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FLAPPED HYDROFOIL TESTS. WATER TUNNEL TESTS OF THE NACA 64A-309--ETC(U)
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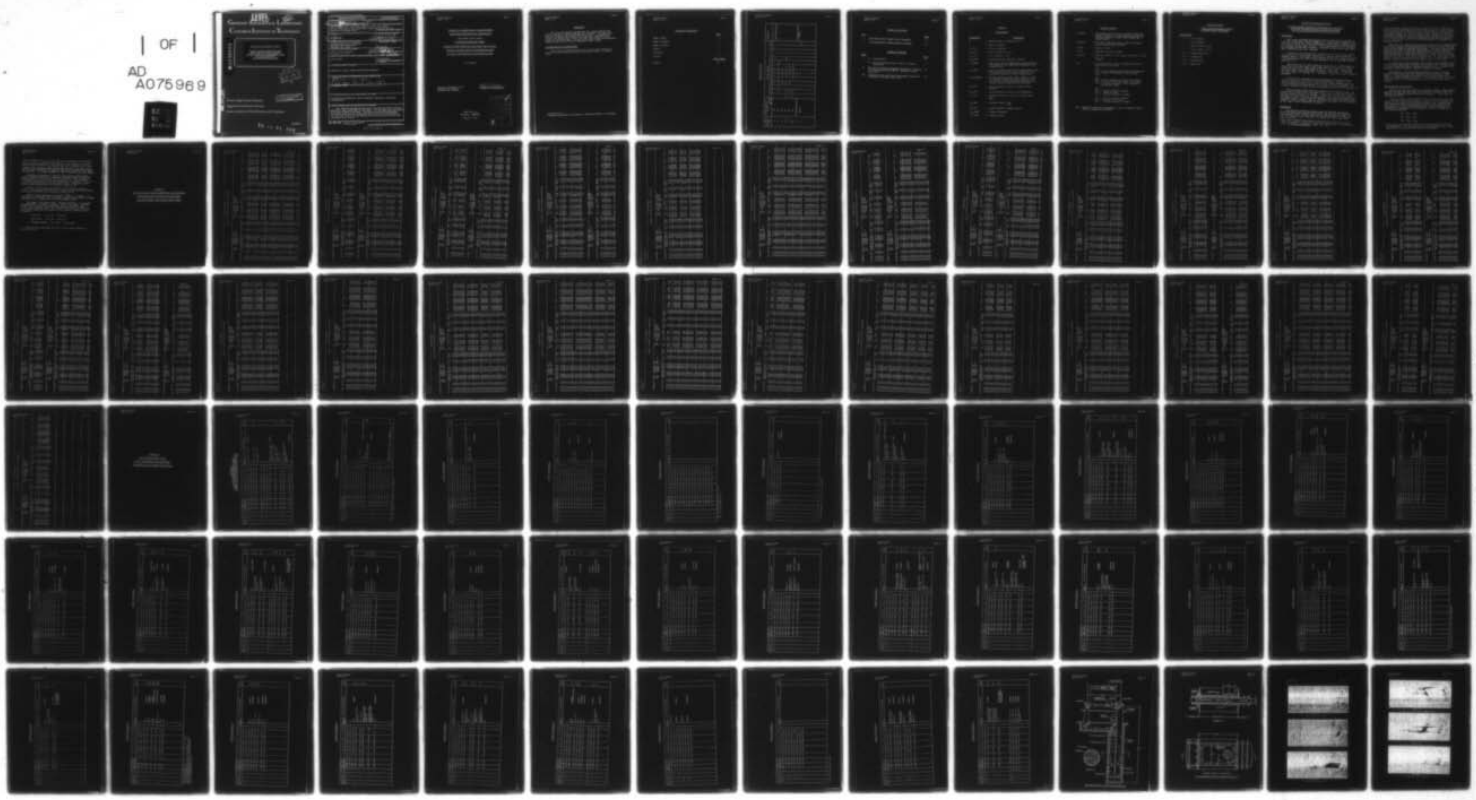

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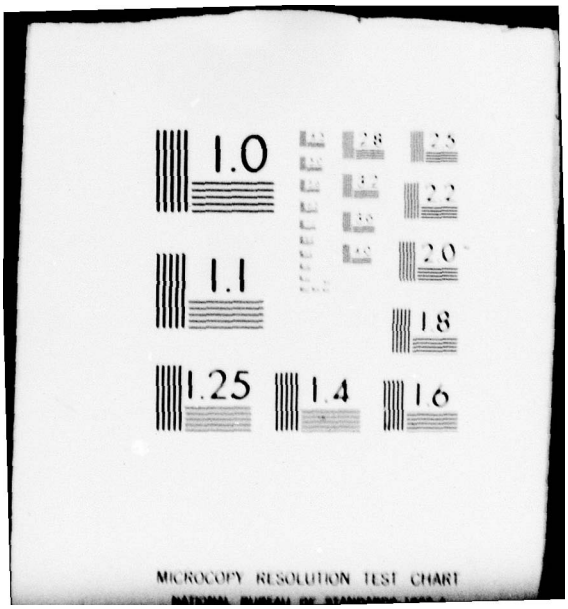
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LEVEL II

GRADUATE AERONAUTICAL LABORATORIES

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FLAPPED HYDROFOIL TESTS

WATER TUNNEL TESTS OF THE NACA 64A-309 FOIL SECTION FITTED WITH AN ADJUSTABLE FLAP IN FULLY-WETTED AND CAVITATING FLOWS

Firestone Flight Sciences Laboratory

Guggenheim Aeronautical Laboratory

Karman Laboratory of Fluid Mechanics and Jet Propulsion

Pasadena

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER: (14) GALCIT [redacted]-HSWT-113[illegible]	2. GOVT ACCESSION NO. / 3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle): Flapped Hydrofoil Tests, Water Tunnel Tests of the NACA 64A-309 Foil Section Fitted with an Adjustable Flap in Fully-Wetted and Cavitating Flows,	5. TYPE OF REPORT & PERIOD COVERED: Tech. Report 4/12/78 - 12/1/79 / 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): (10) Paul Baloga	8. CONTRACT OR GRANT NUMBER(s): (15) N00014-77-C-0497 new
9. PERFORMING ORGANIZATION NAME AND ADDRESS: California Institute of Technology, Hydrodynamics Laboratory, Pasadena, CA 91125	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: NR 062-581
11. CONTROLLING OFFICE NAME AND ADDRESS: Office of Naval Research, Arlington, VA 22217 (11) 8	12. REPORT DATE: Aug [redacted] 79 / 13. NUMBER OF PAGES: ~~80~~ (12) 82
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office): See 11 above	15. SECURITY CLASS. (of this report): Unclassified / 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

(9) Technical rpt. 12 Apr 78 - 1 Dec 79,

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

NACA 64A-309 flapped foil, three component coefficients, wetted and cavitating flow

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Lift, drag and pitching moment data for a NACA 64A-309 foil section fitted with a plain sealed flap are presented. The flap hinge axis was located at the three-quarter chord point. The influence of positive and negative flap angles on the data was evaluated in fully wetted and cavitating flows. The data were taken in the two-dimensional working section of the GALCIT High Speed Water Tunnel.

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GRADUATE AERONAUTICAL LABORATORIES

CALIFORNIA INSTITUTE OF TECHNOLOGY

High Speed Water Tunnel

FLAPPED HYDROFOIL TESTS

WATER TUNNEL TESTS OF THE NACA 64A-309 FOIL SECTION FITTED WITH AN ADJUSTABLE FLAP IN FULLY-WETTED AND CAVITATING FLOWS

Paul Baloga

Director, Low Speed
Experimental Facilities

Professor of Aeronautics

Copy No.____

Pasadena, California

August 8, 1979

ABSTRACT

Lift, drag and pitching moment data for a NACA 64A-309 foil section fitted with a plain sealed flap are presented. The flap hinge axis was located at the three-quarter chord point. The influence of positive and negative flap angles on the data was evaluated in fully wetted and cavitating flows. The data were taken in the two-dimensional working section of the GALCIT* High Speed Water Tunnel.

ADMINISTRATIVE INFORMATION

This work was performed for the U.S. Navy under Contract No. N00014-77-C-0497 during the period 4 December 1978 to 12 January 1979.

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*Graduate Aeronautical Laboratories, California Institute of Technology

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Flap Deflection deg	Water Velocity ft/sec / α, deg	Group Number														Remarks
		-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	
0	50		1		2	3	4	5	6		8					With photographs
+5	50		10	11	12	13	14	15	16	17						" "
-5	50				18		19	20								" "
+2.5	50	21	22		23		24	25	26		48					" "
+7.5	50	28	29		30		31	32	33							" "
+10	50	34	35			37	38	39	40							" "
0	25, 40, 50, 60, 70, 80						44									Reynolds number effects
0	40, 32														49	

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TABLE I

A. Nomenclature

Designation		Description
A	=	Planform area of hydrofoil, B x C
B	=	Span of hydrofoil
C, (LC)	=	Chord of hydrofoil
C_D, (CD)	=	Drag coefficient, $D/q_o A$
C_L, (CL)	=	Lift coefficient, $L/q_o A$
C_M, (CM)	=	Pitching moment coefficient, $M/q_o CA$
D, (DRAG)	=	Drag force, positive when acting in the direction of flow parallel to the longitudinal centerline of the working section
L, (LIFT)	=	Lift force, positive when acting upward and normal to the direction of flow which is parallel to the longitudinal centerline of the working section
M, (MOMENT)	=	Pitching moment, positive when tending to rotate the hydrofoil leading edge upward about an axis taken normal to the longitudinal centerline of the working section through the 50% chord point
P_o, (PO)	=	Static pressure of water in working section, absolute
P_v, (PV)	=	Vapor pressure of water at test temperature
q_o, (QO)	=	Dynamic pressure of water in working section, $\frac{\rho V_o^2}{2}$
R_n, (RN)	=	Reynolds number, $\frac{V_o C}{\nu}$
V_o, (VO)	=	Water velocity in working section
W_m, (WM)	=	Weight of mercury
W_w, (WW)	=	Weight of water

TABLE I (cont'd)

α, (PITCH) = Pitch angle; angle of attack of hydrofoil measured between working section longitudinal centerline and hydrofoil chordline, positive when leading edge is rotated upward

δ, (FLAP) = Flap angle, measured at the center of the hinge, positive trailing edge downward

ρ, (RHO) = Density of water

ν, (NU) = Kinematic viscosity of water

σ, (SIGMA) = Index of cavitation based on vapor pressure of water, $\frac{P_o - P_v}{q_o}$

CCN = Card code number, used to identify the nature of the data point as follows:

CCN
110, 120, 130 } Used to designate data taken with model and fairing plate mounted on force balance

CCN
210, 220, 230 } Used to designate data taken with model removed from force balance and mounted on opposite sidewall. (Tare readings of fairing disk alone)

CCN
110 = Pretest reference readings
120 = Model test data
130 = Post test reference readings

210 = Pretest reference readings
220 = Fairing disk test data
230 = Post test reference readings

Note: Equivalent nomenclature designation, used in computer printout Table II, appears in parenthesis

TABLE I (Cont'd)

B. Terms and Abbreviations Used in Cavitation Survey Description

Abbreviation

N = No (cavitation)

Y = Yes (cavitation)

U = Upper surface of foil

L = Lower surface of foil

F. P. = Fairing plate (disk)

L. E. = Leading edge

T. E. = Trailing edge

H. L. = Hinge Line

FLAPPED HYDROFOIL TESTS

WATER TUNNEL TESTS OF THE NACA 64A-309 FOIL SECTION FITTED WITH AN ADJUSTABLE FLAP IN FULLY-WETTED AND CAVITATING FLOWS

Discussion:

This report presents the results of water tunnel tests conducted on a section of the NACA 64A-309 flapped foil. The primary purpose of the tests was to obtain lift, drag and pitching moment during cavitating flows as a function of flap angle and also for the determination of the boundaries for incipient and desinent cavitation. Reynolds number effect tests under these conditions were also conducted.

These tests were conducted in the High Speed Water Tunnel (HSWT) in the GALCIT Hydrodynamics Laboratory* using the two-dimensional working section. This tunnel uses a closed circuit with a choice of either a two-dimensional (6" x 30") or axi-symmetric (14" D) working section. (See Fig. 1.)

The model used for these tests was fabricated of 17-4PH steel and consisted of a six inch span of the NACA 64A-309 foil with a six inch chord and fitted with a flap hinged at the 75% chord line. Flap angle and pitch angle ranges tested are as follows: flap angle $+10^{\circ}$ through -5°, pitch angle -5° through $+8^{\circ}$. See Index of Data for a more complete tabulation.

The model was supported on the three-component strain gage balance which is mounted on the side-wall of the working section. See Fig. 2. The opposite sidewall consists of a 1.75 inch (4.44 cm.) thick aluminum plate with a circular Plexiglas viewing window of 7.5 inches (19.05 cm.) diameter. Tip clearance between the model and the viewing window was set at 0.030 inches (0.76mm.)

Data recorded during these tests include three component force and moment data together with a cavitation survey which consisted of recording working section pressures of interest. These data are recorded simultaneously for each data point on IBM punched cards using an automatic data acquisition system. These data are reduced to the final coefficient forms defined in Table I together with the cavitation description and are presented in the order of their acquisition in Table II.

Procedures

The hydrofoil model was tested using the following proceedure: First, the model after having been fixed for the desired flap angle (δ) was installed in the working section at the selected angle of attack (α). With the sideplate back in position, the tunnel was filled with water.

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*For a more complete description of this laboratory see Ward, T. M. "The Hydrodynamic Laboratory at the California Institute of Technology - 1976", J. Fluids Engineering, ASME, Dec. 1976.

After appropriate reference data were recorded, the water velocity was brought to the desired test velocity (V_O) with the working section pressure (P_O) simultaneously adjusted to a value corresponding to a desired index of cavitation number (σ). The force and moment data together with the manometer readings P_O and V_O, relating to the conditions in the working section were recorded. Data were recorded for the following values of σ: σ = 2.00, 1.25, 0.80, 0.32, 0.22 and additionally for incipient and desinent cavitation.

After all of the model test data were recorded with the model mounted on the force balance, the following procedure was used to record the tare forces on the model mounting and fairing disk. The model was removed from the force balance, inverted, and installed in a support fixture on the opposite side plate. A plain flat fairing disk was then secured to the force balance and the model tip was fixed to be within 0.002 inch of the surface of this disk. Tare forces and moments of the fairing disc in the presence of the model were then recorded at all of the model and working section conditions encountered in the earlier portion of the testing.

In some cases, data recording was limited by large unsteady forces on the balance experienced when the cavity extended past 50% chord point or when, at high flap angles, working section pressures in excess of the maximum allowable would be required to suppress cavitation.

Photographs of the model when cavitating for most of the test conditions were taken with some examples shown beginning on Photo Page 1. The photo numbers are correlated with Run numbers and Data point (Card) numbers in Table III. The complete series of cavitation photos is issued as a supplement and is on file with the Navy and the Institute.

Data Reduction and Accuracy

Signals from the force balance, manometer readings, model settings, physical constants and other data were recorded on punched cards and reduced using digital computer processing techniques. These data are presented in Table II.

The proceedures used to generate the data presented in Table III are as follows: Gravity tare values of model forces and moments were applied as corrections to the data taken during a run. The data were then adjusted to correct for the effect of balance interactions by the application of an inverse calibration matrix. Finally, the data were corrected for the influence of the fairing disk forces by application of the following relations:

$$CL = C_{L_b} - C_{L_t}^{*}$$

$$CD = C_{D_b} - C_{D_t}$$

$$CM = C_{M_b} - C_{M_t}^{*}$$

*The signs of the measured fairing disk tare coefficients C_L and C_M and identified as CCN 220 in Table II are reversed when used in these expressions due to the inverted position of the model.

where the values of C_{L_b}, C_{D_b} and C_{M_b} were recorded for the conditions when the model and balance port fairing disk were attached to the force balance and the values of C_{L_t}, C_{D_t} and C_{M_t} were recorded for the same conditions with the balance port fairing disk attached to the force balance and the model installed on the opposite sidewall as described above under "Proceedures". No tunnel boundary or other corrections have been applied.

Manometer indications of velocity in the working section exhibit a natural oscillation which has a maximum amplitude change varying from approximately $\pm$ 5% at 10 ft/sec to $\pm$ 1% at 60 ft/sec. The oscillation is slow and exhibits periods where no fluctuation is detectable. Data are recorded during periods of zero fluctuations and it is believed that the velocity data presented here are accurate to within $\pm$ 0.5%.

Working section pressure indicators exhibit similar oscillations, however, the maximum excursions are not as large and the data presented here are also believed to be accurate to within $\pm$ 0.5%.

Angle of attack settings are accurate to within $\pm$ 0.1 degree. No allowances or corrections have been made to adjust for the effects of model deflections due to applied loads or tunnel boundary effects.

The output of all balance gages, including hysteresis, non linearity and repeatability, are linear to within $\pm$ 0.25% of full range. The data system used to process and record the output is accurate to within $\pm$ 0.1% of the indicated value. As a result of the above, the force and moment data presented are believed to be accurate to within the following limits:

Lift force; $\pm$ 2.1 lbs (0.95 kg.)

Drag force; $\pm$ 0.5 lbs (0.23 kg.)

Pitching moment $\pm$ 3.1 lb-in (0.012 m-kg.)

This work was performed for the U.S. Navy under Contract No. N00014-77-C-0497.

TABLE II

RUN DATA AND THREE COMPONENT COEFFICIENTS

CORRECTED FOR BALANCE INTERACTIONS

AND FOR MODEL AND FAIRING DISK TARES

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 71.59999 DEG F RHO= 1.93588 SLUG/CUFT
PV= 55.20956 PSF NU= 0.10299E-04 SQFT/SEC
WW= 62.21916 LBS/CUFT WM= 845.43579 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QQ PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
1	110	1	0.0	0.0	0.0	0.0				-0.4	-0.0	-0.00				
1	120	2	24.89	265.5	0.0	0.0	599.5	1.208	0.35	36.6	2.3	-0.04	0.2440	0.0151	-0.0005	16.11
1	120	3	25.16	2083.2	0.0	0.0	612.7	1.221	3.31	36.4	1.7	-0.05	0.2376	0.0111	-0.0005	21.32
1	120	4	39.76	635.8	0.0	0.0	1529.8	1.930	0.38	95.4	3.9	0.19	0.2494	0.0103	0.0010	24.16
1	120	5	39.96	2083.2	0.0	0.0	1545.4	1.940	1.31	92.1	3.5	-0.17	0.2385	0.0091	-0.0005	26.21
1	120	6	49.93	962.1	0.0	0.0	2412.8	2.424	0.38	149.2	5.6	0.19	0.2473	0.0092	0.0006	26.74
1	120	7	49.80	2083.2	0.0	0.0	2400.3	2.418	0.84	143.8	4.7	-0.38	0.2396	0.0078	-0.0013	30.79
1	120	8	59.80	1388.2	0.0	0.0	3461.5	2.903	0.35	213.2	6.5	0.01	0.2463	0.0075	0.0000	32.67
1	120	9	60.05	2083.2	0.0	0.0	3489.9	2.915	0.58	209.2	7.3	-0.42	0.2398	0.0083	-0.0010	28.74
1	130	10	0.0	0.0	0.0	0.0				-0.2	-0.1	-0.07				
2	110	11	0.0	0.0	-4.00	0.0				0.0	-0.0	-0.02				
2	120	12	48.60	5683.0	-4.00	0.0	2286.2	2.359	2.46	-94.1	5.1	-28.83	-0.1646	0.0089	-0.1005	-18.48
2	120	13	48.68	4957.6	-4.00	0.0	2294.0	2.363	2.14	-96.4	6.0	-28.72	-0.1681	0.0104	-0.1002	-16.21
2	120	14	48.83	3085.8	-4.00	0.0	2307.5	2.371	1.31	-101.6	10.3	-30.00	-0.1762	0.0178	-0.1040	-9.88
2	120	15	49.03	2223.5	-4.00	0.0	2326.5	2.380	0.93	-111.2	13.0	-31.72	-0.1911	0.0224	-0.1091	-8.52
2	130	16	0.0	0.0	-4.00	0.0				-0.4	-0.0	-0.09				
3	110	17	0.0	2061.2	-2.00	0.0				0.2	-0.0	0.05				
3	120	18	49.83	4941.6	-2.00	0.0	2403.4	2.419	2.03	17.6	4.5	-15.31	0.0292	0.0074	-0.0510	3.93
3	120	19	49.80	3085.8	-2.00	0.0	2400.3	2.418	1.26	17.2	5.3	-15.20	0.0287	0.0088	-0.0507	3.26
3	120	20	49.77	2223.5	-2.00	0.0	2397.2	2.416	0.90	17.6	5.7	-15.50	0.0293	0.0096	-0.0517	3.06
3	120	21	49.85	2035.0	-2.00	0.0	2405.8	2.420	0.82	16.1	6.1	-15.63	0.0268	0.0101	-0.0520	2.66
3	120	22	49.91	1327.3	-2.00	0.0	2411.2	2.423	0.53	14.2	7.1	-16.60	0.0235	0.0117	-0.0551	2.01
3	120	23	49.80	845.4	-2.00	0.0	2400.3	2.418	0.33	-72.4	15.1	-7.13	-0.1206	0.0251	-0.0239	-4.81
3	120	24	49.85	591.8	-2.00	0.0	2405.8	2.420	0.22	-4.1	17.1	-4.64	-0.0069	0.0285	-0.0154	-0.24
3	120	25	49.94	4566.2	-2.00	0.0	2414.3	2.425	1.87	14.7	4.9	-15.61	0.0244	0.0081	-0.0517	3.00
3	130	26	0.0	2061.2	-2.00	0.0				0.2	0.0	0.02				
4	110	27	0.0	2056.9	-1.00	0.0				0.2	0.0	0.05				
4	120	28	49.80	4937.3	-1.00	0.0	2400.3	2.418	2.03	69.6	3.7	-8.81	0.1159	0.0062	-0.0294	18.76
4	120	29	49.84	3085.8	-1.00	0.0	2404.2	2.420	1.26	73.9	4.8	-8.74	0.1229	0.0080	-0.0291	15.41
4	120	30	49.81	2223.5	-1.00	0.0	2401.1	2.418	0.90	76.0	4.8	-8.61	0.1266	0.0081	-0.0287	15.79
4	120	31	49.85	1327.3	-1.00	0.0	2405.0	2.420	0.53	79.2	5.1	-8.47	0.1318	0.0085	-0.0282	15.46
4	120	32	49.85	845.4	-1.00	0.0	2405.0	2.420	0.33	79.8	5.5	-8.22	0.1327	0.0091	-0.0273	14.60
4	120	33	49.74	749.1	-1.00	0.0	2394.0	2.415	0.25	86.5	6.1	-9.14	0.1452	0.0103	-0.0305	14.16
4	120	34	49.81	591.8	-1.00	0.0	2401.6	2.418	0.22	-2.7	14.8	-3.49	-0.0045	0.0247	-0.0116	-0.18
4	120	35	49.81	1692.6	-1.00	0.0	2401.6	2.418	0.66	77.8	5.1	-8.40	0.1296	0.0085	-0.0280	15.17
4	130	36	0.0	2056.9	-1.00	0.0				0.2	-0.0	0.00				
5	110	37	0.0	2056.9	0.0	0.0				0.0	0.0	0.04				
5	120	38	49.77	4937.3	0.0	0.0	2398.0	2.416	2.04	130.5	3.7	-1.88	0.2177	0.0063	-0.0063	34.81

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 71.59999 DEG F RHO= 1.93588 SLUG/CUFT
PV= 55.20956 PSF NU= 0.10299E-04 SQFT/SEC
WW= 62.21916 LBS/CUFT WM= 845.43579 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
5	120	39	49.83	3085.8	0.0	0.0	2403.4	2.419	1.26	136.1	4.6	-1.40	0.2265	0.0077	-0.0047	29.53
5	120	40	49.80	2223.5	0.0	0.0	2400.3	2.418	0.90	138.6	4.8	-1.06	0.2309	0.0079	-0.0035	29.15
5	120	41	49.81	1327.3	0.0	0.0	2401.9	2.418	0.53	142.0	5.2	-0.68	0.2365	0.0086	-0.0022	27.38
5	120	42	49.84	845.4	0.0	0.0	2404.2	2.420	0.33	149.7	6.2	-1.64	0.2490	0.0103	-0.0054	24.17
5	120	43	49.84	591.8	0.0	0.0	2404.2	2.420	0.22	72.2	10.5	-8.05	0.1202	0.0175	-0.0268	6.88
5	130	44	0.0	2056.9	0.0	0.0				0.2	0.0	0.02				

