

HURRICANE LENNY RECCO

Flight 1 I991119

DATA TYPE	SENSOR or OPTION
INE	2
Accelerometer	2
Temperature Probe	1
Altitude (for vertical wind)	RA159
Static Pressure	Fuselage
Dynamic Pressure	Fuselage
Dewpoint Probe	2

Notes:

There were several data/time gaps due to data system problems:

131901Z - 135000Z
160121Z - 160130Z
192831Z - 194210Z
200421Z - 200440Z
214811Z - 215140Z
215601Z - 215620Z
215741Z - 215800Z

Several small spurious spikes in the fuselage static pressure (PSF) data occurred during the following time frames:

1358Z - 1401Z
1509Z - 1512Z
1655Z - 1658Z
1658Z - 1702Z
1823Z - 1825Z

These spikes were removed and patched over.

Dewpoint sensor 2, DW2, had several problems during the flight. From 152432Z to 164830Z and from 192730Z to 222452Z, DW2 had erroneous values. These values were replaced with values from DW1. Also from 1656Z to 1658Z several small spurious spikes were removed and patched over.

At 174630Z, 180400Z, 183800Z and 185100Z the radar altimeter had erroneous values due to overflying small islands.

Both INEs performed quite poorly with respect to groundspeeds in both the x and y directions. Aircraft INE positions were renavigated 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 wind speeds, respectively, derived from Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

	Takeoff	Landing
Aircraft static pressure	1023.3 mb	1020.6 mb
Corrected tower pressure	1023.7 mb	1021.2 mb

Flight Director: A. Barry Damiano, (813) 828-3310 ext. 3073

FLT ID: I991119	FM: KMCF	TO: KMCF
FLT NO: 00-12	BLK IN: 0008Z	ATA: 0000Z
ETD: 1330Z	BLK OUT: 1321Z	ATD: 1331Z
ETE:	BLK TIME: 10:47	FLT TIME: 10:29
SPONSOR ORG: NHC	PROGRAM: HURR. RECCO	PURPOSE: H-LENNY

DAO PERSONNEL

AC McKIM	SYS ENG McMILLAN McMILLAN
CP O'MARA	DATA SYS ROLES
NAV RATHBON	RADAR
FE TORREY	BT/ODW SMITH
RADIO	CLD PHYS
FD DAMIANO	DOPPLER

PARTICIPATING SCIENTIST/VISITORS/DAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
CURRY	MELH	AOC
LINES, A.	MEDIA	British Daily Mirror
BOTT, C.	MEDIA	British Daily Mirror

PROPOSED/ACTUAL MISSION/REMARKS (RECCO, FIXES, STORM, PENET, NHOP #)

Get TBW 12Z SOUNDING DATA SYS Down 1339Z ... up 1348Z

00Z

Bar DPT 1515Z

160130 check param

Click winds @ landing

2257 30.16

237

9 17° 37' 1758Z 994 mb

62 30

9 17° 28' 1900Z 994mb

62° 15'

1928-1940Z

2148Z-215130Z

U.S. DEPT. COMM./NOAA/ORD - DATA SECTION WORK FORM NO.2 DROWFZ FILE

FLT ID: *D991119*

TIME OFF: *1331Z*

TIME ON: *0000Z*

	A/C T/O	WX STN	A/C LAND	WX STN
PRESSURE	<i>1023.3</i>	<i>30.24 / 1024.2</i>	<i>1020.6</i>	<i>30.16 / 1021.7</i>

