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NASA Contractor Report

A Study of Residual Interference Effects in Adaptive Wall Testing of a 7-Inch Chord CAST-10-2/DOA 2 Airfoil Model

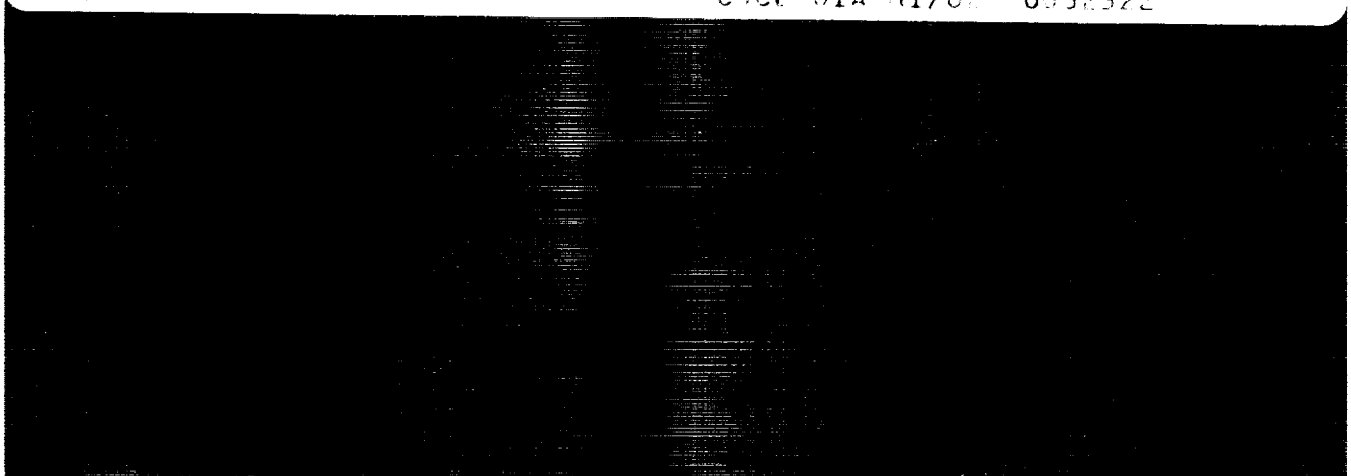
A. V. Murthy

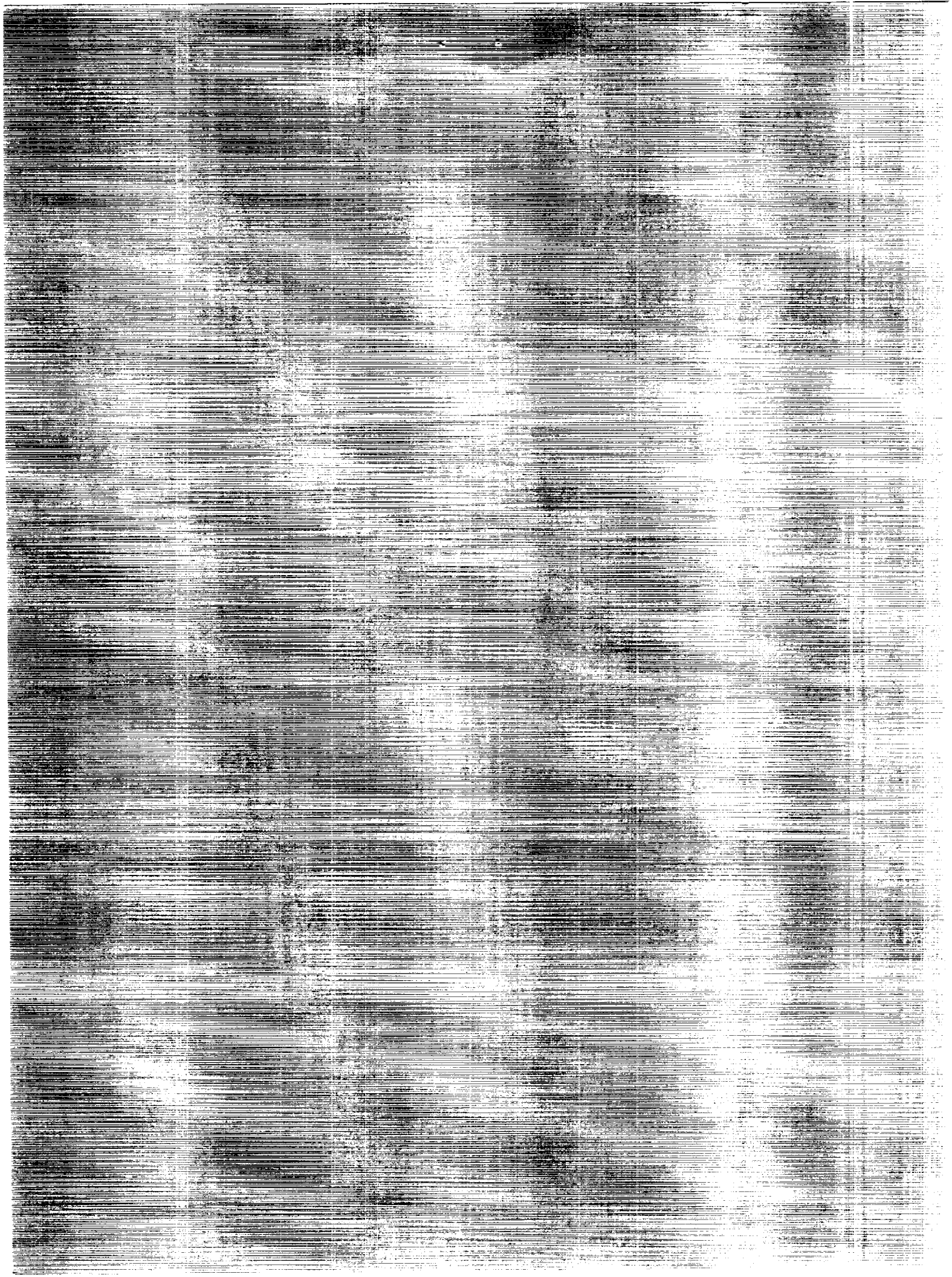
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RESIDUAL INTERFERENCE EFFECTS IN ADAPTIVE WALL TESTING OF A 7-INCH CHORD CAST-10-2/DOA 2 AIRFOIL MODEL (Vijayan Research Associates)

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A Study of Residual Interference
Effects in Adaptive Wall
Testing of a 7-Inch Chord
CAST-10-2/DOA 2 Airfoil Model

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SUMMARY

This report summarizes the results of the residual interference calculations from tests of a CAST-10-2/DOA 2 airfoil model. The tests were carried out on a 7.1-inch chord model in the Langley 0.3-meter Transonic Cryogenic Tunnel adaptive wall test section with a nominal cross-section of 13-inch x 13-inches. The test data obtained on the same model during different tunnel entries showed different levels of residual interference. The study shows that for valid comparison of test data from adaptive wall tunnels, it is necessary to consider the effect of the residual interference, in particular the blockage correction to the test Mach number.

INTRODUCTION

The Langley 0.3-meter Transonic Cryogenic Tunnel¹ (0.3-m TCT) adaptive wall test section has been in operation since 1986. The test section is two-dimensional with rigid side walls and adjustable top and bottom walls. During airfoil tests, the top and bottom walls are shaped iteratively to nearly free air streamline shapes. In the final converged shapes, the wall interference effects on the airfoil test data are likely to be small.

A recently completed test program under a cooperative agreement between the NASA Langley Research Center, National Aeronautical Establishment (NAE, Canada) and ONERA (France), provided an opportunity to study the effectiveness of wall adaptation in reducing the wall interference. The program comprised testing two models of the CAST-10-2/DOA 2 airfoil in the Langley 0.3-m TCT. The model chords were 9.0 and 7.1 inches respectively.

The larger model (9.0 inch chord) was also tested^{2,3} in the National Aeronautical Establishment (Canada) 15 inches x 60 inches tunnel with conventional perforated walls. The smaller model (7.1-inch chord) was tested in the ONERA/CERT T2 tunnel⁴. The T2 tunnel has an adaptive wall test section. The tests in the Langley 0.3-m TCT involved different tunnel entries of both the models. This extensive test program provided an opportunity to evaluate the adaptive wall technique, tunnel-to-tunnel comparisons and long term repeatability of test data in the same tunnel. The results of these studies are given various papers⁵.

The 0.3-m TCT test program demonstrated the need to assess the quality of streamlining in adaptive wall tunnels. Wall position control at discrete points, approximations in wall adjustment strategies and complex flow situations at high airfoil incidences introduce difficulties in achiev-

ing interference free test data from an adaptive wind tunnel. The tests on the larger model in the 0.3-m TCT showed that significant blockage corrections were needed to some of the data when the model was tested during different entries. Reference 6 discusses the details and shows that a careful evaluation of the residual interference is necessary to judge the quality of wall adaptation.

This report discusses briefly the residual interference effects present in the smaller model tests. The residual interference assessment used for evaluation of the test data is based on the Cauchy Integral formula^{7,8}. The method does not require any model representation and the wall interference is evaluated using measured top and bottom wall positions and pressures. The method is simple and can be used on-line to insure that the interference corrections on the test data are small.

NOMENCLATURE

c	model chord
C_d	section wake drag force coefficient
$C_{m,25c}$	pitching moment coefficient at airfoil quarter chord location
C_n	section normal force coefficient
C_p	pressure coefficient
M	Mach number
P	Point number
R	Run number
R_c	Reynolds number based on chord
T	Test number
x	distance from airfoil quarter chord location
α	model incidence
ΔM	correction to test Mach number
$\Delta\alpha$	correction to model incidence

APPARATUS

The 0.3-m TCT adaptive wall test section is 67 inches long and has a nominal cross section of 13 inches x 13 inches. Individual stepper motors drive the adjustable top and bottom walls at 21 jack stations on each wall (figure 1). The first eighteen jacks are used in adapting the wall to

streamline shapes. The last three jacks provide a smooth entry into the tunnel diffuser. The tunnel reference static pressure is measured on the top wall at a distance of 31.25 inches upstream of the model mounting turntable center. The model was mounted symmetrically on the turntable with its leading edge at a distance of 3.55 inch upstream of the center. The wall adjustment method employed in these tests is based on the predictive strategy developed by the University of Southampton^{9,10}. For the smaller model, the test section height to chord ratio was about 1.8 in the 0.3-m TCT and about 2 for the T2 tunnel. The corresponding model aspect ratios (span/chord) were also about 1.8 and 2, respectively.

EXPERIMENTAL PROGRAM

The ONERA 7.1-inch chord model was tested in the 0.3-m TCT during three different tunnel entries. During the first entry (*Test No. 212*) in May 1987, the tests covered a broad range of Mach numbers and Reynolds numbers. The second entry (*Test No. 216*) in November 1987 comprised mainly testing at 4 and 20 million Reynolds numbers in the Mach number range 0.70 - 0.78.

After the conclusion of the second series of tests, it was suspected that the airfoil data obtained might have unacceptably high interference levels. This was due to some uncertainties in the wall adjustment technique then in use at the 0.3-m TCT. Hence, a third entry (*Test No. 224*) was made in August 1988 to examine some of the differences in the test data.

Reference 11 gives the major results of the the 0.3-m TCT tests and their comparison with the ONERA T2 tunnel data. The study shows differences at high Mach number conditions requiring further examination of the test data for the residual interference effects.

RESULTS AND DISCUSSION

No attempt has been made in this report to present the test data for all the conditions and entries. A summary of the measured force coefficients data and the calculated corrections at the airfoil quarter chord location are tabulated in Tables I and II for some selected test conditions. Representative data points from the second and third entries (*Test Nos. 216 and 224*), at a test Mach number of 0.765 and Reynolds number of 20×10^6 , are presented for detailed analysis.

Fig 2a shows a comparison of the measured normal force coefficient variation with angle of attack for the two entries. The two sets of data at the same reference Mach number of 0.765, agree closely up to a normal force coefficient of about 0.6 corresponding to an angle of attack of about 1.0 degrees. At higher angles of attack, the results of the second entry (*Test No. 216*) show much lower normal force coefficients than the data in the third entry (*Test No. 224*). This trend is also reflected in the variation of the drag coefficient (fig. 2b). For normal force coefficients higher than about 0.6, the measured drag coefficients are much higher in the second entry (*Test No. 216*).

In both the tunnel entries, the wall shapes satisfied the conditions specified for wall streamlining¹⁰. Hence, the difference in the test data between the two entries suggest that the residual interference levels are different in the two tests. The different blockage corrections leads to different effective Mach numbers in the two tests even though the tunnel reference Mach number was at the same value of 0.765. This discrepancy is similar to the observations on the 9-inch chord model tests⁶ in the 0.3-m TCT.

To examine further, the residual interferences were evaluated for the both the entries. Interference calculations using measured wall shapes and pressures were made to determine the blockage and incidence corrections along the tunnel center line. The results of the interference calculations are tabulated in Appendices A and B. Table 2a and 2b give the global corrections for test Mach number and incidence corresponding to values at the airfoil quarter chord location.

Figures 3a and b show the Mach number correction along the test section center line for the second entry data (*Test No. 216*) for different model incidences. For all model incidences, the Mach number correction is positive near the model region which results in a higher effective Mach number. The correction at the origin corresponding to airfoil quarter chord location is in the range of .002 to .007 for different angles of attack. The corresponding incidence correction variation along the tunnel centerline is shown in figures 3c and d. The trend is similar, in the model region, for all the angles of attack tested. The correction at the quarter chord point is small (≈ -0.03 deg). However, the correction varies nearly linearly in the model region which results in a camber correction.

The corresponding corrections for the same nominal test conditions in the third entry (*Test No. 224*) are shown in figures 4a-4d. In this entry, it is observed that the Mach number correction (fig. 4a-4b) varies considerably along the centerline. Except for the lowest angle of attack of

-1.00 degree, the corrections in the model region are negative. The maximum correction is about -.007. This results in a lower effective Mach number for the same nominal reference Mach number of 0.765. The incidence corrections (fig. 4c-d) show a similar trend as in the second entry. The gradients in the model region, and the magnitude of the incidence correction forward of, and behind the model region are smaller.

The above blockage corrections suggest that the effective Mach numbers in the model region in the second entry (*Test No. 216*) are generally higher by about 0.01 compared to effective Mach numbers in the third entry (*Test No. 224*). These differences appear to be due to the sensitivity of the predictive wall adjustment strategy to initial wall shapes. Hence, it is difficult to draw a specific conclusion about the nature of blockage distribution along the centerline.

To understand the extent to which the airfoil characteristics change due to the different nature of the blockage correction, it is necessary to compare the pressure distributions rather than the global characteristics. Figures 5a and b, show the comparison for two different model incidences. At an angle of attack of about 1 deg. (Fig. 5a), the normal force coefficients are 0.612 and 0.673 for the second and third entries, respectively. The pressure distributions agree closely on the upper surface for about 80 percent of the chord. However, towards the trailing edge the data from the second entry (*Test No. 216*) shows a strong separation. The data from third entry (*Test No. 224*) for which the effective test Mach number is lower shows attached flow. The trailing edge separation is exhibited more predominantly at the higher angle of attack of about 2 degrees (Fig. 5b)

The above comparison shows the strong effect of residual interference, in particularly the blockage correction to Mach number. Regarding the angle of attack correction; it must be noted that it is often difficult to calculate correctly. However, the angle of attack correction appears mainly as a constant and does not influence the flow mechanism, at least to a first order. The blockage correction tends to be more accurate due to the self correcting nature of the correction method¹².

CONCLUSIONS

The study illustrates that the differences in test data observed during separate entries are due to the different levels of residual interference. For valid comparisons of test data from adaptive wall techniques, it appears necessary to quantify the residual interference, in particular the

blockage correction to the Mach number. The correction to Mach number in the third entry (*Test No. 224*) is about the same order of magnitude as found in the second entry (*Test No. 216*), but of opposite sign, giving a lower effective Mach number for the third entry. The lower effective Mach number suppresses separation behind the shock which results in increased lift and reduced drag for the same model incidence. The experience⁶ with tests on the 9-inch chord model of the same airfoil suggests that lower effective Mach number often results in better correlation between various test data. Therefore, it appears that the adaptive wall test data may give favorable agreement with the other data when the residual correction to the test Mach number is negative. Further, it is necessary to examine methods to eliminate the correction due to gradients in the blockage and upwash velocity distributions.

References

1. Ladson, C. L.; and Ray, E. J.: Evolution, Calibration, and Operational Characteristics of the Two-Dimensional Test Section of the Langley 0.3-Meter Transonic Cryogenic Tunnel. NASA Technical Paper 2749, September 1987.
2. Chan, Y. Y.: Wind Tunnel Investigation of CAST-10-2/DOA 2 12% SuperCritical airfoil model. Laboratory Technical Report HA-162, National Aeronautical Establishment, Ottawa, Canada. May 1986.
3. Chan, Y. Y.: Wind Tunnel Investigation of CAST-10-2/DOA 2 12% Supercritical airfoil model, Phase II. Laboratory Technical Report HA-170, National Aeronautical Establishment, Ottawa, Canada. June 1987.
4. Chevallier, J. P.; and Mignosi, A.: T-2 Wind Tunnel Adaptive Walls: Design, Construction and Some Typical Results. *La Recherche Aeronautique* (English Edition), No. 4, Jul/Aug 1983, pp 1-19.
5. Ray, E. J.; and Hill, A. S. (*compilers*): CAST-10-2/DOA 2 Airfoil Studies: Workshop Results. NASA Conference Publication 3052, November 1989.
6. Murthy, A. V.; and Ray, E. J.: Experience with Some Repeat Tests on the 9" Chord CAST-10-2/DOA 2 Airfoil Model in the Langley 0.3-m TCT Adaptive Wall Test Section. *in "CAST-10-2/DOA 2 Airfoil Studies: Workshop Results"*, NASA Conference Publication 3052, pp 213-231, November 1989.
7. Mokry, M: Residual Interference and Wind Tunnel Wall Adaptation. *in "CAST-10-2/DOA 2 Airfoil Studies: Workshop Results"*, NASA Conference Publication 3052, pp 175-193, November 1989.
8. Murthy, A. V.: Residual Interference Assessment in Adaptive Wall Wind Tunnels. NASA Contractor Report 181896, September 1989.

9. Wolf, S. W. D.; and Goodyer, M. J.: Predictive Wall Adjustment Strategy for Two-Dimensional Flexible Walled Adaptive Tunnel - A Detailed Description of the One Step Method. NASA Contractor Report 181635, January 1988.
10. Wolf, S. W. D.: Wall Adjustment Strategy Software for Use with the NASA Langley 0.3-Meter Transonic Cryogenic Tunnel Adaptive Wall Test Section. NASA Contractor Report 181694, November 1988.
11. Wolf, Stephen,; and Jenkins, Renaldo.: An Experimental AWTS Process and Comparisons of ONERA T2 and 0.3-m TCT AWTS Data for the ONERA CAST-10 Airfoil. in "*CAST-10-2/DOA 2 Airfoil Studies: Workshop Results*", NASA Conference Publication 3052, pp 137-153, November 1989.
12. Mokry, M.; Chan, Y. Y.; and Jones, D. J.: Two-dimensional Wind Tunnel Wall Interference. Edited by *Ohman, L. H.*, AGARDograph No. 281, November 1983.

Table I: Summary of Test Data and Calculated Corrections (Entry II)

Test	Run	Point	M_{inf}	$R_{c,mil}$	α	C_n	C_m	C_d	ΔM	$\Delta\alpha$
216	10	89	0.700	19.9	1.00	0.628	-0.068	0.0089	-0.002	0.22
216	10	90	0.709	20.0	1.00	0.654	-0.071	0.0095	-0.005	0.22
216	10	91	0.720	20.0	1.00	0.659	-0.071	0.0102	0.001	0.21
216	10	92	0.731	20.0	1.00	0.686	-0.075	0.0124	-0.004	0.24
216	10	93	0.740	20.0	0.99	0.712	-0.082	0.0163	0.001	0.23
216	10	94	0.753	20.0	0.99	0.722	-0.092	0.0212	-0.005	0.22
216	10	95	0.764	20.1	0.99	0.676	-0.097	0.0257	0.007	-0.03
216	10	96	0.770	20.1	0.99	0.622	-0.089	0.0285	0.007	-0.04
216	10	97	0.767	20.0	0.99	0.617	-0.089	0.0298	0.004	-0.02
216	10	98	0.771	20.0	0.99	0.569	-0.082	0.0324	0.003	-0.03
216	10	99	0.782	20.0	0.99	0.516	-0.077	0.0360	0.004	-0.04
216	10	100	0.791	20.0	0.99	0.458	-0.070	0.0373	0.006	-0.02
216	10	101	0.801	20.0	0.99	0.391	-0.061	0.0364	0.010	-0.01
216	11	102	0.781	20.0	-1.01	0.301	-0.092	0.0151	0.008	-0.06
216	11	103	0.782	20.0	-0.03	0.458	-0.089	0.0209	0.008	-0.03
216	11	104	0.782	20.0	1.18	0.519	-0.073	0.0405	0.006	-0.03
216	11	105	0.780	20.0	1.97	0.550	-0.065	0.0585	0.007	-0.02
216	12	110	0.781	19.9	-1.98	0.121	-0.088	0.0131	0.008	-0.03
216	12	112	0.781	20.0	-0.37	0.414	-0.091	0.0175	0.005	-0.06
216	12	113	0.781	20.0	-0.27	0.430	-0.091	0.0181	0.006	-0.03
216	12	114	0.782	20.0	0.37	0.504	-0.087	0.0233	0.007	0.00
216	12	115	0.783	20.0	0.77	0.519	-0.081	0.0296	0.007	-0.03
216	12	116	0.783	20.0	1.17	0.530	-0.075	0.0406	0.005	-0.01
216	12	117	0.784	20.0	1.52	0.529	-0.070	0.0511	0.008	-0.01
216	13	118	0.766	20.0	-2.01	0.122	-0.086	0.0102	0.002	-0.05
216	13	119	0.766	20.0	-1.33	0.252	-0.086	0.0101	0.003	-0.02
216	13	120	0.766	20.0	-0.39	0.445	-0.088	0.0111	0.004	-0.03
216	13	121	0.766	20.0	0.42	0.591	-0.096	0.0172	0.003	-0.01
216	13	122	0.766	20.0	0.98	0.612	-0.089	0.0268	0.004	-0.03
216	13	123	0.766	20.0	1.16	0.610	-0.084	0.0322	0.007	-0.02
216	13	124	0.766	20.0	1.56	0.642	-0.081	0.0415	0.005	-0.01
216	13	125	0.767	20.0	1.73	0.634	-0.077	0.0473	0.006	-0.01
216	13	126	0.766	20.0	1.94	0.626	-0.073	0.0523	0.005	-0.03
216	14	128	0.701	20.0	0.98	0.621	-0.065	0.0105	-0.002	0.25
216	14	129	0.714	20.1	0.99	0.647	-0.065	0.0116	0.003	0.24
216	14	130	0.721	20.0	1.00	0.649	-0.065	0.0114	-0.004	0.24
216	14	131	0.731	20.0	1.00	0.657	-0.066	0.0126	-0.002	0.21
216	14	132	0.741	20.0	1.00	0.700	-0.074	0.0162	-0.001	0.23
216	14	134	0.751	20.0	1.00	0.684	-0.087	0.0200	0.004	-0.03
216	14	135	0.762	20.0	1.00	0.641	-0.084	0.0261	0.004	-0.01
216	14	136	0.766	20.0	1.00	0.608	-0.081	0.0286	0.005	-0.03
216	14	137	0.771	20.0	1.00	0.581	-0.077	0.0315	0.006	-0.06
216	14	138	0.781	20.0	1.00	0.515	-0.068	0.0404	0.006	-0.02
216	14	139	0.791	20.0	1.00	0.455	-0.063	0.0361	0.005	-0.05
216	14	141	0.803	20.0	1.00	0.388	-0.056	0.0343	0.006	0.00
216	15	142	0.780	20.0	-1.94	0.148	-0.082	0.0119	0.004	-0.04
216	15	143	0.780	20.0	-1.03	0.304	-0.082	0.0136	0.006	-0.03
216	15	144	0.780	20.0	-0.39	0.425	-0.084	0.0161	0.004	-0.03
216	15	145	0.780	20.0	-0.29	0.427	-0.084	0.0173	0.004	-0.02
216	15	146	0.780	20.0	-0.03	0.458	-0.083	0.0200	0.003	-0.05
216	15	147	0.780	20.0	0.36	0.481	-0.077	0.0242	0.004	-0.03
216	15	148	0.779	20.0	0.79	0.516	-0.073	0.0277	0.005	-0.01
216	15	149	0.781	20.0	1.18	0.531	-0.069	0.0454	0.004	-0.01
216	15	150	0.782	20.0	1.52	0.537	-0.065	0.0524	0.005	-0.02
216	15	151	0.782	20.0	1.94	0.555	-0.062	0.0587	0.006	-0.03

