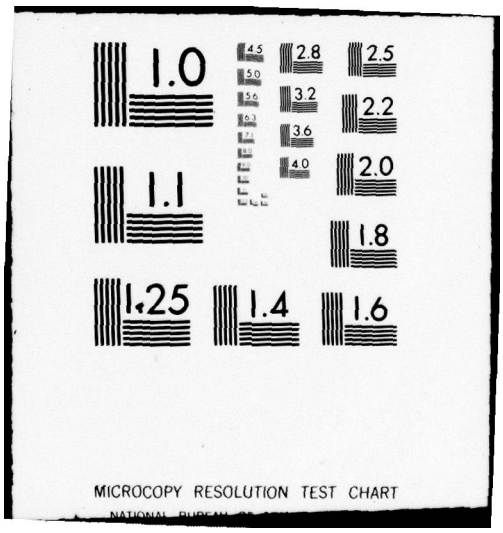
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CH-46 COMPOSITE ROTOR BLADE FLIGHT STRESS SURVEY DATA. VOLUME I--ETC(U)
JUL 78 R AIELLO, J BENDO N00019-75-C-0396
UNCLASSIFIED D210-11168-3-VOL-1 NL

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MICROCOPY RESOLUTION TEST CHART

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MODEL CH-46 CONTRACT (15) N00019-75-C-0396

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APPROVED BY Ken Lunn K. Lunn DATE 1-26-79

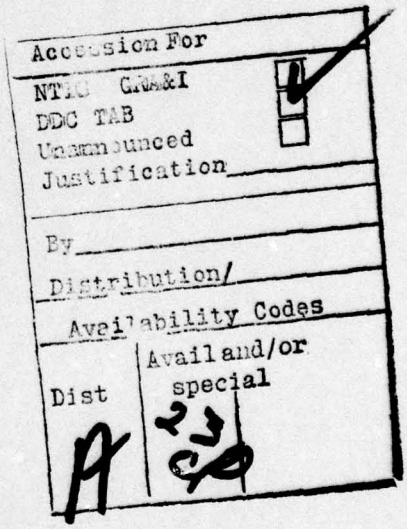
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SHEET NUMBER	REV LTR	ADDED SHEETS				SHEET NUMBER	REV LTR	ADDED SHEETS			
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27				57				87			
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91				121							
92				122							
93				123							
94				124							
95				125							
96				126							
97				127							
98				128							
99				129							
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ABSTRACT

This document (13 Volumes) presents plotted and tabulated flight data for all stress parameters measured during the CH-46 composite rotor blade flight stress survey and structural demonstration.

This volume contains a description of test conditions, a summary of flight logs, calibrated blade section moduli and a complete description of instrumentation.

KEYWORDS

CH-46E
Composite
Rotor Blade
Flight Stress Survey
Flight Log

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REFERENCES

1. Vertol Report D210-11168-1 "CH-46 Composite Rotor Blade Flight Test Qualification Test Plan" March 30, 1977

2. Vertol Report D210-11168-2 "CH-46 Composite Rotor Blade Flight Test Report" May 15, 1978

3. NAVAIR 01-250HDC-1, NATOPS Flight Manual, Model H-46E, June 30, 1977 (Preliminary)

4. 107M-T-167.8 "CH-46 Helicopter Stress Survey Data, Metal Spar Productions Blades" November 29, 1966

1.0 INTRODUCTION

This document contains the results of a flight stress survey and structural demonstration conducted on a CH-46 helicopter with A02R1702 composite rotor blades. The test was conducted in accordance with Paragraphs 4.3.2 and 4.7 of Reference 1. General test description and pilot comments are included in Reference 2.

The tests were conducted at the Boeing Vertol Flight Test Facility at Ridley Township, Pennsylvania during the period of June 1977 through November 1977.

This volume contains descriptive information pertinent to the flight stress survey. Volumes 2 through 12 contain plotted and tabulated stress survey data. Volume 13 contains all data pertinent to the structural demonstration program.

2.0 SUMMARY

A flight stress and structural demonstration was conducted on the #1 CH-46E Helicopter, BuNo. 153372 (S/N 2268).

The components under test were the A02R1702 composite rotor blades and the A02R1710 blade socket.

Volumes 1 through 12 of this report contain the test results for the flight stress survey. Volume 13 contains the results of the structural demonstration.

Figure 1 shows the gross weights and centers of gravity tested. The alternate gross weight for the CH-46E is increased to 24300 lbs. Test data at this gross weight is used to qualify the composite rotor blade for the CH-46D at its alternate gross weight of 23000 lbs. Figures 2 and 3 summarize the extent of the level flight testing for each gross weight/c.g.

A tabulated summary of testing is shown on Pages 17 through 44.

CH-46 COMPOSITE ROTOR BLADE FLIGHT STRESS SURVEY

GROSS WEIGHT / CENTER OF GRAVITY SUMMARY

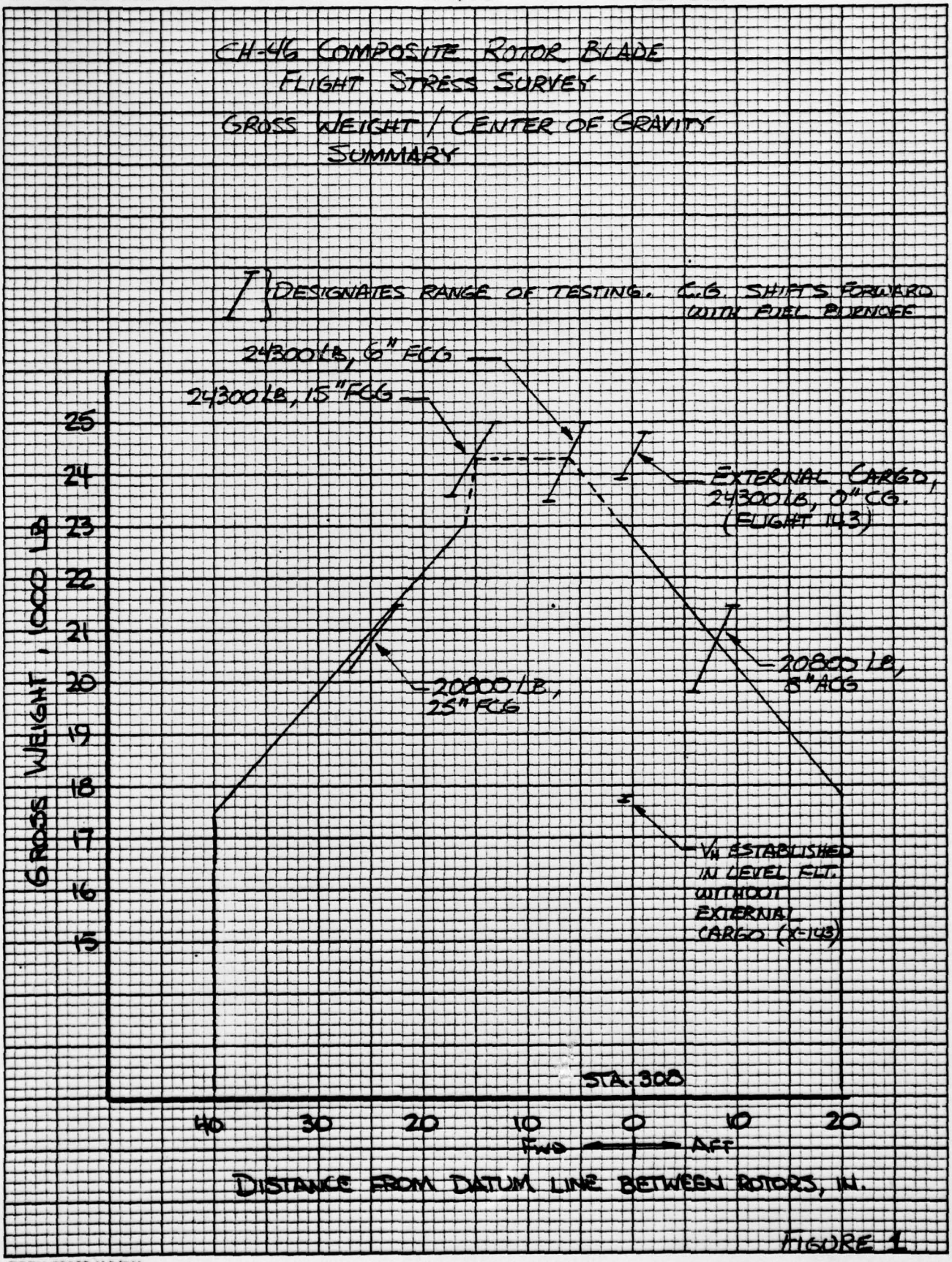


FIGURE 1

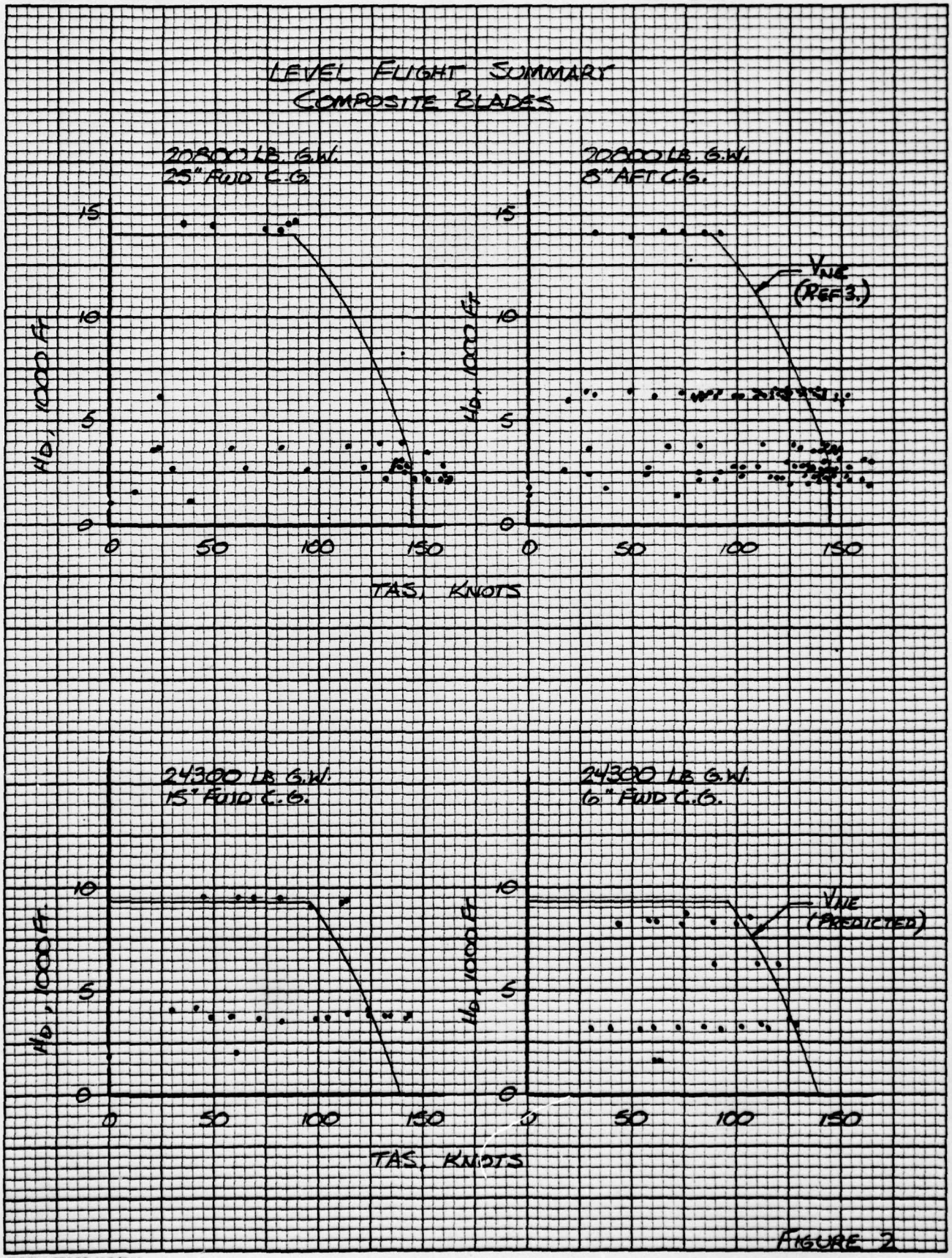

LEVEL FLIGHT SUMMARY
COMPOSITE BLADES
20800 LB. G.W.
25" FWD C.G.
20800 LB. G.W.
8" AFT C.G.
VNE
(REF 3.)
24300 LB G.W.
15" FWD C.G.
24300 LB G.W.
6" FWD C.G.
VNE
(PREDICTED)
Hp, 1000 Ft.
TAS, KNOTS
0
5
10
15
50
100
150

FIGURE 2

LEVEL FLIGHT SUMMARY, CONT'D

EXTERNAL CARGO (COMPOSITE BLADES)

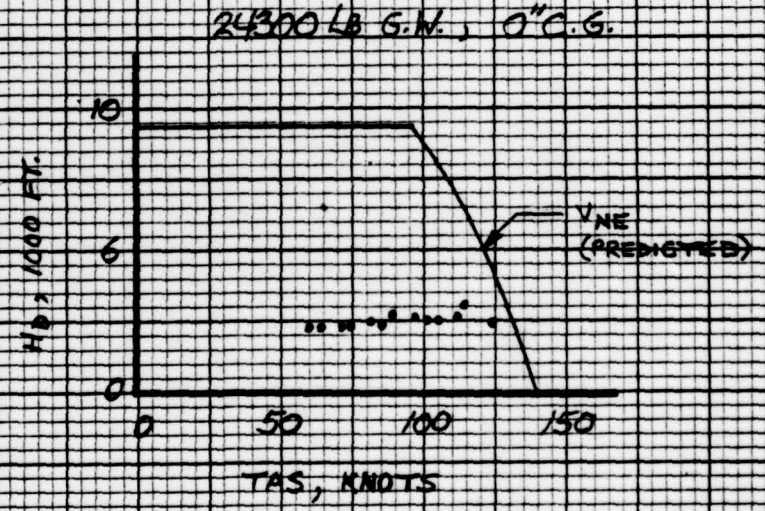


FIGURE 9

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LEVEL FLIGHT SUMMARY
20800 LB. G.W., 25" FWD C.G.

CYCLIC TRIM	RPM	TARGET HD, FT	FLIGHT CONDITION					
			HOVER	TRANSITION (5 TO 60 KT)	60KT. TO 70% VNE	70% TO 90% VNE	90% TO 105% VNE	ABOVE 105% VNE
PROG.	264	2000	114-2 116-29	114-10,11,12 115-1 161-2	114-13 161-3,4	114-14 161-5	114-15,16 115-60 161-6,7 162-2,3 163-8,18	114-17,18 161-8 162-4,5,6
		6000	115-47					
		14000 ▷		115-17	115-16	115-15	115-14,18	115-19
EXT.	264	2000					163-19 TO 21	163-22

▷ FULLY EXTENDED TRIM. CONSIDERED AS PROGRAMMED TRIM AT 6000' AND ABOVE.

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LEVEL FLIGHT SUMMARY
20800 LB G.W., 8" AFT C.G.

CYCLIC TRIM	RPM	TARGET Hd, FT	FLIGHT CONDITION					
			HOVER	TRANSITION (5 TO 60 KT.)	60 KT. TO 70% V_{NE}	70% TO 90% V_{NE}	90% TO 105% V_{NE}	ABOVE 105% V_{NE}
PROG.	264	2000	122-31 126-3 138-3	124-2 126-2,8 138-1,2 151-2 136-14	126-9,10 128-2 136-1 138-8 151-3,4,5	126-11,12 128-4 136-2,3,4 138-9 151-6,7 166-5	126-13 TO K6 128-5,7,8,13,14 136-5,7,9,28 138-10,11 151-8 166-2,6,7,8 177-19,20,22,24,25, 35,37,38,40,41	128-10 138-12 177-23,26,27, 39,43
		6000	124-54	124-52,53 137-2,3	124-43 127-2 137-4,17,25 151-13,21,22,23 ▷	124-44 127-5 137-5,6 151-14 TO 16,24,25 ▷	124-45 TO 48 127-6 137-8,10,14,15 139-13 151-17,26,27 ▷ 177-3,4,10	124-49 TO 51 177-5,7,11,12,14
		14000		124-22 ▷	124-21 ▷	124-15,16 ▷	124-17 ▷	124-18 ▷
	248	6000		124-58,59 137-19,20	124-60	124-61,62 137-18	124-63	137-21,22
RETR.	264	6000				127-3,4 137-23,24		

▷ FLIGHTS 124 & 151 ARE AT FULLY EXTENDED CYCLIC TRIM WHERE NOTED. THIS IS CONSIDERED AS PROGRAMMED TRIM AT 6000' Hd AND ABOVE.

LEVEL FLIGHT SUMMARY
20800 LB G.W., 8" AFT C.G. (CONT'D)

CYCLIC TRIM	RPM	TARGET H_D, FT	FLIGHT CONDITION					
			HOVER	TRANSITION (5 TO 60KT.)	60KT. TO 70% V_{NE}	70% TO 90% V_{NE}	90% TO 105% V_{NE}	ABOVE 105% V_{NE}
EXT. ▷	264	2000		136-11,13	136-12,15 TO 18	136-19,20,29 166-9	128-11 136-10,22,24,26 166-10,11	
		6000				137-7,12,13 ▷	137-9,11,16 ▷	

▷ CYCLIC TRIM RANGES BETWEEN "PROGRAMMED" AND "FULLY EXTENDED." THE DATA AT 6000' H_D (X-137) IS CONSIDERED AS PROGRAMMED TRIM.

LEVEL FLIGHT SUMMARY
24300 LB. G.W., 15° FWD C.G.

CYCLIC TRIM	RPM	TARGET HD, FT.	FLIGHT CONDITION					
			HOVER	TRANSITION (5 TO 60 KT)	60 KT. TO 70% VNE	70% TO 90% VNE	90% TO 105% VNE	ABOVE 105% VNE
PROG.	264	2000	121-2	119-2, 10 TO 13 121-3	119-3, 9	119-5 121-57	119-6, 7 121-59	119-8 121-60, 61, 62
		8000 ▷		121-18	121-17	121-15, 16	121-12	121-13, 14

▷ FULLY EXTENDED TRIM. CONSIDERED AS PROGRAMMED TRIM AT 6000' AND ABOVE.

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LEVEL FLIGHT SUMMARY
24300 LB. G.W., 6" FWD C.G.

CYCLIC TRIM	RPM	TARGET HD, FT.	FLIGHT CONDITION					
			HOVER	TRANSITION (5 TO 60KT)	60KT. TO 70% VNE	70% TO 90% VNE	90% TO 105% VNE	ABOVE 105% VNE
PROG.	264	2000	140-1	141-2 142-2 TO 6	142-7,8	141-53 142-9,10,11	142-12,13	
		6000				141-50	141-51	141-52
		8000 ▷		141-25	141-23,24	141-13,18,19	141-20,21	
	248	2000		142-17,18		142-16		142-19,20
RETR.	264	2000			142-21,22	142-23 TO 26		
EXT.	264	2000 ▷					142-15	

▷ FULLY EXTENDED TRIM. CONSIDERED AS PROGRAMMED TRIM AT 6000' AND ABOVE.

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MANEUVER SUMMARY, GROUND CONDITIONS

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN.	FLIGHT No.	EVENT No.	COMMENTS
ROTOR START	20800	25 F	114	9	
	20800	8 A	177	2	
	24300	6 F	167	3	
FLAT PITCH	24300	15 F	117	1	
TAXI	20800	8 A	122	40	STRAIGHT
	↓	↓	↓	41	L. TURN
				42	R. TURN
				43	STRAIGHT
				44	R. TURN
				45	L. TURN
	24300	15 F	117	23	L. TURN
	↓	↓	↓	24	R. TURN
				25	L. TURN
				26	STRAIGHT
				27	R. TURN
	24300	6 F	140	10	STRAIGHT
	↓	↓	↓	11	R. TURN
				12	L. TURN
				45	R. TURN
				46	L. TURN
JUMP TAKEOFF	20800	8 A	122	30	
	24300	15 F	117	17	
	24300	6 F	140	43	
	↓	↓	167	4	
BRAKED ROTOR STOP	20800	8 A	177	46	
	24300	6 F	167	15	

MANEUVER SUMMARY
HOVER MANEUVERS

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN	FLIGHT NO.	EVENT NO.	H_D, FT.
HOVER RIGHT TURN	20800	8 A	122	33	1727
	24300	6 F	140	3	1250
HOVER LEFT TURN	20800	8 A	122	32	1725
	24300	6 F	140	2	1230
HOVER LAT. REVERSAL	20800	25 F	114	3	995
			115	48	6249
				49	6257
		8 A	122	34	1788
				35	1761
			124	55	6612
			126	4	3554
				5	3537
			138	4	2688
	24300	15 F	117	19	1820
		6 F	140	4	1290
				5	1270
HOVER LONG. REVERSAL	20800	25 F	114	4	1041
			115	50	6228
		8 A	122	36	1762
				37	1778
			124	56	6662
			126	6	3542
			138	5	2715
	24300	15 F	117	20	1820
		6 F	140	6	1270
HOVER DIRECTIONAL REVERSAL	20800	25 F	114	5	1034
				6	1014
				7	1007
			115	51	6243
		8 A	122	38	1743
				39	1751
			124	57	6703
			126	7	3537
			138	6	2759
				7	2750

MANEUVER SUMMARY
HOVER MANEUVERS, CONT'D

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN	FLIGHT NO.	EVENT NO.	H_D, FT.
HOVER DIRECTIONAL REV., CONT'D	24300	15 F	117	21	1820
					1820
		6 F	140	7	1270
				8	1250
				9	1240
RAPID ACCEL. FROM HOVER:					
0 → 130 KTS	20800	8 A	122	24	1745
0 → 130 KTS			138	34	3134
130 → 137 KTS				35	3185

MANEUVER SUMMARY, CLIMB

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G. IN	FLIGHT NO.	EVENT No.	TAS, KTS.	H_D, FT.
CLIMB	20800	25 F	115	2	85	2377
				3	82	3444
				4	83	4159
				5	74	5165
				6	77	6481
				7	87	7505
				8		
				9	90	9767
				10	81	10952
				11	82	11872
				12	84	12528
				13	83	13650
		8 A	124	3	76	3817
				4	66	4753
				5	71	5767
				6	74	6631
				7	66	7698
				8	76	8648
				9	75	9847
				10	65	10868
				11	76	11784
				12	63	12734
				13	67	13634
				14	63	14083
	24300	15 F	121	4	86	3163
				5	81	3968
				6	77	4843
				7	77	6294
				8	70	7224
				9	72	8223
		6 F	141	4	68	1836
				5	82	2735
				6	74	3705
				7	65	4714
				8	63	5530
				9	72	6787
				10	73	7690
				11	84	8470
				12	81	8753

MANEUVER SUMMARY, SIDEWARD & REARWARD FLIGHT

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN.	FLIGHT NO.	EVENT NO.	GROUND SPEED, KNOTS	DIRECTION
SIDEWARD, STEADY	20800	8 A	122	2	10	LEFT
				4	20	
				6	30	
				8	35	
				10	10	RIGHT
				12	20	
				14	30	
				16	35	
	24300	6 F	140	13	35	
				15	10	LEFT
				17	20	
				19	30	
				21	35	
				24	10	RIGHT
				26	20	
				28	30	
				30	35	
SIDEWARD, ACCEL. & RECOVERY	20800	8 A	122	3	10-20	LEFT
				5	20-30	
				7	30-35	
				9	35-0	
				11	10-20	RIGHT
				13	20-30	
				15	30-35	
				17	35-0	
	24300	15 F	117	28	0-35	
				29	35-0	
				30	0-35	LEFT
				31	35-0	
	24300	6 F	140	14	0-10	
				16	10-20	
				18	20-30	
				20	30-35	
				22	35-0	
				CONT'D		

MANEUVER SUMMARY
SIDEWARD & REARWARD FLIGHT, CONT'D

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN	FLIGHT NO.	EVENT NO.	GROUND SPEED, KNOTS	DIRECTION
SIDEWARD, ACCEL. & RECOVERY, CONT'D	24300 ↓	6 F ↓	140 ↓	23 25 27 29 31	0-10 10-20 20-30 30-35 35-0	RIGHT ↓
REARWARD, STEADY	20800 ↓ 24300 ↓	8 A ↓ 6 F ↓	122 ↓ 140 ↓	18 20 22 33 35 37	10 20 30 10 20 30	
REARWARD, ACCEL. & RECOVERY	20800 ↓ 24300 ↓ 24300 ↓	8 A ↓ 15 F ↓ 6 F ↓	122 ↓ 117 ↓ 140 ↓	19 21 23 32 33 32 34 36 38	10-20 20-30 30-0 0-30 30-0 0-10 10-20 20-30 30-0	

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MANEUVER SUMMARY, LONGITUDINAL & COLLECTIVE PULLUPS, POWER ON

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN	FLIGHT NO.	EVENT NO.	TAS, KTS.	H_D, FT	TYPE & LOAD FACTOR
PULLUP, 3000' H_D NOMINAL	20800	25 F	116	8	85	3478	L, 1.49
				9	83	3507	C, 1.61
				10	118	3806	L, 1.55
				11	129	3875	C, 1.45
		8 A	126	22	87	3638	L, 1.51
				23	85	3728	C, 1.07
				24	85	3805	C, 1.51
				35	127	3662	L, 1.61
			127	11	127	3554	L, 1.35
			138	20	127	2353	L, 1.50
				21	126	2583	C, 1.60
				28	95	2654	L, 1.42
				29	88	2718	C, 1.62
			177	36	141	2286	C, 1.61
	24300	15 F	119	27	62	3419	L, 1.26
				28	77	3327	L, 1.31
				29	72	3310	C, 1.47
				30	71	3326	C, 1.51
				37	113	3924	L, 1.41
				38	112	3913	C, 1.41
		6 F	142	36	114	3339	L, 1.30
				37	112	3325	C, 1.36
				38	116	3305	C, 1.44
				46	81	3232	L, 1.37
				47	79	3270	C, 1.50
PULLUP, 6000' H_D NOMINAL	20800	8 A	139	6	80	5812	L, 1.07
				7	90	5828	L, 1.30
				8	79	5939	L, 1.36
				9	81	5738	C, 1.07
				10	86	5762	C, 1.49
				17	117	6059	L, 1.18
				18	111	5990	C, 1.29
				19	112	5967	C, 1.44

MANEUVER SUMMARY, LONGITUDINAL & COLLECTIVE PULLUPS, CONT'D POWER ON

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN	FLIGHT NO.	EVENT NO.	TAS, KTS.	H_D, FT.	TYPE & LOAD FACTOR
PULLUP, ABOVE 6000' H_D	20800	25 F	115	34	69	14559	C, 1.05
				35	67	14615	C, 1.22
				36	75	14581	C, 1.24
				37	78	14675	C, 1.24
				38	71	14500	L, 1.17
				39	78	14609	L, 1.16
				40	82	14726	L, 1.19
		8 A	124	30	68	14096	L, 1.15
				31	76	14017	C, 1.24
				32	73	14012	C, 1.31
	24300	15 F	121	24	103	9488	L, 1.28
				25	97	9418	C, 1.32
				26	96	9452	C, 1.31
				35	60	9303	L, 1.16
				36	65	9431	C, 1.29
				37	64	9525	C, 1.31
		6 F	141	33	91	8436	L, 1.20
				34	88	8316	C, 1.21
				37	66	8145	L, 1.12
				38	58	8167	C, 1.28

THE BOEING COMPANY

PREPARED BY: R. Aiello
CHECKED BY:
DATE: 7/7/78

MANEUVER SUMMARY
POWER ON RIGHT TURN

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN	FLIGHT NO.	EVENT NO.	TAS, KTS.	H_D, FT.	BANK ANGLE, DEG.
R. TURN, 3000' H_D NOMINAL	20800	25 F	114	20	90	3777	34
				23	87	3717	45
				25	77	3704	57
			116	3	40	3510	30*
				5	52	3722	45*
				7	61	3574	60*
				13	132	3812	30*
				15	129	3847	30*
		8 A	126	17	63	3667	35
				19	59	3869	29
				21	47	4012	43
				26	90	3637	37
				28	80	3567	51
				30	80	3661	54
			138	17	137	2656	31
				19	129	2495	37
				30	94	2574	33
				33	95	2840	50
			139	43	42	3061	28
				45	43	3213	39
			151	10	122	2358	34
				12	123	2342	37
			177	29	101	2099	50
				31	93	2028	60
				32	55	2143	50
				34	144	2372	35
	24300	15 F	119	20	54	3732	33
				22	51	3671	32
				23	74	3533	32
				26	74	3365	43
				32	115	3867	33
				33	112	3949	34
		6 F	141	55	124	3124	22
			142	28	114	3240	31
				30	113	3160	36
				43	82	3000	34
				45	77	3043	44
				49	62	3152	32

*TARGET VALUES, ROLL ATTITUDE GYRO INOPERATIVE

MANEUVER SUMMARY
POWER ON RIGHT TURN, CONT'D

MANEUVER	NOMINAL G.W., LB.	NOMINAL C.G., IN	FLIGHT NO.	EVENT NO.	TAS, KTS.	H_D, FT.	BANK ANGLE, DEG.
R. TURN, 3000' H_D CONT'D	24300	6 F	167	11	84	2004	44
				13	85	1789	46
R. TURN, 6000' H_D NOMINAL	20800	8 A	139	2	81	6016	31
				4	77	5947	40
				12	41	6012	27
				15	109	6379	28
				16	111	6460	28
			151	18	116	6237	29
				20	99	6131	43
				29	116	6217	30
R. TURN, ABOVE 6000' H_D	20800	25 F	115	20	83	14713	12
				27	73	14028	28
		8 A	124	19	73	13850	12
				23	60	14142	21
	24300	15 F	121	19	96	9333	18
				34	67	9122	40
		6 F	141	27	93	8346	18
				35	61	8234	31

MANEUVER SUMMARY
POWER ON LEFT TURN

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN	FLIGHT NO.	EVENT NO.	TAS, KTS.	HD, FT.	BANK ANGLE, DEG.
LEFT TURN, 3000' HD NOMINAL	20800	25 F	114	21	88	3657	38
				22	90	3685	50
				24	89	3714	56
			116	2	40	3546	30*
				4	48	3651	45*
				6	40	3528	60*
				12	129	3737	30*
				14	129	3865	30*
		8 A	126	18	53	3644	39
				20	66	3979	46
				25	83	3628	33
				27	81	3631	45
				29	83	3634	58
			138	15	133	2680	NA
				16	133	2644	30
				18	126	2573	34
				31	91	2618	36
				32	92	2698	50
			139	42	41	2960	30
				44	46	3062	42
			151	9	111	2329	33
				11	122	2253	41
			177	28	89	2154	49
				30	89	2125	60
				33	54	2105	55
	24300	15 F	119	19	29	3621	35
				21	36	3789	47
				24	70	3439	36
				25	69	3386	46
				31	111	3740	30
				34	109	3820	37
		6 F	142	27	110	3418	30
				29	109	3233	35
				42	74	3062	31
				44	74	3184	48
				48	49	3010	31
				67	78	2448	18
				68	79	2430	28

*TARGET VALUES, ROLL ATTITUDE GYRO INOPERATIVE

MANEUVER SUMMARY
POWER ON LEFT TURN, CONT'D

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN	FLIGHT NO.	EVENT NO.	TAS, KTS.	H_D, FT.	BANK ANGLE, DEG.
LEFT TURN, 3000' H_D NOMINAL, CONT'D	24300	6 F	142	69	77	2393	50
				70	97	2656	22
				71	99	2708	27
				72	106	2762	38
				73	106	2743	44
				74	123	2981	16
				75	123	3017	20
				76	122	2981	30
				77	118	2940	44
			167	12	81	1870	45
LEFT TURN, 6000' NOMINAL H_D	20800	8 A	139	3	86	5955	31
				5	91	5681	39
				11	42	5928	27
				14	113	6271	23
			151	19	116	6203	31
				28	115	6225	35
			177	8	125	6190	29
				9	126	6086	30
LEFT TURN, ABOVE 6000' H_D	20800	25 F	115	25	82	13990	15
				26	73	13994	31
		8 A	124	20	69	13750	17
				24	59	14191	21
	24300	15 F	121	20	95	9489	30
				33	65	9015	38
		6 F	141	26	82	8332	15
				36	55	8049	28

MANEUVER SUMMARY, POWER ON CONTROL REVERSALS

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN.	FLIGHT NO.	EVENT NO.	TAS, KTS.	H_D, FT.
LATERAL REVERSAL, 3000' H_D NOMINAL	20800	25 F	116	18	132	3828
				22	141	3809
		8 A	126	31	128	3793
				32	129	3769
			138	22	141	2846
				25	140	2821
	24300	15 F	119	39	110	3896
				42	127	3863
		6 F	142	31	115	3300
				39	126	3188
LATERAL REVERSAL, 6000' H_D NOMINAL	20800	8 A	139	22	110	6060
				23	108	6081
LATERAL REVERSAL, ABOVE 6000' H_D	20800	25 F	115	30	84	14474
				31	89	14470
		8 A	124	25	71	14044
	24300	15 F	121	21	99	9544
				30	104	9373
		6 F	141	28	88	8341
LONG. REVERSAL, 3000' H_D NOMINAL	20800	25 F	116	19	129	3778
				20	130	3781
				23	144	3744
		8 A	126	33	129	3825
			138	23	140	2821
				26	132	2769
	24300	15 F	119	40	107	3871
				43	126	3864
				45	126	3893
		6 F	142	32	115	3310
				40	126	3180

MANEUVER SUMMARY
POWER ON CONTROL REVERSALS, CONT'D

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN.	FLIGHT NO.	EVENT NO.	TAS, KTS.	H_D, FT.
LONG. REVERSAL, 6000' H_D NOMINAL	20800	8 A	139	24	108	6070
LONG. REVERSAL, ABOVE 6000' H_D	20800	25 F	115	32	81	14498
		8 A	124	26	68	14073
	24300	15 F	121	22	98	9538
				31	110	9417
		6 F	141	29	87	8329
DIRECT. REVERSAL, 3000' H_D NOMINAL	20800	25 F	116	21	131	3763
				24	146	3706
		8 A	126	34	128	3846
			138	24	140	2822
				27	133	2768
	24300	15 F	119	41	109	3835
				44	127	3855
		6 F	142	34	115	3390
				41	132	3186
DIRECT. REVERSAL, 6000' H_D NOMINAL	20800	8 A	139	25	108	6074
				26	113	5974
				27	113	5954
DIRECT. REVERSAL, ABOVE 6000' H_D	20800	25 F	115	33	83	14525
		8 A	124	27	70	14099
	24300	15 F	121	23	97	9546
				32	107	9421
		6 F	141	30	87	8281

MANEUVER SUMMARY, SIDESLIPS

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN	FLIGHT NO.	EVENT NO.	TAS, KTS.	H_D, FT.	SIDE-SLIP *, DEG.
RIGHT SIDESLIP, 3000' H_D NOMINAL	20800	25 F	116	17	126	4040	N.A.
		8 A	138	14	139	2497	
	24300	15 F	119	36	115	3828	
		6 F	142	34	115	3390	12
RIGHT SIDESLIP, 6000' H_D NOMINAL	20800	8 A	139	21	117	6200	
RIGHT SIDESLIP, ABOVE 6000' H_D	20800	25 F	115	29	82	14194	N.A.
		8 A	124	29	71	14102	
	24300	15 F	121	29	96	9443	
		6 F	141	32	88	8365	8
LEFT SIDESLIP, 3000' H_D NOMINAL	20800	25 F	116	16	127	3929	N.A.
		8 A	138	13	127	2628	
	24300	15 F	119	35	106	3766	
		6 F	142	35	110	3408	9
LEFT SIDESLIP, 6000' H_D NOMINAL	20800	8A	139	20	111	6141	
LEFT SIDESLIP, ABOVE 6000' H_D	20800	25 F	115	28	84	14007	N.A.
		8 A	124	28	68	14096	
	24300	15 F	121	28	93	9448	
		6 F	141	31	83	8341	9

MANEUVER SUMMARY, PARTIAL POWER DESCENT

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN.	FLIGHT NO.	EVENT NO.	TAS, KTS.	H_D, FT.	RATE OF DESCENT, FPM ▷
P.P.D., STEADY	20800	25 F	115	21	71	14547	500
				22	73	14403	1000
				23	74	14095	1500
			116	25	113	3846	500
				26	116	3693	1000
				27	113	3432	1500
		8 A	124	33	62	14004	500
				34	63	13828	1000
				35	62	13542	1500
			127	7	107	5800	500
				8	111	5574	1000
				9	107	5258	1500
			139	28	106	6078	500
				29	110	5813	1000
				30	104	5400	1500
	24300	15 F	119	15	98	3860	500
				16	98	3626	1000
				17	103	3428	1500
			121	11	79	8935	300
				38	85	9080	500
				39	87	8754	1000
				40	80	8100	1500
		6 F	141	14	84	8597	500
				15	81	8385	1000
				16	84	8187	1500
			142	50	100	3275	500
				51	101	3090	1000
				52	101	2811	1500
P.P.D. RIGHT TURN (AUTOROTATION)	20800	25 F	115	43	79	12713	21
				53	69	4548	44
			116	31	134	4060	30
		8 A	124	38	69	13467	34
				72	69	7169	36
			139	33	107	5293	27
			177	17	89	5154	36

▷ BANK ANGLE SHOWN FOR TURNS

FORM 11180 (6/67)

MANEUVER SUMMARY, PARTIAL POWER DESCENT, CONT'D

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN	FLIGHT NO.	EVENT NO.	TAS, KTS	HD, FT.	BANK ANGLE, DEG. ▷
P.P.D. RIGHT TURN, CONT'D (AUTOROTATION)	24300	15 F	119	48	107	3326	40
			121	43	85	8963	40
				48	91	8393	28
				52	72	3642	59
		6 F	141	40	76	7894	33
				47	90	6368	31
			142	55	64	2963	40
				61	115	3748	35
P.P.D. LEFT TURN (AUTOROTATION)	20800	25 F	115	42	70	13350	15
				52	68	5564	48
			116	30	125	3032	30
		8 A	124	39	72	12636	39
				73	87	6434	50
			139	34	109	4674	36
			177	16	90	5928	29
	24300	15 F	119	47	115	3867	31
			121	42	86	10136	40
				47	96	9751	31
				51	78	4300	58
		6 F	141	41	90	7126	39
				46	105	7430	19
			142	54	78	3553	45
				62	89	3270	47
P.P.D. RECOVERY (AUTOROTATION PULLUP)	20800	25 F	115	24	71	13768	1.09
				58	58	2236	1.49
				59	64	3556	1.81
			116	28	113	3212	1.31
				36	132	3433	1.93
				37	126	2648	1.82
		8 A	124	36	55	13339	1.08
				77	70	4459	1.83
				78	74	3967	1.78
			166	3	157	3778	2.35
				4	159	3725	2.48

▷ LOAD FACTOR (G'S) SHOWN FOR P.P.D. RECOVERY

MANEUVER SUMMARY, PARTIAL POWER DESCENT, CONT'D

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN	FLIGHT NO.	EVENT NO.	TAS, KTS.	HD, FT.	LOAD FACTOR, G'S ▷
P.P.D. RECOVERY, CONT'D (AUTOROTATION PULLUP)	20800	8 A, CONT'D	138	36	101	1971	1.53
			139	35	105	4030	1.52
				36	101	3462	1.70
	24300	15 F	119	18	98	3248	1.24
				49	107	3869	1.48
				50	117	3538	1.80
			121	41	78	7875	1.16
				44	99	7649	1.61
				46	74	6812	1.59
				49	96	7376	1.45
				50	89	6913	1.64
				53	83	3011	1.91
				54	81	2722	1.74
		6 F	141	17	83	8028	1.15
				42	82	6196	1.52
				43	70	5601	1.63
				48	98	5687	1.42
				49	84	5297	1.50
			142	56	81	2060	1.53
				57	71	3086	1.69
				59	58	1694	1.36
				63	119	3749	1.44
				64	116	3358	1.74
				66	81	2313	1.50
SPIRAL DESCENT, STEADY	20800	8 A	124	79	80	3361	53 L
			139	41	114	4264	46 R
			177	18	75	4645	46 L
	24300	15 F	119	51	111	3024	48 L
			121	63	78	4410	65 L
		6 F	142	58	71	2892	52 L
				65	105	3153	48 R
CHANGE TO P.P.D., (FROM LEVEL FLT.)	20800	8 A	139	31	114	6464	
	24300	6 F	141	44	97	8536	

▷ BANK ANGLE & DIRECTION SHOWN FOR SPIRAL DESCENTS.

FORM 11180 (6/67)

MANEUVER SUMMARY, AUTOROTATION

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN	FLIGHT NO.	EVENT NO.	TAS KTS.	HD, FT.
AUTOROTATION, STEADY	20800	25 F	115	41	68	13572
				54	74	3774
			116	35	139	3769
		8 A	124	37	68	13703
				71	79	7404
			139	32	112	5531
			177	15	88	6237
	24300	15 F	119	46	108	4172
			121	45	89	7042
		6 F	141	39	71	8157
				45	101	7688
			142	53	78	3754
				60	122	3919

MANEUVER SUMMARY, POWER OFF CONTROL REVERSALS

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN	FLIGHT NO.	EVENT NO.	TAS, KTS.	H_D, FT.
LATERAL REVERSAL, 3000' H_D NOMINAL	20800	25 F	115 116	55 32	69 133	3209 2977
LATERAL REVERSAL, 6000' H_D NOMINAL	20800	8 A	124 139	74 37	75 104	5331 5359
LATERAL REVERSAL, ABOVE 6000' H_D	20800	25 F 8 A	115 124	44 40	72 79	11558 11533
LONG. REVERSAL, 3000' H_D NOMINAL	20800	25 F	116	33	133	2795
LONG. REVERSAL, 6000' H_D NOMINAL	20800	8 A	124 139	75 38	68 108	5132 5081
LONG. REVERSAL, ABOVE 6000' H_D	20800	25 F 8 A	115 124	45 41	74 76	11250 11313
DIRECT. REVERSAL, 3000' H_D NOMINAL	20800	25 F	115 116	57 34	67 129	2868 2611
DIRECT. REVERSAL, 6000' H_D NOMINAL	20800	8 A	124 139	76 39 40	64 109 110	4913 4861 4684
DIRECT. REVERSAL, ABOVE 6000' H_D	20800	25 F 8 A	115 124	46 42	75 77	11024 11186

FORM 11180 (6/67)

THE BOEING COMPANY

PREPARED BY: R. Aiello
CHECKED BY:
DATE: 7/7/78

MANEUVER SUMMARY, LANDING FLARE & VERTICAL DESCENT TO LANDING

MANEUVER	NOMINAL G.W., LB	NOMINAL C.G., IN	FLIGHT NO.	EVENT NO.	TAS, KTS	H_D, FT
FLARE, 2000' H_D NOM.	20800	25 F	115	61	94	1620
			116	38	94	1780
				39	48	1750
				40	75	1609
				41	40	1524
			161	9	120	942
		8 A	122	25	72	2000
				26	46	1863
				27	74	1800
			124	80	70	1613
			126	36	74	1876
			127	12	55	1268
			139	46	65	2662
				47	81	2034
				48	56	1900
				49	64	1916
			177	45	45	416
	24300	15 F	117	34	52	1764
				35	28	1757
				36	49	1733
			119	52	62	1916
			121	64	79	2062
		6 F	140	39	53	1260
				40	32	1347
				41	71	1275
				42	67	1251
VERTICAL DESCENT TO LANDING	20800	25 F	116	42	0	1557
		8 A	122	28	91	1818
				29	0	1708
	24300	15 F	117	37	0	1761
		6 F	140	44	0	1250

FORM 11180 (8/67)

LEVEL FLIGHT SUMMARY
24300 LB G.W., 0" C.G.

