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<b>14. Abstract</b>	<p>This Addendum contains two further sets of windtunnel measurements made on the AGARD Aeroelastic Configurations already chosen as computational test cases.</p> <p>General comments on the experimental programme and its relationship to the theoretical computations are contained in the initial volume of R-702.</p> <p>This report was sponsored by the Structures and Materials Panel of AGARD.</p>										

# AGARD

ADVISORY GROUP FOR AEROSPACE RESEARCH & DEVELOPMENT

7 RUE ANCELLE 92200 NEUILLY SUR SEINE FRANCE

AGARD REPORT No.702

## Compendium of Unsteady Aerodynamic Measurements

Addendum No.1

NORTH ATLANTIC TREATY ORGANIZATION



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NORTH ATLANTIC TREATY ORGANISATION  
ADVISORY GROUP FOR AEROSPACE RESEARCH AND DEVELOPMENT  
(ORGANISATION DU TRAITE DE L'ATLANTIQUE NORD)

AGARD Report No.702

ADDENDUM No.1

**COMPENDIUM OF UNSTEADY AERODYNAMIC MEASUREMENTS**

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40 Chigwell Lane, Loughton, Essex IG10 3TZ*

## INTRODUCTION

by

N.C.Lambourne  
62 Putnoe Lane  
Bedford MK41 9AE  
England

Publication of the Compendium (AGARD R-702) in August 1982 made data for seven of the AGARD Aeroelastic Configurations promptly available. However, data for three of the AGARD Configurations could not be included because the experiments on these had not been completed; for these the intention was to issue addenda.

This, the first addendum, comprises data sets for the ZKP wing and the LANN wing. At a later date it may be possible to issue a data set for the remaining AGARD Configuration, the Rectangular Wing, on which experiments have not yet been performed.

Note concerning the test cases of AGARD AR-167\*

The cases specified in AR-167 for the computations were, for some configurations, based on proposals made before the experiments had been started. It is not unusual to find that test programmes need to be modified once the experiments have commenced. This has happened for both of the wings included here; the cases of the present Data Sets whilst covering the same kind of parameter variations, do not agree in detail with those given in AR-167.

It follows that researchers making calculations for the Rectangular Wing should take warning that the experimental results may relate to cases which differ somewhat from those of AR-167.

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\*S.R.Bland: AGARD Three-Dimensional Aeroelastic Configurations AGARD AR-167, March 1982.

## SUMMARY

The Compendium contains two further sets of wind tunnel measurements made on AGARD Aeroelastic Configurations already chosen as computational test cases.

General comments on the experimental programme and its relationship to the theoretical computations are contained in the initial volume of R-702.

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**DATA SET 8**  
**ZKP WING, OSCILLATING AILERON**

by

Dipl. Ing. K. Dau  
Dipl. Ing. S. Vogel  
Dipl. Ing. H. Zimmermann  
MBB Transport und Verkehrsflugzeuge  
TE 234  
Postfach 10 78 45  
2800 Bremen 1  
Fed. Rep. of Germany

## INTRODUCTION

This Data Set contains pressure distributions measured on the ZKP wing for an oscillating aileron in the ONERA transonic S1 wind tunnel at Modane, France, in late 1982. The tests were part of a cooperative project between MBB, ONERA, and the Aerospatiale corporation. The purpose of the tests was to obtain steady and unsteady pressures due to fast-moving control surfaces in transonic flow, likely to be encountered in the operation of active control systems for transport aircraft.

The following is a number of comments on the diagrams and tables.

## GEOMETRY OF EXPERIMENTAL MODEL

The model geometry is shown in Fig. 8.3 to 8.5. Figure 8.3 shows the model including the major dimensions of the half-fuselage in a coordinate system parallel to the tunnel floor and walls. Figure 8.4 shows the dimensions of the wing and the aileron when rotated by the dihedral angle of 4.787 deg into the plane  $z = 0$  of the coordinate system in which the profile coordinates are given by Ref. 8.1. Figure 8.5 shows the details of the aileron geometry in cross-section, including nose and gap geometry.

## COMPARISON WITH AGARD COMPUTATIONAL PROGRAMME OF REF. 8.1

### Model geometry

Unlike the computational model (Ref. 8.1, Fig. 7) the experimental model has a half-fuselage as shown in Fig. 8.3. This changes the definition of the root chord which is now smaller than the computational root chord because of the taper of the wing (see Fig. 8.4). The difference in the definition of the root chord affects the specifications of reduced frequency and Reynold's number as shown in Para. 12, NOTATION. Otherwise the two planforms and their coordinate origins are identical. Furthermore, the gap between aileron and wing spar (Fig. 8.5) of the experimental model was not sealed, as stated in Ref. 8.1. The gap is 0.3-0.5 mm wide.

### Instrumentation

The number and location of the sections at which pressures were measured were changed from the values given in Ref. 8.1 to those given in Fig. 8.6.

### Design Condition

The design condition of the experimental model is  $M = 0.78$  and  $\alpha_m = 1.5$  deg as listed in Ref. 8.1, Sect. 3.4. The experimental lift coefficient may be somewhat different from the listed theoretical value of 0.5 at the design condition, depending on how the fuselage contribution is interpreted.

### Experimental Cases

The experimental cases for which data are provided in the Data Set are not identical with the computational test cases originally suggested in Ref. 8.1, Table 9; this may affect the choices for future calculations. The correspondence between the experimental and the original computational cases is shown in Table 8.2. It will be seen that, of the computational choices, only the three priority cases have closely related experimental cases. No experimental results are available for  $M = 0.73$  to match the computational cases 2 and 3.

## TEST SET-UP AND INSTRUMENTATION

The wind tunnel test set-up for measuring unsteady pressures on the wing is shown in Fig. 8.1 and 8.2. To prevent the wing tip from executing large bending motions due to aileron forces, the wing tip was braced by four cables, all attached to a point of the wing tip, and lying in a plane roughly parallel to the aircraft plane of symmetry. The other ends of the cables were led outside the test section, and preloaded with a two-ton weight each.



Prior to every unsteady run the brakes on all cables were released permitting the wing to assume a mean position under aerodynamic load without additional cable constraint, while the new mean test parameters (Mach no., wing and flap incidences) were established. The cables were then clamped, and remained clamped during aileron oscillation.

The aileron was actuated by a hydraulic servo motor producing a harmonic aileron rotation about its swept hinge axis. The instantaneous aileron displacement was measured relative to the wing by potentiometers in the streamwise direction at the two aileron stations.

The wing was equipped with 509 pressure taps for steady pressures, and 387 Kulite transducers for unsteady pressures. The tap coordinates are listed in Tables 8.3 to 8.7 with their corresponding pressures.

The pressure taps were arrayed in streamwise wing sections as shown in Fig. 8.6. For reasons of space the sections containing steady-pressure taps were not congruent with those for unsteady pressures, but are considered to be close enough to reflect flow conditions for the neighboring unsteady pressures with sufficient accuracy for most purposes.

Steady pressures were measured via tubing and scanivalve by tunnel system transducers, unsteady pressures were measured by Kulite transducers installed directly below each pressure tap. Furthermore 17 accelerometers were installed on the wing, one of them on the aileron, see Fig. 8.7.

#### DATA PROCESSING

Only the fundamental component was recorded for each response signal. Response signal phase was defined to be relative to aileron motion. All listed pressures correspond to an aileron amplitude of  $\delta_0 = 1^\circ$ , the aileron deflection angles  $\delta_m$  and  $\delta_0$  being defined in the streamwise direction.

Both steady and unsteady pressures are presented in uncorrected form. Those pressure values which were obviously spurious (transducer failure, etc.) were eliminated. Besides these data additional data, listed in Table 8.1, could be made available.

#### DISCUSSION

The unsteady pressures generally exhibit the distribution typical for ailerons on transport aircraft wings, i.e. they are virtually zero outside the neighborhood of the aileron sections. Therefore only the aileron section pressures are shown as plots against  $x/c$  on Fig. 8.8 to 8.14.

Concerning the sectional lift and moment coefficients, which are listed in the same tables as the pressure distribution from which they were derived, it should be pointed out that they are uncorrected in the sense that no attempt has been made to introduce supplementary points where a pressure peak was obviously not properly defined by the array of pressure taps, see for instance Fig. 8.11, top left plot. Furthermore the integration interval extended only from the first to the last tap on a given section. The section coefficients should therefore be viewed only as a rough guide to the spanwise distribution.

Because of the uncorrected values, the spanwise distribution of load coefficients is likely to show some fluctuation. The wiggle near the wing tip, however, seems to be genuine; and is believed to have been caused by a geometric irregularity behind the aileron gap.

During the course of the test program certain steady test cases were repeated a number of times for nominally the same test parameters. Since repeatability is a good indicator of data quality, the pressures on the mid-aileron section have been plotted on top of each other for a number of nominally identical cases, see Fig. 8.15.

The right-hand plot corresponds to five runs, one of which (case 94) was made entirely without wing-tip cable braces, entailing a tunnel shut-down before the remaining cases were run. In spite of the shut-down, repeatability may be said to be very good. The left-hand plot shows pressures for a larger number of repetitions for the same case, with two intervening shut-downs. Agreement here is still good, but two runs show a marked deviation from the mean near the hinge position, which is known to be sensitive to changes in flow parameters. The two runs in question were separated by two shut-downs from the other runs of the series.

No comparable repetitions were made for unsteady pressures, but they are felt to be of the same quality as the steady ones.

#### 1 GENERAL DESCRIPTION OF MODEL

1.1	Designation	ZKP Wing
1.2	Type	Half-model of wing-fuselage combination, transport aircraft with oscillating aileron, no tail surfaces
1.3	Derivation	Research wing, representative of a medium-range transport aircraft with a supercritical wing
1.4	Additional remarks	
1.5	References	

## 2 MODEL GEOMETRY

2.1	Planform	high aspect ratio, tapered
2.2	Leading edge sweep	30.08 deg
2.4	Trailing edge sweep	20.89 deg for outer wing
2.5	Taper ratio	0.26
2.6	Twist	washout type, see Ref. 8.1, Table 4
2.7	Root chord	1.5055 m
2.8	Span of model	4.0161 m semi-span
2.9	Area of planform	3.5989 sq. m
2.10	Location of reference section and definition of profiles	15%, 40%, and 85% semi-span (see Ref. 8.1, Sect. 2.4)
2.11	Lofting procedure between reference sections	linear on constant-chord lines between reference sections (see Ref. 8.1, Sect. 2.4)
2.12	Form of wing body, or wing-root junction	Gap between half-fuselage and floor sealed with brushes
2.13	Form of wing tip	rounded
2.14	Control surface details	unsealed aileron-wing gap abt. 0.3 to 0.5 mm wide (see Fig. 8.5)

## 3 WIND TUNNEL

3.1	Designation	ONERA S1 transonic tunnel, Modane, France
3.2	Type of tunnel	Closed-circuit, ambient press.
3.3	Test section dimensions	6.855 m high and wide 14.0 m long (see Fig. 8.1, 2)
3.4	Type of roof and floor	solid, except for 2 slots (see also Fig. 8.1,2)
3.5	Type of side walls	solid
3.6	Ventilation geometry	one slot each at intersection of floor with W/T shell, 0.13 m wide, running from 5 m to 9 m from test section entrance.
3.7	Thickness of side wall boundary layer	ca. 0.1 m
3.8	Thickness of boundary layers at roof and floor	ca. 0.1 m
3.9	Method of measuring Mach number	by measurement of static pressure, 4.5 m upstream of test section, and by previous calibration.
3.10	Flow angularity	not measured
3.11	Uniformity of Mach number over test section	not measured
3.12	Sources and levels of noise or turbulence in empty tunnel	considered very small
3.13	Tunnel resonances	at $f = N/5, N/6, N/5 + N/6, N = 246 \text{ M}$
3.14	Additional remarks	-
3.15	References on tunnel	-

## 4 MODEL MOTION

4.1	General description	Aileron oscillation with braced wing tip
4.2	Reference coordinate and definition of motion	Flap angle measured relative to wing and in streamwise direction. Aileron harmonic rotation about swept axis at the 77.4% chord line, measured at inboard and center aileron section.

4.3	Range of amplitude	1 and 2 deg.
4.4	Range of frequency	6, 12, 21 Hz
4.5	Method of applying motion	aileron oscillation driven by electro-hydraulic servo system
4.6	Timewise purity of motion	not evaluated
4.7	Natural frequencies and normal modes of model and support system	15.6, 27.3, and 44.4 Hz with cable braces
4.8	Actual mode of applied motion including any elastic deformation	direct-drive servo near center of aileron
4.9	Additional remarks	-
5 TEST CONDITIONS		
5.1	Model planform area/ Tunnel area	0.08
5.2	Model span/ Tunnel width	0.5858
5.3	Blockage	-
5.4	Position of model in tunnel	x-mac 6.19 m downstream of test section inlet (see Fig. 8.1)
5.5	Range of Mach number	0.5, 0.78, 0.83
5.6	Range of tunnel total pressure	0.9 bar
5.7	Range of tunnel total temperature	298 to 322 deg K
5.8	Range of model steady, or mean, incidence	-1 to +3 deg
5.9	Definition of model incidence	the model incidence $\alpha_m$ is defined to be zero when the fuselage reference line (FRL) is parallel to the tunnel walls. The FRL lies in the plane $z = 0$ of the profile coordinate system as listed in Ref. 8.1
5.10	Position of transition, if free	-
5.11	Position and type of trip, if transition fixed	$x/c = 0.07$ , upper and lower wing surface, 5 mm wide band of 80K carborundum. Same type of trip on fuselage, 105 mm from nose
5.12	Flow instabilities during tests	none detected
5.13	Changes to mean shape model due to steady aerodynamic load	not measured
5.14	Additional remarks	-
5.15	References describing tests	-
6 MEASUREMENTS AND OBSERVATIONS		
6.1	Steady pressures for the mean conditions	x
6.2	Steady pressures for small changes from the mean conditions	x
6.3	Quasi-steady pressures	6Hz
6.4	Unsteady pressures	X
6.5	Steady section forces for the mean conditions by integration of pressures	X
6.6	Steady section forces for small changes from the mean conditions by integration	-
6.7	Quasi-steady section forces by integration	6 Hz
6.8	Unsteady section forces by integration	X

6.9 Measurement of actual motion at points on model	x
6.10 Observation or measurement of boundary layer properties	not done
6.11 Visualization of surface flow	not done
6.12 Visualization of shockwave movements	not done
6.13 Additional remarks	-
 7. INSTRUMENTATION	
7.1 Steady pressures	
7.1.1 Position of orifices spanwise and chordwise	see Fig. 8.6, and Table 8.3 to 8.7
7.1.2 Type of measuring system	taps connected via tubing and scanivalve to tunnel system transducers
7.2 Unsteady pressures	
7.2.1 Position of orifices spanwise and chordwise	see Fig. 8.6, and Table 8.3 to 8.7
7.2.2 Diameter of orifices	0.3 mm
7.2.3 Type of measuring system	Transducer installed directly below each tap
7.2.4 Type of transducers	Kulite
7.2.5 Principle and accuracy of calibration	calibrated by 30 Hz sinusoidal signal before tests. Checked at various intervals during testing. Variation less than 1%.
7.3 Model motion	
7.3.1 Method of measuring motion reference co-ord	Aileron angle measured relative to wing structure by rotatory potentiometers
7.3.2 Method of determining spatial mode of motion	By accelerometers on wing and aileron, and potentiometers on aileron
7.3.3 Accuracy of measured motions	2%
7.4 Processing of unsteady measurements	
7.4.1 Method of acquiring and processing measurements	signal digitized (12 bit ADC) and Fourier transformed. Transfer function for motion-pressure by HP 5451 Analyzer.
7.4.2 Type of analysis	Only 1. harmonic kept
7.4.3 Unsteady pressure quantities obtained and accuracies achieved	Presented data are amplitudes of fundamental of all response signals. Response phases are defined relative to zero aileron deflection
7.4.4 Method of integration to obtain forces	Cubic spline, uncorrected for possible missed peaks. Integration interval between first and last pressure taps on section
7.5 Additional remarks	-
7.6 References on techniques	-
 8. DATA PRESENTATION	
8.1 Test cases for which data could be made available	See Table 8.1
8.2 Test cases for which data are included in this document	See Table 8.2

8.3 Steady pressures	Tables 8.3 to 8.7
8.4 Quasi-steady or steady perturbation pressures	6 Hz, unsteady pressures
8.5 Unsteady pressures	Tables 8.3 to 8.7
8.6 Steady forces or moments	Tables 8.3 to 8.7
8.7 Quasi-steady or steady perturbation forces	6 Hz, unsteady loads
8.8 Unsteady forces and moments	Tables 8.3 to 8.7
8.9 Other forms in which data could be made available	magnetic tape
8.10 References giving other presentations of data	See Ref. 8.2
9. COMMENTS ON DATA	
9.1 Accuracy	
9.1.1 Mach number	ca. 0.002
9.1.2 Steady incidence	ca. 0.1 deg
9.1.3 Reduced frequency	ca. 2% variation
9.1.4 Steady pressure coefficients	see discussion and Fig. 8.15
9.1.5 Steady pressure derivatives	not calculated
9.1.6 Unsteady pressure coefficients	see discussion
9.2 Sensitivity to small changes of parameter	not calculated
9.3 Non-linearities	none detected
9.4 Influence of tunnel total pressure	total pressure was kept constant
9.5 Effects on data of uncertainty, or variation, in mode of motion	not checked
9.6 Wall interference corrections	All pressures are uncorrected.
9.7 Other relevant tests on same model	None
9.8 Relevant tests on other models of nominally the same shape	None
9.9 Any remarks relevant to comparison between experiment and theory	-
9.10 Additional remarks	
9.11 References and discussion of data	See Ref. 8.2
10. PERSONAL CONTACT FOR FURTHER INFORMATION	Dipl.-Phys. H. Zimmermann, MBB-Bremen, Abt. TE234 Hünefeldstr. 1-5 2800 Bremen, West Germany
11. LIST OF REFERENCES	
8.1 Bland, S.R.	AGARD three-dimensional aeroelastic configurations AGARD Advisory Report No. 167 March 1982
8.2 Couston, M., Angélini, J.J., Meurzec, J.P.	Comparaison des champs de pression instationnaires calculés et mesures sur le modele ZKP. AGARD Report No. 688, April 1980. (Also available as RAE Library Translation 2061, November 1980).

## 12 NOTATION

Standard AGARD Notation is set out in Ref. 8.1. The notation in this Data Set differs in the following respects because:

The reduced frequency  $K$  is based on the half chord at the wing-body junction ( $c = 1.5055$  m) whereas the reduced frequency  $k$  of Ref. 8.1 is based on the half chord of the computational planform ( $c = 1.802$ ). See Fig. 8.4.

The computer symbols in Tables 8.3-8.7 have the following meaning:

ALPHA	= $\alpha_m$ , mean wing incidence, as defined in Para. 5.9
C	= $c$ , local chord
CL	= $c_l$ , sectional lift coefficient
CM	= $c_m$ , sectional moment coefficient about quarter-chord point
CPL	= $C_p$ , lower surface
CPU	= $C_p$ , upper surface
CPL/RAD	= lower surface
CPU/RAD	= upper surface
	} unsteady pressure coefficients/unit amplitude
DELM	= $\delta_m$ , mean streamwise aileron angle
FREQ	= $f$ , frequency
K	= reduced frequency based on half-chord at wing-body junction, AGARD $k = 1.197 K$
PTOT	= $p$ , total pressure
QINF	= $q$ , dynamic pressure
RE	= Reynolds number, based on chord at wing-body junction, AGARD $Re = 1.197 RE$
S	= $s$ , semi-span
TO	= $T_o$ , total temperature of flow
X/C	= non-dimensional chordwise position aft of local leading edge
Y/S	= $\eta$ , spanwise position relative to plane of symmetry.

Table 8.1 List of run numbers available for release

-----< Run parameters >-----						-----< Run Indices >-----			
M	pt (bar)	To (°K)	$\alpha_m$ (°)	$\delta_m$ (°)	$\delta_0$ (°)	Steady	6 Hz	12Hz	21Hz
0.50	0.9	297.7	3.0	-5.0	1.0	21	18	--	21
0.50	0.9	297.9	3.0	0.0	1.0	26	23	25 *	26
0.50	0.9	297.9	3.0	10.0	1.0	33	31	--	33
0.78	0.9	311.3	-1.0	-5.0	1.0	58	56	--	58
0.78	0.9	315.9	-1.0	0.0	1.0	75	61	64	75
0.78	0.9	317.4	-1.0	0.0	2.0	144	63	144	--
0.78	0.9	320.8	-1.0	5.0	1.0	80	78	--	80
0.78	0.9	322.6	0.0	-5.0	1.0	90	88	--	90 *
0.78	0.9	322.7	0.0	0.0	1.0	97	94	96	97 *
0.78	0.9	319.2	0.0	0.0	2.0	143	95	143	--
0.78	0.9	322.0	0.0	5.0	1.0	102	--	--	102
0.78	0.9	318.0	2.0	-5.0	1.0	109	107	--	109
0.78	0.9	319.2	2.0	0.0	1.0	116	112	115	116 *
0.78	0.9	316.5	2.0	0.0	2.0	145	114	145	--
0.78	0.9	319.4	2.0	5.0	1.0	119	119	--	121
0.83	0.9	321.6	0.0	-2.0	1.0	140	131	137	140 *
0.83	0.9	321.6	0.0	0.0	1.0	141	133	138	141
0.83	0.9	322.2	0.0	2.0	1.0	142	135	139	142

Note: The starred case numbers correspond to the data in Tables 8.3 to 8.7

Table 8.2 Experimental cases for which data are included, related to computational cases of Ref 8.1

-----Experimental Case-----					-----Computational Case-----				
Run Index	M	$\alpha_m$ (deg)	$\delta_m$ (deg)	f (Hz)	Case No	M	$\alpha_m$ (deg)	$\delta_m$ (deg)	f (Hz)
25	0.50	3	0	12	1	0.30	0	-4.60	10
97	0.78	0	0	21	4 *	0.78	0	0	20
90	0.78	0	-5	21	5 *	0.78	0	-5.52	20
116	0.78	2	0	21	6 *	0.78	2	0	20
140	0.83	0	-2	21	7	0.83	0	-5.52	20

\* indicates priority case



TABLE 8. 3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 1  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 25  
M            0.500                      PTOT        0.900 BAR                      K            0.336                      DELTM    0.0 DEG.  
ALPHA      3.000 DEG.                    QINF        0.133 BAR                      FREQ      12.0 HZ  
RE        0.134D+08                    TO          297.850 DEG. K                    Y/S        0.254

-----< UPPER SURFACE >-----						-----< LOWER SURFACE >-----							
STEADY DATA			UNSTEADY DATA			STEADY DATA			UNSTEADY DATA				
X/C	CPU	X/C	----- CPU/RAD -----				X/C	CPL	X/C	----- CPL/RAD -----			
			REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE
0.010	-2.067	0.100	0.008	-0.008	0.011	-45.00	0.0	0.392	0.050	0.023	-0.008	0.025	-19.98
0.020	-2.040	0.200	0.0	-0.001	0.001	-90.00	0.010	0.676	0.100	0.029	-0.007	0.030	-12.99
0.030	-1.657	0.300	-0.003	-0.004	0.005	-123.69	0.030	0.447	0.200	0.030	-0.013	0.033	-23.96
0.050	-1.324	0.350	0.005	-0.003	0.006	-33.69	0.050	0.298	0.300	0.027	-0.008	0.028	-17.10
0.100	-1.033	0.400	0.001	0.0	0.001	0.0	0.100	0.068	0.400	0.019	-0.006	0.020	-18.44
0.150	-0.867	0.450	0.002	-0.003	0.004	-63.44	0.200	-0.146	0.500	0.020	-0.008	0.021	-22.62
0.200	-0.769	0.500	0.004	0.0	0.004	0.0	0.300	-0.207	0.600	0.015	-0.010	0.018	-33.69
0.250	-0.725	0.600	0.007	-0.002	0.007	-14.04	0.400	-0.225	0.700	0.011	-0.009	0.014	-39.80
0.300	-0.659	0.650	0.004	-0.002	0.004	-26.57	0.500	-0.162	0.750	0.014	-0.010	0.017	-35.54
0.350	-0.604	0.700	0.007	-0.002	0.007	-14.04	0.600	-0.059	0.800	0.012	-0.009	0.015	-36.87
0.375	-0.578	0.720	0.009	-0.005	0.011	-30.96	0.700	0.056	0.850	0.009	-0.006	0.011	-30.96
0.400	-0.559	0.750	0.007	-0.002	0.007	-14.04	0.800	0.136	0.900	0.010	-0.005	0.012	-26.56
0.425	-0.523	0.800	0.003	-0.003	0.005	-45.00	0.850	0.156	0.950	0.011	-0.005	0.012	-26.56
0.450	-0.499	0.850	0.011	-0.004	0.011	-18.44	0.900	0.167					
0.475	-0.480	0.900	0.009	0.0	0.009	0.0	0.950	0.166					
0.500	-0.451	0.950	0.014	-0.002	0.014	-7.12							
0.525	-0.422	0.970	0.009	-0.002	0.009	-9.46							
0.550	-0.398												
0.575	-0.366												
0.600	-0.335												
0.625	-0.306												
0.650	-0.273												
0.675	-0.256												
0.700	-0.234												
0.750	-0.185												
0.800	-0.134												
0.850	-0.083												
0.900	-0.021												
0.950	0.053												
1.000	0.139												

	STEADY	UNSTEADY	
	REAL	IMAG	UNCORRECTED
CL	0.4742	0.0121	-0.0055
CM	-0.0182	-0.0012	0.0014

TABLE 8. 3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 2  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 25  
M            0.500                      PTOT        0.900 BAR                      K            0.336                      DELTM    0.0 DEG.  
ALPHA      3.000 DEG.                    QINF        0.133 BAR                      FREQ      12.0 HZ  
RE        0.134D+08                    TO          297.850 DEG. K                    Y/S        0.353

-----< UPPER SURFACE >-----						-----< LOWER SURFACE >-----							
STEADY DATA			UNSTEADY DATA			STEADY DATA			UNSTEADY DATA				
X/C	CPU	X/C	----- CPU/RAD -----				X/C	CPL	X/C	----- CPL/RAD -----			
			REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE
0.020	-1.968	0.050	-0.032	0.035	0.047	132.40	0.0	0.301	0.050	-0.046	-0.005	0.046	-174.09
0.050	-1.289	0.100	-0.011	0.022	0.025	116.57	0.050	0.276	0.100	-0.030	-0.009	0.031	-162.47
0.100	-0.987	0.200	-0.001	0.011	0.011	97.12	0.100	0.055	0.200	-0.013	-0.013	0.018	-135.00
0.140	-0.884	0.300	-0.014	0.011	0.018	143.13	0.140	-0.017	0.300	-0.005	-0.014	0.015	-108.44
0.200	-0.789	0.350	-0.009	0.017	0.019	118.30	0.200	-0.146	0.400	-0.006	-0.011	0.012	-119.05
0.250	-0.717	0.400	-0.004	0.006	0.007	123.69	0.250	-0.182	0.500	-0.004	-0.015	0.015	-104.04
0.300	-0.655	0.450	-0.002	0.002	0.002	135.00	0.300	-0.199	0.600	-0.007	-0.013	0.014	-119.74
0.325	-0.634	0.500	-0.016	-0.002	0.016	-171.87	0.350	-0.217	0.700	-0.004	-0.005	0.007	-123.69
0.350	-0.605	0.600	-0.014	-0.004	0.014	-164.05	0.400	-0.232	0.750	-0.002	-0.002	0.003	-135.00
0.375	-0.582	0.650	-0.016	-0.008	0.018	-153.43	0.450	-0.213	0.800	0.0	-0.002	0.002	-90.00
0.425	-0.550	0.700	-0.016	-0.010	0.019	-147.99	0.500	-0.158	0.850	-0.002	0.004	0.005	116.57
0.450	-0.530	0.720	-0.013	-0.009	0.016	-146.31	0.550	-0.097	0.900	-0.002	0.002	0.003	135.00
0.475	-0.513	0.750	-0.014	-0.006	0.016	-156.80	0.600	-0.009	0.950	-0.002	0.004	0.005	116.56
0.500	-0.508	0.800	-0.014	-0.008	0.016	-150.95	0.650	0.071					
0.550	-0.479	0.850	-0.015	-0.012	0.019	-142.12	0.700	0.155					
0.650	-0.401	0.900	-0.011	-0.013	0.018	-129.81	0.750	0.223					
0.700	-0.357	0.950	-0.014	-0.008	0.016	-150.26	0.800	0.256					
0.750	-0.280	0.970	-0.008	-0.006	0.010	-143.13	0.850	0.267					
0.800	-0.247						0.900	0.265					
0.850	-0.181						0.950	0.244					
0.900	-0.103												
0.950	-0.006												
1.000	0.109												

	STEADY	UNSTEADY	
	REAL	IMAG	UNCORRECTED
CL	0.5283	0.0032	-0.0093
CM	-0.0679	-0.0030	0.0014

TABLE 8.3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 4  
 WING MOTION : AILERON ROTAT., HARMONIC  
 RUN INDEX : 25  
 M 0.500                      PTOT 0.900 BAR                      K 0.336                      DELTM 0.0 DEG.  
 ALPHA 3.000 DEG.                      QINF 0.133 BAR                      FREQ 12.0 HZ  
 RE 0.134D+08                      TO 297.850 DEG. K                      Y/S 0.479

-----< UPPER SURFACE >-----						-----< LOWER SURFACE >-----							
STEADY DATA			UNSTEADY DATA			STEADY DATA			UNSTEADY DATA				
X/C	CPU	X/C	CPU/RAD				X/C	CPL	X/C	CPL/RAD			
			REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE
0.020	-1.722	0.050	0.061	0.035	0.070	29.43	0.0	0.486	0.050	-0.037	-0.026	0.045	-144.46
0.050	-1.175	0.100	0.058	0.040	0.070	34.51	0.050	0.263	0.100	-0.016	-0.013	0.021	-141.34
0.100	-0.908	0.200	0.035	0.032	0.047	42.40	0.100	0.065	0.200	0.003	-0.007	0.008	-68.20
0.200	-0.773	0.300	0.026	0.021	0.034	39.09	0.200	-0.149	0.300	0.015	-0.006	0.017	-22.62
0.250	-0.676	0.350	0.027	0.030	0.040	48.65	0.250	-0.147	0.400	0.028	0.003	0.029	5.44
0.300	-0.613	0.400	0.021	0.019	0.028	40.92	0.300	-0.165	0.500	0.025	0.001	0.025	2.60
0.325	-0.594	0.450	0.008	0.029	0.030	74.05	0.350	-0.179	0.600	0.026	-0.015	0.031	-30.47
0.350	-0.573	0.500	0.020	0.024	0.031	50.91	0.400	-0.184	0.700	0.007	-0.017	0.018	-66.04
0.375	-0.560	0.600	0.025	0.011	0.027	23.20	0.450	-0.169	0.800	0.006	-0.011	0.013	-63.43
0.400	-0.543	0.650	0.007	0.010	0.013	56.31	0.500	-0.114	0.930	0.004	-0.014	0.015	-74.05
0.425	-0.533	0.690	0.005	0.012	0.013	69.44	0.550	-0.032	0.970	0.006	-0.009	0.011	-56.31
0.450	-0.531	0.700	0.0	0.004	0.004	90.00	0.600	0.044					
0.500	-0.508	0.730	0.002	0.023	0.023	85.24	0.650	0.139					
0.550	-0.493	0.750	0.005	0.004	0.007	33.69	0.700	0.213					
0.600	-0.471	0.930	-0.006	0.0	0.006	180.00	0.750	0.264					
0.650	-0.418	0.950	-0.005	-0.002	0.006	-161.57	0.800	0.292					
0.720	-0.405	0.970	-0.004	0.0	0.004	180.00	0.910	0.283					
0.800	-0.288						0.950	0.252					
0.910	-0.092												
0.950	-0.031												
0.970	0.010												
1.000	0.066												

	STEADY	UNSTEADY		
	CL	REAL	IMAG	UNCORRECTED
	0.5550	0.0087	-0.0235	
	-0.0876	-0.0025	0.0031	

TABLE 8.3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 6  
 WING MOTION : AILERON ROTAT., HARMONIC  
 RUN INDEX : 25  
 M 0.500                      PTOT 0.900 BAR                      K 0.336                      DELTM 0.0 DEG.  
 ALPHA 3.000 DEG.                      QINF 0.133 BAR                      FREQ 12.0 HZ  
 RE 0.134D+08                      TO 297.850 DEG. K                      Y/S 0.566

-----< UPPER SURFACE >-----						-----< LOWER SURFACE >-----							
STEADY DATA			UNSTEADY DATA			STEADY DATA			UNSTEADY DATA				
X/C	CPU	X/C	CPU/RAD				X/C	CPL	X/C	CPL/RAD			
			REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE
0.020	-1.585	0.050	-0.017	-0.017	0.024	-135.00	0.0	0.521	0.050	0.012	-0.009	0.015	-35.54
0.050	-1.122	0.100	0.033	0.025	0.041	36.87	0.050	0.243	0.100	0.018	0.0	0.018	0.0
0.100	-0.880	0.200	0.027	0.010	0.029	20.22	0.100	0.067	0.200	0.036	0.005	0.036	7.43
0.150	-0.764	0.300	0.028	0.010	0.030	19.44	0.200	-0.108	0.300	0.049	0.0	0.049	0.0
0.200	-0.719	0.350	0.031	0.017	0.035	29.36	0.250	-0.139	0.400	0.043	-0.001	0.043	-1.79
0.250	-0.648	0.400	0.024	0.016	0.029	33.69	0.300	-0.155	0.500	0.041	-0.002	0.041	-2.20
0.300	-0.596	0.450	0.028	0.015	0.032	28.81	0.350	-0.163	0.600	0.006	0.0	0.006	0.0
0.325	-0.573	0.500	0.025	0.014	0.029	29.36	0.400	-0.170	0.700	0.010	-0.006	0.012	-33.69
0.350	-0.555	0.600	-0.004	0.004	0.006	135.00	0.450	-0.150	0.800	-0.005	0.007	0.009	126.87
0.375	-0.546	0.630	0.014	-0.006	0.015	-23.20	0.500	-0.114	0.870	0.0	0.0	0.0	0.0
0.400	-0.532	0.690	-0.005	0.013	0.014	113.20	0.550	-0.027	0.910	0.002	0.004	0.005	63.44
0.425	-0.522	0.700	-0.004	0.012	0.013	108.44	0.600	0.046	0.950	0.010	-0.002	0.010	-11.31
0.450	-0.513	0.730	-0.006	0.006	0.008	135.00	0.650	0.131					
0.475	-0.502	0.750	-0.002	0.017	0.017	97.13	0.700	0.200					
0.500	-0.499	0.910	0.0	0.003	0.003	90.00	0.750	0.259					
0.550	-0.458	0.950	0.0	-0.002	0.002	-90.00	0.800	0.284					
0.600	-0.440	0.970	-0.003	0.0	0.003	180.00	0.850	0.297					
0.650	-0.402												
0.740	-0.350												
0.780	-0.298												
0.820	-0.241												
0.910	-0.104												
0.950	-0.028												
0.970	0.007												
1.000	0.051												

	STEADY	UNSTEADY		
	CL	REAL	IMAG	UNCORRECTED
	0.5087	0.0069	-0.0106	
	-0.0665	-0.0015	0.0021	

TABLE 8.3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 8  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 25  
M            0.500                      PTOT        0.900 BAR                      K            0.336                      DELTM    0.0 DEG.  
ALPHA      3.000 DEG.                    QINF        0.133 BAR                      FREQ      12.0 HZ  
RE        0.134D+08                    TO          297.850 DEG. K                    Y/S        0.618

-----< UPPER SURFACE >-----							-----< LOWER SURFACE >-----						
STEADY DATA			UNSTEADY DATA				STEADY DATA			UNSTEADY DATA			
X/C	CPU		CPU/RAD				X/C	CPL	X/C	CPL/RAD			
		X/C	REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE
0.020	-1.553	0.050	0.023	0.047	0.052	64.13	0.0	0.531	0.050	0.029	0.016	0.033	28.81
0.050	-1.099	0.100	0.015	0.064	0.066	76.33	0.050	0.236	0.100	0.028	0.008	0.029	16.70
0.100	-0.864	0.200	0.023	0.036	0.043	57.26	0.100	0.064	0.200	0.053	-0.004	0.053	-4.18
0.150	-0.759	0.300	0.032	0.035	0.047	47.39	0.150	-0.033	0.300	0.063	-0.003	0.063	-2.86
0.200	-0.706	0.350	0.029	0.027	0.040	42.40	0.200	-0.103	0.400	0.063	-0.008	0.064	-6.95
0.250	-0.636	0.400	0.036	0.026	0.045	35.36	0.250	-0.136	0.500	0.055	-0.009	0.056	-9.25
0.300	-0.581	0.450	0.034	0.029	0.044	40.10	0.300	-0.148	0.600	0.062	-0.034	0.070	-28.74
0.325	-0.566	0.500	0.038	0.022	0.044	29.98	0.350	-0.158	0.700	0.022	-0.011	0.025	-26.57
0.350	-0.548	0.600	-0.015	0.016	0.022	131.99	0.400	-0.158	0.800	0.013	-0.010	0.017	-36.87
0.375	-0.532	0.650	-0.015	0.015	0.021	135.00	0.450	-0.148	0.970	0.006	-0.003	0.007	-26.56
0.400	-0.530	0.690	-0.002	0.005	0.005	108.43	0.500	-0.114					
0.425	-0.517	0.730	0.015	-0.003	0.015	-12.53	0.550	-0.040					
0.450	-0.508	0.750	-0.005	0.011	0.012	116.57	0.600	0.047					
0.475	-0.501	0.800	-0.002	0.002	0.002	135.00	0.650	0.128					
0.500	-0.499	0.970	0.0	0.002	0.002	90.00	0.700	0.176					
0.550	-0.469						0.750	0.257					
0.600	-0.440						0.800	0.286					
0.650	-0.414												
0.720	-0.369												
0.760	-0.321												
0.800	-0.268												
0.830	-0.222												
0.950	-0.009												
0.970	0.094												
1.000	0.053												

	STEADY	UNSTEADY	
	REAL	IMAG	UNCORRECTED
CL	0.4886	0.0244	-0.0280
CM	-0.0570	-0.0058	0.0040

TABLE 8.3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 9  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 25  
M            0.500                      PTOT        0.900 BAR                      K            0.336                      DELTM    0.0 DEG.  
ALPHA      3.000 DEG.                    QINF        0.133 BAR                      FREQ      12.0 HZ  
RE        0.134D+08                    TO          297.850 DEG. K                    Y/S        0.665

-----< UPPER SURFACE >-----							-----< LOWER SURFACE >-----						
STEADY DATA			UNSTEADY DATA				STEADY DATA			UNSTEADY DATA			
X/C	CPU		CPU/RAD				X/C	CPL	X/C	CPL/RAD			
		X/C	REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE
0.020	-1.501	0.050	0.100	-0.058	0.116	-29.95	0.0	0.524	0.050	0.086	-0.078	0.116	-42.27
0.050	-1.093	0.100	-0.048	0.091	0.103	117.82	0.050	0.207	0.100	0.028	-0.035	0.045	-51.84
0.100	-0.841	0.200	0.017	0.040	0.043	67.07	0.100	0.067	0.200	0.092	-0.033	0.097	-19.54
0.150	-0.752	0.300	0.025	0.022	0.034	41.42	0.150	-0.039	0.300	0.075	-0.032	0.082	-22.99
0.200	-0.683	0.350	0.026	0.021	0.033	39.09	0.200	-0.108	0.400	0.083	-0.009	0.083	-6.07
0.250	-0.622	0.400	0.027	0.024	0.036	41.42	0.250	-0.139	0.500	0.082	-0.018	0.084	-12.09
0.300	-0.516	0.450	-0.030	0.007	0.031	166.61	0.300	-0.152	0.600	0.024	-0.003	0.024	-8.13
0.325	-0.555	0.500	0.036	0.012	0.038	18.43	0.350	-0.158	0.700	0.006	-0.013	0.015	-66.04
0.350	-0.540	0.600	0.024	-0.004	0.024	-10.31	0.400	-0.163	0.800	0.019	-0.002	0.019	-6.34
0.375	-0.525	0.680	0.021	-0.003	0.022	-7.59	0.450	-0.153	0.870	0.020	0.002	0.020	5.19
0.400	-0.515	0.700	0.025	-0.005	0.025	-12.09	0.500	-0.119	0.950	0.017	0.002	0.017	7.13
0.425	-0.506	0.730	-0.007	-0.014	0.016	-116.57	0.600	0.050					
0.450	-0.502	0.810	-0.007	-0.003	0.008	-153.44	0.650	0.123					
0.475	-0.495	0.870	0.0	-0.002	0.002	-90.00	0.700	0.199					
0.500	-0.488	0.910	0.004	-0.018	0.019	-77.47	0.750	0.251					
0.600	-0.401	0.930	0.002	-0.011	0.011	-80.54	0.850	0.292					
0.630	-0.430	0.950	-0.008	0.006	0.010	141.34	0.910	0.282					
0.680	-0.379						0.950	0.255					
0.720	-0.352												
0.760	-0.308												
0.800	-0.255												
0.830	-0.208												
0.910	-0.130												
0.930	-0.037												
0.970	0.004												
1.000	0.046												

	STEADY	UNSTEADY	
	REAL	IMAG	UNCORRECTED
CL	0.5160	0.0360	-0.0289
CM	-0.0833	-0.0039	-0.0012

TABLE 8. 3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 11  
 WING MOTION : AILERON ROTAT., HARMONIC  
 RUN INDEX : 25  
 M            0.500                      PTOT        0.900 BAR                      K            0.336                      DELTM    0.0 DEG.  
 ALPHA      3.000 DEG.                    QINF        0.133 BAR                      FREQ      12.0 HZ  
 RE        0.134D+08                      TO           297.850 DEG. K                    Y/S        0.751

-----< UPPER SURFACE >-----						-----< LOWER SURFACE >-----							
STEADY DATA			UNSTEADY DATA			STEADY DATA			UNSTEADY DATA				
X/C	CPU		CPU/RAD				X/C	CPL	X/C	CPL/RAD			
		X/C	REAL	IMAG	MAG	PHASE			REAL	IMAG	MAG	PHASE	
0.100	-0.807	0.050	-0.144	0.146	0.205	134.63	0.0	0.208	0.050	0.106	-0.070	0.127	-33.31
0.200	-0.655	0.100	-0.049	0.103	0.114	115.16	0.050	0.166	0.100	0.104	-0.046	0.113	-23.96
0.250	-0.603	0.200	-0.006	0.057	0.058	96.17	0.100	0.032	0.200	0.126	-0.021	0.127	-9.69
0.300	-0.559	0.300	0.007	0.045	0.046	81.38	0.200	-0.118	0.300	0.125	-0.024	0.128	-10.89
0.325	-0.539	0.350	0.014	0.037	0.039	68.55	0.250	-0.151	0.400	0.137	0.0	0.137	0.0
0.350	-0.526	0.400	0.004	0.027	0.027	80.54	0.300	-0.163	0.500	0.135	-0.012	0.136	-5.04
0.375	-0.515	0.450	0.009	0.026	0.027	70.56	0.350	-0.164	0.600	0.057	-0.017	0.060	-16.86
0.400	-0.503	0.500	0.012	0.025	0.027	63.43	0.400	-0.153	0.700	0.136	-0.010	0.136	-4.01
0.425	-0.500	0.600	-0.012	0.006	0.013	153.43	0.450	-0.151	0.800	0.145	-0.028	0.148	-10.95
0.450	-0.492	0.630	-0.006	0.017	0.018	110.56	0.500	-0.121	0.910	0.096	-0.008	0.097	-4.86
0.475	-0.488	0.680	0.002	0.002	0.002	45.00	0.550	-0.041	0.950	0.085	-0.011	0.086	-7.70
0.500	-0.497	0.700	0.005	-0.005	0.007	-45.00	0.600	0.035					
0.550	-0.442	0.730	0.017	-0.004	0.018	-12.53	0.700	0.195					
0.600	-0.439	0.750	0.017	-0.011	0.021	-33.69	0.750	0.251					
0.634	-0.414	0.800	0.022	-0.013	0.026	-30.26	0.910	0.278					
0.680	-0.384	0.910	0.028	-0.010	0.029	-19.65	0.950	0.253					
0.720	-0.349	0.930	0.031	-0.009	0.032	-15.95							
0.800	-0.250	0.950	0.030	-0.011	0.032	-21.04							
0.830	-0.216	0.970	0.034	-0.011	0.036	-18.43							
0.910	-0.080												
0.950	-0.032												
0.970	0.007												
1.000	0.072												

	STEADY	UNSTEADY		
		REAL	IMAG	
CL	0.4112	0.1064	-0.0417	UNCORRECTED
CM	-0.1003	-0.0225	0.0009	

TABLE 8. 3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 13  
 WING MOTION : AILERON ROTAT., HARMONIC  
 RUN INDEX : 25  
 M            0.500                      PTOT        0.900 BAR                      K            0.336                      DELTM    0.0 DEG.  
 ALPHA      3.000 DEG.                    QINF        0.133 BAR                      FREQ      12.0 HZ  
 RE        0.134D+08                      TO           297.850 DEG. K                    Y/S        0.854

-----< UPPER SURFACE >-----						-----< LOWER SURFACE >-----							
STEADY DATA			UNSTEADY DATA			STEADY DATA			UNSTEADY DATA				
X/C	CPU		CPU/RAD				X/C	CPL	X/C	CPL/RAD			
		X/C	REAL	IMAG	MAG	PHASE			REAL	IMAG	MAG	PHASE	
0.010	-0.922	0.050	-0.288	0.296	0.412	134.22	0.0	0.383	0.050	0.318	-0.112	0.337	-19.33
0.020	-1.193	0.100	-0.203	0.185	0.275	137.76	0.010	0.564	0.100	0.302	-0.083	0.313	-15.45
0.030	-1.117	0.200	-0.137	0.118	0.180	139.14	0.030	0.198	0.200	0.326	-0.043	0.329	-7.52
0.050	-0.999	0.300	-0.144	0.084	0.167	149.78	0.050	0.073	0.300	0.385	-0.024	0.386	-3.52
0.100	-0.754	0.350	-0.171	0.074	0.186	156.74	0.200	-0.135	0.400	0.448	-0.008	0.448	-1.01
0.150	-0.650	0.400	-0.190	0.065	0.200	161.13	0.300	-0.170	0.500	0.511	0.021	0.511	2.32
0.200	-0.604	0.450	-0.248	0.061	0.255	166.15	0.400	-0.160	0.600	0.605	0.024	0.606	2.25
0.250	-0.553	0.500	-0.284	0.056	0.289	168.77	0.500	-0.107	0.800	1.204	0.163	1.215	7.72
0.300	-0.519	0.650	-0.718	-0.023	0.718	-178.17	0.600	-0.039					
0.350	-0.484	0.700	-0.965	-0.030	0.966	-178.20	0.700	0.159					
0.375	-0.484	0.720	-1.247	-0.040	1.247	-178.18	0.800	0.285					
0.400	-0.478	0.820	-1.246	-0.126	1.252	-174.23	0.850	0.296					
0.425	-0.472	0.910	-0.246	-0.112	0.270	-155.48	0.900	0.285					
0.450	-0.459	0.950	0.038	-0.042	0.057	-47.86	0.950	0.254					
0.475	-0.450												
0.500	-0.447												
0.575	-0.409												
0.600	-0.379												
0.650	-0.346												
0.675	-0.314												
0.700	-0.310												
0.750	-0.264												
0.800	-0.266												
0.850	-0.198												
0.900	-0.125												
0.950	-0.033												
1.000	0.076												

	STEADY	UNSTEADY		
		REAL	IMAG	
CL	0.4504	0.9827	0.0003	UNCORRECTED
CM	-0.0758	-0.3683	-0.0395	

TABLE 8.3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 14  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 25  
M            0.500                      PTOT        0.900 BAR                      K            0.336                      DELTM    0.0 DEG.  
ALPHA      3.000 DEG.                    QINF        0.133 BAR                      FREQ      12.0 HZ  
RE        0.134D+08                    TO          297.850 DEG. K                    Y/S        0.885

-----< UPPER SURFACE >-----						-----< LOWER SURFACE >-----							
STEADY DATA			UNSTEADY DATA			STEADY DATA			UNSTEADY DATA				
X/C	CPU	X/C	CPU/RAD				X/C	CPL	X/C	CPL/RAD			
			REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE
0.010	-0.840	0.050	-0.442	0.140	0.463	162.45	0.0	0.497	0.050	0.444	-0.048	0.447	-6.12
0.020	-1.010	0.100	-0.277	0.093	0.292	161.48	0.010	-0.017	0.100	0.389	-0.027	0.390	-3.92
0.030	-1.011	0.140	-0.287	0.093	0.302	162.07	0.030	0.142	0.200	0.453	-0.022	0.453	-2.74
0.050	-0.935	0.200	-0.218	0.068	0.228	162.73	0.050	0.026	0.300	0.534	-0.013	0.535	-1.39
0.100	-0.730	0.250	-0.238	0.055	0.244	166.89	0.300	-0.184	0.400	0.613	0.0	0.613	0.0
0.200	-0.577	0.300	-0.246	0.054	0.252	167.61	0.400	-0.171	0.500	0.711	0.029	0.712	2.30
0.250	-0.511	0.350	-0.277	0.054	0.282	168.88	0.500	-0.142	0.700	1.096	0.060	1.098	3.14
0.300	-0.482	0.400	-0.337	0.034	0.338	174.32	0.600	-0.039	0.850	1.204	0.232	1.226	10.90
0.350	-0.469	0.450	-0.383	0.046	0.386	173.22	0.700	0.155					
0.375	-0.451	0.500	-0.454	0.020	0.454	177.50	0.800	0.266					
0.400	-0.449	0.550	-0.728	-0.031	0.729	-177.53	0.850	0.285					
0.425	-0.442	0.600	-0.863	-0.045	0.864	-177.02	0.900	0.276					
0.450	-0.436	0.700	-1.881	-0.127	1.886	-176.14	0.950	0.252					
0.475	-0.425	0.800	-1.909	-0.179	1.918	-174.64							
0.500	-0.404	0.900	-0.002	-0.142	0.142	-90.80							
0.525	-0.392												
0.550	-0.385												
0.575	-0.370												
0.600	-0.340												
0.625	-0.313												
0.675	-0.304												
0.700	-0.309												
0.750	-0.265												
0.850	-0.183												
0.900	-0.105												
0.950	-0.019												
1.000	0.079												

	STEADY	UNSTEADY		
	REAL	REAL	IMAG	UNCORRECTED
CL	0.3834	1.3027	0.0511	
CM	-0.0728	-0.4532	-0.0456	

TABLE 8.3 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 15  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 25  
M            0.500                      PTOT        0.900 BAR                      K            0.336                      DELTM    0.0 DEG.  
ALPHA      3.000 DEG.                    QINF        0.133 BAR                      FREQ      12.0 HZ  
RE        0.134D+08                    TO          297.850 DEG. K                    Y/S        0.944

-----< UPPER SURFACE >-----						-----< LOWER SURFACE >-----							
STEADY DATA			UNSTEADY DATA			STEADY DATA			UNSTEADY DATA				
X/C	CPU	X/C	CPU/RAD				X/C	CPL	X/C	CPL/RAD			
			REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE
0.010	-0.329	0.050	-0.729	0.273	0.778	159.49	0.0	0.593	0.050	0.754	-0.114	0.762	-8.58
0.020	-0.879	0.100	-0.549	0.198	0.584	160.17	0.030	0.018	0.100	0.589	-0.042	0.591	-4.10
0.030	-0.910	0.140	-0.425	0.141	0.448	161.71	0.100	-0.052	0.200	0.645	0.002	0.645	0.15
0.050	-0.832	0.200	-0.348	0.122	0.368	160.59	0.200	-0.175	0.400	0.770	0.045	0.772	3.34
0.100	-0.713	0.250	-0.392	0.125	0.411	162.27	0.300	-0.197	0.500	0.867	0.082	0.871	5.43
0.150	-0.593	0.300	-0.367	0.087	0.377	166.62	0.400	-0.168	0.600	0.574	-0.084	0.580	-8.29
0.200	-0.522	0.350	-0.398	0.087	0.407	167.74	0.500	-0.148	0.700	1.147	0.097	1.151	4.83
0.250	-0.463	0.400	-0.456	0.087	0.464	169.18	0.600	-0.047	0.800	1.633	0.222	1.649	7.75
0.300	-0.435	0.450	-0.535	0.091	0.542	170.37	0.700	0.102	0.850	0.751	0.150	0.766	11.29
0.350	-0.428	0.500	-0.609	0.061	0.612	174.27	0.800	0.256					
0.375	-0.423	0.550	-0.492	0.071	0.498	171.83	0.850	0.265					
0.400	-0.405	0.600	-0.591	0.063	0.594	173.91	0.900	0.253					
0.425	-0.401	0.650	-0.806	0.065	0.809	175.39	0.950	0.216					
0.450	-0.391	0.700	-0.927	0.037	0.928	177.73							
0.475	-0.390	0.850	-1.100	-0.102	1.104	-174.68							
0.500	-0.384	0.900	-0.513	-0.092	0.521	-169.78							
0.525	-0.362												
0.575	-0.348												
0.600	-0.325												
0.650	-0.292												
0.675	-0.277												
0.700	-0.265												
0.750	-0.264												
0.800	-0.253												
0.850	-0.164												
0.900	-0.100												
0.950	-0.021												
1.000	0.079												

	STEADY	UNSTEADY		
	REAL	REAL	IMAG	UNCORRECTED
CL	0.3561	1.2125	-0.0210	
CM	-0.0649	-0.3389	-0.0217	

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 1  
 WING MOTION : AILERON ROTAT., HARMONIC  
 RUN INDEX : 97  
 M            0.780                      PTOT        0.900 BAR                      K            0.375                      DELTM    0.0 DEG.  
 ALPHA      0.0 DEG.                    QINF        0.255 BAR                      FREQ      21.0 HZ  
 RE        0.163D+08                    TD          322.650 DEG. K                    Y/S        0.254

-----< UPPER SURFACE >-----								-----< LOWER SURFACE >-----							
STEADY DATA				UNSTEADY DATA				STEADY DATA				UNSTEADY DATA			
X/C	CPU	X/C	CPU/RAD				X/C	CPL	X/C	CPL/RAD					
			REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE		
0.010	-0.509	0.100	-0.002	-0.039	0.039	-93.50	0.0	0.762	0.050	0.0	0.015	0.015	90.00		
0.020	-0.892	0.200	0.006	-0.049	0.049	-83.16	0.010	0.480	0.100	0.0	0.006	0.006	90.00		
0.030	-0.930	0.300	-0.042	0.038	0.056	137.86	0.030	0.179	0.200	-0.009	-0.003	0.009	-158.20		
0.050	-0.838	0.350	-0.074	-0.062	0.096	-139.82	0.050	0.018	0.300	-0.017	-0.017	0.024	-135.00		
0.100	-0.803	0.400	-0.022	-0.064	0.068	-109.26	0.100	-0.215	0.400	-0.005	-0.023	0.023	-103.39		
0.150	-0.740	0.450	-0.004	-0.067	0.067	-93.72	0.200	-0.458	0.500	-0.003	-0.019	0.019	-97.77		
0.200	-0.712	0.500	0.0	-0.043	0.043	-90.00	0.300	-0.526	0.600	0.002	-0.018	0.018	-84.56		
0.250	-0.754	0.600	0.017	-0.023	0.028	-53.84	0.400	-0.526	0.700	0.004	-0.016	0.017	-76.76		
0.300	-0.683	0.650	0.012	-0.014	0.019	-49.08	0.500	-0.370	0.750	0.006	-0.009	0.011	-56.31		
0.350	-0.606	0.700	0.013	-0.014	0.019	-46.98	0.600	-0.173	0.800	-0.002	-0.011	0.011	-98.13		
0.375	-0.606	0.720	0.014	-0.010	0.017	-33.69	0.700	0.006	0.850	0.010	-0.009	0.013	-41.99		
0.400	-0.599	0.750	0.016	-0.011	0.019	-35.22	0.800	0.125	0.900	0.006	-0.005	0.008	-40.60		
0.425	-0.549	0.800	0.020	-0.007	0.021	-19.18	0.850	0.155	0.950	0.005	-0.006	0.007	-50.19		
0.450	-0.530	0.850	0.014	-0.011	0.018	-38.66	0.900	0.177							
0.475	-0.507	0.900	0.015	-0.009	0.017	-32.01	0.950	0.188							
0.500	-0.478	0.950	0.015	-0.006	0.016	-20.56									
0.525	-0.446	0.970	0.010	-0.012	0.016	-49.09									
0.550	-0.413														
0.575	-0.373														
0.600	-0.345														
0.625	-0.318														
0.650	-0.283														
0.675	-0.264														
0.700	-0.239														
0.750	-0.186														
0.800	-0.130														
0.850	-0.076														
0.900	-0.006														
0.950	0.079														
1.000	0.179														

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	0.2454	-0.0013	UNCORRECTED
CM	-0.0204	0.0018	-0.0008

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 2  
 WING MOTION : AILERON ROTAT., HARMONIC  
 RUN INDEX : 97  
 M            0.780                      PTOT        0.900 BAR                      K            0.375                      DELTM    0.0 DEG.  
 ALPHA      0.0 DEG.                    QINF        0.255 BAR                      FREQ      21.0 HZ  
 RE        0.163D+08                    TD          322.650 DEG. K                    Y/S        0.353

-----< UPPER SURFACE >-----								-----< LOWER SURFACE >-----							
STEADY D. TA				UNSTEADY DATA				STEADY DATA				UNSTEADY DATA			
X/C	CPU	X/C	CPU/RAD				X/C	CPL	X/C	CPL/RAD					
			REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE		
0.020	-0.943	0.050	0.017	0.019	0.025	48.81	0.0	0.713	0.050	0.053	-0.003	0.053	-3.58		
0.050	-0.842	0.100	0.010	0.051	0.052	79.25	0.050	-0.087	0.100	0.053	-0.015	0.055	-15.48		
0.100	-0.741	0.200	0.068	0.059	0.090	40.70	0.100	-0.308	0.200	0.050	-0.029	0.058	-30.50		
0.140	-0.775	0.300	0.056	0.328	0.333	80.38	0.140	-0.357	0.300	0.057	-0.029	0.064	-26.89		
0.200	-0.716	0.350	-0.178	0.017	0.179	174.46	0.200	-0.549	0.400	0.069	-0.017	0.071	-13.67		
0.250	-0.690	0.400	-0.052	0.055	0.076	133.39	0.250	-0.591	0.500	0.013	0.013	0.019	45.00		
0.300	-0.657	0.450	0.077	0.040	0.087	27.81	0.300	-0.613	0.600	0.020	0.009	0.022	25.46		
0.325	-0.625	0.500	0.029	0.011	0.031	19.80	0.350	-0.609	0.700	0.018	-0.001	0.018	-3.01		
0.350	-0.609	0.600	0.016	-0.004	0.017	-14.04	0.400	-0.629	0.750	0.028	0.011	0.030	22.17		
0.375	-0.599	0.650	0.019	0.0	0.019	0.0	0.450	-0.531	0.800	0.024	0.008	0.026	18.43		
0.425	-0.551	0.700	0.022	0.002	0.022	5.44	0.500	-0.378	0.850	0.020	0.001	0.020	3.37		
0.450	-0.519	0.720	0.023	0.008	0.024	19.29	0.550	-0.247	0.900	0.025	0.001	0.025	2.12		
0.475	-0.501	0.750	0.017	0.005	0.018	17.35	0.600	-0.108	0.950	0.0	0.015	0.015	90.00		
0.500	-0.527	0.800	0.020	0.007	0.021	18.43	0.650	0.009							
0.550	-0.522	0.850	0.020	0.011	0.023	27.55	0.700	0.115							
0.650	-0.438	0.900	0.023	0.011	0.026	24.23	0.750	0.199							
0.700	-0.389	0.950	0.015	0.008	0.017	28.07	0.800	0.251							
0.750	-0.300	0.970	0.025	0.004	0.025	9.46	0.850	0.277							
0.800	-0.254						0.900	0.286							
0.850	-0.185						0.950	0.271							
0.900	-0.089														
0.950	0.024														
1.000	0.145														

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	0.2918	0.0160	UNCORRECTED
CM	-0.0689	-0.0009	0.0006



TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 4  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 97  
M            0.780                      PTOT        0.900 BAR                      K        0.375                      DELTH    0.0 DEG.  
ALPHA      0.0 DEG.                      QINF        0.255 BAR                      FREQ    21.0 HZ  
RE        0.163D+08                      TO         322.650 DEG. K                      Y/S     0.479

-----< UPPER SURFACE >-----				-----< LOWER SURFACE >-----									
STEADY DATA		UNSTEADY DATA				STEADY DATA		UNSTEADY DATA					
X/C	CPU	X/C	----- CPU/RAD -----			X/C	CPL	X/C	----- CPL/RAD -----				
		REAL	IMAG	MAG	PHASE			REAL	IMAG	MAG	PHASE		
0.020	-0.586	0.050	0.037	-0.005	0.037	-7.59	0.0	0.788	0.050	0.005	0.010	0.012	61.93
0.050	-0.640	0.100	0.052	-0.015	0.054	-16.22	0.050	-0.192	0.100	0.011	0.012	0.016	47.12
0.100	-0.595	0.200	-0.060	0.037	0.070	147.93	0.100	-0.382	0.200	0.012	0.007	0.014	32.00
0.200	-0.697	0.300	0.073	-0.080	0.108	-47.57	0.200	-0.585	0.300	0.020	-0.017	0.026	-39.81
0.250	-0.602	0.350	0.048	-0.026	0.054	-28.66	0.250	-0.624	0.400	0.044	-0.013	0.046	-16.19
0.300	-0.556	0.400	0.039	0.003	0.040	4.32	0.300	-0.587	0.500	0.027	-0.011	0.029	-22.89
0.325	-0.540	0.450	0.006	0.024	0.024	76.37	0.350	-0.557	0.600	0.021	-0.024	0.032	-49.09
0.350	-0.522	0.500	0.039	-0.002	0.039	-3.50	0.400	-0.557	0.700	0.008	-0.020	0.022	-69.15
0.375	-0.523	0.600	0.003	0.012	0.012	77.01	0.450	-0.422	0.800	0.009	-0.010	0.013	-48.01
0.400	-0.520	0.650	-0.003	0.0	0.003	180.00	0.500	-0.291	0.930	-0.008	-0.001	0.008	-172.87
0.425	-0.520	0.690	-0.016	-0.030	0.034	-117.76	0.550	-0.146	0.970	0.0	0.001	0.001	90.00
0.450	-0.532	0.700	-0.011	-0.024	0.026	-115.56	0.600	-0.021					
0.500	-0.527	0.730	-0.006	0.003	0.007	153.44	0.650	0.087					
0.550	-0.546	0.750	-0.004	-0.017	0.018	-102.53	0.700	0.165					
0.600	-0.512	0.930	0.004	-0.012	0.012	-71.57	0.750	0.222					
0.650	-0.451	0.950	0.007	-0.013	0.015	-63.43	0.800	0.266					
0.720	-0.449	0.970	0.015	-0.009	0.018	-29.74	0.910	0.294					
0.800	-0.290						0.950	0.269					
0.910	-0.065												
0.950	0.002												
0.970	0.041												
1.000	0.089												