CONSTANTS: TEMP= 72.00000 DEG F RHO= 1.93580 SLUG/CUFT
PV= 55.95839 PSF NU= 0.10245E-04 SQFT/SEC
WW= 62.21658 LBS/CUFT WM= 845.35990 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
6	110	45	0.0	2050.1	1.00	0.0				0.2	0.0	0.02				
6	120	46	49.77	4929.5	1.00	0.0	2397.9	2.429	2.03	158.1	4.5	5.96	0.3304	0.0075	0.0198	44.31
6	120	47	49.81	3085.7	1.00	0.0	2401.8	2.431	1.26	201.0	4.9	6.66	0.3347	0.0082	0.0222	40.91
6	120	48	49.81	2223.4	1.00	0.0	2401.8	2.431	0.90	206.9	5.2	7.25	0.3445	0.0087	0.0242	39.76
6	120	49	49.78	1327.3	1.00	0.0	2398.7	2.430	0.53	216.2	5.8	8.61	0.3605	0.0097	0.0287	37.31
6	120	50	49.82	845.4	1.00	0.0	2402.6	2.431	0.33	205.3	10.3	3.04	0.3417	0.0171	0.0101	20.00
6	120	51	49.81	591.8	1.00	0.0	2401.0	2.431	0.22	61.0	12.2	-4.42	0.1015	0.0203	-0.0147	5.01
6	120	52	49.77	1239.4	1.00	0.0	2397.0	2.429	0.49	219.2	5.7	8.86	0.3657	0.0096	0.0295	38.14
6	130	53	0.0	2050.1	1.00	0.0				0.4	0.0	0.07				
7	110	54	0.0	2050.1	2.00	0.0				0.2	0.0	0.05				
7	120	55	49.81	4927.8	2.00	0.0	2401.8	2.431	2.03	282.9	5.6	15.97	0.4711	0.0093	0.0532	50.47
7	120	56	49.85	3085.7	2.00	0.0	2404.9	2.433	1.26	284.3	6.2	16.71	0.4729	0.0104	0.0556	45.57
7	120	57	49.81	2223.4	2.00	0.0	2401.0	2.431	0.90	286.7	6.5	17.19	0.4776	0.0108	0.0573	44.20
7	120	58	49.86	1327.3	2.00	0.0	2406.5	2.433	0.53	298.5	7.0	17.80	0.4961	0.0116	0.0592	42.90
7	120	59	49.84	845.4	2.00	0.0	2404.1	2.432	0.33	169.9	14.1	3.02	0.2828	0.0267	0.0101	10.59
7	120	60	49.85	591.8	2.00	0.0	2405.7	2.433	0.22	91.2	14.3	1.20	0.1517	0.0237	0.0040	6.40
7	120	61	49.89	1947.8	2.00	0.0	2408.8	2.435	0.79	293.6	6.3	17.76	0.4876	0.0105	0.0590	46.51
7	130	62	0.0	2048.4	2.00	0.0				0.4	0.0	0.09				
8	110	63	0.0	2047.6	4.00	0.0				0.2	0.0	0.05				
8	120	64	49.77	4927.0	4.00	0.0	2397.1	2.429	2.03	398.5	9.2	31.11	0.6650	0.0153	0.1038	43.55
8	120	65	49.78	3487.3	4.00	0.0	2398.7	2.430	1.43	401.7	9.5	32.01	0.6699	0.0158	0.1068	42.23
8	120	66	49.81	3085.7	4.00	0.0	2401.8	2.431	1.26	406.1	10.0	32.87	0.6762	0.0166	0.1095	40.64

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 72.00000 DEG F RHO= 1.93580 SLUG/CUFT
PV= 55.55839 PSF NU= 0.10245E-04 SQFT/SEC
WW= 62.21658 LBS/CUFT WM= 845.36950 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
8	120	67	49.79	2223.4	4.00	0.0	2399.5	2.430	0.90	441.9	14.4	35.52	0.7367	0.0240	0.1184	30.65
8	120	68	49.75	4899.1	4.00	0.0	2395.6	2.428	2.02	401.0	9.1	31.45	0.6696	0.0152	0.1050	44.03
8	130	69	0.0	2047.6	4.00	0.0				0.7	0.0	0.09				
9	110	70	0.0	2047.6	6.00	0.0				0.5	-0.1	0.02				
9	120	71	39.61	4927.0	6.00	0.0	1518.9	1.933	3.21	329.3	8.2	29.30	0.8673	0.0216	0.1543	40.13
9	120	72	31.66	4927.0	8.00	0.0	969.9	1.545	5.02	248.7	7.2	23.92	1.0255	0.0296	0.1973	34.60
9	120	73	31.59	4927.0	10.00	0.0	966.0	1.542	5.04	268.9	18.7	27.95	1.1135	0.0774	0.2315	14.39
9	120	74	32.28	4927.0	12.00	0.0	1008.7	1.575	4.83	289.9	35.3	29.54	1.1495	0.1402	0.2343	8.20
9	130	75	0.0	2047.6	12.00	0.0				0.5	-0.0	0.05				

CONSTANTS: TEMP= 72.20000 DEG F RHO= 1.93574 SLUG/CUFT
PV= 56.24142 PSF NU= 0.10219E-04 SQFT/SEC
WW= 62.21466 LBS/CUFT WM= 845.38184 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
10	110	76	0.0	2077.9	2.00	0.0				0.0	0.0	0.02				
10	120	77	49.82	4957.3	2.00	0.0	2402.5	2.438	2.04	263.2	5.0	13.62	0.4382	0.0083	0.0453	52.60
10	120	78	49.80	3085.6	2.00	0.0	2400.7	2.437	1.26	269.4	5.7	14.63	0.4490	0.0096	0.0488	47.01
10	120	79	49.81	2223.4	2.00	0.0	2401.7	2.437	0.90	275.2	6.0	15.29	0.4583	0.0100	0.0509	46.03
10	120	80	49.81	1327.2	2.00	0.0	2401.7	2.437	0.53	279.7	6.1	16.10	0.4658	0.0101	0.0536	45.94
10	120	81	49.83	845.4	2.00	0.0	2403.3	2.438	0.33	53.0	13.7	1.27	0.1549	0.0228	0.0042	6.79
10	130	82	0.0	2077.9	2.00	0.0				0.4	0.1	0.05				
11	110	83	0.0	2098.2	2.00	0.0				0.0	0.0	0.04				
11	120	84	49.81	4978.5	2.00	0.0	2401.0	2.437	2.05	268.5	4.8	14.30	0.4474	0.0080	0.0476	55.67
11	120	85	49.78	3085.6	2.00	0.0	2398.6	2.436	1.26	273.9	5.2	15.20	0.4568	0.0087	0.0507	52.49
11	120	86	49.80	2223.4	2.00	0.0	2400.2	2.437	0.90	277.5	5.4	15.85	0.4625	0.0090	0.0528	51.65
11	120	87	49.82	1327.2	2.00	0.0	2402.5	2.438	0.53	291.0	5.6	17.46	0.4844	0.0093	0.0581	52.10
11	120	88	49.77	845.4	2.00	0.0	2397.9	2.435	0.33	211.7	14.5	5.76	0.3532	0.0242	0.0192	14.60
11	120	89	49.81	501.8	2.00	0.0	2401.7	2.437	0.22	53.9	13.9	1.79	0.1565	0.0232	0.0060	6.74
11	130	90	0.0	2098.2	2.00	0.0				0.0	0.1	0.07				
12	110	91	0.0	2098.2	0.0	0.0				0.0	0.0	0.07				
12	120	92	25.02	270.5	0.0	0.0	605.7	1.224	0.35	36.2	1.9	0.07	0.2392	0.0128	0.0010	18.65
12	120	93	25.16	2082.2	0.0	0.0	612.7	1.231	3.31	36.6	1.5	-0.15	0.2388	0.0095	-0.0020	25.02
12	120	94	39.77	635.7	0.0	0.0	1530.5	1.946	0.38	93.0	3.7	0.12	0.2432	0.0097	0.0006	25.07

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 72.20000 DEG F RHO= 1.93574 SLUG/CUFT
PV= 56.34142 PSF NU= 0.10219E-04 SQFT/SEC
WW= 62.21466 LBS/CUFT WM= 845.38184 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
12	120	95	39.98	2072.0	0.0	0.0	1546.8	1.956	1.30	92.5	3.2	-0.29	0.2392	0.0083	-0.0015	28.66
12	120	96	49.94	961.2	0.0	0.0	2413.4	2.443	0.37	148.6	5.3	-0.02	0.2463	0.0088	-0.0001	28.10
12	120	97	49.80	2072.0	0.0	0.0	2400.2	2.437	0.84	145.7	4.8	-0.36	0.2429	0.0080	-0.0012	30.30
12	120	98	55.82	1393.2	0.0	0.0	3464.0	2.927	0.39	210.6	7.0	-0.19	0.2432	0.0081	-0.0004	30.10
12	120	99	60.05	2082.2	0.0	0.0	3485.6	2.938	0.58	207.1	6.9	-0.58	0.2373	0.0079	-0.0013	30.23
12	130	100	0.0	2098.2	0.0	0.0				0.2	0.1	0.04				
13	110	101	0.0	2098.2	2.00	0.0				0.0	0.1	0.04				
13	120	102	49.74	4978.5	2.00	0.0	2394.8	2.434	2.06	261.7	5.0	13.77	0.4372	0.0083	0.0460	52.75
13	120	103	49.77	3085.6	2.00	0.0	2397.1	2.435	1.26	270.0	5.3	14.84	0.4505	0.0089	0.0495	50.85
13	120	104	49.78	2223.4	2.00	0.0	2398.6	2.436	0.90	268.5	5.5	15.06	0.4478	0.0092	0.0502	48.76
13	120	105	49.78	1327.2	2.00	0.0	2398.6	2.436	0.53	276.1	5.9	15.99	0.4604	0.0099	0.0533	46.42
13	120	106	49.77	845.4	2.00	0.0	2397.1	2.435	0.33	189.0	14.5	3.26	0.3153	0.0242	0.0105	13.02
13	120	107	49.78	591.8	2.00	0.0	2398.6	2.436	0.22	76.7	13.7	-0.43	0.1280	0.0228	-0.0014	5.61
13	120	108	49.77	1327.2	2.00	0.0	2397.9	2.435	0.53	276.6	5.6	15.99	0.4614	0.0094	0.0533	49.27
13	120	109	49.77	845.4	2.00	0.0	2397.5	2.435	0.33	215.1	13.6	5.13	0.3589	0.0226	0.0171	15.84
13	120	110	49.81	591.8	2.00	0.0	2401.0	2.437	0.22	87.8	13.4	0.68	0.1463	0.0223	0.0023	6.58
13	130	111	0.0	2098.2	2.00	0.0				-0.2	0.1	0.04				

CONSTANTS: TEMP= 71.59999 DEG F RHO= 1.93588 SLUG/CUFT
PV= 55.20956 PSF NU= 0.10299E-04 SQFT/SEC
WW= 62.21916 LBS/CUFT WM= 845.43579 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
14	110	112	0.0	2078.1	0.0	5.00				0.0	0.0	-0.02				
14	120	113	49.81	4958.5	0.0	5.00	2401.9	2.418	2.04	306.9	5.7	3.87	0.5111	0.0095	0.0129	53.98
14	120	114	49.81	3085.8	0.0	5.00	2401.1	2.418	1.26	311.4	5.9	4.77	0.5188	0.0099	0.0159	52.43
14	120	115	49.79	2223.5	0.0	5.00	2399.6	2.417	0.90	316.2	6.1	5.34	0.5272	0.0102	0.0178	51.93
14	120	116	49.85	1327.3	0.0	5.00	2405.0	2.420	0.53	319.1	6.1	5.88	0.5307	0.0102	0.0196	51.92
14	120	117	49.84	845.4	0.0	5.00	2404.2	2.420	0.33	207.8	13.3	-3.59	0.3457	0.0222	-0.0119	15.60
14	120	118	49.78	591.8	0.0	5.00	2398.8	2.417	0.22	90.5	13.3	-7.55	0.1510	0.0222	-0.0252	6.79
14	120	119	49.84	1664.7	0.0	5.00	2404.2	2.420	0.67	322.2	5.8	5.86	0.5360	0.0096	0.0195	55.91
14	130	120	0.0	2078.1	0.0	5.00				0.0	0.0	-0.05				
15	110	121	0.0	2078.1	2.00	5.00				-0.2	0.0	-0.02				
15	120	122	49.76	4958.5	2.00	5.00	2396.5	2.416	2.05	443.3	8.9	21.81	0.7400	0.0149	0.0728	49.58

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS:						
TEMP=	71.59999	DEG F	RHO=	1.93588	SLUG/CUFT
PV=	55.20556	PSF	NU=	0.10299E-04	SQFT/SEC
WW=	62.21916	LBS/CUFT	WM=	845.43579	LBS/CUFT
LC=	0.50000	FT	A=	0.25000	SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QC PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
15	120	123	49.81	3085.8	2.00	5.00	2401.1	2.418	1.26	446.2	9.1	22.90	0.7433	0.0151	0.0763	49.25
15	120	124	49.93	2223.5	2.00	5.00	2412.8	2.424	0.90	444.4	12.7	23.99	0.7368	0.0211	0.0795	34.83
15	120	125	49.82	1327.3	2.00	5.00	2402.7	2.419	0.53	384.5	22.3	10.16	0.6402	0.0372	0.0338	17.22
15	120	126	49.81	845.4	2.00	5.00	2401.1	2.418	0.33	230.2	19.6	5.81	0.3835	0.0327	0.0194	11.72
15	120	127	49.86	591.8	2.00	5.00	2406.6	2.421	0.22	125.7	16.9	1.23	0.2089	0.0280	0.0041	7.45
15	120	128	49.88	3517.9	2.00	5.00	2408.1	2.422	1.44	450.2	9.2	23.03	0.7477	0.0153	0.0765	48.92
15	130	129	0.0	2078.1	2.00	5.00				0.2	0.1	0.00				
16	110	130	0.0	2077.2	3.00	5.00				-0.2	0.0	-0.02				
16	120	131	49.77	4957.6	3.00	5.00	2358.0	2.416	2.04	498.6	11.4	29.62	0.8316	0.0190	0.0988	43.78
16	120	132	49.81	3934.7	3.00	5.00	2401.1	2.418	1.62	503.5	11.6	30.50	0.8395	0.0193	0.1016	43.47
16	120	133	49.81	3085.8	3.00	5.00	2401.1	2.418	1.26	508.1	12.7	32.09	0.8464	0.0212	0.1069	39.94
16	120	134	49.83	2391.7	3.00	5.00	2403.4	2.419	0.97	569.2	19.9	32.74	0.9473	0.0330	0.1090	28.67
16	120	135	49.85	4957.6	3.00	5.00	2405.8	2.420	2.04	502.5	11.5	29.96	0.8355	0.0192	0.0996	43.57
16	130	136	0.0	2077.2	3.00	5.00				0.2	0.1	0.00				
17	110	137	0.0	2077.2	1.00	5.00				0.0	0.0	-0.00				
17	120	138	49.79	4957.6	1.00	5.00	2399.6	2.417	2.04	311.6	5.4	4.06	0.5194	0.0089	0.0135	58.22
17	120	139	49.82	3085.8	1.00	5.00	2402.7	2.419	1.26	314.4	6.0	4.91	0.5235	0.0100	0.0164	52.53
17	120	140	49.84	2223.5	1.00	5.00	2404.2	2.420	0.90	319.3	6.2	5.50	0.5312	0.0103	0.0183	51.63
17	120	141	49.77	1345.1	1.00	5.00	2397.2	2.416	0.54	320.0	6.3	6.02	0.5339	0.0105	0.0201	50.87
17	120	142	49.80	1327.3	1.00	5.00	2400.3	2.418	0.53	325.6	6.1	6.11	0.5425	0.0102	0.0204	52.99
17	120	143	49.85	845.4	1.00	5.00	2405.0	2.420	0.33	210.5	13.3	-3.33	0.3500	0.0221	-0.0111	15.86
17	120	144	49.79	591.8	1.00	5.00	2399.6	2.417	0.22	84.1	13.5	-7.73	0.1402	0.0226	-0.0258	6.21
17	120	145	49.89	1538.7	1.00	5.00	2405.7	2.422	0.62	328.6	5.7	6.09	0.5455	0.0094	0.0202	58.01
17	130	146	0.0	2077.2	1.00	5.00				0.4	0.1	-0.02				

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 71.79999 DEG F RHO= 1.93584 SLUG/CUFT
PV= 55.58395 PSF NU= 0.10272E-04 SQFT/SEC
WW= 62.21788 LBS/CUFT WM= 845.41772 LBS/CLFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QC PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
18	110	147	0.0	2078.9	-1.00	5.00				0.2	-0.1	0.00				
18	120	148	49.78	4958.4	-1.00	5.00	2398.7	2.423	2.04	245.8	4.7	-3.78	0.4099	0.0079	-0.0126	52.04
18	120	149	49.81	3085.8	-1.00	5.00	2401.1	2.424	1.26	248.7	5.4	-3.04	0.4142	0.0090	-0.0101	46.03
18	120	150	49.81	2223.4	-1.00	5.00	2401.1	2.424	0.90	251.3	5.5	-2.61	0.4187	0.0091	-0.0087	46.07
18	120	151	49.79	1396.6	-1.00	5.00	2399.5	2.424	0.56	254.0	5.5	-2.16	0.4235	0.0092	-0.0072	46.10
18	120	152	49.78	1327.3	-1.00	5.00	2398.7	2.423	0.53	255.8	5.5	-2.06	0.4266	0.0092	-0.0069	46.42
18	120	153	49.80	845.4	-1.00	5.00	2400.3	2.424	0.33	194.3	10.9	-8.47	0.3238	0.0182	-0.0282	17.77
18	120	154	49.82	591.8	-1.00	5.00	2402.6	2.425	0.22	-5.0	15.1	-3.63	-0.0084	0.0251	-0.0121	-0.33
18	120	155	49.85	1515.0	-1.00	5.00	2405.7	2.427	0.61	256.9	5.5	-2.20	0.4271	0.0092	-0.0073	46.66
18	130	156	0.0	2078.9	-1.00	5.00				0.5	-0.0	-0.04				
19	110	157	0.0	2078.9	-2.00	5.00				0.4	-0.1	-0.02				
19	120	158	49.79	4958.4	-2.00	5.00	2399.5	2.424	2.04	178.7	4.3	-11.26	0.2980	0.0072	-0.0375	41.60
19	120	159	49.81	3085.8	-2.00	5.00	2401.1	2.424	1.26	180.2	5.1	-10.81	0.3001	0.0084	-0.0360	35.57
19	120	160	49.80	2223.4	-2.00	5.00	2400.3	2.424	0.90	183.0	5.2	-10.54	0.3050	0.0087	-0.0351	35.13
19	120	161	49.81	1327.3	-2.00	5.00	2401.1	2.424	0.53	186.3	5.4	-10.18	0.3103	0.0089	-0.0339	34.77
19	120	162	49.85	1211.5	-2.00	5.00	2405.7	2.427	0.48	188.1	5.4	-10.15	0.3127	0.0089	-0.0338	35.12
19	120	163	49.84	845.4	-2.00	5.00	2404.2	2.426	0.33	166.0	9.3	-14.32	0.2762	0.0154	-0.0476	17.92
19	120	164	49.81	809.9	-2.00	5.00	2401.1	2.424	0.31	156.3	9.6	-14.46	0.2604	0.0160	-0.0482	16.28
19	120	165	49.83	591.8	-2.00	5.00	2403.4	2.426	0.22	-5.6	17.1	-4.60	-0.0093	0.0285	-0.0153	-0.33
19	120	166	49.76	914.7	-2.00	5.00	2396.4	2.422	0.36	182.9	8.5	-13.65	0.3052	0.0143	-0.0456	21.40
19	120	167	49.84	1450.7	-2.00	5.00	2404.2	2.426	0.58	188.6	4.9	-10.13	0.3141	0.0082	-0.0337	38.31
19	130	168	0.0	2078.9	-2.00	5.00				0.4	-0.1	-0.07				
20	110	169	0.0	2078.9	-3.00	5.00				0.2	-0.0	-0.04				
20	120	170	49.76	4958.4	-3.00	5.00	2396.4	2.422	2.05	113.8	5.0	-18.23	0.1900	0.0084	-0.0608	22.68
20	120	171	49.79	3085.8	-3.00	5.00	2399.5	2.424	1.26	117.6	5.7	-17.89	0.1960	0.0095	-0.0596	20.69
20	120	172	49.84	2223.4	-3.00	5.00	2404.2	2.426	0.90	120.5	6.0	-18.00	0.2004	0.0099	-0.0595	20.20
20	120	173	49.77	1573.3	-3.00	5.00	2397.2	2.422	0.63	121.7	6.0	-17.68	0.2031	0.0100	-0.0590	20.23
20	120	174	49.83	1327.3	-3.00	5.00	2403.4	2.426	0.53	122.1	6.3	-17.91	0.2032	0.0106	-0.0596	19.25
20	120	175	49.79	1230.1	-3.00	5.00	2399.5	2.424	0.49	120.3	6.5	-17.97	0.2005	0.0108	-0.0599	18.55
20	120	176	49.81	845.4	-3.00	5.00	2401.1	2.424	0.33	98.6	11.1	-22.34	0.1643	0.0186	-0.0744	8.85
20	120	177	49.85	591.8	-3.00	5.00	2405.7	2.427	0.22	-8.8	19.3	-5.71	-0.0146	0.0321	-0.0190	-0.46
20	120	178	49.86	1372.1	-3.00	5.00	2406.5	2.427	0.55	119.9	6.4	-18.31	0.1993	0.0106	-0.0609	18.79
20	120	179	49.81	3921.9	-3.00	5.00	2401.1	2.424	1.61	113.3	5.3	-18.52	0.1887	0.0088	-0.0617	21.39
20	130	180	0.0	2078.9	-3.00	5.00				0.4	-0.1	-0.11				
21	110	181	0.0	2078.9	-4.00	5.00				0.2	-0.1	-0.09				
21	120	182	49.81	4952.5	-4.00	5.00	2401.1	2.424	2.04	57.2	5.1	-25.09	0.0953	0.0084	-0.0836	11.29
21	120	183	49.78	3085.8	-4.00	5.00	2398.7	2.423	1.26	58.4	5.9	-25.16	0.0975	0.0098	-0.0839	9.96
21	120	184	49.80	2905.7	-4.00	5.00	2400.3	2.424	1.19	59.0	6.0	-25.43	0.0983	0.0100	-0.0847	9.82

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 71.79999 DEG F RHO= 1.93584 SLUG/CUFT
PV= 55.58395 PSF NU= 0.10272E-04 SQFT/SEC
WW= 62.21788 LBS/CUFT WM= 845.41772 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QC PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
21	120	185	49.77	2223.4	-4.00	5.00	2398.0	2.423	0.90	59.7	7.1	-25.68	0.0996	0.0118	-0.0857	8.42
21	120	186	49.78	1327.3	-4.00	5.00	2398.7	2.423	0.53	48.4	9.3	-27.60	0.0807	0.0155	-0.0921	5.21
21	120	187	49.80	1172.6	-4.00	5.00	2400.3	2.424	0.47	34.6	11.5	-27.01	0.0577	0.0191	-0.0900	3.02
21	120	188	49.87	1315.5	-4.00	5.00	2407.3	2.427	0.52	44.6	9.7	-28.10	0.0742	0.0162	-0.0934	4.58
21	120	189	49.83	5644.0	-4.00	5.00	2403.4	2.426	2.33	55.9	4.5	-25.43	0.0931	0.0076	-0.0846	12.32
21	130	190	0.0	2073.0	-4.00	5.00				0.2	-0.1	-0.13				

CONSTANTS: TEMP= 72.59999 DEG F RHO= 1.93562 SLUG/CUFT
PV= 57.10748 PSF NU= 0.10166E-04 SQFT/SEC
WW= 62.21080 LBS/CUFT WM= 845.34570 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QC PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
22	110	191	0.0	2083.8	0.0	-5.00				-0.2	-0.0	0.02				
22	120	192	49.78	4963.9	0.0	-5.00	2398.5	2.449	2.05	-28.2	4.3	-6.09	-0.0470	0.0072	-0.0203	-6.51
22	120	193	49.79	3085.5	0.0	-5.00	2399.3	2.449	1.26	-30.2	5.5	-6.16	-0.0503	0.0092	-0.0205	-5.47
22	120	194	49.79	2223.3	0.0	-5.00	2399.3	2.449	0.90	-31.2	5.9	-6.27	-0.0521	0.0098	-0.0209	-5.30
22	120	195	49.81	1327.2	0.0	-5.00	2400.9	2.450	0.53	-33.4	6.3	-6.43	-0.0556	0.0105	-0.0214	-5.29
22	120	196	49.86	1207.2	0.0	-5.00	2405.5	2.452	0.48	-32.9	6.5	-6.41	-0.0546	0.0108	-0.0213	-5.05
22	120	197	49.88	845.3	0.0	-5.00	2407.9	2.453	0.33	-66.6	6.9	-7.32	-0.1107	0.0115	-0.0243	-9.60
22	120	198	49.85	591.7	0.0	-5.00	2404.8	2.452	0.22	-16.2	12.1	-0.53	-0.0269	0.0202	-0.0018	-1.33
22	120	199	49.87	2977.3	0.0	-5.00	2407.1	2.453	1.21	-30.2	5.5	-6.20	-0.0501	0.0092	-0.0206	-5.47
22	130	200	0.0	2083.8	0.0	-5.00				0.0	-0.0	0.05				
23	110	201	0.0	2083.8	1.00	-5.00				0.0	-0.1	0.05				
23	120	202	49.77	4963.9	1.00	-5.00	2397.0	2.448	2.05	18.1	3.2	0.53	0.0302	0.0053	0.0018	5.72
23	120	203	49.80	3085.5	1.00	-5.00	2400.1	2.449	1.26	19.4	4.2	0.68	0.0323	0.0070	0.0023	4.60
23	120	204	49.80	2223.3	1.00	-5.00	2400.1	2.449	0.90	19.5	4.6	0.77	0.0326	0.0077	0.0026	4.26
23	120	205	49.82	1327.2	1.00	-5.00	2402.4	2.451	0.53	21.2	5.0	0.93	0.0352	0.0084	0.0031	4.21
23	120	206	49.78	845.3	1.00	-5.00	2398.5	2.449	0.33	22.4	5.2	1.07	0.0374	0.0086	0.0036	4.34
23	120	207	49.89	661.1	1.00	-5.00	2408.6	2.454	0.25	29.6	5.8	0.33	0.0491	0.0097	0.0011	5.06
23	120	208	49.81	591.7	1.00	-5.00	2401.6	2.450	0.22	32.3	7.5	-2.37	0.0537	0.0125	-0.0079	4.31
23	120	209	49.92	639.9	1.00	-5.00	2411.7	2.455	0.24	28.9	6.0	0.22	0.0479	0.0100	0.0007	4.78
23	120	210	49.90	815.8	1.00	-5.00	2409.4	2.454	0.31	22.8	5.4	1.07	0.0378	0.0089	0.0035	4.25
23	130	211	0.0	2083.8	1.00	-5.00				0.0	0.0	0.02				
24	110	212	0.0	2083.8	-2.00	-5.00				0.0	0.0	0.02				