EXTERNAL CARGO, FLIGHT 143

CYCLIC TRIM	RPM	TARGET H_D, FT	FLIGHT CONDITION					
			HOVER	TRANSITION (5 TO 60 KTS)	60 KT. TO 70% V_{NE} (60 TO 90 KTS)	70% TO 90% V_{NE} (90 TO 115 KTS)	90% TO 96% V_{NE} (115 TO 125 KTS)	ABOVE 96% V_{NE} (> 125 KTS)
PROG.	264	2500	143-3	143-5,7,9	143-12,13,14, 16,28	143-17,18	143-19	
EXT. ▷	264	2500			143-29,30,31	143-32,33,34	143-36	

ADDITIONAL TEST RECORDS TAKEN ON FLIGHT 143 WITHOUT EXTERNAL LOAD;

GROSS WEIGHT ≅ 17,800 LB
CENTER OF GRAVITY = 0.20" FWD

EVENT	DESCRIPTION	TAS	H_D
1	HOVER	0	1370
47	LEVEL FLT	127	3079
48	" "	138	3019
49	" " (V_H)	147	3205
50	GUST SIMULATION	147	3203

▷ FULLY EXTENDED

MANEUVER SUMMARY — EXTERNAL CARGO, FLIGHT 143

24300 LB G.W., 0" C.G.

MANEUVER	EVENT NO.	TAS, KTS.	H_D, FT	BANK ANGLE, DEG.	RATE OF DESCENT, FPM	LOAD FACTOR, G's	
LOAD PICK-UP	2	0	1400				
	4	0	1400				
	45	0	0				
RT. CLIMBING TURN	10	60	1522	12			
MAX. POWER CLIMB	11	60	1698				
RIGHT TURN	15	84	2479	16			
	21	105	2892	17			
	22*	106	3390	9			
	27	112	2389	23			
	38	108	2529	21			
LEFT TURN	26	104	2372	18			
	35	105	2504	17			
PARTIAL POWER DESCENT	23	72	2568		500		
	24	76	2414		1000		
	25	70	2272		1500		
	39	73	2283		500		
	40	70	2031		1000		
	41*	71	1909		—	1.21	
FLARE TO HOVER	6	51	1384				
	8	59	1391				
	42	56	1476				
	43	50	1451				
SLOW DE-CEL.	20	120-100	3070				
	37	121-100	2498				
LOAD RELEASE	44	0	0				
	46	0	0				

*RECOVERY

3. TEST PROCEDURES

3.1 General

Testing was conducted in accordance with the requirements of Reference 1, Paragraph 4.3.2. The gross weights and centers of gravity investigated are:

Gross Weight	Center of Gravity	Comments
20,800 lb.	25"Fwd & 8" Aft	Internal Cargo
24,300 lb.	15"Fwd & 6" Fwd	Internal Cargo
24,300 lb.	0"	External Cargo

At the end of the external load flight the load was discarded and four level flight data records were obtained at 3000' H_d from 127 knots to V_H at a gross weight of 17,800 lbs. and cg of .20"Fwd.

Variations of gross weight during test are normally $\pm$500 lb. of target G.W. Figure 1 (in Section 2.0) shows the range of gross weight and c.g. experienced during the flight stress survey.

Section 2.0 of this volume presents a quick-look summary of all level flight testing and a detailed tabulated summary of maneuvers.

A complete description of the flight conditions investigated on each flight is presented in Section 3.2.

3.2 Log of Flights

This section presents a list of basic aircraft parameters for each flight in the stress survey. The parameters presented are explained below:

Symbol	Description
Event No.	All event nos. in this document are "batch event nos." and do not necessarily agree with pilot flight card event no., see 1 below
Man. Code	Maneuver Code. See next sheet for list.
IAS	Indicated Airspeed, Knots
TAS	True Airspeed, Knots
RPM	Rotor rpm
Hp	Pressure Altitude, Ft
Hd	Density Altitude, Ft
OAT	Outside Air Temperature, °C
FCYC	Forward Rotor Cyclic Trim Pos'n, Deg.
ACYC	Aft Rotor Cyclic Trim Pos'n, Deg.
RGW	Event Gross Weight, Lb
RCG	Event Center of Gravity, In.

1

In many instances, maneuvers were conducted in rapid sequence without re-triggering the event marker. A case in point is flight 115, "pilot" event 20, which includes four (4) partial power descent maneuvers which we wish to analyze separately. For batch processing of this data, four separate "batch event" numbers were assigned to "pilot event" 20. The conversions of pilot to batch event numbers for all flights (with edit times) are presented in Appendix A to this volume.

TEST MANEUVER CODES

CATEGORIES		DESCRIPTIVE TERMS	
01	Level Flight	01	Longitudinal
02	Hover	02	Longitudinal Fwd
03	Climb	03	Longitudinal Aft
04	Descent	04	Lateral
05	Partial Power Descent	05	Lateral Left
06	Autorotation	06	Lateral Right
07	Engine Start	07	Directional
08	Rotor Start	08	Directional Left
09	Rotor Shut Down	09	Directional Right
10	Ground Run	10	Collective
11	Taxi	11	Collective Up
12	Takeoff	12	Collective Down
13	Running Takeoff	13	Forward
14	Jump Takeoff	14	Aft
15	Sideward Flight	15	Left
16	Rearward	16	Right
17	Spot Turn	17	Up
18	Landing	18	Down
19	Acceleration	19	Entry
20	Deceleration	20	Recovery
21	Flare	21	Rearward
22	Landing Flare	22	Slow
23	Transition	23	Rapid
24	Quick Stop	24	Step
25	Service Ceiling Climb	25	Pulse
26	Turn	26	Reversal
27	Steep Climbing Turn	27	Force
28	Pull Up	28	Dual Engine
29	Symmetrical Pull Up	29	Single Engine
30	Rolling Pull Up	30	Sideslip or Yaw
31	Pushover	31	IGE
32	Dive	32	OGE
33	Control Input	33	Hover
34	Control Reversal	34	Level
35	Control Step	35	Climb
36	Control Pulse	36	Descent
37	Control Force	37	Autorotative
38	SAS Input	38	Single SAS
39	ASE Input	39	Dual SAS
40	Boost Failure	40	Gear Up
41	Engine Failure	41	Gear Down
42	SAS Failure	42	Wing Up
43	ASE Failure	43	Wing Down
44	Continuous Takeup of Load	44	Wing Xsition Dn to Up
45	Continuous Reduction of Load	45	Wing Xsition Up to Dn
46	Steady Pull of Load	46	SAS Off
47	Cable Release	47	60% VNE
48	Wing Control Failure	48	70% VNE
49	Flap Control Failure	49	90% VNE

(Continued)

CATEGORIES		DESCRIPTIVE TERMS	
50	Flaperon Control Failure	50	100% VNE
51	P.A.S.T. Failure	51	110% "
52	Sideslip	52	Mil Pwr
		53	V_H
		54	Exceed Vne

3.2 CONT'D CH-46 COMPOSITE BLADE FLIGHT STRESS SURVEY
BuNo. 153372 S/N 2268

LOG OF FLIGHTS

FLIGHT No.	NOMINAL G.W., LB	NOMINAL C.G., IN	FLIGHT DATE, 1977	COMMENTS
114	20800	25 FWD	8-2	
115	↓	↓	8-3	
116	↓	↓	8-3	
117	24300	15 FWD	8-4	
119	↓	↓	8-5	
121	↓	↓	8-8	
122	20800	8 AFT	8-9	
124	↓	↓	8-11	
126	↓	↓	8-11	
127	↓	↓	8-15	
128	↓	↓	8-18	
132	↓	↓	8-24	CYCLIC TRIM INVESTIGATION
133	↓	↓	8-25	↓
134	↓	↓	8-25	↓
135	↓	↓	8-26	↓
136	↓	↓	8-29	↓
137	↓	↓	8-29	
138	↓	↓	8-30	
139	↓	↓	8-30	
140	24300	6 FWD	8-31	
141	↓	↓	8-31	
142	↓	↓	9-1	
143	24300	0	9-2	EXTERNAL CARGO
151	20800	8 AFT	9-13	
161	↓	25 FWD	9-30	
162	↓	↓	10-3	
163	↓	↓	10-4	
166	↓	8 AFT	10-6	
167	24300	6 FWD	10-6	
177	20800	8 AFT	10-20	

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 114
TOGW 20800 TOCG 22.4 FWD FLIGHT DATE 08/02/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
1	1000	0	0	259	53	1034	23			21450	22.40
2	2310	0	0	264	37	1013	23			21310	23.00
3	3404	0	0	264	37	995	23			21240	23.30
4	3401	0	0	264	68	1041	23			21170	23.60
5	3407	0	0	265	54	1034	23			21100	24.00
6	1726	0	0	264	38	1014	23			21030	24.30
7	1726	0	0	264	40	1007	23			20960	24.60
9	0828	0	0	264	68	1141	24			21500	22.40
10	2313	36	37	264	97	1122	23			21450	22.60
11	2313	22	23	264	2768	3753	17			21400	22.80
12	2313	54	57	265	2814	3809	18			21350	23.00
13	0148	79	83	263	2669	3703	18			21270	23.30
14	0149	108	114	264	2634	3781	19			21250	23.40
15	0150	122	129	264	2784	3961	19			21200	23.60
16	0150	132	140	264	2702	3895	19			21050	24.20
17	0154	145	152	264	2280	3529	21			21000	24.30
18	0154	151	159	264	1977	3296	22			20950	24.50
19	3220	141	148	264	1744	2980	22			20925	24.60
20	2616	85	90	264	2718	3777	18			20900	27.70
21	2615	83	83	263	2588	3657	19			20850	24.90
22	2615	85	90	264	2618	3685	19			20840	24.90
23	2616	83	87	261	2652	3717	18			20830	24.90
24	2615	84	89	264	2649	3714	18			20800	25.00
25	2616	72	77	263	2650	3704	19			20800	25.00

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 115
TOGW 20800 TOCG 22.4 FWD FLIGHT DATE 08/02/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
1	2313	13	13	264	20	1500	27			21500	22.40
2	0300	82	85	264	1041	2377	24			21475	22.50
3	0300	78	82	264	2247	3444	20			21450	22.60
4	0300	78	83	264	3041	4159	18			21425	22.70
5	0300	69	74	264	4175	5165	15			21400	22.80
6	0300	69	77	264	5300	6481	14			21375	22.90
7	0300	78	87	264	6405	7505	11			21350	23.00
9	0300	77	90	262	8369	9767	10			21300	23.20
10	0300	69	81	259	8389	10952	10			21275	23.30
11	0300	68	82	263	10336	11872	7			21250	23.40
12	0300	69	84	264	11038	12528	6			21225	23.50
13	0300	67	83	264	12058	13650	4			21210	23.60
14	0150	65	81	264	12729	14250	3			21200	23.60
15	0149	59	73	264	12752	14226	2			21150	23.80
16	0148	39	49	264	13035	14431	1			21100	24.10
17	2313	28	35	264	13145	14540	1			21050	24.20
18	0150	68	85	264	13093	14563	1			21000	24.30
19	0154	70	88	264	13144	14648	2			21000	24.30
20	2616	66	83	264	13258	14713	1			20950	24.50
21	0500	57	71	264	13101	14547	1			20970	24.40
22	0500	58	73	265	12969	14403	1			20950	24.50
23	0500	60	74	265	12702	14095	1			20930	24.60
24	0520	58	71	260	12355	13768	2			20910	24.70
25	2615	66	82	264	12552	13990	2			20900	24.70
26	2615	59	73	264	12577	13994	2			20900	24.70
27	2616	59	73	263	12576	14028	2			20850	24.90
28	5215	68	84	264	12544	14007	2			20825	25.00
29	5216	66	82	264	12705	14194	2			20800	25.00
30	3404	67	84	264	13012	14474	1			20790	25.00
31	3404	71	89	264	13010	14471	1			20785	25.10
32	3401	65	81	264	13061	14498	1			20780	25.10
33	3407	67	83	264	13062	14525	1			20770	25.20
34	2810	55	69	268	13125	14559	1			20750	25.30
35	2810	54	67	266	13171	14615	1			20750	25.30
36	2810	60	75	267	13143	14581	1			20750	25.30
37	2810	62	78	269	13213	14675	1			20750	25.30
38	2801	57	71	264	13104	14560	1			20750	25.30
39	2801	62	78	264	13145	14609	1			20700	25.50
40	2801	64	82	264	13298	14726	1			20650	25.70
41	0600	56	68	277	12116	13572	3			20600	25.90
42	2637	57	70	272	11884	13351	4			20580	25.90
43	2637	65	79	270	11205	12713	5			20560	26.00
44	0604	60	72	273	10072	11558	7			20540	26.00
45	0601	62	74	279	9770	11250	8			20520	26.10
46	0607	63	75	268	9549	11024	8			20510	26.10
47	0232	22	24	264	5139	6239	14			20500	26.20
48	3404	22	24	264	5140	6249	14			20490	26.20

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 115
TOGW 20800 TOCG 22.4 FWD FLIGHT DATE 08/02/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
49	3404	23	25	263	5154	6257	14			20480	26.30
50	3401	24	27	264	5138	6228	14			20470	26.30
51	3407	35	39	263	5157	6243	14			20460	26.40
52	2637	63	68	273	4501	5564	15			20450	26.40
53	2637	65	69	265	3672	4548	15			20430	26.40
54	0600	70	74	266	2831	3776	17			20420	26.50
55	0604	66	69	277	2186	3209	19			20400	26.60
56	0601	66	69	273	1980	3028	20			20395	26.60
57	0607	64	67	273	1812	2868	20			20390	26.60
58	2837	56	58	293	1100	2236	22			20385	26.70
59	2837	61	64	278	2364	3356	18			20380	26.70
60	0150	131	137	264	1713	3075	23			20320	27.00
61	2200	92	94	265	111	1620	27			20250	27.20

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 116
TOGW 20800 TOCG 22.4 FWD FLIGHT DATE 08/02/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	2615	38	40	264	2439	3546	19			21450	22.70
3	2616	38	40	265	2395	3510	19			21425	22.80
4	2615	41	48	263	2539	3651	19			21400	22.80
5	2616	50	52	263	2604	3722	19			21380	22.90
6	2615	38	40	264	2395	3528	20			21350	23.00
7	2616	58	61	263	2440	3574	20			21300	23.20
8	2801	81	85	263	2347	3478	20			21300	23.20
9	2810	79	83	265	2364	3507	20			21250	23.40
10	2801	111	118	265	2571	3806	20			21230	23.40
11	2810	122	129	271	2634	3875	20			21215	23.50
12	2615	122	129	264	2492	3737	20			21200	23.60
13	2616	124	132	264	2554	3812	20			21180	23.70
14	2615	122	129	264	2619	3865	20			21170	23.70
15	2616	122	129	264	2618	3847	20			21150	23.80
16	5215	120	127	264	2686	3929	20			21125	23.90
17	5216	119	126	263	2817	4040	20			21110	24.00
18	3404	124	132	263	2552	3828	20			21100	24.00
19	3401	122	129	264	2526	3778	20			21080	24.10
20	3401	123	130	264	2521	3781	20			21070	24.10
21	3407	123	131	265	2506	3763	20			21060	24.20
22	3404	133	141	264	2522	3809	21			21050	24.20
23	3401	137	144	264	2441	3744	21			21035	24.20
24	3407	138	146	263	2395	3706	21			21020	24.30
25	0500	107	113	263	2669	3846	19			21000	24.30
26	0500	110	116	265	2508	3693	20			20990	24.30
27	0500	108	113	265	2215	3432	21			20980	24.40
28	0520	108	113	262	1970	3212	21			20975	24.40
29	0232	21	22	265	2409	3608	20			20970	24.40
30	2637	120	125	287	1728	3032	22			20940	24.50
31	2637	126	134	272	2800	4060	20			20910	24.60
32	0604	127	133	265	1633	2977	23			20880	24.70
33	0601	127	133	268	1397	2795	24			20850	24.80
34	0607	124	129	263	1197	2611	24			20820	24.90
35	0600	132	139	268	2461	3769	21			20790	25.00
36	2837	126	132	258	2121	3433	22			20760	25.10
37	2837	121	126	265	1255	2648	24			20730	25.20
38	2200	92	94	264	278	1780	27			20700	25.40
39	2200	47	48	266	340	1750	26			20620	25.70
40	2200	73	75	268	131	1609	27			20540	26.00
41	2200	39	40	263	83	1524	27			20450	26.40
42	1823	0	0	269	53	1557	27			20410	26.50

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 117
TOGW 24300 TOCG 13.2 FWD FLIGHT DATE 08/04/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
1	1000	0	0	265	-19	1758	30			25000	13.20
2	0231	0	0	264	-47	1717	30			24973	13.20
17	1400	0	0	264	-63	1707	30			24557	14.50
18	0231	13	13	265	-20	1785	30			24514	14.60
19	3404	11	11	264	-6	1785	30			24471	14.70
20	3401	8	8	264	-13	1777	30			24428	14.80
21	1726	0	0	264	-33	1743	30			24386	15.10
23	1115	0	0	264	-8	1826	31			24300	15.30
24	1116	0	0	264	-30	1808	31			24213	15.50
25	1115	0	0	264	-19	1821	31			24125	15.70
26	1100	0	0	264	-21	1811	31			24308	16.00
27	1116	0	0	264	-21	1837	31			23950	16.30
28	1516	35	35	264	-19	1804	30			23920	16.40
29	1520	35	35	267	9	1759	30			23890	16.50
30	1515	35	35	264	-6	1802	30			23860	16.60
32	1600	30	30	264	-35	1776	30			23800	16.80
33	1620	30	30	265	-48	1725	30			23700	17.00
34	2200	50	52	265	70	1764	29			23682	17.10
35	2200	27	28	263	85	1757	29			23663	17.20
36	2200	48	49	267	-6	1733	30			23645	17.20
37	1823	0	0	271	-26	1761	30			23626	17.30

EVENTS 3 TO 16 & 38 TO 50 ARE MECHANICAL INSTABILITY TESTING.

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 119
TOGW 24300 TOCG 13.2 FWD FLIGHT DATE 08/05/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	BAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	2313	59	60	264	71	1996	31			24800	13.60
3	0148	78	82	264	1841	3518	25			24775	13.90
5	0149	98	104	264	1952	3738	26			24735	14.00
6	0150	107	114	264	2204	3953	25			24720	14.00
7	0150	117	124	264	2296	4057	25			24700	14.10
8	0154	125	132	264	1999	3825	26			24680	14.20
9	0148	67	71	264	2032	3725	25			24660	14.20
10	2313	55	58	264	2079	3722	25			24650	14.20
11	2313	46	49	264	2189	3813	24			24640	14.30
12	2313	39	41	264	2510	4090	23			24625	14.30
13	2313	28	30	264	2640	4192	23			24600	14.40
15	0500	93	98	265	2142	3860	25			24400	15.00
16	0500	92	98	264	1900	3626	26			24400	15.00
17	0500	98	103	267	1667	3428	27			24400	15.00
18	0520	93	98	264	1447	3248	27			24400	15.00
19	2615	28	29	264	1975	3621	25			24350	15.10
20	2616	51	54	264	2095	3732	25			24325	15.20
21	2615	34	36	264	2127	3789	25			24300	15.30
22	2616	48	51	263	2030	3671	25			24300	15.30
23	2616	70	74	264	1810	3533	26			24275	15.40
24	2615	67	70	265	1699	3439	26			24275	15.40
25	2615	66	69	264	1675	3386	26			24225	15.50
26	2616	70	74	263	1651	3365	26			24225	15.50
27	2801	59	62	264	1680	3419	26			24200	15.60
28	2801	74	77	264	1613	3327	26			24200	15.60
29	2810	68	72	271	1606	3310	26			24150	15.70
30	2810	68	71	265	1604	3326	26			24150	15.70
31	2615	105	111	265	1951	3740	26			24100	15.80
32	2616	109	115	264	2076	3867	26			24100	15.80
33	2616	106	112	264	2144	3949	26			24075	15.90
34	2615	103	109	265	2031	3820	26			24050	16.00
35	5215	101	106	264	1951	3766	26			24025	16.10
36	5216	109	115	264	2016	3828	26			24025	16.10
37	2801	107	113	267	2144	3924	26			23975	16.20
38	2810	106	112	268	2143	3913	26			23950	16.30
39	3404	104	110	263	2143	3896	26			23925	16.40
40	3401	101	107	264	2122	3871	26			23900	16.50
41	3407	103	109	264	2093	3835	26			23900	16.50
42	3404	119	127	264	2045	3863	26			23850	16.60
43	3401	120	126	264	2035	3864	26			23850	16.60
44	3407	119	127	265	2031	3855	26			23850	16.60
45	3401	119	126	264	2062	3893	26			23850	16.60
46	0600	101	108	286	2462	4172	25			23800	16.70
47	2637	108	115	274	2126	3867	25			23800	16.70
48	2637	102	107	267	1526	3326	27			23800	16.70
49	2837	101	107	267	2128	3869	25			23750	16.90
50	2837	111	117	271	1749	3538	27			23750	16.90

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 119
TOGW 24300 TOCG 13.2 FWD FLIGHT DATE 08/05/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
51	0423	106	111	281	1186	3024	28			23750	16.90
52	2200	58	62	264	84	1916	30			23700	17.00

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 121
TOGW 24300 TOCG 13.4 FWD FLIGHT DATE 08/08/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	0231	0	0	265	156	1974	30			24900	13.50
3	2313	0	0	264	188	1941	29			24880	13.50
4	0300	82	86	264	1606	3163	25			24870	13.60
5	0300	76	81	264	2514	3968	22			24800	13.80
6	0300	72	77	264	3451	4843	20			24780	13.80
7	0300	70	77	264	4704	6294	19			24760	13.90
8	0300	63	70	263	5670	7224	17			24730	14.00
9	0300	64	72	264	6664	8223	15			24710	14.10
10	0100	69	79	264	7409	9047	14			24700	14.10
11	0500	69	79	264	7233	8935	15			24680	14.10
12	0150	84	96	265	7273	9108	16			24650	14.20
13	0154	97	111	264	7468	9390	17			24600	14.40
14	0154	97	112	264	7452	9459	17			24550	14.50
15	0149	70	81	264	7568	9556	17			24500	14.70
16	0149	59	69	264	7610	9563	17			24480	14.70
17	0148	54	62	264	7551	9482	16			24460	14.80
18	2313	39	45	264	7712	9661	16			24450	14.80
19	2616	84	96	263	7335	9333	18			24260	15.40
20	2615	82	95	264	7470	9489	17			24240	15.50
21	3404	85	99	264	7565	9544	17			24200	15.60
22	3401	85	98	264	7567	9538	17			24200	15.60
23	3407	84	97	265	7567	9546	17			24200	15.60
24	2801	89	103	264	7512	9488	17			24170	15.70
25	2810	84	97	264	7469	9418	17			24150	15.70
26	2810	83	96	263	7490	9452	17			24150	15.70
28	5215	81	93	264	7480	9448	17			24100	15.80
29	5216	83	96	264	7490	9443	17			24100	15.80
30	3404	90	104	264	7512	9373	16			24050	16.00
31	3401	95	110	264	7512	9417	16			24050	16.00
32	3407	93	107	263	7508	9421	16			24050	16.00
33	2615	57	65	264	7270	9015	15			24025	16.10
34	2616	58	67	264	7350	9122	15			24025	16.10
35	2801	52	60	264	7492	9303	16			24000	16.20
36	2810	57	65	264	7567	9431	16			23980	16.20
37	2810	55	64	267	7630	9525	16			23980	16.20
38	0500	74	85	264	7272	9080	16			23950	16.30
39	0500	76	87	265	6997	8754	16			23950	16.30
40	0500	71	80	264	6549	8100	15			23950	16.30
41	0520	69	78	258	6357	7875	15			23950	16.30
42	2637	74	86	268	8153	10136	16			23900	16.40
43	2637	74	85	277	7154	8963	16			23900	16.40
44	2837	88	99	284	6077	7649	16			23900	16.40
45	0600	80	89	272	5544	7042	17			23900	16.40
46	2837	67	74	261	5334	6812	17			23900	16.40
47	2637	83	96	278	7794	9751	16			23825	16.70
48	2637	81	91	276	6782	8393	15			23825	16.70
49	2837	86	96	280	5839	7376	16			23825	16.70

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 121
TOGW 24300 TOCG 13.4 FWD FLIGHT DATE 08/08/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
50	2837	80	89	267	5350	6913	18			23825	16.70
51	2637	73	78	269	2910	4299	21			23750	16.90
52	2637	69	72	269	2211	3642	23			23750	16.90
53	2837	79	83	268	1547	3011	24			23750	16.90
54	2837	78	81	274	1194	2722	25			23750	16.90
56	0100	83	87	265	2191	3680	23			23625	17.30
57	0148	93	98	264	2125	3653	24			23610	17.30
59	0150	117	124	264	2176	3806	24			23560	17.40
60	0154	124	132	264	2160	3812	25			23525	17.50
61	0154	134	142	264	2055	3712	25			23500	17.60
62	0154	135	142	264	2089	3780	25			23480	17.70
63	0423	73	78	272	2979	4410	21			23450	17.80
64	2200	77	79	265	286	2062	29			23350	18.10

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 122
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 08/09/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	1515	10		264	100	1779	29			21150	-8.90
3	1905	15		264	99	1804	29			21150	-8.90
4	1515	20		264	149	1892	29			21150	-8.90
5	1905	25		264	130	1929	30			21150	-8.90
6	1515	30		264	123	1825	29			21150	-8.90
7	1905	33		264	129	1815	29			21150	-8.90
8	1515	35		264	129	1797	29			21150	-8.90
9	1520	0	0	264	136	1771	28			21100	-8.80
10	1516	10		264	113	1752	29			21050	-8.70
11	1906	15	17	264	129	1788	29			21050	-8.70
12	1516	20		264	129	1814	29			21050	-8.70
13	1906	25		264	129	1797	29			21050	-8.70
14	1516	30	14	264	144	1797	29			21025	-8.70
15	1906	33	14	264	130	1798	29			21025	-8.70
16	1516	35	20	264	130	1807	29			21025	-8.70
17	1520	18	19	264	128	1796	29			21000	-8.60
18	1600	10		264	93	1753	29			20950	-8.50
19	1921	15	8	264	114	1813	29			20950	-8.50
20	1600	20	14	264	99	1725	28			20950	-8.50
21	1921	25		264	86	1726	29			20950	-8.50
22	1600	30	13	264	143	1788	29			20925	-8.40
23	1620	29	30	264	161	1810	29			20900	-8.30
24	1923	13	13	264	101	1745	29			20900	-8.30
25	2200	70	72	264	445	1939	27			20850	-8.20
26	2200	44	46	264	327	1863	27			20825	-8.20
27	2200	72	74	264	218	1801	28			20800	-8.10
28	1813	89	91	264	161	1818	29			20725	-7.90
29	1823	0	0	264	99	1708	28			20700	-7.90
30	1400	15	16	264	82	1704	28			20650	-7.80
31	0231	0	0	264	101	1745	29			20625	-7.70
32	1715	0	0	264	85	1725	29			20600	-7.60
33	1716	0	0	264	87	1727	29			20575	-7.60
34	3404	9	10	264	115	1788	29			20550	-7.50
35	3404	0	0	264	86	1761	29			20550	-7.50
36	3401	0	0	264	101	1762	29			20550	-7.50
37	3401	0	0	264	99	1778	29			20550	-7.50
38	1726	0	0	264	99	1743	29			20525	-7.50
39	1726	0	0	264	98	1751	29			20525	-7.50
40	1122	0	0	264	100	1780	29			20500	-7.40
41	1122	0	0	264	101	1763	29			20500	-7.40
42	1116	0	0	264	100	1735	29			20500	-7.40
43	1123	0	0	264	130	1824	29			20475	-7.30
44	1116	0	0	264	116	1807	29			20475	-7.30
45	1115	0	0	264	116	1807	29			20475	-7.30

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 124
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 08/11/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	2313	0	0	264	25	1461	27			21430	-9.60
3	0300	72	76	264	2493	3817	21			21390	-9.50
4	0300	62	66	267	3360	4753	20			21350	-9.40
5	0300	65	71	264	4377	5767	18			21340	-9.40
6	0300	67	74	264	5235	6631	16			21330	-9.40
7	0300	59	66	264	6303	7698	14			21310	-9.30
8	0300	67	76	264	7244	8646	12			21300	-9.30
9	0300	64	75	264	8284	9847	12			21300	-9.30
10	0300	55	65	264	9285	10868	10			21270	-9.20
11	0300	55	76	264	10209	11784	8			21250	-9.20
12	0300	52	63	264	11180	12734	6			21230	-9.10
13	0300	54	67	264	12111	13634	4			21220	-9.10
14	0300	51	63	264	12616	14083	2			21200	-9.00
15	0149	51	64	264	12615	14083	2			21120	-9.00
16	0149	58	73	264	12565	14040	2			21150	-8.90
17	0150	67	84	264	12613	14115	3			21140	-8.90
18	0154	74	92	264	12553	14043	3			21100	-8.80
19	2616	59	73	264	12367	13851	3			21080	-8.80
20	2615	56	69	264	12285	13750	3			21060	-8.70
21	0148	39	48	264	12481	13902	2			21050	-8.70
22	2313	26	32	264	12747	14113	1			21000	-8.60
23	2616	48	60	264	12721	14142	2			20970	-8.50
24	2615	48	59	264	12790	14191	1			20950	-8.40
25	3404	57	71	264	12634	14044	2			20900	-8.30
26	3401	55	68	264	12657	14073	2			20900	-8.30
27	3407	56	70	264	12678	14099	2			20900	-8.30
28	0030	55	68	264	12676	14096	2			20875	-8.30
29	0030	57	71	264	12666	14102	2			20875	-8.30
30	2801	54	68	264	12676	14096	2			20870	-8.30
31	2810	61	76	264	12568	14017	2			20860	-8.30
32	2810	59	73	264	12564	14012	2			20860	-8.30
33	0500	50	62	264	12615	14004	2			20850	-8.20
34	0500	51	63	264	12435	13828	2			20850	-8.20
35	0500	50	62	264	12161	13542	2			20850	-8.20
36	0520	45	55	264	11962	13339	3			20850	-8.20
37	0600	55	68	298	12333	13703	2			20800	-8.10
38	2637	56	69	298	12089	13467	3			20800	-8.10
39	2637	60	72	298	11222	12636	5			20800	-8.10
40	0604	67	79	298	10046	11533	8			20800	-8.10
41	0601	64	76	298	9823	11313	8			20800	-8.10
42	0607	65	77	298	9682	11186	8			20800	-8.10
43	0148	67	74	264	4989	6375	17			20800	-8.10
44	0149	98	108	264	4956	6449	18			20750	-8.10
45	0150	108	119	264	4969	6500	18			20730	-8.00
46	0150	113	124	264	4975	6524	18			20700	-7.90
47	0150	119	132	264	4911	6491	19			20670	-7.80
48	0150	126	138	264	4936	6547	19			20650	-7.80

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 124
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 08/11/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
49	0154	129	142	264	4837	6453	19			20620	-7.70
50	0154	135	148	264	4645	6228	19			20600	-7.60
51	0154	137	150	264	4336	5955	20			20570	-7.60
52	2313	45	49	264	5113	6473	16			20570	-7.60
53	2313	28	31	264	5041	6359	16			20560	-7.50
54	0232	24	27	264	5057	6458	17			20550	-7.50
55	3404	23	26	264	5162	6612	17			20540	-7.50
56	3401	16	18	264	5217	6662	17			20540	-7.50
57	3407	25	27	264	5250	6703	17			20540	-7.50
58	0100	7	7	248	5288	6669	16			20520	-7.40
59	0100	50	55	248	5269	6654	16			20470	-7.30
60	0100	74	82	248	5145	6574	17			20450	-7.30
61	0100	94	104	248	5126	6603	17			20400	-7.20
62	0100	93	102	248	5040	6498	17			20370	-7.10
63	0100	124	137	248	4905	6535	19			20365	-7.10
64	0114	70	77	264	4921	6335	18			20350	-7.10
65	0114	88	97	264	4887	6346	18			20340	-7.00
66	0114	97	107	264	4781	6261	18			20330	-7.00
67	0114	109	120	264	4799	6319	18			20320	-7.00
68	0114	114	125	264	4817	6366	18			20310	-7.00
69	0114	117	128	264	4902	6471	18			20290	-6.90
70	0114	124	136	264	4918	6508	19			20260	-6.80
71	0600	70	79	298	5997	7404	15			20200	-6.70
72	2637	62	69	298	5769	7169	15			20200	-6.70
73	2637	79	87	298	5023	6434	17			20200	-6.70
74	0604	70	75	298	3948	5331	19			20200	-6.70
75	0601	63	68	298	3792	5132	19			20200	-6.70
76	0607	60	64	298	3592	4913	19			20200	-6.70
77	2837	65	70	298	3171	4459	19			20200	-6.70
78	2837	70	74	298	2688	3967	20			20200	-6.70
79	0423	76	80	298	2143	3361	21			20200	-6.70
80	2200	68	70	264	113	1613	27			20060	-6.40

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 126
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 08/11/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	SAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	2313	35	37	264	69	1376	30			21450	-9.60
4	3404	9	10	264	2112	3554	23			21400	-9.50
5	3404	13	14	264	2098	3537	23			21400	-9.50
6	3401	14	15	264	2095	3542	23			21400	-9.50
7	3407	11	11	265	2112	3537	23			21400	-9.50
8	2313	27	29	264	2254	3675	22			21350	-9.40
9	0148	65	68	264	2366	3705	21			21300	-9.30
10	0148	78	83	263	2365	3722	22			21250	-9.20
11	0149	106	112	264	2399	3852	22			21150	-8.90
12	0149	120	127	264	2255	3835	24			21050	-8.70
13	0150	136	144	264	2193	3794	24			21000	-8.60
14	0150	138	146	264	1920	3548	25			20960	-8.50
15	0150	141	149	264	1966	3604	25			20920	-8.40
16	0150	142	149	264	1447	3137	26			20875	-8.30
17	2616	60	63	263	2284	3667	22			20875	-8.30
18	2615	50	53	264	2309	3644	22			20850	-8.30
19	2616	56	59	263	2543	3869	21			20850	-8.30
20	2615	62	66	264	2625	3979	21			20825	-8.20
21	2616	44	47	263	2675	4012	21			20825	-8.20
22	2801	82	87	264	2224	3638	22			20800	-8.20
23	2810	80	85	269	2320	3728	22			20800	-8.20
24	2810	80	85	266	2397	3805	22			20800	-8.20
25	2615	78	83	264	2209	3628	22			20775	-8.10
26	2616	86	90	264	2209	3637	23			20775	-8.10
27	2615	76	81	264	2226	3631	22			20775	-8.10
28	2616	76	80	264	2173	3567	22			20775	-8.10
29	2615	78	83	266	2240	3634	22			20750	-8.00
30	2616	76	80	264	2272	3661	22			20750	-8.00
31	3404	121	128	264	2243	3793	24			20700	-7.90
32	3404	122	129	264	2223	3769	24			20700	-7.90
33	3401	122	129	265	2254	3825	24			20700	-7.90
34	3407	121	128	265	2286	3846	24			20700	-7.90
35	2801	120	127	270	2128	3662	24			20575	-7.60
36	1813	72	74	264	164	1876	29			20450	-7.30

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 127
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 08/15/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	0148	72	79	265	5091	6210	14			21306	-9.30
3	0114	88	96	264	5127	6308	15			21289	-9.30
4	0114	93	102	265	5219	6403	14			21273	-9.30
5	0149	103	113	264	4986	6233	15			21246	-9.20
6	0150	110	121	265	5019	6247	15			21238	-9.10
7	0500	98	107	265	4669	5800	15			21222	-9.10
8	0500	102	111	263	4418	5574	16			21219	-9.10
9	0500	99	107	265	4111	5258	16			21219	-9.10
10	0125	127	134	264	2827	4016	19			21160	-9.00
11	2801	121	127	268	2348	3554	20			21130	-8.90
12	2200	54	55	264	9	1268	25			20961	-8.50

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 128
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 08/18/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	0148	85	88	264	1318	2133	19			21130	-8.90
4	0149	114	118	264	1380	2273	19			21063	-8.70
5	0150	127	132	264	1428	2376	20			21031	-8.70
6	3334	129	134	264	1539	2494	20			21004	-8.60
7	0150	136	142	264	1603	2581	20			20960	-8.50
8	0150	139	145	264	1664	2648	20			20925	-8.40
9	3334	138	143	264	1602	2581	20			20906	-8.30
10	0154	147	152	264	1197	2263	21			20874	-8.30
11	0113	138	143	264	1318	2332	21			20815	-8.20
12	3334	137	142	265	1269	2271	21			20799	-8.10
13	0150	129	134	264	1738	2640	19			20388	-7.20
14	0150	139	143	264	1116	2128	21			20288	-6.90

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 132
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 08/24/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
3	0100	6	6	264	235	1515	25	-2.80	-2.80	21464	-9.70
4	0200	12	12	264	253	1537	25	-2.80	-1.70	21453	-9.70
5	0200	0	0	264	247	1538	25	-2.80	-1.00	21445	-9.60
6	0200	4	4	264	269	1547	25	-2.80	.40	21434	-9.60
7	0100	57	59	264	1246	2433	22	-2.70	-2.70	21401	-9.60
8	0100	51	53	264	1216	2387	22	-2.70	-1.70	21380	-9.50
9	0100	57	59	264	1151	2361	23	-2.70	-.90	21338	-9.40
10	0100	56	58	264	1149	2359	23	-2.70	.40	21338	-9.40
11	0100	79	81	264	1105	2358	23	-2.70	1.00	21319	-9.40
12	0100	77	80	264	1122	2370	23	-2.60		21303	-9.30
13	0100	75	77	264	1092	2342	23	-2.60	-.90	21297	-9.30
14	0100	80	83	264	1112	2384	23	-2.60	-1.80	21286	-9.30
15	0100	78	81	264	1061	2340	23	-2.60	-2.80	21278	-9.30
16	0100	98	101	264	1134	2430	23	-1.50	-.90	21207	-9.10

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 133
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 08/25/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	0200	19	19	264	-67	11	15	-2.80	-2.40	21435	-9.60
3	0200	20	20	264	-38	74	16	-2.80	-1.80	21391	-9.50
4	0200	0	0	264	-79	5	15	-2.80	-.90	21364	-9.40
5	0200	0	0	264	-80	4	15	-2.80	.20	21342	-9.40
6	0100	58	59	264	1729	1763	11	-2.70	-2.30	21238	-9.20
7	0100	55	57	264	1747	1980	13	-2.70	-1.80	21211	-9.10
8	0100	54	56	264	1746	1988	13	-2.70	-.90	21200	-9.10
9	0100	55	57	264	1761	1998	13	-2.70	.30	21189	-9.00
10	0100	98	101	264	1873	2191	14	-1.70	-.80	21143	-9.00
11	0100	96	99	264	1916	2216	13	-1.80	.10	21121	-8.90
12	0100	95	98	264	1934	2229	13	-1.80	1.00	21102	-8.90
13	0100	99	102	264	1855	2160	13	-1.60	1.80	21069	-8.70
14	0100	125	129	264	1886	2280	14	1.20	1.90	21014	-8.50
15	3334	126	130	264	1824	2231	14	1.20	1.80	20971	-8.40
16	0100	127	131	264	1931	2345	14	1.20	2.40	20927	-8.30
17	3334	123	128	264	2014	2420	14	1.00	2.50	20905	-8.20
18	0100	125	129	264	1998	2410	14	1.20	3.40	20851	-8.20
19	3334	125	129	264	1919	2348	14	1.10	3.30	20812	-8.00
20	0153	135	140	264	1899	2370	15	1.90	1.80	20747	-8.00
21	3301	137	142	264	1870	2336	15	1.90	1.70	20725	-8.00
22	3304	135	140	264	1968	2418	14	1.90	1.80	20709	-7.90
23	0153	136	141	264	1996	2434	14	1.90	2.30	20668	-7.80
24	3301	136	141	264	2029	2482	14	1.90	2.30	20630	-7.70
25	0153	137	141	264	1806	2225	15	1.90	3.40	20570	-7.60
26	3334	136	141	264	1854	2306	15	1.90	3.40	20567	-7.50
27	0153	137	142	264	1951	2415	15	1.90	2.30	20504	-7.40
28	0153	139	144	264	2015	2476	14	1.90	1.00	20466	-7.40
29	0100	52	57	264	5529	6225	10	-2.70	-2.40	20379	-7.20
30	0100	53	59	264	5521	6225	10	-2.70	-2.40	20373	-7.20
31	0100	53	58	264	5530	6290	10	-2.70	-1.80	20340	-7.10
32	0100	54	59	264	5495	6255	10	-2.70	-.90	20324	-7.00
33	0100	51	56	264	5528	6278	10	-2.70	.30	20305	-7.00
34	0100	72	79	264	5300	6025	10	-2.70	1.20	20264	-6.90
35	0100	70	77	264	5250	5981	10	-2.70	.30	20242	-6.80
36	0100	74	81	264	5511	6284	10	-2.70	-.90	20201	-6.70
37	0100	71	78	264	5510	6265	10	-2.70	-1.90	20182	-6.70
38	0100	73	80	264	5444	6183	10	-2.70	-2.70	20160	-6.60
39	0100	91	100	264	5443	6237	11	-.90	-1.00	20128	-6.60
40	0100	89	98	264	5403	6170	10	-.90	.10	20100	-6.50
41	0100	90	99	264	5445	6257	11	-.90	1.00	20084	-6.50
42	0100	89	97	264	5509	6300	10	-.90	2.30	20065	-6.40
43	0100	90	99	264	5599	6357	10	-.90	-1.00	20040	-6.40
44	0100	119	130	264	5475	6358	11	1.70	1.60	19999	-6.30
45	3334	119	130	264	5423	6294	11	1.70	1.60	19983	-6.20
46	3334	119	131	263	5421	6309	11	1.70	1.60	19972	-6.20
47	0100	117	129	264	5556	6439	11	1.70	2.50	19945	-6.20
48	3334	117	129	264	5636	6501	11	1.70	2.50	19934	-6.10