	STEADY	UNSTEADY		
	-----	REAL	IMAG	UNCORRECTED
CL	0.2852	0.0019	0.0018	
CM	-0.0929	-0.0008	-0.0003	

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 6  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 97  
M            0.780                      PTOT        0.900 BAR                      K        0.375                      DELTH    0.0 DEG.  
ALPHA      0.0 DEG.                      QINF        0.255 BAR                      FREQ    21.0 HZ  
RE        0.163D+08                      TO         322.650 DEG. K                      Y/S     0.566

-----< UPPER SURFACE >-----				-----< LOWER SURFACE >-----									
STEADY DATA		UNSTEADY DATA				STEADY DATA		UNSTEADY DATA					
X/C	CPU	X/C	----- CPU/RAD -----			X/C	CPL	X/C	----- CPL/RAD -----				
		REAL	IMAG	MAG	PHASE			REAL	IMAG	MAG	PHASE		
0.020	-0.457	0.050	0.073	-0.049	0.088	-33.96	0.0	0.793	0.050	0.074	0.028	0.079	20.48
0.050	-0.552	0.100	0.055	-0.055	0.078	-45.00	0.050	-0.243	0.100	0.039	0.007	0.039	10.31
0.100	-0.551	0.200	0.148	-0.084	0.170	-29.56	0.100	-0.399	0.200	0.050	0.007	0.051	8.39
0.150	-0.566	0.300	0.073	-0.009	0.073	-6.79	0.200	-0.616	0.300	0.017	-0.021	0.027	-50.19
0.200	-0.601	0.350	0.052	-0.003	0.053	-3.30	0.250	-0.580	0.400	0.054	-0.018	0.057	-18.21
0.250	-0.549	0.400	0.045	0.0	0.045	0.0	0.300	-0.554	0.500	0.033	-0.022	0.040	-33.37
0.300	-0.520	0.450	0.034	-0.013	0.036	-21.37	0.350	-0.511	0.600	0.007	0.007	0.010	45.00
0.325	-0.512	0.500	0.054	-0.010	0.054	-10.30	0.400	-0.469	0.700	-0.011	-0.013	0.017	-129.09
0.350	-0.513	0.600	0.009	0.037	0.038	76.37	0.450	-0.386	0.800	0.004	-0.003	0.005	-36.87
0.375	-0.507	0.630	0.007	-0.007	0.010	-45.00	0.500	-0.276	0.870	0.004	0.001	0.004	14.04
0.400	-0.507	0.690	-0.002	0.039	0.039	92.79	0.550	-0.140	0.910	0.001	-0.001	0.002	-45.00
0.425	-0.508	0.700	-0.007	0.038	0.039	101.00	0.600	-0.021	0.950	-0.001	-0.002	0.002	-116.57
0.450	-0.515	0.730	-0.006	0.032	0.032	100.30	0.650	0.081					
0.475	-0.510	0.750	-0.016	0.038	0.041	112.38	0.700	0.154					
0.500	-0.514	0.910	-0.010	0.020	0.023	116.57	0.750	0.208					
0.550	-0.497	0.950	-0.006	0.013	0.014	115.02	0.800	0.248					
0.600	-0.472	0.970	0.0	0.012	0.012	90.00	0.850	0.275					
0.650	-0.434												
0.740	-0.374												
0.780	-0.306												
0.820	-0.235												
0.910	-0.068												
0.950	0.007												
0.970	0.042												
1.000	0.080												

	STEADY	UNSTEADY		
	-----	REAL	IMAG	UNCORRECTED
CL	0.2226	-0.0146	-0.0019	
CM	-0.0716	-0.0020	0.0088	



TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 8  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 97  
M            0.780                      PTOT        0.900 BAR                      K            0.375                      DELTM    0.0 DEG.  
ALPHA      0.0 DEG.                      QINF        0.255 BAR                      FREQ      21.0 HZ  
RE    0.163D+08                      TO          322.650 DEG. K                      Y/S        0.618

-----< UPPER SURFACE >-----								-----< LOWER SURFACE >-----							
STEADY DATA				UNSTEADY DATA				STEADY DATA				UNSTEADY DATA			
X/C	CPU	X/C	CPU/RAD	REAL	IMAG	MAG	PHASE	X/C	CPL	X/C	CPL/RAD	REAL	IMAG	MAG	PHASE
0.020	-0.412	0.050	0.071	-0.066	0.097	-42.54		0.0	0.794	0.050	0.037	0.019	0.042	26.56	
0.050	-0.507	0.100	0.092	-0.030	0.096	-17.93		0.050	-0.295	0.100	0.043	0.014	0.045	18.14	
0.100	-0.507	0.200	0.087	-0.027	0.091	-17.23		0.100	-0.415	0.200	0.073	0.002	0.073	1.59	
0.150	-0.532	0.300	0.092	0.015	0.093	9.02		0.150	-0.487	0.300	0.073	-0.012	0.074	-9.57	
0.200	-0.569	0.350	0.078	0.023	0.082	16.65		0.200	-0.572	0.400	0.069	-0.012	0.070	-10.01	
0.250	-0.534	0.400	0.060	0.029	0.067	26.10		0.250	-0.575	0.500	0.062	-0.012	0.063	-11.07	
0.300	-0.500	0.450	0.046	0.022	0.051	26.10		0.300	-0.544	0.600	0.047	-0.012	0.048	-14.93	
0.325	-0.494	0.500	0.027	0.018	0.033	33.69		0.350	-0.495	0.700	0.008	0.012	0.014	56.31	
0.350	-0.494	0.600	-0.022	0.037	0.043	120.58		0.400	-0.457	0.800	0.015	0.016	0.022	48.18	
0.375	-0.494	0.650	-0.022	0.037	0.043	120.58		0.450	-0.391	0.970	0.0	0.012	0.012	90.00	
0.400	-0.510	0.690	-0.030	0.027	0.040	138.27		0.500	-0.289						
0.425	-0.508	0.730	-0.019	-0.011	0.022	-149.42		0.550	-0.153						
0.450	-0.509	0.750	-0.021	0.026	0.033	129.17		0.600	-0.021						
0.475	-0.511	0.800	-0.022	0.027	0.035	129.47		0.650	0.075						
0.500	-0.537	0.970	-0.021	0.017	0.027	140.19		0.700	0.131						
0.550	-0.502							0.750	0.202						
0.600	-0.474							0.800	0.243						
0.650	-0.441														
0.720	-0.389														
0.760	-0.325														
0.800	-0.257														
0.830	-0.204														
0.950	-0.003														
0.970	0.075														
1.000	0.105														

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	0.1991	0.0137	-0.0096
CM	-0.0643	-0.0100	0.0056

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 9  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 97  
M            0.780                      PTOT        0.900 BAR                      K            0.375                      DELTM    0.0 DEG.  
ALPHA      0.0 DEG.                      QINF        0.255 BAR                      FREQ      21.0 HZ  
RE    0.163D+08                      TO          322.650 DEG. K                      Y/S        0.665

-----< UPPER SURFACE >-----								-----< LOWER SURFACE >-----							
STEADY DATA				UNSTEADY DATA				STEADY DATA				UNSTEADY DATA			
X/C	CPU	X/C	CPU/RAD	REAL	IMAG	MAG	PHASE	X/C	CPL	X/C	CPL/RAD	REAL	IMAG	MAG	PHASE
0.020	-0.365	0.050	0.115	0.019	0.117	9.18		0.0	0.789	0.050	0.002	-0.011	0.011	-79.38	
0.050	-0.493	0.100	0.081	0.001	0.081	0.93		0.050	-0.357	0.100	0.028	0.007	0.029	13.39	
0.100	-0.483	0.200	0.087	-0.026	0.091	-16.84		0.100	-0.389	0.200	0.061	-0.030	0.068	-26.27	
0.150	-0.537	0.300	0.083	-0.018	0.085	-12.13		0.150	-0.487	0.300	0.084	-0.032	0.090	-20.96	
0.200	-0.526	0.350	0.082	-0.010	0.082	-6.98		0.200	-0.584	0.400	0.079	-0.036	0.087	-24.39	
0.250	-0.499	0.400	0.080	-0.003	0.080	-2.36		0.250	-0.589	0.500	0.083	-0.016	0.084	-11.00	
0.300	-0.434	0.450	-0.005	0.043	0.043	96.01		0.300	-0.537	0.600	0.018	-0.006	0.019	-19.29	
0.325	-0.488	0.500	0.047	0.021	0.052	23.46		0.350	-0.499	0.700	-0.007	0.004	0.008	150.95	
0.350	-0.481	0.600	0.0	-0.030	0.030	-90.00		0.400	-0.463	0.800	0.019	-0.007	0.020	-19.44	
0.375	-0.487	0.680	0.009	-0.011	0.014	-51.34		0.450	-0.393	0.870	0.011	-0.006	0.013	-26.57	
0.400	-0.492	0.700	0.006	-0.017	0.018	-68.75		0.500	-0.291	0.950	0.013	0.002	0.014	9.46	
0.425	-0.491	0.730	-0.041	-0.005	0.041	-173.52		0.600	-0.023						
0.450	-0.501	0.810	-0.034	0.003	0.034	175.60		0.650	0.073						
0.475	-0.508	0.870	-0.022	-0.003	0.022	-172.57		0.700	0.148						
0.500	-0.511	0.910	-0.026	-0.012	0.028	-155.38		0.750	0.200						
0.600	-0.432	0.930	-0.017	-0.008	0.019	-156.04		0.850	0.271						
0.630	-0.436	0.950	0.0	-0.001	0.001	-90.00		0.910	0.284						
0.680	-0.441							0.950	0.262						
0.720	-0.388														
0.760	-0.325														
0.800	-0.259														
0.830	-0.206														
0.910	-0.093														
0.930	-0.001														
0.970	0.036														
1.000	0.081														

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	0.2223	0.0088	-0.0070
CM	-0.0899	-0.0084	0.0006

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 11  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 97  
M            0.780                      PTOT        0.900 BAR                      K            0.375                      DELTM    0.0 DEG.  
ALPHA    0.0 DEG.                      QINF        0.255 BAR                      FREQ      21.0 HZ  
RE    0.163D+08                      TO            322.650 DEG. K                      Y/S        0.751

-----< UPPER SURFACE >-----						-----< LOWER SURFACE >-----							
STEADY DATA			UNSTEADY DATA			STEADY DATA			UNSTEADY DATA				
X/C	CPU		----- CPU/RAD -----				X/C	CPL	X/C	----- CPL/RAD -----			
		X/C	REAL	IMAG	MAG	PHASE			REAL	IMAG	MAG	PHASE	
0.100	-0.439	0.050	0.146	0.010	0.147	3.81	0.0	0.781	0.050	0.081	-0.102	0.130	-51.67
0.200	-0.477	0.100	0.137	-0.002	0.137	-1.02	0.050	-0.452	0.100	0.099	-0.086	0.131	-61.01
0.250	-0.481	0.200	0.114	0.016	0.115	8.07	0.100	-0.457	0.200	0.046	-0.085	0.096	-61.73
0.300	-0.478	0.300	0.100	0.019	0.102	10.52	0.200	-0.614	0.300	0.180	-0.085	0.199	-25.27
0.325	-0.466	0.350	0.097	0.018	0.099	10.38	0.250	-0.614	0.400	0.161	-0.079	0.180	-26.10
0.350	-0.462	0.400	0.084	0.020	0.087	13.11	0.300	-0.552	0.500	0.195	-0.048	0.201	-13.75
0.375	-0.469	0.450	0.067	0.025	0.071	20.85	0.350	-0.500	0.600	0.081	0.020	0.084	13.74
0.400	-0.473	0.500	0.050	0.027	0.057	28.35	0.400	-0.435	0.700	0.148	-0.036	0.152	-13.70
0.425	-0.480	0.600	-0.015	0.018	0.023	129.81	0.450	-0.384	0.800	0.157	-0.045	0.163	-16.12
0.450	-0.482	0.630	-0.027	0.012	0.029	155.38	0.500	-0.292	0.910	0.109	-0.028	0.113	-14.30
0.475	-0.486	0.680	-0.023	-0.004	0.023	-169.51	0.550	-0.148	0.950	0.093	-0.025	0.097	-15.07
0.500	-0.513	0.700	-0.018	-0.014	0.023	-142.69	0.600	-0.034					
0.550	-0.448	0.730	-0.014	-0.019	0.023	-126.38	0.700	0.141					
0.600	-0.479	0.750	-0.011	-0.019	0.022	-120.07	0.750	0.191					
0.634	-0.451	0.800	0.005	-0.028	0.028	-80.22	0.910	0.278					
0.680	-0.406	0.910	0.030	-0.008	0.031	-15.42	0.950	0.264					
0.720	-0.364	0.930	0.032	-0.006	0.033	-10.12							
0.800	-0.247	0.950	0.036	-0.006	0.036	-9.46							
0.830	-0.205	0.970	0.042	-0.004	0.042	-5.44							
0.910	-0.056												
0.950	-0.002												
0.970	0.037												
1.000	0.102												

	STEADY	UNSTEADY		
		REAL	IMAG	
CL	0.1549	0.0700	-0.0528	UNCORRECTED
CM	-0.0958	-0.0315	0.0055	

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 13  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 97  
M            0.780                      PTOT        0.900 BAR                      K            0.375                      DELTM    0.0 DEG.  
ALPHA    0.0 DEG.                      QINF        0.255 BAR                      FREQ      21.0 HZ  
RE    0.163D+08                      TO            322.650 DEG. K                      Y/S        0.854

-----< UPPER SURF E >-----						-----< LOWER SURFACE >-----							
STEADY DATA			UNSTEADY DATA			STEADY DATA			UNSTEADY DATA				
X/C	CPU		----- CPU/RAD -----				X/C	CPL	X/C	----- CPL/RAD -----			
		X/C	REAL	IMAG	MAG	PHASE			REAL	IMAG	MAG	PHASE	
0.010	0.213	0.050	0.141	0.068	0.157	25.66	0.0	0.810	0.050	0.080	-0.171	0.189	-65.02
0.020	-0.156	0.100	0.113	0.049	0.123	23.44	0.010	-0.080	0.100	0.139	-0.127	0.188	-42.27
0.030	-0.243	0.200	0.043	0.066	0.079	56.89	0.030	-0.554	0.200	0.245	-0.138	0.281	-29.39
0.050	-0.337	0.300	-0.002	0.069	0.069	92.07	0.050	-0.644	0.300	0.419	-0.117	0.435	-15.64
0.100	-0.370	0.350	-0.038	0.070	0.080	118.84	0.200	-0.606	0.400	0.476	-0.076	0.482	-9.10
0.150	-0.392	0.400	-0.091	0.074	0.118	140.83	0.300	-0.539	0.500	0.585	-0.033	0.586	-3.25
0.200	-0.424	0.450	-0.150	0.061	0.162	157.90	0.400	-0.414	0.600	0.689	0.053	0.691	4.39
0.250	-0.418	0.500	-0.247	0.064	0.255	165.52	0.500	-0.266	0.800	1.105	0.135	1.113	6.96
0.300	-0.416	0.650	-0.781	-0.010	0.781	-179.28	0.600	-0.088					
0.350	-0.415	0.700	-1.103	-0.053	1.105	-177.27	0.700	0.115					
0.375	-0.430	0.720	-1.459	-0.088	1.462	-176.53	0.800	0.228					
0.400	-0.441	0.820	-1.443	-0.309	1.475	-167.90	0.850	0.267					
0.425	-0.443	0.910	-0.237	-0.163	0.287	-145.38	0.900	0.279					
0.450	-0.441	0.950	0.164	-0.102	0.194	-31.87	0.950	0.261					
0.475	-0.443												
0.500	-0.453												
0.575	-0.421												
0.600	-0.393												
0.650	-0.356												
0.675	-0.318												
0.700	-0.314												
0.750	-0.256												
0.800	-0.272												
0.850	-0.201												
0.900	-0.109												
0.950	-0.008												
1.000	0.108												

	STEADY	UNSTEADY		
		REAL	IMAG	
CL	0.1029	0.9224	0.0068	UNCORRECTED
CM	-0.0916	-0.3892	-0.0476	

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 14  
 WING MOTION : AILERON ROTAT., HARMONIC  
 RUN INDEX : 97  
 M                      0.780                      PTOT                      0.900 BAR                      K                      0.375                      DELTM                      0.0 DEG.  
 ALPHA                      0.0 DEG.                      QINF                      0.255 BAR                      FREQ                      21.0 HZ  
 RE                      0.163D+08                      TO                      322.650 DEG. K                      Y/S                      0.085

-----< UPPER SURFACE >-----							-----< LOWER SURFACE >-----						
STEADY DATA			UNSTEADY DATA				STEADY DATA			UNSTEADY DATA			
X/C	CPU		CPU/RAD				X/C	CPL	X/C	CPL/RAD			
		X/C	REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE
0.010	0.251	0.050	0.021	0.043	0.048	63.89	0.0	0.812	0.050	0.387	-0.237	0.454	-31.43
0.020	-0.017	0.100	0.048	0.013	0.050	15.26	0.010	-0.038	0.100	0.306	-0.141	0.337	-24.78
0.030	-0.169	0.140	0.018	0.028	0.033	56.66	0.030	-0.661	0.200	0.465	-0.202	0.507	-23.52
0.050	-0.285	0.200	0.010	0.030	0.031	72.12	0.050	-0.728	0.300	0.670	-0.146	0.685	-12.27
0.100	-0.364	0.250	-0.024	0.035	0.042	124.33	0.300	-0.567	0.400	0.744	-0.072	0.748	-5.50
0.200	-0.408	0.300	-0.052	0.036	0.063	145.08	0.400	-0.413	0.500	0.941	0.022	0.941	1.33
0.250	-0.380	0.350	-0.099	0.041	0.107	157.58	0.500	-0.298	0.700	1.061	0.140	1.070	7.51
0.300	-0.387	0.400	-0.163	0.038	0.167	166.82	0.600	-0.108	0.850	1.280	0.286	1.311	12.60
0.350	-0.393	0.450	-0.249	0.029	0.251	173.35	0.700	0.119					
0.375	-0.386	0.500	-0.364	0.013	0.365	177.97	0.800	0.209					
0.400	-0.400	0.550	-0.702	-0.003	0.702	-179.73	0.850	0.248					
0.425	-0.403	0.600	-0.881	-0.036	0.881	-177.68	0.900	0.263					
0.450	-0.411	0.700	-2.258	-0.261	2.273	-173.41	0.950	0.256					
0.475	-0.414	0.800	-2.253	-0.433	2.294	-169.12							
0.500	-0.399	0.900	0.184	-0.375	0.418	-63.88							
0.525	-0.397												
0.550	-0.389												
0.575	-0.373												
0.600	-0.340												
0.625	-0.313												
0.675	-0.308												
0.700	-0.322												
0.750	-0.273												
0.850	-0.186												
0.900	-0.090												
0.950	0.005												
1.000	0.100												

	STEADY	UNSTEADY		
	REAL	IMAG	PHASE	UNCORRECTED
CL	0.0405	1.3289	0.0859	
CM	-0.0859	-0.5055	-0.0832	

TABLE 8. 4 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 15  
 WING MOTION : AILERON ROTAT., HARMONIC  
 RUN INDEX : 97  
 M                      0.780                      PTOT                      0.900 BAR                      K                      0.375                      DELTM                      0.0 DEG.  
 ALPHA                      0.0 DEG.                      QINF                      0.255 BAR                      FREQ                      21.0 HZ  
 RE                      0.163D+08                      TO                      322.650 DEG. K                      Y/S                      0.944

-----< UPPER SURFACE >-----							-----< LOWER SURFACE >-----						
STEADY DATA			UNSTEADY DATA				STEADY DATA			UNSTEADY DATA			
X/C	CPU		CPU/RAD				X/C	CPL	X/C	CPL/RAD			
		X/C	REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE
0.010	0.491	0.050	-0.011	0.142	0.142	94.62	0.0	0.811	0.050	0.676	-0.457	0.817	-34.07
0.020	0.078	0.100	-0.042	0.126	0.133	108.22	0.030	-0.134	0.100	0.338	-0.107	0.355	-17.55
0.030	-0.088	0.140	-0.074	0.123	0.144	120.92	0.100	-0.545	0.200	0.728	-0.146	0.742	-11.34
0.050	-0.248	0.200	-0.100	0.119	0.155	130.15	0.200	-0.598	0.400	0.823	0.020	0.823	1.38
0.100	-0.373	0.250	-0.147	0.111	0.184	143.13	0.300	-0.476	0.500	1.065	0.093	1.069	5.00
0.150	-0.375	0.300	-0.202	0.093	0.222	155.22	0.400	-0.342	0.600	1.748	0.024	1.748	0.80
0.200	-0.395	0.350	-0.253	0.074	0.264	163.68	0.500	-0.272	0.700	1.132	0.187	1.147	9.36
0.250	-0.337	0.400	-0.337	0.069	0.344	168.46	0.600	-0.106	0.800	1.305	0.300	1.339	12.95
0.300	-0.340	0.450	-0.434	0.050	0.437	173.40	0.700	0.083	0.850	0.674	0.256	0.721	20.84
0.350	-0.349	0.500	-0.589	0.013	0.589	178.74	0.800	0.206					
0.375	-0.362	0.550	-0.532	0.031	0.533	176.63	0.850	0.230					
0.400	-0.357	0.600	-0.659	-0.012	0.659	-178.93	0.900	0.235					
0.425	-0.362	0.650	-0.839	-0.059	0.841	-175.99	0.950	0.206					
0.450	-0.364	0.700	-0.967	-0.140	0.977	-171.77							
0.475	-0.377	0.850	-1.060	-0.276	1.096	-165.39							
0.500	-0.381	0.900	-0.265	-0.179	0.320	-145.96							
0.525	-0.363												
0.575	-0.356												
0.600	-0.341												
0.650	-0.314												
0.675	-0.294												
0.700	-0.307												
0.750	-0.303												
0.800	-0.314												
0.850	-0.199												
0.900	-0.116												
0.950	-0.027												
1.000	0.072												

	STEADY	UNSTEADY		
	REAL	IMAG	PHASE	UNCORRECTED
CL	0.1018	1.2220	0.0447	
CM	-0.0794	-0.3837	-0.0666	

TABLE 8. 5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 1

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 90

M            0.780                      PTOT        0.900 BAR                      K            0.375                      DELTM -5.0 DEG.  
 ALPHA    0.0 DEG.                      QINF        0.254 BAR                      FREQ       21.0 HZ  
 RE    0.163D+08                      TQ        322.550 DEG. K                      Y/S        0.254

-----< UPPER SURFACE >-----                      -----< LOWER SURFACE >-----

STEADY DATA				UNSTEADY DATA				STEADY DATA				UNSTEADY DATA			
X/C	CPU	X/C	CPU/RAD	REAL	IMAG	MAG	PHASE	X/C	CPL	X/C	REAL	IMAG	MAG	PHASE	
0.010	-0.504	0.100	0.020	-0.004	0.021	-11.31		0.0	0.759	0.050	0.011	-0.018	0.021	-57.99	
0.020	-0.899	0.200	-0.010	0.025	0.027	111.04		0.010	0.482	0.100	0.020	-0.011	0.023	-27.90	
0.030	-0.879	0.300	0.044	-0.284	0.287	-81.21		0.030	0.176	0.200	0.023	-0.007	0.024	-17.10	
0.050	-0.838	0.350	0.041	-0.074	0.084	-60.95		0.050	0.021	0.300	0.026	-0.005	0.026	-11.77	
0.100	-0.793	0.400	0.136	-0.046	0.143	-18.63		0.100	-0.212	0.400	0.017	0.014	0.022	39.09	
0.150	-0.731	0.450	0.080	0.031	0.086	21.58		0.200	-0.458	0.500	0.007	0.008	0.010	48.37	
0.200	-0.703	0.500	0.059	0.042	0.072	35.54		0.300	-0.530	0.600	0.005	0.0	0.005	0.0	
0.250	-0.749	0.600	0.022	0.005	0.023	13.50		0.400	-0.543	0.700	0.008	-0.001	0.008	-7.13	
0.300	-0.735	0.650	0.021	0.004	0.021	10.30		0.500	-0.364	0.750	0.0	0.0	0.0	0.0	
0.350	-0.610	0.700	0.017	0.007	0.019	22.83		0.600	-0.168	0.800	0.005	0.004	0.007	35.54	
0.375	-0.598	0.720	0.018	0.005	0.019	14.74		0.700	0.011	0.850	0.005	0.006	0.008	50.19	
0.400	-0.602	0.750	0.017	0.004	0.018	11.89		0.800	0.126	0.900	0.008	0.004	0.009	23.96	
0.425	-0.565	0.800	0.018	0.002	0.018	5.71		0.850	0.162	0.950	0.008	0.002	0.008	14.04	
0.450	-0.529	0.850	0.009	0.003	0.009	18.43		0.900	0.182						
0.475	-0.500	0.900	0.015	0.003	0.015	10.62		0.950	0.187						
0.500	-0.476	0.950	0.006	0.001	0.007	8.13									
0.525	-0.438	0.970	0.004	0.005	0.006	50.19									
0.550	-0.418														
0.575	-0.377														
0.600	-0.349														
0.625	-0.315														
0.650	-0.278														
0.675	-0.252														
0.700	-0.236														
0.750	-0.187														
0.800	-0.129														
0.850	-0.071														
0.900	-0.002														
0.950	0.078														
1.000	0.177														

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	0.2460	-0.0158	0.0191
CM	-0.0210	0.0049	-0.0008

UNCORRECTED

TABLE 8. 5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 2

WING MOTION : AILERON ROTAT., HARMONIC

RUN INDEX : 90

M            0.780                      PTOT        0.900 BAR                      K            0.375                      DELTM -5.0 DEG.  
 ALPHA    0.0 DEG.                      QINF        0.254 BAR                      FREQ       21.0 HZ  
 RE    0.163D+08                      TQ        322.550 DEG. K                      Y/S        0.353

-----< UPPER SURFACE >-----                      -----< LOWER SURFACE >-----

STEADY DATA				UNSTEADY DATA				STEADY DATA				UNSTEADY DATA			
X/C	CPU	X/C	CPU/RAD	REAL	IMAG	MAG	PHASE	X/C	CPL	X/C	REAL	IMAG	MAG	PHASE	
0.020	-0.944	0.050	0.014	0.017	0.021	51.01		0.0	0.714	0.050	0.004	0.036	0.036	83.37	
0.050	-0.829	0.100	0.096	0.011	0.096	6.55		0.050	-0.082	0.100	0.014	0.033	0.036	66.97	
0.100	-0.731	0.200	0.109	0.010	0.110	5.40		0.100	-0.305	0.200	0.001	0.021	0.021	88.15	
0.140	-0.780	0.300	-0.038	-0.006	0.038	-171.67		0.140	-0.363	0.300	-0.008	0.001	0.008	174.29	
0.200	-0.721	0.350	0.025	0.026	0.036	46.51		0.200	-0.554	0.400	-0.020	0.016	0.026	140.91	
0.250	-0.702	0.400	0.132	0.132	0.187	45.00		0.250	-0.591	0.500	-0.022	-0.014	0.026	-146.89	
0.300	-0.661	0.450	-0.067	0.016	0.068	166.48		0.300	-0.611	0.600	-0.012	-0.014	0.019	-130.91	
0.325	-0.642	0.500	-0.054	-0.041	0.068	-142.73		0.350	-0.612	0.700	-0.013	-0.005	0.014	-160.35	
0.350	-0.606	0.600	-0.021	-0.019	0.028	-138.01		0.400	-0.627	0.750	-0.009	-0.009	0.013	-135.00	
0.375	-0.603	0.650	-0.018	-0.019	0.026	-133.36		0.450	-0.531	0.800	-0.013	-0.004	0.014	-162.90	
0.425	-0.542	0.700	-0.016	-0.020	0.025	-128.29		0.500	-0.374	0.850	-0.019	0.002	0.019	172.87	
0.450	-0.525	0.720	-0.016	-0.020	0.026	-127.87		0.550	-0.246	0.900	-0.019	0.002	0.020	174.56	
0.475	-0.506	0.750	-0.015	-0.017	0.023	-131.19		0.600	-0.112	0.950	0.004	0.001	0.005	14.04	
0.500	-0.522	0.800	-0.013	-0.020	0.024	-122.00		0.650	0.013						
0.550	-0.512	0.850	-0.010	-0.018	0.020	-118.81		0.700	0.120						
0.650	-0.426	0.900	-0.002	-0.023	0.024	-95.71		0.750	0.202						
0.700	-0.385	0.950	-0.009	-0.018	0.020	-117.90		0.800	0.254						
0.750	-0.301	0.970	-0.010	-0.024	0.026	-113.50		0.850	0.276						
0.800	-0.255							0.900	0.290						
0.850	-0.179							0.950	0.271						
0.900	-0.087														
0.950	0.021														
1.000	0.142														

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	0.2912	-0.0202	0.0048
CM	-0.0687	-0.0014	-0.0025

UNCORRECTED

TABLE 8. 5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 4  
 WING MOTION : AILERON ROTAT., HARMONIC  
 RUN INDEX : 90  
 M 0.780                      PTOT 0.900 BAR                      K 0.375                      DELTH -5.0 DEG.  
 ALPHA 0.0 DEG.                      QINF 0.254 BAR                      FREQ 21.0 HZ  
 RE 0.163D+08                      TO 322.550 DEG. K                      Y/S 0.479

< UPPER SURFACE >				< LOWER SURFACE >									
STEADY DATA		UNSTEADY DATA		STEADY DATA		UNSTEADY DATA							
X/C	CPU	X/C	CPU/RAD	X/C	CPL	X/C	CPL/RAD						
		REAL	IMAG	MAG	PHASE	REAL	IMAG						
0.020	-0.576	0.050	0.063	0.008	0.063	7.50	0.0	0.788	0.050	0.035	-0.035	0.049	-45.00
0.050	-0.635	0.100	0.108	-0.051	0.119	-25.35	0.050	-0.187	0.100	0.049	-0.024	0.054	-26.56
0.100	-0.587	0.200	0.352	0.046	0.355	7.48	0.100	-0.386	0.200	0.076	-0.011	0.077	-8.29
0.200	-0.712	0.300	0.024	0.023	0.033	43.96	0.200	-0.587	0.300	0.030	0.005	0.030	9.04
0.250	-0.634	0.350	0.081	-0.045	0.093	-29.21	0.250	-0.624	0.400	0.072	0.013	0.073	10.01
0.300	-0.564	0.400	0.098	0.029	0.102	16.58	0.300	-0.593	0.500	0.045	0.014	0.047	17.75
0.325	-0.542	0.450	0.050	0.084	0.098	59.32	0.350	-0.559	0.600	0.024	-0.023	0.033	-43.03
0.350	-0.529	0.500	0.036	0.069	0.078	62.92	0.400	-0.511	0.700	0.010	-0.028	0.030	-70.97
0.375	-0.527	0.600	0.037	0.024	0.044	33.02	0.450	-0.420	0.800	0.001	-0.032	0.032	-88.21
0.400	-0.514	0.650	0.008	0.008	0.012	45.00	0.500	-0.291	0.930	0.002	-0.026	0.026	-85.43
0.425	-0.517	0.690	-0.002	0.106	0.106	91.30	0.550	-0.150	0.970	0.012	-0.017	0.021	-53.97
0.450	-0.525	0.700	0.005	0.054	0.054	84.51	0.600	-0.020					
0.500	-0.532	0.730	0.0	0.058	0.058	90.00	0.650	0.090					
0.550	-0.539	0.750	-0.014	0.012	0.019	139.09	0.700	0.168					
0.600	-0.503	0.930	-0.003	-0.004	0.005	-126.87	0.750	0.223					
0.650	-0.445	0.950	-0.003	-0.011	0.012	-104.04	0.800	0.270					
0.720	-0.445	0.970	-0.011	-0.020	0.023	-119.05	0.910	0.299					
0.800	-0.287						0.950	0.269					
0.910	-0.062												
0.950	0.001												
0.970	0.039												
1.000	0.089												

	STEADY	UNSTEADY	
	REAL	IMAG	UNCORRECTED
CL	0.2861	-0.0312	-0.0268
CM	-0.0929	-0.0044	0.0084

TABLE 8. 5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 6  
 WING MOTION : AILERON ROTAT., HARMONIC  
 RUN INDEX : 90  
 M 0.780                      PTOT 0.900 BAR                      K 0.375                      DELTH -5.0 DEG.  
 ALPHA 0.0 DEG.                      QINF 0.254 BAR                      FREQ 21.0 HZ  
 RE 0.163D+08                      TO 322.550 DEG. K                      Y/S 0.566

< UPPER SURFACE >				< LOWER SURFACE >									
STEADY DATA		UNSTEADY DATA		STEADY DATA		UNSTEADY DATA							
X/C	CPU	X/C	CPU/RAD	X/C	CPL	X/C	CPL/RAD						
		REAL	IMAG	MAG	PHASE	REAL	IMAG						
0.020	-0.460	0.050	0.082	-0.032	0.088	-21.35	0.0	0.798	0.050	-0.040	0.031	0.051	142.93
0.050	-0.547	0.100	0.083	-0.018	0.085	-12.34	0.050	-0.246	0.100	-0.031	0.010	0.032	162.55
0.100	-0.544	0.200	0.173	0.072	0.188	22.64	0.100	-0.404	0.200	-0.044	-0.027	0.051	-148.09
0.150	-0.560	0.300	0.021	-0.009	0.023	-22.62	0.200	-0.611	0.300	0.041	0.019	0.045	24.23
0.200	-0.603	0.350	0.016	-0.021	0.027	-52.69	0.250	-0.584	0.400	0.010	-0.060	0.060	-80.54
0.250	-0.551	0.400	0.016	-0.024	0.029	-57.09	0.300	-0.554	0.500	0.047	-0.015	0.050	-17.24
0.300	-0.528	0.450	0.007	-0.021	0.022	-72.18	0.350	-0.509	0.600	-0.010	-0.036	0.038	-105.52
0.325	-0.521	0.500	-0.007	-0.024	0.025	-104.93	0.400	-0.467	0.700	-0.003	-0.044	0.044	-93.24
0.350	-0.516	0.600	-0.034	-0.027	0.043	-141.34	0.450	-0.388	0.800	-0.016	-0.031	0.035	-117.26
0.375	-0.518	0.630	-0.018	-0.052	0.055	-109.44	0.500	-0.282	0.870	-0.006	-0.036	0.037	-98.97
0.400	-0.510	0.690	-0.028	-0.040	0.049	-124.62	0.550	-0.139	0.910	-0.007	-0.026	0.027	-105.26
0.425	-0.501	0.700	-0.031	-0.035	0.047	-131.31	0.600	-0.020	0.950	-0.013	-0.017	0.021	-126.87
0.450	-0.509	0.730	-0.022	-0.033	0.039	-124.08	0.650	0.083					
0.475	-0.502	0.750	-0.016	-0.024	0.029	-122.47	0.700	0.154					
0.500	-0.519	0.910	-0.016	-0.036	0.039	-114.34	0.750	0.211					
0.550	-0.490	0.950	-0.008	-0.033	0.034	-102.99	0.800	0.252					
0.600	-0.467	0.970	-0.006	-0.024	0.024	-104.04	0.850	0.275					
0.650	-0.427												
0.740	-0.376												
0.780	-0.306												
0.820	-0.237												
0.910	-0.066												
0.950	0.007												
0.970	0.040												
1.000	0.079												

	STEADY	UNSTEADY	
	REAL	IMAG	UNCORRECTED
CL	0.2219	-0.0217	-0.0078
CM	-0.0718	-0.0063	0.0004

TABLE 8.5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 8  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 90  
M            0.780                      PTOT        0.900 BAR                      K            0.375                      DELTM -5.0 DEG.  
ALPHA      0.0 DEG.                      QINF        0.254 BAR                      FREQ       21.0 HZ  
RE         0.163D+08                      TD          322.550 DEG. K                      Y/S        0.618

-----< UPPER SURFACE >-----						-----< LOWER SURFACE >-----							
STEADY DATA			UNSTEADY DATA			STEADY DATA			UNSTEADY DATA				
X/C	CPU		----- CPU/RAD -----				X/C	CPL		----- CPL/RAD -----			
		X/C	REAL	IMAG	MAG	PHASE			X/C	REAL	IMAG	MAG	PHASE
0.020	-0.406	0.050	0.160	-0.010	0.160	-3.71	0.0	0.793	0.050	0.0	0.035	0.035	90.00
0.050	-0.503	0.100	0.121	0.003	0.121	1.27	0.050	-0.285	0.100	0.015	0.047	0.049	71.83
0.100	-0.494	0.200	0.077	-0.009	0.077	-6.56	0.100	-0.405	0.200	0.037	0.056	0.067	56.47
0.150	-0.543	0.300	0.082	0.032	0.088	21.28	0.150	-0.488	0.300	0.041	0.016	0.044	20.81
0.200	-0.579	0.350	0.075	0.047	0.089	32.37	0.200	-0.582	0.400	0.049	-0.006	0.049	-6.65
0.250	-0.542	0.400	0.068	0.046	0.082	34.29	0.250	-0.577	0.500	0.042	-0.009	0.044	-12.53
0.300	-0.502	0.450	0.052	0.060	0.080	48.81	0.300	-0.542	0.600	0.046	-0.021	0.050	-24.44
0.325	-0.505	0.500	0.029	0.072	0.078	67.99	0.350	-0.500	0.700	-0.006	0.009	0.010	123.69
0.350	-0.496	0.600	-0.061	0.068	0.092	131.99	0.400	-0.456	0.800	-0.005	0.008	0.009	123.69
0.375	-0.487	0.650	-0.067	0.044	0.080	146.65	0.450	-0.391	0.970	-0.014	-0.005	0.015	-160.56
0.400	-0.503	0.690	-0.081	0.038	0.090	154.83	0.500	-0.287					
0.425	-0.500	0.730	-0.044	-0.032	0.054	-143.84	0.550	-0.153					
0.450	-0.513	0.750	-0.065	0.022	0.068	161.31	0.600	-0.023					
0.475	-0.515	0.800	-0.053	0.014	0.055	165.17	0.650	0.076					
0.500	-0.528	0.970	-0.035	-0.003	0.036	-174.47	0.700	0.131					
0.550	-0.493						0.750	0.204					
0.600	-0.465						0.800	0.243					
0.650	-0.438												
0.720	-0.388												
0.760	-0.323												
0.800	-0.256												
0.830	-0.202												
0.950	-0.004												
0.970	0.051												
1.000	0.092												

	STEADY	UNSTEADY		
		REAL	IMAG	
CL	0.1982	0.0057	-0.0148	UNCORRECTED
CM	-0.0635	-0.0133	0.0078	

TABLE 8.5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 9  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 90  
M            0.780                      PTOT        0.900 BAR                      K            0.375                      DELTM -5.0 DEG.  
ALPHA      0.0 DEG.                      QINF        0.254 BAR                      FREQ       21.0 HZ  
RE         0.163D+08                      TD          322.550 DEG. K                      Y/S        0.665

-----< UPPER SURFACE >-----						-----< LOWER SURFACE >-----							
STEADY DATA			UNSTEADY DATA			STEADY DATA			UNSTEADY DATA				
X/C	CPU		----- CPU/RAD -----				X/C	CPL		----- CPL/RAD -----			
		X/C	REAL	IMAG	MAG	PHASE			X/C	REAL	IMAG	MAG	PHASE
0.020	-0.360	0.050	0.138	-0.041	0.144	-16.53	0.0	0.794	0.050	0.013	-0.004	0.014	-17.53
0.050	-0.487	0.100	0.103	-0.026	0.107	-14.38	0.050	-0.349	0.100	-0.022	-0.008	0.023	-160.02
0.100	-0.480	0.200	0.121	-0.022	0.123	-10.07	0.100	-0.394	0.200	0.066	-0.037	0.076	-29.45
0.150	-0.538	0.300	0.112	-0.003	0.112	-1.59	0.150	-0.494	0.300	0.030	-0.070	0.076	-67.04
0.200	-0.535	0.350	0.098	0.009	0.098	5.37	0.200	-0.588	0.400	0.095	-0.036	0.101	-20.74
0.250	-0.511	0.400	0.096	0.009	0.096	5.42	0.250	-0.585	0.500	0.071	-0.061	0.094	-40.70
0.300	-0.437	0.450	0.010	0.056	0.057	80.17	0.300	-0.543	0.600	0.033	-0.010	0.034	-16.56
0.325	-0.492	0.500	0.054	0.011	0.055	11.31	0.350	-0.502	0.700	-0.008	-0.036	0.037	-103.17
0.350	-0.491	0.600	0.005	-0.019	0.020	-76.76	0.400	-0.465	0.800	0.028	-0.008	0.029	-15.07
0.375	-0.490	0.680	0.006	-0.001	0.006	-14.04	0.450	-0.394	0.870	0.015	0.007	0.017	23.63
0.400	-0.484	0.700	0.010	-0.008	0.013	-39.29	0.500	-0.295	0.950	0.013	0.009	0.016	33.69
0.425	-0.485	0.730	-0.034	0.012	0.036	160.15	0.600	-0.024					
0.450	-0.494	0.810	-0.019	0.018	0.026	137.73	0.650	0.073					
0.475	-0.513	0.870	-0.009	0.009	0.013	135.00	0.700	0.147					
0.500	-0.514	0.910	-0.001	0.006	0.007	99.46	0.750	0.199					
0.600	-0.435	0.930	0.0	0.008	0.008	90.00	0.850	0.273					
0.630	-0.429	0.950	-0.007	0.001	0.008	173.66	0.910	0.281					
0.680	-0.436						0.950	0.261					
0.720	-0.384												
0.760	-0.323												
0.800	-0.258												
0.830	-0.207												
0.910	-0.093												
0.930	-0.002												
0.970	0.034												
1.000	0.081												

	STEADY	UNSTEADY		
		REAL	IMAG	
CL	0.2216	-0.0118	-0.0258	UNCORRECTED
CM	-0.0895	-0.0077	0.0063	



TABLE 8.5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 11  
 WING MOTION : AILERON ROTAT., HARMONIC  
 RUN INDEX : 90  
 M            0.760                      PTOT        0.900 BAR                      X            0.375                      DELTM -5.0 DEG.  
 ALPHA      0.0 DEG.                      QINF        0.254 BAR                      FREQ       21.0 HZ  
 RE        0.163D+08                      TO           322.550 DEG. K                      Y/S        0.751

-----< UPPER SURFACE >-----						-----< LOWER SURFACE >-----							
STEADY DATA			UNSTEADY DATA			STEADY DATA			UNSTEADY DATA				
X/C	CPU	X/C	CPU/RAD				X/C	CPL	X/C	CPL/RAD			
		REAL	IMAG	MAG	PHASE			REAL	IMAG	MAG	PHASE		
0.100	-0.437	0.050	0.096	0.033	0.101	19.13	0.0	0.782	0.050	0.070	-0.091	0.115	-52.58
0.200	-0.482	0.100	0.089	0.025	0.093	15.88	0.050	-0.441	0.100	0.080	-0.075	0.109	-43.09
0.250	-0.492	0.200	0.076	0.023	0.079	16.59	0.100	-0.464	0.200	0.109	-0.115	0.159	-46.64
0.300	-0.477	0.300	0.080	0.018	0.082	12.58	0.200	-0.624	0.300	0.138	-0.097	0.168	-35.04
0.325	-0.467	0.350	0.070	0.019	0.073	15.35	0.250	-0.615	0.400	0.177	-0.086	0.197	-25.86
0.350	-0.468	0.400	0.052	0.021	0.056	21.80	0.300	-0.561	0.500	0.175	-0.059	0.185	-18.74
0.375	-0.465	0.450	0.038	0.027	0.047	35.31	0.350	-0.506	0.600	0.073	-0.010	0.074	-7.73
0.400	-0.461	0.500	0.026	0.030	0.040	49.03	0.400	-0.441	0.700	0.153	-0.037	0.158	-13.71
0.425	-0.468	0.600	-0.031	0.016	0.035	152.70	0.450	-0.390	0.800	0.170	-0.033	0.174	-10.99
0.450	-0.470	0.630	-0.044	0.007	0.044	171.25	0.500	-0.300	0.910	0.115	-0.019	0.116	-9.55
0.475	-0.485	0.680	-0.030	-0.019	0.035	-147.85	0.550	-0.153	0.950	0.099	-0.010	0.100	-5.51
0.500	-0.510	0.700	-0.025	-0.025	0.035	-136.00	0.600	-0.034					
0.550	-0.439	0.730	-0.021	-0.029	0.036	-125.91	0.700	0.137					
0.600	-0.465	0.750	-0.013	-0.036	0.038	-109.86	0.750	0.186					
0.634	-0.436	0.800	0.003	-0.033	0.033	-84.96	0.910	0.278					
0.680	-0.401	0.910	0.035	-0.012	0.037	-19.44	0.950	0.260					
0.720	-0.360	0.930	-0.009	-0.009	0.041	-12.88							
0.800	-0.243	0.950	0.042	-0.011	0.043	-14.42							
0.830	-0.203	0.970	0.047	-0.012	0.049	-14.32							
0.910	-0.052												
0.950	-0.001												
0.970	0.037												
1.000	0.102												

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	0.1484	0.0898	-0.0596
CM	-0.0937	-0.0330	0.0039

UNCORRECTED

TABLE 8.5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 13  
 WING MOTION : AILERON ROTAT., HARMONIC  
 RUN INDEX : 90  
 M            0.780                      PTOT        0.900 BAR                      K            0.375                      DELTM -5.0 DEG.  
 ALPHA      0.0 DEG.                      QINF        0.254 BAR                      FREQ       21.0 HZ  
 RE        0.163D+08                      TO           322.550 DEG. K                      Y/S        0.854

-----< UPPER SURFACE >-----						-----< LOWER SURFACE >-----							
STEADY DATA			UNSTEADY DATA			STEADY DATA			UNSTEADY DATA				
X/C	CPU	X/C	CPU/RAD				X/C	CPL	X/C	CPL/RAD			
		REAL	IMAG	MAG	PHASE			REAL	IMAG	MAG	PHASE		
0.010	0.223	0.050	0.060	0.094	0.111	57.50	0.0	0.810	0.050	0.219	-0.241	0.325	-47.67
0.020	-0.149	0.100	0.070	0.066	0.097	43.08	0.010	-0.086	0.100	0.210	-0.174	0.272	-39.68
0.030	-0.237	0.200	0.011	0.076	0.077	82.07	0.030	-0.571	0.200	0.300	-0.168	0.344	-29.28
0.050	-0.332	0.300	-0.037	0.074	0.083	116.82	0.050	-0.655	0.300	0.484	-0.196	0.522	-22.07
0.100	-0.357	0.350	-0.086	0.072	0.113	140.09	0.200	-0.625	0.400	0.518	-0.095	0.527	-10.39
0.150	-0.375	0.400	-0.153	0.068	0.167	156.04	0.300	-0.566	0.500	0.619	-0.041	0.620	-3.81
0.200	-0.413	0.450	-0.208	0.047	0.214	167.15	0.400	-0.451	0.600	0.728	0.046	0.729	3.59
0.250	-0.405	0.500	-0.331	0.040	0.333	173.18	0.500	-0.300	0.800	1.544	0.186	1.555	6.87
0.300	-0.409	0.650	-0.875	-0.069	0.878	-175.52	0.600	-0.143					
0.350	-0.411	0.700	-1.178	-0.122	1.185	-174.07	0.700	0.046					
0.375	-0.421	0.720	-1.460	-0.160	1.468	-173.75	0.800	0.131					
0.400	-0.425	0.820	-1.690	-0.387	1.733	-167.09	0.850	0.169					
0.425	-0.431	0.910	-0.410	-0.211	0.461	-152.74	0.900	0.197					
0.450	-0.418	0.950	0.313	-0.109	0.331	-19.19	0.950	0.204					
0.475	-0.409												
0.500	-0.416												
0.575	-0.378												
0.600	-0.341												
0.650	-0.293												
0.675	-0.247												
0.700	-0.216												
0.750	-0.110												
0.800	-0.101												
0.850	-0.109												
0.900	-0.082												
0.950	-0.020												
1.000	0.108												

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	0.0188	1.1298	0.0229
CM	-0.0580	-0.4752	-0.0670

UNCORRECTED



TABLE 8. 5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 14  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 90  
M            0.780                      PTOT        0.900 BAR                      K            0.375                      DELTM -5.0 DEG.  
ALPHA    0.0 DEG.                      QINF        0.254 BAR                      FREQ       21.0 HZ  
RE    0.163D+08                      TO        322.550 DEG. K                      Y/S        0.885

< UPPER SURFACE >							< LOWER SURFACE >						
STEADY DATA				UNSTEADY DATA			STEADY DATA				UNSTEADY DATA		
X/C	CPU	X/C	REAL	IMAG	MAG	PHASE	X/C	CPL	X/C	REAL	IMAG	MAG	PHASE
0.010	0.264	0.050	0.061	0.163	0.174	69.44	0.0	0.813	0.050	0.264	-0.314	0.410	-50.00
0.020	-0.004	0.100	0.044	0.120	0.128	69.79	0.010	-0.030	0.100	0.245	-0.142	0.283	-30.15
0.030	-0.157	0.140	0.006	0.130	0.130	87.41	0.030	-0.686	0.200	0.358	-0.183	0.401	-27.05
0.050	-0.273	0.200	-0.031	0.133	0.136	102.96	0.050	-0.751	0.300	0.598	-0.129	0.611	-12.18
0.100	-0.344	0.250	-0.088	0.128	0.155	124.48	0.300	-0.610	0.400	0.716	-0.061	0.718	-4.89
0.200	-0.388	0.300	-0.132	0.112	0.173	139.78	0.400	-0.471	0.500	0.924	0.035	0.924	2.16
0.250	-0.357	0.350	-0.213	0.109	0.239	152.90	0.500	-0.366	0.700	1.178	0.199	1.194	9.57
0.300	-0.370	0.400	-0.292	0.096	0.308	161.75	0.600	-0.196	0.850	1.486	0.277	1.512	10.55
0.350	-0.376	0.450	-0.413	0.072	0.419	170.06	0.700	0.029					
0.375	-0.364	0.500	-0.533	0.036	0.535	176.11	0.800	0.132					
0.400	-0.369	0.550	-0.882	0.020	0.882	178.72	0.850	0.178					
0.425	-0.373	0.600	-1.061	-0.028	1.062	-178.49	0.900	0.203					
0.450	-0.369	0.700	-2.104	-0.276	2.122	-172.52	0.950	0.211					
0.475	-0.359	0.800	-2.480	-0.430	2.517	-170.17							
0.500	-0.340	0.900	-0.340	-0.448	0.563	-127.18							
0.525	-0.331												
0.550	-0.317												
0.575	-0.292												
0.600	-0.249												
0.625	-0.210												
0.675	-0.181												
0.700	-0.171												
0.750	-0.087												
0.850	-0.084												
0.900	-0.057												
0.950	0.003												
1.000	0.121												

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	-0.0722	1.4361	0.0672
CM	-0.0458	-0.5629	-0.0903

UNCORRECTED

TABLE 8. 5 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 15  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 90  
M            0.780                      PTOT        0.900 BAR                      K            0.375                      DELTM -5.0 DEG.  
ALPHA    0.0 DEG.                      QINF        0.254 BAR                      FREQ       21.0 HZ  
RE    0.163D+08                      TO        322.550 DEG. K                      Y/S        0.944

< UPPER SURFACE >							< LOWER SURFACE >						
STEADY DATA				UNSTEADY DATA			STEADY DATA				UNSTEADY DATA		
X/C	CPU	X/C	REAL	IMAG	MAG	PHASE	X/C	CPL	X/C	REAL	IMAG	MAG	PHASE
0.010	0.509	0.050	-0.084	0.144	0.167	120.20	0.0	0.808	0.050	0.736	-0.572	0.932	-37.87
0.020	0.101	0.100	-0.133	0.131	0.187	135.51	0.030	-0.140	0.100	0.187	0.058	0.195	17.12
0.030	-0.065	0.140	-0.165	0.111	0.199	146.10	0.100	-0.570	0.200	0.679	-0.171	0.700	-14.16
0.050	-0.225	0.200	-0.189	0.103	0.215	151.35	0.200	-0.647	0.400	0.802	-0.002	0.802	-0.13
0.100	-0.342	0.250	-0.249	0.088	0.264	160.53	0.300	-0.521	0.500	1.031	0.070	1.033	3.88
0.150	-0.342	0.300	-0.301	0.059	0.307	168.88	0.400	-0.402	0.600	1.625	0.046	1.625	1.63
0.200	-0.326	0.350	-0.349	0.043	0.351	173.04	0.500	-0.345	0.700	1.362	0.222	1.380	9.25
0.250	-0.304	0.400	-0.451	0.033	0.452	175.85	0.600	-0.198	0.800	1.913	0.329	1.941	9.76
0.300	-0.309	0.450	-0.547	0.006	0.547	179.32	0.700	-0.029	0.850	1.033	0.272	1.068	14.75
0.350	-0.321	0.500	-0.715	-0.040	0.716	-176.80	0.800	0.122					
0.375	-0.326	0.550	-0.668	-0.035	0.669	-177.03	0.850	0.162					
0.400	-0.314	0.600	-0.836	-0.077	0.840	-174.75	0.900	0.182					
0.425	-0.319	0.650	-1.018	-0.131	1.026	-172.67	0.950	0.175					
0.450	-0.313	0.700	-1.175	-0.209	1.193	-169.93							
0.475	-0.312	0.850	-1.464	-0.316	1.497	-167.80							
0.500	-0.311	0.900	-0.751	-0.220	0.782	-163.68							
0.525	-0.290												
0.575	-0.276												
0.600	-0.249												
0.650	-0.209												
0.675	-0.184												
0.700	-0.158												
0.750	-0.106												
0.800	-0.091												
0.850	-0.099												
0.900	-0.083												
0.950	-0.032												
1.000	0.092												

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	-0.0245	1.4065	0.0885
CM	-0.0366	-0.4726	-0.0791

UNCORRECTED

TABLE 8. 6 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 1  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 116  
M            0.780                      PTOT        0.900 BAR                      K            0.377                      DELTM    0.0 DEG.  
ALPHA      2.000 DEG.                    QINF        0.256 BAR                      FREQ      21.0 HZ  
RE        0.165D+08                      TO           319.150 DEG. K                    Y/S        0.254

< UPPER SURFACE >							< LOWER SURFACE >						
STEADY DATA			UNSTEADY DATA				STEADY DATA			UNSTEADY DATA			
X/C	CPU	X/C	CPU/RAD				X/C	CPL	X/C	CPL/RAD			
			REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE
0.010	-0.770	0.100	0.004	-0.001	0.004	-11.31	0.0	0.690	0.050	0.019	0.020	0.027	46.64
0.020	-1.209	0.200	0.020	-0.014	0.024	-34.12	0.010	0.615	0.100	0.019	0.020	0.027	46.74
0.030	-1.288	0.300	0.009	-0.023	0.025	-68.20	0.030	0.336	0.200	0.029	0.003	0.029	5.19
0.050	-1.273	0.350	-0.004	-0.060	0.060	-93.87	0.050	0.183	0.300	0.030	0.010	0.031	17.82
0.100	-1.200	0.400	0.021	-0.033	0.039	-57.88	0.100	-0.055	0.400	0.030	0.014	0.033	24.90
0.150	-0.992	0.450	0.355	-0.124	0.376	-19.23	0.200	-0.312	0.500	0.010	0.027	0.029	69.44
0.200	-0.973	0.500	0.102	0.091	0.137	41.60	0.300	-0.403	0.600	0.003	0.027	0.027	82.87
0.250	-0.962	0.600	0.024	0.104	0.106	77.11	0.400	-0.420	0.700	0.003	0.028	0.029	84.29
0.300	-0.963	0.650	0.006	0.090	0.090	86.39	0.500	-0.300	0.750	-0.002	0.027	0.027	94.40
0.350	-0.913	0.700	0.001	0.072	0.072	89.28	0.600	-0.130	0.800	-0.002	0.020	0.020	94.40
0.375	-0.879	0.720	-0.004	0.067	0.067	93.22	0.700	0.033	0.850	-0.003	0.027	0.027	96.12
0.400	-0.962	0.750	-0.010	0.059	0.060	99.61	0.800	0.143	0.900	-0.005	0.029	0.029	98.88
0.425	-0.839	0.800	-0.013	0.051	0.053	104.26	0.850	0.170	0.950	-0.009	0.026	0.028	109.65
0.450	-0.579	0.850	-0.014	0.037	0.039	111.04	0.900	0.188					
0.475	-0.489	0.900	-0.018	0.036	0.041	116.56	0.950	0.191					
0.500	-0.461	0.950	-0.014	0.028	0.029	118.18							
0.525	-0.441	0.970	-0.016	0.016	0.023	135.00							
0.550	-0.416												
0.575	-0.390												
0.600	-0.359												
0.625	-0.326												
0.650	-0.296												
0.675	-0.272												
0.700	-0.252												
0.750	-0.198												
0.800	-0.134												
0.850	-0.068												
0.900	-0.003												
0.950	0.080												
1.000	0.172												

	STEADY	UNSTEADY		
		REAL	IMAG	
CL	0.4559	-0.0158	-0.0039	UNCORRECTED
CH	-0.0200	0.0035	0.0061	

TABLE 8. 6 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 2  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 116  
M            0.780                      PTOT        0.900 BAR                      K            0.377                      DELTM    0.0 DEG.  
ALPHA      2.000 DEG.                    QINF        0.256 BAR                      FREQ      21.0 HZ  
RE        0.165D+08                      TO           319.150 DEG. K                    Y/S        0.353

< UPPER SURFACE >							< LOWER SURFACE >						
STEADY DATA			UNSTEADY DATA				STEADY DATA			UNSTEADY DATA			
X/C	CPU	X/C	CPU/RAD				X/C	CPL	X/C	CPL/RAD			
			REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE
0.020	-1.287	0.050	-0.002	-0.044	0.044	-93.07	0.0	0.634	0.050	0.021	0.021	0.030	43.88
0.050	-1.243	0.100	0.011	-0.069	0.070	-81.05	0.050	0.108	0.100	0.024	0.018	0.030	36.25
0.100	-1.148	0.200	0.029	-0.043	0.052	-56.54	0.100	-0.119	0.200	0.015	0.016	0.021	46.27
0.140	-1.153	0.300	0.018	-0.037	0.041	-64.59	0.140	-0.194	0.300	0.005	0.022	0.022	77.47
0.200	-1.137	0.350	0.044	-0.004	0.044	-5.12	0.200	-0.362	0.400	-0.001	0.014	0.014	94.97
0.250	-1.055	0.400	0.213	-0.070	0.224	-18.11	0.250	-0.412	0.500	-0.006	0.004	0.007	146.31
0.300	-0.938	0.450	0.222	-0.099	0.244	-24.10	0.300	-0.433	0.600	0.002	0.008	0.009	77.47
0.325	-0.943	0.500	0.072	0.051	0.088	35.36	0.350	-0.457	0.700	0.003	0.008	0.008	69.44
0.350	-0.962	0.600	0.020	0.060	0.064	71.27	0.400	-0.479	0.750	0.007	0.010	0.013	55.01
0.375	-0.936	0.650	0.009	0.052	0.053	79.80	0.450	-0.424	0.800	0.004	0.011	0.012	70.02
0.425	-0.747	0.700	0.004	0.041	0.041	84.29	0.500	-0.312	0.850	0.007	0.009	0.012	53.13
0.450	-0.560	0.720	-0.004	0.032	0.033	97.85	0.550	-0.210	0.900	0.0	0.014	0.014	90.00
0.475	-0.490	0.750	-0.005	0.030	0.030	100.12	0.600	-0.073	0.950	0.0	0.010	0.010	90.00
0.500	-0.488	0.800	-0.004	0.022	0.022	100.89	0.650	0.039					
0.550	-0.502	0.850	-0.006	0.012	0.014	116.57	0.700	0.145					
0.650	-0.449	0.900	-0.006	0.014	0.015	112.62	0.750	0.224					
0.700	-0.403	0.950	0.002	0.003	0.004	56.31	0.800	0.269					
0.750	-0.314	0.970	0.001	0.005	0.005	78.69	0.850	0.291					
0.800	-0.256						0.900	0.296					
0.850	-0.172						0.950	0.273					
0.900	-0.082												
0.950	0.024												
1.000	0.131												

	STEADY	UNSTEADY		
		REAL	IMAG	
CL	0.5275	-0.0239	0.0157	UNCORRECTED
CM	-0.0674	0.0050	0.0045	

TABLE 8. 6 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 4  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 116  
M            0.780                      PTOT        0.900 BAR                      K            0.377                      DELTM    0.0 DEG.  
ALPHA      2.000 DEG.                      QINF        0.256 BAR                      FREQ      21.0 HZ  
RE        0.165D+08                      TO           319.150 DEG. K                      Y/S        0.479

< UPPER SURFACE >							< LOWER SURFACE >						
STEADY DATA				UNSTEADY DATA			STEADY DATA				UNSTEADY DATA		
X/C	CPU	X/C	REAL	IMAG	MAG	PHASE	X/C	CPL	X/C	REAL	IMAG	MAG	PHASE
0.020	-1.139	0.050	0.028	-0.028	0.039	-45.00	0.0	0.749	0.050	0.002	-0.007	0.007	-73.30
0.050	-1.103	0.100	0.010	-0.040	0.042	-75.65	0.050	0.055	0.100	0.008	-0.002	0.008	-11.31
0.100	-1.066	0.200	0.019	-0.003	0.019	-9.46	0.100	-0.148	0.200	0.009	-0.008	0.012	-42.51
0.200	-1.050	0.300	-0.003	0.006	0.007	119.74	0.200	-0.352	0.300	0.009	-0.013	0.016	-55.01
0.250	-1.071	0.350	-0.080	-0.107	0.134	-126.76	0.250	-0.395	0.400	0.008	-0.015	0.018	-61.39
0.300	-1.040	0.400	0.047	0.172	0.178	74.87	0.300	-0.405	0.500	0.013	-0.014	0.019	-47.49
0.325	-1.021	0.450	0.006	0.057	0.057	83.58	0.350	-0.407	0.600	0.018	-0.014	0.022	-37.69
0.350	-0.978	0.500	0.010	0.031	0.033	72.00	0.400	-0.392	0.700	0.008	-0.017	0.019	-66.04
0.375	-0.736	0.600	-0.011	0.012	0.016	132.71	0.450	-0.339	0.800	0.011	-0.027	0.029	-67.83
0.400	-0.539	0.650	-0.007	0.003	0.008	159.44	0.500	-0.235	0.930	0.015	-0.003	0.015	-12.09
0.425	-0.509	0.690	-0.071	0.012	0.072	170.54	0.550	-0.107	0.970	0.015	-0.008	0.017	-30.07
0.450	-0.520	0.700	-0.032	-0.005	0.032	-170.84	0.600	0.010					
0.500	-0.543	0.730	-0.025	-0.006	0.026	-166.50	0.650	0.121					
0.550	-0.570	0.750	-0.009	-0.013	0.016	-125.54	0.700	0.200					
0.600	-0.542	0.930	-0.002	0.0	0.002	180.00	0.750	0.256					
0.650	-0.476	0.950	-0.001	0.003	0.003	108.44	0.800	0.295					
0.720	-0.465	0.970	-0.001	-0.002	0.002	-116.56	0.910	0.305					
0.800	-0.300						0.950	0.273					
0.910	-0.064												
0.950	-0.006												
0.970	0.032												
1.000	0.076												