NO DATA DISPOSITION/DATE/QUALITY

1/SEC FLT LVL TAPES

4

FAST FLT LVL TAPES

RADAR TAPES

1

DOPPLER TAPES

ODW CASSETTES

HARD COPIES

AXBT

AXCP

GPS

9

5 good ; 2 XMIT

PHOTOGRAPHY

	FWD	LS	RS	VERT
ON				
OFF				
RATE				

REMARKS

I991119

TIME	LAT	LONG	TRK	HD	WD	WS	TA	TD	PA	GA	SP	PS		PG
135000	2729	8115	116	118	189	5	-6.9	-37.5	5135	5369	1012.7	530.3	ABV CLD	68.5
142800	2618	7813	116	117	306	21	-11.0	-42.1	5824	6141	1017.8	483.3	CLR	65.0
150200	2508	7524	113	114	290	26	-9.7	-42.4	5808	6121	1013.8	484.4	ABV CLD	69.5
154000	2355	7207	113	112	310	33	-6.3	-41.2	5800	6108	1005.2	484.9	CLR	65.4
160700	2301	6946	110	112	288	35	-5.9	-40.0	5801	6109	1004.0	484.9	ABV -CLD	69.5
163700	2158	6709	110	113	271	25	-6.8	-32.1	5795	6103	1006.2	485.3	ABV CLD	69.6
170900	2019	6502	140	142	306	16	-5.6	-39.8	5793	6102	1003.1	485.3	BTN CLD	68.1
173110	1900	6351	134	130	23	20	11.2	9.2	2922	3027	1003.7	708.0	DROP	74.2
173257	1855	6345	130	126	24	24	13.0	5.6	2924	3028	1002.2	707.9	② DROP	76.6
175804	1737	6230									NO W		② DROP	
180731	1706	6258											DROP	
180741	1706	6254	220	230	306	41	13.4	4.6	2971	3048	997.8	703.7	② DROP	74.4
183850	1634	6138	91	98	243	32	10.7	10.8	2931	3011	1001.8	706.9	② DROP	71.1
185944	1728	6215									EAST OF SFC CENTR		② EYE DROP	
191208	1819	6310	315	320	37	17	13.4	4.8	2955	3047	1000.3	705.1	NW ② DROP	71.2
191724	1820	6311	315	320	38	18	13.2	5.1	2954	3048	1000.3	705.1	② DROP	76.2
195300	1946	6516	293	297	324	32	-7.3	-38.8	6111	6434	1001.3	464.7	BTN CLD	71.3
202000	2034	6711	294	295	294	34	-7.9	-39.2	6107	6431	1003.1	464.9	ABV CLD	70.7
211500	2228	7048	295	298	312	39	-8.7	-34.1	6107	6424	1004.6	465.0	ABV -CLD	72.8
220300	2402	7403	314	312	282	39	-8.6	-40.5	6104	6419	1004.5	465.1	ABV -CLD	74.7
223200	2503	7601	294	297	318	32	-11.3	-32.1	6104	6457	1010.2	465.1	ABV -CLD	79.2

CLEARANCES			
FREQ	ALT	HDG	OTHER
125.0			PBE, ZFP, BRIL MAMEL,
			TOOMS, THANK, 18126225,
139	3.9		THANK, TOOMS, MAMEL,
			BRIL, WAB , WAB
			SOLD WAB MICK
1707			
530			18N 6250
2237			62NMC GR431 TOOMS
1737			09 BRIL
			AVN6-1 BRIL MAMEL 6N6

MISSION LOG

POSITION REPORT

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:

UHFVOICE VHFVOICE MF/VOICE HF/CW MF/CW

243.0 121.5 2182 KHZ 8364 KHZ 500 KHZ

MAYDAY, MAYDAY, MAYDAY

THIS IS NOAA, NOAA, NOAA

- POSITION N/S E/W AT Z

- HEADING TRUE/MAG

- AT KTS TRUE/INDICATED

- FLIGHT LEVEL OR ALTITUDE

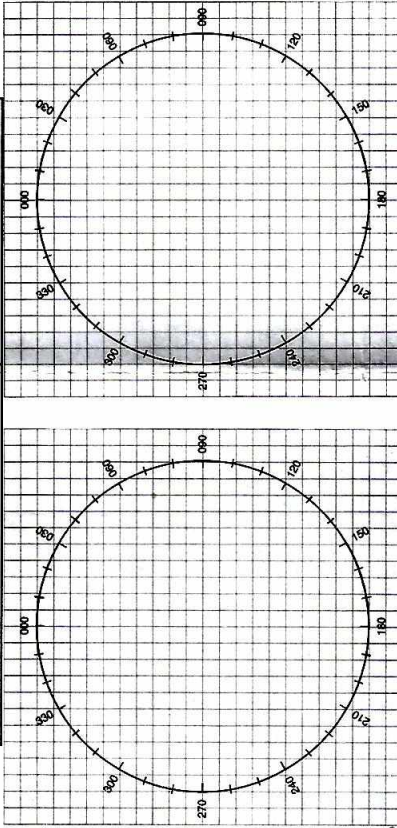
- WE ARE A P-3 AIRCRAFT WITH SOULS ON BOARD

- NATURE OF EMERGENCY

- ASSISTANCE DESIRED

- PILOT INTENTIONS

- WE HAVE ENDURANCE REMAINING



TIME	FIX TYPE	POSITION	INS 1 POSITION	KERR	INS 2 POSITION	KERR	VAR	TH	DR	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
1315																				
1331																				
1410	FM1	2654.7 7940.1	2654.7 7940.1	0	2654.7 7940.1	0		110	1R	111	280	295	19	1710	252					ENG START TAXI OFF 600K T/O
1458		2515.5 7546.7	2515.1 7546.3	+1.4	2514.8 7547.5	+1.7 -1.8		110	1L	109	304	280	33	FL190	269					
1523		2427.6 7334.2	2427.4 7333.6	+1.2	2427.4 7333.6	+1.6 -1.8		112	1L	111	314	289	39	FL190	273					
1607		2301.2 6947.1	2259.8 6947.0	+1.4	2259.2 6949.2	+1.0 -2.1		112	1L	111	316	281	42	FL190	271					TOOMS 47300
1651		2127.7 6601.5	2126.5 6601.3	+1.2	2125.7 6603.9	+2.0 -3.4		144	1L	140	297	277	31	FL190	272					THANK 43500
1758:04		1737.3 6229.9	1736.3 6220.9	+1.0	1735.5 6233.2	+1.8 -3.3														5.8
18:54:44		1728.4 6214.8	1725.1 6216.0	+3.3	1724.4 6219.4	+4.0 -4.6		318	3L	315	286	079	18	1010	246					1.0
1938		1919.3 6411.0	1918.1 6411.3	+1.2	1917.4 6414.7	+1.9 -3.7		296	5L	291	254	341	30	FL200	273					3010
2025		2042.3 6730.9	2036.8 6732.7	+5.5	2036.5 6736.0	+5.9 -5.1		285	1L	284	259	293	25	FL200	281					
2158		2350.9 7343.2	2345.2 7344.8	+5.7	2345.6 7347.9	+5.3 -4.7		296	0	296	257	294	31	FL200	286					19.710
2255		2550.8 7751.7	2545.4 7754.7	+5.4	2546.6 7757.7	+4.2 -6.0		297	3L	294	270	328	24	FL200	287					
2329		2654.2 8030.2	2648.1 8032.3	+6.1	2649.5 8034.8	+4.7 -4.6		291	5N	296	278	226	27	FL200	286					
0004		2751.5 8230.5	2747.3 8232.6	+4.2	2749.3 8235.1	+2.3 -4.6														LAND BLOCKED
0008																				

AVN6-1 2158

62NMC 2032 162 TOOMS 2110

75.2
16.2
0.18
100.0

MISSION PREFLIGHT LOG										NAVIGATOR		AIRCRAFT COMMANDER		FLIGHT DIRECTOR		SCHEDULED / ACTUAL TAKEOFF Z		DATE OF TAKEOFF																	
DESTINATION		MISSION		RTE		MH		VAR		TH		DR		TRK		GS		WD		WS		ALT		LEG / TOT DIST		LEG / TOT TIME		PROP ETA		ETA		ATA		REMARKS	
WP	LAT / LON																																		
1	27 50.9 82 29.6																																		
2	26 49.7 81 23.5																																		
3	26 40.8 80 05.2																																		
4	26 33.3 78 41.9																																		
5	25 32.2 76 38.9																																		
6	24 29.7 73 32.4																																		
7	23 00.0 69 44.6																																		
8	21 27.6 66 03.2																																		
9	19 11.1 64 04.4																																		
10	17 37.7 62 30.0																																		
11	16 41.1 63 28.8																																		
12	16 41.1 61 30.0																																		
13	18 34.4 63 28.8																																		
14	23 53.7 73 57.0																																		
15	24 25.0 74 33.9																																		
16	24 29.7 73 32.4																																		
17	25 32.2 76 38.9																																		
18	27 27.7 82 11.0																																		
19	27 40.7 80 29.4																																		
20	27 50.9 82 29.6																																		