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 72.59999 DEG F RHO= 1.93562 SLUG/CUFT
PV= 57.10748 PSF NU= 0.10166E-04 SQFT/SEC
WW= 62.21080 LBS/CUFT WM= 845.34570 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
24	120	213	49.83	4563.9	-2.00	-5.00	2403.2	2.451	2.04	-149.4	6.6	-20.77	-0.2487	0.0110	-0.0691	-22.70
24	120	214	49.82	4056.8	-2.00	-5.00	2402.4	2.451	1.66	-152.1	7.2	-21.11	-0.2532	0.0121	-0.0703	-21.01
24	120	215	49.79	3085.5	-2.00	-5.00	2399.3	2.449	1.26	-154.1	9.0	-21.63	-0.2569	0.0150	-0.0721	-17.16
24	120	216	49.82	2223.3	-2.00	-5.00	2402.4	2.451	0.90	-162.9	11.1	-23.49	-0.2712	0.0184	-0.0782	-14.71
24	120	217	49.93	1327.2	-2.00	-5.00	2412.5	2.456	0.53	-245.3	26.0	-10.48	-0.4067	0.0432	-0.0347	-9.42
24	120	218	49.79	5683.3	-2.00	-5.00	2399.3	2.449	2.34	-149.8	6.0	-20.95	-0.2491	0.0099	-0.0698	-25.13
24	130	219	0.0	2083.8	-2.00	-5.00				-0.4	-0.1	-0.00				

CONSTANTS: TEMP= 73.00000 DEG F RHO= 1.93550 SLUG/CUFT
PV= 57.87360 PSF NU= 0.10113E-04 SQFT/SEC
WW= 62.20654 LBS/CUFT WM= 845.30981 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
25	110	220	0.0	2084.5	0.0	10.00				-0.4	0.0	-0.00				
25	120	221	49.82	4564.5	0.0	10.00	2402.3	2.463	2.04	503.4	8.8	11.32	0.8382	0.0147	0.0377	57.06
25	120	222	49.81	3085.4	0.0	10.00	2400.8	2.462	1.26	512.2	8.6	12.63	0.8534	0.0143	0.0421	59.51
25	120	223	49.79	2906.2	0.0	10.00	2399.2	2.462	1.19	517.0	8.4	12.90	0.8620	0.0140	0.0430	61.42
25	120	224	49.82	2223.2	0.0	10.00	2401.5	2.463	0.90	518.5	8.5	13.24	0.8635	0.0149	0.0441	57.96
25	120	225	49.84	1327.1	0.0	10.00	2403.9	2.464	0.53	436.2	18.0	5.20	0.7258	0.0300	0.0173	24.22
25	120	226	49.82	845.3	0.0	10.00	2402.3	2.463	0.33	241.1	18.8	-2.10	0.4015	0.0313	-0.0070	12.82
25	120	227	49.78	591.7	0.0	10.00	2398.4	2.461	0.22	131.9	16.8	-7.02	0.2200	0.0279	-0.0234	7.83
25	120	228	49.90	3060.0	0.0	10.00	2409.3	2.467	1.25	517.6	8.5	12.95	0.8593	0.0141	0.0430	60.80
25	130	229	0.0	2084.5	0.0	10.00				0.0	0.2	0.02				
26	110	230	0.0	2084.5	1.00	10.00				0.0	0.1	0.02				
26	120	231	49.82	4564.5	1.00	10.00	2401.5	2.463	2.04	538.0	11.4	18.85	0.8961	0.0190	0.0628	47.05
26	120	232	49.88	3085.4	1.00	10.00	2407.8	2.466	1.26	539.8	11.3	20.09	0.8967	0.0187	0.0668	47.88
26	120	233	49.92	2353.3	1.00	10.00	2411.6	2.468	0.95	544.6	11.2	21.11	0.9033	0.0187	0.0701	48.43
26	120	234	49.89	2223.2	1.00	10.00	2408.5	2.466	0.90	623.3	17.3	20.18	1.0352	0.0287	0.0670	36.09
26	120	235	49.78	2604.4	1.00	10.00	2398.4	2.461	1.09	546.8	11.8	22.44	0.9119	0.0196	0.0748	46.53
26	120	236	49.76	2827.6	1.00	10.00	2396.1	2.460	1.16	547.5	11.8	22.30	0.9140	0.0197	0.0745	46.42
26	120	237	49.86	3452.2	1.00	10.00	2406.2	2.465	1.41	548.0	12.0	21.74	0.9110	0.0200	0.0723	45.61
26	130	238	0.0	2084.5	1.00	10.00				0.2	0.2	0.07				
27	110	239	0.0	2084.5	2.00	10.00				-0.2	0.1	0.07				
27	120	240	49.78	4564.5	2.00	10.00	2398.4	2.461	2.05	590.7	14.7	28.09	0.9851	0.0245	0.0937	40.24

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 73.00000 DEG F RHO= 1.93550 SLUG/CUFT
PV= 57.87360 PSF NU= 0.10113E-04 SQFT/SEC
WW= 62.20654 LBS/CUFT WM= 845.30981 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE QO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
27	120	241	49.73	4215.6	2.00	10.00	2393.0	2.459	1.74	586.9	14.8	28.38	0.9811	0.0247	0.0945	39.69
27	120	242	49.78	3085.4	2.00	10.00	2398.4	2.461	1.26	640.0	16.9	33.95	1.0674	0.0282	0.1133	37.88
27	120	243	49.77	5396.5	2.00	10.00	2396.9	2.461	2.23	581.4	14.8	27.98	0.9870	0.0246	0.0934	40.06
27	130	244	0.0	2084.5	2.00	10.00				0.4	0.1	0.07				
28	110	245	0.0	2084.5	-1.00	10.00				0.2	0.1	0.07				
28	120	246	49.79	4964.5	-1.00	10.00	2399.2	2.462	2.05	432.9	7.6	3.30	0.7218	0.0127	0.0110	56.78
28	120	247	49.84	3085.4	-1.00	10.00	2403.5	2.464	1.26	452.8	7.4	4.67	0.7535	0.0124	0.0155	60.85
28	120	248	49.86	2808.1	-1.00	10.00	2405.4	2.465	1.14	449.6	7.4	4.78	0.7477	0.0123	0.0159	60.74
28	120	249	49.87	2223.2	-1.00	10.00	2407.0	2.466	0.90	453.4	7.8	5.07	0.7534	0.0129	0.0165	58.25
28	120	250	49.84	1327.1	-1.00	10.00	2403.5	2.464	0.53	391.0	15.1	-1.06	0.6506	0.0251	-0.0035	25.87
28	120	251	49.83	845.3	-1.00	10.00	2403.1	2.464	0.33	215.7	16.1	-7.09	0.3590	0.0267	-0.0236	13.43
28	120	252	49.81	591.7	-1.00	10.00	2400.8	2.462	0.22	102.7	15.6	-11.93	0.1711	0.0260	-0.0397	6.59
28	120	253	49.83	3029.6	-1.00	10.00	2403.1	2.464	1.24	446.6	7.2	4.66	0.7433	0.0120	0.0155	61.90
28	130	254	0.0	2084.5	-1.00	10.00				0.4	0.1	0.05				
29	110	255	0.0	2075.2	-4.00	10.00				0.5	0.1	0.04				
29	120	256	49.77	4955.2	-4.00	10.00	2396.9	2.461	2.04	237.5	5.8	-19.63	0.3964	0.0096	-0.0655	41.28
29	120	257	49.80	3085.4	-4.00	10.00	2400.0	2.462	1.26	240.8	6.1	-19.18	0.4013	0.0102	-0.0639	39.51
29	120	258	49.86	2594.3	-4.00	10.00	2405.4	2.465	1.05	244.2	6.2	-19.06	0.4060	0.0104	-0.0634	39.17
29	120	259	49.87	2223.2	-4.00	10.00	2407.0	2.466	0.90	247.0	6.6	-19.04	0.4105	0.0110	-0.0633	37.37
29	120	260	49.80	1327.1	-4.00	10.00	2400.0	2.462	0.53	228.8	12.1	-22.86	0.3813	0.0202	-0.0762	18.85
29	120	261	49.77	1249.4	-4.00	10.00	2396.9	2.461	0.50	207.8	12.7	-23.44	0.3467	0.0212	-0.0782	16.36
29	120	262	49.70	2881.7	-4.00	10.00	2390.7	2.457	1.18	243.5	6.0	-19.04	0.4073	0.0100	-0.0637	40.61
29	120	263	49.73	3716.8	-4.00	10.00	2393.8	2.459	1.53	240.4	5.8	-19.36	0.4017	0.0097	-0.0647	41.41
29	130	264	0.0	2075.2	-4.00	10.00				0.2	0.0	-0.04				

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 73.59999 DEG F RHO= 1.93532 SLUG/CUFT
PV= 59.05725 PSF NU= 0.10035E-04 SQFT/SEC
WW= 62.20114 LBS/CUFT WP= 845.26172 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QC PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
30	110	265	0.0	2072.6	-5.00	10.00				0.0	0.0	-0.00				
30	120	266	49.78	4951.5	-5.00	10.00	2358.3	2.480	2.04	171.9	5.8	-27.09	0.2867	0.0096	-0.0904	29.88
30	120	267	49.80	3085.2	-5.00	10.00	2399.9	2.481	1.26	176.4	6.3	-26.68	0.2940	0.0105	-0.0885	27.88
30	120	268	49.84	2549.3	-5.00	10.00	2403.7	2.483	1.04	179.1	6.4	-26.54	0.2980	0.0106	-0.0883	28.10
30	120	269	49.91	2458.9	-5.00	10.00	2410.7	2.487	1.00	181.6	6.6	-26.83	0.3013	0.0109	-0.0890	27.71
30	120	270	49.86	2223.0	-5.00	10.00	2406.1	2.484	0.90	182.5	6.7	-26.67	0.3034	0.0111	-0.0887	27.25
30	120	271	49.88	1327.1	-5.00	10.00	2407.6	2.485	0.53	168.9	13.7	-31.78	0.2806	0.0228	-0.1056	12.33
30	120	272	49.86	3004.1	-5.00	10.00	2405.3	2.484	1.22	176.2	6.3	-26.93	0.2931	0.0104	-0.0896	28.09
30	120	273	49.88	4551.5	-5.00	10.00	2407.6	2.485	2.03	169.9	5.7	-27.18	0.2824	0.0094	-0.0903	30.03
30	130	274	0.0	2071.7	-5.00	10.00				0.0	0.0	-0.05				

CONSTANTS: TEMP= 72.20000 DEG F RHO= 1.93574 SLUG/CUFT
PV= 56.34142 PSF NU= 0.10219E-04 SQFT/SEC
WW= 62.21466 LBS/CUFT WP= 845.38184 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QC PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
31	110	275	0.0	2056.8	0.0	2.50				-0.2	-0.0	-0.02				
31	120	276	49.78	4936.2	0.0	2.50	2398.6	2.436	2.03	221.8	4.2	0.86	0.3698	0.0069	0.0029	53.26
31	120	277	49.81	3085.6	0.0	2.50	2401.7	2.437	1.26	225.7	4.7	1.58	0.3759	0.0077	0.0053	48.53
31	120	278	49.80	2223.4	0.0	2.50	2400.2	2.437	0.90	229.1	4.8	2.01	0.3818	0.0081	0.0067	47.27
31	120	279	49.80	1327.2	0.0	2.50	2400.2	2.437	0.53	230.5	5.0	2.46	0.3842	0.0084	0.0082	45.69
31	120	280	49.77	1121.8	0.0	2.50	2397.9	2.435	0.44	234.3	5.3	2.46	0.3909	0.0088	0.0082	44.39
31	120	281	49.81	845.4	0.0	2.50	2401.0	2.437	0.33	196.5	10.7	-4.19	0.3273	0.0178	-0.0140	18.35
31	120	282	49.83	591.8	0.0	2.50	2403.3	2.439	0.22	70.5	12.0	-8.51	0.1173	0.0199	-0.0283	5.89
31	120	283	49.93	1246.1	0.0	2.50	2412.6	2.443	0.49	233.6	5.0	2.57	0.3873	0.0094	0.0085	46.30
31	130	284	0.0	2056.8	0.0	2.50				0.2	0.0	-0.04				
32	110	285	0.0	2055.1	1.00	2.50				-0.4	-0.0	-0.05				
32	120	286	49.79	4934.5	1.00	2.50	2399.4	2.436	2.03	290.8	4.9	9.01	0.4847	0.0082	0.0300	58.86
32	120	287	49.81	3085.6	1.00	2.50	2401.7	2.437	1.26	294.0	5.4	9.84	0.4897	0.0090	0.0328	54.61
32	120	288	49.84	2223.4	1.00	2.50	2404.1	2.439	0.90	298.8	5.5	10.48	0.4972	0.0092	0.0349	53.99
32	120	289	49.87	1327.2	1.00	2.50	2407.2	2.440	0.53	303.5	5.5	11.20	0.5043	0.0092	0.0372	54.71
32	120	290	49.85	845.4	1.00	2.50	2405.6	2.439	0.33	211.0	13.8	0.61	0.3508	0.0229	0.0020	15.29
32	120	291	49.83	591.8	1.00	2.50	2403.3	2.438	0.22	75.1	13.2	-4.10	0.1250	0.0219	-0.0136	5.71

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 72.20000 DEG F RHO= 1.93574 SLUG/CUFT
PV= 56.34142 PSF NU= 0.10219E-04 SQFT/SEC
WW= 62.21466 LBS/CUFT WM= 845.38184 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
32	120	292	49.89	1471.0	1.00	2.50	2409.5	2.441	0.59	313.0	5.7	12.35	0.5196	0.0095	0.0410	54.85
32	130	293	0.0	2055.1	1.00	2.50				-0.2	0.0	-0.02				
33	110	294	0.0	2055.1	2.00	2.50				-0.4	-0.0	-0.05				
33	120	295	49.81	4934.5	2.00	2.50	2401.0	2.437	2.03	367.7	6.3	19.94	0.6126	0.0105	0.0331	58.62
33	120	296	49.83	3085.6	2.00	2.50	2403.3	2.438	1.26	378.3	6.6	20.28	0.6296	0.0110	0.0675	57.10
33	120	297	49.83	2223.4	2.00	2.50	2403.3	2.438	0.90	378.1	6.8	20.75	0.6293	0.0114	0.0691	55.39
33	120	298	49.80	1327.2	2.00	2.50	2400.2	2.437	0.53	370.6	16.5	11.82	0.6175	0.0275	0.0394	22.44
33	120	299	49.88	2497.3	2.00	2.50	2408.0	2.441	1.01	380.6	6.9	20.82	0.6322	0.0115	0.0692	55.00
33	130	300	0.0	2055.1	2.00	2.50				-0.2	-0.0	-0.02				
34	110	301	0.0	2055.1	4.00	2.50				-0.2	-0.0	0.02				
34	120	302	49.79	5654.8	4.00	2.50	2399.4	2.436	2.33	482.1	10.8	34.12	0.8036	0.0180	0.1138	44.76
34	120	303	49.81	4532.1	4.00	2.50	2401.7	2.437	1.86	480.8	11.1	34.57	0.8008	0.0185	0.1152	43.26
34	120	304	49.86	3085.6	4.00	2.50	2406.4	2.440	1.26	498.6	13.8	38.18	0.8287	0.0230	0.1269	36.03
34	120	305	49.86	5654.8	4.00	2.50	2406.4	2.440	2.33	480.8	10.9	34.39	0.7992	0.0181	0.1143	44.22
34	130	306	0.0	2055.1	4.00	2.50				0.0	0.0	0.27				
35	110	307	0.0	2053.4	-2.00	2.50				0.0	-0.1	0.05				
35	120	308	49.88	4932.8	-2.00	2.50	2408.0	2.441	2.03	96.1	4.4	-13.69	0.1596	0.0074	-0.0455	21.61
35	120	309	49.90	3085.6	-2.00	2.50	2410.3	2.442	1.26	98.2	5.3	-13.56	0.1630	0.0087	-0.0450	18.70
35	120	310	49.89	2223.4	-2.00	2.50	2408.7	2.441	0.90	100.9	5.4	-13.31	0.1676	0.0090	-0.0442	18.53
35	120	311	49.85	1327.2	-2.00	2.50	2405.6	2.439	0.53	103.6	5.7	-13.13	0.1723	0.0095	-0.0437	18.23
35	120	312	49.89	1257.1	-2.00	2.50	2409.5	2.441	0.50	104.5	5.8	-13.13	0.1735	0.0096	-0.0436	18.09
35	120	313	49.88	855.5	-2.00	2.50	2408.0	2.441	0.33	102.7	6.5	-14.37	0.1706	0.0107	-0.0477	15.90
35	120	314	49.89	591.8	-2.00	2.50	2408.7	2.441	0.22	-4.5	16.7	-4.64	-0.0075	0.0278	-0.0154	-0.27
35	120	315	49.92	1007.7	-2.00	2.50	2411.8	2.443	0.39	99.1	6.3	-13.40	0.1644	0.0104	-0.0445	15.86
35	120	316	49.86	4025.7	-2.00	2.50	2406.4	2.440	1.65	91.4	4.7	-13.65	0.1520	0.0079	-0.0454	19.29
35	130	317	0.0	2053.4	-2.00	2.50				-0.2	-0.0	-0.00				

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 72.59999 DEG F RHO= 1.93562 SLUG/CUFT
PV= 57.10748 PSF NU= 0.10166E-04 SQFT/SEC
WW= 62.21080 LBS/CUFT WM= 845.34570 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
36	110	318	0.0	2066.0	-4.00	2.50				0.2	-0.0	0.05				
36	120	319	49.86	4946.1	-4.00	2.50	2406.3	2.453	2.03	-25.1	5.2	-28.13	-0.0418	0.0087	-0.0935	-4.80
36	120	320	49.89	4254.6	-4.00	2.50	2408.6	2.454	1.74	-25.9	5.6	-28.00	-0.0425	0.0093	-0.0930	-4.64
36	120	321	49.91	3085.5	-4.00	2.50	2411.0	2.455	1.26	-25.5	7.6	-28.77	-0.0423	0.0126	-0.0955	-3.36
36	120	322	49.89	2223.3	-4.00	2.50	2408.6	2.454	0.90	-29.3	5.7	-30.03	-0.0486	0.0162	-0.0998	-3.00
36	120	323	49.87	4801.6	-4.00	2.50	2407.1	2.453	1.97	-27.7	5.2	-28.61	-0.0460	0.0087	-0.0951	-5.29
36	130	324	0.0	2066.0	-4.00	2.50				0.2	-0.1	-0.04				
37	110	325	0.0	2069.4	-5.00	2.50				0.2	-0.1	0.00				
37	120	326	49.26	5668.9	-5.00	2.50	2348.1	2.423	2.39	-83.1	5.8	-34.18	-0.1416	0.0098	-0.1164	-14.45
37	120	327	49.25	4949.5	-5.00	2.50	2347.3	2.422	2.08	-84.2	7.4	-34.65	-0.1435	0.0126	-0.1181	-11.38
37	120	328	49.20	3085.5	-5.00	2.50	2342.6	2.420	1.29	-89.1	12.6	-36.15	-0.1521	0.0215	-0.1235	-7.08
37	120	329	49.17	2223.3	-5.00	2.50	2340.3	2.419	0.93	-104.2	16.4	-37.90	-0.1780	0.0281	-0.1296	-6.34
37	130	330	0.0	2069.4	-5.00	2.50				0.0	-0.1	-0.04				

CONSTANTS: TEMP= 73.00000 DEG F RHO= 1.93550 SLUG/CUFT
PV= 57.87360 PSF NU= 0.10113E-04 SQFT/SEC
WW= 62.20694 LBS/CUFT WM= 845.30981 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
38	110	333	0.0	2069.3	0.0	7.50				-0.4	0.0	-0.05				
38	120	334	49.82	4972.1	0.0	7.50	2402.3	2.463	2.05	410.7	6.8	7.78	0.6839	0.0113	0.0259	60.61
38	120	335	49.81	3085.4	0.0	7.50	2400.8	2.462	1.26	415.6	6.8	8.84	0.6924	0.0114	0.0295	60.71
38	120	336	49.81	2223.2	0.0	7.50	2400.8	2.462	0.90	423.6	6.8	9.66	0.7058	0.0113	0.0322	62.67
38	120	337	49.84	1965.3	0.0	7.50	2403.9	2.464	0.79	423.3	6.7	9.81	0.7043	0.0111	0.0327	63.47
38	120	338	49.86	1327.1	0.0	7.50	2405.4	2.465	0.53	410.4	12.6	5.14	0.6824	0.0210	0.0171	32.48
38	120	339	49.88	845.3	0.0	7.50	2407.8	2.466	0.33	215.1	16.0	-3.13	0.3574	0.0265	-0.0104	13.47
38	120	340	49.90	591.7	0.0	7.50	2409.3	2.467	0.22	110.4	15.2	-7.49	0.1833	0.0252	-0.0245	7.26
38	120	341	49.75	2171.6	0.0	7.50	2395.3	2.460	0.88	422.5	6.7	9.70	0.7062	0.0111	0.0324	63.44
38	130	342	0.0	2092.1	0.0	7.50				-0.2	0.1	-0.05				
39	110	343	0.0	2092.1	1.00	7.50				-0.4	0.1	-0.07				
39	120	344	49.75	4972.1	1.00	7.50	2395.3	2.460	2.05	460.2	8.7	15.71	0.7685	0.0145	0.0525	53.11
39	120	345	49.88	3085.4	1.00	7.50	2407.8	2.466	1.26	488.9	9.0	19.22	0.8122	0.0149	0.0639	54.61
39	120	346	49.86	2223.2	1.00	7.50	2406.2	2.465	0.90	483.1	8.9	19.67	0.8032	0.0148	0.0654	54.42

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 73.CCCCC DEG F RHC= 1.93550 SLUG/CUFT
PV= 57.87360 PSF NU= 0.10113E-04 SQFT/SEC
WW= 62.20694 LBS/CUFT WP= 845.30981 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
39	120	347	49.83	1866.4	1.00	7.50	2403.1	2.464	0.75	491.4	9.0	20.55	0.8179	0.0150	0.0684	54.41
39	120	348	49.77	1327.1	1.00	7.50	2396.9	2.461	0.53	432.8	17.5	10.08	0.7222	0.0292	0.0336	24.77
39	120	349	49.78	845.3	1.00	7.50	2397.7	2.461	0.33	225.7	18.7	1.40	0.3765	0.0312	0.0047	12.05
39	120	350	49.81	591.7	1.00	7.50	2400.8	2.462	0.22	129.8	16.5	-3.02	0.2163	0.0275	-0.0101	7.88
39	120	351	49.90	2748.9	1.00	7.50	2405.3	2.467	1.12	483.0	8.6	18.38	0.8018	0.0143	0.0610	56.11
39	130	352	0.0	2092.1	1.00	7.50				-0.2	0.1	-0.07				

CONSTANTS: TEMP= 73.20000 DEG F RHC= 1.93544 SLUG/CUFT
PV= 58.26814 PSF NU= 0.10087E-04 SQFT/SEC
WW= 62.20500 LBS/CUFT WP= 845.25370 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
40	110	353	0.0	2082.8	2.00	7.50				-0.4	0.1	-0.00				
40	120	354	49.80	4962.7	2.00	7.50	2400.0	2.468	2.04	522.4	7.1	24.99	0.8707	0.0118	0.0833	73.48
40	120	355	49.85	3273.8	2.00	7.50	2404.6	2.471	1.34	526.0	9.7	26.36	0.8750	0.0161	0.0877	54.22
40	120	356	49.79	3085.3	2.00	7.50	2399.2	2.468	1.26	529.9	10.3	26.88	0.8835	0.0171	0.0896	51.56
40	120	357	49.78	2223.1	2.00	7.50	2397.6	2.467	0.90	581.7	23.3	22.56	0.9705	0.0389	0.0753	24.94
40	120	358	49.84	5682.9	2.00	7.50	2403.8	2.470	2.34	520.2	5.8	24.54	0.8657	0.0096	0.0817	90.11
40	130	359	0.0	2082.8	2.00	7.50				0.2	0.1	0.02				
41	110	360	0.0	2082.8	-2.00	7.50				0.2	0.1	0.02				
41	120	361	49.79	4962.7	-2.00	7.50	2399.2	2.468	2.04	279.8	0.4	-8.04	0.4666	0.0007	-0.0268	634.55
41	120	362	49.86	3085.3	-2.00	7.50	2405.4	2.471	1.26	283.8	3.9	-7.30	0.4719	0.0064	-0.0243	73.37
41	120	363	49.92	2223.1	-2.00	7.50	2411.6	2.474	0.90	284.5	5.6	-6.88	0.4719	0.0093	-0.0228	50.51
41	120	364	49.85	1906.1	-2.00	7.50	2404.6	2.471	0.77	284.5	6.2	-6.70	0.4733	0.0102	-0.0223	46.20
41	120	365	49.79	1327.1	-2.00	7.50	2399.2	2.468	0.53	285.5	8.8	-7.38	0.4767	0.0147	-0.0246	32.51
41	120	366	49.86	845.3	-2.00	7.50	2405.4	2.471	0.33	170.8	14.3	-13.62	0.2841	0.0237	-0.0453	11.99
41	120	367	49.94	766.7	-2.00	7.50	2413.2	2.475	0.29	139.1	14.8	-14.60	0.2306	0.0246	-0.0484	9.37
41	120	368	49.93	591.7	-2.00	7.50	2412.4	2.475	0.22	-4.7	19.4	-4.26	-0.0077	0.0321	-0.0141	-0.24
41	120	369	49.83	952.6	-2.00	7.50	2403.1	2.470	0.37	201.7	14.0	-12.94	0.3357	0.0233	-0.0431	14.42
41	120	370	49.90	2053.2	-2.00	7.50	2409.3	2.473	0.83	284.0	5.6	-6.79	0.4715	0.0094	-0.0225	50.39
41	130	371	0.0	2082.8	-2.00	7.50				0.0	0.2	-0.02				
42	110	372	0.0	2076.9	-4.00	7.50				0.2	-0.1	-0.02				
42	120	373	49.78	4956.8	-4.00	7.50	2397.6	2.467	2.04	149.3	0.8	-22.51	0.2491	0.0014	-0.0751	180.20
42	120	374	49.86	3085.3	-4.00	7.50	2406.2	2.472	1.26	149.9	4.4	-22.33	0.2491	0.0073	-0.0743	34.15