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	0.5512	0.0108	UNCORRECTED
CM	-0.0906	-0.0046	0.0049

TABLE 8. 6 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 6  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 116  
M            0.780                      PTOT        0.900 BAR                      K            0.377                      DELTM    0.0 DEG.  
ALPHA      2.000 DEG.                      QINF        0.256 BAR                      FREQ      21.0 HZ  
RE        0.165D+08                      TO           319.150 DEG. K                      Y/S        0.566

< UPPER SURFACE >							< LOWER SURFACE >						
STEADY DATA				UNSTEADY DATA			STEADY DATA				UNSTEADY DATA		
X/C	CPU	X/C	REAL	IMAG	MAG	PHASE	X/C	CPL	X/C	REAL	IMAG	MAG	PHASE
0.020	-1.046	0.050	0.091	-0.057	0.107	-32.05	0.0	0.763	0.050	0.018	0.011	0.021	30.96
0.050	-1.011	0.100	0.086	-0.061	0.105	-35.37	0.050	0.030	0.100	0.006	0.024	0.025	75.96
0.100	-1.024	0.200	0.051	-0.040	0.065	-38.16	0.100	-0.150	0.200	0.015	0.013	0.020	40.10
0.150	-1.001	0.300	0.148	-0.216	0.261	-55.63	0.200	-0.351	0.300	0.010	-0.018	0.021	-60.02
0.200	-1.008	0.350	0.845	-0.561	1.014	-33.55	0.250	-0.375	0.400	0.018	0.001	0.018	2.29
0.250	-0.986	0.400	0.744	0.234	0.780	17.45	0.300	-0.378	0.500	0.019	-0.023	0.030	-49.40
0.300	-0.921	0.450	0.020	0.330	0.331	86.60	0.350	-0.367	0.600	-0.010	0.008	0.013	141.34
0.325	-0.923	0.500	-0.087	0.305	0.317	105.95	0.400	-0.357	0.700	-0.022	-0.013	0.025	-148.39
0.350	-0.858	0.600	-0.171	0.121	0.210	144.78	0.450	-0.310	0.800	-0.021	0.002	0.021	174.81
0.375	-0.637	0.630	-0.127	0.029	0.130	166.94	0.500	-0.220	0.870	-0.021	0.003	0.021	172.23
0.400	-0.526	0.690	-0.131	0.044	0.138	161.57	0.550	-0.100	0.910	-0.021	0.003	0.021	170.54
0.425	-0.533	0.700	-0.111	0.038	0.118	161.08	0.600	0.010	0.950	-0.029	0.009	0.031	162.18
0.450	-0.541	0.730	-0.091	0.024	0.095	165.40	0.650	0.112					
0.475	-0.549	0.750	-0.072	0.017	0.074	167.01	0.700	0.188					
0.500	-0.562	0.910	-0.038	-0.006	0.038	-171.16	0.750	0.246					
0.550	-0.551	0.950	-0.037	0.019	0.042	153.43	0.800	0.281					
0.600	-0.514	0.970	-0.042	0.028	0.050	145.78	0.850	0.297					
0.650	-0.470												
0.740	-0.397												
0.780	-0.319												
0.820	-0.243												
0.910	-0.065												
0.950	-0.002												
0.970	0.027												
1.000	0.059												

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	0.4919	-0.0555	UNCORRECTED
CM	-0.0689	-0.0058	0.0147

TABLE 8. 6 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSpan : 4.0161 M                      SECTION 8  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 116  
M                      0.780                      PTOT                      0.900 BAR                      K                      0.377                      DELTM                      0.0 DEG.  
ALPHA                      2.000 DEG.                      QINF                      0.256 BAR                      FREQ                      21.0 HZ  
RE                      0.165D+08                      TO                      319.150 DEG. K                      Y/S                      0.618

-----< UPPER SURFACE >-----							-----< LOWER SURFACE >-----						
STEADY DATA		UNSTEADY DATA					STEADY DATA		UNSTEADY DATA				
X/C	CPU	X/C	CPU/RAD				X/C	CPL	X/C	CPL/RAD			
		REAL	IMAG	MAG	PHASE			REAL	IMAG	MAG	PHASE		
0.020	-1.000	0.050	0.045	-0.010	0.046	-12.93	0.0	0.764	0.050	0.010	-0.013	0.017	-52.12
0.050	-1.042	0.100	0.047	-0.015	0.050	-17.78	0.050	0.009	0.100	0.013	-0.004	0.014	-15.52
0.100	-1.000	0.200	0.055	-0.019	0.058	-19.48	0.100	-0.155	0.200	0.027	-0.015	0.031	-29.29
0.150	-1.027	0.300	0.119	-0.084	0.146	-35.11	0.150	-0.253	0.300	0.033	-0.015	0.037	-24.86
0.200	-1.007	0.350	-0.206	0.421	0.469	116.02	0.200	-0.339	0.400	0.037	-0.022	0.043	-30.41
0.250	-0.963	0.400	-0.041	-0.004	0.042	-174.96	0.250	-0.362	0.500	0.035	-0.018	0.039	-27.44
0.300	-0.896	0.450	-0.029	-0.027	0.039	-136.91	0.300	-0.364	0.600	0.028	-0.008	0.029	-16.50
0.325	-0.843	0.500	-0.057	-0.008	0.058	-171.66	0.350	-0.359	0.700	0.006	-0.011	0.013	-63.44
0.350	-0.613	0.600	-0.029	0.008	0.030	165.17	0.400	-0.343	0.800	0.003	-0.010	0.011	-71.56
0.375	-0.529	0.650	-0.049	0.001	0.049	179.01	0.450	-0.303	0.970	-0.004	-0.003	0.005	-141.34
0.400	-0.532	0.690	-0.043	-0.008	0.044	-169.51	0.500	-0.231					
0.425	-0.537	0.730	-0.018	-0.034	0.038	-117.70	0.550	-0.114					
0.450	-0.551	0.750	-0.029	-0.008	0.030	-165.53	0.600	0.006					
0.475	-0.575	0.800	-0.027	-0.014	0.031	-152.78	0.650	0.104					
0.500	-0.604	0.970	-0.006	-0.007	0.009	-129.81	0.700	0.164					
0.550	-0.569						0.750	0.238					
0.600	-0.530						0.800	0.275					
0.650	-0.481												
0.720	-0.415												
0.760	-0.342												
0.800	-0.267												
0.830	-0.209												
0.950	-0.014												
0.970	0.049												
1.000	0.060												

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	0.4700	0.0261	-0.0130
CM	-0.0596	-0.0115	0.0021

UNCORRECTED

TABLE 8. 6 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSpan : 4.0161 M                      SECTION 9  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 116  
M                      0.780                      PTOT                      0.900 BAR                      K                      0.377                      DELTM                      0.0 DEG.  
ALPHA                      2.000 DEG.                      QINF                      0.256 BAR                      FREQ                      21.0 HZ  
RE                      0.165D+08                      TO                      319.150 DEG. K                      Y/S                      0.665

-----< UPPER SURFACE >-----							-----< LOWER SURFACE >-----						
STEADY DATA		UNSTEADY DATA					STEADY DATA		UNSTEADY DATA				
X/C	CPU	X/C	CPU/RAD				X/C	CPL	X/C	CPL/RAD			
		REAL	IMAG	MAG	PHASE			REAL	IMAG	MAG	PHASE		
0.020	-0.893	0.050	0.048	-0.027	0.055	-29.86	0.0	0.747	0.050	-0.009	-0.001	0.010	-175.91
0.050	-0.967	0.100	0.067	-0.019	0.070	-15.87	0.050	-0.057	0.100	0.067	-0.033	0.033	-78.69
0.100	-0.996	0.200	0.049	-0.047	0.068	-43.58	0.100	-0.142	0.200	0.041	-0.012	0.043	-15.52
0.150	-1.008	0.300	0.186	-0.219	0.287	-49.68	0.150	-0.256	0.300	0.044	-0.055	0.071	-51.12
0.200	-0.960	0.350	0.083	0.337	0.347	76.16	0.200	-0.338	0.400	0.048	-0.024	0.053	-26.57
0.250	-0.936	0.400	0.011	0.052	0.053	77.47	0.250	-0.366	0.500	0.066	-0.038	0.076	-30.17
0.300	-0.757	0.450	-0.055	0.052	0.076	136.59	0.300	-0.366	0.600	-0.005	-0.012	0.013	-113.20
0.325	-0.623	0.500	0.006	0.045	0.046	82.18	0.350	-0.358	0.700	0.024	-0.024	0.035	-45.00
0.350	-0.525	0.600	-0.091	-0.067	0.113	-143.93	0.400	-0.345	0.800	0.017	-0.017	0.025	-45.00
0.375	-0.529	0.680	-0.013	-0.022	0.026	-120.96	0.450	-0.310	0.870	0.011	-0.011	0.016	-45.00
0.400	-0.555	0.700	-0.004	-0.023	0.023	-99.09	0.500	-0.241	0.950	0.010	-0.010	0.014	-45.00
0.425	-0.569	0.730	-0.054	-0.019	0.057	-160.97	0.600	0.006					
0.450	-0.590	0.810	-0.048	-0.010	0.049	-167.69	0.650	0.101					
0.475	-0.612	0.870	-0.024	-0.011	0.027	-155.22	0.700	0.181					
0.500	-0.643	0.910	-0.028	-0.015	0.031	-151.70	0.750	0.236					
0.600	-0.499	0.930	-0.026	-0.011	0.028	-156.04	0.850	0.296					
0.630	-0.481	0.950	0.0	0.0	0.0	0.0	0.910	0.292					
0.680	-0.483						0.950	0.265					
0.720	-0.416												
0.760	-0.344												
0.800	-0.272												
0.830	-0.215												
0.910	-0.092												
0.930	-0.013												
0.970	0.018												
1.000	0.058												

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	0.4929	0.0155	-0.0094
CM	-0.0893	-0.0140	0.0032

UNCORRECTED

TABLE 8. 6 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 11  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 116  
M            0.780                      PTOT        0.900 BAR                      K            0.377                      DELTM    0.0 DEG.  
ALPHA      2.000 DEG.                    QINF        0.256 BAR                      FREQ      21.0 HZ  
RE        0.165D+08                      TO           319.150 DEG. K                    Y/S        0.751

-----< UPPER SURFACE >-----							-----< LOWER SURFACE >-----						
STEADY DATA			UNSTEADY DATA				STEADY DATA			UNSTEADY DATA			
X/C	CPU	X/C	CPU/RAD				X/C	CPL	X/C	CPL/RAD			
			REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE
0.100	-0.966	0.050	0.064	-0.015	0.066	-12.80	0.0	0.620	0.050	0.078	-0.032	0.085	-22.29
0.200	-0.880	0.100	0.077	-0.005	0.077	-3.61	0.050	-0.085	0.100	0.084	-0.032	0.090	-20.49
0.250	-0.747	0.200	0.173	0.107	0.203	31.74	0.100	-0.186	0.200	0.053	0.013	0.055	13.43
0.300	-0.589	0.300	0.245	-0.083	0.259	-18.63	0.200	-0.355	0.300	0.111	-0.036	0.117	-17.92
0.325	-0.588	0.350	0.016	0.028	0.032	59.66	0.250	-0.383	0.400	0.096	-0.005	0.096	-3.22
0.350	-0.600	0.400	-0.034	0.083	0.089	112.62	0.300	-0.380	0.500	0.131	-0.033	0.135	-14.14
0.375	-0.618	0.450	-0.101	0.080	0.129	141.45	0.350	-0.363	0.600	0.056	0.018	0.058	17.88
0.400	-0.628	0.500	-0.099	0.178	0.204	118.97	0.400	-0.330	0.700	0.121	-0.017	0.122	-8.13
0.425	-0.641	0.600	-0.065	-0.032	0.072	-153.79	0.450	-0.306	0.800	0.145	-0.029	0.148	-11.40
0.450	-0.643	0.630	-0.092	-0.011	0.093	-173.13	0.500	-0.244	0.910	0.094	-0.012	0.094	-7.13
0.475	-0.652	0.680	-0.059	-0.014	0.061	-167.12	0.550	-0.107	0.950	0.078	-0.006	0.079	-4.33
0.500	-0.668	0.700	-0.042	-0.024	0.048	-149.74	0.600	-0.001					
0.550	-0.523	0.730	-0.026	-0.028	0.038	-132.88	0.700	0.178					
0.600	-0.539	0.750	-0.015	-0.034	0.037	-113.81	0.750	0.233					
0.634	-0.506	0.800	-0.002	-0.037	0.037	-92.94	0.910	0.291					
0.680	-0.453	0.910	0.024	-0.014	0.028	-31.33	0.950	0.266					
0.720	-0.397	0.930	0.029	-0.007	0.029	-13.50							
0.800	-0.265	0.950	0.021	-0.007	0.023	-18.43							
0.830	-0.219	0.970	0.023	-0.005	0.023	-12.26							
0.910	-0.058												
0.950	-0.009												
0.970	0.026												
1.000	0.079												

	STEADY	UNSTEADY		
	CL	REAL	IMAG	UNCORRECTED
CL	0.3864	0.0680	-0.0304	
CM	-0.1044	-0.0337	0.0029	

TABLE 8. 6 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 13  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 116  
M            0.780                      PTOT        0.900 BAR                      K            0.377                      DELTM    0.0 DEG.  
ALPHA      2.000 DEG.                    QINF        0.256 BAR                      FREQ      21.0 HZ  
RE        0.165D+08                      TO           319.150 DEG. K                    Y/S        0.854

-----< UPPER SURFACE >-----							-----< LOWER SURFACE >-----						
STEADY DATA			UNSTEADY DATA				STEADY DATA			UNSTEADY DATA			
X/C	CPU	X/C	CPU/RAD				X/C	CPL	X/C	CPL/RAD			
			REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE
0.010	-0.219	0.050	0.114	0.060	0.129	27.93	0.0	0.701	0.050	0.159	-0.095	0.185	-30.71
0.020	-0.692	0.100	0.139	0.161	0.213	49.08	0.010	0.334	0.100	0.184	-0.087	0.204	-25.18
0.030	-0.742	0.200	-0.026	0.278	0.279	95.32	0.030	-0.090	0.200	0.241	-0.088	0.257	-20.08
0.050	-0.810	0.300	-0.185	0.030	0.187	170.66	0.050	-0.207	0.300	0.345	-0.079	0.354	-12.84
0.100	-0.878	0.350	0.022	0.097	0.099	77.28	0.200	-0.372	0.400	0.437	-0.057	0.440	-7.49
0.150	-0.737	0.400	-0.064	0.097	0.116	123.46	0.300	-0.389	0.500	0.532	-0.020	0.533	-2.16
0.200	-0.725	0.450	-0.197	0.160	0.254	140.80	0.400	-0.324	0.600	0.708	0.042	0.709	3.42
0.250	-0.647	0.500	-0.427	0.245	0.492	150.18	0.500	-0.214	0.800	1.116	0.183	1.131	9.34
0.300	-0.626	0.650	-0.786	-0.035	0.787	-177.48	0.600	-0.071					
0.350	-0.584	0.700	-1.095	-0.074	1.097	-176.11	0.700	0.140					
0.375	-0.590	0.720	-1.420	-0.108	1.424	-175.63	0.800	0.267					
0.400	-0.597	0.820	-1.431	-0.269	1.456	-169.34	0.850	0.296					
0.425	-0.597	0.910	-0.166	-0.153	0.226	-137.21	0.900	0.297					
0.450	-0.580	0.950	-0.028	-0.082	0.086	-109.09	0.950	0.264					
0.475	-0.565												
0.500	-0.560												
0.575	-0.485												
0.600	-0.448												
0.650	-0.404												
0.675	-0.358												
0.700	-0.349												
0.750	-0.285												
0.800	-0.287												
0.850	-0.212												
0.900	-0.120												
0.950	-0.021												
1.000	0.083												

	STEADY	UNSTEADY		
	CL	REAL	IMAG	UNCORRECTED
CL	0.3783	0.9470	-0.0234	
CM	-0.0873	-0.3906	-0.0474	



TABLE 8. 7 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 4  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 140  
M            0.830                      PTOT        0.900 BAR                      K            0.355                      DELTH -2.0 DEG.  
ALPHA      0.0 DEG.                      QINF        0.275 BAR                      FREQ       21.0 HZ  
RE        0.169D+08                      TO           321.550 DEG. K                      Y/S        0.479

-----< UPPER SURFACE >-----					-----< LOWER SURFACE >-----								
STEADY DATA		UNSTEADY DATA			STEADY DATA		UNSTEADY DATA						
X/C	CPU	X/C	CPU/RAD				X/C	CPL	X/C	CPL/RAD			
			REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE
0.020	-0.506	0.050	0.005	0.007	0.009	52.12	0.0	0.792	0.050	0.047	-0.009	0.048	-10.71
0.050	-0.588	0.100	0.051	0.017	0.053	18.14	0.050	-0.194	0.100	0.042	-0.002	0.042	-3.18
0.100	-0.610	0.200	0.064	-0.007	0.064	-5.91	0.100	-0.397	0.200	0.031	-0.010	0.032	-18.43
0.200	-0.706	0.300	0.035	0.002	0.035	3.90	0.200	-0.644	0.300	0.030	-0.001	0.030	-1.19
0.250	-0.747	0.350	0.037	0.011	0.039	16.78	0.250	-0.718	0.400	-0.174	0.037	0.178	168.15
0.300	-0.758	0.400	0.062	0.008	0.062	6.97	0.300	-0.778	0.500	0.025	-0.026	0.036	-46.24
0.325	-0.753	0.450	0.002	0.015	0.015	82.23	0.350	-0.842	0.600	0.034	-0.037	0.051	-47.39
0.350	-0.745	0.500	0.039	0.003	0.039	4.24	0.400	-0.878	0.700	0.006	-0.039	0.040	-80.96
0.375	-0.744	0.600	0.211	-0.119	0.242	-29.45	0.450	-0.366	0.800	0.052	-0.054	0.075	-45.99
0.400	-0.692	0.650	-0.084	0.196	0.213	113.11	0.500	-0.230	0.930	0.024	0.034	0.042	54.46
0.425	-0.699	0.690	-0.031	0.013	0.034	156.80	0.550	-0.116	0.970	0.036	0.024	0.044	33.69
0.450	-0.721	0.700	0.008	0.012	0.014	56.31	0.600	-0.014					
0.500	-0.738	0.730	-0.012	0.008	0.015	145.30	0.650	0.061					
0.550	-0.746	0.750	-0.012	-0.073	0.074	-99.57	0.700	0.111					
0.600	-0.654	0.930	0.010	-0.003	0.010	-15.26	0.750	0.168					
0.650	-0.392	0.950	0.004	-0.004	0.006	-38.66	0.800	0.222					
0.720	-0.401	0.970	0.019	-0.002	0.019	-6.01	0.910	0.271					
0.800	-0.228						0.950	0.255					
0.910	-0.035												
0.950	0.023												
0.970	0.058												
1.000	0.098												

	STEADY	UNSTEADY		
		REAL	IMAG	UNCORRECTED
CL	0.2842	-0.0289	0.0075	
CM	-0.0886	0.0021	-0.0064	

TABLE 8. 7 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 6  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 140  
M            0.830                      PTOT        0.900 BAR                      K            0.355                      DELTH -2.0 DEG.  
ALPHA      0.0 DEG.                      QINF        0.275 BAR                      FREQ       21.0 HZ  
RE        0.169D+08                      TO           321.550 DEG. K                      Y/S        0.566

-----< UPPER SURFACE >-----					-----< LOWER SURFACE >-----								
STEADY DATA		UNSTEADY DATA			STEADY DATA		UNSTEADY DATA						
X/C	CPU	X/C	CPU/RAD				X/C	CPL	X/C	CPL/RAD			
			REAL	IMAG	MAG	PHASE				REAL	IMAG	MAG	PHASE
0.020	-0.401	0.050	-0.086	-0.008	0.086	-174.97	0.0	0.793	0.050	0.017	-0.089	0.090	-79.41
0.050	-0.459	0.100	0.030	-0.007	0.031	-13.32	0.050	-0.264	0.100	0.084	-0.071	0.110	-40.24
0.100	-0.537	0.200	0.013	-0.042	0.044	-72.70	0.100	-0.458	0.200	0.065	-0.064	0.092	-44.66
0.150	-0.504	0.300	0.008	-0.061	0.062	-82.50	0.200	-0.678	0.300	0.093	-0.100	0.137	-47.08
0.200	-0.685	0.350	-0.005	-0.079	0.079	-93.37	0.250	-0.776	0.400	0.368	0.006	0.368	0.92
0.250	-0.758	0.400	-0.028	-0.085	0.089	-108.43	0.300	-0.822	0.500	0.066	0.021	0.070	17.65
0.300	-0.773	0.450	-0.074	-0.089	0.116	-129.55	0.350	-0.853	0.600	0.066	0.001	0.066	0.81
0.325	-0.742	0.500	-0.129	-0.237	0.270	-118.42	0.400	-0.461	0.700	0.016	-0.073	0.075	-77.54
0.350	-0.725	0.600	0.731	-0.907	1.165	-51.14	0.450	-0.353	0.800	-0.005	-0.125	0.125	-92.40
0.375	-0.739	0.630	0.417	0.015	0.418	2.07	0.500	-0.254	0.870	0.015	-0.093	0.094	-80.80
0.400	-0.738	0.690	0.523	0.379	0.646	35.91	0.550	-0.126	0.910	0.011	-0.080	0.081	-82.30
0.425	-0.712	0.700	0.386	0.323	0.503	39.91	0.600	-0.014	0.950	0.038	-0.036	0.052	-43.49
0.450	-0.707	0.730	0.208	0.274	0.344	52.86	0.650	0.071					
0.475	-0.709	0.750	0.125	0.224	0.256	60.77	0.700	0.132					
0.500	-0.699	0.910	0.021	0.075	0.078	74.29	0.750	0.183					
0.550	-0.495	0.950	0.071	0.051	0.088	35.42	0.800	0.221					
0.600	-0.407	0.970	0.098	0.057	0.113	30.43	0.850	0.242					
0.650	-0.403												
0.740	-0.379												
0.780	-0.292												
0.820	-0.214												
0.910	-0.044												
0.950	0.023												
0.970	0.054												
1.000	0.087												

	STEADY	UNSTEADY		
		REAL	IMAG	UNCORRECTED
CL	0.2226	-0.0251	0.0088	
CM	-0.0730	0.0295	0.0122	

TABLE 8. 7 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSpan : 4.0161 M                      SECTION 8  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 140  
M            0.830                      PTOT        0.900 BAR                      K            0.355                      DELTH -2.0 DEG.  
ALPHA      0.0 DEG.                      QINF        0.275 BAR                      FREQ       21.0 HZ  
RE        0.169D+08                      TO           321.550 DEG. K                      Y/S        0.618

< UPPER SURFACE >					< LOWER SURFACE >								
STEADY DATA		UNSTEADY DATA			STEADY DATA		UNSTEADY DATA						
X/C	CPU	X/C	REAL	IMAG	MAG	PHASE	X/C	CPL	X/C	REAL	IMAG	MAG	PHASE
0.020	-0.347	0.050	-0.045	-0.235	0.240	-100.83	0.0	0.789	0.050	0.167	0.060	0.177	19.77
0.050	-0.463	0.100	0.076	-0.052	0.092	-34.70	0.050	-0.300	0.100	0.107	0.034	0.112	17.56
0.100	-0.522	0.200	0.099	-0.141	0.173	-55.04	0.100	-0.446	0.200	0.123	0.021	0.125	9.74
0.150	-0.582	0.300	0.127	-0.137	0.187	-47.34	0.150	-0.560	0.300	0.190	0.076	0.204	21.80
0.200	-0.663	0.350	0.136	-0.171	0.219	-51.54	0.200	-0.676	0.400	0.011	0.194	0.195	86.70
0.250	-0.726	0.400	0.147	-0.203	0.251	-54.12	0.250	-0.794	0.500	-0.002	-0.030	0.030	-93.58
0.300	-0.719	0.450	0.648	-0.301	0.714	-24.89	0.300	-0.832	0.600	0.023	-0.053	0.058	-66.43
0.325	-0.724	0.500	1.213	-0.454	1.295	-20.54	0.350	-0.787	0.700	-0.008	0.051	0.051	98.97
0.350	-0.731	0.600	-0.060	0.807	0.809	94.24	0.400	-0.440	0.800	0.013	0.050	0.051	75.53
0.375	-0.714	0.650	-0.261	0.604	0.658	113.37	0.450	-0.380	0.970	-0.024	0.077	0.081	107.58
0.400	-0.720	0.690	-0.634	0.960	1.150	123.43	0.500	-0.277					
0.425	-0.713	0.730	-0.386	0.137	0.410	160.43	0.550	-0.144					
0.450	-0.695	0.750	-0.257	0.161	0.304	147.87	0.600	-0.018					
0.475	-0.570	0.800	-0.197	0.073	0.210	159.81	0.650	0.072					
0.500	-0.455	0.970	-0.107	0.058	0.122	151.43	0.700	0.121					
0.550	-0.438						0.750	0.183					
0.600	-0.455						0.800	0.225					
0.650	-0.444												
0.720	-0.392												
0.760	-0.317												
0.800	-0.243												
0.830	-0.186												
0.950	0.009												
0.970	0.054												
1.000	0.085												

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	0.1947	-0.0327	UNCORRECTED
CM	-0.0632	-0.0107	0.0347

TABLE 8. 7 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSpan : 4.0161 M                      SECTION 9  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 140  
M            0.830                      PTOT        0.900 BAR                      K            0.355                      DELTH -2.0 DEG.  
ALPHA      0.0 DEG.                      QINF        0.275 BAR                      FREQ       21.0 HZ  
RE        0.169D+08                      TO           321.550 DEG. K                      Y/S        0.665

< UPPER SURFACE >					< LOWER SURFACE >								
STEADY DATA		UNSTEADY DATA			STEADY DATA		UNSTEADY DATA						
X/C	CPU	X/C	REAL	IMAG	MAG	PHASE	X/C	CPL	X/C	REAL	IMAG	MAG	PHASE
0.020	-0.306	0.050	0.054	-0.053	0.076	-44.56	0.0	0.789	0.050	0.001	0.021	0.021	88.32
0.050	-0.466	0.100	0.037	-0.028	0.046	-36.42	0.050	-0.395	0.100	0.046	0.018	0.050	21.54
0.100	-0.506	0.200	0.067	-0.021	0.070	-17.68	0.100	-0.433	0.200	-0.004	-0.041	0.041	-95.01
0.150	-0.623	0.300	0.042	-0.009	0.043	-11.50	0.150	-0.597	0.300	0.056	-0.055	0.079	-44.43
0.200	-0.680	0.350	0.037	-0.011	0.039	-16.26	0.200	-0.687	0.400	0.145	-0.212	0.257	-55.68
0.250	-0.678	0.400	-0.032	-0.027	0.042	-139.40	0.250	-0.788	0.500	0.119	-0.054	0.131	-24.34
0.300	-0.581	0.450	0.063	0.413	0.418	81.38	0.300	-0.830	0.600	0.031	-0.069	0.076	-65.66
0.325	-0.628	0.500	-0.737	-0.044	0.739	-176.59	0.350	-0.722	0.700	0.035	-0.043	0.056	-51.23
0.350	-0.668	0.600	0.168	-0.264	0.313	-57.48	0.400	-0.470	0.800	0.037	-0.034	0.051	-42.58
0.375	-0.676	0.680	0.128	-0.200	0.237	-57.41	0.450	-0.400	0.870	0.029	-0.034	0.045	-49.03
0.400	-0.646	0.700	0.151	-0.151	0.214	-45.00	0.500	-0.286	0.950	0.028	-0.041	0.050	-55.98
0.425	-0.650	0.730	0.111	-0.068	0.130	-31.68	0.600	-0.021					
0.450	-0.540	0.810	0.047	-0.033	0.058	-35.26	0.650	0.067					
0.475	-0.497	0.870	0.037	-0.035	0.051	-42.93	0.700	0.131					
0.500	-0.509	0.910	0.043	-0.031	0.053	-35.79	0.750	0.181					
0.600	-0.479	0.930	0.038	-0.041	0.056	-46.93	0.850	0.259					
0.630	-0.473	0.950	0.002	0.008	0.009	79.70	0.910	0.274					
0.680	-0.511						0.950	0.257					
0.720	-0.408												
0.760	-0.322												
0.800	-0.249												
0.830	-0.195												
0.910	-0.072												
0.930	0.010												
0.970	0.042												
1.000	0.080												

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	0.2204	0.0547	UNCORRECTED
CM	-0.0913	-0.0115	-0.0036



TABLE 8.7 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 11  
 WING MOTION : AILERON ROTAT., HARMONIC  
 RUN INDEX : 140  
 M            0.830                      PTOT        0.900 BAR                      K            0.355                      DELTM -2.0 DEG.  
 ALPHA      0.0 DEG.                    QINF        0.275 BAR                      FREQ       21.0 HZ  
 RE        0.169D+08                    TO          321.550 DEG. K                    Y/S        0.751

< UPPER SURFACE >						< LOWER SURFACE >							
STEADY DATA			UNSTEADY DATA			STEADY DATA			UNSTEADY DATA				
X/C	CPU	X/C	CPU/RAD			X/C	CPL	X/C	CPL/RAD				
			REAL	IMAG	MAG	PHASE			REAL	IMAG	MAG	PHASE	
0.100	-0.475	0.050	0.117	-0.018	0.119	-8.75	0.0	0.788	0.050	0.019	-0.095	0.097	-78.69
0.200	-0.607	0.100	0.087	-0.036	0.094	-22.23	0.050	-0.478	0.100	0.019	-0.077	0.079	-76.10
0.250	-0.544	0.200	0.091	-0.063	0.110	-34.77	0.100	-0.495	0.200	0.101	-0.038	0.108	-20.56
0.300	-0.514	0.300	0.021	-0.213	0.214	-84.48	0.200	-0.709	0.300	0.091	-0.139	0.166	-56.83
0.325	-0.492	0.350	0.161	-0.225	0.277	-54.42	0.250	-0.819	0.400	0.316	-0.101	0.332	-17.78
0.350	-0.499	0.400	0.194	-0.176	0.262	-42.20	0.300	-0.868	0.500	0.219	-0.062	0.228	-15.68
0.375	-0.496	0.450	0.129	-0.021	0.131	-9.04	0.350	-0.802	0.600	0.113	-0.022	0.116	-10.82
0.400	-0.476	0.500	0.238	-0.040	0.241	-9.55	0.400	-0.442	0.700	0.159	-0.076	0.176	-25.56
0.425	-0.506	0.600	0.312	0.097	0.327	17.31	0.450	-0.377	0.800	0.199	-0.072	0.212	-19.98
0.450	-0.526	0.630	-0.025	0.090	0.093	105.42	0.500	-0.278	0.910	0.118	-0.033	0.122	-15.50
0.475	-0.560	0.680	-0.225	0.155	0.273	145.39	0.550	-0.143	0.950	0.113	-0.020	0.115	-10.01
0.500	-0.629	0.700	-0.285	0.106	0.304	159.68	0.600	-0.032					
0.550	-0.590	0.730	-0.149	0.0	0.149	180.00	0.700	0.126					
0.600	-0.519	0.750	-0.082	-0.031	0.088	-159.09	0.750	0.175					
0.634	-0.480	0.800	-0.029	-0.053	0.060	-119.22	0.910	0.272					
0.680	-0.459	0.910	0.020	-0.027	0.033	-53.13	0.950	0.259					
0.720	-0.372	0.930	0.024	-0.031	0.039	-51.58							
0.800	-0.234	0.950	0.033	-0.019	0.038	-29.54							
0.830	-0.191	0.970	0.044	-0.007	0.045	-9.46							
0.910	-0.037												
0.950	0.014												
0.970	0.050												
1.000	0.103												

	STEADY	UNSTEADY	
	REAL	IMAG	UNCORRECTED
CL	0.1387	0.0689	-0.0232
CM	-0.0961	-0.0352	0.0119

TABLE 8.7 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSPAN : 4.0161 M                      SECTION 13  
 WING MOTION : AILERON ROTAT., HARMONIC  
 RUN INDEX : 140  
 M            0.830                      PTOT        0.900 BAR                      K            0.355                      DELTM -2.0 DEG.  
 ALPHA      0.0 DEG.                    QINF        0.275 BAR                      FREQ       21.0 HZ  
 RE        0.169D+08                    TO          321.550 DEG. K                    Y/S        0.854

< UPPER SURFACE >						< LOWER SURFACE >							
STEADY DATA			UNSTEADY DATA			STEADY DATA			UNSTEADY DATA				
X/C	CPU	X/C	CPU/RAD			X/C	CPL	X/C	CPL/RAD				
			REAL	IMAG	MAG	PHASE			REAL	IMAG	MAG	PHASE	
0.010	0.242	0.050	0.199	-0.041	0.203	-11.63	0.0	0.815	0.050	0.078	-0.133	0.154	-59.55
0.020	-0.132	0.100	0.183	-0.041	0.187	-12.65	0.010	-0.050	0.100	0.155	-0.085	0.177	-28.69
0.030	-0.222	0.200	0.252	-0.039	0.255	-8.84	0.030	-0.549	0.200	0.141	-0.177	0.226	-51.57
0.050	-0.332	0.300	0.170	0.069	0.183	22.07	0.050	-0.678	0.300	0.283	-0.373	0.469	-52.81
0.100	-0.385	0.350	0.139	0.096	0.169	34.51	0.200	-0.733	0.400	0.695	-0.044	0.696	-3.62
0.150	-0.508	0.400	0.119	0.113	0.164	43.45	0.300	-0.870	0.500	0.668	0.009	0.669	0.74
0.200	-0.444	0.450	0.071	0.196	0.208	70.10	0.400	-0.420	0.600	0.746	0.082	0.750	6.31
0.250	-0.474	0.500	-0.278	0.485	0.559	119.79	0.500	-0.268	0.800	1.192	0.124	1.198	5.93
0.300	-0.470	0.650	-1.007	0.025	1.008	178.57	0.600	-0.099					
0.350	-0.470	0.700	-1.237	-0.087	1.240	-175.99	0.700	0.082					
0.375	-0.489	0.720	-1.484	-0.120	1.489	-175.38	0.800	0.184					
0.400	-0.497	0.820	-1.740	-0.362	1.777	-168.25	0.850	0.223					
0.425	-0.531	0.910	-0.203	-0.165	0.262	-140.98	0.900	0.242					
0.450	-0.557	0.950	0.238	-0.104	0.260	-23.68	0.950	0.237					
0.475	-0.559												
0.500	-0.578												
0.575	-0.455												
0.600	-0.408												
0.650	-0.356												
0.675	-0.299												
0.700	-0.277												
0.750	-0.194												
0.800	-0.200												
0.850	-0.165												
0.900	-0.093												
0.950	-0.003												
1.000	0.115												

	STEADY	UNSTEADY	
	REAL	IMAG	UNCORRECTED
CL	0.0591	0.9473	-0.0465
CM	-0.0828	-0.4320	-0.0320

TABLE 8. 7 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSpan : 4.0161 M                      SECTION 14  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 140  
M            0.830                      PTOT        0.900 BAR                      K            0.355                      DELTM -2.0 DEG.  
ALPHA    0.0 DEG.                      QINF        0.275 BAR                      FREQ       21.0 HZ  
RE       0.169D+08                      TO           321.550 DEG. K                      Y/S        0.885

-----< UPPER SURFACE >-----							-----< LOWER SURFACE >-----						
STEADY DATA			UNSTEADY DATA				STEADY DATA			UNSTEADY DATA			
X/C	CPU		----- CPU/RAD -----				X/C	CPL		----- CPL/RAD -----			
		X/C	REAL	IMAG	MAG	PHASE			X/C	REAL	IMAG	MAG	PHASE
0.010	0.271	0.050	0.296	-0.028	0.297	-5.45	0.0	0.816	0.050	0.078	-0.037	0.086	-25.20
0.020	0.002	0.100	0.218	0.015	0.218	3.92	0.010	-0.045	0.100	0.064	-0.107	0.125	-58.98
0.030	-0.151	0.140	0.425	0.097	0.436	12.80	0.030	-0.634	0.200	0.174	-0.080	0.192	-24.70
0.050	-0.281	0.200	0.185	0.092	0.207	26.35	0.050	-0.793	0.300	0.209	-0.089	0.227	-23.03
0.100	-0.376	0.250	0.217	0.181	0.282	39.91	0.100	-0.924	0.400	0.976	-0.309	1.023	-17.55
0.200	-0.451	0.300	0.160	0.212	0.266	52.98	0.200	-0.413	0.500	0.926	0.049	0.927	3.01
0.250	-0.442	0.350	0.105	0.258	0.279	67.85	0.250	-0.304	0.700	1.025	0.162	1.037	9.01
0.300	-0.457	0.400	-0.088	0.355	0.366	103.84	0.300	-0.129	0.850	1.243	0.216	1.262	9.85
0.350	-0.465	0.450	-0.519	0.428	0.673	140.51	0.400	0.083					
0.375	-0.440	0.500	-0.790	0.169	0.808	167.93	0.450	0.177					
0.400	-0.448	0.550	-0.970	-0.030	0.971	-178.21	0.500	0.216					
0.425	-0.472	0.600	-1.315	0.296	1.347	167.30	0.550	0.233					
0.450	-0.490	0.700	-2.390	-0.280	2.407	-173.32	0.600	0.234					
0.475	-0.478	0.800	-2.561	-0.464	2.603	-169.73							
0.500	-0.461	0.900	-0.053	-0.411	0.415	-97.39							
0.525	-0.450												
0.550	-0.416												
0.575	-0.375												
0.600	-0.320												
0.625	-0.285												
0.675	-0.269												
0.700	-0.271												
0.750	-0.204												
0.850	-0.156												
0.900	-0.082												
0.950	0.006												
1.000	0.111												

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	-0.0637	1.2937	-0.0052
CM	-0.0795	-0.5628	-0.0626

UNCORRECTED

TABLE 8. 7 STEADY AND UNSTEADY PRESSURE DISTRIBUTION, ZKP

WING MODEL : ZKP                      HALFSpan : 4.0161 M                      SECTION 15  
WING MOTION : AILERON ROTAT., HARMONIC  
RUN INDEX : 140  
M            0.830                      PTOT        0.900 BAR                      K            0.355                      DELTM -2.0 DEG.  
ALPHA    0.0 DEG.                      QINF        0.275 BAR                      FREQ       21.0 HZ  
RE       0.169D+08                      TO           321.550 DEG. K                      Y/S        0.944

-----< UPPER SURFACE >-----							-----< LOWER SURFACE >-----						
STEADY DATA			UNSTEADY DATA				STEADY DATA			UNSTEADY DATA			
X/C	CPU		----- CPU/RAD -----				X/C	CPL		----- CPL/RAD -----			
		X/C	REAL	IMAG	MAG	PHASE			X/C	REAL	IMAG	MAG	PHASE
0.010	0.506	0.050	0.175	0.079	0.192	24.44	0.0	0.818	0.050	0.154	-0.152	0.216	-44.61
0.020	0.093	0.100	0.136	0.109	0.174	38.58	0.030	-0.129	0.100	0.293	-0.429	0.520	-55.67
0.030	-0.071	0.140	0.098	0.100	0.140	45.69	0.100	-0.826	0.200	0.312	-0.094	0.326	-16.79
0.050	-0.254	0.200	0.037	0.135	0.140	74.64	0.200	-0.702	0.400	0.281	0.260	0.383	42.79
0.100	-0.394	0.250	-0.042	0.144	0.150	106.19	0.300	-0.849	0.500	1.008	0.205	1.029	11.47
0.150	-0.405	0.300	-0.136	0.150	0.202	132.31	0.400	-0.297	0.600	1.736	0.047	1.737	1.56
0.200	-0.398	0.350	-0.232	0.166	0.285	144.54	0.500	-0.298	0.700	1.234	0.211	1.252	9.69
0.250	-0.388	0.400	-0.309	0.149	0.343	154.24	0.600	-0.150	0.800	1.546	0.360	1.587	13.10
0.300	-0.393	0.450	-0.460	0.131	0.478	164.05	0.700	0.030	0.850	0.773	0.284	0.823	20.15
0.350	-0.388	0.500	-0.712	0.062	0.715	175.04	0.800	0.171					
0.375	-0.396	0.550	-0.627	0.041	0.628	176.22	0.850	0.199					
0.400	-0.373	0.600	-0.749	-0.016	0.750	-178.74	0.900	0.204					
0.425	-0.387	0.650	-0.893	-0.108	0.900	-173.11	0.950	0.174					
0.450	-0.393	0.700	-0.992	-0.199	1.012	-168.67							
0.475	-0.403	0.850	-1.317	-0.326	1.357	-166.11							
0.500	-0.409	0.900	-0.363	-0.209	0.419	-150.10							
0.525	-0.376												
0.575	-0.362												
0.600	-0.337												
0.650	-0.309												
0.675	-0.296												
0.700	-0.281												
0.750	-0.256												
0.800	-0.258												
0.850	-0.193												
0.900	-0.132												
0.950	-0.048												
1.000	0.064												

	STEADY	UNSTEADY	
	REAL	IMAG	
CL	0.0265	1.0889	0.0885
CM	-0.0725	-0.4171	-0.0857

UNCORRECTED

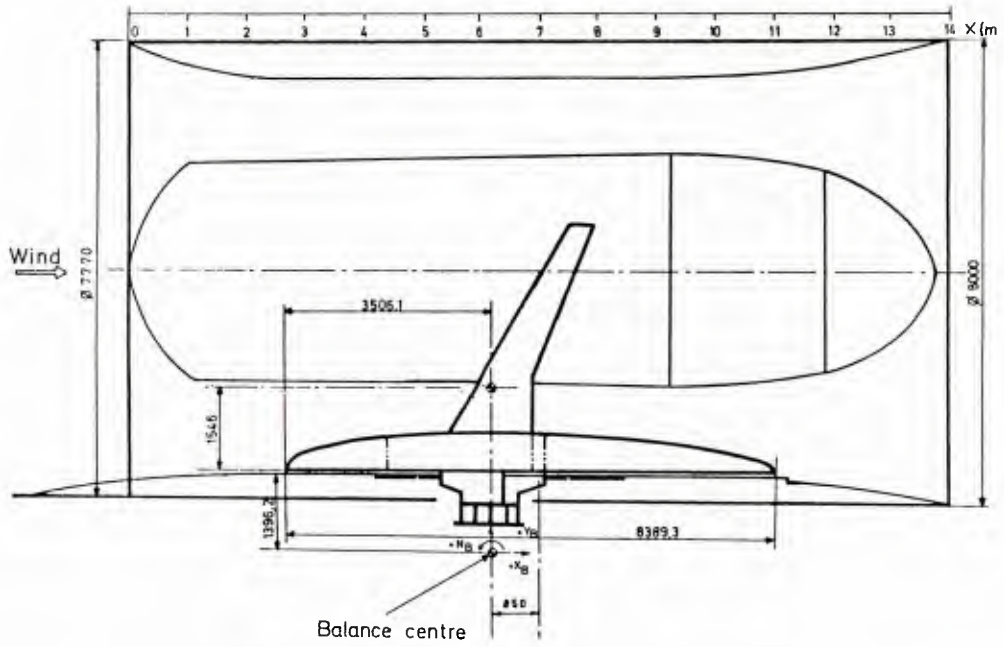


FIG. 8.1 Model set-up in test section, side view

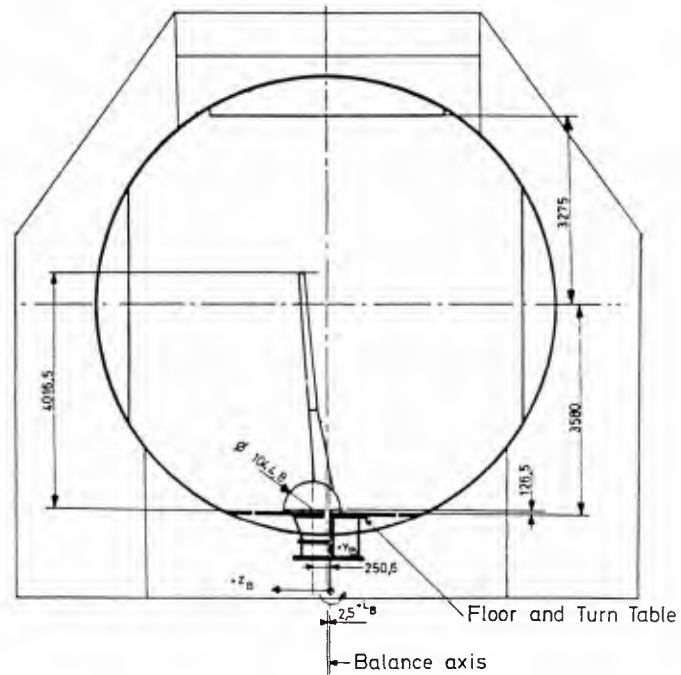


FIG. 8.2 Model set-up in test section, head-on view

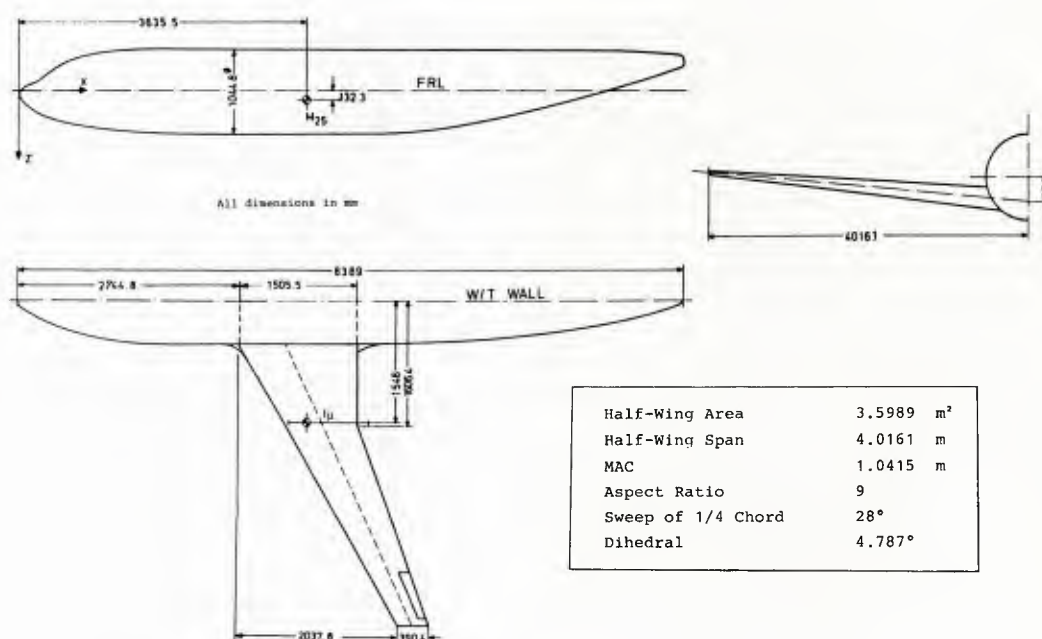


FIG. 8.3 Geometry of experimental ZKP model

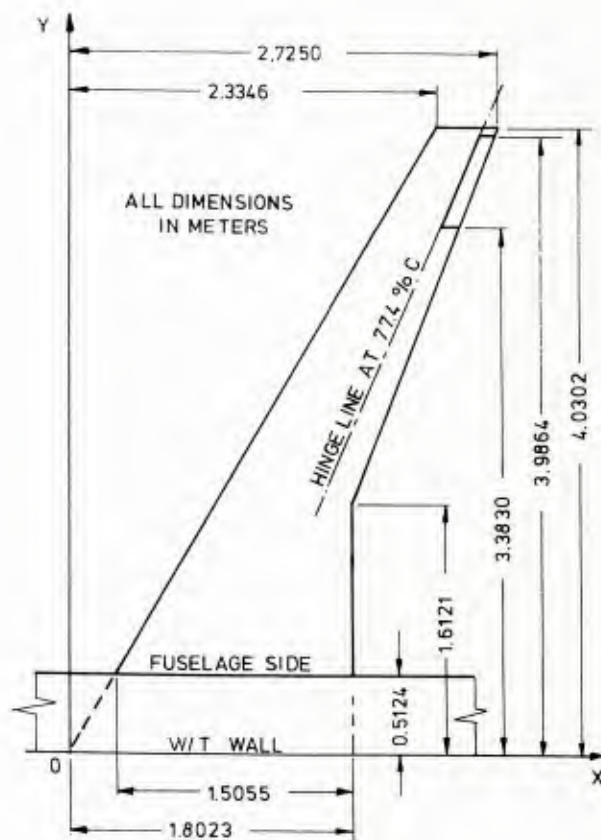


FIG. 8.4 Geometry of experimental ZKP wing, rotated into profile-coordinate plane by dihedral angle  $\phi = 4.787$  deg

