RESEARCH MEMORANDUM

THE VARIATION WITH WING ASPECT RATIO OF FLAP EFFECTIVENESS ON THIN RECTANGULAR WINGS AT TRANSONIC SPEEDS

By John G. Lowry and Robert T. Taylor

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Langley Field, Va.

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THE VARIATION WITH WING ASPECT RATIO OF FLAP EFFECTIVENESS ON THIN RECTANGULAR WINGS AT TRANSONIC SPEEDS

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SUMMARY

A wind-tunnel investigation has been made in the Langley high-speed 7- by 10-foot tunnel by use of the transonic-bump technique to study the effectiveness of full-span flap-type controls on 31 unswept rectangular wings. Plain flaps with flap-chord ratios of 0.1, 0.2, 0.3, and 0.4 were tested on wings of aspect ratios from 1 to 6 at Mach numbers from 0.4 to 1.1. The data for the most part are presented without analysis.

INTRODUCTION

The variation of control effectiveness with wing aspect ratio and flap-chord ratio is well known at low subsonic speeds (refs. 1 to 5) and at supersonic speeds (refs. 6 and 7). There is, however, very little known about these effects at transonic speeds. In addition there are only a few systematic data available for controls on the thinner (4- to 6-percent thick) airfoils at transonic speeds.

The present paper presents the results of a wind-tunnel investigation to determine flap-effectiveness parameters using 31 small-scale rectangular semispan wings equipped with full-span plain flaps. The transonic speeds were obtained by using the transonic-bump technique in the Langley high-speed 7- by 10-foot tunnel. The variables investigated were wing thickness (4 and 6 percent), wing aspect ratio (aspect ratios from 1 to 6), and flap-chord ratio (flap-chord to wing-chord ratios of 0.1 to 0.4).

In order to expedite the publication of the results, no detailed analysis or discussion of the data will be made. All of the data are presented in tabulated form and in addition some data showing significant trends are presented in graphic form.

SYMBOLS

C_L	lift coefficient, $\frac{\text{Twice semispan lift}}{qS}$
C_D	drag coefficient, $\frac{\text{Twice semispan drag}}{qS}$
C_m	pitching-moment coefficient about 0.25c, $\frac{\text{Twice semispan pitching moment}}{qSc}$
C_l	rolling-moment coefficient, $\frac{\text{Semispan rolling moment}}{qSb}$
C_n	yawing-moment coefficient, $\frac{\text{Semispan yawing moment}}{qSb}$
b	wing span, ft
c	wing chord, ft
c_f	flap chord, ft
S	wing area, sq ft
t	wing thickness, ft
A	wing aspect ratio, $\frac{b^2}{S}$
q	free-stream dynamic pressure, $\frac{1}{2}\rho V^2$, lb/sq ft
V	free-stream velocity, ft/sec
ρ	free-stream density, slugs/cu ft
R	Reynolds number based on wing chord
M	free-stream Mach number
M_l	local Mach number
α	angle of attack, deg
δ	flap deflection, [redacted]

[redacted]

α_δ flap-effectiveness parameter, effective change in wing angle of attack caused by unit angular change in control-surface deflection

c_{L_α} lift-curve slope, $\frac{\partial c_L}{\partial \alpha}$

MODELS

The geometric characteristics of the models used in the investigation are given in figure 1. The models were machined from solid steel to either NACA 65A004 or NACA 65A006 airfoil sections. The basic models had no twist or camber and had a taper ratio of 1. The aspect ratio was varied by cutting the wings at the appropriate spanwise station and filing the tip normal to the chord plane.

The flaps were machined integrally with the wing at a deflection of approximately 10°. The flap chords and actual deflections are given on figure 1.

TESTS

The tests were made by using the transonic-bump technique in the Langley high-speed 7- by 10-foot tunnel. The models were attached to a five-component electrical-strain-gage balance beneath the bump surface. The tests were made over a Mach number range from 0.4 to 1.1 at Reynolds numbers varying from 0.5×10^6 to 1.5×10^6 (fig. 2). The variation of the local Mach number over the bump in the vicinity of the model is shown in figure 3.

The test angles of attack varied from -10° to 25° whenever the loads encountered did not exceed the design limit of the balance. The aspect ratio varied from 6 to 2 on the 6-percent-thick wings and from 4 to 1 on the 4-percent-thick wings. Flap chords varied from 0 to 0.4c.

The data have not been corrected for jet-boundary effects on blocking since the models were sufficiently small with respect to tunnel boundaries to make the corrections negligible. No corrections were applied to account for flap deflection under load since checks indicated these too were small. The roll and yaw data presented represent the rolling- and yawing-moment coefficients resulting from deflection of the control on one wing. Since no reflection-plane corrections have been applied to the data, they represent symmetrically deflected controls and

should be reduced if applied to antisymmetric deflection. The magnitude of the corrections (reflection plane) at $M = 0$ obtained from references 3 and 4 are given in figure 4. The variation of the correction with Mach number has not been established in the transonic-speed range but does decrease to 0 at supersonic speeds.

Because of the small physical size of the models and the resulting inaccuracies in the measurement of the forces and moments, care should be taken in analyzing the tabulated data especially at the lower Mach numbers.

RESULTS AND DISCUSSION

The force and moment data obtained in this investigation are presented in tables 1 to 6.

A comparison of the lift-curve slope C_{L_α} with theory is given in figure 5 at $M = 0.4$. The variation of C_{L_α} with Mach number is given in figure 6 for the various wings investigated. Figure 7 presents the flap-effectiveness parameter α_δ as a function of flap-chord ratio at all the test Mach numbers. A comparison of α_δ with theory is shown in figure 8.

The variation of the lift-curve slope with aspect ratio at $M = 0.4$ (fig. 5) shows exceptional agreement with the theory of reference 8. The variation of C_{L_α} with M (fig. 6) is presented to give a more complete meaning to the values of α_δ presented.

The variation of the flap-effectiveness parameter α_δ with flap-chord ratio (fig. 7) is presented in order to eliminate the necessity of plotting all the lift data to see the trends with Mach number and aspect ratio. The values of α_δ plotted in figure 7 were obtained by dividing the change in angle of zero lift from the plain wing to the flapped wing by the flap deflection and therefore represent the value of α_δ at $C_L = 0$. This method is somewhat more accurate than using $C_{L_\delta}/C_{L_\alpha}$ and except where there are nonlinearities in the lift curve give the same value. A comparison of the variation of α_δ with aspect ratio with the subsonic (ref. 5) and supersonic (ref. 6) theories (fig. 8) show that at $M = 0.4$ and 1.1 the theories predict the variation quite satisfactorily but not the magnitude. At a Mach number of 0.9 neither theory gives either a satisfactory variation or the correct

magnitude. The disagreement between theory and experiment in magnitude is typical and results to some extent from the thickened boundary layer at the trailing edge. The magnitude at $M = 0.4$ agrees quite well with other published data, for example reference 9. These results indicate that both in the subsonic- and supersonic-speed ranges the available theories can be used to obtain the variation of α_δ with A, but in the transonic range the variation must be obtained from experimental studies.

It should be pointed out that these data are for only one value of δ, and, although they are useful in determining the effects of the several variables, they are not necessarily applicable to the design of a control surface that uses small deflections in the transonic-speed range (see ref. 10).

Langley Aeronautical Laboratory,
National Advisory Committee for Aeronautics,
Langley Field, Va., May 4, 1956.

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TABLE 1.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 1 MODEL

$\frac{t}{c}$ = 0.04 $\frac{c_f}{c}$ = NONE

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.4253				
-7	-.2982				
-5	-.2324				
-3	-.1666				
-2	-.1228				
-1	-.0965				
0	-.0702				
1	-.0351				
2	-.0132				
3	.0088				
5	.0570				
7	.1272				
10	.2280				
15	.4297				
20	.6884				
25	.8419				
M = 0.60					
-10	-.4089	.0705	-.0178	-.0383	.0193
-7	-.2915	.0461	-.0135	-.0310	.0120
-5	-.2132	.0374	-.0183	-.0225	.0082
-3	-.1414	.0331	-.0119	-.0152	.0063
-2	-.1044	.0322	-.0134	-.0112	.0054
-1	-.0740	.0322	-.0116	-.0072	.0044
0	-.0435	.0365	-.0048	-.0033	.0026
1	-.0174	.0374	-.0002	.0000	.0035
2	.0044	.0374	-.0013	.0033	.0038
3	.0392	.0426	.0035	.0079	.0051
5	.1022	.0579	.0021	.0165	.0054
7	.1784	.0748	.0106	.0257	.0089
10	.3197	.1122	.0296	.0416	.0016
15	.5068	.2162	-.0173	.0673	.0294
20	.7830	.3689	-.0825	.0983	.0506
25	.9027	.5029	-.1325	.1089	.0699
M = 0.80					
-10	-.4059	.0717	-.0080	-.0457	.0150
-7	-.2848	.0398	-.0130	-.0304	.0092
-5	-.2066	.0289	-.0136	-.0215	.0058
-3	-.1299	.0254	-.0097	-.0134	.0039
-2	-.0826	.0239	-.0045	-.0099	.0030
-1	-.0517	.0233	-.0001	-.0067	.0030
0	-.0236	.0239	.0010	-.0027	.0028
1	.0030	.0233	.0017	.0013	.0028
2	.0280	.0254	.0084	.0045	.0032
3	.0635	.0289	.0083	.0080	.0049
5	.1417	.0398	.0120	.0166	.0049
7	.2022	.0543	.0147	.0255	.0082
10	.3335	.0921	.0172	.0403	.0172
15	.5564	.1966	-.0176	.0694	.0311
20	.8235	.3338	-.0962	.0954	.0493
25	.8973	.4501	-.1333	.1052	.0607
M = 0.90					
-10	-.4232	.0781	-.0047	-.0474	.0159
-7	-.2839	.0417	-.0119	-.0316	.0104
-5	-.1901	.0268	-.0068	-.0217	.0078
-3	-.1276	.0193	-.0118	-.0134	.0055
-2	-.0755	.0185	-.0076	-.0091	.0047
-1	-.0560	.0167	-.0065	-.0059	.0034
0	-.0234	.0172	-.0010	-.0020	.0025
1	.0026	.0159	.0004	.0020	.0013
2	.0378	.0193	.0092	.0051	.0017
3	.0677	.0198	.0062	.0091	.0034
5	.1589	.0320	.0113	.0174	.0070
7	.2370	.0461	.0165	.0269	.0125
10	.3737	.0833	.0096	.0435	.0201
15	.6368	.1922	-.0250	.0755	.0337
20	.8516	.3331	-.1014	.0976	.0494
25	.9298	.4560	-.1371	.1086	.0632

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.4323	.0825	.0001	-.0490	.0150
-7	-.2832	.0440	-.0081	-.0316	.0096
-5	-.2025	.0276	-.0139	-.0222	.0071
-3	-.1280	.0201	-.0138	-.0147	.0049
-2	-.0783	.0196	-.0084	-.0094	.0033
-1	-.0534	.0164	-.0065	-.0057	.0018
0	-.0199	.0164	-.0009	-.0026	.0018
1	.0087	.0159	.0023	.0015	.0024
2	.0460	.0196	.0090	.0048	.0025
3	.0832	.0214	.0119	.0094	.0042
5	.1665	.0306	.0122	.0170	.0071
7	.2509	.0477	.0142	.0275	.0119
10	.3938	.0855	.0069	.0448	.0193
15	.6634	.1893	-.0357	.0765	.0354
20	.8870	.3421	-.1009	.1044	.0529
25	.9689	.4765	-.1365	.1123	.0672
M = 1.00					
-10	-.4396	.0901	.0047	-.0505	.0121
-7	-.2887	.0468	-.0098	-.0332	.0074
-5	-.1937	.0292	-.0126	-.0223	.0050
-3	-.1164	.0216	-.0147	-.0137	.0042
-2	-.0748	.0204	-.0114	-.0090	.0031
-1	-.0392	.0192	-.0059	-.0047	.0023
0	-.0154	.0188	-.0017	-.0025	.0012
1	.0143	.0188	.0013	.0011	.0014
2	.0558	.0192	.0115	.0051	.0014
3	.0855	.0221	.0165	.0090	.0031
5	.1711	.0321	.0172	.0180	.0050
7	.2756	.0513	.0092	.0296	.0117
10	.4301	.0946	-.0071	.0490	.0173
15	.7105	.2074	-.0575	.0829	.0337
20	.9362	.3600	-.1068	.1103	.0571
25	1.0740	.5201	-.1571	.1280	.0791
M = 1.05					
-10	-.4471	.0894	.0143	-.0511	.0081
-7	-.2878	.0480	-.0064	-.0331	.0055
-5	-.1854	.0291	-.0168	-.0214	.0023
-3	-.1229	.0223	-.0169	-.0138	.0002
-2	-.0751	.0207	-.0103	-.0086	-.0020
-1	-.0466	.0212	-.0078	-.0052	-.0022
0	-.0148	.0191	-.0023	-.0010	-.0017
1	.0159	.0207	.0001	.0034	-.0053
2	.0592	.0218	.0077	.0066	-.0020
3	.0933	.0234	.0110	.0104	-.0007
5	.1752	.0346	.0125	.0193	.0020
7	.2730	.0526	.0039	.0304	.0061
10	.4380	.0951	-.0181	.0493	.0144
15	.7167	.2155	-.0655	.0846	.0293
20	.9488	.3770	-.1176	.1149	.0518
25	1.1467	.5684	-.1673	.1381	.0744
M = 1.10					
-10	-.4467	.0823	.0158	-.0515	.0053
-7	-.2934	.0442	-.0052	-.0339	.0008
-5	-.1960	.0274	-.0133	-.0219	-.0011
-3	-.1204	.0195	-.0132	-.0133	-.0025
-2	-.0766	.0173	-.0098	-.0083	-.0027
-1	-.0471	.0155	-.0054	-.0050	-.0027
0	-.0120	.0151	-.0031	-.0017	-.0030
1	.0131	.0145	-.0003	.0027	-.0035
2	.0602	.0204	.0099	.0067	-.0022
3	.0876	.0232	.0121	.0100	-.0033
5	.1741	.0344	.0108	.0199	-.0014
7	.2628	.0539	.0028	.0299	.0014
10	.4204	.1023	-.0183	.0482	.0083
15	.7051	.2277	-.0675	.0830	.0231
20	.9416	.3931	-.1206	.1156	.0452
25	1.1168	.5709	-.1656	.1375	.0657

TABLE 1.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 1 MODEL - Continued

$\frac{t}{c} = 0.04$ $\frac{c_f}{c} = 0.10$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.2981				
-7	-.2104				
-5	-.1227				
-3	-.0526				
-2	-.0044				
-1	.0307				
0	.0570				
1	.0745				
2	.1008				
3	.1096				
5	.1622				
7	.2411				
10	.3507				
15	.5567				
20	.8109				
25	.9863				
M = 0.60					
-10	-.2610	.0344	-.0732	-.0271	.0202
-7	-.1631	.0278	-.0826	-.0152	.0148
-5	-.0696	.0309	-.0849	-.0059	.0127
-3	-.0152	.0331	-.0741	.0013	.0117
-2	.0196	.0309	-.0922	.0066	.0098
-1	.0305	.0344	-.0813	.0099	.0117
0	.0631	.0183	-.0795	.0149	.0117
1	.0979	.0492	-.0685	.0178	.0117
2	.1196	.0522	-.0760	.0225	.0139
3	.1588	.0631	-.0651	.0257	.0145
5	.2284	.0792	-.0664	.0376	.0174
7	.2958	.1057	-.0620	.0462	.0221
10	.4350	.1649	-.0607	.0640	.0326
15	.6634	.2801	-.0917	.0937	.0553
20	.9179	.4750	-.1395	.1234	.0791
25	1.0636	.6290	-.1787	.1379	.1063
M = 0.80					
-10	-.2775	.0413	-.0711	-.0304	.0204
-7	-.1594	.0283	-.0784	-.0152	.0156
-5	-.0841	.0248	-.0749	-.0058	.0120
-3	-.0074	.0248	-.0665	.0031	.0110
-2	.0266	.0248	-.0692	.0076	.0110
-1	.0620	.0283	-.0676	.0112	.0110
0	.1107	.0354	-.0546	.0143	.0110
1	.1210	.0354	-.0647	.0179	.0118
2	.1505	.0413	-.0563	.0220	.0133
3	.1845	.0463	-.0593	.0269	.0148
5	.2686	.0646	-.0499	.0358	.0180
7	.3321	.0865	-.0531	.0457	.0234
10	.4649	.1393	-.0548	.0855	.0352
15	.7010	.2642	-.0901	.0922	.0515
20	.9475	.4327	-.1592	.1182	.0719
25	1.0331	.5576	-.1796	.1298	.0886
M = 0.90					
-10	-.2851	.0443	-.0597	-.0328	.0218
-7	-.1627	.0250	-.0769	-.0158	.0172
-5	-.0885	.0172	-.0773	-.0055	.0140
-3	-.0130	.0206	-.0728	.0036	.0121
-2	.0417	.0185	-.0685	.0079	.0121
-1	.0755	.0219	-.0669	.0118	.0123
0	.1146	.0250	-.0661	.0158	.0123
1	.1406	.0281	-.0643	.0198	.0125
2	.1835	.0364	-.0562	.0233	.0142
3	.2109	.0396	-.0581	.0272	.0146
5	.2890	.0583	-.0563	.0364	.0193
7	.3749	.0820	-.0545	.0470	.0257
10	.5116	.1356	-.0584	.0648	.0350
15	.7810	.2541	-.0937	.0956	.0520
20	.9893	.4251	-.1635	.1201	.0706
25	1.0284	.5493	-.1851	.1272	.0849

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.3042	.0507	-.0513	-.0354	.0200
-7	-.1751	.0268	-.0705	-.0181	.0171
-5	-.0993	.0209	-.0713	-.0075	.0144
-3	.0000	.0176	-.0678	.0026	.0121
-2	.0335	.0415	-.0691	.0072	.0126
-1	.0807	.0226	-.0667	.0117	.0123
0	.1056	.0268	-.0662	.0158	.0119
1	.1465	.0318	-.0611	.0200	.0128
2	.1888	.0373	-.0580	.0233	.0137
3	.2173	.0390	-.0619	.0271	.0150
5	.3080	.0586	-.0598	.0377	.0202
7	.3850	.0849	-.0590	.0478	.0269
10	.5377	.1356	-.0692	.0667	.0350
15	.8072	.2620	-.1072	.1006	.0523
20	1.0059	.4262	-.1552	.1266	.0733
25	1.0853	.5764	-.1910	.1345	.0881
M = 1.00					
-10	-.3302	.0637	-.0394	-.0371	.0190
-7	-.1782	.0373	-.0592	-.0191	.0155
-5	-.0772	.0228	-.0670	-.0065	.0131
-3	-.0024	.0200	-.0767	.0025	.0119
-2	.0416	.0221	-.0712	.0072	.0112
-1	.0772	.0257	-.0674	.0112	.0107
0	.1069	.0285	-.0675	.0151	.0105
1	.1413	.0292	-.0620	.0187	.0110
2	.1805	.0373	-.0730	.0220	.0124
3	.2138	.0409	-.0558	.0263	.0138
5	.2945	.0577	-.0566	.0360	.0188
7	.3991	.0853	-.0625	.0486	.0255
10	.5570	.1425	-.0848	.0681	.0333
15	.8314	.2710	-.1285	.1024	.0508
20	1.0482	.4404	-.1705	.1323	.0734
25	1.1924	.6285	-.2157	.1503	.0980
M = 1.05					
-10	-.3470	.1297	-.0298	-.0400	.0132
-7	-.1843	.0425	-.0571	-.0207	.0075
-5	-.0853	.0314	-.0681	-.0083	.0078
-3	-.0205	.0257	-.0705	.0010	.0058
-2	.0364	.0273	-.0689	.0062	.0058
-1	.0705	.0291	-.0666	.0104	.0058
0	.0935	.0303	-.0645	.0138	.0059
1	.1160	.0319	-.0655	.0179	.0046
2	.1729	.0403	-.0595	.0214	.0061
3	.2036	.0441	-.0571	.0255	.0102
5	.2867	.0637	-.0577	.0349	.0122
7	.3834	.0890	-.0676	.0466	.0189
10	.5472	.1422	-.0877	.0663	.0256
15	.8077	.2735	-.1344	.1008	.0431
20	1.0330	.4575	-.1770	.1325	.0612
25	1.1922	.6534	-.2215	.1540	.0853
M = 1.10					
-10	-.2766	.0749	-.0220	-.0294	.0021
-7	-.1470	.0760	-.0510	-.0126	.0035
-5	-.0545	.0440	-.0625	-.0010	.0055
-3	.0033	.0407	-.0728	.0083	.0063
-2	.0534	.0418	-.0674	.0126	.0073
-1	.0926	.0440	-.0629	.0162	.0078
0	.1056	.0451	-.0648	.0201	.0065
1	.1394	.0481	-.0624	.0238	.0066
2	.1906	.0547	-.0529	.0271	.0084
3	.2330	.0599	-.0502	.0311	.0117
5	.3071	.0815	-.0536	.0403	.0133
7	.3920	.1093	-.0623	.0506	.0169
10	.5336	.1703	-.0848	.0690	.0245
15	.7950	.3043	-.1237	.1021	.0378
20	1.0128	.4735	-.1652	.1335	.0560
25	1.1631	.6556	-.2090	.1559	.0769
-10	-.2973	.0686	-.0283	-.0317	.0082
-2	.0512	.0331	-.0685	.0122	.0087

TABLE I.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 1 MODEL - Continued

$\frac{t}{c} = 0.04$ $\frac{c_f}{c} = 0.20$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.2322				
-7	-.1227				
-5	-.0570				
-3	.0000				
-2	.0526				
-1	.0833				
0	.1183				
1	.1402				
2	.1709				
3	.1972				
5	.2410				
7	.3330				
10	.4250				
15	.6179				
20	.8238				
25	1.0254				
M = 0.60					
-10	-.2195	.0265	-.0800	-.0264	.0110
-7	-.1022	.0170	-.0811	-.0132	.0070
-5	-.0326	.0161	-.0787	-.0040	.0057
-3	.0413	.0248	-.0760	.0040	.0054
-2	.0696	.0265	-.0784	.0086	.0051
-1	.1025	.0322	-.0734	.0112	.0063
0	.1282	.0322	-.0801	.0165	.0044
1	.1717	.0387	-.0731	.0191	.0066
2	.1978	.0448	-.0798	.0231	.0089
3	.2282	.0535	-.0709	.0271	.0101
5	.2978	.0748	-.0757	.0362	.0127
7	.3739	.1039	-.0707	.0462	.0177
10	.4999	.1582	-.0668	.0620	.0272
15	.7042	.2756	-.0868	.0877	.0449
20	.9542	.4512	-.1383	.1134	.0711
25	1.0998	.6156	-.1638	.1247	.0954
M = 0.80					
-10	-.2110	.0363	-.0750	-.0237	.0099
-7	-.0989	.0239	-.0817	-.0112	.0058
-5	-.0236	.0195	-.0815	-.0009	.0045
-3	.0546	.0218	-.0835	.0076	.0043
-2	.0959	.0254	-.0747	.0112	.0045
-1	.1181	.0275	-.0824	.0139	.0045
0	.1609	.0328	-.0728	.0179	.0052
1	.1830	.0363	-.0785	.0224	.0064
2	.2214	.0422	-.0712	.0260	.0077
3	.2538	.0493	-.0762	.0300	.0077
5	.3350	.0697	-.0734	.0385	.0120
7	.4118	.0945	-.0773	.0479	.0172
10	.5387	.1508	-.0738	.0636	.0251
15	.7645	.2671	-.1019	.0896	.0421
20	.9918	.4383	-.1603	.1142	.0624
25	1.0390	.5661	-.1818	.1191	.0753
M = 0.90					
-10	-.2265	.0469	-.0790	-.0245	.0076
-7	-.0924	.0255	-.0878	-.0095	.0049
-5	-.0143	.0180	-.0897	.0000	.0042
-3	.0677	.0206	-.0939	.0087	.0040
-2	.1159	.0242	-.0881	.0130	.0042
-1	.1393	.0268	-.0869	.0158	.0047
0	.1718	.0320	-.0844	.0198	.0049
1	.2070	.0364	-.0886	.0233	.0066
2	.2473	.0448	-.0784	.0265	.0077
3	.2695	.0500	-.0787	.0308	.0097
5	.3567	.0755	-.0814	.0395	.0138
7	.4517	.0992	-.0845	.0505	.0200
10	.5884	.1523	-.0902	.0679	.0286
15	.8305	.2786	-.1098	.0968	.0463
20	1.0284	.4418	-.1678	.1177	.0638
25	1.0596	.5722	-.1846	.1224	.0740

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.2334	.0519	-.0758	-.0264	.0078
-7	-.0881	.0281	-.0888	-.0109	.0056
-5	-.0062	.0214	-.0958	.0000	.0047
-3	.0646	.0226	-.0947	.0083	.0045
-2	.1179	.0276	-.0945	.0132	.0045
-1	.1477	.0293	-.0934	.0169	.0051
0	.1825	.0348	-.0947	.0211	.0054
1	.2135	.0377	-.0964	.0252	.0056
2	.2570	.0469	-.0886	.0282	.0067
3	.2880	.0524	-.0880	.0320	.0092
5	.3687	.0745	-.0718	.0411	.0137
7	.4581	.1008	-.0886	.0508	.0191
10	.6108	.1587	-.0989	.0697	.0274
15	.8864	.2930	-.1318	.1017	.0457
20	1.0726	.4531	-.1654	.1250	.0664
25	1.0949	.5837	-.1910	.1642	.0778
M = 1.00					
-10	-.2576	.0641	-.0733	-.0299	.0081
-7	-.0962	.0321	-.0894	-.0119	.0047
-5	-.0024	.0264	-.1023	.0000	.0045
-3	.0712	.0264	-.1012	.0083	.0045
-2	.1175	.0285	-.1046	.0133	.0045
-1	.1579	.0321	-.1024	.0173	.0048
0	.1864	.0351	-.0991	.0213	.0053
1	.2220	.0408	-.0973	.0245	.0064
2	.2612	.0480	-.0942	.0281	.0079
3	.2873	.0525	-.0905	.0313	.0095
5	.3740	.0748	-.0908	.0403	.0134
7	.4713	.1021	-.0971	.0515	.0183
10	.6387	.1593	-.1182	.0695	.0262
15	.8833	.2978	-.1528	.1009	.0437
20	1.0852	.4694	-.1899	.1272	.0659
25	1.2063	.6492	-.2145	.1423	.0918
M = 1.05					
-10	-.2651	.0698	-.0701	-.0297	.0041
-7	-.1172	.0437	-.0914	-.0138	.0010
-5	-.0148	.0337	-.1017	-.0017	.0003
-3	.0592	.0307	-.1056	.0076	.0020
-2	.1081	.0307	-.1037	.0138	.0018
-1	.1411	.0337	-.1027	.0162	.0023
0	.1729	.0364	-.1014	.0200	.0026
1	.2036	.0111	-.1012	.0235	.0035
2	.2469	.0476	-.0941	.0269	.0053
3	.2810	.0514	-.0928	.0311	.0069
5	.3640	.0739	-.0928	.0390	.0117
7	.4539	.1019	-.0984	.0501	.0150
10	.6075	.1568	-.1170	.0673	.0236
15	.8578	.2933	-.1553	.0991	.0408
20	1.0739	.4721	-.1952	.1267	.0628
25	1.2241	.6714	-.2262	.1453	.0880
M = 1.10					
-10	-.2639	.0613	-.0654	-.0299	.0008
-7	-.1380	.0377	-.0858	-.0140	.0000
-5	-.0252	.0269	-.0946	-.0017	-.0013
-3	.0515	.0258	-.1033	.0078	-.0006
-2	.1062	.0280	-.1035	.0120	.0000
-1	.1358	.0296	-.1019	.0156	.0010
0	.1719	.0339	-.1011	.0199	.0011
1	.1993	.0420	-.1014	.0236	.0024
2	.2452	.0447	-.0935	.0266	.0035
3	.2759	.0523	-.0914	.0309	.0053
5	.3580	.0742	-.0923	.0399	.0091
7	.4566	.1040	-.0959	.0502	.0139
10	.6022	.1627	-.1184	.0668	.0217
15	.8430	.3070	-.1574	.0973	.0382
20	1.0445	.4771	-.1929	.1232	.0582
25	1.2044	.6676	-.2289	.1432	.0802

TABLE 1.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 1MODEL - Continued

$\frac{t}{c} = 0.04$ $\frac{c_f}{c} = 0.30$

α, deg	C_L	C_D	C_M	C_l	C_n
			M = 0.40		
-10	-.1532				
-7	-.0350				
-5	.0569				
-3	.1094				
-2	.1313				
-1	.1663				
0	.2101				
1	.2320				
2	.2408				
3	.2714				
5	.3590				
7	.4071				
10	.5340				
15	.7004				
20	.9018				
25	1.1162				
			M = 0.60		
-10	-.1412	.0460	-.0725	-.0172	.0139
-7	-.0326	.0374	-.0713	-.0040	.0089
-5	.0326	.0365	-.0733	.0046	.0079
-3	.1086	.0426	-.0715	.0125	.0066
-2	.1412	.0482	-.0690	.0165	.0070
-1	.1716	.0513	-.0696	.0204	.0070
0	.2064	.0586	-.0648	.0250	.0070
1	.2324	.0643	-.0673	.0290	.0073
2	.2607	.0717	-.0692	.0323	.0098
3	.3041	.0799	-.0649	.0376	.0120
5	.3910	.1047	-.0647	.0488	.0152
7	.4605	.1334	-.0643	.0587	.0205
10	.5930	.1925	-.0630	.0778	.0329
15	.7820	.3163	-.0856	.1015	.0493
20	1.0122	.5022	-.1467	.1278	.0752
25	1.1515	.6729	-.1728	.1417	.1017
			M = 0.80		
-10	-.1327	.0428	-.0715	-.0174	.0122
-7	-.0221	.0304	-.0760	-.0036	.0079
-5	.0310	.0274	-.0813	.0049	.0069
-3	.1062	.0327	-.0795	.0130	.0062
-2	.1549	.0363	-.0759	.0174	.0069
-1	.1844	.0407	-.0764	.0210	.0069
0	.2271	.0472	-.0723	.0251	.0071
1	.2478	.0522	-.0784	.0295	.0084
2	.2832	.0587	-.0733	.0336	.0103
3	.3171	.0675	-.0780	.0381	.0122
5	.4071	.0920	-.0699	.0474	.0161
7	.4867	.1212	-.0746	.0577	.0229
10	.6150	.1799	-.0821	.0756	.0311
15	.8407	.3047	-.1003	.1025	.0489
20	1.0472	.4787	-.1621	.1240	.0680
25	1.0767	.6079	-.1797	.1293	.0815
			M = 0.90		
-10	-.1470	.0447	-.0828	-.0150	.0110
-7	-.0325	.0302	-.0910	-.0016	.0079
-5	.0624	.0268	-.0851	.0083	.0059
-3	.1210	.0289	-.0866	.0170	.0053
-2	.1756	.0320	-.0903	.0213	.0055
-1	.1977	.0359	-.0870	.0253	.0057
0	.2368	.0421	-.0872	.0292	.0057
1	.2563	.0468	-.0912	.0336	.0053
2	.3125	.0575	-.0803	.0379	.0072
3	.3486	.0653	-.0843	.0430	.0091
5	.4384	.0908	-.0874	.0529	.0146
7	.5268	.1197	-.0875	.0628	.0219
10	.6764	.1811	-.0935	.0813	.0295
15	.9184	.3166	-.1235	.1121	.0484
20	1.0797	.4798	-.1716	.1318	.0671
25	1.0849	.5950	-.1843	.1322	.0775

α, deg	C_L	C_D	C_M	C_l	C_n
			M = 0.95		
-10	-.1588	.0514	-.0805	-.0166	.0099
-7	-.0174	.0323	-.0908	-.0004	.0072
-5	.0608	.0275	-.0907	.0087	.0060
-3	.1241	.0288	-.0961	.0173	.0056
-2	.1799	.0335	-.0968	.0222	.0060
-1	.2209	.0377	-.0955	.0260	.0069
0	.2482	.0439	-.0981	.0309	.0072
1	.2829	.0506	-.0966	.0354	.0081
2	.3227	.0598	-.0914	.0392	.0097
3	.3636	.0683	-.0968	.0441	.0123
5	.4492	.0928	-.0950	.0535	.0171
7	.5460	.1251	-.1015	.0652	.0229
10	.7074	.1857	-.1136	.0843	.0321
15	.9481	.1648	-.1349	.1163	.0501
20	1.1343	.2514	-.1592	.1416	.0711
25	1.1045	.3040	-.1574	.1371	.0785
			M = 1.00		
-10	-.1840	.0608	-.0841	-.0184	.0112
-7	-.0380	.0404	-.0994	-.0015	.0076
-5	.0629	.0321	-.1042	.0105	.0064
-3	.1365	.0328	-.1055	.0187	.0064
-2	.1959	.0368	-.1126	.0245	.0069
-1	.2280	.0420	-.1076	.0277	.0072
0	.2576	.0480	-.1114	.0313	.0074
1	.2873	.0537	-.1114	.0357	.0078
2	.3384	.0632	-.1022	.0393	.0100
3	.3681	.0712	-.1016	.0436	.0123
5	.4630	.0976	-.1043	.0537	.0164
7	.5580	.1285	-.1112	.0645	.0214
10	.7124	.1897	-.1294	.0832	.0293
15	.9617	.3410	-.1674	.1167	.0480
20	1.1516	.5162	-.2014	.1427	.0708
25	1.2205	.6703	-.2111	.1509	.0880
			M = 1.05		
-10	-.1933	.0643	-.0848	-.0186	.0083
-7	-.0398	.0418	-.1036	-.0021	.0033
-5	.0568	.0337	-.1115	.0093	.0040
-3	.1364	.0337	-.1163	.0186	.0049
-2	.1853	.0346	-.1183	.0228	.0046
-1	.2217	.0391	-.1158	.0265	.0049
0	.2524	.0448	-.1149	.0307	.0040
1	.2853	.0514	-.1130	.0341	.0046
2	.3308	.0587	-.1067	.0376	.0073
3	.3638	.0682	-.1080	.0428	.0099
5	.4491	.0928	-.1085	.0521	.0142
7	.5559	.1257	-.1137	.0649	.0182
10	.6980	.1844	-.1320	.0821	.0248
15	.9550	.3354	-.1705	.1152	.0390
20	1.1414	.5166	-.2061	.1418	.0611
25	1.2778	.7201	-.2376	.1618	.0843
			M = 1.10		
-10	-.1959	.0571	-.0869	-.0196	-.0029
-7	-.0438	.0365	-.1018	-.0027	-.0032
-5	.0580	.0306	-.1105	.0047	-.0024
-3	.1335	.0306	-.1161	.0179	-.0019
-2	.1783	.0344	-.1178	.0222	-.0016
-1	.2188	.0387	-.1150	.0262	-.0011
0	.2440	.0442	-.1170	.0295	-.0003
1	.2681	.0484	-.1180	.0329	.0008
2	.3250	.0591	-.1074	.0365	.0027
3	.3600	.0689	-.1083	.0412	.0045
5	.4486	.0941	-.1108	.0505	.0094
7	.5328	.1265	-.1149	.0611	.0131
10	.6893	.1910	-.1341	.0794	.0173
15	.9256	.3497	-.1686	.1112	.0289
20	1.1160	.5381	-.2144	.1408	.0490
25	1.2386	.7318	-.2378	.1590	.0735

TABLE 1.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 1 MODEL - Concluded

$\frac{t}{c} = 0.04$ $\frac{c_f}{c} = 0.40$

α, deg	C_L	C_D	C_M	C_l	C_n
			M = 0.40		
-10	-.0306				
-7	-.0569				
-5	.0263				
-3	.1007				
-2	.1226				
-1	.1488				
0	.1882				
1	.2320				
2	.2320				
3	.2670				
5	.3327				
7	.4640				
10	.5384				
15	.6916				
20	.9061				
25	1.0637				
			M = 0.60		
-10	-.0978	.0074	-.0592	-.0112	.0117
-7	-.0261	.0235	-.0836	.0000	.0092
-5	.0304	.0448	-.0720	.0086	.0114
-3	.0869	.0535	-.0738	.0158	.0114
-2	.1217	.0578	-.0695	.0204	.0114
-1	.1521	.0643	-.0713	.0250	.0114
0	.2086	.0491	-.0581	.0284	.0114
1	.2390	.0761	-.0768	.0336	.0120
2	.2781	.0695	-.0719	.0382	.0133
3	.3151	.0813	-.0767	.0435	.0148
5	.4085	.0960	-.0737	.0547	.0193
7	.4780	.1369	-.0800	.0646	.0256
10	.6041	.2064	-.0826	.0818	.0366
15	.7779	.3346	-.1002	.1075	.0534
20	1.0321	.5267	-.1648	.1371	.0802
25	1.0995	.6627	-.1742	.1411	.0960
			M = 0.80		
-10	-.1210	.0472	-.0797	-.0107	.0129
-7	-.0738	.0398	-.0653	.0013	.0097
-5	.0708	.0363	-.0752	.0103	.0094
-3	.1372	.0437	-.0797	.0179	.0099
-2	.1697	.0472	-.0742	.0224	.0101
-1	.1995	.0531	-.0785	.0269	.0105
0	.2375	.0596	-.0737	.0304	.0107
1	.2641	.0676	-.0850	.0358	.0116
2	.3231	.0770	-.0024	.0398	.0135
3	.3394	.0856	-.0829	.0439	.0148
5	.4308	.1148	-.0783	.0546	.0204
7	.5061	.1487	-.0815	.0649	.0255
10	.6477	.2068	-.0823	.0842	.0354
15	.8498	.3266	-.1092	.1088	.0534
20	1.0298	.4904	-.1614	.1276	.0716
25	1.0298	.5949	-.1710	.1294	.0804
			M = 0.90		
-10	-.1249	.0544	-.0950	-.0107	.0125
-7	.0078	.0396	-.0935	.0032	.0093
-5	.0820	.0385	-.0926	.0115	.0091
-3	.1444	.0435	-.0945	.0194	.0091
-2	.1867	.0461	-.0892	.0233	.0089
-1	.2212	.0333	-.0937	.0280	.0091
0	.2577	.0609	-.0914	.0324	.0093
1	.2876	.0697	-.0973	.0367	.0095
2	.3357	.0768	-.0874	.0411	.0112
3	.3725	.0882	-.0920	.0466	.0140
5	.4581	.1153	-.0928	.0564	.0187
7	.5504	.1460	-.0946	.0691	.0240
10	.6975	.2079	-.1052	.0873	.0329
15	.9525	.3495	-.1296	.1196	.0537
20	1.0775	.5093	-.1779	.1354	.0702
25	1.0671	.6145	-.1810	.1354	.0789

