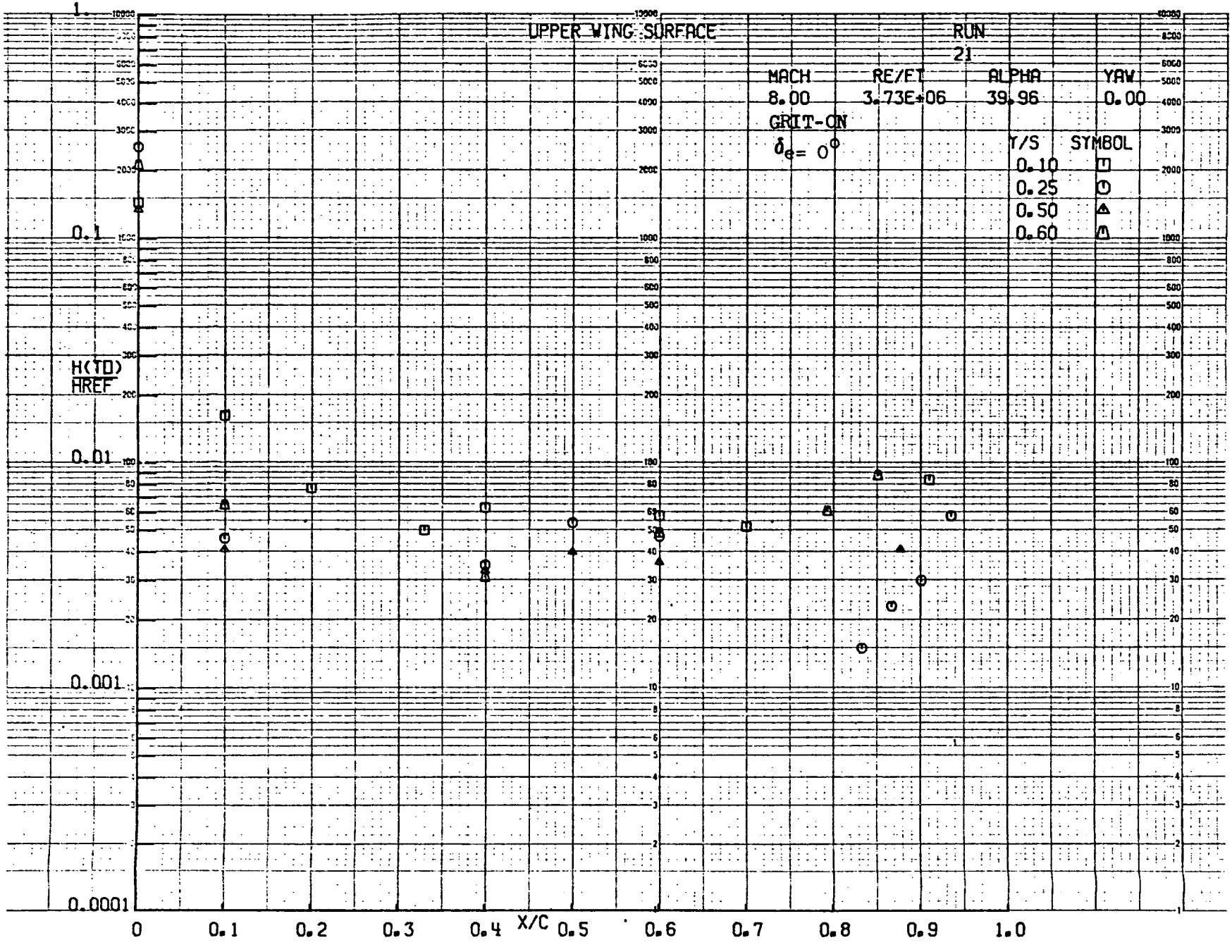

UPPER WING SURFACE
RUN
24
MACH
8.00
RE/FT
3.73E+06
ALPHA
19.98
YAW
0.00
δ_e= 0°
Y/S
SYMBOL
0.10
0.25
0.50
0.60
H(TD)
AREF
1
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

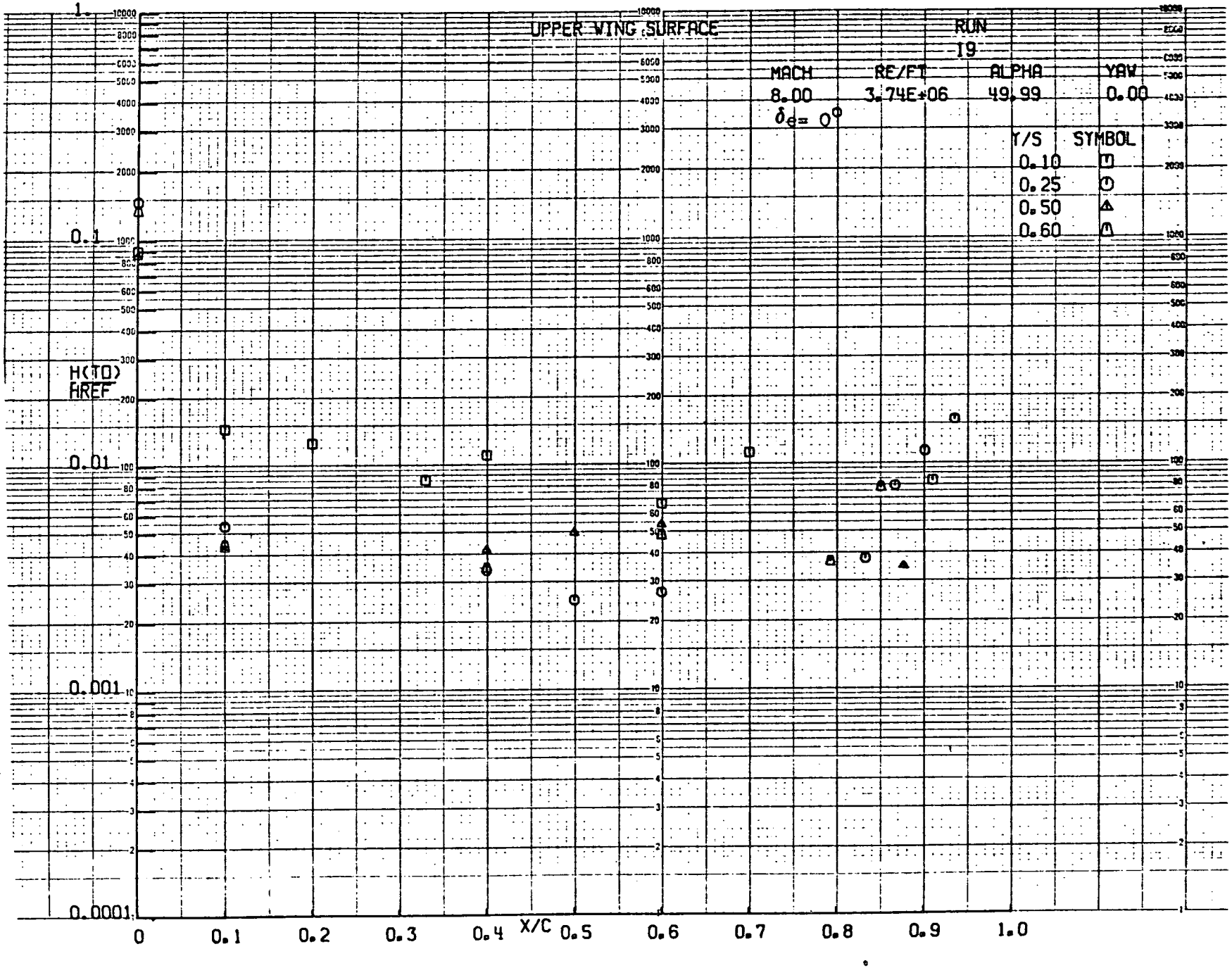

UPPER WING SURFACE
RUN
26
MACH
8.00
RE/FT
3.74E+06
ALPHA
30.01
YAW
0.00
$\delta_{e=}$ -15°
Y/S
SYMBOL
0.10
0.25
0.50
0.60
H(TO)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

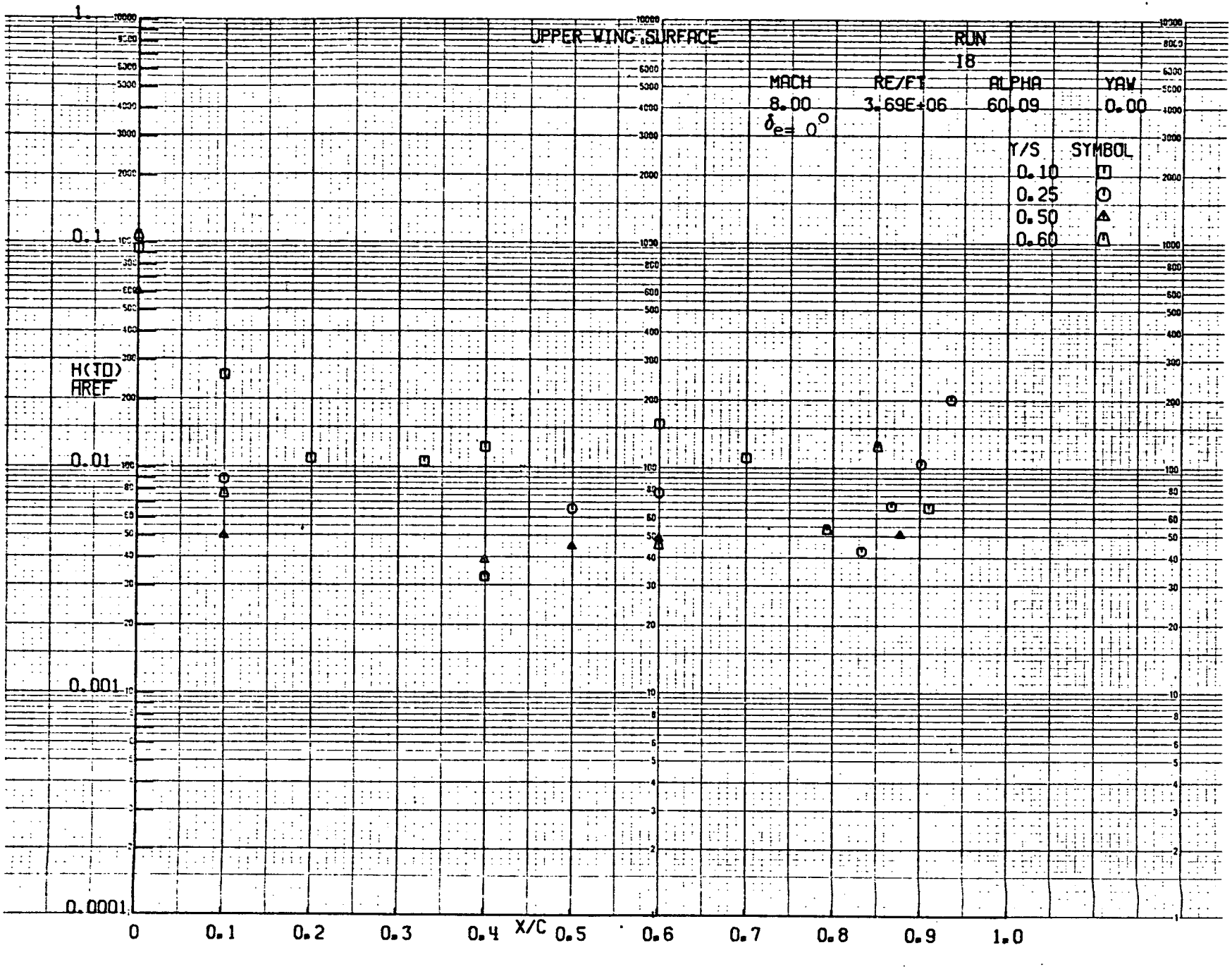

UPPER WING SURFACE
RUN
25
MACH
8.00
RE/FT
3.72E+06
ALPHA
30.00
YAW
0.00
δ_e= 0°
Y/S
SYMBOL
0.10
0.25
0.50
0.60
H(TD)
HREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

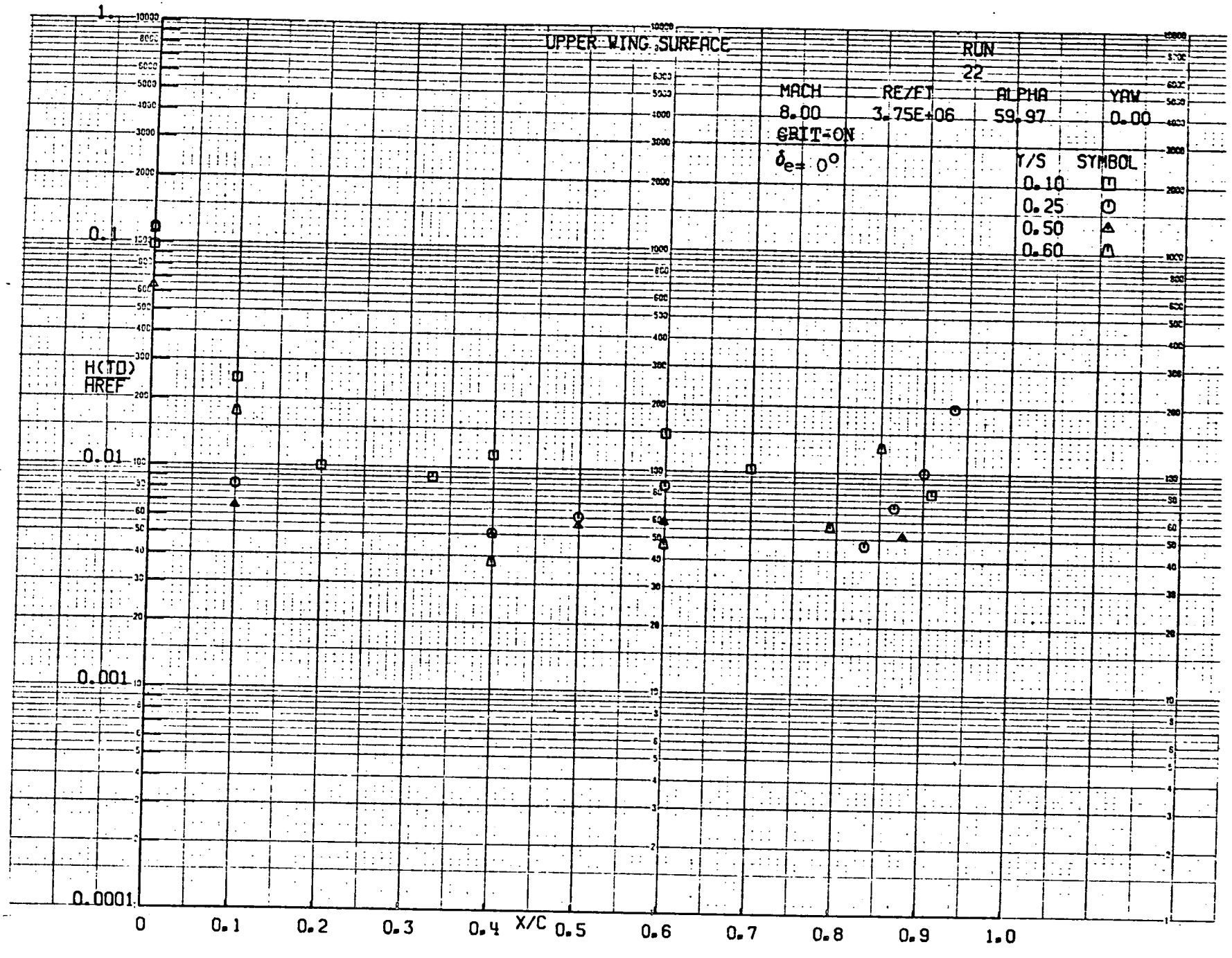

UPPER WING SURFACE
RUN
27
MACH
8.00
RE/FT
3.74E+06
ALPHA
30.00
YAW
0.00
δ_e= 15
T/S
SYMBOL
0.10
0.25
0.50
0.60
H(TD)
HREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

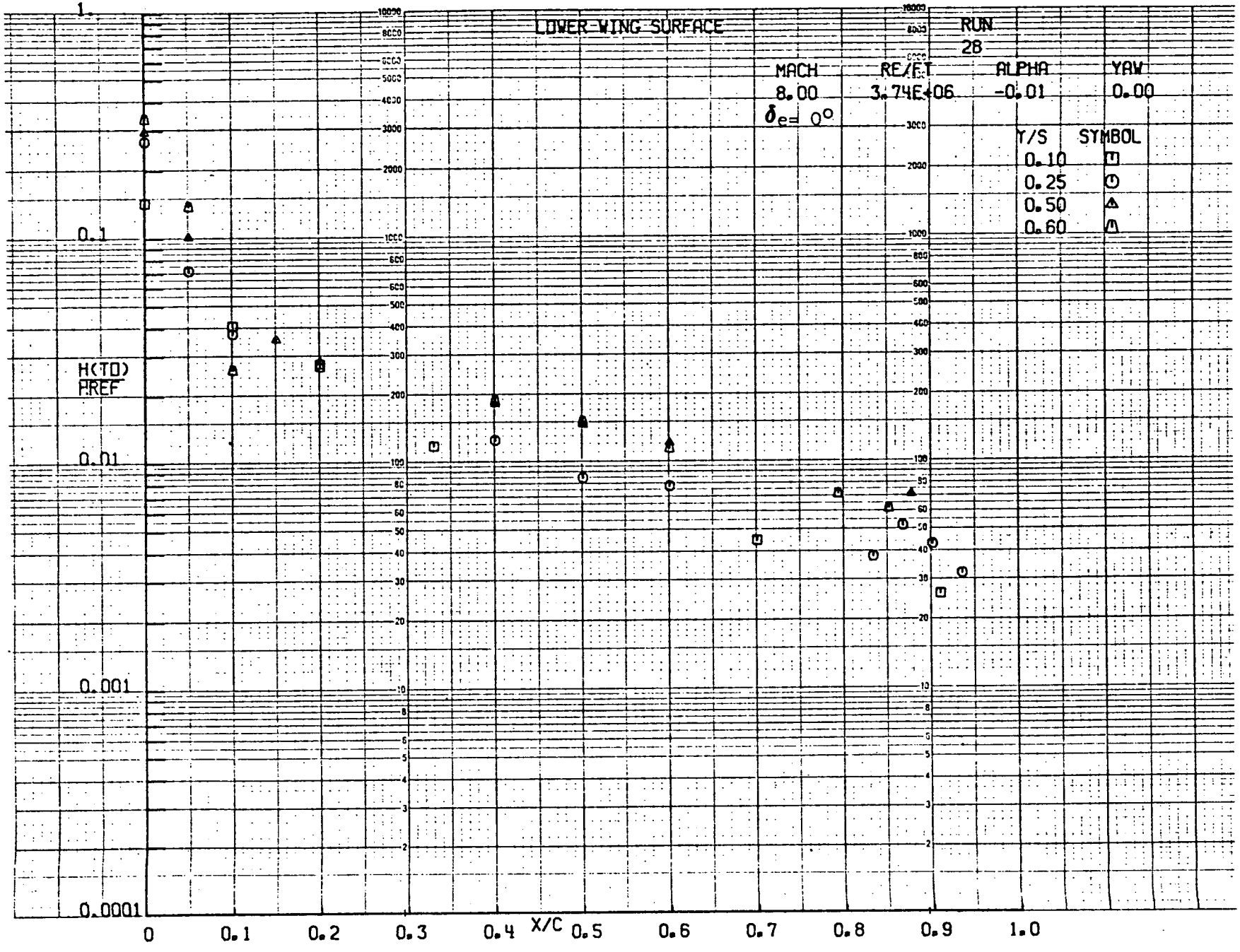

UPPER WING SURFACE
RUN
20
MACH
8.00
RE/FT
3.76E+06
ALPHA
40.00
YAW
0.00
δ_e= 0°
T/S
SYMBOL
0.10
0.25
0.50
0.60
H(TO)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

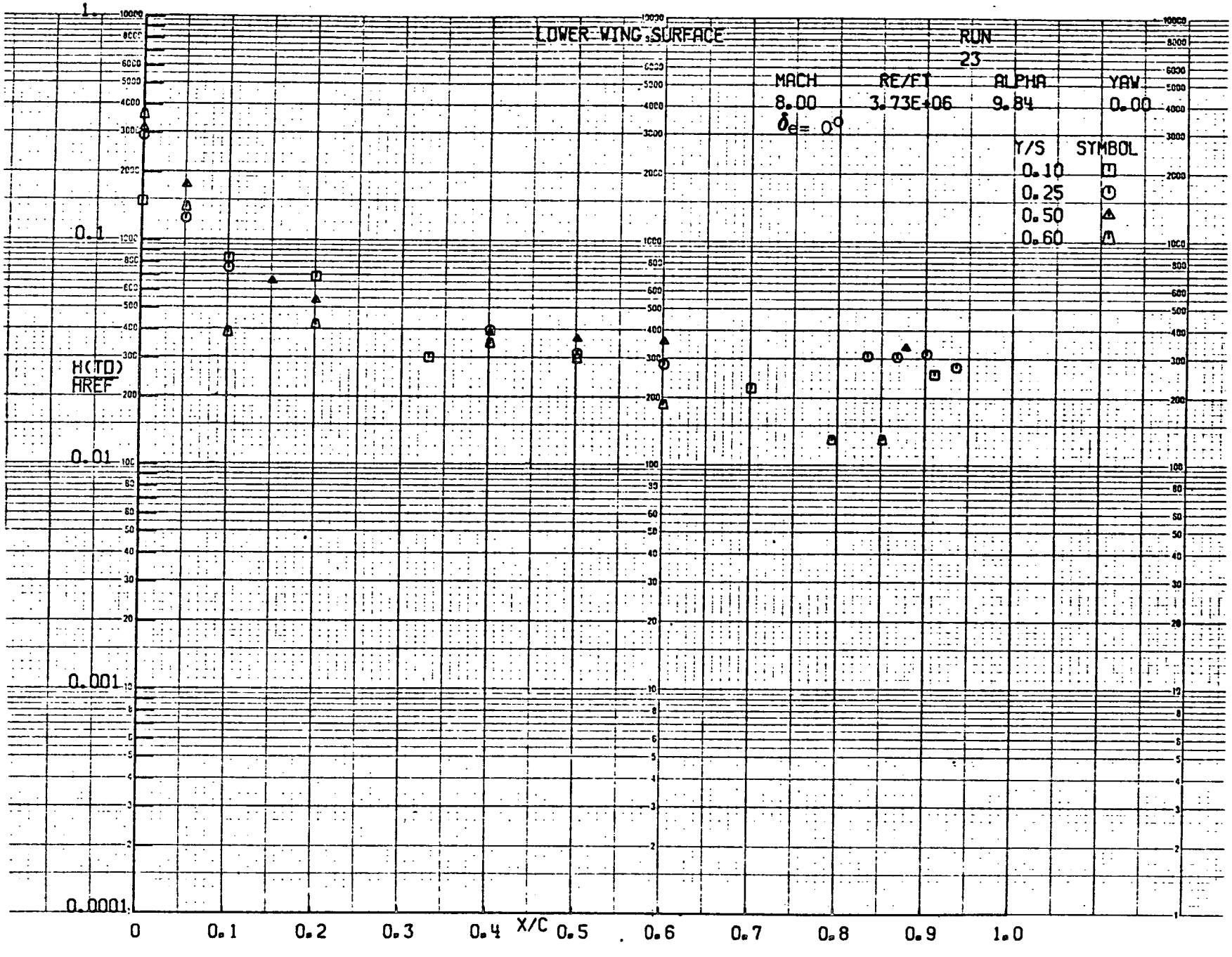

UPPER WING SURFACE
RUN
21
MACH
8.00
RE/FT
3.73E+06
ALPHA
39.96
YAW
0.00
GRIT-ON
δ_e= 0
Y/S
SYMBOL
0.10
0.25
0.50
0.60
H(TD)
HREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

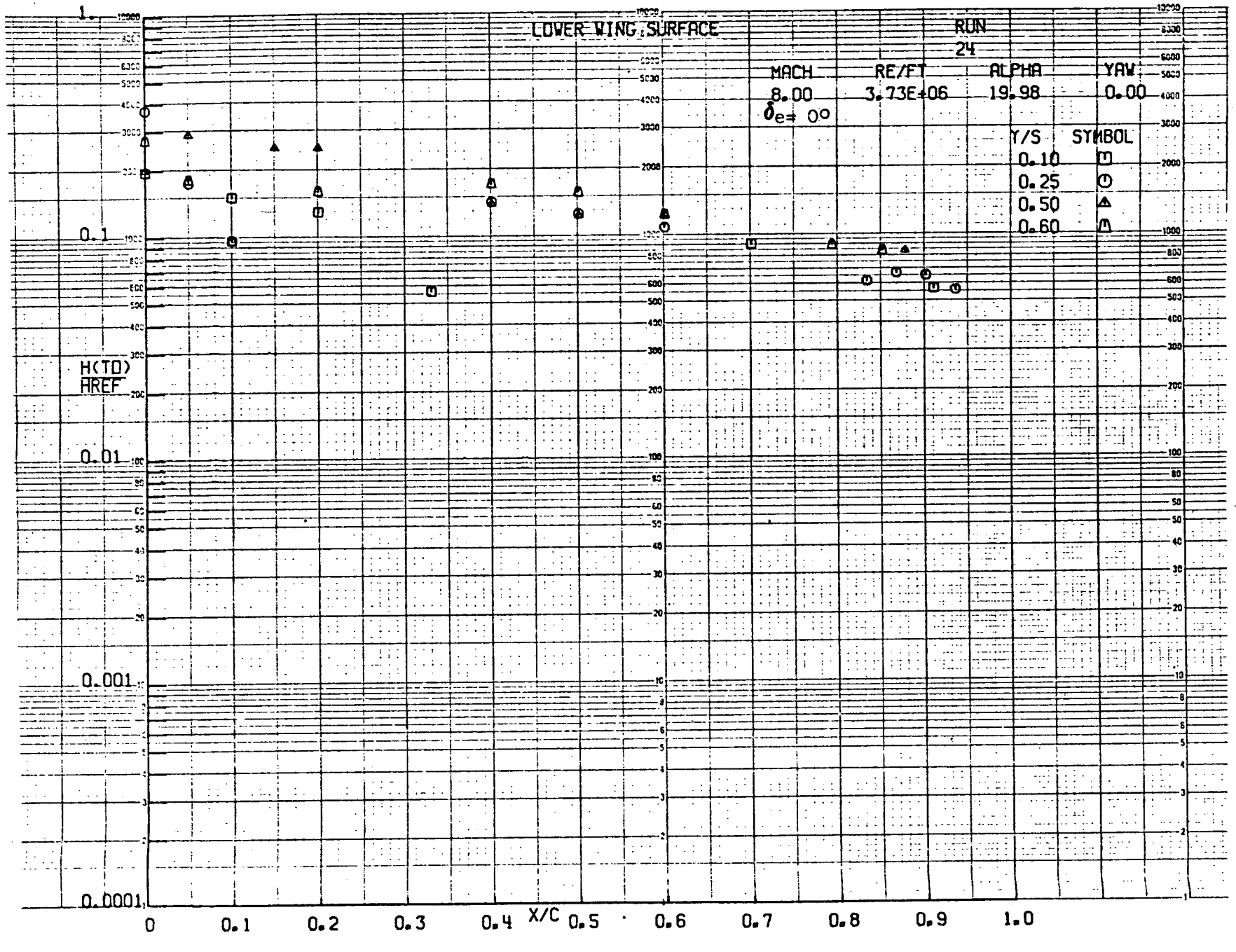

UPPER WING SURFACE
RUN
19
MACH
8.00
RE/FT
3.74E+06
ALPHA
49.99
YAW
0.00
δ_e= 0°
Y/S
SYMBOL
0.10
0.25
0.50
0.60
H(TO)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

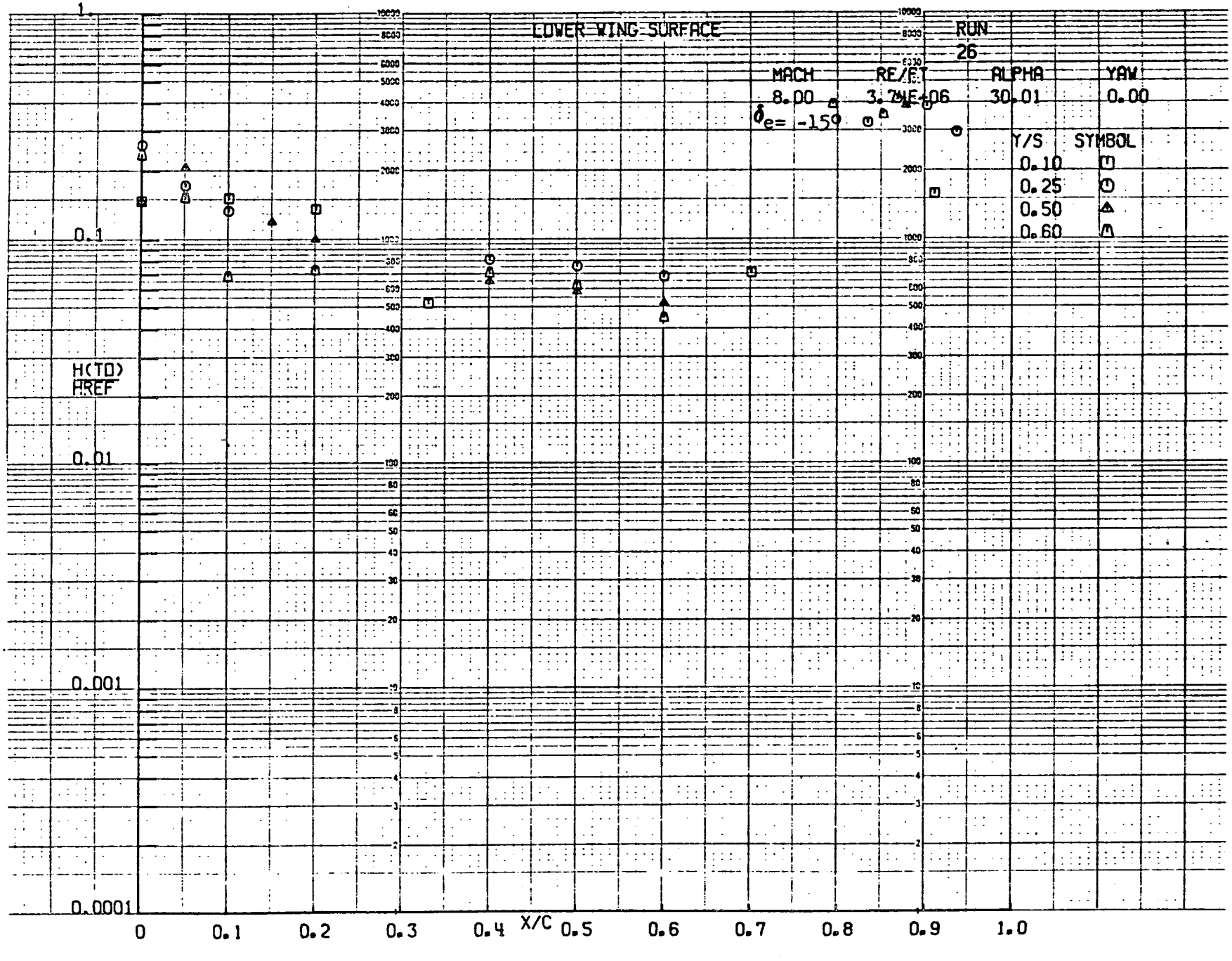

UPPER WING SURFACE
RUN
18
MACH
8.00
RE/FT
3.69E+06
ALPHA
60.09
YAW
0.00
δ_e= 0°
Y/S
SYMBOL
0.10
0.25
0.50
0.60
H(TO)
AREF
1
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

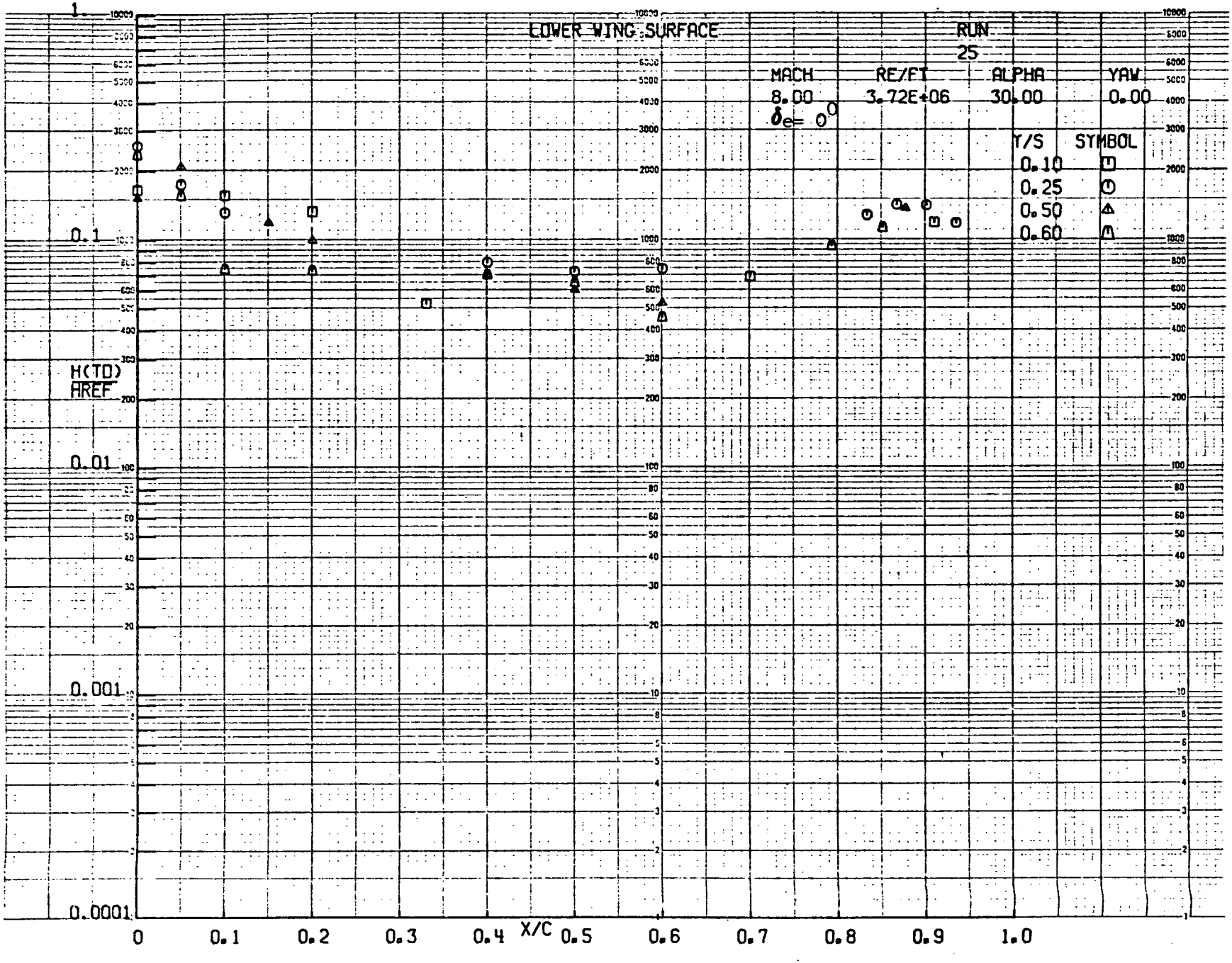

UPPER WING SURFACE
RUN
22
MACH
8.00
RE/FT
3.75E+06
ALPHA
59.97
YAW
0.00
GRIT=ON
δ_e= 0°
Y/S
SYMBOL
0.10
0.25
0.50
0.60
H(TO)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

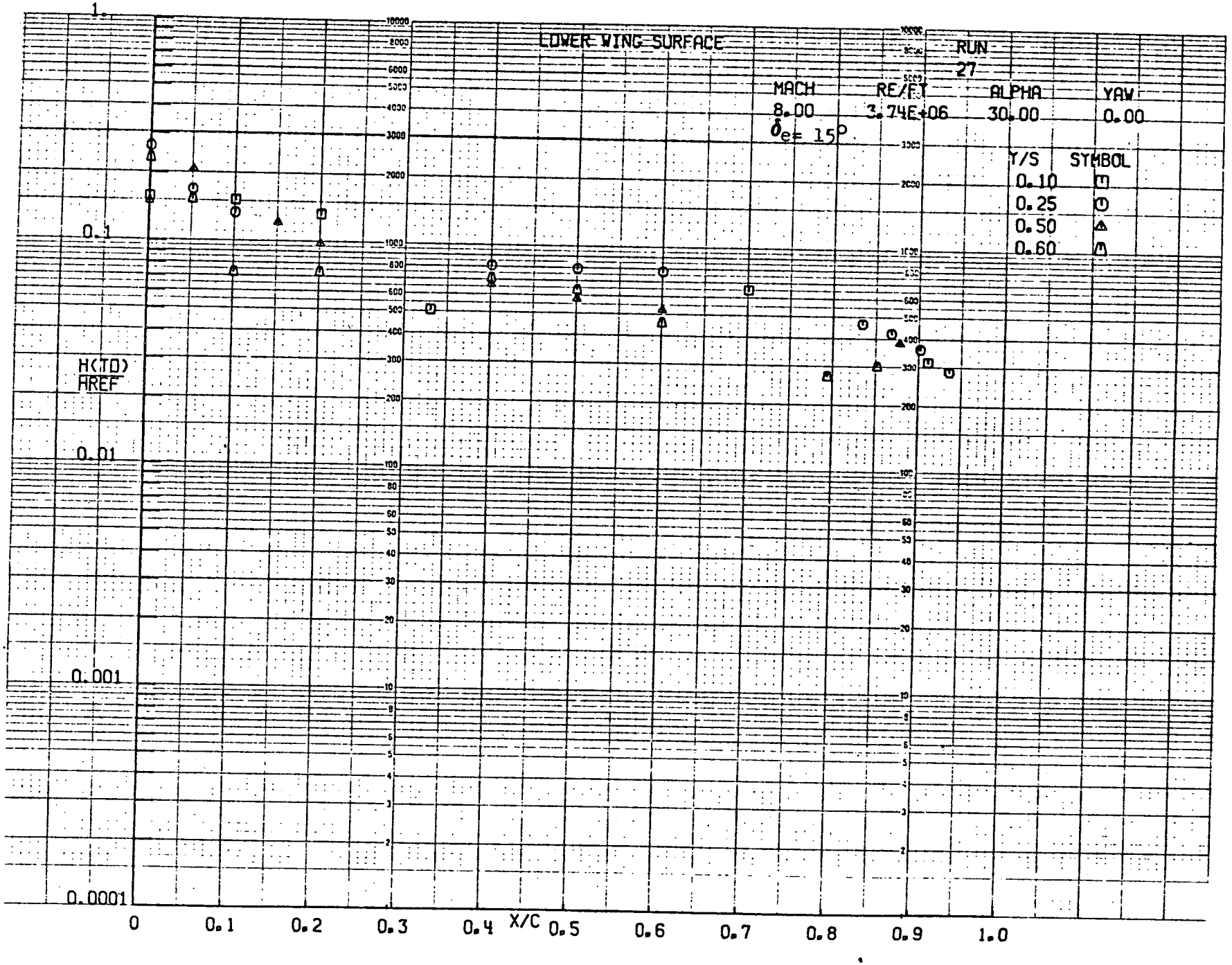

LOWER WING SURFACE
RUN
28
MACH
8.00
RE/FT
3.74E+06
ALPHA
-0.01
YAW
0.00
δe= 0°
T/S
SYMBOL
0.10
0.25
0.50
0.60
H(TO)
PREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

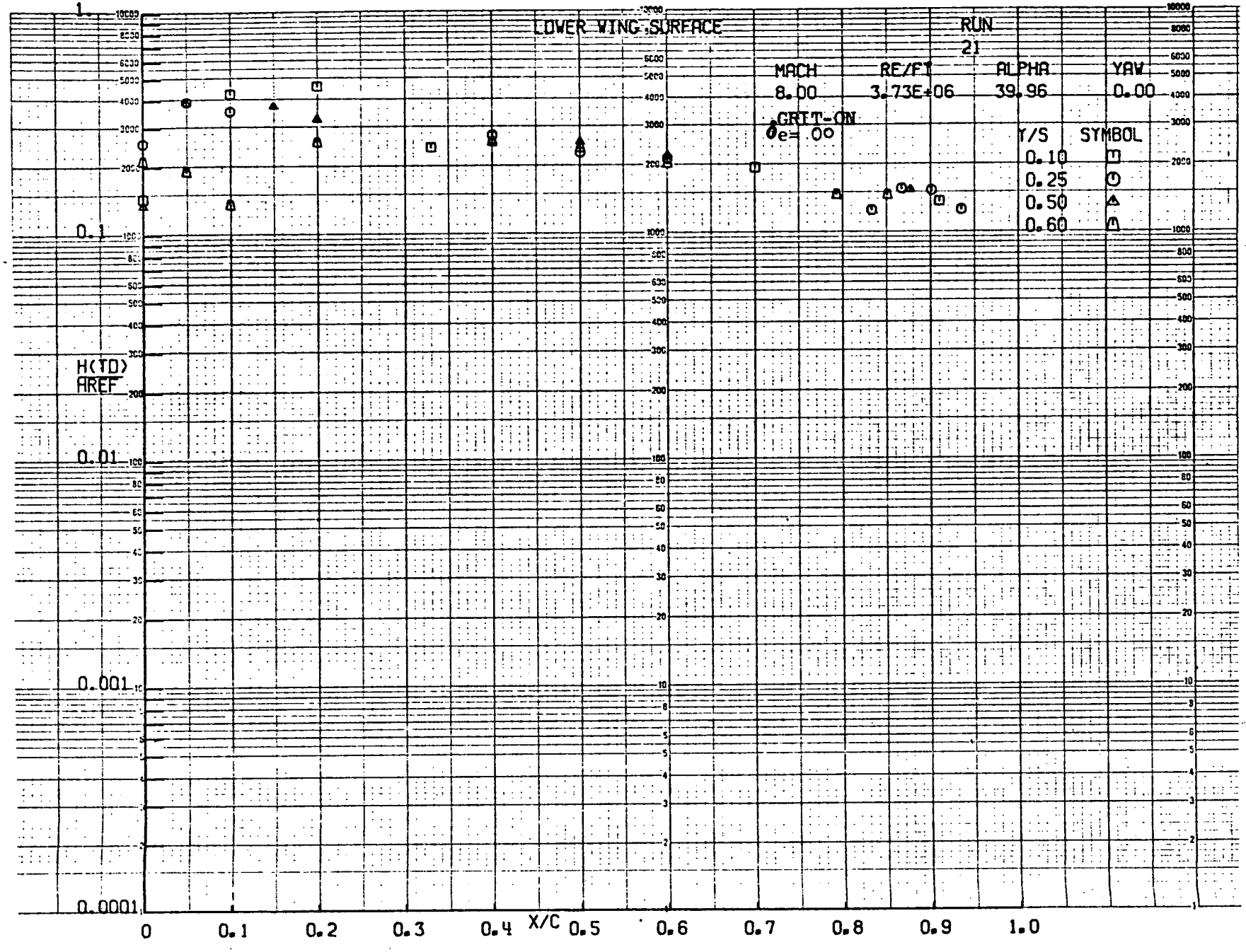

LOWER WING SURFACE
RUN
23
MACH
8.00
RE/FT
3.73E+06
ALPHA
9.84
YAW
0.00
$\delta_e = 0^o$
Y/S
SYMBOL
0.10
0.25
0.50
0.60
H(TD)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

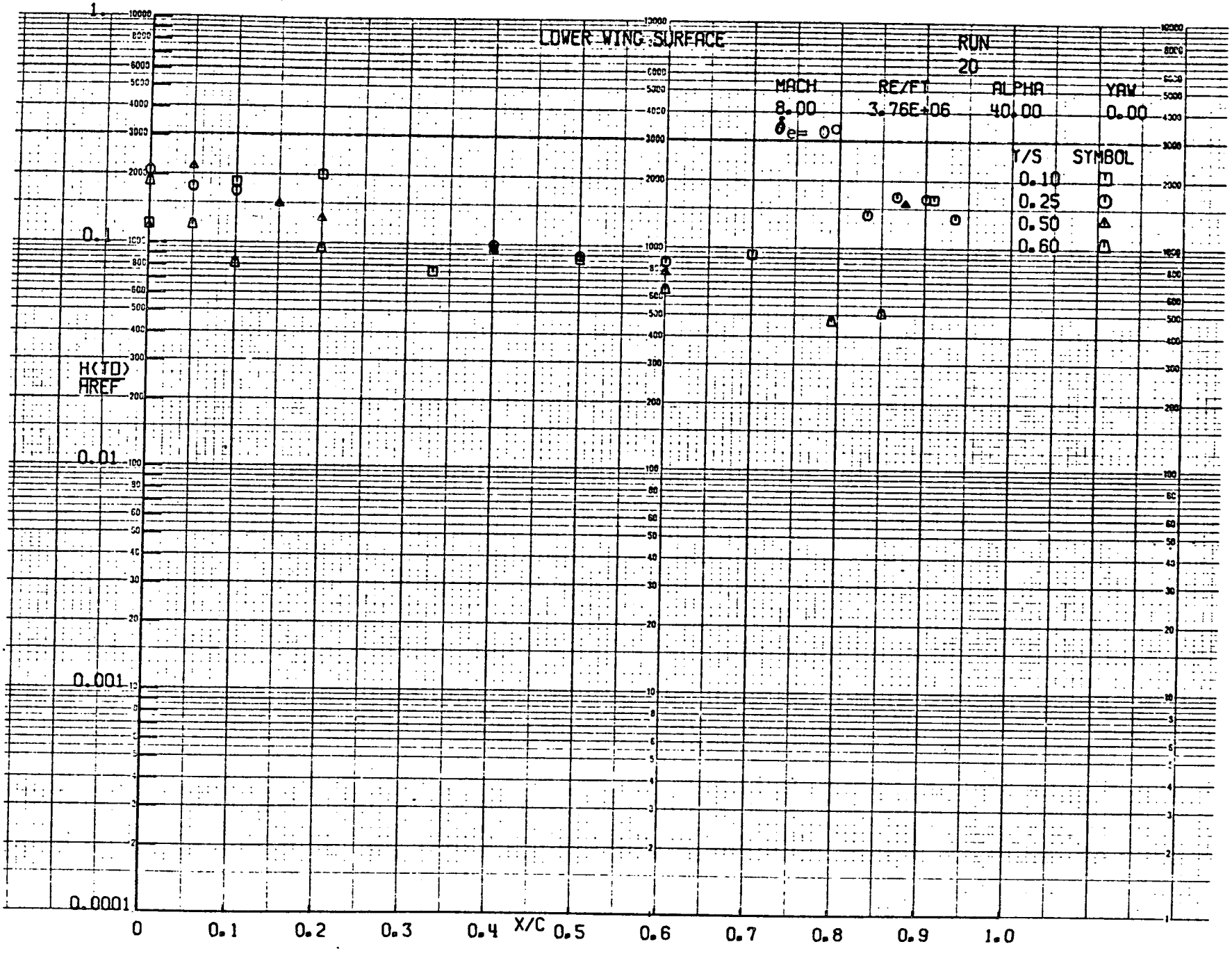

LOWER WING SURFACE
RUN
24
MACH
8.00
RE/FT
3.73E+06
ALPHA
19.98
YAW
0.00
δe= 0°
Y/S
SYMBOL
0.10
0.25
0.50
0.60
H(TD)
HREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

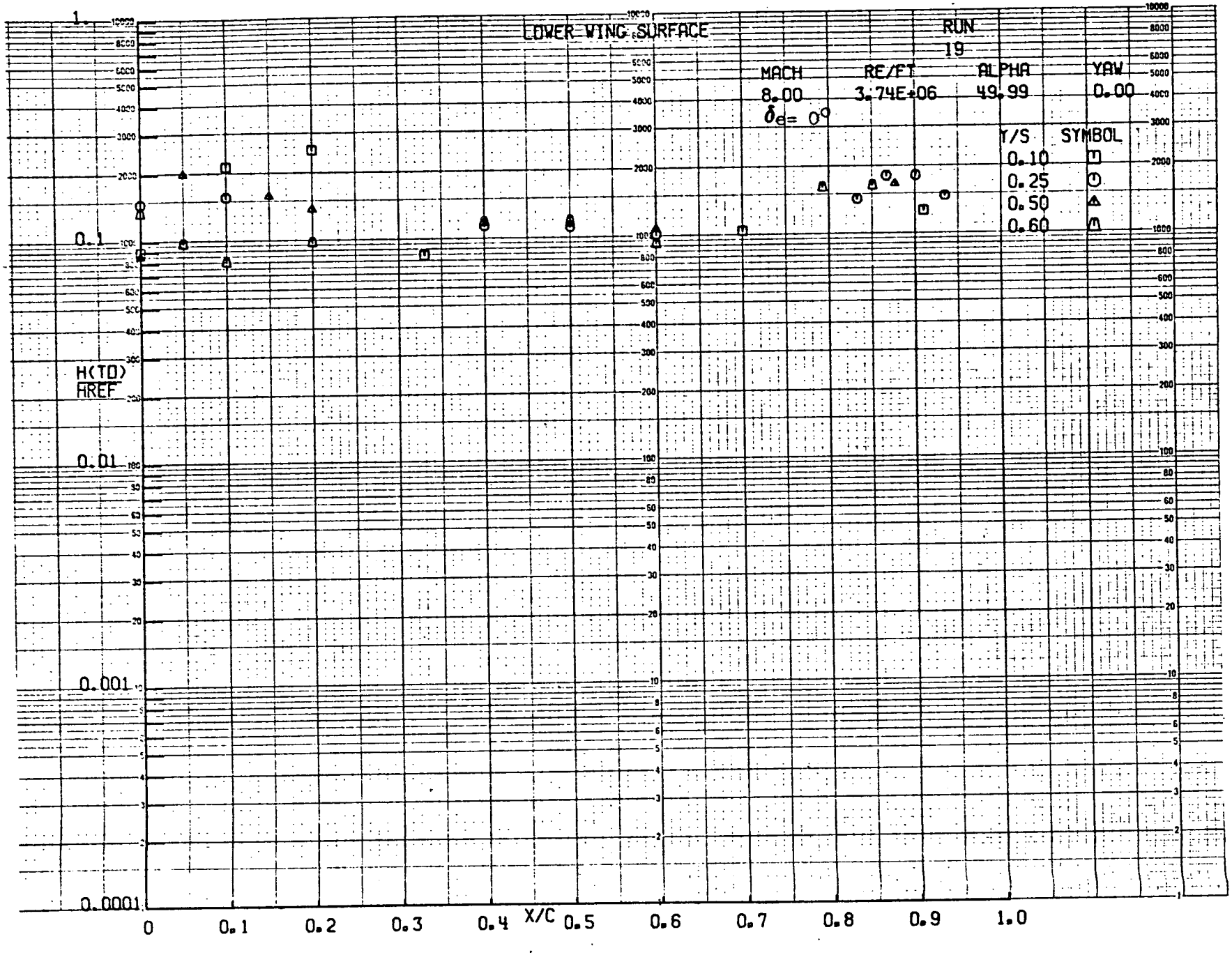

LOWER WING SURFACE
RUN
26
MACH
8.00
RE/FT
3.7ME+06
ALPHA
30.01
YAW
0.00
δ_e= -15°
Y/S
SYMBOL
0.10
0.25
0.50
0.60
H(TD)
HREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

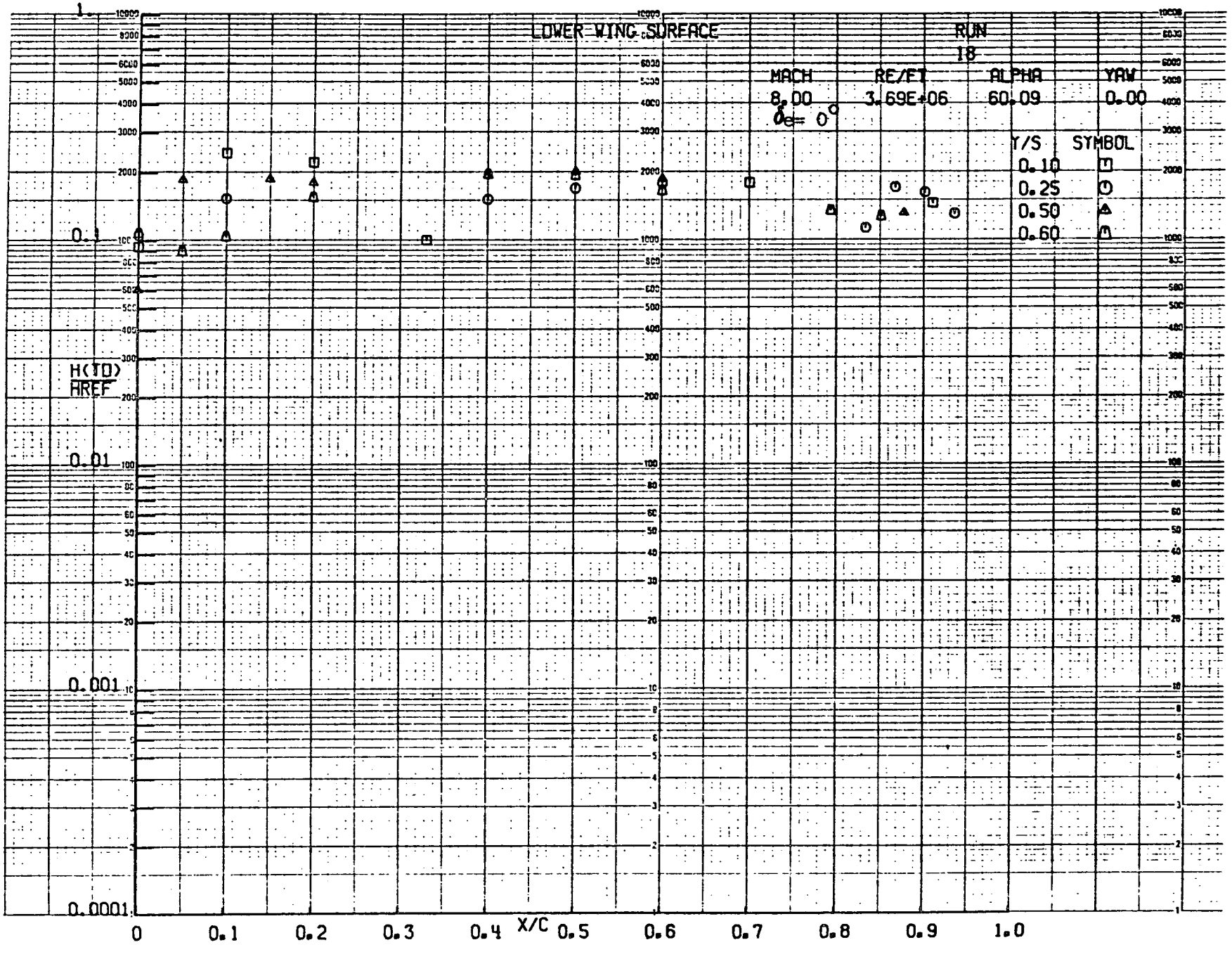

LOWER WING SURFACE
RUN
25
MACH
8.00
RE/FT
3.72E+06
ALPHA
30.00
YAW
0.00
δe= 0°
T/S
SYMBOL
0.10
0.25
0.50
0.60
H(TD)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

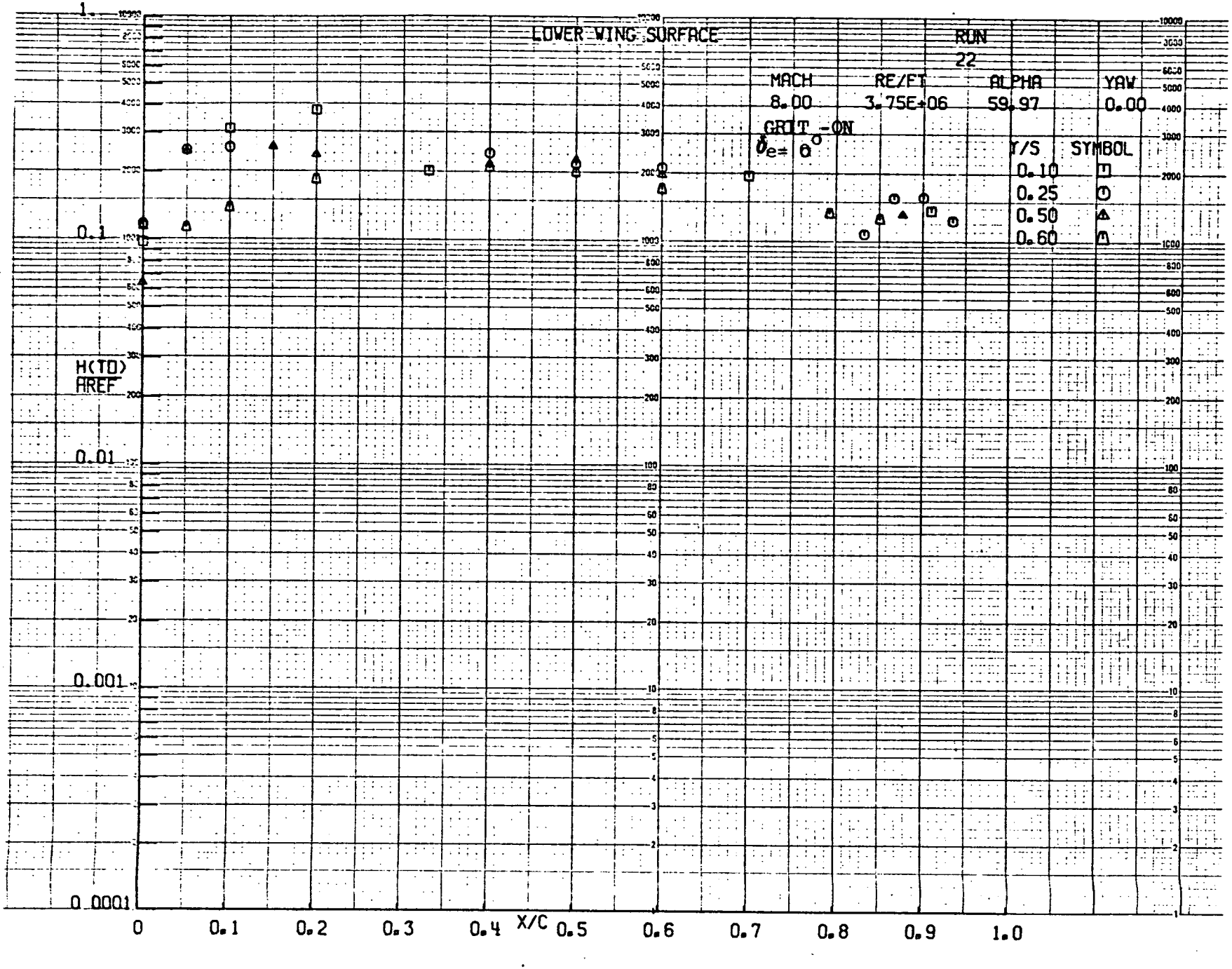

LOWER WING SURFACE
RUN
27
MACH
8.00
RE/FT
3.74E+06
ALPHA
30.00
YAW
0.00
δ_e= 15°
Y/S
SYMBOL
0.10
0.25
0.50
0.60
H(TD)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