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 133
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 08/25/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
49	0100	118	130	264	5673	6520	11	1.70	3.40	19896	-6.00
50	3334	120	133	265	5614	6456	11	1.70	3.40	19885	-6.00

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 134
TOGW 20800 TCG 9.7 AFT FLIGHT DATE 08/25/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	0100	51	60	264	9098	10449	8	-2.70	.10	21151	-9.00
3	0100	50	59	264	9118	10491	8	-2.70	-.80	21140	-8.90
4	0100	51	59	264	9172	10558	8	-2.70	-2.10	21123	-8.90
5	0100	67	78	264	8666	9824	8	-2.70	1.30	21096	-8.80
6	0100	68	78	264	8604	9746	7	-2.70	.20	21077	-8.80
7	0100	68	78	264	8668	9754	7	-2.70	-.90	21063	-8.70
8	0100	70	82	264	8666	9814	7	-2.70	-1.90	21047	-8.70
9	0100	84	98	264	8688	10001	9	-.80	2.40	21012	-8.60
10	0100	85	100	264	8781	10194	9	-.80	1.10	20973	-8.50
11	0100	85	99	264	8879	10314	9	-.80	.10	20952	-8.50
12	0100	83	97	264	8877	10347	10	-.80	-1.10	20938	-8.40
13	0153	101	117	264	8589	10021	10	2.10	2.20	20870	-8.30
14	0153	103	120	264	8579	9964	10	2.10	2.70	20842	-8.20
15	0153	102	119	264	8668	10047	9	2.10	3.30	20818	-8.20
16	0100	46	57	264	12491	14035	3	-2.70	.20	20687	-7.90
17	0100	45	55	264	12543	14087	3	-2.70	-.70	20668	-7.80
18	0100	47	58	264	12562	14101	3	-2.70	-1.90	20649	-7.80
19	0100	63	78	264	12603	14177	3	-2.70	1.30	20627	-7.70
20	0100	62	78	264	12648	14223	3	-2.70	.30	20605	-7.70
21	0100	62	78	264	12667	14239	3	-2.70	-.80	20594	-7.70
22	0100	61	76	264	12693	14279	3	-2.70	-1.90	20578	-7.60
23	0100	77	96	264	12429	14053	4	-.70	2.20	20540	-7.50
24	0100	75	93	264	12453	14073	4	-.70	1.20	20523	-7.50
25	0100	118	129	264	5461	6151	10	1.50	1.60	20400	-7.20
26	3334	116	128	264	5527	6223	10	1.50	1.60	20368	-7.10
27	0100	118	129	264	5509	6192	9	1.50	2.40	20335	-7.00
28	3334	116	127	264	5529	6207	9	1.50	2.40	20319	-7.00
29	0100	119	131	264	5495	6192	10	1.50	3.30	20302	-7.00
30	3334	120	132	264	5423	6131	10	1.40	3.40	20286	-6.90
31	0153	132	145	264	5372	6168	11	1.50	1.60	20226	-6.80
32	3334	131	143	264	5299	6105	11	1.50	1.60	20198	-6.70
33	0153	129	141	264	5404	6189	11	1.50	2.30	20177	-6.70
34	3334	130	143	264	5386	6176	11	1.40	2.30	20089	-6.50
35	0153	129	141	264	5477	6243	10	1.40	3.40	20051	-6.40
36	3334	129	142	264	5527	6305	10	1.40	3.30	20032	-6.30
37	0100	116	128	264	5764	6441	9	.10	.90	19928	-6.10
38	0100	118	131	264	6084	6826	9	1.30	1.30	19838	-5.90

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 135
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 08/26/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	0100	61	63	264	1378	2099	18	-2.70	-2.70	21353	-9.40
3	0100	79	82	265	1333	2089	18	-2.70	-2.50	21323	-9.40
4	0100	99	102	265	1271	2095	19	-1.40	-.90	21282	-9.30
5	0100	120	124	264	1410	2283	19	.50	1.10	21235	-9.20
6	0100	127	132	264	1504	2399	19	1.40	2.40	21200	-9.10
7	0153	133	138	264	1519	2435	19	1.40	2.40	21156	-9.00
8	0153	136	141	264	1582	2513	19	1.40	3.40	21096	-8.90
9	0100	130	134	264	1285	2184	20	1.40	3.40	20998	-8.60
10	0100	118	122	264	1332	2206	19	.50	2.70	20938	-8.50
12	0100	99	103	264	1271	2076	19	-1.30	1.50	20900	-8.40
13	0100	82	84	264	1300	2068	19	-2.60	.20	20862	-8.30
14	0100	61	63	264	1317	2070	18	-2.70	-1.60	20831	-8.20
15	0100	62	68	264	5423	6399	12	-2.60	-2.70	20719	-8.20
16	0100	81	89	264	5474	6460	12	-2.60	-2.40	20711	-8.20
17	0100	99	109	264	5422	6433	12	-1.30	-.90	20697	-8.20
18	0100	118	131	264	5561	6674	13	.20	.90	20654	-7.80
19	0153	130	143	264	5348	6476	14	1.40	2.40	20577	-7.70
20	0153	129	142	264	5317	6412	13	1.40	3.40	20542	-7.60
21	0100	118	131	264	5491	6616	13	.60	3.00	20471	-7.40
22	0100	97	107	264	5315	6347	13	-1.30	1.50	20424	-7.20
23	0100	83	91	264	5284	6281	13	-2.50		20400	-7.20
25	0100	56	61	264	5334	6271	12	-2.70	-1.60	20354	-7.10
26	2615	103	107	264	2122	2904	17	-1.10	1.50	20263	-6.90
27	2615	118	123	264	2263	3060	17	.30	2.90	20173	-6.70
28	2615	136	142	265	1992	2926	19	1.40	3.40	20062	-6.40

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 136
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 08/29/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
1	0148	78	81	264	1263	2569	23	-2.50	-2.30	21233	-9.10
2	0149	97	102	264	1357	2738	24	-.90	-1.00	21154	-9.00
3	0149	106	110	264	1293	2694	24	-.20	-.20	21132	-8.90
4	0149	122	127	264	1340	2769	24	.60	.50	21110	-8.90
5	0150	129	134	265	1373	2810	24	1.40	1.30	21080	-8.80
6	3334	123	128	263	1481	2915	24	1.40	1.30	21025	-8.60
7	0150	135	140	264	1216	2618	24	1.40	1.30	20520	-7.50
8	3334	131	137	266	1137	2601	25	1.40	1.30	20496	-7.50
9	0150	131	136	264	1307	2676	24	1.40	1.30	20422	-7.30
10	0113	128	133	265	1323	2696	24	1.40	2.40	20417	-7.30
11	0113	54	56	264	1418	2590	22	-2.40	.20	20354	-7.10
12	0113	59	62	265	1542	2751	22	-2.40	-1.00	20313	-7.10
13	0113	54	56	264	1307	2455	22	-2.40	-1.90	20278	-6.90
14	2313	55	57	264	1446	2723	23	-2.40	-2.40	20248	-6.80
15	0113	92	95	264	1105	2376	23	-1.20	-1.00	20201	-6.70
16	0113	96	99	264	1170	2367	23	-1.20	-.10	20174	-6.60
17	0113	92	96	264	1417	2740	23	-1.20	.80	20149	-6.60
18	0113	93	97	264	1541	2812	22	-1.20	1.80	20114	-6.50
19	0113	124	129	264	1277	2610	24	.90	1.70	20073	-6.40
20	0113	123	128	264	1325	2636	23	.90	2.70	20043	-6.40
21	3334	123	128	264	1396	2741	23	.90	2.70	20021	-6.30
22	0113	126	131	264	1403	2779	24	.90	3.40	19989	-6.20
23	3334	123	129	264	1373	2757	24	.90	3.40	19975	-6.20
24	0113	136	141	264	1447	2866	24	1.30	3.40	19939	-6.10
25	3334	133	138	264	1472	2861	24	1.30	3.40	19920	-6.00
26	0113	130	136	264	1561	2943	23	1.30	2.70	19898	-6.00
27	3334	139	146	264	1651	3133	24	1.30	2.70	19855	-5.90
28	0150	134	141	264	1653	3047	23	1.30	1.80	19817	-5.80
29	0113	119	123	264	1248	2568	23	1.30	1.80	19784	-5.70

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 137
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 08/29/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	2313	16	18	264	4781	6059	16	-2.40	-2.30	21380	-9.50
3	2313	55	60	264	4854	6193	17	-2.40	-2.30	21356	-9.40
4	0148	73	80	264	4816	6164	17	-2.40	-2.30	21348	-9.40
5	0149	98	108	264	4815	6225	17	-1.00	-1.00	21323	-9.40
6	0149	106	116	264	4781	6236	18	-.20	-.30	21296	-9.30
7	0113	109	119	264	4959	6408	17	.80	.80	21266	-9.20
8	0150	117	129	264	4974	6437	17	.80	.80	21247	-9.20
9	0113	118	130	264	5112	6562	17	1.40	1.40	21231	-9.10
10	0150	124	136	264	4837	6314	18	1.50	1.40	21209	-9.10
11	0113	125	137	264	4748	6188	18	2.70	3.40	21190	-9.10
12	0113	97	107	264	4885	6320	17	1.00	1.30	21147	-8.90
13	0113	107	117	264	4845	6305	18	1.00	1.30	21136	-8.90
14	0150	120	132	264	4870	6424	18	1.00	1.30	21117	-8.80
15	0150	123	135	264	4797	6350	19	1.00	1.30	21073	-8.70
16	0113	125	138	264	4713	6242	18	1.00	1.80	21043	-8.70
17	0148	73	80	264	4817	6174	17	-2.40	-2.30	21008	-8.60
18	0100	74	81	247	4733	6133	17	-2.30	-2.30	20994	-8.60
19	0100	49	54	248	4921	6266	16	-2.30	-2.30	20983	-8.50
20	0100	25	27	248	4935	6216	16	-2.30	-2.30	20962	-8.50
21	0100	94	102	248	4680	6043	17	-1.00	-1.00	20940	-8.40
22	0100	98	108	247	4661	6018	17	-1.00	-1.00	20926	-8.40
23	0114	100	109	264	4843	6242	17	-2.30	-2.40	20902	-8.30
24	0114	88	96	264	4871	6240	17	-2.30	-2.60	20896	-8.30
25	0148	77	85	264	4875	6210	16	-2.20	-2.40	20891	-8.30

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 138
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 08/30/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
1	2313	54	56	264	1097	2405	24	-2.40	-2.60	21407	-9.60
2	2313	28	29	264	1107	2461	24	-2.40	-2.60	21396	-9.60
3	0232	17	17	264	1170	2635	25	-2.40	-2.60	21374	-9.50
4	3404	10	11	264	1199	2688	25	-2.40	-2.60	21363	-9.40
5	3401	24	25	264	1228	2715	25	-2.40	-2.60	21358	-9.40
6	1726	22	23	265	1264	2759	25	-2.40	-2.60	21355	-9.40
7	1726	19	20	265	1264	2750	25	-2.50	-2.60	21352	-9.40
8	0148	88	91	265	1092	2567	25	-2.00	-2.00	21330	-9.40
9	0149	119	124	264	1372	3023	26	-.20	-.30	21287	-9.30
10	0150	128	134	264	1277	2767	25	.70	.60	21232	-9.10
11	0150	140	146	264	1179	2664	25	.80	.80	21150	-8.90
12	0154	147	153	264	1199	2768	26	.80	.80	21117	-8.90
13	5215	122	127	264	1120	2628	25	.80	.80	21087	-8.80
14	5216	134	139	264	999	2497	26	.80	.80	21079	-8.80
15	2615	128	133	264	1156	2680	25	.80	.80	21065	-8.80
16	2615	128	133	264	1105	2644	26	.80	.70	20888	-8.30
17	2616	131	137	264	1136	2656	25	.80	.70	20866	-8.30
18	2615	122	126	264	1047	2573	26	.40	.50	20787	-8.10
19	2616	124	129	264	1012	2495	25	.40	.50	20765	-8.00
20	2801	123	127	264	888	2353	25	.40	.50	20743	-8.00
21	2810	122	126	266	1047	2583	26	.40	.50	20705	-7.90
22	3404	136	141	264	1294	2846	25	.90	.90	20650	-7.70
23	3401	134	140	264	1293	2821	25	.90	.90	20645	-7.70
24	3407	134	140	265	1279	2822	25	.90	.90	20645	-7.70
25	3404	124	129	264	1277	2775	25	.80	.80	20607	-7.60
26	3401	127	132	264	1215	2769	26	.80	.80	20607	-7.60
27	3407	128	133	264	1220	2768	26	.80	.80	20601	-7.60
28	2801	91	95	267	1149	2654	25	-1.90	-1.80	20563	-7.50
29	2810	85	88	266	1187	2718	25	-1.90	-1.80	20558	-7.50
30	2616	91	94	263	1062	2574	26	-1.90	-1.80	20547	-7.50
31	2615	88	91	265	1105	2618	25	-1.90	-1.80	20541	-7.50
32	2615	88	92	264	1171	2698	25	-1.90	-1.80	20525	-7.50
33	2616	91	95	264	1294	2840	25	-1.90	-1.80	20514	-7.40
34	1923	33	34	263	1607	3134	25	-2.70	-2.70	20465	-7.30
35	1923	130	136	264	1527	3185	26	1.20	1.90	20449	-7.30
36	2837	98	101	261	374	1971	28	-1.40	-.90	20367	-7.00

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 139
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 08/30/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	2616	74	81	264	4592	6016	18	-2.60	-2.50	20962	-8.50
3	2615	79	86	264	4520	5955	18	-2.70	-2.40	20951	-8.50
4	2616	70	77	265	4557	5947	18	-2.70	-2.40	20935	-8.40
5	2615	83	91	263	4267	5681	18	-2.70	-2.40	20924	-8.40
6	2801	74	80	265	4439	5812	18	-2.70	-2.50	20902	-8.40
7	2801	82	90	265	4438	5828	18	-2.70	-2.40	20902	-8.40
8	2801	72	79	264	4543	5939	18	-2.70	-2.40	20897	-8.30
9	2810	74	81	269	4299	5738	18	-2.70	-2.40	20883	-8.30
10	2810	79	86	271	4321	5762	18	-2.70	-2.50	20881	-8.30
11	2615	39	42	264	4520	5928	18	-2.70	-2.40	20851	-8.20
12	2616	38	41	265	4624	6012	17	-2.70	-2.50	20842	-8.20
13	0150	114	125	264	4780	6317	18	.80	.80	20766	-8.00
14	2615	103	113	264	4728	6271	19	-.60	-.60	20717	-7.90
15	2616	100	109	264	4831	6379	18	-.60	-.60	20700	-7.90
16	2616	100	111	264	4940	6460	18	-.60	-.60	20673	-7.80
17	2801	107	117	264	4482	6059	19	-.60	-.60	20646	-7.80
18	2810	102	111	267	4419	5990	19	-.60	-.60	20635	-7.70
19	2810	103	112	270	4411	5967	19	-.60	-.60	20635	-7.70
20	5215	101	111	264	4607	6141	19	-.60	-.60	20597	-7.70
21	5216	107	117	264	4677	6200	18	-.60	-.60	20586	-7.60
22	3404	101	110	264	4541	6060	19	-.60	-.60	20564	-7.50
23	3404	99	108	264	4558	6081	19	-.60	-.60	20564	-7.50
24	3401	98	108	264	4543	6070	19	-.60	-.60	20559	-7.50
25	3407	98	108	264	4560	6074	19	-.60	-.60	20559	-7.50
26	3407	103	113	264	4471	5974	19	-.60	-.60	20553	-7.50
27	3407	103	113	263	4454	5954	19	-.60	-.50	20553	-7.50
28	0500	97	106	265	4592	6078	18	-1.10	-1.00	20520	-7.50
29	0500	101	110	266	4353	5813	19	-1.10	-1.00	20515	-7.50
30	0500	96	104	263	3943	5400	19	-1.10	-1.00	20515	-7.50
31	0619	104	114	269	4987	6464	17	-.50	-.50	20466	-7.30
32	0600	103	112	284	4072	5531	19	-.50	-.50	20466	-7.30
33	2637	99	107	283	3827	5293	20	-.50	-.50	20463	-7.30
34	2637	101	109	286	3147	4674	22	-.50	-.50	20463	-7.30
35	2837	99	105	282	2434	4030	24	-.50	-.50	20460	-7.30
36	2837	96	101	262	1825	3462	25	-.50	-.50	20458	-7.30
37	0604	96	104	285	3895	5359	20	-.50	-.50	20392	-7.20
38	0601	100	108	272	3560	5081	21	-.50	-.50	20389	-7.20
39	0607	102	109	276	3358	4861	21	-.50	-.50	20389	-7.20
40	0607	102	110	275	3177	4684	21	-.50	-.50	20389	-7.20
41	0423	107	114	268	2704	4264	23	-.50	-.50	20389	-7.20
42	2615	40	41	264	1322	2960	26	-2.50	-2.50	20354	-7.10
43	2616	41	42	264	1418	3061	26	-2.50	-2.50	20349	-7.10
44	2615	44	46	263	1403	3052	26	-2.50	-2.50	20332	-7.00
45	2616	41	43	262	1607	3213	25	-2.50	-2.50	20318	-7.00
46	2200	62	65	264	983	2662	27	-2.60	-2.70	20228	-6.80
47	2200	78	81	264	254	2034	30	-2.70	-2.70	20185	-6.70
48	2200	55	56	266	58	1900	30	-2.70	-2.70	20149	-6.60

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 139
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 08/30/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
49	2200	62	64	269	71	1916	30	-2.70	-2.70	20127	-6.50

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 140
TOGW 24300 TOCG 4.4 FWD FLIGHT DATE 08/31/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
1	0231	0	0	264	-98	1198	26	-2.80	-2.80	24662	5.30
2	1715	0	0	264	-82	1227	26	-2.80	-2.80	24648	5.30
3	1716	11	12	265	-96	1246	26	-2.80	-2.80	24637	5.30
4	3404	0	0	264	-81	1290	27	-2.80	-2.80	24610	5.40
5	3404	0	0	265	-97	1271	27	-2.80	-2.80	24610	5.40
6	3401	18	19	264	-82	1272	26	-2.80	-2.80	24610	5.40
7	3407	8	8	264	-81	1272	26	-2.80	-2.80	24604	5.40
8	1726	0	0	264	-94	1247	26	-2.80	-2.80	24588	5.40
9	1726	0	0	264	-111	1236	26	-2.80	-2.80	24583	5.40
10	1122	0	0	264	-80	1256	26	2.80	-.60	24550	-5.60
11	1116	0	0	264	-106	1233	26	2.80	-.60	24544	-5.60
12	1115	0	0	264	-103	1201	26	2.80	-.60	24533	-5.60
13	1516	25	26	265	-53	1253	26	2.80	-.60	24479	5.70
14	1905	10	10	264	-63	1258	26	2.80	-.70	24345	6.10
15	1515	10	10	266	-35	1338	26	2.80	-.60	24340	6.10
16	1905	15	15	265	-48	1303	26	-.90	-2.70	24337	6.10
17	1515	20	20	264	-49	1222	26	-2.80	-2.70	24332	6.10
18	1905	25	25	264	-49	1232	26	-2.80	-2.70	24329	6.10
19	1515	30	30	266	-62	1207	26	-2.80	-2.70	24323	6.10
20	1905	35	35	264	-64	1204	26	-2.80	-2.70	24323	6.10
21	1515	35	35	266	-47	1233	26	-2.80	-2.70	24321	6.10
22	1520	0	0	266	-47	1199	25	-2.80	-2.70	24318	6.10
23	1906	10	10	265	-49	1276	26	-2.80	-2.70	24239	6.40
24	1516	10	10	265	-64	1258	26	-2.80	-2.70	24236	6.40
25	1906	15	15	264	-79	1248	26	-2.80	-2.70	24233	6.40
26	1516	20	20	266	-34	1312	26	-2.80	-2.70	24233	6.40
27	1906	28	28	265	-33	1313	26	-2.80	-2.70	24228	6.40
28	1516	30	30	265	-41	1277	26	-2.80	-2.70	24225	6.40
29	1906	33	33	265	-48	1277	26	-2.80	-2.70	24225	6.40
30	1516	35	35	264	-62	1251	26	-2.80	-2.70	24222	6.40
31	1520	0	0	266	-63	1250	26	-2.80	-2.70	24222	6.40
32	1921	-5	-5	264	-33	1269	26	-2.80	-2.70	24192	6.50
33	1600	-10	-10	265	-20	1285	26	-2.80	-2.70	24190	6.50
34	1921	-15	-15	264	-19	1268	26	-2.80	-2.70	24187	6.50
35	1600	-20	-20	264	-18	1269	26	-2.80	-2.70	24184	6.50
36	1921	-26	-26	265	-36	1248	26	-2.80	-2.70	24181	6.50
37	1600	-30	-30	264	-18	1314	26	-2.80	-2.70	24179	6.50
38	1520	0	0	264	-49	1284	26	-2.80	-2.70	24179	6.50
39	2200	52	53	265	55	1261	25	-2.80	-2.70	24140	6.60
40	2200	31	32	264	161	1347	24	-2.80	-2.70	24110	6.70
41	2200	70	71	264	-21	1275	26	-2.80	-2.70	24072	6.80
42	2200	65	67	268	-33	1251	26	-2.70	-2.60	24025	6.90
43	1400	0	0	262	-94	1211	26	-2.70	-2.60	24012	6.90
44	1823	0	0	270	-108	1247	26	-2.70	-2.60	23993	7.00
45	1116	3	3	264	-94	1292	27	2.80	-.60	23974	7.00
46	1115	0	0	264	-94	1283	27	2.80	-.60	23971	7.00

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 141
TOGW 24300 TOCG 4.4 FWD FLIGHT DATE 08/31/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	2313	61	63	265	11	1762	30	-2.80	-2.80	24962	4.50
3	2200	66	67	268	10	1700	29	-2.80	-2.80	24959	4.50
4	0300	66	68	265	171	1836	29	-2.70	-2.70	24943	4.50
5	0300	79	82	265	1152	2735	26	-2.60	-2.70	24921	4.60
6	0300	70	74	265	2205	3705	23	-2.70	-2.70	24899	4.60
7	0300	61	65	265	3311	4714	20	-2.70	-2.70	24875	4.70
8	0300	58	63	265	4130	5530	18	-2.70	-2.70	24872	4.70
9	0300	65	72	265	5352	6787	16	2.70	3.50	24828	4.80
10	0300	65	73	265	6264	7690	14	2.70	3.50	24807	4.90
11	0300	74	84	265	7111	8470	12	2.70	3.50	24788	4.90
12	0300	71	81	265	7335	8753	12	2.70	3.50	24782	4.90
13	0149	67	76	264	7339	8740	12	2.70	3.50	24779	5.00
14	0500	74	84	266	7223	8597	12	2.70	3.50	24763	5.00
15	0500	71	81	265	7013	8385	13	2.70	3.50	24763	5.00
16	0500	74	84	269	6837	8187	13	2.70	3.50	24760	5.00
17	0520	73	83	263	6663	8028	13	2.70	3.50	24760	5.00
18	0149	65	74	265	6921	8272	13	2.80	3.50	24744	5.00
19	0149	79	89	265	6921	8352	13	2.70	3.60	24736	5.10
20	0150	88	100	265	6921	8308	13	2.70	3.50	24725	5.10
21	0150	93	106	265	6978	8474	14	2.70	3.60	24712	5.20
22	3334	92	104	264	6997	8497	14	2.70	3.50	24712	5.20
23	0148	56	63	265	6906	8254	13	2.70	3.60	24690	5.20
24	0148	50	57	265	6955	8350	13	2.70	3.50	24679	5.20
25	2313	39	44	265	6886	8220	12	2.70	3.50	24654	5.30
26	2615	73	82	264	6905	8332	13	2.70	3.60	24635	5.30
27	2616	82	93	265	6887	8346	14	2.70	3.60	24619	5.40
28	3404	77	88	265	6905	8341	13	2.70	3.50	24605	5.40
29	3401	77	87	264	6903	8329	13	2.70	3.50	24605	5.40
30	3407	76	87	265	6885	8281	13	2.70	3.60	24602	5.40
31	5215	73	83	264	6920	8341	13	2.70	3.60	24600	5.40
32	5216	78	88	264	6946	8365	13	2.70	3.50	24597	5.40
33	2801	81	91	267	6997	8436	13	2.70	3.60	24589	5.40
34	2810	77	88	265	6923	8316	13	2.70	3.50	24583	5.50
35	2616	54	61	265	6904	8234	12	2.70	3.50	24564	5.50
36	2615	49	55	264	6724	8049	13	2.70	3.50	24548	5.50
37	2801	58	66	266	6860	8145	12	2.70	3.50	24528	5.60
38	2810	52	58	270	6835	8167	13	2.70	3.50	24515	5.60
39	0600	63	71	274	6826	8157	13	2.70	3.50	24501	5.70
40	2637	67	76	281	6575	7894	13	2.70	3.50	24501	5.70
41	2637	81	90	282	5731	7126	15	2.70	3.50	24501	5.70
42	2837	75	82	258	4783	6196	17	2.70	3.50	24501	5.70
43	2837	64	70	276	4130	5601	19	2.70	3.50	24501	5.70
44	0619	85	97	267	7108	8536	13	2.70	3.50	24433	5.90
45	0600	90	101	280	6284	7688	14	2.70	3.50	24433	5.90
46	2637	94	105	279	5994	7430	15	2.70	3.50	24433	5.90
47	2637	82	90	259	4902	6368	18	2.70	3.50	24433	5.90
48	2837	90	98	279	4193	5687	19	2.70	3.50	24430	5.90

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 141
TOGW 24300 TCG 4.4 FWD FLIGHT DATE 08/31/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
49	2837	78	84	269	3809	5297	20	2.70	3.50	24430	5.90
50	0149	81	89	264	4788	6265	18	-2.50	-2.50	24381	6.00
51	0150	100	110	265	4800	6332	18	-.90	-.40	24362	6.00
52	0154	110	120	265	4729	6262	18	-.10	.80	24348	6.10
53	0149	110	115	265	1590	3156	25		.80	24293	6.20
54	0113	122	128	265	1604	3200	25	1.10	2.40	24277	6.30
55	2616	118	124	265	1556	3124	25	1.30	2.40	24271	6.30
56	0113	129	135	264	1556	3185	26	1.40	2.40	24252	6.30
57	2200	25	25	263	-33	722	21	-2.70	-2.80	24184	6.50

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 142
TOGW 24300 TOCG 4.4 FWD FLIGHT DATE 09/01/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	2313	59	61	265	-63	1576	29	-2.80	-2.80	24973	4.40
3	2313	52	54	265	1710	3073	23	-2.70	-2.70	24927	4.60
4	2313	38	40	265	1788	3160	23	-2.70	-2.70	24918	4.60
5	2313	28	30	265	1807	3183	23	-2.70	-2.70	24910	4.60
6	2313	57	60	265	1856	3243	23	-2.70	-2.70	24880	4.70
7	0148	69	72	265	1790	3198	23	-2.70	-2.70	24867	4.70
8	0148	80	84	265	1793	3219	23	-2.30	-2.70	24853	4.80
9	0149	88	92	265	1762	3172	23	-1.60	-1.70	24839	4.80
10	0149	96	101	264	1842	3332	24	-1.00	-1.10	24823	4.80
11	0149	107	112	265	1951	3456	24	-.10	-.20	24806	4.90
12	0150	119	125	265	1981	3564	24	1.30	.40	24784	4.90
13	0150	122	128	265	1738	3327	25	1.30	1.00	24757	5.00
14	3334	123	129	265	1731	3319	25	1.40	1.00	24738	5.00
15	0113	124	131	265	2048	3618	24	2.80	3.50	24683	5.20
16	0100	74	77	250	1588	3057	24	-2.60	-2.60	24618	5.40
17	0100	45	47	249	1603	3031	24	-2.70	-2.70	24593	5.40
18	0100	23	24	249	1629	3035	23	-2.70	-2.70	24574	5.50
19	0100	97	102	249	1634	3139	24	-1.10	-1.00	24541	5.60
20	0100	100	105	249	1527	3087	25	-.80	-.70	24514	5.60
21	0114	75	78	265	1665	3134	24	-2.70	-2.70	24457	5.80
22	0114	83	87	265	1601	3107	24	-2.70	-2.70	24446	5.80
23	0114	90	94	265	1637	3178	25	-2.70	-2.70	24435	5.80
24	0114	95	100	265	1637	3168	25	-2.70	-2.70	24419	5.90
25	0114	99	104	266	1696	3214	24	-2.70	-2.70	24397	5.90
26	0114	103	108	265	1821	3350	24	-2.70	-2.70	24381	6.00
27	2615	104	110	265	1869	3418	24	-.20	-.10	24351	6.10
28	2616	109	114	264	1680	3240	25	.10	-.10	24334	6.10
29	2615	105	109	265	1675	3233	25	-.10	-.10	24307	6.20
30	2616	108	113	264	1601	3160	25	-.10	-.10	24290	6.20
31	3404	109	115	265	1730	3301	25	.10	-.10	24266	6.30
32	3401	110	115	265	1745	3310	25	.10	-.10	24263	6.30
33	3407	109	115	265	1777	3340	25	.10	-.10	24260	6.30
34	5216	109	115	266	1840	3391	24	.10	-.10	24252	6.30
35	5215	104	110	265	1854	3408	24	-.50	-.10	24244	6.30
36	2801	108	114	268	1841	3339	24	.10	-.10	24233	6.40
37	2810	107	112	270	1808	3325	24		-.10	24222	6.40
38	2810	111	116	271	1763	3305	24	.10	-.10	24200	6.40
39	3404	121	126	265	1602	3188	25	1.40	.10	24157	6.60
40	3401	121	126	265	1603	3180	25	1.30	1.00	24149	6.60
41	3407	125	132	264	1579	3186	25	1.40	1.00	24146	6.60
42	2615	70	74	265	1636	3062	24	-2.60	-2.70	24121	6.70
43	2616	79	82	265	1541	2999	24	-2.40	-2.70	24110	6.70
44	2615	71	74	264	1714	3184	24	-2.60	-2.80	24094	6.70
45	2616	74	77	264	1570	3043	24	-2.70	-2.80	24083	6.80
46	2801	77	81	266	1760	3232	24	-2.60	-2.80	24059	6.90
47	2810	75	79	266	1792	3270	24	-2.60	-2.70	24048	6.90
48	2615	47	49	265	1570	3009	24	-2.70	-2.70	24031	6.90

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 142
TOGW 24300 TOCG 4.4 FWD FLIGHT DATE 09/01/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
49	2616	60	62	265	1695	3152	24	-2.70	-2.80	24020	6.90
50	0500	96	100	265	1745	3275	24	-.80	-1.00	23982	7.00
51	0500	97	101	264	1543	3090	25	-.80	-1.00	23979	7.00
52	0500	97	101	265	1243	2811	26	-1.00	-1.00	23977	7.00
53	0600	74	78	280	2332	3754	22	-2.70	-2.70	23936	7.10
54	2637	74	78	278	2109	3553	23	-2.70	-2.70	23936	7.10
55	2637	62	64	268	1504	2963	24	-2.70	-2.70	23936	7.10
56	2837	79	81	267	614	2060	26	-2.60	-2.70	23933	7.10
57	2837	68	71	284	1619	3086	24	-2.70	-2.70	23889	7.20
58	0423	68	71	269	1432	2892	24	-2.70	-2.70	23889	7.20
59	2837	57	58	276	236	1694	27	-2.70	-2.70	23887	7.20
60	0600	115	122	278	2366	3919	23	.70	.10	23807	7.50
61	2637	109	115	285	2190	3748	24	.70	.10	23807	7.50
62	2637	85	89	262	1763	3270	24	-2.10	.10	23807	7.50
63	2837	112	119	273	2205	3749	24	1.00	.10	23723	7.70
64	2837	110	116	285	1806	3358	24	.20	.10	23723	7.70
65	0423	100	105	268	1602	3153	25	-.30	.10	23720	7.70
66	2837	79	81	275	749	2313	27	-.80	.10	23720	7.70
67	2600	75	78	265	903	2448	26	-2.60	-2.70	23696	7.80
68	2600	76	79	264	881	2430	26	-2.60	-2.70	23693	7.80
69	2600	74	77	264	837	2393	26	-2.40	-2.70	23687	7.80
70	2600	93	97	264	1080	2656	26	-1.10	-.90	23646	7.90
71	2600	95	99	265	1137	2708	26	-1.30	-.90	23641	7.90
72	2600	102	106	264	1167	2762	26	-.70	-.90	23636	7.90
73	2600	101	106	265	1138	2743	26	-.60	-1.00	23633	7.90
74	2600	117	123	265	1353	2981	26	.90	.80	23595	8.00
76	2600	117	122	265	1368	2981	26	1.00	.80	23581	8.10
77	2600	113	118	264	1349	2940	26	.70	.80	23578	8.10
78	2200	75	77	269	39	1673	29	-2.40	-2.30	23518	8.20

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 143
TOGW 24300 TOCG 1.5 AFT FLIGHT DATE 09/02/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
1	0231	0	0	265	-53	1367	27	-2.80	-2.80	18740	-2.70
2	4431	4	4	264	-39	1412	27	-2.80	-2.80	24821	-1.10
3	0231	0	0	265	-22	1441	27	-2.80	-2.80	24788	-1.10
4	4431	0	0	264	-53	1404	27	-2.80	-2.80	24734	-.90
5	2313	0	0	265	-38	1386	27	-2.80	-2.80	24682	-.80
6	2200	50	51	266	8	1384	26	-2.80	-2.80	24671	-.80
7	2313	35	35	265	-7	1363	26	-2.80	-2.80	24633	-.70
8	2200	58	59	270	9	1391	26	-2.80	-2.80	24625	-.70
9	2313	25	26	266	-36	1406	27	-2.80	-2.80	24556	-.50
10	0316	58	60	265	189	1522	26	-2.80	-2.80	24526	-.50
11	0300	59	60	265	388	1698	25	-2.80	-2.80	24516	-.40
12	0100	61	63	265	1072	2301	23	-2.80	-2.80	24453	-.30
13	0100	71	74	266	1166	2381	23	-2.80	-2.80	24431	-.20
14	0100	78	81	266	1244	2485	23	-2.40	-2.30	24404	-.20
15	2616	81	84	265	1232	2479	23	-2.30	-2.20	24398	-.10
16	0100	85	89	265	1431	2679	22	-1.90	-1.80	24368	-.10
17	0100	99	103	264	1182	2498	24	-.80	-.30	24335	
18	0149	106	111	266	1273	2636	24	-.40	.10	24303	.10
19	0153	114	119	265	1478	3088	26	.40	1.40	24262	.20
20	2022	114	120	266	1491	3070	25	.60	1.60	24248	.20
21	2616	100	105	265	1432	2892	24	-.90	-.40	24232	.20
22	2620	101	106	265	1761	3390	25	-.50	.10	24194	.30
23	0500	70	72	266	1290	2568	23	-2.70	-2.70	24180	.40
24	0500	73	76	267	1150	2414	23	-2.70	-2.70	24180	.40
25	0520	67	70	262	1012	2272	23	-2.70	-2.70	24177	.40
26	2615	100	104	266	1014	2372	24	-.50	.20	24166	.40
27	2616	108	112	266	1030	2389	24	-.40	.40	24147	.40
28	0100	58	60	265	1044	2320	23	-2.70	-2.70	24131	.50
29	0100	61	63	265	1053	2331	23	2.80	3.60	24122	.50
30	0100	68	71	265	1058	2346	24	2.80	3.50	24112	.50
31	0100	81	84	265	1135	2441	24	2.80	3.60	24101	.60
32	0100	93	96	266	1245	2592	24	2.80	3.50	24084	.60
33	0100	97	101	265	1216	2566	24	2.80	3.50	24073	.60
34	0149	107	112	265	1229	2556	24	2.80	3.50	24057	.70
35	2615	101	105	264	1137	2504	24	2.80	3.60	24040	.70
36	0153	119	124	265	1057	2478	25	2.80	3.50	23999	.80
37	2022	117	121	265	1073	2498	25	2.80	3.50	23994	.80
38	2616	104	108	265	1150	2529	24	2.80	3.50	23986	.80
39	0500	71	73	265	1014	2283	23	2.80	3.60	23959	.90
40	0500	68	70	263	750	2031	24	2.80	3.50	23956	.90
41	0520	69	71	263	629	1909	24	2.80	3.50	23956	.90
42	2200	55	56	266	116	1476	26	-2.70	-2.70	23923	1.00
43	2200	48	50	268	8	1451	27	-2.70	-2.70	23910	1.00
44	4731	27	27	266	39	1577	28	-2.70	-2.70	23885	1.10
45	4431	11	11	263	-53	1465	28	-2.70	-2.70	23869	1.10
46	4731	9	9	267	-52	1475	28	-2.70	-2.70	23861	1.10
47	0100	122	127	265	1573	3079	24	1.40	.80	17782	.10

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 143
TOGW 24300 TOCG 1.5 AFT FLIGHT DATE 09/02/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)
48	0100	132	138	265	1493	3019	25	1.40	1.50	17776
49	0153	140	147	265	1652	3205	25	1.40	1.50	17763
50	3334	140	147	265	1637	3203	25	1.40	1.50	17757

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 151
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 09/13/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	2313	70	71	265	161	1425	25	-2.80	-2.90	21369	-9.50
3	0148	78	81	265	1263	2277	21	-2.50	-2.70	21315	-9.30
4	0148	85	101	264	1262	2275	21	-2.00	-2.20	21292	-9.30
5	0148	98	101	265	1296	2298	21	-1.10	-1.10	21266	-9.20
6	0150	112	116	265	1328	2374	21	-.20	-.20	21240	-9.20
7	0149	119	122	265	1088	2196	22	.90	.90	21212	-9.10
8	0150	126	130	265	1001	2152	22	1.40	1.30	21176	-9.00
9	2615	107	111	266	1262	2329	21	-.20	-.30	21130	-8.90
10	2616	118	122	265	1264	2358	21	.60	.70	21114	-8.80
11	2615	118	122	266	1172	2253	22	.80	.90	21096	-8.80
12	2616	119	123	265	1280	2342	21	.70	.80	21071	-8.80
13	0148	77	84	265	5162	6224	13	-2.50	-2.80	20929	-8.40
14	0149	92	101	265	5095	6196	14	-1.70	-1.80	20914	-8.40
15	0149	99	108	265	5009	6135	14	-1.00	-1.60	20878	-8.30
16	0149	107	117	265	5113	6245	14	-.30	-.30	20849	-8.20
17	0150	110	121	265	5324	6485	14			20801	-8.10
18	2616	106	116	265	5129	6237	14	-.30	-.30	20757	-8.00
19	2615	106	116	265	5079	6203	14	-.20	-.20	20741	-8.10
20	2616	90	99	265	5042	6131	14	-1.80	-1.90	20700	-7.90
21	0148	82	90	264	5193	6244	13	2.60	2.60	20677	-7.80
22	0148	82	91	266	5268	6319	13	2.80	3.70	20667	-7.80
23	0148	80	88	265	5268	6318	13	2.80	3.70	20656	-7.80
24	0149	91	100	265	5114	6138	14	2.80	3.80	20636	-7.70
25	0149	100	110	265	5185	6297	14	2.80	3.80	20613	-7.70
26	0150	109	120	265	5250	6386	14	2.80	3.80	20592	-7.60
27	0150	119	131	264	5217	6398	14	2.80	3.70	20538	-7.50
28	2615	105	115	265	5097	6225	14	2.80	3.80	20487	-7.40
29	2616	106	116	265	5080	6217	14	2.80	3.80	20474	-7.40

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 161
TOGW 20800 TOCG 22.4 FWD FLIGHT DATE 09/30/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	2313	29	30	265	2241	2575	13	-2.70	-2.70	21299	23.20
3	0148	62	65	265	2287	2644	13	-2.70	-2.70	21271	23.20
4	0148	90	94	265	2286	2660	13	-1.80	-1.90	21235	23.40
5	0149	116	121	265	2303	2755	14	.40	.40	21186	23.60
6	0150	130	135	274	1985	2512	15	1.50	1.30	21135	23.80
7	0150	137	142	285	2011	2553	15	1.50	1.40	21081	24.00
8	0154	147	152	271	1588	2225	17	1.50	1.40	21050	24.10
9	2200	118	120	267	366	942	19	.80	.80	20693	25.40

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 162
TOGW 20800 TOCG 22.4 FWD FLIGHT DATE 10/07/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	0150	130	133	265	2394	2146	8	1.40	1.40	21281	23.20
3	0150	140	145	265	2443	2226	8	1.40	1.40	21245	23.40
4	0154	153	158	265	2268	2132	9	1.40	1.40	21191	23.60
5	0154	155	160	265	2392	2257	9	1.50	1.40	21145	23.80
6	0154	156	161	265	2089	2014	10	1.50	1.50	21076	24.00

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 163
TOGW 21500 TOCG 22.4 FWD FLIGHT DATE 10/04/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
1	2615	91	94	265	2398	2090	7	-1.70	-1.80	21251	23.40
2	2616	91	94	264	2473	2144	7	-1.90	-2.00	21238	23.50
3	2615	89	92	265	2429	2042	7	-1.80	-1.80	21220	23.60
4	2616	93	96	264	2383	2051	7	-1.90	-2.00	21210	23.60
5	2615	87	90	266	2333	2008	7	-1.80	-1.90	21181	23.70
6	2616	92	94	265	2357	2029	7	-2.10	-2.10	21176	23.70
7	2801	127	131	267	2331	2158	8	1.40	1.40	21127	24.00
8	0150	133	139	265	3235	3058	7	1.40	1.40	21055	24.20
9	2900	152	159	266	2757	2694	9	1.40	1.40	21014	24.40
10	2900	154	161	265	3098	3012	8	1.40	1.40	20958	24.50
11	2900	161	167	265	2938	2833	8	1.50	1.40	20773	25.30
12	2900	160	167	265	3233	3150	7	1.50	1.40	20703	25.60
13	3404	28	29	265	2332	1979	7	-2.70	-2.70	20629	25.80
14	3404	29	30	265	2368	2014	7	-2.70	-2.70	20624	25.90
15	3404	31	32	264	2392	2044	7	-2.70	-2.70	20618	25.90
16	3401	34	35	265	2415	2062	7	-2.70	-2.70	20618	25.90
17	3407	31	32	265	2415	2043	7	-2.70	-2.70	20613	25.90
18	0150	131	137	265	2951	2774	7	1.40	1.40	20526	26.30
19	0150	130	136	265	2967	2780	7	2.80	3.80	20516	26.30
20	0150	135	141	265	2854	2710	8	2.80	3.90	20495	26.40
21	0150	145	150	265	2622	2499	8	2.80	3.90	20482	26.50
22	0154	156	161	265	2271	2206	10	2.80	3.90	20446	26.60