α, deg	C_L	C_D	C_M	C_l	C_n
			M = 0.95		
-10	-.1291	.0569	-.0972	-.0124	.0124
-7	.0000	.0415	-.1003	.0030	.0097
-5	.0996	.0397	-.1033	.0124	.0090
-3	.1564	.0439	-.1047	.0203	.0092
-2	.2023	.0482	-.1009	.0249	.0097
-1	.2334	.0531	-.1003	.0290	.0103
0	.2706	.0611	-.1030	.0335	.0106
1	.3017	.0690	-.1076	.0384	.0112
2	.3563	.0787	-.1017	.0430	.0142
3	.3898	.0886	-.1029	.0478	.0162
5	.4779	.1159	-.1036	.0588	.0222
7	.5710	.0886	-.1093	.0708	.0276
10	.7275	.2105	-.1240	.0896	.0359
15	.9857	.3640	-.1562	.1231	.0558
20	1.1545	.5373	-.1870	.1473	.0742
25	1.1123	.6349	-.1863	.1393	.0821
			M = 1.00		
-10	-.1484	.0672	-.1011	-.0144	.0114
-7	-.0024	.0449	-.1122	.0029	.0093
-5	.0926	.0415	-.1133	.0137	.0083
-3	.1733	.0479	-.1191	.0223	.0076
-2	.2172	.0536	-.1187	.0270	.0074
-1	.2587	.0596	-.1211	.0317	.0071
0	.2848	.0660	-.1214	.0360	.0074
1	.3169	.0729	-.1231	.0407	.0081
2	.3691	.0828	-.1169	.0414	.0105
3	.4071	.0933	-.1179	.0497	.0131
5	.4937	.1184	-.1174	.0609	.0171
7	.6006	.1548	-.1261	.0731	.0226
10	.7525	.2217	-.1453	.0918	.0318
15	.9875	.3760	-.1784	.0918	.0502
20	1.1774	.5604	-.2138	.1512	.0756
25	1.1869	.7005	-.2110	.1523	.0877
			M = 1.05		
-10	-.1466	.0686	-.1048	-.0145	.0071
-7	-.0102	.0502	-.1210	.0010	.0056
-5	.0863	.0436	-.1219	.0131	.0056
-3	.1647	.0475	-.1263	.0214	.0049
-2	.2113	.0532	-.1286	.0258	.0045
-1	.2511	.0570	-.1253	.0303	.0040
0	.2795	.0625	-.1258	.0348	.0051
1	.3113	.0704	-.1292	.0393	.0059
2	.3704	.0811	-.1218	.0434	.0079
3	.4033	.0911	-.1232	.0489	.0111
5	.4919	.1172	-.1235	.0589	.0152
7	.5862	.1520	-.1337	.0700	.0197
10	.7226	.2168	-.1489	.0889	.0266
15	.9634	.3776	-.1825	.1234	.0431
20	1.1497	.5699	-.2160	.1493	.0651
25	1.2724	.7621	-.2488	.1679	.0888
			M = 1.10		
-10	-.1706	.0645	-.1013	-.0166	.0003
-7	-.0219	.0516	-.1128	.0017	.0010
-5	.0700	.0473	-.1177	.0120	.0006
-3	.1531	.0324	-.1225	.0202	.0010
-2	.1881	.0538	-.1163	.0242	.0006
-1	.2188	.0602	-.1203	.0279	.0006
0	.2538	.0689	-.1203	.0319	.0014
1	.3063	.0753	-.1170	.0375	.0030
2	.3500	.0860	-.1179	.0408	.0046
3	.3806	.0969	-.1196	.0458	.0062
5	.4594	.1247	-.1186	.0558	.0102
7	.5600	.1614	-.1296	.0674	.0151
10	.7000	.2367	-.1512	.0859	.0200
15	.9450	.3981	-.1823	.1181	.0348
20	1.1288	.5917	-.2199	.1454	.0564
25	1.2513	.7790	-.2506	.1653	.0792

TABLE 2.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL

$\frac{t}{c}$ = 0.04 $\frac{c_f}{c}$ = NONE

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.4955				
-7	-.3859				
-5	-.2675				
-3	-.1710				
-2	-.1184				
-1	-.0833				
0	-.0329				
1	.0153				
2	.0417				
3	.0921				
5	.1776				
7	.2654				
10	.4078				
15	.6095				
20	.7366				
25	.6731				
M = 0.60					
-10	-.5744	.0909	.0009	-.0701	.0136
-7	-.4069	.0481	-.0284	-.0464	.0075
-5	-.2872	.0294	-.0227	-.0327	.0043
-3	-.1893	.0231	-.0178	-.0211	.0028
-2	-.1327	.0198	-.0154	-.0149	.0021
-1	-.0849	.0187	-.0136	-.0111	.0019
0	-.0261	.0187	-.0046	-.0036	.0016
1	.0131	.0187	-.0063	.0023	.0016
2	.0609	.0220	.0024	.0078	.0017
3	.1131	.0242	.0015	.0140	.0022
5	.2089	.0374	.0101	.0264	.0047
7	.3177	.0616	.0146	.0396	.0076
10	.4874	.1123	.0141	.0611	.0146
15	.6984	.2230	-.0507	.0891	.0265
20	.7746	.3198	-.0980	.0974	.0337
25	.7485	.3884	-.0971	.0941	.0498
M = 0.80					
-10	-.5891	.0918	.0020	-.0692	.0131
-7	-.4340	.0433	-.0196	-.0488	.0072
-5	-.3015	.0199	-.0165	-.0336	.0041
-3	-.2037	.0097	-.0091	-.0213	.0022
-2	-.1388	.0062	-.0085	-.0146	.0015
-1	-.0827	.0044	-.0063	-.0081	.0012
0	-.0251	.0037	.0018	-.0027	.0010
1	.0165	.0025	.0041	.0029	.0009
2	.0723	.0090	.0104	.0092	.0011
3	.1270	.0090	.0119	.0159	.0017
5	.2480	.0229	.0226	.0298	.0043
7	.3635	.0446	.0261	.0441	.0072
10	.5433	.0948	.0152	.0665	.0142
15	.6998	.1961	-.0535	.0878	.0284
20	.7707	.2941	-.0890	.0952	.0393
25	.7825	.1924	-.0751	.0974	.0488
M = 0.90					
-10	-.5975	.1002	.0135	-.0717	.0137
-7	-.4543	.0512	-.0038	-.0519	.0079
-5	-.3176	.0240	-.0115	-.0361	.0049
-3	-.2083	.0096	-.0120	-.0223	.0027
-2	-.1419	.0044	-.0103	-.0148	.0020
-1	-.0833	.0016	-.0062	-.0089	.0017
0	-.0247	.0009	.0019	-.0024	.0013
1	.0208	.0000	.0074	.0034	.0012
2	.0794	.0033	.0144	.0099	.0013
3	.1445	.0070	.0178	.0174	.0025
5	.2747	.0228	.0233	.0326	.0050
7	.4061	.0448	.0141	.0480	.0086
10	.5702	.0937	.0013	.0693	.0156
15	.8097	.2145	-.0349	.1027	.0326
20	.8696	.3291	-.1143	.1066	.0445
25	.8722	.4225	-.1238	.1086	.0558

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.5973	.1097	.0248	-.0725	.0139
-7	-.4396	.0571	.0026	-.0524	.0074
-5	-.3278	.0281	-.0105	-.0364	.0043
-3	-.2012	.0115	-.0148	-.0226	.0024
-2	-.1428	.0076	-.0089	-.0154	.0018
-1	-.0820	.0040	-.0063	-.0085	.0014
0	-.0286	.0031	.0030	-.0026	.0009
1	.0224	.0019	.0078	.0038	.0007
2	.0944	.0052	.0176	.0109	.0012
3	.1503	.0076	.0208	.0177	.0023
5	.2869	.0232	.0191	.0330	.0045
7	.4023	.0473	.0087	.0480	.0078
10	.5787	.0992	-.0115	.0712	.0155
15	.4148	.2210	.0548	.1055	.0655
20	.4731	.3604	-.0204	.1168	.0496
25	.4731	.4581	-.0337	.1187	.0596
M = 1.00					
-10	-.6342	.1227	.0504	-.0766	.0155
-7	-.4608	.0672	.0211	-.0537	.0081
-5	-.3302	.0380	.0009	-.0378	.0041
-3	-.2043	.0190	-.0145	-.0225	.0019
-2	-.1354	.0126	-.0120	-.0150	.0012
-1	-.0784	.0102	-.0100	-.0081	.0009
0	-.0214	.0072	-.0029	-.0014	.0007
1	.0499	.0094	-.0010	.0067	.0009
2	.1116	.0116	.0082	.0135	.0016
3	.1686	.0160	.0103	.0207	.0026
5	.3183	.0350	-.0029	.0373	.0055
7	.4276	.0584	-.0133	.0514	.0086
10	.6247	.1125	-.0438	.0757	.0173
15	.8979	.2394	-.0812	.1117	.0384
20	1.0713	.4007	-.1218	.1369	.0556
25	1.1497	.5549	-.1864	.1449	.0725
M = 1.05					
-10	-.6553	.1306	.0689	-.0752	.0141
-7	-.4641	.0713	.0324	-.0526	.0070
-5	-.3390	.0433	.0161	-.0375	-.0047
-3	-.2207	.0251	.0050	-.0233	.0014
-2	-.1502	.0188	.0025	-.0155	.0006
-1	-.0887	.0146	-.0017	-.0088	.0003
0	-.0205	.0117	-.0028	-.0017	.0003
1	.0387	.0126	-.0019	.0057	.0000
2	.1160	.0159	.0068	.0138	.0014
3	.1797	.0196	-.0033	.0212	.0027
5	.3185	.0370	-.0116	.0368	.0050
7	.4368	.0613	-.0244	.0509	.0081
10	.6302	.1183	-.0549	.0751	.0159
15	.9328	.2590	-.1090	.1142	.0348
20	1.1558	.4308	-.1492	.1432	.0577
25	1.2468	.5930	-.1942	.1553	.0774
M = 1.10					
-10	-.6438	.1225	.0709	-.0070	.0113
-7	-.4796	.0670	.0322	-.0520	.0052
-5	-.3460	.0391	.0171	-.0365	.0018
-3	-.2277	.0229	.0069	-.0228	.0000
-2	-.1533	.0177	.0031	-.0158	-.0008
-1	-.0920	.0142	.0003	-.0091	-.0012
0	-.0263	.0122	-.0010	-.0017	-.0014
1	.0416	.0113	-.0028	.0061	-.0009
2	.1117	.0162	-.0008	.0133	.0000
3	.1774	.0216	-.0028	.0204	.0010
5	.3066	.0382	-.0136	.0350	.0036
7	.4292	.0646	-.0282	.0507	.0061
10	.6131	.1198	-.0593	.0728	.0127
15	.9000	.2569	-.1113	.1103	.0314
20	1.1430	.4362	-.1620	.1412	.0535
25	-1.8613	.6246	.5222	.1601	.0786

TABLE 2.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL - Continued

$\frac{t}{c}$ = 0.04 $\frac{c_f}{c}$ = 0.10

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.2775				
-7	-.2032				
-5	-.1093				
-3	-.0109				
-2	.0262				
-1	.0699				
0	.1093				
1	.1639				
2	.1945				
3	.2447				
5	.3496				
7	.4370				
10	.5856				
15	.7539				
20	.8303				
25	.7473				
M = 0.60					
-10	-.3578	.0256	-.0698	-.0433	.0126
-7	-.2169	.0124	-.1011	-.0304	.0079
-5	-.1063	-.1546	-.1029	-.0089	.0055
-3	-.0054	.0059	-.0885	.0026	.0041
-2	.0520	.0085	-.0890	.0094	.0039
-1	.0954	.0113	-.0879	.0150	.0039
0	.1453	.0150	-.0825	.0206	.0043
1	.1973	.0182	-.0806	.0268	.0050
2	.2429	.0245	-.0783	.0331	.0069
3	.3014	.0362	-.0752	.0398	.0087
5	.4023	.0618	-.0679	.0530	.0128
7	.5226	.0939	-.0546	.0674	.0159
10	.6874	.1572	-.0663	.0888	.0248
15	.8240	.2752	-.1178	.1089	.0206
20	.8479	.3732	-.1483	.1102	.0262
25	.8067	.4458	-.1459	.1063	.0307
M = 0.80					
-10	-.4020	.0558	-.0643	-.0475	.0119
-7	-.2356	.0218	-.0992	-.0257	.0081
-5	-.1178	.0105	-.0959	-.0109	.0062
-3	-.0147	.0090	-.0883	.0016	.0045
-2	.0589	.0102	-.0867	.0088	.0039
-1	.1104	.0102	-.0854	.0151	.0047
0	.1723	.0144	-.0818	.0220	.0053
1	.2253	.0211	-.0857	.0290	.0066
2	.2915	.0290	-.0821	.0353	.0082
3	.3534	.0373	-.0753	.0430	.0094
5	.4667	.0618	-.0654	.0578	.0120
7	.5816	.0908	-.0604	.0726	.0163
10	.7539	.1543	-.0738	.0949	.0255
15	.8393	.2628	-.1350	.1072	.0390
20	.8775	.3722	-.1593	.1112	.0512
25	.8628	.4561	-.1598	.1108	.0619
M = 0.90					
-10	-.4313	.0747	-.0659	-.0516	.0122
-7	-.2754	.0364	-.0814	-.0305	.0080
-5	-.1507	.0169	-.0943	-.0148	.0062
-3	-.0260	.0105	-.0940	-.0006	.0048
-2	.0468	.0103	-.0935	.0073	.0046
-1	.1013	.0121	-.0985	.0144	.0050
0	.1689	.0169	-.0932	.0219	.0056
1	.2338	.0249	-.0923	.0296	.0073
2	.2988	.0307	-.0871	.0363	.0085
3	.3638	.0387	-.0877	.0443	.0097
5	.5067	.0648	-.0838	.0617	.0139
7	.6301	.0972	-.0889	.0773	.0186
10	.7873	.1616	-.0995	.0985	.0266
15	.9042	.2766	-.1443	.1143	.0415
20	.9665	.4000	-.1765	.1202	.0574
25	.9613	.4983	-.1820	.1210	.0640

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.4587	.0884	-.0492	-.0551	.0132
-7	-.2851	.0436	-.0767	-.0320	.0080
-5	-.1674	.0234	-.0881	-.0164	.0064
-3	-.0322	.0140	-.0987	-.0009	.0051
-2	.0434	.0131	-.0999	.0073	.0047
-1	.1091	.0152	-.1005	.0151	.0051
0	.1736	.0192	-.1030	.0226	.0058
1	.2393	.0247	-.0955	.0301	.0073
2	.3075	.0324	-.0936	.0367	.0086
3	.3744	-.1116	-.0940	.0451	.0099
5	.5232	.0689	-.0988	.0630	.0135
7	.6447	.1015	-.1610	.0784	.0181
10	.8033	.1665	-.1186	.1004	.0272
15	1.0166	.3024	-.1376	.1316	.0467
20	1.0414	.4280	-.1955	.1316	.0589
25	1.0191	.5316	-.2014	.1298	.0674
M = 1.00					
-10	-.5336	.1059	-.0122	-.0624	.0155
-7	-.3418	.0618	-.0485	-.0387	.0094
-5	-.2075	.0373	-.0669	-.0210	.0069
-3	-.0771	.0250	-.0801	-.0063	.0054
-2	.0036	.0210	-.0905	.0036	.0049
-1	.0711	.0213	-.0944	.0108	.0050
0	.1328	.0242	-.0948	.0180	.0053
1	.2170	.0286	-.0963	.0273	.0069
2	.2846	.0373	-.0970	.0342	.0080
3	.3557	.0461	-.1025	.0432	.0095
5	.5039	.0709	-.1152	.0603	.0136
7	.6450	.1079	-.1319	.0764	.0181
10	.8252	.1767	-.1564	.1007	.0272
15	1.0908	.3335	-.1847	.1381	.0479
20	1.2473	.4934	-.2087	.1565	.0670
25	1.2046	.6135	-.2374	.1511	.0774
M = 1.05					
-10	-.5561	.1125	-.0081	-.0654	.0135
-7	-.3609	.0650	-.0302	-.0405	.0071
-5	-.2179	.0419	-.0541	-.0236	.0045
-3	-.0942	.0291	-.0684	-.0086	.0040
-2	-.0193	.0260	-.0741	-.0004	.0032
-1	.0434	.0254	-.0752	.0069	.0034
0	.1101	.0268	-.0809	.0148	-.0045
1	.1736	.0302	-.0855	.0224	.0049
2	.2508	.0379	-.0837	.0293	.0059
3	.3178	.0457	-.0906	.0374	.0078
5	.4653	.0725	-.1081	.0549	.0120
7	.6061	.1091	-.1267	.0713	.0139
10	.7945	.1775	-.1587	.0961	.0226
15	1.0714	.3349	-.1969	.1333	.0437
M = 1.10					
-10	-.5409	.1037	-.0138	-.0635	.0092
-7	-.3693	.0591	-.0305	-.0403	.0039
-5	-.2240	.0392	-.0485	-.0232	.0018
-3	-.1093	.0258	-.0679	-.0091	.0007
-2	-.0240	.0241	-.0675	-.0010	.0006
-1	.0295	.0228	-.0737	.0058	.0009
0	.1005	.0263	-.0759	.0136	.0010
1	.1508	.0291	-.0819	.0239	.0018
2	.2382	.0403	-.0792	.0280	.0035
3	.3005	.0484	-.0859	.0356	.0051
5	.4349	.0747	-.1020	.0519	.0075
7	.5704	.1075	-.1219	.0678	.0106
10	.7539	.1790	-.1553	.0928	.0182
15	1.0315	.1698	-.1839	.1293	.0368

TABLE 2.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL - Continued

$\frac{t}{c} = 0.04$ $\frac{c_f}{c} = 0.20$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.2164				
-7	-.1027				
-5	-.0109				
-3	.0830				
-2	.1333				
-1	.1704				
0	.2141				
1	.2797				
2	.3015				
3	.3518				
5	.4392				
7	.5375				
10	.6730				
15	.8194				
20	.8806				
25	.7888				
M = 0.60					
-10	-.2656	.0475	-.0836	-.0304	.0067
-7	-.1051	.0208	-.1136	-.0099	.0039
-5	.0044	.0171	-.1109	.0033	.0024
-3	.1065	.0197	-.1077	.0148	.0023
-2	.1604	.0223	-.1052	.0210	.0020
-1	.2070	.0267	-.1037	.0266	.0028
0	.2634	.0330	-.0910	.0326	.0035
1	.3067	.0384	-.0960	.0380	.0047
2	.3501	.0479	-.0951	.0436	.0056
3	.4075	.0596	-.0888	.0501	.0067
5	.5105	.0837	-.0774	.0633	.0103
7	.6244	.1168	-.0733	.0776	.0158
10	.7609	.1786	-.0752	.0970	.0253
15	.8931	.2942	-.1291	.1135	.0410
20	.8953	.3891	-.1549	.1118	.0512
25	.8411	.4574	-.1489	.1085	.0585
M = 0.80					
-10	-.2935	.0597	-.0948	-.0325	.0064
-7	-.1155	.0285	-.1238	-.0104	.0039
-5	.0096	.0196	-.1199	.0039	.0024
-3	.1089	.0203	-.1192	.0156	.0024
-2	.1714	.0228	-.1207	.0227	.0027
-1	.2244	.0278	-.1186	.0285	.0034
0	.2855	.0352	-.1108	.0352	.0040
1	.3406	.0391	-.1065	.0415	.0053
2	.3870	.0466	-.1060	.0469	.0061
3	.4532	.0578	-.0985	.0541	.0078
5	.5694	.0818	-.0907	.0681	.0123
7	.6930	.1154	-.0867	.0848	.0178
10	.8446	.1788	-.0924	.1047	.0274
15	.8917	.2837	-.1430	.1116	.0401
20	.9152	.3936	-.1628	.1138	.0514
25	.8887	.4761	-.1805	.1116	.0622
M = 0.90					
-10	-.3335	.0798	-.1024	-.0374	.0083
-7	-.1778	.0437	-.1211	-.0162	.0051
-5	-.0286	.0293	-.1265	.0000	.0037
-3	.0795	.0256	-.1271	.0128	.0034
-2	.1531	.0287	-.1277	.0201	.0034
-1	.2245	.0326	-.1292	.0278	.0042
0	.2790	.0374	-.1286	.0348	.0047
1	.3439	.0437	-.1285	.0422	.0059
2	.4065	.0549	-.1192	.0487	.0077
3	.4685	.0628	-.1178	.0561	.0094
5	.6152	.0899	-.1135	.0738	.0143
7	.7346	.1236	-.1157	.0886	.0197
10	.8591	.1864	-.1256	.1083	.0287
15	.9811	.3076	-.1506	.1240	.0442
20	1.0071	.4239	-.1874	.1240	.0566
25	.9734	.5170	-.1840	.1221	.0670

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.3739	.0935	-.0914	-.0418	.0102
-7	-.1981	.0524	-.1149	-.0188	.0055
-5	-.0520	.0340	-.1281	-.0019	.0038
-3	.0718	.0290	-.1373	.0124	.0038
-2	.1498	.0311	-.1412	.0201	.0038
-1	.2229	.0357	-.1459	.0279	.0047
0	.2860	.0402	-.1413	.0352	.0054
1	.3442	.0453	-.1369	.0418	.0064
2	.4160	.0560	-.1332	.0498	.0085
3	.4804	.0655	-.1290	.0573	.0102
5	.6265	.0935	-.1388	.0751	.0148
7	.7379	.1285	-.1404	.0892	.0204
10	.8865	.1961	-.1494	.1108	.0299
15	1.0474	.3251	-.1555	.1349	.0475
20	1.0771	.4591	-.2013	.1341	.0610
25	1.0474	.5565	-.2050	.1672	.0711
M = 1.00					
-10	-.4346	.1098	-.0830	-.0490	.0121
-7	-.2534	.0690	-.0948	-.0252	.0068
-5	-.1089	.0487	-.1172	-.0075	.0050
-3	.0403	.0385	-.1418	.0088	.0041
-2	.1220	.0375	-.1461	.0180	.0039
-1	.2013	.0391	-.1529	.0264	.0041
0	.2759	.0443	-.1534	.0343	.0050
1	.3386	.0501	-.1516	.0413	.0062
2	.4121	.0588	-.1492	.0492	.0082
3	.4772	.0696	-.1515	.0566	.0099
5	.6134	.0996	-.1582	.0727	.0144
7	.7341	.1359	-.1679	.0871	.0197
10	.9070	.2079	-.1825	.1103	.0300
15	1.1201	.3517	-.1898	.1419	.0511
20	1.2930	.5253	-.2223	.1599	.0723
M = 1.05					
-10	-.4627	.1135	-.0415	-.0516	.0111
-7	-.2676	.0703	-.0832	-.0275	.0062
-5	-.1213	.0499	-.1048	-.0098	.0041
-3	.0091	.0396	-.1240	.0052	.0035
-2	.0873	.0396	-.1306	.0134	.0034
-1	.1565	.0405	-.1354	.0208	.0038
0	.2506	.0430	-.1454	.0310	.0047
1	.3016	.0493	-.1439	.0370	.0054
2	.3810	.0583	-.1439	.0447	.0071
3	.4410	.0678	-.1505	.0525	.0092
5	.5782	.0967	-.1568	.0679	.0130
7	.7098	.1338	-.1689	.0834	.0182
10	.8798	.2058	-.1829	.1063	.0276
15	1.1565	.3646	-.2195	.1393	.0494
M = 1.10					
-10	-.4572	.1052	-.0391	-.0505	.0091
-7	-.2641	.0649	-.0773	-.0267	.0046
-5	-.1255	.0469	-.0987	-.0099	.0032
-3	.0055	.0381	-.1167	.0043	.0027
-2	.0775	.0381	-.1210	.0121	.0027
-1	.1495	.0399	-.1259	.0199	.0029
0	.2106	.0421	-.1323	.0265	.0038
1	.2815	.0475	-.1363	.0343	.0048
2	.3568	.0577	-.1361	.0419	.0064
3	.4288	.0690	-.1393	.0505	.0082
5	.5565	.0971	-.1527	.0654	.0120
7	.6787	.1328	-.1645	.0806	.0166
10	.8446	.2018	-.1787	.1010	.0253
15	1.1043	.3509	-.2182	.1328	.0457

TABLE 2.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL - Continued

$\frac{t}{c}$ = 0.04 $\frac{c_f}{c}$ = 0.30

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.1093				
-7	-.0437				
-5	.0656				
-3	.1486				
-2	.1988				
-1	.2557				
0	.3125				
1	.3474				
2	.3715				
3	.4261				
5	.5048				
7	.5943				
10	.7276				
15	.8347				
20	.9003				
25	.7976				
M = 0.60					
-10	-.1734	.0171	-.0636	-.0219	.0085
-7	-.0336	.0043	-.0917	-.0026	.0052
-5	.0813	.0022	-.0837	.0105	.0044
-3	.1843	.0069	-.0818	.0217	.0050
-2	.2428	.0113	-.0779	.0281	.0057
-1	.2851	.0165	-.0762	.0340	.0065
0	.3338	.0241	-.0721	.0400	.0078
1	.3775	.0330	-.0755	.0464	.0093
2	.4346	.0431	-.0691	.0526	.0098
3	.4823	.0544	-.0692	.0592	.0113
5	.5961	.0843	-.0579	.0725	.0141
7	.6937	.1194	-.0549	.0858	.0199
10	.8281	.1827	-.0613	.1049	.0298
15	.8931	.3018	-.1075	.1154	.0429
20	.8910	.4030	-.1293	.1131	.0528
25	.8498	.4724	-.1178	.1075	.0600
M = 0.80					
-10	-.2081	.0372	-.0863	-.0280	.0077
-7	-.0338	.0156	-.1107	-.0029	.0047
-5	.0816	.0109	-.1063	.0105	.0039
-3	.1853	.0137	-.1046	.0228	.0044
-2	.2464	.0181	-.1048	.0306	.0052
-1	.3052	.0238	-.1002	.0358	.0065
0	.3530	.0329	-.1005	.0425	.0075
1	.4045	.0391	-.1029	.0488	.0083
2	.4633	.0506	-.0877	.0551	.0095
3	.5281	.0625	-.0903	.0629	.0113
5	.6413	.0915	-.0828	.0783	.0161
7	.7561	.1269	-.0805	.0928	.0220
10	.8914	.1902	-.0862	.1102	.0313
15	.9120	.3010	-.1315	.1156	.0421
20	.9267	.4066	-.1447	.1160	.0507
25	.8973	.4933	-.1468	.1142	.0603
M = 0.90					
-10	-.2530	.0599	-.1073	-.0281	.0093
-7	-.0714	.0293	-.1256	-.0055	.0062
-5	.0616	.0217	-.1286	.0093	.0050
-3	.1719	.0239	-.1330	.0220	.0056
-2	.2530	.0278	-.1354	.0301	.0067
-1	.3049	.0322	-.1324	.0368	.0072
0	.3633	.0402	-.1292	.0440	.0081
1	.4320	.0498	-.1286	.0516	.0098
2	.4865	.0599	-.1174	.0579	.0114
3	.5553	.0717	-.1180	.0667	.0138
5	.6928	.1030	-.1198	.0834	.0187
7	.7940	.1382	-.1166	.0980	.0229
10	.9159	.2042	-.1246	.1157	.0318
15	1.0145	.3267	-.1448	.1283	.0455
20	1.0171	.4402	-.1714	.1256	.0558
25	.9730	.5270	-.1675	.1236	.0637

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.2984	.0755	-.0992	-.0330	.0111
-7	-.1065	.0396	-.1230	-.0090	.0069
-5	.0452	.0284	-.1359	.0081	.0059
-3	.1647	.0284	-.1448	.0220	.0060
-2	.2495	.0334	-.1524	.0304	.0070
-1	.3194	.0390	-.1481	.0379	.0076
0	.3776	.0478	-.1505	.0455	.0082
1	.4395	.0557	-.1443	.0524	.0097
2	.5076	.0657	-.1370	.0603	.0118
3	.5782	.0780	-.1419	.0693	.0139
5	.7131	.1117	-.1458	.0853	.0190
7	.8147	.1486	-.1498	.0999	.0238
10	.9360	.2149	-.1514	.1187	.0285
15	1.1068	.3507	-.1544	.1424	.0493
20	1.0895	.4701	-.1914	.1360	.0603
25	1.0524	.5760	-.1911	.1337	.0669
M = 1.00					
-10	-.3611	.0926	-.0741	-.0396	.0137
-7	-.1776	.0583	-.1080	-.0158	.0090
-5	-.0059	.0401	-.1358	.0040	.0070
-3	.1385	.0367	-.1546	.0194	.0066
-2	.2368	.0367	-.1584	.0291	.0070
-1	.3043	.0439	-.1610	.0366	.0076
0	.3659	.0495	-.1602	.0439	.0082
1	.4381	.0583	-.1556	.0519	.0099
2	.5032	.0693	-.1551	.0591	.0117
3	.5684	.0810	-.1574	.0675	.0139
5	.7033	.1159	-.1659	.0833	.0189
7	.8170	.1590	-.1741	.0984	.0238
10	.9709	.2335	-.1869	.1200	.0337
15	1.2172	.3937	-.2048	.1523	.0530
20	1.2646	.5392	-.2135	.1595	.0726
25	1.2078	.6428	-.2250	.1505	.0747
M = 1.05					
-10	-.3776	.0929	-.0579	-.0418	.0115
-7	-.1871	.0579	-.1017	-.0177	.0076
-5	-.0397	.0432	-.1190	-.0005	.0063
-3	.0964	.0388	-.1377	.0145	.0059
-2	.1871	.0350	-.1480	.0240	.0061
-1	.2687	.0435	-.1528	.0323	.0064
0	.3356	.0497	-.1604	.0409	.0066
1	.4014	.0577	-.1633	.0488	.0073
2	.4739	.0692	-.1560	.0557	.0094
3	.5408	.0825	-.1606	.0643	.0112
5	.6689	.1154	-.1678	.0793	.0153
7	.7823	.1578	-.1763	.0874	.0194
10	.9501	.2375	-.1940	.1156	.0290
15	1.2109	.4048	-.2258	.1493	.0491
M = 1.10					
-10	-.3819	.0894	-.0566	-.0424	.0076
-7	-.1964	.0558	-.0986	-.0184	.0042
-5	-.0360	.0410	-.1181	-.0012	.0034
-3	.0873	.0384	-.1341	.0131	.0035
-2	.1746	.0410	-.1422	.0224	.0040
-1	.2401	.0445	-.1461	.0290	.0044
0	.3023	.0483	-.1504	.0371	.0049
1	.3721	.0574	-.1548	.0445	.0059
2	.4441	.0692	-.1520	.0520	.0074
3	.5074	.0821	-.1591	.0603	.0088
5	.6460	.1159	-.1646	.0770	.0120
7	.7573	.1600	-.1777	.0907	.0154
10	.9188	.2420	-.1896	.1112	.0236
15	1.1654	.4057	-.2275	.1424	.0422

TABLE 2.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL - Continued

$\frac{z}{a} = 0.04$ $\frac{c_f}{c} = 0.40$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.0329				
-7	.0394				
-5	.1468				
-3	.2279				
-2	.2761				
-1	.3133				
0	.3506				
1	.4009				
2	.4338				
3	.4776				
5	.5631				
7	.6748				
10	.7887				
15	.9158				
20	.9290				
25	.8457				
M = 0.60					
-10	-.1250	.0267	-.1009	-.0244	-.0016
-7	.0250	.0161	-.1220	-.0058	-.0043
-5	.1337	.0176	-.1219	.0089	-.0032
-3	.2261	.0252	-.1133	.0213	-.0008
-2	.2816	.0294	-.1097	.0277	.0006
-1	.3272	.0391	-.1047	.0345	.0017
0	.3783	.0498	-.1036	.0424	.0056
1	.4273	.0615	-.0953	.0503	.0111
2	.4675	.0722	-.0993	.0564	.0146
3	.5197	.0883	-.0894	.0640	.0183
5	.6349	.1202	-.0840	.0787	.0273
7	.7480	.1524	-.0811	.0924	.0371
10	.8654	.2140	-.0997	.1069	.0461
15	.9197	.3251	-.1490	.1089	.0466
20	.9263	.4203	-.1669	.1065	.0477
25	.8871	.4973	-.1633	.1023	.0561
M = 0.80					
-10	-.1564	.0443	-.1045	-.0240	.0004
-7	.0148	.0244	-.1360	-.0034	-.0019
-5	.1299	.0236	-.1338	.0105	-.0022
-3	.2457	.0298	-.1295	.0238	-.0008
-2	.3011	.0370	-.1280	.0310	.0003
-1	.3490	.0453	-.1254	.0376	.0016
0	.4177	.0527	-.1195	.0340	.0044
1	.4664	.0599	-.1222	.0517	.0057
2	.5106	.0733	-.1167	.0587	.0166
3	.5682	.0965	-.1121	.0654	.0213
5	.6833	.1161	-.1053	.0799	.0325
7	.8088	.1532	-.1025	.0949	.0433
10	.9150	.2127	-.1108	.1084	.0499
15	.9475	.3208	-.1606	.1093	.0383
20	.9534	.4283	-.1724	.1106	.0488
25	.9239	.5109	-.1707	.1088	.0498
M = 0.90					
-10	-.1810	.0689	-.1426	-.0250	.0035
-7	.0020	.0417	-.1633	-.0028	.0005
-5	.1455	.0371	-.1628	.0125	-.0001
-3	.2617	.0426	-.1670	.0269	-.0001
-2	.3386	.0481	-.1619	.0343	.0007
-1	.3946	.0557	-.1632	.0415	.0015
0	.4506	.0647	-.1623	.0481	.0028
1	.4987	.0724	-.1602	.0547	.0050
2	.5508	.0794	-.1434	.0607	.0074
3	.6094	.0928	-.1440	.0685	.0092
5	.7425	.1233	-.1386	.0844	.0137
7	.8285	.1569	-.1368	.0972	.0185
10	.9454	.2216	-.1372	.1138	.0568
15	1.0652	.3522	-.1554	.1300	.0890
20	1.0443	.4675	-.1967	.1225	.0564
25	.9975	.5572	-.1927	.1193	.0651

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.2217	.0856	-.1403	-.0287	.0055
-7	-.0286	.0550	-.1685	-.0055	.0015
-5	.1280	.0443	-.1779	.0119	.0007
-3	.2559	.0467	-.1815	.0261	.0006
-2	.3329	.0534	-.1837	.0346	.0012
-1	.3950	.0596	-.1788	.0414	.0023
0	.4509	.0681	-.1794	.0482	.0034
1	.5068	.0776	-.1778	.0560	.0048
2	.5839	.0861	-.1707	.0635	.0077
3	.6410	.0963	-.1675	.0714	.0103
5	.7528	.1267	-.1621	.0861	.0154
7	.8522	.0825	-.1638	.0999	.0213
10	.9590	.1137	-.1565	.1157	.0308
15	1.1081	.0911	-.1478	.1376	.0251
20	1.1130	.1237	-.1772	.1327	.0312
25	1.0708	.1482	-.1635	.1285	.0352
M = 1.00					
-10	-.2924	.0979	-.1143	-.0368	.0073
-7	-.0874	.0657	-.1538	-.0115	.0033
-5	.0850	.0526	-.1791	.0071	.0019
-3	.2217	.0517	-.1894	.0227	.0015
-2	.3161	.0549	-.1915	.0317	.0016
-1	.3732	.0613	-.1909	.0389	.0019
0	.4409	.0693	-.1891	.0448	.0031
1	.5003	.0777	-.1885	.0270	.0046
2	.5681	.0906	-.1835	.0309	.0067
3	.6370	.1029	-.1879	.0349	.0089
5	.7678	.1288	-.1922	.0427	.0143
7	.8771	.1835	-.2009	.0999	.0201
10	1.0292	.2630	-.2109	.1204	.0320
15	1.2027	.3940	-.2042	.1450	.0522
20	1.3454	.5845	-.2359	.1630	.0743
25	1.1992	.6546	-.2421	.1432	.0789
M = 1.05					
-10	-.3003	.0970	-.1031	-.0382	.0052
-7	-.1069	.0658	-.1439	-.0102	.0016
-5	.0410	.0546	-.1644	.0022	.0007
-3	.1866	.0529	-.1792	.0187	.0003
-2	.2708	.0554	-.1829	.0268	.0008
-1	.3447	.0602	-.1883	.0356	.0010
0	.4164	.0685	-.1871	.0429	.0016
1	.4755	.0778	-.1883	.0513	.0031
2	.5495	.0887	-.1865	.0587	.0050
3	.6166	.1035	-.1893	.0666	.0069
5	.7372	.1384	-.1929	.0815	.0120
7	.8509	.1818	-.2022	.0956	.0175
10	1.0011	.2629	-.2182	.1174	.0289
15	1.2650	.4364	-.2468	.1481	.0516
M = 1.10					
-10	-.3033	.0902	-.0976	-.0389	.0028
-7	-.1117	.0616	-.1387	-.0150	-.0003
-5	.0372	.0511	-.1559	.0014	-.0010
-3	.1620	.0511	-.1717	.0163	-.0010
-2	.2507	.0546	-.1753	.0247	-.0003
-1	.3186	.0592	-.1804	.0321	.0002
0	.3920	.0684	-.1846	.0409	.0006
1	.4522	.0773	-.1902	.0485	.0013
2	.5288	.0888	-.1826	.0561	.0034
3	.5934	.1042	-.1871	.0640	.0049
5	.7117	.1421	-.1918	.0784	.0087
7	.8277	.1859	-.2044	.0930	.0140
10	.9722	.2692	-.2190	.1133	.0242
15	1.2175	.4351	-.2544	.1432	.0470

TABLE 2.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL - Continued

$\frac{t}{c}$ = 0.06 $\frac{c_f}{c}$ = NONE

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.4485				
-7	-.3405				
-5	-.2484				
-3	-.1620				
-2	-.1296				
-1	-.0864				
0	-.0378				
1	.0165				
2	.0540				
3	.1080				
5	.2214				
7	.3078				
10	.4590				
15	.6426				
20	.7452				
25	.7452				
M = 0.60					
-10	-.5027	.1094	-.0024	-.0587	-.0074
-7	-.3555	.0533	-.0062	-.0391	-.0039
-5	-.2610	.0383	-.0073	-.0269	-.0007
-3	-.1638	.0244	-.0087	-.0162	.0023
-2	-.1111	.0217	-.0038	-.0101	.0029
-1	-.0667	.0139	-.0024	-.0047	.0036
0	-.0111	.0139	.0013	.0020	.0036
1	.0417	.0139	.0000	.0094	.0029
2	.0861	.0139	.0013	.0155	.0036
3	.1361	.0139	.0038	.0202	.0042
5	.2444	.0289	.0024	.0303	.0048
7	.3527	.0422	.0013	.0438	.0042
10	.5110	.0822	-.0147	.0647	.0007
15	.7109	.2005	-.1069	.0903	-.0097
20	.7665	.3144	-.1782	.0964	-.0236
25	.7637	.3905	-.1806	.0944	-.0333
M = 0.80					
-10	-.5343	.1016	-.0125	-.0616	-.0127
-7	-.3875	.0500	-.0116	-.0438	-.0059
-5	-.2765	.0297	-.0099	-.0297	-.0026
-3	-.1750	.0184	-.0092	-.0402	-.0005
-2	-.1204	.0158	-.0066	-.0110	.0005
-1	-.0677	.0120	-.0033	-.0046	.0011
0	-.0075	.0128	-.0026	.0023	.0020
1	.0489	.0128	.0009	.0082	.0029
2	.0978	.0214	.0026	.0137	.0029
3	.1524	.0184	.0059	.0201	.0033
5	.2558	.0278	.0092	.0320	.0029
7	.3819	.0482	.0066	.0479	.0018
10	.5362	.0952	-.0132	.0676	-.0022
15	.7224	.2111	-.0924	.0913	-.0164
20	.7713	.3145	-.1615	.0959	-.0304
25	.7976	.4116	-.1806	.1009	-.0438
M = 0.90					
-10	-.5448	.1050	.0259	-.0631	-.0138
-7	-.3999	.0550	.0008	-.0445	-.0062
-5	-.2966	.0320	-.0096	-.0320	-.0037
-3	-.1816	.0190	-.0088	-.0182	-.0004
-2	-.1233	.0163	-.0073	-.0121	.0006
-1	-.0616	.0147	-.0029	-.0049	.0023
0	-.0133	.0130	.0000	.0012	.0025
1	.0500	.0180	.0029	.0081	.0025
2	.1066	.0180	.0067	.0150	.0033
3	.1649	.0230	.0096	.0214	.0033
5	.2732	.0353	.0103	.0340	.0031
7	.3899	.0556	.0023	.0485	.0016
10	.5431	.1899	-.0199	.0691	-.0033
15	.7631	.2173	-.0766	.0983	-.0171
20	.8697	.3522	-.1798	.1072	-.0349
25	.9230	.4702	-.2094	.1132	-.0510