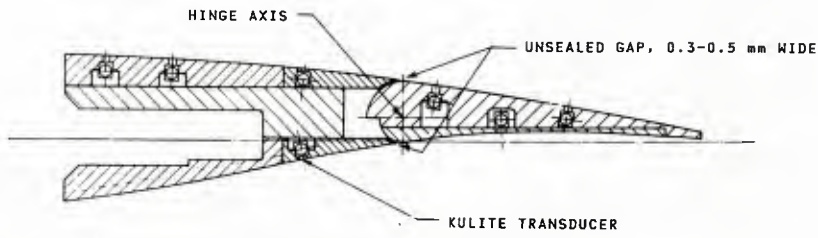


FIG. 8.5 Aileron geometry in cross-section at wing section 14

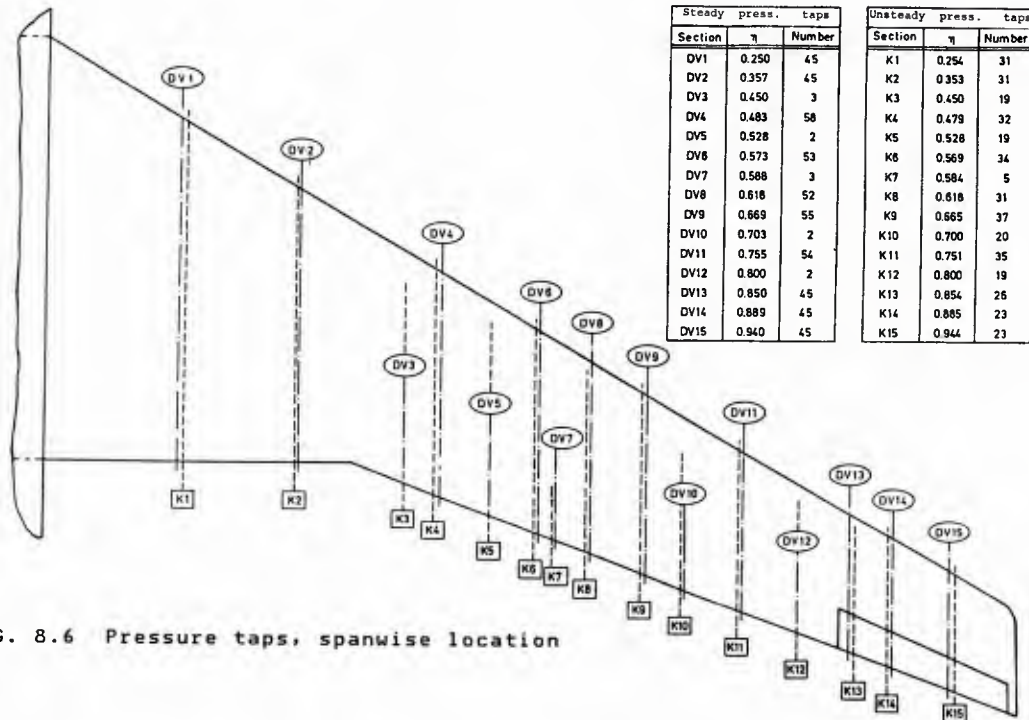


FIG. 8.6 Pressure taps, spanwise location

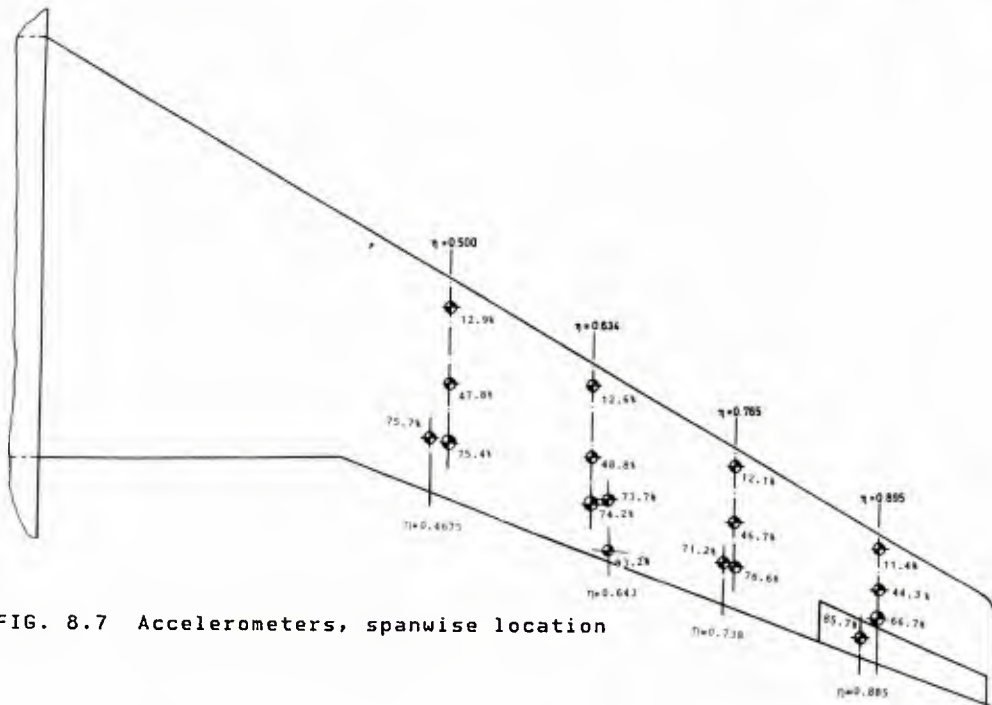


FIG. 8.7 Accelerometers, spanwise location

## UNSTEADY

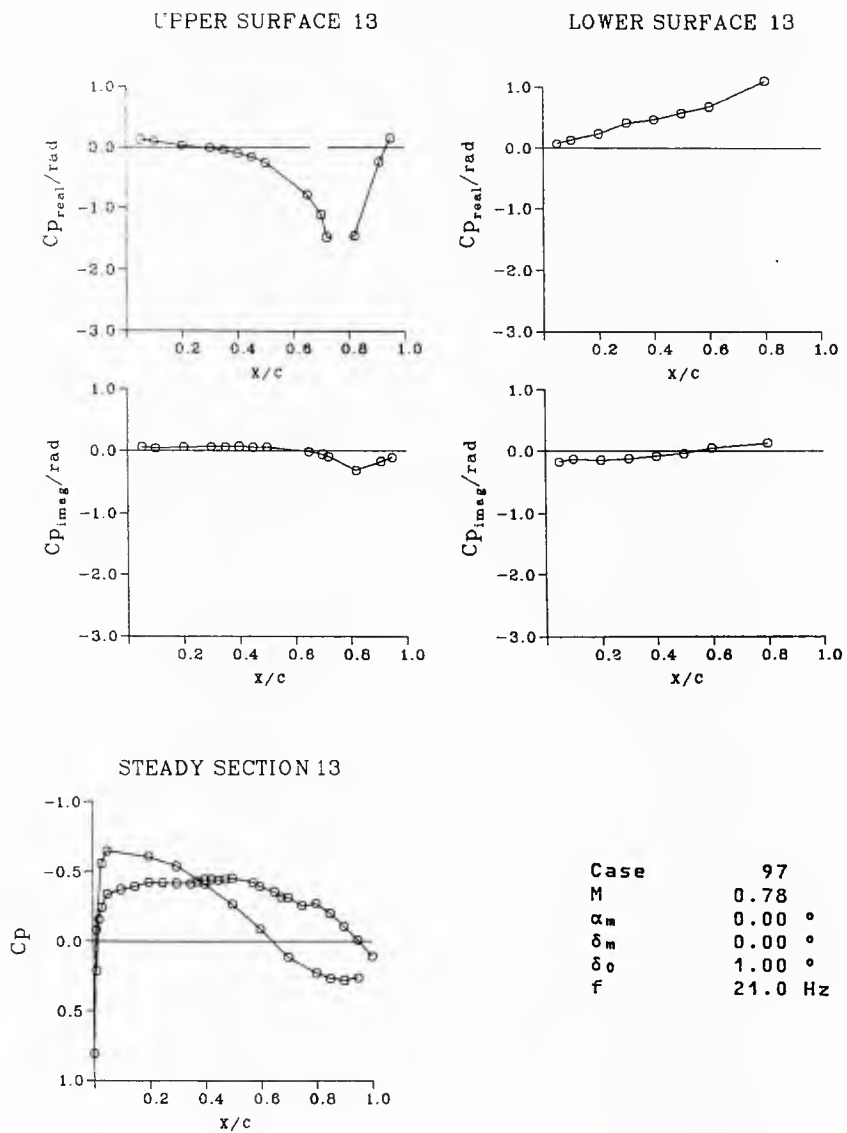


FIG. 8.8 Sample pressure distribution for aileron section



UNSTEADY

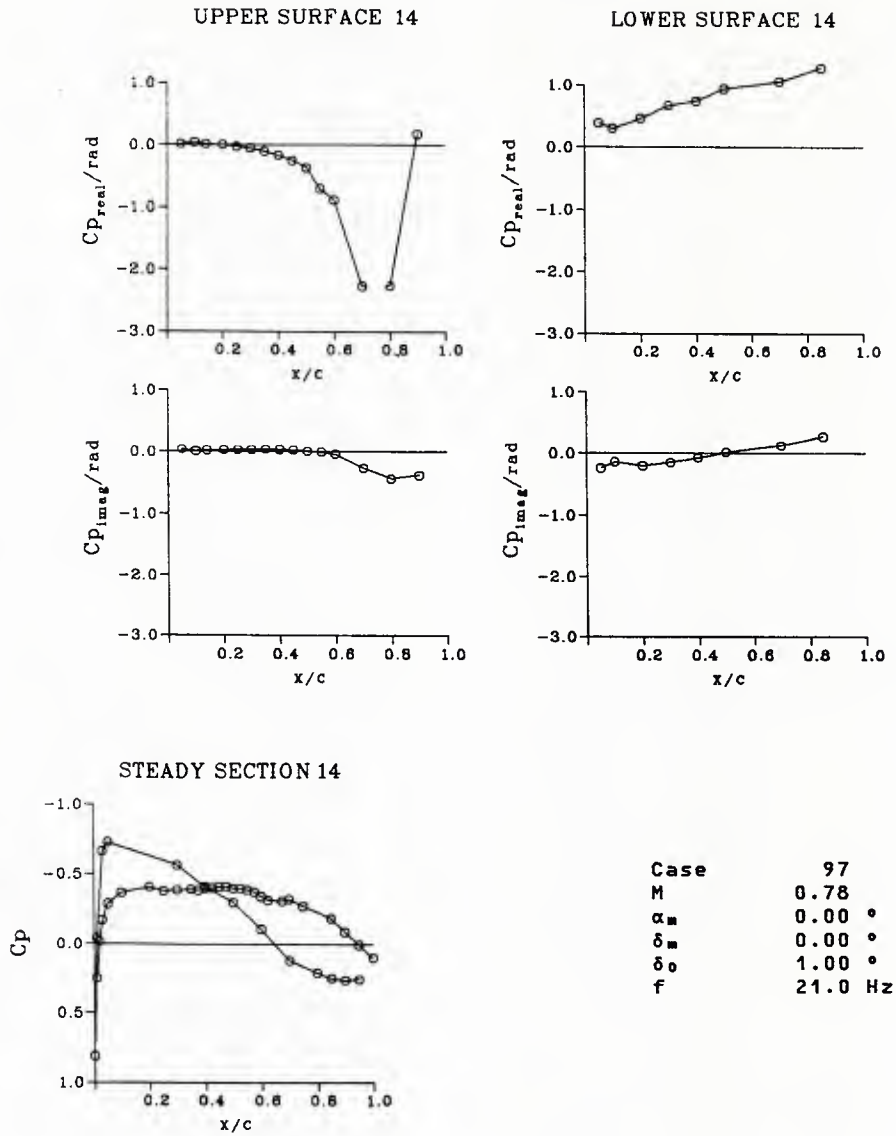


FIG. 8.9 Sample pressure distribution for aileron section

UNSTEADY

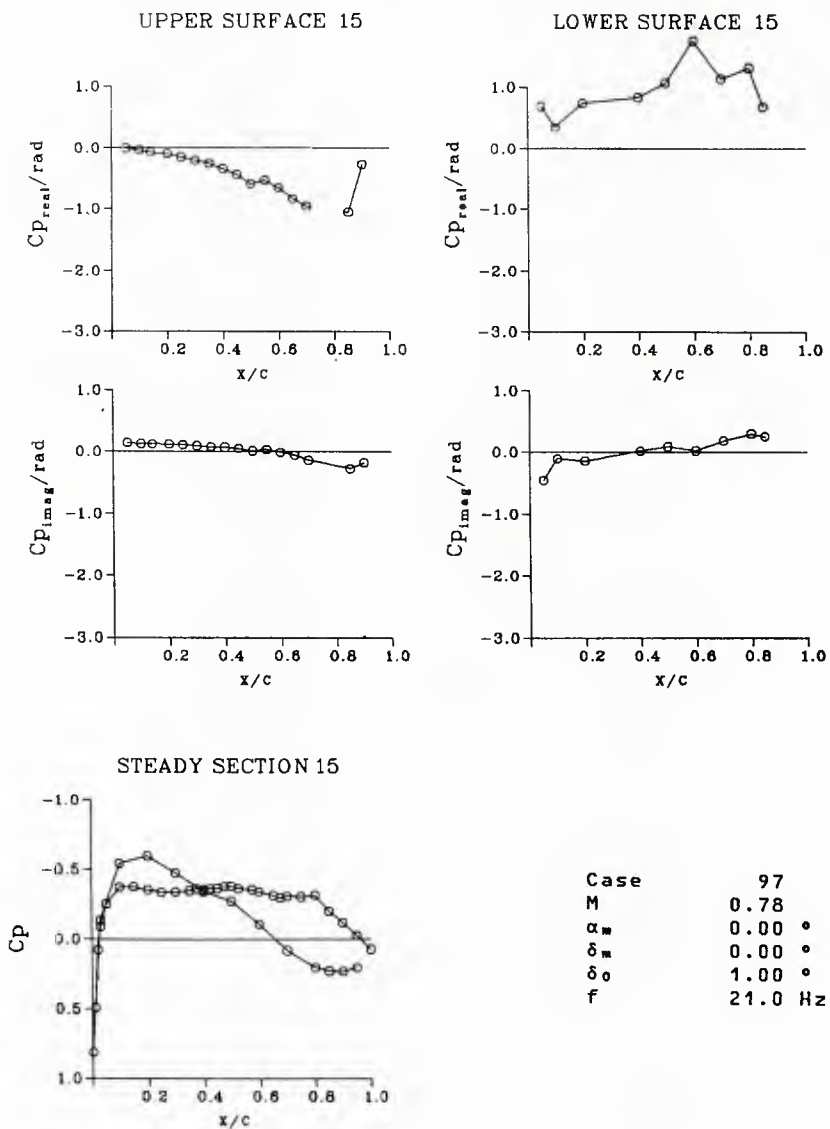


FIG. 8.10 Sample pressure distribution for aileron section

UNSTEADY

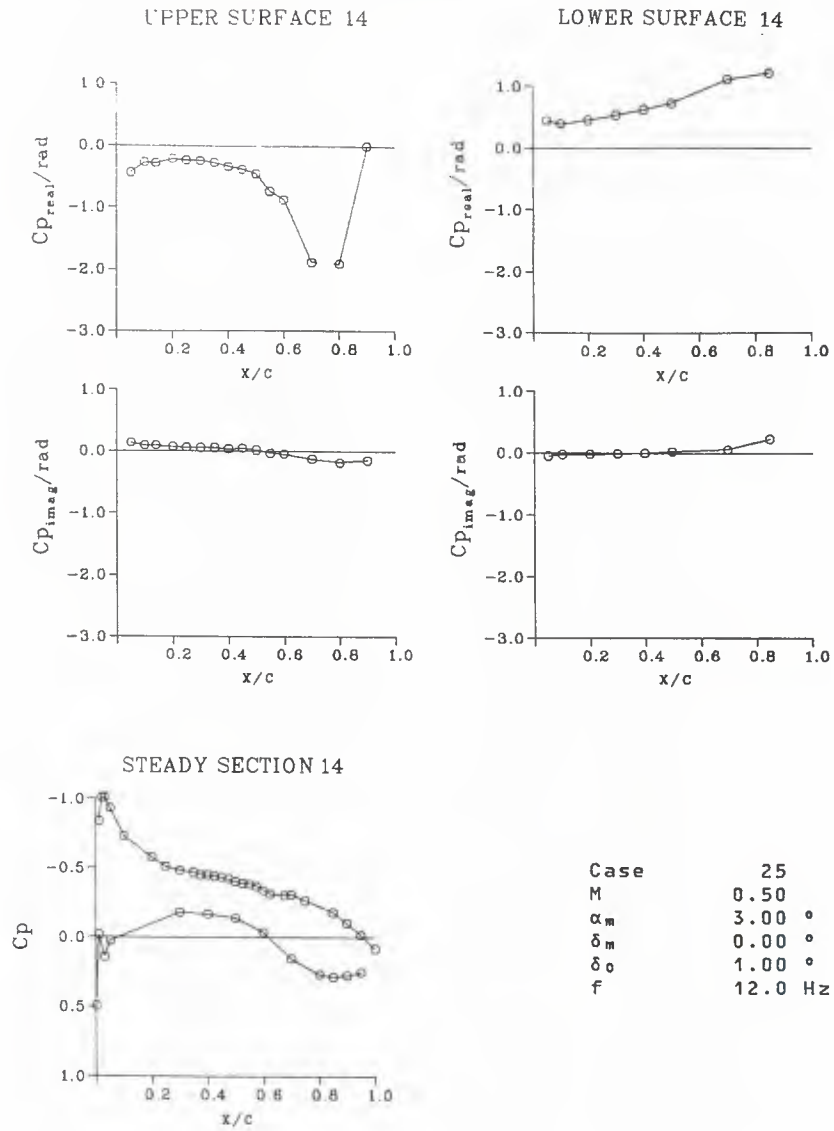


FIG. 8.11 Sample pressure distribution for aileron section

## UNSTEADY

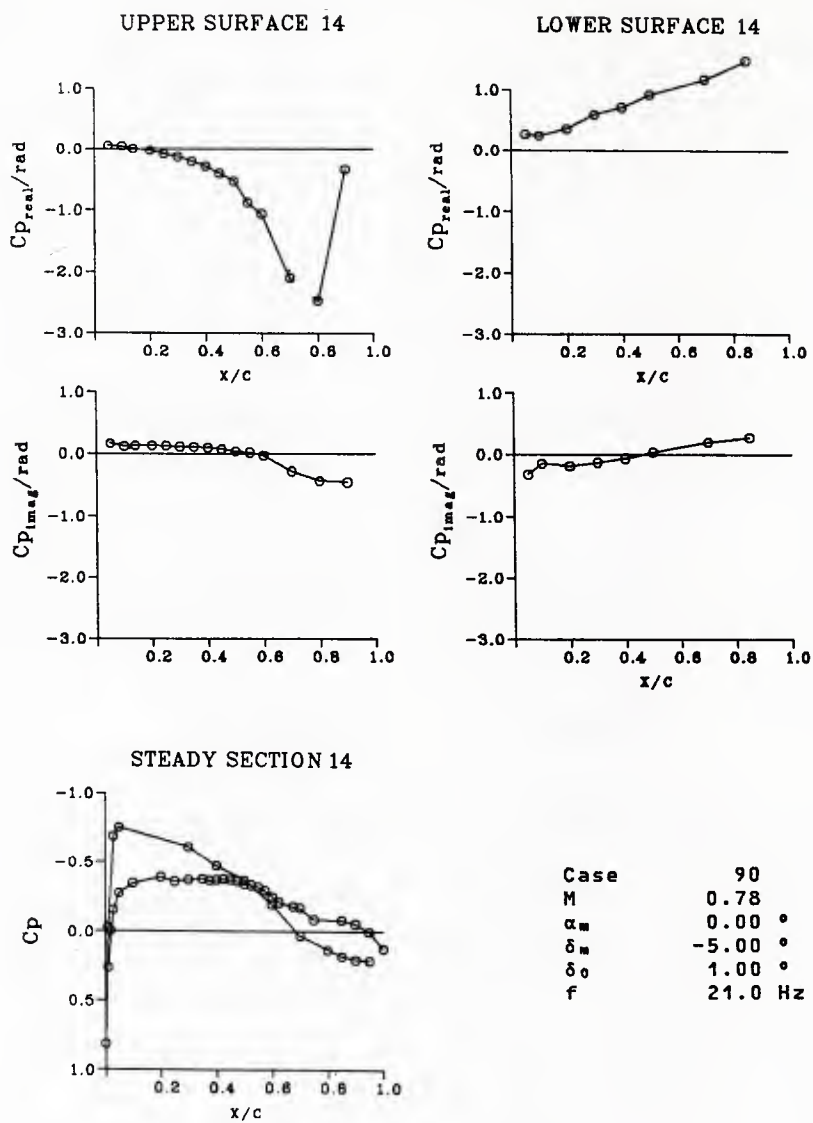


FIG. 8.12 Sample pressure distribution for aileron section

UNSTEADY

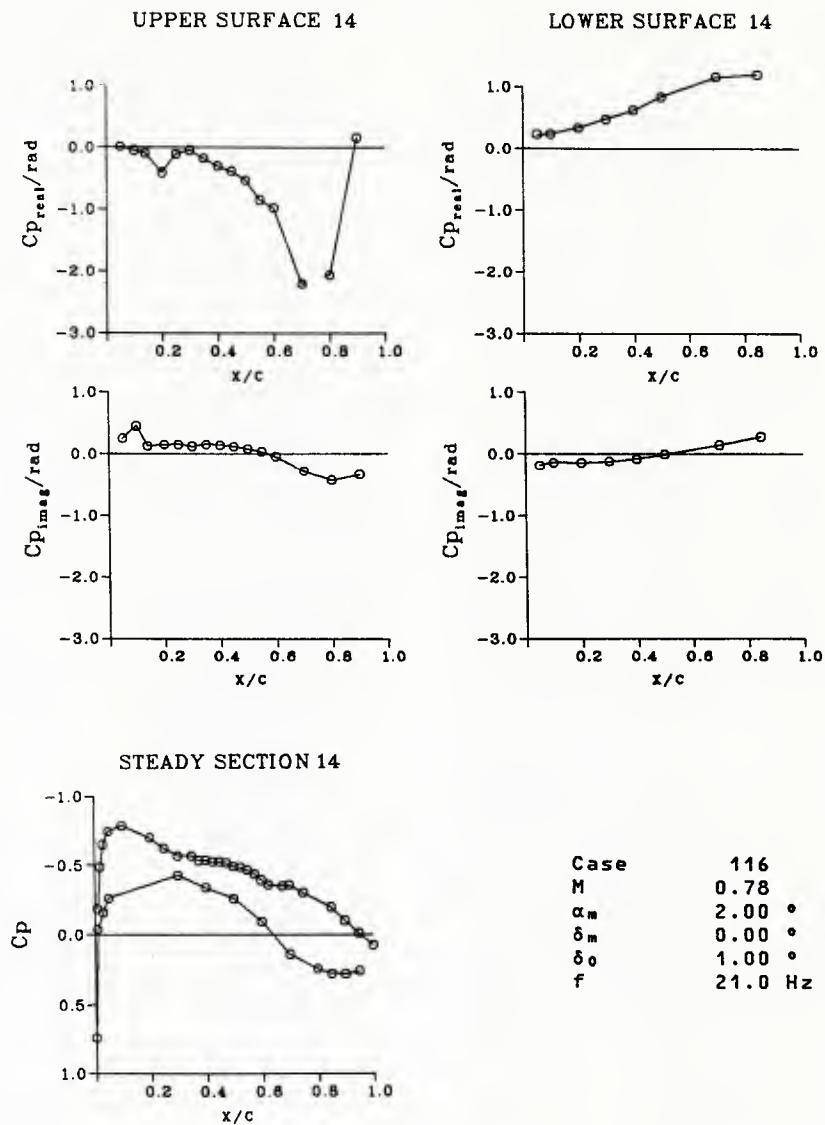


FIG. 8.13 Sample pressure distribution for aileron section

## UNSTEADY

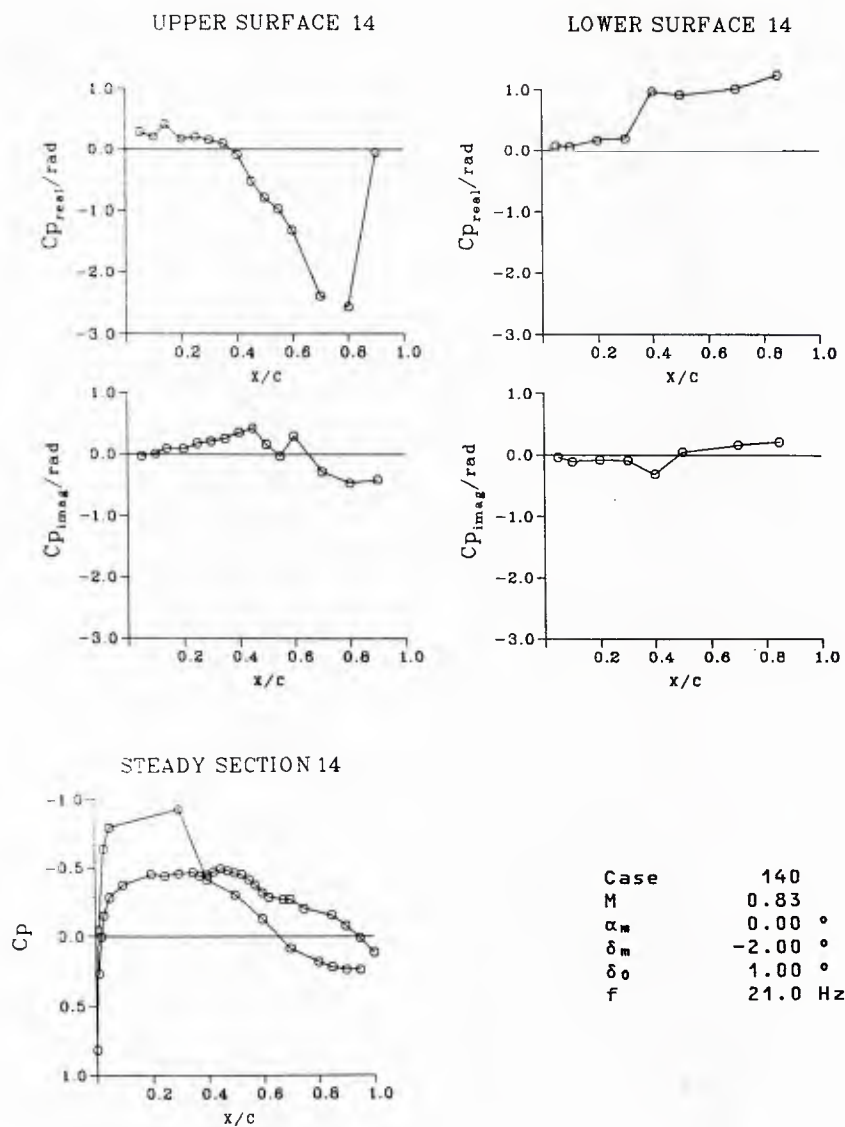


FIG. 8.14 Sample pressure distribution for aileron section



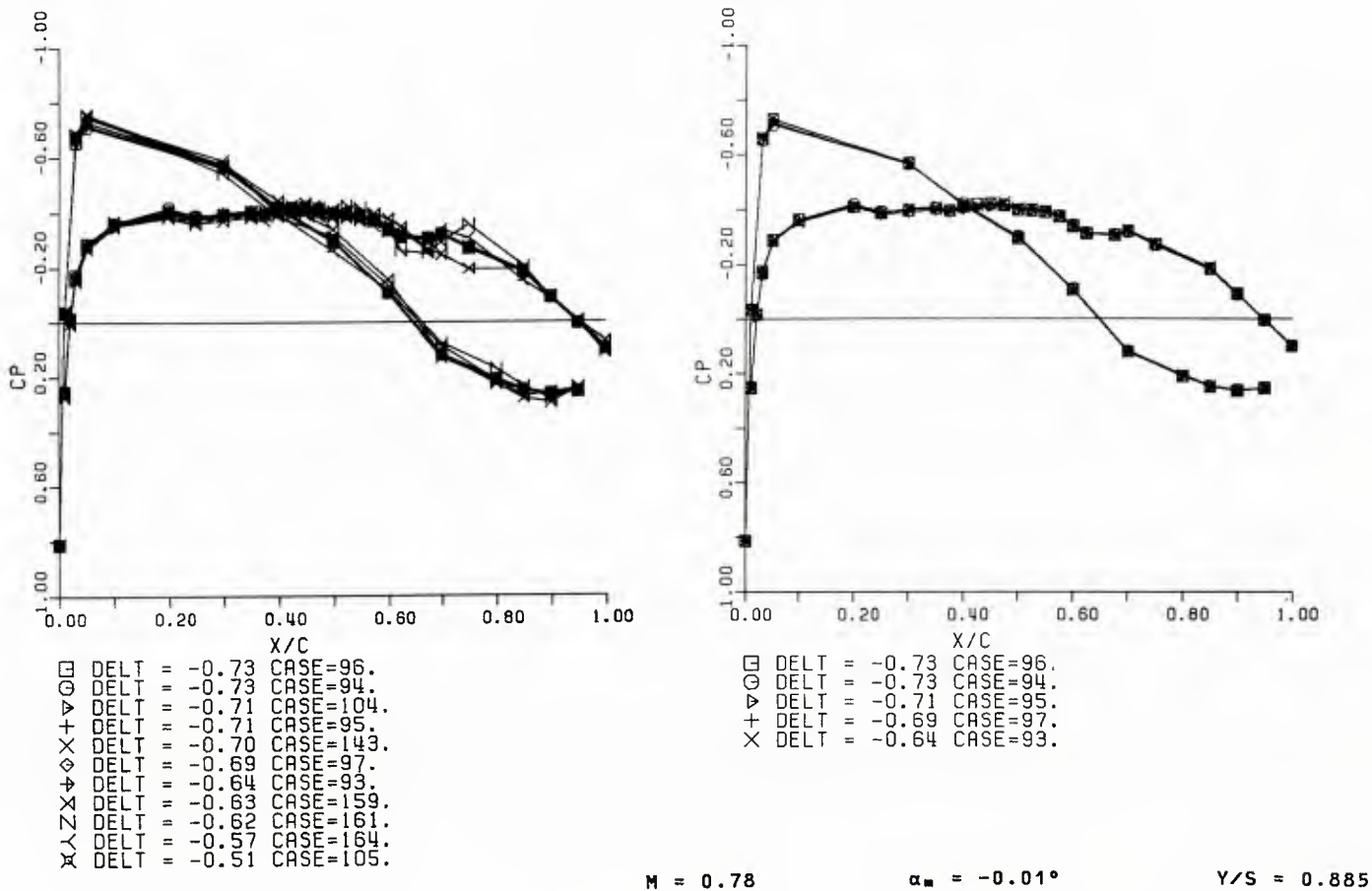


FIG. 8.15 Repeatability check for various cases

## DATA SET 9

## LANN WING. PITCHING OSCILLATION

by

Ir R.J.Zwaan,  
 Head of Aeroelasticity Dept.  
 National Aerospace Lab. NLR  
 P.O. Box 90502  
 1006 BM Amsterdam  
 The Netherlands

## INTRODUCTION

This Data Set relates to a semi-span model of a transport-type wing with a supercritical aerofoil from root to tip (Fig. 9.1). The data were obtained during a co-operative programme of Lockheed-Georgia, Air Force Flight Dynamics Laboratory, NASA-Langley and NLR, through which the model received its name LANN model (Refs. 9.1, 9.2). One of the objectives of this programme, being of interest here, was to create an experimental data base for steady and unsteady transonic computer code evaluation.

The wing geometry was designed by Lockheed-Georgia, where the wing became known as wing A (Ref. 9.3). A smaller scale model was already tested in steady flow.

The mean test conditions are shown in Fig. 9.2. In view of the intended correlations of experimental and calculated data, the greater part of the test runs was carried out with attached flow. The results were presented in a revised form in Ref. 9.2. Examples of the mean steady and the unsteady pressure distributions are given in Fig. 9.3 and of spanwise load distributions in Fig. 9.4.

In Ref. 9.4 CT cases were proposed at a time when the test had still to be carried out. As all test runs were made at more or less different conditions, a modified set of CT cases is proposed in this Data Set. The modifications, however, leave the kind of parameter variations as foreseen in the original set of Ref. 9.4 practically unchanged. The modified cases have been used already as a basis for calculations at NLR with the so-called quasi-three-dimensional unsteady transonic method (Refs. 9.5, 9.6). From the correlation of experimental and calculated data it appears that the correlation can be made most appropriately for the pressure distributions. The correlation of sectional coefficients is hampered by less accurate experimental values caused by a number of failing pressure tubes (see Ref. 9.1, Part I) in regions of strong pressure gradients (shock, leading edge).

## 1 GENERAL DESCRIPTION OF MODEL

1.1	Designation	LANN wing
1.2	Type	Half model
1.3	Derivation	Wing A, Ref. 9.3
1.4	Additional remarks	-
1.5	References	Ref. 9.1, Part I

## 2 MODEL GEOMETRY

2.1	Planform	Tapered
2.2	Aspect ratio	7.92
2.3	Leading-edge sweep	27.493 deg
2.4	Trailing-edge sweep	16.908 deg
2.5	Taper ratio	0.4
2.6	Twist	-4.8 deg
2.7	Root chord	360.8 mm
2.8	Span of model	1000 mm (tapered part, excluding tip fairing of 8.7 mm)
2.9	Area of planform	0,2526 m <sup>2</sup> (idem)
2.10	Location of reference sections and definition of profiles	12% supercritical airfoil. Measured co-ordinates of 8 wing sections relative to model reference plane, are given in Table 9.1. For computational model see Table 5 of Ref. 9.4.

2.11	Lofting procedure between reference sections	Linearly lofted from root to tip
2.12	Form of wing-body, or wing-root junction	No body; labyrinth at root
2.13	Form of wing tip	Actual model: tip fairing with radius equal to half tip aerofoil thickness Computational model: square cut at 1000 mm span
2.14	Control surface details	None
2.15	Additional remarks	-
2.16	References	Ref. 9.1, Part I
3	WIND TUNNELS	
3.1	Designation	NLR High Speed Tunnel (HST)
3.2	Type of tunnel	Continuous, variable pressure
3.3	Test section dimensions	Height = 1.60 m, width = 2.00 m, length = 2.50 m
3.4	Type of roof and floor	Slotted, each having 4 whole slots and a $\frac{1}{2}$ slot at each corner
3.5	Type of side walls	Solid
3.6	Ventilation geometry	Roof and floor are 12% open
3.7	Thickness of side wall boundary layer	About 7 mm
3.8	Thickness of boundary layers at roof and floor	-
3.9	Method of measuring Mach number	Derived from settling chamber stagnation and plenum chamber static pressures
3.10	Flow angularity	-
3.11	Uniformity of Mach number over test section	-
3.12	Sources and levels of noise or turbulence in empty tunnel	Less than 1% in rms p/q for M = 0.8
3.13	Tunnel resonances	No evidence of resonance in present test
3.14	Additional remarks	Information about flow angularity and Mach number uniformity available only along test section centre-line
3.15	References on tunnel	Ref. 9.7
4	MODEL MOTION	
4.1	General description	Sinusoidal pitching about axis normal to wind tunnel side-wall. Axis location at x = 224.0 mm
4.2	Reference coordinate and definition of motion	Model displacements relative to displacement transducer (LVDT) at x = 101.5 mm, y = -200 mm. Intended rigid-body pitching influenced by elastic deformations at all test frequencies. See 4.8
4.3	Range of amplitude	0 to 1 deg. in streamwise plane, at the root
4.4	Range of frequency	0, 12, 24, 36, 48, 60, 72 Hz
4.5	Method of applying motion	Forced by hydraulic excitation
4.6	Timewise purity of motion	Adequate purity of sinusoid
4.7	Natural frequencies and normal modes of model and support system	First bending frequency at 30.6 Hz, second bending frequency at 104.5 Hz
4.8	Actual mode of applied motion including any elastic deformation	See tables 9.11 to 9.20 under "DISPLACEMENTS REL. TO LVDT". Variations of nodal line positions are shown in Fig. 9.5
4.9	Additional remarks	

5 TEST CONDITIONS

5.1	Model planform area/ tunnel area	0.079
5.2	Model span/tunnel width	0.5
5.3	Blockage	0.5%
5.4	Position of model in tunnel	Standard side-wall position
5.5	Range of Mach number	0.62, 0.72, 0.77, 0.82, 0.87, 0.95
5.6	Range of tunnel total pressure	1.3 to 1.5 Kpa
5.7	Range of tunnel total temperature	12 to 35° C
5.8	Range of model steady, or mean, incidence	0.6, 2.6, 3.0, 5.0 deg
5.9	Definition of model incidence	Model incidence defined relative to model reference plane
5.10	Position of transition, if free	-
5.11	Position and type of trip, if transition fixed	5.4 mm behind leading edge at each side; width = 2 mm. Grit: 62 μm carborundum 220
5.12	Flow instabilities during tests	None encountered
5.13	Changes to mean shape of model due to steady aerodynamic load	Not measured. Mean model deflections can be calculated using the spanwise stiffness distributions given in Ref. 9.1, Part I, App. C
5.14	Additional remarks	-
5.15	References describing tests	Ref. 9.1, Part I

6 MEASUREMENTS AND OBSERVATIONS

6.1	Steady pressures for the mean conditions	✓
6.2	Steady pressures for small changes from the mean conditions	✓
6.3	Quasi-steady pressures	-
6.4	Unsteady pressures	✓
6.5	Steady section forces for the mean conditions by integration of pressures	✓
6.6	Steady section forces for small changes from the mean conditions by integration	✓
6.7	Quasi-steady section forces by integration	-
6.8	Unsteady section forces by integration	✓
6.9	Measurement of actual motion at points on model	✓
6.10	Observation or measurement of boundary layer properties	-
6.11	Visualization of surface flow	-
6.12	Visualization of shock wave movements	-
6.13	Additional remarks	-

7 INSTRUMENTATION

7.1	Steady pressure	
7.1.1	Position of orifices spanwise and chordwise	See table 9.2
7.1.2	Type of measuring system	Combination of 212 tubes and 22 miniature pressure transducers, measuring mean values and first harmonics (and higher, if necessary) of each pressure signal. See Fig. 9.6
7.2	Unsteady pressures	
7.2.1	Position of orifices spanwise and chordwise	See tables 9.2 and 9.3

7.2.2	Diameter of orifices	0.79 mm
7.2.3	Type of measuring system	See 7.1.2
7.2.4	Type of transducers	In scanning values: Statham type PM 131 TC In situ: Endevco type 8507-SMI
7.2.5	Principle and accuracy of calibration	Data acquisition system was calibrated daily, pressure transducers before and after wind tunnel test. Accuracy is 1%
7.3	Model motion	
7.3.1	Method of measuring motion reference coordinate	Linear variable differential transducer Sangamo type AFG 5.0 S
7.3.2	Method of determining spatial mode of motion	Twelve accelerometers Endevco type 2220 C installed within model, of which eight operative. See table 9.4 and Fig. 9.6
7.3.3	Accuracy of measured motions	Accelerometers: response deviation at 50 Hz is 1% LVDT: better than 0.015 mm
7.4	Processing of unsteady measurements	
7.4.1	Method of acquiring and processing measurements	See Fig. 9.7
7.4.2	Type of analysis	Averaging and determination of first and higher harmonics took place over signal lengths of 1s (steady) or about 1s with round-off to integral number of cycles (unsteady)
7.4.3	Unsteady pressure quantities obtained and accuracies achieved	Fundamental harmonics and occasionally second and third harmonics. For accuracy, see 9.1.6
7.4.4	Method of integration to obtain forces	Trapezoidal rule. For accuracy, see 9.9
7.5	Additional remarks	Temperature within model was measured by a Unicurve thermistor (accuracy $\pm 0.2^{\circ}\text{C}$ )
7.6	References on techniques	Refs. 9.8, 9.9
8	DATA PRESENTATION	
8.1	Test cases for which data could be made available	Tables 9.5 to 9.9
8.2	Test cases for which data are included in this document	Table 9.10
8.3	Steady pressures	Tables 9.11 to 9.24
8.4	Quasi-steady or steady perturbation pressures	Tables 9.21 to 9.24
8.5	Unsteady pressures	Tables 9.11 to 9.20
8.6	Steady forces or moments	Tables 9.11 to 9.24
8.7	Quasi-steady or steady perturbation forces	Tables 9.21 to 9.24
8.8	Unsteady forces and moments	Tables 9.11 to 9.20
8.9	Other forms in which data could be made available	Data were stored on tape: see Ref. 9.1, Part I
8.10	References giving other presentations of data	Data are presented in plotted form in Ref. 9.1, Parts I and II
	COMMENTS ON DATA	
9.1	Accuracy	
9.1.1	Mach number	$\pm 0.001$
9.1.2	Steady incidence	$\pm 0.01$ deg at LVDT position
9.1.3	Reduced frequency	$\pm 0.0005$

9.1.4	Steady pressure coefficients	$C_p$ better than $\pm 0.005$
9.1.5	Steady pressure derivatives	-
9.1.6	Unsteady pressure coefficients	Uncertainty in the real and imaginary parts of the coefficients is probably $\pm (0.02 + 0.05 Q)$ , where $Q =  R $ or $ I $
9.2	Sensitivity to small changes of parameter	-
9.3	Non-linearities	Negligible at 24 Hz. At 48 Hz higher, but still acceptable
9.4	Influence of tunnel total pressure	Effects of Reynolds number not examined
9.5	Effects on data of uncertainty, or variation, in mode of model motion	For uncertainty in values of oscillatory aerodynamic coefficients, see Introduction and 9.9. A list of failing pressure tubes is given in Ref. 9.1, Part I. For model oscillatory deformation see at the end of section 12, "Table 9.11 to 9.20", subsection 2
9.6	Wall interference corrections	None. Values of $M$ and $\alpha_m$ are wind tunnel settings
9.7	Other relevant tests on <u>same model</u>	-
9.8	Relevant tests on other models of nominally the <u>same</u> shape	Ref. 9.3 for relevant steady tests
9.9	Any remarks relevant to comparison between experiment and theory	If pressure tubes were operative in regions of large pressure gradients, the relative error of oscillatory sectional lift coefficients is estimated to be better than 5% in real and imaginary parts. If pressure tubes failed in these regions, the lift coefficients are less accurate. Correction of these coefficients is considered to be almost completely arbitrary and has not been applied
9.10	Additional remarks	-
9.11	References on discussion of data	Ref. 9.1, Part I

## 10 PERSONAL CONTACT FOR FURTHER INFORMATION

J.J. Horsten, National Aerospace Laboratory (NLR), Anthony Fokkerweg 2, 1059 CM Amsterdam, The Netherlands

## 11 LIST OF REFERENCES

- 9.1 J.J. Horsten      Unsteady transonic pressure measurements on a semi-span wind-tunnel model of a transport-type supercritical wing (LANN model)  
R.G. den Boer      Part I: General description, aerodynamic coefficients and vibration modes. Part II: Pressure distributions (plotted and printed) and plots of the vibration modes. AFWAL-TR-83-3039 (1983). Also: NLR TR 82069 U (1982)
- 9.2 R.G. den Boer      Revised results of the unsteady transonic pressure measurements on the LANN model  
NLR TR 85      U (1985) (to be published)
- 9.3 B.L. Hinson      An evaluation of three-dimensional transonic codes using new correlation-tailored test data  
K.P. Burdges      AIAA 18th Aerospace Sciences Meeting, Jan. 14-16, 1980/Pasadena, California. Paper AIAA-80-0003
- 9.4 S.R. Bland      AGARD Three-dimensional aeroelastic configurations  
AGARD-AR-167 (1982)
- 9.5 A. Steiginga      Correlation of experimental and quasi-3-d theoretical airloads on the oscillating LANN supercritical wing model  
R. Houwink      AFWAL-TR-83-3050 (1983). Also: NLR TR 83003 U (1983)
- 9.6 J.B. Malone      The LANN program: An experimental and theoretical study of steady and unsteady transonic airloads on a supercritical wing  
S.Y. Ruo      AIAA 16th Fluid and Plasma Dynamics Conference, Danvers, Mass., July 12-14, 1983, Paper AIAA-83-1686  
J.J. Horsten  
R. Houwink
- 9.7 -      Users' guide to the High Speed Wind tunnel (HST). Revised edition (1977)
- 9.8 J.J. Horsten      Recent developments in the unsteady pressure measuring technique at NLR  
International Symposium on Aeroelasticity, Oct. 5-7, 1981/Nuremberg.



DGLR-Bericht 82-01 (1982). Also: NLR MP 81055 U (1981)

9.9	R.G. den Boer	Boundary layer effects in the NLR measuring technique of unsteady pressures on oscillating windtunnel models. NLR TR 85 U (1985) (to be published).
12	NOTATION	
	DATA SET:	STANDARD:
	ALFA	mean model incidence, $\alpha_m$ , deg
	$c_{AC}$	mean aerodynamic chord, $c_{AC} = 0.268$ m
	$C_m$	steady sectional pitching moment coefficient about quarter-chord, $C_m$ , <u>or</u> steady wing pitching moment coefficient about aerodynamic centre, $\int_0^s [C_m + C_1 (x_{AC}/c-0.25)] c^2 dy / (Sc_{AC})$
	$C_z$	steady sectional normal force coefficient, $C_1$ , <u>or</u> steady wing normal force coefficient, $\int_0^s C_1 c dy / S$
	$C_{mi}$ RE, IM	real and imaginary components of oscillatory sectional pitching moment coefficient about quarter-chord, $2 \bar{C}_m / (\pi \alpha_o)$ , $\text{rad}^{-1}$ , <u>or</u> of oscillatory wing pitching moment coefficient about aerodynamic centre, $2 \int_0^s [\bar{C}_m + \bar{C}_1 (x_{AC}/c-0.25)] c^2 dy / (\pi Sc_{AC} \alpha_o)$ , $\text{rad}^{-1}$
	$C_p$ RE, IM	real and imaginary components of oscillatory pressure coefficient, $\bar{C}_p / \alpha_o$ , $\text{rad}^{-1}$
	$C_{zi}$ RE, IM	real and imaginary components of oscillatory sectional normal force coefficient, $\bar{C}_1 / (\pi \alpha_o)$ , $\text{rad}^{-1}$ , <u>or</u> of oscillatory wing normal force coefficient, $\int_0^s \bar{C}_1 c dy / (\pi S \alpha_o)$ , $\text{rad}^{-1}$
	DALFA	amplitude of oscillatory wing incidence at LVDT position, $\alpha_o$ , deg
	FREQ.	frequency, $f$ , Hz
	HARM.	order of harmonic
	MACH	Mach number
	M-LOC.	local Mach number
	P-SETTL.	total pressure in settling chamber, $p_t$ , kPa
	Q	dynamic pressure, $q$ , kPa
	RE*10**-6	Reynolds number ( $\times 10^{-6}$ ) based on $c_{AC}$ (Note: not based on $c_r$ as in Ref. 9.4)
	REDFR.	reduced frequency, $\omega c_{AC} / 2V$ (Note: $k = (\omega c_r / 2V) = 1.346 \times \text{REDFR.}$ )
	s	model semi-span, $s = 1.000$ m
	S	model surface, $S = 0.2526$ m <sup>2</sup>
	T-SETTL.	temperature in settling chamber, $T_o$ , °C
	$\alpha_o$	amplitude of oscillatory wing incidence at LVDT position, deg. In aerodynamic coefficients, $\alpha_o$ in radians
	$\eta$	relative spanwise co-ordinate, $y/s$

Note: Symbols not mentioned here conform to the notation in the General Review in the main body of the Compendium.

#### Tables 9.1 to 9.20

1. In the section concerning displacements relative to LVDT, "CALC." means that due to failing of the accelerometer the amplitude and phase values were interpolated or extrapolated.
2. In the section concerning the vibration mode, the values for "HEAVE AT X = .224 M (MM)" and "PITCH (DEG)" indicate absolute values of the sectional model displacements, the sections being considered as rigid. Comparison of the pitch value with "DALFA" gives an idea of the model oscillatory deformation.

TABLE 9.1  
Measured coordinates of the LANN wing model

Root chord  $\eta = 0$

Local chord = 360.60 mm

upper side				lower side					
$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$
0.00000	0.02072	0.67021	0.02644	0.00000	0.02072	0.01765	-0.00102	0.39998	-0.06824
0.00011	0.02465	0.70680	0.02166	0.00012	0.01631	0.01838	-0.00140	0.40512	-0.06832
0.00021	0.02525	0.75335	0.01526	0.00029	0.01543	0.01917	-0.00177	0.42387	-0.06843
0.00046	0.02606	0.79293	0.00954	0.00050	0.01476	0.01979	-0.00207	0.44041	-0.06839
0.00063	0.02663	0.83247	0.00361	0.00063	0.01434	0.02047	-0.00236	0.46039	-0.06795
0.00074	0.02683	0.85618	0.00000	0.00087	0.01371	0.02121	-0.00266	0.49747	-0.06709
0.00092	0.02722	0.88211	-0.00398	0.00099	0.01351	0.02205	-0.00310	0.53007	-0.06525
0.00120	0.02787	0.91717	-0.00939	0.00122	0.01298	0.02267	-0.00337	0.56550	-0.06251
0.00134	0.02795	0.95282	-0.01489	0.00135	0.01276	0.02335	-0.00368	0.60232	-0.05889
0.00204	0.02937	0.98323	-0.01955	0.00161	0.01228	0.02414	-0.00403	0.63587	-0.05477
0.00297	0.03089	1.00000	-0.02206	0.00170	0.01208	0.02467	-0.00423	0.67183	-0.04986
0.00361	0.03170			0.00194	0.01170	0.02645	-0.00499	0.70588	-0.04504
0.00404	0.03227			0.00216	0.01138	0.02834	-0.00578	0.74071	-0.03990
0.00500	0.03342			0.00237	0.01112	0.02999	-0.00646	0.77586	-0.03487
0.00609	0.03459			0.00247	0.01095	0.03192	-0.00722	0.81117	-0.03006
0.00673	0.03521			0.00282	0.01051	0.03351	-0.00785	0.84987	-0.02539
0.00753	0.03590			0.00311	0.00994	0.03541	-0.00859	0.86314	-0.02401
0.00858	0.03680			0.00334	0.00974	0.03709	-0.00918	0.88042	-0.02246
0.00952	0.03750			0.00363	0.00928	0.03890	-0.00985	0.89810	-0.02116
0.01150	0.03885			0.00382	0.00902	0.04059	-0.01045	0.91640	-0.02015
0.01231	0.04019			0.00402	0.00878	0.04235	-0.01107	0.93319	-0.01972
0.01708	0.04200			0.00425	0.00859	0.04608	-0.01243	0.95104	-0.01994
0.02166	0.04398			0.00459	0.00815	0.04943	-0.01356	0.98629	-0.02186
0.02477	0.04513			0.00499	0.00775	0.05294	-0.01472	0.98974	-0.02222
0.02819	0.04630			0.00533	0.00740	0.05646	-0.01586	0.99372	-0.02269
0.03240	0.04758			0.00565	0.00714	0.05999	-0.01698	0.99699	-0.02308
0.03530	0.04836			0.00602	0.00688	0.06344	-0.01803	1.00000	-0.02342
0.03914	0.04934			0.00642	0.00633	0.06697	-0.01909		
0.04283	0.05016			0.00678	0.00599	0.07052	-0.02017		
0.04627	0.05089			0.00710	0.00571	0.07775	-0.02222		
0.04935	0.05147			0.00740	0.00550	0.08485	-0.02422		
0.05640	0.05265			0.00776	0.00523	0.09168	-0.02605		
0.06372	0.05366			0.00814	0.00488	0.09894	-0.02796		
0.07053	0.05448			0.00852	0.00461	0.10599	-0.02977		
0.07834	0.05523			0.00885	0.00433	0.11285	-0.03149		
0.08503	0.05576			0.00916	0.00411	0.12029	-0.03332		
0.09867	0.05659			0.00953	0.00382	0.12722	-0.03498		
0.11279	0.05721			0.00995	0.00352	0.13426	-0.03663		
0.12695	0.05767			0.01059	0.00310	0.14121	-0.03821		
0.14162	0.05802			0.01090	0.00285	0.15856	-0.04203		
0.17966	0.05840			0.01131	0.00259	0.17722	-0.04582		
0.21579	0.05819			0.01167	0.00235	0.19374	-0.04889		
0.25344	0.05756			0.01207	0.00211	0.21247	-0.05205		
0.28613	0.05667			0.01243	0.00188	0.22897	-0.05459		
0.32399	0.05528			0.01278	0.00166	0.24773	-0.05718		
0.36076	0.05364			0.01310	0.00147	0.26472	-0.05932		
0.40032	0.05157			0.01351	0.00120	0.28495	-0.06156		
0.43068	0.04970			0.01385	0.00101	0.30013	-0.06301		
0.48496	0.04581			0.01412	0.00085	0.31759	-0.06440		
0.52839	0.04204			0.01486	0.00045	0.33513	-0.06557		
0.57015	0.03793			0.01568	-0.00001	0.35216	-0.06652		
0.60347	0.03443			0.01622	-0.00028	0.36988	-0.06734		
0.63598	0.03064			0.01694	-0.00066	0.38788	-0.06797		

TABLE 9.1 (cont'd)  
Measured coordinates of the LANN wing model

Section 1  $\eta = 0.200$   
Local chord = 317.65 mm

upper side				lower side					
$\xi$	-z/c	$\xi$	-z/c	$\xi$	-z/c	$\xi$	-z/c	$\xi$	-z/c
0.00000	0.01699	0.67919	0.02904	0.00000	0.01699	0.02840	-0.00856	0.39985	-0.06681
0.00060	0.02144	0.71651	0.02431	0.00020	0.01375	0.02916	-0.00887	0.41363	-0.06691
0.00073	0.02187	0.75558	0.01910	0.00063	0.01203	0.03015	-0.00928	0.43448	-0.06681
0.00094	0.02238	0.79784	0.01312	0.00081	0.01159	0.03103	-0.00964	0.47547	-0.06595
0.00154	0.02393	0.83404	0.00774	0.00100	0.01107	0.03191	-0.00997	0.51461	-0.06411
0.00170	0.02431	0.87604	0.00126	0.00129	0.01032	0.03276	-0.01029	0.55696	-0.06081
0.00206	0.02506	0.91421	-0.00476	0.00146	0.01016	0.03380	-0.01070	0.59506	-0.05697
0.00231	0.02551	0.95548	-0.01130	0.00188	0.00908	0.03586	-0.01115	0.63517	-0.05188
0.00245	0.02556	0.99395	-0.01698	0.00207	0.00880	0.03775	-0.01135	0.67346	-0.04638
0.00257	0.02559	1.00000	-0.01787	0.00236	0.00832	0.03979	-0.01299	0.71408	-0.04033
0.00317	0.02663			0.00245	0.00816	0.04186	-0.01367	0.75530	-0.03401
0.00406	0.02806			0.00277	0.00772	0.04383	-0.01435	0.79383	-0.02838
0.00447	0.02843			0.00311	0.00720	0.04579	-0.01491	0.81346	-0.02576
0.00526	0.02947			0.00326	0.00704	0.04787	-0.01562	0.83359	-0.02322
0.00561	0.02963			0.00366	0.00666	0.04994	-0.01631	0.85343	-0.02096
0.00611	0.03006			0.00384	0.00664	0.05177	-0.01679	0.87345	-0.01899
0.00733	0.03163			0.00437	0.00573	0.05381	-0.01750	0.88165	-0.01830
0.00824	0.03244			0.00464	0.00544	0.05583	-0.01813	0.88980	-0.01770
0.00856	0.03274			0.00510	0.00488	0.05789	-0.01874	0.89764	-0.01713
0.00937	0.03350			0.00530	0.00472	0.05976	-0.01932	0.90535	-0.01664
0.00976	0.03372			0.00569	0.00429	0.06189	-0.01993	0.91338	-0.01634
0.01063	0.03446			0.00627	0.00366	0.06385	-0.02051	0.92139	-0.01606
0.01214	0.03551			0.00663	0.00332	0.06608	-0.02117	0.92966	-0.01586
0.01378	0.03642			0.00701	0.00292	0.06785	-0.02167	0.93738	-0.01578
0.01619	0.03789			0.00724	0.00271	0.06985	-0.02224	0.94538	-0.01579
0.01782	0.03849			0.00772	0.00228	0.07180	-0.02279	0.95337	-0.01587
0.01942	0.03945			0.00827	0.00180	0.07399	-0.02339	0.96145	-0.01603
0.02101	0.04025			0.00868	0.00151	0.07778	-0.02444	0.96959	-0.01632
0.02240	0.04084			0.00905	0.00118	0.08203	-0.02555	0.97739	-0.01671
0.02368	0.04137			0.00947	0.00089	0.08585	-0.02655	0.98557	-0.01730
0.02580	0.04214			0.00980	0.00068	0.09013	-0.02765	0.98940	-0.01764
0.02976	0.04344			0.01065	0.00001	0.09383	-0.02858	0.99343	-0.01800
0.03390	0.04467			0.01131	-0.00040	0.09799	-0.02959	0.99735	-0.01835
0.04184	0.04681			0.01212	-0.00095	0.10183	-0.03047	1.00000	-0.01858
0.04998	0.04865			0.01293	-0.00144	0.10613	-0.03153		
0.05812	0.05014			0.01376	-0.00190	0.11010	-0.03246		
0.06583	0.05130			0.01459	-0.00231	0.11376	-0.03331		
0.07393	0.05230			0.01539	-0.00282	0.12226	-0.03526		
0.09429	0.05413			0.01618	-0.00324	0.13003	-0.03698		
0.11535	0.05544			0.01696	-0.00359	0.13792	-0.03869		
0.15487	0.05697			0.01780	-0.00400	0.14591	-0.04037		
0.19378	0.05763			0.01882	-0.00448	0.15395	-0.04202		
0.23695	0.05765			0.01939	-0.00473	0.17359	-0.04583		
0.27537	0.05717			0.02019	-0.00507	0.19497	-0.04954		
0.31752	0.05613			0.02116	-0.00560	0.21414	-0.05250		
0.35529	0.05485			0.02197	-0.00595	0.23417	-0.05525		
0.39668	0.05306			0.02261	-0.00617	0.25386	-0.05771		
0.43402	0.05110			0.02340	-0.00645	0.27470	-0.06000		
0.47759	0.04838			0.02424	-0.00688	0.29386	-0.06177		
0.51703	0.04546			0.02496	-0.00720	0.31896	-0.06361		
0.55461	0.04228			0.02576	-0.00752	0.33451	-0.06453		
0.59686	0.03829			0.02675	-0.00789	0.35411	-0.06547		
0.63420	0.03434			0.02746	-0.00820	0.37371	-0.06622		

TABLE 9.1 (cont'd)  
Measured coordinates of the LANN wing model

Section 2  $\eta = 0.325$

Local chord = 290.71 mm

upper side				lower side					
$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$
0.00000	0.01168	0.07153	0.04993	0.00000	0.01168	0.02818	-0.01118	0.77772	-0.02833
0.00015	0.01245	0.07602	0.05048	0.00015	0.01090	0.03010	-0.01191	0.80290	-0.02476
0.00033	0.01559	0.09870	0.05269	0.00045	0.00986	0.03250	-0.01275	0.82381	-0.02201
0.00045	0.01661	0.12119	0.05426	0.00065	0.00931	0.03456	-0.01348	0.84819	-0.01910
0.00064	0.01663	0.14165	0.05534	0.00101	0.00832	0.03673	-0.01428	0.86682	-0.01716
0.00090	0.01853	0.16391	0.05622	0.00124	0.00769	0.03896	-0.01513	0.88459	-0.01569
0.00122	0.01946	0.18573	0.05684	0.00176	0.00657	0.04118	-0.01589	0.90635	-0.01432
0.00146	0.01980	0.20796	0.05721	0.00216	0.00591	0.04329	-0.01659	0.92796	-0.01358
0.00197	0.02121	0.25206	0.05744	0.00231	0.00571	0.04552	-0.01732	0.93718	-0.01346
0.00202	0.02153	0.29941	0.05688	0.00259	0.00521	0.04777	-0.01802	0.94135	-0.01345
0.00213	0.02140	0.34086	0.05588	0.00293	0.00496	0.04996	-0.01868	0.95000	-0.01350
0.00266	0.02278	0.38489	0.05443	0.00328	0.00419	0.05220	-0.01935	0.95865	-0.01365
0.00296	0.02331	0.42814	0.05255	0.00353	0.00411	0.05420	-0.01996	0.96722	-0.01391
0.00318	0.02357	0.47169	0.05020	0.00385	0.00389	0.05884	-0.02129	0.97610	-0.01432
0.00353	0.02424	0.51395	0.04741	0.00412	0.00322	0.06334	-0.02254	0.98489	-0.01493
0.00389	0.02440	0.55782	0.04398	0.00440	0.00292	0.06762	-0.02373	0.99363	-0.01575
0.00425	0.02520	0.60544	0.03966	0.00469	0.00266	0.07167	-0.02480	0.99796	-0.01620
0.00446	0.02547	0.64628	0.03546	0.00488	0.00249	0.07627	-0.02603	1.00000	-0.01642
0.00477	0.02585	0.69276	0.03014	0.00524	0.00190	0.08053	-0.02711		
0.00525	0.02652	0.73249	0.02515	0.00570	0.00139	0.08538	-0.02831		
0.00562	0.02694	0.77591	0.01934	0.00601	0.00108	0.08926	-0.02925		
0.00593	0.02713	0.82161	0.01270	0.00626	0.00086	0.09365	-0.03030		
0.00654	0.02787	0.86295	0.00633	0.00662	0.00054	0.09791	-0.03129		
0.00695	0.02822	0.90637	-0.00059	0.00702	0.00012	0.10243	-0.03232		
0.00735	0.02882	0.95044	-0.00779	0.00751	-0.00052	0.11145	-0.03433		
0.00777	0.02922	0.99507	-0.01450	0.00794	-0.00073	0.11973	-0.03615		
0.00837	0.02975	1.00000	-0.01525	0.00834	-0.00105	0.12874	-0.03808		
0.00875	0.03002			0.00877	-0.00140	0.13769	-0.03992		
0.00951	0.03073			0.00920	-0.00172	0.14593	-0.04158		
0.00993	0.03108			0.00973	-0.00213	0.15476	-0.04328		
0.01034	0.03129			0.01055	-0.00271	0.16345	-0.04490		
0.01085	0.03173			0.01144	-0.00330	0.17234	-0.04651		
0.01148	0.03224			0.01190	-0.00359	0.18526	-0.04868		
0.01198	0.03256			0.01235	-0.00385	0.20704	-0.05201		
0.01281	0.03311			0.01281	-0.00412	0.22912	-0.05497		
0.01374	0.03362			0.01325	-0.00435	0.25090	-0.05757		
0.01459	0.03411			0.01362	-0.00449	0.27265	-0.05984		
0.01578	0.03486			0.01410	-0.00471	0.29472	-0.06175		
0.01659	0.03520			0.01446	-0.00499	0.31643	-0.06325		
0.01762	0.03582			0.01487	-0.00514	0.33870	-0.06443		
0.01843	0.03624			0.01582	-0.00564	0.36021	-0.06529		
0.01966	0.03686			0.01667	-0.00611	0.38236	-0.06591		
0.02233	0.03807			0.01758	-0.00654	0.39996	-0.06618		
0.02408	0.03874			0.01844	-0.00688	0.42134	-0.06618		
0.02707	0.03990			0.01924	-0.00737	0.42688	-0.06613		
0.03002	0.04092			0.02006	-0.00779	0.47369	-0.06501		
0.03407	0.04224			0.02103	-0.00825	0.51291	-0.06304		
0.03901	0.04371			0.02210	-0.00872	0.55791	-0.05931		
0.04321	0.04480			0.02300	-0.00910	0.60082	-0.05464		
0.04884	0.04611			0.02384	-0.00946	0.64583	-0.04851		
0.05477	0.04731			0.02537	-0.01008	0.68572	-0.04252		
0.06026	0.04829			0.02645	-0.01051	0.71566	-0.03793		
0.06702	0.04933			0.02718	-0.01080	0.75486	-0.03179		



TABLE 9.1 (cont'd)  
Measured coordinates of the LANN wing model

Section 3  $\eta = 0.475$

Local chord = 258.06 mm

upper side				lower side					
$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$
0.00000	0.01001	0.02822	0.03617	0.00000	0.01001	0.04299	-0.02058	0.91418	-0.01005
0.00003	0.01043	0.03114	0.03717	0.00008	0.00569	0.04542	-0.02130	0.93438	-0.00963
0.00039	0.01308	0.03310	0.03784	0.00018	0.00515	0.04798	-0.02206	0.94849	-0.00974
0.00053	0.01281	0.03566	0.03868	0.00048	0.00394	0.05045	-0.02275	0.96149	-0.01006
0.00089	0.01466	0.03851	0.03957	0.00088	0.00305	0.05315	-0.02349	0.96965	-0.01042
0.00133	0.01589	0.04086	0.04025	0.00100	0.00282	0.05785	-0.02477	0.97750	-0.01089
0.00166	0.01658	0.04347	0.04095	0.00143	0.00203	0.06279	-0.02605	0.98324	-0.01133
0.00204	0.01741	0.04668	0.04176	0.00172	0.00142	0.06792	-0.02736	0.98728	-0.01169
0.00229	0.01784	0.04886	0.04227	0.00210	0.00083	0.07281	-0.02852	0.99289	-0.01224
0.00267	0.01855	0.05101	0.04276	0.00255	0.00014	0.07745	-0.02963	0.99588	-0.01255
0.00313	0.01933	0.05309	0.04321	0.00278	-0.00002	0.08323	-0.03098	1.00000	-0.01298
0.00338	0.01943	0.05520	0.04365	0.00328	-0.00078	0.08734	-0.03188		
0.00384	0.02013	0.05646	0.04392	0.00345	-0.00090	0.09256	-0.03303		
0.00438	0.02105	0.05776	0.04416	0.00391	-0.00150	0.09715	-0.03402		
0.00476	0.02150	0.06279	0.04512	0.00429	-0.00192	0.10215	-0.03507		
0.00494	0.02164	0.06762	0.04593	0.00469	-0.00237	0.10725	-0.03613		
0.00533	0.02207	0.07253	0.04670	0.00525	-0.00284	0.11690	-0.03807		
0.00563	0.02248	0.07749	0.04739	0.00560	-0.00326	0.12674	-0.03999		
0.00619	0.02312	0.08732	0.04861	0.00615	-0.00386	0.13650	-0.04185		
0.00657	0.02339	0.09770	0.04975	0.00644	-0.00412	0.14639	-0.04366		
0.00698	0.02392	0.10686	0.05065	0.00652	-0.00404	0.15625	-0.04541		
0.00723	0.02407	0.11705	0.05152	0.00716	-0.00483	0.16622	-0.04709		
0.00766	0.02469	0.12658	0.05226	0.00770	-0.00531	0.17611	-0.04866		
0.00821	0.02522	0.15216	0.05387	0.00815	-0.00563	0.18594	-0.05015		
0.00853	0.02552	0.17651	0.05499	0.00861	-0.00600	0.19641	-0.05163		
0.00901	0.02593	0.20061	0.05585	0.00907	-0.00635	0.20584	-0.05289		
0.00953	0.02638	0.22548	0.05640	0.00963	-0.00675	0.21521	-0.05407		
0.00964	0.02644	0.25834	0.05683	0.01011	-0.00702	0.22575	-0.05533		
0.01004	0.02672	0.31258	0.05679	0.01069	-0.00741	0.25009	-0.05794		
0.01068	0.02730	0.37718	0.05573	0.01110	-0.00769	0.27463	-0.06020		
0.01113	0.02761	0.42746	0.05418	0.01153	-0.00794	0.29886	-0.06197		
0.01195	0.02819	0.47585	0.05201	0.01249	-0.00848	0.32343	-0.06334		
0.01251	0.02858	0.52187	0.04929	0.01355	-0.00901	0.34891	-0.06433		
0.01324	0.02908	0.57090	0.04580	0.01456	-0.00951	0.37271	-0.06495		
0.01381	0.02947	0.62482	0.04129	0.01540	-0.00990	0.39978	-0.06522		
0.01442	0.02980	0.67201	0.03658	0.01642	-0.01040	0.42228	-0.06507		
0.01492	0.03007	0.71828	0.03132	0.01739	-0.01088	0.44655	-0.06452		
0.01546	0.03040	0.77026	0.02474	0.01841	-0.01135	0.47114	-0.06361		
0.01601	0.03076	0.81917	0.01771	0.01950	-0.01187	0.49612	-0.06232		
0.01630	0.03085	0.86493	0.01053	0.02041	-0.01230	0.52041	-0.06061		
0.01687	0.03119	0.91586	0.00224	0.02144	-0.01282	0.55624	-0.05725		
0.01745	0.03155	0.92894	0.00000	0.02235	-0.01321	0.58729	-0.05374		
0.01800	0.03182	0.96489	-0.00594	0.02342	-0.01368	0.62017	-0.04935		
0.01844	0.03204	1.00000	-0.01165	0.02434	-0.01405	0.65092	-0.04474		
0.01960	0.03256			0.02537	-0.01443	0.68218	-0.03987		
0.02036	0.03292			0.02659	-0.01487	0.71732	-0.03435		
0.02129	0.03341			0.02732	-0.01517	0.75083	-0.02898		
0.02227	0.03385			0.02843	-0.01556	0.76832	-0.02599		
0.02328	0.03426			0.03079	-0.01641	0.79117	-0.02259		
0.02428	0.03469			0.03318	-0.01719	0.81581	-0.01915		
0.02553	0.03518			0.03561	-0.01809	0.84046	-0.01603		
0.02637	0.03552			0.03810	-0.01904	0.86483	-0.01340		
0.02731	0.03587			0.04044	-0.01979	0.88946	-0.01136		

TABLE 9.1 (cont'd)  
Measured coordinates of the LANN wing model

Section 4  $\eta = 0.650$

Local chord = 220.29 mm

upper side				lower side					
$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$
0.00000	0.00273	0.05984	0.04008	0.00000	0.00273	0.07031	-0.03173	0.98140	-0.00322
0.00009	0.00348	0.06325	0.04078	0.00020	0.00197	0.07305	-0.03232	0.98692	-0.00375
0.00031	0.00514	0.06674	0.04145	0.00053	-0.00086	0.07589	-0.03291	0.99282	-0.00445
0.00055	0.00685	0.07026	0.04213	0.00081	-0.00176	0.07893	-0.03353	0.99834	-0.00513
0.00083	0.00769	0.07624	0.04317	0.00134	-0.00315	0.08170	-0.03408	1.00000	-0.00533
0.00121	0.00891	0.08170	0.04409	0.00156	-0.00355	0.08744	-0.03521		
0.00145	0.00957	0.08759	0.04500	0.00191	-0.00417	0.09334	-0.03634		
0.00166	0.01009	0.09378	0.04589	0.00225	-0.00482	0.09912	-0.03739		
0.00203	0.01094	0.09924	0.04663	0.00261	-0.00532	0.10475	-0.03843		
0.00231	0.01137	0.10515	0.04739	0.00295	-0.00567	0.11053	-0.03946		
0.00263	0.01207	0.11076	0.04808	0.00330	-0.00609	0.11652	-0.04049		
0.00310	0.01286	0.12208	0.04935	0.00371	-0.00657	0.12232	-0.04147		
0.00348	0.01346	0.13399	0.05055	0.00424	-0.00713	0.12819	-0.04245		
0.00401	0.01414	0.14592	0.05161	0.00447	-0.00729	0.13368	-0.04332		
0.00452	0.01482	0.15730	0.05253	0.00491	-0.00784	0.14002	-0.04433		
0.00493	0.01509	0.16856	0.05335	0.00541	-0.00844	0.15123	-0.04605		
0.00555	0.01562	0.17965	0.05404	0.00587	-0.00884	0.16250	-0.04770		
0.00615	0.01649	0.19136	0.05474	0.00628	-0.00913	0.17445	-0.04934		
0.00658	0.01710	0.22579	0.05632	0.00668	-0.00954	0.18573	-0.05078		
0.00730	0.01814	0.26734	0.05763	0.00721	-0.00999	0.19731	-0.05216		
0.00787	0.01871	0.29128	0.05812	0.00766	-0.01041	0.20897	-0.05344		
0.00831	0.01913	0.31685	0.05835	0.00821	-0.01100	0.22014	-0.05457		
0.00898	0.01975	0.34111	0.05846	0.00873	-0.01140	0.22577	-0.05514		
0.00967	0.02035	0.37006	0.05839	0.00917	-0.01174	0.25473	-0.05759		
0.01037	0.02093	0.39920	0.05810	0.00985	-0.01222	0.28349	-0.05953		
0.01099	0.02143	0.42853	0.05758	0.01035	-0.01254	0.31243	-0.06091		
0.01154	0.02185	0.45701	0.05684	0.01085	-0.01286	0.34120	-0.06178		
0.01220	0.02236	0.48610	0.05585	0.01146	-0.01320	0.37028	-0.06219		
0.01282	0.02281	0.51407	0.05462	0.01231	-0.01370	0.39992	-0.06215		
0.01342	0.02323	0.54285	0.05319	0.01301	-0.01404	0.42761	-0.06157		
0.01430	0.02381	0.57203	0.05143	0.01363	-0.01431	0.45643	-0.06045		
0.01538	0.02439	0.60050	0.04954	0.01478	-0.01493	0.48548	-0.05878		
0.01661	0.02512	0.62935	0.04740	0.01589	-0.01547	0.54662	-0.05319		
0.01765	0.02568	0.65815	0.04501	0.01719	-0.01605	0.57714	-0.04938		
0.01886	0.02637	0.68697	0.04231	0.01853	-0.01664	0.60718	-0.04499		
0.01997	0.02697	0.71647	0.03931	0.01958	-0.01698	0.62797	-0.04172		
0.02116	0.02759	0.74524	0.03619	0.02063	-0.01733	0.65825	-0.03682		
0.02239	0.02821	0.77509	0.03357	0.02185	-0.01801	0.68714	-0.03205		
0.02343	0.02877	0.75448	0.03417	0.02298	-0.01848	0.71652	-0.02713		
0.02458	0.02924	0.77376	0.03219	0.02417	-0.01894	0.74475	-0.02232		
0.02573	0.02979	0.80270	0.02816	0.02695	-0.01995	0.75095	-0.02122		
0.02748	0.03050	0.83148	0.02390	0.02982	-0.02090	0.75330	-0.02045		
0.02926	0.03118	0.86045	0.01924	0.03262	-0.02183	0.77360	-0.01746		
0.03093	0.03185	0.89056	0.01424	0.03830	-0.02373	0.80241	-0.01302		
0.03264	0.03243	0.91853	0.00970	0.04146	-0.02470	0.83136	-0.00911		
0.03438	0.03304	0.92933	0.00794	0.04363	-0.02552	0.86016	-0.00582		
0.03577	0.03354	0.94083	0.00606	0.04716	-0.02629	0.88897	-0.00326		
0.03898	0.03465	0.95230	0.00420	0.05010	-0.02772	0.91192	-0.00193		
0.04248	0.03574	0.96369	0.00232	0.05586	-0.02846	0.92379	-0.00150		
0.04607	0.03671	0.97624	0.00015	0.05901	-0.02919	0.93540	-0.00142		
0.04942	0.03767	0.98681	-0.00157	0.06159	-0.02978	0.94860	-0.00152		
0.05290	0.03852	1.00000	-0.00382	0.06473	-0.03051	0.95854	-0.00178		
0.05620	0.03929			0.06734	-0.03111	0.96984	-0.00234		