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 166
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 10/06/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	0150	133	140	265	3086	3530	12	1.40	1.40	21323	-9.40
3	2937	148	157	287	3212	3778	13	1.40	1.40	21189	-9.00
4	2937	150	159	286	3177	3725	13	1.40	1.40	21086	-8.80
5	0149	121	125	265	1635	1966	14	.90	1.00	20916	-8.40
6	0150	130	134	265	1648	1991	14	1.40	1.40	20893	-8.30
7	0150	135	139	265	1787	2097	14	1.40	1.40	20870	-8.30
8	0150	144	148	265	1444	1823	15	1.40	1.40	20855	-8.30
9	0113	129	132	265	1582	1863	14	2.80	3.80	20827	-8.20
10	0113	138	142	265	1539	1902	15	2.80	3.80	20808	-8.10
11	0113	147	150	265	1226	1647	16	2.80	3.90	20791	-8.10

FLIGHT SUMMARY

AIRCRAFT SLP1 FLIGHT 167
TOGW 25000 TOCG 4.35 FWD FLIGHT DATE 10/06/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
4	1400	0	0	262	-94	-178	14	-2.80	-2.80	24459	4.50
5	0150	123	129	265	3082	3219	10	.90	1.00	24730	5.00
6	2900	116	121	265	2985	3081	9	.20	.30	24555	5.50
7	2900	116	122	265	3032	3148	10	.40	.50	24512	5.60
8	2900	115	120	265	2987	3131	10	.40	.40	24476	5.70
9	2801	109	115	265	3156	3273	9	-.10	-.20	24416	5.80
10	2900	108	113	264	3055	3232	10	-.40	-.40	24319	6.10
11	2616	81	84	264	2004	1916	10	-2.40	-2.50	24242	6.40
12	2615	79	81	264	1870	1779	10	-2.50	-2.70	24234	6.40
13	2616	83	85	264	1789	1707	10	-2.40	-2.60	24218	6.40
15	0900	0	0	247	-94	-243	13	2.80	-1.00	23987	7.00

FLIGHT SUMMARY

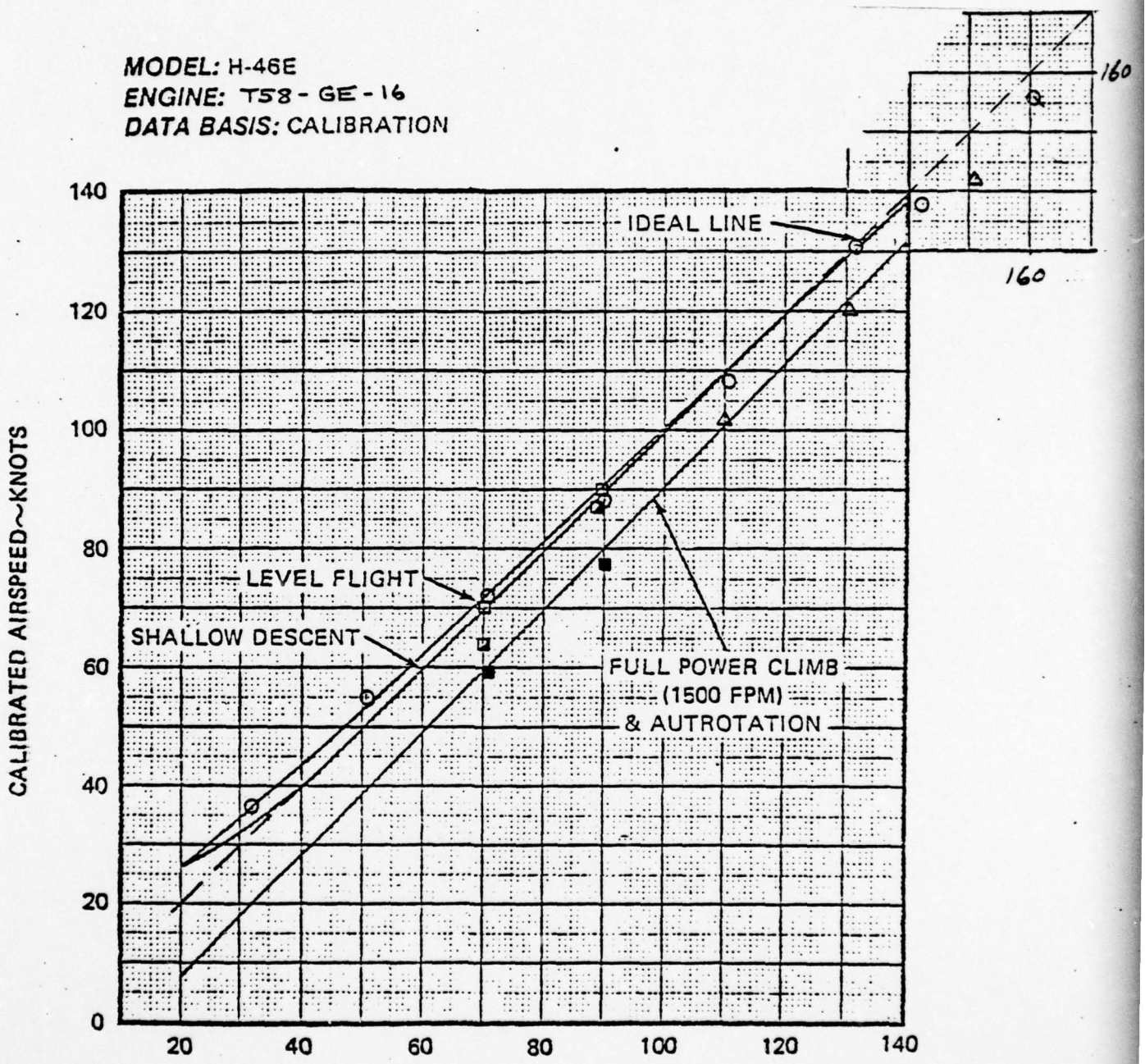
AIRCRAFT SLP1 FLIGHT 177
TOGW 20800 TOCG 9.7 AFT FLIGHT DATE 10/20/77

EVENT NO	MAN CODE	IAS (KT)	TAS (KT)	RPM	HP (FT)	HD (FT)	OAT (C)	FCYC (DEG)	ACYC (DEG)	RGW (LB)	RCG (IN)
2	0828	0	0	266	213	334	15	2.80	-1.00	21495	-9.80
3	0150	113	124	263	6402	6344	1	-.40	-.40	21305	-9.30
4	0150	126	138	263	6164	6116	2	1.00	1.20	21279	-9.30
5	0154	130	143	263	6383	6377	2	1.40	1.40	21238	-9.20
6	3334	131	144	263	6335	6298	2	1.40	1.40	21225	-9.10
7	0154	139	153	264	6206	6233	2	1.40	1.40	21191	-9.10
8	2615	114	125	264	6278	6190	1			21168	-9.00
9	2615	115	126	263	6132	6086	2			21156	-9.00
10	0150	112	123	264	6221	6167	2	-.30	-.30	21127	-8.90
11	0154	129	142	263	6184	6206	2	1.30	1.40	21104	-8.80
12	0154	134	147	263	6066	6089	3	1.40	1.40	21083	-8.80
13	3334	131	144	263	6073	6125	3	1.40	1.40	21076	-8.80
14	0154	138	150	263	5789	5783	3	1.40	1.40	21063	-8.70
15	0600	80	88	290	6468	6237	0	-2.50	-2.50	21035	-8.70
16	2637	83	30	290	6165	5928	0	-2.50	-2.50	21035	-8.70
17	2637	82	89	288	5379	5154	2	-2.30	-2.40	21029	-8.70
18	0423	70	75	270	4891	4645	3	-2.70	-2.80	21029	-8.70
19	0149	123	130	263	3910	3660	5	1.10	1.20	20986	-8.50
20	0150	134	142	263	4081	3880	5	1.40	1.40	20965	-8.50
21	3334	133	141	264	3996	3898	6	1.40	1.40	20952	-8.50
22	0150	141	148	263	3761	3579	6	1.40	1.40	20937	-8.40
23	0154	154	161	263	3194	3124	8	1.40	1.40	20924	-8.40
24	0150	133	137	263	2411	2336	9	1.40	1.40	20857	-8.30
25	0150	136	141	264	2220	2203	10	1.40	1.40	20831	-8.30
26	0154	149	153	263	1979	2027	11	1.40	1.40	20819	-8.20
27	0154	155	160	264	2060	2136	11	1.40	1.40	20788	-8.20
28	2615	86	89	262	2349	2154	8	-2.30	-2.60	20757	-8.00
29	2616	98	101	263	2281	2099	9	-1.80	-1.80	20755	-8.00
30	2615	86	89	262	2317	2125	8	-2.30	-2.40	20739	-8.00
31	2616	90	93	264	2185	2028	9	-1.80	-1.90	20734	-8.00
32	2616	54	55	263	2393	2143	8	-2.70	-2.70	20713	-7.90
33	2615	52	54	263	2347	2105	8	-2.70	-2.70	20708	-7.90
34	2616	139	144	264	2380	2372	10	1.40	1.40	20670	-7.80
35	0150	132	137	265	2363	2361	10	1.40	1.30	20664	-7.80
36	2810	136	141	265	2317	2286	10	1.40	1.40	20649	-7.80
37	0150	136	141	263	2394	2342	9	1.40	1.40	20616	-7.70
38	0150	140	145	263	2347	2322	10	1.40	1.40	20595	-7.60
39	0154	160	164	264	1714	1831	12	1.40	1.40	20579	-7.60
40	0149	130	137	263	3761	3551	5	1.40	1.40	20520	-7.50
41	0150	137	144	263	3724	3533	6	1.40	1.40	20500	-7.40
42	1900	141	149	263	3575	3432	6	1.40	1.40	20492	-7.40
43	0154	157	165	263	3080	3030	8	1.40	1.40	20484	-7.40
44	3220	153	160	264	2948	2914	8	1.40	1.40	20482	-7.40
45	2200	44	45	265	423	416	14	-2.70	-2.80	20374	-7.10
46	0900	0	0	258	213	344	15	-2.80	-1.00	20343	-7.00

3.3 Airspeed Calibration

The airspeed calibration (Flight 186) was made on the theodolite range at NATC, Patuxent River, Md., prior to starting the structural demonstration. Level flight points were obtained from 30 KIAS to V_H (140 KIAS). Runs were made up range and down range to cancel wind effect. A full power dive was performed at 160 KIAS. Auto rotation was performed at 110, 130 and 150 KIAS.

Climbs were performed at 500 and 1000 FPM and maximum power at 70 and 90 KIAS. The calibration chart is presented in Figure 4 superimposed on the calibrated/indicated airspeed chart from the CH-46E Flight Manual, Reference 3.



NATC AIRSPEED CALIBRATION : THEODOLITE RANGE

- ○ LEVEL FLIGHT
- Q DIVE
- △ AUTOROTATION
- □ CLIMB 500 fpm
- ◪ " 1000 "
- ■ " MAX POWER

(RANGE WIND CORRECTED THEODOLITE DATA)

FIGURE 4

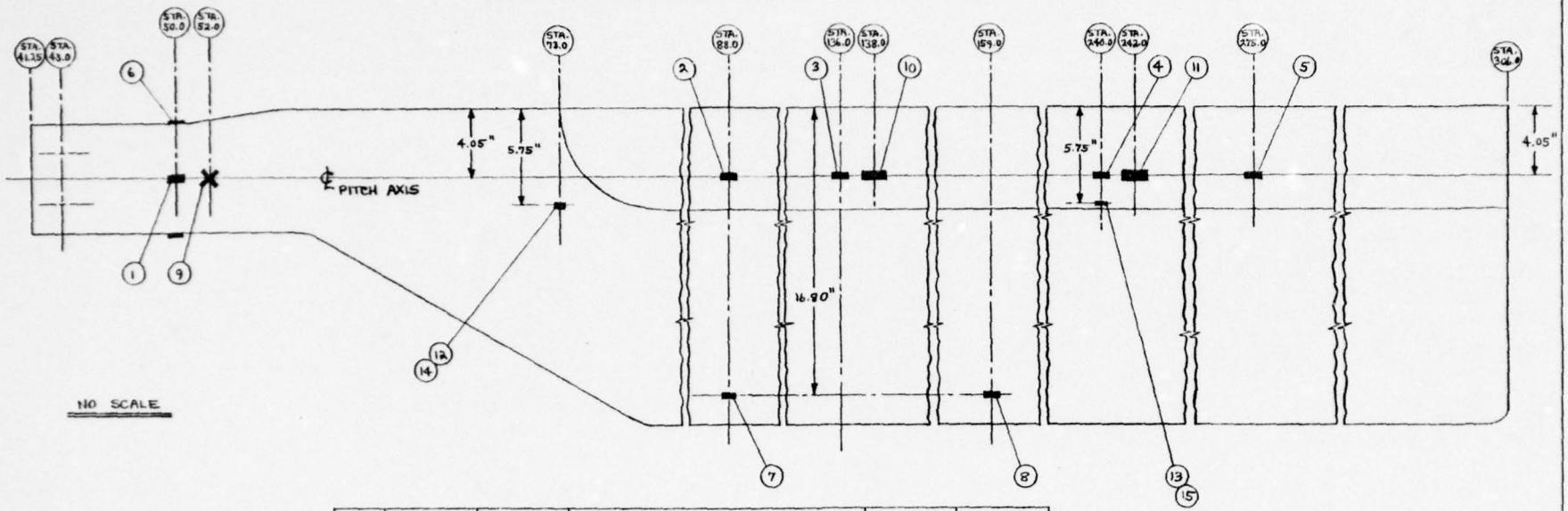
3.4 Instrumentation

A description of all stress instrumentation is shown on the following pages. A flight by flight summary of operative gages is found starting on Page 71 of Reference 2.

Description	Page
Rotor Blade	92
Rotor Hub	93
Rotating Controls	94
Forward Stationary Controls	95
Aft Stationary Controls	96
Forward Rotor Shaft	97
Aft Rotor Shaft	98
Rotor Blade Motions (Lead-Lag, Flap, Pitch)	99

CH-46 COMPOSITE ROTOR BLADE FLIGHT TEST PROGRAM

FORWARD AND AFT ROTOR BLADE INSTRUMENTATION



NO SCALE

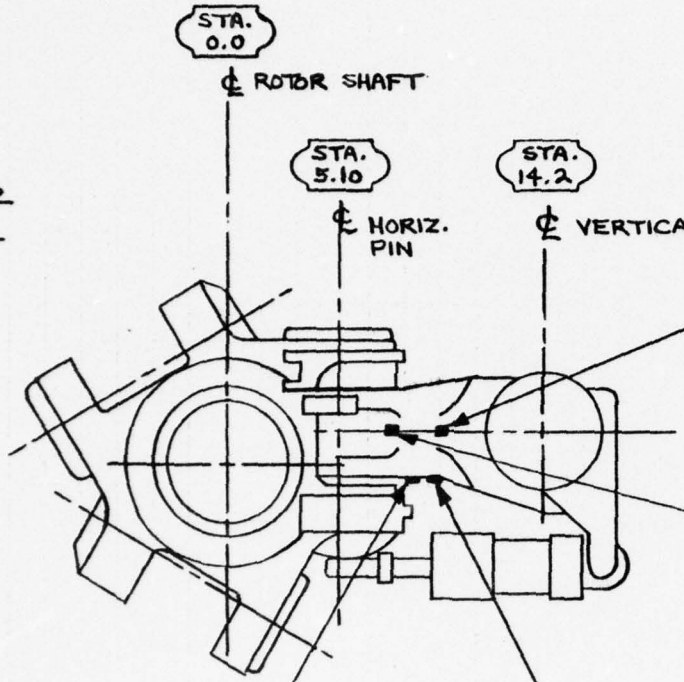
NO.	AFT BLADE GAGE CODE	FWD BLADE GAGE CODE	ITEM	AFT BLADE SPARE GAGE CODE	FWD BLADE SPARE GAGE CODE
1	4971	4171	FLAPWISE, STA. 50.	6971	6171
2	4972	4172	FLAPWISE, STA. 88.	6972	6172
3	4973	4173	FLAPWISE, STA. 136.	6973	6173
4	4974	4174	FLAPWISE, STA. 240.	6974	6174
5	4975	4175	FLAPWISE, STA. 275.	6975	6175
6	4976	4176	CHORDWISE, STA. 50.	6976	6176
7	4977	4177	T.E. TENSION, STA. 88.	6977	6177
8	4978	4178	T.E. TENSION, STA. 159.	6978	6178
9	4979	4179	TORSION, STA. 52.	6979	6179
10	4980	4180	TORSION, STA. 138.	6980	6180
11	4981	4181	TORSION, STA. 242.	6981	6181
12	4982	4182	ABSOLUTE STRESS, STA. 73. (TOP SURF.)	—	—
13	4984	4184	ABSOLUTE STRESS, STA. 240. (TOP SURF.)	—	—
14	4983	4183	ABSOLUTE STRESS, STA. 73. (BMT. SURF.)	—	—
15	4985	4185	ABSOLUTE STRESS, STA. 240. (BMT. SURF.)	—	—

REF. DRAWING NO. A02FT5928.

FIGURE 5.

CH-46 COMPOSITE ROTOR BLADE FLIGHT TEST PROGRAM

FWD AND AFT ROTOR HUB INSTRUMENTATION



VIEW LOOKING DOWN ON HUB

NO SCALE

REF. A02FTS-564 & 565

EXT. LINK FLAP (STA. 9.23)
CODE NO.
4115 FWD. ROTOR, MAIN GAGE
4915 AFT " , " "

EXT. LINK FLAP (STA. 7.6)
CODE NO.
6115 FWD ROTOR, SPARE GAGE
6915 AFT " , " "

EXT. LINK CHORD (STA. 9.1)
CODE NO.
4186 FWD ROTOR, MAIN GAGE
4986 AFT " , " "

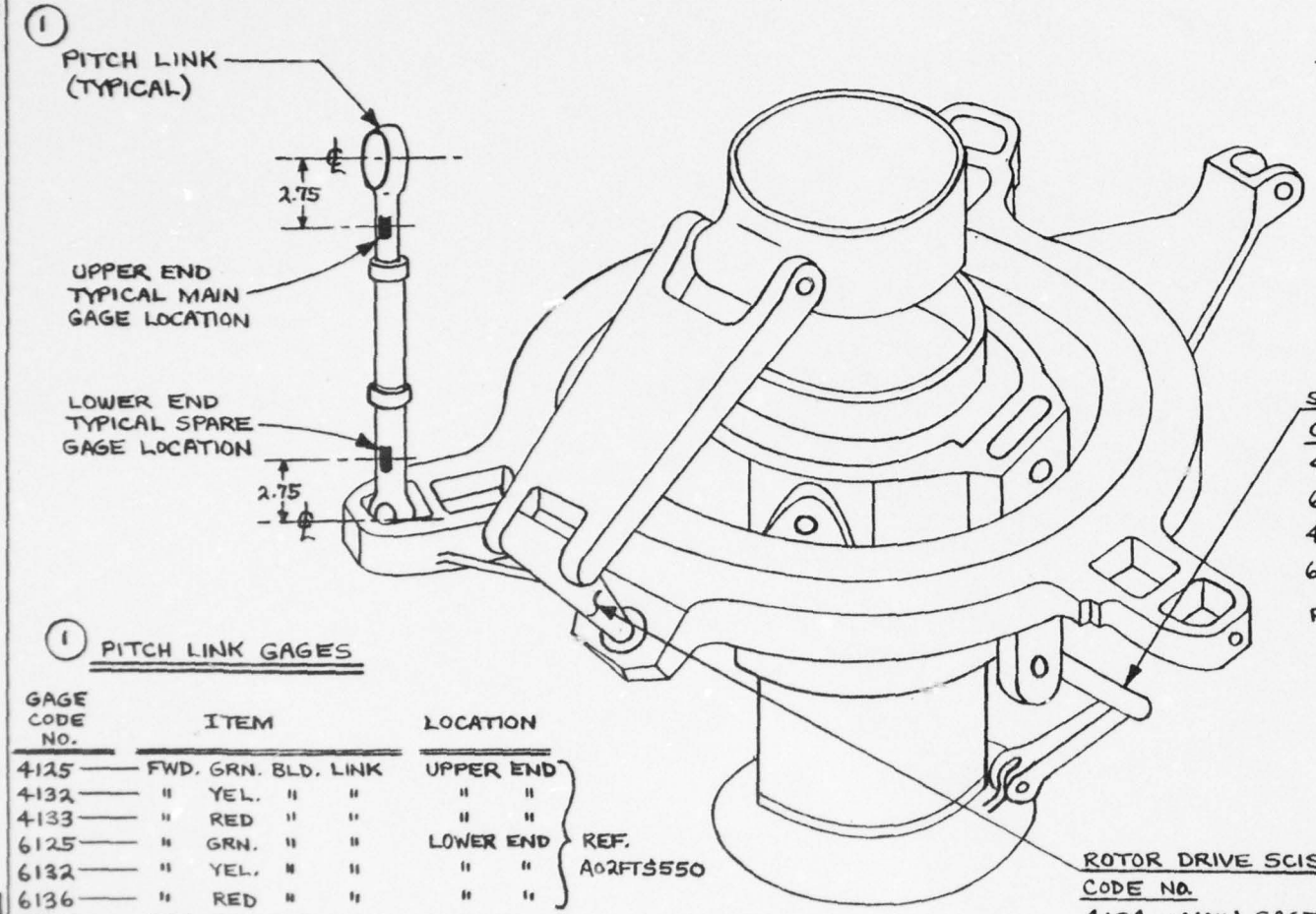
EXT. LINK CHORD (STA. 8.3)
CODE NO.
6186 FWD ROTOR, SPARE GAGE
6986 AFT " , " "

FIGURE 6

CH-46 COMPOSITE ROTOR BLADE FLIGHT TEST PROGRAM

FWD AND AFT ROTOR CONTROLS INSTRUMENTATION

NO SCALE



STATIC SCISSORS
CODE NO.
4364 - MAIN GAGE, FWD ROTOR
6310 - SPARE " , " "
4967 - MAIN " , AFT "
6510 - SPARE " , " "
REF. A02FTS562 (FWD)
A02FTS563 (AFT)

ROTOR DRIVE SCISSORS
CODE NO.
4134 - MAIN GAGE, FWD ROTOR
4136 - SPARE " , " "
4946 - MAIN " , AFT "
4944 - SPARE " , " "
REF. A02FTS560 (FWD)
A02FTS561 (AFT)

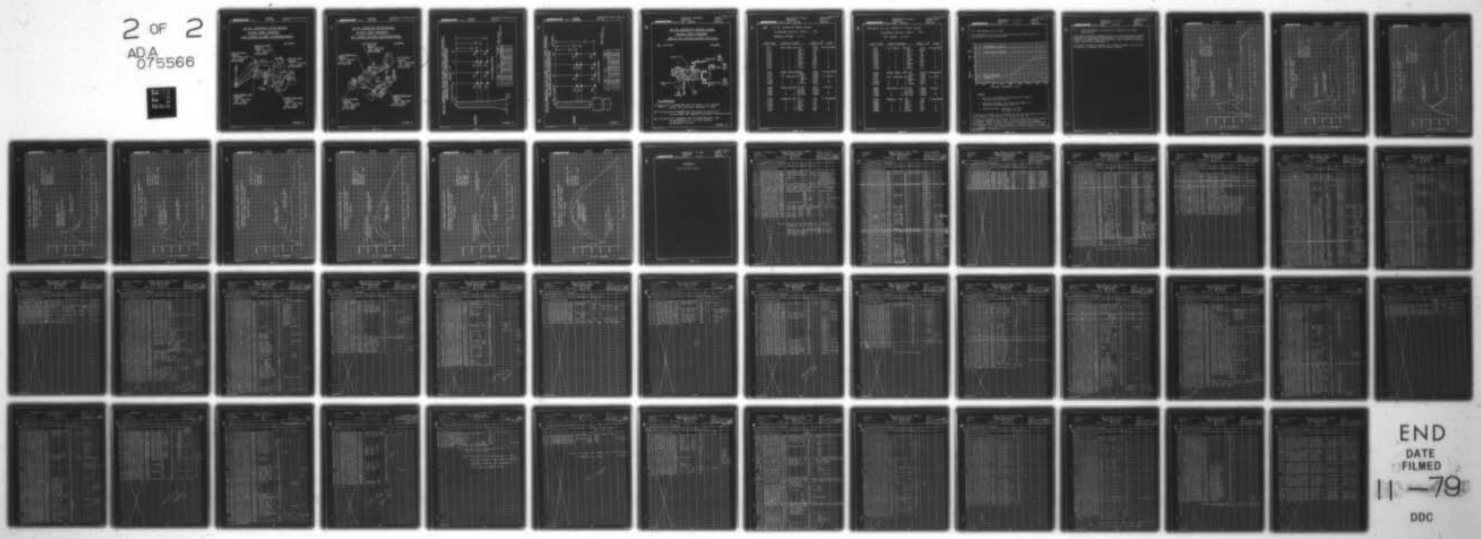
1 PITCH LINK GAGES

GAGE CODE NO.	ITEM	LOCATION	
4125	FWD. GRN. BLD. LINK	UPPER END	REF. A02FTS550
4132	" YEL. " "	" "	
4133	" RED " "	" "	
6125	" GRN. " "	LOWER END	
6132	" YEL. " "	" "	
6136	" RED " "	" "	
4925	AFT GRN. BLD. LINK	UPPER END	REF. A02FTS551
4966	" YEL. " "	" "	
4958	" RED " "	" "	
6925	" GRN. " "	LOWER END	
6966	" YEL. " "	" "	
6958	" RED " "	" "	

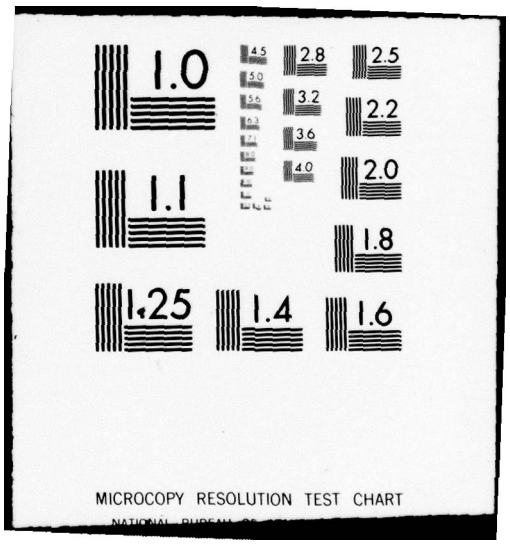
FORM 46284 (2/56)

AD-A075 566 BOEING VERTOL CO PHILADELPHIA PA F/G 1/3
CH-46 COMPOSITE ROTOR BLADE FLIGHT STRESS SURVEY DATA. VOLUME I--ETC(U)
JUL 78 R AIELLO, J BENDO N00019-75-C-0396
UNCLASSIFIED D210-11168-3-VOL-1 NL

2 OF 2
ADA 075566



END
DATE FILMED
11-79
DDC


1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
5.6
6.3
7.1
8.0
9.0
MICROCOPY RESOLUTION TEST CHART

CH-46 COMPOSITE ROTOR BLADE

FLIGHT TEST PROGRAM

FWD UPPER CONTROL INSTRUMENTATION

NO SCALE

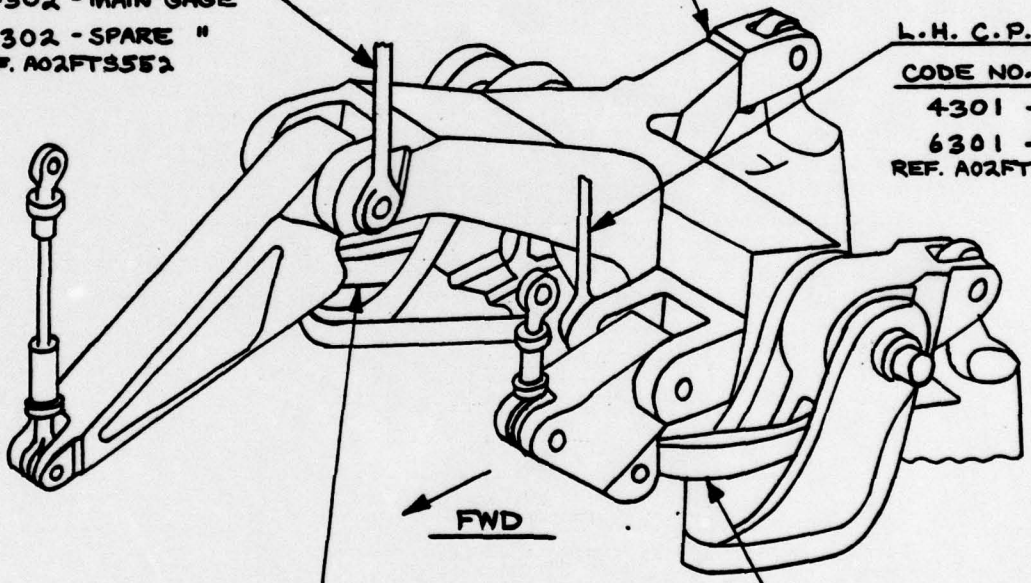


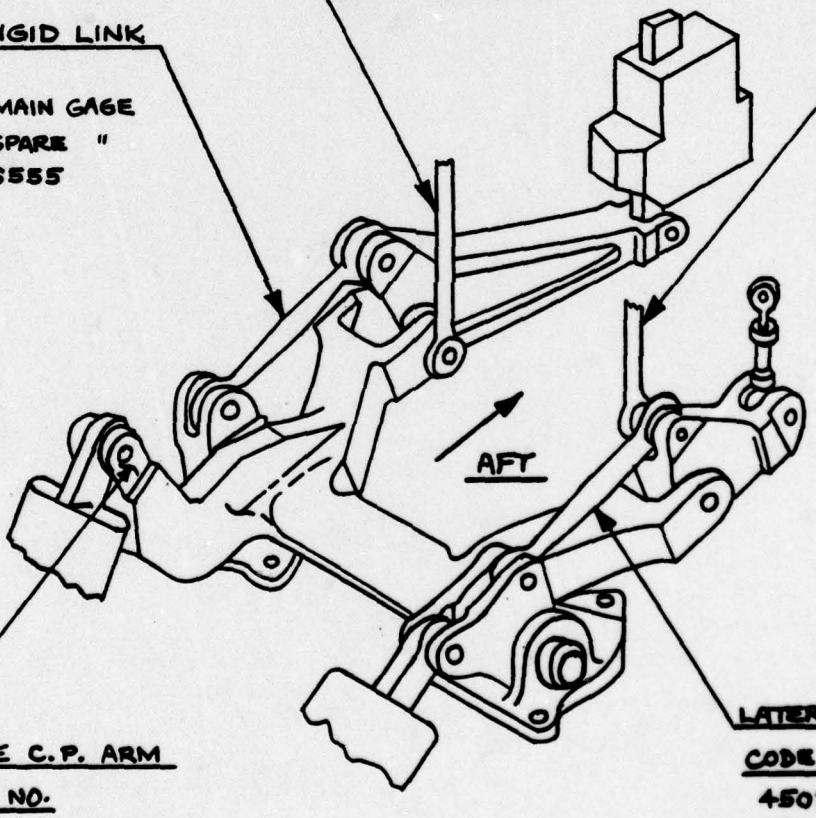
FIGURE 8

CH-46 COMPOSITE ROTOR BLADE

FLIGHT TEST PROGRAM

AFT UPPER CONTROL INSTRUMENTATION

NO SCALE



R.H. C.P. LINK
CODE NO.
4502 - MAIN GAGE
6502 - SPARE "
REF. A02FTS553

LONG. RIGID LINK
CODE NO.
4504 - MAIN GAGE
6504 - SPARE "
REF. A02FTS555

L.H. C.P. LINK
CODE NO.
4501 - MAIN GAGE
6501 - SPARE "
REF. A02FTS553

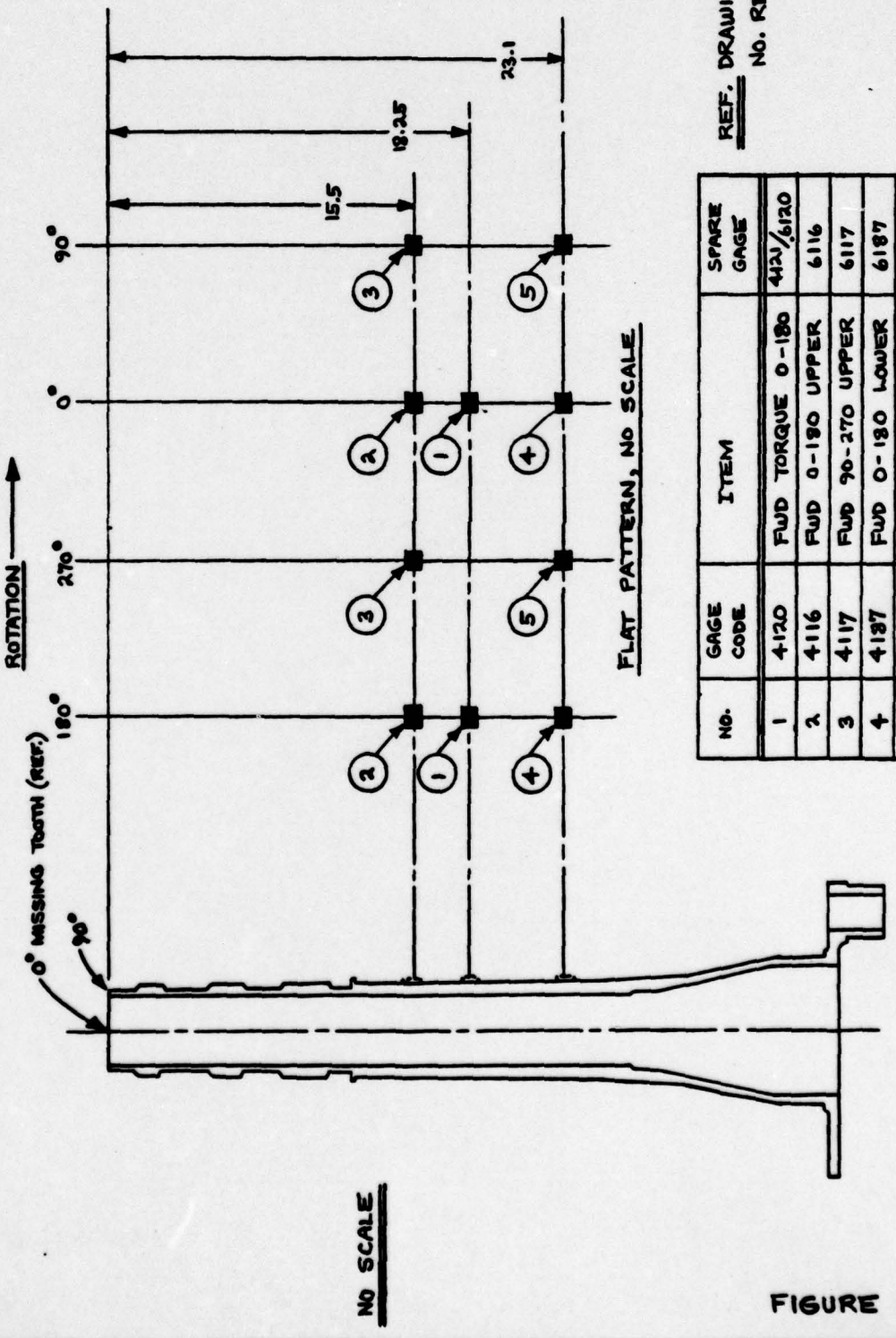
YOKE C.P. ARM
CODE NO.
4505 - MAIN GAGE
6505 - SPARE "
REF. A02FTS559

LATERAL RIGID LINK
CODE NO.
4503 - MAIN GAGE
6503 - SPARE "
REF. A02FTS557

FIGURE 9

CH-46 COMPOSITE ROTOR BLADE FLIGHT TEST PROGRAM

FORWARD ROTOR SHAFT INSTRUMENTATION



REF. DRAWING No. RD2FT5641

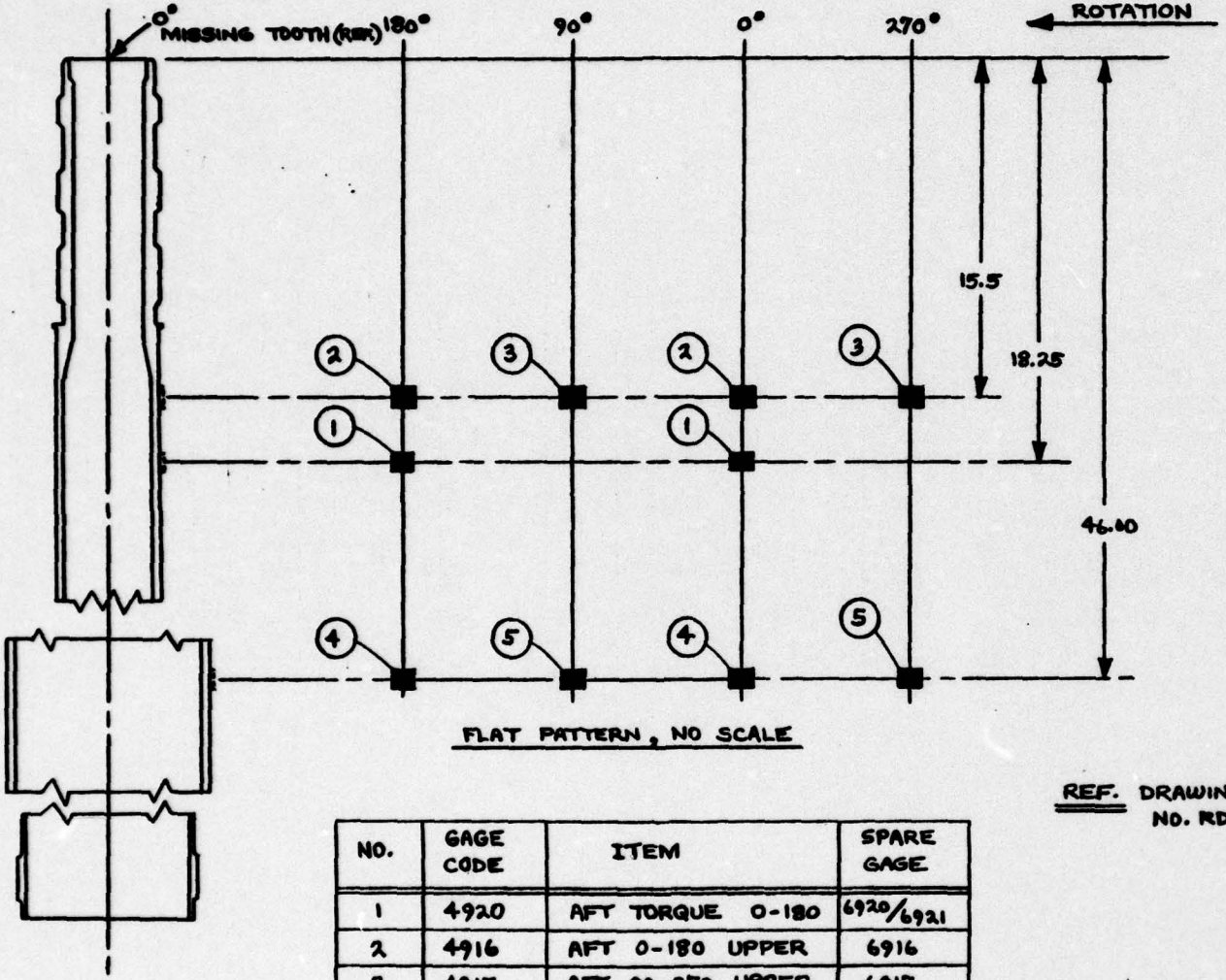
NO.	GAGE CODE	ITEM	SPARE GAGE
1	4120	FWD TORQUE 0-180	4121/6120
2	4116	FWD 0-180 UPPER	6116
3	4117	FWD 90-270 UPPER	6117
4	4187	FWD 0-180 LOWER	6187
5	4188	FWD 90-270 LOWER	6188

FIGURE 10

FORM 46284 (2/66)

CH-46 COMPOSITE ROTOR BLADE FLIGHT TEST PROGRAM

AFT ROTOR SHAFT INSTRUMENTATION



NO SCALE

FLAT PATTERN, NO SCALE

REF. DRAWING NO. RD2FT5605

NO.	GAGE CODE	ITEM	SPARE GAGE
1	4920	AFT TORQUE 0-180	6920/6921
2	4916	AFT 0-180 UPPER	6916
3	4917	AFT 90-270 UPPER	6917
4	4923	AFT 0-180 LOWER	6923
5	4924	AFT 90-270 LOWER	6924

FIGURE 11

FORM 40284 (2/80)
THE BOEING COMPANY J.BENDO (4/14/78)
NUMBER D210-11168-3, VOL. 1
REV LTR

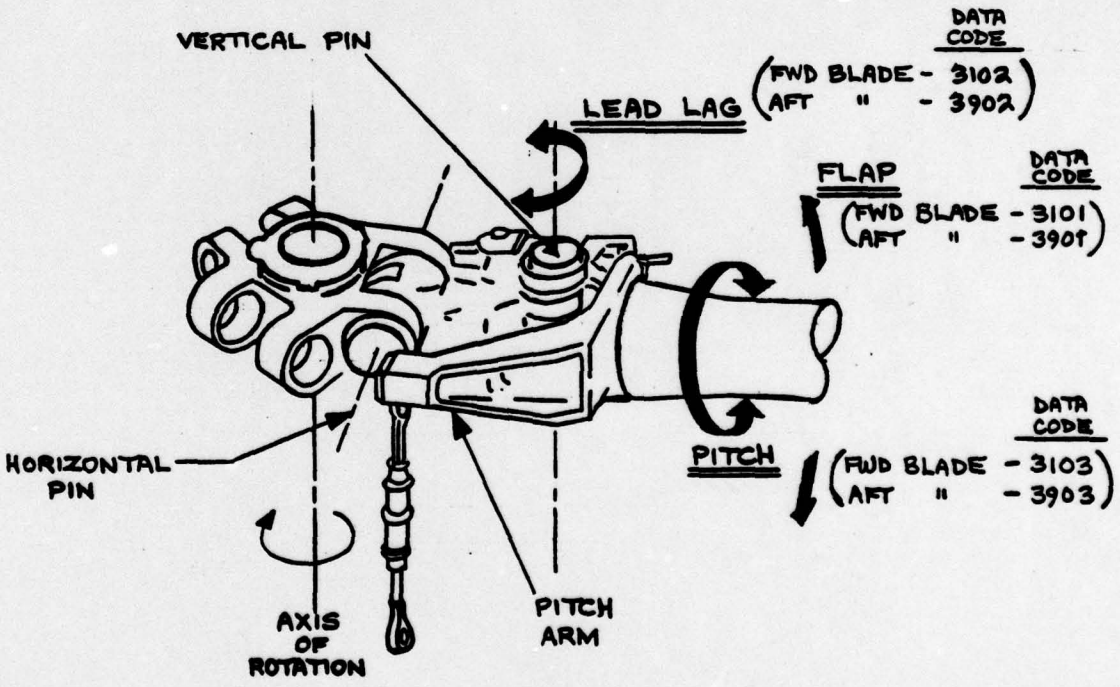
CH-46 COMPOSITE ROTOR BLADE

FLIGHT TEST PROGRAM

FWD & AFT ROTOR BLADE MOTIONS

REF. A02FT5927

NO SCALE



0° ORIENTATION

1. LEAD-LAG ANGLE, 0° IS MEASURED WHEN THE BLADE IS FULL FORWARD AGAINST THE LEAD STOP. (LAG BACK IS PLUS).

2. FLAP ANGLE, 0° IS MEASURED WHEN THE BLADE IS STRAIGHT OUT (I.E., 0° ABOUT THE HORIZONTAL PIN, BLADE UP POSITION IS PLUS).

