

U.S. Dept. of Commerce / NMAO / NOAA / Aircraft Operations Center

Flt ID: 040903I	From: KMCF	To: KNBG
Flt. No.: 04-57	Blk In: 2333Z	Time On: 2324Z
ETD: 1500Z	Blk Out: 1500Z	Time Off: 1510Z
ETE: 8+00	Blk Time: 8+33 8.6 Hrs	Flt Time: 8+14 8.2 Hrs
Sponsoring Org: NOAA/NHC	Program: HURRICANE 2004	Purpose: H. FRANCIS

AOC Flight Crew

Aircraft Commander: TERBEEST, R ✓	Data System: LYNCH, T ✓
Co-Pilot: STRONG, T ✓, CHOY, B ✓	AVAPS: TONG, R ✓
Navigator: GALLAGHER, T ✓, ADLER, J ✓	System Eng: SMITH, J ✓
Flight Eng: FLOYD, D ✓, KLIPPEL, J ✓	A A:
Flight Director: SHEPHERD, T ✓	A A:
Avionics:	Crew Chief:

Participating Scientists / Visitors

Name (Last, First)	Activity on Aircraft	Affiliation
BLACK, M ✓	PI	NOAA/HRD
DODGE, P ✓	RADAR	1
WALSH, E ✓	SCI	NASA GODDARD

Remarks (Storm Name, Mission ID, Recco Times, Fix Times)	<u>Recco Times</u>	<u>Fix #</u> <u>Fix Time</u>
Storm Name: <u>FRANCES</u>	1701	
Mission ID: <u>NOAA3 2406A FRANCES</u>	1721	
<u>Penetration number and time</u>	1751	
1 - 1637	1848	
2 - 1826	1905	
3 - 2013		

(See reverse for additional remarks)

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Flight ID: **040903I** Time Off: **1510 Z** Time On: **2324 Z**

	A/C - Takeoff	Wx Station - Takeoff	A/C - Land	Wx Station - Land
Pressure	1013.6 mb	29.98 mb	1014.2 mb	29.98 mb

ATIS	Time	Observation
Takeoff	Z	
Land	Z	

	Number	Data Disposition / Date / Quality
Flight Level Tapes	2	
Radar Tapes	2	
Cloud Physics Tapes / CDs		
Video Tapes	4	
Dropsondes	32	Good: Bad:
AXBT	0	
AXCP	1	
AXCTD		

Remarks:

IP 2705 7925

FCST 182 2542 77D6

JW ↓ @ TO

- 1556 SW to Quad

- TURN 2421 7438

- TURN @ 2656 7445

LAST Rep 0837

AF 1728

2526

7705

961

2950

9002



**NOAA P-3 N43RF
CBLAST 2004
FLIGHT #5**

Flight ID: I040903

<u>Sensor or system</u>	<u>Number or Name</u>
INE.....	1
Accelerometer.....	1
Temperature Probe.....	1
Dew Point Probe.....	2
Altimeter (for vertical wind).....	RA-159
Static Pressure.....	Rosemount (fuselage)
Dynamic Pressure.....	Rosemount (fuselage)
Time Source.....	Micro 99
Constants File.....	CO3043.con

Local Met. Data: Not copied at takeoff

Take off: 1510Z
Land: 2324Z

The RA-232 was substituted for the RA-159 during take off and landing due to spiking (T.O. 150701-151800; 232100-232700 Land).

The RA-159 had multiple spikes and dropouts during high altitude ferry to/from the storm. The RA-159 was replaced by the Collins GPS altitude in these regions (152739-154902; 212740-225908).

There were data gaps noted: 205448-205535[intermittent].

The Johnson-Williams liquid water sensor was inoperative during the flight.

There were times during heavy precipitation events (e.g. eye wall penetrations) when the dew point exceeded ambient temperature yielding a RH of greater than 100%. This is probably due to a wet bulb effect on the total temperature probe and/or the dew pointer over heating while trying to remove excess moisture. In these instances, no corrections were attempted.

The aircraft INE positions were re-navigated with respect to GPS.