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 73.20000 DEG F RHO= 1.93544 SLUG/CUFT
PV= 58.26814 PSF NU= 0.10087E-04 SQFT/SEC
WW= 62.20500 LBS/CUFT WM= 845.29370 LBS/CLFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
42	120	375	49.87	2223.1	-4.00	7.50	2406.9	2.472	0.90	152.4	6.2	-22.42	0.2532	0.0103	-0.0745	24.64
42	120	376	49.84	1878.2	-4.00	7.50	2403.9	2.470	0.76	152.6	6.8	-22.29	0.2539	0.0113	-0.0742	22.42
42	120	377	49.81	1327.1	-4.00	7.50	2400.7	2.469	0.53	152.5	8.9	-22.63	0.2548	0.0149	-0.0756	17.13
42	120	378	49.87	1951.8	-4.00	7.50	2406.9	2.472	0.79	148.8	6.5	-22.47	0.2473	0.0108	-0.0747	22.82
42	120	379	49.84	4770.0	-4.00	7.50	2403.8	2.470	1.96	147.4	1.1	-22.78	0.2452	0.0018	-0.0758	138.80
42	130	380	0.0	2076.9	-4.00	7.50				0.2	0.0	-0.09				
43	110	381	0.0	2076.9	-5.00	7.50				0.2	0.0	-0.09				
43	120	382	49.78	4956.8	-5.00	7.50	2397.6	2.467	2.04	88.6	0.6	-29.33	0.1477	0.0010	-0.0975	147.65
43	120	383	49.80	3085.3	-5.00	7.50	2400.0	2.468	1.26	87.5	4.9	-29.50	0.1458	0.0081	-0.0983	17.98
43	120	384	49.81	3323.7	-5.00	7.50	2400.7	2.469	1.36	88.2	4.3	-29.65	0.1470	0.0071	-0.0988	20.56
43	120	385	49.82	3085.3	-5.00	7.50	2402.3	2.470	1.26	88.0	5.0	-29.68	0.1466	0.0083	-0.0988	17.60
43	120	386	49.86	2223.1	-5.00	7.50	2406.2	2.472	0.90	87.8	8.3	-30.49	0.1460	0.0138	-0.1014	10.58
43	120	387	49.90	1807.2	-5.00	7.50	2409.3	2.473	0.73	85.3	9.9	-31.06	0.1417	0.0164	-0.1031	8.62
43	120	388	49.94	1327.1	-5.00	7.50	2413.2	2.475	0.53	72.8	14.1	-32.40	0.1206	0.0234	-0.1074	5.16
43	120	389	49.93	1897.7	-5.00	7.50	2412.4	2.475	0.76	86.3	9.2	-30.72	0.1397	0.0152	-0.1015	9.21
43	120	390	49.81	5677.0	-5.00	7.50	2400.7	2.469	2.34	87.1	-0.7	-29.78	0.1452	-0.0011	-0.0992	******
43	130	391	0.0	2076.9	-5.00	7.50				0.0	0.1	-0.09				

CONSTANTS: TEMP= 71.79990 DEG F RHO= 1.93584 SLUG/CUFT
PV= 55.58395 PSF NU= 0.10272E-04 SQFT/SEC
WW= 62.21788 LBS/CUFT WM= 845.41772 LBS/CLFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
44	210	392	0.0	2059.4	0.0	7.50				-0.2	0.0	0.02				
44	220	393	49.81	4938.9	0.0	7.50	2401.8	2.425	2.03	-3.7	0.4	-0.03	-0.0054	0.0007	-0.0001	-7.53
44	220	394	49.77	3085.8	0.0	7.50	2398.0	2.423	1.26	-4.0	1.4	0.02	-0.0066	0.0023	0.0001	-2.86
44	220	395	49.86	2223.4	0.0	7.50	2406.5	2.427	0.90	-4.5	1.8	0.02	-0.0075	0.0029	0.0001	-2.55
44	220	396	49.82	1965.6	0.0	7.50	2402.6	2.425	0.79	-4.5	1.9	0.04	-0.0075	0.0032	0.0001	-2.36
44	220	397	49.77	1327.3	0.0	7.50	2397.2	2.422	0.53	-4.7	2.1	0.04	-0.0078	0.0035	0.0001	-2.23
44	220	398	49.76	845.4	0.0	7.50	2396.4	2.422	0.33	-2.7	1.9	-0.01	-0.0045	0.0032	-0.0000	-1.42
44	220	399	49.77	591.8	0.0	7.50	2398.0	2.423	0.22	-2.0	2.5	-0.01	-0.0033	0.0041	-0.0000	-0.80
44	220	400	49.81	2171.9	0.0	7.50	2401.1	2.424	0.88	-4.5	1.7	0.02	-0.0075	0.0029	0.0001	-2.62
44	230	401	0.0	2059.4	0.0	7.50				-0.2	0.1	0.02				
44	210	402	0.0	2058.6	1.00	7.50				-0.2	0.0	-0.00				

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 71.79999 DEG F RHO= 1.93584 SLUG/CUFT
PV= 55.58395 PSF NU= 0.10272E-04 SQFT/SEC
WW= 62.21788 LBS/CUFT WM= 845.41772 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
45	220	403	49.83	4938.1	1.00	7.50	2403.4	2.426	2.03	-4.1	0.2	-0.00	-0.0065	C.0003	-0.0000	-21.36
45	220	404	49.86	3085.8	1.00	7.50	2406.5	2.427	1.26	-4.8	1.3	0.02	-0.0081	0.0021	0.0001	-3.77
45	220	405	49.88	2223.4	1.00	7.50	2408.1	2.428	0.90	-5.2	1.7	0.01	-0.0087	0.0028	0.0000	-3.02
45	220	406	49.86	2223.4	1.00	7.50	2406.5	2.427	0.90	-5.4	1.8	0.04	-0.0090	0.0030	0.0001	-2.98
45	220	407	49.89	1327.3	1.00	7.50	2408.8	2.428	0.53	-5.0	2.1	0.04	-0.0083	0.0035	0.0001	-2.40
45	220	408	49.89	845.4	1.00	7.50	2409.6	2.429	0.33	-2.7	1.9	0.02	-0.0045	C.0032	0.0001	-1.38
45	220	409	49.81	591.8	1.00	7.50	2401.8	2.425	0.22	-2.2	2.6	0.02	-0.0036	0.0043	0.0001	-0.84
45	220	410	49.80	2749.3	1.00	7.50	2400.3	2.424	1.12	-4.8	1.4	0.02	-0.0081	0.0024	0.0001	-3.40
45	230	411	0.0	2058.6	1.00	7.50				-0.2	0.0	-0.00				
46	210	412	0.0	2058.6	2.00	7.50				-0.4	0.0	0.02				
46	220	413	49.81	4963.4	2.00	7.50	2401.8	2.425	2.04	-4.3	0.0	-0.03	-0.0072	C.0000	-0.0001	******
46	220	414	49.79	3274.3	2.00	7.50	2399.5	2.424	1.34	-5.0	1.0	-0.01	-0.0084	0.0017	-0.0000	-4.80
46	220	415	49.77	3085.8	2.00	7.50	2398.0	2.423	1.26	-5.0	1.1	-0.01	-0.0084	0.0018	-0.0000	-4.59
46	220	416	49.80	2223.4	2.00	7.50	2400.3	2.424	0.90	-5.4	1.5	-0.01	-0.0090	C.0025	-0.0000	-3.65
46	220	417	49.81	5683.7	2.00	7.50	2401.8	2.425	2.34	-4.1	-0.5	-0.05	-0.0069	-0.0009	-0.0002	7.99
46	230	418	0.0	2058.6	2.00	7.50				-0.2	0.0	-0.00				
47	210	419	0.0	2058.6	-2.00	7.50				-0.2	0.0	-0.00				
47	220	420	49.83	4963.4	-2.00	7.50	2403.4	2.426	2.04	-1.8	0.9	-0.03	-0.0030	0.0016	-0.0001	-1.89
47	220	421	49.85	3085.8	-2.00	7.50	2405.7	2.427	1.26	-2.5	1.5	-0.00	-0.0042	C.0025	-0.0000	-1.65
47	220	422	49.82	2223.4	-2.00	7.50	2402.6	2.425	0.90	-2.9	1.8	0.02	-0.0048	0.0030	0.0001	-1.59
47	220	423	49.85	1906.4	-2.00	7.50	2405.0	2.426	0.77	-3.1	1.9	0.02	-0.0051	0.0032	0.0001	-1.57
47	220	424	49.88	1327.3	-2.00	7.50	2408.1	2.428	0.53	-3.4	2.2	0.02	-0.0057	C.0036	0.0001	-1.56
47	220	425	49.87	845.4	-2.00	7.50	2407.3	2.427	0.33	-2.3	2.3	0.02	-0.0039	0.0038	0.0001	-1.02
47	220	426	49.85	766.8	-2.00	7.50	2405.7	2.427	0.30	-1.8	2.0	-0.00	-0.0030	0.0034	-0.0000	-0.88
47	220	427	49.80	591.8	-2.00	7.50	2400.3	2.424	0.22	-0.9	2.7	-0.00	-0.0015	C.0044	-0.0000	-0.34
47	220	428	49.81	952.8	-2.00	7.50	2401.1	2.424	0.37	-2.7	2.3	0.02	-0.0045	0.0039	0.0001	-1.16
47	230	429	C.0	2058.6	-2.00	7.50				-0.4	C.1	-0.00				

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 71.70000 DEG F RHO= 1.93586 SLUG/CUFT
PV= 55.35677 PSF NU= 0.10285E-04 SQFT/SEC
WW= 62.21852 LBS/CUFT WM= 845.42676 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QC PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
48	210	430	0.0	2087.4	-4.00	7.50				-0.2	0.0	-0.00				
48	220	431	49.85	4966.9	-4.00	7.50	2405.0	2.423	2.04	0.0	0.4	-0.07	0.0	0.0007	-0.0002	0.0
48	220	432	49.81	3085.8	-4.00	7.50	2401.9	2.422	1.26	-0.5	1.5	-0.03	-0.0009	0.0025	-0.0001	-0.36
48	220	433	49.87	2223.5	-4.00	7.50	2407.3	2.424	0.90	-1.1	1.9	-0.03	-0.0018	0.0032	-0.0001	-0.55
48	220	434	49.88	1878.5	-4.00	7.50	2408.1	2.425	0.76	-1.3	2.1	-0.03	-0.0021	0.0035	-0.0001	-0.60
48	220	435	49.85	1327.3	-4.00	7.50	2405.0	2.423	0.53	-1.6	2.2	-0.00	-0.0027	0.0037	-0.0000	-0.72
48	220	436	49.85	972.2	-4.00	7.50	2405.8	2.424	0.38	-0.7	1.9	-0.00	-0.0012	0.0032	-0.0000	-0.37
48	220	437	49.84	1952.1	-4.00	7.50	2404.2	2.423	0.79	-1.3	2.0	-0.03	-0.0021	0.0033	-0.0001	-0.63
48	220	438	49.82	4770.7	-4.00	7.50	2402.6	2.422	1.96	0.0	0.5	-0.07	0.0	0.0009	-0.0002	0.0
48	230	439	0.0	2087.4	-4.00	7.50				-0.2	-0.0	-0.00				
49	210	440	0.0	2087.4	-5.00	7.50				-0.2	-0.0	-0.00				
49	220	441	49.81	4966.9	-5.00	7.50	2401.9	2.422	2.04	0.9	0.2	-0.09	0.0015	0.0004	-0.0003	3.84
49	220	442	49.83	3324.2	-5.00	7.50	2403.4	2.422	1.36	0.2	1.2	-0.05	0.0003	0.0020	-0.0002	0.15
49	220	443	49.84	3085.8	-5.00	7.50	2404.2	2.423	1.26	0.0	1.4	-0.05	0.0	0.0023	-0.0002	0.0
49	220	444	49.86	2223.5	-5.00	7.50	2406.5	2.424	0.90	-0.4	1.8	-0.03	-0.0006	0.0031	-0.0001	-0.19
49	220	445	49.85	1807.5	-5.00	7.50	2405.8	2.424	0.73	-0.5	1.9	-0.03	-0.0009	0.0032	-0.0001	-0.28
49	220	446	49.85	1327.3	-5.00	7.50	2405.0	2.423	0.53	-0.4	2.0	-0.03	-0.0006	0.0033	-0.0001	-0.18
49	220	447	49.87	1097.4	-5.00	7.50	2407.3	2.424	0.43	0.5	1.8	-0.00	0.0009	0.0030	-0.0000	0.30
49	220	448	49.85	1898.0	-5.00	7.50	2405.0	2.423	0.77	-0.5	1.9	-0.05	-0.0009	0.0032	-0.0002	-0.28
49	220	449	49.86	5677.9	-5.00	7.50	2406.5	2.424	2.34	1.3	-0.2	-0.09	0.0021	-0.0004	-0.0003	-5.20
49	230	450	0.0	2087.4	-5.00	7.50				-0.2	-0.1	-0.00				

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 71.20000 DEG F RHO= 1.93596 SLUG/CUFT
PV= 54.46078 PSF NU= 0.10353E-04 SQFT/SEC
WW= 62.22174 LBS/CUFT WM= 845.47192 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
50	210	451	0.0	2078.2	0.0	10.00				0.0	0.0	0.02				
50	220	452	49.77	4957.8	0.0	10.00	2397.3	2.403	2.05	-4.7	0.2	-0.01	-0.0078	0.0004	-0.0000	-19.35
50	220	453	49.81	3086.0	0.0	10.00	2401.2	2.405	1.26	-5.4	1.4	0.02	-0.0090	0.0023	0.0001	-3.90
50	220	454	49.81	2606.7	0.0	10.00	2401.2	2.405	1.19	-5.6	1.4	0.01	-0.0093	0.0023	0.0000	-4.03
50	220	455	49.84	2223.6	0.0	10.00	2404.3	2.407	0.90	-5.7	1.8	0.01	-0.0096	0.0029	0.0000	-3.26
50	220	456	49.86	1327.4	0.0	10.00	2406.7	2.408	0.53	-5.0	2.1	0.04	-0.0084	0.0036	0.0001	-2.35
50	220	457	49.84	845.5	0.0	10.00	2404.3	2.407	0.33	-2.9	2.1	-0.01	-0.0048	0.0035	-0.0000	-1.38
50	220	458	49.80	591.8	0.0	10.00	2400.4	2.405	0.22	-2.2	2.6	-0.01	-0.0036	0.0043	-0.0000	-0.84
50	220	459	49.81	2623.5	0.0	10.00	2402.0	2.406	1.07	-5.6	1.6	-0.01	-0.0093	0.0027	-0.0000	-3.44
50	230	460	0.0	2078.2	0.0	10.00				0.2	-0.0	0.00				
51	210	461	0.0	2078.2	1.00	10.00				0.0	-0.0	0.00				
51	220	462	49.85	4957.8	1.00	10.00	2405.1	2.407	2.04	-5.0	0.1	-0.01	-0.0084	0.0002	-0.0000	-34.27
51	220	463	49.83	3086.0	1.00	10.00	2403.6	2.406	1.26	-5.7	1.2	0.01	-0.0096	0.0021	0.0000	-4.64
51	220	464	49.85	2353.8	1.00	10.00	2405.5	2.408	0.98	-6.1	1.7	0.04	-0.0102	0.0028	0.0001	-3.56
51	220	465	49.85	2223.6	1.00	10.00	2405.5	2.408	0.90	-6.3	1.8	0.01	-0.0104	0.0029	0.0000	-3.57
51	220	466	49.81	1327.4	1.00	10.00	2402.0	2.406	0.53	-5.0	2.2	0.04	-0.0084	0.0036	0.0001	-2.30
51	220	467	49.79	2664.9	1.00	10.00	2399.7	2.405	1.09	-5.9	1.6	0.01	-0.0099	0.0026	0.0000	-3.77
51	220	468	49.81	2828.1	1.00	10.00	2401.2	2.405	1.16	-5.7	1.4	0.01	-0.0096	0.0024	0.0000	-4.02
51	220	469	49.83	3452.9	1.00	10.00	2403.6	2.406	1.41	-5.7	1.1	0.02	-0.0096	0.0018	0.0001	-5.24
51	230	470	0.0	2078.2	1.00	10.00				0.0	-0.0	0.00				
52	210	471	0.0	2078.2	2.00	10.00				0.0	-0.0	0.02				
52	220	472	49.80	4957.8	2.00	10.00	2400.4	2.405	2.04	-5.4	-0.0	-0.03	-0.0090	-0.0001	-0.0001	124.78
52	220	473	49.81	4216.4	2.00	10.00	2402.0	2.406	1.73	-5.7	0.4	-0.01	-0.0096	0.0007	-0.0000	-13.31
52	220	474	49.84	3086.0	2.00	10.00	2404.3	2.407	1.26	-6.1	1.1	-0.01	-0.0102	0.0019	-0.0000	-5.34
52	220	475	49.84	2555.9	2.00	10.00	2404.3	2.407	1.04	-7.7	1.6	-0.03	-0.0128	0.0026	-0.0001	-4.92
52	220	476	49.82	5397.5	2.00	10.00	2402.8	2.406	2.22	-5.2	-0.4	-0.03	-0.0087	-0.0007	-0.0001	12.32
52	230	477	0.0	2078.2	2.00	10.00				0.0	-0.0	0.02				
53	210	478	0.0	2078.2	-1.00	10.00				0.0	-0.0	0.02				
53	220	479	49.80	4957.8	-1.00	10.00	2400.4	2.405	2.04	-3.6	0.5	-0.00	-0.0060	0.0009	-0.0000	-6.84
53	220	480	49.81	3086.0	-1.00	10.00	2401.2	2.405	1.26	-4.5	1.5	0.04	-0.0075	0.0025	0.0001	-2.95
53	220	481	49.81	3086.0	-1.00	10.00	2402.0	2.406	1.26	-4.5	1.7	0.06	-0.0075	0.0028	0.0002	-2.70
53	220	482	49.84	2223.6	-1.00	10.00	2404.3	2.407	0.90	-4.8	1.9	0.04	-0.0081	0.0032	0.0001	-2.49
53	220	483	49.81	1327.4	-1.00	10.00	2401.2	2.405	0.53	-4.5	2.2	0.04	-0.0075	0.0037	0.0001	-2.01
53	220	484	49.83	845.5	-1.00	10.00	2403.6	2.406	0.33	-2.7	2.0	0.02	-0.0045	0.0033	0.0001	-1.35
53	220	485	49.80	591.8	-1.00	10.00	2400.4	2.405	0.22	-2.0	2.6	0.02	-0.0033	0.0043	0.0001	-0.77
53	220	486	49.79	3030.2	-1.00	10.00	2399.7	2.405	1.24	-4.5	1.6	0.02	-0.0075	0.0027	0.0001	-2.78
53	230	487	0.0	2078.2	-1.00	10.00				0.0	0.0	0.02				
54	210	488	0.0	2078.2	-4.00	10.00				0.2	0.0	0.05				

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 71.20000 DEG F RHO= 1.93596 SLUG/CUFT
PV= 54.46078 PSF NU= 0.10353E-04 SQFT/SEC
WW= 62.22174 LBS/CUFT WM= 845.47192 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
54	220	489	49.85	4557.8	-4.00	10.00	2405.1	2.407	2.04	-1.6	0.9	-0.07	-0.0027	0.0015	-0.0002	-1.79
54	220	490	49.81	3086.0	-4.00	10.00	2401.2	2.405	1.26	-2.3	1.7	-0.05	-0.0039	0.0028	-0.0002	-1.37
54	220	491	49.83	2594.8	-4.00	10.00	2403.6	2.406	1.06	-2.3	1.9	0.02	-0.0039	0.0032	0.0001	-1.20
54	220	492	49.78	2240.5	-4.00	10.00	2398.9	2.404	0.91	-2.7	1.9	-0.03	-0.0045	0.0032	-0.0001	-1.38
54	220	493	49.85	1327.4	-4.00	10.00	2405.1	2.407	0.53	-2.7	2.4	-0.01	-0.0045	0.0040	-0.0000	-1.11
54	220	494	49.85	1249.6	-4.00	10.00	2405.9	2.408	0.50	-2.5	2.4	-0.03	-0.0042	0.0040	-0.0001	-1.04
54	220	495	49.82	872.5	-4.00	10.00	2402.8	2.406	0.34	-0.9	1.9	-0.03	-0.0015	0.0032	-0.0001	-0.47
54	220	496	49.81	2882.2	-4.00	10.00	2401.2	2.405	1.18	-2.3	1.8	-0.05	-0.0039	0.0029	-0.0002	-1.33
54	220	497	49.81	3717.5	-4.00	10.00	2402.0	2.406	1.53	-1.8	1.6	-0.05	-0.0030	0.0026	-0.0002	-1.15
54	230	498	0.0	2078.2	-4.00	10.00				0.0	0.0	0.02				
55	210	499	0.0	2072.3	0.0	0.0				0.0	0.0	0.04				
55	220	500	49.80	5672.3	0.0	0.0	2400.4	2.405	2.34	1.6	-0.6	-0.09	0.0027	-0.0010	-0.0003	-2.81
55	220	501	49.80	5312.1	0.0	0.0	2400.4	2.405	2.19	1.6	-0.4	-0.09	0.0027	-0.0006	-0.0003	-4.20
55	220	502	49.80	4951.9	0.0	0.0	2400.4	2.405	2.04	1.6	-0.1	-0.09	0.0027	-0.0002	-0.0003	-10.99
55	220	503	49.79	4591.8	0.0	0.0	2399.7	2.405	1.89	1.3	0.1	-0.09	0.0021	0.0002	-0.0003	9.08
55	220	504	49.79	4232.4	0.0	0.0	2399.7	2.405	1.74	1.3	0.4	-0.07	0.0021	0.0007	-0.0002	2.96
55	220	505	49.79	3872.3	0.0	0.0	2399.7	2.405	1.59	1.1	0.7	-0.07	0.0018	0.0011	-0.0002	1.63
55	220	506	49.79	3512.1	0.0	0.0	2399.7	2.405	1.44	0.9	0.9	-0.07	0.0015	0.0015	-0.0002	1.00
55	220	507	49.81	3086.0	0.0	0.0	2401.2	2.405	1.26	0.7	1.2	-0.05	0.0012	0.0020	-0.0002	0.58
55	220	508	49.81	2223.6	0.0	0.0	2401.2	2.405	0.90	0.2	1.7	-0.05	0.0003	0.0028	-0.0002	0.11
55	220	509	49.81	1327.4	0.0	0.0	2401.2	2.405	0.53	0.0	1.9	-0.05	0.0	0.0032	-0.0002	0.0
55	220	510	49.81	845.5	0.0	0.0	2401.2	2.405	0.33	-0.4	1.8	-0.03	-0.0006	0.0031	-0.0001	-0.19
55	220	511	49.81	591.8	0.0	0.0	2401.2	2.405	0.22	-0.4	1.7	-0.00	-0.0006	0.0028	-0.0000	-0.22
55	230	512	0.0	2072.3	0.0	0.0				-0.2	0.0	-0.00				
56	210	513	0.0	2079.0	0.0	5.00				0.0	-0.0	0.02				
56	220	514	49.82	4558.7	0.0	5.00	2402.8	2.406	2.04	-2.2	0.5	-0.00	-0.0036	0.0009	-0.0000	-4.12
56	220	515	49.81	3086.0	0.0	5.00	2401.2	2.405	1.26	-2.9	1.4	0.04	-0.0048	0.0023	0.0001	-2.08
56	220	516	49.78	2223.6	0.0	5.00	2398.5	2.404	0.90	-3.2	1.7	0.04	-0.0054	0.0029	0.0001	-1.89
56	220	517	49.80	1327.4	0.0	5.00	2400.4	2.405	0.53	-3.6	1.9	0.04	-0.0060	0.0032	0.0001	-1.84
56	220	518	49.82	845.5	0.0	5.00	2402.8	2.406	0.33	-2.3	1.9	0.04	-0.0039	0.0032	0.0001	-1.20
56	220	519	49.80	591.8	0.0	5.00	2400.4	2.405	0.22	-1.4	1.9	0.02	-0.0024	0.0031	0.0001	-0.78
56	220	520	49.81	1664.7	0.0	5.00	2402.0	2.406	0.67	-3.4	1.5	0.04	-0.0057	0.0031	0.0001	-1.84
56	230	521	0.0	2079.0	0.0	5.00				0.2	-0.0	0.02				
57	210	522	0.0	2079.0	2.00	5.00				0.0	-0.0	0.02				
57	220	523	49.83	4558.7	2.00	5.00	2403.6	2.406	2.04	-3.8	0.1	0.02	-0.0063	0.0002	0.0001	-38.18
57	220	524	49.81	3086.0	2.00	5.00	2401.2	2.405	1.26	-4.3	1.1	0.04	-0.0072	0.0018	0.0001	-3.93
57	220	525	49.84	2223.6	2.00	5.00	2404.3	2.407	0.90	-4.7	1.4	0.04	-0.0078	0.0024	0.0001	-3.27
57	220	526	49.83	1327.4	2.00	5.00	2403.6	2.406	0.53	-4.7	1.9	0.04	-0.0078	0.0032	0.0001	-2.40
57	220	527	49.84	845.5	2.00	5.00	2404.3	2.407	0.33	-2.5	1.8	0.02	-0.0042	0.0030	0.0001	-1.39