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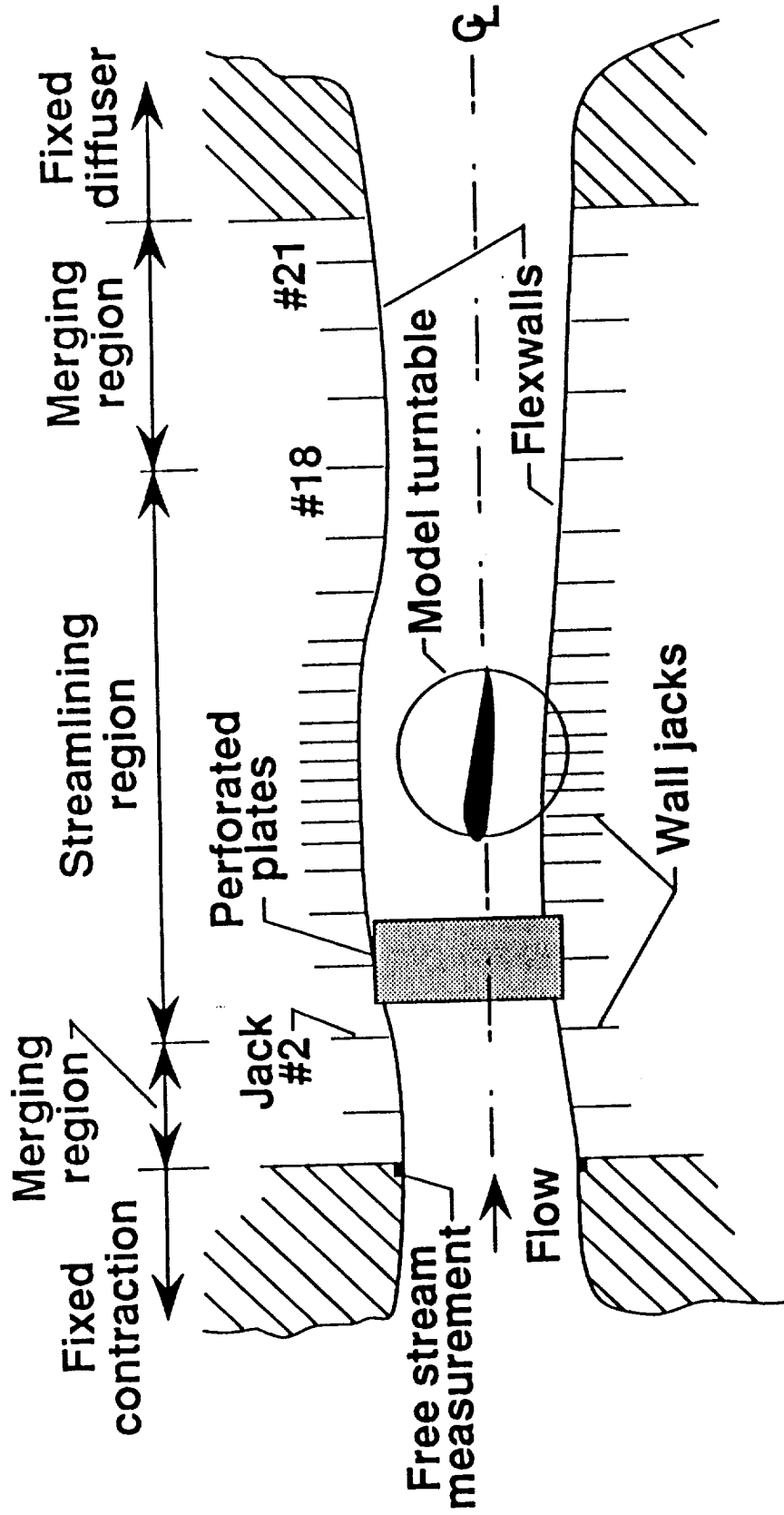
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Test	Run	Point	M_{inf}	$R_{c,mil}$	α	C_n	C_m	C_d	ΔM	$\Delta\alpha$
216	16	154	0.766	20.0	-1.98	0.142	-0.081	0.0106	0.004	-0.05
216	16	155	0.766	20.0	-1.33	0.252	-0.079	0.0106	0.005	-0.04
216	16	156	0.766	20.0	-0.30	0.447	-0.083	0.0133	0.006	-0.04
216	16	157	0.766	20.0	0.44	0.570	-0.086	0.0164	0.005	-0.03
216	16	158	0.766	20.0	0.98	0.608	-0.081	0.0286	0.007	-0.01
216	16	159	0.766	20.0	1.16	0.606	-0.076	0.0351	0.004	-0.01
216	16	160	0.766	20.0	1.52	0.633	-0.074	0.0469	0.011	-0.03
216	16	161	0.766	20.0	1.77	0.633	-0.070	0.0499	0.005	-0.02
216	16	162	0.766	20.0	1.93	0.641	-0.069	0.0531	0.006	-0.03
216	16	163	0.766	20.0	2.12	0.636	-0.066	0.0566	0.006	-0.01
216	16	164	0.767	20.0	2.35	0.633	-0.063	0.0597	0.007	-0.04
216	17	165	0.699	20.1	-2.03	0.127	-0.071	0.0085	-0.001	0.08
216	17	166	0.700	20.0	-1.20	0.258	-0.071	0.0086	0.001	0.10
216	17	167	0.700	20.0	-0.40	0.392	-0.068	0.0089	-0.001	0.20
216	17	168	0.700	20.0	0.59	0.537	-0.065	0.0091	-0.004	0.20
216	17	169	0.700	20.0	1.33	0.659	-0.062	0.0109	-0.000	0.21
216	17	170	0.700	20.0	2.30	0.866	-0.070	0.0188	0.003	-0.01
216	18	171	0.766	30.1	0.24	0.553	-0.090	0.0175	0.003	-0.04
216	18	172	0.765	25.0	0.24	0.552	-0.088	0.0153	0.001	-0.03
216	18	173	0.767	20.0	0.24	0.534	-0.087	0.0169	0.003	-0.02
216	18	174	0.767	15.1	0.24	0.521	-0.083	0.0159	0.004	-0.02
216	18	175	0.765	10.0	0.23	0.494	-0.075	0.0138	0.003	-0.05
216	18	176	0.765	4.0	0.20	0.414	-0.059	0.0151	0.008	-0.06
216	19	179	0.701	4.0	-0.98	0.214	-0.057	0.0106	-0.008	-0.03
216	19	180	0.701	4.0	-0.98	0.246	-0.056	0.0110	0.002	0.18
216	19	181	0.701	4.0	0.00	0.359	-0.054	0.0112	-0.007	0.03
216	19	182	0.701	4.0	0.00	0.408	-0.051	0.0117	-0.000	0.35
216	19	183	0.701	4.0	0.95	0.514	-0.053	0.0120	-0.006	0.05
216	19	184	0.701	4.0	0.95	0.583	-0.048	0.0133	0.002	0.51
216	19	185	0.701	4.0	1.97	0.730	-0.051	0.0158	-0.000	0.23
216	19	186	0.699	4.0	1.97	0.813	-0.051	0.0199	-0.001	0.74
216	19	187	0.700	4.0	2.99	0.936	-0.064	0.0355	0.009	0.29
216	20	188	0.771	4.0	-0.99	0.185	-0.055	0.0124	-0.006	-0.03
216	20	189	0.770	4.0	-0.99	0.222	-0.054	0.0133	0.008	0.14
216	20	190	0.769	4.0	-0.02	0.371	-0.055	0.0134	-0.003	0.05
216	20	191	0.771	4.0	-0.02	0.428	-0.060	0.0201	0.006	0.36
216	20	192	0.771	4.0	0.96	0.494	-0.055	0.0286	0.016	0.15
216	20	193	0.771	4.0	0.96	0.468	-0.049	0.0385	0.012	0.41
216	20	194	0.771	4.0	1.98	0.512	-0.044	0.0563	0.017	0.19
216	20	195	0.771	4.0	1.98	0.495	-0.041	0.0610	0.017	0.45
216	21	198	0.770	4.0	-0.99	0.179	-0.056	0.0123	-0.002	-0.05
216	21	199	0.771	4.0	-0.99	0.177	-0.055	0.0123	-0.001	-0.03
216	21	200	0.771	4.0	-0.99	0.216	-0.054	0.0135	0.012	0.13
216	21	201	0.772	4.0	0.96	0.460	-0.049	0.0495	0.018	0.39

concluded.

Table II: Summary of Test Data and Calculated Corrections (Entry III)

Test	Run	Point	M_{inf}	$R_{c,mil}$	α	C_n	C_m	C_d	$\Delta M'$	$\Delta\alpha$
224	2	9	0.701	3.7	-0.99	0.218	-0.059	0.0088	-0.001	-0.04
224	2	10	0.701	3.7	-0.01	0.352	-0.057	0.0080	-0.000	-0.04
224	2	11	0.701	3.7	0.98	0.510	-0.054	0.0094	-0.003	-0.04
224	2	12	0.701	3.7	2.00	0.705	-0.055	0.0121	-0.001	-0.02
224	2	13	0.700	3.7	2.94	0.897	-0.062	0.0226	-0.002	-0.02
224	2	14	0.700	3.7	4.01	1.030	-0.061	0.0427	-0.002	-0.02
224	2	15	0.700	3.7	4.95	0.995	-0.055	0.0605	-0.001	-0.01
224	3	16	0.767	4.0	-0.99	0.210	-0.060	0.0092	-0.002	-0.05
224	3	17	0.766	4.0	-0.06	0.402	-0.060	0.0088	0.001	-0.04
224	3	18	0.766	4.0	0.23	0.464	-0.062	0.0097	-0.003	-0.04
224	3	19	0.767	4.0	0.91	0.587	-0.072	0.0167	-0.001	-0.04
224	3	20	0.766	4.0	1.46	0.643	-0.073	0.0252	-0.003	-0.04
224	3	21	0.767	4.0	1.98	0.645	-0.066	0.0383	0.001	-0.03
224	3	22	0.767	4.0	2.48	0.667	-0.061	0.0567	0.001	-0.04
224	3	23	0.766	4.0	1.48	0.651	-0.074	0.0260	-0.002	-0.03
224	5	31	0.766	20.0	-1.03	0.319	-0.084	0.0104	0.005	-0.05
224	5	32	0.766	20.0	0.03	0.529	-0.093	0.0170	0.005	-0.03
224	5	33	0.766	20.0	0.23	0.564	-0.094	0.0177	0.002	-0.03
224	5	34	0.766	20.0	0.99	0.586	-0.081	0.0282	0.003	-0.05
224	5	35	0.766	20.0	1.48	0.615	-0.076	0.0425	0.004	-0.05
224	5	36	0.766	20.0	1.97	0.615	-0.069	0.0542	0.008	-0.05
224	5	37	0.766	20.0	-1.98	0.145	-0.082	0.0098	0.003	-0.05
224	16	97	0.765	21.3	-1.03	0.304	-0.083	0.0097	0.003	-0.03
224	16	98	0.765	21.4	-0.01	0.503	-0.083	0.0105	0.001	-0.04
224	16	99	0.765	21.4	0.24	0.554	-0.084	0.0105	-0.007	-0.04
224	16	100	0.765	21.3	0.97	0.674	-0.094	0.0210	-0.001	-0.04
224	16	101	0.765	21.3	1.47	0.667	-0.081	0.0346	-0.001	-0.04
224	16	102	0.765	21.3	1.94	0.686	-0.076	0.0449	-0.003	-0.02
224	17	103	0.765	20.1	-1.00	0.313	-0.083	0.0102	0.008	-0.03
224	17	104	0.765	20.1	-0.03	0.499	-0.082	0.0101	-0.005	-0.03
224	17	105	0.765	20.1	0.23	0.551	-0.084	0.0111	-0.004	-0.03
224	17	106	0.765	20.1	0.96	0.673	-0.092	0.0207	-0.004	-0.01
224	17	107	0.765	20.0	1.46	0.689	-0.084	0.0326	-0.006	-0.02
224	17	108	0.765	20.0	1.96	0.685	-0.075	0.0443	-0.006	-0.02
224	17	109	0.765	20.0	2.44	0.687	-0.070	0.0570	-0.002	-0.01
224	17	110	0.765	20.0	2.94	0.697	-0.065	0.0641	-0.002	-0.02
224	18	111	0.765	4.1	-0.98	0.321	-0.080	0.0133	-0.006	-0.06
224	19	118	0.765	4.1	-1.01	0.326	-0.080	0.0150	0.004	-0.04
224	19	120	0.765	4.1	-0.02	0.450	-0.072	0.0107	-0.003	-0.05
224	19	121	0.765	4.1	0.23	0.527	-0.076	0.0127	0.002	-0.05
224	19	122	0.765	4.1	0.99	0.657	-0.086	0.0234	-0.004	-0.04
224	19	123	0.765	4.1	1.48	0.649	-0.077	0.0447	0.000	-0.03
224	19	124	0.765	4.1	1.97	0.662	-0.072	0.0234	-0.003	-0.05
224	20	125	0.765	4.1	-0.01	0.454	-0.072	0.0107	-0.003	-0.03
224	20	126	0.765	4.1	0.23	0.533	-0.078	0.0122	-0.003	-0.04
224	20	127	0.765	4.1	0.98	0.643	-0.085	0.0260	-0.001	-0.04
224	20	128	0.765	4.1	1.47	0.650	-0.076	0.0417	-0.003	-0.04
224	20	129	0.765	4.1	1.97	0.659	-0.072	0.0571	0.001	-0.05
224	20	130	0.765	4.1	2.45	0.684	-0.070	0.0653	-0.004	0.00
224	20	131	0.765	4.1	2.95	0.690	-0.073	0.0823	0.000	-0.01
224	21	132	0.700	4.0	-0.99	0.265	-0.069	0.0098	0.000	-0.05
224	21	133	0.700	4.0	-0.02	0.391	-0.063	0.0085	-0.003	-0.04
224	21	134	0.700	4.0	0.23	0.427	-0.061	0.0085	-0.002	-0.03
224	21	135	0.700	4.0	0.97	0.522	-0.057	0.0094	-0.004	-0.03
224	21	136	0.700	4.0	1.48	0.622	-0.058	0.0106	-0.003	-0.02
224	21	137	0.700	4.0	1.97	0.724	-0.059	0.0127	-0.004	-0.02



(not to scale)

Fig. 1: 0.3-m TCT Adaptive Wall Test Section layout

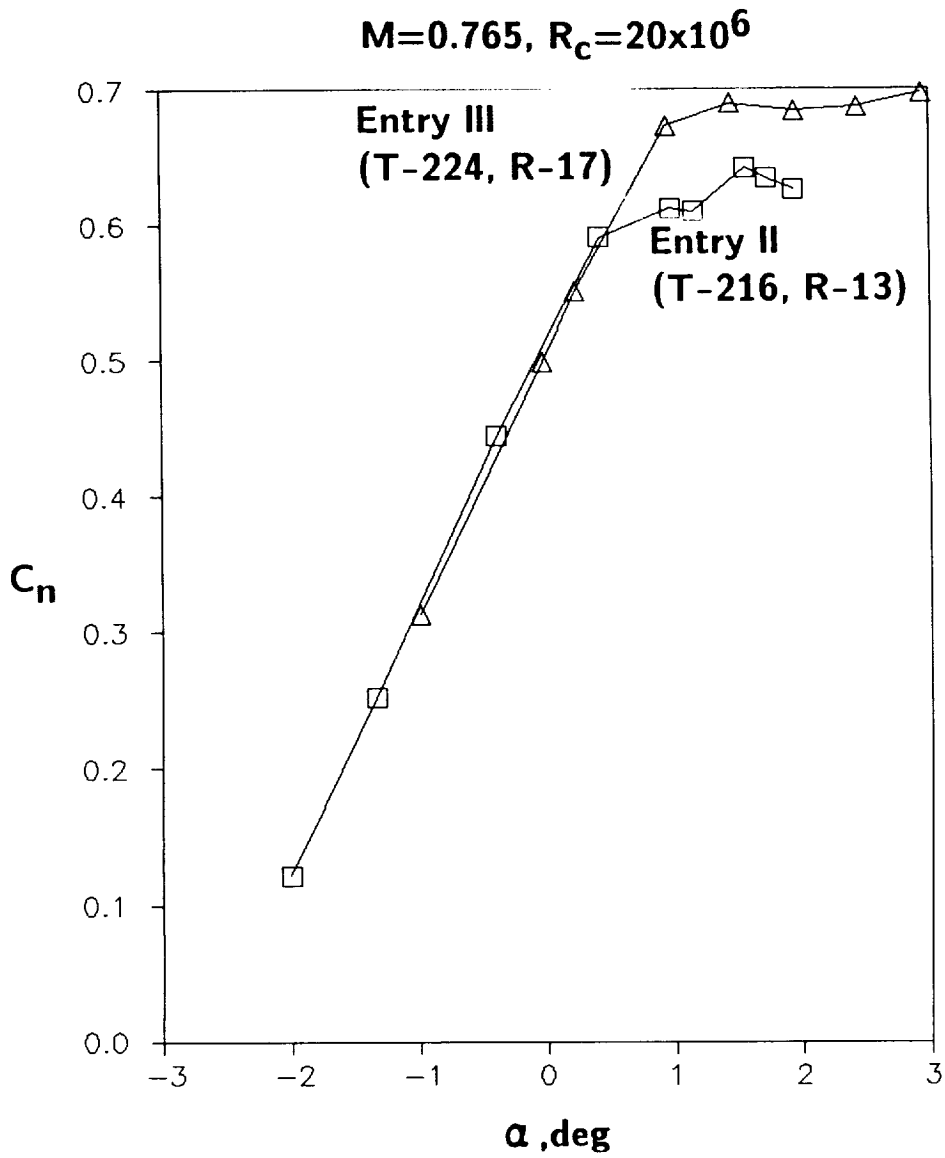


Fig. 2a: Comparison of normal force coefficient measurements from two different entries.

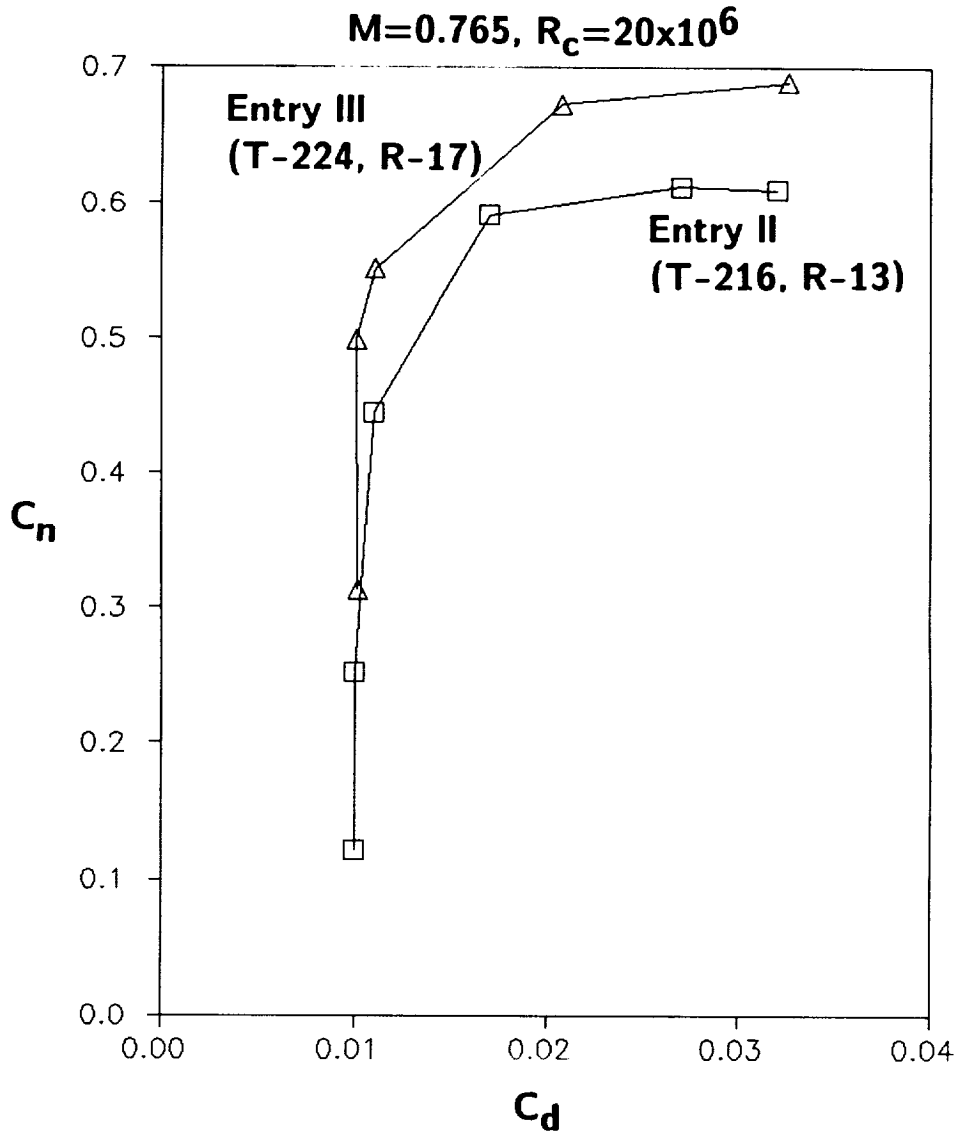


Fig. 2b: Comparison of drag variation with normal force from two different entries.

