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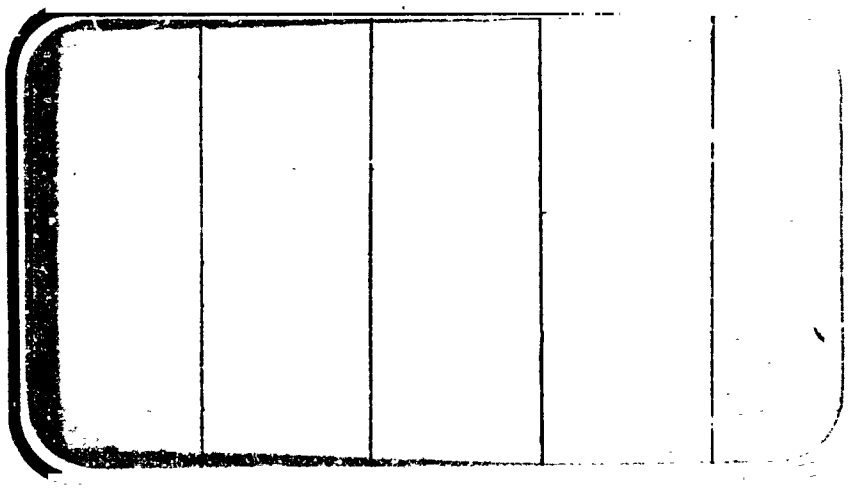

(NASA-CR-147637) RESULTS OF A FLOW FIELD SURVEY CONDUCTED USING THE 0.0175 SCALE ORBITER MODEL 29-0 IN AEDC VKF TUNNEL B DURING TEST OH52 (Chrysler Corp.) 214 p HC $7.75 CSCL C1A G3/18

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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT

JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANagement services
SPACE DIVISION CHRYSLER CORPORATION

September, 1976

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RESULTS OF A FLOW FIELD SURVEY CONDUCTED USING THE 0.0175 SCALE ORBITER MODEL 29-0 IN AEDC VKF TUNNEL B DURING TEST OH52

by

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Prepared under NASA Contract Number NAS9-13247

by

Data Management Services
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New Orleans, La. 70189

for

Engineering Analysis Division

Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number:	AEDC VKF B VA524
NASA Series Number:	OH52
Model Number:	29-0
Test Dates:	May 6 through May 15, 1974
Occupancy Hours:	16

FACILITY COORDINATOR:

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ABSTRACT

Static pressure data and flow-field surveys of the boundary layer and shock layer on the lower surface of a 0.0175-scale model of the Space Shuttle Orbiter were obtained in the AEDC-VKF Hypersonic Wind Tunnel (B). The tests were conducted at Mach number 7.9 and Reynolds number based on the model length of 1.3×10^6 to simulate atmospheric entry. Twenty-six stations were surveyed at 30 and 35 degree angles of attack.

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All data figures are plots of PP/P01 vs ZP and TT1/T0 vs ZT.

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9	11.32	0	5	35
10	13.58	0	6	36
11	15.84	0	7	37
12	18.11	0	8	38
13	20.37	0	9	39
14	22.63	0	10	40
15	9.05	0.88	11	41
16	11.32	0.88	12	42
17	13.58	0.88	13	43
18	11.32	2.05	14	44
19	13.58	2.05	15	45
20	15.84	2.05	22	46
21	18.11	2.05	16	47
22	18.11	3.28	17	48
23	16.98	4.92	23	49
24	18.11	4.92	24	50
25	18.11	4.92	24	51
26	19.19	4.92	18	52
27	21.01	4.92	25	53
28	18.11	6.15	26	54
29	19.07	6.15	19	55
30	21.01	6.15	20	56
31	19.40	6.97	21	57
32	19.40	6.97	21	58
33	21.01	6.15	20	59
34	19.07	6.15	19	60
35	18.11	6.15	26	61
36	21.01	4.92	25	62

INTRODUCTION

The work reported herein was sponsored by the Johnson Spacecraft Center (NASA-JSC) for Rockwell International Space Division, Downey, California, under Program Element 921E. The work was done at the Arnold Engineering Development Center (AEDC), AFSC, by ARO, Inc. (a subsidiary of Sverdrup & Parcel and Associates, Inc.), contract operator of AEDC, Arnold Air Force Station, Tennessee. The ARO Project No. was VA524.

The tests were conducted in the 50-in. Hypersonic Wind Tunnel (B) on May 6 and 9, 1974. The purpose of these tests was to investigate the shock layer and boundary layer over the lower surface of an orbiter model at simulated entry conditions.

The test procedure was such that surveys of the model boundary layer were made while the model wall temperature was relatively low. This resulted in moderate ($T_w/T_o \approx 0.5$) model wall-to-stagnation-temperature ratios and thus a well defined boundary-layer total temperature profile which permitted more accurate selection of the boundary-layer thickness.

Most of the information in this report was obtained from Reference No. 1.

NOMENCLATURE

SYMBOL	DEFINITION
a	Speed of sound, ft/sec
ALPHA-MODEL	Model angle of attack, deg
ALPHA-SECTOR	Tunnel sector pitch angle, deg
CH	Pressure system channel numbers
CP	Pressure coefficient: $CP = \frac{PM - P\text{-}INF}{Q\text{-}INF}$; $CP\text{-}MAX = \frac{P01\text{-}P\text{-}INF}{Q - INF}$
L	Model reference length, 22.58 in.
M	Mach number
MU-INF	Free-stream viscosity, lb-sec/ft^2
P or p	Static pressure, psia
P-INF	Free-stream static pressure, psia
PM or p_m	Model surface static pressure, psia
P0 or p_o	Tunnel stilling chamber pressure, psia
POS	Pressure system valve position
P01 or p'_o	Computed free-stream pitot pressure, psia
PP1 or p_p	Survey pitot pressure, lower or inboard probe, psia
Q-INF or q_∞	Free-stream dynamic pressure, psia
RE	Reynolds number
RE/FT or Re/ft	Free-stream unit Reynolds number, ft^{-1}
RHO-INF	Free-stream density, slug/ft^3
ROLL-MODEL	Model roll angle, deg
ALPHA-PREBEND	Sting offset angle

NOMENCLATURE (Continued)

SYMBOL	DEFINITION
T	Static temperature, ^{o}R
T-INF	Free-stream static temperature, ^{o}R
TO or T_o	Tunnel stilling chamber temperature, ^{o}R
TT1	Survey total temperature, probe number 1, ^{o}R
TT2	Survey total temperature, probe number 2, ^{o}R
TW or T_w	Model wall temperature, ^{o}R
u	Velocity, ft/sec
U-INF	Free-stream velocity, ft/sec
X	Axial distance
Y	Side distance from the model centerline, in.
YAW	Model yaw angle, deg
ZP	Survey probe drive axis
ZP1	Number 1 pitot probe height from the model along ZP, in.
ZP2	Number 2 pitot probe height from the model along ZP, in.
ZT1	Number 1 temperature probe height from the model along ZP, in.
ZT2	Number 2 temperature probe height from the model along ZP, in.
α_m	Model angle of attack, deg
δ	Boundary-layer thickness, in.
μ	Viscosity, lb-sec/ft^2
ρ	Density, slug/ft^3

NOMENCLATURE (Concluded)

SYMBOL	DEFINITION
	SUBSCRIPTS
e	Boundary-layer-edge condition
∞	Free-stream condition

CONFIGURATIONS INVESTIGATED

The model, a 0.0175-scale simulation of the Space Shuttle Orbiter configuration 4, was designated as model 29-O modified and is defined on Rockwell Drawing VL70-000140B. It was constructed of 15-5 stainless steel and had no movable deflection surfaces. The basic configuration is shown in Figure 2a and dimensional data are given in Table III. The 26 static pressure orifices located on the lower surface of the model were made of 0.063-in.-OD stainless steel tubing. Also on the lower surface were ten 1/8-in. chromel-constantan thermocouple gages to record the model surface temperature. The locations of the static pressure orifices and surface thermocouples are shown in Figure 2d and described in Table IV.

The flow-field surveys were performed with the VKF 4-deg-of-freedom remote drive mechanism (Fig. 2b). This system positioned the probes over the stations to be surveyed and pitched the survey drive axis, ZP, such that the survey would be made nearly normal to the model centerline (the probe pitch drive was limited to 29 deg; therefore, surveys are slightly off the centerline normal). The model was injected at the prescribed angle of attack in the inverted position. Figure 1b shows the probe coordinate system. Figure 2c shows the installed model and probe.

INSTRUMENTATION

The Tunnel B stilling chamber pressure was measured with a 1000-psid transducer referenced to a near vacuum. The estimated uncertainty of ±0.2 percent of the calibrated range for this transducer is based on periodic comparison with a secondary standard. The stilling chamber temperature was measured with chromel-alumel thermocouples which have an uncertainty of ±0.5 percent. The free-stream Mach number uncertainty is ±0.30 percent of the calibrated Mach number for the Mach 8 contour nozzle. The uncertainties of the free-stream properties were estimated by means of the Taylor series method of error propagation.

Uncertainties, ± Percent

M_∞	p_o	T_o	p_∞	T_∞	p_o'	a_∞	Re/ft
0.3	0.8	0.5	2.1	0.75	1.5	1.5	1.4

The model surface pressures were measured with 1-psid transducers with an uncertainty of ±0.001 psia. Using the Taylor series of error propagation with this and the free-stream uncertainties, the uncertainties of the surface pressure data are as follows:

Uncertainties, Percent

PM/P-INF	PM/PO	PM/PO1	CP
0.8	1.6	2.1	1.7

The flow-field survey probe support (Fig. 2b) has a Chromel-Alumel unshielded total temperature probe positioned outboard of the lower of two pitot probes. This temperature probe, TT1, was 0.010 in. in diameter and was used as the primary instrument. Both the stilling

chamber temperature and the total temperature probe data were reduced using the stilling chamber thermocouple calibration.

The lower pitot probe, PP1, was constructed of 0.020-in. OD tubing tapered to 0.014 in. at the tip and had an inside diameter of 0.010 in. This small tubing was used to minimize the flow disturbances and improve the data resolution in the model boundary layer. The other pitot probe, PP2, was located about 0.584 in. above PP1 and was constructed of 0.093-in.-OD tubing with an inside diameter of 0.063 in.

Both PP1 and PP2 were connected to 15-psid transducers which were calibrated for a 5-psid range. For this range, these transducers have an uncertainty of ±0.01 psia which, when combined with the free-stream uncertainties, yield an uncertainty in the ratio $PP1/p_o'$ and $PP2/p_o'$ of from ±0.008 to ±0.027 for values of the ratio from 0.25 to 3.5, respectively.

TEST FACILITY DESCRIPTION

The Arnold Engineering Development Center (AEDC) is an Air Force Facility located in Tullahoma, Tennessee. The tunnel used, Tunnel B, is located in the von Karman Facility portion of this center. Engineering and other technical operations in this tunnel are performed by contractor personnel of ARO, Inc.

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

A complete description of the facility is given in Reference 3.

TEST PROCEDURE

The tests were conducted at a nominal free-stream Mach number of 8 at a tunnel stilling chamber temperature of 1340°R. The other test conditions were as follows:

Nominal Test Conditions

M_∞	p_o (psia)	p_∞ (psia)	T_∞ (°R)	q_∞ (psia)	Re/ft x 10^{-6}
7.92	150	0.016	99	0.72	0.7

Actual test conditions for each test run are summarized in Table I.

To satisfy the desired "cool wall" criterion, the initial wall temperature and the time of aerodynamic heating of the model had to be minimized for each survey. High pressure air was used to cool the model when retracted after each survey, and the surface temperature thermocouple outputs were visually monitored to determine when sufficiently low temperature levels had been achieved ($\sim 530°R$).

During this procedure, the probe was repositioned to a predetermined location above the next planned survey location. Data acquisition began immediately after model injection as the probes were driven toward the surface at approximately 0.02 in./sec with a total travel of about 3/4 in. The data were recorded at 1.5-sec intervals. During this portion of the survey, the lower pitot probe output was visually monitored on an X-Y plotter so that the probe drive speed could be reduced in a high pressure gradient region.

TEST PROCEDURE (Concluded)

Ultimately, the data were recorded in a drive-pause manner to accommodate the longer pressure stabilization time in this region. Data acquisition terminated when the lower pitot probe contacted the model surface, triggering a foul circuit and recording the final survey data point. After driving the probes clear, the model was retracted from the tunnel for cooling and the cycle was repeated for the next run.

The model static surface pressure data were obtained independent of the flow-field survey data.

Configurations, model attitudes and nominal conditions tested are summarized in Table II.

DATA REDUCTION

The survey heights for the probes were computed using the geometric center of each probe and the relative positions of the probes. The zero probe height point, obtained when the lower pitot probe (PP1) made contact with the model, was used to reference all probe heights to the model surface.

The tabulated probe temperature data, TT1, are measured values and are not corrected for conduction or radiation losses.

The boundary-layer thickness, δ, was determined from the total temperature (TT1) profile by selecting the lowest height, ZT1, for which the total temperature was 99.5 percent of the maximum for that profile. The measured pitot pressure at this δ and the model surface static pressure data were used to determine the boundary-layer edge Mach number. The other edge conditions were established with this Mach number and isentropic flow relations. These data are given in Table II.

Note that the present definition of boundary-layer edge is not unique since Mach number and other flow properties vary as a function of ZP in the region in question. However, the value of ZP at the edge using the present definition was numerically unique and should be useful in comparison with numerical results where the edge is similarly defined.

Test data are plotted in the data figures and tabulated in the Appendix.

REFERENCES

1. L. D. Carter, W. R. Martindale, and C. E. Kaul, "Test Data from the NASA/Rockwell International Space Shuttle Test (OH52) Conducted in the AEDC-VKF Tunnel B," AEDC/ARO Project No. VA524, May 8, 1974

2. J. W. Foust, "Pretest Information for Tests of the 0.0175-Scale Space Shuttle Vehicle Boundary Layer Survey Model 29-0 (Modified) in the AEDC Tunnel B (OH52)," Rockwell Report No. SD74-SH-0081, January 17, 1974

3. "Test Facilities Handbook, von Karman Gas Dynamics Facility, Vol.3," Arnold Engineering Development Center, July, 1971

TABLE I. TEST CONDITIONS AT EDGE OF BOUNDARY LAYER

Tap	Group	Re/ft x 10^6	α_m deg	x/L	y (in.)	δ (in.)	PP1/P01	PM/P01	PM/PP	M_e	T_e/T_∞	a_e/a_∞	u_e/u_∞	ρ_e/ρ_∞	μ_e/μ_∞	Re_e/Re_∞	T_∞
4	8	0.7	30	0.4	0	0.068	1.899	0.3042	0.1602	2.115	7.1492	2.6738	0.71403	3.456	5.91	0.41756	99.4
5	9	↓	↓	0.5	0	0.076	2.038	0.3075	0.1509	2.185	6.9291	2.632	0.7262	3.605	5.77	0.4534	99.7
6	10			0.6	0	0.083	2.213	0.3160	0.1428	2.25	6.73	2.594	0.737	3.813	5.657	0.4968	99.4
7	11			0.7	0	0.097	2.464	0.3156	0.1281	2.385	6.3365	2.517	0.758	4.0455	5.4165	0.5662	99.1
8	12			0.8	0	0.112	2.441	0.3059	0.1253	2.41	6.266	2.503	0.7617	3.965	5.366	0.563	99.5
9	13			0.9	0	0.114	2.150	0.2155	0.1002	2.715	5.4745	2.339	0.802	3.197	4.8465	0.529	99.5
10	14			1.0	0	0.148	1.915	0.1743	0.0910	2.86	5.1387	2.267	0.8186	2.755	4.6130	0.4889	99.7
11	15			0.4	0.88	0.059	1.830	0.3041	0.1662	2.07	7.294	2.701	0.7059	3.386	5.9905	0.399	99.7
12	16			0.5	↓	0.072	1.847	0.3100	0.1678	2.06	7.3268	2.7068	0.7040	3.4367	6.0096	0.4026	99.7
13	17			0.6	↓	0.067	2.133	0.3167	0.1485	2.20	6.883	2.6235	0.7287	3.7375	5.747	0.474	99.6
14	18			0.5	2.05	0.064	2.25	0.3176	0.1427	2.25	6.7306	2.594	0.737	3.833	5.6574	0.4993	99.4
15	19			0.6		0.075	2.415	0.3438	0.1424	2.25	6.7306	2.594	0.737	4.149	5.6574	0.5405	99.4
22	20			0.7		0.107	2.50	0.3068	0.1227	2.44	6.183	2.4866	0.7661	4.0304	5.316	0.5808	99.3
16	21			0.8	↓	0.098	2.542	0.3000	0.1180	2.49	6.0469	2.459	0.7731	4.0297	5.2285	0.5959	99.3
17	22			0.8	3.28	0.076	2.920	0.3071	0.1052	2.65	5.6333	2.3735	0.794	4.428	4.956	0.7095	99.3
23	23			0.75	4.92	0.030	4.264	0.3691	0.08656	2.93	4.9854	2.2328	0.826	6.0136	4.5088	1.1017	99.3
--	24			--	--	--	--	--	--	--	--	--	--	--	--	--	--
24	25			0.8	4.92	0.037	3.949	0.3597	0.0911	2.85	5.1611	2.2718	0.8175	5.661	4.6306	0.9994	99.5
18	26			0.85	↓	0.044	3.757	0.3343	0.08898	2.89	5.0723	2.2522	0.8218	5.3533	4.5684	0.963	99.5
25	27			0.93	↓	0.058	2.35	0.1817	0.7732	3.11	4.616	2.1485	0.8437	3.1973	4.2405	0.6361	99.4
26	28			0.8	6.15	0.031	4.185	0.404	0.09653	2.77	5.3442	2.3117	0.8085	6.14	4.7608	1.0428	99.2
19	29			0.84		0.036	3.72	0.3781	0.10164	2.70	5.5107	2.3475	0.8003	5.5731	4.8757	0.9147	99.1
20	30			0.93		0.058	2.465	0.1971	0.07996	3.06	4.7151	2.1714	0.839	3.3953	4.3176	0.6598	98.9
21	31			0.86	6.97	0.036	3.841	0.3960	0.1031	2.68	5.5594	2.3578	0.7978	5.7858	4.9121	0.9397	98.8
21	32		35	0.86	6.97	0.032	3.97	0.4791	0.12068	2.46	6.1282	2.4755	0.7689	6.3502	5.2876	0.9234	98.8
20	33		↓	0.93	6.15	0.053	2.617	0.2490	0.09515	2.79	5.2977	2.3017	0.8108	3.7564	4.733	0.6435	98.8
19	34			0.84	↓	0.036	3.628	0.4635	0.12776	2.39	6.3224	2.5144	0.7588	5.9547	5.4104	0.8351	98.9
26	35			0.80		0.031	3.936	0.4981	0.12655	2.40	6.2943	2.5088	0.7603	6.4278	5.3879	0.9067	99.1
25	36	↓	↓	0.93	4.92	0.059	2.487	0.2299	0.09244	2.83	5.206	2.2817	0.8153	3.5869	4.6631	0.6271	99.4

TABLE II. TEST SUMMARY

Group No.	M_∞	P_o (psia)	T_o (^oR)	α_m (Deg.)	Tap	
3	7.92	150	880	30	--	Static Pressure
4	↓	↓	↓	30	--	↓
5	↓	↓	↓	35	--	↓
6	↓	↓	↓	25	--	↓
7	↓	↓	↓	15	--	↓
8	↓	↓	↓	30	4	Survey Data
9	↓	↓	↓	↓	5	↓
10	↓	↓	↓	↓	6	↓
11	↓	↓	↓	↓	7	↓
12	↓	↓	↓	↓	8	↓
13	↓	↓	↓	↓	9	↓
14	↓	↓	↓	↓	10	↓
15	↓	↓	↓	↓	11	↓
16	↓	↓	↓	↓	12	↓
17	↓	↓	↓	↓	13	↓
18	↓	↓	↓	↓	14	↓
19	↓	↓	↓	↓	15	↓
20	↓	↓	↓	↓	22	↓
21	↓	↓	↓	↓	16	↓
22	↓	↓	↓	↓	17	↓
23	↓	↓	↓	↓	23	↓
25	↓	↓	↓	↓	24	↓
26	↓	↓	↓	↓	18	↓
27	↓	↓	↓	↓	25	↓
28	↓	↓	↓	↓	26	↓
29	↓	↓	↓	↓	19	↓
30	↓	↓	↓	↓	20	↓

TABLE II. TEST SUMMARY (Concluded)

Group No.	M_∞	P_o (psia)	T_o (^oR)	α_m (Deg.)	Tap	
31	7.92	150	880	30	21	Survey Data
32	↓	↓	↓	35	21	↓
33	↓	↓	↓	↓	20	↓
34	↓	↓	↓	↓	19	↓
35	↓	↓	↓	↓	26	↓
36	↓	↓	↓	↓	25	↓

TABLE III. MODEL DIMENSIONAL DATA

MODEL COMPONENT: BODY B_{59}

GENERAL DESCRIPTION: Vehicle 4 orbiter fuselage

A modified -140B body where the model centerbody is the -139 lines centerbody from the original Model 29-0; -140B wing and nose sections were adapted to it to form the -140B modified body. The OMS pods, canopy, and vertical tail were not modified to the -140B lines. The body flap, part of the model wing detail, was modified to the -140B lines.

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000200, 202, 203, VL70-000140B

DIMENSION:	FULL SCALE	MODEL SCALE
Length, in. (nose at X = 235)	1293.3	22.633
Max Width, in. @ X = 1520	267.6	4.683
Max Depth, in. @ X = 1450	248.5	4.349
Fineness Ratio	4.833	4.833

TABLE III. MODEL DIMENSIONAL DATA (Continued)

MODEL COMPONENT: CANOPY C_7

GENERAL DESCRIPTION: -139 Configuration per Lines VL70-000139.

Insufficient information to complete dimensional data at this time.

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139

DIMENSION:	FULL SCALE	MODEL SCALE
Length, in. (X_o = 433 to X_o = 670)FS	237	4.1475
Max Width, in.		
Max Depth, in.	Not defined	

TABLE III. MODEL DIMENSIONAL DATA (Continued)

MODEL COMPONENT: BODY FLAP - F_8

GENERAL DESCRIPTION: Configuration 4

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000140B, VL70-000200

DIMENSION:	FULL SCALE	MODEL SCALE
Length, in.	94.856	1.660
Max Width, in.	262.308	4.590
Max Depth, in.	23.000	0.403
Fineness Ratio		
Area - Ft^2		
Max Cross-Sectional		
Planform	158.85350	0.0486
Wetted		
Base	41.89642	0.0128

TABLE III. MODEL DIMENSIONAL DATA (Continued)

MODEL COMPONENT: OMS - M_4

GENERAL DESCRIPTION: Orbital maneuvering system pods located on the orbiter aft fuselage.

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139

DIMENSION:	FULL SCALE	MODEL SCALE
Length, in.	346.0	6.0550
Max Width, in.	108.0	1.890
Max Depth, in.	113.0	1.9775

℄ of OMS Pods
WP = 463.9 INFS: WP = 400 + 63.9 = 463.9
BP = 80.0 INFS
Length: 1214.0 to 1560.0 = 346.0 INFS
NOTE: M_4 identical to M_3 of 2A configuration except intersection to body

TABLE III. MODEL DIMENSIONAL DATA (Continued)

MODEL COMPONENT: VERTICAL - V_7

GENERAL DESCRIPTION: Centerline vertical tail, double wedge airfoil with rounded leading edge.

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139, VL70-000095

DIMENSIONS:	FULL SCALE	MODEL SCALE
TOTAL DATA		
Area (Theo) Ft^2 Planform	425.92	0.13044
Span (Theo), In.	315.72	5.52510
Aspect Ratio	1.675	1.675
Rate of Taper	0.507	0.507
Taper Ratio	0.404	0.404
Sweep Back Angles, degrees		
Leading Edge	45.000	45.000
Trailing Edge	26.249	26.249
0.25 Element Line	41.130	41.130
Chords:		
Root (Theo) WP	268.50	4.69875
Tip (Theo) WP	108.47	1.89822
MAC	199.81	3.49667
Fus. Sta. of .25 MAC	1463.50	25.61125
W. P. of .25 MAC	635.522	11.12164
B. L. of .25 MAC	0.00	0.00
Airfoil Section		
Leading Wedge Angle, Deg.	10.000	10.000
Trailing Wedge Angle, Deg.	14.920	14.920
Leading Edge Radius	2.00	0.0350
Void Area	13.17	0.00403
Blanketed Area		

TABLE III. MODEL DIMENSIONAL DATA (Concluded)

MODEL COMPONENT: WING-W_{116}

GENERAL DESCRIPTION: Configuration 4

NOTE: Identical to W_{114} except airfoil thickness. Dihedral angle is along trailing edge of wing.

MODEL SCALE: 0.0175 DRAWING NUMBER: VL70-000140B, VL70-000200

DIMENSIONS: TOTAL DATA	FULL SCALE	MODEL SCALE
Area (Theo.), Ft^2		
Planform	2690.00	0.8238
Span (Theo.), In.	936.6816	16.392
Aspect Ratio	2.265	2.265
Rate of Taper	1.177	1.177
Taper Ratio	0.200	0.200
Dihedral Angle, degrees	3.500	3.500
Incidence Angle, degrees	0.500	0.500
Aerodynamic Twist, degrees	+ 3.000	+ 3.000
Sweep Back Angles, degrees		
Leading Edge	45.00	45.00
Trailing Edge	- 10.056	- 10.056
0.25 Element Line	35.209	35.209
Chords:		
Root (Theo.) B.P.0.0.	689.2429	12.062
Tip, (Theo.) B.P.	137.8486	2.412
MAC	474.8117	8.309
Fus. Sta. of .25 MAC	1126.721	19.718
W. P. of .25 MAC	291.00	5.093
B. L. of .25 MAC	187.33491	3.278
EXPOSED DATA		
Area (Theo.), Ft^2	1812.2205	0.5550
Span, (Theo.), In. BP108	736.6816	12.892
Aspect Ratio	2.058	2.058
Taper Ratio	0.2451	0.2451
Chords		
Root BP108	570.6230	9.986
Tip 1.00 b/2	137.8512	2.412
MAC	354.2376	6.199
Fus. Sta. of .25 MAC	1164.237	20.374
W.P. of .25 MAC	292.00	5.110
B.L. of .25 MAC	239.67786	4.194
Airfoil Section (Rockwell Mod NASA)XXXX-64		
Root b/2 =	0.113	0.113
Tip b/2 =	0.12	0.12
Data for (1) of (2) Sides		
Leading Edge Cuff		
Planform Area, Ft^2	118.333	0.0750
Leading Edge Intersects Fus M. L. @ Sta	505.0	8.838
Leading Edge Intersects Wing @ Sta	1003.5	17.562

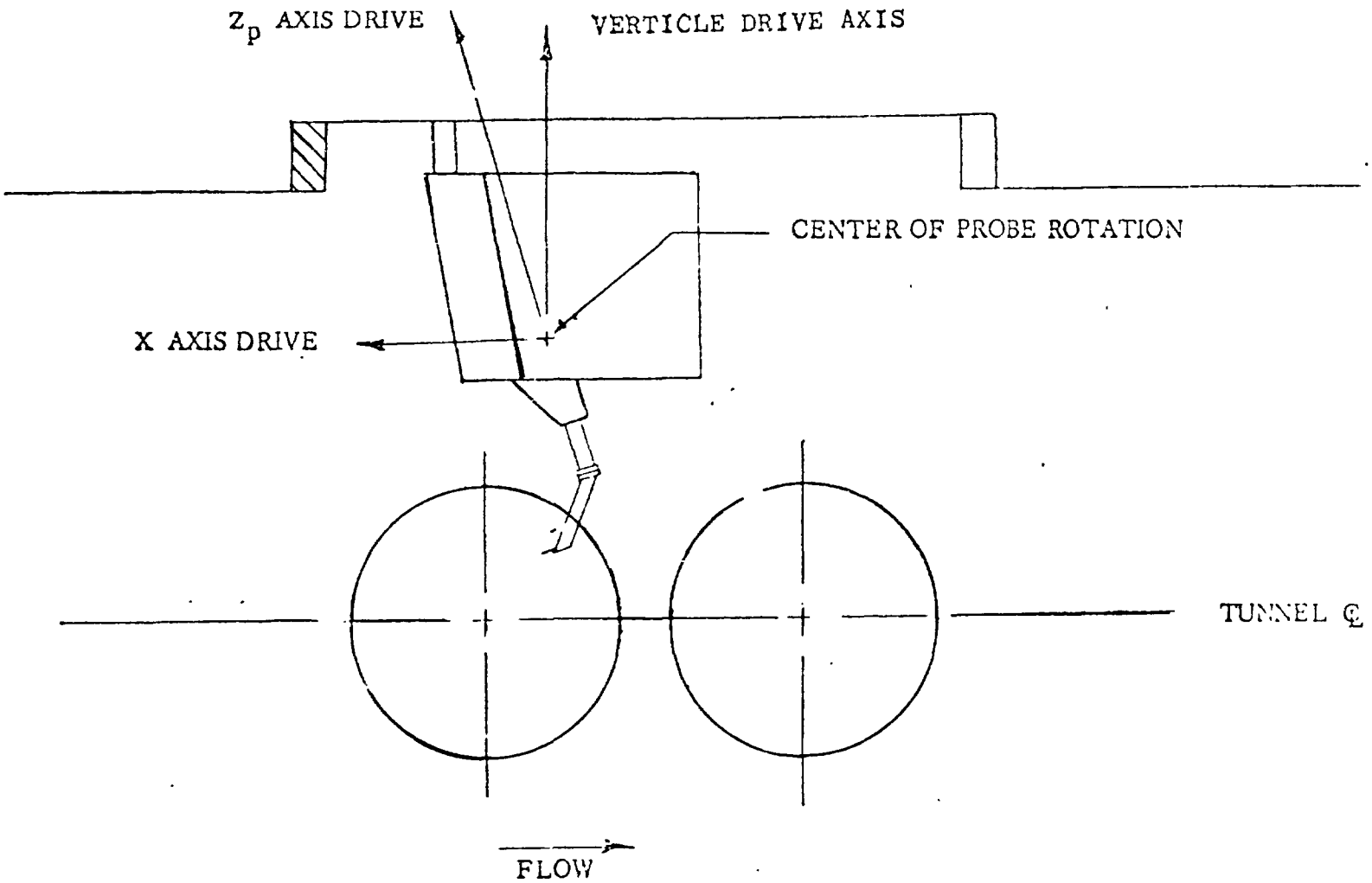
TABLE IV. MODEL INSTRUMENTATION LOCATIONS

Pressure TAP NO.	X	Y	PRESSURE TAP NO.	X	Y
1	2.263	0	14	11.316	2.049
2	4.527	0	15	13.580	2.049
3	6.790	0	16	18.106	2.049
4	9.053	0	17	18.106	3.278
5	11.316	0	18	19.190	4.918
6	13.580	0	19	19.067	6.147
7	15.843	0	20	21.010	6.147
8	18.106	0	21	19.400	6.967
9	20.369	0	22	15.843	2.049
10	22.633	0	23	16.975	4.918
11	9.053	0.875	24	18.106	4.918
12	11.316	0.875	25	21.010	4.918
13	13.580	0.875	26	18.106	6.147

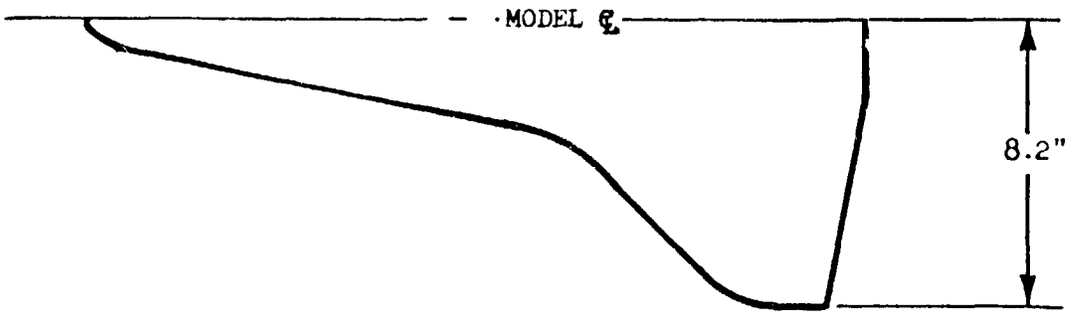
THERMOCOUPLE NO.	X	Y
1	3.395	0
2	12.448	0
3	21.501	0
4	20.038	6.147
5	20.038	2.049
6	20.038	3.278
7	20.038	4.918
8	20.038	6.967
9	12.448	2.049
10	15.842	3.278

a. Model Attitude

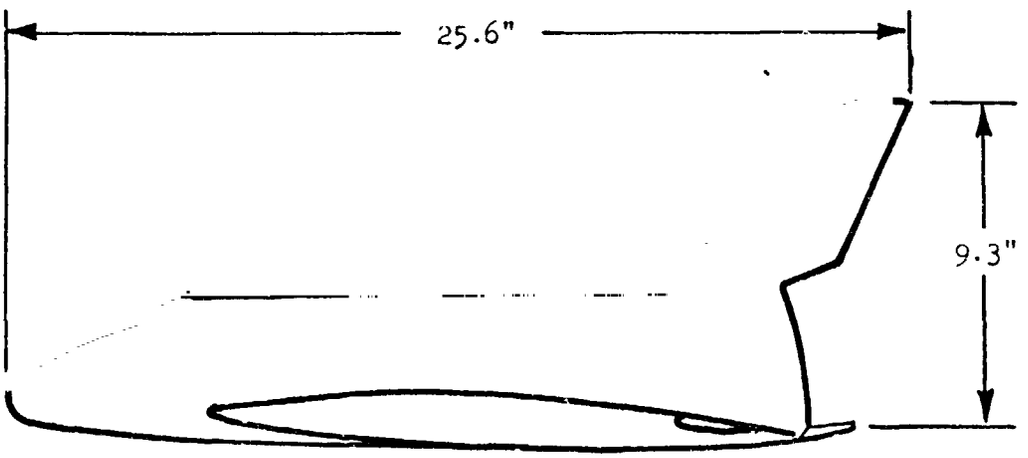
Figure 1. - Axis Systems.



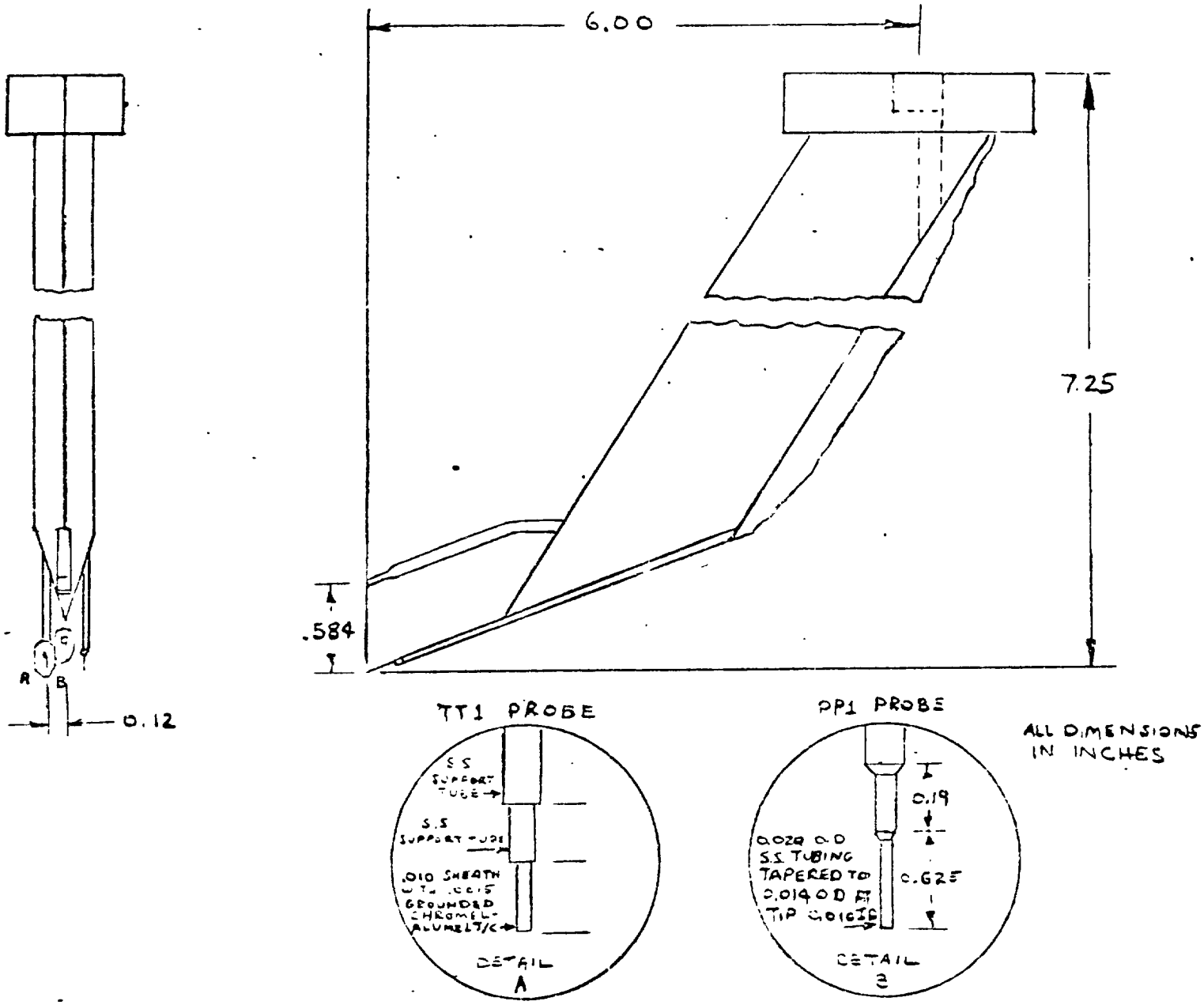
b. Probe Coordinate System
Figure 1. Concluded.



DIMENSIONS ARE
NOMINAL VALUES

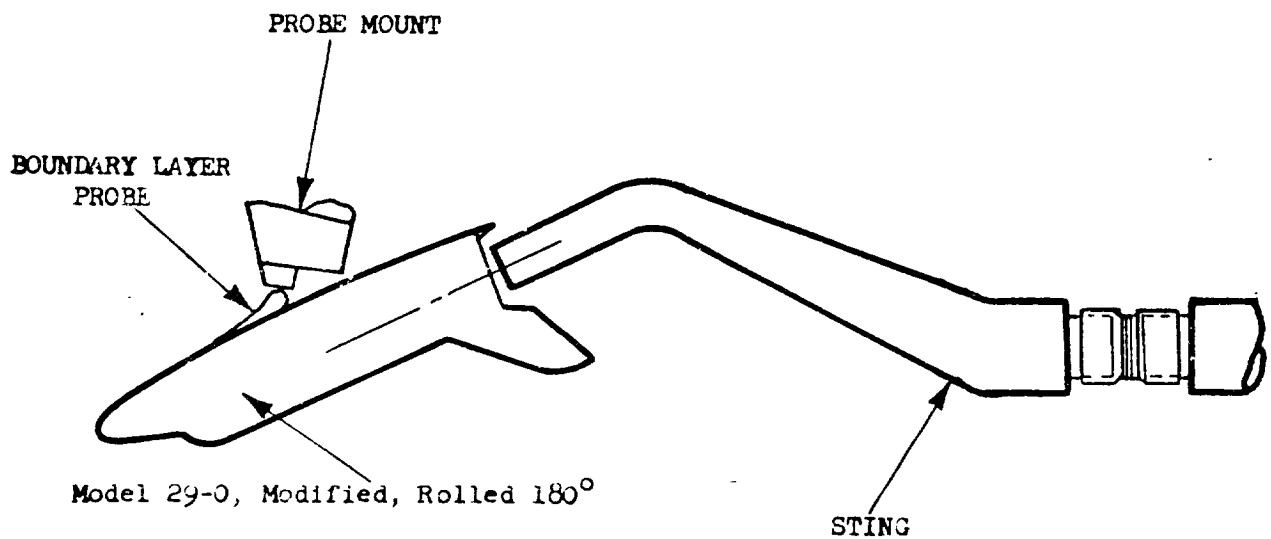


a. Orbiter Model
Figure 2. Model sketches.

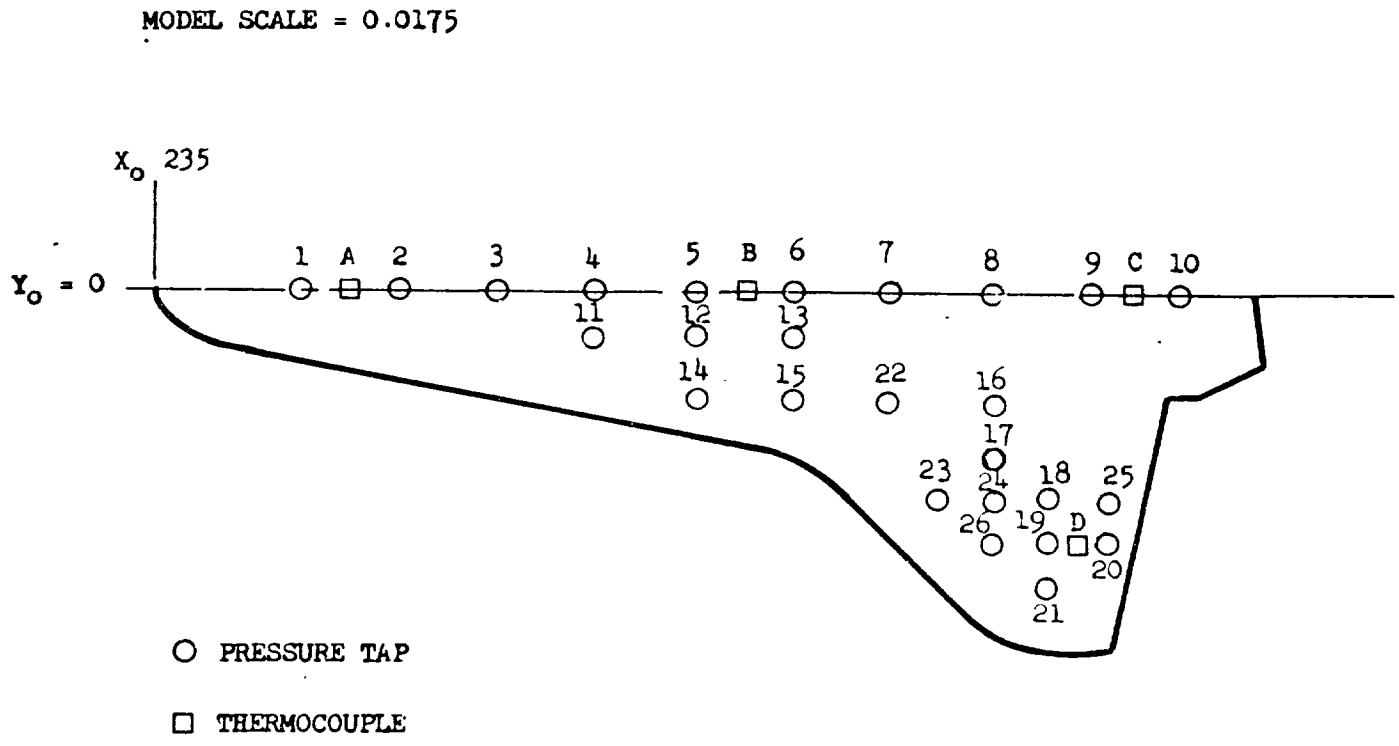


b. Probe

Figure 2. Continued



c. Model Installation
Figure 2. Continued.



d. Model Instrumentation
Figure 2. Concluded.

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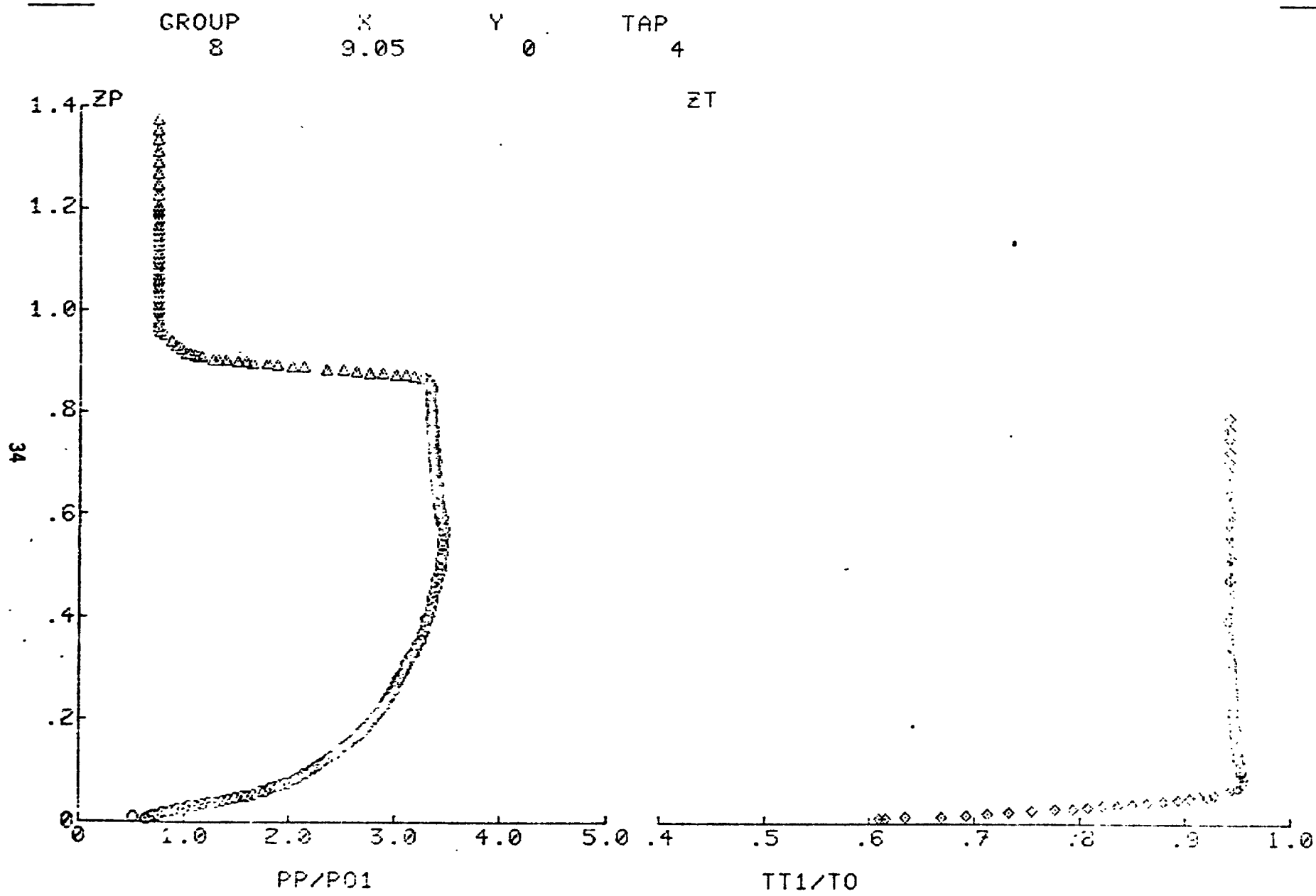
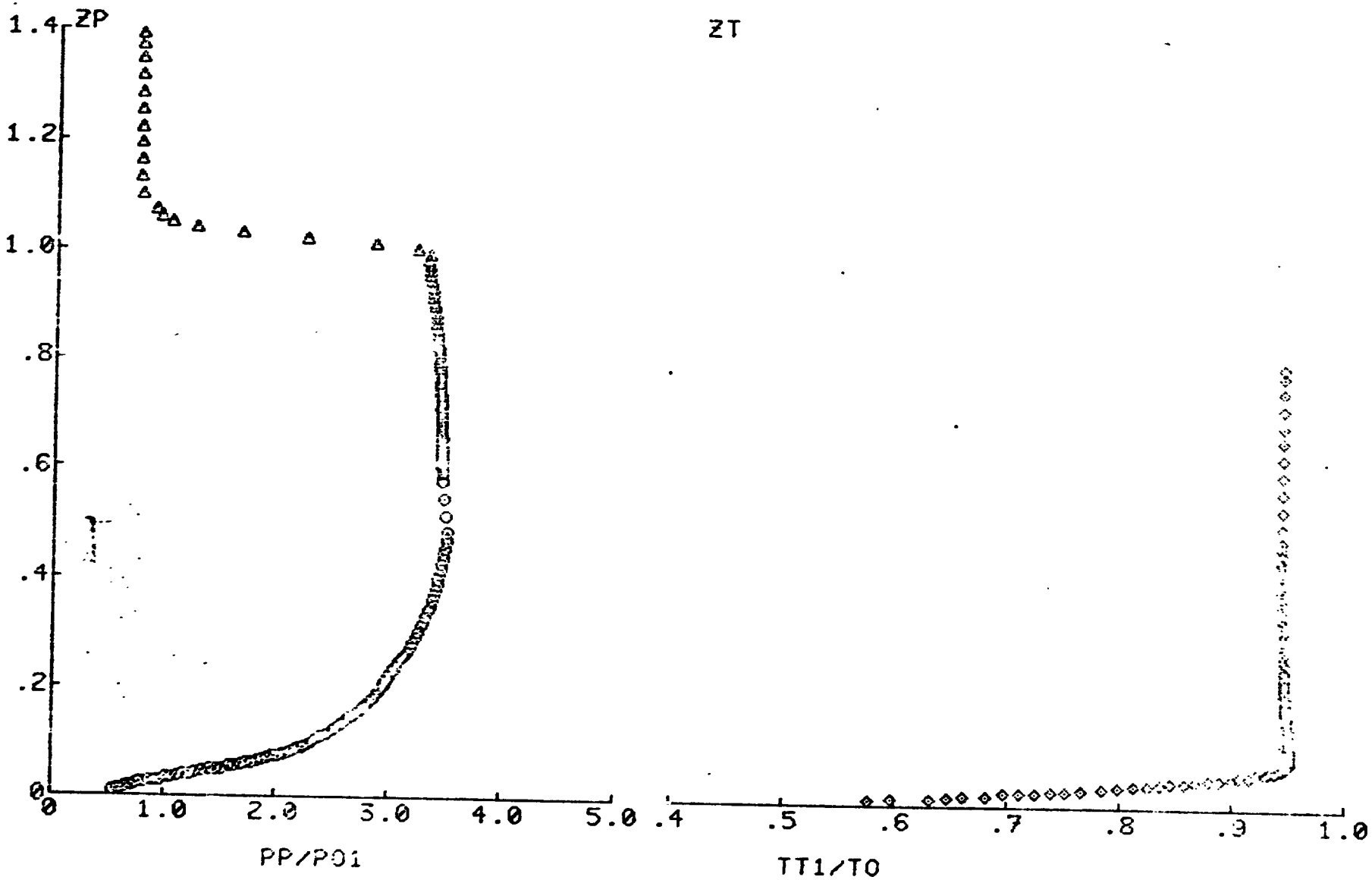
DATA FIGURES


GROUP
8
X
9.05
Y
0
TAP
4
ZP
ZT
1.4
1.2
1.0
.8
.6
.4
.2
0
0
1.0
2.0
3.0
4.0
5.0
.4
.5
.6
.7
.8
.9
1.0
PP/P01
TT1/T0

GROUP	X	Y	TAP
9	11.32	0	5



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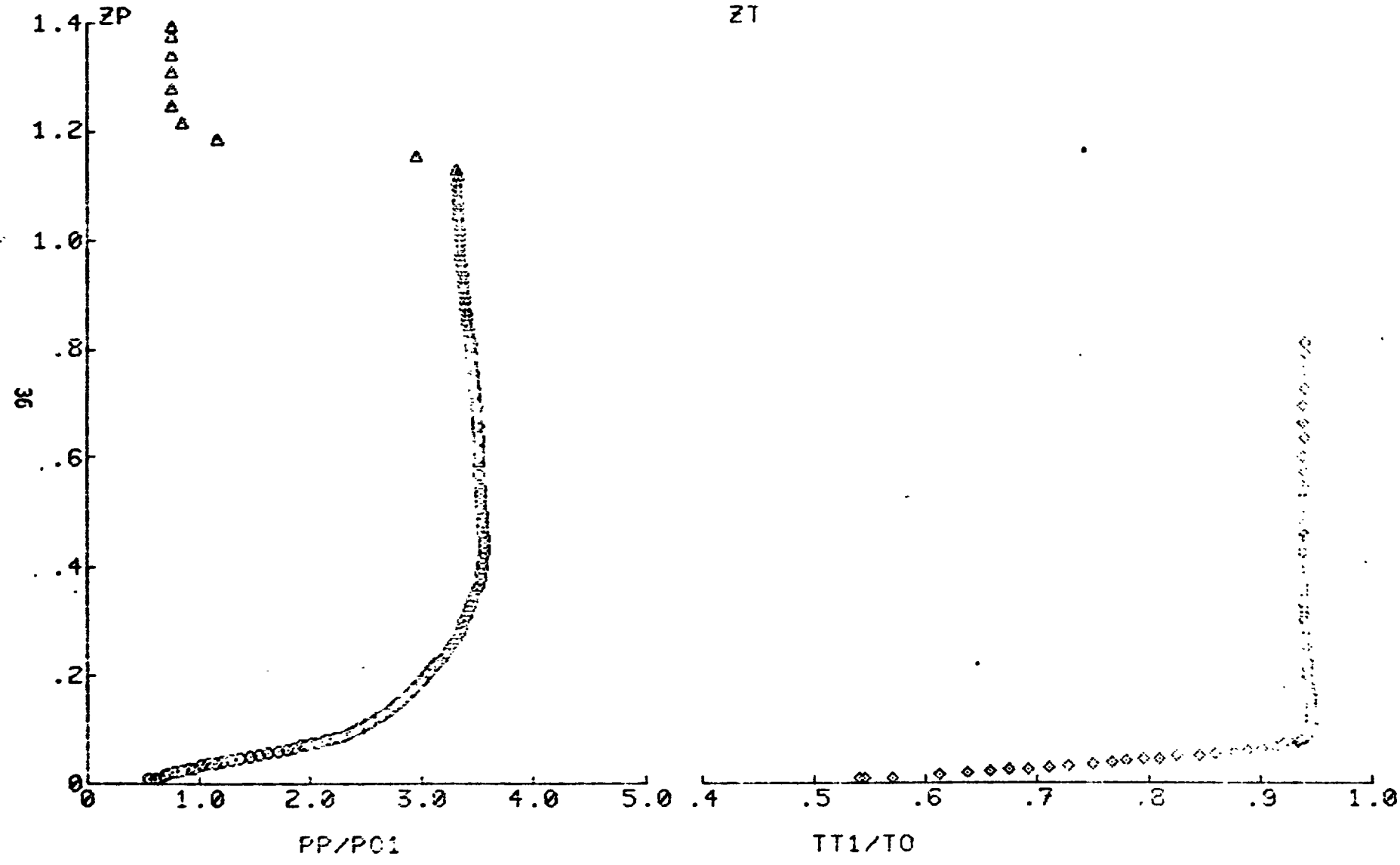
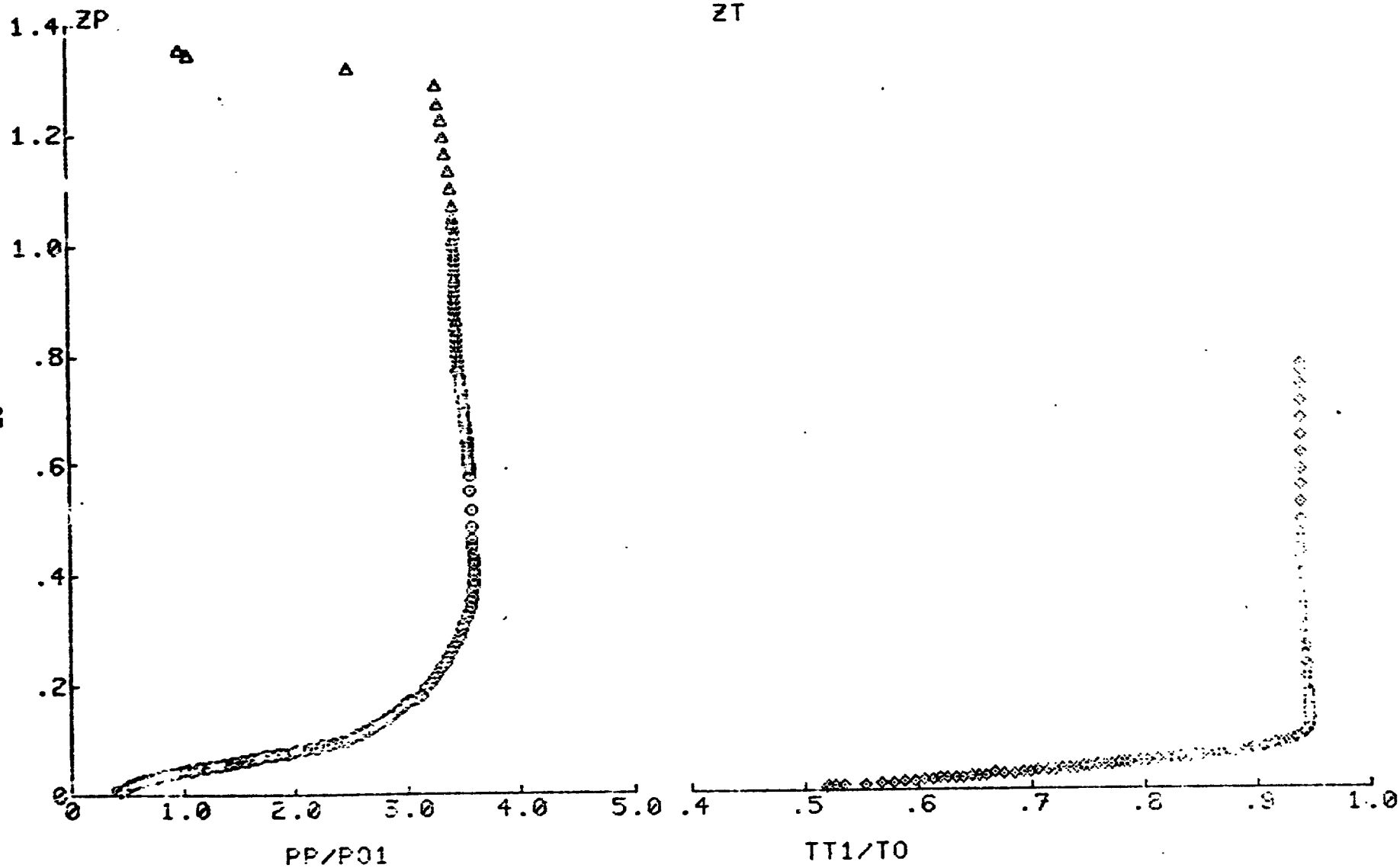
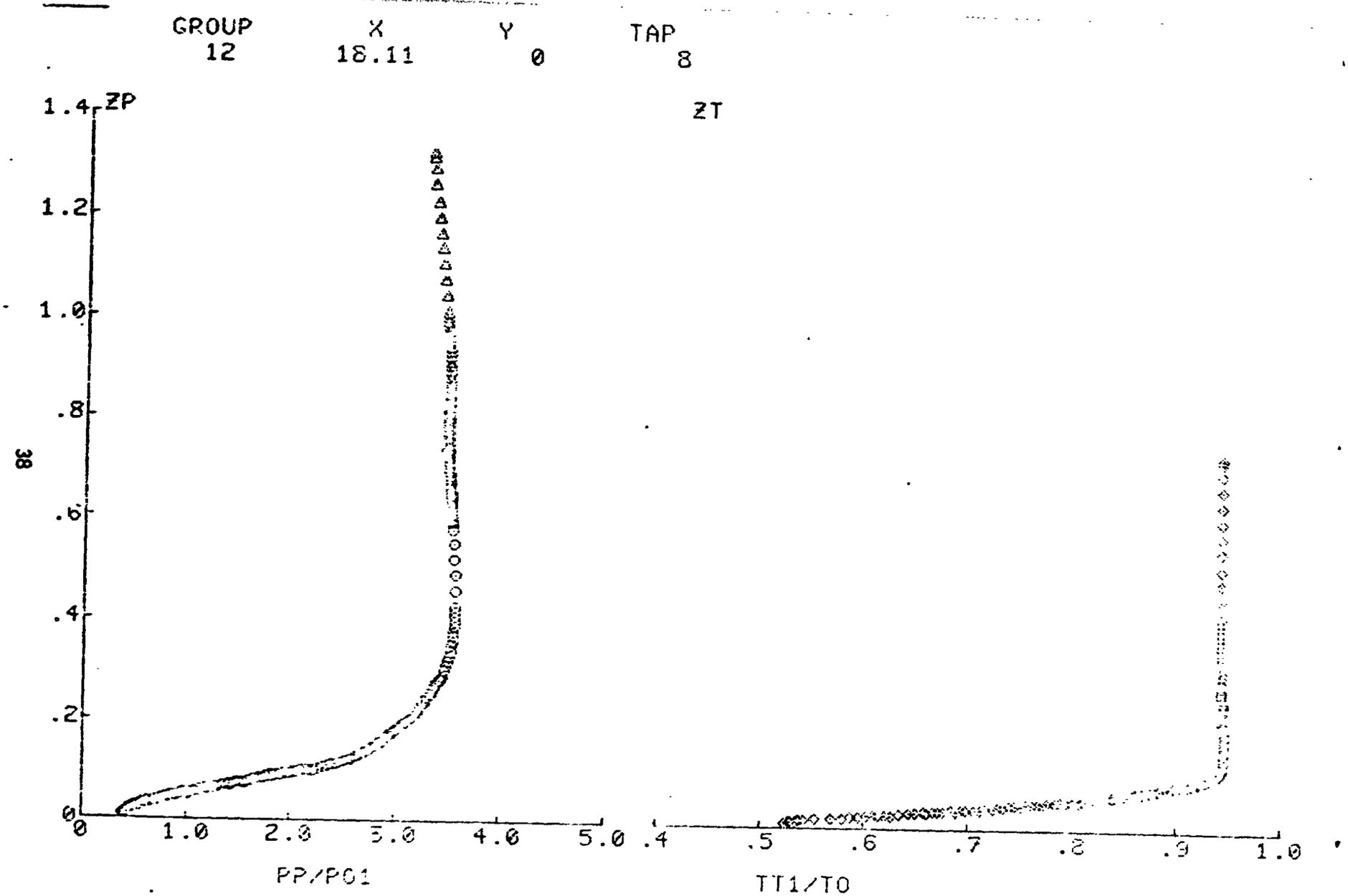
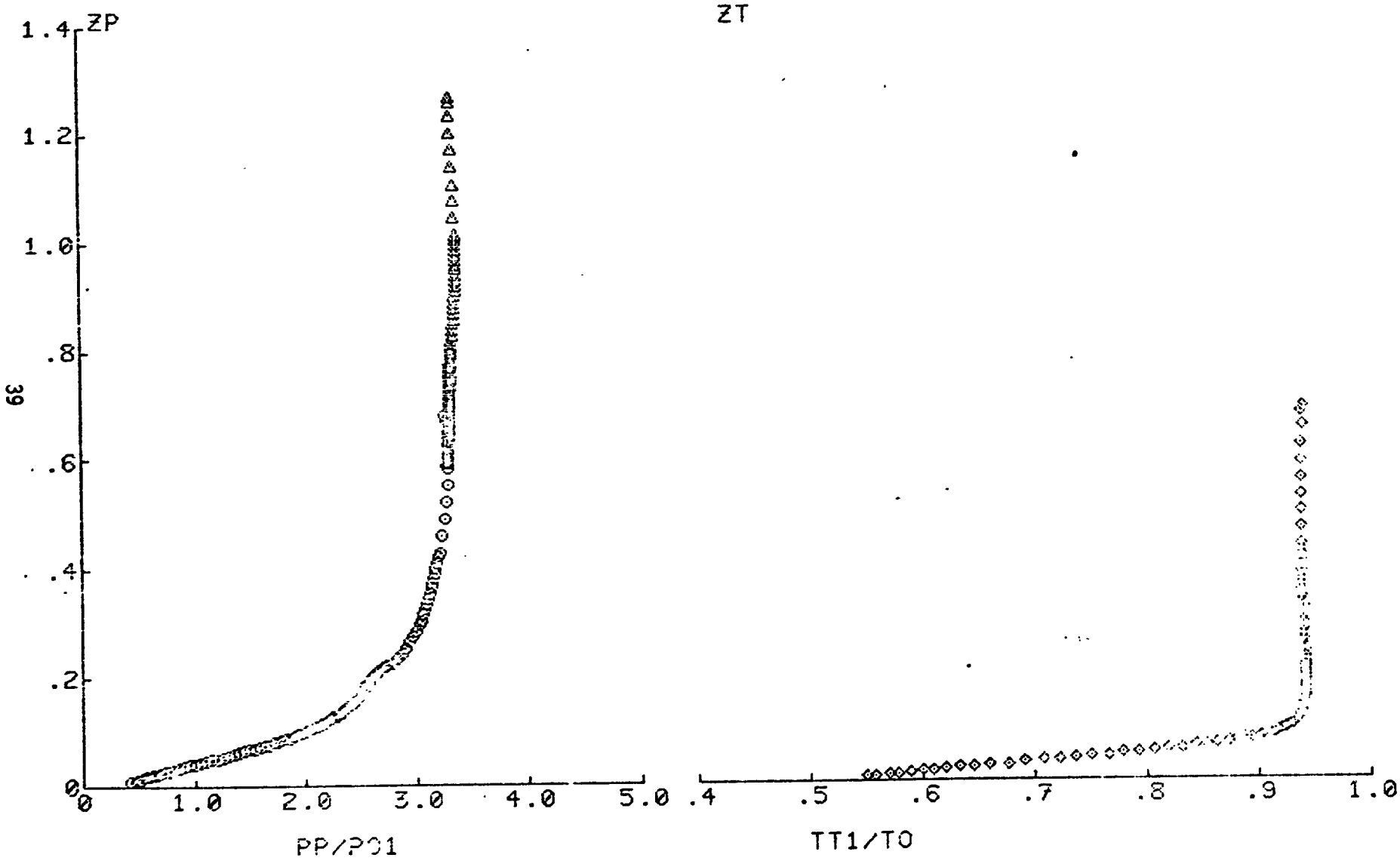


GROUP	X	Y	TAP
11	15.84	0	7

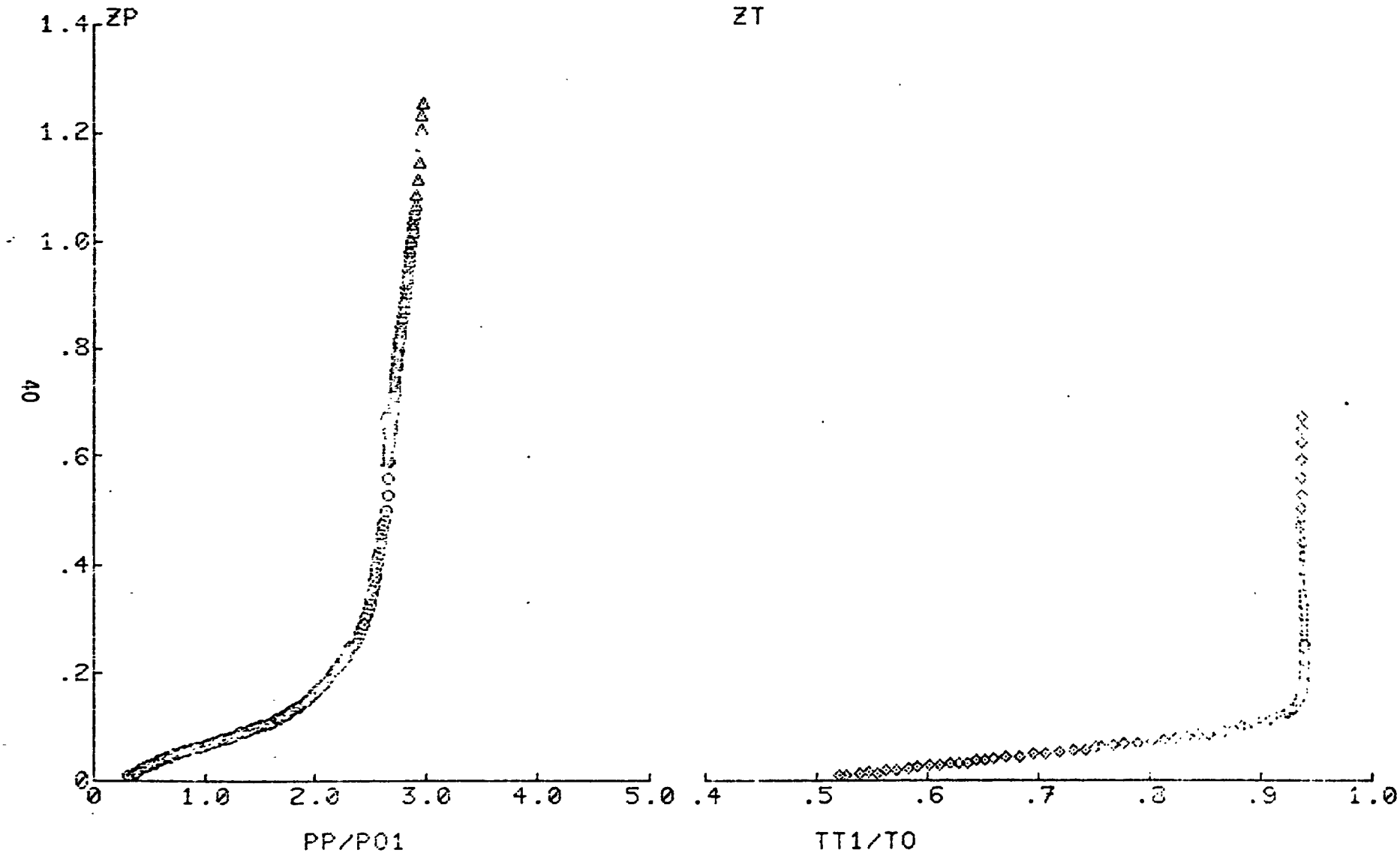



GROUP
12
X
18.11
Y
0
TAP
8
ZP
ZT
1.4
1.2
1.0
.8
.6
.4
.2
0
0
1.0
2.0
3.0
4.0
5.0
.4
.5
.6
.7
.8
.9
1.0
PP/P01
TT1/T0

GROUP	X	Y	TAP
13	20.37	0	9



GROUP	X	Y	TAP
14	22.63	0	10



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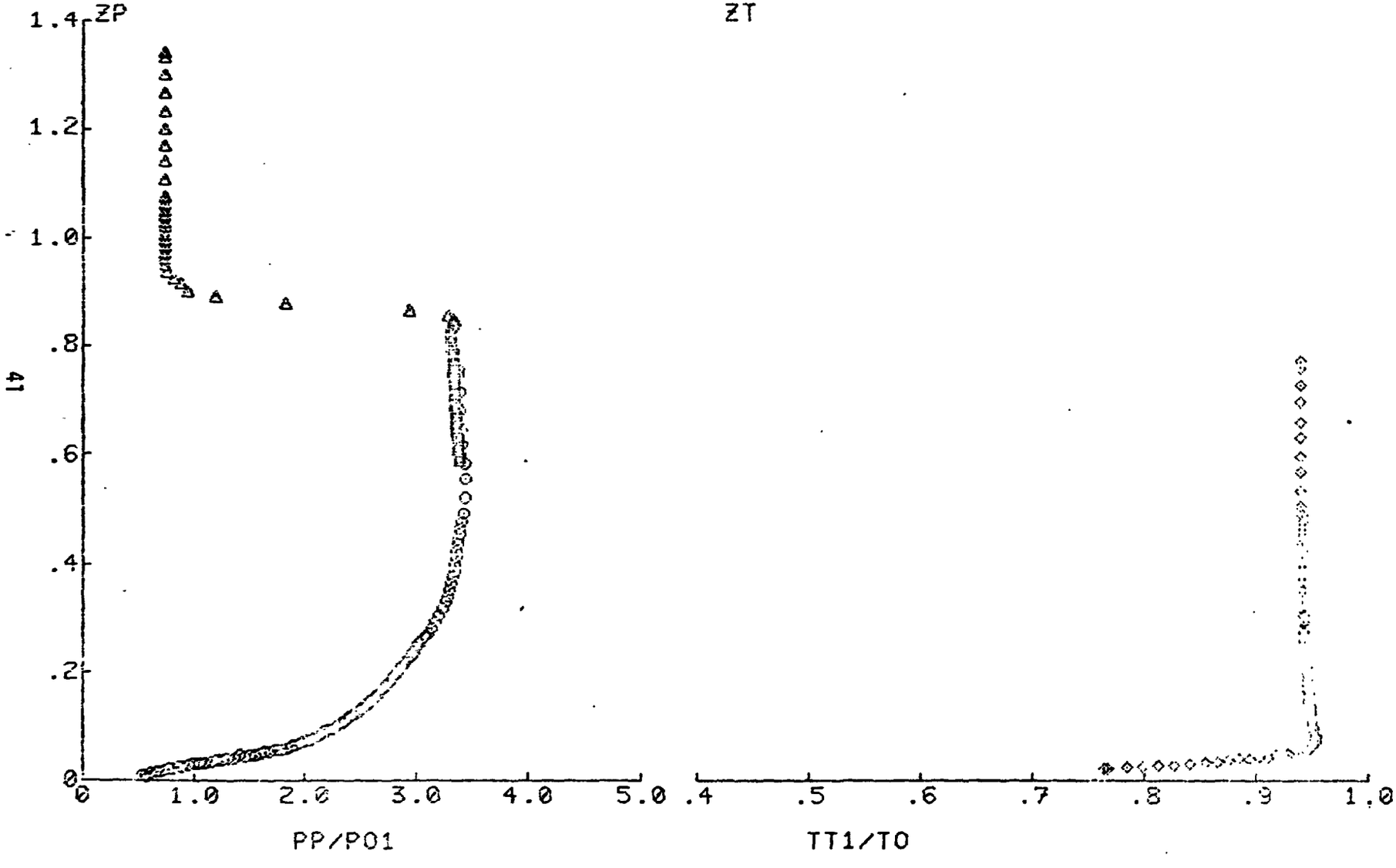
15	9.05	.88	11



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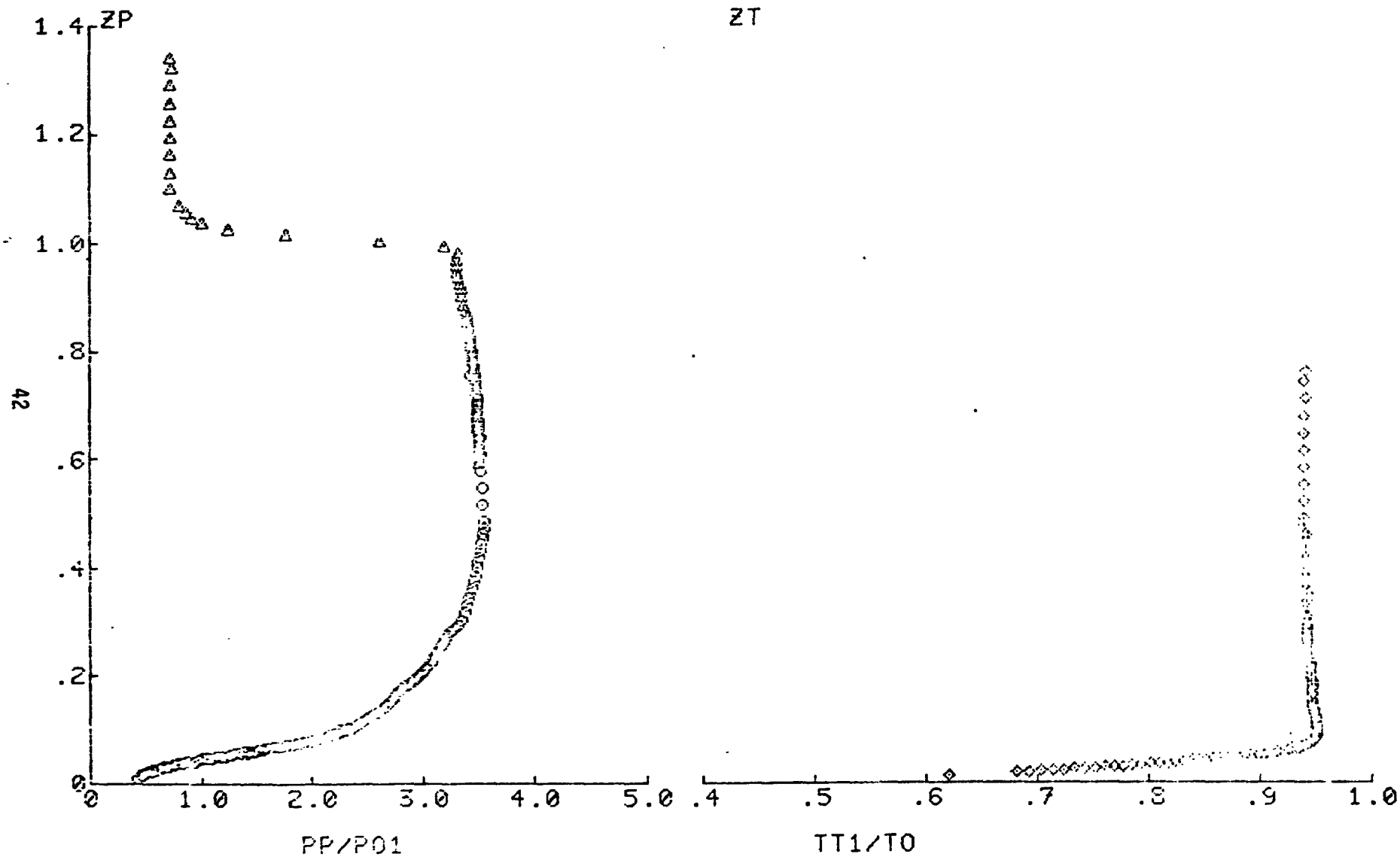

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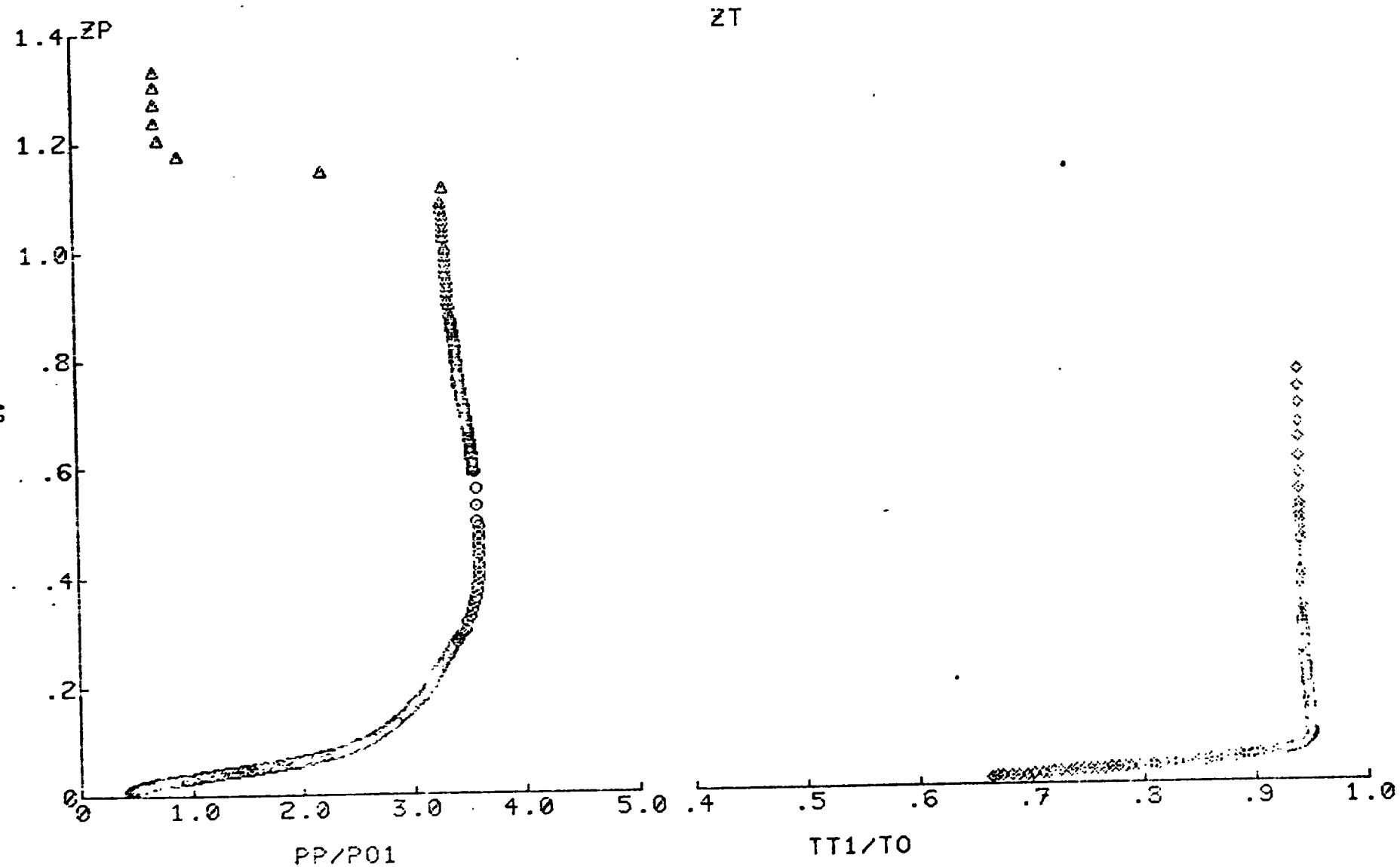
17	13.58	.88	13



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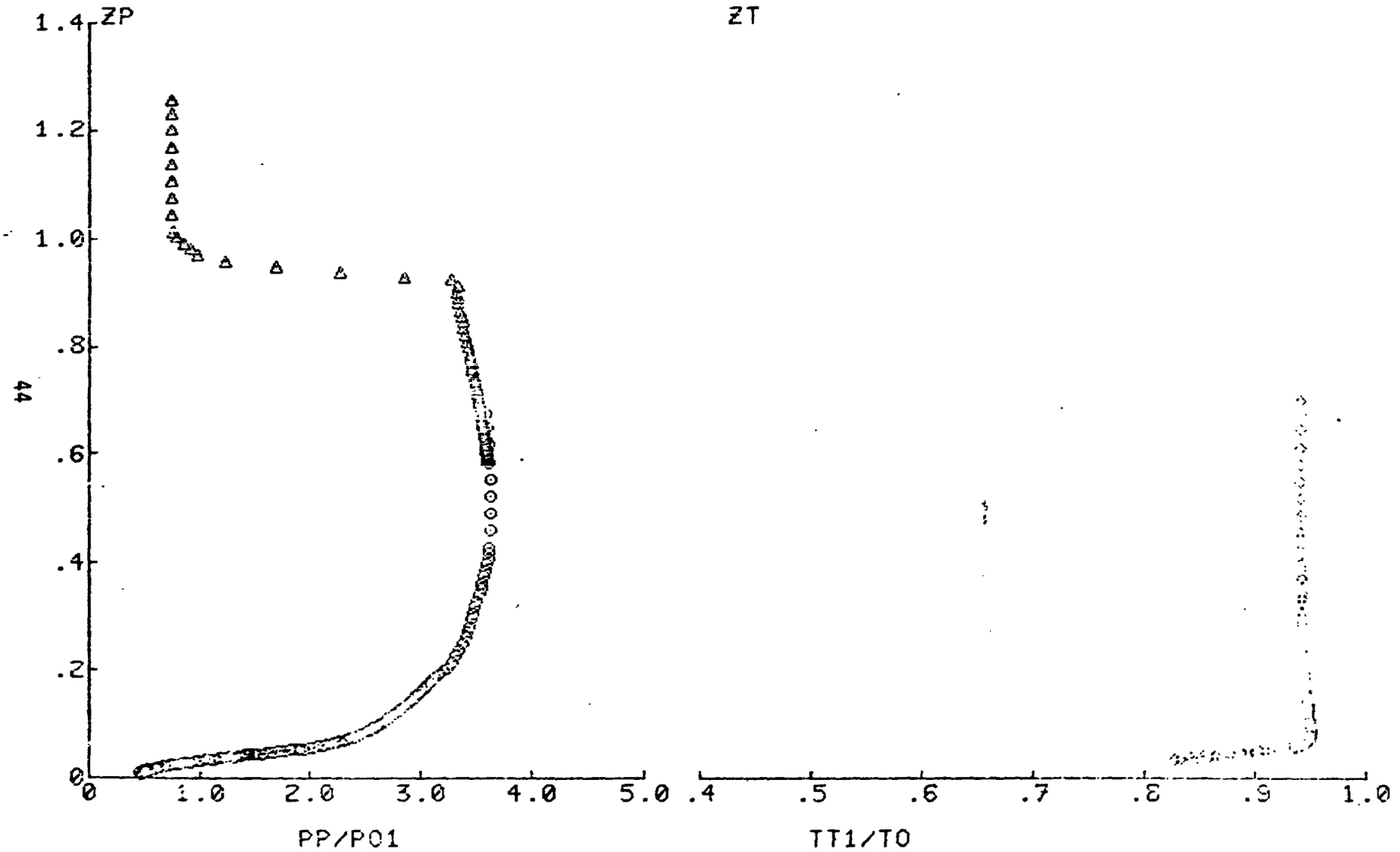
18	11.32	2.05	14



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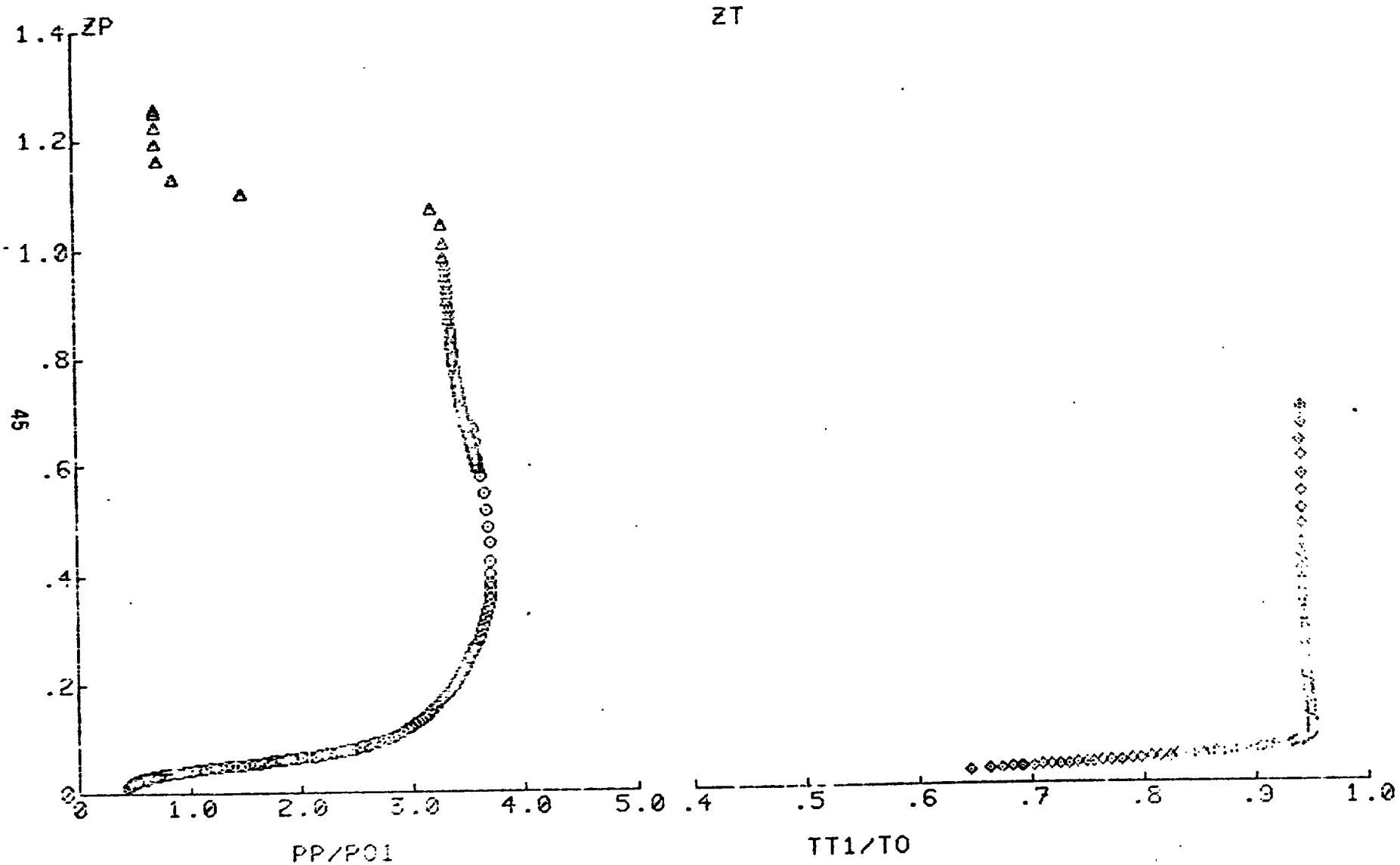
19	13.58	2.05	15



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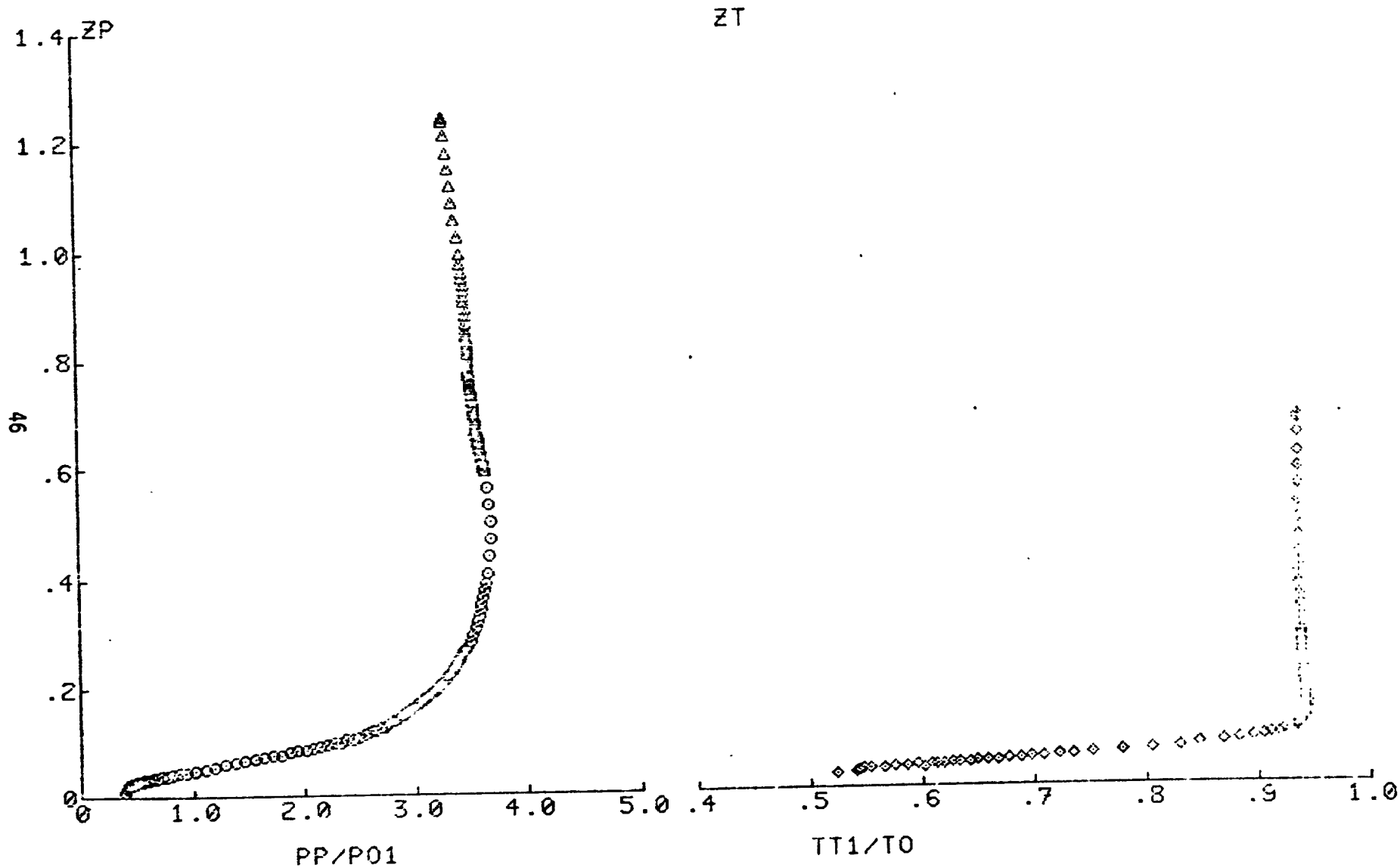
20	15.84	2.05	22



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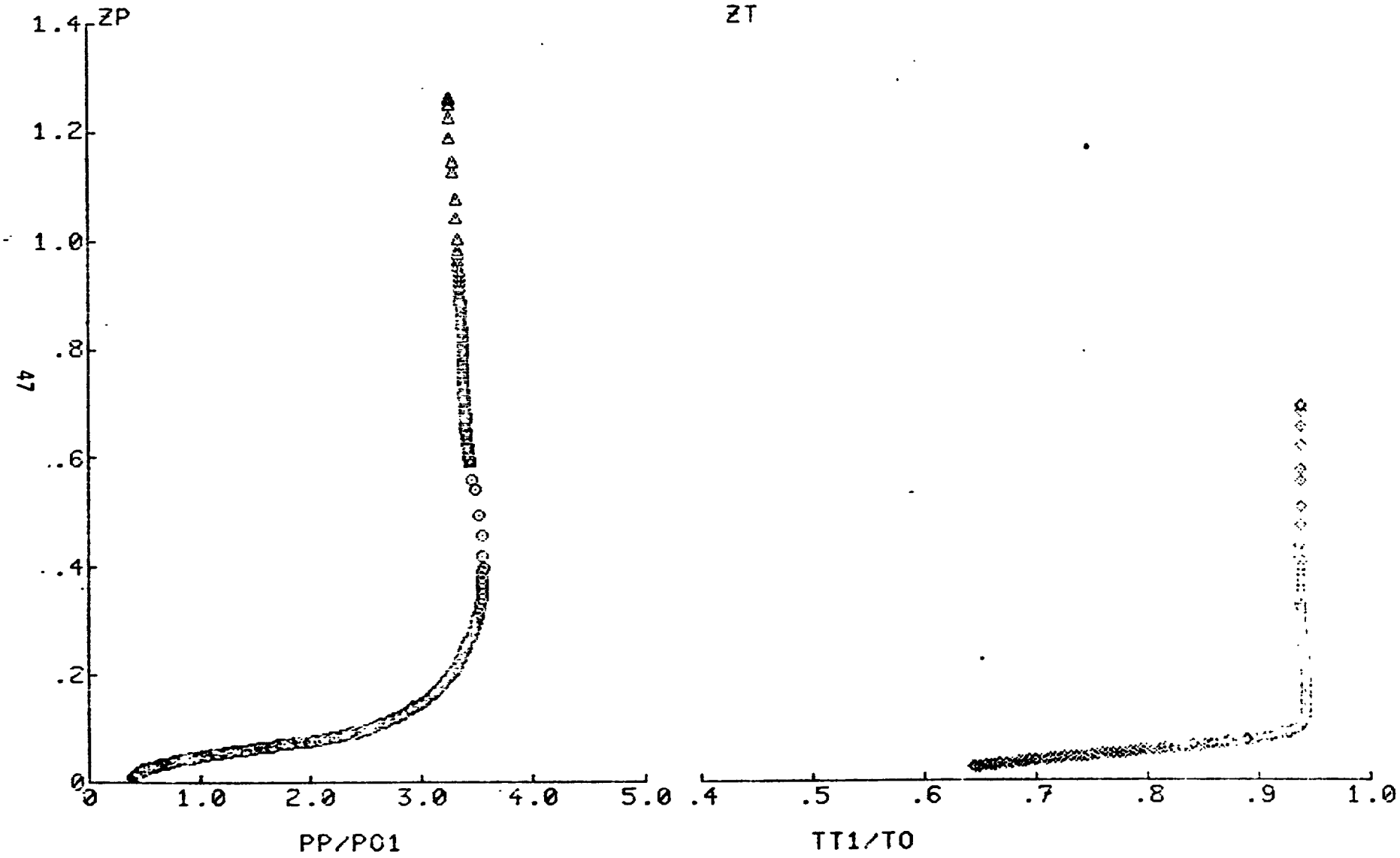

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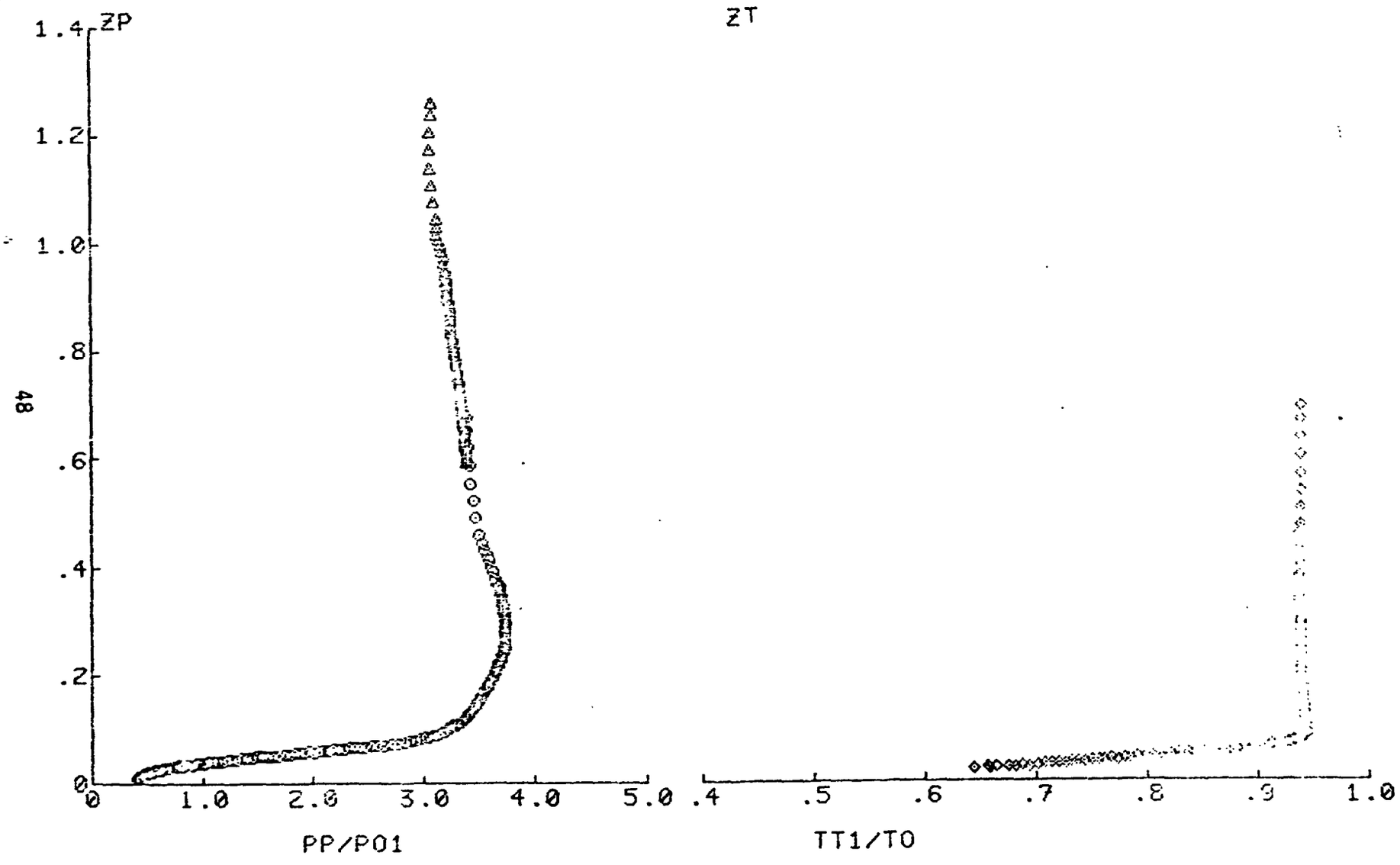

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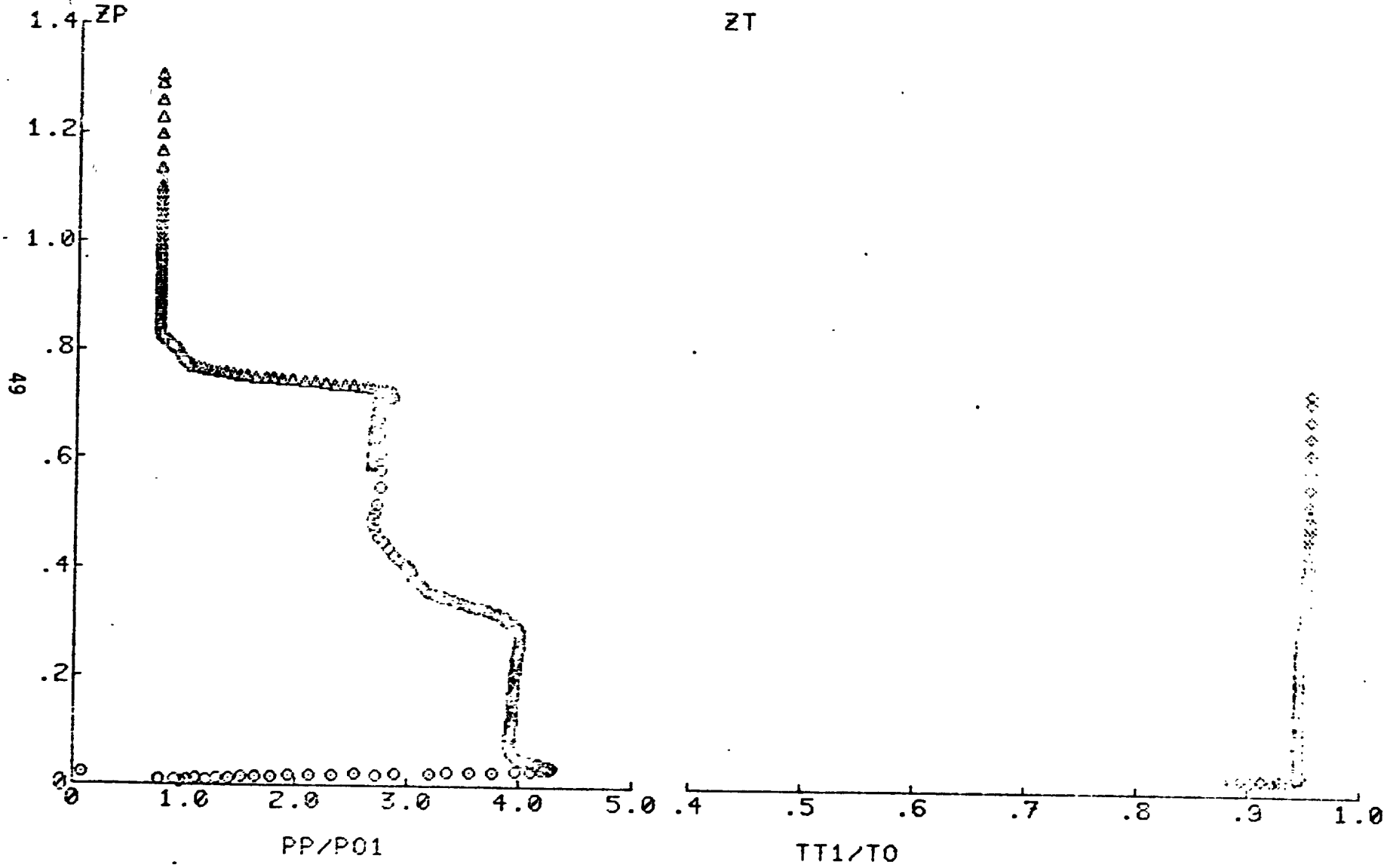
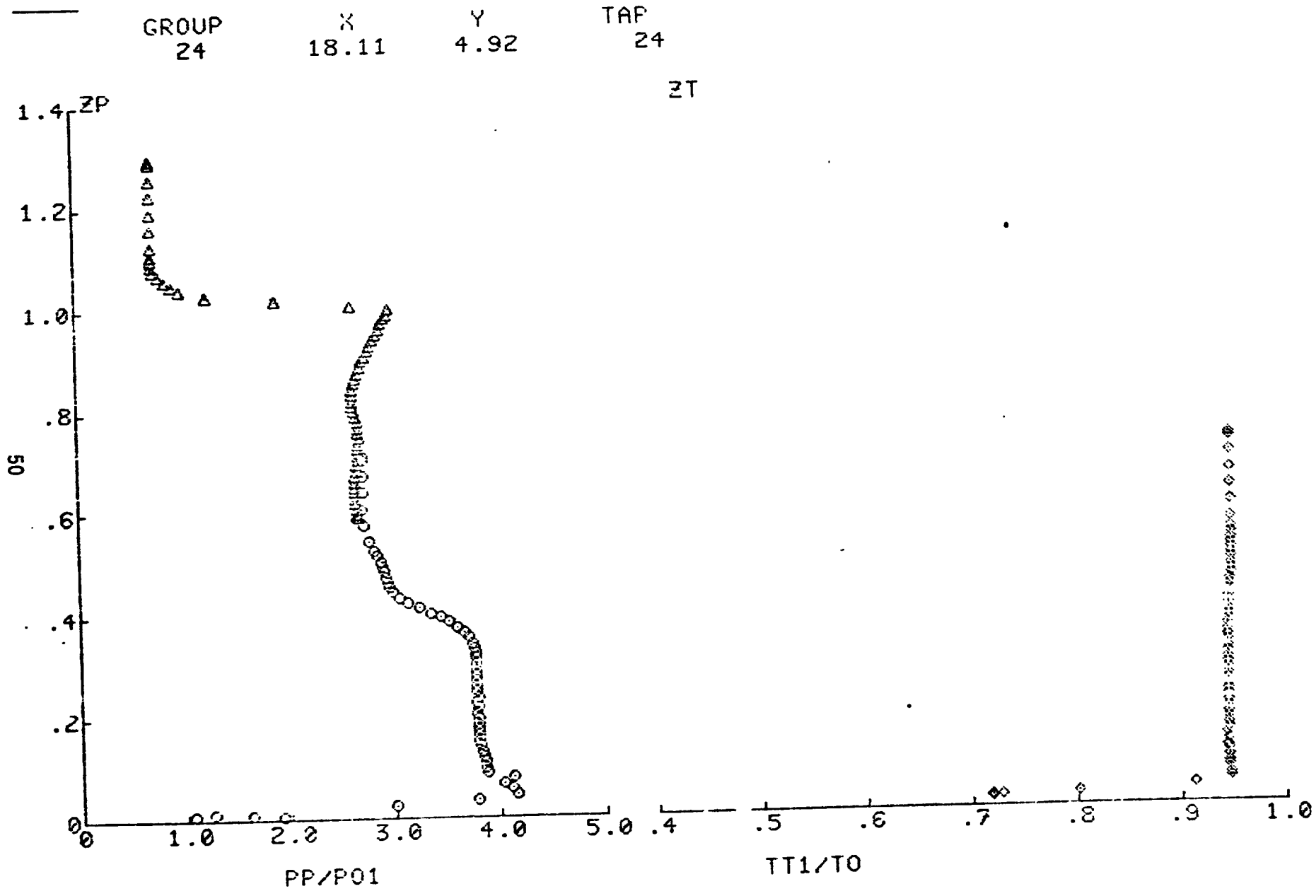
23	16.98	4.92	23

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18.11
Y
4.92
TAP
24
ZT
ZP
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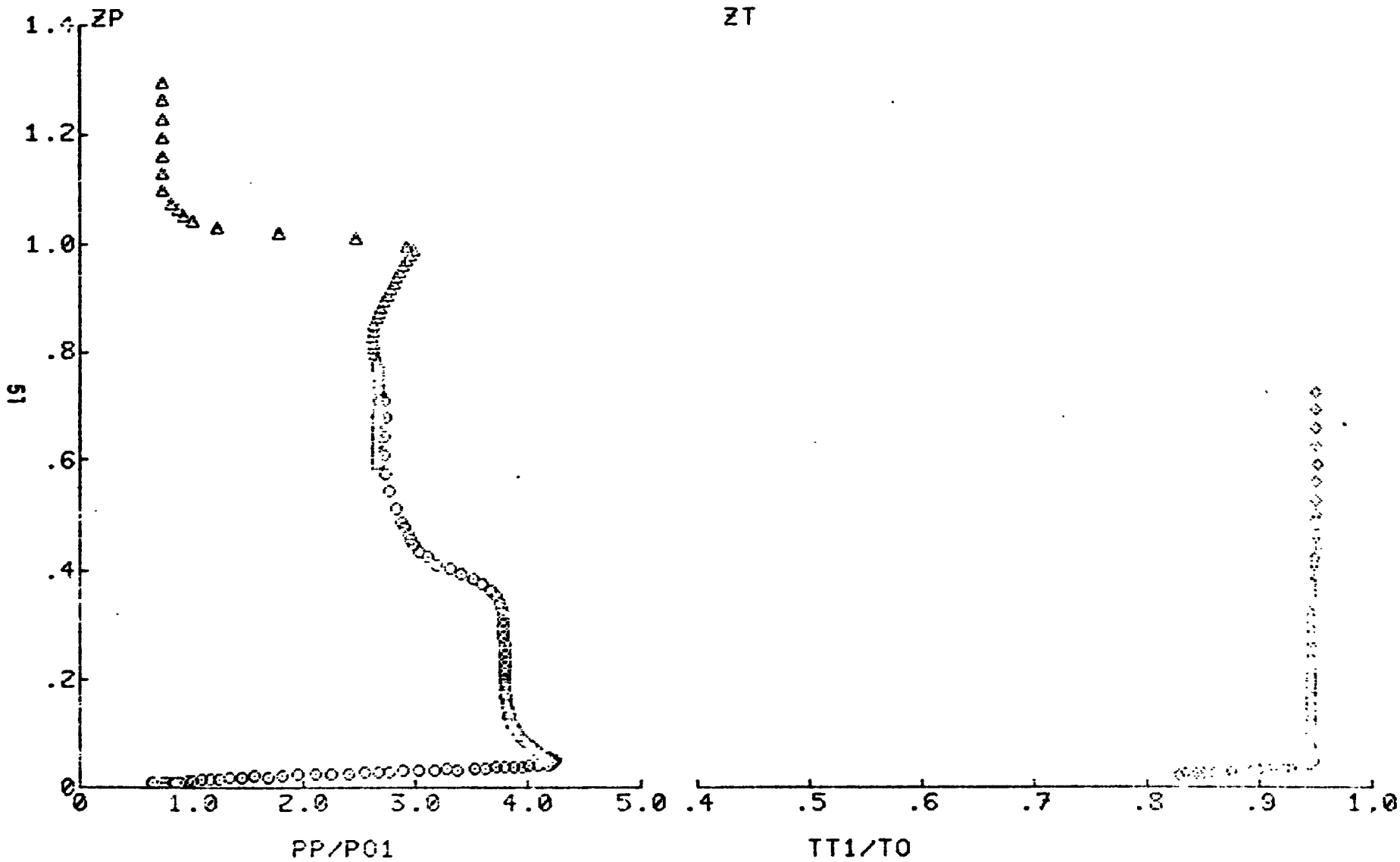
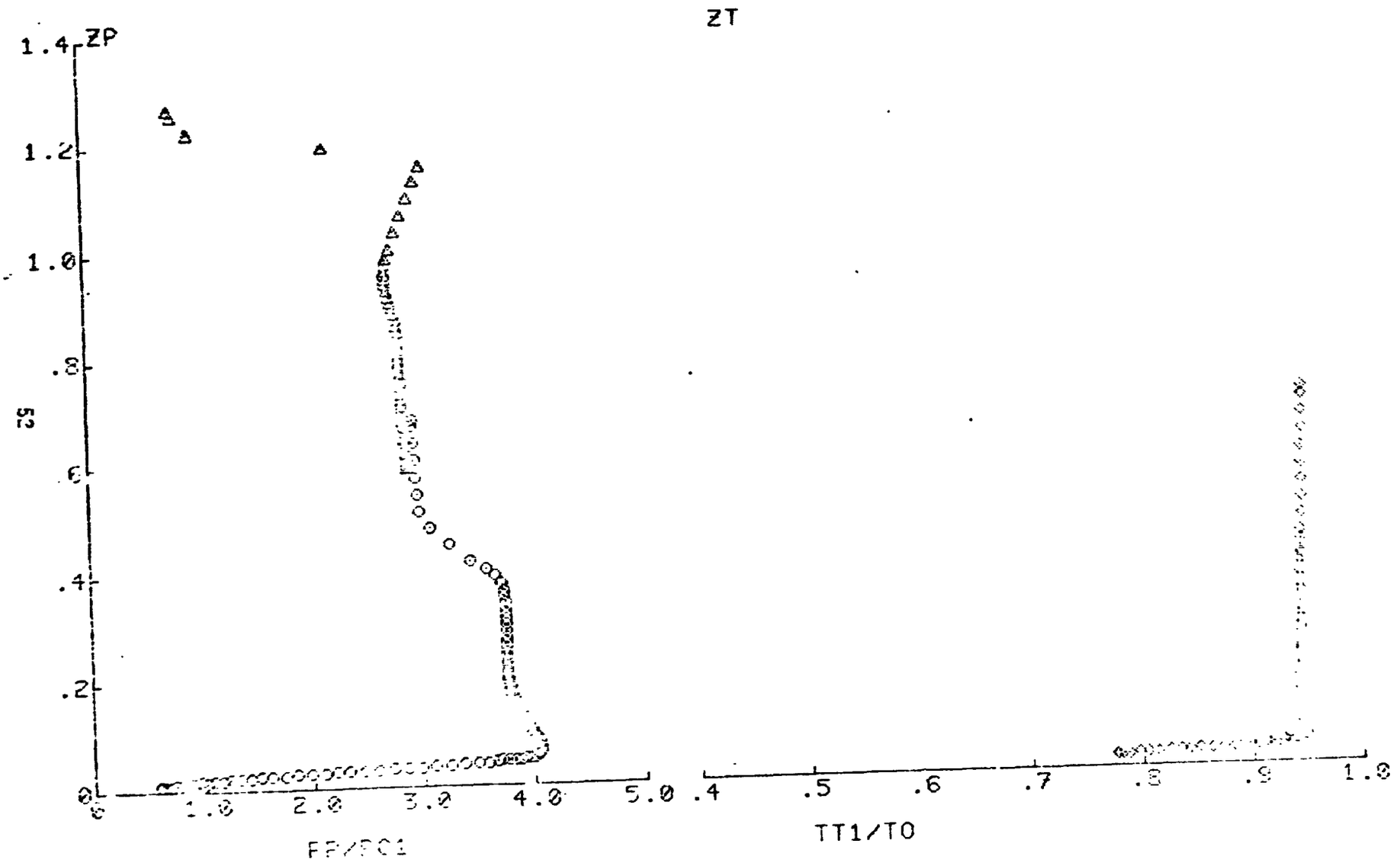
1.2
1.0
.8
.6
.4
.2
0
50
0
1.0
2.0
3.0
4.0
5.0
PP/P01
.4
.5
.6
.7
.8
.9
1.0
TT1/T0

GROUP	X	Y	TAP
25	18.11	4.92	24



GROUP 26 | X 19.19 | 4.92 | TAP 18



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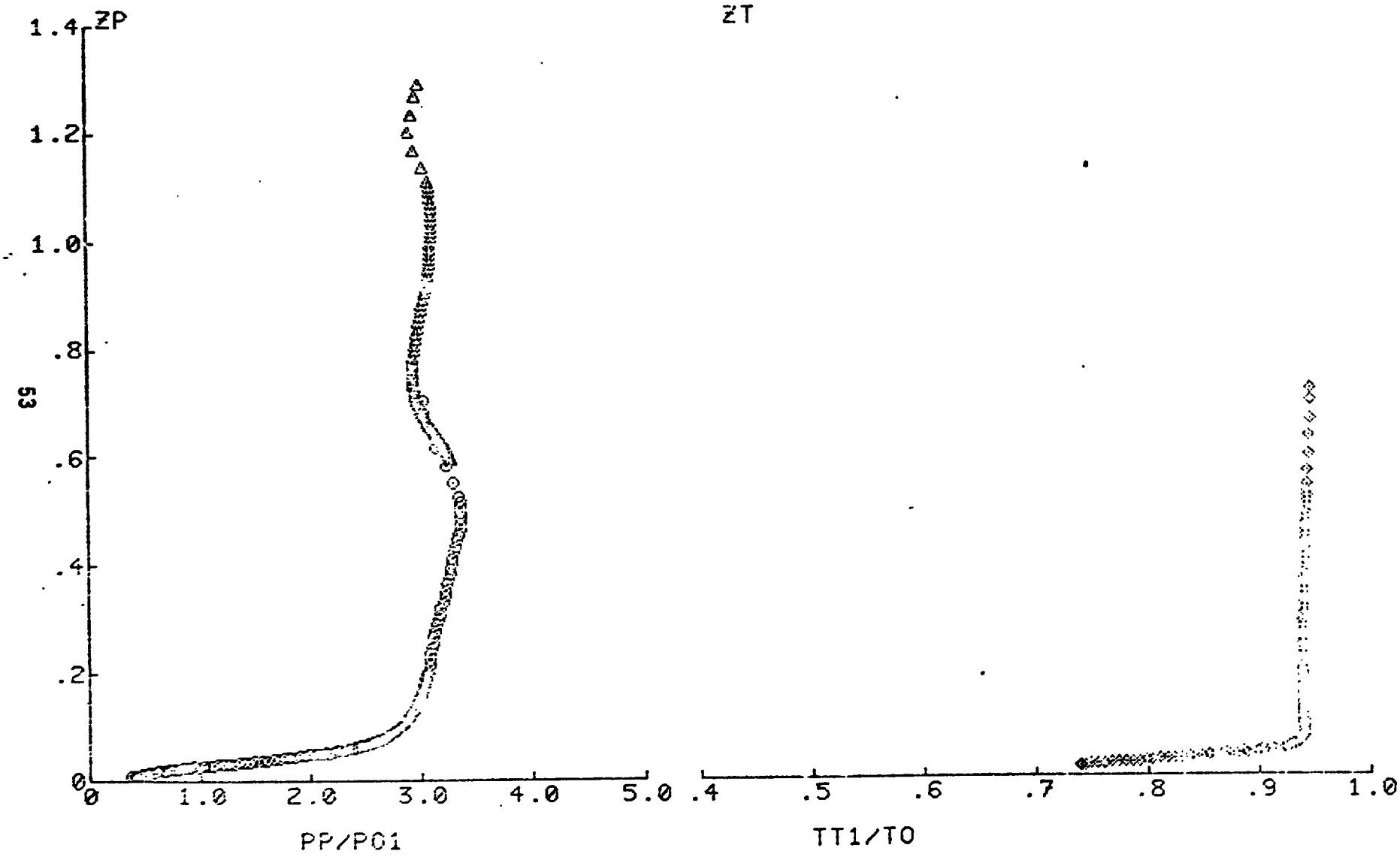
27	21.01	4.92	25