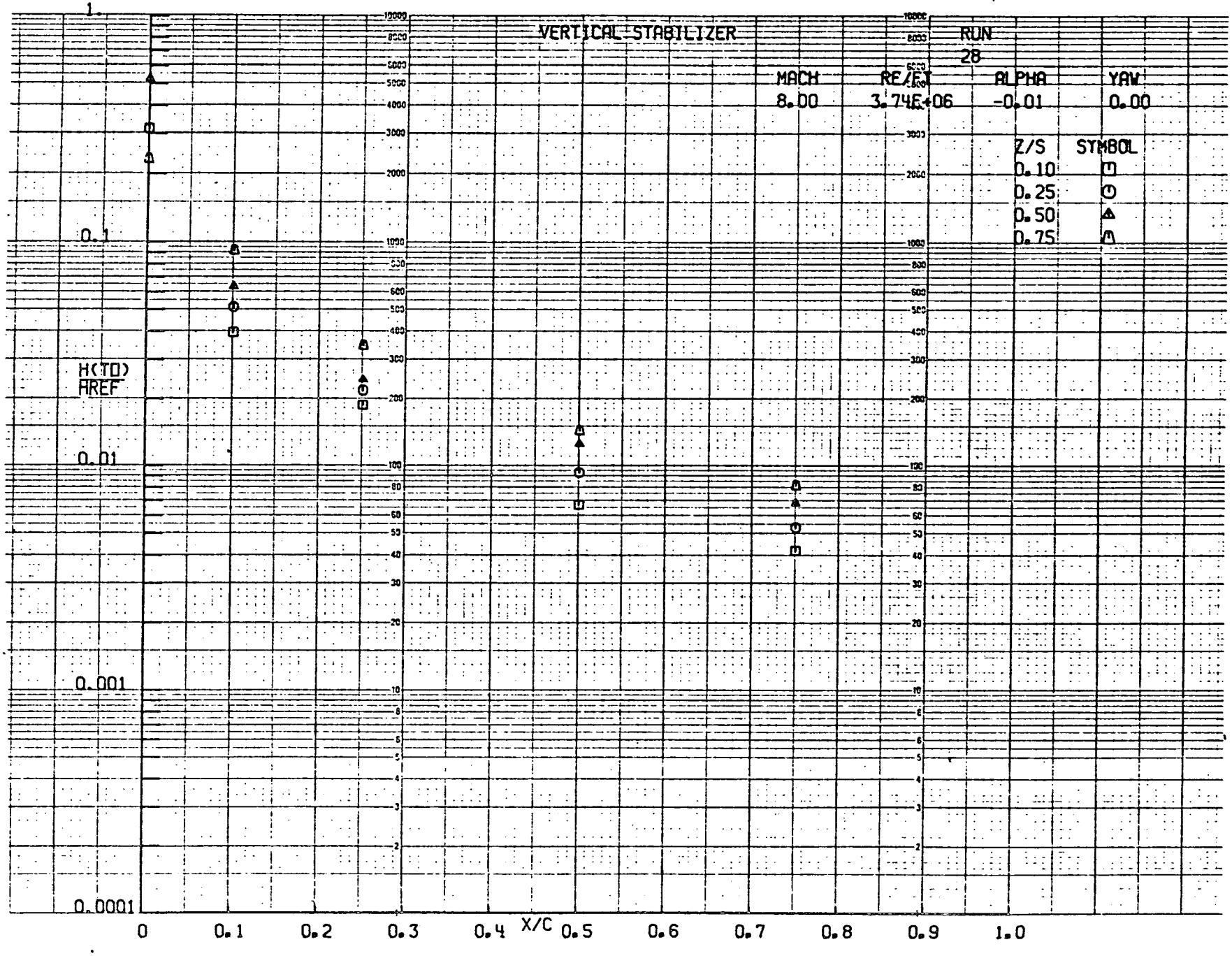

LOWER WING SURFACE
RUN
21
MACH
8.00
RE/FT
3.73E+06
ALPHA
39.96
YAW
0.00
GRIT-ON
δe= .00°
Y/S
SYMBOL
0.10
0.25
0.50
0.60
H(TD)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

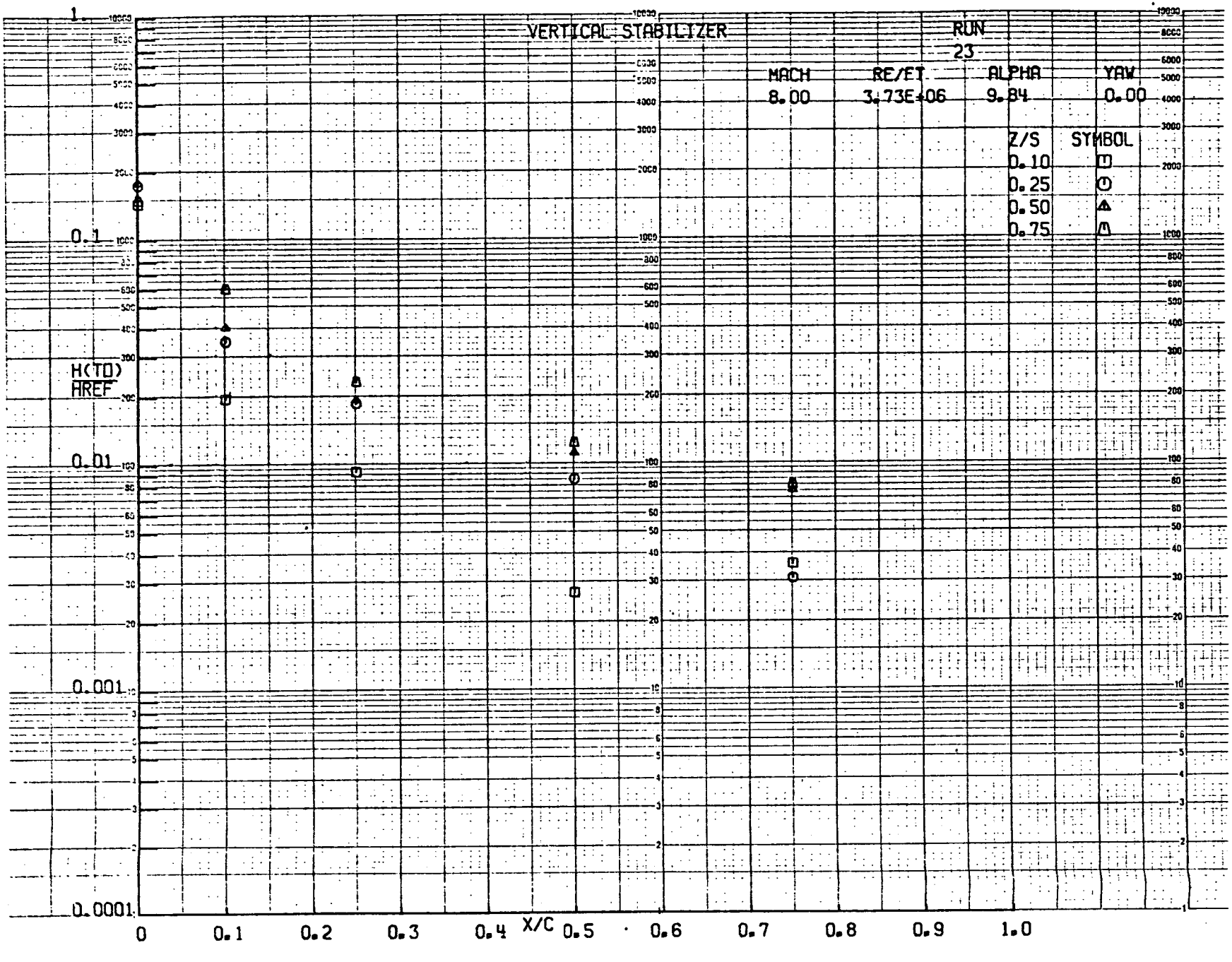

LOWER WING SURFACE
RUN
20
MACH
8.00
RE/FT
3.76E+06
ALPHA
40.00
YAW
0.00
δ_e= 0°
T/S
SYMBOL
0.10
0.25
0.50
0.60
H(TD)
HREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

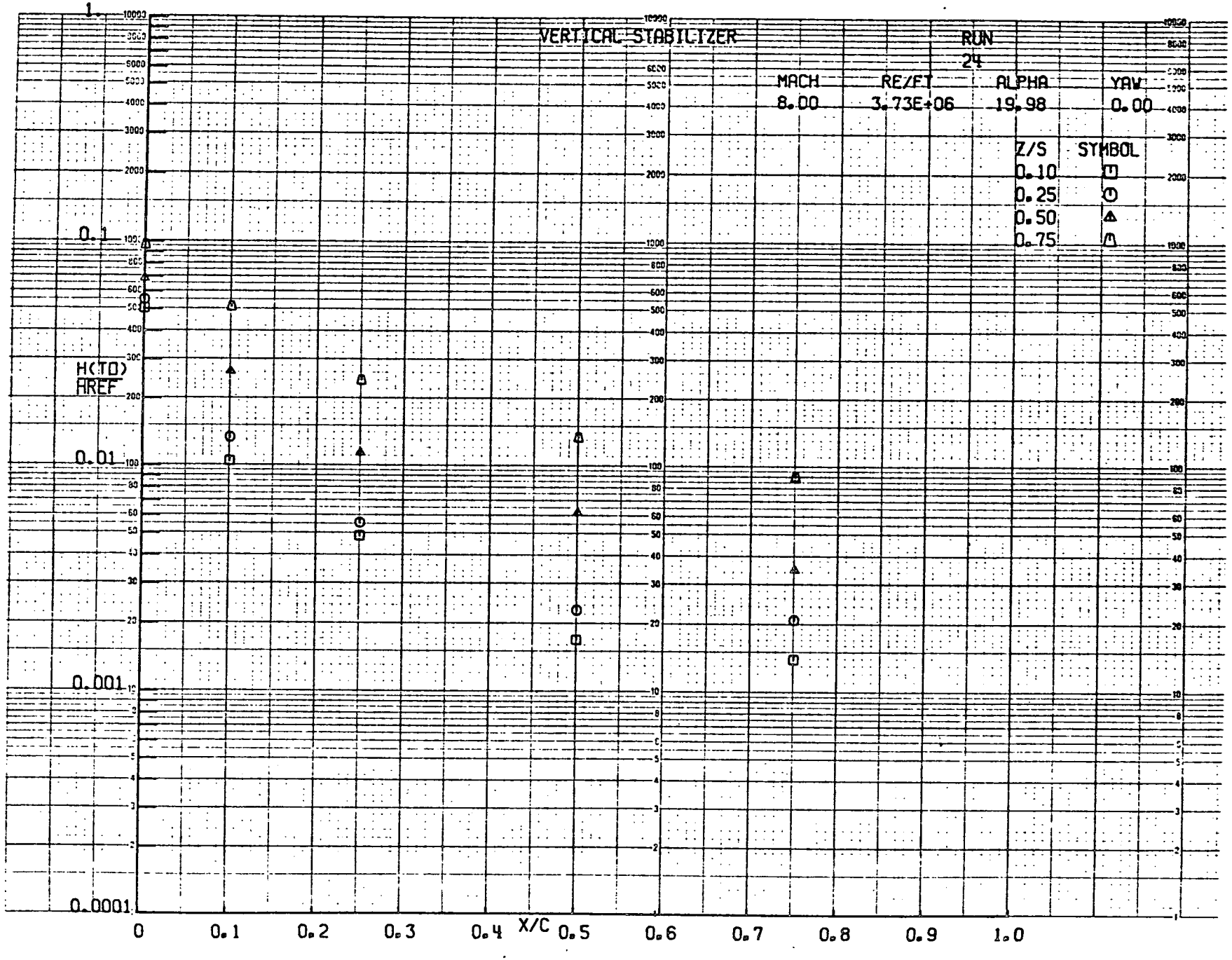

LOWER WING SURFACE
RUN
19
MACH
8.00
RE/FT
3.74E+06
ALPHA
49.99
YAW
0.00
δ_e= 0°
Y/S
SYMBOL
0.10
0.25
0.50
0.60
H(TD)
HREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

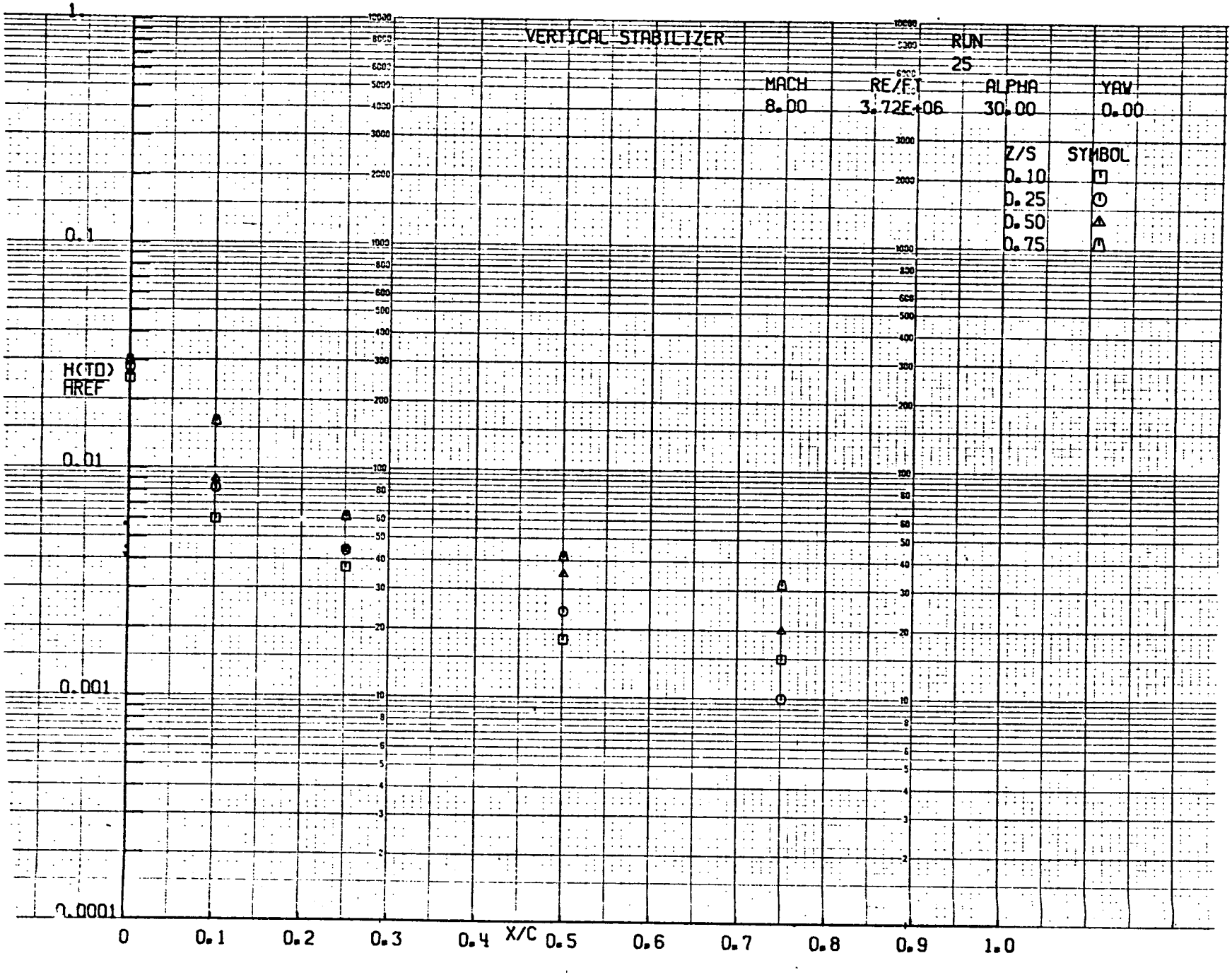

LOWER WING SURFACE
RUN
18
MACH
8.00
RE/FT
3.69E+06
ALPHA
60.09
YAW
0.00
δe= 0°
Y/S
SYMBOL
0.10
0.25
0.50
0.60
H(TO)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

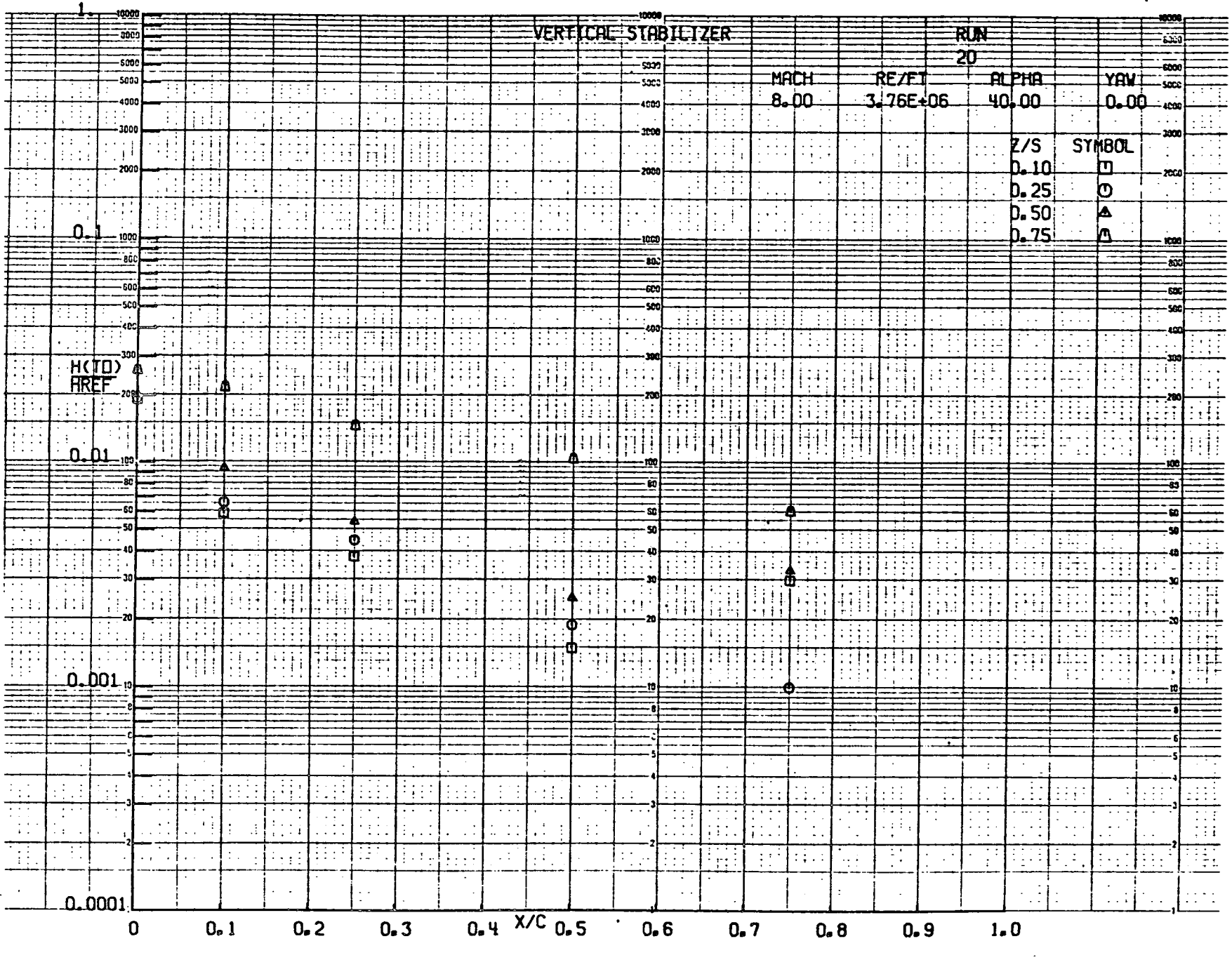

LOWER WING SURFACE
RUN
22
MACH
8.00
RE/FT
3.75E+06
ALPHA
59.97
YAW
0.00
GRIT -ON
δ_e= 0°
T/S
SYMBOL
0.10
0.25
0.50
0.60
H(TO)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0


VERTICAL STABILIZER
RUN
28
MACH
8.00
RE/FT
3.74E+06
ALPHA
-0.01
YAW
0.00
Z/S
SYMBOL
0.10
0.25
0.50
0.75
H(TO)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0


VERTICAL STABILIZER
RUN
23
MACH
8.00
RE/FT
3.73E+06
ALPHA
9.84
YAW
0.00
Z/S
SYMBOL
0.10
0.25
0.50
0.75
H(TO)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0


VERTICAL STABILIZER
RUN
24
MACH
8.00
RE/FT
3.73E+06
ALPHA
19.98
YAW
0.00
Z/S
SYMBOL
0.10
0.25
0.50
0.75
H(TO)
AREF
1
0.1
0.01
0.001
0.0001
X/C
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0


VERTICAL STABILIZER
RUN
25
MACH
8.00
RE/FT
3.72E+06
ALPHA
30.00
YAW
0.00
Z/S
SYMBOL
0.10
0.25
0.50
0.75
H(TO)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0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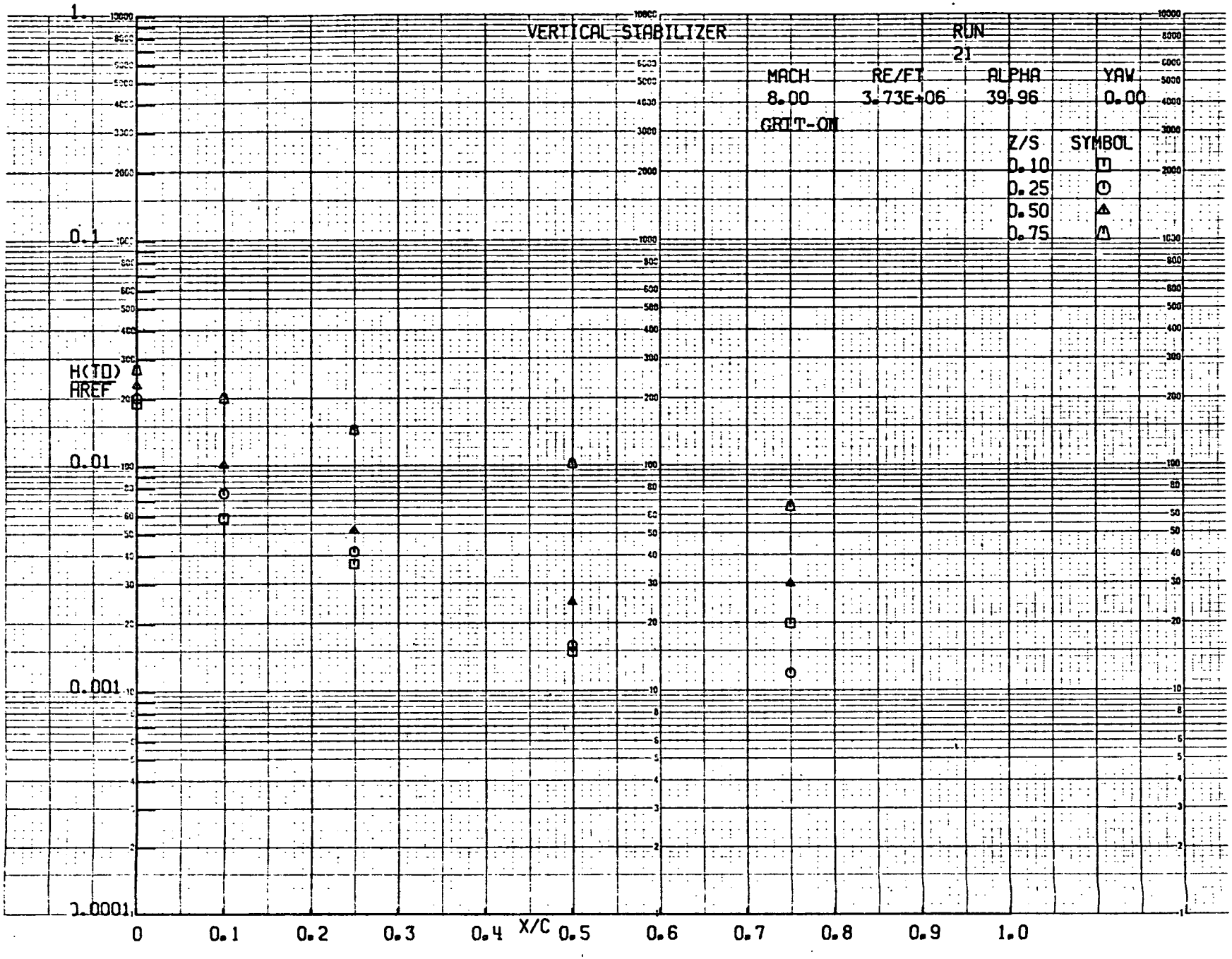
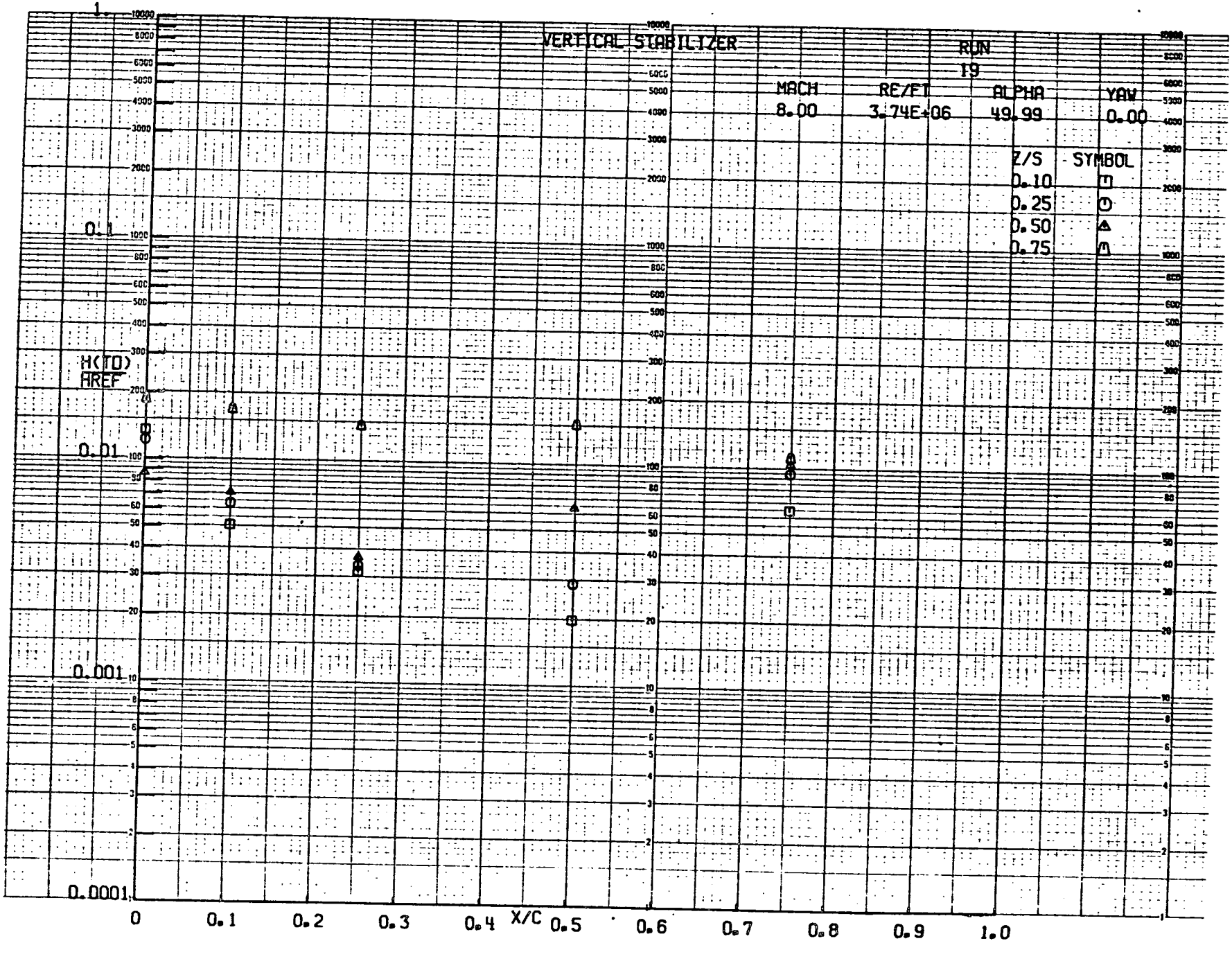
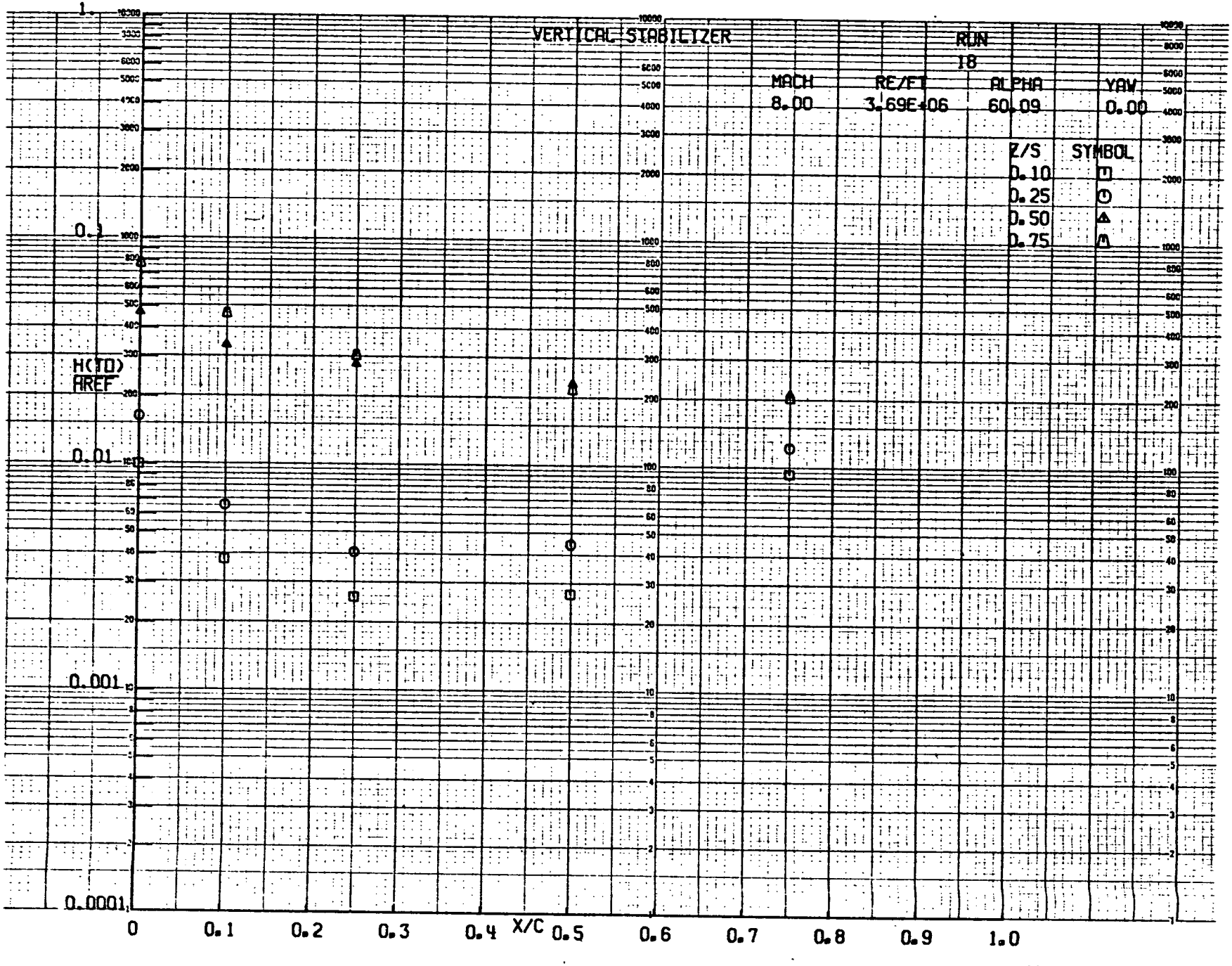
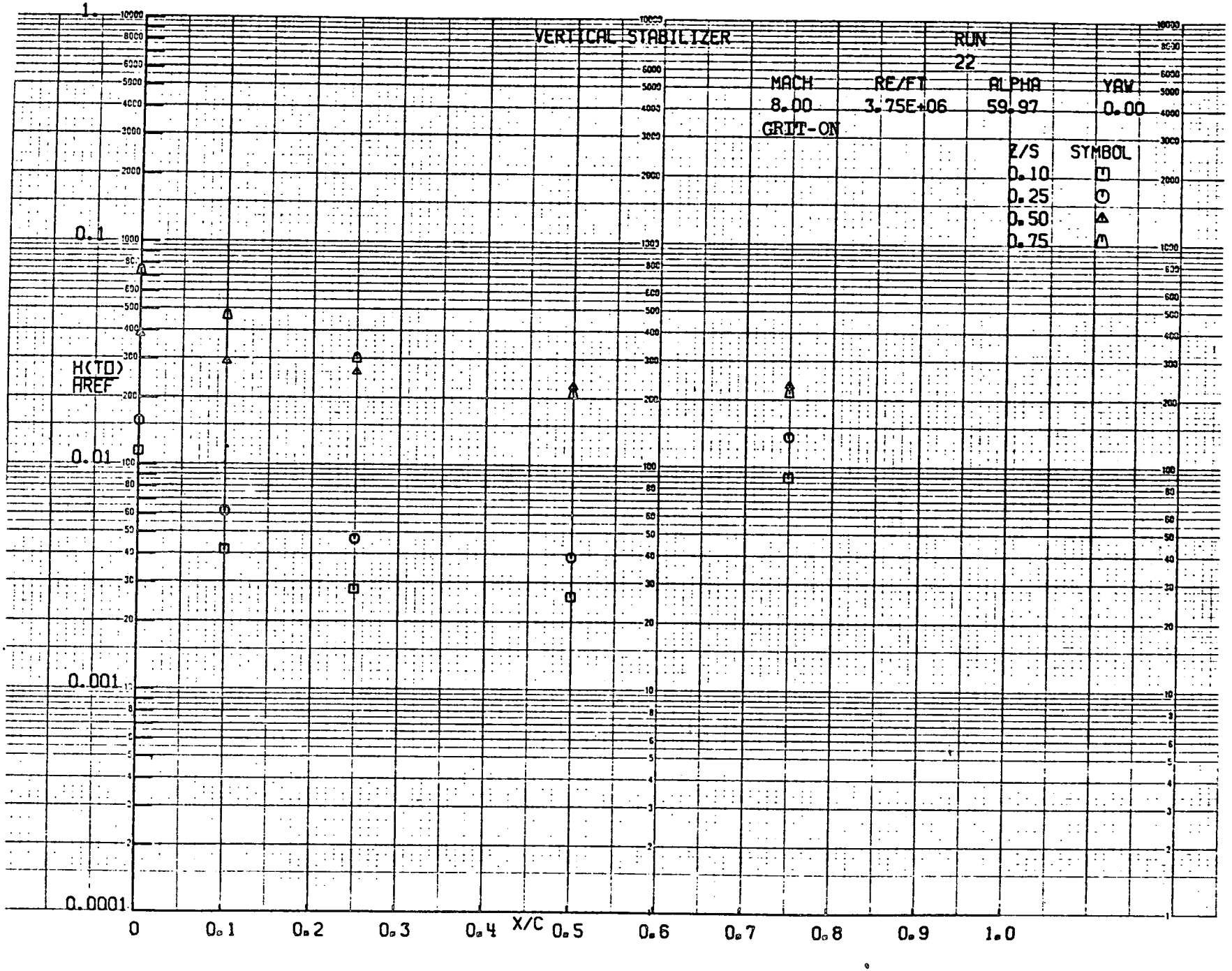
RUN
20
MACH
8.00
RE/FT
3.76E+06
ALPHA
40.00
YAW
0.00
Z/S
SYMBOL
0.10
0.25
0.50
0.75
H(TO)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0


VERTICAL STABILIZER
RUN
21
MACH
8.00
RE/FT
3.73E+06
ALPHA
39.96
YAW
0.00
GRIT-ON
Z/S
SYMBOL
0.10
0.25
0.50
0.75
H(TO)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0


VERTICAL STABILIZER
RUN
19
MACH
8.00
RE/FT
3.74E+06
ALPHA
49.99
YAW
0.00
Z/S
SYMBOL
0.10
0.25
0.50
0.75
H(TO)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0


VERTICAL STABILIZER
RUN
18
MACH
8.00
RE/FT
3.69E+06
ALPHA
60.09
YAW
0.00
Z/S
SYMBOL
0.10
0.25
0.50
0.75
H(TO)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0


VERTICAL STABILIZER
RUN
22
MACH
8.00
RE/FT
3.75E+06
ALPHA
59.97
YAW
0.00
GRIT-ON
Z/S
SYMBOL
0.10
0.25
0.50
0.75
K(TD)
AREF
1.
0.1
0.01
0.001
0.0001
0
0.1
0.2
0.3
0.4
X/C
0.5
0.6
0.7
0.8
0.9
1.0

A P P E N D I X

AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
18	H	GUC	8.00	857.8	1345	59.97	-9.97	-50.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (HR .009FT)	SIER (HR .009FT)	SWITCH POSITION
97.5	.088	3.936	4871	7.501E-05	7.849E-08	3.73E 06	6.835E-02	2.934E-02	2

TC NO	TW	DT=DT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	FUSELAGE A/L	FUSELAGE PHI
106	584	38.817	7.780	1.022E-02	.1496	1.2418E-02	.1817	1.3912E-02	.2035	.4400	0
107	574	39.818	6.969	9.030E-03	.1321	1.0937E-02	.1600	1.2228E-02	.1789	.4400	30.000
108	542	15.004	2.794	3.521E-03	.0515	4.2401E-03	.0620	4.7222E-03	.0691	.4400	60.000
109	536	5.426	1.002	1.237E-03	.0181	1.4833E-03	.0217	1.6474E-03	.0241	.4400	90.000
110	530	.605	.111	1.367E-04	.0020	1.6370E-04	.0024	1.8165E-04	.0027	.4400	120.000
111	529	.564	.104	1.280E-04	.0019	1.5325E-04	.0022	1.7004E-04	.0025	.4400	150.000
112	530	1.735	.319	3.917E-04	.0057	4.6914E-04	.0069	5.2060E-04	.0076	.4400	180.000
113	589	36.712	7.494	9.919E-03	.1451	1.2066E-02	.1765	1.3531E-02	.1980	.4880	0
114	560	30.204	5.399	6.471E-03	.1005	8.2911E-03	.1213	9.2463E-03	.1353	.4880	37.300
115	553	13.202	2.352	2.970E-03	.0434	3.5774E-03	.0523	3.9851E-03	.0583	.4880	60.000
116	539	5.746	1.030	1.277E-03	.0187	1.5331E-03	.0224	1.7037E-03	.0249	.4880	90.000
117	532	.806	.148	1.824F-04	.0027	2.1853E-04	.0032	2.4255E-04	.0035	.4880	120.000
118	530	1.474	.272	3.339E-04	.0049	3.9987E-04	.0059	4.4372E-04	.0065	.4880	150.000
119	529	1.658	.266	3.288E-04	.0048	3.9369E-04	.0058	4.3682E-04	.0064	.4880	180.000
120	588	40.927	8.353	1.103E-02	.1613	1.3406E-02	.1961	1.5028E-02	.2199	.5200	0
121	592	30.313	6.199	8.226E-03	.1203	1.0013E-02	.1465	1.1234E-02	.1644	.5500	0
122	595	36.265	7.418	9.882E-03	.1446	1.2039E-02	.1761	1.3515E-02	.1977	.5500	30.000
123	597	34.718	7.256	9.560E-03	.1399	1.1620E-02	.1700	1.3025E-02	.1905	.5500	43.000
124	559	16.853	3.019	3.839E-03	.0562	4.6320E-03	.0678	5.1652E-03	.0756	.5500	60.000
125	557	15.973	2.982	3.781E-03	.0553	4.5585E-03	.0667	5.0810E-03	.0743	.5500	75.000
126	550	14.034	2.610	3.280E-03	.0480	3.9476E-03	.0578	4.3947E-03	.0643	.5500	82.500
127	539	8.471	1.566	1.942E-03	.0284	2.3311E-03	.0341	2.5905E-03	.0379	.5500	90.000
128	533	1.189	.219	2.697F-04	.0039	3.2325E-04	.0047	3.5885E-04	.0053	.5500	120.000
129	531	1.035	.191	2.338E-04	.0034	2.8003E-04	.0041	3.1076E-04	.0045	.5500	150.000
130	530	.881	.162	1.988E-04	.0029	2.3806E-04	.0035	2.6415E-04	.0039	.5500	180.000
131	594	28.365	6.194	8.246E-03	.1206	1.0045E-02	.1470	1.1275E-02	.1650	.5860	0
132	560	16.606	1.754	2.234F-03	.0327	2.6959E-03	.0394	3.0067E-03	.0440	.6250	60.000
133	561	24.146	4.518	5.761E-03	.0843	6.9544E-03	.1017	7.7576E-03	.1135	.6250	75.000
134	548	13.011	2.417	3.030F-03	.0443	3.6452E-03	.0533	4.0568E-03	.0594	.6250	90.000
135	535	2.050	.378	4.666E-04	.0068	5.5941E-04	.0082	6.2122E-04	.0091	.6250	120.000
136	531	.752	.138	1.701E-04	.0025	2.0375E-04	.0030	2.2614E-04	.0033	.6250	150.000
137	531	1.179	.217	2.668E-04	.0039	3.1962E-04	.0047	3.5474E-04	.0052	.6250	180.000
138	623	34.165	5.324	7.368E-03	.1078	9.0545E-03	.1329	1.0224E-02	.1496	.6600	0
139	620	31.107	4.752	6.548F-03	.0958	8.0355E-03	.1176	9.0669E-03	.1327	.7000	0
140	642	30.820	5.961	6.630E-03	.0824	6.9621E-03	.1019	7.8957E-03	.1155	.7000	30.000
141	549	2.299	.397	4.988E-04	.0073	6.0024E-04	.0088	6.6815E-04	.0098	.7000	60.000
142	553	10.884	2.028	2.559F-03	.0374	3.0830E-03	.0451	3.4342E-03	.0502	.7000	75.000
143	556	17.473	3.260	4.129E-03	.0604	4.9769E-03	.0728	5.5466E-03	.0811	.7000	82.500
144	553	14.167	2.640	3.333E-03	.0488	4.0147E-03	.0587	4.4722E-03	.0654	.7000	90.000
145	540	4.167	.775	9.813F-04	.0141	1.1540E-03	.0169	1.2826E-03	.0188	.7000	120.000
146	534	1.062	.196	2.414F-04	.0035	2.8943E-04	.0042	3.2138E-04	.0047	.7000	150.000
147	534	1.538	.279	3.392E-04	.0050	4.0857E-04	.0059	4.5143E-04	.0066	.7000	180.000
148	621	33.878	5.572	7.734E-03	.1132	9.5101E-03	.1391	1.0744E-02	.1572	.7340	0
149	621	29.612	6.150	8.687E-03	.1242	1.0422E-02	.1525	1.1763E-02	.1721	.7700	0
150	627	33.729	5.743	7.989E-03	.1169	9.8286E-03	.1438	1.1108E-02	.1625	.7700	30.000
151	540	.819	.146	1.832F-04	.0027	2.2047E-04	.0032	2.4546E-04	.0036	.7700	60.000
152	549	7.780	1.404	1.762E-03	.0258	2.1201E-03	.0310	2.3598E-03	.0345	.7700	90.000
153	541	3.977	.714	8.876E-04	.0130	1.0657E-03	.0156	1.1846E-03	.0173	.7700	120.000
154	537	.740	.133	1.642E-04	.0024	1.9701E-04	.0029	2.1887E-04	.0032	.7700	150.000
155	536	1.441	.258	3.193E-04	.0047	3.8296E-04	.0056	4.2539E-04	.0062	.7700	180.000
156	630	35.836	6.315	8.830E-03	.1292	1.0876E-02	.1591	1.2301E-02	.1800	.8000	0
157	630	38.519	7.113	9.936E-03	.1454	1.2235E-02	.1790	1.3836E-02	.2024	.8300	0
158	631	27.006	4.100	5.740E-03	.0840	7.0725E-03	.1035	8.0010E-03	.1171	.8300	30.000
159	625	41.513	8.004	1.111E-02	.1625	1.3655E-02	.1998	1.5425E-02	.2257	.8620	0
160	622	43.418	8.853	1.224E-02	.1791	1.5035E-02	.2200	1.6975E-02	.2484	.8950	0
161	627	41.757	8.688	1.237E-02	.1810	1.5219E-02	.2227	1.7200E-02	.2516	.8950	30.000
162	553	3.021	.513	6.472E-04	.0095	7.7952E-04	.0114	8.6825E-04	.0127	.8950	60.000
163	545	3.939	.731	9.127F-04	.0134	1.0971E-03	.0161	1.2203E-03	.0179	.8950	90.000
164	542	3.176	.588	7.321E-04	.0107	8.7931E-04	.0129	9.7761E-04	.0143	.8950	120.000
165	539	1.003	.185	2.299E-04	.0034	2.7598E-04	.0040	3.0668E-04	.0045	.8950	150.000
166	628	47.891	9.247	1.289E-02	.1886	1.5871E-02	.2322	1.7942E-02	.2625	.9280	0
167	633	45.983	8.633	1.211F-02	.1772	1.4928E-02	.2184	1.6894E-02	.2472	.9600	0
350	606	88.867	8.744	1.182F-02	.1729	1.4445E-02	.2113	1.6251E-02	.2378	UPPER CANARD SURFACE A/C 0	Y/S .250
351	591	26.201	2.511	3.162F-03	.0463	3.8068E-03	.0557	4.2392E-03	.0620	.2500	.250
352	539	6.989	1.201	1.490E-03	.0218	1.7882E-03	.0262	1.9872E-03	.0291	.5000	.250
353	535	4.129	.708	8.738E-04	.0128	1.0477E-03	.0153	1.1635E-03	.0170	.7000	.250
357	610	86.985	8.577	1.166F-02	.1706	1.4275E-02	.2088	1.6074E-02	.2352	0	.900
358	554	33.315	3.147	4.041E-03	.0591	4.8696E-03	.0712	5.4286E-03	.0794	.2500	.900
359	541	10.288	1.585	1.970E-03	.0288	2.3646E-03	.0346	2.6296E-03	.0385	.5000	.500
360	537	6.303	1.082	1.338E-03	.0196	1.6050E-03	.0235	1.7828E-03	.0261	.7000	.500
354	553	20.251	1.942	2.452E-03	.0359	2.9538E-03	.0432	3.2905E-03	.0481	LOWER CANARD SURFACE A/C .2500	Y/S .250
355	540	5.090	1.219	1.512E-03	.0221	1.8152E-03	.0266	2.0173E-03	.0295	.5000	.250
356	517	3.476	.629	7.774E-04	.0114	9.3252E-04	.0136	1.0359E-03	.0152	.7000	.250
361	552	24.400	2.339	2.948F-03	.0431	3.5496E-03	.0519	3.9532E-03	.0578	.2500	.500
362	540	8.027	1.092	1.355E-03	.0198	1.6270E-03	.0238	1.8083E-03	.0265	.5000	.500
363	535	4.803	.867	1.045E-03	.0153	1.2528E-03	.0183	1.3909E-03	.0203	.7000	.500
175	550	5.705	.548	6.865E-04	.0100	8.2624E-04	.0121	9.1985E-04	.0135	VERTICAL STABILIZER A/C 0	Z/S .100
176	538	2.141	.208	2.581F-04	.0038	3.0966E-04	.0045	3.4404E-04	.0050	.1000	.100
177	536	1.534	.146	1.801F-04	.0026	2.1601E-04	.0032	2.3992E-04	.0035	.2500	.100
178	536	1.550	.147	1.821E-04	.0027	2.1837E-04	.0032	2.4256E-04	.0035	.5000	.100
179	537	5.467	.520	6.435E-04	.0094	7.7204E-04	.0113	8.5772E-04	.0125	.7500	.100
180	550	9.246	.885	1.113F-03	.0163	1.3398E-03	.0196	1.4916E-03	.0218	0	.250
181	538	3.817	.363	4.499E-04	.0066	5.3943E-04	.0079	5.9980E-04	.0088	.1000	.250
182	536	2.369	.225	2.782E-04	.0041	3.3366E-04	.0049	3.7061E-04	.0054	.2500	.250
183	536	2.015	.248	3.067E-04	.0045	3.6782E-04	.0054	4.0851E-04	.0060	.5000	.250
184	538	7.157	.681	8.427E-04	.0123	1.0111E-03	.0148	1.1233E-03	.0164	.7500	.250
185	541	26.071	2.510	3.199E-03	.0468	3.8616E-03	.0565	4.3073E-03	.0630	0	.500
186	548	19.204	1.837	2.303E-03	.0337	2.7705E-03	.0405	3.0834E-03	.0451	.1000	.500
187	546	16.022	1.531	1.914E-03	.0280	2.3011E-03	.0337	2.5600E-03	.0375	.2500	.500
188	545	13.306	1.271	1.588F-03	.0232	1.9086E-03	.0279	2.1232E-03	.0311	.5000	.500
189	543	12.191	1.163	1.450E-03	.0212	1.7418E-03	.0255	1.9369E-03	.0283	.7500	.500
190	569	42.499	4.110	5.293E-03	.0774	6.4031E-03	.0937	7.1529E-03	.1046	0	.750
191	561	26.483	2.537	3.192E-03	.0467	3.8429E-03	.0562	4.2789E-03	.0626	.1000	.750
192	545	17.575	1.678	2.096E-03	.0307	2.5198E-03	.0369	2.8029E-03	.0410	.2500	.750
193	544	12.551	1.198	1.496E-03	.0219	1.7978E-03	.0263	1.9997E-03	.0293	.5000	.750
194	542	11.805	1.126	1.402E-03	.0205	1.6840E-03	.0246	1.8724E-03	.0274	.7500	.750

GROUP
Y3

5/28/71

AEDC(AHO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
V11162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
18	A	60C	8.00	857.1	1334	60.02	-10.02	-50.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	XREF-FR (R= .009FT)	STFR (R= .009FT)	SWITCH POSITION
96.7	.088	3.933	3855	7.818E-05	7.784E-08	3.11E 06	8.822E-02	2.920E-02	1

TC NO	TW	DTW/DT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	FUSELAGE A/L	FUSELAGE PHI
1	555	60.695	11.320	1.452E-02	.2129	1.7572E-02	.2568	1.9540E-02	.2864	0	0
2	570	88.119	19.561	2.166E-02	.3179	2.6245E-02	.3847	2.9348E-02	.4302	.0137	0
3	531	3.514	.648	8.062E-04	.0118	9.6670E-04	.0142	1.0736E-03	.0157	.0137	180.000
4	576	74.935	14.124	1.862E-02	.2729	2.2591E-02	.3311	2.5289E-02	.3707	.0274	0
5	561	66.358	12.425	1.607E-02	.2356	1.9426E-02	.2847	2.1686E-02	.3179	.0274	30.000
6	540	40.300	7.497	9.559E-03	.1401	1.1519E-02	.1688	1.2834E-02	.1881	.0274	60.000
7	516	16.684	3.082	3.863E-03	.0566	4.6385E-03	.0680	5.1562E-03	.0756	.0274	90.000
8	530	4.421	.838	1.041E-03	.0153	1.2484E-03	.0183	1.3863E-03	.0203	.0274	120.000
9	529	1.453	.279	3.417E-04	.0050	4.0958E-04	.0060	4.5474E-04	.0067	.0274	150.000
10	531	5.766	1.093	1.381E-03	.0200	1.6324E-03	.0239	1.8130E-03	.0266	.0274	180.000
12	577	70.415	13.278	1.752E-02	.2568	2.1267E-02	.3117	2.3812E-02	.3490	.0543	0
13	567	59.654	11.194	1.458E-02	.2138	1.7651E-02	.2587	1.9726E-02	.2891	.0543	30.000
14	549	36.172	6.726	8.568E-03	.1256	1.0323E-02	.1513	1.1500E-02	.1686	.0543	60.000
15	516	14.471	2.703	3.448E-03	.0423	4.1652E-03	.0508	4.8518E-03	.0565	.0543	90.000
16	530	2.968	.546	6.792E-04	.0100	8.1431E-04	.0119	9.0423E-04	.0133	.0543	120.000
17	540	.054	.010	1.259E-05	.0002	1.5129E-05	.0002	1.6827E-05	.0002	.0543	150.000
18	532	5.834	1.079	1.339E-03	.0196	1.6065E-03	.0235	1.7845E-03	.0262	.0543	180.000
20	574	62.448	11.761	1.547E-02	.2267	1.8762E-02	.2750	2.0996E-02	.3078	.0790	0
23	572	57.996	10.913	1.432E-02	.2099	1.7357E-02	.2544	1.9418E-02	.2846	.1030	0
24	571	56.674	10.656	1.396E-02	.2046	1.6912E-02	.2479	1.8915E-02	.2773	.1030	15.000
25	564	47.153	8.835	1.147E-02	.1681	1.3867E-02	.2033	1.5489E-02	.2270	.1030	30.000
26	551	37.647	7.008	8.949E-03	.1312	1.0787E-02	.1581	1.2021E-02	.1762	.1030	45.000
27	544	26.765	4.955	6.268E-03	.0919	7.5413E-03	.1105	8.3935E-03	.1230	.1030	60.000
28	538	15.009	2.774	3.481E-03	.0510	4.1813E-03	.0613	4.6488E-03	.0681	.1030	75.000
29	534	8.841	1.631	2.039E-03	.0299	2.4469E-03	.0359	2.7191E-03	.0399	.1030	90.000
31	527	1.718	.316	3.912E-04	.0057	4.6874E-04	.0069	5.2027E-04	.0076	.1030	120.000
33	527	.420	.077	9.547E-05	.0014	1.1437E-04	.0017	1.2693E-04	.0019	.1030	150.000
35	529	5.145	.946	1.176E-03	.0172	1.4091E-03	.0207	1.5645E-03	.0229	.1030	180.000
38	573	53.055	9.989	1.313E-02	.1924	1.5919E-02	.2333	1.7813E-02	.2611	.1430	0
41	568	45.814	9.866	1.287E-02	.1887	1.5583E-02	.2284	1.7418E-02	.2553	.1690	0
42	569	43.466	9.005	1.176E-02	.1724	1.4246E-02	.2088	1.5927E-02	.2335	.1690	15.000
43	563	37.142	7.367	9.553E-03	.1400	1.1552E-02	.1693	1.2902E-02	.1891	.1690	30.000
44	555	29.541	5.942	7.624E-03	.1118	9.1997E-03	.1348	1.0260E-02	.1504	.1690	45.000
45	546	19.085	3.647	4.627E-03	.0678	5.5701E-03	.0816	6.2020E-03	.0909	.1690	60.000
46	539	11.269	2.148	2.699E-03	.0396	3.2432E-03	.0475	3.6069E-03	.0529	.1690	75.000
47	535	5.705	1.044	1.357E-03	.0199	1.6290E-03	.0239	1.8105E-03	.0265	.1690	90.000
49	532	.822	.156	1.944E-04	.0028	2.3317E-04	.0034	2.5901E-04	.0038	.1690	120.000
51	531	.475	.093	1.153E-04	.0017	1.3824E-04	.0020	1.5354E-04	.0023	.1690	150.000
53	532	2.149	.395	4.926E-04	.0072	5.9092E-04	.0087	6.5639E-04	.0096	.1690	180.000
400	572	47.908	9.014	1.182E-02	.1733	1.4332E-02	.2101	1.6033E-02	.2350	.2420	0
401	562	38.812	7.266	9.410E-03	.1379	1.1375E-02	.1667	1.2702E-02	.1862	.2420	15.000
402	549	32.834	6.316	8.142E-03	.1193	9.8329E-03	.1441	1.0973E-02	.1608	.2420	30.000
403	541	22.063	4.349	5.556E-03	.0814	6.6971E-03	.0982	7.4638E-03	.1094	.2420	45.000
404	545	19.961	3.781	4.796E-03	.0703	5.7711E-03	.0846	6.4244E-03	.0942	.2420	60.000
405	539	12.746	2.267	2.778E-03	.0407	3.3365E-03	.0489	3.7108E-03	.0544	.2420	75.000
406	533	6.065	1.125	1.404E-03	.0206	1.6844E-03	.0247	1.8714E-03	.0274	.2420	90.000
408	530	.943	.187	2.322E-04	.0034	2.7831E-04	.0041	3.0903E-04	.0045	.2420	120.000
410	529	.606	.120	1.490E-04	.0022	1.7854E-04	.0026	1.9822E-04	.0029	.2420	150.000
412	529	3.063	.596	7.405E-04	.0109	8.8747E-04	.0130	9.8528E-04	.0144	.2420	180.000
413	569	45.906	9.053	1.183E-02	.1735	1.4334E-02	.2101	1.6027E-02	.2349	.2830	0
414	562	38.544	7.768	1.005E-02	.1473	1.2150E-02	.1781	1.3566E-02	.1988	.2830	15.000
415	557	31.079	6.245	8.030E-03	.1177	9.6928E-03	.1421	1.0812E-02	.1585	.2830	30.000
416	552	20.267	4.062	5.191E-03	.0761	6.2581E-03	.0917	6.9749E-03	.1022	.2830	45.000
417	551	24.083	4.271	5.456E-03	.0800	6.5767E-03	.0964	7.3496E-03	.1074	.2830	60.000
418	535	11.088	2.257	2.824E-03	.0414	3.3895E-03	.0497	3.7669E-03	.0552	.2830	75.000
419	531	4.814	.885	1.106E-03	.0162	1.3269E-03	.0194	1.4731E-03	.0216	.2830	90.000
420	531	3.947	.676	8.415E-04	.0123	1.0092E-03	.0148	1.1209E-03	.0164	.2830	105.000
421	527	.857	.144	1.780E-04	.0026	2.1324E-04	.0031	2.3669E-04	.0035	.2830	120.000
422	527	.465	.085	1.058E-04	.0016	1.2677E-04	.0019	1.4070E-04	.0021	.2830	135.000
423	528	1.189	.241	2.998E-04	.0044	3.5803E-04	.0052	3.9740E-04	.0058	.2830	150.000
425	527	1.852	.360	4.461E-04	.0065	5.3445E-04	.0078	5.9316E-04	.0087	.2830	180.000
426	573	47.624	9.490	1.246E-02	.1826	1.5104E-02	.2214	1.6899E-02	.2477	.3160	0
427	568	39.915	8.092	1.057E-02	.1549	1.2794E-02	.1875	1.4303E-02	.2096	.3160	15.000
428	559	31.458	6.346	8.182E-03	.1199	9.8876E-03	.1449	1.1028E-02	.1617	.3160	30.000
429	554	19.688	3.962	5.040E-03	.0745	6.1240E-03	.0898	6.8331E-03	.1002	.3160	45.000
430	553	21.085	4.043	5.173E-03	.0758	6.2376E-03	.0914	6.9532E-03	.1019	.3160	60.000
431	530	4.304	.839	1.043E-03	.0153	1.2504E-03	.0183	1.3885E-03	.0204	.3160	75.000
432	535	9.442	1.819	2.026E-03	.0297	2.431ME-03	.0356	2.7026E-03	.0396	.3160	90.000
433	541	15.721	3.081	3.804E-03	.0569	4.6689E-03	.0684	5.1940E-03	.0761	.3160	105.000
434	529	1.391	.272	3.758E-04	.0040	3.3056E-04	.0048	3.6701E-04	.0054	.3160	120.000
435	528	1.107	.210	2.599E-04	.0038	3.1147E-04	.0046	3.4576E-04	.0051	.3160	135.000
436	528	2.043	.404	5.013E-04	.0073	6.0073E-04	.0088	6.6684E-04	.0098	.3160	150.000
437	528	1.554	.302	3.751E-04	.0055	4.4947E-04	.0066	4.9894E-04	.0073	.3160	165.000
438	527	2.258	.454	5.629E-04	.0083	6.7433E-04	.0099	7.4842E-04	.0110	.3160	180.000
439	578	47.228	9.594	1.269E-02	.1859	1.5403E-02	.2258	1.7251E-02	.2529	.3540	0
440	567	38.721	8.014	1.044E-02	.1530	1.2638E-02	.1853	1.4125E-02	.2070	.3540	15.000
441	560	30.073	6.202	8.006E-03	.1173	9.6714E-03	.1418	1.0794E-02	.1582	.3540	30.000
442	552	20.814	4.184	5.350E-03	.0784	6.4500E-03	.0945	7.1894E-03	.1054	.3540	45.000
443	540	13.833	2.858	3.682E-03	.0417	3.4157E-03	.0501	3.7991E-03	.0557	.3540	60.000
444	535	8.721	1.810	2.015E-03	.0295	2.4184E-03	.0354	2.6879E-03	.0394	.3540	75.000
445	531	3.803	.644	8.016E-04	.0117	9.6123E-04	.0141	1.0675E-03	.0156	.3540	90.000
446	530	3.153	.555	6.896E-04	.0101	8.2671E-04	.0121	9.1800E-04	.0135	.3540	105.000
447	529	1.107	.195	2.416E-04	.0035	2.8960E-04	.0042	3.2153E-04	.0047	.3540	120.000
448	528	.954	.169	2.343E-04	.0034	2.8079E-04	.0041	3.1170E-04	.0046	.3540	135.000
450	527	1.488	.281	3.485E-04	.0051	4.1749E-04	.0061	4.6336E-04	.0068	.3540	165.000
451	526	2.245	.424	5.252E-04	.0077	6.2908E-04	.0092	6.9811E-04	.0102	.3540	180.000
452	580	45.702	9.161	1.212E-02	.1776	1.4722E-02	.2158	1.6494E-02	.2418	.3800	0
454	564	32.470	6.442	8.363E-03	.1226	1.0115E-02	.1483	1.1299E-02	.1656	.3800	30.000
455	561	24.697	4.617	5.712E-03	.0837	6.9031E-03	.1012	7.7066E-03	.1130	.3800	45.000
456	547	18.523	3.036	3.855E-03	.0565	4.6422E-03	.0680	5.1696E-03	.0758	.3800	60.000
457	547	15.207	2.761	3.481E-03	.0510	4.1917E-03	.0614	4.6679E-03	.0684	.3800	75.000
458	533	5.111	.942	1.175E-03	.0172	1.4095E-03	.0207	1.5058E-03	.0230	.3800	90.000
459	530	1.726	.336	4.181E-04	.0061	5.0129E-04	.0073	5.5663E-04	.0082	.3800	105.000
460	528	.931	.171	2.124E-04	.0031	2.5455E-04	.0037	2.8258E-04	.0041	.3800	120.000
461	529	1.631	.300	3.726E-04	.0055	4.4669E-04	.0065	4.9596E-04	.0073	.3800	135.000
462	530	1.842	.349	4.337E-04	.0064	5.1989E-04	.0076	5.7727E-04	.0085	.3800	150.000
464	528	2.096	.397	4.923E-04	.0072	5.9004E-04	.0086	6.5504E-04	.0096	.3800	180.000