$M=0.765, R_c=20 \times 10^6$ (Entry II, T-216)

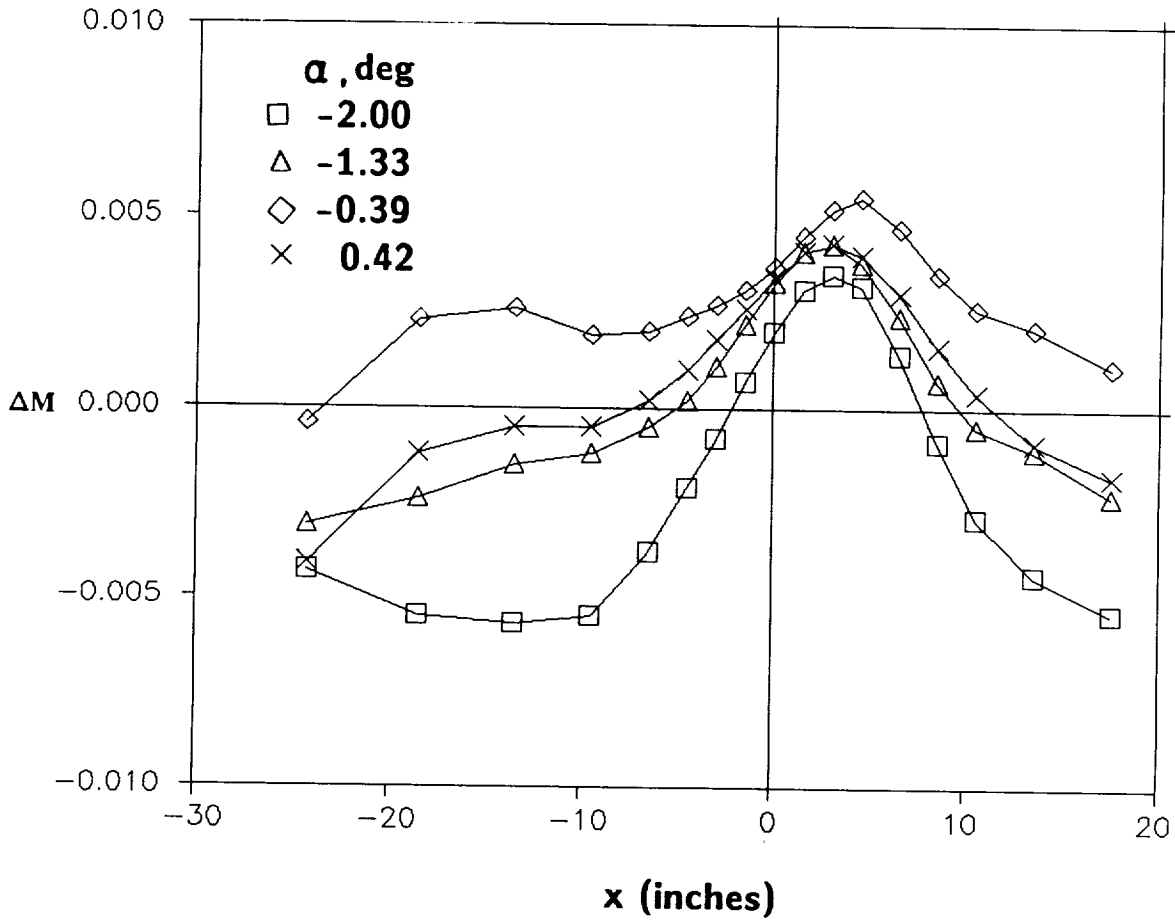


Fig. 3a: Blockage correction variation along the test section centerline for different angles of attack (Test: 216)

$M=0.765, R_c=20 \times 10^6$ (Entry II, T-216)

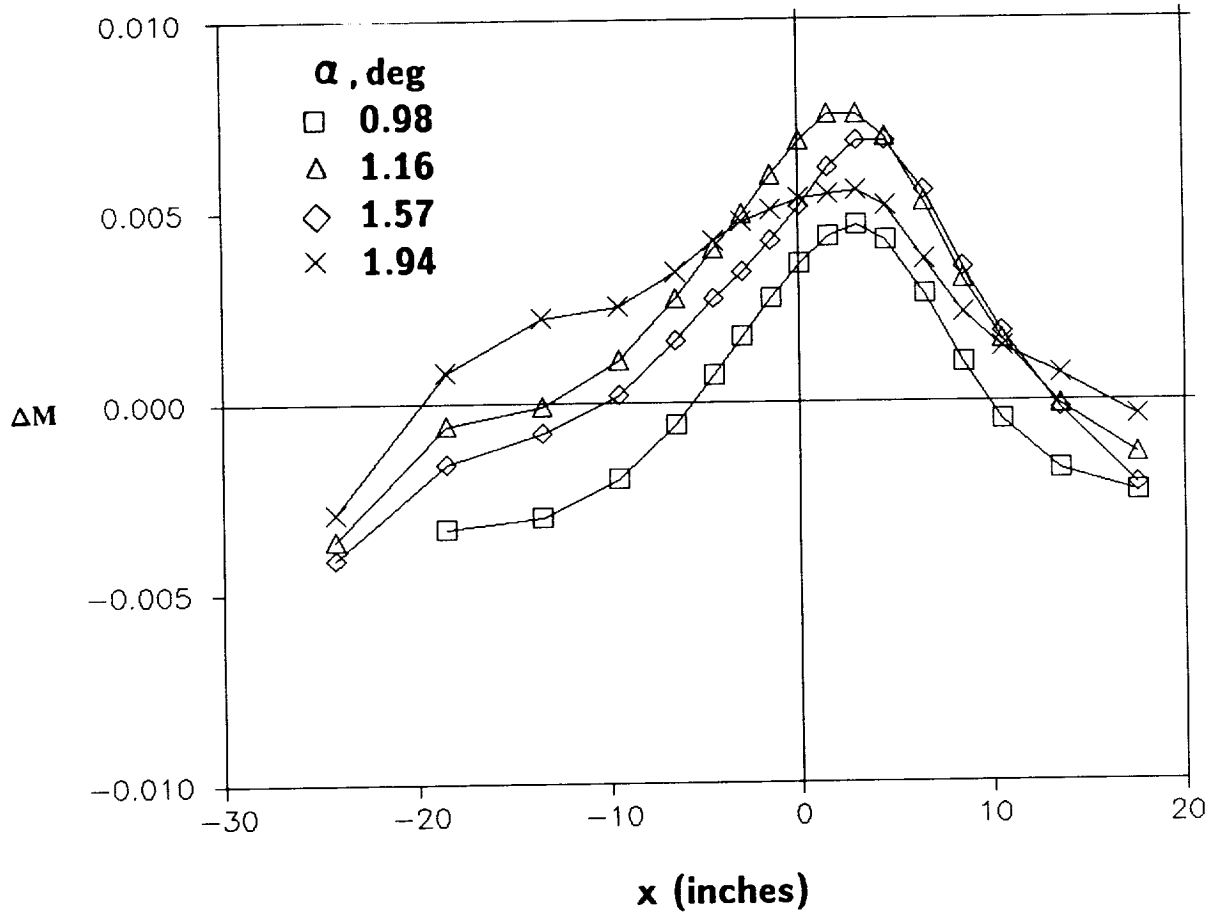


Fig. 3b: Blockage correction variation along the test section centerline for different angles of Attack (Test: 216)

$M=0.765, R_c=20 \times 10^6$ (Entry II, T-216)

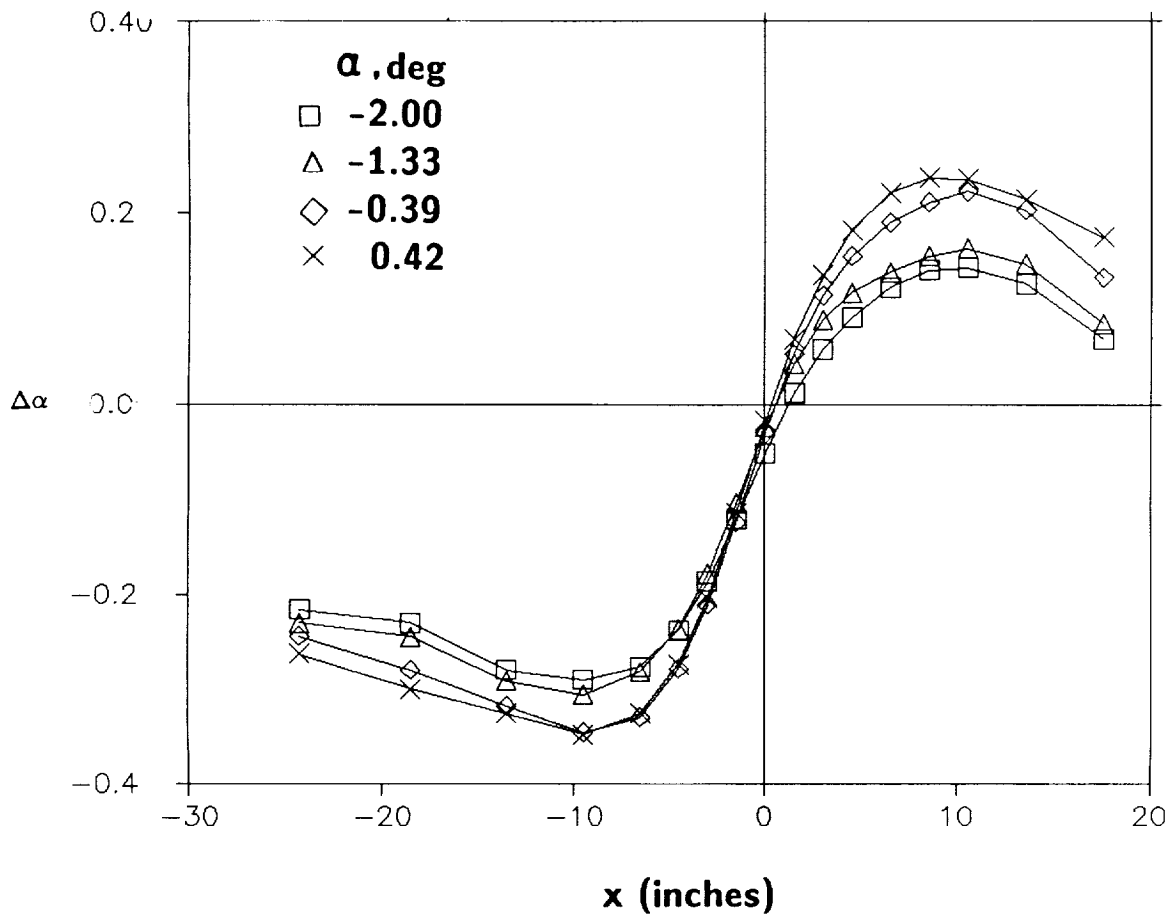


Fig. 3c: Incidence correction variation along the test section centerline for different angles of attack (Test: 216)

$M=0.765, R_c=20 \times 10^6$ (Entry II, T-216)

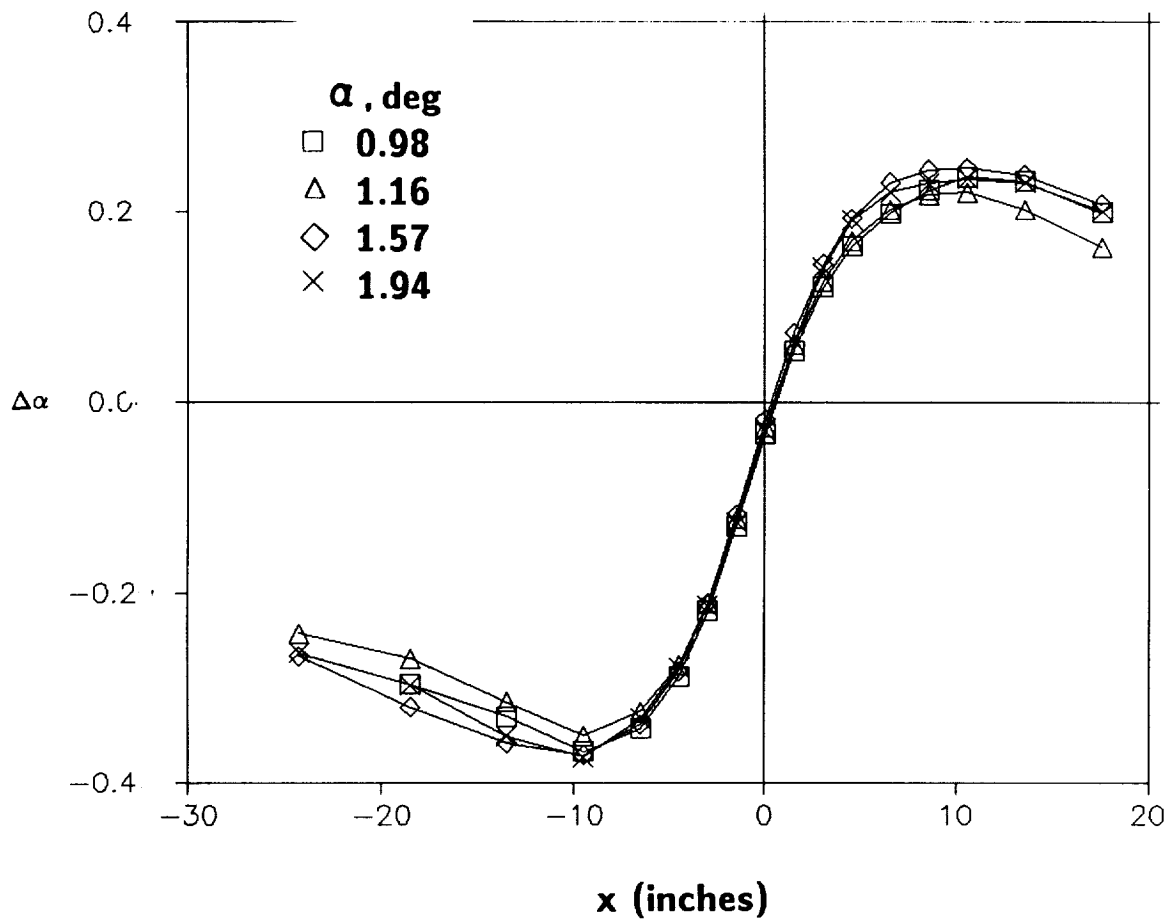


Fig. 3d: Incidence correction variation along the test section centerline for different angles of attack (Test: 216)

$M=0.765, R_c=20 \times 10^6$ (Entry III, T-224)

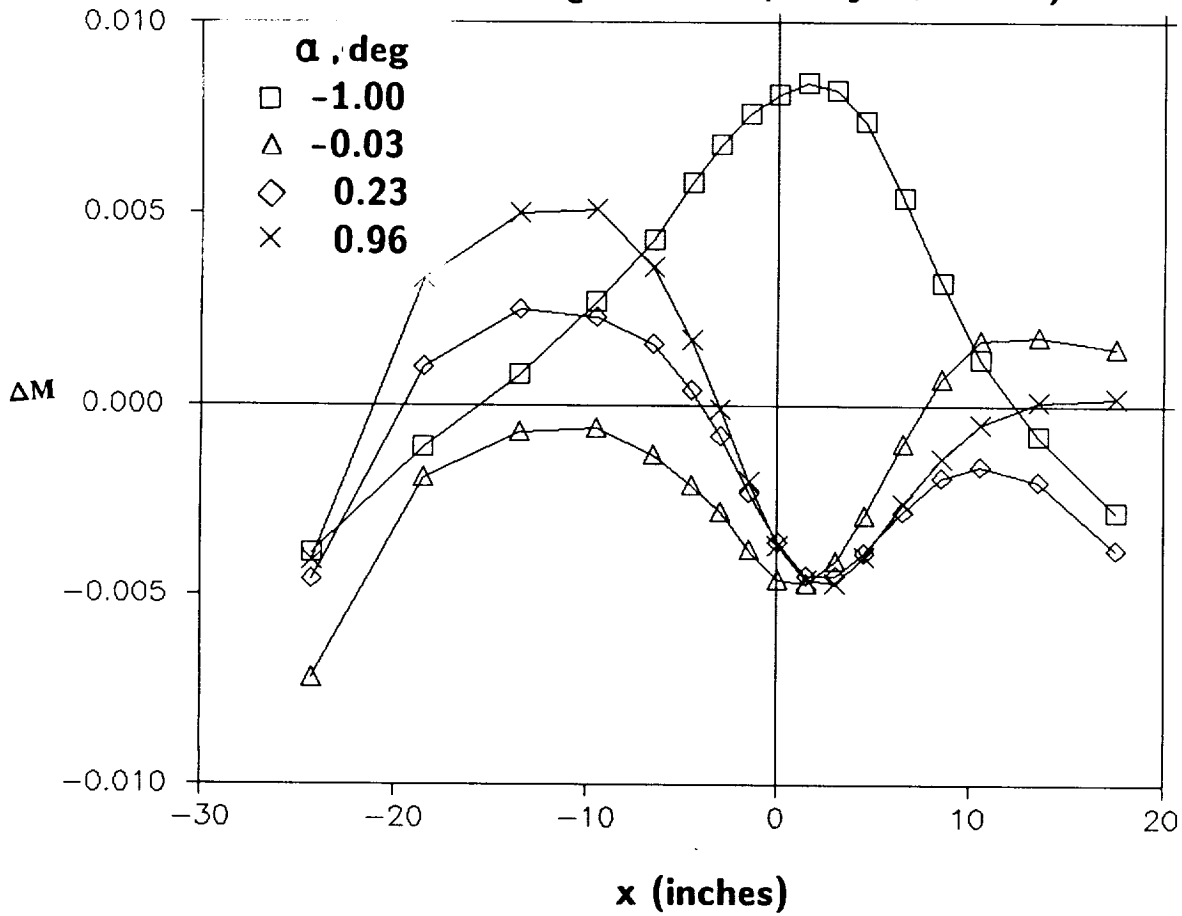


Fig. 4a: Blockage correction variation along the test section centerline for different angles of attack (Test: 224)

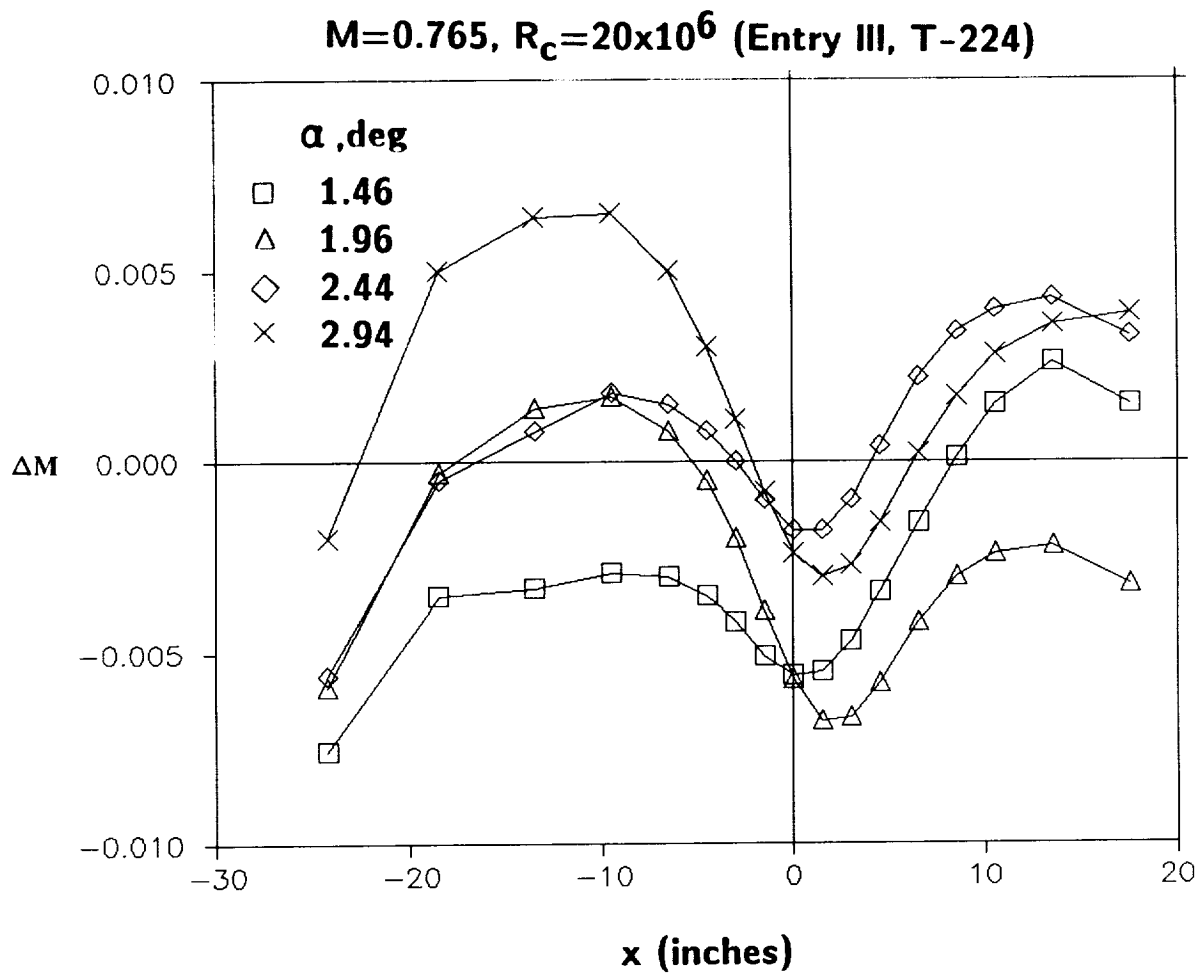


Fig. 4b: Blockage correction variation along the test section centerline for different angles of attack (Test: 224)

M=0.765, $R_c=20 \times 10^6$ (Entry III, T-224)

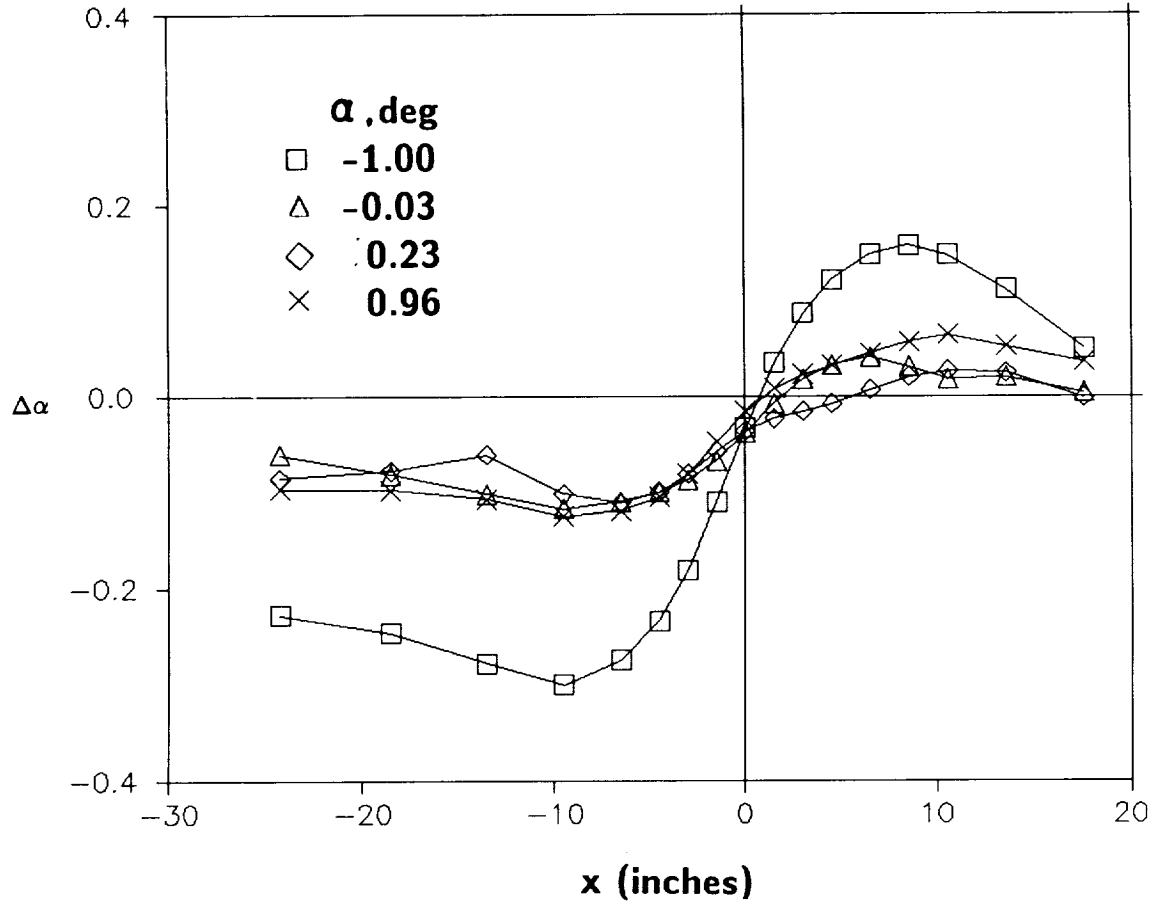


Fig. 4c: Incidence correction variation along the test section - centerline for different angles of attack (Test: 224)

M=0.765, $R_c=20 \times 10^6$ (Entry III, T-224)

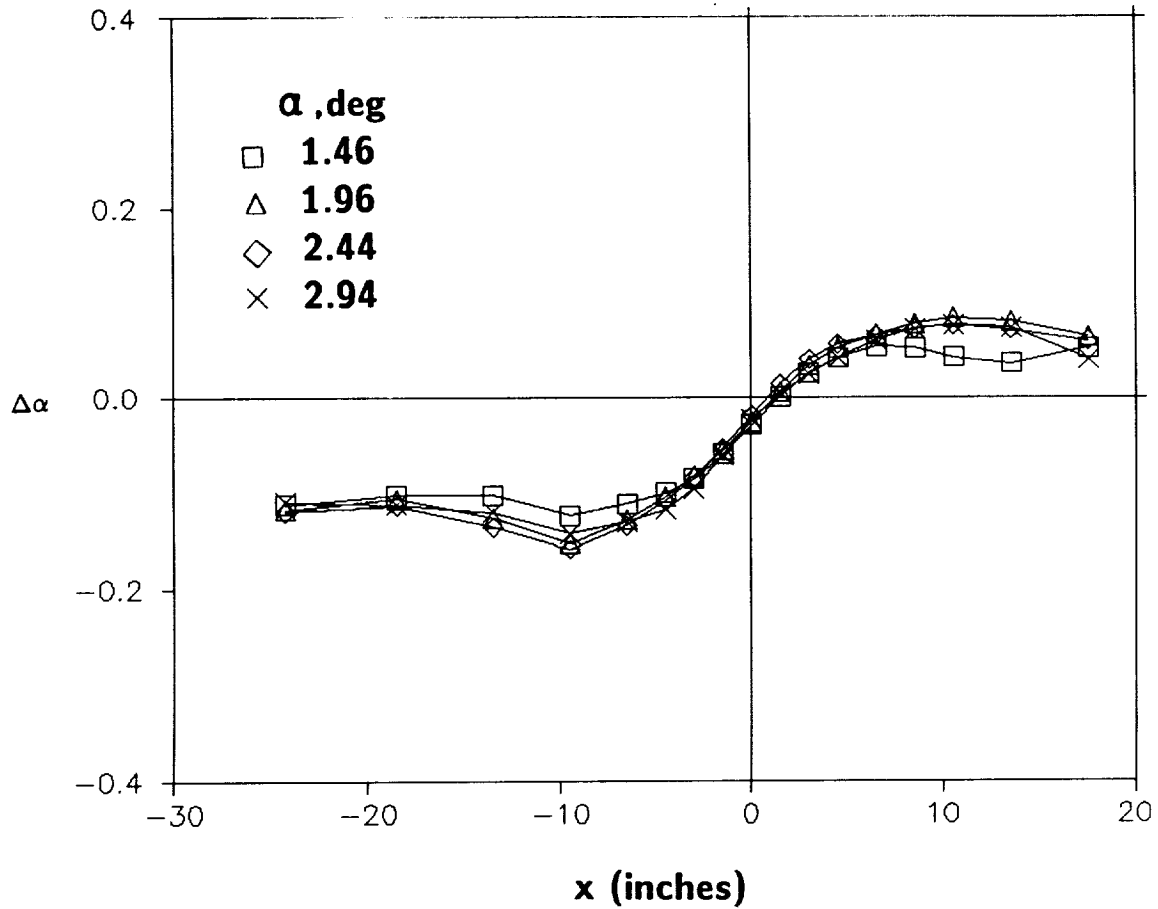


Fig. 4d: Incidence correction variation along the test section centerline for different angles of attack (Test: 224)

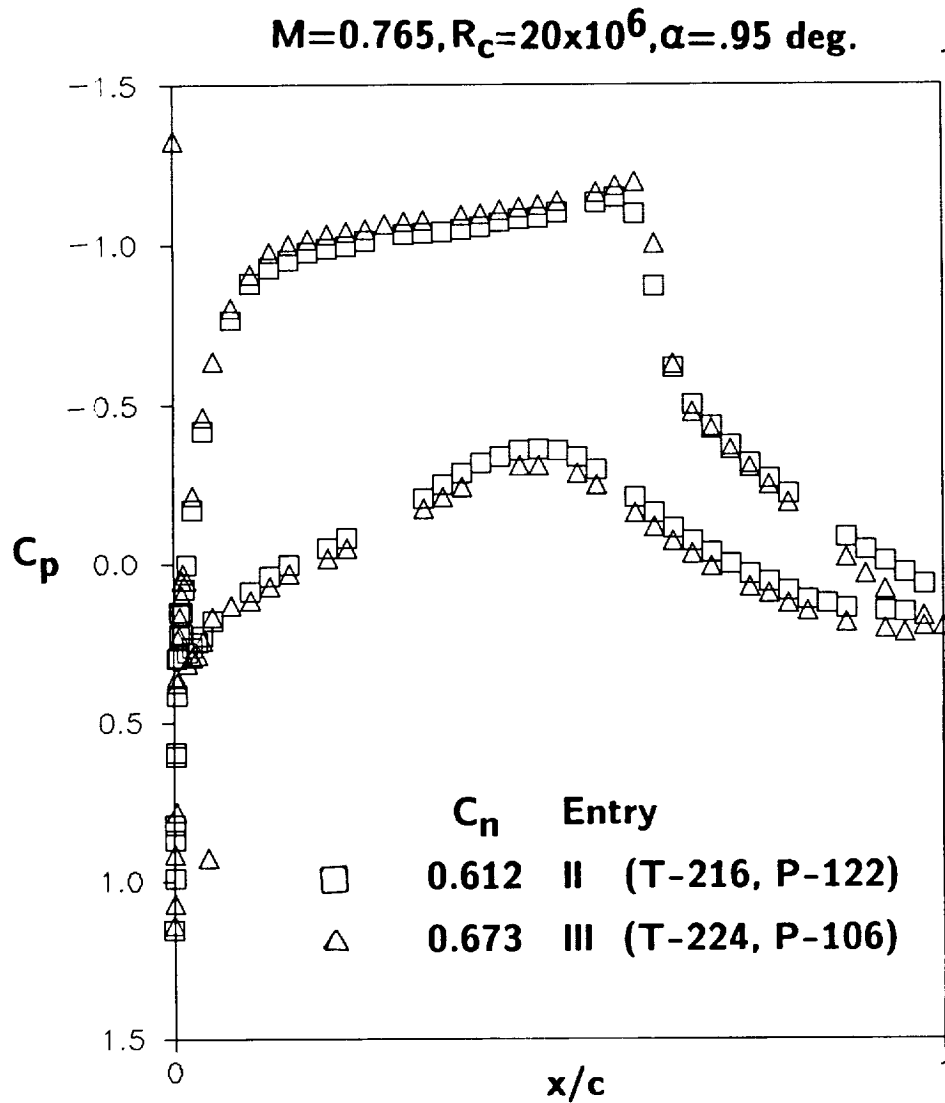


Fig. 5a: Comparison of airfoil pressure distribution from two different tunnel entries.