TABLE 9.1 (cont'd)  
Measured coordinates of the LANN wing model

Section 5  $\eta = 0.825$

Local chord = 182.35 mm

upper side				lower side			
$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$
0.00000	-0.00585	0.05110	0.03178	0.78232	0.04357	0.00000	-0.00585
0.00010	-0.00403	0.05241	0.03217	0.81725	0.03880	0.00052	-0.01049
0.00077	-0.00120	0.05376	0.03253	0.85259	0.03329	0.00111	-0.01185
0.00145	0.00132	0.05519	0.03293	0.88690	0.02776	0.00182	-0.01293
0.00164	0.00180	0.05656	0.03322	0.92244	0.02159	0.00259	-0.01386
0.00244	0.00341	0.05790	0.03357	0.94248	0.01812	0.00312	-0.01447
0.00293	0.00435	0.06131	0.03441	0.95669	0.01559	0.00366	-0.01515
0.00334	0.00486	0.06492	0.03530	0.97038	0.01316	0.00419	-0.01573
0.00404	0.00584	0.06834	0.03611	0.98427	0.01068	0.00462	-0.01620
0.00461	0.00655	0.07040	0.03657	0.99812	0.00818	0.00554	-0.01717
0.00518	0.00737	0.07332	0.03721	1.00000	0.00780	0.00609	-0.01765
0.00564	0.00790	0.07605	0.03781			0.00680	-0.01821
0.00606	0.00846	0.07883	0.03838			0.00745	-0.01879
0.00655	0.00900	0.08218	0.03906			0.00809	-0.01931
0.00720	0.00977	0.08569	0.03973			0.00896	-0.01990
0.00770	0.01027	0.08917	0.04038			0.00944	-0.02010
0.00833	0.01095	0.09274	0.04103			0.01017	-0.02074
0.00905	0.01166	0.09612	0.04160			0.01109	-0.02130
0.00983	0.01233	0.09960	0.04221			0.01113	-0.02131
0.01029	0.01257	0.10313	0.04282			0.01170	-0.02151
0.01114	0.01358	0.10655	0.04334			0.01230	-0.02190
0.01176	0.01401	0.11013	0.04389			0.01279	-0.02213
0.01259	0.01467	0.11352	0.04440			0.01330	-0.02247
0.01336	0.01520	0.12094	0.04548			0.01397	-0.02282
0.01404	0.01569	0.12859	0.04653			0.01478	-0.02323
0.01459	0.01613	0.13461	0.04729			0.01541	-0.02347
0.01530	0.01658	0.14151	0.04817			0.01624	-0.02390
0.01619	0.01718	0.14839	0.04897			0.01752	-0.02446
0.01683	0.01759	0.15530	0.04976			0.01915	-0.02516
0.01741	0.01796	0.16249	0.05053			0.02024	-0.02559
0.01907	0.01893	0.16928	0.05122			0.02176	-0.02617
0.02030	0.01963	0.18339	0.05257			0.02300	-0.02666
0.02184	0.02046	0.19738	0.05377			0.02439	-0.02713
0.02297	0.02108	0.21166	0.05490			0.02581	-0.02757
0.02434	0.02175	0.22545	0.05588			0.02733	-0.02798
0.02604	0.02257	0.23917	0.05677			0.02871	-0.02833
0.02730	0.02311	0.25334	0.05760			0.03014	-0.02875
0.02864	0.02375	0.26691	0.05830			0.03131	-0.02920
0.03030	0.02445	0.28101	0.05897			0.03275	-0.02957
0.03144	0.02492	0.29494	0.05955			0.03440	-0.02981
0.03295	0.02552	0.33001	0.06074			0.03587	-0.03042
0.03427	0.02606	0.36483	0.06152			0.03719	-0.03081
0.03552	0.02655	0.39923	0.06198			0.03872	-0.03119
0.03697	0.02711	0.43396	0.06213			0.04044	-0.03162
0.03829	0.02753	0.46903	0.06200			0.04399	-0.03237
0.03981	0.02810	0.50392	0.06153			0.04736	-0.03312
0.04135	0.02871	0.53861	0.06067			0.05094	-0.03390
0.04256	0.02913	0.57369	0.05941			0.05437	-0.03453
0.04405	0.02962	0.60815	0.05790			0.05790	-0.03523
0.04546	0.03008	0.64295	0.05601			0.06132	-0.03588
0.04686	0.03051	0.67770	0.05377			0.06477	-0.03648
0.04819	0.03088	0.71390	0.05089			0.06841	-0.03711
0.04959	0.03133	0.74734	0.04771			0.07210	-0.03773

TABLE 9.1 (cont'd)  
Measured coordinates of the LANN wing model

Section 6  $\eta = 0.950$

Local chord = 155.34 mm

upper side				lower side			
$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$
0.00000	-0.01515	0.09807	0.03590	0.00000	-0.01514	0.07407	-0.04529
0.00047	-0.01261	0.10630	0.03754	0.00043	-0.01753	0.08148	-0.04616
0.00119	-0.01062	0.11448	0.03916	0.00129	-0.01992	0.08979	-0.04706
0.00137	-0.01063	0.12254	0.04056	0.00186	-0.02119	0.09808	-0.04789
0.00182	-0.00842	0.13062	0.04195	0.00244	-0.02219	0.10679	-0.04873
0.00227	-0.00733	0.13895	0.04333	0.00298	-0.02312	0.11431	-0.04940
0.00280	-0.00640	0.14711	0.04455	0.00371	-0.02405	0.12252	-0.05012
0.00319	-0.00561	0.15598	0.04586	0.00425	-0.02463	0.13075	-0.05079
0.00397	-0.00523	0.16342	0.04688	0.00476	-0.02520	0.14900	-0.05218
0.00455	-0.00368	0.17155	0.04799	0.00531	-0.02570	0.16496	-0.05329
0.00525	-0.00270	0.18843	0.05003	0.00572	-0.02602	0.17939	-0.05421
0.00581	-0.00204	0.20429	0.05183	0.00628	-0.02651	0.19246	-0.05491
0.00636	-0.00180	0.22084	0.05355	0.00697	-0.02709	0.20647	-0.05558
0.00697	-0.00146	0.23699	0.05507	0.00764	-0.02757	0.22050	-0.05615
0.00788	-0.00049	0.25344	0.05651	0.00824	-0.02794	0.23320	-0.05710
0.00865	0.00008	0.27063	0.05787	0.00894	-0.02842	0.28619	-0.05757
0.00924	0.00155	0.28632	0.05898	0.00961	-0.02888	0.31882	-0.05764
0.01011	0.00257	0.30307	0.06009	0.01045	-0.02947	0.35174	-0.05733
0.01073	0.00319	0.31915	0.06103	0.01125	-0.02991	0.38459	-0.05640
0.01140	0.00383	0.33545	0.06191	0.01210	-0.03041	0.39957	-0.05578
0.01196	0.00427	0.36818	0.06345	0.01277	-0.03072	0.41675	-0.05488
0.01255	0.00481	0.40049	0.06462	0.01342	-0.03092	0.45809	-0.05201
0.01315	0.00527	0.43374	0.06556	0.01423	-0.03153	0.49868	-0.04809
0.01392	0.00590	0.46591	0.06616	0.01504	-0.03190	0.53977	-0.04268
0.01457	0.00640	0.49876	0.06647	0.01602	-0.03234	0.58603	-0.03499
0.01546	0.00703	0.53183	0.06647	0.01679	-0.03267	0.61996	-0.02860
0.01627	0.00747	0.54828	0.06641	0.01766	-0.03305	0.66283	-0.02024
0.01796	0.00833	0.56469	0.06629	0.01833	-0.03336	0.70479	-0.01187
0.01937	0.00950	0.58054	0.06608	0.01897	-0.03355	0.74429	-0.00427
0.02099	0.01055	0.61373	0.06534	0.01979	-0.03380	0.77654	0.00232
0.02264	0.01153	0.64583	0.06428	0.02075	-0.03403	0.80921	0.00755
0.02447	0.01250	0.67920	0.06273	0.02176	-0.03404	0.84198	0.01200
0.02614	0.01351	0.71190	0.06073	0.02304	-0.03400	0.87473	0.01540
0.02766	0.01431	0.74468	0.05815	0.02400	-0.03498	0.90765	0.01751
0.02916	0.01487	0.77690	0.05483	0.02464	-0.03558	0.92372	0.01805
0.03101	0.01585	0.81072	0.05054	0.02556	-0.03604	0.93217	0.01815
0.03276	0.01654	0.82703	0.04810	0.02747	-0.03674	0.94004	0.01815
0.03425	0.01726	0.84255	0.04567	0.02938	-0.03731	0.94815	0.01808
0.03625	0.01814	0.85886	0.04294	0.03131	-0.03787	0.95695	0.01794
0.03751	0.01868	0.87595	0.04009	0.03259	-0.03823	0.96468	0.01766
0.03930	0.01942	0.89123	0.03749	0.03429	-0.03869	0.97271	0.01723
0.04094	0.02012	0.90790	0.03461	0.03594	-0.03906	0.98126	0.01665
0.04480	0.02156	0.92452	0.03165	0.03759	-0.03960	0.98968	0.01593
0.04912	0.02308	0.94028	0.02880	0.03942	-0.04005	1.00000	0.01498
0.05293	0.02434	0.95695	0.02568	0.04103	-0.04032		
0.05723	0.02570	0.96505	0.02422	0.04399	-0.04081		
0.06127	0.02692	0.97362	0.02265	0.04745	-0.04153		
0.06520	0.02787	0.98130	0.02125	0.05048	-0.04197		
0.06937	0.02911	0.98978	0.01968	0.05389	-0.04253		
0.07369	0.03031	0.99756	0.01816	0.05730	-0.04304		
0.08157	0.03224	1.00000	0.01762	0.06114	-0.04359		
0.08564	0.03329			0.06532	-0.04417		
0.08975	0.03420			0.06949	-0.04474		

TABLE 9.1 (cont'd)  
Measured coordinates of the LANN wing model

Tip section  $\eta = 1.0$   
Local chord = 144.45 mm

upper side				lower side			
$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$	$\xi$	$-z/c$
0.00000	-0.02163	0.09960	0.03237	0.00000	-0.02163	0.17946	-0.05566
0.00070	-0.01802	0.10853	0.03436	0.00051	-0.02379	0.19833	-0.05634
0.00135	-0.01621	0.11739	0.03649	0.00125	-0.02641	0.22271	-0.05696
0.00165	-0.01532	0.12643	0.03805	0.00186	-0.02770	0.26678	-0.05745
0.00229	-0.01400	0.13480	0.03962	0.00250	-0.02879	0.31064	-0.05729
0.00260	-0.01328	0.14416	0.04125	0.00299	-0.02954	0.35566	-0.05622
0.00320	-0.01213	0.15251	0.04266	0.00357	-0.03023	0.39981	-0.05416
0.00371	-0.01103	0.16164	0.04414	0.00426	-0.03097	0.44253	-0.05117
0.00459	-0.00958	0.17015	0.04544	0.00487	-0.03157	0.48658	-0.04674
0.00503	-0.00886	0.17977	0.04681	0.00535	-0.03199	0.53111	-0.04080
0.00594	-0.00747	0.19635	0.04904	0.00596	-0.03236	0.57495	-0.03341
0.00640	-0.00693	0.21404	0.05124	0.00623	-0.03253	0.61844	-0.02495
0.00760	-0.00543	0.23169	0.05323	0.00681	-0.03296	0.66244	-0.01602
0.00818	-0.00501	0.25012	0.05515	0.00770	-0.03376	0.70646	-0.00726
0.00913	-0.00373	0.26711	0.05676	0.00825	-0.03417	0.71354	-0.00563
0.01002	-0.00278	0.28452	0.05826	0.00883	-0.03454	0.75065	0.00130
0.01092	-0.00185	0.30231	0.05961	0.00927	-0.03482	0.79454	0.00909
0.01168	-0.00155	0.31068	0.06024	0.00995	-0.03517	0.83830	0.01562
0.01270	-0.00037	0.35558	0.06311	0.01062	-0.03552	0.88279	0.02031
0.01340	0.00026	0.39854	0.06522	0.01124	-0.03593	0.89174	0.02094
0.01474	0.00135	0.44252	0.06689	0.01229	-0.03646	0.90395	0.02161
0.01533	0.00172	0.48646	0.06796	0.01308	-0.03682	0.91765	0.02209
0.01655	0.00274	0.53040	0.06856	0.01389	-0.03718	0.92646	0.02224
0.01709	0.00317	0.56573	0.06865	0.01451	-0.03746	0.93516	0.02226
0.01815	0.00389	0.57442	0.06862	0.01512	-0.03770	0.94378	0.02223
0.01908	0.00440	0.61894	0.06823	0.01579	-0.03797	0.94814	0.02217
0.02012	0.00489	0.66303	0.06700	0.01657	-0.03832	0.95340	0.02164E
0.02129	0.00571	0.70781	0.06487	0.01722	-0.03857	0.96147	0.02142E
0.02228	0.00642	0.75032	0.06184	0.01803	-0.03886	0.97054	0.02099E
0.02395	0.00728	0.79431	0.05717	0.01894	-0.03920	0.97893	0.02043E
0.02585	0.00830	0.81199	0.05483	0.01975	-0.03946	0.98776	0.01973E
0.02761	0.00920	0.82983	0.05221	0.02045	-0.03959	0.99650	0.01895E
0.02931	0.01002	0.84958	0.04906	0.02163	-0.03990	1.00000	0.01861E
0.03088	0.01064	0.86460	0.04658	0.02237	-0.04008		
0.03299	0.01171	0.88213	0.04352	0.02469	-0.04071		
0.03499	0.01261	0.90133	0.04004	0.02611	-0.04108		
0.03636	0.01310	0.91941	0.03673	0.02773	-0.04150		
0.03839	0.01400	0.93587	0.03367	0.02942	-0.04192		
0.04036	0.01493	0.95301	0.03050E	0.03155	-0.04240		
0.04263	0.01581	0.97060	0.02725E	0.03324	-0.04279		
0.04394	0.01635	0.98795	0.02402E	0.03814	-0.04379		
0.04565	0.01706	1.00000	0.02155E	0.04233	-0.04451		
0.04727	0.01741			0.04692	-0.04525		
0.05121	0.01880			0.05128	-0.04586		
0.05581	0.02042			0.05601	-0.04648		
0.06016	0.02189			0.06477	-0.04755		
0.06487	0.02335			0.07419	-0.04857		
0.06895	0.02455			0.08227	-0.04938		
0.07342	0.02581			0.09087	-0.05014		
0.07830	0.02715			0.10938	-0.05161		
0.08219	0.02817			0.12653	-0.05283		
0.08660	0.02928			0.14417	-0.05392		
0.09111	0.03037			0.16221	-0.05487		

Note: "E" denotes "extrapolated"

TABLE 9.2  
Location of the 212 pressure orifices (see also Fig. 9.6)

section:	1 ( $\eta = .200$ )		2 ( $\eta = .325$ )		3 ( $\eta = .475$ )		4 ( $\eta = .650$ )		5 ( $\eta = .825$ )		6 ( $\eta = .950$ )	
% c	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower
.0	o		o		o		o		o		o	
.5	o	o	o	o	o	o	o	o	o	o		o
1.5	x	x	x	x	x	x	x	x	x		x	
3.0	x	x	x	x	x	x	x	x	x			
5.0	x	x	x	x	x	x	x		x		x	
7.5	o	o	o	o	o	o	o		o		o	x
10.0	x	x	x	x	x	x			x	x	x	
15.0	x	x	x	x	x		x	x	x		x	x
20.0	x	x	x	x	x	x	x	x	x	x	x	
25.0	x	o	x	o	x	o	x	o	x	o	x	x
30.0	x	x	x	x					x		x	x
35.0	x		x		x		x		x		x	
40.0	x	x	x	x	x		x	x	x		x	x
45.0	x		x		x		x		x		x	
50.0	x	x	x	x	x	x	x	x	x	x	x	x
55.0	x		x		x		x		x		x	
60.0	x	x	x	x	x	x	x	x	x		x	
65.0	x		x		x		x		x		x	
70.0	x	x	x	x	x	x	x	x	x		x	
75.0	x		x		x		x		x		x	
80.0	x	x	x	x	x	x	x	x	x	x	x	x
85.0	o		o		o		o		o		o	
90.0	x	x	x	x	x	x	x	x	x	x	x	x
95.0	o		o		o		o		o		o	

(o indicates inner diameter tube : 1.07 mm)  
(x indicates inner diameter tube : 1.60 mm)  
all orifices at model surface inner diameter : 0.79 mm

TABLE 9.3  
Location of the 22 pressure transducers (see also Fig. 9.6)

section:	$\eta = .189$	$\eta = .4625$	$\eta = .639$	$\eta = .814$
% c				
5.0	x	x	x	x
10.0		x	x	
20.0		x	x	
30.0				
40.0		x	x	
50.0		x	x	
60.0		x	x	
70.0	x	x	x	x
80.0		x	x	
90.0		x	x	

TABLE 9.4

Location of the 12 accelerometers (x in mm; see also Fig. 9.6)

section:	$\eta = .100$	$\eta = .420$	$\eta = .700$	$\eta = .920$
number	x = 73.7 (6.4 % c) 1	x = 236.4 (6.6 % c) 4	x = 376.2 (5.7 % c) 7	x = 492.2 (8.3 % c) 10
number	x = 175.8 (36.5 % c) 2	x = 325.7 (39.7 % c) 5	x = 447.2 (39.6 % c) 8	x = 542.3 (39.3 % c) 11
number	x = 300.3 (73.2 % c) 3	x = 414.2 (72.5 % c) 6	x = 512.9 (71.0 % c) 9	x = 593.1 (70.7 % c) 12

Note: Asterisks mean inoperative

TABLE 9.5

Steady test programme for LANN model (Run numbers)

M \ $\alpha_m$	0.62	0.72	0.77	0.82	0.87	0.95
-0.4	16	27	46	67	88	97
0.35	17			68		
0.60*)	15/19	28	47	69	89	98
0.85	18			70		
1.60	20	29	48	71	90	99
2.00	183			218		
2.35	235	238	240	132		155
2.50				219		
2.60*)	234	109	121	222/133		154
2.75				220	242	245
2.85	236	237	241	134		156
2.90				231		230
3.00*)	184			221	168	246
3.25				223	244	247
3.50				224		
3.60	104/232	110	122	135		157
4.00				225	169	248
4.50				226		
4.75			201	205		
5.00*)	185	193	202	206		228
5.25			203	207		
5.50				227		
6.00	186	194	204	208		229

\*) Steady incidences for which unsteady measurements were performed as well

TABLE 9.6  
Steady perturbation test results for LANN model to complete  
the unsteady programme (Run numbers)

$\alpha_o$		0.25	0.50	0.75	1.00
$\alpha_m$	M				
0.6	.62	<u>260</u>			261
	.72				262
	.77				263
	.82	<u>264</u>			265
	.87				266
	.95				267
2.6	.62	268			269
	.72	270			271
	.77	<u>272</u>			273
	.82	<u>274</u>			275
3.0	0.72				
	0.77				
	0.82	276	277		278
	0.87	279			
	0.95	280			
5.0	0.62				
	0.72				
	0.82	281	282		283

Note: Data are included in this Data Set for underlined run numbers

TABLE 9.7  
Steady perturbations test results for LANN model to show the  
influence of  $\alpha_m$  (Run numbers)

$\alpha_o$		0.25	1.00
$\alpha_m$	M		
1.60	.62		284
	.72		285
	.77		286
	.82		287
	.95		288
2.60	.95	289	290
2.75	.82	291	
3.25	.82	292	
3.50	.82		293
4.00	.82		294
	.95		295
4.50	.82		296
4.75	.82	297	
5.00	.77	300	
	.95		298
5.25	.82	299	



TABLE 9.8

Unsteady test programme for LANN model (Run numbers)

f	12	24	36	48	60	72	
$\alpha_o$	1.0	0.25	0.25	0.25	0.25	.025	
$\alpha_m$	M						
0.6	0.62	36	<u>129/22</u>	23	24	25	26
	0.72		30		31	32	33
	0.77	117	<u>118</u>	119	120	65	66
	0.82	83	<u>73</u>	77	<u>85</u>	86	87
	0.87	91	<u>92</u>	93	94	95	96
	0.95		100		101	102	103
2.6	0.62		105		106	107	108
	0.72	111	112	113	114	115	116
	0.77	123	<u>124</u>	125	126		128
	0.82	139	<u>143</u>	150	151	152	153
3.0	0.72		165				
	0.77		166				
	0.82		167				
	0.87		170		171	172	173
	0.95	250	175	179	180	181	182
5.0	0.62	187	188	189	190	191	192
	0.72	195	196	197	198	199	200
	0.82	211	212	214	215	216	217

Note: Data are included in this Data Set for underlined run numbers

TABLE 9.9

Test programme for amplitude variation and higher harmonics  
for LANN model (Run numbers)

M	$\alpha_m$	f	$\alpha_o$		0.125	0.25	0.5	1.0
			harm					
0.62	0.6	12	1		34	21	35	36
		24	1		37	<u>22/39/129</u>	42	
		24	2			40/130	43	
		24	3			41/131	44	
		36	1		45	23		
0.82	0.6	12	1			<u>72</u>	<u>82</u>	83
		24	1		78	<u>73</u>	<u>79</u>	
		24	2			<u>74</u>	80	
		24	3			<u>75</u>	81	
		36	1		76	77		
0.82	2.6	12	1		136	137	138	139
		24	1		140	<u>143</u>	146	
		24	2		141	<u>144</u>	147	
		24	3		142	<u>145</u>	148	
		36	1		149	150		
0.95	2.6	12	1		161	162	163	
0.95	3.0	24	1			175	178	
		24	2			176		
		24	3			177		
0.82	5.0	12	1			209	210	211
		24	1			212	213	

Note: Data are included in this Data Set for underlined run numbers

Table 9.10

## CASES FOR WHICH DATA ARE INCLUDED IN THIS DATA SET

(Note: These differ from the cases of Ref. 9.4; Case 5 is now the central transonic case.  
Those marked \* are priority cases.)

Case	M	$\alpha_m$ (deg)	$\alpha_o$ (deg)	f (Hz)	REDFR= $\omega c_{AC}/2V$	k= $\omega c_T/2V$	Type of flow	Unsteady & Steady		Steady Perturbation	
								Run N <sup>o</sup>	Table N <sup>o</sup>	Run N <sup>o</sup>	Table N <sup>o</sup>
1	0.62	0.6	0.25	24	0.099	0.133	subsonic	22	9.11	260	9.21
2*	0.77	0.6	0.25	24	0.080	0.108	transonic	118	9.12	-	-
3*	0.77	2.6	0.25	24	0.080	0.108	attached	124	9.13	272	9.22
4*	0.82	0.6	0.25	12	0.038	0.051		72	9.14	264	9.23
5*	0.82	0.6	0.25	24	0.076	0.102		73,74,75	9.15 a,b,c	264	9.23
6	0.82	0.6	0.5	12	0.038	0.051		82	9.16	-	-
7	0.82	0.6	0.5	24	0.076	0.102		79	9.17	-	-
8	0.82	0.6	0.25	48	0.151	0.203		85	9.18	264	9.23
9	0.82	2.6	0.25	24	0.075	0.103	partly	143,144,145	9.19 a,b,c	274	9.24
10	0.87	0.6	0.25	24	0.071	0.096	attached	92	9.20	-	-



\*\*\* LANN \*\*\* RUN 22 \*\*\*

TABLE 9.11 (cont'd)

NR. UP	LOW	XCHORD	PRESSURE		DISTRIBUTION (TUBES)			CALIBRATION (TRANS.)			NR.	
			Cp	STEADY!	M-LOC.	Cp	Cp	IM	Cp	Cp		IM
1		0.0	.664		.371							
2		.5	-.205		.688							
3		1.5	-.940		.924	-18.20		-4.53				
4		3.0	-1.027		.953	-15.52		.201				
5		5.0	-1.022		.951	-11.17		.021				
6		7.5	-.883		.906							
7		10.0	-.739		.859	-6.879		.539	-7.346	.418	307	
8		15.0	-.623		.822	-4.667		.056				
9		20.0	-.545		.797	-3.838		-.005	-4.154	-.040	309	
10		25.0	-.496		.782	-3.347		-.119				
		30.0										
12		35.0	-.433		.762	-2.338		-.212				
13		40.0	-.414		.755	-1.971		-.362	-2.194	-.263	313	
14		45.0	-.395		.749	-1.718		-.409				
15		50.0	-.372		.742	-1.072		-.044	-1.652	-.289	315	
16		55.0	-.340		.732	-1.242		-.199				
17		60.0	-.314		.723	-1.129		-.277	-1.137	-.309	317	
18		65.0	-.281		.713	-.934		-.219				
19		70.0	-.240		.700	-.664		-.304	-.689	-.244	319	
20		75.0	-.194		.684	-.436		-.042				
21		80.0	-.143		.668	-.317		-.062	-.333	-.154	321	
22		85.0	-.088		.650							
23		90.0	-.021		.628	-.196		-.120	-.110	-.112	323	
24		95.0	.058		.601							
	25	.5	.731		.340							
	26	1.5	.440		.464	.060		-.078				
	27	3.0	.302		.516	9.042		2.300				
		5.0										
	29	7.5	.087		.591							
	30	10.0	.014		.616	3.964		-.503				
		15.0										
	32	20.0	-.184		.681	3.107		-.105				
		25.0										
		30.0										
		40.0										
	36	50.0	-.294		.717	1.830		.276				
	37	60.0	-.162		.674	1.074		.273				
	38	70.0	.024		.613	.637		.360				
	39	80.0	.182		.559	.321		.236				
	40	90.0	.275		.526	.328		.238				

OVERALL		SECTION 3		
COEFFICIENTS	STEADY!	RE	IM	
Cz	UPPER	.368	.881	.035
Cz	LOWER	-.038	.597	.061
Cz	TOTAL	.330	1.478	.096
Cm	UPPER	.023	-.093	.027
Cm	LOWER	.007	.039	.033
Cm	TOTAL	.030	-.053	.059

NR. UP	LOW	XCHORD	PRESSURE		DISTRIBUTION (TUBES)			CALIBRATION (TRANS.)			NR.	
			Cp	STEADY!	M-LOC.	Cp	Cp	IM	Cp	Cp		IM
1		0.0	.739		.336							
2		.5	-.103		.655							
3		1.5	-.728		.856	-20.34		-3.405				
4		3.0	-.896		.910	-15.44		-1.145				
5		5.0	-.936		.923	-9.181		.010	-13.71	.607	405	
6		7.5	-.790		.876							
7		10.0						-.522		.157	407	
8		15.0	-.616		.820	-5.705		-.126				
9		20.0	-.550		.799	-4.347		-.244	-4.636	-.240	409	
10		25.0	-.505		.784	-3.697		-.244				
		30.0										
12		35.0	-.444		.765	-2.596		-.113				
13		40.0	-.429		.760	-2.366		-.364	-2.486	-.308	413	
14		45.0	-.411		.754	-1.888		-.326				
15		50.0	-.387		.747	-1.777		-.182	-1.842	-.336	415	
16		55.0	-.368		.741	-1.190		.074				
17		60.0	-.341		.732	-1.465		-.280	-1.297	-.280	417	
18		65.0	-.315		.724	-1.134		-.281				
19		70.0	-.279		.712	-.791		-.010				
20		75.0	-.262		.706	-.571		-.131				
21		80.0	-.175		.678	-.393		-.002	-.492	-.172	421	
22		85.0	-.098		.653							
23		90.0	-.027		.630	-.146		.045				
24		95.0	.046		.605							
	25	.5	.673		.367							
	26	1.5	.333		.505	8.837		3.921				
	27	3.0	.204		.551	7.622		3.071				
		5.0										
		7.5										
		10.0										
	31	15.0	-.102		.654	4.032		.088				
	32	20.0	-.186		.682	3.441		.162				
	33	25.0	-.238		.699							
		30.0										
	35	40.0	-.308		.721	2.602		.465				
	36	50.0	-.283		.713	1.725		.329				
	37	60.0	-.129		.663	1.218		.487				
	38	70.0	.046		.605	.707		.384				
	39	80.0	.207		.550	.399		.296				
	40	90.0	.285		.522	.325		.407				

OVERALL		SECTION 4		
COEFFICIENTS	STEADY!	RE	IM	
Cz	UPPER	.374	.931	.066
Cz	LOWER	-.043	.730	.183
Cz	TOTAL	.331	1.661	.248
Cm	UPPER	.032	-.072	-.002
Cm	LOWER	.012	.013	.022
Cm	TOTAL	.043	-.058	.020

\*\*\* LANN \*\*\* RUN 22 \*\*\*

TABLE 9.11 (cont'd)

NR.	ZCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
		Cp	M-LOC.	Cp	Cp	RE	IM	
UP	LOW	STEADY	RE	IM	RE	IM		
1	0.0	.781	.315					
2	.5	.097	.588					
3	1.5	-.483	.778	-17.08	-4.605	**		
4	3.0	-.670	.837	-12.94	-2.189	**		
5	5.0	-.687	.843	-14.72	-3.391	**	-12.57	
6	7.5	-.705	.849			**	-.212	
7	10.0	-.602	.815	-4.660	.313	**		
9	15.0					**		
10	20.0	-.518	.788	-4.320	-.322	**		
11	25.0	-.489	.779	-3.745	-.254	**		
13	35.0	-.459	.770	-3.340	-.373	**		
14	40.0	-.418	.757	-2.350	-.374	**		
15	45.0	-.406	.753	-1.980	-.443	**		
16	50.0	-.390	.748	-1.710	-.182	**		
17	55.0	-.372	.742	-1.429	-.216	**		
18	60.0	-.354	.736	-1.255	-.331	**		
19	65.0	-.339	.731	-.978	-.149	**		
20	70.0	-.314	.723	-.809	-.149	**	-0.851	
21	75.0	-.293	.717	-.311	.026	**	-.196	
22	80.0	-.237	.698	-.193	.005	**		
23	85.0	-.134	.685			**		
24	90.0	-.053	.638	-.079	-.014	**		
25	95.0	.042	.607			**		
	.5	.599	.400			**		
	1.5					**		
	3.0					**		
	5.0					**		
	7.5					**		
30	10.0	-.142	.660			**		
	15.0					**		
32	20.0	-.202	.687	4.001	.256	**		
	25.0					**		
34	30.0	-.272	.710	2.602	.101	**		
	40.0					**		
36	50.0	-.301	.719	1.474	.043	**		
	60.0					**		
	70.0					**		
39	80.0	.214	.547	.291	.209	**		
40	90.0	.289	.521	.252	.177	**		

OVERALL COEFFICIENTS		STEADY	RE	IM
Uz	UPPER	.357	.910	.128
Lz	LOWER	-.047	.458	.030
Tz	TOTAL	.311	1.368	.158
Um	UPPER	.042	-.080	-.017
Lm	LOWER	.012	.082	.020
Tm	TOTAL	.054	.002	.003

NR.	ZCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
		Cp	M-LOC.	Cp	Cp	RE	IM	
UP	LOW	STEADY	RE	IM	RE	IM		
1	0.0	.789	.311					
	.5							
3	1.5	-.176	.679					
	3.0							
5	5.0	-.480	.776	-13.55	-5.273	**		
	7.5					**		
7	10.0	-.499	.782	-6.213	-.626	**		
8	15.0	-.469	.773	-4.329	-.400	**		
9	20.0	-.511	.786			**		
10	25.0	-.434	.762	-2.287	-.207	**		
11	30.0	-.408	.753			**		
12	35.0	-.388	.747	-1.565	-.248	**		
13	40.0	-.362	.739	-1.459	-.273	**		
14	45.0	-.350	.735	-1.183	-.256	**		
15	50.0	-.340	.732	-1.083	-.182	**		
16	55.0	-.331	.729	-.823	-.094	**		
17	60.0	-.317	.724	-.785	-.201	**		
18	65.0	-.316	.724	-.582	-.030	**		
19	70.0	-.309	.722	-.521	-.015	**		
20	75.0	-.289	.715	-.288	-.012	**		
21	80.0	-.246	.701	-.218	.004	**		
22	85.0	-.137	.666			**		
23	90.0	-.028	.630	-.138	.021	**		
24	95.0	.060	.600			**		
25	.5	.402	.479			**		
	1.5					**		
	3.0					**		
	5.0					**		
	7.5					**		
	10.0					**		
31	15.0	-.199	.686	3.173	.080	**		
	20.0					**		
33	25.0	-.255	.704			**		
34	30.0	-.268	.709	1.555	.140	**		
35	40.0	-.294	.717	.948	.060	**		
36	50.0	-.263	.707	.669	.104	**		
	60.0					**		
	70.0					**		
39	80.0	.219	.546	-.130	.139	**		
40	90.0	.281	.523	-.055	.179	**		

OVERALL COEFFICIENTS		STEADY	RE	IM
Uz	UPPER	.303	.698	.154
Lz	LOWER	-.042	.240	.032
Tz	TOTAL	.261	.938	.186
Um	UPPER	.043	-.084	-.041
Lm	LOWER	.014	.000	.020
Tm	TOTAL	.057	-.083	-.021





\*\*\* LANN \*\*\* RUN 110 \*\*\*

TABLE 9.12 (cont'd)

NR. UP   LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1	0.0	.760	.416						
2	.5	.047	.752						
3	1.5	-.645	1.059	-7.300	.584				
4	3.0	-.924	1.197	-9.164	1.257				
5	5.0	-1.034	1.256	-8.047	.961				
6	7.5	-1.174	1.337						
7	10.0	-1.183	1.342	-4.290	.474	-4.598	.897	307	
8	15.0	-1.087	1.286	-28.81	4.653				
9	20.0	-.563	1.021	-11.58	-.435	-8.644	.323	309	
10	25.0	-.514	.999	1.383	-2.362				
12	35.0	-.402	.984	-.506	-1.176				
13	40.0	-.469	.978	-.683	-1.067	-.890	-.854	313	
14	45.0	-.449	.969	-.914	-1.135				
15	50.0	-.423	.957	-.597	-.541	-.707	-.645	315	
16	55.0	-.380	.938	-.592	-.510				
17	60.0	-.346	.923	-.730	-.408	-.501	-.497	317	
18	65.0	-.301	.903	-.562	-.435				
19	70.0	-.251	.881	-.305	-.437	-.238	-.354	319	
20	75.0	-.194	.856	-.196	-.373				
21	80.0	-.132	.830	-.332	-.194	-.145	-.142	321	
22	85.0	-.070	.803						
23	90.0	.001	.772	-.113	-.182	-.039	-.107	323	
24	95.0	.081	.737						
25	.5	.715	.441						
26	1.5	.395	.598	6.289	.854				
27	3.0	.275	.652	7.572	1.384				
29	7.5	.062	.746						
30	10.0	-.015	.779	3.312	-.624				
32	15.0								
32	20.0	-.243	.878	3.937	-.448				
36	50.0	-.377	.937	3.161	.232				
37	60.0	-.189	.854	1.257	.078				
38	70.0	.029	.760	.712	.181				
39	80.0	.192	.689	.520	.171				
40	90.0	.291	.645	.438	.140				

OVERALL COEFFICIENTS		STEADY!	** SECTION 3 **		
			RE	IM	
Gz	UPPER	.423	.967	.077	
Gz	LOWER	-.070	.742	.006	
Gz	TOTAL	.353	1.709	.083	
Gm	UPPER	.020	-.156	.089	
Gm	LOWER	.005	.091	.020	
Gm	TOTAL	.025	-.066	.109	

NR. UP   LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1	0.0	.812	.386						
2	.5	.117	.722						
3	1.5	-.525	1.004	-10.90	.349				
4	3.0	-.842	1.155	-7.635	.940				
5	5.0	-1.004	1.240	-5.136	1.023	-7.941	1.345	405	
6	7.5	-1.086	1.286						
7	10.0					-6.300	1.405	407	
8	15.0	-.864	1.166	-66.93	8.977				
9	20.0	-.575	1.026	-.434	-2.584	-.478	-2.153	409	
10	25.0	-.551	1.015	3.927	-2.147				
12	35.0	-.509	.996	-1.476	-.634				
13	40.0	-.495	.990	-1.342	-.548	-1.447	-.538	413	
14	45.0	-.475	.981	-1.203	-.463				
15	50.0	-.445	.967	-.978	-.592	-1.254	-.425	415	
16	55.0	-.416	.954	-.955	-.517				
17	60.0	-.380	.938	-.940	-.297	-.856	-.321	417	
19	70.0	-.295	.901	-.300	-.315				
20	75.0	-.263	.887	-.059	-.119				
21	80.0	-.167	.845	0.000	0.000	-.143	-.126	421	
22	85.0	-.080	.807						
23	90.0	-.003	.774	.031	-.127				
24	95.0	.072	.742						
25	.5	.657	.471						
26	1.5	.301	.641	7.456	1.375				
27	3.0	.177	.696	6.780	1.308				
31	10.0								
31	15.0	-.148	.837	4.012	-.267				
32	20.0	-.249	.881	4.501	-.286				
33	25.0	-.318	.911						
35	30.0								
35	40.0	-.411	.952	4.732	.649				
36	50.0	-.365	.931	2.972	.305				
37	60.0	-.152	.838	1.555	.429				
38	70.0	.051	.750	.887	.361				
39	80.0	.220	.677	.621	.346				
40	90.0	.302	.640	.556	.256				

OVERALL COEFFICIENTS		STEADY!	** SECTION 4 **		
			RE	IM	
Gz	UPPER	.422	1.511	-.040	
Gz	LOWER	-.080	.917	.105	
Gz	TOTAL	.342	2.428	.065	
Gm	UPPER	.030	-.308	.081	
Gm	LOWER	.010	.097	.043	
Gm	TOTAL	.040	-.211	.123	



TABLE 9.13

TEST CONDITIONS	NORM. COEFF.						MOM. COEFF.						DISPLACEMENTS			VIBRATION MODE		
	Cz		Czi		Cm		Cmi		REL. TO LVDT		**		**/(B/2)		HEAVE AT		PITCH	
	RE	IM	RE	IM	RE	IM	RE	IM	AMPL. (DEG)	PHASE (DEG)	**	**	X=2.24 M (MM)	MM	(DEG)			
RUNNR. = 124	ISECT.1	.447	1.386	-.142	.013	.063	.130	LVDT	1.00	0.00	**	.000						
	ISECT.2	.487	1.523	-.203	.013	.035	.145	CALC. 1	1.09	2.48	**	.100						
ALFA = 2.60 (DEG)	ISECT.3	.550	2.251	-.094	.020	-.022	.139	ACC. 2	.34	1.69	**	.100	.01		.22			
MACH = .771	ISECT.4	.557	1.644	.212	.033	-.139	.157	ACC. 3	.57	-176.46	**	.100						
RE*10**=6= 5.22	ISECT.5	.526	1.996	.050	.043	-.134	.083	ACC. 4	.24	-156.77	**	.420						
Q = 41.71 (KPA)	ISECT.6	.409	1.424	.158	.044	-.165	.023	ACC. 5	.98	-179.19	**	.420	.10		.24			
P-SETTL. = 148.5 (KPA)	WING	.480	1.614	-.049	.045	.247	.231	ACC. 6	1.61	-177.35	**	.420						
T-SETTL. = 27.00								ACC. 7	1.78	-175.51	**	.700						
DALFA = .249 (DEG)								(WING 1 CM ABOUT AERODYN. CENTER)	CALC. 8	2.27	-178.41	**	.700	.37	.22			
FREQ. = 24.00 (Hz)									CALC. 9	2.75	-177.82	**	.700					
REDFR. = .080									CALC. 10	2.97	-177.75	**	.920					
HARM. = 1									ACC. 11	3.37	-177.95	**	.920	.43	.25			
									ACC. 12	3.78	-178.11	**	.920					

NR. UP	XCHORD LOW	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)		CALIBRATION (TRANSD.)		NR.	OVERALL COEFFICIENTS	SECTION 1				
			M-LOC.	Cp RE	Cp IM	Cp RE			Cp IM	STEADY	RE	IM	
1	0.0	.600	.500					Cz	UPPER	.484	.816	-.111	
2	.5	-.175	.847					Cz	LOWER	-.037	.570	-.031	
3	1.5	-.913	1.189	-6.012	1.354			Cz	TOTAL	.447	1.386	-.142	
4	3.0	-1.265	1.388	-5.124	.801			Cm	UPPER	.012	-.048	.107	
5	5.0	-1.310	1.416			-6.617	1.911	105	Cm	LOWER	.001	.111	.023
6	7.5	-1.368	1.455						Cm	TOTAL	.013	.063	.130
7	10.0	-1.375	1.460	-4.070	2.166								
8	15.0	-1.305	1.413	-4.576	1.957								
9	20.0	-.747	1.106	-17.85	6.178								
10	25.0	-.620	1.045	-4.758	.559								
11	30.0	-.567	1.021	-2.719	-.123								
12	35.0	-.531	1.004										
13	40.0	-.498	.989	-1.589	-.621								
14	45.0	-.473	.978	-1.216	-.678								
15	50.0	-.439	.962	-1.138	-.841								
16	55.0	-.394	.943	-1.062	-.669								
17	60.0	-.351	.924	-.725	-.627								
18	65.0	-.296	.899	-.630	-.465								
19	70.0	-.237	.873	-.295	-.527	-.403	-.481	119					
20	75.0	-.182	.850	-.270	-.238								
21	80.0	-.123	.824	-.076	-.334								
22	85.0	-.046	.791										
23	90.0	.011	.766	.047	-.248								
24	95.0	.085	.734										
25	.5	.791	.397										
26	1.5	.517	.540	3.798	.397								
27	3.0	.429	.581	4.334	.868								
28	5.0	.335	.624	2.568	-.332								
29	7.5	.190	.688										
30	10.0												
31	15.0	.004	.769	2.473	-.670								
32	20.0	-.123	.824	2.857	-.568								
33	25.0	-.209	.861										
34	30.0	-.303	.902	3.307	-.671								
35	40.0	-.320	.910	2.329	-.301								
36	50.0	-.345	.921	2.681	.044								
37	60.0	-.195	.855	1.455	.136								
38	70.0	.022	.762	.905	.133								
39	80.0	.184	.691	.474	.211								
40	90.0	.286	.646	.338	.237								

NR. UP	XCHORD LOW	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)		CALIBRATION (TRANSD.)		NR.	OVERALL COEFFICIENTS	SECTION 2			
			M-LOC.	Cp RE	Cp IM	Cp RE			Cp IM	STEADY	RE	IM
1	0.0	.628	.485					Cz	UPPER	.518	.900	-.194
2	.5	-.137	.830					Cz	LOWER	-.031	.623	-.009
3	1.5	-.960	1.214	-6.869	1.695			Cz	TOTAL	.487	1.523	-.203
4	3.0	-1.207	1.352	-6.192	2.055			Cm	UPPER	.008	-.078	.109
5	5.0	-1.314	1.419	-5.168	1.878			Cm	LOWER	.005	.113	.036
6	7.5	-1.425	1.494					Cm	TOTAL	.013	.035	.145
7	10.0	-1.427	1.496	-4.099	2.539							
8	15.0	-1.369	1.456	-5.055	2.611							
9	20.0	-1.332	1.431	-3.889	2.438							
10	25.0	-.763	1.113	-19.67	5.790							
11	30.0	-.587	1.030	-11.59	3.841							
12	35.0	-.486	.984	-3.580	-.318							
13	40.0	-.451	.968	.532	-1.727							
14	45.0	-.432	.959									
15	50.0	-.419	.954	.418	-1.204							
16	55.0	-.376	.934	.296	-.908							
17	60.0	-.336	.917	.151	-.815							
18	65.0	-.297	.900	.145	-.504							
19	70.0	-.236	.873	.155	-.549							
20	75.0	-.175	.846	.004	-.316							
21	80.0	-.124	.824	-.019	-.230							
22	85.0	-.056	.795									
23	90.0	.011	.767	.011	-.059							
24	95.0	.086	.734									
25	.5	.799	.393									
26	1.5	.527	.535	4.567	.954							
27	3.0	.416	.587									
28	5.0	.288	.645	1.757	-.592							
29	7.5	.198	.685									
30	10.0	-.141	.710	2.955	-.625							
31	15.0	-.003	.772	2.764	-.514							
32	20.0	-.128	.826	2.965	-.443							
33	25.0	-.211	.862									
34	30.0	-.290	.896	3.423	-.629							
35	40.0	-.352	.924	3.460	-.154							
36	50.0	-.330	.914	2.178	-.143							
37	60.0	-.168	.843	1.584	.297							
38	70.0	.044	.752	.819	.187							
39	80.0	.202	.683	.500	.205							
40	90.0	.297	.641	.427	.237							

\*\*\* LANN \*\*\* RUN 124 \*\*\*

TABLE 9.13 (cont'd)

NR. UP	LOW	ZCHORD	PRESSURE Cp STEADY!	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.651	.474						
2		.5	-.165	-.842						
3		1.5	-.915	1.190	-6.131	.474				
4		3.0	-1.214	1.357	-6.485	.051				
5		5.0	-1.311	1.418	-6.863	-.762				
6		7.5	-1.403	1.477						
7		10.0	-1.387	1.468	-4.964	.973	-5.070	1.166	307	
8		15.0	-1.382	1.464	-4.987	1.190				
9		20.0	-1.335	1.433	-6.515	1.355	-6.487	1.629	309	
10		25.0	-1.138	1.312	-40.09	7.311				
12		35.0	-.537	1.007	-16.23	2.376				
13		40.0	-.442	.964	-4.152	-.647	-4.311	-.380	313	
14		45.0	-.409	.949	2.287	-2.267				
15		50.0	-.392	.942	2.006	-1.873	2.540	-2.067	315	
16		55.0	-.361	.928	2.128	-1.686				
17		60.0	-.332	.915	1.440	-1.274	1.461	-1.330	317	
18		65.0	-.291	.897	1.097	-1.101				
19		70.0	-.244	.876	.731	-.724	.854	-.833	319	
20		75.0	-.188	.852	.564	-.629				
21		80.0	-.128	.826	.242	-.588	.322	-.367	321	
22		85.0	-.068	.800						
23		90.0	.001	.771	.130	-.273	.145	-.195	323	
24		95.0	.081	.736						
25	25	.5	.807	.388						
26	26	1.5	.548	.525	4.680	1.205				
27	27	3.0	.423	.584	5.053	1.149				
29	29	7.5	.199	.685						
30	30	10.0	.114	.722	2.704	-.595				
32	32	15.0								
		20.0	-.118	.822	3.075	-.424				
		25.0								
		30.0								
		40.0								
36	36	50.0	-.300	.901	2.549	.124				
37	37	60.0	-.146	.834	1.199	.151				
38	38	70.0	.056	.747	.737	.086				
39	39	80.0	.215	.678	.527	.160				
40	40	90.0	.309	.636	.355	.248				

OVERALL COEFFICIENTS		STEADY!	SECTION 3		
RE	IM		RE	IM	
Cz	UPPER	.549	1.656	-.098	
Cz	LOWER	.001	.595	.004	
Cz	TOTAL	.550	2.251	-.094	
Cm	UPPER	.010	-.113	.118	
Cm	LOWER	.010	.091	.020	
Cm	TOTAL	.020	-.022	.139	

NR. UP	LOW	ZCHORD	PRESSURE Cp STEADY!	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.714	.440						
2		.5	-.125	.825						
3		1.5	-.898	1.181	-9.442	.177				
4		3.0	-1.186	1.293	-6.812	.166				
5		5.0	-1.276	1.395	-5.249	-.069	-7.187	1.405	405	
6		7.5	-1.328	1.428						
7		10.0					-4.483	1.040	407	
8		15.0	-1.310	1.416	-8.163	.272				
9		20.0	-1.298	1.409	-7.198	.712	-7.185	1.362	409	
10		25.0	-1.262	1.386	-9.636	1.469				
12		35.0	-.542	1.009	-18.74	.230				
13		40.0	-.451	.968	-5.087	-1.341	-5.903	-.406	413	
14		45.0	-.422	.955	2.538	-2.061				
15		50.0	-.406	.948	4.034	-2.032	3.161	-1.945	415	
16		55.0	-.390	.941	2.971	-1.899				
17		60.0	-.362	.928	2.634	-1.159	2.301	-1.334	417	
19		65.0								
20		70.0	-.285	.895	1.307	-.833				
21		75.0	-.254	.881	1.177	-.563				
22		80.0	-.163	.841	.592	-.336	.860	-.458	421	
23		85.0	-.077	.804						
24		90.0	-.004	.773	.241	-.210				
25	25	.5	.070	.741						
26	26	1.5	.773	.488	5.222	1.592				
27	27	3.0	.483	.556	4.820	1.320				
		5.0	.349	.618						
		7.5								
		10.0								
31	31	15.0	-.014	.777	3.024	-.239				
32	32	20.0	-.119	.822	3.251	-.119				
33	33	25.0	-.192	.854						
		30.0								
35	35	40.0	-.307	.904	3.466	.405				
36	36	50.0	-.287	.896	2.436	.211				
37	37	60.0	-.111	.819	1.245	.384				
38	38	70.0	.077	.738	.818	.373				
39	39	80.0	.243	.665	.469	.248				
40	40	90.0	.322	.630	.390	.270				

OVERALL COEFFICIENTS		STEADY!	SECTION 4		
RE	IM		RE	IM	
Cz	UPPER	.560	.960	.117	
Cz	LOWER	-.003	.684	.095	
Cz	TOTAL	.557	1.644	.212	
Cm	UPPER	.018	-.222	.123	
Cm	LOWER	.015	.084	.034	
Cm	TOTAL	.033	-.139	.157	

\*\*\* LANN \*\*\* RUN 124 \*\*\*

TABLE 9.13 (cont'd)

NR. UP	LOW	ZCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.732	.431			**			
2		.5	-.044	.790			**			
3		1.5	-.653	1.061	-7.437	-.055	**			
4		3.0	-1.008	1.239	-7.094	-.121	**			
5		5.0	-1.114	1.298	-8.980	-.021	**	-7.776	1.283	505
6		7.5	-1.153	1.320			**			
7		10.0	-1.191	1.343	-7.917	.205	**			
		15.0					**			
9		20.0	-1.169	1.330	-11.41	.125	**			
10		25.0	-1.094	1.287	-22.71	1.087	**			
11		30.0	-.612	1.042	-35.68	2.370	**			
		35.0					**			
13		40.0	-.460	.972	5.762	-2.407	**			
14		45.0	-.457	.971	5.837	-1.787	**			
15		50.0	-.446	.966	4.075	-1.357	**			
16		55.0	-.426	.957	2.711	-.869	**			
17		60.0	-.399	.945	1.838	-.637	**			
18		65.0	-.373	.933	1.229	-.419	**			
19		70.0	-.338	.918	1.011	-.366	**	1.014	-.322	519
20		75.0	-.301	.901	.213	-.279	**			
21		80.0	-.226	.869	.128	-.068	**			
22		85.0	-.113	.820			**			
23		90.0	-.026	.782	-.151	-.036	**			
24		95.0	.067	.742			**			
	25	.5	.737	.427			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	.044	.752	2.932	-.429	**			
		15.0					**			
	32	20.0	-.130	.827	3.476	-.088	**			
		25.0					**			
	34	30.0	-.239	.874	2.978	-.529	**			
		40.0					**			
	36	50.0	-.304	.903	1.951	.076	**			
		60.0					**			
		70.0					**			
	39	80.0	.244	.665	.423	.134	**			
		90.0	.320	.631	.222	.091	**			

OVERALL		SECTION 5		
COEFFICIENTS	STEADY	RE	IM	
Cz	UPPER	.527	1.461	.074
Cz	LOWER	-.001	.535	-.024
Cz	TOTAL	.526	1.996	.050
Cm	UPPER	.031	-.239	.067
Cm	LOWER	.012	.105	.016
Cm	TOTAL	.043	-.134	.083

NR. UP	LOW	ZCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.734	.429			**			
		.5					**			
3		1.5	-.437	.962			**			
		3.0					**			
5		5.0	-.916	1.190	-8.674	-.321	**			
		7.5					**			
7		10.0	-.992	1.231	-10.54	-.710	**			
8		15.0	-1.011	1.240	-7.087	-.510	**			
9		20.0	-.939	1.202	-39.10	-1.774	**			
10		25.0	-.515	.997	-7.908	-2.169	**			
11		30.0	-.460	.972			**			
12		35.0	-.459	.971	5.016	-.677	**			
13		40.0	-.435	.961	1.973	-.133	**			
14		45.0	-.417	.953	.958	-.443	**			
15		50.0	-.399	.945	.359	-.003	**			
16		55.0	-.381	.937	.067	-.142	**			
17		60.0	-.361	.928	-.277	-.128	**			
18		65.0	-.354	.925	-.330	.014	**			
19		70.0	-.339	.918	-.316	.020	**			
20		75.0	-.305	.903	-.344	.155	**			
21		80.0	-.238	.874	-.577	-.199	**			
22		85.0	-.115	.821			**			
23		90.0	-.007	.774	-.664	.111	**			
24		95.0	.077	.738			**			
	25	.5	.639	.480			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.132	.828	2.686	-.097	**			
		20.0					**			
	33	25.0	-.243	.876			**			
	34	30.0	-.272	.889	2.163	-.102	**			
	35	40.0	-.317	.909	1.743	.260	**			
	36	50.0	-.282	.893	.740	.139	**			
		60.0					**			
		70.0					**			
	39	80.0	.229	.672	-.047	.274	**			
		90.0	.294	.643	-.168	.239	**			

OVERALL		SECTION 6		
COEFFICIENTS	STEADY	RE	IM	
Cz	UPPER	.427	1.146	.124
Cz	LOWER	-.010	.278	.034
Cz	TOTAL	.407	1.424	.158
Cm	UPPER	.034	-.181	-.013
Cm	LOWER	.010	.016	.036
Cm	TOTAL	.044	-.165	.023







\*\*\* LANN \*\*\* RUN 72 \*\*\*

TABLE 9.14 (cont'd)

NR.	ZCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
		Cp	M-LOC.	Cp	Cp	RE	IM	
UP	LOW	STEADY		RE	IM			
1	0.0	.800	.421					
2	.5	.155	.749					
3	1.5	-.491	1.056	-4.786	.648			
4	3.0	-.759	1.200	-5.876	.514			
5	5.0	-.884	1.272	-5.215	.008			
6	7.5	-1.034	1.366					
7	10.0	-1.037	1.368	-3.434	.285	-4.710	.565	307
8	15.0	-1.050	1.377	-5.022	.459			
9	20.0	-1.036	1.367	-5.187	.466	-4.513	.573	309
10	25.0	-1.019	1.356	-5.948	.690			
	30.0							
12	35.0	-.722	1.179	-51.15	9.538			
13	40.0	-.458	1.040	-14.21	-.997	-11.11	.415	313
14	45.0	-.395	1.009	-.987	-1.671			
15	50.0	-.373	.998	2.245	-2.021	2.366	-1.546	315
16	55.0	-.343	.983	2.961	-1.621			
17	60.0	-.317	.970	2.241	-1.281	2.303	-1.082	317
18	65.0	-.278	.952	1.831	-.950			
19	70.0	-.230	.929	1.309	-.782	1.256	-.603	319
20	75.0	-.172	.901	.775	-.588			
21	80.0	-.112	.873	.567	-.408	.510	-.283	321
22	85.0	-.050	.844					
23	90.0	.020	.811	.272	-.363	.215	-.158	323
24	95.0	.102	.773					
25	.5	.699	.479					
26	1.5	.374	.645	5.112	-.612			
27	3.0	.260	.699	5.821	.498			
	5.0							
29	7.5	.049	.798					
30	10.0	-.029	.834	3.466	-.588			
	15.0							
32	20.0	-.272	.949	4.888	-.388			
	25.0							
	30.0							
	40.0							
36	50.0	-.417	1.020	2.457	.006			
37	60.0	-.191	.910	1.071	.039			
38	70.0	.038	.803	.811	-.024			
39	80.0	.199	.728	.971	.100			
40	90.0	.299	.681	.583	.077			

(OVERALL COEFFICIENTS)		STEADY	** SECTION 3 **	
			RE	IM
Cz	UPPER	.466	1.744	-.092
Cz	LOWER	-.084	.778	-.034
Cz	TOTAL	.383	2.522	-.126
Cm	UPPER	.018	.036	.089
Cm	LOWER	.006	.097	.011
Cm	TOTAL	.024	.133	.100

NR.	ZCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
		Cp	M-LOC.	Cp	Cp	RE	IM	
UP	LOW	STEADY		RE	IM			
1	0.0	.841	.376					
2	.5	.220	.718					
3	1.5	-.387	1.005	-7.154	.321			
4	3.0	-.692	1.162	-4.746	.429			
5	5.0	-.856	1.255	-3.861	.268	-5.123	.587	405
6	7.5	-.946	1.310					
7	10.0					-4.925	.689	407
8	15.0	-.967	1.323	-5.379	.061			
9	20.0	-.985	1.335	-4.862	.265	-5.112	.624	409
10	25.0	-.979	1.330	-6.437	.402			
	30.0							
12	35.0	-.901	1.282	-22.53	2.968			
13	40.0	-.533	1.076	-33.99	.914	-33.48	3.394	413
14	45.0	-.399	1.011	-5.181	-1.906			
15	50.0	-.372	.997	3.172	-1.893	3.168	-1.643	415
16	55.0	-.359	.991	4.948	-2.134			
17	60.0	-.340	.981	4.439	-1.400	4.244	-1.316	417
	65.0							
19	70.0	-.272	.949	2.256	-.616			
20	75.0	-.242	.934	2.112	-.310			
21	80.0	-.147	.898	.957	-.331	1.255	-.335	421
22	85.0	-.059	.868					
23	90.0	.016	.813	.346	-.225			
24	95.0	.092	.778					
25	.5	.639	.512					
26	1.5	.276	.692	5.722	-.672			
27	3.0	.157	.747	5.214	-.454			
	5.0							
	7.5							
	10.0							
31	15.0	-.170	.900	4.341	-.498			
32	20.0	-.282	.954	5.275	-.329			
33	25.0	-.363	.993					
	30.0							
35	40.0	-.485	1.054	4.652	-.141			
36	50.0	-.400	1.011	2.247	-.091			
37	60.0	-.152	.892	1.175	.101			
38	70.0	.061	.792	.802	.037			
39	80.0	.226	.715	1.041	.110			
40	90.0	.310	.676	.717	.072			

(OVERALL COEFFICIENTS)		STEADY	** SECTION 4 **	
			RE	IM
Cz	UPPER	.477	1.319	.046
Cz	LOWER	-.100	.888	-.039
Cz	TOTAL	.377	2.207	.006
Cm	UPPER	.028	-.082	.098
Cm	LOWER	.010	.111	.017
Cm	TOTAL	.037	.029	.115

\*\*\* LANN \*\*\* RUN 72 \*\*\*

TABLE 9.14 (cont'd)

NR. UP	LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.846	.393			**			
2		.5	.306	.678			**			
3		1.5	-.251	.939	-6.831	.377	**			
4		3.0	-.533	1.078	-5.072	.940	**			
5		5.0	-.676	1.154	-8.641	.555	**	-7.681	.561	505
6		7.5	-.752	1.195			**			
7		10.0	-.823	1.236	-3.835	.835	**			
		15.0					**			
9		20.0	-.829	1.239	-8.029	.724	**			
10		25.0	-.834	1.242	-5.063	.238	**			
11		30.0	-.862	1.259	-7.216	.663	**			
		35.0					**			
13		40.0	-.549	1.086	-41.05	3.060	**			
14		45.0	-.412	1.017	1.214	-2.749	**			
15		50.0	-.401	1.012	8.591	-2.435	**			
16		55.0	-.395	1.009	7.576	-1.728	**			
17		60.0	-.377	1.000	5.131	-1.117	**			
18		65.0	-.357	.990	3.109	-.606	**			
19		70.0	-.323	.974	1.986	-.282	**	2.059	-.312	519
20		75.0	-.286	.955	.774	-.416	**			
21		80.0	-.287	.918	.614	-.202	**			
22		85.0	-.093	.864			**			
23		90.0	-.005	.823	.068	-.131	**			
24		95.0	.088	.779			**			
	25	.5	.570	.548			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	30	10.0	-.140	.886	4.734	-1.103	**			
		15.0					**			
	32	20.0	-.307	.965	6.142	-.321	**			
		25.0					**			
	34	30.0	-.413	1.017	4.602	-.930	**			
		40.0					**			
	36	50.0	-.401	1.011	1.771	-.266	**			
		60.0					**			
		70.0					**			
	39	80.0	.232	.712	.982	.011	**			
	40	90.0	.316	.673	.710	-.073	**			

OVERALL COEFFICIENTS		STEADY	RE	IM
Cz	UPPER	.442	1.220	.014
Cz	LOWER	-.098	.798	-.115
Cz	TOTAL	.344	2.019	-.101
Cm	UPPER	.040	-.145	.087
Cm	LOWER	.007	.136	-.008
Cm	TOTAL	.047	-.009	.079

\*\*\*\*\*  
\*\* SECTION 5 \*\*  
\*\*\*\*\*

NR. UP	LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.835	.400			**			
		.5					**			
3		1.5	-.049	.844			**			
		3.0					**			
5		5.0	-.514	1.068	-8.047	.402	**			
7		7.5					**			
7		10.0	-.718	1.177	-3.853	.216	**			
8		15.0	-.684	1.158	-9.818	1.313	**			
9		20.0	-.768	1.204			**			
10		25.0	-.795	1.220	-6.390	.732	**			
11		30.0	-.386	1.004			**			
12		35.0	-.462	1.042	-29.35	-.745	**			
13		40.0	-.326	.975	6.272	-1.018	**			
14		45.0	-.352	.988	8.238	-.777	**			
15		50.0	-.363	.993	4.537	-.474	**			
16		55.0	-.357	.990	1.985	-.393	**			
17		60.0	-.343	.983	.841	-.037	**			
18		65.0	-.338	.980	.212	-.106	**			
19		70.0	-.323	.973	-.146	.022	**			
20		75.0	-.285	.955	-.120	.164	**			
21		80.0	-.214	.921	-.671	.127	**			
22		85.0	-.086	.861			**			
23		90.0	.025	.809	-.790	-.050	**			
24		95.0	.110	.769			**			
	25	.5	.398	.634			**			
		1.5					**			
		3.0					**			
		5.0					**			
		7.5					**			
	31	10.0					**			
		15.0	-.307	.965	5.626	-.553	**			
		20.0					**			
	33	25.0	-.404	1.013			**			
	34	30.0	-.408	1.015	2.544	-.173	**			
	35	40.0	-.406	1.014	1.085	-.021	**			
	36	50.0	-.347	.970	.328	-.030	**			
		60.0					**			
		70.0					**			
	39	80.0	.235	.711	.045	.119	**			
	40	90.0	.300	.680	.233	.113	**			