3. PITCH ANGLE, 0° IS MEASURED WHEN THE BLADE HORIZONTAL AXIS AT 75% RADIUS IS IN FLAT PITCH POSITION. (BLADE NOSE UP IS PLUS.)

FIGURE 12

3.5 CH-46 COMPOSITE ROTOR BLADE CALIBRATED SECTION MODULI, C/EI

FORWARD BLADE, A-1-3

DATA CODE	IDENTIFICATION	C/EI ~ 10^{-6}	NOTES
4171	FLAP BEND, STA 50	.0760	(4 ARM BRIDGE)
6171	50 SP.	.0762	↓
4172	88	.181	
6172	88 SP.	.179	
4173	136	.187	
6173	136 SP.	.187	
4174	240	.244	
6174	240 SP.	.243	
4175	275	.221	
6175	275 SP	.220	↓
4176	CHORD BEND, STA 50	.0572	(4 ARM BRIDGE)
6176	" " " 50 SP.	.0543	↓
4177	T.E. TENSION STA. 88	.0816	(T GAGE)
6177	88 SP.	.0827	↓
4178	159	.0846	
6178	159 SP.	.0861	↓
4182	ABSOLUTE, STA. 73 TOP	.0557	(DIRECT)
4183	73 BTM	.0562	↓
4184	240 TOP	.0660	
4185	240 BTM	.0592	↓
4179	TORSION, STA 52	.134	(4 ARM BRIDGE)
6179	52 SP.	.145	↓
4180	138	.197	
6180	138 SP.	.197	
4181	242	.223	
6181	242 SP.	.223	↓

3.5 CONT'D CH-46 COMPOSITE ROTOR BLADE

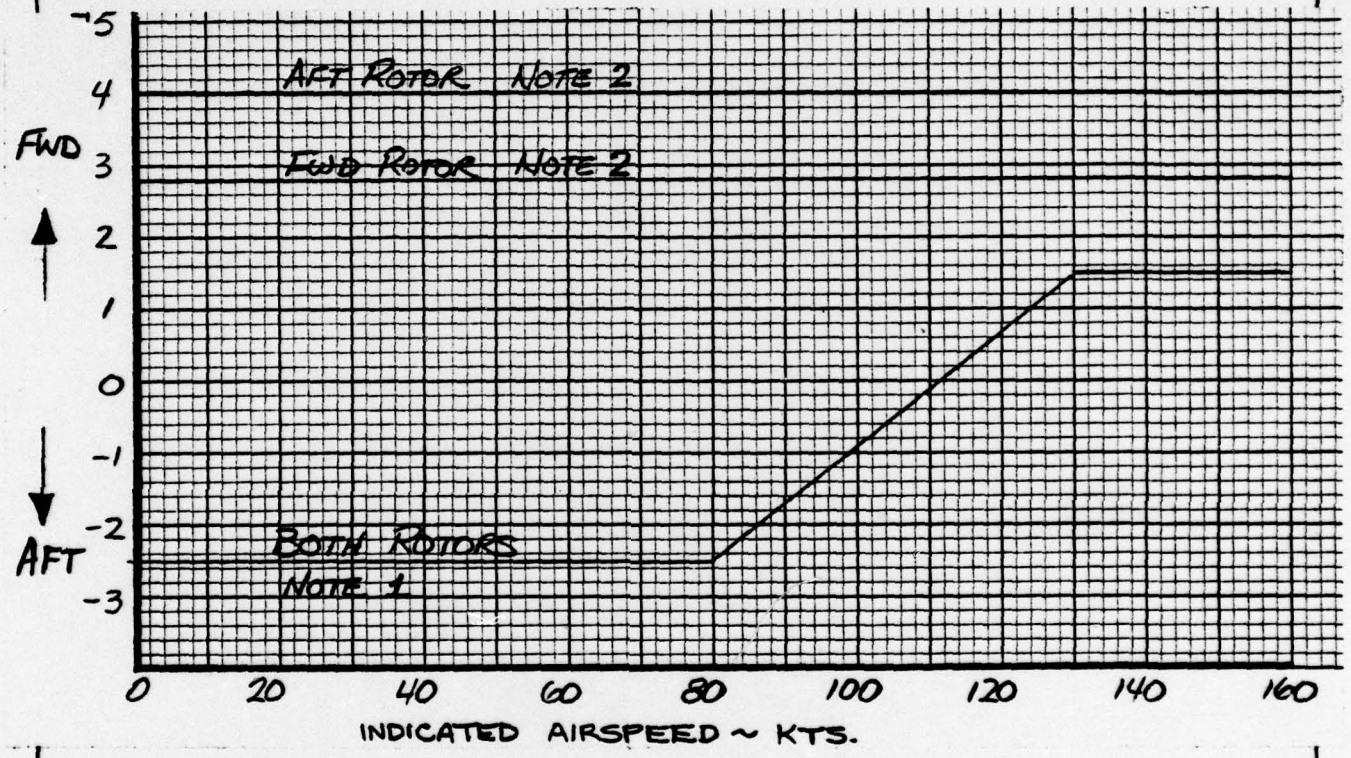
CALIBRATED SECTION MODULI, C/EI

AFT BLADE, A-2-7

DATA CODE	IDENTIFICATION	C/EI ~ 10^{-6}	NOTES
4971	FLAP BEND, STA 50	.0741	(4 ARM BRIDGE)
6971	50 SP.	.0793	
4972	88	.181	
6972	88 SP.	.181	
4973	136	.195	
6973	136 SP.	.193	
4974	240	.242	
6974	240 SP.	.241	
4975	275	.216	
6975	275 SP.	.211	
4976	CHORD BEND, STA. 50	.0542	(4 ARM BRIDGE)
6976	" " " 50 SP.	.0555	
4977	T.E. TENSION, STA. 88	.0737	(T GAGE)
6977	88 SP.	.0749	
4978	159	.0817	
6978	159 SP.	.0817	
4982	ABSOLUTE, STA 73 TOP	.0536	(DIRECT)
4983	73 BTM.	.0532	
4984	240 TOP	.0660	
4985	240 BTM	.0566	
4979	TORSION, STA. 52	.135	(4 ARM BRIDGE)
6979	52 SP.	.138	
4980	138	.191	
6980	138 SP.	.191	
4981	242	.214	
6981	242 SP.	.214	

3.6 LONGITUDINAL CYCLIC TRIM

The longitudinal cyclic trim used during the stress survey is illustrated in the diagram below.



NOTES:

1. ECP 230 "q" sensed trim schedule for density altitudes up to 6000 ft.
2. Manually selected trim (fully extended) for density altitudes above 6000 ft.
3. Blade Fold/Taxi; Fwd Head 2.8° Fwd
   Aft Head 0.5° Aft

A series of flights (X-132 through X-135) was conducted for cyclic trim schedule investigations at design GW, aft CG.

Flights 132 through 135 consist of level flight cyclic trim sweeps at various speeds at 2000, 6000, 8000 and 12000 feet density altitudes. These flights have very few events at programmed trim and therefore have not been included in the TAS plots in Volumes 2 through 8. All tabulated data for these flights is presented in Volumes 9 through 12.

3.7 Spanwise Moment Distributions, Composite and Metal Spar Blades

This section presents spanwise plots of high-speed level flight flapwise and chordwise bending moment for the composite rotor blade and compares them with the metal spar blade for identical flight conditions (Reference 4).

Figures 13 through 18 compare the flapwise moments and Figures 19 through 21 compare the chordwise moments.

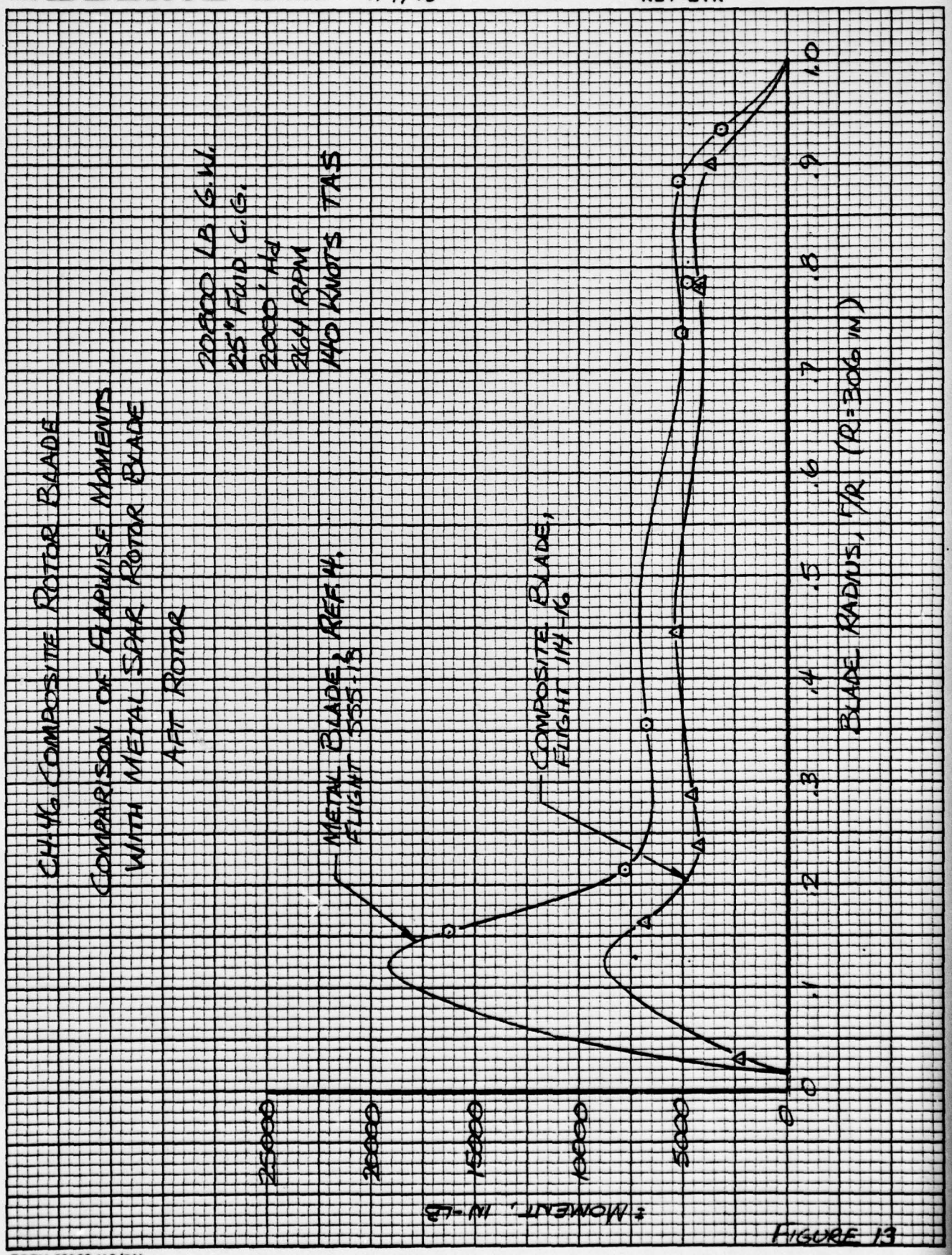

CH-46 COMPOSITE ROTOR BLADE
COMPARISON OF FLAPWISE MOMENTS
WITH METAL SPAR ROTOR BLADE
AFT ROTOR
20300 LB G.W.
25% FWD C.G.
2000' Hd
264 RPM
140 KNOTS TAS
METAL BLADE, REF H.
FLIGHT 555:15
COMPOSITE BLADE,
FLIGHT 114-16
BLADE RADIUS, F/R (R=306 IN.)
± MOMENT, IN-LB
25000
20000
15000
10000
5000
0
.1
.2
.3
.4
.5
.6
.7
.8
.9
1.0

FIGURE 13

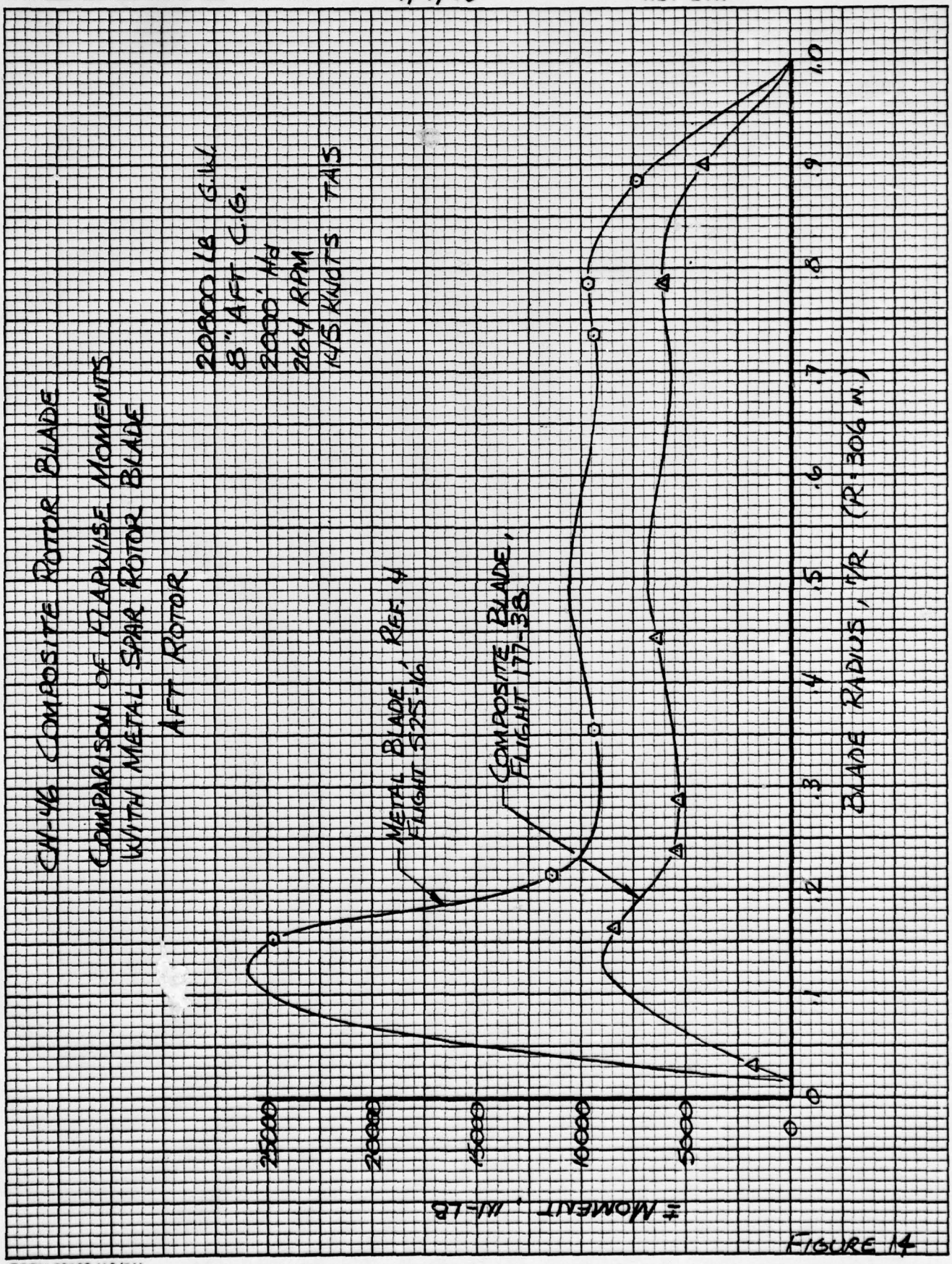

CH-46 COMPOSITE ROTOR BLADE
COMPARISON OF FLAPWISE MOMENTS
WITH METAL SPAR ROTOR BLADE
AFT ROTOR
20800 LB G.W.
8" AFT C.G.
2000' Hd
264 RPM
165 KNOTS TAS
METAL BLADE, REF. 4
FLIGHT 525-16
COMPOSITE BLADE,
FLIGHT 177-38
± MOMENT, IN-LB
25000
20000
15000
10000
5000
0
BLADE RADIUS, r/R (R=306 in.)
0
.1
.2
.3
.4
.5
.6
.7
.8
.9
1.0

FIGURE 14

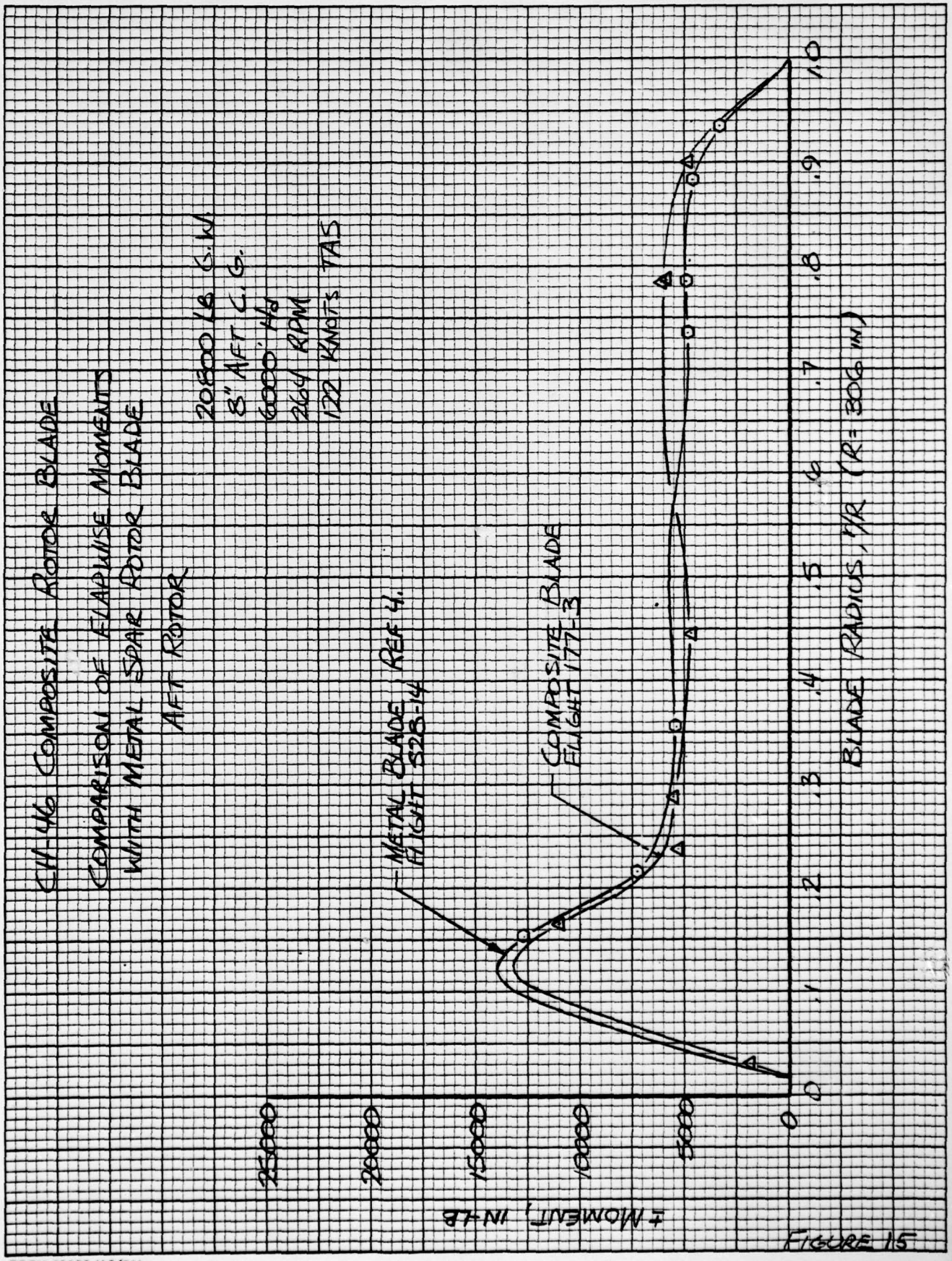

CH-46 COMPOSITE ROTOR BLADE
COMPARISON OF FLAPWISE MOMENTS
WITH METAL SPAR ROTOR BLADE
AFT ROTOR
20800 LB G.W.
8" AFT C.G.
6000' HP
264 RPM
122 KNOTS TAS
METAL BLADE, REF 4.
FLIGHT 528-14
COMPOSITE BLADE
FLIGHT 177-3
± MOMENT, IN-LB
25000
20000
15000
10000
5000
0
BLADE RADIUS, r/R (R = 306 IN)
0
.1
.2
.3
.4
.5
.6
.7
.8
.9
1.0

FIGURE 15

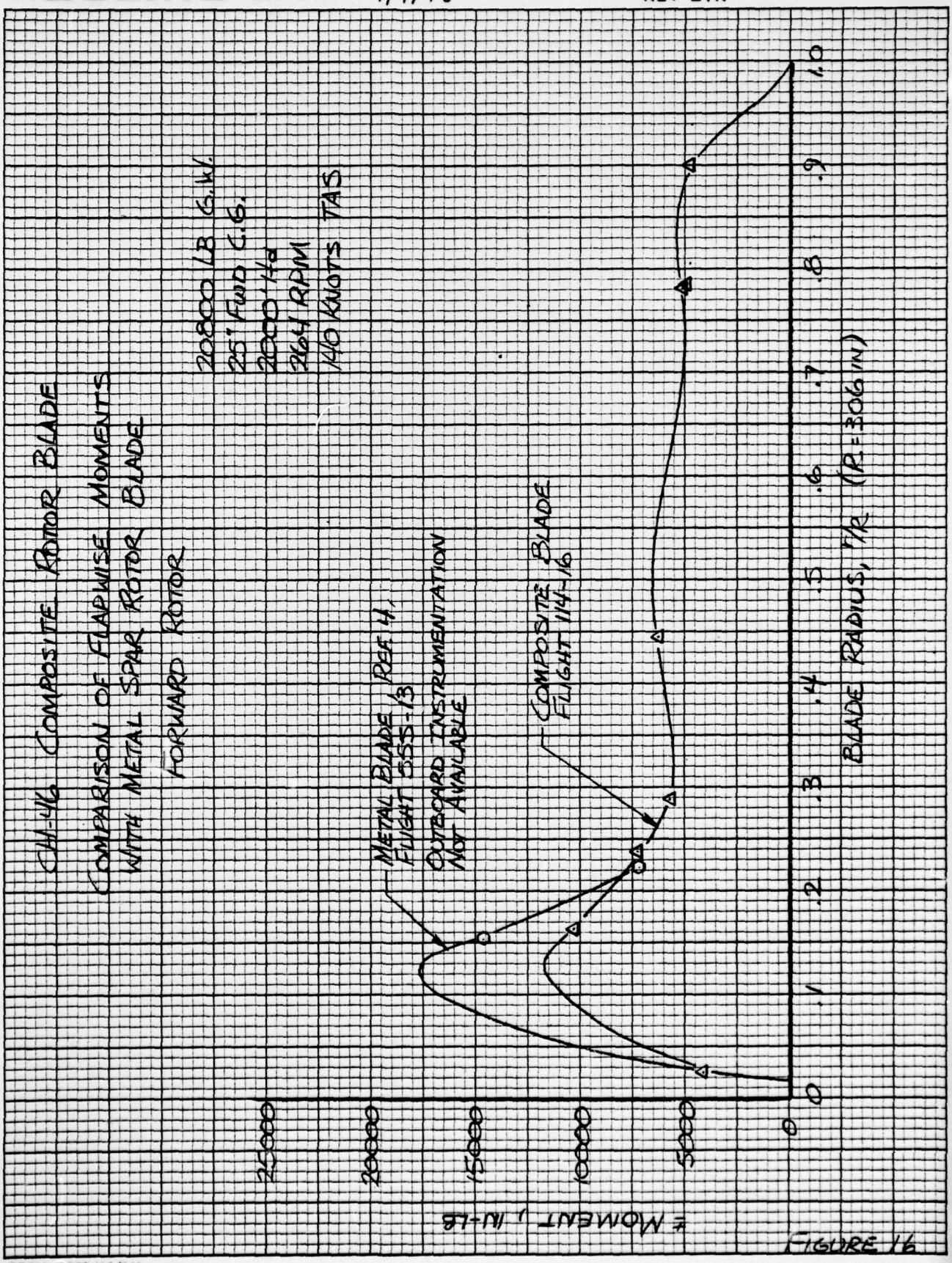

CH-46 COMPOSITE ROTOR BLADE
COMPARISON OF FLAPWISE MOMENTS
WITH METAL SPAR ROTOR BLADE
FORWARD ROTOR
20800 LB G.W.
25" FWD C.G.
2000' Hp
264 RPM
140 KNOTS TAS
METAL BLADE REF 4.
FLIGHT 555-13
OUTBOARD INSTRUMENTATION
NOT AVAILABLE
COMPOSITE BLADE
FLIGHT 114-16
25000
20000
15000
10000
5000
0
± MOMENT, IN-LB
0
.1
.2
.3
.4
.5
.6
.7
.8
.9
1.0
BLADE RADIUS, F/R (R=306 IN)

FIGURE 16

CH-46 COMPOSITE ROTOR BLADE
COMPARISON OF FLAPWISE MOMENTS
WITH METAL SPAR ROTOR BLADE
FORWARD ROTOR

20,900 LB G.W
6" AFT C.G.
2000' HP
264 RPM
145 KNOTS TAS

METAL BLADE, REF. 4
FLIGHT 525-16
OUTBOARD INSTRUMENTATION
NOT AVAILABLE

COMPOSITE BLADE,
FLIGHT 177-38

+ MOMENT, IN-LB
25000
20000
15000
10000
5000
0

BLADE RADIUS, r/R (R=306 IN)
0
.1
.2
.3
.4
.5
.6
.7
.8
.9
1.0

FIGURE 17

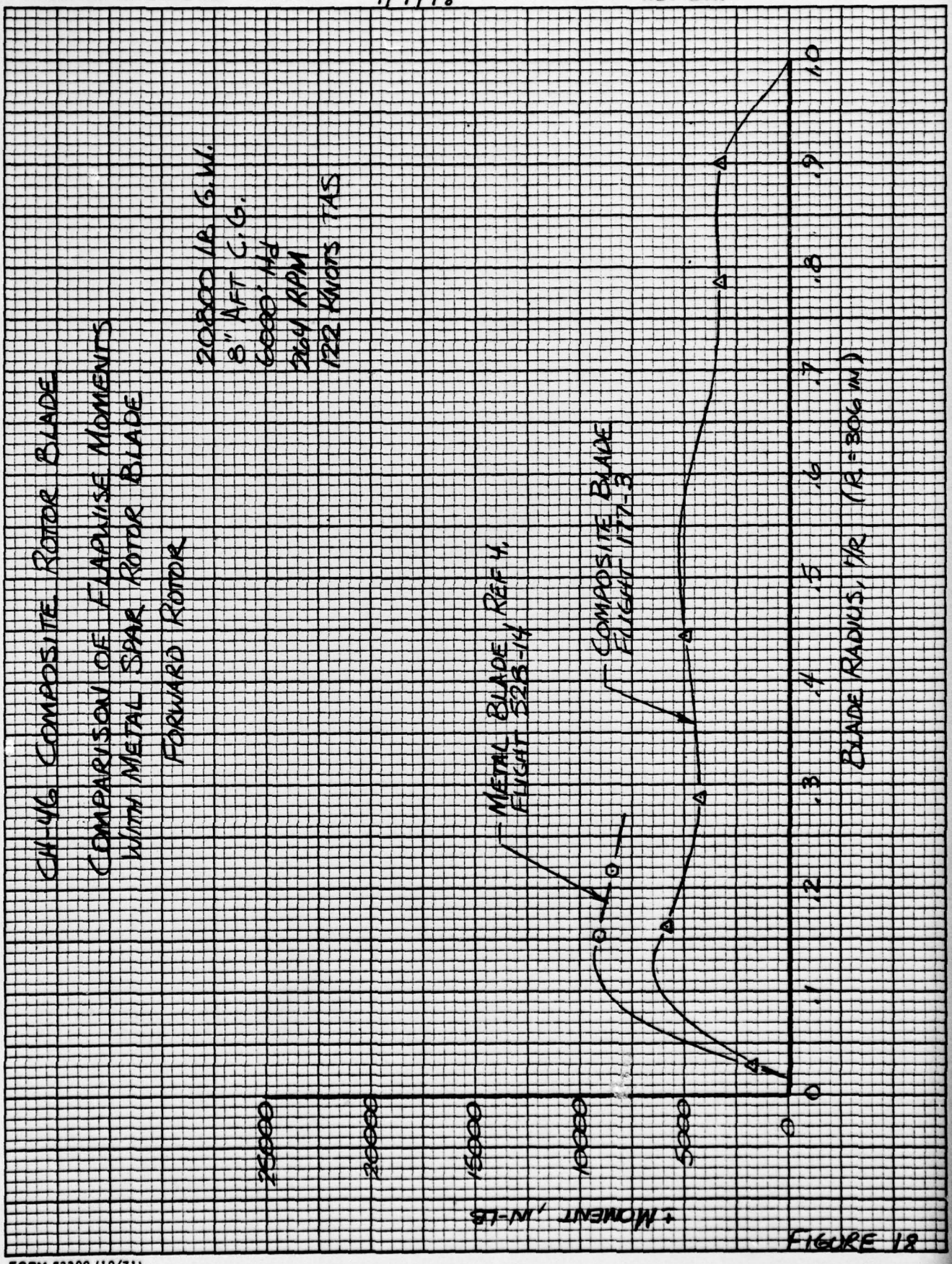

CH-46 COMPOSITE ROTOR BLADE
COMPARISON OF FLAPWISE MOMENTS
WITH METAL SPAR ROTOR BLADE
FORWARD ROTOR
20800 LB G.W.
8" AFT C.G.
6000' Hd
264 RPM
122 KNOTS TAS
METAL BLADE, REF 4.
FLIGHT 528-14
COMPOSITE BLADE
FLIGHT 177-3
+ MOMENT, IN-LBS
25000
20000
15000
10000
5000
0
.1
.2
.3
.4
.5
.6
.7
.8
.9
1.0
BLADE RADIUS, F/R (R = 306 IN.)

FIGURE 18

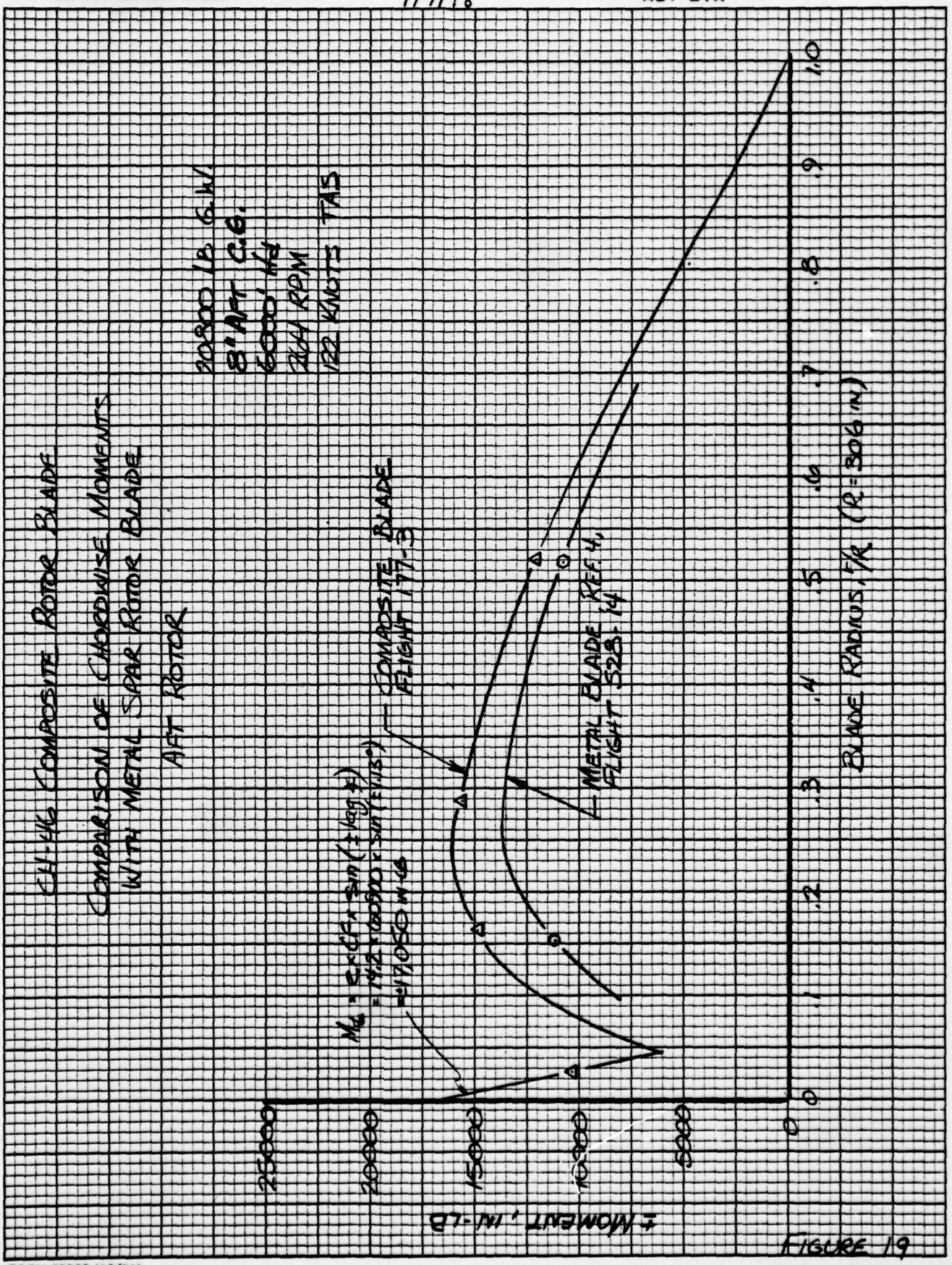

CH-46 COMPOSITE ROTOR BLADE
COMPARISON OF CHORDWISE MOMENTS
WITH METAL SPAR ROTOR BLADE
AFT ROTOR
20300 LB G.W.
B' AFT C.G.
6000' Hp
204 RPM
122 KNOTS TAS
METAL BLADE REF. 4, FLIGHT 528-14
COMPOSITE BLADE FLIGHT 177-3
BLADE RADIUS, F/R (R=306 IN)
± MOMENT, IN-LB
25000
20000
15000
10000
5000
0
.1
.2
.3
.4
.5
.6
.7
.8
.9
1.0

FIGURE 19

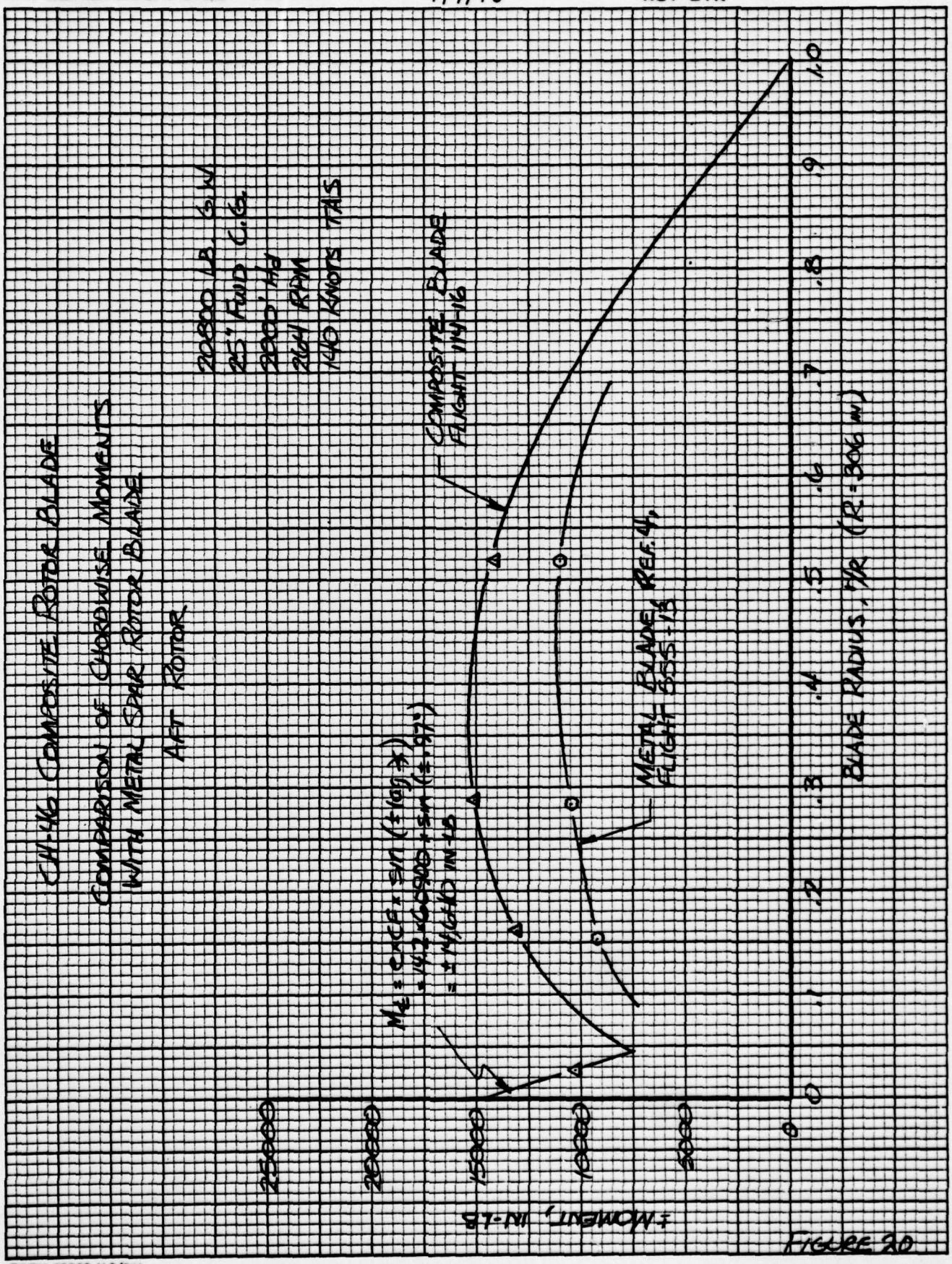

CH-46 COMPOSITE ROTOR BLADE
COMPARISON OF CHORDWISE MOMENTS
WITH METAL SPAR ROTOR BLADE
AFT ROTOR
20800 LB. G.W.
25' FWD C.G.
2000' Hd
264 RPM
140 KNOTS TAS
COMPOSITE BLADE
FLIGHT 114-16
METAL BLADE, REF. 4,
FLIGHT 855-13
$M_E = EA\varepsilon_x = EA(\varepsilon_{bg} + \varepsilon_{ac} + \varepsilon_{sw} + \varepsilon_{cf})$
$= M_{HORIZ\,IN-PLANE} + M_{CENTRIF} + M_{SW} (\pm .07)$
± MOMENT, IN-LB
25000
20000
15000
10000
5000
0
.1
.2
.3
.4
.5
.6
.7
.8
.9
1.0
BLADE RADIUS, FR (R=306 IN)

FIGURE 20

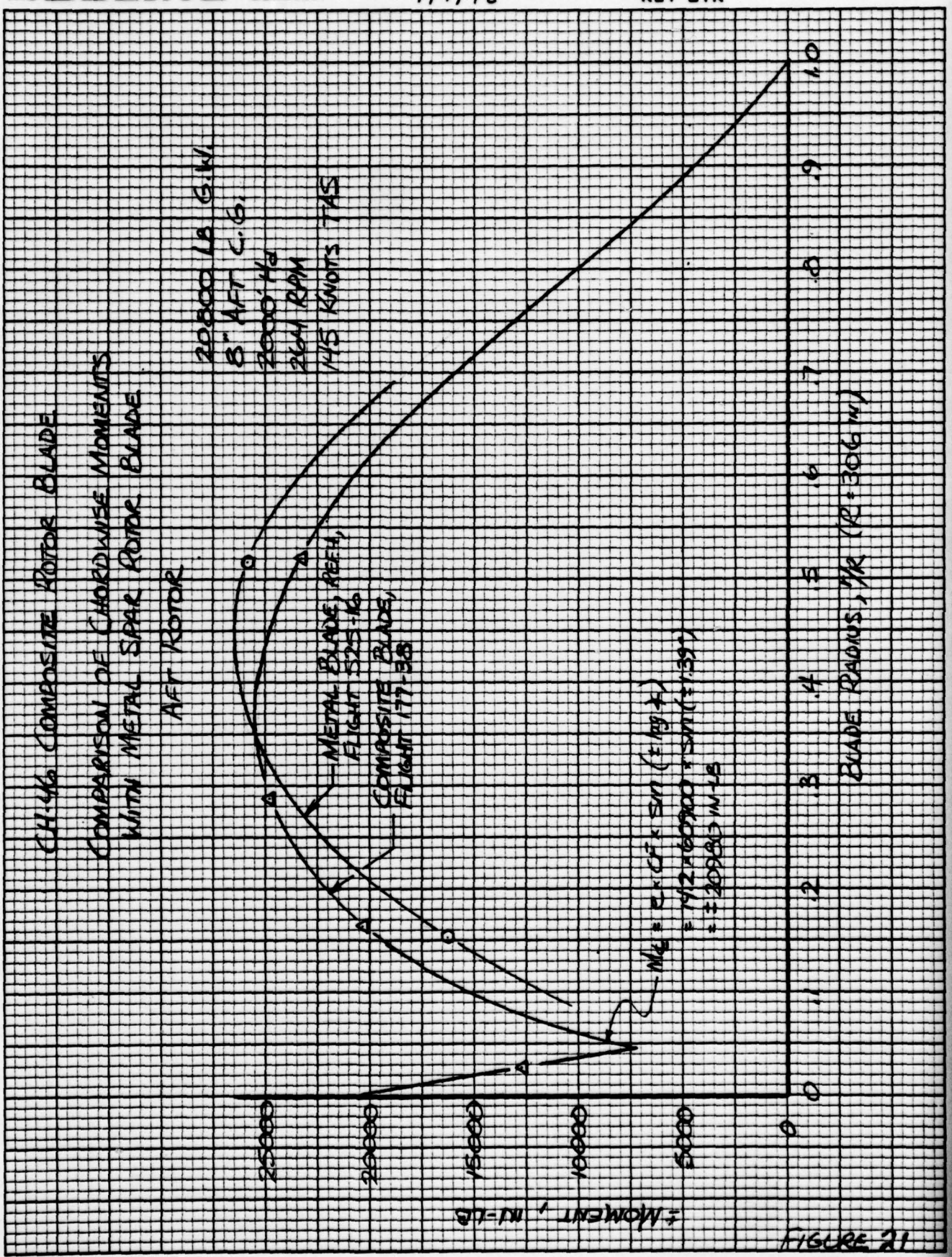

CH-46 COMPOSITE ROTOR BLADE
COMPARISON OF CHORDWISE MOMENTS
WITH METAL SPAR ROTOR BLADE
AFT ROTOR
20,800 LB G.W.
8" AFT C.G.
2000' HP
264 RPM
145 KNOTS TAS
METAL BLADE, REEH, FLIGHT 525-16
COMPOSITE BLADE, FLIGHT 177-38
$M_E = E \times I \times \frac{1}{R^2} \times \text{SIN}(\pm kyt)$
$= \frac{42,660,000 \times \text{SIN}(\pm 1.39)}{\pm 2080 \text{ IN-LB}}$
±MOMENT, IN-LBS
25000
20000
15000
10000
5000
0
0
.1
.2
.3
.4
.5
.6
.7
.8
.9
1.0
BLADE RADIUS, r/R (R = 306 IN)

FIGURE 21

APPENDIX A

Flight Log Edit Sheets

PREPARED BY: H. STEINMANN
CHECKED BY:
DATE: 8-4-77
FLT DATE: 8-2-77

DATA REQUEST EDIT TIMES
BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY
EDITED FROM: ☐ REAL TIME ☒ A/C TAPE

REPORT NO.
MODEL NO. H-46E/Glass Blade
Flt No. SLP-1 x 114
TOGW 21,500 T.C.G. 22.4"F
Fuel 1950#

Rec. No. (1)	Edit No. (2)	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION					
1.	1	08:51:32	08:51:37	1000	FLAT PITCH (16% CP)					
2	2	08:58:00	08:58:05	0231	HOVER (50' RA)			H_p=0	OAT=23°C	
3	3	08:58:54	08:58:59	3404	LAT. CONTROL REVERSAL			- HOVER	- ±20%	DISPL
4	4	08:59:17	08:59:22	3401	LONG.	"		"	+20/-9 %	DISPL.
5	5	08:57:37	08:57:42	3407	DIRECT	"		"	±20%	DISPL
6	6	09:00:10	09:00:17	1726	"	"		"	98% to 0 to 38%	
7	7	09:00:44	09:00:54	1726	"	"		"	43% - 0% - 85% - 54%	
		AIRCRAFT REFUELED TO 1900# BETWEEN EVENTS (2 MIN)								
8	8	09:22:10	09:22:15	0000	STATIC TEST RECORD			H_p=0	OAT=24°C	
9	9	09:23:55	09:24:28	0828	ROTOR ACCELERATION (BRAKE RELEASE TO 264 RPM)					
10	10	09:29:34	09:29:54	2313	TRANSITION (0-90 KTS)					
11	11	09:34:45	09:34:55	0100	LEVEL FLIGHT:	30	Kt	CAS,	2700' H_p,	18°C,
12	12	09:35:31	09:35:38	0100	"	"		60 " "	"	"
13	13	09:37:05	09:37:15	0100	"	"		86 " "	2600'	17.5
14	14	09:38:29	09:38:36	0100	"	"		114 " "	"	"
15	15	09:40:00	09:40:20	0100	"	"		128 (CRUISE) "	2300'	20.5 (1.05 Q TURB)
16	16	09:47:52	09:48:02	0100	"	"		139. (VH) "	2700'	20
17	17	09:49:50	09:50:10	3200	FULL POWER DIVE			150 " "	2600'	21.5
18	18	09:51:57	09:52:03	3200	" "	"		157 " "	2000'	22
19	19	09:52:11	09:52:25	3220	RECOVERY FROM 157 Kt DIVE; 1.22 g 1700'					23°C
20	20	09:54:52	09:55:21	2616	RIGHT TURN: 82/94	Kts,	30	deg BANK,	MOD RATE; H_p/OAT = 2700'/19	
21	21	09:55:37	09:56:00	2615	LEFT TURN: 83/88	"	-30	" "	" "	2600'/19
22	22	09:56:37	09:56:53	2615	" "	80/92	"	-45/50 "	" OPER. "	" "
23	23	09:57:25	09:57:42	2616	RIGHT TURN	80/90	"	45 "	" "	" "
24	24	09:58:22	09:58:38	2615	LEFT TURN	80/94	"	-57 "	" 1.8 g	" "
25	25	09:59:06	09:59:25	2616	RIGHT TURN	68/90	"	57 "	1.75 g	" "

NOTE: FORWARD CYCLIC TRIM ACTUATOR SCHEDULE BELIEVED TO BE IN ERROR FOR THIS FLIGHT.