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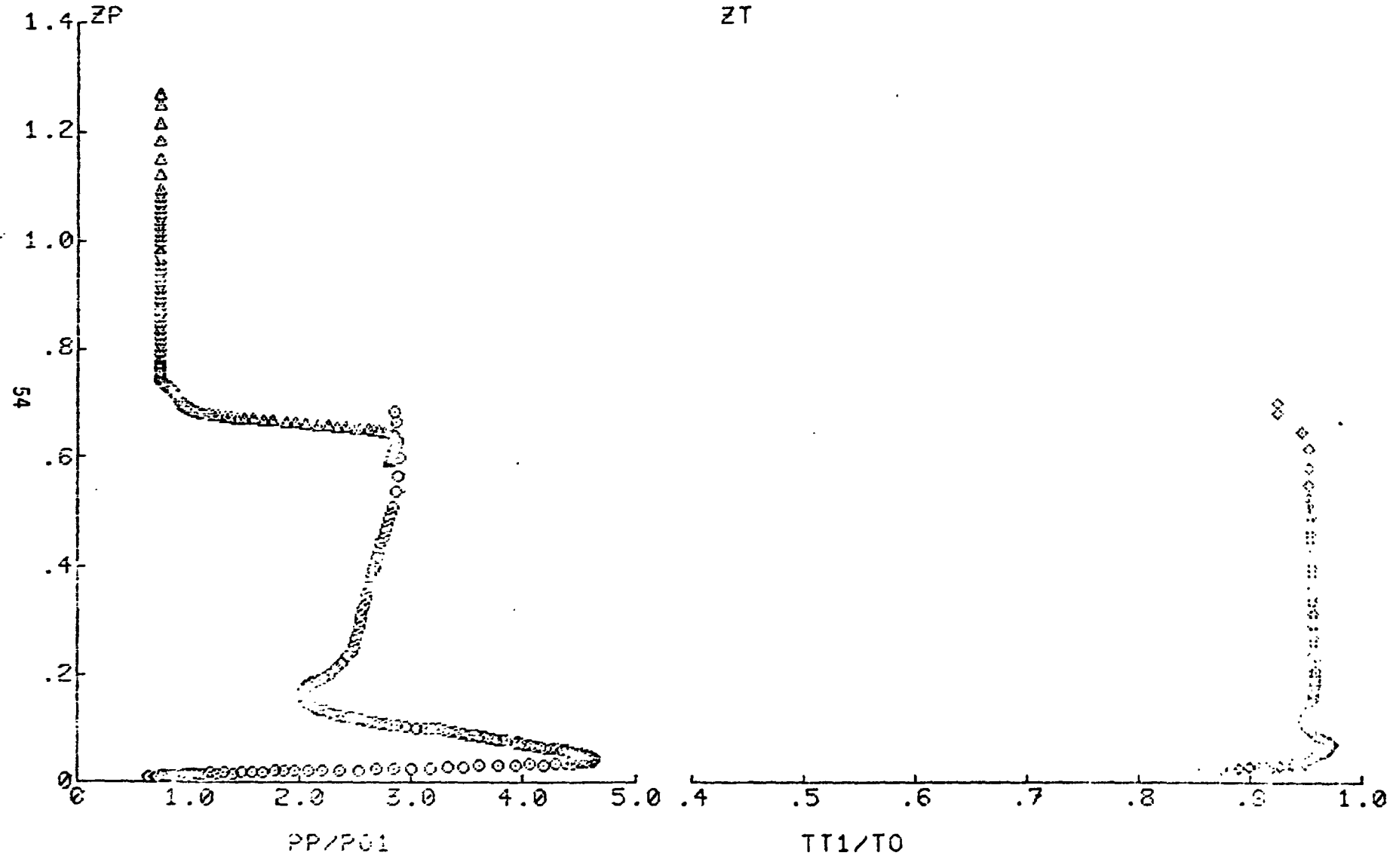

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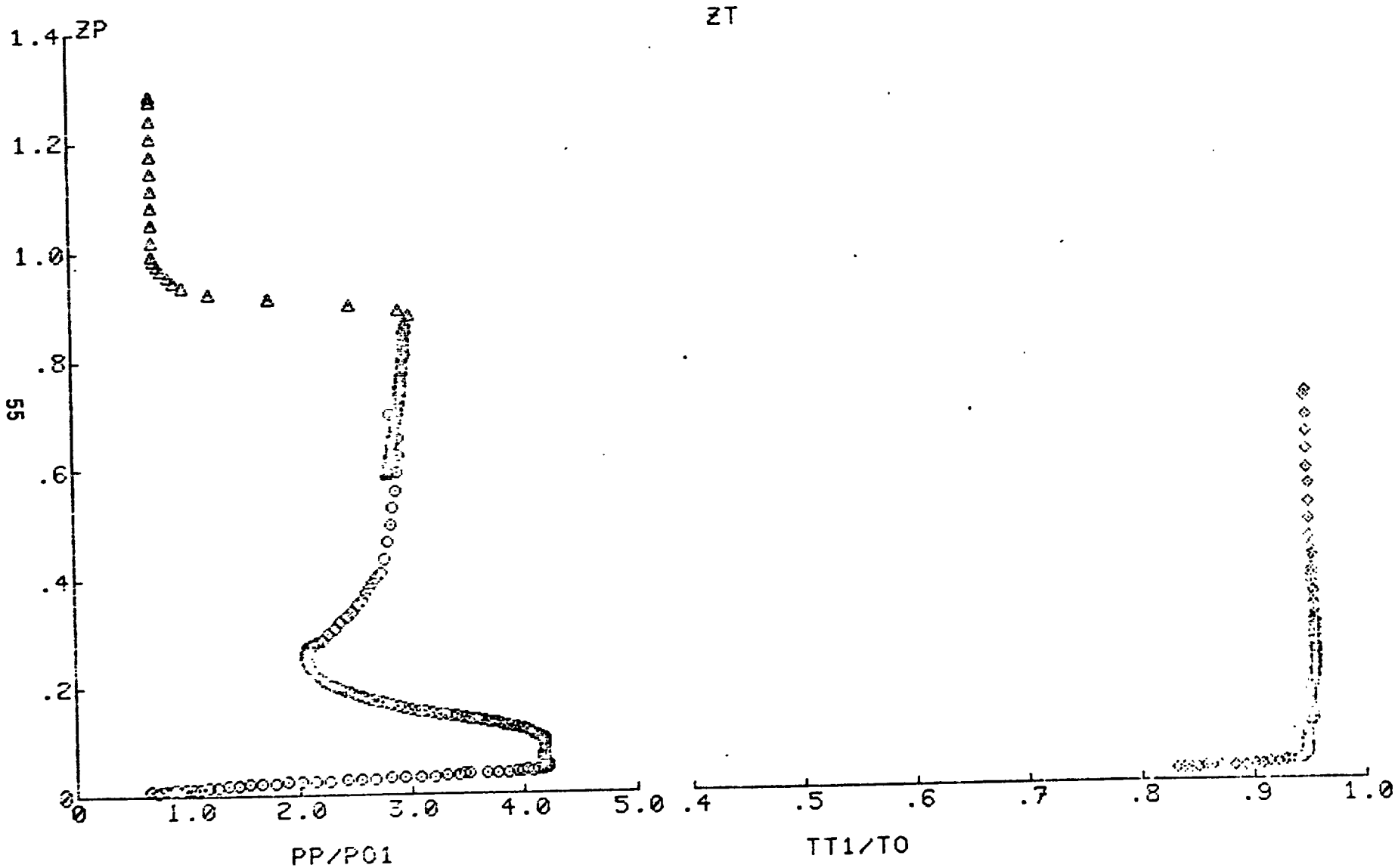
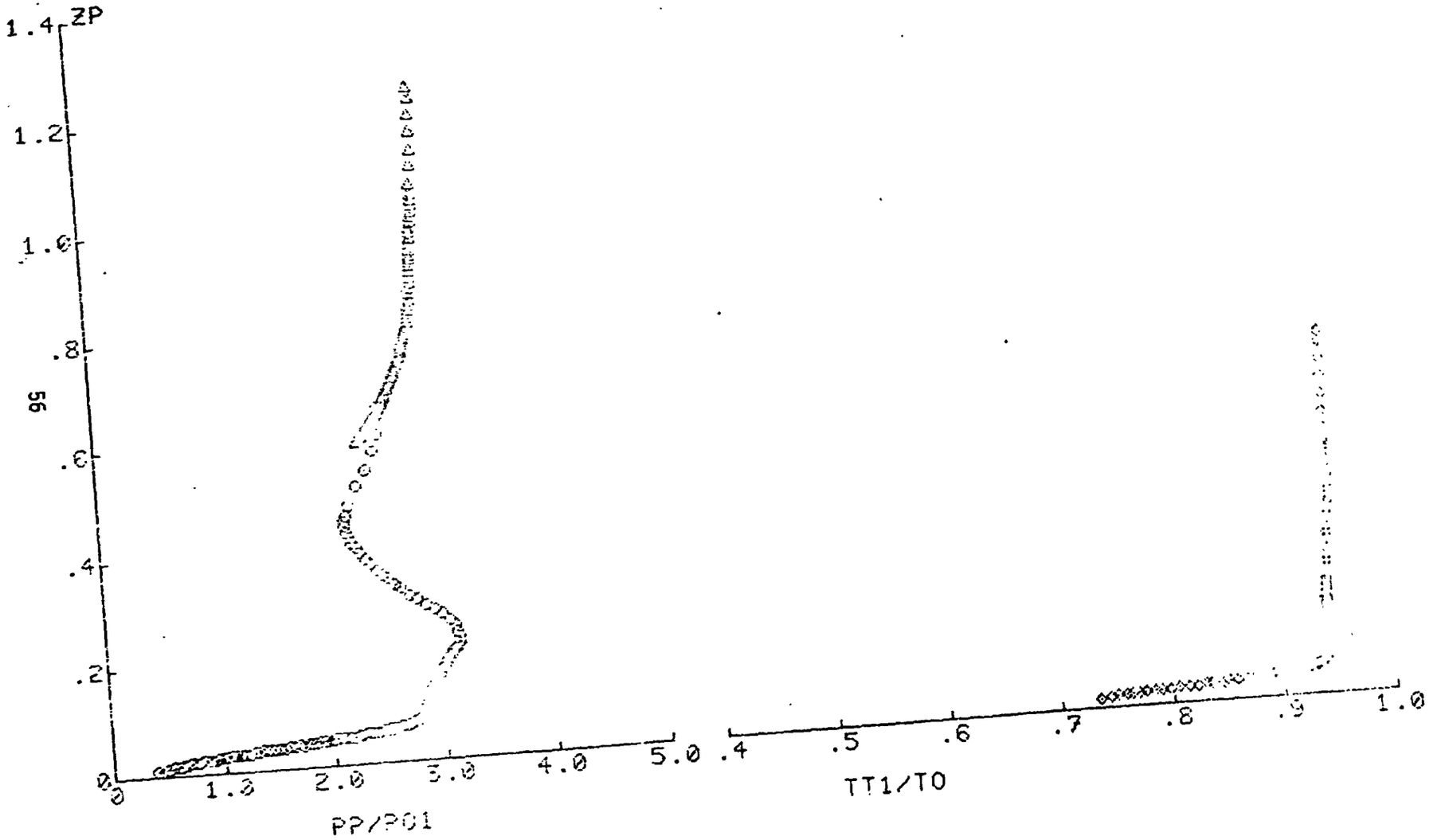


GROUP 30 X 21.01 Y 6.15 TAP 20

ZT



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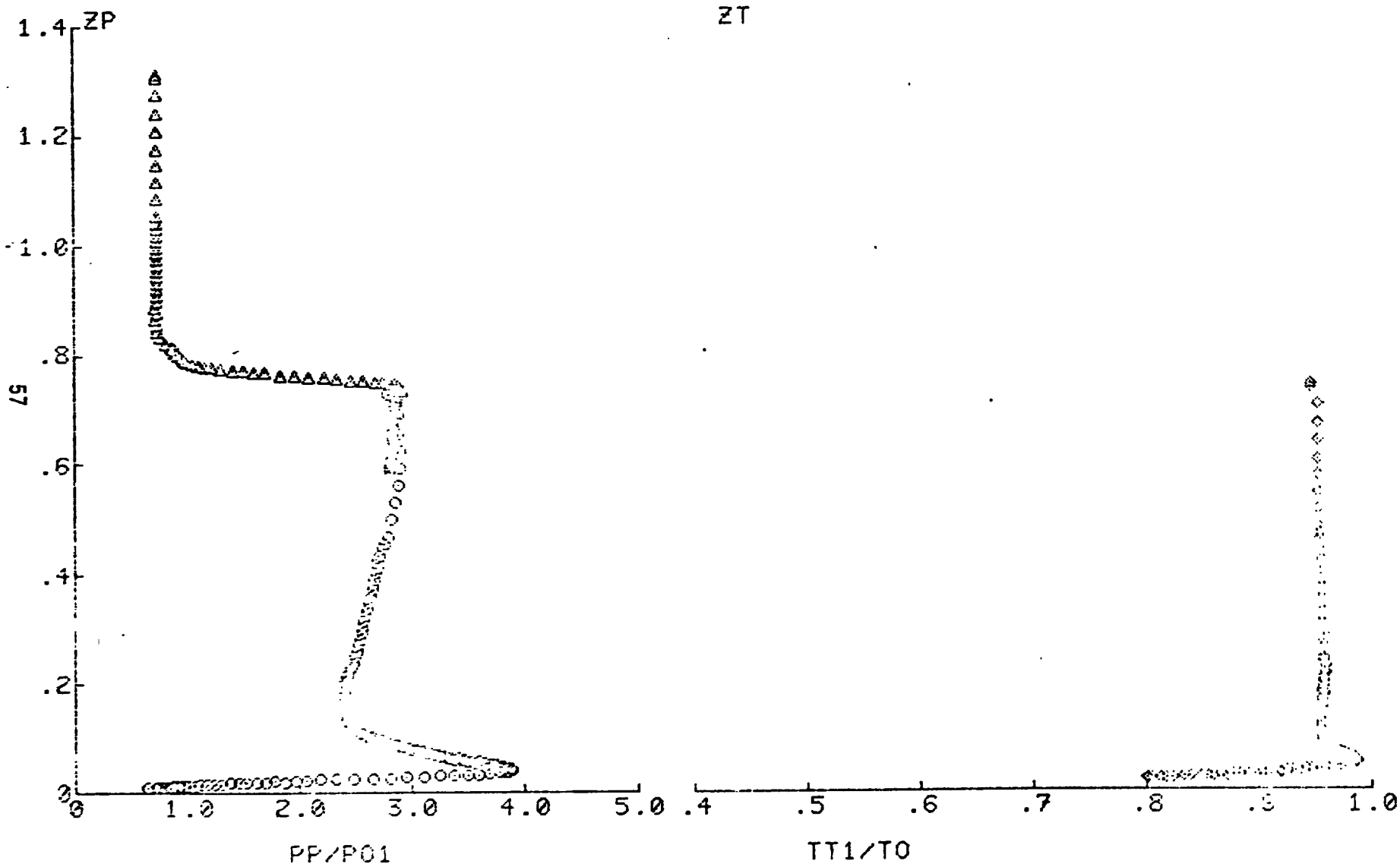

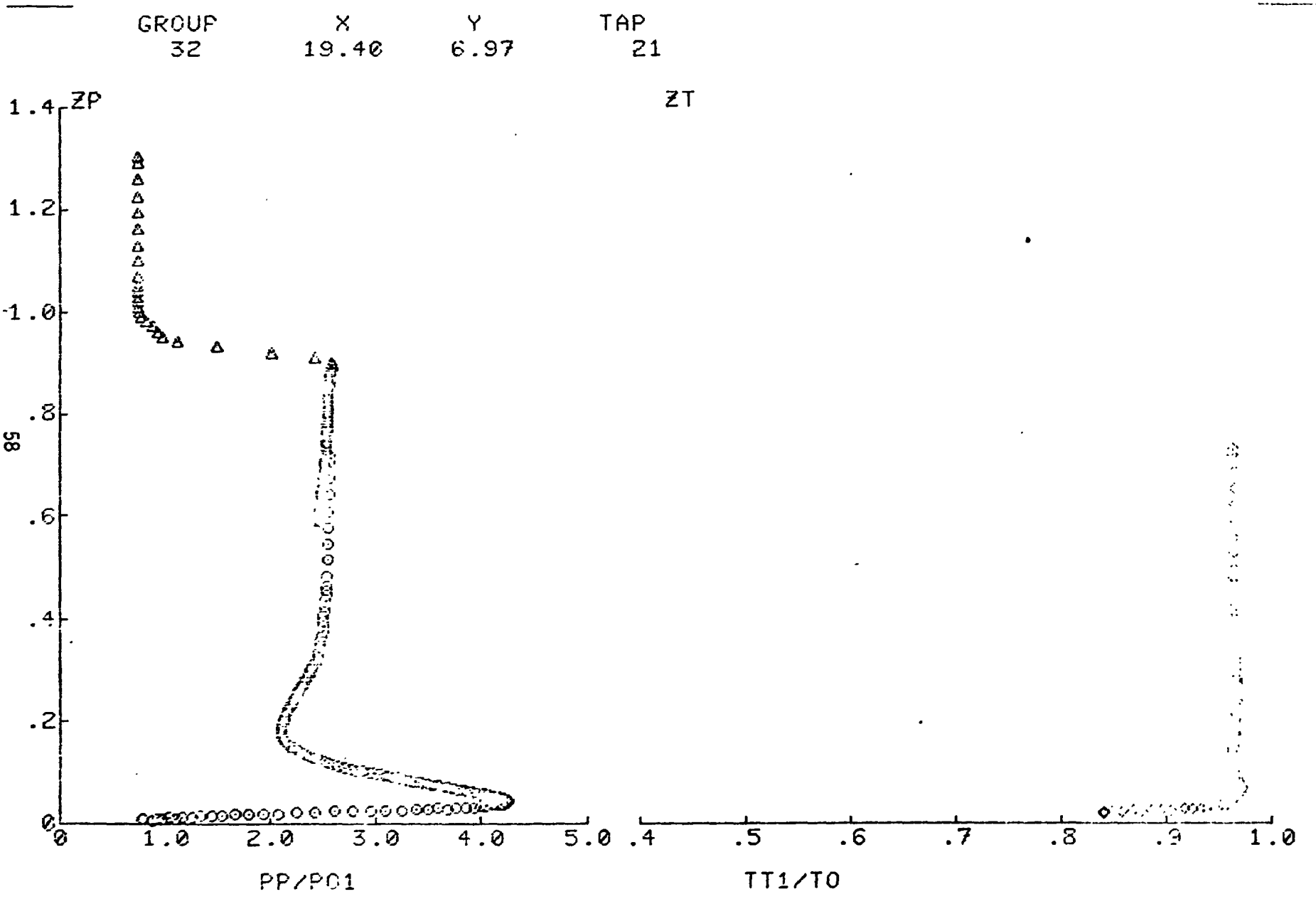
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X
19.40
Y
6.97
TAP
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ZP
ZT
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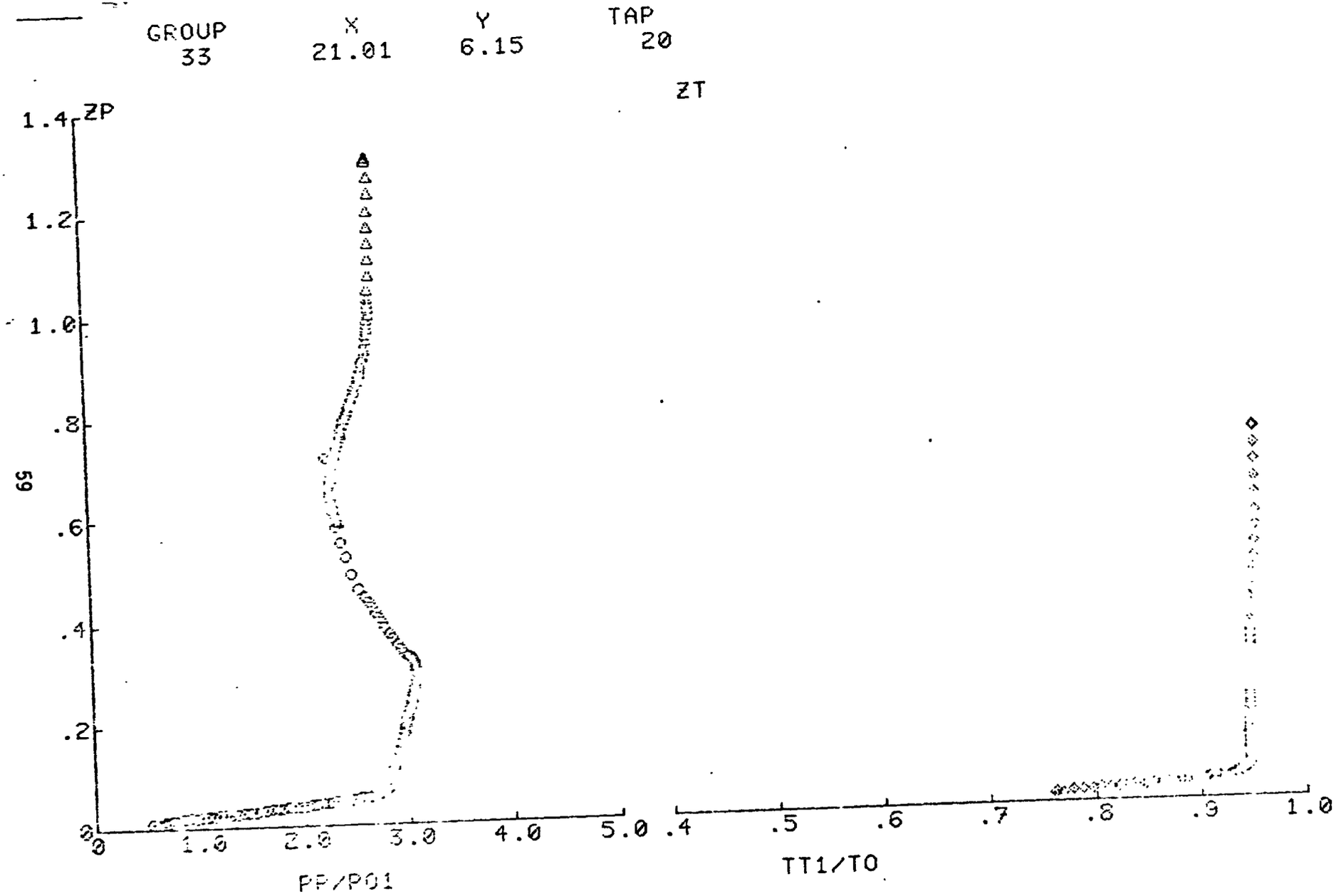
1.2
1.0
.8
.6
.4
.2
0
SS
0
1.0
2.0
3.0
4.0
5.0
PP/PO1
.4
.5
.6
.7
.8
.9
1.0
TT1/TO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X
21.01
Y
6.15
TAP
20
ZT
ZP
1.4
1.2
1.0
.8
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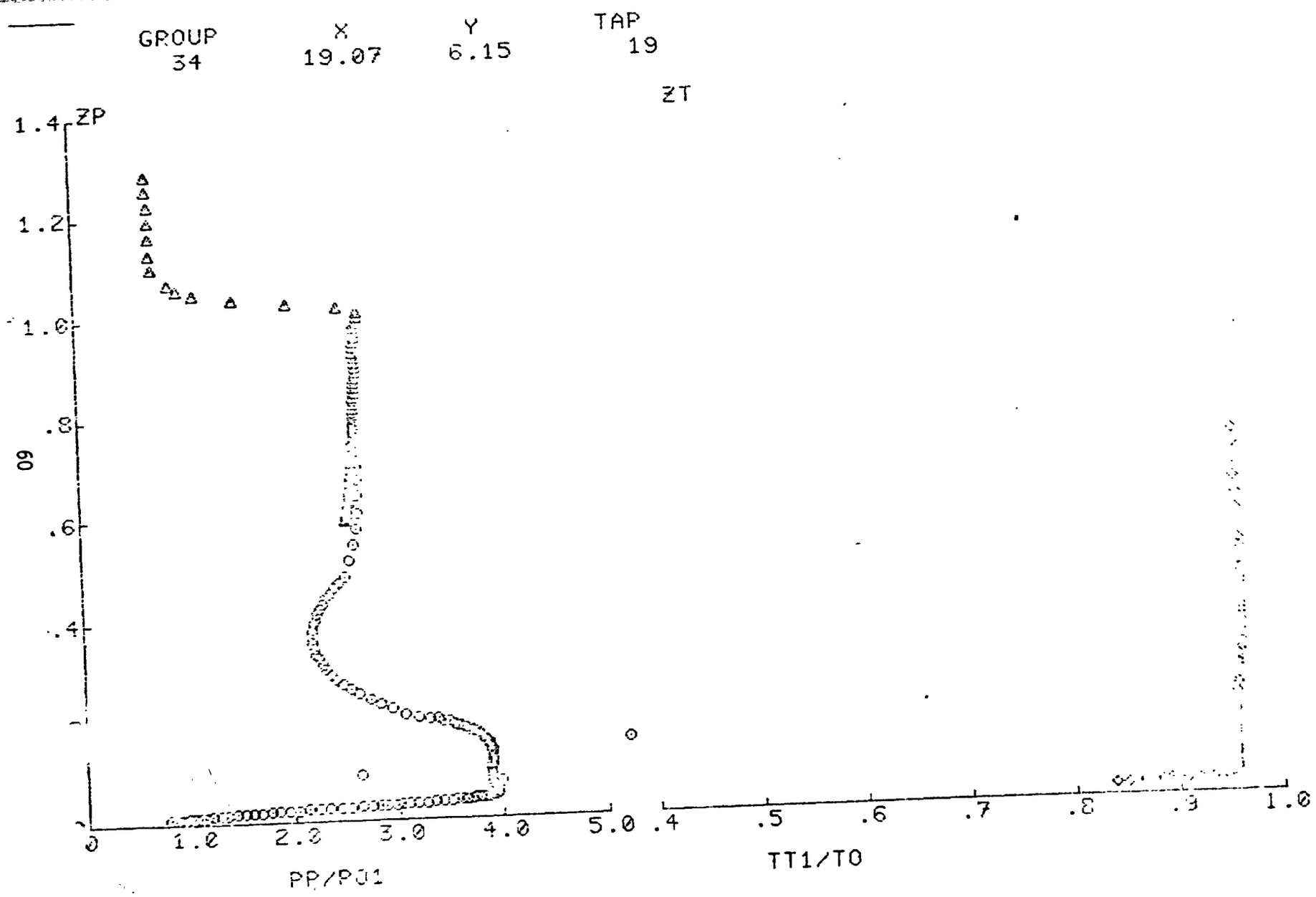
.2
0
SS
1.0
2.0
3.0
4.0
5.0
PP/P01
.4
.5
.6
.7
.8
.9
1.0
TT1/T0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X
19.07
Y
6.15
TAP
19
ZT
ZP
1.4
1.2
1.0
.8
.6
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0
1.0
2.0
3.0
4.0
5.0
PP/P01
.4
.5
.6
.7
.8
.9
1.0
TT1/T0

GROUP	X	Y	TAP
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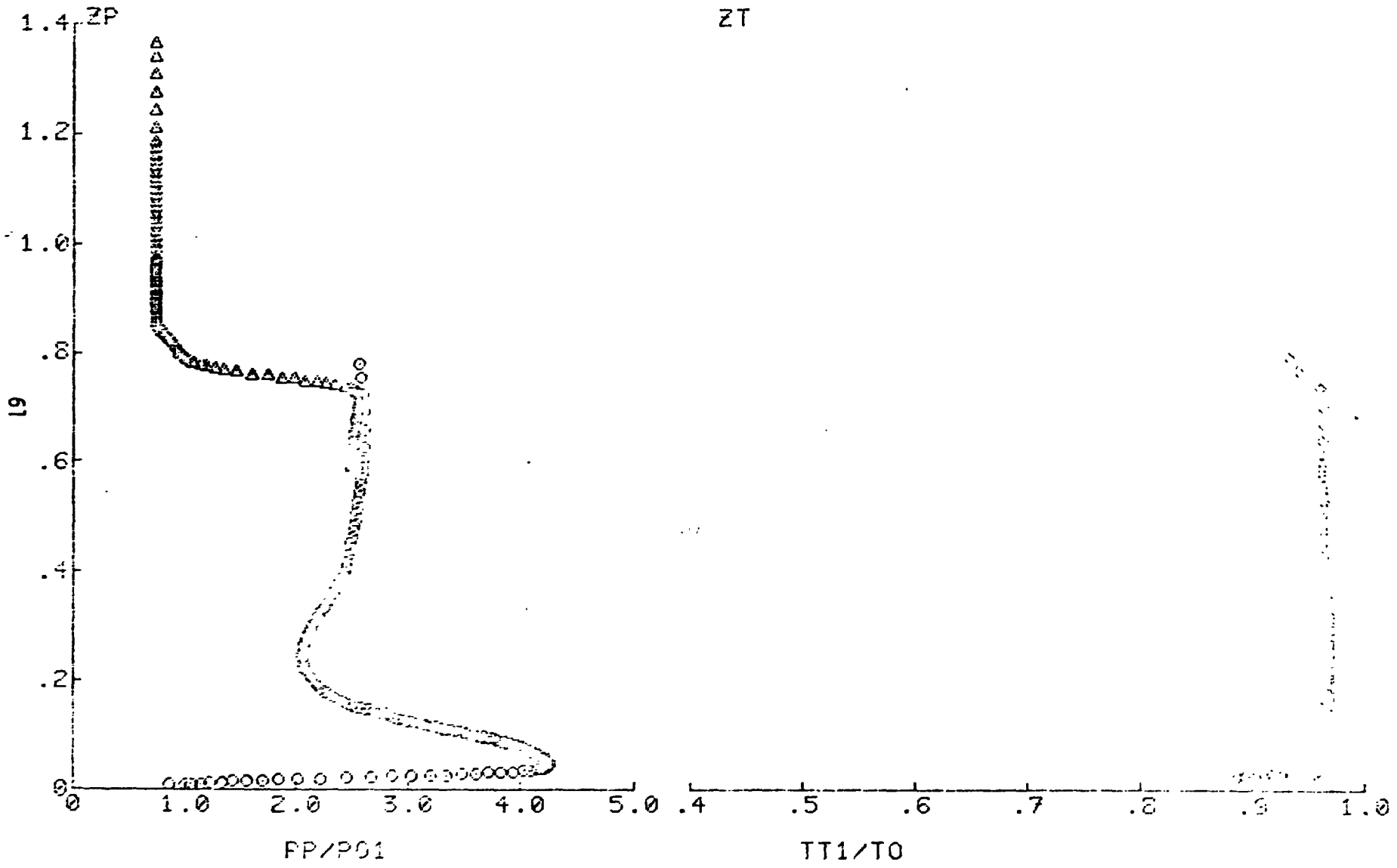

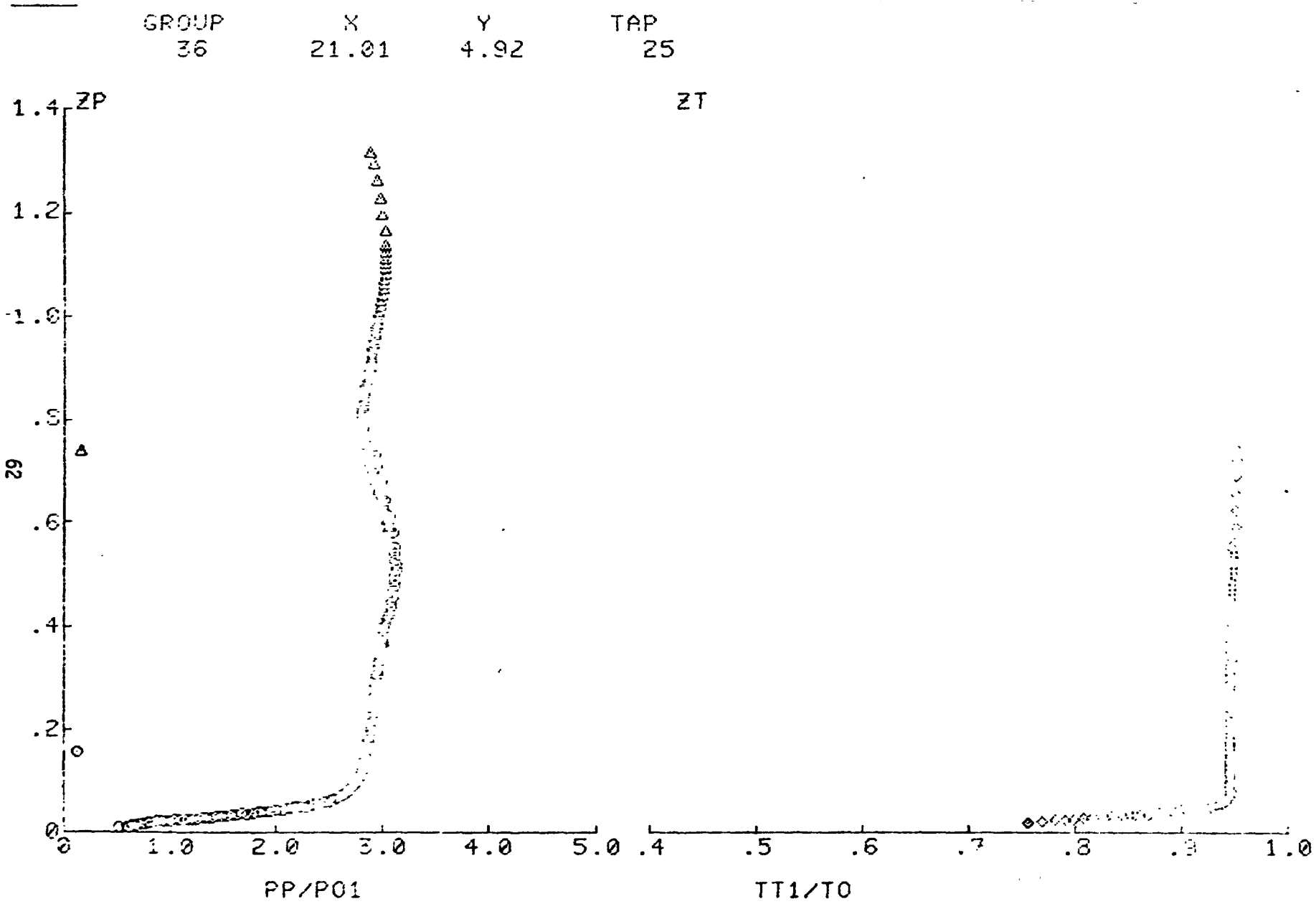
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X
21.01
Y
4.92
TAP
25
ZP
ZT
1.4
1.2
1.0
.8
.6
.4
.2
0
ZP
0
1.0
2.0
3.0
4.0
5.0
PP/P01
.4
.5
.6
.7
.8
.9
1.0
TT1/T0

APPENDIX

TABULATED DATA

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
PAGE # 1

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
3	139	7.92	151.3	1273	29.98	-7.98	22.00	180.0	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	L (IN)
94.0	.0165	1.344	.727	3763	4.752E-04	7.566E-08	734974.14	22.63

CH	POS	TAP	PM (PSIA)	PM/PO	PM/P01	PM/P-INF	CP	CP/CP-MAX	X/L	X (IN)	Y (IN)
1	1	1	4.899E-01	3.237E-03	3.645E-01	2.961E 01	6.515E-01	3.566E-01	.100	2.26	0
2	1	2	3.925E-01	2.593E-03	2.920E-01	2.372E 01	5.174E-01	2.832E-01	.200	4.53	0
3	1	3	3.975E-01	2.627E-03	2.958E-01	2.403E 01	5.244E-01	2.870E-01	.300	6.79	0
4	1	4	4.092E-01	2.704E-03	3.044E-01	2.473E 01	5.404E-01	2.958E-01	.400	9.05	0
5	1	5	4.156E-01	2.746E-03	3.092E-01	2.511E 01	5.492E-01	3.006E-01	.500	11.32	0
6	1	6	4.211E-01	2.782E-03	3.133E-01	2.545E 01	5.569E-01	3.047E-01	.600	13.58	0
7	1	7	4.220E-01	2.788E-03	3.139E-01	2.550E 01	5.580E-01	3.054E-01	.700	15.84	0
8	1	8	4.079E-01	2.695E-03	3.035E-01	2.465E 01	5.396E-01	2.948E-01	.800	18.11	0
9	1	9	2.918E-01	1.928E-03	2.171E-01	1.763E 01	3.788E-01	2.073E-01	.900	20.37	0
10	1	10	2.339E-01	1.545E-03	1.740E-01	1.413E 01	2.991E-01	1.637E-01	1.000	22.63	0
11	1	11	4.115E-01	2.719E-03	3.061E-01	2.487E 01	5.435E-01	2.975E-01	.400	9.05	.88
12	1	12	4.223E-01	2.790E-03	3.142E-01	2.552E 01	5.584E-01	3.056E-01	.500	11.32	.88
13	1	13	4.284E-01	2.831E-03	3.188E-01	2.589E 01	5.669E-01	3.103E-01	.600	13.58	.88
14	1	14	4.295E-01	2.838E-03	3.195E-01	2.596E 01	5.683E-01	3.111E-01	.500	11.32	2.05
15	1	15	4.664E-01	3.082E-03	3.470E-01	2.819E 01	6.191E-01	3.389E-01	.600	13.58	2.05
6	2	22	4.119E-01	2.723E-03	3.066F-01	2.491E 01	5.445E-01	2.980E-01	.700	15.84	2.05
16	1	16	4.067E-01	2.687E-03	3.026E-01	2.458E 01	5.370E-01	2.939E-01	.800	18.11	2.05
1	2	17	4.211E-01	2.784E-03	3.135F-01	2.547E 01	5.572E-01	3.050E-01	.800	18.11	3.28
7	2	23	4.956E-01	3.277E-03	3.690E-01	2.997E 01	6.598E-01	3.611E-01	.750	16.98	4.92
8	2	24	4.818E-01	3.186E-03	3.587E-01	2.914E 01	6.408E-01	3.507E-01	.800	18.11	4.92
2	2	18	4.568E-01	3.020E-03	3.401E-01	2.762E 01	6.063E-01	3.319E-01	.848	19.19	4.92
9	2	25	2.464E-01	1.629E-03	1.834E-01	1.490E 01	3.166E-01	1.733E-01	.928	21.01	4.92
10	2	26	5.488E-01	3.629E-03	4.086E-01	3.319E 01	7.331E-01	4.012E-01	.800	18.11	6.15
3	2	19	5.146E-01	3.403E-03	3.832E-01	3.112E 01	6.860E-01	3.755E-01	.842	19.07	6.15
4	2	20	2.670E-01	1.765E-03	1.988E-01	1.614E 01	3.449E-01	1.888E-01	.928	21.01	6.15
5	2	21	5.371E-01	3.551E-03	3.999E-01	3.248E 01	7.169E-01	3.924E-01	.857	19.40	6.97

DATE 5-6-74
PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OFS2 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
4	139	7.92	148.3	1274	29.97	-7.97	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	L * (IN)
94.1	.0162	1.317	.712	3765	4.651E-04	7.572E-08	719087.59	22.63

CH	POS	TAP	PH (PSIA)	PH/PO	PH/PO1	PH/P-INF	CP	CP/CP-MAX	X/L	X (IN)	Y (IN)
1	1	1	4.754E-01	3.237E-03	3.611E-01	2.933E 01	6.453E-01	3.532E-01	.100	2.26	0
2	1	2	3.735E-01	2.560E-03	2.883E-01	2.342E 01	5.105E-01	2.794E-01	.200	4.53	0
3	1	3	3.851E-01	2.598E-03	2.925E-01	2.376E 01	5.184E-01	2.837E-01	.300	6.79	0
4	1	4	4.095E-01	2.701E-03	3.042E-01	2.471E 01	5.399E-01	2.955E-01	.400	9.05	0
5	1	5	4.048E-01	2.731E-03	3.075E-01	2.498E 01	5.460E-01	2.988E-01	.500	11.32	0
6	1	6	4.161E-01	2.806E-03	3.160E-01	2.567E 01	5.618E-01	3.075E-01	.600	13.58	0
7	1	7	4.155E-01	2.803E-03	3.156E-01	2.564E 01	5.611E-01	3.071E-01	.700	15.84	0
8	1	8	4.027E-01	2.716E-03	3.059E-01	2.485E 01	5.431E-01	2.972E-01	.800	18.11	0
9	1	9	2.837E-01	1.914E-03	2.155E-01	1.750E 01	3.759E-01	2.057E-01	.900	20.37	0
10	1	10	2.294E-01	1.548E-03	1.743E-01	1.416E 01	2.996E-01	1.640E-01	1.000	22.63	0
11	1	11	4.004E-01	2.701E-03	3.041E-01	2.470E 01	5.398E-01	2.954E-01	.400	9.05	.88
12	1	12	4.081E-01	2.753E-03	3.100E-01	2.518E 01	5.507E-01	3.014E-01	.500	11.32	.88
13	1	13	4.169E-01	2.812E-03	3.167E-01	2.572E 01	5.630E-01	3.082E-01	.600	13.58	.88
14	1	14	4.181E-01	2.820E-03	3.176E-01	2.580E 01	5.648E-01	3.091E-01	.500	11.32	2.05
15	1	15	4.[illegible]6E-01	3.053E-03	3.438E-01	2.792E 01	6.131E-01	3.356E-01	.600	13.58	2.05
6	2	22	4.042E-01	2.725E-03	3.068E-01	2.492E 01	5.448E-01	2.982E-01	.700	15.84	2.05
16	1	16	3.949E-01	2.664E-03	3.000E-01	2.437E 01	5.321E-01	2.912E-01	.800	18.11	2.05
1	2	17	4.046E-01	2.727E-03	3.071E-01	2.495E 01	5.454E-01	2.985E-01	.800	18.11	3.28
7	2	23	4.862E-01	3.278E-03	3.691E-01	2.998E 01	6.600E-01	3.612E-01	.750	16.98	4.92
8	2	24	4.719E-01	3.195E-03	3.597E-01	2.922E 01	6.427E-01	3.518E-01	.800	18.11	4.92
2	2	18	4.404E-01	2.968E-03	3.343E-01	2.715E 01	5.956E-01	3.260E-01	.848	19.19	4.92
9	2	25	2.394E-01	1.614E-03	1.817E-01	1.476E 01	3.134E-01	1.715E-01	.928	21.01	4.92
10	2	26	5.322E-01	3.588E-03	4.040E-01	3.281E 01	7.246E-01	3.966E-01	.800	18.11	6.15
3	2	19	4.991E-01	3.357E-03	3.781E-01	3.071E 01	6.766E-01	3.703E-01	.842	19.07	6.15
4	2	20	2.596E-01	1.750E-03	1.971E-01	1.601E 01	3.418E-01	1.871E-01	.928	21.01	6.15
5	2	21	5.218E-01	3.517E-03	3.960E-01	3.217E 01	7.098E-01	3.885E-01	.857	19.40	6.97

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OPS2 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
5	139	7.92	149.7	1276	35.03	-13.03	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	L (IN)
94.2	.0164	1.329	.718	3768	4.688E-04	7.584E-08	724165.51	22.63

CH	PUS	TAP	PH (PSIA)	PH/PO	PH/PO1	PH/P-INF	CP	CP/CP-MAX	X/L	X (IN)	Y (IN)
1	1	1	6.663E-01	4.452E-03	5.013E-01	4.072E 01	9.047E-01	4.951E-01	.100	2.26	0
2	1	2	5.614E-01	3.751E-03	4.224E-01	3.431E 01	7.587E-01	4.152E-01	.200	4.53	0
3	1	3	6.029E-01	4.029E-03	4.536E-01	3.685E 01	8.164E-01	4.468E-01	.300	6.79	0
4	1	4	6.198E-01	4.141E-03	4.663E-01	3.788E 01	8.399E-01	4.597E-01	.400	9.05	0
5	1	5	6.408E-01	4.282E-03	4.822E-01	3.917E 01	8.692E-01	4.757E-01	.500	11.32	0
6	1	6	6.581E-01	4.264E-03	4.802E-01	3.900E 01	8.655E-01	4.737E-01	.600	13.58	0
7	1	7	6.535E-01	4.367E-03	4.918E-01	3.994E 01	8.869E-01	4.854E-01	.700	15.84	0
8	1	8	6.318E-01	4.222E-03	4.754E-01	3.861E 01	8.566E-01	4.688E-01	.800	18.11	0
9	1	9	5.274E-01	3.524E-03	3.969E-01	3.224E 01	7.114E-01	3.894E-01	.900	20.37	0
10	1	10	5.277E-01	3.526E-03	3.970E-01	3.225E 01	7.117E-01	3.895E-01	1.000	22.63	0
11	1	11	6.037E-01	4.034E-03	4.543E-01	3.690E 01	8.176E-01	4.475E-01	.400	9.05	.88
12	1	12	6.162E-01	4.117E-03	4.636E-01	3.766E 01	8.349E-01	4.570E-01	.500	11.32	.88
13	1	13	6.111E-01	4.084E-03	4.598E-01	3.735E 01	8.279E-01	4.531E-01	.600	13.58	.88
14	1	14	6.205E-01	4.146E-03	4.669E-01	3.792E 01	8.410E-01	4.603E-01	.500	11.32	2.05
15	1	15	6.386E-01	4.267E-03	4.805E-01	3.903E 01	8.661E-01	4.740E-01	.600	13.58	2.05
6	2	22	4.933E-01	3.305E-03	3.722E-01	3.023E 01	6.657E-01	3.643E-01	.700	15.84	2.05
16	1	16	6.299E-01	4.209E-03	4.740E-01	3.850E 01	8.540E-01	4.674E-01	.800	18.11	2.05
1	2	17	4.977E-01	3.334E-03	3.755E-01	3.050E 01	6.718E-01	3.677E-01	.800	18.11	3.28
7	2	23	6.038E-01	4.046E-03	4.556E-01	3.700E 01	8.200E-01	4.488E-01	.750	16.98	4.92
8	2	24	5.916E-01	3.964E-03	4.464E-01	3.626E 01	8.030E-01	4.395E-01	.800	18.11	4.92
2	2	18	5.544E-01	3.715E-03	4.183E-01	3.398E 01	7.510E-01	4.111E-01	.848	19.19	4.92
9	2	25	5.047E-01	2.042E-03	2.299E-01	1.868E 01	4.026E-01	2.203E-01	.928	21.01	4.92
10	2	26	6.402E-01	4.423E-03	4.981E-01	4.046E 01	8.987E-01	4.919E-01	.800	18.11	6.15
3	2	19	6.144E-01	4.116E-03	4.635E-01	3.765E 01	8.347E-01	4.569E-01	.842	19.	6.1
4	2	20	3.309E-01	2.211E-03	2.490E-01	2.023E 01	4.379E-01	2.397E-01	.928	21.	6.15
5	2	21	6.350E-01	4.255E-03	4.791E-01	3.891E 01	8.635E-01	4.726E-01	.857	19.40	6.97

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OA52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
6	139	7.92	150.9	1278	25.02	-3.02	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	L (IN)
94.4	.0165	1.340	.725	3771	4.721E-04	7.596E-08	728735.99	22.63

CH	POS	TAP	PM (PSIA)	PM/PO	PM/P01	PM/P-INF	CP	CP/CP-MAX	X/L	X (IN)	Y (IN)
1	1	1	3.739E-01	2.477E-03	2.790E-01	2.266E 01	4.933E-01	2.700E-01	.100	2.26	0
2	1	2	2.819E-01	1.867E-03	2.103E-01	1.708E 01	3.662E-01	2.004E-01	.200	4.53	0
3	1	3	2.651E-01	1.876E-03	2.112E-01	1.716E 01	3.679E-01	2.014E-01	.300	6.79	0
4	1	4	2.801E-01	1.998E-03	2.239E-01	1.819E 01	3.914E-01	2.142E-01	.400	9.05	0
5	1	5	2.846E-01	2.018E-03	2.272E-01	1.846E 01	3.975E-01	2.176E-01	.500	11.32	0
6	1	6	3.155E-01	2.090E-03	2.354E-01	1.912E 01	4.127E-01	2.258E-01	.600	13.58	0
7	1	7	3.156E-01	2.091E-03	2.355E-01	1.913E 01	4.128E-01	2.259E-01	.700	15.84	0
8	1	8	3.031E-01	2.008E-03	2.261E-01	1.837E 01	3.956E-01	2.165E-01	.800	18.11	0
9	1	9	2.129E-01	1.410E-03	1.588E-01	1.290E 01	2.710E-01	1.483E-01	.900	20.37	0
10	1	10	1.606E-01	1.064E-03	1.198E-01	9.731E 00	1.988E-01	1.088E-01	1.000	22.63	0
11	1	11	3.065E-01	1.990E-03	2.241E-01	1.821E 01	3.918E-01	2.145E-01	.400	9.05	.88
12	1	12	3.071E-01	2.035E-03	2.291E-01	1.861E 01	4.011E-01	2.195E-01	.500	11.32	.88
13	1	13	3.160E-01	2.094E-03	2.358E-01	1.915E 01	4.134E-01	2.262E-01	.600	13.58	.88
14	1	14	3.243E-01	2.149E-03	2.419E-01	1.965E 01	4.248E-01	2.325E-01	.500	11.32	2.05
15	1	15	3.507E-01	2.323E-03	2.616E-01	2.125E 01	4.612E-01	2.524E-01	.600	13.58	2.05
6	2	22	3.101E-01	2.054E-03	2.313E-01	1.879E 01	4.052E-01	2.218E-01	.700	15.84	2.05
16	1	16	2.995E-01	1.978E-03	2.227E-01	1.809E 01	3.892E-01	2.130E-01	.800	18.11	2.05
1	2	17	3.090E-01	2.047E-03	2.305E-01	1.872E 01	4.037E-01	2.209E-01	.800	18.11	3.28
7	2	23	3.676E-01	2.435E-03	2.742E-01	2.228E 01	4.845E-01	2.652E-01	.750	16.98	4.92
8	2	24	3.615E-01	2.395E-03	2.697E-01	2.190E 01	4.761E-01	2.606E-01	.800	18.11	4.92
2	2	18	3.361E-01	2.226E-03	2.507E-01	2.036E 01	4.410E-01	2.414E-01	.848	19.19	4.92
9	2	25	1.720E 01	1.139E-03	1.283E-01	1.042E 01	2.146E-01	1.174E 01	.928	21.01	4.92
10	2	26	4.122E-01	2.731E-03	3.075E-01	2.498E 01	5.460E-01	2.988E-01	.800	18.11	6.15
3	2	19	3.820E-01	2.531E-03	2.850E-01	2.315E 01	5.044E-01	2.760E-01	.842	19.07	6.15
4	2	20	1.933E-01	1.280E-03	1.442E-01	1.171E 01	2.439E-01	1.335E-01	.928	21.01	6.15
5	2	21	4.095E-01	2.713E-03	3.055E-01	2.482E 01	5.424E-01	2.969E-01	.857	19.40	6.97

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PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
7	139	7.92	149.5	1277	15.00	7.00	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	L (IN)
94.3	.0163	1.327	.717	3769	4.678E-04	7.590E-08	722349.34	22.63

CH	POS	TAP	PM (PSIA)	PM/PO	PM/PO1	PM/P-INF	CP	CP/CP-MAX	X/L	X (IN)	Y (IN)
1	1	1	1.968E-01	1.317E-03	1.483E-01	1.204E 01	2.515E-01	1.377E-01	.100	2.26	0
2	1	2	1.291E-01	8.636E-04	9.725E-02	7.899E 00	1.571E-01	8.600E-02	.200	4.53	0
3	1	3	1.235E-01	8.262E-04	9.303E-02	7.557E 00	1.493E-01	8.173E-02	.300	6.79	0
4	1	4	1.251E-01	8.369E-04	9.424E-02	7.655E 00	1.516E-01	8.295E-02	.400	9.05	0
5	1	5	1.275E-01	8.529E-04	9.604E-02	7.801E 00	1.549E-01	8.477E-02	.500	11.32	0
6	1	6	1.369E-01	9.162E-04	1.032E-01	8.380E 00	1.681E-01	9.199E-02	.600	13.58	0
7	1	7	1.407E-01	9.412E-04	1.060E-01	8.609E 00	1.733E-01	9.485E-02	.700	15.84	0
8	1	8	2.761E-01	1.848E-03	2.080E-01	1.690E 01	3.621E-01	1.982E-01	.800	18.11	0
9	1	9	1.044E-01	6.987E-04	7.868E-02	6.391E 00	1.228E-01	6.720E-02	.900	20.37	0
10	1	10	8.396E-02	5.618E-04	6.326E-02	5.138E 00	9.425E-02	5.158E-02	1.000	22.63	0
11	1	11	1.265E-01	8.462E-04	9.529E-02	7.740E 00	1.535E-01	8.401E-02	.400	9.05	.88
12	1	12	1.305E-01	8.732E-04	9.833E-02	7.987E 00	1.591E-01	8.709E-02	.500	11.32	.88
13	1	13	1.383E-01	9.253E-04	1.042E-01	8.463E 00	1.700E-01	9.303E-02	.600	13.58	.88
14	1	14	1.447E-01	9.681E-04	1.090E-01	8.854E 00	1.789E-01	9.790E-02	.500	11.32	2.05
15	1	15	1.594E-01	1.060E-03	1.193E-01	9.692E 00	1.980E-01	1.083E-01	.600	13.58	2.05
6	2	22	1.383E-01	9.261E-04	1.043E-01	8.470E 00	1.701E-01	9.312E-02	.700	15.84	2.05
16	1	16	1.397E-01	9.345E-04	1.052E-01	8.548E 00	1.719E-01	9.408E-02	.800	18.11	2.05
1	2	17	1.452E-01	9.724E-04	1.095E-01	8.894E 00	1.798E-01	9.840E-02	.800	18.11	3.28
7	2	23	1.679E-01	1.124E-03	1.266E-01	1.028E 01	2.114E-01	1.157E-01	.750	16.98	4.92
8	2	24	2.386E-01	1.598E-03	1.799E-01	1.461E 01	3.100E-01	1.697E-01	.800	18.11	4.92
2	2	18	1.479E-01	9.902E-04	1.115E-01	9.057E 00	1.835E-01	1.004E-01	.848	19.19	4.92
9	2	25	8.403E-02	5.626E-04	6.336E-02	5.146E 00	9.443E-02	5.168E-02	.928	21.01	4.92
10	2	26	2.028E-01	1.358E-03	1.529E-01	1.242E 01	2.601E-01	1.424E-01	.800	18.11	6.15
3	2	19	1.819E-01	1.218E-03	1.372E-01	1.114E 01	2.309E-01	1.264E-01	.842	19.07	6.15
4	2	20	9.168E-02	6.138E-04	6.912E-02	5.614E 00	1.051E-01	5.752E-02	.928	21.01	6.15
5	2	21	1.988E-01	1.331E-03	1.499E-01	1.218E 01	2.545E-01	1.393E-01	.857	19.40	6.97

PO SCALE FACTOR NO. 2 = 9.9900E-02 PCAL = 2.0000E 02

1 0 0 0 0

PO SCALE FACTOR NO. 2 = 9.9900E-02 PCAL = 2.0000E 02

1 0 0 0 0

PO SCALE FACTOR NO 2 = 9.9950E-02 PCAL = 2.0000E 02

1 0 0 0 0

LOW RANGE PCA [illegible]00E-01 RD IND = 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 ZERO IND = 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
1.995311E-07 [illegible] 2.000000E-07 2.011678E-07 1.982956E-07 2.018575E-07 2.030876E-07 2.027156E-07
2.029552E-07 [illegible] 1.995521E-07 2.009665E-07 2.012076E-07 2.055506E-07 2.024706E-07 1.994426E-07 RANGE 1
5.995936E-07 5 [illegible] 6.000000E-07 6.035908E-07 5.988846E-07 6.055716E-07 6.092616E-07 6.081496E-07

DATE 5-6-74
PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
PAGE = 1

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
R	139	7.92	150.7	1346	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0165	1.439	.724	3870	4.476E-04	8.000E-08	6.762E 05	9.05	0	.40	22.633	4

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.787	4.447	3.324	1.371	1.001	.749	.789	1267	.941	1346	.403	.410	.407	.403	.402	.407	.407	.405	.404
.766	4.475	3.345	1.350	1.000	.747	.768	1267	.941	1346	.403	.411	.409	.403	.403	.408	.408	.406	.405
.747	4.494	3.358	1.331	1.000	.747	.749	1266	.941	1346	.404	.413	.410	.403	.403	.409	.409	.407	.405
.723	4.508	3.368	1.307	1.001	.748	.725	1267	.941	1346	.405	.416	.410	.402	.404	.410	.410	.407	.406
.703	4.518	3.374	1.287	.999	.747	.705	1268	.942	1346	.405	.417	.412	.402	.404	.411	.411	.407	.407
.681	4.532	3.386	1.265	1.002	.748	.683	1267	.941	1346	.406	.418	.413	.403	.405	.412	.412	.409	.407
.659	4.544	3.395	1.243	1.000	.747	.661	1267	.942	1346	.406	.419	.413	.402	.405	.413	.413	.409	.408
.640	4.559	3.406	1.224	1.001	.748	.642	1267	.941	1346	.407	.421	.414	.408	.405	.414	.413	.410	.409
.619	4.578	3.420	1.203	1.002	.748	.621	1267	.941	1346	.407	.421	.415	.403	.406	.414	.414	.411	.409
.605	4.598	3.435	1.189	1.001	.748	.607	1268	.942	1346	.408	.421	.416	.411	.406	.416	.416	.411	.410
.582	4.612	3.443	1.176	1.000	.747	.584	1267	.941	1346	.409	.423	.417	.412	.406	.416	.416	.412	.410
.580	4.622	3.453	1.164	1.000	.747	.582	1267	.941	1346	.409	.424	.417	.413	.407	.417	.417	.412	.411
.571	4.628	3.457	1.155	1.001	.748	.573	1268	.942	1346	.410	.425	.418	.411	.407	.417	.418	.413	.412
.559	4.629	3.458	1.143	1.001	.748	.561	1267	.942	1346	.410	.426	.419	.412	.407	.418	.418	.413	.412
.549	4.625	3.453	1.133	1.000	.746	.551	1268	.942	1346	.411	.426	.420	.412	.408	.419	.420	.414	.413
.538	4.620	3.449	1.122	1.003	.749	.540	1267	.942	1346	.412	.427	.421	.413	.408	.420	.420	.414	.414
.525	4.610	3.442	1.109	1.000	.747	.527	1267	.942	1346	.412	.427	.421	.416	.409	.420	.421	.416	.414
.515	4.601	3.435	1.099	1.001	.747	.517	1269	.942	1346	.413	.428	.422	.416	.409	.421	.422	.416	.416
.503	4.591	3.428	1.087	1.001	.747	.505	1267	.942	1346	.413	.428	.423	.416	.409	.421	.423	.416	.416
.492	4.582	3.423	1.076	1.001	.748	.494	1268	.942	1346	.414	.429	.424	.412	.410	.422	.424	.417	.417
.482	4.573	3.413	1.066	1.002	.748	.484	1268	.942	1346	.414	.430	.425	.417	.410	.423	.425	.418	.417
.473	4.565	3.404	1.057	1.002	.748	.475	1268	.942	1346	.415	.430	.425	.418	.410	.424	.425	.418	.418
.472	4.559	3.397	1.056	1.003	.749	.474	1268	.942	1346	.416	.431	.426	.416	.411	.424	.426	.418	.419
.470	4.557	3.397	1.054	1.004	.749	.472	1267	.942	1346	.416	.432	.428	.416	.411	.425	.427	.419	.420
.459	4.525	3.374	1.043	1.003	.749	.461	1268	.942	1346	.417	.432	.428	.412	.412	.425	.428	.419	.420
.449	4.519	3.365	1.033	1.003	.748	.451	1269	.943	1346	.418	.432	.429	.420	.412	.426	.429	.420	.421
.438	4.496	3.355	1.020	1.002	.747	.438	1268	.942	1346	.418	.433	.429	.420	.412	.426	.430	.420	.422
.425	4.482	3.344	1.009	1.001	.747	.427	1269	.943	1346	.419	.433	.430	.421	.413	.427	.430	.421	.422
.414	4.467	3.333	.998	1.002	.748	.416	1269	.942	1346	.420	.434	.432	.421	.413	.428	.432	.421	.423
.401	4.450	3.320	.985	1.001	.747	.403	1269	.943	1346	.420	.434	.432	.422	.413	.429	.432	.422	.424
.396	4.432	3.307	.978	1.001	.747	.396	1270	.942	1347	.420	.435	.432	.423	.413	.429	.433	.422	.424
.393	4.422	3.299	.977	1.003	.748	.395	1269	.942	1347	.421	.435	.433	.421	.413	.430	.434	.423	.425
.394	4.417	3.293	.976	1.001	.747	.396	1270	.943	1347	.422	.436	.434	.424	.414	.430	.435	.424	.426
.394	4.410	3.290	.978	1.002	.747	.396	1270	.942	1347	.423	.436	.435	.424	.414	.431	.435	.424	.426
.392	4.409	3.290	.976	1.002	.747	.394	1269	.942	1347	.423	.437	.435	.425	.415	.431	.436	.425	.427
.391	4.410	3.290	.975	1.002	.748	.393	1269	.942	1347	.424	.437	.436	.426	.415	.432	.437	.426	.428
.390	4.401	3.283	.964	1.004	.749	.392	1269	.942	1347	.424	.438	.437	.426	.415	.432	.438	.426	.428

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OF52 SHUTTLE SURVEY TEST
PAGE = 2

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
8	139	7.92	150.9	1347	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0165	1.340	.725	3871	4.479E-04	8.006E-08	6.762E 05	9.05	0	.40	22.633	4

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.371	4.384	3.271	.955	1.622	.762	.373	1270	.943	1347	.425	.438	.438	.426	.416	.433	.439	.427	.429
.363	4.363	3.255	.947	1.577	.804	.365	1270	.943	1347	.426	.438	.438	.426	.416	.434	.440	.427	.430
.352	4.339	3.237	.936	1.152	.860	.354	1269	.942	1347	.426	.439	.439	.426	.416	.434	.440	.428	.431
.344	4.313	3.219	.928	1.218	.908	.346	1270	.943	1347	.427	.440	.439	.426	.417	.435	.442	.428	.431
.335	4.287	3.197	.919	1.282	.956	.337	1270	.943	1347	.428	.440	.440	.426	.418	.435	.442	.429	.432
.328	4.261	3.177	.912	1.354	1.010	.330	1271	.943	1347	.428	.441	.442	.424	.418	.436	.443	.430	.432
.325	4.244	3.165	.910	1.391	1.037	.328	1271	.944	1347	.429	.442	.442	.420	.418	.436	.444	.431	.434
.323	4.230	3.154	.907	1.459	1.088	.325	1271	.943	1347	.430	.442	.443	.420	.419	.437	.445	.430	.434
.322	4.219	3.146	.906	1.497	1.116	.324	1271	.943	1347	.430	.443	.444	.427	.419	.438	.446	.431	.435
.320	4.211	3.140	.904	1.541	1.149	.322	1271	.943	1347	.431	.443	.444	.425	.419	.438	.447	.432	.435
.316	4.203	3.134	.900	1.578	1.351	.318	1270	.943	1347	.431	.444	.446	.421	.420	.439	.447	.432	.436
.316	4.197	3.129	.900	1.747	1.303	.318	1271	.944	1347	.432	.444	.446	.421	.420	.439	.449	.433	.437
.314	4.191	3.125	.898	1.846	1.376	.316	1271	.943	1347	.432	.445	.447	.426	.420	.440	.449	.433	.438
.312	4.185	3.118	.896	2.006	1.495	.314	1271	.944	1347	.433	.446	.448	.429	.421	.441	.450	.435	.438
.310	4.180	3.114	.894	2.104	1.568	.312	1271	.943	1347	.434	.446	.449	.430	.422	.442	.451	.435	.439
.308	4.174	3.112	.892	2.198	1.639	.310	1272	.944	1347	.434	.446	.450	.430	.422	.442	.451	.435	.439
.307	4.169	3.108	.891	2.373	1.769	.309	1272	.944	1347	.435	.447	.450	.431	.422	.443	.452	.436	.440
.304	4.163	3.104	.888	2.509	1.872	.306	1271	.943	1347	.435	.447	.451	.429	.423	.443	.453	.436	.440
.302	4.157	3.100	.886	2.695	2.010	.304	1271	.944	1347	.436	.448	.452	.432	.423	.444	.454	.437	.442
.301	4.154	3.095	.885	2.851	2.125	.303	1272	.944	1347	.436	.449	.453	.430	.423	.444	.455	.438	.442
.298	4.144	3.091	.880	3.142	2.342	.298	1272	.944	1347	.437	.450	.453	.430	.424	.445	.455	.438	.443
.295	4.138	3.083	.879	3.341	2.490	.297	1272	.944	1347	.438	.450	.454	.433	.424	.446	.456	.439	.443
.293	4.131	3.079	.877	3.514	2.618	.295	1272	.944	1347	.439	.450	.454	.429	.424	.446	.457	.439	.444
.290	4.123	3.072	.874	3.685	2.746	.292	1271	.943	1347	.439	.451	.455	.434	.425	.447	.458	.440	.445
.290	4.118	3.069	.874	3.841	2.862	.292	1272	.944	1347	.439	.452	.456	.434	.426	.447	.459	.441	.445
.288	4.109	3.062	.869	4.024	2.999	.287	1272	.944	1347	.440	.453	.457	.435	.426	.448	.459	.441	.446
.285	4.102	3.057	.869	4.132	3.079	.287	1272	.945	1347	.440	.453	.457	.435	.426	.449	.460	.442	.447
.282	4.096	3.052	.866	4.256	3.171	.284	1272	.944	1347	.441	.454	.458	.435	.427	.449	.461	.442	.447
.279	4.088	3.044	.863	4.363	3.249	.281	1272	.944	1347	.442	.454	.459	.435	.427	.450	.462	.443	.448
.279	4.082	3.041	.863	4.394	3.274	.281	1271	.944	1347	.442	.455	.460	.436	.427	.450	.462	.443	.449
.277	4.076	3.039	.861	4.431	3.304	.279	1272	.944	1347	.443	.455	.461	.436	.428	.451	.463	.444	.449
.276	4.070	3.031	.860	4.452	3.315	.279	73	.945	1347	.443	.456	.461	.436	.428	.451	.464	.444	.450
.273	4.064	3.028	.857	4.462	3.325	.275	72	.945	1347	.444	.457	.462	.437	.429	.452	.465	.444	.451
.271	4.057	3.021	.855	4.471	3.329	.27[illegible]	272	.944	1347	.444	.457	.463	.430	.429	.453	.465	.445	.451
.270	4.051	3.019	.854	4.473	3.333	.27[illegible]	273	.945	1347	.444	.458	.463	.438	.430	.453	.466	.446	.452
.269	4.047	3.015	.850	4.475	3.335	.268	1272	.945	1347	.445	.458	.464	.438	.430	.454	.467	.447	.453
.265	4.040	3.010	.849	4.478	3.337	.267	1272	.945	1347	.446	.459	.465	.438	.431	.454	.467	.447	.453
.263	4.031	3.002	.847	4.459	3.320	.265	1273	.945	1347	.446	.459	.466	.438	.431	.455	.469	.447	.454
.259	4.024	2.996	.843	4.462	3.323	.261	1272	.945	1347	.447	.460	.466	.439	.431	.455	.469	.448	.454
.259	4.017	2.991	.843	4.464	3.324	.261	1274	.946	1347	.447	.461	.467	.439	.432	.456	.470	.449	.455
.256	4.011	2.987	.840	4.462	3.322	.258	1273	.945	1347	.448	.461	.467	.439	.432	.457	.470	.450	.456
.254	4.002	2.980	.838	4.456	3.318	.256	1273	.945	1347	.449	.462	.468	.440	.433	.458	.471	.450	.457

DATE 5-6-7-
PROJECT NUMBER VAS24-2)HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OF52 SHUTTLE SURVEY TEST
PAGE = 3

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PHEBEND	ROLL-MODEL	YAW
8	139	7.92	151.2	1347	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	IAP
99.4	.0165	1.343	.726	3871	4.488E-04	8.004E-08	6.762E 05	9.05	0	.40	22.633	4

ZF1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.254	3.943	2.973	.838	4.458	3.319	.256	1274	.946	1347	.449	.462	.469	.438	.433	.458	.472	.450	.457
.251	3.936	2.966	.835	4.459	3.318	.253	1273	.945	1347	.450	.463	.470	.438	.434	.459	.473	.451	.458
.250	3.934	2.964	.834	4.459	3.322	.252	1273	.945	1347	.450	.463	.470	.439	.434	.459	.474	.451	.458
.248	3.974	2.959	.832	4.464	3.324	.250	1273	.945	1347	.451	.464	.471	.439	.435	.460	.474	.453	.459
.245	3.966	2.953	.829	4.462	3.323	.247	1274	.946	1347	.451	.465	.472	.449	.435	.461	.475	.453	.459
.244	3.959	2.948	.828	4.464	3.324	.246	1274	.946	1347	.452	.465	.473	.439	.435	.461	.475	.453	.460
.242	3.954	2.942	.826	4.466	3.323	.244	1273	.945	1347	.452	.465	.473	.440	.436	.462	.477	.454	.461
.240	3.946	2.933	.824	4.466	3.325	.242	1274	.945	1348	.452	.465	.474	.438	.436	.462	.477	.454	.461
.238	3.938	2.931	.822	4.469	3.326	.240	1274	.945	1348	.453	.466	.475	.442	.437	.463	.477	.454	.462
.235	3.929	2.925	.819	4.468	3.327	.237	1274	.945	1348	.453	.467	.475	.443	.437	.463	.478	.455	.463
.235	3.921	2.918	.819	4.472	3.328	.237	1274	.945	1348	.454	.467	.476	.439	.437	.464	.479	.456	.463
.232	3.914	2.912	.816	4.474	3.329	.234	1273	.945	1348	.454	.468	.476	.439	.438	.464	.480	.456	.464
.230	3.903	2.905	.814	4.473	3.329	.232	1274	.945	1348	.455	.468	.477	.444	.438	.465	.480	.457	.464
.228	3.893	2.897	.812	4.473	3.329	.230	1275	.946	1348	.456	.469	.478	.438	.439	.465	.472	.457	.465
.224	3.885	2.891	.808	4.479	3.333	.226	1274	.945	1348	.456	.469	.479	.442	.440	.466	.482	.457	.465
.223	3.875	2.883	.807	4.480	3.334	.225	1275	.946	1348	.457	.469	.479	.443	.440	.467	.483	.459	.466
.220	3.863	2.874	.804	4.479	3.333	.222	1275	.946	1348	.457	.470	.480	.439	.440	.468	.484	.459	.467
.217	3.851	2.864	.801	4.482	3.333	.219	1275	.946	1348	.458	.471	.480	.448	.441	.468	.484	.460	.467
.215	3.842	2.857	.799	4.485	3.335	.217	1275	.946	1348	.459	.471	.481	.444	.441	.469	.485	.460	.468
.211	3.829	2.849	.795	4.484	3.336	.213	1275	.946	1348	.459	.472	.482	.447	.442	.469	.485	.460	.468
.210	3.816	2.838	.794	4.482	3.335	.212	1276	.947	1349	.459	.472	.483	.447	.442	.470	.486	.461	.469
.209	3.802	2.827	.792	4.484	3.334	.210	1276	.946	1348	.460	.472	.483	.448	.442	.471	.487	.461	.469
.205	3.792	2.820	.788	4.486	3.336	.207	1275	.946	1348	.460	.473	.484	.448	.443	.471	.488	.462	.470
.203	3.779	2.812	.787	4.489	3.341	.205	1276	.947	1348	.461	.473	.484	.448	.444	.472	.488	.462	.471
.200	3.764	2.801	.784	4.487	3.339	.202	1275	.946	1348	.461	.474	.485	.449	.444	.472	.489	.463	.471
.197	3.752	2.790	.781	4.492	3.340	.199	1276	.947	1348	.462	.475	.486	.447	.445	.473	.489	.463	.472
.195	3.738	2.782	.779	4.493	3.343	.197	1277	.947	1348	.462	.475	.486	.447	.445	.473	.491	.464	.472
.194	3.725	2.770	.778	4.494	3.342	.196	1276	.947	1347	.463	.476	.488	.451	.446	.474	.492	.465	.474
.191	3.714	2.762	.775	4.495	3.342	.193	1277	.948	1347	.463	.476	.488	.449	.446	.475	.492	.465	.474
.190	3.702	2.751	.774	4.496	3.341	.192	1277	.947	1348	.464	.477	.488	.448	.446	.475	.492	.466	.474
.188	3.690	2.743	.770	4.494	3.342	.188	1277	.947	1348	.464	.477	.489	.449	.447	.476	.493	.466	.475
.186	3.678	2.733	.770	4.495	3.341	.188	1277	.947	1348	.465	.477	.490	.452	.448	.476	.494	.467	.475
.184	3.669	2.729	.768	4.497	3.344	.186	1277	.947	1348	.465	.478	.491	.452	.448	.477	.495	.468	.476
.181	3.656	2.719	.765	4.495	3.343	.183	1277	.948	1347	.466	.480	.492	.453	.449	.478	.496	.468	.477
.181	3.644	2.708	.765	4.500	3.344	.183	1278	.949	1347	.467	.480	.492	.449	.449	.479	.496	.468	.477
.177	3.629	2.699	.761	4.498	3.345	.179	1278	.948	1348	.467	.480	.492	.448	.449	.479	.497	.469	.478
.175	3.617	2.694	.759	4.500	3.344	.177	1279	.949	1348	.467	.480	.493	.453	.450	.480	.497	.469	.479
.171	3.598	2.674	.755	4.503	3.346	.173	1278	.948	1348	.468	.481	.494	.447	.450	.480	.498	.469	.479
.169	3.585	2.657	.751	4.501	3.345	.169	1278	.948	1348	.468	.482	.494	.449	.451	.481	.499	.470	.480
.166	3.567	2.645	.750	4.503	3.349	.169	1280	.949	1348	.469	.482	.495	.454	.451	.481	.499	.471	.480
.163	3.534	2.624	.747	4.506	3.349	.165	1278	.948	1349	.469	.483	.496	.448	.452	.482	.500	.471	.480
.160	3.512	2.610	.744	4.509	3.351	.162	1279	.949	1348	.470	.483	.496	.456	.452	.483	.500	.472	.481

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PROJECT NUMBER VA524-214A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
8	139	7.92	151.5	1348	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0166	1.346	.727	3873	4.493E-04	8.012E-08	6.762E 05	9.05	0	.40	22.633	4

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.158	3.485	2.543	.742	4.607	3.349	.160	1279	.949	1348	.471	.484	.497	.453	.453	.483	.501	.472	.481
.154	3.469	2.580	.738	4.614	3.357	.156	1279	.949	1348	.471	.485	.498	.456	.453	.484	.502	.472	.483
.152	3.447	2.541	.736	4.618	3.350	.154	1280	.949	1348	.472	.485	.498	.457	.453	.484	.503	.473	.483
.149	3.426	2.546	.733	4.614	3.354	.151	1280	.949	1348	.472	.485	.499	.457	.454	.485	.503	.474	.484
.146	3.402	2.529	.730	4.611	3.353	.148	1279	.949	1348	.472	.486	.499	.457	.454	.485	.504	.475	.484
.144	3.381	2.512	.728	4.614	3.355	.146	1281	.950	1349	.473	.487	.500	.459	.455	.486	.504	.475	.485
.140	3.355	2.492	.724	4.615	3.353	.142	1280	.950	1349	.473	.487	.501	.459	.456	.487	.506	.475	.485
.138	3.333	2.477	.722	4.617	3.357	.140	1281	.950	1348	.474	.488	.502	.459	.456	.488	.506	.476	.486
.135	3.308	2.459	.719	4.621	3.360	.137	1281	.950	1348	.475	.488	.502	.457	.457	.488	.507	.476	.486
.132	3.285	2.439	.716	4.620	3.357	.134	1281	.951	1348	.475	.488	.503	.457	.457	.489	.507	.477	.487
.130	3.260	2.423	.714	4.622	3.361	.132	1282	.951	1348	.476	.489	.503	.460	.457	.489	.508	.477	.487
.126	3.233	2.401	.710	4.622	3.358	.128	1282	.951	1348	.476	.489	.504	.460	.458	.490	.509	.478	.488
.125	3.210	2.384	.709	4.626	3.363	.127	1283	.951	1348	.477	.490	.504	.461	.459	.491	.510	.478	.488
.123	3.186	2.365	.707	4.625	3.360	.125	1282	.951	1348	.477	.491	.506	.461	.459	.491	.510	.479	.489
.119	3.163	2.350	.703	4.629	3.366	.121	1283	.952	1348	.478	.491	.506	.461	.460	.492	.511	.480	.489
.118	3.139	2.331	.702	4.629	3.364	.120	1284	.952	1348	.478	.491	.507	.462	.460	.492	.511	.480	.490
.114	3.111	2.312	.698	4.630	3.367	.116	1283	.952	1348	.479	.492	.507	.462	.461	.493	.512	.481	.491
.110	3.085	2.291	.694	4.635	3.368	.112	1284	.952	1348	.479	.492	.508	.461	.461	.494	.513	.481	.491
.108	3.056	2.269	.692	4.634	3.367	.110	1284	.953	1348	.480	.493	.509	.456	.461	.494	.514	.481	.492
.104	3.022	2.244	.688	4.637	3.369	.106	1284	.952	1348	.480	.494	.510	.456	.462	.495	.514	.482	.492
.101	2.990	2.222	.685	4.640	3.374	.103	1286	.954	1348	.481	.494	.510	.461	.463	.495	.515	.483	.493
.098	2.956	2.195	.682	4.641	3.373	.100	1285	.953	1349	.481	.494	.511	.457	.463	.496	.516	.483	.494
.093	2.921	2.169	.677	4.643	3.374	.095	1286	.954	1348	.482	.495	.511	.465	.464	.496	.516	.484	.494
.091	2.891	2.139	.675	4.644	3.374	.093	1287	.955	1348	.483	.495	.512	.465	.464	.497	.517	.484	.495
.086	2.858	2.107	.670	4.646	3.378	.088	1287	.954	1348	.483	.495	.513	.465	.465	.498	.518	.485	.495
.083	2.791	2.073	.667	4.648	3.378	.085	1287	.955	1349	.484	.496	.514	.466	.465	.499	.518	.485	.496
.080	2.743	2.037	.664	4.655	3.383	.082	1287	.955	1348	.484	.496	.514	.467	.465	.499	.519	.485	.496
.075	2.682	1.995	.659	4.654	3.380	.077	1286	.954	1348	.485	.496	.515	.467	.466	.499	.519	.486	.496
.074	2.636	1.957	.658	4.660	3.386	.076	1285	.953	1348	.485	.498	.515	.467	.467	.500	.520	.486	.498
.069	2.574	1.913	.653	4.662	3.388	.071	1281	.951	1348	.486	.498	.516	.465	.467	.500	.521	.487	.498
.066	2.515	1.869	.650	4.662	3.386	.069	1281	.950	1348	.487	.498	.516	.468	.468	.501	.522	.488	.498
.064	2.460	1.827	.648	4.664	3.390	.066	1276	.947	1348	.487	.498	.517	.468	.468	.502	.522	.488	.499
.059	2.392	1.777	.643	4.670	3.394	.061	1269	.941	1348	.488	.499	.518	.469	.468	.502	.523	.488	.499
.057	2.317	1.720	.641	4.670	3.392	.059	1262	.936	1348	.488	.499	.518	.469	.469	.503	.523	.489	.500
.053	2.244	1.667	.637	4.676	3.398	.055	1252	.929	1348	.489	.500	.519	.469	.469	.503	.524	.489	.500
.050	2.165	1.607	.634	4.675	3.395	.052	1243	.922	1348	.490	.500	.519	.470	.470	.504	.525	.489	.501
.049	2.091	1.553	.633	4.680	3.401	.051	1233	.915	1348	.491	.501	.520	.470	.471	.504	.526	.491	.502
.046	2.013	1.494	.630	4.680	3.399	.048	1221	.906	1348	.492	.502	.521	.471	.471	.505	.526	.491	.502
.043	1.936	1.437	.627	4.684	3.402	.045	1205	.894	1348	.492	.502	.522	.471	.471	.506	.527	.491	.502
.040	1.852	1.375	.624	4.688	3.405	.042	1187	.881	1348	.494	.355	.522	.472	.472	.506	.527	.492	.503
.037	1.768	1.312	.621	4.688	3.405	.039	1166	.865	1348	.494	.358	.523	.472	.472	.507	.528	.492	.503
.035	1.691	1.247	.619	4.692	3.408	.037	1149	.851	1349	.494	.357	.523	.472	.473	.507	.528	.491	.503

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PROJECT NUMBER VA524-21BA
ARO, INC.
ARNOLD AIR FORCE STATION, TENN-SSEF
NASA/RI OA52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	P0(PSIA)	T0(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
8	139	7.92	151.7	1348	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0166	1.347	.728	3873	4.499E-04	8.012E-08	6.762E 05	9.05	0	.40	22.633	4

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	T1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.032	1.595	1.184	.616	4.594	3.409	.034	1129	.837	1348	.495	.359	.524	.473	.473	.508	.529	.493	.504
.030	1.510	1.121	.614	4.596	3.411	.032	1110	.823	1348	.496	.359	.524	.473	.474	.509	.530	.494	.506
.029	1.429	1.061	.613	4.597	3.412	.031	1091	.809	1348	.497	.360	.525	.467	.475	.510	.530	.494	.506
.025	1.354	1.005	.609	4.601	3.415	.027	1071	.795	1348	.498	.360	.526	.474	.475	.510	.531	.495	.506
.024	1.280	.950	.608	4.603	3.416	.026	1047	.777	1348	.498	.361	.527	.475	.475	.511	.532	.495	.507
.020	1.211	.898	.606	4.606	3.416	.022	1017	.755	1348	.499	.362	.527	.475	.476	.511	.532	.495	.507
.017	1.142	.847	.601	4.609	3.418	.019	989	.734	1348	.499	.362	.527	.476	.476	.512	.533	.496	.508
.016	1.080	.802	.600	4.609	3.421	.018	963	.714	1348	.500	.363	.528	.476	.477	.512	.534	.497	.508
.012	1.022	.758	.596	4.612	3.423	.014	934	.693	1348	.500	.363	.529	.476	.477	.513	.534	.496	.509
.010	.967	.717	.594	4.614	3.424	.012	903	.670	1348	.501	.363	.530	.477	.477	.514	.535	.497	.510
.008	.919	.681	.592	4.615	3.423	.010	856	.635	1349	.502	.364	.530	.475	.478	.514	.535	.498	.510
.006	.873	.648	.590	4.617	3.426	.008	830	.616	1348	.502	.511	.531	.475	.479	.515	.536	.498	.510
.007	.708	.525	.591	4.615	3.423	.009	823	.611	1348	.504	.515	.534	.480	.481	.519	.539	.501	.514

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OF52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
9	139	7.92	150.8	1351	30.09	-8.09	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0165	1.339	.724	3877	4.462E-04	8.030E-08	6.773E 05	11.32	0	.50	22.633	5

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG*R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.804	4.564	3.414	1.348	.991	.741	.805	1274	.943	1351	.377	.397	.396	.387	.390	.395	.396	.385	.382
.787	4.541	3.422	1.371	.991	.741	.788	1273	.942	1351	.379	.398	.397	.389	.391	.396	.397	.386	.383
.761	4.595	3.431	1.345	.995	.742	.762	1273	.943	1351	.379	.399	.397	.383	.391	.397	.398	.387	.384
.729	4.614	3.442	1.313	.997	.744	.730	1274	.943	1351	.380	.399	.397	.395	.392	.398	.399	.387	.384
.698	4.630	3.446	1.282	.999	.743	.699	1274	.943	1351	.380	.399	.399	.391	.392	.399	.400	.388	.385
.669	4.643	3.451	1.253	.999	.742	.670	1274	.943	1351	.381	.400	.401	.391	.392	.400	.401	.389	.385
.637	4.656	3.458	1.221	1.001	.744	.638	1273	.943	1351	.381	.400	.401	.391	.393	.400	.401	.390	.387
.607	4.667	3.462	1.191	1.001	.742	.608	1274	.943	1351	.382	.400	.401	.392	.393	.401	.403	.391	.387
.577	4.680	3.467	1.161	1.002	.742	.578	1273	.942	1351	.383	.401	.404	.392	.394	.401	.403	.392	.388
.545	4.698	3.480	1.129	1.003	.743	.546	1273	.942	1351	.384	.401	.404	.393	.395	.403	.404	.392	.389
.514	4.721	3.496	1.098	1.016	.751	.515	1274	.943	1351	.384	.401	.405	.393	.395	.403	.405	.393	.389
.487	4.732	3.503	1.071	1.187	.878	.488	1274	.943	1351	.385	.401	.406	.394	.396	.404	.406	.393	.390
.475	4.743	3.501	1.059	1.260	.930	.476	1274	.943	1351	.387	.401	.407	.395	.396	.404	.407	.395	.391
.466	4.742	3.501	1.050	1.395	1.030	.467	1274	.943	1351	.387	.402	.408	.396	.396	.405	.408	.396	.391
.455	4.736	3.492	1.039	1.677	1.236	.456	1273	.942	1351	.388	.403	.409	.396	.397	.406	.408	.396	.392
.446	4.728	3.484	1.030	2.038	1.449	.447	1274	.943	1351	.389	.403	.409	.396	.397	.407	.409	.397	.393
.437	4.719	3.477	1.021	2.816	2.223	.439	1273	.943	1351	.390	.404	.410	.392	.398	.407	.411	.398	.393
.426	4.707	3.468	1.010	3.853	2.839	.427	1274	.943	1351	.391	.404	.411	.397	.399	.408	.411	.399	.395
.418	4.694	3.457	1.002	4.354	3.206	.419	1275	.943	1351	.392	.405	.412	.393	.399	.408	.412	.399	.395
.408	4.682	3.447	.992	4.503	3.316	.409	1273	.943	1351	.392	.407	.413	.399	.400	.409	.413	.400	.396
.398	4.666	3.433	.982	4.493	3.306	.399	1274	.943	1351	.393	.407	.413	.399	.400	.410	.414	.400	.397
.390	4.651	3.422	.974	4.502	3.313	.391	1274	.943	1351	.394	.408	.414	.392	.401	.411	.415	.401	.398
.379	4.634	3.408	.963	4.511	3.318	.380	1274	.943	1351	.395	.409	.415	.400	.401	.411	.415	.401	.398
.371	4.616	3.394	.955	4.522	3.326	.372	1275	.944	1351	.396	.410	.416	.400	.401	.412	.416	.403	.399
.361	4.597	3.379	.945	4.537	3.334	.362	1275	.944	1351	.396	.411	.416	.400	.402	.412	.417	.403	.399
.349	4.574	3.364	.933	4.548	3.344	.350	1275	.944	1351	.397	.411	.417	.401	.403	.413	.418	.404	.400
.341	4.550	3.344	.925	4.560	3.351	.342	1275	.944	1351	.397	.412	.417	.401	.403	.413	.419	.404	.401
.331	4.524	3.325	.915	4.567	3.357	.332	1275	.944	1351	.398	.412	.419	.402	.403	.414	.420	.405	.401
.321	4.494	3.304	.905	4.576	3.363	.322	1276	.944	1351	.399	.414	.420	.403	.404	.415	.420	.405	.403
.313	4.468	3.283	.897	4.587	3.371	.314	1276	.945	1351	.399	.414	.420	.404	.404	.415	.421	.406	.403
.301	4.437	3.261	.885	4.594	3.376	.302	1276	.944	1351	.400	.415	.421	.401	.405	.416	.422	.407	.404
.293	4.409	3.238	.877	4.600	3.378	.294	1277	.945	1351	.400	.415	.421	.401	.405	.416	.423	.407	.405
.283	4.379	3.218	.867	4.608	3.386	.284	1277	.945	1351	.400	.416	.423	.401	.405	.417	.424	.408	.405
.273	4.345	3.193	.857	4.615	3.391	.274	1277	.945	1351	.401	.416	.423	.401	.406	.417	.425	.409	.406
.265	4.309	3.167	.849	4.622	3.397	.266	1278	.946	1351	.401	.417	.424	.402	.407	.418	.425	.409	.407

DATE 5-6-74
PROJECT NUMBER VA524-21BA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI 0452 SHUTTLE SURVEY TEST
PAGE = 2

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
9	139	7.92	153.3	1351	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0186	1.362	.736	3877	4.536E-04	8.030E-08	6.773E 05	11.32	0	.50	22.633	5

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.257	4.272	3.137	.841	4.429	3.400	.258	1277	.946	1351	.402	.417	.425	.409	.407	.419	.427	.410	.408
.254	4.244	3.117	.838	4.429	3.400	.255	1278	.946	1351	.403	.417	.425	.400	.407	.419	.427	.411	.408
.251	4.224	3.104	.835	4.434	3.405	.252	1277	.946	1351	.403	.418	.427	.405	.408	.420	.428	.411	.409
.248	4.207	3.092	.832	4.433	3.405	.249	1277	.946	1351	.404	.419	.427	.401	.408	.420	.429	.412	.410
.247	4.195	3.085	.831	4.435	3.409	.248	1278	.946	1351	.404	.419	.428	.406	.408	.421	.429	.412	.411
.243	4.183	3.074	.827	4.434	3.406	.244	1278	.946	1351	.405	.419	.429	.407	.409	.421	.431	.413	.411
.241	4.171	3.065	.825	4.439	3.409	.242	1278	.946	1351	.405	.420	.429	.400	.409	.422	.431	.414	.412
.239	4.160	3.055	.823	4.442	3.409	.240	1278	.946	1351	.406	.420	.430	.400	.409	.422	.432	.414	.413
.236	4.149	3.049	.818	4.442	3.412	.235	1278	.946	1351	.407	.420	.431	.408	.410	.423	.433	.415	.413
.235	4.138	3.043	.819	4.440	3.412	.236	1279	.946	351	.408	.420	.432	.401	.411	.423	.433	.415	.414
.231	4.129	3.036	.815	4.445	3.416	.232	1278	.946	1351	.408	.421	.432	.401	.411	.424	.435	.416	.416
.229	4.119	3.027	.813	4.443	3.412	.230	1279	.946	1351	.409	.421	.433	.407	.411	.424	.436	.416	.416
.229	4.110	3.023	.813	4.440	3.412	.230	1279	.946	1351	.409	.422	.434	.407	.412	.425	.436	.417	.416
.226	4.102	3.015	.810	4.444	3.413	.227	1278	.946	1351	.411	.422	.435	.409	.412	.426	.437	.417	.417
.224	4.093	3.011	.808	4.446	3.415	.225	1279	.946	1351	.411	.423	.435	.409	.412	.427	.438	.418	.417
.222	4.090	3.006	.806	4.448	3.416	.223	1278	.946	1351	.412	.423	.436	.410	.413	.427	.439	.419	.419
.220	4.082	3.002	.804	4.448	3.418	.221	1279	.947	1351	.412	.423	.437	.411	.413	.428	.440	.420	.419
.219	4.076	2.998	.803	4.448	3.418	.220	1278	.946	1351	.413	.424	.437	.411	.414	.428	.440	.420	.420
.217	4.069	2.991	.801	4.448	3.416	.218	1279	.947	1351	.414	.424	.438	.411	.414	.429	.441	.421	.421
.216	4.062	2.987	.800	4.447	3.418	.217	1279	.947	1351	.415	.424	.439	.409	.415	.429	.442	.421	.421
.215	4.056	2.983	.799	4.449	3.419	.216	1279	.946	1351	.415	.425	.439	.409	.415	.430	.443	.422	.422
.211	4.049	2.977	.795	4.445	3.423	.212	1278	.946	1351	.416	.425	.441	.410	.416	.431	.444	.423	.423
.210	4.038	2.968	.794	4.449	3.417	.211	1279	.946	1351	.416	.425	.441	.412	.416	.431	.444	.423	.423
.208	4.031	2.964	.792	4.452	3.421	.209	1279	.947	1351	.417	.426	.442	.411	.416	.432	.445	.424	.424
.206	4.024	2.956	.790	4.451	3.421	.207	1279	.947	1351	.418	.427	.443	.411	.417	.432	.446	.425	.425
.205	4.011	2.950	.788	4.452	3.421	.206	1280	.947	1351	.419	.427	.444	.411	.417	.433	.447	.425	.425
.201	4.001	2.942	.785	4.455	3.423	.202	1279	.946	1351	.419	.427	.444	.414	.417	.433	.447	.426	.426
.199	3.989	2.934	.783	4.454	3.423	.200	1280	.947	1351	.420	.428	.445	.414	.418	.434	.448	.426	.427
.197	3.974	2.924	.781	4.456	3.424	.198	1279	.947	1351	.421	.428	.446	.415	.419	.435	.449	.427	.428
.193	3.963	2.914	.777	4.457	3.425	.194	1279	.947	1351	.421	.429	.446	.415	.419	.436	.450	.428	.428
.191	3.950	2.905	.775	4.456	3.424	.192	1280	.948	1351	.422	.429	.447	.411	.419	.436	.451	.428	.429
.189	3.936	2.895	.772	4.458	3.425	.189	1280	.948	1351	.423	.429	.448	.416	.420	.436	.452	.429	.430
.186	3.921	2.886	.770	4.457	3.427	.187	1280	.948	1351	.424	.430	.449	.416	.420	.437	.452	.429	.430
.185	3.909	2.876	.769	4.460	3.429	.186	1281	.948	1351	.424	.431	.449	.409	.420	.438	.453	.430	.431
.181	3.896	2.865	.765	4.460	3.429	.182	1281	.948	1351	.425	.431	.451	.409	.421	.438	.453	.431	.432
.179	3.879	2.852	.763	4.463	3.429	.180	1281	.948	1351	.427	.431	.451	.415	.421	.439	.455	.431	.432
.176	3.863	2.843	.760	4.467	3.435	.177	1281	.948	1351	.427	.432	.452	.411	.421	.440	.455	.432	.433
.173	3.844	2.829	.756	4.466	3.433	.173	1280	.948	1351	.428	.432	.452	.411	.422	.440	.456	.433	.433
.172	3.828	2.817	.756	4.465	3.433	.173	1281	.948	1351	.429	.433	.453	.416	.423	.441	.457	.433	.435
.168	3.811	2.803	.752	4.467	3.432	.169	1281	.949	1351	.429	.433	.453	.419	.423	.441	.457	.434	.436
.165	3.792	2.791	.749	4.465	3.433	.166	1282	.949	1351	.431	.433	.454	.419	.424	.442	.458	.434	.436
.163	3.771	2.775	.747	4.470	3.437	.164	1282	.949	1351	.431	.434	.455	.419	.424	.443	.459	.435	.436

DATE 5-6-74
PROJECT NUMBER VA524-21BA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OF52 SHUTTLE SURVEY TEST
PAGE = 3

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
9	139	7.92	153.0	1351	30.09	-8.09	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0167	1.359	.735	3877	4.528E-04	8.030E-08	6.773E 05	11.32	0	.50	22.633	S

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.159	3.759	2.759	.743	4.672	3.439	.160	1281	.948	1351	.432	.435	.456	.419	.424	.443	.460	.435	.437
.157	3.726	2.742	.741	4.666	3.434	.158	1283	.950	1351	.433	.435	.456	.420	.425	.444	.460	.436	.437
.155	3.705	2.724	.739	4.669	3.438	.156	1283	.949	1351	.434	.435	.457	.420	.425	.444	.461	.437	.438
.151	3.684	2.711	.735	4.672	3.438	.152	1283	.949	1351	.435	.436	.458	.421	.425	.445	.462	.437	.439
.150	3.662	2.697	.734	4.671	3.439	.151	1283	.950	1351	.436	.436	.459	.419	.426	.445	.463	.438	.440
.148	3.643	2.683	.732	4.674	3.442	.149	1283	.949	1351	.437	.437	.459	.419	.427	.446	.463	.438	.440
.146	3.621	2.666	.730	4.671	3.440	.147	1284	.950	1351	.438	.437	.460	.419	.427	.447	.464	.439	.441
.145	3.604	2.654	.729	4.677	3.444	.146	1283	.950	1351	.439	.438	.461	.422	.427	.447	.465	.439	.441
.143	3.584	2.637	.727	4.676	3.441	.144	1283	.950	1351	.440	.438	.461	.422	.428	.448	.466	.440	.442
.140	3.565	2.623	.724	4.674	3.440	.141	1284	.950	1351	.441	.439	.462	.423	.428	.448	.466	.441	.443
.139	3.548	2.611	.723	4.676	3.441	.140	1284	.950	1351	.441	.439	.463	.423	.428	.449	.467	.441	.444
.135	3.527	2.597	.719	4.676	3.443	.136	1284	.950	1351	.443	.439	.463	.423	.429	.449	.468	.441	.444
.134	3.507	2.581	.718	4.670	3.436	.135	1284	.951	1351	.443	.440	.464	.424	.429	.450	.468	.442	.445
.132	3.486	2.567	.716	4.674	3.442	.133	1284	.950	1351	.444	.440	.465	.424	.430	.451	.469	.443	.445
.130	3.467	2.553	.714	4.675	3.442	.131	1284	.951	1351	.445	.441	.466	.424	.431	.451	.470	.444	.446
.128	3.447	2.538	.712	4.679	3.446	.129	1285	.951	1351	.446	.441	.466	.425	.431	.452	.471	.444	.447
.124	3.423	2.520	.708	4.677	3.444	.125	1284	.951	1351	.447	.441	.467	.425	.431	.453	.471	.445	.447
.122	3.396	2.501	.706	4.677	3.444	.123	1285	.951	1351	.448	.441	.468	.419	.432	.453	.472	.445	.448
.118	3.367	2.481	.702	4.676	3.446	.119	1285	.951	1351	.449	.442	.468	.426	.432	.453	.472	.446	.448
.115	3.336	2.457	.699	4.678	3.445	.116	1285	.951	1351	.450	.443	.469	.420	.433	.454	.474	.447	.449
.114	3.308	2.439	.698	4.678	3.449	.115	1285	.952	1351	.451	.443	.470	.429	.433	.455	.474	.447	.450
.111	3.278	2.417	.695	4.675	3.447	.112	1285	.951	1351	.452	.443	.470	.427	.433	.456	.475	.448	.451
.110	3.253	2.398	.694	4.674	3.446	.111	1286	.952	1351	.453	.444	.471	.428	.434	.456	.475	.448	.451
.108	3.227	2.381	.692	4.673	3.448	.109	1286	.952	1351	.454	.444	.472	.428	.434	.457	.476	.448	.452
.104	3.196	2.359	.688	4.675	3.447	.105	1286	.952	1351	.455	.445	.472	.428	.435	.457	.477	.449	.452
.102	3.170	2.339	.686	4.674	3.448	.103	1287	.953	1351	.456	.445	.473	.429	.435	.458	.478	.449	.453
.099	3.136	2.315	.683	4.674	3.451	.100	1286	.952	1351	.457	.445	.474	.429	.436	.459	.478	.451	.454
.095	3.103	2.291	.679	4.672	3.449	.096	1287	.952	1351	.458	.446	.474	.429	.436	.459	.479	.451	.455
.093	3.068	2.269	.677	4.676	3.450	.094	1287	.952	1351	.459	.447	.475	.428	.436	.460	.479	.451	.455
.090	3.028	2.236	.674	4.674	3.451	.091	1286	.952	1351	.460	.447	.476	.428	.437	.460	.480	.452	.456
.088	2.992	2.211	.672	4.674	3.453	.089	1287	.952	1351	.461	.447	.476	.428	.437	.461	.481	.452	.456
.085	2.953	2.180	.669	4.673	3.450	.086	1286	.952	1350	.462	.448	.477	.429	.438	.462	.482	.453	.457
.083	2.911	2.151	.667	4.669	3.449	.084	1286	.952	1350	.463	.448	.478	.431	.439	.462	.483	.454	.458
.081	2.869	2.120	.665	4.676	3.454	.082	1284	.951	1351	.463	.448	.478	.432	.439	.463	.483	.454	.458
.079	2.821	2.084	.662	4.668	3.449	.079	1283	.950	1351	.464	.449	.479	.428	.439	.464	.484	.455	.459
.077	2.777	2.053	.661	4.672	3.454	.078	1282	.949	1351	.466	.449	.479	.428	.440	.464	.484	.455	.459
.075	2.734	2.020	.659	4.671	3.451	.076	1280	.947	1351	.466	.449	.480	.433	.440	.464	.485	.456	.460
.073	2.691	1.988	.657	4.669	3.449	.074	1279	.946	1351	.467	.450	.481	.429	.441	.465	.486	.456	.460
.073	2.668	1.959	.657	4.669	3.452	.074	1276	.944	1351	.468	.451	.482	.429	.441	.466	.486	.457	.461
.069	2.631	1.923	.653	4.671	3.453	.070	1272	.942	1351	.468	.451	.482	.434	.441	.467	.487	.457	.462
.067	2.597	1.893	.651	4.669	3.451	.068	1267	.938	1351	.469	.451	.483	.430	.442	.467	.488	.458	.462
.065	2.490	1.842	.649	4.672	3.456	.066	1262	.934	1351	.470	.452	.483	.430	.443	.468	.488	.459	.463

DATE 5-5-7*
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
PAGE = 4

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
5	139	7.92	152.3	1350	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0147	1.353	.731	3875	4.510E-04	8.024E-08	6.773E 05	11.32	0	.50	22.633	5

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG*R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.062	2.427	1.794	.646	4.668	3.451	.063	1255	.930	1350	.471	.452	.484	.435	.444	.469	.489	.460	.464
.062	2.381	1.745	.646	4.668	3.451	.063	1247	.923	1351	.471	.452	.484	.436	.443	.469	.490	.460	.464
.059	2.233	1.646	.642	4.672	3.456	.059	1237	.916	1351	.472	.453	.485	.429	.444	.470	.490	.460	.464
.055	2.218	1.641	.640	4.666	3.452	.057	1226	.908	1351	.472	.453	.486	.436	.444	.470	.491	.461	.465
.054	2.164	1.597	.638	4.671	3.457	.055	1216	.900	1351	.474	.453	.487	.437	.445	.471	.492	.461	.466
.050	2.066	1.528	.634	4.666	3.452	.051	1202	.890	1351	.476	.454	.487	.437	.445	.471	.492	.462	.467
.050	1.990	1.473	.634	4.670	3.457	.051	1190	.880	1351	.475	.454	.488	.437	.445	.472	.493	.462	.467
.047	1.909	1.412	.631	4.666	3.452	.048	1173	.868	1351	.475	.455	.488	.438	.446	.472	.494	.463	.468
.044	1.828	1.353	.628	4.666	3.454	.045	1159	.858	1350	.477	.456	.489	.438	.447	.473	.494	.464	.469
.043	1.752	1.296	.627	4.668	3.453	.044	1144	.846	1351	.477	.455	.490	.439	.447	.474	.495	.463	.469
.040	1.674	1.239	.624	4.669	3.454	.041	1130	.837	1351	.478	.456	.490	.437	.448	.474	.495	.464	.469
.039	1.601	1.185	.623	4.664	3.453	.040	1115	.825	1351	.479	.456	.491	.437	.448	.475	.496	.466	.470
.037	1.530	1.133	.621	4.669	3.456	.038	1097	.813	1350	.480	.457	.492	.438	.449	.476	.497	.466	.471
.036	1.456	1.078	.618	4.669	3.456	.035	1079	.799	1350	.481	.457	.492	.438	.449	.476	.498	.466	.472
.033	1.387	1.026	.617	4.666	3.454	.034	1060	.785	1350	.483	.458	.493	.438	.450	.477	.498	.466	.472
.028	1.317	.975	.612	4.665	3.453	.029	1034	.766	1350	.484	.458	.493	.439	.450	.477	.499	.467	.473
.027	1.247	.923	.611	4.667	3.455	.028	1014	.752	1350	.485	.458	.494	.437	.451	.478	.500	.468	.473
.026	1.185	.877	.610	4.664	3.452	.027	999	.740	1350	.487	.459	.494	.437	.452	.478	.500	.468	.474
.022	1.128	.836	.606	4.667	3.457	.023	979	.725	1350	.488	.459	.495	.438	.452	.479	.501	.469	.474
.022	1.072	.794	.606	4.668	3.458	.023	961	.712	1350	.490	.460	.496	.438	.452	.480	.501	.469	.475
.021	1.022	.757	.605	4.667	3.457	.022	943	.698	1350	.491	.460	.497	.438	.453	.480	.502	.470	.476
.017	.975	.722	.601	4.670	3.459	.018	920	.681	1350	.492	.460	.497	.444	.453	.481	.503	.470	.476
.016	.931	.689	.600	4.665	3.455	.017	894	.662	1350	.493	.461	.498	.437	.454	.481	.504	.471	.477
.013	.888	.658	.597	4.667	3.459	.014	874	.647	1350	.494	.461	.498	.442	.454	.482	.504	.472	.477
.011	.851	.631	.595	4.667	3.459	.012	853	.632	1350	.495	.461	.499	.445	.454	.482	.505	.472	.478
.010	.816	.605	.594	4.669	3.461	.011	806	.597	1350	.496	.461	.500	.448	.455	.483	.505	.472	.478
.007	.793	.588	.591	4.667	3.459	.008	779	.577	1351	.498	.463	.501	.446	.456	.485	.507	.474	.480

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PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OF52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
10	139	7.92	151.2	1348	30.09	-8.09	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0165	1.343	.726	3873	4.484E-04	8.012E-08	6.635E 05	13.58	0	.60	22.633	6

Z-1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.817	4.648	3.447	1.091	1.014	.751	.818	1266	.939	1348	.387	.394	.403	.396	.394	.402	.403	.393	.389
.788	4.657	3.447	1.072	1.016	.752	.789	1267	.940	1348	.387	.395	.405	.392	.394	.403	.405	.394	.390
.755	4.668	3.455	1.039	1.016	.752	.756	1266	.939	1348	.388	.395	.405	.397	.395	.404	.405	.395	.391
.724	4.685	3.466	1.038	1.016	.752	.725	1266	.940	1348	.389	.395	.406	.393	.395	.405	.406	.396	.391
.692	4.702	3.481	1.026	1.018	.754	.693	1266	.939	1348	.390	.397	.407	.398	.396	.406	.407	.397	.392
.660	4.714	3.490	1.044	1.017	.753	.661	1266	.939	1348	.390	.397	.408	.399	.396	.407	.408	.397	.393
.631	4.727	3.502	1.015	1.143	.847	.632	1266	.939	1348	.391	.397	.409	.400	.397	.407	.409	.398	.393
.598	4.735	3.509	1.182	1.575	1.168	.599	1266	.939	1348	.391	.398	.410	.393	.397	.408	.409	.399	.394
.564	4.739	3.513	1.152	3.977	2.948	.569	1266	.939	1348	.392	.398	.410	.392	.397	.409	.410	.400	.395
.543	4.743	3.519	1.127	4.465	3.312	.544	1266	.939	1348	.393	.399	.411	.401	.398	.410	.411	.401	.395
.533	4.744	3.521	1.117	4.454	3.313	.534	1266	.939	1348	.394	.399	.412	.402	.398	.410	.412	.401	.397
.523	4.748	3.524	1.107	4.463	3.312	.524	1266	.939	1348	.394	.400	.413	.403	.398	.411	.413	.402	.397
.514	4.750	3.525	1.098	4.470	3.317	.515	1266	.939	1348	.395	.401	.414	.403	.399	.412	.414	.402	.398
.504	4.752	3.529	1.088	4.469	3.319	.505	1265	.938	1348	.395	.401	.414	.401	.399	.413	.414	.403	.399
.496	4.756	3.533	1.080	4.470	3.322	.497	1267	.940	1348	.397	.401	.415	.402	.400	.413	.415	.403	.399
.488	4.758	3.536	1.072	4.471	3.323	.489	1266	.939	1348	.397	.402	.416	.405	.401	.414	.416	.405	.400
.481	4.759	3.537	1.065	4.470	3.322	.482	1265	.939	1348	.398	.402	.417	.403	.401	.415	.417	.405	.401
.472	4.762	3.543	1.056	4.467	3.324	.473	1266	.939	1348	.398	.402	.417	.406	.401	.415	.418	.406	.401
.461	4.764	3.545	1.045	4.469	3.325	.462	1266	.939	1348	.399	.403	.418	.406	.402	.416	.418	.406	.402
.453	4.764	3.551	1.037	4.467	3.330	.454	1266	.939	1348	.399	.403	.418	.406	.402	.416	.420	.407	.403
.443	4.764	3.552	1.027	4.469	3.332	.444	1265	.939	1348	.400	.404	.420	.402	.402	.417	.420	.408	.403
.433	4.761	3.550	1.017	4.468	3.331	.434	1265	.939	1348	.401	.405	.421	.407	.403	.418	.421	.408	.405
.424	4.758	3.550	1.008	4.469	3.334	.425	1265	.939	1348	.402	.405	.421	.401	.403	.418	.422	.409	.405
.414	4.751	3.545	.998	4.468	3.333	.415	1265	.939	1348	.402	.406	.422	.406	.403	.419	.423	.409	.406
.405	4.743	3.541	.989	4.472	3.339	.406	1266	.939	1348	.403	.406	.423	.406	.404	.420	.424	.410	.407
.395	4.731	3.534	.979	4.473	3.342	.396	1265	.939	1348	.403	.407	.424	.411	.405	.420	.424	.411	.407
.386	4.717	3.524	.970	4.475	3.343	.387	1266	.939	1348	.405	.407	.424	.411	.405	.421	.425	.411	.408
.376	4.700	3.516	.960	4.479	3.350	.377	1266	.939	1348	.405	.408	.425	.407	.405	.421	.426	.412	.409
.365	4.679	3.500	.949	4.483	3.353	.366	1266	.939	1348	.406	.408	.426	.410	.406	.422	.427	.413	.410
.357	4.655	3.485	.941	4.491	3.362	.358	1267	.940	1348	.406	.409	.426	.410	.406	.422	.428	.413	.410
.345	4.631	3.467	.930	4.492	3.363	.347	1266	.939	1348	.407	.409	.428	.411	.406	.423	.429	.414	.411
.337	4.606	3.450	.921	4.496	3.368	.338	1267	.940	1348	.407	.409	.428	.411	.407	.423	.429	.414	.411
.327	4.579	3.430	.911	4.501	3.372	.328	1267	.940	1348	.408	.410	.429	.411	.407	.424	.430	.415	.413

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ANC, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI 0-52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
10	139	7.92	150.2	1348	30.10	-8.10	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
94.5	.0164	1.334	.721	3873	4.455E-04	8.012E-08	6.635E 05	13.58	0	.60	22.633	6

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	Tw2/TO (DEG R)	Tw3/TO (DEG R)	Tw4/TO (DEG R)	Tw5/TO (DEG R)	Tw6/TO (DEG R)	Tw7/TO (DEG R)	Tw8/TO (DEG R)	Tw9/TO (DEG R)	Tw10/TO (DEG R)
.216	4.551	3.414	.800	4.509	3.380	.317	1267	.940	1348	.409	.410	.429	.412	.407	.425	.431	.416	.413
.305	4.526	3.393	.802	4.512	3.382	.309	1267	.940	1348	.409	.411	.430	.410	.408	.425	.432	.416	.414
.297	4.496	3.372	.801	4.516	3.388	.299	1267	.940	1348	.410	.411	.431	.410	.408	.426	.433	.417	.415
.287	4.467	3.353	.801	4.523	3.395	.288	1268	.940	1348	.410	.412	.432	.411	.409	.426	.433	.418	.415
.278	4.434	3.332	.802	4.527	3.400	.279	1269	.941	1348	.411	.413	.432	.411	.409	.427	.434	.418	.416
.268	4.402	3.306	.802	4.535	3.406	.269	1268	.941	1348	.411	.413	.433	.411	.409	.428	.435	.419	.417
.257	4.362	3.279	.801	4.536	3.409	.259	1268	.941	1348	.412	.414	.434	.414	.411	.428	.436	.419	.417
.249	4.322	3.248	.803	4.544	3.415	.250	1269	.942	1348	.413	.414	.434	.415	.410	.429	.437	.420	.418
.239	4.280	3.219	.803	4.551	3.420	.240	1269	.941	1348	.413	.415	.436	.415	.410	.429	.438	.421	.419
.229	4.236	3.186	.803	4.555	3.426	.230	1269	.942	1348	.414	.415	.436	.415	.411	.430	.438	.421	.420
.226	4.198	3.160	.810	4.557	3.430	.227	1269	.942	1348	.414	.416	.437	.416	.411	.430	.439	.422	.420
.223	4.169	3.137	.807	4.557	3.429	.224	1270	.942	1348	.415	.417	.437	.411	.412	.431	.440	.423	.421
.221	4.147	3.121	.805	4.557	3.429	.222	1270	.942	1348	.415	.417	.438	.417	.412	.432	.441	.423	.422
.218	4.130	3.110	.802	4.557	3.432	.219	1270	.942	1348	.416	.418	.439	.417	.413	.432	.441	.424	.422
.217	4.116	3.102	.801	4.557	3.434	.218	1271	.943	1349	.416	.418	.440	.410	.413	.433	.442	.425	.423
.213	4.102	3.091	.797	4.556	3.435	.214	1271	.943	1347	.418	.419	.440	.416	.413	.434	.443	.425	.424
.213	4.090	3.084	.797	4.559	3.438	.214	1271	.943	1347	.418	.420	.442	.416	.414	.434	.444	.426	.425
.211	4.081	3.077	.795	4.557	3.436	.212	1270	.942	1347	.419	.420	.442	.412	.415	.435	.445	.427	.426
.209	4.071	3.070	.793	4.556	3.436	.210	1271	.943	1347	.419	.421	.443	.412	.415	.435	.446	.427	.426
.208	4.063	3.064	.792	4.556	3.436	.209	1271	.944	1347	.420	.421	.444	.417	.415	.436	.447	.428	.427
.206	4.053	3.058	.788	4.555	3.437	.205	1271	.943	1347	.420	.421	.444	.420	.416	.437	.447	.428	.428
.206	4.043	3.051	.788	4.554	3.437	.205	1271	.944	1347	.421	.422	.445	.420	.416	.437	.449	.428	.428
.202	4.035	3.047	.786	4.557	3.441	.203	1271	.944	1347	.421	.423	.446	.420	.416	.438	.449	.430	.429
.200	4.026	3.040	.784	4.554	3.439	.201	1271	.944	1347	.422	.424	.447	.421	.417	.438	.450	.430	.430
.197	4.015	3.034	.781	4.556	3.443	.198	1271	.944	1347	.422	.424	.447	.421	.417	.439	.451	.431	.430
.195	4.002	3.024	.779	4.556	3.443	.196	1271	.944	1347	.423	.424	.449	.422	.418	.439	.451	.431	.431
.194	3.993	3.018	.778	4.554	3.441	.195	1271	.944	1347	.423	.425	.449	.420	.418	.440	.452	.432	.432
.191	3.978	3.008	.775	4.558	3.446	.192	1271	.944	1347	.424	.425	.450	.420	.418	.440	.453	.432	.432
.189	3.964	3.001	.773	4.555	3.446	.190	1272	.944	1347	.424	.426	.450	.423	.419	.441	.454	.433	.434
.188	3.952	2.993	.772	4.556	3.447	.189	1271	.944	1347	.425	.426	.451	.421	.419	.442	.454	.434	.434
.186	3.941	2.986	.770	4.556	3.450	.187	1272	.944	1347	.426	.427	.452	.423	.420	.443	.455	.434	.435
.184	3.930	2.978	.768	4.556	3.449	.185	1272	.944	1347	.426	.427	.453	.424	.420	.443	.456	.435	.435
.183	3.916	2.967	.766	4.556	3.452	.184	1272	.944	1347	.427	.427	.453	.424	.420	.444	.457	.435	.435
.182	3.903	2.957	.764	4.559	3.454	.183	1272	.945	1347	.427	.428	.454	.424	.421	.444	.457	.436	.436
.177	3.891	2.948	.761	4.561	3.454	.178	1272	.944	1347	.428	.428	.454	.425	.422	.445	.458	.436	.437
.176	3.880	2.939	.760	4.564	3.455	.177	1273	.945	1347	.428	.428	.455	.426	.422	.445	.459	.437	.438
.176	3.866	2.927	.758	4.564	3.455	.175	1272	.945	1347	.429	.429	.456	.426	.422	.446	.459	.438	.438
.172	3.855	2.917	.756	4.569	3.457	.173	1273	.945	1347	.430	.430	.457	.427	.423	.446	.461	.438	.439
.171	3.844	2.909	.755	4.569	3.457	.172	1273	.945	1347	.430	.430	.457	.427	.423	.447	.461	.439	.439
.169	3.834	2.899	.753	4.575	3.459	.170	1273	.945	1347	.431	.431	.458	.424	.423	.447	.462	.439	.440
.168	3.824	2.891	.750	4.577	3.461	.167	1273	.945	1347	.431	.431	.459	.427	.424	.448	.462	.440	.441
.165	3.813	2.881	.749	4.579	3.460	.166	1274	.946	1347	.432	.43	.459	.421	.424	.449	.463	.440	.442

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AHC, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OA52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
10	139	7.92	149.0	1347	30.10	-8.10	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0143	1.323	.715	3871	4.422E-04	8.006E-08	6.635E 05	13.56	0	.60	22.633	6

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.144	3.830	2.872	.748	4.581	3.441	.165	1273	.945	1347	.432	.432	.460	.421	.425	.449	.464	.441	.442
.140	3.748	2.862	.744	4.582	3.442	.161	1273	.945	1347	.432	.432	.461	.428	.425	.450	.465	.442	.443
.140	3.778	2.853	.744	4.586	3.445	.161	1273	.945	1347	.433	.433	.461	.429	.426	.450	.465	.442	.444
.139	3.748	2.849	.740	4.588	3.447	.157	1274	.946	1347	.434	.434	.462	.429	.426	.451	.466	.443	.444
.139	3.744	2.839	.740	4.590	3.448	.157	1274	.946	1347	.434	.434	.463	.430	.426	.451	.467	.444	.445
.151	3.733	2.821	.735	4.590	3.448	.152	1274	.946	1347	.435	.434	.463	.430	.427	.452	.467	.444	.446
.150	3.715	2.806	.734	4.594	3.449	.151	1274	.946	1347	.435	.435	.465	.430	.427	.453	.468	.445	.446
.148	3.699	2.792	.732	4.593	3.448	.149	1274	.946	1347	.436	.435	.465	.431	.428	.454	.469	.445	.447
.145	3.678	2.777	.729	4.595	3.450	.146	1274	.946	1347	.436	.435	.466	.429	.428	.454	.470	.446	.447
.144	3.659	2.763	.728	4.596	3.450	.145	1274	.946	1347	.437	.436	.466	.429	.428	.454	.470	.446	.448
.140	3.637	2.746	.724	4.600	3.453	.141	1274	.946	1347	.438	.436	.467	.430	.429	.455	.471	.447	.449
.138	3.617	2.731	.722	4.602	3.455	.139	1275	.946	1347	.438	.436	.467	.430	.430	.455	.471	.447	.450
.134	3.593	2.713	.719	4.601	3.454	.135	1275	.946	1347	.438	.437	.469	.430	.430	.456	.473	.447	.450
.133	3.579	2.694	.717	4.601	3.454	.134	1275	.946	1347	.438	.438	.469	.433	.430	.457	.473	.448	.451
.131	3.55	2.680	.715	4.604	3.456	.132	1274	.946	1347	.439	.438	.470	.434	.431	.458	.474	.449	.451
.129	3.530	2.667	.712	4.604	3.457	.129	1275	.946	1347	.440	.438	.470	.434	.431	.458	.474	.449	.452
.129	3.514	2.653	.712	4.606	3.458	.129	1275	.946	1347	.440	.438	.471	.434	.432	.459	.475	.450	.453
.125	3.495	2.641	.708	4.605	3.457	.126	1275	.946	1347	.441	.439	.471	.435	.432	.459	.476	.451	.453
.124	3.477	2.627	.708	4.607	3.458	.125	1274	.947	1347	.442	.439	.473	.430	.432	.460	.477	.452	.454
.121	3.464	2.617	.705	4.607	3.458	.122	1275	.946	1347	.442	.439	.473	.435	.433	.461	.477	.452	.454
.119	3.432	2.593	.703	4.612	3.462	.120	1275	.946	1347	.443	.440	.474	.436	.434	.461	.478	.453	.455
.117	3.427	2.575	.701	4.609	3.462	.118	1275	.947	1347	.443	.440	.474	.435	.434	.462	.478	.453	.456
.113	3.391	2.556	.697	4.613	3.466	.114	1275	.947	1347	.444	.440	.475	.436	.434	.462	.480	.454	.457
.112	3.354	2.534	.696	4.612	3.465	.113	1275	.947	1347	.444	.440	.475	.437	.435	.463	.480	.454	.457
.109	3.324	2.515	.693	4.614	3.469	.110	1275	.946	1347	.444	.441	.475	.437	.435	.463	.481	.455	.458
.109	3.321	2.494	.692	4.613	3.468	.109	1274	.947	1347	.445	.441	.477	.438	.435	.464	.482	.455	.458
.106	3.275	2.474	.690	4.611	3.469	.107	1275	.947	1347	.446	.442	.479	.438	.436	.465	.482	.456	.459
.103	3.249	2.455	.687	4.613	3.468	.104	1276	.947	1347	.446	.442	.479	.438	.436	.465	.483	.457	.459
.101	3.221	2.435	.685	4.616	3.470	.102	1275	.947	1347	.447	.443	.479	.439	.437	.466	.484	.457	.460
.097	3.187	2.410	.681	4.615	3.469	.098	1275	.947	1347	.447	.443	.480	.439	.438	.466	.484	.458	.461
.095	3.158	2.392	.679	4.616	3.470	.096	1275	.947	1347	.448	.443	.480	.439	.438	.467	.485	.458	.461
.092	3.109	2.353	.676	4.618	3.474	.093	1274	.946	1347	.449	.443	.481	.440	.438	.467	.485	.459	.462
.090	3.066	2.329	.674	4.617	3.473	.091	1275	.946	1347	.449	.443	.482	.440	.439	.468	.486	.459	.462
.087	3.021	2.296	.671	4.617	3.474	.088	1272	.945	1347	.449	.444	.482	.438	.439	.469	.487	.460	.463
.084	2.972	2.267	.668	4.617	3.474	.085	1271	.944	1347	.450	.444	.483	.439	.440	.469	.488	.460	.463
.083	2.923	2.211	.667	4.619	3.475	.084	1270	.942	1347	.450	.445	.484	.439	.440	.470	.488	.461	.464
.080	2.871	2.172	.664	4.618	3.474	.081	1268	.942	1347	.451	.445	.484	439	.440	.470	.489	.461	.465
.079	2.923	2.134	.663	4.623	3.500	.080	1256	.940	1347	.451	.445	.485	.440	.441	.471	.489	.462	.465
.076	2.768	2.094	.660	4.621	3.497	.077	1263	.937	1347	.452	.446	.485	.443	.442	.471	.490	.462	.466
.076	2.711	2.053	.658	4.621	3.495	.075	1259	.935	1347	.452	.446	.486	.447	.442	.473	.491	.463	.466
.074	2.661	2.015	.658	4.619	3.497	.075	1258	.934	347	.453	.446	.486	.443	.442	.473	.492	.463	.467
.070	2.600	1.964	.654	4.620	3.498	.071	1251	.929	1347	.453	.447	.488	.449	.443	.473	.492	.464	.468