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS:					
TEMP=	71.20000	DEG F	RHO=	1.93596	SLUG/CUFT
PV=	54.46078	PSF	NU=	0.10353E-04	SQFT/SEC
WW=	62.22174	LBS/CUFT	WM=	845.47192	LBS/CUFT
LC=	0.50000	FT	A=	0.25000	SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
57	220	528	49.85	591.8	2.00	5.00	2405.1	2.407	0.22	-1.8	2.5	0.02	-0.0030	0.0042	0.0001	-0.71
57	220	529	49.82	3518.0	2.00	5.00	2402.8	2.406	1.44	-4.1	1.0	0.02	-0.0069	0.0016	0.0001	-4.34
57	230	530	0.0	2079.0	2.00	5.00				0.2	0.0	0.02				
58	210	531	0.0	2079.0	3.00	5.00				0.2	0.0	0.02				
58	220	532	49.79	4958.7	3.00	5.00	2399.7	2.405	2.04	-4.3	-0.1	0.02	-0.0072	-0.0002	0.0001	31.27
58	220	533	49.82	3534.8	3.00	5.00	2402.8	2.406	1.61	-4.7	0.5	0.02	-0.0078	0.0008	0.0001	-9.75
58	220	534	49.85	3086.0	3.00	5.00	2405.9	2.408	1.26	-5.0	0.9	0.04	-0.0084	0.0015	0.0001	-5.55
58	220	535	49.82	2391.8	3.00	5.00	2402.8	2.406	0.97	-5.7	1.2	0.04	-0.0096	0.0020	0.0001	-4.82
58	220	536	49.85	4958.7	3.00	5.00	2405.9	2.408	2.04	-4.3	-0.1	-0.00	-0.0072	-0.0002	-0.0000	31.14
58	230	537	0.0	2079.0	3.00	5.00				0.2	-0.0	0.02				
59	210	538	0.0	2079.0	1.00	5.00				0.2	0.0	0.02				
59	220	539	49.80	4955.3	1.00	5.00	2400.4	2.405	2.04	-3.2	0.2	-0.03	-0.0054	0.0003	-0.0001	-16.84
59	220	540	49.83	3086.0	1.00	5.00	2403.6	2.406	1.26	-3.8	1.2	0.02	-0.0063	0.0020	0.0001	-3.17
59	220	541	49.85	2223.6	1.00	5.00	2406.7	2.408	0.90	-4.3	1.5	0.04	-0.0072	0.0025	0.0001	-2.83
59	220	542	49.84	1345.1	1.00	5.00	2404.3	2.407	0.54	-4.8	1.9	0.04	-0.0081	0.0032	0.0001	-2.55
59	220	543	49.85	1327.4	1.00	5.00	2405.1	2.407	0.53	-4.7	1.9	0.04	-0.0078	0.0032	0.0001	-2.45
59	220	544	49.83	845.5	1.00	5.00	2403.6	2.406	0.33	-2.5	1.7	0.04	-0.0042	0.0028	0.0001	-1.51
59	220	545	49.85	591.8	1.00	5.00	2405.9	2.408	0.22	-2.2	2.1	0.02	-0.0036	0.0036	0.0001	-1.01
59	220	546	49.87	1538.8	1.00	5.00	2407.4	2.408	0.62	-4.7	1.8	0.04	-0.0078	0.0029	0.0001	-2.65
59	230	547	0.0	2075.6	1.00	5.00				0.2	-0.0	0.02				
60	210	548	0.0	2075.6	-1.00	5.00				0.2	-0.0	0.02				
60	220	549	49.84	4955.3	-1.00	5.00	2404.3	2.407	2.04	-1.4	0.9	-0.03	-0.0024	0.0015	-0.0001	-1.59
60	220	550	49.82	3086.0	-1.00	5.00	2402.8	2.406	1.26	-2.3	1.5	0.02	-0.0039	0.0025	0.0001	-1.59
60	220	551	49.85	2223.6	-1.00	5.00	2405.9	2.408	0.90	-2.7	1.8	0.04	-0.0045	0.0030	0.0001	-1.49
60	220	552	49.87	1396.7	-1.00	5.00	2407.4	2.408	0.56	-3.1	2.0	0.04	-0.0051	0.0034	0.0001	-1.49
60	220	553	49.85	1327.4	-1.00	5.00	2405.1	2.407	0.53	-3.1	2.0	0.04	-0.0051	0.0034	0.0001	-1.49
60	220	554	49.86	845.5	-1.00	5.00	2406.7	2.408	0.33	-2.5	2.1	0.02	-0.0042	0.0035	0.0001	-1.20
60	220	555	49.83	591.8	-1.00	5.00	2403.6	2.406	0.22	-1.3	1.8	-0.00	-0.0021	0.0029	-0.0000	-0.72
60	220	556	49.85	1515.1	-1.00	5.00	2405.1	2.407	0.61	-2.9	1.9	0.02	-0.0048	0.0032	0.0001	-1.48
60	230	557	0.0	2075.6	-1.00	5.00				0.2	-0.0	0.02				
61	210	558	0.0	2075.6	-2.00	5.00				0.2	0.0	0.02				
61	220	559	49.87	4955.3	-2.00	5.00	2407.4	2.408	2.04	-0.7	0.8	-0.05	-0.0012	0.0013	-0.0002	-0.89
61	220	560	49.85	3086.0	-2.00	5.00	2405.9	2.408	1.26	-1.3	1.6	-0.00	-0.0021	0.0027	-0.0000	-0.78
61	220	561	49.84	2223.6	-2.00	5.00	2404.3	2.407	0.90	-1.6	1.9	0.02	-0.0027	0.0032	0.0001	-0.85
61	220	562	49.81	1327.4	-2.00	5.00	2401.2	2.405	0.53	-2.2	2.1	0.02	-0.0036	0.0035	0.0001	-1.03
61	220	563	49.83	1211.6	-2.00	5.00	2403.6	2.406	0.48	-2.2	2.1	0.02	-0.0036	0.0035	0.0001	-1.03
61	220	564	49.87	845.5	-2.00	5.00	2407.4	2.408	0.33	-2.2	2.2	0.02	-0.0036	0.0037	0.0001	-0.97
61	220	565	49.85	810.0	-2.00	5.00	2405.9	2.408	0.31	-2.0	2.2	0.02	-0.0033	0.0036	0.0001	-0.90
61	220	566	49.82	591.8	-2.00	5.00	2402.8	2.406	0.22	-0.7	1.9	-0.00	-0.0012	0.0032	-0.0000	-0.38

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 71.20000 DEG F RHO= 1.93596 SLUG/CUFT
PV= 54.46078 PSF NU= 0.10353E-04 SQFT/SEC
WW= 62.22174 LBS/CUFT WP= 845.47192 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	CO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
61	220	567	49.86	914.8	-2.00	5.00	2406.7	2.408	0.36	-2.2	2.2	0.02	-0.0036	0.0036	0.0001	-0.99
61	220	568	49.85	1450.8	-2.00	5.00	2405.1	2.407	0.58	-2.2	2.0	-0.01	-0.0036	0.0034	-0.0000	-1.06
61	230	569	0.0	2075.6	-2.00	5.00				0.0	-0.0	0.02				
62	210	570	0.0	2075.6	-3.00	5.00				0.0	-0.0	0.02				
62	220	571	49.87	4955.3	-3.00	5.00	2407.4	2.408	2.04	0.4	0.5	-0.05	0.0006	0.0009	-0.0002	0.69
62	220	572	49.85	3086.0	-3.00	5.00	2405.9	2.408	1.26	-0.5	1.5	-0.03	-0.0009	0.0025	-0.0001	-0.36
62	220	573	49.84	2223.6	-3.00	5.00	2404.3	2.407	0.90	-0.9	1.9	-0.00	-0.0015	0.0032	-0.0000	-0.47
62	220	574	49.85	1573.4	-3.00	5.00	2405.1	2.407	0.63	-1.1	2.1	-0.00	-0.0018	0.0035	-0.0000	-0.52
62	220	575	49.85	1327.4	-3.00	5.00	2405.9	2.408	0.53	-1.3	2.2	-0.00	-0.0021	0.0036	-0.0000	-0.58
62	220	576	49.80	1230.2	-3.00	5.00	2400.4	2.405	0.45	-1.4	2.1	-0.00	-0.0024	0.0036	-0.0000	-0.67
62	220	577	49.81	845.5	-3.00	5.00	2402.0	2.406	0.33	-1.3	2.2	-0.00	-0.0021	0.0036	-0.0000	-0.58
62	220	578	49.85	591.8	-3.00	5.00	2405.1	2.407	0.22	-0.5	2.9	-0.00	-0.0009	0.0048	-0.0000	-0.19
62	220	579	49.89	1372.2	-3.00	5.00	2409.0	2.409	0.55	-1.3	2.1	-0.00	-0.0021	0.0035	-0.0000	-0.60
62	220	580	49.86	3922.1	-3.00	5.00	2406.7	2.408	1.61	0.0	0.9	-0.07	0.0	0.0015	-0.0002	0.0
62	230	581	0.0	2075.6	-3.00	5.00				0.0	0.0	0.02				
63	210	582	0.0	2075.6	-4.00	5.00				0.0	0.0	0.0				
63	220	583	49.85	4955.3	-4.00	5.00	2405.9	2.408	2.04	1.1	0.1	-0.07	0.0018	0.0002	-0.0002	11.74
63	220	584	49.86	3086.0	-4.00	5.00	2406.7	2.408	1.26	0.2	1.3	-0.02	0.0003	0.0021	-0.0001	0.14
63	220	585	49.85	2905.9	-4.00	5.00	2405.9	2.408	1.19	0.2	1.3	-0.02	0.0003	0.0022	-0.0001	0.14
63	220	586	49.87	2223.6	-4.00	5.00	2407.4	2.408	0.90	-0.2	1.7	-0.00	-0.0003	0.0028	-0.0000	-0.11
63	220	587	49.91	1327.4	-4.00	5.00	2402.0	2.406	0.53	-0.5	1.9	-0.00	-0.0009	0.0032	-0.0000	-0.28
63	220	588	49.86	1172.7	-4.00	5.00	2406.7	2.408	0.46	-0.4	1.9	-0.00	-0.0006	0.0032	-0.0000	-0.19
63	220	589	49.85	1315.6	-4.00	5.00	2405.1	2.407	0.52	-0.5	1.9	-0.00	-0.0009	0.0032	-0.0000	-0.28
63	220	590	49.85	5644.4	-4.00	5.00	2405.1	2.407	2.32	1.3	-0.3	-0.07	0.0021	-0.0006	-0.0002	-3.74
63	230	591	0.0	2075.6	-4.00	5.00				0.0	-0.0	0.02				

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 71.79999 DEG F RHO= 1.93584 SLUG/CUFT
PV= 55.58395 PSF NU= 0.10272E-04 SQFT/SEC
WW= 62.21788 LBS/CUFT WM= 845.41772 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
64	210	592	0.0	2063.7	0.0	2.50				0.2	0.0	0.02				
64	220	593	49.85	4943.2	0.0	2.50	2405.0	2.426	2.03	-1.1	0.7	-0.00	-0.0018	0.0011	-0.0000	-1.62
64	220	594	49.83	3085.8	0.0	2.50	2403.4	2.426	1.26	-1.8	1.3	0.04	-0.0030	0.0022	0.0001	-1.35
64	220	595	49.85	2223.4	0.0	2.50	2405.7	2.427	0.90	-2.2	1.6	0.04	-0.0036	0.0027	0.0001	-1.33
64	220	596	49.82	1327.3	0.0	2.50	2402.6	2.425	0.53	-2.5	1.9	0.04	-0.0042	0.0031	0.0001	-1.35
64	220	597	49.84	1121.9	0.0	2.50	2404.2	2.426	0.44	-2.7	1.9	0.04	-0.0045	0.0032	0.0001	-1.42
64	220	598	49.81	845.4	0.0	2.50	2401.1	2.424	0.33	-2.3	2.0	0.04	-0.0039	0.0034	0.0001	-1.14
64	220	599	49.82	591.8	0.0	2.50	2402.6	2.425	0.22	-1.3	1.8	0.02	-0.0021	0.0029	0.0001	-0.72
64	220	600	49.81	1246.1	0.0	2.50	2401.1	2.424	0.50	-2.5	1.9	0.04	-0.0042	0.0032	0.0001	-1.32
64	230	601	0.0	2063.7	0.0	2.50				0.2	0.0	0.02				
65	210	602	0.0	2063.7	1.00	2.50				0.2	0.0	0.02				
65	220	603	49.81	4943.2	1.00	2.50	2401.8	2.425	2.03	-2.0	0.4	-0.00	-0.0033	0.0007	-0.0000	-4.61
65	220	604	49.84	3085.8	1.00	2.50	2404.2	2.426	1.26	-2.7	1.3	0.04	-0.0045	0.0021	0.0001	-2.10
65	220	605	49.85	2223.4	1.00	2.50	2405.7	2.427	0.90	-3.1	1.6	0.04	-0.0051	0.0026	0.0001	-1.95
65	220	606	49.83	1327.3	1.00	2.50	2403.4	2.426	0.53	-3.4	1.8	0.04	-0.0057	0.0030	0.0001	-1.89
65	220	607	49.81	845.4	1.00	2.50	2401.1	2.424	0.33	-2.5	1.9	0.04	-0.0042	0.0032	0.0001	-1.32
65	220	608	49.84	591.8	1.00	2.50	2404.2	2.426	0.22	-1.6	1.9	0.02	-0.0027	0.0032	0.0001	-0.85
65	220	609	49.85	1471.0	1.00	2.50	2405.7	2.427	0.59	-3.4	1.8	0.04	-0.0057	0.0029	0.0001	-1.94
65	230	610	0.0	2063.7	1.00	2.50				0.2	0.0	0.02				
66	210	611	0.0	2063.7	2.00	2.50				0.2	0.0	0.02				
66	220	612	49.82	4943.2	2.00	2.50	2402.6	2.425	2.03	-2.9	0.1	-0.00	-0.0048	0.0002	-0.0000	-19.84
66	220	613	49.81	3085.8	2.00	2.50	2401.1	2.424	1.26	-3.4	1.0	0.04	-0.0057	0.0017	0.0001	-3.26
66	220	614	49.85	2223.4	2.00	2.50	2405.0	2.426	0.90	-4.0	1.4	0.04	-0.0066	0.0023	0.0001	-2.86
66	220	615	49.85	1327.3	2.00	2.50	2405.0	2.426	0.53	-4.3	1.7	0.06	-0.0072	0.0028	0.0002	-2.52
66	220	616	49.86	1014.5	2.00	2.50	2406.5	2.427	0.40	-3.4	1.9	0.04	-0.0057	0.0032	0.0001	-1.75
66	220	617	49.85	2497.4	2.00	2.50	2405.0	2.426	1.02	-3.8	1.3	0.04	-0.0063	0.0021	0.0001	-2.94
66	230	618	0.0	2063.7	2.00	2.50				0.2	0.0	0.02				
67	210	619	0.0	2063.7	4.00	2.50				0.2	0.0	0.02				
67	220	620	49.79	5663.4	4.00	2.50	2399.5	2.424	2.34	-3.8	-0.8	-0.00	-0.0063	-0.0013	-0.0000	4.99
67	220	621	49.81	4532.3	4.00	2.50	2401.8	2.425	1.86	-4.1	-0.2	0.02	-0.0069	-0.0004	0.0001	17.74
67	220	622	49.85	3085.8	4.00	2.50	2405.0	2.426	1.26	-4.8	0.7	0.04	-0.0081	0.0011	0.0001	-7.24
67	220	623	49.83	2291.1	4.00	2.50	2403.4	2.426	0.93	-5.7	1.1	0.02	-0.0096	0.0019	0.0001	-5.02
67	220	624	49.86	5663.4	4.00	2.50	2406.5	2.427	2.33	-3.8	-0.8	-0.00	-0.0063	-0.0013	-0.0000	4.99
67	230	625	0.0	2063.7	4.00	2.50				0.2	0.0	0.02				
68	210	626	0.0	2063.7	-2.00	2.50				0.2	0.0	0.02				
68	220	627	49.81	4943.2	-2.00	2.50	2401.8	2.425	2.03	0.5	0.4	-0.05	0.0009	0.0006	-0.0002	1.42
68	220	628	49.85	3085.8	-2.00	2.50	2405.7	2.427	1.26	-0.2	1.4	-0.02	-0.0003	0.0023	-0.0001	-0.13
68	220	629	49.85	2223.4	-2.00	2.50	2405.0	2.426	0.90	-0.5	1.8	-0.00	-0.0009	0.0025	-0.0000	-0.31

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 71.79999 DEG F RHO= 1.93584 SLUG/CUFT
PV= 55.58395 PSF NU= 0.10272E-04 SQFT/SEC
WW= 62.21788 LBS/CUFT WM= 845.41772 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QC PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
68	220	630	49.83	1327.3	-2.00	2.50	2403.4	2.426	0.53	-0.5	2.0	0.02	-0.0015	0.0034	0.0001	-0.44
68	220	631	49.82	1257.1	-2.00	2.50	2402.6	2.425	0.50	-1.1	2.0	0.02	-0.0018	0.0034	0.0001	-0.53
68	220	632	49.81	655.6	-2.00	2.50	2401.1	2.424	0.33	-1.3	1.9	0.02	-0.0021	0.0032	0.0001	-0.65
68	220	633	49.84	591.8	-2.00	2.50	2404.2	2.426	0.22	-0.5	2.0	0.02	-0.0009	0.0034	0.0001	-0.26
68	220	634	49.82	1007.7	-2.00	2.50	2402.6	2.425	0.40	-1.3	2.0	0.02	-0.0021	0.0033	0.0001	-0.63
68	220	635	49.82	4025.9	-2.00	2.50	2402.6	2.425	1.65	0.0	1.0	-0.05	0.0	0.0017	-0.0002	0.0
68	230	636	0.0	2063.7	-2.00	2.50				0.2	0.0	0.02				
69	210	637	0.0	2059.4	-4.00	2.50				0.2	0.0	0.02				
69	220	638	49.86	4538.9	-4.00	2.50	2406.5	2.427	2.03	1.8	-0.1	-0.07	0.0030	-0.0002	-0.0002	-18.10
69	220	639	49.83	4255.0	-4.00	2.50	2403.4	2.426	1.75	1.6	0.2	-0.07	0.0027	0.0004	-0.0002	0.92
69	220	640	49.85	3085.8	-4.00	2.50	2405.7	2.427	1.26	1.1	0.9	-0.05	0.0018	0.0016	-0.0002	1.14
69	220	641	49.80	2223.4	-4.00	2.50	2400.3	2.424	0.90	0.7	1.3	-0.02	0.0012	0.0021	-0.0001	0.56
69	220	642	49.80	4802.0	-4.00	2.50	2400.3	2.424	1.98	1.8	-0.1	-0.07	0.0030	-0.0002	-0.0002	-12.24
69	230	643	0.0	2059.4	-4.00	2.50				0.0	0.0	0.02				
70	210	644	0.0	2059.4	-5.00	2.50				0.0	0.0	0.02				
70	220	645	49.81	5663.4	-5.00	2.50	2401.8	2.425	2.33	3.0	-1.0	-0.11	0.0051	-0.0017	-0.0004	-3.04
70	220	646	49.85	4938.9	-5.00	2.50	2405.7	2.427	2.03	2.9	-0.6	-0.09	0.0048	-0.0010	-0.0003	-4.61
70	220	647	49.85	3085.8	-5.00	2.50	2405.7	2.427	1.26	2.0	0.4	-0.04	0.0033	0.0007	-0.0001	4.66
70	220	648	49.86	2223.4	-5.00	2.50	2406.5	2.427	0.90	1.8	0.7	-0.02	0.0030	0.0011	-0.0001	2.71
70	230	649	0.0	2059.4	-5.00	2.50				0.2	0.0	0.02				

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS:	TEMP=	71.50000	DEG F	RHO=	1.93590	SLUG/CUFT	
	PV=	55.02238	PSF	NU=	0.10313E-04	SQFT/SEC	
	WW=	62.21980	LBS/CUFT	WM=	845.44482	LBS/CUFT	
	LC=	0.50000	FT	A=	0.25000	SQFT	

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QC PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
71	210	650	0.0	2084.0	0.0	-5.00				-0.2	0.0	-0.00				
71	220	651	49.79	4963.6	0.0	-5.00	2399.6	2.414	2.05	2.0	-0.0	-0.09	0.0033	-0.0000	-0.0003	******
71	220	652	49.81	3085.9	0.0	-5.00	2401.9	2.415	1.26	1.3	1.0	-0.05	0.0021	0.0017	-0.0002	1.26
71	220	653	49.80	2223.5	0.0	-5.00	2400.4	2.414	0.90	0.9	1.2	-0.05	0.0015	0.0021	-0.0002	0.73
71	220	654	49.81	1327.3	0.0	-5.00	2401.9	2.415	0.53	0.5	1.4	-0.00	0.0009	0.0023	-0.0000	0.39
71	220	655	49.80	1207.3	0.0	-5.00	2400.4	2.414	0.48	0.5	1.4	-0.00	0.0009	0.0024	-0.0000	0.38
71	220	656	49.83	845.4	0.0	-5.00	2403.5	2.416	0.33	1.3	1.4	0.02	0.0021	0.0024	0.0001	0.88
71	220	657	49.81	591.8	0.0	-5.00	2401.1	2.415	0.22	0.0	1.7	0.02	0.0	0.0028	0.0001	0.0
71	220	658	49.80	2977.7	0.0	-5.00	2400.4	2.414	1.22	1.1	1.1	-0.05	0.0018	0.0019	-0.0002	0.95
71	230	659	0.0	2084.0	0.0	-5.00				-0.2	0.0	-0.00				
72	210	660	0.0	2084.0	1.00	-5.00				-0.2	0.0	-0.00				
72	220	661	49.84	4963.6	1.00	-5.00	2404.3	2.416	2.04	1.4	0.1	-0.07	0.0024	0.0002	-0.0002	15.74
72	220	662	49.82	3085.9	1.00	-5.00	2402.7	2.416	1.26	0.5	0.9	-0.05	0.0009	0.0016	-0.0002	0.57
72	220	663	49.82	2223.5	1.00	-5.00	2402.7	2.416	0.90	0.4	1.3	-0.02	0.0006	0.0021	-0.0001	0.28
72	220	664	49.85	1327.3	1.00	-5.00	2405.0	2.417	0.53	0.0	1.5	-0.00	0.0	0.0024	-0.0000	0.0
72	220	665	49.82	845.4	1.00	-5.00	2402.7	2.416	0.33	-0.2	1.4	-0.00	-0.0003	0.0023	-0.0000	-0.13
72	220	666	49.86	651.1	1.00	-5.00	2406.6	2.418	0.25	-0.5	1.4	0.02	-0.0009	0.0023	0.0001	-0.35
72	220	667	49.85	591.8	1.00	-5.00	2405.0	2.417	0.22	-0.5	1.5	0.02	-0.0009	0.0024	0.0001	-0.37
72	220	668	49.85	840.0	1.00	-5.00	2405.0	2.417	0.24	-0.5	1.5	0.02	-0.0009	0.0024	0.0001	-0.37
72	220	669	49.85	815.9	1.00	-5.00	2405.0	2.417	0.32	-0.5	1.4	0.02	-0.0009	0.0023	0.0001	-0.39
72	230	670	0.0	2084.0	1.00	-5.00				-0.2	0.1	-0.00				
73	210	671	0.0	2084.0	-2.00	-5.00				-0.2	0.1	-0.00				
73	220	672	49.84	4963.6	-2.00	-5.00	2404.3	2.416	2.04	3.2	-0.3	-0.13	0.0054	-0.0005	-0.0004	-11.03
73	220	673	49.88	4057.3	-2.00	-5.00	2408.1	2.418	1.66	2.9	0.2	-0.11	0.0048	0.0003	-0.0004	15.69
73	220	674	49.85	3085.9	-2.00	-5.00	2405.0	2.417	1.26	2.5	0.7	-0.07	0.0042	0.0011	-0.0002	3.81
73	220	675	49.83	2223.5	-2.00	-5.00	2403.5	2.416	0.90	2.3	0.9	-0.04	0.0039	0.0015	-0.0001	2.60
73	220	676	49.81	1327.3	-2.00	-5.00	2401.1	2.415	0.53	2.9	1.6	0.00	0.0048	0.0027	0.0000	1.78
73	220	677	49.80	5683.9	-2.00	-5.00	2400.4	2.414	2.35	3.2	-0.8	-0.13	0.0054	-0.0014	-0.0004	-3.96
73	230	678	0.0	2084.0	-2.00	-5.00				-0.2	0.0	-0.02				