GROUP
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219772S

5/28/71

AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
18	8	GOC	8.00	856.6	1353	60.09	-10.09	-50.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (R= .009FT)	SIFR (R= .009FT)	SWITCH POSITION
98.1	.088	3.931	3882	7.505E-05	7.696E-08	3.09E 06	6.837E-02	2.940E-02	3

UPPER WING SURFACE

TC NO	TW	DTWLT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	X/C	Y/S
201	556	11.877	1.408	1.765E-03	.0258	2.1255E-03	.0311	2.3674E-03	.0346	.1000	.100
202	551	4.230	.602	7.501E-04	.0110	9.0222E-04	.0132	1.0040E-03	.0147	.2000	.100
203	557	2.765	.582	7.301E-04	.0107	8.7998E-04	.0129	9.7988E-04	.0143	.3300	.100
204	557	3.765	.676	8.480E-04	.0124	1.0216E-03	.0149	1.1380E-03	.0166	.4000	.100
205	557	4.744	.860	1.079E-03	.0158	1.2997E-03	.0190	1.4479E-03	.0212	.6000	.100
206	561	3.497	.608	7.674E-04	.0112	9.2590E-04	.0135	1.0318E-03	.0151	.7000	.100
207	563	3.781	.364	4.611E-04	.0067	5.5634E-04	.0081	6.2043E-04	.0091	.9100	.100
231	549	4.143	.492	6.107E-04	.0089	7.3413E-04	.0107	8.1667E-04	.0119	.1000	.250
232	555	.911	.180	2.255E-04	.0033	2.7159E-04	.0040	3.0247E-04	.0044	.4000	.250
233	556	1.867	.359	4.497E-04	.0066	5.4159E-04	.0079	6.0322E-04	.0088	.5000	.250
234	559	2.219	.426	5.362E-04	.0078	6.4635E-04	.0095	7.2032E-04	.0105	.6000	.250
235	564	3.147	.232	2.943E-04	.0043	3.5515E-04	.0052	3.9612E-04	.0058	.8330	.250
236	564	4.429	.366	4.639E-04	.0068	5.5991E-04	.0082	6.2453E-04	.0091	.8670	.250
237	566	6.867	.568	7.213E-04	.0105	8.7095E-04	.0127	9.7175E-04	.0142	.9010	.250
238	569	13.872	1.089	1.388E-03	.0203	1.6774E-03	.0245	1.8727E-03	.0274	.9350	.250
278	553	2.074	.275	3.436E-04	.0050	4.1350E-04	.0060	4.6033E-04	.0067	.1000	.500
280	558	1.065	.211	2.650E-04	.0039	3.1935E-04	.0047	3.5583E-04	.0052	.4000	.500
281	559	1.275	.245	3.090E-04	.0045	3.7243E-04	.0054	4.1506E-04	.0061	.5000	.500
282	560	1.385	.267	3.362E-04	.0049	4.0531E-04	.0059	4.5178E-04	.0066	.6000	.500
283	561	2.872	.277	3.491E-04	.0051	4.2108E-04	.0062	4.6944E-04	.0069	.8770	.500
297	557	3.165	.421	5.282E-04	.0077	6.3633E-04	.0093	7.0890E-04	.0104	.1000	.600
299	558	.783	.180	2.256E-04	.0033	2.7189E-04	.0040	3.0294E-04	.0044	.4000	.600
300	560	1.394	.249	3.139E-04	.0046	3.7846E-04	.0055	4.2181E-04	.0062	.6000	.600
301	560	3.062	.295	3.716E-04	.0054	4.4811E-04	.0066	4.9950E-04	.0073	.7930	.600
302	563	7.062	.681	8.605E-04	.0126	1.0381E-03	.0152	1.1576E-03	.0169	.8510	.600

LOWER WING SURFACE

TC NO	TW	DTWLT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	X/C	Y/S
200	572	32.064	5.022	6.430E-03	.0940	7.7782E-03	.1138	8.6889E-03	.1271	0	.100
208	639	67.418	11.923	1.669E-02	.2441	2.0590E-02	.3011	2.3314E-02	.3410	.1000	.100
209	666	58.531	10.462	1.522E-02	.2226	1.8950E-02	.2771	2.1597E-02	.3159	.2000	.100
210	629	29.297	4.992	6.887E-03	.1007	8.4689E-03	.1239	9.5672E-03	.1399	.3300	.100
211	626	34.400	6.168	8.479E-03	.1240	1.0418E-02	.1524	1.1762E-02	.1720	.4000	.150
212	635	40.753	7.913	1.101E-02	.1610	1.3559E-02	.1983	1.5337E-02	.2243	.6000	.150
213	632	42.768	8.905	1.235E-02	.1806	1.5205E-02	.2224	1.7192E-02	.2514	.7000	.100
214	692	65.053	6.627	1.002E-02	.1466	1.2602E-02	.1843	1.4464E-02	.2115	.9100	.100
215	604	46.346	6.770	9.030E-03	.1321	1.1019E-02	.1612	1.2383E-02	.1811	0	.150
216	648	70.641	8.738	1.239E-02	.1813	1.5339E-02	.2243	1.7406E-02	.2546	.0500	.150
217	570	31.555	3.925	5.011E-03	.0733	6.0581E-03	.0886	6.7646E-03	.0989	0	.200
224	672	67.286	9.332	1.369E-02	.2003	1.7086E-02	.2499	1.9502E-02	.2852	.0500	.200
225	671	61.440	9.155	1.340E-02	.1960	1.6717E-02	.2445	1.9074E-02	.2790	.1000	.200
226	692	61.161	8.543	1.291E-02	.1888	1.6227E-02	.2373	1.8621E-02	.2723	.2000	.200
227	627	38.277	7.603	1.046E-02	.1530	1.2858E-02	.1880	1.4519E-02	.2123	.4000	.200
228	630	41.460	8.011	1.107E-02	.1619	1.3619E-02	.1992	1.5390E-02	.2251	.6000	.200
229	637	41.667	8.076	1.127E-02	.1649	1.3899E-02	.2033	1.5732E-02	.2301	.7000	.200
238	582	40.085	5.573	7.222E-03	.1056	8.7586E-03	.1281	9.8012E-03	.1433	0	.250
239	696	[illegible]	-.042	[illegible]	-.0001	[illegible]	.0001	[illegible]	[illegible]	.0500	.250
240	671	71.020	7.181	1.053E-02	.1540	1.3136E-02	.1921	1.4992E-02	[illegible]	.1000	.250
241	625	38.298	7.602	1.044E-02	.1526	1.2819E-02	.1875	1.4470E-02	.2116	.4000	.250
242	630	40.769	8.483	1.172E-02	.1714	1.4417E-02	.2109	1.6291E-02	.2383	.5000	.250
243	633	45.851	8.873	1.231E-02	.1800	1.5156E-02	.2217	1.7138E-02	.2506	.6000	.250
244	688	53.573	5.169	7.768E-03	.1136	9.7513E-03	.1426	1.1178E-02	.1635	.8330	.250
245	692	76.584	7.799	1.178E-02	.1723	1.4810E-02	.2166	1.6993E-02	.2485	.8670	.250
246	692	72.587	7.393	1.118E-02	.1635	1.4051E-02	.2055	1.6125E-02	.2358	.9010	.250
247	686	59.038	6.001	8.993E-03	.1315	1.1281E-02	.1650	1.2926E-02	.1890	.9350	.250
248	578	37.024	4.274	5.510E-03	.0806	6.6745E-03	.0976	7.4633E-03	.1092	0	.300
253	689	75.004	7.979	1.200E-02	.1755	1.5068E-02	.2204	1.7276E-02	.2527	.0500	.300
254	678	71.538	7.581	1.122E-02	.1640	1.4025E-02	.2051	1.6032E-02	.2345	.1000	.300
255	662	62.411	7.761	1.123E-02	.1642	1.3958E-02	.2042	1.5893E-02	.2324	.1500	.300
256	679	58.502	7.051	1.046E-02	.1530	1.3090E-02	.1914	1.4971E-02	.2190	.2000	.300
257	634	41.562	7.807	1.084E-02	.1586	1.3355E-02	.1953	1.5104E-02	.2209	.4000	.300
258	639	48.591	9.148	1.281E-02	.1873	1.5804E-02	.2311	1.7896E-02	.2617	.6000	.300
259	570	29.102	2.944	3.756E-03	.0549	4.5404E-03	.0664	5.0695E-03	.0741	0	.350
261	665	65.730	7.880	1.144E-02	.1674	1.4245E-02	.2083	1.6231E-02	.2374	.0500	.350
262	658	62.701	8.722	1.254E-02	.1834	1.5573E-02	.2278	1.7713E-02	.2591	.1000	.350
263	575	30.117	3.756	4.825E-03	.0706	5.8411E-03	.0854	6.5282E-03	.0955	0	.400
267	656	61.119	9.057	1.299E-02	.1899	1.6114E-02	.2357	1.8320E-02	.2679	.0500	.400
268	658	60.569	8.983	1.292E-02	.1889	1.6038E-02	.2346	1.8243E-02	.2668	.1000	.400
269	658	56.437	8.111	1.167E-02	.1706	1.4485E-02	.2119	1.6476E-02	.2410	.1500	.400
270	670	55.988	7.016	1.027E-02	.1502	1.2804E-02	.1873	1.4608E-02	.2136	.2000	.400
271	643	48.954	8.393	1.182E-02	.1729	1.4605E-02	.2136	1.6555E-02	.2421	.4000	.400
272	646	52.259	9.447	1.335E-02	.1953	1.6513E-02	.2415	1.8728E-02	.2739	.6000	.400
273	583	32.594	3.482	4.521E-03	.0661	5.4841E-03	.0802	6.1384E-03	.0898	0	.450
276	662	57.749	8.045	1.163E-02	.1701	1.4458E-02	.2115	1.6460E-02	.2407	.1000	.450
277	582	32.744	3.187	4.132E-03	.0604	5.0116E-03	.0733	5.6085E-03	.0820	0	.500
284	680	68.068	8.560	1.271E-02	.1859	1.5906E-02	.2326	1.8194E-02	.2661	.0500	.500
286	660	64.011	8.912	1.286E-02	.1880	1.5977E-02	.2337	1.8183E-02	.2659	.1500	.500
287	666	63.175	8.523	1.239E-02	.1812	1.5428E-02	.2256	1.7581E-02	.2571	.2000	.500
288	650	55.707	9.320	1.325E-02	.1937	1.6401E-02	.2399	1.8619E-02	.2723	.4000	.500
289	647	53.731	9.778	1.383E-02	.2023	1.7110E-02	.2502	1.9408E-02	.2839	.5000	.500
290	649	52.641	9.045	1.283E-02	.1877	1.5884E-02	.2323	1.8027E-02	.2637	.6000	.500
291	691	58.914	5.999	9.054E-03	.1324	1.1379E-02	.1664	1.3055E-02	.1909	.8770	.500
292	602	40.714	4.183	5.566E-03	.0814	6.7893E-03	.0993	7.6271E-03	.1116	0	.550
294	700	69.712	7.811	1.195E-02	.1748	1.5070E-02	.2204	1.7333E-02	.2535	.0500	.550
295	691	74.653	6.339	1.259E-02	.1841	1.5820E-02	.2314	1.8150E-02	.2654	.1000	.550
296	596	42.974	5.628	7.426E-03	.1086	9.0408E-03	.1322	1.0143E-02	.1484	0	.600
303	680	57.445	4.162	6.184E-03	.0904	7.7404E-03	.1132	8.8548E-03	.1295	.0500	.600
304	650	58.759	5.050	7.176E-03	.1049	8.8844E-03	.1299	1.0085E-02	.1475	.1000	.600
305	677	65.303	7.259	1.073E-02	.1570	1.3416E-02	.1962	1.5334E-02	.2243	.2000	.600
306	649	58.632	9.538	1.354E-02	.1980	1.6761E-02	.2451	1.9023E-02	.2782	.4000	.600
307	658	58.697	9.280	1.335E-02	.1953	1.6581E-02	.2425	1.8862E-02	.2759	.5000	.600
308	647	48.391	8.088	1.145E-02	.1675	1.4168E-02	.2072	1.6073E-02	.2351	.6000	.600
309	694	60.451	6.161	9.335E-03	.1365	1.1744E-02	.1718	1.3484E-02	.1972	.7930	.600
310	687	57.704	5.867	8.804E-03	.1288	1.1048E-02	.1616	1.2661E-02	.1852	.8510	.600
313	689	64.359	5.612	8.439E-03	.1234	1.0596E-02	.1550	1.2149E-02	.1777	.0500	.650
314	686	79.496	7.665	1.148E-02	.1679	1.4403E-02	.2107	1.6502E-02	.2413	.1000	.650
318	689	67.946	7.900	1.188E-02	.1738	1.4923E-02	.2183	1.7110E-02	.2502	.1000	.700
319	696	81.038	10.248	1.558E-02	.2279	1.9619E-02	.2869	2.2539E-02	.3296	.2000	.700
320	647	56.397	9.426	1.335E-02	.1953	1.6517E-02	.2416	1.8738E-02	.2741	.5000	.700

GROUP
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AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
19	8	GOC	4.00	856.0	1346	49.99	.01	-50.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	MREF-FR (R= .009FT)	SIER (R= .009FT)	SWITCH POSITION
97.5	.088	3.928	3471	7.543E-05	7.852E-08	3.72E 06	6.82RE-02	2.937E-02	1

C NO	TW	DTWDT	Q-DOT	M(TO)	M(TO)/MREF	M(.9TO)	M(.9TO)/MREF	M(.85TO)	M(.85TO)/MREF	FUSELAGE A/L	FUSELAGE PHI
1	576	85.425	16.100	2.090E-02	.3061	2.5324E-02	.3709	2.8321E-02	.4148	0	0
2	581	92.709	17.518	2.294E-02	.3353	2.777RE-02	.4068	3.1097E-02	.4554	.0137	0
3	536	5.662	1.044	1.294E-03	.0190	1.5522E-03	.0227	1.7239E-03	.0252	.0137	180.000
4	583	78.229	14.801	1.941E-02	.2842	2.3549E-02	.3452	2.6398E-02	.3866	.0274	0
5	569	69.700	13.094	1.686E-02	.2469	2.038RE-02	.2986	2.2774E-02	.3335	.0274	30.000
6	559	43.138	8.062	1.024E-02	.1500	1.2353E-02	.1809	1.3773E-02	.2017	.0274	60.000
7	544	20.772	3.851	4.801E-03	.0703	5.76R2E-03	.0845	6.416RE-03	.0939	.0274	90.000
8	536	6.540	1.243	1.534E-03	.0225	1.8392E-03	.0269	2.0426E-03	.0299	.0274	120.000
9	534	2.456	.466	5.743E-04	.0084	6.8847E-04	.0101	7.4441E-04	.0112	.0274	150.000
10	536	7.161	1.361	1.682E-03	.0246	2.0174E-03	.0295	2.240RE-03	.0328	.0274	180.000
11	581	67.829	12.815	1.676E-02	.2454	2.0332E-02	.2978	2.2762E-02	.3333	.0543	0
12	573	58.256	10.965	1.431E-02	.2077	1.7172E-02	.2515	1.9195E-02	.2811	.0543	30.000
13	556	36.448	6.803	8.616E-03	.1262	1.03R7E-02	.1521	1.1576E-02	.1695	.0543	60.000
14	543	14.707	2.726	3.396E-03	.0497	4.0806E-03	.0598	4.5377E-03	.0665	.0543	90.000
15	535	4.241	.792	9.771E-04	.0143	1.1716E-03	.0172	1.3012E-03	.0191	.0543	120.000
16	534	.674	.014	1.648E-05	.0002	2.018?E-05	.0003	2.2407E-05	.0003	.0543	150.000
17	534	.674	.014	1.648E-05	.0002	2.018?E-05	.0003	2.2407E-05	.0003	.0543	180.000
18	538	8.336	1.541	1.908E-03	.0279	2.2R90E-03	.0335	2.5432E-03	.0372	.0790	0
19	579	58.649	11.070	1.443E-02	.2113	1.7496E-02	.2562	1.9579E-02	.2867	.0790	0
20	579	58.459	10.274	1.337E-02	.1958	1.620RE-02	.2374	1.8133E-02	.2656	.1030	0
21	577	52.434	9.888	1.286E-02	.1883	1.55R3E-02	.2282	1.7432E-02	.2553	.1030	15.000
22	572	46.118	8.677	1.121E-02	.1642	1.3572E-02	.1988	1.5168E-02	.2221	.1030	30.000
23	559	34.150	6.392	8.129E-03	.1190	9.8071E-03	.1436	1.0936E-02	.1602	.1030	45.000
24	552	26.161	4.878	6.144E-03	.0900	7.39R2E-03	.1083	8.2391E-03	.1207	.1030	60.000
25	545	18.807	3.041	3.847E-03	.0563	4.6247E-03	.0677	5.1442E-03	.0753	.1030	75.000
26	541	9.314	1.725	2.149E-03	.0314	2.5745E-03	.0377	2.8620E-03	.0419	.1030	90.000
27	534	2.674	.494	6.082E-04	.0089	7.2905E-04	.0107	8.0945E-04	.0119	.1030	120.000
28	533	.567	.108	1.329E-04	.0019	1.5930E-04	.0023	1.7684E-04	.0026	.1030	150.000
29	534	.674	.014	1.648E-05	.0002	2.018?E-05	.0003	2.2407E-05	.0003	.1030	180.000
30	536	5.031	.926	1.147E-03	.0168	1.3754E-03	.0201	1.5276E-03	.0224	.1430	0
31	577	47.122	8.886	1.155E-02	.1692	1.4002E-02	.2051	1.5863E-02	.2296	.1690	0
32	569	37.303	6.940	1.036E-02	.1517	1.252RE-02	.1835	1.3996E-02	.2050	.1690	15.000
33	571	35.372	7.315	9.462E-03	.1386	1.1450E-02	.1677	1.2794E-02	.1874	.1690	30.000
34	566	31.880	6.333	8.124E-03	.1190	9.8195E-03	.1438	1.0968E-02	.1606	.1690	45.000
35	559	24.720	4.974	6.323E-03	.0926	7.6274E-03	.1117	8.5050E-03	.1246	.1690	60.000
36	550	16.694	3.198	4.020E-03	.0589	4.83R5E-03	.0709	5.3870E-03	.0789	.1690	75.000
37	545	11.112	2.123	2.651E-03	.0388	3.18R2E-03	.0467	3.5441E-03	.0519	.1690	90.000
38	540	5.735	1.093	1.357E-03	.0199	1.62R6E-03	.0239	1.8102E-03	.0265	.1690	120.000
39	537	.962	.176	2.181E-04	.0032	2.615RE-04	.0038	2.9056E-04	.0043	.1690	150.000
40	536	.448	.048	1.081E-04	.0016	1.29R7E-04	.0019	1.4402E-04	.0021	.1690	180.000
41	567	33.379	6.295	8.044E-03	.1178	9.7651E-03	.1424	1.0860E-02	.1590	.2420	0
42	564	28.063	5.418	6.931E-03	.1015	8.3720E-03	.1226	9.3437E-03	.1368	.2420	15.000
43	559	20.141	3.995	5.075E-03	.0743	6.1210E-03	.0896	6.8266E-03	.0999	.2420	30.000
44	553	16.052	3.220	4.060E-03	.0595	4.8490E-03	.0710	5.4467E-03	.0798	.2420	45.000
45	546	10.466	1.884	2.354E-03	.0345	2.8303E-03	.0415	3.1478E-03	.0461	.2420	60.000
46	540	6.015	1.116	1.385E-03	.0203	1.6621E-03	.0243	1.8472E-03	.0271	.2420	75.000
47	537	.833	.166	2.045E-04	.0030	2.4531E-04	.0036	2.7249E-04	.0040	.2420	90.000
48	535	.741	.147	1.815E-04	.0027	2.17R4E-04	.0032	2.4186E-04	.0035	.2420	120.000
49	534	.604	.118	1.452E-04	.0021	1.7410E-04	.0025	1.9330E-04	.0028	.2420	150.000
50	534	.674	.014	1.648E-05	.0002	2.018?E-05	.0003	2.2407E-05	.0003	.2420	180.000
51	574	41.166	8.210	1.066E-02	.1558	1.28R7E-02	.1887	1.4408E-02	.2110	.2830	0
52	568	34.363	6.938	8.914E-03	.1306	1.07R5E-02	.1579	1.2045E-02	.1764	.2830	15.000
53	564	27.538	5.555	7.102E-03	.1040	8.57RE-03	.1256	9.5736E-03	.1402	.2830	30.000
54	558	17.038	3.427	4.352E-03	.0637	5.248?E-03	.0769	5.8521E-03	.0857	.2830	45.000
55	558	21.574	3.746	4.754E-03	.0696	5.7338E-03	.0840	6.3922E-03	.0936	.2830	60.000
56	540	4.440	1.723	2.139E-03	.0313	2.58R4E-03	.0376	2.8548E-03	.0418	.2830	75.000
57	538	3.867	.672	8.317E-04	.0122	9.97R1E-04	.0146	1.1085E-03	.0162	.2830	90.000
58	537	4.031	.692	8.562E-04	.0125	1.0272E-03	.0150	1.1412E-03	.0167	.2830	105.000
59	534	.671	.113	1.389E-04	.0020	1.6652E-04	.0024	1.8488E-04	.0027	.2830	120.000
60	532	.550	.102	1.256E-04	.0018	1.5049E-04	.0022	1.6744E-04	.0025	.2830	135.000
61	533	1.088	.221	2.719E-04	.0040	3.25R6E-04	.0048	3.6173E-04	.0053	.2830	150.000
62	532	2.411	.471	5.787E-04	.0085	6.9341E-04	.0102	7.6969E-04	.0113	.2830	180.000
63	577	42.474	8.484	1.104E-02	.1617	1.33R6E-02	.1960	1.4976E-02	.2193	.3160	0
64	574	36.534	7.429	9.630E-03	.1410	1.16R6E-02	.1708	1.3044E-02	.1910	.3160	15.000
65	566	27.372	5.542	7.108E-03	.1041	8.5914E-03	.1258	9.5920E-03	.1405	.3160	30.000
66	560	17.569	3.547	4.514E-03	.0661	5.4472E-03	.0798	6.0751E-03	.0890	.3160	45.000
67	557	17.869	3.615	4.356E-03	.0638	5.2518E-03	.0769	5.8541E-03	.0857	.3160	60.000
68	549	15.304	3.013	3.779E-03	.0553	4.5442E-03	.0666	5.0600E-03	.0741	.3160	75.000
69	545	12.315	2.419	3.020E-03	.0442	3.6301E-03	.0532	4.0379E-03	.0591	.3160	90.000
70	534	1.245	.207	2.551E-04	.0037	3.05R3E-04	.0049	3.3955E-04	.0050	.3160	105.000
71	531	.574	.110	1.385E-04	.0020	1.6109E-04	.0024	1.787RE-04	.0026	.3160	120.000
72	531	2.151	.435	5.330E-04	.0078	6.38?4E-04	.0093	7.0835E-04	.0104	.3160	150.000
73	530	1.889	.368	4.514E-04	.0066	5.4044E-04	.0079	5.9994E-04	.0088	.3160	165.000
74	531	3.644	.723	8.871E-04	.0130	1.0636E-03	.0156	1.1804E-03	.0173	.3160	180.000
75	583	40.755	8.247	1.047E-02	.1542	1.31R9E-02	.1933	1.4781E-02	.2165	.3540	0
76	574	34.054	7.081	9.168E-03	.1343	1.1104E-02	.1626	1.2413E-02	.1818	.3540	15.000
77	567	27.760	5.769	7.395E-03	.1082	8.92?3E-03	.1308	9.9716E-03	.1460	.3540	30.000
78	560	18.669	3.768	4.795E-03	.0702	5.78?2E-03	.0847	6.4518E-03	.0945	.3540	45.000
79	547	11.962	1.963	2.457E-03	.0360	2.9549E-03	.0433	3.2879E-03	.0482	.3540	60.000
80	542	7.186	1.331	1.655E-03	.0242	1.98R2E-03	.0291	2.2104E-03	.0324	.3540	75.000
81	538	4.608	.827	1.023E-03	.0150	1.2276E-03	.0180	1.3640E-03	.0200	.3540	90.000
82	540	8.352	1.677	1.832E-03	.0268	2.1992E-03	.0322	2.4441E-03	.0358	.3540	105.000
83	533	2.335	.411	5.064E-04	.0074	6.0700E-04	.0089	6.7390E-04	.0099	.3540	120.000
84	529	2.649	.501	6.135E-04	.0090	7.3491E-04	.0108	8.1483E-04	.0119	.3540	135.000
85	524	1.352	.295	3.106E-04	.0045	3.714?E-04	.0054	4.11R3E-04	.0060	.3540	165.000
86	528	2.834	.536	6.547E-04	.0096	7.84R2E-04	.0115	8.7056E-04	.0127	.3540	180.000
87	584	37.737	7.563	9.930E-03	.1454	1.2062E-02	.1766	1.3512E-02	.1979	.3800	0
88	571	27.851	5.546	7.158E-03	.1048	8.6622E-03	.1269	9.6796E-03	.1418	.3800	30.000
89	568	21.060	3.779	4.856E-03	.0711	5.87?7E-03	.0860	6.5573E-03	.0960	.3800	45.000
90	555	15.258	2.511	3.173E-03	.0465	3.8234E-03	.0560	4.2599E-03	.0624	.3800	60.000
91	551	11.630	2.101	2.665E-03	.0387	3.18R1E-03	.0466	3.5457E-03	.0519	.3800	75.000
92	540	3.599	.668	8.765E-04	.0121	9.92?8E-04	.0145	1.1027E-03	.0161	.3800	90.000
93	538	1.970	.385	4.769E-04	.0070	5.72?2E-04	.0084	6.3960E-04	.0093	.3800	105.000
94	536	2.493	.453	5.593E-04	.0082	6.70R2E-04	.0098	7.4507E-04	.0109	.3800	120.000
95	534	1.385	.256	3.148E-04	.0046	3.77?3E-04	.0055	4.1909E-04	.0061	.3800	135.000
96	532	1.829	.347	4.264E-04	.0062	5.10R7E-04	.0075	5.6708E-04	.0083	.3800	150.000
97	533	2.343	.445	5.471E-04	.0080	6.5567E-04	.0096	7.2791E-04	.0107	.3800	180.000

GROUP
74

AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
V11162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
19	B	GOC	8.00	854.7	1348	49.49	.01	-50.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	MREF-FN (MM .009FT)	SIFN (MM .009FT)	SWITCH POSITION
97.7	.0888	3.922	3874	7.520E-05	7.964E-08	3.70E 06	6.829E-02	2.942E-02	2

TC NO	FN	DTHETA	Q-DOT	H(TO)	H(TO)/HREF	P(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	FUSELAGE A/L	PHI
106	544	33.007	6.644	8.808E-03	.1291	1.0724E-02	.1571	1.2033E-02	.1763	.4400	0
107	545	35.141	6.145	8.108E-03	.1188	9.8448E-03	.1443	1.1033E-02	.1617	.4400	30.000
108	561	13.808	2.546	3.236E-03	.0474	3.9049E-03	.0572	4.3551E-03	.0638	.4400	60.000
109	544	3.655	.675	8.445E-04	.0124	1.0147E-03	.0149	1.1285E-03	.0165	.4400	90.000
110	539	.483	.089	1.105E-04	.0016	1.3766E-04	.0019	1.4741E-04	.0022	.4400	120.000
111	540	2.723	.504	6.231E-04	.0091	7.4779E-04	.0110	8.3093E-04	.0122	.4400	150.000
112	539	1.260	.244	3.018E-04	.0044	3.6215E-04	.0053	4.0238E-04	.0059	.4400	180.000
113	599	30.377	6.230	8.314E-03	.1218	1.0138E-02	.1485	1.1387E-02	.1668	.4880	0
114	572	24.756	5.351	8.892E-03	.1010	8.3407E-03	.1222	9.3194E-03	.1366	.4880	37.300
115	561	10.960	1.951	2.481E-03	.0363	2.9931E-03	.0439	3.3342E-03	.0489	.4880	60.000
116	548	5.344	.984	1.204E-03	.0176	1.4476E-03	.0212	1.6107E-03	.0236	.4880	90.000
117	541	.793	.147	1.815E-04	.0027	2.1846E-04	.0032	2.4267E-04	.0036	.4880	120.000
118	540	1.024	.189	2.344E-04	.0034	2.8117E-04	.0041	3.1268E-04	.0046	.4880	150.000
119	540	1.334	.247	3.055E-04	.0045	3.6665E-04	.0054	4.0745E-04	.0060	.4880	180.000
120	544	39.215	8.026	1.064E-02	.1559	1.2754E-02	.1898	1.4535E-02	.2130	.5200	0
121	602	26.154	5.374	7.201E-03	.1055	8.7880E-03	.1308	9.8760E-03	.1447	.5500	0
122	605	11.390	2.472	3.254E-03	.0356	3.9006E-03	.0697	1.2716E-02	.1863	.5500	30.000
123	600	14.262	2.967	4.039E-03	.0442	1.1759E-02	.1723	1.3212E-02	.1936	.5500	41.000
124	569	11.118	1.996	2.561E-03	.0375	3.0472E-03	.0446	3.4589E-03	.0507	.5500	60.000
125	563	12.515	2.344	2.949E-03	.0432	3.5085E-03	.0529	4.0262E-03	.0590	.5500	75.000
126	556	10.668	1.994	2.517E-03	.0369	3.0327E-03	.0444	3.3790E-03	.0495	.5500	82.500
127	548	6.463	1.279	1.600E-03	.0234	1.9246E-03	.0282	2.1418E-03	.0314	.5500	90.000
128	542	.959	.185	2.297E-04	.0034	2.7578E-04	.0040	3.0656E-04	.0045	.5500	120.000
129	542	1.915	.354	4.342E-04	.0064	5.2720E-04	.0077	5.8593E-04	.0086	.5500	150.000
130	541	1.915	.354	4.342E-04	.0064	5.2720E-04	.0077	5.8593E-04	.0086	.5500	150.000
131	539	.456	.084	1.044E-04	.0015	1.2524E-04	.0018	1.3916E-04	.0020	.5500	180.000
132	603	24.526	5.373	7.215E-03	.1057	8.8101E-03	.1291	9.9047E-03	.1451	.5860	0
133	548	38.089	4.078	5.364E-03	.0786	6.5200E-03	.0955	7.3074E-03	.1071	.6250	60.000
134	567	19.259	2.863	3.667E-03	.0537	4.4318E-03	.0649	4.9881E-03	.0725	.6250	75.000
135	554	8.333	1.553	1.956E-03	.0287	2.3553E-03	.0345	2.6234E-03	.0384	.6250	90.000
136	542	1.508	.279	3.470E-04	.0051	4.1673E-04	.0061	4.6329E-04	.0068	.6250	120.000
137	540	1.139	.211	2.609E-04	.0038	3.1319E-04	.0044	3.4805E-04	.0051	.6250	150.000
138	540	.918	.170	2.100E-04	.0031	2.5203E-04	.0037	2.8005E-04	.0041	.6250	180.000
139	627	30.244	6.722	8.553E-03	.0980	8.0604E-03	.1181	9.1089E-03	.1335	.6600	0
140	625	26.382	4.034	5.585E-03	.0818	6.6644E-03	.1006	7.7523E-03	.1136	.7000	0
141	647	25.461	3.278	4.675E-03	.0685	5.7875E-03	.0848	6.5691E-03	.0963	.7000	30.000
142	560	2.865	.498	6.324E-04	.0093	7.6297E-04	.0112	8.5079E-04	.0125	.7000	60.000
143	565	12.684	2.379	3.039E-03	.0445	3.6711E-03	.0538	4.0973E-03	.0600	.7000	75.000
144	564	14.060	2.636	3.362E-03	.0493	4.0602E-03	.0595	4.5306E-03	.0664	.7000	82.500
145	561	13.812	2.589	3.284E-03	.0481	3.9629E-03	.0581	4.4197E-03	.0648	.7000	90.000
146	547	2.940	.546	6.815E-04	.0100	8.1937E-04	.0120	9.1158E-04	.0134	.7000	120.000
147	543	1.468	.271	3.366E-04	.0049	4.0426E-04	.0059	4.4943E-04	.0066	.7000	150.000
148	541	1.724	.310	3.841E-04	.0056	4.6121E-04	.0068	5.1265E-04	.0075	.7000	180.000
149	629	27.692	4.562	6.346E-03	.0930	7.8100E-03	.1144	8.8286E-03	.1294	.7340	0
150	625	28.237	4.809	6.646E-03	.0974	8.1692E-03	.1197	9.2266E-03	.1352	.7700	0
151	628	27.161	4.627	6.427E-03	.0942	7.9069E-03	.1159	8.9360E-03	.1309	.7700	30.000
152	561	1.636	.293	3.717E-04	.0054	4.4854E-04	.0066	5.0023E-04	.0073	.7700	60.000
153	557	9.073	1.645	2.040E-03	.0305	2.5079E-03	.0367	2.7951E-03	.0410	.7700	90.000
154	547	3.967	.719	8.976E-04	.0132	1.0792E-03	.0158	1.2008E-03	.0176	.7700	120.000
155	544	1.302	.234	2.913E-04	.0043	3.4998E-04	.0051	3.8913E-04	.0057	.7700	150.000
156	542	1.012	.182	2.257E-04	.0033	2.7103E-04	.0040	3.0128E-04	.0044	.7700	180.000
157	629	28.491	5.016	6.985E-03	.1023	8.5982E-03	.1260	9.7206E-03	.1424	.8000	0
158	626	28.514	5.257	7.290E-03	.1067	8.9509E-03	.1312	1.0111E-02	.1482	.8300	0
159	629	16.300	2.672	3.637E-03	.0504	4.2294E-03	.0620	4.7806E-03	.0700	.8300	30.000
160	618	27.504	5.287	7.241E-03	.1061	8.8807E-03	.1301	1.0014E-02	.1467	.8620	0
161	613	25.650	5.212	7.096E-03	.1040	8.6907E-03	.1273	9.7911E-03	.1435	.8950	0
162	616	22.819	4.834	6.604E-03	.0968	8.0942E-03	.1186	9.1238E-03	.1337	.8950	30.000
163	561	1.310	.223	2.983E-04	.0042	3.6245E-04	.0050	3.8189E-04	.0056	.8950	60.000
164	551	3.208	.597	7.489E-04	.0110	9.0134E-04	.0132	1.0035E-03	.0147	.8950	90.000
165	546	1.056	.196	2.446E-04	.0036	2.9402E-04	.0043	3.2708E-04	.0048	.8950	120.000
166	544	.811	.150	1.871E-04	.0027	2.2479E-04	.0033	2.4997E-04	.0037	.8950	150.000
167	616	24.167	5.419	7.403E-03	.1085	9.0753E-03	.1330	1.0231E-02	.1499	.9280	0
168	618	29.107	5.631	7.693E-03	.1091	9.2497E-03	.1334	1.0496E-02	.1509	.9600	0

UPPER CANARD SURFACE

TC NO	FN	DTHETA	Q-DOT	H(TO)	H(TO)/HREF	P(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	A/C	Y/S
350	607	83.703	8.243	1.113E-02	.1631	1.3604E-02	.1994	1.5312E-02	.2244	0	.250
351	552	19.990	1.916	2.607E-03	.0353	2.8980E-03	.0425	3.2269E-03	.0473	.2500	.250
352	545	6.113	1.054	1.312E-03	.0192	1.5767E-03	.0231	1.7535E-03	.0257	.5000	.250
353	541	4.277	.736	9.120E-04	.0134	1.0949E-03	.0160	1.2169E-03	.0178	.7000	.250
357	614	86.067	8.502	1.159E-02	.1698	1.4196E-02	.2080	1.5996E-02	.2344	0	.500
358	558	34.915	3.357	4.248E-03	.0622	5.1210E-03	.0750	5.7078E-03	.0836	.2500	.500
359	547	11.195	1.731	2.162E-03	.0317	2.5995E-03	.0381	2.8922E-03	.0424	.5000	.500
360	542	6.447	1.110	1.377E-03	.0202	1.6529E-03	.0242	1.8373E-03	.0269	.7000	.500

LOWER CANARD SURFACE

TC NO	FN	DTHETA	Q-DOT	H(TO)	H(TO)/HREF	P(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	A/C	Y/S
354	552	21.501	2.061	2.591E-03	.0380	3.1196E-03	.0457	3.4739E-03	.0509	.2500	.250
355	545	5.672	1.362	1.697E-03	.0249	2.0400E-03	.0299	2.2691E-03	.0332	.5000	.250
356	542	3.088	.669	8.249E-04	.0122	9.9661E-04	.0146	1.1079E-03	.0162	.7000	.250
361	552	24.953	2.392	3.005E-03	.0440	3.6173E-03	.0530	4.0279E-03	.0590	.2500	.500
362	544	8.461	1.148	1.429E-03	.0209	1.7172E-03	.0252	1.9097E-03	.0280	.5000	.500
363	539	4.350	.769	9.511E-04	.0139	1.1413E-03	.0167	1.2681E-03	.0186	.7000	.500

VERTICAL STABILIZER

TC NO	FN	DTHETA	Q-DOT	H(TO)	H(TO)/HREF	P(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	A/C	Z/S
175	557	7.564	.727	9.184E-04	.0135	1.1069E-03	.0162	1.2335E-03	.0181	0	.100
176	544	2.916	.278	3.457E-04	.0051	4.1533E-04	.0061	4.6181E-04	.0068	.1000	.100
177	541	1.845	.176	2.178E-04	.0032	2.6142E-04	.0038	2.9054E-04	.0043	.2500	.100
178	538	1.155	.110	1.357E-04	.0020	1.6280E-04	.0024	1.8087E-04	.0027	.5000	.100
179	538	3.764	.358	4.421E-04	.0065	5.3040E-04	.0078	5.8922E-04	.0086	.7500	.100
180	562	6.937	.665	8.357E-04	.0122	1.0061E-03	.0147	1.1204E-03	.0164	0	.250
181	541	3.673	.350	4.341E-04	.0064	5.2111E-04	.0076	5.7919E-04	.0085	.1000	.250
182	539	1.957	.186	2.301E-04	.0034	2.7611E-04	.0040	3.0676E-04	.0045	.2500	.250
183	537	1.684	.161	1.980E-04	.0029	2.3750E-04	.0035	2.6380E-04	.0039	.5000	.250
184	538	5.513	.524	6.472E-04	.0095	7.7633E-04	.0114	8.6237E-04	.0126	.7500	.250
185	561	4.873	.467	5.861E-04	.0086	7.0552E-04	.0103	7.8551E-04	.0115	0	.500
186	540	4.094	.390	4.826E-04	.0071	5.7927E-04	.0085	6.4372E-04	.0094	.1000	.500
187	538	2.176	.207	2.555E-04	.0037	3.0653E-04	.0045	3.4052E-04	.0050	.2500	.500
188	541	3.704	.353	4.371E-04	.0064	5.2468E-04	.0077	5.8311E-04	.0085	.5000	.500
189	540	6.083	.579	7.171E-04	.0105	8.6074E-04	.0126	9.5652E-04	.0140	.7500	.500
190	555	10.619	1.020	1.286E-03	.0188	1.5498E-03	.0227	1.7267E-03	.0253	0	.750
191	546	9.821	.938	1.170E-03	.0171	1.4059E-03	.0206	1.5636E-03	.0229	.1000	.750
192	543	8.428	.804	9.990E-04	.0146	1.2000E-03	.0176	1.3342E-03	.0195	.2500	.750
193	542	8.849	.844	1.047E-03	.0153	1.2575E-03	.0184	1.3979E-03	.0205	.5000	.750
194	541	6.518	.621	7.701E-04	.0113	9.2497E-04	.0135	1.0277E-03	.0151	.7500	.750

GROUP
V4

AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
19	8	GDC	8.00	855.3	1340	49.99	.01	-50.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (R= .009FT)	STFR (R= .009FT)	SWITCH POSITION
97.1	.088	3.925	3863	7.570E-05	7.017E-08	3.74E 06	6.820E-02	2.931E-02	3

UPPER WING SURFACE

TC NO	TW	DTWCT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	A/C	Y/S
201	548	6.701	.791	9.989E-04	.0146	1.2024E-03	.0176	1.3387E-03	.0196	.1000	.100
202	550	4.760	.677	8.577E-04	.0126	1.0330E-03	.0151	1.1505E-03	.0169	.2000	.100
203	558	2.174	.458	5.853E-04	.0086	7.0641E-04	.0104	7.8790E-04	.0116	.3300	.100
204	557	3.331	.595	7.597E-04	.0111	9.1665E-04	.0134	1.0222E-03	.0150	.4000	.100
205	555	1.976	.358	4.554E-04	.0067	5.4913E-04	.0081	6.1210E-04	.0090	.6000	.100
206	559	3.447	.599	7.673E-04	.0113	9.2632E-04	.0136	1.0334E-03	.0152	.7000	.100
207	557	4.652	.447	5.709E-04	.0084	6.8880E-04	.0101	7.6808E-04	.0113	.9100	.100
231	547	2.476	.294	3.703E-04	.0054	4.4567E-04	.0065	4.9615E-04	.0073	.1000	.250
232	554	.910	.180	2.287E-04	.0034	2.7569E-04	.0040	3.0728E-04	.0045	.4000	.250
233	553	.694	.133	1.693E-04	.0025	2.0401E-04	.0030	2.2735E-04	.0033	.5000	.250
234	556	.768	.147	1.875E-04	.0027	2.2615E-04	.0033	2.5214E-04	.0037	.6000	.250
235	559	2.746	.252	2.592E-04	.0038	3.1291E-04	.0046	3.4907E-04	.0051	.8330	.250
236	559	5.172	.427	5.465E-04	.0080	6.5970E-04	.0097	7.3595E-04	.0108	.8670	.250
237	560	7.366	.608	7.793E-04	.0114	9.4101E-04	.0138	1.0499E-03	.0154	.9010	.250
238	560	10.777	.842	1.079E-03	.0158	1.3034E-03	.0191	1.4543E-03	.0213	.9350	.250
278	550	1.729	.229	2.899E-04	.0043	3.4915E-04	.0051	3.8887E-04	.0057	.1000	.500
280	555	1.135	.224	2.854E-04	.0042	3.4412E-04	.0050	3.8358E-04	.0056	.4000	.500
281	555	1.387	.266	3.392E-04	.0050	4.0897E-04	.0060	4.5587E-04	.0067	.5000	.500
282	555	1.510	.290	3.696E-04	.0054	4.4569E-04	.0065	4.9684E-04	.0073	.6000	.500
283	554	1.965	.188	2.392E-04	.0035	2.8830E-04	.0042	3.2130E-04	.0047	.8770	.500
297	552	1.631	.243	3.084E-04	.0045	3.7167E-04	.0054	4.1412E-04	.0061	.1000	.600
299	552	.822	.188	2.383E-04	.0035	2.8716E-04	.0042	3.1995E-04	.0047	.4000	.600
300	553	1.485	.264	3.361E-04	.0049	4.0513E-04	.0059	4.5146E-04	.0066	.6000	.600
301	552	2.083	.200	2.535E-04	.0037	3.0542E-04	.0045	3.4029E-04	.0050	.7930	.600
302	552	4.458	.427	5.422E-04	.0079	6.5328E-04	.0096	7.2784E-04	.0107	.8510	.600

LOWER WING SURFACE

TC NO	TW	DTWCT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	A/C	Y/S
200	569	30.215	4.725	6.128E-03	.0898	7.4167E-03	.1087	8.2885E-03	.1215	0	.100
208	640	57.925	10.248	1.464E-02	.2147	1.8110E-02	.2655	2.0542E-02	.3012	.1000	.100
209	666	65.442	11.696	1.735E-02	.2563	2.1648E-02	.3174	2.4713E-02	.3624	.2000	.100
210	623	24.514	4.168	5.817E-03	.0853	7.1548E-03	.1049	8.0846E-03	.1185	.3300	.100
211	618	25.352	4.530	6.275E-03	.0920	7.7049E-03	.1130	8.6959E-03	.1275	.4000	.150
212	618	25.349	4.888	6.774E-03	.0993	8.3182E-03	.1220	9.3886E-03	.1377	.6000	.150
213	616	25.107	5.190	7.164E-03	.1050	8.7897E-03	.1289	9.9147E-03	.1454	.7000	.100
214	664	58.144	5.863	8.678E-03	.1272	1.0824E-02	.1587	1.2352E-02	.1811	.9100	.100
215	579	36.181	5.225	6.869E-03	.1007	8.3383E-03	.1223	9.3366E-03	.1369	0	.150
216	654	68.182	8.453	1.233E-02	.1808	1.5326E-02	.2247	1.7445E-02	.2558	.0500	.150
217	583	43.873	5.492	7.254E-03	.1064	8.8146E-03	.1292	9.8766E-03	.1448	0	.200
224	679	69.813	9.707	1.469E-02	.2153	1.8421E-02	.2701	2.1105E-02	.3094	.0500	.200
225	673	64.233	9.582	1.438E-02	.2108	1.7995E-02	.2638	2.0585E-02	.3018	.1000	.200
226	684	61.694	8.594	1.310E-02	.1921	1.6462E-02	.2414	1.8885E-02	.2769	.2000	.200
227	617	28.847	5.707	7.896E-03	.1158	9.8930E-03	.1421	1.0938E-02	.1604	.4000	.200
228	616	25.235	4.847	6.693E-03	.0981	8.2121E-03	.1204	9.2637E-03	.1358	.6000	.200
229	621	24.262	4.671	6.498E-03	.0953	7.9875E-03	.1171	9.0211E-03	.1323	.7000	.200
230	599	53.042	7.433	1.003E-02	.1470	1.2239E-02	.1795	1.3757E-02	.2017	0	.250
~~239~~	~~616~~	[illegible]	[illegible]	[illegible]	~~.0000~~	[illegible]	~~.0000~~	[illegible]	~~.0000~~	~~.0500~~	~~.250~~
240	676	70.345	7.123	1.072E-02	.1572	1.3431E-02	.1969	1.5374E-02	.2254	.1000	.250
241	617	28.581	5.654	7.822E-03	.1147	9.6017E-03	.1408	1.0834E-02	.1589	.4000	.250
242	617	26.841	5.551	7.673E-03	.1125	9.4170E-03	.1381	1.0625E-02	.1558	.5000	.250
243	619	26.154	5.029	6.973E-03	.1022	8.5634E-03	.1256	9.6660E-03	.1417	.6000	.250
244	670	68.484	6.565	9.804E-03	.1437	1.2256E-02	.1797	1.4008E-02	.2054	.8330	.250
245	670	82.461	8.333	1.244E-02	.1824	1.5553E-02	.2280	1.7776E-02	.2606	.8670	.250
246	672	82.438	8.345	1.247E-02	.1828	1.5598E-02	.2287	1.7833E-02	.2615	.9010	.250
247	667	67.167	6.780	1.008E-02	.1478	1.2584E-02	.1845	1.4371E-02	.2107	.9350	.250
248	593	53.431	6.214	8.322E-03	.1220	1.0142E-02	.1487	1.1387E-02	.1670	0	.300
253	699	81.767	8.730	1.362E-02	.1997	1.7224E-02	.2525	1.9847E-02	.2910	.0500	.300
254	685	75.674	6.041	1.228E-02	.1801	1.5443E-02	.2264	1.7723E-02	.2599	.1000	.300
255	662	60.650	7.546	1.113E-02	.1631	1.3865E-02	.2033	1.5812E-02	.2318	.1500	.300
256	675	52.268	6.289	9.453E-03	.1386	1.1837E-02	.1736	1.3545E-02	.1986	.2000	.300
257	622	29.483	5.510	7.673E-03	.1125	9.4329E-03	.1383	1.0655E-02	.1562	.4000	.300
258	623	28.538	5.337	7.447E-03	.1092	9.1594E-03	.1343	1.0349E-02	.1517	.6000	.300
259	582	47.007	4.744	6.314E-03	.0926	7.6704E-03	.1125	8.5935E-03	.1260	0	.350
261	675	73.135	8.800	1.323E-02	.1940	1.6573E-02	.2430	1.8965E-02	.2781	.0500	.350
262	662	64.807	9.029	1.332E-02	.1953	1.6603E-02	.2434	1.8935E-02	.2776	.1000	.350
263	587	45.159	5.664	7.522E-03	.1103	9.1505E-03	.1342	1.0261E-02	.1505	0	.400
267	665	67.590	10.051	1.489E-02	.2184	1.8584E-02	.2725	2.1211E-02	.3110	.0500	.400
268	662	62.269	9.250	1.365E-02	.2001	1.7012E-02	.2494	1.9403E-02	.2845	.1000	.400
269	656	52.197	7.494	1.095E-02	.1606	1.3616E-02	.1996	1.5503E-02	.2273	.1500	.400
270	664	47.237	5.969	8.733E-03	.1280	1.0891E-02	.1597	1.2427E-02	.1822	.2000	.400
271	630	31.429	5.358	7.544E-03	.1106	9.2979E-03	.1363	1.0521E-02	.1543	.4000	.400
272	631	30.230	5.430	7.654E-03	.1122	9.4366E-03	.1384	1.0680E-02	.1566	.6000	.400
273	595	45.282	4.869	6.533E-03	.0958	7.9666E-03	.1168	8.9482E-03	.1312	0	.450
276	658	52.316	7.277	1.067E-02	.1565	1.3280E-02	.1947	1.5130E-02	.2218	.1000	.450
277	592	44.788	4.380	5.856E-03	.0859	7.1342E-03	.1046	8.0081E-03	.1174	0	.500
284	686	70.876	8.911	1.365E-02	.2001	1.7161E-02	.2516	1.9697E-02	.2888	.0500	.500
286	654	51.414	7.419	1.082E-02	.1586	1.3448E-02	.1972	1.5307E-02	.2244	.1500	.500
287	655	48.268	6.477	9.461E-03	.1387	1.1764E-02	.1725	1.3393E-02	.1964	.2000	.500
288	637	34.590	5.756	8.185E-03	.1200	1.0111E-02	.1483	1.1460E-02	.1680	.4000	.500
289	633	30.737	5.563	7.874E-03	.1155	9.7172E-03	.1425	1.1005E-02	.1614	.5000	.500
290	635	30.462	5.294	7.381E-03	.1082	9.1129E-03	.1336	1.0324E-02	.1514	.6000	.500
291	676	74.996	7.597	1.145E-02	.1679	1.4347E-02	.2104	1.6426E-02	.2408	.8770	.500
292	613	52.800	5.451	7.499E-03	.1100	9.1935E-03	.1348	1.0365E-02	.1520	0	.550
294	702	88.191	7.647	1.199E-02	.1758	1.5175E-02	.2225	1.7502E-02	.2566	.0500	.550
295	684	65.549	7.305	1.114E-02	.1633	1.3998E-02	.2052	1.6060E-02	.2355	.1000	.550
296	602	51.912	6.819	9.238E-03	.1355	1.1287E-02	.1655	1.2695E-02	.1861	0	.600
303	686	60.352	4.382	6.701E-03	.0983	8.4279E-03	.1236	9.6746E-03	.1419	.0500	.600
304	641	45.370	3.885	5.558E-03	.0815	6.8754E-03	.1008	7.8002E-03	.1144	.1000	.600
305	667	41.388	4.575	6.750E-03	.0990	8.4135E-03	.1234	9.5958E-03	.1407	.2000	.600
306	640	35.507	5.754	8.218E-03	.1205	1.0162E-02	.1490	1.1526E-02	.1690	.4000	.600
307	646	36.395	5.726	8.248E-03	.1209	1.0221E-02	.1499	1.1610E-02	.1702	.5000	.600
308	637	26.977	4.489	6.383E-03	.0936	7.8857E-03	.1156	8.9375E-03	.1310	.6000	.600
309	678	73.113	7.409	1.118E-02	.1640	1.4021E-02	.2056	1.6057E-02	.2354	.7930	.600
310	675	74.599	7.551	1.135E-02	.1664	1.4210E-02	.2083	1.6260E-02	.2384	.8510	.600
313	697	59.841	5.219	7.986E-03	.1171	1.0048E-02	.1473	1.1537E-02	.1692	.0500	.650
314	675	62.908	6.042	9.091E-03	.1333	1.1387E-02	.1670	1.3033E-02	.1911	.1000	.650
318	682	54.518	6.324	9.615E-03	.1410	1.2075E-02	.1770	1.3846E-02	.2030	.1000	.700
319	677	61.169	7.685	1.159E-02	.1700	1.4530E-02	.2130	1.6638E-02	.2440	.2000	.700
320	641	34.825	5.806	8.311E-03	.1219	1.0283E-02	.1508	1.1667E-02	.1711	.5000	.700

GROUP
74

2022

AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
V11162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
20	8	GDC	8.00	857.4	1343	40.01	9.99	-30.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	XREF-FR (IN= .009FT)	STFR (IN= .009FT)	SWITCH POSITION
97.3	.088	1.934	4867	7.870E-05	7.837E-08	3.76E 06	4.831E-02	2.931E-02	1