$M=0.765, R_c=20 \times 10^6, \alpha=1.95 \text{ deg.}$

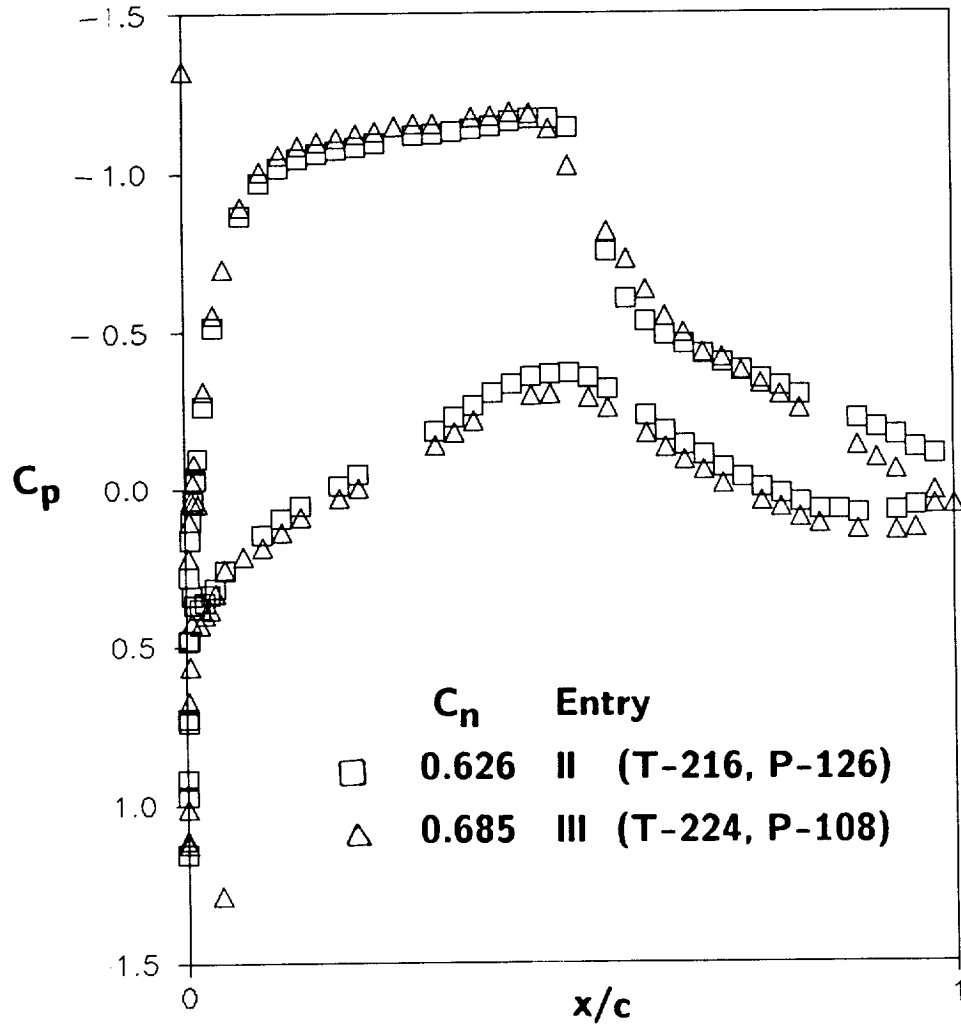


Fig. 5b: Comparison of airfoil pressure distribution from two different tunnel entries.

Appendix A

Wall Interference Calculations for Test 216 (Entry II, Run 13)

TOTAL T: Total temperature (Rankine)
UINF: Free stream velocity (feet per second)
X: Distance from airfoil quarter chord location (inches)
CPT: Top wall pressure coefficient
CPB: Bottom wall pressure coefficient
ZT: Top wall movement (inches)
ZB: Bottom wall movement (inches)
DM: Correction to Mach number
DA: Correction to angle of attack (degrees)

TEST : 216
 RUN : 13

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 118
 MACH = .766

TOTAL T= 288.68 R
 UINF = 603.55 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0334	-.0041	-24.225	.0280	-.0314	-.0043	-.216
3	-18.475	.0329	.0084	-18.475	.0282	-.0330	-.0055	-.230
4	-13.475	.0163	.0346	-13.475	.0396	-.0591	-.0057	-.280
5	-9.475	.0278	.0409	-9.475	.0454	-.0891	-.0055	-.291
6	-6.475	.0384	.0402	-6.475	.0369	-.1250	-.0038	-.277
7	-4.475	.0463	.0492	-4.475	.0300	-.1518	-.0021	-.238
8	-2.975	-.0050	.0848	-2.975	.0210	-.1803	-.0008	-.187
9	-1.475	-.0635	.1327	-1.475	-.0106	-.2108	.0007	-.121
10	.025	-.1081	.1678	.025	-.0251	-.2264	.0020	-.051
11	1.525	-.1660	.2062	1.525	-.1084	-.2489	.0031	.012
12	3.025	-.1419	.2067	3.025	-.0594	-.2170	.0035	.058
13	4.525	-.1014	.1930	4.525	-.0120	-.1894	.0032	.091
14	6.525	-.0416	.1667	6.525	.0190	-.1711	.0014	.122
15	8.525	-.0017	.1548	8.525	.0320	-.1598	-.0009	.140
16	10.525	.0143	.1531	10.525	.0471	-.1558	-.0029	.143
17	13.525	.0045	.1539	13.525	.0429	-.1571	-.0044	.126
18	17.525	.0075	.1566	17.525	.0115	-.1924	-.0054	.069
19	22.525	.0096	.1516	22.525	-.0035	-.2200		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00200
 CORRECTED MACH NUMBER = .76810
 CORRECTION TO AOA (DEG)= -.05204

TEST : 216
 RUN : 13

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 119
 MACH = .766

TOTAL T= 288.59 R
 UINF = 603.18 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0332	.0022	-24.225	.0252	-.0193	-.0031	-.230
3	-18.475	.0218	.0199	-18.475	.0221	-.0117	-.0024	-.245
4	-13.475	.0048	.0565	-13.475	.0292	-.0211	-.0015	-.292
5	-9.475	.0087	.0750	-9.475	.0388	-.0383	-.0012	-.307
6	-6.475	.0117	.0938	-6.475	.0309	-.0681	-.0005	-.282
7	-4.475	.0309	.1178	-4.475	.0466	-.0872	.0002	-.237
8	-2.975	-.0249	.1581	-2.975	.0400	-.1108	.0011	-.179
9	-1.475	-.1093	.2144	-1.475	.0049	-.1379	.0022	-.104
10	.025	-.1454	.2513	.025	-.0009	-.1477	.0033	-.024
11	1.525	-.2097	.2888	1.525	-.0755	-.1563	.0041	.043
12	3.025	-.1530	.2834	3.025	-.0221	-.1425	.0043	.089
13	4.525	-.1091	.2669	4.525	-.0001	-.1188	.0038	.117
14	6.525	-.0573	.2294	6.525	.0228	-.1090	.0024	.138
15	8.525	-.0111	.2055	8.525	.0379	-.1049	.0007	.155
16	10.525	.0029	.1903	10.525	.0480	-.1019	-.0005	.163
17	13.525	-.0076	.1814	13.525	.0352	-.1056	-.0011	.147
18	17.525	-.0029	.1752	17.525	.0080	-.1532	-.0023	.085
19	22.525	.0032	.1626	22.525	-.0091	-.1933		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00331
 CORRECTED MACH NUMBER = .76902
 CORRECTION TO AOA (DEG)= -.02487

TEST : 216
 RUN : 13

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 120
 MACH = .766

TOTAL T= 288.80 R
 UINF = 603.66 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0265	.0120	-24.225	.0210	-.0039	-.0004	-.244
3	-18.475	.0059	.0391	-18.475	.0083	.0219	.0023	-.280
4	-13.475	-.0047	.0863	-13.475	.0253	.0280	.0026	-.319
5	-9.475	-.0050	.1355	-9.475	.0405	.0282	.0019	-.347
6	-6.475	-.0013	.1701	-6.475	.0428	.0123	.0020	-.331
7	-4.475	-.0019	.2071	-4.475	.0636	.0023	.0024	-.279
8	-2.975	-.0640	.2641	-2.975	.0620	-.0135	.0027	-.211
9	-1.475	-.1593	.3349	-1.475	.0439	-.0359	.0031	-.124
10	.025	-.1971	.3806	.025	.0526	-.0489	.0037	-.030
11	1.525	-.2480	.4194	1.525	-.0076	-.0640	.0045	.053
12	3.025	-.2045	.3997	3.025	-.0008	-.0470	.0052	.114
13	4.525	-.1529	.3663	4.525	.0142	-.0346	.0055	.155
14	6.525	-.0704	.3178	6.525	.0397	-.0319	.0047	.190
15	8.525	-.0238	.2826	8.525	.0410	-.0372	.0035	.211
16	10.525	-.0223	.2599	10.525	.0509	-.0453	.0026	.222
17	13.525	-.0191	.2409	13.525	.0284	-.0659	.0021	.203
18	17.525	-.0151	.2179	17.525	.0010	-.1269	.0011	.133
19	22.525	-.0089	.1909	22.525	-.0194	-.1790		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00365
 CORRECTED MACH NUMBER = .76972
 CORRECTION TO AOA (DEG)= -.03163

TEST : 216
 RUN : 13

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 121
 MACH = .766

TOTAL T= 288.89 R
 UINF = 603.94 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0404	.0216	-24.225	.0346	.0058	-.0041	-.263
3	-18.475	.0124	.0598	-18.475	.0207	.0351	-.0012	-.301
4	-13.475	.0067	.1169	-13.475	.0382	.0559	-.0005	-.327
5	-9.475	-.0051	.1847	-9.475	.0565	.0686	-.0005	-.349
6	-6.475	-.0018	.2371	-6.475	.0615	.0635	.0002	-.327
7	-4.475	-.0127	.2883	-4.475	.0789	.0598	.0010	-.274
8	-2.975	-.0775	.3539	-2.975	.0859	.0483	.0018	-.204
9	-1.475	-.2009	.4363	-1.475	.0664	.0312	.0026	-.114
10	.025	-.2472	.4941	.025	.0676	.0198	.0034	-.017
11	1.525	-.3478	.5391	1.525	-.0039	-.0013	.0041	.069
12	3.025	-.2345	.5088	3.025	.0256	.0096	.0043	.135
13	4.525	-.1601	.4646	4.525	.0412	.0106	.0040	.182
14	6.525	-.0844	.4060	6.525	.0437	.0090	.0030	.221
15	8.525	-.0318	.3556	8.525	.0467	-.0033	.0016	.236
16	10.525	-.0217	.3236	10.525	.0440	-.0167	.0004	.235
17	13.525	-.0121	.2893	13.525	.0459	-.0475	-.0009	.214
18	17.525	-.0146	.2542	17.525	.0077	-.1092	-.0018	.175
19	22.525	.0068	.2153	22.525	.0054	-.1679		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00343
 CORRECTED MACH NUMBER = .76976
 CORRECTION TO AOA (DEG)= -.01867

TEST : 216
RUN : 13

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 122
MACH = .766

TOTAL T= 288.94 R
UINF = 603.61 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0446	.0271	-24.225	.0386	.0061	-.0054	-.264
3	-18.475	.0172	.0689	-18.475	.0278	.0402	-.0033	-.296
4	-13.475	.0204	.1306	-13.475	.0505	.0676	-.0030	-.330
5	-9.475	.0004	.2009	-9.475	.0621	.0841	-.0020	-.367
6	-6.475	.0010	.2546	-6.475	.0692	.0828	-.0006	-.343
7	-4.475	-.0166	.3097	-4.475	.0914	.0855	.0007	-.288
8	-2.975	-.0776	.3800	-2.975	.0911	.0737	.0017	-.219
9	-1.475	-.2124	.4665	-1.475	.0747	.0536	.0027	-.130
10	.025	-.2591	.5284	.025	.0724	.0422	.0036	-.033
11	1.525	-.3756	.5769	1.525	.0099	.0166	.0043	.054
12	3.025	-.2453	.5426	3.025	.0278	.0252	.0046	.120
13	4.525	-.1692	.4949	4.525	.0305	.0255	.0042	.163
14	6.525	-.0827	.4318	6.525	.0502	.0174	.0028	.198
15	8.525	-.0330	.3775	8.525	.0561	-.0018	.0010	.223
16	10.525	-.0162	.3483	10.525	.0544	-.0166	-.0005	.237
17	13.525	-.0175	.3149	13.525	.0522	-.0538	-.0018	.232
18	17.525	-.0108	.2797	17.525	.0093	-.1166	-.0024	.199
19	22.525	-.0014	.2352	22.525	.0002	-.1790		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00359
CORRECTED MACH NUMBER = .76938
CORRECTION TO AOA (DEG)= -.03437

TEST : 216
RUN : 13

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 123
MACH = .766

TOTAL T= 289.06 R
UINF = 603.78 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0380	.0266	-24.225	.0366	.0063	-.0036	-.242
3	-18.475	.0113	.0687	-18.475	.0190	.0419	-.0006	-.269
4	-13.475	.0155	.1301	-13.475	.0409	.0678	-.0001	-.315
5	-9.475	-.0101	.2009	-9.475	.0560	.0844	.0011	-.350
6	-6.475	-.0055	.2546	-6.475	.0566	.0834	.0027	-.325
7	-4.475	-.0224	.3098	-4.475	.0778	.0855	.0040	-.276
8	-2.975	-.0842	.3801	-2.975	.0808	.0732	.0049	-.210
9	-1.475	-.2167	.4668	-1.475	.0685	.0543	.0059	-.122
10	.025	-.2672	.5286	.025	.0625	.0424	.0068	-.026
11	1.525	-.3954	.5775	1.525	-.0062	.0198	.0075	.061
12	3.025	-.2556	.5429	3.025	.0158	.0257	.0075	.126
13	4.525	-.1710	.4952	4.525	.0303	.0259	.0069	.169
14	6.525	-.0899	.4320	6.525	.0390	.0180	.0052	.202
15	8.525	-.0185	.3775	8.525	.0531	-.0013	.0032	.218
16	10.525	-.0255	.3486	10.525	.0423	-.0161	.0016	.221
17	13.525	-.0175	.3154	13.525	.0444	-.0539	-.0001	.202
18	17.525	-.0108	.2800	17.525	.0094	-.1170	-.0014	.162
19	22.525	-.0051	.2355	22.525	-.0041	-.1827		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00683
CORRECTED MACH NUMBER = .77269
CORRECTION TO AOA (DEG)= -.02742

TEST : 216
RUN : 13

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 124
MACH = .766

TOTAL T = -289.09 R
UINF = 604.15 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0426	.0306	-24.225	.0361	.0065	-.0041	-.266
3	-18.475	.0167	.0728	-18.475	.0247	.0402	-.0016	-.320
4	-13.475	.0136	.1348	-13.475	.0464	.0644	-.0008	-.358
5	-9.475	-.0087	.2101	-9.475	.0622	.0773	.0002	-.371
6	-6.475	-.0075	.2679	-6.475	.0640	.0779	.0016	-.338
7	-4.475	-.0267	.3250	-4.475	.0802	.0772	.0027	-.282
8	-2.975	-.0835	.4012	-2.975	.0943	.0627	.0034	-.210
9	-1.475	-.2211	.4919	-1.475	.0816	.0440	.0042	-.118
10	.025	-.2690	.5566	.025	.0742	.0296	.0051	-.018
11	1.525	-.3942	.6068	1.525	.0097	.0006	.0061	.073
12	3.025	-.2646	.5642	3.025	.0180	.0109	.0068	.144
13	4.525	-.1826	.5144	4.525	.0209	.0099	.0068	.193
14	6.525	-.1005	.4505	6.525	.0341	.0009	.0055	.231
15	8.525	-.0295	.4016	8.525	.0437	-.0155	.0035	.244
16	10.525	-.0287	.3653	10.525	.0431	-.0327	.0018	.246
17	13.525	-.0192	.3302	13.525	.0446	-.0668	-.0002	.239
18	17.525	-.0083	.2984	17.525	.0154	-.1303	-.0022	.208
19	22.525	-.0010	.2535	22.525	-.0017	-.1908		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00511
CORRECTED MACH NUMBER = .77145
CORRECTION TO AOA (DEG) = -.01975

TEST : 216
RUN : 13

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 125
MACH = .767

TOTAL T = 289.07 R
UINF = 604.78 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0427	.0302	-24.225	.0395	.0068	-.0040	-.254
3	-18.475	.0108	.0725	-18.475	.0176	.0431	-.0002	-.282
4	-13.475	.0095	.1376	-13.475	.0398	.0761	.0005	-.323
5	-9.475	-.0016	.2149	-9.475	.0644	.0932	.0006	-.358
6	-6.475	-.0048	.2759	-6.475	.0671	.0942	.0019	-.333
7	-4.475	-.0276	.3347	-4.475	.0892	.0964	.0032	-.277
8	-2.975	-.0874	.4093	-2.975	.0928	.0822	.0042	-.205
9	-1.475	-.2254	.5009	-1.475	.0808	.0659	.0052	-.113
10	.025	-.2740	.5666	.025	.0755	.0510	.0062	-.016
11	1.525	-.4116	.6173	1.525	.0021	.0281	.0071	.069
12	3.025	-.2540	.5769	3.025	.0268	.0268	.0076	.134
13	4.525	-.1807	.5265	4.525	.0242	.0233	.0074	.182
14	6.525	-.1063	.4633	6.525	.0329	.0132	.0063	.223
15	8.525	-.0437	.4096	8.525	.0450	-.0024	.0046	.243
16	10.525	-.0257	.3729	10.525	.0442	-.0194	.0032	.247
17	13.525	-.0207	.3352	13.525	.0384	-.0556	.0018	.228
18	17.525	-.0176	.2984	17.525	.0040	-.1269	.0006	.184
19	22.525	-.0081	.2530	22.525	-.0090	-.1878		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00622
CORRECTED MACH NUMBER = .77348
CORRECTION TO AOA (DEG) = -.01773

TEST : 216
RUN : 13

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 126
MACH = .766

TOTAL T= 289.20 R
UINF = 604.04 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0381	.0270	-24.225	.0342	.0102	-.0029	-.263
3	-18.475	.0104	.0689	-18.475	.0184	.0491	.0008	-.297
4	-13.475	.0054	.1298	-13.475	.0360	.0835	.0022	-.351
5	-9.475	-.0136	.2059	-9.475	.0584	.0941	.0025	-.373
6	-6.475	-.0101	.2670	-6.475	.0635	.0954	.0034	-.332
7	-4.475	-.0273	.3298	-4.475	.0837	.0990	.0042	-.279
8	-2.975	-.0926	.4030	-2.975	.0928	.0830	.0047	-.213
9	-1.475	-.2318	.4969	-1.475	.0709	.0678	.0050	-.126
10	.025	-.2700	.5668	.025	.0776	.0436	.0053	-.030
11	1.525	-.3966	.6175	1.525	.0230	.0182	.0054	.063
12	3.025	-.2655	.5752	3.025	.0325	.0161	.0055	.140
13	4.525	-.1741	.5296	4.525	.0311	.0211	.0051	.191
14	6.525	-.0886	.4669	6.525	.0466	.0040	.0037	.221
15	8.525	-.0355	.4105	8.525	.0458	-.0117	.0023	.230
16	10.525	-.0246	.3679	10.525	.0527	-.0302	.0014	.235
17	13.525	-.0244	.3280	13.525	.0337	-.0666	.0007	.231
18	17.525	-.0141	.2878	17.525	.0092	-.1312	-.0004	.201
19	22.525	-.0071	.2458	22.525	-.0080	-.1926		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00525
CORRECTED MACH NUMBER = .77127
CORRECTION TO AOA (DEG)= -.03111

Appendix B

Wall Interference Calculations for Test 224 (Entry III, Run 2, 3, 5, 16, 17, 18, 19, 20, 21)

TOTAL T: Total temperature (Rankine)
UINF: Free stream velocity (feet per second)
X: Distance from airfoil quarter chord location (inches)
CPT: Top wall pressure coefficient
CPB: Bottom wall pressure coefficient
ZT: Top wall movement (inches)
ZB: Bottom wall movement (inches)
DM: Correction to Mach number
DA: Correction to angle of attack (degrees)

TEST : 224
 RUN : 2

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 9
 MACH = .701

TOTAL T= 505.38 R
 UINF = 736.63 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0393	.0206	-24.225	.0161	.0206	-.0010	-.014
3	-18.475	-.0007	.0379	-18.475	.0095	.0346	.0022	-.084
4	-13.475	.0115	.0698	-13.475	.0184	.0409	.0029	-.070
5	-9.475	-.0163	.1291	-9.475	.0177	.0260	.0028	-.066
6	-6.475	.0011	.1731	-6.475	.0201	.0052	.0020	-.058
7	-4.475	-.0107	.2099	-4.475	.0187	-.0153	.0012	-.055
8	-2.975	-.0115	.2559	-2.975	.0159	-.0395	.0004	-.050
9	-1.475	-.0715	.3108	-1.475	.0034	-.0699	-.0003	-.045
10	.025	-.0919	.3540	.025	-.0048	-.0903	-.0009	-.040
11	1.525	-.1092	.3729	1.525	-.0374	-.1137	-.0011	-.036
12	3.025	-.0738	.3653	3.025	-.0145	-.1072	-.0011	-.033
13	4.525	-.0741	.3505	4.525	.0000	-.0942	-.0009	-.030
14	6.525	-.0393	.3154	6.525	.0311	-.0741	-.0005	-.027
15	8.525	-.0195	.2802	8.525	.0177	-.0722	-.0001	-.025
16	10.525	-.0003	.2559	10.525	.0248	-.0763	.0003	-.026
17	13.525	-.0146	.2462	13.525	.0120	-.0935	.0005	-.034
18	17.525	-.0134	.2294	17.525	.0033	-.1300	.0005	-.046
19	22.525	-.0090	.2018	22.525	-.0185	-.1663		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00085
 CORRECTED MACH NUMBER = .69972
 CORRECTION TO AOA (DEG) = -.04003

