

FLT ID: 961021N	FM: KMCF	TO: KMCF
FLT NO: 97-019	BLK IN: 2112Z	ATA: 2105Z
ETD: 1600Z	BLK OUT: 1551Z	ATD: 1601Z
ETE:	BLK TIME: 5:21	FLT TIME: 15:04
SPONSOR ORG: AOC	PROGRAM: JET-CALIB	PURPOSE: JET CALIB with NDB

DAO PERSONNEL

AC: PLAYER	SYS ENG: DU GRANT
CP: MAXSON	DATA SYS: PRADAS-BERNEZ
NAV: 21	RADAR:
FE:	BT/ODW: WILLIAMS GONZALEZ
RADIO:	CLD PHYS: HILL / HALL
FD: DAMIANO	DOPPLER:

PARTICIPATING SCIENTIST/VISITORS/DAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
KITSON	MECH	AOC
FRANKLIN	HAPS	

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

1017.8 PS from 43 prior to 5/0 jet has 1019.3

jet PS & PS1-PS2 2 mi apart

27
83

U 304.8
to 43

jet at 300 mi
-30.69 -44.5
270/58 kts

201742
250 mb -60.6
-40.52 265 60KTS

262023 300 mi
-30.76 272 50
-56.6

U.S. DEPT. COMM./NOAA/ORA - DATA SECTION WORK FORM NO.2 OROWF2 FILE

FLT ID: *N961021*TIME OFF: *1601Z*TIME ON: *2105-8*

	A/C T/O	WX STN	A/C LAND	WX STN
PRESSURE	<i>1019.3</i>	<i>30.08</i>	<i>1015.0</i>	<i>29.99</i>

NO

DATA DISPOSITION/DATE/QUALITY

1/SEC FLT LVL TAPES

/

FAST FLT LVL TAPES

RADAR TAPES

DOPPLER TAPES

ODW CASSETTES

HARD COPIES

AXBT

AXCP

~~GPS~~ *GPS**7*

PHOTOGRAPHY

	FWD	LS	RS	VERT
ON				
OFF				
RATE				

REMARKS

961021N

30.03

TIME	LAT	LONG	TRK	HD	TA	TD	WD	WS	PA	GA	PS	PQ
181650			start	180	leg at	35 K					-44.01	-44.09 -54.8
182000			end									
182210			start	210	leg at	35 K						
182540			end									
183010			start	240	leg at	35 K				-43.65	-44.18	-54.31
183330			end									
184120			start	¹⁷⁰ 180	leg at	40 K				-57.10	-57.02	-58.0
184450			end								26460 KTS	
185040			start	210	leg at	40 K						
185500			end									
185510			YRW									
185740										185724		
190020			pitch									
190310												
190540			start	240	leg at	40 K						
190900			end									
191350			start	180	leg at	45 K						
191700			end									
192430			start	210	leg at	45						
192525	26.60	82.58			-67.4		145.8		14274		-65.7	sonde
192610	26.65	82.63			-67.3		145.8		14275		-65.8	sonde
192800			end	210	leg at	45 K						
193440			all TT heaters off	~210	IAS							
194540	26.77	82.81	322		-69.3		145.9		14270			Sonde
194700			all TT heaters on									
195358	26.94	83.10			-67.5		145.9		14270		fair full	Sonde
200831	27.00	82.91			-68.0		145.9		14270			sonde
200850			spiral descent									
203400												
203420			start left turn	230								
204215			end									
204230			start right turn	230								
205030			end									

961021N

TIME	LAT	LOW	TRK	HD	TA	TD	WD	WS	PA	GA	PS	PQ		
163310		start	180	leg at	15K					576.2				
163620		end	leg							1.9	8.6			
163740		start	200	leg at	15K					43 below WS				
164050		end								576.1			close 43	
										1.9	10.2			
164510		start	220	leg at	15K								163940 close	
164820		end								575.6		164600		
165755		start	180	leg at	20K							466.4		
170010		end							close			close		
170225		start	200	leg at	20K				close			-9.9		
170540		end										263 / 31 IETS		
												466.4	-10.2	
171100		start	220	leg at	20K				43 little behind					
171418		end							further away			171454 43 higher		
									further + higher for 43			-10.1		
												1.6 FT		
172520		start	180	leg at	25K				close	376.3				
172830		end							close	-18.6	-9.1			
										376.1				
173135		start	200	leg at	25K							373		
173210	27	82.9	327		-19.1	-44			8033			375	69	Small
173318	27.08	82.95	327		-19.07	-44			8032					Circle
173450		end	200	leg at	25K									
174220		start	220	leg at	25K									
174590		end												
175445		start	180	leg at	30K					TA	TA	TD		
175800		end								-30.70	-31.00	-49.00		
180100		start	210	leg at	30K					-30.00	-31.23	-49.93		
180410		end												
180540		start	240	leg at	30K					-30.83	-31.35	-49.63		
180900		end												