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.5376	.1123	.0288	-.0643	-.0133
-7	-.3822	.0600	-.0008	-.0443	-.0068
-5	-.2871	.0390	-.0098	-.0308	-.0031
-3	-.1840	.0251	-.0063	-.0193	-.0002
-2	-.1301	.0219	-.0049	-.0123	.0007
-1	-.0666	.0193	-.0028	-.0054	.0022
0	-.0143	.0155	.0028	.0011	.0022
1	.0523	.0181	.0042	.0089	.0026
2	.1078	.0219	.0098	.0146	.0026
3	.1649	.0257	.0112	.0212	.0024
5	.2680	.0406	.0112	.0346	.0033
7	.3822	.0647	.0008	.0292	.0009
10	.5376	.1132	-.0260	.0693	-.0044
15	.7962	.2309	-.0962	.1039	-.0201
20	1.0023	.3860	-.1958	.1251	-.0421
25	1.0309	.5132	-.2379	.1282	-.0594
M = 1.00					
-10	-.6184	.1346	.0760	-.0723	-.0163
-7	-.4467	.0808	.0410	-.0513	-.0090
-5	-.3252	.0553	.0242	-.0369	-.0044
-3	-.2097	.0395	.0141	-.0221	-.0012
-2	-.1459	.0343	.0107	-.0151	-.0004
-1	-.0820	.0298	.0074	-.0081	.0014
0	-.0122	.0277	.0053	.0000	.0018
1	.0547	.0298	.0013	.0085	.0021
2	.1170	.0322	.0007	.0147	.0019
3	.1914	.0395	-.0047	.0240	.0014
5	.3054	.0559	-.0162	.0387	.0014
7	.4300	.0820	-.0329	.0539	-.0009
10	.6169	.1367	-.0699	.0763	-.0074
15	.9086	.2683	-.1506	.1147	-.0242
20	1.1456	.4409	-.2178	.1457	-.0484
25	1.2034	.5977	-.2763	.1505	-.0684
M = 1.05					
-10	-.6217	.1363	.0942	-.0705	-.0171
-7	-.4539	.0828	.0569	-.0514	-.0100
-5	-.3371	.0575	.0342	-.0365	-.0054
-3	-.2101	.0423	.0207	-.0223	-.0012
-2	-.1445	.0359	.0142	-.0149	-.0004
-1	-.0744	.0339	.0103	-.0071	.0007
0	-.0058	.0324	.0051	.0011	.0014
1	.0628	.0330	.0007	.0088	.0014
2	.1255	.0359	-.0046	.0163	.0014
3	.1897	.0432	-.0103	.0234	.0010
5	.3123	.0674	-.0239	.0379	.0005
7	.4320	.0846	-.0426	.0531	-.0012
10	.6144	.1392	-.0781	.0744	-.0077
15	.9135	.2726	-.1608	.1116	-.0248
20	1.1587	.4477	-.2299	.1438	-.0496
25	1.2725	.6272	-.2853	.1594	-.0725
M = 1.10					
-10	-.6119	.1401	.0937	-.0681	-.0207
-7	-.4491	.0848	.0552	-.0494	-.0113
-5	-.3284	.0573	.0354	-.0358	-.0060
-3	-.2021	.0415	.0223	-.0221	-.0012
-2	-.1417	.0351	.0162	-.0159	-.0015
-1	-.0758	.0312	.0112	-.0068	.0005
0	-.0126	.0298	.0068	.0000	.0012
1	.0589	.0312	.0007	.0072	.0008
2	.1263	.0345	-.0044	.0153	.0008
3	.1881	.0393	-.0106	.0221	.0005
5	.3073	.0567	-.0243	.0361	.0005
7	.4322	.0822	-.0429	.0511	-.0010
10	.6035	.1353	-.0800	.0715	-.0067
15	.8897	.2610	-.1590	.1063	-.0224
20	1.1367	.4348	-.2291	.1373	-.0455
25	1.2658	.6169	-.2800	.1550	-.0689

TABLE 2.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL - Continued

$\frac{t}{c} = 0.06$ $\frac{c_f}{c} = 0.20$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.1252				
-7	-.0653				
-5	.0109				
-3	.1034				
-2	.1469				
-1	.1905				
0	.2394				
1	.2830				
2	.3156				
3	.3646				
5	.4408				
7	.5387				
10	.6584				
15	.7945				
20	.8217				
25	.8108				
M = 0.60					
-10	-.2016	.0633	-.0719	-.0204	-.0007
-7	-.0784	.0246	-.0954	-.0048	.0000
-5	.0196	.0123	-.0867	.0068	.0013
-3	.1176	.0140	-.0965	.0177	.0023
-2	.1792	.0151	-.0891	.0245	.0039
-1	.2240	.0179	-.0856	.0306	.0026
0	.2632	.0246	-.1003	.0340	.0023
1	.3135	.0291	-.0990	.0414	.0020
2	.3611	.0342	-.0979	.0449	.0010
3	.4059	.0414	-.0954	.0476	.0010
5	.4871	.0565	-.0941	.0585	-.0003
7	.5991	.0868	-.0954	.0713	-.0020
10	.7335	.1501	-.1028	.0877	-.0052
15	.8342	.2587	-.1635	.1012	-.0183
20	.8566	.3651	-.1969	.1026	-.0332
25	.8314	.4418	-.2280	.0979	-.0413
M = 0.80					
-10	-.2465	.0664	-.0856	-.0276	-.0049
-7	-.1043	.0326	-.1065	-.0083	-.0018
-5	-.0057	.0243	-.1082	.0032	.0000
-3	.1062	.0607	-.1098	.0152	.0011
-2	.1612	.0243	-.1098	.0216	.0018
-1	.2276	.0281	-.1082	.0267	.0013
0	.2788	.0300	-.1082	.0322	.0009
1	.3167	.0372	-.1057	.0391	.0013
2	.3679	.0448	-.1057	.0451	.0006
3	.4210	.0523	-.1048	.0506	-.0005
5	.5158	.0709	-.1007	.0612	-.0009
7	.6296	.1009	-.1024	.0750	-.0031
10	.7567	.1642	-.1167	.0916	-.0093
15	.8382	.2666	-.1695	.1026	-.0229
20	.8704	.3759	-.2115	.1036	-.0379
25	.8761	.4646	-.2189	.1036	-.0498
M = 0.90					
-10	-.3107	.0769	-.0661	-.0342	-.0057
-7	-.1646	.0403	-.0966	-.0155	-.0024
-5	-.0470	.0272	-.1107	-.0021	.0006
-3	.0806	.0238	-.1166	.0122	.0014
-2	.1461	.0249	-.1166	.0187	.0014
-1	.1999	.0289	-.1130	.0253	.0014
0	.2570	.0329	-.1137	.0326	.0008
1	.3141	.0396	-.1166	.0391	.0006
2	.3678	.0464	-.1166	.0452	-.0002
3	.4316	.0561	-.1130	.0522	-.0006
5	.5341	.0769	-.1166	.0636	-.0022
7	.6382	.1115	-.1241	.0775	-.0053
10	.7541	.1676	-.1389	.0925	-.0121
15	.9304	.2832	-.1612	.1199	-.0283
20	.9741	.4155	-.2393	.1158	-.0443
25	.9674	.5253	-.2526	.1158	-.0580

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.3692	.0965	-.0474	-.0407	-.0095
-7	-.2254	.0559	-.0721	-.0253	-.0039
-5	-.0959	.0377	-.0969	-.0070	-.0004
-3	.0479	.0284	-.1132	.0097	.0007
-2	.1247	.0297	-.1160	.0175	.0007
-1	.1838	.0323	-.1181	.0240	.0007
0	.2397	.0355	-.1181	.0307	.0005
1	.3037	.0432	-.1216	.0372	-.0002
2	.3644	.0495	-.1195	.0446	-.0004
3	.4267	.0588	-.1286	.0520	-.0015
5	.5354	.0809	-.1358	.0648	-.0032
7	.6457	.1170	-.1464	.0788	-.0071
10	.7895	.1768	-.1640	.0962	-.0143
15	.9653	.2979	-.1903	.1203	-.0301
20	1.0708	.4481	-.2552	.1280	-.0487
25	1.0772	.5706	-.2821	.1268	-.0643
M = 1.00					
-10	-.4180	.1093	-.0190	-.0468	-.0119
-7	-.2605	.0723	-.0508	-.0260	-.0057
-5	-.1347	.0527	-.0793	-.0111	-.0027
-3	-.0046	.0438	-.0996	.0026	-.0005
-2	.0674	.0413	-.1077	.0115	-.0002
-1	.1501	.0429	-.1151	.0204	-.0002
0	.2174	.0453	-.1219	.0279	-.0004
1	.2787	.0511	-.1280	.0353	-.0005
2	.3353	.0579	-.1320	.0409	-.0016
3	.4042	.0677	-.1389	.0491	-.0029
5	.5206	.0903	-.1531	.0621	-.0039
7	.6461	.1286	-.1721	.0766	-.0084
10	.8146	.1905	-.1930	.0985	-.0183
15	1.0626	.3375	-.2418	.1293	-.0360
20	1.2464	.5136	-.2790	.1524	-.0598
25	1.2617	.6673	-.3306	.1524	-.0785
M = 1.05					
-10	-.4293	.1120	-.0085	-.0464	-.0115
-7	-.2587	.0729	-.0481	-.0268	-.0063
-5	-.1411	.0541	-.0715	-.0125	-.0032
-3	-.0088	.0456	-.0904	.0018	-.0012
-2	.0529	.0435	-.0989	.0104	-.0005
-1	.1235	.0447	-.1054	.0175	-.0010
0	.1823	.0470	-.1118	.0239	-.0015
1	.2499	.0529	-.1203	.0314	-.0021
2	.3146	.0600	-.1236	.0382	-.0022
3	.3822	.0694	-.1327	.0457	-.0034
5	.4998	.0926	-.1509	.0589	-.0048
7	.6292	.1273	-.1697	.0735	-.0091
10	.7880	.1902	-.2029	.0928	-.0174
15	1.0350	.3311	-.2504	.1245	-.0384
20	1.2261	.5178	-.2972	.1456	-.0603
25	1.3231	.7013	-.3330	.1609	-.0834
M = 1.10					
-10	-.4183	.1133	-.0062	-.0446	-.0128
-7	-.2572	.0715	-.0419	-.0268	-.0079
-5	-.1357	.0520	-.0712	-.0120	-.0044
-3	-.0113	.0438	-.0888	.0010	-.0020
-2	.0509	.0418	-.0963	.0082	-.0018
-1	.1159	.0430	-.1013	.0154	-.0013
0	.1724	.0367	-.1088	.0240	-.0018
1	.2459	.0458	-.1157	.0299	-.0028
2	.3166	.0557	-.1231	.0357	-.0033
3	.3731	.0667	-.1313	.0429	-.0044
5	.4918	.0890	-.1456	.0563	-.0056
7	.6190	.1244	-.1682	.0710	-.0102
10	.7830	.1843	-.1945	.0892	-.0182
15	1.0232	.3219	-.2451	.1184	-.0343
20	1.2154	.5045	-.2951	.1423	-.0595
25	1.3257	.6894	-.3326	.1564	-.0861

TABLE 2.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL - Continued

$\frac{z_r}{c} = 0.06$ $\frac{c_r}{c} = 0.30$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.1089				
-7	-.0109				
-5	.0708				
-3	.1634				
-2	.2015				
-1	.2559				
0	.2995				
1	.3321				
2	.3866				
3	.4247				
5	.5009				
7	.6044				
10	.7405				
15	.8494				
20	.8715				
25	.8385				
M = 0.60					
-10	-.1540	.0661	-.0793	-.0204	-.0026
-7	-.0224	.0302	-.1015	-.0027	-.0010
-5	.0812	.0218	-.0966	.0102	-.0003
-3	.1708	.0190	-.1028	.0204	.0007
-2	.2240	.0207	-.1004	.0265	.0007
-1	.2744	.0235	-.0916	.0319	.0003
0	.3332	.0274	-.0930	.0374	.0003
1	.3724	.0342	-.1028	.0428	-.0003
2	.4173	.0370	-.0916	.0476	-.0007
3	.4649	.0498	-.0966	.0537	-.0007
5	.5489	.0672	-.0966	.0632	-.0010
7	.6581	.0952	-.0842	.0748	-.0039
10	.7925	.1557	-.1004	.0917	-.0108
15	.8709	.2711	-.1709	.1019	-.0248
20	.8989	.3842	-.2229	.1054	-.0381
25	.8625	.4598	-.2267	.0972	-.0476
M = 0.80					
-10	-.1821	.0577	-.1007	-.0230	-.0024
-7	-.0436	.0288	-.1141	-.0046	-.0005
-5	.0645	.0243	-.1107	.0078	.0011
-3	.1707	.0250	-.1174	.0203	.0016
-2	.2295	.0269	-.1158	.0272	.0006
-1	.2864	.0300	-.1074	.0336	.0006
0	.3357	.0364	-.1115	.0387	.0000
1	.3982	.0440	-.1200	.0460	-.0005
2	.4438	.0504	-.1167	.0511	-.0006
3	.4874	.0588	-.1141	.0562	-.0016
5	.5860	.0793	-.1115	.0677	-.0029
7	.7055	.1130	-.1098	.0819	-.0071
10	.8287	.1726	-.1200	.0985	-.0146
15	.9254	.2852	-.1602	.1105	-.0293
20	.9368	.4020	-.2206	.1086	-.0437
25	.9254	.4980	-.2241	.1082	-.0558
M = 0.90					
-10	-.2493	.0773	-.1007	-.0305	-.0041
-7	-.0920	.0418	-.1206	-.0106	-.0010
-5	.0234	.0298	-.1281	.0041	.0014
-3	.1474	.0298	-.1288	.0175	.0016
-2	.2109	.0338	-.1281	.0240	.0014
-1	.2661	.0378	-.1296	.0305	.0006
0	.3247	.0445	-.1340	.0370	.0000
1	.3835	.0519	-.1317	.0443	-.0004
2	.4505	.0609	-.1347	.0516	-.0014
3	.5087	.0733	-.1355	.0589	-.0019
5	.6091	.0954	-.1317	.0707	-.0043
7	.7146	.1332	-.1428	.0841	-.0084
10	.8434	.1901	-.1466	.0999	-.0160
15	1.0041	.3119	-.1762	.1219	-.0323
20	1.0242	.4428	-.2443	.1198	-.0487
25	1.0242	.5529	-.2613	.1190	-.0636

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.2939	.0936	-.0834	-.0349	-.0076
-7	-.1342	.0549	-.1131	-.0140	-.0024
-5	-.0096	.0425	-.1301	.0000	.0002
-3	.1326	.0383	-.1427	.0155	.0015
-2	.2012	.0425	-.1497	.0233	.0009
-1	.2699	.0441	-.1441	.0314	.0005
0	.3306	.0502	-.1469	.0384	.0000
1	.3929	.0588	-.1541	.0450	-.0005
2	.4536	.0674	-.1541	.0523	-.0013
3	.5175	.0776	-.1526	.0593	-.0022
5	.6213	.1038	-.1541	.0717	-.0048
7	.7267	.1437	-.1681	.0853	-.0096
10	.8752	.2055	-.1823	.1027	-.0180
15	1.0541	.3348	-.2035	.1279	-.0357
20	1.1627	.4932	-.2636	.1384	-.0561
25	1.1468	.6191	-.2918	.1318	-.0719
M = 1.00					
-10	-.3549	.1046	-.0582	-.0408	-.0098
-7	-.1897	.0691	-.0880	-.0212	-.0041
-5	-.0642	.0557	-.1137	-.0074	-.0013
-3	.0918	.0480	-.1340	.0111	.0000
-2	.1683	.0480	-.1442	.0197	.0004
-1	.2432	.0541	-.1516	.0271	.0004
0	.3090	.0578	-.1591	.0345	-.0004
1	.3793	.0661	-.1624	.0423	-.0005
2	.4436	.0743	-.1651	.0497	-.0014
3	.5124	.0872	-.1746	.0575	-.0023
5	.6134	.1120	-.1848	.0705	-.0048
7	.7403	.1557	-.1996	.0854	-.0101
10	.8994	.2233	-.2220	.1040	-.0190
15	1.1380	.3723	-.2626	.1337	-.0397
20	1.3124	.5552	-.2964	.1578	-.0658
25	1.3277	.7058	-.3357	.1578	-.1039
M = 1.05					
-10	-.3776	.1070	-.0442	-.0410	-.0099
-7	-.1925	.0702	-.0799	-.0217	-.0051
-5	-.0749	.0570	-.1059	-.0089	-.0019
-3	.0690	.0491	-.1254	.0075	-.0005
-2	.1454	.0500	-.1339	.0160	.0004
-1	.1998	.0447	-.1417	.0232	.0002
0	.2733	.0549	-.1403	.0125	-.0004
1	.3438	.0643	-.1547	.0374	-.0021
2	.4084	.0729	-.1611	.0453	-.0021
3	.4745	.0861	-.1716	.0531	-.0031
5	.5891	.1134	-.1859	.0663	-.0063
7	.7067	.1516	-.2002	.0810	-.0106
10	.8785	.2210	-.2230	.1009	-.0197
15	1.1077	.3743	-.2639	.1302	-.0400
20	1.2870	.5577	-.3106	.1593	-.0642
25	1.3927	.7631	-.3509	.1676	-.0912
M = 1.10					
-10	-.3589	.1085	-.0413	-.0405	-.0120
-7	-.1808	.0687	-.0818	-.0209	-.0064
-5	-.0650	.0543	-.1021	-.0075	-.0036
-3	.0692	.0480	-.1206	.0075	-.0012
-2	.1356	.0480	-.1300	.0148	-.0020
-1	.2006	.0494	-.1312	.0223	-.0026
0	.2600	.0548	-.1456	.0288	-.0033
1	.3292	.0633	-.1531	.0363	-.0033
2	.3843	.0709	-.1549	.0429	-.0051
3	.4479	.0814	-.1643	.0504	-.0061
5	.5651	.1085	-.1788	.0634	-.0077
7	.6909	.1486	-.1894	.0778	-.0137
10	.8449	.2139	-.2175	.0957	-.0222
15	1.0709	.3628	-.2581	.1238	-.0414
20	1.2546	.5462	-.3038	.1464	-.0660
25	1.3676	.7533	-.3476	.1612	-.0936

TABLE 2.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 2 MODEL - Concluded

$\frac{z_r}{c} = 0.06$ $\frac{c_f}{c} = 0.40$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.1077				
-7	.0000				
-5	.0916				
-3	.1886				
-2	.2370				
-1	.2694				
0	.3235				
1	.3609				
2	.4040				
3	.4418				
5	.5387				
7	.6411				
10	.7650				
15	.8515				
20	.8727				
25	.8189				
M = 0.60					
-10	-.1448	.0479	-.0838	-.0176	-.0039
-7	-.0139	.0206	-.0876	-.0027	-.0039
-5	.0919	.0011	-.0900	.0095	-.0036
-3	.1866	.0167	-.0911	.0196	-.0032
-2	.2425	.0189	-.0925	.0284	-.0023
-1	.2783	.0189	-.0862	.0338	-.0023
0	.3342	.0273	-.0925	.0379	-.0029
1	.3844	.0340	-.0925	.0426	-.0032
2	.4317	.0412	-.0887	.0500	-.0036
3	.4735	.0479	-.0900	.0534	-.0045
5	.5905	.0668	-.0925	.0656	-.0065
7	.6824	.1003	-.0925	.0784	-.0094
10	.8025	.1616	-.1110	.0940	-.0104
15	.8468	.2808	-.1861	.1001	-.0233
20	.8746	.3972	-.2280	.1014	-.0376
25	.8301	.4657	-.2317	.0919	-.0457
M = 0.80					
-10	-.1717	.0483	-.1002	-.0197	-.0033
-7	-.0245	.0249	-.1109	-.0019	-.0026
-5	.0830	.0215	-.1127	.0096	-.0024
-3	.1886	.0249	-.1127	.0220	-.0024
-2	.2414	.0298	-.1127	.0302	-.0026
-1	.3018	.0351	-.1102	.0357	-.0033
0	.3508	.0419	-.1127	.0417	-.0035
1	.4055	.0483	-.1109	.0476	-.0044
2	.4489	.0573	-.1102	.0540	-.0057
3	.5036	.0668	-.1059	.0586	-.0059
5	.6017	.0909	-.1043	.0705	-.0072
7	.7168	.1279	-.1068	.0851	-.0103
10	.8394	.1894	-.1160	.0998	-.0178
15	.8696	.2950	-.1820	.1057	-.0303
20	.9092	.4082	-.2187	.1062	-.0456
25	.8884	.4991	-.2270	.1044	-.0572
M = 0.90					
-10	-.2204	.0738	-.1049	-.0239	-.0045
-7	-.0584	.0417	-.1256	-.0057	-.0037
-5	.0635	.0344	-.1329	.0085	-.0033
-3	.1753	.0354	-.1329	.0215	-.0033
-2	.2371	.0401	-.1323	.0288	-.0041
-1	.2906	.0451	-.1315	.0361	-.0050
0	.3473	.0534	-.1293	.0422	-.0058
1	.4091	.0615	-.1323	.0478	-.0060
2	.4592	.0691	-.1293	.0551	-.0074
3	.5160	.0805	-.1270	.0624	-.0089
5	.6265	.1052	-.1293	.0746	-.0101
7	.7214	.1429	-.1352	.0875	-.0136
10	.8617	.2054	-.1478	.1046	-.0217
15	1.0153	.3927	-.1832	.1265	-.0388
20	1.0020	.4902	-.2493	.1200	-.0532
25	.9886	.5568	-.2586	.1180	-.0664

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.2504	.0785	-.0974	-.0290	-.0052
-7	-.0829	.0456	-.1256	-.0085	-.0026
-5	.0447	.0345	-.1411	.0070	-.0032
-3	.1643	.0345	-.1447	.0197	-.0034
-2	.2265	.0376	-.1481	.0271	-.0037
-1	.2823	.0440	-.1503	.0333	-.0043
0	.3429	.0501	-.1481	.0399	-.0050
1	.4099	.0581	-.1517	.0472	-.0057
2	.4626	.0689	-.1539	.0538	-.0067
3	.5343	.0817	-.1573	.0616	-.0080
5	.6300	.1097	-.1659	.0743	-.0113
7	.7369	.1474	-.1743	.0879	-.0152
10	.8773	.2166	-.1905	.1045	-.0232
15	1.0591	.3452	-.2047	.1289	-.0397
20	1.1261	.4941	-.2660	.1347	-.0579
25	1.1229	.6214	-.2964	.1312	-.0734
M = 1.00					
-10	-.3102	.0947	-.0730	-.0360	-.0076
-7	-.1329	.0617	-.1109	-.0148	-.0041
-5	.0000	.0480	-.1339	.0011	-.0048
-3	.1406	.0452	-.1521	.0178	-.0050
-2	.2185	.0452	-.1575	.0260	-.0059
-1	.2781	.0526	-.1649	.0323	-.0068
0	.3515	.0571	-.1656	.0397	-.0076
1	.4233	.0660	-.1676	.0471	-.0083
2	.4691	.0752	-.1691	.0542	-.0098
3	.5348	.0902	-.1744	.0620	-.0114
5	.6448	.1201	-.1825	.0742	-.0151
7	.7488	.1608	-.1961	.0875	-.0197
10	.8924	.2329	-.2197	.1057	-.0291
15	1.1094	.3802	-.2568	.1339	-.0316
20	1.2652	.5486	-.2955	.1539	-.0725
25	1.2469	.6913	-.3380	.1498	-.0888
M = 1.05					
-10	-.3155	.0925	-.0701	-.0360	-.0132
-7	-.1468	.0608	-.1026	-.0160	-.0087
-5	-.0220	.0505	-.1266	-.0021	-.0065
-3	.1248	.0476	-.1448	.0142	-.0056
-2	.1981	.0505	-.1532	.0221	-.0060
-1	.2495	.1993	-.1571	.0278	-.0072
0	.3185	.0619	-.1624	.0353	-.0077
1	.3875	.0722	-.1694	.0435	-.0092
2	.4506	.0793	-.1720	.0502	-.0101
3	.5019	.0910	-.1766	.0570	-.0118
5	.6238	.1227	-.1870	.0712	-.0152
7	.7456	.1632	-.2012	.0848	-.0203
10	.9011	.2339	-.2259	.1019	-.0297
15	1.1242	.3883	-.2695	.1322	-.0505
20	1.2451	.5630	-.3052	.1528	-.0737
25	1.3649	.3666	-.3506	.1642	-.0986
M = 1.10					
-10	-.3105	.0957	-.0656	-.0353	-.0143
-7	-.1440	.0675	-.1012	-.0168	-.0095
-5	-.0183	.0556	-.1249	-.0027	-.0074
-3	.1059	.0556	-.1387	.0117	-.0074
-2	.1821	.0590	-.1468	.0192	-.0075
-1	.2399	.0624	-.1498	.0260	-.0085
0	.3063	.0680	-.1580	.0339	-.0093
1	.3613	.0762	-.1617	.0408	-.0103
2	.4319	.0867	-.1680	.0480	-.0115
3	.4898	.0985	-.1735	.0552	-.0131
5	.6041	.1270	-.1842	.0682	-.0164
7	.7198	.1694	-.1999	.0819	-.0217
10	.8609	.2340	-.2186	.0980	-.0299
15	1.0727	.3706	-.2591	.1254	-.0489
20	1.2279	.5428	-.3122	.1459	-.0724
25	1.3267	.7218	-.3435	.1579	-.0955

TABLE 3.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL

$\frac{t}{c}$ = 0.04 $\frac{c_f}{c}$ = NONE

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.5838				
-7	-.4338				
-5	-.3191				
-3	-.2104				
-2	-.1544				
-1	-.0956				
0	-.0279				
1	.0176				
2	.0691				
3	.1250				
5	.2323				
7	.3426				
10	.5382				
15	.6661				
20	.6941				
25	.6764				
M = 0.60					
-10	-.6694	.1170	-.0142	-.0804	.0156
-7	-.5137	.0801	-.0208	-.0580	.0082
-5	-.3711	.0322	-.0196	-.0408	.0047
-3	-.2474	.0204	-.0084	-.0263	.0031
-2	-.1746	.0162	-.0066	-.0183	.0024
-1	-.1019	.0140	-.0066	-.0115	.0018
0	-.0335	.0122	.0035	-.0028	.0017
1	.0291	.0122	.0007	.0053	.0019
2	.0975	.0162	.0078	.0128	.0026
3	.1673	.0218	.0123	.0208	.0037
5	.2983	.0373	.0235	.0364	.0055
7	.4264	.0693	.0223	.0518	.0096
10	.6039	.1224	-.0071	.0762	.0181
15	.7334	.2269	-.0691	.0963	.0327
20	.7421	.3070	-.0866	.0971	.0441
25	.7480	.3922	-.0869	.0971	.0539
M = 0.80					
-10	-.7036	.1297	-.0039	-.0825	.0162
-7	-.5534	.0695	-.0125	-.0626	.0102
-5	-.4131	.0384	-.0165	-.0456	.0055
-3	-.2727	.0223	-.0098	-.0294	.0034
-2	-.1878	.0160	-.0066	-.0200	.0026
-1	-.1087	.0131	-.0028	-.0113	.0020
0	-.0395	.0107	.0033	-.0038	.0018
1	.0296	.0102	.0063	.0047	.0021
2	.1127	.0141	.0127	.0142	.0030
3	.1917	.0190	.0137	.0227	.0036
5	.3498	.0340	.0269	.0407	.0067
7	.4961	.0613	.0226	.0584	.0111
10	.6818	.1186	-.0068	.0823	.0192
15	.7609	.2221	-.0697	.0987	.0341
20	.7767	.3091	-.0925	.0991	.0438
25	.7905	.4004	-.0985	.1007	.0576
M = 0.90					
-10	-.7338	.1444	.0318	-.0903	.0177
-7	-.5755	.0823	.0112	-.0680	.0099
-5	-.4358	.0458	-.0037	-.0494	.0057
-3	-.2963	.0244	-.0101	-.0324	.0033
-2	-.2004	.0159	-.0106	-.0215	.0026
-1	-.1220	.0116	-.0056	-.0130	.0020
0	-.0366	.0094	.0019	-.0039	.0018
1	.0488	.0085	.0095	.0064	.0021
2	.1290	.0116	.0159	.0148	.0028
3	.2266	.0172	.0179	.0254	.0038
5	.4009	.0386	.0078	.0469	.0071
7	.5438	.0707	-.0094	.0659	.0117
10	.7146	.1294	-.0273	.0896	.0206
15	.8245	.2418	-.0846	.1054	.0354
20	.8715	.3403	-.1196	.1082	.0481
25	.8820	.4406	-.1259	.1089	.0590

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.7947	.1667	.0846	-.0958	.0197
-7	-.6088	.0971	.0540	-.0726	.0114
-5	-.4410	.0546	.0200	-.0509	.0065
-3	-.2879	.0304	.0049	-.0326	.0035
-2	-.2057	.0211	.0006	-.0226	.0026
-1	-.1218	.0158	-.0036	-.0133	.0021
0	-.0296	.0129	.0038	-.0030	.0019
1	.0609	.0129	.0097	.0073	.0025
2	.1431	.0162	.0119	.0163	.0030
3	.2287	.0239	.0108	.0270	.0043
5	.4048	.0453	-.0085	.0479	.0079
7	.5709	.0810	-.0418	.0689	.0132
10	.7848	.1505	-.0769	.0955	.0238
15	1.0530	.2930	-.1140	.1305	.0458
M = 1.00					
-10	-.7981	.1663	.1063	-.0918	.0190
-7	-.5884	.0942	.0623	-.0658	.0109
-5	-.4382	.0604	.0377	-.0491	.0071
-3	-.2911	.0393	.0234	-.0317	.0043
-2	-.2034	.0297	.0122	-.0218	.0033
-1	-.1189	.0231	.0025	-.0120	.0027
0	-.0219	.0200	-.0019	-.0022	.0025
1	.0782	.0208	-.0058	.0085	.0029
2	.1721	.0239	-.0095	.0193	.0039
3	.2504	.0315	-.0170	.0291	.0050
5	.4163	.0523	-.0368	.0481	.0084
7	.5571	.0816	-.0555	.0639	.0127
10	.7668	.1451	-.0956	.0889	.0222
15	1.0485	.2901	-.1314	.1272	.0452
M = 1.05					
-10	-.7557	.1550	.0966	-.0865	.0174
-7	-.5592	.0911	.0601	-.0650	.0100
-5	-.4232	.0583	.0390	-.0468	.0060
-3	-.2811	.0376	.0226	-.0303	.0035
-2	-.1965	.0286	.0125	-.0208	.0025
-1	-.1058	.0230	.0023	-.0110	.0018
0	-.0212	.0212	-.0018	-.0040	.0016
1	.0725	.0215	-.0057	.0089	.0023
2	.1602	.0260	-.0172	.0180	.0032
3	.2418	.0335	-.0190	.0275	.0043
5	.4020	.0535	-.0386	.0456	.0072
7	.5350	.0825	-.0554	.0618	.0118
10	.7254	.1420	-.0912	.0853	.0210
M = 1.10					
-10	-.7320	.1512	.0978	-.0838	.0162
-7	-.5417	.0897	.0561	-.0616	.0093
-5	-.4246	.0583	.0423	-.0456	.0056
-3	-.2782	.0385	.0254	-.0296	.0034
-2	-.1903	.0295	.0146	-.0201	.0026
-1	-.1083	.0242	.0069	-.0107	.0019
0	-.0234	.0220	.0010	.0278	.0017
1	.0673	.0216	-.0080	.0083	.0023
2	.1464	.0266	-.0125	.0169	.0029
3	.2284	.0342	-.0194	.0267	.0038
5	.3806	.0558	-.0373	.0438	.0063
7	.5124	.0853	-.0548	.0598	.0101
10	.6881	.1465	-.0868	.0832	.0176

TABLE 3.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL - Continued

$\frac{t}{c} = 0.04$ $\frac{c_f}{c} = 0.10$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.3945				
-7	-.2221				
-5	-.1125				
-3	-.0132				
-2	.0409				
-1	.0906				
0	.1476				
1	.1973				
2	.2440				
3	.2878				
5	.3945				
7	.5085				
10	.6765				
15	.7978				
20	.7978				
25	.7598				
M = 0.60					
-10	-.4583	.0828	-.0647	-.0544	.0126
-7	-.2776	.0437	-.0958	-.0310	.0073
-5	-.1403	.0288	-.0976	-.0135	.0048
-3	-.0174	.0253	-.0845	.0004	.0040
-2	.0549	.0253	-.0867	.0089	.0040
-1	.1128	.0278	-.0832	.0158	.0042
0	.1807	.0348	-.0764	.0234	.0048
1	.2400	.0431	-.0742	.0314	.0059
2	.3181	.0483	-.0719	.0399	.0074
3	.3803	.0562	-.0668	.0472	.0087
5	.5176	.0814	-.0527	.0633	.0114
7	.6405	.1160	-.0497	.0798	.0163
10	.7895	.1835	-.0756	.1012	.0255
15	.8502	.2880	-.1271	.1129	.0391
20	.8473	.3741	-.1383	.1106	.0496
25	.8328	.4594	-.1413	.1100	.0601
M = 0.80					
-10	-.5045	.0939	-.0769	-.0619	.0128
-7	-.3278	.0488	-.0946	-.0381	.0071
-5	-.1845	.0273	-.1016	-.0203	.0049
-3	-.0394	.0200	-.0947	-.0038	.0038
-2	.0354	.0188	-.0944	.0056	.0036
-1	.1139	.0205	-.0962	.0145	.0040
0	.2022	.0278	-.0864	.0244	.0047
1	.2670	.0296	-.0912	.0332	.0056
2	.3494	.0382	-.0849	.0427	.0068
3	.4378	.0478	-.0789	.0522	.0080
5	.5791	.0715	-.0715	.0695	.0121
7	.7185	.1062	-.0718	.0870	.0174
10	.8598	.1704	-.0769	.1096	.0261
15	.8520	.2733	-.1409	.1112	.0375
M = 0.90					
-10	-.5787	.1206	-.0358	-.0708	.0156
-7	-.3846	.0651	-.0707	-.0449	.0086
-5	-.2426	.0375	-.0863	-.0259	.0057
-3	-.0866	.0243	-.0993	-.0082	.0043
-2	.0055	.0204	-.1031	.0028	.0039
-1	.0918	.0204	-.1057	.0128	.0042
0	.1836	.0260	-.1001	.0233	.0048
1	.2824	.0302	-.1066	.0347	.0059
2	.3794	.0388	-.1013	.0456	.0074
3	.4608	.0464	-.1027	.0548	.0090
5	.6205	.0771	-.1087	.0741	.0135
7	.7467	.1163	-.1232	.0922	.0191
10	.9390	.1866	-.1353	.1156	.0291

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.6736	.1520	.0242	-.0797	.0193
-7	-.4643	.0864	-.0214	-.0532	.0113
-5	-.2894	.0515	-.0593	-.0317	.0071
-3	-.1341	.0342	-.0850	-.0127	.0051
-2	-.0523	.0285	-.0934	-.0020	.0048
-1	.0589	.0253	-.1109	.0101	.0044
0	.1602	.0314	-.1137	.0212	.0052
1	.2420	.0369	-.1185	.0306	.0063
2	.3564	.0406	-.1179	.0435	.0075
3	.4381	.0522	-.1250	.0534	.0094
5	.5984	.0836	-.1377	.0716	.0138
7	.7291	.1206	-.1475	.0886	.0191
M = 1.00					
-10	-.6488	.1484	.0366	-.0134	.0179
-7	-.4621	.0899	-.0078	-.0515	.0114
-5	-.3112	.0604	-.0365	-.0334	.0082
-3	-.1774	.0443	-.0532	-.0176	.0063
-2	-.0918	.0379	-.0654	-.0074	.0057
-1	-.0109	.0356	-.0694	.0020	.0052
0	.0794	.0363	-.0792	.0115	.0054
1	.1774	.0387	-.0888	.0233	.0063
2	.2738	.0443	-.0981	.0338	.0072
3	.3672	.0528	-.1109	.0449	.0087
5	.5493	.0815	-.1356	.0658	.0125
7	.6893	.1167	-.1518	.0828	.0173
M = 1.05					
-10	-.6371	.1434	.0351	-.0760	.0156
-7	-.4478	.0890	-.0071	-.0508	.0089
-5	-.3186	.0609	-.0320	-.0347	.0058
-3	-.1863	.0462	-.0456	-.0182	.0040
-2	-.1037	.0403	-.0580	-.0082	.0040
-1	-.0120	.0373	-.0645	.0009	.0027
0	.0796	.0388	-.0731	.0116	.0036
1	.1548	.0406	-.0808	.0207	.0040
2	.2449	.0466	-.0878	.0307	.0053
3	.3351	.0565	-.0981	.0410	.0068
5	.5049	.0842	-.1246	.0617	.0105
7	.6446	.1186	-.1473	.0805	.0149
M = 1.10					
-10	-.6145	.1389	.0979	-.0736	.0136
-7	-.4470	.0870	.0542	-.0507	.0075
-5	-.3174	.0594	.0244	-.0336	.0044
-3	-.1849	.0459	.0019	-.0183	.0027
-2	-.0946	.0412	-.0132	-.0085	.0020
-1	-.0291	.0369	-.0264	.0000	.0020
0	.0612	.0394	-.0415	.0097	.0021
1	.1427	.0419	-.0570	.0200	.0039
2	.2359	.0465	-.0708	.0292	.0042
3	.3203	.0566	-.0881	.0395	.0054
5	.4732	.0852	-.1184	.0583	.0082
7	.6116	.1193	-.1463	.0751	.0120

TABLE 3.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL - Continued

$\frac{t}{c} = 0.04$ $\frac{c_f}{c} = 0.20$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.3057				
-7	-.1254				
-5	-.0029				
-3	.1081				
-2	.1629				
-1	.2206				
0	.2783				
1	.3258				
2	.4023				
3	.4369				
5	.5911				
7	.6762				
10	.8074				
15	.8708				
20	.8449				
25	.8160				
M = 0.60					
-10	-.3554	.0688	-.0808	-.0426	.0056
-7	-.1513	.0267	-.1203	-.0165	.0009
-5	.0014	.0137	-.1212	.0014	-.0002
-3	.1327	.0154	-.1174	.0169	.0001
-2	.2027	.0197	-.1144	.0258	.0015
-1	.2683	.0243	-.1072	.0346	.0043
0	.3325	.0320	-.0977	.0433	.0067
1	.3982	.0414	-.0946	.0504	.0089
2	.4538	.0477	-.0830	.0577	.0112
3	.5323	.0561	-.0830	.0665	.0137
5	.6494	.0846	-.0577	.0837	.0195
7	.7792	.1200	-.0609	.0996	.0263
10	.8934	.1845	-.0965	.1155	.0335
15	.9220	.2850	-.1443	.1175	.0405
20	.9077	.3706	-.1471	.1140	.0498
25	.8906	.4577	-.1484	.1126	.0607
M = 0.80					
-10	-.3741	.0817	-.0904	-.0902	.0019
-7	-.1861	.0372	-.1360	-.0392	.0026
-5	-.0233	.0212	-.1379	-.0010	.0009
-3	.1153	.0188	-.1342	.0314	.0008
-2	.2045	.0198	-.1350	.0506	.0015
-1	.2791	.0234	-.1297	.0676	.0030
0	.3547	.0284	-.1246	.0849	.0046
1	.4293	.0346	-.1230	.0519	.0063
2	.5040	.0431	-.1156	.0602	.0072
3	.5854	.0539	-.1104	.0696	.0105
5	.7520	.0820	-.0964	.0898	.0079
7	.8684	.1210	-.0970	.1070	.0100
10	1.0079	.1878	-.1047	.1255	.0293
15	.9536	.1434	-.1511	.1176	.0401
20	.9575	.1921	-.1486	.1200	.0520
25	.9420	.2393	-.1407	.1184	.0631
M = 0.90					
-10	-.4911	.0570	-.0867	-.0606	.0092
-7	-.2895	.0307	-.1176	-.0329	.0051
-5	-.1164	.0175	-.1325	-.0107	.0024
-3	.0565	.0128	-.1473	.0093	.0019
-2	.1591	.0128	-.1485	.0201	.0022
-1	.2533	.0143	-.1517	.0305	.0029
0	.3422	.0169	-.1480	.0415	.0040
1	.4261	.0202	-.1454	.0519	.0055
2	.5442	.0261	-.1466	.0640	.0080
3	.6331	.0329	-.1452	.0758	.0104
5	.7803	.0480	-.1490	.0941	.0155
7	.9241	.0690	-.1566	.1101	.0219

