

Hurricane 2000

Mission #1

(Gulf Eddy/Loop Current)

Flight #1 000808H

<u>Sensor or system</u>	<u>Number or Name</u>
INE	1
Accelerometer	1
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: 1448Z

Land: 1739Z

Prior to and during takeoff, the radar altimeter (RA-159) was replaced by the RA-232 (1445:00-1456:52) due to spiking. Also, at landing the RA-159 was replaced by the RA-232 with a -2.0 m offset due to spiking (1738:59-1742:00). The RA-159 was then set to zero from 1739:09 (touchdown)-1742:00.

	<u>Takeoff</u>	<u>Landing</u>
Aircraft static pressure	1019.3 mb	1018.3 mb
Corrected tower pressure	1020.2 mb	1019.8 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: 000808H	From: KMCF	To: KMCF
Flt No.: 00-57	Blk In: 1746	ATA: 1739
ETD: 1500Z	Blk Out: 1434	ATD: 1448
ETE: 1730Z	Blk Time: 0312 3.2	Flt Time: 0251 2.9
Sponsor Org: HRD	Program: Hurricane Research	Purpose: Inst. checkout

AOC Personnel

AC: TAGGART, B ✓	Sys Eng: LINO, D ✓
CP: O'MARA, T ✓	Data Sys: McMillan, S ✓
Nav: Adler, J / RATHBUN, D ✓	Radar: BARR, J ✓
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
BLAIR, P ✓	PI	NOAA/HRD
CARSWELL J ✓	PI	UMass
CASTELLS, T ✓	Sci	UMass
UMHORN, E ✓	Sci	NOAA/HRD
JACOB, D ✓	Sci	NOAA/HRD
MOLBERG, C ✓	Sci	Student/NOAA/HRD
WALSH, E ✓	Sci	NASA

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

3010 20 AXBT's loaded External King Liquid H₂O
 RA 159 Not working @ TO. JW
 DPT 1 Not working @ TO

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AOCWF2

Flt ID: **000808H** Time Off: **1448** Time On: **1739**

	A/C (Take Off)	Wx Stn (Take Off)	A/C (Land)	Wx Stn (Land)
Pressure	1019.4	30.14	1018.5	30.13

	Number	Data Disposition/Date/Quality
Slow/Fast Flt Lvl Tapes		
Radar Tapes		
Cloud Physics Tapes		
Video Tapes		
AXBT		
AXCP		
AXCTD		
Dropsondes		

Video

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

Remarks

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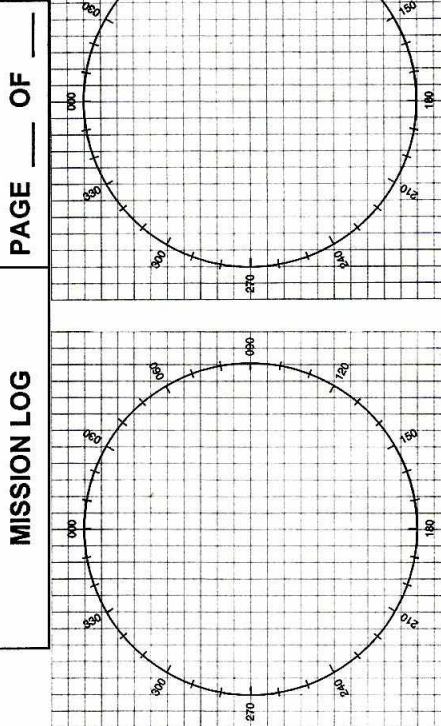
Form 413-50

Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T _a	T _d	Press. Alt.	Geo. Alt.	Sfc Press.	Press. Sfc	Dyn. Press	Remarks
1524	2715	8449	250	249	086	16.4	7.8	-14.3	2988	3200	1021.7	702.1	76.1	Drop Sonda winds 40s
1533	Begin		↓	to	500	° ft								
1541	2700	8556	327	329	124	13.3	18.7	9.0	1476	1606	1009.2	848.2		
1544	2700	8555												BT/CTD
1549	2646	8554												BT X 1
1553	2632	8554												BT X 2
1554	Begin		↓	to	1500									No BT'S working
1556	2615	A BEAM												of 1420 sprout ABT 1 mi to (E) of AC
1557	2607	8553	182	178	095	11.1	24.1	230	459	509	1018.2	965.2	57.7	
1604	2656	8554												BT X 2 4200s
1605	2653	8554												BT 104 4200 3 1 mi to Right
1606	2549	8554												
1607	Begin		↑	to	5000									
1609														
1610	2534	8554												BT JCP
1617	2510	8554												
1625	2443	8554	181	176	092	18.5	18.0	12.5	1479	1596	1018.3	847.7	19.8	BT X 2
1632	2433	8554												BT/CTD
1655	2541	8447	043	046	090	18.8	10.1	-13.6	2849	3041	1018.3	714.5	101.7	
1725	2718	8306	044	045	066	11.1	16.5	-10.0	2092	2219	1017.8	785.9	105.0	

060 120

INITIALS 255 M

CLEARANCES		
FREQ	ALT	HDG
		OTHER
		RH 2080 1600
		10X10 10min 4532
		710K
		H 180°
		H 270°
		070



POSITION REPORT	
04M RNDG	
1. POSITION	
2. TIME	
3. ALTITUDE	
4. NEXT POSITION	
5. ETA	
6. NEXT POSITION	

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 2182 KHZ 8364 KHZ 500 KHZ
 243.0
 VHF/VOICE MF/VOICE HF/CW MF/CW
 121.5 2182 KHZ 8364 KHZ 500 KHZ
 MAYDAY, MAYDAY, MAYDAY
 THIS IS NOAA _____, NOAA _____
 - POSITION _____ N/S _____ E/W AT _____ Z
 - HEADING _____ TRUE/MAG
 - AT _____ KTS TRUE/INDICATED
 - FLIGHT LEVEL OR ALTITUDE _____
 - WE ARE A P-3 AIRCRAFT WITH _____ SOULS ON BOARD
 - NATURE OF EMERGENCY _____
 - ASSISTANCE DESIRED _____
 - PILOT INTENTIONS _____
 - WE HAVE _____ ENDURANCE REMAINING

TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	VAR +E=>	TH	DR +R=>	TRK (GS)	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
1429	ENG																		
1434	TRNG																		
1434	Block																		
1451	X	27 52.5N 082 20.7W	27 52.5N 082 20.7W	-1 +0	27 52.5N 082 20.7W	+0 +0	3W	078	2R	080	050	10	77	270					08479 MCF
1500	Δ	27 39.6 082 50.3	27 39.6 082 49.8	-1 +1.5	27 39.6 082 49.8	+0 +1.5	3W	209	1L	268	075	15	PK 252						
1510	Δ	27 34.9 083 37.4	27 34.9 083 37.4	-1 -1															
1522	HEAD																		
1552	Δ	26 33.9 083 53.8	26 34.6 083 53.9	-1 -1	26 34.6 083 53.9	-1 -1	1W	172	6R	176	095	15	PK 203	203	250	17	68	1537	
1620	Δ	25 01.7 085 52.5	25 01.8 085 52.7	-1.8 +1.6	25 01.8 085 52.7	-1.4 -2.2	1W	164	5R	171	090	15	PK 206	206	2	32	40A	1629	
1700	Δ	25 55.2 084 32.2	25 55.5 084 32.2	-1.3 +0	25 55.2 084 31.5	+1.9 +1.7	2W	047	3L	044	090	15	9.5K	280					RQ 15K 3010 219/55 MCF
1723	Δ	27 12.6 083 11.9																	
1739	Δ	27 51.1 082 30.9	27 51.4 082 30.3	-1.3 +1.6	27 50.5 082 33.3	+1.6 -2.4													
1746	Block																		