OVERALL COEFFICIENTS		STEADY	RE	IM
Cz	UPPER	.350	1.054	-.008
Cz	LOWER	-.094	.380	-.022
Cz	TOTAL	.256	1.433	-.030
Cm	UPPER	.036	-.103	.027
Cm	LOWER	.013	-.010	.016
Cm	TOTAL	.049	-.113	.044

\*\*\*\*\*  
\*\* SECTION 6 \*\*  
\*\*\*\*\*

TABLE 9.15a

TEST CONDITIONS	NORM. COEFF						MOM. COEFF.			DISPLACEMENTS		VIBRATION MODE		
	Cz	Czi		Cm	Cmi		RE	IM	REL. TO LVD	PHASE	**/(B/2)	HEAVE AT X=.224 M	PITCH	
		RE	IM		RE	IM								(-)
RUNNR. = 73	SECT.1	.300	1.429	-.297	.014	.099	.082	LVD	1.00	0.00	** .000			
ALFA = .59 (DEG)	SECT.2	.325	1.981	-.572	.015	.128	.093	CALC. 1	1.13	1.52	** .100			
MACH = .822	SECT.3	.377	2.494	-.465	.023	.131	.097	ACC. 2	.37	-.33	** .100	.01	.23	
RE*10**6= 5.43	SECT.4	.371	2.592	-.147	.037	.077	.140	ACC. 3	.55	-175.71	** .100			
Q = -45.22 (KPA)	SECT.5	.341	2.083	-.070	.047	-.041	.107	ACC. 4	.13	-139.19	** .420			
P-SETTL. = 149.1 (KPA)	SECT.6	.255	1.340	.024	.049	-.162	.030	ACC. 5	.85	-175.73	** .420	.05	.24	
T-SETTL. = 26.00	WING	.320	1.889	-.296	.037	.453	.156	ACC. 6	1.52	-175.55	** .420			
DALFA = .250 (DEG)					(WING CM ABOUT			ACC. 7	1.52	-170.87	** .700			
FREQ. = 24.00 (Hz)					AERODYN. CENTER)			CALC. 8	2.01	-174.98	** .700	.24	.23	
REDFR. = .076								CALC. 9	2.50	-175.03	** .700			
HARM. = 1								CALC. 10	2.61	-173.58	** .920			
								ACC. 11	2.98	-174.16	** .920	.36	.22	
								ACC. 12	3.35	-174.61	** .920			

NR.	XCHORD	PRESSURE DISTRIBUTION (TUBES)	CALIBRATION (TRANSD.)		NR.
			RE	IM	
1	0.0	.743 .455			
2	.5	.128 .762			
3	1.5	-.500 1.063	-3.845	.974	
4	3.0	-.870 1.265	-6.380	1.912	
5	5.0	-.888 1.276			
6	7.5	-1.045 1.376			
7	10.0	-1.065 1.389	-4.034	1.197	
8	15.0	-.969 1.326	-9.239	4.004	
9	20.0	-.620 1.125	-5.258	2.427	
10	25.0	-.606 1.117	-2.512	1.003	
11	30.0	-.585 1.106	-3.414	1.534	
12	35.0	-.579 1.103			
13	40.0	-.591 1.110	-2.899	1.567	
14	45.0	-.568 1.098	-8.638	4.836	
15	50.0	-.431 1.028	-2.773	-1.001	
16	55.0	-.386 1.005	-.694	-1.513	
17	60.0	-.345 .985	-.655	-.913	
18	65.0	-.289 .958	-.769	-.814	
19	70.0	-.226 .928	-.545	-.511	
20	75.0	-.171 .902	-.382	-.357	
21	80.0	-.110 .873	-.230	-.220	
22	85.0	-.033 .837			
23	90.0	.027 .809	-.147	-.163	
24	95.0	.101 .775			
25	.5	.703 .478			
26	1.5	.368 .649	3.781	-.242	
27	3.0	.306 .678	4.488	.202	
28	5.0	.221 .718	5.029	-4.54	
29	7.5	.076 .786			
30	10.0				
31	15.0	-.099 .868	2.788	-.713	
32	20.0	-.239 .934	4.414	-6.00	
33	25.0	-.333 .980			
34	30.0	-.454 1.039	2.426	-.644	
35	40.0	-.508 1.067	2.240	-.991	
36	50.0	-.491 1.058	1.144	.145	
37	60.0	-.250 .939	.949	.278	
38	70.0	-.003 .823	.762	.150	
39	80.0	.167 .744	.531	.123	
40	90.0	.277 .692	.509	.162	

NR.	XCHORD	PRESSURE DISTRIBUTION (TUBES)	CALIBRATION (TRANSD.)		NR.
			RE	IM	
1	0.0	.774 .437			
2	.5	-.168 .743			
3	1.5	-.489 1.057	-6.240	1.177	
4	3.0	-.792 1.220	-6.242	1.958	
5	5.0	-.913 1.291	-6.733	1.277	
6	7.5	-1.055 1.382			
7	10.0	-1.084 1.402	-2.500	.930	
8	15.0	-1.049 1.379	-4.612	1.744	
9	20.0	-1.018 1.358	-7.080	3.242	
10	25.0	-.864 1.262	-27.14	17.045	
11	30.0	-.645 1.139	-7.844	3.807	
12	35.0	-.588 1.108	-6.198	3.244	
13	40.0	-.488 1.057	-9.459	2.340	
14	45.0	-.431 1.028			
15	50.0	-.415 1.020	-.105	-1.798	
16	55.0	-.370 .997	-.375	-1.450	
17	60.0	-.328 .977	-.246	-1.113	
18	65.0	-.286 .957	-.020	-1.000	
19	70.0	-.223 .926	-.014	-.763	
20	75.0	-.161 .897	-.154	-.517	
21	80.0	-.107 .871	-.203	-.281	
22	85.0	-.038 .839			
23	90.0	.031 .807	-.070	-.200	
24	95.0	.106 .772			
25	.5	.701 .479			
26	1.5	.369 .648	5.005	.075	
27	3.0	.272 .694			
28	5.0	.162 .746	2.606	-.925	
29	7.5	.068 .790			
30	10.0	.018 .813	2.868	-.600	
31	15.0	-.127 .881	3.093	-.819	
32	20.0	-.267 .948	4.661	-.661	
33	25.0	-.362 .993			
34	30.0	-.469 1.047	2.071	-.803	
35	40.0	-.554 1.091	4.405	-1.278	
36	50.0	-.450 1.038	1.185	-.134	
37	60.0	-.214 .922	1.103	.240	
38	70.0	-.024 .811	.661	.270	
39	80.0	.185 .735	.555	.128	
40	90.0	.287 .687	.531	.162	

\*\*\* LANN \*\*\* RUN 73 \*\*\*

TABLE 9.15a (cont'd)

NR.	%CHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
		Cp	M-LOC.	Cp	Cp	RE	IM	
UP	LOW	STEADY	RE	IM	RE	IM		
1	0.0	.797	.424					
2	.5	.155	.749					
3	1.5	-.491	1.058	-4.767	.915			
4	3.0	-.757	1.200	-6.496	1.365			
5	5.0	-.884	1.274	-6.490	1.048			
6	7.5	-1.034	1.368					
7	10.0	-1.036	1.370	-3.839	.672	-4.666	1.276	307
8	15.0	-1.048	1.378	-5.244	.877			
9	20.0	-1.034	1.369	-5.233	1.376	-4.519	1.287	309
10	25.0	-1.015	1.356	-6.677	1.915			
	30.0							
12	35.0	-.663	1.148	-46.21	23.813			
13	40.0	-.452	1.038	-13.10	2.223	-11.36	1.787	313
14	45.0	-.397	1.011	-2.309	-2.191			
15	50.0	-.372	.999	1.152	-2.545	1.717	-3.171	315
16	55.0	-.342	.984	2.153	-2.914			
17	60.0	-.317	.972	1.695	-2.116	1.980	-2.250	317
18	65.0	-.279	.953	1.475	-1.962			
19	70.0	-.229	.930	1.128	-1.175	1.137	-1.215	319
20	75.0	-.172	.902	.752	-.827			
21	80.0	-.112	.874	.238	-.465	.508	-.482	321
22	85.0	-.050	.845					
23	90.0	.020	.812	.218	-.246	.212	-.251	323
24	95.0	.101	.775					
	.5	.698	.481					
26	1.5	.373	.646	5.474	.575			
27	3.0	.258	.701	7.114	1.410			
	5.0							
29	7.5	.048	.799					
30	10.0	-.030	.835	2.922	-.579			
	15.0							
32	20.0	-.273	.951	5.293	-.286			
	25.0							
	30.0							
	40.0							
36	50.0	-.416	1.020	1.764	.249			
37	60.0	-.191	.911	1.193	.121			
38	70.0	.038	.804	.758	.141			
39	80.0	.198	.729	.734	.173			
40	90.0	.300	.681	.756	.153			

(OVERALL COEFFICIENTS)		SECTION 3		
	STEADY	RE	IM	
UPPER	.461	1.733	-.485	
LOWER	-.084	.762	.020	
TOTAL	.377	2.494	-.465	
UPPER	.018	.051	-.076	
LOWER	.006	.079	.021	
TOTAL	.023	.131	-.097	

NR.	%CHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
		Cp	M-LOC.	Cp	Cp	RE	IM	
UP	LOW	STEADY	RE	IM	RE	IM		
1	0.0	.839	.399					
2	.5	.220	.719					
3	1.5	-.386	1.005	-7.913	.531			
4	3.0	-.689	1.162	-5.572	.597			
5	5.0	-.856	1.257	-4.940	.333	-5.295	1.227	405
6	7.5	-.946	1.312					
7	10.0							
8	15.0	-.965	1.324	-6.666	.572			
9	20.0	-.983	1.336	-5.795	.740	-5.218	1.276	409
10	25.0	-.975	1.330	-7.471	1.104			
	30.0							
12	35.0	-.854	1.256	-33.87	9.442			
13	40.0	-.510	1.068	-32.24	7.776	-33.16	8.471	413
14	45.0	-.403	1.014	-7.118	-1.607			
15	50.0	-.371	.998	1.961	-3.199	2.748	-3.404	415
16	55.0	-.360	.993	3.779	-3.707			
17	60.0	-.341	.983	3.886	-2.458	4.087	-2.813	417
	65.0							
19	70.0	-.271	.950	2.178	-1.232			
20	75.0	-.241	.935	2.157	-.855			
21	80.0	-.147	.890	.820	-.472	1.306	-.667	421
22	85.0	-.059	.849					
23	90.0	.017	.814	.158	-.089			
24	95.0	.091	.779					
	.5	.638	.513					
26	1.5	.276	.693	5.754	.889			
27	3.0	.157	.748	5.397	.522			
	5.0							
	7.5							
	10.0							
31	15.0	-.171	.902	4.383	-.465			
32	20.0	-.284	.956	5.544	-.201			
33	25.0	-.364	.994					
	30.0							
35	40.0	-.485	1.055	3.867	-.233			
36	50.0	-.398	1.011	1.943	.089			
37	60.0	-.151	.892	1.228	.474			
38	70.0	.062	.793	.783	.306			
39	80.0	.225	.717	.700	.218			
40	90.0	.311	.676	.708	.251			

(OVERALL COEFFICIENTS)		SECTION 4		
	STEADY	RE	IM	
UPPER	.471	1.745	-.175	
LOWER	-.180	.847	.028	
TOTAL	.371	2.592	-.147	
UPPER	.027	-.087	.168	
LOWER	.010	.084	.033	
TOTAL	.037	.077	.140	

\*\*\* L.ANN \*\*\* RUN 73 \*\*\*

TABLE 9.15a (cont'd)

NR.	UP	LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.	OVERALL COEFFICIENTS		
				Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		RE	IM	RE
1			0.0	.843	.396								
2			.5	.307	.678								
3			1.5	-.251	.940	-7.598	.092						
4			3.0	-.531	1.079	-6.074	.861						
5			5.0	-.676	1.155	-10.49	1.207	-8.189	1.382	505			
6			7.5	-.751	1.196								
7			10.0	-.823	1.238	-5.059	.670						
			15.0										
9			20.0	-.827	1.240	-9.075	1.041						
10			25.0	-.830	1.242	-5.761	.655						
11			30.0	-.856	1.257	-8.904	1.080						
			35.0										
13			40.0	-.523	1.074	-37.22	7.446						
14			45.0	-.417	1.021	-1.345	-3.325						
15			50.0	-.399	1.012	6.811	-4.124						
16			55.0	-.397	1.011	6.366	-3.124						
17			60.0	-.379	1.002	4.280	-1.821						
18			65.0	-.357	.991	2.874	-1.122						
19			70.0	-.323	.974	2.043	-.365	2.217	-584	519			
20			75.0	-.285	.956	.712	-.038						
21			80.0	-.206	.919	.318	.016						
22			85.0	-.093	.865								
23			90.0	-.004	.823	-.146	.206						
24			95.0	.088	.781								
	25		.5	.569	.549								
			1.5										
			3.0										
			5.0										
			7.5										
	30		10.0	-.141	.887	4.790	-.908						
			15.0										
	32		20.0	-.308	.967	6.352	-.293						
			25.0										
	34		30.0	-.415	1.020	4.002	-.310						
			40.0										
	36		50.0	-.399	1.012	1.228	.110						
			60.0										
			70.0										
	39		80.0	.231	.714	.550	.127						
	40		90.0	.317	.673	.562	.173						

OVERALL COEFFICIENTS			STEADY	RE	IM
Cz	UPPER	.439	1.386	-.059	
Cz	LOWER	-.098	.696	-.031	
Cz	TOTAL	.341	2.083	-.090	
Cm	UPPER	.039	-.116	.080	
Cm	LOWER	.007	.075	.028	
Cm	TOTAL	.047	-.041	.107	

NR.	UP	LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.	OVERALL COEFFICIENTS		
				Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		RE	IM	RE
1			0.0	.832	.403								
			.5										
3			1.5	-.050	.845								
			3.0										
5			5.0	-.512	1.069	-9.074	.464						
			7.5										
7			10.0	-.718	1.178	-4.065	.121						
8			15.0	-.682	1.159	-10.28	.906						
9			20.0	-.763	1.203								
10			25.0	-.788	1.217	-6.810	.543						
11			30.0	-.424	1.024								
12			35.0	-.431	1.028	-22.73	.623						
13			40.0	-.330	.978	7.840	-1.931						
14			45.0	-.348	.987	8.489	-1.718						
15			50.0	-.362	.993	4.430	-.901						
16			55.0	-.357	.991	1.924	-.381						
17			60.0	-.343	.984	.861	-.169						
18			65.0	-.338	.982	.540	-.175						
19			70.0	-.322	.974	.176	.235						
20			75.0	-.205	.956	-.227	.175						
21			80.0	-.213	.922	-.609	.363						
22			85.0	-.085	.861								
23			90.0	.025	.810	-.699	.157						
24			95.0	.109	.771								
	25		.5	.397	.635								
			1.5										
			3.0										
			5.0										
			7.5										
	31		10.0	-.309	.968	6.550	.026						
			15.0										
	33		25.0	-.406	1.015								
	34		30.0	-.410	1.018	2.621	.245						
	35		40.0	-.406	1.015	1.105	-.057						
	36		50.0	-.315	.971	.405	.093						
			60.0										
			70.0										
	39		80.0	.233	.713	.117	.098						
	40		90.0	.300	.681	.313	.066						

OVERALL COEFFICIENTS			STEADY	RE	IM
Cz	UPPER	.350	.988	-.001	
Cz	LOWER	-.094	.433	-.025	
Cz	TOTAL	.255	1.340	-.024	
Cm	UPPER	.036	-.158	.018	
Cm	LOWER	.013	-.004	.011	
Cm	TOTAL	.049	-.162	.030	







\*\*\* LANN \*\*\* RUN 74 \*\*\*

TABLE 9.15b (cont'd)

NR. UP	LOW	ZCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.799	.423						
2		.5	.155	.749						
3		1.5	-.492	1.058	-.408	.052				
4		3.0	-.759	1.200	0.000	0.000				
5		5.0	-.884	1.273	0.000	0.000				
6		7.5	-1.034	1.367						
7		10.0	-1.037	1.369	1.137	-.963	.366	-.754	307	
8		15.0	-1.049	1.378	-.305	-.688				
9		20.0	-1.034	1.368	-.418	-.135	-.115	.183	309	
10		25.0	-1.017	1.356	-.553	-.623				
12		35.0	-.673	1.153	-3.611	2.951				
13		40.0	-.448	1.036	-.190	-3.301	.468	-2.576	313	
14		45.0	-.396	1.010	.184	-1.554				
15		50.0	-.374	.999	.438	.074	.214	-.336	315	
16		55.0	-.343	.984	-.094	.299				
17		60.0	-.316	.971	.065	.408	.100	.127	317	
18		65.0	-.278	.952	-.091	.290				
19		70.0	-.229	.929	-.109	.153	.053	.114	319	
20		75.0	-.172	.902	.026	.126				
21		80.0	-.111	.873	.030	.121	.042	.056	321	
22		85.0	-.050	.844						
23		90.0	.020	.812	-.108	.043	.027	.025	323	
24		95.0	.101	.774						
25		.5	.699	.480						
26		1.5	.373	.646	0.000	0.000				
27		3.0	.258	.700	.992	-.313				
29		7.5	.049	.798						
30		10.0	-.029	.835	-.124	.140				
32		20.0	-.274	.950	-.252	-.194				
36		50.0	-.419	1.021	-.320	.208				
37		60.0	-.192	.911	-.023	-.141				
38		70.0	.038	.803	-.077	.140				
39		80.0	.199	.728	0.000	0.000				
40		90.0	.300	.681	.195	.103				

OVERALL COEFFICIENTS		STEADY!	** SECTION 3 **		
RE	IM		RE	IM	IM
Cz	UPPER	.462	.095	-.006	
Cz	LOWER	-.085	-.027	.005	
Cz	TOTAL	.377	.068	-.001	
Cm	UPPER	.018	.020	-.015	
Cm	LOWER	.005	-.005	.010	
Cm	TOTAL	.023	.015	-.005	

NR. UP	LOW	ZCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.840	.597						
2		.5	.218	.717						
3		1.5	-.388	1.006	0.000	0.000				
4		3.0	-.690	1.162	0.000	0.000				
5		5.0	-.856	1.256	0.000	0.000	-.062	.028	405	
6		7.5	-.946	1.311						
7		10.0					-.199	.316	407	
8		15.0	-.766	1.323	-.004	1.370				
9		20.0	-.983	1.334	0.000	0.000	.021	-.059	409	
10		25.0	-.977	1.330	-.567	.847				
12		35.0	-.867	1.263	-8.042	11.465				
13		40.0	-.501	1.062	.088	-4.377	3.529	-7.923	413	
14		45.0	-.401	1.012	1.218	-3.196				
15		50.0	-.373	.998	.919	-.258	.604	-1.174	415	
16		55.0	-.359	.992	.172	.337				
17		60.0	-.339	.982	-.296	.405	.121	.197	417	
19		70.0	-.271	.949	-.060	.358				
20		75.0	-.241	.934	.035	.223				
21		80.0	-.147	.890	.253	.163	.024	.178	421	
22		85.0	-.059	.848						
23		90.0	.016	.813	.032	.090				
24		95.0	.091	.778						
25		.5	.639	.512						
26		1.5	.274	.673	.205	-.065				
27		3.0	.157	.748	.220	-.067				
31		15.0	-.171	.901	0.000	0.000				
32		20.0	-.284	.955	-.024	-.195				
33		25.0	-.363	.994						
35		40.0	-.481	1.052	-.183	-.160				
36		50.0	-.401	1.012	0.000	0.000				
37		60.0	-.152	.892	.094	-.136				
38		70.0	.061	.792	0.000	0.000				
39		80.0	.226	.716	.075	-.037				
40		90.0	.311	.676	.112	-.022				

OVERALL COEFFICIENTS		STEADY!	** SECTION 4 **		
RE	IM		RE	IM	IM
Cz	UPPER	.472	.171	-.232	
Cz	LOWER	-.100	.005	-.022	
Cz	TOTAL	.372	.176	-.254	
Cm	UPPER	.027	.012	-.026	
Cm	LOWER	.010	.005	-.004	
Cm	TOTAL	.037	.017	-.030	

\*\*\* LANN \*\*\* RUN 74 \*\*\*

TABLE 9.15b (cont'd)

NR. UP	XCHORD LOW	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			M-LOC.	Cp RE	Cp IM	Cp RC	Cp IM		
1	0.0	.844	.395						
2	.5	.306	.678						
3	1.5	-.252	.940	-.317	.063				
4	3.0	-.532	1.078	-.396	.045				
5	5.0	-.677	1.155	-.426	.487		.159	.251	505
6	7.5	-.751	1.196						
7	10.0	-.823	1.237	1.674	-1.491				
	15.0								
9	20.0	-.827	1.239	.630	-1.064				
10	25.0	-.834	1.243	-.668	-.132				
11	30.0	-.859	1.258	-.797	.805				
	35.0								
13	40.0	-.513	1.069	.699	-6.368				
14	45.0	-.415	1.019	2.052	-3.551				
15	50.0	-.406	1.015	-.057	.757				
16	55.0	-.396	1.010	-.236	.476				
17	60.0	-.376	1.000	-.467	.783				
18	65.0	-.355	.990	-.356	.477				
19	70.0	-.323	.974	-.346	.469		-.123	.435	519
20	75.0	-.285	.956	-.247	.174				
21	80.0	-.206	.918	.021	.127				
22	85.0	-.093	.865						
23	90.0	-.004	.823	-.103	.031				
24	95.0	.088	.780						
	25	.5	.570	.548					
		1.5							
		3.0							
		5.0							
		7.5							
	30	10.0	-.140	.887	0.000	0.000			
		15.0							
	32	20.0	-.308	.967	.204	-.260			
		25.0							
	34	30.0	-.412	1.018	-.019	-.222			
		40.0							
	36	50.0	-.402	1.013	-.328	.212			
		60.0							
		70.0							
	39	80.0	.232	.713	.173	-.077			
	40	90.0	.317	.673	.046	.077			

OVERALL		** SECTION 5 **		
COEFFICIENTS		STEADY	RE	IM
Cz	UPPER	.439	-.035	.192
Cz	LOWER	-.098	-.008	-.005
Cz	TOTAL	.341	-.043	.188
Cm	UPPER	.039	.019	.010
Cm	LOWER	.007	-.003	.007
Cm	TOTAL	.047	.016	.018

NR. UP	XCHORD LOW	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			M-LOC.	Cp RE	Cp IM	Cp RC	Cp IM		
1	0.0	.834	.401						
	.5								
3	1.5	-.050	.844						
	3.0								
5	5.0	-.512	1.068	-1.231	.581				
	7.5								
7	10.0	-.717	1.177	-.480	-.686				
8	15.0	-.684	1.158	1.081	-1.603				
9	20.0	-.759	1.200						
10	25.0	-.792	1.219	-.454	.314				
11	30.0	-.456	1.040						
12	35.0	-.439	1.031	2.474	-4.728				
13	40.0	-.330	.977	1.439	-.191				
14	45.0	-.352	.988	-.630	.817				
15	50.0	-.365	.995	-.447	.783				
16	55.0	-.357	.991	.045	.352				
17	60.0	-.342	.983	.023	.171				
18	65.0	-.338	.981	.167	-.023				
19	70.0	-.323	.974	-.324	.046				
20	75.0	-.285	.955	-.023	-.158				
21	80.0	-.213	.921	.125	-.172				
22	85.0	-.085	.861						
23	90.0	.025	.809	-.112	.032				
24	95.0	.109	.770						
	25	.5	.398	.634					
		1.5							
		3.0							
		5.0							
		7.5							
	31	10.0							
		15.0	-.309	.967	-.285	.034			
		20.0							
	33	25.0	-.405	1.014					
	34	30.0	-.408	1.015	.229	-.273			
	35	40.0	-.404	1.014	0.000	0.000			
	36	50.0	-.318	.971	0.000	0.000			
		60.0							
		70.0							
	39	80.0	.235	.711	-.035	-.094			
	40	90.0	.300	.681	-.049	-.151			

OVERALL		** SECTION 6 **		
COEFFICIENTS		STEADY	RE	IM
Cz	UPPER	.352	-.042	.115
Cz	LOWER	-.094	-.009	-.012
Cz	TOTAL	.258	-.050	.103
Cm	UPPER	.036	-.014	.004
Cm	LOWER	.013	-.001	-.001
Cm	TOTAL	.050	-.015	.002

TABLE 9.15c

TEST CONDITIONS	NORM. COEFF.			MOM. COEFF.			DISPLACEMENTS		VIBRATION MODE				
	Cz	Czi	IM	Cm	RE	Cmi	IM	REL. TO	LVD	**	HEAVE AT	PITCH	
								AMPL. (-)	PHASE (DEG)	**	X=.224 M (MM)	(DEG)	
RUNNR. = 75	SECT.1	.299	.038	.020	.014	.018	-.002	LVD1	1.00	0.00	** .000		
ALFA = .59 (DEG)	SECT.2	.327	-.074	-.035	.015	.021	.022	CALC. 1	12.37	13.78	** .100		
MACH = .821	SECT.3	.376	.019	.136	.023	.031	.027	ACC. 2	5.86	7.95	** .100	.01	.02
Re*10**6= 5.43	SECT.4	.371	-.014	-.086	.037	.002	-.031	ACC. 3	2.51	-134.51	** .100		
Q = 45.16 (KPA)	SECT.5	.341	.053	.058	.047	-.007	.024	ACC. 4	21.10	.04	** .420		
P-SETTL. = 148.9 (KPA)	SECT.6	.259	-.034	-.013	.050	-.008	.031	ACC. 5	1.78	57.40	** .420	.08	.03
T-SETTL. = 26.00	WING	.320	.006	.016	.037	.004	-.004	ACC. 6	4.24	-143.35	** .420		
DALFA = .250 (DEG)								ACC. 7	6.96	41.04	** .700		
FREQ. = 24.00 (Hz)								CALC. 8	4.69	98.21	** .700	.07	.02
REDFR. = .076								CALC. 9	3.10	-207.81	** .700		
HARM. = 3								CALC. 10	9.96	87.92	** .920		
								ACC. 11	8.79	91.56	** .920	.07	.01
								ACC. 12	7.66	96.35	** .920		

NR.	ZCHORD	PRESSURE Cp	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.	OVERALL (COEFFICIENTS)	SECTION 1		
			M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	RE			IM		
1	0.0	.743	.455			**			Cz	UPPER	.422	.064	.034
2	.5	.126	.763			**			Cz	LOWER	-.123	-.027	-.014
3	1.5	-.501	1.063	-.410		**			Cz	TOTAL	.299	-.038	.020
4	3.0	-.868	1.264	-.651		**			Cm	UPPER	.021	.020	-.008
5	5.0	-.886	1.275			**	-.036	.032	Cm	LOWER	-.007	-.002	.006
6	7.5	-1.044	1.375			**			Cm	TOTAL	.014	.018	-.002
7	10.0	-1.064	1.388	-.169		**							
8	15.0	-.959	1.320	.391		**							
9	20.0	-.617	1.123	-.342		**							
10	25.0	-.595	1.112	-.226		**							
11	30.0	-.588	1.108	-.429		**							
12	35.0	-.581	1.104			**							
13	40.0	-.595	1.112	-.192		**							
14	45.0	-.548	1.087	-.157		**							
15	50.0	-.428	1.026	-.188		**							
16	55.0	-.387	1.006	-.621		**							
17	60.0	-.345	.985	-.168		**							
18	65.0	-.288	.957	-.082		**							
19	70.0	-.227	.928	-.263		**	-.053	.056	119				
20	75.0	-.170	.901	-.202		**							
21	80.0	-.110	.873	-.084		**							
22	85.0	-.033	.837			**							
23	90.0	.027	.809	-.069		**							
24	95.0	.100	.775			**							
25	.5	.703	.478			**							
26	1.5	.369	.648	-.381		**							
27	3.0	.306	.678	-.192		**							
28	5.0	.221	.718	-.213		**							
29	7.5	.075	.787			**							
30	10.0					**							
31	15.0	-.100	.868	-.232		**							
32	20.0	-.239	.934	.049		**							
33	25.0	-.331	.979			**							
34	30.0	-.452	1.038	-.137		**							
35	40.0	-.502	1.063	0.000		**							
36	50.0	-.493	1.059	-.220		**							
37	60.0	-.250	.939	-.088		**							
38	70.0	-.003	.823	.085		**							
39	80.0	.169	.743	-.054		**							
40	90.0	.276	.693	-.042		**							

NR.	ZCHORD	PRESSURE Cp	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.	OVERALL (COEFFICIENTS)	SECTION 2		
			M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	RE			IM		
1	0.0	.775	.437			**			Cz	UPPER	.449	-.125	-.062
2	.5	.167	.744			**			Cz	LOWER	-.122	.052	.028
3	1.5	-.498	1.057	.955		**			Cz	TOTAL	.327	-.074	-.035
4	3.0	-.791	1.219	.624		**			Cm	UPPER	.017	.001	.013
5	5.0	-.911	1.290	1.120		**			Cm	LOWER	-.002	.020	.009
6	7.5	-1.053	1.381			**			Cm	TOTAL	.015	.021	.022
7	10.0	-1.083	1.402	.869		**							
8	15.0	-1.049	1.379	.800		**							
9	20.0	-1.018	1.358	.167		**							
10	25.0	-.876	1.269	2.513		**							
11	30.0	-.647	1.139	.306		**							
12	35.0	-.589	1.109	.267		**							
13	40.0	-.485	1.055	.424		**							
14	45.0	-.431	1.028			**							
15	50.0	-.416	1.020	.094		**							
16	55.0	-.371	.998	-.167		**							
17	60.0	-.327	.976	.157		**							
18	65.0	-.285	.954	.214		**							
19	70.0	-.224	.927	.074		**							
20	75.0	-.161	.897	-.061		**							
21	80.0	-.107	.872	.139		**							
22	85.0	-.038	.839			**							
23	90.0	.030	.807	.066		**							
24	95.0	.105	.772			**							
25	.5	.701	.479			**							
26	1.5	.369	.648	.215		**							
27	3.0	.272	.694			**							
28	5.0	.162	.746	-.008		**							
29	7.5	.067	.790			**							
30	10.0	.019	.813	.084		**							
31	15.0	-.128	.881	.209		**							
32	20.0	-.267	.948	.110		**							
33	25.0	-.359	.992			**							
34	30.0	-.466	1.045	.307		**							
35	40.0	-.543	1.085	.238		**							
36	50.0	-.453	1.039	.288		**							
37	60.0	-.215	.923	.083		**							
38	70.0	-.023	.811	.316		**							
39	80.0	.186	.735	.061		**							
40	90.0	.286	.688	.039		**							

\*\*\* LANN \*\*\* RUN 75 \*\*\*

TABLE 9.15c (cont'd)

NR. UP	LOW	ZCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			Cp STEADY!	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	
1		0.0	.797	.424					
2		.5	.154	.750					
3		1.5	-.492	1.059	0.000	0.000			
4		3.0	-.756	1.199	.441	-.927			
5		5.0	-.882	1.273	.808	-.236			
6		7.5	-1.034	1.368					
7		10.0	-1.036	1.370	.979	-.211			
8		15.0	-1.049	1.379	-.188	-.795			
9		20.0	-1.034	1.369	-.189	-.711			
10		25.0	-1.016	1.357	.457	-.847			
		30.0							
12		35.0	-.661	1.147	-1.053	-2.749			
13		40.0	-.449	1.037	.154	-.539	.014	.114	313
14		45.0	-.395	1.010	.185	-.426			
15		50.0	-.373	.999	-.088	-.307	-.080	.117	315
16		55.0	-.343	.984	-.382	-.379			
17		60.0	-.316	.971	-.188	-.001	-.104	-.001	317
18		65.0	-.278	.953	-.093	-.013			
19		70.0	-.230	.930	-.090	-.070	-.081	-.000	319
20		75.0	-.172	.902	-.165	.016			
21		80.0	-.112	.874	.084	-.093	-.036	-.013	321
22		85.0	-.050	.845					
23		90.0	.020	.812	-.084	-.071	-.030	-.011	323
24		95.0	.180	.775					
	25	.5	.698	.481					
	26	1.5	.373	.646	-.210	-.251			
	27	3.0	.259	.701	.483	.055			
		5.0							
	29	7.5	.048	.799					
	30	10.0	-.028	.835	.019	-.230			
		15.0							
	32	20.0	-.273	.951	.188	-.131			
		25.0							
		30.0							
		40.0							
	36	50.0	-.418	1.021	-.148	.119			
	37	60.0	-.191	.911	0.000	0.000			
	38	70.0	-.038	.804	.197	-.004			
	39	80.0	.200	.728	.085	.077			
	40	90.0	.299	.682	.059	.052			

(OVERALL (COEFFICIENTS		STEADY!	** SECTION 3 ** *****		
			RE	IM	
(:z	UPPER	.461	.004	.141	
(:z	LOWER	-.084	.014	-.004	
(:z	TOTAL	.376	.019	.136	
(:m	UPPER	.018	.023	.017	
(:m	LOWER	.005	.008	.010	
(:m	TOTAL	.023	.031	.027	

NR. UP	LOW	ZCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			Cp STEADY!	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	
1		0.0	.838	.399					
2		.5	.218	.720					
3		1.5	-.388	1.006	-.694	-.465			
4		3.0	-.689	1.162	-.200	-.507			
5		5.0	-.855	1.256	-.403	-1.308	-.006	.041	405
6		7.5	-.946	1.312					
7		10.0							
8		15.0	-.966	1.324	-.204	-.687			
9		20.0	-.983	1.335	-.955	-1.026	-.048	-.124	409
10		25.0	-.976	1.331	-.877	-.871			
		30.0							
12		35.0	-.850	1.254	.568	6.900			
13		40.0	-.502	1.064	.783	-1.342	.428	1.434	413
14		45.0	-.400	1.012	.156	-.370			
15		50.0	-.372	.999	-.010	-.174	-.005	.138	415
16		55.0	-.360	.992	-.336	-.188			
17		60.0	-.340	.983	-.161	-.172	-.084	-.044	417
		65.0							
19		70.0	-.272	.950	-.240	-.221			
20		75.0	-.242	.935	-.302	-.130			
21		80.0	-.148	.891	-.226	-.062	-.034	-.036	421
22		85.0	-.059	.849					
23		90.0	.016	.814	-.204	.084			
24		95.0	.090	.779					
	25	.5	.638	.513					
	26	1.5	.275	.693	-.178	-.222			
	27	3.0	.158	.748	-.657	.125			
		5.0							
		7.5							
		10.0							
	31	15.0	-.171	.902	-.351	-.177			
	32	20.0	-.284	.956	-.114	-.163			
	33	25.0	-.361	.993					
		30.0							
	35	40.0	-.480	1.052	-.279	-.035			
	36	50.0	-.401	1.013	-.421	-.268			
	37	60.0	-.152	.893	-.173	-.004			
	38	70.0	.061	.793	.085	.032			
	39	80.0	.226	.716	-.141	.006			
	40	90.0	.309	.677	-.165	-.045			

(OVERALL (COEFFICIENTS		STEADY!	** SECTION 4 ** *****		
			RE	IM	
(:z	UPPER	.471	.054	-.067	
(:z	LOWER	-.099	-.068	-.019	
(:z	TOTAL	.371	-.014	-.086	
(:m	UPPER	.027	.017	-.028	
(:m	LOWER	.010	-.015	-.003	
(:m	TOTAL	.037	.002	-.031	

\*\*\* L. ANN \*\*\* RUN 75 \*\*\*

TABLE 9.15c (cont'd)

NR. UP	LOW	ZCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			Cp STEADY	M-LDC RE	Cp RE	Cp IM	Cp RE	Cp IM	
1		0.0	.843	.396					
2		.5	.306	.678					
3		1.5	-.252	.940	-.124	.533			
4		3.0	-.531	1.078	-.445	.213			
5		5.0	-.674	1.154	-.891	.999	-.055	.073	505
6		7.5	-.750	1.196					
7		10.0	-.823	1.238	-.341	.959			
		15.0							
9		20.0	-.827	1.240	-1.043	-.789			
10		25.0	-.830	1.242	-.241	.718			
11		30.0	-.856	1.257	-.740	.943			
		35.0							
13		40.0	-.515	1.070	-.152	-3.306			
14		45.0	-.414	1.019	.143	.963			
15		50.0	-.403	1.014	.082	.354			
16		55.0	-.396	1.010	-.224	-.020			
17		60.0	-.377	1.001	-.232	.197			
18		65.0	-.358	.991	-.427	.178			
19		70.0	-.323	.975	-.197	-.009	-.030	-.055	519
20		75.0	-.285	.956	-.096	.073			
21		80.0	-.207	.919	.006	.176			
22		85.0	-.093	.865					
23		90.0	-.004	.823	-.251	.271			
24		95.0	.087	.781					
	25	.5	.569	.549					
		1.5							
		3.0							
		5.0							
		7.5							
	30	10.0	-.139	.887	-.154	.121			
		15.0							
	32	20.0	-.308	.967	.280	.394			
		25.0							
	34	30.0	-.411	1.018	-.259	.518			
		40.0							
	36	50.0	-.401	1.013	-.305	.240			
		60.0							
		70.0							
	39	80.0	.232	.713	-.169	.181			
	40	90.0	.316	.674	.074	.068			

OVERALL COEFFICIENTS		STEADY	***** ** SECTION 5 ** *****		
			RE	IM	
Cz	UPPER	.438	.094	-.016	
Cz	LOWER	-.098	-.041	.074	
Cz	TOTAL	.341	.053	.058	
Cm	UPPER	.039	.016	-.002	
Cm	LOWER	.007	-.022	.026	
Cm	TOTAL	.047	-.007	.024	

NR. UP	LOW	ZCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			Cp STEADY	M-LDC RE	Cp RE	Cp IM	Cp RE	Cp IM	
1		0.0	.833	.402					
		.5							
3		1.5	-.051	.845					
		3.0							
5		5.0	-.512	1.068	0.000	0.000			
		7.5							
7		10.0	-.718	1.178	0.000	0.000			
8		15.0	-.680	1.157	.312	2.010			
9		20.0	-.756	1.200					
10		25.0	-.788	1.217	-.448	.246			
11		30.0	-.489	1.057					
12		35.0	-.431	1.028	.983	-1.057			
13		40.0	-.331	.978	-.152	.122			
14		45.0	-.354	.990	-.123	-.153			
15		50.0	-.364	.995	0.000	0.000			
16		55.0	-.358	.991	.026	-.263			
17		60.0	-.342	.984	0.000	0.000			
18		65.0	-.338	.982	-.246	-.021			
19		70.0	-.324	.975	0.000	0.000			
20		75.0	-.284	.956	.121	-.108			
21		80.0	-.213	.922	.003	-.215			
22		85.0	-.086	.862					
23		90.0	.025	.810	-.103	-.098			
24		95.0	.108	.771					
	25	.5	.396	.635					
		1.5							
		3.0							
		5.0							
		7.5							
		10.0							
	31	15.0	-.309	.968	-.166	-.240			
		20.0							
	33	25.0	-.401	1.013					
	34	30.0	-.407	1.016	0.000	0.000			
	35	40.0	-.403	1.014	0.000	0.000			
	36	50.0	-.318	.972	-.033	.280			
		60.0							
		70.0							
	39	80.0	.235	.712	-.217	.005			
	40	90.0	.299	.682	-.006	-.205			

OVERALL COEFFICIENTS		STEADY	***** ** SECTION 6 ** *****		
			RE	IM	
Cz	UPPER	.353	-.008	-.016	
Cz	LOWER	-.094	-.026	.003	
Cz	TOTAL	.259	-.034	-.013	
Cm	UPPER	.036	.004	.027	
Cm	LOWER	.013	-.012	.004	
Cm	TOTAL	.050	-.008	.031	







\*\*\* LANN \*\*\* RUN 82 \*\*\*

TABLE 9.16 (cont'd)

NR. UP   LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.	
		Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1	0.0	.796	.424			**			
2	.5	.152	.751			**			
3	1.5	-.491	1.058	-4.801	.650	**			
4	3.0	-.761	1.201	-6.138	.650	**			
5	5.0	-.885	1.274	-5.578	.439	**			
6	7.5	-1.033	1.367			**			
7	10.0	-1.041	1.372	-3.476	.354	**	-4.174	.515	307
8	15.0	-1.049	1.378	-5.004	.603	**			
9	20.0	-1.032	1.367	-5.250	.664	**	-4.917	.669	309
10	25.0	-1.010	1.352	-6.410	.911	**			
	30.0					**			
12	35.0	-.659	1.145	-32.16	6.439	**			
13	40.0	-.474	1.049	-11.18	-.532	**	-10.30	.497	313
14	45.0	-.407	1.016	-4.183	-1.340	**			
15	50.0	-.378	1.001	1.568	-1.826	**	1.828	-1.423	315
16	55.0	-.343	.984	2.550	-1.487	**			
17	60.0	-.315	.970	2.159	-1.286	**	2.170	-1.067	317
18	65.0	-.277	.952	1.816	-.921	**			
19	70.0	-.228	.929	1.304	-.620	**	1.202	-.605	319
20	75.0	-.170	.901	.703	-.433	**			
21	80.0	-.111	.873	.466	-.348	**	.494	-.270	321
22	85.0	-.050	.845			**			
23	90.0	.020	.812	.213	-.158	**	.209	-.155	323
24	95.0	.100	.775			**			
	25	.5	.698	.481		**			
26	1.5	.373	.646	4.844	-.605	**			
27	3.0	.256	.702	5.649	.327	**			
	5.0					**			
29	7.5	.049	.798			**			
30	10.0	-.028	.834	3.515	-.509	**			
	15.0					**			
32	20.0	-.270	.949	4.755	-.335	**			
	25.0					**			
	30.0					**			
	40.0					**			
36	50.0	-.417	1.020	2.373	.033	**			
37	60.0	-.191	.911	1.126	.127	**			
38	70.0	.038	.803	.785	.188	**			
39	80.0	.199	.728	.866	.137	**			
40	90.0	.300	.681	.646	.142	**			

*****				
OVERALL	COEFFICIENTS	STEADY	RE	IM
(z)	UPPER	.462	1.288	-.070
(z)	LOWER	-.083	.760	-.018
(z)	TOTAL	.379	2.048	-.088
(m)	UPPER	.018	-.038	.080
(m)	LOWER	.006	.096	.025
(m)	TOTAL	.023	.058	.105

NR. UP   LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.	
		Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1	0.0	.837	.399			**			
2	.5	.215	.721			**			
3	1.5	-.386	1.005	-7.318	.357	**			
4	3.0	-.689	1.162	-4.915	.617	**			
5	5.0	-.859	1.258	-3.411	.417	**	-5.299	.601	405
6	7.5	-.946	1.311			**			
7	10.0					**	-4.672	.709	407
8	15.0	-.961	1.320	-6.078	.012	**			
9	20.0	-.983	1.335	-5.533	.391	**	-5.165	.671	409
10	25.0	-.966	1.324	-7.191	.478	**			
	30.0					**			
12	35.0	-.730	1.184	-36.58	5.945	**			
13	40.0	-.554	1.090	-24.63	1.301	**	-29.52	3.223	413
14	45.0	-.424	1.024	-4.087	-1.599	**			
15	50.0	-.387	1.005	1.818	-1.635	**	2.160	-1.443	415
16	55.0	-.362	.993	3.892	-1.870	**			
17	60.0	-.339	.982	3.982	-1.264	**	3.847	-1.263	417
	65.0					**			
19	70.0	-.268	.948	2.416	-.663	**			
20	75.0	-.239	.933	1.853	-.299	**			
21	80.0	-.146	.890	.835	-.287	**	1.195	-.328	421
22	85.0	-.059	.849			**			
23	90.0	.016	.814	.182	-.154	**			
24	95.0	.091	.779			**			
	25	.5	.637	.513		**			
26	1.5	.275	.693	5.576	-.678	**			
27	3.0	.156	.749	5.109	-.448	**			
	5.0					**			
	7.5					**			
	10.0					**			
31	15.0	-.168	.900	4.478	-.440	**			
32	20.0	-.281	.954	5.194	-.463	**			
33	25.0	-.362	.993			**			
	30.0					**			
35	40.0	-.482	1.053	4.665	-.331	**			
36	50.0	-.400	1.012	2.194	-.171	**			
37	60.0	-.152	.892	1.094	.175	**			
38	70.0	.061	.793	.768	.167	**			
39	80.0	.225	.716	.957	.131	**			
40	90.0	.310	.676	.822	.124	**			

*****				
OVERALL	COEFFICIENTS	STEADY	RE	IM
(z)	UPPER	.465	1.580	-.057
(z)	LOWER	-.099	.882	-.047
(z)	TOTAL	.366	2.462	-.103
(m)	UPPER	.027	-.039	.074
(m)	LOWER	.010	.109	.021
(m)	TOTAL	.037	.070	.095

\*\*\* LANN \*\*\* RUN 82 \*\*\*

TABLE 9.16 (cont'd)

NR. UP	XCHORD LOW	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.	(OVERALL COEFFICIENTS	STEADY	SECTION 5	
			M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	RE				IM	
1	0.0	.842	.396										
2	.5	.305	.678										
3	1.5	-.250	.939	-6.836		.176							
4	3.0	-.532	1.078	-5.441		1.077							
5	5.0	-.674	1.153	-8.685		.365	-7.876	.887	505				
6	7.5	-.744	1.192										
7	10.0	-.831	1.242	-4.470		.438							
	15.0												
9	20.0	-.825	1.238	-8.047		.798							
10	25.0	-.834	1.243	-7.219		.640							
11	30.0	-.822	1.237	-12.56		1.228							
	35.0												
13	40.0	-.576	1.101	-22.38		.899							
14	45.0	-.446	1.035	.254		-2.049							
15	50.0	-.411	1.017	6.238		-2.045							
16	55.0	-.393	1.008	6.141		-1.573							
17	60.0	-.372	.998	4.209		-.932							
18	65.0	-.352	.988	2.847		-.624							
19	70.0	-.318	.972	2.243		-.340	1.881	-.321	519				
20	75.0	-.282	.954	.789		-.352							
21	80.0	-.205	.917	.458		-.127							
22	85.0	-.093	.865										
23	90.0	-.005	.823	-.067		-.031							
24	95.0	.087	.781										
	25	.5	.570	.549									
		1.5											
		3.0											
		5.0											
		7.5											
	30	10.0	-.139	.886	4.926	-1.054							
		15.0											
	32	20.0	-.305	.965	5.788	-.683							
		25.0											
	34	30.0	-.410	1.017	4.456	-.807							
		40.0											
	36	50.0	-.400	1.012	1.633	-.247							
		60.0											
		70.0											
	39	80.0	.231	.713	.853	.085							
	40	90.0	.316	.673	.691	-.040							

NR. UP	XCHORD LOW	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.	(OVERALL COEFFICIENTS	STEADY	SECTION 6	
			M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	RE				IM	
1	0.0	.832	.402										
	.5												
3	1.5	-.050	.845										
	3.0												
5	5.0	-.506	1.065	-8.546		.445							
	7.5												
7	10.0	-.708	1.172	-5.980		.297							
8	15.0	-.686	1.160	-9.703		1.170							
9	20.0	-.728	1.183										
10	25.0	-.779	1.212	-7.359		.551							
11	30.0	-.759	1.201										
12	35.0	-.475	1.049	-16.24		-.694							
13	40.0	-.348	.986	4.156		-.930							
14	45.0	-.350	.988	6.192		-1.003							
15	50.0	-.357	.991	3.851		-.716							
16	55.0	-.353	.989	1.952		-.484							
17	60.0	-.340	.982	.823		-.156							
18	65.0	-.337	.981	.383		-.192							
19	70.0	-.322	.974	.129		-.103							
20	75.0	-.283	.955	-.255		.020							
21	80.0	-.213	.921	-.558		.057							
22	85.0	-.086	.861										
23	90.0	.024	.810	-.705		-.017							
24	95.0	.108	.771										
	25	.5	.396	.635									
		1.5											
		3.0											
		5.0											
		7.5											
	31	10.0											
		15.0	-.306	.966	5.712	-.774							
		20.0											
	33	25.0	-.403	1.013									
	34	30.0	-.406	1.015	2.549	-.470							
	35	40.0	-.405	1.014	1.078	-.337							
	36	50.0	-.317	.971	.353	-.177							
		60.0											
		70.0											
	39	80.0	.234	.712	.042	.017							
	40	90.0	.300	.681	.249	-.002							



\*\*\* LANN \*\*\* RUN 79 \*\*\*

TABLE 9.17 (cont'd)

NR. UP	LOW	ZCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.798	.423						
2		.5	.155	.748						
3		1.5	-.489	1.056	-5.137	1.075				
4		3.0	-.759	1.200	-6.070	1.452				
5		5.0	-.803	1.272	-6.462	.975				
6		7.5	-1.030	1.364						
7		10.0	-1.039	1.370	-3.591	.698				
8		15.0	-1.047	1.375	-4.988	1.175		-4.166	1.140	307
9		20.0	-1.031	1.365	-5.327	1.367				
10		25.0	-1.009	1.351	-6.409	2.028		-4.916	1.433	309
		30.0								
12		35.0	-.639	1.134	-31.11	15.050				
13		40.0	-.480	1.051	-11.79	2.351		-11.80	2.105	313
14		45.0	-.411	1.017	-2.313	-1.924				
15		50.0	-.378	1.000	.783	-2.259		1.044	-2.867	315
16		55.0	-.341	.983	1.842	-2.631				
17		60.0	-.313	.969	1.635	-2.113		1.891	-2.253	317
18		65.0	-.276	.951	1.490	-1.964				
19		70.0	-.228	.928	.999	-1.248		1.109	-1.256	319
20		75.0	-.171	.901	.611	-.793				
21		80.0	-.111	.873	.372	-.521		.486	-.505	321
22		85.0	-.049	.844						
23		90.0	.021	.811	.160	-.192		.202	-.269	323
24		95.0	.101	.774						
	25	.5	.698	.480						
26		1.5	.372	.646	5.404	.507				
27		3.0	.254	.702	6.870	1.123				
		5.0								
29		7.5	.047	.799						
30		10.0	-.030	.835	3.107	-.654				
		15.0								
32		20.0	-.272	.949	5.183	-.583				
		25.0								
		30.0								
		40.0								
36		50.0	-.418	1.020	2.012	.051				
37		60.0	-.192	.911	1.166	.199				
38		70.0	.038	.803	.773	-.210				
39		80.0	.199	.728	.809	.202				
40		90.0	.299	.681	.648	.179				

OVERALL		SECTION 3		
COEFFICIENTS	STEADY	RE	IM	
Cz	UPPER	.460	1.359	-.318
Cz	LOWER	-.084	.771	-.013
Cz	TOTAL	.376	2.130	-.331
Cm	UPPER	.018	-.006	.101
Cm	LOWER	.006	.083	.024
Cm	TOTAL	.023	.077	.126

NR. UP	LOW	ZCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.840	.397						
2		.5	.219	.719						
3		1.5	-.384	1.003	-7.753	.565				
4		3.0	-.686	1.160	-5.396	.777				
5		5.0	-.857	1.256	-3.755	.690		-5.471	1.331	405
6		7.5	-.941	1.307						
7		10.0								
8		15.0	-.958	1.318	-6.779	.330				
9		20.0	-.982	1.333	-5.771	.702				
10		25.0	-.963	1.321	-7.716	1.419				
		30.0								
12		35.0	-.708	1.171	-41.15	14.309				
13		40.0	-.551	1.087	-25.98	7.262		-31.36	8.249	413
14		45.0	-.432	1.027	-5.143	-1.426				
15		50.0	-.387	1.005	1.035	-2.801		1.335	-2.800	415
16		55.0	-.361	.992	2.916	-3.183				
17		60.0	-.335	.979	3.563	-2.438		3.688	-2.692	417
		65.0								
19		70.0	-.267	.947	2.317	-1.417				
20		75.0	-.238	.933	2.132	-.885				
21		80.0	-.145	.889	.940	-.508		1.300	-.701	421
22		85.0	-.057	.848						
23		90.0	.018	.812	.232	-.112				
24		95.0	.092	.778						
	25	.5	.637	.513						
26		1.5	.273	.693	6.301	.785				
27		3.0	.154	.749	5.829	.612				
		5.0								
		7.5								
		10.0								
31		15.0	-.170	.901	4.844	-.451				
32		20.0	-.283	.954	5.786	-.353				
33		25.0	-.365	.994						
		30.0								
35		40.0	-.484	1.053	3.910	-.251				
36		50.0	-.400	1.012	1.909	-.070				
37		60.0	-.152	.892	1.315	.268				
38		70.0	.062	.792	.974	.221				
39		80.0	.226	.716	.840	.227				
40		90.0	.310	.676	.736	.183				

OVERALL		SECTION 4		
COEFFICIENTS	STEADY	RE	IM	
Cz	UPPER	.462	1.799	-.302
Cz	LOWER	-.100	.897	.006
Cz	TOTAL	.362	2.697	-.296
Cm	UPPER	.027	.000	.088
Cm	LOWER	.010	.089	.020
Cm	TOTAL	.036	.089	.108

\*\*\* LANN \*\*\* RUN 79 \*\*\*

TABLE 9.17 (cont'd)

NR. UP	LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.843	.395						
2		.5	.310	.676						
3		1.5	-.247	.937	-7.646	.196				
4		3.0	-.528	1.076	-6.173	.973				
5		5.0	-.671	1.151	-9.964	1.238	-8.340	1.729	505	
6		7.5	-.740	1.189						
7		10.0	-.829	1.240	-5.573	.158				
		15.0								
9		20.0	-.822	1.236	-9.303	.933				
10		25.0	-.824	1.237	-8.036	1.125				
11		30.0	-.790	1.217	-17.89	2.662				
		35.0								
13		40.0	-.577	1.101	-22.49	3.950				
14		45.0	-.459	1.041	-1.731	-2.612				
15		50.0	-.410	1.016	4.730	-3.490				
16		55.0	-.389	1.006	5.105	-2.777				
17		60.0	-.368	.996	3.989	-1.798				
18		65.0	-.349	.986	2.867	-1.194				
19		70.0	-.317	.971	2.297	-.635	2.134	-.636	519	
20		75.0	-.282	.954	.666	-.248				
21		80.0	-.204	.917	.481	.010				
22		85.0	-.092	.864						
23		90.0	-.003	.822	-.071	.107				
24		95.0	.088	.780						
	25	.5	.569	.549						
		1.5								
		3.0								
		5.0								
		7.5								
	30	10.0	-.141	.887	5.088	-.793				
		15.0								
	32	20.0	-.307	.966	6.156	-.357				
		25.0								
	34	30.0	-.412	1.017	3.758	-.708				
		40.0								
	36	50.0	-.401	1.012	1.317	-.014				
		60.0								
		70.0								
	39	80.0	.231	.713	.678	.170				
	40	90.0	.316	.673	.589	.038				

OVERALL COEFFICIENTS		STEADY	SECTION 5		
RE	IM	RE	IM	IM	
UPPER	.438	1.352	-.023		
LOWER	-.098	.702	-.058		
TOTAL	.340	2.054	-.081		
UPPER	.039	-.160	.093		
LOWER	.007	.080	.017		
TOTAL	.047	-.079	.111		

NR. UP	LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.834	.401						
		.5								
3		1.5	-.046	.842						
		3.0								
5		5.0	-.500	1.062	-9.726	.527				
		7.5								
7		10.0	-.699	1.167	-7.984	.188				
8		15.0	-.685	1.159	-10.03	.537				
9		20.0	-.736	1.187						
10		25.0	-.777	1.210	-8.334	.695				
11		30.0	-.587	1.107						
12		35.0	-.483	1.053	-15.84	.620				
13		40.0	-.351	.988	2.901	-1.262				
14		45.0	-.343	.983	5.973	-1.326				
15		50.0	-.354	.989	3.694	-.842				
16		55.0	-.352	.988	1.855	-.436				
17		60.0	-.339	.981	1.017	-.258				
18		65.0	-.335	.980	.501	-.131				
19		70.0	-.321	.973	.059	.027				
20		75.0	-.284	.955	-.161	.208				
21		80.0	-.213	.921	-.537	.179				
22		85.0	-.085	.861						
23		90.0	.026	.808	-.689	.242				
24		95.0	.110	.770						
	25	.5	.395	.635						
		1.5								
		3.0								
		5.0								
		7.5								
	31	10.0								
		15.0	-.309	.967	6.384	-.024				
		20.0								
	33	25.0	-.407	1.015						
	34	30.0	-.408	1.015	2.185	.020				
	35	40.0	-.405	1.014	.849	-.135				
	36	50.0	-.317	.971	.312	.074				
		60.0								
		70.0								
	39	80.0	.235	.711	.068	.193				
	40	90.0	.300	.681	.143	.125				

OVERALL COEFFICIENTS		STEADY	SECTION 6		
RE	IM	RE	IM	IM	
UPPER	.357	.986	-.010		
LOWER	-.094	.382	.016		
TOTAL	.262	1.368	.006		
UPPER	.037	-.169	.017		
LOWER	.013	-.023	.019		
TOTAL	.050	-.192	.036		







\*\*\* LANN \*\*\* RUN 85 \*\*\*

TABLE 9.18 (cont'd)

NR. UP	NR. LOW	ZCHORD	PRESSURE DISTRIBUTION (TUBES)				CALIBRATION (TRANSD.)			NR.	OVERALL (COEFFICIENTS)	** SECTION 3 **		
			Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	RE			IM		
1		0.0	.799	.422			**							
2		.5	.153	.749			**							
3		1.5	-.474	1.058	-2.993	2.788	**							
4		3.0	-.761	1.201	-4.484	2.850	**							
5		5.0	-.886	1.273	-3.867	3.054	**							
6		7.5	-1.036	1.368			**							
7		10.0	-1.037	1.368	-1.634	1.722	**	-2.601	2.508	307				
8		15.0	-1.050	1.377	-3.295	1.959	**							
9		20.0	-1.036	1.368	-2.501	2.178	**	-2.199	2.209	309				
10		25.0	-1.020	1.357	-2.589	2.574	**							
12		35.0	-.669	1.150	-9.958	22.611	**							
13		40.0	-.447	1.034	-5.954	6.189	**	-7.369	6.213	313				
14		45.0	-.393	1.008	-3.174	-1.330	**							
15		50.0	-.373	.998	-1.356	-2.993	**	-1.754	-3.561	315				
16		55.0	-.343	.983	-1.174	-3.301	**							
17		60.0	-.318	.971	-.655	-2.297	**	-5.555	-2.993	317				
18		65.0	-.279	.952	-.101	-2.270	**							
19		70.0	-.231	.929	-.372	-1.638	**	-2.260	-1.752	319				
20		75.0	-.173	.902	-.319	-1.151	**							
21		80.0	-.112	.873	-.253	-.858	**	-0.040	-.771	321				
22		85.0	-.051	.844			**							
23		90.0	.019	.812	-.007	-.426	**	-0.084	-.395	323				
24		95.0	.101	.774			**							
	25	.5	.700	.479			**							
	26	1.5	.374	.645	5.131	-2.899	**							
	27	3.0	.260	.699	6.242	-4.863	**							
		5.0					**							
	29	7.5	.049	.798			**							
	30	10.0	-.028	.834	2.697	-1.188	**							
		15.0					**							
	32	20.0	-.272	.949	3.033	-1.402	**							
		25.0					**							
		30.0					**							
		40.0					**							
	36	50.0	-.419	1.021	1.180	-.180	**							
	37	60.0	-.192	.911	.501	.096	**							
	38	70.0	.039	.802	.506	.100	**							
	39	80.0	.200	.727	.438	-.132	**							
	40	90.0	.300	.681	.535	-.267	**							

NR. UP	NR. LOW	ZCHORD	PRESSURE DISTRIBUTION (TUBES)				CALIBRATION (TRANSD.)			NR.	OVERALL (COEFFICIENTS)	** SECTION 4 **		
			Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	RE			IM		
1		0.0	.840	.377			**							
2		.5	.218	.719			**							
3		1.5	-.389	1.006	-4.896	4.431	**							
4		3.0	-.692	1.162	-3.751	2.551	**							
5		5.0	-.857	1.256	-1.796	1.759	**	-2.457	2.609	405				
6		7.5	-.948	1.312			**							
7		10.0					**	-1.835	2.630	407				
8		15.0	-.968	1.324	-4.307	2.252	**							
9		20.0	-.984	1.334	-2.946	2.952	**	-2.461	2.880	409				
10		25.0	-.978	1.330	-3.356	2.983	**							
12		35.0	-.883	1.272	-13.79	19.650	**							
13		40.0	-.497	1.060	-9.284	12.035	**	-16.65	21.274	413				
14		45.0	-.394	1.008	-4.419	.623	**							
15		50.0	-.371	.997	-1.225	-4.525	**	-1.166	-4.533	415				
16		55.0	-.361	.992	-1.014	-4.444	**							
17		60.0	-.343	.983	.307	-3.894	**	.291	-4.510	417				
		65.0					**							
19		70.0	-.274	.950	.310	-2.472	**							
20		75.0	-.243	.935	.694	-2.074	**							
21		80.0	-.148	.890	.243	-1.060	**	.219	-1.356	421				
22		85.0	-.060	.849			**							
23		90.0	.016	.813	-.023	-.491	**							
24		95.0	.092	.778			**							
	25	.5	.639	.512			**							
	26	1.5	.275	.692	4.741	-3.158	**							
	27	3.0	.157	.748	4.448	-3.232	**							
		5.0					**							
		7.5					**							
		10.0					**							
	31	15.0	-.171	.981	2.855	-1.593	**							
	32	20.0	-.282	.954	3.148	-1.781	**							
	33	25.0	-.362	.992			**							
		30.0					**							
	35	40.0	-.487	1.055	2.161	-.722	**							
	36	50.0	-.401	1.012	1.008	-.549	**							
	37	60.0	-.153	.892	.732	-.262	**							
	38	70.0	.062	.792	.414	.082	**							
	39	80.0	.227	.715	.583	-.314	**							
	40	90.0	.311	.675	.745	-.414	**							

\*\*\* LANN \*\*\* RUN 85 \*\*\*

TABLE 9.18 (cont'd)