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.5765	.1362	-.0406	-.0702	.0144
-7	-.3423	.0770	.2230	-.0399	.0069
-5	-.1809	.0501	-.1155	-.0180	.0038
-3	.0129	.0362	-.1487	.0049	.0028
-2	.1179	.0342	-.1631	.0163	.0030
-1	.2228	.0354	-.1689	.0284	.0038
0	.3246	.0409	-.1713	.0399	.0048
1	.4231	.0480	-.1716	.0506	.0063
2	.5167	.0580	-.1707	.0611	.0083
3	.6071	.0706	-.1712	.0725	.0106
5	.7638	.1056	-.1845	.0905	.0159
M = 1.00					
-10	-.5945	.1420	.2813	-.0699	.0146
-7	-.3871	.0873	-.0571	-.0435	.0079
-5	-.2289	.0608	-.0848	-.0239	.0050
-3	-.0615	.0446	-.1145	-.0037	.0037
-2	.0307	.0408	-.1271	.0078	.0034
-1	.1352	.0400	-.1419	.0180	.0034
0	.2842	.0400	-.1645	.0357	.0045
1	.3656	.0465	-.1668	.0451	.0058
2	.4701	.0571	-.1698	.0566	.0077
3	.5531	.0691	-.1747	.0665	.0098
5	.7082	.1024	-.1858	.0848	.0147
M = 1.05					
-10	-.5814	.1360	-.0138	-.0684	.0134
-7	-.3767	.0839	-.0536	-.0420	.0073
-5	-.2254	.0598	-.0808	-.0240	.0044
-3	-.0727	.0460	-.1039	-.0054	.0031
-2	.0193	.0423	-.1160	.0051	.0029
-1	.1009	.0412	-.1275	.0150	.0031
0	.2121	.0423	-.1400	.0276	.0040
1	.3159	.0467	-.1517	.0390	.0052
2	.4272	.0561	-.1626	.0516	.0071
3	.5132	.0679	-.1688	.0615	.0088
5	.6748	.0996	-.1826	.0810	.0137
M = 1.10					
-10	-.5634	.1301	-.0095	-.0657	.0121
-7	-.3665	.0809	-.0504	-.0407	.0065
-5	-.2185	.0576	-.0762	-.0227	.0039
-3	-.0819	.0446	-.0958	-.0052	.0027
-2	.0144	.0417	-.1093	.0052	.0026
-1	.0934	.0403	-.1205	.0140	.0031
0	.1983	.0435	-.1330	.0256	.0037
1	.2989	.0474	-.1465	.0369	.0050
2	.3967	.0562	-.1528	.0480	.0064
3	.4858	.0682	-.1627	.0590	.0082
5	.6467	.1018	-.1752	.0779	.0128

TABLE 3.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL - Continued

$\frac{t}{c} = 0.04$ $\frac{c_f}{c} = 0.30$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.2534				
-7	-.0576				
-5	.0504				
-3	.1656				
-2	.2232				
-1	.2750				
0	.3441				
1	.3888				
2	.4391				
3	.4895				
5	.6119				
7	.7343				
10	.8207				
15	.8639				
20	.8236				
25	.7861				
M = 0.60					
-10	-.2827	.0444	-.0774	-.0323	.0084
-7	-.0705	.0098	-.1075	-.0057	.0046
-5	.0677	.0036	-.1046	.0107	.0034
-3	.1901	.0063	-.1049	.0249	.0039
-2	.2635	.0115	-.0984	.0330	.0048
-1	.3255	.0168	-.0962	.0408	.0056
0	.4059	.0245	-.0948	.0485	.0061
1	.4515	.0315	-.0956	.0556	.0072
2	.5156	.0403	-.0871	.0628	.0089
3	.5726	.0508	-.0822	.0707	.0108
5	.7264	.0833	-.0716	.0896	.0320
7	.8261	.1208	-.0693	.1040	.0216
10	.9059	.1926	-.1007	.1173	.0311
15	.9201	.2998	-.1384	.1196	.0436
20	.8745	.3894	-.1375	.1141	.0527
25	.8631	.4736	-.1404	.0838	.0631
M = 0.80					
-10	-.3048	.0618	-.0951	-.0342	.0091
-7	-.0968	.0238	-.1348	-.0080	.0049
-5	.0629	.0143	-.1347	.0099	.0041
-3	.1935	.0155	-.1342	.0255	.0043
-2	.2854	.0202	-.1316	.0349	.0049
-1	.3454	.0254	-.1306	.0427	.0056
0	.4189	.0321	-.1251	.0513	.0070
1	.5015	.0411	-.1223	.0609	.0088
2	.5689	.0497	-.1131	.0685	.0104
3	.6386	.0613	-.1083	.0775	.0063
5	.7856	.0935	-.1003	.0951	.0092
7	.8804	.1342	-.0990	.1119	.0058
10	1.0178	.2022	-.1032	.1296	.0082
M = 0.90					
-10	-.3457	.0840	-.1157	-.0383	.0115
-7	-.1494	.0440	-.1424	-.0135	.0067
-5	.0171	.0279	-.1538	.0057	.0051
-3	.1750	.0273	-.1627	.0234	.0051
-2	.2604	.0283	-.1522	.0320	.0055
-1	.3560	.0367	-.1634	.0428	.0070
0	.4097	.0410	-.1510	.0506	.0077
1	.5019	.0493	-.1507	.0610	.0097
2	.5822	.0588	-.1379	.0701	.0120
3	.7529	.0709	-.1610	.0805	.0142
5	.7853	.1018	-.1388	.0970	.0193
7	.9151	.1444	-.0969	.1115	.0255

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.4754	.1149	-.0709	-.0536	.0155
-7	-.2659	.0682	-.1084	-.0259	.0097
-5	-.0725	.0444	-.1440	-.0031	.0070
-3	.1128	.0376	-.1702	.0176	.0064
-2	.2176	.0388	-.1802	.0287	.0068
-1	.3223	.0428	-.1806	.0403	.0074
0	.4077	.0508	-.1826	.0499	.0086
1	.4899	.0587	-.1820	.0593	.0102
2	.5882	.0713	-.1823	.0694	.0124
3	.6607	.0864	-.1830	.0792	.0150
5	.8154	.1240	-.1937	.0981	.0205
M = 1.00					
-10	-.5014	.1203	-.0443	-.0557	.0152
-7	-.2959	.0743	-.0854	-.0298	.0098
-5	-.1288	.0531	-.1164	-.0099	.0076
-3	.0414	.0434	-.1454	.0095	.0066
-2	.1457	.0422	-.1602	.0211	.0067
-1	.2683	.0441	-.1741	.0346	.0070
0	.3649	.0498	-.1815	.0454	.0076
1	.4492	.0584	-.1817	.0552	.0089
2	.5412	.0705	-.1816	.0642	.0110
3	.6164	.0863	-.1830	.0738	.0135
5	.7819	.1237	-.1987	.0927	.0180
M = 1.05					
-10	-.4888	.1158	-.0397	-.0550	.0134
-7	-.2948	.0729	-.0815	-.0301	.0088
-5	-.1407	.0535	-.1083	-.0111	.0135
-3	.0222	.0437	-.1331	.0072	.0058
-2	.1155	.0437	-.1464	.0174	.0057
-1	.2118	.0455	-.1625	.0286	.0061
0	.3333	.0503	-.1751	.0422	.0069
1	.4177	.0583	-.1809	.0518	.0078
2	.5110	.0710	-.1795	.0616	.0094
3	.5895	.0856	-.1843	.0713	.0117
5	.7406	.1221	-.1945	.0887	.0164
7	.8591	.1654	-.2104	.1031	.0221
M = 1.10					
-10	-.4810	.1137	-.0355	-.0542	.0119
-7	-.2900	.0706	-.0779	-.0298	.0072
-5	-.1393	.0519	-.1044	-.0115	.0052
-3	.0144	.0441	-.1272	.0060	.0048
-2	.1034	.0445	-.1398	.0160	.0048
-1	.2010	.0466	-.1525	.0263	.0052
0	.2972	.0508	-.1660	.0376	.0062
1	.3977	.0572	-.1762	.0495	.0075
2	.4810	.0688	-.1755	.0582	.0085
3	.5657	.0858	-.1773	.0680	.0102
5	.7093	.1235	-.1916	.0860	.0140
7	.8327	.1684	-.1990	.0999	.0193

TABLE 3.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL - Continued

$\frac{t}{c} = 0.04$ $\frac{c_f}{c} = 0.40$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.1961				
-7	-.0087				
-5	.1096				
-3	.2076				
-2	.2711				
-1	.3157				
0	.3806				
1	.4239				
2	.4844				
3	.5306				
5	.6546				
7	.7584				
10	.8276				
15	.8333				
20	.8045				
25	.7757				
M = 0.60					
-10	-.2161	.0534	-.0830	-.0239	.0061
-7	-.0078	.0263	-.1053	.0021	.0027
-5	.1405	.0263	-.0983	.0190	.0022
-3	.2739	.0312	-.0972	.0341	.0034
-2	.3417	.0368	-.0906	.0429	.0040
-1	.4052	.0452	-.0900	.0501	.0045
0	.4651	.0544	-.0902	.0573	.0055
1	.5265	.0639	-.0869	.0651	.0071
2	.5864	.0750	-.0766	.1440	.0109
3	.6506	.0885	-.0772	.0814	.0109
5	.7676	.1176	-.0651	.0961	.0158
7	.8646	.1621	-.0711	.1111	.0220
10	.9017	.2280	-.1021	.1189	.0310
15	.8960	.3241	-.1344	.1160	.0209
20	.8674	.4126	-.1369	.1134	.0260
25	.8674	.5081	-.1413	.1131	.0314
M = 0.80					
-10	-.2363	.0671	-.0926	-.0257	.0077
-7	-.0107	.0350	-.1323	.0018	.0038
-5	.1491	.0326	-.1323	.0200	.0034
-3	.2915	.0390	-.1279	.0362	.0042
-2	.3622	.0450	-.1244	.0447	.0051
-1	.4300	.0514	-.1228	.0523	.0064
0	.4920	.0596	-.1225	.0605	.0074
1	.5559	.0695	-.1146	.0690	.0093
2	.6315	.0793	-.1070	.0768	.0111
3	.6993	.0922	-.1029	.0856	.0135
5	.8252	.1272	-.0953	.1046	.0191
7	.9123	.1653	-.0900	.1171	.0238
10	1.0034	.2344	-.0907	.1301	.0334
M = 0.90					
-10	-.2701	.0921	-.1347	-.0285	.0104
-7	-.0436	.0576	-.1665	-.0009	.0063
-5	.1333	.0491	-.1805	.0192	.0053
-3	.2855	.0513	-.1812	.0360	.0061
-2	.3752	.0585	-.1802	.0462	.0073
-1	.4513	.0651	-.1725	.0550	.0085
0	.5334	.0765	-.1801	.0652	.0102
1	.5932	.0849	-.1695	.0730	.0118
2	.6650	.0933	-.1523	.0811	.0139
3	.7282	.1047	-.1459	.0906	.0162
5	.8513	.1396	-.1484	.1062	.0214

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.3709	.1138	-.1084	-.0396	.0130
-7	-.1516	.0761	-.1425	-.0119	.0084
-5	.0468	.0603	-.1726	.0101	.0063
-3	.2242	.0575	-.1894	.0297	.0065
-2	.3322	.0603	-.1913	.0411	.0072
-1	.4177	.0670	-.1875	.0509	.0084
0	.4935	.0761	-.1876	.0524	.0098
1	.5822	.0860	-.1856	.0693	.0118
2	.6563	.0992	-.1845	.0789	.0140
3	.7321	.1158	-.1838	.0897	.0166
5	.8708	.1526	-.1898	.1060	.0227
M = 1.00					
-10	-.4235	.1188	-.0725	-.0447	.0129
-7	-.1995	.0800	-.1153	-.0175	.0086
-5	-.0230	.0630	-.1452	.0026	.0068
-3	.1596	.0592	-.1735	.0228	.0062
-2	.2854	.0596	-.1849	.0360	.0067
-1	.3744	.0653	-.1862	.0461	.0075
0	.4587	.0743	-.1864	.0562	.0090
1	.5401	.0856	-.1859	.0652	.0103
2	.6198	.0985	-.1859	.0743	.0126
3	.6981	.0970	-.1904	.0857	.0151
5	.8469	.1554	-.2046	.1015	.0103
M = 1.05					
-10	-.4119	.1148	-.0693	-.0439	.0106
-7	-.2015	.0783	-.1090	-.0183	.0087
-5	-.0385	.0638	-.1353	.0003	.0078
-3	.1171	.0601	-.1591	.0183	.0073
-2	.2504	.0601	-.1763	.0325	.0074
-1	.3467	.0648	-.1822	.0430	.0078
0	.4282	.0739	-.1857	.0527	.0086
1	.5097	.0856	-.1839	.0619	.0093
2	.5912	.0988	-.1851	.0715	.0108
3	.6579	.1136	-.1891	.0812	.0128
5	.8179	.1184	-.2018	.0980	.0187
M = 1.10					
-10	-.3963	.1101	-.0668	-.0433	.0100
-7	-.2024	.0773	-.1042	-.0193	.0058
-5	-.0488	.0643	-.1290	-.0016	.0047
-3	.1091	.0607	-.1531	.0173	.0047
-2	.2039	.0625	-.1632	.0279	.0050
-1	.3144	.0678	-.1740	.0399	.0056
0	.4078	.0759	-.1809	.0504	.0064
1	.4867	.0865	-.1812	.0598	.0079
2	.5657	.1006	-.1815	.0681	.0095
3	.6231	.1172	-.1853	.0816	.0115
5	.7868	.1246	-.1963	.0950	.0166

TABLE 3.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL - Continued

$\frac{h}{c}$ = 0.06 $\frac{c_f}{c}$ = NONE

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.5310				
-7	-.3947				
-5	-.2942				
-3	-.1973				
-2	-.1471				
-1	-.0969				
0	-.0466				
1	.0179				
2	.0789				
3	.1327				
5	.2404				
7	.3588				
10	.5238				
15	.6925				
20	.7140				
25	.6996				
M = 0.60					
-10	-.6001	.1219	.0261	-.0741	-.0163
-7	-.4376	.0598	.0016	-.0520	-.0077
-5	-.3250	.0329	-.0123	-.0371	-.0036
-3	-.2068	.0218	-.0090	-.0227	-.0019
-2	-.1293	.0218	.0025	-.0149	-.0009
-1	-.0776	.0144	.0041	-.0081	-.0004
0	-.0203	.0126	-.0097	-.0036	-.0003
1	.0480	.0144	-.0130	.0066	.0004
2	.1052	.0162	-.0130	.0131	.0012
3	.1699	.0218	-.0148	.0203	.0009
5	.2880	.0329	-.0171	.0341	-.0002
7	.4210	.0510	-.0196	.0805	-.0021
10	.5964	.1034	-.0359	.0729	-.0079
15	.7349	.2197	-.1152	.0944	-.0220
20	.7515	.3143	-.1527	.0962	-.0351
25	.7478	.3996	-.1634	.0938	-.0454
M = 0.80					
-10	-.6504	.1156	.0160	-.0795	-.0171
-7	-.5053	.0640	-.0061	-.0593	-.0096
-5	-.3627	.0345	-.0144	-.0417	-.0066
-3	-.2201	.0185	-.0127	-.0245	-.0021
-2	-.1551	.0160	-.0088	-.0168	-.0014
-1	-.0926	.0148	-.0055	-.0099	-.0009
0	-.0150	.0135	.0000	-.0008	-.0009
1	.0575	.0160	.0006	.0079	-.0006
2	.1201	.0173	.0022	.0152	-.0006
3	.1926	.0223	.0066	.0233	-.0010
5	.3252	.0345	.0061	.0395	-.0020
7	.4778	.0615	-.0044	.0577	-.0048
10	.6429	.1143	-.0265	.0789	-.0110
15	.7505	.2251	-.1113	.0963	-.0257
20	.7830	.3200	-.1555	.0988	-.0387
25	.8055	.4158	-.1704	.1012	-.0514
M = 0.90					
-10	-.6870	.1330	.0500	-.0864	-.0202
-7	-.5186	.0740	.0172	-.0628	-.0109
-5	-.3989	.0437	.0010	-.0461	-.0066
-3	-.2549	.0239	-.0064	-.0287	-.0031
-2	-.1773	.0197	-.0064	.0038	-.0021
-1	-.1045	.0175	-.0039	-.0119	-.0014
0	-.0222	.0164	-.0015	-.0018	-.0009
1	.0621	.0164	-.0015	.0081	-.0008
2	.1374	.0197	.0035	.0170	-.0009
3	.2172	.0262	.0035	.0256	-.0012
5	.3435	.0414	-.0029	.0414	-.0029
7	.4876	.0709	-.0225	.0595	-.0062
10	.6649	.1308	-.0554	.0843	-.0137
15	.8865	.2529	-.1010	.1140	-.0302
20	.8754	.3342	-.1804	.1079	-.0215
25	.9175	.4665	-.2025	.1130	-.0291

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.7168	.1453	.0848	-.0887	-.0220
-7	-.5165	.0850	.0382	-.0631	-.0121
-5	-.3900	.0569	.0173	-.0461	-.0077
-3	-.2382	.0363	.0000	-.0273	-.0037
-2	-.1644	.0270	-.0037	-.0188	-.0023
-1	-.0949	.0249	-.0028	-.0102	-.0015
0	-.0148	.0238	.0009	-.0007	-.0012
1	.0632	.0259	.0033	.0085	-.0012
2	.1328	.0280	.0019	.0171	-.0015
3	.2087	.0342	-.0014	.0256	-.0020
5	.3373	.0519	-.0107	.0416	-.0039
7	.4891	.0829	-.0411	.0604	-.0076
10	.6852	.1453	-.0877	.0863	-.0156
15	.9593	.2800	-.1483	.1218	-.0341
20	.9804	.3940	-.2043	.1218	-.0482
25	1.0225	.5226	-.2493	.1262	-.0644
M = 1.00					
-10	-.7372	.1620	.1193	-.0866	-.0229
-7	-.5453	.0994	.0733	-.0631	-.0137
-5	-.4141	.0705	.0496	-.0467	-.0097
-3	-.2626	.0487	.0286	-.0301	-.0061
-2	-.1777	.0426	.0187	-.0203	-.0042
-1	-.1030	.0347	.0099	-.0114	-.0027
0	-.0141	.0347	.0053	-.0016	-.0023
1	.0707	.0378	-.0036	.0082	-.0024
2	.1495	.0418	-.0103	.0180	-.0030
3	.2323	.0477	-.0214	.0265	-.0035
5	.3737	.0667	-.0402	.0435	-.0055
7	.5191	.0974	-.0697	.0611	-.0090
10	.7231	.1620	-.1220	.0856	-.0168
15	1.0180	.3050	-.1934	.1245	-.0359
20	1.2119	.4688	-.2350	.1497	-.0584
25	1.2200	.6158	-.2931	.1497	-.0984
M = 1.05					
-10	-.7197	.1573	.1189	-.0851	-.0228
-7	-.5374	.0964	.0760	-.0618	-.0142
-5	-.4016	.0677	.0545	-.0461	-.0101
-3	-.2503	.0477	.0322	-.0289	-.0056
-2	-.1707	.0429	.0223	-.0195	-.0045
-1	-.0970	.0382	.0129	-.0116	-.0034
0	-.0136	.0372	.0047	-.0025	-.0026
1	.0640	.0382	-.0034	.0072	-.0026
2	.1416	.0429	-.0129	.0157	-.0029
3	.2231	.0497	-.0227	.0248	-.0037
5	.3589	.0677	-.0434	.0408	-.0056
7	.5083	.1001	-.0721	.0587	-.0091
10	.6887	.1573	-.1184	.0807	-.0165
15	1.0243	.3053	-.2017	.1218	-.0360
20	1.2649	.4980	-.2686	.1532	-.0611
25	1.3308	.6679	-.3004	.1664	-.0839
M = 1.10					
-10	-.7087	.1537	.1172	-.0833	-.0225
-7	-.5259	.0949	.0750	-.0616	-.0147
-5	-.3916	.0651	.0545	-.0459	-.0097
-3	-.2424	.0459	.0322	-.0287	-.0062
-2	-.1623	.0390	.0215	-.0196	-.0050
-1	-.0877	.0352	.0136	-.0115	-.0036
0	-.0093	.0343	.0046	-.0027	-.0028
1	.0746	.0358	-.0054	.0069	-.0029
2	.1492	.0399	-.0148	.0151	-.0033
3	.2294	.0459	-.0231	.0235	-.0038
5	.3637	.0651	-.0454	.0395	-.0060
7	.5073	.0953	-.0672	.0570	-.0098
10	.6900	.1537	-.1147	.0791	-.0169
15	.9996	.2980	-.2005	.1177	-.0356
20	1.2421	.4897	-.2624	.1479	-.0606
25	1.3801	.6953	-.3160	.1690	-.0870

[redacted]

TABLE 3.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL - Continued

$\frac{t}{c} = 0.06$ $\frac{c_f}{c} = 0.20$

α, deg	C_L	C_D	C_M	C_l	C_n
			M = 0.40		
-10	-.2415				
-7	-.0972				
-5	.0252				
-3	.1512				
-2	.1908				
-1	.2520				
0	.3060				
1	.3600				
2	.4104				
3	.4680				
5	.5508				
7	.6696				
10	.8208				
15	.9071				
20	.8783				
25	.8424				
			M = 0.60		
-10	-.2777	.0800	-.0983	-.0324	-.0036
-7	-.1085	.0337	-.1229	-.0093	.0010
-5	.0167	.0237	-.1246	.0042	.0024
-3	.1444	.0211	-.1253	.0186	.0032
-2	.2037	.0211	-.1246	.0252	.0035
-1	.2610	.0255	-.1229	.0312	.0030
0	.3240	.0300	-.1212	.0387	.0023
1	.4036	.0344	-.1212	.0473	.0020
2	.4666	.0437	-.1212	.0545	.0017
3	.5091	.0481	-.1146	.0602	.0014
5	.6258	.0674	-.1108	.0740	-.0007
7	.7461	.1011	-.1130	.0896	-.0046
10	.8757	.1692	-.1351	.1073	-.0122
15	.9201	.2822	-.1965	.1153	-.0267
20	.8961	.3744	-.2137	.1105	-.0389
25	.8720	.4562	-.2154	.1061	-.0492
			M = 0.80		
-10	-.3361	.0758	-.1009	-.0398	-.0068
-7	-.1768	.0381	-.1248	-.0187	-.0017
-5	-.0439	.0233	-.1292	-.0030	.0009
-3	.1041	.0216	-.1315	.0134	.0015
-2	.1819	.0173	-.1304	.0221	.0015
-1	.2546	.0266	-.1304	.0302	.0014
0	.3198	.0314	-.1298	.0386	.0010
1	.4013	.0389	-.1331	.0481	.0005
2	.4803	.0469	-.1359	.0578	-.0002
3	.5456	.0554	-.1292	.0656	-.0012
5	.6823	.0790	-.1248	.0808	-.0043
7	.8027	.1179	-.1304	.0962	-.0087
10	.9256	.1776	-.1399	.1136	-.0168
15	.9230	.2824	-.2009	.1132	-.0310
20	.9406	.3873	-.2219	.1132	-.0476
25	.9356	.4811	-.2275	.1120	-.0552
			M = 0.90		
-10	-.4663	.1055	-.0565	-.0559	-.0120
-7	-.2920	.0606	-.0835	-.0325	-.0049
-5	-.1144	.0344	-.1228	-.0106	-.0004
-3	.0477	.0278	-.1375	.0077	.0008
-2	.1443	.0284	-.1425	.0190	.0009
-1	.2243	.0318	-.1425	.0279	.0005
0	.2976	.0389	-.1449	.0455	.0001
1	.3775	.0449	-.1449	.0451	-.0005
2	.4563	.0535	-.1483	.0585	-.0016
3	.5529	.0644	-.1522	.0672	-.0034
5	.6884	.0917	-.1596	.0825	-.0065
7	.8061	.1310	-.1695	.0985	-.0116
10	.9438	.1972	-.1866	.1182	-.0208
15	1.1414	.3309	-.2137	.1416	-.0396
20	1.0437	.4248	-.2555	.1236	-.0491
25	1.0437	.5330	-.2604	.1232	-.0630

α, deg	C_L	C_D	C_M	C_l	C_n
			M = 0.95		
-10	-.5179	.1279	-.0211	-.0634	-.0148
-7	-.3615	.0801	-.0444	-.0412	-.0082
-5	-.2114	.0552	-.0748	-.0224	-.0037
-3	-.0317	.0395	-.1099	-.0019	-.0008
-2	.0740	.0395	-.1239	.0101	-.0003
-1	.1797	.0395	-.1426	.0226	-.0002
0	.2790	.0446	-.1519	.0334	-.0010
1	.3699	.0552	-.1637	.0436	-.0020
2	.4545	.0634	-.1637	.0534	-.0032
3	.5390	.0738	-.1730	.0640	-.0046
5	.6743	.0520	-.1824	.0636	-.0082
7	.8223	.1518	-.2105	.0947	-.0144
10	.9978	.2266	-.2450	.1201	-.0243
15	1.2134	.3670	-.2665	.1485	-.0425
20	1.0908	.4501	-.2684	.1279	-.0518
25	1.0781	.5676	-.2759	.1259	-.0659
			M = 1.00		
-10	-.5509	.1385	.0067	-.0672	-.0160
-7	-.3605	.0907	-.0381	-.0429	-.0087
-5	-.2086	.0676	-.0694	-.0251	-.0053
-3	-.0608	.0557	-.0919	-.0084	-.0031
-2	.0223	.0529	-.1066	.0015	-.0024
-1	.1154	.0518	-.1223	.0116	-.0021
0	.2309	.0557	-.1388	.0253	-.0022
1	.3220	.0628	-.1532	.0342	-.0028
2	.4253	.0717	-.1702	.0457	-.0039
3	.5124	.0857	-.1859	.0567	-.0055
5	.6622	.1146	-.2074	.0744	-.0091
7	.8162	.1584	-.2311	.0924	-.0148
10	.9924	.2351	-.2598	.1137	-.0243
15	1.2637	.2939	-.3046	.1455	-.0444
20	1.3974	.2839	-.3180	.1665	-.1350
25	1.3447	.3516	-.3566	.1566	-.0813
			M = 1.05		
-10	-.5464	.1377	.0121	-.0719	-.0162
-7	-.3578	.0908	-.0323	-.0497	-.0091
-5	-.2178	.0698	-.0624	-.0332	-.0057
-3	-.0603	.0554	-.0838	-.0154	-.0029
-2	.0117	.0535	-.0968	-.0071	-.0026
-1	.1050	.0535	-.1110	.0032	-.0023
0	.2003	.0554	-.1239	.0135	-.0023
1	.2820	.0622	-.1368	.0230	-.0032
2	.3733	.0698	-.1514	.0332	-.0042
3	.4628	.0813	-.1669	.0431	-.0057
5	.6320	.1118	-.1987	.0628	-.0246
7	.7778	.1540	-.2237	.0806	-.0149
10	.9606	.2295	-.2564	.1019	-.0245
15	1.2328	.3903	-.3071	.1337	-.0445
20	1.4273	.5890	-.3484	.1598	-.0678
25	1.4195	.7364	-.3613	.1586	-.0889
			M = 1.10		
-10	-.5311	.1361	.0116	-.0737	-.0167
-7	-.3459	.0883	-.0310	-.0523	-.0104
-5	-.2113	.0671	-.0571	-.0365	-.0076
-3	-.0636	.0542	-.0815	-.0198	-.0044
-2	.0224	.0524	-.0951	-.0103	-.0036
-1	.1028	.0524	-.1138	-.0015	-.0032
0	.1870	.0542	-.1195	.0079	-.0033
1	.2767	.0598	-.1332	.0180	-.0040
2	.3590	.0681	-.1460	.0274	-.0046
3	.4469	.0791	-.1605	.0369	-.0062
5	.5946	.1075	-.1882	.0543	-.0096
7	.7517	.1481	-.2151	.0728	-.0149
10	.9256	.2216	-.2482	.0941	-.0241
15	1.1967	.3779	-.2978	.1253	-.0431
20	1.3837	.5720	-.3408	.1492	-.0664
25	1.4885	.7781	-.3830	.1646	-.0936

TABLE 3.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL - Continued

$\frac{t}{c} = 0.06$ $\frac{c_f}{c} = 0.30$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.1905				
-7	-.0395				
-5	.0898				
-3	.1977				
-2	.2444				
-1	.3055				
0	.3738				
1	.4169				
2	.4852				
3	.5391				
5	.6325				
7	.7475				
10	.8769				
15	.9128				
20	.8697				
25	.8194				
M = 0.60					
-10	-.2312	.0629	-.0966	-.0287	-.0082
-7	-.0518	.0237	-.1228	-.0045	-.0023
-5	.0869	.0163	-.1228	.0114	-.0014
-3	.2201	.0181	-.1219	.0269	-.0014
-2	.2888	.0211	-.1235	.0344	-.0016
-1	.3496	.0255	-.1210	.0419	-.0017
0	.4235	.0329	-.1228	.0494	-.0023
1	.4846	.0392	-.1228	.0569	-.0026
2	.5308	.0462	-.1187	.0625	-.0032
3	.5863	.0555	-.1129	.0688	-.0044
5	.7010	.0773	-.1105	.0829	-.0069
7	.8249	.1165	-.1088	.0988	-.0116
10	.9248	.1838	-.1309	.1134	-.0204
15	.9507	.2985	-.1801	.1179	-.0360
20	.9137	.3928	-.1972	.1101	-.0483
25	.8767	.4783	-.2005	.1048	-.0585
M = 0.80					
-10	-.2795	.0672	-.1247	-.0325	-.0084
-7	-.0940	.0308	-.1442	-.0091	-.0035
-5	.0514	.0223	-.1442	.0077	-.0017
-3	.1968	.0233	-.1414	.0243	-.0017
-2	.2657	.0266	-.1414	.0325	-.0019
-1	.3346	.1547	-.1420	.0404	-.0025
0	.4098	.0634	-.1425	.0489	-.0036
1	.4850	.0481	-.1414	.0578	-.0046
2	.5577	.0574	-.1414	.0665	-.0055
3	.6204	.0667	-.1319	.0740	-.0064
5	.7570	.0942	-.1286	.0898	-.0099
7	.8723	.1374	-.1319	.1067	-.0152
10	.9876	.2010	-.1375	.1233	-.0235
15	.9400	.3083	-.1957	.1160	-.0377
20	.9375	.4141	-.2135	.1148	-.0513
25	.9350	.5141	-.2190	.1123	-.0643
M = 0.90					
-10	-.3863	.0961	-.0933	-.0453	-.0139
-7	-.2087	.0562	-.1203	-.0225	-.0063
-5	-.0533	.0371	-.1448	-.0031	-.0032
-3	.1299	.0333	-.1547	.0171	-.0024
-2	.2164	.0360	-.1547	.0271	-.0028
-1	.2908	.0415	-.1547	.0356	-.0033
0	.3718	.0480	-.1562	.0447	-.0037
1	.4540	.0590	-.1596	.0544	-.0048
2	.5375	.0682	-.1596	.0643	-.0061
3	.6285	.0830	-.1611	.0751	-.0078
5	.7595	.1134	-.1669	.0916	-.0116
7	.8705	.1534	-.1719	.1074	-.0170
10	.9967	.2200	-.1792	.1257	-.0264
15	1.0966	.3472	-.2087	.1365	-.0427
20	1.0522	.4564	-.2430	.1246	-.0556
25	1.0744	.5634	-.2475	.1218	-.0692

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.4415	.1185	-.0739	-.0537	-.0160
-7	-.2884	.0744	-.0911	-.0313	-.0095
-5	-.1447	.0534	-.1191	-.0115	-.0056
-3	.0866	.0456	-.1542	.0125	-.0034
-2	.1996	.0484	-.1705	.0253	-.0038
-1	.2873	.0613	-.1916	.0355	-.0050
0	.3876	.0872	-.1869	.0467	-.0053
1	.4774	.0744	-.1986	.0578	-.0071
2	.5598	.0847	-.1963	.0667	-.0084
3	.6232	.0925	-.1893	.0747	-.0093
5	.7647	.1314	-.2103	.0923	-.0139
7	.8978	.1756	-.2173	.1094	-.0197
10	1.0605	.2535	-.2477	.1299	-.0304
15	1.2126	.3927	-.2477	.1521	-.0246
20	1.1492	.5017	-.2757	.1378	-.0308
25	1.1070	.6088	-.2757	.1309	-.0375
M = 1.00					
-10	-.5058	.1333	-.0403	-.0575	-.0167
-7	-.2934	.0886	-.0805	-.0319	-.0100
-5	-.1315	.0696	-.1119	-.0124	-.0063
-3	.0445	.0587	-.1410	.0074	-.0048
-2	.1558	.0587	-.1589	.0188	-.0047
-1	.2610	.0627	-.1767	.0316	-.0049
0	.3682	.0702	-.1924	.0434	-.0056
1	.4593	.0836	-.2050	.0540	-.0071
2	.5442	.0945	-.2126	.0635	-.0084
3	.6252	.1095	-.2282	.0732	-.0102
5	.7627	.1408	-.2372	.0900	-.0143
7	.9145	.1890	-.2506	.1080	-.0209
10	1.0804	.2717	-.2730	.1287	-.0314
15	1.3151	.4338	-.3043	.1568	-.0529
20	1.4243	.6070	-.3150	.1748	-.0765
25	1.3313	.7283	-.3357	.1617	-.0925
M = 1.05					
-10	-.5013	.1257	-.0215	-.0549	-.0166
-7	-.3031	.0812	-.0623	-.0303	-.0103
-5	-.1516	.0641	-.0894	-.0135	-.0069
-3	.0136	.0550	-.1182	.0052	-.0049
-2	.1108	.0554	-.1324	.0159	-.0046
-1	.1982	.0583	-.1461	.0258	-.0054
0	.2934	.0645	-.1612	.0362	-.0062
1	.3984	.0731	-.1762	.0465	-.0072
2	.4761	.0841	-.1891	.0571	-.0084
3	.5674	.0985	-.2012	.0674	-.0103
5	.7209	.1329	-.2218	.0858	-.0147
7	.8589	.1792	-.2390	.1022	-.0204
10	1.0377	.2590	-.2622	.1226	-.0236
15	1.2709	.4234	-.3034	.1522	-.0529
20	1.4185	.6117	-.3352	.1755	-.0798
25	1.3874	.7608	-.3525	.1736	-.0997
M = 1.10					
-10	-.4823	.1279	-.0198	-.0537	-.0173
-7	-.3010	.0819	-.0559	-.0310	-.0113
-5	-.1552	.0624	-.0889	-.0135	-.0077
-3	.0150	.0538	-.1157	.0047	-.0065
-2	.1028	.0542	-.1282	.0145	-.0062
-1	.1851	.0565	-.1406	.0225	-.0067
0	.2710	.0611	-.1546	.0337	-.0074
1	.3720	.0703	-.1675	.0439	-.0080
2	.4486	.0809	-.1790	.0535	-.0098
3	.5328	.0948	-.1910	.0634	-.0114
5	.6767	.1279	-.2133	.0805	-.0155
7	.8262	.1738	-.2299	.0974	-.0212
10	.9982	.2537	-.2547	.1177	-.0315
15	1.2225	.4137	-.2936	.1455	-.0519
20	1.4020	.6086	-.3324	.1694	-.0783
25	1.4880	.8128	-.3672	.1815	-.1049

TABLE 3.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 3 MODEL - Concluded

$\frac{t}{c}$ = 0.06 $\frac{c_r}{c}$ = 0.40

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.1438				
-7	.0108				
-5	.1258				
-3	.2372				
-2	.3127				
-1	.3522				
0	.4133				
1	.4528				
2	.5103				
3	.5571				
5	.6613				
7	.7799				
10	.8913				
15	.8985				
20	.8733				
25	.8158				
M = 0.60					
-10	-.1755	.0591	-.0678	-.0209	-.0062
-7	.0095	.0255	-.0981	.0030	-.0029
-5	.1478	.0255	-.1021	.0182	-.0019
-3	.2772	.0299	-.1047	.0335	-.0020
-2	.3381	.0344	-.1021	.0404	-.0024
-1	.4046	.0410	-.1021	.0478	-.0032
0	.4601	.0473	-.1021	.0550	-.0036
1	.5229	.0547	-.1021	.0613	-.0042
2	.5691	.0654	-.0998	.0682	-.0047
3	.6356	.0765	-.0981	.0756	-.0057
5	.7484	.1016	-.0956	.0894	-.0087
7	.8595	.1438	-.0981	.1034	-.0139
10	.9608	.2162	-.1348	.1154	-.0232
15	.9275	.3215	-.1913	.1136	-.0380
20	.9054	.4161	-.2165	.1085	-.0500
25	.8795	.5033	-.2281	.1043	-.0602
M = 0.80					
-10	-.2191	.0646	-.0986	-.0237	-.0084
-7	-.0275	.0383	-.1296	-.0010	-.0040
-5	.1152	.0326	-.1318	.0152	-.0033
-3	.2504	.0326	-.1329	.0312	-.0036
-2	.3180	.0431	-.1329	.0391	-.0040
-1	.3881	.0506	-.1340	.0472	-.0048
0	.4520	.0586	-.1318	.0547	-.0053
1	.5221	.0676	-.1302	.0636	-.0068
2	.5659	.0739	-.1230	.0689	-.0075
3	.6511	.0861	-.1185	.0778	-.0092
5	.7738	.1152	-.1163	.0934	-.0131
7	.8739	.1570	-.1230	.1094	-.0181
10	.9991	.2216	-.1302	.1256	-.0274
15	.9115	.3203	-.1961	.1114	-.0398
20	.9365	.4285	-.2216	.1135	-.0534
25	.9090	.5173	-.2282	.1102	-.0658
M = 0.90					
-10	-.3216	.0976	-.0907	-.0354	-.0123
-7	-.1297	.0599	-.1227	-.0120	-.0068
-5	.0255	.0490	-.1433	.0063	-.0048
-3	.1940	.0479	-.1497	.0251	-.0047
-2	.2783	.0534	-.1530	.0350	-.0053
-1	.3471	.0599	-.1545	.0431	-.0060
0	.4158	.0654	-.1520	.0513	-.0069
1	.5045	.1353	-.1619	.0619	-.0083
2	.5877	.0883	-.1545	.0709	-.0095
3	.6697	.1020	-.1594	.0816	-.0113
5	.7829	.1326	-.1619	.0969	-.0151
7	.8982	.1772	-.1741	.1127	-.0214
10	1.0201	.2482	-.1864	.1292	-.0310
15	1.0335	.3524	-.2208	.1256	-.0438
20	1.0423	.4744	-.2551	.1249	-.0585
25	1.0113	.5782	-.2620	.1220	-.0715

