

Hurricane 2000

Mission #2

(Gulf Eddy/Loop Current)

Flight #2 000810H

<u>Sensor or system</u>	<u>Number or Name</u>
INE	1
Accelerometer	2
Temperature Probe	2
Dew Point Probe	2
Altitude (for vertical wind)	RA-159
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage
Time Source	Micro 99
Constants File	CO2004.CON

Notes:

Takeoff: 1257Z

Land: 1737Z

Prior to and during takeoff, the radar altimeter (RA-159) was replaced by the RA-232 with a -7 m offset (1254:01-1257:39) due to spiking. Prior to and during landing the RA_159 was replaced by the RA-232 with a -9 m offset (1735:31-1738:00) due to spiking.

A spike in Roll1 and Pitch1 was removed and patched (1348:50-1349:00).

Dewpointer #2 was replaced by dewpointer #1 from 1651:24 to 1708:57 . During this period, dewpointer #2 was being calibrated for proper air flow angle.

Two spikes in dewpoint #2 were removed and patched using dewpointer #1 as reference (1327:25-1327:45 and 1330:55-1331:10).

A spike in altitude occurred between 1643:30 and 1645:00 that was recorded by all three altimeters(RA-159, RA-232, and GPS). The spike was not removed. It caused a corresponding spike in pressure.

	<u>Takeoff</u>	<u>Landing</u>
Aircraft static pressure	1017.0 mb	1016.8 mb
Corrected tower pressure	1017.4 mb	1017.4 mb

The aircraft INE positions were re-navigated with respect to GPS.

SPECIAL NOTE!!! Locations 80, 81 and 82 of record five on the standard tape contain vertical ground, vertical air and vertical speeds, respectively, computed using Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

Flight Director: Tom Shepherd, (813) 828-3310 ext. 3053

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AOCWF1

Flt ID: 000810H	From: KMCF	To: KMCF
Flt No.: 00-58	Blk In: 1747	ATA: 1737
ETD: 1300Z	Blk Out: 1245	ATD: 1257
ETE: 1800Z	Blk Time: 05:02 S.O	Flt Time: 04:40 4.7
Sponsor Org: HRD	Program: HURRICANE RESEARCH	Purpose: INVEST. GULF EDDY

403
37

AOC Personnel

AC: TAGGART, B	Sys Eng: LINO, D ✓
CP: O'MARA, T ✓	Data Sys: McMillan, S ✓
Nav: ADLER, J / RATHBUN, D / NEWMAN, C / WHITES	Radar:
FE: MOORE, B ✓	GPS/BT: ROLES, J ✓
Avionics:	Cld Phys:
FD: SHEPHERD, T / DAMIANO, B	

Participating Scientists/Visitors/AOC

Name (Last, First)	Activity on Aircraft	Affiliation
MAUDY, D ✓	NAV. CHECK FLIGHT	FAA
BLACK, P ✓	PI	NOAA/HRD
JACOB, D ✓	SCI	NOAA/HRD
CARSWELL, J ✓	PI	UMASS
CASTELL, T ✓	Sci	UMASS

Proposed/Actual Mission/Remarks (Recco, Fixes, Storm, PENET, NHOP #)

1317 1300 DPI
 163800 DPT 1 went out during balance - switch to DPT 2
 Unplugging DPT 2 for work by SED

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AOCWF2

Flt ID: 000810H	Time Off: 1257	Time On: 1737
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	A/C (Take Off)	Wx Stn (Take Off)	A/C (Land)	Wx Stn (Land)
Pressure	1017.1	30.06	1016.4	30.06

	Number	Data Disposition/Date/Quality
Slow/Fast Flt Lvl Tapes	2	
Radar Tapes	1	
Cloud Physics Tapes	—	
Video Tapes	—	
AXBT	36	
AXCP	1	
AXCTD	3	
Dropsondes	0	

Video					Remarks
	Forward	Left Side	Right Side	Down	
Time On					
Time Off					
Rate					