TEST : 224
 RUN : 2

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 10
 MACH = .701

TOTAL T= 505.44 R
 UINF = 736.69 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0389	.0285	-24.225	.0201	.0281	-.0019	-.039
3	-18.475	.0023	.0619	-18.475	.0171	.0515	.0008	-.095
4	-13.475	.0081	.1069	-13.475	.0220	.0728	.0020	-.058
5	-9.475	-.0203	.1865	-9.475	.0267	.0805	.0022	-.056
6	-6.475	-.0115	.2431	-6.475	.0297	.0749	.0017	-.048
7	-4.475	-.0322	.2966	-4.475	.0369	.0660	.0011	-.047
8	-2.975	-.0331	.3410	-2.975	.0370	.0524	.0007	-.046
9	-1.475	-.1115	.4042	-1.475	.0187	.0343	.0002	-.046
10	.025	-.1287	.4439	.025	.0155	.0122	-.0003	-.048
11	1.525	-.1457	.4611	1.525	-.0158	-.0056	-.0007	-.050
12	3.025	-.0919	.4468	3.025	.0127	-.0090	-.0010	-.053
13	4.525	-.0929	.4244	4.525	.0141	-.0057	-.0012	-.054
14	6.525	-.0478	.3799	6.525	.0438	-.0010	-.0013	-.051
15	8.525	-.0235	.3366	8.525	.0332	-.0102	-.0014	-.044
16	10.525	-.0047	.3036	10.525	.0382	-.0222	-.0014	-.036
17	13.525	-.0133	.2779	13.525	.0274	-.0493	-.0012	-.029
18	17.525	-.0115	.2475	17.525	.0092	-.0980	-.0012	-.027
19	22.525	-.0003	.2055	22.525	-.0092	-.1474		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00027
 CORRECTED MACH NUMBER = .70031
 CORRECTION TO AOA (DEG) = -.04765

TEST : 224
 RUN : 2

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 11
 MACH = .701

TOTAL T= 505.53 R
 UINF = 736.73 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0404	.0374	-24.225	.0296	.0360	-.0026	-.062
3	-18.475	-.0028	.0882	-18.475	.0133	.0800	.0013	-.100
4	-13.475	.0065	.1478	-13.475	.0251	.1229	.0024	-.093
5	-9.475	-.0312	.2484	-9.475	.0355	.1422	.0022	-.097
6	-6.475	-.0236	.3237	-6.475	.0458	.1494	.0011	-.080
7	-4.475	-.0533	.3936	-4.475	.0623	.1503	.0000	-.071
8	-2.975	-.0624	.4492	-2.975	.0620	.1422	-.0009	-.063
9	-1.475	-.1446	.5228	-1.475	.0644	.1240	-.0018	-.054
10	.025	-.1590	.5681	.025	.0576	.1025	-.0025	-.045
11	1.525	-.1733	.5819	1.525	.0256	.0785	-.0029	-.037
12	3.025	-.1141	.5572	3.025	.0420	.0754	-.0030	-.031
13	4.525	-.1073	.5271	4.525	.0398	.0720	-.0028	-.026
14	6.525	-.0607	.4688	6.525	.0611	.0727	-.0023	-.020
15	8.525	-.0340	.4113	8.525	.0394	.0561	-.0018	-.011
16	10.525	-.0236	.3691	10.525	.0458	.0349	-.0015	.001
17	13.525	-.0183	.3322	13.525	.0302	-.0055	-.0013	.011
18	17.525	-.0164	.2842	17.525	.0080	-.0637	-.0013	.010
19	22.525	.0036	.2284	22.525	-.0016	-.1314		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00251
 CORRECTED MACH NUMBER = .69805
 CORRECTION TO AOA (DEG)= -.04496

TEST : 224
 RUN : 2

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 12
 MACH = .701

TOTAL T= 505.84 R
 UINF = 737.01 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0350	.0375	-24.225	.0420	.0361	-.0031	-.124
3	-18.475	-.0013	.1085	-18.475	.0169	.1065	.0012	-.082
4	-13.475	.0074	.1908	-13.475	.0312	.1760	.0026	-.094
5	-9.475	-.0368	.3194	-9.475	.0460	.2126	.0027	-.116
6	-6.475	-.0434	.4127	-6.475	.0590	.2382	.0020	-.094
7	-4.475	-.0876	.5030	-4.475	.0834	.2501	.0010	-.075
8	-2.975	-.0931	.5732	-2.975	.0909	.2486	.0002	-.059
9	-1.475	-.2040	.6626	-1.475	.0936	.2361	-.0007	-.042
10	.025	-.2221	.7128	.025	.0908	.2168	-.0013	-.025
11	1.525	-.2262	.7209	1.525	.0583	.1916	-.0016	-.011
12	3.025	-.1558	.6847	3.025	.0631	.1833	-.0014	.001
13	4.525	-.1351	.6403	4.525	.0583	.1728	-.0009	.011
14	6.525	-.0920	.5662	6.525	.0661	.1616	-.0002	.023
15	8.525	-.0530	.4964	8.525	.0459	.1345	.0005	.033
16	10.525	-.0263	.4389	10.525	.0455	.1048	.0010	.042
17	13.525	-.0363	.3868	13.525	.0228	.0533	.0014	.044
18	17.525	-.0228	.3231	17.525	.0088	-.0223	.0011	.050
19	22.525	-.0080	.2509	22.525	-.0056	-.1028		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00133
 CORRECTED MACH NUMBER = .69928
 CORRECTION TO AOA (DEG)= -.02512

TEST : 224
 RUN : 2

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 13
 MACH = .700

TOTAL T= 506.27 R
 UINF = 737.17 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0307	.0376	-24.225	.0579	.0364	-.0036	-.177
3	-18.475	-.0011	.1366	-18.475	.0158	.1332	.0011	-.068
4	-13.475	.0116	.2397	-13.475	.0428	.2247	.0023	-.106
5	-9.475	-.0426	.3943	-9.475	.0583	.2818	.0025	-.135
6	-6.475	-.0490	.5141	-6.475	.0800	.3226	.0018	-.122
7	-4.475	-.1007	.6229	-4.475	.1077	.3425	.0008	-.107
8	-2.975	-.1195	.7074	-2.975	.1176	.3442	.0000	-.087
9	-1.475	-.2593	.8134	-1.475	.1272	.3333	-.0009	-.058
10	.025	-.3031	.8757	.025	.1234	.3112	-.0015	-.023
11	1.525	-.2963	.8876	1.525	.0920	.2829	-.0018	.012
12	3.025	-.1949	.8369	3.025	.0964	.2709	-.0016	.041
13	4.525	-.1675	.7817	4.525	.0760	.2529	-.0011	.062
14	6.525	-.1063	.6939	6.525	.0846	.2312	-.0004	.081
15	8.525	-.0650	.6117	8.525	.0565	.1929	.0003	.091
16	10.525	-.0363	.5420	10.525	.0506	.1540	.0007	.096
17	13.525	-.0394	.4767	13.525	.0319	.0873	.0010	.094
18	17.525	-.0224	.3951	17.525	.0159	-.0031	.0006	.108
19	22.525	-.0140	.3048	22.525	-.0077	-.0959		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00151
 CORRECTED MACH NUMBER = .69895
 CORRECTION TO AOA (DEG)= -.02362

TEST : 224
 RUN : 2

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 14
 MACH = .700

TOTAL T= 506.78 R
 UINF = 737.40 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0226	.0376	-24.225	.0604	.0364	-.0024	-.214
3	-18.475	-.0013	.1593	-18.475	.0170	.1403	.0019	-.060
4	-13.475	.0107	.2789	-13.475	.0447	.2434	.0030	-.112
5	-9.475	-.0485	.4505	-9.475	.0631	.3088	.0031	-.151
6	-6.475	-.0539	.5861	-6.475	.0898	.3568	.0021	-.139
7	-4.475	-.1193	.7087	-4.475	.1200	.3797	.0009	-.121
8	-2.975	-.1319	.8037	-2.975	.1386	.3834	-.0002	-.096
9	-1.475	-.2821	.9248	-1.475	.1521	.3714	-.0013	-.062
10	.025	-.3299	.9986	.025	.1442	.3483	-.0020	-.021
11	1.525	-.3505	1.0106	1.525	.1147	.3169	-.0022	.021
12	3.025	-.2261	.9501	3.025	.1132	.2991	-.0018	.061
13	4.525	-.1928	.8870	4.525	.0875	.2739	-.0012	.095
14	6.525	-.1159	.7946	6.525	.0924	.2466	-.0002	.125
15	8.525	-.0750	.7000	8.525	.0581	.2040	.0007	.135
16	10.525	-.0345	.6264	10.525	.0507	.1615	.0015	.133
17	13.525	-.0530	.5485	13.525	.0300	.0874	.0024	.122
18	17.525	-.0342	.4572	17.525	.0097	-.0097	.0027	.148
19	22.525	-.0220	.3537	22.525	-.0134	-.1060		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00200
 CORRECTED MACH NUMBER = .69831
 CORRECTION TO AOA (DEG)= -.02195

TEST : 224
RUN : 2

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 15
MACH = .700

TOTAL T= 506.93 R
UINF = 737.59 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0194	.0373	-24.225	.0557	.0358	-.0011	-.211
3	-18.475	-.0014	.1569	-18.475	.0160	.1333	.0028	-.066
4	-13.475	.0111	.2751	-13.475	.0425	.2318	.0038	-.117
5	-9.475	-.0480	.4463	-9.475	.0660	.2943	.0037	-.158
6	-6.475	-.0477	.5800	-6.475	.0931	.3352	.0027	-.140
7	-4.475	-.1068	.7043	-4.475	.1196	.3554	.0017	-.121
8	-2.975	-.1301	.7989	-2.975	.1391	.3564	.0008	-.096
9	-1.475	-.2920	.9156	-1.475	.1458	.3392	.0000	-.058
10	.025	-.3208	.9944	.025	.1419	.3092	-.0005	-.012
11	1.525	-.3495	1.0081	1.525	.1045	.2739	-.0004	.031
12	3.025	-.2240	.9571	3.025	.0901	.2557	.0001	.066
13	4.525	-.2000	.8989	4.525	.0687	.2281	.0009	.091
14	6.525	-.1383	.8079	6.525	.0724	.1975	.0020	.113
15	8.525	-.0820	.7219	8.525	.0469	.1566	.0030	.122
16	10.525	-.0561	.6440	10.525	.0357	.1159	.0036	.122
17	13.525	-.0522	.5710	13.525	.0256	.0449	.0041	.116
18	17.525	-.0413	.4763	17.525	.0028	-.0496	.0041	.140
19	22.525	-.0238	.3769	22.525	-.0153	-.1433		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00051
CORRECTED MACH NUMBER = .69988
CORRECTION TO AOA (DEG)= -.01327

TEST : 224
RUN : 3

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 16
MACH = .767

TOTAL T= 506.29 R
UINF = 799.68 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0585	.0218	-24.225	.0349	.0104	-.0059	-.023
3	-18.475	.0169	.0422	-18.475	.0282	.0199	-.0026	-.097
4	-13.475	.0354	.0736	-13.475	.0399	.0156	-.0017	-.068
5	-9.475	-.0010	.1316	-9.475	.0327	.0024	.0000	-.067
6	-6.475	.0104	.1750	-6.475	.0248	-.0241	.0002	-.060
7	-4.475	.0025	.2218	-4.475	.0226	-.0530	-.0005	-.062
8	-2.975	.0000	.2686	-2.975	.0200	-.0812	-.0012	-.062
9	-1.475	+.0714	.3326	-1.475	.0026	-.1179	-.0019	-.059
10	.025	-.1112	.3885	.025	-.0185	-.1522	-.0021	-.057
11	1.525	-.1487	.4098	1.525	-.0674	-.1695	-.0016	-.056
12	3.025	-.1029	.3945	3.025	-.0384	-.1611	-.0007	-.056
13	4.525	-.1023	.3720	4.525	-.0202	-.1432	.0004	-.054
14	6.525	-.0399	.3286	6.525	.0310	-.1167	.0019	-.049
15	8.525	-.0278	.2863	8.525	.0070	-.1046	.0034	-.045
16	10.525	-.0154	.2604	10.525	.0159	-.1049	.0045	-.045
17	13.525	-.0278	.2487	13.525	.0052	-.1164	.0054	-.056
18	17.525	-.0298	.2369	17.525	-.0152	-.1612	.0047	-.103
19	22.525	.0017	.2123	22.525	-.0318	-.2073		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00210
CORRECTED MACH NUMBER = .76441
CORRECTION TO AOA (DEG)= -.05669

TEST : 224
 RUN : 3

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 17
 MACH = .766

TOTAL T = 506.43 R
 UINF = 799.68 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0480	.0331	-24.225	.0248	.0251	-.0024	-.043
3	-18.475	-.0037	.0624	-18.475	.0134	.0478	.0029	-.115
4	-13.475	.0118	.1078	-13.475	.0242	.0684	.0046	-.072
5	-9.475	-.0279	.1848	-9.475	.0235	.0769	.0057	-.074
6	-6.475	-.0099	.2482	-6.475	.0314	.0671	.0046	-.068
7	-4.475	-.0276	.3123	-4.475	.0420	.0519	.0033	-.073
8	-2.975	-.0363	.3669	-2.975	.0400	.0336	.0023	-.073
9	-1.475	-.1403	.4425	-1.475	.0208	.0061	.0013	-.065
10	.025	-.1809	.4942	.025	.0248	-.0272	.0005	-.047
11	1.525	-.2218	.5177	1.525	-.0229	-.0477	.0001	-.025
12	3.025	-.1358	.4934	3.025	-.0006	-.0446	.0002	-.008
13	4.525	-.1048	.4583	4.525	.0127	-.0374	.0005	.002
14	6.525	-.0601	.4015	6.525	.0451	-.0246	.0012	.014
15	8.525	-.0256	.3464	8.525	.0300	-.0241	.0021	.020
16	10.525	-.0066	.3108	10.525	.0295	-.0342	.0028	.018
17	13.525	-.0231	.2870	13.525	.0170	-.0640	.0032	.005
18	17.525	-.0205	.2621	17.525	-.0061	-.1232	.0025	-.028
19	22.525	-.0056	.2279	22.525	-.0240	-.1756		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00050
 CORRECTED MACH NUMBER = .76689
 CORRECTION TO AOA (DEG) = -.04723

TEST : 224
 RUN : 3

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 18
 MACH = .766

TOTAL T = 506.38 R
 UINF = 799.71 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0471	.0334	-24.225	.0289	.0294	-.0030	-.051
3	-18.475	-.0018	.0714	-18.475	.0141	.0586	.0022	-.111
4	-13.475	.0148	.1226	-13.475	.0272	.0870	.0031	-.097
5	-9.475	-.0174	.2074	-9.475	.0390	.0948	.0032	-.106
6	-6.475	-.0092	.2758	-6.475	.0429	.0903	.0021	-.089
7	-4.475	-.0344	.3444	-4.475	.0573	.0795	.0008	-.081
8	-2.975	-.0396	.4064	-2.975	.0573	.0608	-.0005	-.072
9	-1.475	-.1445	.4909	-1.475	.0445	.0340	-.0017	-.060
10	.025	-.1977	.5499	.025	.0358	.0023	-.0026	-.046
11	1.525	-.2240	.5785	1.525	-.0023	-.0213	-.0030	-.032
12	3.025	-.1419	.5389	3.025	.0184	-.0198	-.0027	-.020
13	4.525	-.1084	.4973	4.525	.0280	-.0124	-.0020	-.010
14	6.525	-.0603	.4356	6.525	.0487	-.0004	-.0008	-.003
15	8.525	-.0174	.3765	8.525	.0368	-.0072	.0003	-.007
16	10.525	-.0071	.3380	10.525	.0314	-.0207	.0010	-.020
17	13.525	-.0156	.3082	13.525	.0190	-.0575	.0016	-.047
18	17.525	-.0303	.2766	17.525	.0042	-.1172	.0015	-.039
19	22.525	-.0142	.2317	22.525	-.0080	-.1762		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00263
 CORRECTED MACH NUMBER = .76384
 CORRECTION TO AOA (DEG) = -.04603

TEST : 224
RUN : 3

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 19
MACH = .767

TOTAL T= 506.76 R
UINF = 800.09 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0519	.0409	-24.225	.0359	.0351	-.0042	-.061
3	-18.475	.0017	.0871	-18.475	.0210	.0740	.0007	-.116
4	-13.475	.0256	.1526	-13.475	.0410	.1098	.0018	-.092
5	-9.475	-.0261	.2458	-9.475	.0438	.1391	.0035	-.103
6	-6.475	-.0124	.3324	-6.475	.0533	.1382	.0026	-.097
7	-4.475	-.0298	.4129	-4.475	.0698	.1286	.0015	-.097
8	-2.975	-.0616	.4809	-2.975	.0694	.1154	.0006	-.089
9	-1.475	-.1836	.5712	-1.475	.0620	.0900	-.0003	-.070
10	.025	-.2303	.6493	.025	.0570	.0554	-.0009	-.044
11	1.525	-.3183	.6762	1.525	.0079	.0323	-.0011	-.018
12	3.025	-.1785	.6327	3.025	.0240	.0327	-.0008	.001
13	4.525	-.1316	.5807	4.525	.0308	.0309	-.0003	.015
14	6.525	-.0736	.5098	6.525	.0605	.0349	.0003	.032
15	8.525	-.0313	.4447	8.525	.0436	.0218	.0009	.039
16	10.525	-.0120	.3983	10.525	.0406	.0032	.0014	.038
17	13.525	-.0257	.3562	13.525	.0252	-.0371	.0020	.025
18	17.525	-.0190	.3149	17.525	.0002	-.1081	.0017	-.004
19	22.525	-.0101	.2619	22.525	-.0227	-.1743		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00092
CORRECTED MACH NUMBER = .76563
CORRECTION TO AOA (DEG)= -.04424

TEST : 224
RUN : 3

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 20
MACH = .766

TOTAL T= 506.83 R
UINF = 800.01 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0381	.0368	-24.225	.0290	.0389	-.0014	-.073
3	-18.475	-.0020	.0986	-18.475	.0160	.0796	.0031	-.105
4	-13.475	.0167	.1689	-13.475	.0331	.1242	.0040	-.099
5	-9.475	-.0311	.2766	-9.475	.0432	.1513	.0046	-.118
6	-6.475	-.0179	.3676	-6.475	.0559	.1566	.0032	-.109
7	-4.475	-.0482	.4536	-4.475	.0740	.1509	.0016	-.102
8	-2.975	-.0658	.5313	-2.975	.0820	.1396	.0001	-.091
9	-1.475	-.1957	.6291	-1.475	.0740	.1141	-.0014	-.072
10	.025	-.2438	.7115	.025	.0741	.0787	-.0027	-.046
11	1.525	-.3336	.7417	1.525	.0368	.0549	-.0033	-.017
12	3.025	-.1819	.6940	3.025	.0485	.0481	-.0030	.009
13	4.525	-.1359	.6391	4.525	.0470	.0487	-.0022	.028
14	6.525	-.0804	.5575	6.525	.0638	.0496	-.0008	.044
15	8.525	-.0390	.4850	8.525	.0432	.0370	.0006	.048
16	10.525	-.0156	.4298	10.525	.0428	.0163	.0017	.046
17	13.525	-.0315	.3811	13.525	.0236	-.0264	.0028	.039
18	17.525	-.0214	.3325	17.525	.0008	-.0985	.0026	.016
19	22.525	-.0151	.2759	22.525	-.0254	-.1693		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00271
CORRECTED MACH NUMBER = .76370
CORRECTION TO AOA (DEG)= -.04637

TEST : 224
 RUN : 3

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 21
 MACH = .767

TOTAL T= 506.77 R
 UINF = 800.13 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0361	.0371	-24.225	.0294	.0389	-.0003	-.072
3	-18.475	-.0066	.1012	-18.475	.0109	.0833	.0049	-.098
4	-13.475	.0151	.1724	-13.475	.0333	.1305	.0062	-.091
5	-9.475	-.0440	.2769	-9.475	.0334	.1660	.0079	-.110
6	-6.475	-.0226	.3739	-6.475	.0542	.1692	.0058	-.106
7	-4.475	-.0345	.4685	-4.475	.0829	.1579	.0037	-.103
8	-2.975	-.0732	.5398	-2.975	.0868	.1488	.0024	-.090
9	-1.475	-.2038	.6401	-1.475	.0825	.1218	.0013	-.065
10	.025	-.2384	.7285	.025	.0777	.0835	.0007	-.036
11	1.525	-.3616	.7548	1.525	.0179	.0623	.0010	-.009
12	3.025	-.2070	.7061	3.025	.0270	.0520	.0017	.010
13	4.525	-.1525	.6578	4.525	.0224	.0448	.0024	.022
14	6.525	-.0976	.5804	6.525	.0475	.0383	.0034	.033
15	8.525	-.0513	.5097	8.525	.0333	.0230	.0044	.037
16	10.525	-.0241	.4536	10.525	.0320	.0036	.0053	.036
17	13.525	-.0419	.4065	13.525	.0146	-.0375	.0065	.024
18	17.525	-.0401	.3571	17.525	-.0105	-.1133	.0064	.007
19	22.525	-.0195	.2983	22.525	-.0295	-.1842		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00072
 CORRECTED MACH NUMBER = .76731
 CORRECTION TO AOA (DEG) = -.03612

TEST : 224
 RUN : 3

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 22
 MACH = .767

TOTAL T= 506.39 R
 UINF = 799.76 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0363	.0416	-24.225	.0271	.0386	.0003	-.077
3	-18.475	-.0048	.1044	-18.475	.0133	.0842	.0058	-.115
4	-13.475	.0050	.1736	-13.475	.0258	.1342	.0084	-.090
5	-9.475	-.0424	.2911	-9.475	.0326	.1644	.0096	-.109
6	-6.475	-.0257	.3880	-6.475	.0492	.1716	.0081	-.107
7	-4.475	-.0663	.4836	-4.475	.0681	.1696	.0063	-.112
8	-2.975	-.0788	.5632	-2.975	.0812	.1482	.0045	-.103
9	-1.475	-.2166	.6678	-1.475	.0771	.1202	.0027	-.079
10	.025	-.2751	.7534	.025	.0708	.0801	.0011	-.045
11	1.525	-.3530	.7931	1.525	.0327	.0483	.0003	-.011
12	3.025	-.1990	.7436	3.025	.0332	.0359	.0003	.016
13	4.525	-.1585	.6902	4.525	.0259	.0303	.0008	.033
14	6.525	-.0970	.6153	6.525	.0512	.0288	.0017	.045
15	8.525	-.0507	.5412	8.525	.0348	.0156	.0027	.043
16	10.525	-.0252	.4820	10.525	.0350	-.0036	.0035	.036
17	13.525	-.0378	.4339	13.525	.0256	-.0470	.0041	.028
18	17.525	-.0321	.3821	17.525	-.0021	-.1206	.0038	.012
19	22.525	-.0150	.3164	22.525	-.0223	-.1942		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00112
 CORRECTED MACH NUMBER = .76763
 CORRECTION TO AOA (DEG) = -.04512

TEST : 224
RUN : 3

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 23
MACH = .766

TOTAL T= 506.81 R
UINF = 799.94 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0408	.0350	-24.225	.0413	.0355	-.0038	-.089
3	-18.475	.0049	.1025	-18.475	.0226	.0721	.0001	-.102
4	-13.475	.0270	.1717	-13.475	.0449	.1135	.0001	-.106
5	-9.475	-.0180	.2837	-9.475	.0512	.1307	.0010	-.130
6	-6.475	-.0108	.3671	-6.475	.0624	.1390	.0009	-.115
7	-4.475	-.0594	.4504	-4.475	.0737	.1371	.0005	-.102
8	-2.975	-.0621	.5252	-2.975	.0745	.1236	-.0003	-.087
9	-1.475	-.1943	.6268	-1.475	.0700	.0977	-.0012	-.066
10	.025	-.2588	.7003	.025	.0629	.0660	-.0020	-.038
11	1.525	-.3370	.7391	1.525	.0174	.0341	-.0022	-.008
12	3.025	-.1870	.6899	3.025	.0281	.0354	-.0018	.017
13	4.525	-.1510	.6316	4.525	.0343	.0413	-.0009	.034
14	6.525	-.0928	.5533	6.525	.0524	.0489	.0002	.049
15	8.525	-.0421	.4799	8.525	.0414	.0386	.0007	.055
16	10.525	-.0142	.4301	10.525	.0474	.0209	.0006	.055
17	13.525	-.0224	.3893	13.525	.0351	-.0221	.0000	.043
18	17.525	-.0178	.3413	17.525	.0116	-.0872	-.0010	.015
19	22.525	.0051	.2803	22.525	-.0034	-.1646		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00200
CORRECTED MACH NUMBER = .76435
CORRECTION TO AOA (DEG) = -.03825