TC NO	TW	DTHUT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	FUSELAGE X/L	FUSELAGE PHI
1	596	109.537	20.851	2.791E-02	.4085	3.4028E-02	.4981	3.8218E-02	.5594	0	0
2	583	93.700	17.726	2.332E-02	.3413	2.8324E-02	.4146	3.1730E-02	.4645	.0137	0
3	539	7.802	1.443	1.793E-03	.0262	2.1921E-03	.0315	2.3918E-03	.0350	.0137	180.000
4	583	74.706	14.131	1.858E-02	.2720	2.2570E-02	.3304	2.5282E-02	.3701	.0274	0
5	570	67.904	12.762	1.650E-02	.2415	1.9966E-02	.2923	2.2311E-02	.3266	.0274	30.000
6	562	47.742	8.936	1.144E-02	.1674	1.3810E-02	.2022	1.5409E-02	.2256	.0274	60.000
7	547	23.633	4.391	5.517E-03	.0808	6.6374E-03	.0972	7.3875E-03	.1081	.0274	90.000
8	539	8.632	1.643	2.064E-03	.0299	2.4835E-03	.0359	2.7270E-03	.0399	.0274	120.000
9	537	3.911	.744	9.224E-04	.0135	1.1067E-03	.0162	1.2296E-03	.0180	.0274	150.000
10	537	3.682	.700	8.684E-04	.0127	1.0420E-03	.0153	1.1577E-03	.0169	.0274	180.000
12	579	62.316	11.764	1.539E-02	.2253	1.8671E-02	.2733	2.0898E-02	.3059	.0543	0
13	572	55.003	10.349	1.342E-02	.1964	1.6251E-02	.2379	1.8167E-02	.2659	.0543	30.000
14	558	36.133	6.752	8.603E-03	.1259	1.0380E-02	.1519	1.1675E-02	.1694	.0543	60.000
15	545	16.051	2.978	3.731E-03	.0546	4.4863E-03	.0687	4.9913E-03	.0731	.0543	90.000
16	538	5.349	.989	1.228E-03	.0180	1.4742E-03	.0216	1.6383E-03	.0240	.0543	120.000
17	536	1.756	.324	4.018E-04	.0059	4.8205E-04	.0071	5.3553E-04	.0078	.0543	150.000
18	539	6.802	1.258	1.566E-03	.0229	1.8796E-03	.0275	2.0892E-03	.0306	.0543	180.000
20	576	93.397	10.067	1.312E-02	.1921	1.5910E-02	.2329	1.7800E-02	.2606	.0790	0
23	575	49.618	9.349	1.217E-02	.1781	1.4747E-02	.2159	1.6494E-02	.2414	.1030	0
24	575	47.564	8.963	1.167E-02	.1708	1.4141E-02	.2070	1.5816E-02	.2315	.1030	15.000
25	571	42.456	7.983	1.033E-02	.1513	1.2510E-02	.1831	1.3988E-02	.2047	.1030	30.000
26	561	32.384	6.058	7.742E-03	.1133	9.3465E-03	.1368	1.0427E-02	.1526	.1030	45.000
27	554	26.025	4.852	6.148E-03	.0900	7.4091E-03	.1085	8.2588E-03	.1208	.1030	60.000
28	548	16.854	3.132	3.939E-03	.0577	4.7401E-03	.0694	5.2764E-03	.0772	.1030	75.000
29	545	9.987	1.853	2.321E-03	.0340	2.7899E-03	.0408	3.1038E-03	.0454	.1030	90.000
31	537	2.681	.495	6.143E-04	.0090	7.3705E-04	.0108	8.1889E-04	.0120	.1030	120.000
33	535	.645	.119	1.474E-04	.0022	1.7682E-04	.0026	1.9641E-04	.0029	.1030	150.000
35	539	6.295	1.164	1.448E-03	.0212	1.7379E-03	.0254	1.9315E-03	.0283	.1030	180.000
38	574	39.674	7.473	9.720E-03	.1423	1.1778E-02	.1724	1.3172E-02	.1928	.1430	0
41	568	29.268	6.303	8.126E-03	.1190	9.8282E-03	.1439	1.0978E-02	.1607	.1690	0
42	569	28.823	5.975	7.719E-03	.1130	9.3401E-03	.1367	1.0436E-02	.1528	.1690	15.000
43	566	26.960	5.355	6.890E-03	.1009	8.3299E-03	.1219	9.3018E-03	.1362	.1690	30.000
44	561	21.131	4.255	5.437E-03	.0796	6.5631E-03	.0961	7.3219E-03	.1072	.1690	45.000
45	555	14.356	2.757	3.500E-03	.0512	4.2190E-03	.0618	4.7022E-03	.0688	.1690	60.000
46	549	10.148	1.943	2.446E-03	.0358	2.9443E-03	.0431	3.2779E-03	.0480	.1690	75.000
47	545	4.658	.890	1.115E-03	.0163	1.3404E-03	.0196	1.4912E-03	.0218	.1690	90.000
49	541	1.196	.228	2.843E-04	.0042	3.4154E-04	.0050	3.7975E-04	.0056	.1690	120.000
51	540	.314	.061	7.651E-05	.0011	9.1881E-05	.0013	1.0214E-04	.0015	.1690	150.000
53	542	1.976	.366	4.570E-04	.0067	5.4902E-04	.0080	6.1051E-04	.0089	.1690	180.000
400	571	30.445	5.726	7.416E-03	.1085	8.9773E-03	.1314	1.0034E-02	.1469	.2420	0
401	564	25.615	4.801	6.164E-03	.0902	7.4484E-03	.1090	8.3148E-03	.1217	.2420	15.000
402	562	21.393	4.123	5.277E-03	.0772	6.3731E-03	.0933	7.1114E-03	.1041	.2420	30.000
403	559	14.971	2.962	3.775E-03	.0553	4.5551E-03	.0667	5.0797E-03	.0744	.2420	45.000
404	554	13.151	2.639	3.344E-03	.0490	4.0303E-03	.0590	4.4909E-03	.0657	.2420	60.000
405	550	12.250	2.125	2.681E-03	.0392	3.2278E-03	.0472	3.5944E-03	.0526	.2420	75.000
406	543	5.197	.966	1.206E-03	.0177	1.4496E-03	.0212	1.6121E-03	.0236	.2420	90.000
408	540	.770	.153	1.908E-04	.0028	2.2914E-04	.0034	2.5471E-04	.0037	.2420	120.000
410	538	.642	.128	1.588E-04	.0023	1.9054E-04	.0028	2.1174E-04	.0031	.2420	150.000
412	537	.433	.085	1.051E-04	.0015	1.2609E-04	.0018	1.4008E-04	.0021	.2420	180.000
413	549	32.808	6.525	8.423E-03	.1233	1.0190E-02	.1492	1.1384E-02	.1666	.2830	0
414	564	27.532	5.555	7.131E-03	.1044	8.6167E-03	.1261	9.6189E-03	.1408	.2830	15.000
415	561	21.273	4.284	5.473E-03	.0801	6.6065E-03	.0967	7.3699E-03	.1079	.2830	30.000
416	558	13.240	2.662	3.389E-03	.0496	4.0875E-03	.0598	4.5575E-03	.0667	.2830	45.000
417	556	17.467	3.030	3.851E-03	.0564	4.6433E-03	.0680	5.1760E-03	.0758	.2830	60.000
418	542	5.292	1.081	1.348E-03	.0197	1.6197E-03	.0237	1.8069E-03	.0264	.2830	75.000
419	542	7.440	1.382	1.725E-03	.0252	2.0720E-03	.0303	2.3040E-03	.0337	.2830	90.000
420	540	4.417	.760	9.463E-04	.0139	1.1369E-03	.0166	1.2634E-03	.0185	.2830	105.000
421	537	.917	.154	1.917E-04	.0028	2.3007E-04	.0034	2.5563E-04	.0037	.2830	120.000
422	536	.515	.095	1.178E-04	.0017	1.4134E-04	.0021	1.5702E-04	.0023	.2830	135.000
423	536	.925	.188	2.334E-04	.0034	2.8002E-04	.0041	3.1108E-04	.0046	.2830	150.000
425	535	.615	.120	1.485E-04	.0022	1.7811E-04	.0026	1.9782E-04	.0029	.2830	180.000
426	572	34.681	6.906	8.959E-03	.1311	1.0849E-02	.1588	1.2129E-02	.1775	.3160	0
427	570	29.379	5.960	7.706E-03	.1128	9.3248E-03	.1365	1.0421E-02	.1525	.3160	15.000
428	563	23.300	4.711	6.040E-03	.0884	7.2967E-03	.1068	8.1439E-03	.1192	.3160	30.000
429	559	13.278	2.679	3.415E-03	.0500	4.1207E-03	.0603	4.5955E-03	.0673	.3160	45.000
430	556	12.615	2.462	3.127E-03	.0458	3.7704E-03	.0552	4.2027E-03	.0615	.3160	60.000
431	544	9.367	1.840	2.303E-03	.0337	2.7687E-03	.0405	3.0800E-03	.0451	.3160	75.000
432	537	1.971	.336	4.198E-04	.0061	5.0372E-04	.0074	5.5967E-04	.0082	.3160	90.000
433	549	14.771	2.908	3.663E-03	.0536	4.4086E-03	.0645	4.9083E-03	.0718	.3160	105.000
434	538	1.256	.201	2.500E-04	.0037	3.0004E-04	.0044	3.3339E-04	.0049	.3160	120.000
435	536	.387	.073	9.103E-05	.0013	1.0921E-04	.0016	1.2132E-04	.0018	.3160	135.000
436	536	2.048	.407	5.045E-04	.0074	6.0519E-04	.0089	6.7231E-04	.0098	.3160	150.000
437	536	1.243	.243	3.010E-04	.0044	3.6105E-04	.0053	4.0107E-04	.0059	.3160	165.000
438	535	1.220	.242	3.000E-04	.0044	3.5985E-04	.0053	3.9971E-04	.0059	.3160	180.000
439	579	36.056	7.326	9.581E-03	.1402	1.1622E-02	.1701	1.3008E-02	.1904	.3540	0
440	570	29.372	6.089	7.875E-03	.1153	9.5310E-03	.1395	1.0651E-02	.1559	.3540	15.000
441	565	21.495	4.445	5.713E-03	.0836	6.9045E-03	.1011	7.7086E-03	.1128	.3540	30.000
442	559	15.059	3.039	3.876E-03	.0567	4.6774E-03	.0685	5.2167E-03	.0764	.3540	45.000
443	548	9.097	1.491	1.875E-03	.0274	2.2556E-03	.0330	2.5106E-03	.0367	.3540	60.000
444	542	4.805	.890	1.111E-03	.0163	1.3353E-03	.0195	1.4849E-03	.0217	.3540	75.000
445	544	7.755	1.396	1.746E-03	.0256	2.0982E-03	.0307	2.3339E-03	.0342	.3540	90.000
446	541	5.802	1.027	1.286E-03	.0187	1.5368E-03	.0225	1.7085E-03	.0250	.3540	105.000
447	538	1.130	.200	2.479E-04	.0036	2.9748E-04	.0044	3.3057E-04	.0048	.3540	120.000
448	537	1.527	.290	3.603E-04	.0053	4.3239E-04	.0063	4.8042E-04	.0070	.3540	135.000
450	535	1.760	.334	4.138E-04	.0061	4.9634E-04	.0073	5.5129E-04	.0081	.3540	165.000
451	535	1.839	.349	4.321E-04	.0063	5.1826E-04	.0076	5.7561E-04	.0084	.3540	180.000
452	580	32.635	6.527	8.552E-03	.1252	1.0379E-02	.1519	1.1620E-02	.1701	.3800	0
454	569	24.465	4.867	6.286E-03	.0920	7.6049E-03	.1113	8.4967E-03	.1244	.3800	30.000
455	566	18.342	3.288	4.229E-03	.0619	5.1117E-03	.0748	5.7077E-03	.0835	.3800	45.000
456	555	11.334	1.865	2.365E-03	.0346	2.8503E-03	.0417	3.1763E-03	.0465	.3800	60.000
457	551	7.701	1.391	1.757E-03	.0257	2.1155E-03	.0310	2.3561E-03	.0345	.3800	75.000
458	543	2.710	.502	6.277E-04	.0092	7.5433E-04	.0110	8.3896E-04	.0123	.3800	90.000
459	544	4.593	.902	1.128E-03	.0165	1.3557E-03	.0198	1.5080E-03	.0221	.3800	105.000
460	542	5.729	1.061	1.325E-03	.0194	1.5922E-03	.0233	1.7706E-03	.0259	.3800	120.000
461	539	.743	.137	1.710E-04	.0025	2.0526E-04	.0030	2.2815E-04	.0033	.3800	135.000
462	539	1.565	.298	3.706E-04	.0054	4.4489E-04	.0065	4.9447E-04	.0072	.3800	150.000
464	539	2.182	.418	5.163E-04	.0076	6.1979E-04	.0091	6.8881E-04	.0101	.3800	180.000

GROUP
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AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
20	0	GDC	8.00	894.8	1341	40.00	10.00	-50.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (R= .009FT)	SIFR (R= .009FT)	SWITCH POSITION
97.1	.088	3.922	4864	7.892E-05	7.021E-09	3.748E 06	6.819E-02	2.932E-02	2

TC NO	TW	DTWLT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	FUSELAGE A/L	FUSELAGE PHI
106	589	26.421	5.306	7.098E-03	.1035	8.5898E-03	.1260	9.6343E-03	.1413	.4400	0
107	583	29.752	5.230	6.899E-03	.1012	8.3809E-03	.1229	9.3895E-03	.1377	.4400	30.000
108	581	10.016	2.024	2.596E-03	.0381	3.1349E-03	.0460	3.4981E-03	.0513	.4400	60.000
109	586	2.850	.529	6.657E-04	.0098	8.0079E-04	.0117	8.9116E-04	.0131	.4400	90.000
110	581	.297	.059	6.886E-05	.0010	8.2744E-05	.0012	9.2019E-05	.0013	.4400	120.000
111	583	4.041	.749	9.346E-04	.0138	1.1281E-03	.0165	1.2548E-03	.0184	.4400	150.000
112	582	1.856	.344	4.303E-04	.0063	5.1705E-04	.0076	5.7502E-04	.0084	.4400	180.000
113	593	23.946	4.900	6.594E-03	.0961	7.9865E-03	.1171	8.9661E-03	.1315	.4880	0
114	575	27.132	4.886	6.380E-03	.0936	7.7334E-03	.1134	8.6512E-03	.1269	.4880	30.000
115	581	8.552	1.530	1.962E-03	.0288	2.3693E-03	.0347	2.6438E-03	.0388	.4880	60.000
116	589	3.740	.675	8.530E-04	.0125	1.0270E-03	.0151	1.1436E-03	.0168	.4880	90.000
117	583	.506	.094	1.175E-04	.0017	1.4121E-04	.0021	1.5707E-04	.0023	.4880	120.000
118	582	1.872	.347	4.346E-04	.0064	5.2229E-04	.0077	5.8093E-04	.0085	.4880	150.000
119	581	1.490	.276	3.450E-04	.0051	4.1450E-04	.0061	4.6093E-04	.0068	.4880	180.000
120	583	31.636	6.443	8.508E-03	.1248	1.0338E-02	.1516	1.1503E-02	.1699	.5200	0
121	596	19.592	4.015	5.393E-03	.0791	6.5771E-03	.0965	7.3884E-03	.1084	.5500	0
122	603	28.166	5.790	7.852E-03	.1151	9.5962E-03	.1407	1.0795E-02	.1583	.5500	30.000
123	604	31.252	6.588	8.965E-03	.1312	1.0936E-02	.1604	1.2306E-02	.1805	.5500	43.000
124	571	8.990	1.616	2.098E-03	.0308	2.5640E-03	.0373	2.8402E-03	.0417	.5500	60.000
125	564	10.072	1.887	2.429E-03	.0356	2.9353E-03	.0430	3.2770E-03	.0481	.5500	75.000
126	548	8.062	1.506	1.924E-03	.0282	2.3223E-03	.0341	2.5900E-03	.0380	.5500	82.500
127	549	5.108	.950	1.200E-03	.0176	1.4443E-03	.0212	1.6083E-03	.0236	.5500	90.000
128	544	.674	.125	1.570E-04	.0023	1.8871E-04	.0028	2.0995E-04	.0031	.5500	120.000
129	541	1.001	.185	2.320E-04	.0034	2.7880E-04	.0041	3.1005E-04	.0045	.5500	150.000
130	541	1.446	.268	3.350E-04	.0049	4.0250E-04	.0059	4.4759E-04	.0066	.5500	180.000
131	598	18.497	4.043	5.446E-03	.0799	6.6459E-03	.0975	7.4689E-03	.1095	.5860	0
132	585	27.278	2.916	3.859E-03	.0566	4.6912E-03	.0688	5.2581E-03	.0771	.6250	60.000
133	566	9.146	1.716	2.217E-03	.0325	2.6814E-03	.0393	2.9950E-03	.0439	.6250	75.000
134	555	6.972	1.301	1.657E-03	.0243	1.9976E-03	.0293	2.2288E-03	.0327	.6250	90.000
135	544	.989	.183	2.303E-04	.0034	2.7686E-04	.0041	3.0803E-04	.0045	.6250	120.000
136	541	1.747	.323	4.048E-04	.0059	4.8838E-04	.0071	5.4089E-04	.0079	.6250	150.000
137	540	.827	.153	1.912E-04	.0028	2.2962E-04	.0034	2.5831E-04	.0037	.6250	180.000
138	620	25.740	4.008	5.563E-03	.0816	6.8359E-03	.1003	7.7186E-03	.1132	.6800	0
139	619	26.952	4.117	5.706E-03	.0837	7.0086E-03	.1028	7.9114E-03	.1160	.7000	0
140	637	24.438	3.186	4.432E-03	.0665	5.8992E-03	.0821	6.3468E-03	.0931	.7000	30.000
141	568	5.814	.962	1.246E-03	.0183	1.5076E-03	.0221	1.6845E-03	.0247	.7000	60.000
142	570	13.845	2.602	3.377E-03	.0498	4.0878E-03	.0599	4.5667E-03	.0670	.7000	75.000
143	565	12.435	2.332	3.009E-03	.0441	3.6377E-03	.0533	4.0625E-03	.0596	.7000	82.500
144	561	9.585	1.793	2.298E-03	.0337	2.7795E-03	.0407	3.0988E-03	.0454	.7000	90.000
145	547	1.896	.352	4.437E-04	.0065	5.3396E-04	.0078	5.9438E-04	.0087	.7000	120.000
146	542	1.338	.248	3.103E-04	.0046	3.7291E-04	.0055	4.1475E-04	.0061	.7000	150.000
147	541	1.117	.201	2.510E-04	.0037	3.0156E-04	.0044	3.3833E-04	.0049	.7000	180.000
148	623	31.750	5.218	7.276E-03	.1067	8.9483E-03	.1312	1.0110E-02	.1483	.7340	0
149	620	35.400	6.009	8.339E-03	.1223	1.0244E-02	.1502	1.1566E-02	.1696	.7700	0
150	622	29.216	4.964	6.906E-03	.1013	8.4888E-03	.1245	9.5878E-03	.1406	.7700	30.000
151	567	3.145	.573	7.410E-04	.0109	8.9631E-04	.0131	1.0013E-03	.0147	.7700	60.000
152	559	8.102	1.470	1.882E-03	.0276	2.2717E-03	.0333	2.5342E-03	.0372	.7700	90.000
153	547	2.301	.415	5.228E-04	.0077	6.2907E-04	.0092	7.0024E-04	.0103	.7700	120.000
154	544	1.079	.194	2.437E-04	.0036	2.9303E-04	.0043	3.2601E-04	.0048	.7700	150.000
155	542	.861	.155	1.937E-04	.0028	2.3273E-04	.0034	2.5883E-04	.0038	.7700	180.000
156	626	36.677	6.452	9.033E-03	.1325	1.1120E-02	.1631	1.2572E-02	.1844	.8000	0
157	622	38.731	7.130	9.928E-03	.1456	1.2207E-02	.1790	1.3789E-02	.2022	.8300	0
158	621	22.924	3.465	4.812E-03	.0706	5.9134E-03	.0867	6.6773E-03	.0979	.8300	30.000
159	613	35.868	6.879	9.453E-03	.1386	1.1588E-02	.1699	1.3063E-02	.1916	.8620	0
160	607	33.649	6.815	9.269E-03	.1362	1.1360E-02	.1666	1.2789E-02	.1876	.8950	0
161	609	28.920	6.107	8.348E-03	.1224	1.0220E-02	.1499	1.1511E-02	.1688	.8950	30.000
162	564	.867	.148	1.906E-04	.0028	2.3041E-04	.0034	2.5724E-04	.0038	.8950	60.000
163	555	4.657	.869	1.106E-03	.0162	1.3331E-03	.0196	1.4859E-03	.0218	.8950	90.000
164	549	2.079	.387	4.883E-04	.0072	5.8791E-04	.0086	6.5465E-04	.0096	.8950	120.000
165	546	1.167	.217	2.729E-04	.0040	3.2834E-04	.0048	3.6545E-04	.0054	.8950	150.000
166	607	36.066	6.900	9.409E-03	.1380	1.1513E-02	.1688	1.2963E-02	.1901	.9280	0
167	606	33.776	6.273	8.559E-03	.1255	1.0475E-02	.1536	1.1798E-02	.1730	.9600	0

TC NO	TW	DTWLT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	UPPER CANARD SURFACE A/C	UPPER CANARD SURFACE Y/S
350	606	81.442	8.016	1.092E-02	.1601	1.3355E-02	.1959	1.5033E-02	.2205	0	.250
351	550	22.901	2.193	2.776E-03	.0407	3.3436E-03	.0490	3.7241E-03	.0546	.2500	.250
352	563	5.726	.980	1.237E-03	.0181	1.4866E-03	.0218	1.6537E-03	.0243	.5000	.250
353	539	2.663	.458	5.711E-04	.0084	6.8588E-04	.0101	7.6245E-04	.0112	.7000	.250
357	611	80.234	7.916	1.085E-02	.1592	1.3300E-02	.1951	1.4988E-02	.2198	0	.500
358	552	27.696	2.655	3.369E-03	.0494	4.0591E-03	.0595	4.5225E-03	.0663	.2500	.500
359	544	7.984	1.232	1.548E-03	.0227	1.8608E-03	.0273	2.0703E-03	.0304	.5000	.500
360	540	4.581	.788	9.838E-04	.0144	1.1814E-03	.0173	1.3134E-03	.0193	.7000	.500

TC NO	TW	DTWLT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	LOWER CANARD SURFACE A/C	LOWER CANARD SURFACE Y/S
354	549	20.571	1.969	2.488E-03	.0365	2.9957E-03	.0439	3.3359E-03	.0489	.2500	.250
355	544	5.606	1.346	1.690E-03	.0248	2.0327E-03	.0298	2.2617E-03	.0332	.5000	.250
356	541	3.604	.694	8.179E-04	.0120	9.8271E-04	.0144	1.0929E-03	.0160	.7000	.250
361	549	24.159	2.313	2.923E-03	.0429	3.5197E-03	.0516	3.9196E-03	.0575	.2500	.500
362	543	8.704	1.146	1.488E-03	.0218	1.7886E-03	.0262	1.9897E-03	.0292	.5000	.500
363	538	4.238	.749	9.328E-04	.0137	1.1198E-03	.0164	1.2449E-03	.0182	.7000	.500

TC NO	TW	DTWLT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	VERTICAL STABILIZER A/C	VERTICAL STABILIZER Z/S
175	560	10.640	1.024	1.311E-03	.0192	1.6033E-03	.0232	1.7664E-03	.0259	0	.100
176	545	3.331	.518	6.996E-04	.0099	4.8060E-04	.0070	5.3476E-04	.0078	.1000	.100
177	542	2.186	.206	6.572E-04	.0038	3.0906E-04	.0045	3.4370E-04	.0050	.2500	.100
178	539	.840	.090	9.980E-05	.0015	1.1983E-04	.0018	1.3321E-04	.0020	.5000	.100
179	536	1.725	.164	2.038E-04	.0030	2.4485E-04	.0036	2.7171E-04	.0040	.7500	.100
180	554	10.721	1.029	1.307E-03	.0192	1.5755E-03	.0231	1.7557E-03	.0257	0	.250
181	541	3.768	.359	4.492E-04	.0066	5.3967E-04	.0079	6.0013E-04	.0088	.1000	.250
182	539	2.579	.249	3.063E-04	.0045	3.6777E-04	.0054	4.0883E-04	.0060	.2500	.250
183	536	1.078	.102	1.274E-04	.0019	1.5293E-04	.0022	1.6993E-04	.0025	.5000	.250
184	535	.559	.053	6.539E-05	.0010	7.8439E-05	.0012	8.7131E-05	.0013	.7500	.250
185	553	11.227	1.077	1.366E-03	.0201	1.6491E-03	.0242	1.8377E-03	.0270	0	.500
186	540	5.365	.511	6.388E-04	.0094	7.6734E-04	.0113	8.5321E-04	.0125	.1000	.500
187	538	3.085	.293	3.655E-04	.0054	4.3872E-04	.0064	4.8759E-04	.0072	.2500	.500
188	538	1.436	.137	1.702E-04	.0025	2.0438E-04	.0030	2.2718E-04	.0033	.5000	.500
189	536	1.890	.180	2.231E-04	.0033	2.6770E-04	.0039	2.9742E-04	.0044	.7500	.500
190	553	14.603	1.401	1.779E-03	.0261	2.1496E-03	.0314	2.3897E-03	.0350	0	.750
191	544	12.436	1.187	1.491E-03	.0219	1.7922E-03	.0263	1.9939E-03	.0292	.1000	.750
192	541	8.438	.804	1.005E-03	.0147	1.2078E-03	.0177	1.3430E-03	.0197	.2500	.750
193	540	6.038	.575	7.178E-04	.0105	8.6207E-04	.0126	9.5839E-04	.0141	.5000	.750
194	536	3.500	.333	4.137E-04	.0061	4.9648E-04	.0073	5.5165E-04	.0081	.7500	.750

GROUP
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5/28/71

AEDC(AMO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VTI162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
20	8	GDC	8.00	856.8	1338	40.00	10.00	-50.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (RN *.009FT)	SIER (RN *.009FT)	SWITCH POSITION
96.9	.0888	3.932	3859	7.996E-05	7.004E-08	3.170E 06	6.024E-02	2.928E-02	3

TC NO	TW	DIMCT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	UPPER WING SURFACE A/C	UPPER WING SURFACE Y/S
201	553	6.867	.413	1.038E-03	.0152	1.244BE-03	.0183	1.3916E-03	.0204	.1000	.100
202	554	2.421	.345	4.405E-04	.0065	5.3120E-04	.0078	5.9219E-04	.0087	.2000	.100
203	547	.995	.210	2.729E-04	.0040	3.3020E-04	.0048	3.6894E-04	.0054	.3300	.100
204	563	1.550	.278	3.485E-04	.0053	4.3339E-04	.0064	4.8392E-04	.0071	.4000	.100
205	559	1.231	.223	2.868E-04	.0042	3.4634E-04	.0051	3.8644E-04	.0057	.6000	.100
206	564	.887	.119	1.935E-04	.0022	1.8560E-04	.0027	2.0727E-04	.0030	.7000	.100
207	563	1.011	.097	1.259E-04	.0018	1.5217E-04	.0022	1.6991E-04	.0025	.9100	.100
231	551	3.930	.447	5.493E-04	.0087	7.1592E-04	.0105	7.9722E-04	.0117	.1000	.250
232	560	.884	.169	2.175E-04	.0032	2.6269E-04	.0038	2.9315E-04	.0043	.4000	.250
233	559	1.090	.210	2.693E-04	.0039	3.2516E-04	.0048	3.6278E-04	.0053	.5000	.250
234	563	1.251	.235	3.010E-04	.0044	3.6619E-04	.0054	4.0884E-04	.0060	.6000	.250
235	568	1.520	.112	1.462E-04	.0021	1.7696E-04	.0026	1.9777E-04	.0029	.8330	.250
236	567	2.173	.180	2.333E-04	.0034	2.8224E-04	.0041	3.1533E-04	.0046	.8670	.250
237	565	3.122	.258	3.345E-04	.0049	4.0455E-04	.0059	4.5188E-04	.0066	.9010	.250
238	565	5.935	.465	6.011E-04	.0088	7.2688E-04	.0107	8.1176E-04	.0119	.9350	.250
278	554	1.056	.220	2.803E-04	.0041	3.3800E-04	.0050	3.7675E-04	.0055	.1000	.500
280	563	.703	.135	1.800F-04	.0026	2.1752E-04	.0032	2.4286E-04	.0036	.4000	.500
281	564	1.093	.211	2.723E-04	.0040	3.2920E-04	.0048	3.6760E-04	.0054	.5000	.500
282	566	1.056	.204	2.641E-04	.0039	3.1942E-04	.0047	3.5681E-04	.0052	.6000	.500
283	564	2.310	.223	2.883E-04	.0042	3.485BE-04	.0051	3.8930E-04	.0057	.8770	.500
297	557	2.000	.345	4.424E-04	.0065	5.3378E-04	.0078	5.9530E-04	.0087	.1000	.600
299	562	.593	.136	1.756E-04	.0026	2.1220E-04	.0031	2.3694E-04	.0035	.4000	.600
300	564	1.178	.211	2.729E-04	.0040	3.3002E-04	.0048	3.6857E-04	.0054	.6000	.600
301	563	2.061	.256	3.301E-04	.0048	3.9904E-04	.0058	4.4556E-04	.0065	.7930	.600
302	562	3.953	.381	4.913E-04	.0072	5.9377E-04	.0087	6.6286E-04	.0097	.8510	.600

TC NO	TW	DIMCT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	LOWER WING SURFACE A/C	LOWER WING SURFACE Y/S
200	583	39.787	6.265	8.307E-03	.1217	1.0097E-02	.1480	1.1317E-02	.1658	0	.100
208	636	50.634	8.943	1.275E-02	.1868	1.5747E-02	.2308	1.7849E-02	.2616	.1000	.100
209	651	53.418	9.494	1.384F-02	.2027	1.7186E-02	.2518	1.9553E-02	.2865	.2000	.100
210	620	21.849	3.710	5.172E-03	.0758	6.3570E-03	.0932	7.1799E-03	.1052	.3300	.100
211	614	22.700	4.048	5.591F-03	.0819	6.8586E-03	.1005	7.7351E-03	.1134	.4000	.150
212	610	23.261	4.469	6.142F-03	.0900	7.5257E-03	.1103	8.4809E-03	.1243	.6000	.150
213	607	22.747	4.644	6.411E-03	.0939	7.8471E-03	.1150	8.8372E-03	.1295	.7000	.100
214	658	76.802	7.725	1.137F-02	.1665	1.4150E-02	.2073	1.6125E-02	.2363	.9100	.100
215	612	37.762	5.536	7.628F-03	.1118	9.3514E-03	.1370	1.0542E-02	.1545	0	.150
216	656	66.584	8.260	1.211F-02	.1775	1.5067E-02	.2208	1.7161E-02	.2515	.0500	.150
217	603	58.362	7.374	1.003E-02	.1470	1.2266E-02	.1797	1.3801E-02	.2022	0	.200
224	681	73.128	10.178	1.551F-02	.2272	1.9476E-02	.2854	2.2332E-02	.3273	.0500	.200
225	670	64.100	9.550	1.431F-02	.2097	1.7895E-02	.2622	2.0459E-02	.2998	.1000	.200
226	670	49.209	6.819	1.022F-02	.1497	1.2777E-02	.1872	1.4607E-02	.2140	.2000	.200
227	613	24.447	4.827	6.662E-03	.0976	8.1706E-03	.1197	9.2136E-03	.1350	.4000	.200
228	607	21.939	4.197	5.743E-03	.0842	7.0296E-03	.1030	7.9165E-03	.1160	.6000	.200
229	609	20.449	3.915	5.370E-03	.0787	6.5767E-03	.0964	7.4092E-03	.1086	.7000	.200
239	624	71.924	10.191	1.427F-02	.2092	1.7565E-02	.2474	1.9853E-02	.2909	0	.250
240	669	77.235	7.800	1.166E-02	.1708	1.4571E-02	.2139	1.6651E-02	.2440	.0500	.250
241	614	24.983	4.935	6.817E-03	.0999	8.3617E-03	.1225	9.4304E-03	.1382	.1000	.250
242	610	21.651	4.464	6.131F-03	.0898	7.5106E-03	.1101	8.4630E-03	.1240	.4000	.250
243	609	22.462	4.300	5.899F-03	.0864	7.2250E-03	.1059	8.1397E-03	.1193	.5000	.250
244	659	68.809	6.568	9.674F-03	.1418	1.2048E-02	.1766	1.3733E-02	.2012	.6000	.250
245	656	79.213	7.962	1.168E-02	.1711	1.4529E-02	.2129	1.6549E-02	.2425	.8330	.250
246	655	77.766	7.815	1.146E-02	.1679	1.4249E-02	.2088	1.6228E-02	.2378	.8670	.250
247	653	63.926	6.417	9.368E-03	.1373	1.1641E-02	.1706	1.3248E-02	.1941	.9010	.250
248	618	71.458	8.408	1.168E-02	.1712	1.4353E-02	.2103	1.6202E-02	.2374	.9350	.250
253	701	85.837	9.148	1.436E-02	.2104	1.8177E-02	.2664	2.0963E-02	.3072	0	.300
254	685	77.389	8.223	1.260E-02	.1847	1.5855E-02	.2323	1.8203E-02	.2667	.0500	.300
255	657	59.108	7.335	1.077E-02	.1579	1.3409E-02	.1965	1.5277E-02	.2239	.1000	.300
256	667	47.356	5.681	8.466E-03	.1241	1.0573E-02	.1549	1.2077E-02	.1770	.1500	.300
257	616	25.102	4.679	6.484E-03	.0950	7.9593E-03	.1166	8.9809E-03	.1316	.2000	.300
258	612	22.309	4.151	5.718E-03	.0838	7.0090E-03	.1027	7.9013E-03	.1158	.4000	.300
259	604	64.657	6.649	9.068E-03	.1329	1.1092E-02	.1625	1.2485E-02	.1830	.6000	.300
261	679	73.555	6.863	1.345E-02	.1971	1.6874E-02	.2473	1.9336E-02	.2833	0	.350
262	662	65.466	9.120	1.349E-02	.1977	1.6822E-02	.2465	1.9190E-02	.2812	.0500	.350
263	607	58.288	7.379	1.010F-02	.1480	1.2360E-02	.1811	1.3919E-02	.2040	.1000	.350
267	669	68.763	10.242	1.533E-02	.2246	1.9163E-02	.2808	2.1904E-02	.3210	0	.400
268	662	63.340	9.467	1.392F-02	.2040	1.7352E-02	.2543	1.9794E-02	.2901	.0500	.400
269	651	49.165	7.045	1.026F-02	.1503	1.2745E-02	.1866	1.4487E-02	.2123	.1000	.400
270	657	41.962	5.230	7.690F-03	.1127	9.5718E-03	.1403	1.0907E-02	.1598	.1500	.400
271	622	26.406	4.486	6.266F-03	.0918	7.7050E-03	.1129	8.7050E-03	.1276	.2000	.400
272	617	21.874	3.906	5.418F-03	.0794	6.6519E-03	.0975	7.5069E-03	.1100	.4000	.400
273	616	59.596	6.464	8.961E-03	.1313	1.1001E-02	.1612	1.2413E-02	.1819	.6000	.400
276	653	49.545	6.880	1.005F-02	.1473	1.2498E-02	.1832	1.4227E-02	.2085	0	.450
277	612	59.396	5.860	8.073E-03	.1183	9.8958E-03	.1450	1.1156E-02	.1635	.1000	.450
284	692	75.992	9.599	1.487E-02	.2180	1.8762E-02	.2749	2.1584E-02	.3163	0	.500
286	692	50.622	7.028	1.024F-02	.1501	1.2727E-02	.1865	1.4482E-02	.2122	.0500	.500
287	652	45.159	6.060	8.837E-03	.1295	1.0997E-02	.1609	1.2492E-02	.1831	.1500	.500
288	627	24.105	4.659	6.558F-03	.0961	8.0795E-03	.1184	9.1398E-03	.1339	.2000	.500
289	621	24.169	4.344	6.063E-03	.0888	7.4947E-03	.1092	8.4212E-03	.1234	.4000	.500
290	620	22.389	3.880	5.292E-03	.0776	6.5038E-03	.0953	7.3445E-03	.1076	.5000	.500
291	644	72.641	7.324	1.087E-02	.1593	1.3569E-02	.1988	1.5487E-02	.2270	.6000	.500
292	637	67.968	7.090	1.012F-02	.1484	1.2515E-02	.1834	1.4190E-02	.2079	.8770	.500
294	710	72.892	8.195	1.306F-02	.1914	1.6598E-02	.2432	1.9198E-02	.2813	0	.550
295	684	65.954	7.351	1.125E-02	.1649	1.4151E-02	.2074	1.6243E-02	.2380	.0500	.550
296	625	68.690	9.119	1.279E-02	.1874	1.5740E-02	.2307	1.7796E-02	.2608	.1000	.550
303	706	71.200	5.406	8.248E-03	.1209	1.0467E-02	.1534	1.2093E-02	.1772	0	.600
304	638	45.660	3.905	5.581E-03	.0818	6.9002E-03	.1011	7.8249E-03	.1147	.0500	.600
305	659	40.325	4.452	6.557F-03	.0961	8.1665E-03	.1197	9.3086E-03	.1364	.1000	.600
306	630	28.888	4.662	6.586F-03	.0965	8.1205E-03	.1190	9.1912E-03	.1347	.2000	.600
307	631	26.873	4.202	5.949E-03	.0872	7.3381E-03	.1075	8.3085E-03	.1218	.4000	.600
308	621	19.302	3.191	4.455E-03	.0653	5.4774E-03	.0803	6.1877E-03	.0907	.5000	.600
309	641	22.556	2.254	3.235E-03	.0474	4.0041E-03	.0587	4.5440E-03	.0666	.6000	.600
310	637	24.708	2.465	3.521F-03	.0516	4.3525E-03	.0638	4.9352E-03	.0723	.7930	.600
313	698	67.596	5.913	9.244E-03	.1355	1.1688E-02	.1713	1.3468E-02	.1974	.8510	.600
314	675	64.492	6.193	9.344E-03	.1369	1.1707E-02	.1715	1.3401E-02	.1964	.0500	.650
318	689	62.510	7.268	1.120E-02	.1641	1.4108E-02	.2067	1.6212E-02	.2376	.1000	.650
319	676	58.106	7.296	1.102E-02	.1615	1.3813E-02	.2024	1.5815E-02	.2318	.1000	.700
320	628	26.491	4.393	6.195E-03	.0908	7.6356E+03	.1119	8.6398E-03	.1266	.2000	.700
										.5000	.700

GROUP
75

AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
21	A	GOC	8.00	854.7	1342	40.00	10.00	-50.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (RE .009FT)	STFR (RE .009FT)	SWITCH POSITION
97.3	.088	3.940	3869	7.588E-05	7.830E-08	3.75E 00	6.836E-02	2.928E-02	1

TC NO	TW	DTWCT	Q-DOT	M(TO)	M(TO)/MREF	M(.9TO)	M(.9TO)/MREF	M(.85TO)	M(.85TO)/MREF	FUSELAGE A/L	FUSELAGE PHI
1	595	110.021	20.927	2.800E-02	.6096	3.4122E-02	.4992	3.8314E-02	.5605	0	0
2	542	94.723	17.906	2.355E-02	.5125	2.8593E-02	.4183	3.2025E-02	.4685	.0137	0
3	517	7.900	1.460	1.814E-03	.0405	2.1770E-03	.0319	2.4191E-03	.0354	.0137	180.000
4	581	74.871	14.153	1.861F-02	.2722	2.2594E-02	.3305	2.5305E-02	.3702	.0274	0
5	560	68.496	12.863	1.662E-02	.2432	2.0111E-02	.2942	2.2468E-02	.3287	.0274	30.000
6	561	46.663	8.730	1.118F-02	.1635	1.3494E-02	.1974	1.5055E-02	.2202	.0274	60.000
7	546	22.683	4.211	5.291E-03	.0774	6.3637E-03	.0931	7.0819E-03	.1036	.0274	90.000
8	538	8.522	1.621	2.010E-03	.0295	2.4202E-03	.0354	2.6896E-03	.0393	.0274	120.000
9	535	3.758	.714	8.860E-04	.0129	1.0613E-03	.0155	1.1790E-03	.0172	.0274	150.000
10	536	4.074	.774	9.603E-04	.0140	1.1521E-03	.0169	1.2799E-03	.0187	.0274	180.000
12	577	61.685	11.639	1.521F-02	.2225	1.8447E-02	.2699	2.0644E-02	.3020	.0543	0
13	571	54.792	10.297	1.335E-02	.1954	1.6169E-02	.2369	1.8074E-02	.2644	.0543	30.000
14	557	36.569	6.826	8.700E-03	.1273	1.0494E-02	.1535	1.1701E-02	.1712	.0543	60.000
15	546	17.445	3.239	4.055F-03	.0593	4.8743E-03	.0713	5.4225E-03	.0793	.0543	90.000
16	537	5.305	.990	1.218E-03	.0178	1.4614E-03	.0214	1.6239E-03	.0238	.0543	120.000
17	535	1.784	.329	4.081E-04	.0060	4.8950E-04	.0072	5.4375E-04	.0080	.0543	150.000
18	539	4.829	1.263	1.571F-03	.0230	1.8863E-03	.0276	2.0965E-03	.0307	.0543	180.000
20	575	53.572	10.092	1.315F-02	.1926	1.5938E-02	.2332	1.7727E-02	.2608	.0790	0
23	574	49.466	9.321	1.213E-02	.1775	1.4700E-02	.2150	1.6440E-02	.2405	.1030	0
24	574	48.407	9.116	1.187E-02	.1736	1.4381E-02	.2104	1.6083E-02	.2353	.1030	15.000
25	572	46.812	8.806	1.143E-02	.1672	1.3844E-02	.2025	1.5477E-02	.2264	.1030	30.000
26	562	43.058	8.061	1.034E-02	.1512	1.2486E-02	.1827	1.3934E-02	.2039	.1030	45.000
27	553	23.979	4.467	5.658E-03	.0828	6.8165E-03	.0997	7.5942E-03	.1111	.1030	60.000
28	548	10.996	3.158	3.975F-03	.0582	4.7030E-03	.0700	5.3241E-03	.0779	.1030	75.000
29	544	10.201	1.891	2.369E-03	.0347	2.8402E-03	.0417	3.1684E-03	.0464	.1030	90.000
31	537	2.995	.553	6.868F-04	.0100	8.2408E-04	.0121	9.1560E-04	.0134	.1030	120.000
33	535	.369	.068	8.437F-05	.0012	1.0121E-04	.0015	1.1243E-04	.0016	.1030	150.000
35	539	6.156	1.139	1.418E-03	.0207	1.7022E-03	.0249	1.8920E-03	.0277	.1030	180.000
38	573	39.685	7.472	9.721E-03	.1422	1.1778E-02	.1723	1.3171E-02	.1927	.1430	0
41	586	60.900	13.234	1.750E-02	.2561	2.1282E-02	.3113	2.3856E-02	.3490	.1690	0
42	576	44.822	9.319	1.216E-02	.1779	1.4747E-02	.2157	1.6498E-02	.2414	.1690	15.000
43	566	27.597	5.463	7.040F-03	.1030	8.5110E-03	.1245	9.5056E-03	.1391	.1690	30.000
44	560	21.275	4.283	5.477F-03	.0801	6.6121E-03	.0967	7.3762E-03	.1079	.1690	45.000
45	555	14.567	2.797	3.553E-03	.0520	4.2833E-03	.0627	4.7739E-03	.0698	.1690	60.000
46	549	10.079	1.929	2.433E-03	.0356	2.9293E-03	.0429	3.2616E-03	.0477	.1690	75.000
47	546	5.556	1.062	1.334E-03	.0195	1.6040E-03	.0239	1.7850E-03	.0261	.1690	90.000
49	543	1.218	.232	2.909E-04	.0043	3.4958E-04	.0051	3.8883E-04	.0057	.1690	120.000
51	542	.315	.062	7.726E-05	.0011	9.2835E-05	.0014	1.0324E-04	.0015	.1690	150.000
53	544	1.885	.349	4.379E-04	.0064	5.2636E-04	.0077	5.8554E-04	.0086	.1690	180.000
400	579	54.953	10.377	1.361E-02	.1991	1.6513E-02	.2416	1.8488E-02	.2705	.2420	0
401	574	51.556	9.708	1.263E-02	.1848	1.5305E-02	.2239	1.7116E-02	.2504	.2420	15.000
402	568	38.155	7.375	9.525E-03	.1393	1.1523E-02	.1686	1.2872E-02	.1883	.2420	30.000
403	565	33.089	6.687	8.604E-03	.1259	1.0400E-02	.1521	1.1612E-02	.1699	.2420	45.000
404	557	29.422	5.914	7.533E-03	.1102	9.0865E-03	.1329	1.0131E-02	.1482	.2420	60.000
406	551	16.473	2.859	3.614E-03	.0529	4.3523E-03	.0637	4.8476E-03	.0709	.2420	75.000
408	544	6.462	1.202	1.505E-03	.0220	1.8096E-03	.0265	2.0130E-03	.0294	.2420	90.000
410	539	.766	.195	2.433E-04	.0036	2.9222E-04	.0043	3.2490E-04	.0048	.2420	120.000
412	538	.563	.110	1.370F-04	.0020	1.6440E-04	.0024	1.8269E-04	.0027	.2420	150.000
413	576	60.466	12.071	1.576E-02	.2306	1.9111E-02	.2796	2.1383E-02	.3128	.2830	0
414	565	36.412	7.390	9.465E-03	.1385	1.1442E-02	.1674	1.2777E-02	.1869	.2830	15.000
415	567	42.413	8.568	1.105E-02	.1617	1.3367E-02	.1956	1.4931E-02	.2184	.2830	30.000
416	565	38.339	7.738	9.957E-03	.1457	1.2036E-02	.1761	1.3438E-02	.1966	.2830	45.000
417	560	36.517	6.347	8.114E-03	.1187	9.7968E-03	.1433	1.0926E-02	.1598	.2830	60.000
418	542	7.022	1.435	1.794F-03	.0262	2.1955E-03	.0319	2.3971E-03	.0351	.2830	75.000
419	542	8.870	1.648	2.061E-03	.0301	2.4761E-03	.0362	2.7538E-03	.0403	.2830	90.000
420	541	5.479	.943	1.177E-03	.0172	1.4139E-03	.0207	1.5721E-03	.0230	.2830	105.000
421	538	1.229	.207	2.579E-04	.0038	3.0905E-04	.0045	3.4344E-04	.0050	.2830	120.000
422	536	.564	.104	1.292F-04	.0019	1.5498E-04	.0023	1.7219E-04	.0025	.2830	135.000
423	536	1.040	.212	2.630E-04	.0038	3.1561E-04	.0046	3.5066E-04	.0051	.2830	150.000
425	535	.687	.134	1.662E-04	.0024	1.9937E-04	.0029	2.2145E-04	.0032	.2830	180.000
426	593	73.047	14.700	1.962E-02	.2870	2.3899E-02	.3490	2.6826E-02	.3924	.3160	0
427	578	52.536	10.702	1.401E-02	.2050	1.6998E-02	.2487	1.9025E-02	.2783	.3160	15.000
428	566	35.573	7.205	9.289F-03	.1359	1.1233E-02	.1643	1.2545E-02	.1835	.3160	30.000
429	566	41.052	8.314	1.072E-02	.1568	1.2961E-02	.1896	1.4475E-02	.2118	.3160	45.000
430	560	28.970	5.576	7.126E-03	.1043	8.6016E-03	.1258	9.5948E-03	.1404	.3160	60.000
431	546	10.120	1.989	2.497E-03	.0365	3.0033E-03	.0439	3.3420E-03	.0489	.3160	75.000
432	537	2.001	.344	4.271E-04	.0062	5.1256E-04	.0075	5.6956E-04	.0083	.3160	90.000
433	547	9.284	1.829	2.294E-03	.0336	2.7601E-03	.0404	3.0718E-03	.0449	.3160	105.000
434	538	1.205	.193	2.404E-04	.0035	2.8862E-04	.0042	3.2075E-04	.0047	.3160	120.000
435	537	.451	.086	1.066E-04	.0016	1.2791E-04	.0019	1.4212E-04	.0021	.3160	135.000
436	537	2.039	.406	5.039E-04	.0074	6.0469E-04	.0088	6.7191E-04	.0098	.3160	150.000
437	536	1.122	.219	2.722E-04	.0040	3.2664E-04	.0048	3.6291E-04	.0053	.3160	165.000
438	536	1.250	.256	3.180E-04	.0047	3.8158E-04	.0056	4.2392E-04	.0062	.3160	180.000
439	589	68.941	14.081	1.871E-02	.2736	2.2763E-02	.3330	2.5533E-02	.3735	.3540	0
440	578	57.015	11.869	1.554F-02	.2274	1.8859E-02	.2759	2.1110E-02	.3088	.3540	15.000
441	572	42.166	8.750	1.137E-02	.1663	1.3765E-02	.2014	1.5389E-02	.2251	.3540	30.000
442	566	31.097	6.290	8.109E-03	.1186	9.8054E-03	.1434	1.0951E-02	.1602	.3540	45.000
443	548	17.129	2.889	3.539E-03	.0518	4.2594E-03	.0623	4.7618E-03	.0694	.3540	60.000
444	546	6.923	1.284	1.609E-03	.0235	1.9342E-03	.0283	2.1517E-03	.0315	.3540	75.000
445	546	9.610	1.732	2.177E-03	.0318	2.6184E-03	.0383	2.9140E-03	.0426	.3540	90.000
446	543	7.457	1.321	1.654E-03	.0242	1.9884E-03	.0291	2.2118E-03	.0324	.3540	105.000
447	538	.917	.162	2.014E-04	.0029	2.4180E-04	.0035	2.6872E-04	.0039	.3540	120.000
448	539	1.051	.200	2.492E-04	.0036	2.9924E-04	.0044	3.3261E-04	.0049	.3540	135.000
450	538	1.478	.281	3.497F-04	.0051	4.1969E-04	.0061	4.6640E-04	.0068	.3540	165.000
451	538	1.819	.346	4.303F-04	.0063	5.1642E-04	.0076	5.7389E-04	.0084	.3540	180.000
452	592	66.431	13.365	1.783E-02	.2608	2.1713E-02	.3176	2.4370E-02	.3565	.3800	0
454	577	47.651	9.518	1.245F-02	.1821	1.5095E-02	.2208	1.6893E-02	.2471	.3800	30.000
455	570	41.782	7.536	9.863F-03	.1443	1.1964E-02	.1750	1.3391E-02	.1959	.3800	45.000
456	558	18.693	3.081	3.926E-03	.0574	4.7366E-03	.0693	5.2816E-03	.0773	.3800	60.000
457	554	11.706	2.118	2.689E-03	.0393	3.2408E-03	.0474	3.6116E-03	.0528	.3800	75.000
458	545	3.360	.624	7.826E-04	.0114	9.4119E-04	.0138	1.0473E-03	.0153	.3800	90.000
459	546	5.003	.943	1.235E-03	.0181	1.4854E-03	.0217	1.6530E-03	.0242	.3800	105.000
460	544	4.914	.911	1.143E-03	.0167	1.3736E-03	.0201	1.5282E-03	.0224	.3800	120.000
461	542	1.067	.198	2.473E-04	.0036	2.9719E-04	.0043	3.3051E-04	.0048	.3800	135.000
462	542	1.676	.320	3.997E-04	.0058	4.8029E-04	.0070	5.3411E-04	.0078	.3800	150.000
464	542	2.087	.398	4.972E-04	.0073	5.9733E-04	.0087	6.6424E-04	.0097	.3800	180.000

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AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
21	8	00C	8.00	856.4	1343	39.96	10.04	-50.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (R= .009FT)	STFR (R= .009FT)	SWITCH POSITION
97.3	.088	3.930	3867	7.564E-05	7.833E-08	3.73E 06	6.827E-02	2.932E-02	2

TC NO	TW	DTWDT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF		
										FUSELAGE	
										X/L	PHI
106	606	66.516	13.466	1.828E-02	.2677	2.2351E-02	.3274	2.5153E-02	.3684	.4400	0
107	597	63.198	11.188	1.501E-02	.2199	1.8312E-02	.2682	2.0573E-02	.3013	.4400	30.000
108	566	23.617	4.442	5.721E-03	.0838	6.9168E-03	.1013	7.7243E-03	.1131	.4400	60.000
109	549	4.259	.792	9.969E-04	.0146	1.1997E-03	.0176	1.3356E-03	.0196	.4400	90.000
110	544	.507	.094	1.177E-04	.0017	1.4150E-04	.0021	1.5741E-04	.0023	.4400	120.000
111	545	3.415	.634	7.941E-04	.0116	9.5477E-04	.0140	1.0622E-03	.0156	.4400	150.000
112	544	1.976	.366	4.588E-04	.0067	5.5146E-04	.0081	6.1343E-04	.0090	.4400	180.000
113	631	83.568	17.388	2.442E-02	.3577	3.0095E-02	.4408	3.4052E-02	.4988	.4880	0
114	581	43.468	7.857	1.032E-02	.1512	1.2532E-02	.1836	1.4035E-02	.2056	.4880	37.300
115	566	22.031	3.951	5.087E-03	.0745	6.1511E-03	.0901	6.8691E-03	.1006	.4880	60.000
116	551	4.667	.843	1.065E-03	.0156	1.2827E-03	.0188	1.4286E-03	.0209	.4880	90.000
117	545	.644	.119	1.496E-04	.0022	1.7982E-04	.0026	2.0005E-04	.0029	.4880	120.000
118	544	2.001	.371	4.645E-04	.0068	5.5835E-04	.0082	6.2109E-04	.0091	.4880	150.000
119	543	1.788	.331	4.147E-04	.0061	4.9836E-04	.0073	5.5431E-04	.0081	.4880	180.000
120	589	54.205	11.068	1.468E-02	.2150	1.7859E-02	.2616	2.0029E-02	.2934	.5200	0
121	615	66.462	13.737	1.888E-02	.2766	2.3156E-02	.3392	2.6111E-02	.3825	.5500	0
122	624	68.035	14.116	1.964E-02	.2877	2.4152E-02	.3538	2.7287E-02	.3997	.5500	30.000
195	620	57.245	12.149	1.681E-02	.2463	2.0652E-02	.3025	2.3313E-02	.3415	.5500	43.000
123	578	24.223	4.370	5.719E-03	.0838	6.9382E-03	.1016	7.7658E-03	.1138	.5500	60.000
125	568	18.598	3.492	4.507E-03	.0660	5.4516E-03	.0799	6.0898E-03	.0892	.5500	75.000
126	562	12.618	2.362	3.024E-03	.0443	3.6515E-03	.0535	4.0745E-03	.0597	.5500	82.500
127	551	7.128	1.326	1.675E-03	.0245	2.0168E-03	.0295	2.2461E-03	.0329	.5500	90.000
129	545	.866	.161	2.015E-04	.0030	2.4234E-04	.0035	2.6964E-04	.0039	.5500	120.000
130	542	1.170	.217	2.709E-04	.0040	3.2549E-04	.0048	3.6198E-04	.0053	.5500	150.000
131	543	1.488	.276	3.447E-04	.0050	4.1417E-04	.0061	4.6061E-04	.0067	.5500	180.000
132	619	64.647	14.258	1.969E-02	.2884	2.4172E-02	.3541	2.7277E-02	.3995	.5860	0
134	590	30.612	3.280	4.356E-03	.0638	5.3016E-03	.0777	5.9468E-03	.0871	.6250	60.000
136	573	19.238	3.621	4.701E-03	.0689	5.6935E-03	.0834	6.3656E-03	.0932	.6250	75.000
138	557	8.889	1.660	2.114E-03	.0310	2.5501E-03	.0374	2.8434E-03	.0416	.6250	90.000
140	545	1.186	.220	2.758E-04	.0040	3.3155E-04	.0049	3.6886E-04	.0054	.6250	120.000
141	542	1.834	.340	4.244E-04	.0062	5.0996E-04	.0075	5.6709E-04	.0083	.6250	150.000
142	541	.670	.124	1.547E-04	.0023	1.8577E-04	.0027	2.0653E-04	.0030	.6250	180.000
143	648	77.177	12.151	1.749E-02	.2562	2.1678E-02	.3175	2.4627E-02	.3607	.6600	0
144	639	74.231	11.432	1.624E-02	.2378	2.0062E-02	.2939	2.2742E-02	.3331	.7000	0
145	669	83.239	10.810	1.604E-02	.2350	2.0038E-02	.2935	2.2886E-02	.3352	.7000	30.000
146	571	5.940	1.038	1.345E-03	.0197	1.6281E-03	.0238	1.8197E-03	.0267	.7000	60.000
148	572	14.783	2.782	3.610E-03	.0529	4.3719E-03	.0640	4.8876E-03	.0716	.7000	75.000
149	568	13.267	2.491	3.213E-03	.0471	3.8860E-03	.0569	4.3407E-03	.0636	.7000	82.500
150	562	10.628	1.990	2.548E-03	.0373	3.0777E-03	.0451	3.4344E-03	.0503	.7000	90.000
152	548	1.852	.344	4.328E-04	.0063	5.2079E-04	.0076	5.7969E-04	.0085	.7000	120.000
153	543	1.337	.248	3.097E-04	.0045	3.7211E-04	.0055	4.1384E-04	.0061	.7000	150.000
154	542	1.015	.183	2.280E-04	.0033	2.7392E-04	.0040	3.0461E-04	.0045	.7000	180.000
155	640	74.210	12.282	1.748E-02	.2560	2.1605E-02	.3165	2.4498E-02	.3588	.7340	0
156	630	66.012	11.257	1.581E-02	.2315	1.9478E-02	.2853	2.2037E-02	.3228	.7700	0
[illegible]	636	67.187	11.486	1.626E-02	.2382	2.0080E-02	.2941	2.2750E-02	.3332	.7700	30.000
[illegible]	569	3.942	.708	9.153E-04	.0134	1.1076E-03	.0162	1.2376E-03	.0181	.7700	60.000
159	560	7.321	1.329	1.698E-03	.0249	2.0499E-03	.0300	2.2866E-03	.0335	.7700	90.000
160	548	2.065	.372	4.684E-04	.0069	5.6351E-04	.0083	6.2722E-04	.0092	.7700	120.000
161	544	.768	.138	1.731E-04	.0025	2.0814E-04	.0030	2.3155E-04	.0034	.7700	150.000
162	543	.990	.178	2.225E-04	.0033	2.6741E-04	.0039	2.9740E-04	.0044	.7700	180.000
163	639	63.277	11.190	1.590E-02	.2329	1.9653E-02	.2879	2.2279E-02	.3263	.8000	0
164	631	57.089	10.551	1.484E-02	.2173	1.8288E-02	.2679	2.0696E-02	.3032	.8300	0
165	631	51.075	7.754	1.090E-02	.1596	1.3432E-02	.1967	1.5199E-02	.2226	.8300	30.000
166	617	48.852	9.387	1.293E-02	.1895	1.5870E-02	.2325	1.7902E-02	.2622	.8620	0
167	609	43.987	8.918	1.215E-02	.1780	1.4878E-02	.2179	1.6754E-02	.2454	.8950	0
168	615	43.511	9.211	1.265E-02	.1853	1.5510E-02	.2272	1.7487E-02	.2561	.8950	30.000
169	564	.813	.139	1.784E-04	.0026	2.1553E-04	.0032	2.4059E-04	.0035	.8950	60.000
170	555	4.817	.898	1.141E-03	.0167	1.3753E-03	.0201	1.5328E-03	.0225	.8950	90.000
171	550	1.936	.360	4.542E-04	.0067	5.4685E-04	.0080	6.0893E-04	.0089	.8950	120.000
172	547	1.076	.200	2.509E-04	.0037	3.0182E-04	.0044	3.3590E-04	.0049	.8950	150.000
173	608	45.067	8.626	1.175E-02	.1721	1.4376E-02	.2106	1.6186E-02	.2371	.9280	0
174	608	42.512	7.896	1.074E-02	.1574	1.3145E-02	.1925	1.4799E-02	.2168	.9600	0
										UPPER CANARD SURFACE	
										X/C	Y/S
350	605	77.972	7.669	1.039E-02	.1522	1.2700E-02	.1860	1.4289E-02	.2093	0	.250
351	550	23.595	2.260	2.852E-03	.0418	3.4334E-03	.0503	3.8234E-03	.0560	.2500	.250
352	542	5.752	.990	1.237E-03	.0181	1.4864E-03	.0218	1.6530E-03	.0242	.5000	.250
353	539	2.564	.441	5.480E-04	.0080	6.5782E-04	.0096	7.3108E-04	.0107	.7000	.250
357	611	80.255	7.916	1.082E-02	.1584	1.3246E-02	.1940	1.4922E-02	.2186	0	.500
358	552	28.536	2.735	3.459E-03	.0507	4.1659E-03	.0610	4.6404E-03	.0680	.2500	.500
359	543	8.149	1.257	1.573E-03	.0230	1.8904E-03	.0277	2.1026E-03	.0308	.5000	.500
360	539	4.444	.764	9.501E-04	.0139	1.1405E-03	.0167	1.2676E-03	.0186	.7000	.500
										LOWER CANARD SURFACE	
										X/C	Y/S
354	548	19.063	1.824	2.296E-03	.0336	2.7625E-03	.0405	3.0753E-03	.0450	.2500	.250
355	544	5.985	1.340	1.677E-03	.0246	2.0162E-03	.0295	2.2427E-03	.0329	.5000	.250
356	540	3.561	.645	8.043E-04	.0118	9.6589E-04	.0141	1.0738E-03	.0157	.7000	.250
361	549	24.162	2.313	2.914E-03	.0427	3.5079E-03	.0514	3.9057E-03	.0572	.2500	.500
362	542	8.708	1.186	1.482E-03	.0217	1.7814E-03	.0261	1.9811E-03	.0290	.5000	.500
363	537	4.125	.728	9.039E-04	.0132	1.0847E-03	.0159	1.2052E-03	.0177	.7000	.500
										VERTICAL STABILIZER	
										X/C	Z/S
175	561	10.610	1.022	1.307E-03	.0191	1.5777E-03	.0231	1.7602E-03	.0258	0	.100
176	545	3.345	.319	4.007E-04	.0059	4.8188E-04	.0071	5.3616E-04	.0079	.1000	.100
177	542	2.125	.203	2.531E-04	.0037	3.0411E-04	.0045	3.3818E-04	.0050	.2500	.100
178	538	.841	.080	9.944E-05	.0015	1.1936E-04	.0017	1.3265E-04	.0019	.5000	.100
179	535	1.141	.108	1.341E-04	.0020	1.6086E-04	.0024	1.7867E-04	.0026	.7500	.100
180	555	11.285	1.083	1.376E-03	.0202	1.6584E-03	.0243	1.8483E-03	.0271	0	.250
181	541	4.368	.416	5.196E-04	.0076	6.2426E-04	.0091	6.9414E-04	.0102	.1000	.250
182	539	2.411	.229	2.855E-04	.0042	3.4269E-04	.0050	3.8087E-04	.0056	.2500	.250
183	536	.956	.091	1.126E-04	.0016	1.3503E-04	.0020	1.5000E-04	.0022	.5000	.250
184	534	.684	.065	8.024E-05	.0012	9.6208E-05	.0014	1.0684E-04	.0016	.7500	.250
185	554	12.921	1.240	1.572E-03	.0230	1.8949E-03	.0278	2.1115E-03	.0309	0	.500
186	540	5.807	.553	6.886E-04	.0101	8.2686E-04	.0121	9.1914E-04	.0135	.1000	.500
187	537	3.001	.285	3.544E-04	.0052	4.2528E-04	.0062	4.7254E-04	.0069	.2500	.500
188	537	1.456	.138	1.717E-04	.0025	2.0600E-04	.0030	2.2888E-04	.0034	.5000	.500
189	535	1.768	.168	2.078E-04	.0030	2.4923E-04	.0037	2.7681E-04	.0041	.7500	.500
190	552	15.252	1.462	1.851E-03	.0271	2.2294E-03	.0327	2.4836E-03	.0364	0	.750
191	543	11.594	1.106	1.382E-03	.0202	1.6609E-03	.0243	1.8471E-03	.0271	.1000	.750
192	539	8.399	.800	9.957E-04	.0146	1.1955E-03	.0175	1.3289E-03	.0195	.2500	.750
193	537	5.953	.566	7.030E-04	.0103	8.4368E-04	.0124	9.3747E-04	.0137	.5000	.750
194	535	3.839	.365	4.517E-04	.0066	5.4183E-04	.0079	6.0186E-04	.0088	.7500	.750

