

FLT ID: N961003	FM: KMCF	TO: KMCF
FLT NO: 97-001	BLK IN: 22:25Z	ATA: 2217Z
ETD:	BLK OUT: 163200Z	ATD: 1644Z
ETE:	BLK TIME: 5:53	FLT TIME: 5:33
SPONSOR ORG: AOC	PROGRAM: CALIBRATION	PURPOSE: INTERCOMPARE WITH P-3

#### DAO PERSONNEL

AC PHILIPPS BORN	SYS ENG DU GRANROT
CP FINKE	DATA SYS PRADAS-BERNES
NAV	RADAR
FE	BT/ODW <del>PHILIPPS BORN</del> HILL
RADIO	CLD PHYS
FD D AMIANO	DOPPLER

#### PARTICIPATING SCIENTIST/VISITORS/DAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
FRANKLIN	ODW	NHC
GRIFFIN	ODW	NHC
HOLIK	<del>NHC</del> ODW	NCAR
LAURITSEN	<del>NHC</del> ODW	NCAR
<del>FRISEN</del> FRIESEN	<del>RAF (NCAR)</del> OBS	NCAR (RAF)
BARR	PLOT	GULFSTREAM
McFADDEN	??	AOL

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

29.98

Drop 400-402  
403-406

## U.S. DEPT. COMM./NOAA/OAO - DATA SECTION WORK FORM NO.2 OADWFZ FILE

FLT ID: *N961003* TIME OFF: *1644Z* TIME ON: *2217Z*

	A/C T/O	WX STN	A/C LAND	WX STN
PRESSURE	<i>1019.4</i>	<i>29.98</i>		

NO DATA DISPOSITION/DATE/QUALITY

1/SEC FLT LVL TAPES

*1*

FAST FLT LVL TAPES

RADAR TAPES

DOPPLER TAPES

ODW CASSETTES

HARD COPIES

AXBT

AXCP

~~CDR~~ *GPS**5*

## PHOTOGRAPHY

	FWD	LS	RS	VERT
ON				
OFF				
RATE				

REMARKS

*30448**880**71 16.5 355 8 m/s**10. Dwn*



N961003

2739  
8427

TIME	LAT	LONG	IAS	TA	TD	PS	PQ	ALT	WD	WS	WS
164600	27.58	82.44	202	21.6	21.35	95.8	68.7	500m	51	7	
165630	27.71	83.09	306	-4.1	-2.8	550.8	161.5	5109	215	8	
170200	27.66	83.72	302	-2.9	-2.1	550.9	157.0	5114	246	8	
174700	start				180	leg at 16.5K					
175000	end										
											from 42
											540.8 55.0
											-2.0 -7.4
180000	start				200	leg at 16.5K					
180420	end										
											540.9 66.0
											-2.8 -7.0
180810					220	leg at 16.5K					
181120											
											540.4 64.6
											-2.9 -6.6
182620	27.6	84.9	199	-13.0	-15.1	429.0	64.0	7060	275	18	
184140			start		180	leg at 25 K					TAS
184450			end					close	377.1		272
18			start		200	leg at 25K			53.5		-18.2
184720											-27.7
184801								close			
185510								close			
185700	27.93	85.03		-19.6	-23.4	377.5	69.9		269	18	
185831			end leg								DROP SONDE
190102	27.93	85.36	202	-14.3	-18	377.25	70.1		271	21	
											DROP SONDE
191040			start		220	leg					
191049	27.82	85.2	220	-18.5	-26.9	377.42	89.4		305	20	
191020			end		220	leg					
											577.5 63.0
											DROP SONDE
											-25.5
											-18.8
											377.4 78.6
											-18.5 -27.1
											292/30 K
											327
192630			start		180	leg					
192940			end								
193150			start		210	leg					
193500			end								
194610			start		240	leg					
194320			end								

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

AOC1:ABD

MEMORANDUM FOR: All Gulfstream-IVSP Participants

FROM: A. Barry Damiano

SUBJECT: Second Gulfstream-IVSP Calibration Flight

The second test flight (tentatively scheduled for 3 October) will be an intercomparison flight with a P-3. This mission will provide a more thorough examination of instrumentation performance (total temperature probes, pressure probes, etc.) on the Gulfstream-IVSP. Two GPS dropsondes will be launched from the Gulfstream-IVSP at 45000 feet pressure altitude near the end of the flight. This flight will be relatively short in duration (approximately 5 hours) and will consist of the following activities:

- 1) Both aircraft block out from Hangar 5 at 1200 local time.
- 2) After take-off both aircraft climb to 15000 feet pressure altitude (PA) head west offshore west of NWS Ruskin (27° 43' N 82° 27' W). There both aircraft will form up in formation with the P-3 flying on the Gulfstream-IVSP.
- 3) Fly three (3) three minute legs varying indicated airspeed...180, 200 and 220 knots in that order. The legs **are not** dependent upon wind direction.
- 4) Upon completion of the 220 indicated airspeed leg at 15000 feet PA, the aircraft will climb to 20000 feet PA. After the aircraft have formed up in formation (P-3 on the Gulfstream-IVSP) fly the three (3) three minute legs varying indicated airspeed...180, 200 and 220 knots. After the 220 airspeed run, both aircraft will increase indicated airspeed to 240 knots. **At this airspeed and in loose formation both aircraft will simultaneously launch a GPS sonde.**

**NOTE:** There may be as many as two dummy sondes launched from the Gulfstream-IVSP at this altitude for P. R. photos.

- 4) After the work at 20000 feet PA is completed, both aircraft will climb to 25000 feet PA, form up, then fly the three (3) three minute legs varying indicated airspeed...180, 200 and 220 knots.