57.8 AT 17K

INS PERFORMANCE		INS 1	INS 2
BEGIN ALIGN TIME		1135Z	→
ALIGN STATUS (0-5)		0	0
END NAV TIME		0005Z	→
START NAV TIME		1315Z	→
DELTA T		10050	→

TERMINAL ERRORS		INS 1	INS 2
DELTA LAT		+4.2	+2.2
DELTA LON		-2.1	-4.6
RGS		11	10
RADIAL ERROR		5	5

REMARKS	

INS PERFORMANCE		INS1	INS2
BEGIN ALIGN TIME		1135Z	→
ALIGN STATUS (0-5)		0	0
END NAV TIME		0005Z	→
START NAV TIME		1315Z	→
DELTA T		10+50	→

TERMINAL ERRORS		INS1	INS2
DELTA LAT		+4.2	+2.2
DELTA LON		-2.1	-4.6
RGS		11	10
RADIAL ERROR		5	5

REMARKS

526
254
780

KneeBoard 3

FLIGHT PLAN FOR MCKIM

COMPUTED 18NOV1999 1803Z

BASED UPON 1999111812 WEATHER DATA

BASED UPON 04Nov1999-01Dec1999 AERONAUTICAL DATA

LEG01 STANDARD KMCF TO 19062

19NOV1999

ACFT TYPE EP3E99F

DRAG: 900

EFF: 97

FUEL: JP-4

PLANNED FOR ETD 1330Z

INITIAL CRUISE FLIGHT LEVEL 130

	FUEL	TIME	DIST	ARRIVE	RAMP	LAND	CARGO	OPNLWT
POA	23937	04/32	1255	1802Z	131000	107063	0	74000
ALT	...							
RES	33063	06/12						
TOT	57000	10/45						

FUEL BIAS: 660 DBIAS: 0 ABIAS: 0 IBIAS: 0

ROUTING USED FOR THIS LEG

KMCF .. LBV .. PBI .. ZFP .. MAMEL .. RINNY .. TOOMS .. THANK ..
19062

TO	FL	T/C	M/C	WIND	DFT	G/S	TAS	DIS	CUMD	DISR	ETE	CUMT	ETR	EFR
KMCF	6	***	*****	00000	00	***	***	2	2	1255	00/01	00/01	04/31	56340
TOC	130	136	139.7	13002	00	233	240	52	53	1204	00/13	00/14	04/18	54790
LBV	130	136	134.5	11502	00	273	275	34	87	1169	00/08	00/22	04/10	54096
PBI	150	097	100.2	30003	00	282	279	70	158	1099	00/15	00/37	03/55	52681
ZFP	150	096	97.7	32503	00	283	281	75	233	1024	00/16	00/53	03/39	51247
MAMEL	150	119	126.3	33005	00	282	279	126	359	898	00/27	01/20	03/13	48848
RINNY	150	110	119.5	32009	00	282	277	180	539	718	00/38	01/58	02/34	45501
TOOMS	150	113	124.4	28511	00	283	273	227	766	491	00/48	02/46	01/46	41411
THANK	170	114	127.1	34009	00	287	274	225	991	266	00/47	03/33	00/59	37541
21065	170	125	138.1	02014	R01	278	272	72	1063	194	00/16	03/48	00/44	36317
SDP	170	125	139.7	14014	R01	268	271	179	1242	15	00/40	04/29	00/04	33189
19062	100	125	139.5	14049	L01	255	255	15	1257	0	00/04	04/32	00/00	33063

KMCF N27510W082313

TOC N27141W081504

LRV

N26497W081235

00/30 03/13 01/28 17206

N26408W080052 ZFP N26333W078419 MAMEL N25322W076389
ANY N24297W073324 TOOMS N23000W069446 THANK N21276W066032
21065 N20466W065000 *SDP* N19029W062252 19062 N18540W062120

TOC = TOP OF CLIMB
SDP = START DESCENT POINT

FOLLOWING AIRSPACES PENETRATED

FIR BOUNDARY: KZ /KZMA TIME: 00+50 POSITION: N26348,W078583
FIR BOUNDARY: KZMA/TJZS TIME: 03+04 POSITION: N22242,W068188

FOLLOWING AIR DEFENSE IDENTIFICATION ZONES PENETRATED

	TIME	POSITION
ENTERING: EAST/SOUTH CONUS ADIZ	00+42	N26384,W079387
LEAVING : EAST/SOUTH CONUS ADIZ	00+48	N26356,W079073

TOTAL WIND FACTOR 5KTS

ADDITIONAL ALTITUDE DATA

FL/FUEL/ETE (150/ 24400/04+35) (130/ 25600/04+44) (110/ 26900/04+50)