FAULTY FEEDBACK POTENTIOMETER FOUND AT POST-FLIGHT INSPECTION AFTER EXPERIENCING FORWARD ROTOR "DROOP STOP CONTACT" IN FLIGHT AT 110 KTS IAS

FORM 26810 10/73)

PREPARED BY:
CHECKED BY:
DATE:

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ REAL TIME ☒ A/C TAPE

REPORT NO.
MODEL NO. H-46E/Glass Flare
Flt No. SLP-1 x 115
TOGW 21,500 TOCG 22.4" F
Fuel 1950#

Rec No.	Batch No.	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION					
2	1	13:46:58	13:47:23	2313	TRANSITION (0 - 80 Kts @ MAX PWR)					
1	2	13:47:50	13:47:55	0300	CLIMB,	85	Kts	CAS,	Hp/OAT=	1000'/24.5°
3	3	13:48:30	13:48:35	0300	"	82	"	"	"	2200'/21°
1	4	13:49:04	13:49:09	0300	"	84	"	"	"	3000'/19°
4	5	13:49:47	13:49:52	0300	"	75	"	"	"	4100'/15°
5	6	13:50:35	13:50:40	0300	"	73	"	"	"	5200'/14.5°
6	7	13:51:25	13:51:30	0300	"	81	"	"	"	6400'/12°
~~7~~	~~—~~	~~13:52:00~~	~~13:52:05~~	~~0300~~	~~TIME NOT ON TAPE~~					~~7200'/12°~~ — NOT ON TAPE
8	9	13:52:45	13:52:50	0300	"	83	"	"	"	8300'/10.5°
9	10	13:53:25	13:53:30	0300	"	77	"	"	"	9200'/10°
10	11	13:54:14	13:54:19	0300	"	75	"	"	"	10,400'/8°
11	12	13:55:10	13:55:15	0300	"	75	"	"	"	11,000'/6°
12	13	13:56:28	13:56:33	0300	"	73	"	"	"	12,000'/5°
13	14	13:58:13	13:58:18	0100	LEVEL FLIGHT	69	"	"	"	12,700'/3°
14	15	13:59:05	13:59:10	0100	" "	63	"	"	"	12,700'/2.5°
15	16	14:02:03	14:02:08	0100	" "	45	"	"	"	13,000'/1.5°
16	17	14:03:15	14:03:20	0100	" "	35	"	"	"	13,100'/1°
17	18	14:04:02	14:04:07	0100	" "	72	"	"	"	13,100'/2°
18	19	14:05:16	14:05:21	0100	" "	77	"	"	"	13,200'/2°
17	20	14:07:37	14:08:22	2616	RIGHT TURN	65/72	"	"	"	13,300'/1° , 12° BANK ✱
20	21	14:09:44	14:09:49	0500	PPD 500 fpm	63	"	"	"	13,100'/2°
1	22	14:09:56	14:10:01	0500	" 1000 "	63	"	"	"	13,000'/2°
1	23	14:10:15	14:10:20	0500	" 1500 "	65	"	"	"	12,700'/2°
1	24	14:10:30	14:10:45	0520	PPD Rapidly	63	"	"	"	12,300'/3°
21	25	14:12:25	14:13:05	2615	LEFT TURN	75	"	"	"	12,500'/2.5° 15° Bank ✱ Turn lost steering
22	26	14:14:~~35~~	14:15:12	2615	" "	63	"	"	"	12,600'/2.5° 30° "
23	27	14:15:42	14:16:15	2616	RIGHT TURN	63	"	"	"	12,500'/2.5° 28° "
24	28	14:17:00	14:17:05	0030	LEFT S/S	73	"	"	"	12,500'/3° ½ BALL
25	29	14:17:25	14:17:30	0030	RIGHT S/S	71	"	"	"	12,600'/3° ½ BALL
26	30	14:18:39	14:18:43	3404	LAT CONT REV.	72	"	"	"	13,000'/2° +10/-16% CONT
1	31	14:18:46	14:18:49	3404	" " "	75	"	"	"	13,000'/2° +12/-14% CONT
27	32	14:19:03	14:19:06	3401	LONG. " "	72	"	"	"	13,000'/2° +17/-10% CONT
~~28~~	~~—~~	~~14:19:16~~	~~14:19:20~~	~~3407~~	~~DIR. CONT REV~~					~~12,[illegible]~~ NOT ON TAPE
~~30~~	~~34~~	~~14:21:30~~	~~14:21:35~~	~~2810~~	~~C/P PULLUP~~					~~MISSED MANEUVER 13,[illegible]~~
1	35	14:21:49	14:21:54	2810	" "	60	"	"	"	13,000'/1.5° 1.20g/Δ14% C/P
1	36	14:21:58	14:22:03	2810	" "	63	"	"	"	13,100'/1.5° 1.22g/Δ16% C/P
1	37	14:22:12	14:22:17	2810	" "	67	"	"	"	13,200'/1.5° 1.24g/Δ18% C/P
31	38	14:23:54	14:24:04	2801	LONG. PULLUP	64	"	"	"	13,000'/1.5° 1.15g/Δ11% LONG
1	39	14:24:20	14:24:29	2801	" "	68	"	"	"	13,200'/2° 1.15g/Δ12% LONG
32	40	14:25:00	14:25:10	2801	" "	68	"	"	"	13,300'/1° 1.19g/Δ14% LONG
33	41	14:31:20	14:31:25	0600	A/R STDY	60	"	"	"	12,100'/3°
1	42	14:31:~~39~~	14:31:41	2637	A/R L. TURN	69	"	"	"	11,700'/4° 15° Bank ✱ (MISSED ENTRY)
1	43	14:31:43	14:31:59	2637	A/R R. TURN	72	"	"	"	11,200'/6° 20° Bank ✱
34	44	14:32:13	14:32:19	3437	A/R LAT CONT REV.	66	"	"	"	10,100'/7.5° +18/-22% LAT
1	45	14:32:22	14:32:26	3437	A/R LONG CONT REV	66	"	"	"	9800'/8.5° +18/-4% LONG
1	46	14:32:28	14:32:32	3437	A/R DIR. CONT REV.	67	"	"	"	9600'/9° +11/-22% DIRECT
35	47	14:36:39	14:36:44	0232	OGE HOVER	0	"	"	"	5000'/14°
1	48	14:36:46	14:36:50	3404	LAT CONT REV.	0	"	"	"	5100'/14° +9/-23% LAT
1	49	14:36:52	14:36:55	3404	" " "	0	"	"	"	5100'/14° +14/-23% LAT
1	50	14:36:57	14:37:00	3401	LONG CONT REV	0	"	"	"	5100'/14° +16/-10% LONG
1	51	14:37:02	14:37:06	3407	DIREC CONT REV	0	"	"	"	5100'/14° +23/-12% DIRECT

FORM 20810 (6/73)

PREPARED BY:
CHECKED BY:
DATE:

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ REAL TIME ☒ A/C TAPE

REPORT NO.
MODEL NO. H-46E/Glass Blade
FIT No. SLP-1 x 115
TOGW _____ TOCG _____

(CONTINUED)

Rec No.	Back Over No.	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION					
36	52	14:38:22	14:38:39	2637	A/R L. TURN	75	Kts CAS, Hp/OAT =	4500'/5°C		48° BANK ±
1	53	14:38:40	14:38:59	2637	A/R R. TURN	60	" " "	3700'/5°		43° BANK ±
1	54	14:39:00	14:39:05	0600	A/R STEADY	75	" " "	3000'/7°		±.1g TURB/PILOT
37	55	14:39:18	14:39:22	3437	A/R LAT CONT REV	76	" " "	2200'/9.5°		+17/-23% LAT
1	56	14:39:23	14:39:26	3437	A/R LONG CONT REV	72	" " "	2000'/25°		+22/-10% LONG
1	57	14:39:27	14:39:30	3437	A/R DIR. CONT REV.	71	" " "	1900'/20°		+5/-21% DIRECT
1	58	14:39:45	14:39:51	2837	A/R LONG PULLUP	77	" " "	1200'/22°		1.45g/Δ16% LONG
38	59	14:43:29	14:43:34	2837	A/R C/P PULLUP	71	" " "	2400'/19°		1.78g/Δ28% C/P
39	60	14:46:25	14:46:35	0100	LEVEL FLT VH	138	" " "	1600'/23.5°		±.1g TURB: 100% Q/EN
~~40~~	~~61~~	~~14:50:00~~	~~14:50:22~~	~~2200~~	DECEL TO HOVER FROM 140 KTS CAS		"	0'/27°		

PREPARED BY:
CHECKED BY:
DATE:

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ REAL TIME ☒ A/C TAPE

REPORT NO.
MODEL NO. H-46E/Glass Blac
FIT No. SLP-1 x 116
TOGW 21,500 TOCG 22.4'F
FUEL 1900#

REL No.	BATCH No.	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION					
2	2	15:38:54	15:39:19	2615	LEFT TURN	44/55 KTS	CAS, Hp/OAT = 2200'	/19.2°C		30° BANK/1.15g
3	3	15:39:31	15:39:52	2616	RIGHT TURN	42/52 "	" " "	2200 /19.5		30° BANK/1.18g
4	4	15:40:55	15:41:15	2615	LEFT TURN	40/55 "	" " "	2300/19.5		45° BANK/1.56g
5	5	15:42:08	15:42:27	2616	RIGHT TURN	43/69 "	" " "	2500'/19.		45° BANK/1.53g
6	6	15:43:36	15:43:58	2615	LEFT TURN	44/60 "	" " "	2400/20.		60° BANK/1.66g
7	7	15:44:28	15:44:48	2616	RIGHT TURN	44/63 "	" " "	2400/20.		60° BANK/1.40g
8	8	15:45:46	15:45:56	2801	LONG PULLUP	82 "	" " "	2300/20.		1.48g
9	9	15:46:17	15:46:22	2810	C/P PULLUP	83 "	" " "	2400/20.		1.60g
~~10~~		~~15:48:31~~	~~15:48:45~~	~~2801~~	~~TURN COORDINATION~~			~~2400/21~~		~~1.52g (.5g/sec)~~
11	11	15:48:37	15:48:44	2810	C/P PULLUP	126 "	" " "	2600/20.5		1.43g
12	12	15:49:29	15:49:58	2615	LEFT TURN	110/128 "	" " "	2400/21		30° BANK/1.42g
13	13	15:50:12	15:50:32	2616	RIGHT TURN	124/130 "	" " "	2500/21		30° BANK/1.27g
14	14	15:50:57	15:51:14	2615	LEFT TURN	120/127 "	" " "	2600/20.5		30° BANK/1.40g
15	15	15:51:32	15:51:53	2616	RIGHT TURN	124/128 "	" " "	2600/20.5		30° BANK/1.27g
16	16	15:52:07	15:52:12	0030	LEFT S/S	126 "	" " "	2600/20.5		1 BALL
	17	15:52:20	15:52:25	0030	RIGHT S/S	124 "	" " "	2700/20.		1 BALL
17	18	15:54:09	15:54:13	3404	LAT CONT REV.	126 "	" " "	2600/20.5		+13/-19% LAT
	19	15:54:19	15:54:23	3401	LONG CONT REV	126 "	" " "	2500/21.		+11/-11% LONG
	20	15:54:26	15:54:30	3401	LONG " "	127 "	" " "	2400/21.		+11/-18% LONG
	21	15:54:31	15:54:35	3407	DIRECT " "	126 "	" " "	2400/21.		+14/-14% PEDAL
18	22	15:55:48	15:55:52	3404	LAT CONT REV	138 "	" " "	2500/21.		+16/-16% LAT
	23	15:55:56	15:56:00	3401	LONG " "	139 "	" " "	2500/21.		+14/-10% LONG
	24	15:56:02	15:56:06	3407	DIRECT " "	141 "	" " "	2400/21.5		+12/-26% PEDAL
19	25	15:57:23	15:57:28	0500	PPD 500 fpm	111 "	" " "	2600/20.		
	26	15:57:34	15:57:39	0500	" 1000 "	114 "	" " "	2500/20.		
	27	15:57:48	15:57:53	0500	" 1500 "	112 "	" " "	2200/21		
	28	15:57:55	15:58:05	0520	" RECOVERY	112 "	" " "	2000/21.5		1.30g
20	29	16:00:20	16:00:30	0232	HOVER OGE	0 "	" " "	2400/20.5	No	
21	30	16:03:34	16:03:48	2637	A/R L. TURN	104/126 "	" " "	2000/22.	254/293	30° BANK/1.6g (Miss Guess)
22	31	16:06:27	16:06:46	2637	A/R R. TURN	107/133 "	" " "	2900/20	255/284	30° BANK/1.49g
	32	16:06:51	16:06:54	3437	A/R LAT CONT REV	128 "	" " "	1800/23.	266	+17/-24% LAT
	33	16:06:55	16:06:57	3437	A/R LONG "	" 132 "	" " "	1600/24.	264	+13/-12% LONG
	34	16:06:58	16:07:01	3437	A/R DIRECT "	" 132 "	" " "	1400/24.5	267	+5/-19% DIRECT
23	35	16:09:28	16:09:33	0600	A/R STDY	135 "	" " "	2500/21.	268	
	36	16:09:35	16:09:50	2837	A/R LONG PULLUP	132 "	" " "	2200/22.	253/284	1.90g (.60g/sec MIN)
	37	16:09:53	16:09:57	2837	A/R CP PULLUP	129 "	" " "	1500/24	262/272	1.79g
~~24~~	~~38~~	~~16:14:20~~	~~16:15:16~~	~~2200~~	~~DECEL TO HOVER FROM 100 KTS~~		(NO SIMUL APPROACH)			TAPE TIMING N.G.
25	39	16:17:42	16:18:13	2200	" " " "	60 "	(STEEP APPROACH)			
26	40	16:20:10	16:20:29	2200	" " " "	82 "	(SHALLOW APPROACH)			
27	41	16:23:18	16:23:43	2200	" " " "	68 "	(SHALLOW APPROACH)			
28	42	16:25:20	16:25:25	1823	VERT DESCENT TO LANDING					1.14g

PITCH & ROLL ATTITUDE GYROS CAGED THIS FLIGHT

FORM 28810 (6/73)

PREPARED BY: H. STEINMANN
CHECKED BY:
DATE: 8-15-77 (EDIT)
FLT DATE: 3-4-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ REAL TIME ☒ A/C TAPE

REPORT NO.
MODEL NO. H-46E/Glass Blade
FLT NO. SLP-1 X 117
TOGW 25,000 TOCG 13.2F
FUEL = 2300#

Pilot Record No.	Event No.	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION				
1	1	16:28:29	16:28:34	1000	FLAT PITCH (16% CHP)				
2	2	16:32:03	16:32:08	0231	HOVER IGE	HP=0 / OAT=30°C			
17	17	16:52:45	16:52:55	1400	JUMP TAKEOFF	1.18 N_R	257 Min; 272 Max.		
18	18	16:53:15	16:53:20	0231	HOVER IGE	HP=0 / OAT=30.5°C			
~~19~~	~~19~~	~~16:53:~~	~~16:53:43~~	~~3404~~	~~CONTROL INPUT, COST ON TAPE~~				
1	20	16:53:51	16:53:55	3401	LONG CONT REV - HOVER				+19%/-11% Long
20	21	16:54:14	16:54:22	1726	HOVER TURN REV - 88°(R) - 20° (L)				
~~21~~		~~16:54:34~~	~~16:54:43~~	~~1726~~	~~HOVER TURN REV - 3°(L) - 2°(R) - NOT ON TAPE~~				
22	23	16:55:50	16:55:59	1115	LEFT TAXI TURN - SLOW				
|	24	16:56:00	16:56:10	1116	RIGHT TAXI TURN - SLOW				
|	25	16:56:11	16:56:29	1115	LEFT TAXI TURN - RAPID				
|	26	16:56:30	16:56:35	1100	STRAIGHT TAXI				
|	27	16:56:37	16:56:56	1116	RIGHT TAXI TURN - RAPID				
25	28	17:16:08	17:16:59	1516	RIGHT SIDEWARD FLT - HOVER TO 35 kts. (PACED)				Noise
1	29	17:17:00	17:17:12	1520	RECOVERY FROM RT SIDEWARD FLT @ 35Kts				
26	30	17:22:04	17:22:44	1515	LEFT SIDEWARD FLT - HOVER TO 35Kts (PACED)				
|	31	17:22:45	17:22:54	1520	RECOVERY FROM LT. SIDEWARD FLT. @ 35Kts				
27	32	17:26:03	17:26:30	1600	REARWARD FLT - TO 30 Kts (PACED)				
1	33	17:26:31	17:26:39	1620	RECOVERY FROM REARWARD FLT @ 30 Kts				Noise
28	34	17:30:49	17:31:14	2200	FLARE TO HOVER - NORMAL (FROM 52 Kts)				11° Nose Up
29	35	17:33:05	17:33:25	2200	FLARE TO HOVER - STEEP (FROM 46 Kts)				11.5° Nose Up
30	36	17:35:10	17:35:30	2200	FLARE TO HOVER - SHALLOW (FROM 59 Kts)				13° Nose Up
31	37	17:36:13	17:36:17	1023	VERTICAL DESCENT TO LANDING (1,329)				

FORM 26810 (6/73)

PREPARED BY: H.H. STEINMANN
CHECKED BY:
DATE: 8-16-77
FLT DATE 8-5-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ REAL TIME ☒ A/C TAPE

PAGE NO. 1 OF 1
REPORT NO.
MODEL NO. H-46E/Glass Blade
Flt No. SLP-1 x 119
TOGW 25,000 TOCG 13.2 F
Fuel 2300#

Pilot Recog. No.	Batch Events No.	START TIME HH:MM:SS	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION			Hp / OAT °C		
1	1	14:27:14	14:27:19	0000	STATIC TEST RECORD			0/32		
2	2	14:36:38	14:36:55	2313	TRANSITION, 0-80 kt					
3	3	14:40:22	14:40:27	0100	LEVER FLIGHT 81kt CAS			1750/26		
~~4~~	~~4~~	~~14:41:13~~	~~14:41:27~~	0100	TIME MISSING ON 92 A/C TAPE			~~1800/26~~		
5	5	14:42:32	14:42:39	0100	" "	102	"	1800/26.5		
6	6	14:43:47	14:43:52	0100	" "	111	"	2100/26		
7	7	14:44:55	14:45:00	0100	" "	122	" (V_{ne}=V_H)	2200/25.5		
8	8	14:47:55	14:48:02	3200	DIVE TO	130	"	1900/26.5		
9	9	14:49:59	14:50:04	0100	LEVER FLIGHT	72	"	2000/25.5		
10	10	14:51:11	14:51:16	0100	" "	61	"	2000/25.		
11	11	14:52:05	14:52:10	0100	" "	52	"	2000/25		
12	12	14:54:14	14:54:19	0100	" "	44	"	2450/23.5		
13	13	14:55:15	14:55:45	0100	" "	32/40	"	2400/23.5		
15	15	14:59:48	14:59:53	0500	PPD 500 fpm	98	"	2000/25.5		
|	16	15:00:05	15:00:10	0500	" 1000 "	98	"	1700/26		
|	17	15:00:17	15:00:22	0500	" 1500 "	103	"	1500/27		
|	18	15:00:25	15:00:31	0520	" RECOVERY	104-92	"	1200/27.5		
16	19	15:01:43	15:02:10	2615	LEFT TURN	35/54	"	1900/25.	Entry Missed	35° BANK/1.22g
17	20	15:02:56	15:03:22	2616	RIGHT TURN	37/61	"	2000/25	Entry Missed	33° " /1.23g
18	21	15:03:55	15:04:17	2615	LEFT TURN	43/53	"	2000/25.		47° " /1.34g
19	22	15:04:51	15:05:10	2616	RIGHT TURN	42/52	"	1950/25.		33° " /1.23g
20	23	15:06:03	15:06:32	2616	RIGHT TURN	65/75	"	1600/26.		33° " /1.024g
|	24	15:06:36	15:06:57	2615	LEFT TURN	70/75	"	1500/26.5		36° " /1.26g Noise
21	25	15:07:53	15:08:06	2615	LEFT TURN	61/72	"	1550/26.5	Entry Missed	46° " /1.45g Noise
22	26	15:08:28	15:08:49	2616	RIGHT TURN	68/84	"	1400/27		41° " /1.43g Noise
23	27	15:10:44	15:10:49	2801	CYCLIC PULLUP	68	"	1550/26.5		1.27g
|	28	15:10:52	15:11:02	2801	CYCLIC PULLUP	74	"	1550/26.5		1.32g Noise
24	29	15:11:26	15:11:30	2810	COLL PULLUP	75	"	1500/26.5		1.4g
|	30	15:11:44	15:11:47	2810	COLL PULLUP	72	"	1500/26.5		1.50g
25	31	15:13:24	15:13:47	2615	LEFT TURN	105/112	"	1900/26	Entry Missed	30° BANK/1.24g Noise
26	32	15:14:11	15:14:43	2616	RIGHT TURN	108/112	"	2000/26		33° " /1.25g Noise
27	33	15:15:10	15:15:32	2616	RIGHT TURN	99/114	"	2000/26		35° " /1.32g Noise
28	34	15:15:54	15:16:19	2615	LEFT TURN	103/112	"	1800/27		37° " /1.32g Noise
29	35	15:16:52	15:16:57	0030	LEFT SIDESLIP	110	"	1800/27		7-9° Slip
|	36	15:17:14	15:17:19	0030	RIGHT SIDESLIP	112	"	1900/26.5		10-11° "
30	37	15:18:04	15:18:07	2801	CYCLIC PULLUP	112	"	2000/26.	-7/+12° Pitch	1.41g Noise
31	38	15:19:01	15:19:06	2810	COLL. PULLUP	111	"	2000/26.		1.41g
~~32~~	~~39~~	~~15:20:16~~	~~15:20:19~~	~~CRASH FLIGHT ENVELOPE MISSED ON A/C TAPE~~						~~+15/-12° Lat~~
33	40	15:20:42	15:20:46	3401	LONG. CONT. REV.	108	"	2000/26		+15/-12% Long
|	41	15:20:50	15:20:54	3407	DIRECT CONT. REV.	106	"	2000/26.		+15/-19% Pedal
34	42	15:22:35	15:22:39	3404	LAT CONT REV	124	"	2000/27		+13/-12% Lat.
|	43	15:22:41	15:22:45	3401	LONG CONT REV.	123	"	2000/27		+13/-10% Long
|	44	15:22:47	15:22:51	3407	DIRECT CONT. REV.	124	"	2000/27		+17/-15% Pedal
|	45	15:22:56	15:23:00	3401	LONG CONT REV.	124	"	2000/27		+14/-11% Long
35	46	15:25:33	15:25:38	0600	A/R STEADY	104/112	"	2400/25.	Ne 293/287	
|	47	15:25:39	15:25:53	2637	A/R L. TURN	102/114	"	2150/25.5	267/291	31° BANK/1.35g
|	48	15:25:54	15:26:06	2637	A/R R. TURN	91/108	"	1500/27.5	264/284	40° " /1.40g Noise
36	49	15:29:53	15:29:58	2837	A/R COLL PULLUP	107	"	2150/25.5	266/273	1.43g
|	50	15:30:00	15:30:10	2837	A/R LONG (COLL) PULLUP	110	"	1800/26	263/296	1.79g
|	51	15:30:14	15:30:35	0423	SPIRAL DESCENT LEFT	75/111	"	1200/25 -30/30	256/296	48° BANK/1.61g Noise
37	52	15:36:25	15:36:50	2200	FLARE TO HOVER	75-0	"	1200/31		Noise

FORM 26810 (6/73)

PREPARED BY: HH STEINMANN
CHECKED BY:
DATE: 8-17-77
FLT DATE: 8-8-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ LOG TIME ☒ A/C TAPE

REPORT NO.
MODEL NO. H-46E/Glass Blade
Flt No. SLP-1 x 121
TOGW 25,000 TOCG 13.2"F
Fuel 2300#

Pilot Records No.	Event No.	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION	Flt Cond Trim	Hp/IAS		
1	1	10:12:20	10:12:25	0000	STATIC TEST RECORD				
2	2	10:24:45	10:24:50	0231	HOVER ICE				
3	3	10:27:55	10:28:15	2313	TRANSITION (0-80)				
4	4	10:29:25	10:29:32		? (PROBABLY INITIAL CLIMB)		Hp/IAS		
5	5	10:30:00	10:30:05	0300	CLIMB, MAX PERF	70 kts	2000/-		
6	6	10:30:48	10:30:53	0300	" " "	"	3000/-		
7	7	10:31:55	10:32:00	0300	" " "	"	4000/18.6		
8	8	10:32:47	10:32:52	0300	" " "	"	5000/15.8		
9	9	10:33:57	10:34:02	0300	" " "	"	6000/14.9		
10	10	10:36:28	10:36:23	0100	LEVEL FLIGHT	70 "	6800/12.8 (EK lb)		Adj Trim (Error)
11	11	10:37:15	10:37:20	0500	SLIGHT DESCENT (300 fpm)	70 "	"		" "
12	12	10:38:47	10:38:50	0100	LEVEL FLIGHT	80 "	"		MAN FINE TRIM
13	13	10:40:10	10:40:30	0100	" " (Vne)	90 "	"		"
14	14	10:41:49	10:41:55	0100	" "	95 "	"		"
15	15	10:43:25	10:43:40	0100	" "	70 "	"		"
16	16	10:44:20	10:44:25	0100	" "	60 "	"		"
17	17	10:45:20	10:45:50	0100	" "	50 "	"		"
18	18	10:46:55	10:47:00	0100	" "	38 "	"		
19	19	10:58:00	10:58:35	2616	RIGHT TURN	81 "	"		16° BANK/1.08g
20	20	10:58:47	10:59:20	2615	LEFT TURN	81 "	"		31° BANK/1.36g
21	21	10:59:45	10:59:49	3404	LAT CONT REV	82 "	"		+15/-28% LAT
	22	10:59:54	10:59:58	3401	LONG CONT REV	82 "	"		+19/-14% LONG
	23	11:00:00	11:00:04	3407	DIRECT. CONT REV	82 "	"		+14/-18% COL
22	24	11:00:27	11:00:35	2801	CYCLIC PULLUP	81 "	"		1.23g
23	25	11:02:20	11:02:25	2810	COLL. PULLUP	81 "	"		1.32g
	26	11:02:37	11:02:42	2810	COLL. PULLUP	81 "	"		1.33g
24	27	11:03:18	11:03:19	6100	LEVEL FLT DO NOT ON A/C 81 TAPE				
	28	11:03:20	11:03:25	0030	LEFT SIDESLIP (10°)	81 "	"		
	29	11:03:35	11:03:40	0030	RIGHT SIDESLIP (15°)	81 "	"		
25	30	11:05:21	11:05:25	3404	LAT. CONT. REV	90 "	"		+15/-27% LAT
	31	11:05:29	11:05:33	3401	LONG CONT REV	90 "	"		+19/-15% LONG
	32	11:05:35	11:05:39	3407	DIRECT CONT REV	90 "	"		+12/-20% PEDAL
26	33	11:07:03	11:07:40	2615	LEFT TURN	54 "	"		40° BANK/1.31g
	34	11:07:45	11:08:24	2616	RIGHT TURN	54 "	"		40° BANK/1.27g NOISE
27	35	11:09:14	11:09:24	2801	CYCLIC PULLUP	54 "	"		1.15g
28	36	11:09:47	11:09:52	2810	COLL. PULLUP	54 "	"		1.28g
	37	11:10:03	11:10:09	2810	COLL. PULLUP	54 "	"		1.31g
29	38	11:11:10	11:11:15	0500	PPD 500 fpm	72 "			
	39	11:11:28	11:11:33	0500	" 1000 "	72 "			
	40	11:11:42	11:11:47	0500	" 1500 "	72 "			
	41	11:11:48	11:11:55	0520	PPD RECOVERY	72 "			1.16g
30	42	11:14:49	11:15:04	2637	A/R L. TURN	70 "			42° BANK/1.31g NOISE
	43	11:15:05	11:15:27	2637	A/R R. TURN	70 "			40° " /1.35g NOISE
	44	11:15:30	11:15:41	2837	A/R CYCLIC PULLUP	70 "			1.60g
	45	11:15:43	11:15:48	0600	A/R STEADY	70 "			
	46	11:15:49	11:15:54	2837	A/R COLL. PULLUP	70 "			1.57g
31	47	11:20:12	11:20:34	2637	A/R L. TURN	81 "			33° BANK/1.24g NOISE
	48	11:20:35	11:20:55	2637	A/R R. TURN	81 "			27° " /1.25g NOISE
	49	11:20:57	11:21:05	2837	A/R CYCLIC PULLUP	81 "			1.44g
	50	11:21:09	11:21:14	2837	A/R COLL. PULLUP	81 "			1.63g NOISE
32	51	11:23:19	11:23:34	2637	A/R L. TURN	70 "			60° BANK/1.34g NOISE

FORM 26810 (6/73)

PREPARED BY: H.L. Steinmann
CHECKED BY:
DATE: 8-17-77
FLT DATE 8-8-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ REAL TIME ☒ A/C TAPE

REPORT NO.
MODEL NO. H-46E/Glass Black
FIT No. SLP-1 X 121
TOGW 25000 TOCG 13.2 FS
FUEL 2300#

PILOT RQST No.	BATCH CLIENT p/o	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION		FLT COND AIS KTS	Hp/OAT		
32 (Rpt)	52	11:23:35	11:23:49	2637	A/R R. TURN		70			58° BANK/1.33g Nom
	53	11:23:50	11:23:58	2837	A/R CYCLE PULLUP		70			1.90g
	54	11:24:01	11:24:05	2837	A/R COLL. PULLUP		70			1.73g
~~33~~		~~11:26:26~~	~~11:26:31~~	~~0100~~	LEVEL FLIGHT	NOT	ON 70 A/C	2500'/22°	TAPE	
~~34~~		~~11:27:08~~	~~11:27:13~~	~~0100~~	" "	NOT	ON 80 A/C	"	TAPE	
35	57	11:28:01	11:28:06	0100	" "		90	"		
~~36~~		~~11:28:53~~	~~11:28:58~~	~~0100~~	" "	NOT	ON 100 A/C	"	TAPE	
37	59	11:29:27	11:29:32	0100	" "		110	"		
~~38~~		~~11:30:46~~	~~11:30:51~~	~~0100~~	" "	NOT	ON 120 A/C	"	TAPE	
39	61	11:31:27	11:31:32	0100	" "	(V_{NO})	129	"		
40	62	11:32:10	11:32:15	0100	" "	(V_H)	131	"		
41	63	11:33:20	11:33:57	0423	SPIRAL DESCENT-LEFT		70			67° BANK/1.61g Nom
42	64	11:39:20	11:39:50	2200	FLARE TO HOVER		80-0			

FORM 26810 (6/73)

PREPARED BY: H. STEINMANN
CHECKED BY:
DATE: 8-26-77
FLT DATE 8-9-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ REAL TIME ☐ A/C TAPE

REPORT NO.
MODEL NO. H-46E/Glass Blac
Flt No. SLP-1 x 122
TOGW 21,500 TOCG 9.7"A
FUEL 2300 #

Pilot Record No.	Event No.	Batch START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION					
1	1	15:44:46	15:44:51	0000	STATIC TEST					
11	2	16:12:49	16:12:54	1515	LT. SIDEWARD FLT 10 kts					
	3	16:12:58	16:13:12	1905	ACCEL 10-20 kts LT.					
	4	16:13:13	16:13:18	1515	LT SIDEWARD FLT 20 kts					
	5	16:13:19	16:13:27	1905	ACCEL 20-30 kts LT.					
	6	16:13:28	16:13:33	1515	LT. SIDEWARD FLT 30 kts					
	7	16:13:34	16:13:42	1905	ACCEL 30-35 kts					
	8	16:13:43	16:13:48	1515	LT. SIDEWARD FLT 35 kts					
	9	16:13:50	16:14:20	1520	RECOVERY, 35 kts LT SIDEWARD FLT TO HOVER					
12	10	16:15:10	16:15:15	1516	RT. SIDEWARD FLT. 10 kts					
	11	16:15:16	16:15:24	1906	ACCEL 10-20 kts					
	12	16:15:25	16:15:30	1516	RT. SIDEWARD FLT. 20 kts					
	13	16:15:31	16:15:38	1906	ACCEL 20-30 kts					
	14	16:15:39	16:15:44	1516	RT. SIDEWARD FLT. 30 kts					
	15	16:15:45	16:15:51	1906	ACCEL 30-35 kts					
	16	16:15:52	16:15:57	1516	RT. SIDEWARD FLT. 35 kts					
	17	16:15:58	16:16:10	1520	RECOVERY, 35 kts RT. SIDEWARD FLT TO HOVER					
13	18	16:17:03	16:17:07	1600	REARWARD FLT 10 kts					
	19	16:17:08	16:17:15	1921	DECEL 10-20 kts REARWARD					
	20	16:17:16	16:17:21	1600	REARWARD FLT. 20 kts					
	21	16:17:22	16:17:30	1921	DECEL 20-30 kts REARWARD					
	22	16:17:31	16:17:36	1600	REARWARD FLT 30 kts					
	23	16:17:38	16:17:47	1920	RECOVERY, 30 kts REARWARD TO HOVER					
14	24	16:19:30	16:20:10	1923	RAPID ACCEL HOVER TO 130 kts					
15	25	16:21:03	16:21:47	2200	FLARE TO HOVER - NORMAL					NOISE
16	26	16:23:05	16:23:45	2200	" " " - STEEP					NOISE
17	27	16:26:50	16:27:17	2200	" " " - SHALLOW					NOISE
18	28	16:32:22	16:32:55	1813	" " RUNNING LANDING - SHALLOW					NOISE
19	29	16:33:42	16:33:47	1823	VERTICAL DESCENT TO LANDING				1.43g	
20	30	16:34:17	16:34:22	1400	JUMP TAKEOFF				1.12g	
21	31	16:34:49	16:34:54	0231	HOVER IGE					
22	32	16:35:19	16:35:46	1715	LEFT SPOT TURN IGE					1 NOISE
23	33	16:35:57	16:36:17	1716	RIGHT SPOT TURN IGE					
24	34	16:36:46	16:36:50	3404	LAT CONT REVERSAL - HOVER IGE					+23/-27 % LAT
1	35	16:36:54	16:36:57	3404	" " " " "					+23/-27 % LAT
25	36	16:37:09	16:37:13	3401	LONG " " " "					+24/-16 % LONG
1	37	16:37:14	16:37:18	3401	" " " " "					+25/-27 % LONG
26	38	16:37:44	16:37:52	1726	R-L TURN REVERSAL - HOVER - 85% / 69.					
1	39	16:37:54	16:38:01	1726	L-R TURN REVERSAL - " 77% / 150 %					
27	40	16:39:30	16:39:35	1122	TAXI STRAIGHT - SLOW					
1	41	16:39:36	16:39:50	1115	LT TAXI TURN - SLOW					
1	42	16:39:51	16:40:20	1116	RT TAXI TURN - SLOW					
28	43	16:41:31	16:41:36	1123	TAXI STRAIGHT - RAPID					
1	44	16:41:37	16:41:52	1116	RT TAXI TURN - RAPID					
1	45	16:41:53	16:42:19	1115	LT TAXI TURN - RAPID					

All Event Times guaranteed ok

FORM 26810 (6/73)

PREPARED BY: H.H. STEINMANN
CHECKED BY:
DATE: 8-18-77
FLT DATE 8-11-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ REAL TIME ☒ A/C TAPE