DATE [illegible]
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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
VASA/RI OF52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
10	139	7.92	149.7	1347	30.10	4.10	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0163	1.321	.714	3871	4.413E-04	8.006E-08	6.635E 05	13.58	0	.60	22.633	6

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.049	2.534	1.913	.653	4.622	3.500	.070	1242	.922	1347	.454	.447	.488	.439	.443	.474	.493	.465	.468
.044	2.452	1.856	.648	4.622	3.500	.065	1232	.915	1347	.454	.447	.489	.444	.444	.475	.493	.465	.469
.041	2.356	1.7[illegible]	.642	4.625	3.502	.062	1216	.903	1347	.455	.448	.489	.43[illegible]	.444	.475	.494	.465	.469
.038	2.252	1.7[illegible]	.642	4.625	3.504	.059	1199	.890	1347	.455	.448	.490	.4[illegible]	444	.475	.494	.466	.470
.035	2.143	1.624	.639	4.623	3.502	.056	1182	.877	1347	.456	.449	.490	.446	.445	.476	.495	.466	.470
.051	2.033	1.539	.635	4.629	3.505	.052	1159	.860	1347	.457	.449	.491	.444	.446	.477	.496	.467	.471
.048	1.923	1.456	.632	4.626	3.503	.049	1139	.846	1347	.457	.449	.492	.449	.446	.477	.497	.467	.472
.045	1.814	1.374	.630	4.630	3.506	.047	1113	.827	1347	.457	.450	.492	.444	.447	.478	.497	.467	.473
.042	1.710	1.294	.626	4.634	3.509	.043	1091	.810	1347	.458	.450	.493	.447	.447	.478	.498	.469	.473
.040	1.610	1.218	.624	4.634	3.506	.041	1072	796	1347	.458	.450	.493	.447	.447	.480	.498	.469	.474
.037	1.514	1.147	.621	4.631	3.504	.038	1052	.781	1347	.459	.451	.494	.448	.448	.480	.499	.470	.474
.035	1.431	1.083	.619	4.635	3.507	.036	1034	.768	1347	.459	.451	.494	.449	.449	.480	.500	.470	.475
.032	1.350	1.021	.616	4.636	3.506	.033	1011	.751	1347	.460	.451	.495	.449	.449	.481	.500	.471	.475
.029	1.272	.963	.612	4.639	3.510	.029	982	.729	1347	.460	.452	.496	.449	.449	.481	.501	.471	.475
.027	1.198	.907	.611	4.639	3.510	.027	957	.711	1346	.461	.453	.497	.448	.450	.482	.502	.472	.477
.023	1.132	.857	.607	4.640	3.511	.024	933	.693	1346	.461	.453	.498	.448	.451	.483	.503	.473	.478
.021	1.070	.809	.605	4.641	3.509	.022	909	.675	1347	.462	.453	.497	.450	.451	.483	.502	.473	.478
.319	1.013	.766	.603	4.642	3.510	.020	886	.658	1346	.463	.454	.498	.449	.452	.484	.504	.474	.479
.016	.958	.724	.600	4.641	3.509	.017	861	.639	1347	.462	.454	.498	.449	.452	.484	.504	.474	.479
.013	.913	.690	.597	4.644	3.511	.014	826	.613	1347	.463	.454	.499	.449	.453	.485	.505	.474	.480
.008	.865	.654	.592	4.640	3.508	.009	769	.571	1347	.463	.455	.500	.452	.453	.485	.505	.474	.480
.007	.824	.623	.591	4.644	3.511	.008	730	.542	1347	.464	.455	.500	.452	.453	.486	.506	.475	.481
.007	.732	.553	.591	4.643	3.508	.008	736	.547	.47	.466	.457	.502	.453	.455	.489	.508	.477	.482

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	P0(PSIA)	T0(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
11	139	7.92	150.9	1343	30.09	-8.09	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.1	.0165	1.340	.725	3865	4.492E-04	7.982E-08	6.765E 05	15.84	0	.70	22.633	7

ZP1 (IN)	P1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.748	4.624	3.448	1.352	1.347	1.004	.769	1263	.940	1343	.401	.395	.400	.395	.396	.400	.400	.403	.395
.754	4.652	3.469	1.342	1.441	1.090	.759	1262	.940	1343	.402	.395	.401	.397	.396	.401	.401	.404	.396
.732	4.670	3.482	1.318	3.346	2.495	.733	1262	.940	1343	.403	.396	.403	.398	.397	.402	.403	.404	.397
.702	4.692	3.501	1.296	4.385	3.271	.703	1262	.940	1343	.404	.396	.404	.399	.397	.403	.404	.405	.397
.669	4.709	3.511	1.253	4.417	3.293	.670	1262	.940	1343	.404	.396	.405	.395	.398	.404	.404	.406	.398
.628	4.730	3.527	1.222	4.448	3.316	.639	1262	.940	1343	.405	.396	.406	.395	.399	.405	.406	.407	.399
.607	4.745	3.539	1.191	4.475	3.337	.608	1262	.940	1343	.406	.397	.407	.400	.399	.406	.406	.407	.400
.576	4.760	3.549	1.180	4.505	3.359	.577	1262	.940	1343	.406	.397	.408	.400	.399	.407	.407	.408	.400
.547	4.770	3.556	1.131	4.531	3.378	.548	1262	.940	1343	.407	.397	.408	.400	.400	.408	.408	.409	.401
.515	4.779	3.563	1.099	4.555	3.396	.516	1262	.939	1343	.407	.397	.410	.401	.400	.408	.409	.409	.401
.484	4.791	3.567	1.068	4.570	3.410	.485	1262	.940	1343	.408	.397	.410	.401	.401	.409	.410	.410	.403
.461	4.787	3.572	1.045	4.582	3.419	.462	1262	.940	1343	.408	.398	.411	.401	.401	.410	.411	.411	.403
.451	4.795	3.573	1.035	4.582	3.419	.452	1262	.940	1343	.410	.398	.412	.402	.402	.411	.411	.411	.404
.445	4.795	3.577	1.029	4.587	3.422	.446	1262	.940	1343	.410	.398	.413	.402	.403	.411	.412	.412	.404
.434	4.796	3.579	1.018	4.587	3.423	.435	1262	.940	1343	.411	.399	.414	.403	.403	.412	.413	.412	.405
.425	4.800	3.579	1.009	4.589	3.422	.426	1263	.940	1343	.411	.399	.414	.403	.403	.413	.414	.413	.406
.416	4.801	3.580	1.000	4.589	3.422	.417	1262	.940	1343	.412	.399	.415	.404	.404	.414	.415	.414	.407
.405	4.803	3.581	.989	4.593	3.424	.406	1262	.940	1343	.412	.399	.416	.404	.404	.414	.415	.416	.407
.397	4.805	3.583	.981	4.593	3.424	.398	1263	.940	1343	.412	.399	.416	.404	.405	.415	.416	.414	.408
.387	4.801	3.582	.971	4.593	3.427	.388	1262	.940	1343	.413	.400	.418	.403	.405	.415	.418	.415	.409
.377	4.800	3.579	.961	4.594	3.425	.378	1263	.940	1343	.414	.400	.418	.405	.406	.416	.418	.416	.410
.368	4.795	3.577	.952	4.598	3.430	.369	1262	.940	1343	.414	.401	.419	.403	.406	.417	.419	.417	.410
.356	4.787	3.571	.940	4.594	3.427	.357	1263	.940	1343	.415	.401	.419	.406	.406	.418	.420	.418	.411
.349	4.775	3.560	.933	4.592	3.429	.350	1263	.941	1343	.415	.401	.420	.406	.407	.418	.421	.418	.412
.338	4.762	3.553	.922	4.596	3.429	.339	1263	.941	1343	.416	.401	.421	.404	.407	.419	.422	.419	.412
.329	4.744	3.537	.913	4.599	3.429	.330	1264	.941	1343	.416	.402	.422	.407	.408	.419	.422	.419	.413
.319	4.719	3.519	.903	4.598	3.428	.320	1264	.941	1343	.417	.402	.422	.403	.408	.420	.423	.419	.414
.307	4.694	3.500	.891	4.600	3.430	.308	1264	.941	1343	.418	.403	.423	.403	.408	.420	.424	.420	.415
.299	4.667	3.480	.883	4.602	3.432	.300	1265	.942	1343	.418	.403	.424	.408	.409	.421	.425	.421	.415
.286	4.638	3.458	.870	4.605	3.433	.287	1264	.941	1343	.419	.403	.425	.408	.409	.422	.426	.422	.416
.276	4.604	3.435	.860	4.609	3.439	.277	1265	.942	1343	.419	.403	.426	.408	.410	.422	.427	.422	.416
.268	4.567	3.405	.852	4.609	3.437	.269	1265	.942	1343	.420	.404	.426	.408	.410	.423	.427	.423	.418
.258	4.536	3.382	.842	4.612	3.439	.259	1266	.942	1343	.420	.404	.427	.409	.410	.423	.429	.423	.418
.250	4.502	3.359	.834	4.617	3.445	.251	1267	.943	1343	.420	.404	.428	.403	.411	.424	.429	.426	.419
.240	4.461	3.328	.824	4.620	3.447	.241	1266	.943	1343	.421	.405	.429	.407	.411	.425	.430	.425	.420
.229	4.419	3.295	.813	4.626	3.449	.230	1267	.943	1343	.422	.405	.430	.410	.411	.425	.431	.425	.420

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PROJECT NUMBER VA524-2184
SRO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI JPS2 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	P0(PSIA)	T0(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
11	139	7.92	151.6	1343	30.08	-8.08	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	HE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.1	.1185	1.341	.725	3865	4.495E-04	7.962E-08	6.765E 05	15.84	0	.70	22.633	7

ZP1 (IN)	PP1 (PSIA)	PP1/P01	/P2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.221	4.372	3.260	.805	4.631	3.453	.222	1268	.944	1343	.422	.406	.430	.410	.412	.426	.431	.426	.421
.218	4.326	3.226	.794	4.588	3.458	.219	1268	.944	1343	.423	.406	.431	.413	.412	.427	.433	.426	.422
.201	4.277	3.189	.785	4.542	3.461	.202	1269	.945	1343	.423	.406	.432	.413	.412	.427	.433	.427	.422
.191	4.228	3.154	.775	4.499	3.469	.192	1269	.945	1343	.424	.407	.433	.409	.413	.427	.434	.427	.423
.180	4.174	3.114	.764	4.457	3.472	.181	1270	.945	1343	.425	.407	.434	.412	.414	.428	.435	.428	.424
.173	4.115	3.070	.757	4.452	3.479	.174	1270	.946	1343	.425	.407	.434	.412	.414	.429	.436	.429	.425
.170	4.065	3.031	.756	4.456	3.477	.171	1270	.945	1343	.425	.408	.435	.412	.414	.430	.437	.429	.425
.169	4.030	3.005	.753	4.466	3.479	.170	1270	.946	1343	.426	.408	.436	.412	.415	.430	.437	.430	.426
.167	4.009	2.987	.751	4.466	3.477	.168	1271	.946	1343	.426	.409	.437	.413	.415	.431	.438	.431	.427
.164	3.987	2.973	.748	4.469	3.481	.165	1271	.946	1343	.427	.410	.437	.413	.415	.431	.439	.431	.427
.163	3.967	2.958	.747	4.468	3.481	.164	1271	.946	1343	.427	.410	.438	.414	.416	.432	.440	.431	.428
.159	3.947	2.943	.743	4.473	3.485	.160	1271	.946	1343	.428	.410	.438	.414	.416	.433	.441	.433	.429
.155	3.922	2.924	.739	4.478	3.488	.156	1271	.947	1343	.429	.410	.439	.414	.416	.433	.442	.433	.430
.155	3.901	2.907	.739	4.479	3.486	.156	1271	.946	1343	.429	.411	.440	.412	.417	.434	.442	.434	.430
.151	3.882	2.893	.735	4.477	3.485	.152	1271	.947	1343	.430	.411	.441	.415	.417	.434	.443	.434	.431
.149	3.863	2.881	.733	4.480	3.490	.150	1271	.947	1343	.430	.411	.441	.413	.418	.435	.444	.435	.431
.146	3.841	2.864	.730	4.483	3.492	.147	1271	.947	1343	.430	.412	.442	.413	.418	.435	.445	.435	.433
.141	3.822	2.848	.725	4.484	3.492	.142	1271	.947	1343	.431	.412	.444	.414	.418	.436	.446	.436	.433
.141	3.794	2.829	.725	4.486	3.494	.142	1272	.947	1343	.431	.412	.444	.416	.419	.437	.446	.437	.434
.137	3.770	2.811	.721	4.487	3.497	.138	1271	.946	1343	.432	.412	.445	.416	.419	.437	.448	.437	.434
.135	3.743	2.791	.719	4.489	3.496	.136	1272	.947	1343	.433	.413	.445	.416	.419	.438	.448	.438	.435
.133	3.718	2.771	.717	4.490	3.495	.134	1272	.947	1343	.433	.413	.446	.417	.420	.438	.449	.438	.436
.129	3.692	2.751	.713	4.492	3.498	.130	1272	.947	1343	.434	.414	.447	.417	.420	.439	.450	.438	.437
.127	3.662	2.730	.711	4.494	3.500	.128	1272	.947	1343	.434	.414	.448	.418	.420	.439	.450	.439	.437
.123	3.634	2.710	.707	4.498	3.503	.124	1271	.946	1343	.435	.414	.449	.413	.421	.441	.451	.440	.438
.122	3.603	2.687	.706	4.499	3.504	.123	1272	.947	1343	.435	.415	.449	.418	.422	.441	.452	.441	.438
.118	3.576	2.666	.702	4.502	3.506	.119	1271	.947	1343	.435	.415	.450	.412	.422	.442	.453	.441	.439
.114	3.534	2.635	.698	4.505	3.508	.115	1271	.947	1343	.436	.416	.451	.412	.422	.442	.453	.442	.440
.113	3.493	2.605	.697	4.504	3.508	.114	1271	.946	1343	.437	.416	.452	.417	.423	.443	.454	.442	.441
.109	3.448	2.571	.693	4.508	3.510	.110	1270	.946	1343	.437	.416	.452	.417	.423	.444	.455	.442	.441
.107	3.405	2.539	.691	4.512	3.514	.108	1271	.946	1343	.438	.416	.453	.413	.423	.444	.456	.444	.442
.102	3.347	2.496	.686	4.512	3.513	.103	1269	.945	1343	.438	.418	.454	.418	.424	.445	.457	.444	.443
.096	3.292	2.447	.680	4.517	3.517	.097	1267	.943	1343	.438	.418	.454	.418	.424	.445	.457	.445	.443
.096	3.211	2.394	.680	4.518	3.518	.097	1265	.942	1343	.439	.419	.455	.421	.425	.446	.458	.445	.444
.092	3.149	2.344	.676	4.522	3.521	.093	1263	.940	1343	.439	.419	.456	.421	.425	.446	.459	.446	.445
.089	3.071	2.290	.673	4.524	3.522	.090	1259	.938	1343	.440	.419	.456	.422	.425	.447	.460	.446	.445
.088	2.994	2.237	.672	4.525	3.523	.089	1256	.935	1343	.441	.420	.457	.422	.426	.448	.460	.446	.446
.084	2.918	2.176	.668	4.527	3.524	.085	1251	.931	1343	.441	.420	.458	.422	.426	.448	.461	.447	.446
.083	2.842	2.119	.667	4.527	3.524	.084	1246	.928	1343	.442	.421	.458	.422	.426	.449	.462	.449	.447
.079	2.770	2.065	.663	4.731	3.528	.080	1238	.922	1343	.442	.421	.460	.423	.427	.449	.463	.449	.448
.079	2.703	2.015	.663	4.728	3.526	.080	1237	.921	1343	.442	.422	.460	.423	.427	.450	.464	.449	.449
.078	2.648	1.974	.662	4.729	3.526	.079	1232	.917	1343	.443	.422	.461	.421	.428	.450	.464	.449	.449

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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
11	139	7.92	151.0	1343	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.1	.0165	1.341	.725	3865	4.495E-04	7.982E-08	6.765E 05	15.84	0	.70	22.633	7

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.074	2.545	1.931	.658	4.732	3.528	.075	1223	.911	1343	.444	.422	.461	.424	.428	.451	.465	.450	.450
.073	2.524	1.882	.657	4.733	3.529	.074	1219	.908	1343	.444	.422	.462	.424	.429	.452	.466	.450	.450
.072	2.487	1.838	.656	4.735	3.531	.073	1215	.905	1343	.444	.423	.463	.422	.429	.452	.467	.452	.451
.070	2.416	1.800	.654	4.736	3.529	.071	1212	.903	1343	.445	.424	.464	.425	.430	.453	.467	.452	.452
.071	2.371	1.768	.655	4.735	3.531	.072	1209	.900	1343	.445	.425	.464	.425	.430	.453	.468	.452	.452
.069	2.328	1.736	.653	4.736	3.532	.070	1204	.897	1343	.446	.425	.465	.426	.430	.454	.468	.453	.453
.069	2.296	1.703	.653	4.732	3.526	.070	1201	.894	1343	.446	.425	.466	.426	.431	.454	.469	.453	.454
.067	2.246	1.674	.651	4.735	3.531	.068	1194	.889	1343	.447	.426	.467	.426	.431	.455	.470	.454	.454
.065	2.204	1.643	.649	4.738	3.533	.066	1188	.885	1343	.448	.426	.467	.427	.431	.456	.471	.454	.455
.064	2.160	1.609	.648	4.737	3.530	.065	1181	.880	1343	.448	.426	.468	.427	.432	.456	.472	.456	.456
.062	2.115	1.574	.646	4.741	3.533	.063	1174	.874	1343	.448	.427	.468	.427	.433	.457	.472	.456	.457
.061	2.067	1.541	.645	4.738	3.533	.062	1167	.869	1343	.449	.427	.469	.426	.433	.458	.473	.456	.457
.061	2.028	1.505	.645	4.740	3.532	.062	1160	.864	1343	.449	.427	.470	.426	.433	.458	.473	.457	.457
.058	1.985	1.469	.642	4.739	3.534	.059	1150	.856	1343	.450	.428	.471	.429	.434	.459	.474	.457	.458
.057	1.938	1.431	.641	4.743	3.534	.058	1142	.850	1343	.450	.428	.472	.427	.434	.460	.475	.458	.459
.056	1.890	1.393	.640	4.746	3.536	.057	1134	.844	1343	.451	.429	.472	.427	.434	.460	.476	.458	.459
.054	1.840	1.356	.638	4.744	3.535	.055	1127	.839	1343	.451	.429	.473	.422	.435	.461	.476	.459	.460
.053	1.795	1.318	.637	4.743	3.534	.054	1117	.832	1343	.452	.429	.473	.430	.435	.461	.477	.460	.461
.052	1.719	1.281	.636	4.745	3.534	.053	1110	.826	1343	.452	.430	.474	.430	.435	.462	.478	.460	.461
.051	1.672	1.246	.635	4.744	3.535	.052	1102	.820	1343	.453	.430	.475	.430	.436	.463	.479	.461	.462
.050	1.623	1.210	.634	4.744	3.535	.051	1091	.812	1343	.453	.431	.475	.431	.437	.463	.479	.461	.463
.047	1.571	1.170	.631	4.747	3.537	.048	1077	.802	1343	.453	.431	.476	.431	.437	.464	.480	.462	.463
.047	1.520	1.133	.631	4.749	3.539	.048	1068	.795	1343	.454	.431	.476	.431	.438	.464	.481	.463	.464
.044	1.472	1.097	.628	4.750	3.539	.045	1058	.787	1343	.454	.433	.477	.432	.438	.465	.482	.463	.464
.043	1.427	1.063	.627	4.747	3.537	.044	1051	.782	1343	.455	.433	.478	.430	.438	.465	.482	.463	.465
.044	1.384	1.032	.628	4.749	3.537	.045	1043	.777	1343	.456	.433	.479	.430	.439	.466	.483	.464	.465
.041	1.345	1.002	.625	4.750	3.539	.042	1035	.770	1343	.456	.433	.479	.431	.439	.467	.483	.465	.466
.041	1.307	.975	.625	4.752	3.543	.042	1029	.766	1343	.456	.434	.480	.433	.439	.467	.484	.465	.467
.040	1.270	.946	.624	4.753	3.542	.041	1019	.759	1343	.457	.434	.481	.431	.440	.468	.485	.465	.467
.037	1.233	.919	.621	4.750	3.540	.038	1009	.751	1343	.457	.435	.481	.434	.441	.468	.486	.466	.468
.038	1.197	.892	.622	4.752	3.541	.039	1002	.746	1343	.458	.436	.482	.434	.441	.469	.486	.466	.468
.036	1.163	.867	.620	4.753	3.542	.037	993	.739	1343	.458	.436	.483	.435	.441	.469	.487	.467	.469
.035	1.130	.842	.619	4.753	3.542	.036	985	.733	1343	.459	.436	.483	.430	.442	.471	.488	.467	.469
.035	1.099	.819	.619	4.754	3.542	.036	977	.727	1343	.459	.437	.484	.435	.442	.471	.488	.468	.470
.033	1.068	.796	.617	4.753	3.542	.034	968	.721	1343	.460	.437	.485	.431	.443	.472	.489	.468	.471
.032	1.039	.774	.616	4.755	3.543	.033	959	.714	1343	.460	.437	.486	.431	.443	.472	.490	.469	.471
.031	1.010	.752	.615	4.755	3.543	.032	948	.706	1343	.461	.438	.486	.437	.444	.473	.490	.470	.472
.029	.982	.732	.613	4.758	3.546	.030	939	.699	1343	.461	.438	.487	.437	.444	.473	.491	.470	.472
.029	.956	.711	.613	4.756	3.544	.030	930	.693	1343	.461	.438	.487	.437	.445	.474	.491	.471	.473
.027	.928	.692	.611	4.755	3.546	.029	919	.685	1343	.462	.439	.488	.438	.445	.475	.492	.471	.474
.026	.902	.672	.610	4.757	3.542	.027	908	.676	1343	.463	.439	.488	.438	.445	.475	.493	.472	.474
.024	.877	.653	.612	4.757	3.543	.029	898	.668	1343	.463	.440	.489	.431	.446	.475	.494	.472	.475

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ARNOLD AIR FORCE STATION, TENNESSEE
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
11	139	7.92	151.1	1344	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.2	.0165	1.342	.725	3867	4.495E-04	7.988E-08	6.765E 05	15.84	0	.70	22.633	7

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.023	.952	.635	.607	4.760	3.547	.024	887	.660	1344	.463	.440	.490	.439	.446	.476	.494	.472	.475
.023	.929	.618	.607	4.760	3.547	.024	878	.654	1344	.463	.440	.490	.434	.447	.477	.494	.473	.475
.022	.908	.603	.606	4.759	3.546	.023	870	.648	1343	.464	.441	.491	.439	.447	.477	.496	.474	.476
.020	.796	.586	.604	4.755	3.545	.021	860	.640	1344	.464	.441	.491	.439	.447	.478	.496	.474	.477
.020	.747	.571	.604	4.760	3.547	.021	851	.633	1344	.465	.441	.492	.440	.448	.478	.497	.474	.477
.019	.747	.557	.602	4.761	3.548	.019	842	.626	1344	.465	.441	.493	.440	.448	.479	.497	.475	.478
.018	.729	.543	.602	4.760	3.547	.019	833	.620	1344	.466	.442	.493	.440	.449	.479	.498	.475	.478
.017	.712	.530	.601	4.762	3.548	.018	825	.614	1344	.466	.443	.494	.441	.449	.480	.498	.475	.479
.015	.695	.518	.599	4.761	3.548	.016	814	.606	1344	.467	.443	.494	.439	.450	.481	.499	.476	.479
.014	.679	.506	.598	4.762	3.549	.015	804	.598	1344	.467	.443	.495	.441	.450	.481	.500	.477	.481
.012	.664	.495	.596	4.765	3.550	.013	791	.589	1344	.467	.444	.496	.440	.450	.482	.500	.478	.481
.010	.649	.484	.594	4.763	3.549	.011	778	.579	1344	.468	.444	.496	.440	.451	.482	.502	.478	.482
.010	.634	.473	.594	4.764	3.547	.011	763	.568	1344	.469	.444	.497	.440	.451	.483	.502	.478	.482
.007	.622	.463	.591	4.764	3.547	.008	745	.554	1344	.469	.444	.497	.443	.452	.483	.502	.479	.482
.007	.610	.455	.591	4.765	3.550	.008	720	.536	1344	.469	.445	.498	.439	.452	.484	.503	.479	.483
.006	.599	.446	.590	4.766	3.551	.007	709	.527	1344	.470	.445	.498	.439	.453	.484	.504	.480	.483
.005	.588	.438	.589	4.766	3.552	.006	699	.520	1344	.470	.445	.499	.444	.453	.485	.504	.481	.484
.007	.584	.429	.591	4.766	3.549	.008	701	.522	1344	.472	.447	.501	.445	.455	.487	.506	.482	.486

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ARNOLD AIR FORCE STATION, TENNESSEE
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GROUP	MODEL	MACH NO	P0(PSIA)	T0(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
12	139	7.92	152.2	1348	30.09	-8.09	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0166	1.352	.731	3873	4.514E-04	8.012E-08	6.722E 05	18.11	0	.80	22.633	8

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.735	4.652	3.444	1.219	4.446	3.295	.736	1270	.942	1348	.397	.393	.399	.394	.394	.399	.400	.397	.397
.728	4.675	3.465	1.212	4.441	3.292	.729	1269	.942	1348	.398	.394	.401	.395	.394	.401	.402	.398	.398
.704	4.630	3.478	1.208	4.453	3.303	.705	1269	.941	1348	.399	.394	.402	.393	.395	.401	.402	.398	.399
.673	4.703	3.488	1.257	4.465	3.312	.674	1269	.941	1348	.398	.394	.403	.393	.395	.402	.403	.399	.399
.640	4.718	3.501	1.224	4.485	3.329	.641	1269	.941	1348	.398	.395	.404	.396	.396	.403	.404	.401	.400
.609	4.734	3.514	1.193	4.506	3.344	.610	1268	.941	1348	.399	.395	.405	.397	.397	.404	.405	.401	.401
.578	4.749	3.527	1.162	4.527	3.362	.579	1269	.941	1348	.399	.395	.406	.397	.397	.405	.406	.402	.401
.550	4.761	3.536	1.134	4.546	3.376	.551	1269	.941	1348	.399	.396	.407	.398	.398	.406	.407	.402	.402
.517	4.769	3.544	1.101	4.567	3.394	.518	1268	.941	1348	.399	.396	.408	.398	.398	.407	.407	.403	.402
.487	4.773	3.547	1.071	4.586	3.408	.488	1269	.941	1348	.399	.396	.409	.399	.399	.407	.409	.403	.403
.456	4.774	3.550	1.040	4.607	3.426	.457	1268	.941	1348	.399	.395	.410	.399	.399	.409	.409	.405	.404
.424	4.773	3.552	1.008	4.630	3.445	.425	1269	.941	1348	.399	.397	.410	.399	.399	.409	.410	.405	.405
.414	4.771	3.551	.998	4.635	3.449	.415	1269	.941	1348	.399	.397	.411	.400	.400	.410	.411	.405	.406
.404	4.769	3.551	.988	4.633	3.450	.405	1269	.941	1348	.399	.397	.412	.393	.401	.411	.412	.406	.406
.395	4.766	3.551	.979	4.641	3.458	.396	1269	.941	1348	.399	.397	.413	.401	.401	.411	.413	.406	.407
.385	4.762	3.549	.969	4.642	3.459	.386	1269	.941	1348	.399	.397	.414	.401	.402	.412	.414	.407	.407
.375	4.756	3.546	.959	4.648	3.466	.376	1269	.941	1348	.399	.397	.414	.401	.402	.413	.414	.408	.408
.366	4.749	3.543	.950	4.648	3.468	.367	1270	.942	1348	.399	.397	.415	.402	.403	.414	.415	.409	.409
.356	4.740	3.539	.940	4.651	3.473	.357	1269	.942	1348	.400	.397	.416	.402	.403	.414	.416	.409	.409
.347	4.729	3.531	.931	4.653	3.474	.348	1269	.942	1348	.401	.398	.417	.403	.403	.415	.417	.410	.410
.337	4.714	3.520	.921	4.652	3.473	.338	1270	.942	1348	.401	.398	.417	.403	.404	.415	.418	.410	.411
.325	4.696	3.506	.909	4.654	3.475	.326	1269	.942	1348	.402	.398	.418	.401	.405	.416	.418	.411	.411
.317	4.676	3.494	.901	4.652	3.475	.318	1270	.942	1348	.403	.398	.418	.404	.405	.417	.420	.411	.413
.307	4.654	3.477	.891	4.653	3.477	.308	1271	.943	1348	.403	.399	.420	.404	.405	.417	.421	.412	.413
.297	4.629	3.461	.881	4.648	3.475	.298	1271	.943	1348	.404	.399	.421	.402	.406	.418	.421	.413	.414
.287	4.602	3.443	.871	4.645	3.475	.288	1271	.943	1348	.405	.400	.421	.393	.406	.419	.422	.414	.414
.281	4.574	3.422	.865	4.645	3.475	.282	1271	.943	1348	.405	.401	.422	.403	.406	.420	.423	.414	.415
.279	4.555	3.410	.863	4.643	3.476	.280	1271	.943	1348	.406	.401	.423	.401	.407	.420	.424	.415	.415
.276	4.535	3.399	.860	4.642	3.475	.277	1272	.943	1348	.406	.401	.424	.401	.407	.421	.425	.415	.417
.272	4.525	3.387	.856	4.638	3.472	.273	1271	.943	1348	.407	.401	.425	.406	.407	.421	.425	.416	.417
.271	4.513	3.381	.855	4.637	3.474	.272	1272	.943	1348	.408	.401	.425	.402	.408	.422	.426	.417	.418
.268	4.503	3.373	.852	4.636	3.473	.269	1272	.943	1348	.408	.401	.426	.407	.409	.422	.427	.417	.418
.265	4.493	3.365	.849	4.634	3.473	.266	1272	.944	1348	.409	.401	.427	.407	.409	.423	.428	.418	.420
.260	4.478	3.357	.844	4.629	3.470	.261	1272	.944	1348	.409	.402	.428	.407	.409	.424	.429	.418	.420
.258	4.465	3.349	.842	4.629	3.472	.259	1272	.944	1348	.410	.402	.429	.406	.410	.424	.430	.419	.421
.257	4.451	3.339	.841	4.627	3.471	.258	1272	.944	1348	.411	.402	.429	.406	.410	.425	.430	.420	.421

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/PI OF52 SHUTTLE SURVEY TEST
PAGE = 6

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
12	139	7.92	150.1	1348	30.09	-8.09	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN) *	Y (IN)	X/L	L	TAP
99.5	.0164	1.333	.721	3873	4.452E-04	8.012E-08	6.722E 05	18.11	0	.80	22.633	B

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.253	4.439	3.329	.837	4.625	3.469	.254	1272	.944	1348	.411	.402	.430	.409	.410	.425	.432	.420	.422
.251	4.425	3.322	.835	4.624	3.471	.252	1273	.944	1348	.412	.403	.431	.402	.411	.426	.432	.421	.423
.248	4.413	3.314	.832	4.622	3.472	.249	1272	.944	1348	.413	.403	.432	.411	.411	.426	.433	.422	.424
.244	4.398	3.303	.828	4.620	3.470	.245	1273	.944	1348	.413	.403	.432	.410	.412	.428	.434	.422	.424
.244	4.396	3.296	.828	4.622	3.471	.245	1273	.944	1348	.414	.404	.433	.410	.412	.428	.434	.422	.425
.242	4.377	3.287	.826	4.620	3.472	.243	1273	.944	1348	.414	.404	.433	.410	.413	.428	.436	.423	.425
.241	4.369	3.284	.825	4.617	3.470	.242	1272	.944	1348	.415	.405	.434	.410	.413	.429	.436	.424	.426
.239	4.361	3.280	.824	4.615	3.471	.240	1273	.944	1348	.415	.405	.435	.411	.413	.430	.437	.425	.427
.235	4.351	3.273	.819	4.611	3.468	.236	1273	.944	1348	.416	.405	.436	.411	.414	.430	.438	.425	.428
.234	4.341	3.267	.818	4.610	3.470	.235	1273	.944	1348	.416	.405	.437	.411	.414	.431	.439	.426	.428
.231	4.329	3.258	.815	4.607	3.467	.232	1273	.944	1348	.417	.406	.437	.412	.414	.432	.440	.426	.429
.229	4.318	3.250	.813	4.607	3.467	.230	1273	.944	1348	.418	.406	.438	.412	.415	.432	.441	.426	.430
.227	4.307	3.241	.811	4.610	3.470	.228	1273	.945	1349	.418	.406	.438	.410	.415	.433	.441	.428	.430
.222	4.297	3.234	.806	4.611	3.470	.223	1274	.945	1348	.418	.407	.439	.410	.415	.433	.442	.428	.431
.221	4.287	3.226	.805	4.616	3.472	.222	1274	.945	1348	.420	.407	.440	.413	.416	.434	.443	.429	.432
.217	4.276	3.217	.801	4.615	3.466	.218	1274	.945	1348	.420	.407	.441	.411	.417	.434	.444	.429	.432
.214	4.263	3.207	.798	4.619	3.467	.215	1274	.945	1348	.421	.408	.442	.411	.417	.435	.445	.430	.433
.213	4.250	3.198	.797	4.623	3.470	.214	1274	.945	1348	.421	.408	.442	.412	.417	.436	.445	.430	.434
.209	4.236	3.187	.793	4.622	3.467	.210	1275	.946	1348	.421	.408	.444	.412	.418	.437	.446	.431	.434
.205	4.214	3.159	.789	4.628	3.469	.206	1275	.946	1348	.422	.409	.444	.415	.418	.437	.447	.432	.435
.202	4.199	3.158	.786	4.629	3.467	.2	1275	.946	1348	.423	.409	.445	.415	.418	.437	.448	.432	.436
.199	4.185	3.148	.783	4.630	3.466	.200	1275	.946	1348	.423	.409	.446	.415	.419	.438	.449	.433	.437
.194	4.136	3.097	.778	4.630	3.464	.195	1275	.946	1348	.424	.410	.446	.411	.419	.438	.449	.433	.437
.193	4.114	3.081	.777	4.634	3.469	.194	1276	.946	1349	.424	.410	.447	.411	.420	.439	.450	.434	.438
.192	4.095	3.064	.776	4.636	3.468	.193	1275	.946	1348	.425	.411	.448	.417	.420	.440	.451	.434	.438
.189	4.081	3.051	.773	4.639	3.468	.190	1275	.946	1348	.425	.411	.449	.417	.420	.440	.452	.436	.439
.187	4.065	3.037	.771	4.640	3.467	.188	1276	.946	1348	.426	.411	.449	.410	.421	.441	.453	.436	.440
.184	4.047	3.023	.768	4.640	3.467	.185	1276	.947	1349	.426	.411	.450	.413	.421	.442	.453	.436	.440
.181	4.029	3.010	.765	4.639	3.466	.182	1275	.946	1348	.427	.411	.451	.415	.422	.442	.454	.437	.441
.179	4.008	2.995	.763	4.646	3.471	.180	1276	.947	1348	.428	.412	.452	.416	.422	.443	.455	.437	.442
.174	3.994	2.976	.758	4.644	3.468	.175	1276	.947	1348	.428	.412	.453	.416	.422	.444	.456	.438	.442
.172	3.978	2.965	.756	4.644	3.468	.173	1276	.947	1348	.429	.413	.453	.414	.423	.444	.456	.438	.443
.169	3.963	2.954	.753	4.649	3.471	.170	1276	.947	1348	.429	.413	.454	.420	.424	.445	.457	.439	.444
.165	3.940	2.937	.749	4.649	3.469	.166	1276	.947	1348	.430	.413	.454	.420	.424	.445	.458	.440	.444
.163	3.927	2.928	.747	4.649	3.469	.164	1276	.946	1348	.430	.413	.455	.420	.424	.446	.449	.441	.445
.159	3.864	2.883	.743	4.652	3.471	.160	1276	.946	1348	.431	.414	.456	.420	.425	.446	.450	.440	.446
.156	3.836	2.862	.740	4.653	3.472	.157	1276	.947	1348	.432	.414	.457	.421	.425	.447	.451	.441	.446
.154	3.815	2.849	.738	4.658	3.473	.155	1276	.947	1348	.432	.414	.457	.421	.425	.448	.461	.442	.447
.151	3.779	2.820	.735	4.654	3.472	.152	1276	.947	1348	.433	.415	.458	.422	.426	.448	.453	.442	.448
.149	3.754	2.799	.733	4.658	3.473	.150	1276	.947	1348	.433	.415	.459	.422	.426	.449	.463	.443	.448
.144	3.725	2.779	.730	4.659	3.476	.147	1276	.947	1344	.433	.416	.460	.420	.426	.449	.454	.444	.449
.142	3.698	2.757	.726	4.660	3.474	.143	1276	.946	1348	.434	.416	.460	.422	.427	.450	.455	.444	.449

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OM52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
12	139	7.92	151.0	1349	30.09	-8.09	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0165	1.341	.725	3873	4.478E-04	8.012E-08	6.722E 05	18.11	0	.80	22.633	8

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.140	3.671	2.737	.724	4.462	3.476	.141	1276	.946	1348	.434	.416	.461	.421	.428	.450	.456	.445	.450
.137	3.636	2.714	.721	4.463	3.477	.138	1275	.946	1348	.435	.417	.462	.423	.428	.451	.465	.445	.450
.135	3.618	2.692	.719	4.465	3.478	.136	1275	.946	1348	.436	.417	.463	.423	.428	.452	.466	.446	.452
.134	3.579	2.667	.718	4.466	3.477	.135	1276	.946	1348	.436	.417	.463	.424	.429	.452	.467	.446	.452
.130	3.549	2.646	.714	4.469	3.481	.131	1275	.946	1348	.437	.417	.464	.424	.429	.453	.468	.446	.453
.128	3.512	2.619	.712	4.465	3.479	.129	1275	.946	1348	.437	.418	.464	.424	.429	.453	.468	.448	.453
.125	3.475	2.593	.709	4.468	3.479	.126	1274	.945	1348	.438	.418	.465	.425	.430	.454	.469	.449	.454
.121	3.438	2.564	.705	4.469	3.481	.122	1273	.945	1348	.438	.419	.466	.425	.430	.454	.470	.448	.454
.120	3.402	2.535	.704	4.471	3.481	.121	1273	.945	1348	.439	.419	.467	.425	.431	.455	.471	.449	.455
.117	3.358	2.504	.701	4.472	3.483	.118	1272	.943	1348	.439	.419	.468	.426	.431	.456	.471	.450	.456
.114	3.310	2.468	.698	4.471	3.483	.115	1271	.943	1348	.440	.420	.468	.426	.432	.457	.472	.450	.456
.111	3.259	2.430	.695	4.475	3.486	.112	1269	.942	1348	.440	.420	.469	.424	.432	.457	.473	.450	.457
.110	3.205	2.388	.694	4.474	3.483	.111	1268	.941	1348	.441	.420	.469	.427	.433	.458	.473	.452	.457
.107	3.153	2.351	.691	4.474	3.485	.108	1265	.939	1348	.441	.421	.470	.425	.433	.459	.474	.452	.459
.104	3.094	2.308	.688	4.476	3.489	.105	1263	.937	1348	.442	.421	.471	.421	.433	.459	.475	.452	.459
.103	3.037	2.264	.687	4.478	3.488	.104	1259	.934	1348	.442	.421	.471	.426	.434	.460	.476	.453	.460
.100	2.978	2.215	.684	4.480	3.489	.101	1256	.932	1348	.443	.421	.472	.428	.434	.460	.476	.453	.460
.099	2.919	2.169	.683	4.480	3.490	.100	1253	.929	1348	.444	.421	.473	.429	.434	.461	.477	.454	.461
.097	2.851	2.120	.681	4.480	3.489	.098	1249	.927	1348	.444	.421	.473	.429	.435	.461	.477	.455	.461
.097	2.795	2.087	.681	4.482	3.491	.098	1247	.925	1348	.445	.422	.474	.429	.436	.462	.478	.455	.462
.096	2.751	2.051	.678	4.480	3.490	.095	1244	.923	1348	.445	.423	.475	.430	.436	.463	.479	.456	.463
.095	2.705	2.017	.679	4.482	3.491	.096	1241	.920	1348	.445	.423	.476	.430	.436	.463	.480	.456	.463
.093	2.662	1.985	.677	4.483	3.492	.094	1238	.918	1348	.446	.424	.476	.430	.437	.464	.480	.457	.464
.092	2.622	1.955	.676	4.481	3.490	.093	1235	.916	1348	.446	.424	.477	.429	.437	.464	.481	.457	.464
.092	2.584	1.928	.676	4.484	3.492	.093	1232	.914	1348	.447	.424	.477	.429	.438	.465	.482	.458	.465
.090	2.552	1.903	.673	4.480	3.489	.090	1230	.912	1348	.448	.424	.479	.429	.438	.465	.483	.459	.465
.090	2.518	1.879	.674	4.482	3.494	.091	1228	.911	1348	.448	.425	.479	.430	.438	.466	.484	.459	.466
.089	2.489	1.857	.673	4.482	3.493	.090	1225	.909	1348	.448	.425	.479	.430	.439	.467	.484	.460	.467
.0	2.457	1.833	.671	4.486	3.497	.088	1222	.906	1348	.449	.426	.480	.433	.440	.468	.485	.460	.467
.088	2.428	1.812	.672	4.486	3.496	.089	1220	.905	1348	.449	.426	.481	.433	.440	.468	.485	.461	.468
.085	2.399	1.790	.669	4.484	3.495	.086	1216	.902	1348	.450	.426	.481	.433	.440	.469	.486	.461	.468
.085	2.368	1.765	.669	4.484	3.493	.086	1213	.900	1348	.450	.426	.483	.434	.441	.469	.487	.462	.469
.084	2.338	1.743	.668	4.488	3.495	.085	1210	.898	1348	.451	.426	.483	.434	.441	.470	.487	.463	.469
.083	2.307	1.721	.667	4.485	3.495	.084	1207	.895	1348	.452	.427	.484	.434	.442	.471	.488	.463	.470
.082	2.278	1.700	.666	4.484	3.495	.083	1203	.893	1348	.452	.427	.484	.435	.442	.471	.489	.463	.471
.081	2.248	1.677	.665	4.488	3.498	.082	1200	.890	1348	.453	.428	.485	.435	.442	.472	.489	.464	.471
.080	2.219	1.654	.664	4.483	3.492	.081	1197	.888	1348	.453	.428	.485	.436	.443	.472	.490	.464	.472
.079	2.191	1.635	.663	4.488	3.498	.080	1194	.886	1348	.453	.428	.486	.431	.444	.473	.491	.465	.472
.078	2.165	1.614	.662	4.490	3.497	.079	1191	.884	1348	.454	.428	.487	.436	.444	.473	.492	.465	.473
.076	2.135	1.592	.660	4.489	3.496	.077	1187	.880	1348	.454	.429	.487	.434	.444	.474	.492	.465	.473
.075	2.104	1.570	.659	4.487	3.495	.076	1183	.878	1348	.455	.429	.488	.430	.445	.475	.493	.466	.474
.075	2.079	1.551	.659	4.487	3.497	.076	1180	.875	1348	.455	.429	.488	.433	.445	.475	.494	.467	.475

DATE 5-6-[illegible]
PROJECT NUMBER VA524-2[illegible]A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
PAGE = 4

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
12	139	7.92	150.9	1348	30.09	-8.09	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	IAP
99.5	.0165	1.340	.725	3873	4.475E-04	8.012F-08	6.722E 05	18.11	0	.80	22.633	8

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	Tw2/To (DEG R)	Tw3/TO (DEG R)	Tw4/TO (DEG R)	Tw5/TO (DEG R)	Tw6/TO (DEG R)	Tw7/TO (DEG R)	Tw8/TO (DEG R)	Tw9/TO (DEG R)	Tw10/TO (DEG R)
.073	2.050	1.530	.657	4.446	3.496	.074	1177	.873	1348	.456	.429	.489	.438	.445	.476	.494	.468	.475
.074	2.023	1.511	.658	4.500	3.500	.075	1173	.870	1348	.456	.430	.489	.438	.446	.476	.495	.468	.476
.072	1.996	1.494	.656	4.489	3.499	.073	1170	.868	1348	.457	.431	.491	.438	.446	.477	.495	.468	.476
.072	1.965	1.469	.656	4.488	3.498	.073	1165	.864	1348	.457	.431	.491	.439	.447	.477	.496	.469	.477
.071	1.942	1.449	.655	4.491	3.500	.072	1161	.861	1348	.458	.431	.492	.439	.448	.478	.496	.469	.477
.068	1.913	1.428	.652	4.490	3.500	.069	1157	.858	1348	.459	.431	.492	.440	.448	.479	.498	.470	.476
.069	1.895	1.415	.653	4.498	3.498	.070	1153	.855	1348	.459	.432	.493	.440	.448	.479	.498	.471	.479
.068	1.859	1.387	.652	4.492	3.501	.069	1149	.852	1348	.459	.432	.494	.438	.449	.480	.499	.471	.479
.067	1.829	1.365	.651	4.492	3.501	.068	1144	.849	1348	.460	.432	.494	.441	.449	.480	.499	.472	.480
.067	1.803	1.345	.651	4.491	3.500	.068	1141	.846	1348	.460	.433	.495	.441	.450	.481	.500	.472	.480
.065	1.775	1.325	.649	4.490	3.502	.066	1136	.842	1348	.461	.433	.495	.441	.450	.481	.500	.472	.481
.065	1.749	1.305	.649	4.491	3.503	.066	1133	.840	1348	.461	.433	.496	.439	.450	.482	.501	.473	.481
.064	1.727	1.289	.648	4.495	3.503	.065	1132	.839	1348	.461	.434	.497	.440	.451	.483	.502	.474	.482
.063	1.703	1.270	.647	4.490	3.500	.064	1127	.836	1348	.462	.434	.498	.438	.452	.483	.503	.474	.483
.060	1.682	1.256	.644	4.495	3.503	.061	1123	.833	1348	.463	.434	.498	.447	.452	.484	.503	.475	.483
.062	1.660	1.240	.646	4.492	3.503	.063	1121	.832	1348	.463	.435	.499	.443	.452	.484	.504	.475	.484
.062	1.642	1.225	.646	4.494	3.502	.063	1117	.829	1348	.464	.434	.499	.444	.453	.485	.504	.476	.484
.061	1.620	1.209	.645	4.494	3.503	.062	1114	.827	1348	.464	.435	.500	.444	.453	.485	.506	.476	.485
.059	1.601	1.194	.643	4.493	3.501	.060	1110	.824	1348	.464	.436	.500	.444	.454	.487	.506	.476	.485
.060	1.579	1.179	.644	4.492	3.501	.061	1107	.821	1348	.465	.436	.501	.438	.454	.487	.507	.477	.486
.058	1.559	1.163	.642	4.494	3.503	.059	1103	.818	1348	.465	.436	.502	.438	.454	.487	.507	.478	.486
.058	1.539	1.148	.642	4.492	3.503	.059	1099	.815	1348	.466	.436	.502	.445	.455	.488	.508	.477	.487
.057	1.518	1.132	.641	4.494	3.502	.058	1094	.812	1348	.467	.437	.503	.448	.456	.489	.508	.479	.487
.055	1.496	1.116	.639	4.495	3.503	.056	1089	.808	1348	.467	.437	.503	.448	.456	.489	.509	.479	.488
.056	1.471	1.094	.640	4.495	3.505	.057	1084	.804	1348	.467	.437	.504	.444	.457	.490	.510	.480	.488
.054	1.449	1.081	.638	4.494	3.505	.055	1079	.801	1348	.468	.437	.505	.447	.457	.491	.511	.480	.489
.053	1.427	1.062	.637	4.495	3.505	.054	1073	.796	1348	.468	.438	.506	.447	.457	.491	.511	.481	.489
.053	1.395	1.042	.637	4.495	3.505	.054	1065	.790	1348	.469	.438	.507	.448	.458	.491	.512	.481	.490
.050	1.369	1.022	.634	4.700	3.509	.051	1059	.786	1348	.469	.438	.507	.448	.459	.492	.512	.482	.491
.051	1.341	1.001	.635	4.697	3.507	.052	1052	.781	1348	.469	.439	.508	.448	.459	.493	.513	.483	.491
.051	1.312	.979	.635	4.697	3.507	.052	1047	.777	1348	.470	.439	.508	.449	.459	.493	.514	.483	.492
.049	1.286	.960	.633	4.698	3.507	.050	1041	.772	1348	.471	.440	.509	.447	.460	.494	.515	.484	.492
.049	1.260	.941	.633	4.699	3.509	.050	1036	.769	1348	.471	.440	.510	.447	.460	.494	.515	.484	.493
.046	1.233	.921	.630	4.701	3.510	.047	1029	.763	1348	.471	.440	.510	.448	.461	.495	.516	.484	.493
.046	1.206	.899	.630	4.698	3.507	.047	1021	.758	1348	.472	.440	.511	.448	.461	.495	.516	.484	.494
.045	1.177	.879	.629	4.697	3.507	.046	1013	.752	1348	.472	.441	.511	.448	.461	.496	.517	.485	.494
.044	1.150	.858	.628	4.701	3.510	.045	1005	.745	1348	.473	.442	.512	.452	.462	.496	.518	.485	.495
.043	1.123	.838	.627	4.701	3.510	.044	998	.741	1348	.473	.442	.513	.452	.463	.497	.518	.486	.495
.041	1.095	.818	.625	4.702	3.511	.042	990	.735	1348	.473	.442	.514	.452	.463	.498	.519	.487	.496
.041	1.068	.798	.625	4.700	3.509	.042	985	.731	1348	.474	.442	.514	.452	.464	.498	.519	.487	.496
.039	1.043	.779	.623	4.701	3.510	.040	978	.725	1348	.475	.442	.515	.448	.464	.499	.520	.487	.497
.039	1.019	.761	.622	4.701	3.510	.039	969	.719	1348	.475	.443	.515	.448	.464	.499	.520	.488	.498

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
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RUN	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
12	139	7.92	150.8	1348	30.12	-8.12	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	* Y (IN)	X/L	L	TAP
99.5	.0185	1.339	.724	3873	4.472E-04	8.012E-09	6.722E 05	18.11	0	.80	22.633	8

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.036	.995	.743	.620	4.703	3.511	.037	961	.713	1348	.476	.444	.516	.453	.465	.500	.522	.488	.498
.035	.979	.731	.620	4.701	3.510	.037	953	.707	1348	.476	.444	.516	.447	.465	.500	.522	.489	.499
.035	.965	.720	.620	4.701	3.512	.037	943	.700	1348	.476	.444	.517	.449	.466	.501	.523	.489	.499
.035	.922	.689	.619	4.702	3.513	.036	936	.694	1348	.477	.444	.518	.448	.467	.502	.523	.490	.499
.033	.901	.673	.617	4.703	3.514	.034	929	.689	1348	.477	.444	.518	.448	.467	.502	.524	.491	.500
.034	.880	.658	.616	4.703	3.514	.035	923	.684	1348	.478	.445	.518	.457	.467	.503	.524	.491	.500
.033	.856	.642	.617	4.704	3.512	.034	917	.677	1348	.479	.445	.519	.456	.468	.503	.525	.492	.501
.032	.838	.625	.616	4.701	3.510	.033	906	.672	1348	.479	.446	.520	.456	.468	.503	.526	.492	.502
.031	.819	.612	.615	4.705	3.515	.032	900	.667	1348	.479	.446	.520	.457	.469	.504	.526	.493	.502
.029	.801	.598	.613	4.705	3.515	.030	892	.662	1348	.480	.446	.521	.457	.469	.504	.527	.492	.503
.031	.784	.585	.615	4.704	3.512	.032	887	.658	1348	.480	.446	.522	.457	.469	.505	.527	.493	.503
.028	.765	.572	.612	4.704	3.514	.029	878	.652	1348	.481	.446	.522	.457	.470	.506	.528	.494	.504
.028	.748	.559	.612	4.705	3.513	.029	868	.644	1348	.481	.447	.523	.459	.471	.506	.528	.494	.504
.025	.733	.547	.609	4.709	3.518	.026	855	.635	1348	.481	.447	.523	.459	.471	.507	.529	.494	.505
.024	.714	.533	.608	4.707	3.517	.025	845	.627	1348	.482	.448	.524	.459	.472	.507	.530	.495	.506
.024	.697	.521	.606	4.707	3.517	.025	837	.621	1348	.483	.448	.524	.457	.472	.508	.530	.495	.506
.022	.684	.511	.606	4.709	3.521	.023	829	.615	1348	.483	.449	.525	.457	.472	.508	.531	.496	.506
.022	.669	.500	.606	4.709	3.518	.023	822	.610	1348	.484	.449	.526	.460	.473	.509	.531	.496	.507
.021	.656	.490	.605	4.710	3.519	.022	814	.604	1348	.484	.449	.526	.461	.473	.510	.532	.498	.507
.019	.640	.479	.603	4.708	3.520	.020	805	.597	1348	.484	.449	.527	.461	.474	.510	.533	.498	.508
.019	.628	.469	.603	4.709	3.520	.020	793	.588	1348	.485	.450	.527	.461	.475	.511	.533	.498	.508
.017	.615	.459	.601	4.709	3.518	.018	782	.580	1348	.485	.450	.528	.462	.475	.511	.534	.499	.509
.016	.603	.450	.600	4.708	3.518	.017	767	.569	1348	.486	.451	.528	.462	.475	.512	.534	.499	.510
.016	.591	.442	.600	4.711	3.520	.017	747	.554	134	.486	.451	.529	.463	.476	.512	.535	.499	.510
.012	.581	.434	.596	4.712	3.520	.013	733	.543	1348	.487	.452	.530	.461	.476	.513	.535	.500	.511
.012	.573	.428	.596	4.715	3.523	.013	726	.539	1348	.487	.452	.530	.456	.477	.514	.537	.500	.511
.010	.565	.422	.594	4.712	3.520	.011	720	.534	1348	.488	.452	.531	.464	.477	.514	.537	.501	.512
.010	.556	.415	.594	4.710	3.522	.011	715	.530	1348	.488	.453	.531	.457	.477	.515	.538	.502	.512
.009	.548	.410	.593	4.713	3.521	.010	713	.529	1348	.488	.453	.532	.457	.478	.515	.538	.502	.512
.008	.543	.406	.592	4.715	3.525	.009	706	.524	1348	.489	.453	.533	.465	.479	.515	.538	.502	.513
.007	.529	.395	.591	4.710	3.519	.008	706	.524	1348	.490	.454	.534	.466	.480	.518	.540	.504	.515

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ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	P0(PSIA)	T0(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
13	139	7.92	151.4	1349	30.04	-8.04	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.6	.0166	1.345	.727	3874	4.487E-04	8.018E-08	6.670E 05	20.37	0	.90	22.633	9

Z01 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	Tw2/TO (DEG R)	Tw3/TO (DEG R)	Tw4/TO (DEG R)	Tw5/TO (DEG R)	Tw6/TO (DEG R)	Tw7/TO (DEG R)	Tw8/TO (DEG R)	Tw9/TO (DEG R)	Tw10/TO (DEG R)
.681	4.481	3.260	1.265	4.454	3.314	.682	1269	.941	1349	.388	.391	.394	.390	.389	.394	.395	.391	.385
.671	4.412	3.281	1.255	4.459	3.316	.672	1268	.940	1349	.389	.391	.395	.384	.389	.395	.395	.392	.386
.666	4.425	3.280	1.230	4.461	3.317	.667	1269	.941	1349	.390	.391	.396	.391	.390	.396	.396	.393	.387
.613	4.428	3.243	1.197	4.469	3.323	.614	1269	.940	1349	.391	.391	.397	.392	.391	.397	.397	.393	.388
.583	4.424	3.292	1.167	4.479	3.333	.584	1268	.940	1349	.391	.392	.397	.392	.391	.397	.398	.395	.388
.556	4.412	3.283	1.136	4.485	3.337	.553	1269	.940	1349	.392	.392	.398	.392	.391	.399	.399	.395	.389
.519	4.393	3.269	1.103	4.498	3.347	.520	1268	.940	1349	.392	.392	.399	.393	.392	.399	.400	.396	.389
.490	4.371	3.251	1.074	4.507	3.352	.491	1267	.940	1349	.393	.392	.401	.393	.392	.400	.401	.397	.391
.459	4.342	3.229	1.043	4.515	3.358	.460	1268	.940	1349	.394	.393	.402	.393	.393	.401	.402	.397	.391
.428	4.312	3.209	1.012	4.522	3.365	.429	1268	.940	1349	.395	.393	.403	.394	.393	.401	.403	.399	.392
.419	4.295	3.196	1.003	4.523	3.363	.420	1268	.940	1349	.395	.393	.404	.392	.394	.403	.404	.400	.392
.409	.274	3.181	.993	4.526	3.368	.410	1268	.940	1349	.396	.394	.404	.395	.395	.403	.404	.400	.393
.399	4.258	3.169	.983	4.526	3.368	.400	1268	.940	1349	.396	.394	.405	.396	.395	.404	.405	.400	.394
.390	4.245	3.159	.974	4.526	3.368	.391	1268	.940	1349	.397	.395	.406	.396	.395	.405	.406	.401	.395
.379	4.231	3.148	.963	4.522	3.365	.380	1268	.940	1349	.397	.395	.407	.396	.396	.405	.407	.402	.395
.371	4.216	3.138	.955	4.523	3.368	.372	1268	.940	1349	.399	.395	.408	.396	.396	.407	.408	.403	.396
.363	4.204	3.130	.947	4.526	3.370	.364	1269	.940	1349	.399	.395	.409	.397	.397	.407	.409	.404	.397
.353	4.187	3.117	.937	4.524	3.368	.354	1268	.940	1349	.400	.395	.409	.398	.397	.408	.409	.404	.398
.343	4.172	3.106	.927	4.521	3.367	.344	1269	.941	1349	.400	.396	.410	.398	.397	.408	.411	.404	.399
.332	4.156	3.094	.916	4.515	3.362	.333	1269	.940	1349	.401	.396	.411	.398	.398	.409	.411	.405	.399
.323	4.138	3.079	.907	4.513	3.360	.324	1269	.940	1349	.402	.397	.412	.399	.399	.410	.412	.405	.400
.314	4.128	3.069	.898	4.508	3.357	.315	1269	.941	1349	.402	.397	.412	.399	.399	.411	.413	.407	.401
.303	4.098	3.038	.887	4.503	3.353	.304	1269	.941	1349	.403	.398	.413	.399	.399	.411	.413	.407	.401
.294	4.082	3.019	.878	4.503	3.355	.295	1269	.941	1349	.404	.399	.414	.399	.400	.412	.415	.408	.402
.284	4.017	2.993	.868	4.495	3.349	.285	1270	.941	1349	.404	.399	.415	.399	.400	.412	.416	.408	.403
.272	3.979	2.965	.856	4.488	3.344	.273	1270	.941	1349	.405	.400	.416	.400	.401	.413	.416	.409	.404
.263	3.939	2.935	.847	4.481	3.339	.264	1270	.941	1349	.405	.400	.416	.401	.401	.413	.417	.409	.404
.253	3.892	2.900	.837	4.475	3.335	.254	1271	.942	1349	.406	.400	.417	.401	.401	.414	.418	.410	.405
.242	3.841	2.862	.826	4.468	3.329	.243	1271	.942	1349	.407	.400	.417	.402	.402	.415	.419	.411	.406
.233	3.779	2.816	.817	4.458	3.321	.234	1271	.942	1349	.407	.401	.418	.402	.403	.415	.420	.411	.407
.224	3.719	2.773	.808	4.457	3.323	.225	1271	.942	1349	.408	.401	.419	.402	.403	.416	.420	.412	.407
.220	3.687	2.752	.804	4.453	3.318	.221	1272	.943	1349	.408	.401	.420	.403	.403	.416	.421	.412	.408
.218	3.638	2.716	.802	4.451	3.318	.219	1271	.942	1349	.409	.401	.421	.401	.404	.417	.422	.413	.409
.216	3.606	2.688	.800	4.452	3.319	.217	1271	.943	1349	.409	.401	.421	.401	.404	.418	.423	.414	.409
.215	3.584	2.672	.799	4.450	3.318	.216	1272	.943	1349	.409	.402	.423	.401	.404	.419	.424	.414	.410
.212	3.569	2.661	.796	4.450	3.318	.213	1272	.943	1348	.410	.402	.424	.402	.405	.420	.425	.415	.411

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ARNOLD AIR FORCE STATION, TENNESSEE
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREREND	ROLL-MODEL	YAW
13	139	7.92	151.0	1348	30.04	-8.04	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0165	1.341	.725	3873	4.478E-04	8.012E-08	6.670E 05	20.37	0	.90	22.633	9

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.212	[illegible]	2.660	.796	4.447	3.315	.213	1272	.943	1348	.411	.403	.425	.402	.405	.420	.426	.416	.412
.209	3.543	2.644	.793	4.449	3.319	.210	1272	.944	1348	.411	.403	.425	.402	.406	.421	.427	.417	.413
.207	3.530	2.632	.791	4.446	3.315	.209	1272	.943	1349	.412	.403	.426	.403	.406	.421	.427	.417	.413
.206	3.522	2.626	.790	4.447	3.315	.207	1272	.943	1349	.412	.404	.427	.405	.407	.421	.428	.417	.414
.204	3.518	2.619	.788	4.444	3.315	.205	1272	.943	1349	.413	.404	.427	.401	.407	.421	.429	.418	.415
.203	3.502	2.613	.787	4.446	3.317	.204	1271	.943	1348	.414	.404	.428	.406	.407	.423	.430	.419	.416
.202	3.491	2.606	.786	4.444	3.315	.203	1272	.943	1349	.414	.404	.429	.411	.408	.423	.431	.419	.416
.[illegible]	3.482	2.599	.782	4.444	3.315	.199	1272	.943	1349	.415	.405	.430	.402	.408	.424	.431	.420	.417
.19[illegible]	3.471	2.589	.781	4.440	3.312	.198	1272	.943	1349	.415	.405	.431	.407	.408	.424	.432	.421	.417
.196	3.462	2.585	.780	4.439	3.314	.197	1272	.943	1349	.416	.405	.431	.407	.409	.425	.433	.421	.418
.193	3.455	2.579	.777	4.442	3.316	.194	1272	.943	1349	.416	.405	.432	.409	.409	.425	.434	.421	.419
.192	3.446	2.571	.776	4.439	3.312	.193	1272	.943	1349	.417	.406	.432	.401	.409	.426	.435	.423	.420
.193	3.444	2.566	.777	4.442	3.314	.194	1272	.943	1349	.417	.407	.433	.408	.410	.427	.435	.423	.420
.190	3.431	2.561	.774	4.437	3.313	.191	1272	.943	1349	.418	.407	.434	.413	.410	.427	.436	.424	.421
.190	3.425	2.557	.774	4.438	3.313	.191	1272	.943	1349	.418	.407	.435	.411	.411	.428	.438	.424	.422
.188	3.419	2.552	.772	4.437	3.312	.189	1272	.943	1349	.419	.408	.435	.409	.411	.428	.438	.425	.423
.187	3.415	2.550	.771	4.436	3.312	.188	1272	.943	1349	.419	.408	.436	.403	.411	.429	.439	.425	.423
.185	3.407	2.544	.769	4.435	3.311	.186	1272	.943	1349	.420	.408	.437	.410	.412	.430	.440	.426	.424
.183	3.400	2.540	.767	4.435	3.313	.184	1272	.943	1349	.420	.408	.438	.410	.412	.430	.440	.427	.425
.182	3.395	2.536	.766	4.435	3.313	.18[illegible]	1272	.943	1349	.421	.409	.438	.411	.413	.431	.441	.427	.425
.180	3.387	2.530	.764	4.435	3.313	.181	1272	.943	1349	.421	.409	.439	.411	.413	.431	.442	.428	.426
.179	3.381	2.526	.763	4.433	3.312	.180	1272	.943	1349	.422	.409	.440	.411	.413	.432	.443	.428	.427
.17[illegible]	3.373	2.521	.761	4.432	3.313	.178	1272	.943	1349	.423	.409	.440	.411	.414	.433	.444	.428	.427
.175	3.365	2.514	.759	4.432	3.311	.176	1272	.943	1349	.423	.409	.442	.412	.414	.433	.446	.430	.428
.173	3.359	2.511	.757	4.435	3.315	.174	1272	.943	1349	.424	.409	.442	.410	.415	.434	.445	.430	.429
.171	3.349	2.503	.755	4.431	3.312	.172	1272	.943	1349	.424	.410	.443	.410	.415	.435	.446	.431	.430
.169	3.342	2.497	.752	4.432	3.313	.169	1271	.943	1349	.425	.410	.444	.413	.415	.435	.447	.431	.431
.167	3.332	2.489	.751	4.430	3.312	.168	1272	.943	1349	.425	.411	.444	.411	.416	.436	.448	.432	.431
.166	3.314	2.480	.748	4.427	3.311	.165	1272	.943	1349	.426	.411	.446	.411	.416	.436	.448	.432	.432
.162	3.306	2.473	.746	4.429	3.313	.163	1272	.943	1349	.426	.411	.446	.414	.416	.437	.449	.434	.432
.162	3.292	2.461	.746	4.428	3.312	.163	1272	.943	1349	.427	.411	.447	.412	.417	.438	.450	.434	.433
.158	3.280	2.452	.742	4.428	3.310	.159	1271	.943	1349	.427	.412	.448	.415	.417	.438	.451	.435	.434
.157	3.269	2.444	.741	4.429	3.310	.158	1271	.943	1349	.428	.412	.448	.415	.417	.439	.451	.435	.435
.155	3.255	2.435	.739	4.428	3.312	.156	1272	.943	1349	.428	.412	.449	.415	.418	.439	.452	.435	.435
.151	3.239	2.425	.735	4.426	3.313	.152	1271	.943	1349	.429	.412	.450	.416	.419	.440	.453	.436	.436
.150	3.224	2.414	.734	4.424	3.312	.151	1272	.943	1349	.430	.413	.450	.416	.419	.440	.454	.436	.436
.148	3.210	2.401	.732	4.426	3.311	.149	1271	.942	1349	.430	.413	.451	.416	.419	.441	.455	.438	.438
.145	3.193	2.388	.729	4.425	3.310	.146	1271	.942	1349	.431	.413	.452	.416	.420	.442	.455	.438	.438
.144	3.173	2.375	.728	4.425	3.312	.145	1270	.942	1349	.431	.413	.452	.415	.420	.443	.456	.439	.439
.141	3.158	2.358	.725	4.422	3.310	.142	1270	.942	1349	.432	.413	.453	.417	.421	.443	.456	.439	.439
.139	3.133	2.345	.723	4.422	3.310	.140	1271	.942	1349	.432	.413	.454	.417	.421	.444	.458	.439	.440
.137	3.113	2.330	.721	4.417	3.307	.138	1270	.942	1349	.432	.414	.455	.416	.421	.444	.458	.440	.440

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PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/91 OF52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
13	139	7.92	150.4	1349	30.05	-8.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
	.0164	1.336	.722	3874	4.457E-04	8.018E-08	6.670E 05	20.37	0	.90	22.633	9

ZP1 (IN)	P1 (PSIA)	PT1/P01	ZP2 (IN)	P2 (PSIA)	PT2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.134	3.090	2.313	.718	4.418	3.307	.135	1270	.942	1349	.433	.415	.455	.416	.422	.445	.459	.440	.441
.133	3.069	2.298	.717	4.418	3.307	.134	1270	.941	1349	.434	.415	.456	.419	.422	.446	.460	.441	.442
.131	3.050	2.283	.715	4.417	3.307	.132	1270	.941	1349	.434	.415	.456	.419	.423	.446	.460	.442	.442
.127	3.028	2.269	.711	4.416	3.308	.128	1269	.941	1349	.435	.415	.458	.419	.421	.447	.461	.442	.443
.126	3.004	2.250	.710	4.416	3.306	.127	1269	.941	1349	.435	.415	.458	.420	.424	.447	.462	.443	.444
.123	2.981	2.253	.707	4.416	3.308	.124	1268	.940	1349	.435	.416	.459	.420	.424	.448	.463	.443	.444
.119	2.954	2.213	.703	4.413	3.305	.120	1267	.940	1349	.436	.416	.459	.420	.424	.448	.463	.444	.445
.119	2.923	2.189	.703	4.412	3.305	.120	1267	.939	1349	.436	.416	.460	.420	.425	.449	.464	.444	.446
.115	2.893	2.167	.699	4.412	3.305	.116	1266	.939	1349	.437	.416	.461	.421	.425	.450	.465	.445	.446
.114	2.868	2.146	.698	4.412	3.305	.115	1266	.938	1349	.438	.417	.462	.421	.425	.450	.466	.446	.447
.111	2.846	2.127	.695	4.413	3.305	.112	1265	.938	1349	.438	.417	.463	.419	.426	.451	.466	.446	.448
.107	2.808	2.105	.691	4.409	3.305	.108	1264	.937	1349	.439	.417	.463	.420	.427	.451	.467	.447	.448
.107	2.774	2.089	.691	4.407	3.301	.108	1263	.936	1349	.439	.417	.464	.420	.427	.452	.467	.448	.449
.104	2.747	2.058	.688	4.411	3.304	.105	1262	.936	1349	.440	.418	.464	.420	.427	.452	.468	.448	.450
.102	2.714	2.036	.686	4.409	3.305	.103	1260	.934	1349	.440	.418	.465	.423	.428	.453	.469	.449	.450
.101	2.693	2.011	.685	4.406	3.302	.102	1258	.933	1349	.440	.419	.466	.424	.428	.454	.470	.449	.451
.097	2.668	1.985	.681	4.405	3.302	.098	1256	.931	1349	.441	.419	.467	.424	.429	.454	.470	.450	.451
.096	2.643	1.960	.680	4.406	3.305	.097	1254	.930	1349	.442	.419	.467	.424	.429	.455	.471	.450	.452
.094	2.624	1.931	.678	4.403	3.300	.095	1252	.928	1349	.442	.420	.468	.425	.430	.455	.472	.451	.452
.091	2.597	1.909	.675	4.407	3.303	.092	1249	.926	1349	.443	.420	.468	.425	.430	.456	.473	.451	.454
.090	2.581	1.876	.674	4.405	3.304	.091	1247	.924	1349	.443	.420	.470	.425	.431	.456	.473	.452	.454
.087	2.566	1.847	.671	4.404	3.301	.088	1243	.922	1349	.443	.420	.470	.425	.431	.457	.474	.452	.455
.085	2.619	1.813	.669	4.403	3.300	.086	1239	.918	1349	.444	.420	.471	.426	.431	.458	.475	.452	.455
.082	2.372	1.779	.666	4.402	3.302	.083	1234	.915	1348	.445	.422	.472	.426	.432	.459	.476	.453	.456
.080	2.324	1.745	.664	4.403	3.302	.081	1229	.911	1348	.445	.423	.472	.427	.433	.460	.476	.454	.457
.078	2.276	1.707	.663	4.399	3.299	.080	1222	.906	1349	.446	.423	.473	.420	.432	.460	.477	.455	.457
.075	2.224	1.668	.659	4.397	3.300	.076	1216	.902	1348	.446	.424	.473	.421	.433	.461	.478	.455	.458
.073	2.178	1.628	.657	4.395	3.297	.074	1207	.895	1349	.447	.424	.474	.428	.434	.461	.478	.456	.458
.071	2.112	1.585	.655	4.398	3.301	.072	1197	.888	1349	.447	.424	.474	.428	.434	.462	.479	.456	.459
.069	2.054	1.541	.652	4.394	3.298	.069	1188	.881	1349	.447	.425	.475	.428	.435	.462	.480	.457	.459
.066	1.995	1.497	.650	4.393	3.297	.067	1179	.874	1349	.448	.425	.476	.430	.435	.463	.480	.458	.460
.063	1.936	1.451	.647	4.392	3.296	.064	1165	.864	1349	.448	.426	.477	.430	.435	.463	.481	.458	.460
.060	1.872	1.405	.644	4.392	3.296	.061	1153	.854	1349	.449	.427	.477	.430	.436	.464	.482	.459	.462
.059	1.807	.356	.643	4.393	3.297	.060	1139	.845	1349	.450	.427	.478	.431	.436	.464	.482	.459	.462
.054	1.746	1.306	.638	4.388	3.294	.055	1123	.833	1349	.450	.428	.479	.431	.436	.465	.483	.459	.463
.053	1.672	1.255	.637	4.387	3.293	.054	1106	.820	1349	.450	.428	.479	.431	.437	.466	.483	.460	.463
.050	1.635	1.205	.634	4.386	3.294	.051	1089	.807	1349	.451	.430	.480	.429	.438	.466	.485	.460	.463
.047	1.537	1.154	.631	4.387	3.295	.048	1070	.793	1349	.451	.431	.481	.431	.438	.467	.485	.461	.464
.046	1.470	1.104	.630	4.386	3.294	.047	1051	.779	1349	.452	.432	.481	.430	.438	.467	.486	.462	.465
.042	1.403	1.052	.626	4.384	3.293	.043	1033	.766	1348	.453	.433	.483	.433	.439	.468	.487	.463	.465
.040	1.336	1.004	.624	4.378	3.290	.041	1014	.751	1349	.453	.434	.482	.432	.439	.468	.487	.463	.466
.039	1.271	.955	.623	4.379	3.289	.040	993	.736	1349	.454	.434	.483	.433	.440	.470	.488	.463	.466

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PROJECT NUMBER VAS24-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
13	139	7.92	149.8	1349	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	A/L	L	TAP
99.6	.0164	1.331	.719	3874	4.439E-04	8.018E-08	6.670E 05	20.37	0	.90	22.633	9

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/PP1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.035	1.210	.909	.619	4.342	3.293	.036	976	.723	1349	.456	.435	.484	.433	.440	.470	.488	.464	.467
.034	1.150	.864	.618	4.379	3.291	.035	957	.709	1349	.454	.436	.485	.430	.440	.471	.489	.464	.468
.031	1.092	.820	.615	4.379	3.289	.032	934	.692	1349	.455	.436	.485	.430	.441	.471	.490	.465	.468
.027	1.035	.778	.611	4.377	3.289	.028	913	.677	1349	.455	.438	.486	.434	.442	.472	.490	.465	.469
.026	.980	.737	.610	4.374	3.287	.027	892	.661	1349	.456	.439	.486	.435	.442	.473	.491	.466	.470
.023	.929	.698	.607	4.373	3.286	.024	872	.647	1348	.456	.440	.487	.431	.442	.473	.492	.467	.470
.021	.876	.661	.605	4.370	3.287	.022	854	.634	1348	.457	.440	.488	.429	.443	.474	.493	.467	.471
.019	.835	.629	.603	4.366	3.282	.020	837	.621	1348	.457	.441	.486	.436	.444	.475	.494	.468	.472
.017	.794	.597	.601	4.367	3.283	.018	822	.610	1348	.458	.442	.489	.437	.444	.475	.494	.468	.472
.016	.758	.570	.600	4.369	3.286	.017	810	.601	1348	.459	.442	.489	.430	.445	.476	.495	.469	.473
.014	.724	.545	.598	4.367	3.284	.015	795	.590	1348	.459	.443	.491	.437	.445	.476	.495	.469	.473
.011	.691	.519	.595	4.362	3.279	.012	782	.581	1349	.458	.444	.490	.438	.445	.477	.495	.469	.474
.011	.662	.498	.595	4.364	3.282	.012	770	.571	1349	.459	.444	.491	.438	.446	.477	.496	.470	.474
.008	.636	.478	.592	4.363	3.282	.009	754	.559	1349	.460	.445	.492	.438	.446	.478	.497	.471	.474
.007	.573	.431	.591	4.360	3.281	.008	744	.551	1349	.462	.447	.494	.439	.447	.480	.499	.473	.477

DATE 5-6-74
PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI 0H52 SHUTTLE SURVEY TEST
PAGE = 1

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
14	139	7.92	149.8	1350	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0164	1.331	.719	3875	4.436E-04	8.024E-08	6.622E 05	22.63		1.00	22.633	10

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.669	3.509	2.641	1.253	3.928	2.956	.670	1265	.937	1350	.381	.389	.397	.390	.390	.397	.398	.386	.385
.646	3.525	2.654	1.230	3.924	2.953	.647	1265	.937	1350	.382	.389	.397	.383	.391	.398	.398	.387	.386
.621	3.536	2.661	1.205	3.920	2.950	.622	1265	.937	1350	.382	.389	.398	.391	.391	.398	.399	.387	.387
.590	3.533	2.659	1.174	3.910	2.942	.591	1265	.937	1350	.383	.389	.399	.391	.392	.399	.401	.388	.387
.558	3.529	2.652	1.142	3.893	2.932	.559	1265	.937	1350	.384	.389	.402	.392	.392	.400	.401	.389	.388
.527	3.507	2.641	1.111	3.873	2.916	.528	1265	.937	1350	.385	.390	.402	.393	.393	.401	.402	.390	.389
.500	3.489	2.629	1.084	3.851	2.902	.501	1265	.937	1350	.385	.390	.403	.393	.393	.402	.403	.390	.389
.481	3.473	2.617	1.065	3.839	2.893	.482	1265	.937	1350	.386	.390	.404	.393	.394	.403	.404	.391	.390
.473	3.460	2.605	1.057	3.831	2.885	.474	1265	.937	1350	.387	.391	.405	.391	.394	.403	.405	.393	.391
.465	3.448	2.598	1.049	3.823	2.881	.466	1266	.937	1350	.387	.392	.406	.391	.395	.404	.406	.393	.391
.455	3.440	2.592	1.039	3.815	2.875	.456	1266	.938	1350	.388	.392	.406	.394	.395	.405	.406	.393	.393
.447	3.432	2.586	1.031	3.810	2.871	.448	1266	.938	1350	.389	.393	.407	.395	.395	.406	.407	.394	.393
.438	3.424	2.580	1.022	3.800	2.864	.439	1266	.938	1350	.389	.393	.408	.395	.396	.406	.408	.395	.394
.429	3.415	2.575	1.013	3.792	2.860	.430	1266	.938	1350	.390	.393	.409	.396	.397	.407	.409	.396	.395
.421	3.407	2.567	1.005	3.786	2.853	.422	1266	.938	1350	.390	.393	.410	.396	.397	.408	.410	.397	.395
.413	3.397	2.562	.997	3.777	2.848	.414	1266	.938	1350	.391	.393	.411	.397	.397	.409	.411	.397	.396
.403	3.387	2.554	.987	3.770	2.843	.404	1266	.938	1350	.392	.394	.411	.397	.398	.409	.411	.398	.397
.396	3.377	2.547	.980	3.761	2.836	.397	1267	.938	1350	.393	.394	.412	.397	.398	.410	.412	.399	.398
.386	3.366	2.540	.970	3.755	2.834	.387	1267	.938	1350	.393	.394	.413	.398	.399	.411	.413	.399	.398
.377	3.356	2.533	.961	3.751	2.831	.378	1267	.938	1350	.394	.394	.413	.398	.399	.411	.414	.400	.399
.369	3.346	2.525	.953	3.746	2.826	.370	1267	.939	1350	.394	.394	.414	.398	.399	.412	.415	.401	.399
.359	3.335	2.518	.943	3.740	2.824	.360	1267	.939	1350	.395	.394	.415	.399	.401	.413	.415	.402	.401
.353	3.325	2.509	.937	3.736	2.819	.354	1267	.939	1350	.395	.395	.415	.399	.401	.413	.417	.402	.401
.345	3.315	2.503	.929	3.731	2.817	.346	1267	.939	1350	.396	.395	.417	.399	.401	.414	.418	.403	.402
.335	3.304	2.495	.919	3.722	2.811	.336	1267	.938	1350	.397	.395	.417	.393	.402	.414	.418	.403	.403
.327	3.290	2.484	.911	3.713	2.804	.328	1267	.939	1350	.397	.395	.418	.395	.402	.415	.419	.404	.403
.318	3.275	2.473	.902	3.706	2.799	.319	1268	.939	1350	.398	.396	.419	.401	.402	.415	.420	.405	.404
.309	3.257	2.461	.893	3.696	2.793	.310	1268	.939	1350	.399	.397	.419	.401	.403	.416	.421	.405	.405
.301	3.248	2.448	.885	3.689	2.787	.302	1268	.939	1350	.399	.397	.420	.402	.403	.417	.421	.406	.406
.290	3.221	2.434	.874	3.681	2.781	.291	1269	.940	1350	.400	.398	.421	.402	.403	.418	.423	.407	.406
.282	3.200	2.418	.866	3.672	2.775	.283	1269	.940	1350	.401	.397	.422	.402	.404	.418	.423	.407	.407
.273	3.177	2.402	.857	3.664	2.770	.274	1269	.940	1350	.401	.397	.423	.402	.404	.419	.425	.408	.408
.263	3.152	2.383	.847	3.653	2.762	.264	1269	.940	1350	.402	.397	.423	.401	.405	.419	.425	.409	.409
.254	3.125	2.364	.838	3.646	2.759	.255	1269	.940	1350	.402	.398	.424	.401	.405	.419	.426	.409	.409
.250	3.098	2.343	.834	3.642	2.754	.251	1269	.940	1350	.403	.398	.425	.401	.405	.420	.426	.410	.410

DATE 5-6-74
PROJECT NUMBER VA524-21BA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OF52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	P0(PSIA)	T0(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
14	139	.92	148.8	1350	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0163	1.322	.714	3875	4.407E-04	8.024E-08	6.622E 05	22.63	0	1.00	22.633	10

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/T0	T0 (DEG R)	TW2/T0 (DEG R)	TW3/T0 (DEG R)	TW4/T0 (DEG R)	TW5/T0 (DEG R)	TW6/T0 (DEG R)	TW7/T0 (DEG R)	TW8/T0 (DEG R)	TW9/T0 (DEG R)	TW10/T0 (DEG R)
.248	3.078	2.329	.832	3.639	2.754	.249	1270	.940	1350	.404	.398	.426	.402	.406	.421	.427	.410	.411
.250	3.065	2.320	.834	3.639	2.756	.251	1270	.941	1350	.404	.399	.427	.402	.406	.421	.428	.411	.411
.249	3.056	2.314	.833	3.639	2.756	.250	1270	.941	1350	.405	.399	.427	.405	.407	.422	.429	.411	.412
.249	3.053	2.311	.833	3.640	2.756	.250	1269	.940	1350	.405	.399	.428	.405	.407	.422	.430	.412	.413
.249	3.048	2.308	.833	3.638	2.754	.250	1269	.940	1350	.406	.399	.429	.401	.407	.423	.430	.413	.414
.249	3.046	2.306	.833	3.639	2.755	.250	1270	.940	1350	.406	.400	.429	.405	.407	.423	.431	.413	.414
.248	3.044	2.304	.832	3.637	2.756	.249	1269	.940	1350	.407	.401	.430	.406	.408	.425	.432	.414	.415
.247	3.043	2.305	.831	3.636	2.755	.248	1270	.940	1350	.407	.401	.431	.406	.409	.425	.433	.414	.416
.242	3.038	2.301	.826	3.632	2.752	.243	1270	.941	1350	.409	.401	.431	.406	.409	.425	.434	.415	.417
.239	3.029	2.295	.823	3.629	2.750	.240	1269	.940	1350	.409	.401	.432	.407	.409	.426	.434	.416	.417
.238	3.018	2.288	.822	3.625	2.749	.239	1270	.941	1350	.410	.401	.433	.407	.410	.427	.435	.416	.418
.234	3.027	2.280	.818	3.622	2.746	.235	1270	.941	1350	.410	.401	.434	.405	.410	.427	.436	.417	.419
.227	2.994	2.272	.811	3.619	2.744	.228	1270	.941	1350	.410	.401	.435	.407	.410	.428	.437	.418	.419
.228	2.983	2.262	.812	3.614	2.740	.229	1270	.941	1350	.411	.402	.435	.408	.411	.428	.438	.418	.420
.225	2.969	2.253	.809	3.611	2.740	.226	1270	.941	1350	.412	.402	.436	.411	.411	.429	.438	.419	.421
.221	2.957	2.243	.805	3.609	2.738	.222	1270	.941	1350	.412	.402	.437	.411	.411	.430	.440	.419	.421
.219	2.941	2.231	.803	3.606	2.736	.220	1270	.940	1350	.413	.402	.437	.411	.412	.430	.440	.420	.422
.214	2.927	2.222	.798	3.603	2.736	.215	1269	.940	1350	.413	.403	.438	.407	.412	.431	.441	.420	.423
.215	2.917	2.215	.799	3.604	2.736	.216	1270	.940	1350	.414	.403	.438	.410	.413	.431	.442	.421	.423
.212	2.904	2.203	.796	3.600	2.732	.213	1269	.940	1350	.414	.403	.440	.410	.413	.432	.443	.422	.424
.208	2.891	2.195	.792	3.596	2.730	.209	1270	.940	1350	.415	.403	.441	.410	.414	.433	.444	.422	.425
.207	2.879	2.186	.791	3.596	2.730	.208	1269	.940	1350	.415	.403	.441	.410	.414	.433	.444	.423	.426
.205	2.867	2.177	.789	3.594	2.729	.206	1269	.940	1350	.416	.404	.442	.411	.414	.434	.445	.423	.426
.203	2.856	2.169	.787	3.592	2.727	.204	1269	.940	1350	.417	.404	.443	.411	.415	.434	.446	.424	.427
.202	2.845	2.160	.786	3.593	2.728	.203	1269	.940	1350	.417	.404	.444	.411	.415	.435	.446	.425	.427
.199	2.835	2.152	.783	3.590	2.725	.200	1269	.940	1350	.418	.405	.444	.410	.415	.435	.448	.426	.428
.197	2.825	2.145	.781	3.588	2.724	.198	1269	.940	1350	.418	.405	.445	.410	.416	.436	.448	.426	.429
.196	2.814	2.136	.780	3.586	2.722	.197	1269	.940	1350	.419	.405	.446	.413	.416	.437	.449	.427	.430
.192	2.804	2.129	.776	3.587	2.723	.193	1269	.940	1350	.419	.405	.446	.411	.417	.437	.450	.427	.430
.189	2.799	2.117	.773	3.582	2.720	.190	1269	.940	1350	.420	.406	.448	.411	.417	.438	.450	.428	.431
.186	2.773	2.106	.770	3.580	2.720	.187	1269	.940	1350	.421	.406	.448	.411	.417	.438	.451	.428	.431
.182	2.754	2.092	.766	3.576	2.715	.183	1268	.939	1350	.421	.406	.449	.411	.418	.439	.452	.429	.433
.175	2.737	2.078	.759	3.574	2.713	.176	1268	.939	1350	.422	.406	.449	.414	.418	.440	.453	.430	.433
.175	2.717	2.064	.759	3.574	2.715	.176	1268	.939	1350	.422	.407	.450	.414	.418	.440	.453	.430	.434
.171	2.694	2.046	.755	3.571	2.713	.172	1267	.939	1350	.422	.407	.451	.415	.419	.441	.454	.431	.434
.170	2.674	2.031	.754	3.568	2.711	.171	1267	.939	1350	.423	.407	.452	.415	.419	.442	.455	.431	.435
.168	2.657	2.019	.752	3.570	2.712	.169	1267	.938	1350	.423	.407	.452	.415	.419	.442	.456	.432	.435
.165	2.639	2.005	.749	3.568	2.711	.166	1266	.938	1350	.424	.408	.453	.416	.420	.443	.457	.433	.436
.163	2.624	1.993	.747	3.564	2.708	.164	1266	.938	1350	.425	.408	.453	.416	.421	.444	.457	.433	.437
.160	2.607	1.982	.744	3.564	2.709	.161	1266	.938	1350	.425	.408	.454	.416	.421	.444	.458	.434	.438
.158	2.591	1.969	.742	3.563	2.709	.159	1265	.937	1350	.426	.409	.455	.416	.421	.445	.458	.435	.438
.156	2.575	1.958	.740	3.563	2.709	.157	1265	.937	1350	.426	.409	.456	.417	.422	.445	.460	.435	.439

DATE 5-6-74
PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/R1 OR52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
14	139	7.92	149.1	1350	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0152	1.315	.711	3875	4.386E-04	8.024E-08	6.622E 05	22.63	0	1.00	22.633	10

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.153	2.558	1.944	.737	3.563	2.709	.154	1264	.936	1350	.427	.409	.456	.417	.422	.445	.460	.435	.440
.150	2.539	1.930	.734	3.559	2.706	.151	1264	.936	1350	.427	.409	.457	.411	.422	.446	.461	.436	.441
.148	2.517	1.914	.732	3.559	2.705	.149	1264	.936	1350	.428	.410	.458	.411	.423	.447	.461	.437	.441
.146	2.495	1.898	.728	3.556	2.705	.145	1262	.935	1350	.429	.410	.458	.418	.423	.448	.453	.438	.442
.143	2.475	1.881	.727	3.557	2.704	.144	1262	.934	1350	.429	.410	.459	.419	.424	.448	.454	.438	.442
.140	2.451	1.865	.724	3.553	2.703	.141	1261	.934	1350	.430	.410	.460	.419	.424	.449	.464	.439	.443
.137	2.427	1.846	.721	3.553	2.703	.138	1259	.933	1350	.430	.410	.461	.419	.425	.449	.465	.440	.444
.135	2.404	1.832	.719	3.552	2.704	.136	1258	.932	1350	.430	.411	.461	.420	.425	.450	.465	.440	.444
.133	2.380	1.819	.717	3.551	2.701	.134	1257	.931	1350	.431	.411	.462	.420	.425	.450	.466	.440	.445
.130	2.355	1.791	.714	3.549	2.700	.131	1255	.930	1350	.431	.411	.462	.421	.426	.451	.466	.441	.445
.130	2.331	1.773	.714	3.546	2.698	.131	1253	.928	1350	.432	.411	.463	.421	.426	.452	.467	.441	.446
.124	2.334	1.754	.708	3.543	2.697	.125	1251	.926	1350	.433	.411	.464	.421	.427	.452	.468	.442	.446
.121	2.271	1.729	.705	3.542	2.697	.122	1248	.924	1350	.433	.412	.465	.422	.427	.453	.469	.443	.448
.119	2.238	1.703	.703	3.540	2.695	.120	1244	.922	1350	.434	.412	.465	.422	.427	.453	.469	.443	.448
.115	2.202	1.677	.699	3.538	2.695	.116	1241	.919	1350	.434	.412	.466	.422	.428	.454	.470	.444	.449
.113	2.165	1.649	.697	3.536	2.694	.114	1236	.916	1350	.435	.413	.466	.420	.429	.454	.470	.444	.449
.109	2.123	1.616	.693	3.536	2.692	.110	1230	.911	1350	.435	.413	.467	.423	.429	.455	.472	.445	.450
.104	2.077	1.582	.688	3.532	2.690	.105	1222	.905	1350	.436	.413	.468	.423	.429	.456	.472	.445	.450
.103	2.026	1.543	.687	3.529	2.688	.104	1214	.899	1350	.436	.414	.469	.423	.430	.456	.473	.446	.451
.100	1.978	1.506	.684	3.527	2.687	.101	1208	.895	1350	.437	.414	.469	.424	.430	.457	.474	.446	.452
.097	1.930	1.471	.681	3.525	2.687	.098	1200	.889	1350	.437	.414	.470	.425	.431	.457	.474	.448	.452
.096	1.895	1.436	.680	3.525	2.685	.097	1193	.884	1350	.438	.414	.470	.425	.431	.458	.475	.448	.453
.091	1.836	1.399	.675	3.521	2.682	.092	1183	.876	1350	.438	.414	.472	.425	.431	.458	.476	.448	.453
.089	1.796	1.362	.673	3.519	2.683	.090	1173	.869	1350	.439	.414	.472	.426	.432	.459	.476	.448	.454
.088	1.737	1.323	.672	3.519	2.681	.089	1164	.862	1350	.440	.415	.473	.419	.433	.460	.477	.449	.455
.083	1.690	1.287	.667	3.519	2.681	.084	1153	.854	1350	.440	.415	.473	.426	.433	.460	.477	.450	.456
.081	1.639	1.249	.665	3.516	2.680	.082	1141	.845	1350	.441	.415	.474	.420	.433	.461	.478	.450	.456
.078	1.589	1.210	.662	3.518	2.680	.079	1128	.835	1350	.441	.415	.474	.420	.434	.461	.479	.450	.457
.077	1.536	1.169	.661	3.516	2.676	.078	1113	.824	1350	.441	.416	.475	.427	.434	.462	.480	.451	.457
.073	1.483	1.128	.657	3.519	2.677	.074	1099	.814	1350	.442	.416	.476	.427	.434	.463	.481	.452	.458
.069	1.436	1.087	.653	3.516	2.673	.070	1082	.802	1350	.442	.417	.477	.428	.435	.464	.481	.453	.458
.067	1.376	1.046	.651	3.516	2.673	.068	1066	.790	1350	.443	.417	.477	.429	.435	.464	.482	.453	.459
.065	1.323	1.004	.649	3.517	2.670	.066	1050	.778	1350	.444	.417	.478	.429	.435	.465	.482	.453	.460
.062	1.269	.963	.646	3.515	2.669	.063	1036	.768	1350	.444	.417	.478	.429	.436	.465	.483	.454	.460
.061	1.219	.925	.645	3.515	2.667	.062	1023	.758	1350	.445	.418	.479	.429	.437	.466	.484	.455	.461
.059	1.175	.891	.643	3.516	2.666	.060	1015	.752	1350	.445	.418	.480	.430	.437	.466	.484	.455	.461
.055	1.130	.857	.639	3.515	2.665	.056	1002	.742	1350	.445	.418	.481	.428	.438	.467	.485	.456	.462
.054	1.088	.824	.638	3.516	2.664	.055	988	.732	1350	.446	.418	.481	.428	.438	.468	.486	.457	.462
.051	1.045	.792	.635	3.516	2.664	.052	972	.720	1350	.446	.418	.482	.431	.438	.468	.486	.457	.463
.048	1.002	.759	.632	3.514	2.662	.049	955	.707	1350	.447	.419	.482	.431	.439	.469	.487	.458	.464
.047	.962	.728	.631	3.515	2.662	.048	940	.697	1350	.448	.419	.483	.429	.440	.469	.488	.458	.464
.042	.921	.697	.626	3.513	2.660	.043	924	.684	1350	.448	.419	.484	.432	.440	.470	.489	.459	.465

DATE 5-6-74
PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/R1 OPS2 SHUTTLE SURVEY TEST
PAGE = 4

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
14	139	7.92	148.9	1350	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0162	1.323	.715	3875	4.410E-04	8.024E-08	6.622E 05	22.63	0	1.00	22.633	10

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.041	.876	.664	.625	3.513	2.656	.042	906	.671	1350	.449	.419	.484	.433	.440	.470	.489	.460	.465
.039	.839	.635	.623	3.512	2.657	.040	892	.661	1350	.449	.420	.485	.433	.441	.471	.490	.460	.466
.035	.799	.605	.619	3.509	2.655	.036	880	.652	1350	.449	.420	.485	.434	.441	.472	.490	.460	.466
.035	.766	.579	.619	3.510	2.656	.036	870	.645	1350	.450	.420	.486	.429	.441	.472	.491	.461	.467
.030	.734	.555	.614	3.509	2.654	.031	859	.636	1350	.450	.420	.487	.434	.442	.473	.492	.461	.468
.030	.703	.531	.614	3.508	2.653	.031	848	.629	1350	.451	.420	.488	.434	.442	.473	.492	.461	.468
.028	.675	.510	.612	3.509	2.653	.029	838	.621	1350	.452	.420	.488	.435	.443	.474	.493	.462	.469
.027	.648	.490	.611	3.506	2.651	.028	826	.612	1350	.452	.420	.489	.430	.444	.474	.493	.463	.469
.025	.623	.470	.609	3.504	2.648	.026	812	.602	1350	.452	.421	.489	.435	.444	.475	.494	.464	.470
.023	.600	.453	.607	3.505	2.649	.024	799	.592	1350	.453	.422	.490	.436	.444	.476	.494	.464	.470
.019	.576	.435	.603	3.500	2.645	.020	787	.583	1350	.453	.422	.490	.436	.445	.476	.496	.465	.472
.017	.554	.419	.601	3.500	2.645	.018	773	.573	1350	.454	.422	.491	.429	.445	.477	.496	.465	.472
.015	.534	.403	.599	3.499	2.642	.016	760	.563	1350	.454	.423	.492	.437	.446	.477	.497	.465	.473
.011	.515	.389	.595	3.499	2.642	.012	749	.555	1350	.455	.423	.492	.437	.446	.478	.497	.466	.473
.012	.498	.376	.596	3.498	2.641	.013	739	.548	1350	.456	.423	.493	.437	.446	.478	.498	.466	.474
.010	.484	.365	.594	3.498	2.642	.011	728	.539	1350	.456	.423	.493	.438	.447	.479	.498	.468	.474
.007	.468	.353	.591	3.497	2.639	.008	712	.527	1350	.456	.423	.494	.438	.448	.480	.499	.467	.474
.007	.434	.327	.591	3.498	2.641	.008	704	.521	1350	.458	.425	.496	.437	.449	.482	.501	.469	.476

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
PAGE = 1

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
15	139	7.92	149.4	1350	30.06	-8.06	22.00	180.00	0.

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0143	1.327	.717	3875	4.424E-04	8.024E-08	6.667E 05	9.05	.88	.40	22.633	11

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.766	4.468	3.374	1.340	.976	.737	.769	1268	.939	1350	.386	.395	.401	.411	.397	.399	.401	.387	.386
.745	4.471	3.374	1.329	.976	.736	.758	1268	.939	1350	.387	.395	.402	.417	.398	.401	.402	.389	.387
.713	4.476	3.375	1.297	.975	.735	.726	1268	.939	1350	.387	.396	.403	.419	.400	.401	.403	.389	.388
.681	4.486	3.381	1.265	.979	.738	.694	1269	.940	1350	.389	.397	.403	.420	.401	.402	.403	.390	.389
.646	4.501	3.392	1.230	.979	.738	.659	1269	.940	1350	.390	.397	.404	.421	.405	.403	.404	.390	.389
.616	4.523	3.404	1.200	.977	.736	.629	1269	.940	1350	.391	.398	.406	.425	.406	.404	.405	.391	.389
.583	4.553	3.424	1.167	.980	.737	.596	1269	.940	1350	.393	.399	.406	.423	.407	.405	.406	.393	.390
.554	4.569	3.436	1.138	.981	.738	.567	1269	.940	1350	.394	.401	.407	.428	.407	.406	.407	.394	.390
.521	4.585	3.433	1.105	.981	.738	.534	1269	.940	1350	.395	.402	.407	.433	.408	.406	.407	.395	.391
.491	4.549	3.419	1.075	.980	.736	.504	1269	.940	1350	.397	.403	.409	.435	.409	.407	.409	.397	.392
.477	4.531	3.406	1.061	.982	.738	.490	1270	.941	1350	.398	.404	.409	.437	.409	.408	.409	.397	.393
.465	4.517	3.398	1.049	.982	.737	.478	1270	.941	1350	.399	.405	.410	.428	.409	.409	.410	.398	.394
.454	4.503	3.389	1.038	.981	.736	.467	1270	.941	1350	.401	.406	.411	.451	.410	.410	.411	.399	.395
.444	4.492	3.369	1.028	.980	.735	.457	1270	.941	1350	.402	.407	.411	.446	.410	.410	.412	.400	.395
.435	4.487	3.365	1.019	.982	.737	.448	1270	.941	1350	.403	.407	.412	.446	.410	.411	.413	.401	.396
.422	4.477	3.359	1.006	.980	.735	.435	1270	.941	1350	.405	.408	.413	.448	.410	.411	.414	.401	.397
.411	4.468	3.349	.995	.981	.735	.424	1270	.941	1350	.405	.409	.414	.448	.410	.412	.414	.402	.398
.399	4.461	3.344	.983	.983	.737	.412	1270	.941	1350	.406	.410	.414	.448	.410	.413	.415	.403	.399
.387	4.449	3.335	.971	.982	.736	.400	1270	.941	1350	.407	.411	.415	.448	.410	.414	.416	.403	.399
.376	4.437	3.323	.960	.984	.737	.389	1271	.941	1350	.409	.412	.416	.448	.410	.414	.417	.404	.400
.363	4.419	3.310	.947	.986	.738	.376	1271	.941	1350	.410	.413	.417	.448	.410	.415	.418	.405	.401
.353	4.396	3.295	.937	1.014	.760	.366	1271	.941	1350	.410	.414	.417	.447	.411	.415	.418	.405	.402
.340	4.371	3.274	.924	1.090	.817	.353	1271	.942	1350	.411	.414	.418	.446	.411	.416	.419	.406	.403
.329	4.342	3.253	.913	1.173	.879	.342	1272	.942	1350	.413	.415	.419	.446	.411	.417	.420	.407	.403
.316	4.309	3.226	.900	1.263	.946	.329	1272	.942	1350	.413	.416	.420	.444	.412	.418	.421	.407	.404
.304	4.272	3.200	.888	1.595	1.196	.317	1272	.942	1350	.414	.417	.421	.452	.413	.418	.422	.409	.405
.291	4.232	3.170	.875	2.438	1.827	.304	1272	.942	1350	.415	.418	.422	.445	.413	.419	.422	.409	.406
.279	4.189	3.138	.863	3.902	2.923	.292	1273	.943	1350	.417	.419	.422	.445	.413	.419	.423	.410	.406
.270	4.144	3.105	.854	4.379	3.280	.283	1273	.943	1350	.418	.420	.423	.439	.414	.419	.425	.411	.407
.265	4.108	3.075	.849	4.446	3.328	.278	1273	.943	1350	.419	.422	.424	.448	.414	.420	.425	.411	.408
.262	4.084	3.059	.846	4.456	3.338	.275	1273	.943	1350	.420	.422	.425	.448	.414	.421	.426	.412	.409
.259	4.064	3.042	.843	4.437	3.321	.272	1273	.943	1350	.421	.423	.426	.446	.415	.421	.427	.413	.410

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OA52 SHUTTLE SURVEY TEST
PAGE = 2

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
15	139	7.92	150.4	1350	30.09	-8.09	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0164	1.336	.722	3875	4.454E-04	8.024E-08	6.667E 05	9.05	.88	.40	22.633	11

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO JEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.257	4.052	3.033	.841	4.429	3.316	.270	1274	.943	1350	.422	.425	.426	.449	.415	.422	.427	.413	.410
.254	4.041	3.025	.838	4.432	3.317	.267	1273	.943	13	.423	.426	.427	.448	.416	.422	.428	.414	.411
.252	4.025	3.013	.836	4.416	3.310	.265	1273	.943	1350	.424	.427	.427	.450	.417	.423	.429	.415	.412
.251	4.015	3.011	.835	4.415	3.307	.264	1274	.944	1350	.425	.428	.429	.451	.417	.424	.430	.416	.413
.247	4.009	3.001	.831	4.413	3.303	.260	1274	.943	1350	.426	.429	.429	.451	.417	.425	.431	.417	.414
.247	4.002	2.998	.831	4.414	3.306	.260	1274	.944	1350	.427	.430	.430	.452	.418	.425	.431	.417	.414
.244	3.994	2.992	.828	4.410	3.303	.257	1274	.943	1350	.427	.431	.430	.452	.418	.426	.433	.418	.415
.241	3.987	2.984	.825	4.408	3.300	.254	1274	.944	1350	.428	.432	.431	.452	.419	.426	.433	.418	.416
.241	3.978	2.978	.825	4.410	3.301	.254	1274	.944	1350	.429	.433	.432	.452	.419	.427	.434	.419	.417
.236	3.968	2.971	.820	4.411	3.302	.249	1274	.944	1350	.430	.434	.433	.453	.420	.427	.435	.420	.418
.236	3.959	2.964	.820	4.410	3.301	.249	1274	.944	1350	.431	.434	.434	.453	.421	.428	.436	.421	.418
.231	3.949	2.956	.815	4.412	3.302	.244	1275	.944	1350	.431	.435	.434	.446	.421	.429	.437	.421	.419
.230	3.940	2.949	.814	4.412	3.302	.243	1275	.944	1350	.433	.436	.435	.451	.421	.429	.437	.422	.419
.227	3.929	2.941	.811	4.416	3.306	.240	1274	.944	1350	.433	.437	.436	.454	.422	.430	.438	.422	.421
.226	3.918	2.933	.810	4.410	3.305	.239	1275	.944	1350	.434	.438	.436	.448	.422	.431	.439	.423	.421
.227	3.908	2.928	.811	4.415	3.307	.240	1275	.944	1350	.435	.438	.437	.455	.423	.431	.440	.423	.422
.222	3.896	2.919	.806	4.418	3.309	.235	1274	.944	1350	.435	.440	.438	.456	.423	.432	.441	.425	.423
.220	3.888	2.910	.804	4.420	3.308	.233	1275	.944	1350	.436	.440	.438	.456	.423	.433	.442	.425	.423
.217	3.878	2.903	.801	4.420	3.309	.230	1275	.944	1350	.437	.441	.440	.457	.424	.433	.442	.425	.425
.216	3.867	2.895	.800	4.419	3.308	.229	1275	.944	1350	.438	.441	.440	.457	.425	.434	.444	.426	.425
.213	3.856	2.890	.797	4.423	3.313	.226	1275	.944	1350	.438	.442	.441	.457	.425	.435	.444	.427	.426
.212	3.848	2.883	.796	4.423	3.313	.225	1275	.944	1350	.439	.443	.442	.457	.425	.435	.445	.428	.426
.210	3.838	2.873	.794	4.423	3.311	.223	1275	.944	1350	.440	.444	.443	.458	.426	.436	.446	.428	.427
.208	3.830	2.869	.792	4.426	3.316	.221	1275	.945	1350	.441	.445	.444	.456	.426	.437	.446	.429	.428
.207	3.820	2.859	.791	4.426	3.313	.220	1275	.945	1350	.441	.445	.444	.458	.427	.437	.448	.429	.429
.204	3.809	2.853	.788	4.428	3.317	.217	1275	.945	1350	.442	.445	.445	.457	.427	.438	.448	.430	.429
.201	3.799	2.844	.785	4.426	3.313	.214	1275	.945	1350	.443	.446	.446	.457	.428	.439	.449	.431	.430
.198	3.783	2.836	.782	4.431	3.321	.211	1276	.945	1350	.444	.446	.446	.460	.429	.440	.450	.431	.431
.196	3.769	2.823	.780	4.431	3.319	.209	1276	.945	1350	.444	.447	.448	.460	.429	.440	.450	.433	.431
.195	3.758	2.815	.779	4.434	3.322	.208	1276	.945	1350	.445	.448	.448	.456	.429	.441	.451	.433	.433
.193	3.745	2.805	.777	4.432	3.320	.206	1275	.945	1350	.446	.449	.449	.461	.430	.442	.452	.434	.433
.191	3.736	2.796	.775	4.434	3.319	.204	1276	.945	1350	.446	.449	.450	.461	.430	.442	.453	.434	.434
.188	3.724	2.789	.772	4.435	3.322	.201	1276	.945	1350	.447	.449	.450	.461	.431	.443	.453	.435	.434
.186	3.711	2.780	.770	4.436	3.323	.199	1276	.945	1350	.448	.450	.451	.460	.431	.444	.454	.435	.435
.185	3.698	2.770	.769	4.437	3.324	.198	1276	.945	1350	.449	.450	.452	.462	.432	.444	.455	.436	.436
.181	3.683	2.759	.765	4.435	3.322	.194	1276	.945	1350	.449	.450	.453	.456	.432	.445	.456	.437	.437
.180	3.672	2.751	.764	4.440	3.326	.193	1276	.945	1350	.450	.450	.453	.463	.433	.445	.457	.437	.437
.178	3.659	2.741	.762	4.438	3.324	.191	1277	.946	1350	.451	.451	.454	.457	.433	.446	.457	.438	.438
.177	3.649	2.735	.761	4.439	3.327	.190	1277	.946	1350	.452	.451	.454	.464	.434	.446	.458	.438	.439
.176	3.641	2.728	.760	4.441	3.327	.189	1277	.946	1350	.452	.452	.456	.465	.434	.447	.459	.439	.440
.174	3.634	2.722	.758	4.439	3.325	.187	1277	.946	1350	.453	.452	.456	.465	.434	.448	.460	.440	.441
.173	3.625	2.717	.757	4.440	3.328	.186	1277	.946	1350	.454	.452	.457	.465	.435	.449	.461	.441	.441

CAIE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OA52 SHUTTLE SURVEY TEST
PAGE = 3

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREREND	ROLL-MODEL	YAW
15	139	7.92	1580.3	1350	30.05	-8.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0164	1.335	.722	3875	4.451E-04	8.024E-08	6.667E 05	9.05	.88	.40	22.633	11

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.171	3.414	2.707	.755	4.442	3.327	.184	1277	.946	1350	.454	.453	.458	.466	.436	.449	.461	.441	.442
.168	3.404	2.701	.752	4.442	3.329	.181	1277	.946	1350	.455	.453	.458	.466	.436	.450	.462	.442	.442
.167	3.392	2.690	.751	4.443	3.328	.180	1278	.946	1350	.456	.454	.459	.466	.437	.450	.462	.442	.443
.164	3.381	2.684	.748	4.444	3.331	.177	1278	.946	1350	.457	.454	.460	.465	.437	.451	.464	.443	.444
.163	3.366	2.673	.747	4.442	3.330	.176	1278	.946	1350	.457	.454	.461	.467	.437	.452	.464	.444	.445
.160	3.355	2.665	.744	4.445	3.332	.173	1277	.946	1350	.458	.454	.461	.469	.438	.452	.465	.444	.445
.157	3.340	2.652	.741	4.444	3.329	.170	1277	.946	1350	.459	.454	.462	.468	.438	.453	.466	.445	.446
.156	3.326	2.641	.740	4.445	3.329	.169	1278	.947	1350	.460	.455	.463	.468	.439	.454	.466	.445	.446
.152	3.311	2.630	.736	4.447	3.331	.165	1278	.947	1350	.460	.455	.464	.469	.440	.454	.467	.446	.448
.151	3.295	2.618	.735	4.448	3.332	.164	1279	.947	1350	.461	.456	.464	.469	.440	.455	.468	.447	.448
.148	3.278	2.607	.732	4.446	3.332	.161	1279	.947	1350	.461	.456	.465	.469	.441	.456	.469	.447	.449
.145	3.261	2.594	.729	4.452	3.337	.158	1279	.947	1350	.462	.456	.466	.469	.441	.456	.469	.448	.449
.144	3.241	2.578	.728	4.448	3.332	.157	1279	.948	1350	.463	.457	.466	.470	.441	.457	.470	.449	.450
.140	3.224	2.567	.724	4.452	3.337	.153	1279	.948	1350	.464	.457	.467	.470	.442	.458	.471	.449	.451
.138	3.203	2.551	.722	4.449	3.335	.151	1280	.948	1350	.465	.457	.468	.470	.442	.458	.472	.450	.452
.136	3.185	2.537	.720	4.454	3.338	.149	1280	.948	1350	.465	.458	.469	.470	.443	.459	.473	.450	.452
.132	3.163	2.519	.716	4.452	3.335	.145	1280	.948	1350	.466	.458	.469	.471	.444	.460	.473	.452	.453
.132	3.145	2.507	.716	4.453	3.338	.145	1280	.948	1350	.466	.458	.470	.471	.444	.460	.474	.452	.453
.128	3.123	2.491	.712	4.451	3.336	.141	1280	.948	1350	.467	.458	.470	.467	.445	.461	.474	.453	.454
.127	3.105	2.479	.711	4.455	3.341	.140	1281	.949	1350	.468	.458	.472	.467	.445	.462	.476	.453	.455
.124	3.084	2.462	.708	4.456	3.340	.137	1281	.949	1350	.469	.458	.472	.472	.446	.462	.476	.453	.456
.121	3.067	2.449	.705	4.458	3.342	.134	1281	.949	1350	.469	.459	.473	.468	.446	.463	.477	.454	.456
.120	3.046	2.433	.704	4.457	3.341	.133	1281	.949	1350	.470	.459	.473	.466	.447	.464	.477	.455	.457
.117	3.023	2.416	.701	4.456	3.340	.130	1281	.949	1350	.471	.459	.474	.473	.448	.465	.478	.456	.458
.116	3.005	2.402	.700	4.458	3.342	.129	1281	.949	1350	.472	.459	.475	.465	.448	.465	.479	.456	.458
.113	3.184	2.388	.697	4.459	3.345	.126	1282	.949	1350	.472	.460	.476	.474	.449	.466	.480	.457	.459
.110	3.163	2.371	.694	4.458	3.342	.123	1282	.950	1350	.473	.460	.476	.474	.449	.466	.481	.457	.460
.109	3.142	2.355	.693	4.460	3.343	.122	1282	.950	1350	.474	.460	.477	.475	.450	.467	.481	.458	.460
.106	3.120	2.338	.690	4.459	3.342	.119	1282	.950	1350	.474	.460	.478	.475	.450	.468	.482	.459	.461
.105	3.101	2.326	.689	4.458	3.344	.118	1282	.950	1350	.475	.460	.478	.476	.451	.468	.482	.459	.462
.103	3.080	2.310	.687	4.459	3.344	.116	1283	.950	1350	.476	.461	.479	.476	.452	.469	.483	.460	.462
.100	3.062	2.295	.684	4.462	3.345	.113	1283	.950	1350	.477	.461	.480	.474	.452	.470	.484	.461	.463
.100	3.041	2.281	.684	4.460	3.345	.113	1283	.951	1350	.477	.461	.481	.474	.453	.470	.485	.461	.464
.096	3.021	2.265	.680	4.462	3.344	.109	1283	.950	1350	.478	.462	.481	.475	.453	.471	.485	.462	.464
.096	3.001	2.251	.680	4.461	3.346	.109	1283	.950	1350	.478	.462	.482	.475	.454	.472	.486	.462	.465
.093	2.982	2.235	.677	4.464	3.346	.106	1284	.951	1350	.479	.462	.482	.478	.454	.472	.487	.463	.465
.092	2.962	2.221	.676	4.462	3.344	.105	1284	.951	1350	.480	.463	.483	.474	.455	.473	.488	.464	.466
.092	2.946	2.209	.676	4.462	3.347	.105	1284	.951	1350	.481	.464	.484	.479	.456	.473	.488	.464	.467
.090	2.931	2.197	.674	4.465	3.347	.103	1284	.951	1350	.481	.464	.484	.479	.456	.474	.489	.465	.467
.090	2.915	2.187	.674	4.461	3.346	.103	1284	.951	1350	.482	.464	.485	.480	.457	.474	.490	.465	.468
.088	2.902	2.174	.672	4.466	3.350	.101	1284	.951	1350	.483	.464	.486	.480	.457	.476	.490	.466	.469
.088	2.886	2.165	.672	4.463	3.347	.101	1284	.951	1350	.484	.465	.486	.481	.458	.476	.491	.467	.469

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
19	139	7.92	150.1	1350	20.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0164	1.333	.721	3875	4.445E-04	8.024E-08	6.667E 05	9.05	.88	.40	22.633	11

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.084	2.870	2.153	.668	4.464	3.348	.097	1285	.952	1350	.484	.465	.487	.481	.458	.477	.492	.467	.470
.082	2.852	2.139	.666	4.466	3.350	.095	1285	.952	1350	.485	.466	.488	.482	.459	.477	.492	.468	.470
.082	2.834	2.127	.666	4.466	3.352	.095	1285	.952	1350	.485	.466	.489	.484	.460	.478	.493	.468	.472
.080	2.814	2.111	.664	4.465	3.349	.093	1285	.952	1350	.486	.466	.489	.476	.460	.478	.494	.469	.472
.080	2.796	2.097	.664	4.465	3.349	.093	1286	.952	1350	.486	.466	.490	.483	.461	.479	.494	.470	.473
.077	2.774	2.081	.661	4.467	3.351	.090	1286	.953	1350	.488	.467	.490	.484	.461	.480	.495	.470	.473
.077	2.756	2.068	.661	4.469	3.354	.090	1286	.953	1350	.488	.468	.491	.484	.462	.480	.496	.471	.474
.075	2.734	2.050	.659	4.466	3.350	.088	1286	.953	1350	.489	.468	.492	.485	.462	.481	.497	.472	.474
.073	2.714	2.035	.657	4.466	3.350	.086	1286	.953	1350	.489	.469	.492	.485	.463	.482	.497	.472	.475
.072	2.688	2.016	.656	4.467	3.350	.085	1287	.953	1350	.490	.469	.493	.484	.464	.482	.498	.472	.476
.069	2.662	1.997	.653	4.469	3.352	.082	1287	.953	1350	.490	.469	.494	.484	.464	.483	.498	.473	.476
.069	2.631	1.975	.653	4.471	3.356	.082	1287	.953	1350	.491	.469	.494	.483	.465	.484	.499	.474	.477
.066	2.598	1.950	.650	4.471	3.356	.079	1287	.954	1350	.492	.469	.495	.488	.465	.484	.500	.474	.478
.063	2.560	1.922	.647	4.472	3.356	.076	1287	.954	1350	.493	.470	.496	.489	.466	.485	.501	.475	.478
.063	2.520	1.890	.647	4.471	3.353	.076	1287	.954	1350	.493	.470	.496	.490	.466	.485	.501	.476	.479
.060	2.480	1.861	.644	4.472	3.356	.073	1288	.954	1350	.494	.470	.497	.490	.467	.486	.502	.476	.480
.059	2.437	1.829	.643	4.474	3.358	.072	1288	.954	1350	.494	.471	.498	.484	.468	.487	.503	.477	.480
.056	2.398	1.794	.640	4.476	3.360	.069	1287	.954	1350	.495	.472	.498	.492	.468	.488	.504	.478	.481
.055	2.340	1.756	.639	4.474	3.358	.068	1287	.954	1350	.496	.472	.499	.492	.469	.488	.504	.478	.481
.056	2.290	1.719	.640	4.477	3.360	.069	1287	.953	1350	.496	.473	.500	.493	.469	.489	.505	.478	.482
.052	2.238	1.678	.636	4.476	3.357	.065	1286	.952	1350	.497	.473	.500	.493	.470	.489	.506	.479	.483
.051	2.185	1.640	.635	4.477	3.360	.064	1285	.952	1350	.498	.473	.501	.494	.470	.490	.506	.480	.484
.049	2.130	1.598	.633	4.479	3.362	.062	1284	.951	1350	.498	.473	.502	.492	.471	.490	.507	.481	.484
.046	2.070	1.552	.630	4.480	3.360	.059	1282	.950	1350	.499	.474	.503	.493	.472	.491	.508	.481	.485
.046	2.009	1.508	.630	4.476	3.360	.059	1280	.948	1350	.500	.474	.503	.496	.472	.492	.508	.482	.485
.043	1.946	1.461	.627	4.483	3.365	.056	1277	.946	1350	.500	.475	.504	.497	.473	.492	.509	.483	.486
.043	1.884	1.413	.624	4.481	3.363	.058	1275	.944	1350	.501	.476	.505	.497	.473	.493	.509	.483	.486
.040	1.815	1.361	.624	4.484	3.363	.053	1270	.941	1350	.501	.476	.505	.498	.474	.494	.511	.484	.487
.038	1.747	1.311	.622	4.485	3.366	.051	1266	.938	1350	.503	.477	.506	.497	.474	.494	.511	.484	.488
.037	1.679	1.260	.621	4.486	3.367	.050	1261	.934	1350	.503	.477	.507	.500	.475	.495	.512	.485	.488
.035	1.608	1.207	.619	4.484	3.366	.048	1255	.930	1350	.504	.477	.508	.498	.476	.496	.513	.485	.489
.033	1.540	1.156	.617	4.490	3.372	.046	1248	.924	1350	.504	.477	.508	.496	.476	.496	.513	.486	.489
.031	1.471	1.104	.615	4.489	3.369	.044	1240	.918	1350	.505	.478	.509	.501	.477	.497	.514	.487	.490
.029	1.402	1.052	.613	4.490	3.370	.042	1231	.912	1350	.505	.479	.509	.503	.477	.498	.515	.488	.490
.029	1.336	1.003	.613	4.494	3.373	.042	1220	.904	1350	.506	.480	.510	.503	.478	.498	.515	.488	.491
.026	1.272	.954	.610	4.494	3.373	.039	1209	.895	1350	.507	.480	.511	.501	.478	.498	.516	.489	.492
.025	1.207	.906	.609	4.492	3.371	.038	1196	.886	1350	.508	.481	.512	.503	.479	.499	.517	.489	.492
.023	1.150	.864	.607	4.499	3.379	.036	1183	.876	1350	.508	.481	.512	.505	.480	.500	.517	.490	.493
.020	1.094	.822	.604	4.498	3.378	.033	1170	.867	1350	.509	.482	.513	.506	.480	.500	.518	.490	.494
.020	1.042	.783	.604	4.501	3.380	.033	1154	.855	1350	.509	.482	.513	.507	.481	.501	.519	.491	.494
.017	.992	.745	.601	4.503	3.382	.030	1135	.841	1350	.510	.482	.514	.507	.481	.501	.520	.491	.494
.015	.945	.709	.599	4.505	3.382	.028	1117	.827	1350	.511	.483	.515	.508	.482	.503	.520	.492	.496