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

AOC1:ABD

October 21, 1996

MEMORANDUM FOR: All Gulfstream-IVSP Participants

FROM: A. Barry Damiano

SUBJECT: Third Gulfstream-IVSP Calibration Flight

The third test flight (tentatively scheduled for 21 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. 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 1130 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. **It is desirable to be as close to the coast as ATC will allow for the duration of the flight.**
- 3) Fly three (3) three minute legs at 15000 feet pressure altitude (PA) 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.
- 5) 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.
After the 220 leg is completed, **the P-3 will depart the area and ferry to MacDill AFB.**

- 6) Upon completion of the work at 25000 feet PA, the jet will climb to 30000 feet PA and fly three (3) three minute legs varying indicated airspeed...180, 210 and 240 knots.
- 7) Upon completion of the last leg at 30000 feet PA, the Gulfstream-IVSP will climb to 35000 feet PA and perform three (3) three minute legs varying indicated airspeed...180, 210 and 240 knots.
- 8) 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 ± 7 degrees.
- 9) 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 GPS dropsondes will be launched at varying intervals. 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.
- 10) After the last 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.
- 11) After reaching 10000 feet PA, the jet will commence three (3) left turn circles then three (3) right turn circles at a 25° roll angle.
- 12) Upon completion of the circles the Gulfstream-IVSP will return to MacDill AFB.

300MB
-30.69 -44.5
270 58KTS

180 30.01

200 MB
-53 -54
280 41MB

DATE : 10/21/96
TO : Chief, AOC Flight Operations
FROM : Pilot/Flight Director, Aircraft N49RF ON 2112Z BLOCKTIME
SUBJECT: Hazardous Duty OFF 1551Z 5:21

PURPOSE OF FLIGHT: JET INSTRUMENTATION CALIBRATION

Hazardous Duty Pay is required for flight made on 10/21/96
(DATE)

Request based on FLYING IN FORMATION WITH
N43RF

Personnel on board authorized Hazard Pay:

KITSON

DAMIANO

HILL

DUGRANUT

PRADAS-BERNES

GONZALEZ

PILOT/FLIGHT DIRECTOR:

A. Barry Damiano

APPROVED:

DISAPPROVED:

CHIEF, AOC FLIGHT OPERATIONS:

200 KT / 20 KFT 170225 - 170540

DBP	MIN	68.19	MAX	68 69.65
	MEAN	68.89	SD	.334
PQFI	MIN	64.05	MAX	65.38
	MEAN	64.69	SD	.312
TT1	MIN	68.65 .65	MAX	68.65 -.40
	MEAN	68.65 -.51	SD	.061
TT2	MIN	68.65 -.22	MAX	68.65 0.05
	MEAN	68.65 -.06	SD	.061
WIND TA	MIN	-10.55	MAX	-10.34
	MEAN	-10.43	SD	.049
SP	MIN	466.73	MAX	467.07
	MEAN	466.87	SD	.065

220 KT / 20 KFT 171100 - 171410

DBP	MIN	80.61	MAX	84.47
	MEAN	76.66	SD	.835
PQFI	MIN	76.61	MAX	80.56
	MEAN	78.75	SD	.849
TT1	MIN	1.25	MAX	1.75
	MEAN	(1.49)	SD	1.49 .122
TT2	MIN	1.42	MAX	1.95
	MEAN	(1.66)	SD	.125
WIND TA	MIN	-10.61	MAX	-10.32
	MEAN	-10.47	SD	.078
SP	MIN	466.59	MAX	467.78
	MEAN	466.99	SD	.169