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.3745	.1162	-.0723	-.0408	-.0144
-7	-.1899	.0757	-.1073	-.0179	-.0088
-5	-.0179	.0643	-.1446	.0026	-.0065
-3	.1941	.0622	-.1773	.0261	-.0062
-2	.2848	.0675	-.1867	.0364	-.0067
-1	.3692	.0726	-.1890	.0461	-.0074
0	.4557	.0829	-.1937	.0563	-.0089
1	.5338	.0954	-.1960	.0649	-.0106
2	.6118	.1089	-.1983	.0743	-.0124
3	.6899	.1245	-.2030	.0836	-.0144
5	.7954	.1525	-.2030	.0980	-.0183
7	.9135	.1970	-.2170	.1127	-.0237
10	1.0549	.2749	-.2333	.1314	-.0680
15	1.0127	.4150	-.2567	.1536	-.0538
20	1.1181	.5084	-.2754	.1348	-.0640
25	1.0759	.6184	-.2846	.1297	-.0775
M = 1.00					
-10	-.4142	.1263	-.0482	-.0451	-.0161
-7	-.2101	.0885	-.0992	-.0203	-.0101
-5	-.0505	.0249	-.1318	-.0013	-.0072
-3	.1364	.0695	-.1654	.0191	-.0068
-2	.2526	.0715	-.1832	.0322	-.0073
-1	.3485	.0786	-.1945	.0433	-.0086
0	.4223	.0875	-.2007	.0515	-.0089
1	.5092	.0994	-.2056	.0613	-.0103
2	.5859	.1123	-.2109	.0701	-.0117
3	.6668	.1291	-.2154	.0793	-.0141
5	.8082	.1669	-.2324	.0968	-.0188
7	.9193	.2136	-.2369	.1128	-.0249
10	1.0911	.3011	-.2726	.1318	-.0360
15	1.2850	.4570	-.3039	.1576	-.0572
20	1.3861	.6259	-.3263	.1700	-.0790
25	1.2810	.7454	-.3504	.1569	-.0937
M = 1.05					
-10	-.4075	.1250	-.0438	-.0444	-.0156
-7	-.2135	.0887	-.0901	-.0212	-.0099
-5	-.0640	.0745	-.1223	-.0039	-.0083
-3	.1106	.0697	-.1524	.0157	-.0071
-2	.2135	.0716	-.1695	.0272	-.0075
-1	.3066	.0782	-.1803	.0377	-.0085
0	.3881	.0860	-.1910	.0471	-.0090
1	.4716	.0974	-.1996	.0565	-.0102
2	.5492	.1098	-.2060	.0659	-.0117
3	.6307	.1259	-.2125	.0751	-.0138
5	.7821	.1622	-.2275	.0911	-.0180
7	.8927	.2119	-.2447	.1071	-.0243
10	1.0596	.2940	-.2704	.1266	-.0346
15	1.2730	.4628	-.3176	.1532	-.0564
20	1.4089	.6453	-.3537	.1727	-.0803
25	1.3972	.7922	-.3777	.1715	-.1005
M = 1.10					
-10	-.3974	.1211	-.0425	-.0433	-.0163
-7	-.2183	.0871	-.0866	-.0219	-.0112
-5	-.0653	.0716	-.1205	-.0041	-.0083
-3	.1063	.0670	-.1465	.0148	-.0074
-2	.1959	.0688	-.1630	.0249	-.0076
-1	.2798	.0670	-.1733	.0340	-.0083
0	.3638	.0826	-.1836	.0438	-.0091
1	.4608	.0918	-.1939	.0543	-.0103
2	.5410	.1056	-.2022	.0635	-.0122
3	.6156	.1201	-.2063	.0720	-.0139
5	.7369	.1541	-.2228	.0872	-.0181
7	.8731	.2047	-.2419	.1035	-.0242
10	1.0335	.2845	-.2657	.1217	-.0347
15	1.2499	.4405	-.3054	.1464	-.0548
20	1.3805	.6423	-.3549	.1672	-.0836
25	1.4551	.8348	-.3879	.1739	-.1082

TABLE 4.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL

$\frac{t}{c}$ = 0.04 $\frac{c_f}{c}$ = NONE

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.6610				
-7	-.5073				
-5	-.3667				
-3	-.2438				
-2	-.1801				
-1	-.1186				
0	-.0395				
1	.0285				
2	.0878				
3	.1537				
5	.2833				
7	.4282				
10	.5907				
15	.6830				
20	.6896				
25	.6852				
M = 0.60					
-10	-.7326	.1257	.0284	-.0844	.0156
-7	-.5826	.0615	-.0158	-.0660	.0083
-5	-.4152	.0293	-.0144	-.0462	.0040
-3	-.2717	.0145	-.0053	-.0297	.0021
-2	-.1935	.0107	-.0027	-.0204	.0016
-1	-.1174	.0086	.0041	-.0115	.0010
0	-.0217	.0064	.0024	-.0010	.0008
1	.0543	.0080	.0057	.0089	.0012
2	.1283	.0117	.0129	.0181	.0018
3	.2043	.0171	.0179	.0270	.0028
5	.3587	.0348	.0307	.0452	.0059
7	.5130	.0647	.0258	.0643	.0109
10	.6761	.1283	-.0158	.0864	.0205
15	.7370	.2191	-.0677	.1006	.0333
20	.7370	.3015	-.0757	.0996	.0442
25	.7630	.3902	-.0819	.1016	.0545
M = 0.80					
-10	-.8224	.1436	.0233	-.0927	.0166
-7	-.6585	.0799	-.0072	-.0730	.0092
-5	-.4946	.0399	-.0139	-.0531	.0050
-3	-.3248	.0194	-.0072	-.0332	.0025
-2	-.2264	.0139	-.0010	-.0222	.0017
-1	-.1281	.0092	-.0001	-.0113	.0011
0	-.0387	.0066	.0076	-.0014	.0008
1	.0685	.0073	.0109	.0109	.0011
2	.1669	.0107	.0159	.0215	.0019
3	.2562	.0150	.0244	.0323	.0029
5	.4559	.0337	.0300	.0531	.0065
7	.6227	.0648	.0206	.0728	.0113
10	.7419	.1253	-.0192	.0904	.0200
15	.7866	.2242	-.0768	.0999	.0335
20	.8164	.3165	-.0957	.1013	.0436
M = 0.90					
-7	-.7107	.0993	.0416	-.0806	.0114
-5	-.5404	.0529	.0143	-.0607	.0059
-3	-.3619	.0239	-.0018	-.0394	.0028
-2	-.2518	.0142	-.0059	-.0265	.0017
-1	-.1521	.0097	.0018	-.0159	.0010
0	-.0420	.0064	.0087	-.0040	.0008
1	.0787	.0064	.0148	.0097	.0011
2	.1862	.0097	.0205	.0213	.0019
3	.3121	.0148	.0144	.0352	.0038
5	.5245	.0413	-.0126	.0607	.0089
7	.6871	.0767	-.0404	.0806	.0143

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-7	-.7197	.1094	.0930	-.0803	.0115
-5	-.5466	.0623	.0606	-.0615	.0068
-3	-.3685	.0325	.0326	-.0413	.0035
-2	-.2597	.0192	.0189	-.0291	.0020
-1	-.1509	.0137	.0122	-.0169	.0013
0	-.0346	.0118	.0104	-.0038	.0011
1	.0866	.0106	.0074	.0105	.0015
2	.2003	.0152	.0011	.0229	.0024
3	.2943	.0228	-.0088	.0347	.0041
5	.5095	.0480	-.0441	.0591	.0085
7	.6826	.0845	-.0779	.0782	.0142
M = 1.00					
-7	-.6049	.0915	.0729	-.0642	.0097
-5	-.4112	.0552	.0360	-.0479	.0057
-3	-.2836	.0343	.0179	-.0315	.0034
-2	-.1985	.0265	.0116	-.0219	.0025
-1	-.1111	.0215	.0037	-.0118	.0020
0	-.0095	.0195	-.0009	-.0004	.0020
1	.0922	.0180	-.0003	.0115	.0021
2	.2056	.0244	-.0114	.0233	.0034
3	.2883	.0297	-.0195	.0341	.0047
5	.4348	.0503	-.0342	.0505	.0079
7	.5931	.0805	-.0624	.0674	.0120
M = 1.05					
-7	-.5612	.0888	.0681	-.0615	.0088
-5	-.4226	.0564	.0411	-.0464	.0055
-3	-.2817	.0352	.0253	-.0300	.0031
-2	-.1954	.0277	.0176	-.0217	.0022
-1	-.1045	.0226	.0080	-.0097	.0017
0	-.0068	.0204	.0001	.0014	.0013
1	.1045	.0210	-.0058	.0138	.0024
2	.1908	.0252	-.0124	.0234	.0029
3	.2817	.0321	-.0230	.0336	.0043
5	.4294	.0511	-.0399	.0508	.0073
7	.5680	.0804	-.0607	.0664	.0113
M = 1.10					
-7	-.5597	.0887	.0690	-.0597	.0086
-5	-.4242	.0556	.0449	-.0451	.0052
-3	-.2842	.0352	.0276	-.0290	.0028
-2	-.1946	.0285	.0192	-.0196	.0020
-1	-.1115	.0237	.0092	-.0096	.0015
0	-.0131	.0207	.0003	.0005	.0014
1	.0853	.0223	-.0078	.0124	.0019
2	.1749	.0274	-.0128	.0224	.0026
3	.2602	.0342	-.0236	.0323	.0037
5	.4067	.0546	-.0414	.0498	.0070
7	.5357	.0828	-.0601	.0647	.0108

TABLE 4.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL - Continued

$\frac{t}{c}$ = 0.04 $\frac{c_c}{c}$ = 0.10

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.3849				
-7	-.2357				
-5	-.0930				
-3	.0035				
-2	.0695				
-1	.1179				
0	.1881				
1	.2314				
2	.2920				
3	.3503				
5	.4747				
7	.6012				
10	.7764				
15	.8088				
20	.7875				
25	.7526				
M = 0.60					
-10	-.4740	.0826	-.0525	-.0567	.0116
-7	-.2953	.0411	-.0994	-.0325	.0059
-5	-.1327	.0231	-.0890	-.0130	.0032
-3	-.0064	.0216	-.0863	.0026	.0026
-2	.0696	.0221	-.0894	.0120	.0025
-1	.1434	.0274	-.0795	.0203	.0030
0	.2161	.0321	-.0789	.0289	.0036
1	.2878	.0353	-.0792	.0381	.0046
2	.3767	.0426	-.0673	.0471	.0058
3	.4430	.0532	-.0651	.0552	.0065
5	.5821	.0853	-.0510	.0726	.0104
7	.7041	.1142	-.0563	.0906	.0158
10	.8068	.1784	-.0951	.1058	.0245
15	.8325	.1400	-.1196	.1133	.0371
20	.8218	.1858	-.1184	.1120	.0493
25	.8218	.2231	-.1133	.1104	.0583
M = 0.80					
-10	-.5954	.1096	-.0757	-.0712	.0131
-7	-.4048	.0570	-.0982	-.0456	.0067
-5	-.2305	.0307	-.0993	-.0165	.0040
-3	-.0660	.0205	-.0943	-.0045	.0027
-2	.0352	.0205	-.0921	.0073	.0025
-1	.1305	.0224	-.0925	.0182	.0029
0	.2258	.0267	-.0865	.0296	.0036
1	.3461	.0310	-.0939	.0438	.0046
2	.4356	.0375	-.0880	.0534	.0060
3	.5309	.0465	-.0820	.0641	.0079
5	.7025	.0735	-.0727	.0845	.0128
M = 0.90					
-10	-.7771	.1466	-.0107	-.0842	.0172
-7	-.5318	.0822	-.0454	-.0574	.0093
-5	-.4286	.0441	-.0579	-.0317	.0049
-3	-.1239	.0267	-.1023	-.0108	.0031
-2	-.0026	.0225	-.1062	.0033	.0028
-1	.1110	.0241	-.1112	.0163	.0030
0	.2349	.0283	-.1123	.0294	.0038
1	.3434	.0321	-.1109	.0423	.0049
2	.4647	.0403	-.1172	.0558	.0068
3	.5783	.0523	-.1215	.0683	.0091

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.7523	.1640	.0159	-.0873	.0178
-7	-.5745	.0994	.0028	-.0632	.0112
-5	-.3798	.0610	-.0334	-.0416	.0067
-3	-.1972	.0365	-.0728	-.0185	.0042
-2	-.0755	.0299	-.0885	-.0043	.0034
-1	.0463	.0293	-.1091	.0006	.0034
0	.1753	.0335	-.1206	.0332	.0042
1	.2946	.0383	-.1331	.0369	.0055
2	.4114	.0467	-.1395	-.0236	.0073
3	.5283	.0575	-.1475	.0628	.0096
M = 1.00					
-10	-.7444	.1619	.0460	-.0850	.0178
-7	-.5264	.0969	.0054	-.0581	.0106
-5	-.3734	.0650	-.0230	-.0396	.0075
-3	-.2110	.0450	-.0474	-.0206	.0054
-2	-.1113	.0394	-.0598	-.0088	.0045
-1	-.0139	.0365	-.0714	.0026	.0043
0	.0974	.0376	-.0865	.0144	.0045
1	.2226	.0410	-.1033	.0294	.0056
2	.3293	.0468	-.1191	.0413	.0066
3	.4569	.0582	-.1399	.0545	.0085
M = 1.05					
-7	-.5034	.0953	.0065	-.0558	.0090
-5	-.3586	.0652	-.0214	-.0385	.0055
-3	-.2161	.0487	-.0422	-.0211	.0035
-2	-.1181	.0422	-.0514	-.0101	.0025
-1	-.0245	.0405	-.0614	.0005	.0023
0	.0757	.0417	-.0756	.0127	.0031
1	.1827	.0433	-.0840	.0245	.0031
2	.2762	.0498	-.1002	.0355	.0045
3	.3920	.0597	-.1153	.0476	.0065
5	.5769	.0893	-.1480	.0693	.0099
M = 1.10					
-7	-.4845	.0891	.0079	-.0538	.0078
-5	-.3451	.0617	-.0177	-.0374	.0048
-3	-.2101	.0448	-.0370	-.0207	.0030
-2	-.1158	.0401	-.0442	-.0106	.0027
-1	-.0236	.0379	-.0562	.0000	.0021
0	.0579	.0432	-.0631	.0109	.0024
1	.1543	.0437	-.0755	.0216	.0033
2	.2487	.0511	-.0904	.0330	.0044
3	.3516	.0611	-.1046	.0442	.0058
5	.5230	.0880	-.1333	.0642	.0094

TABLE 4.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL - Continued

$\frac{t}{c} = 0.04$ $\frac{c_f}{c} = 0.20$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.3288				
-7	-.1270				
-5	.0109				
-3	.1302				
-2	.1954				
-1	.2529				
0	.3169				
1	.3722				
2	.4287				
3	.4938				
5	.6186				
7	.7271				
10	.8139				
15	.8356				
20	.7987				
25	.6728				
M = 0.60					
-10	-.3898	.0769	-.0747	-.0448	.0086
-7	-.1611	.0280	-.1154	-.0163	.0028
-5	.0021	.0125	-.1148	.0034	.0014
-3	.1536	.0137	-.1141	.0207	.0016
-2	.2395	.0169	-.1108	.0301	.0024
-1	.3136	.0193	-.1068	.0383	.0032
0	.3823	.0241	-.1033	.0468	.0041
1	.4511	.0299	-.0944	.0541	.0053
2	.5262	.0369	-.0872	.0624	.0068
3	.6014	.0467	-.0818	.0709	.0087
5	.7346	.0747	-.0675	.0886	.0135
7	.8420	.1125	-.0727	.1039	.0195
10	.8914	.1759	-.1100	.1140	.0285
15	.8634	.1363	-.1223	.1147	.0417
20	.8656	.1785	-.1194	.1082	.0514
25	.8570	.2208	-.1153	.1066	.0617
M = 0.80					
-10	-.3974	.0874	-.0868	-.0486	.0098
-7	-.2178	.0394	-.1360	-.0249	.0041
-5	-.0324	.0197	-.1421	-.0034	.0023
-3	.1281	.0169	-.1368	.0153	.0023
-2	.2311	.0177	-.1361	.0262	.0031
-1	.3165	.0206	-.1352	.0355	.0040
0	.4062	.0249	-.1292	.0456	.0051
1	.4931	.0313	-.1205	.0547	.0065
2	.5785	.0376	-.1094	.0652	.0083
3	.6727	.0481	-.1006	.0759	.0106
5	.8596	.0798	-.1002	.0963	.0164
M = 0.90					
-10	-.5506	.0854	-.0814	-.0678	.0137
-7	-.3433	.0656	-.1084	-.0403	.0070
-5	-.1684	.0376	-.1278	-.0177	.0040
-3	.0324	.0249	-.1461	.0059	.0031
-2	.1581	.0236	-.1525	.0187	.0034
-1	.2695	.0264	-.1554	.0309	.0044
0	.3692	.0306	-.1482	.0423	.0057
1	.4677	.0376	-.1479	.0535	.0073
2	.5830	.0472	-.1482	.0668	.0097
3	.6996	.0605	-.1525	.0786	.0122

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.6673	.1482	-.0273	-.0769	.0169
-7	-.4277	.0835	-.0657	-.0486	.0094
-5	-.2273	.0505	-.1031	-.0247	.0056
-3	-.0367	.0354	-.1377	-.0019	.0040
-2	.1027	.0324	-.1625	.0134	.0042
-1	.2273	.0337	-.1736	.0271	.0051
0	.3422	.0371	-.1754	.0399	.0064
1	.4522	.0460	-.1740	.0519	.0080
2	.5622	.0559	-.1768	.0630	.0102
3	.6599	.0688	-.1846	.0732	.0126
M = 1.00					
-10	-.6566	.1477	-.0032	-.0744	.0163
-7	-.4354	.0876	-.0438	-.0495	.0099
-5	-.2678	.0590	-.0756	-.0288	.0068
-3	-.0931	.0430	-.1069	-.0080	.0050
-2	.0116	.0384	-.1268	.0044	.0047
-1	.1281	.0367	-.1457	.0177	.0049
0	.2678	.0389	-.1674	.0327	.0058
1	.3958	.0446	-.1738	.0463	.0073
2	.5053	.0550	-.1769	.0579	.0092
3	.5984	.0676	-.1812	.0680	.0113
M = 1.05					
-10	-.6307	.1408	-.0044	-.0712	.0154
-7	-.4249	.0841	-.0404	-.0475	.0091
-5	-.2684	.0594	-.0679	-.0288	.0062
-3	-.1118	.0440	-.0921	-.0105	.0047
-2	-.0067	.0401	-.1092	.0014	.0045
-1	.0917	.0390	-.1229	.0131	.0046
0	.2125	.0401	-.1446	.0266	.0055
1	.3511	.0440	-.1640	.0424	.0067
2	.4652	.0539	-.1717	.0538	.0085
3	.5591	.0660	-.1776	.0641	.0105
M = 1.10					
-10	-.6091	.1371	.0024	-.0686	.0143
-7	-.4089	.0836	-.0389	-.0462	.0086
-5	-.2626	.0588	-.0630	-.0291	.0060
-3	-.1141	.0439	-.0858	-.0111	.0045
-2	-.0215	.0386	-.1003	.0000	.0043
-1	.2949	.0402	-.1687	.0111	.0045
0	.1786	.0429	-.1280	.0225	.0052
1	.2992	.0466	-.1464	.0359	.0064
2	.3982	.0545	-.1553	.0473	.0082
3	.5187	.0667	-.1697	.0607	.0100

TABLE 4.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL - Continued

$\frac{t}{c}$ = 0.04 $\frac{c_f}{c}$ = 0.30

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.2995				
-7	-.0803				
-5	.0499				
-3	.1693				
-2	.2344				
-1	.2952				
0	.3646				
1	.4232				
2	.4797				
3	.5426				
5	.6685				
7	.7640				
10	.8400				
15	.8378				
20	.7944				
25	.7683				
M = 0.60					
-10	-.3351	.0708	-.0700	-.0379	.0085
-7	-.1010	.0293	-.1178	-.0089	.0032
-5	.0677	.0190	-.1162	.0108	.0022
-3	.2073	.0224	-.1168	.0273	.0026
-2	.3007	.0259	-.1117	.0370	.0032
-1	.3737	.0317	-.1111	.0456	.0040
0	.4489	.0383	-.1051	.0546	.0050
1	.5133	.0449	-.1047	.0622	.0063
2	.5928	.0528	-.0951	.0701	.0080
3	.6551	.0639	-.0931	.0782	.0099
5	.7883	.0948	-.0767	.0961	.0148
7	.8871	.1321	-.0845	.1095	.0209
10	.9128	.2018	-.1207	.1173	.0262
15	.8871	.2936	-.1441	.1180	.0451
20	.8720	.3834	-.1456	.1140	.0539
25	.8828	.4711	-.1518	.1124	.0621
M = 0.80					
-10	-.3378	.0807	-.0843	-.0391	.0097
-7	-.1317	.0369	-.1433	-.0123	.0041
-5	.0611	.0232	-.1449	.0095	.0028
-3	.2156	.0246	-.1423	.0156	.0035
-2	.3076	.0283	-.1397	.0374	.0043
-1	.3915	.0315	-.1364	.0463	.0052
0	.4607	.0380	-.1050	.0550	.0066
1	.5446	.0453	-.1152	.0650	.0083
2	.6285	.0550	-.1148	.0748	.0100
3	.7448	.0687	-.1185	.0860	.0130
5	.9067	.1032	-.1181	.1061	.0186
M = 0.90					
-7	-.2359	.0663	-.1473	-.0246	.0076
-5	-.0415	.0446	-.1693	-.0010	.0051
-3	.1594	.0389	-.1826	.0226	.0049
-2	.2761	.0427	-.1847	.0344	.0057
-1	.3797	.0462	-.1843	.0462	.0069
0	.4705	.0542	-.1835	.0570	.0084
1	.5651	.0631	-.1809	.0678	.0104
2	.6714	.0711	-.1719	.0777	.0122
3	.7465	.0844	-.1731	.0865	.0146

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-7	-.3324	.0423	.0597	-.0346	.0100
-5	-.1247	.0290	.0097	-.0097	.0068
-3	.0733	.0233	-.0381	.0134	.0058
-2	.2114	.0236	-.0701	.0278	.0061
-1	.3178	.0255	-.0941	.0392	.0071
0	.4253	.0293	-.1177	.0519	.0086
1	.5231	.0332	-.1386	.0630	.0104
2	.6355	.0394	-.1637	.0736	.0127
M = 1.00					
-7	-.3459	.0873	-.0828	-.0376	.0101
-5	-.1735	.0636	-.1164	-.0159	.0075
-3	-.0047	.0524	-.1443	.0041	.0063
-2	.1165	.0501	-.1672	.0182	.0062
-1	.2492	.0510	-.1877	.0323	.0066
0	.3913	.0558	-.1912	.0477	.0080
1	.4868	.0653	-.1947	.0580	.0091
2	.5893	.0773	-.1962	.0684	.0113
M = 1.05					
-7	-.3377	.0841	-.0787	-.0366	.0090
-5	-.1789	.0632	-.1086	-.0174	.0065
-3	-.0268	.0522	-.1330	.0013	.0059
-2	.0816	.0517	-.1497	.0133	.0057
-1	.1990	.0522	-.1695	.0267	.0059
0	.3388	.0564	-.1867	.0416	.0067
1	.4450	.0652	-.1907	.0543	.0079
2	.5323	.0756	-.1893	.0551	.0096
3	.6284	.1045	-.1694	.0729	.0119
M = 1.10					
-7	-.3337	.0807	-.0725	-.0363	.0081
-5	-.1873	.0614	-.0997	-.0188	.0058
-3	-.0312	.0519	-.1237	-.0004	.0049
-2	.0624	.0511	-.1384	.0110	.0049
-1	.1593	.0524	-.1527	.0216	.0055
0	.2799	.0569	-.1712	.0351	.0063
1	.4015	.0640	-.1840	.0498	.0074
2	.4930	.0741	-.1863	.0596	.0090
3	.5877	.0900	-.1944	.0694	.0106

TABLE 4.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL - Continued

$\frac{t}{c} = 0.04$ $\frac{c_f}{c} = 0.40$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.1875				
-7	-.0066				
-5	.1300				
-3	.2423				
-2	.3084				
-1	.3657				
0	.4317				
1	.4846				
2	.5595				
3	.6080				
5	.7379				
7	.8018				
10	.8415				
15	.8150				
20	.7930				
25	.7820				
M = 0.60					
-10	-.2618	.0577	-.0727	-.0301	.0075
-7	-.0145	.0223	-.1128	.0005	.0026
-5	.1527	.0201	-.1079	.0204	.0024
-3	.3000	.0241	-.1072	.0373	.0034
-2	.3928	.0300	-.0987	.0473	.0044
-1	.4430	.0357	-.0963	.0543	.0052
0	.5150	.0443	-.0910	.0627	.0065
1	.5804	.0524	-.0913	.0708	.0082
2	.6481	.0625	-.0819	.0798	.0101
3	.7266	.0759	-.0756	.0887	.0125
5	.8510	.1094	-.0683	.1053	.0180
7	.9099	.1556	-.0814	.1155	.0245
10	.9055	.2227	-.1228	.1195	.0333
15	.8750	.3187	-.1402	.1155	.0452
20	.8641	.4078	-.1414	.1142	.0547
25	.8641	.5011	-.1449	.1139	.0658
M = 0.80					
-10	-.2728	.0717	-.0839	-.0314	.0087
-7	-.0314	.0344	-.1475	-.0016	.0039
-5	.1532	.0300	-.1482	.0200	.0033
-3	.3139	.0342	-.1453	.0381	.0048
-2	.3961	.0377	-.1379	.0477	.0057
-1	.4694	.0448	-.1375	.0569	.0070
0	.5456	.0493	-.1335	.0664	.0084
1	.6203	.0616	-.1235	.0762	.0105
2	.7175	.0726	-.1158	.0864	.0128
3	.4081	.0854	.0715	.0959	.0154
M = 0.90					
-10	-.3355	.1045	-.1479	-.0368	.0122
-7	-.1066	.0663	-.1797	-.0089	.0075
-5	.0921	.0518	-.2023	.0141	.0057
-3	.2829	.0501	-.2067	.0352	.0065
-2	.3842	.0557	-.1981	.0465	.0077
-1	.4684	.0631	-.1976	.0573	.0092
0	.5592	.0712	-.1929	.0681	.0108
1	.6579	.0799	-.1873	.0780	.0129
2	.7553	.0899	-.1808	.0870	.0148

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.4715	.1297	-.0965	-.0521	.0155
-7	-.2544	.0854	-.1422	-.0243	.0099
-5	-.0310	.0635	-.1748	.0011	.0073
-3	.1799	.0565	-.2027	.0250	.0068
-2	.3102	.0579	-.2060	.0392	.0075
-1	.4343	.0641	-.2064	.0520	.0088
0	.5211	.0735	-.2010	.0623	.0104
1	.6179	.0839	-.2049	.0727	.0123
2	.7320	.0976	-.2099	.0823	.0147
M = 1.00					
-10	-.4880	.1307	-.0669	-.0545	.0145
-7	-.2706	.0868	-.1152	-.0276	.0098
-5	-.0969	.0677	-.1462	-.0061	.0076
-3	.0945	.0601	-.1763	.0169	.0067
-2	.2481	.0590	-.1954	.0330	.0070
-1	.3722	.0639	-.2005	.0462	.0077
0	.4667	.0727	-.2003	.0572	.0090
1	.5636	.0828	-.1994	.0679	.0110
2	.6617	.0965	-.2020	.0769	.0132
M = 1.05					
-10	-.4732	.1264	-.0638	-.0532	.0132
-7	-.2780	.0862	-.1123	-.0288	.0086
-5	-.1123	.0684	-.1356	-.0088	.0066
-3	.0624	.0611	-.1616	.0119	.0060
-2	.1872	.0608	-.1800	.0260	.0062
-1	.3155	.0636	-.1946	.0406	.0066
0	.4256	.0726	-.1993	.0532	.0078
1	.5163	.0832	-.1953	.0634	.0093
2	.6128	.0957	-.1997	.0725	.0112
M = 1.10					
-10	-.4479	.1168	-.0677	-.0512	.0125
-7	-.2655	.0806	-.1014	-.0283	.0079
-5	-.1092	.0664	-.1303	-.0090	.0060
-3	.0546	.0591	-.1536	.0101	.0056
-2	.1584	.0599	-.1666	.0224	.0061
-1	.2677	.0645	-.1802	.0350	.0066
0	.3824	.0714	-.1880	.0486	.0075
1	.4807	.0819	-.1906	.0598	.0091
2	.5856	.0959	-.1912	.0698	.0107

TABLE 4.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL - Continued

$\frac{t}{c}$ = 0.06 $\frac{c_f}{c}$ = NONE

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.5810				
-7	-.4900				
-5	-.3240				
-3	-.2008				
-2	-.1339				
-1	-.0803				
0	-.0134				
1	.0536				
2	.1125				
3	.1767				
5	.2972				
7	.4338				
10	.6159				
15	.7230				
20	.7256				
25	.7149				
M = 0.60					
-10	-.6492	.1276	.0447	-.0823	-.0172
-7	-.5002	.0585	-.0079	-.0602	-.0083
-5	-.3635	.0282	-.0048	-.0428	-.0041
-3	-.2214	.0161	-.0048	-.0254	-.0021
-2	-.1449	.0115	-.0060	-.0166	-.0012
-1	-.0724	.0101	-.0012	-.0083	.0000
0	.0000	.0074	-.0043	.0003	.0000
1	.0752	.0082	.0012	.0095	.0002
2	.1435	.0107	.0000	.0168	.0003
3	.2187	.0148	-.0012	.0257	.0003
5	.3567	.0262	.0024	.0423	-.0006
7	.5057	.0552	.0012	.0599	-.0018
10	.6970	.1225	-.0290	.0839	-.0088
15	.7790	.2318	-.1004	.1002	-.0230
20	.7653	.2520	-.1288	.0979	-.0347
25	.7817	.4141	-.1305	.0975	-.0464
M = 0.80					
-10	-.7464	.1249	.0253	-.0931	-.0186
-7	-.5820	.0623	.0029	-.0702	-.0108
-5	-.4379	.0327	-.0135	-.0511	-.0054
-3	-.2568	.0155	-.0163	-.0296	-.0026
-2	-.1755	.0122	-.0094	-.0200	-.0014
-1	-.0794	.0105	-.0041	-.0090	-.0004
0	.0000	.0091	-.0033	.0005	-.0003
1	.0868	.0109	-.0024	.0101	-.0001
2	.1718	.0140	.0021	.0197	-.0001
3	.2531	.0190	.0090	.0291	-.0002
5	.4249	.0373	.0123	.0489	-.0015
7	.5820	.0722	-.0024	.0695	-.0042
10	.7484	.1339	-.0257	.0919	-.0116
15	.7945	.2444	-.1075	.1005	-.0518
20	.8129	.3379	-.1414	.1009	-.0385
25	.8406	.4397	-.1504	.1031	-.0511
M = 0.90					
-10	-.7844	.1461	.0824	-.0996	-.0225
-7	-.6072	.0827	.0515	-.0757	-.0135
-5	-.4595	.0504	.0261	-.0558	-.0072
-3	-.2855	.0263	.0116	-.0351	-.0032
-2	-.1969	.0190	.0043	-.0231	-.0022
-1	-.0985	.0169	.0026	-.0120	-.0012
0	.0098	.0138	-.0011	.0008	-.0006
1	.0985	.0158	-.0047	.0120	-.0008
2	.1969	.0210	-.0083	.0231	-.0007
3	.2954	.0290	-.0145	.0351	-.0010
5	.4529	.0525	-.0283	.0546	-.0031
7	.6138	.0916	-.0519	.0749	-.0073
10	.7976	.1574	-.0845	.0992	-.0156
15	.9682	.2801	-.1245	.1215	-.0312
20	.9288	.3786	-.1735	.1139	-.0431
25	.9846	.4956	-.1910	.1155	-.0569

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.8571	.1739	.1523	-.1044	-.0258
-7	-.6015	.0958	.0765	-.0726	-.0151
-5	-.4426	.0628	.0438	-.0537	-.0088
-3	-.2805	.0421	.0266	-.0340	-.0052
-2	-.1714	.0299	.0041	-.0208	-.0034
-1	-.0841	.0284	.0041	-.0102	-.0018
0	.0000	.0284	.0024	.0000	-.0015
1	.0873	.0284	-.0027	.0106	-.0015
2	.1714	.0337	-.0079	.0204	-.0019
3	.2649	.0452	-.0183	.0318	-.0027
5	.4207	.0667	-.0338	.0507	-.0046
7	.5922	.1088	-.0717	.0711	-.0088
10	.8633	.1917	-.1475	.1029	-.0187
15	1.1376	.3425	-.1985	.1392	-.0379
20	1.1064	.4399	-.2054	.1324	-.0509
25	1.1064	.5702	-.2399	.1343	-.0663
M = 1.00					
-10	-.7676	.1660	.1216	-.0921	-.0238
-7	-.5397	.1003	.0769	-.0648	-.0142
-5	-.3988	.0685	.0477	-.0473	-.0099
-3	-.2519	.0487	.0249	-.0306	-.0064
-2	-.1709	.0435	.0146	-.0211	-.0047
-1	-.0930	.0391	.0080	-.0120	-.0030
0	-.0030	.0384	.0040	-.0015	-.0025
1	.0840	.0399	-.0023	.0084	-.0030
2	.1649	.0442	-.0100	.0186	-.0030
3	.2519	.0523	-.0215	.0288	-.0035
5	.3958	.0723	-.0421	.0448	-.0051
7	.5487	.1069	-.0766	.0630	-.0086
10	.7886	.1748	-.1307	.0913	-.0164
15	1.1124	.3310	-.2142	.1332	-.0356
20	1.3614	.5087	-.2374	.1587	-.0589
25	1.2234	.6105	-.2739	.1514	-.0729
M = 1.05					
-10	-.7513	.1634	.1275	-.0905	-.0241
-7	-.5519	.0995	.0812	-.0663	-.0151
-5	-.4103	.0696	.0543	-.0491	-.0108
-3	-.2572	.0497	.0336	-.0316	-.0066
-2	-.1734	.0455	.0236	-.0214	-.0052
-1	-.0809	.0426	.0144	-.0130	-.0039
0	-.0058	.0412	.0038	-.0021	-.0034
1	.0867	.0419	-.0083	.0084	-.0037
2	.1734	.0470	-.0186	.0182	-.0038
3	.2572	.0548	-.0291	.0281	-.0041
5	.4103	.0746	-.0495	.0456	-.0060
7	.5548	.1086	-.0754	.0635	-.0096
10	.7542	.1719	-.1247	.0880	-.0171
15	1.0836	.3304	-.2116	.1287	-.0364
20	1.3206	.5343	-.2749	.1589	-.0612
25	1.2425	.6295	-.2845	.1620	-.0791
M = 1.10					
-10	-.7282	.1566	.1277	-.0897	-.0245
-7	-.5399	.0940	.0818	-.0662	-.0156
-5	-.4070	.0647	.0588	-.0507	-.0114
-3	-.2492	.0476	.0368	-.0319	-.0073
-2	-.1661	.0422	.0258	-.0225	-.0060
-1	-.0831	.0408	.0144	-.0131	-.0044
0	.0000	.0401	.0022	-.0034	-.0041
1	.0914	.0408	-.0086	.0067	-.0044
2	.1661	.0450	-.0193	.0161	-.0043
3	.2575	.0525	-.0300	.0252	-.0047
5	.4070	.0728	-.0530	.0427	-.0064
7	.5538	.1055	-.0799	.0605	-.0105
10	.7421	.1668	-.1203	.0837	-.0174
15	1.0522	.3180	-.2058	.1216	-.0355
20	1.2820	.5161	-.2714	.1512	-.0589

TABLE 4.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL - Continued

$\frac{t}{c}$ = 0.06 $\frac{c_r}{c}$ = 0.20

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.2633				
-7	-.0967				
-5	.0242				
-3	.1666				
-2	.2257				
-1	.2982				
0	.3519				
1	.4137				
2	.4594				
3	.5215				
5	.6340				
7	.7415				
10	.8650				
15	.8919				
20	.8465				
25	.8194				
M = 0.60					
-10	-.3235	.0790	-.0806	-.0389	-.0096
-7	-.1110	.0236	-.1280	-.0115	-.0020
-5	.0234	.0167	-.1292	-.0003	-.0032
-3	.1590	.0181	-.1261	.0196	-.0007
-2	.2207	.0203	-.1231	.0263	-.0006
-1	.2933	.0236	-.1219	.0346	-.0009
0	.3646	.0296	-.1213	.0432	-.0012
1	.4674	.0370	-.1280	.0562	-.0018
2	.5236	.0430	-.1189	.0625	-.0027
3	.5880	.0518	-.1170	.0700	-.0035
5	.7320	.0768	-.1098	.0818	-.0067
7	.8526	.1179	-.1122	.1011	-.0115
10	.9239	.1900	-.1503	.1131	-.0210
15	.9431	.3013	-.1898	.1201	-.0359
20	.9019	.1955	-.2007	.1115	-.0488
25	.8965	.2434	-.2086	.1091	-.0604
M = 0.80					
-10	-.4393	.0875	-.0906	-.0528	-.0116
-7	-.2465	.0415	-.1209	-.0283	-.0054
-5	-.0760	.0247	-.1316	-.0087	-.0022
-3	.1094	.0206	-.1332	.0131	-.0010
-2	.1983	.0228	-.1304	.0232	-.0010
-1	.2855	.0282	-.1341	.0335	-.0013
0	.3785	.0337	-.1353	.0439	-.0021
1	.4671	.0419	-.1398	.0547	-.0027
2	.5728	.0510	-.1407	.0677	-.0040
3	.6655	.0625	-.1365	.0783	-.0053
5	.8008	.0921	-.1365	.0952	-.0089
7	.9157	.1368	-.1427	.1116	-.0146
10	1.0529	.1172	-.1530	.1291	-.0239
15	.9750	.3146	-.2115	.1192	-.0387
20	.9605	.4139	-.2190	.1152	-.0457
25	.9602	.5196	-.2305	.1138	-.0645
M = 0.90					
-10	-.5699	.1244	-.0248	-.0722	-.0244
-7	-.3936	.0697	-.0557	-.0464	-.0091
-5	-.2273	.0445	-.0867	-.0284	-.0052
-3	.0000	.0308	-.1286	.0006	-.0024
-2	.1301	.0311	-.1469	.0156	-.0023
-1	.2372	.0352	-.1523	.0278	-.0024
0	.3278	.0413	-.1534	.0390	-.0031
1	.4348	.0511	-.1577	.0514	-.0043
2	.5287	.0616	-.1650	.0622	-.0054
3	.6325	.0777	-.1741	.0746	-.0074
5	.7791	.1110	-.1945	.0932	-.0120
7	.9289	.1608	-.2098	.1111	-.0187
10	1.0805	.2365	-.2244	.1307	-.0291
15	1.1602	.3500	-.2426	.1331	-.0440
20	1.0574	.4488	-.2500	.1251	-.0565
25	1.0343	.5574	-.2594	.1231	-.0699