SPECIAL NOTE: Locations 80, 81, and 82 of record 5 in the standard data contain vertical ground speed, vertical air speed, and vertical wind speed computed using Dr. Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

	Take off	Land
Aircraft Static Pressure	1013.6 mb	1014.2 mb
Corrected Tower Pressure	1015.2 mb	1015.2 mb

Flight Director: Tom Shepherd
813-828-3310 x3053

Mission FRANCES-SFMR

Fit ID 0409031

SED Crew Lynch, ~~Smith~~, Tong, Smith

Pre-Flight 1325

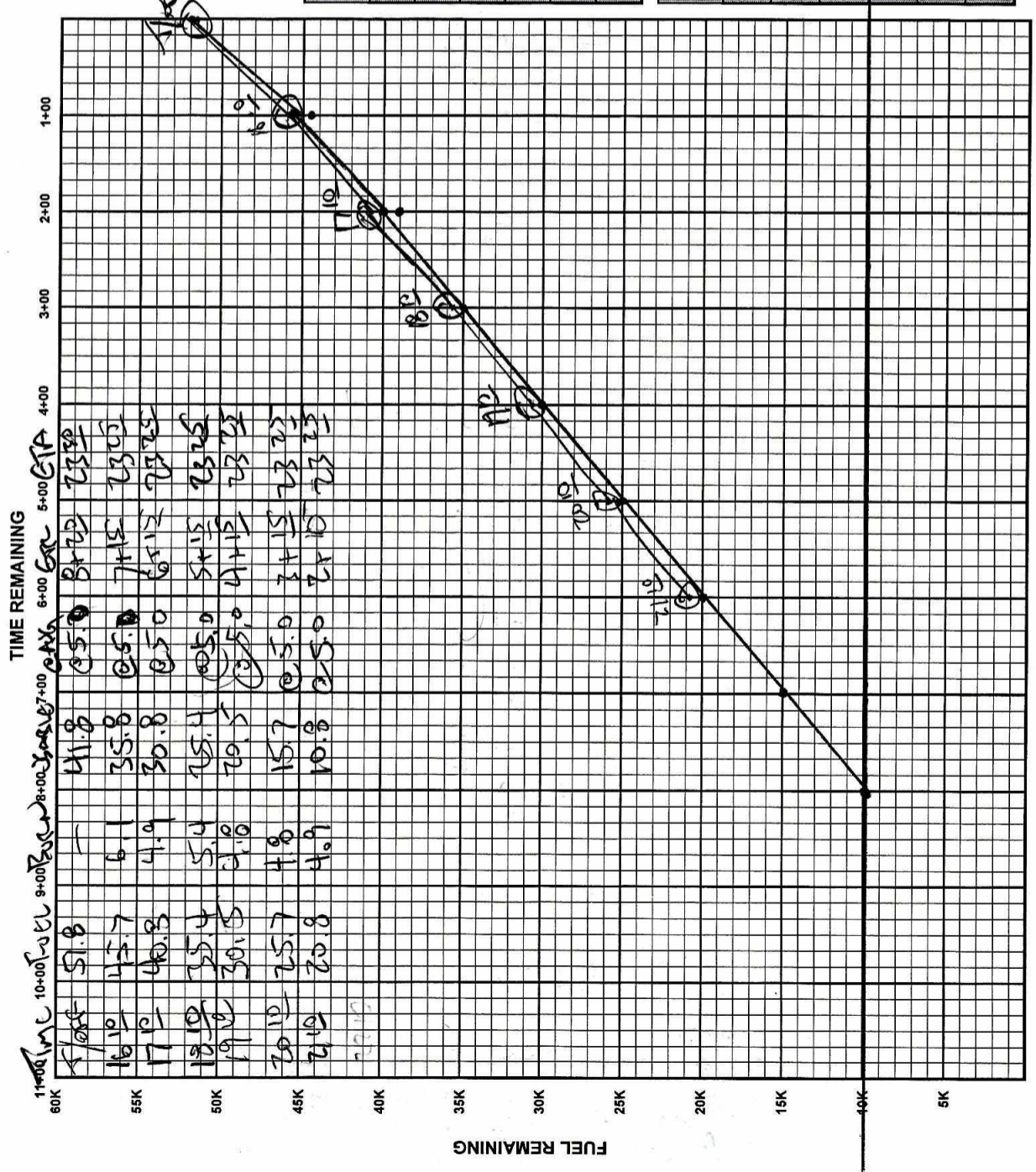
Take-Off 15:10

Landing 23:23

System		Pre-Flight		In-Flight			Post-Flight			
NAV	GPS	FM: 1		JS			LAT	LON	GS	RE
	INE #1	Time On: 1324	Aligned to: 6	JS			-8.2	+1.7	.5	9
	INE #2	Time On: 1321	Aligned to: 6	JS			+1.8	-3.9	3	4
	Diff GPS									
RADAR	MARS Data	Start	Stop	Ready?	HRD?		# DATs ? 2 Given To: Dodge			
	MARS	15:15	18:25	YL	ON	6				
	MARS Data / Tape Status	18:25	21:04		LFRec	TARec	EOF's			
	MARS LUB	Clear		YL						
	MARS LU9	Clear		YL						
RADAR R/T SN	Tail 202/102F	102		Mod Switches	ON	Mod Switches OFF				
PMS	FSSP Ref VDC:	Covers	OFF	NI			Power	OFF		
	Cloud Mono	Covers	OFF				Covers	ON		
	CIP	Covers	OFF				Covers	ON		
	SEA Data DAT	Start	Stop	Ready?	#DATS	Errors	Disk Write	Given To: -		
	DAT	Clean?					Y / N			
TEMP		Cal High	Cal Low				Cal High	Cal Low		
	Temp #1	430.5	-30.4	YL			+30.0	-30.2		
	Temp #2			YL			Power	OFF		
	Temp #3			YL			Power	OFF		
PRES	Dewpoint	#1 #2 #3 (TDU)		YL			Power	OFF		
	Attack / Slip Angle	AP BAP BP OBP		YL			Power	OFF		
	Differential	PQ1 PQ2 PQ3 PQ4		YL			Power	OFF		
FLTLVL	Absolute	ESP ES2 CBPS		YL			Power	OFF		
