

HP-13M FLIGHT TEST 26 OCT 68

Δ SECOND FLIGHT (T0 = 940)

FLAP	V_i	V_c	ALT	Δ TIME	$(\frac{db}{dt})_i$	$\frac{T}{T_s}$	$\frac{P}{T}$	$\sqrt{9.63 \frac{P}{T}}$	V_{S0}
0°	45	46.3	12.6 ^{12.35} 12.1	220	2.27	$\frac{273.7}{263.3}$	$\frac{18.77}{273.7}$	.812	1.92
↓	50	50.8	12.0 ^{11.75} 11.5	195	2.56	$\frac{276}{264.5}$	$\frac{19.23}{276}$	.819	2.19
↓	55	55.5	11.4 ^{11.15} 10.9	194	2.58	$\frac{278.4}{265.7}$	$\frac{19.68}{278.4}$		2.23
↓	60	60.6	10.8 ^{10.55} 10.3	165	3.03	$\frac{279.4}{266.9}$	$\frac{20.14}{279.4}$		2.64
-5°	65	65.0	10.2 ^{9.95} 9.7	161	3.11	$\frac{280.1}{268.1}$	$\frac{20.62}{280.1}$		2.73
↓	70	70.1	9.6 ^{9.35} 9.1	122	4.10	$\frac{280.7}{269.3}$	$\frac{21.09}{280.7}$		3.63
↓	75	75.2	8.9 ^{8.65} 8.4	120	4.16	$\frac{281.4}{270.7}$	$\frac{21.67}{281.4}$		3.72
↓	80	80.0	8.2 ^{7.95} 7.7	105	4.76	$\frac{282.1}{272.1}$	$\frac{22.25}{282.1}$		4.22
↓	85	84.9	7.5 ^{7.25} 7.0	91	5.50	$\frac{282.7}{273.5}$	$\frac{22.85}{282.7}$		5.01
↓	90	89.9	6.8 ^{6.55} 6.3	76.5	6.54	$\frac{283.5}{274.9}$	$\frac{23.47}{283.5}$		6.02
↓	100	99.5	6.0 ^{5.75} 5.5	59	8.48	$\frac{284.2}{276.5}$	$\frac{24.18}{284.2}$		7.88
0°	47.5	48.3	5.5 ^{5.25} 5.0	239	2.09	$\frac{284.7}{277.5}$	$\frac{24.65}{284.7}$		1.96
↓	52.5	53.1	4.9 ^{4.65} 4.4	213	2.35	$\frac{285.6}{278.7}$	$\frac{25.18}{285.6}$		2.22
↓	57.5	57.7	4.3 ^{4.05} 3.8	202	2.48	$\frac{286.8}{279.9}$	$\frac{25.76}{286.8}$		2.36
-5°	62.5	62.5	3.7 ^{3.45} 3.2	191	2.62	$\frac{288.7}{281.1}$	$\frac{26.35}{288.7}$		2.52
↓	67.5	67.5	3.1 ^{2.85} 2.6	156	3.21	$\frac{290.3}{282.3}$	$\frac{26.95}{290.3}$		3.12
↓	72.5	72.8	2.5 ^{2.25} 2.0	136	3.68	$\frac{291.5}{283.5}$	$\frac{27.53}{291.5}$		3.61
0°	44	45.5	2.0 ^{1.75} 1.5	256	1.96	$\frac{292.4}{284.5}$	$\frac{28.04}{292.4}$		1.93

HP-13 THIRD FLIGHT - 11/19/67

add 273.2

FLAPS	V_i	V_c	Δt	ALT	ΔH_i	H_{ave}	$\frac{T}{T_s}^{\circ}C$	$\frac{T}{T_s}^{\circ}K$	Δh	V_s	$\frac{P}{T}$	$9.63 \frac{P}{T}$	V_{so}
0°	50	51.1	194.3	13,000	500	12,750	-2.6	270.6	513	2.64	$\frac{18.47}{270.6}$	.657	2.14
-5	70	70.1	245.8	12,500	1000	11,600	-10.3	262.9	1026	4.07	$\frac{19.34}{272.7}$	.683	3.37
"	80	80.4	100	12.1	500	10,950	-1.5	272.7	514	5.14	$\frac{20.23}{275.0}$	.709	4.33
"	90	90.3	80	11.1	"	9,550	+1.8	275.0	513	6.42	$\frac{20.94}{276.6}$	.729	5.48
"	100	100.0	113.6	10.2	1000	8,400	-5.7	267.5	1028	9.05	$\frac{21.88}{278.8}$	.756	7.86
"	105	104.7	54	9.8	500	7,250	-3.9	276.6	511	9.47	$\frac{22.88}{280.2}$	.786	8.40
0°	46	47.5	217.8	7.9	"	6,750	5.6	278.8	510	2.33	$\frac{23.31}{280.2}$	.800	2.09
-5	95	95.2	68.7	7.0	"	5,650	-1.7	271.5	508	7.38	$\frac{24.29}{280.5}$	.834	6.73
"	110	109.4	47	6.5	"	4,750	7.3	280.5	506	10.78	$\frac{25.13}{282.1}$	.858	9.99
"	80	80.4	105.5	5.4	"	4,250	8.9	282.1	507	4.81	$\frac{25.60}{283.1}$	.871	4.49
"	75	75.4	122.6	4.5	"	3,450	5.5	278.7	506	4.12	$\frac{26.38}{284.6}$	.891	3.89
"	62	62.0	179.7	4.0	"	2,850	9.9	283.1	506	2.82	$\frac{26.97}{285.5}$	.910	2.69
+5	46	47.5	284	3.7	"	2,250	11.4	284.6	506	1.78	$\frac{27.58}{286.7}$	.925	1.71
				3.2			8.2	281.4					
				3.1			12.3	285.5					
				2.6			9.5	282.7					
				2.5			13.5	286.7					
				2.0			10.6	283.8					