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.6336	.1469	.0125	-.0763	-.0205
-7	-.4396	.0900	-.0235	-.0516	-.0126
-5	-.2941	.0662	-.0460	-.0336	-.0076
-3	-.1189	.0462	-.0737	-.0122	-.0045
-2	.0110	.0438	-.1014	.0025	-.0036
-1	.1549	.0454	-.1377	.0186	-.0035
0	.2879	.0538	-.1654	.0338	-.0045
1	.4177	.0630	-.1876	.0490	-.0060
2	.5225	.0385	-.1751	.0618	-.0077
3	.6242	.0939	-.2167	.0737	-.0098
5	.7776	.1284	-.2339	.0923	-.0145
7	.9356	.2570	-.2561	.1097	-.0208
10	1.1171	.2671	-.2893	.1321	-.0319
15	1.3486	.4309	-.3101	.1606	-.0544
20	1.2015	.5110	-.2963	.1416	-.0644
25	1.1390	.6109	-.2893	.1341	-.0771
M = 1.00					
-10	-.6129	.1441	.0213	-.0727	-.0200
-7	-.4146	.0939	-.0259	-.0469	-.0130
-5	-.2569	.0709	-.0541	-.0288	-.0085
-3	-.0916	.0584	-.0834	-.0089	-.0059
-2	.0000	.0539	-.0990	.0015	-.0052
-1	.1067	.0547	-.1173	.0135	-.0052
0	.2238	.0569	-.1389	.0261	-.0052
1	.3545	.0643	-.1648	.0407	-.0060
2	.4567	.0754	-.1868	.0534	-.0076
3	.5618	.0916	-.2047	.0662	-.0092
5	.7301	.1256	-.2313	.0853	-.0133
7	.8893	.1752	-.2519	.1032	-.0197
10	1.0636	.2564	-.2811	.1243	-.0301
15	1.3040	.4241	-.3210	.1542	-.0261
20	1.4241	.5940	-.3363	.1725	-.0375
M = 1.05					
-10	-.5851	.1389	.0176	-.0691	-.0193
-7	-.3953	.0905	-.0250	-.0455	-.0129
-5	-.2491	.0691	-.0506	-.0283	-.0085
-3	-.0912	.0584	-.0779	-.0097	-.0062
-2	.0058	.0549	-.0938	.0012	-.0055
-1	.1028	.0556	-.1099	.0128	-.0052
0	.2013	.0591	-.1275	.0239	-.0054
1	.3027	.0669	-.1467	.0357	-.0062
2	.4011	.0762	-.1653	.0471	-.0075
3	.5127	.0898	-.1845	.0596	-.0093
5	.6821	.1240	-.2210	.0801	-.0136
7	.8428	.1689	-.2441	.0988	-.0194
10	1.0195	.2472	-.2678	.1195	-.0300
15	1.2657	.4188	-.3216	.1497	-.0512
20	1.4308	.6124	-.3601	.1722	-.0786
M = 1.10					
-10	-.5632	.1351	.0206	-.0658	-.0191
-7	-.3870	.0886	-.0199	-.0436	-.0124
-5	-.2469	.0683	-.0454	-.0274	-.0090
-3	-.0916	.0559	-.0748	-.0088	-.0065
-2	.0042	.0526	-.0899	.0013	-.0058
-1	.0943	.0540	-.1053	.0114	-.0056
0	.1859	.0259	-.1218	.0219	-.0056
1	.2816	.0627	-.1374	.0327	-.0063
2	.3787	.0730	-.1553	.0439	-.0076
3	.4689	.0853	-.1731	.0547	-.0090
5	.6381	.1160	-.2056	.0744	-.0131
7	.8018	.1618	-.2320	.0929	-.0190
10	.9683	.2354	-.2596	.1121	-.0285
15	1.2041	.3984	-.3081	.1421	-.0490

TABLE 4.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL - Continued

$\frac{t}{c}$ = 0.06 $\frac{c_f}{c}$ = 0.30

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.2280				
-7	-.0510				
-5	.1019				
-3	.2360				
-2	.2816				
-1	.3406				
0	.4103				
1	.4613				
2	.5176				
3	.5686				
5	.6839				
7	.8046				
10	.8958				
15	.8931				
20	.8556				
25	.8234				
M = 0.60					
-10	-.2669	.0775	-.0973	-.0332	-.0074
-7	-.0520	.0268	-.1266	-.0050	-.0014
-5	.0986	.0222	-.1296	.0131	-.0006
-3	.2532	.0249	-.1338	.0309	-.0006
-2	.3409	.0277	-.1278	.0399	-.0006
-1	.4011	.0337	-.1326	.0478	-.0009
0	.4750	.0397	-.1326	.0565	-.0014
1	.5311	.0452	-.1254	.0638	-.0024
2	.5914	.0517	-.1193	.0706	-.0033
3	.6571	.0641	-.1144	.0791	-.0047
5	.8022	.0909	-.1115	.0944	-.0077
7	.9117	.1339	-.1115	.1090	-.0091
10	.9500	.2086	-.1508	.1173	-.0233
15	.9309	.3118	-.1872	.1180	-.0366
20	.9035	.4079	-.1932	.1123	-.0490
25	.8980	.5021	-.1992	.1100	-.0606
M = 0.80					
-10	-.3339	.0820	-.1223	-.0387	-.0097
-7	-.1471	.0409	-.1493	-.0146	-.0043
-5	.0296	.0259	-.1530	.0056	-.0017
-3	.2007	.0305	-.1490	.0261	-.0017
-2	.2821	.0340	-.1465	.0344	-.0020
-1	.3691	.0409	-.1498	.0449	-.0026
0	.4468	.0477	-.1477	.0544	-.0035
1	.5421	.0577	-.1477	-.0476	-.0045
2	.6364	.0668	-.1436	.0761	-.0058
3	.7160	.0786	-.1346	.0853	-.0072
5	.8529	.1123	-.1334	.1033	-.0115
7	.9805	.1560	-.1407	.1203	-.0168
10	1.0915	.2298	-.1518	.1370	-.0267
15	.9324	.3230	-.1981	.1167	-.0387
20	.9620	.4285	-.2177	.1172	-.0414
25	.9435	.5332	-.2251	.1150	-.0324
M = 0.90					
-10	-.4884	.1172	-.0706	-.0599	-.0157
-7	-.3206	.0715	-.0979	-.0359	-.0087
-5	-.1233	.0477	-.1306	-.0120	-.0045
-3	.1019	.0416	-.1626	.0140	-.0029
-2	.2138	.0424	-.1688	.0269	-.0032
-1	.3174	.0485	-.1688	.0385	-.0043
0	.4061	.0554	-.1706	.0493	-.0050
1	.4982	.0668	-.1713	.0603	-.0062
2	.6002	.0809	-.1778	.0718	-.0080
3	.6824	.0950	-.1876	.0828	-.0102
5	.8386	.1314	-.1971	.1014	-.0151
7	.9669	.1835	-.2139	.1185	-.0226
10	1.1017	.2619	-.2248	.1377	-.0325
15	1.0162	.3453	-.2284	.1253	-.0435
20	1.0491	.4690	-.2473	.1277	-.0587
25	1.0326	.5726	-.2539	.1253	-.0723

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.5561	.1403	-.0377	-.0654	-.0192
-7	-.3530	.0911	-.0757	-.0389	-.0116
-5	-.1968	.0692	-.0982	-.0203	-.0076
-3	.0359	.0550	-.1448	.0047	-.0050
-2	.1718	.0576	-.1741	.0224	-.0050
-1	.3046	.0669	-.2066	.0379	-.0055
0	.4280	.0750	-.2163	.0521	-.0070
1	.5264	.0884	-.2260	.0711	-.0085
2	.6217	.1018	-.2308	.0745	-.0103
3	.7107	.1190	-.2412	.0853	-.0128
5	.8497	.1567	-.2550	.1024	-.0171
7	.9934	.2127	-.2723	.1202	-.0238
10	1.1558	.2957	-.2826	.1395	-.0348
15	1.3433	.4533	-.2965	.1649	-.0554
20	1.0215	.5223	-.2792	.1422	-.0641
25	1.0777	.5946	-.2619	.1346	-.0763
M = 1.00					
-10	-.5474	.1390	-.0252	-.0641	-.0183
-7	-.3449	.0940	-.0683	-.0382	-.0115
-5	-.1920	.0741	-.0975	-.0191	-.0081
-3	-.0075	.0645	-.1290	.0027	-.0065
-2	.0975	.0645	-.1483	.0151	-.0059
-1	.2235	.0678	-.1719	.0273	-.0059
0	.3599	.0748	-.2017	.0437	-.0067
1	.4724	.0859	-.2176	.0573	-.0085
2	.5624	.0991	-.2249	.0683	-.0102
3	.6524	.1162	-.2342	.0790	-.0122
5	.8089	.1530	-.2481	.0965	-.0171
7	.9568	.2080	-.2674	.1147	-.0235
10	1.1218	.2942	-.2926	.1351	-.0344
15	1.3498	.4646	-.3244	.1638	-.0570
M = 1.05					
-10	-.5349	.1365	-.0230	-.0614	-.0187
-7	-.3383	.0921	-.0669	-.0368	-.0117
-5	-.1879	.0729	-.0892	-.0193	-.0087
-3	-.0101	.0622	-.1218	.0018	-.0065
-2	.0896	.0619	-.1388	.0132	-.0061
-1	.1981	.0653	-.1548	.0254	-.0065
0	.3036	.0711	-.1778	.0377	-.0071
1	.4236	.0818	-.1989	.0514	-.0088
2	.5104	.0935	-.2104	.0619	-.0103
3	.6130	.1099	-.2264	.0746	-.0120
5	.7634	.1450	-.2424	.0912	-.0166
7	.9166	.1976	-.2584	.1095	-.0227
10	1.0843	.2787	-.2820	.1291	-.0340
15	1.3012	.4508	-.3288	.1579	-.0279
M = 1.10					
-10	-.5055	.1294	-.0248	-.0585	-.0175
-7	-.3158	.1032	-.0640	-.0348	-.0114
-5	-.1731	.0698	-.0901	-.0177	-.0083
-3	.0028	.0607	-.1207	.0029	-.0066
-2	.0900	.0596	-.1330	.0135	-.0064
-1	.1842	.0633	-.1474	.0237	-.0067
0	.2839	.0698	-.1679	.0361	-.0073
1	.3809	.0789	-.1832	.0471	-.0085
2	.4778	.0913	-.1992	.0583	-.0097
3	.5678	.1046	-.2126	.0689	-.0115
5	.7257	.1403	-.2322	.0874	-.0159
7	.8670	.1907	-.2487	.1042	-.0218
10	1.0304	.2670	-.2708	.1230	-.0325
15	1.2548	.4386	-.3223	.1513	-.0541

TABLE 4.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 4 MODEL - Concluded

$\frac{t}{c} = 0.06$ $\frac{c_f}{c} = 0.40$

α, deg	C_L	C_D	C_M	C_l	C_n
			M = 0.40		
-10	-.1719				
-7	.0081				
-5	.1478				
-3	.2767				
-2	.3439				
-1	.4057				
0	.4513				
1	.5131				
2	.5668				
3	.6260				
5	.7415				
7	.8462				
10	.9059				
15	.8624				
20	.8465				
25	.8113				
			M = 0.60		
-10	-.2045	.0513	-.0861	-.0248	-.0054
-7	.0206	.0189	-.1182	.0035	-.0018
-5	.1659	.0189	-.1206	.0203	-.0010
-3	.3166	.0255	-.1225	.0376	-.0008
-2	.3989	.0291	-.1213	.0459	-.0010
-1	.4510	.0365	-.1201	.0539	-.0016
0	.5085	.0430	-.1177	.0607	-.0019
1	.5730	.0526	-.1170	.0689	-.0022
2	.6456	.0628	-.1140	.0769	-.0028
3	.7210	.0762	-.1110	.0852	-.0042
5	.8307	.1031	-.1074	.0985	-.0073
7	.9294	.1516	-.1153	.1118	-.0128
10	.9540	.2245	-.1529	.1184	-.0223
15	.9074	.3208	-.1826	.1138	-.0362
20	.8937	.4153	-.1886	.1095	-.0478
25	.8855	.5151	-.2001	.1075	-.0598
			M = 0.80		
-10	-.2529	.0697	-.1176	-.0283	-.0084
-7	-.0491	.0374	-.1505	-.0030	-.0039
-5	.1204	.0324	-.1537	.0159	-.0024
-3	.2761	.0400	-.1525	.0341	-.0024
-2	.3484	.0456	-.1525	.0430	-.0032
-1	.4290	.0524	-.1508	.0524	-.0040
0	.5152	.0619	-.1517	.0616	-.0051
1	.5874	.0702	-.1463	.0699	-.0058
2	.6504	.0775	-.1345	.0778	-.0066
3	.7468	.0930	-.1340	.0891	-.0082
5	.8858	.1268	-.1369	.1077	-.0115
7	1.0118	.1768	-.1463	.1241	-.0174
10	1.1007	.2533	-.1565	.1376	-.0269
15	.9599	.3417	-.1975	.1174	-.0393
20	.9673	.4466	-.2107	.1196	-.1039
25	.9488	.5504	-.2205	.1138	-.0651
			M = 0.90		
-10	-.3905	.1065	-.0991	-.0454	-.0151
-7	-.2009	.0713	-.1319	-.0194	-.0078
-5	.0165	.0547	-.1683	.0054	-.0053
-3	.2371	.0583	-.1909	.0305	-.0055
-2	.3342	.0644	-.1930	.0416	-.0060
-1	.4083	.0685	-.1872	.0502	-.0071
0	.5071	.0822	-.1945	.0611	-.0082
1	.5894	.0924	-.1909	.0711	-.0095
2	.6767	.1044	-.1887	.0811	-.0109
3	.7525	.1207	-.1981	.0973	-.0127
5	.8759	.1551	-.1981	.1063	-.0168
7	1.0044	.2114	-.2164	.1223	-.0232
10	1.1394	.2939	-.2382	.1403	-.0337
15	1.0439	.2923	-.2309	.1251	-.0440
20	1.0636	.4987	-.2491	.1275	-.0594
25	1.0241	.5992	-.2513	.1227	-.0722

α, deg	C_L	C_D	C_M	C_l	C_n
			M = 0.95		
-10	-.4769	.1280	-.0602	-.0543	-.0180
-7	-.2533	.0857	-.1121	-.0254	-.0117
-5	-.0547	.0696	-.1557	-.0025	-.0080
-3	.1845	.0685	-.1971	.0245	-.0070
-2	.3064	.0727	-.2109	.0381	-.0073
-1	.4096	.0804	-.2213	.0495	-.0083
0	.5253	.0915	-.2241	.0607	-.0095
1	.5957	.1049	-.2331	.0718	-.0109
2	.6895	.1199	-.2331	.0818	-.0126
3	.7755	.1391	-.2414	.0922	-.0148
5	.9256	.1810	-.2608	.1097	-.0199
7	1.0725	.2384	-.2712	.1249	-.0265
10	1.1882	.3175	-.2850	.1408	-.0364
15	1.3665	.4783	-.2988	.1643	-.0573
20	1.1976	.5505	-.2884	.1408	-.0658
25	1.1194	.6351	-.2760	.1302	-.0767
			M = 1.00		
-10	-.4834	.1237	-.0525	-.0521	-.0172
-7	-.2417	.0868	-.1036	-.0293	-.0112
-5	-.0826	.0739	-.1388	-.0062	-.0087
-3	.1066	.0706	-.1707	.0153	-.0076
-2	.2417	.0739	-.1940	.0299	-.0076
-1	.3678	.0805	-.2125	.0445	-.0081
0	.4624	.0898	-.2205	.0554	-.0093
1	.5600	.1027	-.2251	.0663	-.0107
2	.6425	.1174	-.2305	.0763	-.0123
3	.7296	.1351	-.2371	.0864	-.0143
5	.8797	.1776	-.2544	.1035	-.0196
7	1.0058	.2348	-.2756	.1188	-.0259
10	1.1680	.3226	-.3002	.1381	-.0365
15	1.3601	.4917	-.3175	.1625	-.0581
20	1.4202	.6541	-.3281	.1680	-.0777
25	1.3151	.7707	-.3387	.1552	-.0943
			M = 1.05		
-10	-.4456	.1199	-.0480	-.0507	-.0175
-7	-.2488	.0839	-.0954	-.0307	-.0113
-5	-.0926	.0722	-.1293	-.0077	-.0087
-3	.0810	.0680	-.1581	.0121	-.0080
-2	.1924	.0705	-.1773	.0248	-.0081
-1	.3110	.0765	-.1965	.0379	-.0086
0	.4297	.0858	-.2125	.0520	-.0097
1	.5281	.0982	-.2208	.0630	-.0109
2	.6149	.1128	-.2278	.0727	-.0125
3	.7017	.1309	-.2349	.0827	-.0146
5	.8478	.1707	-.2528	.0997	-.0194
7	.9722	.2248	-.2707	.1148	-.0130
10	1.1313	.3138	-.2957	.1338	-.0184
15	1.3541	.4923	-.3380	.1608	-.0589
20	1.4988	.6759	-.3546	.1784	-.0824
25	1.3946	.7912	-.3584	.1643	-.0993
			M = 1.10		
-10	-.4324	.1193	-.0460	-.0488	-.0168
-7	-.2453	.0818	-.0901	-.0259	-.0115
-5	-.0970	.0703	-.1202	-.0086	-.0089
-3	.0804	.0668	-.1583	.0113	-.0081
-2	.1885	.0771	-.1711	.0230	-.0084
-1	.2827	.0750	-.1870	.0346	-.0090
0	.3950	.0825	-.2023	.0476	-.0101
1	.4989	.0941	-.2128	.0585	-.0114
2	.5834	.1091	-.2201	.0691	-.0130
3	.6652	.1247	-.2262	.0784	-.0151
5	.8038	.1621	-.2404	.0949	-.0201
7	.9313	.2133	-.2606	.1097	-.0263
10	1.0810	.2985	-.2881	.1278	-.0367
15	1.2916	.4676	-.3274	.1544	-.0588
20	1.4579	.6652	-.3630	.1742	-.0864
25	1.4025	.6925	-.4745	.1722	-.1054

TABLE 5.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 5 MODEL

$\frac{t}{c}$ = 0.06 $\frac{c_f}{c}$ = NONE

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.5664				
-7	-.4377				
-5	-.3175				
-3	-.2060				
-2	-.1459				
-1	-.0858				
0	-.0172				
1	.0472				
2	.1159				
3	.1802				
5	.3004				
7	.4334				
10	.6179				
15	.6995				
20	.7381				
25	.6995				
M = 0.60					
-10	-.6817	.1286	.0574	-.0860	-.0199
-7	-.5629	.0649	.0019	-.0673	-.0112
-5	-.4200	.0334	-.0010	-.0493	-.0066
-3	-.2617	.0163	.0005	-.0303	-.0034
-2	-.1781	.0152	.0005	-.0207	-.0026
-1	-.1012	.0141	-.0015	-.0113	-.0016
0	-.0220	.0141	.0005	-.0024	-.0008
1	.0638	.0141	.0010	.0073	-.0005
2	.1451	.0163	.0025	.0164	-.0006
3	.2221	.0205	.0019	.0254	-.0010
5	.3760	.0334	.0039	.0438	-.0019
7	.5431	.0638	.0054	.0626	-.0031
10	.7147	.1308	-.0326	.0850	-.0105
15	.7806	.2335	-.0988	.0997	-.0248
20	.7564	.3094	-.1221	.0965	-.0359
25	.7655	.4013	-.1392	.0965	-.0466
M = 0.80					
-10	-.7929	.1341	.0427	-.0999	-.0213
-7	-.6514	.0718	.0134	-.0804	-.0123
-5	-.5129	.0385	-.0019	-.0607	-.0074
-3	-.3066	.0167	-.0085	-.0358	-.0037
-2	-.2181	.0116	-.0045	-.0249	-.0025
-1	-.1267	.0116	-.0017	-.0146	-.0016
0	-.0354	.0116	.0013	-.0034	-.0009
1	.0796	.0131	.0006	.0092	-.0006
2	.1680	.0167	.0032	.0195	-.0006
3	.2594	.0218	.0085	.0295	-.0010
5	.4480	.0427	.0098	.0521	-.0020
7	.6219	.0797	-.0045	.0736	-.0049
10	.7841	.1435	-.0313	.0953	-.0119
15	.8135	.2464	-.1056	.1022	-.0257
20	.8047	.3319	-.1392	.1002	-.0370
25	.8430	.4364	-.1591	.1033	-.0499
M = 0.90					
-10	-.8784	.1655	.1186	-.1086	-.0258
-7	-.6859	.0975	.0811	-.0846	-.0155
-5	-.5190	.0565	.0467	-.0633	-.0096
-3	-.3469	.0308	.0285	-.0415	-.0053
-2	-.2452	.0211	.0199	-.0299	-.0033
-1	-.1408	.0173	.0118	-.0172	-.0024
0	-.0314	.0180	.0026	-.0043	-.0014
1	.1043	.0186	-.0061	.0109	-.0012
2	.2008	.0237	-.0127	.0230	-.0013
3	.3156	.0340	-.0205	.0362	-.0019
5	.4773	.0596	-.0372	.0557	-.0042
7	.6546	.1020	-.0660	.0775	-.0085
10	.8554	.1751	-.1007	.1010	-.0163
15	1.0458	.3053	-.1353	.1302	-.0332
20	.9206	.3758	-.1725	.1104	-.0420

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.9107	.1824	.1735	-.1116	-.0280
-7	-.6750	.1086	.1092	-.0824	-.0169
-5	-.5062	.0690	.0746	-.0619	-.0115
-3	-.3251	.0458	.0472	-.0405	-.0069
-2	-.2333	.0378	.0335	-.0294	-.0054
-1	-.1290	.0299	.0159	-.0161	-.0039
0	-.0223	.0354	.0088	-.0043	-.0027
1	.0819	.0335	.0005	.0080	-.0024
2	.1762	.0385	-.0082	.0186	-.0025
3	.2730	.0458	-.0214	.0304	-.0032
5	.4467	.0720	-.0488	.0508	-.0057
7	.6328	.1117	-.0884	.0730	-.0098
10	.8958	.1941	-.1641	.1031	-.0192
15	1.1812	.3576	-.2135	.1407	-.0386
M = 1.00					
-10	-.8492	.1732	.1605	-.1044	-.0261
-7	-.6351	.1047	.1016	-.0776	-.0161
-5	-.4805	.0708	.0742	-.0587	-.0116
-3	-.3069	.0485	.0505	-.0386	-.0074
-2	-.2141	.0403	.0358	-.0270	-.0058
-1	-.1189	.0381	.0216	-.0155	-.0047
0	-.0071	.0387	.0084	-.0035	-.0034
1	.0880	.0409	-.0058	.0079	-.0034
2	.1879	.0467	-.0195	.0187	-.0038
3	.2759	.0544	-.0321	.0298	-.0043
5	.4377	.0778	-.0600	.0494	-.0066
7	.6137	.1158	-.0981	.0702	-.0107
10	.8302	.1842	-.1426	.0958	-.0193
15	1.1798	.3544	-.2205	.1372	-.0394
M = 1.05					
-10	-.8231	.1687	.1483	-.0992	-.0251
-7	-.6019	.1015	.0974	-.0737	-.0158
-5	-.4537	.0678	.0721	-.0558	-.0114
-3	-.2896	.0465	.0469	-.0361	-.0073
-2	-.1984	.0398	.0333	-.0255	-.0060
-1	-.1094	.0381	.0217	-.0151	-.0047
0	-.0091	.0381	.0081	-.0038	-.0036
1	.0889	.0409	-.0071	.0080	-.0036
2	.1756	.0454	-.0187	.0179	-.0037
3	.2645	.0532	-.0313	.0283	-.0044
5	.4195	.0746	-.0570	.0467	-.0065
7	.5837	.1110	-.0867	.0666	-.0106
10	.7912	.1783	-.1367	.0910	-.0179
15	1.1218	.3397	-.2224	.1306	-.0370
M = 1.10					
-10	-.7783	.1622	.1436	-.0956	-.0247
-7	-.5854	.0959	.0975	-.0717	-.0158
-5	-.4407	.0636	.0708	-.0543	-.0117
-3	-.2784	.0426	.0451	-.0347	-.0074
-2	-.1885	.0366	.0320	-.0245	-.0059
-1	-.1009	.0356	.0209	-.0138	-.0048
0	-.0088	.0362	.0078	-.0040	-.0038
1	.0833	.0366	-.0053	.0070	-.0040
2	.1732	.0410	-.0179	.0172	-.0044
3	.2543	.0486	-.0296	.0273	-.0050
5	.4056	.0700	-.0543	.0451	-.0071
7	.5656	.1046	-.0854	.0643	-.0112
10	.7673	.1714	-.1329	.0881	-.0183
15	1.0655	.3246	-.2071	.1256	-.0366

TABLE 5.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 5 MODEL - Continued

$\frac{t}{c} = 0.06$ $\frac{c_f}{c} = 0.20$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.3101				
-7	-.1240				
-5	.0043				
-3	.1433				
-2	.2181				
-1	.2823				
0	.3425				
1	.4045				
2	.4534				
3	.5132				
5	.6351				
7	.7635				
10	.8447				
15	.8640				
20	.8383				
25	.7934				
M = 0.60					
-10	-.3585	.0798	-.0665	-.0431	-.0104
-7	-.1535	.0248	-.1271	-.0160	-.0028
-5	.0022	.0125	-.1285	.0024	-.0014
-3	.1513	.0145	-.1271	.0195	-.0011
-2	.2214	.0162	-.1223	.0271	-.0008
-1	.2850	.0204	-.1173	.0341	-.0010
0	.3639	.0259	-.1189	.0433	-.0012
1	.4758	.0340	-.1271	.0577	-.0013
2	.5393	.0421	-.1173	.0654	-.0015
3	.6227	.0528	-.1150	.0741	-.0023
5	.7586	.0787	-.1081	.0900	-.0048
7	.8814	.1201	-.1077	.1054	-.0101
10	.9365	.1903	-.1562	.1171	-.0191
15	.9230	.2944	-.1867	.1213	-.0338
20	.8901	.3806	-.1886	.1141	-.0454
M = 0.80					
-10	-.4898	.0944	-.0738	-.0593	-.0137
-7	-.3383	.0459	-.1080	-.0386	-.0066
-5	-.1515	.0238	-.1253	-.0164	-.0026
-3	.0677	.0181	-.1314	.0090	-.0011
-2	.1721	.0210	-.1340	.0207	-.0010
-1	.2751	.0257	-.1340	.0329	-.0012
0	.3765	.0310	-.1350	.0447	-.0019
1	.4810	.0402	-.1422	.0571	-.0025
2	.6089	.0499	-.1454	.0731	-.0038
3	.7060	.0632	-.1416	.0848	-.0048
5	.8649	.0980	-.1497	.1057	-.0085
7	.9737	.1440	-.1568	.1214	-.0142
10	1.0737	.2177	-.1584	.1354	-.0236
15	.9237	.3009	-.2017	.1171	-.0356
M = 0.90					
-10	-.6772	.1397	-.0051	-.0835	-.0206
-7	-.5051	.0812	-.0233	-.0596	-.0119
-5	-.3495	.0524	-.0519	-.0384	-.0075
-3	-.0983	.0343	-.1093	-.0072	-.0032
-2	.0464	.0336	-.1335	.0353	-.0025
-1	.1966	.0375	-.1613	.0260	-.0025
0	.3195	.0456	-.1673	.0398	-.0029
1	.4369	.0557	-.1764	.0533	-.0041
2	.5516	.0692	-.1824	.0668	-.0057
3	.6608	.0860	-.1915	.0795	-.0074
5	.8328	.1256	-.2096	.1007	-.0121
7	.9966	.1834	-.2398	.1206	-.0187
10	1.1796	.2759	-.2670	.1447	-.0295
15	1.3762	.2135	-.2730	.1670	-.0493
20	1.1195	.2384	-.2609	.1352	-.0554

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.7009	.1559	.0342	-.0825	-.0225
-7	-.4904	.0962	-.0115	-.0558	-.0134
-5	-.3220	.0718	-.0430	-.0361	-.0096
-3	-.1684	.0476	-.0567	-.0168	-.0052
-2	-.0545	.0445	-.0813	-.0031	-.0040
-1	.0842	.0445	-.1169	.0127	-.0040
0	.2452	.0530	-.1572	.0313	-.0047
1	.3888	.0670	-.1874	.0474	-.0058
2	.5077	.0780	-.2038	.0618	-.0071
3	.6241	.0962	-.2202	.0757	-.0090
5	.7851	.1327	-.2416	.0945	-.0132
7	.9461	.1851	-.2662	.1130	-.0190
10	1.1318	.2759	-.2969	.1371	-.0295
M = 1.00					
-10	-.6785	.1476	.0362	-.0790	-.0215
-7	-.4697	.0951	-.0129	-.0528	-.0138
-5	-.3060	.0718	-.0451	-.0334	-.0098
-3	-.1423	.0590	-.0714	-.0138	-.0067
-2	-.0427	.0554	-.0890	-.0016	-.0059
-1	.0641	.0250	-.1081	.0104	-.0052
0	.1756	.0590	-.1270	.0230	-.0052
1	.3013	.0648	-.1516	.0362	-.0057
2	.4318	.0764	-.1821	.0537	-.0070
3	.5623	.0922	-.2083	.0684	-.0088
5	.7354	.1278	-.2330	.0887	-.0129
7	.8944	.1797	-.2550	.1071	-.0187
10	1.0771	.2655	-.2855	.1313	-.0285
M = 1.05					
-10	-.6440	.1427	.0335	-.0751	-.0212
-7	-.4460	.0912	-.0106	-.0508	-.0138
-5	-.2981	.0700	-.0400	-.0331	-.0097
-3	-.1320	.0577	-.0684	-.0133	-.0069
-2	-.0410	.0537	-.0848	-.0022	-.0059
-1	.0614	.0520	-.1012	.0095	-.0058
0	.1661	.0560	-.1206	.0219	-.0058
1	.2731	.0633	-.1404	.0345	-.0065
2	.3800	.0717	-.1621	.0471	-.0075
3	.5097	.1432	-.1888	.0619	-.0091
5	.6895	.1220	-.2235	.0833	-.0130
7	.8510	.1707	-.2436	.1016	-.0185
10	1.0285	.2535	-.2748	.1250	-.0281
M = 1.10					
-10	-.6194	.1389	.0358	-.0727	-.0213
-7	-.4334	.0899	-.0102	-.0510	-.0135
-5	-.2911	.0673	-.0361	-.0321	-.0100
-3	-.1226	.0555	-.0658	-.0121	-.0071
-2	-.0350	.0517	-.0811	-.0021	-.0063
-1	.0613	.0511	-.0981	.0091	-.0059
0	.1576	.0544	-.1155	.0202	-.0060
1	.2670	.0608	-.1365	.0329	-.0065
2	.3655	.0705	-.1544	.0446	-.0074
3	.4772	.0850	-.1767	.0574	-.0088
5	.6610	.1173	-.2140	.0786	-.0127
7	.8164	.1642	-.2363	.0971	-.0178
10	.9937	.2449	-.2634	.1199	-.0272

TABLE 5.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 5 MODEL - Continued

$\frac{t}{c} = 0.06$ $\frac{c_f}{c} = 0.30$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.2299				
-7	-.0434				
-5	.0954				
-3	.2342				
-2	.3036				
-1	.3774				
0	.4294				
1	.4858				
2	.5422				
3	.6029				
5	.7243				
7	.8458				
10	.9152				
15	.9065				
20	.8111				
25	.8284				
M = 0.60					
-10	-.2850	.0702	-.0776	-.0349	-.0085
-7	-.0614	.0259	-.1256	-.0060	-.0014
-5	.1030	.0162	-.1256	.0134	-.0010
-3	.2784	.0195	-.1280	.0332	-.0010
-2	.3596	.0237	-.1295	.0426	-.0012
-1	.4429	.0303	-.1295	.0515	-.0017
0	.5152	.0344	-.1271	.0607	-.0025
1	.5635	.0410	-.1183	.0668	-.0029
2	.6405	.0506	-.1150	.0754	-.0038
3	.7104	.0625	-.1101	.0834	-.0049
5	.8551	.0895	-.1028	.1007	-.0082
7	.9406	.1348	-.1077	.1145	-.0136
10	.9757	.2081	-.1450	.1222	-.0234
15	.9825	.3223	-.1794	.1286	-.0394
20	.9077	.3925	-.1804	.1179	-.0489
25	.8989	.4907	-.1984	.1137	-.0610
M = 0.80					
-10	-.3824	.0833	-.1103	-.0446	-.0116
-7	-.1956	.0427	-.1406	-.0210	-.0056
-5	-.0059	.0275	-.1506	.0009	-.0025
-3	.1839	.0290	-.1461	.0223	-.0023
-2	.2780	.0318	-.1451	.0331	-.0025
-1	.3663	.0377	-.1419	.0436	-.0032
0	.4619	.0449	-.1412	.0546	-.0040
1	.5545	.0543	-.1431	.0657	-.0049
2	.6725	.0672	-.1454	.0805	-.0062
3	.7707	.0796	-.1357	.0923	-.0075
5	.9149	.1172	-.1448	.1105	-.0112
7	1.0179	.1664	-.1503	.1254	-.0169
10	1.1179	.2481	-.1568	.1385	-.0265
15	.9414	.3183	-.1900	.1171	-.0374
20	.9649	.4296	-.2063	.1185	-.0504
M = 0.90					
-10	-.5639	.1330	-.0595	-.0703	-.0189
-7	-.4345	.0826	-.0840	-.0504	-.0117
-5	-.2225	.0537	-.1048	-.0239	-.0069
-3	.0642	.0437	-.1613	.0093	-.0041
-2	.2075	.0470	-.1782	.0260	-.0043
-1	.3372	.0571	-.1945	.0403	-.0053
0	.4533	.0605	-.1885	.0517	-.0057
1	.5488	.0759	-.2005	.0650	-.0072
2	.6444	.0886	-.1975	.0769	-.0088
3	.7485	.1095	-.2066	.0901	-.0116
5	.9205	.1859	-.2277	.1100	-.0170
7	1.0567	.2082	-.2398	.1267	-.0232
10	1.2260	.2989	-.2609	.1511	-.0170

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.6020	.1420	-.0151	-.0722	-.0206
-7	-.3815	.0927	-.0636	-.0440	-.0128
-5	-.2180	.0701	-.0951	-.0233	-.0087
-3	-.0198	.0555	-.1293	.0000	-.0061
-2	.1338	.0578	-.1655	.0176	-.0062
-1	.2899	.0639	-.1929	.0349	-.0062
0	.4385	.0725	-.2093	.0493	-.0074
1	.5351	.0853	-.2176	.0637	-.0088
2	.6243	.1005	-.2247	.0741	-.0103
3	.7259	.1207	-.2340	.0854	-.0125
5	.8721	.1614	-.2493	.1027	-.0168
7	1.0133	.2163	-.2669	.1188	-.0232
10	1.1817	.3065	-.2871	.1419	-.0338
M = 1.00					
-10	-.5723	.1373	-.0123	-.0692	-.0198
-7	-.3633	.0893	-.0583	-.0420	-.0128
-5	-.2019	.0706	-.0903	-.0224	-.0089
-3	-.0309	.0625	-.1195	-.0012	-.0071
-2	.0760	.0613	-.1376	.0106	-.0066
-1	.1995	.0642	-.1586	.0242	-.0065
0	.3420	.0718	-.1875	.0415	-.0072
1	.4916	.0835	-.2085	.0572	-.0087
2	.5747	.0963	-.2190	.0685	-.0102
3	.6744	.1168	-.2269	.0795	-.0123
5	.8240	.1547	-.2400	.0968	-.0165
7	.9546	.2073	-.2553	.1130	-.0224
10	1.1280	.2960	-.2826	.1360	-.0328
M = 1.05					
-10	-.5465	.1343	-.0126	-.0652	-.0192
-7	-.3529	.0879	-.0539	-.0409	-.0126
-5	-.2004	.0689	-.0816	-.0223	-.0095
-3	-.0296	.0616	-.1118	-.0022	-.0071
-2	.0706	.0587	-.1254	.0097	-.0070
-1	.1708	.0633	-.1435	.0210	-.0067
0	.2892	.0689	-.1647	.0347	-.0073
1	.4190	.0789	-.1899	.0497	-.0084
2	.5283	.0923	-.2050	.0630	-.0098
3	.6239	.1092	-.2176	.0741	-.0115
5	.7788	.1462	-.2317	.0913	-.0155
7	.9154	.1959	-.2463	.1072	-.0213
10	1.0770	.2822	-.2730	.1296	-.0311
M = 1.10					
-10	-.5279	.1281	-.0106	-.0629	-.0185
-7	-.3417	.0845	-.0494	-.0396	-.0124
-5	-.2037	.0657	-.0760	-.0223	-.0093
-3	-.0350	.0592	-.1051	-.0021	-.0074
-2	.0591	.0582	-.1202	.0085	-.0068
-1	.1533	.0609	-.1366	.0202	-.0067
0	.2628	.0663	-.1526	.0315	-.0076
1	.3811	.1034	-.1754	.0453	-.0084
2	.4928	.0888	-.1948	.0585	-.0098
3	.5957	.1050	-.2093	.0708	-.0119
5	.7425	.1416	-.2234	.0872	-.0153
7	.8805	.1901	-.2384	.1029	-.0207
10	1.0338	.2730	-.2636	.1238	-.0300

TABLE 5.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 5 MODEL - Concluded

$\frac{t}{c}$ = 0.06 $\frac{c_f}{c}$ = 0.40

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.2035				
-7	-.0086				
-5	.1264				
-3	.2699				
-2	.3556				
-1	.4006				
0	.4627				
1	.5377				
2	.5869				
3	.6341				
5	.7476				
7	.8483				
10	.8604				
15	.8547				
20	.8054				
25	.7840				
M = 0.60					
-10	-.2458	.0632	-.0718	-.0290	-.0082
-7	.0025	.0226	-.1165	.0019	-.0017
-5	.1679	.0189	-.1175	.0213	-.0017
-3	.3358	.0248	-.1204	.0403	-.0015
-2	.4159	.0292	-.1146	.0507	-.0018
-1	.4872	.0362	-.1204	.0595	-.0021
0	.5509	.0432	-.1155	.0663	-.0025
1	.6211	.0525	-.1146	.0748	-.0033
2	.6935	.0621	-.1068	.0831	-.0047
3	.7571	.0751	-.1082	.0912	-.0059
5	.8779	.1058	-.1038	.1059	-.0095
7	.9503	.1473	-.1082	.1189	-.0168
10	.9656	.2278	-.1520	.1240	-.0129
15	.9020	.3226	-.1762	.1198	-.0196
20	.9020	.4198	-.1913	.1176	-.0130
25	.8800	.5094	-.1937	.1194	-.0158
M = 0.80					
-10	-.2935	.0774	-.0970	-.0331	-.0106
-7	-.0964	.0431	-.1451	-.0085	-.0043
-5	.0875	.0333	-.1523	.0126	-.0033
-3	.2656	.0387	-.1504	.0329	-.0036
-2	.3465	.0449	-.1513	.0430	-.0039
-1	.4355	.0531	-.1530	.0531	-.0048
0	.5164	.0615	-.1507	.0629	-.0055
1	.6047	.0702	-.1491	.0751	-.0068
2	.6754	.0778	-.1328	.0826	-.0077
3	.8122	.0959	-.1393	.0989	-.0095
5	.9211	.1299	-.1425	.1151	-.0137
7	1.0182	.1791	-.1497	.1289	-.0198
10	1.0917	.1274	-.1572	.1423	-.0292
15	.9593	.1689	-.1940	.1234	-.0411
20	.9446	.4444	-.2038	.1211	-.0534
25	.9299	.5456	-.2168	.1194	-.0653
M = 0.90					
-10	-.4934	.1200	-.0642	-.0589	-.0176
-7	-.3216	.0775	-.0901	-.0346	-.0108
-5	-.0924	.0592	-.1376	-.0071	-.0066
-3	.1810	.0599	-.1860	.0241	-.0058
-2	.3033	.0647	-.1918	.0380	-.0067
-1	.4075	.0742	-.2004	.0498	-.0079
0	.4960	.0838	-.2033	.0622	-.0087
1	.5637	.0871	-.1889	.0698	-.0093
2	.6666	.1047	-.1918	.0824	-.0112
3	.7577	.1239	-.2033	.0933	-.0130
5	.8931	.1623	-.2033	.1097	-.0176
7	1.0181	.2222	-.2292	.1294	-.0239
10	1.1639	.3067	-.2379	.1471	-.0348
15	1.0911	.3803	-.2223	.1299	-.0442