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
15	139	7.92	149.9	1350	30.04	-8.04	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0164	1.331	.720	3875	4.439E-04	8.024E-08	6.667E 05	9.05	.88	.40	22.633	11

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.013	.930	.674	.597	4.506	3.384	.026	1099	.814	1350	.512	.484	.516	.508	.482	.503	.521	.493	.496
.009	.869	.646	.593	4.509	3.386	.022	1079	.799	1350	.512	.484	.516	.509	.483	.503	.521	.493	.497
.010	.823	.617	.594	4.513	3.387	.023	1060	.785	1350	.513	.485	.516	.505	.484	.504	.522	.494	.497
.006	.788	.592	.590	4.512	3.389	.019	1038	.769	1350	.513	.485	.517	.510	.484	.504	.523	.494	.498
.007	.758	.569	.591	4.512	3.387	.020	1032	.764	1350	.514	.485	.518	.501	.485	.505	.523	.495	.498
.007	.716	.538	.591	4.511	3.388	.020	1032	.764	1350	.516	.486	.520	.511	.486	.507	.524	.496	.499

DATE 5-6-74
PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/R1 OMS2 SHUTTLE SURVEY TEST
PAGE = 1

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
16	139	7.92	152.4	1350	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0167	1.354	.732	3875	4.513E-04	8.024E-08	6.625E 05	11.32	.88	.50	22.633	12

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.755	4.608	3.417	1.339	.987	.732	.758	1270	.941	1350	.374	.389	.393	.396	.385	.393	.393	.380	.385
.736	4.656	3.466	1.320	.990	.735	.739	1270	.941	1350	.375	.389	.394	.400	.386	.393	.394	.381	.386
.705	4.684	3.483	1.289	.988	.734	.708	1270	.941	1350	.376	.390	.394	.402	.386	.394	.395	.382	.387
.670	4.701	3.496	1.254	.986	.733	.673	1269	.940	1350	.377	.391	.395	.402	.387	.395	.396	.382	.387
.640	4.712	3.507	1.224	.986	.734	.643	1270	.940	1350	.378	.391	.396	.402	.387	.396	.397	.383	.388
.608	4.713	3.510	1.192	.985	.733	.611	1270	.941	1350	.379	.391	.397	.402	.389	.397	.398	.384	.389
.576	4.713	3.514	1.160	.984	.734	.579	1269	.940	1350	.379	.391	.398	.403	.389	.398	.398	.385	.390
.544	4.717	3.517	1.128	.983	.734	.547	1270	.941	1350	.380	.392	.398	.402	.390	.398	.399	.386	.390
.513	4.720	3.524	1.097	.980	.732	.516	1270	.941	1350	.381	.392	.400	.402	.390	.399	.401	.386	.391
.483	4.728	3.534	1.067	1.077	.805	.486	1270	.940	1350	.381	.392	.402	.405	.391	.400	.401	.387	.391
.471	4.727	3.534	1.055	1.149	.860	.474	1270	.941	1350	.382	.392	.402	.405	.391	.401	.402	.388	.392
.462	4.713	3.528	1.046	1.225	.917	.465	1270	.941	1350	.383	.392	.403	.405	.392	.401	.403	.389	.393
.451	4.700	3.525	1.035	1.743	1.307	.454	1270	.941	1349	.384	.392	.404	.406	.393	.403	.404	.389	.393
.441	4.683	3.517	1.025	1.650	1.238	.444	1270	.941	1350	.384	.391	.405	.406	.393	.403	.405	.390	.394
.431	4.668	3.504	1.015	2.343	1.760	.434	1270	.941	1350	.385	.392	.406	.402	.394	.404	.406	.390	.395
.417	4.645	3.491	1.001	3.467	2.606	.420	1270	.941	1350	.385	.392	.407	.407	.394	.405	.407	.391	.395
.407	4.624	3.480	.991	4.218	3.174	.410	1270	.941	1350	.386	.392	.407	.407	.395	.405	.407	.391	.396
.397	4.603	3.469	.981	4.375	3.297	.400	1270	.942	1349	.387	.393	.409	.407	.396	.407	.408	.393	.397
.384	4.579	3.455	.968	4.357	3.288	.387	1270	.941	1350	.387	.393	.410	.407	.396	.407	.409	.393	.398
.374	4.560	3.443	.958	4.350	3.285	.377	1271	.942	1349	.388	.393	.411	.407	.397	.408	.410	.394	.399
.362	4.536	3.430	.946	4.360	3.297	.365	1271	.942	1349	.389	.393	.411	.407	.397	.408	.411	.395	.400
.351	4.514	3.415	.935	4.367	3.304	.354	1271	.942	1349	.389	.393	.412	.407	.398	.409	.412	.396	.400
.341	4.495	3.401	.925	4.380	3.319	.344	1271	.942	1349	.389	.393	.413	.408	.399	.410	.413	.396	.401
.329	4.469	3.384	.913	4.389	3.329	.332	1271	.942	1349	.390	.393	.413	.405	.399	.411	.413	.397	.402
.318	4.451	3.364	.902	4.403	3.342	.321	1271	.942	1349	.391	.394	.414	.407	.400	.411	.415	.397	.403
.303	4.369	3.336	.887	4.413	3.354	.306	1272	.943	1349	.391	.394	.415	.411	.400	.412	.415	.399	.403
.292	4.344	3.307	.876	4.430	3.372	.295	1272	.943	1349	.392	.395	.416	.410	.401	.412	.416	.400	.404
.285	4.296	3.272	.869	4.432	3.376	.288	1273	.943	1349	.392	.395	.416	.411	.401	.413	.417	.400	.405
.283	4.265	3.253	.867	4.431	3.378	.286	1272	.943	1349	.393	.395	.417	.411	.401	.414	.417	.400	.406
.280	4.249	3.236	.864	4.430	3.381	.283	1272	.943	1349	.393	.395	.418	.411	.402	.415	.419	.401	.407
.279	4.228	3.225	.863	4.422	3.380	.282	1273	.943	1349	.394	.396	.418	.410	.403	.415	.419	.402	.408
.277	4.206	3.219	.861	4.424	3.386	.280	1273	.943	1349	.395	.396	.420	.410	.403	.416	.420	.402	.408
.275	4.193	3.213	.859	4.420	3.387	.279	1273	.943	1349	.395	.397	.420	.413	.403	.416	.421	.403	.409
.273	4.179	3.205	.857	4.417	3.387	.276	1273	.943	1349	.396	.397	.421	.411	.404	.417	.421	.404	.409
.269	4.162	3.194	.853	4.412	3.388	.272	1273	.944	1349	.396	.397	.421	.414	.404	.417	.423	.404	.410
.268	4.156	3.189	.852	4.412	3.391	.271	1273	.943	1349	.397	.398	.423	.415	.405	.418	.424	.404	.411
.265	4.137	3.183	.849	4.411	3.394	.268	1273	.943	1349	.397	.399	.423	.415	.405	.419	.424	.405	.412

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/PI OF52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
16	139	7.92	146.1	1349	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1'	X (IN)	Y (IN)	X/L	L	TAP
99.6	.0160	1.298	.701	3874	4.330E-04	8.018E-08	6.625E 05	11.32	.88	.50	22.633	12

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG*R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.264	4.122	3.176	.848	4.402	3.392	.267	1273	.943	1349	.399	.399	.424	.415	.405	.419	.425	.406	.413
.261	4.1[illegible]	3.173	.845	4.406	3.402	.264	1273	.944	1349	.399	.400	.425	.416	.406	.420	.426	.407	.413
.257	4.0[illegible]	3.164	.841	4.400	3.400	.260	1273	.944	1349	.400	.400	.425	.416	.407	.420	.427	.407	.414
.256	4.079	3.154	.840	4.398	3.401	.259	1273	.944	1349	.400	.400	.427	.416	.407	.421	.428	.408	.415
.252	4.065	3.145	.836	4.399	3.404	.255	1273	.944	1349	.401	.401	.427	.417	.407	.421	.428	.408	.416
.250	4.049	3.137	.834	4.393	3.404	.253	1273	.944	1349	.401	.401	.428	.417	.408	.422	.430	.409	.416
.248	4.034	3.130	.832	4.392	3.407	.251	1273	.944	1349	.402	.401	.429	.416	.408	.423	.430	.409	.417
.243	4.017	3.121	.827	4.389	3.410	.246	1273	.945	1348	.403	.402	.430	.416	.409	.424	.431	.410	.418
.241	4.001	3.113	.825	4.388	3.414	.244	1273	.945	1348	.404	.402	.430	.420	.409	.424	.432	.411	.418
.239	3.984	3.102	.823	4.384	3.413	.242	1273	.945	1348	.405	.402	.432	.420	.410	.425	.433	.411	.420
.236	3.965	3.092	.820	4.382	3.416	.239	1273	.945	1348	.405	.403	.432	.420	.410	.425	.433	.412	.420
.234	3.952	3.083	.818	4.382	3.419	.237	1274	.945	1348	.406	.404	.433	.421	.410	.426	.434	.413	.421
.228	3.933	3.073	.812	4.377	3.420	.231	1274	.945	1348	.406	.405	.433	.421	.411	.427	.435	.413	.421
.224	3.915	3.063	.808	4.378	3.425	.227	1274	.945	1348	.407	.405	.434	.422	.411	.428	.436	.414	.422
.221	3.893	3.048	.805	4.374	3.425	.224	1274	.945	1348	.407	.405	.435	.420	.412	.428	.437	.414	.423
.218	3.872	3.035	.802	4.373	3.429	.221	1274	.945	1348	.408	.405	.436	.422	.412	.429	.438	.415	.424
.215	3.858	3.021	.799	4.371	3.429	.218	1275	.946	1348	.409	.406	.437	.421	.413	.429	.438	.416	.424
.211	3.827	3.006	.795	4.366	3.430	.214	1275	.946	1348	.409	.406	.437	.421	.413	.430	.439	.417	.425
.209	3.808	2.994	.793	4.362	3.429	.212	1275	.946	1348	.410	.407	.438	.424	.413	.430	.440	.417	.425
.206	3.788	2.982	.790	4.362	3.434	.209	1275	.946	1348	.410	.407	.438	.424	.414	.431	.441	.418	.426
.202	3.767	2.970	.786	4.356	3.434	.205	1275	.946	1348	.411	.407	.439	.425	.414	.432	.441	.418	.427
.200	3.750	2.960	.784	4.354	3.437	.203	1275	.946	1348	.411	.407	.440	.425	.414	.432	.442	.419	.428
.197	3.728	2.945	.781	4.351	3.438	.200	1275	.946	1349	.412	.409	.440	.425	.415	.433	.444	.420	.429
.194	3.705	2.931	.778	4.348	3.440	.197	1275	.946	1348	.413	.409	.442	.424	.415	.433	.444	.420	.429
.190	3.682	2.917	.774	4.346	3.443	.193	1276	.946	1348	.413	.409	.442	.424	.415	.434	.445	.420	.430
.189	3.660	2.902	.773	4.344	3.444	.192	1276	.946	1348	.414	.409	.443	.427	.416	.435	.446	.421	.430
.186	3.638	2.887	.770	4.343	3.446	.189	1276	.947	1348	.414	.410	.444	.421	.417	.436	.446	.421	.431
.184	3.621	2.871	.768	4.354	3.452	.187	1277	.947	1348	.415	.410	.445	.421	.417	.436	.447	.422	.432
.179	3.610	2.856	.763	4.373	3.459	.182	1277	.947	1348	.415	.410	.445	.424	.418	.437	.448	.423	.432
.179	3.602	2.840	.763	4.394	3.464	.182	1277	.948	1348	.416	.410	.446	.429	.418	.437	.449	.424	.433
.177	3.599	2.824	.761	4.416	3.465	.180	1278	.948	1348	.417	.411	.446	.429	.419	.438	.449	.424	.434
.176	3.598	2.809	.760	4.439	3.465	.179	1278	.948	1348	.417	.411	.447	.429	.419	.438	.450	.424	.434
.174	3.598	2.797	.758	4.457	3.465	.177	1278	.948	1348	.418	.413	.448	.430	.419	.439	.451	.425	.435
.173	3.608	2.789	.757	4.476	3.468	.176	1279	.948	1349	.418	.412	.449	.430	.419	.439	.451	.425	.435
.170	3.602	2.779	.754	4.491	3.465	.173	1279	.948	1349	.419	.413	.450	.428	.420	.440	.452	.426	.436
.169	3.603	2.771	.753	4.507	3.466	.172	1278	.948	1349	.419	.413	.450	.428	.420	.441	.453	.426	.437
.167	3.602	2.762	.751	4.519	3.466	.170	1278	.948	1349	.420	.414	.451	.431	.421	.442	.454	.427	.438
.166	3.603	2.756	.750	4.531	3.465	.169	1279	.948	1349	.420	.413	.451	.430	.421	.442	.455	.428	.438
.163	3.603	2.748	.747	4.541	3.464	.166	1279	.948	1349	.421	.414	.452	.432	.421	.443	.455	.428	.439
.161	3.602	2.742	.745	4.556	3.468	.164	1279	.947	1350	.421	.414	.453	.433	.422	.444	.456	.429	.439
.159	3.596	2.732	.743	4.565	3.466	.162	1279	.948	1350	.422	.414	.453	.433	.422	.444	.457	.429	.440
.155	3.592	2.723	.739	4.572	3.466	.158	1279	.948	1349	.423	.415	.454	.434	.423	.444	.458	.431	.441

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
16	139	7.92	148.7	1350	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0163	1.321	.714	3875	4.404E-04	8.024E-08	6.625E 05	11.32	.88	.50	22.633	12

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.154	3.583	2.713	.738	4.579	3.467	.157	1279	.948	1350	.423	.415	.455	.434	.423	.445	.458	.431	.441
.150	3.572	2.701	.734	4.585	3.467	.153	1280	.948	1350	.423	.415	.456	.434	.423	.445	.458	.431	.442
.149	3.568	2.698	.733	4.588	3.467	.152	1279	.948	1350	.424	.416	.456	.430	.424	.446	.460	.432	.442
.149	3.549	2.680	.732	4.593	3.468	.151	1280	.948	1350	.425	.417	.457	.430	.425	.447	.460	.433	.443
.144	3.537	2.667	.728	4.592	3.463	.147	1280	.948	1350	.425	.417	.458	.435	.425	.448	.461	.433	.444
.143	3.526	2.661	.727	4.594	3.467	.146	1280	.948	1350	.426	.417	.458	.431	.425	.448	.462	.434	.444
.141	3.511	2.650	.725	4.598	3.469	.144	1280	.948	1350	.426	.418	.459	.429	.426	.449	.462	.434	.445
.140	3.498	2.639	.724	4.598	3.469	.143	1280	.948	1350	.427	.418	.460	.437	.426	.449	.463	.435	.446
.135	3.483	2.628	.719	4.600	3.471	.138	1280	.948	1350	.427	.419	.461	.437	.427	.450	.464	.435	.446
.135	3.469	2.613	.719	4.600	3.469	.138	1280	.948	1350	.428	.419	.461	.438	.427	.450	.465	.436	.447
.133	3.468	2.608	.717	4.601	3.469	.136	1280	.948	1350	.429	.419	.462	.429	.427	.451	.465	.437	.448
.131	3.431	2.589	.715	4.599	3.471	.134	1281	.949	1350	.429	.420	.462	.438	.428	.452	.466	.437	.448
.129	3.411	2.577	.713	4.602	3.471	.132	1281	.949	1350	.430	.420	.464	.439	.429	.452	.467	.438	.449
.126	3.387	2.556	.710	4.60	3.474	.129	1281	.949	1350	.430	.421	.464	.440	.429	.453	.468	.438	.450
.127	3.367	2.539	.711	4.60	3.472	.130	1281	.949	1350	.431	.421	.465	.440	.430	.454	.468	.439	.450
.124	3.347	2.524	.708	4.603	3.471	.127	1281	.950	1349	.432	.422	.466	.441	.430	.455	.469	.440	.451
.121	3.332	2.513	.705	4.605	3.472	.124	1281	.950	1349	.432	.423	.467	.439	.431	.455	.470	.441	.452
.121	3.314	2.499	.705	4.606	3.473	.124	1282	.950	1349	.433	.423	.467	.442	.431	.456	.471	.441	.452
.117	3.293	2.483	.701	4.605	3.473	.120	1282	.950	1349	.434	.424	.468	.442	.432	.456	.471	.442	.453
.115	3.271	2.469	.699	4.605	3.475	.118	1282	.950	1349	.434	.424	.468	.438	.432	.457	.472	.442	.454
.113	3.246	2.448	.697	4.605	3.473	.116	1282	.950	1349	.435	.424	.470	.443	.433	.458	.473	.443	.455
.112	3.225	2.433	.696	4.608	3.477	.115	1282	.951	1349	.435	.425	.470	.439	.433	.458	.474	.444	.455
.109	3.201	2.415	.692	4.604	3.477	.111	1282	.951	1349	.436	.425	.471	.444	.434	.459	.474	.444	.456
.107	3.178	2.398	.691	4.607	3.477	.110	1283	.951	1349	.436	.426	.471	.442	.434	.460	.475	.444	.456
.106	3.152	2.379	.690	4.608	3.477	.109	1283	.951	1349	.437	.426	.472	.440	.435	.460	.476	.445	.457
.103	3.126	2.361	.687	4.606	3.478	.106	1283	.951	1349	.438	.427	.473	.445	.435	.461	.477	.446	.457
.102	3.092	2.339	.686	4.606	3.478	.105	1283	.951	1349	.438	.427	.474	.448	.436	.462	.477	.446	.458
.101	3.073	2.321	.685	4.605	3.477	.104	1283	.951	1349	.439	.427	.474	.448	.436	.462	.478	.447	.459
.099	3.049	2.301	.683	4.606	3.478	.102	1284	.951	1349	.439	.427	.475	.444	.436	.463	.479	.447	.459
.097	3.024	2.285	.681	4.608	3.482	.100	1284	.952	1349	.440	.428	.475	.447	.437	.464	.479	.448	.460
.096	3.000	2.265	.680	4.607	3.479	.099	1284	.951	1349	.440	.428	.477	.447	.438	.464	.480	.448	.460
.097	2.978	2.249	.681	4.607	3.479	.100	1284	.952	1349	.441	.430	.477	.448	.438	.465	.481	.450	.461
.093	2.954	2.232	.677	4.604	3.479	.096	1284	.952	1349	.442	.430	.478	.448	.439	.466	.481	.450	.462
.093	2.934	2.217	.677	4.605	3.480	.096	1284	.952	1349	.442	.430	.478	.448	.439	.466	.482	.450	.462
.092	2.911	2.200	.676	4.606	3.480	.095	1284	.952	1349	.443	.431	.479	.449	.439	.467	.483	.451	.463
.089	2.888	2.182	.673	4.604	3.479	.092	1284	.952	1349	.443	.431	.479	.447	.440	.467	.483	.451	.463
.090	2.864	2.165	.674	4.607	3.483	.093	1284	.952	1349	.444	.432	.480	.450	.440	.468	.484	.452	.464
.088	2.840	2.147	.672	4.605	3.482	.091	1284	.952	1349	.444	.432	.481	.448	.441	.468	.485	.452	.464
.087	2.819	2.133	.671	4.605	3.484	.090	1284	.952	1349	.445	.432	.482	.448	.442	.469	.486	.453	.465
.087	2.799	2.117	.671	4.605	3.482	.090	1284	.952	1349	.446	.432	.482	.451	.442	.470	.486	.454	.466
.085	2.780	2.102	.669	4.607	3.483	.088	1284	.952	1349	.446	.433	.483	.451	.442	.471	.487	.454	.466
.085	2.761	2.088	.669	4.604	3.481	.088	1285	.952	1349	.447	.432	.483	.452	.443	.471	.488	.455	.467

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI-OH52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
16	139	7.92	148.9	1349	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.6	.0163	1.323	.715	3874	4.413E-04	8.018E-08	6.625E 05	11.32	.88	.50	2:.633	12

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.085	2.743	2.074	.669	4.603	3.480	.098	1284	.952	1349	.447	.434	.485	.452	.443	.472	.489	.456	.467
.083	2.724	2.061	.667	4.605	3.484	.096	1284	.951	1350	.448	.434	.484	.453	.444	.472	.489	.456	.468
.084	2.704	2.046	.668	4.604	3.484	.087	1284	.952	1349	.448	.434	.486	.454	.444	.473	.490	.456	.468
.081	2.686	2.033	.665	4.604	3.486	.084	1284	.952	1349	.449	.435	.486	.451	.445	.474	.490	.458	.470
.081	2.663	2.016	.665	4.604	3.486	.084	1284	.952	1349	.449	.435	.487	.448	.446	.474	.491	.458	.470
.080	2.637	1.995	.664	4.602	3.482	.083	1284	.952	1349	.450	.436	.487	.452	.446	.475	.491	.458	.471
.078	2.611	1.977	.662	4.603	3.485	.081	1284	.951	1349	.450	.436	.488	.457	.446	.475	.493	.459	.471
.079	2.587	1.957	.663	4.602	3.482	.082	1283	.951	1349	.451	.436	.489	.456	.447	.476	.493	.459	.472
.077	2.563	1.940	.661	4.598	3.481	.080	1283	.951	1349	.451	.437	.489	.456	.447	.477	.494	.460	.473
.077	2.541	1.924	.66.	4.600	3.483	.080	1283	.951	1349	.452	.438	.490	.456	.448	.477	.494	.460	.473
.076	2.517	1.907	.660	4.601	3.486	.079	1283	.951	1349	.452	.438	.491	.457	.448	.478	.495	.461	.474
.073	2.492	1.888	.657	4.601	3.486	.076	1283	.951	1349	.453	.439	.491	.457	.449	.479	.495	.462	.474
.074	2.467	1.869	.658	4.598	3.493	.077	1281	.950	1349	.454	.439	.492	.458	.450	.479	.496	.463	.475
.072	2.436	1.846	.656	4.601	3.486	.075	1280	.949	1349	.454	.439	.493	.458	.450	.479	.497	.463	.475
.071	2.404	1.822	.655	4.601	3.486	.074	1280	.949	1349	.455	.440	.493	.459	.450	.480	.498	.463	.476
.071	2.373	1.799	.655	4.600	3.487	.074	1280	.949	1349	.455	.440	.494	.457	.451	.481	.498	.464	.477
.069	2.344	1.777	.653	4.601	3.488	.072	1279	.948	1349	.456	.440	.494	.457	.451	.481	.499	.464	.477
.070	2.316	1.756	.654	4.602	3.489	.073	1278	.948	1349	.456	.440	.495	.460	.452	.482	.499	.465	.478
.068	2.288	1.732	.652	4.600	3.487	.071	1277	.947	1349	.457	.441	.495	.460	.452	.483	.500	.466	.478
.067	2.254	1.709	.651	4.599	3.487	.070	1277	.946	1349	.458	.442	.496	.461	.453	.483	.501	.466	.479
.066	2.226	1.689	.652	4.599	3.489	.071	1276	.946	1349	.458	.442	.497	.462	.453	.483	.502	.467	.479
.067	2.200	1.668	.653	4.603	3.490	.069	1274	.945	1349	.459	.443	.498	.462	.454	.485	.502	.467	.480
.066	2.170	1.646	.650	4.596	3.487	.069	1274	.944	1349	.459	.443	.498	.462	.454	.485	.503	.467	.481
.065	2.139	1.623	.649	4.600	3.490	.068	1272	.943	1349	.460	.443	.499	.460	.455	.486	.503	.468	.481
.063	2.108	1.599	.647	4.602	3.491	.066	1271	.942	1349	.460	.444	.499	.456	.455	.486	.504	.468	.482
.063	2.077	1.576	.647	4.605	3.494	.066	1269	.941	1349	.460	.444	.500	.462	.456	.487	.505	.470	.482
.062	2.045	1.550	.646	4.604	3.491	.065	1268	.940	1349	.462	.444	.501	.462	.456	.488	.505	.470	.483
.061	2.015	1.526	.645	4.606	3.492	.064	1266	.939	1349	.462	.445	.502	.464	.457	.488	.506	.471	.483
.061	1.985	1.504	.645	4.607	3.491	.064	1265	.937	1349	.462	.445	.502	.465	.458	.489	.507	.471	.484
.059	1.954	1.480	.643	4.607	3.491	.062	1263	.936	1349	.463	.446	.503	.465	.458	.490	.507	.471	.485
.059	1.925	1.457	.643	4.610	3.491	.062	1261	.935	1349	.463	.446	.503	.466	.459	.490	.508	.472	.485
.059	1.894	1.434	.643	4.611	3.491	.062	1259	.933	1349	.464	.447	.504	.466	.459	.490	.509	.473	.486
.056	1.861	1.409	.640	4.613	3.493	.059	1257	.932	1349	.464	.447	.505	.467	.459	.491	.510	.473	.486
.057	1.828	1.384	.641	4.611	3.491	.060	1254	.929	1350	.465	.446	.505	.467	.460	.491	.510	.473	.486
.055	1.795	1.359	.639	4.612	3.492	.058	1251	.928	1349	.465	.447	.506	.465	.460	.493	.511	.474	.487
.055	1.760	1.333	.639	4.614	3.496	.058	1248	.925	1349	.466	.447	.506	.466	.461	.493	.511	.475	.488
.054	1.726	1.307	.638	4.614	3.493	.057	1245	.923	1349	.467	.448	.507	.466	.462	.494	.512	.475	.489
.052	1.693	1.279	.636	4.614	3.493	.055	1242	.920	1349	.467	.448	.508	.466	.462	.494	.513	.475	.489
.053	1.659	1.251	.637	4.616	3.493	.056	1237	.917	1349	.468	.448	.509	.469	.462	.495	.513	.477	.490
.050	1.625	1.222	.634	4.616	3.492	.053	1232	.914	1349	.468	.449	.509	.470	.463	.495	.514	.478	.490
.049	1.574	1.193	.633	4.614	3.494	.052	1228	.911	1349	.468	.449	.510	.470	.463	.496	.515	.478	.49
.049	1.537	1.163	.633	4.617	3.494	.052	1224	.907	1349	.469	.450	.511	.471	.464	.497	.515	.478	.

DATE 5-6-74
PROJECT NUMBER VA524-21RA
AHO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI 0H52 SHUTTLE SURVEY TEST
PAGE = 5

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
16	139	7.92	148.8	1349	30.02	-8.02	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.6	.0163	1.322	.714	3874	4.410E-04	8.018E-08	6.625E 05	11.32	.88	.50	22.633	12

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG.R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.047	1.497	1.133	.631	4.616	3.493	.050	1219	.903	1349	.470	.450	.511	.471	.464	.497	.516	.479	.491
.046	1.459	1.104	.630	4.617	3.494	.049	1213	.899	1349	.470	.450	.512	.471	.465	.498	.517	.479	.493
.045	1.417	1.072	.629	4.617	3.494	.049	1207	.895	1349	.471	.451	.513	.472	.466	.498	.517	.480	.493
.044	1.377	1.042	.628	4.616	3.493	.047	1202	.891	1349	.471	.451	.513	.473	.466	.499	.518	.481	.494
.044	1.339	1.013	.628	4.619	3.495	.047	1196	.887	1349	.472	.451	.514	.473	.467	.499	.519	.481	.494
.042	1.300	.984	.626	4.618	3.494	.045	1188	.881	1349	.473	.452	.514	.473	.467	.500	.519	.481	.495
.040	1.260	.953	.624	4.618	3.494	.043	1181	.876	1349	.473	.452	.515	.466	.467	.501	.520	.482	.495
.040	1.221	.924	.624	4.618	3.494	.043	1174	.870	1349	.474	.452	.515	.474	.468	.501	.521	.482	.496
.039	1.183	.895	.623	4.617	3.494	.042	1167	.865	1349	.474	.453	.516	.465	.468	502	.521	.483	.496
.039	1.147	.869	.623	4.616	3.493	.042	1159	.859	1349	.474	.454	.517	.466	.469	.502	.522	.484	.497
.037	1.112	.841	.621	4.621	3.497	.040	1150	.853	1349	.475	.454	.517	.475	.470	.503	.522	.484	.497
.036	1.075	.813	.620	4.621	3.497	.039	1142	.847	1349	.475	.454	.518	.475	.470	.503	.523	.484	.498
.035	1.041	.788	.619	4.619	3.495	.038	1132	.839	1349	.476	.454	.519	.476	.471	.504	.524	.485	.498
.032	1.008	.762	.616	4.617	3.494	.035	1122	.832	1349	.477	.455	.519	.477	.471	.505	.525	.486	.499
.032	.975	.738	.616	4.620	3.495	.035	1113	.825	1349	.477	.455	.520	.477	.472	.505	.525	.486	.499
.031	.945	.715	.615	4.621	3.497	.034	1103	.818	1349	.478	.455	.521	.477	.473	.506	.526	.487	.500
.030	.913	.691	.614	4.618	3.494	.033	1093	.810	1349	.478	.456	.521	.475	.473	.506	.526	.487	.501
.030	.885	.669	.614	4.620	3.495	.033	1083	.803	1349	.479	.456	.522	.475	.473	.507	.527	.488	.501
.027	.856	.648	.611	4.620	3.495	.030	1070	.793	1349	.479	.456	.522	.478	.474	.507	.528	.489	.502
.027	.830	.628	.611	4.621	3.496	.030	1059	.785	1349	.480	.456	.523	.479	.474	.508	.528	.489	.502
.025	.805	.609	.609	4.624	3.499	.028	1049	.778	1349	.480	.457	.524	.479	.475	.509	.529	.489	.503
.025	.779	.590	.609	4.619	3.495	.028	1037	.769	1349	.481	.457	.524	.479	.475	.509	.529	.490	.503
.024	.756	.572	.608	4.621	3.494	.027	1027	.761	1349	.481	.457	.525	.480	.476	.510	.530	.491	.504
.021	.734	.556	.605	4.620	3.495	.024	1015	.752	1349	.482	.458	.526	.481	.477	.511	.530	.491	.505
.021	.714	.540	.605	4.620	3.494	.024	1003	.743	1349	.482	.458	.526	.481	.477	.511	.531	.491	.505
.020	.695	.526	.604	4.622	3.497	.023	990	.734	1349	.483	.458	.526	.479	.478	.511	.532	.493	.506
.018	.675	.511	.602	4.619	3.495	.021	976	.724	1349	.483	.458	.527	.482	.478	.512	.532	.493	.506
.018	.658	.498	.602	4.620	3.495	.021	964	.714	1349	.484	.459	.528	.478	.479	.513	.533	.493	.506
.016	.643	.486	.600	4.621	3.496	.019	950	.704	1349	.485	.459	.529	.475	.479	.513	.533	.494	.507
.015	.629	.476	.599	4.619	3.495	.018	935	.693	1349	.485	.459	.529	.483	.479	.514	.534	.494	.508
.014	.618	.467	.598	4.620	3.495	.017	921	.682	1349	.486	.459	.530	.483	.481	.514	.534	.495	.509
.007	.576	.436	.591	4.619	3.495	.010	839	.622	1349	.488	.461	.533	.485	.482	.518	.537	.497	.511

DATE 5-6-74
PROJECT NUMBER VAS24-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH-52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
17	139	7.92	154.2	1350	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0169	1.370	.740	3875	4.566E-04	8.024E-08	6.726E 05	13.58	.88	.60	22.633	13

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/T0	T0 (DEG R)	TW2/T0 (DEG R)	TW3/T0 (DEG R)	TW4/T0 (DEG R)	TW5/T0 (DEG R)	TW6/T0 (DEG R)	TW7/T0 (DEG R)	TW8/T0 (DEG R)	TW9/T0 (DEG R)	TW10/T0 (DEG R)
.747	4.669	3.416	1.331	1.009	.738	.751	1271	.941	1350	.375	.382	.392	.387	.387	.391	.393	.380	.387
.717	4.725	3.457	1.301	1.011	.740	.721	1271	.941	1350	.375	.382	.393	.388	.387	.393	.394	.381	.388
.685	4.786	3.491	1.269	1.012	.742	.689	1270	.941	1350	.376	.383	.394	.387	.388	.394	.394	.382	.389
.651	4.797	3.514	1.235	1.010	.740	.655	1270	.941	1350	.377	.383	.395	.390	.389	.394	.395	.383	.389
.621	4.823	3.535	1.205	1.057	.775	.625	1270	.941	1350	.378	.383	.396	.388	.389	.395	.397	.383	.390
.589	4.842	3.552	1.172	1.296	.950	.592	1270	.941	1350	.379	.383	.397	.386	.390	.396	.397	.385	.391
.558	4.854	3.563	1.142	3.032	2.225	.562	1270	.941	1350	.380	.383	.397	.391	.391	.397	.398	.385	.391
.528	4.862	3.573	1.112	4.489	3.299	.532	1270	.942	1349	.381	.384	.399	.392	.392	.398	.400	.387	.393
.500	4.866	3.576	1.084	4.475	3.289	.504	1270	.942	1349	.381	.384	.400	.393	.392	.399	.400	.387	.393
.490	4.867	3.579	1.074	4.483	3.297	.494	1270	.942	1349	.382	.384	.401	.393	.393	.400	.401	.388	.394
.478	4.864	3.582	1.062	4.481	3.299	.482	1270	.942	1349	.383	.385	.402	.394	.393	.400	.402	.388	.395
.468	4.864	3.584	1.052	4.481	3.302	.472	1270	.942	1349	.384	.385	.403	.392	.394	.401	.403	.389	.396
.456	4.865	3.589	1.040	4.486	3.310	.460	1270	.942	1349	.384	.385	.404	.395	.395	.401	.404	.391	.396
.445	4.863	3.590	1.029	4.484	3.311	.449	1270	.942	1349	.385	.385	.404	.393	.395	.403	.405	.391	.397
.435	4.860	3.590	1.019	4.484	3.312	.439	1270	.942	1349	.386	.385	.406	.396	.396	.404	.405	.392	.397
.419	4.856	3.592	1.003	4.480	3.314	.423	1270	.941	1349	.387	.386	.407	.396	.396	.404	.407	.392	.399
.414	4.851	3.591	.998	4.481	3.317	.418	1270	.942	1349	.387	.386	.407	.396	.397	.405	.408	.393	.399
.402	4.841	3.588	.986	4.473	3.316	.406	1270	.942	1349	.388	.386	.408	.397	.397	.405	.408	.393	.400
.393	4.829	3.582	.977	4.476	3.320	.397	1270	.942	1349	.388	.387	.409	.397	.398	.407	.409	.395	.400
.379	4.814	3.575	.963	4.476	3.324	.383	1271	.942	1349	.389	.387	.410	.393	.399	.407	.410	.395	.401
.370	4.795	3.564	.954	4.476	3.327	.374	1271	.942	1349	.389	.387	.411	.398	.399	.408	.411	.396	.402
.357	4.775	3.553	.941	4.478	3.332	.361	1271	.942	1349	.391	.388	.411	.392	.399	.408	.412	.396	.403
.347	4.751	3.540	.931	4.475	3.335	.351	1271	.942	1349	.391	.388	.412	.396	.400	.409	.412	.397	.403
.336	4.724	3.522	.920	4.478	3.339	.340	1271	.942	1349	.392	.388	.413	.399	.401	.410	.413	.398	.404
.322	4.693	3.504	.906	4.478	3.343	.326	1271	.942	1349	.392	.388	.413	.400	.401	.411	.415	.400	.405
.313	4.663	3.484	.897	4.482	3.348	.317	1271	.942	1349	.393	.388	.414	.393	.401	.411	.415	.400	.405
.298	4.626	3.461	.882	4.489	3.358	.302	1271	.943	1349	.393	.389	.415	.400	.402	.412	.416	.401	.407
.292	4.589	3.437	.876	4.489	3.363	.296	1272	.943	1349	.394	.389	.416	.401	.403	.412	.417	.401	.407
.289	4.561	3.421	.873	4.485	3.364	.293	1272	.943	1349	.395	.389	.416	.401	.403	.413	.418	.402	.408
.288	4.539	3.407	.872	4.484	3.366	.292	1272	.943	1349	.396	.389	.417	.402	.403	.413	.419	.403	.408
.284	4.523	3.400	.868	4.481	3.368	.288	1272	.943	1349	.396	.389	.418	.402	.404	.414	.419	.403	.409
.282	4.507	3.390	.866	4.476	3.366	.286	1272	.943	1349	.397	.389	.419	.403	.404	.415	.420	.404	.410
.281	4.492	3.380	.865	4.473	3.366	.285	1272	.943	1349	.397	.390	.420	.403	.405	.415	.421	.404	.411
.278	4.480	3.379	.862	4.468	3.369	.282	1272	.943	1349	.398	.391	.420	.401	.405	.416	.422	.405	.411
.277	4.466	3.372	.861	4.464	3.371	.281	1272	.943	1349	.399	.391	.421	.401	.405	.416	.423	.405	.412
.273	4.452	3.366	.857	4.462	3.374	.277	1272	.944	1348	.399	.391	.422	.404	.406	.417	.424	.407	.413
.273	4.443	3.359	.857	4.460	3.372	.277	1272	.944	1348	.400	.391	.423	.402	.406	.418	.425	.407	.414

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/AI 0H52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
17	139	7.92	144.8	1348	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0163	1.322	.714	3873	4.413E-04	8.012E-08	6.726E 05	13.58	.88	.60	22.633	13

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.270	4.432	3.353	.854	4.463	3.377	.274	1273	.944	1348	.401	.392	.424	.402	.407	.419	.426	.408	.414
.269	4.426	3.346	.853	4.470	3.380	.273	1273	.944	1348	.402	.392	.425	.405	.407	.420	.426	.409	.415
.267	4.424	3.341	.851	4.485	3.386	.271	1273	.945	1348	.402	.393	.425	.406	.407	.420	.428	.409	.416
.266	4.422	3.333	.848	4.494	3.386	.268	1273	.944	1349	.403	.393	.426	.405	.408	.420	.428	.409	.416
.263	4.426	3.329	.847	4.503	3.387	.267	1273	.944	1349	.403	.393	.427	.406	.408	.421	.428	.410	.417
.260	4.427	3.323	.844	4.514	3.388	.264	1274	.944	1349	.404	.393	.428	.402	.409	.421	.430	.411	.417
.258	4.425	3.315	.842	4.516	3.383	.262	1273	.944	1349	.404	.393	.428	.407	.409	.422	.430	.411	.418
.256	4.426	3.309	.840	4.531	3.387	.260	1273	.944	1349	.405	.394	.429	.407	.409	.423	.431	.412	.419
.253	4.422	3.302	.837	4.540	3.389	.257	1274	.944	1349	.405	.394	.430	.408	.410	.423	.432	.412	.420
.251	4.420	3.298	.835	4.546	3.392	.255	1274	.944	1349	.407	.395	.431	.401	.411	.424	.433	.413	.420
.249	4.414	3.289	.833	4.553	3.392	.253	1274	.945	1349	.407	.395	.431	.408	.411	.424	.434	.413	.421
.247	4.411	3.283	.831	4.561	3.394	.251	1274	.945	1349	.408	.395	.432	.407	.411	.425	.434	.414	.421
.245	4.405	3.276	.829	4.564	3.394	.249	1274	.944	1349	.408	.396	.433	.411	.412	.425	.435	.415	.423
.244	4.403	3.270	.828	4.569	3.393	.248	1274	.945	1349	.409	.396	.434	.409	.412	.426	.436	.416	.423
.241	4.397	3.265	.825	4.571	3.395	.245	1275	.945	1349	.409	.396	.435	.403	.412	.427	.437	.416	.424
.241	4.395	3.262	.825	4.572	3.393	.245	1274	.945	1349	.410	.397	.435	.410	.413	.427	.438	.417	.425
.239	4.391	3.259	.823	4.576	3.396	.243	1274	.944	1349	.411	.397	.436	.410	.413	.428	.439	.417	.425
.238	4.385	3.254	.822	4.573	3.394	.242	1274	.945	1349	.411	.397	.436	.411	.414	.429	.439	.417	.426
.238	4.377	3.251	.822	4.575	3.398	.242	1274	.945	1349	.412	.398	.437	.411	.414	.430	.440	.419	.427
.235	4.370	3.245	.819	4.573	3.396	.239	1274	.945	1349	.412	.399	.438	.411	.415	.430	.441	.419	.427
.234	4.363	3.243	.818	4.574	3.399	.238	1274	.945	1349	.412	.399	.439	.412	.415	.431	.442	.420	.428
.233	4.355	3.237	.817	4.572	3.398	.237	1274	.945	1349	.413	.400	.440	.410	.415	.431	.443	.421	.429
.231	4.346	3.232	.815	4.573	3.401	.235	1274	.945	1349	.414	.400	.440	.410	.416	.432	.444	.421	.430
.230	4.338	3.226	.814	4.570	3.398	.234	1275	.945	1349	.415	.400	.442	.413	.416	.432	.444	.421	.430
.228	4.328	3.223	.812	4.571	3.404	.232	1275	.945	1349	.415	.400	.442	.411	.417	.433	.445	.423	.431
.227	4.318	3.217	.811	4.566	3.402	.231	1274	.945	1349	.416	.401	.443	.411	.417	.434	.446	.423	.432
.231	4.310	3.213	.815	4.567	3.405	.235	1275	.945	1349	.416	.401	.443	.414	.417	.434	.447	.423	.432
.223	4.300	3.206	.807	4.566	3.405	.227	1275	.945	1349	.417	.401	.444	.415	.418	.435	.448	.424	.433
.222	4.288	3.199	.806	4.564	3.405	.226	1275	.945	1349	.417	.401	.445	.415	.419	.436	.448	.425	.434
.221	4.281	3.194	.805	4.564	3.405	.225	1275	.945	1349	.418	.402	.446	.415	.419	.436	.449	.425	.434
.218	4.271	3.189	.802	4.559	3.404	.222	1275	.945	1349	.419	.403	.447	.416	.419	.437	.450	.426	.435
.218	4.264	3.186	.802	4.560	3.407	.222	1275	.945	1349	.419	.403	.447	.416	.420	.438	.451	.426	.435
.216	4.257	3.183	.800	4.558	3.408	.220	1275	.945	1349	.420	.403	.448	.416	.420	.438	.451	.427	.436
.214	4.250	3.177	.798	4.555	3.405	.218	1275	.945	1349	.420	.404	.449	.410	.420	.439	.452	.428	.437
.214	4.243	3.176	.798	4.555	3.410	.218	1275	.945	1349	.420	.404	.450	.415	.421	.439	.453	.428	.438
.211	4.236	3.171	.795	4.553	3.409	.215	1274	.944	1349	.421	.404	.450	.417	.421	.440	.454	.430	.438
.211	4.229	3.169	.795	4.549	3.408	.215	1275	.945	1349	.422	.405	.451	.418	.421	.440	.455	.430	.439
.210	4.223	3.165	.794	4.548	3.409	.214	1275	.945	1349	.423	.405	.452	.416	.422	.441	.455	.431	.439
.209	4.218	3.164	.793	4.547	3.411	.213	1275	.945	1349	.423	.405	.452	.416	.423	.442	.456	.431	.440
.209	4.212	3.161	.793	4.544	3.411	.213	1275	.945	1349	.423	.406	.453	.419	.423	.443	.457	.432	.441
.207	4.204	3.158	.791	4.545	3.413	.211	1274	.945	1348	.424	.407	.454	.420	.424	.444	.458	.433	.442
.205	4.197	3.154	.789	4.542	3.414	.209	1275	.946	1348	.425	.407	.454	.420	.424	.444	.459	.433	.442

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
17	139	7.92	149.7	1348	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0164	1.330	.719	3873	4.440E-04	8.012E-08	6.726E 05	13.58	.88	.60	22.633	13

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.203	4.188	3.150	.787	4.541	3.415	.207	1275	.946	1348	.425	.407	.456	.421	.425	.445	.460	.434	.443
.200	4.177	3.143	.784	4.536	3.414	.204	1275	.946	1348	.426	.407	.456	.421	.425	.445	.460	.434	.444
.199	4.169	3.138	.783	4.535	3.413	.203	1275	.946	1348	.426	.408	.457	.421	.425	.446	.461	.435	.444
.196	4.159	3.131	.780	4.537	3.417	.200	1275	.946	1348	.427	.409	.458	.422	.426	.446	.462	.436	.445
.194	4.147	3.125	.778	4.534	3.417	.198	1275	.946	1348	.428	.409	.459	.420	.426	.447	.463	.436	.446
.192	4.134	3.118	.776	4.535	3.420	.196	1275	.946	1348	.428	.409	.459	.422	.427	.448	.463	.437	.446
.189	4.120	3.109	.773	4.532	3.420	.193	1275	.946	1348	.429	.410	.460	.421	.427	.448	.464	.437	.447
.188	4.109	3.103	.772	4.533	3.423	.192	1276	.946	1348	.429	.410	.460	.421	.428	.449	.464	.438	.448
.186	4.095	3.094	.770	4.532	3.424	.190	1276	.946	1348	.430	.410	.461	.424	.428	.449	.465	.438	.448
.184	4.080	3.083	.768	4.527	3.421	.188	1276	.946	1348	.430	.410	.462	.424	.429	.450	.466	.439	.449
.183	4.069	3.077	.767	4.530	3.425	.187	1276	.946	1348	.431	.411	.463	.424	.429	.450	.467	.439	.449
.178	4.056	3.069	.762	4.531	3.428	.182	1276	.946	1348	.432	.411	.463	.425	.429	.451	.468	.440	.450
.177	4.039	3.060	.761	4.527	3.430	.181	1276	.946	1348	.432	.411	.464	.425	.430	.452	.468	.441	.450
.174	4.024	3.051	.758	4.529	3.434	.178	1276	.947	1348	.433	.412	.465	.426	.430	.452	.469	.441	.452
.173	4.009	3.039	.757	4.528	3.433	.177	1277	.947	1348	.433	.413	.465	.424	.431	.453	.469	.442	.452
.171	3.994	3.030	.755	4.525	3.433	.175	1276	.947	1348	.434	.413	.466	.424	.432	.454	.470	.442	.453
.170	3.981	3.022	.754	4.525	3.435	.174	1276	.947	1348	.434	.413	.467	.427	.432	.454	.471	.442	.453
.169	3.967	3.014	.753	4.524	3.437	.173	1277	.947	1348	.434	.413	.468	.423	.432	.455	.472	.444	.454
.166	3.956	3.005	.750	4.520	3.434	.170	1277	.947	1348	.435	.414	.468	.423	.433	.456	.472	.445	.454
.166	3.944	2.998	.750	4.521	3.437	.170	1276	.947	1348	.436	.414	.469	.428	.433	.456	.473	.445	.455
.163	3.931	2.991	.747	4.519	3.438	.167	1277	.947	1348	.436	.414	.470	.429	.433	.457	.473	.445	.456
.163	3.918	2.984	.747	4.514	3.439	.167	1277	.947	1348	.437	.415	.470	.429	.434	.457	.475	.446	.456
.161	3.910	2.978	.745	4.516	3.440	.165	1277	.947	1348	.437	.415	.471	.429	.434	.458	.475	.446	.457
.158	3.897	2.970	.742	4.513	3.440	.162	1277	.947	1348	.438	.415	.471	.430	.435	.458	.476	.446	.457
.158	3.887	2.963	.742	4.516	3.442	.162	1277	.947	1348	.438	.416	.472	.430	.435	.459	.477	.447	.458
.156	3.873	2.954	.740	4.513	3.442	.160	1277	.947	1348	.439	.416	.473	.430	.436	.460	.477	.448	.459
.155	3.863	2.949	.739	4.512	3.444	.159	1277	.948	1348	.440	.417	.473	.429	.436	.460	.478	.448	.459
.154	3.851	2.944	.738	4.510	3.447	.158	1277	.948	1348	.440	.417	.474	.432	.437	.461	.479	.449	.460
.150	3.838	2.934	.734	4.510	3.447	.154	1277	.947	1348	.440	.418	.475	.432	.437	.462	.479	.450	.460
.150	3.823	2.922	.734	4.509	3.447	.154	1278	.948	1348	.441	.418	.476	.432	.437	.462	.480	.450	.461
.148	3.814	2.914	.732	4.510	3.450	.152	1278	.948	1348	.441	.418	.476	.433	.438	.463	.480	.450	.461
.146	3.795	2.905	.730	4.507	3.449	.150	1278	.948	1348	.442	.418	.477	.433	.438	.464	.481	.451	.462
.145	3.780	2.895	.729	4.506	3.451	.149	1278	.948	1348	.442	.420	.477	.433	.439	.464	.482	.452	.463
.141	3.765	2.888	.725	4.506	3.456	.145	1278	.948	1348	.443	.420	.478	.434	.440	.465	.483	.452	.463
.141	3.749	2.875	.725	4.503	3.453	.145	1278	.948	1348	.444	.420	.479	.434	.440	.465	.484	.453	.464
.140	3.736	2.867	.724	4.504	3.456	.144	1278	.948	1348	.444	.420	.479	.434	.440	.466	.484	.453	.464
.137	3.723	2.859	.721	4.503	3.458	.141	1278	.948	1348	.445	.420	.480	.435	.441	.467	.485	.454	.465
.137	3.707	2.847	.721	4.503	3.458	.141	1278	.948	1348	.445	.421	.481	.436	.441	.467	.485	.455	.465
.134	3.691	2.837	.718	4.505	3.462	.138	1279	.949	1348	.446	.421	.481	.436	.442	.468	.486	.455	.466
.133	3.678	2.824	.717	4.512	3.465	.137	1279	.949	1348	.446	.421	.482	.436	.442	.468	.487	.456	.467
.132	3.666	2.814	.716	4.522	3.470	.136	1279	.949	1348	.446	.422	.483	.437	.442	.469	.487	.456	.467
.129	3.657	2.801	.712	4.528	3.468	.132	1279	.949	1348	.447	.422	.483	.437	.443	.469	.488	.457	.468

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PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
17	139	7.92	147.1	1348	30.05	-8.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PS_{IA})	Q-INF (PS_{IA})	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	IAP
99.5	.0161	1.307	.706	3873	4.363E-04	8.012E-08	6.726E 05	13.58	.88	.60	22.633	13

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.128	3.646	2.793	.712	4.541	3.475	.132	1280	.949	.448	.423	.484	.438	.444	.470	.489	.457	.468
.125	3.640	2.780	.709	4.551	3.476	.129	1279	.949	.448	.423	.485	.438	.444	.471	.489	.458	.469
.123	3.630	2.769	.707	4.553	3.473	.127	1279	.949	.449	.424	.485	.438	.444	.471	.490	.459	.470
.123	3.618	2.756	.707	4.563	3.476	.127	1280	.949	.449	.424	.486	.439	.445	.472	.491	.459	.470
.120	3.608	2.744	.704	4.574	3.480	.124	1280	.949	.450	.424	.487	.439	.445	.472	.491	.460	.471
.118	3.596	2.732	.702	4.581	3.480	.122	1280	.950	.450	.425	.487	.440	.446	.473	.492	.460	.471
.117	3.583	2.720	.701	4.586	3.482	.121	1280	.950	.450	.425	.488	.440	.446	.473	.493	.461	.472
.114	3.568	2.705	.698	4.592	3.482	.118	1280	.949	.451	.425	.488	.440	.446	.475	.494	.461	.472
.113	3.553	2.692	.697	4.597	3.483	.117	1280	.950	.452	.425	.489	.441	.447	.475	.494	.462	.473
.113	3.538	2.679	.694	4.604	3.486	.114	1281	.950	.452	.426	.489	.441	.448	.475	.495	.463	.473
.109	3.522	2.665	.693	4.607	3.486	.113	1281	.950	.453	.426	.490	.442	.448	.476	.495	.463	.475
.107	3.505	2.650	.691	4.613	3.488	.11	1281	.950	.453	.427	.491	.438	.449	.477	.496	.464	.475
.104	3.489	2.636	.688	4.617	3.486	.108	1280	.950	.454	.427	.492	.442	.449	.477	.496	.464	.475
.103	3.470	2.620	.687	4.624	3.491	.107	1281	.949	.454	.427	.492	.443	.450	.478	.497	.464	.475
.101	3.449	2.603	.685	4.628	3.493	.105	1281	.950	.454	.428	.493	.439	.450	.479	.498	.465	.477
.099	3.429	2.594	.683	4.634	3.492	.103	1281	.950	.455	.428	.493	.439	.450	.479	.498	.466	.477
.098	3.409	2.567	.682	4.643	3.496	.102	1281	.950	.455	.428	.494	.444	.451	.479	.499	.466	.478
.096	3.386	2.548	.680	4.647	3.497	.100	1281	.950	.456	.428	.494	.444	.451	.480	.499	.466	.478
.095	3.366	2.532	.679	4.649	3.497	.099	1281	.950	.456	.429	.495	.445	.452	.481	.500	.467	.479
.093	3.347	2.516	.677	4.656	3.500	.097	1282	.950	.457	.430	.495	.446	.452	.481	.501	.467	.479
.091	3.328	2.500	.675	4.660	3.500	.095	1281	.950	.458	.430	.496	.439	.453	.482	.501	.468	.480
.091	3.308	2.483	.675	4.664	3.501	.095	1281	.950	.458	.431	.497	.444	.453	.482	.502	.468	.480
.089	3.286	2.467	.672	4.667	3.503	.092	1281	.950	.458	.431	.497	.447	.454	.483	.503	.469	.481
.087	3.264	2.448	.671	4.667	3.501	.091	1282	.950	.459	.431	.498	.447	.454	.483	.503	.469	.481
.086	3.242	2.430	.670	4.675	3.504	.090	1282	.950	.459	.432	.498	.448	.455	.484	.504	.470	.482
.083	3.217	2.412	.667	4.675	3.505	.087	1282	.950	.460	.432	.499	.448	.455	.485	.505	.470	.482
.082	3.194	2.393	.668	4.679	3.505	.088	1282	.950	.460	.432	.499	.448	.455	.485	.505	.471	.483
.082	3.171	2.374	.666	4.681	3.504	.086	1282	.950	.461	.433	.501	.449	.456	.486	.506	.472	.483
.081	3.149	2.357	.665	4.684	3.507	.085	1282	.950	.462	.433	.501	.447	.456	.486	.506	.472	.485
.080	3.124	2.337	.664	4.688	3.507	.084	1282	.950	.462	.434	.502	.448	.457	.487	.507	.473	.485
.077	3.097	2.319	.661	4.689	3.510	.081	1282	.950	.462	.434	.502	.448	.458	.488	.508	.473	.485
.077	3.072	2.298	.661	4.694	3.512	.081	1281	.950	.463	.434	.503	.448	.458	.488	.509	.474	.486
.075	3.044	2.277	.659	4.694	3.511	.079	1281	.950	.463	.435	.504	.447	.459	.489	.509	.474	.487
.074	3.011	2.253	.658	4.696	3.513	.078	1281	.949	.464	.435	.505	.452	.459	.490	.510	.475	.487
.073	2.977	2.225	.657	4.697	3.511	.077	1281	.949	.464	.436	.505	.452	.459	.490	.511	.475	.487
.070	2.943	2.200	.654	4.701	3.515	.074	1280	.949	.465	.436	.506	.452	.460	.490	.511	.476	.488
.070	2.908	2.172	.654	4.702	3.513	.074	1279	.948	.465	.436	.506	.453	.460	.491	.512	.477	.489
.069	2.873	2.147	.653	4.703	3.514	.073	1280	.949	.466	.437	.507	.451	.461	.491	.513	.477	.489
.066	2.843	2.124	.650	4.705	3.515	.070	1279	.948	.466	.437	.507	.454	.462	.493	.513	.477	.490
.066	2.810	2.101	.650	4.706	3.518	.070	1278	.948	.467	.437	.509	.452	.462	.493	.514	.478	.490
.065	2.777	2.075	.649	4.706	3.516	.069	1278	.947	.467	.438	.509	.452	.462	.494	.514	.478	.491
.065	2.742	2.048	.649	4.709	3.518	.069	1277	.947	.468	.438	.510	.455	.463	.494	.515	.478	.491

DATE 5-6-74
PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/R1 OH52 SHUTTLE SURVEY TEST
PAGE = 5

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
17	139	7.92	150.7	1349	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.6	.0165	1.339	.724	3874	4.406E-04	8.018E-08	6.726E 05	13.58	.88	.60	22.633	13

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.063	2.714	2.027	.647	4.710	3.519	.067	1276	.946	1349	.468	.439	.510	.456	.463	.495	.515	.480	.491
.063	2.682	2.004	.647	4.710	3.519	.067	1275	.945	1349	.468	.439	.511	.456	.464	.495	.517	.480	.493
.061	2.648	1.978	.645	4.714	3.522	.065	1274	.944	1349	.469	.439	.511	.457	.464	.496	.517	.481	.493
.059	2.612	1.950	.643	4.716	3.521	.063	1273	.944	1349	.470	.439	.512	.457	.465	.496	.518	.481	.494
.060	2.575	1.923	.644	4.716	3.521	.064	1271	.942	1349	.470	.440	.513	.458	.466	.497	.518	.482	.494
.059	2.533	1.891	.642	4.715	3.521	.062	1269	.941	1349	.471	.440	.513	.456	.466	.498	.519	.482	.495
.057	2.490	1.859	.641	4.717	3.522	.061	1267	.939	1349	.471	.440	.514	.456	.466	.498	.520	.482	.495
.056	2.446	1.826	.640	4.717	3.522	.060	1265	.938	1349	.471	.441	.514	.459	.467	.499	.520	.483	.495
.054	2.402	1.792	.638	4.721	3.523	.058	1263	.936	1349	.472	.442	.515	.457	.467	.499	.521	.483	.496
.054	2.356	1.758	.638	4.720	3.522	.058	1260	.934	1349	.473	.442	.516	.460	.468	.499	.521	.483	.497
.053	2.310	1.723	.637	4.723	3.524	.057	1257	.932	1349	.473	.442	.517	.460	.468	.501	.522	.485	.497
.052	2.261	1.688	.636	4.719	3.524	.056	1254	.930	1349	.473	.443	.517	.461	.469	.501	.522	.485	.498
.051	2.217	1.654	.635	4.724	3.525	.055	1251	.927	1349	.474	.443	.517	.462	.469	.501	.524	.485	.498
.050	2.170	1.619	.634	4.727	3.527	.054	1247	.924	1349	.474	.443	.518	.462	.470	.502	.524	.486	.499
.049	2.124	1.585	.633	4.727	3.527	.053	1244	.922	1349	.475	.443	.519	.462	.470	.502	.525	.487	.499
.048	2.077	1.550	.632	4.727	3.527	.052	1240	.919	1349	.475	.444	.520	.460	.471	.503	.525	.487	.500
.046	2.031	1.516	.630	4.727	3.529	.050	1235	.915	1349	.476	.444	.520	.456	.471	.503	.526	.487	.501
.046	1.982	1.480	.630	4.727	3.529	.050	1230	.912	1349	.476	.444	.521	.457	.472	.504	.526	.488	.501
.045	1.934	1.444	.629	4.731	3.532	.049	1225	.908	1349	.477	.445	.521	.464	.473	.505	.527	.489	.502
.043	1.884	1.405	.627	4.729	3.529	.047	1219	.904	1349	.477	.446	.522	.464	.473	.505	.528	.489	.502
.043	1.835	1.370	.627	4.729	3.531	.047	1213	.899	1349	.478	.446	.522	.465	.473	.506	.528	.490	.503
.041	1.785	1.332	.625	4.732	3.533	.045	1208	.895	1349	.478	.446	.523	.465	.474	.506	.529	.490	.503
.041	1.739	1.297	.625	4.732	3.531	.045	1203	.892	1349	.478	.447	.524	.466	.474	.507	.529	.490	.504
.040	1.692	1.263	.624	4.732	3.533	.044	1196	.887	1349	.479	.447	.524	.466	.475	.507	.530	.490	.504
.038	1.645	1.227	.622	4.730	3.529	.042	1189	.882	1348	.480	.448	.525	.467	.476	.508	.531	.492	.506
.038	1.597	1.192	.622	4.732	3.533	.042	1182	.876	1349	.480	.448	.525	.465	.476	.509	.531	.492	.505
.036	1.549	1.157	.620	4.736	3.536	.040	1174	.871	1349	.481	.448	.526	.465	.477	.509	.532	.493	.506
.035	1.502	1.122	.619	4.733	3.534	.039	1167	.866	1348	.481	.449	.527	.468	.477	.510	.533	.494	.507
.035	1.457	1.087	.619	4.730	3.529	.039	1160	.860	1349	.481	.449	.527	.466	.477	.511	.533	.493	.507
.033	1.414	1.056	.617	4.737	3.537	.037	1154	.855	1349	.482	.449	.528	.469	.478	.511	.533	.494	.507
.032	1.368	1.022	.616	4.736	3.536	.036	1145	.848	1349	.482	.450	.528	.470	.478	.511	.534	.494	.508
.031	1.326	.989	.615	4.737	3.535	.035	1137	.843	1349	.483	.450	.529	.470	.479	.512	.534	.495	.509
.030	1.285	.959	.614	4.737	3.537	.034	1129	.838	1349	.484	.450	.530	.471	.480	.513	.535	.495	.510
.030	1.243	.928	.614	4.737	3.537	.034	1121	.831	1349	.483	.451	.530	.471	.480	.513	.536	.495	.510
.029	1.204	.899	.613	4.741	3.540	.033	1114	.826	1349	.484	.451	.530	.471	.481	.514	.537	.496	.510
.028	1.169	.873	.612	4.739	3.538	.032	1109	.822	1349	.485	.451	.532	.472	.481	.514	.537	.497	.511
.028	1.136	.848	.612	4.741	3.540	.032	1104	.819	1349	.485	.452	.532	.472	.481	.515	.537	.497	.511
.026	1.105	.825	.610	4.741	3.537	.030	1097	.813	1349	.486	.452	.533	.473	.482	.515	.538	.498	.512
.027	1.076	.803	.611	4.739	3.536	.031	1091	.809	1349	.486	.452	.533	.473	.482	.516	.539	.498	.512
.026	1.047	.782	.610	4.739	3.538	.030	1084	.803	1349	.486	.453	.534	.466	.483	.517	.540	.499	.513
.024	1.018	.760	.608	4.741	3.540	.028	1074	.796	1349	.487	.454	.534	.474	.483	.517	.540	.499	.513
.024	.990	.738	.608	4.740	3.537	.028	1064	.789	1349	.487	.454	.535	.474	.484	.518	.541	.499	.514

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
17	139	7.92	150.9	1348	29.99	-7.99	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0165	1.340	.725	3873	4.475E-04	8.012E-08	6.726E 05	13.58	.88	.60	22.633	13

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.023	.962	.718	.607	4.742	3.538	.027	1056	.784	1348	.488	.454	.536	.475	.485	.519	.542	.500	.515
.022	.936	.699	.606	4.739	3.536	.026	1049	.778	1349	.488	.454	.537	.476	.485	.519	.542	.502	.515
.022	.911	.680	.606	4.743	3.541	.026	1040	.772	1348	.489	.455	.537	.476	.485	.520	.543	.502	.516
.020	.887	.662	.604	4.741	3.538	.024	1030	.764	1348	.489	.455	.538	.476	.486	.520	.543	.502	.516
.020	.863	.644	.604	4.745	3.543	.024	1023	.759	1348	.490	.456	.538	.477	.487	.521	.543	.503	.517
.020	.841	.627	.604	4.743	3.539	.024	1015	.753	1348	.491	.456	.538	.477	.487	.522	.545	.503	.518
.018	.819	.612	.602	4.744	3.542	.022	1007	.747	1349	.490	.456	.538	.475	.487	.522	.544	.503	.518
.018	.800	.597	.602	4.746	3.543	.022	999	.740	1349	.491	.456	.539	.475	.488	.522	.545	.504	.518
.016	.779	.581	.600	4.747	3.542	.020	991	.735	1348	.492	.457	.540	.479	.489	.523	.546	.505	.519
.015	.759	.567	.599	4.746	3.544	.019	979	.726	1349	.492	.457	.540	.479	.489	.524	.546	.505	.519
.016	.742	.555	.600	4.748	3.545	.020	971	.720	1349	.493	.458	.541	.479	.489	.524	.546	.505	.520
.014	.726	.543	.598	4.747	3.542	.018	965	.716	1349	.493	.458	.541	.480	.490	.525	.548	.506	.520
.013	.708	.528	.597	4.747	3.542	.017	958	.710	1349	.493	.458	.542	.475	.490	.525	.548	.506	.521
.013	.692	.516	.597	4.749	3.543	.017	948	.703	1349	.494	.459	.542	.481	.491	.525	.549	.507	.521
.011	.678	.506	.595	4.750	3.544	.015	938	.696	1349	.494	.459	.543	.477	.491	.526	.549	.507	.522
.011	.663	.495	.595	4.750	3.546	.015	928	.688	1349	.495	.459	.544	.477	.491	.526	.550	.507	.522
.010	.649	.484	.594	4.749	3.543	.014	920	.682	1349	.495	.459	.544	.478	.492	.527	.550	.508	.523
.009	.636	.474	.593	4.750	3.544	.013	910	.674	1349	.496	.460	.545	.475	.493	.528	.551	.509	.524
.009	.624	.466	.593	4.750	3.544	.013	902	.669	1349	.496	.460	.545	.481	.493	.528	.551	.509	.524
.007	.591	.441	.591	4.748	3.545	.011	897	.665	1349	.498	.462	.548	.485	.495	.531	.553	.511	.526

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
PAGE = 1

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
18	139	7.92	150.3	1348	30.02	-8.02	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0164	1.335	.722	3873	4.458E-04	8.012E-08	6.658E 05	11.32	2.05	.50	22.633	14

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.672	4.744	3.554	1.256	.977	.736	.699	1268	.941	1348	.385	.391	.397	.393	.406	.396	.397	.387	.393
.647	4.758	3.583	1.231	.980	.738	.674	1268	.941	1348	.386	.391	.398	.394	.407	.397	.398	.389	.394
.617	4.772	3.596	1.201	.979	.738	.644	1268	.942	1347	.387	.392	.399	.395	.408	.398	.399	.389	.396
.583	4.780	3.605	1.167	.978	.737	.610	1268	.942	1347	.387	.392	.400	.393	.409	.399	.400	.390	.396
.552	4.785	3.611	1.136	.976	.737	.579	1268	.941	1347	.388	.393	.401	.397	.409	.400	.401	.391	.397
.520	4.784	3.612	1.104	.977	.738	.547	1268	.941	1347	.389	.394	.402	.398	.411	.400	.402	.391	.397
.490	4.777	3.612	1.074	.976	.738	.517	1268	.942	1347	.389	.395	.403	.400	.412	.401	.403	.392	.398
.458	4.771	3.610	1.042	.974	.737	.485	1268	.942	1347	.390	.395	.404	.401	.414	.401	.404	.393	.399
.428	4.764	3.607	1.012	.996	.754	.455	1268	.942	1347	.391	.395	.405	.404	.413	.403	.404	.393	.400
.418	4.755	3.602	1.002	1.048	.794	.445	1269	.942	1347	.391	.396	.405	.403	.412	.404	.405	.395	.400
.406	4.743	3.596	.990	1.120	.849	.433	1268	.942	1347	.392	.396	.407	.406	.412	.404	.406	.396	.400
.395	4.729	3.588	.979	1.196	.907	.422	1269	.942	1347	.392	.396	.407	.407	.412	.405	.407	.397	.401
.383	4.713	3.573	.967	1.298	.984	.410	1269	.942	1347	.393	.396	.408	.406	.412	.406	.408	.397	.403
.372	4.695	3.560	.956	1.618	1.227	.399	1269	.942	1347	.394	.396	.408	.409	.412	.407	.408	.398	.403
.361	4.678	3.544	.945	2.221	1.683	.388	1270	.942	1347	.395	.396	.409	.408	.413	.408	.409	.400	.404
.352	4.662	3.532	.936	2.989	2.265	.379	1269	.942	1347	.395	.397	.411	.412	.414	.408	.411	.400	.405
.342	4.647	3.518	.926	3.752	2.841	.369	1270	.943	1347	.396	.397	.411	.411	.415	.409	.411	.401	.405
.340	4.632	3.507	.924	4.294	3.251	.367	1270	.942	1347	.396	.397	.412	.412	.415	.409	.412	.401	.406
.327	4.617	3.493	.911	4.396	3.326	.354	1270	.942	1347	.397	.397	.413	.416	.415	.411	.413	.402	.407
.316	4.603	3.478	.900	4.374	3.305	.343	1270	.943	1347	.397	.397	.413	.417	.416	.411	.414	.403	.408
.305	4.591	3.465	.889	4.395	3.316	.3	1270	.943	1347	.398	.398	.414	.418	.416	.412	.415	.403	.408
.295	4.579	3.449	.879	4.417	3.327	.362	1270	.943	1347	.399	.398	.415	.420	.416	.412	.416	.404	.409
.281	4.566	3.434	.865	4.442	3.341	.308	1270	.943	1347	.399	.398	.416	.422	.416	.413	.416	.404	.410
.271	4.551	3.416	.855	4.466	3.352	.298	1271	.943	1348	.399	.398	.416	.423	.416	.414	.417	.405	.410
.260	4.537	3.394	.844	4.485	3.362	.287	1271	.943	1348	.400	.399	.417	.425	.416	.414	.418	.405	.411
.249	4.498	3.372	.833	4.502	3.375	.276	1271	.944	1347	.401	.399	.418	.426	.417	.415	.419	.405	.412
.236	4.463	3.343	.820	4.523	3.388	.263	1271	.944	1347	.402	.400	.419	.428	.418	.416	.420	.406	.413
.225	4.417	3.309	.809	4.540	3.401	.252	1272	.944	1347	.403	.400	.420	.424	.418	.416	.421	.406	.414
.213	4.367	3.271	.797	4.559	3.415	.240	1272	.944	1347	.403	.400	.421	.430	.419	.418	.422	.407	.415
.202	4.313	3.231	.786	4.575	3.427	.229	1272	.944	1347	.404	.400	.422	.430	.420	.418	.423	.407	.415
.197	4.260	3.191	.781	4.583	3.433	.224	1273	.945	1347	.404	.400	.423	.429	.420	.419	.424	.408	.416
.192	4.223	3.163	.776	4.584	3.434	.219	1272	.945	1347	.405	.401	.423	.431	.421	.419	.424	.409	.417
.190	4.195	3.144	.774	4.590	3.440	.217	1273	.945	1347	.405	.401	.424	.430	.422	.420	.426	.409	.418
.187	4.170	3.128	.771	4.596	3.440	.214	1273	.945	1347	.406	.401	.425	.433	.422	.420	.426	.411	.418
.185	4.151	3.115	.769	4.588	3.444	.212	1273	.945	1347	.407	.401	.426	.429	.423	.421	.427	.411	.419

DATE 5-6-74
PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI 0H52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	/AW
18	139	7.92	149.8	1347	30.02	-8.02	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0164	1.331	.719	3871	4.446E-04	8.006E-08	6.658E 05	11.32	2.05	.50	22.633	14

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.182	4.129	3.103	.766	4.586	3.447	.209	1273	.945	1347	.407	.401	.427	.434	.423	.422	.428	.412	.420
.179	4.105	3.087	.762	4.582	3.446	.205	1273	.945	1347	.408	.402	.428	.430	.424	.422	.429	.413	.420
.177	4.083	3.077	.761	4.578	3.450	.204	1273	.945	1347	.408	.402	.428	.430	.424	.423	.430	.413	.422
.172	4.043	3.064	.756	4.577	3.451	.199	1273	.945	1347	.409	.402	.429	.435	.425	.423	.430	.414	.422
.171	4.043	3.053	.755	4.575	3.454	.198	1273	.945	1347	.409	.403	.430	.429	.426	.424	.431	.414	.423
.169	4.024	3.043	.753	4.571	3.456	.196	1274	.946	1347	.409	.403	.431	.436	.426	.424	.432	.415	.424
.166	4.007	3.034	.750	4.569	3.459	.193	1273	.945	1347	.410	.403	.431	.432	.427	.426	.433	.415	.424
.164	3.991	3.024	.748	4.570	3.462	.191	1274	.946	1347	.411	.403	.432	.430	.427	.426	.434	.416	.425
.163	3.977	3.017	.747	4.572	3.466	.190	1274	.946	1347	.411	.403	.433	.438	.428	.427	.435	.417	.426
.159	3.956	2.999	.743	4.574	3.468	.186	1274	.946	1347	.412	.404	.434	.438	.428	.427	.435	.418	.427
.158	3.940	2.989	.742	4.575	3.471	.185	1274	.946	1347	.412	.404	.435	.439	.429	.428	.436	.419	.427
.155	3.923	2.976	.739	4.576	3.472	.182	1274	.946	1347	.413	.404	.435	.439	.430	.428	.437	.419	.428
.154	3.908	2.967	.738	4.578	3.475	.181	1274	.946	1347	.413	.405	.436	.439	.430	.429	.438	.420	.428
.154	3.895	2.955	.738	4.580	3.475	.181	1275	.946	1347	.414	.405	.437	.440	.431	.430	.439	.421	.430
.150	3.883	2.946	.734	4.584	3.478	.177	1274	.946	1347	.415	.405	.438	.440	.431	.430	.439	.422	.430
.149	3.874	2.939	.733	4.586	3.479	.176	1275	.946	1347	.415	.405	.438	.441	.432	.431	.440	.422	.431
.147	3.861	2.927	.731	4.592	3.482	.174	1275	.946	1347	.416	.406	.439	.442	.432	.431	.442	.423	.431
.145	3.848	2.917	.729	4.594	3.483	.172	1275	.946	1347	.416	.406	.439	.442	.433	.432	.442	.424	.432
.143	3.835	2.908	.727	4.598	3.486	.170	1275	.947	1347	.416	.407	.440	.438	.434	.433	.443	.425	.433
.140	3.823	2.896	.724	4.602	3.487	.167	1275	.947	1347	.418	.407	.441	.443	.434	.434	.444	.425	.434
.139	3.810	2.887	.723	4.602	3.487	.166	1275	.947	1347	.418	.407	.442	.443	.435	.434	.444	.426	.435
.139	3.798	2.878	.723	4.607	3.490	.166	1275	.947	1347	.418	.408	.443	.439	.435	.435	.446	.427	.435
.135	3.784	2.867	.719	4.613	3.495	.162	1276	.947	1347	.419	.408	.444	.444	.435	.435	.446	.427	.436
.134	3.772	2.856	.718	4.616	3.495	.161	1276	.947	1347	.419	.408	.444	.445	.436	.436	.447	.428	.436
.132	3.759	2.844	.716	4.624	3.499	.159	1276	.947	1347	.420	.408	.446	.440	.437	.437	.448	.428	.437
.129	3.744	2.831	.713	4.627	3.499	.156	1276	.947	1347	.420	.409	.446	.446	.438	.438	.449	.430	.438
.129	3.733	2.821	.713	4.633	3.501	.156	1276	.948	1347	.421	.409	.447	.449	.438	.438	.450	.430	.439
.126	3.724	2.810	.710	4.637	3.499	.153	1276	.947	1347	.422	.409	.448	.444	.439	.439	.451	.430	.439
.125	3.714	2.802	.709	4.645	3.505	.152	1276	.948	1347	.422	.409	.449	.447	.439	.439	.451	.431	.440
.123	3.703	2.793	.707	4.647	3.505	.150	1276	.948	1347	.423	.410	.450	.448	.440	.440	.452	.432	.441
.122	3.694	2.784	.706	4.649	3.503	.149	1276	.948	1347	.423	.411	.450	.449	.440	.440	.453	.433	.442
.120	3.688	2.777	.704	4.657	3.507	.147	1277	.948	1347	.424	.411	.451	.449	.440	.442	.454	.434	.442
.120	3.677	2.767	.704	4.658	3.505	.147	1277	.948	1347	.424	.411	.452	.447	.441	.442	.454	.434	.443
.118	3.667	2.760	.702	4.662	3.508	.145	1277	.948	1347	.425	.411	.453	.447	.442	.443	.455	.435	.444
.118	3.657	2.752	.702	4.664	3.510	.145	1277	.948	1347	.426	.411	.453	.449	.442	.443	.456	.436	.444
.116	3.646	2.742	.700	4.665	3.509	.143	1277	.948	1347	.426	.412	.454	.449	.443	.444	.457	.436	.445
.113	3.638	2.732	.697	4.668	3.513	.140	1277	.948	1347	.427	.412	.454	.447	.443	.444	.458	.437	.446
.112	3.627	2.720	.696	4.672	3.514	.139	1277	.948	1347	.427	.412	.455	.452	.444	.445	.458	.438	.446
.110	3.604	2.711	.694	4.673	3.514	.137	1278	.948	1347	.427	.413	.456	.453	.444	.446	.459	.438	.447
.110	3.591	2.701	.694	4.675	3.516	.137	1278	.948	1347	.428	.413	.457	.453	.446	.446	.460	.439	.448
.107	3.581	2.695	.691	4.674	3.518	.134	1277	.948	1347	.429	.413	.458	.454	.445	.447	.461	.440	.449
.107	3.571	2.686	.691	4.675	3.516	.134	1278	.949	1347	.429	.413	.458	.454	.446	.448	.462	.440	.449

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OM52 SHUTTLE SURVEY TEST
PAGE = 3

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
18	139	7.92	149.7	1347	30.02	-8.02	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0164	1.330	.719	3871	4.443E-04	8.006E-08	6.658E 05	11.32	2.05	.50	22.633	14

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.107	3.560	2.678	.691	4.677	3.517	.134	1278	.948	1347	.430	.414	.459	.455	.446	.449	.462	.440	.450
.104	3.551	2.671	.688	4.680	3.520	.131	1278	.948	1347	.430	.415	.460	.453	.447	.449	.463	.442	.451
.105	3.539	2.662	.689	4.676	3.517	.132	1278	.949	1347	.431	.415	.461	.456	.447	.450	.463	.443	.451
.103	3.530	2.657	.687	4.680	3.522	.130	1278	.949	1347	.431	.415	.461	.457	.448	.450	.465	.443	.452
.102	3.518	2.647	.686	4.679	3.521	.129	1278	.949	1347	.432	.415	.462	.457	.449	.451	.465	.443	.453
.101	3.508	2.642	.685	4.682	3.526	.128	1278	.948	1347	.432	.416	.463	.458	.449	.451	.466	.444	.453
.099	3.494	2.631	.683	4.681	3.525	.126	1278	.949	1347	.433	.416	.463	.458	.449	.452	.467	.445	.454
.099	3.481	2.622	.683	4.680	3.524	.126	1278	.949	1347	.434	.416	.464	.459	.450	.453	.467	.446	.455
.097	3.470	2.613	.681	4.683	3.527	.124	1278	.949	1347	.434	.416	.465	.459	.450	.454	.468	.446	.455
.096	3.458	2.606	.680	4.681	3.527	.123	1278	.949	1347	.435	.416	.466	.459	.451	.454	.469	.447	.456
.095	3.442	2.594	.679	4.679	3.526	.122	1279	.949	1347	.435	.417	.467	.460	.451	.455	.470	.447	.457
.093	3.429	2.584	.677	4.681	3.527	.120	1278	.949	1347	.435	.418	.467	.460	.451	.455	.470	.449	.458
.092	3.415	2.575	.676	4.682	3.531	.119	1279	.949	1347	.436	.418	.468	.461	.453	.456	.471	.449	.458
.091	3.401	2.564	.675	4.680	3.529	.118	1279	.949	1347	.436	.418	.469	.461	.453	.457	.472	.449	.459
.091	3.398	2.555	.675	4.682	3.531	.118	1279	.950	1347	.437	.419	.469	.461	.453	.457	.473	.450	.459
.089	3.378	2.541	.672	4.682	3.531	.115	1279	.949	1347	.438	.419	.470	.462	.454	.458	.474	.450	.460
.097	3.355	2.532	.671	4.680	3.531	.114	1279	.950	1347	.439	.419	.471	.462	.454	.459	.474	.452	.461
.086	3.339	2.521	.670	4.683	3.536	.113	1279	.949	1347	.439	.419	.471	.462	.455	.459	.475	.453	.461
.086	3.322	2.508	.670	4.683	3.536	.113	1279	.950	1347	.439	.420	.472	.462	.455	.460	.476	.453	.462
.084	3.303	2.496	.668	4.683	3.538	.111	1279	.950	1347	.440	.420	.473	.463	.456	.461	.477	.454	.462
.082	3.284	2.481	.666	4.680	3.536	.109	1279	.950	1347	.440	.420	.474	.461	.457	.461	.477	.454	.463
.082	3.268	2.469	.666	4.682	3.538	.109	1280	.950	1347	.441	.421	.474	.461	.457	.462	.478	.455	.464
.081	3.250	2.457	.665	4.685	3.542	.109	1280	.950	1347	.442	.421	.475	.464	.458	.462	.478	.455	.465
.080	3.229	2.442	.664	4.679	3.538	.107	1280	.950	1347	.442	.421	.476	.458	.458	.463	.480	.457	.465
.077	3.210	2.429	.661	4.680	3.541	.104	1280	.950	1347	.442	.421	.477	.465	.458	.464	.480	.457	.466
.078	3.194	2.416	.662	4.683	3.544	.105	1280	.950	1347	.443	.422	.477	.466	.459	.465	.481	.458	.466
.075	3.172	2.400	.659	4.680	3.541	.102	1280	.950	1347	.443	.423	.478	.466	.459	.465	.482	.458	.467
.075	3.152	2.386	.659	4.682	3.545	.102	1281	.951	1347	.444	.423	.478	.467	.460	.466	.482	.459	.467
.072	3.126	2.367	.656	4.678	3.542	.099	1280	.951	1347	.444	.423	.480	.467	.461	.466	.483	.459	.468
.073	3.107	2.352	.657	4.684	3.546	.100	1281	.951	1347	.445	.424	.480	.466	.461	.467	.484	.460	.469
.070	3.085	2.336	.654	4.685	3.547	.097	1280	.951	1347	.446	.424	.481	.468	.462	.468	.485	.461	.470
.071	3.060	2.317	.655	4.688	3.550	.098	1281	.951	1347	.446	.424	.482	.469	.462	.469	.485	.461	.470
.068	3.039	2.299	.652	4.691	3.549	.095	1281	.951	1347	.447	.424	.482	.467	.463	.469	.486	.462	.471
.069	3.013	2.281	.652	4.691	3.552	.095	1281	.951	1347	.447	.425	.483	.470	.463	.470	.486	.463	.471
.067	2.984	2.258	.651	4.693	3.551	.094	1282	.951	1347	.447	.426	.484	.470	.463	.470	.488	.463	.472
.065	2.956	2.236	.649	4.697	3.554	.092	1282	.952	1347	.448	.426	.484	.470	.464	.471	.488	.464	.473
.063	2.928	2.215	.647	4.694	3.552	.090	1282	.952	1347	.449	.426	.485	.471	.465	.472	.489	.465	.474
.062	2.884	2.181	.646	4.697	3.551	.089	1282	.952	1347	.449	.426	.485	.467	.465	.473	.490	.465	.474
.061	2.840	2.149	.645	4.701	3.557	.088	1282	.952	1347	.450	.427	.486	.467	.466	.473	.490	.466	.475
.058	2.788	2.110	.642	4.701	3.557	.085	1282	.952	1347	.450	.427	.487	.467	.466	.474	.491	.467	.475
.057	2.737	2.071	.641	4.702	3.558	.084	1282	.952	1347	.451	.427	.488	.472	.467	.474	.492	.467	.476
.056	2.681	2.027	.640	4.705	3.557	.083	1283	.952	1347	.451	.427	.488	.472	.467	.475	.492	.468	.477

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI 0-52 SHUTTLE SURVEY TEST
PAGE = 4

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
18	139	7.92	148.8	1347	30.02	-8.02	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0163	1.322	.714	3871	4.416E-04	8.006E-08	6.658E 05	11.32	2.05	.50	22.633	14

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.055	2.629	1.989	.639	4.707	3.562	.082	1282	.952	1347	.452	.428	.489	.473	.468	.475	.493	.469	.477
.052	2.570	1.944	.636	4.705	3.560	.079	1282	.952	1347	.452	.428	.490	.470	.469	.476	.494	.469	.478
.053	2.514	1.903	.637	4.708	3.565	.080	1283	.952	1347	.453	.428	.490	.473	.469	.477	.494	.470	.478
.051	2.456	1.859	.635	4.707	3.564	.078	1283	.952	1347	.453	.429	.491	.474	.469	.477	.495	.471	.480
.051	2.401	1.818	.635	4.706	3.563	.078	1283	.952	1347	.454	.429	.492	.469	.470	.478	.496	.471	.480
.049	2.348	1.778	.633	4.711	3.567	.076	1282	.952	1347	.454	.430	.492	.474	.471	.479	.497	.472	.481
.047	2.295	1.737	.631	4.709	3.565	.076	1282	.952	1347	.455	.430	.493	.474	.471	.480	.497	.473	.481
.048	2.250	1.703	.632	4.711	3.567	.075	1282	.952	1347	.456	.431	.493	.475	.472	.480	.498	.475	.482
.046	2.206	1.670	.630	4.707	3.564	.073	1282	.952	1347	.456	.431	.494	.475	.472	.481	.498	.476	.482
.045	2.162	1.637	.629	4.709	3.566	.072	1282	.952	1347	.457	.431	.494	.475	.473	.481	.499	.476	.483
.045	2.117	1.599	.629	4.711	3.567	.072	1282	.952	1347	.457	.431	.496	.476	.473	.482	.500	.477	.484
.042	2.063	1.563	.626	4.711	3.570	.069	1281	.951	1347	.457	.432	.496	.476	.474	.482	.501	.478	.484
.043	2.014	1.526	.627	4.709	3.568	.070	1281	.951	1347	.458	.432	.497	.476	.474	.483	.501	.479	.485
.042	1.962	1.487	.626	4.709	3.568	.069	1281	.951	1347	.458	.433	.497	.477	.475	.484	.502	.480	.485
.041	1.916	1.452	.625	4.712	3.570	.068	1280	.951	1347	.459	.433	.498	.477	.475	.484	.502	.481	.486
.041	1.866	1.414	.625	4.709	3.568	.068	1280	.950	1347	.459	.434	.499	.477	.476	.485	.504	.482	.486
.040	1.825	1.383	.624	4.710	3.568	.067	1279	.949	1347	.460	.434	.500	.478	.477	.485	.504	.483	.488
.039	1.780	1.350	.623	4.708	3.570	.066	1279	.949	1347	.461	.435	.500	.478	.477	.486	.505	.484	.488
.037	1.736	1.316	.621	4.708	3.570	.064	1278	.949	1347	.461	.435	.501	.478	.477	.487	.505	.485	.489
.038	1.687	1.279	.622	4.710	3.571	.065	1277	.948	1347	.461	.435	.501	.479	.478	.488	.506	.485	.489
.037	1.642	1.245	.621	4.712	3.573	.064	1276	.947	1347	.462	.435	.502	.480	.478	.488	.507	.486	.490
.036	1.598	1.213	.620	4.707	3.571	.063	1275	.947	1347	.462	.436	.503	.475	.479	.489	.507	.487	.490
.036	1.559	1.182	.620	4.712	3.572	.063	1274	.946	1347	.463	.436	.504	.480	.480	.489	.508	.488	.491
.033	1.516	1.149	.617	4.716	3.575	.060	1272	.945	1347	.463	.436	.504	.480	.480	.490	.509	.488	.492
.034	1.474	1.117	.618	4.716	3.573	.061	1272	.944	1347	.464	.436	.505	.481	.480	.490	.509	.488	.492
.032	1.436	1.088	.616	4.721	3.577	.059	1271	.943	1347	.465	.437	.506	.481	.481	.491	.511	.489	.493
.032	1.394	1.056	.616	4.724	3.577	.059	1269	.942	1347	.466	.437	.506	.481	.481	.492	.511	.489	.493
.031	1.353	1.024	.615	4.726	3.576	.058	1266	.940	1347	.465	.438	.507	.482	.482	.492	.512	.489	.494
.029	1.312	.993	.613	4.727	3.577	.056	1264	.938	1347	.466	.438	.508	.482	.482	.493	.512	.490	.494
.029	1.272	.962	.613	4.730	3.579	.056	1262	.937	1347	.466	.438	.508	.483	.483	.494	.513	.490	.496
.028	1.233	.932	.612	4.731	3.578	.055	1259	.935	1347	.467	.439	.509	.490	.484	.494	.514	.491	.496
.028	1.196	.904	.612	4.734	3.580	.055	1256	.933	1347	.467	.439	.510	.481	.484	.495	.515	.491	.497
.026	1.158	.875	.610	4.737	3.579	.053	1253	.930	1347	.468	.440	.511	.484	.485	.496	.515	.492	.497
.026	1.121	.847	.610	4.736	3.579	.053	1249	.927	1347	.468	.440	.511	.484	.485	.496	.516	.493	.498
.025	1.085	.820	.609	4.739	3.581	.052	1246	.925	1347	.469	.440	.512	.485	.486	.497	.516	.493	.498
.023	1.051	.793	.607	4.737	3.577	.050	1242	.922	1347	.469	.440	.513	.485	.486	.497	.517	.494	.499
.023	1.017	.769	.607	4.742	3.581	.050	1238	.919	1347	.470	.441	.513	.485	.486	.498	.518	.494	.500
.022	.984	.745	.606	4.741	3.580	.049	1232	.914	1347	.470	.441	.514	.486	.487	.499	.519	.495	.500
.021	.954	.721	.605	4.742	3.583	.048	1227	.911	1347	.471	.442	.515	.486	.488	.499	.519	.496	.501
.020	.923	.697	.604	4.744	3.582	.047	1220	.906	1347	.471	.442	.515	.484	.488	.500	.520	.496	.501
.019	.894	.675	.603	4.746	3.584	.046	1214	.901	1347	.471	.443	.516	.485	.488	.500	.521	.497	.502
.018	.866	.654	.602	4.748	3.583	.045	1208	.897	1347	.472	.443	.517	.488	.489	.501	.521	.498	.502

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI ON52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
18	139	7.92	140.2	1347	30.02	-8.02	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0163	1.325	.716	3871	4.428E-04	8.006E-08	6.658E 05	11.32	2.05	.50	22.633	14

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.017	.838	.632	.601	4.745	3.581	.044	1202	.892	1347	.473	.443	.517	.485	.489	.501	.522	.498	.503
.017	.815	.615	.601	4.749	3.584	.044	1197	.888	1347	.473	.443	.517	.488	.490	.502	.523	.499	.504
.015	.791	.596	.599	4.750	3.582	.042	1190	.884	1347	.474	.443	.519	.489	.490	.503	.523	.499	.505
.015	.769	.580	.599	4.748	3.583	.042	1185	.880	1347	.474	.444	.519	.489	.491	.504	.524	.500	.505
.015	.746	.563	.599	4.748	3.583	.042	1178	.874	1347	.475	.444	.520	.489	.492	.504	.524	.501	.506
.012	.727	.549	.596	4.751	3.585	.039	1172	.870	1347	.475	.444	.520	.490	.492	.505	.525	.501	.506
.013	.709	.535	.597	4.751	3.585	.040	1165	.865	1347	.475	.445	.521	.490	.492	.505	.525	.502	.507
.011	.692	.522	.595	4.754	3.587	.038	1158	.860	1347	.476	.445	.521	.490	.493	.506	.527	.503	.508
.011	.674	.508	.595	4.751	3.585	.038	1151	.854	1347	.477	.446	.522	.491	.493	.506	.527	.504	.508
.010	.660	.498	.594	4.751	3.585	.037	1143	.849	1347	.477	.446	.523	.491	.494	.507	.528	.505	.509
.009	.646	.488	.593	4.752	3.586	.036	1136	.843	1347	.477	.446	.524	.489	.494	.508	.528	.505	.509
.006	.632	.477	.590	4.750	3.584	.033	1122	.833	1347	.478	.447	.524	.490	.495	.508	.529	.506	.510
.007	.611	.461	.591	4.755	3.588	.034	1117	.830	1347	.480	.448	.527	.493	.496	.511	.531	.508	.512

DATE 5-6-74
PROJECT NUMBER VA524-21BA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
PAGE = 1

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
19	139	7.92	150.5	1346	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0165	1.337	.723	3870	6.470E-04	8.000F-08	6.665E 05	13.58	2.05	.60	22.633	15

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG.R)	(T1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.671	4.708	3.539	1.255	.983	.739	.697	1269	.943	1346	.384	.393	.397	.392	.394	.398	.397	.387	.393
.665	4.714	3.548	1.249	.982	.739	.681	1269	.943	1346	.385	.394	.397	.393	.395	.399	.398	.387	.394
.659	4.727	3.565	1.223	.980	.739	.655	1269	.942	1346	.386	.394	.398	.393	.395	.401	.399	.388	.394
.648	4.754	3.592	1.192	.977	.738	.624	1268	.942	1346	.386	.394	.398	.393	.397	.401	.399	.389	.395
.578	4.785	3.621	1.162	.945	.753	.594	1268	.942	1346	.387	.395	.399	.394	.397	.402	.401	.390	.396
.544	4.812	3.651	1.128	1.180	.896	.560	1268	.942	1346	.387	.395	.401	.394	.398	.403	.402	.391	.396
.514	4.836	3.669	1.098	1.986	1.507	.530	1268	.942	1346	.388	.395	.402	.394	.398	.404	.402	.391	.397
.484	4.856	3.686	1.068	4.218	3.202	.500	1269	.943	1346	.389	.396	.403	.395	.399	.405	.403	.392	.398
.454	4.868	3.695	1.038	4.331	3.288	.470	1269	.943	1346	.390	.397	.403	.395	.399	.406	.404	.393	.398
.421	4.874	3.697	1.005	4.350	3.300	.437	1269	.943	1346	.390	.397	.405	.395	.400	.407	.405	.394	.399
.397	4.877	3.700	.981	4.366	3.312	.413	1269	.943	1346	.391	.398	.405	.394	.400	.408	.406	.394	.399
.384	4.878	3.700	.968	4.372	3.317	.400	1269	.943	1346	.391	.398	.407	.393	.401	.409	.406	.395	.401
.373	4.878	3.701	.957	4.380	3.323	.389	1269	.943	1346	.392	.398	.407	.394	.401	.410	.407	.395	.401
.361	4.871	3.695	.945	4.382	3.324	.377	1269	.943	1346	.393	.399	.409	.397	.402	.410	.409	.397	.401
.351	4.865	3.691	.935	4.393	3.333	.367	1270	.943	1346	.393	.401	.409	.400	.402	.412	.409	.397	.402
.340	4.856	3.682	.924	4.402	3.337	.356	1270	.943	1346	.394	.401	.410	.401	.403	.412	.410	.398	.403
.329	4.844	3.668	.913	4.413	3.341	.345	1270	.944	1346	.394	.401	.411	.401	.403	.413	.411	.398	.403
.318	4.831	3.650	.902	4.424	3.343	.334	1270	.944	1346	.395	.402	.412	.402	.403	.413	.412	.399	.404
.306	4.814	3.635	.890	4.441	3.353	.322	1270	.944	1346	.395	.403	.413	.403	.404	.414	.413	.400	.405
.294	4.797	3.615	.878	4.448	3.352	.310	1271	.944	1346	.396	.403	.413	.403	.405	.415	.413	.401	.406
.283	4.778	3.596	.867	4.463	3.359	.299	1271	.944	1346	.397	.403	.414	.395	.405	.416	.414	.401	.406
.272	4.760	3.580	.856	4.474	3.365	.288	1271	.944	1346	.397	.403	.414	.405	.405	.417	.416	.402	.407
.267	4.742	3.559	.851	4.481	3.363	.283	1271	.944	1346	.398	.404	.416	.403	.406	.417	.416	.403	.407
.265	4.729	3.549	.849	4.482	3.364	.281	1271	.944	1346	.398	.405	.416	.402	.406	.418	.417	.403	.408
.264	4.724	3.543	.848	4.484	3.363	.280	1271	.944	1346	.399	.405	.417	.406	.406	.419	.418	.404	.409
.260	4.716	3.53.	.844	4.489	3.365	.276	1271	.944	1346	.400	.405	.418	.403	.407	.420	.419	.405	.410
.257	4.709	3.533	.841	4.490	3.368	.273	1271	.944	1346	.401	.406	.418	.407	.407	.420	.420	.405	.410
.256	4.702	3.527	.840	4.490	3.368	.272	1271	.944	1346	.401	.406	.419	.409	.408	.421	.421	.406	.411
.253	4.695	3.521	.837	4.490	3.368	.269	1271	.944	1346	.402	.408	.420	.409	.408	.421	.421	.406	.412
.251	4.688	3.514	.835	4.489	3.365	.267	1271	.944	1346	.402	.408	.421	.409	.409	.422	.422	.407	.412
.249	4.682	3.512	.833	4.492	3.369	.265	1271	.944	1346	.403	.409	.422	.407	.409	.422	.423	.408	.413
.247	4.673	3.507	.831	4.489	3.369	.263	1271	.945	1346	.403	.409	.422	.410	.409	.423	.424	.408	.414
.244	4.662	3.502	.828	4.487	3.370	.260	1271	.944	1346	.404	.409	.424	.411	.410	.424	.425	.409	.414
.242	4.652	3.496	.826	4.485	3.371	.258	1271	.944	1346	.405	.410	.424	.411	.410	.424	.426	.410	.416
.240	4.642	3.489	.824	4.485	3.371	.256	1271	.945	1346	.405	.410	.425	.412	.410	.425	.426	.410	.416

DATE 5-6-74
PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
PAGE = 2

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
19	139	7.92	149.6	1346	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	HE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0164	1.329	.718	3870	4.443E-04	8.000E-08	6.665E 05	13.58	2.05	.60	22.633	15

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.237	4.634	3.487	.821	4.683	3.524	.253	1271	.945	1346	.400	.411	.426	.412	.411	.426	.427	.411	.417
.235	4.624	3.482	.820	4.681	3.375	.252	1271	.944	1346	.406	.412	.427	.413	.412	.426	.428	.412	.418
.232	4.612	3.475	.816	4.679	3.375	.248	1271	.944	1346	.407	.412	.428	.413	.412	.427	.429	.412	.418
.230	4.603	3.473	.814	4.679	3.380	.246	1271	.945	1346	.407	.413	.428	.414	.412	.428	.430	.413	.419
.227	4.591	3.46	.811	4.678	3.379	.243	1272	.945	1346	.408	.413	.429	.412	.413	.428	.430	.413	.420
.225	4.581	3.459	.809	4.678	3.381	.241	1272	.945	1346	.409	.413	.430	.412	.413	.429	.432	.414	.420
.222	4.570	3.451	.806	4.679	3.382	.239	1272	.945	1346	.409	.413	.430	.415	.413	.429	.432	.414	.421
.221	4.560	3.443	.805	4.681	3.383	.237	1272	.945	1346	.410	.413	.432	.416	.414	.430	.433	.415	.422
.217	4.553	3.440	.801	4.681	3.386	.233	1272	.945	1346	.410	.413	.432	.416	.414	.430	.434	.415	.422
.217	4.547	3.436	.801	4.683	3.385	.233	1272	.945	1346	.411	.414	.433	.417	.414	.431	.435	.416	.423
.215	4.539	3.430	.799	4.684	3.388	.231	1272	.945	1346	.412	.414	.434	.417	.415	.432	.436	.417	.424
.213	4.534	3.426	.797	4.685	3.389	.229	1272	.945	1346	.412	.414	.434	.417	.416	.433	.436	.417	.425
.211	4.526	3.418	.795	4.687	3.388	.227	1272	.945	1346	.413	.416	.435	.418	.416	.433	.437	.418	.425
.207	4.517	3.411	.791	4.686	3.387	.223	1272	.945	1346	.413	.416	.436	.418	.416	.434	.439	.418	.426
.206	4.507	3.403	.790	4.689	3.390	.222	1272	.945	1346	.414	.416	.437	.417	.417	.434	.439	.420	.426
.203	4.499	3.399	.787	4.691	3.393	.219	1272	.945	1346	.414	.417	.437	.420	.417	.435	.440	.420	.427
.200	4.487	3.391	.784	4.693	3.395	.216	1272	.945	1346	.414	.417	.438	.420	.417	.436	.441	.420	.428
.198	4.479	3.383	.782	4.690	3.395	.214	1272	.945	1346	.415	.417	.439	.421	.418	.436	.441	.421	.429
.195	4.462	3.377	.779	4.688	3.400	.211	1273	.946	1346	.416	.418	.440	.421	.418	.437	.443	.421	.429
.192	4.452	3.362	.776	4.688	3.404	.209	1273	.946	1346	.416	.418	.440	.422	.418	.437	.443	.421	.430
.189	4.441	3.349	.773	4.693	3.403	.205	1273	.946	1346	.417	.418	.441	.422	.419	.438	.444	.423	.430
.187	4.429	3.340	.771	4.694	3.404	.203	1273	.946	1346	.417	.418	.443	.422	.42	.439	.445	.424	.432
.185	4.419	3.330	.769	4.698	3.405	.201	1273	.946	1346	.418	.418	.443	.423	.420	.440	.445	.424	.432
.181	4.410	3.321	.765	4.694	3.407	.197	1273	.946	1346	.418	.419	.444	.423	.420	.440	.447	.424	.433
.179	4.395	3.310	.763	4.730	3.411	.195	1274	.946	1346	.419	.420	.444	.424	.421	.441	.448	.425	.433
.176	4.381	3.297	.760	4.693	3.412	.192	1273	.946	1346	.420	.420	.445	.425	.421	.441	.448	.426	.434
.172	4.367	3.284	.756	4.698	3.413	.188	1274	.947	1346	.420	.420	.446	.425	.421	.442	.449	.426	.435
.172	4.351	3.272	.756	4.692	3.416	.188	1274	.947	1346	.421	.421	.447	.426	.422	.443	.450	.427	.436
.167	4.333	3.259	.751	4.644	3.417	.183	1274	.947	1346	.421	.421	.448	.426	.422	.443	.451	.428	.436
.164	4.315	3.245	.748	4.648	3.420	.180	1275	.947	1346	.421	.421	.448	.425	.423	.444	.451	.428	.437
.160	4.293	3.227	.744	4.654	3.423	.176	1275	.947	1346	.422	.421	.449	.420	.423	.445	.452	.429	.437
.155	4.267	3.207	.739	4.659	3.427	.171	1275	.947	1346	.422	.422	.450	.426	.424	.445	.453	.429	.439
.152	4.247	3.192	.736	4.664	3.430	.168	1275	.947	1346	.423	.422	.451	.424	.424	.445	.453	.430	.439
.149	4.222	3.171	.733	4.666	3.430	.165	1275	.947	1346	.424	.423	.451	.429	.425	.447	.455	.430	.440
.145	4.194	3.152	.729	4.674	3.438	.161	1276	.948	1346	.424	.424	.452	.429	.425	.447	.455	.432	.440
.139	4.158	3.127	.723	4.679	3.441	.155	1276	.948	1346	.425	.424	.453	.430	.425	.448	.456	.432	.441
.136	4.122	3.098	.720	4.686	3.445	.152	1276	.948	1346	.425	.424	.453	.430	.426	.448	.457	.433	.442
.129	4.088	3.071	.713	4.691	3.448	.145	1276	.948	1346	.426	.425	.454	.431	.426	.449	.457	.433	.442
.126	4.047	3.043	.710	4.694	3.455	.142	1277	.948	1346	.426	.425	.455	.429	.426	.449	.458	.434	.443
.122	4.007	3.012	.706	4.704	3.460	.138	1277	.949	1346	.427	.426	.456	.432	.427	.450	.459	.434	.444
.116	3.961	2.977	.700	4.697	3.463	.132	1278	.949	1346	.427	.426	.456	.430	.428	.451	.460	.435	.444
.113	3.914	2.943	.697	4.715	3.471	.129	1279	.949	1346	.428	.426	.457	.430	.428	.451	.461	.436	.445

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OA52 SHUTTLE SURVEY TEST
PAGE = 3

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
19	139	7.92	149.8	1346	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0164	1.331	.719	3870	4.449E-04	8.000E-08	6.665E 05	13.58	2.05	.60	22.633	15

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.107	3.856	2.898	.491	4.619	3.471	.123	1279	.950	1346	.428	.426	.458	.433	.429	.452	.461	.436	.445
.103	3.800	2.858	.487	4.626	3.479	.119	1279	.950	1346	.429	.427	.459	.429	.429	.452	.462	.436	.447
.100	3.745	2.817	.484	4.631	3.483	.116	1279	.950	1346	.429	.427	.459	.434	.429	.453	.463	.437	.447
.094	3.680	2.767	.478	4.633	3.484	.110	1279	.950	1346	.430	.428	.460	.435	.430	.453	.464	.437	.448
.091	3.618	2.723	.475	4.643	3.494	.107	1279	.951	1346	.430	.428	.461	.436	.430	.454	.464	.439	.448
.089	3.557	2.675	.473	4.645	3.494	.105	1280	.951	1346	.431	.428	.461	.429	.430	.455	.465	.439	.449
.088	3.511	2.642	.472	4.644	3.495	.104	1280	.951	1346	.432	.429	.462	.436	.432	.455	.466	.440	.450
.087	3.472	2.613	.471	4.649	3.499	.103	1280	.951	1346	.432	.429	.463	.437	.432	.456	.467	.440	.450
.083	3.427	2.579	.467	4.651	3.500	.099	1280	.951	1346	.433	.430	.464	.435	.432	.456	.467	.440	.451
.082	3.379	2.545	.466	4.655	3.506	.098	1280	.951	1346	.433	.430	.464	.438	.433	.457	.468	.441	.452
.080	3.332	2.509	.464	4.655	3.506	.096	1281	.952	1346	.433	.432	.465	.439	.433	.458	.468	.441	.452
.078	3.289	2.479	.462	4.656	3.509	.094	1281	.952	1346	.434	.432	.466	.439	.433	.459	.470	.443	.453
.078	3.247	2.445	.462	4.656	3.507	.094	1281	.951	1346	.434	.432	.467	.440	.434	.459	.470	.443	.453
.075	3.202	2.413	.459	4.662	3.513	.091	1281	.951	1346	.435	.433	.467	.440	.434	.460	.471	.444	.454
.073	3.164	2.372	.457	4.660	3.514	.089	1281	.951	1344	.436	.433	.468	.441	.434	.460	.472	.444	.455
.073	3.086	2.327	.457	4.667	3.519	.089	1280	.951	1346	.436	.434	.468	.441	.436	.461	.472	.444	.456
.070	3.035	2.287	.454	4.666	3.516	.086	1280	.951	1346	.437	.434	.470	.441	.436	.461	.473	.445	.456
.071	2.991	2.255	.455	4.670	3.522	.087	1281	.951	1346	.437	.434	.471	.442	.437	.462	.474	.445	.457
.069	2.946	2.221	.453	4.669	3.521	.085	1280	.951	1346	.437	.434	.471	.443	.437	.463	.475	.446	.457
.068	2.904	2.189	.452	4.670	3.519	.084	1280	.951	1346	.438	.435	.471	.448	.437	.463	.475	.447	.458
.067	2.854	2.150	.451	4.674	3.522	.083	1280	.951	1346	.439	.436	.472	.444	.438	.464	.476	.447	.459
.065	2.807	2.116	.449	4.674	3.524	.081	1279	.950	1346	.439	.436	.473	.444	.439	.465	.477	.448	.459
.065	2.752	2.074	.449	4.678	3.526	.081	1278	.950	1346	.440	.436	.474	.445	.439	.466	.478	.448	.460
.063	2.702	2.036	.447	4.681	3.528	.079	1278	.949	1346	.440	.437	.474	.439	.439	.466	.478	.448	.460
.063	2.649	1.996	.447	4.682	3.528	.079	1277	.949	1346	.441	.437	.475	.445	.440	.467	.479	.449	.461
.062	2.591	1.954	.446	4.684	3.532	.078	1276	.948	1346	.441	.437	.475	.444	.441	.467	.480	.449	.461
.060	2.536	1.911	.444	4.683	3.529	.076	1275	.947	1346	.442	.438	.476	.444	.441	.468	.480	.450	.463
.060	2.483	1.872	.444	4.682	3.530	.076	1275	.947	1346	.442	.439	.477	.445	.441	.468	.481	.451	.463
.059	2.438	1.839	.443	4.686	3.534	.075	1274	.946	1346	.443	.439	.478	.448	.442	.469	.482	.452	.464
.059	2.396	1.807	.443	4.685	3.533	.075	1274	.946	1346	.443	.440	.478	.448	.443	.470	.482	.452	.464
.059	2.363	1.782	.443	4.686	3.534	.075	1273	.946	1346	.444	.440	.479	.449	.443	.470	.483	.452	.465
.058	2.334	1.760	.442	4.686	3.534	.074	1273	.946	1346	.444	.440	.480	.449	.443	.471	.484	.453	.466
.059	2.312	1.743	.443	4.686	3.534	.075	1273	.946	1346	.444	.440	.480	.448	.444	.472	.484	.453	.466
.057	2.287	1.725	.441	4.688	3.537	.073	1271	.944	1346	.445	.440	.481	.448	.444	.472	.485	.454	.467
.055	2.249	1.697	.439	4.689	3.538	.071	1270	.943	1346	.445	.441	.482	.451	.445	.473	.486	.455	.467
.055	2.202	1.662	.439	4.690	3.539	.071	1267	.941	1346	.446	.441	.482	.449	.445	.473	.487	.455	.468
.053	2.145	1.618	.437	4.694	3.542	.069	1264	.939	1346	.447	.442	.483	.452	.446	.474	.487	.456	.468
.053	2.098	1.583	.437	4.694	3.542	.069	1260	.936	1346	.447	.442	.484	.448	.447	.475	.488	.456	.469
.051	2.017	1.522	.435	4.697	3.545	.067	1256	.934	1346	.448	.442	.484	.453	.447	.475	.489	.457	.470
.049	1.948	1.470	.433	4.696	3.543	.065	1252	.930	1346	.448	.443	.485	.453	.448	.476	.490	.457	.471
.049	1.885	1.422	.433	4.704	3.550	.065	1248	.927	1346	.448	.443	.486	.454	.448	.476	.490	.458	.471
.047	1.828	1.378	.431	4.706	3.549	.063	1244	.924	1346	.449	.444	.486	.448	.448	.477	.491	.459	.472

DATE 5-6-74
PROJECT NUMBER VA524-21BA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OM52 SHUTTLE SURVEY TEST
PAGE = 4

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
19	139	7.92	149.2	1346	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0163	1.325	.716	3870	4.432E-04	8.000E-08	6.665E 05	13.58	2.05	.60	22.633	15

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.047	1.756	1.325	.631	4.707	3.552	.063	1240	.921	1346	.449	.444	.487	.455	.449	.478	.491	.459	.472
.045	1.696	1.278	.625	4.711	3.553	.061	1234	.917	1346	.450	.444	.488	.449	.449	.478	.492	.460	.473
.044	1.630	1.228	.623	4.713	3.552	.060	1228	.912	1346	.451	.445	.488	.449	.450	.479	.493	.460	.474
.044	1.570	1.183	.622	4.716	3.554	.060	1222	.908	1346	.451	.445	.489	.457	.451	.479	.494	.461	.474
.042	1.508	1.136	.626	4.718	3.553	.058	1216	.903	1346	.451	.445	.490	.457	.451	.480	.494	.461	.475
.042	1.453	1.094	.626	4.722	3.556	.058	1211	.899	1346	.452	.446	.490	.457	.452	.480	.495	.462	.475
.041	1.400	1.054	.625	4.722	3.556	.057	1206	.896	1346	.452	.446	.491	.458	.452	.481	.495	.463	.476
.039	1.352	1.018	.623	4.727	3.560	.055	1199	.891	1346	.453	.447	.491	.459	.453	.482	.496	.463	.476
.040	1.302	.981	.624	4.726	3.562	.056	1192	.886	1346	.453	.447	.493	.457	.453	.482	.497	.463	.477
.038	1.258	.947	.622	4.733	3.564	.054	1185	.880	1346	.453	.447	.493	.459	.454	.483	.497	.464	.478
.037	1.213	.914	.621	4.730	3.562	.053	1176	.874	1346	.455	.447	.494	.460	.454	.483	.498	.464	.478
.037	1.170	.881	.621	4.736	3.567	.053	1171	.870	1346	.455	.448	.494	.458	.455	.484	.499	.465	.479
.035	1.132	.853	.619	4.735	3.566	.051	1165	.865	1346	.455	.448	.495	.461	.455	.484	.499	.466	.480
.036	1.096	.825	.620	4.738	3.568	.052	1158	.861	1346	.456	.448	.495	.461	.456	.485	.500	.466	.480
.034	1.060	.798	.618	4.739	3.567	.050	1149	.854	1346	.456	.449	.496	.462	.456	.486	.501	.466	.481
.033	1.026	.772	.617	4.741	3.568	.049	1141	.848	1346	.457	.449	.497	.463	.457	.487	.502	.467	.481
.033	.994	.748	.617	4.739	3.566	.049	1135	.843	1346	.457	.449	.497	.463	.457	.487	.502	.467	.482
.031	.963	.725	.615	4.743	3.570	.047	1127	.837	1346	.457	.450	.498	.464	.458	.488	.503	.468	.482
.031	.934	.703	.615	4.745	3.573	.047	1119	.831	1346	.458	.451	.498	.461	.459	.488	.503	.468	.483
.030	.906	.682	.614	4.743	3.569	.046	1109	.824	1346	.459	.451	.499	.465	.459	.489	.504	.469	.483
.029	.879	.661	.613	4.747	3.573	.045	1098	.816	1346	.459	.451	.500	.460	.459	.490	.505	.470	.484
.028	.852	.641	.612	4.749	3.574	.044	1086	.807	1346	.460	.452	.501	.461	.460	.490	.505	.471	.485
.025	.824	.620	.609	4.751	3.575	.041	1074	.798	1344	.460	.452	.501	.466	.460	.491	.506	.470	.486
.026	.801	.603	.610	4.754	3.578	.042	1062	.789	1346	.460	.452	.502	.467	.461	.491	.507	.471	.486
.024	.777	.585	.608	4.755	3.581	.040	1050	.780	1346	.461	.452	.502	.467	.461	.492	.507	.471	.487
.023	.754	.567	.607	4.756	3.580	.039	1039	.772	1346	.461	.453	.503	.468	.462	.493	.508	.472	.487
.023	.733	.552	.607	4.762	3.584	.039	1027	.763	1345	.462	.453	.503	.468	.463	.493	.509	.473	.488
.021	.713	.537	.605	4.762	3.586	.037	1017	.755	1346	.463	.454	.504	.469	.463	.494	.510	.473	.488
.021	.696	.524	.605	4.761	3.583	.037	1008	.749	1346	.463	.454	.505	.467	.463	.494	.510	.474	.489
.020	.680	.512	.604	4.764	3.585	.036	997	.741	1346	.463	.455	.506	.470	.464	.495	.511	.474	.490
.018	.666	.501	.602	4.760	3.582	.034	987	.733	1346	.464	.455	.506	.471	.464	.495	.511	.475	.490
.017	.654	.492	.601	4.765	3.586	.033	978	.727	1346	.464	.455	.507	.471	.465	.496	.512	.475	.490
.017	.643	.484	.601	4.766	3.589	.033	967	.719	1346	.465	.455	.507	.472	.466	.497	.513	.475	.491
.016	.634	.477	.600	4.767	3.590	.032	957	.711	1346	.465	.456	.509	.472	.466	.497	.513	.476	.492
.014	.623	.469	.598	4.766	3.589	.030	945	.702	1346	.464	.456	.509	.471	.467	.498	.514	.477	.493
.014	.617	.464	.598	4.770	3.590	.030	933	.693	1346	.466	.456	.510	.474	.467	.498	.515	.478	.493
.013	.609	.458	.597	4.770	3.590	.029	931	.692	1346	.467	.457	.510	.474	.468	.499	.515	.478	.494
.014	.604	.454	.598	4.772	3.591	.030	920	.684	1346	.467	.457	.511	.472	.468	.499	.516	.478	.494
.011	.598	.450	.595	4.774	3.593	.027	907	.674	1346	.467	.457	.512	.475	.469	.500	.517	.479	.495
.010	.593	.446	.594	4.776	3.594	.026	893	.663	1346	.468	.458	.512	.475	.469	.501	.518	.479	.495
.007	.582	.438	.591	4.781	3.598	.023	870	.646	1346	.470	.459	.514	.476	.471	.503	.520	.480	.497

DATE 5-4-74
PROJECT NUMBER VA524-21BA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
20	139	7.92	150.1	1345	30.03	-8.03	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0164	1.333	.721	3868	4.462E-04	7.994E-08	6.695E 05	15.84	2.05	.70	22.633	22

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.654	4.731	3.544	1.238	4.394	3.291	.669	1263	.939	1345	.393	.392	.396	.394	.393	.397	.396	.385	.393
.649	4.721	3.581	1.233	4.397	3.294	.664	1262	.938	1345	.384	.393	.397	.394	.393	.397	.397	.386	.393
.623	4.812	3.605	1.207	4.414	3.306	.638	1263	.939	1345	.385	.393	.398	.395	.394	.399	.399	.387	.395
.591	4.844	3.628	1.175	4.439	3.325	.606	1262	.939	1345	.385	.394	.399	.393	.395	.399	.400	.388	.395
.561	4.874	3.651	1.145	4.457	3.338	.576	1262	.938	1345	.386	.394	.399	.393	.396	.400	.400	.389	.396
.530	4.898	3.669	1.114	4.477	3.354	.545	1262	.938	1345	.387	.395	.400	.394	.396	.401	.401	.389	.396
.498	4.909	3.677	1.082	4.497	3.368	.513	1262	.938	1345	.387	.395	.402	.394	.397	.402	.403	.391	.397
.468	4.906	3.675	1.052	4.520	3.386	.483	1262	.938	1345	.388	.396	.403	.397	.397	.403	.403	.391	.398
.436	4.890	3.665	1.020	4.545	3.407	.451	1261	.938	1345	.388	.397	.404	.397	.398	.404	.404	.392	.399
.406	4.867	3.648	.990	4.566	3.422	.421	1261	.938	1345	.389	.397	.405	.398	.399	.405	.405	.392	.400
.385	4.839	3.630	.969	4.583	3.437	.400	1261	.938	1345	.390	.397	.405	.399	.399	.405	.405	.393	.400
.372	4.816	3.615	.956	4.588	3.443	.387	1261	.938	1345	.391	.398	.407	.399	.400	.407	.407	.393	.401
.360	4.797	3.600	.944	4.592	3.447	.375	1262	.938	1345	.391	.398	.408	.399	.400	.407	.408	.395	.401
.349	4.780	3.590	.933	4.598	3.453	.364	1262	.938	1345	.392	.399	.408	.400	.400	.408	.408	.396	.402
.338	4.762	3.579	.922	4.595	3.454	.353	1262	.938	1345	.392	.399	.409	.400	.401	.408	.410	.396	.403
.328	4.743	3.565	.912	4.602	3.459	.343	1262	.939	1345	.393	.400	.410	.401	.402	.410	.410	.397	.404
.316	4.722	3.551	.900	4.602	3.461	.331	1262	.938	1345	.394	.401	.411	.401	.402	.410	.411	.397	.404
.304	4.694	3.535	.888	4.607	3.469	.319	1262	.938	1345	.395	.401	.412	.402	.403	.411	.412	.398	.405
.293	4.666	3.514	.877	4.607	3.470	.308	1262	.938	1345	.395	.401	.412	.402	.403	.411	.413	.399	.405
.280	4.634	3.492	.864	4.610	3.474	.295	1262	.939	1345	.396	.402	.414	.403	.403	.412	.414	.400	.407
.269	4.599	3.468	.853	4.609	3.476	.284	1263	.939	1345	.396	.402	.414	.404	.404	.413	.415	.401	.407
.264	4.586	3.446	.848	4.610	3.475	.279	1263	.939	1345	.397	.402	.415	.404	.404	.414	.415	.401	.408
.261	4.564	3.431	.845	4.606	3.478	.276	1263	.939	1345	.397	.403	.415	.404	.404	.414	.416	.402	.409
.260	4.526	3.420	.844	4.605	3.480	.275	1263	.939	1345	.398	.403	.416	.405	.405	.415	.417	.403	.410
.257	4.515	3.414	.841	4.602	3.480	.272	1263	.939	1345	.399	.404	.417	.405	.405	.415	.418	.403	.410
.254	4.503	3.405	.838	4.603	3.480	.269	1263	.939	1345	.399	.404	.418	.406	.406	.416	.419	.404	.411
.252	4.494	3.398	.836	4.612	3.487	.267	1264	.940	1345	.400	.404	.419	.407	.406	.416	.419	.404	.411
.247	4.488	3.389	.831	4.619	3.488	.262	1264	.940	1345	.400	.405	.419	.407	.407	.417	.420	.405	.412
.246	4.484	3.381	.830	4.627	3.489	.261	1264	.940	1345	.401	.405	.420	.407	.407	.418	.422	.405	.413
.243	4.480	3.371	.827	4.637	3.490	.258	1264	.940	1345	.401	.406	.422	.408	.407	.418	.422	.407	.414
.241	4.477	3.365	.825	4.644	3.490	.256	1264	.940	1345	.402	.407	.422	.408	.408	.419	.423	.407	.415
.239	4.473	3.357	.823	4.646	3.487	.254	1264	.940	1345	.403	.407	.422	.409	.408	.420	.424	.408	.415
.235	4.468	3.351	.819	4.650	3.488	.250	1264	.940	1345	.404	.408	.423	.409	.409	.420	.424	.408	.416
.232	4.460	3.341	.816	4.658	3.489	.247	1265	.940	1345	.404	.408	.424	.410	.409	.421	.426	.409	.416
.230	4.451	3.334	.814	4.657	3.489	.245	1264	.940	1345	.405	.408	.425	.408	.410	.422	.426	.410	.417
.228	4.442	3.325	.812	4.663	3.490	.243	1265	.940	1345	.406	.409	.426	.411	.410	.422	.427	.410	.418
.223	4.429	3.316	.807	4.664	3.492	.238	1265	.940	1345	.406	.409	.427	.411	.411	.423	.428	.411	.419