TEST : 224
RUN : 5

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 31
MACH = .766

TOTAL T= 288.90 R
UINF = 603.68 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0562	.0045	-24.225	.0450	-.0145	-.0078	-.248
3	-18.475	.0178	.0203	-18.475	.0296	.0026	-.0043	-.287
4	-13.475	.0315	.0396	-13.475	.0415	-.0046	-.0031	-.312
5	-9.475	.0044	.0780	-9.475	.0451	-.0185	-.0014	-.323
6	-6.475	.0176	.1131	-6.475	.0423	-.0448	.0001	-.303
7	-4.475	-.0059	.1433	-4.475	.0393	-.0622	.0016	-.271
8	-2.975	-.0247	.1835	-2.975	.0374	-.0880	.0029	-.220
9	-1.475	-.1236	.2455	-1.475	.0176	-.1196	.0041	-.143
10	.025	-.1967	.2926	.025	-.0061	-.1363	.0053	-.053
11	1.525	-.2700	.3344	1.525	-.0758	-.1548	.0060	.031
12	3.025	-.1644	.3119	3.025	-.0307	-.1364	.0061	.095
13	4.525	-.1305	.2872	4.525	-.0053	-.1158	.0054	.138
14	6.525	-.0542	.2545	6.525	.0389	-.0982	.0035	.168
15	8.525	-.0137	.2242	8.525	.0377	-.0991	.0014	.175
16	10.525	.0072	.2080	10.525	.0428	-.1055	-.0002	.166
17	13.525	-.0117	.1987	13.525	.0266	-.1221	-.0017	.136
18	17.525	.0018	.1930	17.525	.0177	-.1685	-.0041	.079
19	22.525	.0086	.1756	22.525	-.0065	-.2177		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00527
CORRECTED MACH NUMBER = .77123
CORRECTION TO AOA (DEG) = -.05402

TEST : 224
 RUN : 5

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 32
 MACH = .766

TOTAL T= 289.02 R
 UINF = 603.78 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0510	.0164	-24.225	.0443	-.0046	-.0063	-.275
3	-18.475	.0081	.0462	-18.475	.0231	.0274	-.0019	-.307
4	-13.475	.0272	.0814	-13.475	.0416	.0413	-.0010	-.336
5	-9.475	-.0062	.1450	-9.475	.0506	.0448	.0003	-.360
6	-6.475	.0008	.1965	-6.475	.0554	.0343	.0015	-.329
7	-4.475	-.0336	.2468	-4.475	.0660	.0259	.0025	-.278
8	-2.975	-.0551	.3025	-2.975	.0700	.0081	.0034	-.212
9	-1.475	-.1737	.3824	-1.475	.0496	-.0146	.0043	-.128
10	.025	-.2469	.4449	.025	.0348	-.0275	.0053	-.037
11	1.525	-.3552	.4868	1.525	-.0151	-.0470	.0061	.046
12	3.025	-.2134	.4478	3.025	.0012	-.0331	.0065	.112
13	4.525	-.1552	.4060	4.525	.0099	-.0248	.0061	.156
14	6.525	-.0759	.3552	6.525	.0535	-.0215	.0044	.192
15	8.525	-.0250	.3099	8.525	.0453	-.0321	.0025	.205
16	10.525	-.0004	.2800	10.525	.0482	-.0479	.0012	.202
17	13.525	-.0226	.2553	13.525	.0292	-.0766	.0002	.183
18	17.525	-.0050	.2322	17.525	.0141	-.1293	-.0016	.133
19	22.525	-.0051	.1994	22.525	-.0141	-.1931		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

 DELTA M = .00529
 CORRECTED MACH NUMBER = .77121
 CORRECTION TO AOA (DEG)= -.03845

TEST : 224
 RUN : 5

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 33
 MACH = .766

TOTAL T= 288.95 R
 UINF = 603.69 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0515	.0225	-24.225	.0401	.0047	-.0066	-.243
3	-18.475	.0138	.0571	-18.475	.0312	.0378	-.0036	-.288
4	-13.475	.0347	.1007	-13.475	.0431	.0560	-.0028	-.344
5	-9.475	-.0048	.1659	-9.475	.0570	.0578	-.0015	-.384
6	-6.475	-.0004	.2229	-6.475	.0594	.0481	-.0004	-.352
7	-4.475	-.0389	.2727	-4.475	.0686	.0427	.0005	-.300
8	-2.975	-.0458	.3347	-2.975	.0785	.0251	.0011	-.231
9	-1.475	-.1910	.4080	-1.475	.0691	-.0027	.0017	-.136
10	.025	-.2563	.4795	.025	.0462	-.0119	.0023	-.031
11	1.525	-.3702	.5202	1.525	-.0042	-.0311	.0026	.060
12	3.025	-.2013	.4848	3.025	.0164	-.0213	.0023	.125
13	4.525	-.1342	.4399	4.525	.0354	-.0154	.0015	.168
14	6.525	-.0733	.3826	6.525	.0666	-.0162	-.0003	.207
15	8.525	-.0199	.3361	8.525	.0589	-.0293	-.0020	.229
16	10.525	.0073	.3020	10.525	.0542	-.0450	-.0033	.231
17	13.525	-.0072	.2719	13.525	.0372	-.0761	-.0044	.214
18	17.525	.0035	.2532	17.525	.0274	-.1301	-.0066	.184
19	22.525	.0157	.2220	22.525	.0062	-.1868		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

 DELTA M = .00230
 CORRECTED MACH NUMBER = .76819
 CORRECTION TO AOA (DEG)= -.03253

TEST : 224
 RUN : 5

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 34
 MACH = .766

TOTAL T= 289.12 R
 UINF = 603.89 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0655	.0262	-24.225	.0574	.0050	-.0100	-.252
3	-18.475	.0179	.0655	-18.475	.0385	.0458	-.0051	-.288
4	-13.475	.0307	.1059	-13.475	.0476	.0740	-.0025	-.311
5	-9.475	-.0101	.1841	-9.475	.0548	.0833	-.0002	-.331
6	-6.475	-.0053	.2458	-6.475	.0614	.0835	.0011	-.302
7	-4.475	-.0405	.3069	-4.475	.0728	.0794	.0019	-.260
8	-2.975	-.0559	.3729	-2.975	.0804	.0654	.0024	-.208
9	-1.475	-.1950	.4637	-1.475	.0649	.0445	.0028	-.138
10	.025	-.2783	.5311	.025	.0547	.0242	.0032	-.058
11	1.525	-.3899	.5789	1.525	.0096	-.0004	.0034	.020
12	3.025	-.2166	.5314	3.025	.0216	.0053	.0033	.081
13	4.525	-.1547	.4776	4.525	.0269	.0072	.0027	.125
14	6.525	-.0795	.4174	6.525	.0583	.0030	.0009	.165
15	8.525	-.0220	.3662	8.525	.0613	-.0154	-.0014	.186
16	10.525	.0029	.3293	10.525	.0563	-.0356	-.0034	.193
17	13.525	.0027	.3058	13.525	.0575	-.0777	-.0054	.183
18	17.525	-.0044	.2738	17.525	.0200	-.1361	-.0061	.146
19	22.525	.0119	.2317	22.525	.0012	-.2005		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00319
 CORRECTED MACH NUMBER = .76911
 CORRECTION TO AOA (DEG) = -.05937

TEST : 224
 RUN : 5

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 35
 MACH = .766

TOTAL T= 289.15 R
 UINF = 603.98 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0538	.0262	-24.225	.0472	.0050	-.0068	-.262
3	-18.475	.0112	.0697	-18.475	.0286	.0454	-.0025	-.303
4	-13.475	.0303	.1151	-13.475	.0480	.0720	-.0014	-.335
5	-9.475	-.0059	.1993	-9.475	.0571	.0834	.0000	-.379
6	-6.475	-.0030	.2634	-6.475	.0674	.0777	.0011	-.362
7	-4.475	-.0462	.3235	-4.475	.0854	.0721	.0019	-.308
8	-2.975	-.0652	.3914	-2.975	.0875	.0536	.0026	-.237
9	-1.475	-.2057	.4820	-1.475	.0793	.0290	.0032	-.146
10	.025	-.2844	.5585	.025	.0601	.0134	.0039	-.050
11	1.525	-.4082	.6051	1.525	.0020	-.0157	.0045	.036
12	3.025	-.2374	.5535	3.025	.0141	-.0107	.0047	.102
13	4.525	-.1689	.5073	4.525	.0136	-.0093	.0041	.147
14	6.525	-.0861	.4469	6.525	.0582	-.0146	.0023	.181
15	8.525	-.0281	.3946	8.525	.0523	-.0285	.0003	.195
16	10.525	-.0115	.3498	10.525	.0630	-.0476	-.0011	.206
17	13.525	-.0154	.3190	13.525	.0432	-.0859	-.0023	.214
18	17.525	-.0072	.2866	17.525	.0135	-.1459	-.0036	.171
19	22.525	.0082	.2439	22.525	-.0012	-.2130		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00389
 CORRECTED MACH NUMBER = .76990
 CORRECTION TO AOA (DEG) = -.05112

TEST : 224
 RUN : 5

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 36
 MACH = .766

TOTAL T= 289.19 R
 UINF = 603.97 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0580	.0298	-24.225	.0489	.0047	-.0068	-.264
3	-18.475	.0109	.0702	-18.475	.0309	.0454	-.0019	-.301
4	-13.475	.0256	.1173	-13.475	.0432	.0757	.0004	-.330
5	-9.475	-.0114	.2003	-9.475	.0559	.0849	.0022	-.360
6	-6.475	-.0048	.2671	-6.475	.0649	.0859	.0038	-.340
7	-4.475	-.0468	.3275	-4.475	.0779	.0819	.0052	-.297
8	-2.975	-.0691	.3959	-2.975	.0850	.0629	.0063	-.233
9	-1.475	-.2155	.4842	-1.475	.0674	.0417	.0075	-.145
10	.025	-.3244	.5587	.025	.0594	.0225	.0084	-.050
11	1.525	-.4161	.6156	1.525	-.0185	-.0089	.0089	.032
12	3.025	-.2347	.5602	3.025	.0050	-.0131	.0089	.091
13	4.525	-.1829	.5097	4.525	-.0016	-.0149	.0083	.133
14	6.525	-.1004	.4508	6.525	.0442	-.0204	.0063	.170
15	8.525	-.0329	.4042	8.525	.0488	-.0409	.0040	.184
16	10.525	-.0177	.3621	10.525	.0411	-.0598	.0025	.181
17	13.525	-.0222	.3263	13.525	.0322	-.0955	.0014	.155
18	17.525	-.0151	.2906	17.525	.0056	-.1644	-.0002	.097
19	22.525	-.0084	.2400	22.525	-.0076	-.2384		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00836
 CORRECTED MACH NUMBER = .77430
 CORRECTION TO AOA (DEG)= -.05141

TEST : 224
 RUN : 5

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 37
 MACH = .766

TOTAL T= 288.83 R
 UINF = 603.63 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0480	-.0061	-24.225	.0319	-.0248	-.0053	-.202
3	-18.475	.0160	.0052	-18.475	.0237	-.0229	-.0029	-.248
4	-13.475	.0302	.0093	-13.475	.0324	-.0481	-.0025	-.285
5	-9.475	.0114	.0284	-9.475	.0342	-.0824	-.0017	-.300
6	-6.475	.0313	.0438	-6.475	.0320	-.1249	-.0011	-.280
7	-4.475	.0192	.0619	-4.475	.0244	-.1570	-.0001	-.247
8	-2.975	.0126	.0898	-2.975	.0175	-.1894	.0008	-.198
9	-1.475	-.0738	.1338	-1.475	-.0178	-.2261	.0019	-.128
10	.025	-.1271	.1845	.025	-.0339	-.2443	.0030	-.049
11	1.525	-.1892	.2169	1.525	-.1057	-.2610	.0039	.020
12	3.025	-.1160	.2066	3.025	-.0492	-.2358	.0043	.074
13	4.525	-.0996	.1908	4.525	-.0243	-.2057	.0041	.112
14	6.525	-.0410	.1686	6.525	.0289	-.1800	.0029	.142
15	8.525	-.0036	.1500	8.525	.0225	-.1680	.0013	.151
16	10.525	.0188	.1421	10.525	.0344	-.1690	.0000	.144
17	13.525	.0045	.1428	13.525	.0206	-.1752	-.0008	.124
18	17.525	-.0048	.1564	17.525	.0043	-.2017	-.0016	.093
19	22.525	-.0068	.1627	22.525	-.0170	-.2271		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00300
 CORRECTED MACH NUMBER = .76898
 CORRECTION TO AOA (DEG)= -.05072

TEST : 224
RUN : 16

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 97
MACH = .765

TOTAL T= 271.12 R
UINF = 584.09 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0483	.0051	-24.225	.0414	-.0189	-.0060	-.258
3	-18.475	.0073	.0164	-18.475	.0237	.0036	-.0019	-.261
4	-13.475	.0259	.0398	-13.475	.0341	-.0010	-.0011	-.283
5	-9.475	.0005	.0814	-9.475	.0372	-.0165	-.0005	-.316
6	-6.475	.0152	.1140	-6.475	.0480	-.0471	-.0001	-.289
7	-4.475	-.0065	.1446	-4.475	.0440	-.0639	.0009	-.242
8	-2.975	-.0233	.1856	-2.975	.0380	-.0869	.0017	-.185
9	-1.475	-.1260	.2502	-1.475	.0144	-.1177	.0025	-.111
10	.025	-.1852	.2966	.025	-.0045	-.1348	.0032	-.033
11	1.525	-.2262	.3368	1.525	-.0591	-.1483	.0036	.032
12	3.025	-.1521	.3163	3.025	-.0263	-.1346	.0035	.077
13	4.525	-.1243	.2900	4.525	-.0088	-.1150	.0028	.105
14	6.525	-.0446	.2631	6.525	.0471	-.0973	.0010	.125
15	8.525	-.0130	.2236	8.525	.0465	-.0988	-.0010	.139
16	10.525	.0075	.2065	10.525	.0614	-.1042	-.0024	.155
17	13.525	-.0068	.1972	13.525	.0346	-.1209	-.0034	.153
18	17.525	.0050	.1926	17.525	.0130	-.1676	-.0050	.090
19	22.525	.0116	.1741	22.525	-.0014	-.2168		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00320
CORRECTED MACH NUMBER = .76810
CORRECTION TO AOA (DEG)= -.03402

TEST : 224
RUN : 16

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 98
MACH = .765

TOTAL T= 271.07 R
UINF = 583.88 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0375	.0257	-24.225	.0302	.0312	-.0025	-.074
3	-18.475	-.0089	.0670	-18.475	.0091	.0772	.0041	-.092
4	-13.475	.0053	.1104	-13.475	.0245	.1249	.0061	-.094
5	-9.475	-.0279	.1992	-9.475	.0284	.1331	.0065	-.114
6	-6.475	-.0185	.2639	-6.475	.0392	.1361	.0059	-.106
7	-4.475	-.0458	.3274	-4.475	.0457	.1316	.0049	-.098
8	-2.975	-.0548	.3912	-2.975	.0510	.1182	.0037	-.087
9	-1.475	-.1676	.4776	-1.475	.0430	.0897	.0022	-.071
10	.025	-.2141	.5458	.025	.0326	.0606	.0007	-.049
11	1.525	-.2700	.5812	1.525	-.0098	.0266	-.0003	-.023
12	3.025	-.1459	.5343	3.025	.0382	.0371	-.0004	.006
13	4.525	-.1217	.4913	4.525	.0390	.0512	.0004	.030
14	6.525	-.0763	.4208	6.525	.0493	.0731	.0017	.045
15	8.525	-.0311	.3609	8.525	.0439	.0665	.0027	.044
16	10.525	-.0154	.3174	10.525	.0381	.0507	.0031	.039
17	13.525	-.0235	.2800	13.525	.0298	.0131	.0031	.035
18	17.525	-.0161	.2472	17.525	.0015	-.0519	.0018	.014
19	22.525	-.0105	.2112	22.525	-.0155	-.1258		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00067
CORRECTED MACH NUMBER = .76535
CORRECTION TO AOA (DEG)= -.04925

TEST : 224
 RUN : 16

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 99
 MACH = .765

TOTAL T= 271.03 R
 UINF = 583.83 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0385	.0285	-24.225	.0317	.0358	-.0042	-.074
3	-18.475	.0038	.0775	-18.475	.0225	.0786	-.0004	-.086
4	-13.475	.0208	.1307	-13.475	.0402	.1301	.0002	-.080
5	-9.475	-.0067	.2251	-9.475	.0455	.1472	.0001	-.117
6	-6.475	-.0055	.2985	-6.475	.0594	.1527	-.0011	-.119
7	-4.475	-.0362	.3701	-4.475	.0784	.1498	-.0025	-.109
8	-2.975	-.0424	.4361	-2.975	.0753	.1367	-.0041	-.094
9	-1.475	-.1556	.5305	-1.475	.0787	.1059	-.0058	-.072
10	.025	-.2029	.5994	.025	.0687	.0798	-.0073	-.046
11	1.525	-.2566	.6392	1.525	.0282	.0449	-.0079	-.022
12	3.025	-.1262	.5881	3.025	.0626	.0552	-.0072	-.001
13	4.525	-.1199	.5367	4.525	.0499	.0689	-.0056	.014
14	6.525	-.0679	.4601	6.525	.0686	.0857	-.0031	.025
15	8.525	-.0331	.3929	8.525	.0541	.0747	-.0011	.032
16	10.525	-.0194	.3451	10.525	.0400	.0588	.0001	.035
17	13.525	-.0156	.3084	13.525	.0361	.0188	.0005	.023
18	17.525	-.0226	.2638	17.525	.0072	-.0539	.0001	.008
19	22.525	.0002	.2192	22.525	-.0107	-.1222		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00727
 CORRECTED MACH NUMBER = .75740
 CORRECTION TO AOA (DEG) = -.04676

TEST : 224
 RUN : 16

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 100
 MACH = .765

TOTAL T= 271.22 R
 UINF = 583.97 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0471	.0379	-24.225	.0433	.0365	-.0048	-.104
3	-18.475	-.0106	.0912	-18.475	.0126	.0936	.0023	-.103
4	-13.475	.0198	.1562	-13.475	.0410	.1544	.0028	-.099
5	-9.475	-.0271	.2628	-9.475	.0491	.1823	.0034	-.113
6	-6.475	-.0129	.3492	-6.475	.0649	.1996	.0028	-.094
7	-4.475	-.0562	.4333	-4.475	.0784	.2036	.0020	-.086
8	-2.975	-.0573	.5066	-2.975	.0826	.1952	.0011	-.078
9	-1.475	-.1918	.6108	-1.475	.0824	.1722	.0001	-.064
10	.025	-.2492	.6888	.025	.0660	.1440	-.0006	-.046
11	1.525	-.3615	.7316	1.525	.0242	.1173	-.0006	-.029
12	3.025	-.1983	.6773	3.025	.0448	.1202	-.0001	-.014
13	4.525	-.1472	.6159	4.525	.0492	.1176	.0010	-.001
14	6.525	-.0954	.5304	6.525	.0624	.1240	.0026	.017
15	8.525	-.0477	.4572	8.525	.0464	.1091	.0040	.025
16	10.525	-.0406	.3995	10.525	.0370	.0858	.0047	.031
17	13.525	-.0323	.3536	13.525	.0268	.0368	.0047	.030
18	17.525	-.0279	.2969	17.525	.0012	-.0402	.0037	.010
19	22.525	-.0152	.2372	22.525	-.0155	-.1219		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00055
 CORRECTED MACH NUMBER = .76402
 CORRECTION TO AOA (DEG) = -.04620

TEST : 224
RUN : 16

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 101
MACH = .765

TOTAL T= 271.41 R
UINF = 584.18 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0390	.0377	-24.225	.0403	.0365	-.0030	-.086
3	-18.475	-.0107	.0971	-18.475	.0068	.0979	.0042	-.087
4	-13.475	.0067	.1609	-13.475	.0348	.1602	.0057	-.071
5	-9.475	-.0326	.2717	-9.475	.0435	.1993	.0066	-.076
6	-6.475	-.0280	.3598	-6.475	.0511	.2181	.0060	-.069
7	-4.475	-.0646	.4446	-4.475	.0715	.2250	.0047	-.069
8	-2.975	-.0683	.5220	-2.975	.0802	.2173	.0030	-.065
9	-1.475	-.1997	.6300	-1.475	.0836	.1933	.0010	-.056
10	.025	-.2596	.7108	.025	.0781	.1611	-.0009	-.040
11	1.525	-.3479	.7564	1.525	.0381	.1296	-.0022	-.023
12	3.025	-.1868	.7016	3.025	.0644	.1221	-.0026	-.005
13	4.525	-.1407	.6418	4.525	.0544	.1164	-.0025	.014
14	6.525	-.0809	.5579	6.525	.0791	.1151	-.0018	.041
15	8.525	-.0352	.4845	8.525	.0627	.0966	-.0010	.061
16	10.525	-.0168	.4296	10.525	.0487	.0719	-.0005	.071
17	13.525	-.0140	.3831	13.525	.0404	.0214	-.0002	.065
18	17.525	-.0131	.3345	17.525	.0033	-.0508	.0001	.013
19	22.525	-.0130	.2668	22.525	-.0181	-.1333		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00084
CORRECTED MACH NUMBER = .76373
CORRECTION TO AOA (DEG)= -.04061

TEST : 224
RUN : 16

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 102
MACH = .765

TOTAL T= 271.43 R
UINF = 584.37 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0404	.0366	-24.225	.0421	.0360	-.0037	-.106
3	-18.475	-.0038	.1009	-18.475	.0123	.0953	.0023	-.122
4	-13.475	.0188	.1659	-13.475	.0413	.1522	.0027	-.155
5	-9.475	-.0231	.2734	-9.475	.0551	.1806	.0030	-.182
6	-6.475	-.0166	.3603	-6.475	.0698	.1937	.0021	-.161
7	-4.475	-.0559	.4458	-4.475	.0924	.1956	.0009	-.140
8	-2.975	-.0651	.5224	-2.975	.0982	.1845	-.0005	-.113
9	-1.475	-.2026	.6308	-1.475	.1022	.1560	-.0021	-.075
10	.025	-.2663	.7126	.025	.0854	.1234	-.0035	-.029
11	1.525	-.3556	.7594	1.525	.0513	.0840	-.0043	.019
12	3.025	-.1937	.7057	3.025	.0608	.0820	-.0041	.060
13	4.525	-.1407	.6481	4.525	.0529	.0831	-.0033	.089
14	6.525	-.0920	.5680	6.525	.0704	.0853	-.0020	.110
15	8.525	-.0411	.4961	8.525	.0531	.0717	-.0010	.114
16	10.525	-.0185	.4403	10.525	.0487	.0486	-.0004	.110
17	13.525	-.0190	.3947	13.525	.0420	.0025	-.0002	.095
18	17.525	-.0200	.3397	17.525	.0076	-.0715	-.0001	.061
19	22.525	-.0073	.2796	22.525	-.0148	-.1494		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00347
CORRECTED MACH NUMBER = .76136
CORRECTION TO AOA (DEG)= -.02943

TEST : 224
 RUN : 17

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 103
 MACH = .765

TOTAL T= 271.04 R
 UINF = 583.90 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0379	.0046	-24.225	.0320	-.0137	-.0039	-.228
3	-18.475	.0113	.0299	-18.475	.0220	-.0003	-.0011	-.247
4	-13.475	.0190	.0472	-13.475	.0310	.0031	.0008	-.278
5	-9.475	-.0081	.0904	-9.475	.0304	-.0131	.0027	-.300
6	-6.475	.0005	.1199	-6.475	.0318	-.0367	.0043	-.275
7	-4.475	-.0200	.1514	-4.475	.0260	-.0531	.0058	-.234
8	-2.975	-.0416	.1893	-2.975	.0232	-.0759	.0068	-.181
9	-1.475	-.1423	.2528	-1.475	.0002	-.1039	.0076	-.110
10	.025	-.1927	.3034	.025	-.0179	-.1221	.0081	-.033
11	1.525	-.2541	.3385	1.525	-.0742	-.1406	.0084	.035
12	3.025	-.1666	.3158	3.025	-.0343	-.1208	.0082	.087
13	4.525	-.1256	.2922	4.525	-.0133	-.1009	.0074	.122
14	6.525	-.0610	.2571	6.525	.0390	-.0838	.0054	.149
15	8.525	-.0209	.2275	8.525	.0359	-.0846	.0032	.158
16	10.525	.0059	.2104	10.525	.0346	-.0916	.0012	.148
17	13.525	-.0069	.2061	13.525	.0345	-.1133	-.0008	.112
18	17.525	-.0050	.1954	17.525	.0089	-.1632	-.0028	.050
19	22.525	.0092	.1779	22.525	-.0085	-.2150		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