	Aprn-159 SN:	66-024		JS		6	Power	OFF		
	Aprn-232 SN:	1761		JS			Power	OFF		
	Liquid Water	J&W King		JS	28V WOW:	ON 4	Power	OFF		
RAMS	Radiometer	CO2 SST		YL	28V WOW:	ON	Power	OFF		
	RAMS Data	Start	Stop	Ready?	Errors 8:	Errors 9:	# DATs ? 2	Given To: Skgo		
	CPU: A (B)	14:53	23:23	YL	1		Power	OFF		
	RAMS Data / Tape Status				Slow Rec	Fast Rec	Disk Records:	3097		
	RAMS LUB	Clear		YL	3097	30921				
MISC	RAMS LU9	Clear		YL	3097	30921				
	Flight Director Laptop			YL			Power	OFF		
	Network			NI						
	ASDL Mission #:	2406A	Name: FRANCES	YL	Freq: 30	Block: 10	Power	OFF		
	C.I. Printer	Start	Stop	Ready?	Paper Bin Stores		Given To:			
USER	PRATE:	10	14:57 23:33	YL	0% 25% 50% 75% 100%		Power	OFF		
	Exterior Walk Around	Plugs	Covers	JS			Plugs	Covers		
	SATCOM	W/S Inmarsat	GlobalStar	JS			Power	OFF		
	AXBT Internal	# Loaded:		JS			# Launched:	-		
	AXBT External	# Loaded:		JS	28V WOW		# Launched:	-		
USER	AVAPS	# On Board:	97	JS			# Dropped:	31		
	Video Cameras	Start	Stop	Ready?	Cameras	Mode 2	# Tapes ? 3	Given To: Dodge		
	VHS VHS	14:55	23:24	YL	NR LR	2 / 6	Lens Cap ?:			
	FCU	-B-C-D-		YL			UPS	OFF		
USER	SFMR	HRD	ROC	YL			Accelerometers			
	NASA SRA			ED			#1 (2 G):	8202		
	ARL BAT Probe, SST & IRGA			NY			#2 (2.5 G):	6687		
	UW PDA			NY			#3 (3 G):	5967		
	Scripps MASS, Laser Alt, IR Cam & Sono			NY			#4 (3.5 G):	2892		
RSMAS Licor			YL							

17
21
30

RANGE CONTROL GRAPH



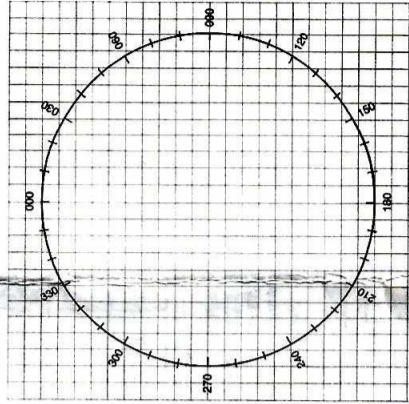
ENROUTE FUEL	
ENROUTE TIME	8:00
ENROUTE FUEL (6K 5K 4.5K RULE)	47.0
RESERVE AT DESTINATION	10.0
REQUIRED RAMP	52.0
ACTUAL RAMP FUEL	51.8