- 5) Upon completion of the 220 indicated airspeed leg at 25000 feet PA, the aircraft will climb to 30000 feet PA, form up, then fly the three (3) three minute legs varying indicated airspeed...180, 200 and 220 knots. **If the P-3 cannot get to 30000 feet PA**, both aircraft will level out at the highest altitude that the P-3 can attain, form up and begin the three runs.
- 6) Upon completion of the last leg at 30000 feet PA (or highest altitude for the P-3), the **P-3 will depart the area and ferry to MacDill AFB**. The Gulfstream-IVSP will climb to 35000 feet PA and perform three (3) three minute legs varying indicated airspeed...180, 210 and 240 knots.
- 7) Upon completion of the 240 indicated airspeed leg at 35000 feet PA, the aircraft will climb to 40000 feet PA and perform the three (3) three minute legs varying indicated airspeed...180, 210 and 240 knots. After the 210 indicated airspeed leg is completed, a yaw (side to side) maneuver will be performed varying heading by 15-20 degrees. This will be followed by a pitch maneuver of  $\pm 7$  degrees.
- 8) Upon completion of the 240 indicated airspeed leg at 40000 feet PA, the aircraft will climb to 45000 feet PA and perform two (2) three minute legs varying indicated airspeed...180 and 210 knots. During the 210 airspeed a GPS dropsonde will be launched. This will coincide approximately with a radiosonde launch from NWS Ruskin. The purpose is to exercise the AVAPS system and the communication link by transmitting sonde data through the SATCOM system. After the sonde has splashed, a second sonde will be launched.
- 9) After the second sonde has been launched at 45000 feet PA, the jet will begin a spiral descent at a rate of 1500 feet per minute. The descent will continue to 10000 feet PA.
- 10) After reaching 10000 feet PA, the jet will commence three (3) left turn circles then three (3) right turn circles at a  $25^\circ$  roll angle.
- 11) Upon completion of the circles the Gulfstream-IVSP will return to MacDill AFB.

N961003

TIME	LAT	LONG	DAS	TA	TD	PS	PQ	ALT	WD	WS									
195140			Start	240	leg	35 K	ALT												
195450			end																
195740			start	210	leg	at 35 K													
200140			end																
200350			start	180	leg	at 35 K													
200730			end															Both AT1 AT2 close	
201700			start	240	leg	at 41 K	(PA)												
202010			end																
202320			start	210	leg	at 41 K													
202640			end																
203200			YAW																
203340																			
203750			Pitch																
204150																			
205000			Speed run																
2050140																			
210650			start	180	leg	at 41 K													
211000			end																
212030			start	180	leg	at 45 K	(PA)												
212340			end																
212810			start	210	leg														
212832	27.31	82.3		-67.8	-62.7	148.97	76.6	14292	300	30.5	(SONDE)	208						.77 MACH	
213120			end	210	leg														
213800	27.22	83.17	211	-67.3	-62.4	149.8	75.3	14292	290	25	(SONDE)								
213800			spiral descent																
215745			Both AT'S																
220200			end descent																



DATE : 10/4/96

TO : Chief, AOC Flight Operations

FROM : Pilot/Flight Director, Aircraft N49RF ON 2225 BLOCKTIME

OFF 1632 5:53

SUBJECT: Hazardous Duty

PURPOSE OF FLIGHT: CALIBRATION OF JET INSTRUMENTATION

Hazardous Duty Pay is required for flight made on 10/3/96  
(DATE)

Request based on FLYING IN FORMATION

Personnel on board authorized Hazard Pay:

DAMIANO

MCFADDEN

PRADAS-BERGUES

HILL

DUGRANUT

PILOT/FLIGHT DIRECTOR: A. Barry Damiano

APPROVED: \_\_\_\_\_

DISAPPROVED: \_\_\_\_\_

CHIEF, AOC FLIGHT OPERATIONS: \_\_\_\_\_

Aircraft Operations Center  
PO Box 6829  
MacDill AFB, FL 33608-0829

March 16, 1996 AOC1:sw

MEMORANDUM FOR: DR. HUGH WILLOUGHBY, DIRECTOR ARD

FROM: Captain George C. Player, III, NOAA  
Director, Aircraft Operations Center

SUBJECT: Hazard Duty Flight

The mission flown on AOC aircraft # N49RE on 10/3/96 has been declared hazardous. The following personnel from your laboratory participated in this mission.

FRANKLIN

GRIFFIN

For purpose of computing allowable hazard duty time, the hazard period during this mission was from 12:30pm local time on 10/3/96 until 6:30pm on 10/3/96.