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AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
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50 INCH HYPERSONIC TUNNEL B
VT1102

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
21	B	GDC	8.00	855.8	1342	39.96	10.04	-50.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	MREF-FR (M= .009FT)	SIFR (M= .009FT)	SWITCH POSITION
97.3	.088	3.927	.866	7.961E-05	7.831E-08	3.73E 06	0.824E-02	2.933E-02	3

TC NO	TW	DTWDT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	UPPER WING SURFACE A/C	UPPER WING SURFACE Y/S
201	558	7.305	.867	1.106E-03	.0162	1.3343E-03	.0196	1.4879E-03	.0218		
202	559	2.868	.410	5.231E-04	.0077	6.3120E-04	.0092	7.0395E-04	.0103	.1000	.100
203	570	1.238	.262	3.392E-04	.0050	4.1059E-04	.0060	4.5869E-04	.0067	.2000	.100
204	567	1.057	.333	4.299E-04	.0063	5.1907E-04	.0076	5.8081E-04	.0085	.3300	.100
205	564	1.681	.306	3.928E-04	.0058	4.7469E-04	.0070	5.2990E-04	.0078	.4000	.100
206	566	1.570	.274	3.529E-04	.0052	4.2069E-04	.0063	4.7653E-04	.0070	.6000	.100
207	565	4.609	.445	5.727E-04	.0084	6.9232E-04	.0101	7.7306E-04	.0113	.7000	.100
231	553	2.067	.246	3.115E-04	.0046	3.7542E-04	.0055	4.1830E-04	.0061	.9100	.100
232	565	.936	.186	2.386E-04	.0035	2.8857E-04	.0042	3.2217E-04	.0047	.1000	.250
233	563	1.493	.288	3.697E-04	.0054	4.4672E-04	.0065	4.9863E-04	.0073	.4000	.250
234	566	1.325	.248	3.200E-04	.0047	3.8684E-04	.0057	4.3198E-04	.0063	.5000	.250
235	568	1.092	.081	1.043E-04	.0015	1.2617E-04	.0018	1.4094E-04	.0021	.6000	.250
236	566	1.484	.120	1.551E-04	.0023	1.8750E-04	.0027	2.0939E-04	.0031	.8330	.250
237	565	1.934	.160	2.059E-04	.0030	2.4894E-04	.0036	2.7795E-04	.0041	.8670	.250
238	564	3.950	.309	3.973E-04	.0058	4.8013E-04	.0070	5.3600E-04	.0079	.9010	.250
278	558	1.657	.220	2.807E-04	.0041	3.3862E-04	.0050	3.7758E-04	.0055	.9350	.250
280	565	.884	.179	2.256E-04	.0033	2.7271E-04	.0040	3.0446E-04	.0045	.1000	.500
281	569	1.106	.213	2.767E-04	.0040	3.3199E-04	.0049	3.7067E-04	.0054	.4000	.500
282	566	.992	.192	2.467E-04	.0036	2.9829E-04	.0044	3.3310E-04	.0049	.5000	.500
283	563	2.267	.219	2.806E-04	.0041	3.3898E-04	.0050	3.7837E-04	.0055	.6000	.500
297	560	2.585	.345	4.416E-04	.0065	5.3309E-04	.0078	5.9460E-04	.0087	.8770	.500
299	563	.727	.167	2.141E-04	.0031	2.5860E-04	.0038	2.8861E-04	.0042	.1000	.600
300	564	1.459	.261	3.358E-04	.0049	4.0575E-04	.0059	4.5295E-04	.0066	.4000	.600
301	563	3.367	.325	4.163E-04	.0061	5.0296E-04	.0074	5.6134E-04	.0082	.6000	.600
302	561	4.870	.469	6.008E-04	.0088	7.2556E-04	.0106	8.0960E-04	.0119	.7930	.600
										.8510	.600

TC NO	TW	DTWDT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	LOWER WING SURFACE A/C	LOWER WING SURFACE Y/S
200	591	46.839	7.403	9.852E-03	.1444	1.1994E-02	.1758	1.3458E-02	.1972	0	.100
208	664	110.966	19.820	2.923E-02	.4283	3.6440E-02	.5340	4.1569E-02	.6091	.1000	.100
209	688	114.717	20.670	3.160E-02	.4630	3.9752E-02	.5829	4.5644E-02	.6688	.2000	.100
210	647	67.447	11.580	1.666E-02	.2441	2.0642E-02	.3025	2.3447E-02	.3436	.3300	.100
211	632	61.767	11.101	1.563E-02	.2290	1.9265E-02	.2823	2.1805E-02	.3195	.4000	.150
212	620	50.648	9.846	1.379E-02	.2020	1.6977E-02	.2488	1.9199E-02	.2813	.6000	.150
213	623	46.091	9.556	1.329E-02	.1948	1.6362E-02	.2395	1.8460E-02	.2705	.7000	.100
214	654	64.442	6.472	9.401E-03	.1370	1.1677E-02	.1711	1.3286E-02	.1947	.9100	.100
215	609	54.472	7.978	1.089E-02	.1595	1.3328E-02	.1953	1.5011E-02	.2200	0	.150
217	609	66.586	8.438	1.151E-02	.1687	1.4091E-02	.2065	1.5869E-02	.2325	.0500	.150
224	726	140.251	19.810	2.219E-02	.4710	4.1096E-02	.6022	4.7743E-02	.6996	0	.200
225	714	134.542	20.355	2.242E-02	.4750	4.1232E-02	.6042	4.7719E-02	.6993	.0500	.200
226	711	118.337	16.639	2.634E-02	.3860	3.3455E-02	.4902	3.8674E-02	.5667	.1000	.200
227	636	61.977	12.359	1.750E-02	.2564	2.1806E-02	.3166	2.4478E-02	.3587	.2000	.200
228	623	51.856	9.990	1.389E-02	.2035	1.7070E-02	.2501	1.9282E-02	.2825	.4000	.200
229	638	52.463	10.173	1.445E-02	.2118	1.7859E-02	.2617	2.0245E-02	.2967	.6000	.200
239	636	86.563	12.329	1.745E-02	.2557	2.1543E-02	.3157	2.4404E-02	.3576	.7000	.200
240	752	160.813	15.832	2.683E-02	.3932	3.4736E-02	.5090	4.0734E-02	.5969	0	.250
241	702	151.746	15.511	2.424E-02	.3552	3.0673E-02	.4495	3.5367E-02	.5182	.0500	.250
242	635	66.799	13.316	1.883E-02	.2759	2.3244E-02	.3406	2.6328E-02	.3858	.1000	.250
243	629	53.768	11.182	1.569E-02	.2299	1.9326E-02	.2832	2.1862E-02	.3204	.4000	.250
244	627	54.334	10.446	1.466E-02	.2148	1.8046E-02	.2644	2.0402E-02	.2990	.5000	.250
245	656	61.638	5.877	8.566E-03	.1255	1.0649E-02	.1560	1.2123E-02	.1777	.6000	.250
246	654	73.241	7.357	1.069E-02	.1567	1.3285E-02	.1947	1.5117E-02	.2215	.8330	.250
247	654	71.920	7.223	1.050E-02	.1538	1.3038E-02	.1911	1.4835E-02	.2174	.8670	.250
248	651	59.283	5.947	8.601E-03	.1260	1.0673E-02	.1564	1.2135E-02	.1778	.9010	.250
249	627	80.300	9.481	1.326E-02	.1942	1.6318E-02	.2391	1.8449E-02	.2704	.9350	.250
253	740	155.913	16.463	2.800E-02	.4103	3.6029E-02	.5280	4.2060E-02	.6163	0	.300
254	723	146.907	15.806	2.551E-02	.3738	3.2566E-02	.4772	3.7792E-02	.5538	.0500	.300
255	688	124.363	15.611	2.385E-02	.3495	3.0005E-02	.4397	3.4448E-02	.5048	.1000	.300
256	705	113.499	13.803	2.167E-02	.3176	2.7462E-02	.4024	3.1694E-02	.4644	.1500	.300
257	639	62.866	11.835	1.683E-02	.2466	2.0802E-02	.3048	2.3583E-02	.3456	.2000	.300
258	635	55.051	10.365	1.462E-02	.2143	1.8045E-02	.2644	2.0438E-02	.2995	.4000	.300
259	611	69.352	7.155	9.791E-03	.1435	1.1995E-02	.1758	1.3515E-02	.1980	.6000	.300
261	716	128.894	15.729	2.511E-02	.3679	3.1958E-02	.4683	3.7003E-02	.5422	0	.350
262	693	128.877	18.159	2.797E-02	.4098	3.5256E-02	.5166	4.0539E-02	.5940	.0500	.350
263	615	64.727	8.222	1.130E-02	.1656	1.3855E-02	.2030	1.5621E-02	.2289	.1000	.350
267	702	118.049	17.786	2.777E-02	.4070	3.5136E-02	.5149	4.0507E-02	.5936	0	.400
268	696	116.632	17.538	2.714E-02	.3977	3.4255E-02	.5020	3.9423E-02	.5777	.0500	.400
269	685	106.495	15.460	2.393E-02	.3449	2.9577E-02	.4334	3.3934E-02	.4973	.1000	.400
270	693	106.104	13.407	2.066E-02	.3027	2.6044E-02	.3816	2.9946E-02	.4388	.1500	.400
271	649	69.434	11.931	1.721E-02	.2522	2.1343E-02	.3128	2.4255E-02	.3554	.2000	.400
272	644	60.432	10.916	1.563E-02	.2290	1.9349E-02	.2835	2.1961E-02	.3218	.4000	.400
273	624	66.427	7.231	1.007E-02	.1476	1.2391E-02	.1816	1.4001E-02	.2052	.6000	.400
276	688	108.269	15.228	2.327E-02	.3410	2.9279E-02	.4291	3.3617E-02	.4926	0	.450
277	620	66.913	6.626	9.173E-03	.1344	1.1266E-02	.1651	1.2717E-02	.1864	.1000	.450
284	711	126.977	16.242	2.658E-02	.3894	3.4056E-02	.4990	3.9633E-02	.5808	0	.500
286	695	117.073	16.505	2.549E-02	.3735	3.2154E-02	.4712	3.6990E-02	.5420	.0500	.500
287	681	106.497	14.718	2.225E-02	.3261	2.7917E-02	.4091	3.1990E-02	.4688	.1500	.500
288	657	72.436	12.193	1.774E-02	.2599	2.2056E-02	.3232	2.5115E-02	.3680	.2000	.500
289	693	66.204	12.078	1.751E-02	.2566	2.1742E-02	.3186	2.4730E-02	.3624	.4000	.500
290	650	60.883	10.467	1.513E-02	.2217	1.8769E-02	.2750	2.1337E-02	.3127	.5000	.500
291	664	70.900	7.150	1.055E-02	.1546	1.3153E-02	.1927	1.5006E-02	.2199	.6000	.500
292	646	79.181	8.291	1.191E-02	.1746	1.4761E-02	.2163	1.6764E-02	.2457	.8770	.500
294	749	129.803	14.769	2.491E-02	.3650	3.2197E-02	.4718	3.7715E-02	.5527	0	.550
295	726	130.298	14.723	2.389E-02	.3500	3.0534E-02	.4474	3.5472E-02	.5198	.0500	.550
296	632	77.671	10.339	1.456E-02	.2133	1.7952E-02	.2631	2.0320E-02	.2978	.1000	.550
303	733	107.883	7.954	1.306E-02	.1914	1.6759E-02	.2456	1.9518E-02	.2860	0	.600
304	658	73.753	6.360	9.302E-03	.1363	1.1973E-02	.1696	1.3183E-02	.1932	.0500	.600
305	687	103.738	11.573	1.767E-02	.2589	2.2221E-02	.3256	2.5507E-02	.3738	.1000	.600
306	658	74.149	12.103	1.768E-02	.2591	2.1996E-02	.3223	2.5052E-02	.3671	.2000	.600
307	665	70.516	11.178	1.651E-02	.2420	2.0600E-02	.3019	2.3507E-02	.3445	.4000	.600
308	654	57.403	9.622	1.399E-02	.2050	1.7381E-02	.2547	1.9780E-02	.2898	.5000	.600
309	664	67.864	6.843	1.009E-02	.1479	1.2502E-02	.1844	1.4354E-02	.2103	.6000	.600
310	661	66.129	6.861	1.007E-02	.1476	1.2546E-02	.1838	1.4301E-02	.2096	.7930	.600
313	730	109.848	9.708	1.584E-02	.2322	2.0289E-02	.2973	2.3599E-02	.3458	.8510	.600
314	706	127.901	12.414	1.950E-02	.2857	2.4709E-02	.3621	2.8518E-02	.4179	.0500	.650
318	717	114.903	13.488	2.158E-02	.3162	2.7477E-02	.4026	3.1829E-02	.4664	.1000	.650
319	710	118.604	15.073	2.386E-02	.3496	3.0294E-02	.4439	3.5017E-02	.5131	.1000	.700
320	658	70.018	11.753	1.718E-02	.2517	2.1373E-02	.3132	2.4344E-02	.3567	.2000	.700
										.9000	.700

GROUP
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2179621

AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
22	8	GUC	8.00	860.3	1343	59.99	-9.99	-50.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (R= .009FT)	STFR (R= .009FT)	SWITCH POSITION
97.3	.088	3.948	3866	7.599E-05	7.833E-08	3.75E 06	6.842E-02	2.925E-02	1

TC NO	TW	DTWCT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	FUSELAGE X/L	FUSELAGE PHI
1	566	60.754	11.399	1.469E-02	.2146	1.7758E-02	.2595	1.9832E-02	.2898	0	0
2	582	86.645	16.384	2.155E-02	.3149	2.6169E-02	.3825	2.9312E-02	.4284	.0137	0
3	542	3.519	.652	8.137E-04	.0119	9.7754E-04	.0143	1.0870E-03	.0159	.0137	180.000
4	588	73.738	13.940	1.852E-02	.2706	2.2524E-02	.3292	2.5256E-02	.3691	.0274	0
5	573	66.144	12.453	1.619E-02	.2366	1.9611E-02	.2866	2.1929E-02	.3205	.0274	30.000
6	563	37.699	7.059	9.050E-03	.1323	1.0932E-02	.1598	1.2200E-02	.1783	.0274	60.000
7	548	16.304	3.029	3.811E-03	.0557	4.5853E-03	.0670	5.1039E-03	.0746	.0274	90.000
8	541	4.092	.760	9.727E-04	.0142	1.1684E-03	.0171	1.2991E-03	.0190	.0274	120.000
9	540	1.507	.287	3.577E-04	.0052	4.2953E-04	.0063	4.7750E-04	.0070	.0274	150.000
10	542	6.284	1.198	1.497E-03	.0219	1.7990E-03	.0263	2.0006E-03	.0292	.0274	180.000
12	589	68.832	13.056	1.732E-02	.2531	2.1071E-02	.3079	2.3631E-02	.3454	.0543	0
13	579	59.710	11.276	1.478E-02	.2159	1.7930E-02	.2620	2.0072E-02	.2934	.0543	30.000
14	561	35.258	6.598	8.447E-03	.1234	1.0200E-02	.1491	1.1381E-02	.1663	.0543	60.000
15	548	12.780	2.375	2.989E-03	.0437	3.5966E-03	.0526	4.0037E-03	.0585	.0543	90.000
16	542	2.902	.538	6.711E-04	.0098	8.0626E-04	.0118	8.9654E-04	.0131	.0543	120.000
17	540	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18	544	6.117	1.134	1.419E-03	.0207	1.7060E-03	.0249	1.8976E-03	.0277	.0543	180.000
20	588	61.535	11.668	1.546E-02	.2260	1.8807E-02	.2749	2.1089E-02	.3082	.0790	0
23	588	57.055	10.819	1.434E-02	.2095	1.7441E-02	.2549	1.9557E-02	.2858	.1030	0
24	587	55.853	10.588	1.402E-02	.2049	1.7052E-02	.2492	1.9119E-02	.2794	.1030	15.000
25	581	46.222	8.735	1.147E-02	.1676	1.3923E-02	.2035	1.5591E-02	.2279	.1030	30.000
26	568	37.739	7.086	9.150E-03	.1337	1.1068E-02	.1618	1.2364E-02	.1807	.1030	45.000
27	559	26.502	4.955	6.327E-03	.0925	7.6365E-03	.1116	8.5177E-03	.1245	.1030	60.000
28	554	17.493	3.260	4.132E-03	.0604	4.9789E-03	.0728	5.5476E-03	.0811	.1030	75.000
29	548	8.586	1.596	2.010E-03	.0294	2.4189E-03	.0354	2.6929E-03	.0394	.1030	90.000
31	542	1.684	.312	3.899E-04	.0057	4.6852E-04	.0068	5.2103E-04	.0076	.1030	120.000
33	541	.472	.087	1.090E-04	.0016	1.3097E-04	.0019	1.4562E-04	.0021	.1030	150.000
35	544	4.939	.916	1.146E-03	.0168	1.3777E-03	.0201	1.5325E-03	.0224	.1030	180.000
38	594	50.844	9.668	1.291E-02	.1887	1.5735E-02	.2300	1.7665E-02	.2582	.1430	0
41	604	63.989	14.023	1.899E-02	.2775	2.3207E-02	.3392	2.6107E-02	.3816	.1690	0
42	591	41.686	8.731	1.162E-02	.1698	1.4146E-02	.2067	1.5873E-02	.2320	.1690	15.000
43	587	39.872	8.000	1.058E-02	.1547	1.2870E-02	.1881	1.4428E-02	.2109	.1690	30.000
44	576	30.100	6.110	7.975E-03	.1165	9.6693E-03	.1413	1.0819E-02	.1581	.1690	45.000
45	567	18.333	3.542	4.565E-03	.0667	5.5209E-03	.0807	6.1662E-03	.0901	.1690	60.000
46	559	11.058	2.127	2.714E-03	.0397	3.2750E-03	.0479	3.6525E-03	.0534	.1690	75.000
47	554	5.693	1.092	1.384E-03	.0202	1.6684E-03	.0244	1.8590E-03	.0272	.1690	90.000
49	550	.767	.147	1.852E-04	.0027	2.2300E-04	.0033	2.4830E-04	.0036	.1690	120.000
51	549	.387	.076	9.606E-05	.0014	1.1561E-04	.0017	1.2870E-04	.0019	.1690	150.000
53	549	2.443	.454	5.725E-04	.0084	6.8914E-04	.0101	7.6728E-04	.0112	.1690	180.000
400	596	52.024	9.900	1.325E-02	.1937	1.6157E-02	.2361	1.8145E-02	.2652	.2420	0
401	586	43.810	8.301	1.098E-02	.1604	1.3346E-02	.1951	1.4961E-02	.2187	.2420	15.000
402	583	41.963	8.172	1.076E-02	.1572	1.3069E-02	.1910	1.4641E-02	.2140	.2420	30.000
403	575	29.031	5.791	7.540E-03	.1102	9.1369E-03	.1335	1.0219E-02	.1494	.2420	45.000
404	565	18.490	3.731	4.795E-03	.0701	5.7956E-03	.0847	6.4703E-03	.0946	.2420	60.000
405	558	14.563	2.537	3.235E-03	.0473	3.9030E-03	.0570	4.3525E-03	.0636	.2420	75.000
406	551	8.299	1.549	1.957E-03	.0286	2.3563E-03	.0344	2.6243E-03	.0384	.2420	90.000
408	546	.735	.147	1.843E-04	.0027	2.2159E-04	.0032	2.4657E-04	.0036	.2420	120.000
410	544	.663	.132	1.659E-04	.0024	1.9947E-04	.0029	2.2190E-04	.0032	.2420	150.000
412	544	3.120	.612	7.666E-04	.0112	9.2148E-04	.0135	1.0250E-03	.0150	.2420	180.000
413	590	48.204	9.686	1.287E-02	.1880	1.5660E-02	.2289	1.7566E-02	.2567	.2830	0
414	581	42.011	8.545	1.122E-02	.1639	1.3616E-02	.1990	1.5247E-02	.2228	.2830	15.000
415	586	49.648	10.123	1.337E-02	.1955	1.6259E-02	.2376	1.8223E-02	.2663	.2830	30.000
416	572	27.432	5.556	7.211E-03	.1054	8.7328E-03	.1276	9.7629E-03	.1427	.2830	45.000
417	573	38.881	6.802	8.837E-03	.1291	1.0704E-02	.1564	1.1968E-02	.1749	.2830	60.000
418	550	12.577	2.581	3.259E-03	.0476	3.9237E-03	.0573	4.3696E-03	.0639	.2830	75.000
419	546	5.740	1.069	1.341E-03	.0196	1.6130E-03	.0236	1.7948E-03	.0262	.2830	90.000
420	546	4.796	.827	1.038E-03	.0152	1.2485E-03	.0182	1.3893E-03	.0203	.2830	105.000
421	541	.971	.164	2.045E-04	.0030	2.4568E-04	.0036	2.7316E-04	.0040	.2830	120.000
422	540	.532	.098	1.226E-04	.0018	1.4721E-04	.0022	1.6365E-04	.0024	.2830	135.000
423	540	1.209	.247	3.075E-04	.0045	3.6922E-04	.0054	4.1043E-04	.0060	.2830	150.000
425	539	1.886	.369	4.597E-04	.0067	5.5201E-04	.0081	6.1357E-04	.0090	.2830	180.000
426	602	61.872	12.507	1.690E-02	.2470	2.0643E-02	.3017	2.3215E-02	.3393	.3160	0
427	587	39.727	6.128	1.076E-02	.1573	1.3086E-02	.1912	1.4671E-02	.2144	.3160	15.000
428	577	32.267	6.570	8.584E-03	.1255	1.0410E-02	.1521	1.1649E-02	.1702	.3160	30.000
429	580	39.575	8.068	1.058E-02	.1546	1.2836E-02	.1876	1.4371E-02	.2100	.3160	45.000
430	581	45.267	8.805	1.156E-02	.1689	1.4028E-02	.2050	1.5708E-02	.2296	.3160	60.000
431	544	6.668	1.309	1.640E-03	.0240	1.9721E-03	.0288	2.1939E-03	.0321	.3160	75.000
432	547	7.327	1.265	1.589E-03	.0232	1.9119E-03	.0279	2.1279E-03	.0311	.3160	90.000
433	552	12.823	2.528	3.196E-03	.0467	3.8497E-03	.0563	4.2881E-03	.0627	.3160	105.000
434	540	1.114	.179	2.229E-04	.0033	2.6772E-04	.0039	2.9763E-04	.0043	.3160	120.000
435	538	1.043	.198	2.466E-04	.0036	2.9603E-04	.0043	3.2897E-04	.0048	.3160	135.000
436	536	2.285	.454	5.631E-04	.0082	6.7559E-04	.0099	7.5053E-04	.0110	.3160	150.000
437	536	1.344	.263	3.257E-04	.0048	3.9069E-04	.0057	4.3400E-04	.0063	.3160	165.000
438	536	1.888	.375	4.650E-04	.0068	5.5783E-04	.0082	6.1968E-04	.0091	.3160	180.000
439	608	71.994	14.830	2.018E-02	.2949	2.4689E-02	.3608	2.7795E-02	.4062	.3540	0
440	589	43.079	9.014	1.196E-02	.1749	1.4559E-02	.2128	1.6329E-02	.2386	.3540	15.000
441	581	33.032	6.885	9.039E-03	.1321	1.0973E-02	.1604	1.2287E-02	.1796	.3540	30.000
442	576	28.876	5.877	7.669E-03	.1121	9.2987E-03	.1359	1.0404E-02	.1520	.3540	45.000
443	558	15.669	2.582	3.289E-03	.0481	3.9677E-03	.0580	4.4240E-03	.0647	.3540	60.000
444	554	11.340	2.114	2.680E-03	.0392	3.2291E-03	.0472	3.5980E-03	.0526	.3540	75.000
445	547	4.676	.843	1.060E-03	.0155	1.2753E-03	.0186	1.4195E-03	.0207	.3540	90.000
446	546	4.173	.740	9.291E-04	.0136	1.1174E-03	.0163	1.2434E-03	.0182	.3540	105.000
447	542	1.393	.247	3.081E-04	.0045	3.7010E-04	.0054	4.1155E-04	.0060	.3540	120.000
448	534	.852	.162	1.999E-04	.0029	2.3971E-04	.0035	2.6619E-04	.0039	.3540	135.000
450	528	1.613	.305	3.751E-04	.0055	4.4918E-04	.0066	4.9839E-04	.0073	.3540	165.000
451	533	2.221	.421	5.203E-04	.0076	6.2365E-04	.0091	6.9246E-04	.0101	.3540	180.000
452	612	70.407	14.294	1.957E-02	.2860	2.3977E-02	.3504	2.7019E-02	.3949	.3800	0
454	588	36.182	7.266	9.634E-03	.1408	1.1721E-02	.1713	1.3144E-02	.1921	.3800	30.000
455	588	34.153	6.191	8.209E-03	.1200	9.9864E-03	.1459	1.1199E-02	.1637	.3800	45.000
456	569	19.957	3.308	4.274E-03	.0625	5.1717E-03	.0756	5.7782E-03	.0844	.3800	60.000
457	567	16.895	3.078	3.968E-03	.0580	4.7990E-03	.0701	5.3601E-03	.0783	.3800	75.000
458	552	5.698	1.061	1.342E-03	.0196	1.6167E-03	.0236	1.8009E-03	.0263	.3800	90.000
459	548	1.866	.367	4.622E-04	.0068	5.5620E-04	.0081	6.1916E-04	.0090	.3800	105.000
460	545	.749	.139	1.744E-04	.0025	2.0969E-04	.0031	2.3331E-04	.0034	.3800	120.000
461	544	1.288	.239	2.988E-04	.0044	3.5921E-04	.0052	3.9956E-04	.0058	.3800	135.000
462	542	1.930	.368	4.598E-04	.0067	5.5252E-04	.0081	6.1444E-04	.0090	.3800	150.000
464	542	1.942	.370	4.626E-04	.0068	5.5885E-04	.0081	6.1813E-04	.0090	.3800	180.000

GROUP
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AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
22	8	GDC	8.00	855.0	1342	59.97	-9.97	-50.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (R= .009FT)	STFR (H= .009FT)	SWITCH POSITION
97.3	.080	3.926	3866	7.558E-05	7.832E-08	3.736E 06	6.824E-02	2.933E-02	2

TC NO	TW	DTWDT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	X/L	PHI
										FUSELAGE	
106	621	69.165	14.098	1.954E-02	.2864	2.4012E-02	.3519	2.7112E-02	.3973	.4400	0
107	602	46.230	8.203	1.108E-02	.1624	1.3941E-02	.1984	1.5220E-02	.2232	.4400	30.000
108	579	24.080	4.546	5.956E-03	.0873	7.2265E-03	.1059	8.0896E-03	.1186	.4400	60.000
109	560	8.101	1.519	1.935E-03	.0284	2.3359E-03	.0342	2.6056E-03	.0382	.4400	90.000
110	552	1.020	.190	2.405E-04	.0035	2.8967E-04	.0042	3.2268E-04	.0047	.4400	120.000
111	550	.616	.115	1.447E-04	.0021	1.7425E-04	.0026	1.9405E-04	.0028	.4400	150.000
112	550	1.534	.285	3.602E-04	.0053	4.3366E-04	.0064	4.8291E-04	.0071	.4400	180.000
113	638	77.963	16.274	2.311E-02	.3387	2.8559E-02	.4185	3.2372E-02	.4744	.4880	0
114	585	33.649	6.991	8.044E-03	.1179	9.7779E-03	.1433	1.0959E-02	.1606	.4880	37.300
115	576	15.255	2.749	3.589E-03	.0526	4.3514E-03	.0638	4.8686E-03	.0713	.4880	60.000
116	563	8.662	1.574	2.018E-03	.0296	2.4379E-03	.0357	2.7208E-03	.0399	.4880	90.000
117	553	1.215	.220	2.868E-04	.0042	3.4558E-04	.0051	3.8503E-04	.0056	.4880	120.000
118	551	1.476	.275	3.471E-04	.0051	4.1797E-04	.0061	4.6551E-04	.0068	.4880	150.000
119	550	1.485	.276	3.488E-04	.0051	4.1989E-04	.0062	4.6757E-04	.0069	.4880	180.000
120	619	71.746	14.856	2.054E-02	.3011	2.5226E-02	.3697	2.8471E-02	.4172	.9200	0
121	629	63.804	13.244	1.858E-02	.2723	2.2885E-02	.3354	2.5883E-02	.3793	.5500	0
122	631	62.967	13.106	1.843E-02	.2701	2.2722E-02	.3330	2.5714E-02	.3768	.5500	30.000
123	589	23.569	4.274	5.674E-03	.0832	6.9049E-03	.1012	7.7448E-03	.1135	.5500	43.000
124	542	20.245	3.828	5.032E-03	.0737	6.1111E-03	.0896	6.8446E-03	.1003	.5500	60.000
125	575	14.042	2.645	3.445E-03	.0505	4.1742E-03	.0612	4.6688E-03	.0684	.5500	75.000
126	562	8.296	1.553	1.991E-03	.0292	2.4049E-03	.0352	2.6839E-03	.0393	.5500	82.500
127	555	1.269	.233	2.999E-04	.0043	3.5676E-04	.0052	3.9762E-04	.0058	.5500	90.000
129	551	1.107	.206	2.604E-04	.0038	3.1366E-04	.0046	3.4936E-04	.0051	.5500	120.000
130	550	.970	.180	2.276E-04	.0033	2.7395E-04	.0040	3.0505E-04	.0045	.5500	150.000
131	550	1.206	.224	2.832E-04	.0041	3.4092E-04	.0050	3.7964E-04	.0056	.5500	180.000
132	632	61.639	13.073	1.924E-02	.2820	2.3722E-02	.3476	2.6848E-02	.3935	.5860	0
134	589	13.685	1.466	1.945E-03	.0285	2.3669E-03	.0347	2.6566E-03	.0389	.6250	60.000
136	588	29.002	5.501	7.295E-03	.1069	8.8753E-03	.1301	9.9533E-03	.1459	.6250	75.000
138	571	11.651	2.191	2.841E-03	.0416	3.4392E-03	.0504	3.8442E-03	.0563	.6250	90.000
140	557	1.873	.350	4.450E-04	.0065	5.3603E-04	.0079	5.9824E-04	.0088	.6250	120.000
141	551	.874	.163	2.056E-04	.0030	2.4761E-04	.0036	2.7578E-04	.0040	.6250	150.000
142	550	1.206	.224	2.832E-04	.0041	3.4092E-04	.0050	3.7964E-04	.0056	.6250	180.000
143	664	70.390	11.153	1.644E-02	.2409	2.0496E-02	.3003	2.3377E-02	.3426	.6600	0
144	655	64.857	10.055	1.482E-02	.2144	1.8178E-02	.2664	2.0089E-02	.3032	.7000	0
145	685	71.814	9.381	1.427E-02	.2091	1.7926E-02	.2627	2.0564E-02	.3014	.7000	30.000
146	578	2.042	.358	4.682E-04	.0069	5.6795E-04	.0083	6.3563E-04	.0093	.7000	60.000
148	576	8.696	1.639	2.139E-03	.0313	2.5926E-03	.0380	2.9005E-03	.0425	.7000	75.000
149	580	17.678	3.339	4.379E-03	.0642	5.3151E-03	.0779	5.9509E-03	.0872	.7000	82.500
150	576	15.008	2.830	3.693E-03	.0541	4.4779E-03	.0656	5.0101E-03	.0734	.7000	90.000
152	560	3.778	.707	9.034E-04	.0132	1.0906E-03	.0160	1.2167E-03	.0178	.7000	120.000
153	553	1.192	.222	2.812E-04	.0041	3.3874E-04	.0050	3.7738E-04	.0055	.7000	150.000
154	551	1.514	.273	3.454E-04	.0051	4.1589E-04	.0061	4.6318E-04	.0068	.7000	180.000
155	660	63.614	10.613	1.555E-02	.2279	1.9359E-02	.2837	2.2060E-02	.3233	.7340	0
156	652	59.268	9.680	1.402E-02	.2054	1.7400E-02	.2550	1.9788E-02	.2900	.7700	0
157	659	60.687	10.470	1.532E-02	.2245	1.9069E-02	.2795	2.1725E-02	.3184	.7700	30.000
159	577	1.068	.193	2.514E-04	.0037	3.0486E-04	.0045	3.4110E-04	.0050	.7700	60.000
160	559	3.758	.682	8.700E-04	.0127	1.0499E-03	.0154	1.1709E-03	.0172	.7700	90.000
161	554	.858	.155	1.969E-04	.0029	2.3730E-04	.0035	2.6442E-04	.0039	.7700	120.000
162	592	1.323	.239	3.023E-04	.0044	3.6416E-04	.0053	4.0561E-04	.0059	.7700	150.000
163	660	58.501	9.897	1.450F-02	.2125	1.8050E-02	.2645	2.0568E-02	.3014	.7700	180.000
164	655	51.939	9.693	1.411E-02	.2067	1.7533E-02	.2569	1.9956E-02	.2925	.8000	0
165	656	44.869	6.880	1.002E-02	.1468	1.2454E-02	.1825	1.4177E-02	.2078	.8300	0
166	646	49.968	9.726	1.397E-02	.2047	1.7302E-02	.2536	1.9649E-02	.2879	.8300	30.000
167	640	46.174	9.488	1.351E-02	.1980	1.6709E-02	.2449	1.8949E-02	.2777	.8620	0
168	645	44.399	9.523	1.366E-02	.2002	1.6917E-02	.2479	1.9207E-02	.2815	.8950	0
169	574	2.667	.458	5.960F-04	.0087	7.2221E-04	.0106	8.0771E-04	.0118	.8950	30.000
170	562	3.572	.669	8.564E-04	.0126	1.0342E-03	.0152	1.1940E-03	.0169	.8950	60.000
171	558	3.232	.604	7.696E-04	.0113	9.2852E-04	.0136	1.0354E-03	.0152	.8950	90.000
172	554	1.173	.219	2.774E-04	.0041	3.3436E-04	.0049	3.7260E-04	.0055	.8950	120.000
173	644	46.948	9.123	1.306E-02	.1913	1.6160E-02	.2368	1.8340E-02	.2688	.9280	150.000
174	645	46.140	8.331	1.195E-02	.1751	1.4802E-02	.2169	1.6806E-02	.2463	.9600	0
										UPPER CANARD SURFACE	
										X/C	Y/S
350	613	82.074	8.104	1.111F-02	.1628	1.3617E-02	.1996	1.5349E-02	.2249	0	.250
351	562	24.138	2.326	2.980E-03	.0437	3.9987E-03	.0527	4.0158E-03	.0589	.2500	.250
352	551	6.667	1.153	1.457E-03	.0213	1.7542E-03	.0257	1.9537E-03	.0286	.5000	.250
353	546	3.686	.636	7.984E-04	.0117	9.6023E-04	.0141	1.0685E-03	.0157	.7000	.250
357	617	86.400	8.546	1.178E-02	.1727	1.4461E-02	.2119	1.6314E-02	.2391	0	.500
358	563	31.389	3.026	3.881E-03	.0569	4.6883E-03	.0687	5.2325E-03	.0767	.2500	.500
359	551	9.883	1.531	1.935E-03	.0284	2.3306E-03	.0342	2.5997E-03	.0380	.5000	.500
360	546	5.832	1.006	1.263E-03	.0185	1.5194E-03	.0223	1.6908E-03	.0248	.7000	.500
										LOWER CANARD SURFACE	
										X/C	Y/S
354	564	19.862	1.916	2.463F-03	.0361	2.9763E-03	.0436	3.3227E-03	.0487	.2500	.250
355	552	5.168	1.246	1.577E-03	.0231	1.8996E-03	.0278	2.1162E-03	.0310	.5000	.250
356	548	3.363	.612	7.702E-04	.0113	9.2674E-04	.0136	1.0316E-03	.0151	.7000	.250
361	562	25.778	2.484	3.184E-03	.0467	3.8454E-03	.0564	4.2913E-03	.0629	.2500	.500
362	550	8.555	1.170	1.477E-03	.0216	1.7786E-03	.0261	1.9806E-03	.0290	.5000	.500
363	544	4.985	.884	1.106E-03	.0162	1.3300E-03	.0195	1.4795E-03	.0217	.7000	.500
										VERTICAL STABILIZER	
										X/C	Z/S
175	563	6.352	.612	7.850F-04	.0115	9.4829E-04	.0139	1.0583E-03	.0155	0	.100
176	552	2.341	.224	2.837E-04	.0042	3.4174E-04	.0050	3.8067E-04	.0056	.1000	.100
177	548	1.591	.152	1.917E-04	.0028	2.3072E-04	.0034	2.5686E-04	.0038	.2500	.100
178	546	1.479	.141	1.773E-04	.0026	2.1317E-04	.0031	2.3720E-04	.0035	.5000	.100
179	544	5.123	.486	6.127E-04	.0090	7.3658E-04	.0108	8.1942E-04	.0120	.7500	.100
180	559	8.697	.837	1.069F-03	.0157	1.2897E-03	.0189	1.4385E-03	.0211	0	.250
181	548	3.504	.339	4.220E-04	.0062	5.0774E-04	.0074	5.6516E-04	.0083	.1000	.250
182	545	2.676	.256	3.205E-04	.0047	3.8538E-04	.0056	4.2878E-04	.0063	.2500	.250
183	543	2.207	.211	2.636E-04	.0039	3.1677E-04	.0046	3.5235E-04	.0052	.5000	.250
184	545	7.020	.747	9.359E-04	.0137	1.1252E-03	.0165	1.2519E-03	.0183	.7500	.250
185	566	21.074	2.035	2.622E-03	.0384	3.1708E-03	.0466	3.5411E-03	.0519	0	.500
186	554	16.386	1.572	1.994E-03	.0292	2.4029E-03	.0352	2.6776E-03	.0392	.1000	.500
187	553	14.723	1.412	1.787E-03	.0262	2.1535E-03	.0316	2.3991E-03	.0352	.2500	.500
188	552	12.777	1.225	1.550E-03	.0227	1.8665E-03	.0274	2.0792E-03	.0305	.5000	.500
189	550	13.178	1.262	1.593E-03	.0233	1.9175E-03	.0281	2.1353E-03	.0313	.7500	.500
190	573	40.231	3.899	5.070E-03	.0743	6.1419E-03	.0900	6.8682E-03	.1007	0	.750
191	557	26.255	2.524	3.214E-03	.0471	3.8763E-03	.0568	4.3220E-03	.0633	.1000	.750
192	552	17.095	1.639	2.072E-03	.0304	2.4963E-03	.0366	2.7806E-03	.0407	.2500	.750
193	551	11.910	1.141	1.441E-03	.0211	1.7340E-03	.0254	1.9320E-03	.0283	.5000	.750
194	550	12.231	1.171	1.479E-03	.0217	1.7806E-03	.0261	1.9830E-03	.0291	.7500	.750

GROUP
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91964

5/28/71

AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
V11162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
22	8	GUC	8.00	859.9	1343	59.97	-9.97	-50.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (R= .009FT)	SIPR (R= .009FT)	SWITCH POSITION
97.3	.088	3.944	4907	7.589E-05	7.830E-08	3.75E 06	6.840E-02	2.928E-02	3

TC NO	TW	DTWLT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	UPPER WING SURFACE A/C	UPPER WING SURFACE Y/S
201	567	11.128	1.327	1.709E-03	.0250	2.0664E-03	.0302	2.3078E-03	.0337	.1000	.100
202	566	3.740	.537	6.908E-04	.0101	8.3524E-04	.0122	9.3274E-04	.0136	.2000	.100
203	580	2.234	.475	6.225E-04	.0091	7.5534E-04	.0110	8.4559E-04	.0124	.3300	.100
204	576	3.354	.604	7.874E-04	.0115	9.5444E-04	.0140	1.0677E-03	.0156	.4000	.100
205	570	4.303	.765	1.015E-03	.0148	1.2286E-03	.0180	1.3729E-03	.0201	.6000	.100
206	575	3.123	.547	7.114E-04	.0104	8.6209E-04	.0126	9.6417E-04	.0141	.7000	.100
207	571	4.415	.427	5.535E-04	.0081	6.7009E-04	.0098	7.4897E-04	.0110	.9100	.100
231	560	3.727	.445	5.678E-04	.0083	6.8529E-04	.0100	7.6439E-04	.0112	.1000	.250
232	570	1.346	.268	3.460E-04	.0051	4.1973E-04	.0061	4.6907E-04	.0069	.4000	.250
233	568	1.685	.326	4.201E-04	.0061	5.0806E-04	.0074	5.6751E-04	.0083	.5000	.250
234	570	2.410	.453	5.858E-04	.0086	7.0891E-04	.0104	7.9219E-04	.0116	.6000	.250
235	575	3.354	.249	3.245E-04	.0047	3.9327E-04	.0057	4.3991E-04	.0064	.8330	.250
236	573	4.433	.368	4.781E-04	.0070	5.7906E-04	.0085	6.4745E-04	.0095	.8670	.250
237	572	6.438	.534	6.927E-04	.0101	8.3879E-04	.0123	9.3764E-04	.0137	.9010	.250
238	574	13.226	1.040	1.353E-03	.0198	1.6389E-03	.0240	1.8328E-03	.0268	.9350	.250
278	561	2.646	.352	4.507E-04	.0066	5.4412E-04	.0080	6.0706E-04	.0089	.1000	.500
280	569	1.324	.263	3.401E-04	.0050	4.1143E-04	.0060	4.5965E-04	.0067	.4000	.500
281	568	1.538	.297	3.834E-04	.0056	4.6381E-04	.0068	5.1811E-04	.0076	.5000	.500
282	569	1.615	.312	4.034E-04	.0059	4.8808E-04	.0071	5.4530E-04	.0080	.6000	.500
283	566	2.887	.279	3.589E-04	.0052	4.3394E-04	.0063	4.8459E-04	.0071	.8770	.500
297	571	6.986	.935	1.210E-03	.0177	1.4648E-03	.0214	1.6371E-03	.0239	.1000	.600
299	566	.881	.203	2.610E-04	.0038	3.1550E-04	.0046	3.5231E-04	.0052	.4000	.600
300	566	1.383	.248	3.190E-04	.0047	3.8565E-04	.0056	4.3062E-04	.0063	.6000	.600
301	565	3.161	.305	3.917E-04	.0057	4.7335E-04	.0069	5.2843E-04	.0077	.7930	.600
302	564	7.260	.700	8.991E-04	.0131	1.0864E-03	.0159	1.2128E-03	.0177	.8510	.600
200	586	32.009	5.048	6.669E-03	.0975	8.1085E-03	.1185	9.0890E-03	.1329	LOWER WING SURFACE A/C	LOWER WING SURFACE Y/S
208	656	82.271	14.651	2.133E-02	.3119	2.6519E-02	.3877	3.0189E-02	.4414	0	.100
209	692	93.430	16.856	2.580E-02	.3783	3.2599E-02	.4766	3.7465E-02	.5477	.1000	.100
210	662	54.955	9.492	1.394E-02	.2038	1.7368E-02	.2539	1.9801E-02	.2895	.2000	.100
211	650	52.363	9.480	1.367E-02	.1998	1.6951E-02	.2478	1.9264E-02	.2817	.3300	.100
212	650	47.970	9.375	1.353E-02	.1979	1.6789E-02	.2455	1.9085E-02	.2790	.4000	.150
213	648	44.517	9.327	1.341E-02	.1961	1.6618E-02	.2430	1.8877E-02	.2760	.6000	.150
214	699	59.631	6.087	9.444E-03	.1381	1.1929E-02	.1744	1.3737E-02	.2008	.7000	.100
215	616	43.761	8.428	8.843E-03	.1293	1.0847E-02	.1586	1.2234E-02	.1789	.9100	.100
216	664	87.945	10.946	1.613E-02	.2358	2.0107E-02	.2940	2.2936E-02	.3353	0	.150
217	578	29.811	3.722	4.864E-03	.0711	5.8989E-03	.0862	6.6014E-03	.0965	.0500	.150
224	694	98.217	13.730	2.116E-02	.3093	2.6676E-02	.3900	3.0680E-02	.4485	.0500	.200
225	697	101.685	15.294	2.366E-02	.3459	2.9862E-02	.4366	3.4369E-02	.5025	.1000	.200
226	722	101.623	14.338	2.310E-02	.3377	2.9475E-02	.4309	3.4196E-02	.5000	.2000	.200
227	650	52.234	10.475	1.510E-02	.2208	1.8733E-02	.2739	2.1290E-02	.3113	.4000	.200
228	642	48.433	9.404	1.340E-02	.1960	1.6570E-02	.2424	1.8805E-02	.2749	.6000	.200
229	663	51.892	10.162	1.495E-02	.2185	1.8628E-02	.2723	2.1243E-02	.3106	.7000	.200
230	591	43.310	6.047	8.040E-03	.1176	9.7884E-03	.1431	1.0982E-02	.1606	0	.250
239	713	110.644	10.766	1.709E-02	.2499	2.1724E-02	.3176	2.5129E-02	.3674	.0500	.250
240	696	111.354	11.359	1.756E-02	.2567	2.2158E-02	.3240	2.5498E-02	.3728	.1000	.250
241	647	57.987	11.616	1.668E-02	.2439	2.0674E-02	.3023	2.3480E-02	.3433	.4000	.250
242	642	50.170	10.487	1.495E-02	.2186	1.8497E-02	.2704	2.0982E-02	.3068	.5000	.250
243	642	52.432	10.181	1.452E-02	.2122	1.7955E-02	.2625	2.0367E-02	.2978	.6000	.250
244	699	49.302	4.775	7.414E-03	.1084	9.3670E-03	.1369	1.0788E-02	.1577	.8330	.250
245	708	66.755	6.836	1.076E-02	.1573	1.3647E-02	.1995	1.5760E-02	.2304	.8670	.250
246	700	66.246	6.970	1.084E-02	.1584	1.3696E-02	.2002	1.5778E-02	.2307	.9010	.250
247	690	54.528	5.551	8.502E-03	.1243	1.0705E-02	.1565	1.2297E-02	.1798	.9350	.250
248	587	38.921	4.512	5.963E-03	.0872	7.2496E-03	.1060	8.1266E-03	.1188	0	.300
253	709	109.512	11.733	1.851E-02	.2707	2.3492E-02	.3435	2.7142E-02	.3968	.0500	.300
254	697	104.679	11.168	1.728E-02	.2527	2.1815E-02	.3189	2.5109E-02	.3671	.1000	.300
255	682	93.202	11.674	1.764E-02	.2580	2.2138E-02	.3237	2.5369E-02	.3709	.1500	.300
256	705	87.307	10.617	1.664E-02	.2432	2.1074E-02	.3081	2.4315E-02	.3555	.2000	.300
257	648	54.913	10.377	1.494E-02	.2184	1.8516E-02	.2707	2.1036E-02	.3076	.4000	.300
258	646	52.529	9.919	1.424E-02	.2082	1.7637E-02	.2579	2.0029E-02	.2928	.6000	.300
259	578	30.758	3.174	4.084E-03	.0597	4.9537E-03	.0724	5.5441E-03	.0811	0	.350
261	681	87.377	10.538	1.592E-02	.2327	1.9968E-02	.2919	2.2880E-02	.3345	.0500	.350
262	675	87.222	12.210	1.827E-02	.2671	2.2864E-02	.3343	2.6153E-02	.3824	.1000	.350
263	584	31.503	3.945	5.193E-03	.0759	6.3089E-03	.0922	7.0681E-03	.1033	0	.400
267	671	78.853	11.753	1.749E-02	.2557	2.1861E-02	.3196	2.4981E-02	.3652	.0500	.400
268	676	80.844	12.069	1.808E-02	.2643	2.2630E-02	.3309	2.5891E-02	.3785	.1000	.400
269	678	77.244	11.185	1.682E-02	.2459	2.1081E-02	.3082	2.4136E-02	.3529	.1500	.400
270	693	78.871	9.963	1.531E-02	.2239	1.9296E-02	.2821	2.2180E-02	.3243	.2000	.400
271	654	58.872	10.136	1.470E-02	.2150	1.8263E-02	.2670	2.0777E-02	.3038	.4000	.400
272	650	54.760	9.917	1.431E-02	.2092	1.7753E-02	.2596	2.0179E-02	.2950	.6000	.400
273	591	34.378	3.687	4.905E-03	.0717	5.9722E-03	.0873	6.7011E-03	.0980	0	.450
276	680	76.587	11.024	1.663E-02	.2432	2.0861E-02	.3050	2.3898E-02	.3494	.1000	.450
277	990	33.715	3.294	4.376E-03	.0640	5.3263E-03	.0779	5.9751E-03	.0874	0	.500
284	701	85.088	10.779	1.678E-02	.2453	2.1212E-02	.3101	2.4442E-02	.3574	.0500	.500
286	686	82.587	11.608	1.766E-02	.2582	2.2201E-02	.3246	2.5473E-02	.3724	.1500	.500
287	682	79.374	10.773	1.629E-02	.2382	2.0450E-02	.2990	2.3438E-02	.3427	.2000	.500
288	656	60.845	10.206	1.486E-02	.2172	1.8469E-02	.2700	2.1024E-02	.3074	.4000	.500
289	654	58.992	10.766	1.562E-02	.2283	1.9398E-02	.2836	2.2069E-02	.3227	.5000	.500
290	651	54.366	9.368	1.350E-02	.1974	1.6747E-02	.2449	1.9038E-02	.2783	.6000	.500
291	696	57.439	5.859	8.056E-03	.1324	1.1429E-02	.1671	1.3153E-02	.1923	.8770	.500
292	610	44.117	4.548	6.201E-03	.0907	7.5912E-03	.1110	8.5496E-03	.1250	0	.550
294	716	84.912	9.565	1.525E-02	.2230	1.9412E-02	.2838	2.2476E-02	.3286	.0500	.550
295	712	91.714	10.319	1.636E-02	.2391	2.0780E-02	.3038	2.4030E-02	.3513	.1000	.550
296	601	44.775	5.880	7.928E-03	.1159	9.6809E-03	.1415	1.0884E-02	.1591	0	.600
303	692	69.706	5.071	7.785E-03	.1138	9.8070E-03	.1434	1.1271E-02	.1648	.0500	.600
304	672	73.943	6.410	9.555E-03	.1397	1.1947E-02	.1747	1.3656E-02	.1997	.1000	.600
305	691	74.359	8.308	1.275E-02	.1864	1.6054E-02	.2347	1.8449E-02	.2697	.2000	.600
306	650	61.668	10.038	1.448E-02	.2117	1.7955E-02	.2625	2.0407E-02	.2984	.4000	.600
307	658	60.032	9.489	1.385E-02	.2025	1.7226E-02	.2519	1.9618E-02	.2868	.5000	.600
308	647	69.054	8.199	1.178E-02	.1722	1.4599E-02	.2134	1.6582E-02	.2424	.6000	.600
309	696	58.451	5.963	9.221E-03	.1348	1.1638E-02	.1702	1.3393E-02	.1958	.7930	.600
310	691	55.860	5.687	8.715E-03	.1274	1.0974E-02	.1604	1.2608E-02	.1843	.8510	.600
313	703	73.181	6.414	1.002E-02	.1466	1.2689E-02	.1855	1.4633E-02	.2139	.0500	.650
314	701	90.852	8.804	1.371E-02	.2004	1.7331E-02	.2534	1.9971E-02	.2920	.1000	.650
318	703	74.441	8.697	1.357E-02	.1985	1.7176E-02	.2511	1.9803E-02	.2895	.1000	.700
319	712	88.316	11.228	1.778E-02	.2599	2.2578E-02	.3301	2.6103E-02	.3816	.2000	.700
320	645	61.348	10.248	1.468E-02	.2146	1.8179E-02	.2658	2.0638E-02	.3017	.5000	.700

GROUP 77

AEDC(AHO•INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
23	8	GDC	8.00	855.3	1363	9.84	13.16	-23.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	MREF-FR (Rm =.009FT)	SIFR (Rm =.009FT)	SWITCH POSITION
97.3	.088	3.925	3867	7.553E-05	7.439E-08	3.73E 06	6.823E-02	2.934E-02	1