LAND Block

MISSION PREFLIGHT LOG

NAVIGATOR

AIRCRAFT COMMANDER

FLIGHT DIRECTOR

SCHEDULED / ACTUAL TAKEOFF Z / DATE OF TAKEOFF

DESTINATION
KONCF

MISSION

LT ADLER

LOOP TREGART

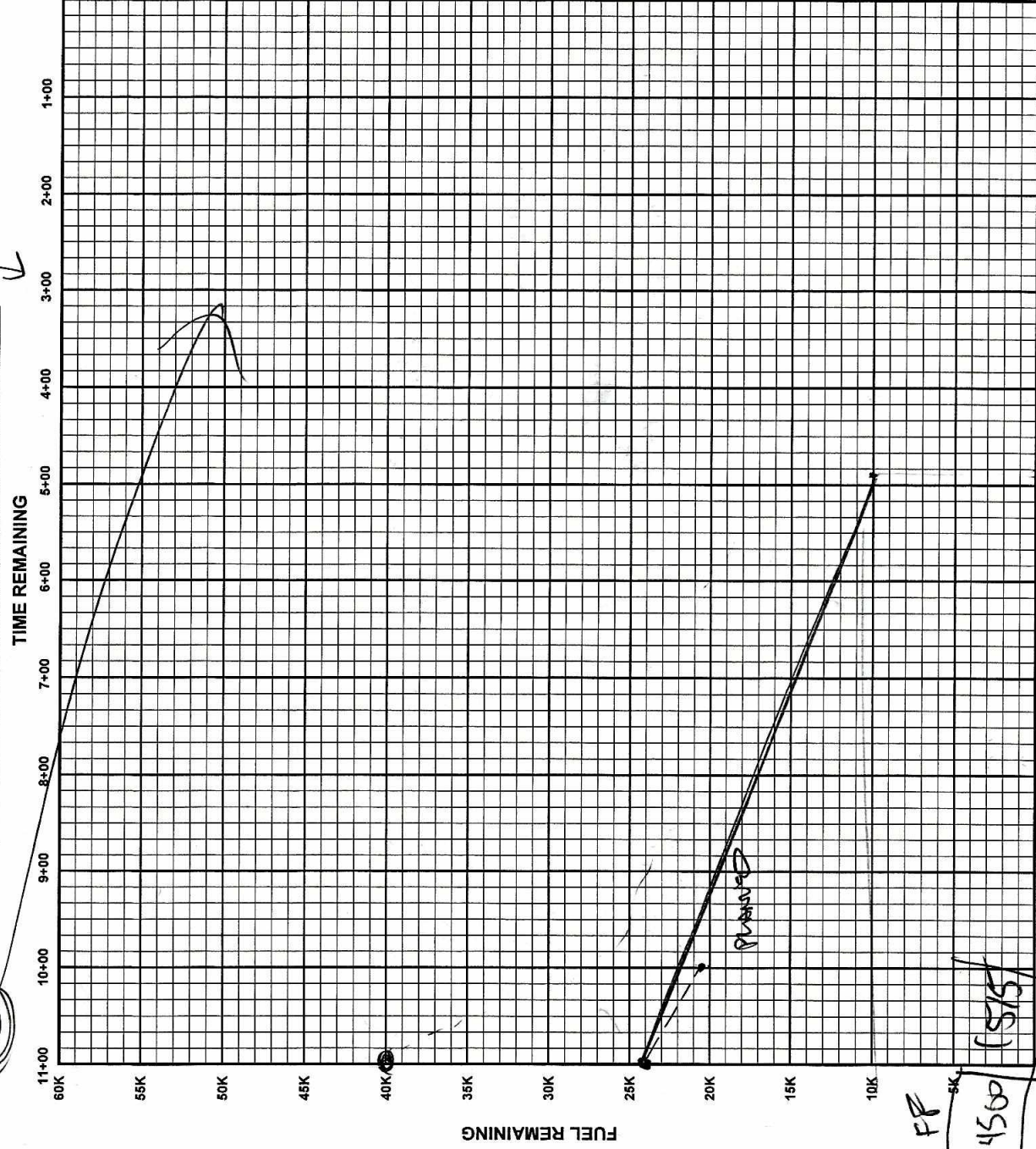
TOM SHEPARD

1800 / 1448 / 08 AUG 00

18 503

WP	LAT / LON	RTE	MH	VAR +E=>	TH	DR +R=>	TRX	GS	WD	WS	ALT	TAS	LEG / TOT DIST	LEG / TOT TIME	PROP ETA	ETA	ATA	REMARKS	INS PERFORMANCE			
																			INS 1	INS 2		
9	<u>KCMF</u>													<u>+10</u>	<u>1458</u>				<u>1230</u>	<u>1230</u>		
1	<u>POINT 1 2700 085 54</u>		<u>255</u>	<u>2W</u>	<u>253</u>	<u>1R</u>	<u>254</u>	<u>273</u>	<u>090</u>	<u>20</u>	<u>10K</u>	<u>255</u>	<u>189</u>	<u>142</u>	<u>1540</u>	<u>1538</u>			<u>01</u>	<u>01</u>		
2	<u>POINT 2 2430 085 54</u>		<u>176</u>	<u>1W</u>	<u>175</u>	<u>5R</u>	<u>180</u>	<u>228</u>	<u>090</u>	<u>20</u>	<u>5R</u>	<u>228</u>	<u>157</u>	<u>140</u>	<u>1620</u>	<u>1628</u>			<u>1740</u>	<u>1740</u>		
3	<u>KCMF</u>		<u>646</u>	<u>2W</u>	<u>644</u>	<u>2L</u>	<u>042</u>	<u>290</u>	<u>085</u>	<u>15</u>	<u>200</u>	<u>300</u>	<u>215</u>	<u>157</u>	<u>1717</u>				<u>1426</u>	<u>1426</u>		
4	<u>3007</u>												<u>+10</u>	<u>1727</u>					<u>344</u>	<u>344</u>		
															<u>1448</u>							
															<u>239</u>							
															<u>1727</u>							