HP-13 FOURTH FLIGHT 11/19/67 Δ

FLAPS	V_i	V_c	Δt	ALT	ΔH_i	H_{ave}	$\frac{T}{T_s}$	$\frac{T}{T_s} \cdot K$	Δh	V_s	$\frac{P}{T}$	$9.63 \frac{P}{T}$	V_{so}
0	50	51.1	211	13.0 12.5	500	12,750	$\frac{-2.6}{-10.3}$	$\frac{270.6}{262.9}$	514	2.44	$\frac{18.47}{270.6}$	.657	1.98
-5	50	"	218	12.3 11.8	"	12,050	$\frac{-1.4}{-8.9}$	$\frac{271.8}{264.3}$	514	2.36	$\frac{18.99}{271.8}$	.673	1.94
+5	50	"	192.5	11.6 11.1	"	11,350	$\frac{0}{-7.5}$	$\frac{273.2}{265.7}$	514	2.67	$\frac{19.52}{273.2}$	.688	2.2
-5	65	64.9	133.2	10.8 10.3	"	10,550	$\frac{1.6}{-5.9}$	$\frac{274.8}{267.3}$	514	3.85	$\frac{20.14}{274.8}$	.705	3.24
"	75	75.4	109.8	10.1 9.6	"	9,850	$\frac{2.9}{-4.5}$	$\frac{276.1}{268.7}$	514	4.68	$\frac{20.70}{276.1}$	.722	3.98
"	83	83.4	99.5	9.3 8.8	"	9,050	$\frac{4.4}{-3}$	$\frac{277.6}{270.2}$	513	5.16	$\frac{21.34}{277.6}$	.741	4.45
"	81	81.4	101.1	8.6 8.1	"	8,350	$\frac{5.7}{-1.5}$	$\frac{278.9}{271.7}$	513	5.07	$\frac{21.93}{278.9}$	.757	4.42
"	65	64.9	133.2	8.0 7.5	"	7,750	$\frac{6.7}{-4}$	$\frac{279.9}{272.8}$	512	3.84	$\frac{22.44}{279.9}$	.772	3.37
0	60	60.2	231.4	7.3 6.8	"	7,050	$\frac{7}{+1}$	$\frac{280.2}{274.2}$	512	2.21	$\frac{23.04}{280.2}$	.791	1.97
"	70	70.1	140.8	6.6 6.1	"	6,350	$\frac{7}{2.4}$	$\frac{280.2}{275.6}$	510	3.62	$\frac{23.67}{280.2}$	.814	3.27
-5	70	"	136.2	6.0 5.5	"	5,750	$\frac{7.2}{3.6}$	$\frac{280.4}{276.8}$	508	3.73	$\frac{24.20}{280.4}$	.831	3.40
"	80	80.4	103.8	5.2 4.7	"	4,950	$\frac{8.5}{5.2}$	$\frac{281.7}{278.4}$	505	4.87	$\frac{24.94}{281.7}$	.854	4.50
+5	40	42.1	206	4.7 4.2	"	4,450	$\frac{9.5}{6.2}$	$\frac{282.7}{279.4}$	506	2.46	$\frac{25.42}{282.7}$	.866	2.29
poor air	-5	55	55.7	4.0 3.5	"	3,750	$\frac{10.8}{7.6}$	$\frac{284.0}{280.8}$	506	2.64	$\frac{26.08}{284.0}$	.885	2.48
"	76	76.4	129.5	3.3 2.8	"	3,050	$\frac{12.1}{9}$	$\frac{285.3}{282.2}$	506	3.91	$\frac{26.76}{285.3}$	.903	3.72
"	79	79.4	110.2	2.5 2.0	"	2,250	$\frac{13.5}{10.6}$	$\frac{286.7}{283.8}$	510	4.63	$\frac{27.58}{286.7}$	.925	4.45

$$\Delta h = \Delta h_i \frac{T}{T_s}$$

$$V_{so} = V_s \sqrt{\frac{P}{29.92} \times \frac{288.2}{T}}$$

$$= V_s \sqrt{9.63 \frac{P}{T}}$$

HP-13 WAKE RAKE TEST #1

11/19/67

TUBE	GETABERY ASI IN INST. PANEL									
	45	50	55	60	65	65	70	75	80	60
1	0°	00	0°	0	0	-5	-5	-5	-5	FLAP 5 -5
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14		49.5		58.3						
15	45	49.5	54	58.3	63.3	63.5				
16	45	49.3	54	58.5	63.3	63.3	68.5	74	79.5	
17	39	46	51.7	57	62.5	63.2	68.5	73.8	78.7	
18	32	39	44	49	54	56.5	62.7	68	73.3	
19	39.5	40.5	43	46.5	50	49.2	54	57	62.5	
20	44.5	48.8	52.3	57.2	60.7	58.3	63.3	67.5	71.5	
21	45	49.5	54.3	58.2	63.3	63.5	68	73.5	78.5	
22		49.5		58.3			68.5	73.5	79.3	
23										
24										
25										
26	10 K					6 K			4 K	