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.5252	.1371	-.0405	-.0592	-.0201
-7	-.3208	.0935	-.0872	-.0334	-.0135
-5	-.1387	.0768	-.1268	-.0106	-.0093
-3	.1189	.0706	-.1825	.0195	-.0078
-2	.2676	.0746	-.2072	.0363	-.0084
-1	.3828	.0819	-.2208	.0500	-.0092
0	.4905	.0935	-.2263	.0623	-.0104
1	.5834	.1073	-.2307	.0496	-.0118
2	.6788	.1242	-.2389	.0852	-.0135
3	.7754	.1453	-.2455	.0953	-.0154
5	.9315	.1919	-.2631	.1121	-.0202
7	1.0628	.2541	-.2828	.1337	-.0271
10	1.2338	.3497	-.3047	.1520	-.0383
15	1.4022	.4837	-.2992	.1664	-.0565
M = 1.00					
-10	-.4975	.1319	-.0383	-.0563	-.0191
-7	-.3016	.0911	-.0830	-.0314	-.0130
-5	-.1354	.0765	-.1190	-.0108	-.0095
-3	.0724	.0712	-.1618	.0141	-.0082
-2	.1971	.0730	-.1828	.0279	-.0080
-1	.3218	.0791	-.2038	.0424	-.0085
0	.4465	.0885	-.2170	.0556	-.0094
1	.5474	.1016	-.2238	.0685	-.0108
2	.6317	.1174	-.2301	.0786	-.0127
3	.7148	.1357	-.2353	.0885	-.0146
5	.8573	.1793	-.2501	.1040	-.0191
7	1.0045	.2365	-.2711	.1250	-.0257
10	1.1613	.3352	-.3005	.1448	-.0368
M = 1.05					
-10	-.4827	.1271	-.0342	-.0550	-.0183
-7	-.2892	.0882	-.0776	-.0303	-.0125
-5	-.1298	.0733	-.1116	-.0108	-.0094
-3	.0524	.0695	-.1501	.0113	-.0082
-2	.1548	.0706	-.1662	.0234	-.0085
-1	.2687	.0767	-.1854	.0367	-.0090
0	.3939	.0846	-.2030	.0504	-.0093
1	.4964	.0965	-.2130	.0632	-.0107
2	.5829	.1111	-.2181	.0732	-.0125
3	.6740	.1299	-.2267	.0836	-.0143
5	.8106	.1719	-.2433	.0995	-.0186
7	.9541	.2279	-.2599	.1198	-.0252
10	1.1066	.3214	-.2901	.1388	-.0354
M = 1.10					
-10	-.4700	.1209	-.0310	-.0534	-.0178
-7	-.2859	.0854	-.0727	-.0296	-.0120
-5	-.1391	.0722	-.1049	-.0119	-.0092
-3	.0449	.0670	-.1405	.0109	-.0082
-2	.1490	.0692	-.1599	.0221	-.0085
-1	.2585	.0746	-.1759	.0343	-.0084
0	.3571	.0824	-.1919	.0460	-.0094
1	.4776	.0940	-.2065	.0604	-.0110
2	.5587	.1075	-.2137	.0700	-.0124
3	.6485	.1258	-.2210	.0800	-.0143
5	.7866	.1665	-.2341	.0955	-.0183
7	.9246	.2219	-.2451	.1153	-.0249
10	1.0648	.3124	-.2743	.1323	-.0351

TABLE 6.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 6 MODEL

$\frac{t}{c}$ = 0.06 $\frac{c_f}{c}$ = NONE

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.6162				
-7	-.4843				
-5	-.3542				
-3	-.2169				
-2	-.1500				
-1	-.0813				
0	-.0108				
1	.0813				
2	.1536				
3	.2440				
5	.3650				
7	.5096				
10	.6813				
15	.8187				
20	1.0012				
25	.7301				
M = 0.60					
-10	-.7031	.1239	.0610	-.0901	-.0177
-7	-.5906	.0585	.0108	-.0722	-.0086
-5	-.4312	.0272	-.0008	-.0522	-.0039
-3	-.2681	.0111	-.0208	-.0322	-.0015
-2	-.1744	.0073	-.0112	-.0218	-.0004
-1	-.0937	.0051	-.0033	-.0115	-.0001
0	-.0056	.0032	.0000	-.0006	.0003
1	.0787	.0064	.0008	.0091	.0005
2	.1669	.0101	.0021	.0188	.0006
3	.2587	.0171	.0021	.0291	.0001
5	.4219	.0088	.0021	.0479	-.0002
7	.5981	.0673	.0041	.0677	-.0028
10	.7537	.1378	-.0436	.0880	-.0102
15	.7856	.2417	-.1000	.0995	-.0238
20	.7725	.3217	-.1120	.0983	-.0349
25	.8044	.4177	-.1203	.0998	-.0470
M = 0.80					
-10	-.8201	.1350	.0567	-.1060	-.0201
-7	-.7026	.0765	.0346	-.0882	-.0114
-5	-.5576	.0381	.0139	-.0684	-.0059
-3	-.3326	.0120	-.0083	-.0405	-.0019
-2	-.2075	.0068	-.0061	-.0255	-.0010
-1	-.1100	.0049	-.0025	-.0142	-.0004
0	-.0075	.0059	.0000	-.0020	-.0001
1	.1100	.0089	.0011	.0121	.0001
2	.2150	.0129	.0061	.0235	.0001
3	.3101	.0196	.0144	.0344	-.0002
5	.5101	.0451	.0028	.0587	-.0018
7	.6926	.0889	-.0199	.0817	-.0062
10	.8251	.1534	-.0429	.1003	-.0140
15	.8301	.2484	-.1126	.0991	-.0265
20	.8677	.3554	-.1372	.1072	-.0397
25	.8602	.4415	-.1493	.1068	-.0504
M = 0.90					
-10	-.8895	.1661	.1416	-.1107	-.0246
-7	-.6908	.0971	.0976	-.0850	-.0139
-5	-.5143	.0564	.0512	-.0625	-.0078
-3	-.3046	.0283	.0147	-.0368	-.0031
-2	-.2008	.0212	.0073	-.0239	-.0020
-1	-.1170	.0158	.0098	-.0136	-.0010
0	-.0066	.0141	.0039	.0000	-.0002
1	.0993	.0184	-.0024	.0125	-.0001
2	.1920	.0238	-.0024	.0243	-.0003
3	.2980	.0348	-.0147	.0393	-.0009
5	.4679	.0608	-.0391	.0596	-.0032
7	.6555	.1064	-.0781	.0821	-.0080
10	.8586	.1786	-.1099	.1057	-.0172
15	1.1545	.3289	-.1587	.1336	-.0349
20	.9800	.3897	-.1782	.1196	-.0212

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.8915	.1751	.1455	-.1119	-.0264
-7	-.6596	.1005	.1016	-.0829	-.0149
-5	-.4932	.0643	.0676	-.0617	-.0096
-3	-.3056	.0419	.0373	-.0385	-.0056
-2	-.1897	.0332	.0233	-.0239	-.0035
-1	-.0822	.0280	.0093	-.0119	-.0023
0	.0211	.0290	.0000	.0014	-.0020
1	.1286	.0332	-.0131	.0136	-.0015
2	.2297	.0399	-.0233	.0252	-.0016
3	.3309	.0513	-.0396	.0375	-.0024
5	.4995	.0798	-.0699	.0580	-.0050
7	.7060	.1280	-.1165	.0818	-.0100
10	.9463	.2145	-.1818	.1108	-.0199
M = 1.00					
-10	-.8383	.1659	.1564	-.1046	-.0251
-7	-.6181	.0989	.0929	-.0771	-.0146
-5	-.4585	.0640	.0648	-.0579	-.0096
-3	-.2787	.0427	.0402	-.0360	-.0056
-2	-.1838	.0368	.0268	-.0239	-.0045
-1	-.0869	.0342	.0121	-.0124	-.0031
0	.0182	.0333	.0000	.0007	-.0027
1	.1192	.0378	-.0134	.0118	-.0027
2	.2161	.0442	-.0290	.0235	-.0027
3	.3131	.0551	-.0425	.0346	-.0035
5	.4787	.0815	-.0715	.0546	-.0059
7	.6403	.1222	-.1028	.0742	-.0098
10	.8726	.1992	-.1622	.1013	-.0185
M = 1.05					
-10	-.7909	.1583	.1449	-.0988	-.0239
-7	-.5874	.0934	.0901	-.0737	-.0144
-5	-.4459	.0619	.0652	-.0558	-.0098
-3	-.2695	.0405	.0395	-.0345	-.0056
-2	-.1745	.0353	.0249	-.0229	-.0044
-1	-.0756	.0333	.0107	-.0113	-.0029
0	.0174	.0338	-.0004	.0000	-.0028
1	.1144	.0386	-.0163	.0110	-.0026
2	.2074	.0448	-.0292	.0220	-.0028
3	.2947	.0539	-.0407	.0323	-.0034
5	.4536	.0791	-.0665	.0511	-.0056
7	.6145	.1196	-.0986	.0706	-.0095
10	.8200	.1916	-.1509	.0941	-.0171
M = 1.10					
-10	-.7660	.1544	.1402	-.0959	-.0233
-7	-.5741	.0912	.0928	-.0709	-.0142
-5	-.4249	.0614	.0639	-.0534	-.0127
-3	-.2572	.0399	.0371	-.0326	-.0058
-2	-.1640	.0349	.0235	-.0217	-.0042
-1	-.0708	.0339	.0124	-.0112	-.0030
0	.0168	.0339	-.0008	.0000	-.0026
1	.1118	.0376	-.0157	.0109	-.0024
2	.2032	.0440	-.0280	.0217	-.0026
3	.2870	.0531	-.0412	.0317	-.0033
5	.4455	.0788	-.0680	.0498	-.0054
7	.6001	.1178	-.0989	.0688	-.0091
10	.8052	.1866	-.1402	.0920	-.0173

TABLE 6.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 6 MODEL - Continued

$\frac{t}{c}$ = 0.06 $\frac{c_f}{c}$ = 0.20

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.3355				
-7	-.1435				
-5	.0072				
-3	.1507				
-2	.2260				
-1	.2960				
0	.3570				
1	.4180				
2	.4790				
3	.5436				
5	.6605				
7	.7858				
10	.8575				
15	1.0513				
20	1.2127				
25	1.2917				
M = 0.60					
-10	-.3858	.0800	-.0592	-.0462	-.0114
-7	-.1692	.0257	-.1258	-.0179	-.0028
-5	-.0130	.0132	-.1312	.0012	-.0012
-3	.1376	.0141	-.1258	.0182	-.0008
-2	.2203	.0169	-.1183	.0269	-.0007
-1	.2956	.0206	-.1180	.0360	-.0009
0	.3849	.0260	-.1177	.0463	-.0011
1	.5132	.0335	-.1168	.0608	-.0015
2	.5783	.0420	-.1168	.0686	-.0018
3	.6582	.0536	-.1135	.0779	-.0018
5	.7977	.0824	-.1063	.0945	-.0039
7	.9130	.1303	-.1135	.1092	-.0089
10	.9818	.2103	-.1567	.1207	-.0192
15	.9037	.3046	-.1855	.1176	-.0324
M = 0.80					
-10	-.4676	.0955	-.0620	-.0544	-.0147
-7	-.4056	.0482	-.0922	-.0460	-.0082
-5	-.1947	.0234	-.1237	-.0209	-.0034
-3	.0459	.0171	-.1278	.0072	-.0015
-2	.1625	.0198	-.1284	.0203	-.0013
-1	.2704	.0257	-.1306	.0323	-.0012
0	.3907	.0341	-.1377	.0460	-.0012
1	.5122	.0448	-.1432	.0604	-.0016
2	.6697	.0579	-.1526	.0775	-.0024
3	.8012	.0747	-.1542	.0925	-.0036
5	.9376	.1108	-.1542	.1128	-.0075
7	1.0294	.1616	-.1596	.1268	-.0127
10	1.1286	.2379	-.1652	.1393	-.0224
15	.9376	.3171	-.1997	.1168	-.0346
M = 0.90					
-10	-.6788	.1362	-.0003	-.0822	-.0211
-7	-.5364	.0819	-.0075	-.0636	-.0130
-5	-.3810	.0485	-.0305	-.0423	-.0077
-3	-.1686	.0328	-.0668	-.0167	-.0042
-2	.0175	.0312	-.1216	.0046	-.0023
-1	.1883	.0350	-.1506	.0241	-.0022
0	.3131	.0430	-.1589	.0383	-.0026
1	.4270	.0539	-.1631	.0516	-.0038
2	.5386	.0668	-.1676	.0636	-.0050
3	.6525	.0862	-.1869	.0764	-.0066
5	.8167	.1238	-.2039	.0985	-.0106
7	.9763	.1777	-.2184	.1180	-.0166
10	1.1911	.2746	-.2625	.1396	-.0277

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.7749	.1613	.0551	-.0924	-.0246
-7	-.5520	.0973	.0125	-.0651	-.0149
-5	-.3791	.0692	-.0221	-.0425	-.0105
-3	-.1979	.0461	-.0544	-.0199	-.0057
-2	-.0771	.0435	-.0739	-.0064	-.0043
-1	.0583	.0205	-.1074	.0098	-.0038
0	.2354	.0553	-.1525	.0290	-.0043
1	.3979	.0676	-.1908	.0482	-.0055
2	.5270	.0820	-.2087	.0634	-.0065
3	.6436	.0999	-.2216	.0772	-.0085
5	.8353	.1434	-.2433	.0981	-.0134
7	.9998	.2038	-.2728	.1190	-.0197
M = 1.00					
-10	-.7322	.1560	.0561	-.0885	-.0236
-7	-.5127	.0987	.0064	-.0600	-.0147
-5	-.3431	.0711	-.0304	-.0391	-.0104
-3	-.1536	.0565	-.0664	-.0158	-.0074
-2	-.0479	.0555	-.0856	-.0036	-.0059
-1	.0559	.0540	-.1061	.0087	-.0053
0	.1855	.0589	-.1293	.0236	-.0051
1	.3152	.0662	-.1571	.0391	-.0058
2	.4648	.0805	-.1924	.0568	-.0070
3	.6005	.0982	-.2127	.0713	-.0084
5	.7601	.1374	-.2365	.0907	-.0122
7	.9437	.1938	-.2615	.1114	-.0186
M = 1.05					
-10	-.7116	.1496	.0548	-.0839	-.0224
-7	-.4858	.0941	.0072	-.0570	-.0143
-5	-.3233	.0682	-.0277	-.0368	-.0105
-3	-.1473	.0550	-.0626	-.0152	-.0078
-2	-.0516	.0541	-.0806	-.0043	-.0054
-1	.0497	.0532	-.0997	.0080	-.0054
0	.1626	.0564	-.1189	.0204	-.0055
1	.2891	.0648	-.1430	.0350	-.0059
2	.3940	.0753	-.1654	.0483	-.0065
3	.5318	.0696	-.1993	.0638	-.0079
5	.7230	.1307	-.2251	.0860	-.0119
7	.8837	.1834	-.2505	.1049	-.0176
M = 1.10					
-10	-.6749	.1452	.0547	-.0815	-.0218
-7	-.4726	.0905	.0069	-.0548	-.0139
-5	-.3163	.0217	-.0242	-.0363	-.0102
-3	-.1361	.0543	-.0582	-.0146	-.0074
-2	-.0405	.0533	-.0795	-.0033	-.0054
-1	.0570	.0520	-.0958	.0077	-.0057
0	.1582	.0543	-.1143	.0196	-.0056
1	.2722	.0615	-.1347	.0330	-.0062
2	.3788	.0941	-.1562	.0455	-.0073
3	.4984	.0868	-.1814	.0592	-.0082
5	.6860	.1221	-.2148	.0812	-.0120
7	.8515	.1741	-.2408	.1003	-.0176

TABLE 6.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 6 MODEL - Continued

$\frac{t}{c} = 0.06$ $\frac{c_f}{c} = 0.30$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.2418				
-7	-.0412				
-5	.1021				
-3	.2507				
-2	.3349				
-1	.4083				
0	.4567				
1	.5176				
2	.5821				
3	.6358				
5	.7522				
7	.8686				
10	.9134				
15	1.0925				
20	1.2358				
25	1.2967				
M = 0.60					
-10	-.3063	.0835	-.0673	-.0401	-.0105
-7	-.0696	.0319	-.0665	.0149	-.0032
-5	.1095	.0206	-.1302	.0364	-.0027
-3	.2952	.0251	-.1302	.0362	-.0022
-2	.3898	.0301	-.1322	.0469	-.0022
-1	.4734	.0369	-.1219	.0359	-.0025
0	.5532	.0438	-.1199	.0656	-.0028
1	.6126	.0507	-.1138	.0721	-.0029
2	.6869	.1077	-.1035	.0817	-.0030
3	.7704	.0780	-.1035	.0901	-.0033
5	.9096	.1123	-.0945	.1069	-.0064
7	.9653	.1639	-.1138	.1163	-.0122
10	1.0581	.2519	-.1454	.1292	-.0230
15	1.0136	.3616	-.1753	.1295	-.0383
20	.9245	.4327	-.1733	.1163	-.0484
M = 0.80					
-10	-.3654	.0931	-.0992	-.0449	-.0115
-7	-.2291	.0476	-.1408	-.0259	-.0049
-5	-.0248	.0292	-.1518	-.0020	-.0024
-3	.1858	.0338	-.1436	.0222	-.0022
-2	.2948	.0393	-.1397	.0338	-.0022
-1	.3864	.0469	-.1381	.0441	-.0023
0	.4954	.0566	-.1343	.0565	-.0025
1	.6131	.0704	-.1397	.0696	-.0028
2	.7679	.0871	-.1408	.0866	-.0038
3	.8769	.1063	-.1436	.1022	-.0052
5	1.0058	.1480	-.1452	.1191	-.0093
7	1.0949	.1985	-.1381	.1311	-.0156
10	1.1147	.2687	-.1518	.1431	-.0255
15	.9686	.3545	-.1874	.1291	-.0369
M = 0.90					
-10	-.5904	.1349	-.0517	-.0651	-.0195
-7	-.4548	.0812	-.0517	-.0448	-.0117
-5	-.2690	.0559	-.0856	-.0209	-.0070
-3	.0437	.0462	-.1509	.0154	-.0040
-2	.2034	.0516	-.1678	.0329	-.0032
-1	.3324	.0623	-.1799	.0472	-.0039
0	.4461	.0715	-.1727	.0596	-.0044
1	.5467	.0892	-.1872	.0720	-.0053
2	.6451	.1027	-.1799	.0823	-.0064
3	.7544	.1253	-.1920	.0962	-.0083
5	.9118	.1726	-.2114	.1157	-.0131
7	1.0715	.2291	-.2235	.1334	-.0154

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.6551	.1554	-.0069	-.0712	-.0218
-7	-.4409	.1028	-.0515	-.0443	-.0135
-5	-.2599	.0782	-.0837	-.0215	-.0096
-3	-.0374	.0645	-.1251	.0062	-.0056
-2	.1248	.0685	-.1573	.0239	-.0054
-1	.2911	.0773	-.1950	.0432	-.0056
0	.4471	.0890	-.2171	.0592	-.0062
1	.5677	.1043	-.2203	.0727	-.0072
2	.6696	.1248	-.2291	.0427	-.0088
3	.7694	.1463	-.2410	.0488	-.0109
5	.9358	.1923	-.2548	.0584	-.0159
7	1.1146	.2562	-.2778	.0676	-.0227
M = 1.00					
-10	-.6374	.1519	-.0066	-.0682	-.0215
-7	-.4123	.1009	-.0494	-.0408	-.0140
-5	-.2390	.0813	-.0837	-.0190	-.0100
-3	-.0319	.0740	-.1229	.0060	-.0068
-2	.0837	.0725	-.1419	.0197	-.0065
-1	.2151	.0764	-.1661	.0350	-.0067
0	.3884	.0862	-.2057	.0548	-.0069
1	.5218	.1029	-.2177	.0672	-.0076
2	.6174	.1195	-.2238	.0785	-.0086
3	.7230	.1401	-.2291	.0919	-.0108
5	.8803	.1841	-.2485	.1096	-.0150
7	1.0476	.2439	-.2688	.1270	-.0216
M = 1.05					
-10	-.6111	.1474	-.0021	-.0657	-.0208
-7	-.4010	.0967	-.0452	-.0391	-.0134
-5	-.2349	.0766	-.0790	-.0182	-.0101
-3	-.0382	.0714	-.1149	.0046	-.0067
-2	.0726	.0700	-.1347	.0181	-.0068
-1	.1814	-.0198	-.1517	.0181	-.0068
0	.3132	.0835	-.1761	.0451	-.0071
1	.4583	.0982	-.2015	.0606	-.0078
2	.5767	.1146	-.2154	.0732	-.0087
3	.6722	.1352	-.2230	.0856	-.0104
5	.8250	.1756	-.2357	.1026	-.0144
7	.9930	.2353	-.2577	.1211	-.0208
M = 1.10					
-10	-.5838	.1427	-.0032	-.0324	-.0203
-7	-.3874	.0944	-.0422	-.0193	-.0135
-5	-.2240	.0749	-.0739	-.0089	-.0096
-3	-.0367	.0690	-.1105	.0025	-.0073
-2	.0734	.0682	-.1287	.0085	-.0065
-1	.1652	.0722	-.1430	.0144	-.0068
0	.2846	.0803	-.1633	.0208	-.0070
1	.4223	.0948	-.1876	.0285	-.0076
2	.5471	.1111	-.2071	.0357	-.0087
3	.6463	.1300	-.2153	.0412	-.0105
5	.7987	.1697	-.2291	.0496	-.0143

TABLE 6.- THE AERODYNAMIC CHARACTERISTICS OF THE ASPECT RATIO 6 MODEL - Concluded

$\frac{t}{c} = 0.06$ $\frac{c_f}{c} = 0.40$

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.40					
-10	-.2076				
-7	.0055				
-5	.1694				
-3	.3151				
-2	.3879				
-1	.4571				
0	.5154				
1	.5973				
2	.6520				
3	.7066				
5	.8341				
7	.9324				
10	.9215				
15	1.1145				
20	1.2311				
25	1.2639				
M = 0.60					
-10	-.2495	.0659	-.0748	-.0318	-.0071
-7	.0170	.0185	-.1207	.0028	-.0022
-5	.2002	.0194	-.1240	.0238	-.0014
-3	.3824	.0255	-.1270	.0443	-.0010
-2	.4683	.0321	-.1258	.0550	-.0012
-1	.5534	.0391	-.1136	.0636	-.0017
0	.6193	.0474	-.1165	.0718	-.0019
1	.6987	.0604	-.1165	.0810	-.0020
2	.7799	.0729	-.1082	.0895	-.0024
3	.8554	.0906	-.1090	.0978	-.0032
5	.9744	.1254	-.1061	.1121	-.0064
7	1.0046	.1792	-.1278	.1173	-.0130
10	1.1216	.2880	-.1666	.1338	-.0264
15	.9366	.3437	-.1750	.1176	-.0370
20	.9177	.4383	-.1834	.1137	-.0480
M = 0.80					
-10	-.3272	.0804	-.1069	-.0387	-.0094
-7	-.1334	.0443	-.1436	-.0143	-.0042
-5	.0692	.0295	-.1525	.0092	-.0024
-3	.2618	.0399	-.1487	.0312	-.0022
-2	.3524	.0477	-.1470	.0413	-.0023
-1	.4430	.0558	-.1442	.0517	-.0026
0	.5702	.0717	-.1576	.0662	-.0033
1	.6825	.0842	-.1525	.0784	-.0041
2	.8131	.0982	-.1459	.0917	-.0049
3	.9138	.1188	-.1525	.1055	-.0066
5	1.0271	.1653	-.1626	.1210	-.0111
7	1.1152	.2198	-.1682	.1344	-.0177
10	1.0145	.2643	-.1693	.1251	-.0262
15	.8534	.3144	-.1525	.1222	-.0388
20	.7124	.3367	-.1108	.1214	-.0529
M = 0.90					
-10	-.4876	.1167	-.0784	-.0623	-.0173
-7	-.3258	.0737	-.0972	-.0389	-.0101
-5	-.1028	.0581	-.1432	-.0117	-.0059
-3	.1662	.0559	-.1756	.0198	-.0043
-2	.2886	.0623	-.1794	.0340	-.0044
-1	.3958	.0721	-.1809	.0460	-.0051
0	.4986	.0844	-.1857	.0577	-.0059
1	.6254	.1054	-.2051	.0718	-.0075
2	.6800	.1086	-.1881	.0796	-.0076
3	.7828	.1312	-.2003	.0924	-.0099
5	.9206	.1742	-.2099	.1097	-.0143
7	1.0496	.2301	-.2268	.1253	-.0214
10	1.2376	.3302	-.2651	.1444	-.0321

α, deg	C_L	C_D	C_M	C_l	C_n
M = 0.95					
-10	-.5620	.1454	-.0497	-.0694	-.0408
-7	-.3487	.3880	-.0939	-.0413	-.0131
-5	-.1603	.3245	-.1345	-.0177	-.0093
-3	.1072	.2959	-.1929	.0147	-.0074
-2	.2758	.3194	-.2192	.0337	-.0073
-1	.4038	.3583	-.2431	.0480	-.0077
0	.5131	.4115	-.2431	.0606	-.0086
1	.6266	.4761	-.2477	.0733	-.0098
2	.7306	.1393	-.2569	.0859	-.0115
3	.8285	.1597	-.2615	.0943	-.0137
5	.9784	.2084	-.2836	.1159	-.0190
7	1.1574	.2784	-.3030	.1331	-.0264
M = 1.00					
-10	-.5263	.1383	-.0459	-.0645	-.0197
-7	-.3170	.0990	-.0944	-.0379	-.0132
-5	-.1535	.0843	-.1297	-.0177	-.0098
-3	.0558	.0785	-.1729	.0086	-.0087
-2	.2014	.0818	-.2002	.0255	-.0080
-1	.3609	.0892	-.2329	.0431	-.0082
0	.4885	.1025	-.2555	.0573	-.0088
1	.5941	.1186	-.2417	.0690	-.0098
2	.6978	.1358	-.2461	.0816	-.0117
3	.7835	.1569	-.2567	.0919	-.0135
5	.9291	.2010	-.2708	.1090	-.0185
7	1.1005	.2667	-.2946	.1252	-.0253
M = 1.05					
-10	-.5107	.1373	-.0410	-.0638	-.0191
-7	-.3156	.0974	-.0855	-.0387	-.0130
-5	-.1530	.0819	-.1202	-.0189	-.0096
-3	.0593	.0762	-.1633	.0059	-.0085
-2	.1683	.0800	-.1815	.0193	-.0082
-1	.3060	.0880	-.2149	.0341	-.0082
0	.4457	.0988	-.2259	.0500	-.0087
1	.5585	.1148	-.2344	.0619	-.0097
2	.6523	.1327	-.2403	.0724	-.0112
3	.7422	.1524	-.2479	.0842	-.0132
5	.8856	.1962	-.2657	.1006	-.0179
7	1.0482	.2606	-.2869	.1161	-.0245
M = 1.10					
-10	-.4905	.1319	-.0211	-.0632	-.0184
-7	-.2976	.0912	-.0410	-.0394	-.0129
-5	-.1470	.0777	-.0585	-.0208	-.0095
-3	.0514	.0741	-.0789	.0033	-.0085
-2	.1617	.0777	-.0878	.0156	-.0083
-1	.2811	.0845	-.0984	.0294	-.0083
0	.4097	.0949	-.1073	.0439	-.0087
1	.5236	.1093	-.1134	.0572	-.0097
2	.6118	.1260	-.1162	.0669	-.0111
3	.7036	.1455	-.1195	.0782	-.0132
5	.8414	.1870	-.1268	.0936	-.0176
7	.9921	.2457	-.1561	.1100	-.0240

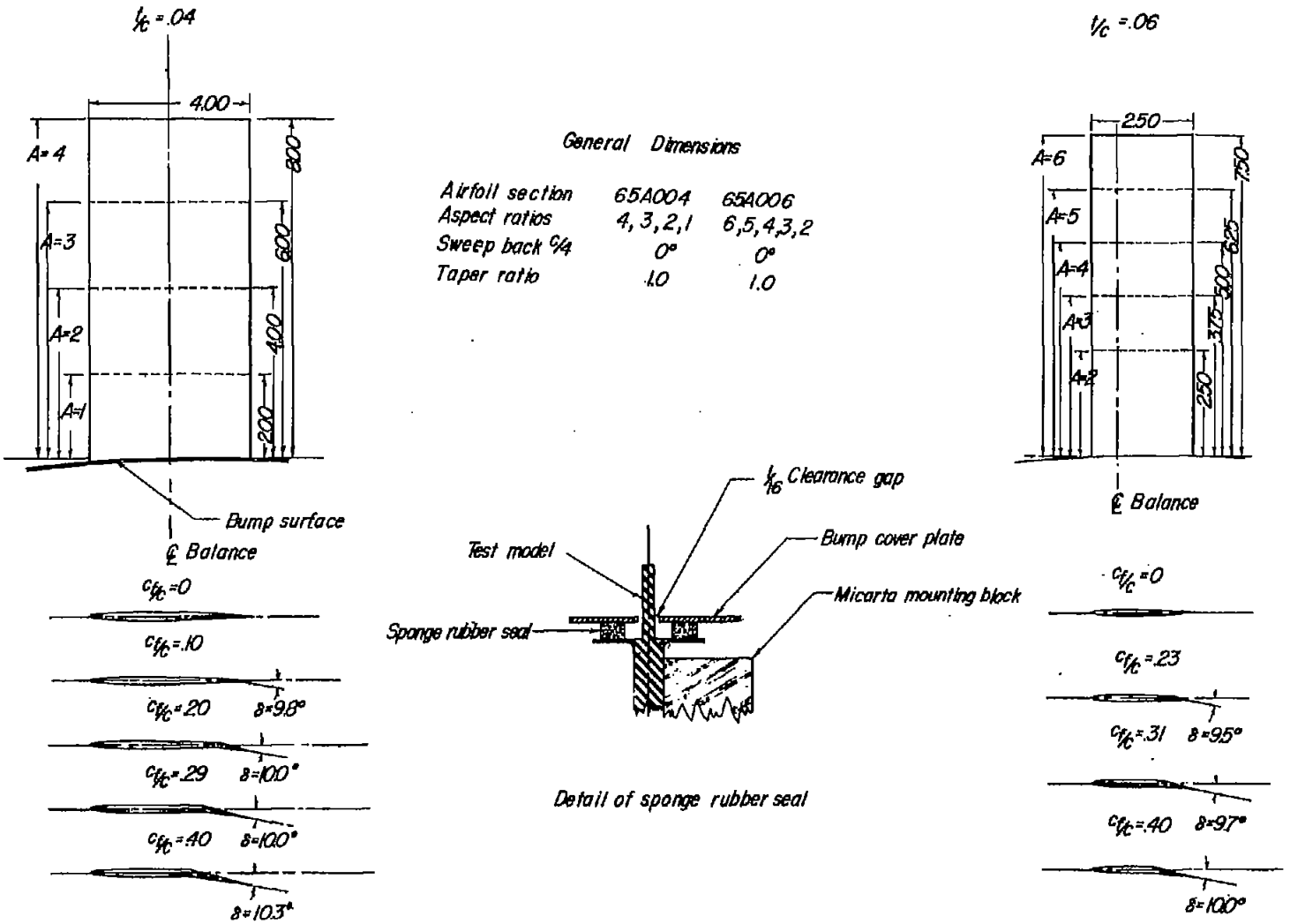


Figure 1.- General dimensions and model geometry. (All dimensions in inches unless otherwise noted.)

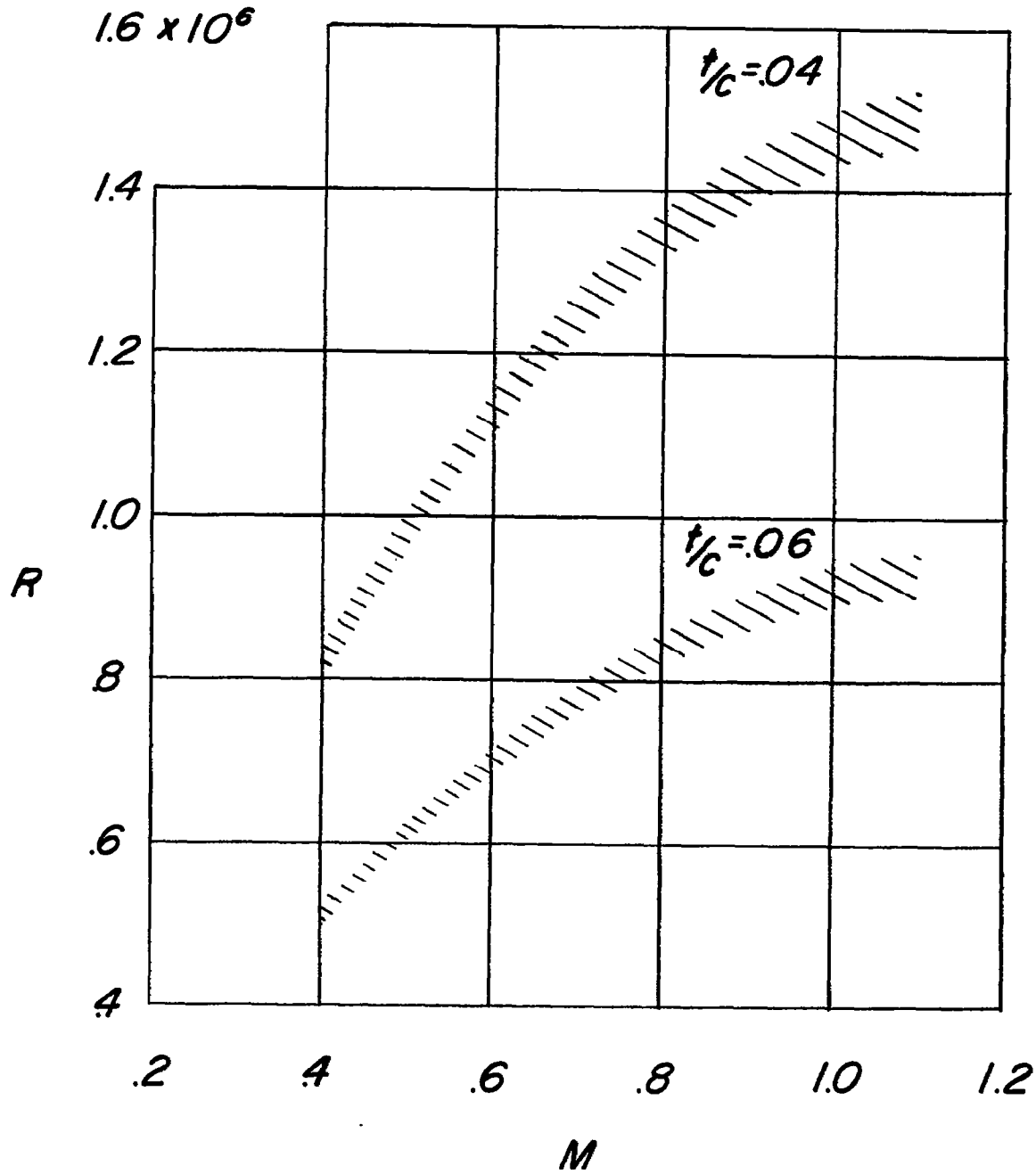
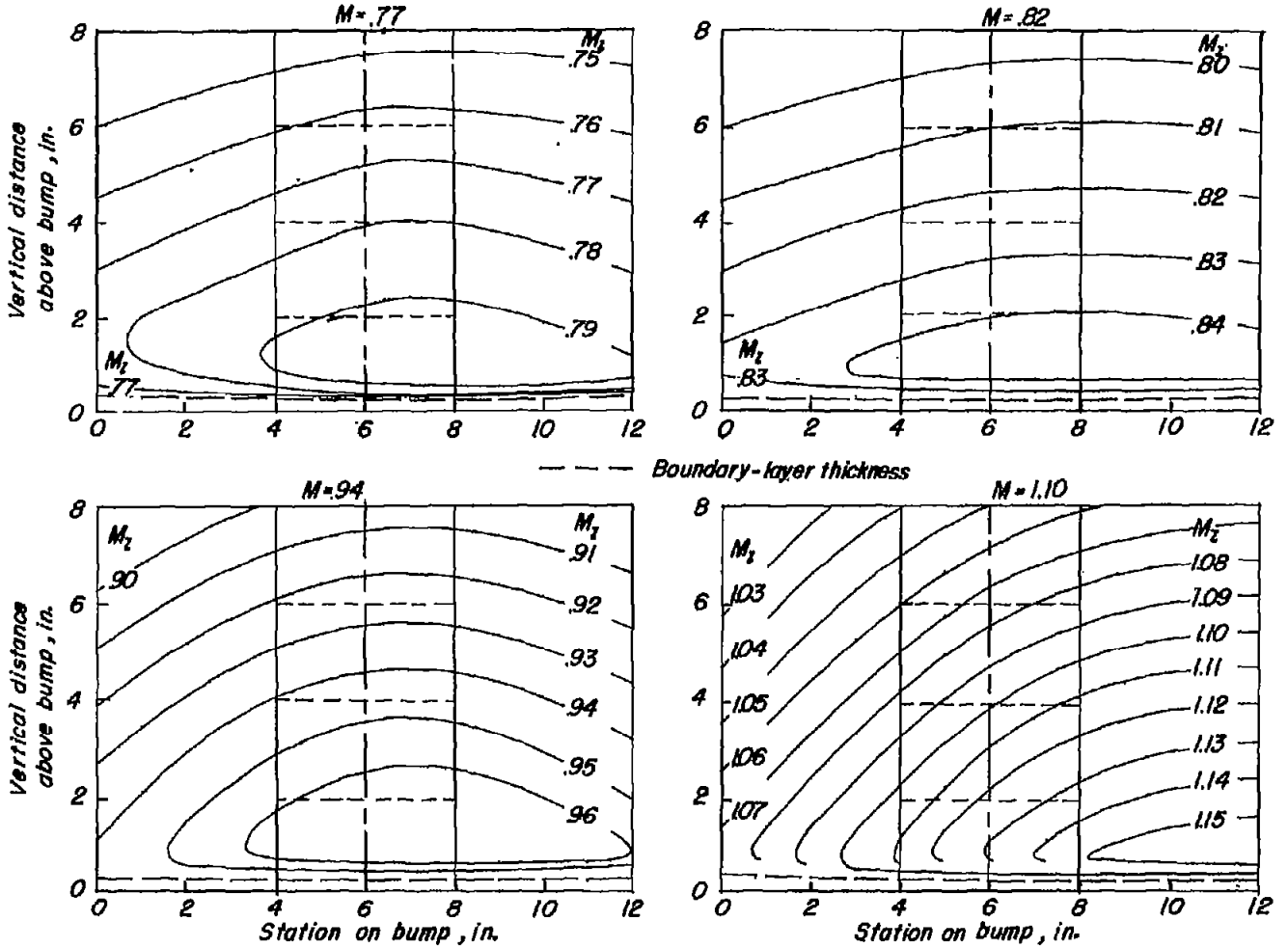
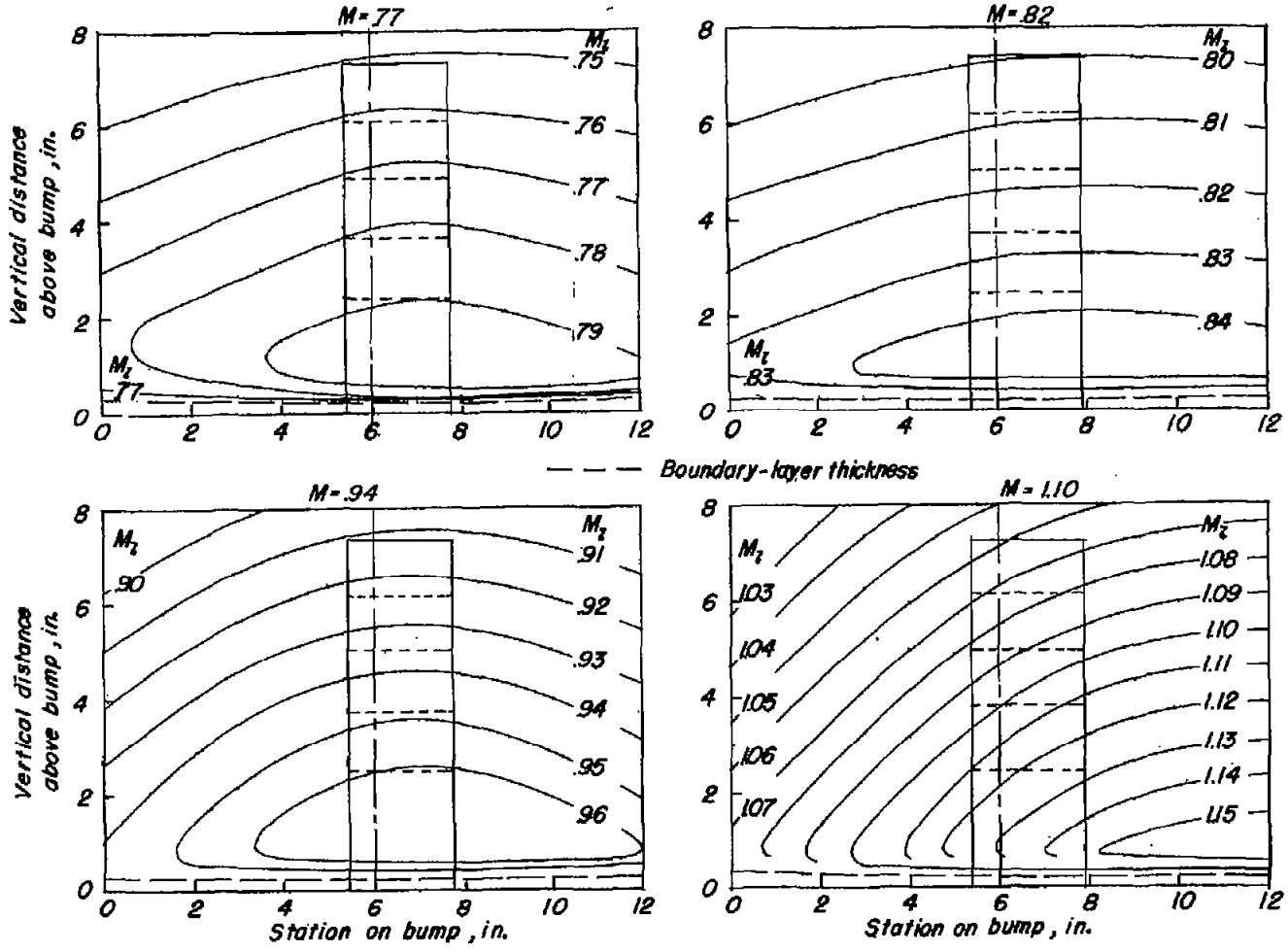


Figure 2.- Variation of test Reynolds number with Mach number.