REPORT NO.
MODEL NO. H-46E/Glass Blade
FLT NO. SLP-1 x 124
TOGW 21,500 TOCG 297A
FUEL 2300#

PILOT RECORD No.	EVENT No.	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MMR CODE	MANEUVER DESCRIPTION		PILOT IAS	Hp/ALT		
1	—	10:42:00	10:42:04	0000	STATIC TEST RECORD			NOT	PROCESSED	
2	2	10:51:46	10:52:01	2313	TRANSITION		0-80			
3	3	10:53:25	10:53:30	0300	CLIMB MAX PWR		70	2000/21.6		
4	4	10:53:55	10:54:00	0300	"	"	70	3000/20.2		
5	5	10:54:35	10:54:40	0300	"	"	70	4000/18.4		
6	6	10:55:10	10:55:15	0300	"	"	70	5000/16.9		
7	7	10:55:54	10:55:59	0300	"	"	70	6000/—		
8	8	10:56:40	10:56:45	0300	"	"	65	7000/13.0		
9	9	10:57:34	10:57:39	0300	"	"	65	8000/11.9		
10	10	10:58:30	10:58:35	0300	"	"	60	9000/10.8	1000 fpm	
11	11	10:59:40	10:59:45	0300	"	"	60	10000/8.5	900 "	
12	12	11:00:43	11:00:48	0300	"	"	60	11,000/7.2	800 "	
13	13	11:01:59	11:02:04	0300	"	"	60	12,000/4.4	600 "	
14	14	11:02:55	11:03:35	0300	"	"	60	12,600/3.0	—	
15	15	11:04:22	11:04:27	0100	LEVEL FLT		54	"	MAINTAIN TRIM	
16	16	11:05:08	11:05:13	0100	"	"	60	"		
17	17	11:06:15	11:06:22	0100	"	" Vne	68	"		
18	18	11:07:35	11:07:41	0100	"	" 1.1 Vne	75	"		
19	19	11:08:55	11:09:35	2616	RIGHT TURN		61	"	15° MOD RATE	
20	20	11:10:05	11:10:29	2615	LEFT TURN		61	"	15° "	"
21	21	11:11:40	11:11:45	0100	LEVEL FLIGHT		41	"		
22	22	11:13:54	11:13:59	0100	"		27	"		
23	23	11:16:18	11:16:37	2616	RIGHT TURN		54	"	20° MOD RATE	
24	24	11:16:58	11:17:27	2615	LEFT TURN		54	"	20° "	"
25	25	11:18:13	11:19:18	3404	LAT. CONT. REV.		60	"		
	26	11:18:19	11:18:24	3401	LONG. CONT. REV.		60	"		
	27	11:18:25	11:18:30	3407	DIRECT CONT. REV.		60	"		
26	28	11:18:55	11:19:00	0030	10° LEFT SIDESLIP		61	"		
	29	11:19:10	11:19:15	0030	10° RIGHT SIDESLIP		61	"		
27	30	11:19:37	11:19:50	2801	CYCLIC PULLUP		61	"	1.1 g	
28	31	11:20:10	11:20:14	2810	COLL. PULLUP		61	"	1.2 g	
	32	11:20:19	11:20:24	2810	"	"	61	"	1.3 g	
29	33	11:21:52	11:21:57	0500	PPD 500 fpm		54			
	34	11:22:05	11:22:10	0500	" 1000 "		54			
	35	11:22:16	11:22:21	0500	" 1500 "		54			
	36	11:22:27	11:22:37	0520	" RECOVERY		54			
30	37	11:24:08	11:24:13	0600	A/R STEADY		60			
	38	11:24:14	11:24:30	2637	A/R RIGHT TURN		60			1 Noise Spike
	39	11:24:33	11:24:55	2637	A/R LEFT TURN		60			1 Noise Spike
	40	11:24:59	11:25:03	3437	A/R LAT CONT REV		60			
	41	11:25:06	11:25:08	3437	A/R LONG CONT REV		60			
	42	11:25:09	11:25:14	3437	A/R DIRECT CONT REV		60			
31	43	11:29:04	11:29:09	0100	LEVEL FLIGHT		95	4900/16.8	AUTO TRIM	
32	44	11:31:05	11:31:12	0100	"	"	100	"		
33	45	11:32:03	11:32:09	0100	"	"	110	"		
34	46	11:32:48	11:32:56	0100	"	"	115	"		
35	47	11:33:21	11:33:28	0100	"	"	120	"		
36	48	11:34:08	11:34:06	0100	"	" Vm & Vne	125	"		
37	49	11:34:36	11:34:43	3200	FULL POWER DIVE		130	"		
38	50	11:35:01	11:35:13	3200	FULL POWER DIVE		135	"	700 fpm Descent	
39	51	11:35:25	11:35:31	3200	"	"	139	"		

FORM 2881O (8/73)

PREPARED BY: H.H. Steinman, Jr.
CHECKED BY:
DATE: 8-18-77
For Date 8-11-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ REAL TIME ☒ A/C TAPE

REPORT NO.
MODEL NO. H-46E/Glass Blade
Flt No. SLP-1 x 124
TOGW 21,500 TOCG 317.4
Fuel 2300#

Pilot Record No.	Data Point No.	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION	Pilot IAS	Hp/OAT		
40	52	11:36:53	11:38:58	0100	LEVEL FLIGHT	50	4950/16.3	AUTO TRIM	
41	53	11:38:02	11:38:07	0100	" "	25	"		
42	54	11:39:01	11:39:09	0232	HOVER OGE	0	"		
43	55	11:39:37	11:39:41	3404	LAT CONT. REV. - HOVER	0	"		
	56	11:39:45	11:39:49	3401	LONG. CONT. REV - HOVER	0	"		
	57	11:39:52	11:39:55	3407	DIRECT CONT. REV - HOVER	0	"		
44	58	11:42:30	11:42:54	0100	LEVEL FLIGHT	25	"	Nr 94%	
45	59	11:43:25	11:43:32	0100	" "	50	"	"	
46	60	11:44:02	11:44:09	0100	" "	75	"	"	
47	61	11:45:08	11:45:19	0100	" "	95	"	"	AFT DSP
48	62	11:46:19	11:46:25	0100	" "	95	"	" / MANUAL FOLD TRIM	
49	63	11:47:26	11:47:32	0100	" "	125	"	105% Nr / " "	
50	64	11:49:21	11:49:27	0100	" "	75	"	FOLD - TAXI TRIM	
51	65	11:50:06	11:50:13	0100	" "	90	"	" "	
52	66	11:50:44	11:50:51	0100	" "	100	"	" "	"
53	67	11:51:11	11:51:18	0100	" "	110	"	" "	"
54	68	11:51:48	11:51:44	0100	" "	115	"	" "	"
55	69	11:52:10	11:52:16	0100	" "	120	"	" "	"
56	70	11:52:44	11:52:52	0100	" "	125	"	" "	"
57	71	11:57:40	11:57:44	0600	A/R STEADY	70		AUTO TRIM	
	72	11:57:45	11:57:59	2637	A/R RIGHT TURN MISSED? MANEUVER (EDIT CURSOR)				N.G. Noise
	73	11:58:00	11:58:20	2637	A/R LEFT TURN	70		45° BANK	N.G. Noise
	74	11:58:25	11:58:29	3437	A/R LAT CONT REV	70			
	75	11:58:30	11:58:34	3437	A/R LONG CONT REV	70			
	76	11:58:35	11:58:39	3437	A/R DIRECT CONT REV.	70			
	77	11:58:44	11:58:52	2837	A/R CYCLIC PULLUP	70		1.8 g	1 Noise Spike
	78	11:58:56	11:59:01	2837	A/R COLL. PULLUP	70			
	79	11:59:10	11:59:29	0423	SPIRAL DESCENT	70			N.G. Noise
58	80	12:06:55	12:07:25	2200	FLARE TO HOVER	80-0			

PREPARED BY: H.H. STEINMANN
CHECKED BY:
DATE: 8-18-77
FT DATE 8-11-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ REAL TIME ☒ A/C TAPE

PAGE NO. 1 OF 1
REPORT NO.
MODEL NO. H-46E/Glass Blade
FIT No. SLP-1 x 126
TOGW 21,500 TOCG 277
FUEL 2300 lb

PILOT RECORD No.	BATCH EVENT No.	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MMVR CODE	MANEUVER DESCRIPTION		PILOT IAS	NOMINAL HD		
1	1	15:10:13	15:10:18	0000	STATIC TEST RECORD					
2	2	15:18:50	15:19:14	2313	TRANSITION		0-60			2 Spikes
3	3	15:29:16	15:29:19	0232	HOVER	OGE	0	3500		
|	4	15:29:20	15:29:23	3404	LAT CONT REV.	-	0			
|	5	15:29:24	15:29:28	3404	" "	"	0			
|	6	15:29:29	15:29:33	3401	LONG "	"	0			
|	7	15:29:34	15:29:38	3407	DIRECT "	"	0			
4	8	15:30:45	15:30:50	0100	LEVEL FLIGHT		27			
5	9	15:31:35	15:31:40	0100	" "		55			
6	10	15:32:28	15:32:33	0100	" "		82			
7	11	15:33:11	15:33:16	0100	" "		110			
8	12	15:41:41	15:41:46	0100	" "		121			
9	13	15:43:05	15:43:10	0100	" "	VH	134		LT D.S.C.	
10	14	15:43:58	15:44:03	3200	FULL PWR DIVE	Vne	137		LT D.S.C.	
11	15	15:45:48	15:45:53	3200	" "	"	145		DSC	
12	16	15:46:23	15:46:28	3200	" "	" 1.1Vne	151		DSC	
13	17	15:47:38	15:48:13	2616	RT TURN	30°	41		POOR A/S CONTROL	NOISE
14	18	15:48:50	15:49:10	2615	LT "	"	41			NOISE
15	19	15:49:24	15:49:41	2616	RT "	"	41			NOISE
16	20	15:50:00	15:50:20	2615	LT "	45°	41			NOISE
17	21	15:50:35	15:50:50	2616	RT "	"	41			NOISE
18	22	15:51:43	15:51:50	2801	CYCLIC PULLUP	1.5g	82			NOISE
19	23	15:52:12	15:52:17	2810	COLL. PULLUP	1.35g	82			
|	24	15:52:19	15:52:22	2810	" "	1.5g	82			
20	25	15:52:58	15:53:06	2615	LT. TURN	30°	82			1 Spike
|	26	15:53:07	15:53:22	2616	RT. TURN	30°	82			
21	27	15:54:26	15:54:37	2615	LT "	45°	82			NOISE
|	28	15:54:38	15:54:49	2616	RT "	"	82			NOISE
22	29	15:55:02	15:55:14	2615	LT "	60°	82			NOISE
|	30	15:55:15	15:55:27	2616	RT "	60°	82			NOISE
23	31	15:56:45	15:56:49	3404	LAT CONT	REV.	121			
|	32	15:56:50	15:56:54	3404	" "	"	121			
|	33	15:56:55	15:56:59	3401	LONG "	"	121			
|	34	15:57:00	15:57:03	3407	DIRECT "	"	121			
24	35	15:57:32	15:57:42	2801	CYCLIC PULLUP		123	▽		NOISE
25	36	16:09:35	16:10:19	1813	DECEL TO	ROLL-ON LANDING				1 SPIKE

All Tapes Found & Reprocessed

PREPARED BY: H.H. STEINMANN

CHECKED BY:

DATE: 8-31-77

FLT DATE 8-15-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ REAL TIME ☒ A/C TAPE

REPORT NO.

MODEL NO. H-46E/Glass Blade

FLT NO. SLP-1 X 127

TOGW 21,500 TOCG 7.7 A

FUEL 2300#

PILOT RECORD No.	EVENT NO.	START TIME HH:MM:SS.S	STOP TIME HH:MN:SS.S	MNVR CODE	MANEUVER DESCRIPTION		Pilot IAS			
1	1	15:27:50	15:27:53	0000	STATIC TEST					
2	2	15:40:43	15:40:48	0100	LEVEL FLIGHT		75 KTS			6 KTS
3	3	15:41:38	15:41:43	0199	" "		90	RETRACTED TRIM		"
4	4	15:42:32	15:42:39	0199	" "		100	" "	DSP	"
5	5	15:43:58	15:44:02	0100	" "		113	"AUTO TRIM	DSP	"
6	6	15:44:23	15:44:38	0100	" "		"	" "	"	"
7	7	15:45:21	15:45:24	0500	PPD 500 fpm		100			"
8	8	15:45:33	15:45:38	0500	" 1000 "		"			
9	9	15:45:50	15:45:55	0500	" 1500 "		"			
8	10	15:49:25	15:49:35	0125	LEVEL FLT		122	SIMULATED TURB ±.2g		2 KTS
9	11	15:50:59	15:51:05	2801	CYCLIC PULLUP 1.35g		123	LOADS ABORT		"
10	12	16:07:00	16:07:26	2200	APPROACH TO HOVER		NOT ON A/C TAPE			

PREPARED BY: H.H. STEINMANN
CHECKED BY:
DATE: 9-8-77
FLT DATE 8-18-77

DATA REQUEST EDIT TAPES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☒ REAL TIME ☐ A/C TAPE

PAGE NO. 1 OF 1
REPORT NO.
MODEL NO. H-46E/Sikorsky Blk.
FLT NO. SLP-1 × 128
TOW 21,700 TOG 3.8 A
FWD 2300#

PILOT RECORD No.	EVENT No.	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MANEUVER CODE	MANEUVER DESCRIPTION		PILOT IAS	NOMINAL Hp	CYCLIC TRIM	
1	1	17:46:29	17:46:32	0000	STATIC TEST RECORD					
2	2	18:09:57	18:10:02	0100	LEVEL FLIGHT		87	2000'	AUTO	
4	4	18:13:07	18:13:12	0100	"	"	116			
5	5	18:14:27	18:14:32	0100	"	"	128			
6	6	18:15:30	18:15:43	3334	GUST SIMULATION		130			
7	7	18:17:09	18:17:14	0100	LEVEL FLT. VH		135			Roll Slight Right
8	8	18:18:22	18:18:27	0100	"	"	137			Roll Centered (1°R S/S)
9	9	18:19:07	18:19:30	3334	GUST SIMULATION		136		"	"
10	10	18:20:20	18:20:32	3200	FULL PWR DIVE		146			
11	11	18:22:39	18:22:44	0113	LEVEL FLIGHT VH		138		MANUAL FWD	
12	12	18:23:14	18:23:36	3334	GUST SIMULATION		138			
13	13	18:38:57	18:39:04	0100	LEVEL FLIGHT		130	2, 2	AUTO	
14	14	18:43:32	18:43:52	0100	"	"	140			

OK

DMH 2851C (6/73)

PREPARED BY: H. STEINMANN
CHECKED BY:
DATE: 9-6-77
FLT DATE 8-29-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☒ REAL TIME ☐ A/C TAPE

REPORT NO.
MODEL NO. H-46E/Glass Blade
FIT No. SLP-1 x 136
TOGW 21,500 TOCG 9.7A
FUEL 2300#

	BATCH	START	STOP	M.V.R.						
PILOT RECORD	EVENT	TIME	TIME	CODE	MANEUVER DESCRIPTION					
No.	No.	HH:MM:SS.S	HH:MM:SS.S				PILOT IAS	NOMINAL Hp	CYCLIC TRIM Lat/Lon	
1	1	10:40:29	10:40:32	0100	LEVEL FLIGHT		80	2000	-2.5/-2.5	
2	2	10:44:38	10:44:43	0100	"	"	100		-1./-1.	
3	3	10:46:38	10:46:43	0100	"	"	110		-.25/-.25	
4	4	10:48:36	10:48:41	0100	"	"	120		.6/.6	
5	5	10:50:26	10:50:31	0100	"	"	130		1.5/1.5	
R/T Beam 3	6	10:52:38	10:52:52	3334	GUST SIMULATION		130			.82/1.28 g
7	7	11:19:26	11:19:31	0100	LEVEL FLIGHT VH		136			
8	8	11:20:17	11:20:41	3334	GUST SIMULATION VH		136			.87/1.25 g
10	9	11:23:20	11:23:25	0100	LEVEL FLIGHT		130		1.5/1.5	
1	10	11:23:33	11:23:40	0113	"	"	130		1.5/2.7	.84/1.18 g
11	11	11:27:01	11:27:06	0113	"	"	58		-2.5/0	
12	12	11:29:24	11:29:29	0113	"	"	58		-2.5/-1.	
13	13	11:31:20	11:31:25	0113	"	"	58		-2.5/-2.	
14	14	11:32:52	11:32:57	0100	"	"	58		-2.5/-2.5	
15	15	11:35:25	11:35:30	0113	"	"	97		-1.25/2.0	
16	16	11:36:44	11:36:49	0113	"	"	97		-1.25/1.0	
17	17	11:37:58	11:38:03	0113	"	"	97		-1.25/0	
18	18	11:39:46	11:39:51	0100	"	"	97		-1.25/-1.0	
19	19	11:41:45	11:41:50	0113	"	"	126		1.0/2.0	
20	20	11:42:52	11:42:57	0113	"	"	126		1.0/3.0	
21	21	11:43:53	11:44:11	3334	GUST SIMULATION		126		1.0/3.0	.90/1.20 g
22	22	11:45:11	11:45:16	0113	LEVEL FLIGHT		126		1.0/3.8	
23	23	11:45:49	11:46:02	3334	GUST SIMULATION		126		1.0/3.8	.84/1.22 g
24	24	11:47:10	11:47:15	0113	LEVEL FLIGHT VH		136		1.5/3.8	
25	25	11:47:54	11:48:10	3334	GUST SIMULATION		136		1.5/3.8	.94/1.28 g
26	26	11:48:47	11:48:52	0113	LEVEL FLIGHT VH		136		1.5/3.0	
27	27	11:50:28	11:50:59	3334	GUST SIMULATION		136		1.5/3.0	.80/1.25 g
28	28	11:51:48	11:52:11	0113	LEVEL FLIGHT VH		136		1.5/2.0	.90/1.16 g
29	29	11:53:17	11:53:32	0113	LEVEL FLIGHT		120		TRANS.	

All edit times found on tape

FORM 26810 (6/73)

PREPARED BY: H. STEINMANN
CHECKED BY:
DATE: 9-6-77
FLT DATE 8-29-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☒ REAL TIME ☐ A/C TAPE

PAGE NO. 1 OF 1
REPORT NO.
MODEL NO. H-46E/Glass Blade
Flt No. SLP-1 x 137
TOGW 21,500 TOCG 9.7 A
FUEL 2300#

Pilot Record No.	Batch Event No.	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	M.M.V.R. CODE	MANEUVER DESCRIPTION		PILOT IAS	NOMINAL H_D	CYCLIC TRIM FWD/AFT	
1	1			0000	STATIC TEST RECORD					
2	2	15:15:04	15:15:09	0100	LEVEL FLIGHT		25	6000	-2.6/-2.5	
3	3	15:17:28	15:17:33	0100	"	"	50		↓ ↓	
4	4	15:18:25	15:18:30	0100	"	"	75			
5	5	15:21:01	15:21:06	0100	"	"	100		-1.0/-1.0	
6	6	15:23:42	15:23:47	0100	"	"	110		-0.2/-0.2	
7	7	15:26:27	15:26:32	0113	"	"	110		0.9/0.9	
8	8	15:28:08	15:28:13	0100	"	"	119		↓ ↓	
9	9	15:29:42	15:29:47	0113	"	"	119		1.6/1.6	
10	10	15:32:10	15:32:15	0100	"	"	123		1.6/1.6	
11	11	15:34:17	15:34:21	0100	"	"	125		3.0/3.8	
12	12	15:39:47	15:39:52	0113	"	"	100		1.0/1.5	
13	13	15:40:58	15:41:03	0113	"	"	110		↓ ↓	
14	14	15:42:27	15:42:32	0113	"	"	120			
15	15	15:46:22	15:46:27	0113	"	"	125		↓ ↓	
16	16	15:50:39	15:51:09	0113	"	"	125		1.0/2.0	
17	17	15:59:41	15:59:46	0100	"	"	75		-2.5/-2.5	
18	18	16:01:40	16:01:45	0100	"	"	75		↓ ↓	94# NR
19	19	16:03:16	16:03:21	0100	"	"	50			
20	20	16:05:37	16:05:42	0100	"	"	25		↓ ↓	
21	21	16:07:57	16:08:22	0100	"	"	95		-1.1/-1.0	
22	~~32~~	16:09:18	16:09:24	0100	"	"	100		↓ ↓	DSC
23	~~23~~ 22	16:12:58	16:13:04	0114	"	"	100		-2.5/-2.5	DSC
24	~~24~~ 23	16:14:08	16:14:13	0114	"	"	90		↓ ↓	
25	~~25~~ 24	16:15:31	16:15:36	0100	"	"	75	↓	↓ ↓	

Time slice Not Processed

FORM 26810 (6/73)

PREPARED BY: HHSteinmann
CHECKED BY:
DATE: 9-2-77
FLT DATE 8-30-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☒ REAL TIME ☐ A/C TAPE

REPORT NO.
MODEL NO. H-46E/Glass Black
FLT No. SLP-1 X 138
TOGW 21,500 TOCG 9.7"A
FUEL 2300#

Pilot Record No	Batch Event No	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION		Pilot A/S	Nominal Alt.		
2	1	11:02:51	11:02:56	0100	LEVER ALT		58	2000		
3	2	11:03:49	11:03:54	0100	" "		29	"		
4	3	11:05:15	11:05:20	0232	HOVER OGE		0	"		
5	4	11:05:50	11:05:56	3404	LAT. CONT REV.		0	"		
	5	11:05:57	11:06:04	3401	LONG. CONT REV.		0	"		
	6	11:06:09	11:06:15	1726	TURN REV, L-R		0	"		
	7	11:06:17	11:06:21	1726	" " R-L		0	"		
6	8	11:09:05	11:08:10	0100	LEVER ALT		88	"		
7	9	11:10:08	11:10:13	0100	" "		117	"		
8	10	11:12:28	11:12:33	0100	" "		128	"		
9	11	11:16:15	11:16:35	0100	" "	V_H	137	"		
10	12	11:18:56	11:19:20	3200	DIVE PULL		145	"		
11	13	11:21:21	11:21:26	0030	LT. S/S		131	"		
	14	11:22:02	11:22:07	0030	RT S/S		131	"		
12	15	11:23:08	11:23:21	2615	LT TURN	30°	131	"	(ATTITUDE GROSS CALCED)	DSP
13	16	11:34:22	11:34:50	2615	" "	"	131	"		
14	17	11:35:05	11:35:35	2616	RT TURN	"	131	"		
15	18	11:38:24	11:38:51	2615	LT TURN	"	123	"		
~~16~~	~~19~~	~~11:39:14~~	~~11:39:40~~	~~2616~~	~~RT TURN~~	~~"~~	~~123~~	~~"~~	10 Seconds of Data N G on Tape	
17	20	11:40:12	11:40:22	2801	LONG PULLUP		123	"		
~~18~~	~~21~~	~~11:41:42~~	~~11:41:47~~	~~2810~~	~~COLL PULLUP~~		~~MANEUVER 123 MISSED ON A/C TAPE~~			
19	22	11:43:51	11:43:57	3404	LAT CONT REV		137	"		
	23	11:43:59	11:44:04	3401	LONG CONT REV		137	"		
	24	11:44:05	11:44:11	3407	DIRECT CONT REV		137	"		
20	25	11:45:28	11:45:35	3404	LAT CONT REV		128	"		
	26	11:45:38	11:45:43	3401	LONG CONT REV		128	"		
	27	11:45:44	11:45:49	3407	DIRECT CONT REV		128	"		
21	28	11:47:45	11:47:53	2801	LONG PULLUP		88	"		
22	29	11:48:04	11:48:10	2810	COLL. PULLUP		88	"		
23	30	11:48:39	11:49:00	2616	RT TURN	30°	88	"		
	31	11:49:06	11:49:29	2615	LT TURN	"	88	"		
24	32	11:49:41	11:50:00	2615	LT TURN	45°	88	"	Last 3 Seconds of Data the 11:49:44	
25	33	11:50:12	11:50:30	2616	RT TURN	"	"	"		
26	34	11:52:29	11:53:08	1923	ACCEL - RAPID		0 - 130	"		
	35	11:53:09	11:53:35	1923	"	"	130 - V_H (137)	"		
27	36	11:56:43	11:57:15	2837	SIMULATED A/R LNDG		120 - 0			

PREPARED BY: H.H. Steinmann
CHECKED BY:
DATE: 9-7-77
FLT DATE 8-30-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☒ REAL TIME ☐ A/C TAPE

PAGE NO. 1 OF 1
REPORT NO.
MODEL NO. H-46E/Glass Blade
Flt No. SLP-1 x 139
TOGW 21,500 TOCG 1.7 A
Fuel 2300#

Pilot Record No.	Batch Event No.	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION		Pilot ITS	Nominal HD	Cyclic Trim Fwd/Aft	
1	1	15:37:00	15:37:04	0000	STATIC TEST RECORD					
3	2	16:02:42	16:03:06	2616	RT TURN	30° MOD	75	6000	-2.5/-2.5	
	3	16:03:16	16:03:43	2615	LT TURN	30° MOD	75			
4	4	16:04:10	16:04:33	2616	RT TURN	45	75			
	5	16:04:37	16:05:06	2615	LT TURN	45°	75			
~~5~~	~~6~~	~~16:05:43~~	~~16:05:46~~	~~2801~~	~~CYCLIC PULLUP 1.2g~~		~~75~~	MISSED PULLUP ON TAPE		
	7	16:05:49	16:06:00	2801	" "	.82/1.39	75			
	8	16:06:01	16:06:14	2801	" "	.74/1.31g	75			
~~6~~	~~9~~	~~16:06:40~~	~~16:06:53~~	~~2810~~	~~COLL. PULLUP 1.4g~~		~~75~~	MISSED PULLUP ON TAPE		
	10	16:06:54	16:06:57	2810	" "	1.48g	75			
7	11	16:08:34	16:08:52	2615	LT TURN	30° MOD	38			
	12	16:08:55	16:09:18	2616	RT TURN	30° MOD	38			
8	13	16:12:28	16:12:38	0100	LEVEL FLT	Vne (CGE)	116		0.8/0.8	LT TURB
9	14	16:14:48	16:15:03	2615	LT TURN	25°	105		-0.5/-0.5	
10	15	16:15:40	16:15:53	2616	RT TURN	30°	105			Recovery Not on Tape
11	16	16:16:45	16:17:06	2616	RT TURN	30°	105			
12	17	16:18:19	16:18:23	2801	CYCLIC PULLUP .92/1.18g		105			
13	18	16:18:52	16:18:59	2810	COLL. PULLUP 1.28g		105			
	19	16:19:00	16:19:06	2810	COLL. PULLUP 1.44g		105			
	14 20	16:20:40	16:20:45	0030	LT. SIDESLIP 10°		105			
	21	16:21:13	16:21:18	0030	RT SIDESLIP 10°		105			
15	22	16:22:18	16:22:22	3404	LAT CONT	REV 53-35-61	105			
	23	16:22:23	16:22:28	3404	" "	" 52-31-63	105			
	24	16:22:29	16:22:34	3401	LONG "	" 65-51-72	105			
	25	16:22:35	16:22:42	3407	DIRECT "	" 55-66-48	105			
	26	16:22:48	16:22:54	3407	" "	" 55-68-51	105			
	27	16:22:55	16:22:59	3407	" "	" 56-70-45	105			
16	28	16:24:36	16:24:41	0500	PPD 500	FPM	100	6000 -2000	-1.0/-1.0	
	29	16:24:50	16:24:55	0500	" 1000	"	100			
	30	16:25:09	16:25:14	0500	" 1500	"	100			
17	31	16:27:18	16:27:35	0619	A/R ENTRY		105		-0.5/-0.5	
	32	16:27:39	16:27:44	0600	A/R STEADY		105			
	33	16:27:45	16:27:59	2637	A/R RT TURN	30°	105			
	34	16:28:00	16:28:14	2637	A/R LT TURN	35°	105			
	35	16:28:15	16:28:28	2837	A/R CYCLIC	PULLUP 1.5g	105			
	36	16:28:32	16:28:37	2837	A/R COLL.	PULLUP 1.7g	105			
18	37	16:31:30	16:31:36	3437	A/R LAT CONT	REV 49-22-61	105			
	38	16:31:37	16:31:40	3437	A/R LONG CONT	REV 67-79-59	105			
	39	16:31:41	16:31:45	3437	A/R DIRECT	" 61-48-64	105			
	40	16:31:46	16:31:50	3437	A/R "	" 58-67-48	105			
	41	16:31:55	16:32:31	0423	SPIRAL DESCENT	RT 45°	105			
19	42	16:34:07	16:34:23	2615	LT. TURN	30°	44	2000	-2.5/-2.5	
	43	16:34:25	16:34:36	2616	RT. TURN	30°	44			
20	44	16:35:13	16:35:22	2615	LT TURN	45°	44			
21	45	16:35:55	16:36:17	2616	RT TURN	45°	44			
22	46	16:40:26	16:41:34	2200	FLARE TO HOVER			STEEP APPROACH	Auto Trim 5° N.U.	
23	47	16:42:57	16:43:32	2200	" "	"		NORMAL	"	" 13° N.U.
24	48	16:44:42	16:44:54	2200	" "	"		SHALLOW	"	" 17° N.U.
25	49	16:45:34	16:45:50	2200	" "	"		"	"	" 21° N.U.

FORM 28810 (6/73)

PREPARED BY: HH Steinmann
CHECKED BY:
DATE: 9-8-77
FLT DATE 8-31-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☒ REAL TIME ☐ A/C TAPE

PAGE NO. 1 OF 1
REPORT NO.
MODEL NO. H-46E/Glass Blade
Flt No. SLP-1 x 140
TOGW 25,000 TOCG 4.35" F
Fuel 2300#

Pilot Record No	Batch Event No	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION					
13	1	09:41:21	09:41:26	0231	HOVER IGE					
14	2	09:41:50	09:42:18	1715	LEFT SPOT TURN					
	3	09:42:20	09:42:45	1716	RIGHT SPOT TURN					
15	4	09:43:12	09:43:13	3404	LAT CONT REV IN HOVER MISSED ON A/C TAPE					
	5	09:43:14	09:43:19	3404	" " "	"	48-23-65			
	6	09:43:21	09:43:25	3401	LONG " "	"	45-69-35			
	7	09:43:27	09:43:32	3407	DIRECT " "	"	45-61-29			
16	8	09:44:04	09:44:13	1726	L-R TURN REVERSAL	"	12-76-50			
	9	09:44:16	09:44:25	1726	R-L " "	"	82-10-47			
17	10	09:45:49	09:45:54	1122	TAXI STRAIGHT - SLOW					
18	11	09:46:04	09:46:15	1116	RT TAXI TURN - SLOW					
19	12	09:46:50	09:47:09	1115	LT TAXI TURN - SLOW					
20	13	09:49:24	09:50:28	1516	RT SIDEWARD FLT	10-20-30-35 KTS		TAXI	TRIM SETTING	2.8/2.8
21	14	09:55:03	09:55:19	1905	ACCEL: HOVER - 10 KTS LT SIDEWARD FLT					
	15	09:55:20	09:55:25	1515	10 KTS LT SIDEWARD FLT					
	16	09:55:26	09:55:42	1905	ACCEL 10-20 KTS LT SIDEWARD FLT			AUTO	TRIM	-2.5/-2.5
	17	09:55:43	09:55:48	1515	20 KTS LT SIDEWARD FLT					
	18	09:55:49	09:56:01	1905	ACCEL 20-30 KTS LT SIDEWARD FLT					
	19	09:56:02	09:56:07	1515	30 KTS LT SIDEWARD FLT					
	20	09:56:08	09:56:17	1905	ACCEL 30-35 KTS LT SIDEWARD FLT					
	21	09:56:18	09:56:23	1515	35 KTS LT. SIDEWARD FLT.					
	22	09:56:24	09:56:32	1520	RECOVERY FROM 35 KTS LT. SIDEWARD FLT.					
22	23	09:59:22	09:59:29	1906	ACCEL HOVER - 10 KTS RT. SIDEWARD FLT					
	24	09:59:30	09:59:35	1516	10 KTS RT SIDEWARD FLT.					
	25	09:59:36	09:59:44	1906	ACCEL 10-20 KTS RT SIDEWARD FLT					
	26	09:59:45	09:59:50	1516	20 KTS RT SIDEWARD FLT.					
	27	09:59:51	10:00:08	1906	ACCEL 20-30 KTS RT. SIDEWARD FLT					
	28	10:00:09	10:00:14	1516	30 KTS RT SIDEWARD FLT.					
	29	10:00:15	10:00:24	1906	ACCEL 30-35 KTS RT SIDEWARD FLT					
	30	10:00:25	10:00:30	1516	35 KTS RT. SIDEWARD FLT.					
	31	10:00:31	10:00:40	1520	RECOVERY FROM 35 KTS RT SIDEWARD FLT.					
23	32	10:02:53	10:03:03	1921	ACCEL: HOVER - 10 KTS REARWARD FLT					
	33	10:03:04	10:03:09	1600	10 KTS REARWARD FLT.					
	34	10:03:10	10:03:30	1921	ACCEL 10-20 KTS REARWARD FLT					
	35	10:03:31	10:03:36	1600	20 KTS REARWARD FLT					
	36	10:03:37	10:03:53	1921	ACCEL 20-30 KTS REARWARD FLT					
	37	10:03:54	10:03:59	1600	30 KTS REARWARD FLT					
	38	10:04:00	10:04:10	1920	RECOVERY FROM 30 KTS REARWARD FLT					
24	39	10:07:09	10:07:34	2200	FLARE TO HOVER —	NORMAL APPROACH				11° NOSE UP
25	40	10:09:52	10:10:20	2200	" " "	STEEP	"			5° NOSE UP
26	41	10:12:25	10:12:49	2200	" " "	SHALLOW	"			16½° NOSE UP
27	42	10:14:42	10:14:54	2200	" " "	"	"			22° NOSE UP
28	43	10:15:31	10:15:36	1400	JUMP TAKEOFF	MISSED PART OF MNVR ON A/C TAPE				
29	44	10:16:30	10:16:34	1823	VERTICAL DESCENT TO LANDING			1-52		
30	45	10:17:54	10:18:19	1116	RT TAXI TURN - RAPID					
	46	10:18:20	10:18:45	1115	LT TAXI TURN - RAPID					

FORM 26810 (6/73)

PREPARED BY: H.H. STEINMANN — DATA REQUEST EDIT TAPES

CHECKED BY:

DATE: 9-9-77

FLT DATE 8-31-77

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ REAL TIME ☒ A/C TAPE

PAGE NO. 1 OF 2

REPORT NO.

MODEL NO. H-46E/Class E

FIN No. SLP-1 X 141

TOGW 25000 TOCG 435 IN

FUEL 2300#

PILOT REQUEST NO.	EVENT NO.	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MANEUVER CODE	MANEUVER DESCRIPTION		PILOT IAS	NOMINAL HD	CYCLIC TRIM	
1	1	15:13:30	15:13:33	0000	STATIC TEST RECORD					
2	2	15:19:31	15:19:41	2313	TRANSITION		40-70	1700	-2.8/-2.8	
1	3	15:19:42	15:20:02	2200	FLARE TO HOVER		70-0	1	" "	
3	4	15:21:45	15:21:50	0300	CLIMB		70	1900	-2.7/-2.6	
4	5	15:22:37	15:22:42	0300	"			2700		
5	6	15:23:37	15:23:42	0300	"			3700		
6	7	15:24:45	15:24:50	0300	"			4700		
7	8	15:25:54	15:25:59	0300	"			5600		
8	9	15:27:26	15:27:31	0300	"			6800	2.7/2.6	
9	10	15:28:45	15:28:50	0300	"			7700		
10	11	15:30:23	15:30:28	0300	"			8500		
11	12	15:31:00	15:31:05	0300	"			8800		
1	13	15:31:25	15:31:30	0100	LEVEL FLIGHT			8700		
12	14	15:32:57	15:33:02	0500	PPD 500 fpm		76	8600		
	15	15:33:11	15:33:16	0500	" 1000			8500		
	16	15:33:20	15:33:25	0500	" 1500			8300		
	17	15:33:26	15:33:49	0520	" RECOVERY			8000		
13	18	15:34:54	15:34:59	0100	LEVEL FLIGHT		70	8300		
14	19	15:35:45	15:35:50	0100	" "		80	8400		
15	20	15:36:44	15:37:04	0100	" "		90	1		
16	21	15:38:05	15:38:10	0100	" "		95	8500		
1	22	15:38:11	15:38:39	3334	GUST SIMULATION		1	1		
17	23	15:40:15	15:40:20	0100	LEVEL FLIGHT		60	8400		
18	24	15:41:21	15:41:26	0100	" "		50			
19	25	15:43:50	15:44:20	0100	" "	V_{min} (Pilot)	40			
20	26	15:45:26	15:46:27	2615	LT. TURN	15°	80			
21	27	15:46:50	15:47:38	2616	RT. TURN	18°	80			
22	28	15:48:05	15:48:09	3404	LAT CONT	REV.	80			58-30-62-31
	29	15:48:11	15:48:15	3401	LONG "	"	80			71-85-61-93
	30	15:48:17	15:48:21	3407	DIRECT "	"	80			56-44-69-46
23	31	15:48:44	15:48:49	0030	LT S/S	10°	80			
1	32	15:49:00	15:49:05	0030	RT S/S	10°	80			
24	33	15:49:36	15:49:45	2801	CYCLIC PULLUP 1.2g		80			
~~25~~	~~34~~	~~15:50:15~~	~~15:50:18~~	~~2810~~	~~COLL. PULLUP 1.28g~~		~~80~~	LOAD FACTOR MISSED ON TAPE		
26	35	15:52:06	15:52:54	2616	RT TURN	30°	57			
27	36	15:53:38	15:54:28	2615	LT TURN	26°	57			
28	37	15:55:13	15:55:22	2801	CYCLIC PULLUP 1.1g		57			
29	38	15:56:25	15:56:30	2810	COLL. PULLUP 1.28g		57			
30	39	15:57:52	15:57:57	0600	A/R STEADY		70	8300		
	40	15:57:58	15:58:14	2637	A/R RT TURN 30°		70	7700		
	41	15:58:15	15:58:38	2637	A/R LT TURN 35°		70	6800		
	42	15:58:40	15:58:51	2837	A/R CYCLIC PULLUP 1.5g		70	6000		
	43	15:58:58	15:59:02	2837	A/R COLL. PULLUP 1.62g		70	5500		
31	44	16:04:00	16:04:25	0619	A/R ENTRY		85	8700		
	45	16:04:26	16:04:31	0600	A/R STEADY		85	7800		
	46	16:04:32	16:05:02	2637	A/R LT TURN 18°		85	7000		
	47	16:05:03	16:05:17	2637	A/R RT TURN 30°		85	6100		
	48	16:05:20	16:05:27	2837	A/R CYCLIC PULLUP 1.42g		85	5700		
	49	16:05:33	16:05:37	2837	A/R COLL. PULLUP 1.5g		85	5400		
32	50	16:08:26	16:08:31	0100	LEVEL FLT		80	6400	-2.4/-2.2	
33	51	16:09:18	16:09:23	0113	" "		100	1	-.9/-.3	

FORM 26510 (6/73)

PREPARED BY: H. STEINMANN
CHECKED BY:
DATE: 9-9-77
FLT DATE 8-31-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ DIGITAL TAPE ☒ A/C TAPE

REPORT NO.
MODEL NO. [illegible]
FLT NO. SLP-1 X-14
TOGW 25,000 TIME 4:35 PF
FUEL 2300#

PILOT RECORD No	BATCH EVENT No	START TIME HH:MM:SS	STOP TIME HH:MM:SS	MNVR CODE	MANEUVER DESCRIPTION		PILOT IAS	NOMINAL HD	CYCLIC TRIM	
34	52	16:10:05	16:10:25	0113	LEVEL FLIGHT		110	6400	0/0.9	LT TJC
35	53	16:14:15	16:14:20	0113	"	"	110	3200	/	
36	54	16:15:02	16:15:12	0113	"	"	120	|	1.2/2.5	
37	55	16:15:30	16:16:07	2616	RT TURN	20°	120	|	Auto	ENTRY NOT INCLUDED
38	56	16:16:55	16:17:25	0113	LEVEL FLIGHT (VH)		130	|	1.4/2.5	
39	57	16:22:53	16:23:05	2200	FLARE TO HOVER		50-0	800	-2.7/-2.7	

FORM 26810 (6/73)

PREPARED BY: H.H. Steinmann

CHECKED BY:

DATE: 9-9-77

FLT DATE 9-1-77

DATA REQUEST FLT TEST

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ AIR TAPE ☒ A/C TAPE

PAGE NO. 1 OF 2

REPORT NO.