Remarks

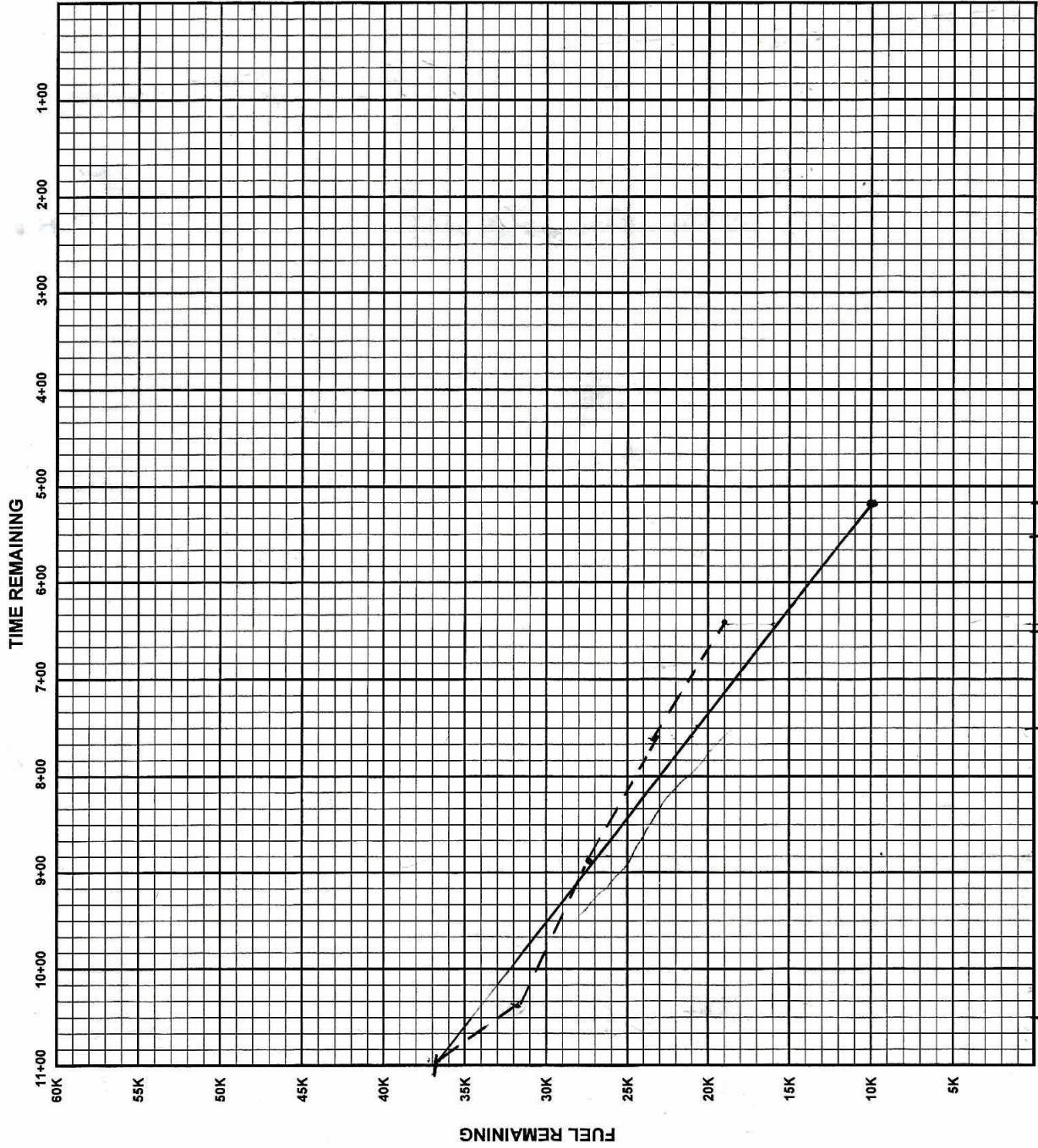
1523
12

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Form 413-50

Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T _a	T _d	Press. Alt.	Geo. Alt.	Sfc Press.	Press. Sfc	Dyn. Press	Remarks
153335	2516	8916	134	132	083	8.6	4.7	-2.2	3375	3587	1020.3	668.4	57.6	
153625	2508	8907												BT12
153756	2505	8903												AXCTD
153835		↑ IAS TO 210												
155000		Climb 500' TO 11500 PA												
160359	2353	8736												BT16
161029	2410	8716												BT12
1553														<u>RECCO</u> 6
161610	2425	8657												BT16
161815		Begin descent TO 11,000 PA												
162123	2439	8638												BT12
162630		Reduce IAS 190												
162759	2456	8613												AXCTD 12
1630														<u>RECCO</u> 7
163341	2511	8552												BT16
163555	2517	8544	053	053	337	1.0	5.4	-7.8	3370	3580	1019.0	668.8	69.6	
163947	2526	8531												BT16 34
164505	2541	8511												BT12 35
165105	2557	8449												BT16 36
165628	2612	8429												BT12 37
165850	2618	8424	050	051	223	10.4	5.3	NA	3361	3568	1019.4	669.5	71.9	
170158	2627	8409												BT16 38
170733	2642	8348												BT12 39