(a) t/c = 0.04.

Figure 3.- Typical Mach number contours over transonic bump in region of model location.



(b) t/c = 0.06.

Figure 3.- Concluded.

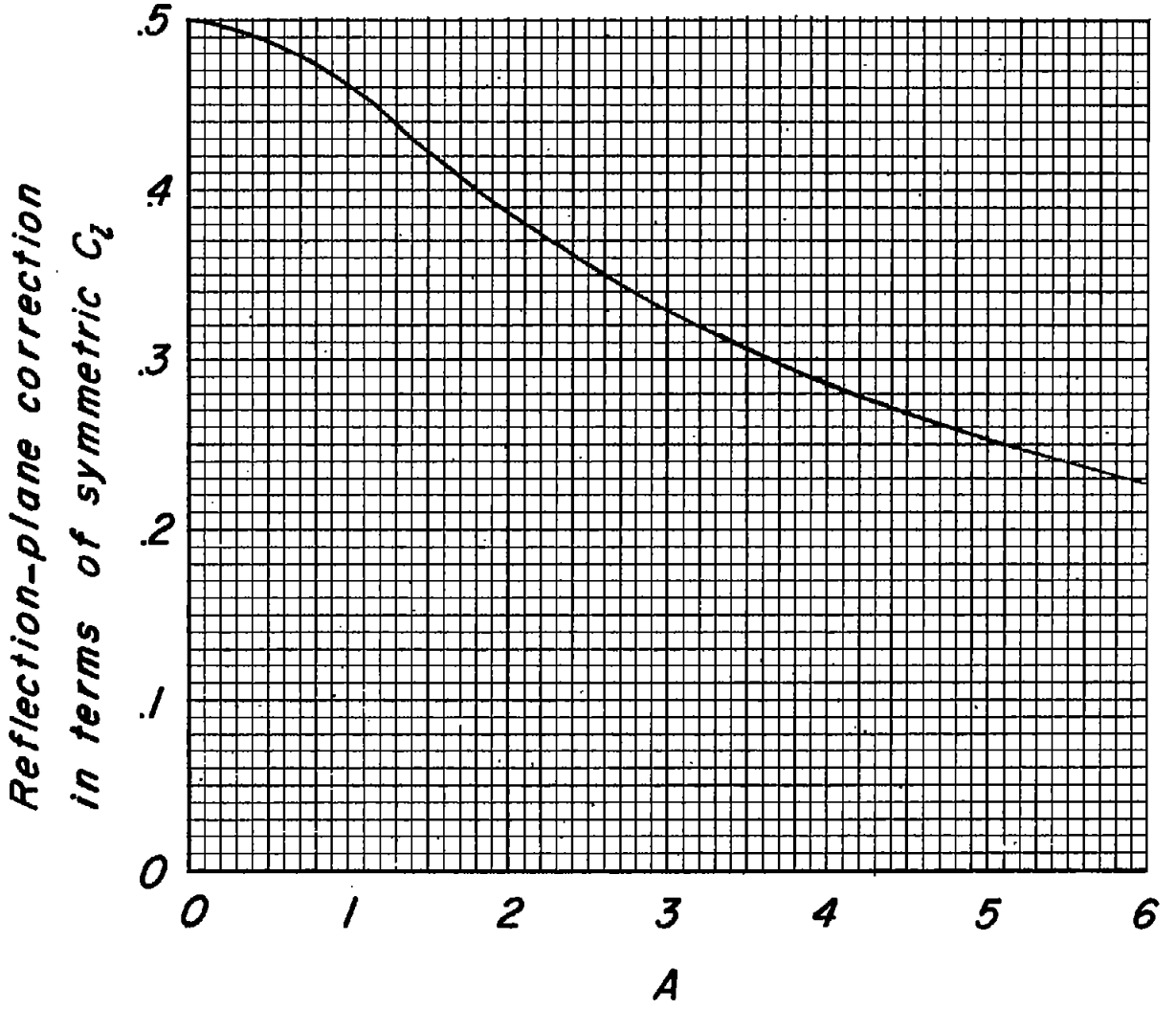


Figure 4.- Variation of reflection-plane correction with aspect ratio for full-span controls on untapered, unswept wings.

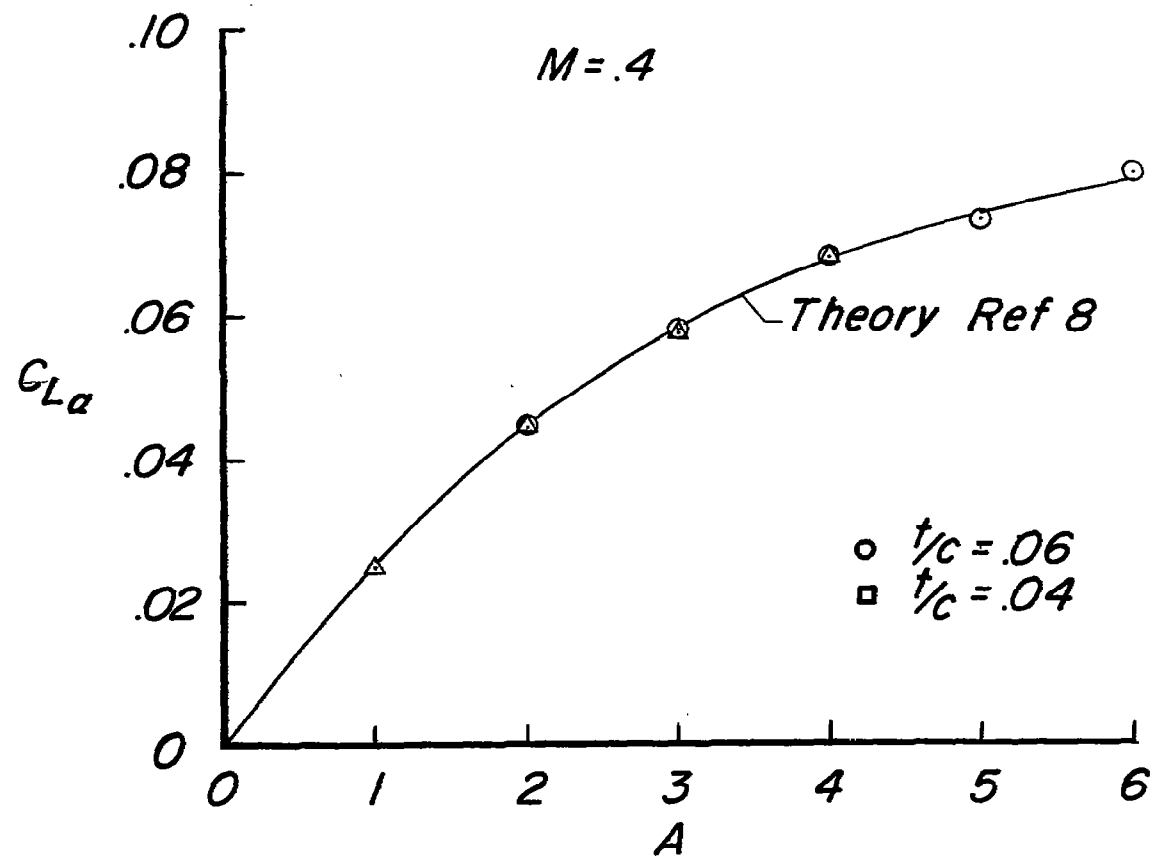


Figure 5.- Variation of the lift-curve slope with aspect ratio at a Mach number of 0.4.

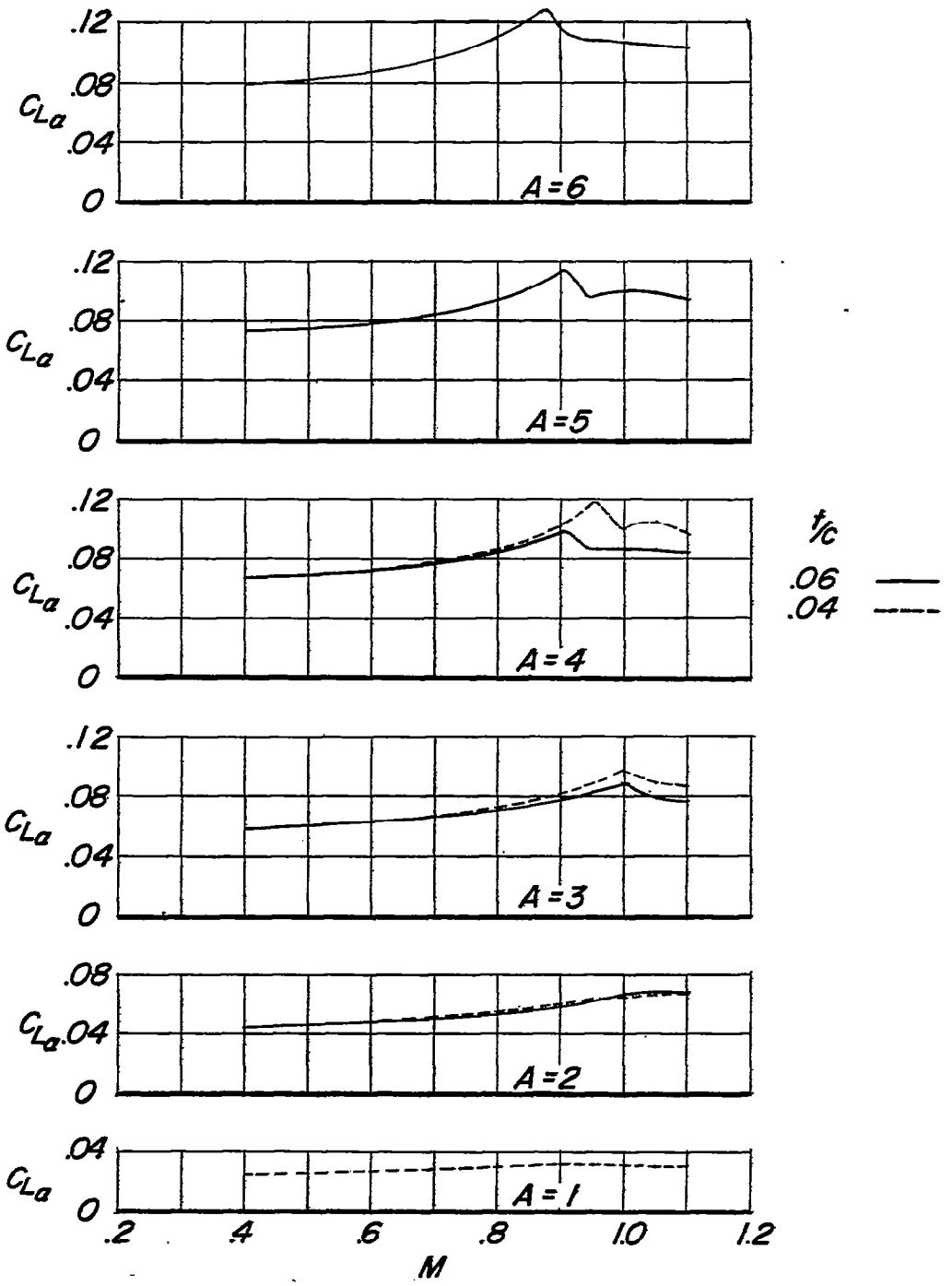
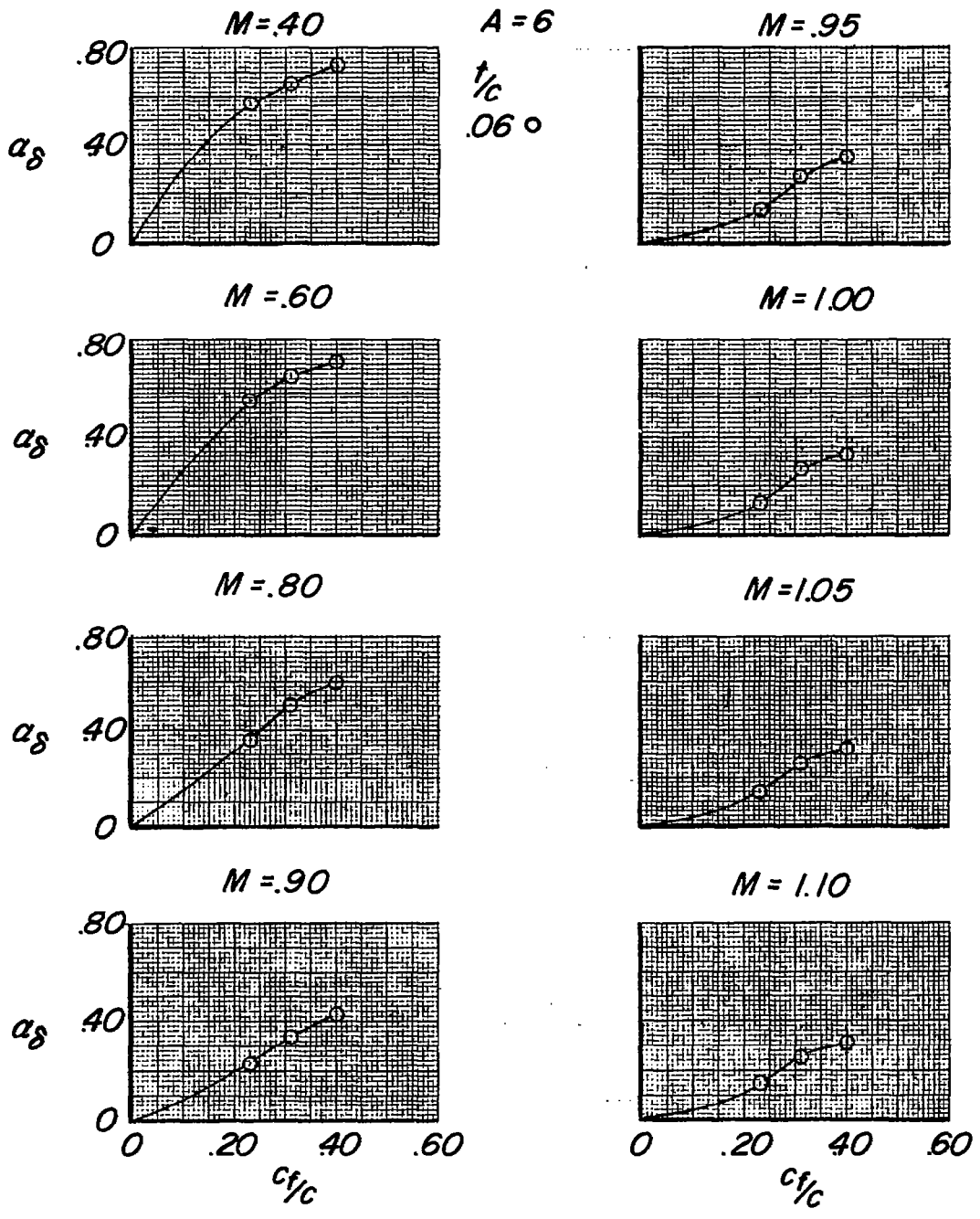
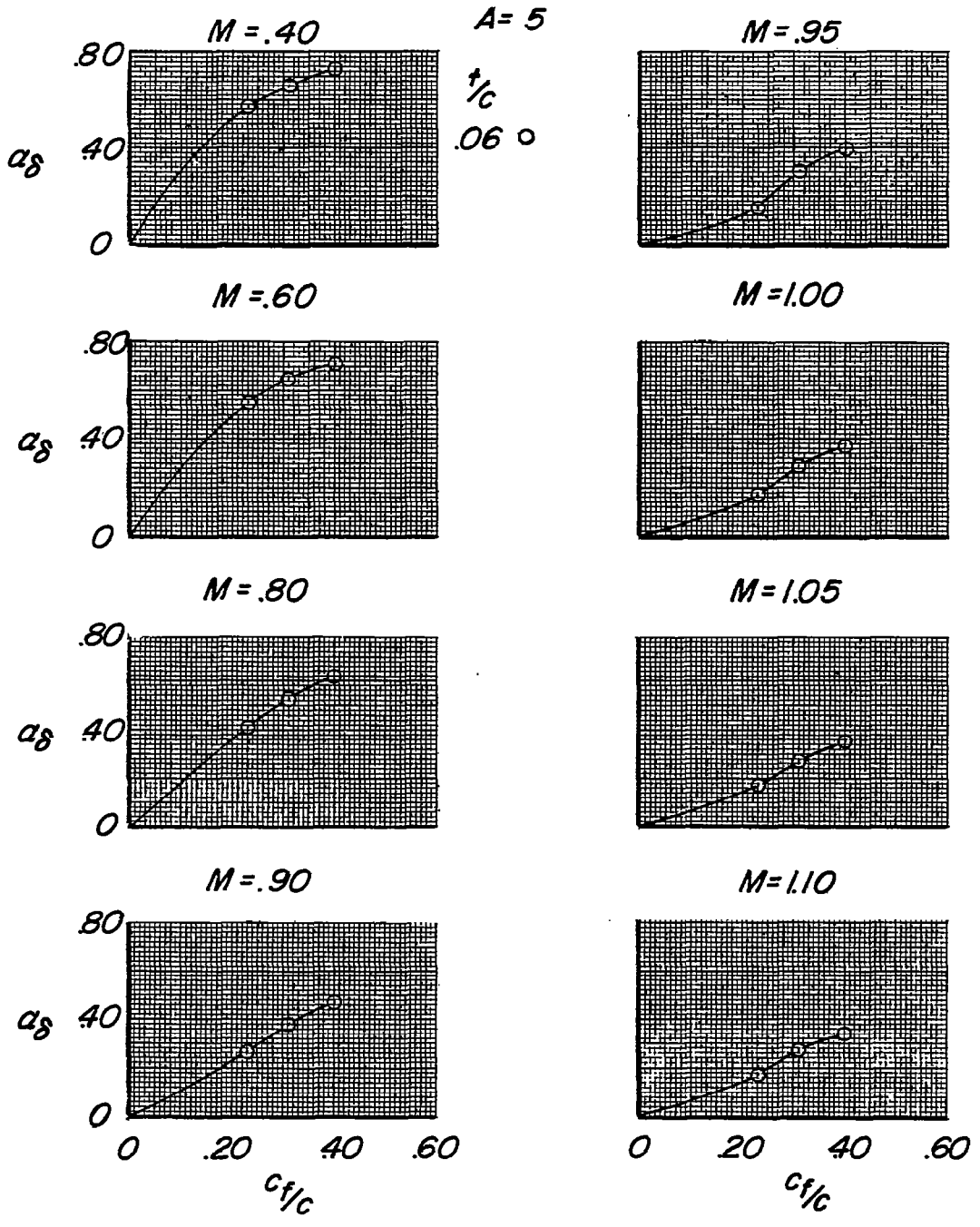


Figure 6.- The variation of lift-curve slope with Mach number.



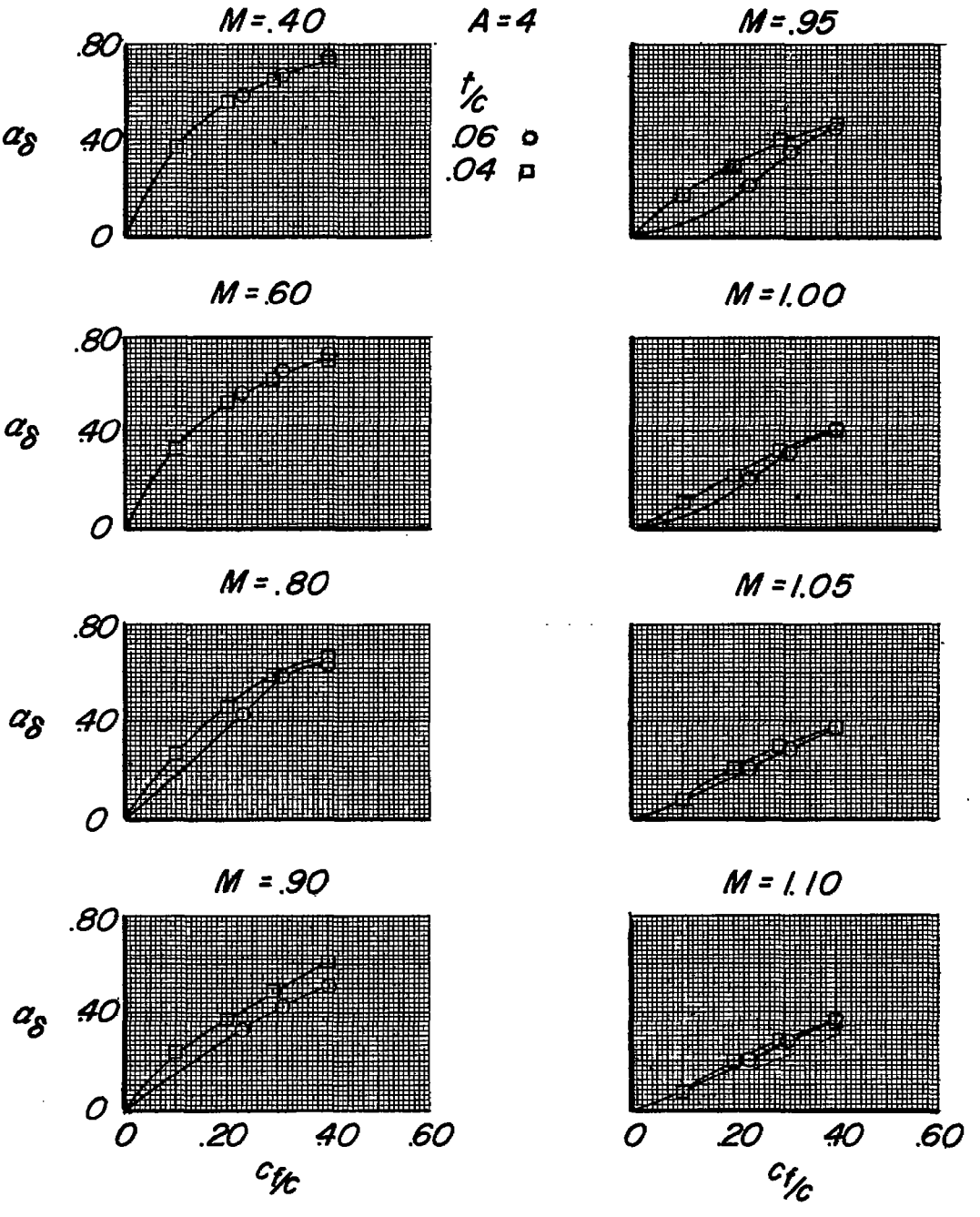
(a) A = 6.

Figure 7.- Flap-effectiveness parameter a_δ as a function of c_f/c.



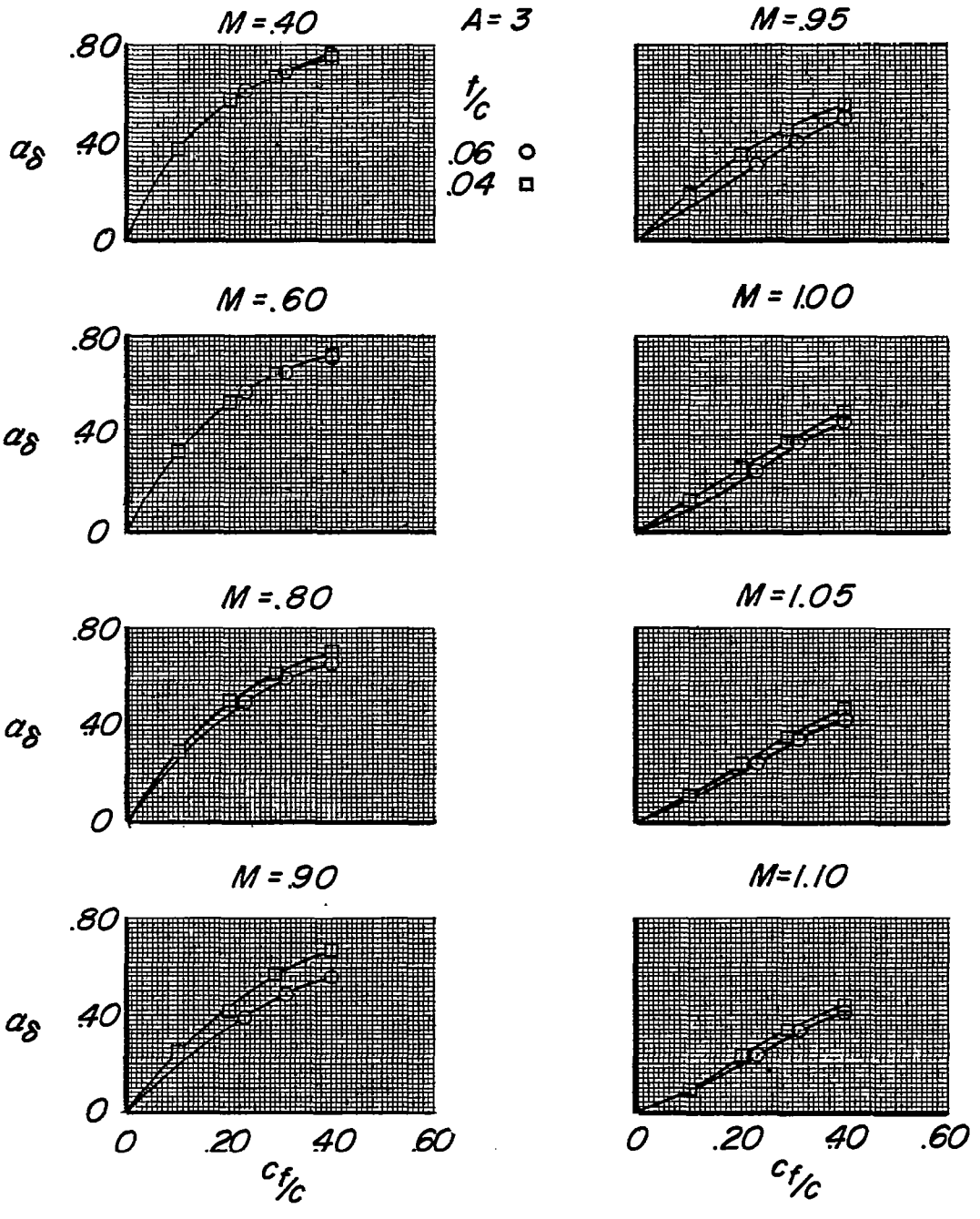
(b) A = 5.

Figure 7.- Continued.



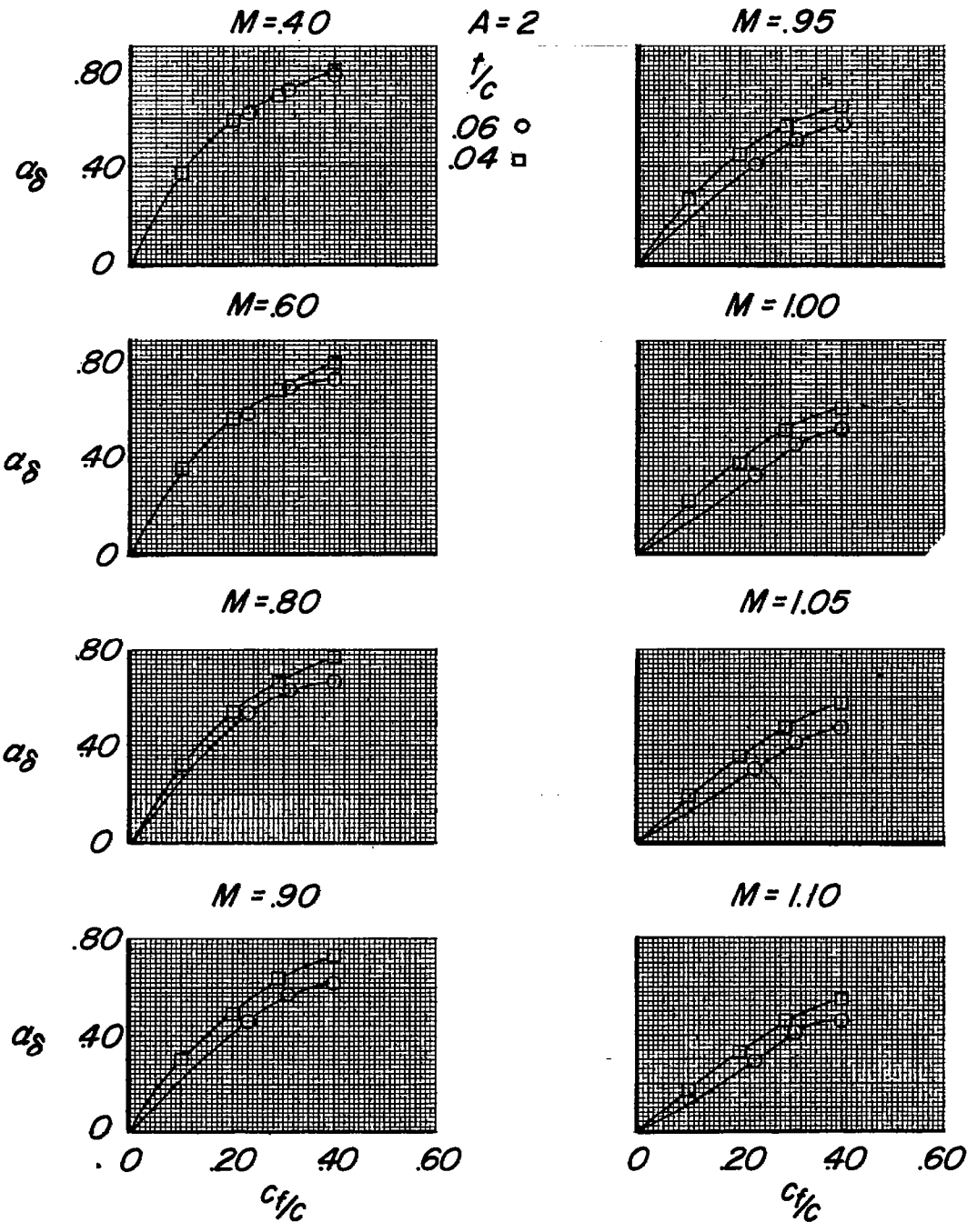
(c) A = 4.

Figure 7.- Continued.



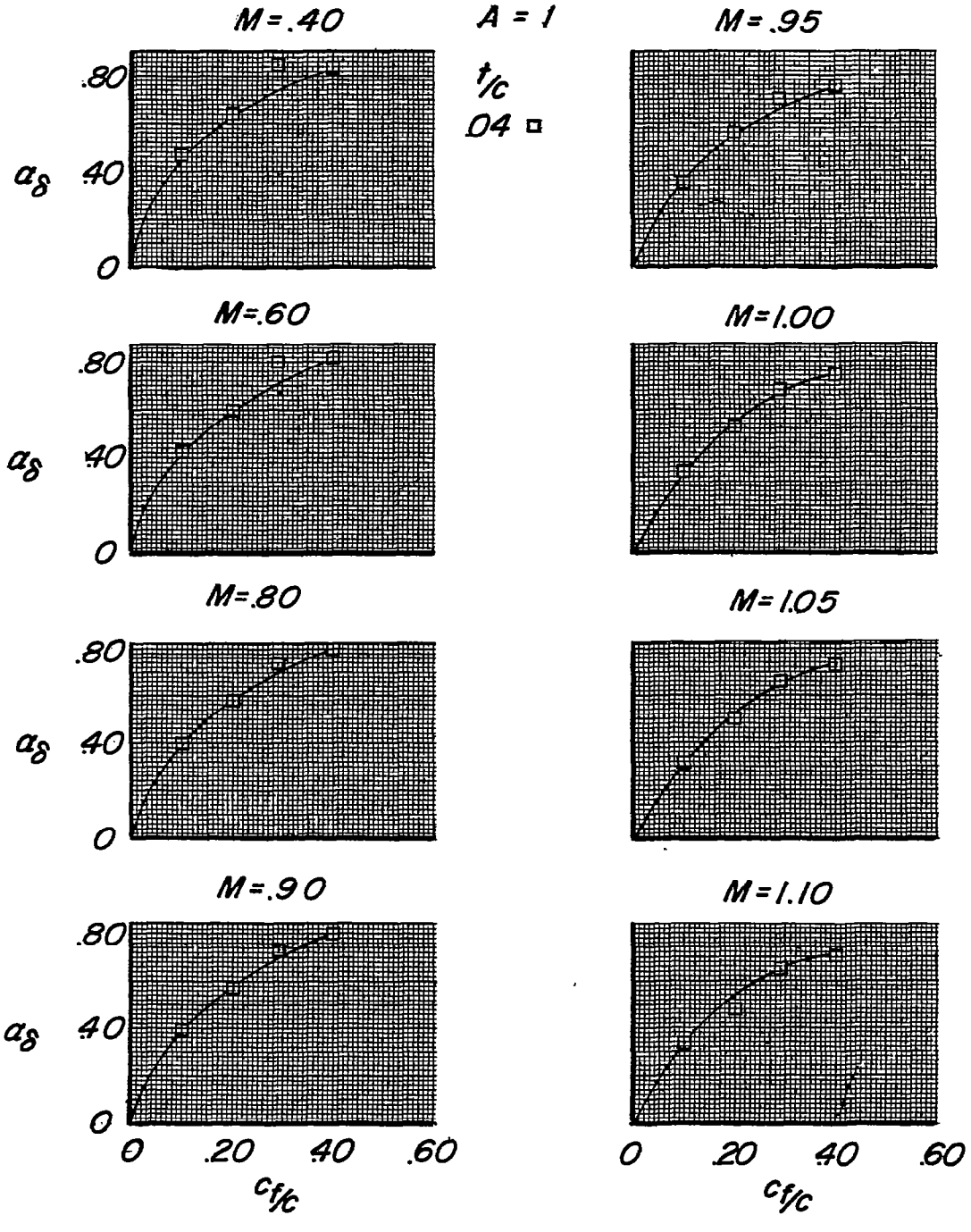
(d) A = 3.

Figure 7.- Continued.



(e) A = 2.

Figure 7.- Continued.



(f) A = 1.

Figure 7.- Concluded.

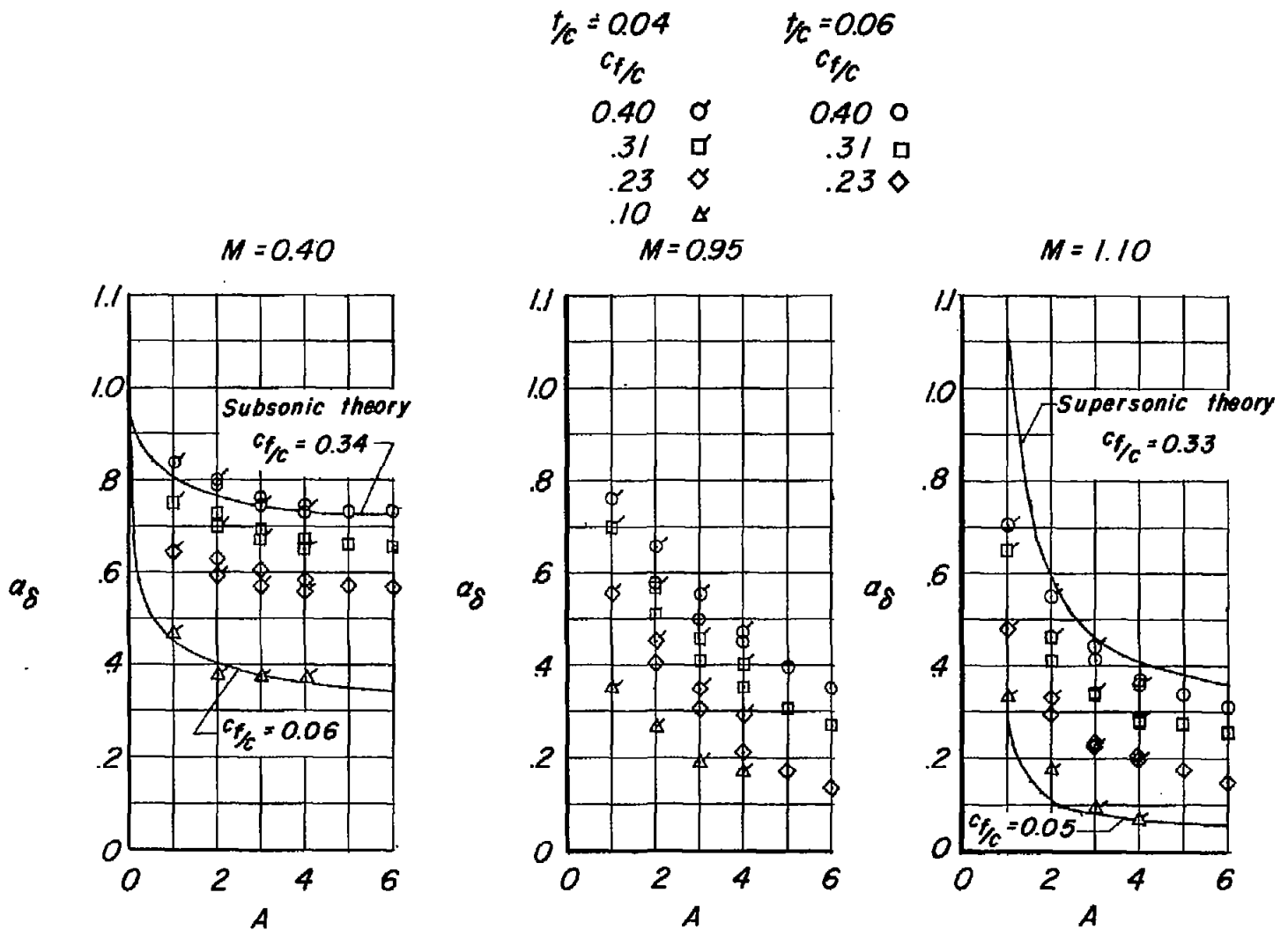


Figure 8.- Variation of a_δ with aspect ratio at various Mach numbers.