220 KT / 15 KFT

164510 - 164820

DBP	MIN	81.76	MAX	86.12
	MEAN	83.69	SD	.847
PQF1	MIN	76.79	MAX	81.04
	MEAN	78.68	SD	.844
TT1	MIN	11.38	MAX	12.04
	MEAN	11.79	SD	.164
TT2	MIN	11.35	MAX	12.04
	MEAN	11.79	SD	.170
^{uncon} TA	MIN	1.31 1.31	MAX	1.75 1.75
	MEAN	1.57 1.57	SD	.100
SP	MIN	576.16	MAX	577.55
	MEAN	576.79	SD	.372

180 KT / 20 KFT

165755 - 170110

DBP	MIN	55.21	MAX	57.77
	MEAN	56.48	SD	.452
PQF1	MIN	51.27	MAX	53.72
	MEAN	52.47	SD	.442
TT1	MIN	-2.05	MAX	-1.58
	MEAN	-1.88	SD	.120
TT2	MIN	-2.00	MAX	-1.40
	MEAN	-1.79	SD	.142
^{uncon} TA	MIN	-10.16	MAX	-9.84
	MEAN	-10.01	SD	.088
SP	MIN	466.49	MAX	467.00
	MEAN	466.60	SD	.104

220 KT / 25 KFT

174220 - 174540

DBP	MIN	79.72	MAX	82.74
	MEAN	81.18	SD	.817
PQF1	MIN	77.75	MAX	80.98
	MEAN	79.32	SD	.880
TT1	MIN	-5.20	MAX	-4.64
	MEAN	-4.93	SD	.155
TT2	MIN	-4.84	MAX	-4.25
	MEAN	-4.55	SD	.166
wean TX	MIN	-19.28	MAX	-19.07
	MEAN	-19.17	SD	.046
SP	MIN	376.49	MAX	377.25
	MEAN	376.89	SD	.194

~~DB~~

work

TD	163310 - 163620	MIN	-19.61	MAX	-19.00
		MEAN	-19.31	SD	,187
16	163740 - 164050	MIN	-19.59	MAX	-19.26
		MEAN	-19.44	SD	,104
	164510 - 164820	MIN	-18.63	MAX	-18.30
		MEAN	-18.43	SD	,103
	165755 - 170110	MIN	-26.75	MAX	-25.18
		MEAN	-26.03	SD	,448
	170225 - 170540	MIN	-27.20	MAX	-27.00
		MEAN	-27.13	SD	,042
	171100 - 171410	MIN	-26.73	MAX	-26.53
		MEAN	-26.63	SD	,053
	172520 - 172830	MIN	-32.71	MAX	-31.81
		MEAN	-32.33	SD	,261
	173135 - 173450	MIN	-32.72	MAX	-32.35
		MEAN	-32.54	SD	,115
	174220 - 174540	MIN	-31.79	MAX	-31.13
		MEAN	-31.70	SD	,045

180 KT / 25 KFT 172520 - 172830

DBP	MIN	54.81	MAX	56.86
	MEAN	55.70	SD	.518
PQF1	MIN	51.63	MAX	53.70
	MEAN	52.54	SD	.521
TT1	MIN	-9.37	MAX	-8.88
	MEAN	-9.16	SD	-.107
TT2	MIN	-8.95	MAX	-8.47
	MEAN	-8.74	SD	.107
^{W/CON} TA	MIN	-18.96	MAX	-18.72
	MEAN	-18.83	SD	18.050
SP	MIN	376.22	MIN	376.61
	MEAN	376.43	MEAN	.073

200 KT / 25 KFT 173135 - 173450

DBP	MIN	67.10	MAX	69.42
	MEAN	68.33	SD	.569
PQF1	MIN	64.31	MAX	66.68
	MEAN	65.52	SD	.591
TT1	MIN	-6.99	MAX	-6.55
	MEAN	-6.84	SD	.109
TT2	MIN	-6.80	MAX	-6.34
	MEAN	-6.65	SD	.103
^{W/CON} TA	MIN	-18.92	MAX	-18.59
	MEAN	-18.78	MAX SD	.080
SP	MIN	376.20	MAX	376.59
	MEAN	376.39	SD	.099