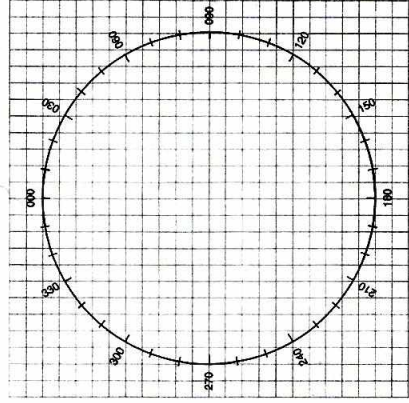
RANGE CONTROL GRAPH



WINDSPEED	WIND FACTOR	
	HEADWIND	TAILWIND
10	1.03	.97
20	1.06	.94
30	1.10	.92
40	1.14	.89
50	1.18	.87
60	1.22	.85

PRESS ALT	WIND FACTOR					
	200	250	300	350	400	450
10,000	1.0	1.0	.99	.99	.99	.99
20,000	.99	.98	.97	.97	.97	.97
30,000	.97	.96	.95	.95	.94	.94
40,000	.96	.94	.92	.92	.90	.90

TRUE AIRSPEED CROSS-CHECK						
TIME	IAS	PRESS ALT	"F" FACTOR	EAS	OAT	ITAS
1327	210	200	✓	-10	287	290



POINT OF SAFE RETURN	
4 ENG	3 ENG
ETP DISTANCE (TO DEPARTURE)	
ENROUTE TIME (TO DEPARTURE)	
BURN RATE (LBS/HR)	4500
FUEL REQUIRED	
RESERVE AT DEPARTURE	
PSR FUEL	

TACTICAL (OFFSTA TO DESTINATION)	
4 ENG	3 ENG
DISTANCE (OFFSTA TO DEST)	
ENROUTE TIME (OFFSTA TO DEST)	
BURN RATE (LBS/HR)	4500
ENROUTE FUEL REQUIRED	5500
RESERVE AT DESTINATION	
FUEL AT OFFSTA	

CEX - TRUE BEARING METHOD		
COMPASS TYPE	INS1	INS2
MCH (READING)		
- MTH (SEXTANT)		
CE		
- VAR		
DEV		

CEX - ERB METHOD		
COMPASS TYPE	INS1	INS2
MERB (DIAL 000)		
+ ZN		
= MTH		
MCH (READING)		
CE		
- VAR		
= DEV		

CEX SIGHT										
GMT										
GHA										
CORR										
GHA										
LONG +W -E										
EXACT LHA										
LAT										
BODY										
DEC										
HC/D										
CORR										
HC										
Z										
ZN										

ENROUTE FUEL	
ENROUTE TIME	4749
ENROUTE FUEL (64.5K/4.5K/RULE)	11K 12.8
RESERVE AT DESTINATION	23.8
REQUIRED RAMP	10K
ACTUAL RAMP FUEL	33.8K
	36.8

2 + 49

36K

130.7 ARUNK 1735 ESTX

EMERGENCY MESSAGE

TRANSMIT THE FOLLOWING MESSAGE TO ANY AGENCY ON THE AIR-GROUND FREQUENCY IN USE. IF UNABLE TO ESTABLISH COMMS, ATTEMPT CONTACT ON ANY OF THE FOLLOWING EMERGENCY FREQUENCIES:

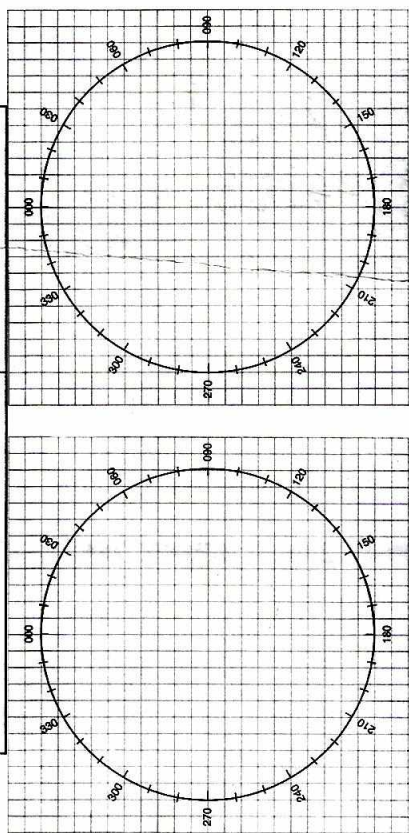
UHF VOICE 243.0
VHF VOICE 121.5
MAYDAY, MAYDAY, MAYDAY
THIS IS NOAA 42 NOAA 42
- POSITION 26 35 N 144 2 W
- HEADING 090
- AT 10 KTS TRUE INDICATED
- FLIGHT LEVEL OR ALTITUDE 10K
- WE ARE A P-3 AIRCRAFT WITH 17 SOULS ON BOARD
- NATURE OF EMERGENCY
- ASSISTANCE DESIRED
- PILOT INTENTIONS
- WE HAVE 6500 ENDURANCE REMAINING

PNT 076M

POSITION REPORT

1. POSITION
2. TIME
3. ALTITUDE
4. NEXT POSITION
5. ETA
6. NEXT POSITION

MISSION LOG



CLEARANCES

FREQ	ALT	HDB	OTHER
134.25	56K	Y55K	040 300 R4
050	5K	11265	R 080 1600' 7200 + 10min
090	1600		119.9 3565 R4H
040			94K MAIN 3K
			712K
			270
			200
			270 HP
			11K
			A 11.5K DST MEDILL 124.7

TIME	FIX TYPE	POSITION	INS 1 POSITION	INS 2 POSITION	K ERR	K ERR	MH	VAR	TH	DR	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS	
1239	BNG																					
1245	TRAX																					
1248	BLACK TONE																					
1300	XV	27 52.7 N 082 25.3 W	27 52.7 N 082 25.3 W	27 52.7 082 25.3							164	221	315	20	4K	208					0715 MCF KADAL PRT V	
1322	D	27 51.3 N 083 47.1 W	27 51.3 N 083 47.1 W	27 51.3 083 47.1					281	0	281	280	4		200	279					2667009	
1333	D	27 53.7 N 084 46.4 W	27 53.7 N 084 46.4 W	27 53.7 084 46.4					270	1R	271	297	4		200	292	2	171	135	1408	BARO 20006 PAP 21250 P=	
1350	D	27 54.2 N 086 22.1 W	27 54.2 N 086 22.1 W	27 54.2 086 22.1					271	1L	270	306	10		200	294	2	86	147	1407	135 HP 258	
1407	HEAP	27 47.7 N 088 06.9 W	27 47.7 N 088 07.1 W	27 47.2 088 06.8					244	0	244	306	15		200	290	3	174	135	1442	BARO 21280 PAP 20000 P=	
1410	HEAP								249	0	249	310	20		200	287	3	1160	122	1442		
1434	D	26 56.5 N 090 21.0 W	26 56.3 N 090 21.0 W	26 56.2 090 21.0					244	1R	245	306	15		200	292	3	46	109	1443	183 / 134 LEAVE HP 020 @ 1442	
1455	D	27 16.1 N 090 53.7 W	27 15.7 N 090 53.5 W	27 15.3 090 54.1					146	2R	148	243	10		11K	243	5	137	134	1529	HP 185 145 PA LEAVE 180 122	
1520	D	25 53.2 N 089 52.1 W	25 54.7 N 089 52.7 W	25 52.7 089 54.4					140	2R	142	220	15		11K	226	5	40	111	1531	180 190 180 145	
1531	HEAP								133	2R	135	222	10		11K	230	6					
1549	D	24 33.0 N 088 26.8 W	24 32.9 N 088 26.8 W	24 32.3 088 26.8					131	2R	133	247	10		11K	250	6	600	114	1603	HP 1555 127M	
1607	D	23 58.7 N 087 26.6 W	23 58.7 N 087 26.6 W	23 58.6 087 26.6					677	2L	645	248	4		11.5K	250	7	257				1628 170IAS
1636	D	25 16.6 N 085 41.4 W	25 16.2 N 085 41.7 W	25 13.9 085 47.0					053	0	054	247	4		11K	245	7	134	132	1708	HP 051 T	
1700	D	26 21.8 N 084 17.0 W	26 21.0 N 084 17.0 W	26 19.8 084 21.0					050	0	050	289	10		11K	249	7	32	107	1707	HP 047 T	

D = 688.740
-60