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 71.59999 DEG F RHO= 1.93588 SLUG/CUFT
PV= 55.20956 PSF NU= 0.10299E-04 SQFT/SEC
WW= 62.21916 LBS/CUFT WM= 845.43579 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
74	210	679	0.0	2074.7	0.0	0.0				0.2	0.0	0.02				
74	220	680	24.97	265.5	0.0	0.0	603.4	1.212	0.35	-1.1	1.1	0.04	-0.0071	0.0076	0.0006	-0.95
74	220	681	24.95	2074.7	0.0	0.0	602.6	1.211	3.25	-0.4	0.6	-0.00	-0.0024	0.0041	-0.0000	-0.58
74	220	682	39.79	635.8	0.0	0.0	1532.2	1.932	0.38	-1.3	1.6	0.04	-0.0033	0.0042	0.0002	-0.78
74	220	683	39.80	2074.7	0.0	0.0	1532.9	1.932	1.32	-0.7	1.3	0.02	-0.0019	0.0033	0.0001	-0.56
74	220	684	49.78	962.1	0.0	0.0	2358.8	2.417	0.38	-1.4	2.0	0.02	-0.0024	0.0033	0.0001	-0.72
74	220	685	49.80	2074.7	0.0	0.0	2400.3	2.418	0.84	-1.1	1.9	0.02	-0.0018	0.0031	0.0001	-0.58
74	220	686	59.79	1388.2	0.0	0.0	3460.3	2.903	0.39	-1.8	2.6	0.02	-0.0021	0.0030	0.0000	-0.70
74	220	687	59.76	2074.7	0.0	0.0	3456.5	2.901	0.58	-1.6	2.6	-0.01	-0.0019	0.0030	-0.0000	-0.63
74	230	688	0.0	2074.7	0.0	0.0				0.0	0.1	0.02				
75	210	689	0.0	2074.7	-4.00	0.0				0.0	0.1	0.02				
75	220	690	48.59	5674.6	-4.00	0.0	2285.4	2.359	2.46	3.2	-1.2	-0.11	0.0056	-0.0021	-0.0004	-2.71
75	220	691	48.71	4954.3	-4.00	0.0	2296.3	2.365	2.13	2.9	-0.7	-0.11	0.0050	-0.0013	-0.0004	-3.99
75	220	692	48.81	3085.8	-4.00	0.0	2306.4	2.370	1.31	2.2	0.3	-0.04	0.0037	0.0006	-0.0002	6.56
75	220	693	49.04	2223.5	-4.00	0.0	2328.1	2.381	0.93	1.6	0.6	-0.02	0.0031	0.0010	-0.0001	3.17
75	220	694	49.05	1719.6	-4.00	0.0	2328.9	2.381	0.71	2.2	0.7	-0.02	0.0037	0.0011	-0.0001	3.26
75	230	695	0.0	2074.7	-4.00	0.0				0.2	0.0	0.02				

CONSTANTS: TEMP= 71.29999 DEG F RHO= 1.93594 SLUG/CUFT
PV= 54.64796 PSF NU= 0.10340E-04 SQFT/SEC
WW= 62.22110 LBS/CUFT WM= 845.46289 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
76	210	696	0.0	2086.6	-2.00	0.0				0.0	-0.0	-0.02				
76	220	697	49.85	4966.2	-2.00	0.0	2405.1	2.410	2.04	1.6	0.0	-0.07	0.0027	0.0001	-0.0002	37.14
76	220	698	49.82	3085.9	-2.00	0.0	2402.8	2.409	1.26	0.9	1.1	-0.02	0.0015	0.0019	-0.0001	0.79
76	220	699	49.85	2223.6	-2.00	0.0	2405.1	2.410	0.90	0.5	1.4	-0.00	0.0009	0.0024	-0.0000	0.38
76	220	700	49.82	2035.0	-2.00	0.0	2402.8	2.409	0.82	0.5	1.5	-0.00	0.0009	0.0024	-0.0000	0.37
76	220	701	49.85	1327.4	-2.00	0.0	2405.1	2.410	0.53	0.2	1.6	-0.00	0.0003	0.0027	-0.0000	0.11
76	220	702	49.85	845.5	-2.00	0.0	2405.9	2.411	0.33	0.7	1.6	-0.00	0.0012	0.0027	-0.0000	0.45
76	220	703	49.83	591.8	-2.00	0.0	2403.5	2.410	0.22	-0.4	2.6	-0.00	-0.0006	0.0043	-0.0000	-0.14
76	220	704	49.85	4566.3	-2.00	0.0	2405.1	2.410	1.88	1.3	0.4	-0.04	0.0021	0.0006	-0.0001	3.33
76	230	705	0.0	2086.6	-2.00	0.0				0.0	-0.0	-0.02				

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS:	TEMP=	71.29999 DEG F	RHO=	1.93594	SLUG/CUFT
	PV=	54.64756 PSF	NU=	0.10340E-04	SQFT/SEC
	WW=	62.22110 LBS/CUFT	WM=	845.46285	LBS/SLFT
	LC=	0.50000 FT	A=	0.25000	SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
77	210	706	0.0	2086.6	-1.00	0.0				0.0	0.0	-0.02				
77	220	707	49.82	4966.2	-1.00	0.0	2402.8	2.409	2.04	1.1	0.2	-0.04	0.0018	0.0004	-0.0001	4.59
77	220	709	49.86	3085.9	-1.00	0.0	2406.6	2.411	1.26	0.2	1.2	-0.02	0.0003	0.0020	-0.0001	0.15
77	220	709	49.85	2223.6	-1.00	0.0	2405.1	2.410	0.90	-0.2	1.6	-0.00	-0.0003	0.0026	-0.0000	-0.11
77	220	710	49.81	1327.4	-1.00	0.0	2402.0	2.409	0.53	-0.5	1.8	-0.00	-0.0009	0.0030	-0.0000	-0.30
77	220	711	49.83	845.5	-1.00	0.0	2403.5	2.410	0.33	-0.7	1.8	-0.00	-0.0012	0.0029	-0.0000	-0.41
77	220	712	49.86	749.1	-1.00	0.0	2406.6	2.411	0.29	-0.7	1.6	0.02	-0.0012	0.0027	0.0001	-0.45
77	220	713	49.87	591.8	-1.00	0.0	2407.4	2.412	0.22	-0.4	1.8	0.02	-0.0006	0.0029	0.0001	-0.20
77	220	714	49.87	591.8	-1.00	0.0	2407.4	2.412	0.22	-0.5	1.8	-0.00	-0.0009	0.0029	-0.0000	-0.31
77	230	715	0.0	2086.6	-1.00	0.0				0.0	0.0	-0.02				
78	210	716	0.0	2086.6	0.0	0.0				0.0	0.0	-0.02				
78	220	717	49.81	4966.2	0.0	0.0	2401.2	2.408	2.05	0.4	0.5	-0.02	0.0006	0.0009	-0.0001	0.76
78	220	718	49.85	3085.9	0.0	0.0	2405.1	2.410	1.26	-0.4	1.4	-0.00	-0.0006	0.0023	-0.0000	-0.26
78	220	719	49.87	2223.6	0.0	0.0	2407.4	2.412	0.90	-0.9	1.7	0.02	-0.0015	0.0028	0.0001	-0.53
78	220	720	49.84	1327.4	0.0	0.0	2404.3	2.410	0.53	-1.3	1.9	0.02	-0.0021	0.0032	0.0001	-0.66
78	220	721	49.85	845.5	0.0	0.0	2405.5	2.411	0.33	-1.6	1.8	0.02	-0.0027	0.0030	0.0001	-0.90
78	220	722	49.82	591.8	0.0	0.0	2402.8	2.409	0.22	-1.3	1.9	0.02	-0.0021	0.0031	0.0001	-0.68
78	230	723	0.0	2086.6	0.0	0.0				0.0	0.0	-0.02				
79	210	724	0.0	2086.6	1.00	0.0				0.0	0.0	-0.02				
79	220	725	49.85	4966.2	1.00	0.0	2405.1	2.410	2.04	-0.5	0.7	-0.02	-0.0009	0.0012	-0.0001	-0.76
79	220	726	49.82	3085.9	1.00	0.0	2402.8	2.409	1.26	-1.3	1.4	0.02	-0.0021	0.0023	0.0001	-0.91
79	220	727	49.85	2223.6	1.00	0.0	2405.5	2.411	0.90	-1.6	1.6	0.02	-0.0027	0.0027	0.0001	-1.00
79	220	728	49.84	1327.4	1.00	0.0	2404.3	2.410	0.53	-2.0	1.8	0.04	-0.0033	0.0029	0.0001	-1.12
79	220	729	49.84	845.5	1.00	0.0	2404.3	2.410	0.33	-2.2	1.9	0.04	-0.0036	0.0032	0.0001	-1.11
79	220	730	49.83	591.8	1.00	0.0	2403.2	2.412	0.22	-1.4	1.8	0.02	-0.0024	0.0029	0.0001	-0.82
79	220	731	49.85	1239.4	1.00	0.0	2405.1	2.410	0.49	-2.2	1.8	0.04	-0.0036	0.0029	0.0001	-1.23
79	230	732	0.0	2086.6	1.00	0.0				0.0	0.0	-0.02				
80	210	733	0.0	2084.9	2.00	0.0				0.0	-0.0	-0.02				
80	220	734	49.81	4964.6	2.00	0.0	2402.0	2.409	2.04	-1.4	0.3	-0.00	-0.0024	0.0005	-0.0000	-5.03
80	220	735	49.85	3085.9	2.00	0.0	2405.5	2.411	1.26	-2.2	1.2	0.02	-0.0036	0.0020	0.0001	-1.81
80	220	736	49.83	2223.6	2.00	0.0	2403.5	2.410	0.90	-2.7	1.5	0.04	-0.0045	0.0025	0.0001	-1.77
80	220	737	49.85	1327.4	2.00	0.0	2405.5	2.411	0.53	-2.5	1.7	0.04	-0.0048	0.0028	0.0001	-1.73
80	220	738	49.83	845.5	2.00	0.0	2403.2	2.412	0.33	-2.7	1.8	0.04	-0.0045	0.0030	0.0001	-1.49
80	220	739	49.84	591.8	2.00	0.0	2404.3	2.410	0.22	-1.6	1.7	-0.00	-0.0027	0.0028	-0.0000	-0.95
80	220	740	49.81	1947.9	2.00	0.0	2402.0	2.409	0.79	-2.5	1.5	0.02	-0.0042	0.0025	0.0001	-1.65
80	230	741	0.0	2084.9	2.00	0.0				0.0	0.0	-0.02				
81	210	742	0.0	2084.9	4.00	0.0				0.0	0.0	-0.02				
81	220	743	49.83	4964.6	4.00	0.0	2403.5	2.410	2.04	-2.9	-0.1	-0.00	-0.0048	-0.0002	-0.0000	20.57
81	220	744	49.84	3497.5	4.00	0.0	2404.3	2.410	1.43	-3.6	0.6	0.02	-0.0060	0.0010	0.0001	-5.79

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 71.29999 DEG F RHO= 1.93594 SLUG/CUFT
PV= 54.64796 PSF NU= 0.10340E-04 SQFT/SEC
WW= 62.22110 LBS/CUFT WM= 845.46285 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
81	220	745	49.86	3085.9	4.00	0.0	2406.6	2.411	1.26	-3.8	0.8	0.02	-0.0063	0.0013	0.0001	-4.95
81	220	746	49.85	2223.6	4.00	0.0	2405.9	2.411	0.90	-4.1	1.0	0.04	-0.0069	0.0017	0.0001	-3.94
81	220	747	49.86	2026.6	4.00	0.0	2406.6	2.411	0.82	-4.1	1.1	0.04	-0.0069	0.0019	0.0001	-3.61
81	220	748	49.84	4895.5	4.00	0.0	2404.3	2.410	2.02	-3.1	-0.1	-0.00	-0.0051	-0.0002	-0.0000	33.15
81	230	749	0.0	2084.9	4.00	0.0				0.0	0.0	-0.02				
82	210	750	0.0	2084.9	6.00	0.0				0.0	0.0	-0.02				
82	220	751	39.63	4564.6	6.00	0.0	1520.6	1.917	3.23	-2.5	-0.7	-0.05	-0.0066	-0.0017	-0.0002	3.79
82	220	752	31.64	4964.6	8.00	0.0	969.2	1.530	5.07	-1.6	-0.9	-0.07	-0.0067	-0.0037	-0.0006	1.79
82	220	753	31.59	4964.6	10.00	0.0	966.1	1.528	5.08	-2.0	-0.9	-0.07	-0.0082	-0.0037	-0.0006	2.19
82	220	754	32.27	4964.6	12.00	0.0	1008.0	1.560	4.87	-2.3	-0.9	-0.09	-0.0093	-0.0034	-0.0007	2.73
82	230	755	0.0	2084.9	12.00	0.0				-0.2	-0.0	-0.02				

CONSTANTS: TEMP= 71.79999 DEG F RHO= 1.93584 SLUG/CUFT
PV= 55.58395 PSF NU= 0.10272E-04 SQFT/SEC
WW= 62.21788 LBS/CUFT WM= 845.41772 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
83	110	756	0.0	2082.3	0.0	0.0				0.0	0.0	0.0				
83	120	757	49.77	2032.3	0.0	0.0	2397.2	2.422	0.85	143.8	5.0	-0.43	0.2399	0.0083	-0.0014	28.75
83	120	758	49.75	980.7	0.0	0.0	2395.6	2.422	0.39	145.9	5.3	-0.18	0.2437	0.0089	-0.0006	27.35
83	120	759	49.58	1126.9	0.0	0.0	2379.3	2.413	0.45	143.8	5.2	-0.20	0.2417	0.0087	-0.0007	27.67
83	120	760	69.96	3522.0	0.0	0.0	4736.9	3.405	0.73	270.7	9.9	-1.63	0.2286	0.0084	-0.0028	27.32
83	120	761	70.19	1865.8	0.0	0.0	4768.0	3.416	0.38	277.7	10.6	-0.82	0.2330	0.0089	-0.0014	26.12
83	120	762	69.61	2045.9	0.0	0.0	4690.3	3.388	0.42	277.5	10.2	-0.82	0.2367	0.0087	-0.0014	27.19
83	120	763	79.76	3522.0	0.0	0.0	6158.0	3.882	0.56	348.5	13.2	-2.13	0.2264	0.0086	-0.0028	26.40
83	120	764	78.80	2455.9	0.0	0.0	6010.4	3.836	0.40	356.9	12.8	-1.09	0.2375	0.0085	-0.0015	27.91
83	120	765	78.90	2600.5	0.0	0.0	6026.0	3.841	0.42	349.9	12.7	-1.34	0.2323	0.0085	-0.0018	27.96
83	130	766	0.0	2082.3	0.0	0.0				0.2	0.0	0.00				
84	110	767	0.0	2082.3	2.00	0.0				0.2	-0.0	-0.02				
84	120	768	49.79	3035.8	2.00	0.0	2399.5	2.424	1.26	274.5	6.6	15.60	0.4575	0.0109	0.0520	41.86
84	120	769	49.75	1297.7	2.00	0.0	2395.6	2.422	0.52	284.5	7.4	15.66	0.4750	0.0124	0.0523	38.46
84	120	770	50.10	1571.6	2.00	0.0	2429.8	2.439	0.62	278.2	6.8	16.12	0.4580	0.0111	0.0531	41.20

THREE COMPONENT

RUN DATA CORRECTED FOR BALANCE INTERACTIONS

CONSTANTS: TEMP= 72.20000 DEG F RHO= 1.93574 SLUG/CUFT
PV= 56.34142 PSF NU= 0.10219E-04 SQFT/SEC
WW= 62.21466 LBS/CUFT WM= 845.38184 LBS/CUFT
LC= 0.50000 FT A= 0.25000 SQFT

RUN	CON	CARD	VELOCITY VO,FT/SEC	PRESSURE PO,PSFA	PITCH DEG	FLAP DEG	QO PSF	RN 10 E 6	SIGMA	LIFT L,LBS	DRAG D,LBS	MOMENT M,FT-LB	CL	CD	CM	L/D
85	210	771	0.0	2074.6	0.0	0.0				0.2	0.0	-0.02				
85	220	772	49.79	2074.6	0.0	0.0	2399.4	2.436	0.84	-1.4	1.1	0.02	-0.0024	0.0019	0.0001	-1.26
85	220	773	49.77	980.6	0.0	0.0	2397.9	2.435	0.39	-1.8	1.7	0.02	-0.0030	0.0028	0.0001	-1.08
85	220	774	49.78	980.6	0.0	0.0	2398.6	2.436	0.39	-1.8	1.7	0.02	-0.0030	0.0028	0.0001	-1.08
85	220	775	70.13	3521.9	0.0	0.0	4760.0	3.431	0.73	-2.0	2.0	-0.00	-0.0017	0.0017	-0.0000	-0.99
85	220	776	69.78	1855.8	0.0	0.0	4713.4	3.415	0.38	-2.9	1.8	0.02	-0.0024	0.0015	0.0000	-1.63
85	220	777	70.07	2045.8	0.0	0.0	4752.2	3.429	0.42	-2.9	1.7	0.02	-0.0024	0.0014	0.0000	-1.63
85	220	778	78.09	3521.9	0.0	0.0	5901.5	3.821	0.59	-2.7	2.8	-0.01	-0.0018	0.0019	-0.0000	-0.98
85	220	779	77.67	2455.8	0.0	0.0	5839.4	3.801	0.41	-3.4	1.9	0.02	-0.0023	0.0013	0.0000	-1.64
85	220	780	78.03	2600.4	0.0	0.0	5893.7	3.818	0.43	-3.2	2.0	-0.01	-0.0022	0.0014	-0.0000	-1.62
85	230	781	0.0	2074.6	0.0	0.0				0.0	0.1	-0.00				

TABLE III

CAVITATION SURVEY WITH

THREE COMPONENT COEFFICIENTS

CORRECTED FOR FAIRING DISK TARES

TABLE III
CAVITATION SURVEY WITH THREE COMPONENT COEFFICIENTS CORRECTED FOR FAIRING DISK TARE

Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
1	50	0	-4	2/ 12	75/690	2.46	-0.1593	0.0110	-0.1013	-14.48	Y	L	1/16 inch behind L. E. Fine line	
"	"	"	"	"/ 13	"/691	2.14	-0.1632	0.0117	-0.1006	-13.95	Y	L		
"	"	"	"	"/ 14	"/692	1.31	-0.1725	0.0172	-0.1042	-10.03	Y	L	1/2 inch behind L. E.	2-4
"	"	"	"	"/ 15	"/693	0.93	-0.1880	0.0214	-0.1092	- 8.79	Y	L	L. E., extends back 1/2 inches	
2	50	0	-2	3/ 18	76/697	2.03	0.0319	0.0073	-0.0512	4.37	N			
"	"	"	"	"/ 19	"/698	1.26	0.0302	0.0069	-0.0508	4.38	N			
"	"	"	"	"/ 20	"/699	0.90	0.0302	0.0269	-0.0517	1.12	N			
"	"	"	"	"/ 21	"/700	0.82	0.0277	0.0244	-0.0520	1.14	Y	L	1/16 inch behind L.E. extends back 1/8 inch and covers 1/3 of span. Inception	
"	"	"	"	"/ 22	"/701	0.53	0.0238	0.0090	-0.0551	2.64	Y	L	L. E., extends back 1 inch and covers entire span.	1-14
"	"	"	"	"/ 23	"/702	0.33	-0.1194	0.0224	-0.0239	-5.33	Y	L	L. E. to T. E.	1-15
"	"	"	"	"/ 24	"/703	0.22	-0.0063	0.0242	-0.0154	-0.26	Y	L	L. E., extends back 1-1/2 inches behind T. E.	1-17
											Y	U	Midchord	
"	"	"	"	"/ 25	"/704	1.87	0.0265	0.0075	-0.0518	3.53	N		Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
3	50	0	-1	4/ 28	77/707	2.03	0.1177	0.0058	-0.0295	20.29	N			
"	"	"	"	"/ 29	"/708	1.26	0.1232	0.0060	-0.0292	20.53	N			
"	"	"	"	"/ 30	"/709	0.90	0.1263	0.0055	-0.0287	22.96	N			
"	"	"	"	"/ 31	"/710	0.53	0.1309	0.0055	-0.0282	23.80	N			
"	"	"	"	"/ 32	"/711	0.33	0.1315	0.0062	-0.0273	21.21	Y	L	L.E. near F.P.	
"	"	"	"	"/ 33	"/712	0.29	0.1440	0.0076	-0.0304	18.95	Y	L	L.E. Inception. Two streaks.	1-13
"	"	"	"	"/ 34	"/713	0.22	-0.0051	0.0218	-0.0115	-0.23	Y	U	Midback	1-11
											Y	L	L.E., extends back 1/2 inch behind T.E.	1-12
"	"	"	"	"/ 35	"/ *	0.68	0.1289	0.0057	-0.0280	22.61	N		Suppressed	
4	50	0	0	5/ 38	78/717	2.04	0.2183	0.0055	-0.0064	39.69	N			
"	"	"	"	"/ 39	"/718	1.26	0.2259	0.0054	-0.0047	41.83	N			
"	"	"	"	"/ 40	"/719	0.90	0.2294	0.0051	-0.0034	44.98	N			
"	"	"	"	"/ 41	"/720	0.53	0.2344	0.0054	-0.0021	43.41	N			
"	"	"	"	"/ 42	"/721	0.33	0.2464	0.0073	-0.0053	33.75	N			
"	"	"	"	"/ 43	"/722	0.22	0.1181	0.0144	-0.0267	8.20	Y	U	Midchord at F.P. and tip "V" shaped.	1-10
											Y	L	Midchord at F.P. and tip Intermittent streaks.	

*The tare values for σ = 0.68 were found by interpolation.

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
5	50	0.	1	6/ 46	79/725	2.03	0.3296	0.0063	0.0197	52.32	N			
"	"	"	"	"/ 47	"/726	1.26	0.3326	0.0059	0.0223	56.37	N			
"	"	"	"	"/ 48	"/727	0.90	0.3419	0.0060	0.0243	56.98	N			
"	"	"	"	"/ 49	"/728	0.53	0.3573	0.0068	0.0288	52.54	N			
"	"	"	"	"/ 50	"/729	0.33	0.3382	0.0139	0.0102	24.33	Y	U	Midchord at F. P. and tip "V" shaped. Intermittent	1-8
"	"	"	"	"/ 51	"/730	0.22	0.0991	0.0174	-0.0146	5.70	Y	U	6/10 chord extends back 1 inch behind T. E.	1-9
"	"	"	"	"/ 52	"/731	0.49	0.3622	0.0067	0.0296	54.06	N	U	Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
6	50	0	2	7/ 55	80/734	2.03	0.4688	0.0088	0.0532	53.27	N			
"	"	"	"	"/ 56	"/735	1.26	0.4693	0.0084	0.0557	55.87	N			
"	"	"	"	"/ 57	"/736	0.90	0.4731	0.0083	0.0574	57.00	N			
"	"	"	"	"/ 58	"/737	0.53	0.4914	0.0088	0.0593	55.84	Y	U	L.E. Streak	1-5
"	"	"	"	"/ 59	"/738	0.33	0.2783	0.0237	0.0102	11.74	Y	U	2/3 of surface	2-3
"	"	"	"	"/ 60	"/739	0.22	0.1490	0.0209	0.0040	7.13	Y	U	2/3 of surface	1-7
"	"	"	"	"/ 61	"/740	0.79	0.4835	0.0080	0.0591	60.44	N	U	Suppressed	
"	"	"	"	10/77	"/734	2.04	0.4358	0.0078	0.0453	55.87	N			
"	"	"	"	" /78	"/735	1.26	0.4455	0.0076	0.0489	58.62	N			
"	"	"	"	" /79	"/736	0.90	0.4538	0.0075	0.0510	60.51	N			
"	"	"	"	" /80	"/737	0.53	0.4610	0.0073	0.0537	63.15	Y		L.E. Streak	2-7
"	"	"	"	" /81	"/738	0.33	0.1504	0.0198	0.0043	7.60	Y	U	2/3 of surface	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
6	50	0	2	11/84	80/734	2.05	0.4450	0.0075	0.0476	59.33				
"	"	"	"	"/85	"/735	1.26	0.4532	0.0067	0.0508	67.64				
"	"	"	"	"/86	"/736	0.90	0.4580	0.0065	0.0529	70.46				
"	"	"	"	"/87	"/737	0.53	0.4796	0.0065	0.0583	73.78				
"	"	"	"	"/88	"/738	0.33	0.3487	0.0212	0.0193	16.45				
"	"	"	"	"/89	"/739	0.22	0.1538	0.0204	0.0060	7.54				
"	"	"	"	13/102	"/734	2.06	0.4348	0.0078	0.0460	55.74				
"	"	"	"	"/103	"/735	1.26	0.4469	0.0069	0.0496	64.77				
"	"	"	"	"/104	"/736	0.90	0.4434	0.0067	0.0503	66.18				
"	"	"	"	"/105	"/737	0.53	0.4556	0.0071	0.0534	64.17				
"	"	"	"	"/106	"/738	0.33	0.3108	0.0212	0.0110	14.66				
"	"	"	"	"/107	"/739	0.22	0.1253	0.0200	-0.0014	6.27				
"	"	"	"	"/108	"/737	0.53	0.4567	0.0066	0.0534	69.20				
"	"	"	"	"/109	"/738	0.33	0.3545	0.0196	0.0172	18.09				
"	"	"	"	"/110	"/739	0.22	0.1437	0.0195	0.0023	7.37				

Note: Run 11 is a rerun of Runs 7 and 10.

Note: Run 13 is a rerun of Run 11.

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
6	50	0	2	84/768	80/735	1.26	0.4540	0.0089	0.0521	51.01	N			
"	"	"	"	"/769	"/737	0.52	0.4703	0.0096	0.0524	48.99	Y		Midchord Inception	
"	"	"	"	"/770	"/*	0.62	0.4535	0.0084	0.0532	53.99	N		Suppressed	

*The face values for σ = 0.62 were found by interpolation.