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
20	139	7.92	150.5	1345	30.02	-8.02	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0165	1.337	.723	3868	4.473E-04	7.994E-08	6.695E 05	15.84	2.05	.70	22.633	22

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.221	4.416	3.304	.805	4.666	3.491	.236	1265	.941	1345	.407	.410	.427	.411	.411	.423	.429	.411	.419
.218	4.402	3.293	.802	4.668	3.492	.233	1265	.941	1345	.407	.410	.428	.412	.411	.424	.430	.412	.420
.216	4.387	3.279	.800	4.669	3.490	.231	1265	.941	1345	.408	.411	.429	.412	.412	.424	.431	.412	.420
.212	4.371	3.270	.796	4.668	3.492	.227	1265	.941	1345	.408	.411	.430	.413	.412	.425	.431	.414	.422
.210	4.358	3.256	.794	4.668	3.494	.225	1266	.941	1345	.409	.411	.430	.414	.412	.426	.433	.414	.422
.208	4.338	3.241	.792	4.666	3.493	.223	1266	.941	1345	.409	.412	.431	.414	.413	.426	.433	.415	.423
.206	4.311	3.229	.790	4.663	3.493	.221	1265	.941	1345	.410	.412	.432	.414	.413	.427	.434	.415	.424
.203	4.297	3.221	.787	4.664	3.496	.218	1266	.941	1345	.410	.412	.433	.412	.414	.427	.435	.416	.424
.198	4.278	3.209	.782	4.662	3.497	.213	1266	.941	1345	.411	.413	.434	.415	.414	.428	.435	.416	.425
.197	4.258	3.196	.781	4.659	3.497	.212	1266	.941	134	.411	.414	.434	.416	.415	.428	.437	.416	.426
.194	4.236	3.181	.778	4.655	3.496	.209	1266	.941	1345	.412	.414	.435	.416	.415	.429	.438	.418	.426
.192	4.214	3.169	.776	4.649	3.496	.207	1266	.941	1345	.412	.414	.436	.416	.415	.430	.438	.418	.427
.190	4.193	3.157	.774	4.649	3.501	.205	1267	.942	1345	.413	.415	.437	.417	.416	.430	.439	.418	.428
.185	4.170	3.140	.769	4.645	3.498	.200	1267	.942	1345	.414	.415	.437	.418	.416	.431	.440	.418	.428
.183	4.138	3.120	.767	4.641	3.500	.198	1267	.942	1345	.414	.416	.438	.411	.416	.431	.441	.420	.429
.180	4.113	3.103	.764	4.642	3.503	.195	1267	.942	1345	.415	.416	.439	.419	.417	.432	.442	.420	.430
.178	4.089	3.087	.762	4.635	3.500	.193	1267	.942	1345	.415	.416	.439	.412	.418	.433	.442	.421	.431
.178	4.068	3.078	.762	4.635	3.507	.193	1267	.942	1345	.416	.417	.440	.412	.418	.433	.443	.422	.431
.174	4.050	3.066	.758	4.634	3.508	.189	1267	.942	1345	.416	.417	.441	.420	.418	.434	.444	.422	.432
.173	4.032	3.053	.757	4.627	3.503	.188	1267	.942	1345	.417	.418	.441	.420	.419	.434	.445	.423	.433
.170	4.013	3.042	.754	4.629	3.509	.185	1267	.942	1345	.417	.418	.443	.421	.420	.435	.446	.424	.433
.168	3.993	3.029	.752	4.629	3.512	.183	1267	.942	1345	.418	.418	.443	.422	.420	.435	.446	.424	.434
.166	3.974	3.013	.750	4.635	3.514	.181	1268	.943	1345	.418	.419	.444	.422	.420	.436	.447	.424	.434
.163	3.957	2.998	.747	4.638	3.514	.178	1268	.943	1345	.419	.419	.445	.423	.420	.437	.448	.425	.435
.161	3.939	2.984	.745	4.640	3.515	.176	1268	.943	1345	.419	.419	.446	.423	.421	.438	.449	.426	.436
.158	3.919	2.967	.742	4.643	3.516	.173	1268	.943	1345	.420	.419	.446	.422	.421	.438	.449	.426	.437
.157	3.898	2.949	.741	4.648	3.517	.172	1268	.943	1345	.420	.420	.447	.422	.422	.439	.450	.427	.437
.153	3.877	2.934	.737	4.651	3.519	.168	1268	.943	1345	.421	.421	.448	.424	.422	.439	.451	.428	.438
.152	3.858	2.919	.736	4.653	3.521	.167	1268	.943	1345	.422	.421	.449	.425	.422	.440	.452	.428	.439
.151	3.841	2.904	.735	4.658	3.522	.166	1268	.943	1345	.422	.422	.449	.426	.423	.441	.453	.428	.439
.148	3.826	2.891	.732	4.660	3.521	.163	1268	.943	1345	.423	.422	.450	.426	.423	.441	.454	.430	.440
.146	3.808	2.877	.730	4.660	3.521	.161	1269	.943	1345	.423	.422	.451	.427	.423	.442	.454	.430	.441
.143	3.784	2.859	.727	4.665	3.525	.158	1269	.943	1345	.424	.422	.451	.427	.424	.442	.455	.431	.441
.140	3.754	2.836	.724	4.667	3.527	.155	1269	.944	1345	.424	.423	.452	.425	.424	.443	.456	.431	.442
.137	3.719	2.810	.721	4.671	3.529	.152	1269	.944	1345	.425	.424	.453	.426	.425	.443	.457	.432	.442
.135	3.684	2.782	.719	4.681	3.535	.150	1269	.944	1345	.425	.424	.454	.422	.426	.445	.457	.433	.443
.129	3.643	2.749	.713	4.688	3.538	.144	1270	.944	1345	.426	.425	.454	.430	.426	.445	.458	.433	.444
.125	3.594	2.708	.709	4.695	3.538	.140	1269	.944	1345	.426	.425	.455	.430	.426	.446	.459	.434	.445
.122	3.548	2.672	.706	4.703	3.542	.137	1270	.944	1345	.427	.426	.456	.431	.427	.446	.460	.434	.445
.118	3.504	2.637	.702	4.708	3.543	.133	1270	.944	1345	.427	.426	.457	.431	.427	.446	.460	.435	.446
.117	3.462	2.602	.701	4.714	3.543	.132	1270	.944	1345	.428	.426	.457	.430	.427	.447	.461	.435	.446
.113	3.421	2.569	.697	4.720	3.545	.128	1269	.944	1345	.428	.426	.458	.433	.428	.447	.462	.436	.447

DATE 5-6-74
PROJECT NUMBER VA524-21HA
AEDC, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
PAGE = 3

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
20	139	7.92	150.0	1345	30.02	-8.02	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0164	1.332	.720	3868	4.459E-04	7.994E-08	6.695E 05	15.84	2.05	.70	22.633	22

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.110	3.373	2.531	.694	4.725	3.546	.125	1269	.944	1345	.429	.427	.458	.431	.428	.448	.463	.437	.448
.105	3.312	2.486	.689	4.731	3.548	.120	1269	.943	1345	.430	.427	.460	.434	.429	.449	.464	.437	.449
.102	3.243	2.431	.686	4.738	3.551	.117	1268	.943	1345	.430	.427	.460	.434	.430	.449	.464	.438	.449
.100	3.167	2.374	.684	4.741	3.554	.115	1267	.942	1345	.431	.428	.461	.435	.430	.450	.465	.438	.450
.096	3.092	2.316	.680	4.747	3.556	.111	1266	.941	1345	.431	.428	.462	.436	.430	.451	.465	.439	.450
.094	3.012	2.256	.676	4.751	3.559	.109	1265	.940	1345	.431	.428	.462	.436	.431	.451	.466	.439	.451
.091	2.932	2.195	.675	4.757	3.561	.106	1263	.939	1345	.432	.430	.463	.437	.431	.452	.467	.440	.451
.088	2.851	2.133	.672	4.757	3.559	.103	1261	.937	1345	.433	.430	.464	.438	.432	.453	.468	.441	.453
.087	2.772	2.073	.671	4.762	3.562	.102	1258	.935	1346	.433	.430	.464	.439	.432	.453	.468	.441	.452
.084	2.681	2.004	.668	4.764	3.562	.099	1254	.932	1346	.433	.430	.465	.439	.432	.453	.469	.441	.453
.082	2.588	1.935	.666	4.767	3.564	.097	1250	.928	1346	.434	.430	.466	.440	.433	.454	.470	.442	.454
.079	2.495	1.866	.663	4.770	3.568	.094	1244	.925	1345	.435	.432	.466	.441	.434	.455	.470	.442	.455
.075	2.395	1.791	.659	4.772	3.567	.090	1236	.919	1345	.435	.432	.467	.442	.434	.456	.471	.443	.456
.074	2.287	1.711	.658	4.774	3.572	.089	1227	.912	1346	.435	.433	.467	.440	.434	.456	.472	.443	.456
.071	2.178	1.629	.655	4.775	3.572	.086	1218	.905	1345	.436	.433	.469	.439	.435	.457	.473	.445	.457
.068	2.069	1.549	.652	4.777	3.576	.083	1205	.896	1345	.437	.434	.469	.444	.435	.457	.473	.445	.457
.065	1.958	1.465	.649	4.783	3.581	.080	1189	.884	1345	.437	.434	.470	.440	.436	.458	.474	.446	.458
.061	1.841	1.377	.645	4.782	3.578	.076	1168	.869	1345	.436	.434	.471	.445	.437	.458	.475	.446	.458
.057	1.722	1.289	.641	4.786	3.584	.072	1141	.848	1345	.438	.435	.471	.441	.437	.460	.476	.447	.460
.053	1.600	1.197	.637	4.791	3.587	.068	1116	.830	1345	.439	.435	.472	.446	.437	.460	.476	.447	.460
.049	1.483	1.111	.633	4.793	3.590	.064	1084	.806	1345	.439	.435	.473	.449	.438	.461	.477	.447	.460
.046	1.374	1.029	.630	4.799	3.595	.061	1047	.779	1345	.439	.437	.473	.448	.438	.461	.478	.449	.461
.042	1.270	.951	.626	4.801	3.597	.057	1011	.752	1345	.440	.437	.474	.448	.439	.462	.479	.449	.462
.041	1.180	.884	.625	4.804	3.599	.056	990	.736	1345	.441	.437	.474	.449	.439	.462	.479	.449	.462
.039	1.100	.824	.623	4.803	3.598	.054	971	.722	1345	.441	.438	.476	.449	.440	.463	.480	.450	.463
.036	1.029	.771	.620	4.804	3.601	.051	953	.708	1345	.442	.438	.476	.450	.441	.464	.481	.450	.464
.036	.970	.727	.620	4.806	3.603	.051	939	.698	1345	.442	.439	.477	.451	.441	.464	.481	.451	.464
.033	.915	.686	.617	4.809	3.607	.048	926	.688	1345	.443	.439	.477	.449	.441	.465	.482	.451	.464
.032	.868	.651	.616	4.809	3.607	.047	912	.678	1345	.443	.439	.478	.452	.442	.465	.483	.452	.465
.031	.824	.619	.615	4.809	3.605	.046	898	.668	1345	.443	.440	.479	.448	.442	.466	.484	.452	.465
.029	.790	.592	.613	4.808	3.606	.044	885	.658	1345	.444	.440	.479	.453	.443	.466	.484	.453	.466
.029	.760	.570	.613	4.812	3.612	.044	874	.650	1345	.445	.441	.480	.449	.443	.467	.485	.453	.467
.027	.731	.549	.611	4.810	3.611	.042	864	.643	1345	.445	.441	.481	.454	.443	.468	.485	.454	.468
.027	.706	.530	.611	4.812	3.612	.042	853	.634	1345	.446	.442	.481	.448	.444	.469	.486	.454	.468
.026	.685	.514	.610	4.810	3.610	.041	843	.627	1345	.446	.442	.482	.456	.445	.469	.487	.456	.469
.024	.666	.500	.608	4.812	3.612	.039	833	.620	1345	.447	.442	.483	.454	.445	.470	.488	.456	.469
.024	.649	.488	.608	4.813	3.615	.039	825	.613	1345	.447	.443	.484	.454	.446	.470	.488	.457	.470
.023	.634	.476	.607	4.812	3.614	.038	819	.609	1345	.447	.443	.484	.457	.446	.471	.489	.457	.470
.019	.622	.468	.603	4.813	3.617	.034	811	.603	1345	.448	.443	.485	.458	.446	.472	.489	.457	.471
.023	.609	.457	.607	4.812	3.616	.038	802	.596	1345	.449	.443	.485	.458	.447	.472	.491	.458	.472
.020	.598	.450	.604	4.813	3.618	.035	769	.587	1345	.449	.444	.486	.459	.447	.473	.491	.459	.472
.020	.589	.442	.604	4.813	3.618	.035	774	.575	1345	.450	.445	.487	.460	.448	.473	.492	.459	.473

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
20	139	7.92	149.7	1345	30.02	-8.02	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0164	1.330	.719	3868	4.450E-04	7.994E-08	6.695E 05	15.84	2.05	.70	22.633	22

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.019	.580	.436	.603	4.810	3.618	.034	761	.566	1345	.450	.445	.487	.460	.449	.474	.492	.460	.473
.017	.573	.431	.601	4.816	3.622	.032	745	.554	1345	.450	.446	.488	.461	.449	.474	.493	.460	.474
.017	.566	.425	.601	4.816	3.622	.032	737	.548	1345	.451	.446	.488	.461	.450	.475	.493	.461	.474
.014	.559	.420	.598	4.815	3.622	.029	733	.545	1345	.451	.446	.489	.462	.450	.476	.494	.461	.475
.014	.553	.416	.598	4.817	3.625	.029	730	.543	1345	.452	.447	.490	.462	.450	.476	.495	.462	.476
.013	.548	.412	.597	4.817	3.623	.028	727	.541	1345	.453	.447	.491	.462	.451	.477	.496	.462	.476
.007	.527	.397	.591	4.820	3.630	.022	705	.524	1345	.456	.450	.495	.462	.454	.481	.500	.465	.480

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/R1 OMS2 SHUTTLE SURVEY TEST
PAGE = 1

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
21	139	7.92	152.8	1345	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0167	1.357	.734	3868	4.541E-04	7.994E-08	6.671E 05	18.11	2.05	.80	22.633	16

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.675	4.602	3.400	1.259	4.389	3.243	.690	1262	.938	1345	.395	.396	.412	.404	.403	.412	.411	.398	.405

DATE 5-6-74
PROJECT NUMBER VA526-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI 0r52 SHUTTLE SURVEY TEST
PAGE = 2

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
21	139	7.92	152.4	1345	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0167	1.353	.732	3868	4.529E-04	7.994E-08	6.071E 05	18.11	2.05	.80	22.633	16

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG*R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.675	4.602	3.400	1.259	4.387	3.242	.690	1262	.938	1345	.395	.396	.412	.405	.403	.412	.411	.398	.405
.675	4.595	3.402	1.260	4.383	3.245	.690	1262	.938	1345	.396	.397	.415	.403	.404	.414	.414	.400	.407
.676	4.594	3.399	1.260	4.379	3.239	.691	1262	.938	1345	.397	.397	.416	.406	.404	.415	.415	.401	.408
.666	4.590	3.403	1.250	4.375	3.243	.681	1262	.938	1345	.397	.397	.416	.402	.405	.415	.416	.402	.409
.638	4.594	3.406	1.222	4.377	3.245	.653	1262	.938	1345	.398	.398	.417	.407	.405	.416	.417	.402	.410
.601	4.613	3.422	1.185	4.380	3.249	.616	1262	.938	1345	.399	.398	.418	.407	.405	.417	.418	.403	.410
.559	4.647	3.451	1.143	4.398	3.267	.574	1261	.938	1345	.400	.399	.419	.407	.406	.418	.419	.404	.411
.538	4.672	3.470	1.122	4.413	3.278	.553	1261	.938	1345	.400	.399	.419	.407	.407	.418	.419	.404	.412
.491	4.717	3.508	1.075	4.437	3.300	.506	1261	.938	1345	.401	.399	.421	.408	.407	.419	.420	.405	.412
.454	4.743	3.532	1.038	4.444	3.309	.469	1261	.938	1345	.402	.400	.422	.408	.408	.420	.422	.406	.414
.418	4.755	3.544	1.002	4.449	3.315	.433	1261	.937	1345	.403	.400	.423	.409	.408	.420	.423	.407	.415
.396	4.757	3.548	.980	4.450	3.319	.411	1261	.937	1345	.403	.400	.423	.411	.408	.421	.423	.407	.415
.388	4.755	3.546	.972	4.452	3.320	.403	1261	.938	1345	.404	.401	.424	.412	.409	.422	.424	.408	.416
.377	4.750	3.547	.961	4.449	3.322	.392	1261	.938	1345	.405	.401	.425	.411	.409	.422	.426	.408	.417
.368	4.743	3.544	.952	4.454	3.328	.383	1262	.938	1345	.405	.401	.426	.414	.410	.423	.426	.409	.418
.358	4.736	3.541	.942	4.451	3.328	.373	1261	.938	1345	.406	.402	.427	.415	.410	.424	.427	.410	.418
.349	4.728	3.540	.933	4.451	3.332	.364	1261	.938	1345	.407	.402	.428	.416	.411	.424	.428	.411	.419
.339	4.718	3.533	.923	4.451	3.333	.354	1262	.938	1345	.407	.402	.428	.416	.411	.425	.429	.411	.420
.329	4.707	3.526	.913	4.453	3.336	.344	1262	.938	1345	.408	.402	.429	.417	.411	.426	.430	.412	.420
.319	4.692	3.522	.903	4.452	3.342	.334	1262	.938	1345	.408	.403	.430	.418	.412	.426	.431	.412	.422
.312	4.677	3.513	.896	4.453	3.345	.327	1262	.938	1345	.409	.403	.431	.418	.412	.427	.432	.413	.422
.310	4.665	3.504	.894	4.450	3.343	.325	1262	.938	1345	.410	.403	.432	.419	.412	.427	.433	.414	.423
.306	4.654	3.501	.890	4.447	3.345	.321	1262	.938	1345	.410	.403	.433	.419	.413	.428	.434	.415	.423
.306	4.646	3.497	.890	4.442	3.343	.321	1262	.938	1345	.411	.403	.433	.420	.413	.428	.435	.415	.424
.303	4.638	3.496	.887	4.439	3.346	.318	1262	.938	1345	.411	.404	.434	.420	.414	.430	.435	.416	.425
.302	4.631	3.490	.886	4.437	3.344	.317	1262	.939	1345	.412	.404	.435	.420	.414	.430	.437	.416	.426
.300	4.623	3.487	.884	4.435	3.345	.315	1262	.938	1345	.412	.404	.436	.421	.414	.431	.438	.417	.427
.296	4.617	3.499	.880	4.432	3.350	.311	1262	.938	1345	.413	.405	.437	.422	.415	.431	.438	.418	.427
.296	4.607	3.484	.880	4.428	3.348	.311	1262	.938	1345	.414	.405	.438	.422	.415	.433	.439	.419	.428
.292	4.599	3.479	.876	4.427	3.348	.307	1262	.939	1345	.414	.405	.439	.423	.416	.433	.440	.419	.429
.288	4.590	3.476	.872	4.421	3.348	.303	1262	.939	1345	.415	.405	.439	.423	.416	.434	.441	.420	.430
.287	4.580	3.473	.871	4.419	3.351	.302	1262	.939	1345	.415	.407	.440	.424	.416	.434	.442	.420	.430
.285	4.570	3.468	.869	4.414	3.349	.300	1262	.939	1345	.416	.407	.441	.422	.417	.435	.443	.422	.431
.284	4.563	3.465	.868	4.413	3.351	.299	1262	.939	1345	.416	.407	.442	.425	.418	.435	.444	.422	.432
.282	4.556	3.462	.866	4.410	3.351	.297	1263	.939	1345	.417	.407	.442	.425	.418	.436	.445	.423	.433
.280	4.549	3.461	.864	4.404	3.351	.295	1262	.939	1345	.418	.407	.443	.425	.418	.437	.446	.423	.433
.279	4.540	3.457	.863	4.402	3.351	.294	1262	.938	1345	.418	.407	.444	.426	.419	.438	.446	.424	.434
.277	4.533	3.453	.861	4.396	3.349	.292	1262	.939	1345	.419	.408	.445	.426	.419	.438	.447	.424	.435
.275	4.524	3.449	.859	4.395	3.351	.290	1263	.939	1345	.419	.408	.446	.427	.419	.439	.448	.425	.435
.274	4.517	3.446	.858	4.394	3.352	.289	1262	.939	1345	.420	.408	.447	.425	.420	.439	.449	.426	.437
.272	4.508	3.446	.856	4.388	3.349	.287	1262	.939	1345	.420	.408	.447	.427	.420	.440	.450	.426	.437
.271	4.501	3.441	.855	4.385	3.352	.286	1262	.938	1345	.421	.409	.448	.428	.420	.441	.451	.427	.438

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OM52 SHUTTLE SURVEY TEST
PAGE = 3

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
21	139	7.92	147.1	1345	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0161	1.306	.796	3868	4.372E-04	7.994E-08	6.671E 05	18.11	2.05	.80	22.633	16

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.268	4.492	3.439	.852	4.381	3.353	.283	1263	.939	1345	.422	.409	.449	.426	.421	.441	.451	.428	.439
.268	4.484	3.433	.852	4.383	3.355	.283	1263	.939	1344	.422	.410	.450	.422	.422	.442	.453	.429	.439
.265	4.480	3.429	.849	4.389	3.355	.280	1263	.939	1345	.423	.410	.450	.429	.422	.443	.454	.429	.440
.263	4.481	3.418	.847	4.403	3.359	.278	1264	.939	1345	.423	.410	.451	.430	.422	.443	.454	.430	.441
.261	4.487	3.414	.845	4.417	3.361	.276	1264	.940	1345	.424	.410	.452	.430	.423	.444	.455	.430	.441
.261	4.496	3.407	.845	4.433	3.359	.276	1264	.940	1345	.424	.411	.453	.430	.423	.445	.456	.431	.442
.257	4.505	3.405	.841	4.451	3.364	.272	1264	.940	1345	.425	.411	.454	.431	.424	.445	.457	.432	.443
.255	4.515	3.401	.839	4.463	3.362	.270	1264	.940	1345	.426	.411	.454	.431	.424	.446	.457	.432	.443
.256	4.525	3.397	.838	4.477	3.361	.269	1264	.940	1345	.426	.411	.455	.432	.424	.446	.458	.433	.444
.254	4.536	3.396	.838	4.489	3.361	.269	1264	.940	1345	.427	.412	.456	.432	.425	.447	.459	.434	.445
.251	4.543	3.394	.835	4.501	3.363	.266	1264	.940	1345	.427	.412	.457	.433	.426	.447	.460	.434	.446
.249	4.550	3.395	.833	4.509	3.364	.264	1264	.940	1345	.428	.412	.457	.433	.426	.449	.461	.435	.446
.248	4.555	3.390	.832	4.518	3.363	.263	1264	.940	1345	.428	.412	.458	.431	.426	.449	.462	.435	.447
.246	4.559	3.386	.830	4.529	3.364	.261	1264	.940	1345	.429	.413	.459	.434	.427	.450	.462	.436	.447
.244	4.562	3.384	.828	4.534	3.363	.259	1265	.940	1345	.430	.413	.460	.434	.427	.450	.463	.437	.449
.242	4.564	3.381	.826	4.544	3.366	.257	1265	.940	1345	.430	.414	.461	.434	.428	.451	.464	.438	.449
.241	4.566	3.373	.825	4.549	3.361	.256	1265	.940	1345	.431	.414	.462	.435	.428	.451	.465	.438	.450
.239	4.564	3.372	.823	4.551	3.362	.254	1265	.940	1345	.431	.414	.462	.435	.428	.453	.466	.439	.450
.236	4.558	3.372	.820	4.550	3.366	.251	1265	.940	1345	.432	.414	.463	.435	.429	.453	.466	.439	.451
.235	4.553	3.362	.819	4.552	3.361	.250	1265	.941	1345	.433	.415	.464	.436	.430	.454	.468	.440	.452
.230	4.543	3.359	.814	4.553	3.366	.245	1265	.940	1345	.433	.415	.465	.434	.430	.454	.468	.441	.453
.230	4.537	3.368	.814	4.552	3.364	.245	1265	.940	1345	.434	.415	.465	.430	.430	.455	.469	.441	.453
.229	4.524	3.345	.813	4.550	3.364	.244	1265	.941	1345	.434	.415	.466	.437	.431	.456	.470	.442	.454
.225	4.517	3.344	.809	4.547	3.366	.240	1265	.941	1345	.435	.416	.467	.438	.431	.456	.470	.442	.455
.225	4.511	3.335	.809	4.550	3.364	.240	1265	.940	1345	.435	.416	.468	.438	.432	.457	.471	.443	.455
.222	4.503	3.329	.806	4.551	3.365	.237	1265	.941	1345	.436	.417	.468	.438	.432	.457	.472	.443	.456
.217	4.494	3.327	.801	4.550	3.368	.232	1265	.941	1345	.436	.417	.469	.439	.433	.458	.472	.444	.456
.218	4.485	3.319	.802	4.548	3.365	.233	1265	.941	1345	.437	.417	.470	.439	.433	.458	.473	.445	.457
.215	4.476	3.316	.799	4.548	3.369	.230	1265	.941	1345	.437	.417	.470	.439	.434	.460	.474	.445	.458
.212	4.465	3.306	.796	4.546	3.365	.227	1266	.941	1345	.438	.418	.471	.440	.434	.460	.474	.446	.458
.209	4.455	3.309	.793	4.545	3.367	.224	1265	.941	1345	.439	.418	.472	.440	.434	.461	.476	.446	.459
.206	4.440	3.292	.788	4.544	3.368	.219	1266	.941	1345	.439	.418	.472	.441	.435	.461	.476	.447	.460
.203	4.427	3.284	.787	4.544	3.371	.218	1266	.941	1345	.439	.418	.473	.441	.435	.462	.477	.447	.460
.202	4.416	3.273	.786	4.543	3.368	.217	1266	.941	1345	.439	.419	.474	.441	.435	.462	.477	.448	.461
.201	4.405	3.266	.785	4.545	3.369	.216	1266	.941	1345	.440	.419	.474	.441	.436	.463	.478	.449	.461
.200	4.397	3.259	.784	4.543	3.365	.215	1266	.941	1345	.441	.419	.475	.442	.437	.464	.479	.449	.462
.199	4.388	3.253	.782	4.542	3.367	.213	1266	.941	1345	.441	.419	.476	.442	.437	.464	.480	.449	.462
.195	4.380	3.249	.779	4.542	3.369	.210	1266	.942	1345	.442	.420	.476	.442	.437	.465	.480	.450	.463
.194	4.370	3.244	.778	4.540	3.370	.209	1266	.942	1345	.442	.420	.477	.443	.438	.465	.481	.450	.464
.192	4.358	3.235	.776	4.537	3.368	.207	1267	.942	1345	.443	.420	.478	.443	.438	.466	.482	.451	.464
.190	4.345	3.225	.774	4.538	3.368	.205	1266	.941	1345	.443	.420	.479	.439	.438	.466	.483	.452	.465
.188	4.334	3.217	.772	4.541	3.371	.203	1267	.942	1345	.443	.421	.479	.444	.439	.467	.483	.452	.465

DATE 5-6-74
PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
PAGE = 4

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
21	139	7.92	151.6	1345	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0166	1.346	.728	3868	4.505E-04	7.994E-08	6.671E 05	18.11	2.05	.80	22.633	16

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.186	4.322	3.210	.770	4.537	3.370	.201	1266	.942	1345	.444	.421	.480	.444	.439	.468	.484	.453	.466
.183	4.307	3.199	.767	4.535	3.368	.198	1267	.942	1345	.445	.421	.480	.440	.440	.468	.485	.453	.466
.182	4.292	3.188	.766	4.536	3.369	.197	1267	.942	1345	.445	.422	.481	.440	.441	.469	.485	.454	.468
.177	4.277	3.179	.761	4.535	3.371	.192	1267	.942	1345	.446	.422	.482	.445	.441	.470	.486	.454	.468
.177	4.262	3.168	.761	4.537	3.372	.192	1267	.942	1345	.446	.422	.483	.446	.441	.470	.487	.455	.469
.174	4.246	3.158	.758	4.535	3.373	.189	1267	.942	1345	.447	.422	.483	.446	.442	.471	.488	.456	.469
.171	4.230	3.146	.755	4.534	3.372	.186	1267	.942	1345	.447	.423	.484	.446	.442	.472	.488	.456	.470
.169	4.216	3.135	.753	4.534	3.372	.184	1267	.942	1345	.447	.423	.485	.447	.443	.472	.489	.457	.470
.169	4.203	3.126	.753	4.534	3.372	.184	1267	.942	1345	.448	.423	.485	.445	.443	.473	.489	.457	.471
.166	4.188	3.115	.750	4.533	3.371	.181	1268	.942	1345	.449	.424	.486	.447	.443	.473	.491	.458	.472
.162	4.171	3.102	.746	4.533	3.372	.177	1268	.943	1345	.449	.424	.487	.445	.444	.474	.491	.458	.472
.161	4.153	3.089	.745	4.534	3.372	.176	1268	.943	1345	.450	.424	.487	.448	.445	.474	.492	.459	.472
.157	4.129	3.073	.741	4.532	3.373	.172	1268	.943	1345	.450	.424	.488	.449	.445	.475	.492	.460	.473
.156	4.110	3.061	.740	4.532	3.375	.171	1268	.943	1345	.451	.425	.488	.449	.445	.476	.493	.460	.474
.152	4.090	3.042	.736	4.531	3.370	.167	1268	.943	1345	.451	.425	.489	.449	.446	.476	.494	.461	.474
.147	4.055	3.020	.731	4.532	3.375	.162	1269	.943	1345	.451	.425	.490	.450	.446	.477	.495	.461	.475
.144	4.018	2.994	.728	4.531	3.376	.159	1269	.943	1345	.453	.426	.491	.450	.447	.478	.495	.462	.476
.143	3.985	2.969	.727	4.532	3.373	.158	1269	.943	1345	.453	.426	.491	.450	.447	.479	.496	.462	.476
.140	3.962	2.949	.724	4.530	3.372	.155	1269	.943	1345	.453	.426	.492	.451	.448	.479	.496	.463	.477
.139	3.939	2.934	.723	4.531	3.375	.154	1269	.943	1345	.454	.427	.492	.451	.449	.480	.497	.464	.477
.139	3.929	2.918	.723	4.532	3.373	.154	1269	.944	1345	.454	.427	.493	.449	.449	.480	.498	.464	.478
.137	3.902	2.906	.721	4.532	3.375	.152	1269	.944	1345	.455	.427	.494	.452	.449	.481	.499	.464	.479
.132	3.880	2.891	.716	4.531	3.377	.147	1269	.943	1345	.456	.427	.495	.452	.450	.481	.499	.465	.479
.131	3.853	2.873	.715	4.530	3.374	.146	1269	.944	1345	.456	.427	.495	.448	.450	.482	.500	.465	.480
.128	3.826	2.851	.712	4.530	3.376	.143	1269	.944	1345	.457	.428	.496	.453	.451	.483	.501	.466	.480
.125	3.799	2.833	.709	4.531	3.375	.140	1269	.944	1345	.457	.428	.496	.454	.451	.483	.502	.466	.481
.124	3.778	2.817	.708	4.530	3.381	.139	1269	.944	1345	.457	.428	.497	.454	.451	.484	.502	.467	.481
.119	3.742	2.790	.703	4.532	3.379	.134	1269	.944	1345	.458	.428	.497	.454	.452	.484	.503	.468	.482
.118	3.712	2.770	.702	4.532	3.382	.133	1269	.944	1345	.458	.429	.499	.455	.453	.485	.503	.468	.483
.116	3.680	2.744	.700	4.531	3.379	.131	1269	.944	1345	.458	.429	.499	.455	.453	.485	.504	.469	.483
.114	3.642	2.716	.698	4.533	3.380	.129	1269	.944	1345	.459	.430	.500	.456	.453	.486	.504	.469	.484
.111	3.606	2.691	.695	4.530	3.380	.126	1269	.943	1345	.460	.430	.500	.456	.454	.487	.506	.469	.484
.109	3.572	2.666	.692	4.534	3.381	.123	1269	.943	1345	.460	.430	.501	.454	.454	.487	.506	.470	.485
.107	3.539	2.638	.691	4.533	3.382	.122	1269	.942	1345	.461	.431	.501	.456	.455	.488	.506	.470	.485
.104	3.498	2.608	.688	4.533	3.383	.119	1268	.943	1345	.461	.431	.502	.454	.455	.488	.507	.471	.486
.102	3.452	2.578	.686	4.534	3.385	.117	1268	.943	1345	.461	.431	.502	.457	.456	.489	.508	.472	.486
.099	3.418	2.543	.683	4.534	3.381	.114	1268	.943	1345	.462	.431	.503	.457	.456	.489	.508	.472	.487
.096	3.384	2.512	.680	4.535	3.386	.111	1268	.943	1345	.462	.431	.503	.458	.457	.489	.509	.472	.487
.094	3.349	2.476	.680	4.533	3.382	.111	1267	.942	1345	.462	.432	.504	.449	.457	.491	.510	.472	.488
.093	3.275	2.446	.677	4.532	3.384	.108	1267	.942	1345	.463	.432	.504	.458	.457	.491	.510	.473	.488
.090	3.227	2.409	.674	4.534	3.385	.105	1266	.941	1345	.463	.433	.506	.458	.459	.491	.511	.474	.489
.091	3.175	2.369	.675	4.534	3.383	.106	1266	.941	1345	.464	.433	.506	.459	.458	.492	.511	.474	.489

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OPS2 SHUTTLE SURVEY TEST
PAGE = 5

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
21	139	7.92	150.9	1345	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0165	1.340	.724	3868	4.485E-04	7.994E-08	6.671E 05	18.11	2.05	.80	22.633	16

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.088	3.125	2.332	.672	4.535	3.384	.103	1265	.941	1345	.464	.433	.507	.460	.458	.492	.512	.474	.489
.086	3.049	2.300	.670	4.533	3.385	.101	1265	.940	1345	.465	.433	.507	.460	.459	.493	.512	.475	.490
.085	3.039	2.269	.669	4.536	3.387	.100	1264	.940	1345	.465	.434	.508	.460	.460	.493	.513	.476	.491
.084	3.001	2.244	.668	4.533	3.390	.099	1264	.939	1345	.465	.434	.508	.458	.460	.494	.514	.477	.491
.083	2.960	2.210	.667	4.535	3.386	.098	1263	.939	1345	.466	.434	.509	.458	.460	.495	.514	.477	.492
.083	2.924	2.184	.667	4.535	3.386	.098	1262	.938	1345	.466	.434	.510	.461	.461	.495	.515	.477	.492
.080	2.884	2.157	.664	4.533	3.390	.095	1261	.937	1345	.466	.434	.510	.462	.461	.496	.515	.477	.493
.080	2.832	2.116	.664	4.534	3.388	.095	1259	.936	1345	.468	.435	.511	.462	.462	.496	.516	.478	.493
.078	2.767	2.069	.662	4.534	3.390	.093	1257	.934	1345	.468	.435	.511	.462	.462	.497	.516	.479	.494
.076	2.715	2.030	.660	4.534	3.390	.091	1255	.933	1345	.468	.435	.512	.462	.462	.497	.518	.479	.494
.075	2.662	1.991	.659	4.536	3.391	.090	1253	.932	1345	.469	.435	.512	.463	.463	.498	.518	.480	.495
.075	2.608	1.950	.659	4.538	3.393	.090	1251	.930	1345	.469	.436	.514	.463	.464	.499	.519	.480	.495
.072	2.563	1.916	.656	4.536	3.392	.087	1250	.929	1345	.469	.436	.514	.464	.464	.499	.519	.480	.496
.074	2.517	1.883	.658	4.534	3.392	.089	1248	.928	1345	.470	.437	.515	.464	.465	.500	.520	.481	.496
.072	2.472	1.848	.656	4.534	3.390	.087	1247	.927	1345	.470	.437	.515	.457	.465	.500	.520	.481	.497
.071	2.436	1.821	.655	4.534	3.390	.086	1245	.926	1345	.471	.437	.516	.463	.465	.500	.521	.482	.497
.071	2.403	1.798	.655	4.536	3.394	.086	1244	.925	1345	.471	.437	.516	.463	.466	.501	.522	.483	.497
.071	2.363	1.768	.655	4.537	3.394	.086	1242	.923	1345	.472	.437	.517	.466	.466	.502	.522	.483	.498
.070	2.324	1.740	.654	4.534	3.394	.085	1239	.921	1345	.472	.438	.517	.466	.467	.502	.523	.484	.499
.069	2.281	1.707	.653	4.534	3.393	.084	1236	.919	1345	.472	.438	.518	.466	.467	.503	.523	.484	.499
.067	2.234	1.673	.651	4.537	3.395	.082	1233	.917	1345	.473	.439	.518	.467	.468	.503	.524	.484	.500
.065	2.193	1.642	.649	4.535	3.396	.080	1229	.914	1345	.473	.439	.519	.467	.468	.504	.524	.485	.500
.065	2.142	1.602	.649	4.537	3.394	.080	1225	.911	1345	.474	.439	.519	.468	.469	.504	.525	.485	.501
.064	2.093	1.569	.648	4.535	3.397	.079	1222	.908	1345	.474	.439	.520	.468	.469	.505	.526	.486	.501
.063	2.047	1.533	.647	4.536	3.396	.078	1218	.905	1345	.474	.439	.520	.466	.469	.506	.526	.486	.502
.062	1.995	1.494	.644	4.536	3.396	.077	1212	.901	1345	.475	.439	.521	.469	.470	.506	.527	.487	.502
.060	1.943	1.454	.644	4.536	3.398	.075	1207	.898	1345	.476	.440	.522	.469	.470	.506	.527	.487	.503
.059	1.895	1.419	.643	4.538	3.398	.074	1204	.895	1345	.476	.440	.522	.468	.471	.507	.528	.488	.503
.059	1.869	1.385	.643	4.538	3.400	.074	1199	.892	1345	.476	.440	.523	.468	.471	.508	.529	.488	.503
.059	1.805	1.352	.643	4.536	3.399	.074	1196	.889	1345	.477	.441	.523	.470	.472	.508	.529	.488	.504
.058	1.774	1.329	.642	4.539	3.401	.073	1194	.888	1345	.477	.441	.524	.471	.472	.508	.530	.489	.504
.057	1.737	1.302	.641	4.537	3.401	.072	1191	.886	1345	.477	.441	.524	.471	.473	.509	.530	.489	.505
.056	1.707	1.280	.640	4.535	3.400	.071	1189	.884	1345	.478	.441	.525	.472	.473	.510	.531	.489	.506
.055	1.673	1.254	.639	4.536	3.401	.070	1183	.880	1345	.478	.442	.525	.472	.473	.510	.531	.490	.506
.054	1.631	1.223	.638	4.537	3.401	.069	1174	.873	1345	.479	.442	.526	.472	.474	.511	.532	.491	.507
.052	1.592	1.193	.636	4.538	3.402	.067	1168	.869	1345	.479	.442	.527	.473	.474	.511	.532	.491	.507
.051	1.552	1.163	.635	4.537	3.402	.066	1163	.865	1345	.479	.442	.527	.473	.475	.511	.385	.491	.507
.051	1.511	1.133	.635	4.537	3.403	.066	1157	.861	1345	.480	.442	.527	.473	.475	.512	.533	.492	.508
.050	1.473	1.105	.634	4.536	3.403	.065	1152	.857	1345	.480	.443	.528	.474	.476	.512	.534	.492	.508
.049	1.435	1.077	.633	4.538	3.404	.064	1147	.852	1345	.481	.443	.529	.474	.476	.513	.534	.493	.509
.047	1.397	1.049	.631	4.537	3.403	.062	1143	.849	1345	.481	.443	.529	.475	.477	.514	.535	.493	.509
.048	1.361	1.022	.632	4.537	3.406	.063	1132	.842	1345	.481	.443	.530	.475	.477	.514	.535	.493	.510

DATE 5-6-74
PROJECT NUMBER VA524-21BA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
21	139	7.92	150.0	1345	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0164	1.332	.720	3868	4.458E-04	7.994E-08	6.671E 05	18.11	2.05	.80	22.633	16

ZP1 (IN)	PP1 /PSIA	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.045	1.322	.992	.629	4.540	3.408	.060	1127	.838	1345	.482	.443	.530	.476	.477	.515	.536	.494	.510
.046	1.289	.967	.630	4.539	3.405	.061	1123	.835	1345	.483	.445	.531	.476	.478	.515	.537	.494	.511
.043	1.254	.943	.627	4.541	3.411	.058	1119	.832	1345	.483	.445	.531	.475	.479	.515	.537	.495	.511
.044	1.226	.920	.626	4.541	3.409	.059	1113	.827	1345	.483	.445	.532	.477	.479	.516	.537	.495	.511
.043	1.197	.899	.627	4.540	3.410	.058	1108	.824	1345	.484	.445	.532	.477	.479	.516	.538	.495	.512
.043	1.169	.878	.627	4.542	3.409	.058	1103	.820	1345	.484	.445	.533	.477	.480	.517	.538	.496	.512
.042	1.142	.857	.626	4.541	3.409	.057	1098	.816	1345	.484	.446	.533	.476	.480	.518	.539	.496	.513
.041	1.114	.836	.625	4.541	3.409	.056	1092	.812	1345	.485	.446	.534	.478	.481	.518	.539	.497	.514
.040	1.087	.816	.624	4.539	3.409	.055	1083	.805	1345	.485	.446	.534	.479	.481	.518	.540	.497	.514
.039	1.054	.791	.623	4.542	3.409	.054	1075	.799	1345	.485	.446	.535	.479	.481	.519	.541	.497	.514
.039	1.031	.774	.623	4.542	3.410	.054	1069	.795	1345	.486	.447	.535	.477	.482	.519	.541	.499	.515
.037	1.005	.755	.621	4.543	3.412	.052	1062	.789	1345	.487	.447	.536	.480	.482	.520	.542	.499	.515
.036	.980	.735	.620	4.541	3.409	.051	1055	.785	1345	.487	.447	.537	.476	.483	.520	.542	.499	.516
.034	.956	.718	.618	4.543	3.413	.049	1050	.781	1345	.487	.447	.537	.481	.483	.521	.542	.499	.516
.034	.932	.700	.618	4.544	3.413	.049	1043	.775	1345	.488	.447	.538	.481	.484	.522	.543	.500	.516
.034	.909	.683	.618	4.545	3.414	.049	1035	.770	1345	.488	.448	.538	.481	.484	.522	.543	.500	.517
.033	.886	.666	.617	4.544	3.413	.048	1029	.765	1345	.488	.448	.538	.482	.484	.522	.544	.500	.516
.032	.866	.650	.616	4.544	3.413	.047	1023	.760	1345	.489	.448	.539	.478	.485	.523	.545	.501	.518
.031	.846	.636	.615	4.545	3.417	.046	1017	.756	1345	.489	.449	.539	.483	.485	.523	.545	.501	.518
.030	.825	.620	.614	4.543	3.415	.045	1009	.750	1345	.489	.449	.540	.484	.486	.524	.546	.502	.519
.029	.805	.604	.612	4.543	3.420	.043	1003	.745	1345	.490	.449	.540	.481	.487	.524	.546	.502	.519
.028	.788	.592	.612	4.544	3.416	.043	997	.741	1345	.491	.450	.541	.484	.487	.525	.547	.503	.520
.028	.769	.578	.612	4.545	3.419	.043	991	.737	1345	.491	.450	.541	.485	.487	.526	.547	.503	.520
.027	.752	.565	.611	4.544	3.418	.042	984	.732	1345	.491	.450	.542	.485	.488	.526	.547	.504	.520
.026	.735	.553	.610	4.545	3.416	.041	977	.726	1345	.492	.450	.542	.486	.488	.526	.548	.504	.521
.025	.721	.542	.609	4.548	3.419	.040	971	.722	1345	.492	.450	.543	.486	.488	.527	.549	.504	.522
.024	.707	.532	.608	4.546	3.420	.039	966	.718	1345	.492	.450	.543	.487	.489	.527	.549	.505	.522
.024	.694	.522	.608	4.546	3.422	.039	959	.713	1345	.493	.451	.543	.487	.489	.527	.550	.506	.523
.021	.681	.513	.605	4.545	3.421	.036	955	.710	1345	.493	.451	.544	.488	.490	.528	.550	.506	.523
.021	.669	.503	.605	4.546	3.422	.036	948	.705	1345	.493	.451	.545	.488	.490	.529	.551	.506	.523
.022	.658	.495	.606	4.547	3.420	.037	943	.701	1345	.494	.452	.545	.486	.491	.529	.551	.507	.524
.022	.647	.487	.606	4.547	3.423	.037	939	.698	1345	.494	.452	.546	.489	.491	.530	.552	.507	.524
.020	.636	.478	.604	4.545	3.421	.035	934	.695	1345	.495	.452	.546	.489	.491	.530	.552	.507	.524
.019	.625	.470	.602	4.547	3.423	.033	930	.692	1345	.495	.453	.546	.490	.492	.530	.553	.508	.525
.017	.615	.463	.601	4.548	3.423	.032	926	.688	1345	.495	.453	.547	.491	.492	.531	.553	.508	.525
.018	.605	.455	.602	4.547	3.422	.033	921	.684	1345	.496	.453	.547	.491	.492	.531	.553	.508	.526
.016	.596	.448	.600	4.548	3.426	.031	914	.680	1345	.496	.453	.548	.492	.493	.532	.554	.509	.526
.014	.586	.441	.598	4.549	3.428	.029	906	.674	1345	.496	.453	.548	.492	.493	.533	.554	.510	.527
.015	.578	.435	.599	4.547	3.425	.030	899	.668	1345	.497	.454	.549	.493	.494	.533	.555	.510	.527
.013	.569	.429	.597	4.548	3.428	.028	892	.663	1345	.497	.454	.549	.493	.495	.533	.556	.510	.527
.011	.561	.423	.595	4.547	3.425	.026	888	.660	1345	.497	.454	.550	.494	.495	.534	.556	.511	.528
.011	.554	.417	.595	4.545	3.426	.026	882	.655	1345	.498	.454	.550	.495	.495	.536	.556	.511	.529

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PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OF52 SHUTTLE SURVEY TEST
PAGE = 7

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
21	139	7.92	149.2	1345	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0163	1.325	.716	3868	4.434E-04	7.994E-08	6.671E 05	18.11	2.05	.80	22.633	16

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.010	.547	.413	.594	4.549	3.433	.025	876	.651	1345	.498	.454	.550	.495	.496	.535	.557	.511	.529
.009	.540	.407	.593	4.547	3.430	.024	872	.648	1345	.499	.455	.551	.495	.496	.535	.557	.512	.529
.009	.535	.403	.593	4.551	3.428	.024	870	.647	1345	.499	.456	.552	.496	.496	.535	.558	.512	.530
.007	.520	.391	.591	4.557	3.433	.022	868	.645	1345	.500	.456	.553	.497	.498	.537	.559	.514	.531

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PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
PAGE = 1

GROUP	MODEL	MACH NO	PU(PSIA)	TU(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
22	139	7.92	151.P	1345	30.09	-8.09	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PU1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	IAP
99.3	.0166	1.348	.729	3868	4.512E-04	7.994E-08	6.682E 05	18.11	3.28	.80	22.633	17

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.495	4.554	3.386	1.259	4.141	3.074	.688	1264	.940	1345	.387	.393	.399	.397	.397	.400	.400	.389	.396
.551	4.567	3.399	1.235	4.134	3.068	.664	1264	.939	1345	.388	.393	.400	.398	.398	.401	.401	.390	.397
.620	4.579	3.406	1.206	4.115	3.056	.633	1264	.940	1345	.389	.394	.401	.399	.399	.401	.401	.391	.397
.584	4.591	3.409	1.170	4.104	3.048	.599	1264	.939	1345	.389	.395	.403	.399	.399	.403	.403	.392	.399
.552	4.604	3.421	1.136	4.116	3.057	.565	1264	.939	1345	.389	.395	.404	.399	.399	.403	.403	.392	.399
.521	4.621	3.432	1.105	4.139	3.075	.536	1264	.939	1345	.391	.395	.404	.400	.400	.404	.404	.393	.400
.489	4.659	3.464	1.073	4.159	3.090	.502	1263	.939	1345	.391	.395	.405	.400	.401	.405	.405	.393	.400
.457	4.698	3.493	1.041	4.181	3.106	.470	1263	.939	1345	.392	.396	.407	.400	.403	.406	.406	.395	.401
.443	4.735	3.523	1.027	4.191	3.119	.456	1263	.939	1345	.392	.396	.407	.396	.405	.407	.407	.395	.401
.431	4.764	3.545	1.015	4.197	3.123	.444	1263	.939	1345	.393	.396	.408	.399	.406	.408	.408	.396	.402
.421	4.789	3.566	1.005	4.209	3.134	.434	1263	.939	1345	.393	.397	.409	.397	.407	.408	.409	.397	.403
.410	4.811	3.587	.994	4.224	3.145	.423	1263	.939	1345	.394	.397	.410	.402	.408	.410	.410	.398	.404
.399	4.835	3.605	.983	4.238	3.160	.412	1263	.939	1345	.395	.397	.411	.402	.409	.410	.410	.398	.404
.390	4.854	3.624	.974	4.252	3.175	.403	1263	.939	1345	.395	.397	.411	.403	.410	.411	.411	.399	.405
.378	4.873	3.638	.962	4.262	3.182	.391	1262	.939	1345	.396	.398	.412	.403	.410	.411	.412	.401	.406
.368	4.890	3.653	.952	4.273	3.192	.381	1262	.939	1345	.396	.398	.413	.404	.411	.412	.413	.401	.407
.364	4.902	3.662	.948	4.276	3.195	.377	1263	.939	1345	.397	.398	.414	.404	.411	.413	.414	.401	.408
.361	4.907	3.671	.945	4.274	3.198	.374	1262	.939	1345	.398	.399	.415	.404	.412	.414	.415	.402	.408
.360	4.909	3.675	.944	4.272	3.198	.373	1262	.939	1345	.399	.399	.415	.404	.413	.414	.416	.403	.409
.356	4.910	3.680	.940	4.272	3.202	.369	1262	.938	1345	.399	.399	.416	.405	.414	.415	.416	.403	.410
.354	4.911	3.681	.938	4.271	3.202	.367	1262	.939	1345	.400	.400	.417	.405	.416	.416	.417	.404	.410
.351	4.912	3.684	.935	4.270	3.203	.364	1262	.939	1345	.400	.400	.418	.403	.415	.416	.418	.404	.411
.347	4.912	3.687	.931	4.270	3.205	.361	1262	.939	1345	.401	.400	.418	.406	.416	.417	.419	.405	.412
.346	4.914	3.691	.930	4.266	3.204	.359	1262	.939	1345	.401	.401	.419	.402	.416	.417	.420	.406	.412
.343	4.913	3.690	.927	4.264	3.203	.356	1262	.939	1345	.402	.401	.420	.407	.417	.418	.420	.407	.413
.338	4.914	3.696	.922	4.264	3.207	.351	1262	.938	1345	.403	.401	.420	.407	.418	.419	.422	.407	.414
.336	4.912	3.697	.920	4.263	3.208	.349	1262	.939	1345	.404	.402	.422	.407	.418	.419	.423	.407	.415
.331	4.914	3.709	.915	4.262	3.210	.344	1263	.939	1345	.404	.402	.422	.408	.419	.420	.423	.408	.415
.329	4.914	3.705	.912	4.260	3.213	.341	1262	.939	1345	.405	.402	.423	.408	.419	.420	.424	.409	.416
.326	4.914	3.706	.910	4.261	3.213	.339	1262	.939	1345	.405	.402	.424	.408	.420	.421	.425	.410	.417
.322	4.914	3.710	.906	4.260	3.217	.335	1262	.939	1345	.405	.402	.425	.409	.420	.422	.426	.410	.418
.321	4.913	3.712	.905	4.256	3.216	.334	1262	.938	1345	.407	.403	.426	.409	.421	.422	.427	.411	.418
.318	4.913	3.712	.902	4.257	3.217	.331	1262	.938	1345	.407	.403	.426	.410	.422	.423	.427	.411	.419
.315	4.910	3.715	.899	4.256	3.216	.328	1262	.939	1345	.408	.403	.427	.410	.422	.423	.428	.412	.419
.314	4.910	3.720	.898	4.251	3.221	.327	1262	.938	1345	.408	.403	.428	.408	.423	.424	.429	.413	.420

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PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OM52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
22	139	7.92	148.5	1344	30.09	-8.09	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.2	.0162	1.319	.713	3867	4.417E-04	7.988E-08	6.682E 05	18.11	3.28	.80	22.633	17

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/PP1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.310	4.907	3.720	.894	4.257	3.220	.323	1263	.939	1344	.409	.403	.429	.411	.424	.425	.430	.414	.421
.307	4.907	3.720	.891	4.251	3.223	.320	1263	.939	1344	.409	.404	.430	.412	.424	.425	.431	.414	.422
.305	4.908	3.721	.889	4.257	3.227	.318	1263	.940	1344	.410	.405	.431	.412	.425	.426	.432	.415	.422
.301	4.916	3.722	.885	4.270	3.233	.314	1263	.940	1344	.410	.405	.431	.412	.425	.427	.433	.415	.423
.299	4.926	3.719	.883	4.285	3.238	.312	1263	.939	1345	.411	.404	.432	.412	.426	.427	.433	.416	.424
.296	4.939	3.722	.880	4.296	3.238	.309	1264	.939	1345	.411	.405	.433	.412	.426	.427	.434	.416	.424
.293	4.951	3.721	.877	4.307	3.237	.306	1263	.939	1345	.412	.405	.433	.412	.427	.428	.435	.416	.425
.291	4.964	3.721	.875	4.319	3.238	.304	1264	.939	1345	.412	.406	.434	.413	.427	.428	.436	.418	.426
.287	4.977	3.721	.871	4.332	3.239	.300	1264	.939	1345	.413	.406	.435	.414	.428	.429	.437	.418	.426
.285	4.988	3.721	.870	4.345	3.241	.299	1264	.939	1345	.414	.406	.435	.414	.428	.430	.438	.418	.427
.283	5.000	3.723	.867	4.354	3.242	.296	1264	.939	1345	.414	.407	.437	.414	.429	.430	.438	.419	.428
.279	5.007	3.721	.863	4.351	3.241	.292	1264	.939	1345	.415	.407	.437	.415	.429	.431	.439	.420	.428
.278	5.017	3.721	.862	4.366	3.238	.291	1264	.940	1345	.415	.407	.438	.415	.430	.431	.440	.420	.430
.275	5.026	3.723	.859	4.379	3.243	.288	1263	.939	1345	.416	.407	.438	.415	.430	.432	.441	.421	.430
.272	5.031	3.722	.856	4.382	3.241	.285	1264	.940	1345	.416	.408	.439	.416	.431	.433	.442	.422	.431
.272	5.034	3.725	.856	4.387	3.245	.285	1264	.939	1345	.417	.408	.440	.416	.431	.434	.442	.422	.432
.269	5.038	3.722	.851	4.392	3.245	.280	1264	.940	1345	.417	.409	.441	.416	.431	.434	.443	.423	.432
.265	5.040	3.723	.849	4.392	3.245	.278	1263	.939	1345	.418	.409	.441	.416	.433	.435	.445	.423	.433
.262	5.039	3.723	.846	4.392	3.245	.275	1264	.940	1345	.418	.409	.442	.417	.433	.435	.445	.424	.434
.259	5.033	3.720	.843	4.387	3.243	.272	1263	.939	1345	.419	.409	.443	.417	.433	.436	.446	.424	.434
.257	5.025	3.722	.841	4.379	3.243	.270	1263	.939	1345	.419	.409	.444	.418	.434	.437	.447	.426	.435
.254	5.017	3.723	.838	4.378	3.249	.267	1263	.939	1345	.420	.409	.445	.418	.434	.438	.447	.426	.435
.250	5.004	3.719	.834	4.370	3.247	.263	1263	.939	1345	.420	.410	.446	.418	.434	.438	.449	.427	.437
.248	4.993	3.715	.832	4.363	3.246	.261	1263	.939	1345	.421	.410	.446	.419	.435	.439	.449	.427	.437
.244	4.982	3.714	.828	4.362	3.252	.257	1263	.939	1345	.422	.410	.447	.417	.435	.439	.450	.428	.438
.240	4.967	3.709	.824	4.357	3.253	.253	1263	.939	1345	.422	.410	.448	.417	.436	.440	.451	.428	.438
.238	4.955	3.704	.822	4.353	3.254	.251	1263	.939	1345	.423	.411	.449	.420	.436	.441	.451	.429	.439
.233	4.944	3.701	.817	4.355	3.260	.246	1264	.939	1345	.423	.411	.450	.420	.437	.441	.453	.430	.439
.230	4.930	3.693	.814	4.358	3.264	.243	1263	.939	1345	.424	.411	.450	.420	.437	.442	.453	.430	.440
.227	4.917	3.688	.811	4.356	3.267	.240	1264	.940	1345	.424	.411	.451	.421	.438	.442	.454	.431	.441
.225	4.907	3.681	.809	4.357	3.269	.239	1264	.940	1345	.425	.412	.451	.421	.438	.443	.455	.431	.442
.224	4.897	3.675	.808	4.356	3.270	.237	1264	.940	1345	.425	.412	.453	.422	.438	.443	.456	.432	.442
.219	4.885	3.672	.803	4.356	3.272	.232	1264	.940	1345	.426	.412	.453	.422	.439	.444	.456	.432	.443
.217	4.881	3.666	.801	4.360	3.275	.230	1264	.940	1345	.426	.412	.454	.422	.439	.445	.457	.433	.443
.213	4.870	3.660	.797	4.360	3.277	.226	1264	.940	1345	.427	.413	.454	.423	.440	.445	.458	.434	.444
.210	4.860	3.652	.794	4.361	3.277	.223	1264	.940	1345	.427	.414	.455	.423	.441	.446	.458	.434	.445
.208	4.848	3.646	.792	4.360	3.279	.221	1264	.940	1345	.428	.414	.456	.423	.441	.446	.460	.435	.446
.205	4.837	3.640	.789	4.360	3.281	.218	1264	.940	1345	.428	.414	.457	.424	.441	.447	.460	.436	.446
.203	4.828	3.636	.787	4.362	3.285	.216	1264	.940	1345	.429	.414	.457	.422	.442	.447	.461	.436	.447
.200	4.816	3.627	.784	4.361	3.284	.213	1264	.940	1345	.430	.414	.458	.424	.442	.448	.462	.437	.447
.196	4.806	3.624	.780	4.363	3.290	.209	1264	.940	1345	.430	.415	.459	.425	.443	.449	.462	.437	.448
.195	4.798	3.618	.779	4.364	3.291	.208	1264	.940	1345	.430	.415	.460	.425	.443	.449	.463	.438	.449

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PROJECT NUMBER VA524-21BA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
PAGE = 3

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
22	139	7.92	149.3	1345	30.09	-8.09.	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0153	1.326	.717	3868	4.438E-04	7.994E-08	6.682E 05	18.11	3.28	.80	22.633	17

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZF (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.192	4.787	3.610	.776	4.362	3.289	.205	1264	.940	1345	.431	.415	.461	.426	.443	.450	.464	.438	.449
.190	4.777	3.604	.774	4.362	3.292	.203	1264	.940	1345	.431	.415	.461	.426	.444	.451	.465	.439	.450
.188	4.767	3.600	.772	4.363	3.295	.201	1265	.940	1345	.432	.415	.462	.426	.445	.451	.465	.439	.450
.183	4.754	3.592	.767	4.365	3.298	.196	1265	.940	1345	.433	.416	.462	.427	.445	.452	.466	.440	.451
.182	4.749	3.584	.766	4.367	3.299	.195	1265	.940	1345	.433	.416	.463	.427	.445	.453	.467	.441	.452
.179	4.732	3.578	.763	4.366	3.301	.192	1265	.940	1345	.434	.416	.464	.427	.446	.453	.468	.441	.453
.177	4.720	3.571	.761	4.364	3.302	.190	1265	.940	1345	.434	.416	.465	.428	.446	.454	.468	.442	.453
.175	4.711	3.565	.759	4.369	3.305	.188	1265	.941	1345	.434	.417	.465	.428	.447	.454	.469	.442	.454
.170	4.696	3.553	.754	4.369	3.305	.183	1265	.940	1345	.435	.417	.466	.422	.447	.455	.470	.442	.454
.169	4.684	3.546	.753	4.373	3.311	.182	1265	.941	1345	.435	.417	.466	.429	.447	.456	.470	.443	.455
.166	4.675	3.537	.750	4.379	3.313	.179	1265	.941	1345	.436	.418	.468	.430	.448	.456	.471	.443	.456
.162	4.654	3.527	.746	4.385	3.315	.175	1265	.941	1345	.437	.418	.468	.430	.449	.457	.472	.445	.457
.161	4.657	3.519	.745	4.389	3.316	.174	1265	.941	1345	.437	.418	.469	.430	.449	.457	.473	.445	.457
.157	4.651	3.512	.741	4.397	3.320	.170	1266	.941	1345	.438	.419	.469	.431	.450	.458	.473	.446	.457
.155	4.646	3.503	.739	4.405	3.322	.169	1266	.941	1345	.438	.419	.470	.431	.450	.458	.474	.446	.458
.153	4.640	3.494	.737	4.412	3.323	.166	1266	.941	1345	.439	.419	.471	.432	.450	.459	.474	.446	.458
.148	4.636	3.487	.732	4.417	3.322	.161	1266	.941	1345	.439	.419	.472	.430	.451	.460	.476	.447	.460
.147	4.630	3.477	.731	4.424	3.322	.160	1266	.941	1345	.439	.419	.472	.432	.451	.461	.476	.447	.460
.144	4.624	3.470	.728	4.430	3.325	.157	1266	.942	1345	.440	.419	.473	.433	.452	.461	.477	.449	.461
.142	4.618	3.462	.726	4.437	3.326	.155	1266	.941	1345	.441	.420	.474	.433	.453	.462	.478	.449	.461
.140	4.611	3.454	.724	4.441	3.327	.153	1267	.942	1345	.441	.420	.474	.434	.453	.462	.479	.449	.462
.136	4.604	3.444	.720	4.450	3.329	.149	1267	.942	1345	.442	.420	.475	.434	.454	.463	.479	.450	.462
.134	4.594	3.436	.718	4.453	3.331	.147	1267	.942	1345	.442	.420	.476	.434	.454	.464	.480	.450	.463
.132	4.582	3.425	.716	4.456	3.331	.145	1267	.942	1345	.443	.421	.476	.435	.455	.464	.481	.451	.464
.129	4.571	3.413	.713	4.460	3.330	.142	1267	.942	1345	.443	.422	.477	.435	.456	.465	.481	.451	.464
.127	4.561	3.405	.711	4.465	3.334	.140	1267	.942	1345	.443	.422	.478	.435	.456	.466	.482	.452	.465
.123	4.545	3.391	.707	4.470	3.335	.136	1267	.942	1345	.444	.422	.479	.436	.457	.466	.483	.453	.465
.121	4.530	3.377	.705	4.473	3.335	.134	1267	.942	1345	.445	.422	.479	.434	.457	.467	.484	.453	.466
.118	4.515	3.364	.702	4.479	3.339	.131	1268	.943	1345	.445	.422	.480	.437	.458	.468	.484	.454	.466
.114	4.491	3.346	.698	4.482	3.339	.127	1268	.943	1345	.446	.422	.480	.437	.458	.468	.485	.455	.467
.111	4.465	3.329	.695	4.485	3.344	.124	1268	.943	1345	.446	.422	.481	.439	.459	.469	.485	.455	.468
.108	4.439	3.307	.692	4.488	3.344	.121	1268	.943	1345	.447	.423	.482	.438	.460	.469	.486	.456	.468
.105	4.409	3.285	.688	4.487	3.343	.118	1269	.943	1345	.447	.423	.483	.434	.460	.470	.487	.456	.469
.104	4.381	3.264	.688	4.489	3.345	.117	1269	.943	1345	.447	.424	.484	.439	.461	.470	.488	.457	.469
.102	4.353	3.244	.686	4.491	3.346	.115	1269	.944	1345	.448	.424	.484	.439	.461	.471	.488	.457	.470
.099	4.330	3.227	.683	4.494	3.348	.112	1269	.944	1345	.449	.424	.485	.439	.462	.472	.489	.458	.471
.097	4.303	3.206	.681	4.495	3.349	.110	1270	.944	1345	.449	.424	.485	.440	.462	.472	.490	.458	.471
.093	4.272	3.183	.677	4.496	3.350	.106	1270	.944	1345	.450	.424	.486	.441	.464	.473	.491	.459	.472
.092	4.238	3.158	.676	4.497	3.351	.105	1270	.944	1345	.450	.425	.487	.441	.464	.474	.491	.460	.472
.089	4.205	3.133	.673	4.501	3.354	.102	1270	.944	1345	.450	.425	.487	.441	.465	.474	.492	.460	.473
.087	4.165	3.104	.671	4.499	3.352	.100	1270	.944	1345	.451	.426	.488	.442	.465	.475	.492	.461	.473
.087	4.125	3.073	.671	4.502	3.354	.100	1270	.944	1345	.451	.426	.488	.442	.465	.476	.493	.461	.474

DATE 5-6-74
PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
22	139	7.92	151.0	1345	30.08	-8.08	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0165	1.341	.725	3868	4.488E-04	7.994E-08	6.682E 05	18.11	3.28	.80	22.633	17

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.083	4.078	3.040	.667	4.503	3.358	.096	1270	.945	1345	.452	.426	.489	.442	.466	.476	.494	.462	.474
.082	4.026	3.002	.666	4.501	3.356	.095	1271	.945	1345	.453	.426	.490	.443	.467	.477	.495	.462	.475
.079	3.975	2.964	.663	4.506	3.360	.092	1270	.944	1345	.453	.427	.491	.439	.468	.477	.495	.463	.476
.076	3.911	2.918	.660	4.501	3.359	.089	1271	.945	1345	.453	.427	.491	.443	.468	.478	.496	.463	.476
.076	3.842	2.866	.660	4.500	3.358	.089	1271	.945	1345	.454	.427	.492	.444	.469	.479	.496	.464	.477
.073	3.775	2.818	.657	4.500	3.360	.086	1271	.945	1345	.454	.427	.492	.445	.469	.479	.497	.464	.477
.071	3.698	2.763	.655	4.497	3.360	.084	1270	.944	1345	.455	.427	.493	.445	.470	.480	.497	.465	.478
.070	3.612	2.699	.654	4.501	3.362	.083	1270	.944	1345	.456	.428	.494	.443	.470	.481	.499	.465	.479
.067	3.525	2.635	.651	4.498	3.362	.080	1269	.944	1345	.456	.428	.494	.446	.471	.481	.499	.466	.479
.068	3.443	2.575	.652	4.495	3.363	.081	1269	.943	1345	.456	.428	.495	.446	.472	.481	.500	.466	.480
.066	3.368	2.519	.650	4.494	3.362	.079	1268	.943	1345	.457	.428	.496	.442	.472	.483	.500	.466	.480
.065	3.297	2.466	.649	4.496	3.363	.078	1268	.942	1345	.457	.428	.496	.449	.473	.483	.501	.466	.481
.065	3.228	2.415	.649	4.493	3.364	.078	1267	.942	1345	.458	.429	.497	.445	.473	.484	.502	.468	.481
.063	3.159	2.366	.647	4.490	3.363	.076	1266	.941	1345	.458	.430	.497	.448	.474	.484	.503	.468	.482
.063	3.097	2.320	.647	4.489	3.363	.076	1265	.940	1345	.459	.430	.498	.449	.475	.485	.503	.469	.483
.062	3.034	2.274	.646	4.489	3.365	.075	1264	.940	1345	.460	.430	.499	.449	.475	.485	.504	.470	.483
.061	2.974	2.231	.645	4.487	3.365	.074	1263	.939	1345	.460	.430	.500	.449	.476	.486	.504	.470	.484
.060	2.909	2.180	.644	4.487	3.363	.073	1262	.938	1345	.460	.430	.500	.450	.477	.487	.506	.470	.484
.059	2.844	2.135	.643	4.486	3.367	.072	1261	.937	1345	.461	.431	.501	.450	.477	.488	.506	.471	.485
.059	2.783	2.088	.643	4.487	3.365	.072	1259	.936	1345	.461	.432	.502	.451	.478	.488	.507	.471	.485
.058	2.728	2.047	.642	4.483	3.365	.071	1258	.935	1345	.462	.432	.502	.451	.479	.488	.507	.472	.486
.056	2.672	2.007	.640	4.483	3.367	.069	1256	.934	1345	.462	.432	.503	.449	.479	.489	.508	.473	.487
.057	2.618	1.965	.641	4.484	3.368	.070	1254	.932	1345	.462	.432	.503	.452	.480	.490	.508	.473	.487
.055	2.559	1.922	.639	4.484	3.368	.068	1252	.931	1345	.463	.433	.504	.453	.480	.491	.510	.473	.488
.054	2.497	1.876	.638	4.483	3.367	.067	1250	.929	1345	.464	.433	.504	.453	.481	.491	.510	.474	.488
.054	2.438	1.832	.638	4.481	3.368	.067	1247	.927	1345	.464	.433	.506	.454	.481	.492	.511	.474	.489
.051	2.375	1.786	.635	4.482	3.371	.064	1243	.924	1345	.464	.433	.506	.454	.482	.492	.511	.475	.489
.052	2.307	1.735	.636	4.483	3.371	.065	1239	.921	1345	.465	.434	.507	.454	.483	.493	.512	.475	.489
.050	2.235	1.682	.634	4.484	3.375	.063	1235	.918	1345	.466	.434	.508	.455	.484	.493	.512	.476	.491
.049	2.168	1.630	.633	4.478	3.368	.062	1232	.916	1345	.466	.434	.508	.456	.484	.494	.514	.476	.491
.050	2.102	1.581	.634	4.477	3.367	.063	1228	.913	1345	.466	.434	.509	.456	.485	.495	.514	.477	.491
.047	2.039	1.535	.631	4.479	3.371	.060	1224	.910	1345	.466	.434	.510	.456	.485	.495	.515	.477	.492
.047	1.977	1.488	.631	4.480	3.371	.060	1219	.906	1345	.467	.435	.510	.457	.485	.496	.515	.478	.493
.046	1.916	1.442	.630	4.482	3.373	.059	1214	.903	1345	.468	.435	.511	.457	.487	.496	.516	.479	.493
.044	1.857	1.398	.628	4.481	3.375	.057	1209	.899	1345	.468	.435	.511	.458	.487	.497	.517	.479	.493
.045	1.798	1.354	.629	4.478	3.372	.058	1204	.896	1345	.469	.436	.512	.458	.488	.497	.518	.480	.494
.043	1.739	1.310	.627	4.481	3.374	.056	1198	.891	1345	.469	.436	.513	.458	.488	.499	.518	.480	.495
.043	1.680	1.265	.627	4.480	3.374	.056	1192	.886	1345	.469	.437	.514	.460	.489	.499	.519	.481	.495
.042	1.623	1.223	.626	4.479	3.375	.055	1186	.882	1345	.470	.437	.514	.460	.490	.500	.519	.481	.496
.040	1.568	1.181	.624	4.480	3.376	.053	1180	.877	1345	.470	.437	.515	.460	.491	.500	.520	.481	.496
.040	1.512	1.138	.624	4.481	3.375	.053	1173	.872	1345	.471	.437	.515	.461	.491	.501	.520	.482	.496
.039	1.457	1.097	.623	4.479	3.373	.052	1165	.866	1345	.471	.437	.516	.458	.492	.502	.522	.483	.497

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PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OFS2 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
22	139	7.92	149.4	1345	30.09	-8.09	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X * (IN)	Y (IN)	X/L	L	TAP
99.3	.0163	1.327	.717	3868	4.441E-04	7.994E-08	6.682E 05	18.11	3.28	.80	22.633	17

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.038	1.402	1.057	.422	4.482	3.377	.051	1156	.860	1345	.472	.438	.516	.462	.492	.502	.522	.483	.497
.037	1.349	1.016	.421	4.483	3.376	.050	1147	.853	1345	.472	.438	.517	.462	.493	.503	.523	.484	.498
.035	1.298	.978	.419	4.486	3.378	.048	1142	.849	1345	.473	.438	.518	.462	.494	.503	.523	.484	.499
.036	1.251	.942	.420	4.486	3.381	.049	1134	.843	1345	.473	.438	.518	.463	.495	.504	.524	.485	.499
.034	1.205	.907	.418	4.485	3.377	.047	1127	.838	1345	.473	.438	.519	.463	.496	.504	.524	.485	.500
.033	1.163	.876	.417	4.485	3.377	.046	1121	.833	1345	.474	.439	.519	.462	.496	.505	.525	.485	.500
.034	1.125	.846	.418	4.491	3.377	.047	1115	.829	1345	.474	.439	.520	.462	.497	.506	.526	.486	.501
.031	1.088	.818	.415	4.492	3.378	.044	1106	.822	1345	.475	.439	.521	.465	.498	.506	.526	.487	.502
.032	1.054	.792	.416	4.495	3.378	.045	1098	.816	1345	.475	.439	.522	.463	.498	.507	.527	.487	.502
.030	1.020	.766	.414	4.494	3.378	.043	1091	.811	1345	.476	.440	.522	.466	.499	.507	.527	.487	.502
.030	.988	.742	.414	4.499	3.382	.043	1083	.805	1345	.476	.441	.523	.466	.500	.508	.529	.488	.503
.029	.958	.719	.413	4.500	3.380	.042	107	.799	1345	.477	.441	.523	.466	.500	.508	.529	.488	.503
.028	.928	.697	.412	4.503	3.382	.041	1065	.792	1345	.477	.441	.524	.467	.501	.509	.530	.489	.504
.027	.899	.675	.411	4.507	3.383	.040	1056	.785	1345	.477	.441	.524	.468	.502	.510	.530	.489	.505
.026	.871	.653	.410	4.509	3.382	.039	1049	.780	1345	.478	.441	.525	.468	.502	.510	.531	.490	.505
.024	.844	.633	.408	4.505	3.379	.037	1042	.774	1345	.479	.441	.526	.466	.503	.511	.531	.490	.506
.025	.822	.616	.409	4.509	3.382	.038	1033	.768	1345	.479	.441	.526	.469	.504	.512	.532	.491	.506
.023	.797	.598	.407	4.510	3.383	.036	1025	.762	1345	.479	.442	.527	.469	.504	.512	.533	.491	.507
.023	.776	.582	.407	4.511	3.382	.036	1018	.757	1345	.480	.442	.528	.468	.506	.513	.533	.492	.507
.023	.756	.566	.407	4.513	3.383	.036	1010	.751	1345	.480	.442	.529	.470	.506	.514	.534	.492	.508
.020	.736	.551	.404	4.514	3.381	.033	1002	.745	1345	.481	.443	.529	.471	.506	.514	.534	.493	.508
.020	.718	.539	.404	4.514	3.383	.033	994	.739	1345	.481	.443	.530	.471	.507	.515	.535	.493	.509
.020	.698	.523	.404	4.516	3.383	.033	985	.733	1345	.481	.443	.530	.472	.508	.515	.536	.493	.509
.018	.682	.511	.402	4.517	3.384	.031	978	.727	1345	.482	.443	.531	.468	.508	.516	.537	.494	.510
.018	.668	.500	.402	4.518	3.384	.031	970	.721	1345	.483	.443	.532	.473	.510	.516	.537	.495	.510
.016	.653	.489	.400	4.518	3.382	.029	961	.714	1345	.483	.444	.532	.469	.510	.517	.538	.495	.511
.016	.639	.479	.400	4.519	3.385	.029	953	.709	1345	.484	.445	.533	.473	.511	.518	.538	.495	.511
.015	.627	.469	.399	4.518	3.385	.028	945	.702	1345	.484	.445	.533	.474	.512	.518	.539	.496	.512
.012	.616	.461	.396	4.519	3.383	.025	935	.695	1345	.484	.445	.534	.474	.513	.519	.539	.496	.512
.013	.606	.454	.397	4.519	3.385	.026	926	.688	1345	.485	.445	.535	.475	.514	.519	.540	.496	.513
.011	.598	.448	.395	4.520	3.386	.024	917	.682	1345	.485	.446	.535	.476	.514	.520	.541	.497	.514
.010	.589	.441	.394	4.519	3.385	.023	908	.675	1345	.486	.446	.536	.476	.515	.520	.541	.498	.514
.011	.583	.436	.395	4.525	3.389	.024	895	.666	1345	.486	.446	.537	.477	.515	.522	.542	.497	.515
.008	.576	.431	.392	4.520	3.386	.021	886	.659	1345	.487	.447	.537	.477	.516	.522	.542	.499	.515
.009	.570	.427	.393	4.522	3.387	.022	883	.657	1345	.487	.447	.538	.477	.516	.523	.543	.499	.515
.007	.558	.418	.391	4.525	3.390	.020	866	.644	1345	.488	.449	.539	.479	.519	.525	.545	.501	.517

DATE 5-6-74
PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
PAGE = 1

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
23	139	7.92	150.3	1345	30.05	-8.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0164	1.335	.722	3868	4.468E-04	7.994F-08	6.728E 05	16.98	4.92	.75	22.633	23

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.721	3.571	2.689	1.305	.985	.742	.737	1282	.953	1345	.389	.393	.400	.399	.396	.404	.401	.391	.397
.705	3.594	2.703	1.289	.988	.745	.721	1282	.953	1345	.390	.394	.402	.399	.397	.405	.403	.392	.398
.673	3.586	2.704	1.257	.988	.745	.689	1283	.954	1345	.391	.394	.403	.399	.397	.407	.403	.392	.399
.643	3.592	2.711	1.227	.987	.745	.659	1284	.955	1345	.392	.395	.404	.397	.397	.408	.404	.394	.400
.610	3.606	2.725	1.194	.985	.744	.626	1284	.955	1345	.392	.395	.405	.400	.398	.409	.405	.395	.401
.579	3.613	2.730	1.163	.984	.743	.595	1284	.954	1345	.393	.395	.406	.396	.399	.410	.406	.395	.401
.548	3.598	2.722	1.132	.986	.746	.564	1284	.955	1345	.393	.396	.407	.396	.399	.411	.407	.396	.401
.516	3.566	2.699	1.100	.985	.745	.532	1283	.954	1345	.394	.396	.408	.401	.399	.412	.408	.397	.402
.502	3.539	2.676	1.086	.986	.745	.518	1283	.954	1345	.395	.396	.408	.402	.400	.414	.408	.398	.403
.4	3.527	2.665	1.075	.986	.745	.507	1283	.954	1345	.395	.396	.409	.402	.400	.415	.409	.398	.404
.4 0	3.532	2.667	1.064	.986	.745	.496	1283	.954	1345	.396	.397	.410	.403	.400	.416	.410	.399	.404
.470	3.555	2.681	1.054	.989	.746	.486	1283	.954	1345	.396	.397	.411	.403	.401	.417	.411	.400	.405
.458	3.593	2.707	1.042	.989	.746	.474	1283	.954	1345	.397	.397	.412	.404	.401	.418	.412	.401	.405
.447	3.652	2.753	1.031	.990	.746	.463	1283	.954	1345	.397	.398	.412	.404	.402	.419	.412	.401	.407
.436	3.719	2.799	1.020	.989	.745	.452	1284	.954	1345	.399	.398	.413	.404	.403	.420	.414	.402	.407
.424	3.785	2.846	1.008	.989	.744	.440	1283	.954	1345	.399	.399	.414	.405	.403	.422	.415	.403	.408
.414	3.850	2.893	.998	.992	.745	.430	1283	.954	1345	.400	.399	.415	.403	.403	.423	.415	.403	.408
.407	3.903	2.933	.991	.992	.746	.423	1283	.954	1345	.400	.399	.415	.405	.404	.423	.416	.404	.410
.405	3.938	2.957	.989	.991	.744	.421	1283	.954	1345	.401	.400	.416	.406	.404	.424	.417	.404	.410
.404	3.962	2.974	.988	.992	.745	.420	1283	.954	1345	.401	.400	.417	.402	.404	.426	.418	.405	.411
.400	3.980	2.987	.984	.994	.746	.416	1283	.954	1345	.402	.400	.418	.402	.405	.426	.419	.406	.411
.399	3.991	2.994	.983	.994	.745	.415	1282	.953	1345	.403	.401	.419	.402	.405	.427	.420	.406	.412
.397	3.998	2.999	.981	.993	.745	.413	1282	.953	1345	.403	.401	.419	.407	.406	.428	.420	.407	.412
.396	4.004	3.005	.980	.992	.744	.412	1282	.953	1345	.404	.401	.420	.408	.406	.429	.422	.407	.414
.395	4.012	3.009	.979	.994	.746	.411	1282	.953	1345	.404	.401	.421	.408	.407	.430	.423	.408	.414
.391	4.017	3.013	.975	.993	.745	.407	1282	.953	1345	.405	.401	.422	.408	.407	.431	.423	.409	.415
.391	4.019	3.014	.975	.992	.744	.407	1282	.953	1345	.405	.402	.423	.409	.407	.432	.424	.410	.416
.389	4.024	3.018	.973	.994	.746	.405	1282	.953	1345	.406	.402	.423	.409	.408	.433	.425	.410	.416
.387	4.028	3.021	.971	.993	.745	.403	1282	.953	1345	.407	.403	.424	.410	.408	.434	.426	.411	.417
.385	4.031	3.024	.969	.992	.744	.401	1282	.953	1345	.407	.403	.425	.410	.409	.434	.427	.411	.418
.381	4.040	3.030	.965	.993	.745	.397	1281	.953	1345	.408	.403	.426	.408	.409	.435	.428	.412	.418
.381	4.047	3.038	.965	.993	.746	.397	1281	.953	1345	.408	.403	.427	.412	.410	.437	.428	.412	.419
.378	4.054	3.043	.962	.992	.745	.394	1281	.953	1345	.409	.403	.428	.408	.410	.437	.430	.414	.420
.376	4.063	3.049	.960	.993	.745	.392	1281	.952	1345	.410	.403	.428	.411	.411	.438	.430	.414	.420

DATE 5-6-74
PROJECT NUMBER VAS24-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
PAGE = 2

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
23	139	7.92	149.9	1345	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0164	1.331	.720	3868	4.456E-04	7.994E-08	6.728E 05	16.98	4.92	.75	22.633	23

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.375	4.074	3.060	.959	.993	.746	.391	1282	.953	1345	.410	.404	.429	.411	.411	.439	.431	.414	.422
.372	4.083	3.066	.956	.991	.745	.389	1281	.953	1345	.411	.404	.430	.412	.411	.440	.432	.415	.422
.371	4.096	3.079	.955	.992	.746	.387	1281	.952	1345	.411	.404	.431	.412	.412	.441	.433	.416	.423
.369	4.109	3.089	.953	.993	.746	.385	1281	.952	1345	.412	.404	.432	.412	.412	.441	.434	.416	.423
.366	4.121	3.097	.950	.990	.744	.382	1281	.952	1345	.412	.405	.433	.412	.413	.442	.435	.416	.424
.366	4.138	3.112	.950	.992	.746	.382	1281	.952	1345	.413	.405	.433	.413	.413	.443	.435	.417	.424
.363	4.153	3.123	.947	.991	.746	.379	1281	.952	1345	.414	.405	.434	.411	.414	.444	.437	.418	.426
.361	4.170	3.136	.945	.989	.744	.377	1281	.952	1345	.414	.406	.435	.414	.414	.445	.438	.418	.426
.359	4.188	3.154	.943	.991	.746	.375	1281	.952	1345	.414	.407	.435	.414	.415	.445	.438	.419	.427
.356	4.210	3.168	.940	.991	.746	.372	1281	.952	1345	.415	.407	.437	.415	.415	.446	.439	.419	.427
.355	4.234	3.186	.939	.990	.745	.371	1281	.952	1345	.415	.407	.437	.415	.416	.447	.440	.420	.428
.353	4.255	3.207	.937	.990	.746	.369	1281	.952	1345	.416	.407	.438	.415	.416	.447	.441	.421	.429
.351	4.290	3.230	.935	.989	.745	.367	1280	.952	1345	.416	.407	.438	.415	.416	.448	.442	.421	.430
.350	4.320	3.255	.934	.988	.744	.366	1281	.952	1345	.417	.408	.439	.416	.417	.449	.443	.422	.431
.346	4.357	3.285	.930	.989	.746	.362	1280	.952	1345	.418	.408	.440	.416	.418	.450	.443	.423	.431
.347	4.393	3.313	.931	.989	.746	.363	1281	.952	1345	.418	.408	.441	.416	.418	.450	.445	.423	.432
.344	4.430	3.343	.928	.987	.745	.360	1281	.952	1345	.419	.408	.442	.417	.419	.451	.446	.424	.433
.342	4.469	3.372	.926	.988	.745	.358	1280	.952	1345	.419	.409	.443	.417	.419	.452	.446	.424	.433
.341	4.510	3.406	.925	.988	.746	.357	1280	.952	1345	.420	.409	.443	.418	.419	.453	.447	.425	.434
.337	4.555	3.442	.921	.986	.745	.353	1280	.952	1345	.420	.409	.445	.414	.420	.453	.448	.425	.434
.336	4.595	3.475	.920	.985	.744	.352	1280	.952	1345	.420	.410	.445	.418	.420	.454	.449	.426	.435
.334	4.643	3.510	.918	.987	.746	.350	1280	.952	1345	.422	.410	.446	.419	.421	.455	.450	.426	.436
.331	4.685	3.542	.915	.985	.745	.347	1280	.952	1345	.422	.410	.447	.419	.421	.456	.450	.427	.437
.331	4.726	3.574	.915	.986	.745	.347	1280	.951	1345	.422	.410	.447	.419	.422	.456	.451	.428	.437
.327	4.767	3.604	.911	.984	.744	.343	1280	.952	1345	.423	.410	.449	.417	.422	.457	.452	.428	.438
.326	4.810	3.642	.910	.985	.746	.342	1280	.951	1345	.423	.411	.450	.420	.423	.458	.453	.430	.439
.324	4.853	3.674	.908	.985	.746	.340	1279	.951	1345	.424	.411	.450	.420	.423	.458	.454	.430	.439
.322	4.891	3.705	.906	.983	.745	.338	1279	.951	1345	.424	.411	.451	.420	.424	.460	.455	.430	.440
.321	4.928	3.731	.905	.984	.745	.337	1279	.951	1345	.425	.411	.452	.421	.424	.460	.456	.431	.441
.318	4.966	3.760	.902	.985	.746	.334	1279	.951	1345	.426	.411	.453	.422	.424	.461	.456	.431	.441
.317	5.001	3.787	.901	.983	.744	.333	1279	.951	1345	.426	.412	.454	.422	.425	.462	.457	.432	.442
.314	5.033	3.810	.898	.986	.746	.330	1279	.951	1345	.426	.412	.454	.422	.426	.462	.458	.433	.442
.312	5.063	3.831	.896	.986	.746	.329	1279	.951	1345	.427	.412	.455	.423	.426	.463	.459	.433	.443
.312	5.091	3.852	.896	.985	.746	.328	1279	.951	1345	.427	.413	.456	.423	.427	.464	.460	.434	.444
.310	5.110	3.866	.894	.986	.746	.326	1279	.951	1345	.428	.413	.457	.423	.427	.465	.460	.434	.445
.308	5.119	3.871	.892	.986	.746	.324	1278	.950	1345	.428	.413	.458	.422	.428	.466	.461	.435	.445
.307	5.118	3.867	.891	.985	.744	.323	1278	.950	1345	.429	.414	.458	.422	.428	.466	.462	.436	.446
.304	5.119	3.871	.888	.987	.746	.320	1278	.950	1345	.430	.414	.460	.424	.428	.467	.463	.437	.446
.304	5.118	3.867	.888	.985	.744	.320	1278	.950	1345	.430	.414	.460	.420	.429	.468	.464	.437	.447
.302	5.119	3.868	.886	.988	.746	.318	1278	.950	1345	.431	.414	.461	.425	.430	.469	.464	.438	.448
.299	5.209	3.936	.883	.985	.744	.315	1278	.950	1345	.431	.415	.462	.426	.430	.469	.465	.438	.449
.298	5.224	3.948	.882	.988	.746	.314	1277	.950	1345	.431	.415	.463	.426	.431	.470	.466	.439	.449

DATE 5-6-74
PROJECT NUMBER VA524-21BA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/R1 OF52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
23	139	7.92	149.0	1345	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0162	1.323	.715	3868	4.429E-04	7.994E-08	6.728E 05	16.98	4.92	.75	22.633	23

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.295	5.234	3.955	.879	.985	.744	.311	1277	.949	1345	.432	.415	.464	.422	.431	.471	.467	.439	.450
.295	5.245	3.964	.879	.987	.746	.311	1277	.949	1345	.433	.415	.464	.427	.432	.472	.468	.440	.450
.293	5.251	3.968	.877	.986	.745	.309	1277	.949	1345	.433	.416	.465	.420	.433	.472	.468	.440	.451
.291	5.257	3.975	.875	.987	.746	.307	1277	.949	1345	.434	.416	.466	.423	.433	.473	.469	.441	.451
.290	5.264	3.979	.874	.987	.746	.306	1277	.949	1345	.434	.416	.467	.428	.434	.474	.470	.441	.453
.287	5.269	3.982	.871	.986	.746	.303	1276	.949	1345	.434	.416	.468	.422	.434	.474	.470	.442	.453
.286	5.276	3.986	.870	.986	.745	.302	1276	.949	1345	.435	.417	.469	.422	.434	.475	.471	.443	.454
.284	5.279	3.989	.868	.987	.746	.300	1276	.949	1345	.435	.417	.469	.429	.435	.476	.472	.443	.454
.281	5.281	3.991	.865	.986	.745	.297	1275	.948	1345	.436	.417	.470	.434	.435	.477	.473	.444	.455
.279	5.282	3.996	.863	.984	.745	.295	1275	.948	1345	.437	.418	.471	.430	.436	.477	.474	.445	.456
275	5.283	3.995	.859	.986	.745	.291	1275	.948	1345	.437	.418	.472	.430	.437	.479	.474	.445	.456
.274	5.281	3.993	.858	.985	.745	.290	1275	.948	1345	.438	.418	.473	.430	.437	.479	.475	.445	.457
.273	5.279	3.992	.857	.985	.745	.289	1275	.948	1345	.438	.418	.473	.431	.437	.480	.476	.446	.457
.270	5.279	3.992	.854	.985	.745	.286	1275	.948	1345	.439	.419	.474	.431	.438	.481	.477	.446	.458
.269	5.277	3.990	.853	.985	.745	.285	1275	.948	1345	.439	.419	.475	.432	.438	.481	.477	.447	.458
.267	5.275	3.992	.851	.985	.745	.283	1275	.948	1345	.439	.419	.476	.432	.439	.482	.478	.447	.460
.264	5.273	3.990	.848	.984	.745	.280	1275	.948	1345	.440	.419	.477	.430	.439	.483	.479	.448	.460
.263	5.271	3.989	.847	.985	.745	.279	1275	.948	1345	.441	.419	.477	.431	.440	.484	.480	.449	.461
.261	5.268	3.986	.845	.984	.745	.277	1275	.948	1345	.441	.419	.479	.431	.441	.484	.481	.449	.461
.260	5.267	3.989	.844	.985	.746	.276	1274	.947	1345	.442	.420	.479	.434	.441	.485	.481	.449	.462
.259	5.264	3.986	.843	.984	.745	.275	1274	.947	1345	.442	.420	.480	.434	.442	.486	.482	.450	.462
.255	5.263	3.985	.839	.985	.746	.271	1274	.947	1345	.443	.421	.481	.434	.442	.487	.483	.450	.463
.255	5.260	3.983	.839	.984	.746	.271	1274	.947	1345	.443	.421	.481	.435	.443	.488	.484	.451	.464
.253	5.260	3.983	.837	.987	.747	.269	1274	.947	1345	.443	.421	.483	.435	.443	.488	.484	.451	.464
.251	5.260	3.980	.835	.990	.749	.267	1274	.947	1345	.444	.422	.483	.435	.444	.489	.485	.453	.465
.251	5.261	3.979	.835	.991	.750	.267	1274	.947	1345	.445	.422	.484	.436	.445	.490	.486	.453	.465
.247	5.263	3.977	.831	.996	.752	.263	1274	.947	1345	.445	.422	.485	.434	.445	.491	.487	.454	.466
.247	5.265	3.976	.831	1.001	.756	.263	1273	.947	1345	.446	.422	.485	.437	.446	.491	.488	.454	.466
.244	5.268	3.976	.828	1.008	.761	.260	1273	.947	1345	.446	.422	.486	.437	.446	.492	.488	.455	.467
.241	5.268	3.973	.825	1.016	.766	.257	1273	.947	1345	.446	.422	.487	.438	.446	.493	.489	.455	.468
.241	5.270	3.974	.825	1.026	.774	.257	1273	.947	1345	.447	.422	.488	.433	.447	.494	.489	.456	.468
.239	5.269	3.968	.823	1.033	.778	.255	1273	.946	1345	.447	.423	.489	.438	.447	.495	.491	.457	.469
.237	5.272	3.971	.821	1.045	.787	.253	1273	.947	1345	.448	.423	.489	.439	.448	.495	.491	.457	.469
.236	5.273	3.969	.820	1.058	.796	.252	1273	.947	1345	.449	.423	.490	.439	.449	.496	.492	.457	.470
.232	5.272	3.969	.816	1.070	.805	.248	1273	.946	1345	.449	.424	.491	.439	.449	.497	.493	.458	.470
.233	5.274	3.967	.817	1.088	.818	.249	1272	.946	1345	.449	.424	.492	.440	.450	.498	.493	.459	.471
.230	5.273	3.966	.814	1.107	.832	.246	1272	.946	1345	.450	.424	.492	.440	.450	.499	.494	.459	.472
.227	5.272	3.963	.811	1.126	.847	.243	1272	.946	1345	.450	.425	.493	.441	.451	.500	.495	.460	.472
.227	5.272	3.960	.811	1.143	.858	.243	1273	.946	1345	.451	.425	.494	.439	.451	.500	.496	.460	.473
.224	5.270	3.958	.808	1.155	.867	.240	1272	.946	1345	.451	.425	.495	.441	.452	.502	.496	.461	.473
.222	5.270	3.959	.806	1.175	.882	.238	1272	.946	1345	.452	.426	.495	.442	.453	.502	.497	.461	.474
.218	5.269	3.958	.802	1.195	.898	.234	1272	.946	1345	.452	.426	.496	.442	.453	.503	.497	.461	.474

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PROJECT NUMBER VA524-21RA
AHU, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
23	139	7.92	150.0	1345	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0164	1.332	.720	3868	4.459E-04	7.994E-08	6.728E 05	16.98	4.92	.75	22.633	23

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.216	5.268	3.954	.800	1.207	.906	.232	1272	.946	1345	.453	.426	.497	.440	.454	.504	.499	.462	.475
.215	5.268	3.954	.800	1.219	.915	.232	1273	.946	1345	.453	.426	.497	.443	.454	.504	.499	.462	.476
.212	5.267	3.954	.796	1.228	.922	.229	1272	.946	1345	.454	.426	.499	.439	.455	.505	.500	.463	.476
.212	5.267	3.954	.796	1.236	.928	.228	1272	.946	1345	.454	.427	.499	.444	.456	.506	.500	.464	.477
.210	5.267	3.954	.794	1.244	.934	.226	1272	.946	1345	.455	.427	.500	.445	.456	.507	.502	.464	.477
.207	5.265	3.953	.791	1.254	.941	.223	1272	.946	1345	.455	.427	.501	.445	.457	.508	.502	.465	.478
.206	5.265	3.952	.790	1.263	.948	.222	1272	.946	1345	.456	.427	.502	.445	.457	.508	.503	.465	.479
.203	5.264	3.950	.787	1.272	.954	.219	1272	.946	1345	.456	.427	.503	.446	.458	.509	.503	.466	.479
.202	5.265	3.950	.786	1.281	.961	.218	1272	.946	1345	.457	.428	.503	.446	.458	.510	.504	.466	.480
.200	5.264	3.949	.784	1.290	.968	.216	1272	.946	1345	.457	.428	.504	.446	.459	.511	.506	.467	.480
.196	5.263	3.948	.780	1.302	.977	.212	1272	.946	1345	.458	.428	.504	.447	.460	.512	.506	.467	.481
.195	5.263	3.948	.779	1.312	.984	.211	1272	.946	1345	.458	.428	.506	.448	.460	.512	.507	.468	.481
.192	5.262	3.945	.776	1.330	.997	.208	1272	.946	1345	.458	.428	.507	.445	.461	.513	.507	.468	.482
.190	5.261	3.946	.774	1.346	1.010	.206	1272	.946	1345	.459	.429	.507	.448	.461	.514	.508	.469	.483
.189	5.260	3.943	.773	1.358	1.025	.205	1272	.946	1345	.460	.430	.508	.448	.462	.515	.509	.469	.483
.184	5.259	3.942	.768	1.367	1.047	.200	1272	.946	1345	.460	.430	.509	.449	.462	.515	.510	.470	.484
.182	5.258	3.941	.766	1.446	1.084	.198	1272	.945	1346	.460	.430	.510	.449	.462	.515	.510	.470	.484
.180	5.258	3.942	.764	1.503	1.127	.196	1272	.946	1345	.461	.431	.511	.450	.464	.517	.511	.471	.485
.177	5.257	3.941	.761	1.566	1.174	.193	1272	.946	1345	.461	.431	.511	.450	.464	.518	.512	.472	.485
.177	5.257	3.941	.761	1.638	1.228	.193	1272	.946	1345	.462	.431	.512	.450	.465	.518	.512	.472	.486
.174	5.256	3.940	.758	1.706	1.279	.190	1272	.946	1345	.462	.431	.514	.451	.465	.519	.514	.473	.487
.173	5.256	3.940	.757	1.790	1.342	.189	1272	.946	1345	.463	.431	.514	.449	.466	.520	.514	.473	.487
.172	5.256	3.940	.756	1.867	1.399	.188	1272	.946	1345	.463	.432	.515	.449	.466	.520	.515	.473	.488
.169	5.255	3.937	.753	1.956	1.465	.185	1272	.946	1345	.464	.432	.516	.452	.467	.522	.516	.473	.488
.168	5.255	3.937	.752	2.041	1.529	.184	1272	.946	1345	.464	.433	.516	.453	.468	.522	.516	.474	.489
.166	5.254	3.936	.750	2.141	1.604	.182	1272	.946	1345	.465	.433	.518	.453	.468	.523	.517	.476	.489
.165	5.254	3.939	.749	2.271	1.702	.181	1272	.946	1345	.465	.433	.518	.454	.469	.523	.518	.476	.490
.164	5.253	3.939	.748	2.353	1.764	.180	1272	.946	1345	.465	.433	.519	.454	.470	.524	.519	.476	.491
.161	5.252	3.937	.745	2.456	1.841	.177	1272	.946	1345	.466	.434	.520	.454	.470	.525	.519	.476	.491
.160	5.254	3.936	.744	2.571	1.926	.176	1272	.945	1346	.466	.434	.520	.448	.470	.526	.520	.477	.491
.158	5.252	3.935	.742	2.721	2.038	.174	1273	.946	1345	.467	.434	.522	.455	.472	.527	.521	.478	.492
.157	5.251	3.934	.741	2.844	2.131	.173	1272	.946	1345	.468	.434	.522	.456	.472	.527	.522	.477	.493
.156	5.253	3.935	.740	2.976	2.229	.172	1273	.946	1345	.468	.434	.523	.454	.473	.527	.523	.478	.493
.153	5.251	3.934	.737	3.087	2.312	.169	1272	.946	1345	.468	.435	.524	.457	.473	.529	.523	.479	.494
.153	5.251	3.934	.737	3.199	2.396	.169	1272	.946	1345	.469	.435	.524	.457	.473	.529	.524	.480	.494
.151	5.251	3.931	.735	3.306	2.475	.167	1272	.946	1345	.469	.435	.525	.457	.474	.530	.524	.481	.495
.149	5.250	3.933	.733	3.391	2.532	.165	1272	.946	1345	.470	.435	.526	.458	.475	.531	.525	.481	.495
.148	5.250	3.933	.732	3.466	2.586	.164	1272	.946	1345	.470	.436	.527	.458	.476	.531	.526	.481	.496
.146	5.250	3.933	.730	3.535	2.648	.162	1272	.945	1345	.470	.437	.527	.458	.476	.532	.527	.482	.496
.146	5.250	3.933	.730	3.614	2.707	.162	1272	.945	1346	.471	.436	.528	.459	.476	.533	.527	.482	.497
.144	5.250	3.933	.728	3.671	2.750	.160	1272	.946	1345	.472	.437	.529	.460	.477	.534	.528	.483	.497
.142	5.248	3.932	.726	3.711	2.780	.158	1272	.946	1345	.472	.437	.530	.460	.478	.534	.529	.483	.498

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PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
23	139	7.92	150.3	1345	30.06	-6.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.3	.0164	1.335	.722	3868	4.468E-04	7.994E-08	6.728E 05	16.98	4.92	.75	22.633	23

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG*R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.142	5.248	3.931	.726	3.752	2.811	.158	1272	.946	1345	.472	.437	.531	.458	.479	.535	.530	.484	.499
.140	5.247	3.931	.724	3.773	2.826	.156	1272	.946	1345	.473	.438	.531	.458	.480	.536	.530	.484	.499
.139	5.248	3.932	.723	3.791	2.840	.155	1272	.945	1346	.473	.437	.532	.461	.480	.536	.530	.484	.499
.138	5.248	3.932	.722	3.796	2.844	.154	1272	.946	1345	.474	.438	.533	.462	.481	.537	.532	.485	.500
.135	5.246	3.930	.719	3.793	2.842	.151	1272	.946	1345	.474	.439	.534	.462	.481	.538	.533	.485	.501
.135	5.246	3.927	.719	3.788	2.838	.151	1272	.946	1345	.474	.439	.534	.463	.482	.538	.533	.486	.501
.133	5.245	3.929	.717	3.778	2.830	.149	1272	.946	1345	.475	.439	.535	.463	.483	.539	.534	.487	.502
.132	5.245	3.929	.716	3.748	2.808	.148	1272	.945	1346	.475	.439	.535	.463	.483	.540	.534	.487	.502
.131	5.244	3.926	.715	3.739	2.799	.147	1272	.946	1345	.476	.439	.537	.462	.484	.541	.535	.488	.503
.128	5.243	3.925	.712	3.720	2.785	.144	1272	.946	1345	.476	.439	.537	.462	.484	.541	.536	.488	.503
.128	5.244	3.926	.712	3.702	2.772	.144	1272	.946	1345	.477	.440	.538	.465	.485	.541	.537	.488	.504
.126	5.243	3.925	.710	3.682	2.756	.142	1272	.946	1345	.477	.440	.539	.463	.485	.542	.537	.489	.504
.125	5.243	3.928	.709	3.662	2.743	.141	1272	.946	1345	.478	.440	.539	.466	.487	.543	.538	.490	.506
.124	5.242	3.924	.708	3.655	2.736	.140	1272	.946	1345	.478	.441	.540	.466	.487	.543	.539	.490	.506
.121	5.240	3.923	.705	3.639	2.724	.137	1272	.946	1345	.479	.441	.541	.466	.488	.545	.539	.491	.506
.121	5.239	3.925	.705	3.633	2.722	.137	1272	.946	1345	.479	.442	.541	.467	.488	.545	.540	.491	.507
.118	5.237	3.920	.702	3.621	2.711	.134	1272	.946	1345	.480	.442	.542	.468	.489	.546	.541	.492	.507
.117	5.237	3.923	.701	3.615	2.708	.133	1272	.946	1345	.480	.442	.543	.468	.489	.546	.542	.492	.508
.116	5.237	3.921	.700	3.613	2.705	.132	1272	.946	1345	.480	.442	.543	.466	.490	.547	.542	.492	.508
.114	5.236	3.919	.698	3.606	2.700	.130	1272	.946	1345	.481	.442	.545	.469	.491	.548	.543	.493	.509
.113	5.235	3.919	.697	3.606	2.700	.129	1272	.946	1345	.481	.443	.545	.469	.491	.548	.543	.493	.509
.110	5.234	3.918	.694	3.604	2.698	.126	1272	.946	1345	.481	.443	.546	.470	.492	.549	.545	.494	.510
.109	5.235	3.919	.693	3.599	2.694	.125	1272	.946	1345	.483	.443	.546	.468	.492	.550	.545	.494	.510
.108	5.232	3.917	.692	3.598	2.694	.124	1273	.946	1345	.483	.443	.547	.466	.493	.550	.546	.495	.511
.106	5.230	3.915	.690	3.594	2.690	.122	1272	.946	1345	.483	.443	.548	.466	.493	.551	.546	.495	.511
.106	5.230	3.915	.690	3.595	2.691	.122	1272	.946	1345	.484	.443	.549	.472	.495	.552	.547	.496	.512
.104	5.229	3.915	.688	3.593	2.690	.120	1272	.946	1345	.484	.443	.549	.472	.495	.552	.548	.496	.512
.102	5.227	3.911	.686	3.588	2.684	.118	1272	.946	1345	.485	.444	.550	.472	.496	.553	.549	.496	.513
.102	5.228	3.914	.686	3.590	2.688	.118	1272	.946	1345	.485	.445	.550	.473	.496	.554	.549	.497	.514
.099	5.226	3.912	.683	3.587	2.685	.115	1272	.946	1345	.485	.445	.552	.469	.497	.554	.550	.497	.514
.098	5.226	3.910	.682	3.584	2.681	.114	1272	.945	1346	.486	.445	.552	.474	.497	.555	.550	.497	.514
.095	5.225	3.912	.679	3.583	2.682	.111	1272	.946	1345	.486	.445	.553	.474	.498	.556	.552	.499	.515
.093	5.223	3.910	.677	3.583	2.682	.109	1272	.945	1346	.486	.445	.553	.474	.498	.556	.552	.498	.515
.093	5.222	3.908	.677	3.580	2.678	.109	1272	.945	1346	.486	.445	.554	.475	.499	.556	.552	.498	.516
.091	5.221	3.906	.675	3.581	2.679	.107	1272	.945	1346	.487	.445	.555	.475	.500	.557	.553	.499	.517
.090	5.221	3.909	.674	3.578	2.679	.106	1272	.945	1346	.488	.446	.555	.475	.501	.558	.553	.500	.517
.088	5.220	3.905	.672	3.578	2.677	.104	1273	.946	1346	.488	.447	.556	.476	.501	.559	.554	.501	.517
.085	5.218	3.907	.669	3.576	2.677	.101	1272	.945	1346	.488	.447	.557	.476	.502	.559	.555	.501	.518
.084	5.218	3.904	.668	3.579	2.677	.100	1272	.945	1346	.489	.447	.557	.477	.502	.559	.556	.501	.518
.081	5.216	3.902	.665	3.574	2.674	.097	1272	.946	1345	.489	.447	.558	.478	.504	.561	.557	.502	.519
.081	5.216	3.902	.665	3.569	2.670	.097	1272	.945	1346	.490	.447	.559	.478	.503	.561	.557	.502	.520
.078	5.216	3.905	.662	3.570	2.672	.094	1273	.946	1345	.491	.447	.560	.479	.505	.562	.558	.503	.520

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
23	139	7.92	150.4	1346	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0164	1.336	.722	3870	4.467E-04	8.000E-08	6.728E 05	16.98	4.92	.75	22.633	23

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG.R)	TT1/TO	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.076	5.214	3.904	.660	3.568	2.471	.092	1272	.945	1346	.491	.448	.560	.479	.505	.562	.558	.504	.521
.077	5.216	3.905	.661	3.568	2.471	.093	1273	.945	1346	.491	.448	.561	.476	.506	.563	.559	.504	.521
.074	5.216	3.905	.658	3.568	2.469	.090	1273	.946	1346	.491	.448	.561	.479	.506	.563	.560	.505	.521
.073	5.217	3.903	.657	3.567	2.469	.089	1272	.945	1346	.492	.448	.563	.475	.507	.564	.560	.505	.522
.071	5.218	3.904	.655	3.567	2.469	.087	1272	.946	1345	.493	.449	.564	.481	.508	.565	.561	.506	.523
.069	5.219	3.907	.653	3.569	2.468	.085	1272	.946	1345	.493	.449	.564	.477	.508	.566	.562	.507	.523
.069	5.222	3.907	.653	3.564	2.466	.085	1272	.945	1346	.493	.449	.564	.476	.509	.565	.562	.506	.524
.067	5.223	3.910	.651	3.562	2.467	.083	1272	.946	1345	.494	.449	.565	.482	.510	.566	.563	.507	.524
.066	5.227	3.911	.650	3.564	2.466	.082	1273	.945	1346	.494	.449	.565	.478	.510	.567	.564	.507	.525
.064	5.231	3.914	.648	3.563	2.465	.080	1273	.945	1346	.495	.449	.566	.483	.511	.568	.564	.508	.525
.062	5.235	3.919	.646	3.562	2.466	.078	1272	.945	1346	.495	.450	.567	.483	.512	.568	.565	.509	.526
.061	5.244	3.923	.645	3.566	2.468	.077	1273	.946	1346	.495	.450	.568	.476	.513	.569	.565	.509	.526
.059	5.249	3.930	.643	3.565	2.469	.075	1273	.945	1346	.496	.451	.568	.482	.513	.569	.566	.509	.527
.058	5.252	3.936	.642	3.563	2.467	.074	1273	.946	1346	.497	.451	.569	.484	.514	.569	.567	.510	.527
.057	5.260	3.941	.641	3.562	2.465	.073	1273	.946	1346	.497	.451	.569	.484	.514	.570	.567	.510	.528
.054	5.272	3.949	.638	3.564	2.466	.070	1273	.946	1346	.497	.451	.571	.486	.515	.572	.568	.511	.528
.054	5.291	3.958	.638	3.564	2.466	.070	1273	.946	1346	.498	.452	.571	.486	.516	.572	.569	.511	.529
.052	5.304	3.968	.636	3.566	2.468	.068	1273	.946	1346	.498	.452	.572	.486	.517	.573	.569	.512	.529
.050	5.321	3.981	.634	3.562	2.465	.066	1273	.946	1346	.498	.452	.572	.487	.517	.573	.570	.512	.530
.049	5.343	3.997	.633	3.563	2.466	.065	1273	.946	1346	.499	.452	.574	.487	.518	.574	.571	.512	.530
.046	5.367	4.015	.630	3.562	2.465	.062	1273	.946	1346	.499	.453	.574	.487	.519	.575	.571	.513	.530
.046	5.395	4.036	.630	3.560	2.463	.062	1273	.946	1346	.499	.453	.575	.488	.520	.575	.572	.513	.531
.044	5.426	4.059	.628	3.558	2.462	.060	1273	.946	1346	.500	.453	.575	.488	.521	.576	.572	.514	.532
.044	5.458	4.083	.628	3.554	2.459	.060	1273	.946	1346	.501	.453	.576	.484	.521	.576	.573	.514	.532
.043	5.486	4.104	.627	3.558	2.462	.059	1274	.946	1346	.501	.453	.576	.490	.522	.577	.574	.515	.533
.039	5.521	4.130	.623	3.556	2.460	.055	1273	.946	1346	.502	.454	.577	.490	.522	.578	.574	.515	.533
.041	5.558	4.158	.625	3.557	2.461	.057	1273	.946	1346	.502	.454	.578	.490	.523	.579	.575	.515	.534
.038	5.596	4.186	.622	3.555	2.460	.054	1273	.946	1346	.502	.454	.579	.490	.524	.579	.576	.515	.534
.037	5.640	4.219	.621	3.551	2.456	.053	1273	.946	1346	.503	.455	.579	.491	.525	.580	.576	.517	.535
.036	5.692	4.258	.620	3.552	2.457	.052	1273	.946	1346	.503	.455	.580	.491	.526	.580	.577	.517	.535
.033	5.714	4.274	.617	3.551	2.456	.049	1274	.946	1346	.503	.455	.580	.492	.526	.581	.578	.518	.536
.034	5.735	4.290	.618	3.549	2.455	.050	1273	.946	1346	.504	.455	.581	.493	.527	.582	.578	.518	.536
.032	5.730	4.287	.616	3.551	2.456	.048	1273	.946	1346	.504	.455	.582	.490	.528	.582	.579	.518	.537
.030	5.692	4.259	.614	3.550	2.456	.046	1274	.946	1346	.505	.456	.582	.494	.528	.583	.579	.519	.537
.030	5.615	4.201	.614	3.549	2.455	.046	1273	.946	1346	.505	.456	.583	.494	.529	.583	.580	.519	.537
.027	5.485	4.106	.611	3.551	2.457	.043	1273	.946	1346	.506	.456	.584	.494	.529	.584	.580	.520	.538
.027	5.288	3.954	.611	3.549	2.453	.043	1274	.946	1344	.506	.457	.584	.495	.530	.584	.581	.520	.538
.025	5.031	3.763	.609	3.549	2.455	.041	1274	.947	1346	.506	.457	.585	.495	.531	.586	.582	.521	.539
.023	4.751	3.552	.607	3.551	2.455	.039	1275	.947	1344	.507	.457	.586	.495	.532	.586	.582	.521	.540
.023	4.492	3.358	.607	3.546	2.451	.039	1276	.948	1346	.507	.457	.586	.494	.532	.587	.583	.521	.540
.021	4.269	3.194	.605	3.547	2.453	.037	1276	.948	1346	.508	.458	.587	.494	.533	.587	.583	.522	.540
.021	.113	.085	.605	3.549	2.455	.037	1276	.948	1346	.509	.458	.588	.497	.533	.588	.584	.522	.541

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PROJECT NUMBER VA524-2194
ANO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
PAGE = 7

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
23	139	7.92	159.6	1346	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0165	1.338	.723	3870	4.473E-04	8.000E-08	6.728E 05	16.98	4.92	.75	22.633	23

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO	TW3/TO	TW4/TO	TW5/TO	TW6/TO	TW7/TO	TW8/TO	TW9/TO	TW10/TO
										(DEG R)	(DEG R)	(DEG R)	(DEG R)	(DEG R)	(DEG R)	(DEG R)	(DEG R)	(DEG R)
.021	3.856	2.882	.605	3.546	2.461	.037	1277	.948	1346	.509	.458	.588	.495	.534	.588	.584	.523	.541
.018	3.614	2.704	.602	3.546	2.453	.034	1277	.949	1346	.509	.458	.589	.498	.535	.590	.586	.523	.542
.019	3.375	2.525	.603	3.546	2.453	.035	1277	.949	1346	.510	.459	.590	.498	.536	.590	.586	.524	.542
.017	3.114	2.329	.601	3.544	2.449	.033	1277	.945	1346	.510	.459	.590	.498	.536	.590	.587	.524	.543
.016	2.836	2.121	.600	3.543	2.451	.032	1276	.948	1346	.510	.459	.591	.499	.537	.591	.587	.524	.544
.016	2.586	1.934	.600	3.542	2.450	.032	1274	.947	1346	.511	.459	.591	.499	.537	.591	.588	.525	.544
.014	2.375	1.775	.598	3.544	2.450	.030	1272	.945	1346	.511	.459	.592	.500	.538	.592	.588	.525	.544
.014	2.184	1.632	.598	3.542	2.448	.030	1269	.943	1346	.511	.460	.592	.499	.539	.593	.589	.526	.545
.013	2.016	1.507	.597	3.544	2.449	.029	1265	.940	1346	.512	.460	.594	.498	.540	.594	.590	.526	.545
.011	1.863	1.392	.595	3.541	2.447	.027	1258	.935	1346	.513	.460	.594	.501	.540	.594	.591	.527	.546
.012	1.722	1.287	.596	3.541	2.447	.028	1251	.929	1346	.513	.460	.595	.502	.541	.595	.591	.527	.547
.009	1.593	1.191	.593	3.539	2.448	.025	1241	.922	1346	.513	.461	.595	.502	.541	.595	.592	.528	.547
.010	1.475	1.106	.594	3.538	2.447	.026	1230	.914	1346	.514	.461	.596	.503	.542	.596	.592	.528	.548
.008	1.376	1.029	.592	3.541	2.449	.024	1217	.904	1346	.514	.461	.597	.503	.542	.597	.593	.528	.548
.006	1.287	.962	.590	3.542	2.448	.022	1201	.892	1346	.514	.461	.598	.503	.544	.597	.594	.529	.548
.007	1.213	.907	.591	3.537	2.444	.023	1193	.886	1346	.515	.461	.598	.504	.544	.598	.594	.529	.549
.007	1.037	.775	.591	3.538	2.445	.023	1190	.884	1346	.517	.463	.601	.506	.547	.601	.596	.531	.551

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PROJECT NUMBER VAS24-219A
AHO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
PAGE = 1

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
24	139	7.92	150.0	1346	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0165	1.339	.724	3870	4.473E-04	1.000E-08	6.696E 05	18.11	4.92	.80	22.633	24