TC NO	TW	DTWCT	Q-DOT	M(TO)	M(TO)/MREF	M(.9TO)	M(.9TO)/MREF	M(.85TO)	M(.85TO)/MREF	FUSELAGE A/L	FUSELAGE PHI
1	613	200.428	38.443	5.266E-02	.7718	6.4531E-02	.9698	7.2728E-02	1.0660	0	0
2	563	69.343	12.991	1.667E-02	.2443	2.0136E-02	.2951	2.2475E-02	.3294	.0137	0
3	555	39.914	7.445	9.449E-03	.1385	1.1391E-02	.1670	1.2695E-02	.1861	.0137	180.000
4	557	46.200	8.626	1.098E-02	.1609	1.3237E-02	.1940	1.4798E-02	.2163	.0274	0
5	556	44.446	8.293	1.053E-02	.1544	1.2698E-02	.1861	1.4154E-02	.2074	.0274	30.000
6	555	38.566	7.191	9.129E-03	.1338	1.1006E-02	.1613	1.2267E-02	.1798	.0274	60.000
7	552	31.970	5.955	7.534E-03	.1104	9.0762E-03	.1330	1.0111E-02	.1482	.0274	90.000
8	551	25.657	4.915	6.205E-03	.0909	7.4718E-03	.1095	8.3211E-03	.1220	.0274	120.000
9	549	22.365	4.281	5.394E-03	.0791	6.4927E-03	.0952	7.2289E-03	.1060	.0274	150.000
10	548	19.482	3.726	4.686E-03	.0687	5.6384E-03	.0826	6.2761E-03	.0920	.0274	180.000
12	555	32.629	6.089	7.719E-03	.1131	9.3040E-03	.1364	1.0369E-02	.1520	.0543	0
13	554	31.401	5.853	7.417E-03	.1087	8.9385E-03	.1310	9.9597E-03	.1460	.0543	30.000
14	553	27.282	5.083	6.433E-03	.0943	7.7508E-03	.1136	8.6350E-03	.1266	.0543	60.000
15	551	20.553	3.825	4.830E-03	.0708	5.8160E-03	.0852	6.4773E-03	.0949	.0543	90.000
16	549	15.049	2.799	3.526E-03	.0517	4.2447E-03	.0622	4.7260E-03	.0693	.0543	120.000
17	548	11.796	2.191	2.756E-03	.0404	3.3157E-03	.0486	3.6907E-03	.0541	.0543	150.000
18	547	10.158	1.887	2.372E-03	.0348	2.8538E-03	.0418	3.1763E-03	.0466	.0543	180.000
20	554	24.508	4.570	5.746E-03	.0849	6.9852E-03	.1024	7.7841E-03	.1141	.0790	0
23	555	19.957	3.723	4.725E-03	.0693	5.6963E-03	.0839	6.3486E-03	.0930	.1030	0
24	556	20.639	3.851	4.892E-03	.0717	5.8975E-03	.0864	6.5735E-03	.0963	.1030	15.000
25	555	17.480	3.261	4.141E-03	.0607	4.9928E-03	.0732	5.5649E-03	.0816	.1030	30.000
26	556	16.920	3.157	4.010E-03	.0588	4.8343E-03	.0709	5.3883E-03	.0790	.1030	45.000
27	555	15.550	2.901	3.684E-03	.0540	4.4407E-03	.0651	4.9495E-03	.0725	.1030	60.000
28	554	13.378	2.495	3.164E-03	.0464	3.8136E-03	.0559	4.2498E-03	.0623	.1030	75.000
29	553	11.251	2.098	2.654E-03	.0389	3.1981E-03	.0469	3.5630E-03	.0522	.1030	90.000
31	549	7.986	1.489	1.870E-03	.0274	2.2503E-03	.0330	2.5052E-03	.0367	.1030	120.000
33	548	5.458	1.014	1.275E-03	.0187	1.5347E-03	.0225	1.7082E-03	.0250	.1030	150.000
35	548	4.122	.766	9.630E-04	.0141	1.1587E-03	.0170	1.2897E-03	.0189	.1030	180.000
38	558	12.754	2.383	3.038E-03	.0445	3.6655E-03	.0537	4.0877E-03	.0599	.1430	0
41	558	8.450	1.611	2.308E-03	.0338	2.7844E-03	.0408	3.1050E-03	.0455	.1690	0
42	558	8.061	1.661	2.117E-03	.0310	2.5536E-03	.0374	2.8475E-03	.0417	.1690	15.000
43	558	7.649	1.513	1.928E-03	.0283	2.3259E-03	.0341	2.5936E-03	.0380	.1690	30.000
44	558	6.916	1.391	1.772E-03	.0260	2.1374E-03	.0313	2.3833E-03	.0349	.1690	45.000
45	557	6.141	1.180	1.502E-03	.0220	1.8110E-03	.0265	2.0191E-03	.0296	.1690	60.000
46	556	5.068	.973	1.237E-03	.0181	1.4911E-03	.0219	1.6620E-03	.0244	.1690	75.000
47	556	3.817	.733	9.315E-04	.0137	1.1231E-03	.0165	1.2519E-03	.0183	.1690	90.000
49	555	2.488	.478	6.062E-04	.0089	7.3064E-04	.0107	8.1426E-04	.0119	.1690	120.000
51	554	1.488	.294	3.723E-04	.0055	4.4867E-04	.0066	4.9996E-04	.0073	.1690	150.000
53	553	.936	.174	2.209E-04	.0032	2.6613E-04	.0039	2.9652E-04	.0043	.1690	180.000
400	556	7.061	1.318	1.675E-03	.0246	2.0201E-03	.0296	2.2519E-03	.0330	.2420	0
401	555	5.413	1.010	1.282E-03	.0188	1.5457E-03	.0227	1.7227E-03	.0252	.2420	15.000
402	554	4.464	.863	1.095E-03	.0160	1.3195E-03	.0193	1.4704E-03	.0216	.2420	30.000
403	554	3.434	.672	8.594E-04	.0126	1.0358E-03	.0152	1.1542E-03	.0169	.2420	45.000
404	555	5.486	1.202	1.526E-03	.0224	1.8401E-03	.0270	2.0509E-03	.0301	.2420	60.000
407	554	3.745	.651	8.247E-04	.0121	9.9382E-04	.0146	1.1074E-03	.0162	.2420	75.000
408	552	2.273	.424	5.365E-04	.0079	6.4619E-04	.0095	7.1977E-04	.0105	.2420	90.000
410	549	.604	.121	1.524E-04	.0022	1.8366E-04	.0027	2.0427E-04	.0030	.2420	120.000
412	548	.551	.108	1.363E-04	.0020	1.6395E-04	.0024	1.8248E-04	.0027	.2420	150.000
413	554	6.953	1.372	1.740E-03	.0255	2.0968E-03	.0307	2.3365E-03	.0342	.2420	180.000
414	553	6.016	1.267	1.528E-03	.0224	1.8410E-03	.0270	2.0512E-03	.0301	.2830	0
415	552	4.595	.921	1.165E-03	.0171	1.4031E-03	.0206	1.5629E-03	.0229	.2830	15.000
416	551	2.735	.548	6.926E-04	.0102	8.3408E-04	.0122	9.2900E-04	.0136	.2830	30.000
417	553	6.408	1.110	1.404E-03	.0206	1.6917E-03	.0248	1.8847E-03	.0276	.2830	45.000
418	553	8.610	1.770	2.241E-03	.0328	2.6999E-03	.0396	3.0081E-03	.0441	.2830	60.000
419	549	2.852	.532	6.704E-04	.0098	8.0701E-04	.0118	8.9854E-04	.0132	.2830	75.000
420	550	3.548	.614	7.740E-04	.0113	9.3189E-04	.0137	1.0377E-03	.0152	.2830	90.000
421	547	1.212	.205	2.578E-04	.0038	3.1012E-04	.0045	3.4514E-04	.0051	.2830	105.000
422	545	.740	.137	1.722E-04	.0025	2.0711E-04	.0030	2.3043E-04	.0034	.2830	120.000
423	544	.583	.119	1.491E-04	.0022	1.7927E-04	.0026	1.9942E-04	.0029	.2830	135.000
425	542	.720	.141	1.764E-04	.0026	2.1194E-04	.0031	2.3569E-04	.0035	.2830	150.000
426	555	7.203	1.422	1.805E-03	.0265	2.1754E-03	.0319	2.4243E-03	.0355	.2830	180.000
427	554	6.426	1.293	1.639E-03	.0240	1.9752E-03	.0289	2.2009E-03	.0323	.3160	0
428	553	4.753	.956	1.211E-03	.0177	1.4589E-03	.0214	1.6255E-03	.0238	.3160	15.000
429	552	2.614	.525	6.640E-04	.0097	7.9980E-04	.0117	8.9087E-04	.0131	.3160	30.000
430	552	3.235	.620	7.837E-04	.0115	9.4388E-04	.0138	1.0513E-03	.0154	.3160	45.000
431	551	3.455	.681	8.601E-04	.0126	1.0357E-03	.0152	1.1535E-03	.0169	.3160	60.000
432	552	6.548	1.133	1.433E-03	.0210	1.7258E-03	.0253	1.9224E-03	.0282	.3160	75.000
433	546	.456	.089	1.121E-04	.0016	1.3483E-04	.0020	1.5004E-04	.0022	.3160	90.000
434	548	9.669	.913	1.149E-03	.0168	1.3822E-03	.0203	1.5386E-03	.0226	.3160	105.000
435	542	1.104	.210	2.626E-04	.0038	3.1546E-04	.0046	3.5077E-04	.0051	.3160	120.000
436	538	.348	.069	8.611E-05	.0013	1.0336E-04	.0015	1.1486E-04	.0017	.3160	135.000
437	538	.386	.076	9.384E-05	.0014	1.1262E-04	.0017	1.2514E-04	.0018	.3160	150.000
438	538	.790	.157	1.954E-04	.0029	2.3449E-04	.0034	2.6058E-04	.0038	.3160	165.000
439	559	7.309	1.469	1.873E-03	.0275	2.2605E-03	.0331	2.5209E-03	.0369	.3160	180.000
440	555	6.234	1.284	1.630E-03	.0239	1.9644E-03	.0288	2.1894E-03	.0321	.3540	0
441	555	5.185	1.067	1.353E-03	.0198	1.6310E-03	.0239	1.8176E-03	.0266	.3540	15.000
442	553	3.550	.714	9.045E-04	.0133	1.0899E-03	.0160	1.2143E-03	.0178	.3540	30.000
443	551	1.260	.211	2.667E-04	.0039	3.2116E-04	.0047	3.5768E-04	.0052	.3540	45.000
444	551	3.432	.639	8.074E-04	.0118	9.7237E-04	.0143	1.0830E-03	.0159	.3540	60.000
445	553	4.044	1.665	2.082E-03	.0305	2.5079E-03	.0368	2.7940E-03	.0410	.3540	75.000
446	547	2.218	.394	4.945E-04	.0072	5.9675E-04	.0087	6.6187E-04	.0097	.3540	90.000
447	545	1.483	.263	3.294E-04	.0048	3.9601E-04	.0058	4.4056E-04	.0065	.3540	105.000
448	539	3.556	.677	8.414E-04	.0123	1.0101E-03	.0148	1.1225E-03	.0165	.3540	120.000
450	530	.386	.073	8.996E-05	.0013	1.0775E-04	.0016	1.1958E-04	.0018	.3540	135.000
451	535	1.563	.297	3.678E-04	.0054	4.4111E-04	.0065	4.8997E-04	.0072	.3540	165.000
452	560	6.969	1.386	1.771E-03	.0260	2.1384E-03	.0313	2.3855E-03	.0350	.3540	180.000
454	559	5.585	1.105	1.410E-03	.0207	1.7022E-03	.0249	1.8984E-03	.0278	.3800	0
455	559	5.609	1.002	1.278E-03	.0187	1.5419E-03	.0226	1.7196E-03	.0252	.3800	30.000
456	555	1.883	.310	3.935E-04	.0058	4.7442E-04	.0070	5.2877E-04	.0078	.3800	45.000
457	559	7.667	1.391	1.776E-03	.0260	2.1427E-03	.0314	2.3899E-03	.0350	.3800	60.000
458	555	6.440	1.211	1.538E-03	.0225	1.8539E-03	.0272	2.0663E-03	.0303	.3800	75.000
459	556	4.407	.870	1.102E-03	.0162	1.3282E-03	.0195	1.4799E-03	.0217	.3800	90.000
460	550	1.916	.356	4.495E-04	.0066	5.4119E-04	.0079	6.0263E-04	.0088	.3800	105.000
461	548	2.330	.433	5.448E-04	.0080	6.5551E-04	.0096	7.2968E-04	.0107	.3800	120.000
462	543	.363	.069	8.671E-05	.0013	1.0421E-04	.0015	1.1590E-04	.0017	.3800	135.000
464	546	1.599	.306	3.832E-04	.0056	4.6079E-04	.0068	5.1271E-04	.0075	.3800	180.000

GROUP
78

A-1Ce

5/28/71

AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
V11162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
23	8	GDC	8.00	854.3	1345	9.84	13.16	-23.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (R= .009FT)	SIFR (R= .009FT)	SWITCH POSITION
97.5	.088	3.920	3870	7.533E-05	7.846E-08	3.72E 06	6.821E-02	2.939E-02	2

TC NO	TW	DIRECT	G-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	FUSELAGE X/L	PHI
106	559	5.722	1.133	1.441E-03	.0211	1.7389E-03	.0255	1.9391E-03	.0284	.4400	0
107	559	9.778	1.698	2.160E-03	.0317	2.6052E-03	.0382	2.9048E-03	.0426	.4400	30.000
108	556	3.160	.590	7.473E-04	.0110	9.0083E-04	.0132	1.0040E-03	.0147	.4400	60.000
109	553	3.422	.638	8.051E-04	.0118	9.6987E-04	.0142	1.0804E-03	.0158	.4400	90.000
110	551	1.815	.338	4.253E-04	.0062	5.1200E-04	.0075	5.7011E-04	.0084	.4400	120.000
111	548	.635	.118	1.482E-04	.0022	1.7830E-04	.0026	1.9846E-04	.0029	.4400	150.000
112	549	2.875	.535	6.719E-04	.0098	8.0804E-04	.0118	8.9947E-04	.0132	.4400	180.000
113	561	5.054	1.018	1.299E-03	.0190	1.5674E-03	.0230	1.7485E-03	.0256	.4880	0
114	562	12.269	2.700	2.810E-03	.0412	3.3922E-03	.0497	3.7846E-03	.0555	.4880	37.300
115	556	2.774	.495	6.771E-04	.0092	7.5588E-04	.0111	8.4241E-04	.0124	.4880	60.000
116	554	2.482	.449	5.677E-04	.0083	6.8395E-04	.0100	7.6198E-04	.0112	.4880	90.000
117	551	1.123	.209	2.632E-04	.0039	3.1685E-04	.0046	3.5280E-04	.0052	.4880	120.000
118	548	.985	.183	2.297E-04	.0034	2.7638E-04	.0041	3.0761E-04	.0045	.4880	150.000
119	547	3.471	.645	8.085E-04	.0119	9.7246E-04	.0143	1.0822E-03	.0159	.4880	180.000
120	563	4.751	.958	1.226E-03	.0180	1.4803E-03	.0217	1.6514E-03	.0242	.5200	0
121	566	3.347	.678	8.673E-04	.0127	1.0482E-03	.0154	1.1703E-03	.0172	.5500	0
122	569	10.548	2.133	2.748E-03	.0403	3.3237E-03	.0487	3.7128E-03	.0544	.5500	30.000
195	573	22.101	4.588	5.941E-03	.0871	7.1938E-03	.1055	8.0418E-03	.1179	.5500	43.000
123	563	4.386	.785	1.005F-03	.0147	1.2135E-03	.0178	1.3542E-03	.0199	.5500	60.000
125	559	2.966	.554	7.050E-04	.0103	8.5045E-04	.0125	9.4828E-04	.0139	.5500	75.000
126	556	3.069	.573	7.265E-04	.0107	8.7596E-04	.0128	9.7636E-04	.0143	.5500	82.500
127	551	2.031	.378	4.762E-04	.0070	5.7336E-04	.0084	6.3848E-04	.0094	.5500	90.000
129	550	.652	.121	1.527E-04	.0022	1.8383E-04	.0027	2.0468E-04	.0030	.5500	120.000
130	548	1.875	.348	4.374E-04	.0064	5.2618E-04	.0077	5.8565E-04	.0086	.5500	150.000
131	548	4.237	.787	9.876E-04	.0145	1.1881E-03	.0174	1.3223E-03	.0194	.5500	180.000
132	567	2.833	.610	7.440E-04	.0115	9.4788E-04	.0139	1.0585E-03	.0155	.5860	0
134	566	6.064	.643	8.252E-04	.0121	9.9738E-04	.0146	1.1136E-03	.0163	.6250	60.000
136	560	3.130	.585	7.461E-04	.0109	9.0046E-04	.0132	1.0043E-03	.0147	.6250	75.000
138	557	3.172	.592	7.519F-04	.0110	9.0673E-04	.0133	1.0108E-03	.0148	.6250	90.000
140	551	.625	.116	1.469F-04	.0021	1.7638E-04	.0026	1.9640E-04	.0029	.6250	120.000
141	549	1.325	.246	3.097F-04	.0045	3.7277E-04	.0055	4.1498E-04	.0061	.6250	150.000
142	550	4.992	.929	1.167E-03	.0171	1.4050E-03	.0206	1.5642E-03	.0229	.6250	180.000
143	571	3.576	.544	7.032E-04	.0103	8.5113E-04	.0125	9.5117E-04	.0139	.6600	0
144	570	2.875	.429	5.537E-04	.0081	6.7002E-04	.0098	7.4863E-04	.0110	.7000	0
145	573	7.391	.921	1.192E-03	.0175	1.4438E-03	.0212	1.6140E-03	.0237	.7000	30.000
146	567	1.984	.348	4.450E-04	.0065	5.3804E-04	.0079	6.0084E-04	.0088	.7000	60.000
148	561	3.363	.629	8.027E-04	.0118	9.6891E-04	.0142	1.0808E-03	.0158	.7000	75.000
149	560	4.920	.920	1.172E-03	.0172	1.4137E-03	.0207	1.5767E-03	.0231	.7000	82.500
150	558	3.848	.719	9.135F-04	.0134	1.1018E-03	.0162	1.2284E-03	.0180	.7000	90.000
152	553	.750	.140	1.764E-04	.0026	2.1249E-04	.0031	2.3670E-04	.0035	.7000	120.000
153	551	.994	.185	2.331E-04	.0034	2.8062E-04	.0041	3.1248E-04	.0046	.7000	150.000
154	553	6.431	1.163	1.468E-03	.0215	1.7680E-03	.0259	1.9693E-03	.0289	.7000	180.000
155	570	2.988	.475	6.180E-04	.0091	7.4770E-04	.0110	8.3540E-04	.0122	.7340	0
156	568	2.433	.403	5.192E-04	.0076	6.2791E-04	.0092	7.0136E-04	.0103	.7700	0
157	571	4.324	.717	9.273E-04	.0136	1.1224E-03	.0165	1.2543E-03	.0184	.7700	30.000
158	566	2.338	.419	5.388E-04	.0079	6.5130E-04	.0095	7.2724E-04	.0107	.7700	60.000
159	561	4.414	.801	1.022E-03	.0150	1.2336E-03	.0181	1.3760E-03	.0202	.7700	90.000
160	555	.638	.116	1.462F-04	.0021	1.7615E-04	.0026	1.9627E-04	.0029	.7700	120.000
161	555	.744	.135	1.704E-04	.0025	2.0530E-04	.0030	2.2877E-04	.0034	.7700	150.000
162	557	6.485	1.175	1.492E-03	.0219	1.7986E-03	.0264	2.0049E-03	.0294	.7700	180.000
163	567	2.345	.401	5.149F-04	.0076	6.2381E-04	.0091	6.9663E-04	.0102	.8000	0
164	566	2.338	.419	5.385E-04	.0079	6.5095E-04	.0095	7.2682E-04	.0107	.8300	0
165	568	2.554	.377	4.850E-04	.0071	5.8664E-04	.0086	6.5526E-04	.0096	.8300	30.000
166	565	2.212	.415	5.318E-04	.0078	6.4254E-04	.0094	7.1727E-04	.0105	.8620	0
167	563	2.018	.400	5.120E-04	.0075	6.1831E-04	.0091	6.8997E-04	.0101	.8950	0
168	565	1.803	.373	4.780E-04	.0070	5.7764E-04	.0085	6.4481E-04	.0095	.8950	30.000
169	564	2.190	.374	4.794E-04	.0070	5.7916E-04	.0085	6.4642E-04	.0095	.8950	60.000
170	561	4.277	.800	1.021E-03	.0150	1.2322E-03	.0181	1.3746E-03	.0202	.8950	90.000
171	559	.947	.177	2.252F-04	.0033	2.7165E-04	.0040	3.0290E-04	.0044	.8950	120.000
172	560	2.685	.502	6.396F-04	.0094	7.7176E-04	.0113	8.6072E-04	.0126	.8950	150.000
173	562	1.842	.354	4.523F-04	.0066	5.4610E-04	.0080	6.0929E-04	.0089	.9280	0
174	557	1.724	.313	3.968E-04	.0058	4.7844E-04	.0070	5.3335E-04	.0078	.9600	0

TC NO	TW	DIRECT	G-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	UPPER CANARD SURFACE X/C	Y/S
350	576	83.502	8.102	1.054E-02	.1545	1.2770E-02	.1872	1.4284E-02	.2094	0	.250
351	551	13.632	1.306	1.645E-03	.0241	1.9810E-03	.0290	2.2060E-03	.0323	.2500	.250
352	544	3.768	.642	8.021F-04	.0118	9.6389E-04	.0141	1.0720E-03	.0157	.5000	.250
353	540	1.592	.274	3.400E-04	.0050	4.0820E-04	.0060	4.5370E-04	.0067	.7000	.250
357	578	94.973	9.226	1.204E-02	.1765	1.4598E-02	.2140	1.6336E-02	.2395	0	.500
358	549	17.263	1.652	2.075E-03	.0304	2.4972E-03	.0366	2.7797E-03	.0408	.2500	.500
359	542	5.383	.830	1.034E-03	.0152	1.2423E-03	.0182	1.3814E-03	.0203	.5000	.500
360	539	2.647	.455	5.650E-04	.0083	6.7827E-04	.0099	7.5382E-04	.0111	.7000	.500

TC NO	TW	DIRECT	G-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	LOWER CANARD SURFACE X/C	Y/S
354	551	15.724	1.506	1.897F-03	.0278	2.2845E-03	.0335	2.5439E-03	.0373	.2500	.250
355	546	4.081	.980	1.227E-03	.0180	1.4748E-03	.0216	1.6407E-03	.0241	.5000	.250
356	542	2.323	.421	5.247E-04	.0077	6.3022E-04	.0092	7.0068E-04	.0103	.7000	.250
361	550	19.563	1.877	2.362F-03	.0346	2.8434E-03	.0417	3.1659E-03	.0464	.2500	.500
362	541	7.187	.979	1.218E-03	.0179	1.4629E-03	.0214	1.6264E-03	.0238	.5000	.500
363	537	2.979	.526	6.514E-04	.0096	7.8159E-04	.0115	8.6834E-04	.0127	.7000	.500

TC NO	TW	DIRECT	G-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	VERTICAL STABILIZER A/C	Z/S
175	592	75.918	7.422	9.854E-03	.1445	1.1996E-02	.1759	1.3459E-02	.1973	0	.100
176	562	10.834	1.064	1.334E-03	.0196	1.6101E-03	.0236	1.7965E-03	.0263	.1000	.100
177	558	5.177	.498	6.321F-04	.0093	7.6228E-04	.0112	8.4980E-04	.0125	.2500	.100
178	554	1.531	.147	1.858E-04	.0027	2.2384E-04	.0033	2.4940E-04	.0037	.5000	.100
179	549	2.025	.194	2.437E-04	.0036	2.9324E-04	.0043	3.2644E-04	.0048	.7500	.100
160	593	91.681	8.970	1.193E-02	.1750	1.4534E-02	.2131	1.6312E-02	.2392	0	.250
181	560	19.493	1.876	2.391E-03	.0351	2.8851E-03	.0423	3.2179E-03	.0472	.1000	.250
182	558	10.446	1.004	1.276E-03	.0187	1.5387E-03	.0226	1.7154E-03	.0252	.2500	.250
183	553	4.845	.465	5.870E-04	.0086	7.0712E-04	.0104	7.8771E-04	.0115	.5000	.250
184	550	1.755	.168	2.114E-04	.0031	2.5438E-04	.0037	2.8322E-04	.0042	.7500	.250
185	602	92.406	9.040	1.223E-02	.1793	1.4934E-02	.2190	1.6791E-02	.2462	0	.500
186	563	22.348	2.154	2.753E-03	.0404	3.3250E-03	.0487	3.7101E-03	.0544	.1000	.500
187	560	10.755	1.035	1.310F-03	.0193	1.5903E-03	.0233	1.7736E-03	.0260	.2500	.500
188	556	6.256	.601	7.627E-04	.0112	9.1952E-04	.0135	1.0249E-03	.0150	.5000	.500
189	552	4.274	.410	5.165E-04	.0076	6.2194E-04	.0091	6.9265E-04	.0102	.7500	.500
190	585	79.812	7.778	1.024E-02	.1501	1.2417E-02	.1823	1.3935E-02	.2043	0	.750
191	564	33.422	3.224	4.131E-03	.0606	4.9910E-03	.0732	5.5708E-03	.0817	.1000	.750
192	559	12.977	1.249	1.590E-03	.0233	1.9181E-03	.0281	2.1390E-03	.0314	.2500	.750
193	555	7.017	.674	8.535E-04	.0125	1.0287E-03	.0151	1.1464E-03	.0168	.5000	.750
194	552	4.573	.438	5.527E-04	.0081	6.6555E-04	.0098	7.4124E-04	.0109	.7500	.750

GROUP

AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
23	B	GDC	8.00	856.2	1344	9.84	13.10	-23.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	MREF-FR (R= .009FT)	STFR (R= .009FT)	SWITCH POSITION
97.4	.080	3.929	3869	7.554E-05	7.842E-08	3.73E 06	6.828E-02	2.935E-02	3

TC NO	TM	DTWDT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	UPPER WING SURFACE A/C	UPPER WING SURFACE Y/S
201	551	5.449	.644	8.121E-04	.0119	9.7772E-04	.0143	1.0888E-03	.0159	±1000	.100
202	552	2.605	.371	4.686E-04	.0069	5.6447E-04	.0083	6.2876E-04	.0092	±2000	.100
203	558	.460	.097	1.232E-04	.0018	1.4866E-04	.0022	1.6575E-04	.0024	±3300	.100
204	555	.472	.084	1.066E-04	.0016	1.2855E-04	.0019	1.4326E-04	.0021	±4000	.100
205	551	.287	.052	6.531E-05	.0010	7.8646E-05	.0012	8.7588E-05	.0013	±6000	.100
206	554	.717	.124	1.573E-04	.0023	1.8950E-04	.0028	2.1114E-04	.0031	±7000	.100
207	550	.701	.067	8.452E-05	.0012	1.0174E-04	.0015	1.1328E-04	.0017	±9100	.100
231	552	9.442	1.122	1.417E-03	.0208	1.7068E-03	.0250	1.9011E-03	.0278	±1000	.250
232	553	1.136	.224	2.833E-04	.0041	3.4125E-04	.0050	3.8014E-04	.0056	±4000	.250
233	551	.976	.187	2.358E-04	.0035	2.8390E-04	.0042	3.1615E-04	.0046	±5000	.250
234	552	.695	.129	1.633E-04	.0024	1.9666E-04	.0029	2.1903E-04	.0032	±6000	.250
235	552	.324	.024	3.003E-05	.0004	3.6175E-05	.0005	4.0295E-05	.0006	±8330	.250
236	551	.700	.058	7.249E-05	.0011	8.7275E-05	.0013	9.7189E-05	.0014	±8670	.250
237	549	.500	.041	5.163E-05	.0008	6.2135E-05	.0009	6.9175E-05	.0010	±9010	.250
238	548	.587	.046	5.719E-05	.0008	6.8806E-05	.0010	7.6583E-05	.0011	±9350	.250
278	553	14.876	1.973	2.496E-03	.0366	3.0066E-03	.0440	3.3496E-03	.0491	±1000	.500
280	554	2.217	.438	5.535E-04	.0081	6.6690E-04	.0098	7.4300E-04	.0109	±4000	.500
281	553	2.364	.457	5.783E-04	.0085	6.9677E-04	.0102	7.7625E-04	.0114	±5000	.500
282	554	1.803	.346	4.378E-04	.0064	5.2753E-04	.0077	5.8776E-04	.0086	±6000	.500
283	550	1.630	.157	1.973E-04	.0029	2.3755E-04	.0035	2.6450E-04	.0039	±8770	.500
297	559	24.446	3.253	4.144E-03	.0607	5.0005E-03	.0732	5.5767E-03	.0817	±1000	.600
299	552	2.227	.509	6.423E-04	.0094	7.7361E-04	.0113	8.6170E-04	.0126	±4000	.600
300	554	1.905	.339	4.293E-04	.0063	5.1720E-04	.0076	5.7621E-04	.0084	±6000	.600
301	550	1.432	.137	1.727E-04	.0025	2.0790E-04	.0030	2.3149E-04	.0034	±7930	.600
302	548	1.162	.111	1.397E-04	.0020	1.6814E-04	.0025	1.8716E-04	.0027	±8510	.600
200	567	50.480	7.886	1.015E-02	.1487	1.2273E-02	.1798	1.3706E-02	.2007	LOWER WING SURFACE A/C	LOWER WING SURFACE Y/S
208	562	26.166	4.471	5.715E-03	.0837	6.9001E-03	.1011	7.6987E-03	.1128	0	.100
209	562	21.670	3.698	4.727E-03	.0692	5.7072E-03	.0836	6.3676E-03	.0933	±1000	.100
210	573	9.593	1.593	2.066E-03	.0303	2.5023E-03	.0366	2.7975E-03	.0410	±2000	.100
211	570	8.744	1.527	1.972E-03	.0289	2.3863E-03	.0350	2.6663E-03	.0391	±3300	.100
212	566	6.644	1.246	1.600E-03	.0234	1.9336E-03	.0283	2.1582E-03	.0316	±4000	.150
213	563	5.871	1.184	1.515E-03	.0222	1.8304E-03	.0268	2.0427E-03	.0299	±6000	.150
214	557	14.340	1.370	1.752E-03	.0257	2.1128E-03	.0309	2.3555E-03	.0345	±7000	.100
215	561	33.330	4.769	6.091E-03	.0892	7.3539E-03	.1077	8.2041E-03	.1202	±9100	.100
216	566	44.755	9.333	8.851E-03	.1003	8.2016E-03	.1210	9.2464E-03	.1354	0	.150
217	586	95.769	12.004	1.583E-02	.2318	1.9235E-02	.2817	2.1597E-02	.3157	±0500	.150
224	569	49.467	6.561	8.468E-03	.1240	1.0245E-02	.1501	1.1466E-02	.1677	0	.200
225	565	34.652	4.929	6.321E-03	.0926	7.6381E-03	.1119	8.5262E-03	.1249	±0500	.200
226	565	21.907	2.899	3.720E-03	.0545	4.4957E-03	.0658	5.0188E-03	.0735	±1000	.200
227	568	7.839	1.516	1.954E-03	.0286	2.3630E-03	.0346	2.6396E-03	.0387	±2000	.200
228	564	6.531	1.224	1.568E-03	.0230	1.8946E-03	.0277	2.1146E-03	.0310	±4000	.200
229	569	6.916	1.296	1.663E-03	.0244	2.0101E-03	.0294	2.2439E-03	.0329	±6000	.200
280	590	107.801	15.042	1.994E-02	.2920	2.4259E-02	.3553	2.7208E-02	.3985	±7000	.200
240	576	71.501	6.582	8.570E-03	.1255	1.0388E-02	.1521	1.1621E-02	.1702	0	.250
241	566	41.617	4.017	5.160E-03	.0756	6.2364E-03	.0913	6.9628E-03	.1020	±0500	.250
242	572	10.847	2.110	2.731E-03	.0400	3.3061E-03	.0484	3.6952E-03	.0541	±1000	.250
243	565	8.328	1.681	2.159E-03	.0316	2.6094E-03	.0382	2.9132E-03	.0427	±2000	.250
244	564	8.061	1.510	1.936E-03	.0284	2.3386E-03	.0343	2.6102E-03	.0382	±4000	.250
245	562	18.127	1.656	2.117E-03	.0310	2.5556E-03	.0374	2.8513E-03	.0418	±5000	.250
246	558	17.182	1.652	2.100E-03	.0308	2.5326E-03	.0371	2.8236E-03	.0414	±6000	.250
247	556	17.743	1.704	2.163F-03	.0317	2.6079E-03	.0382	2.9069E-03	.0426	±8330	.250
248	557	15.492	1.488	1.890F-03	.0277	2.2787E-03	.0334	2.5400E-03	.0372	±8670	.250
249	592	117.346	13.636	1.812E-02	.2654	2.2058E-02	.3231	2.4749E-02	.3625	±9010	.250
253	575	59.003	5.984	7.780E-03	.1139	9.4275E-03	.1381	1.0544E-02	.1544	±9350	.250
254	569	47.696	4.823	6.222E-03	.0911	7.5279E-03	.1103	8.4101E-03	.1232	0	.300
255	562	28.379	3.376	4.318F-03	.0632	5.2143E-03	.0764	5.8184E-03	.0852	±0500	.300
256	566	25.872	2.968	3.812F-03	.0558	4.6080E-03	.0675	5.1448E-03	.0754	±1000	.300
257	569	11.071	2.018	2.603F-03	.0381	3.1495E-03	.0461	3.5185E-03	.0515	±1500	.300
258	566	12.636	2.301	2.956F-03	.0433	3.5737E-03	.0523	3.9903E-03	.0584	±2000	.300
259	592	138.640	14.177	1.885F-02	.2761	2.2951E-02	.3362	2.5753E-02	.3772	±4000	.300
261	570	51.092	5.874	7.586F-03	.1111	9.1798E-03	.1345	1.0257E-02	.1502	±6000	.300
262	564	35.858	4.787	6.134F-03	.0898	7.4105E-03	.1085	8.2710E-03	.1211	0	.350
263	590	101.758	12.780	1.694E-02	.2481	2.0612E-02	.3019	2.3118E-02	.3386	±0500	.350
267	566	51.750	7.364	9.458E-03	.1385	1.1431E-02	.1674	1.2763E-02	.1869	±1000	.350
268	562	37.154	5.276	6.751E-03	.0989	8.1526E-03	.1194	9.0968E-03	.1332	0	.400
269	561	21.539	2.964	3.786F-03	.0555	4.5707E-03	.0669	5.0992E-03	.0747	±0500	.400
270	564	19.862	2.376	3.040E-03	.0446	3.6807E-03	.0539	4.1085E-03	.0602	±1000	.400
271	571	22.250	3.693	4.779E-03	.0700	5.7855E-03	.0847	6.4664E-03	.0947	±1500	.400
272	569	21.734	3.795	4.894F-03	.0717	5.9206E-03	.0867	6.6145E-03	.0969	±2000	.400
273	606	141.765	15.307	2.072E-02	.3035	2.5334E-02	.3711	2.8505E-02	.4175	±4000	.400
276	561	23.194	3.048	3.941E-03	.0577	4.7565E-03	.0697	5.3057E-03	.0777	±6000	.400
277	601	162.851	15.992	2.152E-02	.3153	2.6278E-02	.3849	2.9340E-02	.4297	0	.450
284	574	77.049	9.261	1.202E-02	.1761	1.4567E-02	.2134	1.6289E-02	.2386	±1000	.450
286	561	26.481	3.527	4.503E-03	.0660	5.4359E-03	.0796	6.0641E-03	.0888	0	.500
287	561	22.501	2.898	3.701F-03	.0542	4.4680E-03	.0654	4.9846E-03	.0730	±0500	.500
288	572	12.715	2.054	2.660F-03	.0390	3.2203E-03	.0472	3.5996E-03	.0527	±1500	.500
289	569	11.049	1.941	2.503F-03	.0367	3.0275E-03	.0443	3.3820E-03	.0495	±2000	.500
290	569	11.457	1.899	2.450F-03	.0359	2.9636E-03	.0434	3.3109E-03	.0485	±4000	.500
291	556	14.963	1.823	2.313E-03	.0339	2.7883E-03	.0408	3.1077E-03	.0455	±6000	.500
292	618	144.044	16.973	2.337F-02	.3423	2.8678E-02	.4200	3.2352E-02	.4738	±8770	.500
294	574	83.605	8.491	1.154F-02	.1690	1.3980E-02	.2048	1.5632E-02	.2290	0	.550
295	564	43.432	4.598	5.892E-03	.0863	7.1185E-03	.1043	7.9455E-03	.1164	±0500	.550
296	603	139.768	18.371	2.479F-02	.3632	3.0290E-02	.4436	3.4065E-02	.4989	±1000	.550
303	590	103.995	7.256	9.617E-03	.1409	1.1701E-02	.1716	1.3124E-02	.1922	0	.600
304	559	25.406	2.099	2.670F-03	.0391	3.2221E-03	.0472	3.5935E-03	.0526	±0500	.600
305	563	21.381	2.262	2.896F-03	.0424	3.4975E-03	.0512	3.9031E-03	.0572	±1000	.600
306	574	11.728	1.845	2.395F-03	.0351	2.9013E-03	.0425	3.2442E-03	.0475	±2000	.600
307	572	10.419	1.589	2.052E-03	.0301	2.4845E-03	.0364	2.7770E-03	.0407	±4000	.600
308	569	6.159	.992	1.280F-03	.0188	1.5488E-03	.0227	1.7304E-03	.0253	±5000	.600
309	557	7.308	.702	8.927F-04	.0131	1.0767E-03	.0158	1.2003E-03	.0176	±6000	.600
310	554	7.344	.705	8.918E-04	.0131	1.0746E-03	.0157	1.1973E-03	.0175	±7930	.600
313	573	78.046	8.481	8.401E-03	.1230	1.0174E-02	.1490	1.1374E-02	.1666	±8510	.600
314	561	37.735	3.447	4.402E-03	.0645	5.3141E-03	.0778	5.9283E-03	.0868	±0500	.650
318	568	59.495	6.571	8.464E-03	.1240	1.0236E-02	.1499	1.1434E-02	.1675	±1000	.650
319	562	28.804	3.441	4.399E-03	.0644	5.3117E-03	.0778	5.9265E-03	.0868	±1000	.700
320	572	21.429	3.492	4.483E-03	.0657	5.4280E-03	.0795	6.0873E-03	.0889	±2000	.700
										±5000	.700

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ARO(CAMO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT-162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREREND	ROLL-MODEL	YAW
24	8	GDC	8.00	855.1	1341	19.97	3.03	-23.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (R= .009FT)	SIFR (R= .009FT)	SWITCH POSITION
97.2	.068	3.924	5865	7.2015E-05	7.4825E-08	3.73E 06	6.821E-02	2.9333E-02	1

TC NO	TW	DTW/DT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	FUSELAGE A/L	FUSELAGE PHI
1	635	157.353	30.467	4.313E-02	.6323	5.3235E-02	.7805	6.0301E-02	.8841	0	0
2	582	80.450	15.208	2.002E-02	.2935	2.4311E-02	.3564	2.7230E-02	.3992	.0137	0
3	555	23.395	4.364	5.553E-03	.0814	6.6959E-03	.0982	7.4638E-03	.1094	.0137	180.000
4	578	59.339	11.200	1.468E-02	.2153	1.7817E-02	.2612	1.9945E-02	.2924	.0274	0
5	570	54.355	10.219	1.326E-02	.1944	1.6049E-02	.2353	1.7938E-02	.2630	.0274	30.000
6	570	42.619	8.010	1.039E-02	.1523	1.2571E-02	.1843	1.4050E-02	.2060	.0274	60.000
7	561	29.493	5.519	7.075E-03	.1037	8.5445E-03	.1253	9.5344E-03	.1398	.0274	90.000
8	553	17.910	3.435	4.359E-03	.0639	5.2524E-03	.0770	5.8524E-03	.0858	.0274	120.000
9	542	12.360	2.370	3.003E-03	.0440	3.6175E-03	.0530	4.0301E-03	.0591	.0274	150.000
10	550	8.880	1.700	2.149E-03	.0315	2.5871E-03	.0379	2.8811E-03	.0422	.0274	180.000
12	573	43.646	8.217	1.070E-02	.1569	1.2965E-02	.1901	1.4500E-02	.2126	.0543	0
13	571	40.426	7.601	9.869E-03	.1446	1.1944E-02	.1751	1.3351E-02	.1958	.0543	30.000
14	564	31.051	5.828	7.502E-03	.1100	9.0676E-03	.1329	1.0124E-02	.1484	.0543	60.000
15	557	19.250	3.594	4.583E-03	.0672	5.5283E-03	.0811	6.1641E-03	.0904	.0543	90.000
16	551	10.781	2.007	2.540E-03	.0372	3.0587E-03	.0448	3.4070E-03	.0500	.0543	120.000
17	549	6.628	1.232	1.556E-03	.0228	1.8726E-03	.0275	2.0851E-03	.0306	.0543	150.000
18	549	3.855	.717	9.044E-04	.0133	1.0886E-03	.0160	1.2121E-03	.0178	.0543	180.000
20	570	34.645	6.521	8.456E-03	.1240	1.0237E-02	.1501	1.1441E-02	.1677	.0790	0
23	568	29.541	5.547	7.173E-03	.1052	8.6774E-03	.1272	9.6951E-03	.1421	.1030	0
24	569	29.802	5.597	7.244E-03	.1062	8.7656E-03	.1285	9.7941E-03	.1436	.1030	15.000
25	567	22.572	4.236	5.471E-03	.0802	6.6167E-03	.0970	7.3909E-03	.1084	.1030	30.000
26	561	23.875	4.467	5.727E-03	.0840	6.9158E-03	.1014	7.7170E-03	.1131	.1030	45.000
27	558	19.506	3.645	4.656E-03	.0683	5.6193E-03	.0824	6.2672E-03	.0919	.1030	60.000
28	557	14.437	2.695	3.438E-03	.0504	4.1450E-03	.0608	4.6216E-03	.0678	.1030	75.000
29	554	11.041	2.058	2.614E-03	.0383	3.1510E-03	.0462	3.5116E-03	.0515	.1030	90.000
31	548	5.712	1.061	1.337E-03	.0196	1.6094E-03	.0236	1.7915E-03	.0263	.1030	120.000
33	547	2.658	.494	6.215E-04	.0091	7.4773E-04	.0110	8.3226E-04	.0122	.1030	150.000
35	547	1.487	.276	3.475E-04	.0051	4.1808E-04	.0061	4.6533E-04	.0068	.1030	180.000
38	565	20.543	3.851	4.959E-03	.0727	5.9948E-03	.0879	6.6935E-03	.0981	.1430	0
41	562	15.087	3.239	4.156E-03	.0609	5.0202E-03	.0736	5.6025E-03	.0821	.1690	0
42	563	14.625	3.020	3.879E-03	.0569	4.6863E-03	.0687	5.2306E-03	.0767	.1690	15.000
43	562	13.782	2.732	3.506E-03	.0514	4.2349E-03	.0621	4.7263E-03	.0693	.1690	30.000
44	559	10.894	2.192	2.804E-03	.0411	3.3851E-03	.0496	3.7761E-03	.0554	.1690	45.000
45	557	8.892	1.709	2.179E-03	.0319	2.6279E-03	.0385	2.9301E-03	.0430	.1690	60.000
46	554	6.152	1.180	1.499E-03	.0220	1.8063E-03	.0265	2.0128E-03	.0295	.1690	75.000
47	552	4.342	.832	1.055E-03	.0155	1.2706E-03	.0186	1.4155E-03	.0208	.1690	90.000
49	550	1.724	.330	4.173E-04	.0061	5.0247E-04	.0074	5.5958E-04	.0082	.1690	120.000
51	549	.690	.136	1.716E-04	.0025	2.0655E-04	.0030	2.2999E-04	.0034	.1690	150.000
53	550	1.321	.246	3.105E-04	.0046	3.7389E-04	.0055	4.1637E-04	.0061	.1690	180.000
400	561	13.562	2.537	3.251E-03	.0477	3.9263E-03	.0576	4.3810E-03	.0642	.2420	0
401	558	11.270	2.105	2.687E-03	.0394	3.2420E-03	.0475	3.6153E-03	.0530	.2420	15.000
402	557	9.397	1.806	2.302E-03	.0338	2.7771E-03	.0407	3.0964E-03	.0454	.2420	30.000
403	555	5.779	1.141	1.452E-03	.0213	1.7510E-03	.0257	1.9518E-03	.0286	.2420	45.000
404	555	7.869	1.580	2.008E-03	.0294	2.4211E-03	.0355	2.6984E-03	.0396	.2420	60.000
407	551	5.752	.998	1.262E-03	.0185	1.5200E-03	.0223	1.6929E-03	.0248	.2420	75.000
408	549	2.959	.552	6.964E-04	.0102	8.3824E-04	.0123	9.3332E-04	.0137	.2420	90.000
410	546	.147	.029	3.700E-05	.0005	4.4508E-05	.0007	4.9530E-05	.0007	.2420	120.000
412	546	2.584	.508	6.366E-04	.0094	7.6809E-04	.0113	8.5479E-04	.0125	.2420	150.000
413	557	13.609	2.691	3.433E-03	.0503	4.1410E-03	.0607	4.6176E-03	.0677	.2420	180.000
414	556	11.947	2.399	3.054E-03	.0448	3.6828E-03	.0540	4.1054E-03	.0602	.2830	0
415	555	9.154	1.838	2.336E-03	.0342	2.8160E-03	.0413	3.1385E-03	.0460	.2830	15.000
416	552	5.946	1.202	1.523E-03	.0223	1.8354E-03	.0269	2.0448E-03	.0300	.2830	30.000
417	553	9.184	1.591	2.019E-03	.0296	2.4328E-03	.0357	2.7108E-03	.0397	.2830	45.000
418	552	9.535	1.958	2.481E-03	.0364	2.9884E-03	.0438	3.3291E-03	.0488	.2830	60.000
419	546	4.773	.888	1.117E-03	.0104	1.3434E-03	.0197	1.4949E-03	.0219	.2830	75.000
420	546	2.849	.492	6.186E-04	.0091	7.4423E-04	.0109	8.2831E-04	.0121	.2830	90.000
421	545	1.289	.218	2.737E-04	.0040	3.2915E-04	.0048	3.6623E-04	.0054	.2830	105.000
422	543	.601	.111	1.395E-04	.0020	1.6761E-04	.0025	1.8642E-04	.0027	.2830	120.000
423	542	.230	.047	5.889E-05	.0009	7.0760E-05	.0010	7.8692E-05	.0012	.2830	135.000
425	543	4.240	.832	1.042E-03	.0153	1.2527E-03	.0184	1.3934E-03	.0204	.2830	150.000
426	559	14.562	2.881	3.681E-03	.0540	4.4423E-03	.0651	4.9546E-03	.0726	.2830	180.000
427	558	12.391	2.498	3.187E-03	.0467	3.8456E-03	.0564	4.2882E-03	.0629	.3160	0
428	555	9.680	1.949	2.480E-03	.0364	2.9896E-03	.0438	3.3324E-03	.0489	.3160	15.000
429	552	5.445	1.095	1.386E-03	.0203	1.6702E-03	.0245	1.8606E-03	.0273	.3160	30.000
430	551	5.541	1.062	1.343E-03	.0197	1.6173E-03	.0237	1.8014E-03	.0264	.3160	45.000
431	549	4.763	.938	1.184E-03	.0174	1.4251E-03	.0209	1.5868E-03	.0233	.3160	60.000
432	555	10.553	1.829	2.326E-03	.0341	2.8045E-03	.0411	3.1259E-03	.0458	.3160	75.000
433	545	2.790	.548	6.885E-04	.0101	8.2797E-04	.0121	9.2130E-04	.0135	.3160	90.000
434	542	.819	.132	1.648E-04	.0024	1.9802E-04	.0029	2.2024E-04	.0032	.3160	105.000
435	539	1.113	.212	2.641E-04	.0039	3.1707E-04	.0046	3.5245E-04	.0052	.3160	120.000
436	536	.499	.099	1.230E-04	.0018	1.4760E-04	.0022	1.6397E-04	.0024	.3160	135.000
437	536	1.584	.310	3.847E-04	.0056	4.6155E-04	.0068	5.1280E-04	.0075	.3160	150.000
438	538	4.006	.797	9.926E-04	.0146	1.1915E-03	.0175	1.3243E-03	.0194	.3160	165.000
439	562	15.314	3.096	3.960E-03	.0581	4.7834E-03	.0701	5.3383E-03	.0783	.3160	180.000
440	557	12.351	2.544	3.243E-03	.0476	3.9123E-03	.0574	4.3622E-03	.0640	.3540	0
441	556	10.206	2.100	2.673E-03	.0392	3.2230E-03	.0473	3.5928E-03	.0527	.3540	15.000
442	552	6.387	1.284	1.627E-03	.0239	1.9604E-03	.0287	2.1840E-03	.0320	.3540	30.000
443	547	2.635	.432	5.441E-04	.0080	6.5469E-04	.0096	7.2877E-04	.0107	.3540	45.000
444	548	4.052	.753	9.496E-04	.0139	1.1429E-03	.0168	1.2724E-03	.0187	.3540	60.000
445	550	7.798	1.408	1.779E-03	.0261	2.1422E-03	.0314	2.3856E-03	.0350	.3540	75.000
446	544	3.992	.708	8.883E-04	.0130	1.0681E-03	.0157	1.1883E-03	.0174	.3540	90.000
447	539	.732	.129	1.613E-04	.0024	1.9366E-04	.0028	2.1526E-04	.0032	.3540	105.000
448	531	.366	.069	8.560E-05	.0013	1.0258E-04	.0015	1.1387E-04	.0017	.3540	120.000
450	524	1.099	.208	2.539E-04	.0037	3.0367E-04	.0045	3.3672E-04	.0049	.3540	135.000
451	532	3.907	.741	9.159E-04	.0134	1.0980E-03	.0161	1.2191E-03	.0179	.3540	165.000
452	563	16.694	2.913	3.741E-03	.0549	4.5197E-03	.0663	5.0445E-03	.0740	.3540	180.000
454	559	10.418	2.061	2.635E-03	.0386	3.1795E-03	.0466	3.5463E-03	.0520	.3800	0
455	558	8.796	1.570	2.004E-03	.0294	2.4163E-03	.0355	2.6968E-03	.0395	.3800	30.000
456	552	6.480	.736	9.332E-04	.0137	1.1243E-03	.0165	1.2526E-03	.0184	.3800	45.000
457	552	2.705	.485	6.190E-04	.0091	7.4569E-04	.0109	8.3066E-04	.0122	.3800	60.000
458	553	8.129	1.515	1.921E-03	.0282	2.3152E-03	.0339	2.5796E-03	.0378	.3800	75.000
459	550	6.485	1.278	1.615E-03	.0237	1.9448E-03	.0285	2.1660E-03	.0318	.3800	90.000
460	544	1.936	.359	4.508E-04	.0066	5.4199E-04	.0079	6.0301E-04	.0088	.3800	105.000
461	541	.474	.088	1.096E-04	.0016	1.3166E-04	.0019	1.4640E-04	.0021	.3800	120.000
462	540	2.791	.532	6.632E-04	.0097	7.9652E-04	.0117	8.8549E-04	.0130	.3800	135.000
464	541	2.904	.553	6.915E-04	.0101	8.3066E-04	.0122	9.2366E-04	.0135	.3800	150.000
										.3800	180.000

GROUP
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AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
24	8	GDC	8.00	857.0	1342	19.98	3.02	-23.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (R= .009FT)	STFR (R= .009FT)	SWITCH POSITION
97.2	.088	3.932	3865	7.575E-05	7.027E-08	3.74E 06	6.828E-02	2.930E-02	2

FUSELAGE

TC NO	TW	DTWDT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	X/L	PHI
106	564	12.697	2.519	3.238E-03	.0474	3.9135E-03	.0573	4.3688E-03	.0640	.4400	0
107	561	17.560	3.054	3.914E-03	.0573	4.7261E-03	.0692	5.2735E-03	.0772	.4400	30.000
108	553	4.822	.899	1.140E-03	.0167	1.3733E-03	.0201	1.5301E-03	.0224	.4400	60.000
109	548	1.172	.218	2.744E-04	.0040	3.3027E-04	.0048	3.6768E-04	.0054	.4400	90.000
110	546	1.819	.338	4.248E-04	.0062	5.1100E-04	.0075	5.6872E-04	.0083	.4400	120.000
111	545	.960	.178	2.235E-04	.0033	2.6872E-04	.0039	2.9900E-04	.0044	.4400	150.000
112	545	2.881	.535	6.712E-04	.0098	8.0716E-04	.0118	8.9811E-04	.0132	.4400	180.000
113	567	12.221	2.469	3.168E-03	.0467	3.8562E-03	.0565	4.3075E-03	.0631	.4880	0
114	563	17.267	3.092	3.973E-03	.0582	4.8007E-03	.0703	5.3589E-03	.0785	.4880	37.300
115	554	5.256	.937	1.189E-03	.0174	1.4332E-03	.0210	1.5972E-03	.0234	.4880	60.000
116	550	1.893	.342	4.317E-04	.0063	5.1978E-04	.0076	5.7884E-04	.0085	.4880	90.000
117	546	.749	.139	1.748E-04	.0026	2.1026E-04	.0031	2.3400E-04	.0034	.4880	120.000
118	544	.829	.154	1.927E-04	.0028	2.3172E-04	.0034	2.5779E-04	.0038	.4880	150.000
119	544	3.902	.724	9.078E-04	.0133	1.0915E-03	.0160	1.2143E-03	.0178	.4880	180.000
120	565	12.191	2.460	3.165E-03	.0464	3.8255E-03	.0560	4.2711E-03	.0625	.5200	0
121	571	9.602	1.944	2.523E-03	.0370	3.0553E-03	.0447	3.4153E-03	.0500	.5500	0
122	578	19.465	3.953	5.175E-03	.0758	6.2772E-03	.0919	7.0256E-03	.1029	.5500	30.000
195	587	28.742	6.005	7.964E-03	.1166	9.6870E-03	.1419	1.0862E-02	.1591	.5500	43.000
123	562	5.531	.990	1.269E-03	.0186	1.5333E-03	.0225	1.7112E-03	.0251	.5500	60.000
125	557	5.386	1.005	1.281E-03	.0188	1.5446E-03	.0226	1.7220E-03	.0252	.5500	75.000
126	554	3.534	.659	8.363E-04	.0122	1.0080E-03	.0148	1.1233E-03	.0165	.5500	82.500
127	547	2.013	.374	4.704E-04	.0069	5.6594E-04	.0083	6.2990E-04	.0092	.5500	90.000
129	547	.796	.148	1.858E-04	.0027	2.2350E-04	.0033	2.4875E-04	.0036	.5500	120.000
130	544	2.251	.418	5.239E-04	.0077	6.2987E-04	.0092	7.0077E-04	.0103	.5500	150.000
131	544	3.203	.594	7.443E-04	.0109	8.9479E-04	.0131	9.9538E-04	.0146	.5500	180.000
132	573	7.414	1.600	2.081E-03	.0305	2.5205E-03	.0369	2.8182E-03	.0413	.5860	0
134	571	12.446	1.322	1.715E-03	.0251	2.0772E-03	.0306	2.3219E-03	.0340	.6250	60.000
136	560	5.263	.984	1.259E-03	.0184	1.5192E-03	.0222	1.6947E-03	.0248	.6250	75.000
138	554	2.936	.547	6.947E-04	.0102	8.3721E-04	.0123	9.3294E-04	.0137	.6250	90.000
140	547	.391	.073	9.149E-05	.0013	1.1007E-04	.0016	1.2252E-04	.0018	.6250	120.000
141	545	.922	.171	2.147E-04	.0031	2.5816E-04	.0038	2.8723E-04	.0042	.6250	150.000
142	545	3.943	.732	9.187E-04	.0135	1.1049E-03	.0162	1.2294E-03	.0180	.6250	180.000
143	583	8.986	1.375	1.813E-03	.0265	2.2020E-03	.0322	2.4671E-03	.0361	.6600	0
144	583	8.150	1.224	1.612E-03	.0236	1.9586E-03	.0287	2.1942E-03	.0321	.7000	0
145	593	12.378	1.557	2.078E-03	.0304	2.5312E-03	.0371	2.8412E-03	.0416	.7000	30.000
146	570	8.674	1.515	1.964E-03	.0288	2.3769E-03	.0348	2.6564E-03	.0389	.7000	60.000
148	561	5.373	1.005	1.289E-03	.0189	1.5565E-03	.0228	1.7368E-03	.0254	.7000	75.000
149	560	6.865	1.280	1.648E-03	.0241	1.9897E-03	.0291	2.2197E-03	.0325	.7000	82.500
150	557	4.743	.886	1.129E-03	.0165	1.3618E-03	.0199	1.5184E-03	.0222	.7000	90.000
152	550	.708	.132	1.664E-04	.0024	2.0039E-04	.0029	2.2317E-04	.0033	.7000	120.000
153	547	.975	.181	2.278E-04	.0033	2.7410E-04	.0040	3.0509E-04	.0045	.7000	150.000
154	548	4.559	.822	1.036E-03	.0152	1.2470E-03	.0183	1.3882E-03	.0203	.7000	180.000
155	583	8.012	1.293	1.705E-03	.0250	2.0718E-03	.0303	2.3213E-03	.0340	.7340	0
156	580	6.891	1.149	1.508E-03	.0221	1.8304E-03	.0268	2.0495E-03	.0300	.7700	0
[illegible]	585	8.776	1.466	1.937E-03	.0284	2.3538E-03	.0345	2.6379E-03	.0386	.7700	30.000
[illegible]	569	7.244	1.301	1.683E-03	.0246	2.0368E-03	.0298	2.2759E-03	.0333	.7700	60.000
159	559	4.396	.797	1.019E-03	.0149	1.2292E-03	.0180	1.3710E-03	.0201	.7700	90.000
160	552	.786	.142	1.798E-04	.0026	2.1661E-04	.0032	2.4129E-04	.0035	.7700	120.000
161	551	.864	.156	1.972E-04	.0029	2.3745E-04	.0035	2.6445E-04	.0039	.7700	150.000
162	551	3.418	.617	7.812E-04	.0114	9.4094E-04	.0138	1.0481E-03	.0153	.7700	180.000
163	580	6.504	1.120	1.472E-03	.0215	1.7863E-03	.0262	2.0003E-03	.0293	.8000	0
164	577	6.921	1.248	1.633E-03	.0239	1.9805E-03	.0290	2.2165E-03	.0325	.8300	0
165	579	3.364	.499	6.536E-04	.0096	7.9312E-04	.0116	8.8784E-04	.0130	.8300	30.000
166	573	6.342	1.194	1.554E-03	.0228	1.8833E-03	.0276	2.1061E-03	.0308	.8620	0
167	570	5.852	1.165	1.509E-03	.0221	1.8259E-03	.0267	2.0405E-03	.0299	.8950	0
168	572	3.330	.691	8.972E-04	.0131	1.0865E-03	.0159	1.2146E-03	.0178	.8950	30.000
169	563	2.689	.459	5.895E-04	.0086	7.1221E-04	.0104	7.9493E-04	.0116	.8950	60.000
170	557	3.644	.681	8.687E-04	.0127	1.0480E-03	.0153	1.1686E-03	.0171	.8950	90.000
171	554	.794	.148	1.880E-04	.0028	2.2666E-04	.0033	2.5261E-04	.0037	.8950	120.000
172	555	1.342	.250	3.181E-04	.0047	3.8351E-04	.0056	4.2743E-04	.0063	.8950	150.000
173	568	5.310	.997	1.289E-03	.0189	1.5588E-03	.0228	1.7415E-03	.0255	.9280	0
174	564	4.284	.779	1.001E-03	.0147	1.2097E-03	.0177	1.3503E-03	.0198	.9600	0

UPPER CANARD SURFACE

TC NO	TW	DTWDT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	X/C	Y/S
350	599	73.151	7.176	9.661E-03	.1415	1.1791E-02	.1727	1.3252E-02	.1941	0	.250
351	550	13.825	1.324	1.672E-03	.0245	2.0126E-03	.0295	2.2411E-03	.0328	.2500	.250
352	546	3.731	.644	8.089E-04	.0118	9.7295E-04	.0142	1.0827E-03	.0159	.5000	.250
353	543	1.936	.333	4.174E-04	.0061	5.0161E-04	.0073	5.5790E-04	.0082	.7000	.250
357	605	74.059	7.286	9.895E-03	.1449	1.2100E-02	.1772	1.3617E-02	.1994	0	.500
358	550	20.563	1.969	2.487E-03	.0364	2.9950E-03	.0439	3.3354E-03	.0488	.2500	.500
359	546	5.740	.887	1.114E-03	.0163	1.3402E-03	.0196	1.4914E-03	.0218	.5000	.500
360	542	3.038	.523	6.545E-04	.0096	7.8657E-04	.0115	8.7480E-04	.0128	.7000	.500

LOWER CANARD SURFACE

TC NO	TW	DTWDT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	X/C	Y/S
354	551	16.968	1.625	2.055E-03	.0301	2.4746E-03	.0362	2.7560E-03	.0404	.2500	.250
355	548	4.251	1.022	1.288E-03	.0189	1.5496E-03	.0227	1.7250E-03	.0253	.5000	.250
356	544	2.389	.434	5.437E-04	.0080	6.5358E-04	.0096	7.2705E-04	.0106	.7000	.250
361	551	21.787	2.088	2.642E-03	.0387	3.1824E-03	.0466	3.5448E-03	.0519	.2500	.500
362	546	7.171	.979	1.229E-03	.0180	1.4786E-03	.0217	1.6454E-03	.0241	.5000	.500
363	541	3.560	.630	7.863E-04	.0115	9.4455E-04	.0138	1.0502E-03	.0154	.7000	.500

VERTICAL STABILIZER

TC NO	TW	DTWDT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	X/C	Z/S
175	584	26.877	2.618	3.456E-03	.0506	4.2004E-03	.0615	4.7069E-03	.0689	0	.100
176	555	5.894	.566	7.199E-04	.0105	8.6801E-04	.0127	9.6756E-04	.0142	.1000	.100
177	552	2.756	.264	3.349E-04	.0049	4.0349E-04	.0059	4.4953E-04	.0066	.2500	.100
178	548	.949	.091	1.144E-04	.0017	1.3772E-04	.0020	1.5332E-04	.0022	.5000	.100
179	546	.799	.076	9.603E-05	.0014	1.1552E-04	.0017	1.2856E-04	.0019	.7500	.100
180	582	29.462	2.869	3.777E-03	.0553	4.5867E-03	.0672	5.1376E-03	.0752	0	.250
181	553	7.508	.720	9.135E-04	.0134	1.1009E-03	.0161	1.2266E-03	.0180	.1000	.250
182	550	3.185	.305	3.852E-04	.0056	4.6384E-04	.0068	5.1655E-04	.0076	.2500	.250
183	548	1.283	.123	1.546E-04	.0023	1.8608E-04	.0027	2.0716E-04	.0030	.5000	.250
184	547	1.176	.112	1.414E-04	.0021	1.7016E-04	.0025	1.8940E-04	.0028	.7500	.250
185	593	35.719	3.494	4.665E-03	.0683	5.6827E-03	.0832	6.3787E-03	.0934	0	.500
186	560	14.644	1.409	1.803E-03	.0264	2.1765E-03	.0319	2.4280E-03	.0356	.1000	.500
187	553	6.405	.614	7.794E-04	.0114	9.3930E-04	.0138	1.0466E-03	.0153	.2500	.500
188	552	3.476	.333	4.221E-04	.0062	5.0848E-04	.0074	5.6647E-04	.0083	.5000	.500
189	548	1.970	.188	2.376E-04	.0035	2.8595E-04	.0042	3.1836E-04	.0047	.7500	.500
190	587	51.262	5.000	6.622E-03	.0970	8.0523E-03	.1179	9.0276E-03	.1322	0	.750
191	563	28.504	2.748	3.532E-03	.0517	4.2672E-03	.0625	4.7633E-03	.0698	.1000	.750
192	557	13.563	1.304	1.662E-03	.0243	2.0053E-03	.0294	2.2360E-03	.0327	.2500	.750
193	553	7.603	.729	9.242E-04	.0135	1.1135E-03	.0163	1.2407E-03	.0182	.5000	.750
194	550	5.130	.491	6.204E-04	.0091	7.4700E-04	.0109	8.3186E-04	.0122	.7500	.750