NR. UP	LOW	XCHORD	PRESSURE		DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM			
1		0.0	.845	.394							
2		.5	.306	.678							
3		1.5	-.252	.939	-4.598	4.953					
4		3.0	-.532	1.078	-3.281	4.056					
5		5.0	-.677	1.154	-5.478	6.902	-3.441	4.811	505		
6		7.5	-.753	1.196							
7		10.0	-.820	1.234	-3.208	1.918					
		15.0									
9		20.0	-.826	1.238	-5.244	5.786					
10		25.0	-.841	1.246	-3.292	3.807					
11		30.0	-.858	1.257	-3.885	5.343					
		35.0									
13		40.0	-.504	1.063	-10.39	13.851					
14		45.0	-.410	1.016	-2.462	-4.183					
15		50.0	-.404	1.013	.752	-7.016					
16		55.0	-.398	1.010	.793	-5.060					
17		60.0	-.381	1.002	.911	-3.734					
18		65.0	-.359	.991	.689	-2.147					
19		70.0	-.326	.975	.853	-1.756	.958	-1.792	519		
20		75.0	-.287	.956	.286	-.655					
21		80.0	-.207	.918	.445	-.452					
22		85.0	-.094	.864							
23		90.0	-.005	.823	.020	.151					
24		95.0	.089	.779							
	25	.5	.571	.548							
		1.5									
		3.0									
		5.0									
		7.5									
30		10.0	-.137	.886	3.213	-2.569					
		15.0									
32		20.0	-.306	.965	3.104	-2.296					
		25.0									
34		30.0	-.413	1.017	2.037	-2.036					
		40.0									
36		50.0	-.402	1.012	.633	-.573					
		60.0									
		70.0									
39		80.0	.233	.712	.368	-.243					
40		90.0	.317	.672	.326	-.277					

OVERALL		*****		
COEFFICIENTS	STEADY	RE	IM	SECTION 5
(z	UPPER	.439	.667	-.428
(z	LOWER	-.098	.383	-.322
(z	TOTAL	.341	1.049	-.750
(m	UPPER	.039	-.053	.231
(m	LOWER	.007	.038	-.035
(m	TOTAL	.047	-.014	.196

NR. UP	LOW	XCHORD	PRESSURE		DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM			
1		0.0	.835	.400							
		.5									
3		1.5	-.050	.844							
		3.0									
5		5.0	-.514	1.069	-4.802	6.160					
		7.5									
7		10.0	-.728	1.178	-2.375	1.792					
8		15.0	-.681	1.156	-5.460	5.690					
9		20.0	-.686	1.159							
10		25.0	-.790	1.217	-3.505	4.763					
11		30.0	-.803	1.224							
12		35.0	-.429	1.026	-11.13	8.616					
13		40.0	-.330	.977	2.371	-5.974					
14		45.0	-.359	.971	2.749	-5.297					
15		50.0	-.366	.994	2.156	-3.123					
16		55.0	-.358	.991	.869	-1.510					
17		60.0	-.344	.984	.486	-.695					
18		65.0	-.338	.980	.123	-.347					
19		70.0	-.324	.974	.116	-.112					
20		75.0	-.285	.955	.219	.224					
21		80.0	-.213	.921	-.105	.313					
22		85.0	-.087	.861							
23		90.0	.024	.809	-.126	.351					
24		95.0	.109	.770							
	25	.5	.398	.634							
		1.5									
		3.0									
		5.0									
		7.5									
		10.0									
31		15.0	-.309	.967	3.064	-2.464					
		20.0									
33		25.0	-.403	1.013							
34		30.0	-.408	1.015	1.414	-.595					
35		40.0	-.408	1.015	.330	-.290					
36		50.0	-.318	.971	.268	.007					
		60.0									
		70.0									
39		80.0	.235	.711	-.029	-.140					
40		90.0	.300	.680	.223	.011					

OVERALL		*****		
COEFFICIENTS	STEADY	RE	IM	SECTION 6
(z	UPPER	-.366	.503	-.395
(z	LOWER	-.094	.203	-.137
(z	TOTAL	.272	.706	-.531
(m	UPPER	.037	-.087	.137
(m	LOWER	.013	-.003	.011
(m	TOTAL	.051	-.091	.148



\*\*\* LANN \*\*\* RUN 143 \*\*\*

TABLE 9.19a (cont'd)

NR. UP   LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
		Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	
1	0.0	.720	.469					
2	.5	-.010	.026					
3	1.5	-.698	1.167	-5.956	.985			
4	3.0	-.991	1.341	-6.573	.205			
5	5.0	-1.092	1.408	-5.976	.539			
6	7.5	-1.199	1.486					
7	10.0	-1.190	1.478	-4.574	.821	-4.175	.820	307
8	15.0	-1.204	1.490	-2.932	1.578			
9	20.0	-1.179	1.471	-3.627	1.192	-4.351	.889	309
10	25.0	-1.173	1.466	-3.361	.860			
12	35.0	-1.163	1.459	-4.493	2.239			
13	40.0	-1.150	1.449	-3.707	-1.644	-4.752	.024	313
14	45.0	-.662	1.147	-2.621	-4.892			
15	50.0	-.587	1.108	-4.983	-.479	-6.011	-.524	315
16	55.0	-.515	1.071	-10.80	.523			
17	60.0	-.411	1.018	-12.92	2.716	-13.02	1.402	317
18	65.0	-.307	.967	-12.41	2.373			
19	70.0	-.210	.920	-7.215	1.575	-6.654	.901	319
20	75.0	-.137	.886	-2.534	.675			
21	80.0	-.078	.858	-.715	.206	.268	-.290	321
22	85.0	-.020	.831					
23	90.0	.034	.806	-.257	.247	-.029	.137	323
24	95.0	.102	.774					
25	.5	.792	.427					
26	1.5	.519	.575	4.544	1.377			
27	3.0	.403	.632	4.411	1.717			
29	7.5	.178	.739					
30	10.0	.094	.778	2.769	-.046			
32	20.0	-.148	.891	3.881	.235			
36	50.0	-.345	.986	1.949	.969			
37	60.0	-.157	.895	.784	1.107			
38	70.0	-.059	.794	.187	.786			
39	80.0	.220	.719	.071	.804			
40	90.0	.315	.674	.088	.745			

OVERALL (COEFFICIENTS)		STEADY!	** SECTION 3 **	
			RE	IM
Gz	UPPER	.615	1.430	-.172
Gz	LOWER	-.017	.550	.211
Gz	TOTAL	-.598	1.980	-.039
Gm	UPPER	.027	.579	-.064
Gm	LOWER	.009	.028	.118
Gm	TOTAL	.037	.607	.054

NR. UP   LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
		Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	
1	0.0	.773	.438					
2	.5	.032	.807					
3	1.5	-.669	1.151	-8.280	.100			
4	3.0	-.888	1.277	-5.195	.018			
5	5.0	-1.056	1.384	-4.549	.032	-5.992	.776	405
6	7.5	-1.123	1.430					
7	10.0							
8	15.0	-1.136	1.439	-5.218	.608			
9	20.0	-1.144	1.445	-4.702	.704	-5.173	.602	409
10	25.0	-1.135	1.438	-5.266	.854			
12	35.0	-1.135	1.439	-.199	-1.670			
13	40.0	-.858	1.258	48.576	-33.73	49.923	-33.55	413
14	45.0	-.621	1.126	13.661	-8.064			
15	50.0	-.560	1.094	4.763	-3.883	2.204	-3.561	415
16	55.0	-.506	1.066	.239	-4.579			
17	60.0	-.436	1.030	-3.663	-4.284	-3.821	-3.600	417
19	70.0	-.274	.951	-9.062	-2.998			
20	75.0	-.198	.915	-9.386	-1.122			
21	80.0	-.140	.887	-9.005	.294	-9.725	.514	421
22	85.0	-.079	.859					
23	90.0	-.030	.835	-14.46	3.592			
24	95.0	.020	.812					
25	.5	.750	.452					
26	1.5	.444	.612	4.898	1.835			
27	3.0	.315	.674	4.442	1.458			
31	10.0							
32	15.0	-.044	.842	2.945	.313			
33	20.0	-.156	.895	3.834	.900			
35	25.0	-.237	.933					
36	30.0							
35	40.0	-.369	.997	2.014	1.998			
36	50.0	-.343	.985	-.132	2.082			
37	60.0	-.133	.884	-1.613	2.350			
38	70.0	.064	.792	-2.289	1.920			
39	80.0	.231	.714	-2.255	1.772			
40	90.0	.306	.679	-2.749	2.091			

OVERALL (COEFFICIENTS)		STEADY!	** SECTION 4 **	
			RE	IM
Gz	UPPER	.602	.552	.858
Gz	LOWER	-.035	.167	.508
Gz	TOTAL	.567	.719	1.366
Gm	UPPER	.039	.785	.297
Gm	LOWER	.010	-.350	.293
Gm	TOTAL	.048	.435	.590

\*\*\* LANN \*\*\* RUN 143 \*\*\*

TABLE 9.19a (cont'd)

NR. UP   LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
		Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	
1	0.0	.782	.433			**		
2	.5	.105	.773			**		
3	1.5	-.461	1.043	-4.959	-.463	**		
4	3.0	-.798	1.224	-5.172	-.532	**		
5	5.0	-.914	1.292	-6.741	-.528	**	-6.144	.172
6	7.5	-.968	1.326			**		
7	10.0	-1.017	1.358	-5.619	-.498	**		
	15.0					**		
9	20.0	-1.049	1.379	-5.785	-.425	**		
10	25.0	-1.042	1.374	-5.867	-.098	**		
11	30.0	-1.060	1.387	-4.528	.157	**		
	35.0					**		
13	40.0	-.996	1.344	20.686	-7.480	**		
14	45.0	-.722	1.180	43.125	-26.01	**		
15	50.0	-.524	1.075	11.208	-7.725	**		
16	55.0	-.432	1.028	4.119	-8.124	**		
17	60.0	-.349	.988	.185	-7.221	**		
18	65.0	-.283	.955	-.263	-5.419	**		
19	70.0	-.227	.929	.444	-2.654	**	-1.185	-2.412
20	75.0	-.186	.907	.880	-.462	**		
21	80.0	-.133	.884	.625	-.146	**		
22	85.0	-.064	.852			**		
23	90.0	-.010	.826	-5.818	.645	**		
24	95.0	.052	.797			**		
	25	.5	.703	.478		**		
		1.5				**		
		3.0				**		
		5.0				**		
		7.5				**		
	30	10.0	.005	.819	2.673	.645	**	
		15.0				**		
	32	20.0	-.180	.906	3.448	1.771	**	
		25.0				**		
	34	30.0	-.300	.964	2.019	2.395	**	
		40.0				**		
	36	50.0	-.366	.996	-1.934	2.145	**	
		60.0				**		
		70.0				**		
	39	80.0	.234	.712	-2.369	1.127	**	
	40	90.0	.312	.676	-2.313	1.079	**	

OVERALL COEFFICIENTS		STEADY	SECTION 5	
RE	IM		RE	IM
UPPER	.554		-.659	1.105
LOWER	-.039		-.087	.469
TOTAL	.515		-.746	1.574
UPPER	.035		-.428	.513
LOWER	.007		-.354	.217
TOTAL	.042		-.782	.731

NR. UP   LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
		Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	
1	0.0	.773	.438			**		
	.5					**		
3	1.5	-.286	.957			**		
	3.0					**		
5	5.0	-.754	1.199	-5.829	-1.471	**		
	7.5					**		
7	10.0	-.870	1.266	-7.310	-2.622	**		
8	15.0	-.908	1.289	-5.090	-1.495	**		
9	20.0	-.963	1.323	-3.207	-1.468	**		
10	25.0	-.997	1.345	-4.864	-1.431	**		
11	30.0	-1.032	1.367			**		
12	35.0	-1.065	1.390	-3.224	-1.165	**		
13	40.0	-.545	1.086	2.613	-10.79	**		
14	45.0	-.387	1.006	-2.431	-9.253	**		
15	50.0	-.288	.958	-.980	-5.037	**		
16	55.0	-.258	.943	1.434	.441	**		
17	60.0	-.265	.947	2.045	1.446	**		
18	65.0	-.281	.954	1.921	1.108	**		
19	70.0	-.284	.956	1.796	.490	**		
20	75.0	-.266	.947	1.129	-.118	**		
21	80.0	-.212	.921	.671	-.077	**		
22	85.0	-.097	.867			**		
23	90.0	.009	.817	-.055	-.113	**		
24	95.0	.094	.778			**		
	25	.5	.592	.537		**		
		1.5				**		
		3.0				**		
		5.0				**		
		7.5				**		
	31	10.0				**		
		15.0	-.182	.907	2.453	1.241	**	
		20.0				**		
	33	25.0	-.315	.971		**		
	34	30.0	-.346	.986	.053	1.747	**	
	35	40.0	-.379	1.002	-.768	.887	**	
	36	50.0	-.315	.971	-1.626	.508	**	
		60.0				**		
		70.0				**		
	39	80.0	.233	.713	-.485	.160	**	
	40	90.0	.301	.681	-.219	.078	**	

OVERALL COEFFICIENTS		STEADY	SECTION 6	
RE	IM		RE	IM
UPPER	.464		.423	.529
LOWER	-.050		-.068	.184
TOTAL	.414		.355	.714
UPPER	.031		-.199	.091
LOWER	.009		-.134	.034
TOTAL	.041		-.333	.126







\*\*\* LANN \*\*\* RUN 144 \*\*\*

TABLE 9.19b (cont'd)

NR UP	LOW	ZCHORD	PRESSURE		DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			Cp	STEADY!	M-LOC.	Cp	Cp	IM	Cp	RE	
1		0.0	.720		.468			**			
2		.5	-.010		.826			**			
3		1.5	-.697		1.166	-.503	.013	**			
4		3.0	-.990		1.339	-.698	-.173	**			
5		5.0	-1.092		1.407	-1.580	-.601	**			
6		7.5	-1.199		1.485			**			
7		10.0	-1.189		1.477	-.633	-.365	**	.025	.008	307
8		15.0	-1.203		1.488	-.534	-.286	**			
9		20.0	-1.178		1.469	-.949	-.445	**	-.056	.123	309
10		25.0	-1.172		1.464	-.441	-.186	**			
11		30.0						**			
12		35.0	-1.163		1.457	-.801	-.266	**			
13		40.0	-1.143		1.443	1.908	.485	**	.406	.329	313
14		45.0	-.662		1.147	-.163	1.011	**			
15		50.0	-.586		1.107	-.501	.486	**	-.142	.683	315
16		55.0	-.515		1.070	-.501	1.303	**			
17		60.0	-.411		1.018	-.558	.929	**	.367	.436	317
18		65.0	-.309		.968	-.165	-.121	**			
19		70.0	-.213		.921	.389	-1.011	**	.768	-1.070	319
20		75.0	-.137		.885	.156	-1.122	**			
21		80.0	-.075		.856	-.132	-.930	**	.066	-.508	321
22		85.0	-.021		.831			**			
23		90.0	.035		.805	-.398	-.243	**	-.104	-.248	323
24		95.0	.102		.774			**			
25	25	.5	.793		.426			**			
26	26	1.5	.519		.574	-.221	.067	**			
27	27	3.0	.402		.632	-.636	.440	**			
28		5.0						**			
29	29	7.5	.177		.739			**			
30	30	10.0	.094		.778	-.225	.017	**			
31		15.0						**			
32	32	20.0	-.148		.890	-.372	.042	**			
33		25.0						**			
34		30.0						**			
35		40.0						**			
36	36	50.0	-.342		.984	-.546	-.290	**			
37	37	60.0	-.157		.895	-.162	-.122	**			
38	38	70.0	.059		.794	-.360	-.030	**			
39	39	80.0	.220		.719	-.275	-.113	**			
40	40	90.0	.315		.674	-.277	-.066	**			

OVERALL		SECTION 3		
COEFFICIENTS	STEADY!	RE	IM	
(z	UPPER	.615	.095	.035
(z	LOWER	-.016	-.105	-.019
(z	TOTAL	.598	-.010	.016
(m	UPPER	.027	.008	.029
(m	LOWER	.010	-.044	-.020
(m	TOTAL	.037	-.036	.009

NR. UP	LOW	ZCHORD	PRESSURE		DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			Cp	STEADY!	M-LOC.	Cp	Cp	IM	Cp	RE	
1		0.0	.773		.438			**			
2		.5	.033		.806			**			
3		1.5	-.667		1.150	-.816	.028	**			
4		3.0	-.888		1.276	-1.038	-.128	**			
5		5.0	-1.056		1.383	-.631	-.210	**	.040	.052	405
6		7.5	-1.123		1.429			**			
7		10.0						**	-.021	.080	407
8		15.0	-1.135		1.437	-.459	-1.450	**			
9		20.0	-1.143		1.443	-.222	-.628	**	.017	.078	409
10		25.0	-1.134		1.437	-.390	-.165	**			
11		30.0						**			
12		35.0	-1.129		1.433	-1.021	5.235	**			
13		40.0	-.879		1.270	-.512	17.056	**	.080	13.118	413
14		45.0	-.623		1.126	-1.444	-1.262	**			
15		50.0	-.561		1.094	-.994	1.053	**	-.395	.803	415
16		55.0	-.508		1.066	-.420	1.560	**			
17		60.0	-.436		1.030	-.521	2.075	**	-.306	1.729	417
18		65.0						**			
19		70.0	-.277		.952	.001	1.677	**			
20		75.0	-.197		.914	1.046	.387	**			
21		80.0	-.134		.884	1.187	-.572	**	1.249	-.511	421
22		85.0	-.085		.861			**			
23		90.0	-.026		.833	.985	-2.208	**			
24		95.0	.023		.811			**			
25	25	.5	.751		.451			**			
26	26	1.5	.444		.612	-.248	-.136	**			
27	27	3.0	.315		.674	-.263	-.147	**			
28		5.0						**			
29		7.5						**			
30		10.0						**			
31	31	15.0	-.044		.842	-.277	-.227	**			
32	32	20.0	-.155		.894	-.196	-.305	**			
33	33	25.0	-.236		.932			**			
34		30.0						**			
35	35	40.0	-.372		.998	-.383	-.637	**			
36	36	50.0	-.339		.982	-.360	-.695	**			
37	37	60.0	-.133		.883	-.288	-.320	**			
38	38	70.0	.065		.791	-.178	-.351	**			
39	39	80.0	.231		.714	-.115	-.539	**			
40	40	90.0	.306		.678	-.211	-.602	**			

OVERALL		SECTION 4		
COEFFICIENTS	STEADY!	RE	IM	
(z	UPPER	.602	.055	-.388
(z	LOWER	-.034	-.077	-.132
(z	TOTAL	.568	-.022	-.520
(m	UPPER	.039	-.063	-.095
(m	LOWER	.010	-.029	-.076
(m	TOTAL	.049	-.093	-.171

\*\*\* LANN \*\*\* RUN 144 \*\*\*

TABLE 9.19b (cont'd)

NR. UP	LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.	** SECTION 5 **		
			Cp STEADY	M-LDC	Cp RE	Cp IM	Cp RE	Cp IM		(COEFFICIENTS)	STEADY	RE
1		0.0	.782	.433								
2		.5	.106	.772								
3		1.5	-.461	1.042	0.000	0.000						
4		3.0	-.799	1.223	.516	.536						
5		5.0	-.913	1.291	0.000	0.000	.075	.142	505			
6		7.5	-.969	1.326								
7		10.0	-1.016	1.356	0.000	0.000						
		15.0										
9		20.0	-1.047	1.377	0.000	0.000						
10		25.0	-1.041	1.373	.422	.165						
11		30.0	-1.059	1.385	.302	-.798						
		35.0										
13		40.0	-1.017	1.356	-5.281	14.198						
14		45.0	-.721	1.180	-4.465	3.053						
15		50.0	-.524	1.075	-1.703	.821						
16		55.0	-.433	1.029	-1.020	2.276						
17		60.0	-.350	.987	-.448	2.440						
18		65.0	-.284	.955	.078	1.648						
19		70.0	-.228	.928	.702	.546	.822	.567	519			
20		75.0	-.185	.908	.555	-.458						
21		80.0	-.132	.883	.910	-1.026						
22		85.0	-.066	.852								
23		90.0	-.009	.825	1.996	-1.891						
24		95.0	.053	.797								
	25	.5	.704	.477								
		1.5										
		3.0										
		5.0										
		7.5										
	30	10.0	.003	.820	.108	-.269						
		15.0										
	32	20.0	-.179	.905	-.080	-.779						
		25.0										
	34	30.0	-.300	.963	-.038	-.422						
		40.0										
	36	50.0	-.362	.993	-.045	-.532						
		60.0										
		70.0										
	39	80.0	.234	.712	.275	-.418						
	40	90.0	.312	.675	.138	-.385						

NR. UP	LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.	** SECTION 6 **		
			Cp STEADY	M-LDC	Cp RE	Cp IM	Cp RE	Cp IM		(COEFFICIENTS)	STEADY	RE
1		0.0	.773	.438								
		.5										
3		1.5	-.285	.956								
		3.0										
5		5.0	-.753	1.197	.003	.550						
		7.5										
7		10.0	-.870	1.265	0.000	0.000						
8		15.0	-.907	1.287	.654	-1.808						
9		20.0	-.961	1.321	0.000	0.000						
10		25.0	-.997	1.344	.786	.864						
11		30.0	-1.031	1.366								
12		35.0	-1.064	1.388	-.515	1.334						
13		40.0	-.537	1.081	.262	2.289						
14		45.0	-.387	1.005	-.699	2.028						
15		50.0	-.287	.957	-.868	1.600						
16		55.0	-.258	.943	-.322	-.117						
17		60.0	-.265	.946	.049	-.929						
18		65.0	-.281	.954	.067	-.779						
19		70.0	-.284	.955	-.069	-.607						
20		75.0	-.265	.946	.133	-.168						
21		80.0	-.212	.921	-.162	-.126						
22		85.0	-.098	.867								
23		90.0	.009	.817	0.000	0.000						
24		95.0	.094	.778								
	25	.5	.594	.536								
		1.5										
		3.0										
		5.0										
		7.5										
	31	10.0										
		15.0	-.183	.907	-.069	-.692						
		20.0										
	33	25.0	-.314	.970								
	34	30.0	-.346	.985	.228	-.268						
	35	40.0	-.382	1.003	.195	-.467						
	36	50.0	-.312	.969	.351	-.426						
		60.0										
		70.0										
	39	80.0	.232	.713	0.000	0.000						
	40	90.0	.301	.680	.151	-.168						

TABLE 9.19c

TEST CONDITIONS	NORM. COEFF.						MOM. COEFF.						DISPLACEMENTS			VIBRATION MODE		
	Cz		Czi		IM		Cm		Chi		IM		REL. TO LVDT	AMPL.	PHASE	**	HEAVE AT	PITCH
	RE	IM	RE	IM	RE	IM	RE	IM	RE	IM	RE	IM	(-)	(DEG)	**	(MM)	(DEG)	
RUNNR. = 145	SECT.1	.486	.009	-.042	.022	-.028	.014	LVDT	1.00	0.00	**	.000						
ALFA = 2.60 (DEG)	SECT.2	.535	.027	-.047	.021	-.005	-.012	CALC. 1	14.69	-7.66	**	.100						
MACH = .821	SECT.3	.599	-.016	.037	.037	-.015	-.018	ACC. 2	6.00	-9.84	**	.100				.01	.02	
RE*10**6 = 5.32	SECT.4	.565	.121	.069	.047	-.007	.036	ACC. 3	4.45	-181.04	**	.100						
Q = 44.96 (KPA)	SECT.5	.516	-.133	.166	.042	-.029	.024	ACC. 4	25.30	-15.80	**	.420						
P-SETTL. = 148.4 (KPA)	SECT.6	.415	-.035	.092	.041	-.005	.001	ACC. 5	2.51	-22.97	**	.420				.08	.03	
T-SETTL. = 30.00	WING	.509	.007	.018	.048	-.036	.077	ACC. 6	4.86	-150.78	**	.420						
DALFA = .249 (DEG)					(WING   CM ABOUT			ACC. 7	9.81	-21.77	**	.700						
FREQ. = 24.00 (Hz)					AERODYN. CENTER)			CALC. 8	4.05	-23.02	**	.700				.07	.02	
REDFR. = .075								CALC. 9	2.62	-100.08	**	.700						
HARM. = 3								CALC. 10	11.41	-17.87	**	.920						
								ACC. 11	8.27	-17.55	**	.920				.10	.01	
								ACC. 12	5.09	-16.82	**	.920						

NR.	UP	LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES)				CALIBRATION (TRANSD.)				NR.	OVERALL	COEFFICIENTS	STEADY	SECTION 1		
				Cp	M-LOC.	Cp	IM	Cp	IM	Cp	IM					RE	IM	RE
1			0.0	.667	.497			**					Cz	UPPER	.538	-.017	-.117	
2			.5	-.032	.836			**					Cz	LOWER	-.053	.026	.075	
3			1.5	-.710	1.172	-.385	.784	**					Cz	TOTAL	.486	.009	-.042	
4			3.0	-1.059	1.383	-1.346	3.075	**					CM	UPPER	.023	-.032	-.005	
5			5.0	-1.111	1.419			**					CM	LOWER	-.001	.004	.019	
6			7.5	-1.180	1.468			**					CM	TOTAL	.022	-.028	.014	
7			10.0	-1.202	1.485	.094	.732	**										
8			15.0	-1.159	1.453	-.563	.784	**										
9			20.0	-1.134	1.435	.114	.683	**										
10			25.0	-.854	1.255	-.138	-.280	**										
11			30.0	-.733	1.185	-.204	.344	**										
12			35.0	-.712	1.174			**										
13			40.0	-.706	1.170	.048	.334	**										
14			45.0	-.724	1.180	-.040	.208	**										
15			50.0	-.755	1.197	.165	.251	**										
16			55.0	-.513	1.068	2.015	1.244	**										
17			60.0	-.330	.977	.320	-.013	**										
18			65.0	-.269	.948	.044	.257	**										
19			70.0	-.213	.921	-.027	-.111	**										
20			75.0	-.159	.895	-.055	.075	**										
21			80.0	-.100	.867	.082	.070	**										
22			85.0	-.027	.833			**										
23			90.0	.031	.806	.012	.105	**										
24			95.0	.101	.774			**										
25			.5	.789	.428			**										
26			1.5	.504	.581	.562	.442	**										
27			3.0	.424	.621	.597	.279	**										
28			5.0	.356	.664	.050	.187	**										
29			7.5	.188	.733			**										
30			10.0					**										
31			15.0	.003	.819	.048	.520	**										
32			20.0	-.133	.883	.104	.135	**										
33			25.0	-.229	.928			**										
34			30.0	-.335	.979			**										
35			40.0	-.376	1.000	.318	.425	**										
36			50.0	-.402	1.012	-.156	.322	**										
37			60.0	-.212	.920	-.003	.178	**										
38			70.0	.024	.810	.086	.258	**										
39			80.0	.192	.731	.130	-.004	**										
40			90.0	.296	.683	.003	.081	**										

NR.	UP	LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES)				CALIBRATION (TRANSD.)				NR.	OVERALL	COEFFICIENTS	STEADY	SECTION 2		
				Cp	M-LOC.	Cp	IM	Cp	IM	Cp	IM					RE	IM	RE
1			0.0	.696	.481			**					Cz	UPPER	.584	.022	-.043	
2			.5	.010	.816			**					Cz	LOWER	-.049	.005	-.004	
3			1.5	-.748	1.194	0.000	0.000	**					Cz	TOTAL	.535	.027	-.047	
4			3.0	-.997	1.342	-1.600	.325	**					CM	UPPER	.017	.000	-.012	
5			5.0	-1.108	1.417	.865	.630	**					CM	LOWER	.004	-.006	-.000	
6			7.5	-1.223	1.501			**					CM	TOTAL	.021	-.005	-.012	
7			10.0	-1.234	1.509	0.000	0.000	**										
8			15.0	-1.202	1.485	-.757	-.568	**										
9			20.0	-1.187	1.474	-.609	.099	**										
10			25.0	-1.175	1.465	0.000	0.000	**										
11			30.0	-1.174	1.464	.100	.510	**										
12			35.0	-1.130	1.432	0.000	0.000	**										
13			40.0	-.954	1.315	-.036	.944	**										
14			45.0	-.661	1.146			**										
15			50.0	-.479	1.051	-.011	.170	**										
16			55.0	-.367	.995	.250	.724	**										
17			60.0	-.292	.959	.189	-.090	**										
18			65.0	-.242	.935	-.149	.092	**										
19			70.0	-.188	.909	-.091	-.157	**										
20			75.0	-.134	.883	-.075	-.061	**										
21			80.0	-.084	.860	-.064	.076	**										
22			85.0	-.023	.831			**										
23			90.0	.041	.802	-.053	-.042	**										
24			95.0	.111	.769			**										
25			.5	.790	.428			**										
26			1.5	.507	.580	.379	.038	**										
27			3.0	.400	.633			**										
28			5.0	.278	.691	0.000	0.000	**										
29			7.5	.187	.734			**										
30			10.0	.130	.760	.014	-.155	**										
31			15.0	-.016	.828	0.000	0.000	**										
32			20.0	-.149	.890	.133	-.099	**										
33			25.0	-.243	.935			**										
34			30.0	-.333	.979	-.149	.108	**										
35			40.0	-.415	1.019	.396	-.068	**										
36			50.0	-.378	1.000	-.117	.091	**	</									

\*\*\* LANN \*\*\* RUN 145 \*\*\*

TABLE 9.19c (cont'd)

NR. UP	LOW	ZCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.720	.468						
2		.5	-.010	.826						
3		1.5	-.700	1.167	.414	-.853				
4		3.0	-.993	1.340	-.195	-.933				
5		5.0	-1.095	1.408	-.173	-1.060				
6		7.5	-1.200	1.483						
7		10.0	-1.190	1.476	-.105	-.818	.023	-.022	307	
8		15.0	-1.206	1.488	-.108	-.790				
9		20.0	-1.181	1.469	-.119	-.735	.012	.055	309	
10		25.0	-1.174	1.464	0.000	0.000				
12		35.0	-1.164	1.457	.983	-.115				
13		40.0	-1.154	1.450	-.521	.110	-.186	.342	313	
14		45.0	-.658	1.144	.046	-.358				
15		50.0	-.588	1.107	.182	.019	-.039	.087	315	
16		55.0	-.518	1.071	.157	.401				
17		60.0	-.421	1.022	.208	-.187	-.109	-.027	317	
18		65.0	-.307	.966	0.000	0.000				
19		70.0	-.205	.917	-.366	-.121	-.103	.094	319	
20		75.0	-.140	.886	-.018	-.136				
21		80.0	-.077	.856	.088	.075	.064	.042	321	
22		85.0	-.020	.830						
23		90.0	.034	.805	.054	-.066	.041	-.008	323	
24		95.0	.102	.773						
25		.5	.793	.426						
26		1.5	.519	.574	.043	-.441				
27		3.0	.402	.632	.516	-.404				
29		7.5	.178	.738						
30		10.0	.094	.777	-.086	-.105				
32		20.0	-.147	.890	.041	-.275				
36		50.0	-.346	.985	-.144	-.110				
37		60.0	-.459	.895	-.087	-.326				
38		70.0	.060	.793	0.000	0.000				
39		80.0	.220	.718	-.001	-.177				
40		90.0	.315	.674	-.063	-.066				

OVERALL COEFFICIENTS		STEADY	SECTION 3		
			RE	IM	
Cz	UPPER	.616	-.007	.068	
Cz	LOWER	-.017	-.009	-.031	
Cz	TOTAL	.599	-.016	.037	
Cm	UPPER	.027	-.005	-.012	
Cm	LOWER	.009	-.009	-.006	
Cm	TOTAL	.037	-.015	-.018	

NR. UP	LOW	ZCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.774	.437						
2		.5	.032	.806						
3		1.5	-.670	1.150	-.504	.112				
4		3.0	-.890	1.276	-1.211	1.043				
5		5.0	-1.059	1.383	-.847	.149	-.009	.005	405	
6		7.5	-1.123	1.428						
7		10.0					-.074	.001	407	
8		15.0	-1.137	1.437	-.445	1.428				
9		20.0	-1.146	1.444	-.629	.104	-.003	-.003	409	
10		25.0	-1.136	1.437	-.591	.105				
12		35.0	-1.120	1.425	-7.601	-3.638				
13		40.0	-.854	1.255	5.391	1.748	8.621	2.313	413	
14		45.0	-.623	1.125	.502	.634				
15		50.0	-.561	1.093	.350	.627	.076	.145	415	
16		55.0	-.508	1.065	.057	.264				
17		60.0	-.438	1.030	.236	.283	-.060	.045	417	
19		65.0								
20		70.0	-.270	.948	-.296	-.255				
21		75.0	-.201	.915	-.398	-.079				
22		80.0	-.137	.885	-.224	-.199	-.317	-.232	421	
23		85.0	-.069	.853						
24		90.0	-.023	.831	-.339	.087				
25		95.0	.027	.808						
26		.5	.751	.450						
27		1.5	.444	.611	-.211	.168				
31		15.0	-.043	.841	-.161	.494				
32		20.0	-.154	.893	0.000	0.000				
33		25.0	-.237	.932						
35		40.0	-.372	.997	-.040	.256				
36		50.0	-.344	.984	-.247	.188				
37		60.0	-.435	.884	-.288	.251				
38		70.0	-.066	.790	-.179	.169				
39		80.0	.231	.713	-.079	.237				
40		90.0	.304	.679	-.133	.271				

OVERALL COEFFICIENTS		STEADY	SECTION 4		
			RE	IM	
Cz	UPPER	.600	.160	-.001	
Cz	LOWER	-.035	-.038	.071	
Cz	TOTAL	.565	.121	.069	
Cm	UPPER	.038	.015	.007	
Cm	LOWER	.010	-.022	.029	
Cm	TOTAL	.047	-.007	.036	

\*\*\* LANN \*\*\* RUN 145 \*\*\*

TABLE 9.19c (cont'd)

NR. UP	LOW	ZCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	
1		0.0	.782	.432					
2		.5	.105	.772					
3		1.5	-.463	1.043	.615	.217			
4		3.0	-.801	1.223	-.708	.208			
5		5.0	-.917	1.292	0.000	0.000	-.011	-.003	505
6		7.5	-.969	1.325					
7		10.0	-1.017	1.356	1.238	-.208			
		15.0							
9		20.0	-1.051	1.378	.774	-.151			
10		25.0	-1.043	1.372	.711	-.151			
11		30.0	-1.061	1.385	.145	.666			
		35.0							
13		40.0	-.989	1.337	-.182	-10.31			
14		45.0	-.727	1.182	4.972	3.038			
15		50.0	-.524	1.074	1.018	.828			
16		55.0	-.434	1.028	.225	-.181			
17		60.0	-.352	.988	.638	.323			
18		65.0	-.283	.954	.001	-.174			
19		70.0	-.226	.927	-.019	-.324	-.067	-.170	519
20		75.0	-.185	.908	.243	-.092			
21		80.0	-.133	.883	.088	.254			
22		85.0	-.062	.850					
23		90.0	-.007	.824	-.246	.256			
24		95.0	.056	.795					
	25	.5	.704	.477					
		1.5							
		3.0							
		5.0							
		7.5							
	30	10.0	.004	.819	.091	.115			
		15.0							
	32	20.0	-.178	.904	.165	-.112			
		25.0							
	34	30.0	-.296	.960	.305	.059			
		40.0							
	36	50.0	-.367	.995	.156	-.115			
		60.0							
		70.0							
	39	80.0	.234	.712	0.000	0.000			
	40	90.0	.310	.676	-.084	.084			

OVERALL COEFFICIENTS		STEADY	SECTION 5		
			RE	IM	
UPPER	.554		-.166	.170	
LOWER	-.039		.032	-.004	
TOTAL	.516		-.133	.166	
UPPER	.035		-.033	.026	
LOWER	.007		.004	-.002	
TOTAL	.042		-.029	.024	

NR. UP	LOW	ZCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	
1		0.0	.774	.437					
		.5							
3		1.5	-.287	.956					
		3.0							
5		5.0	-.756	1.198	.722	-.228			
		7.5							
7		10.0	-.870	1.264	0.000	0.000			
8		15.0	-.909	1.287	.324	-2.037			
9		20.0	-.964	1.321	0.000	0.000			
10		25.0	-.998	1.343	0.000	0.000			
11		30.0	-1.033	1.366					
12		35.0	-1.066	1.388	-.889	-.577			
13		40.0	-.551	1.088	.439	-.555			
14		45.0	-.382	1.002	.902	-.724			
15		50.0	-.289	.957	.439	.030			
16		55.0	-.258	.942	.231	-.205			
17		60.0	-.263	.945	-.206	-.234			
18		65.0	-.280	.953	.102	.118			
19		70.0	-.285	.955	-.117	.101			
20		75.0	-.266	.946	0.000	0.000			
21		80.0	-.211	.920	0.000	0.000			
22		85.0	-.097	.866					
23		90.0	.008	.817	-.098	-.295			
24		95.0	.093	.777					
	25	.5	.594	.536					
		1.5							
		3.0							
		5.0							
		7.5							
		10.0							
	31	15.0	-.181	.906	-.263	.448			
		20.0							
	33	25.0	-.314	.969					
	34	30.0	-.341	.982	0.000	0.000			
	35	40.0	-.382	1.002	0.000	0.000			
	36	50.0	-.315	.970	0.000	0.000			
		60.0							
		70.0							
	39	80.0	.233	.712	0.000	0.000			
	40	90.0	.302	.680	-.213	-.216			

OVERALL COEFFICIENTS		STEADY	SECTION 6		
			RE	IM	
UPPER	.465		-.024	.084	
LOWER	-.049		-.012	.008	
TOTAL	.415		-.035	.092	
UPPER	.031		.004	.015	
LOWER	.009		-.009	-.013	
TOTAL	.041		-.005	.001	







\*\*\* LANN \*\*\* RUN 92 \*\*\*

TABLE 9.20 (cont'd)

NR. UP	LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.	(OVERALL COEFFICIENTS)	** SECTION 3 **		
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	RE			IM	STEADY!	RE
1		0.0	.834	.431			**							
2		.5	.259	.742			**							
3		1.5	-.341	1.047	-4.211	1.023	**							
4		3.0	-.593	1.190	-5.512	.832	**							
5		5.0	-.723	1.270	-5.243	.846	**							
6		7.5	-.869	1.367			**							
7		10.0	-.886	1.380	-3.101	.735	**	-3.273	.645	307				
8		15.0	-.910	1.398	-4.031	.952	**							
9		20.0	-.907	1.396	-3.856	1.174	**	-3.452	.676	309				
10		25.0	-.906	1.395	-3.764	1.014	**							
		30.0					**							
12		35.0	-.890	1.389	-5.283	1.842	**							
13		40.0	-.901	1.392	-4.150	1.629	**	-4.332	1.085	313				
14		45.0	-.911	1.399	-4.345	1.954	**							
15		50.0	-.927	1.410	-4.266	2.731	**	-4.549	1.374	315				
16		55.0	-.866	1.366	-5.860	-5.756	**							
17		60.0	-.441	1.102	-4.571	-1.614	**	-4.189	-1.754	317				
18		65.0	-.341	1.047	-10.68	3.537	**							
19		70.0	-.252	1.000	-10.79	5.333	**	-9.745	2.946	319				
20		75.0	-.159	.952	-7.800	4.726	**							
21		80.0	-.070	.906	-3.522	1.849	**	-2.538	.590	321				
22		85.0	.001	.870			**							
23		90.0	.057	.842	-1.152	.790	**	-.304	-.241	323				
24		95.0	.127	.808			**							
	25	.5	.683	.521			**							
26		1.5	.355	.694	4.898	.761	**							
27		3.0	.247	.748	5.918	1.562	**							
		5.0					**							
29		7.5	.046	.848			**							
30		10.0	-.029	.885	2.854	-.231	**							
		15.0					**							
32		20.0	-.280	1.015	2.832	-.078	**							
		25.0					**							
		30.0					**							
		40.0					**							
36		50.0	-.779	1.307	3.255	-.080	**							
37		60.0	-.174	.959	.955	1.571	**							
38		70.0	.005	.869	3.205	.675	**							
39		80.0	.146	.798	4.958	-.190	**							
40		90.0	.266	.739	3.213	-.500	**							

NR. UP	LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.	(OVERALL COEFFICIENTS)	** SECTION 4 **		
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	RE			IM	STEADY!	RE
1		0.0	.867	.410			**							
2		.5	.322	.710			**							
3		1.5	-.234	.991	-5.733	-.084	**							
4		3.0	-.526	1.151	-4.772	.575	**							
5		5.0	-.700	1.255	-3.610	.637	**	-4.330	.672	405				
6		7.5	-.791	1.315			**							
7		10.0					**	-4.552	.889	407				
8		15.0	-.830	1.341	-5.985	.182	**							
9		20.0	-.858	1.361	-3.817	.575	**	-3.607	.545	409				
10		25.0	-.866	1.367	-4.893	.811	**							
		30.0					**							
12		35.0	-.876	1.374	-4.736	.953	**							
13		40.0	-.886	1.381	-4.911	1.332	**	-4.549	1.085	413				
14		45.0	-.899	1.390	-4.236	1.160	**							
15		50.0	-.656	1.228	37.126	-33.40	**	40.569	-29.59	415				
16		55.0	-.421	1.091	9.974	-9.152	**							
17		60.0	-.362	1.059	3.388	-3.345	**	2.137	-3.043	417				
		65.0					**							
19		70.0	-.277	1.013	-2.024	-2.811	**							
20		75.0	-.221	.984	-4.139	-2.091	**							
21		80.0	-.173	.959	-6.869	-.882	**	-6.425	-.411	421				
22		85.0	-.129	.936			**							
23		90.0	-.089	.916	-10.31	2.247	**							
24		95.0	-.048	.895			**							
	25	.5	.611	.561			**							
26		1.5	.241	.751	5.334	1.072	**							
27		3.0	.133	.805	4.838	1.052	**							
		5.0					**							
		7.5					**							
		10.0					**							
31		15.0	-.189	.967	4.471	.719	**							
32		20.0	-.312	1.032	2.761	.119	**							
33		25.0	-.405	1.082			**							
		30.0					**							
35		40.0	-.644	1.221	3.088	.250	**							
36		50.0	-.794	1.317	2.284	1.335	**							
37		60.0	-.167	.956	-1.277	2.832	**							
38		70.0	-.006	.868	.680	2.867	**							
39		80.0	-.154	.794	1.127	1.618	**							
40		90.0	.254	.744	-.523	1.284	**							

\*\*\* LANN \*\*\* RUN 92 \*\*\*

TABLE 9.20 (cont'd)

NR. UP	LOW	ZCHORD	PRESSURE			DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)		
			Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	NR.		
1		0.0	.862	.414							
2		.5	.403	.670							
3		1.5	-.115	.929	-5.472	-.608					
4		3.0	-.386	1.072	-3.975	.432					
5		5.0	-.529	1.152	-6.896	.221	-6.422	.715	505		
6		7.5	-.614	1.203							
7		10.0	-.684	1.246	-2.620	.257					
		15.0									
9		20.0	-.735	1.278	-6.801	-.017					
10		25.0	-.763	1.296	-4.547	.519					
11		30.0	-.792	1.316	-4.577	.378					
		35.0									
13		40.0	-.826	1.338	-4.714	.498					
14		45.0	-.842	1.350	-3.846	.470					
15		50.0	-.739	1.281	26.962	-9.292					
16		55.0	-.455	1.110	25.126	-8.408					
17		60.0	-.338	1.046	7.444	-2.897					
18		65.0	-.278	1.014	3.621	-2.904					
19		70.0	-.224	.985	.067	-3.160	-1.879	-2.380	519		
20		75.0	-.174	.959	-1.688	-.927					
21		80.0	-.126	.935	-4.870	-2.328					
22		85.0	-.081	.912							
23		90.0	-.041	.892	-7.793	-1.834					
24		95.0	-.002	.872							
	25	.5	.533	.602							
		1.5									
		3.0									
		5.0									
		7.5									
30		10.0	-.177	.961	6.361	.718					
		15.0									
32		20.0	-.359	1.057	3.172	.248					
		25.0									
34		30.0	-.514	1.143	2.773	.539					
		40.0									
36		50.0	-.783	1.310	-11.59	3.392					
		60.0									
		70.0									
39		80.0	.142	.800	1.619	2.086					
40		90.0	.256	.743	.448	.836					

OVERALL		SECTION 5		
COEFFICIENTS	STEADY	RE	IM	
(:z	UPPER	.453	.103	.510
(:z	LOWER	-.243	-.369	.486
(:z	TOTAL	.209	-.266	.996
(:m	UPPER	.050	-.130	.417
(:m	LOWER	-.032	-.456	.313
(:m	TOTAL	.018	-.586	.730

NR. UP	LOW	ZCHORD	PRESSURE			DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)		
			Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	NR.		
1		0.0	.847	.423							
		.5									
3		1.5	.065	.838							
		3.0									
5		5.0	-.399	1.079	-6.278	-.609					
		7.5									
7		10.0	-.593	1.190	-3.016	-.757					
8		15.0	-.615	1.203	-11.10	-1.547					
9		20.0	-.673	1.239	-4.737	-.599					
10		25.0	-.732	1.276	-3.691	-.522					
11		30.0	-.770	1.301							
12		35.0	-.831	1.342	-4.295	-.115					
13		40.0	-.861	1.363	-4.214	-.048					
14		45.0	-.888	1.382	-4.607	.180					
15		50.0	-.547	1.162	17.319	-6.534					
16		55.0	-.329	1.041	3.065	-2.921					
17		60.0	-.230	.988	-.852	-2.466					
18		65.0	-.174	.960	-.479	-.774					
19		70.0	-.160	.952	1.098	.699					
20		75.0	-.147	.945	1.341	.684					
21		80.0	-.108	.926	1.241	.833					
22		85.0	-.017	.879							
23		90.0	-.065	.838	-.607	-.377					
24		95.0	.128	.807							
	25	.5	.353	.695							
		1.5									
		3.0									
		5.0									
		7.5									
		10.0									
31		15.0	-.373	1.065	2.867	.335					
		20.0									
33		25.0	-.523	1.149							
34		30.0	-.599	1.193	2.391	.707					
35		40.0	-.756	1.292	2.241	.248					
36		50.0	-.210	.978	-3.613	-1.921					
		60.0									
		70.0									
39		80.0	.139	.802	-.617	2.925					
40		90.0	.225	.759	.114	2.662					

OVERALL		SECTION 6		
COEFFICIENTS	STEADY	RE	IM	
(:z	UPPER	.383	.403	.244
(:z	LOWER	-.169	.002	.193
(:z	TOTAL	.215	.406	.437
(:m	UPPER	.034	-.237	.075
(:m	LOWER	.002	-.179	.216
(:m	TOTAL	.036	-.416	.291

\*\*\* LANN \*\*\* RUN 260 \*\*\*

TABLE 9.21

TEST CONDITIONS	NORM. COEFF.			MOM. COEFF.		
	Cz	Cz1	RE	Cm	Cmi	IM
RUNNR. = 260	SECT.1 .263	1.355		.015	.023	
	SECT.2 .295	1.447		.021	.002	
ALFA = .61 (DEC)	SECT.3 .332	1.531		.030	-.004	
MACH = .620	SECT.4 .334	1.642		.043	-.019	
RE*10**-6 = 4.85	SECT.5 .307	1.571		.055	-.014	
Q = 31.10 (KPA)	SECT.6 .264	1.153		.057	-.120	
P-SETTL. = 149.6 (KPA)	WING .287	1.413		.042	.134	
T-SETTL. = 15.00				(WING : CM ABOUT		
				AERODYN. CENTER)		
DALFA = .248 (DEC)				QUASI STEADY		
FREQ. = 0.00 (Hz)						
HARM. = 1						

NR. UP	NR. LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.592	.403	-5.082	0.000	**			
2		.5	-.233	.697	-11.12	0.000	**			
3		1.5	-.931	.921	-13.78	0.000	**			
4		3.0	-1.036	.955	-12.86	0.000	**			
5		5.0	-1.020	.950	-9.865	0.000	**	0.000	0.000	105
6		7.5	-.841	.892	-7.336	0.000	**			
7		10.0	-.686	.842	-5.548	0.000	**			
8		15.0	-.567	.804	-3.970	0.000	**			
9		20.0	-.495	.781	-3.377	0.000	**			
10		25.0	-.456	.768	-2.696	0.000	**			
11		30.0	-.420	.757	-2.496	0.000	**			
12		35.0	-.395	.749	-2.030	0.000	**			
13		40.0	-.376	.743	-1.826	0.000	**			
14		45.0	-.361	.738	-1.741	0.000	**			
15		50.0	-.340	.731	-1.237	0.000	**			
16		55.0	-.311	.722	-1.119	0.000	**			
17		60.0	-.284	.713	-1.054	0.000	**			
18		65.0	-.246	.701	-.762	0.000	**			
19		70.0	-.200	.686	-.829	0.000	**	0.000	0.000	119
20		75.0	-.162	.674	-.601	0.000	**			
21		80.0	-.117	.659	-.255	0.000	**			
22		85.0	-.051	.637	-.259	0.000	**			
23		90.0	-.001	.621	-.221	0.000	**			
24		95.0	.067	.598	-.069	0.000	**			
25		.5	.707	.351	3.706	0.000	**			
26		1.5	.386	.484	5.522	0.000	**			
27		3.0	.305	.515	4.573	0.000	**			
28		5.0	.213	.547	4.331	0.000	**			
29		7.5	.076	.595	4.001	0.000	**			
30		10.0					**			
31		15.0	-.084	.648	3.556	0.000	**			
32		20.0	-.193	.684	3.203	0.000	**			
33		25.0	-.256	.704	3.013	0.000	**			
34		30.0	-.325	.727	2.797	0.000	**			
35		40.0	-.345	.733	2.270	0.000	**			
36		50.0	-.321	.725	1.724	0.000	**			
37		60.0	-.197	.685	1.245	0.000	**			
38		70.0	-.003	.621	.879	0.000	**			
39		80.0	.152	.569	.609	0.000	**			
40		90.0	.252	.534	.480	0.000	**			

OVERALL COEFFICIENTS		STEADY	RE	IM	SECTION 1	RE	IM
Cz	UPPER	.336	.743	0.000			
Cz	LOWER	-.073	.613	0.000			
Cz	TOTAL	.263	1.355	0.000			
Cm	UPPER	.016	.050	0.000			
Cm	LOWER	-.001	.073	0.000			
Cm	TOTAL	.015	.023	0.000			

NR. UP	NR. LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.626	.388	-5.545	0.000	**			
2		.5	-.211	.690	-12.08	0.000	**			
3		1.5	-.937	.923	-15.74	0.000	**			
4		3.0	-1.073	.968	-14.17	0.000	**			
5		5.0	-1.105	.978	-11.84	0.000	**			
6		7.5	-.876	.903	-8.374	0.000	**			
7		10.0	-.732	.857	-6.189	0.000	**			
8		15.0	-.601	.815	-4.418	0.000	**			
9		20.0					**			
10		25.0	-.489	.779	-2.952	0.000	**			
11		30.0	-.461	.770	-2.703	0.000	**			
12		35.0	-.417	.756	-2.211	0.000	**			
13		40.0	-.393	.748	-2.081	0.000	**			
14		45.0					**			
15		50.0	-.361	.738	-1.360	0.000	**			
16		55.0	-.325	.726	-1.224	0.000	**			
17		60.0	-.296	.717	-1.151	0.000	**			
18		65.0	-.269	.708	-.843	0.000	**			
19		70.0	-.217	.692	-.876	0.000	**			
20		75.0	-.169	.676	-.615	0.000	**			
21		80.0	-.127	.663	-.300	0.000	**			
22		85.0	-.069	.643	-.329	0.000	**			
23		90.0	-.007	.623	-.297	0.000	**			
24		95.0	.066	.598	-.200	0.000	**			
25		.5	.721	.344	3.776	0.000	**			
26		1.5	.404	.478	5.725	0.000	**			
27		3.0					**			
28		5.0	.181	.559	4.553	0.000	**			
29		7.5	.089	.591	4.213	0.000	**			
30		10.0	.041	.607	3.894	0.000	**			
31		15.0	-.086	.649	3.652	0.000	**			
32		20.0	-.191	.683	3.305	0.000	**			
33		25.0	-.251	.703	3.097	0.000	**			
34		30.0	-.308	.721	2.834	0.000	**			
35		40.0	-.342	.732	2.348	0.000	**			
36		50.0	-.313	.723	1.715	0.000	**			
37		60.0	-.177	.679	1.200	0.000	**			
38		70.0	.015	.615	.770	0.000	**			
39		80.0	.168	.563	.556	0.000	**			
40		90.0	.262	.530	.371	0.000	**			

OVERALL COEFFICIENTS		STEADY	RE	IM	SECTION 2	RE	IM
Cz	UPPER	.358	.829	0.000			
Cz	LOWER	-.063	.618	0.000			
Cz	TOTAL	.295	1.447	0.000			
Cm	UPPER	.018	-.057	0.000			
Cm	LOWER	.002	.059	0.000			
Cm	TOTAL	.021	.002	0.000			

\*\*\* LANN \*\*\* RUN 260 \*\*\*

TABLE 9.21 (cont'd)

NR. UP	LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANS.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.661	.372	-5.492	0.000	**			
2		.5	-.213	.690	-12.48	0.000	**			
3		1.5	-.951	.927	-16.54	0.000	**			
4		3.0	-1.029	.953	-14.63	0.000	**			
5		5.0	-1.025	.952	-11.67	0.000	**			
6		7.5	-.878	.984	-8.584	0.000	**			
7		10.0	-.741	.859	-6.609	0.000	**	0.000	0.000	307
8		15.0	-.626	.823	-4.818	0.000	**			
9		20.0	-.550	.798	-4.066	0.000	**	0.000	0.000	309
10		25.0	-.498	.782	-3.166	0.000	**			
12		35.0	-.434	.761	-2.363	0.000	**			
13		40.0	-.414	.755	-2.047	0.000	**	0.000	0.000	313
14		45.0	-.396	.749	-2.009	0.000	**			
15		50.0	-.373	.742	-1.414	0.000	**	0.000	0.000	315
16		55.0	-.340	.731	-1.238	0.000	**			
17		60.0	-.314	.723	-1.181	0.000	**	0.000	0.000	317
18		65.0	-.281	.712	-.843	0.000	**			
19		70.0	-.239	.699	-.852	0.000	**	0.000	0.000	319
20		75.0	-.194	.684	-.638	0.000	**			
21		80.0	-.144	.668	-.292	0.000	**	0.000	0.000	321
22		85.0	-.089	.650	-.249	0.000	**			
23		90.0	-.020	.627	-.214	0.000	**	0.000	0.000	323
24		95.0	.058	.601	-.086	0.000	**			
25	5		.733	.339	4.146	0.000	**			
26	1.5		.435	.466	6.935	0.000	**			
27	3.0		.307	.514	5.439	0.000	**			
29	7.5		.090	.590	4.687	0.000	**			
30	10.0		.015	.615	4.314	0.000	**			
32	15.0						**			
	20.0		-.180	.680	3.573	0.000	**			
	25.0						**			
	30.0						**			
	40.0						**			
36	50.0		-.291	.716	1.856	0.000	**			
37	60.0		-.161	.674	1.299	0.000	**			
38	70.0		.025	.612	.828	0.000	**			
39	80.0		.182	.558	.589	0.000	**			
40	90.0		.276	.525	.448	0.000	**			

OVERALL		SECTION 3		
COEFFICIENTS	STEADY	RE	IM	
Cz	UPPER	.369	.861	0.000
Cz	LOWER	-.036	.669	0.000
Cz	TOTAL	.332	1.531	0.000
Cm	UPPER	.023	-.066	0.000
Cm	LOWER	.007	.062	0.000
Cm	TOTAL	.030	-.004	0.000

NR. UP	LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANS.)			NR.
				M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	-.736	.337	-4.472	0.000	**			
2		.5	-.107	.656	-13.07	0.000	**			
3		1.5	-.736	.858	-16.20	0.000	**			
4		3.0	-.903	.912	-14.95	0.000	**			
5		5.0	-.944	.925	-12.02	0.000	**	0.000	0.000	405
6		7.5	-.792	.876	-9.198	0.000	**			
7		10.0					**	0.000	0.000	407
8		15.0	-.620	.821	-5.266	0.000	**			
9		20.0	-.554	.800	-4.365	0.000	**	0.000	0.000	409
10		25.0	-.507	.785	-3.426	0.000	**			
12		35.0	-.445	.765	-2.551	0.000	**			
13		40.0	-.429	.760	-2.238	0.000	**	0.000	0.000	413
14		45.0	-.412	.754	-2.088	0.000	**			
15		50.0	-.389	.747	-1.513	0.000	**	0.000	0.000	415
16		55.0	-.368	.740	-1.362	0.000	**			
17		60.0	-.340	.731	-1.278	0.000	**	0.000	0.000	417
18		65.0	-.315	.723	-.936	0.000	**			
19		70.0	-.278	.711	-.918	0.000	**			
20		75.0	-.262	.706	-.581	0.000	**			
21		80.0	-.176	.678	-.278	0.000	**	0.000	0.000	421
22		85.0	-.099	.653	-.262	0.000	**			
23		90.0	-.027	.629	-.248	0.000	**			
24		95.0	.046	.605	-.070	0.000	**			
25	5		.676	.366	5.225	0.000	**			
26	1.5		.338	.503	7.136	0.000	**			
27	3.0		.209	.549	6.507	0.000	**			
31	15.0		-.099	.653	4.238	0.000	**			
32	20.0		-.183	.681	3.680	0.000	**			
33	25.0		-.236	.698	3.488	0.000	**			
35	40.0		-.306	.720	2.538	0.000	**			
36	50.0		-.281	.712	1.870	0.000	**			
37	60.0		-.129	.663	1.270	0.000	**			
38	70.0		.047	.605	.821	0.000	**			
39	80.0		.207	.550	.599	0.000	**			
40	90.0		.285	.522	.476	0.000	**			

OVERALL		SECTION 4		
COEFFICIENTS	STEADY	RE	IM	
Cz	UPPER	-.375	.919	0.000
Cz	LOWER	-.041	.723	0.000
Cz	TOTAL	.334	1.642	0.000
Cm	UPPER	.032	-.069	0.000
Cm	LOWER	.012	.050	0.000
Cm	TOTAL	.043	-.019	0.000





\*\*\* LANN \*\*\* RUN 272 \*\*\*

TABLE 9.22

TEST CONDITIONS	NORM. COEFF.			MOM. COEFF.			
	Cz	Czi	IM	Cm	RE	Cmi	IM
RUNNR. = 272	SECT.1 .448	1.586		.013	.226		
ALFA = 2.60 (DEG)	SECT.2 .488	1.514		.013	-.041		
MACH = .771	SECT.3 .558	1.950		.020	-.066		
RE*10**-6 = 5.24	SECT.4 .558	1.544		.033	-.137		
Q = 41.88 (KPA)	SECT.5 .530	2.042		.043	-.129		
P-SETTL. = 149.1 (KPA)	SECT.6 .414	1.312		.044	-.200		
T-SETTL. = 27.00	WING .482	1.614		.045	.232		
DALFA = .251 (DEG)							
FREQ. = 0.00 (Hz)							
HARM. = 1							

QUASI STEADY

NR. UP   LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			M-LOC.	RE	Cp	IM	Cp	IM	
1	0.0	.599	.500	-3.396	0.000	**			
2	.5	-.178	.848	-5.844	0.000	**			
3	1.5	-.916	1.190	-8.896	0.000	**			
4	3.0	-1.266	1.388	-14.862	0.000	**			
5	5.0	-1.311	1.417	-11.410	0.000	**	0.000	0.000	105
6	7.5	-1.367	1.454	-11.219	0.000	**			
7	10.0	-1.375	1.459	-6.452	0.000	**			
8	15.0	-1.306	1.414	-6.285	0.000	**			
9	20.0	-.750	1.107	-15.21	0.000	**			
10	25.0	-.621	1.045	-3.881	0.000	**			
11	30.0	-.569	1.021	-2.454	0.000	**			
12	35.0	-.530	1.003	-1.402	0.000	**			
13	40.0	-.500	.990	-.967	0.000	**			
14	45.0	-.471	.977	-.550	0.000	**			
15	50.0	-.437	.961	-.653	0.000	**			
16	55.0	-.394	.942	-.103	0.000	**			
17	60.0	-.351	.923	-.240	0.000	**			
18	65.0	-.297	.899	-.282	0.000	**			
19	70.0	-.237	.873	-.192	0.000	**	0.000	0.000	119
20	75.0	-.182	.849	-.122	0.000	**			
21	80.0	-.123	.824	-.032	0.000	**			
22	85.0	-.047	.791	.062	0.000	**			
23	90.0	.012	.766	-.053	0.000	**			
24	95.0	.086	.734	.022	0.000	**			
25	.5	.791	.397	2.101	0.000	**			
26	1.5	.518	.540	3.907	0.000	**			
27	3.0	.430	.581	3.457	0.000	**			
28	5.0	.338	.623	3.005	0.000	**			
29	7.5	.191	.688	3.469	0.000	**			
30	10.0					**			
31	15.0	.006	.768	3.105	0.000	**			
32	20.0	-.122	.824	3.184	0.000	**			
33	25.0	-.209	.861	.296	0.000	**			
34	30.0	-.302	.902	8.143	0.000	**			
35	40.0	-.318	.909	2.630	0.000	**			
36	50.0	-.345	.921	6.886	0.000	**			
37	60.0	-.195	.855	7.894	0.000	**			
38	70.0	.022	.761	4.396	0.000	**			
39	80.0	.184	.691	-1.802	0.000	**			
40	90.0	.286	.646	-1.781	0.000	**			

OVERALL (COEFFICIENTS)		STEADY!	** SECTION 1 ** *****		
Cz	UPPER	LOWER	TOTAL	RE	IM
.485	.581	0.000	0.000	0.000	0.000
-.037	1.005	0.000	1.586		
.012	-.029	0.000	.226		
.001	.255	0.000	.013		
.013	.226	0.000			