 DELTA M = .00812
 CORRECTED MACH NUMBER = .77287
 CORRECTION TO AOA (DEG)= -.03450

TEST : 224
 RUN : 17

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 104
 MACH = .765

TOTAL T= 271.00 R
 UINF = 583.97 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0508	.0294	-24.225	.0467	.0253	-.0072	-.061
3	-18.475	.0085	.0763	-18.475	.0216	.0739	-.0019	-.082
4	-13.475	.0227	.1227	-13.475	.0392	.1166	-.0007	-.102
5	-9.475	-.0125	.2125	-9.475	.0463	.1270	-.0006	-.117
6	-6.475	.0013	.2772	-6.475	.0595	.1336	-.0013	-.110
7	-4.475	-.0220	.3373	-4.475	.0691	.1285	-.0021	-.100
8	-2.975	-.0397	.4000	-2.975	.0644	.1201	-.0028	-.087
9	-1.475	-.1335	.4856	-1.475	.0676	.0919	-.0038	-.067
10	.025	-.1990	.5510	.025	.0534	.0643	-.0046	-.038
11	1.525	-.2755	.5843	1.525	.0089	.0398	-.0047	-.007
12	3.025	-.1245	.5448	3.025	.0466	.0513	-.0041	.018
13	4.525	-.1191	.4964	4.525	.0364	.0627	-.0029	.033
14	6.525	-.0584	.4278	6.525	.0704	.0805	-.0010	.041
15	8.525	-.0306	.3676	8.525	.0381	.0793	.0007	.031
16	10.525	-.0182	.3194	10.525	.0364	.0604	.0017	.018
17	13.525	-.0171	.2867	13.525	.0396	.0182	.0018	.020
18	17.525	-.0218	.2507	17.525	-.0027	-.0470	.0015	.004
19	22.525	-.0068	.2134	22.525	-.0164	-.1194		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

 DELTA M = -.00457
 CORRECTED MACH NUMBER = .76034
 CORRECTION TO AOA (DEG)= -.03839

TEST : 224
 RUN : 17

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 105
 MACH = .765

TOTAL T= 271.01 R
 UINF = 583.92 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0427	.0294	-24.225	.0387	.0257	-.0046	-.086
3	-18.475	-.0016	.0765	-18.475	.0178	.0741	.0010	-.078
4	-13.475	.0109	.1287	-13.475	.0304	.1226	.0025	-.061
5	-9.475	-.0027	.2231	-9.475	.0402	.1431	.0023	-.102
6	-6.475	-.0143	.2946	-6.475	.0476	.1501	.0016	-.111
7	-4.475	-.0355	.3680	-4.475	.0682	.1480	.0004	-.100
8	-2.975	-.0564	.4306	-2.975	.0734	.1377	-.0008	-.081
9	-1.475	-.1669	.5267	-1.475	.0665	.1136	-.0023	-.057
10	.025	-.2174	.5966	.025	.0536	.0890	-.0036	-.036
11	1.525	-.2605	.6319	1.525	.0222	.0627	-.0045	-.023
12	3.025	-.1475	.5908	3.025	.0436	.0675	-.0045	-.016
13	4.525	-.1159	.5384	4.525	.0492	.0727	-.0039	-.008
14	6.525	-.0719	.4643	6.525	.0711	.0816	-.0028	.007
15	8.525	-.0235	.4006	8.525	.0659	.0744	-.0019	.020
16	10.525	-.0081	.3550	10.525	.0487	.0505	-.0016	.027
17	13.525	-.0152	.3207	13.525	.0376	.0063	-.0020	.025
18	17.525	-.0006	.2839	17.525	.0201	-.0672	-.0038	-.001
19	22.525	-.0006	.2379	22.525	-.0074	-.1412		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

 DELTA M = -.00363
 CORRECTED MACH NUMBER = .76120
 CORRECTION TO AOA (DEG)= -.03646

TEST : 224
 RUN : 17

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 106
 MACH = .765

TOTAL T= 271.27 R
 UINF = 584.29 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0414	.0365	-24.225	.0455	.0280	-.0041	-.097
3	-18.475	-.0058	.0929	-18.475	.0094	.0986	.0033	-.098
4	-13.475	.0057	.1547	-13.475	.0319	.1527	.0050	-.107
5	-9.475	-.0297	.2643	-9.475	.0412	.1846	.0051	-.125
6	-6.475	-.0206	.3485	-6.475	.0569	.1999	.0036	-.119
7	-4.475	-.0592	.4315	-4.475	.0783	.2009	.0017	-.105
8	-2.975	-.0612	.5075	-2.975	.0941	.1865	-.0001	-.081
9	-1.475	-.1905	.6135	-1.475	.0940	.1679	-.0020	-.048
10	.025	-.2572	.6918	.025	.0764	.1407	-.0037	-.016
11	1.525	-.3266	.7395	1.525	.0444	.1089	-.0046	.008
12	3.025	-.1802	.6867	3.025	.0596	.1134	-.0047	.023
13	4.525	-.1276	.6259	4.525	.0653	.1143	-.0040	.032
14	6.525	-.0801	.5411	6.525	.0791	.1195	-.0026	.045
15	8.525	-.0361	.4628	8.525	.0651	.1026	-.0014	.057
16	10.525	-.0129	.4102	10.525	.0551	.0801	-.0005	.064
17	13.525	-.0208	.3654	13.525	.0360	.0299	.0001	.052
18	17.525	-.0199	.3090	17.525	.0120	-.0451	.0002	.036
19	22.525	-.0116	.2540	22.525	-.0187	-.1237		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

 DELTA M = -.00366
 CORRECTED MACH NUMBER = .76130
 CORRECTION TO AOA (DEG)= -.01680

TEST : 224
 RUN : 17

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 107
 MACH = .765

TOTAL T= 271.35 R
 UINF = 584.32 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0496	.0362	-24.225	.0528	.0290	-.0076	-.112
3	-18.475	.0105	.1022	-18.475	.0313	.0902	-.0035	-.102
4	-13.475	.0326	.1673	-13.475	.0570	.1464	-.0033	-.102
5	-9.475	-.0042	.2802	-9.475	.0690	.1780	-.0029	-.123
6	-6.475	-.0003	.3650	-6.475	.0828	.1955	-.0030	-.111
7	-4.475	-.0402	.4508	-4.475	.0967	.1991	-.0035	-.100
8	-2.975	-.0509	.5264	-2.975	.1009	.1897	-.0042	-.085
9	-1.475	-.1876	.6333	-1.475	.1018	.1610	-.0051	-.060
10	.025	-.2479	.7133	.025	.0832	.1315	-.0056	-.029
11	1.525	-.3521	.7571	1.525	.0296	.0978	-.0055	.001
12	3.025	-.1993	.6998	3.025	.0628	.1066	-.0047	.026
13	4.525	-.1433	.6404	4.525	.0486	.1071	-.0034	.042
14	6.525	-.0803	.5528	6.525	.0775	.1133	-.0016	.054
15	8.525	-.0399	.4777	8.525	.0526	.1000	.0001	.053
16	10.525	-.0164	.4171	10.525	.0451	.0796	.0015	.043
17	13.525	-.0378	.3628	13.525	.0280	.0309	.0026	.036
18	17.525	-.0244	.3116	17.525	.0114	-.0475	.0015	.053
19	22.525	-.0078	.2600	22.525	-.0154	-.1255		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00564
 CORRECTED MACH NUMBER = .75923
 CORRECTION TO AOA (DEG) = -.02971

TEST : 224
 RUN : 17

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 108
 MACH = .765

TOTAL T= 271.51 R
 UINF = 584.56 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0471	.0373	-24.225	.0496	.0279	-.0059	-.117
3	-18.475	.0040	.1047	-18.475	.0237	.0906	-.0003	-.106
4	-13.475	.0188	.1701	-13.475	.0402	.1498	.0014	-.126
5	-9.475	-.0216	.2835	-9.475	.0551	.1785	.0017	-.153
6	-6.475	-.0154	.3703	-6.475	.0730	.1928	.0008	-.128
7	-4.475	-.0541	.4561	-4.475	.0881	.1974	-.0005	-.104
8	-2.975	-.0646	.5386	-2.975	.0975	.1892	-.0020	-.082
9	-1.475	-.2052	.6485	-1.475	.0968	.1639	-.0039	-.056
10	.025	-.2580	.7312	.025	.0907	.1302	-.0057	-.026
11	1.525	-.3333	.7778	1.525	.0566	.0955	-.0068	.006
12	3.025	-.1836	.7215	3.025	.0756	.0898	-.0067	.034
13	4.525	-.1354	.6615	4.525	.0583	.0955	-.0058	.053
14	6.525	-.0838	.5762	6.525	.0743	.0947	-.0042	.067
15	8.525	-.0364	.4967	8.525	.0660	.0796	-.0030	.078
16	10.525	-.0111	.4450	10.525	.0556	.0578	-.0024	.084
17	13.525	-.0260	.3951	13.525	.0435	.0089	-.0022	.081
18	17.525	-.0054	.3441	17.525	.0206	-.0684	-.0032	.065
19	22.525	-.0009	.2842	22.525	-.0078	-.1476		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00569
 CORRECTED MACH NUMBER = .75928
 CORRECTION TO AOA (DEG) = -.02613

TEST : 224
RUN : 17

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 109
MACH = .765

TOTAL T= 271.60 R
UINF = 584.76 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0457	.0371	-24.225	.0485	.0284	-.0056	-.119
3	-18.475	.0070	.1045	-18.475	.0249	.0908	-.0005	-.113
4	-13.475	.0253	.1699	-13.475	.0478	.1503	.0008	-.135
5	-9.475	-.0205	.2833	-9.475	.0564	.1789	.0018	-.159
6	-6.475	-.0113	.3704	-6.475	.0777	.1938	.0015	-.134
7	-4.475	-.0555	.4561	-4.475	.0883	.1977	.0008	-.108
8	-2.975	-.0599	.5386	-2.975	.1022	.1895	.0000	-.084
9	-1.475	-.2090	.6488	-1.475	.0956	.1637	-.0010	-.054
10	.025	-.2677	.7317	.025	.0824	.1297	-.0018	-.019
11	1.525	-.3695	.7783	1.525	.0403	.0982	-.0018	.014
12	3.025	-.2044	.7221	3.025	.0514	.0900	-.0010	.041
13	4.525	-.1578	.6618	4.525	.0321	.0954	.0004	.057
14	6.525	-.1042	.5766	6.525	.0549	.0946	.0022	.066
15	8.525	-.0571	.4975	8.525	.0452	.0798	.0034	.073
16	10.525	-.0231	.4453	10.525	.0424	.0582	.0040	.077
17	13.525	-.0426	.3955	13.525	.0277	.0087	.0043	.072
18	17.525	-.0277	.3440	17.525	.0001	-.0679	.0033	.060
19	22.525	-.0122	.2845	22.525	-.0199	-.1478		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00177
CORRECTED MACH NUMBER = .76335
CORRECTION TO AOA (DEG) = -.01983

TEST : 224
RUN : 17

NASA LANGLEY 0.3-M TCT
ADAPTIVE WALL TEST SECTION

POINT: 110
MACH = .765

TOTAL T= 271.48 R
UINF = 584.65 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0385	.0365	-24.225	.0393	.0388	-.0020	-.109
3	-18.475	-.0099	.1001	-18.475	.0117	.1030	.0050	-.112
4	-13.475	.0092	.1681	-13.475	.0339	.1630	.0064	-.120
5	-9.475	-.0302	.2855	-9.475	.0490	.1919	.0065	-.142
6	-6.475	-.0256	.3797	-6.475	.0639	.2068	.0050	-.130
7	-4.475	-.0520	.4745	-4.475	.0889	.2036	.0030	-.117
8	-2.975	-.0743	.5553	-2.975	.1011	.1910	.0011	-.095
9	-1.475	-.2168	.6691	-1.475	.1052	.1579	-.0008	-.061
10	.025	-.2619	.7577	.025	.0908	.1231	-.0024	-.024
11	1.525	-.3530	.8030	1.525	.0494	.0914	-.0030	.004
12	3.025	-.1880	.7504	3.025	.0548	.0737	-.0027	.025
13	4.525	-.1563	.6918	4.525	.0375	.0695	-.0016	.042
14	6.525	-.1090	.6101	6.525	.0612	.0668	.0002	.061
15	8.525	-.0545	.5355	8.525	.0445	.0534	.0017	.073
16	10.525	-.0302	.4769	10.525	.0410	.0313	.0028	.077
17	13.525	-.0379	.4276	13.525	.0292	-.0164	.0036	.074
18	17.525	-.0333	.3725	17.525	-.0075	-.0886	.0039	.041
19	22.525	-.0145	.3036	22.525	-.0192	-.1706		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00235
CORRECTED MACH NUMBER = .76280
CORRECTION TO AOA (DEG) = -.02485

TEST : 224
 RUN : 18

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 111
 MACH = .765

TOTAL T= 505.00 R
 UINF = 797.45 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0797	.0214	-24.225	.0539	-.0289	-.0129	-.234
3	-18.475	.0410	.0565	-18.475	.0547	-.0341	-.0133	-.307
4	-13.475	.0579	.0819	-13.475	.0628	-.0512	-.0134	-.322
5	-9.475	.0277	.1356	-9.475	.0658	-.0794	-.0124	-.345
6	-6.475	.0413	.1677	-6.475	.0672	-.1114	-.0108	-.316
7	-4.475	-.0047	.2026	-4.475	.0552	-.1335	-.0091	-.270
8	-2.975	-.0091	.2391	-2.975	.0494	-.1546	-.0077	-.213
9	-1.475	-.1182	.3006	-1.475	.0220	-.1842	-.0066	-.139
10	.025	-.1506	.3480	.025	.0204	-.2051	-.0056	-.058
11	1.525	-.1958	.3818	1.525	-.0251	-.2238	-.0045	.018
12	3.025	-.1464	.3516	3.025	-.0232	-.1987	-.0034	.079
13	4.525	-.1147	.3282	4.525	.0042	-.1707	-.0027	.121
14	6.525	-.0549	.2867	6.525	.0398	-.1481	-.0033	.151
15	8.525	-.0023	.2568	8.525	.0518	-.1467	-.0049	.164
16	10.525	.0199	.2383	10.525	.0552	-.1496	-.0066	.162
17	13.525	.0077	.2302	13.525	.0494	-.1696	-.0083	.143
18	17.525	.0201	.2172	17.525	.0258	-.2107	-.0096	.086
19	22.525	.0199	.1945	22.525	.0053	-.2460		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00566
 CORRECTED MACH NUMBER = .75955
 CORRECTION TO AOA (DEG)= -.05929

TEST : 224
 RUN : 19

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 118
 MACH = .765

TOTAL T= 505.94 R
 UINF = 797.97 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0471	.0120	-24.225	.0274	-.0202	-.0036	-.219
3	-18.475	.0105	.0335	-18.475	.0214	-.0091	-.0009	-.272
4	-13.475	.0238	.0572	-13.475	.0287	-.0194	.0000	-.303
5	-9.475	-.0034	.1033	-9.475	.0308	-.0441	.0008	-.324
6	-6.475	.0042	.1387	-6.475	.0338	-.0709	.0013	-.297
7	-4.475	-.0155	.1756	-4.475	.0450	-.0926	.0021	-.254
8	-2.975	-.0261	.2088	-2.975	.0311	-.1127	.0029	-.198
9	-1.475	-.1310	.2663	-1.475	.0154	-.1436	.0037	-.124
10	.025	-.1900	.3172	.025	-.0086	-.1654	.0045	-.046
11	1.525	-.1950	.3453	1.525	-.0664	-.1764	.0051	.017
12	3.025	-.1609	.3270	3.025	-.0313	-.1615	.0053	.061
13	4.525	-.1257	.3042	4.525	-.0108	-.1455	.0049	.095
14	6.525	-.0593	.2706	6.525	.0343	-.1316	.0032	.128
15	8.525	-.0097	.2486	8.525	.0423	-.1331	.0013	.141
16	10.525	.0012	.2262	10.525	.0332	-.1361	-.0001	.137
17	13.525	-.0087	.2233	13.525	.0318	-.1610	-.0016	.118
18	17.525	-.0008	.2139	17.525	.0058	-.2032	-.0032	.060
19	22.525	.0079	.1978	22.525	-.0117	-.2491		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00445
 CORRECTED MACH NUMBER = .76943
 CORRECTION TO AOA (DEG)= -.04754

TEST : 224
 RUN : 19

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 120
 MACH = .765

TOTAL T= 506.24 R
 UINF = 798.20 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0466	.0278	-24.225	.0347	.0184	-.0039	-.061
3	-18.475	.0010	.0694	-18.475	.0186	.0535	.0011	-.072
4	-13.475	.0172	.1232	-13.475	.0279	.0805	.0018	-.056
5	-9.475	-.0101	.2126	-9.475	.0384	.0845	.0016	-.075
6	-6.475	-.0045	.2795	-6.475	.0415	.0839	.0009	-.075
7	-4.475	-.0387	.3450	-4.475	.0520	.0766	.0000	-.081
8	-2.975	-.0331	.3982	-2.975	.0499	.0564	-.0011	-.079
9	-1.475	-.1475	.4742	-1.475	.0431	.0285	-.0024	-.070
10	.025	-.1619	.5410	.025	.0356	-.0011	-.0035	-.060
11	1.525	-.2034	.5677	1.525	-.0076	-.0301	-.0039	-.053
12	3.025	-.1350	.5316	3.025	.0184	-.0203	-.0033	-.046
13	4.525	-.1096	.4848	4.525	.0326	-.0106	-.0022	-.033
14	6.525	-.0613	.4251	6.525	.0521	.0035	-.0006	-.010
15	8.525	-.0293	.3686	8.525	.0399	.0018	.0008	.004
16	10.525	-.0125	.3322	10.525	.0333	-.0112	.0015	.008
17	13.525	-.0241	.3062	13.525	.0210	-.0477	.0017	-.001
18	17.525	-.0157	.2746	17.525	.0020	-.1082	.0008	-.028
19	22.525	-.0054	.2369	22.525	-.0191	-.1689		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00349
 CORRECTED MACH NUMBER = .76148
 CORRECTION TO AOA (DEG) = -.05991

TEST : 224
 RUN : 19

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 121
 MACH = .765

TOTAL T= 506.30 R
 UINF = 798.20 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0430	.0319	-24.225	.0355	.0183	-.0029	-.086
3	-18.475	.0002	.0834	-18.475	.0158	.0597	.0026	-.094
4	-13.475	.0106	.1390	-13.475	.0241	.0973	.0048	-.102
5	-9.475	-.0266	.2342	-9.475	.0318	.1053	.0056	-.117
6	-6.475	-.0178	.3083	-6.475	.0403	.1102	.0052	-.103
7	-4.475	-.0603	.3817	-4.475	.0538	.1064	.0046	-.097
8	-2.975	-.0514	.4439	-2.975	.0533	.0916	.0038	-.088
9	-1.475	-.1776	.5311	-1.475	.0433	.0657	.0030	-.072
10	.025	-.2212	.5938	.025	.0376	.0395	.0024	-.050
11	1.525	-.2883	.6266	1.525	-.0080	.0127	.0023	-.027
12	3.025	-.1754	.5823	3.025	.0154	.0205	.0027	-.007
13	4.525	-.1332	.5366	4.525	.0272	.0267	.0034	.009
14	6.525	-.0806	.4672	6.525	.0477	.0344	.0045	.023
15	8.525	-.0407	.4071	8.525	.0296	.0290	.0054	.023
16	10.525	-.0228	.3606	10.525	.0298	.0095	.0060	.020
17	13.525	-.0409	.3272	13.525	.0127	-.0326	.0062	.023
18	17.525	-.0255	.2893	17.525	-.0054	-.0938	.0052	.009
19	22.525	-.0209	.2446	22.525	-.0314	-.1586		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00237
 CORRECTED MACH NUMBER = .76729
 CORRECTION TO AOA (DEG) = -.05073

TEST : 224
 RUN : 19

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 122
 MACH = .765

TOTAL T= 506.66 R
 UINF = 798.54 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0424	.0359	-24.225	.0462	.0170	-.0038	-.102
3	-18.475	-.0001	.0998	-18.475	.0156	.0774	.0023	-.071
4	-13.475	.0120	.1695	-13.475	.0274	.1260	.0040	-.094
5	-9.475	-.0254	.2828	-9.475	.0433	.1469	.0036	-.123
6	-6.475	-.0169	.3736	-6.475	.0559	.1575	.0021	-.115
7	-4.475	-.0595	.4596	-4.475	.0801	.1568	.0004	-.106
8	-2.975	-.0638	.5305	-2.975	.0832	.1477	-.0011	-.092
9	-1.475	-.1930	.6343	-1.475	.0823	.1230	-.0029	-.071
10	.025	-.2356	.7097	.025	.0798	.0896	-.0044	-.043
11	1.525	-.3196	.7488	1.525	.0403	.0560	-.0051	-.012
12	3.025	-.1731	.6964	3.025	.0608	.0630	-.0047	.015
13	4.525	-.1298	.6367	4.525	.0582	.0669	-.0034	.035
14	6.525	-.0857	.5518	6.525	.0657	.0730	-.0015	.052
15	8.525	-.0335	.4827	8.525	.0523	.0610	.0001	.054
16	10.525	-.0129	.4266	10.525	.0432	.0414	.0012	.043
17	13.525	-.0289	.3822	13.525	.0320	-.0125	.0021	.030
18	17.525	-.0255	.3291	17.525	-.0011	-.0848	.0026	.023
19	22.525	-.0161	.2708	22.525	-.0240	-.1535		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00438
 CORRECTED MACH NUMBER = .76060
 CORRECTION TO AOA (DEG)= -.04396

TEST : 224
 RUN : 19

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 123
 MACH = .765

TOTAL T= 506.67 R
 UINF = 798.54 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0419	.0359	-24.225	.0455	.0171	-.0033	-.107
3	-18.475	-.0006	.0998	-18.475	.0155	.0774	.0028	-.077
4	-13.475	.0149	.1694	-13.475	.0295	.1260	.0044	-.103
5	-9.475	-.0242	.2830	-9.475	.0446	.1471	.0045	-.134
6	-6.475	-.0163	.3741	-6.475	.0582	.1577	.0037	-.124
7	-4.475	-.0687	.4601	-4.475	.0800	.1572	.0028	-.110
8	-2.975	-.0640	.5311	-2.975	.0818	.1478	.0019	-.091
9	-1.475	-.2031	.6350	-1.475	.0781	.1230	.0010	-.065
10	.025	-.2545	.7105	.025	.0678	.0896	.0003	-.031
11	1.525	-.3553	.7496	1.525	.0280	.0568	.0003	.007
12	3.025	-.1920	.6972	3.025	.0426	.0628	.0013	.038
13	4.525	-.1503	.6374	4.525	.0336	.0665	.0030	.058
14	6.525	-.1058	.5530	6.525	.0451	.0728	.0052	.070
15	8.525	-.0532	.4835	8.525	.0318	.0606	.0070	.066
16	10.525	-.0320	.4275	10.525	.0231	.0410	.0080	.052
17	13.525	-.0457	.3827	13.525	.0135	-.0128	.0085	.034
18	17.525	-.0372	.3296	17.525	-.0146	-.0852	.0082	.020
19	22.525	-.0288	.2716	22.525	-.0403	-.1539		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00028
 CORRECTED MACH NUMBER = .76525
 CORRECTION TO AOA (DEG)= -.03134

TEST : 224
 RUN : 19

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 124
 MACH = .765

TOTAL T= 506.60 R
 UINF = 798.48 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0435	.0357	-24.225	.0458	.0249	-.0037	-.104
3	-18.475	.0027	.1027	-18.475	.0175	.0832	.0025	-.096
4	-13.475	.0099	.1707	-13.475	.0308	.1327	.0047	-.101
5	-9.475	-.0253	.2906	-9.475	.0441	.1581	.0050	-.113
6	-6.475	-.0183	.3858	-6.475	.0585	.1738	.0039	-.107
7	-4.475	-.0810	.4769	-4.475	.0769	.1745	.0024	-.103
8	-2.975	-.0675	.5575	-2.975	.0851	.1611	.0006	-.095
9	-1.475	-.1942	.6678	-1.475	.0851	.1319	-.0014	-.081
10	.025	-.2561	.7467	.025	.0836	.0941	-.0032	-.056
11	1.525	-.3422	.7881	1.525	.0468	.0540	-.0041	-.024
12	3.025	-.1870	.7340	3.025	.0511	.0534	-.0038	.007
13	4.525	-.1477	.6747	4.525	.0477	.0523	-.0028	.030
14	6.525	-.0918	.5965	6.525	.0540	.0546	-.0013	.044
15	8.525	-.0392	.5188	8.525	.0561	.0409	.0000	.046
16	10.525	-.0193	.4594	10.525	.0453	.0207	.0010	.046
17	13.525	-.0329	.4134	13.525	.0290	-.0282	.0018	.039
18	17.525	-.0239	.3548	17.525	.0018	-.1018	.0017	.021
19	22.525	-.0111	.2930	22.525	-.0162	-.1759		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