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AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
24	8	60C	8.00	855.8	1342	19.98	3.02	-23.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	MREF-FR (R= .009FT)	STFR (R= .009FT)	SWITCH POSITION
97.3	.088	3.927	3866	7.2926E-05	7.4306E-08	3.73E 06	6.824E-02	2.932E-02	3

TC NO	TW	DTWDT	Q-DOT	M(TO)	M(TO)/MREF	M(.9TO)	M(.9TO)/MREF	M(.85TO)	M(.85TO)/MREF	UPPER WING SURFACE A/C	Y/S
201	554	5.439	.644	6.179E-04	.0120	9.85R0E-04	.0144	1.0986E-03	.0161	.1000	.100
202	556	1.968	.284	3.60?E-04	.0053	9.3514E-04	.0064	9.8507E-04	.0071	.2000	.100
203	564	.338	.071	9.169F-05	.0013	1.1080E-04	.0016	1.2369E-04	.0018	.3300	.100
204	561	.696	.125	1.596E-04	.0023	1.9276E-04	.0028	2.150VE-04	.0032	.4000	.100
205	557	.743	.135	1.715F-04	.0025	2.0694E-04	.0030	2.3074E-04	.0034	.6000	.100
206	559	.970	.169	2.154E-04	.0032	2.6004E-04	.0038	2.9006E-04	.0043	.7000	.100
207	556	.761	.073	9.298E-05	.0014	1.1213E-04	.0016	1.2499E-04	.0018	.9100	.100
231	559	10.326	1.232	1.572E-03	.0230	1.8974E-03	.0278	2.1161E-03	.0310	.1000	.250
232	561	1.554	.308	3.939F-04	.0058	4.7562E-04	.0070	5.3063E-04	.0078	.4000	.250
233	558	1.065	.205	2.614E-04	.0038	3.1546E-04	.0046	3.5182E-04	.0052	.5000	.250
234	559	.468	.093	1.188F-04	.0017	1.4340E-04	.0021	1.5995E-04	.0023	.6000	.250
235	559	.888	.065	8.362E-05	.0012	1.0093E-04	.0015	1.1258E-04	.0016	.8330	.250
236	559	1.245	.107	1.363E-04	.0020	1.6451E-04	.0024	1.8348E-04	.0027	.8670	.250
237	557	1.987	.164	2.085E-04	.0031	2.5149E-04	.0037	2.8040E-04	.0041	.9010	.250
238	556	2.510	.198	2.488E-04	.0036	2.9997E-04	.0044	3.3439E-04	.0049	.9350	.250
278	560	9.608	1.279	1.636E-03	.0240	1.9753E-03	.0289	2.2036E-03	.0323	.1000	.500
280	563	3.058	.606	7.779E-04	.0114	9.3971E-04	.0138	1.0488E-03	.0154	.4000	.500
281	561	2.156	.415	5.319E-04	.0078	6.4236E-04	.0094	7.1675E-04	.0105	.5000	.500
282	562	1.861	.355	4.597E-04	.0067	5.5513E-04	.0081	6.1947E-04	.0091	.6000	.500
283	557	1.266	.122	1.550E-04	.0023	1.8697E-04	.0027	2.0847E-04	.0031	.8770	.500
297	563	9.160	1.221	1.568F-03	.0230	1.8941E-03	.0278	2.1142E-03	.0310	.1000	.600
299	560	2.255	.517	6.617E-04	.0097	7.9886E-04	.0117	8.9123E-04	.0131	.4000	.600
300	562	5.530	.990	1.269E-03	.0186	1.5334E-03	.0225	1.7113E-03	.0251	.6000	.600
301	558	3.783	.364	4.641E-04	.0068	5.5993E-04	.0082	6.2443E-04	.0092	.7930	.600
302	556	3.714	.357	4.538E-04	.0067	5.4725E-04	.0080	6.1005E-04	.0089	.8510	.600

TC NO	TW	DTWDT	Q-DOT	M(TO)	M(TO)/MREF	M(.9TO)	M(.9TO)/MREF	M(.85TO)	M(.85TO)/MREF	LOWER WING SURFACE A/C	Y/S
200	599	62.761	9.958	1.340F-02	.1964	1.6359E-02	.2397	1.8385E-02	.2694	0	.100
208	600	43.985	7.649	1.031E-02	.1511	1.2591E-02	.1845	1.4154E-02	.2074	.1000	.100
209	601	37.903	6.592	8.892E-03	.1303	1.0857E-02	.1591	1.2207E-02	.1789	.2000	.100
210	594	17.312	2.904	3.880E-03	.0569	4.7282E-03	.0693	5.3081E-03	.0778	.3300	.100
211	590	27.082	4.778	6.355E-03	.0931	7.7359E-03	.1134	8.6789E-03	.1272	.4000	.150
212	585	27.815	5.243	6.982E-03	.1023	8.4880E-03	.1244	9.5136E-03	.1394	.6000	.150
213	582	23.234	4.728	6.220E-03	.0911	7.5530E-03	.1107	8.4598E-03	.1240	.7000	.100
214	583	30.425	2.962	3.901E-03	.0572	4.7379E-03	.0694	5.3076E-03	.0778	.9100	.100
215	593	34.484	5.013	6.694E-03	.0981	8.1563E-03	.1195	9.1561E-03	.1342	0	.150
216	624	70.167	8.595	1.197E-02	.1754	1.4722E-02	.2157	1.6634E-02	.2438	.0500	.150
217	655	109.849	14.192	2.067E-02	.3028	2.5686E-02	.3764	2.9237E-02	.4284	0	.200
224	645	77.089	10.578	1.517E-02	.2222	1.8778E-02	.2752	2.1317E-02	.3124	.0500	.200
225	625	60.509	8.855	1.236E-02	.1811	1.5204E-02	.2228	1.7184E-02	.2518	.1000	.200
226	616	50.064	6.788	9.348E-03	.1370	1.1468E-02	.1680	1.2934E-02	.1895	.2000	.200
227	592	27.065	5.292	7.052F-03	.1033	8.5872E-03	.1258	9.6364E-03	.1412	.4000	.200
228	583	27.297	5.163	6.801E-03	.0997	8.2609E-03	.1211	9.2545E-03	.1356	.6000	.200
229	587	25.088	4.754	6.293E-03	.0922	7.6528E-03	.1121	8.5795E-03	.1257	.7000	.200
280	674	118.088	17.070	2.553E-02	.3742	3.1947E-02	.4682	3.6536E-02	.5354	0	.250
239	660	85.326	8.149	1.195E-02	.1751	1.4878E-02	.2180	1.6956E-02	.2485	.0500	.250
240	613	48.798	4.818	6.610E-03	.0969	8.1017E-03	.1187	9.1321E-03	.1338	.1000	.250
241	596	37.156	7.281	9.760E-03	.1430	1.1901E-02	.1744	1.3368E-02	.1959	.4000	.250
242	589	31.703	6.474	8.597E-03	.1260	1.0461E-02	.1533	1.1733E-02	.1719	.5000	.250
243	585	29.719	5.627	7.431E-03	.1089	9.0322E-03	.1324	1.0123E-02	.1483	.6000	.250
244	589	34.409	3.187	4.233E-03	.0920	5.1508E-03	.0755	5.7773E-03	.0847	.8330	.250
245	586	35.681	3.479	4.599E-03	.0674	5.5911E-03	.0819	6.2671E-03	.0918	.8670	.250
246	584	34.885	3.398	4.483F-03	.0657	5.4477E-03	.0798	6.1044E-03	.0895	.9010	.250
247	583	30.014	2.922	3.849E-03	.0564	4.6759E-03	.0685	5.2384E-03	.0768	.9350	.250
248	659	110.708	13.242	1.939E-02	.2841	2.4132E-02	.3536	2.7494E-02	.4029	0	.300
253	626	52.477	5.449	7.614E-03	.1116	9.3715E-03	.1373	1.0594E-02	.1552	.0500	.300
254	614	44.723	4.620	6.349E-03	.0930	7.7849E-03	.1141	8.7769E-03	.1286	.1000	.300
255	597	30.928	3.742	5.024E-03	.0736	6.1277E-03	.0898	6.8841E-03	.1009	.1500	.300
256	604	29.239	3.417	4.628E-03	.0678	5.6567E-03	.0829	6.3636E-03	.0933	.2000	.300
257	596	34.317	6.340	8.499E-03	.1245	1.0364E-02	.1519	1.1641E-02	.1706	.4000	.300
258	590	31.280	5.762	7.661E-03	.1123	9.3243E-03	.1366	1.0460E-02	.1533	.6000	.300
259	629	77.847	8.093	1.139E-02	.1663	1.3978E-02	.2048	1.5811E-02	.2317	0	.350
261	626	59.059	6.969	9.727E-03	.1425	1.1969E-02	.1754	1.3528E-02	.1982	.0500	.350
262	609	48.824	6.655	9.080F-03	.1331	1.1116E-02	.1629	1.2519E-02	.1834	.1000	.350
263	628	77.568	9.912	1.387E-02	.2033	1.7080E-02	.2503	1.9313E-02	.2830	0	.400
267	623	59.614	8.716	1.212E-02	.1777	1.4906E-02	.2184	1.6838E-02	.2468	.0500	.400
268	612	49.180	7.156	9.808E-03	.1437	1.2019E-02	.1761	1.3545E-02	.1985	.1000	.400
269	606	44.029	6.191	8.411E-03	.1233	1.0287E-02	.1508	1.1579E-02	.1697	.1500	.400
270	620	58.177	7.143	9.886F-03	.1449	1.2141E-02	.1779	1.3704E-02	.2008	.2000	.400
271	605	41.211	6.949	9.423E-03	.1381	1.1519E-02	.1688	1.2961E-02	.1899	.4000	.400
272	598	35.922	6.359	8.541E-03	.1252	1.0419E-02	.1527	1.1706E-02	.1715	.6000	.400
273	642	85.382	9.363	1.337E-02	.1959	1.6542E-02	.2424	1.8767E-02	.2750	0	.450
276	608	42.784	5.829	7.944E-03	.1164	9.7223E-03	.1425	1.0948E-02	.1604	.1000	.450
277	636	96.569	9.628	1.363E-02	.1998	1.6832E-02	.2467	1.9069E-02	.2794	0	.500
284	658	108.497	13.533	1.978E-02	.2898	2.4604E-02	.3606	2.8023E-02	.4107	.0500	.500
286	623	90.290	12.380	1.721E-02	.2522	2.1161E-02	.3101	2.3902E-02	.3503	.1500	.500
287	623	93.057	12.345	1.717E-02	.2517	2.1116E-02	.3094	2.3856E-02	.3496	.2000	.500
288	609	42.641	7.012	9.565E-03	.1402	1.1709E-02	.1716	1.3186E-02	.1932	.4000	.500
289	601	35.065	6.256	8.438E-03	.1237	1.0304E-02	.1510	1.1584E-02	.1697	.5000	.500
290	602	37.484	6.312	8.524E-03	.1249	1.0410E-02	.1526	1.1706E-02	.1715	.6000	.500
291	595	43.931	4.302	5.757E-03	.0844	7.0178E-03	.1028	7.8805E-03	.1155	.8770	.500
292	654	100.426	10.547	1.533E-02	.2246	1.9043E-02	.2791	2.1668E-02	.3175	0	.550
294	656	108.009	11.909	1.735E-02	.2542	2.1566E-02	.3160	2.4546E-02	.3597	.0500	.550
295	639	94.117	10.308	1.466E-02	.2148	1.8119E-02	.2655	2.0541E-02	.3010	.1000	.550
296	642	98.228	13.128	1.875E-02	.2747	2.3194E-02	.3399	2.6314E-02	.3856	0	.600
303	677	114.063	8.254	1.241E-02	.1819	1.5547E-02	.2278	1.7796E-02	.2608	.0500	.600
304	602	57.963	4.881	6.597E-03	.0967	8.0581E-03	.1181	9.0620E-03	.1328	.1000	.600
305	619	73.352	7.967	1.102E-02	.1615	1.3532E-02	.1983	1.5273E-02	.2236	.2000	.600
306	611	54.031	6.650	1.183E-02	.1734	1.4496E-02	.2124	1.6330E-02	.2393	.4000	.600
307	612	50.792	7.878	1.080E-02	.1582	1.3229E-02	.1939	1.4909E-02	.2185	.5000	.600
308	604	38.258	6.277	8.506E-03	.1246	1.0397E-02	.1524	1.1696E-02	.1714	.6000	.600
309	601	46.395	4.556	6.148E-03	.0901	7.5077E-03	.1100	8.4412E-03	.1237	.7930	.600
310	597	44.173	4.329	5.807E-03	.0851	7.0824E-03	.1038	7.9559E-03	.1166	.8510	.600
313	643	92.452	7.926	1.134E-02	.1662	1.4043E-02	.2058	1.5938E-02	.2335	.0500	.650
314	602	56.635	5.277	7.126E-03	.1044	8.7033E-03	.1275	9.7865E-03	.1434	.1000	.650
318	622	82.540	9.351	1.299E-02	.1904	1.5967E-02	.2340	1.8033E-02	.2643	.1000	.700
319	599	46.293	5.631	7.577E-03	.1110	9.2470E-03	.1355	1.0392E-02	.1523	.2000	.700
320	602	41.271	6.764	9.133E-03	.1338	1.1155E-02	.1635	1.2543E-02	.1838	.5000	.700

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50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
25	8	60C	8.00	858.0	1345	29.99	-6.99	-23.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (A= .009FT)	STFR (H= .009FT)	SWITCH POSITION
97.5	.088	3.937	4870	7.866E-05	7.947E-08	1.13E 06	6.832E-02	2.932E-02	1

TC NO	TW	DTWDT	Q-DOT	H(TO)	H(TO)/HREF	H(.99TO)	H(.995TO)	H(.995TO)/HREF	FUSELAGE X/L	FUSELAGE PHI
1	623	135.681	26.136	3.619E-02	.5294	4.4467E-02	.6505	5.0212E-02	.7346	0	0
2	589	89.680	17.017	2.252E-02	.3295	2.7401E-02	.4009	3.0728E-02	.4495	.0137	0
3	553	53.364	2.490	3.146E-03	.0460	3.7893E-03	.0554	4.2212E-03	.0618	.0137	180.000
4	588	68.444	12.977	1.714E-02	.2507	2.0842E-02	.3049	2.3365E-02	.3418	.0274	0
5	577	62.784	11.841	1.561E-02	.2295	1.8868E-02	.2734	2.0909E-02	.3058	.0274	30.000
6	573	46.663	8.783	1.137E-02	.1664	1.3771E-02	.2015	1.5395E-02	.2252	.0274	60.000
7	560	26.491	4.955	6.316E-03	.0924	7.6222E-03	.1115	8.5017E-03	.1244	.0274	90.000
8	553	12.246	2.356	2.975E-03	.0435	3.5836E-03	.0524	3.9919E-03	.0584	.0274	120.000
9	550	6.992	1.339	1.685E-03	.0247	2.0282E-03	.0297	2.2582E-03	.0330	.0274	150.000
10	549	5.006	.973	1.223E-03	.0179	1.4716E-03	.0215	1.6381E-03	.0240	.0274	180.000
11	583	34.086	10.224	1.341E-02	.1963	1.6289E-02	.2383	1.8244E-02	.2669	.0543	0
12	578	48.712	9.194	1.199E-02	.1754	1.4843E-02	.2128	1.6274E-02	.2381	.0543	30.000
13	568	34.188	6.419	8.258E-03	.1208	9.9865E-03	.1461	1.1153E-02	.1632	.0543	60.000
14	557	17.817	3.330	4.238E-03	.0620	5.1082E-03	.0747	5.6918E-03	.0833	.0543	90.000
15	550	7.314	1.361	1.712E-03	.0250	2.0603E-03	.0301	2.2939E-03	.0336	.0543	120.000
16	549	3.422	.636	7.990E-04	.0117	9.6136E-04	.0141	1.0701E-03	.0157	.0543	150.000
17	549	2.860	.532	6.683E-04	.0098	8.0417E-04	.0118	8.9520E-04	.0131	.0543	180.000
18	579	45.579	8.609	1.123E-02	.1643	1.3523E-02	.1993	1.5246E-02	.2231	.0790	0
19	576	40.729	7.680	9.994E-03	.1462	1.2114E-02	.1772	1.3581E-02	.1982	.1038	0
20	574	37.232	7.397	9.623E-03	.1408	1.1663E-02	.1706	1.3047E-02	.1909	.1038	15.000
21	574	36.669	6.908	8.959E-03	.1311	1.0852E-02	.1588	1.2135E-02	.1775	.1038	30.000
22	565	28.480	5.340	6.850E-03	.1002	8.2781E-03	.1211	9.2414E-03	.1352	.1038	45.000
23	561	22.367	4.184	5.336E-03	.0781	6.4416E-03	.0942	7.1847E-03	.1051	.1038	60.000
24	558	16.265	3.038	3.859E-03	.0565	4.6543E-03	.0681	5.1889E-03	.0759	.1038	75.000
25	554	10.238	1.908	2.412E-03	.0353	2.9057E-03	.0425	3.2372E-03	.0474	.1038	90.000
26	547	3.924	.671	8.433E-04	.0123	1.0163E-03	.0148	1.1287E-03	.0165	.1038	120.000
27	546	1.155	.214	2.684E-04	.0039	3.2268E-04	.0047	3.5901E-04	.0053	.1038	150.000
28	548	2.295	.424	1.236E-03	.0181	1.4865E-03	.0217	1.6545E-03	.0242	.1038	180.000
29	573	30.282	5.701	7.386E-03	.1081	8.9444E-03	.1309	9.9995E-03	.1463	.1490	0
30	567	22.189	4.771	5.133E-03	.0897	7.4153E-03	.1085	8.2809E-03	.1211	.1490	0
31	568	21.329	4.418	5.689E-03	.0832	6.8802E-03	.1007	7.6851E-03	.1124	.1490	15.000
32	567	19.703	3.915	5.030E-03	.0736	6.0809E-03	.0890	6.7902E-03	.0993	.1490	30.000
33	564	15.706	3.169	4.059E-03	.0594	4.9032E-03	.0717	5.4727E-03	.0801	.1490	45.000
34	559	11.763	2.264	2.882E-03	.0422	3.4778E-03	.0509	3.8784E-03	.0567	.1490	60.000
35	555	8.191	1.572	1.990E-03	.0291	2.3976E-03	.0351	2.6716E-03	.0391	.1490	75.000
36	552	4.825	.928	1.166E-03	.0171	1.4043E-03	.0205	1.5640E-03	.0229	.1490	90.000
37	549	1.300	.249	3.125E-04	.0046	3.7608E-04	.0055	4.1862E-04	.0061	.1490	120.000
38	548	.240	.047	5.939E-05	.0009	7.1390E-05	.0010	7.9453E-05	.0012	.1490	150.000
39	550	3.337	.621	7.807E-04	.0114	9.3962E-04	.0137	1.0461E-03	.0153	.1490	180.000
40	568	22.588	4.236	5.453E-03	.0798	6.5949E-03	.0965	7.3661E-03	.1078	.2420	0
41	564	18.909	3.543	4.535E-03	.0663	5.4775E-03	.0801	6.1132E-03	.0894	.2420	15.000
42	564	15.095	2.911	3.726E-03	.0545	4.5006E-03	.0658	5.0228E-03	.0735	.2420	30.000
43	560	10.523	2.084	2.696E-03	.0389	3.2054E-03	.0469	3.5752E-03	.0523	.2420	45.000
44	557	9.988	2.004	2.543E-03	.0372	3.0166E-03	.0449	3.4186E-03	.0500	.2420	60.000
45	553	9.847	1.711	2.161E-03	.0316	2.6033E-03	.0381	2.9001E-03	.0424	.2420	75.000
46	549	3.778	.705	8.851E-04	.0129	1.0650E-03	.0156	1.1858E-03	.0173	.2420	90.000
47	547	.794	.159	1.988E-04	.0029	2.3904E-04	.0035	2.6599E-04	.0039	.2420	120.000
48	545	.481	.090	1.126E-04	.0016	1.3542E-04	.0020	1.5064E-04	.0022	.2420	150.000
49	545	1.573	.309	3.861E-04	.0056	4.6413E-04	.0068	5.1629E-04	.0076	.2420	180.000
50	566	21.492	4.268	5.477E-03	.0801	6.6190E-03	.0968	7.3897E-03	.1081	.2830	0
51	563	19.195	3.869	4.948E-03	.0723	5.9713E-03	.0874	6.6628E-03	.0975	.2830	15.000
52	562	14.906	3.003	3.834E-03	.0561	4.6294E-03	.0677	5.1647E-03	.0756	.2830	30.000
53	558	9.483	1.907	2.422E-03	.0354	2.9206E-03	.0427	3.2560E-03	.0476	.2830	45.000
54	559	13.828	2.402	3.055E-03	.0447	3.6850E-03	.0539	4.1090E-03	.0601	.2830	60.000
55	550	6.579	1.350	1.697E-03	.0248	2.0438E-03	.0299	2.2745E-03	.0333	.2830	75.000
56	549	4.191	1.154	1.450E-03	.0212	1.7445E-03	.0255	1.9418E-03	.0284	.2830	90.000
57	547	2.021	.452	5.666E-04	.0083	6.8139E-04	.0100	7.5819E-04	.0111	.2830	105.000
58	545	1.059	.179	2.238E-04	.0033	2.6895E-04	.0039	2.9917E-04	.0044	.2830	120.000
59	543	.680	.126	1.571E-04	.0023	1.8874E-04	.0028	2.0987E-04	.0031	.2830	135.000
60	543	.873	.178	2.223E-04	.0033	2.6710E-04	.0039	2.9701E-04	.0043	.2830	150.000
61	542	1.454	.285	3.559E-04	.0052	4.2707E-04	.0062	4.7488E-04	.0069	.2830	180.000
62	568	24.746	4.921	6.337E-03	.0927	7.6044E-03	.1121	8.5611E-03	.1252	.3160	0
63	566	19.159	3.880	4.983E-03	.0729	6.0237E-03	.0881	6.7259E-03	.0984	.3160	15.000
64	563	15.397	3.113	3.982E-03	.0583	4.8098E-03	.0704	5.3674E-03	.0785	.3160	30.000
65	558	8.679	1.750	2.224E-03	.0325	2.6830E-03	.0393	2.9914E-03	.0438	.3160	45.000
66	556	9.285	1.784	2.262E-03	.0331	2.7266E-03	.0399	3.0389E-03	.0445	.3160	60.000
67	550	6.119	1.205	1.519E-03	.0222	1.8238E-03	.0267	2.0305E-03	.0297	.3160	75.000
68	548	4.861	1.185	1.488E-03	.0218	1.7900E-03	.0262	1.9923E-03	.0291	.3160	90.000
69	549	7.502	1.477	1.856E-03	.0272	2.2336E-03	.0327	2.4864E-03	.0364	.3160	105.000
70	543	1.238	.199	2.484E-04	.0036	2.9842E-04	.0044	3.3188E-04	.0049	.3160	120.000
71	540	.459	.088	1.088E-04	.0016	1.3064E-04	.0019	1.4522E-04	.0021	.3160	135.000
72	539	.902	.180	2.226E-04	.0033	2.6721E-04	.0039	2.9694E-04	.0043	.3160	150.000
73	539	2.190	.430	5.338E-04	.0078	6.4070E-04	.0094	7.1200E-04	.0104	.3160	165.000
74	540	2.868	.577	7.169E-04	.0105	8.6071E-04	.0126	9.5665E-04	.0140	.3160	180.000
75	573	25.915	5.252	6.806E-03	.0996	8.2421E-03	.1206	9.2146E-03	.1348	.3540	0
76	566	20.803	4.305	5.528E-03	.0809	6.6816E-03	.0977	7.4403E-03	.1091	.3540	15.000
77	563	16.312	3.370	4.309E-03	.0630	5.2038E-03	.0761	5.8068E-03	.0850	.3540	30.000
78	558	10.372	2.092	2.660E-03	.0389	3.2087E-03	.0469	3.5777E-03	.0523	.3540	45.000
79	550	4.945	.812	1.021E-03	.0149	1.2291E-03	.0180	1.3685E-03	.0200	.3540	60.000
80	548	4.605	.856	1.074E-03	.0157	1.2920E-03	.0189	1.4380E-03	.0210	.3540	75.000
81	553	12.445	2.251	2.842E-03	.0416	3.4239E-03	.0501	3.8141E-03	.0558	.3540	90.000
82	546	4.886	.867	1.086E-03	.0159	1.3058E-03	.0191	1.4530E-03	.0213	.3540	105.000
83	541	1.007	.178	2.217E-04	.0032	2.6621E-04	.0039	2.9595E-04	.0043	.3540	120.000
84	533	.838	.159	1.959E-04	.0029	2.3485E-04	.0034	2.6078E-04	.0038	.3540	135.000
85	529	1.728	.327	4.013E-04	.0059	4.8061E-04	.0070	5.3326E-04	.0078	.3540	165.000
86	534	2.909	.552	6.810E-04	.0100	8.1644E-04	.0119	9.0659E-04	.0132	.3540	180.000
87	574	23.889	4.758	6.174E-03	.0902	7.4788E-03	.1094	8.3626E-03	.1223	.3800	0
88	567	17.787	3.534	4.541E-03	.0664	5.4806E-03	.0803	6.1300E-03	.0897	.3800	30.000
89	566	13.846	2.682	3.106E-03	.0454	3.8809E-03	.0562	4.2994E-03	.0629	.3800	45.000
90	556	8.114	1.338	1.695E-03	.0248	2.0433E-03	.0299	2.2779E-03	.0333	.3800	60.000
91	553	4.661	.843	1.068E-03	.0156	1.2829E-03	.0188	1.4292E-03	.0209	.3800	75.000
92	550	3.908	.671	8.491E-04	.0124	1.0173E-03	.0149	1.1327E-03	.0166	.3800	90.000
93	550	6.923	1.287	1.619E-03	.0237	1.9481E-03	.0285	2.1689E-03	.0317	.3800	105.000
94	546	1.858	.345	4.313E-04	.0063	5.1849E-04	.0076	5.7682E-04	.0084	.3800	120.000
95	542	.698	.129	1.612E-04	.0024	1.9363E-04	.0028	2.1530E-04	.0031	.3800	135.000
96	540	.909	.173	2.149E-04	.0031	2.5795E-04	.0038	2.8669E-04	.0042	.3800	150.000
97	542	2.780	.524	6.538E-04	.0096	7.8434E-04	.0115	8.7207E-04	.0128	.3800	180.000

GROUP
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5/28/71

AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
25	8	GDC	8.00	856.9	1345	30.00	-7.00	-23.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (Re .009FT)	SIFR (Re .009FT)	SWITCH POSITION
97.5	.088	3.932	3871	7.5536E-05	7.8498E-08	3.72E 06	6.831E-02	2.935E-02	2

TC NO	TW	DI-DI	Q-DOI	M(TO)	M(TO)/MREF	M(.9TO)	M(.9TO)/MREF	M(.85TO)	M(.85TO)/MREF	FUSELAGE A/L	FUSELAGE PHI
106	576	22.071	4.406	5.728E-03	.0839	6.9425E-03	.1016	7.7656E-03	.1137	.4400	0
107	573	25.782	4.511	5.841E-03	.0855	7.0735E-03	.1035	7.9076E-03	.1158	.4400	30.000
108	559	8.035	1.502	1.910E-03	.0280	2.3038E-03	.0337	2.5689E-03	.0376	.4400	60.000
109	550	2.191	.408	5.123E-04	.0075	6.1662E-04	.0090	6.8647E-04	.0100	.4400	90.000
110	548	1.076	.311	3.904E-04	.0057	4.6955E-04	.0069	5.2255E-04	.0076	.4400	120.000
111	546	1.945	.361	4.518E-04	.0066	5.4327E-04	.0080	6.0443E-04	.0088	.4400	150.000
112	546	3.227	.598	7.481E-04	.0110	8.9950E-04	.0132	1.0007E-03	.0146	.4400	180.000
113	580	19.037	3.671	5.059E-03	.0741	6.1386E-03	.0899	6.8715E-03	.1006	.4880	0
114	577	25.250	4.541	5.670E-03	.0859	7.1057E-03	.1040	7.9417E-03	.1163	.4880	30.000
115	560	7.459	1.333	1.697E-03	.0248	2.0479E-03	.0300	2.2839E-03	.0334	.4880	60.000
116	551	2.345	.433	5.447E-04	.0080	6.5572E-04	.0096	7.3016E-04	.0107	.4880	90.000
117	547	.311	.058	7.226E-05	.0011	8.6903E-05	.0013	9.6703E-05	.0014	.4880	120.000
118	546	2.484	.461	5.772E-04	.0084	6.9401E-04	.0102	7.7217E-04	.0113	.4880	150.000
119	544	1.369	.253	3.199E-04	.0046	3.7954E-04	.0056	4.2219E-04	.0062	.4880	180.000
120	579	22.994	4.672	6.094E-03	.0892	7.3906E-03	.1082	8.2706E-03	.1211	.5200	0
121	585	14.133	2.881	3.792E-03	.0555	4.6077E-03	.0674	5.1631E-03	.0756	.5500	0
122	593	24.488	5.009	6.655E-03	.0974	8.1029E-03	.1186	9.0922E-03	.1331	.5500	30.000
195	601	34.795	7.321	9.834E-03	.1440	1.2003E-02	.1757	1.3491E-02	.1975	.5500	43.000
123	569	8.019	1.440	1.854E-03	.0271	2.2423E-03	.0328	2.5047E-03	.0367	.5500	60.000
125	563	7.197	1.348	1.722F-03	.0252	2.0800E-03	.0304	2.3209E-03	.0340	.5500	75.000
126	559	4.806	.898	1.142E-03	.0167	1.3783E-03	.0202	1.5369E-03	.0225	.5500	82.500
127	551	3.629	.676	8.507E-04	.0125	1.0241E-03	.0150	1.1404E-03	.0167	.5500	90.000
129	548	.440	.082	1.025F-04	.0015	1.2330E-04	.0018	1.3723E-04	.0020	.5500	120.000
130	546	1.374	.255	3.190E-04	.0047	3.8356E-04	.0056	4.2673E-04	.0062	.5500	150.000
131	544	1.025	.361	3.762E-04	.0055	4.5214E-04	.0066	5.0288E-04	.0074	.5500	180.000
132	587	12.246	2.663	3.513E-03	.0514	4.2717E-03	.0625	4.7885E-03	.0701	.5860	0
134	581	21.611	2.307	3.018E-03	.0442	3.6630E-03	.0536	4.1011E-03	.0600	.6250	60.000
136	566	6.380	1.198	1.538E-03	.0225	1.8589E-03	.0272	2.0755E-03	.0304	.6250	75.000
138	558	4.305	.804	1.022E-03	.0150	1.2327E-03	.0180	1.3744E-03	.0201	.6250	90.000
140	549	.638	.119	1.491E-04	.0022	1.7965E-04	.0026	1.9976E-04	.0029	.6250	120.000
141	546	.627	.116	1.456E-04	.0021	1.7506E-04	.0026	1.9477E-04	.0029	.6250	150.000
142	546	1.622	.301	3.764E-04	.0055	4.5258E-04	.0066	5.0349E-04	.0074	.6250	180.000
143	603	15.679	2.422	3.262E-03	.0478	3.9846E-03	.0583	4.4805E-03	.0656	.6600	0
144	603	14.490	2.197	2.959E-03	.0433	3.6138E-03	.0529	4.0634E-03	.0595	.7000	0
145	615	15.193	1.930	2.644F-03	.0387	3.2413E-03	.0474	3.6539E-03	.0535	.7000	30.000
146	575	8.971	1.571	2.040E-03	.0299	2.4720E-03	.0362	2.7646E-03	.0405	.7000	60.000
148	568	7.816	1.468	1.889F-03	.0276	2.2842E-03	.0334	2.5513E-03	.0373	.7000	75.000
149	567	9.530	1.789	2.298E-03	.0336	2.7788E-03	.0407	3.1032E-03	.0454	.7000	82.500
150	563	7.699	1.442	1.843F-03	.0270	2.2257E-03	.0326	2.4836E-03	.0364	.7000	90.000
152	553	1.027	.191	2.415E-04	.0035	2.9085E-04	.0043	3.2397E-04	.0047	.7000	120.000
153	548	1.085	.202	2.531E-04	.0037	3.0443E-04	.0045	3.3883E-04	.0050	.7000	150.000
154	547	1.097	.198	2.477F-04	.0036	2.9788E-04	.0044	3.3147E-04	.0049	.7000	180.000
155	606	16.402	2.675	3.619F-03	.0530	4.4237E-03	.0648	4.9774E-03	.0729	.7340	0
156	601	17.271	2.967	3.904E-03	.0572	4.7653E-03	.0699	5.3958E-03	.0784	.7700	0
157	606	15.368	2.593	3.509E-03	.0514	4.2902E-03	.0628	4.8274E-03	.0707	.7700	30.000
158	572	4.012	.722	9.330E-04	.0137	1.1294E-03	.0165	1.2623E-03	.0185	.7700	60.000
159	563	6.419	1.167	1.492E-03	.0218	1.8018E-03	.0264	2.0107E-03	.0294	.7700	90.000
160	554	1.465	.265	3.348E-04	.0049	4.0328E-04	.0059	4.4927E-04	.0066	.7700	120.000
161	551	1.139	.206	2.592E-04	.0038	3.1210E-04	.0046	3.4755E-04	.0051	.7700	150.000
162	550	.949	.171	2.148E-04	.0031	2.5853E-04	.0038	2.8782E-04	.0042	.7700	180.000
163	604	17.784	3.098	4.179E-03	.0612	5.1062E-03	.0747	5.7429E-03	.0841	.8000	0
164	602	19.281	3.517	4.728E-03	.0692	5.7719E-03	.0845	6.4882E-03	.0950	.8300	0
165	601	9.394	1.408	1.892E-03	.0277	2.3091E-03	.0338	2.5955E-03	.0380	.8300	30.000
166	595	20.408	3.883	5.174E-03	.0757	6.3043E-03	.0923	7.0773E-03	.1036	.8620	0
167	590	20.446	4.109	5.441F-03	.0797	6.6208E-03	.0969	7.4257E-03	.1087	.8950	0
168	593	13.561	2.850	3.790E-03	.0555	4.6163E-03	.0676	5.1808E-03	.0758	.8950	30.000
169	568	1.973	.338	4.346E-04	.0064	5.2554E-04	.0077	5.8698E-04	.0086	.8950	60.000
170	559	4.211	.787	1.001E-03	.0147	1.2081E-03	.0177	1.3472E-03	.0197	.8950	90.000
171	555	1.564	.292	3.693E-04	.0056	4.4506E-04	.0065	4.9596E-04	.0073	.8950	120.000
172	553	.719	.134	1.693E-04	.0025	2.0389E-04	.0030	2.2713E-04	.0033	.8950	150.000
173	589	21.127	4.009	5.304F-03	.0776	6.4522E-03	.0944	7.2355E-03	.1059	.9280	0
174	587	18.305	3.367	4.439E-03	.0650	5.3955E-03	.0790	6.0473E-03	.0885	.9600	0

TC NO	TW	DI-DI	Q-DOI	M(TO)	M(TO)/MREF	M(.9TO)	M(.9TO)/MREF	M(.85TO)	M(.85TO)/MREF	UPPER CANARD SURFACE A/C	UPPER CANARD SURFACE Y/S
350	603	78.981	7.761	1.045E-02	.1530	1.2760E-02	.1868	1.4347E-02	.2100	0	.250
351	550	16.288	1.559	1.959E-03	.0287	2.3581E-03	.0345	2.6251E-03	.0384	.2500	.250
352	546	3.951	.682	8.532E-04	.0125	1.0259E-03	.0150	1.1415E-03	.0167	.5000	.250
353	543	1.941	.336	4.166E-04	.0061	5.0047E-04	.0073	5.5650E-04	.0081	.7000	.250
357	606	79.155	7.791	1.054E-02	.1543	1.2888E-02	.1887	1.4502E-02	.2123	0	.500
358	551	21.794	2.088	2.629E-03	.0385	3.1644E-03	.0463	3.5236E-03	.0516	.2500	.500
359	547	6.614	1.022	1.280E-03	.0187	1.5388E-03	.0225	1.7122E-03	.0251	.5000	.500
360	543	3.646	.628	7.829E-04	.0115	9.4064E-04	.0138	1.0460E-03	.0153	.7000	.500

TC NO	TW	DI-DI	Q-DOI	M(TO)	M(TO)/MREF	M(.9TO)	M(.9TO)/MREF	M(.85TO)	M(.85TO)/MREF	LOWER CANARD SURFACE A/C	LOWER CANARD SURFACE Y/S
354	551	18.337	1.757	2.213E-03	.0324	2.6649E-03	.0390	2.9677E-03	.0434	.2500	.250
355	548	4.583	1.102	1.382E-03	.0202	1.6620E-03	.0243	1.8497E-03	.0271	.5000	.250
356	544	2.663	.484	6.036E-04	.0088	7.2546E-04	.0106	8.0688E-04	.0118	.7000	.250
361	552	22.465	2.154	2.716E-03	.0398	3.2703E-03	.0479	3.6424E-03	.0533	.2500	.500
362	546	7.652	1.045	1.307E-03	.0191	1.5719E-03	.0230	1.7490E-03	.0256	.5000	.500
363	541	4.162	.736	9.193E-04	.0134	1.0990E-03	.0161	1.2217E-03	.0179	.7000	.500

TC NO	TW	DI-DI	Q-DOI	M(TO)	M(TO)/MREF	M(.9TO)	M(.9TO)/MREF	M(.85TO)	M(.85TO)/MREF	VERTICAL STABILIZER A/C	VERTICAL STABILIZER Z/S
175	568	13.672	1.321	1.700E-03	.0249	2.0555E-03	.0301	2.2998E-03	.0336	0	.100
176	553	3.385	.329	4.095E-04	.0060	4.9325E-04	.0072	5.4942E-04	.0080	.1000	.100
177	550	2.100	.201	2.529E-04	.0037	3.0440E-04	.0045	3.3890E-04	.0050	.2500	.100
178	548	1.030	.099	1.235E-04	.0018	1.4852E-04	.0022	1.6528E-04	.0024	.5000	.100
179	545	.838	.080	9.988E-05	.0015	1.2005E-04	.0018	1.3353E-04	.0020	.7500	.100
180	563	15.348	1.486	1.897E-03	.0278	2.2916E-03	.0335	2.5571E-03	.0374	0	.250
181	549	4.647	.449	5.588E-04	.0082	6.7245E-04	.0098	7.4856E-04	.0110	.1000	.250
182	547	2.522	.241	3.019E-04	.0044	3.6300E-04	.0053	4.0392E-04	.0059	.2500	.250
183	546	1.364	.130	1.628E-04	.0024	1.9578E-04	.0029	2.1780E-04	.0032	.5000	.250
184	544	.969	.092	1.127E-04	.0016	1.3542E-04	.0013	9.5242E-05	.0014	.7500	.250
185	562	14.625	1.406	1.800E-03	.0263	2.1735E-03	.0318	2.4250E-03	.0355	0	.500
186	548	5.042	.482	6.051E-04	.0089	7.2801E-04	.0107	8.1027E-04	.0119	.1000	.500
187	546	2.538	.243	3.035E-04	.0044	3.6493E-04	.0053	4.0603E-04	.0059	.2500	.500
188	547	1.978	.189	2.369E-04	.0035	2.8492E-04	.0042	3.1706E-04	.0046	.5000	.500
189	544	1.131	.108	1.348E-04	.0020	1.6179E-04	.0024	1.7993E-04	.0026	.7500	.500
190	560	16.721	1.610	2.051E-03	.0300	2.4769E-03	.0362	2.7604E-03	.0404	0	.750
191	550	9.226	.883	1.110E-03	.0162	1.3399E-03	.0195	1.4867E-03	.0218	.1000	.750
192	547	3.563	.341	4.263E-04	.0062	5.1265E-04	.0075	5.7041E-04	.0083	.2500	.750
193	546	2.379	.227	2.842E-04	.0042	3.4164E-04	.0050	3.8006E-04	.0056	.5000	.750
194	543	1.855	.177	2.207E-04	.0032	2.6518E-04	.0039	2.9498E-04	.0043	.7500	.750

GROUP

AEDC(ANO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
25	8	GDC	8.00	857.0	1346	30.00	-7.00	-23.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	MREF-FR (M= .009FT)	SIFR (M= .009FT)	SWITCH POSITION
97.5	.088	3.932	4871	7.550E-05	7.853E-08	3.72E 06	6.832E-02	2.936E-02	3

TC NO	TW	DTWUT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF
201	547	6.151	.726	9.084E-04	.0133	1.0924E-03	.0160	1.2156E-03	.0178
202	549	1.934	.275	3.453E-04	.0051	4.1546E-04	.0061	4.6246E-04	.0068
203	564	.500	.106	1.349E-04	.0020	1.6292E-04	.0024	1.8181E-04	.0027
204	559	.978	.175	2.218E-04	.0032	2.6754E-04	.0039	2.9830E-04	.0027
205	553	.725	.131	1.653E-04	.0024	1.9916E-04	.0029	2.2185E-04	.0044
206	559	.251	.044	5.547E-05	.0008	6.6910E-05	.0010	7.4602E-05	.0032
207	557	1.141	.110	1.390E-04	.0020	1.6760E-04	.0025	1.8682E-04	.0011
231	546	6.432	.762	9.525E-04	.0139	1.1451E-03	.0168	1.2740E-03	.0027
232	556	.729	.144	1.822E-04	.0027	2.1966E-04	.0032	2.4479E-04	.0186
233	553	.471	.090	1.138E-04	.0017	1.3706E-04	.0020	1.5267E-04	.0036
234	556	.361	.067	8.520E-05	.0012	1.0269E-04	.0015	1.1443E-04	.0022
235	562	1.535	.113	1.444E-04	.0021	1.7438E-04	.0026	1.9494E-04	.0017
236	560	2.376	.196	2.494E-04	.0036	3.0091E-04	.0044	3.3558E-04	.0028
237	558	3.421	.282	3.577E-04	.0052	4.3132E-04	.0063	4.8083E-04	.0049
238	556	4.403	.343	4.340E-04	.0064	5.2313E-04	.0077	5.8295E-04	.0070
278	546	3.967	.527	6.589E-04	.0096	7.9230E-04	.0116	8.8150E-04	.0085
280	556	.736	.145	1.842E-04	.0027	2.2200E-04	.0032	2.4741E-04	.0129
281	556	.722	.139	1.756E-04	.0026	2.1165E-04	.0031	2.3588E-04	.0036
282	558	.669	.129	1.633E-04	.0024	1.9695E-04	.0029	2.1957E-04	.0035
283	555	.913	.088	1.109E-04	.0016	1.3358E-04	.0020	1.4884E-04	.0032
297	549	5.983	.792	9.937E-04	.0145	1.1957E-03	.0175	1.3309E-03	.0022
299	555	.338	.077	9.764E-05	.0014	1.1765E-04	.0017	1.3108E-04	.0195
300	557	.798	.142	1.809E-04	.0026	2.1762E-04	.0032	2.4255E-04	.0019
301	555	1.954	.188	2.371E-04	.0035	2.8570E-04	.0042	3.1833E-04	.0036
302	553	3.150	.302	3.807E-04	.0056	4.5851E-04	.0067	5.1068E-04	.0047
200	589	54.335	8.548	1.133E-02	.1659	1.3785E-02	.2010	1.5456E-02	.2262
208	610	45.182	7.892	1.073E-02	.1570	1.3126E-02	.1921	1.4781E-02	.2163
209	614	38.138	6.674	9.119E-03	.1335	1.1175E-02	.1636	1.2594E-02	.1843
210	609	15.712	2.655	3.602E-03	.0527	4.4074E-03	.0645	4.9619E-03	.0726
211	600	16.865	2.949	4.006E-03	.0586	4.8875E-03	.0715	5.4919E-03	.0804
212	591	17.464	3.403	4.509E-03	.0660	5.4878E-03	.0803	6.1560E-03	.0901
213	590	17.470	3.570	4.723E-03	.0691	5.7657E-03	.0841	6.4438E-03	.0943
214	617	60.115	5.946	8.156E-03	.1196	1.0003E-02	.1466	1.1200E-02	.1651
215	595	40.597	5.900	7.853E-03	.1149	9.5671E-03	.1400	1.0739E-02	.1572
216	612	66.306	8.147	1.141E-02	.1670	1.4061E-02	.2058	1.5909E-02	.2328
217	614	78.824	10.012	1.368E-02	.2003	1.6770E-02	.2455	1.8901E-02	.2766
224	656	74.306	10.242	1.484E-02	.2172	1.8433E-02	.2698	2.0973E-02	.3070
225	640	61.394	9.039	1.280E-02	.1873	1.5808E-02	.2314	1.7917E-02	.2622
226	636	47.420	6.483	9.127E-03	.1336	1.1260E-02	.1648	1.2751E-02	.1866
227	598	21.872	4.290	5.739E-03	.0840	6.9987E-03	.1024	7.8618E-03	.1151
228	588	18.169	3.444	4.543E-03	.0665	5.5241E-03	.0809	6.1927E-03	.0906
229	595	21.496	4.089	5.442E-03	.0797	6.6299E-03	.0970	7.4421E-03	.1089
230	635	84.176	12.553	1.764E-02	.2582	2.1760E-02	.3185	2.4635E-02	.3606
240	678	82.969	7.978	1.195E-02	.1749	1.4964E-02	.2190	1.7127E-02	.2507
241	638	64.047	6.396	9.029E-03	.1322	1.1148E-02	.1632	1.2629E-02	.1848
242	601	20.773	4.079	5.471E-03	.0801	6.6762E-03	.0977	7.5027E-03	.1098
243	591	18.409	3.762	4.981E-03	.0729	6.0607E-03	.0887	6.7977E-03	.0995
244	589	20.457	3.881	5.127E-03	.0750	6.2352E-03	.0913	6.9911E-03	.1023
245	624	67.358	6.340	8.784E-03	.1286	1.0798E-02	.1580	1.2197E-02	.1785
246	619	71.472	7.078	9.736E-03	.1425	1.1949E-02	.1749	1.3481E-02	.1973
247	618	71.230	7.047	9.676E-03	.1416	1.1869E-02	.1737	1.3387E-02	.1959
248	616	59.727	5.905	8.093E-03	.1184	9.9229E-03	.1452	1.1188E-02	.1638
253	626	85.807	10.126	1.406E-02	.2058	1.7293E-02	.2531	1.9539E-02	.2860
254	667	83.138	8.779	1.292E-02	.1891	1.6117E-02	.2359	1.8391E-02	.2692
255	650	73.564	7.715	1.109E-02	.1623	1.3794E-02	.2013	1.5629E-02	.2287
256	624	53.719	6.577	9.107E-03	.1333	1.1193E-02	.1630	1.2641E-02	.1850
257	634	46.236	5.478	7.686E-03	.1125	9.4775E-03	.1387	1.0727E-02	.1570
258	599	21.191	3.920	5.244E-03	.0768	6.3959E-03	.0936	7.1850E-03	.1052
259	592	20.166	3.718	4.929E-03	.0721	5.9995E-03	.0878	6.7304E-03	.0985
261	610	79.339	8.181	1.112E-02	.1627	1.3607E-02	.1992	1.5322E-02	.2243
262	648	74.479	8.871	1.271E-02	.1860	1.5749E-02	.2305	1.7886E-02	.2618
263	629	59.393	8.164	1.138E-02	.1666	1.4008E-02	.2050	1.5837E-02	.2318
267	601	60.569	7.648	1.027E-02	.1503	1.2535E-02	.1835	1.4089E-02	.2062
268	639	67.009	9.862	1.395E-02	.2042	1.7229E-02	.2522	1.9524E-02	.2858
269	629	56.849	8.332	1.162E-02	.1701	1.4305E-02	.2094	1.6174E-02	.2367
270	617	40.796	5.743	7.902E-03	.1157	9.6908E-03	.1418	1.0927E-02	.1599
271	622	34.977	4.299	5.936E-03	.0869	7.2914E-03	.1067	8.2310E-03	.1205
272	596	21.300	3.588	4.823E-03	.0706	5.8841E-03	.0862	6.6205E-03	.0969
273	622	71.822	7.810	1.078E-02	.1578	1.3245E-02	.1939	1.4952E-02	.2188
276	619	40.504	5.544	7.621E-03	.1115	9.3521E-03	.1369	1.0550E-02	.1544
277	617	76.617	7.579	1.040E-02	.1522	1.2754E-02	.1867	1.4384E-02	.2105
284	644	77.972	9.767	1.428E-02	.2090	1.7790E-02	.2604	2.0282E-02	.2969
286	617	43.481	5.947	8.140E-03	.1194	1.0008E-02	.1465	1.1286E-02	.1652
287	616	37.579	4.968	6.805E-03	.0996	8.3436E-03	.1221	9.4069E-03	.1377
288	607	21.667	3.560	4.819E-03	.0705	5.8932E-03	.0863	6.6320E-03	.0971
289	600	17.271	3.040	4.127E-03	.0604	5.0352E-03	.0737	5.6577E-03	.0828
290	602	15.931	2.843	3.607E-03	.0528	4.4034E-03	.0644	4.9502E-03	.0725
291	627	67.843	6.738	9.366E-03	.1371	1.1522E-02	.1686	1.3020E-02	.1906
292	641	84.466	8.825	1.252E-02	.1832	1.5469E-02	.2264	1.7538E-02	.2567
294	678	81.221	9.031	1.352E-02	.1978	1.6926E-02	.2477	1.9369E-02	.2835
295	647	63.999	7.031	1.005E-02	.1471	1.2447E-02	.1822	1.4130E-02	.2068
296	627	87.508	11.623	1.617E-02	.2366	1.9892E-02	.2911	2.2481E-02	.3290
303	693	95.971	6.984	1.069E-02	.1565	1.3465E-02	.1971	1.5473E-02	.2265
304	611	44.488	3.762	5.120E-03	.0749	6.2690E-03	.0918	7.0609E-03	.1033
305	622	33.501	3.643	5.033E-03	.0737	6.1827E-03	.0905	6.9798E-03	.1022
306	611	22.184	3.550	4.827E-03	.0707	5.9086E-03	.0865	6.6538E-03	.0974
307	609	21.248	3.291	4.468E-03	.0654	5.4676E-03	.0800	6.1559E-03	.0901
308	604	14.189	2.328	3.140E-03	.0460	3.8358E-03	.0561	4.3141E-03	.0631
309	619	47.476	4.700	6.466E-03	.0946	7.9357E-03	.1161	8.9332E-03	.1310
310	621	56.844	5.631	7.762E-03	.1136	9.5305E-03	.1395	1.0756E-02	.1574
313	670	83.365	7.222	1.069F-02	.1564	1.3347E-02	.1953	1.5243E-02	.2231
314	634	59.334	5.607	7.876F-03	.1183	9.7116E-03	.1421	1.0993E-02	.1609
318	654	75.740	8.700	1.257E-02	.1840	1.5610E-02	.2285	1.7754E-02	.2599
319	634	52.111	6.438	9.066E-03	.1324	1.1156E-02	.1633	1.2629E-02	.1848
320	607	19.515	3.206	4.339E-03	.0635	5.3050E-03	.0776	5.9697E-03	.0874

GROUP
80

UPPER WING SURFACE

X/C	Y/S
.1000	.100
.2000	.100
.3300	.100
.4000	.100
.6000	.100
.7000	.100
.9100	.100
.1000	.250
.4000	.250
.5000	.250
.6000	.250
.8330	.250
.8670	.250
.9010	.250
.9350	.250
.1000	.500
.4000	.500
.5000	.500
.6000	.500
.8770	.500
.1000	.600
.4000	.600
.6000	.600
.7930	.600
.8510	.600

LOWER WING SURFACE

X/C	Y/S
0	.100
.1000	.100
.2000	.100
.3300	.100
.4000	.150
.5000	.150
.7000	.100
.9100	.100
0	.150
.0500	.150
0	.200
.0500	.200
.1000	.200
.2000	.200
.4000	.200
.6000	.200
.7000	.200
0	.250
.0500	.250
.1000	.250
.4000	.250
.5000	.250
.6000	.250
.8330	.250
.8670	.250
.9010	.250
.9350	.250
0	.300
.0500	.300
.1000	.300
.1500	.300
.2000	.300
.4000	.300
.6000	.300
0	.350
.0500	.350
.1000	.350
0	.400
.0500	.400
.1000	.400
.1500	.400
.2000	.400
.4000	.400
.6000	.400
0	.450
.1000	.450
0	.500
.0500	.500
.1500	.500
.2000	.500
.4000	.500
.6000	.500
.8770	.500
0	.550
.0500	.550
.1000	.550
0	.600
.0500	.600
.1000	.600
.2000	.600
.4000	.600
.5000	.600
.6000	.600
.7930	.600
.8510	.600
.0500	.650
.1000	.650
.2000	.700
.5000	.700

5/28/71

AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEC	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
26	8	60C	8.00	857.4	1342	30.01	-7.01	-23.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (R= .009FT)	SIFH (R= .009FT)	SWITCH POSITION
97.3	.088	3.934	5866	7.574E-05	7.832E-08	3.74E 06	6.831E-02	2.730E-02	3

