U.S. DEPT. COMM./NOAA/OAO - DATA SECTION WORK FORM NO.1 OAOWF1 FILE

FLT ID: 970709H	FM: MCF	TO: MCF
FLT NO: 97-045	BLK IN: 1219Z	ATA: 1514Z
ETD: 1200Z	BLK OUT: 1522Z	ATD: 1237Z
ETE: 1430Z	BLK TIME: 3.03 3.0	FLT TIME: 2.37 2.6
SPONSOR ORG: NOAA	PROGRAM: OZONE	PURPOSE: TEST FLIGHT...

OAO PERSONNEL

AC KENNEDY, P ✓	SYS ENG MCMILLAN, S ✓
CP O'HARA, T ✓	DATA SYS ROLES, J ✓
NAV RATHBUN, D ✓	RADAR CARPENTER, D ✓
FE TORREY, R ✓ / MCMARTER, D ✓	BT/ODW
RADIO	CLD PHYS
FD CZYZYK, S ✓	DOPPLER

PARTICIPATING SCIENTIST/VISITORS/OAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
PARRISH, D ✓	PI	NOAA-AL
FRIED, A ✓	SCIENTIST	NCAR
~~HOLLOWAY, J~~		NOAA-AL
HUEY, G ✓		
RYERSON, T ✓		
~~JACKOBECK, B~~		
KNAPP, K ✓		
KUSTER, B ✓		

PROPOSED/ACTUAL MISSION/REMARKS (RECCO, FIXES, STORM, PCNET, NHOP ...)

DW3 6-7 DEGREES WARM DURING ASCENT
CLIMBED TO 3.5K @ 1258Z DUE TO DIRTY LAYER @ 3K FEET.
@ 25K TT1 1 DEGREE WARMER TT2
PS1M 2.8 mb lower than PS2M
DW3 NOW 4.5 DEGREES COLDER THAN DW1

U.S. DEPT. COMM./NOAA/OAO - DATA SECTION WORK FORM NO.2 OAOWF2

FLT ID: 970709H TIME OFF: 1237Z TIME ON: 1514Z

~~777~~	A/C T/O	WX STN	A/C LAND	WX STN
PRESSURE	1018.01	30.08	1018.4	30.11

	NO	DATA DISPOSITION/DATE/QUALITY
1/SEC FLT LVL TAPES		
FAST FLT LVL TAPES		
RADAR TAPES		
DOPPLER TAPES		
ODW CASSETTES		
HARD COPIES		
AXBT		
AXCP		
ODW		

PHOTOGRAPHY

	FWD	LS	RS	VERT	
ON					
OFF					
RATE					

REMARKS

9707091H

TIME	LAT	LON	TIL	HD	TA	TD	WD	WS	PA	GA	PS	SP	REMARKS
1236:50													TAKEOFF
1239													3K AGCT
1257													CLIMB
1258													3.5K FEET
1311	26 47	83 24											CLIMB & CIRCLE
1331	26 39	83 26	91	88	+20.6	-32.0	330	19.9	7646	8110	1012.9	374.5	25K
133940	26 31	83 01	264	267	-21.0	-28.9	350	19.3	7647	8107	1013.9	374.6	LEG 1 BEGIN
134830	26 27	83 49	266	268	-20.1	-34.5	336	15.4	7646	8109	1021.4	374.6	
135500	26 25	84 24	267	269	-20.0	-36.1	345	13.7	7645	8108	1012.0	374.7	END LEG 1
135720	26 31	84 21	093	088	-20.4	-38.4	335	15.0	7644	8106	1013.2	374.6	LEG 2 BEGIN
140630	26 31	83 31	090	087	-20.0	-35.2	325	19.3	7646	8104	1011.8	374.6	
141230	26 31	8257											END LEG 2
141240													DESCEND
143900	27 41	8157	324	323	25.1	20.0	240	5.0	415	442	1013.8	964.2	BEGIN CLIMB LEG
144900	28 18	8225											LEG DONE
144920													CLIMB 3.5K

TEST FLIGHT #1

Flight #1 H970709

Sensor or system	Number or Name
INE	1
Accelerometer	1
Temperature Probe	1
Dew Point Probe	1
Altitude (for vertical wind)	RA-159
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage
Time Source	Micro 99
Constants File	CO2973.CON

Notes:

This flight was broken into two tapes due to a data glitch that occurred at 1421:45.

Radar altimeter (RA-159) had a spike at takeoff and was replaced by RA-232 (1236:50-1237:05).