.....
 DELTA M = -.00319
 CORRECTED MACH NUMBER = .76178
 CORRECTION TO AOA (DEG) = -.05692

TEST : 224
 RUN : 20

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 125
 MACH = .765

TOTAL T= 506.20 R
 UINF = 798.16 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0561	.0320	-24.225	.0437	.0202	-.0062	-.039
3	-18.475	.0101	.0775	-18.475	.0229	.0561	-.0006	-.078
4	-13.475	.0139	.1238	-13.475	.0270	.0861	.0022	-.075
5	-9.475	-.0196	.2110	-9.475	.0323	.0914	.0030	-.076
6	-6.475	-.0090	.2792	-6.475	.0425	.0915	.0024	-.062
7	-4.475	-.0438	.3431	-4.475	.0468	.0840	.0014	-.059
8	-2.975	-.0424	.4042	-2.975	.0440	.0653	.0001	-.056
9	-1.475	-.1302	.4864	-1.475	.0436	.0351	-.0014	-.048
10	.025	-.2042	.5482	.025	.0270	.0049	-.0028	-.037
11	1.525	-.2002	.5780	1.525	-.0003	-.0240	-.0034	-.025
12	3.025	-.1255	.5395	3.025	.0153	-.0165	-.0031	-.014
13	4.525	-.1051	.4977	4.525	.0317	-.0022	-.0020	-.004
14	6.525	-.0701	.4347	6.525	.0477	.0136	-.0002	.009
15	8.525	-.0298	.3788	8.525	.0391	.0132	.0012	.017
16	10.525	-.0121	.3403	10.525	.0327	.0014	.0020	.015
17	13.525	-.0225	.3150	13.525	.0227	-.0345	.0024	-.001
18	17.525	-.0232	.2805	17.525	-.0035	-.0962	.0019	-.031
19	22.525	-.0051	.2413	22.525	-.0181	-.1560		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

.....
 DELTA M = -.00277
 CORRECTED MACH NUMBER = .76219
 CORRECTION TO AOA (DEG) = -.03676

TEST : 224
 RUN : 20

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 126
 MACH = .765

TOTAL T= 506.20 R
 UINF = 797.99 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0477	.0319	-24.225	.0387	.0205	-.0043	-.082
3	-18.475	.0034	.0825	-18.475	.0205	.0608	.0007	-.094
4	-13.475	.0179	.1390	-13.475	.0316	.0972	.0021	-.088
5	-9.475	-.0171	.2352	-9.475	.0407	.1093	.0024	-.103
6	-6.475	-.0076	.3119	-6.475	.0484	.1129	.0016	-.096
7	-4.475	-.0490	.3838	-4.475	.0649	.1078	.0005	-.090
8	-2.975	-.0492	.4440	-2.975	.0663	.0932	-.0005	-.077
9	-1.475	-.1611	.5393	-1.475	.0593	.0651	-.0017	-.059
10	.025	-.2049	.6006	.025	.0472	.0388	-.0026	-.040
11	1.525	-.2642	.6287	1.525	.0055	.0115	-.0029	-.023
12	3.025	-.1378	.5874	3.025	.0346	.0170	-.0024	-.009
13	4.525	-.1208	.5401	4.525	.0357	.0264	-.0015	.000
14	6.525	-.0607	.4726	6.525	.0595	.0357	.0001	.005
15	8.525	-.0335	.4082	8.525	.0448	.0266	.0016	.008
16	10.525	-.0175	.3653	10.525	.0356	.0104	.0028	.007
17	13.525	-.0290	.3308	13.525	.0201	-.0323	.0038	-.005
18	17.525	-.0251	.2902	17.525	-.0072	-.0963	.0041	-.036
19	22.525	-.0258	.2379	22.525	-.0282	-.1655		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00261
 CORRECTED MACH NUMBER = .76217
 CORRECTION TO AOA (DEG) = -.04026

TEST : 224
 RUN : 20

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 127
 MACH = .765

TOTAL T= 506.56 R
 UINF = 798.32 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0458	.0370	-24.225	.0405	.0284	-.0037	-.087
3	-18.475	.0029	.0965	-18.475	.0187	.0782	.0018	-.109
4	-13.475	.0147	.1627	-13.475	.0318	.1188	.0034	-.113
5	-9.475	-.0269	.2716	-9.475	.0429	.1395	.0039	-.116
6	-6.475	-.0178	.3588	-6.475	.0563	.1528	.0031	-.094
7	-4.475	-.0598	.4438	-4.475	.0723	.1554	.0021	-.086
8	-2.975	-.0589	.5142	-2.975	.0794	.1458	.0011	-.078
9	-1.475	-.1918	.6153	-1.475	.0731	.1199	-.0001	-.064
10	.025	-.2384	.6898	.025	.0656	.0900	-.0011	-.045
11	1.525	-.3343	.7261	1.525	.0232	.0607	-.0013	-.024
12	3.025	-.1794	.6762	3.025	.0429	.0620	-.0009	-.006
13	4.525	-.1427	.6192	4.525	.0420	.0629	.0001	.009
14	6.525	-.0902	.5364	6.525	.0580	.0662	.0015	.025
15	8.525	-.0404	.4696	8.525	.0461	.0524	.0025	.031
16	10.525	-.0164	.4157	10.525	.0402	.0292	.0031	.027
17	13.525	-.0308	.3725	13.525	.0247	-.0198	.0037	.017
18	17.525	-.0261	.3232	17.525	-.0041	-.0943	.0034	-.006
19	22.525	-.0197	.2670	22.525	-.0222	-.1703		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00104
 CORRECTED MACH NUMBER = .76379
 CORRECTION TO AOA (DEG) = -.04530

TEST : 224
 RUN : 20

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 128
 MACH = .765

TOTAL T= 506.69 R
 UINF = 798.47 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0405	.0368	-24.225	.0363	.0282	-.0023	-.103
3	-18.475	-.0025	.1004	-18.475	.0168	.0783	.0028	-.103
4	-13.475	.0147	.1728	-13.475	.0311	.1243	.0037	-.104
5	-9.475	-.0251	.2874	-9.475	.0463	.1479	.0035	-.124
6	-6.475	-.0166	.3786	-6.475	.0630	.1611	.0023	-.105
7	-4.475	-.0655	.4671	-4.475	.0847	.1631	.0011	-.091
8	-2.975	-.0607	.5396	-2.975	.0858	.1571	-.0002	-.080
9	-1.475	-.1976	.6458	-1.475	.0838	.1300	-.0016	-.065
10	.025	-.2458	.7215	.025	.0755	.0977	-.0030	-.045
11	1.525	-.3365	.7613	1.525	.0383	.0610	-.0037	-.018
12	3.025	-.1858	.7065	3.025	.0569	.0604	-.0035	.009
13	4.525	-.1383	.6498	4.525	.0527	.0589	-.0028	.033
14	6.525	-.0817	.5702	6.525	.0672	.0587	-.0016	.056
15	8.525	-.0363	.4984	8.525	.0565	.0439	-.0005	.065
16	10.525	-.0154	.4442	10.525	.0455	.0222	.0004	.065
17	13.525	-.0256	.3975	13.525	.0293	-.0278	.0013	.051
18	17.525	-.0214	.3433	17.525	.0010	-.1021	.0017	.026
19	22.525	-.0139	.2832	22.525	-.0243	-.1707		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00295
 CORRECTED MACH NUMBER = .76193
 CORRECTION TO AOA (DEG)= -.04497

TEST : 224
 RUN : 20

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 129
 MACH = .765

TOTAL T= 506.70 R
 UINF = 798.57 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0420	.0370	-24.225	.0428	.0285	-.0027	-.082
3	-18.475	.0003	.1094	-18.475	.0167	.0829	.0033	-.073
4	-13.475	.0093	.1794	-13.475	.0283	.1344	.0059	-.079
5	-9.475	-.0350	.2976	-9.475	.0380	.1603	.0069	-.088
6	-6.475	-.0224	.3948	-6.475	.0529	.1751	.0060	-.080
7	-4.475	-.0678	.4871	-4.475	.0738	.1759	.0050	-.083
8	-2.975	-.0709	.5615	-2.975	.0695	.1698	.0038	-.083
9	-1.475	-.2166	.6689	-1.475	.0719	.1367	.0023	-.073
10	.025	-.2669	.7495	.025	.0626	.1017	.0008	-.052
11	1.525	-.3582	.7936	1.525	.0366	.0661	.0000	-.027
12	3.025	-.1912	.7415	3.025	.0349	.0632	.0001	-.008
13	4.525	-.1530	.6841	4.525	.0328	.0589	.0008	.003
14	6.525	-.1041	.6013	6.525	.0456	.0590	.0019	.009
15	8.525	-.0460	.5254	8.525	.0450	.0448	.0026	.011
16	10.525	-.0265	.4706	10.525	.0384	.0222	.0028	.010
17	13.525	-.0323	.4207	13.525	.0314	-.0298	.0024	.008
18	17.525	-.0183	.3662	17.525	.0097	-.1043	.0015	.010
19	22.525	-.0160	.2997	22.525	-.0218	-.1756		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00086
 CORRECTED MACH NUMBER = .76584
 CORRECTION TO AOA (DEG)= -.05243

TEST : 224
 RUN : 20

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 130
 MACH = .765

TOTAL T= 506.73 R
 UINF = 798.69 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0376	.0370	-24.225	.0375	.0283	-.0013	-.119
3	-18.475	-.0043	.1096	-18.475	.0148	.0805	.0038	-.118
4	-13.475	.0214	.1862	-13.475	.0386	.1258	.0039	-.136
5	-9.475	-.0287	.3079	-9.475	.0476	.1478	.0040	-.161
6	-6.475	-.0157	.4046	-6.475	.0737	.1582	.0027	-.135
7	-4.475	-.0796	.5005	-4.475	.0893	.1558	.0011	-.106
8	-2.975	-.0680	.5815	-2.975	.0977	.1440	-.0005	-.078
9	-1.475	-.2110	.6951	-1.475	.1011	.1112	-.0022	-.045
10	.025	-.2639	.7779	.025	.0897	.0763	-.0036	-.009
11	1.525	-.3546	.8224	1.525	.0380	.0347	-.0042	.024
12	3.025	-.1824	.7689	3.025	.0496	.0328	-.0039	.047
13	4.525	-.1526	.7118	4.525	.0450	.0268	-.0029	.063
14	6.525	-.0997	.6305	6.525	.0572	.0266	-.0013	.078
15	8.525	-.0513	.5545	8.525	.0466	.0138	.0001	.085
16	10.525	-.0259	.4978	10.525	.0424	-.0087	.0008	.085
17	13.525	-.0293	.4500	13.525	.0307	-.0564	.0011	.073
18	17.525	-.0196	.3901	17.525	.0039	-.1313	.0011	.039
19	22.525	-.0126	.3217	22.525	-.0203	-.2008		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00362
 CORRECTED MACH NUMBER = .76146
 CORRECTION TO AOA (DEG) = -.00916

TEST : 224
 RUN : 20

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 131
 MACH = .765

TOTAL T= 506.72 R
 UINF = 798.66 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0490	.0367	-24.225	.0461	.0281	-.0039	-.126
3	-18.475	.0093	.1083	-18.475	.0268	.0795	.0008	-.138
4	-13.475	.0249	.1838	-13.475	.0423	.1239	.0021	-.158
5	-9.475	-.0184	.3045	-9.475	.0566	.1456	.0029	-.185
6	-6.475	-.0148	.4001	-6.475	.0733	.1555	.0026	-.161
7	-4.475	-.0732	.4949	-4.475	.0953	.1529	.0019	-.133
8	-2.975	-.0653	.5753	-2.975	.0988	.1410	.0011	-.102
9	-1.475	-.2148	.6880	-1.475	.1001	.1081	.0004	-.062
10	.025	-.2770	.7699	.025	.0838	.0734	.0000	-.015
11	1.525	-.3889	.8138	1.525	.0317	.0351	.0005	.031
12	3.025	-.2087	.7611	3.025	.0336	.0305	.0017	.067
13	4.525	-.1793	.7045	4.525	.0236	.0249	.0033	.091
14	6.525	-.1235	.6239	6.525	.0295	.0252	.0053	.108
15	8.525	-.0704	.5495	8.525	.0275	.0127	.0065	.111
16	10.525	-.0387	.4929	10.525	.0278	-.0093	.0070	.106
17	13.525	-.0404	.4458	13.525	.0146	-.0563	.0070	.084
18	17.525	-.0334	.3866	17.525	-.0112	-.1319	.0067	.038
19	22.525	-.0267	.3188	22.525	-.0363	-.2003		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = .00003
 CORRECTED MACH NUMBER = .76509
 CORRECTION TO AOA (DEG) = -.01570

TEST : 224
 RUN : 21

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 132
 MACH = .700

TOTAL T= 505.38 R
 UINF = 735.81 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0404	.0216	-24.225	.0180	.0176	-.0015	-.054
3	-18.475	-.0018	.0433	-18.475	.0109	.0328	.0019	-.121
4	-13.475	.0075	.0726	-13.475	.0179	.0433	.0033	-.095
5	-9.475	-.0202	.1312	-9.475	.0140	.0380	.0041	-.088
6	-6.475	-.0126	.1768	-6.475	.0116	.0253	.0037	-.083
7	-4.475	-.0278	.2222	-4.475	.0213	.0067	.0028	-.082
8	-2.975	-.0217	.2642	-2.975	.0146	-.0156	.0018	-.078
9	-1.475	-.0909	.3204	-1.475	.0033	-.0433	.0008	-.070
10	.025	-.0983	.3698	.025	.0058	-.0745	-.0001	-.059
11	1.525	-.1286	.3904	1.525	-.0307	-.0903	-.0005	-.048
12	3.025	-.0776	.3760	3.025	.0040	-.0842	-.0004	-.037
13	4.525	-.0834	.3520	4.525	.0050	-.0675	.0002	-.026
14	6.525	-.0537	.3129	6.525	.0273	-.0449	.0010	-.014
15	8.525	-.0248	.2731	8.525	.0245	-.0386	.0018	-.009
16	10.525	-.0124	.2472	10.525	.0214	-.0421	.0021	-.011
17	13.525	-.0258	.2328	13.525	.0134	-.0649	.0019	-.025
18	17.525	-.0122	.2152	17.525	.0029	-.1201	.0002	-.044
19	22.525	.0043	.1919	22.525	-.0099	-.1712		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

 DELTA M = -.00006
 CORRECTED MACH NUMBER = .69965
 CORRECTION TO AOA (DEG) = -.05966

TEST : 224
 RUN : 21

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 133
 MACH = .700

TOTAL T= 505.39 R
 UINF = 735.80 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0379	.0221	-24.225	.0308	.0215	-.0024	-.063
3	-18.475	-.0031	.0630	-18.475	.0110	.0618	.0016	-.069
4	-13.475	.0100	.1117	-13.475	.0210	.0903	.0027	-.069
5	-9.475	-.0245	.1941	-9.475	.0253	.0968	.0029	-.077
6	-6.475	-.0197	.2579	-6.475	.0279	.0964	.0021	-.072
7	-4.475	-.0395	.3166	-4.475	.0437	.0886	.0010	-.073
8	-2.975	-.0470	.3612	-2.975	.0339	.0732	-.0002	-.069
9	-1.475	-.1156	.4343	-1.475	.0391	.0455	-.0015	-.059
10	.025	-.1263	.4774	.025	.0414	.0154	-.0027	-.043
11	1.525	-.1411	.5037	1.525	.0082	-.0099	-.0033	-.026
12	3.025	-.0880	.4802	3.025	.0249	-.0047	-.0032	-.011
13	4.525	-.0921	.4510	4.525	.0280	.0084	-.0026	.000
14	6.525	-.0603	.3975	6.525	.0450	.0229	-.0016	.009
15	8.525	-.0271	.3536	8.525	.0319	.0202	-.0009	.009
16	10.525	-.0087	.3202	10.525	.0330	.0070	-.0005	.001
17	13.525	-.0210	.2892	13.525	.0239	-.0274	-.0005	-.009
18	17.525	-.0119	.2557	17.525	.0081	-.0794	-.0011	-.009
19	22.525	.0047	.2174	22.525	-.0065	-.1373		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

 DELTA M = -.00266
 CORRECTED MACH NUMBER = .69703
 CORRECTION TO AOA (DEG) = -.04368

TEST : 224
 RUN : 21

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 134
 MACH = .700

TOTAL T= 505.46 R
 UINF = 735.72 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000	-.0038	-.083
2	-24.225	.0445	.0258	-24.225	.0368	.0218	-.0003	-.100
3	-18.475	.0059	.0701	-18.475	.0197	.0620	.0009	-.098
4	-13.475	.0137	.1211	-13.475	.0277	.0911	.0011	-.100
5	-9.475	-.0171	.2111	-9.475	.0363	.0980	.0009	-.081
6	-6.475	-.0182	.2753	-6.475	.0385	.1008	.0004	-.071
7	-4.475	-.0465	.3364	-4.475	.0515	.1002	-.0002	-.060
8	-2.975	-.0462	.3831	-2.975	.0485	.0873	-.0010	-.046
9	-1.475	-.1337	.4536	-1.475	.0455	.0611	-.0016	-.031
10	.025	-.1347	.5015	.025	.0421	.0406	-.0019	-.020
11	1.525	-.1505	.5231	1.525	.0106	.0173	-.0016	-.012
12	3.025	-.1056	.4983	3.025	.0272	.0186	-.0009	-.004
13	4.525	-.0992	.4690	4.525	.0280	.0241	.0001	.007
14	6.525	-.0672	.4164	6.525	.0409	.0332	.0010	.017
15	8.525	-.0294	.3645	8.525	.0399	.0262	.0017	.026
16	10.525	-.0224	.3291	10.525	.0296	.0123	.0020	.022
17	13.525	-.0277	.3049	13.525	.0166	-.0226	.0018	-.012
18	17.525	-.0143	.2723	17.525	-.0019	-.0762		
19	22.525	-.0174	.2176	22.525	-.0192	-.1369		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00162
 CORRECTED MACH NUMBER = .69794
 CORRECTION TO AOA (DEG)= -.03123

TEST : 224
 RUN : 21

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 135
 MACH = .700

TOTAL T= 505.48 R
 UINF = 735.77 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000	-.0038	-.083
2	-24.225	.0463	.0354	-24.225	.0339	.0366	-.0001	-.121
3	-18.475	-.0010	.0874	-18.475	.0170	.0764	.0006	-.111
4	-13.475	.0137	.1478	-13.475	.0323	.1195	.0005	-.121
5	-9.475	-.0233	.2485	-9.475	.0407	.1381	.0002	-.105
6	-6.475	-.0212	.3232	-6.475	.0506	.1468	-.0011	-.091
7	-4.475	-.0648	.3934	-4.475	.0643	.1481	-.0019	-.077
8	-2.975	-.0553	.4476	-2.975	.0699	.1399	-.0029	-.059
9	-1.475	-.1497	.5205	-1.475	.0702	.1214	-.0036	-.039
10	.025	-.1558	.5660	.025	.0676	.0990	-.0041	-.020
11	1.525	-.1773	.5819	1.525	.0338	.0732	-.0042	-.005
12	3.025	-.1185	.5569	3.025	.0470	.0714	-.0040	.006
13	4.525	-.1022	.5261	4.525	.0461	.0689	-.0036	.015
14	6.525	-.0600	.4679	6.525	.0611	.0693	-.0032	.021
15	8.525	-.0250	.4105	8.525	.0544	.0540	-.0028	.025
16	10.525	-.0090	.3685	10.525	.0480	.0341	-.0024	.022
17	13.525	-.0192	.3312	13.525	.0307	-.0098	-.0021	.025
18	17.525	-.0083	.2815	17.525	.0163	-.0676		
19	22.525	-.0057	.2241	22.525	-.0071	-.1321		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00362
 CORRECTED MACH NUMBER = .69597
 CORRECTION TO AOA (DEG)= -.03927

TEST : 224
 RUN : 21

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 136
 MACH = .700

TOTAL T= 505.66 R
 UINF = 735.95 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0356	.0363	-24.225	.0432	.0261	-.0033	-.117
3	-18.475	-.0024	.1012	-18.475	.0148	.0896	.0007	-.082
4	-13.475	.0106	.1717	-13.475	.0303	.1468	.0020	-.097
5	-9.475	-.0341	.2821	-9.475	.0423	.1798	.0025	-.108
6	-6.475	-.0346	.3672	-6.475	.0531	.2038	.0021	-.091
7	-4.475	-.0796	.4439	-4.475	.0687	.2117	.0011	-.080
8	-2.975	-.0817	.5090	-2.975	.0766	.2077	.0000	-.069
9	-1.475	-.1811	.5970	-1.475	.0836	.1874	-.0014	-.050
10	.025	-.1898	.6438	.025	.0856	.1534	-.0026	-.022
11	1.525	-.2030	.6699	1.525	.0544	.1180	-.0032	.012
12	3.025	-.1415	.6258	3.025	.0609	.1309	-.0031	.040
13	4.525	-.1157	.5907	4.525	.0541	.1273	-.0025	.057
14	6.525	-.0765	.5228	6.525	.0635	.1272	-.0015	.065
15	8.525	-.0409	.4594	8.525	.0477	.1079	-.0005	.064
16	10.525	-.0228	.4069	10.525	.0382	.0859	.0003	.059
17	13.525	-.0316	.3603	13.525	.0250	.0371	.0009	.050
18	17.525	-.0222	.3069	17.525	.0054	-.0341	.0004	.054
19	22.525	-.0020	.2505	22.525	-.0032	-.1119		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00260
 CORRECTED MACH NUMBER = .69705
 CORRECTION TO AOA (DEG) = -.02221

TEST : 224
 RUN : 21

NASA LANGLEY 0.3-M TCT
 ADAPTIVE WALL TEST SECTION

POINT: 137
 MACH = .700

TOTAL T= 505.80 R
 UINF = 736.07 FPS

NO	X	CPT	ZT	X	CPB	ZB	DM	DA
1	-29.475	.0000	.0000	-29.475	.0000	.0000		
2	-24.225	.0382	.0361	-24.225	.0454	.0367	-.0043	-.132
3	-18.475	.0014	.1124	-18.475	.0200	.1045	-.0005	-.095
4	-13.475	.0111	.1922	-13.475	.0356	.1726	.0009	-.104
5	-9.475	-.0384	.3200	-9.475	.0452	.2120	.0011	-.120
6	-6.475	-.0407	.4166	-6.475	.0654	.2391	.0002	-.099
7	-4.475	-.0876	.5025	-4.475	.0862	.2517	-.0009	-.078
8	-2.975	-.0945	.5748	-2.975	.0931	.2530	-.0020	-.060
9	-1.475	-.2101	.6604	-1.475	.0978	.2378	-.0032	-.040
10	.025	-.2211	.7113	.025	.0934	.2191	-.0043	-.021
11	1.525	-.2162	.7212	1.525	.0648	.1936	-.0052	-.006
12	3.025	-.1359	.6833	3.025	.0798	.1853	-.0057	.005
13	4.525	-.1215	.6373	4.525	.0704	.1722	-.0060	.016
14	6.525	-.0686	.5681	6.525	.0879	.1613	-.0061	.032
15	8.525	-.0305	.4957	8.525	.0721	.1350	-.0060	.046
16	10.525	-.0048	.4406	10.525	.0676	.1043	-.0059	.061
17	13.525	-.0185	.3826	13.525	.0489	.0526	-.0057	.079
18	17.525	.0052	.3298	17.525	.0296	-.0241	-.0062	.091
19	22.525	.0148	.2578	22.525	.0150	-.1039		

CORRECTIONS AT AIRFOIL QUARTER CHORD:

DELTA M = -.00431
 CORRECTED MACH NUMBER = .69535
 CORRECTION TO AOA (DEG) = -.02127



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16. Abstract <p>This report examines the residual interferences present in the testing of a CAST10-2/DOA2 airfoil model the Langley 0.3-m Transonic Cryogenic Tunnel (0.3-m TCT). The 7.1-inch chord airfoil model was tested in the 0.3-m TCT adaptive wall test section with a nominal 13-inch square cross-section. The test data obtained on the same model during different tunnel entries showed different levels of residual interference. The present study shows that for valid comparison of the test data from adaptive wall tunnels, it is necessary to account for residual interferences, in particular the blockage correction to the Mach number.</p>					
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