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.707	3.647	2.724	1.291	.987	.738	.721	1281	.951	1346	.395	.396	.407	.401	.399	.409	.406	.398	.401
.701	3.645	2.727	1.285	.986	.738	.715	1281	.952	1346	.396	.397	.407	.393	.399	.410	.407	.398	.402
.671	3.642	2.723	1.255	.987	.738	.685	1281	.951	1346	.397	.397	.408	.402	.400	.411	.407	.399	.403
.638	3.636	2.720	1.222	.991	.741	.652	1281	.951	1346	.397	.397	.409	.402	.401	.412	.409	.400	.403
.605	3.631	2.716	1.189	.989	.740	.619	1281	.951	1346	.398	.398	.410	.403	.402	.413	.410	.401	.404
.574	3.652	2.734	1.158	.990	.741	.588	1280	.951	1346	.398	.398	.411	.403	.402	.413	.410	.401	.405
.541	3.704	2.771	1.125	.992	.742	.555	1280	.951	1346	.399	.398	.412	.403	.402	.414	.411	.402	.405
.522	3.766	2.819	1.106	.989	.740	.536	1280	.951	1346	.400	.398	.412	.404	.403	.414	.412	.403	.406
.513	3.816	2.857	1.097	.991	.742	.527	1280	.951	1346	.401	.399	.413	.404	.403	.416	.413	.403	.407
.501	3.852	2.883	1.085	.994	.744	.515	1280	.951	1346	.401	.399	.414	.405	.403	.417	.414	.404	.407
.492	3.877	2.902	1.076	1.019	.763	.506	1280	.951	1346	.402	.399	.414	.405	.404	.417	.414	.405	.408
.482	3.894	2.919	1.066	1.091	.818	.496	1279	.951	1346	.402	.400	.416	.405	.405	.419	.416	.405	.409
.471	3.911	2.930	1.055	1.160	.869	.485	1279	.950	1346	.403	.401	.416	.406	.405	.421	.417	.406	.410
.462	3.929	2.943	1.046	1.239	.928	.476	1279	.951	1346	.403	.401	.417	.406	.405	.422	.417	.406	.410
.451	3.955	2.965	1.035	1.338	1.003	.465	1279	.951	1346	.404	.401	.418	.406	.406	.424	.418	.407	.411
.441	3.996	2.995	1.025	1.683	1.261	.455	1279	.950	1346	.405	.401	.418	.407	.406	.426	.419	.407	.412
.431	4.046	3.048	1.015	2.560	1.919	.445	1279	.950	1346	.405	.402	.419	.407	.407	.428	.420	.409	.412
.419	4.172	3.127	1.003	3.517	2.637	.433	1278	.950	1346	.406	.402	.420	.407	.407	.430	.421	.409	.413
.410	4.315	3.237	.994	3.986	2.990	.424	1278	.949	1346	.406	.402	.421	.408	.407	.432	.421	.410	.414
.399	4.484	3.364	.983	3.973	2.978	.413	1277	.949	1346	.407	.402	.422	.408	.408	.434	.422	.410	.414
.393	4.592	3.444	.977	3.931	2.949	.407	1277	.949	1346	.407	.402	.423	.409	.408	.435	.424	.410	.416
.383	4.701	3.526	.967	3.887	2.917	.397	1277	.948	1346	.408	.402	.424	.409	.409	.437	.424	.412	.416
.371	4.796	3.600	.955	3.855	2.894	.385	1276	.948	1346	.409	.403	.425	.409	.409	.438	.425	.412	.417
.361	4.877	3.661	.945	3.816	2.864	.375	1275	.948	1346	.409	.403	.426	.410	.410	.439	.426	.413	.417
.351	4.936	3.707	.935	3.785	2.841	.365	1275	.947	1346	.410	.403	.426	.407	.410	.440	.426	.413	.418
.340	4.996	3.738	.924	3.747	2.812	.354	1275	.947	1346	.41	.403	.428	.410	.410	.441	.428	.413	.419
.331	5.032	3.757	.915	3.708	2.785	.345	1274	.947	1346	.411	.404	.428	.411	.410	.442	.428	.414	.420
.319	5.016	3.767	.903	3.673	2.759	.333	1274	.946	1346	.411	.404	.429	.411	.412	.444	.429	.414	.420

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PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OA52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
24	139	7.92	149.9	1346	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBF /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0164	1.331	.720	3870	4.452E-04	8.000E-08	6.696E 05	18.11	4.92	.80	22.633	24

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.310	5.020	3.770	.894	3.635	2.730	.324	1274	.946	1346	.412	.405	.429	.412	.412	.444	.430	.416	.421
.299	5.022	3.775	.883	3.603	2.708	.313	1273	.946	1346	.412	.405	.430	.412	.412	.445	.431	.417	.422
.287	5.020	3.773	.871	3.567	2.681	.301	1273	.946	1346	.413	.405	.431	.412	.412	.446	.432	.417	.422
.278	5.022	3.774	.862	3.541	2.662	.292	1273	.946	1346	.413	.405	.432	.412	.413	.447	.433	.418	.423
.267	5.021	3.774	.851	3.517	2.644	.281	1273	.946	1346	.414	.406	.433	.413	.413	.447	.433	.418	.424
.258	5.024	3.775	.840	3.495	2.627	.270	1273	.946	1346	.414	.406	.433	.411	.413	.448	.434	.418	.425
.246	5.027	3.781	.830	3.491	2.626	.260	1273	.946	1346	.415	.406	.434	.413	.414	.449	.435	.419	.425
.234	5.029	3.782	.818	3.495	2.629	.248	1273	.946	1346	.416	.406	.435	.414	.414	.449	.436	.420	.426
.224	5.027	3.781	.808	3.506	2.637	.239	1273	.946	1346	.416	.406	.436	.414	.415	.451	.437	.420	.426
.213	5.028	3.784	.797	3.522	2.651	.227	1273	.946	1346	.417	.407	.436	.414	.415	.451	.437	.421	.427
.203	5.026	3.780	.787	3.539	2.662	.217	1273	.945	1346	.417	.407	.437	.412	.416	.452	.439	.421	.428
.193	5.027	3.783	.777	3.561	2.680	.207	1273	.946	1346	.418	.408	.438	.415	.416	.452	.439	.422	.429
.181	5.027	3.783	.765	3.567	2.684	.195	1273	.946	1346	.418	.408	.439	.416	.416	.453	.440	.422	.429
.171	5.028	3.787	.755	3.567	2.686	.185	1272	.945	1346	.418	.409	.440	.416	.417	.453	.441	.424	.430
.161	5.032	3.790	.745	3.570	2.688	.175	1273	.946	1346	.419	.409	.440	.416	.417	.455	.442	.424	.431
.149	5.030	3.794	.733	3.563	2.683	.163	1273	.945	1346	.420	.409	.441	.416	.417	.455	.443	.425	.432
.139	5.030	3.795	.723	3.561	2.683	.153	1273	.946	1346	.420	.409	.442	.417	.418	.456	.443	.425	.432
.127	5.034	3.814	.711	3.559	2.676	.141	1273	.946	1346	.421	.409	.443	.417	.418	.457	.444	.426	.433
.118	5.034	3.831	.702	3.547	2.673	.132	1272	.945	1346	.421	.409	.443	.417	.418	.458	.445	.426	.433
.107	5.113	3.853	.691	3.536	2.665	.121	1272	.945	1346	.422	.410	.444	.418	.419	.459	.446	.427	.434
.095	5.120	3.858	.679	3.531	2.661	.109	1272	.945	1346	.422	.410	.445	.418	420	.460	.447	.427	.435
.086	5.120	3.861	.670	3.522	2.656	.100	1273	.946	1346	.423	.410	.446	.418	.420	.461	.448	.428	.436
.075	5.455	4.114	.659	3.515	2.651	.089	1273	.945	1346	.424	.410	.447	.418	.420	.463	.449	.429	.436
.064	5.333	4.022	.648	3.514	2.650	.078	1272	.945	1346	.424	.411	.448	.419	.421	.464	.449	.430	.437
.055	5.432	4.096	.639	3.510	2.647	.069	1273	.946	1346	.424	.411	.448	.417	.421	.465	.450	.430	.437
.042	5.492	4.144	.626	3.515	2.652	.056	1275	.947	1346	.425	.411	.449	.420	.422	.467	.451	.430	.439
.033	4.976	3.770	.617	3.518	2.655	.047	1275	.947	1346	.425	.412	.450	.420	.422	.468	.452	.431	.439
.022	3.959	2.990	.606	3.523	2.660	.036	1230	.914	1346	.426	.412	.451	.420	.422	.470	.452	.432	.440
.011	1.662	1.256	.595	3.536	2.670	.025	1079	.802	1346	.426	.412	.452	.421	.422	.472	.453	.433	.440
.004	2.548	1.918	.588	3.543	2.676	.018	969	.720	1346	.427	.412	.452	.421	.423	.473	.455	.433	.441
.007	2.147	1.620	.591	3.541	2.672	.021	968	.719	1346	.428	.413	.453	.421	.424	.475	.455	.434	.442
.007	1.412	1.067	.591	3.534	2.671	.021	902	.729	1346	.429	.414	.457	.422	.425	.488	.458	.436	.444

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OM52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
25	139	7.92	151.4	1348	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0166	1.345	.727	38..	4.490E-04	8.012E-08	6.646E 05	18.11	4.92	.30	22.633	24

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.707	3.644	2.719	1.291	.992	.740	.721	1283	.951	1348	.388	.391	.403	.397	.397	.406	.403	.391	.397
.676	3.642	2.719	1.290	.995	.743	.690	1283	.952	1348	.389	.392	.403	.398	.397	.407	.403	.391	.398
.642	3.631	2.712	1.226	.991	.741	556	1283	.951	1348	.389	.392	.405	.398	.397	.407	.405	.392	.399
.609	3.628	2.711	1.193	.992	.741	623	1282	.951	1348	.390	.393	.406	.399	.397	.409	.406	.393	.399
.575	3.642	2.722	1.159	.990	.740	.589	1282	.952	1347	.391	.393	.407	.397	.398	.409	.407	.394	.400
.543	3.685	2.760	1.127	.991	.742	.557	1283	.951	1348	.391	.393	.407	.399	.398	.410	.407	.394	.401
.511	3.741	2.814	1.095	.992	.742	.525	1282	.951	1348	.391	.393	.408	.399	.399	.411	.408	.395	.401
.486	3.825	2.865	1.070	1.102	.826	.500	1281	.951	1348	.392	.393	.409	.400	.399	.411	.409	.396	.402
.476	3.870	2.901	1.060	1.177	.882	.4..	1282	.951	13.8	.393	.394	.410	.398	.400	.413	.410	.397	.403
.464	3.902	2.927	1.048	1.243	.932	.478	1281	.951	1347	.393	.395	.411	.401	.401	.415	.411	.397	.404
.455	3.932	2.951	1.039	1.337	1.004	.469	1281	.951	1347	.395	.395	.412	.401	.401	.417	.412	.398	.405
.444	3.971	2.982	1.028	1.442	1.233	.458	1281	.951	1347	.395	.395	.412	.401	.402	.419	.413	.399	.405
.433	4.030	3.029	1.017	2.368	1.778	.447	1281	.951	1347	.396	.395	.413	.403	.402	.421	.413	.400	.406
.423	4.119	3.097	1.007	3.264	2.455	.437	1281	.951	1347	.396	.396	.414	.403	.403	.423	.416	.400	.407
.409	4.234	3.187	.993	3.892	2.921	.423	1280	.950	1347	.397	.396	.415	.403	.403	.426	.415	.401	.407
.402	4.379	3.298	.986	3.963	2.984	.416	1280	.950	1347	.397	.396	.416	.401	.403	.428	.416	.401	.408
.393	4.519	3.406	.977	3.917	2.952	.407	1279	.949	1347	.398	.396	.417	.404	.404	.429	.417	.403	.409
.383	4.645	3.503	.967	3.863	2.913	.397	1278	.949	1347	.399	.397	.418	.404	.404	.431	.418	.403	.409
.373	4.755	3.585	.957	3.820	2.880	.387	1278	.948	1347	.399	.397	.418	.404	.405	.432	.419	.404	.411
.360	4.848	3.661	.944	3.774	2.845	.376	1277	.948	1347	.400	.397	.419	.405	.405	.434	.420	.404	.411
.351	4.911	3.711	.935	3.737	2.824	.365	1277	.948	1347	.400	.397	.420	.403	.405	.435	.420	.405	.412
.340	4.952	3.744	.924	3.702	2.799	.354	1277	.948	1347	.401	.398	.421	.405	.406	.436	.421	.405	.412
.330	4.977	3.762	.914	3.660	2.769	.344	1276	.947	1347	.401	.398	.422	.406	.407	.437	.422	.406	.413
.319	4.992	3.772	.903	3.624	2.744	.333	1276	.947	1347	.402	.399	.423	.406	.407	.438	.423	.407	.414
.307	4.994	3.776	.891	3.586	2.716	.321	1275	.947	1347	.403	.399	.423	.407	.407	.439	.424	.407	.415
.297	4.991	3.776	.881	3.544	2.687	.311	1275	.947	1347	.404	.399	.424	.407	.407	.440	.424	.408	.415
.286	4.979	3.777	.870	3.514	2.666	.300	1275	.946	1347	.404	.400	.425	.407	.408	.441	.426	.408	.416
.276	4.976	3.778	.860	3.483	2.644	.290	1275	.946	1347	.405	.400	.426	.409	.408	.442	.426	.409	.416
.265	4.975	3.782	.849	3.452	2.624	.279	1275	.946	1347	.405	.400	.427	.409	.409	.443	.427	.410	.418

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PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OA52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
25	139	7.92	148.1	1347	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0162	1.315	.711	3871	4.396E-04	8.006E-08	6.046E 05	18.11	4.92	.80	22.633	24

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.252	4.975	3.782	.836	3.436	2.612	.266	1275	.946	1347	.405	.400	.427	.408	.409	.443	.428	.411	.418
.243	4.974	3.784	.827	3.430	2.609	.257	1275	.947	1347	.406	.401	.428	.408	.409	.444	.429	.411	.419
.231	4.978	3.784	.815	3.438	2.614	.245	1275	.946	1347	.407	.401	.429	.409	.410	.445	.430	.412	.420
.231	4.982	3.785	.805	3.451	2.622	.235	1275	.947	1347	.407	.401	.430	.409	.410	.446	.430	.412	.420
.210	4.988	3.787	.794	3.475	2.638	.224	1275	.946	1347	.408	.401	.430	.407	.411	.446	.431	.413	.421
.203	4.995	3.784	.787	3.491	2.665	.217	1275	.947	1347	.408	.401	.431	.410	.411	.447	.432	.413	.422
.202	5.001	3.784	.786	3.500	2.648	.216	1275	.947	1347	.409	.402	.432	.408	.412	.447	.433	.414	.422
.199	5.012	3.784	.783	3.510	2.651	.213	1275	.947	1347	.409	.402	.432	.411	.412	.449	.434	.415	.423
.195	5.021	3.784	.779	3.518	2.651	.209	1275	.947	1347	.410	.403	.434	.411	.412	.449	.435	.415	.424
.194	5.030	3.788	.778	3.530	2.658	.208	1276	.946	1348	.410	.402	.434	.411	.412	.450	.435	.415	.424
.191	5.037	3.785	.775	3.533	2.655	.205	1275	.946	1348	.411	.402	.435	.411	.413	.450	.436	.415	.425
.190	5.047	3.789	.774	3.544	2.660	.204	1275	.946	1348	.411	.403	.436	.411	.413	.452	.437	.417	.425
.188	5.052	3.787	.772	3.546	2.658	.202	1275	.946	1348	.412	.403	.437	.412	.413	.452	.438	.417	.426
.186	5.060	3.789	.770	3.554	2.660	.200	1275	.946	1348	.413	.403	.437	.412	.414	.453	.438	.417	.427
.185	5.065	3.786	.769	3.558	2.660	.199	1276	.946	1348	.413	.403	.438	.413	.414	.454	.440	.418	.428
.182	5.072	3.789	.766	3.563	2.662	.196	1275	.946	1348	.413	.404	.439	.413	.415	.455	.440	.420	.428
.181	5.077	3.790	.765	3.569	2.665	.195	1275	.946	1348	.414	.405	.440	.413	.415	.456	.441	.420	.429
.179	5.082	3.791	.763	3.572	2.665	.193	1275	.946	1348	.414	.405	.440	.414	.415	.457	.442	.420	.430
.177	5.086	3.791	.761	3.575	2.666	.191	1275	.946	1349	.415	.405	.442	.414	.416	.458	.443	.421	.430
.176	5.091	3.793	.760	3.579	2.667	.190	1275	.946	1348	.415	.405	.442	.414	.417	.459	.444	.422	.431
.173	5.093	3.792	.757	3.580	2.666	.187	1275	.946	1348	.416	.405	.443	.414	.417	.460	.445	.422	.432
.171	5.097	3.795	.755	3.580	2.666	.185	1275	.946	1348	.417	.406	.444	.415	.417	.460	.445	.423	.432
.169	5.099	3.794	.753	3.583	2.666	.183	1275	.946	1348	.417	.406	.445	.415	.418	.461	.446	.423	.433
.166	5.104	3.795	.750	3.589	2.669	.180	1275	.946	1348	.418	.406	.446	.415	.418	.462	.447	.424	.434
.165	5.107	3.796	.750	3.590	2.670	.180	1275	.946	1348	.418	.407	.446	.416	.419	.463	.448	.424	.434
.164	5.110	3.800	.748	3.590	2.670	.178	1275	.946	1348	.419	.407	.447	.416	.419	.464	.449	.425	.435
.163	5.112	3.799	.747	3.591	2.669	.177	1275	.946	1348	.420	.407	.448	.417	.420	.465	.449	.426	.436
.161	5.114	3.800	.745	3.593	2.670	.175	1275	.946	1348	.420	.407	.449	.417	.420	.465	.450	.426	.437
.159	5.115	3.801	.743	3.592	2.669	.173	1275	.946	1349	.421	.407	.450	.417	.421	.467	.452	.426	.437
.158	5.115	3.801	.742	3.592	2.670	.172	1275	.946	1348	.421	.408	.450	.418	.421	.467	.452	.428	.438
.156	5.118	3.801	.740	3.593	2.669	.170	1275	.946	1348	.422	.408	.452	.414	.421	.468	.453	.429	.438
.155	5.114	3.800	.739	3.592	2.670	.169	1275	.946	1348	.422	.409	.452	.416	.422	.469	.454	.429	.439
.153	5.111	3.801	.737	3.589	2.669	.167	1275	.946	1348	.422	.409	.453	.419	.422	.470	.454	.429	.440
.150	5.112	3.804	.734	3.590	2.672	.164	1275	.945	1348	.423	.409	.454	.419	.423	.471	.455	.430	.440
.150	5.109	3.804	.734	3.585	2.669	.164	1275	.946	1348	.424	.409	.454	.420	.424	.472	.456	.430	.441
.147	5.109	3.807	.731	3.592	2.669	.161	1275	.946	1348	.424	.409	.455	.420	.424	.472	.457	.431	.442
.146	5.109	3.812	.730	3.579	2.671	.160	1275	.946	1348	.425	.410	.456	.420	.424	.473	.458	.432	.442
.144	5.107	3.813	.728	3.579	2.672	.158	1275	.946	1348	.425	.410	.457	.421	.425	.474	.459	.432	.443
.142	5.105	3.814	.726	3.575	2.671	.156	1274	.945	1348	.426	.410	.457	.421	.425	.475	.460	.433	.444
.141	5.103	3.815	.725	3.572	2.670	.155	1275	.946	1348	.426	.410	.459	.421	.426	.476	.460	.433	.445
.138	5.104	3.818	.722	3.568	2.669	.152	1275	.946	1348	.426	.410	.460	.422	.426	.476	.461	.433	.445
.137	5.104	3.821	.721	3.569	2.672	.151	1275	.945	1348	.427	.411	.460	.420	.426	.477	.462	.434	.446

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
25	139	7.92	150.4	1348	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0154	1.336	.722	3873	4.461E-04	8.012E-08	6.646E 05	18.11	4.92	.80	22.633	24

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.136	5.105	3.821	.720	3.566	2.670	.150	1275	.946	1348	.428	.411	.461	.422	.427	.478	.463	.436	.446
.133	5.104	3.820	.717	3.562	2.670	.147	1275	.946	1348	.428	.411	.462	.423	.428	.479	.463	.436	.447
.133	5.105	3.820	.717	3.561	2.671	.147	1274	.945	1348	.429	.412	.463	.421	.428	.480	.464	.436	.448
.130	5.104	3.820	.714	3.556	2.668	.144	1275	.946	1348	.429	.412	.463	.424	.429	.480	.465	.437	.448
.129	5.103	3.820	.713	3.554	2.666	.143	1275	.945	1348	.430	.413	.464	.424	.429	.481	.466	.438	.449
.127	5.105	3.831	.711	3.552	2.665	.141	1274	.945	1348	.430	.413	.465	.424	.429	.482	.467	.438	.449
.124	5.106	3.835	.708	3.548	2.665	.138	1275	.946	1348	.431	.413	.465	.425	.430	.483	.468	.439	.450
.124	5.107	3.841	.708	3.547	2.668	.138	1275	.946	1348	.431	.413	.467	.425	.430	.484	.468	.439	.451
.122	5.109	3.842	.706	3.545	2.666	.136	1275	.946	1347	.432	.414	.467	.426	.431	.485	.469	.440	.452
.121	5.111	3.844	.705	3.542	2.664	.135	1275	.946	1348	.432	.414	.468	.426	.432	.485	.470	.440	.452
.119	5.113	3.848	.703	3.539	2.664	.133	1275	.946	1348	.433	.414	.469	.424	.432	.486	.471	.441	.453
.117	5.115	3.852	.701	3.538	2.665	.131	1275	.946	1348	.433	.414	.470	.424	.433	.487	.471	.441	.453
.116	5.119	3.855	.700	3.536	2.663	.130	1274	.945	1348	.434	.414	.470	.427	.433	.488	.472	.442	.454
.111	5.120	3.859	.695	3.532	2.662	.125	1275	.946	1348	.434	.415	.471	.425	.433	.489	.473	.442	.454
.113	5.125	3.864	.697	3.530	2.662	.127	1274	.945	1348	.435	.415	.472	.430	.434	.489	.473	.442	.455
.112	5.127	3.866	.696	3.528	2.660	.126	1275	.946	1347	.436	.415	.473	.428	.435	.490	.475	.443	.456
.108	5.128	3.870	.692	3.527	2.661	.122	1274	.945	1348	.436	.415	.473	.429	.435	.491	.475	.444	.456
.109	5.135	3.877	.693	3.525	2.662	.123	1274	.945	1348	.436	.415	.474	.429	.435	.492	.476	.444	.457
.106	5.140	3.881	.690	3.522	2.659	.120	1275	.946	1347	.437	.416	.475	.430	.436	.493	.477	.446	.458
.104	5.143	3.884	.688	3.516	2.655	.118	1274	.946	1347	.438	.416	.476	.430	.436	.494	.478	.446	.459
.103	5.151	3.892	.687	3.518	2.658	.117	1274	.946	1347	.438	.417	.477	.430	.437	.494	.478	.447	.459
.100	5.157	3.899	.684	3.514	2.657	.114	1274	.946	1347	.439	.417	.477	.431	.438	.496	.480	.447	.460
.099	5.162	3.903	.683	3.509	2.653	.113	1275	.946	1347	.439	.418	.478	.431	.438	.496	.481	.447	.461
.097	5.171	3.912	.681	3.510	2.656	.111	1274	.946	1347	.439	.418	.479	.431	.439	.497	.481	.449	.461
.095	5.175	3.916	.679	3.505	2.652	.109	1274	.946	1347	.440	.418	.480	.430	.439	.498	.482	.449	.462
.094	5.185	3.925	.678	3.505	2.654	.108	1275	.946	1347	.440	.418	.480	.432	.439	.498	.482	.449	.462
.090	5.191	3.930	.674	3.504	2.653	.104	1274	.946	1347	.441	.418	.481	.432	.440	.499	.484	.450	.463
.089	5.199	3.936	.673	3.499	2.649	.103	1274	.945	1348	.441	.418	.481	.433	.440	.500	.484	.449	.463
.087	5.211	3.948	.671	3.501	2.653	.101	1274	.946	1347	.442	.419	.483	.434	.441	.501	.485	.451	.464
.086	5.219	3.953	.670	3.497	2.650	.100	1275	.946	1347	.443	.419	.484	.434	.442	.501	.485	.451	.465
.085	5.225	3.961	.669	3.493	2.648	.099	1275	.946	1347	.443	.419	.484	.434	.442	.502	.486	.452	.465
.082	5.235	3.971	.666	3.495	2.651	.096	1274	.946	1347	.443	.420	.485	.435	.443	.503	.487	.453	.466
.082	5.245	3.979	.666	3.493	2.650	.096	1274	.946	1347	.444	.420	.485	.430	.443	.504	.488	.453	.466
.079	5.255	3.986	.663	3.493	2.650	.093	1274	.946	1347	.444	.420	.486	.435	.443	.504	.489	.454	.467
.078	5.256	3.996	.662	3.489	2.649	.092	1274	.946	1347	.445	.420	.487	.434	.444	.505	.489	.454	.467
.077	5.274	4.007	.661	3.487	2.649	.091	1274	.946	1347	.446	.421	.488	.434	.444	.506	.490	.455	.468
.075	5.283	4.014	.659	3.485	2.647	.089	1275	.946	1347	.446	.421	.489	.436	.446	.507	.491	.455	.469
.078	5.294	4.022	.662	3.482	2.645	.092	1274	.946	1347	.446	.421	.489	.437	.446	.508	.492	.455	.469
.072	5.308	4.033	.656	3.488	2.650	.086	1275	.946	1347	.447	.421	.490	.437	.446	.508	.492	.457	.470
.070	5.321	4.037	.654	3.489	2.647	.084	1275	.946	1347	.447	.421	.491	.439	.446	.509	.493	.457	.470
.070	5.337	4.047	.654	3.489	2.645	.084	1275	.946	1348	.448	.421	.491	.438	.447	.510	.493	.457	.471
.069	5.353	4.056	.653	3.493	2.647	.083	1275	.946	1348	.448	.422	.492	.438	.447	.511	.494	.458	.471

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PROJECT NUMBER VA524-21BA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OF52 SHUTTLE SURVEY TEST
PAGE = 4

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
25	139	7.92	148.6	1348	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0162	1.320	.713	3873	4.407E-04	8.012E-08	6.646E 05	18.11	4.92	.80	22.633	24

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.067	5.378	4.069	.651	3.490	2.644	.081	1275	.946	1348	.448	.422	.492	.438	.448	.511	.495	.459	.472
.065	5.387	4.082	.649	3.493	2.646	.079	1275	.946	1348	.449	.422	.493	.439	.448	.512	.495	.459	.472
.062	5.404	4.092	.646	3.493	2.645	.076	1275	.946	1348	.449	.423	.494	.439	.449	.513	.496	.459	.473
.063	5.421	4.102	.647	3.495	2.644	.077	1275	.946	1348	.450	.423	.494	.440	.449	.514	.497	.460	.473
.060	5.437	4.111	.644	3.496	2.643	.074	1275	.946	1348	.450	.423	.495	.440	.450	.514	.498	.460	.474
.060	5.451	4.122	.644	3.496	2.643	.074	1275	.946	1348	.451	.424	.496	.440	.450	.515	.498	.461	.475
.058	5.467	4.134	.642	3.497	2.644	.072	1276	.946	1348	.452	.424	.497	.441	.451	.516	.499	.462	.475
.056	5.485	4.145	.640	3.499	2.644	.070	1275	.946	1348	.452	.424	.498	.441	.452	.517	.500	.462	.476
.056	5.504	4.159	.640	3.499	2.644	.070	1275	.946	1348	.452	.424	.496	.441	.452	.518	.500	.462	.476
.054	5.522	4.173	.638	3.496	2.642	.068	1275	.946	1348	.453	.424	.499	.442	.452	.519	.501	.463	.477
.053	5.540	4.186	.637	3.499	2.644	.067	1276	.946	1348	.453	.425	.499	.442	.453	.519	.502	.463	.477
.051	5.557	4.199	.635	3.498	2.643	.065	1276	.947	1348	.454	.425	.500	.443	.453	.520	.503	.464	.478
.049	5.570	4.208	.633	3.499	2.642	.063	1276	.947	1348	.454	.425	.501	.443	.454	.522	.503	.464	.479
.050	5.585	4.219	.634	3.500	2.643	.064	1276	.946	1348	.454	.425	.502	.444	.454	.522	.504	.465	.479
.048	5.597	4.227	.632	3.501	2.644	.062	1276	.946	1348	.455	.425	.502	.444	.455	.523	.505	.465	.480
.046	5.605	4.233	.630	3.501	2.644	.060	1276	.947	1348	.456	.426	.503	.445	.456	.524	.506	.466	.480
.047	5.609	4.236	.631	3.502	2.644	.061	1276	.947	1348	.456	.426	.504	.445	.456	.525	.507	.467	.481
.044	5.607	4.234	.628	3.502	2.645	.058	1277	.947	1348	.457	.426	.505	.445	.457	.526	.507	.467	.481
.044	5.598	4.227	.628	3.503	2.645	.058	1276	.947	1348	.457	.427	.506	.446	.457	.526	.508	.468	.482
.043	5.573	4.208	.627	3.502	2.644	.057	1277	.947	1348	.457	.427	.507	.444	.458	.527	.509	.468	.483
.040	5.528	4.174	.624	3.502	2.645	.054	1277	.947	1348	.458	.428	.507	.444	.459	.528	.510	.469	.483
.041	5.472	4.129	.625	3.505	2.645	.055	1277	.947	1348	.459	.428	.508	.447	.459	.528	.510	.469	.484
.039	5.402	4.079	.623	3.503	2.645	.053	1277	.947	1348	.459	.428	.509	.447	.459	.530	.511	.469	.484
.038	5.317	4.013	.622	3.502	2.643	.052	1277	.947	1348	.460	.428	.510	.448	.460	.530	.511	.470	.485
.037	5.227	3.944	.621	3.505	2.645	.051	1278	.948	1348	.460	.428	.510	.448	.460	.531	.512	.470	.485
.036	5.128	3.868	.620	3.505	2.645	.050	1278	.948	1348	.460	.429	.511	.449	.461	.532	.513	.471	.486
.036	5.019	3.790	.620	3.505	2.647	.050	1278	.948	1348	.461	.429	.512	.449	.461	.533	.514	.472	.486
.035	4.911	3.709	.619	3.503	2.645	.049	1278	.948	1348	.461	.429	.512	.449	.462	.533	.515	.472	.487
.034	4.798	3.614	.618	3.502	2.643	.048	1278	.948	1348	.462	.429	.514	.450	.463	.534	.515	.472	.487
.034	4.662	3.521	.618	3.508	2.649	.048	1279	.949	1348	.462	.430	.514	.450	.463	.535	.516	.473	.488
.031	4.465	3.371	.615	3.503	2.645	.045	1279	.949	1348	.463	.430	.515	.450	.464	.536	.517	.473	.488
.032	4.345	3.281	.616	3.503	2.645	.046	1279	.949	1348	.463	.431	.516	.451	.464	.537	.518	.474	.489
.030	4.187	3.161	.614	3.504	2.646	.044	1279	.949	1348	.464	.431	.516	.452	.465	.537	.518	.475	.489
.029	3.998	3.019	.613	3.504	2.646	.043	1279	.949	1348	.464	.431	.517	.452	.465	.538	.519	.475	.490
.030	3.815	2.881	.614	3.503	2.645	.044	1279	.949	1348	.464	.431	.518	.452	.466	.539	.519	.476	.491
.029	3.660	2.763	.612	3.505	2.647	.042	1279	.949	1348	.465	.432	.519	.453	.466	.539	.520	.476	.491
.027	3.528	2.664	.611	3.503	2.645	.041	1279	.948	1348	.465	.432	.519	.453	.467	.540	.521	.476	.492
.026	3.354	2.532	.610	3.505	2.647	.040	1277	.947	1348	.464	.432	.520	.454	.467	.541	.522	.477	.492
.024	3.173	2.398	.608	3.504	2.648	.038	1275	.946	1348	.467	.432	.520	.454	.468	.542	.523	.477	.493
.024	2.974	2.246	.608	3.506	2.648	.038	1273	.945	1348	.467	.433	.522	.454	.468	.543	.523	.477	.493
.023	2.776	2.096	.607	3.508	2.649	.037	1269	.941	1349	.467	.433	.523	.453	.469	.543	.524	.478	.494
.022	2.579	1.947	.606	3.507	2.648	.036	1265	.938	1348	.468	.433	.523	.45[illegible]	.469	.545	.524	.479	.495

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
25	139	7.92	149.1	1348	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0163	1.324	.716	3873	4.422E-04	8.012E-08	6.646E 05	18.11	4.92	.80	22.633	24

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.021	2.409	1.812	.605	3.512	2.662	.035	1260	.935	1348	.468	.433	.524	.456	.470	.546	.525	.480	.495
.018	2.226	1.680	.602	3.511	2.649	.032	1253	.929	1348	.469	.433	.524	.456	.471	.546	.526	.480	.495
.019	2.063	1.554	.603	3.509	2.648	.033	1246	.924	1349	.469	.434	.525	.457	.471	.547	.527	.480	.496
.015	1.911	1.442	.600	3.515	2.652	.030	1236	.917	1348	.469	.434	.526	.457	.472	.547	.527	.481	.496
.016	1.773	1.339	.600	3.515	2.652	.030	1227	.910	1348	.470	.434	.527	.457	.472	.549	.528	.481	.497
.015	1.648	1.244	.599	3.518	2.655	.029	1215	.901	1349	.471	.434	.527	.458	.473	.549	.528	.482	.498
.013	1.537	1.160	.597	3.517	2.654	.027	1204	.894	1348	.471	.435	.528	.459	.473	.550	.530	.483	.498
.013	1.436	1.083	.597	3.522	2.658	.027	1191	.884	1349	.471	.435	.528	.459	.474	.551	.530	.483	.499
.012	1.343	1.014	.596	3.519	2.656	.026	1181	.876	1348	.472	.436	.530	.459	.475	.551	.531	.484	.499
.011	1.262	.953	.595	3.521	2.657	.025	1171	.869	1348	.472	.436	.531	.460	.475	.553	.531	.484	.500
.009	1.191	.898	.593	3.522	2.656	.023	1159	.860	1348	.473	.436	.531	.460	.475	.553	.532	.484	.500
.009	1.126	.849	.593	3.522	2.656	.023	1146	.850	1348	.473	.436	.532	.456	.476	.554	.533	.485	.500
.009	1.069	.806	.593	3.523	2.657	.023	1139	.845	1348	.473	.437	.533	.461	.477	.554	.534	.485	.501
.008	1.019	.769	.592	3.526	2.661	.022	1126	.836	1348	.474	.437	.533	.461	.477	.555	.534	.486	.502
.007	.976	.736	.591	3.526	2.659	.021	1117	.829	1348	.475	.437	.534	.462	.477	.557	.535	.487	.502
.007	.868	.655	.591	3.526	2.659	.021	1117	.828	1348	.476	.438	.537	.461	.480	.560	.538	.488	.504

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
26	139	7.92	150.5	1348	30.05	-8.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0165	1.337	.723	3873	4.464E-04	8.012E-08	6.615E 05	19.19	4.92	.85	22.633	18

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.684	3.891	2.938	1.268	1.063	.803	.697	1281	.950	1348	.386	.390	.399	.395	.394	.401	.401	.389	.395
.670	3.888	2.934	1.254	1.110	.838	.683	1281	.950	1348	.387	.391	.402	.396	.395	.401	.402	.390	.396
.639	3.893	2.943	1.223	1.282	.969	.652	1281	.950	1348	.387	.391	.402	.397	.395	.402	.402	.390	.397
.607	3.905	2.956	1.191	2.895	2.192	.620	1281	.950	1348	.388	.391	.403	.397	.396	.403	.403	.391	.398
.572	3.918	2.969	1.156	4.050	3.068	.585	1280	.950	1348	.389	.392	.404	.397	.396	.404	.404	.392	.398
.542	3.927	2.977	1.126	3.958	3.001	.555	1281	.950	1348	.389	.392	.405	.398	.397	.405	.405	.392	.399
.510	3.952	2.999	1.094	3.878	2.942	.523	1280	.950	1348	.390	.393	.406	.398	.397	.406	.406	.393	.399
.479	4.060	3.084	1.063	3.796	2.883	.492	1280	.949	1348	.391	.393	.407	.394	.398	.406	.407	.394	.400
.448	4.287	3.261	1.032	3.716	2.826	.461	1279	.949	1348	.391	.393	.407	.399	.398	.407	.407	.396	.401
.416	4.531	3.447	1.000	3.638	2.768	.429	1278	.948	1348	.392	.393	.409	.399	.399	.408	.409	.395	.401
.400	4.737	3.583	.984	3.601	2.742	.413	1277	.947	1348	.393	.394	.409	.400	.399	.409	.409	.397	.402
.390	4.803	3.664	.974	3.583	2.733	.403	1277	.947	1348	.393	.394	.410	.400	.399	.409	.410	.397	.403
.378	4.856	3.707	.962	3.572	2.727	.391	1276	.947	1348	.394	.394	.411	.401	.400	.410	.411	.398	.403
.372	4.880	3.725	.956	3.564	2.721	.385	1276	.947	1348	.394	.394	.411	.401	.401	.410	.412	.398	.405
.361	4.859	3.737	.945	3.561	2.722	.374	1276	.947	1348	.395	.394	.413	.401	.402	.411	.413	.399	.405
.351	4.896	3.747	.935	3.561	2.725	.364	1276	.946	1348	.395	.395	.413	.402	.402	.411	.414	.399	.406
.340	4.895	3.752	.924	3.575	2.740	.353	1276	.946	1348	.396	.395	.414	.402	.402	.412	.414	.401	.407
.328	4.896	3.755	.912	3.598	2.760	.341	1276	.946	1348	.397	.395	.414	.402	.402	.413	.415	.401	.407
.318	4.893	3.755	.902	3.617	2.776	.331	1275	.946	1348	.397	.396	.415	.403	.403	.414	.416	.402	.408
.308	4.891	3.759	.892	3.636	2.794	.321	1276	.946	1348	.398	.397	.416	.403	.403	.415	.417	.402	.409
.297	4.890	3.760	.881	3.651	2.808	.310	1275	.946	1348	.398	.397	.417	.403	.403	.416	.418	.403	.409
.287	4.888	3.762	.871	3.664	2.820	.300	1275	.946	1348	.399	.397	.417	.404	.404	.417	.419	.403	.410
.274	4.893	3.763	.858	3.670	2.828	.287	1275	.946	1348	.399	.397	.418	.405	.405	.418	.420	.405	.411
.264	4.879	3.765	.848	3.673	2.835	.277	1275	.946	1348	.400	.397	.419	.405	.405	.419	.421	.405	.411
.253	4.875	3.765	.837	3.677	2.840	.266	1275	.946	1348	.401	.398	.420	.402	.405	.420	.421	.406	.413
.246	4.870	3.761	.830	3.676	2.839	.259	1275	.946	1348	.401	.398	.421	.405	.406	.422	.422	.406	.413
.245	4.869	3.757	.829	3.680	2.840	.258	1275	.946	1348	.402	.398	.421	.406	.406	.423	.423	.407	.414
.242	4.870	3.756	.826	3.680	2.838	.255	1275	.946	1348	.403	.399	.422	.406	.406	.424	.424	.407	.414
.241	4.873	3.755	.824	3.682	2.837	.253	1275	.946	1348	.403	.399	.423	.406	.407	.425	.425	.408	.415
.238	4.874	3.753	.822	3.684	2.837	.251	1275	.946	1348	.404	.399	.424	.407	.407	.426	.425	.409	.416
.235	4.877	3.755	.819	3.685	2.838	.248	1275	.946	1348	.405	.400	.425	.407	.407	.428	.426	.409	.417

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PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI ONS2 SHUTTLE SURVEY TEST
PAGE = 2

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
26	139	7.92	146.3	1348	30.05	-8.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0160	1.299	.702	3873	4.339E-04	8.012E-08	6.615E 05	19.19	4.92	.85	22.633	18

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.236	4.878	3.754	.820	3.685	2.836	.249	1275	.946	1348	.405	.400	.425	.407	.408	.429	.428	.410	.417
.231	4.880	3.753	.815	3.687	2.835	.244	1275	.946	1348	.406	.401	.426	.407	.409	.430	.428	.410	.418
.229	4.882	3.757	.813	3.689	2.839	.242	1275	.946	1348	.406	.401	.427	.406	.409	.430	.429	.411	.418
.227	4.881	3.756	.811	3.685	2.836	.240	1275	.946	1348	.406	.401	.428	.406	.409	.432	.430	.411	.420
.224	4.882	3.757	.808	3.686	2.837	.237	1275	.946	1348	.407	.401	.429	.409	.410	.433	.430	.412	.420
.223	4.883	3.757	.807	3.686	2.837	.236	1275	.946	1348	.407	.401	.429	.409	.410	.433	.432	.413	.421
.221	4.883	3.755	.805	3.685	2.836	.234	1275	.946	1348	.408	.401	.430	.407	.410	.434	.432	.414	.421
.219	4.885	3.759	.803	3.687	2.838	.232	1275	.946	1348	.409	.402	.431	.410	.411	.435	.433	.414	.422
.218	4.883	3.758	.802	3.683	2.834	.231	1275	.946	1348	.409	.402	.432	.410	.411	.436	.434	.414	.423
.215	4.882	3.760	.799	3.683	2.837	.228	1275	.946	1348	.410	.402	.432	.410	.411	.437	.434	.415	.424
.214	4.882	3.760	.798	3.684	2.837	.227	1275	.946	1348	.410	.402	.433	.410	.412	.438	.436	.415	.424
.211	4.882	3.759	.795	3.682	2.835	.224	1275	.946	1348	.411	.402	.434	.411	.413	.439	.437	.417	.425
.209	4.881	3.759	.793	3.679	2.834	.222	1274	.945	1348	.411	.403	.434	.411	.413	.440	.437	.417	.425
.209	4.883	3.763	.793	3.684	2.839	.222	1275	.946	1348	.412	.403	.436	.411	.413	.440	.438	.417	.426
.206	4.884	3.761	.790	3.689	2.841	.219	1275	.946	1348	.413	.403	.436	.412	.414	.441	.439	.418	.427
.205	4.890	3.760	.789	3.693	2.840	.218	1275	.946	1348	.413	.403	.437	.412	.414	.442	.440	.419	.428
.203	4.898	3.762	.787	3.701	2.842	.216	1275	.946	1348	.414	.404	.438	.413	.414	.442	.441	.419	.428
.201	4.905	3.759	.785	3.705	2.839	.214	1275	.946	1348	.414	.405	.438	.413	.415	.444	.441	.420	.429
.201	4.913	3.763	.785	3.710	2.841	.214	1275	.946	1348	.414	.405	.439	.413	.415	.444	.442	.420	.430
.199	4.921	3.764	.783	3.717	2.843	.212	1275	.946	1348	.415	.405	.440	.414	.415	.445	.443	.421	.430
.197	4.929	3.762	.781	3.720	2.839	.210	1275	.946	1348	.415	.405	.440	.414	.416	.445	.444	.421	.431
.195	4.937	3.765	.779	3.725	2.841	.208	1275	.946	1348	.416	.406	.442	.414	.417	.446	.445	.422	.432
.195	4.946	3.768	.779	3.728	2.839	.208	1275	.946	1348	.417	.406	.442	.414	.417	.447	.446	.423	.432
.191	4.952	3.767	.775	3.732	2.839	.204	1275	.946	1348	.417	.406	.443	.415	.417	.448	.446	.423	.433
.187	4.958	3.772	.771	3.737	2.843	.200	1275	.946	1348	.418	.406	.444	.415	.418	.448	.447	.424	.434
.186	4.966	3.775	.770	3.738	2.841	.199	1275	.946	1348	.418	.406	.445	.415	.418	.449	.448	.425	.434
.184	4.971	3.777	.768	3.741	2.842	.197	1275	.946	1348	.419	.407	.446	.416	.418	.449	.449	.425	.435
.181	4.977	3.778	.765	3.746	2.844	.194	1275	.946	1348	.420	.407	.446	.416	.419	.450	.450	.426	.436
.182	4.982	3.779	.766	3.748	2.843	.195	1275	.946	1348	.420	.407	.447	.417	.420	.450	.450	.426	.436
.180	4.986	3.783	.764	3.749	2.842	.193	1275	.946	1348	.421	.407	.448	.417	.420	.452	.452	.427	.437
.180	4.992	3.784	.764	3.749	2.842	.193	1275	.946	1348	.421	.408	.449	.417	.420	.452	.452	.428	.438
.178	4.995	3.785	.762	3.752	2.842	.191	1274	.945	1348	.422	.408	.449	.418	.421	.453	.453	.428	.438
.175	5.000	3.788	.759	3.754	2.844	.189	1275	.946	1348	.422	.408	.450	.418	.421	.453	.454	.429	.439
.173	5.001	3.789	.757	3.752	2.842	.187	1275	.946	1348	.422	.409	.451	.418	.422	.454	.454	.429	.440
.171	5.009	3.795	.755	3.756	2.845	.184	1275	.946	1348	.423	.409	.452	.416	.422	.454	.455	.430	.440
.168	5.012	3.795	.752	3.754	2.842	.181	1275	.946	1348	.424	.409	.453	.419	.422	.455	.456	.430	.441
.164	5.019	3.797	.748	3.757	2.842	.177	1275	.946	1348	.424	.409	.453	.420	.422	.456	.457	.431	.442
.163	5.021	3.802	.747	3.757	2.844	.176	1275	.946	1348	.425	.410	.454	.420	.423	.457	.457	.432	.442
.163	5.027	3.806	.747	3.760	2.847	.176	1275	.946	1348	.425	.410	.454	.420	.424	.457	.459	.433	.443
.161	5.030	3.808	.745	3.759	2.846	.174	1275	.945	1348	.426	.410	.456	.420	.424	.457	.459	.433	.444
.158	5.036	3.811	.742	3.758	2.843	.171	1275	.946	1348	.426	.410	.456	.421	.425	.459	.460	.433	.444
.157	5.039	3.815	.741	3.758	2.845	.170	1275	.946	1348	.426	.411	.457	.421	.425	.459	.461	.434	.445

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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
26	139	7.92	148.7	1340	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0163	1.321	.714	3873	4.410E-04	8.012E-08	6.615E 05	19.19	4.92	.85	22.633	18

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.153	5.045	3.820	.737	3.759	2.846	.166	1274	.945	1348	.428	.411	.458	.421	.425	.460	.461	.434	.446
.152	5.049	3.823	.736	3.756	2.843	.165	1275	.946	1348	.428	.411	.459	.422	.426	.460	.462	.436	.446
.149	5.055	3.830	.733	3.757	2.846	.162	1274	.945	1348	.428	.411	.459	.422	.426	.461	.463	.436	.447
.147	5.062	3.835	.731	3.759	2.848	.160	1274	.945	1348	.429	.412	.460	.422	.426	.461	.464	.437	.448
.146	5.067	3.836	.730	3.757	2.845	.159	1274	.945	1348	.429	.412	.461	.423	.427	.462	.464	.437	.448
.143	5.073	3.843	.727	3.758	2.847	.156	1275	.946	1348	.430	.413	.461	.423	.428	.463	.465	.438	.449
.141	5.078	3.845	.725	3.757	2.845	.154	1274	.945	1348	.430	.413	.462	.424	.428	.464	.466	.438	.449
.140	5.082	3.851	.724	3.756	2.845	.153	1274	.945	1348	.431	.413	.463	.424	.429	.464	.467	.439	.450
.136	5.090	3.859	.720	3.758	2.849	.149	1274	.945	1348	.432	.413	.464	.424	.429	.465	.468	.439	.450
.135	5.096	3.864	.719	3.757	2.848	.146	1274	.945	1348	.432	.413	.464	.425	.429	.465	.468	.440	.452
.133	5.101	3.867	.717	3.757	2.848	.146	1274	.945	1348	.432	.414	.465	.425	.430	.466	.469	.440	.452
.132	5.107	3.872	.716	3.757	2.848	.145	1274	.945	1348	.433	.414	.466	.425	.430	.467	.469	.441	.453
.131	5.111	3.875	.715	3.755	2.847	.144	1274	.945	1348	.433	.414	.467	.426	.430	.467	.470	.441	.453
.129	5.115	3.878	.713	3.759	2.850	.142	1275	.945	1348	.434	.414	.467	.424	.431	.468	.471	.442	.454
.128	5.122	3.883	.712	3.757	2.848	.141	1275	.946	1348	.434	.414	.468	.424	.432	.468	.472	.443	.454
.126	5.128	3.885	.710	3.760	2.849	.139	1274	.945	1348	.435	.415	.469	.427	.432	.469	.472	.443	.455
.124	5.132	3.891	.708	3.763	2.853	.137	1274	.945	1348	.436	.415	.469	.425	.432	.470	.473	.444	.456
.122	5.137	3.895	.706	3.762	2.852	.135	1275	.946	1348	.436	.415	.470	.425	.433	.471	.474	.444	.456
.119	5.146	3.899	.703	3.764	2.851	.132	1274	.945	1348	.437	.415	.471	.428	.433	.471	.475	.445	.457
.119	5.157	3.907	.703	3.763	2.851	.132	1274	.945	1348	.437	.416	.471	.424	.434	.472	.476	.445	.457
.117	5.163	3.912	.701	3.765	2.853	.130	1274	.945	1348	.437	.416	.472	.429	.434	.472	.476	.446	.458
.114	5.172	3.918	.698	3.768	2.855	.127	1274	.945	1348	.438	.417	.473	.429	.434	.473	.477	.446	.459
.114	5.178	3.923	.698	3.765	2.853	.127	1274	.945	1348	.438	.417	.473	.429	.435	.474	.478	.447	.459
.111	5.186	3.932	.695	3.768	2.856	.124	1274	.945	1348	.439	.417	.475	.430	.436	.475	.479	.447	.460
.109	5.195	3.936	.693	3.770	2.856	.122	1274	.945	1348	.440	.417	.475	.430	.436	.475	.479	.448	.461
.108	5.203	3.945	.692	3.768	2.857	.121	1274	.945	1348	.440	.417	.476	.430	.436	.476	.480	.448	.461
.104	5.213	3.950	.688	3.770	2.856	.117	1274	.945	1348	.440	.418	.476	.431	.437	.477	.480	.449	.462
.103	5.224	3.958	.687	3.773	2.858	.116	1274	.945	1348	.441	.418	.477	.431	.437	.477	.481	.450	.463
.100	5.233	3.965	.684	3.772	2.858	.113	1274	.945	1348	.441	.418	.478	.432	.438	.479	.482	.450	.463
.099	5.241	3.971	.681	3.773	2.858	.110	1274	.945	1348	.442	.418	.479	.432	.438	.479	.483	.451	.463
.097	5.253	3.980	.681	3.774	2.859	.110	1274	.945	1348	.442	.418	.479	.432	.438	.480	.484	.452	.464
.094	5.258	3.984	.678	3.775	2.860	.107	1274	.945	1348	.443	.419	.480	.433	.439	.480	.484	.452	.464
.093	5.265	3.992	.677	3.773	2.861	.106	1274	.945	1348	.444	.420	.480	.433	.440	.481	.485	.452	.465
.092	5.274	3.998	.676	3.776	2.863	.105	1275	.946	1348	.444	.420	.481	.433	.440	.482	.485	.453	.465
.089	5.276	4.000	.673	3.773	2.861	.102	1274	.945	1348	.445	.420	.482	.434	.441	.483	.486	.453	.467
.088	5.283	4.005	.672	3.778	2.864	.101	1275	.945	1348	.445	.420	.483	.434	.441	.483	.487	.454	.467
.086	5.287	4.008	.670	3.778	2.864	.099	1275	.946	1348	.445	.420	.483	.434	.441	.484	.488	.454	.468
.085	5.295	4.017	.669	3.780	2.867	.098	1275	.946	1348	.446	.421	.484	.435	.442	.485	.488	.456	.468
.083	5.299	4.020	.667	3.776	2.865	.096	1275	.946	1348	.446	.421	.484	.431	.442	.486	.489	.456	.469
.079	5.305	4.027	.663	3.776	2.866	.092	1275	.946	1348	.447	.421	.485	.433	.443	.487	.489	.457	.469
.078	5.309	4.029	.662	3.777	2.865	.091	1275	.946	1348	.447	.421	.486	.436	.443	.487	.491	.457	.470
.076	5.314	4.032	.660	3.779	2.867	.089	1275	.946	1348	.448	.421	.486	.437	.444	.488	.491	.457	.470

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ARNOLD AIR FORCE STATION, TENNESSEE
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
26	139	7.92	144.3	1348	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0162	1.317	.712	3873	4.398E-04	8.012E-08	6.615E 05	19.19	4.92	.85	22.633	18

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.074	5.320	4.038	.658	3.782	2.871	.087	1275	.946	1348	.448	.422	.487	.437	.444	.489	.492	.458	.471
.072	5.323	4.039	.656	3.782	2.869	.085	1275	.946	1348	.449	.422	.488	.437	.445	.489	.492	.459	.471
.069	5.324	4.042	.653	3.781	2.871	.082	1275	.946	1348	.449	.422	.488	.438	.445	.490	.493	.459	.472
.069	5.329	4.045	.653	3.785	2.873	.082	1275	.946	1348	.450	.423	.489	.438	.446	.491	.494	.460	.472
.067	5.329	4.048	.651	3.781	2.872	.080	1276	.946	1348	.450	.423	.489	.438	.446	.492	.495	.460	.473
.065	5.329	4.049	.649	3.783	2.874	.078	1275	.946	1348	.450	.423	.491	.438	.446	.493	.495	.460	.474
.065	5.328	4.051	.649	3.786	2.878	.078	1276	.946	1348	.451	.424	.491	.439	.447	.494	.496	.461	.475
.062	5.327	4.047	.646	3.784	2.875	.075	1276	.946	1348	.452	.424	.492	.439	.448	.495	.496	.461	.475
.060	5.327	4.047	.644	3.786	2.876	.073	1276	.946	1348	.452	.424	.492	.440	.448	.496	.497	.463	.475
.058	5.321	4.045	.642	3.786	2.878	.071	1276	.947	1348	.453	.424	.493	.440	.449	.496	.498	.463	.476
.055	5.311	4.037	.639	3.787	2.879	.068	1276	.947	1348	.453	.424	.494	.441	.449	.498	.499	.464	.477
.054	5.294	4.024	.638	3.790	2.881	.067	1277	.947	1348	.453	.425	.494	.441	.449	.499	.499	.463	.477
.050	5.259	3.998	.634	3.786	2.878	.063	1277	.947	1348	.454	.425	.495	.441	.450	.501	.500	.464	.478
.049	5.212	3.962	.633	3.788	2.879	.062	1277	.948	1348	.454	.426	.495	.441	.450	.502	.500	.464	.479
.047	5.145	3.911	.631	3.791	2.882	.060	1278	.948	1348	.455	.426	.496	.442	.451	.504	.501	.465	.479
.045	5.079	3.861	.629	3.790	2.881	.058	1278	.948	1348	.456	.426	.497	.442	.451	.505	.502	.465	.479
.046	5.012	3.813	.630	3.788	2.882	.059	1278	.948	1348	.456	.426	.498	.442	.452	.506	.503	.467	.480
.044	4.932	3.752	.628	3.789	2.882	.057	1278	.948	1348	.456	.426	.498	.443	.452	.507	.503	.467	.480
.044	4.851	3.690	.628	3.790	2.883	.057	1279	.949	1348	.457	.426	.499	.444	.453	.508	.504	.467	.481
.043	4.787	3.642	.627	3.788	2.881	.056	1279	.948	1348	.457	.426	.499	.444	.453	.509	.504	.468	.481
.040	4.693	3.570	.624	3.789	2.882	.053	1279	.949	1348	.458	.427	.500	.444	.454	.511	.506	.468	.482
.040	4.564	3.474	.624	3.791	2.886	.053	1279	.949	1348	.459	.427	.501	.445	.454	.511	.506	.469	.483
.039	4.402	3.351	.622	3.788	2.883	.051	1279	.949	1348	.459	.428	.502	.445	.454	.512	.507	.469	.483
.038	4.231	3.221	.621	3.788	2.884	.050	1279	.949	1348	.459	.428	.502	.445	.455	.513	.507	.470	.484
.036	4.069	3.089	.620	3.791	2.884	.049	1279	.948	1348	.460	.428	.503	.446	.456	.514	.508	.470	.484
.034	3.896	2.966	.618	3.795	2.889	.047	1278	.948	1348	.460	.428	.503	.444	.456	.515	.509	.471	.485
.034	3.734	2.840	.618	3.793	2.885	.047	1277	.947	1348	.461	.429	.504	.446	.457	.515	.510	.471	.485
.032	3.568	2.714	.616	3.794	2.886	.045	1276	.947	1348	.461	.429	.505	.447	.457	.516	.510	.472	.486
.031	3.390	2.577	.615	3.800	2.888	.044	1274	.945	1348	.461	.429	.506	.447	.456	.518	.511	.472	.487
.031	3.209	2.438	.615	3.799	2.886	.044	1272	.943	1348	.462	.430	.507	.448	.458	.519	.511	.472	.487
.029	3.042	2.312	.613	3.799	2.888	.042	1270	.942	1348	.463	.430	.507	.448	.459	.519	.512	.473	.488
.029	2.887	2.194	.613	3.803	2.891	.042	1266	.939	1348	.463	.430	.508	.448	.459	.521	.513	.474	.488
.027	2.736	2.078	.611	3.804	2.890	.040	1264	.937	1348	.463	.430	.509	.449	.460	.522	.514	.475	.488
.024	2.575	1.955	.610	3.802	2.886	.039	1258	.933	1348	.464	.431	.510	.449	.460	.523	.514	.475	.489
.026	2.421	1.838	.610	3.802	2.886	.039	1253	.930	1348	.464	.431	.510	.450	.461	.524	.515	.475	.489
.023	2.269	1.722	.607	3.807	2.890	.036	1246	.924	1348	.465	.431	.511	.450	.461	.526	.516	.476	.490
.023	2.121	1.609	.607	3.808	2.889	.036	1238	.918	1348	.465	.432	.511	.450	.461	.526	.516	.476	.491
.022	1.993	1.514	.606	3.809	2.889	.035	1231	.913	1348	.465	.432	.512	.451	.463	.527	.517	.477	.491
.020	1.856	1.408	.604	3.807	2.888	.033	1221	.906	1348	.466	.432	.513	.447	.463	.529	.518	.477	.492
.021	1.735	1.317	.605	3.810	2.892	.034	1211	.898	1348	.467	.432	.514	.452	.463	.530	.518	.478	.492
.019	1.625	1.233	.603	3.809	2.889	.032	1202	.892	1348	.467	.432	.515	.452	.464	.531	.519	.478	.493
.018	1.526	1.158	.602	3.810	2.891	.031	1191	.884	1348	.468	.432	.515	.453	.464	.532	.519	.479	.494

DATE 5-6-74
PROJECT NUMBER VA524-218A
AHO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OF52 SHUTTLE SURVEY TEST
PAGE = 5

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
26	139	7.92	148.4	1348	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.5	.0162	1.318	.713	3873	4.401E-04	8.012E-08	6.615E 05	19.19	4.92	.85	22.633	18

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.017	1.434	1.088	.601	3.811	2.891	.030	1178	.874	1348	.468	.433	.516	.453	.464	.533	.520	.480	.494
.015	1.347	1.022	.599	3.813	2.893	.028	1163	.863	1348	.468	.433	.516	.453	.465	.534	.521	.480	.495
.016	1.267	.960	.600	3.812	2.890	.029	1149	.852	1348	.469	.433	.517	.454	.465	.535	.522	.481	.495
.014	1.194	.905	.598	3.813	2.891	.027	1137	.844	1348	.469	.434	.518	.454	.466	.536	.522	.481	.495
.013	1.129	.856	.597	3.812	2.892	.026	1126	.835	1348	.470	.434	.518	.454	.467	.537	.523	.481	.496
.013	1.070	.812	.597	3.813	2.893	.026	1113	.825	1348	.470	.434	.519	.455	.467	.538	.524	.481	.496
.010	1.016	.770	.594	3.812	2.890	.023	1099	.815	1348	.471	.434	.520	.453	.468	.539	.524	.483	.497
.010	.968	.734	.594	3.816	2.895	.023	1086	.806	1348	.471	.435	.520	.456	.468	.541	.525	.483	.498
.009	.926	.702	.593	3.811	2.891	.022	1075	.797	1348	.472	.435	.521	.456	.468	.543	.526	.483	.498
.008	.889	.674	.592	3.809	2.890	.021	1062	.788	1348	.472	.436	.522	.456	.469	.545	.526	.484	.499
.008	.858	.650	.592	3.814	2.892	.021	1055	.783	1348	.472	.436	.523	.457	.469	.546	.527	.484	.499
.007	.789	.598	.591	3.812	2.892	.020	1048	.777	1348	.474	.437	.525	.459	.471	.551	.529	.486	.501

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI 0-52 SHUTTLE SURVEY TEST
PAGE = 1

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
27	139	7.92	150.0	1346	30.09	-8.09	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0164	1.332	.720	3870	4.455E-04	8.000E-08	6.692E 05	21.01	4.92	.93	22.633	25

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.702	4.048	3.020	1.286	4.008	2.991	.713	1276	.948	1346	.397	.393	.401	.397	.395	.401	.401	.390	.397
.690	4.061	3.030	1.264	3.970	2.962	.691	1276	.948	1346	.398	.393	.402	.397	.396	.402	.402	.391	.397
.647	4.113	3.066	1.231	3.931	2.931	.658	1275	.947	1346	.399	.393	.403	.398	.397	.403	.403	.391	.398
.615	4.207	3.136	1.199	3.897	2.906	.626	1274	.947	1346	.399	.393	.403	.398	.397	.404	.404	.392	.399
.581	4.324	3.226	1.165	3.845	2.944	.592	1273	.946	1345	.398	.393	.405	.394	.398	.405	.405	.393	.399
.550	4.420	3.295	1.134	4.052	3.021	.561	1272	.945	1346	.398	.394	.406	.399	.398	.406	.406	.393	.401
.525	4.467	3.333	1.109	4.117	3.072	.536	1272	.945	1346	.399	.394	.407	.399	.398	.406	.406	.394	.401
.513	4.488	3.349	1.097	4.129	3.081	.524	1271	.944	1346	.399	.394	.407	.400	.399	.407	.407	.395	.402
.504	4.492	3.354	1.088	4.133	3.085	.515	1270	.944	1346	.399	.394	.408	.401	.399	.408	.408	.396	.402
.493	4.493	3.357	1.077	4.141	3.094	.504	1271	.944	1346	.399	.395	.409	.401	.400	.409	.409	.397	.403
.483	4.494	3.352	1.067	4.142	3.095	.494	1270	.944	1346	.399	.395	.410	.401	.401	.409	.410	.397	.404
.473	4.492	3.348	1.057	4.147	3.098	.484	1270	.944	1346	.399	.396	.411	.402	.401	.410	.411	.398	.405
.461	4.471	3.345	1.045	4.146	3.102	.472	1270	.944	1346	.399	.396	.412	.402	.402	.411	.412	.398	.405
.452	4.459	3.335	1.036	4.149	3.102	.463	1269	.943	1346	.399	.396	.412	.403	.402	.412	.413	.400	.406
.441	4.442	3.323	1.025	4.145	3.101	.452	1269	.943	1346	.399	.397	.413	.403	.402	.412	.413	.401	.406
.430	4.418	3.309	1.014	4.134	3.097	.441	1269	.943	1346	.399	.397	.414	.403	.403	.413	.414	.402	.407
.421	4.395	3.294	1.005	4.129	3.095	.432	1269	.943	1346	.399	.397	.415	.404	.403	.414	.416	.402	.408
.409	4.376	3.280	.993	4.124	3.092	.420	1269	.943	1346	.398	.397	.416	.404	.403	.414	.416	.402	.409
.399	4.359	3.270	.983	4.119	3.089	.410	1269	.943	1346	.398	.398	.416	.405	.405	.415	.417	.403	.410
.390	4.345	3.261	.974	4.116	3.090	.401	1269	.943	1346	.399	.398	.417	.405	.405	.416	.418	.404	.410
.381	4.330	3.252	.965	4.106	3.084	.392	1268	.942	1346	.399	.398	.418	.405	.405	.416	.419	.404	.411
.371	4.315	3.243	.955	4.097	3.079	.382	1269	.943	1346	.400	.399	.418	.403	.406	.417	.420	.405	.412
.360	4.298	3.233	.944	4.087	3.074	.371	1268	.942	1346	.401	.399	.419	.406	.406	.417	.420	.406	.412
.350	4.277	3.219	.934	4.071	3.064	.361	1268	.942	1346	.402	.399	.420	.406	.406	.418	.421	.406	.413
.339	4.256	3.204	.923	4.061	3.058	.350	1267	.942	1346	.402	.399	.421	.406	.407	.419	.422	.406	.414
.327	4.232	3.189	.911	4.046	3.049	.338	1267	.941	1346	.403	.400	.422	.407	.407	.420	.423	.407	.414
.318	4.208	3.172	.902	4.035	3.043	.329	1267	.941	1346	.403	.401	.422	.407	.407	.420	.424	.408	.415
.306	4.184	3.157	.890	4.011	3.027	.317	1267	.941	1346	.404	.401	.424	.407	.408	.421	.425	.408	.416
.296	4.161	3.142	.880	3.991	3.014	.307	1266	.941	1346	.405	.401	.424	.408	.408	.421	.425	.409	.417
.286	4.142	3.130	.870	3.979	3.004	.297	1266	.941	1346	.405	.401	.425	.408	.409	.422	.426	.410	.417
.273	4.124	3.116	.857	3.963	2.994	.284	1266	.940	1346	.406	.401	.426	.409	.409	.422	.427	.410	.418
.264	4.112	3.105	.848	3.950	2.983	.275	1266	.941	1346	.406	.402	.426	.409	.409	.423	.428	.411	.418

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PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OF52 SHUTTLE SURVEY TEST
PAGE = 2

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
27	139	7.92	149.1	1346	30.09	-8.09	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0163	1.324	.716	3870	4.429E-04	8.000E-06	6.692E 05	21.01	4.92	.93	22.633	25

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.253	4.098	3.094	.837	3.937	2.973	.264	1266	.940	1346	.407	.402	.428	.409	.410	.424	.429	.412	.419
.242	4.047	3.054	.826	3.929	2.965	.253	1265	.940	1346	.407	.402	.428	.410	.410	.424	.429	.412	.420
.232	4.021	3.035	.816	3.922	2.955	.243	1264	.940	1344	.408	.402	.429	.407	.410	.425	.430	.413	.421
.220	4.071	3.068	.834	3.913	2.949	.231	1265	.940	1346	.409	.402	.430	.410	.411	.425	.432	.413	.421
.210	4.067	3.063	.794	3.907	2.942	.221	1265	.940	1346	.409	.403	.430	.410	.412	.426	.432	.414	.422
.199	4.057	3.053	.782	3.901	2.936	.209	1265	.940	1346	.410	.403	.431	.411	.412	.426	.433	.415	.423
.192	4.048	3.045	.776	3.901	2.934	.203	1265	.940	1346	.410	.403	.432	.411	.412	.427	.434	.415	.424
.191	4.044	3.041	.775	3.901	2.934	.202	1265	.940	1346	.410	.403	.433	.412	.413	.428	.435	.416	.425
.187	4.038	3.035	.771	3.902	2.933	.198	1265	.940	1346	.411	.404	.433	.412	.413	.428	.436	.416	.425
.186	4.035	3.030	.770	3.900	2.929	.197	1265	.940	1346	.412	.404	.434	.412	.413	.429	.436	.417	.426
.183	4.033	3.029	.767	3.903	2.931	.194	1265	.940	1344	.412	.404	.435	.413	.414	.429	.437	.418	.426
.181	4.028	3.025	.755	3.902	2.930	.192	1265	.940	1346	.413	.405	.436	.413	.414	.430	.439	.418	.427
.180	4.026	3.024	.764	3.903	2.931	.191	1265	.940	1344	.413	.405	.436	.413	.414	.430	.439	.419	.428
.177	4.020	3.019	.761	3.901	2.930	.188	1265	.940	1346	.414	.405	.437	.413	.415	.431	.440	.420	.428
.175	4.017	3.017	.759	3.901	2.930	.186	1265	.940	1346	.414	.406	.437	.414	.416	.432	.441	.420	.429
.173	4.013	3.012	.757	3.899	2.927	.184	1265	.940	1346	.415	.406	.439	.414	.416	.433	.441	.420	.430
.170	4.008	3.010	.754	3.898	2.927	.181	1265	.940	1344	.416	.406	.439	.414	.416	.433	.442	.421	.430
.170	4.004	3.007	.754	3.899	2.928	.181	1265	.940	1346	.416	.407	.440	.415	.416	.434	.443	.421	.432
.166	4.001	3.007	.750	3.901	2.932	.177	1265	.940	1346	.417	.407	.441	.415	.417	.434	.444	.422	.432
.165	3.998	3.002	.749	3.899	2.931	.176	1265	.940	1346	.417	.407	.442	.416	.417	.435	.445	.423	.433
.162	3.995	2.998	.746	3.901	2.932	.173	1265	.940	1346	.418	.407	.443	.416	.418	.436	.445	.424	.433
.159	3.994	2.994	.743	3.901	2.932	.170	1265	.940	1346	.418	.407	.443	.416	.418	.436	.447	.424	.434
.158	3.990	2.988	.742	3.898	2.929	.169	1265	.940	1346	.418	.407	.444	.417	.418	.437	.447	.425	.435
.155	3.992	2.987	.739	3.901	2.934	.166	1265	.940	1346	.419	.407	.445	.417	.419	.437	.448	.426	.435
.153	3.985	2.982	.737	3.899	2.932	.164	1265	.940	1346	.420	.408	.445	.417	.419	.438	.449	.426	.436
.152	3.988	2.984	.736	3.897	2.933	.163	1265	.940	1346	.420	.409	.447	.417	.420	.439	.449	.426	.436
.148	3.984	2.975	.732	3.898	2.934	.159	1265	.940	1346	.421	.409	.447	.418	.420	.440	.451	.427	.437
.149	3.980	2.974	.733	3.899	2.936	.160	1265	.940	1346	.421	.409	.448	.418	.420	.440	.451	.428	.438
.146	3.983	2.979	.730	3.899	2.936	.157	1265	.940	1346	.422	.409	.449	.418	.421	.441	.452	.428	.439
.145	3.980	2.967	.729	3.900	2.937	.156	1265	.940	1346	.422	.410	.449	.419	.421	.441	.453	.428	.439
.145	3.933	2.986	.729	3.897	2.937	.156	1265	.940	1344	.423	.410	.450	.417	.422	.442	.453	.429	.440
.141	3.927	2.941	.725	3.896	2.939	.152	1265	.940	1346	.424	.410	.451	.420	.422	.443	.455	.430	.441
.141	3.922	2.957	.725	3.902	2.942	.152	1265	.940	1346	.424	.410	.451	.420	.422	.443	.455	.430	.441
.139	3.914	2.953	.723	3.899	2.942	.150	1265	.940	1346	.425	.410	.452	.420	.422	.444	.456	.430	.442
.137	3.909	2.949	.721	3.901	2.943	.148	1265	.940	1344	.425	.411	.453	.420	.423	.444	.457	.432	.443
.136	3.900	2.945	.720	3.901	2.945	.147	1265	.940	1346	.425	.411	.453	.421	.424	.445	.457	.432	.443
.133	3.893	2.939	.717	3.902	2.946	.144	1265	.940	1346	.426	.412	.455	.42.	.424	.445	.458	.433	.444
.133	3.887	2.937	.717	3.904	2.950	.144	1265	.940	1346	.426	.412	.455	.421	.424	.446	.459	.434	.444
.130	3.877	2.932	.714	3.903	2.951	.141	1265	.940	1346	.427	.412	.456	.422	.425	.447	.460	.434	.445
.128	3.870	2.926	.712	3.902	2.950	.139	1265	.940	1346	.428	.412	.457	.422	.425	.447	.460	.435	.446
.128	3.861	2.919	.712	3.904	2.952	.139	1265	.940	1346	.428	.412	.457	.420	.426	.448	.461	.436	.447
.125	3.855	2.917	.709	3.907	2.956	.136	1265	.940	1346	.429	.413	.458	.422	.426	.448	.462	.436	.447

DATE 5-6-76
PROJECT NUMBER VA524-21BA
AND, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OF52 SHUTTLE SURVEY TEST
PAGE = 3

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
27	139	7.92	148.8	1346	30.09	-8.09	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0163	1.322	.714	3870	4.420E-04	8.000E-08	6.692E 05	21.01	4.92	.93	22.633	25

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.125	3.946	2.909	.709	3.906	2.865	.136	1265	.940	1346	.429	.413	.459	.423	.426	.449	.463	.437	.448
.123	3.938	2.904	.707	3.910	2.861	.134	1265	.940	1346	.429	.413	.460	.424	.427	.449	.463	.437	.449
.122	3.931	2.900	.706	3.906	2.859	.133	1265	.940	1346	.430	.413	.460	.424	.428	.450	.464	.437	.449
.121	3.925	2.895	.705	3.914	2.866	.132	1265	.940	1346	.430	.413	.461	.424	.428	.451	.465	.439	.449
.118	3.917	2.890	.702	3.917	2.866	.129	1266	.940	1346	.431	.414	.461	.425	.428	.451	.466	.439	.450
.118	3.913	2.887	.702	3.922	2.870	.129	1265	.940	1346	.432	.414	.462	.425	.429	.452	.466	.439	.451
.117	3.909	2.884	.701	3.923	2.872	.128	1266	.940	1346	.432	.414	.463	.425	.429	.452	.467	.440	.452
.115	3.905	2.879	.699	3.931	2.874	.126	1265	.940	1346	.433	.414	.464	.426	.429	.453	.468	.441	.452
.114	3.900	2.873	.698	3.936	2.876	.125	1265	.940	1346	.433	.415	.464	.426	.430	.453	.468	.441	.453
.112	3.892	2.865	.696	3.938	2.875	.123	1266	.940	1346	.434	.416	.465	.426	.430	.455	.469	.441	.453
.111	3.888	2.862	.695	3.948	2.883	.122	1266	.940	1346	.434	.416	.466	.426	.430	.455	.470	.443	.454
.110	3.882	2.856	.694	3.954	2.885	.121	1266	.940	1346	.434	.416	.467	.425	.431	.456	.471	.443	.455
.108	3.876	2.851	.692	3.955	2.886	.119	1266	.940	1346	.435	.416	.467	.425	.432	.456	.471	.444	.456
.107	3.874	2.846	.691	3.963	2.889	.118	1266	.940	1346	.436	.417	.468	.428	.432	.457	.472	.444	.456
.106	3.867	2.839	.690	3.968	2.890	.117	1266	.940	1346	.436	.417	.468	.421	.433	.457	.473	.444	.456
.104	3.864	2.834	.688	3.976	2.894	.115	1266	.940	1346	.437	.417	.470	.421	.433	.458	.474	.445	.457
.102	3.858	2.828	.686	3.982	2.895	.113	1266	.940	1346	.437	.417	.470	.429	.433	.459	.474	.445	.458
.101	3.850	2.822	.685	3.986	3.000	.112	1266	.940	1346	.438	.418	.471	.429	.434	.459	.475	.446	.458
.101	3.844	2.814	.685	3.994	3.002	.112	1266	.941	1346	.439	.418	.471	.429	.434	.460	.475	.447	.459
.097	3.834	2.806	.681	4.002	3.008	.108	1266	.940	1346	.439	.418	.472	.430	.434	.460	.476	.448	.460
.098	3.826	2.799	.682	4.008	3.010	.109	1266	.940	1346	.439	.418	.473	.430	.435	.461	.477	.448	.460
.095	3.818	2.789	.679	4.012	3.014	.106	1266	.941	1346	.440	.418	.474	.430	.436	.461	.478	.448	.461
.093	3.801	2.779	.677	4.020	3.017	.104	1266	.941	1346	.440	.418	.474	.431	.436	.462	.479	.449	.461
.093	3.792	2.771	.677	4.026	3.022	.104	1266	.941	1346	.441	.418	.475	.432	.436	.463	.479	.449	.462
.099	3.678	2.769	.674	4.031	3.023	.101	1266	.941	1346	.441	.418	.475	.432	.437	.463	.480	.450	.463
.099	3.670	2.753	.673	4.040	3.030	.100	1266	.940	1346	.442	.419	.476	.432	.437	.464	.481	.450	.463
.098	3.657	2.741	.672	4.048	3.034	.099	1266	.941	1346	.443	.419	.476	.432	.438	.465	.481	.451	.464
.095	3.646	2.733	.669	4.053	3.040	.096	1266	.940	1346	.443	.420	.478	.430	.438	.466	.482	.451	.464
.095	3.632	2.724	.669	4.058	3.044	.096	1266	.941	1346	.443	.421	.478	.430	.439	.466	.483	.452	.465
.092	3.617	2.713	.666	4.062	3.047	.093	1266	.941	1346	.444	.421	.479	.433	.439	.467	.483	.453	.466
.092	3.605	2.707	.666	4.066	3.048	.093	1266	.940	1346	.444	.421	.479	.434	.440	.467	.484	.453	.466
.091	3.593	2.693	.665	4.070	3.051	.092	1266	.941	1346	.445	.421	.480	.434	.440	.468	.484	.453	.467
.089	3.578	2.680	.663	4.073	3.051	.090	1266	.941	1346	.445	.421	.481	.434	.440	.468	.486	.455	.467
.089	3.57	2.672	.662	4.084	3.061	.089	1266	.941	1346	.446	.421	.482	.435	.441	.469	.486	.455	.468
.087	3.548	2.658	.661	4.087	3.063	.088	1266	.941	1346	.447	.421	.482	.435	.442	.470	.487	.456	.468
.086	3.529	2.645	.660	4.094	3.069	.087	1266	.941	1346	.447	.421	.483	.436	.442	.470	.488	.456	.469
.085	3.511	2.631	.659	4.099	3.072	.086	1267	.941	1346	.447	.421	.483	.432	.442	.471	.488	.457	.470
.082	3.497	2.614	.656	4.104	3.076	.083	1266	.941	1346	.448	.422	.484	.436	.443	.471	.489	.457	.470
.082	3.488	2.600	.656	4.109	3.080	.083	1266	.941	1346	.448	.422	.484	.437	.443	.472	.490	.458	.471
.080	3.465	2.585	.654	4.115	3.085	.081	1266	.941	1346	.449	.423	.486	.437	.444	.472	.490	.458	.471
.080	3.428	2.571	.654	4.114	3.084	.081	1266	.941	1346	.449	.424	.486	.437	.444	.473	.491	.459	.472
.080	3.410	2.556	.654	4.121	3.089	.081	1267	.941	1346	.450	.424	.487	.438	.444	.474	.491	.459	.472

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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
27	139	7.92	150.1	1346	30.10	-8.10	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	U-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	IAP
99.4	.0104	1.333	.721	3870	4.458E-04	8.000E-08	6.492E 05	21.01	4.92	.93	22.633	25

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	Tw2/To (DEG R)	Tw3/To (DEG R)	Tw4/To (DEG R)	Tw5/To (DEG R)	Tw6/To (DEG R)	Tw7/To (DEG R)	Tw8/To (DEG R)	Tw9/To (DEG R)	Tw10/To (DEG R)
.068	3.385	2.542	.652	4.125	3.094	.079	1266	.941	1346	.450	.425	.487	.438	.445	.474	.493	.460	.473
.068	3.366	2.523	.652	4.127	3.094	.079	1266	.941	1346	.451	.424	.488	.439	.445	.475	.493	.460	.474
.066	3.347	2.509	.650	4.137	3.101	.077	1266	.941	1346	.451	.424	.488	.439	.446	.475	.494	.461	.474
.065	3.322	2.490	.649	4.137	3.101	.076	1266	.941	1346	.452	.425	.489	.439	.446	.476	.494	.461	.475
.065	3.302	2.475	.649	4.143	3.105	.076	1267	.941	1346	.452	.425	.490	.440	.447	.476	.495	.462	.475
.063	3.288	2.459	.647	4.140	3.104	.074	1267	.941	1346	.452	.425	.490	.440	.447	.477	.495	.462	.476
.063	3.256	2.442	.647	4.142	3.105	.074	1266	.941	1346	.453	.425	.491	.440	.448	.478	.496	.463	.476
.062	3.240	2.430	.646	4.152	3.115	.073	1267	.941	1346	.453	.425	.492	.441	.448	.479	.497	.464	.477
.061	3.219	2.413	.645	4.153	3.113	.072	1267	.941	1346	.454	.426	.493	.441	.448	.479	.498	.464	.478
.061	3.198	2.394	.645	4.156	3.117	.072	1266	.941	1346	.455	.426	.493	.441	.449	.480	.498	.464	.478
.059	3.178	2.379	.643	4.161	3.119	.070	1266	.941	1346	.455	.426	.494	.442	.449	.480	.499	.465	.479
.059	3.148	2.359	.643	4.163	3.121	.070	1266	.941	1346	.456	.426	.494	.442	.449	.481	.499	.466	.480
.057	3.116	2.337	.641	4.167	3.125	.068	1266	.941	1346	.456	.427	.495	.443	.451	.481	.500	.466	.480
.056	3.091	2.311	.640	4.169	3.127	.067	1266	.940	1346	.456	.427	.495	.443	.451	.482	.501	.467	.480
.056	3.050	2.288	.640	4.177	3.133	.067	1266	.940	1346	.457	.427	.496	.443	.451	.482	.502	.467	.481
.054	3.018	2.259	.638	4.182	3.137	.065	1265	.940	1346	.457	.427	.497	.444	.452	.483	.502	.467	.482
.054	2.969	2.227	.638	4.180	3.136	.065	1265	.940	1346	.458	.428	.497	.444	.452	.483	.503	.468	.482
.053	2.931	2.200	.637	4.188	3.144	.064	1265	.939	1346	.458	.428	.498	.444	.453	.484	.503	.468	.483
.052	2.896	2.168	.636	4.190	3.143	.063	1264	.939	1346	.459	.428	.498	.445	.453	.484	.504	.469	.483
.051	2.852	2.140	.635	4.193	3.147	.062	1264	.939	1346	.459	.429	.499	.445	.453	.485	.505	.470	.484
.050	2.815	2.111	.634	4.199	3.150	.061	1263	.938	1346	.460	.429	.499	.445	.454	.486	.505	.470	.484
.050	2.775	2.081	.634	4.202	3.152	.061	1262	.938	1346	.460	.429	.501	.446	.454	.487	.506	.471	.485
.049	2.734	2.052	.633	4.207	3.158	.060	1261	.937	1346	.460	.429	.501	.446	.455	.487	.507	.471	.486
.047	2.695	2.019	.631	4.208	3.158	.058	1260	.936	1346	.461	.429	.502	.446	.455	.488	.507	.472	.486
.047	2.660	1.991	.631	4.212	3.161	.058	1259	.935	1346	.461	.430	.502	.446	.456	.488	.508	.472	.487
.044	2.625	1.963	.626	4.213	3.162	.055	1258	.934	1346	.462	.430	.503	.447	.456	.489	.509	.472	.487
.044	2.585	1.904	.628	4.225	3.174	.055	1255	.933	1346	.463	.430	.503	.448	.456	.490	.509	.473	.488
.043	2.4	1.859	.627	4.229	3.176	.054	1253	.931	1346	.463	.432	.504	.448	.457	.490	.510	.473	.488
.041	2.410	1.810	.625	4.229	3.177	.052	1251	.929	1346	.464	.432	.505	.448	.457	.491	.511	.474	.488
.041	2.348	1.762	.625	4.235	3.179	.052	1249	.927	1346	.464	.432	.506	.449	.458	.491	.511	.475	.489
.039	2.291	1.719	.623	4.244	3.188	.050	1245	.925	1346	.464	.432	.506	.449	.459	.492	.512	.475	.490
.038	2.213	1.662	.622	4.246	3.189	.049	1242	.922	1346	.465	.432	.507	.449	.459	.493	.513	.476	.490
.037	2.162	1.609	.621	4.249	3.192	.048	1237	.919	1346	.466	.432	.507	.450	.460	.493	.513	.476	.491
.036	2.069	1.553	.620	4.255	3.196	.047	1233	.916	1346	.466	.433	.508	.450	.460	.494	.514	.476	.491
.036	1.997	1.500	.620	4.262	3.201	.047	1228	.912	1346	.466	.433	.509	.451	.460	.494	.514	.477	.492
.036	1.925	1.446	.618	4.263	3.202	.045	1224	.910	1346	.467	.433	.510	.451	.461	.495	.515	.478	.493
.034	1.854	1.395	.618	4.264	3.205	.045	1219	.906	1346	.467	.433	.510	.449	.461	.495	.516	.478	.493
.033	1.799	1.346	.617	4.270	3.207	.044	1215	.903	1346	.467	.433	.511	.452	.462	.496	.517	.479	.494
.031	1.726	1.293	.615	4.272	3.211	.042	1210	.899	1344	.468	.434	.511	.452	.462	.497	.517	.479	.494
.031	1.667	1.253	.615	4.276	3.214	.042	1204	.894	1346	.468	.434	.512	.452	.463	.497	.518	.480	.494
.029	1.607	1.207	.613	4.282	3.218	.040	1198	.890	1345	.469	.434	13	.453	.463	.498	.518	.480	.495
.030	1.546	1.162	.614	4.283	3.219	.041	1193	.886	1346	.470	.434	.513	.453	.464	.498	.519	.481	.495

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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
27	139	7.92	149.8	1346	30.09	-8.09	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0164	1.331	.719	3870	4.449E-04	8.000F-08	6.692E 05	21.01	4.92	.93	22.633	25

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.028	1.456	1.094	.612	4.294	3.220	.039	1187	.882	1346	.470	.436	.514	.453	.464	.499	.520	.482	.496
.027	1.436	1.078	.611	4.290	3.226	.038	1179	.876	1346	.471	.434	.514	.454	.464	.499	.520	.482	.497
.027	1.378	1.035	.611	4.292	3.226	.038	1173	.871	1346	.471	.435	.515	.455	.465	.500	.521	.482	.497
.025	1.323	.994	.609	4.296	3.229	.036	1166	.866	1346	.471	.435	.515	.455	.466	.501	.521	.483	.498
.026	1.267	.953	.610	4.296	3.231	.037	1159	.861	1346	.472	.436	.516	.455	.466	.501	.522	.483	.498
.024	1.215	.913	.608	4.300	3.234	.035	1151	.855	1346	.472	.436	.517	.456	.467	.502	.523	.484	.499
.022	1.162	.874	.606	4.303	3.237	.033	1142	.849	1346	.472	.436	.517	.456	.467	.502	.524	.484	.499
.023	1.111	.836	.607	4.306	3.238	.034	1135	.843	1346	.473	.436	.518	.456	.467	.502	.524	.484	.499
.021	1.061	.798	.605	4.307	3.239	.032	1129	.839	1346	.474	.437	.518	.457	.468	.503	.525	.486	.500
.020	1.014	.764	.604	4.313	3.244	.031	1118	.831	1346	.474	.437	.519	.457	.468	.503	.525	.486	.501
.019	.972	.731	.603	4.314	3.244	.030	1109	.824	1346	.474	.437	.520	.457	.469	.504	.526	.486	.501
.018	.928	.698	.602	4.315	3.246	.029	1101	.818	1346	.475	.438	.520	.458	.469	.505	.526	.487	.502
.018	.887	.667	.602	4.320	3.249	.029	1093	.812	1346	.475	.438	.521	.458	.470	.505	.527	.487	.502
.016	.848	.638	.600	4.322	3.253	.027	1083	.804	1346	.476	.438	.521	.459	.470	.506	.528	.487	.503
.016	.813	.612	.600	4.325	3.253	.027	1075	.799	1346	.476	.439	.522	.459	.471	.506	.528	.488	.503
.014	.779	.586	.598	4.324	3.255	.025	1067	.793	1346	.476	.439	.522	.459	.471	.507	.529	.488	.504
.013	.747	.562	.597	4.329	3.258	.024	1060	.787	1346	.477	.439	.524	.460	.472	.507	.529	.489	.504
.014	.718	.540	.598	4.326	3.258	.025	1051	.781	1346	.478	.440	.524	.460	.472	.508	.530	.490	.505
.012	.690	.519	.596	4.334	3.262	.023	1043	.775	1346	.478	.440	.525	.460	.472	.509	.530	.490	.505
.011	.661	.498	.595	4.331	3.259	.022	1035	.769	1346	.478	.440	.525	.461	.473	.509	.531	.491	.506
.010	.638	.480	.594	4.335	3.262	.021	1026	.762	1346	.479	.440	.526	.461	.474	.510	.532	.491	.506
.009	.614	.462	.592	4.337	3.264	.019	1016	.755	1346	.479	.441	.526	.462	.474	.510	.532	.491	.507
.009	.592	.446	.593	4.338	3.265	.020	1009	.749	1346	.480	.441	.527	.462	.475	.511	.533	.491	.507
.007	.573	.431	.591	4.339	3.266	.018	1002	.744	1346	.480	.441	.528	.463	.475	.512	.534	.492	.508
.007	.556	.419	.591	4.342	3.268	.018	997	.741	1346	.480	.441	.528	.463	.476	.512	.534	.493	.509
.007	.545	.388	.591	4.343	3.271	.018	997	.740	1346	.482	.442	.530	.464	.477	.514	.536	.494	.510

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
PAGE = 1

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
28	139	7.92	149.1	1344	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.2	.0143	1.324	.716	3867	4.435E-04	7.988E-08	6.701E 05	18.11	6.15	.80	22.633	26

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.684	3.749	2.833	1.268	.974	.736	.649	1243	.924	1344	.386	.391	.404	.395	.394	.399	.399	.389	.394
.664	3.765	2.845	1.248	.978	.733	.679	1243	.925	1344	.387	.392	.405	.397	.395	.399	.400	.389	.395
.631	3.758	2.839	1.215	.976	.737	.644	1271	.945	1344	.389	.392	.407	.397	.395	.400	.401	.390	.396
.599	3.804	2.874	1.183	.977	.739	.614	1279	.952	1344	.389	.393	.408	.397	.396	.401	.402	.391	.397
.565	3.798	2.868	1.149	.976	.738	.580	1279	.952	1344	.389	.393	.410	.398	.396	.402	.403	.392	.398
.535	3.769	2.851	1.119	.977	.739	.550	1280	.952	1344	.390	.393	.411	.398	.397	.403	.403	.392	.398
.517	3.737	2.827	1.091	.975	.738	.522	1280	.953	1344	.390	.393	.412	.398	.397	.403	.404	.393	.399
.495	3.706	2.804	1.079	.976	.738	.510	1281	.953	1344	.391	.394	.413	.399	.398	.405	.405	.394	.400
.486	3.684	2.787	1.070	.977	.739	.501	1281	.953	1344	.392	.394	.415	.399	.398	.406	.406	.395	.400
.473	3.664	2.768	1.057	.978	.739	.488	1282	.954	1344	.392	.394	.416	.400	.399	.406	.406	.395	.401
.465	3.644	2.753	1.049	.979	.739	.480	1282	.954	1344	.393	.394	.417	.400	.399	.407	.407	.396	.401
.453	3.633	2.736	1.037	.982	.740	.468	1282	.954	1344	.394	.395	.418	.401	.399	.408	.408	.397	.402
.443	3.612	2.718	1.027	.981	.738	.458	1282	.954	1344	.394	.395	.419	.401	.400	.409	.409	.397	.403
.433	3.596	2.706	1.017	.983	.739	.448	1282	.954	1344	.395	.395	.420	.401	.401	.409	.410	.398	.403
.423	3.580	2.689	1.007	.983	.738	.439	1283	.954	1344	.395	.395	.422	.402	.401	.410	.411	.399	.405
.413	3.565	2.676	.997	.984	.739	.428	1283	.954	1344	.396	.396	.423	.402	.402	.411	.412	.400	.405
.400	3.551	2.663	.984	.987	.740	.415	1283	.954	1344	.397	.397	.425	.402	.402	.412	.413	.401	.406
.391	3.539	2.648	.975	.986	.739	.406	1283	.955	1344	.397	.397	.426	.403	.402	.412	.414	.401	.407
.380	3.514	2.632	.966	.985	.738	.395	1284	.955	1344	.398	.397	.428	.403	.403	.413	.415	.402	.408
.371	3.497	2.619	.955	.986	.739	.386	1283	.955	1344	.398	.398	.429	.404	.403	.413	.416	.402	.408
.361	3.481	2.604	.945	.987	.739	.376	1284	.955	1344	.399	.398	.430	.405	.404	.414	.417	.403	.409
.350	3.466	2.593	.934	.988	.739	.365	1284	.955	1344	.399	.398	.431	.405	.404	.415	.418	.403	.409
.340	3.449	2.579	.924	.988	.738	.355	1284	.956	1344	.400	.398	.432	.405	.405	.416	.418	.405	.410
.329	3.433	2.567	.912	.988	.738	.343	1285	.956	1344	.401	.398	.433	.405	.405	.416	.420	.405	.411
.319	3.418	2.557	.903	.988	.739	.334	1285	.956	1344	.402	.399	.434	.406	.405	.417	.421	.406	.412
.308	3.403	2.544	.892	.989	.740	.323	1285	.956	1344	.402	.399	.435	.406	.406	.417	.422	.406	.412
.297	3.389	2.533	.881	.989	.739	.312	1285	.956	1344	.403	.400	.436	.406	.406	.418	.422	.407	.413
.287	3.374	2.524	.871	.990	.740	.302	1286	.957	1344	.403	.400	.437	.407	.407	.418	.423	.408	.414
.275	3.359	2.513	.859	.988	.739	.290	1286	.957	1344	.404	.400	.438	.407	.407	.420	.424	.409	.414
.265	3.340	2.499	.849	.988	.739	.280	1286	.957	1344	.405	.401	.438	.408	.408	.420	.425	.409	.415
.253	3.315	2.480	.837	.988	.739	.268	1286	.957	1344	.405	.401	.440	.408	.408	.421	.426	.410	.416
.243	3.291	2.455	.827	.986	.738	.258	1287	.957	1344	.406	.401	.440	.408	.409	.421	.427	.410	.417
.233	3.251	2.417	.817	.987	.738	.248	1287	.958	1344	.406	.402	.441	.409	.409	.422	.428	.410	.417
.220	3.176	2.372	.804	.986	.737	.235	1287	.958	1344	.407	.402	.443	.409	.409	.422	.428	.412	.418
.211	3.100	2.319	.795	.985	.737	.226	1288	.958	1344	.408	.402	.444	.409	.410	.423	.429	.412	.418

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PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OV52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
28	139	7.92	150.4	1344	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	IAP
99.2	.0164	1.336	.722	3867	4.474E-04	7.988E-08	6.701E 05	18.11	6.15	.80	22.633	26

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.159	3.023	2.243	.783	.985	.737	.214	1288	.958	1344	.408	.402	.445	.409	.410	.424	.430	.413	.420
.163	2.952	2.210	.777	.987	.739	.209	1288	.958	1344	.409	.403	.447	.410	.410	.424	.431	.413	.420
.160	2.892	2.165	.774	.986	.738	.205	1288	.959	1344	.409	.403	.447	.410	.411	.425	.432	.414	.421
.157	2.847	2.131	.771	.985	.738	.202	1288	.958	1344	.410	.403	.448	.408	.411	.425	.433	.414	.421
.156	2.811	2.104	.770	.984	.737	.201	1288	.959	1344	.410	.403	.450	.409	.412	.426	.434	.415	.422
.153	2.784	2.087	.767	.985	.739	.198	1288	.958	1344	.410	.403	.451	.409	.412	.427	.435	.415	.423
.161	2.764	2.072	.765	.986	.739	.196	1288	.958	1344	.412	.403	.451	.412	.412	.427	.436	.416	.424
.179	2.744	2.057	.763	.985	.739	.194	1288	.959	1344	.412	.404	.452	.412	.413	.428	.437	.417	.424
.176	2.730	2.047	.760	.985	.739	.191	1288	.958	1344	.412	.405	.454	.412	.413	.429	.437	.417	.425
.174	2.720	2.039	.758	.989	.742	.189	1289	.959	1344	.413	.405	.454	.413	.413	.429	.439	.418	.426
.171	2.708	2.031	.756	.988	.741	.186	1288	.959	1344	.413	.405	.455	.413	.414	.430	.440	.418	.427
.171	2.701	2.027	.755	.991	.744	.186	1288	.959	1344	.414	.405	.456	.413	.414	.431	.441	.418	.427
.168	2.697	2.024	.752	.994	.746	.183	1288	.958	1344	.414	.405	.457	.413	.414	.431	.441	.420	.428
.168	2.692	2.022	.752	.995	.747	.183	1288	.958	1344	.415	.406	.458	.414	.415	.432	.443	.420	.429
.165	2.688	2.020	.749	.997	.749	.180	1288	.958	1344	.416	.406	.459	.414	.416	.433	.444	.421	.429
.163	2.689	2.021	.747	1.003	.754	.178	1288	.958	1344	.416	.406	.459	.414	.416	.433	.444	.421	.430
.161	2.687	2.020	.745	1.008	.758	.176	1288	.958	1344	.417	.406	.460	.415	.417	.434	.445	.422	.431
.158	2.689	2.021	.742	1.015	.763	.173	1288	.958	1344	.417	.406	.461	.415	.417	.435	.446	.423	.431
.157	2.693	2.024	.741	1.028	.772	.172	1287	.958	1344	.417	.407	.462	.413	.417	.435	.447	.424	.432
.153	2.701	2.031	.737	1.045	.786	.168	1287	.958	1344	.418	.408	.463	.416	.417	.436	.448	.424	.432
.151	2.709	2.037	.735	1.055	.793	.166	1287	.958	1344	.418	.408	.464	.416	.418	.437	.450	.424	.433
.149	2.719	2.045	.733	1.071	.806	.164	1287	.958	1344	.419	.408	.464	.416	.418	.437	.450	.425	.434
.146	2.734	2.057	.730	1.088	.819	.161	1287	.957	1344	.420	.408	.466	.417	.418	.438	.451	.427	.435
.146	2.749	2.067	.730	1.100	.829	.161	1286	.957	1344	.420	.408	.466	.417	.419	.439	.452	.427	.436
.143	2.764	2.083	.727	1.111	.837	.158	1286	.957	1344	.421	.408	.467	.417	.420	.439	.453	.427	.436
.143	2.784	2.098	.727	1.120	.844	.158	1284	.957	1344	.421	.409	.468	.417	.420	.440	.454	.428	.437
.138	2.807	2.115	.722	1.142	.861	.153	1285	.956	1346	.422	.409	.469	.418	.420	.441	.455	.428	.437
.137	2.828	2.130	.721	1.150	.871	.152	1285	.956	1346	.422	.409	.470	.418	.421	.441	.456	.429	.438
.133	2.873	2.167	.717	1.178	.888	.148	1284	.956	1344	.423	.409	.471	.418	.421	.442	.457	.429	.439
.132	2.909	2.193	.716	1.192	.892	.147	1284	.955	1344	.424	.410	.471	.419	.421	.443	.458	.430	.439
.132	2.947	2.222	.716	1.193	.900	.147	1284	.955	1344	.424	.410	.472	.420	.422	.444	.459	.431	.440
.128	2.989	2.254	.712	1.205	.909	.143	1283	.955	1344	.424	.410	.473	.420	.422	.444	.460	.431	.441
.127	3.029	2.284	.711	1.210	.913	.142	1283	.955	1344	.425	.410	.474	.417	.423	.445	.461	.432	.441
.124	3.072	2.315	.708	1.221	.922	.139	1283	.954	1344	.425	.410	.475	.420	.424	.445	.462	.432	.442
.123	3.118	2.351	.707	1.232	.930	.138	1282	.954	1344	.426	.411	.475	.421	.424	.446	.463	.433	.443
.121	3.167	2.390	.705	1.238	.934	.136	1281	.953	1344	.427	.412	.476	.421	.424	.447	.464	.433	.443
.119	3.219	2.431	.703	1.245	.940	.134	1281	.953	1344	.427	.412	.477	.421	.424	.447	.464	.434	.444
.119	3.269	2.470	.703	1.251	.944	.134	1281	.953	1344	.428	.412	.478	.422	.425	.448	.466	.435	.445
.116	3.314	2.504	.700	1.257	.948	.131	1281	.953	1344	.428	.412	.479	.422	.425	.448	.467	.436	.445
.116	3.366	2.543	.700	1.256	.955	.131	1280	.952	1344	.429	.413	.479	.422	.426	.449	.467	.436	.446
.113	3.416	2.581	.697	1.272	.959	.128	1280	.952	1344	.429	.413	.481	.421	.426	.450	.469	.436	.447
.112	3.472	2.624	.696	1.280	.966	.127	1279	.952	1344	.430	.413	.481	.423	.427	.451	.469	.437	.447

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ANO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PHEBEND	ROLL-MODEL	YAW
2P	139	7.92	149.1	1344	30.08	-8.08	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.2	.0163	1.324	.716	3867	4.435E-04	7.988E-08	6.701E 05	18.11	6.15	.80	22.633	26

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.112	3.533	2.668	.696	1.291	.975	.127	1279	.952	1344	.430	.413	.482	.423	.427	.451	.470	.437	.448
.109	3.594	2.717	.693	1.302	.983	.124	1279	.951	1344	.431	.414	.483	.424	.428	.452	.471	.438	.448
.108	3.651	2.764	.692	1.312	.991	.123	1278	.951	1344	.431	.414	.484	.424	.428	.452	.472	.439	.450
.105	3.726	2.817	.689	1.326	1.001	.120	1278	.952	1343	.432	.414	.485	.425	.429	.453	.473	.439	.450
.104	3.798	2.868	.688	1.352	1.021	.119	1278	.951	1343	.433	.414	.486	.425	.429	.454	.475	.441	.451
.102	3.892	2.939	.686	1.383	1.044	.117	1277	.951	1343	.433	.415	.487	.426	.430	.454	.475	.441	.451
.100	4.019	3.037	.684	1.408	1.064	.115	1276	.950	1343	.434	.415	.487	.426	.430	.456	.476	.441	.452
.100	4.125	3.117	.684	1.439	1.087	.115	1277	.950	1344	.433	.415	.487	.426	.430	.456	.477	.441	.452
.097	4.214	3.184	.681	1.460	1.103	.112	1276	.950	1343	.435	.416	.489	.427	.431	.457	.479	.442	.453
.097	4.291	3.240	.681	1.507	1.138	.112	1276	.949	1344	.435	.416	.490	.427	.431	.457	.479	.443	.454
.095	4.363	3.295	.679	1.506	1.183	.110	1276	.950	1343	.435	.416	.491	.427	.432	.458	.480	.443	.454
.093	4.423	3.342	.677	1.606	1.215	.108	1276	.950	1343	.436	.416	.491	.428	.432	.458	.482	.444	.455
.093	4.491	3.394	.677	1.675	1.266	.108	1276	.950	1343	.437	.416	.492	.428	.433	.459	.483	.444	.456
.090	4.532	3.422	.674	1.743	1.316	.105	1276	.950	1343	.437	.416	.494	.429	.433	.460	.484	.444	.457
.089	4.575	3.460	.673	1.809	1.367	.104	1276	.950	1343	.438	.417	.494	.429	.434	.461	.484	.446	.457
.087	4.623	3.493	.671	1.850	1.428	.102	1276	.950	1343	.438	.417	.495	.427	.434	.461	.486	.446	.458
.086	4.670	3.528	.670	1.984	1.499	.101	1276	.950	1343	.438	.418	.496	.422	.434	.462	.487	.446	.458
.085	4.718	3.565	.669	2.037	1.577	.100	1277	.951	1343	.439	.418	.496	.430	.435	.463	.488	.447	.459
.083	4.762	3.598	.667	2.200	1.663	.099	1278	.951	1343	.439	.418	.498	.430	.435	.464	.489	.448	.459
.082	4.816	3.642	.666	2.304	1.742	.097	1279	.951	1344	.440	.418	.498	.430	.435	.463	.490	.448	.460
.080	4.867	3.680	.664	2.464	1.863	.095	1280	.952	1343	.441	.418	.499	.431	.436	.465	.491	.449	.461
.079	4.925	3.724	.663	2.574	1.946	.094	1281	.954	1343	.441	.419	.501	.431	.437	.465	.492	.449	.461
.077	4.972	3.757	.661	2.693	2.035	.092	1283	.955	1343	.442	.419	.501	.431	.437	.466	.493	.450	.462
.075	5.026	3.800	.659	2.946	2.152	.090	1284	.956	1343	.442	.419	.502	.432	.438	.467	.494	.450	.463
.075	5.081	3.842	.659	2.957	2.236	.090	1286	.958	1343	.442	.419	.503	.430	.438	.467	.495	.451	.463
.072	5.215	3.944	.656	3.070	2.322	.087	1287	.959	1343	.443	.420	.505	.430	.439	.468	.496	.452	.464
.071	5.191	3.925	.655	3.182	2.406	.086	1290	.960	1343	.444	.420	.505	.433	.439	.468	.498	.453	.464
.069	5.252	3.972	.653	3.296	2.495	.084	1292	.962	1343	.444	.420	.507	.434	.439	.469	.499	.452	.465
.068	5.308	4.013	.652	3.345	2.529	.083	1293	.963	1343	.445	.420	.507	.431	.440	.469	.499	.453	.465
.067	5.364	4.056	.651	3.434	2.596	.082	1295	.964	1343	.445	.421	.509	.434	.440	.470	.501	.453	.466
.064	5.423	4.101	.648	3.505	2.650	.079	1297	.965	1343	.445	.421	.510	.435	.441	.471	.502	.454	.467
.065	5.481	4.144	.649	3.575	2.703	.080	1299	.967	1343	.446	.421	.511	.435	.441	.472	.503	.454	.467
.062	5.544	4.192	.646	3.621	2.738	.077	1300	.968	1343	.446	.422	.512	.435	.442	.472	.504	.456	.468
.061	5.613	4.241	.645	3.671	2.774	.076	1302	.969	1344	.447	.421	.513	.436	.442	.473	.504	.456	.468
.060	5.671	4.288	.644	3.704	2.801	.075	1303	.970	1343	.448	.422	.515	.436	.443	.473	.506	.457	.469
.059	5.728	4.331	.642	3.729	2.820	.073	1304	.971	1343	.448	.422	.515	.437	.443	.474	.507	.457	.469
.058	5.787	4.377	.642	3.743	2.828	.073	1305	.971	1344	.448	.422	.516	.436	.443	.474	.508	.458	.470
.057	5.802	4.384	.641	3.761	2.842	.072	1306	.972	1343	.449	.422	.518	.437	.444	.475	.509	.458	.471
.056	5.835	4.412	.640	3.779	2.857	.071	1307	.973	1343	.449	.422	.519	.437	.445	.476	.510	.459	.472
.054	5.864	4.434	.638	3.781	2.859	.069	1308	.974	1343	.450	.423	.520	.438	.445	.476	.511	.460	.472
.053	5.894	4.454	.637	3.789	2.863	.069	1307	.972	1343	.450	.424	.521	.438	.445	.477	.511	.460	.472
.053	5.923	4.473	.637	3.789	2.861	.068	1307	.972	1343	.451	.425	.522	.436	.446	.477	.513	.461	.473

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS SHUTTLE SURVEY TEST
PAGE = 4

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
28	139	7.92	14.1	1343	30.07	-8.07	22.00	180.00	0.