MODEL NO. H-46 S/N 66-[illegible]

FLT NO. SLP-1 X 142

TOGW 25000 T.O.C.G. 4.35 FS

PILOT REQUEST NO.	EVENT NO.	START TIME HH:MM:SS	STOP TIME HH:MM:SS	MNVR CODE	MANEUVER DESCRIPTION	PILOT IAS	NOMINAL HD	CYCLIC TRIM FWD/AFT	
1	1	14:50:05	14:50:09	0000	STATIC TEST RECORD				
2	2	14:55:11	14:55:30	2313	TRANSITION	0-60	120	-2.7/-2.7	
3	3	14:59:08	14:59:13	0100	LEVEL FLIGHT	50	3300	-2.7/-2.7	
4	4	15:00:50	15:00:55	0100	" "	40			
5	5	15:01:48	15:01:53	0100	" "	30			
6	6	15:03:29	15:03:34	0100	" "	60			
7	7	15:04:29	15:04:34	0100	" "	70			
8	8	15:05:45	15:05:50	0100	" "	80		-2.3/-2.6	
9	9	15:07:04	15:07:09	0100	" "	90		-1.6/-1.7	
10	10	15:08:28	15:08:33	0100	" "	100		-1.0/-1.0	
11	11	15:09:58	15:10:03	0100	" "	110		-0.1/-0.1	
12	12	15:11:31	15:11:36	0100	" "	120		1.3/0.5	
13	13	15:13:25	15:13:55	0100	" " V_H	123		1.4/1.1	
1	14	15:14:00	15:14:20	3334	GUST SIMULATION	123			
15	15	15:16:10	15:16:40	0113	LEVEL FLIGHT V_H	126	3700	2.8/3.6	
16	16	15:19:18	15:19:23	0100	LEVEL FLIGHT	75	3200	-2.6/-2.6	94% Nr
17	17	15:20:37	15:20:42	0100	" "	50			
18	18	15:21:25	15:21:30	0100	" "	30			
19	19	15:22:50	15:23:00	0100	" "	98		-1.0/-.9	
20	20	15:24:05	15:24:25	0100	" "	105		-.7/-.5	L+ DSC
	21	15:26:42	15:26:47	0114	LEVEL FLIGHT	75		-2.6/-2.6	RETRACTED TURN
22	22	15:27:24	15:27:29	0114	" "	85			
23	23	15:27:54	15:27:59	0114	" "	90			
24	24	15:28:28	15:28:33	0114	" "	95			
25	25	15:29:37	15:29:42	0114	" "	100			
26	26	15:30:16	15:30:21	0114	" "	105			L+ DSC
27	27	15:31:33	15:32:03	2615	LT. TURN 30° MOD	110		Auto/0	
28	28	15:32:15	15:32:46	2616	RT. TURN 30° "	110			
29	29	15:33:21	15:33:45	2615	LT TURN 30° UP	110			
30	30	15:34:00	15:34:30	2616	RT TURN 30° UP	110			
31	31	15:35:06	15:35:11	3404	LAT CONT REV	110			54-29-64-36
|	32	15:35:14	15:35:19	3401	LONG CONT REV	110			75-88-62-80
|	33	15:35:20	15:35:25	3407	DIRECT " "	110			52-37-64-44
32	34	15:35:42	15:35:47	0030	10° RT S/S	110			
1	35	15:35:57	15:36:02	0030	10° LT S/S	110			
33	36	15:36:23	15:36:31	2801	CYCLIC PULLUP 1.3g	110			
34	37	15:36:565	15:37:01	2810	COLL. PULLUP 1.35g	110			L+ DSC
35	38	15:37:48	15:37:53	2810	" " 1.43g	110			L+ DSC
36	39	15:39:48	15:39:52	3404	LAT CONT REV	123		Auto/1.1	50-32-64
|	40	15:40:02	15:40:06	3401	LONG " "	123			70-86-59 L+ DSC
|	41	15:40:10	15:40:14	3407	DIRECT " "	123			55-38-66 L+ DSC
37	42	15:41:31	15:41:52	2615	LT. TURN 30° MOD	74		-2.6/-2.6	
1	43	15:41:54	15:42:14	2616	RT. " " " "	74			L+ DSC
38	44	15:42:43	15:43:04	2615	LT TURN 45° UP	74			
1	45	15:43:08	15:43:34	2616	RT " " " "	74			
	46	15:44:13	15:44:23	2801	CYCLIC PULLUP 1.35g	74			
	47	15:44:43	15:44:48	2810	COLL. PULLUP 1.5g	74			
41	48	15:45:40	15:46:00	2615	LT TURN 30° MOD	40			ENTRY MISSED
1	49	15:46:04	15:46:26	2616	RT " " " "	40			
42	50	15:47:44	15:47:49	0500	PPD 500 fpm	98		Auto/-.9	
1	51	15:47:55	15:48:00	0500	" 1000 "	98	3200		

FORM 26810 (6/73)

PREPARED BY: H STEINMANN
CHECKED BY:
DATE: 9-9-77
FLT DATE 9-1-77

DATA REQUEST EDIT TAPES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ MAG TAPE ☒ A/C TAPE

PAGE NO. 1 2 OF 2
REPORT NO.
MODEL NO. H-46
FLT NO. SLP-1 x 142
TOGW 25000 TOCG 4.35" F
FUEL 2300#

PILOT RECORD No.	EVENT No.	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION	PILOT IAS	NOMINAL HD	CYCLIC TRIM FWD/AFT	
42	52	15:48:10	15:48:15	0500	PPD 1500 fpm	98	2900	Auto/-.9	
43	53	15:49:49	15:49:54	0600	A/R STEADY	70	3700	Auto/-2.6	
|	54	15:49:55	15:50:08	2637	A/R LEFT TURN 43°	70	3500	|	
|	55	15:50:09	15:50:27	2637	A/R RT TURN 40°	70	2800	|	
|	56	15:50:28	15:50:37	2837	A/R CYCLIC PULLUP 1.52g	70	2200	|	
44	57	15:52:16	15:52:20	2837	A/R COLL PULLUP 1.68g	70	3200	|	
|	58	15:52:21	15:52:45	0423	SPIRAL DESCENT LT 48°	70	2300	|	
|	59	15:52:47	15:53:03	2837	A/R LANDING (SIMULATED)	70	1700	|	
45	60	15:55:55	15:55:59	0600	A/R STEADY	110	4200	Auto/0.2	
|	61	15:56:00	15:56:13	2637	A/R RT TURN 33°	110	3700	|	
|	62	15:56:14	15:56:38	2637	A/R LT TURN	110	2600	|	
46	63	16:00:00	16:00:09	2837	A/R CYCLIC PULLUP 1.44g	110	3900	|	
|	64	16:00:10	16:00:15	2837	A/R COLL PULLUP 1.72g	110	3400	|	
|	65	16:00:16	16:00:33	0423	SPIRAL DESCENT RT 48°	110	2700	|	297 Nr/1.92g
|	66	16:00:34	16:00:45	2837	A/R LANDING (SIMULATED)	110	2300	|	
47	67	16:01:44	16:01:49	2600	LT BANK ϕ 16°	80	2600	Auto/-2.6	FLT QUAL TESTS
|	68	16:01:53	16:01:59	2600	" " 25°	90	|	|	|
|	69	16:02:07	16:02:30	2600	" " 45°	80	|	|	|
48	70	16:03:45	16:03:52	2600	LT. BANK ϕ 20°	100	2800	Auto/-.8	|
|	71	16:03:55	16:04:02	2600	" " 25°	100	|	|	|
|	72	16:04:10	16:04:14	2600	" " 35°	100	|	|	|
|	73	16:04:18	16:04:24	2600	" " 42°	100	|	|	|
49	74	16:05:43	16:05:57	2600	LEFT BANK ϕ 15°	120	3100	Auto/.8	|
|	75	16:06:02	16:06:07	2600	" " 20°	120	|	|	|
|	76	16:06:15	16:06:21	2600	" " 30°	120	|	|	|
|	77	16:06:26	16:06:39	2600	" " 40°	120	|	|	↓
50	78	16:09:25	16:09:50	2200	FLARE TO HOVER	80-0	1700	Auto/Auto	

All times as Requested Hel HS

FORM 2881G (6/73)

PREPARED BY: H. STEINHAHN
CHECKED BY:
DATE: 9-27-77
FLT DATE: 9-2-77

DATA REQUEST CODE TABLE

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ ADAC TAPE ☒ A/C TAPE

PAGE NO. 1 OF 1
REPORT NO.
MODEL NO. H-46F/UH-46A
FLT NO. SLP 1 × 143
TOGW 18,962 FUEL 3.5"A FUEL 2300#
EXT. LOAD 6006# OPER TQW 24,974#/1.5"A

PILOT RECORD EVENT No	BATCH EVENT No.	START TIME HH:MM:SS	STOP TIME HH:MM:SS	MNVR CODE	MANEUVER DESCRIPTION	PILOT IAS	NOMINAL H_p	TRIM FWD/AFT	
2	1	10:33:23	10:33:28	0231	HOVER IGE-NO LOAD	0	—	AUTO	
3	2	10:35:06	10:35:20	4431	LOAD PICK-UP	—	—	"	
4	3	10:36:17	10:36:22	0231	HOVER IGE-WITH LOAD	—	—	"	
6	4	10:38:37	10:38:50	4431	LOAD PICK-UP	—	—	"	
7	5	10:40:38	10:40:54	2313	TRANSITION-WITH LOAD	0-50	—	"	
↓	6	10:40:55	10:41:44	2200	FLARE TO HOVER "	50-0	—	"	
8	7	10:42:23	10:42:42	2313	TRANSITION "	0-65	—	"	
1	8	10:42:43	10:43:10	2200	FLARE TO HOVER "	65-0	—	"	
9	9	10:45:18	10:45:31	2313	TRANSITION "	0-70	—	"	
10	10	10:46:35	10:46:55	0316	RT CLIMBING TURN 10°	60	—	"	
↓	11	10:47:00	10:47:05	0300	CLIMB-MAX PWR	60	—	"	
11	12	10:49:40	10:49:55	0100	LEVEL FLIGHT	60	2000	"	
12	13	10:50:40	10:51:05	0100	" "	70	"	"	
13	14	10:51:55	10:52:05	0100	" "	80	"	"	
14	15	10:52:15	10:52:37	2616	RT TURN 14°	80	"	"	
15	16	10:53:35	10:53:40	0100	LEVEL FLIGHT	90	"	"	
16	17	10:55:05	10:55:10	0100	" "	100	"	"	
17	18	10:56:20	10:56:40	0100	" "	110	"	"	
18	19	10:57:55	10:58:20	0100	" " V_H	113	"	"	
↓	20	10:58:21	10:58:36	2022	DECELERATION-SLOW	113-100	"	"	
	21	10:59:05	10:59:40	2616	RT. TURN 14°	105	"	"	MOD RECOVERY
20	22	11:00:33	11:00:39	2620	RT TURN RECOVERY	105	"	"	NORMAL "
21	23	11:01:30	11:01:35	0500	PPD 500 fpm	70	"	"	
	24	11:01:42	11:01:47	0500	PPD 1000 fpm	70	"	"	
	25	11:01:49	11:01:59	0520	PPD RECOVERY	70	"	"	1.15 a
22	26	11:02:35	11:03:31	2615	LT. TURN 18°	105	"	"	
23	27	11:03:44	11:04:27	2616	RT. TURN 21°	105	"	"	
24	28	11:05:25	11:05:30	0100	LEVEL FLIGHT	60	"	"	
1	29	11:06:10	11:06:15	0100	" "	60	"	MAIN FWD	
25	30	11:07:05	11:07:10	0100	" "	70	"	(2.8/3.5)	
26	31	11:07:55	11:08:00	0100	" "	80	"	"	
27	32	11:09:20	11:09:25	0100	" "	90	"	"	
28	33	11:10:15	11:10:20	0100	" "	100	"	"	
29	34	11:11:25	11:11:50	0100	" "	110	"	"	
30	35	11:12:10	11:13:10	2615	LT. TURN 18°	105	"	"	
31	36	11:13:54	11:14:04	0100	LEVEL FLIGHT V_H	120	"	"	
1	37	11:14:05	11:14:22	2022	DECELERATION-SLOW	120-100	"	"	
32	38	11:14:35	11:15:38	2616	RT TURN 20°	105	"	"	
33	39	11:16:55	11:17:00	0500	PPD 500 fpm	70	"	"	
	40	11:17:14	11:17:19	0500	PPD 1000 fpm	70	"	"	
	41	11:17:20	11:17:28	0520	PPD RECOVERY	70	"	"	1.20 a
35	42	11:20:40	11:21:20	2200	FLARE TO HOVER	60-0		AUTO	
36	43	11:21:46	11:22:20	2200	FLARE TO HOVER	60-0		"	
37	44	11:23:48	11:23:56	4731	LOAD DROP ON GRASS	0		"	
38	45	11:25:11	11:25:20	4431	LOAD PICK-UP	—		"	
	46	11:25:50	11:25:59	4731	LOAD RELEASE @ RAMP	—		"	
	47	11:36:07	11:36:12	0100	LEVEL FLIGHT	120	2000	"	WITHOUT EXT. LOAD
41	48	11:36:44	11:36:49	0100	" "	130	"	"	" "
42	49	11:37:51	11:38:01	0100	" " V_H	140	"	"	" "
1	50	11:38:05	11:38:25	3334	GUST SIMULATION V_H	140	"	"	" 0.7/1.2 a

FORM 26810 (6/73)

PREPARED BY: H.H. STEINMANN
CHECKED BY:
DATE: 9-26-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

PAGE NO.
REPORT NO.
MODEL NO. H-46E/2/255 Blade
Flt No. SLP#1 x 151
TOGW 21500 TOCG F.C.A

EDITED FROM: X A/C TAPE

FUEL 2300#
EED's INSTALLED

PILOT RECORD EVENT No.	BATCH EVENT No.	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION	PILOT IAS	Hp	TRIM
2	1	13:34:30	13:34:35	0000	STATIC TEST RECORD			
3	2	13:41:53	13:42:06	2313	TRANSITION (50-80 KTS)			AUTO
4	3	13:44:20	13:44:25	0100	LEVEL FLIGHT	80	1200'	AUTO
5	4	13:45:24	13:45:29	0100	" "	90	"	"
6	5	13:46:32	13:46:37	0100	" "	100	"	"
7	6	13:47:38	13:47:43	0100	" "	110	"	"
8	7	13:48:47	13:48:52	0100	" "	120	"	"
9	8	13:50:10	13:50:15	0100	" " V_H	127	"	"
10	9	13:52:01	13:52:23	2615	LEFT TURN 30°	115	"	"
11	10	13:52:37	13:53:00	2616	RIGHT TURN 30°	115	"	"
12	11	13:53:16	13:53:38	2615	LEFT TURN 41°	115	"	"
13	12	13:54:19	13:54:41	2616	RIGHT TURN 36°	115	"	"
14	13	14:00:32	14:00:37	0100	LEVEL FLIGHT	80	4900'	"
15	14	14:01:24	14:01:29	0100	" "	90	"	"
16	15	14:03:05	14:03:10	0100	" "	100	"	"
17	16	14:04:17	14:04:22	0100	" "	110	"	"
18	17	14:06:13	14:06:18	0100	" " V_H	117	"	"
19	18	14:08:16	14:08:35	2616	RIGHT TURN 28°	108	"	"
20	19	14:08:56	14:09:16	2615	LEFT TURN 30°	108	"	"
21	20	14:10:46	14:11:05	2616	RIGHT TURN 42°	90	"	"
	21	14:12:00	14:12:05	0100	LEVEL FLIGHT	80	"	"
	22	14:12:23	14:12:28	0100	" "	80	"	MAN FND
23	23	14:12:54	14:12:59	0100	" "	80	"	"
24	24	14:14:00	14:14:05	0100	" "	90	"	"
25	25	14:15:10	14:15:15	0100	" "	100	"	"
26	26	14:16:05	14:16:10	0100	" "	110	"	"
27	27	14:18:15	14:18:55	0100	" " V_H	120	"	"
28	28	14:20:26	14:20:47	2615	LEFT TURN 35°	107	"	"
29	29	14:21:03	14:21:22	2616	RIGHT TURN 28°	107	"	"

All Times as requested

FORM 2661D (6/73)

PREPARED BY: H. STEINMANN

CHECKED BY:

DATE: 9-30-77

FT DATE 9-30-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☒ REAL TIME TABLE 1 ☐ A/C TAPE

PAGE NO.

REPORT NO.

MODEL NO. 11-ACEE/HLH Flt

FLT NO. SCP-1 x 161

TOGW 21,500 TOG 22.4 FUEL 1950#

PCM RECORD No.	EVENT No.	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION		PILOT IAS	NOMINAL HD	CYCLIC TRIM	
2	2	10:39:25	10:39:32	0100	LEVEL FLIGHT		30	255°	AUTO	
3	3	10:40:51	10:40:55	0100	"	"	60	"	"	
4	4	10:42:49	10:42:55	0100	"	"	90	"	"	
5	5	10:45:05	10:45:22	0100	"	"	115	"	"	
6	6	10:47:32	10:47:42	0100	"	"	130	"	"	
7	7	10:49:34	10:49:52	0100	"	" V$_H$	136	"	"	
8	8	10:50:44	10:50:54	3200	FULL PWR	DIVE V$_{MC}$	146	"	"	-1000 fpm
9	9	11:06:07		2200	NORMAL	ADP. TO HOVER			"	

STOP TIME TO BE DETERMINED FROM A/C TAPE AT END OF DATA RECORD

NOTE: RECORD/EVENT NO. 8 APPEARED TO HAVE ERRATIC DATA ON AFT ROTOR ROTATING MEASUREMENTS AS OBSERVED ON THE BRUSH TABLE NO. 4.

FORM 26810 (8/73)

PREPARED BY: HH Steinmann

CHECKED BY:

DATE: 10-3-77

FLT DATE 10-3-77

DATA REQUEST EDIT TABLES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☒ REAL TIME TABLE 1 ☐ A/C TAPE

PAGE NO.

REPORT NO.

MODEL NO. H-46E/Block Blade

FIN No. SLP-1 x 162

TOGW 21,500 TOAT 22.4°F

FUEL 1900#

PILOT RECORD No.	CREW EVENT NO.	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MMMS CODE	MANEUVER DESCRIPTION		PILOT IAS	NOMINAL HD	CYCLIC TRIM	
2	2	11:18:30	11:18:40	0100	LEVEL FLIGHT		130	2000'	AUTO	
3	3	11:19:50	11:20:00	0100	"	" V_H	137	"	"	
4	4	11:21:55	11:22:05	3200	FULL PWR	DIVE V_{NE}	146	"	"	R/C2 -1350 fpm
5	5	11:23:49	11:23:54	3200	" "	" 1.05 V_{NE}	154	"	"	" -1800
6	6	11:26:52	11:26:59	3200	" "	" 1.11 V_{NE}	165	"	"	" -2150

NOTE: PILOT IAS CODE 80320 UPPER B.E. = 161.6 KT

CO-PILOT IAS CODE 80370 " " = 157.9 KT

Check OK

Times

FORM 26810 (6/73)

PREPARED BY: H. STEINMIND

CHECKED BY:

DATE: 10-4-77

FT DATE 10-4-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☒ REAL TIME TAPES 182 ☐ A/C TAPE

PAGE NO.

REPORT NO.

MODEL NO. H-46E/Glass Blue

FLT NO. SLP-1 x 163

TOGW 21,500 TOCG 220.47

FUEL 1900#

PILOT RECORD No.	BATCH EVENT No	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION		PILOT IAS	NOMINAL H_D	CYCLIC TRIMS	
2	1	09:55:41	09:56:00	2615	LEFT TURN	30°	90	3K	AUTO	
3	2	09:56:20	09:56:40	2616	RIGHT	" 30°	90	"	"	
4	3	09:57:16	09:57:34	2615	LEFT	" 45°	90	"	"	
1	4	09:57:45	09:58:02	2616	RIGHT	" 45°	90	"	"	
5	5	09:59:15	09:59:27	2615	LEFT	" 60°	90	"	"	
1	6	09:59:38	09:59:50	2616	RIGHT	" 60°	90	"	"	
6	7	10:01:40	10:01:47	2801	CYCLIC PULSE	1.5"	130	"	"	
7	8	10:04:38	10:04:48	0100	LEVEL FLIGHT	V_H	133	"	"	
8	9	10:06:10	10:06:22	2900	SYM. PUSH	DIVE	155	"	"	1.25
9	10	10:08:40	10:08:58	2900	" "	"	160	"	"	1.30
10	11	10:18:05	10:18:22	2900	" "	"	165	"	"	1.28
11	12	10:21:00	10:21:21	2900	" "	"	170	"	"	1.30
12	13	10:25:07	10:25:11	3404	LAT CONT	REV.	0	2K	"	47-30-61-29
1	14	10:25:13	10:25:17	3404	" "	"	0	"	"	47-19-62-22
1	15	10:25:20	10:25:24	3404	" "	"	0	"	"	47-29-66-24
1	16	10:25:27	10:25:31	3401	LONG "	"	0	"	"	53-34-40-62
1	17	10:25:34	10:25:38	3407	DIRECT "	"	0	"	"	45-36-66-33
13	18	10:29:17	10:29:23	0100	LEVEL FLIGHT		130	"	"	
14	19	10:29:40	10:29:45	0113	" "		130	"	MAN FD	
15	20	10:30:29	10:30:34	0113	" "	V_H	139	"	"	
16	21	10:30:53	10:30:58	3200	FULL PWR	DIVE	150	"	"	
17	22	10:32:14	10:32:23	3200	" "	"	160	"	"	

FORM 20810 (6/73)

PREPARED BY: W.F. Steinmann

CHECKED BY:

DATE: 10-6-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☒ Real Time Tables 1/2 ☐ A/C Tape Strip Time

* Data Analysis to Determine Missing Start-Stop Times

PAGE NO. 1 OF 1

REPORT NO.

MODEL NO. H-46E/G/CH-46E

Flt No. SLP-1 x ~~FOT~~

TOGW _____ TOCG ~~FOT~~

Pilot Record No.	Event No	Start Time HH:MM:SS.S	Stop Time HH:MM:SS.S	M.V.R. Code	Maneuver Description		Pilot Hts			
		Flight	X164	TOGW	23,700#	CG	13.5" Fwd	Fuel (3 Min)	2300#	Ref Date 10-5-77
1*	1	13:02:00	13:05:00	0000	Static Test Record					
2	2	13:25:46	13:25:51	0100	Level Flight V_H		125			
3	3	13:30:54	13:31:07	3000	Rolling Pullup, V_{ne}		90	LF 1.55		
4	4	13:33:03	13:33:14	3000	"	"	90	1.70	(2 Hz Filter	
5	5	13:35:50	13:36:05	3000	"	"	90	1.80		
6	6	13:44:04	13:44:09	2937	A/R Pullup, V_{ne}-5		140			
7	7	13:56:17	13:56:35	2937	" "	"	142	LF 2.0		
8	8	14:00:45	14:00.55	2937	" "	"	140	2.23		
9	9	14:04:40	14:04:50	2937	" "	"	140	2.25		
10	10	14:08:22	14:08:31	2937	" "	"	138	2.20		
11*	11	14:12:45	14:12:55	2937	" "	"	150	2.20		
		Flight	X165	TOGW	23,700	CG	0.5"A	Fuel (6 Mins	2303# (54 Secs)	Ref Date 10-5-77
1*	1	15:57:00	16:06:54	1000	Flat Pitch		—			
2*	2	16:06:55	16:11:48	0100	Level Flight V_H		125	(4 Mins	53 Secs)	
3	3	16:11:52	16:12:02	2900	Sym. Pullup V_{ne}-5		124	LF 1.50	Simult.	
4	4	16:15:45	16:15:55	2900	" "	"	124	1.50	"	
5	5	16:19:17	16:19:27	2900	" "	"	124	1.65	"	
	6	16:23:49	16:23:57	2900	" "	"	124	1.75	Pulse Coll.	
	7	16:29:10	16:29:20	2900	" "	"	124	1.75	" "	
8	8	16:32:07	16:32:22	2900	" "	"	124	—	Mid Long	
9	9	16:37:12	16:37:27	2900	" "	"	124	1.82	Passed	
10*	10	16:54:50	16:54:55	0000	Static Test Record					
		Flight	X166	TOGW	21,500	CG	9.7"A	Fuel 2300#		Ref Date 10-6-77
1*	1			1000	Flat Pitch					
2	2	09:20:19	09:20:24	0100	Level Flight V_H		133			
3	3	09:26:50	09:27:05	2937	A/R Pullup V_{ne}-5		146	LF 2.5		
4	4	09:32:11	09:32:26	2937	" "	"	152	2.65		
5	5	09:41:06	09:41:11	0100	Level Flight		120	Auto Trim		
6	6	09:42:03	09:42:08	0100	" "		130	" "		
7	7	09:42:51	09:42:56	0100	" "	V_H	135	" "		
8	8	09:43:27	09:43:32	0100	" "	V_{ne}	145	" "		
9	9	09:44:34	09:44:39	0113	" "		130	Man. Ford	Trim	
10	10	09:45:16	09:45:21	0113	" "	V_H	137	" "	"	
11	11	09:45:49	09:45:54	0113	" "	V_{ne}	145	" "	"	
12*	12	09:45:48	09:45:53	0000	Static Test Record		— 2 Turns			
		Flight	X167	TOGW	25000#	CG	4.35" Fwd	Fuel 2300#		Ref Date 10-6-77
1*	1	13:16:15	13:16:20	0000	Static Test Record		—			
3*	3	13:16:25	13:16:30	0828	Rotor Start		—			
4*	4	13:19:35	13:19:45	1400	Jump Takeoff		—			
5*	5	13:28:50	13:29:00	0150	Level Flt V_H		121			
6	6	13:36:47	13:36:53	2900	Sym Pullup V_{ne}-5		116	LF 1.5	Coll	
7	7	13:38:34	13:38:41	2900	" "	"	116	1.62	"	
	8	13:40:14	13:40:24	2900	" "	"	115	1.70	"	
	9	13:42:39	13:42:49	2900	" "	"	116	1.75	Long	
10	10	13:45:54	13:46:09	2900	" "	"	119	1.80	Passed	
11	11	13:50:50	13:51:01	2616	Rt. Turn	45°	81	Oper. Rate		
12	12	13:51:12	13:51:21	2615	Lt "	"	81	" "		
13	13	13:51:59	13:52:07	2616	Rt "	"	81	" "		
14*	14	14:03:45	14:04:00	0900	Brake Rotor Shutdown.					

PREPARED BY: H.H. STEINMAN
CHECKED BY:
DATE: 10-26-77
FLT DATE 10-12-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ REAL TIME ☒ A/C TAPE

PAGE NO. 1 OF 1
REPORT NO.
MODEL NO. H-46E/~~CH-46D~~ METRIC DATA
FIT No. SLP-1 x 172
TOGW 21,500 TOCG 279.4
FLT 23,000

PILOT RECORD No.	BATCH EVENT No	START TIME HH:MM:SS	STOP TIME HH:MM:SS	MMR CODE	MANEUVER DESCRIPTION		PILOT SET IAS	NOTE NO.		
1	1	14:53:00	14:53:05	0000	STATIC TEST PT					
2	2	15:03:47	15:03:54	0100	LEVEL FLIGHT		30	2K		
3	3	15:04:53	15:05:00	0100	" "		60	"		
4	4	15:06:12	15:06:19	0100	" "		90	"		
5	5	15:07:40	15:07:47	0100	" "		115	"		
6	6	15:09:31	15:09:51	0100	" "		130	"		
7	7	15:17:29	15:17:35	0100	" "		25	6K		
8	8	15:18:46	15:18:53	0100	" "		50	"		
9	9	15:19:29	15:19:36	0100	" "		75	"		
10	10	15:21:12	15:21:19	0100	" "		100	"		
11	11	15:22:59	15:23:06	0100	" "		125	"		
12	12	15:24:40	15:24:47	0100	" "	V_H	128	"		
13	13	15:26:01	15:26:08	3200	FULL PWR	DIVE	136	"		
14	14	15:27:30	15:27:50	2615	LT TURN	30° MCP	75	"		
1	15	15:27:51	15:28:15	2616	RT "	" "	75	"		
15	16	15:28:34	15:28:55	2616	RT "	45° OPER	75	"		
1	17	15:28:56	15:29:21	2615	LT "	" "	75	"		
16	18	15:29:55	15:30:14	2801	CYCLIC PULLUP 1.4g		75	"		
17	19	15:31:02	15:31:27	2615	LT TURN	30° MCP	38	"		
	20	15:31:28	15:31:53	2616	RT "	" "	38	"		
	21	15:33:10	15:33:29	2801	CYCLIC PULLUP 1.4g		113	"		
19	22	15:34:15	15:34:26	2801	" "	1.5g	113	"		
20	23	15:35:07	15:35:49	2615	LT TURN	30° MCP	113	"		
1	24	15:35:50	15:36:12	2616	RT "	" "	113	"		
21	25	15:36:35	15:36:58	2615	LT "	" OPER	113	"		
1	26	15:36:59	15:39:16	2616	RT "	" "	113	"		
22	27	15:39:51	15:39:58	0100	LEVEL FLIGHT		130	2K		
23	28	15:40:59	15:41:06	0100	"	V_H	135	"		
24	29	15:41:49	15:41:56	3200	FULL PWR	DIVE V_{NE}	146	"		
25	30	15:43:20	15:43:48	3200	" "	1.1 V_{NE}	162	"		
26	31	15:44:59	15:45:15	2615	LT TURN	30° MCP	88	"		
1	32	15:45:16	15:45:35	2616	RT "	" "	88	"		
27	33	15:45:51	15:46:11	2616	RT "	45° OPER	88	"		
1	34	15:46:12	15:46:33	2615	LT "	" "	88	"		
28	35	15:47:33	15:47:42	2801	CYCLIC PULLUP 1.5g		88	"		
29	36	15:48:40	15:49:02	2616	RT TURN	30° MCP	44	"		
1	37	15:49:03	15:49:27	2615	LT "	" "	44	"		
30	38	15:49:57	15:50:12	2615	LT "	45° OPER	44	"		
1	39	15:50:14	15:50:30	2616	RT "	" "	44	"		
31	40	15:51:38	15:51:50	2801	CYCLIC PULLUP 1.4g		131	"		
1	41	15:51:51	15:52:01	2801	" "	1.5g	131	"		
32	42	15:52:10	15:52:25	2615	LT TURN	30° MCP	131	"		
1	43	15:52:27	15:52:41	2616	RT "	" "	131	"		
33	44	15:53:07	15:53:25	2616	RT "	" OPER	131	"		
1	45	15:53:27	15:53:42	2615	LT "	" "	131	"		

FORM 3661C (6/73)

PREPARED BY: W. STEINMANN
CHECKED BY:
DATE: 10-27-77
Flt Date 10-13-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ REAL TIME ☒ A/C TAPE

PAGE NO. 1 OF 1
REPORT NO.
MODEL NO. H-46E/~~Sea Knight~~ METAL Bla.
Flt No. SLP-1 x 173
TOGW 21500 TOCG 297.6
Fuel 2300#

Pilot Record No.	Event No	Start Time HH:MM:SS.S	Stop Time HH:MM:SS.S	MNVR Code	Maneuver Description		Pilot IAS (KT)	Nominal Hp		
1	1			0000	STATIC TEST RECORD					
2	2	09:30:42	09:30:48	0100	LEVER FLIGHT		109	6K		
3	3	09:31:53	09:32:07	0100	" "	V_{MC}	123	"		
4	4	09:32:35	09:33:11	3334	GUST SIMULATION		123	"		
5	5	09:34:13	09:34:20	0100	LEVER FLIGHT	V_H	128	"		
6	6	09:34:42	09:34:50	3334	GUST SIMULATION		128	"		
7	7	09:35:13	09:35:28	3200	FULL POWER DIVE	V_{NE}	135	"		
8	8	09:38:13	09:38:20	0100	LEVER FLIGHT		109	"		
9	9	09:38:37	09:38:53	3334	GUST SIMULATION		109	"		
10	10	09:40:39	09:40:46	0100	LEVER FLIGHT	V_{NO}	123	"		
11	11	09:43:31	09:43:53	3334	GUST SIMULATION		123	"		
12	12	09:44:31	09:44:38	0100	LEVER FLIGHT	V_H	128	"		
13	13	09:45:01	09:45:14	3334	GUST SIMULATION		128	"		
14	14	09:45:38	09:45:48	3200	FULL POWER DIVE		135	"	1.1 V_{NE}	
15	15	09:47:00	09:49:07	0100	LEVER FLIGHT,	V_{CRUISE}	123	3.5K		
16	16	09:47:20	09:49:38	3334	GUST SIMULATION		123	"		
17	17	09:50:35	09:50:42	0100	LEVER FLIGHT	V_H	135	"		
18	18	09:50:53	09:51:01	—	VOID	—	—	"		
19	19	09:51:28	09:51:50	3334	GUST SIMULATION		135	"		
	20	09:52:16	09:52:23	3200	FULL POWER DIVE	V_{NE}	139	"		
1	21	09:52:40	09:52:58	3334	GUST SIMULATION		139	"		
22	22	09:53:55	09:54:04	3200	FULL POWER DIVE	1.1 V_{NE}	155	"		
23	23	09:55:40	09:55:47	0100	LEVER FLIGHT	V_{ER}	130	2K		
24	24	10:03:18	10:03:25	0100	" "	"	130	"		
25	25	10:03:39	10:03:56	3334	GUST SIMULATION		130	"		
26	26	10:04:43	10:04:50	0100	LEVER FLIGHT	V_H	136	"		
27	27	10:05:04	10:05:18	3334	GUST SIMULATION		136	"		
28	28	10:05:43	10:05:50	3200	FULL POWER DIVE	V_{NE}	146	"		
29	29	10:06:06	10:06:15	3334	GUST SIMULATION		146	"		
30	30	10:06:52	10:07:00	3200	FULL POWER DIVE	1.1 V_{NE}	165	"		
31	31	10:09:52	10:09:59	0100	LEVER FLIGHT	V_{ER}	130	"		
32	32	10:10:12	10:10:28	3334	GUST SIMULATION		130	"		
33	33	10:11:08	10:11:16	0100	LEVER FLIGHT	V_H	136	"		
34	34	10:11:37	10:11:54	3334	GUST SIMULATION		136	"		
35	35	10:12:55	10:13:02	3200	FULL POWER DIVE	V_{NE}	146	"		
36	36	10:13:14	10:13:24	3334	GUST SIMULATION		146	"		
37	37	10:15:01	10:15:06	3200	FULL POWER DIVE		164	"	1.1 V_{NE}	
1	38	10:15:07	10:15:18	3220	DIVE RECOVERY		164 –	"		
38	39	10:27:01	10:27:31	2200	FLARE TO HOVER		50 – 0	—		

FORM 26810 (6/73)

PREPARED BY: H.H. STEINMANN
CHECKED BY:
DATE: 12-27-77
RET DATE 12-29-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FILM: ☒ REAL TIME ☐ A/C TAPE

PAGE NO. 1 OF 1
REPORT NO.
MODEL NO. H-46E/Glass Blade
Flt No. SLP-1 x 177
TOGW 21500 TOCG 277.2
FUEL 2300

PILOT RECORD No.	BATCH EVENT No	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION	PILOT TAT IAS	NOMINAL Hp	
1	1			0000	STATIC TEST RECORD			
2	2			0828	ROTOR START - MAX RATE			
3	3	13:12:19	13:12:25	0100	LEVEL FLIGHT VCR	109	6K	
4	4	13:13:26	13:13:44	0100	" " VNE	123	"	
5	5	13:15:07	13:15:13	0100	" " VH	129	"	
6	6	13:15:36	13:15:43	3334	GUST SIMULATION	127	"	
7	7	13:17:00	13:17:15	3200	FULL POWER DIVE 1.1VNE	135	"	
8	8	13:18:12	13:18:32	2615	LT. TURN 30° M.C.D	113	"	
1	9	13:18:46	13:19:01	2615	LT. " " OPER.	113	"	
9	10	13:20:05	13:20:15	0100	LEVEL FLIGHT VCR	109	"	
10	11	13:21:05	13:21:15	0100	" " VNE	123	"	
11	12	13:21:55	13:22:02	0100	" " VH	129	"	
12	13	13:22:15	13:22:23	3334	GUST SIMULATION	129	"	
13	14	13:22:45	13:22:55	3200	FULL POWER DIVE	135	"	1.16g
14	15	13:24:16	13:24:22	0600	A/R STEADY	70	FROM 7K	
	16	13:24:23	13:24:38	2637	A/R LEFT TURN	70	"	
	17	13:24:39	13:24:52	2637	A/R RIGHT TURN	70	"	
	18	13:24:53	13:25:26	0423	SPIRAL DESCENT, LT.	70	"	
15	19	13:27:06	13:27:19	0100	LEVEL FLIGHT VCR	123	3.5K	LT/MOD TURBULENCE
16	20	13:28:00	13:28:16	0100	" " VH	133	"	
17	21	13:28:28	13:28:38	3334	GUST SIMULATION	133	"	
18	22	13:29:06	13:29:16	3200	FULL POWER DIVE VNE	138	"	
19	23	13:29:35	13:29:50	3200	" " " 1.1VNE	150	"	
20	24	13:33:00	13:33:06	0100	LEVEL FLIGHT VCR	130	2K	MOD. TURBULENCE
21	25	13:33:52	13:34:00	0100	" " VH	135	"	
22	26	13:34:22	13:34:29	3200	FULL POWER DIVE VNE	146	"	
23	27	13:35:40	13:35:45	3200	" " "	155	"	TURB ±.2g
24	28	13:37:06	13:37:17	2615	LT TURN 45° OPER.	88	"	
	29	13:37:18	13:37:27	2616	RT " " "	88	"	
25	30	13:38:00	13:38:10	2615	LT TURN 60° OPER.	88	"	
	31	13:38:18	13:38:26	2616	RT " " "	88	"	
26	32	13:39:27	13:39:37	2616	RT TURN 45° OPER	44	"	
	33	13:39:40	13:39:50	2615	LT " " "	44	"	
27	34	13:41:20	13:41:30	2616	RT TURN 30° OPER	131	"	
	35	13:41:32	13:41:38	0100	LEVEL FLIGHT @ GUST	131	"	±.4g GUST !!
28	36	13:42:11	13:42:17	2810	COLL PULLUP 1.6g	131	"	
29	37	13:43:30	13:43:40	0100	LEVEL FLIGHT VCR	130	"	
30	38	13:44:11	13:44:19	0100	" " VH	135	"	
31	39	13:44:48	13:44:58	3200	FULL POWER DIVE 1.1VNE	160	"	
32	40	13:47:20	13:47:32	0100	LEVEL FLIGHT VCR	123	3.5K	
33	41	13:48:08	13:48:16	0100	" " VH	133	"	
34	42	13:48:28	13:48:42	1900	ACCEL TO DIVE	138-155	"	
	43	13:48:43	13:48:48	3200	FULL POWER DIVE 1.1VNE	155	"	
	44	13:48:49	13:48:58	3220	DIVE RECOVERY	155-145	"	
35	45	13:54:00		2200	FLARE TO HOVER	60-0	—	STEEP APPROACH
36	46			0900	BRAKED ROTOR STOP	—		

DATA ANALYSIS TO PROVIDE MISSING TIMES FOR BATCH EVENTS 1, 2, 45, & 46.

FORM 26810 (6/73)

PREPARED BY: H.H. STEINMANN
CHECKED BY:
DATE: 12-12-77
FLT DATE 11-1-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ REAL TIME ☒ A/C TAPE

PAGE NO.
REPORT NO.
MODEL NO. H-46E/Glass Blade
Flt No. SLP-1 x 186
TOGW 18,920 TOCG 0.9"A

PILOT RECORD No.	BATCH EVENT No	START TIME HH:MM:SS.S	STOP TIME HH:MM:SS.S	MNVR CODE	MANEUVER DESCRIPTION		PILOT IAS			
2	2	08:48:05	08:48:55	0100	LEVEL FLIGHT		140/144			
3	3	08:51:40	08:52:00	0100	"	"	140			
4	4	08:54:35	08:54:55	0100	"	"	130			
5	5	08:55:49	08:56:09	0100	"	"	110			
6	6	08:58:50	08:59:10	0100	"	"	130			
7	7	09:00:00	09:00:20	0100	"	"	110			
8	8	09:02:10	09:02:30	0100	"	"	90			
9	9	09:03:19	09:03:39	0100	"	"	70¼			
10	10	09:04:30	09:04:50	0100	"	"	50			
11	11	09:05:45	09:06:05	0100	"	"	30			
12	12	09:09:55	09:10:15	0100	"	"	90			
13	13	09:11:05	09:11:25	0100	"	"	70½			
14	14	09:12:15	09:12:35	0100	"	"	51			
15	15	09:13:20	09:13:40	0100	"	"	30			
16	16	09:17:20	09:17:40	3200	FULL POWER DIVE		160			
17	17	09:20:59	09:21:19	3200	"	"	161			
18	18	09:24:45	09:25:05	0600	A/R STEADY		109			
19	19	09:26:15	09:26:35	0300	CLIMB @ 1000 fpm		70			
20	20	09:27:15	09:27:35	0300	MAX PWR CLIMB		90			
	21	09:29:35	09:29:55	0600	A/R STEADY		110			
	22	09:31:05	09:31:25	0300	CLIMB @ 1000 fpm		87½			
23	23	09:33:50	09:34:10	0600	A/R STEADY		128			
25	24	09:38:37	09:38:57	0600	A/R STEADY		130			
26	25	09:40:10	09:40:30	0300	MAX PWR CLIMB		90			
27	26	09:42:50	09:43:10	0600	A/R STEADY		150			
28	27	09:44:28	09:44:48	0300	CLIMB @ 1000 fpm		70			
29	28	09:47:55	09:48:15	0600	A/R STEADY		150			
30	29	09:51:32	09:51:52	0300	CLIMB @ 500 fpm		70			
31	30	09:52:30	09:52:50	0300	CLIMB @ 500 fpm		90			
32	31	09:53:35	09:53:55	0300	MAX PWR CLIMB		71½			
33	32	09:58:32	09:58:52	0300	CLIMB @ 500 fpm		89			
34	33	09:59:23	09:59:43	0300	CLIMB @ 500 fpm		70			
35	34	10:00:15	10:00:35	0300	CLIMB @ 1000 fpm		70			
36	35	10:01:20	10:01:40	0300	MAX PWR CLIMB		70			
37	37	10:04:44	10:04:48	2810	C/P PULLUP		100			1.7g
38	38	10:05:16	10:05:20	2810	C/P PULLUP		100			1.9g

NOTE: BATCH EVENT NUMBERS 2 THRU 35 CORRESPOND WITH NATC CALIBRATION RANGE RUN NUMBERS

FORM 26610 (6/73)

PREPARED BY: H H Steinmann
CHECKED BY:
DATE: 12-7-77

DATA REQUEST EDIT TIMES

BOEING VERTOL COMPANY
A DIVISION OF THE BOEING COMPANY

EDITED FROM: ☐ Real Time ☒ A/C TAPE (Structural Demo)

PAGE NO.
REPORT NO.
MODEL NO. H-46E/Glass Blade
FLT No. SLP-1 X
TOGW ____ TOCG ____

PILOT RECORD No.	FLIGHT No	START TIME HH:MM:SS	STOP TIME HH:MM:SS	MANEUVER CODE	MANEUVER DESCRIPTION			
FLIGHT	X-188	TOGW: 21500		CG: 22.3 F	SYMM PULLUP @ VDL			
1	1	07:53:51	07:53:56	0000	STATIC TEST			
2	2	08:08:55	08:09:00	0100	LEVEL FLT @ VH	140 Kts CAS	3300' HD	
3	3	08:33:10	08:33:29	2900	SYM PU VDL	158-164 Kts CAS	3050' HD	1.35g
4	4	08:36:55	08:37:22	2900	EP SYM PU VDL	157-171 Kts CAS	3350' HD	1.52g
5	5	08:43:31	08:43:36	0100	LEVEL FLT @ VCR	132 Kts CAS	3150' HD	
FLIGHT	X-189	TOGW: 23700		CG: 13.4 F	ROLLING PULLOUT & A/R PULLUP			
1	1	13:08:20	13:08:25	0000	STATIC TEST			
2	2	13:20:38	13:20:48	3000	ROLL P.U.	84-69 Kts CAS	2500' HD	1.35g
3	3	13:23:47	13:23:59	3000	EP ROLL P.U.	87 Kts CAS	2900' HD	2.05g
5	5	13:42:19	13:42:34	2937	A/R P.U.	128 Kts CAS	2750' HD	2.25g
6	6	13:48:55	13:49:14	2937	EP A/R P.U.	133 Kts CAS	3150' HD	2.35g
FLIGHT	X-190	TOGW: 23700		CG: 0.5 A	SYMM. PULLUP @ VH			
1	1	07:41:39	07:41:43	0000	STATIC TEST			
2	2	07:43:30	07:45:45	0828	#1 ENG START & ACCEL.			Noise
3	3	07:58:15	07:58:20	0100	LEVEL FLT @ VH	130 Kts CAS	3300' HD	
5	5	08:07:23	08:07:30	2900	SYM PU VH clp	127 Kts CAS	3100' HD	1.75g Noise
	6	08:12:36	08:12:59	2900	EP SYM PU VH clp	130 Kts CAS	3000' HD	1.95g Noise
FLIGHT	X-192	TOGW:	24745	CG: 5.1 F	SYMM PULLUP @ VH			
1	1	00:01:20	00:01:24	0000	STATIC TEST			
3	3	13:23:20	13:23:35	0100	LEVEL FLT @ VH	122/128 Kts CAS	3200' HD	1.85 1.95 Gust
5	5	13:28:07	13:28:12	2900	SYM PU VH clp	121 Kts CAS	3000' HD	1.75g
6	6	13:32:54	13:33:08	2900	SYM PU VH Ph	124 Kts CAS	3050' HD	1.80g
7	7	13:39:16	13:39:30	2900	EP SYM PU VH Ph	123 Kts CAS	3100' HD	1.85g
FLIGHT	X-193	TOGW:	21500	CG: 9.5A	A/R PULLUP			
1	1	09:56:25	09:56:28	0000	STATIC TEST			
2	2	10:12:45	10:12:52	2937	A/R PU clp	126 Kts CAS	2700' HD	2.55g
3	3	10:15:32	10:15:42	0100	LEVEL FLT @ VH	132 Kts CAS	3350' HD	1.75 1.85 Gust
4	4	10:20:35	10:20:55	2937	A/R PU Ph	140 Kts CAS	3200' HD	2.50g
5	5	10:25:55	10:26:10	2937	A/R PU Ph	146 Kts CAS	3300' HD	2.50g
6	6	10:31:50	10:32:05	2937	EP A/R PU Ph	144 Kts CAS/151 TAS	3350' HD	2.75g Noise

FORM 26810 (6/72)


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