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description		Photo No.
8	50	0	4	8/ 64	81/743	2.03	0.6602	0.0155	0.1038	42.59	N				
"	"	"	"	"/ 65	"/744	1.43	0.6640	0.0148	0.1069	44.86	Y	U	L.E., extends back approximately 1/4 inch and covers from F.P. to midspan.	Inception. Six streaks.	1-1
"	"	"	"	"/ 66	"/745	1.26	0.6700	0.0153	0.1096	43.79	Y	U	L.E., extends back approximately 1/2 inch and covers 80% of span.	Streak.	1-3
"	"	"	"	"/ 67	"/746	0.90	0.7298	0.0223	0.1185	32.73	Y	U	L.E., extends back 3-1/2 inches		2-2
"	"	"	"	"/ 68	"/748	2.02	0.6646	0.0154	0.1050	43.16	N	U	L.E.	Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
10	50	5	-4	21/182	63/583	2.04	0.0971	0.0082	-0.0838	11.84	N			
"	"	"	"	" /183	"/584	1.26	0.0978	0.0077	-0.0840	12.70	N			
"	"	"	"	" /184	"/585	1.19	0.0986	0.0078	-0.0849	12.64	Y	L	L.E. Inception	3-10
"	"	"	"	" /185	"/586	0.90	0.0993	0.0090	-0.0857	11.03	Y	L	L.E., extends back 3/8 inch	3-11
"	"	"	"	" /186	"/587	0.53	0.0798	0.0123	-0.0921	6.49	Y	L	L.E., extends back 2 inches	3-12
"	"	"	"	" /187	"/588	0.47	0.0571	0.0159	-0.0900	3.59	Y	L	L.E., extends back 3 inches	3-13
											Y	U	H.L Inception	3-14
"	"	"	"	" /188	"/589	0.52	0.0733	0.0130	-0.0934	5.64	N	U	H.L. Suppressed	
"	"	"	"	" /189	"/590	2.33	0.0952	0.0082	-0.0848	11.61	N	L	L.E. Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description		Photo No.
11	50	5	-3	20/170	62/571	2.05	0.1906	0.0075	-0.0610	25.41	N				
"	"	"	"	"/171	"/572	1.26	0.1952	0.0070	-0.0597	27.89	N				
"	"	"	"	"/172	"/573	0.90	0.1989	0.0067	-0.0599	29.69	N				
"	"	"	"	"/173	"/574	0.63	0.2013	0.0065	-0.0590	30.97	Y	L	L.E.	Inception	3-5
"	"	"	"	"/174	"/575	0.53	0.2011	0.0070	-0.0596	28.73	Y	L	L.E., extends back 1/2 inch and covers full span.		3-6
"	"	"	"	"/175	"/576	0.49	0.1981	0.0072	-0.0599	27.51	Y	L	L.E., extends back 3/4 inch and covers full span.		3-2
											Y	U	H.L.	Inception	3-7
"	"	"	"	"/176	"/577	0.33	0.1622	0.0150	-0.0744	10.81	Y	L	L.E., extends back 1/2 chord and covers full span.		3-3
											Y	U	H.L. to T.E.		3-8
"	"	"	"	"/177	"/578	0.22	-0.0155	0.0273	-0.0190	-0.57	Y Y	L U	L.E. to T.E. H.L. to T.E.		3-4
"	"	"	"	"/178	"/579	0.55	0.1973	0.0071	-0.0609	27.79	N	U	H.L.	Suppressed	
"	"	"	"	"/179	"/580	1.61	0.1888	0.0073	-0.0619	25.86	N	L	L.E.	Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
12	50	5	-2	19/158	61/559	2.04	0.2968	0.0059	-0.0378	50.31	N			
"	"	"	"	"/159	"/560	1.26	0.2981	0.0057	-0.0360	52.30	N			
"	"	"	"	"/160	"/561	0.90	0.3023	0.0055	-0.0350	54.96	N			
"	"	"	"	"/161	"/562	0.53	0.3067	0.0054	-0.0338	56.80	N			
"	"	"	"	"/162	"/563	0.48	0.3091	0.0054	-0.0337	57.24	Y	U	H. L. Inception	2-29
"	"	"	"	"/163	"/564	0.33	0.2726	0.0117	-0.0475	23.30	Y	U	H. L. to T. E.	2-30
"	"	"	"	"/164	"/565	0.31	0.2571	0.0124	-0.0481	20.73	Y	L	L. E. Inception	2-27
											Y	U	H. L. to T. E.	2-31
"	"	"	"	"/165	"/566	0.22	-0.0105	0.0253	-0.0153	-0.42	Y	L	L. E. to T. E.	2-28
"	"	"	"	"/166	"/567	0.36	0.3016	0.0107	-0.0455	28.19	N	L	L. E. Suppressed	
"	"	"	"	"/167	"/568	0.58	0.3105	0.0048	-0.0337	64.69	N	U	H. L. Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description		Photo No.
13	50	5	-1	18/148	60/549	2.04	0.4075	0.0064	-0.0127	63.67	N				
"	"	"	"	"/149	"/550	1.26	0.4104	0.0065	-0.0100	63.14	N				
"	"	"	"	"/150	"/551	0.90	0.4142	0.0061	-0.0086	67.90	N				
"	"	"	"	"/151	"/552	0.56	0.4184	0.0058	-0.0071	72.14	Y	U	H.L.	Inception	2-22
"	"	"	"	"/152	"/553	0.53	0.4215	0.0058	-0.0068	72.67	Y	U	H.L.	Developed	2-23
"	"	"	"	"/153	"/554	0.33	0.3197	0.0147	-0.0281	21.75	Y	U	H.L., extends forward to midchord.	"V" shaped.	2-24
"	"	"	"	"/154	"/555	0.22	-0.0105	0.0222	-0.0121	-0.47	Y	U	H.L., extends forward to midchord		2-25
											Y	L	L.E. to T.E.		2-26
"	"	"	"	"/155	"/556	0.61	0.4224	0.0060	-0.0072	70.40	Y	U	H.L.	Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
14	50	5	0	14/113	56/514	2.04	0.5075	0.0086	0.0129	59.01	N			
"	"	"	"	"/114	"/515	1.26	0.5140	0.0076	0.0160	67.63	N			
"	"	"	"	"/115	"/516	0.90	0.5218	0.0073	0.0179	71.48	N			
"	"	"	"	"/116	"/517	0.53	0.5248	0.0070	0.0197	74.97	Y	U	H. L., extends back 1/8 inch — Inception	2-9
"	"	"	"	"/117	"/518	0.33	0.3418	0.0190	-0.0118	17.99	Y	U	Midchord	2-10
"	"	"	"	"/118	"/519	0.22	0.1486	0.0191	-0.0251	7.78	Y	U	Midchord, extends back 1-1/4 inch behind T. E.	2-11
"	"	"	"	"/119	"/520	0.67	0.5303	0.0065	0.0196	81.58	N	U	Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description		Photo No.
15	50	5	1	17/138	59/539	2.04	0.5140	0.0086	0.0134	59.77	N				
"	"	"	"	"/139	"/540	1.26	0.5172	0.0080	0.0165	64.65	N				
"	"	"	"	"/140	"/541	0.90	0.5240	0.0078	0.0184	67.18	N				
"	"	"	"	"/141	"/542	0.54	0.5259	0.0073	0.0202	72.04	Y	U	H. L.	Inception	2-20
"	"	"	"	"/142	"/543	0.53	0.5347	0.0070	0.0205	76.39	Y	U	H. L.	Developed	
"	"	"	"	"/143	"/544	0.33	0.3459	0.0193	-0.0110	17.92	Y	U	L. E., extends back to H. L.	"V" shaped.	2-21
"	"	"	"	"/144	"/545	0.22	0.1366	0.0190	-0.0257	7.19	Y	U	Midchord extends back 1-1/2 inches behind T. E.		
"	"	"	"	"/145	"/546	0.62	0.5377	0.0065	0.0203	82.72	N	U	H. L.	Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description		Photo No.
16	50	5	2	15/122	57/523	2.05	0.7337	0.0147	0.0729	49.91	N				
"	"	"	"	"/123	"/524	1.26	0.7362	0.0133	0.0764	55.35	N				
"	"	"	"	"/124	"/525	0.90	0.7290	0.0187	0.0796	38.98	Y	U	L.E.	Three streaks.	2-12
"	"	"	"	"/125	"/526	0.53	0.6324	0.0340	0.0339	18.60	Y	U	L.E. to T.E.	Streaks	2-14
"	"	"	"	"/126	"/527	0.33	0.3793	0.0195	0.0195	12.77	Y	U	L.E., extends back 1 inch behind T.E.	"V" shaped.	2-15
"	"	"	"	"/127	"/528	0.22	0.2059	0.0239	0.0042	8.62	Y	U	L.E., extends back 3 inches behind T.E.	"V" shaped.	2-16
"	"	"	"	"/128	"/529	1.44	0.7409	0.0137	0.0766	54.08	N	U	L.E.	Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description		Photo No.
17	50	5	3	16/131	58/532	2.04	0.8245	0.0192	0.0989	42.94	N				
"	"	"	"	"/132	"/533	1.62	0.8317	0.0185	0.1017	44.96	Y	U	L.E.	Inception. Spotty.	2-17
"	"	"	"	"/133	"/534	1.26	0.8380	0.0197	0.1070	42.54	Y	U	L.E., extends back 1 inch and covers full span.		2-18
"	"	"	"	"/134	"/535	0.97	0.9377	0.0310	0.1091	30.25	Y	U	L.E., extends back 3/4 of chord.		2-19
"	"	"	"	"/135	"/536	2.04	0.8283	0.0194	0.0996	42.70	Y	U	L.E.	Two tiny spots.	
18	50	-5	-2	24/213	73/672	2.04	-0.2433	0.0115	-0.0695	-21.16	N				
"	"	"	"	"/214	"/673	1.66	-0.2485	0.0118	-0.0707	-20.06	Y	L	L.E.	Inception	3-25
"	"	"	"	"/215	"/674	1.26	-0.2527	0.0139	-0.0723	-18.18	Y	L	L.E., extends back 3/8 inch.		3-27
"	"	"	"	"/216	"/675	0.90	-0.2673	0.0169	-0.0783	-15.82	Y	L	L.E., extends back 1-1/2 inches.		3-28
"	"	"	"	"/217	"/676	0.53	-0.4019	0.0405	-0.0347	-9.92	Y	L	L.E. to T.E.		3-29
"	"	"	"	"/218	"/677	2.35	-0.2443	0.0113	-0.0702	-21.62	Y	L	L.E.	Row of tiny bubbles. Almost suppressed. (P_0 limitation)	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
19	50	-5	0	22/192	71/651	2.05	-0.0437	0.0072	-0.0206	-6.07	N			
"	"	"	"	"/193	"/652	1.26	-0.0482	0.0075	-0.0207	-6.43	N			
"	"	"	"	"/194	"/653	0.90	-0.0506	0.0077	-0.0211	-6.57	N			
"	"	"	"	"/195	"/654	0.53	-0.0548	0.0082	-0.0214	-6.68	N			
"	"	"	"	"/196	"/655	0.48	-0.0537	0.0084	-0.0213	-6.39	Y	L	L.E. near tip — Inception	3-21
"	"	"	"	"/197	"/656	0.33	-0.1086	0.0091	-0.0242	-11.93	Y	L	L.E. to T.E.	3-20
"	"	"	"	"/198	"/657	0.22	-0.0269	0.0174	-0.0017	-1.55	Y	U	Partially covered.	3-18
											Y	L	L.E. to T.E.	3-19
"	"	"	"	"/199	"/658	1.21	-0.0483	0.0073	-0.0208	-6.62	N		Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Suriace	Location and Description		Photo No.
20	50	-5	1	23/202	72/661	2.05	0.0326	0.0051	0.0016	6.39	N				
"	"	"	"	"/203	"/662	1.26	0.0332	0.0054	0.0021	6.15	N				
"	"	"	"	"/204	"/663	0.90	0.0332	0.0056	0.0025	5.93	N				
"	"	"	"	"/205	"/664	0.53	0.0352	0.0060	0.0031	5.87	N				
"	"	"	"	"/206	"/665	0.33	0.0371	0.0063	0.0036	5.89	N				
"	"	"	"	"/207	"/666	0.25	0.0482	0.0074	0.0012	6.51	Y	U	Midchord	Inception	3-24
"	"	"	"	"/208	"/667	0.22	0.0528	0.0101	-0.0078	5.23	Y	U	Midchord		3-22
											Y	L	H. L.	Inception	3-23
"	"	"	"	"/209	"/668	0.24	0.0470	0.0076	0.0008	6.18	N	L	H. L.	Suppressed	
"	"	"	"	"/210	"/669	0.31	0.0369	0.0066	0.0036	5.58	N	U		Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
21	50	2.5	-5	37/326	70/645	2.39	-0.1365	0.0115	-0.1169	-11.87	Y	L	L.E. Inception	5-21
"	"	"	"	"/327	"/646	2.08	-0.1387	0.0136	-0.1184	-10.20	Y	L	L.E., extends back 1/4 inch and covers span.	5-22
"	"	"	"	"/328	"/647	1.29	-0.1488	0.0208	-0.1236	-7.15	Y	L	L.E., extends back 1 inch and covers span.	5-23
"	"	"	"	"/329	"/648	0.93	-0.1750	0.0270	-0.1297	-6.48	Y	L	L.E. Very rough.	5-24
22	50	2.5	-4	36/319	69/638	2.03	-0.0388	0.0089	-0.0937	-4.36	N			
"	"	"	"	"/320	"/639	1.74	-0.0402	0.0089	-0.0932	-4.52	Y	L	L.E. Inception	5-18
"	"	"	"	"/321	"/640	1.26	-0.0405	0.0110	-0.0957	-3.68	Y	L	L.E. Developed	5-19
"	"	"	"	"/322	"/641	0.90	-0.0474	0.0141	-0.0999	-3.36	Y	L	L.E. Further developed.	5-20
"	"	"	"	"/323	"/642	1.97	-0.0430	0.0089	-0.0953	-4.83	N	L	L.E. Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description		Photo No.
23	50	2.5	-2	35/308	68/627	2.03	0.1605	0.0068	-0.0457	23.60	N				
"	"	"	"	"/309	"/628	1.26	0.1627	0.0064	-0.0451	25.42	N				
"	"	"	"	"/310	"/629	0.90	0.1667	0.0061	-0.0442	27.33	N				
"	"	"	"	"/311	"/630	0.53	0.1708	0.0061	-0.0436	28.00	N				
"	"	"	"	"/312	"/631	0.50	0.1717	0.0062	-0.0435	27.69	Y	L	L.E.	Inception	5-15
"	"	"	"	"/313	"/632	0.33	0.1685	0.0075	-0.0476	22.47	Y	L	H.L.	Inception	5-13 5-16
"	"	"	"	"/314	"/633	0.22	-0.0084	0.0244	-0.0153	-0.34	Y	U	1/2 of surface		5-14
											Y	U	L.E. to T.E.		5-17
"	"	"	"	"/315	"/634	0.39	0.1623	0.0071	-0.0444	22.86	N	U	H.L.	Suppressed	
"	"	"	"	"/316	"/635	1.65	0.1520	0.0062	-0.0456	24.52	N	L	L.E.	Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description		Photo No.
24	50	2.5	0	31/276	64/593	2.03	0.3680	0.0058	0.0029	63.45	N				
"	"	"	"	"/277	"/594	1.26	0.3729	0.0055	0.0054	67.80	N				
"	"	"	"	"/278	"/595	0.90	0.3782	0.0054	0.0068	70.04	N				
"	"	"	"	"/279	"/596	0.53	0.3800	0.0053	0.0083	71.70	N				
"	"	"	"	"/280	"/597	0.44	0.3864	0.0056	0.0083	69.00	Y	U	Midchord	Inception	5-2
"	"	"	"	"/281	"/598	0.33	0.3235	0.0144	-0.0139	22.47	Y	U	Midchord, extends beyond T.E.	Developed	5-3
"	"	"	"	"/282	"/599	0.22	0.1152	0.0170	-0.0282	6.78	Y	U	Midchord, extends beyond T.E.	Further developed.	5-4
"	"	"	"	"/283	"/600	0.49	0.3831	0.0052	0.0086	73.67	N	U	Midchord	Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description		Photo No.
25	50	2.5	1	32/286	65/603	2.03	0.4815	0.0075	0.0300	64.20	N				
"	"	"	"	"/287	"/604	1.26	0.4852	0.0069	0.0329	70.32	N				
"	"	"	"	"/288	"/605	0.90	0.4922	0.0066	0.0350	74.58	N				
"	"	"	"	"/289	"/606	0.53	0.4987	0.0062	0.0373	80.44	Y	U	Outboard and slightly forward of midchord.	Inception	5-5
"	"	"	"	"/290	"/607	0.33	0.3467	0.0197	0.0021	17.60	Y	U	Forward of midchord covers full span.	Developed	5-6
"	"	"	"	"/291	"/608	0.22	0.1223	0.0187	-0.0135	6.54	Y	U	60% of surface.		5-7
"	"	"	"	"/292	"/609	0.59	0.5139	0.0066	0.0411	77.86	N	U		Suppressed	
26	50	2.5	2	33/295	66/612	2.03	0.6078	0.0103	0.0631	59.01	N				
"	"	"	"	"/296	"/613	1.26	0.6239	0.0093	0.0676	67.09	N				
"	"	"	"	"/297	"/614	0.90	0.6227	0.0091	0.0692	68.43	Y	U	L.E., extends back 5/16 inch.	Inception. Two small streaks.	5-8
"	"	"	"	"/298	"/615	0.53	0.6104	0.0247	0.0396	24.71	Y	U	L.E., inboard side only.	Developed. Rough.	5-9
"	"	"	"	"/299	"/617	1.01	0.6260	0.0094	0.0693	66.60	N	U	L.E.	Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description		Photo No.
28	50	7.5	-5	43/382	49/441	2.04	0.1493	0.0006	-0.0982	248.83	N				
"	"	"	"	"/383	"/443	1.26	0.1458	0.0058	-0.0985	25.14				Missed	
"	"	"	"	"/384	"/442	1.36	0.1473	0.0051	-0.0990	28.88	Y	L	L.E., covers almost entire span.	Inception	6-16
"	"	"	"	"/385	"/443	1.26	0.1466	0.0060	-0.0990	24.43	Y				
"	"	"	"	"/386	"/444	0.90	0.1454	0.0107	-0.1015	13.59	Y	L	L.E., extends back 3/4 inch.		
"	"	"	"	"/387	"/445	0.73	0.1408	0.0132	-0.1032	10.67	Y	U	H.L.	Inception	
											Y	L	L.E.	Developed	
"	"	"	"	"/388	"/446	0.53	0.1201	0.0201	-0.1075	5.98	Y	L	L.E., extends back approximately 2 inches.		
											Y	U	H.L., extends back approximately 1 inch.		
"	"	"	"	"/389	"/448	0.76	0.1388	0.0120	-0.1021	11.57	N	U	H.L.	Suppressed	
"	"	"	"	"/390	"/449	2.34	0.1473	-0.0007	-0.0995	-210.43	Y	L	L.E.	Tiny spot. Almost suppressed. (P_0 limitation).	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description		Photo No.
29	50	7.5	-4	42/373	48/431	2.04	0.2491	0.0007	-0.0753	355.86	N				
"	"	"	"	"/374	"/432	1.26	0.2483	0.0048	-0.0744	51.73	N				
"	"	"	"	"/375	"/433	0.90	0.2514	0.0071	-0.0746	35.41	N				
"	"	"	"	"/376	"/434	0.76	0.2518	0.0078	-0.0743	32.28	Y	L	L.E.	Inception	6-12
											Y	U	H.L.	Inception	6-13
"	"	"	"	"/377	"/435	0.53	0.2521	0.0112	-0.0756	22.51	Y	L	L.E., extends back 1 inch and covers span.		
											Y	U	H.L., extends back 1 inch and covers span.		6-15
"	"	"	"	"/378	"/437	0.79	0.2452	0.0057	-0.0748	32.69	N	U	H.L.	Suppressed	
"	"	"	"	"/379	"/438	1.96	0.2452	0.0009	-0.0760	272.44	N	L	L.E.	Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description		Photo No.
30	50	7.5	-2	41/361	74/420	2.04	0.4636	-0.0009	-0.0269	-515.11	N				
"	"	"	"	"/362	"/421	1.26	0.4677	0.0039	-0.0243	119.92	N				
"	"	"	"	"/363	"/422	0.90	0.4671	0.0063	-0.0227	74.14	N				
"	"	"	"	"/364	"/423	0.77	0.4682	0.0070	-0.0222	66.89	Y	U	Just behind H.L.	Inception	6-5
"	"	"	"	"/365	"/424	0.53	0.4711	0.0111	-0.0245	42.44	Y	U	H.L., extends back 1 inch		6-6
"	"	"	"	"/366	"/425	0.33	0.2802	0.0199	-0.0452	14.08	Y	U	H.L. to T.E.		6-7
"	"	"	"	"/367	"/426	0.29	0.2276	0.0212	-0.0484	10.74	Y	L	L.E.	Inception	6-8 6-9
"	"	"	"	"/368	"/427	0.22	-0.0092	0.0277	-0.0141	-0.33	Y	L	L.E. to T.E.		6-10 6-11
"	"	"	"	"/369	"/428	0.37	0.3312	0.0194	-0.0430	17.07	N	L	L.E.	Suppressed	
"	"	"	"	"/370	"/*	0.83	0.4665	0.0063	-0.0224	74.05	N	U	H.L.	Suppressed	

*The tare values for $\sigma = 0.83$ were found by interpolation.

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
31	50	7.5	0	38/334	41/393	2.05	0.6785	0.0106	0.0258	64.01	N			
"	"	"	"	"/335	"/394	1.26	0.6858	0.0091	0.0091	75.36	N			
"	"	"	"	"/336	"/395	0.90	0.6983	0.0084	0.0323	83.13	N			
"	"	"	"	"/337	"/396	0.79	0.6968	0.0079	0.0328	88.20	Y	U	H.L. Inception	5-25
"	"	"	"	"/338	"/397	0.53	0.6746	0.0175	0.0172	38.55	Y	U	3/4 of flop	5-26
"	"	"	"	"/339	"/398	0.33	0.3529	0.0233	-0.0104	15.15	Y	U	Approximately midchord to 1/2 inch behind T.E.	5-27
"	"	"	"	"/340	"/399	0.22	0.1801	0.0211	-0.0249	8.54	Y	U	Approximately midchord to 2 inches behind T.E.	5-28
"	"	"	"	"/341	"/400	0.88	0.6987	0.0082	0.0325	85.21	N	U	H.L. Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description		Photo No.
32	50	7.5	1	39/344	45/403	2.05	0.7616	0.0142	0.0525	53.63	N				
"	"	"	"	"/345	"/404	1.26	0.8041	0.0128	0.0640	62.82	N				
"	"	"	"	"/346	"/405	0.90	0.7945	0.0120	0.0654	66.21	N				
"	"	"	"	"/347	"/*	0.75	0.8093	0.0118	0.0685	63.58	Y	U	L.E., extends back to T.E.	Two streaks.	5-29
"	"	"	"	"/348	"/407	0.53	0.7139	0.0257	0.0337	27.78				Problem with particles on L.E.	5-30
"	"	"	"	"/349	"/408	0.33	0.3721	0.0280	0.0048	13.29	Y	U	Midchord to 1 inch behind T.E.		5-31
"	"	"	"	"/350	"/409	0.22	0.2127	0.0232	-0.0100	9.17	Y	U	Midchord to 3 inches behind T.E.		5-32
"	"	"	"	"/351	"/410	1.12	0.7938	0.0119	0.0611	66.71	Y	U	L.E.		

*The tare values for $\sigma = 0.75$ were found by interpolation.

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description		Photo No.
33	50	7.5	2	40/354	46/413	2.04	0.8635	0.0119	0.0832	72.56	N				
"	"	"	"	"/355	"/414	1.34	0.8666	0.0144	0.0877	60.18	Y	U	L.E.	Inception	6-2
"	"	"	"	"/356	"/415	1.26	0.8752	0.0153	0.0896	57.20	Y	U	L.E., originating at F.P. and covers 2/3 of span		6-3
"	"	"	"	"/357	"/416	0.90	0.9616	0.0364	0.0753	26.42	Y	U	L.E. to T.E.	Very rough.	6-4
"	"	"	"	"/358	"/417	2.34	0.8588	0.0105	0.0815	81.79	Y	U	L.E.	Two tiny spots. Almost suppressed. (P_0 limitation)	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface		Location and Description	Photo No.
34	50	10	-5	30/266	*	2.04	0.2862	0.0087	-0.0905	32.90	N				
"	"	"	"	"/267		1.26	0.2922	0.0082	-0.0890	35.63	N				
"	"	"	"	"/268		1.04	0.2962	0.0078	-0.0884	37.97	Y		U	H. L.	Inception	4-16
"	"	"	"	"/269		1.00	0.2993	0.0079	-0.0891	37.89	Y	L		L. E.	Inception	4-13
											Y		U	H. L.	Developed	4-17
"	"	"	"	"/270		0.90	0.3010	0.0080	-0.0888	37.63	Y	L		L. E.	Developed	4-14
											Y		U	H. L.	Further developed.	4-18
"	"	"	"	"/271		0.53	0.0191	-0.0191	-0.1057	14.57	Y	L		L. E.	Further developed.	4-15
											Y		U	H. L. to T. E.		4-19
"	"	"	"	"/272		1.22	0.2913	0.0081	-0.0897	35.96	N		U	H. L.	Suppressed	
"	"	"	"	"/273		2.03	0.2818	0.0085	-0.0904	33.15	N	L		L. E.	Suppressed	

*There was no Tare Run for $\sigma = 10^\circ$, $\alpha = -5^\circ$ and $V_0 = 50$ ft/sec made for HSWT-1131.
All of the Tare values used, except for $\sigma = 1.26$ and $\sigma = 1.22$, are from a plot dated 3/22/79 and work sheet dated 3/22/79.
The tare values used for $\sigma = 1.26$ and $\sigma = 1.22$ are from the Tare run for Group 34 in HSWT-1127.