	Takeoff	Landing
Aircraft static pressure	1018.1	
Corrected tower pressure	1018.6	

The 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 speeds, respectively, computed using Dave Jorgensen's vertical wind algorithm.
It is recommended that these values be used for vertical wind analysis.

Flight Meteorologist: Stan Czyzyk, (813) 828-3310 ext. 3086

```
TITLE (MAX 21 CHARACTERS) -- EX  HURRICANE PAINE
OZONE TEST FLIGHT
YYMMDDL  FLT I.D.
970709H
HHMMSS START TIME    -99999 DEFAULT TO START OF DATA FOR PRINTOUT ONLY
122001
HHMMSS END TIME      999999 DEFAULT TO END OF DATA FOR PRINTOUT ONLY
142140
HHMMSS TAKE OFF TIME
123600
* NUMBER OF TAPES (I2) ...FOR STANDARD TAPE OUTPUT ONLY
1
* -------LOGICAL UNIT OF INPUT DATA (I1)  5, 8 OR 9 FOR TAPE DRIVE
9
* -------LOGICAL UNIT OF OUTPUT TAPE DRIVE (I1) [FOR STANDARD TAPE ONLY]
9
* -------LOGICAL UNIT OF PRINTER (I1)
6
* -------DATE OF PROGRAM (MMDDY)
06094
* -------STATIC PRESSURE PROBE (I1)
* 1 = PSW (WINGTIP)
* 2 = PSF (CO-PILOT/FUSELAGE)
* 3 = FUTURE USE
2
* -------DYNAMIC PRESSURE PROBE (I1)
* 0 = PQW(WINGTIP)
* 1 = PQF1 (FUSELAGE 1281)
* 2 = PQF2 (FUSELAGE 1221)
* 3 =FUTURE US
1
* ---------INE SELECTION  (I1)
* 1 = INE 1
* 2 = INE 2
1
* ---------ACCELEROMETER (I1) - USUALLY THE SAME AS YOUR INE SELECTION
1
* --------- TOTAL TEMPERATURE PROBE (I1) [1 OR 2]
1
* --------- DEWPONT TEMPERATURE PROBE (I1) [1 OR 2]
1
* ---------ALTIMETER OPTION (I1) - FOR VERTICAL WIND COMPUTATION
* 0 = PRESSURE ALTITUDE (OVER LAND)
* 1 = RADAR ALTITUDE APN-159 (OVER WATER)
* 2 = RADAR ALTITUDE APN-232 (OVER WATER)
1
* ---------PRINTOUT RATE  SECONDS (I2)
60
* ---------WINDSPEED/DIRECTION RUNNING AVERAGE TIME, SECONDS (I2)
10                                  ! FOR STANDARD TAPE OUTPUT ONLY
* ---------TIME OPTION (I1)
* 1 = MICRO 29
* 2 = TIME BASED GENERATOR #1
* 3 = TIME BASED GENEATOR #2
1
* ---------NAME OF CONSTANTS FILE EX CO3863.CON
CO2973.CON
*****************************************************************
```

```
TITLE (MAX 21 CHARACTERS) -- EX  HURRICANE PAINE
OZONE TEST FLIGHT
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970709H
HHMMSS START TIME    -99999 DEFAULT TO START OF DATA FOR PRINTOUT ONLY
142201
HHMMSS END TIME      999999 DEFAULT TO END OF DATA FOR PRINTOUT ONLY
152200
HHMMSS TAKE OFF TIME
123630
* NUMBER OF TAPES (I2) ...FOR STANDARD TAPE OUTPUT ONLY
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* -------LOGICAL UNIT OF INPUT DATA (I1)  5, 8 OR 9 FOR TAPE DRIVE
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* -------LOGICAL UNIT OF OUTPUT TAPE DRIVE (I1) [FOR STANDARD TAPE ONLY]
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1
* ---------NAME OF CONSTANTS FILE EX CO3863.CON
CO2973.CON
**************************************************************
```

DATE : 7/9/97

TO : Chief, AOC Flight Operations

FROM : Pilot/Flight Director, Aircraft N42RF ON 1522Z BLOCKTIME OFF 1917Z 3.1

SUBJECT: Hazardous Duty

PURPOSE OF FLIGHT: OZONE PROJECT TEST FLIGHT

Hazardous Duty Pay is required for flight made on 7/9/97 (DATE)

Request based on DUE TO GASES ONBOARD

Personnel on board authorized Hazard Pay:

CZYZYK, S	
MCMILLAN, S	
CARPENTER, D	
ROLES, J	
TURREY, R	
MCWHIRTER, D	

PILOT/FLIGHT DIRECTOR: [signature]

APPROVED: √ DISAPPROVED: _____

CHIEF, AOC FLIGHT OPERATIONS: [signature], COR, NOAA

Aircraft Operations Center
P.O. Box 6829
MacDill AFB, FL 33608-0829

AOC1:SC

July 7, 1997

MEMORANDUM FOR: All OZONE Test Flight Participants

FROM: Stan Czyzyk

SUBJECT: OZONE Test Flight - Tuesday July 8, 1997

The test flight is designed to test the newly installed instrumentation, including a new pod. The mission will include maximum altitude legs to insure the capabilities of the instruments at the lower pressure/lower temperature ranges. Warning area W-168 will be reserved to do the high-altitude work. The flight will also include legs flown at low levels over the Florida peninsula through the Tampa plume and through the smokestack near Apollo Beach. The flight will be short in duration, approximately 2-2.5 hours and will consist of the following activities.

1) N42RF will block out at ~1400 local time. All work will be conducted at ~200 IAS.

2) After take-off, the aircraft will climb to 3000 ft PA and head southwest offshore toward W-168. If there is a cloud layer at 3000 ft PA, the altitude will be adjusted appropriately.

3) While heading toward the warning area, a 15-min calibration of the instruments will be conducted. Constant altitude must be maintained for calibration, but heading is insignificant during this phase.

4) Once the warning area has been reached, we will begin a spiral up climb at a rate of 1500 ft/min through maximum altitude (~25k feet).
When maximum altitude is reached, two 15-minute legs will ensue, one toward the west, and the second toward the east turning into the wind.

5) When the legs are completed, begin descent to the east at a rate of 1500 ft/min until 1500 ft PA.

6) Next, head inland and to do legwork through two separate plumes. Again, turns will be done into the wind during the legs. The first plume will be the smokestack near Apollo Beach, two legs will be conducted perpendicular to the plume. The second plume will be the "Tampa" plume again the two legs will be conducted perpendicular to the plume (All plume work will be conducted at 1500 ft).

7) Upon completion of the plume legs N42RF will return to MacDill AFB.

Aircraft Operations Center
P.O. Box 6829
MacDill AFB, FL 33608-0829

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27° 47'N
82° 19'W

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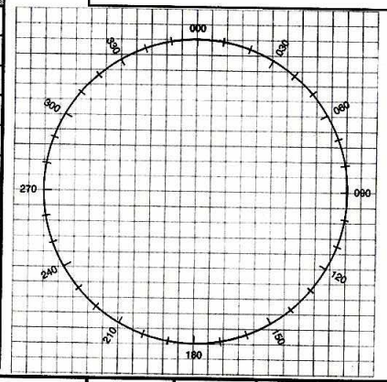
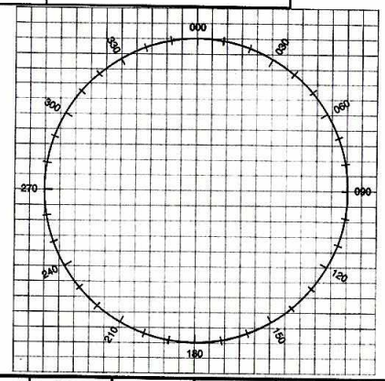
CLEARANCES			
FREQ	ALT	HDG	OTHER
			2740
			8155 325°
			60 MILES
			~~[illegible]~~ 102/143
			~~[illegible]~~ 068/35

MISSION LOG

PAGE ___ OF ___





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:

UHF/VOICE	VHF/VOICE	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 GPS	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	MH	VAR +E==	TH	DR +R==	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
~~1215~~ 1219 1236																					BIG 5 START TAXI TAKEOFF
1249	FIX	2736.9 8221.6	2736.6 8221.7	+.3 -.1	2736.9 8221.8	Ø -.2			227	1R	228	211	202	11	3K	222					
1332		2638.7 8327.5	2639.1 8327.3	+.6 +.2	2639.2 8327.3	-.5 +.2			ØØ8	3R	Ø91	311	296	34	25K	283					
1430		2726.5 8211.2	2725.3 8210.9	+1.2 +.3	2727.7 8211.2	-1.2 Ø			ØØ8	Ø	ØØ8	206	ØØ4	11	15ØØ	219					
1514		2751.1 8231.1	2750.Ø 8230.6	+1.1 +Ø.5	2753.2 8230.6	-2.1 +.5															LAND