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.1	.0163	1.324	.716	3865	4.438E-04	7.982E-08	6.701E 05	18.11	6.15	.80	22.633	26

ZF1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TI1 (DEG R)	TI1/TO	TO (DEG R)	Tw2/TO (DEG R)	Tw3/TO (DEG R)	Tw4/TO (DEG R)	Tw5/TO (DEG R)	Tw6/TO (DEG R)	Tw7/TO (DEG R)	Tw8/TO (DEG R)	Tw9/TO (DEG R)	Tw10/TO (DEG R)
.051	5.949	4.493	.635	3.792	2.863	.066	1308	.974	1343	.451	.425	.524	.439	.446	.478	.513	.461	.473
.051	5.976	4.509	.635	3.788	2.858	.066	1308	.973	1344	.451	.424	.524	.439	.447	.479	.514	.461	.474
.049	5.996	4.525	.633	3.790	2.860	.064	1308	.973	1344	.452	.424	.525	.439	.448	.479	.515	.462	.475
.049	6.022	4.541	.633	3.787	2.856	.064	1307	.972	1344	.452	.425	.527	.440	.448	.480	.516	.462	.475
.048	6.044	4.558	.632	3.782	2.852	.063	1307	.972	1344	.453	.425	.528	.440	.448	.481	.517	.463	.475
.046	6.062	4.575	.630	3.779	2.850	.061	1306	.971	1344	.454	.425	.529	.440	.448	.481	.517	.463	.476
.046	6.091	4.593	.630	3.778	2.849	.061	1305	.971	1344	.454	.425	.530	.441	.449	.482	.519	.464	.477
.044	6.112	4.604	.628	3.775	2.844	.059	1304	.971	1344	.454	.425	.532	.441	.450	.482	.520	.464	.477
.043	6.128	4.619	.627	3.769	2.840	.058	1303	.970	1344	.455	.426	.532	.441	.450	.483	.520	.465	.478
.042	6.141	4.629	.626	3.770	2.841	.057	1302	.969	1344	.455	.426	.534	.442	.450	.484	.521	.466	.478
.041	6.149	4.634	.625	3.768	2.841	.056	1300	.968	1344	.456	.427	.535	.443	.451	.484	.523	.466	.479
.040	6.163	4.630	.624	3.763	2.836	.055	1299	.966	1344	.456	.427	.536	.443	.451	.485	.523	.466	.479
.037	6.127	4.617	.621	3.758	2.832	.052	1297	.965	1344	.456	.427	.537	.443	.452	.485	.524	.466	.480
.038	6.096	4.594	.622	3.756	2.830	.053	1296	.964	1344	.457	.427	.538	.444	.452	.486	.525	.467	.481
.036	6.053	4.569	.620	3.755	2.829	.051	1294	.963	1344	.458	.428	.539	.444	.453	.487	.525	.468	.481
.035	5.992	4.513	.620	3.754	2.827	.051	1293	.962	1344	.458	.428	.540	.444	.454	.487	.527	.468	.482
.034	5.904	4.449	.618	3.751	2.825	.049	1292	.962	1343	.459	.428	.542	.445	.454	.488	.528	.469	.483
.033	5.816	4.376	.617	3.750	2.824	.048	1291	.960	1344	.459	.428	.543	.446	.454	.489	.529	.470	.483
.033	5.696	4.286	.617	3.750	2.822	.048	1290	.960	1344	.460	.428	.544	.445	.455	.490	.529	.470	.483
.031	5.553	4.179	.615	3.748	2.821	.046	1288	.958	1344	.460	.429	.545	.446	.455	.490	.530	.470	.484
.032	5.388	4.058	.616	3.745	2.820	.047	1287	.958	1344	.460	.429	.546	.446	.456	.491	.531	.471	.485
.029	5.212	3.923	.613	3.744	2.818	.044	1286	.957	1344	.461	.429	.547	.447	.456	.492	.532	.471	.485
.030	5.018	3.776	.614	3.745	2.818	.045	1285	.956	1344	.462	.429	.547	.447	.457	.492	.533	.472	.486
.029	4.736	3.565	.613	3.743	2.819	.044	1284	.955	1344	.462	.430	.548	.447	.457	.493	.534	.472	.486
.027	4.544	3.457	.611	3.742	2.816	.042	1283	.954	1344	.462	.430	.550	.448	.458	.493	.535	.473	.486
.027	4.406	3.316	.611	3.739	2.814	.042	1282	.955	1344	.463	.431	.551	.448	.458	.494	.535	.473	.487
.024	4.205	3.164	.608	3.738	2.815	.039	1282	.954	1344	.463	.431	.552	.448	.459	.495	.536	.474	.487
.025	3.985	2.999	.609	3.737	2.813	.040	1281	.953	1344	.464	.431	.553	.449	.459	.496	.537	.474	.489
.023	3.797	2.859	.607	3.735	2.813	.038	1280	.953	1344	.464	.431	.554	.450	.459	.496	.538	.474	.489
.023	3.552	2.673	.607	3.736	2.812	.038	1280	.952	1344	.464	.431	.554	.450	.460	.497	.538	.475	.490
.021	3.351	2.524	.605	3.731	2.810	.036	1279	.951	1344	.465	.432	.556	.450	.460	.497	.539	.476	.490
.021	3.124	2.353	.605	3.730	2.809	.036	1278	.951	1344	.466	.432	.557	.451	.461	.498	.540	.477	.490
.021	2.911	2.191	.605	3.731	2.808	.036	1277	.950	1344	.466	.433	.558	.451	.462	.498	.541	.477	.491
.019	2.747	2.069	.603	3.728	2.808	.034	1276	.950	1343	.467	.433	.559	.452	.463	.500	.543	.478	.492
.021	2.593	1.953	.605	3.725	2.806	.036	1276	.949	1344	.467	.433	.559	.452	.463	.500	.543	.478	.492
.019	2.462	1.854	.603	3.728	2.806	.034	1275	.949	1343	.468	.434	.561	.452	.463	.501	.544	.479	.493
.020	2.349	1.768	.604	3.726	2.805	.035	1275	.949	1343	.468	.434	.562	.453	.464	.502	.545	.479	.494
.018	2.218	1.676	.602	3.724	2.805	.033	1271	.946	1343	.468	.434	.563	.453	.464	.502	.546	.479	.494
.017	2.091	1.575	.601	3.721	2.802	.032	1267	.943	1343	.469	.435	.563	.453	.465	.503	.547	.480	.495
.017	1.969	1.482	.601	3.722	2.803	.032	1266	.943	1343	.469	.435	.564	.454	.465	.504	.548	.481	.495
.015	1.857	1.396	.599	3.715	2.798	.030	1261	.939	1343	.470	.435	.565	.454	.466	.505	.549	.481	.495
.017	1.758	1.323	.601	3.722	2.801	.032	1260	.938	1343	.471	.435	.566	.455	.467	.505	.550	.482	.496

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PROJECT NUMBER VA524-21BA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OPS2 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
28	139	7.92	149.5	1343	30.07	-8.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	IAP
99.1	.0162	1.22[illegible]	.718	3865	4.450E-04	7.982E-09	6.701E 05	18.11	6.15	.80	22.633	26

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG.R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.014	1.665	1.254	.598	3.715	2.798	.029	1253	.933	1343	.471	.435	.567	.455	.467	.506	.551	.482	.496
.016	1.583	1.192	.600	3.717	2.800	.031	1253	.933	1343	.471	.435	.567	.453	.467	.506	.552	.483	.497
.015	1.509	1.137	.597	3.717	2.799	.029	1245	.927	1343	.472	.435	.568	.456	.468	.507	.552	.483	.498
.014	1.442	1.086	.598	3.717	2.800	.029	1245	.927	1343	.472	.436	.569	.457	.469	.507	.553	.484	.498
.013	1.380	1.039	.597	3.715	2.798	.028	1237	.921	1343	.473	.436	.570	.457	.469	.509	.554	.484	.499
.013	1.325	.998	.597	3.715	2.798	.028	1236	.921	1343	.473	.436	.571	.457	.469	.509	.555	.484	.499
.013	1.277	.961	.597	3.712	2.796	.028	1229	.915	1343	.473	.437	.572	.458	.470	.510	.556	.485	.500
.011	1.228	.925	.595	3.711	2.795	.026	1228	.914	1343	.474	.437	.572	.458	.471	.510	.556	.486	.501
.012	1.188	.895	.596	3.713	2.797	.027	1221	.909	1343	.475	.437	.573	.458	.471	.511	.558	.486	.501
.011	1.146	.863	.595	3.709	2.794	.026	1210	.901	1343	.475	.437	.574	.459	.471	.512	.558	.487	.501
.011	1.106	.832	.595	3.709	2.792	.026	1208	.900	1343	.475	.438	.575	.459	.472	.513	.559	.487	.502
.010	1.070	.806	.594	3.710	2.794	.025	1197	.891	1343	.476	.438	.575	.460	.472	.513	.560	.488	.502
.010	1.033	.778	.594	3.708	2.792	.025	1196	.890	1343	.476	.438	.576	.460	.473	.514	.561	.488	.503
.010	1.002	.755	.594	3.705	2.790	.025	1186	.883	1343	.477	.438	.577	.460	.473	.515	.562	.489	.503
.008	.973	.733	.592	3.707	2.794	.023	1175	.875	1343	.477	.438	.578	.461	.474	.515	.563	.489	.504
.008	.945	.711	.592	3.706	2.791	.023	1160	.864	1343	.477	.439	.578	.461	.475	.516	.564	.490	.505
.007	.870	.655	.591	3.706	2.791	.022	1154	.860	1343	.479	.441	.581	.463	.476	.520	.567	.491	.506

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OF52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
29	139	7.92	157.3	1342	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.1	.0167	1.353	.731	3864	4.537E-04	7.977E-08	6.702E 05	19.07	6.15	.84	22.633	19

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.698	3.834	2.834	1.282	.895	.735	.711	1275	.950	1342	.393	.391	.396	.395	.393	.397	.397	.386	.393
.698	3.905	2.893	1.272	.896	.736	.701	1275	.950	1342	.394	.391	.397	.395	.394	.398	.397	.387	.394
.655	3.937	2.909	1.239	.899	.738	.669	1275	.950	1342	.394	.391	.398	.395	.394	.399	.398	.388	.395
.623	3.941	2.913	1.207	.899	.738	.636	1276	.951	1342	.396	.392	.399	.396	.395	.400	.399	.388	.395
.591	3.926	2.902	1.175	1.000	.739	.604	1276	.951	1342	.396	.393	.399	.397	.395	.401	.401	.389	.396
.558	3.899	2.882	1.142	.999	.738	.571	1276	.951	1342	.397	.393	.401	.397	.395	.402	.401	.390	.397
.528	3.864	2.854	1.112	.997	.737	.541	1277	.952	1342	.397	.393	.402	.398	.396	.402	.402	.391	.397
.496	3.826	2.832	1.080	.996	.737	.509	1278	.952	1342	.398	.393	.403	.398	.397	.403	.404	.391	.396
.465	3.792	2.807	1.049	.999	.739	.478	1278	.952	1342	.399	.394	.404	.398	.397	.404	.404	.393	.399
.433	3.751	2.779	1.017	.997	.739	.446	1278	.952	1342	.399	.394	.405	.399	.398	.405	.405	.393	.399
.409	3.698	2.741	.993	.998	.740	.422	1279	.953	1342	.398	.395	.405	.399	.398	.406	.406	.394	.401
.399	3.644	2.703	.983	1.016	.753	.412	1279	.953	1342	.397	.395	.406	.399	.399	.406	.407	.394	.401
.388	3.596	2.669	.972	1.055	.783	.401	1279	.953	1342	.397	.395	.408	.400	.399	.408	.408	.395	.402
.381	3.552	2.636	.965	1.113	.826	.394	1279	.953	1342	.397	.395	.409	.401	.400	.408	.409	.396	.402
.369	3.507	2.604	.953	1.184	.880	.382	1280	.954	1342	.397	.395	.410	.401	.400	.409	.409	.397	.403
.359	3.456	2.564	.943	1.251	.930	.372	1280	.954	1342	.398	.395	.411	.401	.401	.410	.410	.397	.404
.348	3.394	2.527	.932	1.351	1.006	.361	1280	.954	1342	.398	.395	.412	.402	.401	.410	.411	.398	.404
.337	3.323	2.479	.921	1.460	1.088	.350	1281	.954	1342	.398	.395	.413	.402	.402	.411	.412	.398	.405
.328	3.247	2.427	.912	2.382	1.781	.341	1281	.955	1342	.399	.396	.414	.403	.402	.412	.413	.399	.406
.316	3.164	2.372	.900	3.323	2.491	.329	1282	.955	1342	.399	.396	.416	.403	.403	.413	.414	.401	.406
.306	3.083	2.315	.890	3.895	2.926	.319	1282	.955	1342	.399	.397	.416	.404	.403	.413	.414	.401	.408
.295	3.002	2.261	.879	4.008	3.019	.308	1282	.956	1342	.399	.397	.417	.404	.404	.414	.416	.402	.408
.284	2.929	2.208	.868	3.965	2.980	.297	1283	.956	1342	.399	.397	.418	.404	.404	.414	.417	.403	.409
.279	2.887	2.164	.863	3.930	2.987	.292	1283	.956	1342	.398	.398	.419	.405	.405	.415	.417	.403	.409
.275	2.829	2.136	.859	3.844	2.884	.288	1283	.957	1341	.399	.399	.421	.403	.405	.417	.419	.404	.411
.275	2.791	2.113	.859	3.843	2.885	.288	1283	.956	1342	.399	.398	.421	.405	.405	.417	.419	.404	.411
.272	2.769	2.094	.856	3.840	2.885	.285	1283	.957	1341	.400	.399	.423	.406	.406	.418	.421	.406	.412
.271	2.753	2.084	.855	3.840	2.883	.284	1283	.956	1342	.401	.399	.423	.406	.406	.418	.421	.405	.412
.269	2.742	2.074	.853	3.841	2.884	.282	1283	.956	1342	.401	.399	.424	.406	.406	.418	.422	.406	.413
.266	2.733	2.069	.850	3.838	2.882	.279	1283	.956	1342	.402	.399	.425	.406	.407	.419	.423	.406	.413
.266	2.728	2.065	.850	3.839	2.882	.279	1283	.956	1342	.402	.399	.426	.407	.407	.420	.424	.408	.414
.262	2.724	2.062	.846	3.837	2.881	.275	1283	.956	1342	.403	.400	.427	.408	.408	.420	.425	.408	.415
.261	2.721	2.059	.845	3.836	2.878	.274	1283	.956	1342	.404	.401	.428	.408	.408	.421	.425	.409	.416
.258	2.720	2.060	.842	3.836	2.880	.271	1283	.956	1342	.404	.401	.429	.408	.409	.421	.426	.409	.417
.256	2.721	2.060	.840	3.836	2.880	.269	1283	.956	1342	.405	.401	.429	.409	.409	.422	.427	.410	.417
.253	2.721	2.062	.837	3.836	2.877	.266	1283	.956	1342	.405	.401	.431	.409	.409	.423	.428	.411	.418
.249	2.723	2.063	.833	3.829	2.877	.262	1283	.956	1342	.406	.402	.431	.409	.410	.423	.429	.412	.418

DATE 5-6-74
PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OM52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEC R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
29	139	7.92	148.6	1342	30.05	-8.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.1	.0162	1.320	.713	3864	4.427E-04	7.977E-08	6.702E 05	19.07	6.15	.84	22.633	19

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG-R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.250	2.726	2.065	.834	3.029	2.077	.263	1283	.956	1342	.406	.402	.432	.409	.410	.424	.430	.412	.419
.248	2.729	2.068	.832	3.027	2.077	.261	1283	.956	1342	.407	.402	.433	.410	.410	.424	.431	.412	.420
.247	2.731	2.070	.831	3.025	2.076	.260	1283	.956	1342	.408	.402	.434	.410	.411	.425	.432	.413	.421
.244	2.732	2.072	.828	3.019	2.073	.257	1283	.956	1342	.408	.403	.435	.410	.411	.425	.432	.414	.421
.241	2.733	2.074	.825	3.021	2.074	.254	1283	.956	1342	.409	.403	.435	.411	.412	.426	.433	.414	.422
.241	2.738	2.079	.825	3.015	2.072	.254	1283	.956	1342	.409	.403	.436	.409	.412	.427	.434	.414	.423
.237	2.744	2.084	.821	3.013	2.073	.250	1283	.956	1342	.410	.404	.438	.404	.412	.427	.435	.415	.424
.236	2.750	2.091	.820	3.009	2.071	.249	1283	.956	1342	.410	.404	.438	.412	.413	.428	.436	.416	.424
.233	2.758	2.096	.817	3.006	2.069	.246	1284	.957	1342	.411	.404	.439	.412	.413	.428	.436	.416	.425
.229	2.769	2.107	.813	3.004	2.070	.242	1283	.956	1342	.412	.404	.439	.412	.413	.429	.438	.417	.425
.227	2.783	2.118	.811	3.003	2.071	.240	1283	.956	1342	.412	.404	.440	.413	.414	.430	.439	.417	.427
.224	2.795	2.127	.808	3.007	2.067	.237	1283	.956	1342	.413	.405	.441	.413	.414	.431	.439	.418	.427
.225	2.806	2.139	.809	3.005	2.069	.238	1284	.957	1342	.413	.405	.442	.413	.414	.431	.440	.418	.428
.222	2.815	2.146	.806	3.004	2.068	.235	1284	.957	1342	.414	.405	.443	.413	.415	.432	.441	.420	.428
.222	2.824	2.154	.806	3.000	2.067	.235	1284	.957	1342	.414	.406	.444	.414	.416	.432	.442	.420	.429
.219	2.833	2.162	.803	3.006	2.066	.232	1284	.957	1342	.414	.406	.445	.412	.416	.433	.443	.421	.429
.218	2.842	2.171	.802	3.000	2.064	.231	1284	.957	1342	.416	.406	.446	.414	.416	.433	.443	.421	.431
.216	2.852	2.180	.800	3.000	2.066	.229	1284	.957	1341	.416	.407	.447	.415	.417	.434	.445	.422	.431
.212	2.862	2.189	.796	3.007	2.065	.225	1284	.957	1341	.417	.407	.448	.415	.418	.435	.445	.422	.432
.212	2.874	2.194	.796	3.000	2.060	.225	1284	.958	1341	.417	.408	.448	.416	.418	.436	.446	.423	.433
.209	2.886	2.211	.793	3.006	2.059	.222	1284	.957	1341	.418	.408	.449	.416	.418	.436	.447	.424	.433
.207	2.904	2.227	.791	3.002	2.060	.220	1284	.957	1341	.418	.408	.451	.417	.419	.437	.448	.425	.434
.204	2.920	2.246	.788	3.000	2.057	.217	1284	.957	1341	.419	.408	.452	.417	.419	.438	.449	.425	.434
.202	2.936	2.263	.786	3.005	2.058	.215	1283	.957	1341	.419	.408	.452	.417	.419	.438	.449	.425	.436
.200	2.954	2.281	.784	3.009	2.056	.213	1284	.957	1341	.420	.409	.453	.418	.419	.439	.451	.426	.436
.197	3.012	2.315	.781	3.046	2.056	.210	1283	.957	1341	.421	.409	.454	.418	.420	.440	.451	.427	.437
.196	3.039	2.337	.780	3.042	2.055	.209	1283	.957	1341	.421	.409	.455	.418	.421	.440	.452	.427	.437
.194	3.065	2.357	.778	3.038	2.051	.207	1283	.957	1341	.422	.409	.455	.418	.421	.441	.453	.428	.438
.193	3.089	2.382	.777	3.036	2.052	.206	1283	.957	1341	.422	.410	.456	.419	.421	.441	.454	.429	.439
.190	3.122	2.434	.774	3.031	2.052	.203	1283	.957	1341	.422	.410	.457	.419	.422	.442	.454	.429	.440
.189	3.147	2.427	.773	3.027	2.051	.202	1283	.956	1341	.423	.410	.458	.419	.422	.442	.455	.430	.440
.188	3.168	2.444	.773	3.023	2.050	.202	1283	.957	1341	.423	.411	.459	.420	.422	.443	.456	.430	.441
.185	3.193	2.466	.769	3.018	2.048	.198	1283	.956	1341	.424	.411	.460	.420	.423	.444	.457	.431	.441
.184	3.222	2.490	.768	3.015	2.048	.197	1282	.956	1341	.425	.411	.460	.421	.423	.445	.457	.431	.442
.181	3.256	2.517	.765	3.009	2.045	.194	1282	.956	1341	.425	.411	.461	.421	.423	.445	.458	.432	.442
.180	3.296	2.552	.764	3.007	2.047	.193	1282	.956	1341	.426	.411	.462	.421	.424	.446	.459	.433	.444
.177	3.336	2.582	.761	3.001	2.043	.190	1281	.956	1341	.426	.411	.463	.422	.425	.446	.460	.433	.444
.175	3.376	2.614	.759	3.001	2.047	.188	1281	.955	1341	.427	.412	.464	.422	.425	.447	.460	.434	.445
.174	3.420	2.652	.758	3.004	2.041	.187	1281	.955	1341	.427	.412	.465	.422	.426	.448	.461	.434	.445
.170	3.466	2.689	.754	3.006	2.037	.183	1280	.955	1341	.427	.412	.466	.422	.426	.448	.462	.436	.446
.169	3.516	2.732	.753	3.003	2.039	.182	1280	.955	1341	.428	.412	.467	.423	.426	.448	.463	.436	.446
.166	3.574	2.777	.750	3.009	2.036	.179	1280	.954	1341	.429	.412	.467	.423	.427	.449	.464	.437	.447

DATE 5-6-74
PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OF32 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
29	139	7.92	144.8	1341	30.05	-8.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.0	.0152	1.286	.495	3862	4.317E-04	7.971E-08	6.702E 05	19.07	6.15	.84	22.633	19

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.144	3.635	2.826	.748	3.780	2.939	.177	1279	.954	1341	.429	.413	.468	.423	.427	.450	.464	.437	.448
.161	3.704	2.879	.745	3.787	2.940	.174	1279	.954	1341	.430	.414	.469	.424	.427	.451	.465	.438	.448
.158	3.778	2.937	.742	3.790	2.936	.171	1279	.953	1341	.430	.414	.470	.422	.427	.451	.466	.438	.449
.156	3.868	2.949	.740	3.803	2.938	.169	1279	.953	1341	.431	.414	.471	.425	.428	.452	.467	.438	.449
.153	3.962	3.053	.737	3.811	2.937	.166	1278	.953	1341	.431	.414	.472	.423	.429	.452	.467	.439	.451
.151	4.057	3.118	.735	3.820	2.936	.164	1278	.953	1341	.432	.414	.473	.425	.429	.453	.468	.440	.451
.147	4.155	3.154	.731	3.824	2.931	.160	1278	.953	1341	.432	.415	.474	.425	.429	.453	.469	.440	.452
.146	4.249	3.245	.730	3.834	2.928	.159	1277	.952	1342	.432	.414	.474	.425	.429	.454	.469	.440	.452
.144	4.333	3.305	.728	3.841	2.930	.157	1277	.952	1342	.433	.415	.476	.426	.430	.454	.470	.440	.452
.142	4.409	3.351	.726	3.850	2.926	.155	1277	.952	1342	.433	.415	.477	.426	.430	.455	.471	.441	.453
.142	4.479	3.398	.726	3.853	2.923	.155	1277	.952	1342	.434	.416	.477	.427	.431	.455	.472	.442	.454
.139	4.541	3.440	.723	3.863	2.927	.152	1277	.952	1342	.435	.416	.478	.427	.431	.456	.472	.442	.454
.139	4.596	3.477	.723	3.866	2.923	.152	1277	.952	1342	.435	.416	.479	.427	.432	.457	.473	.443	.455
.136	4.657	3.514	.720	3.871	2.921	.149	1277	.952	1342	.436	.416	.480	.428	.432	.457	.474	.444	.456
.136	4.712	3.551	.720	3.871	2.917	.149	1277	.952	1342	.436	.417	.481	.428	.433	.458	.474	.444	.456
.135	4.764	3.590	.719	3.875	2.920	.148	1277	.952	1342	.436	.417	.481	.426	.433	.458	.476	.445	.457
.133	4.807	3.620	.717	3.872	2.916	.146	1277	.952	1342	.437	.417	.482	.429	.433	.459	.476	.446	.458
.134	4.848	3.645	.718	3.871	2.913	.147	1277	.952	1342	.438	.417	.484	.427	.434	.459	.477	.446	.458
.131	4.886	3.674	.715	3.874	2.913	.144	1277	.952	1342	.438	.417	.485	.427	.435	.461	.477	.447	.459
.131	4.920	3.703	.715	3.872	2.914	.144	1278	.952	1342	.439	.418	.485	.430	.435	.461	.478	.447	.459
.129	4.957	3.728	.713	3.873	2.913	.142	1278	.952	1342	.439	.418	.486	.425	.435	.462	.479	.448	.460
.129	4.988	3.759	.713	3.869	2.910	.142	1278	.952	1342	.440	.418	.487	.431	.436	.462	.480	.448	.461
.126	5.038	3.790	.710	3.872	2.912	.139	1278	.952	1342	.440	.418	.488	.431	.436	.463	.480	.449	.461
.124	5.045	3.824	.708	3.868	2.909	.137	1278	.952	1342	.440	.419	.488	.432	.437	.463	.481	.448	.462
.123	5.129	3.857	.707	3.866	2.908	.136	1279	.953	1342	.441	.419	.489	.432	.437	.464	.482	.450	.462
.120	5.177	3.893	.704	3.865	2.907	.133	1279	.953	1342	.442	.419	.491	.432	.438	.465	.482	.450	.463
.119	5.220	3.929	.703	3.860	2.905	.132	1279	.953	1342	.442	.420	.491	.432	.438	.466	.484	.451	.463
.117	5.266	3.960	.701	3.864	2.906	.130	1279	.953	1342	.443	.420	.492	.433	.438	.466	.484	.451	.464
.116	5.307	3.992	.700	3.859	2.902	.129	1280	.954	1342	.443	.420	.493	.433	.439	.467	.485	.451	.465
.113	5.348	4.023	.697	3.858	2.901	.126	1280	.954	1342	.444	.420	.494	.433	.439	.467	.486	.452	.465
.112	5.384	4.052	.696	3.857	2.903	.125	1280	.954	1342	.444	.420	.495	.434	.439	.468	.486	.453	.466
.109	5.418	4.078	.693	3.850	2.898	.122	1280	.954	1342	.444	.421	.496	.434	.440	.469	.487	.454	.466
.106	5.448	4.097	.690	3.848	2.894	.119	1280	.954	1342	.445	.421	.496	.435	.440	.469	.488	.454	.467
.105	5.478	4.120	.689	3.848	2.894	.118	1281	.955	1342	.446	.421	.497	.435	.441	.470	.488	.455	.467
.102	5.502	4.134	.686	3.842	2.890	.115	1281	.954	1342	.446	.422	.498	.435	.442	.470	.489	.456	.468
.101	5.522	4.153	.685	3.841	2.889	.114	1281	.954	1342	.447	.422	.499	.436	.442	.471	.490	.456	.469
.098	5.536	4.167	.682	3.836	2.888	.111	1281	.954	1342	.447	.422	.500	.436	.442	.472	.491	.457	.469
.097	5.547	4.177	.681	3.836	2.885	.110	1280	.954	1342	.448	.423	.501	.436	.443	.472	.492	.457	.470
.094	5.554	4.180	.678	3.834	2.886	.107	1280	.954	1342	.448	.423	.502	.437	.443	.473	.492	.458	.470
.092	5.559	4.184	.676	3.827	2.880	.105	1279	.953	1342	.448	.423	.503	.437	.444	.474	.493	.458	.471
.090	5.560	4.184	.674	3.828	2.881	.103	1279	.953	1342	.449	.423	.504	.435	.444	.474	.494	.459	.472
.087	5.562	4.186	.671	3.822	2.876	.100	1278	.952	1342	.450	.423	.504	.435	.444	.475	.495	.459	.472

DATE 5-6-74
PROJECT NUMBER VA524-21HA
AHJ, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
29	139	7.92	149.5	1342	30.05	-8.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.1	.0163	1.328	.718	3964	4.454E-04	7.977E-08	6.702E 05	19.07	6.15	.84	22.633	19

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.085	5.550	4.187	.669	3.822	2.878	.098	1277	.952	1342	.450	.424	.506	.439	.445	.476	.495	.459	.473
.081	5.557	4.182	.665	3.818	2.873	.094	1277	.951	1342	.451	.424	.507	.439	.446	.476	.496	.461	.473
.081	5.553	4.179	.665	3.815	2.871	.094	1276	.951	1342	.451	.425	.508	.436	.446	.477	.459	.461	.474
.077	5.549	4.176	.661	3.812	2.869	.090	1275	.950	1342	.451	.425	.508	.439	.447	.477	.497	.462	.474
.075	5.546	4.177	.659	3.811	2.870	.088	1275	.950	1342	.452	.425	.510	.440	.447	.478	.498	.462	.475
.071	5.541	4.170	.655	3.806	2.864	.084	1274	.950	1342	.452	.425	.511	.440	.447	.478	.499	.462	.476
.064	5.536	4.169	.652	3.803	2.864	.081	1274	.949	1342	.453	.425	.512	.440	.448	.479	.500	.463	.476
.067	5.535	4.169	.651	3.800	2.862	.080	1274	.949	1342	.454	.426	.512	.441	.448	.480	.500	.463	.477
.063	5.534	4.169	.647	3.796	2.858	.076	1273	.950	1341	.454	.426	.515	.441	.449	.481	.501	.464	.478
.063	5.537	4.170	.647	3.793	2.857	.076	1273	.949	1342	.454	.426	.515	.442	.449	.481	.502	.465	.478
.060	5.540	4.172	.644	3.792	2.856	.073	1273	.949	1342	.455	.426	.516	.442	.450	.481	.503	.465	.478
.058	5.542	4.177	.642	3.788	2.852	.071	1273	.948	1342	.455	.427	.518	.442	.450	.482	.503	.465	.479
.056	5.558	4.186	.640	3.785	2.850	.069	1273	.948	1342	.456	.427	.519	.443	.451	.482	.504	.466	.480
.053	5.565	4.194	.637	3.784	2.849	.066	1273	.948	1342	.456	.427	.520	.443	.451	.483	.505	.466	.480
.053	5.561	4.206	.637	3.783	2.851	.066	1273	.948	1342	.457	.427	.521	.443	.451	.484	.506	.467	.481
.050	5.550	4.213	.634	3.782	2.850	.063	1272	.949	1341	.457	.428	.523	.444	.452	.485	.507	.468	.482
.049	5.554	4.214	.633	3.779	2.848	.062	1272	.949	1341	.458	.428	.524	.445	.453	.485	.508	.468	.482
.047	5.550	4.213	.631	3.775	2.845	.060	1272	.949	1341	.459	.428	.525	.445	.453	.486	.509	.469	.483
.046	5.550	4.205	.630	3.774	2.844	.059	1272	.948	1342	.459	.428	.526	.445	.453	.486	.509	.469	.483
.044	5.555	4.186	.628	3.774	2.844	.057	1272	.949	1341	.460	.429	.527	.445	.454	.487	.510	.470	.484
.043	5.513	4.159	.627	3.771	2.843	.056	1272	.949	1341	.460	.429	.528	.446	.455	.488	.511	.470	.484
.042	5.455	4.111	.626	3.770	2.841	.055	1272	.948	1342	.460	.429	.529	.446	.455	.488	.512	.471	.484
.039	5.388	4.063	.623	3.768	2.841	.052	1272	.949	1341	.461	.430	.531	.446	.456	.489	.513	.471	.485
.041	5.332	4.021	.625	3.768	2.841	.054	1272	.948	1342	.461	.429	.531	.447	.455	.489	.514	.471	.485
.038	5.279	3.941	.622	3.765	2.839	.051	1273	.948	1342	.462	.429	.533	.447	.457	.490	.514	.472	.486
.039	5.235	3.925	.623	3.766	2.840	.052	1272	.948	1342	.462	.430	.533	.447	.457	.491	.515	.473	.486
.037	5.108	3.852	.621	3.764	2.838	.050	1273	.949	1341	.463	.430	.535	.448	.457	.491	.516	.473	.487
.037	4.989	3.762	.621	3.764	2.838	.050	1273	.949	1341	.463	.431	.536	.446	.458	.492	.517	.474	.488
.035	4.871	3.671	.619	3.762	2.835	.048	1273	.949	1341	.464	.431	.537	.449	.459	.493	.519	.474	.489
.035	4.587	3.456	.619	3.763	2.835	.048	1273	.949	1341	.464	.431	.538	.449	.459	.493	.519	.475	.489
.035	4.458	3.513	.619	3.761	2.836	.048	1273	.949	1341	.464	.432	.539	.449	.459	.494	.520	.475	.490
.033	4.532	3.418	.617	3.759	2.835	.046	1273	.949	1341	.465	.432	.540	.450	.460	.495	.521	.476	.490
.033	4.385	3.306	.617	3.757	2.833	.046	1273	.950	1341	.466	.433	.542	.451	.460	.496	.521	.477	.491
.031	4.228	3.189	.615	3.754	2.831	.044	1274	.950	1341	.466	.433	.543	.451	.461	.496	.523	.477	.491
.031	4.058	3.064	.615	3.752	2.829	.044	1273	.949	1341	.467	.434	.544	.451	.461	.497	.523	.478	.492
.029	3.896	2.936	.613	3.755	2.831	.042	1273	.950	1341	.467	.434	.545	.452	.461	.497	.524	.478	.492
.029	3.717	2.803	.613	3.752	2.829	.042	1273	.949	1341	.467	.434	.546	.452	.462	.498	.525	.478	.493
.028	3.533	2.664	.612	3.752	2.829	.041	1273	.949	1341	.468	.434	.547	.452	.463	.498	.525	.479	.493
.026	3.366	2.540	.610	3.749	2.829	.039	1272	.948	1341	.468	.434	.548	.453	.463	.499	.527	.479	.494
.026	3.191	2.406	.610	3.748	2.826	.039	1271	.948	1341	.469	.434	.549	.453	.464	.500	.527	.480	.494
.023	3.003	2.264	.607	3.744	2.823	.036	1269	.946	1341	.469	.434	.550	.453	.464	.500	.528	.481	.495
.024	2.829	2.135	.608	3.744	2.825	.037	1267	.945	1341	.470	.434	.551	.454	.464	.501	.529	.481	.496

DATE 5-6-74
PROJECT NUMBER VAS24-21BA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
29	139	7.92	149.2	1341	30.05	-8.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.0	.0163	1.325	.716	3862	4.448E-04	7.971F-08	6.702E 05	19.07	6.15	.84	22.633	19

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.022	2.660	2.007	.606	3.744	2.825	.035	1264	.943	1341	.470	.435	.552	.454	.465	.501	.530	.482	.496
.022	2.503	1.888	.606	3.743	2.824	.035	1262	.941	1341	.471	.436	.553	.455	.466	.502	.530	.482	.497
.020	2.350	1.773	.604	3.741	2.823	.033	1258	.938	1341	.471	.436	.555	.455	.466	.502	.531	.483	.497
.019	2.196	1.656	.603	3.740	2.820	.032	1252	.933	1341	.471	.436	.555	.455	.467	.504	.532	.483	.498
.019	2.048	1.545	.603	3.737	2.820	.032	1245	.928	1341	.472	.436	.557	.456	.467	.504	.532	.483	.498
.016	1.912	1.443	.600	3.738	2.821	.029	1237	.923	1341	.472	.437	.558	.456	.467	.505	.534	.484	.498
.016	1.785	1.347	.600	3.736	2.819	.029	1227	.915	1341	.473	.437	.559	.454	.468	.505	.534	.485	.499
.014	1.668	1.259	.598	3.735	2.818	.027	1219	.909	1341	.473	.437	.561	.457	.468	.506	.535	.485	.500
.014	1.564	1.181	.598	3.733	2.819	.027	1210	.902	1341	.474	.437	.562	.457	.468	.506	.536	.485	.500
.012	1.469	1.109	.596	3.731	2.817	.025	1197	.893	1341	.474	.438	.563	.455	.469	.507	.536	.486	.501
.012	1.383	1.044	.596	3.730	2.816	.025	1184	.883	1341	.475	.438	.565	.458	.470	.508	.538	.486	.501
.011	1.303	.984	.595	3.730	2.816	.024	1169	.872	1341	.475	.438	.566	.459	.470	.508	.538	.487	.501
.009	1.228	.927	.593	3.727	2.814	.022	1158	.863	1341	.475	.438	.567	.459	.471	.509	.539	.487	.502
.010	1.162	.877	.594	3.727	2.814	.023	1149	.857	1341	.476	.438	.568	.459	.471	.509	.540	.488	.502
.007	1.104	.834	.591	3.727	2.814	.020	1140	.850	1341	.476	.438	.569	.460	.472	.510	.540	.489	.503
.008	1.053	.795	.592	3.725	2.813	.021	1132	.844	1341	.477	.439	.569	.460	.472	.510	.542	.489	.504
.007	1.008	.761	.591	3.723	2.810	.020	1125	.839	1341	.477	.439	.570	.461	.472	.511	.543	.490	.504
.006	.968	.731	.590	3.723	2.810	.019	1117	.833	1341	.478	.439	.571	.461	.473	.512	.543	.490	.505
.007	.885	.668	.591	3.720	2.809	.020	1115	.831	1341	.479	.440	.574	.460	.475	.515	.546	.491	.506

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OM52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
39	139	7.96	151.3	1341	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.9	.0165	1.344	.726	3862	4.511E-04	7.971E-08	6.705E 05	21.01	6.15	.93	22.633	20

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.650	3.400	2.554	1.246	4.039	3.029	.664	1271	.949	1340	.387	.393	.400	.397	.395	.401	.400	.390	.396
.637	3.408	2.561	1.221	4.034	3.032	.645	1272	.949	1340	.387	.393	.400	.395	.396	.401	.401	.390	.397
.606	3.380	2.542	1.190	4.029	3.030	.614	1272	.949	1340	.389	.393	.401	.398	.397	.402	.402	.391	.398
.574	3.310	2.493	1.158	4.019	3.027	.582	1273	.950	1340	.389	.393	.402	.398	.397	.403	.403	.392	.398
.540	3.294	2.483	1.124	4.010	3.020	.548	1273	.950	1340	.390	.394	.404	.399	.397	.404	.404	.393	.399
.510	3.080	2.324	1.094	3.990	3.011	.518	1273	.950	1340	.390	.394	.405	.399	.398	.405	.405	.393	.400
.477	2.970	2.250	1.061	3.969	2.997	.485	1272	.949	1340	.391	.395	.405	.400	.398	.405	.406	.394	.401
.458	2.927	2.213	1.042	3.957	2.992	.466	1272	.950	1340	.391	.395	.406	.400	.399	.406	.406	.395	.401
.448	2.904	2.197	1.032	3.951	2.989	.456	1273	.950	1340	.392	.395	.407	.401	.399	.407	.408	.395	.402
.439	2.902	2.195	1.023	3.951	2.989	.447	1273	.950	1340	.393	.395	.408	.399	.400	.408	.408	.397	.402
.428	2.915	2.204	1.012	3.948	2.985	.436	1274	.951	1340	.393	.395	.409	.402	.401	.409	.409	.397	.403
.417	2.941	2.222	1.001	3.942	2.979	.425	1275	.951	1340	.394	.397	.409	.402	.401	.409	.410	.398	.404
.408	2.978	2.249	.992	3.939	2.974	.416	1274	.951	1340	.394	.397	.410	.402	.401	.410	.411	.398	.405
.397	3.024	2.282	.981	3.931	2.967	.405	1274	.950	1340	.395	.397	.412	.400	.402	.411	.412	.399	.405
.388	3.077	2.322	.972	3.926	2.962	.396	1273	.950	1340	.396	.397	.412	.404	.402	.412	.413	.400	.406
.376	3.137	2.367	.960	3.919	2.957	.384	1272	.950	1340	.397	.397	.413	.404	.403	.413	.413	.401	.407
.367	3.199	2.414	.951	3.913	2.953	.375	1272	.949	1340	.397	.398	.414	.395	.404	.413	.415	.402	.408
.356	3.263	2.460	.940	3.906	2.947	.364	1271	.949	1340	.398	.398	.414	.405	.404	.414	.415	.402	.408
.346	3.326	2.508	.930	3.901	2.942	.354	1271	.949	1340	.399	.398	.415	.405	.404	.415	.416	.404	.409
.339	3.393	2.558	.923	3.900	2.941	.347	1270	.948	1340	.399	.399	.416	.405	.405	.415	.417	.404	.409
.327	3.461	2.610	.911	3.893	2.936	.335	1270	.948	1340	.399	.399	.417	.406	.405	.416	.418	.404	.410
.319	3.538	2.669	.903	3.885	2.929	.327	1269	.947	1340	.400	.399	.417	.406	.405	.416	.419	.405	.411
.306	3.624	2.734	.890	3.879	2.927	.314	1269	.947	1340	.401	.399	.419	.406	.406	.417	.420	.406	.412
.297	3.723	2.810	.881	3.873	2.922	.305	1268	.946	1340	.401	.399	.419	.406	.406	.417	.420	.406	.413
.286	3.822	2.886	.870	3.863	2.917	.294	1268	.946	1340	.402	.400	.420	.407	.406	.418	.421	.406	.413
.277	3.919	2.959	.861	3.855	2.911	.285	1267	.946	1340	.402	.400	.420	.405	.407	.419	.422	.408	.414
.266	4.006	3.027	.850	3.849	2.908	.274	1267	.946	1340	.404	.400	.421	.408	.408	.419	.423	.408	.415
.255	4.079	3.082	.839	3.837	2.899	.263	1266	.945	1340	.404	.401	.422	.408	.408	.420	.424	.407	.415
.245	4.133	3.125	.829	3.828	2.895	.253	1267	.945	1340	.405	.401	.423	.408	.408	.421	.424	.409	.416
.233	4.168	3.153	.817	3.815	2.886	.241	1266	.945	1340	.405	.401	.424	.409	.409	.421	.425	.410	.417
.224	4.182	3.166	.808	3.799	2.876	.232	1266	.944	1340	.406	.402	.424	.409	.409	.422	.426	.410	.417
.212	4.175	3.161	.796	3.773	2.856	.220	1265	.944	1340	.406	.402	.425	.409	.410	.423	.427	.411	.418
.204	4.152	3.144	.792	3.764	2.851	.216	1264	.944	1340	.407	.402	.426	.409	.410	.423	.428	.412	.419
.193	4.129	3.130	.787	3.755	2.847	.211	1264	.944	1340	.408	.402	.427	.410	.410	.424	.429	.412	.420

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OA52 SHUTTLE SURVEY TEST
PAGE = 2

GROUP	MODEL	MACH NO	P0(PSIA)	T0(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
30	139	7.92	148.5	1340	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	IAP
98.9	.0162	1.319	.713	3861	4.431E-04	7.965E-08	6.705E 05	21.01	6.15	.93	22.633	20

ZF1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	T(1)/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.201	4.116	3.116	.765	3.750	2.843	.209	1264	.943	1340	.408	.403	.428	.410	.410	.424	.430	.413	.420
.198	4.094	3.108	.782	3.742	2.841	.206	1264	.943	1340	.408	.403	.429	.410	.411	.425	.431	.413	.421
.195	4.077	3.047	.779	3.730	2.834	.203	1264	.943	1340	.409	.404	.430	.411	.412	.425	.431	.414	.422
.190	4.066	3.041	.778	3.727	2.833	.202	1263	.943	1340	.409	.404	.430	.412	.412	.425	.432	.415	.422
.189	4.041	3.076	.773	3.714	2.827	.198	1263	.943	1340	.410	.404	.431	.412	.412	.427	.433	.416	.423
.186	4.028	3.066	.773	3.709	2.820	.194	1263	.943	1340	.410	.404	.432	.409	.413	.427	.434	.416	.424
.184	4.013	3.059	.766	3.695	2.817	.192	1263	.942	1340	.411	.404	.432	.410	.413	.428	.435	.416	.424
.182	4.002	3.052	.766	3.689	2.814	.190	1263	.942	1340	.412	.405	.433	.413	.413	.428	.435	.417	.425
.181	3.992	3.047	.765	3.688	2.815	.189	1263	.942	1340	.412	.405	.434	.413	.413	.429	.436	.418	.425
.181	3.984	3.043	.765	3.678	2.810	.189	1263	.943	1340	.413	.405	.435	.413	.415	.430	.437	.418	.427
.178	3.974	3.038	.762	3.674	2.809	.186	1263	.942	1340	.413	.405	.435	.413	.415	.430	.438	.419	.427
.177	3.959	3.035	.761	3.670	2.807	.185	1263	.942	1340	.414	.406	.436	.414	.415	.431	.439	.419	.428
.173	3.959	3.028	.757	3.664	2.803	.181	1262	.942	1340	.415	.406	.437	.414	.416	.431	.439	.420	.428
.173	3.949	3.025	.757	3.659	2.802	.181	1262	.942	1340	.415	.406	.438	.415	.416	.432	.440	.421	.429
.173	3.942	3.019	.754	3.660	2.804	.178	1262	.942	1340	.415	.406	.438	.415	.416	.432	.441	.421	.430
.169	3.936	3.011	.753	3.658	2.800	.177	1263	.942	1340	.416	.407	.439	.415	.416	.433	.442	.421	.430
.167	3.932	3.003	.751	3.663	2.798	.175	1263	.942	1340	.416	.407	.439	.415	.417	.434	.443	.423	.431
.164	3.928	2.996	.748	3.664	2.793	.172	1262	.942	1340	.417	.407	.440	.416	.417	.434	.444	.423	.432
.163	3.926	2.987	.747	3.665	2.788	.171	1263	.942	1340	.417	.408	.441	.416	.417	.435	.445	.424	.432
.159	3.924	2.981	.743	3.666	2.785	.167	1262	.942	1340	.418	.408	.442	.416	.418	.435	.445	.424	.434
.159	3.921	2.973	.743	3.666	2.780	.167	1263	.942	1340	.419	.408	.443	.417	.419	.436	.446	.424	.434
.156	3.919	2.967	.740	3.666	2.776	.164	1262	.942	1340	.419	.408	.443	.417	.419	.436	.447	.425	.435
.156	3.916	2.963	.740	3.666	2.774	.164	1262	.942	1340	.420	.409	.445	.418	.420	.438	.449	.427	.436
.154	3.914	2.959	.738	3.667	2.771	.162	1262	.942	1340	.421	.409	.446	.418	.420	.439	.450	.427	.437
.152	3.914	2.954	.736	3.665	2.766	.160	1262	.942	1340	.421	.410	.446	.419	.420	.439	.450	.427	.437
.150	3.912	2.948	.734	3.667	2.763	.158	1262	.942	1340	.422	.410	.447	.419	.421	.440	.451	.428	.438
.149	3.909	2.946	.732	3.665	2.762	.156	1262	.942	1340	.422	.410	.449	.419	.421	.440	.452	.429	.439
.147	3.906	2.941	.731	3.659	2.756	.155	1262	.942	1340	.423	.410	.449	.419	.421	.441	.453	.429	.439
.144	3.900	2.935	.728	3.653	2.749	.152	1262	.942	1340	.423	.410	.450	.420	.422	.442	.453	.430	.440
.143	3.896	2.930	.727	3.656	2.748	.151	1262	.942	1340	.424	.411	.450	.420	.423	.442	.454	.431	.440
.140	3.891	2.925	.724	3.649	2.743	.149	1261	.941	1340	.424	.411	.451	.420	.423	.443	.455	.431	.441
.139	3.886	2.918	.723	3.648	2.739	.147	1261	.941	1340	.425	.412	.452	.421	.423	.443	.455	.431	.442
.136	3.880	2.914	.720	3.639	2.733	.144	1261	.941	1340	.425	.412	.453	.421	.424	.444	.457	.432	.442
.134	3.873	2.907	.718	3.636	2.729	.142	1261	.941	1340	.426	.412	.453	.421	.424	.445	.457	.433	.443
.133	3.867	2.902	.717	3.632	2.726	.141	1261	.941	1340	.427	.412	.454	.422	.424	.446	.458	.434	.444
.129	3.860	2.895	.713	3.626	2.720	.137	1261	.941	1340	.427	.412	.455	.422	.425	.446	.459	.434	.445
.129	3.853	2.890	.713	3.621	2.716	.137	1261	.941	1340	.428	.413	.455	.423	.425	.447	.460	.435	.445
.126	3.846	2.885	.710	3.616	2.712	.134	1261	.941	1340	.428	.413	.456	.423	.425	.447	.460	.435	.446
.125	3.841	2.879	.710	3.611	2.707	.134	1261	.941	1340	.429	.413	.457	.423	.426	.448	.461	.436	.446
.123	3.835	2.875	.707	3.607	2.704	.131	1261	.941	1340	.429	.413	.458	.423	.427	.449	.462	.437	.447
.120	3.829	2.870	.704	3.597	2.696	.128	1260	.941	1340	.430	.414	.458	.424	.427	.449	.462	.437	.448

DATE 5-6-74
PROJECT NUMBER VAS24-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/PI OMS2 SHUTTLE SURVEY TEST
PAGE = 3

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
30	139	7.92	150.2	1340	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN	Y (IN)	X/L	L	IAP
98.9	.0164	1.334	.721	3861	4.481E-04	7.965E-08	6.705E 05	21.01	6.15	.93	22.633	20

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	Tw2/TO (DEG R)	Tw3/TO (DEG R)	Tw4/TO (DEG R)	Tw5/TO (DEG R)	Tw6/TO (DEG R)	Tw7/TO (DEG R)	Tw8/TO (DEG R)	Tw9/TO (DEG R)	Tw10/TO (DEG R)
.120	3.823	2.865	.704	3.597	2.697	.128	1260	.941	1340	.430	.414	.459	.424	.427	.450	.464	.438	.449
.117	3.814	2.861	.701	3.591	2.692	.125	1261	.941	1340	.431	.415	.460	.422	.428	.450	.464	.439	.449
.116	3.812	2.858	.700	3.582	2.685	.124	1261	.941	1340	.431	.415	.461	.425	.428	.451	.465	.439	.450
.113	3.807	2.856	.697	3.575	2.681	.121	1260	.940	1340	.432	.415	.461	.425	.428	.451	.465	.439	.450
.112	3.802	2.852	.696	3.569	2.677	.120	1261	.941	1340	.432	.415	.462	.423	.429	.452	.466	.440	.451
.109	3.796	2.846	.693	3.563	2.671	.117	1260	.941	1340	.433	.415	.462	.423	.430	.453	.467	.440	.451
.108	3.791	2.843	.692	3.558	2.669	.116	1260	.940	1340	.434	.416	.464	.426	.430	.453	.468	.442	.452
.106	3.787	2.840	.690	3.550	2.663	.114	1260	.940	1340	.434	.416	.464	.427	.431	.454	.468	.442	.453
.103	3.782	2.837	.687	3.543	2.657	.111	1260	.940	1340	.434	.416	.465	.427	.431	.454	.469	.442	.453
.103	3.778	2.835	.687	3.540	2.655	.111	1260	.940	1340	.435	.416	.466	.427	.431	.455	.470	.443	.454
.100	3.774	2.832	.684	3.533	2.652	.108	1260	.940	1340	.435	.416	.466	.428	.432	.455	.470	.443	.455
.099	3.769	2.829	.683	3.527	2.648	.107	1260	.940	1340	.436	.417	.467	.428	.432	.456	.471	.444	.455
.097	3.764	2.825	.681	3.519	2.642	.105	1260	.940	1340	.436	.417	.468	.428	.432	.457	.472	.445	.456
.095	3.760	2.822	.680	3.514	2.637	.104	1260	.940	1340	.437	.417	.468	.427	.433	.457	.473	.445	.457
.094	3.755	2.820	.678	3.512	2.638	.102	1260	.940	1340	.438	.417	.469	.427	.434	.458	.473	.445	.457
.091	3.751	2.817	.675	3.505	2.633	.099	1260	.940	1340	.438	.417	.470	.430	.434	.458	.474	.446	.458
.092	3.746	2.814	.676	3.502	2.631	.100	1260	.940	1340	.438	.418	.470	.430	.434	.459	.475	.447	.458
.089	3.741	2.812	.673	3.495	2.627	.097	1260	.940	1340	.439	.419	.471	.430	.435	.460	.476	.447	.459
.089	3.737	2.807	.673	3.486	2.619	.097	1260	.940	1340	.439	.419	.472	.423	.435	.460	.476	.447	.460
.086	3.731	2.804	.670	3.482	2.617	.094	1260	.940	1340	.440	.419	.473	.431	.436	.461	.477	.448	.460
.086	3.726	2.800	.670	3.478	2.614	.094	1259	.940	1340	.440	.419	.473	.431	.436	.462	.477	.449	.461
.084	3.720	2.796	.668	3.472	2.610	.092	1260	.940	1340	.441	.419	.474	.431	.436	.462	.479	.450	.461
.081	3.715	2.792	.665	3.464	2.605	.089	1260	.940	1340	.442	.420	.475	.432	.437	.463	.479	.450	.462
.082	3.709	2.788	.666	3.459	2.602	.090	1260	.940	1340	.442	.420	.475	.432	.437	.464	.480	.450	.462
.078	3.693	2.777	.662	3.452	2.596	.086	1260	.940	1340	.442	.420	.476	.432	.438	.464	.481	.451	.464
.077	3.688	2.775	.661	3.443	2.591	.085	1260	.940	1340	.443	.420	.476	.433	.438	.465	.481	.451	.464
.075	3.685	2.758	.659	3.437	2.587	.083	1260	.940	1340	.443	.421	.477	.434	.439	.465	.482	.452	.465
.074	3.649	2.746	.658	3.435	2.585	.082	1260	.940	1340	.444	.421	.478	.434	.439	.466	.483	.452	.465
.073	3.631	2.734	.657	3.426	2.580	.081	1260	.941	1340	.445	.421	.479	.434	.439	.466	.483	.453	.466
.071	3.639	2.716	.655	3.423	2.576	.079	1260	.940	1340	.445	.421	.479	.435	.440	.467	.484	.453	.466
.071	3.598	2.706	.655	3.415	2.573	.079	1260	.941	1340	.445	.421	.480	.435	.440	.468	.485	.454	.467
.068	3.563	2.683	.652	3.411	2.569	.076	1260	.941	1340	.446	.422	.481	.432	.441	.468	.485	.455	.467
.068	3.534	2.664	.652	3.407	2.566	.076	1260	.941	1340	.446	.422	.481	.435	.441	.469	.486	.455	.468
.065	3.507	2.641	.649	3.400	2.560	.073	1260	.941	1340	.447	.422	.482	.431	.442	.469	.487	.456	.468
.065	3.476	2.621	.649	3.393	2.559	.073	1260	.940	1340	.447	.423	.482	.436	.442	.470	.487	.457	.469
.063	3.442	2.594	.647	3.387	2.554	.071	1260	.941	1340	.448	.423	.483	.436	.442	.470	.488	.457	.469
.062	3.403	2.566	.646	3.380	2.549	.070	1261	.941	1340	.449	.423	.484	.437	.443	.471	.489	.458	.470
.062	3.367	2.539	.646	3.376	2.546	.070	1261	.941	1340	.449	.423	.484	.437	.443	.472	.490	.458	.470
.059	3.331	2.512	.643	3.369	2.541	.067	1260	.941	1340	.449	.423	.485	.438	.444	.472	.490	.459	.471
.061	3.295	2.486	.645	3.369	2.542	.069	1260	.941	1340	.450	.423	.485	.431	.444	.473	.491	.460	.472
.058	3.262	2.463	.642	3.364	2.540	.066	1260	.941	1340	.450	.423	.487	.436	.445	.474	.491	.460	.473
.058	3.227	2.435	.642	3.359	2.535	.066	1260	.940	1340	.451	.424	.487	.439	.445	.474	.492	.461	.473

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OA52 SHUTTLE SURVEY TEST
PAGE = 4

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREB_NO	ROLL-MODEL	YAW
30	139	7.92	149.1	1340	30.00	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.9	.0163	1.324	.716	3861	4.448E-04	7.965E-08	8.705E 05	21.01	6.15	.93	2.633	20

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.056	3.185	2.405	.640	3.371	2.546	.064	1260	.940	1340	.451	.424	.488	.439	.446	.475	.493	.461	.473
.055	3.141	2.372	.639	3.347	2.528	.063	1259	.940	1340	.451	.425	.488	.439	.446	.475	.494	.462	.474
.055	3.095	2.339	.639	3.347	2.529	.063	1259	.940	1340	.452	.425	.489	.440	.446	.476	.494	.462	.475
.054	3.052	2.306	.638	3.344	2.527	.062	1258	.939	1340	.453	.425	.490	.440	.447	.476	.495	.462	.475
.054	3.009	2.274	.638	3.339	2.523	.062	1258	.939	1340	.453	.426	.490	.440	.447	.477	.495	.462	.476
.051	2.965	2.241	.635	3.331	2.517	.059	1258	.938	1340	.454	.426	.491	.440	.448	.477	.496	.464	.476
.052	2.919	2.204	.636	3.326	2.513	.060	1257	.938	1340	.454	.426	.491	.441	.448	.478	.497	.464	.477
.050	2.873	2.172	.634	3.322	2.512	.058	1256	.937	1340	.454	.427	.492	.442	.449	.479	.497	.464	.477
.050	2.819	2.132	.634	3.319	2.509	.059	1256	.937	1340	.455	.427	.492	.442	.449	.479	.498	.465	.478
.049	2.769	2.092	.633	3.308	2.503	.057	1254	.936	1340	.455	.427	.494	.442	.450	.480	.499	.465	.479
.048	2.719	2.053	.632	3.306	2.502	.056	1253	.935	1340	.456	.427	.494	.443	.450	.481	.499	.466	.479
.048	2.661	2.013	.632	3.303	2.499	.056	1251	.934	1340	.457	.428	.495	.443	.451	.481	.500	.466	.480
.045	2.610	1.973	.629	3.302	2.497	.053	1250	.933	1340	.457	.428	.495	.443	.451	.482	.500	.467	.480
.046	2.557	1.934	.630	3.299	2.494	.054	1249	.932	1340	.457	.428	.496	.444	.451	.483	.501	.467	.481
.045	2.510	1.898	.629	3.301	2.496	.053	1247	.931	1340	.458	.428	.496	.444	.452	.483	.502	.468	.481
.045	2.462	1.860	.629	3.298	2.488	.053	1245	.929	1340	.458	.428	.497	.445	.452	.483	.502	.468	.482
.043	2.41	1.825	.627	3.296	2.491	.051	1244	.928	1340	.459	.429	.498	.445	.453	.484	.503	.469	.483
.043	2.3	1.789	.627	3.294	2.489	.051	1242	.927	1340	.459	.429	.498	.445	.453	.484	.504	.469	.483
.042	2.319	1.751	.626	3.286	2.481	.050	1241	.926	1340	.460	.430	.499	.446	.454	.485	.505	.470	.484
.040	2.271	1.715	.624	3.285	2.480	.049	1238	.924	1340	.460	.430	.499	.446	.454	.485	.505	.470	.484
.041	2.218	1.675	.625	3.278	2.475	.049	1235	.922	1340	.461	.430	.500	.446	.455	.486	.506	.470	.485
.039	2.162	1.632	.623	3.281	2.476	.047	1232	.919	1340	.461	.430	.500	.446	.455	.487	.506	.472	.485
.039	2.102	1.587	.623	3.274	2.472	.047	1228	.916	1340	.462	.430	.501	.447	.455	.487	.507	.472	.486
.037	2.048	1.546	.621	3.264	2.464	.045	1224	.913	1340	.462	.430	.502	.447	.456	.488	.507	.473	.487
.037	1.998	1.494	.621	3.263	2.464	.045	1220	.911	1340	.462	.431	.502	.447	.457	.489	.509	.473	.487
.036	1.948	1.447	.620	3.262	2.461	.044	1216	.907	1340	.463	.431	.503	.448	.457	.490	.509	.474	.488
.035	1.898	1.400	.619	3.256	2.457	.043	1212	.905	1340	.464	.432	.504	.449	.457	.490	.510	.474	.488
.035	1.798	1.357	.619	3.249	2.452	.043	1207	.901	1340	.464	.432	.504	.449	.458	.491	.510	.474	.489
.033	1.740	1.312	.617	3.248	2.449	.041	1202	.897	1340	.464	.432	.505	.450	.458	.491	.511	.475	.489
.033	1.681	1.268	.617	3.245	2.448	.041	1197	.894	1340	.465	.432	.506	.450	.459	.492	.511	.476	.490
.031	1.625	1.224	.615	3.237	2.443	.039	1192	.890	1340	.465	.432	.506	.450	.459	.492	.512	.476	.490
.031	1.571	1.184	.615	3.238	2.443	.039	1187	.886	1340	.466	.433	.507	.450	.460	.493	.513	.476	.491
.030	1.517	1.144	.614	3.232	2.439	.038	1183	.883	1340	.466	.434	.507	.451	.460	.494	.514	.477	.491
.029	1.465	1.105	.613	3.224	2.433	.037	1177	.879	1340	.466	.434	.509	.451	.461	.494	.514	.477	.492
.029	1.413	1.066	.613	3.222	2.430	.037	1171	.874	1340	.467	.434	.509	.451	.461	.495	.515	.478	.492
.027	1.360	1.026	.611	3.212	2.424	.035	1164	.869	1340	.468	.434	.509	.452	.462	.495	.515	.478	.493
.027	1.310	.989	.611	3.213	2.424	.035	1158	.864	1340	.468	.435	.510	.452	.462	.496	.516	.479	.494
.026	1.257	.949	.610	3.209	2.421	.034	1151	.859	1340	.469	.435	.511	.453	.462	.496	.517	.480	.494
.025	1.209	.912	.610	3.208	2.414	.033	1144	.857	1340	.469	.435	.511	.453	.463	.497	.517	.480	.495
.024	1.161	.876	.609	3.200	2.413	.032	1140	.851	1340	.469	.435	.512	.453	.464	.497	.518	.480	.495
.023	1.113	.841	.607	3.191	2.410	.031	1133	.846	1340	.470	.435	.513	.454	.464	.498	.519	.481	.496
.023	1.069	.807	.607	3.186	2.404	.031	1126	.840	1340	.470	.436	.513	.454	.464	.498	.520	.482	.496

DATE -6-7*
PROJECT NUMBER VA524-21RA
AMC, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OPS2 SHUTTLE SURVEY TEST
PAGE = 5

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	AL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
30	139	7.92	149.1	1340	3 .00	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3	MU-INF F/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.9	.0163	1.324	.716	3561	4.44?E-04	.965E-08	6.705E 05	21.01	6.15	.93	22.633	20

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.021	1.022	.771	-.05	3.179	2.401	.029	1112	.830	1340	.470	.436	.514	[illegible]	.465	.499	.520	.482	.496
.020	.916	.736	.60	3.171	2.393	.028	1103	.823	1340	.471	.436	.514	.455	.465	.499	.521	.483	.497
.019	.921	.703	.603	3.168	2.391	.027	1091	.814	1340	.472	.436	.515	.455	.466	.500	.521	.484	.498
.018	.895	.675	.602	3.159	2.383	.026	1080	.806	1340	.472	.436	.515	.455	.466	.500	.522	.484	.498
.017	.868	.648	.601	3.152	2.380	.025	1069	.798	1340	.473	.437	.517	.456	.466	.501	.522	.484	.499
.015	.810	.611	.599	3.148	2.376	.023	1059	.790	1340	.473	.437	.517	.457	.467	.502	.523	.484	.499
.015	.774	.585	.599	3.142	2.372	.023	1050	.784	1340	.473	.438	.518	.457	.468	.502	.524	.485	.499
.014	741	.559	.598	3.139	2.370	.022	1040	.776	1340	.474	.438	.518	.457	.468	.503	.524	.485	.500
.013	.711	.537	.597	3.131	2.364	.021	1031	.769	1340	.474	.438	.519	.458	.469	.503	.525	.486	.500
.012	.682	.515	.596	3.129	2.361	.020	1024	.764	1340	.475	.438	.520	.458	.469	.504	.526	.487	.501
.011	.655	.495	.595	3.123	2.358	.019	1016	.758	1340	.475	.438	.520	.458	.69	.505	.526	.487	.502
.011	.632	.477	.595	3.113	2.349	.019	1007	.751	1340	.476	.439	.520	.459	.470	.505	.527	.487	.502
.009	.606	.460	.593	3.110	2.350	.017	999	.745	1340	.476	.439	.521	.459	.470	.506	.527	.488	.503
.007	.582	.402	.591	3.106	2.347	.015	984	.735	1340	.478	.440	.524	.459	.472	.509	.530	.490	.505

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/R1.0452 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PHEBEND	ROLL-MODEL	YAW
31	139	7.92	150.9	1340	30.05	-8.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	IAP
98.9	.0165	1.340	.725	38[illegible]	4.502E-04	7.965E-08	6.713E 05	19.40	6.97	.86	22.633	21

ZP1 (IN)	PP1 (PSIA)	PP /P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.728	3.734	2.749	1.312	.986	.735	.740	1269	.947	1340	.388	.395	.401	.399	.398	.402	.401	.392	.400
.720	3.803	2.841	1.306	.984	.735	.732	1270	.948	1340	.389	.395	.402	.400	.398	.403	.402	.393	.401
.699	3.844	2.875	1.273	.986	.737	.701	1277	.953	1340	.390	.395	.404	.401	.399	.404	.404	.394	.402
.655	3.860	2.888	1.239	.983	.736	.667	1277	.953	1340	.390	.395	.405	.399	.399	.405	.405	.395	.402
.624	3.865	2.893	1.208	.982	.735	.636	1277	.953	1340	.391	.396	.405	.399	.400	.406	.406	.395	.403
.591	3.861	2.892	1.175	.982	.736	.603	1277	.953	1340	.392	.397	.407	.402	.401	.407	.406	.397	.404
.561	3.842	2.875	1.145	.982	.735	.573	1278	.953	1340	.393	.397	.408	.402	.401	.408	.407	.398	.405
.530	3.809	2.850	1.114	.984	.737	.542	1278	.954	1339	.393	.397	.409	.403	.402	.409	.408	.398	.405
.499	3.767	2.824	1.083	.982	.736	.511	1278	.954	1340	.394	.398	.409	.404	.402	.409	.409	.399	.406
.468	3.719	2.793	1.052	.980	.736	.480	1279	.955	1340	.394	.398	.410	.404	.403	.410	.410	.400	.406
.454	3.674	2.761	1.038	.980	.737	.466	1279	.955	1339	.396	.398	.411	.405	.404	.411	.411	.401	.407
.445	3.638	2.736	1.029	.979	.736	.457	1280	.956	1339	.396	.399	.413	.405	.404	.412	.412	.402	.408
.433	3.610	2.717	1.017	.979	.737	.445	1280	.956	1339	.397	.399	.413	.406	.405	.413	.413	.403	.408
.423	3.585	2.700	1.007	.977	.736	.435	1279	.956	1339	.397	.399	.414	.406	.405	.414	.414	.403	.410
.412	3.565	2.688	.996	.978	.737	.424	1280	.956	1339	.398	.399	.415	.406	.406	.414	.415	.404	.410
.401	3.545	2.673	.985	.974	.735	.413	1280	.956	1339	.399	.400	.415	.407	.406	.415	.415	.404	.411
.390	3.529	2.665	.974	.976	.737	.402	1280	.956	1339	.400	.400	.417	.407	.407	.416	.417	.405	.412
.379	3.510	2.652	.963	.973	.735	.391	1280	.956	1339	.400	.400	.417	.407	.407	.417	.417	.406	.412
.369	3.493	2.645	.953	.974	.737	.381	1281	.957	1339	.401	.401	.418	.408	.407	.417	.418	.406	.413
.357	3.474	2.630	.941	.973	.737	.369	1281	.956	1339	.402	.401	.419	.408	.408	.418	.419	.407	.414
.347	3.454	2.617	.931	.972	.736	.359	1281	.957	1339	.402	.402	.419	.408	.408	.418	.420	.408	.414
.335	3.434	2.605	.919	.971	.737	.347	1281	.957	1339	.403	.402	.420	.409	.409	.419	.421	.408	.415
.325	3.414	2.591	.909	.969	.736	.337	1281	.957	1339	.404	.402	.421	.410	.409	.420	.422	.408	.415
.314	3.391	2.573	.898	.969	.737	.326	1282	.957	1339	.404	.403	.421	.410	.410	.421	.422	.410	.417
.303	3.368	2.562	.887	.965	.734	.315	1282	.958	1339	.405	.403	.422	.410	.410	.421	.423	.410	.417
.292	3.349	2.551	.876	.967	.736	.304	1282	.957	1339	.406	.403	.423	.410	.410	.422	.424	.411	.418
.279	3.324	2.535	.863	.963	.734	.291	1282	.958	1339	.406	.403	.424	.411	.411	.422	.425	.411	.418
.270	3.306	2.523	.854	.964	.736	.282	1283	.958	1339	.407	.404	.425	.411	.411	.423	.426	.412	.419
.258	3.283	2.504	.842	.962	.734	.270	1283	.958	1339	.407	.404	.426	.411	.411	.423	.427	.413	.420
.248	3.262	2.495	.832	1.011	.774	.260	1283	.958	1339	.408	.404	.426	.412	.412	.424	.428	.414	.421
.236	3.238	2.480	.820	1.000	.767	.249	1283	.958	1339	.408	.404	.428	.412	.413	.425	.429	.414	.421
.231	3.220	2.468	.815	1.128	.865	.243	1283	.958	1339	.409	.404	.428	.413	.413	.425	.430	.414	.422
.229	3.204	2.457	.813	1.143	.877	.241	1283	.958	1339	.410	.405	.429	.413	.413	.426	.432	.415	.422
.226	3.191	2.452	.810	1.154	.887	.238	1283	.958	1339	.411	.405	.430	.413	.414	.426	.432	.415	.423
.226	3.181	2.445	.810	1.167	.897	.238	1284	.959	1339	.411	.406	.430	.414	.414	.427	.433	.417	.424
.222	3.171	2.442	.806	1.174	.904	.234	1283	.959	1339	.411	.406	.432	.414	.415	.428	.434	.417	.425
.223	3.164	2.438	.807	1.180	.909	.235	1284	.959	1339	.412	.406	.432	.414	.415	.428	.435	.418	.425

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AND, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
31	139	7.92	144.0	1338	30.05	-8.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
94.8	.0140	1.297	.701	3858	4.363E-04	7.953E-08	6.713E 05	19.40	6.97	.86	22.633	21

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.220	3.157	2.435	.804	1.148	.916	.232	1283	.959	1338	.413	.406	.433	.415	.416	.429	.437	.418	.426
.219	3.151	2.429	.803	1.198	.926	.231	1284	.960	1338	.413	.406	.434	.415	.416	.430	.437	.419	.427
.216	3.147	2.429	.800	1.214	.937	.228	1284	.960	1338	.414	.407	.435	.416	.416	.431	.438	.420	.428
.213	3.144	2.424	.797	1.226	.947	.225	1284	.960	1338	.415	.408	.435	.416	.417	.431	.439	.420	.428
.211	3.144	2.414	.795	1.246	.960	.223	1285	.960	1338	.415	.408	.437	.416	.417	.432	.440	.420	.429
.206	3.149	2.411	.790	1.274	.976	.218	1285	.960	1339	.415	.408	.437	.416	.417	.432	.441	.421	.429
.205	3.155	2.408	.789	1.299	.991	.217	1285	.960	1339	.416	.408	.437	.417	.418	.433	.442	.422	.430
.203	3.163	2.403	.787	1.331	1.011	.215	1285	.960	1339	.417	.408	.438	.417	.418	.433	.443	.422	.431
.201	3.172	2.400	.785	1.371	1.037	.213	1285	.960	1339	.417	.408	.439	.417	.418	.434	.444	.423	.432
.199	3.182	2.396	.783	1.404	1.058	.211	1285	.960	1339	.418	.409	.440	.418	.419	.434	.444	.423	.432
.196	3.191	2.397	.780	1.473	1.106	.208	1285	.959	1340	.418	.409	.440	.417	.419	.435	.445	.424	.432
.196	3.200	2.394	.780	1.493	1.118	.208	1285	.959	1340	.419	.409	.440	.418	.419	.435	.446	.425	.434
.193	3.207	2.394	.777	1.553	1.159	.205	1285	.959	1340	.419	.409	.442	.418	.420	.436	.447	.425	.434
.192	3.215	2.395	.776	1.558	1.234	.204	1285	.959	1340	.420	.409	.442	.419	.420	.436	.448	.425	.435
.189	3.227	2.395	.773	1.760	1.306	.201	1285	.959	1340	.420	.410	.443	.419	.420	.437	.449	.427	.435
.187	3.233	2.395	.771	1.902	1.408	.199	1285	.959	1340	.421	.410	.444	.419	.421	.438	.450	.427	.436
.185	3.239	2.395	.769	2.041	1.509	.197	1285	.959	1340	.421	.410	.445	.420	.421	.438	.451	.428	.437
.183	3.243	2.396	.767	2.170	1.603	.195	1284	.959	1340	.422	.410	.446	.420	.421	.439	.452	.429	.438
.182	3.246	2.395	.766	2.304	1.701	.194	1284	.959	1340	.423	.411	.446	.420	.422	.440	.453	.429	.438
.178	3.247	2.399	.762	2.475	1.828	.190	1284	.958	1340	.423	.412	.447	.420	.423	.440	.454	.430	.439
.179	3.247	2.399	.762	2.449	1.857	.190	1284	.958	1340	.424	.412	.448	.421	.423	.441	.455	.430	.439
.176	3.244	2.398	.759	2.624	2.088	.186	1284	.958	1340	.424	.412	.449	.419	.423	.442	.455	.431	.440
.173	3.244	2.401	.757	2.807	2.226	.185	1284	.958	1340	.425	.412	.450	.421	.424	.442	.457	.432	.441
.171	3.242	2.403	.755	3.161	2.343	.183	1283	.958	1340	.425	.412	.450	.422	.424	.443	.458	.432	.442
.169	3.240	2.401	.753	3.322	2.442	.181	1283	.958	1340	.426	.413	.451	.422	.424	.443	.458	.432	.442
.167	3.237	2.403	.751	3.456	2.565	.179	1283	.958	1340	.427	.413	.452	.423	.425	.444	.460	.434	.443
.165	3.235	2.403	.749	3.600	2.674	.177	1283	.958	1340	.427	.413	.453	.423	.425	.445	.461	.434	.443
.164	3.233	2.403	.748	3.699	2.749	.176	1283	.959	1339	.428	.414	.454	.423	.426	.446	.462	.435	.444
.161	3.231	2.404	.745	3.779	2.812	.173	1283	.958	1339	.428	.414	.455	.423	.426	.447	.463	.435	.445
.161	3.230	2.405	.745	3.829	2.851	.173	1283	.958	1339	.429	.414	.455	.424	.427	.447	.464	.436	.446
.157	3.226	2.404	.741	3.874	2.886	.169	1283	.958	1339	.429	.414	.456	.425	.427	.448	.464	.437	.447
.155	3.227	2.406	.739	3.833	2.902	.167	1282	.957	1340	.430	.415	.456	.424	.427	.447	.465	.437	.447
.153	3.225	2.404	.737	3.899	2.911	.165	1282	.957	1339	.430	.415	.458	.425	.428	.449	.466	.438	.448
.152	3.223	2.406	.736	3.895	2.908	.164	1282	.957	1339	.431	.415	.458	.423	.429	.449	.467	.438	.448
.150	3.224	2.410	.734	3.889	2.907	.162	1282	.957	1339	.432	.415	.459	.423	.429	.450	.468	.439	.449
.149	3.223	2.411	.733	3.875	2.899	.161	1282	.957	1339	.432	.416	.460	.426	.429	.451	.469	.440	.449
.148	3.222	2.412	.732	3.866	2.894	.160	1282	.957	1339	.433	.416	.460	.427	.430	.451	.470	.440	.450
.144	3.221	2.413	.728	3.854	2.887	.156	1281	.957	1339	.433	.417	.462	.427	.430	.452	.471	.441	.451
.144	3.221	2.414	.728	3.844	2.881	.156	1281	.957	1339	.434	.417	.462	.427	.430	.452	.472	.441	.451
.140	3.221	2.414	.724	3.831	2.871	.152	1281	.957	1339	.434	.417	.463	.428	.431	.453	.473	.442	.452
.138	3.223	2.417	.722	3.822	2.867	.150	1281	.957	1339	.435	.417	.463	.428	.431	.454	.473	.443	.453
.137	3.225	2.420	.721	3.819	2.866	.149	1280	.956	1339	.436	.417	.464	.428	.432	.454	.474	.443	.454

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
31	139	7.92	149.9	1339	30.05	-8.05	22.00	180.00	0.

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.9	.0164	1.331	.720	3860	4.476E-04	7.959E-08	6.713E 05	19.40	6.97	.86	22.633	21

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.136	3.226	2.423	.720	3.809	2.861	.148	1280	.956	1339	.436	.418	.465	.429	.432	.455	.475	.443	.454
.135	3.227	2.427	.719	3.809	2.865	.147	1280	.956	1339	.436	.418	.466	.427	.433	.455	.476	.444	.455
.132	3.229	2.429	.716	3.804	2.861	.144	1280	.956	1339	.437	.418	.466	.427	.433	.456	.477	.445	.455
.131	3.232	2.432	.715	3.801	2.860	.143	1281	.956	1339	.437	.418	.467	.430	.433	.456	.478	.445	.456
.128	3.235	2.436	.712	3.796	2.858	.140	1280	.956	1339	.438	.419	.467	.430	.434	.457	.479	.446	.456
.126	3.238	2.439	.710	3.794	2.857	.138	1280	.956	1339	.438	.419	.469	.428	.434	.458	.479	.447	.457
.124	3.246	2.448	.708	3.792	2.859	.136	1280	.956	1339	.439	.419	.469	.423	.434	.458	.481	.447	.458
.123	3.252	2.452	.707	3.788	2.857	.135	1280	.956	1339	.440	.419	.470	.431	.435	.459	.481	.448	.458
.121	3.257	2.458	.705	3.782	2.854	.133	1280	.956	1339	.440	.420	.471	.432	.436	.459	.482	.448	.459
.119	3.266	2.466	.703	3.780	2.854	.131	1279	.955	1339	.441	.420	.471	.432	.436	.460	.484	.449	.460
.118	3.275	2.473	.702	3.778	2.853	.130	1280	.956	1339	.441	.420	.472	.432	.436	.460	.484	.449	.460
.116	3.285	2.482	.700	3.773	2.851	.128	1279	.955	1339	.441	.421	.473	.433	.437	.461	.485	.450	.461
.116	3.293	2.490	.700	3.772	2.852	.128	1279	.955	1339	.442	.421	.473	.433	.437	.462	.486	.451	.462
.114	3.303	2.498	.698	3.771	2.851	.126	1279	.955	1339	.443	.421	.474	.433	.438	.463	.486	.451	.462
.113	3.313	2.506	.697	3.770	2.852	.125	1279	.955	1339	.443	.421	.475	.432	.438	.463	.487	.451	.463
.112	3.321	2.515	.696	3.766	2.851	.124	1279	.955	1339	.444	.421	.475	.432	.438	.464	.488	.452	.463
.111	3.331	2.524	.695	3.764	2.851	.123	1279	.955	1339	.444	.422	.477	.434	.439	.464	.489	.452	.464
.109	3.345	2.536	.693	3.759	2.850	.121	1279	.955	1339	.445	.422	.477	.434	.439	.465	.489	.454	.464
.108	3.357	2.545	.692	3.759	2.850	.120	1279	.955	1339	.445	.422	.478	.433	.440	.466	.490	.454	.465
.107	3.369	2.556	.691	3.753	2.848	.119	1279	.955	1339	.445	.422	.478	.433	.440	.466	.491	.454	.466
.106	3.384	2.567	.688	3.752	2.846	.116	1279	.955	1339	.447	.423	.479	.436	.441	.467	.492	.455	.466
.105	3.395	2.581	.689	3.749	2.846	.117	1279	.955	1339	.447	.423	.479	.436	.441	.467	.493	.455	.467
.103	3.413	2.591	.687	3.747	2.845	.115	1279	.955	1339	.447	.423	.481	.436	.441	.468	.494	.456	.467
.103	3.428	2.604	.687	3.748	2.847	.115	1279	.955	1339	.448	.423	.481	.437	.442	.469	.495	.456	.468
.101	3.444	2.618	.685	3.743	2.846	.113	1279	.955	1339	.449	.423	.482	.437	.443	.469	.495	.457	.469
.100	3.456	2.632	.684	3.742	2.847	.112	1279	.955	1339	.449	.423	.482	.437	.443	.470	.496	.458	.469
.099	3.474	2.644	.683	3.742	2.847	.111	1279	.955	1339	.449	.424	.483	.438	.443	.470	.497	.458	.470
.097	3.492	2.656	.681	3.741	2.846	.109	1279	.956	1339	.450	.425	.484	.438	.444	.471	.497	.459	.470
.097	3.511	2.669	.681	3.741	2.844	.109	1280	.956	1339	.450	.425	.485	.436	.444	.471	.498	.459	.471
.095	3.530	2.684	.679	3.744	2.846	.107	1280	.956	1339	.451	.425	.485	.439	.444	.472	.499	.460	.471
.095	3.549	2.696	.679	3.746	2.846	.107	1280	.956	1339	.451	.426	.486	.439	.445	.473	.500	.460	.472
.094	3.567	2.708	.678	3.746	2.844	.106	1280	.956	1339	.452	.426	.486	.437	.445	.474	.500	.461	.473
.094	3.584	2.719	.678	3.749	2.844	.106	1280	.956	1339	.452	.426	.487	.437	.445	.474	.501	.462	.473
.092	3.601	2.732	.676	3.751	2.846	.104	1280	.956	1339	.453	.426	.488	.440	.446	.475	.502	.462	.474
.091	3.619	2.744	.675	3.752	2.844	.103	1280	.956	1339	.454	.427	.488	.441	.447	.475	.503	.463	.474
.091	3.640	2.759	.675	3.752	2.845	.103	1280	.956	1339	.454	.427	.489	.441	.447	.476	.503	.463	.475
.089	3.661	2.774	.672	3.754	2.846	.100	1280	.956	1339	.454	.427	.489	.441	.448	.477	.504	.464	.475
.089	3.683	2.791	.673	3.755	2.845	.101	1280	.956	1339	.455	.428	.490	.442	.448	.477	.505	.464	.477
.086	3.704	2.806	.670	3.756	2.843	.098	1280	.956	1339	.456	.428	.491	.442	.448	.478	.505	.465	.477
.087	3.729	2.823	.671	3.753	2.842	.099	1281	.956	1339	.456	.428	.492	.443	.449	.478	.507	.465	.477
.085	3.756	2.843	.669	3.754	2.842	.097	1280	.956	1339	.456	.428	.492	.443	.449	.479	.507	.466	.478
.085	3.779	2.861	.669	3.753	2.842	.097	1281	.956	1339	.456	.428	.493	.441	.449	.479	.508	.466	.478

DATE 5-6-74
PROJECT NUMBER VA524-21HA
APU, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
31	139	7.92	148.7	1339	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO2 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.9	.0162	1.321	.714	3860	4.440E-04	7.959E-08	6.713E 05	19.40	6.97	.86	22.633	21

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	Tw2/TO (DEG R)	Tw3/TO (DEG R)	Tw4/TO (DEG R)	Tw5/TO (DEG R)	Tw6/TO (DEG R)	Tw7/TO (DEG R)	Tw8/TO (DEG R)	Tw9/TO (DEG R)	Tw10/TO (DEG R)
.084	3.804	2.893	.668	3.755	2.842	.096	1280	.956	1339	.457	.429	.494	.443	.450	.480	.509	.457	.479
.082	3.827	2.898	.666	3.754	2.842	.094	1281	.957	1339	.458	.429	.495	.444	.451	.481	.510	.467	.479
.082	3.853	2.917	.666	3.752	2.840	.094	1281	.957	1339	.458	.429	.495	.444	.451	.481	.510	.468	.480
.079	3.878	2.936	.663	3.754	2.842	.091	1281	.957	1339	.459	.429	.496	.444	.452	.482	.511	.468	.481
.080	3.903	2.953	.664	3.752	2.839	.092	1282	.957	1339	.459	.430	.496	.445	.452	.482	.512	.469	.481
.077	3.928	2.974	.661	3.750	2.843	.089	1282	.957	1339	.459	.430	.497	.445	.453	.483	.512	.470	.482
.078	3.952	2.992	.662	3.750	2.839	.090	1282	.958	1339	.460	.430	.497	.445	.453	.484	.514	.470	.482
.076	3.975	3.010	.660	3.751	2.840	.088	1283	.958	1339	.460	.430	.498	.446	.454	.484	.514	.470	.483
.076	3.999	3.028	.660	3.751	2.840	.088	1283	.958	1339	.461	.431	.499	.447	.454	.485	.515	.470	.484
.075	4.022	3.046	.659	3.748	2.838	.087	1283	.959	1339	.462	.431	.499	.447	.455	.485	.516	.471	.484
.073	4.045	3.067	.657	3.749	2.840	.085	1284	.959	1339	.462	.432	.500	.447	.455	.486	.516	.472	.485
.073	4.072	3.083	.657	3.746	2.837	.085	1284	.959	1339	.463	.432	.501	.448	.455	.486	.518	.472	.485
.070	4.097	3.104	.654	3.744	2.837	.082	1285	.959	1339	.463	.432	.501	.448	.456	.487	.518	.473	.486
.071	4.122	3.123	.655	3.745	2.838	.083	1285	.960	1339	.463	.432	.502	.448	.456	.488	.519	.474	.486
.069	4.144	3.140	.653	3.748	2.840	.081	1285	.960	1339	.464	.433	.503	.449	.456	.488	.519	.473	.487
.069	4.167	3.155	.653	3.747	2.837	.081	1286	.960	1339	.464	.433	.503	.447	.457	.489	.520	.474	.488
.067	4.193	3.175	.651	3.747	2.837	.079	1287	.961	1339	.465	.433	.504	.442	.458	.489	.521	.475	.488
.067	4.223	3.197	.651	3.747	2.837	.079	1287	.961	1339	.465	.434	.504	.449	.458	.490	.522	.475	.488
.066	4.257	3.221	.650	3.752	2.839	.078	1288	.962	1339	.466	.434	.358	.450	.459	.490	.523	.477	.489
.064	4.292	3.248	.648	3.749	2.837	.076	1289	.963	1339	.466	.434	.505	.450	.459	.492	.523	.477	.489
.064	4.332	3.278	.648	3.751	2.838	.076	1290	.964	1339	.467	.434	.506	.451	.459	.492	.525	.478	.490
.061	4.372	3.306	.645	3.749	2.835	.073	1291	.964	1339	.467	.435	.507	.451	.460	.493	.525	.478	.490
.062	4.416	3.339	.646	3.750	2.835	.074	1293	.965	1339	.467	.435	.508	.452	.460	.493	.526	.478	.491
.059	4.458	3.371	.643	3.752	2.837	.071	1294	.966	1339	.468	.435	.508	.452	.460	.494	.527	.479	.492
.060	4.498	3.399	.644	3.751	2.836	.072	1295	.967	1339	.469	.435	.509	.452	.461	.494	.527	.479	.492
.058	4.535	3.426	.642	3.748	2.832	.070	1297	.968	1339	.469	.436	.510	.452	.462	.495	.529	.480	.493
.057	4.572	3.455	.641	3.750	2.834	.069	1298	.969	1339	.470	.436	.510	.453	.462	.495	.529	.480	.493
.056	4.605	3.477	.640	3.751	2.832	.068	1300	.971	1339	.470	.436	.511	.454	.463	.496	.530	.481	.494
.055	4.639	3.503	.639	3.750	2.832	.067	1301	.971	1339	.471	.436	.512	.454	.463	.497	.530	.481	.495
.054	4.675	3.530	.638	3.748	2.830	.066	1302	.973	1339	.471	.437	.512	.454	.463	.497	.531	.482	.495
.053	4.707	3.554	.637	3.751	2.832	.065	1304	.974	1339	.471	.437	.513	.455	.464	.497	.532	.482	.495
.054	4.743	3.581	.638	3.750	2.831	.066	1305	.975	1339	.472	.437	.514	.455	.464	.498	.533	.482	.496
.050	4.779	3.609	.634	3.747	2.829	.062	1307	.976	1339	.472	.437	.515	.455	.465	.499	.533	.484	.496
.051	4.820	3.640	.635	3.746	2.829	.063	1309	.978	1339	.473	.438	.515	.456	.465	.499	.534	.484	.497
.050	4.859	3.674	.634	3.749	2.831	.062	1311	.979	1339	.473	.438	.516	.456	.466	.500	.535	.485	.497
.048	4.912	3.709	.632	3.746	2.829	.060	1314	.981	1339	.474	.438	.516	.456	.466	.500	.536	.485	.498
.047	4.964	3.748	.631	3.748	2.830	.059	1315	.982	1339	.474	.438	.517	.457	.467	.501	.537	.485	.499
.046	5.005	3.779	.630	3.743	2.827	.058	1317	.984	1339	.475	.438	.518	.458	.467	.502	.538	.486	.499
.045	5.047	3.811	.629	3.745	2.828	.057	1319	.985	1339	.475	.440	.518	.458	.468	.502	.538	.486	.500
.043	5.093	3.834	.627	3.742	2.826	.055	1321	.986	1339	.476	.440	.519	.458	.469	.503	.539	.487	.500
.043	5.113	3.861	.627	3.745	2.828	.055	1322	.987	1339	.476	.440	.519	.458	.469	.503	.540	.487	.501
.039	5.130	3.874	.623	3.743	2.826	.051	1323	.988	1339	.477	.440	.520	.459	.470	.504	.541	.488	.501

DATE 5-6-74
PROJECT NUMBER VAS24-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
31	139	7.96	149.1	1339	30.06	-8.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.9	.0163	1.324	.716	3860	4.452E-04	7.959E-08	6.713E 05	19.40	6.97	.86	22.633	21

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.039	5.140	3.881	.623	3.739	2.823	.051	1324	.988	1339	.477	.440	.520	.459	.470	.504	.542	.488	.502
.038	5.131	3.874	.622	3.739	2.823	.050	1324	.988	1339	.477	.440	.522	.459	.470	.505	.543	.489	.502
.037	5.103	3.853	.621	3.737	2.822	.049	1322	.988	1339	.478	.441	.522	.460	.470	.505	.544	.489	.503
.035	5.054	3.819	.619	3.738	2.825	.047	1321	.987	1339	.478	.441	.523	.460	.471	.506	.545	.489	.503
.035	4.998	3.766	.611	3.737	2.822	.047	1319	.985	1339	.479	.441	.523	.460	.471	.507	.545	.490	.504
.033	4.853	3.687	.617	3.735	2.821	.045	1315	.982	1339	.479	.441	.524	.461	.472	.507	.546	.490	.504
.031	4.756	3.593	.615	3.733	2.819	.043	1312	.980	1339	.479	.442	.525	.462	.473	.508	.547	.491	.505
.031	4.620	3.491	.615	3.734	2.822	.043	1308	.977	1339	.480	.442	.525	.462	.473	.508	.548	.492	.505
.029	4.458	3.366	.613	3.731	2.817	.041	1303	.973	1339	.481	.442	.526	.462	.473	.509	.549	.492	.505
.029	4.291	3.242	.613	3.732	2.820	.041	1297	.969	1339	.481	.443	.526	.463	.474	.510	.551	.493	.507
.027	4.100	3.098	.611	3.729	2.818	.039	1291	.964	1339	.481	.443	.527	.463	.474	.510	.552	.493	.507
.026	3.905	2.951	.610	3.727	2.816	.038	1285	.960	1339	.482	.443	.527	.463	.475	.511	.552	.493	.508
.025	3.703	2.798	.609	3.728	2.817	.037	1279	.955	1339	.482	.443	.528	.464	.475	.511	.553	.495	.508
.024	3.500	2.644	.608	3.723	2.813	.036	1270	.948	1339	.483	.444	.529	.464	.475	.512	.555	.495	.509
.023	3.281	2.479	.607	3.725	2.815	.035	1262	.942	1339	.484	.444	.530	.464	.476	.512	.555	.495	.509
.022	3.076	2.326	.606	3.722	2.814	.034	1255	.937	1339	.484	.444	.530	.465	.476	.513	.556	.495	.510
.022	2.889	2.185	.606	3.723	2.815	.034	1249	.933	1339	.484	.444	.531	.466	.477	.514	.557	.496	.510
.020	2.727	2.062	.604	3.721	2.814	.032	1246	.931	1339	.485	.444	.531	.466	.477	.514	.558	.496	.511
.021	2.602	1.966	.605	3.721	2.812	.033	1241	.926	1339	.485	.445	.532	.464	.478	.515	.559	.496	.511
.018	2.472	1.869	.602	3.719	2.812	.030	1234	.921	1339	.486	.445	.533	.464	.478	.515	.560	.497	.511
.019	2.348	1.775	.603	3.719	2.812	.031	1231	.920	1339	.486	.445	.533	.467	.479	.516	.562	.498	.512
.018	2.238	1.692	.602	3.719	2.812	.030	1223	.913	1339	.486	.445	.534	.467	.479	.516	.562	.498	.512
.016	2.134	1.614	.602	3.718	2.811	.030	1217	.909	1339	.487	.445	.534	.460	.479	.517	.563	.499	.514
.017	2.021	1.528	.601	3.717	2.811	.029	1211	.904	1339	.488	.445	.535	.463	.481	.518	.564	.500	.514
.016	1.923	1.454	.600	3.712	2.807	.028	1202	.898	1339	.488	.446	.536	.469	.481	.518	.565	.500	.514
.016	1.826	1.382	.600	3.717	2.811	.028	1194	.892	1339	.488	.447	.537	.469	.481	.519	.566	.500	.515
.014	1.731	1.309	.598	3.712	2.809	.026	1184	.884	1339	.489	.447	.537	.469	.482	.519	.567	.501	.515
.015	1.648	1.241	.599	3.713	2.809	.027	1176	.878	1339	.489	.447	.538	.470	.482	.519	.568	.501	.516
.013	1.555	1.175	.597	3.714	2.809	.025	1169	.873	1339	.490	.447	.538	.470	.483	.520	.568	.501	.516
.014	1.479	1.118	.598	3.710	2.806	.026	1160	.866	1339	.490	.448	.539	.470	.484	.520	.569	.502	.517
.012	1.407	1.065	.596	3.711	2.808	.024	1152	.860	1339	.490	.448	.540	.469	.484	.522	.570	.503	.517
.012	1.341	1.015	.596	3.708	2.806	.024	1145	.855	1339	.491	.448	.540	.471	.484	.522	.571	.503	.518
.011	1.282	.970	.595	3.710	2.807	.023	1138	.850	1339	.492	.448	.541	.471	.485	.522	.572	.504	.518
.011	1.227	.928	.595	3.707	2.805	.023	1125	.840	1339	.492	.449	.541	.472	.485	.523	.573	.504	.519
.010	1.171	.884	.594	3.704	2.803	.022	1115	.833	1339	.492	.449	.542	.473	.485	.524	.574	.504	.519
.009	1.126	.848	.592	3.705	2.806	.020	1103	.824	1339	.493	.449	.542	.473	.486	.525	.575	.504	.520
.009	1.078	.810	.593	3.704	2.804	.021	1094	.817	1339	.493	.449	.543	.473	.486	.525	.577	.505	.520
.007	1.024	.776	.591	3.703	2.802	.019	1088	.813	1339	.494	.449	.544	.473	.487	.526	.578	.507	.520
.008	.987	.744	.592	3.701	2.801	.020	1079	.806	1339	.494	.450	.545	.474	.488	.526	.579	.507	.521
.007	.951	.720	.591	3.701	2.800	.019	1074	.802	1339	.495	.450	.545	.474	.488	.526	.579	.507	.522
.007	.866	.655	.591	3.697	2.798	.019	1073	.801	1339	.496	.451	.548	.475	.490	.529	.582	.509	.523

DATE 5-6-74
PROJECT NUMBER VA524-21BA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI 0F52 SHUTTLE SURVEY TEST
PAGE = 1

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PHEBEND	ROLL-MODEL	YAW
32	139	7.92	148.3	1338	35.02	-13.02	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.8	.0162	1.317	.712	3858	4.431E-04	7.953E-08	6.716E 05	19.40	6.97	.86	22.633	21

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.718	3.414	2.591	1.302	.989	.739	.730	1290	.964	1338	.397	.400	.409	.405	.402	.408	.409	.398	.404
.704	3.434	2.558	1.298	.992	.739	.716	1290	.964	1338	.397	.400	.410	.405	.404	.409	.409	.400	.405
.673	3.446	2.560	1.257	.993	.739	.685	1290	.964	1338	.398	.401	.410	.406	.404	.410	.410	.401	.405
.641	3.434	2.553	1.225	.994	.739	.653	1290	.964	1338	.399	.401	.412	.406	.405	.411	.412	.402	.406
.607	3.428	2.546	1.191	.995	.739	.619	1290	.964	1338	.400	.401	.413	.407	.405	.412	.412	.403	.407
.577	3.420	2.538	1.161	.995	.738	.589	1291	.965	1338	.401	.402	.413	.408	.406	.413	.413	.404	.408
.544	3.417	2.534	1.128	.994	.737	.556	1291	.965	1338	.401	.402	.415	.405	.406	.414	.415	.404	.409
.515	3.417	2.533	1.099	.994	.737	.527	1291	.965	1338	.402	.403	.416	.409	.407	.415	.416	.405	.409
.483	3.414	2.530	1.067	.995	.737	.495	1291	.965	1338	.403	.403	.417	.409	.408	.416	.417	.406	.410
.465	3.412	2.525	1.049	.996	.737	.477	1291	.965	1338	.404	.403	.417	.409	.408	.416	.417	.406	.410
.455	3.405	2.520	1.039	.995	.737	.467	1292	.965	1338	.405	.404	.418	.410	.409	.417	.419	.408	.411
.444	3.400	2.517	1.028	.996	.738	.456	1292	.965	1338	.405	.404	.419	.410	.409	.418	.419	.408	.412
.435	3.393	2.512	1.019	.996	.738	.447	1292	.965	1338	.406	.404	.420	.410	.409	.419	.420	.409	.413
.423	3.389	2.509	1.007	1.000	.740	.435	1292	.965	1338	.407	.405	.421	.411	.410	.420	.421	.409	.413
.414	3.382	2.504	.998	1.016	.752	.426	1292	.965	1338	.408	.405	.421	.412	.410	.420	.423	.410	.414
.406	3.374	2.497	.990	1.042	.772	.418	1292	.965	1338	.408	.405	.423	.412	.411	.421	.423	.410	.415
.396	3.368	2.494	.980	1.106	.819	.408	1292	.965	1338	.409	.405	.424	.410	.412	.422	.424	.411	.416
.385	3.354	2.484	.969	1.181	.876	.397	1292	.965	1338	.409	.406	.424	.410	.412	.423	.425	.412	.416
.375	3.345	2.484	.959	1.256	.933	.387	1292	.965	1338	.410	.406	.425	.413	.412	.423	.426	.413	.417
.364	3.328	2.477	.948	1.321	.983	.376	1292	.966	1338	.411	.407	.426	.414	.413	.424	.427	.413	.418
.354	3.313	2.468	.938	1.495	1.114	.366	1292	.966	1338	.412	.408	.427	.414	.413	.424	.428	.414	.419
.345	3.295	2.458	.929	1.590	1.185	.357	1292	.966	1338	.412	.408	.428	.415	.414	.425	.428	.415	.419
.332	3.277	2.450	.916	2.683	2.000	.344	1293	.966	1338	.413	.408	.429	.415	.414	.426	.430	.415	.420
.323	3.256	2.439	.907	3.232	2.421	.335	1293	.966	1338	.413	.408	.430	.415	.415	.426	.431	.416	.420
.315	3.233	2.427	.899	3.415	2.563	.327	1293	.966	1338	.414	.409	.431	.416	.415	.427	.431	.417	.421
.314	3.214	2.416	.898	3.425	2.574	.326	1293	.966	1338	.415	.409	.431	.416	.416	.428	.432	.417	.423
.310	3.198	2.408	.894	3.427	2.581	.322	1293	.966	1338	.415	.409	.432	.416	.416	.428	.433	.418	.423
.309	3.183	2.402	.892	3.419	2.580	.320	1293	.966	1338	.416	.410	.433	.417	.416	.430	.434	.418	.423
.305	3.169	2.395	.889	3.406	2.574	.317	1293	.966	1338	.416	.410	.434	.417	.417	.430	.435	.419	.424
.304	3.159	2.393	.888	3.401	2.573	.316	1293	.966	1338	.417	.410	.435	.417	.417	.431	.437	.420	.425
.303	3.149	2.389	.887	3.390	2.570	.315	1293	.966	1338	.418	.411	.435	.418	.418	.431	.437	.420	.426
.300	3.140	2.384	.884	3.378	2.565	.312	1293	.966	1338	.419	.411	.437	.419	.419	.432	.438	.421	.426
.300	3.131	2.380	.884	3.370	2.562	.312	1293	.967	1338	.419	.411	.438	.419	.419	.432	.439	.421	.427

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
32	139	7.92	147.9	1338	35.03	-13.03	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.8	.0162	1.314	.710	3958	4.419E-04	7.953E-08	6.716E 05	19.40	6.97	.86	22.633	21

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.297	3.121	2.374	.881	3.362	2.559	.309	1293	.967	1338	.420	.412	.438	.419	.419	.433	.440	.423	.428
.297	3.114	2.374	.881	3.358	2.559	.309	1293	.967	1338	.420	.412	.439	.419	.420	.434	.441	.423	.428
.294	3.106	2.369	.878	3.350	2.555	.306	1293	.967	1338	.421	.412	.440	.420	.420	.435	.442	.424	.429
.293	3.100	2.366	.877	3.344	2.553	.305	1294	.967	1338	.421	.412	.440	.420	.420	.435	.443	.425	.430
.290	3.094	2.360	.874	3.349	2.554	.302	1294	.967	1338	.422	.413	.441	.420	.421	.436	.444	.425	.431
.289	3.087	2.353	.872	3.348	2.552	.300	1294	.967	1338	.423	.413	.442	.421	.421	.437	.445	.426	.431
.287	3.087	2.347	.871	3.361	2.555	.299	1294	.967	1338	.423	.413	.442	.419	.421	.437	.446	.427	.432
.284	3.084	2.339	.868	3.362	2.551	.296	1294	.967	1338	.424	.414	.443	.419	.422	.438	.447	.427	.432
.283	3.085	2.336	.867	3.370	2.551	.295	1294	.967	1338	.425	.415	.445	.422	.423	.439	.447	.428	.433
.279	3.083	2.331	.863	3.374	2.551	.291	1295	.968	1338	.425	.415	.446	.423	.423	.439	.449	.428	.434
.279	3.083	2.325	.863	3.381	2.550	.291	1295	.968	1338	.426	.415	.446	.423	.423	.440	.449	.429	.435
.275	3.079	2.319	.859	3.385	2.549	.287	1295	.968	1338	.426	.415	.447	.423	.424	.441	.450	.430	.435
.274	3.078	2.313	.858	3.390	2.548	.286	1295	.968	1338	.427	.415	.448	.424	.424	.441	.452	.431	.437
.271	3.078	2.306	.855	3.390	2.546	.283	1295	.968	1338	.428	.416	.449	.424	.425	.442	.452	.432	.437
.268	3.065	2.299	.852	3.391	2.543	.280	1295	.968	1338	.428	.416	.450	.424	.425	.443	.453	.432	.438
.266	3.056	2.291	.850	3.393	2.543	.278	1295	.968	1338	.429	.417	.450	.425	.426	.443	.454	.432	.438
.263	3.048	2.282	.847	3.395	2.542	.275	1295	.968	1338	.430	.417	.452	.425	.426	.444	.455	.433	.439
.262	3.042	2.274	.846	3.398	2.541	.274	1295	.968	1338	.430	.417	.453	.426	.427	.445	.456	.434	.440
.259	3.032	2.267	.841	3.395	2.538	.269	1295	.968	1338	.431	.417	.453	.426	.427	.446	.457	.435	.440
.259	3.026	2.262	.841	3.397	2.539	.269	1295	.968	1338	.431	.417	.454	.426	.427	.446	.458	.435	.441
.255	3.018	2.256	.839	3.395	2.538	.267	1295	.968	1338	.432	.418	.455	.427	.428	.447	.458	.437	.442
.253	3.010	2.250	.837	3.395	2.538	.265	1295	.968	1338	.432	.419	.456	.427	.428	.447	.460	.437	.442
.250	3.002	2.244	.834	3.394	2.538	.262	1295	.968	1338	.433	.419	.456	.427	.428	.448	.460	.438	.443
.247	2.995	2.236	.831	3.397	2.534	.259	1295	.968	1338	.434	.419	.457	.428	.429	.449	.461	.438	.443
.245	2.979	2.230	.829	3.387	2.536	.257	1295	.968	1338	.434	.419	.458	.428	.430	.449	.462	.439	.445
.241	2.964	2.220	.825	3.383	2.534	.253	1295	.968	1338	.435	.420	.459	.428	.430	.450	.463	.439	.445
.239	2.953	2.214	.823	3.384	2.536	.251	1295	.968	1338	.435	.420	.460	.429	.430	.450	.464	.440	.446
.235	2.946	2.205	.819	3.382	2.537	.247	1295	.968	1338	.436	.420	.460	.427	.431	.451	.465	.441	.446
.233	2.928	2.197	.817	3.378	2.536	.245	1295	.968	1338	.437	.421	.461	.427	.431	.452	.466	.441	.447
.229	2.915	2.190	.813	3.377	2.536	.241	1295	.968	1338	.437	.421	.462	.430	.432	.453	.467	.442	.448
.228	2.902	2.181	.812	3.374	2.536	.240	1295	.968	1338	.438	.421	.463	.428	.432	.453	.468	.442	.449
.224	2.892	2.174	.808	3.376	2.537	.236	1295	.968	1338	.439	.421	.464	.426	.432	.454	.468	.443	.449
.223	2.886	2.169	.807	3.370	2.535	.235	1294	.967	1338	.439	.421	.464	.431	.433	.454	.469	.444	.450
.220	2.872	2.161	.804	3.372	2.538	.232	1295	.968	1338	.439	.422	.465	.432	.434	.455	.470	.444	.450
.215	2.861	2.154	.799	3.368	2.537	.227	1295	.968	1338	.440	.423	.467	.432	.434	.456	.471	.445	.451
.214	2.851	2.147	.798	3.364	2.534	.226	1295	.968	1338	.441	.423	.467	.432	.434	.456	.472	.446	.452
.209	2.841	2.139	.793	3.362	2.532	.221	1295	.968	1338	.441	.423	.468	.433	.435	.457	.473	.446	.453
.207	2.829	2.133	.791	3.362	2.535	.219	1294	.967	1338	.442	.423	.468	.433	.435	.458	.473	.446	.453
.203	2.822	2.128	.787	3.361	2.534	.215	1294	.967	1338	.442	.424	.469	.434	.436	.458	.475	.447	.454
.202	2.813	2.121	.786	3.356	2.531	.214	1294	.967	1338	.443	.424	.470	.432	.437	.459	.476	.448	.454
.199	2.806	2.118	.783	3.358	2.534	.211	1294	.967	1338	.443	.424	.471	.434	.437	.460	.477	.449	.455
.198	2.800	2.114	.782	3.358	2.534	.210	1294	.967	1338	.445	.424	.471	.435	.437	.460	.478	.449	.456

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY LIST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
32	139	7.92	149.0	1338	35.03	-13.03	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO2 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.8	.0163	1.323	.715	3858	4.452E-04	7.953E-08	6.716E 05	19.40	6.97	.86	22.633	21

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.196	2.795	2.112	.780	3.351	2.532	.208	1294	.967	1338	.445	.425	.472	.433	.437	.461	.479	.450	.456
.193	2.789	2.108	.777	3.349	2.530	.205	1294	.967	1338	.445	.426	.473	.435	.438	.461	.479	.450	.457
.193	2.784	2.105	.777	3.348	2.530	.205	1294	.967	1338	.446	.426	.473	.436	.438	.462	.480	.451	.457
.189	2.783	2.105	.773	3.347	2.533	.201	1295	.967	1338	.446	.426	.475	.432	.439	.463	.482	.452	.458
.188	2.779	2.103	.772	3.342	2.529	.200	1294	.967	1338	.447	.426	.475	.432	.439	.464	.482	.452	.459
.184	2.777	2.101	.768	3.342	2.528	.196	1294	.967	1338	.447	.427	.476	.437	.440	.464	.483	.453	.460
.183	2.773	2.100	.767	3.341	2.530	.195	1293	.967	1338	.448	.427	.477	.433	.441	.465	.484	.454	.460
.178	2.774	2.100	.762	3.339	2.528	.190	1294	.967	1338	.449	.427	.478	.438	.441	.465	.485	.454	.461
.176	2.773	2.102	.760	3.332	2.526	.188	1293	.966	1338	.449	.428	.478	.438	.441	.466	.486	.454	.461
.172	2.776	2.104	.756	3.332	2.526	.184	1293	.967	1338	.450	.428	.479	.437	.442	.467	.487	.455	.462
.170	2.780	2.107	.754	3.331	2.526	.182	1293	.966	1338	.450	.428	.480	.432	.442	.468	.488	.456	.463
.167	2.783	2.111	.751	3.328	2.523	.179	1293	.966	1338	.451	.428	.480	.439	.443	.468	.489	.457	.463
.165	2.791	2.117	.749	3.326	2.523	.177	1292	.966	1338	.452	.429	.482	.440	.443	.469	.490	.457	.464
.163	2.798	2.124	.747	3.322	2.522	.175	1293	.966	1338	.452	.429	.482	.440	.443	.469	.491	.457	.464
.159	2.811	2.135	.743	3.322	2.523	.171	1292	.966	1338	.453	.430	.483	.441	.444	.470	.492	.458	.465
.157	2.823	2.145	.741	3.322	2.523	.169	1292	.966	1338	.453	.430	.483	.441	.445	.471	.493	.459	.466
.154	2.837	2.155	.738	3.320	2.522	.166	1292	.966	1338	.454	.430	.484	.441	.445	.471	.494	.460	.467
.152	2.857	2.169	.736	3.319	2.520	.164	1292	.965	1338	.454	.431	.485	.442	.445	.472	.495	.460	.467
.149	2.877	2.185	.733	3.320	2.522	.161	1291	.965	1338	.455	.431	.486	.442	.446	.473	.497	.461	.468
.148	2.901	2.204	.732	3.318	2.521	.160	1292	.965	1338	.456	.431	.486	.442	.446	.473	.497	.461	.468
.145	2.923	2.219	.729	3.320	2.521	.157	1291	.965	1338	.456	.431	.487	.443	.447	.474	.498	.462	.469
.143	2.947	2.239	.727	3.319	2.521	.155	1291	.965	1338	.457	.432	.488	.443	.447	.475	.500	.463	.469
.142	2.971	2.255	.726	3.316	2.518	.154	1291	.965	1338	.457	.432	.489	.443	.447	.475	.501	.463	.470
.139	2.993	2.272	.723	3.314	2.516	.151	1290	.964	1338	.457	.432	.489	.444	.448	.476	.501	.464	.471
.138	3.021	2.294	.722	3.314	2.516	.150	1290	.964	1338	.458	.432	.490	.445	.449	.476	.502	.464	.471
.134	3.049	2.314	.718	3.313	2.515	.146	1290	.964	1338	.458	.433	.491	.445	.449	.477	.504	.465	.472
.132	3.083	2.342	.716	3.313	2.517	.144	1290	.964	1338	.459	.434	.491	.445	.450	.478	.505	.465	.472
.129	3.122	2.370	.713	3.309	2.512	.141	1289	.964	1338	.460	.434	.492	.446	.450	.478	.506	.466	.473
.127	3.166	2.403	.711	3.309	2.512	.139	1289	.963	1338	.460	.434	.493	.446	.450	.479	.507	.467	.473
.124	3.211	2.439	.708	3.306	2.512	.136	1288	.963	1338	.461	.434	.494	.446	.451	.480	.509	.467	.474
.123	3.255	2.473	.707	3.303	2.509	.135	1288	.963	1338	.461	.435	.494	.447	.452	.480	.510	.468	.475
.120	3.302	2.509	.704	3.304	2.510	.132	1288	.962	1338	.462	.435	.495	.447	.452	.481	.511	.469	.475
.117	3.349	2.546	.701	3.300	2.509	.129	1287	.962	1338	.463	.435	.496	.447	.452	.482	.512	.469	.476
.115	3.405	2.589	.699	3.301	2.510	.127	1287	.962	1338	.463	.436	.497	.448	.453	.483	.513	.470	.477
.111	3.467	2.636	.695	3.296	2.506	.123	1287	.962	1338	.464	.436	.497	.448	.454	.483	.515	.470	.477
.109	3.540	2.691	.693	3.293	2.503	.121	1287	.962	1338	.464	.437	.498	.449	.454	.483	.516	.470	.478
.105	3.620	2.752	.689	3.294	2.504	.117	1287	.962	1338	.464	.437	.499	.449	.454	.484	.518	.471	.478
.103	3.698	2.811	.687	3.288	2.499	.115	1287	.962	1338	.465	.437	.500	.447	.455	.485	.519	.472	.479
.100	3.776	2.872	.684	3.288	2.501	.112	1287	.962	1338	.465	.438	.500	.450	.456	.485	.521	.472	.479
.098	3.842	2.923	.682	3.284	2.498	.110	1287	.962	1338	.466	.438	.501	.450	.456	.486	.522	.472	.480
.098	3.902	2.968	.682	3.284	2.498	.110	1287	.962	1338	.467	.438	.501	.450	.457	.487	.523	.473	.480
.095	3.950	3.005	.679	3.281	2.496	.107	1287	.962	1338	.467	.438	.502	.451	.457	.487	.525	.473	.482

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
PAGE = 4

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
32	139	7.92	148.0	1338	35.03	-13.03	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.8	.0102	1.315	.711	3858	4.422E-04	7.953E-08	6.716E 05	19.40	6.97	.86	22.633	21

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.095	3.997	3.041	.679	3.283	2.497	.107	1287	.962	.468	.438	.503	.452	.457	.488	.526	.474	.482
.092	4.040	3.073	.676	3.283	2.498	.104	1288	.962	.468	.439	.504	.452	.458	.489	.527	.475	.483
.092	4.084	3.105	.676	3.284	2.497	.104	1288	.963	.469	.439	.504	.452	.458	.490	.528	.475	.483
.090	4.128	3.139	.674	3.284	2.496	.102	1289	.963	.469	.439	.505	.453	.459	.490	.530	.476	.484
.089	4.173	3.170	.673	3.284	2.495	.101	1289	.963	.470	.439	.506	.453	.460	.491	.531	.477	.484
.088	4.213	3.200	.672	3.282	2.493	.100	1289	.964	.470	.440	.506	.453	.460	.491	.532	.477	.485
.086	4.252	3.226	.670	3.287	2.494	.098	1289	.964	.471	.440	.507	.454	.460	.492	.532	.478	.486
.086	4.291	3.257	.670	3.286	2.494	.098	1290	.964	.471	.441	.508	.454	.461	.493	.534	.478	.486
.083	4.329	3.284	.667	3.285	2.492	.095	1290	.964	.472	.441	.509	.455	.461	.493	.534	.479	.487
.084	4.369	3.315	.668	3.284	2.491	.096	1291	.965	.472	.441	.509	.455	.462	.494	.536	.479	.487
.081	4.406	3.340	.665	3.284	2.490	.093	1291	.965	.473	.441	.510	.456	.463	.494	.536	.480	.488
.081	4.448	3.372	.665	3.285	2.490	.093	1292	.965	.473	.442	.511	.456	.463	.495	.538	.481	.489
.080	4.481	3.397	.664	3.284	2.490	.092	1292	.965	.474	.442	.512	.456	.464	.495	.529	.482	.489
.079	4.515	3.426	.663	3.283	2.489	.091	1292	.966	.475	.442	.513	.457	.464	.497	.545	.482	.490
.078	4.553	3.452	.662	3.282	2.488	.090	1293	.967	.475	.443	.513	.457	.464	.497	.538	.483	.490
.077	4.586	3.477	.661	3.284	2.490	.089	1293	.966	.475	.443	.514	.457	.465	.498	.542	.483	.491
.076	4.613	3.496	.660	3.279	2.484	.088	1293	.967	.476	.443	.515	.458	.465	.498	.542	.483	.491
.074	4.646	3.522	.658	3.284	2.490	.086	1294	.967	.476	.443	.516	.458	.466	.499	.543	.484	.492
.074	4.679	3.548	.658	3.278	2.485	.086	1294	.967	.477	.444	.516	.458	.466	.500	.544	.484	.492
.072	4.719	3.575	.656	3.282	2.486	.084	1295	.968	.478	.444	.517	.459	.467	.500	.545	.485	.493
.072	4.758	3.605	.656	3.280	2.485	.084	1296	.968	.478	.445	.518	.460	.467	.501	.549	.486	.493
.070	4.789	3.628	.654	3.278	2.484	.082	1296	.968	.479	.445	.519	.460	.468	.501	.549	.486	.494
.069	4.827	3.657	.653	3.279	2.484	.081	1297	.969	.479	.445	.520	.461	.468	.502	.549	.487	.494
.069	4.863	3.684	.653	3.278	2.484	.081	1297	.969	.479	.446	.520	.461	.468	.502	.550	.487	.495
.067	4.895	3.708	.651	3.278	2.483	.079	1297	.969	.480	.446	.521	.461	.469	.504	.552	.488	.495
.067	4.933	3.737	.651	3.275	2.481	.079	1298	.970	.480	.446	.521	.462	.469	.504	.553	.489	.497
.064	4.967	3.766	.648	3.273	2.482	.076	1298	.970	.481	.446	.522	.462	.471	.505	.554	.489	.497
.065	5.003	3.793	.649	3.277	2.484	.077	1299	.971	.482	.447	.523	.463	.471	.505	.555	.490	.497
.063	5.036	3.819	.647	3.276	2.483	.075	1299	.971	.482	.447	.524	.463	.471	.506	.556	.490	.498
.063	5.067	3.839	.647	3.275	2.481	.075	1299	.971	.483	.447	.524	.463	.472	.506	.557	.490	.499
.062	5.089	3.855	.646	3.272	2.479	.074	1299	.971	.483	.447	.525	.464	.472	.507	.556	.491	.499
.061	5.120	3.879	.645	3.272	2.479	.073	1299	.971	.483	.447	.525	.464	.473	.508	.557	.492	.500
.061	5.154	3.908	.645	3.273	2.482	.073	1300	.972	.484	.448	.527	.465	.473	.508	.558	.492	.500
.058	5.191	3.933	.642	3.269	2.477	.070	1300	.972	.484	.448	.527	.465	.473	.509	.559	.493	.501
.058	5.232	3.964	.642	3.271	2.478	.070	1300	.972	.485	.449	.528	.465	.474	.509	.560	.493	.501
.055	5.271	3.996	.639	3.268	2.477	.067	1301	.972	.486	.449	.529	.466	.475	.510	.561	.496	.502
.057	5.304	4.021	.641	3.268	2.478	.069	1301	.972	.486	.450	.530	.464	.475	.510	.562	.494	.502
.054	5.335	4.045	.638	3.269	2.479	.066	1301	.972	.487	.450	.530	.467	.476	.512	.563	.494	.503
.054	5.368	4.073	.638	3.268	2.479	.066	1301	.972	.487	.450	.531	.467	.476	.512	.564	.495	.504
.053	5.400	4.094	.637	3.265	2.476	.065	1300	.972	.487	.450	.532	.465	.476	.513	.565	.496	.504
.053	5.434	4.120	.637	3.267	2.479	.065	1300	.972	.488	.450	.532	.461	.477	.513	.566	.497	.505
.052	5.452	4.133	.636	3.268	2.477	.064	1301	.972	.489	.451	.533	.468	.478	.514	.567	.497	.505

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
PAGE = 5

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
32	139	7.92	148.4	1338	35.02	-13.02	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.8	.0162	1.318	.713	3858	4.434E-04	7.953E-08	6.216E 05	19.40	6.97	.86	22.633	21

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.051	5.477	4.155	.635	3.265	2.477	.063	1301	.972	1338	.489	.451	.534	.469	.478	.515	.568	.497	.506
.051	5.496	4.170	.635	3.262	2.475	.063	1301	.972	1338	.490	.452	.535	.469	.479	.515	.569	.498	.506
.049	5.514	4.183	.633	3.262	2.475	.061	1300	.972	1338	.490	.452	.535	.469	.479	.516	.570	.498	.507
.049	5.529	4.195	.633	3.260	2.473	.061	1300	.972	1338	.491	.452	.536	.470	.480	.516	.571	.499	.507
.047	5.542	4.204	.631	3.261	2.474	.059	1300	.972	1338	.491	.452	.536	.471	.480	.517	.572	.500	.508
.046	5.558	4.217	.632	3.262	2.475	.060	1300	.971	1338	.491	.453	.537	.469	.480	.517	.573	.500	.508
.046	5.574	4.228	.630	3.261	2.474	.058	1299	.971	1338	.492	.453	.538	.471	.481	.518	.573	.501	.509
.045	5.586	4.238	.629	3.258	2.472	.057	1299	.971	1338	.493	.453	.539	.472	.482	.519	.575	.501	.510
.045	5.597	4.249	.629	3.258	2.474	.057	1299	.971	1338	.493	.453	.539	.472	.482	.519	.576	.502	.510
.043	5.605	4.255	.627	3.257	2.471	.055	1298	.970	1338	.494	.454	.540	.473	.483	.520	.578	.502	.510
.043	5.612	4.260	.627	3.254	2.470	.055	1298	.970	1338	.494	.454	.541	.473	.483	.521	.579	.502	.511
.041	5.618	4.265	.625	3.258	2.474	.053	1297	.969	1338	.494	.454	.542	.469	.484	.521	.580	.503	.512
.041	5.618	4.259	.625	3.255	2.471	.053	1297	.969	1338	.495	.454	.542	.473	.484	.522	.581	.504	.513
.039	5.620	4.246	.623	3.255	2.470	.051	1296	.969	1338	.495	.455	.543	.474	.485	.523	.583	.505	.513
.039	5.587	4.239	.623	3.256	2.470	.051	1296	.969	1338	.496	.455	.544	.475	.485	.523	.584	.505	.513
.038	5.564	4.224	.622	3.251	2.468	.050	1295	.968	1338	.497	.455	.545	.475	.486	.524	.585	.505	.514
.036	5.538	4.204	.620	3.252	2.469	.048	1294	.967	1338	.497	.456	.545	.473	.486	.525	.586	.506	.515
.036	5.498	4.174	.620	3.250	2.467	.048	1294	.967	1338	.498	.456	.546	.476	.487	.526	.587	.507	.515
.035	5.459	4.137	.619	3.250	2.467	.047	1293	.966	1338	.498	.456	.546	.476	.487	.526	.588	.507	.516
.035	5.394	4.095	.619	3.251	2.468	.047	1293	.966	1338	.498	.457	.547	.477	.488	.527	.589	.508	.516
.033	5.330	4.046	.617	3.249	2.467	.045	1292	.966	1338	.499	.457	.548	.477	.488	.527	.590	.508	.517
.033	5.250	3.993	.617	3.247	2.465	.045	1292	.965	1338	.500	.457	.549	.478	.489	.528	.591	.508	.517
.031	5.174	3.928	.615	3.250	2.467	.043	1291	.965	1338	.500	.458	.549	.478	.490	.529	.591	.509	.517
.030	5.073	3.851	.614	3.248	2.466	.042	1290	.964	1338	.500	.458	.550	.478	.490	.529	.593	.510	.519
.030	4.957	3.761	.614	3.250	2.466	.042	1290	.964	1338	.501	.458	.550	.479	.490	.530	.594	.510	.519
.028	4.846	3.674	.612	3.249	2.463	.040	1289	.964	1338	.501	.458	.551	.479	.491	.530	.594	.510	.520
.029	4.727	3.584	.613	3.251	2.465	.041	1289	.963	1338	.502	.458	.552	.480	.491	.531	.595	.512	.520
.026	4.603	3.490	.610	3.251	2.465	.038	1288	.963	1338	.502	.458	.553	.480	.492	.531	.596	.512	.520
.027	4.469	3.375	.611	3.250	2.464	.039	1288	.963	1338	.503	.460	.553	.480	.493	.532	.597	.512	.521
.025	4.275	3.241	.609	3.250	2.464	.037	1287	.962	1338	.504	.460	.554	.481	.493	.532	.598	.513	.521
.025	4.083	3.094	.609	3.249	2.461	.037	1286	.961	1338	.504	.460	.554	.482	.493	.533	.599	.513	.522
.023	3.882	2.942	.607	3.252	2.464	.035	1285	.960	1338	.504	.460	.556	.482	.494	.534	.600	.513	.523
.022	3.668	2.775	.606	3.251	2.462	.034	1283	.959	1338	.505	.460	.556	.482	.494	.535	.601	.515	.523
.022	3.435	2.601	.606	3.252	2.462	.034	1281	.958	1338	.505	.461	.557	.483	.495	.535	.602	.515	.524
.019	3.194	2.418	.603	3.253	2.463	.031	1278	.955	1338	.506	.461	.558	.483	.495	.536	.603	.516	.524
.020	2.959	2.240	.604	3.250	2.461	.032	1276	.952	1338	.506	.461	.558	.483	.496	.536	.604	.516	.525
.017	2.730	2.074	.601	3.251	2.462	.029	1269	.948	1338	.506	.461	.559	.484	.497	.537	.605	.516	.526
.018	2.544	1.924	.602	3.254	2.461	.030	1264	.945	1338	.507	.462	.560	.484	.497	.538	.605	.517	.526
.016	2.359	1.784	.600	3.256	2.461	.028	1256	.938	1338	.508	.462	.560	.484	.497	.538	.606	.517	.526
.016	2.192	1.659	.600	3.255	2.463	.028	1249	.934	1338	.508	.462	.561	.485	.498	.539	.607	.518	.527
.016	2.043	1.544	.598	3.256	2.462	.026	1240	.926	1338	.509	.463	.561	.486	.498	.540	.608	.518	.527
.014	1.905	1.439	.598	3.254	2.459	.026	1228	.918	1338	.509	.463	.562	.486	.499	.541	.609	.519	.528

DATE 5-6-74
PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
PAGE 6

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
32	139	7.92	149.0	1338	35.03	-13.03	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	IAP
98.8	.0163	1.323	.715	3858	4.452E-04	7.953E-08	6.716E 05	19.40	6.97	.86	22.633	21

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.013	1.777	1.342	.597	3.252	2.457	.025	1212	.906	1338	.509	.463	.563	.479	.500	.541	.609	.520	.528
.012	1.557	1.252	.596	3.255	2.460	.024	1200	.897	1338	.510	.463	.564	.487	.500	.542	.610	.520	.529
.012	1.551	1.172	.596	3.257	2.461	.024	1186	.887	1338	.510	.464	.564	.487	.501	.542	.611	.521	.529
.009	1.455	1.100	.593	3.255	2.459	.021	1175	.878	1338	.511	.464	.565	.487	.501	.543	.612	.521	.530
.010	1.371	1.035	.594	3.255	2.458	.022	1163	.869	1338	.512	.464	.566	.489	.502	.543	.613	.521	.530
.008	1.296	.978	.592	3.256	2.458	.020	1149	.859	1338	.512	.464	.567	.489	.502	.543	.613	.522	.531
.008	1.226	.926	.592	3.253	2.456	.020	1137	.850	1338	.512	.464	.567	.489	.502	.544	.614	.522	.531
.006	1.169	.882	.590	3.255	2.453	.018	1126	.841	1338	.513	.465	.568	.490	.503	.545	.615	.523	.532
.007	1.041	.786	.591	3.254	2.455	.019	1125	.841	1338	.515	.467	.571	.491	.505	.548	.617	.526	.534

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OA52 SHUTTLE SURVEY TEST
PAGE = 1

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
33	139	7.92	152.2	1338	35.07	-13.07	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	Pol (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.	.66	1.052	.731	3858	4.548E-04	7.953E-08	6.701E 05	21.01	6.15	.93	22.633	20

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.717	3.678	2.280	1.301	3.708	2.746	.725	1282	.959	1337	.392	.398	.405	.403	.400	.404	.405	.394	.401
.712	3.108	2.304	1.296	3.707	2.747	.720	1282	.959	1337	.392	.398	.406	.403	.401	.406	.406	.395	.402
.688	3.115	2.313	1.264	3.712	2.753	.688	1281	.958	1337	.393	.399	.407	.404	.402	.407	.407	.396	.403
.649	3.121	2.315	1.233	3.715	2.755	.657	1282	.959	1337	.394	.399	.408	.404	.402	.408	.408	.396	.403
.614	3.132	2.323	1.198	3.706	2.749	.622	1281	.958	1337	.395	.399	.410	.404	.403	.409	.409	.398	.404
.584	3.149	2.354	1.168	3.700	2.748	.592	1282	.959	1337	.396	.400	.410	.406	.403	.410	.410	.399	.404
.551	3.225	2.394	1.135	3.691	2.740	.559	1282	.959	1337	.396	.400	.411	.406	.404	.411	.411	.399	.406
.522	3.294	2.445	1.106	3.686	2.740	.530	1281	.958	1337	.397	.400	.412	.407	.405	.412	.412	.400	.407
.490	3.368	2.498	1.074	3.681	2.738	.498	1279	.957	1337	.398	.401	.414	.407	.406	.413	.413	.401	.407
.460	3.437	2.557	1.044	3.672	2.732	.468	1278	.956	1337	.399	.401	.414	.407	.406	.414	.414	.403	.408
.446	3.506	2.610	1.030	3.665	2.729	.454	1277	.955	1337	.399	.402	.415	.408	.406	.414	.415	.403	.408
.435	3.558	2.651	1.019	3.659	2.727	.443	1276	.955	1337	.400	.403	.416	.408	.407	.415	.416	.404	.409
.426	3.598	2.683	1.010	3.653	2.724	.434	1276	.954	1337	.401	.403	.417	.409	.407	.416	.417	.404	.410
.413	3.632	2.712	.997	3.643	2.720	.421	1276	.954	1337	.402	.403	.418	.409	.408	.417	.418	.405	.411
.406	3.657	2.739	.990	3.636	2.717	.414	1275	.954	1337	.402	.404	.418	.410	.408	.418	.419	.406	.411
.395	3.701	2.767	.979	3.630	2.714	.403	1275	.953	1337	.403	.404	.419	.410	.408	.418	.419	.407	.412
.385	3.739	2.797	.969	3.622	2.708	.393	1274	.953	1337	.404	.404	.420	.410	.409	.419	.421	.407	.413
.374	3.780	2.829	.958	3.607	2.700	.382	1274	.953	1337	.404	.404	.421	.411	.410	.419	.422	.408	.414
.365	3.820	2.868	.949	3.596	2.694	.373	1273	.952	1337	.406	.404	.422	.411	.410	.421	.422	.408	.414
.353	3.878	2.909	.937	3.581	2.686	.361	1273	.952	1337	.406	.405	.422	.412	.411	.421	.424	.410	.415
.343	3.926	2.947	.927	3.564	2.675	.351	1272	.951	1337	.407	.406	.424	.413	.411	.422	.424	.410	.416
.333	3.969	2.981	.917	3.546	2.663	.341	1272	.951	1337	.407	.406	.424	.413	.412	.423	.425	.411	.417
.327	4.004	3.011	.911	3.535	2.659	.335	1271	.951	1337	.408	.407	.425	.413	.412	.424	.426	.411	.417
.327	4.026	3.029	.911	3.528	2.653	.335	1271	.951	1337	.408	.407	.426	.414	.413	.424	.427	.413	.418
.323	4.038	3.041	.907	3.525	2.655	.331	1272	.951	1337	.410	.407	.427	.414	.413	.425	.428	.413	.418
.323	4.045	3.048	.907	3.520	2.653	.331	1271	.951	1337	.410	.407	.428	.414	.414	.425	.429	.414	.419
.321	4.046	3.053	.905	3.515	2.651	.329	1271	.951	1337	.411	.408	.429	.415	.414	.426	.430	.414	.420
.319	4.050	3.056	.903	3.508	2.647	.327	1271	.951	1337	.411	.408	.430	.415	.414	.426	.431	.415	.421
.317	4.051	3.059	.901	3.504	2.646	.325	1271	.951	1337	.412	.408	.431	.415	.415	.428	.432	.415	.421
.316	4.052	3.062	.900	3.498	2.642	.324	1271	.951	1337	.413	.409	.431	.416	.415	.428	.433	.417	.422
.315	4.052	3.066	.899	3.494	2.644	.323	1271	.951	1337	.414	.409	.432	.416	.416	.429	.433	.417	.423
.311	4.052	3.068	.895	3.487	2.640	.319	1271	.951	1337	.414	.409	.433	.417	.417	.429	.435	.418	.424
.310	4.052	3.070	.894	3.480	2.637	.318	1271	.951	1337	.415	.410	.434	.417	.417	.430	.436	.418	.424
.307	4.052	.072	.891	3.475	2.635	.315	1271	.951	1337	.415	.410	.435	.417	.417	.430	.436	.419	.425
.307	4.051	.074	.891	3.469	2.632	.315	1271	.951	1337	.416	.410	.436	.418	.418	.431	.437	.419	.425

DATE 5-6-74
PROJECT NUMBER VAS24-21FA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OPS2 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
33	139	7.92	144.3	1337	35.08	-13.08	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.7	.0162	1.317	.712	3857	4.434E-04	7.947E-08	6.701E 05	21.01	6.15	.95	22.633	20