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
35	50	10	-4	29/256	54/489	2.04	0.3937	0.0081	-0.0657	48.60	N			
"	"	"	"	"/257	"/490	1.26	0.3974	0.0074	-0.0641	53.70	N			
"	"	"	"	"/258	"/491	1.05	0.4021	0.0072	-0.0633	55.85	Y	U	H.L. Inception	4-9
"	"	"	"	"/259	"/492	0.90	0.4061	0.0078	-0.0634	52.06	Y	U	H.L. Developed	4-10
"	"	"	"	"/260	"/493	0.53	0.3768	0.0162	-0.0762	23.26	Y	U	H.L. to T.E.	4-11
"	"	"	"	"/261	"/494	0.50	0.3426	0.0172	-0.0784	19.92	Y	L	L.E. Inception	4-12
											Y	U	H.L. to T.E.	
"	"	"	"	"/262	"/496	1.18	0.4035	0.0071	-0.0639	56.83	N	U	H.L. Suppressed	
"	"	"	"	"/263	"/497	1.53	0.3987	0.0071	-0.0649	56.15	N	L	L.E. Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
37	50	10	-1	28/246	53/479	2.05	0.7158	0.0118	0.0110	60.66	N			
"	"	"	"	"/247	"/480	1.26	0.7461	0.0099	0.0156	75.36	N			
"	"	"	"	"/248	"/*	1.14	0.7400	0.0094	0.0161	78.72	Y		H.L. Inception	4-4
"	"	"	"	"/249	"/482	0.90	0.7454	0.0097	0.0170	76.85	Y		H.L., extends back 3/8 inch	4-5
"	"	"	"	"/250	"/483	0.53	0.6431	0.0214	-0.0034	30.05	Y		H.L. to T.E.	4-6
"	"	"	"	"/251	"/484	0.33	0.3545	0.0234	-0.0235	15.15	Y		Begins forward of H.L., extends back 1 inch behind T.E.	4-7
"	"	"	"	"/252	"/485	0.22	0.1679	0.0217	-0.0396	7.74	Y		Begins forward of H.L., extends back 3 inches behind T.E.	
"	"	"	"	"/253	"/486	1.24	0.7359	0.0093	-0.0156	79.13	N		H.L. Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Fare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
38	50	10	0	25/221	50/452	2.04	0.8304	0.0143	0.0377	58.07	N			
"	"	"	"	"/222	"/453	1.26	0.8444	0.0120	0.0422	70.37	N			
"	"	"	"	"/223	"/454	1.19	0.8527	0.0117	0.0430	72.88	Y	U	Just behind H. L. Inception	3-30
"	"	"	"	"/224	"/455	0.90	0.8540	0.0120	0.0441	71.17	Y	U	Just behind H. L., extends back 5/16 inch.	3-31
"	"	"	"	"/225	"/456	0.53	0.7174	0.0264	0.0174	27.17	Y	U	H. L. to T. E.	3-32
"	"	"	"	"/226	"/457	0.33	0.3967	0.0278	-0.0070	14.27	Y	U	Forward of H. L., extends back 1 inch behind T. E.	3-33
"	"	"	"	"/227	"/458	0.22	0.2165	0.0236	-0.0234	9.17	Y	U	Forward of H. L., extends back 3 inches behind T. E.	4-21
"	"	"	"	"/228	"/453	1.25	0.8503	0.0118	0.0431	72.06	N	U	H. L. Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
39	50	10	1	26/231	51/462	2.04	0.8877	0.0188	0.0628	47.22	N			
"	"	"	"	"/232	"/463	1.26	0.8872	0.0166	0.0668	53.45	N			
"	"	"	"	"/233	"/464	0.95	0.8932	0.0159	0.0701	56.18	Y	U	H.L. Inception	4-23
											Y	U	L.E. Three large streaks.	
"	"	"	"	"/234	"/465	0.90	1.0247	0.0258	0.0670	39.72	Y	U	L.E. to T.E.	4-24
"	"	"	"	"/235	"/467	1.09	0.9020	0.0170	0.0748	53.06	Y	U	L.E. Inception	4-22
"	"	"	"	"/236	"/468	1.16	0.9044	0.0173	0.0745	52.28	N		H.L. Suppressed	
"	"	"	"	"/237	"/469	1.41	0.9015	0.0182	0.0724	49.53	N	U	L.E. Suppressed	
40	50	10	2	27/240	52/472	2.05	0.9762	0.0246	0.0936	39.68	N			
"	"	"	"	"/241	"/473	1.74	0.9715	0.0240	0.0949	40.48	Y		L.E. Inception	4-2
"	"	"	"	"/242	"/474	1.26	0.0572	0.0263	0.1133	40.20	Y		L.E., extends back 1/3 of chord	4-3
"	"	"	"	"/243	"/476	2.23	0.9783	0.0254	0.0933	38.52	N		L.E. Suppressed	

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
44	25	0	0	1 /2	74/680	0.35	0.2369	0.0075	0.0001	31.59	Y		Midchord	
"	"	"	"	" /3	"/681	3.31	0.2352	0.0070	-0.0005	33.60	N			
"	40	"	"	" /4	"/682	0.38	0.2461	0.0061	0.0012	40.34	Y		Midchord	Inception
"	"	"	"	" /5	"/683	1.31	0.2366	0.0058	-0.0008	40.79	N			
"	50	"	"	" /6	"/684	0.38	0.2449	0.0059	0.0007	41.50	Y		Midchord	
"	"	"	"	" /7	"/685	0.84	0.2378	0.0047	-0.0012	50.60	N			
"	60	"	"	" /8	"/686	0.39	0.2442	0.0045	0.0000	54.27	Y		Midchord	Intermittent
"	"	"	"	" /9	"/687	0.58	0.2379	0.0053	-0.0010	44.89	N			

TABLE III (Cont'd.)

Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
44	25	0	0	12/ 92	74/680	0.35	0.2321	0.0052	0.0016	44.63				
"	"	"	"	"/ 93	"/681	3.31	0.2364	0.0054	-0.0020	43.78				
"	40	"	"	"/ 94	"/682	0.38	0.2399	0.0055	0.0008	43.62				
"	"	"	"	"/ 95	"/683	1.30	0.2373	0.0050	-0.0014	47.46				
"	50	"	"	"/ 96	"/684	0.37	0.2439	0.0055	0	44.35				
"	"	"	"	"/ 97	"/685	0.84	0.2411	0.0049	-0.0011	49.20				
"	60	"	"	"/ 98	"/686	0.39	0.2411	0.0051	-0.0004	47.27				
"	"	"	"	"/ 99	"/687	0.58	0.2355	0.0049	-0.0013	48.06				

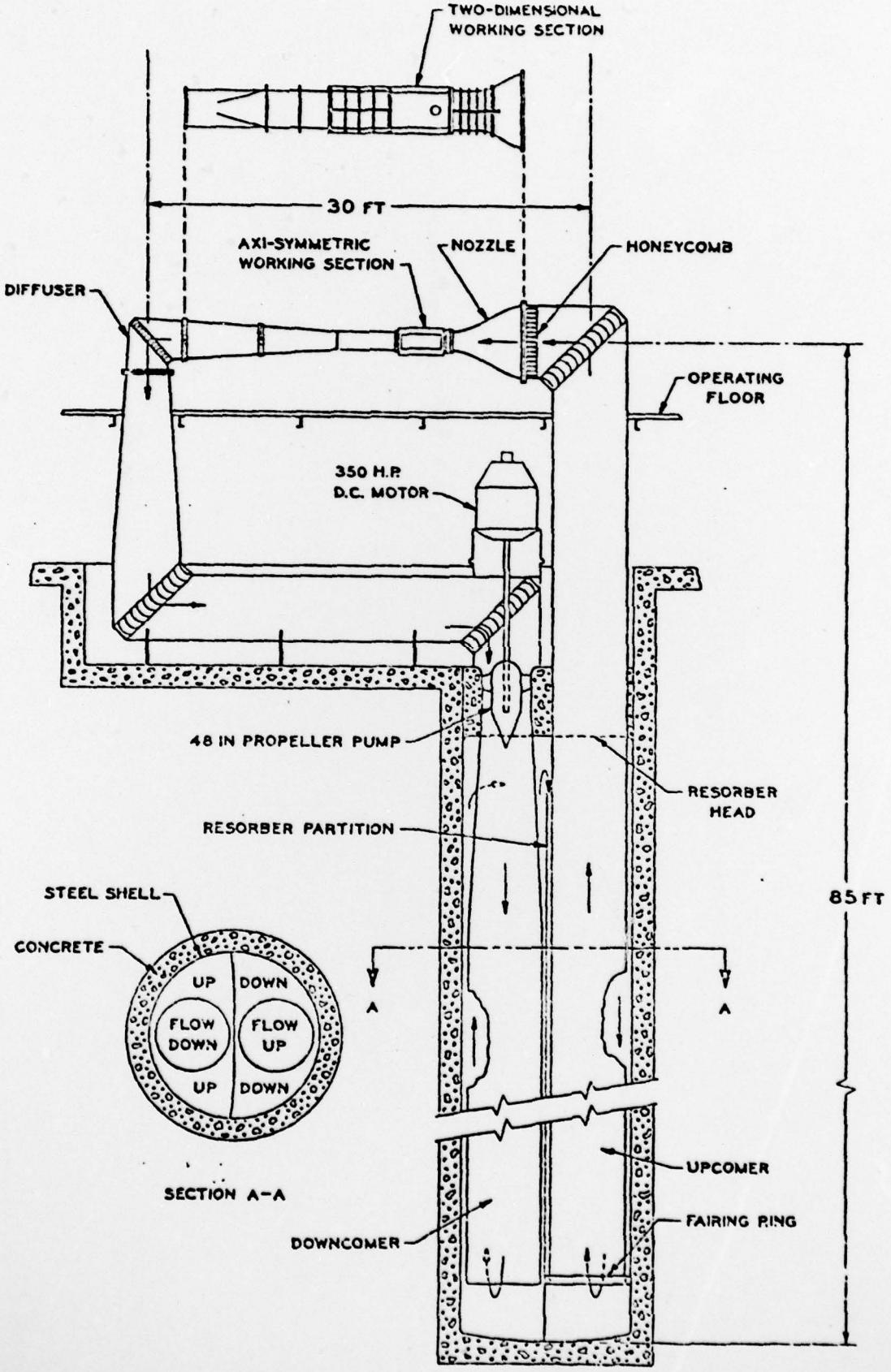
Note: Run 12 is a rerun of Run 1.

TABLE III (Cont'd.)

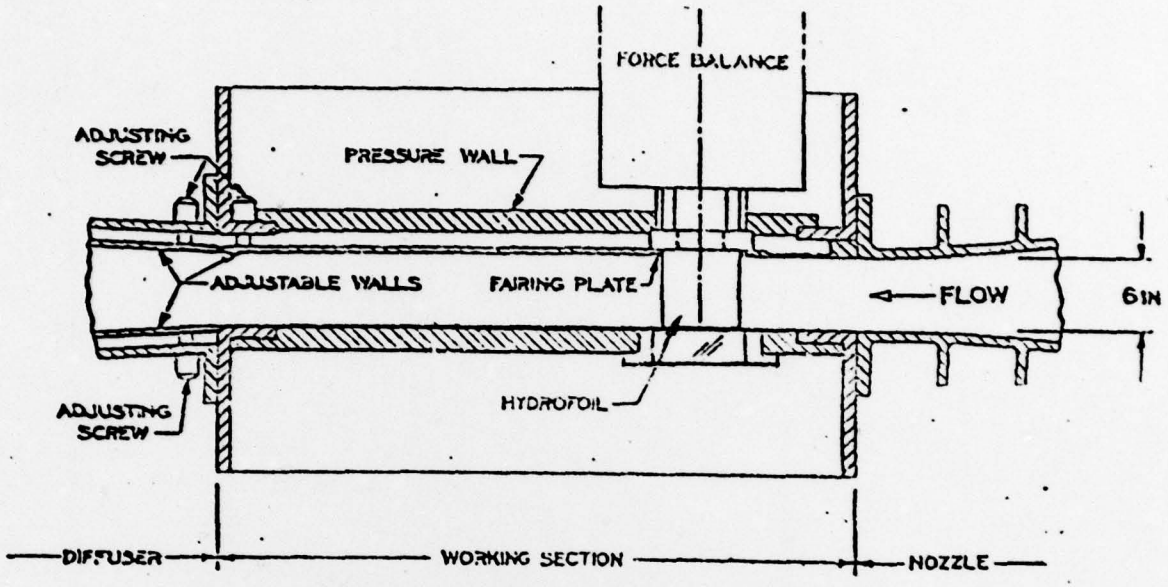
Grp No.	V_0 Fps	δ°	α°	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description	Photo No.
44	50	0	0	83/757	85/772	0.85	0.2375	0.0064	-0.0013	37.11	N			
"	"	"	"	"/758	"/773	0.39	0.2407	0.0061	-0.0005	39.46	Y	U	Outboard slightly behind midchord. Inception	
"	"	"	"	"/759	"/774	0.45	0.2387	0.0059	-0.0006	40.46	N	U	Midchord Suppressed	
"	70	"	"	"/760	"/775	0.73	0.2269	0.0067	-0.0028	33.87	N			
"	"	"	"	"/761	"/776	0.38	0.2306	0.0074	-0.0014	31.16	Y	U	Inboard slightly behind midchord. Inception	
"	"	"	"	"/762	"/777	0.42	0.2343	0.0073	-0.0014	32.10	N	U	Midchord Suppressed	
"	80	"	"	"/763	"/778	0.56	0.2246	0.0067	-0.0028	33.52	N			
"	"	"	"	"/764	"/779	0.40	0.2353	0.0072	-0.0015	32.68	Y	U	Inboard slightly behind midchord. Inception	
"	"	"	"	"/765	"/780	0.42	0.2301	0.0071	-0.0018	32.41	N	U	Midchord Suppressed	

TABLE III (Cont'd.)

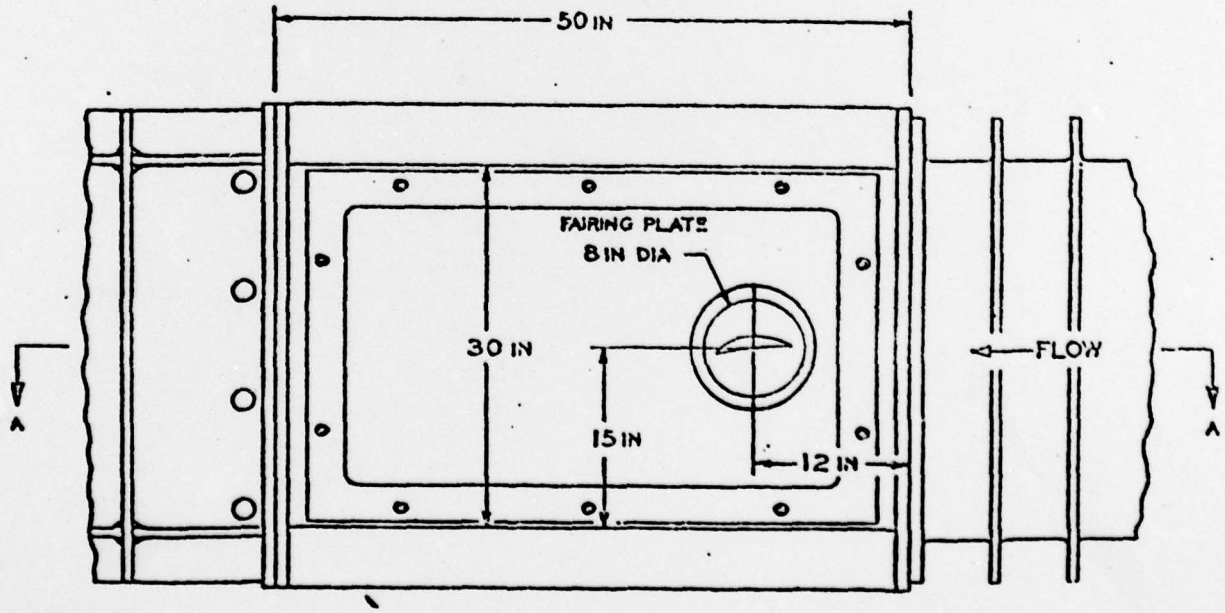
Grp No.	V_0 Fps	δ^o	α^o	Data Run/ Card	Tare Run/ Card	σ	C_L	C_D	C_M	L/D	Cavitation	Surface	Location and Description		Photo No.
48	50	2.5	4	34/302	67/630	2.33	0.7974	0.0193	0.1138	41.32	N				
"	"	"	"	"/303	"/621	1.86	0.7939	0.0189	0.1153	42.01	Y	U	L.E., extends back about 1/4 inch and covers 2/3 of span.	Inception	5-10
"	"	"	"	"/304	"/622	1.26	0.8207	0.0219	0.1270	37.47	Y	U	L.E., extends back 1-1/4 inches and covers entire span.		5-11
"	"	"	"	"/305	"/624	2.33	0.7930	0.0194	0.1143	40.88			L.E.	Three tiny spots. Almost suppressed. (P_0 limitation)	5-12
49	40	0	6	9/ 71	82/751	3.21	0.8607	0.0233	0.1541	36.94	Y	U	L.E. near F.P.	Inception	
"	32	"	8	"/ 72	"/752	5.02	1.0188	0.0333	0.1967	30.59	Y	U	L.E. near F.P.	Inception	
"	"	"	10	"/ 73	"/753	5.04	1.1053	0.0811	0.2309	13.63	Y	U	L.E. near F.P.	Inception	
"	"	"	12	"/ 74	"/754	4.83	1.1403	0.1436	0.2336	7.94	Y	U	L.E. extends back 3/4 inch.	Inception	



High Speed Water Tunnel Circuit Schematic



SECTION A-A



PLEXIGLAS WINDOWS TOP AND BOTTOM

Two-Dimensional Working Section Schematic

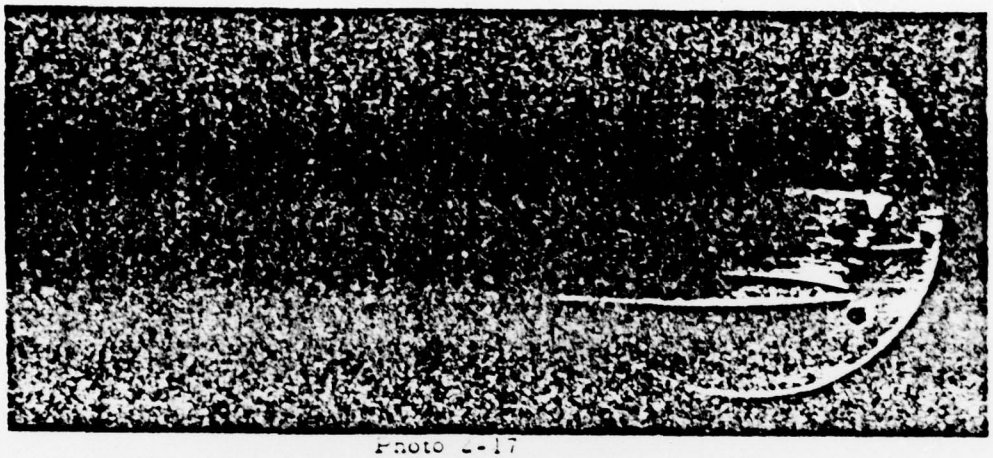


Photo 2-17

$\delta = 0^{\circ}$, $\alpha = 3^{\circ}$, $\sigma = 1.62$

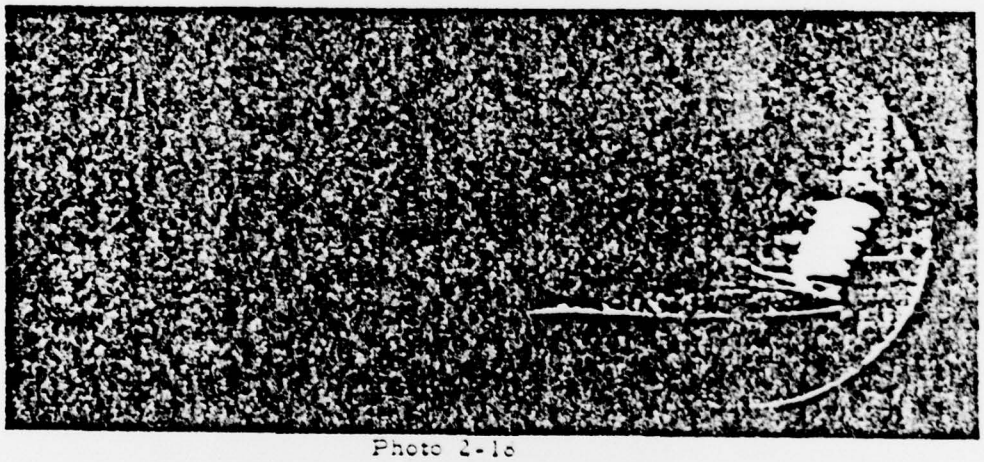


Photo 2-18

$\delta = 0^{\circ}$, $\alpha = 3^{\circ}$, $\sigma = 1.26$

Photo 2-19

$\delta = 0^{\circ}$, $\alpha = 3^{\circ}$, $\sigma = 0.97$

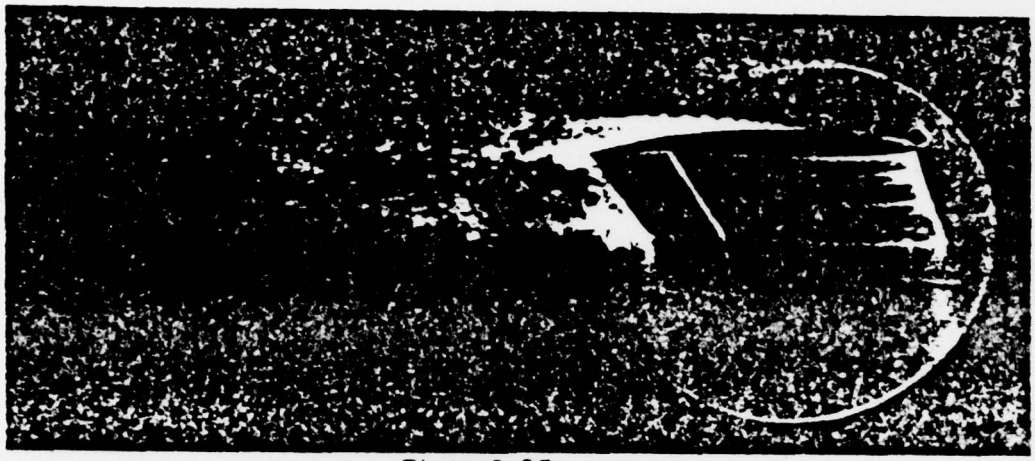


Photo 2-27

$\delta = 5^{o}$, $\alpha = -2$, $\sigma = 0.31$ Bottom View

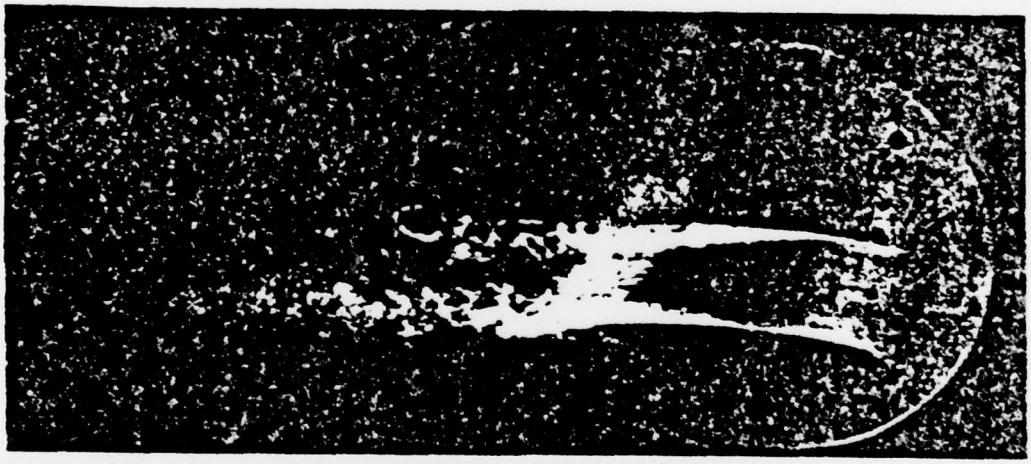


Photo 2-31

$\delta = 5^{o}$, $\alpha = -2^{o}$, $\sigma = 0.31$ Top View

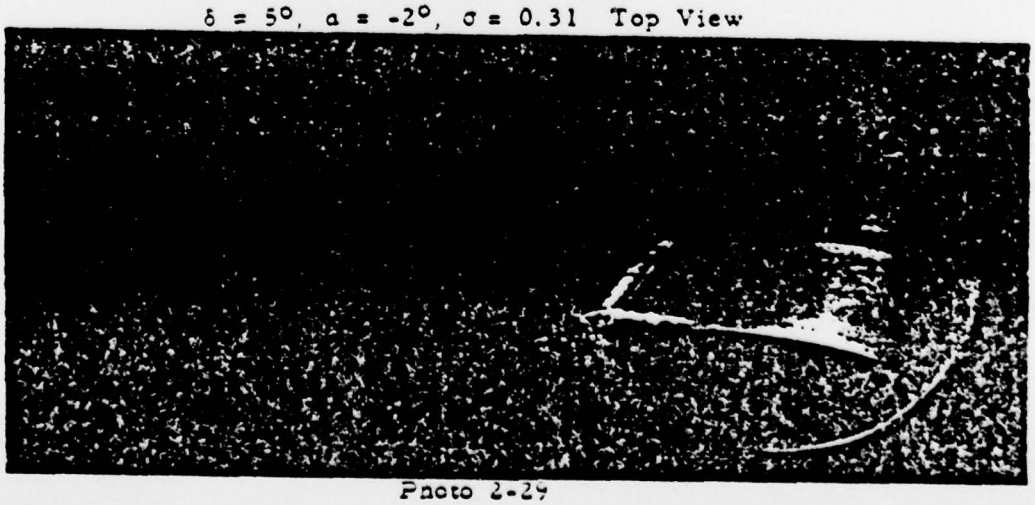


Photo 2-29

$\delta = 5^{o}$, $\alpha = -2^{o}$, $\sigma = 0.48$