NR. UP   LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			M-LOC.	RE	Cp	IM	Cp	IM	
1	0.0	.628	.485	-3.480	0.000	**			
2	.5	-.139	.831	-5.956	0.000	**			
3	1.5	-.962	1.214	-7.286	0.000	**			
4	3.0	-1.208	1.352	-5.971	0.000	**			
5	5.0	-1.314	1.419	-6.297	0.000	**			
6	7.5	-1.425	1.494	-6.027	0.000	**			
7	10.0	-1.428	1.496	-6.412	0.000	**			
8	15.0	-1.371	1.457	-7.374	0.000	**			
9	20.0	-1.336	1.433	-5.165	0.000	**			
10	25.0	-.774	1.118	-17.93	0.000	**			
11	30.0	-.590	1.031	-11.89	0.000	**			
12	35.0	-.481	.981	-2.047	0.000	**			
13	40.0	-.451	.968	1.298	0.000	**			
14	45.0	-.431	.959	1.303	0.000	**			
15	50.0	-.419	.953	1.045	0.000	**			
16	55.0	-.376	.934	.916	0.000	**			
17	60.0	-.336	.917	.402	0.000	**			
18	65.0	-.298	.900	.507	0.000	**			
19	70.0	-.236	.873	.253	0.000	**			
20	75.0	-.174	.846	.252	0.000	**			
21	80.0	-.123	.824	.178	0.000	**			
22	85.0	-.057	.795	.003	0.000	**			
23	90.0	.011	.766	-.032	0.000	**			
24	95.0	.087	.733	.040	0.000	**			
25	.5	.798	.393	2.093	0.000	**			
26	1.5	.528	.535	3.804	0.000	**			
27	3.0	.417	.587	3.706	0.000	**			
28	5.0	.291	.644	3.395	0.000	**			
29	7.5	.199	.685	3.527	0.000	**			
30	10.0	.142	.710	3.442	0.000	**			
31	15.0	-.002	.772	3.335	0.000	**			
32	20.0	-.126	.825	3.513	0.000	**			
33	25.0	-.211	.862	3.369	0.000	**			
34	30.0	-.290	.896	3.436	0.000	**			
35	40.0	-.351	.923	2.878	0.000	**			
36	50.0	-.330	.914	2.377	0.000	**			
37	60.0	-.167	.843	1.354	0.000	**			
38	70.0	.044	.752	.920	0.000	**			
39	80.0	.202	.683	.629	0.000	**			
40	90.0	.298	.641	.566	0.000	**			

OVERALL (COEFFICIENTS)		STEADY!	** SECTION 2 ** *****		
Cz	UPPER	LOWER	TOTAL	RE	IM
.519	.861	0.000	0.000	0.000	0.000
-.031	.654	0.000	1.514		
.008	-.152	0.000	.013		
.005	.111	0.000	-.041		
.013	-.041	0.000			

\*\*\* LANN \*\*\* RUN 272 \*\*\*

TABLE 9.22 (cont'd)

NR. UP   LOW	ZCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.	
		Cp STEADY!	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1	0.0	.651	.474	-3.502	0.000	**			
2	.5	-.166	.843	-6.235	0.000	**			
3	1.5	-.917	1.191	-7.599	0.000	**			
4	3.0	-1.215	1.357	-6.631	0.000	**			
5	5.0	-1.313	1.418	-6.903	0.000	**			
6	7.5	-1.404	1.479	-6.186	0.000	**			
7	10.0	-1.389	1.469	-6.244	0.000	**	0.000	0.000	307
8	15.0	-1.383	1.465	-6.510	0.000	**			
9	20.0	-1.340	1.436	-7.339	0.000	**	0.000	0.000	309
10	25.0	-1.242	1.373	-26.06	0.000	**			
	30.0					**			
12	35.0	-.536	1.006	-13.04	0.000	**			
13	40.0	-.438	.962	-3.992	0.000	**	0.000	0.000	313
14	45.0	-.408	.949	1.719	0.000	**			
15	50.0	-.394	.942	2.626	0.000	**	0.000	0.000	315
16	55.0	-.363	.928	2.040	0.000	**			
17	60.0	-.333	.915	1.391	0.000	**	0.000	0.000	317
18	65.0	-.293	.898	1.176	0.000	**			
19	70.0	-.245	.877	.860	0.000	**	0.000	0.000	319
20	75.0	-.188	.852	.690	0.000	**			
21	80.0	-.128	.826	.500	0.000	**	0.000	0.000	321
22	85.0	-.069	.801	.228	0.000	**			
23	90.0	.001	.778	.124	0.000	**	0.000	0.000	323
24	95.0	.081	.736	.021	0.000	**			
	25	.5	.806	.368	2.054	0.000	**		
	26	1.5	.548	.525	3.957	0.000	**		
	27	3.0	.422	.584	4.335	0.000	**		
		5.0				**			
		7.5	.199	.685	3.743	0.000	**		
	29	10.0	.115	.721	3.701	0.000	**		
	30	15.0				**			
	32	20.0	-.117	.821	3.620	0.000	**		
		25.0				**			
		30.0				**			
		40.0				**			
	36	50.0	-.301	.901	2.301	0.000	**		
	37	60.0	-.146	.834	1.316	0.000	**		
	38	70.0	.056	.747	.855	0.000	**		
	39	80.0	.215	.678	.610	0.000	**		
	40	90.0	.310	.636	.470	0.000	**		

OVERALL COEFFICIENTS		STEADY!	** SECTION 3 **	
			RE	IM
Cz	UPPER	.557	1.294	0.000
Cz	LOWER	.001	.656	0.000
Cz	TOTAL	.558	1.950	0.000
Cm	UPPER	.010	-.160	0.000
Cm	LOWER	.010	.095	0.000
Cm	TOTAL	.020	-.066	0.000

NR. UP   LOW	ZCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.	
		Cp STEADY!	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1	0.0	.713	.440	-3.206	0.000	**			
2	.5	-.126	.825	-6.865	0.000	**			
3	1.5	-.900	1.182	-9.788	0.000	**			
4	3.0	-1.110	1.295	-6.982	0.000	**			
5	5.0	-1.277	1.395	-7.352	0.000	**	0.000	0.000	405
6	7.5	-1.328	1.428	-6.645	0.000	**			
7	10.0					**	0.000	0.000	407
8	15.0	-1.312	1.417	-7.052	0.000	**			
9	20.0	-1.302	1.411	-7.135	0.000	**	0.000	0.000	409
10	25.0	-1.269	1.390	-8.001	0.000	**			
	30.0					**			
12	35.0	-.541	1.009	-14.07	0.000	**			
13	40.0	-.445	.965	-4.691	0.000	**	0.000	0.000	413
14	45.0	-.420	.954	1.929	0.000	**			
15	50.0	-.407	.948	3.389	0.000	**	0.000	0.000	415
16	55.0	-.392	.941	2.914	0.000	**			
17	60.0	-.363	.928	2.082	0.000	**	0.000	0.000	417
	65.0					**			
19	70.0	-.286	.895	1.314	0.000	**			
20	75.0	-.255	.881	1.016	0.000	**			
21	80.0	-.163	.841	.745	0.000	**	0.000	0.000	421
22	85.0	-.078	.805	.322	0.000	**			
23	90.0	-.004	.773	.102	0.000	**			
24	95.0	.071	.740	-.051	0.000	**			
	25	.5	.772	.408	2.580	0.000	**		
	26	1.5	.483	.556	4.509	0.000	**		
	27	3.0	.350	.617	4.646	0.000	**		
		5.0				**			
		7.5				**			
		10.0				**			
	31	15.0	-.014	.777	3.696	0.000	**		
	32	20.0	-.117	.821	3.754	0.000	**		
	33	25.0	-.192	.854	3.462	0.000	**		
		30.0				**			
	35	40.0	-.306	.903	2.867	0.000	**		
	36	50.0	-.288	.896	2.289	0.000	**		
	37	60.0	-.111	.819	1.256	0.000	**		
	38	70.0	.077	.738	.808	0.000	**		
	39	80.0	.243	.665	.594	0.000	**		
	40	90.0	.322	.630	.546	0.000	**		

OVERALL COEFFICIENTS		STEADY!	** SECTION 4 **	
			RE	IM
Cz	UPPER	.561	.864	0.000
Cz	LOWER	-.003	.680	0.000
Cz	TOTAL	.558	1.544	0.000
Cm	UPPER	.018	-.225	0.000
Cm	LOWER	.014	.088	0.000
Cm	TOTAL	.033	-.137	0.000

\*\*\* LANN \*\*\* RUN 272 \*\*\*

TABLE 9.22 (cont'd)

NR. UP	LOW	ZCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			M-LOC.	CALIBRATION (TRANSD.)			NR.
				Cp RE	Cp IM	**		Cp RE	Cp IM	**	
1		0.0	.732	.430	-3.389	0.000	**				
2		.5	-.046	.791	-7.726	0.000	**				
3		1.5	-.655	1.061	-8.672	0.000	**				
4		3.0	-1.007	1.239	-8.803	0.000	**				
5		5.0	-1.116	1.299	-9.427	0.000	**	0.000	0.000	505	
6		7.5	-1.154	1.321	-8.244	0.000	**				
7		10.0	-1.192	1.343	-8.119	0.000	**				
		15.0					**				
9		20.0	-1.176	1.334	-10.23	0.000	**				
10		25.0	-1.142	1.313	-11.60	0.000	**				
11		30.0	-.618	1.044	-36.37	0.000	**				
		35.0					**				
13		40.0	-.457	.971	4.172	0.000	**				
14		45.0	-.460	.972	4.807	0.000	**				
15		50.0	-.450	.967	3.482	0.000	**				
16		55.0	-.428	.957	2.353	0.000	**				
17		60.0	-.400	.945	1.417	0.000	**				
18		65.0	-.375	.934	1.115	0.000	**				
19		70.0	-.339	.918	.875	0.000	**	0.000	0.000	519	
20		75.0	-.301	.901	.596	0.000	**				
21		80.0	-.225	.868	.230	0.000	**				
22		85.0	-.114	.820	.047	0.000	**				
23		90.0	-.026	.782	-.161	0.000	**				
24		95.0	.067	.742	.017	0.000	**				
	25	.5	.737	.428	3.423	0.000	**				
		1.5					**				
		3.0					**				
		5.0					**				
		7.5					**				
	30	10.0	.045	.752	4.398	0.000	**				
		15.0					**				
	32	20.0	-.129	.826	3.775	0.000	**				
		25.0					**				
	34	30.0	-.239	.874	3.401	0.000	**				
		40.0					**				
	36	50.0	-.305	.903	2.076	0.000	**				
		60.0					**				
		70.0					**				
	39	80.0	.244	.665	.467	0.000	**				
	40	90.0	.321	.631	.430	0.000	**				

OVERALL		SECTION 5		
COEFFICIENTS	STEADY	RE	IM	
Cz	UPPER	.531	1.361	0.000
Cz	LOWER	-.001	.680	0.000
Cz	TOTAL	.530	2.042	0.000
Cm	UPPER	.031	-.218	0.000
Cm	LOWER	.012	.089	0.000
Cm	TOTAL	.043	-.129	0.000

NR. UP	LOW	ZCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			M-LOC.	CALIBRATION (TRANSD.)			NR.
				Cp RE	Cp IM	**		Cp RE	Cp IM	**	
1		0.0	.735	.429	-3.674	0.000	**				
		.5					**				
3		1.5	-.438	.962	-9.291	0.000	**				
		3.0					**				
5		5.0	-.919	1.191	-8.994	0.000	**				
		7.5					**				
7		10.0	-.994	1.231	-10.22	0.000	**				
8		15.0	-1.018	1.244	-5.241	0.000	**				
9		20.0	-1.024	1.247	-25.34	0.000	**				
10		25.0	-.492	.986	-7.838	0.000	**				
11		30.0	-.479	.980	6.633	0.000	**				
12		35.0	-.464	.974	3.468	0.000	**				
13		40.0	-.436	.961	1.491	0.000	**				
14		45.0	-.417	.952	.546	0.000	**				
15		50.0	-.399	.945	.213	0.000	**				
16		55.0	-.381	.937	.218	0.000	**				
17		60.0	-.361	.928	-.178	0.000	**				
18		65.0	-.355	.925	-.197	0.000	**				
19		70.0	-.340	.918	-.278	0.000	**				
20		75.0	-.305	.903	-.353	0.000	**				
21		80.0	-.237	.873	-.462	0.000	**				
22		85.0	-.116	.821	-.853	0.000	**				
23		90.0	-.007	.774	-.804	0.000	**				
24		95.0	.077	.738	-.613	0.000	**				
	25	.5	.639	.480	5.018	0.000	**				
		1.5					**				
		3.0					**				
		5.0					**				
		7.5					**				
	31	10.0					**				
		15.0	-.133	.828	3.679	0.000	**				
		20.0					**				
	33	25.0	-.244	.876	2.617	0.000	**				
		30.0	-.272	.889	2.419	0.000	**				
	35	40.0	-.317	.908	1.500	0.000	**				
		50.0	-.282	.893	.939	0.000	**				
		60.0					**				
		70.0					**				
	39	80.0	.229	.672	-.130	0.000	**				
	40	90.0	.294	.643	-.156	0.000	**				

OVERALL		SECTION 6		
COEFFICIENTS	STEADY	RE	IM	
Cz	UPPER	.432	.838	0.000
Cz	LOWER	-.018	.475	0.000
Cz	TOTAL	.414	1.312	0.000
Cm	UPPER	.034	-.161	0.000
Cm	LOWER	.010	-.039	0.000
Cm	TOTAL	.044	-.200	0.000

\*\*\* L. ANN \*\*\* RUN 264 \*\*\*

TABLE 9.23

TEST CONDITIONS		NORM. COEFF.		MOM. COEFF.	
		Cz	Czi	Cm	Cmi
		RE	IM	RE	IM
RUNNR. = 264		ISECT.1 .301	1.551	.014	.105
		ISECT.2 .332	1.962	.015	.027
ALFA = .59 (DEG)		ISECT.3 .379	2.235	.023	.057
MACH = .820		ISECT.4 .378	2.428	.037	.022
REX10**=6= 5.45		ISECT.5 .338	1.844	.047	-.153
Q =45.25 (KPA)		ISECT.6 .264	1.409	.050	-.255
P-SETTL. =149.5 (KPA)		WING .323	1.838	.037	.315
T-SETTL. =26.00				(WING : CM ABOUT	AERODYN. CENTER)
DALFA = .246 (DEG)					
FREQ. = 0.00 (Hz)					
HARM. = 1					
QUASI STEADY					

NR. UP   LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES)			** CALIBRATION (TRANSD.)		NR.
		Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	
1	0.0	.741	.455	-2.135	0.000	**	
2	.5	.123	.762	-4.674	0.000	**	
3	1.5	-.505	1.063	-5.514	0.000	**	
4	3.0	-.877	1.266	-7.078	0.000	**	
5	5.0	-.893	1.276	-7.147	0.000	**	0.000 0.000 105
6	7.5	-1.050	1.375	-1.423	0.000	**	
7	10.0	-1.066	1.386	-3.681	0.000	**	
8	15.0	-.991	1.337	-12.70	0.000	**	
9	20.0	-.617	1.121	-6.832	0.000	**	
10	25.0	-.595	1.109	-1.660	0.000	**	
11	30.0	-.580	1.102	-2.528	0.000	**	
12	35.0	-.576	1.100	-.285	0.000	**	
13	40.0	-.577	1.100	-2.988	0.000	**	
14	45.0	-.580	1.101	-13.82	0.000	**	
15	50.0	-.433	1.026	-.245	0.000	**	
16	55.0	-.389	1.005	.188	0.000	**	
17	60.0	-.348	.985	-.210	0.000	**	
18	65.0	-.290	.956	-.134	0.000	**	
19	70.0	-.228	.927	-.111	0.000	**	0.000 0.000 119
20	75.0	-.171	.900	.054	0.000	**	
21	80.0	-.111	.872	.006	0.000	**	
22	85.0	-.034	.836	.025	0.000	**	
23	90.0	.026	.808	.030	0.000	**	
24	95.0	.100	.774	-.039	0.000	**	
25	.5	.706	.476	2.821	0.000	**	
26	1.5	.371	.646	4.447	0.000	**	
27	3.0	.309	.676	3.665	0.000	**	
28	5.0	.221	.717	3.806	0.000	**	
29	7.5	.076	.785	3.448	0.000	**	
	10.0					**	
31	15.0	-.099	.866	3.326	0.000	**	
32	20.0	-.238	.932	3.284	0.000	**	
33	25.0	-.334	.978	3.180	0.000	**	
34	30.0	-.453	1.037	3.665	0.000	**	
35	40.0	-.505	1.063	4.771	0.000	**	
36	50.0	-.496	1.058	2.577	0.000	**	
37	60.0	-.250	.937	1.290	0.000	**	
38	70.0	-.003	.821	.778	0.000	**	
39	80.0	.168	.742	.601	0.000	**	
40	90.0	.276	.691	.401	0.000	**	

OVERALL COEFFICIENTS		** SECTION 1 **	
RE	IM	RE	IM
Cz	UPPER	.425	.837
Cz	LOWER	-.124	.713
Cz	TOTAL	.301	1.551
Cm	UPPER	.021	-.011
Cm	LOWER	-.007	.116
Cm	TOTAL	.014	.105

NR. UP   LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES)			** CALIBRATION (TRANSD.)		NR.
		Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	
1	0.0	.774	.437	-2.190	0.000	**	
2	.5	.166	.743	-4.588	0.000	**	
3	1.5	-.493	1.057	-6.943	0.000	**	
4	3.0	-.798	1.220	-6.597	0.000	**	
5	5.0	-.917	1.291	-6.655	0.000	**	
6	7.5	-1.061	1.382	-6.027	0.000	**	
7	10.0	-1.087	1.400	-1.999	0.000	**	
8	15.0	-1.054	1.378	-4.865	0.000	**	
9	20.0	-1.023	1.357	-7.431	0.000	**	
10	25.0	-.951	1.312	-34.69	0.000	**	
11	30.0	-.634	1.130	-8.040	0.000	**	
12	35.0	-.590	1.107	-7.094	0.000	**	
13	40.0	-.478	1.049	-5.036	0.000	**	
14	45.0	-.434	1.027	-.540	0.000	**	
15	50.0	-.418	1.019	.869	0.000	**	
16	55.0	-.372	.996	.543	0.000	**	
17	60.0	-.330	.976	.335	0.000	**	
18	65.0	-.286	.955	.476	0.000	**	
19	70.0	-.224	.925	.379	0.000	**	
20	75.0	-.161	.895	.333	0.000	**	
21	80.0	-.108	.870	.255	0.000	**	
22	85.0	-.039	.838	.208	0.000	**	
23	90.0	.030	.806	.077	0.000	**	
24	95.0	.106	.771	-.089	0.000	**	
25	.5	.703	.477	2.944	0.000	**	
26	1.5	.371	.646	4.576	0.000	**	
27	3.0	.276	.691	4.064	0.000	**	
28	5.0	.162	.745	3.855	0.000	**	
29	7.5	.069	.788	3.676	0.000	**	
30	10.0	.018	.811	3.520	0.000	**	
31	15.0	-.127	.879	3.600	0.000	**	
32	20.0	-.266	.945	3.663	0.000	**	
33	25.0	-.361	.991	3.599	0.000	**	
34	30.0	-.467	1.044	4.453	0.000	**	
35	40.0	-.544	1.083	5.067	0.000	**	
36	50.0	-.453	1.036	2.322	0.000	**	
37	60.0	-.214	.920	1.209	0.000	**	
38	70.0	.024	.809	.726	0.000	**	
39	80.0	.187	.733	.676	0.000	**	
40	90.0	.286	.686	.522	0.000	**	

OVERALL COEFFICIENTS		** SECTION 2 **	
RE	IM	RE	IM
Cz	UPPER	.453	1.203
Cz	LOWER	-.121	.759
Cz	TOTAL	.332	1.962
Cm	UPPER	.017	-.090
Cm	LOWER	-.002	.117
Cm	TOTAL	.015	.027



\*\*\* LANN \*\*\* RUN 264 \*\*\*

TABLE 9.23 (cont'd)

NR. UP	LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	
1		0.0	.797	.423	-2.099	0.000	**		
2		.5	.153	.749	-5.008	0.000	**		
3		1.5	-.496	1.058	-5.945	0.000	**		
4		3.0	-.743	1.200	-7.197	0.000	**		
5		5.0	-.888	1.273	-6.039	0.000	**		
6		7.5	-1.038	1.367	-4.837	0.000	**		
7		10.0	-1.031	1.363	-3.079	0.000	**	0.000	0.000
8		15.0	-1.050	1.375	-4.775	0.000	**		307
9		20.0	-1.036	1.366	-4.876	0.000	**	0.000	0.000
10		25.0	-1.022	1.357	-6.442	0.000	**		309
		30.0					**		
12		35.0	-.682	1.155	-46.83	0.000	**		
13		40.0	-.436	1.028	-8.572	0.000	**	0.000	0.000
14		45.0	-.391	1.006	-.903	0.000	**		313
15		50.0	-.375	.998	3.280	0.000	**	0.000	0.000
16		55.0	-.346	.984	2.766	0.000	**		315
17		60.0	-.319	.971	2.175	0.000	**	0.000	0.000
18		65.0	-.280	.952	1.776	0.000	**		317
19		70.0	-.231	.928	1.317	0.000	**	0.000	0.000
20		75.0	-.173	.901	1.032	0.000	**		319
21		80.0	-.113	.873	.629	0.000	**	0.000	0.000
22		85.0	-.051	.844	.460	0.000	**		321
23		90.0	-.019	.811	.269	0.000	**	0.000	0.000
24		95.0	.101	.773	.116	0.000	**		323
	25	.5	.699	.479	3.249	0.000	**		
	26	1.5	-.375	.644	5.074	0.000	**		
	27	3.0	.263	.697	4.644	0.000	**		
		5.0					**		
	29	7.5	.049	.797	4.108	0.000	**		
	30	10.0	-.029	.834	3.890	0.000	**		
		15.0					**		
	32	20.0	-.272	.948	3.999	0.000	**		
		25.0					**		
		30.0					**		
		40.0					**		
	36	50.0	-.419	1.020	2.449	0.000	**		
	37	60.0	-.191	.909	1.250	0.000	**		
	38	70.0	-.038	.882	.792	0.000	**		
	39	80.0	.200	.727	.758	0.000	**		
	40	90.0	.299	.680	.523	0.000	**		

OVERALL COEFFICIENTS		STEADY	RE	IM
*****				
** SECTION 3 **				
*****				
Cz	UPPER	.463	1.523	0.000
Cz	LOWER	-.084	.712	0.000
Cz	TOTAL	.379	2.235	0.000
Cm	UPPER	.018	-.036	0.000
Cm	LOWER	.005	.093	0.000
Cm	TOTAL	.023	.057	0.000

NR. UP	LOW	XCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM	
1		0.0	.837	.398	-1.790	0.000	**		
2		.5	.218	.718	-5.654	0.000	**		
3		1.5	-.390	1.005	-7.450	0.000	**		
4		3.0	-.694	1.162	-6.050	0.000	**		
5		5.0	-.859	1.256	-5.656	0.000	**	0.000	0.000
6		7.5	-.951	1.311	-5.817	0.000	**		405
7		10.0					**	0.000	0.000
8		15.0	-.970	1.324	-5.096	0.000	**		407
9		20.0	-.984	1.332	-4.815	0.000	**	0.000	0.000
10		25.0	-.982	1.331	-6.464	0.000	**		409
		30.0					**		
12		35.0	-.942	1.306	-42.60	0.000	**		
13		40.0	-.475	1.047	-23.21	0.000	**	0.000	0.000
14		45.0	-.387	1.004	-1.040	0.000	**		413
15		50.0	-.371	.996	4.515	0.000	**	0.000	0.000
16		55.0	-.364	.993	5.018	0.000	**		415
17		60.0	-.343	.982	3.986	0.000	**	0.000	0.000
		65.0					**		
19		70.0	-.274	.949	2.226	0.000	**		
20		75.0	-.244	.934	1.991	0.000	**		
21		80.0	-.149	.890	.944	0.000	**	0.000	0.000
22		85.0	-.061	.848	.535	0.000	**		421
23		90.0	.016	.813	.176	0.000	**		
24		95.0	.091	.778	.063	0.000	**		
	25	.5	.639	.512	3.926	0.000	**		
	26	1.5	.277	.691	6.008	0.000	**		
	27	3.0	.159	.746	5.201	0.000	**		
		5.0					**		
		7.5					**		
		10.0					**		
	31	15.0	-.170	.899	4.308	0.000	**		
	32	20.0	-.282	.953	4.234	0.000	**		
	33	25.0	-.363	.992	4.283	0.000	**		
		30.0					**		
	35	40.0	-.481	1.051	4.813	0.000	**		
	36	50.0	-.401	1.011	2.415	0.000	**		
	37	60.0	-.152	.891	1.206	0.000	**		
	38	70.0	-.061	.791	.737	0.000	**		
	39	80.0	.226	.715	.800	0.000	**		
	40	90.0	.310	.675	.652	0.000	**		

OVERALL COEFFICIENTS		STEADY	RE	IM
*****				
** SECTION 4 **				
*****				
Cz	UPPER	.478	1.588	0.000
Cz	LOWER	-.100	.840	0.000
Cz	TOTAL	.378	2.428	0.000
Cm	UPPER	.028	-.083	0.000
Cm	LOWER	.010	.106	0.000
Cm	TOTAL	.037	.022	0.000



\*\*\* LANN \*\*\* RUN 264 \*\*\*

TABLE 9.23 (cont'd)

NR. UP	LOW	ZCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			Cp STEADY	M-LOC	Cp RE	Cp IM	Cp RE	Cp IM	
1		0.0	.843	.395	-1.531	0.000	**		
2		.5	.302	.679	-6.489	0.000	**		
3		1.5	-.256	.940	-6.702	0.000	**		
4		3.0	-.537	1.079	-8.381	0.000	**		
5		5.0	-.680	1.155	-10.22	0.000	**	0.000	0.000
6		7.5	-.758	1.198	-6.872	0.000	**		505
7		10.0	-.815	1.230	-5.006	0.000	**		
		15.0					**		
9		20.0	-.818	1.231	-8.393	0.000	**		
10		25.0	-.836	1.242	-6.068	0.000	**		
11		30.0	-.864	1.259	-8.553	0.000	**		
		35.0					**		
13		40.0	-.470	1.045	-28.77	0.000	**		
14		45.0	-.398	1.009	5.691	0.000	**		
15		50.0	-.407	1.014	8.564	0.000	**		
16		55.0	-.404	1.012	6.291	0.000	**		
17		60.0	-.382	1.001	3.888	0.000	**		
18		65.0	-.360	.990	2.382	0.000	**		
19		70.0	-.325	.974	1.716	0.000	**	0.000	0.000
20		75.0	-.287	.955	1.232	0.000	**		519
21		80.0	-.209	.918	.483	0.000	**		
22		85.0	-.095	.864	.311	0.000	**		
23		90.0	-.005	.822	.001	0.000	**		
24		95.0	.088	.779	.073	0.000	**		
	25	.5	.570	.548	5.409	0.000	**		
		1.5					**		
		3.0					**		
		5.0					**		
		7.5					**		
	30	10.0	-.141	.886	5.393	0.000	**		
		15.0					**		
	32	20.0	-.306	.964	4.696	0.000	**		
		25.0					**		
	34	30.0	-.413	1.017	4.517	0.000	**		
		40.0					**		
	36	50.0	-.402	1.011	1.896	0.000	**		
		60.0					**		
		70.0					**		
	39	80.0	.232	.712	.665	0.000	**		
	40	90.0	.316	.672	.501	0.000	**		

OVERALL		*****		
COEFFICIENTS		** SECTION 5 **		
		*****		
	STEADY!	RE	IM	
Cz	UPPER	.436	1.018	0.000
Cz	LOWER	-.098	.827	0.000
Cz	TOTAL	.338	1.844	0.000
Cm	UPPER	.039	-.231	0.000
Cm	LOWER	.007	.078	0.000
Cm	TOTAL	.047	-.153	0.000

NR. UP	LOW	ZCHORD	PRESSURE DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			Cp STEADY	M-LOC	Cp RE	Cp IM	Cp RE	Cp IM	
1		0.0	.833	.401	-1.338	0.000	**		
		.5					**		
3		1.5	-.051	.844	-7.874	0.000	**		
		3.0					**		
5		5.0	-.517	1.069	-9.241	0.000	**		
		7.5					**		
7		10.0	-.721	1.177	-3.500	0.000	**		
8		15.0	-.679	1.154	-12.70	0.000	**		
		20.0					**		
10		25.0	-.791	1.216	-8.442	0.000	**		
		30.0					**		
12		35.0	-.410	1.015	-10.93	0.000	**		
13		40.0	-.329	.975	8.560	0.000	**		
14		45.0	-.358	.990	6.236	0.000	**		
15		50.0	-.369	.995	3.087	0.000	**		
16		55.0	-.360	.991	1.360	0.000	**		
17		60.0	-.345	.983	.574	0.000	**		
18		65.0	-.339	.980	.412	0.000	**		
19		70.0	-.323	.973	.148	0.000	**		
20		75.0	-.285	.954	-.121	0.000	**		
21		80.0	-.214	.920	-.437	0.000	**		
22		85.0	-.086	.860	-.624	0.000	**		
23		90.0	-.025	.808	-.667	0.000	**		
24		95.0	.109	.769	-.524	0.000	**		
	25	.5	.398	.633	7.722	0.000	**		
		1.5					**		
		3.0					**		
		5.0					**		
		7.5					**		
	31	10.0					**		
		15.0	-.307	.965	4.960	0.000	**		
		20.0					**		
	33	25.0	-.403	1.012	3.455	0.000	**		
	34	30.0	-.408	1.014	2.593	0.000	**		
	35	40.0	-.405	1.012	1.569	0.000	**		
	36	50.0	-.318	.970	.648	0.000	**		
		60.0					**		
		70.0					**		
	39	80.0	.235	.710	.011	0.000	**		
	40	90.0	.300	.680	.098	0.000	**		

OVERALL		*****		
COEFFICIENTS		** SECTION 6 **		
		*****		
	STEADY!	RE	IM	
Cz	UPPER	.358	.793	0.000
Cz	LOWER	-.094	.616	0.000
Cz	TOTAL	.264	1.409	0.000
Cm	UPPER	.037	-.189	0.000
Cm	LOWER	.013	-.069	0.000
Cm	TOTAL	.050	-.258	0.000

\*\*\* LANN \*\*\* RUN 274 \*\*\*

TABLE 9.24

TEST CONDITIONS	NORM. COEFF.			MOM. COEFF.		
	Cz	Czi		Cm	Cmi	
	RE	IM		RE	IM	
RUNNR. = 274	SECT.1	.483	1.881	.021	.182	
	SECT.2	.535	1.912	.021	.150	
ALFA = 2.59 (DEG)	SECT.3	.599	1.861	.036	.415	
MACH = .820	SECT.4	.578	.699	.048	.222	
RE#10**=5.40	SECT.5	.532	-.330	.044	-.747	
Q =45.47 (KPA)	SECT.6	.421	.688	.042	-.248	
P-BETTL. =150.3 (KPA)	WING	.512	1.341	.050	-.416	
T-BETTL. =29.00				(WING : CM ABOUT		
				AERODYN. CENTER)		
DALFA = .256 (DEG)				QUASI STEADY		
FREQ. = 0.00 (Hz)						
HARM. = 1						

NR. UP   LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1	0.0	.664	.498	-2.379	0.000	**			
2	.5	-.037	.837	-4.941	0.000	**			
3	1.5	-.716	1.174	-7.843	0.000	**			
4	3.0	-1.064	1.384	-5.379	0.000	**			
5	5.0	-1.114	1.419	-6.866	0.000	**	0.000	0.000	105
6	7.5	-1.183	1.468	-6.387	0.000	**			
7	10.0	-1.204	1.484	-4.794	0.000	**			
8	15.0	-1.161	1.452	-4.377	0.000	**			
9	20.0	-1.137	1.435	-5.291	0.000	**			
10	25.0	-.858	1.255	-20.94	0.000	**			
11	30.0	-.726	1.180	-4.879	0.000	**			
12	35.0	-.705	1.168	-4.289	0.000	**			
13	40.0	-.700	1.165	-4.083	0.000	**			
14	45.0	-.720	1.176	-3.691	0.000	**			
15	50.0	-.753	1.194	-4.418	0.000	**			
16	55.0	-.431	1.025	-13.97	0.000	**			
17	60.0	-.327	.975	-.177	0.000	**			
18	65.0	-.273	.948	.756	0.000	**			
19	70.0	-.216	.921	.623	0.000	**	0.000	0.000	119
20	75.0	-.162	.895	.489	0.000	**			
21	80.0	-.102	.867	.492	0.000	**			
22	85.0	-.028	.833	.320	0.000	**			
23	90.0	.030	.806	.240	0.000	**			
24	95.0	.100	.773	.166	0.000	**			
25	.5	.789	.427	2.297	0.000	**			
26	1.5	.504	.581	3.805	0.000	**			
27	3.0	.426	.620	3.129	0.000	**			
28	5.0	.337	.662	3.139	0.000	**			
29	7.5	.188	.733	3.061	0.000	**			
	10.0					**			
31	15.0	.001	.819	3.026	0.000	**			
32	20.0	-.133	.882	3.209	0.000	**			
33	25.0	-.228	.927	3.217	0.000	**			
34	30.0	-.334	.978	3.755	0.000	**			
35	40.0	-.374	.997	3.562	0.000	**			
36	50.0	-.400	1.010	2.835	0.000	**			
37	60.0	-.210	.918	.946	0.000	**			
38	70.0	.024	.808	.540	0.000	**			
39	80.0	.192	.730	.512	0.000	**			
40	90.0	.295	.682	.596	0.000	**			

*****				
OVERALL	COEFFICIENTS	STEADY	SECTION 1	SECTION 2
Cz	UPPER		RE	IM
Cz	UPPER	.534	1.235	0.000
Cz	LOWER	-.052	.646	0.000
Cz	TOTAL	.483	1.881	0.000
Cm	UPPER	.021	.074	0.000
Cm	LOWER	-.001	.108	0.000
Cm	TOTAL	.021	.182	0.000

NR. UP   LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1	0.0	.693	.482	-2.432	0.000	**			
2	.5	.004	.818	-4.860	0.000	**			
3	1.5	-.756	1.196	-7.046	0.000	**			
4	3.0	-1.000	1.342	-5.695	0.000	**			
5	5.0	-1.111	1.417	-6.084	0.000	**			
6	7.5	-1.224	1.499	-5.584	0.000	**			
7	10.0	-1.237	1.509	-5.434	0.000	**			
8	15.0	-1.205	1.485	-5.412	0.000	**			
9	20.0	-1.185	1.470	-4.498	0.000	**			
10	25.0	-1.178	1.465	-4.919	0.000	**			
11	30.0	-1.176	1.463	-4.998	0.000	**			
12	35.0	-1.133	1.432	-6.860	0.000	**			
13	40.0	-.952	1.312	-29.92	0.000	**			
14	45.0	-.655	1.141	-6.824	0.000	**			
15	50.0	-.466	1.043	-6.992	0.000	**			
16	55.0	-.351	.986	-3.158	0.000	**			
17	60.0	-.291	.957	.878	0.000	**			
18	65.0	-.246	.935	1.974	0.000	**			
19	70.0	-.192	.910	1.706	0.000	**			
20	75.0	-.136	.883	1.248	0.000	**			
21	80.0	-.087	.860	1.057	0.000	**			
22	85.0	-.026	.832	.683	0.000	**			
23	90.0	.039	.802	.391	0.000	**			
24	95.0	.110	.769	.325	0.000	**			
25	.5	.790	.427	2.524	0.000	**			
26	1.5	.506	.580	3.821	0.000	**			
27	3.0	.401	.632	3.531	0.000	**			
28	5.0	.279	.690	3.135	0.000	**			
29	7.5	.187	.733	3.171	0.000	**			
30	10.0	.130	.759	3.103	0.000	**			
31	15.0	-.017	.828	3.294	0.000	**			
32	20.0	-.148	.889	3.638	0.000	**			
33	25.0	-.242	.933	3.659	0.000	**			
34	30.0	-.331	.976	4.203	0.000	**			
35	40.0	-.414	1.017	3.564	0.000	**			
36	50.0	-.376	.998	2.269	0.000	**			
37	60.0	-.177	.903	.744	0.000	**			
38	70.0	.049	.797	.365	0.000	**			
39	80.0	.211	.722	.453	0.000	**			
40	90.0	.307	.677	.579	0.000	**			

*****				
OVERALL	COEFFICIENTS	STEADY	SECTION 2	SECTION 2
Cz	UPPER		RE	IM
Cz	UPPER	.584	1.266	0.000
Cz	LOWER	-.048	.646	0.000
Cz	TOTAL	.535	1.912	0.000
Cm	UPPER	.017	.065	0.000
Cm	LOWER	.004	.085	0.000
Cm	TOTAL	.021	.150	0.000

\*\*\* LANN \*\*\* RUN 274 \*\*\*

TABLE 9.24 (cont'd)

NR. UP	LOW	ZCHORD	PRESSURE DISTRIBUTION (TUBES)				CALIBRATION (TRANSD.)			NR.
			Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.717	.469	-2.451	0.000	**			
2		.5	-.016	.827	-5.234	0.000	**			
3		1.5	-.706	1.168	-7.822	0.000	**			
4		3.0	-.996	1.340	-6.274	0.000	**			
5		5.0	-1.099	1.408	-6.751	0.000	**			
6		7.5	-1.203	1.483	-6.034	0.000	**			
7		10.0	-1.194	1.476	-5.393	0.000	**	0.000	0.000	307
8		15.0	-1.208	1.487	-5.178	0.000	**			
9		20.0	-1.184	1.469	-5.144	0.000	**	0.000	0.000	309
10		25.0	-1.174	1.461	-4.525	0.000	**			
		30.0					**			
12		35.0	-1.166	1.456	-5.469	0.000	**			
13		40.0	-1.160	1.452	-.675	0.000	**	0.000	0.000	313
14		45.0	-.662	1.145	-.290	0.000	**			
15		50.0	-.590	1.106	-4.854	0.000	**	0.000	0.000	315
16		55.0	-.502	1.061	-8.987	0.000	**			
17		60.0	-.405	1.012	-11.03	0.000	**	0.000	0.000	317
18		65.0	-.292	.957	-9.430	0.000	**			
19		70.0	-.194	.911	-5.432	0.000	**	0.000	0.000	319
20		75.0	-.129	.880	-2.308	0.000	**			
21		80.0	-.073	.854	-.330	0.000	**	0.000	0.000	321
22		85.0	-.021	.829	.265	0.000	**			
23		90.0	-.035	.803	-.370	0.000	**	0.000	0.000	323
24		95.0	.103	.772	-.756	0.000	**			
	25	.5	.793	.425	2.374	0.000	**			
	26	1.5	.520	.573	3.712	0.000	**			
	27	3.0	.401	.631	3.412	0.000	**			
		5.0					**			
		7.5	.178	.737	3.343	0.000	**			
	30	10.0	.095	.776	3.327	0.000	**			
		15.0					**			
	32	20.0	-.146	.888	3.749	0.000	**			
		25.0					**			
		30.0					**			
		40.0					**			
	36	50.0	-.343	.982	1.850	0.000	**			
	37	60.0	-.155	.892	.291	0.000	**			
	38	70.0	-.061	.791	-.111	0.000	**			
	39	80.0	.221	.717	-.064	0.000	**			
	40	90.0	.316	.672	-.040	0.000	**			

*****				
OVERALL	COEFFICIENTS	STEADY	RE	IM
z	UPPER	.614	1.348	0.000
z	LOWER	-.015	.513	0.000
z	TOTAL	.599	1.861	0.000
m	UPPER	.026	.421	0.000
m	LOWER	.010	-.005	0.000
m	TOTAL	.036	.415	0.000

NR. UP	LOW	ZCHORD	PRESSURE DISTRIBUTION (TUBES)				CALIBRATION (TRANSD.)			NR.
			Cp STEADY	M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1		0.0	.769	.439	-2.173	0.000	**			
2		.5	.027	.807	-5.625	0.000	**			
3		1.5	-.678	1.153	-9.054	0.000	**			
4		3.0	-.892	1.275	-6.373	0.000	**			
5		5.0	-1.063	1.384	-6.684	0.000	**	0.000	0.000	405
6		7.5	-1.125	1.427	-5.806	0.000	**			
7		10.0					**	0.000	0.000	407
8		15.0	-1.140	1.437	-5.407	0.000	**			
9		20.0	-1.149	1.443	-5.367	0.000	**	0.000	0.000	409
10		25.0	-1.140	1.437	-5.844	0.000	**			
		30.0					**			
12		35.0	-1.150	1.444	-2.587	0.000	**			
13		40.0	-1.036	1.366	50.439	0.000	**	0.000	0.000	413
14		45.0	-.623	1.124	8.903	0.000	**			
15		50.0	-.567	1.094	1.402	0.000	**	0.000	0.000	415
16		55.0	-.512	1.066	-.338	0.000	**			
17		60.0	-.442	1.031	-2.570	0.000	**	0.000	0.000	417
		65.0					**			
19		70.0	-.267	.945	-6.034	0.000	**			
20		75.0	-.188	.908	-6.655	0.000	**			
21		80.0	-.117	.874	-6.914	0.000	**	0.000	0.000	421
22		85.0	-.054	.845	-7.937	0.000	**			
23		90.0	-.002	.821	-8.869	0.000	**			
24		95.0	.042	.800	-9.334	0.000	**			
	25	.5	.751	.450	2.680	0.000	**			
	26	1.5	.445	.610	3.965	0.000	**			
	27	3.0	.316	.672	3.883	0.000	**			
		5.0					**			
		7.5					**			
		10.0					**			
	31	15.0	-.043	.840	3.370	0.000	**			
	32	20.0	-.152	.891	3.471	0.000	**			
	33	25.0	-.234	.929	3.404	0.000	**			
		30.0					**			
	35	40.0	-.368	.994	2.210	0.000	**			
	36	50.0	-.338	.980	.451	0.000	**			
	37	60.0	-.128	.880	-1.317	0.000	**			
	38	70.0	.072	.787	-2.016	0.000	**			
	39	80.0	.238	.709	-2.111	0.000	**			
	40	90.0	.311	.675	-2.686	0.000	**			

*****				
OVERALL	COEFFICIENTS	STEADY	RE	IM
z	UPPER	.609	.497	0.000
z	LOWER	-.031	.202	0.000
z	TOTAL	.578	.699	0.000
m	UPPER	.037	.531	0.000
m	LOWER	.011	-.309	0.000
m	TOTAL	.048	.222	0.000

\*\*\* LANN \*\*\* RUN 274 \*\*\*

TABLE 9.24 (cont'd)

NR. UP   LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1	0.0	.779	.434	-1.916	0.000	**			
2	.5	.098	.774	-5.572	0.000	**			
3	1.5	-.470	1.045	-6.164	0.000	**			
4	3.0	-.806	1.224	-7.168	0.000	**			
5	5.0	-.922	1.293	-7.400	0.000	**	0.000	0.000	505
6	7.5	-.974	1.326	-6.277	0.000	**			
7	10.0	-1.021	1.356	-5.625	0.000	**			
	15.0					**			
9	20.0	-1.054	1.377	-5.839	0.000	**			
10	25.0	-1.047	1.373	-6.115	0.000	**			
11	30.0	-1.064	1.384	-4.445	0.000	**			
	35.0					**			
13	40.0	-1.084	1.398	8.605	0.000	**			
14	45.0	-.797	1.220	49.284	0.000	**			
15	50.0	-.532	1.077	5.878	0.000	**			
16	55.0	-.441	1.030	2.474	0.000	**			
17	60.0	-.356	.989	.863	0.000	**			
18	65.0	-.284	.953	.207	0.000	**			
19	70.0	-.226	.926	.765	0.000	**	0.000	0.000	519
20	75.0	-.183	.905	1.771	0.000	**			
21	80.0	-.130	.881	1.541	0.000	**			
22	85.0	-.056	.846	-.899	0.000	**			
23	90.0	.005	.817	-2.681	0.000	**			
24	95.0	.068	.788	-4.793	0.000	**			
	25	.705	.476	2.990	0.000	**			
	1.5					**			
	3.0					**			
	5.0					**			
	7.5					**			
	30	.008	.816	3.208	0.000	**			
	15.0					**			
	32	-.174	.901	3.124	0.000	**			
	25.0					**			
	34	-.290	.956	2.749	0.000	**			
	40.0					**			
	36	-.359	.990	-.882	0.000	**			
	60.0					**			
	70.0					**			
	39	.240	.708	-2.037	0.000	**			
	40	.316	.672	-2.266	0.000	**			

OVERALL		SECTION 5		
COEFFICIENTS		STEADY	RE	IM
Cz	UPPER	.565	-.435	0.000
Cz	LOWER	-.033	.104	0.000
Cz	TOTAL	.532	-.330	0.000
Cm	UPPER	.036	-.445	0.000
Cm	LOWER	.008	-.302	0.000
Cm	TOTAL	.044	-.747	0.000

NR. UP   LOW	XCHORD	PRESSURE Cp STEADY	DISTRIBUTION (TUBES)			CALIBRATION (TRANSD.)			NR.
			M-LOC.	Cp RE	Cp IM	Cp RE	Cp IM		
1	0.0	.771	.438	-1.750	0.000	**			
	.5					**			
3	1.5	-.294	.958	-6.173	0.000	**			
	3.0					**			
5	5.0	-.760	1.199	-5.918	0.000	**			
	7.5					**			
7	10.0	-.875	1.265	-5.989	0.000	**			
8	15.0	-.908	1.285	-4.575	0.000	**			
9	20.0	-.968	1.322	-3.612	0.000	**			
10	25.0	-1.002	1.343	-4.652	0.000	**			
11	30.0	-1.037	1.367	-4.424	0.000	**			
12	35.0	-1.074	1.391	-3.601	0.000	**			
13	40.0	-.555	1.088	5.331	0.000	**			
14	45.0	-.392	1.006	-.014	0.000	**			
15	50.0	-.289	.956	-.604	0.000	**			
16	55.0	-.259	.942	.428	0.000	**			
17	60.0	-.267	.945	.769	0.000	**			
18	65.0	-.282	.953	.797	0.000	**			
19	70.0	-.287	.955	.794	0.000	**			
20	75.0	-.269	.946	.672	0.000	**			
21	80.0	-.214	.920	.419	0.000	**			
22	85.0	-.100	.867	.089	0.000	**			
23	90.0	.007	.817	-.206	0.000	**			
24	95.0	.091	.777	-.325	0.000	**			
	25	.596	.534	3.816	0.000	**			
	1.5					**			
	3.0					**			
	5.0					**			
	7.5					**			
	10.0					**			
	31	-.180	.904	2.780	0.000	**			
	15.0					**			
	33	-.308	.965	2.428	0.000	**			
	34	-.334	.978	2.158	0.000	**			
	35	-.377	.999	.255	0.000	**			
	36	-.311	.967	-.662	0.000	**			
	60.0					**			
	70.0					**			
	39	.233	.711	-.292	0.000	**			
	40	.301	.679	.059	0.000	**			

OVERALL		SECTION 6		
COEFFICIENTS		STEADY	RE	IM
Cz	UPPER	.468	.431	0.000
Cz	LOWER	-.047	.257	0.000
Cz	TOTAL	.421	.688	0.000
Cm	UPPER	.032	-.150	0.000
Cm	LOWER	.010	-.098	0.000
Cm	TOTAL	.042	-.248	0.000

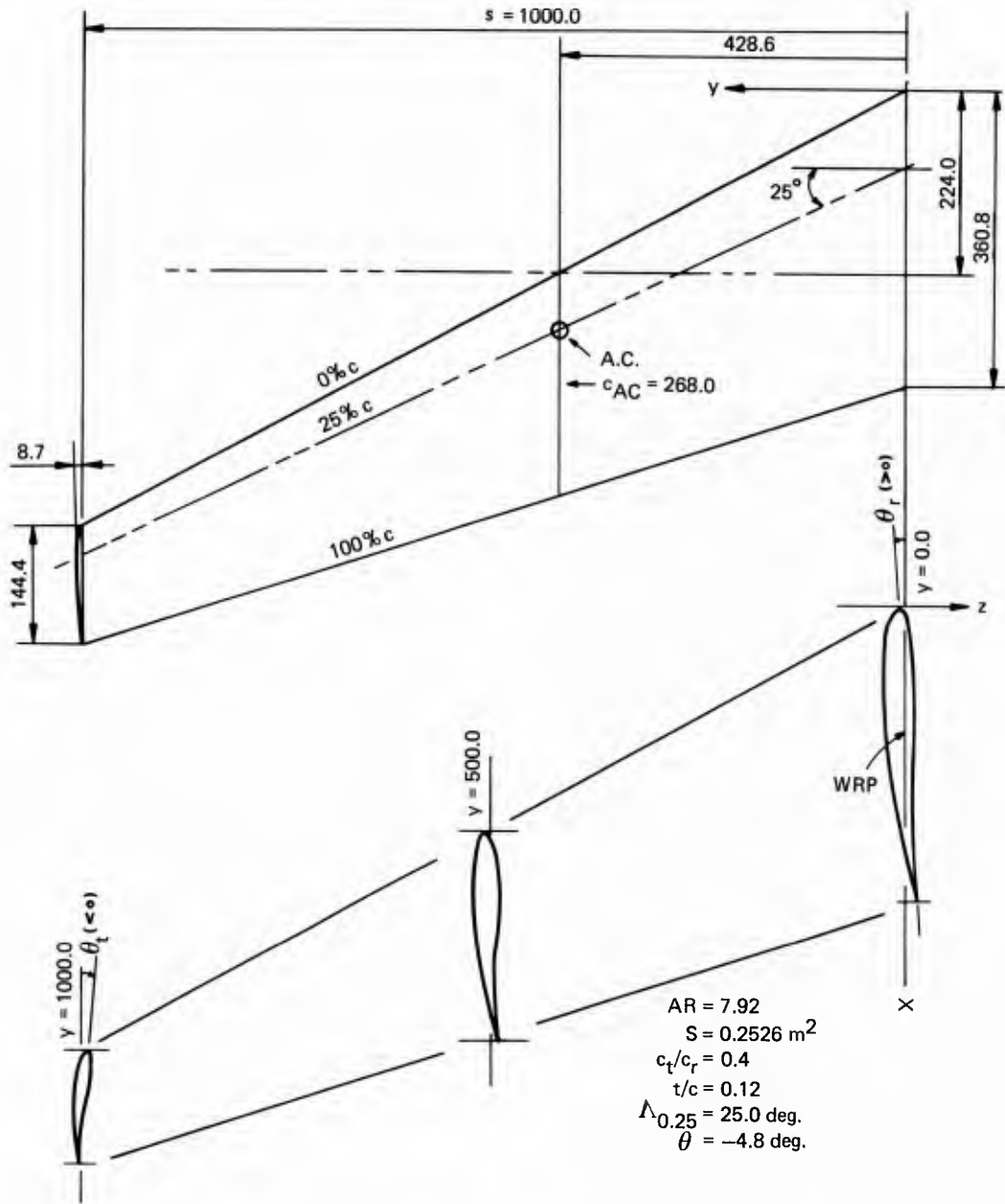


Fig. 9.1 Wing platform (dimensions in mm)

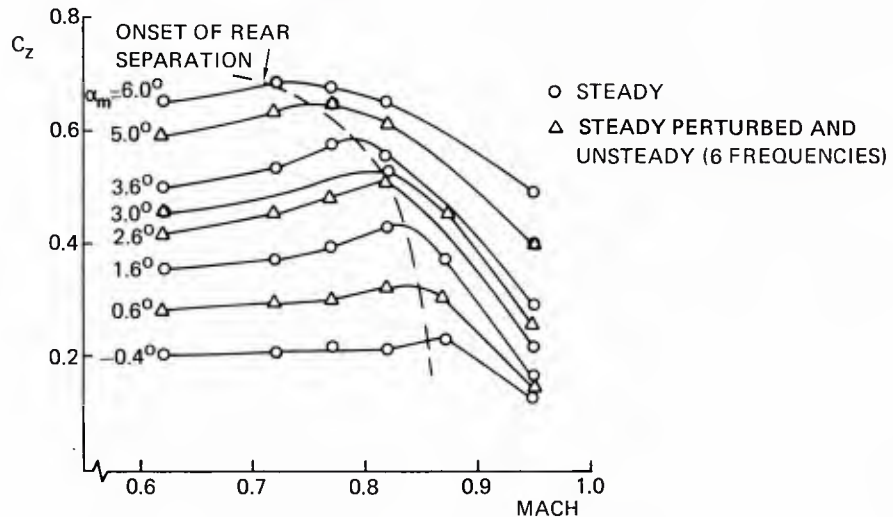


Fig. 9.2 Test conditions of LANN wing model



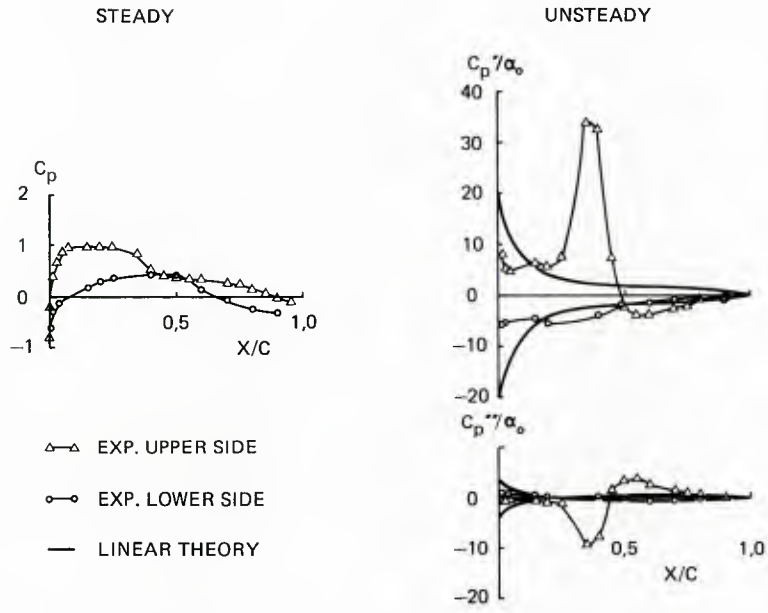


Fig. 9.3 Steady and unsteady pressure distribution at  $y/s = 0.65$  (Run 73:  $M = 0.82$ ,  $\alpha_m = 0.6$  deg,  $k = 0.103$ )

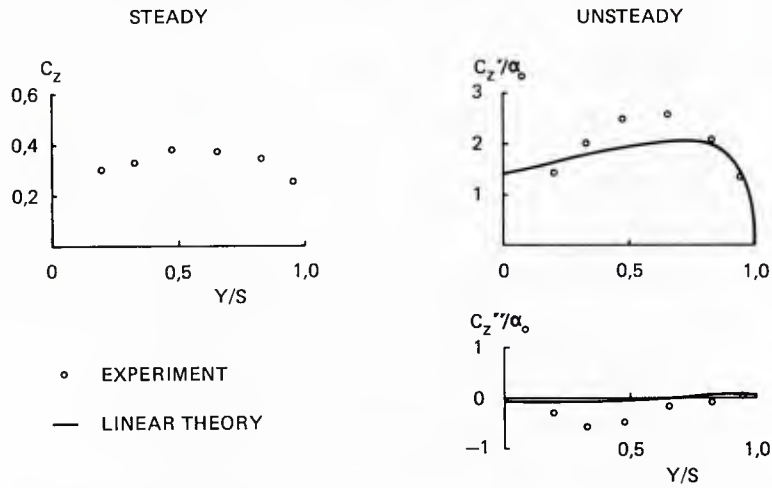


Fig. 9.4 Steady and unsteady spanwise load distribution (Run 73:  $M = 0.82$ ,  $\alpha_m = 0.6$  deg,  $k = 0.103$ )

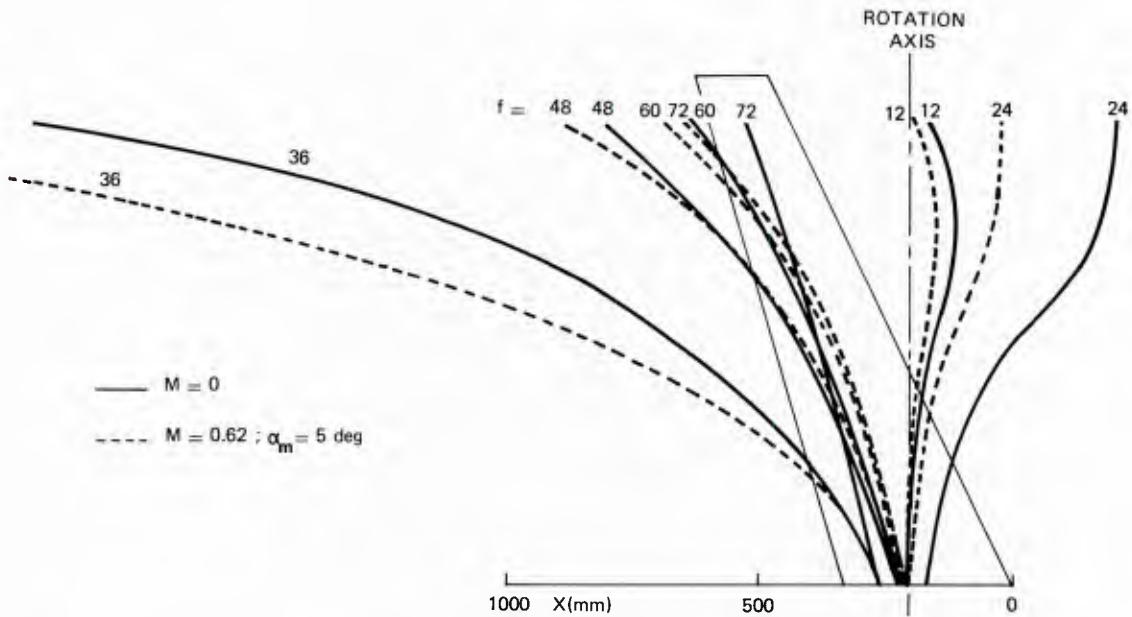


Fig. 9.5 Influence of Mach number and frequency on nodal line position

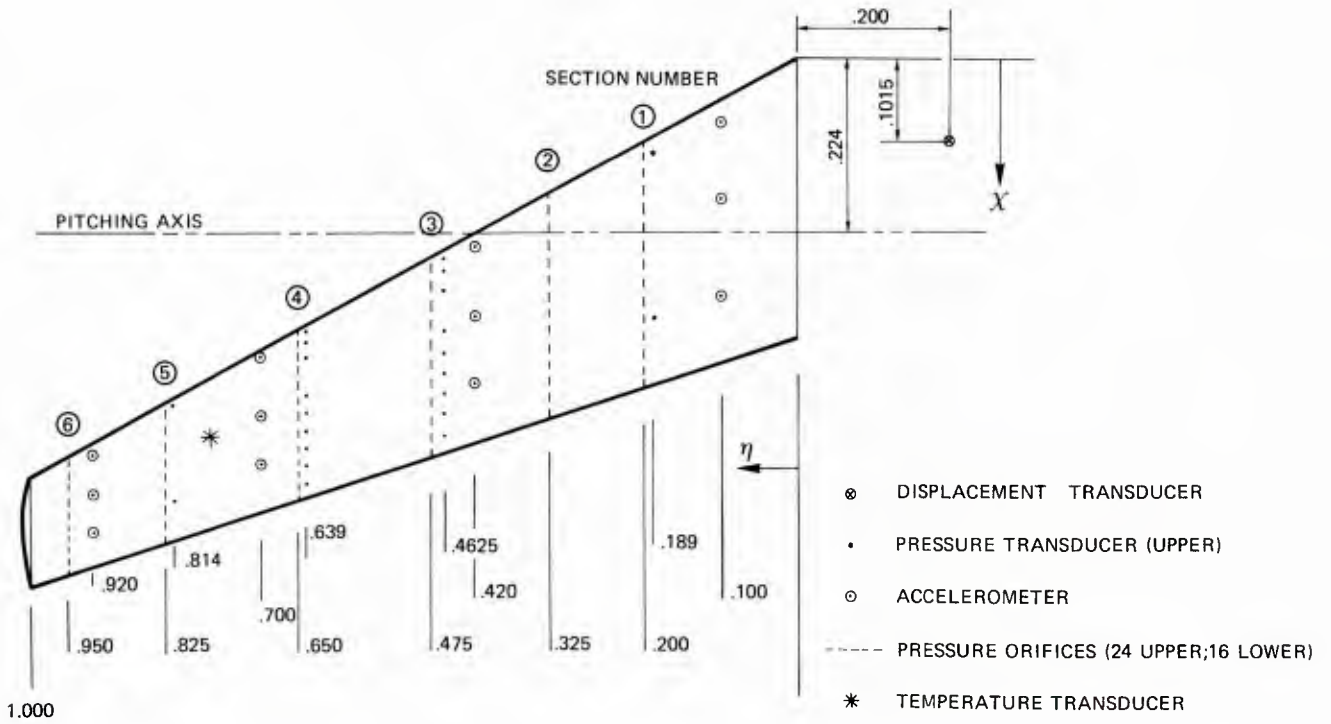


Fig. 9.6 Model instrumentation (dimensions in m) (see table 9.2, 9.3, 9.4)

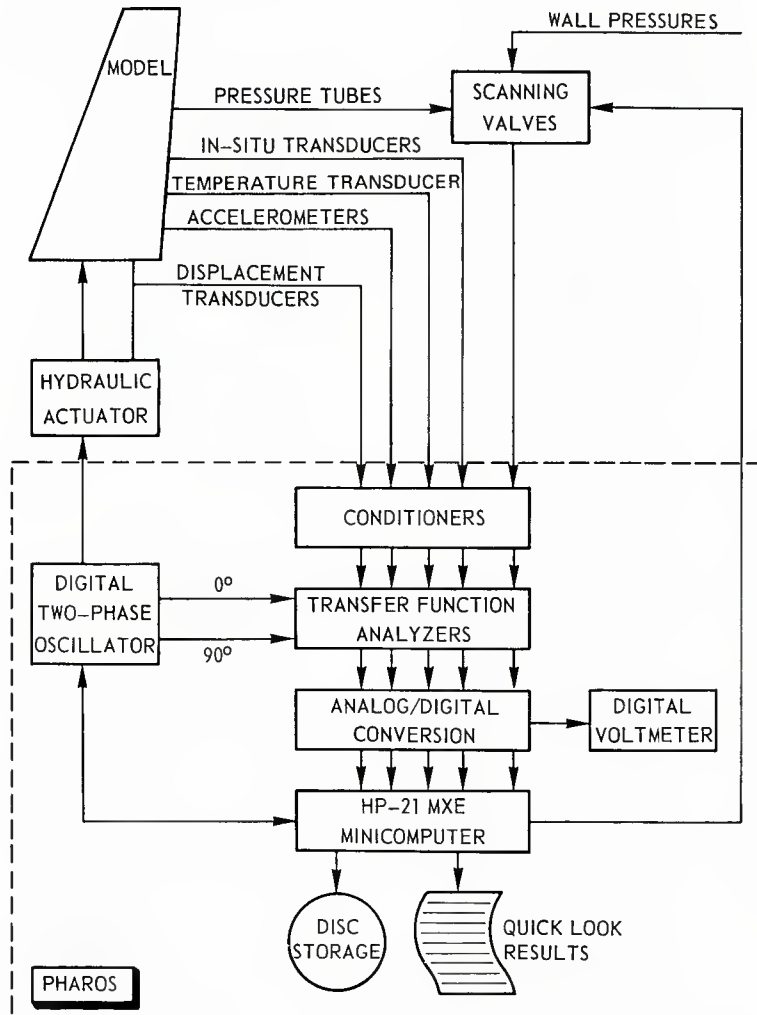


Fig. 9.7 Block-diagram of the test set-up during unsteady measurements

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