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.303	4.051	3.075	.887	3.463	2.629	.311	1271	.951	1337	.417	.412	.436	.418	.418	.432	.438	.420	.426
.303	4.050	3.079	.887	3.455	2.627	.311	1271	.950	1337	.417	.411	.437	.418	.418	.432	.439	.421	.427
.300	4.049	3.080	.886	3.452	2.626	.309	1271	.950	1337	.418	.411	.438	.419	.419	.433	.440	.422	.428
.299	4.047	3.080	.885	3.448	2.621	.307	1271	.950	1337	.418	.411	.439	.419	.419	.434	.441	.422	.429
.298	4.045	3.081	.882	3.440	2.621	.306	1271	.950	1337	.419	.413	.440	.419	.419	.435	.441	.423	.429
.296	4.042	3.081	.878	3.431	2.616	.302	1271	.950	1337	.419	.413	.440	.420	.420	.436	.443	.423	.430
.296	4.040	3.082	.878	3.425	2.613	.302	1271	.951	1337	.421	.413	.441	.421	.421	.436	.444	.424	.430
.295	4.038	3.084	.875	3.421	2.613	.299	1271	.950	1337	.421	.413	.442	.421	.421	.437	.444	.425	.431
.295	4.036	3.085	.875	3.415	2.610	.299	1271	.950	1337	.422	.414	.443	.421	.421	.437	.445	.425	.432
.293	4.034	3.083	.872	3.412	[illegible]	.296	1271	.950	1337	.422	.414	.444	.419	.422	.438	.446	.426	.433
.293	4.033	3.083	.871	3.406	[illegible]	.295	1271	.950	1337	.423	.414	.444	.419	.422	.439	.447	.427	.433
.294	4.032	3.082	.868	3.403	2.603	.292	1271	.950	1337	.424	.414	.446	.419	.422	.439	.448	.428	.434
.293	4.031	3.081	.866	3.396	2.596	.290	1270	.950	1337	.424	.415	.446	.422	.423	.440	.449	.428	.435
.291	4.030	3.080	.865	3.390	2.591	.289	1271	.950	1337	.425	.415	.447	.423	.424	.440	.450	.429	.436
.278	4.027	3.078	.862	3.384	2.587	.286	1270	.950	1337	.425	.415	.448	.424	.424	.441	.451	.429	.436
.277	4.027	3.078	.861	3.381	2.584	.285	1270	.950	1337	.426	.415	.446	.424	.425	.442	.452	.430	.437
.273	4.022	3.076	.857	3.367	2.573	.281	1271	.950	1337	.426	.416	.450	.424	.425	.443	.452	.430	.437
.272	4.018	3.077	.856	3.359	2.569	.280	1270	.950	1337	.427	.417	.450	.424	.425	.443	.453	.431	.438
.270	4.017	3.069	.855	3.357	2.568	.279	1270	.950	1337	.428	.417	.451	.425	.426	.444	.454	.432	.439
.270	4.014	3.067	.854	3.358	2.568	.279	1270	.950	1337	.428	.417	.452	.425	.426	.444	.455	.433	.439
.267	4.010	3.063	.851	3.357	2.564	.275	1270	.950	1337	.429	.417	.453	.425	.426	.445	.456	.433	.440
.265	4.011	3.061	.849	3.357	2.563	.273	1270	.950	1337	.430	.417	.454	.424	.427	.446	.456	.434	.441
.265	4.013	3.059	.849	.355	2.557	.273	1270	.950	1337	.430	.417	.455	.426	.428	.447	.458	.435	.441
.262	4.014	3.057	.846	.354	2.555	.270	1270	.950	1337	.431	.418	.455	.426	.428	.447	.458	.436	.442
.261	4.016	3.053	.845	3.353	2.549	.269	1270	.950	1337	.431	.418	.456	.427	.428	.448	.459	.436	.443
.259	4.018	3.052	.843	3.356	2.549	.267	1270	.950	1337	.432	.419	.456	.428	.429	.448	.460	.437	.444
.258	4.022	3.053	.842	3.357	2.549	.266	1270	.950	1337	.433	.419	.457	.428	.429	.449	.461	.437	.444
.256	4.021	3.053	.840	3.353	2.544	.264	1270	.950	1337	.433	.419	.458	.428	.429	.450	.462	.438	.445
.255	4.022	3.048	.839	3.353	2.541	.263	1270	.950	1337	.434	.420	.459	.429	.430	.450	.462	.439	.446
.253	4.024	3.046	.837	3.353	2.538	.261	1270	.950	1337	.435	.421	.460	.429	.430	.451	.463	.440	.446
.251	4.024	3.047	.835	3.347	2.534	.259	1270	.950	1337	.435	.421	.461	.429	.431	.451	.464	.440	.447
.249	4.023	3.044	.833	3.346	2.532	.257	1270	.950	1337	.436	.421	.461	.428	.432	.452	.465	.440	.448
.247	4.023	3.043	.831	3.345	2.526	.255	1270	.950	1337	.436	.421	.462	.428	.432	.453	.466	.441	.448
.246	4.023	3.042	.830	3.341	2.526	.254	1270	.950	1337	.437	.421	.463	.430	.432	.454	.467	.441	.449
.243	4.020	3.038	.826	3.334	2.519	.250	1270	.950	1337	.437	.421	.463	.429	.433	.454	.467	.443	.450
.242	4.019	3.037	.826	3.332	2.518	.250	1270	.950	1337	.438	.422	.465	.432	.433	.455	.468	.443	.450
.239	4.016	3.035	.823	3.324	2.511	.247	1270	.950	1337	.439	.42[illegible]	.465	.432	.434	.455	.469	.444	.451
.238	4.014	3.032	.822	3.325	2.511	.246	1270	.950	1337	.439	.423	.466	.432	.434	.456	.470	.444	.452
.237	4.012	3.030	.820	3.321	2.508	.244	1270	.950	1337	.440	.423	.466	.432	435	.456	.470	.444	.452
.234	4.010	3.029	.818	3.317	2.505	.242	1269	.949	1337	.440	.423	.467	.433	.435	.458	.472	.446	.453
.233	4.006	3.025	.817	3.313	2.502	.241	1270	.950	1337	.441	.424	.467	.433	.436	.458	.472	.446	.454
.233	4.003	3.022	.816	3.307	2.497	.238	1270	.950	1337	.441	.424	.467	.433	.436	.459	.473	.447	.454

DATE 5-6-74
PROJECT NUMBER VAS24-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OHS2 SHUTTLE SURVEY TEST
PAGE = 3

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
33	139	7.92	149.1	1337	35.08	-13.08	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.7	.0163	1.324	.716	3857	4.458E-04	1.947E-08	6.701E 05	21.01	6.15	.93	22.633	20

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.229	4.000	3.020	.813	3.301	2.493	.237	1270	.950	1337	.442	.424	.470	.434	.436	.459	.474	.447	.455
.226	3.997	3.018	.810	3.298	2.490	.234	1270	.950	1337	.443	.424	.470	.432	.437	.460	.474	.448	.455
.226	3.994	3.016	.810	3.294	2.487	.234	1270	.950	1337	.443	.424	.472	.435	.437	.461	.476	.448	.456
.223	3.992	3.014	.807	3.291	2.485	.231	1269	.949	1337	.444	.425	.472	.435	.437	.461	.476	.450	.456
.222	3.988	3.012	.806	3.287	2.482	.230	1269	.949	1337	.444	.426	.473	.436	.439	.462	.477	.450	.458
.220	3.983	3.009	.804	3.279	2.477	.228	1269	.949	1337	.445	.426	.474	.433	.439	.462	.478	.450	.459
.219	3.978	3.006	.803	3.275	2.476	.227	1269	.949	1337	.446	.426	.474	.437	.439	.463	.478	.451	.459
.217	3.975	3.001	.801	3.269	2.469	.225	1269	.949	1337	.446	.426	.475	.437	.440	.464	.479	.451	.459
.215	3.970	3.000	.799	3.265	2.467	.223	1269	.949	1337	.447	.426	.476	.437	.440	.465	.480	.452	.386
.214	3.968	2.998	.798	3.261	2.464	.222	1269	.949	1337	.447	.427	.477	.437	.440	.465	.481	.453	.461
.211	3.964	2.997	.795	3.257	2.463	.219	1269	.949	1337	.448	.427	.477	.438	.441	.466	.481	.453	.461
.211	3.959	2.994	.795	3.254	2.461	.219	1269	.949	1337	.448	.428	.478	.439	.441	.466	.483	.454	.462
.208	3.954	2.992	.792	3.244	2.454	.216	1269	.949	1337	.449	.428	.478	.439	.442	.467	.483	.454	.463
.207	3.951	2.989	.791	3.244	2.455	.215	1269	.949	1337	.450	.428	.480	.437	.442	.468	.484	.455	.463
.206	3.948	2.985	.790	3.242	2.451	.214	1269	.949	1337	.450	.429	.480	.440	.443	.469	.484	.456	.463
.204	3.944	2.984	.788	3.238	2.450	.212	1269	.949	1337	.451	.429	.481	.440	.443	.469	.485	.456	.465
.203	3.941	2.982	.787	3.236	2.448	.211	1269	.949	1337	.451	.429	.481	.440	.444	.470	.486	.457	.465
.200	3.939	2.981	.784	3.231	2.445	.208	1269	.949	1337	.452	.429	.483	.441	.444	.470	.487	.458	.466
.201	3.937	2.979	.785	3.228	2.443	.209	1269	.949	1337	.452	.430	.483	.441	.445	.471	.488	.459	.466
.199	3.935	2.975	.783	3.229	2.442	.207	1269	.949	1337	.453	.430	.484	.441	.445	.472	.488	.459	.467
.198	3.933	2.976	.782	3.225	2.440	.206	1269	.949	1337	.454	.430	.484	.442	.446	.472	.489	.460	.467
.197	3.931	2.974	.781	3.226	2.441	.205	1268	.949	1337	.454	.430	.485	.442	.446	.473	.490	.461	.468
.195	3.930	2.973	.779	3.219	2.435	.203	1269	.949	1337	.455	.431	.486	.443	.447	.474	.491	.461	.469
.195	3.928	2.972	.779	3.219	2.435	.203	1269	.949	1337	.455	.431	.487	.443	.447	.474	.491	.462	.469
.192	3.926	2.972	.776	3.218	2.437	.200	1269	.949	1337	.455	.432	.488	.443	.447	.475	.492	.462	.470
.191	3.921	2.969	.775	3.213	2.433	.199	1269	.949	1337	.456	.432	.488	.444	.448	.476	.493	.462	.470
.189	3.919	2.967	.773	3.207	2.428	.197	1269	.949	1337	.456	.432	.489	.444	.448	.476	.494	.463	.471
.188	3.917	2.967	.772	3.207	2.430	.196	1269	.949	1337	.457	.433	.489	.444	.449	.477	.495	.464	.472
.186	3.915	2.964	.770	3.206	2.427	.194	1269	.949	1337	.458	.433	.490	.445	.450	.477	.495	.46	.472
.184	3.913	2.962	.768	3.202	2.424	.192	1269	.949	1337	.458	.433	.491	.446	.450	.478	.496	.465	.473
.183	3.911	2.963	.767	3.200	2.425	.191	1269	.949	1337	.459	.434	.492	.441	.450	.478	.496	.466	.473
.181	3.908	2.961	.765	3.197	2.422	.189	1268	.949	1337	.459	.434	.492	.446	.451	.479	.497	.466	.474
.181	3.906	2.960	.765	3.192	2.420	.189	1269	.949	1337	.460	.435	.493	.447	.451	.480	.498	.467	.474
.178	3.904	2.958	.762	3.191	2.417	.186	1269	.949	1337	.461	.435	.494	.447	.452	.480	.499	.467	.475
.178	3.903	2.957	.762	3.190	2.417	.186	1269	.949	1337	.461	.435	.494	.447	.452	.481	.499	.467	.476
.176	3.901	2.954	.760	3.190	2.415	.184	1268	.949	1337	.462	.436	.495	.448	.452	.482	.500	.468	.476
.175	3.900	2.953	.759	3.185	2.411	.183	1268	.949	1337	.462	.436	.496	.448	.453	.483	.501	.469	.477
.173	3.898	2.949	.757	3.185	2.410	.181	1269	.949	1337	.463	.436	.496	.448	.454	.483	.502	.470	.478
.170	3.895	2.947	.754	3.177	2.404	.178	1268	.949	1337	.463	.436	.497	.449	.454	.484	.502	.470	.478
.169	3.893	2.946	.753	3.177	2.404	.177	1268	.949	1337	.464	.437	.498	.450	.455	.484	.503	.471	.478
.166	3.890	2.943	.750	3.172	2.400	.174	1268	.949	1337	.465	.437	.498	.450	.455	.485	.503	.471	.479
.166	3.888	2.940	.750	3.175	2.401	.174	1268	.949	1337	.465	.437	.499	.450	.456	.485	.505	.472	.480

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OHS2 SHUTTLE SURVEY TEST
PAGE = 4

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
33	139	7.92	148.9	1337	35.08	-13.08	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.7	.0163	1.323	.715	3857	4.452E-04	7.947E-08	6.701E 05	21.01	6.15	.93	22.633	20

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.163	3.888	2.938	.747	3.167	2.395	.171	1268	.948	1337	.465	.437	.499	.451	.456	.486	.505	.472	.481
.161	3.885	2.935	.745	3.164	2.390	.169	1268	.949	1337	.466	.438	.500	.451	.456	.487	.506	.473	.481
.158	3.881	2.932	.742	3.161	2.388	.166	1268	.948	1337	.466	.438	.501	.451	.457	.487	.506	.474	.482
.155	3.875	2.928	.739	3.152	2.381	.163	1268	.948	1337	.467	.439	.502	.452	.458	.488	.507	.474	.483
.154	3.870	2.924	.738	3.150	2.380	.162	1268	.949	1337	.467	.439	.502	.452	.458	.488	.508	.475	.483
.150	3.864	2.920	.734	3.144	2.375	.158	1268	.948	1337	.468	.439	.503	.452	.459	.489	.509	.475	.484
.149	3.860	2.914	.733	3.139	2.370	.157	1268	.948	1337	.469	.439	.504	.453	.459	.490	.509	.476	.484
.145	3.853	2.912	.729	3.135	2.369	.153	1268	.948	1337	.469	.440	.505	.453	.459	.491	.510	.476	.487
.144	3.848	2.908	.728	3.128	2.364	.152	1268	.948	1337	.470	.440	.505	.454	.460	.491	.511	.477	.485
.141	3.842	2.903	.725	3.127	2.362	.149	1267	.948	1337	.470	.440	.506	.454	.461	.492	.511	.478	.486
.140	3.838	2.899	.724	3.122	2.357	.148	1268	.948	1337	.470	.440	.506	.454	.461	.492	.512	.477	.487
.137	3.833	2.894	.721	3.118	2.354	.145	1268	.948	1337	.472	.441	.507	.455	.462	.493	.513	.478	.484
.135	3.828	2.891	.719	3.112	2.350	.143	1267	.948	1337	.472	.441	.507	.455	.462	.494	.514	.478	.488
.133	3.823	2.889	.717	3.110	2.350	.141	1267	.948	1337	.472	.441	.509	.456	.462	.494	.514	.479	.488
.130	3.820	2.886	.714	3.108	2.348	.138	1267	.948	1337	.473	.441	.509	.456	.463	.495	.515	.480	.489
.129	3.815	2.881	.713	3.105	2.345	.137	1267	.948	1337	.473	.442	.510	.456	.463	.496	.516	.481	.489
.125	3.808	2.878	.709	3.097	2.340	.133	1267	.948	1337	.474	.443	.511	.457	.464	.496	.517	.482	.490
.124	3.803	2.873	.708	3.093	2.337	.132	1267	.948	1337	.474	.443	.511	.458	.465	.497	.517	.482	.490
.121	3.797	2.867	.705	3.092	2.335	.129	1267	.948	1337	.475	.443	.512	.458	.465	.498	.518	.482	.491
.121	3.793	2.866	.705	3.087	2.333	.129	1267	.948	1337	.474	.443	.513	.458	.465	.498	.519	.483	.492
.118	3.788	2.862	.702	3.085	2.331	.126	1267	.948	1337	.476	.444	.514	.459	.466	.499	.520	.484	.492
.117	3.784	2.859	.701	3.082	2.329	.125	1267	.948	1337	.476	.444	.514	.459	.466	.499	.520	.484	.492
.115	3.781	2.857	.699	3.082	2.329	.123	1267	.948	1337	.477	.444	.515	.459	.467	.500	.521	.485	.494
.113	3.777	2.854	.697	3.078	2.326	.121	1267	.947	1337	.477	.444	.515	.460	.467	.500	.521	.485	.494
.113	3.771	2.850	.697	3.076	2.324	.121	1267	.947	1337	.478	.445	.517	.461	.468	.501	.522	.486	.495
.109	3.766	2.846	.693	3.073	2.322	.117	1266	.947	1337	.478	.446	.517	.461	.468	.502	.523	.486	.495
.109	3.763	2.843	.693	3.069	2.319	.117	1266	.947	1337	.479	.446	.518	.461	.469	.502	.524	.487	.495
.107	3.759	2.842	.691	3.067	2.319	.115	1266	.947	1337	.480	.446	.518	.461	.469	.503	.524	.488	.496
.106	3.755	2.839	.690	3.069	2.321	.114	1267	.947	1337	.480	.446	.519	.462	.470	.503	.525	.488	.497
.104	3.754	2.836	.688	3.069	2.319	.112	1266	.947	1337	.481	.446	.520	.462	.470	.504	.526	.488	.497
.102	3.750	2.836	.686	3.063	2.316	.110	1266	.947	1337	.481	.447	.520	.463	.471	.505	.526	.489	.498
.102	3.746	2.833	.686	3.063	2.316	.110	1267	.947	1337	.482	.447	.521	.463	.471	.505	.527	.490	.498
.099	3.743	2.830	.683	3.063	2.316	.107	1266	.947	1337	.482	.447	.521	.463	.472	.506	.528	.490	.499
.099	3.742	2.829	.683	3.061	2.315	.107	1267	.947	1337	.483	.447	.522	.464	.472	.506	.528	.491	.499
.097	3.739	2.827	.681	3.058	2.312	.105	1266	.947	1337	.483	.448	.522	.465	.473	.507	.529	.491	.500
.096	3.737	2.825	.680	3.059	2.313	.104	1266	.947	1337	.484	.448	.524	.465	.473	.507	.529	.492	.500
.094	3.735	2.824	.678	3.057	2.312	.102	1266	.947	1337	.484	.448	.524	.465	.474	.508	.530	.492	.501
.093	3.733	2.823	.677	3.057	2.311	.101	1266	.947	1337	.485	.449	.525	.466	.474	.509	.531	.493	.502
.092	3.731	2.823	.676	3.057	2.313	.100	1266	.947	1337	.485	.450	.525	.466	.475	.509	.532	.494	.502
.089	3.726	2.819	.673	3.052	2.309	.097	1266	.947	1337	.486	.450	.526	.467	.476	.510	.532	.494	.503
.089	3.723	2.817	.673	3.051	2.309	.097	1266	.947	1337	.487	.450	.527	.465	.476	.510	.533	.495	.503
.087	3.721	2.816	.671	3.058	2.308	.095	1266	.947	1337	.487	.450	.527	.467	.476	.511	.533	.495	.504

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PRESEND	ROLL-MODEL	YAW
33	139	7.92	148.8	1337	35.06	-13.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.7	.0162	1.322	.714	3857	4.449E-04	7.947E-08	6.701E 05	21.01	6.15	.93	22.633	20

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.086	3.719	2.814	.670	3.051	2.309	.094	1266	.947	1337	.488	.450	.528	.466	.477	.512	.534	.495	.504
.084	3.716	2.811	.668	3.050	2.306	.092	1266	.947	1337	.488	.451	.529	.470	.477	.512	.535	.496	.505
.083	3.714	2.810	.667	3.051	2.309	.091	1266	.947	1337	.488	.451	.529	.469	.478	.513	.535	.496	.505
.081	3.712	2.809	.665	3.052	2.309	.089	1266	.947	1337	.489	.451	.530	.469	.479	.514	.536	.496	.506
.080	3.708	2.806	.664	3.049	2.307	.088	1266	.947	1337	.489	.452	.531	.470	.479	.514	.537	.498	.506
.080	3.706	2.806	.664	3.049	2.309	.088	1266	.947	1337	.490	.452	.531	.470	.480	.515	.537	.498	.507
.078	3.703	2.804	.660	3.049	2.309	.084	1266	.947	1337	.490	.452	.532	.470	.480	.515	.538	.499	.507
.076	3.701	2.800	.660	3.050	2.308	.084	1266	.947	1337	.491	.452	.532	.470	.480	.516	.539	.499	.509
.074	3.697	2.799	.658	3.050	2.309	.082	1266	.947	1337	.491	.452	.533	.471	.481	.517	.539	.499	.509
.073	3.694	2.795	.657	3.048	2.307	.081	1266	.947	1337	.492	.453	.534	.472	.481	.517	.540	.500	.510
.071	3.690	2.794	.655	3.050	2.309	.079	1267	.947	1337	.492	.453	.535	.472	.482	.518	.540	.500	.510
.070	3.684	2.791	.654	3.047	2.309	.078	1267	.947	1337	.493	.454	.535	.473	.483	.518	.541	.502	.510
.068	3.676	2.783	.652	3.050	2.310	.076	1267	.947	1337	.494	.454	.535	.470	.483	.519	.542	.502	.511
.066	3.667	2.777	.650	3.050	2.309	.074	1267	.947	1337	.494	.454	.536	.473	.484	.520	.542	.502	.511
.066	3.657	2.771	.650	3.049	2.310	.074	1267	.948	1337	.494	.455	.537	.474	.484	.520	.543	.502	.512
.063	3.646	2.763	.647	3.055	2.315	.071	1267	.948	1337	.495	.455	.537	.474	.484	.521	.544	.504	.513
.063	3.635	2.754	.647	3.051	2.312	.071	1267	.948	1337	.495	.455	.538	.474	.485	.521	.544	.504	.513
.062	3.624	2.745	.646	3.053	2.313	.070	1267	.948	1337	.496	.455	.539	.475	.485	.522	.545	.504	.514
.062	3.612	2.736	.646	3.055	2.315	.070	1267	.948	1337	.496	.455	.539	.475	.486	.522	.546	.505	.514
.060	3.597	2.725	.644	3.055	2.315	.068	1268	.948	1337	.496	.455	.540	.476	.487	.523	.546	.505	.515
.059	3.581	2.713	.643	3.054	2.314	.067	1267	.948	1337	.497	.456	.540	.476	.487	.524	.547	.506	.515
.058	3.563	2.699	.642	3.056	2.316	.066	1268	.948	1337	.498	.456	.542	.477	.487	.524	.547	.507	.516
056	3.540	2.684	.640	3.058	2.318	.064	1268	.948	1337	.498	.456	.542	.477	.488	.525	.548	.507	.517
.056	3.512	2.663	.640	3.057	2.318	.064	1267	.948	1337	.499	.456	.543	.477	.488	.526	.548	.507	.517
.054	3.482	2.640	.638	3.061	2.321	.062	1267	.948	1337	.499	.457	.543	.478	.489	.526	.549	.508	.518
.053	3.450	2.615	.637	3.064	2.323	.061	1267	.948	1337	.499	.457	.543	.478	.489	.526	.550	.509	.518
.053	3.411	2.586	.637	3.065	2.324	.061	1267	.948	1337	.500	.458	.544	.478	.490	.527	.550	.510	.518
.051	3.375	2.559	.635	3.065	2.323	.059	1267	.947	1337	.500	.458	.544	.479	.491	.528	.551	.510	.519
.051	3.335	2.528	.635	3.068	2.326	.059	1266	.947	1337	.501	.458	.546	.480	.491	.529	.551	.511	.520
.048	3.293	2.497	.632	3.067	2.325	.056	1266	.947	1337	.502	.458	.546	.480	.491	.529	.552	.511	.520
.048	3.251	2.466	.632	3.066	2.326	.056	1265	.946	1337	.502	.459	.547	.480	.492	.530	.553	.511	.521
.046	3.204	2.429	.630	3.071	2.328	.054	1264	.946	1337	.502	.459	.547	.481	.492	.530	.554	.512	.521
.046	3.155	2.392	.630	3.072	2.329	.054	1264	.945	1337	.503	.460	.548	.481	.493	.531	.554	.512	.522
.046	3.106	2.355	.630	3.073	2.329	.054	1263	.945	1337	.503	.460	.548	.481	.494	.531	.555	.513	.522
.044	3.061	2.320	.628	3.071	2.328	.052	1261	.944	1337	.504	.460	.549	.482	.494	.532	.555	.514	.524
.044	3.015	2.287	.628	3.071	2.330	.052	1260	.943	1337	.504	.461	.549	.483	.494	.532	.556	.514	.524
.042	2.964	2.249	.626	3.075	2.333	.050	1259	.942	1337	.505	.461	.550	.483	.495	.533	.557	.514	.524
.042	2.910	2.206	.626	3.077	2.332	.050	1257	.940	1337	.505	.461	.550	.483	.495	.533	.557	.515	.525
.041	2.847	2.160	.625	3.079	2.336	.049	1255	.939	1337	.506	.461	.551	.484	.496	.534	.558	.515	.525
.039	2.777	2.107	.623	3.077	2.334	.047	1252	.936	1337	.506	.461	.551	.484	.496	.535	.558	.516	.526
.039	2.707	2.054	.623	3.080	2.337	.047	1250	.935	1337	.506	.462	.552	.484	.497	.535	.559	.517	.526
.038	2.643	2.005	.620	3.082	2.338	.044	1247	.933	1337	.507	.462	.553	.485	.498	.536	.559	.517	.527

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
PAGE = 6

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
33	139	7.92	148.5	1337	35.06	-13.06	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
96.7	.0162	1.319	.713	3857	4.440E-04	7.947E-08	6.701E 05	21.01	6.15	.93	22.633	20

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.037	2.576	1.952	.621	3.083	2.[illegible]	.045	1245	.931	1337	.507	.462	.554	.485	.498	.536	.560	.518	.527
.035	2.503	1.899	.619	3.085	[illegible].339	.043	1241	.928	1337	.508	.462	.554	.485	.498	.537	.561	.518	.528
.033	2.450	1.839	.619	3.086	2.340	.043	1236	.925	1337	.509	.463	.555	.487	.499	.537	.561	.518	.528
.032	2.375	1.724	.616	3.091	2.342	.041	1232	.922	1337	.509	.463	.555	.487	.499	.538	.562	.519	.528
.033	2.208	1.673	.617	3.093	2.343	.041	1229	.919	1337	.510	.463	.556	.487	.500	.539	.562	.520	.529
.029	2.144	1.624	.613	3.095	2.345	.037	1222	.914	1337	.510	.463	.557	.488	.500	.540	.563	.520	.529
.030	2.078	1.574	.614	3.09[illegible]	2.346	.038	1216	.909	1337	.511	.464	.557	.488	.501	.540	.563	.521	.531
.028	2.009	1.521	.612	3.099	2.346	.036	1210	.905	1337	.511	.465	.558	.489	.501	.541	.564	.521	.531
.028	1.935	1.465	.612	3.102	2.349	.036	1203	.900	1337	.511	.465	.558	.489	.502	.541	.565	.521	.531
.026	1.862	1.410	.610	3.102	2.349	.034	1197	.895	1337	.513	.465	.559	.489	.502	.542	.565	.522	.532
.025	1.785	1.351	.609	3.107	2.352	.033	1187	.887	1337	.513	.465	.560	.490	.503	.542	.566	.522	.532
.025	1.707	1.292	.609	3.110	2.355	.033	1179	.882	1337	.513	.465	.560	.490	.503	.543	.566	.523	.533
.022	1.627	1.232	.606	3.113	2.356	.030	1171	.876	1337	.514	.466	.561	.490	.504	.543	.567	.524	.533
.023	1.554	1.176	.607	3.112	2.354	.031	1164	.870	1337	.514	.466	.561	.491	.505	.544	.568	.524	.534
.021	1.482	1.121	.605	3.116	2.357	.029	1154	.863	1337	.515	.466	.562	.491	.505	.544	.568	.525	.534
.021	1.419	1.067	.605	3.117	2.358	.029	1144	.856	1337	.515	.467	.562	.492	.506	.545	.569	.525	.535
.020	1.338	1.011	.604	3.119	2.358	.029	1136	.848	1337	.516	.467	.563	.492	.506	.546	.570	.526	.536
.018	1.273	.963	.602	3.121	2.360	.026	1127	.843	1337	.517	.467	.563	.493	.507	.546	.570	.526	.536
.019	1.214	.919	.603	3.122	2.362	.027	1120	.837	1337	.517	.467	.564	.494	.507	.547	.571	.527	.536
.016	1.156	.874	.600	3.123	2.363	.024	1109	.829	1337	.517	.468	.565	.494	.508	.548	.571	.528	.537
.016	1.103	.834	.600	3.126	2.363	.024	1100	.822	1337	.518	.468	.565	.494	.509	.548	.572	.528	.537
.015	1.051	.795	.599	3.128	2.365	.023	1089	.814	1337	.519	.468	.566	.495	.509	.549	.572	.528	.538
.014	1.000	.756	.598	3.128	2.365	.022	1077	.805	1337	.519	.469	.566	.495	.510	.550	.573	.529	.539
.013	.956	.722	.597	3.135	2.371	.021	1067	.798	1337	.519	.469	.567	.495	.510	.550	.573	.530	.539
.011	.912	.690	.595	3.137	2.374	.019	1054	.789	1337	.520	.469	.568	.496	.510	.550	.574	.530	.540
.011	.869	.658	.595	3.138	2.374	.019	1042	.779	1337	.520	.470	.568	.496	.511	.551	.574	.531	.540
.007	.832	.629	.591	3.143	2.377	.015	1028	.769	1337	.521	.470	.569	.496	.511	.551	.575	.531	.541
.008	.796	.602	.592	3.143	2.377	.016	1020	.763	1337	.521	.470	.569	.497	.512	.552	.576	.532	.541
.007	.712	.538	.591	3.143	2.376	.015	1019	.762	1337	.522	.471	.571	.498	.514	.555	.577	.533	.543

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CATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
34	139	7.92	152.2	1340	35.04	-13.04	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.9	.0166	1.352	.731	3861	4.541E-04	7.965E-08	6.697E 05	19.07	6.15	.84	22.633	19

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.700	3.557	2.668	1.284	.977	.733	.713	1283	.958	1339	.396	.400	.410	.406	.404	.409	.408	.398	.404
.672	3.556	2.669	1.256	.977	.733	.685	1284	.959	1339	.396	.400	.410	.404	.404	.410	.410	.399	.405
.641	3.548	2.666	1.225	.978	.735	.654	1284	.959	1339	.397	.402	.411	.407	.404	.411	.411	.400	.406
.607	3.532	2.658	1.191	.979	.737	.620	1284	.959	1339	.398	.402	.413	.407	.406	.412	.412	.400	.407
.577	3.511	2.644	1.161	.979	.737	.590	1285	.960	1339	.399	.402	.413	.405	.406	.413	.413	.402	.408
.544	3.477	2.619	1.128	.979	.737	.557	1285	.960	1339	.399	.403	.414	.408	.407	.414	.414	.403	.408
.515	3.424	2.577	1.099	1.006	.757	.528	1286	.961	1339	.400	.403	.415	.408	.407	.415	.415	.403	.410
.484	3.350	2.521	1.068	1.213	.913	.497	1287	.961	1339	.401	.403	.415	.409	.407	.415	.416	.404	.410
.470	3.270	2.461	1.054	1.323	.996	.483	1288	.962	1339	.402	.403	.417	.410	.408	.417	.417	.404	.410
.460	3.205	2.410	1.044	1.527	1.149	.473	1289	.962	1339	.403	.404	.417	.410	.408	.417	.418	.406	.411
.449	3.149	2.368	1.033	[illegible]	1.519	.462	1289	.962	1339	.403	.404	.418	.410	.409	.418	.419	.406	.412
.441	3.102	2.331	1.025	2.704	2.032	.454	1290	.962	1340	.404	.404	.419	.410	.409	.418	.420	.407	.413
.430	3.059	2.297	1.014	3.366	2.528	.443	1290	.963	1340	.405	.404	.420	.411	.410	.419	.421	.408	.413
.420	3.021	2.266	1.004	3.609	2.707	.433	1290	.963	1340	.405	.405	.420	.412	.410	.420	.422	.408	.414
.410	2.989	2.242	.994	3.606	2.705	.423	1291	.964	1339	.406	.406	.421	.412	.411	.421	.423	.408	.414
.400	2.965	2.221	.984	3.585	2.685	.413	1291	.963	1340	.407	.405	.422	.412	.411	.421	.424	.410	.415
.391	2.947	2.207	.975	3.577	2.680	.404	1291	.964	1339	.408	.406	.423	.413	.412	.422	.425	.411	.417
.380	2.935	2.197	.964	3.575	2.676	.393	1291	.963	1340	.408	.406	.424	.413	.412	.423	.425	.411	.416
.372	2.929	2.191	.956	3.572	2.672	.385	1291	.963	1340	.409	.406	.425	.413	.412	.423	.427	.412	.417
.361	2.928	2.190	.945	3.571	2.671	.374	1291	.963	1340	.409	.407	.427	.414	.413	.424	.427	.412	.419
.351	2.927	2.190	.935	3.571	2.670	.364	1291	.963	1340	.410	.407	.427	.414	.413	.425	.429	.414	.419
.341	2.926	2.211	.925	3.571	2.671	.354	1291	.963	1340	.411	.407	.429	.415	.414	.425	.429	.414	.420
.331	2.980	2.231	.915	3.570	2.672	.344	1291	.963	1340	.412	.408	.430	.415	.415	.426	.430	.415	.420
.322	3.013	2.257	.906	3.570	2.675	.335	1291	.964	1340	.412	.408	.431	.416	.415	.427	.431	.415	.421
.310	3.054	2.289	.894	3.567	2.674	.323	1291	.963	1340	.413	.409	.432	.416	.415	.428	.432	.416	.422
.302	3.097	2.325	.886	3.562	2.674	.315	1291	.964	1340	.413	.409	.434	.416	.416	.428	.432	.416	.422
.290	3.150	2.364	.874	3.557	2.670	.303	1291	.963	1340	.414	.409	.436	.417	.416	.429	.434	.417	.423
.281	3.212	2.415	.865	3.549	2.669	.294	1291	.963	1340	.415	.410	.437	.417	.417	.430	.434	.418	.424
.271	3.288	2.476	.855	3.540	2.666	.284	1290	.963	1340	.415	.410	.439	.417	.417	.430	.435	.419	.424
.260	3.385	2.551	.844	3.536	2.660	.273	1289	.963	1339	.416	.411	.441	.418	.418	.431	.436	.419	.426
.251	3.581	2.640	.835	3.522	2.656	.264	1288	.961	1340	.416	.411	.442	.418	.418	.431	.437	.419	.426
.239	3.628	2.738	.823	3.518	2.655	.252	1287	.960	1340	.417	.411	.444	.419	.419	.432	.438	.420	.427

DATE 5-6-74
PROJECT NUMBER VA524-219A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
PAGE = 2

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
34	139	7.92	149.0	1340	35.04	-13.04	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (BM /FT3)	MU-INF (LAF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.9	.0163	1.323	.715	3861	4.445E-04	7.965E-08	6.697E 05	19.07	6.15	.84	22.633	19

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.230	3.763	2.843	.814	3.510	2.652	.243	1286	.959	1340	.418	.412	.446	.419	.419	.433	.439	.421	.427
.219	3.904	2.952	.803	3.504	2.650	.232	1285	.960	1339	.419	.412	.448	.419	.419	.434	.441	.422	.428
.209	4.054	3.070	.793	3.498	2.648	.222	1284	.959	1339	.419	.412	.449	.420	.420	.435	.442	.422	.429
.202	4.225	3.201	.786	3.493	2.647	.215	1283	.958	1339	.420	.413	.452	.421	.421	.435	.443	.423	.430
.199	4.359	3.309	.783	3.488	2.648	.212	1283	.958	1339	.421	.413	.454	.421	.421	.436	.444	.423	.430
.198	4.445	3.378	.782	3.485	2.646	.211	1283	.958	1339	.421	.413	.455	.421	.421	.437	.445	.425	.431
.192	4.518	3.432	.776	3.480	2.644	.205	1282	.958	1339	.422	.413	.456	.421	.422	.437	.446	.425	.432
.191	4.590	3.491	.775	3.477	2.645	.204	1282	.957	1339	.422	.414	.458	.422	.422	.438	.447	.426	.433
.187	4.644	3.538	.771	3.473	2.645	.200	1282	.958	1339	.423	.415	.459	.422	.422	.438	.448	.426	.433
.184	4.692	3.574	.768	3.472	2.645	.197	1282	.957	1339	.423	.415	.460	.422	.423	.440	.449	.427	.434
.183	4.728	3.604	.767	3.467	2.643	.196	1282	.957	1339	.425	.415	.462	.423	.423	.440	.450	.428	.434
.179	4.764	3.629	.763	3.469	2.642	.192	1281	.957	1339	.425	.415	.463	.423	.424	.441	.452	.429	.435
.179	4.799	3.656	.763	3.469	2.642	.192	1282	.957	1339	.426	.415	.464	.423	.424	.441	.452	.429	.436
.174	4.835	3.680	.758	3.473	2.644	.187	1282	.957	1339	.426	.416	.466	.424	.425	.442	.454	.430	.437
.173	4.872	3.706	.757	3.475	2.643	.186	1281	.957	1339	.427	.416	.467	.425	.425	.443	.455	.430	.437
.170	4.904	3.728	.754	3.477	2.643	.183	1281	.957	1339	.428	.416	.469	.425	.425	.443	.455	.431	.438
.169	4.934	3.748	.753	3.475	2.640	.182	1281	.957	1339	.428	.417	.470	.425	.426	.444	.456	.432	.438
.166	4.961	3.766	.750	3.475	2.638	.179	1281	.956	1340	.428	.417	.470	.425	.426	.445	.457	.432	.439
.163	4.986	3.783	.747	3.478	2.638	.176	1281	.956	1339	.429	.417	.472	.426	.427	.445	.459	.433	.440
.162	5.009	3.797	.746	3.479	2.638	.175	1281	.956	1340	.430	.417	.473	.426	.427	.446	.459	.434	.440
.159	5.028	3.809	.743	3.479	2.636	.172	1281	.956	1340	.430	.418	.474	.427	.427	.447	.460	.434	.441
.158	5.044	3.824	.742	3.479	2.637	.171	1281	.956	1340	.431	.418	.476	.427	.428	.447	.461	.435	.442
.156	5.059	3.833	.740	3.479	2.636	.169	1280	.955	1341	.431	.418	.477	.427	.428	.447	.462	.436	.442
.153	5.071	3.840	.737	3.475	2.631	.166	1281	.956	1340	.432	.419	.477	.428	.429	.449	.463	.436	.443
.152	5.084	3.849	.736	3.477	2.632	.165	1281	.956	1340	.432	.419	.479	.428	.430	.449	.464	.437	.370
.148	5.099	5.224	.732	3.474	2.631	.161	1281	.956	1340	.433	.419	.480	.428	.430	.450	.465	.438	.445
.147	5.098	3.860	.731	3.474	2.631	.160	1280	.956	1340	.434	.420	.481	.427	.430	.450	.466	.438	.445
.144	5.106	3.866	.728	3.472	2.629	.157	1280	.956	1340	.434	.420	.483	.427	.431	.451	.467	.439	.446
.142	5.113	3.871	.726	3.469	2.627	.155	1280	.955	1340	.435	.420	.484	.430	.431	.452	.468	.439	.446
.139	5.119	3.876	.723	3.468	2.626	.152	1280	.955	1340	.435	.420	.485	.430	.431	.453	.469	.439	.447
.137	5.124	3.879	.721	3.467	2.625	.150	1280	.955	1340	.436	.421	.486	.423	.432	.453	.469	.440	.448
.136	5.130	3.884	.720	3.466	2.626	.149	1280	.955	1340	.436	.421	.487	.431	.432	.454	.470	.441	.449
.133	5.132	3.885	.717	3.464	2.623	.146	1280	.955	1340	.437	.421	.488	.431	.433	.454	.472	.442	.450
.132	5.137	3.895	.716	3.464	2.626	.145	1280	.955	1340	.438	.422	.490	.431	.434	.455	.472	.443	.450
.130	5.138	3.893	.714	3.462	2.623	.143	1280	.955	1340	.438	.422	.491	.432	.434	.456	.473	.443	.450
.127	5.138	3.895	.711	3.459	2.623	.140	1280	.955	1340	.439	.423	.492	.432	.434	.457	.474	.444	.451
.126	5.139	3.896	.710	3.458	2.622	.139	1280	.955	1340	.439	.423	.494	.432	.435	.457	.475	.444	.452
.123	5.136	3.894	.707	3.454	2.619	.136	1280	.955	1340	.440	.423	.495	.433	.435	.458	.476	.445	.453
.122	5.137	3.897	.706	3.452	2.619	.135	1280	.955	1340	.440	.423	.495	.434	.435	.459	.477	.445	.453
.119	5.135	3.896	.703	3.453	2.620	.132	1280	.955	1340	.441	.423	.496	.431	.436	.460	.478	.446	.454
.118	5.134	3.898	.702	3.447	2.617	.131	1279	.956	1339	.442	.423	.498	.434	.437	.460	.479	.447	.455
.117	5.132	3.896	.701	3.447	2.617	.130	1279	.955	1340	.442	.424	.499	.432	.437	.461	.480	.447	.455

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI 0h52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
34	139	7.92	148.2	1340	35.04	-13.04	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.9	.0162	1.316	.712	3861	4.422E-04	7.965E-08	6.697E 05	19.07	6.15	.84	22.633	19

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG-R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.113	5.128	3.895	.697	3.444	2.617	.126	1279	.955	1340	.443	.425	.500	.435	.438	.461	.481	.446	.455
.113	5.126	3.894	.697	3.440	2.613	.126	1279	.955	1340	.443	.425	.501	.435	.438	.462	.481	.449	.457
.109	5.123	3.895	.693	3.437	2.613	.122	1279	.955	1339	.444	.426	.503	.436	.438	.463	.483	.449	.457
.108	5.121	3.893	.692	3.436	2.612	.121	1279	.955	1340	.445	.426	.503	.436	.439	.464	.483	.450	.458
.105	5.115	3.891	.689	3.432	2.611	.118	1279	.955	1339	.445	.426	.505	.437	.440	.464	.485	.451	.459
.103	5.112	3.889	.687	3.431	2.610	.116	1279	.955	1339	.446	.427	.506	.437	.440	.465	.486	.452	.459
.103	5.109	3.892	.687	3.428	2.611	.116	1279	.954	1340	.446	.427	.507	.437	.440	.466	.487	.451	.460
.098	5.102	3.886	.682	3.423	2.607	.111	1279	.955	1339	.447	.427	.509	.438	.441	.467	.488	.452	.460
.098	5.099	3.884	.682	3.421	2.606	.111	1279	.955	1340	.447	.427	.509	.436	.441	.467	.488	.453	.461
.095	5.095	3.883	.679	3.421	2.608	.108	1278	.954	1340	.448	.427	.510	.436	.442	.468	.489	.454	.461
.094	5.093	3.882	.678	3.418	2.606	.107	1279	.954	1340	.449	.428	.512	.439	.442	.469	.490	.454	.462
.093	5.090	3.883	.677	3.420	2.608	.106	1279	1.265	1011	.595	.568	.680	.582	.586	.622	.650	.603	.515
.090	3.447	2.629	.674	3.415	2.605	.103	1279	.954	1340	.450	.429	.514	.437	.443	.470	.491	.455	.464
.090	5.093	3.885	.674	3.415	2.605	.103	1279	.955	1340	.450	.429	.515	.440	.443	.470	.492	.456	.464
.086	5.093	3.885	.670	3.414	2.604	.099	1279	.955	1340	.451	.429	.517	.440	.444	.471	.493	.457	.465
.085	5.091	3.883	.669	3.413	2.604	.098	1279	.954	1340	.451	.429	.518	.440	.445	.472	.494	.457	.391
.084	5.091	3.883	.668	3.412	2.603	.097	1279	.955	1340	.452	.430	.519	.441	.445	.473	.495	.458	.466
.082	5.091	3.881	.666	3.410	2.599	.095	1279	.954	1340	.453	.430	.520	.442	.445	.473	.496	.458	.466
.081	5.093	3.882	.665	3.410	2.599	.094	1279	.954	1340	.453	.430	.521	.442	.446	.474	.496	.459	.467
.078	5.094	3.880	.662	3.414	2.600	.091	1279	.955	1340	.454	.430	.522	.442	.446	.475	.498	.460	.468
.079	5.099	3.882	.663	3.416	2.601	.092	1279	.955	1340	.454	.431	.524	.443	.447	.476	.498	.460	.468
.075	5.103	3.882	.659	3.416	2.599	.088	1279	.955	1340	.455	.431	.525	.443	.447	.476	.499	.461	.469
.075	5.107	3.882	.659	3.419	2.599	.088	1279	.955	1340	.455	.431	.526	.443	.448	.477	.500	.461	.469
.074	5.112	3.886	.658	3.421	2.601	.087	1280	.955	1340	.456	.432	.527	.444	.448	.477	.501	.462	.470
.072	5.116	3.886	.656	3.419	2.595	.085	1280	.955	1340	.457	.432	.528	.444	.449	.478	.502	.463	.470
.071	5.239	3.977	.655	3.424	2.600	.084	1280	.955	1340	.457	.432	.530	.445	.449	.479	.503	.464	.471
.070	5.123	3.887	.654	3.422	2.596	.083	1280	.955	1340	.458	.433	.530	.445	.450	.480	.504	.464	.472
.069	5.127	3.887	.653	3.422	2.594	.082	1280	.955	1340	.458	.434	.532	.445	.450	.480	.505	.464	.473
.067	5.133	3.892	.651	3.422	2.595	.080	1280	.955	1340	.459	.434	.533	.446	.451	.481	.505	.465	.473
.067	5.140	3.894	.651	3.422	2.593	.080	1280	.955	1340	.459	.434	.534	.446	.451	.482	.506	.465	.473
.065	5.145	3.898	.649	3.421	2.592	.078	1280	.955	1340	.460	.435	.535	.446	.451	.483	.507	.466	.474
.065	5.152	3.903	.649	3.424	2.594	.078	1280	.955	1340	.460	.435	.536	.447	.452	.483	.508	.466	.475
.063	5.158	3.905	.647	3.424	2.592	.076	1280	.955	1340	.461	.436	.537	.447	.453	.484	.509	.468	.475
.062	5.162	3.908	.646	3.420	2.590	.075	1280	.955	1340	.461	.436	.538	.448	.453	.484	.510	.468	.476
.062	5.170	3.914	.646	3.425	2.593	.075	1280	.955	1340	.462	.436	.539	.448	.454	.485	.511	.468	.477
.059	5.176	3.916	.643	3.425	2.591	.072	1280	.955	1340	.462	.436	.540	.446	.454	.486	.512	.469	.477
.059	5.181	3.921	.643	3.420	2.587	.072	1280	.955	1340	.463	.436	.541	.449	.455	.487	.513	.469	.478
.057	5.189	3.926	.641	3.420	2.587	.070	1280	.955	1340	.464	.436	.542	.450	.455	.487	.514	.470	.479
.057	5.197	3.932	.641	3.420	2.588	.070	1280	.955	1340	.464	.437	.543	.450	.455	.488	.515	.470	.479
.056	5.202	3.936	.640	3.419	2.587	.069	1280	.955	1340	.465	.438	.544	.450	.456	.489	.516	.470	.480
.054	5.206	3.939	.638	3.417	2.585	.067	1280	.955	1340	.465	.438	.545	.451	.457	.490	.517	.472	.480
.054	5.210	3.942	.638	3.420	2.587	.067	1280	.955	1340	.466	.438	.546	.451	.457	.490	.518	.472	.481

DATE 5-6-74
PROJECT NUMBER VA524-21BA
RDA, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI 0H52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
34	139	7.92	148.9	1340	35.04	-13.04	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.9	.0162	1.323	.715	3861	4.442E-04	7.965E-08	6.697E 05	19.07	6.15	.84	22.633	19

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.052	5.213	3.941	.636	3.414	2.582	.065	1280	.955	1340	.466	.438	.547	.451	.458	.491	.519	.473	.481
.051	5.216	3.947	.635	3.415	2.584	.064	1280	.955	1340	.466	.438	.548	.452	.458	.492	.520	.473	.482
.050	5.216	3.944	.634	3.415	2.582	.063	1280	.955	1340	.467	.439	.550	.452	.458	.492	.521	.473	.483
.049	5.213	3.945	.633	3.412	2.582	.062	1280	.956	1340	.468	.439	.550	.453	.459	.493	.522	.475	.483
.048	5.213	3.947	.632	3.412	2.583	.061	1280	.955	1340	.468	.439	.552	.453	.460	.494	.523	.475	.484
.046	5.206	3.939	.630	3.411	2.581	.059	1280	.955	1340	.469	.440	.552	.453	.460	.495	.524	.476	.484
.046	5.198	3.933	.630	3.411	2.581	.059	1281	.956	1340	.469	.440	.554	.454	.461	.495	.525	.477	.485
.044	5.185	3.923	.628	3.409	2.579	.057	1280	.955	1340	.470	.440	.555	.454	.461	.496	.526	.477	.485
.043	5.168	3.910	.627	3.406	2.577	.056	1280	.955	1340	.470	.440	.556	.455	.462	.496	.527	.477	.487
.042	5.160	3.891	.626	3.404	2.577	.055	1281	.956	1340	.471	.441	.557	.455	.462	.497	.528	.477	.487
.040	5.099	3.858	.624	3.403	2.575	.053	1281	.956	1340	.472	.442	.558	.455	.463	.498	.529	.479	.488
.040	5.045	3.820	.624	3.404	2.577	.053	1280	.955	1340	.472	.442	.559	.456	.463	.499	.529	.479	.488
.038	4.981	3.771	.622	3.402	2.576	.051	1281	.956	1340	.473	.442	.560	.457	.464	.499	.530	.479	.489
.039	4.925	3.729	.623	3.402	2.576	.052	1281	.956	1340	.473	.442	.561	.457	.464	.500	.532	.480	.489
.037	4.879	3.694	.621	3.400	2.574	.050	1281	.956	1340	.473	.442	.562	.457	.465	.500	.532	.481	.490
.037	4.815	3.648	.621	3.399	2.575	.050	1281	.956	1340	.474	.443	.563	.458	.465	.502	.533	.481	.490
.035	4.755	3.600	.619	3.399	2.574	.048	1281	.956	1340	.475	.443	.563	.458	.466	.502	.534	.482	.491
.035	4.684	3.547	.619	3.396	2.571	.048	1281	.956	1340	.475	.443	.564	.459	.466	.503	.535	.483	.491
.034	4.605	3.489	.618	3.396	2.573	.047	1281	.956	1340	.476	.443	.565	.459	.467	.503	.536	.483	.492
.032	4.515	3.421	.616	3.393	2.570	.045	1281	.956	1340	.476	.444	.566	.460	.468	.504	.536	.484	.492
.033	4.410	3.341	.617	3.395	2.572	.046	1281	.956	1340	.477	.444	.566	.460	.468	.505	.537	.484	.492
.031	4.301	3.259	.615	3.390	2.568	.044	1281	.956	1340	.477	.445	.567	.460	.468	.505	.539	.485	.494
.031	4.177	3.167	.615	3.392	2.572	.044	1281	.956	1340	.477	.445	.569	.461	.469	.506	.539	.485	.494
.030	4.073	3.088	.614	3.392	2.571	.043	1281	.956	1340	.478	.445	.569	.461	.469	.506	.540	.487	.495
.030	3.993	3.025	.614	3.387	2.566	.043	1281	.956	1340	.479	.445	.570	.461	.470	.507	.541	.487	.495
.028	3.902	2.956	.612	3.388	2.567	.041	1281	.956	1340	.479	.445	.571	.462	.470	.508	.543	.487	.496
.028	3.794	2.874	.612	3.390	2.568	.041	1280	.955	1340	.480	.446	.572	.462	.471	.509	.543	.488	.496
.026	3.692	2.797	.612	3.389	2.568	.041	1279	.955	1340	.480	.446	.573	.463	.472	.509	.544	.488	.497
.026	3.590	2.720	.610	3.390	2.568	.039	1279	.954	1340	.481	.446	.574	.463	.472	.510	.546	.488	.497
.027	3.479	2.634	.611	3.390	2.567	.040	1278	.954	1340	.481	.447	.575	.464	.472	.511	.547	.489	.498
.024	3.342	2.529	.608	3.388	2.563	.037	1276	.952	1340	.482	.447	.576	.464	.473	.511	.547	.490	.498
.024	3.206	2.427	.608	3.387	2.565	.037	1275	.951	1340	.482	.447	.577	.465	.473	.512	.548	.490	.499
.023	3.068	2.321	.607	3.384	2.560	.036	1273	.950	1340	.483	.447	.578	.465	.475	.513	.549	.491	.499
.023	2.938	2.223	.607	3.386	2.562	.035	1271	.949	1340	.483	.448	.578	.465	.475	.514	.550	.491	.500
.022	2.809	2.124	.606	3.386	2.560	.035	1269	.947	1340	.484	.449	.580	.464	.475	.514	.551	.492	.500
.021	2.692	2.028	.605	3.387	2.561	.034	1266	.945	1340	.484	.449	.580	.464	.476	.515	.552	.492	.502
.020	2.559	1.936	.604	3.386	2.562	.033	1263	.942	1340	.485	.449	.581	.467	.476	.515	.553	.494	.502
.019	2.433	1.841	.603	3.386	2.562	.032	1259	.940	1340	.485	.449	.582	.465	.477	.517	.554	.494	.502
.020	2.317	1.753	.604	3.386	2.562	.033	1256	.937	1340	.486	.450	.583	.468	.477	.517	.555	.494	.503
.017	2.207	1.669	.601	3.384	2.559	.030	1251	.934	1340	.487	.450	.584	.468	.478	.518	.556	.495	.503
.018	2.100	1.588	.602	3.384	2.559	.031	1245	.929	1340	.487	.450	.585	.468	.479	.518	.556	.495	.504
.016	1.998	1.505	.600	3.381	2.557	.029	1237	.923	1340	.488	.451	.585	.469	.479	.519	.558	.496	.505

DATE 5-6-74
PROJECT NUMBER VA524 218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
PAGE = 5

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
34	139	7.92	148.9	1340	35.04	-13.04	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
98.9	.0162	1.323	.715	3861	4.442E-04	7.965F-08	6.697E 05	19.07	6.15	.84	22.633	19

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.016	1.887	1.423	.600	3.381	2.556	.029	1227	.916	1340	.488	.451	.596	.469	.480	.520	.558	.496	.505
.014	1.775	1.342	.596	3.382	2.557	.027	1217	.908	1340	.488	.451	.587	.469	.480	.520	.559	.497	.506
.014	1.675	1.267	.598	3.380	2.556	.027	1204	.898	1340	.489	.451	.588	.470	.480	.521	.561	.497	.506
.013	1.581	1.195	.597	3.378	2.554	.026	1195	.891	1340	.490	.451	.589	.468	.481	.522	.562	.498	.507
.012	1.498	1.133	.596	3.377	2.553	.025	1185	.884	1340	.490	.452	.589	.471	.481	.522	.562	.498	.507
.012	1.422	1.075	.596	3.377	2.553	.025	1173	.876	1340	.491	.452	.591	.469	.482	.523	.563	.499	.508
.010	1.349	1.020	.594	3.375	2.552	.023	1162	.867	1340	.491	.452	.592	.469	.483	.524	.564	.499	.509
.010	1.283	.970	.594	3.373	2.551	.023	1151	.859	1340	.491	.453	.592	.472	.483	.525	.565	.499	.509
.008	1.223	.924	.592	3.371	2.547	.021	1139	.850	1340	.492	.453	.593	.473	.484	.525	.566	.500	.510
.007	1.169	.884	.591	3.369	2.547	.020	1125	.840	1340	.492	.453	.593	.473	.484	.526	.566	.500	.510
.008	1.125	.850	.592	3.370	2.546	.021	1124	.839	1340	.493	.454	.594	.473	.485	.526	.567	.502	.511
.007	1.036	.783	.591	3.370	2.547	.020	1125	.840	1340	.495	.455	.597	.473	.487	.529	.570	.503	.513

DATE 5-6-74
PROJECT NUMBER VA524-21BA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
PAGE = 1

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
35	130	7.92	151.4	1343	35.05	-13.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.1	.0166	1.345	.727	3865	4.507E-04	7.982E-08	6.381E 05	18.11	6.15	.80	22.633	26

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TG (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.779	3.441	2.556	1.363	.989	.735	.794	1252	.932	1343	.390	.395	.412	401	.399	.404	.403	.392	.400
.756	3.464	2.574	1.340	.989	.735	.771	1262	.940	1343	.391	.396	.412	.401	.400	.406	.404	.393	.400
.724	3.485	2.592	1.318	.990	.736	.739	1290	.961	1343	.392	.396	.414	.402	.400	.406	.406	.394	.401
.691	3.494	2.598	1.275	.991	.737	.706	1291	.961	1343	.392	.397	.415	.403	.401	.407	.406	.396	.402
.659	3.496	2.601	1.243	.991	.738	.674	1291	.962	1343	.393	.398	.416	.403	.401	.408	.407	.396	.403
.627	3.490	2.597	1.211	.990	.737	.642	1292	.962	1343	.394	.398	.418	.404	.402	.409	.408	.397	.403
.601	3.482	2.593	1.185	.989	.736	.616	1292	.962	1343	.395	.399	.419	.404	.403	.410	.409	.398	.404

DATE 5-6-74
PROJECT NUMBER VA524-213A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI 0H52 SHUTTLE SURVEY TEST
PAGE = 2

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
35	139	7.92	148.4	1343	35.05	-13.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.1	.0162	1.319	.713	3865	4.418E-04	7.982E-08	6.381E 05	18.11	6.15	.80	22.633	26

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.372	3.104	2.355	.956	.972	.737	.387	1296	.965	1343	.414	.408	.454	.416	.416	.430	.437	.418	.425
.371	3.095	2.349	.955	.971	.737	.386	1296	.965	1343	.415	.408	.456	.416	.416	.431	.438	.419	.425
.367	3.084	2.343	.951	.970	.737	.382	1296	.965	1343	.415	.409	.457	.416	.417	.431	.439	.419	.426
.366	3.073	2.338	.950	.969	.737	.381	1296	.965	1343	.416	.410	.458	.417	.418	.433	.440	.420	.426
.362	3.062	2.329	.946	.968	.737	.377	1296	.965	1343	.416	.410	.458	.418	.418	.433	.441	.420	.427
.361	3.051	2.324	.945	.967	.737	.376	1296	.965	1343	.418	.410	.460	.418	.418	.434	.442	.421	.428
.358	3.040	2.314	.942	.968	.737	.373	1296	.965	1343	.418	.410	.461	.418	.419	.435	.443	.422	.429
.356	3.030	2.311	.940	.965	.736	.371	1296	.965	1343	.419	.411	.461	.419	.419	.435	.444	.423	.429
.353	3.019	2.304	.937	.965	.737	.368	1296	.965	1343	.419	.411	.463	.419	.419	.436	.445	.423	.430
.349	3.008	2.296	.933	.964	.736	.364	1296	.965	1343	.420	.411	.464	.419	.420	.437	.446	.423	.430
.347	2.992	2.287	.931	.963	.736	.362	1297	.966	1343	.420	.411	.465	.420	.420	.437	.447	.425	.431
.342	2.981	2.278	.926	.965	.737	.357	1297	.966	1343	.421	.412	.466	.420	.421	.438	.448	.426	.432
.340	2.969	2.267	.924	.966	.738	.355	1297	.966	1343	.422	.412	.467	.420	.422	.439	.449	.426	.433
.334	2.956	2.254	.918	.966	.737	.349	1298	.966	1343	.422	.412	.468	.421	.422	.439	.450	.426	.433
.332	2.940	2.241	.916	.967	.737	.347	1298	.966	1343	.423	.413	.469	.421	.422	.441	.450	.427	.434
.329	2.927	2.229	.913	.969	.738	.344	1298	.966	1343	.423	.413	.471	.422	.423	.441	.452	.428	.435
.327	2.916	2.218	.911	.969	.737	.342	1298	.966	1343	.425	.414	.472	.422	.423	.442	.453	.429	.435
.325	2.904	2.209	.909	.970	.737	.340	1298	.967	1343	.425	.414	.472	.422	.423	.442	.453	.429	.436
.320	2.898	2.207	.904	.970	.737	.335	1298	.967	1343	.426	.414	.473	.423	.424	.444	.454	.429	.437
.319	2.890	2.194	.903	.971	.737	.334	1298	.967	1343	.426	.414	.475	.423	.425	.444	.456	.430	.437
.316	2.882	2.187	.900	.971	.737	.331	1298	.967	1343	.427	.415	.476	.423	.425	.445	.456	.431	.438
.314	2.876	2.180	.898	.971	.736	.329	1298	.967	1343	.427	.415	.476	.424	.425	.446	.457	.431	.439
.311	2.868	2.173	.895	.972	.737	.326	1299	.967	1343	.428	.415	.477	.425	.426	.446	.458	.433	.439
.310	2.860	2.166	.894	.972	.736	.325	1299	.967	1343	.429	.415	.479	.425	.426	.447	.459	.433	.440
.308	2.853	2.161	.892	.973	.737	.323	1299	.967	1343	.429	.416	.480	.425	.427	.448	.460	.434	.367
.305	2.845	2.154	.889	.972	.736	.320	1299	.967	1343	.430	.416	.481	.426	.427	.448	.461	.435	.442
.305	2.838	2.148	.889	.971	.735	.320	1299	.967	1343	.430	.416	.482	.426	.427	.449	.462	.435	.369
.301	2.832	2.144	.885	.972	.736	.316	1299	.967	1343	.431	.416	.483	.426	.428	.449	.463	.436	.443
.300	2.824	2.139	.884	.973	.737	.315	1299	.967	1343	.431	.417	.484	.427	.429	.450	.464	.437	.370
.297	2.819	2.134	.881	.973	.737	.312	1299	.967	1343	.432	.418	.485	.427	.429	.451	.465	.437	.444
.295	2.811	2.129	.879	.972	.737	.310	1299	.967	1343	.433	.418	.486	.427	.430	.452	.466	.438	.445
.293	2.803	2.122	.877	.973	.737	.308	1299	.968	1343	.434	.418	.487	.428	.430	.452	.467	.438	.446
.289	2.796	2.116	.873	.973	.737	.304	1300	.968	1343	.434	.418	.488	.428	.430	.453	.468	.439	.446
.287	2.785	2.109	.871	.975	.738	.302	1300	.968	1343	.435	.419	.489	.429	.431	.454	.468	.439	.448
.283	2.773	2.100	.867	.974	.738	.298	1300	.968	1343	.435	.419	.490	.429	.431	.454	.469	.441	.374
.281	2.766	2.094	.865	.978	.741	.296	1300	.968	1343	.436	.419	.491	.431	.432	.456	.470	.441	.449
.278	2.754	2.088	.860	.982	.744	.291	1300	.968	1343	.437	.419	.492	.430	.432	.456	.471	.442	.449
.274	2.747	2.082	.858	.980	.747	.289	1300	.968	1343	.437	.420	.493	.430	.433	.457	.472	.442	.450
.271	2.740	2.076	.855	.992	.751	.286	1300	.968	1343	.438	.420	.494	.430	.433	.457	.473	.443	.450
.269	2.732	2.071	.853	.999	.757	.284	1300	.968	1343	.438	.421	.495	.431	.434	.458	.473	.443	.451
.267	2.726	2.068	.851	1.007	.764	.282	1300	.968	1343	.439	.421	.496	.431	.434	.459	.475	.444	.452
.265	2.720	2.063	.849	1.013	.768	.280	1300	.968	1343	.439	.421	.497	.432	.434	.460	.475	.445	.452

DATE 5-6-74
PROJECT NUMBER VA524-216A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/01 OA52 SHUTTLE SURVEY TEST
PAGE = 3

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
35	139	7.92	1488.4	1343	35.05	-13.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.1	.0162	1.318	.713	3865	4.418E-04	7.982E-08	6.381E 05	19.11	6.15	.80	22.633	26

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.263	2.715	2.060	.847	1.823	.776	.278	1300	.968	1343	.440	.422	.498	.433	.435	.460	.476	.445	.453
.260	2.710	2.057	.844	1.834	.785	.275	1300	.968	1343	.441	.422	.499	.433	.435	.461	.477	.446	.453
.260	2.705	2.054	.844	1.838	.788	.275	1300	.968	1343	.441	.422	.501	.433	.436	.461	.479	.446	.454
.257	2.703	2.053	.841	1.847	.795	.272	1300	.968	1343	.442	.422	.501	.434	.437	.463	.479	.447	.454
.256	2.700	2.051	.840	1.856	.803	.271	1300	.968	1343	.442	.422	.502	.434	.437	.463	.480	.447	.456
.254	2.697	2.049	.838	1.871	.814	.269	1300	.968	1343	.443	.422	.503	.434	.438	.464	.481	.449	.457
.252	2.695	2.048	.836	1.884	.824	.267	1300	.968	1343	.444	.423	.504	.435	.436	.464	.482	.449	.457
.250	2.693	2.047	.834	1.897	.834	.265	1300	.968	1343	.444	.424	.505	.435	.438	.465	.483	.450	.384
.248	2.691	2.047	.832	1.908	.843	.263	1300	.968	1343	.445	.425	.507	.435	.439	.466	.484	.450	.384
.246	2.690	2.046	.830	1.921	.853	.261	1300	.968	1343	.445	.425	.508	.436	.439	.467	.485	.450	.459
.243	2.689	2.047	.827	1.936	.865	.258	1300	.968	1343	.446	.425	.509	.436	.440	.467	.486	.451	.459
.243	2.689	2.047	.827	1.951	.877	.258	1300	.968	1343	.446	.426	.510	.437	.440	.468	.487	.452	.460
.239	2.689	2.048	.823	1.966	.888	.254	1300	.968	1343	.447	.426	.511	.437	.441	.469	.488	.452	.460
.238	2.690	2.051	.822	1.976	.896	.253	1300	.968	1343	.448	.426	.512	.437	.441	.469	.488	.453	.461
.235	2.692	2.052	.819	1.987	.905	.250	1300	.968	1343	.448	.426	.513	.438	.442	.470	.489	.454	.389
.233	2.695	2.055	.817	1.999	.915	.248	1301	.968	1343	.449	.426	.514	.438	.442	.471	.490	.454	.463
.231	2.698	2.058	.815	2.006	.920	.246	1300	.968	1343	.449	.427	.515	.438	.443	.472	.491	.455	.463
.228	2.701	2.060	.812	2.016	.926	.243	1300	.968	1343	.450	.427	.517	.439	.444	.472	.492	.456	.464
.227	2.705	2.064	.811	2.028	.931	.242	1300	.968	1343	.450	.427	.518	.439	.444	.473	.493	.456	.464
.224	2.706	2.069	.808	2.027	.938	.239	1300	.968	1343	.451	.427	.519	.439	.444	.474	.494	.457	.391
.223	2.713	2.072	.807	2.036	.944	.238	1300	.968	1343	.451	.428	.520	.440	.445	.474	.495	.458	.392
.219	2.718	2.077	.802	2.046	.952	.233	1300	.968	1343	.452	.428	.521	.441	.445	.475	.496	.458	.466
.216	2.726	2.084	.800	2.059	.962	.231	1300	.968	1343	.452	.429	.522	.441	.446	.476	.496	.458	.467
.214	2.735	2.093	.798	2.076	.975	.229	1300	.968	1343	.453	.429	.523	.441	.446	.476	.497	.460	.467
.211	2.746	2.101	.795	2.095	.991	.226	1300	.968	1343	.453	.429	.525	.442	.447	.477	.498	.460	.468
.207	2.756	2.109	.791	2.115	1.007	.222	1300	.968	1343	.454	.429	.526	.442	.447	.477	.499	.461	.468
.206	2.768	2.119	.788	2.140	1.026	.219	1300	.968	1343	.454	.430	.526	.442	.448	.479	.500	.461	.469
.203	2.781	2.129	.787	2.172	1.050	.218	1300	.968	1343	.455	.430	.528	.443	.448	.479	.501	.461	.469
.200	2.793	2.141	.784	2.194	1.068	.215	1300	.968	1343	.456	.430	.529	.443	.449	.480	.502	.463	.471
.199	2.808	2.149	.783	2.226	1.093	.214	1300	.968	1343	.456	.431	.530	.444	.449	.481	.503	.463	.471
.195	2.818	2.160	.779	2.490	1.142	.210	1301	.968	1343	.457	.431	.532	.444	.450	.482	.504	.464	.472
.193	2.833	2.173	.777	2.555	1.192	.209	1300	.968	1343	.457	.431	.533	.445	.450	.482	.505	.464	.472
.189	2.850	2.187	.773	2.664	1.277	.206	1300	.968	1343	.458	.432	.534	.445	.450	.482	.505	.464	.473
.187	2.871	2.203	.771	2.756	1.356	.202	1300	.968	1343	.458	.433	.535	.445	.451	.483	.506	.465	.473
.183	2.893	2.220	.767	2.901	1.459	.198	1301	.968	1343	.459	.433	.536	.446	.452	.484	.507	.465	.474
.179	2.920	2.243	.762	2.991	1.606	.193	1300	.968	1343	.460	.433	.537	.446	.452	.484	.509	.467	.475
.176	2.948	2.266	.760	2.258	1.735	.191	1300	.968	1343	.460	.433	.539	.446	.453	.485	.509	.467	.475
.171	2.978	2.289	.755	2.432	1.849	.185	1300	.968	1343	.461	.434	.540	.447	.453	.486	.510	.467	.476
.170	3.011	2.315	.754	2.573	1.978	.185	1300	.968	1343	.461	.434	.541	.448	.454	.487	.511	.468	.476
.166	3.044	2.341	.750	2.697	2.074	.181	1300	.968	1343	.461	.434	.543	.448	.454	.487	.513	.468	.477
.164	3.081	2.371	.748	2.825	2.174	.179	1300	.968	1343	.463	.435	.544	.448	.454	.488	.514	.469	.477
.161	3.117	2.398	.745	2.937	2.260	.176	1300	.968	1343	.463	.435	.545	.449	.455	.488	.514	.470	.478

DATE 5-6-74
PROJECT NUMBER VA524-219A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OPS2 SHUTTLE SURVEY TEST
PAGE = 4

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
35	139	7.92	146.2	1343	35.05	-13.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.1	.0160	1.299	.782	3865	4.352E-04	7.982E-08	6.381E 05	18.11	6.15	.80	22.633	26

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.158	3.155	2.430	.742	3.034	2.337	.173	1300	.968	1343	.463	.435	.547	.449	.456	.490	.515	.471	.479
.155	3.194	2.460	.739	3.147	2.423	.170	1300	.968	1343	.464	.435	.548	.450	.456	.490	.517	.471	.479
.151	3.242	2.498	.735	3.211	2.474	.166	1299	.967	1343	.464	.436	.549	.450	.457	.491	.518	.472	.480
.150	3.293	2.537	.734	3.258	2.511	.165	1299	.967	1343	.465	.436	.551	.450	.457	.491	.519	.472	.481
.147	3.340	2.575	.731	3.276	2.526	.162	1299	.967	1343	.465	.436	.552	.450	.458	.492	.520	.472	.481
.146	3.386	2.611	.728	3.293	2.539	.161	1299	.967	1343	.466	.437	.554	.449	.458	.492	.521	.472	.482
.144	3.430	2.645	.728	3.299	2.544	.159	1299	.967	1343	.467	.437	.555	.452	.459	.493	.522	.474	.482
.143	3.474	2.680	.727	3.310	2.554	.158	1298	.967	1343	.467	.437	.557	.452	.460	.494	.522	.473	.483
.140	3.517	2.714	.724	3.308	2.555	.155	1298	.967	1343	.468	.437	.558	.450	.460	.495	.524	.475	.483
.138	3.557	2.747	.722	3.306	2.553	.153	1298	.967	1343	.468	.438	.559	.453	.460	.495	.525	.475	.484
.138	3.598	2.782	.723	3.301	2.551	.153	1298	.966	1343	.468	.438	.560	.453	.461	.496	.526	.476	.484
.135	3.638	2.811	.713	3.302	2.552	.150	1298	.966	1343	.469	.438	.562	.453	.461	.496	.527	.476	.486
.134	3.671	2.837	.718	3.297	2.548	.149	1297	.966	1343	.469	.439	.563	.454	.462	.497	.528	.477	.486
.130	3.709	2.868	.714	3.296	2.548	.145	1297	.966	1343	.470	.439	.564	.454	.463	.498	.529	.477	.487
.128	3.757	2.905	.712	3.288	2.543	.143	1297	.965	1343	.471	.440	.565	.454	.463	.498	.530	.479	.487
.124	3.807	2.944	.710	3.285	2.542	.141	1297	.966	1343	.471	.440	.567	.456	.464	.499	.531	.478	.488
.123	3.859	2.988	.707	3.279	2.539	.139	1296	.965	1343	.472	.440	.568	.456	.464	.500	.532	.479	.488
.123	3.906	3.024	.707	3.278	2.538	.138	1296	.965	1343	.472	.441	.568	.456	.464	.501	.533	.480	.489
.121	3.946	3.056	.705	3.277	2.539	.136	1296	.965	1343	.473	.441	.570	.457	.465	.501	.534	.480	.489
.121	3.978	3.082	.705	3.276	2.538	.136	1296	.965	1343	.473	.441	.571	.457	.465	.502	.536	.481	.490
.119	4.009	3.106	.703	3.275	2.538	.134	1296	.965	1343	.474	.442	.572	.457	.466	.502	.537	.482	.490
.117	4.038	3.129	.701	3.272	2.535	.132	1295	.965	1343	.474	.442	.574	.458	.467	.503	.537	.483	.491
.116	4.070	3.156	.702	3.271	2.536	.133	1295	.964	1343	.475	.442	.575	.458	.467	.504	.539	.483	.491
.115	4.104	3.182	.699	3.272	2.537	.130	1295	.964	1343	.475	.442	.576	.458	.468	.505	.540	.483	.492
.115	4.136	3.209	.699	3.268	2.536	.130	1295	.964	1343	.476	.442	.577	.459	.468	.505	.540	.484	.492
.113	4.167	3.235	.697	3.265	2.535	.128	1295	.964	1343	.476	.442	.578	.460	.469	.506	.541	.484	.494
.112	4.196	3.260	.696	3.264	2.534	.127	1295	.964	1343	.477	.443	.579	.460	.469	.506	.543	.484	.494
.111	4.231	3.295	.695	3.262	2.532	.126	1295	.964	1343	.477	.444	.580	.460	.470	.507	.544	.486	.494
.107	4.263	3.312	.693	3.258	2.532	.124	1295	.964	1343	.478	.444	.581	.461	.470	.508	.544	.486	.495
.109	4.295	3.337	.693	3.260	2.533	.124	1295	.964	1343	.478	.444	.582	.461	.471	.509	.545	.487	.495
.107	4.324	3.362	.691	3.256	2.532	.122	1295	.964	1343	.479	.444	.583	.461	.471	.510	.547	.487	.496
.107	4.356	3.388	.691	3.254	2.532	.122	1295	.964	1343	.479	.444	.583	.462	.472	.510	.547	.487	.496
.105	4.385	3.412	.689	3.252	2.530	.120	1295	.964	1343	.480	.445	.585	.463	.472	.511	.548	.488	.497
.104	4.414	3.440	.688	3.248	2.529	.119	1295	.964	1343	.480	.445	.586	.463	.473	.512	.549	.488	.497
.104	4.447	3.463	.688	3.247	2.528	.119	1294	.964	1343	.481	.445	.586	.464	.473	.513	.550	.490	.498
.101	4.476	3.483	.685	3.244	2.527	.116	1294	.964	1343	.482	.446	.587	.464	.474	.513	.551	.490	.498
.101	4.496	3.502	.685	3.245	2.528	.116	1295	.964	1343	.482	.446	.589	.464	.475	.514	.552	.490	.499
.100	4.518	3.523	.684	3.239	2.525	.115	1295	.965	1342	.482	.447	.590	.463	.476	.515	.553	.491	.500
.100	4.543	3.542	.684	3.241	2.527	.115	1294	.965	1342	.484	.447	.591	.465	.476	.516	.554	.491	.501
.098	4.567	3.563	.682	3.239	2.527	.113	1294	.965	1342	.484	.447	.592	.466	.477	.516	.555	.492	.501
.097	4.591	3.582	.681	3.234	2.523	.112	1295	.965	1342	.485	.447	.593	.466	.477	.517	.556	.493	.501
.097	4.616	3.601	.681	3.234	2.523	.112	1294	.965	1342	.485	.448	.593	.467	.477	.518	.557	.493	.502

DATE 5-6-74
PROJECT NUMBER VA524-21BA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OF52 SHUTTLE SURVEY TEST
PAGE = 5

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
35	139	7.92	144.2	1342	35.05	-13.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM/FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.1	.0158	1.281	.692	3864	4.296E-04	7.977E-08	6.381E 05	18.11	6.15	.80	22.633	26

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.095	4.641	3.623	.479	3.233	2.524	.110	1294	.965	1342	.485	.448	.594	.467	.478	.519	.558	.493	.503
.096	4.664	3.644	.480	3.229	2.523	.111	1295	.964	1343	.486	.449	.595	.467	.479	.519	.559	.494	.503
.093	4.687	3.662	.477	3.227	2.521	.108	1294	.964	1342	.486	.449	.596	.468	.480	.520	.560	.495	.504
.094	4.711	3.683	.478	3.225	2.522	.109	1294	.964	1342	.487	.449	.597	.469	.480	.521	.561	.495	.504
.092	4.738	3.704	.476	3.226	2.522	.107	1294	.964	1342	.488	.450	.598	.469	.481	.522	.562	.495	.505
.091	4.765	3.728	.475	3.223	2.522	.106	1294	.964	1342	.488	.450	.598	.469	.481	.523	.563	.496	.506
.091	4.794	3.750	.475	3.223	2.522	.106	1294	.964	1342	.488	.450	.599	.470	.481	.523	.564	.497	.506
.088	4.819	3.770	.472	3.219	2.519	.103	1294	.964	1342	.489	.450	.600	.470	.482	.524	.565	.497	.507
.088	4.848	3.796	.472	3.218	2.519	.103	1294	.964	1343	.489	.450	.601	.471	.482	.524	.566	.498	.507
.085	4.879	3.820	.469	3.215	2.517	.100	1294	.964	1342	.490	.451	.602	.471	.483	.525	.568	.498	.508
.085	4.909	3.844	.469	3.213	2.517	.100	1294	.964	1342	.491	.451	.603	.472	.484	.526	.569	.499	.508
.084	4.940	3.870	.468	3.211	2.515	.099	1294	.964	1342	.491	.451	.604	.472	.484	.527	.570	.499	.509
.082	4.968	3.892	.466	3.207	2.513	.097	1294	.964	1342	.491	.451	.605	.473	.485	.528	.571	.500	.509
.082	4.996	3.917	.466	3.206	2.513	.097	1294	.964	1342	.492	.452	.606	.473	.485	.528	.572	.500	.510
.079	5.024	3.942	.463	3.203	2.513	.094	1294	.964	1342	.492	.452	.606	.473	.486	.529	.573	.501	.510
.079	5.051	3.965	.463	3.201	2.513	.094	1293	.964	1342	.493	.452	.607	.474	.486	.530	.574	.501	.511
.077	5.074	3.983	.461	3.199	2.512	.092	1293	.963	1342	.493	.453	.608	.472	.487	.530	.575	.501	.512
.076	5.107	4.010	.460	3.199	2.512	.091	1293	.964	1342	.494	.453	.609	.472	.488	.531	.576	.502	.512
.075	5.111	4.013	.459	3.196	2.509	.090	1293	.964	1342	.494	.453	.610	.475	.488	.531	.576	.503	.512
.073	5.129	4.033	.457	3.190	2.508	.088	1293	.963	1342	.495	.454	.610	.476	.489	.533	.578	.503	.513
.073	5.146	4.046	.457	3.192	2.510	.088	1293	.963	1343	.495	.453	.611	.476	.488	.533	.578	.503	.513
.071	5.161	4.058	.455	3.191	2.508	.086	1293	.964	1342	.496	.454	.612	.477	.489	.534	.579	.504	.514
.070	5.172	4.074	.454	3.189	2.509	.085	1293	.964	1342	.496	.455	.613	.477	.490	.535	.579	.506	.515
.068	5.193	4.089	.452	3.186	2.508	.083	1293	.964	1342	.496	.455	.614	.477	.491	.535	.580	.506	.515
.066	5.210	4.102	.450	3.184	2.507	.081	1293	.963	1342	.497	.455	.614	.478	.491	.536	.581	.506	.516
.066	5.225	4.113	.450	3.180	2.504	.081	1293	.963	1342	.497	.455	.578	.478	.492	.537	.582	.507	.516
.063	5.240	4.126	.447	3.180	2.505	.078	1293	.963	1342	.498	.455	.579	.478	.492	.538	.584	.507	.517
.063	5.257	4.141	.447	3.175	2.501	.078	1293	.964	1342	.499	.456	.580	.479	.493	.538	.585	.508	.518
.061	5.272	4.157	.445	3.173	2.502	.076	1292	.963	1342	.499	.456	.581	.479	.493	.539	.586	.508	.518
.060	5.287	4.169	.444	3.174	2.502	.075	1293	.963	1342	.499	.457	.582	.480	.494	.540	.587	.509	.519
.058	5.302	4.180	.442	3.170	2.500	.073	1293	.963	1342	.500	.457	.583	.480	.495	.540	.587	.510	.519
.057	5.312	4.191	.441	3.171	2.502	.072	1292	.963	1342	.500	.457	.620	.481	.495	.541	.588	.510	.519
.057	5.325	4.201	.441	3.173	2.503	.072	1292	.963	1342	.501	.457	.621	.481	.496	.542	.588	.511	.520
.054	5.337	4.214	.438	3.169	2.502	.069	1292	.963	1342	.501	.458	.622	.481	.496	.542	.589	.511	.520
.054	5.346	4.221	.438	3.167	2.500	.069	1292	.963	1342	.502	.458	.622	.482	.497	.542	.590	.511	.522
.053	5.356	4.232	.437	3.165	2.501	.069	1292	.963	1342	.502	.458	.623	.482	.497	.544	.591	.512	.522
.050	5.366	4.239	.434	3.165	2.501	.065	1291	.962	1342	.503	.458	.624	.482	.498	.544	.591	.512	.523
.050	5.373	4.245	.434	3.163	2.499	.065	1291	.962	1342	.503	.459	.625	.484	.498	.545	.593	.513	.523
.047	5.379	4.247	.431	3.161	2.497	.062	1291	.962	1342	.504	.459	.626	.484	.499	.546	.593	.514	.524
.047	5.382	4.255	.431	3.156	2.495	.062	1291	.962	1342	.504	.459	.627	.484	.499	.546	.594	.514	.524
.045	5.386	4.261	.429	3.159	2.499	.060	1291	.962	1342	.504	.459	.627	.485	.500	.548	.595	.515	.524
.043	5.384	4.260	.427	3.156	2.497	.058	1290	.961	1342	.505	.460	.628	.485	.500	.548	.596	.515	.525

DATE 5-6-74
PROJECT NUMBER VA524-21EA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
3S	139	7.92	142.2	1342	35.05	-13.05	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.1	.0155	1.263	.683	3864	4.236E-04	7.977E-08	6.381E 05	18.11	6.15	.80	22.633	26

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.042	5.377	4.257	.626	3.152	2.496	.057	1290	.961	1342	.505	.460	.629	.486	.501	.549	.597	.515	.525
.039	5.359	4.244	.623	3.150	2.495	.054	1290	.961	1342	.506	.461	.630	.486	.502	.549	.597	.516	.526
.039	5.340	4.231	.623	3.148	2.494	.054	1289	.961	1342	.507	.461	.631	.486	.502	.550	.597	.516	.526
.037	5.317	4.213	.621	3.151	2.497	.052	1289	.960	1342	.507	.461	.631	.487	.503	.551	.598	.517	.527
.036	5.282	4.185	.620	3.151	2.496	.051	1289	.960	1342	.507	.462	.632	.487	.503	.552	.599	.517	.527
.035	5.226	4.143	.619	3.144	2.492	.050	1289	.960	1342	.508	.462	.633	.488	.504	.552	.600	.518	.529
.033	5.155	4.090	.617	3.144	2.494	.048	1288	.960	1342	.508	.462	.634	.488	.504	.553	.600	.518	.529
.033	5.067	4.020	.617	3.140	2.491	.048	1288	.960	1342	.509	.462	.635	.489	.505	.553	.601	.519	.529
.031	4.951	3.931	.615	3.141	2.494	.046	1288	.960	1342	.509	.462	.636	.489	.506	.554	.601	.519	.530
.030	4.816	3.824	.614	3.138	2.491	.045	1288	.960	1342	.510	.463	.637	.489	.506	.555	.602	.519	.530
.029	4.672	3.712	.613	3.136	2.491	.044	1288	.960	1342	.510	.463	.637	.490	.507	.556	.602	.520	.531
.028	4.538	3.605	.612	3.133	2.489	.043	1288	.960	1342	.511	.463	.638	.491	.507	.556	.603	.520	.531
.027	4.379	3.481	.611	3.134	2.491	.042	1289	.960	1342	.511	.463	.639	.491	.508	.557	.604	.521	.532
.026	4.195	3.335	.608	3.131	2.489	.039	1289	.960	1342	.512	.463	.640	.491	.508	.557	.605	.522	.532
.025	4.014	3.192	.609	3.132	2.490	.040	1289	.961	1342	.512	.464	.640	.492	.509	.559	.606	.523	.533
.023	3.803	3.026	.607	3.130	2.490	.038	1289	.960	1342	.512	.464	.641	.492	.510	.559	.607	.523	.533
.023	3.578	2.847	.607	3.126	2.487	.038	1290	.961	1342	.513	.464	.642	.493	.510	.560	.608	.523	.533
.021	3.338	2.657	.605	3.127	2.489	.036	1289	.961	1342	.514	.465	.643	.493	.511	.560	.609	.524	.534
.019	3.070	2.444	.603	3.126	2.489	.034	1288	.960	1342	.514	.465	.643	.492	.511	.561	.610	.524	.534
.018	2.787	2.219	.602	3.122	2.485	.033	1287	.959	1342	.515	.465	.644	.494	.512	.561	.611	.525	.535
.016	2.526	2.013	.600	3.120	2.486	.031	1283	.956	1342	.515	.466	.645	.495	.512	.563	.612	.525	.535
.016	2.312	1.843	.600	3.119	2.486	.031	1281	.955	1342	.515	.466	.645	.495	.513	.563	.613	.526	.537
.015	2.127	1.697	.599	3.117	2.487	.030	1274	.950	1342	.516	.466	.646	.495	.514	.564	.613	.526	.537
.014	1.957	1.562	.598	3.115	2.485	.029	1265	.943	1342	.516	.466	.647	.496	.514	.564	.614	.527	.537
.013	1.802	1.437	.597	3.115	2.486	.028	1255	.936	1342	.517	.467	.647	.496	.515	.564	.614	.527	.538
.011	1.664	1.328	.595	3.109	2.482	.026	1244	.927	1342	.517	.467	.647	.496	.515	.566	.615	.528	.538
.012	1.544	1.232	.596	3.110	2.481	.027	1233	.919	1342	.518	.467	.648	.497	.516	.567	.616	.529	.538
.009	1.440	1.149	.593	3.110	2.483	.024	1223	.911	1342	.518	.467	.649	.497	.516	.567	.617	.529	.539
.009	1.348	1.077	.593	3.105	2.481	.024	1214	.904	1342	.519	.468	.650	.498	.516	.568	.617	.529	.540
.007	1.269	1.014	.591	3.104	2.481	.022	1199	.893	1342	.519	.468	.650	.499	.518	.568	.618	.530	.540
.007	1.091	.872	.591	3.101	2.480	.022	1193	.889	1342	.520	.469	.653	.500	.520	.572	.621	.531	.542

DATE 5-6-74
PROJECT NUMBER VA524-218A
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OPS2 SHUTTLE SURVEY TEST
PAGE = 1

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
36	139	7.92	150.7	1346	35.04	-13.04	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	PO1 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0165	1.339	.724	3870	4.476E-04	8.000E-08	6.723E 05	21.01	4.92	.93	22.633	25

ZP1 (IN)	PP1 (PSIA)	PP1/PO1	ZP2 (IN)	PP2 (PSIA)	PP2/PO1	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.729	3.917	2.913	1.313	3.854	2.866	.740	1281	.952	1346	.391	.397	.405	.403	.401	.405	.405	.394	.401
.708	3.949	2.935	1.292	3.895	2.895	.719	1281	.952	1346	.393	.398	.405	.403	.402	.406	.406	.395	.402
.677	3.999	2.972	1.261	3.949	2.934	.688	1280	.951	1346	.393	.398	.407	.404	.402	.407	.406	.396	.403
.643	4.052	3.009	1.227	3.978	2.954	.654	1280	.951	1346	.394	.398	.407	.405	.403	.408	.408	.397	.403
.617	4.103	3.047	1.196	4.011	2.979	.623	1279	.951	1346	.395	.399	.409	.405	.403	.409	.409	.398	.404
.591	4.146	3.081	1.169	4.038	3.001	.592	1279	.950	1346	.395	.400	.410	.403	.403	.410	.410	.398	.405
.561	4.171	3.097	1.135	4.048	3.006	.562	1278	.950	1346	.397	.401	.411	.406	.404	.411	.411	.399	.406
.538	4.179	3.106	1.122	4.052	3.011	.549	1278	.949	1346	.397	.401	.412	.406	.405	.412	.412	.401	.406
.527	4.181	3.107	1.111	4.045	3.006	.538	1278	.949	1346	.398	.401	.413	.407	.405	.413	.413	.401	.407
.518	4.185	3.110	1.102	4.048	3.008	.529	1277	.949	1346	.399	.402	.414	.407	.406	.413	.414	.402	.407
.507	4.184	3.111	1.091	4.042	3.006	.518	1277	.949	1346	.399	.402	.414	.408	.406	.414	.415	.403	.409
.497	4.181	3.109	1.081	4.034	3.000	.508	1277	.949	1346	.401	.402	.416	.406	.407	.416	.416	.403	.410
.487	4.173	3.107	1.071	4.024	2.997	.498	1277	.949	1346	.401	.402	.417	.409	.407	.416	.417	.405	.410
.476	4.163	3.100	1.060	4.015	2.990	.487	1277	.948	1346	.402	.402	.417	.409	.408	.417	.418	.405	.411
.467	4.150	3.092	1.051	4.006	2.985	.478	1276	.948	1346	.403	.403	.418	.410	.409	.418	.418	.406	.412
.456	4.135	3.081	1.040	3.988	2.972	.467	1276	.948	1346	.403	.403	.419	.407	.409	.418	.420	.406	.412
.446	4.119	3.073	1.030	3.978	2.968	.457	1276	.948	1346	.404	.403	.420	.410	.409	.419	.420	.406	.413
.436	4.102	3.063	1.020	3.964	2.959	.447	1276	.948	1346	.405	.404	.421	.411	.410	.420	.421	.407	.413
.425	4.083	3.050	1.009	3.944	2.947	.436	1276	.948	1346	.406	.404	.422	.412	.410	.421	.422	.409	.414
.417	4.063	3.037	1.001	3.930	2.938	.428	1275	.947	1346	.406	.405	.422	.412	.411	.421	.424	.409	.416
.410	4.045	3.028	.994	3.919	2.933	.421	1275	.947	1346	.407	.405	.424	.412	.412	.422	.424	.410	.416
.406	4.033	3.021	.990	3.910	2.929	.417	1275	.947	1346	.407	.406	.424	.413	.412	.422	.425	.411	.417
.403	4.021	3.014	.987	3.904	2.926	.414	1275	.947	1346	.408	.406	.425	.413	.412	.423	.426	.412	.417
.400	4.012	3.009	.984	3.898	2.924	.411	1275	.947	1346	.409	.406	.426	.413	.413	.424	.427	.412	.418
.398	4.006	3.007	.982	3.892	2.921	.409	1275	.947	1346	.410	.406	.427	.414	.413	.425	.428	.413	.419
.393	3.998	3.003	.977	3.883	2.916	.404	1275	.947	1346	.410	.407	.428	.414	.414	.425	.429	.413	.419
.391	3.991	3.002	.975	3.878	2.916	.402	1275	.947	1346	.411	.407	.429	.414	.414	.426	.430	.414	.420
.388	3.984	2.998	.972	3.873	2.914	.399	1275	.947	1346	.412	.407	.429	.415	.414	.426	.430	.415	.421
.383	3.977	2.995	.967	3.862	2.908	.394	1274	.947	1346	.412	.407	.430	.416	.415	.428	.432	.415	.421
.379	3.971	2.995	.963	3.856	2.907	.390	1275	.947	1346	.413	.409	.432	.416	.416	.428	.433	.416	.422
.374	3.965	2.992	.958	3.850	2.905	.385	1274	.947	1346	.413	.409	.432	.416	.416	.429	.434	.417	.422
.373	3.959	2.989	.957	3.845	2.903	.384	1275	.947	1346	.414	.409	.433	.417	.416	.429	.434	.417	.424
.370	3.953	2.987	.954	3.838	2.900	.381	1274	.947	1346	.414	.409	.434	.417	.417	.430	.435	.418	.425
.365	3.947	2.984	.949	3.830	2.896	.376	1274	.947	1346	.416	.410	.434	.417	.417	.430	.436	.418	.425
.363	3.942	2.982	.947	3.826	2.895	.374	1274	.947	1346	.416	.410	.436	.418	.418	.431	.437	.420	.426

DATE 5-6-74
PROJECT NUMBER VA524-21HA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OMS2 SHUTTLE SURVEY TEST
PAGE = 2

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
36	139	7.92	148.6	1346	35.04	-13.04	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0162	1.320	.713	3870	4.414E-04	8.000E-08	6.723E 05	21.01	4.92	.93	22.633	25

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.340	3.936	2.982	.944	3.818	2.892	.371	1274	.947	1346	.417	.410	.436	.418	.418	.432	.439	.420	.426
.357	3.931	2.978	.941	3.810	2.886	.368	1274	.946	1346	.417	.410	.437	.418	.418	.433	.439	.421	.427
.356	3.926	2.977	.940	3.809	2.887	.367	1274	.946	1346	.418	.411	.437	.419	.419	.433	.440	.421	.428
.353	3.920	2.974	.937	3.803	2.887	.364	1274	.946	1346	.418	.411	.439	.419	.420	.434	.441	.422	.429
.351	3.915	2.974	.935	3.793	2.883	.362	1274	.947	1346	.419	.412	.439	.420	.420	.434	.442	.423	.429
.347	3.910	2.974	.931	3.787	2.880	.358	1274	.946	1346	.420	.412	.440	.420	.420	.436	.443	.423	.430
.346	3.906	2.973	.930	3.784	2.880	.357	1274	.946	1346	.420	.412	.441	.420	.421	.436	.444	.424	.430
.344	3.901	2.972	.928	3.779	2.879	.355	1274	.947	1345	.422	.413	.442	.421	.422	.437	.445	.424	.432
.341	3.896	2.972	.925	3.774	2.879	.352	1274	.947	1345	.422	.413	.443	.422	.422	.438	.446	.425	.433
.340	3.892	2.968	.924	3.770	2.876	.351	1274	.947	1346	.422	.413	.443	.421	.422	.438	.447	.426	.433
.337	3.887	2.967	.921	3.767	2.875	.348	1274	.947	1345	.423	.414	.445	.422	.423	.439	.447	.427	.434
.336	3.886	2.966	.920	3.771	2.879	.347	1274	.947	1346	.424	.414	.445	.422	.422	.440	.448	.427	.434
.334	3.888	2.961	.918	3.780	2.879	.345	1274	.947	1346	.424	.414	.446	.422	.423	.440	.449	.428	.435
.330	3.892	2.956	.914	3.783	2.874	.341	1274	.947	1346	.425	.414	.447	.423	.424	.441	.450	.428	.436
.329	3.898	2.953	.913	3.794	2.875	.340	1275	.947	1346	.425	.414	.448	.424	.424	.441	.451	.429	.436
.326	3.904	2.952	.910	3.801	2.874	.337	1275	.947	1346	.426	.415	.449	.424	.424	.442	.452	.430	.437
.323	3.910	2.947	.907	3.804	2.867	.334	1275	.947	1346	.426	.416	.449	.424	.425	.443	.452	.430	.437
.322	3.917	2.946	.906	3.808	2.864	.333	1275	.947	1346	.427	.416	.450	.425	.425	.444	.453	.431	.439
.318	3.922	2.945	.902	3.814	2.864	.329	1274	.947	1346	.428	.416	.451	.425	.426	.444	.455	.432	.366
.316	3.927	2.943	.900	3.816	2.860	.327	1274	.947	1346	.428	.416	.452	.425	.426	.445	.455	.433	.440
.313	3.931	2.940	.897	3.819	2.857	.324	1274	.947	1346	.429	.417	.453	.426	.426	.445	.456	.433	.440
.309	3.934	2.939	.893	3.821	2.854	.321	1274	.946	1346	.429	.417	.453	.426	.427	.446	.457	.434	.441
.307	3.938	2.938	.891	3.822	2.851	.318	1274	.947	1345	.430	.417	.454	.426	.428	.447	.458	.434	.442
.303	3.940	2.935	.887	3.824	2.849	.314	1274	.947	1346	.431	.418	.455	.425	.428	.447	.459	.435	.369
.300	3.942	2.933	.884	3.823	2.845	.311	1274	.947	1346	.432	.418	.456	.425	.429	.448	.459	.436	.443
.297	3.942	2.932	.881	3.823	2.843	.308	1274	.946	1346	.432	.418	.457	.428	.429	.448	.460	.436	.444
.296	3.943	2.928	.880	3.819	2.836	.307	1274	.946	1346	.433	.418	.457	.426	.429	.449	.461	.437	.371
.293	3.945	2.930	.877	3.822	2.839	.304	1274	.946	1346	.433	.419	.458	.426	.430	.450	.462	.438	.445
.290	3.943	2.924	.874	3.820	2.833	.301	1274	.946	1346	.434	.419	.459	.429	.430	.451	.463	.439	.447
.288	3.942	2.922	.872	3.816	2.828	.299	1274	.946	1346	.434	.419	.460	.429	.431	.451	.464	.439	.447
.286	3.942	2.920	.870	3.817	2.827	.297	1274	.946	1346	.435	.420	.460	.429	.431	.452	.464	.440	.448
.282	3.940	2.918	.866	3.813	2.824	.293	1273	.946	1346	.436	.420	.461	.430	.432	.452	.465	.441	.448
.282	3.941	2.917	.866	3.814	2.823	.293	1274	.946	1346	.436	.420	.462	.430	.432	.453	.466	.441	.449
.279	3.938	2.915	.863	3.809	2.820	.290	1273	.946	1346	.437	.421	.463	.430	.432	.453	.467	.441	.449
.276	3.937	2.912	.860	3.811	2.819	.287	1273	.946	1346	.437	.421	.464	.431	.433	.455	.468	.443	.450
.275	3.936	2.912	.859	3.806	2.815	.286	1273	.946	1346	.438	.421	.464	.432	.433	.455	.468	.443	.451
.271	3.933	2.913	.855	3.796	2.812	.282	1273	.946	1344	.439	.421	.466	.432	.434	.456	.470	.443	.451
.269	3.929	2.914	.853	3.792	2.813	.280	1273	.946	1346	.439	.421	.466	.432	.434	.456	.470	.444	.452
.268	3.922	2.913	.852	3.781	2.808	.279	1273	.946	1344	.440	.422	.467	.430	.434	.457	.471	.444	.452
.264	3.916	2.912	.848	3.776	2.808	.275	1273	.946	1346	.440	.423	.468	.430	.435	.457	.472	.445	.453
.263	3.910	2.912	.847	3.767	2.805	.274	1273	.946	1346	.441	.423	.468	.433	.436	.458	.472	.447	.453
.260	3.903	2.910	.844	3.761	2.804	.271	1272	.945	1346	.442	.424	.470	.434	.436	.459	.474	.447	.455

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ARNOLD AIR FORCE STATION, TENNESSEE
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
36	139	7.92	150.7	1346	35.04	-13.04	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0165	1.339	.724	3870	4.476E-04	8.000F-08	6.723E 05	21.01	4.92	.93	22.633	25

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG.R)	T11/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.257	3.8[illegible]	2.910	.841	3.749	2.801	.268	1273	.945	1346	.442	.424	.470	.434	.437	.460	.474	.447	.456
.255	3.8[illegible]	2.910	.839	3.741	2.801	.266	1272	.945	1346	.443	.424	.471	.434	.437	.460	.475	.448	.456
.252	3.878	2.909	.836	3.730	2.798	.263	1272	.945	1346	.443	.425	.471	.435	.437	.461	.476	.449	.457
.251	3.870	2.909	.835	3.723	2.799	.262	1272	.945	1346	.444	.425	.472	.435	.438	.461	.476	.449	.383
.247	3.861	2.908	.831	3.713	2.797	.258	1272	.945	1346	.444	.425	.473	.436	.439	.462	.478	.449	.458
.244	3.852	2.907	.828	3.709	2.799	.255	1272	.945	1346	.445	.425	.474	.436	.439	.463	.478	.450	.458
.243	3.844	2.905	.827	3.699	2.795	.254	1272	.945	1346	.445	.426	.474	.436	.439	.464	.479	.451	.459
.239	3.836	2.904	.823	3.691	2.795	.250	1272	.945	1346	.446	.426	.475	.437	.440	.464	.479	.452	.387
.236	3.828	2.902	.820	3.685	2.794	.247	1272	.945	1346	.447	.426	.476	.437	.440	.465	.480	.452	.460
.233	3.821	2.901	.817	3.680	2.794	.244	1272	.945	1346	.447	.426	.476	.437	.441	.466	.481	.452	.388
.230	3.812	2.898	.814	3.670	2.790	.241	1272	.945	1346	.448	.427	.478	.438	.441	.466	.482	.453	.461
.228	3.805	2.897	.812	3.669	2.793	.239	1272	.945	1346	.448	.427	.478	.439	.441	.467	.483	.453	.389
.223	3.798	2.895	.807	3.664	2.793	.234	1272	.945	1346	.449	.428	.479	.439	.442	.467	.483	.455	.463
.221	3.792	2.894	.805	3.659	2.793	.232	1272	.945	1346	.449	.428	.479	.439	.443	.468	.484	.456	.464
.218	3.786	2.891	.802	3.657	2.793	.229	1272	.946	1345	.450	.428	.480	.440	.443	.469	.485	.456	.464
.213	3.779	2.890	.797	3.652	2.794	.224	1272	.946	1345	.451	.428	.481	.440	.443	.470	.486	.457	.392
.211	3.773	2.888	.795	3.651	2.794	.222	1272	.945	1346	.451	.429	.482	.440	.444	.470	.487	.457	.391
.206	3.766	2.888	.790	3.649	2.797	.217	1272	.945	1346	.452	.429	.482	.441	.444	.471	.487	.458	.466
.203	3.762	2.887	.787	3.648	2.800	.214	1272	.945	1346	.452	.429	.483	.441	.445	.471	.488	.459	.467
.199	3.755	2.884	.783	3.646	2.800	.210	1272	.946	1345	.453	.430	.484	.442	.446	.472	.489	.460	.468
.196	3.749	2.883	.780	3.645	2.803	.207	1272	.946	1345	.454	.430	.485	.442	.446	.473	.490	.460	.468
.195	3.743	2.879	.779	3.644	2.803	.206	1272	.946	1345	.454	.431	.485	.442	.446	.473	.491	.461	.469
.191	3.738	2.879	.775	3.644	2.806	.202	1272	.946	1345	.455	.431	.486	.443	.447	.474	.491	.461	.469
.189	3.732	2.876	.773	3.641	2.806	.200	1272	.946	1345	.456	.432	.487	.443	.447	.474	.492	.462	.470
.187	3.727	2.876	.771	3.642	2.810	.199	1272	.946	1345	.456	.432	.487	.443	.448	.476	.493	.462	.470
.183	3.722	2.872	.767	3.646	2.813	.194	1272	.946	1345	.457	.432	.488	.444	.449	.476	.493	.463	.471
.182	3.721	2.869	.766	3.657	2.820	.193	1273	.946	1345	.457	.433	.489	.445	.449	.477	.494	.463	.472
.179	3.720	2.868	.763	3.664	2.820	.190	1273	.946	1345	.457	.433	.489	.445	.449	.477	.495	.464	.472
.178	3.723	2.869	.762	3.677	2.824	.189	1273	.946	1346	.458	.433	.490	.445	.449	.478	.495	.464	.472
.176	3.727	2.856	.760	3.687	2.826	.187	1273	.946	1346	.458	.433	.491	.445	.450	.478	.496	.465	.473
.174	3.731	2.853	.758	3.696	2.827	.185	1273	.946	1346	.459	.433	.491	.445	.451	.479	.497	.465	.474
.173	3.735	2.851	.757	3.707	2.830	.184	1273	.945	1346	.459	.434	.492	.446	.451	.480	.498	.466	.474
.170	3.739	2.850	.754	3.715	2.832	.181	1273	.946	1346	.460	.434	.493	.447	.451	.480	.498	.467	.475
.169	3.743	2.847	.753	3.724	2.833	.180	1273	.946	1346	.460	.434	.494	.444	.452	.480	.499	.467	.402
.167	3.748	2.845	.751	3.733	2.836	.178	1273	.946	1346	.461	.434	.494	.447	.452	.481	.499	.467	.476
.166	3.752	2.846	.750	3.737	2.836	.177	1273	.946	1346	.461	.435	.495	.448	.453	.482	.501	.468	.403
.165	3.756	2.845	.749	3.745	2.838	.176	1273	.946	1346	.462	.435	.495	.448	.453	.482	.501	.468	.478
.161	3.759	2.844	.745	3.750	2.837	.172	1273	.946	1346	.463	.436	.496	.448	.454	.483	.502	.470	.478
.160	3.762	2.842	.744	3.758	2.840	.171	1273	.946	1346	.463	.436	.497	.449	.454	.484	.502	.470	.405
.158	3.765	2.843	.742	3.764	2.843	.169	1273	.946	1346	.464	.436	.498	.449	.455	.484	.503	.471	.479
.156	3.767	2.841	.740	3.768	2.842	.167	1273	.946	1346	.464	.436	.498	.449	.455	.485	.504	.471	.480
.155	3.769	2.840	.739	3.777	2.846	.166	1273	.946	1346	.465	.437	.499	.450	.456	.486	.505	.472	.480

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ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
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GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
36	139	7.92	149.5	1346	35.04	-13.04	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0163	1.329	.718	3870	4.440E-04	8.000E-08	6.723E 05	21.01	4.92	.93	22.633	25

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.150	3.771	2.840	.734	3.783	2.849	.161	1273	.946	1346	.466	.437	.500	.451	.456	.487	.506	.473	.481
.149	3.772	2.839	.733	3.789	2.851	.160	1273	.946	1346	.466	.437	.501	.451	.457	.487	.506	.473	.482
.145	3.771	2.836	.729	3.799	2.857	.156	1273	.946	1346	.466	.437	.501	.451	.457	.488	.507	.473	.482
.143	3.770	2.834	.727	3.803	2.858	.154	1273	.946	1346	.467	.438	.502	.452	.457	.488	.507	.474	.483
.142	3.769	2.831	.726	3.811	2.862	.153	1273	.946	1346	.467	.439	.502	.452	.458	.489	.509	.475	.483
.139	3.768	2.828	.722	3.814	2.862	.149	1273	.946	1346	.468	.439	.503	.452	.459	.490	.509	.475	.484
.136	3.766	2.826	.720	3.821	2.868	.147	1273	.946	1346	.468	.440	.503	.453	.459	.490	.510	.476	.484
.134	3.763	2.825	.718	3.826	2.871	.145	1274	.946	1346	.469	.440	.505	.453	.460	.491	.510	.476	.486
.131	3.761	2.819	.715	3.832	2.872	.142	1273	.946	1346	.470	.440	.505	.453	.460	.491	.511	.478	.486
.130	3.758	2.819	.714	3.839	2.879	.141	1274	.946	1346	.470	.440	.506	.454	.461	.493	.512	.478	.487
.127	3.755	2.814	.711	3.841	2.879	.138	1274	.946	1346	.471	.440	.507	.455	.461	.493	.513	.478	.487
.126	3.752	2.813	.710	3.846	2.883	.137	1274	.946	1346	.471	.441	.507	.455	.461	.494	.513	.479	.488
.123	3.749	2.808	.707	3.852	2.885	.134	1274	.946	1346	.472	.441	.508	.455	.462	.494	.514	.479	.488
.122	3.746	2.806	.706	3.854	2.887	.133	1274	.946	1346	.472	.441	.509	.456	.463	.495	.515	.480	.489
.120	3.741	2.802	.704	3.859	2.891	.131	1274	.946	1346	.473	.441	.510	.456	.463	.495	.515	.480	.489
.117	3.737	2.801	.701	3.860	2.893	.128	1274	.946	1346	.473	.442	.510	.457	.464	.496	.517	.481	.490
.116	3.732	2.797	.700	3.862	2.895	.127	1274	.946	1346	.474	.443	.511	.457	.464	.497	.517	.482	.490
.114	3.726	2.793	.698	3.864	2.896	.125	1274	.946	1346	.474	.443	.512	.457	.464	.497	.518	.482	.491
.112	3.719	2.790	.696	3.862	2.897	.123	1274	.946	1346	.475	.443	.512	.458	.465	.498	.518	.483	.491
.110	3.713	2.787	.694	3.866	2.901	.121	1274	.946	1346	.475	.443	.513	.458	.466	.498	.519	.483	.493
.107	3.705	2.784	.691	3.866	2.904	.118	1274	.946	1346	.476	.443	.514	.459	.466	.499	.520	.484	.493
.107	3.697	2.780	.691	3.867	2.908	.118	1274	.946	1346	.476	.443	.514	.459	.467	.500	.521	.484	.489
.105	3.686	2.776	.689	3.870	2.912	.116	1274	.946	1346	.477	.444	.515	.459	.467	.501	.521	.485	.494
.103	3.680	2.771	.687	3.872	2.916	.114	1274	.946	1346	.478	.444	.515	.460	.468	.501	.522	.486	.495
.100	3.670	2.766	.684	3.876	2.921	.111	1274	.947	1346	.478	.444	.517	.460	.468	.502	.523	.486	.495
.098	3.660	2.760	.682	3.872	2.920	.109	1274	.947	1346	.479	.445	.517	.461	.468	.502	.524	.486	.496
.097	3.650	2.754	.681	3.878	2.926	.108	1274	.947	1346	.479	.445	.518	.461	.469	.503	.524	.487	.496
.095	3.639	2.746	.679	3.880	2.928	.106	1274	.947	1346	.480	.445	.518	.461	.470	.503	.525	.487	.496
.093	3.629	2.740	.677	3.880	2.930	.104	1274	.946	1346	.480	.446	.519	.462	.470	.504	.525	.488	.497
.092	3.619	2.735	.676	3.882	2.933	.103	1274	.947	1346	.481	.447	.520	.463	.471	.504	.526	.489	.497
.089	3.610	2.729	.673	3.886	2.938	.100	1274	.947	1346	.481	.447	.520	.463	.471	.505	.527	.489	.498
.089	3.599	2.721	.673	3.886	2.938	.100	1274	.947	1346	.482	.447	.521	.463	.472	.505	.528	.490	.499
.087	3.589	2.715	.671	3.887	2.941	.098	1274	.947	1346	.482	.447	.521	.461	.472	.506	.528	.490	.499
.086	3.579	2.708	.670	3.889	2.942	.097	1274	.947	1346	.483	.447	.522	.464	.472	.507	.529	.491	.500
.085	3.569	2.702	.669	3.892	2.947	.096	1274	.947	1346	.483	.448	.523	.464	.473	.507	.529	.491	.500
.082	3.558	2.694	.666	3.892	2.947	.093	1274	.947	1346	.484	.448	.524	.465	.474	.508	.530	.491	.501
.082	3.546	2.685	.666	3.895	2.949	.093	1274	.947	1346	.484	.448	.524	.466	.474	.509	.530	.493	.501
.079	3.534	2.675	.663	3.900	2.953	.090	1275	.947	1346	.485	.448	.525	.466	.475	.509	.532	.493	.502
.078	3.517	2.666	.662	3.902	2.956	.089	1274	.947	1346	.486	.449	.525	.466	.475	.510	.532	.493	.503
.076	3.502	2.653	.660	3.902	2.956	.087	1274	.947	1346	.486	.449	.526	.467	.476	.511	.533	.494	.503
.073	3.485	2.642	.657	3.906	2.961	.084	1275	.947	1346	.487	.449	.527	.467	.476	.511	.533	.495	.504
.073	3.467	2.630	.657	3.911	2.967	.084	1275	.947	1346	.487	.449	.528	.467	.476	.512	.534	.495	.504

DATE 5-6-74
PROJECT NUMBER VA524-21RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OH52 SHUTTLE SURVEY TEST
PAGE = 5

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
36	139	7.92	148.4	1346	35.04	-13.04	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0162	1.318	.713	3870	4.408E-04	8.000E-08	6.723E 05	21.01	4.92	.93	22.633	25

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.070	3.448	2.616	.654	3.914	2.969	.091	1274	.947	1346	.487	.450	.528	.468	.477	.513	.534	.495	.505
.069	3.426	2.599	.653	3.914	2.969	.080	1275	.947	1346	.488	.450	.529	.468	.478	.513	.535	.496	.505
.067	3.399	2.578	.651	3.919	2.973	.078	1274	.947	1346	.488	.450	.529	.469	.478	.514	.536	.497	.506
.064	3.375	2.560	.648	3.926	2.978	.075	1274	.947	1346	.489	.451	.530	.469	.479	.514	.537	.497	.506
.064	3.347	2.537	.648	3.929	2.979	.075	1274	.947	1346	.490	.451	.530	.470	.479	.514	.537	.498	.507
.062	3.317	2.515	.646	3.939	2.987	.073	1274	.946	1346	.490	.451	.532	.470	.480	.515	.538	.498	.507
.059	3.282	2.489	.643	3.945	2.987	.070	1273	.946	1346	.490	.451	.532	.466	.480	.516	.538	.499	.508
.058	3.239	2.449	.642	3.950	2.986	.069	1273	.946	1346	.491	.452	.533	.471	.480	.517	.539	.499	.509
.055	3.197	2.417	.639	3.959	2.993	.066	1273	.946	1346	.491	.452	.533	.471	.481	.517	.540	.500	.509
.055	3.161	2.387	.639	3.962	2.992	.066	1272	.945	1346	.492	.452	.534	.472	.482	.518	.540	.500	.510
.054	3.126	2.359	.638	3.966	2.993	.065	1272	.945	1346	.493	.453	.534	.472	.482	.518	.541	.501	.510
.052	3.092	2.333	.636	3.973	2.998	.063	1271	.944	1346	.493	.453	.535	.472	.483	.519	.541	.501	.511
.052	3.057	2.303	.636	3.976	2.996	.063	1271	.944	1346	.494	.453	.536	.471	.483	.520	.542	.502	.511
.049	3.020	2.270	.633	3.979	2.998	.060	1270	.943	1346	.494	.454	.536	.474	.484	.520	.543	.502	.512
.049	2.985	2.246	.633	3.984	2.998	.060	1269	.943	1346	.494	.454	.537	.474	.484	.521	.544	.503	.513
.048	2.950	2.220	.632	3.986	3.000	.059	1268	.942	1346	.495	.455	.538	.474	.484	.521	.544	.504	.513
.047	2.915	2.194	.631	3.990	3.003	.058	1267	.941	1346	.495	.455	.538	.475	.485	.522	.545	.505	.514
.047	2.877	2.163	.631	3.993	3.003	.058	1266	.941	1346	.496	.455	.539	.475	.486	.523	.545	.505	.514
.045	2.837	2.133	.629	3.994	3.004	.056	1265	.940	1346	.497	.455	.540	.475	.486	.524	.546	.506	.515
.045	2.798	2.103	.629	4.000	3.006	.056	1264	.939	1346	.497	.455	.540	.476	.487	.524	.547	.506	.515
.043	2.751	2.066	.627	4.001	3.005	.054	1262	.937	1346	.497	.456	.541	.476	.487	.525	.547	.507	.516
.043	2.703	2.030	.627	4.004	3.007	.054	1260	.936	1346	.498	.456	.541	.476	.488	.525	.548	.507	.517
.041	2.654	1.993	.625	4.008	3.011	.052	1258	.935	1346	.498	.456	.542	.477	.488	.526	.549	.508	.517
.040	2.602	1.953	.624	4.011	3.011	.051	1256	.933	1346	.499	.456	.542	.478	.488	.526	.549	.509	.518
.040	2.551	1.914	.624	4.013	3.010	.051	1253	.931	1346	.499	.457	.543	.478	.489	.527	.550	.509	.518
.038	2.497	1.873	.622	4.017	3.013	.049	1250	.929	1346	.499	.457	.544	.478	.490	.527	.551	.510	.519
.038	2.441	1.831	.622	4.017	3.013	.049	1247	.927	1346	.500	.457	.544	.479	.490	.528	.551	.510	.519
.036	2.379	1.784	.620	4.024	3.018	.047	1243	.923	1346	.501	.457	.545	.479	.491	.529	.552	.510	.520
.034	2.318	1.737	.618	4.022	3.017	.045	1239	.920	1346	.501	.458	.545	.480	.491	.529	.552	.511	.520
.035	2.245	1.684	.619	4.026	3.020	.046	1235	.918	1346	.502	.458	.546	.480	.492	.530	.553	.511	.521
.033	2.180	1.636	.617	4.025	3.017	.044	1231	.914	1346	.502	.459	.547	.480	.492	.530	.553	.512	.521
.033	2.117	1.588	.617	4.032	3.024	.044	1227	.912	1346	.503	.459	.547	.481	.493	.531	.554	.513	.522
.031	2.058	1.542	.615	4.032	3.022	.042	1224	.909	1346	.503	.459	.548	.481	.493	.532	.555	.513	.522
.030	1.999	1.497	.614	4.032	3.020	.041	1219	.905	1346	.503	.460	.548	.482	.494	.532	.555	.514	.524
.031	1.939	1.453	.615	4.037	3.024	.042	1212	.901	1346	.504	.460	.549	.482	.494	.533	.556	.514	.524
.028	1.874	1.404	.612	4.037	3.024	.039	1207	.897	1346	.505	.460	.550	.482	.495	.533	.557	.515	.524
.028	1.814	1.359	.612	4.041	3.027	.039	1202	.893	1346	.505	.460	.550	.483	.495	.534	.557	.515	.525
.026	1.753	1.312	.610	4.044	3.027	.037	1194	.887	1346	.505	.460	.551	.483	.495	.534	.558	.515	.525
.025	1.683	1.266	.609	4.044	3.027	.036	1185	.880	1346	.506	.461	.552	.484	.497	.535	.558	.515	.526
.025	1.616	1.209	.609	4.047	3.029	.036	1180	.877	1346	.506	.461	.552	.484	.497	.536	.559	.517	.526
.022	1.549	1.160	.606	4.047	3.029	.033	1170	.870	1346	.507	.461	.553	.484	.498	.536	.560	.517	.527
.022	1.481	1.108	.606	4.051	3.033	.033	1160	.862	1346	.507	.461	.553	.485	.498	.537	.560	.517	.527

DATE 5-6-74
PROJECT NUMBER VA524-2:RA
ARO, INC.
ARNOLD AIR FORCE STATION, TENNESSEE
NASA/RI OF52 SHUTTLE SURVEY TEST
PAGE = 6

GROUP	MODEL	MACH NO	PO(PSIA)	TO(DEG R)	ALPHA-MODEL	ALPHA-SECTOR	ALPHA-PREBEND	ROLL-MODEL	YAW
36	139	7.92	159.5	1346	35.04	-13.04	22.00	180.00	0

T-INF (DEG R)	P-INF (PSIA)	P01 (PSIA)	Q-INF (PSIA)	U-INF (FT/SEC)	RHO-INF (LBM /FT3)	MU-INF (LBF/FT-SEC)	RE/FT (FT-1)	X (IN)	Y (IN)	X/L	L	TAP
99.4	.0165	1.337	.723	3870	4.470E-04	8.000E-08	6.723E 05	21.01	4.92	.93	22.633	25

ZP1 (IN)	PP1 (PSIA)	PP1/P01	ZP2 (IN)	PP2 (PSIA)	PP2/P01	ZT (IN)	TT1 (DEG.R)	TT1/TO	TO (DEG R)	TW2/TO (DEG R)	TW3/TO (DEG R)	TW4/TO (DEG R)	TW5/TO (DEG R)	TW6/TO (DEG R)	TW7/TO (DEG R)	TW8/TO (DEG R)	TW9/TO (DEG R)	TW10/TO (DEG R)
.022	1.413	1.057	.606	4.050	3.030	.033	1154	.857	1346	.508	.462	.554	.486	.498	.537	.561	.518	.528
.021	1.353	1.013	.605	4.054	3.035	.032	1147	.852	1346	.509	.462	.555	.486	.499	.538	.561	.519	.528
.020	1.293	.967	.604	4.056	3.034	.031	1140	.847	1346	.509	.463	.555	.486	.499	.538	.562	.519	.529
.019	1.234	.925	.603	4.058	3.036	.030	1132	.841	1346	.510	.463	.556	.487	.500	.539	.563	.520	.529
.019	1.183	.885	.603	4.058	3.036	.030	1123	.835	1346	.510	.463	.556	.487	.500	.540	.563	.520	.529
.016	1.132	.847	.600	4.061	3.038	.027	1115	.828	1346	.510	.464	.557	.488	.501	.540	.564	.521	.530
.017	1.084	.811	.601	4.061	3.038	.028	1107	.823	1346	.511	.464	.557	.488	.501	.541	.564	.521	.530
.015	1.039	.777	.599	4.067	3.044	.026	1098	.816	1346	.511	.464	.558	.488	.502	.541	.565	.522	.532
.015	.993	.743	.599	4.063	3.039	.026	1089	.809	1346	.512	.464	.559	.489	.502	.541	.565	.522	.532
.014	.951	.711	.598	4.068	3.041	.025	1077	.800	1346	.512	.464	.559	.490	.503	.542	.566	.522	.533
.011	.909	.680	.595	4.071	3.045	.022	1065	.791	1346	.513	.465	.560	.490	.503	.542	.567	.523	.533
.011	.872	.652	.595	4.071	3.044	.022	1052	.782	1346	.513	.465	.560	.490	.503	.544	.567	.524	.534
.008	.832	.622	.592	4.073	3.047	.019	1036	.769	1347	.513	.465	.560	.490	.504	.544	.567	.524	.533
.007	.796	.596	.591	4.074	3.048	.018	1020	.758	1346	.514	.466	.561	.491	.505	.545	.568	.525	.534
.007	.692	.517	.591	4.074	3.044	.018	1016	.755	1346	.516	.467	.564	.493	.507	.548	.571	.526	.536
.154	.172	.128	.738	.217	.162	.165	1274	.946	1346	.520	.469	.568	.495	.510	.552	.574	.530	.540