TC NO	TM	DTMDT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	UPPER WING SURFACE A/C	UPPER WING SURFACE Y/S
201	558	3.292	.391	4.962E-04	.0073	6.0114E-04	.0088	6.7036E-04	.0098	.1000	.100
202	559	1.445	.207	2.638E-04	.0039	3.1835E-04	.0047	3.5509E-04	.0052	.2000	.100
203	564	.537	.113	1.445E-04	.0021	1.7621E-04	.0026	1.9672E-04	.0029	.3300	.100
204	563	.844	.151	1.939E-04	.0028	2.3433E-04	.0034	2.6156E-04	.0038	.4000	.100
205	561	.577	.105	1.343E-04	.0020	1.6212E-04	.0024	1.8089E-04	.0026	.6000	.100
206	562	.130	.023	2.89BE-05	.0004	3.5007E-05	.0005	3.9066E-05	.0006	.7000	.100
207	560	1.130	.109	1.391E-04	.0020	1.6792E-04	.0025	1.8733E-04	.0027	.9100	.100
231	560	4.852	.579	7.396E-04	.0108	8.9268E-04	.0131	9.9572E-04	.0146	.1000	.250
232	563	.625	.124	1.589E-04	.0023	1.9195E-04	.0028	2.1423E-04	.0031	.4000	.250
233	562	.267	.051	6.994E-05	.0010	7.9632E-05	.0012	8.8859E-05	.0013	.5000	.250
234	563	.369	.069	8.849E-05	.0013	1.0688E-04	.0016	1.1928E-04	.0017	.6000	.250
235	563	1.544	.114	1.461E-04	.0021	1.7648E-04	.0026	1.9696E-04	.0029	.8330	.250
236	562	1.714	.141	1.812E-04	.0027	2.188BE-04	.0032	2.4423E-04	.0036	.8670	.250
237	561	1.944	.169	2.111E-04	.0031	2.5484E-04	.0037	2.8433E-04	.0042	.9010	.250
238	562	6.012	.470	6.022E-04	.0088	7.2722E-04	.0106	8.1149E-04	.0119	.9350	.250
278	561	3.773	.502	6.429E-04	.0094	7.7625E-04	.0114	8.6605E-04	.0127	.1000	.500
280	562	.689	.137	1.751E-04	.0026	2.1148E-04	.0031	2.3601E-04	.0035	.4000	.500
281	562	.588	.113	1.451E-04	.0021	1.7523E-04	.0026	1.9554E-04	.0029	.5000	.500
282	562	.481	.093	1.187E-04	.0017	1.4337E-04	.0021	1.5998E-04	.0023	.6000	.500
283	560	2.218	.213	2.729E-04	.0040	3.2944E-04	.0048	3.6750E-04	.0054	.8770	.500
297	564	5.418	.731	9.385E-04	.0137	1.1341E-03	.0166	1.2660E-03	.0185	.1000	.600
299	561	.285	.065	8.372E-05	.0012	1.0108E-04	.0015	1.1278E-04	.0017	.4000	.600
300	561	.401	.072	9.175E-05	.0013	1.1078E-04	.0016	1.2359E-04	.0018	.6000	.600
301	560	1.510	.145	1.858E-04	.0027	2.2422E-04	.0033	2.5012E-04	.0037	.7930	.600
302	559	3.067	.295	3.769E-04	.0055	4.5493E-04	.0067	5.0744E-04	.0074	.8510	.600
200	596	47.569	7.536	1.009E-02	.1478	1.2307E-02	.1802	1.3822E-02	.2023	LOWER WING SURFACE A/C	LOWER WING SURFACE Y/S
208	619	42.786	7.502	1.037E-02	.1518	1.2732E-02	.1864	1.4369E-02	.2104	0	.100
209	622	38.327	6.730	9.343F-03	.1368	1.1482E-02	.1681	1.2968E-02	.1898	.1000	.100
210	603	15.610	2.630	3.558F-03	.0521	4.3472E-03	.0636	4.8896E-03	.0716	.2000	.100
211	598	16.879	2.988	4.011E-03	.0587	4.8934E-03	.0716	5.4977E-03	.0805	.3300	.100
212	593	17.452	3.327	4.438E-03	.0650	5.4058E-03	.0791	6.0676E-03	.0888	.4000	.150
213	590	17.878	3.653	4.854F-03	.0711	5.9086E-03	.0865	6.6283E-03	.0970	.6000	.150
214	644	75.549	7.557	1.042E-02	.1584	1.3392E-02	.1961	1.5200E-02	.2225	.7000	.100
215	588	36.850	5.344	7.085E-03	.1037	8.6186E-03	.1262	9.6648E-03	.1415	.9100	.100
216	642	64.165	7.917	1.131E-02	.1656	1.4992E-02	.2048	1.5875E-02	.2324	0	.150
217	627	75.209	9.606	1.343E-02	.1966	1.6536E-02	.2421	1.8696E-02	.2737	.0500	.150
224	667	71.032	9.831	1.455E-02	.2129	1.8150E-02	.2657	2.0717E-02	.3033	0	.200
225	651	59.549	8.807	1.274E-02	.1865	1.5809E-02	.2314	1.7975E-02	.2631	.0500	.200
226	639	41.641	5.701	8.107E-03	.1187	1.0020E-02	.1467	1.1399E-02	.1663	.1000	.200
227	598	19.440	3.813	5.124E-03	.0750	6.2521E-03	.0915	7.0252E-03	.1028	.2000	.200
228	592	16.646	3.162	4.213E-03	.0617	5.1301E-03	.0751	5.7570E-03	.0843	.4000	.200
229	594	19.611	3.728	4.979E-03	.0729	6.0662E-03	.0888	6.8099E-03	.0997	.6000	.200
239	649	85.961	12.310	1.775E-02	.2599	2.2017E-02	.3223	2.5020E-02	.3663	.7000	.200
239	690	79.675	7.691	1.178E-02	.1725	1.4832E-02	.2171	1.7037E-02	.2494	0	.250
240	649	63.331	6.348	9.155E-03	.1340	1.1353E-02	.1662	1.2901E-02	.1889	.0500	.250
241	600	21.046	4.132	5.567E-03	.0815	6.7964E-03	.0995	7.6399E-03	.1118	.1000	.250
242	595	18.920	3.875	5.186E-03	.0759	6.3216E-03	.0925	7.0990E-03	.1039	.4000	.250
243	593	18.401	3.497	4.665E-03	.0683	5.6831E-03	.0832	6.3789E-03	.0934	.5000	.250
244	714	144.393	14.053	2.236E-02	.3273	2.8432E-02	.4162	3.2900E-02	.4816	.6000	.250
245	714	174.838	17.940	2.856E-02	.4181	3.6316E-02	.5317	4.2026E-02	.6152	.8330	.250
246	713	162.741	16.696	2.691E-02	.3881	3.3695E-02	.4933	3.8975E-02	.5706	.8670	.250
247	713	124.476	12.767	2.027E-02	.2968	2.5765E-02	.3772	2.9802E-02	.4363	.9010	.250
248	640	82.737	9.823	1.399E-02	.2048	1.7299E-02	.2532	1.9617E-02	.2872	.9350	.250
253	679	81.651	8.656	1.304E-02	.1909	1.6350E-02	.2394	1.8723E-02	.2741	0	.300
254	663	70.793	7.460	1.098E-02	.1607	1.3677E-02	.2002	1.5597E-02	.2283	.0500	.300
255	634	51.450	6.327	8.931E-03	.1307	1.1019E-02	.1613	1.2477E-02	.1827	.1000	.300
256	638	43.254	5.131	7.289E-03	.1067	9.0069E-03	.1319	1.0210E-02	.1495	.1500	.300
257	601	20.903	3.871	5.222E-03	.0766	6.3762E-03	.0933	7.1689E-03	.1050	.2000	.300
258	596	21.347	3.944	5.285E-03	.0774	6.4438E-03	.0943	7.2375E-03	.1060	.4000	.300
259	625	76.723	7.963	1.110E-02	.1628	1.3661E-02	.2000	1.5438E-02	.2260	.6000	.300
261	661	71.479	8.557	1.256E-02	.1839	1.5643E-02	.2290	1.7831E-02	.2610	0	.350
262	641	57.650	7.967	1.136E-02	.1664	1.4056E-02	.2058	1.5944E-02	.2334	.0500	.350
263	623	66.192	8.437	1.172E-02	.1716	1.4408E-02	.2109	1.6273E-02	.2382	.1000	.350
267	652	64.340	9.520	1.379E-02	.2020	1.7126E-02	.2507	1.9478E-02	.2851	0	.400
268	642	54.969	8.100	1.156E-02	.1693	1.4305E-02	.2094	1.6229E-02	.2376	.0500	.400
269	627	40.287	5.717	7.991E-03	.1170	9.8362E-03	.1440	1.1120E-02	.1628	.1000	.400
270	629	35.307	4.353	6.102E-03	.0893	7.5169E-03	.1100	8.5025E-03	.1245	.1500	.400
271	604	19.802	3.338	4.523E-03	.0662	5.5289E-03	.0809	6.2203E-03	.0911	.2000	.400
272	599	15.812	2.801	3.769E-03	.0552	4.5991E-03	.0673	5.1687E-03	.0757	.4000	.400
273	636	68.389	7.480	1.058E-02	.1549	1.3066E-02	.1913	1.4801E-02	.2167	.6000	.400
276	630	39.855	5.481	7.691E-03	.1126	9.4764E-03	.1387	1.0720E-02	.1569	0	.450
277	630	72.079	7.170	1.007E-02	.1474	1.2408E-02	.1816	1.4038E-02	.2055	.1000	.450
284	675	74.990	9.419	1.411E-02	.2066	1.7665E-02	.2586	2.0211E-02	.2959	0	.500
286	628	42.688	5.866	8.210E-03	.1202	1.0109E-02	.1480	1.1431E-02	.1674	.0500	.500
287	624	36.969	4.903	6.823F-03	.0999	8.3903E-03	.1228	9.4790E-03	.1388	.1500	.500
288	607	19.922	3.273	4.451E-03	.0652	5.4450E-03	.0797	6.1294E-03	.0897	.2000	.500
289	601	16.590	2.960	3.993E-03	.0585	4.8765E-03	.0714	5.4827E-03	.0803	.4000	.500
290	600	15.719	2.645	3.562E-03	.0521	4.3479E-03	.0637	4.8872E-03	.0715	.5000	.500
291	734	156.753	16.183	2.659E-02	.3892	3.4111E-02	.4994	3.9733E-02	.5817	.6000	.500
292	653	81.372	8.542	1.239E-02	.1813	1.5381E-02	.2252	1.7496E-02	.2561	.8770	.500
294	689	78.715	8.788	1.345E-02	.1969	1.6930E-02	.2478	1.9444E-02	.2847	0	.550
295	658	62.427	6.890	1.007E-02	.1474	1.2526E-02	.1834	1.4267E-02	.2089	.0500	.550
296	641	84.465	11.284	1.609E-02	.2355	1.9893E-02	.2912	2.2563E-02	.3303	.1000	.550
303	704	91.639	6.694	1.048E-02	.1535	1.3273E-02	.1943	1.5310E-02	.2241	0	.600
304	618	46.108	3.402	4.698E-03	.0688	5.7670E-03	.0844	6.5074E-03	.0953	.0500	.600
305	628	32.778	3.574	5.006E-03	.0733	6.1655E-03	.0903	6.9729E-03	.1021	.1000	.600
306	608	22.334	3.570	4.862E-03	.0712	5.9496E-03	.0871	6.6988E-03	.0981	.2000	.600
307	608	20.318	3.145	4.281E-03	.0627	5.2388E-03	.0767	5.8983E-03	.0863	.4000	.600
308	600	13.962	2.287	3.082E-03	.0451	3.7632E-03	.0551	4.2304E-03	.0619	.5000	.600
309	741	157.853	16.333	2.718E-02	.3979	3.4998E-02	.5124	4.0877E-02	.5984	.6000	.600
310	728	145.668	15.010	2.441E-02	.3574	3.1229E-02	.4572	3.6299E-02	.5314	.7930	.600
313	681	81.909	7.124	1.078E-02	.1578	1.3523E-02	.1980	1.5497E-02	.2269	.8510	.600
314	644	58.686	5.570	7.980E-03	.1168	9.8809E-03	.1447	1.1216E-02	.1642	.0500	.650
318	666	73.823	8.512	1.258E-02	.1841	1.5691E-02	.2297	1.7907E-02	.2622	.1000	.650
319	643	51.765	6.417	9.169E-03	.1342	1.1345E-02	.1661	1.2873E-02	.1885	.1000	.700
320	604	20.213	3.316	4.490E-03	.0657	5.4876E-03	.0803	6.1733E-03	.0904	.2000	.700
										.5000	.700

GROUP
80

AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL 8
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
27	8	GUC	8.00	858.5	1342	30.00	-7.00	-23.00	180.00	.0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	MREF-FR (R= .009FT)	SIER (R= .009FT)	SWITCH POSITION
97.3	.088	3.939	9866	7.584E-05	7.832E-08	9.76E 06	9.835E-02	2.928E-02	3

TC NO	TM	DTWDT	W-DOT	M(TO)	M(TO)/MREF	M(.9TO)	M(.9TO)/MREF	M(.85TO)	M(.85TO)/MREF
201	559	4.354	.522	9.663E-04	.0097	8.0416E-04	.0110	8.9694E-04	.0131
202	561	1.773	.254	3.245E-04	.0047	3.9176E-04	.0097	4.3707E-04	.0064
203	568	.570	.121	1.557E-04	.0023	1.8835E-04	.0020	2.1042E-04	.0031
204	567	.782	.140	1.808E-04	.0026	2.1867E-04	.0032	2.4424E-04	.0036
205	565	.512	.093	1.199F-04	.0018	1.4499E-04	.0021	1.6190E-04	.0024
206	567	.812	.142	1.827E-04	.0027	2.2092E-04	.0032	2.4676E-04	.0036
207	570	3.333	.322	4.174E-04	.0061	5.0519E-04	.0074	5.6456E-04	.0083
231	561	5.237	.625	7.998E-04	.0117	9.6561E-04	.0141	1.0773E-03	.0158
232	567	.540	.117	1.512E-04	.0022	1.8292E-04	.0027	2.0432E-04	.0030
233	567	.297	.057	7.380E-05	.0011	8.9346E-05	.0013	9.9786E-05	.0015
234	568	.579	.109	1.409E-04	.0021	1.6988E-04	.0025	1.8979E-04	.0028
235	572	.922	.068	8.868E-05	.0013	1.0739E-04	.0016	1.2005E-04	.0018
236	572	1.700	.181	1.830E-04	.0027	2.2157E-04	.0032	2.4769E-04	.0036
237	570	2.356	.195	2.531E-04	.0037	3.0641E-04	.0045	3.4245E-04	.0050
238	569	2.350	.184	2.385E-04	.0035	2.8862E-04	.0042	3.2250E-04	.0047
278	564	4.187	.554	7.116E-04	.0104	8.5977E-04	.0120	9.5970E-04	.0140
280	570	.742	.148	1.911E-04	.0028	2.3124E-04	.0034	2.5842E-04	.0038
281	570	.626	.121	1.569E-04	.0023	1.8988E-04	.0020	2.1220E-04	.0031
282	571	.367	.075	9.696E-05	.0014	1.1737E-04	.0017	1.3118E-04	.0019
283	570	1.529	.148	1.916E-04	.0028	2.3187E-04	.0034	2.5913E-04	.0038
297	567	5.053	.755	9.744E-04	.0143	1.1785E-03	.0172	1.3164E-03	.0193
299	570	.153	.035	4.551E-05	.0007	5.5074E-05	.0008	6.1542E-05	.0009
300	571	.316	.057	7.355E-05	.0011	8.9042E-05	.0013	9.9525E-05	.0015
301	570	1.411	.136	1.766E-04	.0026	2.1380E-04	.0031	2.3893E-04	.0035
302	569	2.028	.196	2.534E-04	.0037	3.0657E-04	.0045	3.4252E-04	.0050

UPPER WING SURFACE

A/C	Y/S
±1000	.100
±2000	.100
±3300	.100
±4000	.100
±6000	.100
±7000	.100
±9100	.100
±1000	.250
±4000	.250
±5000	.250
±6000	.250
±8330	.250
±8670	.250
±9010	.250
±9350	.250
±1000	.500
±4000	.500
±5000	.500
±6000	.500
±8770	.500
±1000	.600
±4000	.600
±6000	.600
±7930	.600
±8510	.600

200	598	50.366	7.986	1.072E-02	.1569	1.3082E-02	.1916	1.4699E-02	.2150
208	619	43.045	7.549	1.044E-02	.1527	1.2017E-02	.1675	1.4466E-02	.2116
209	623	37.239	6.542	9.098E-03	.1331	1.1107E-02	.1637	1.2630E-02	.1849
210	606	15.234	2.570	3.491E-03	.0511	4.2692E-03	.0629	4.8049E-03	.0703
211	600	16.730	2.965	3.995E-03	.0584	4.8771E-03	.0719	5.6024E-03	.0802
212	597	17.831	3.405	4.565E-03	.0668	5.5660E-03	.0816	6.2928E-03	.0915
213	596	16.257	3.332	4.465E-03	.0653	5.4491E-03	.0797	6.1161E-03	.0895
214	586	16.818	1.640	2.168E-03	.0317	2.6363E-03	.0386	2.9552E-03	.0432
215	600	41.118	5.996	8.077E-03	.1182	9.8599E-03	.1443	1.1083E-02	.1621
216	643	64.975	8.020	1.147E-02	.1677	1.4189E-02	.2076	1.6102E-02	.2356
217	627	76.821	9.811	1.371E-02	.2006	1.6801E-02	.2460	1.9085E-02	.2792
224	647	70.910	9.819	1.452F-02	.2125	1.8122E-02	.2651	2.0085E-02	.3026
225	652	59.937	8.867	1.283F-02	.1878	1.5931E-02	.2331	1.8115E-02	.2650
226	643	44.422	6.093	8.719F-03	.1275	1.0787E-02	.1578	1.2241E-02	.1791
227	601	20.389	4.001	5.397E-03	.0790	6.5901E-03	.0964	7.4093E-03	.1084
228	596	17.162	3.266	4.375E-03	.0640	5.3336E-03	.0780	5.9902E-03	.0876
229	601	19.693	3.757	5.065E-03	.0741	6.1839E-03	.0905	6.9522E-03	.1017
239	648	87.165	12.478	1.798E-02	.2630	2.2286E-02	.3261	2.5322E-02	.3705
240	650	63.164	8.334	9.146F-03	.1338	1.1345E-02	.2126	1.6688E-02	.2442
241	603	20.888	4.107	5.556F-03	.0813	6.7897E-03	.0993	7.6372E-03	.1117
242	599	19.705	4.043	5.437E-03	.0795	6.6346E-03	.0971	7.4559E-03	.1091
243	598	20.790	3.962	5.325F-03	.0779	6.4969E-03	.0951	7.3006E-03	.1068
244	595	25.662	2.389	3.190E-03	.0467	3.8875E-03	.0569	4.3651E-03	.0639
245	589	22.356	2.183	2.847E-03	.0424	3.5253E-03	.0516	3.9539E-03	.0578
246	587	19.119	1.865	2.467E-03	.0361	3.0000E-03	.0439	3.3632E-03	.0492
247	587	15.209	1.483	1.963F-03	.0287	2.3865E-03	.0349	2.6754E-03	.0391
248	640	83.287	9.885	1.406E-02	.2057	1.7383E-02	.2543	1.9710E-02	.2884
253	679	80.844	8.572	1.292E-02	.1890	1.6200E-02	.2370	1.8554E-02	.2715
254	663	71.067	7.491	1.103E-02	.1613	1.3744E-02	.2011	1.5675E-02	.2293
255	636	51.436	6.329	8.955E-03	.1310	1.1055E-02	.1617	1.2524E-02	.1832
256	643	46.818	5.564	7.951E-03	.1163	9.8385E-03	.1439	1.1164E-02	.1633
257	604	19.368	3.598	4.875E-03	.0713	5.9587E-03	.0872	6.7040E-03	.0981
258	602	22.647	4.196	5.670E-03	.0829	6.9261E-03	.1013	7.7891E-03	.1140
259	625	77.544	8.047	1.121E-02	.1640	1.3787E-02	.2017	1.5579E-02	.2279
261	662	70.248	8.411	1.236E-02	.1808	1.5394E-02	.2252	1.7550E-02	.2568
262	642	57.643	7.969	1.138E-02	.1665	1.4081E-02	.2060	1.5976E-02	.2337
263	622	65.928	8.402	1.167E-02	.1707	1.4338E-02	.2098	1.6192E-02	.2369
267	654	64.592	9.564	1.389E-02	.2032	1.7254E-02	.2524	1.9631E-02	.2872
268	643	55.085	8.122	1.162E-02	.1700	1.4377E-02	.2103	1.6316E-02	.2387
269	630	39.185	5.567	7.810E-03	.1143	9.6224E-03	.1408	1.0885E-02	.1593
270	633	33.813	4.175	5.883E-03	.0861	7.2561E-03	.1062	8.2144E-03	.1202
271	609	20.044	3.386	4.616E-03	.0675	5.6501E-03	.0827	6.3628E-03	.0931
272	607	15.612	2.775	3.772E-03	.0552	4.6132E-03	.0675	5.1926E-03	.0760
273	636	68.655	7.512	1.064E-02	.1596	1.3134E-02	.1922	1.4880E-02	.2177
276	632	39.841	5.484	7.717E-03	.1129	9.5142E-03	.1392	1.0768E-02	.1575
277	631	72.449	7.210	1.014E-02	.1484	1.2500E-02	.1829	1.4147E-02	.2070
286	677	75.130	9.439	1.418F-02	.2075	1.7767E-02	.2599	2.0337E-02	.2975
286	631	42.963	5.907	8.306F-03	.1215	1.0238E-02	.1498	1.1586E-02	.1695
287	628	35.989	4.783	6.698E-03	.0980	8.2494E-03	.1207	9.3295E-03	.1365
288	614	20.148	3.320	4.559F-03	.0666	5.6827E-03	.0817	6.2930E-03	.0921
289	608	16.279	2.919	3.971E-03	.0581	4.8593E-03	.0711	5.4716E-03	.0801
290	609	15.559	2.629	3.584E-03	.0524	4.3866E-03	.0642	4.9399E-03	.0723
291	591	20.170	1.971	2.623F-03	.0384	3.1928E-03	.0467	3.5822E-03	.0524
292	655	81.347	8.548	1.244F-02	.1819	1.5485E-02	.2261	1.7590E-02	.2574
294	692	79.088	8.837	1.297F-02	.1986	1.7101E-02	.2502	1.9684E-02	.2875
295	641	61.215	6.766	9.928F-03	.1453	1.2365E-02	.1809	1.4094E-02	.2062
296	643	83.694	11.185	1.599E-02	.2339	1.9780E-02	.2895	2.2455E-02	.3285
303	706	91.513	6.690	1.052E-02	.1539	1.3331E-02	.1950	1.5389E-02	.2251
304	626	42.033	3.577	4.990E-03	.0730	6.1399E-03	.0898	6.9458E-03	.1015
305	634	32.603	3.564	5.034E-03	.0736	6.2119E-03	.0909	7.0349E-03	.1029
306	616	22.144	3.553	4.892E-03	.0716	6.0009E-03	.0878	6.7682E-03	.0990
307	616	20.535	3.191	4.393E-03	.0643	5.3894E-03	.0788	6.0787E-03	.0889
308	611	14.047	2.312	3.161E-03	.0462	3.8711E-03	.0566	4.3613E-03	.0638
309	593	14.224	1.392	1.857E-03	.0272	2.2622E-03	.0331	2.5392E-03	.0371
310	590	15.958	1.559	2.072E-03	.0303	2.5225E-03	.0369	2.8298E-03	.0414
313	685	81.510	7.099	1.080F-02	.1580	1.3573E-02	.1986	1.5571E-02	.2278
314	649	58.768	5.547	8.054E-03	.1178	9.9873E-03	.1461	1.1349E-02	.1660
318	670	72.626	8.386	1.246E-02	.1823	1.5570E-02	.2278	1.7787E-02	.2602
319	648	50.775	6.309	9.089F-03	.1330	1.1269E-02	.1649	1.2803E-02	.1873
320	614	19.875	3.276	4.697E-03	.0658	5.8125E-03	.0806	6.2165E-03	.0909

LOWER WING SURFACE

A/C	Y/S
0	.100
±1000	.100
±2000	.100
±3300	.100
±4000	.150
±6000	.150
±7000	.100
±9100	.100
0	.150
±0500	.150
0	.200
±0500	.200
±1000	.200
±2000	.200
±4000	.200
±6000	.200
±7000	.200
0	.250
±0500	.250
±1000	.250
±4000	.250
±5000	.250
±6000	.250
±8330	.250
±8670	.250
±9010	.250
±9350	.250
0	.300
±0500	.300
±1000	.300
±1500	.300
±2000	.300
±4000	.300
±6000	.300
0	.350
±0500	.350
±1000	.350
0	.400
±0500	.400
±1000	.400
±1500	.400
±2000	.400
±4000	.400
±6000	.400
0	.450
±1000	.490
0	.500
±0500	.500
±1500	.500
±2000	.500
±4000	.500
±5000	.500
±6000	.500
±8770	.500
0	.550
±0500	.550
±1000	.550
0	.600
±0500	.600
±1000	.600
±2000	.600
±4000	.600
±5000	.600
±6000	.600
±7930	.600
±8510	.600
±0500	.650
±1000	.650
±1000	.700
±2000	.700
±5000	.700

GROUP
82

5/28/71

AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
28	8	GOC	8.00	858.7	1343	.14	3.14	-3.00	0	0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	MREF-FR (M= .009FT)	STFR (M= .009FT)	SWITCH POSITION
97.3	.088	3.940	5867	7.584E-05	7.833E-08	3.74E 06	8.836E-02	2.928E-02	1

TC NO	TM	DIMLT	G-DOT	M(TO)	M(TO)/MREF	M(.9TO)	M(.9TO)/MREF	M(.85TO)	M(.85TO)/MREF	FUSELAGE A/L	FUSELAGE PHI
1	617	201.534	38.729	5.338E-02	.7808	6.5500E-02	.9581	7.3889E-02	1.0809	0	0
2	557	52.677	9.834	1.251E-02	.1830	1.5089E-02	.2207	1.6822E-02	.2461	.0137	0
3	559	59.880	11.193	1.429E-02	.2090	1.7240E-02	.2522	1.9228E-02	.2813	.0137	180.000
4	551	32.972	6.136	7.768E-03	.1133	9.3295E-03	.1365	1.0390E-02	.1520	.0274	0
5	550	32.154	5.982	7.547E-03	.1104	9.0866E-03	.1329	1.0118E-02	.1480	.0274	30.000
6	549	33.977	6.317	7.956E-03	.1164	9.5759E-03	.1401	1.0661E-02	.1559	.0274	60.000
7	552	33.083	6.161	7.791E-03	.1140	9.3848E-03	.1373	1.0454E-02	.1529	.0274	90.000
8	552	33.227	6.189	8.053E-03	.1178	9.7002E-03	.1419	1.0805E-02	.1581	.0274	120.000
9	552	34.325	6.541	8.323E-03	.1218	1.0026E-02	.1467	1.1169E-02	.1634	.0274	150.000
10	551	32.541	6.236	7.881E-03	.1153	9.4920E-03	.1388	1.0572E-02	.1547	.0274	180.000
12	549	20.432	3.800	4.789E-03	.0701	5.7650E-03	.0843	6.4188E-03	.0939	.0543	0
13	549	21.676	4.031	5.079E-03	.0743	6.1134E-03	.0894	6.8065E-03	.0996	.0543	30.000
14	549	21.822	4.057	5.109E-03	.0747	6.1484E-03	.0899	6.8449E-03	.1001	.0543	60.000
15	548	21.411	3.980	5.010E-03	.0733	6.0292E-03	.0882	6.7119E-03	.0982	.0543	90.000
16	548	20.946	3.902	4.912E-03	.0719	5.9117E-03	.0865	6.5809E-03	.0963	.0543	120.000
17	549	21.268	3.954	4.979E-03	.0728	5.9925E-03	.0877	6.6714E-03	.0976	.0543	150.000
18	549	20.985	3.902	4.918E-03	.0719	5.9194E-03	.0866	6.5906E-03	.0964	.0543	180.000
20	549	14.916	2.773	3.492E-03	.0511	4.2032E-03	.0615	4.6794E-03	.0685	.0790	0
23	549	10.910	2.028	2.555E-03	.0374	3.0757E-03	.0450	3.4243E-03	.0501	.1030	0
24	549	11.575	2.152	2.713E-03	.0397	3.2650E-03	.0478	3.6352E-03	.0532	.1030	15.000
25	550	11.822	2.199	2.774E-03	.0406	3.3395E-03	.0489	3.7186E-03	.0544	.1030	30.000
26	549	11.367	2.114	2.663E-03	.0390	3.2051E-03	.0469	3.5683E-03	.0522	.1030	45.000
27	549	11.486	2.135	2.690E-03	.0394	3.2376E-03	.0474	3.6045E-03	.0527	.1030	60.000
28	549	11.437	2.127	2.679E-03	.0392	3.2249E-03	.0472	3.5904E-03	.0525	.1030	75.000
29	549	11.550	2.148	2.708E-03	.0396	3.2599E-03	.0477	3.6297E-03	.0531	.1030	90.000
31	547	11.685	2.170	2.726E-03	.0399	3.2789E-03	.0480	3.6491E-03	.0534	.1030	120.000
33	547	11.586	2.152	2.707E-03	.0396	3.2566E-03	.0476	3.6247E-03	.0530	.1030	150.000
35	548	11.238	2.088	2.627E-03	.0384	3.1603E-03	.0462	3.5177E-03	.0515	.1030	180.000
38	549	6.420	1.194	1.505E-03	.0220	1.8111E-03	.0265	2.0164E-03	.0295	.1430	0
41	550	3.822	.819	1.029E-03	.0150	1.2386E-03	.0181	1.3792E-03	.0202	.1690	0
42	550	3.654	.750	9.463E-04	.0138	1.1394E-03	.0167	1.2688E-03	.0186	.1690	15.000
43	550	3.714	.732	9.238E-04	.0135	1.1123E-03	.0163	1.2387E-03	.0181	.1690	30.000
44	550	3.676	.736	9.296E-04	.0136	1.1193E-03	.0164	1.2465E-03	.0182	.1690	45.000
45	550	3.813	.730	9.219E-04	.0135	1.1100E-03	.0162	1.2361E-03	.0181	.1690	60.000
46	550	3.670	.703	8.863E-04	.0130	1.0670E-03	.0156	1.1881E-03	.0174	.1690	75.000
47	550	3.853	.738	9.303E-04	.0136	1.1199E-03	.0164	1.2470E-03	.0182	.1690	90.000
49	549	3.740	.716	9.026E-04	.0132	1.0865E-03	.0159	1.2098E-03	.0177	.1690	120.000
51	550	3.765	.745	9.397E-04	.0137	1.1312E-03	.0165	1.2595E-03	.0184	.1690	150.000
53	549	3.854	.717	9.030E-04	.0132	1.0869E-03	.0159	1.2101E-03	.0177	.1690	180.000
400	548	2.641	.491	6.181E-04	.0090	7.4388E-04	.0109	8.2813E-04	.0121	.2420	0
401	548	1.997	.371	4.668E-04	.0068	5.6167E-04	.0082	6.2521E-04	.0091	.2420	15.000
402	548	1.697	.329	4.085E-04	.0060	4.9160E-04	.0072	5.4722E-04	.0080	.2420	30.000
403	548	1.487	.293	3.684E-04	.0054	4.4335E-04	.0065	4.9354E-04	.0072	.2420	45.000
404	549	5.016	1.004	1.265E-03	.0185	1.5229E-03	.0223	1.6955E-03	.0248	.2420	60.000
405	547	1.709	.296	3.720E-04	.0054	4.4746E-04	.0065	4.9800E-04	.0073	.2420	75.000
406	547	1.801	.335	4.216E-04	.0062	5.0716E-04	.0074	5.6446E-04	.0083	.2420	90.000
408	548	1.972	.394	4.963E-04	.0073	5.9715E-04	.0087	6.6470E-04	.0097	.2420	120.000
410	546	2.158	.431	5.416E-04	.0079	6.5140E-04	.0095	7.2489E-04	.0106	.2420	150.000
412	546	1.912	.376	4.714E-04	.0069	5.6645E-04	.0083	6.3074E-04	.0092	.2420	180.000
413	547	2.385	.469	5.893E-04	.0086	7.0882E-04	.0104	7.8885E-04	.0115	.2830	0
414	546	1.982	.396	4.977E-04	.0073	5.9865E-04	.0088	6.6622E-04	.0097	.2830	15.000
415	546	1.455	.291	3.648E-04	.0053	4.3878E-04	.0064	4.8824E-04	.0071	.2830	30.000
416	546	1.418	.283	3.553E-04	.0052	4.2728E-04	.0063	4.7544E-04	.0070	.2830	45.000
417	547	5.259	.915	1.149E-03	.0168	1.3825E-03	.0202	1.5386E-03	.0225	.2830	60.000
418	546	4.402	.901	1.132E-03	.0166	1.3617E-03	.0199	1.5154E-03	.0222	.2830	75.000
419	544	1.233	.229	2.873E-04	.0042	3.4544E-04	.0051	3.8428E-04	.0056	.2830	90.000
420	545	4.176	.720	9.022E-04	.0132	1.0847E-03	.0159	1.2067E-03	.0177	.2830	105.000
421	545	1.797	.304	3.811E-04	.0056	4.5822E-04	.0067	5.0980E-04	.0075	.2830	120.000
422	545	1.625	.301	3.777E-04	.0055	4.5407E-04	.0066	5.0515E-04	.0074	.2830	135.000
423	544	1.855	.388	4.856E-04	.0071	5.8380E-04	.0085	6.4947E-04	.0095	.2830	150.000
425	544	1.710	.336	4.202E-04	.0061	5.0512E-04	.0074	5.6186E-04	.0082	.2830	180.000
426	548	2.376	.467	5.801E-04	.0086	7.0767E-04	.0104	7.8772E-04	.0115	.3160	0
427	547	1.926	.386	4.854E-04	.0071	5.8400E-04	.0085	6.4997E-04	.0095	.3160	15.000
428	546	1.360	.272	3.420E-04	.0050	4.1135E-04	.0060	4.5774E-04	.0067	.3160	30.000
429	546	1.108	.222	2.788E-04	.0041	3.3528E-04	.0049	3.7310E-04	.0055	.3160	45.000
430	547	2.833	.542	6.805E-04	.0100	8.1864E-04	.0120	9.1108E-04	.0133	.3160	60.000
431	546	1.585	.312	3.915E-04	.0057	4.7094E-04	.0069	5.2409E-04	.0077	.3160	75.000
432	548	5.547	.966	1.215E-03	.0178	1.4624E-03	.0214	1.6277E-03	.0238	.3160	90.000
433	544	.624	.123	1.534E-04	.0022	1.8435E-04	.0027	2.0506E-04	.0030	.3160	105.000
434	546	4.242	.683	8.575E-04	.0125	1.0312E-03	.0151	1.1475E-03	.0168	.3160	120.000
435	542	1.159	.221	2.762E-04	.0040	3.3188E-04	.0049	3.6907E-04	.0054	.3160	135.000
436	541	1.535	.306	3.815E-04	.0056	4.5818E-04	.0067	5.0940E-04	.0075	.3160	150.000
437	541	1.605	.315	3.924E-04	.0057	4.7134E-04	.0069	5.2404E-04	.0077	.3160	165.000
438	541	1.584	.317	3.950E-04	.0058	4.7450E-04	.0069	5.2757E-04	.0077	.3160	180.000
439	550	2.433	.487	6.151E-04	.0090	7.4057E-04	.0108	8.2469E-04	.0121	.3540	0
440	547	1.947	.399	5.017E-04	.0073	6.0358E-04	.0088	6.7180E-04	.0098	.3540	15.000
441	547	1.657	.339	4.266E-04	.0062	5.1315E-04	.0075	5.7112E-04	.0084	.3540	30.000
442	546	1.092	.219	2.746E-04	.0040	3.3026E-04	.0048	3.6750E-04	.0054	.3540	45.000
443	545	.710	.116	1.457E-04	.0021	1.7515E-04	.0026	1.9486E-04	.0029	.3540	60.000
444	546	2.007	.372	4.674E-04	.0068	5.6216E-04	.0082	6.2555E-04	.0092	.3540	75.000
445	551	10.567	1.898	2.397E-03	.0351	2.8863E-03	.0422	3.2145E-03	.0470	.3540	90.000
446	544	1.178	.209	2.613E-04	.0038	3.1414E-04	.0046	3.4943E-04	.0051	.3540	105.000
447	547	8.454	1.501	1.887E-03	.0276	2.2696E-03	.0332	2.5260E-03	.0370	.3540	120.000
448	537	1.304	.248	3.076E-04	.0045	3.6915E-04	.0054	4.1015E-04	.0060	.3540	135.000
450	533	1.227	.233	2.875E-04	.0042	3.4460E-04	.0050	3.8262E-04	.0056	.3540	165.000
451	537	1.347	.256	3.178E-04	.0046	3.8135E-04	.0056	4.2370E-04	.0062	.3540	180.000
452	551	2.076	.409	5.171E-04	.0076	6.2276E-04	.0091	6.9362E-04	.0101	.3800	0
454	551	1.939	.382	4.823E-04	.0071	5.8078E-04	.0085	6.4680E-04	.0095	.3800	30.000
455	551	1.503	.267	3.376E-04	.0049	4.0648E-04	.0059	4.5267E-04	.0066	.3800	45.000
456	549	.940	.154	1.943E-04	.0028	2.3381E-04	.0034	2.6032E-04	.0038	.3800	60.000
457	552	3.611	.653	8.262E-04	.0121	9.9533E-04	.0146	1.1088E-03	.0162	.3800	75.000
458	552	7.996	1.469	1.883E-03	.0275	2.2680E-03	.0332	2.5263E-03	.0370	.3800	90.000
459	548	3.492	.687	8.651E-04	.0127	1.0410E-03	.0152	1.1589E-03	.0170	.3800	105.000
460	549	7.409	1.378	1.736E-03	.0254	2.0899E-03	.0306	2.3269E-03	.0340	.3800	120.000
461	545	1.538	.285	3.580E-04	.0052	4.3047E-04	.0063	4.7896E-04	.0070	.3800	135.000
462	544	.953	.189	2.372E-04	.0035	2.8508E-04	.0042	3.1711E-04	.0046	.3800	150.000
464	544	1.020	.195	2.437E-04	.0036	2.9290E-04	.0043	3.2582E-04	.0048	.3800	180.000

GROUP
03

AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
28	8	GDC	8.00	861.5	1362	.14	3.14	-3.00	0	0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	MREF-FR (M= .009FT)	SIFR (M= .009FT)	SWITCH POSITION
97.3	.0088	1.953	3066	7.811E-05	7.432E-08	1.76E 06	6.847E-02	2.923E-02	2

TC NO	TM	DTMDT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	FUSELAGE A/L	FUSELAGE PHI
106	552	1.558	.307	3.883E-04	.0057	4.6772E-04	.0068	5.2097E-04	.0076	±4400	0
107	550	3.754	.649	6.185E-04	.0120	9.8541E-04	.0144	1.0972E-03	.0160	±4400	30.000
108	550	.846	.167	2.104E-04	.0031	2.5339E-04	.0037	2.8219E-04	.0041	±4400	60.000
109	551	4.054	.754	9.529E-04	.0139	1.1479E-03	.0168	1.2780E-03	.0187	±4400	90.000
110	549	3.936	.732	9.218E-04	.0135	1.1095E-03	.0162	1.2352E-03	.0180	±4400	120.000
111	546	1.007	.187	2.349E-04	.0034	2.8260E-04	.0041	3.1450E-04	.0046	±4400	150.000
112	545	1.058	.196	2.464E-04	.0036	2.9623E-04	.0043	3.2960E-04	.0048	±4400	180.000
113	554	1.203	.242	3.065E-04	.0045	3.6947E-04	.0054	4.1175E-04	.0060	±4880	0
114	555	5.849	1.043	1.325E-03	.0193	1.5970E-03	.0233	1.7800E-03	.0260	±4880	37.300
115	551	.960	.171	2.159E-04	.0032	2.6007E-04	.0038	2.8967E-04	.0042	±4880	60.000
116	551	2.205	.398	5.034E-04	.0074	6.0621E-04	.0089	6.7517E-04	.0099	±4880	90.000
117	549	3.210	.597	7.517E-04	.0110	9.0466E-04	.0132	1.0071E-03	.0147	±4880	120.000
118	546	.911	.169	2.122E-04	.0031	2.5526E-04	.0037	2.8405E-04	.0041	±4880	150.000
119	544	.940	.174	2.185E-04	.0032	2.6273E-04	.0038	2.9228E-04	.0043	±4880	180.000
120	556	1.086	.218	2.776E-04	.0041	3.3474E-04	.0049	3.7316E-04	.0055	±5200	0
121	558	.774	.156	1.987E-04	.0029	2.3970E-04	.0035	2.6731E-04	.0039	±5500	0
122	560	5.148	1.036	1.325E-03	.0194	1.5998E-03	.0234	1.7847E-03	.0261	±5500	30.000
123	558	1.963	.351	4.472E-04	.0065	5.3959E-04	.0079	6.0175E-04	.0088	±5500	45.000
124	556	4.020	.758	9.544E-04	.0139	1.1509E-03	.0168	1.2830E-03	.0187	±5500	60.000
125	556	4.020	.758	9.544E-04	.0139	1.1509E-03	.0168	1.2830E-03	.0187	±5500	75.000
126	554	3.208	.598	7.588E-04	.0111	9.1452E-04	.0134	1.0191E-03	.0149	±5500	82.500
127	548	2.171	.403	5.078E-04	.0074	6.1106E-04	.0089	6.8021E-04	.0099	±5500	90.000
128	549	2.625	.488	6.152E-04	.0090	7.4049E-04	.0108	8.2444E-04	.0120	±5500	120.000
129	546	1.009	.187	2.353E-04	.0034	2.8296E-04	.0041	3.1488E-04	.0046	±5500	150.000
130	546	1.009	.187	2.353E-04	.0034	2.8296E-04	.0041	3.1488E-04	.0046	±5500	180.000
131	544	.859	.167	2.088E-04	.0031	2.5105E-04	.0037	2.7928E-04	.0041	±5860	0
132	559	.683	.146	1.869E-04	.0027	2.2555E-04	.0033	2.5154E-04	.0037	±6250	60.000
133	563	8.679	.918	1.178E-03	.0172	1.4238E-03	.0208	1.5892E-03	.0232	±6250	75.000
134	558	4.696	.877	1.118E-03	.0163	1.3482E-03	.0197	1.5033E-03	.0220	±6250	90.000
135	555	3.629	.677	8.600E-04	.0126	1.0367E-03	.0151	1.1555E-03	.0169	±6250	120.000
136	549	2.465	.458	5.781E-04	.0084	6.9595E-04	.0102	7.7490E-04	.0113	±6250	150.000
137	547	1.153	.214	2.690E-04	.0039	3.2354E-04	.0047	3.6006E-04	.0053	±6250	180.000
138	545	.744	.138	1.731E-04	.0025	2.0813E-04	.0030	2.3156E-04	.0034	±6600	0
139	562	.846	.126	1.641E-04	.0024	1.9819E-04	.0029	2.2116E-04	.0032	±7000	0
140	561	.821	.122	1.562E-04	.0023	1.8867E-04	.0028	2.1051E-04	.0031	±7000	30.000
141	563	3.948	.489	6.276E-04	.0092	7.5809E-04	.0111	8.4609E-04	.0124	±7000	60.000
142	562	2.419	.421	5.393E-04	.0079	6.5130E-04	.0095	7.2680E-04	.0106	±7000	75.000
143	559	4.648	.869	1.108E-03	.0162	1.3374E-03	.0195	1.4916E-03	.0218	±7000	82.500
144	557	4.788	.894	1.139E-03	.0166	1.3741E-03	.0201	1.5321E-03	.0224	±7000	90.000
145	556	5.364	1.001	1.274E-03	.0186	1.5360E-03	.0224	1.7123E-03	.0250	±7000	120.000
146	553	2.930	.548	6.916E-04	.0101	8.3328E-04	.0122	9.2840E-04	.0136	±7000	150.000
147	549	1.221	.227	2.862E-04	.0042	3.4442E-04	.0050	3.8366E-04	.0056	±7000	180.000
148	547	.937	.169	2.124E-04	.0031	2.5592E-04	.0037	2.8440E-04	.0042	±7340	0
149	561	.775	.124	1.582E-04	.0023	1.9104E-04	.0028	2.1313E-04	.0031	±7700	0
150	548	.621	.102	1.306E-04	.0019	1.5754E-04	.0023	1.7568E-04	.0026	±7700	30.000
151	562	2.449	.404	5.181E-04	.0076	6.2562E-04	.0091	6.9804E-04	.0102	±7700	60.000
152	562	3.181	.569	7.287E-04	.0106	8.7995E-04	.0129	9.8188E-04	.0143	±7700	90.000
153	557	4.650	.843	1.074E-03	.0157	1.2942E-03	.0189	1.4441E-03	.0211	±7700	120.000
154	554	3.746	.678	8.593E-04	.0126	1.0356E-03	.0151	1.1540E-03	.0169	±7700	150.000
155	552	1.212	.219	2.774E-04	.0041	3.3414E-04	.0049	3.7224E-04	.0054	±7700	180.000
156	551	.724	.131	1.652E-04	.0024	1.9891E-04	.0029	2.2153E-04	.0032	±8000	0
157	556	.754	.128	1.632E-04	.0024	1.9679E-04	.0029	2.1938E-04	.0032	±8300	0
158	556	.695	.124	1.576E-04	.0023	1.8998E-04	.0028	2.1176E-04	.0031	±8300	30.000
159	557	1.542	.226	2.881E-04	.0042	3.4759E-04	.0051	3.8757E-04	.0057	±8620	0
160	555	.753	.140	1.781E-04	.0026	2.1473E-04	.0031	2.3931E-04	.0035	±8950	0
161	553	.642	.127	1.609E-04	.0023	1.9337E-04	.0028	2.1543E-04	.0031	±8950	30.000
162	555	.940	.193	2.457E-04	.0036	2.9623E-04	.0043	3.3017E-04	.0048	±8950	60.000
163	557	4.056	.691	8.792E-04	.0128	1.0604E-03	.0155	1.1822E-03	.0173	±8950	90.000
164	557	4.080	.762	9.693E-04	.0142	1.1690E-03	.0171	1.3033E-03	.0190	±8950	120.000
165	557	5.958	1.112	1.417E-03	.0207	1.7086E-03	.0250	1.9050E-03	.0278	±8950	150.000
166	558	3.005	.561	7.158E-04	.0105	8.6363E-04	.0126	9.6307E-04	.0141	±9280	0
167	551	.586	.109	1.377E-04	.0020	1.6580E-04	.0024	1.8465E-04	.0027	±9600	0
168	547	.573	.103	1.298E-04	.0019	1.5916E-04	.0023	1.7380E-04	.0025	±9600	0

TC NO	TM	DTMDT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	UPPER CANARD SURFACE A/C	UPPER CANARD SURFACE Y/S
350	580	87.564	8.512	1.116E-02	.1630	1.3546E-02	.1978	1.5166E-02	.2215	0	.250
351	552	13.924	1.335	1.688E-03	.0247	2.0338E-03	.0297	2.2655E-03	.0331	±2500	.250
352	553	4.386	.759	9.621E-04	.0141	1.1592E-03	.0169	1.2915E-03	.0189	±5000	.250
353	550	2.033	.351	4.433E-04	.0065	5.3372E-04	.0078	5.9431E-04	.0087	±7000	.250
357	586	95.887	9.349	1.238E-02	.1805	1.5026E-02	.2195	1.6843E-02	.2460	0	.500
358	552	17.922	1.718	2.173E-03	.0317	2.6174E-03	.0382	2.9155E-03	.0426	±2500	.500
359	552	5.697	.883	1.118E-03	.0163	1.3467E-03	.0197	1.5003E-03	.0219	±5000	.500
360	550	3.019	.522	6.581E-04	.0096	7.9226E-04	.0116	8.8218E-04	.0129	±7000	.500

TC NO	TM	DTMDT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	LOWER CANARD SURFACE A/C	LOWER CANARD SURFACE Y/S
354	554	15.130	1.451	1.840E-03	.0269	2.2170E-03	.0324	2.4703E-03	.0361	±2500	.250
355	554	3.442	.831	1.054E-03	.0154	1.2699E-03	.0185	1.4152E-03	.0207	±5000	.250
356	551	1.668	.304	3.841E-04	.0056	4.6261E-04	.0068	5.1524E-04	.0075	±7000	.250
361	543	18.879	1.810	2.293E-03	.0335	2.7622E-03	.0403	3.0773E-03	.0449	±2500	.500
362	551	6.369	.972	1.101E-03	.0161	1.3257E-03	.0194	1.4764E-03	.0216	±5000	.500
363	547	2.051	.471	5.916E-04	.0086	7.1188E-04	.0104	7.9208E-04	.0116	±7000	.500

TC NO	TM	DTMDT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	VERTICAL STABILIZER A/C	VERTICAL STABILIZER Z/S
175	625	156.038	15.484	2.197E-02	.3191	2.6934E-02	.3878	2.9983E-02	.4379	0	.100
176	563	21.933	2.114	2.712E-03	.0396	3.2788E-03	.0479	3.6572E-03	.0534	±1000	.100
177	559	10.436	1.004	1.283E-03	.0187	1.5482E-03	.0226	1.7268E-03	.0252	±2500	.100
178	554	3.753	.360	4.568E-04	.0067	5.5051E-04	.0080	6.1346E-04	.0090	±5000	.100
179	549	2.389	.229	2.884E-04	.0042	3.4715E-04	.0051	3.8653E-04	.0056	±7500	.100
180	624	155.943	15.469	2.193E-02	.3144	2.6472E-02	.3866	2.9908E-02	.4368	0	.250
181	565	28.346	2.735	3.519E-03	.0514	4.2534E-03	.0621	4.7490E-03	.0694	±1000	.250
182	560	12.054	1.161	1.484E-03	.0217	1.7913E-03	.0262	1.9983E-03	.0292	±2500	.250
183	555	5.206	.500	6.352E-04	.0093	7.6586E-04	.0112	8.5364E-04	.0125	±5000	.250
184	552	2.970	.285	3.599E-04	.0053	4.3355E-04	.0063	4.8292E-04	.0071	±7500	.250
185	638	253.371	25.242	3.588E-02	.5240	4.4325E-02	.6474	5.0237E-02	.7337	0	.500
186	571	34.540	3.344	4.335E-03	.0633	5.2491E-03	.0767	5.8674E-03	.0857	±1000	.500
187	565	13.351	1.288	1.657E-03	.0242	2.0028E-03	.0293	2.2362E-03	.0327	±2500	.500
188	560	6.933	.667	8.531E-04	.0125	1.0299E-03	.0150	1.1489E-03	.0168	±5000	.500
189	554	3.810	.366	4.637E-04	.0068	5.5892E-04	.0082	6.2283E-04	.0091	±7500	.500
190	601	170.937	11.878	1.602E-02	.2340	1.9561E-02	.2857	2.1992E-02	.3212	0	.750
191	574	90.191	4.864	6.326E-03	.0924	7.6844E-03	.1119	8.5708E-03	.1252	±1000	.750
192	566	19.161	1.450	2.381E-03	.0348	2.8785E-03	.0420	3.2142E-03	.0469	±2500	.750
193	560	8.032	.773	9.879E-04	.0144	1.1929E-03	.0174	1.3302E-03	.0194	±5000	.750
194	556	4.585	.440	5.603E-04	.0082	6.7565E-04	.0099	7.5320E-04	.0110	±7500	.750

GROUP
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AEDC(ARO,INC.) ARNOLD AFS, TENNESSEE
VON KARMAN GAS DYNAMICS FACILITY
50 INCH HYPERSONIC TUNNEL B
VT1162

RUN	CONFIG	MODEL	MACH NO	PO PSIA	TO DEG R	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
28	8	GOC	8.00	858.1	1342	-.01	2.99	-3.00	0	0

T-INF (DEG R)	P-INF (PSIA)	Q-INF (PSIA)	V-INF (FT/SEC)	RHO-INF (SLUGS/FT3)	MU-INF (LB-SEC/FT2)	RE/FT (FT-1)	HREF-FR (R= .009FT)	SIFR (R= .009FT)	SWITCH POSITION
97.2	.088	3.930	4866	7.583E-05	7.829E-08	3.14E 06	6.833E-02	2.928E-02	3

TC NO	TM	DT=DT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	UPPER WING SURFACE A/C	UPPER WING SURFACE Y/S
201	555	11.398	1.351	1.717E-03	.0251	2.0706E-03	.0303	2.3080E-03	.0338	.1000	.100
202	555	5.828	.831	1.056E-03	.0155	1.2727E-03	.0186	1.4184E-03	.0208	.2000	.100
203	558	1.472	.310	3.954E-04	.0058	4.7716E-04	.0070	5.3215E-04	.0078	.3300	.100
204	557	1.505	.269	3.421E-04	.0050	4.1261E-04	.0060	4.6002E-04	.0067	.4000	.100
205	551	.722	.130	1.649E-04	.0024	1.9894E-04	.0029	2.2113E-04	.0032	.6000	.100
206	551	.376	.069	8.232E-05	.0012	9.9144E-05	.0015	1.1043E-04	.0016	.7000	.100
207	548	1.199	.115	1.443E-04	.0021	1.7364E-04	.0025	1.9328E-04	.0028	.9100	.100
231	557	13.383	1.595	2.031E-03	.0297	2.4500E-03	.0359	2.7316E-03	.0400	.1000	.250
232	556	1.666	.330	4.198E-04	.0061	5.0594E-04	.0074	5.6408E-04	.0083	.4000	.250
233	553	1.329	.258	3.233E-04	.0047	3.8960E-04	.0057	4.3404E-04	.0064	.5000	.250
234	553	1.011	.188	2.386E-04	.0035	2.8752E-04	.0042	3.2033E-04	.0047	.6000	.250
235	550	1.394	.102	1.291E-04	.0019	1.5541E-04	.0023	1.7306E-04	.0025	.8330	.250
236	549	1.406	.115	1.454E-04	.0021	1.7508E-04	.0026	1.9494E-04	.0029	.8670	.250
237	548	1.094	.090	1.131E-04	.0017	1.3615E-04	.0020	1.5155E-04	.0022	.9010	.250
238	546	.760	.059	7.403E-05	.0011	8.9052E-05	.0013	9.9104E-05	.0015	.9350	.250
278	561	22.368	2.979	3.813E-03	.0558	4.6042E-03	.0674	5.1370E-03	.0752	.1000	.500
280	559	3.109	.615	7.859E-04	.0115	9.4845E-04	.0139	1.0579E-03	.0155	.4000	.500
281	557	2.757	.530	6.753E-04	.0099	8.1457E-04	.0119	9.0823E-04	.0133	.5000	.500
282	556	2.018	.388	4.934E-04	.0072	5.9504E-04	.0087	6.6335E-04	.0097	.6000	.500
283	551	1.771	.170	2.147E-04	.0031	2.5861E-04	.0038	2.8808E-04	.0042	.8770	.500
297	560	29.696	3.964	5.108E-03	.0748	6.1760E-03	.0904	6.8969E-03	.1009	.1000	.600
299	559	2.905	.574	7.332E-04	.0107	8.8475E-04	.0129	9.8676E-04	.0144	.4000	.600
300	559	2.438	.436	5.562E-04	.0081	6.7128E-04	.0098	7.4872E-04	.0110	.6000	.600
301	554	2.391	.229	2.911E-04	.0043	3.5087E-04	.0051	3.9100E-04	.0057	.7930	.600
302	552	2.053	.197	2.491E-04	.0036	3.0003E-04	.0044	3.3422E-04	.0049	.8510	.600

TC NO	TM	DT=DT	Q-DOT	H(TO)	H(TO)/HREF	H(.9TO)	H(.9TO)/HREF	H(.85TO)	H(.85TO)/HREF	LOWER WING SURFACE A/C	LOWER WING SURFACE Y/S
200	568	48.542	7.587	9.803E-03	.1435	1.1859E-02	.1736	1.3249E-02	.1939	0	.100
208	557	12.903	2.196	2.797E-03	.0409	3.3735E-03	.0494	3.7611E-03	.0550	.1000	.100
209	557	8.686	1.479	1.883E-03	.0276	2.2715E-03	.0332	2.5325E-03	.0371	.2000	.100
210	564	3.779	.625	8.035E-04	.0118	9.7105E-04	.0142	1.0841E-03	.0159	.3300	.100
211	561	3.431	.596	7.633E-04	.0112	9.2162E-04	.0135	1.0282E-03	.0150	.4000	.150
212	555	1.660	.311	3.949E-04	.0058	4.7613E-04	.0070	5.3071E-04	.0078	.6000	.150
213	555	1.209	.243	3.082E-04	.0045	3.7147E-04	.0054	4.1400E-04	.0061	.7000	.100
214	548	1.487	.142	1.792E-04	.0026	2.1564E-04	.0032	2.4005E-04	.0035	.9100	.100
215	560	26.864	3.845	4.915E-03	.0719	5.9326E-03	.0868	6.6176E-03	.0968	0	.150
216	558	23.496	2.789	3.558E-03	.0521	4.2925E-03	.0628	4.7869E-03	.0701	.0500	.150
217	564	92.020	11.526	1.521E-02	.2226	1.8486E-02	.2705	2.0715E-02	.3032	0	.200
224	560	27.865	3.678	4.705E-03	.0689	5.6795E-03	.0831	6.3358E-03	.0927	.0500	.200
225	557	17.874	2.532	3.226E-03	.0472	3.8909E-03	.0569	4.3381E-03	.0635	.1000	.200
226	559	8.926	1.178	1.505E-03	.0220	1.8163E-03	.0266	2.0259E-03	.0296	.2000	.200
227	560	2.844	.547	7.001E-04	.0102	8.4510E-04	.0124	9.4274E-04	.0138	.4000	.200
228	555	1.693	.316	4.012E-04	.0059	4.8371E-04	.0071	5.3913E-04	.0079	.6000	.200
229	556	1.397	.261	3.316E-04	.0049	3.9978E-04	.0059	4.4563E-04	.0065	.7000	.200
282	582	100.137	13.920	1.831E-02	.2680	2.2235E-02	.3254	2.4904E-02	.3645	0	.250
206	564	41.791	5.823	4.911E-03	.0719	5.9342E-03	.0868	6.6241E-03	.0969	.0500	.250
240	558	21.019	2.021	2.579E-03	.0377	3.1120E-03	.0455	3.4705E-03	.0508	.1000	.250
241	562	3.458	.666	8.547E-04	.0125	1.0323E-03	.0151	1.1520E-03	.0169	.4000	.250
242	557	2.282	.459	5.839E-04	.0085	7.0427E-04	.0103	7.8518E-04	.0115	.5000	.250
243	555	2.239	.418	5.305E-04	.0078	6.3948E-04	.0094	7.1272E-04	.0104	.6000	.250
244	560	2.236	.283	3.567E-04	.0052	4.3090E-04	.0063	4.8042E-04	.0070	.8330	.250
245	550	2.942	.282	3.557E-04	.0052	4.2821E-04	.0063	4.7685E-04	.0070	.8670	.250
246	548	2.414	.231	2.908E-04	.0043	3.4991E-04	.0051	3.8951E-04	.0057	.9010	.250
247	547	1.828	.175	2.197E-04	.0032	2.6427E-04	.0039	2.9412E-04	.0043	.9350	.250
248	586	109.055	12.638	1.671E-02	.2446	2.0321E-02	.2974	2.2779E-02	.3334	0	.300
253	561	33.859	3.413	4.368E-03	.0639	5.2736E-03	.0772	5.8836E-03	.0861	.0500	.300
254	559	27.189	2.736	3.498E-03	.0512	4.2202E-03	.0618	4.7074E-03	.0689	.1000	.300
255	557	13.654	1.620	2.065E-03	.0302	2.4909E-03	.0365	2.7775E-03	.0406	.1500	.300
256	559	10.275	1.175	1.502E-03	.0220	1.8130E-03	.0265	2.0224E-03	.0296	.2000	.300
257	559	4.097	.743	9.501E-04	.0139	1.1468E-03	.0168	1.2792E-03	.0187	.4000	.300
258	556	2.699	.489	6.216E-04	.0091	7.4950E-04	.0110	8.3546E-04	.0122	.6000	.300
259	595	130.115	13.326	1.785E-02	.2613	2.1765E-02	.3185	2.4444E-02	.3577	0	.350
261	562	32.235	3.691	4.731E-03	.0692	5.7143E-03	.0836	6.3767E-03	.0933	.0500	.350
262	558	20.335	2.704	3.450E-03	.0505	4.1628E-03	.0609	4.6422E-03	.0679	.1000	.350
263	595	114.067	14.364	1.924E-02	.2816	2.3457E-02	.3433	2.6343E-02	.3855	0	.400
267	561	31.423	4.461	5.712E-03	.0836	6.8977E-03	.1009	7.6961E-03	.1126	.0500	.400
268	559	19.717	2.805	3.583E-03	.0524	4.3235E-03	.0633	4.8222E-03	.0706	.1000	.400
269	559	11.630	1.598	2.041E-03	.0299	2.4632E-03	.0360	2.7473E-03	.0402	.1500	.400
270	560	9.816	1.171	1.498E-03	.0219	1.8080E-03	.0265	2.0168E-03	.0295	.2000	.400
271	562	4.229	.698	8.952E-04	.0131	1.0812E-03	.0158	1.2065E-03	.0177	.4000	.400
272	558	2.582	.448	5.721E-04	.0084	6.9028E-04	.0101	7.6979E-04	.0113	.6000	.400
273	604	143.882	15.520	2.103E-02	.3077	2.5697E-02	.3761	2.8909E-02	.4231	0	.450
276	559	12.019	1.599	2.041E-03	.0299	2.4636E-03	.0361	2.7476E-03	.0402	.1000	.450
277	605	150.229	14.780	2.006E-02	.2936	2.4532E-02	.3590	2.7606E-02	.4040	0	.500
284	567	44.731	5.359	6.917E-03	.1012	8.3666E-03	.1224	9.3457E-03	.1368	.0500	.500
286	560	14.229	1.894	2.424E-03	.0355	2.9261E-03	.0428	3.2844E-03	.0478	.1500	.500
287	559	11.788	1.517	1.938E-03	.0284	2.3388E-03	.0342	2.6088E-03	.0382	.2000	.500
288	565	5.981	.963	1.238E-03	.0181	1.4967E-03	.0219	1.6711E-03	.0245	.4000	.500
289	561	4.458	.780	9.999E-04	.0146	1.2075E-03	.0177	1.3474E-03	.0197	.5000	.500
290	562	3.895	.643	8.250E-04	.0121	9.9641E-04	.0146	1.1114E-03	.0163	.6000	.500
291	552	4.000	.383	4.852E-04	.0071	5.8447E-04	.0086	6.5106E-04	.0095	.8770	.500
292	604	132.568	13.631	1.847E-02	.2703	2.2573E-02	.3304	2.5395E-02	.3716	0	.550
294	566	50.093	9.307	6.840E-03	.1001	8.2703E-03	.1210	9.2361E-03	.1352	.0500	.550
295	563	25.087	2.693	3.405E-03	.0498	4.1132E-03	.0602	4.5908E-03	.0672	.1000	.550
296	598	130.535	17.118	2.302E-02	.3369	2.8092E-02	.4111	3.1568E-02	.4620	0	.600
303	586	103.242	7.186	9.506E-03	.1391	1.1557E-02	.1691	1.2954E-02	.1896	.0500	.600
304	560	16.887	1.393	1.781E-03	.0261	2.1503E-03	.0315	2.3987E-03	.0351	.1000	.600
305	564	13.543	1.433	1.841E-03	.0269	2.2242E-03	.0326	2.4828E-03	.0363	.2000	.600
306	570	6.353	.997	1.291E-03	.0189	1.5626E-03	.0229	1.7462E-03	.0256	.4000	.600
307	567	5.314	.806	1.040E-03	.0152	1.2578E-03	.0184	1.4048E-03	.0206	.5000	.600
308	567	3.797	.612	7.891E-04	.0115	9.5433E-04	.0140	1.0659E-03	.0156	.6000	.600
309	557	4.025	.387	4.932E-04	.0072	5.9496E-04	.0087	6.6340E-04	.0097	.7930	.600
310	553	3.545	.336	4.262E-04	.0062	5.1354E-04	.0075	5.7220E-04	.0084	.8510	.600
313	572	59.233	4.917	6.390E-03	.0935	7.7389E-03	.1133	8.6525E-03	.1266	.0500	.650
314	560	20.180	1.843	2.357E-03	.0345	2.8450E-03	.0416	3.1737E-03	.0464	.1000	.650
318	568	44.167	4.879	6.307E-03	.0923	7.6301E-03	.1117	8.5245E-03	.1248	.1000	.700
319	563	17.820	2.130	2.734E-03	.0400	3.3031E-03	.0483	3.6867E-03	.0540	.2000	.700
320	571	6.977	.981	1.272E-03	.0186	1.5405E-03	.0225	1.7219E-03	.0252	.5000	.700

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