LEG02 STANDARD 19062 TO KMCF 19NOV1999

ACFT TYPE EP3E99F DRAG: 900 EFF: 97 FUEL: JP-4

PLANNED FOR ETD 1817Z INITIAL CRUISE FLIGHT LEVEL 0

	FUEL	TIME	DIST	ARRIVE	RAMP	LAND	CARGO	OPNLWT
POA	21415	04/41	1283	2258Z	107063	85648	0	74000
ALT	...							
RES	11648	02/06						
TOT	33063	06/46						

FUEL BIAS: 660 DBIAS: 0 ABIAS: 0 IBIAS: 0

ROUTING USED FOR THIS LEG

19062 .. THANK .. TOOMS .. BURGO BR55V ZBV .. DHP .. LBV J43 PIE ..
KMCF

TO	FL	T/C	M/C	WIND	DFT	G/S	TAS	DIS	CUMD	DISR	ETE	CUMT	ETR	EFR
19062	100	***	*****	00000	00	***	***	0	0	1283	00/00	00/00	04/41	33063
21065	140	305	318.8	04016	L01	297	287	194	194	1089	00/39	00/39	04/01	29560
THANK	140	305	317.7	00509	L01	289	290	72	266	1017	00/15	00/54	03/46	28271
TOOMS	140	294	305.4	29506	L01	285	290	225	491	792	00/47	01/41	02/59	24204
BURGO	180	288	296.3	29018	00	271	289	278	769	514	01/02	02/43	01/58	19360
SEAN	220	283	290.3	27028	00	261	289	129	898	384	00/30	03/13	01/28	17206

	220	282	286.8	26528	R01	263	290	32	930	353	00/07	03/20	01/21	16703
JNE	220	293	299.6	26527	R01	266	290	30	960	323	00/07	03/27	01/14	16232
RAJAY	220	292	298.5	26027	R01	266	290	13	973	310	00/03	03/30	01/11	16031
ZBV	220	292	295.9	26026	R01	267	290	65	1038	245	00/15	03/44	00/56	15025
DHP	220	276	279.8	25527	R01	265	290	57	1096	187	00/13	03/57	00/43	14134
LBV	220	318	316.7	25527	R02	277	290	83	1179	104	00/18	04/15	00/25	12901
SRQ36	220	314	318.5	25528	R02	276	290	41	1219	63	00/09	04/24	00/16	12304
SDP	220	312	316.5	25528	R02	275	290	9	1228	54	00/02	04/26	00/14	12170
PIE	38	312	311.4	11016	L01	234	243	45	1273	9	00/12	04/38	00/03	11766
KMCF	0	112	115.8	08011	R01	190	190	9	1283	0	00/03	04/41	00/00	11648

19062	N18540W062120	21065	N20466W065000	THANK	N21276W066032
TOOMS	N23000W069446	BURGO	N24250W074339	SEAAN	N24547W076526
ZQA	N25012W077270	PRUNE	N25131W077576	RAJAY	N25180W078109
ZBV	N25422W079177	DHP	N25480W080209	LBV	N26497W081235
SRQ36	N27180W081560	*SDP*	N27241W082035	PIE	N27545W082411
KMCF	N27510W082313				

SDP = START DESCENT POINT

FOLLOWING AIRSPACES PENETRATED

FIR BOUNDARY:	TJZS/KZMA	TIME:	01+23	POSITION:	N22242,W068188
FIR BOUNDARY:	KZMA/KZ	TIME:	03+40	POSITION:	N25358,W079000

FOLLOWING AIR DEFENSE IDENTIFICATION ZONES PENETRATED

	TIME	POSITION
ENTERING: EAST/SOUTH CONUS ADIZ	03+46	N25428,W079241
LEAVING : EAST/SOUTH CONUS ADIZ	03+51	N25451,W079491

TOTAL WIND FACTOR -11KTS

ADDITIONAL ALTITUDE DATA

FL/FUEL/ETE (200/ 22200/04+40) (180/ 22400/04+38) (160/ 22700/04+34)