TERMINAL ERRORS																			INS 1		INS 2	
DELTA LAT																			<u>-1.3</u>		<u>+6</u>	
DELTA LON																			<u>+6</u>		<u>-2.4</u>	
RGS																			<u>0</u>		<u>5</u>	
RADIAL ERROR																			<u>2</u>		<u>1</u>	
REMARKS																						
REMARKS																						
REMARKS																						
REMARKS																						
REMARKS																						

RANGE CONTROL GRAPH



TOTAL FF 4500
1615
1515

Distance Remaining: 600, 300, 150, 75, 37.5
ETP = .5(TOTAL DISTANCE x OUTBOUND WIND FACTOR)
WIND FACTOR: WS →, GR →, GSC →

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	CORRECTION FACTORS					
	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

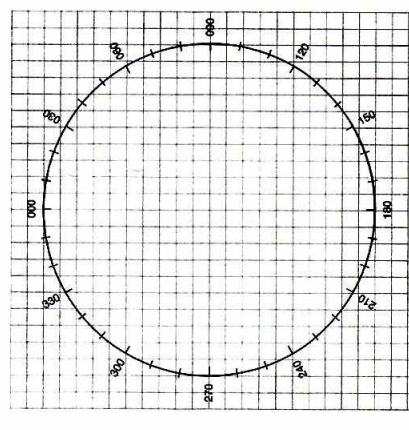
ENROUTE FUEL	
ENROUTE TIME	2+39
ENROUTE FUEL (6K/5K/45K RULE)	11K+3
RESERVE AT DESTINATION	10K
REQUIRED RAMP	24K
ACTUAL RAMP FUEL	24K

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	
RESERVE AT DESTINATION	
FUEL AT OFFSTA	

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	

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)	260	260
+ ZN		3W
= MTH		260
MCH (READING)		
CE		
- VAR	+1	+1
= DEV		+1



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

TRUE AIRSPEED CROSS-CHECK						
TIME	IAS	PRESS ALT	"F" FACTOR	EAS	OAT	ITAS
1501	205	10K	✓	+11		246
						251