TACTICAL (OFFSTA TO DESTINATION)	
DISTANCE (OFFSTA TO DEST)	
ENROUTE TIME (OFFSTA TO DEST)	
BURN RATE (LBS/HR)	4500
ENROUTE FUEL REQUIRED	5500
RESERVE AT DESTINATION	
FUEL AT OFFSTA	

POINT OF SAFE RETURN	
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 WET
MCH (READING)	
- MTH (SEXTANT)	
CE	
- VAR	
DEV	

CEX - ERB METHOD	
COMPASS TYPE	INS1 INS2 WET
MERB (DIAL 000)	
+ ZN	
= MTH	
MCH (READING)	
CE	
- VAR	
= DEV	



WIND FACTOR		
WINDSPEED	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

TRUE AIRSPEED CROSS-CHECK					
PRESS ALT	200	250	300	350	
10,000	1.0	1.0	.99	.99	
20,000	.99	.98	.97	.97	
30,000	.97	.96	.95	.94	
40,000	.96	.94	.92	.90	

TRUE AIRSPEED CROSS-CHECK							
TIME	IAS	PRESS ALT	"F" FACTOR	EAS	OAT	TAS	ITAS

DISTANCE REMAINING

ETP = .5(TOTAL DISTANCE x OUTBOUND WIND FACTOR)

1458
 DND FORM 55-49
 (2-95)

SK-10X

SCHEDULED / ACTUAL TAKEOFF Z DATE OF TAKEOFF

FLIGHT DIRECTOR

AIRCRAFT COMMANDER

NAVIGATOR

MISSION PREFLIGHT LOG

DESTINATION

15072005 0512510 250704
 S. GARDNER W. TEBERT S. SARGARD

WP	LAT / LON	RTE	MH	VAR +E-->	TH	DR +R-->	TRK	GS	WD	WS	ALT	TAS	LEG / TOT DIST	LEG / TOT TIME	PROP ETA	ETA	ATA	REMARKS	INS PERFORMANCE	
																			INS 1	INS 2
1	7.15-51.7														1507	1510			1330	1330
2	8.03-28.9	D	111	5W	111		111	092	7	N	1000	092	22	104	1507	1510				
3	7.25-22.7		111	W	111		111						35	115	1511	1511				
4	7.55-18.3		087	W	082		280						11	115	1511	1511				
5	7.55-18.3		087	W	121		221	042	0	Y	0008	042	12	115	1511	1511				
6	7.55-18.3		087	W	025		025	082	7	N	0008	082	12	115	1511	1511				
7	7.55-18.3		087	W	025		292						15	115	1511	1511				
8	7.55-18.3		087	W	025		282						15	115	1511	1511				
9	7.55-18.3		087	W	025		282						15	115	1511	1511				
10	7.55-18.3		087	W	025		282						15	115	1511	1511				
11	7.55-18.3		087	W	025		282						15	115	1511	1511				
12	7.55-18.3		087	W	025		282						15	115	1511	1511				
13	7.55-18.3		087	W	025		282						15	115	1511	1511				
14	7.55-18.3		087	W	025		282						15	115	1511	1511				
15	7.55-18.3		087	W	025		282						15	115	1511	1511				
16	7.55-18.3		087	W	025		282						15	115	1511	1511				
17	7.55-18.3		087	W	025		282						15	115	1511	1511				
18	7.55-18.3		087	W	025		282						15	115	1511	1511				
19	7.55-18.3		087	W	025		282						15	115	1511	1511				
20	7.55-18.3		087	W	025		282						15	115	1511	1511				
21	7.55-18.3		087	W	025		282						15	115	1511	1511				
22	7.55-18.3		087	W	025		282						15	115	1511	1511				
23	7.55-18.3		087	W	025		282						15	115	1511	1511				
24	7.55-18.3		087	W	025		282						15	115	1511	1511				
25	7.55-18.3		087	W	025		282						15	115	1511	1511				
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27	7.55-18.3		087	W	025		282						15	115	1511	1511				
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29	7.55-18.3		087	W	025		282						15	115	1511	1511				
30	7.55-18.3		087	W	025		282						15	115	1511	1511				
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38	7.55-18.3		087	W	025		282						15	115	1511	1511				
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43	7.55-18.3		087	W	025		282						15	115	1511	1511				
44	7.55-18.3		087	W	025		282						15	115	1511	1511				
45	7.55-18.3		087	W	025		282						15	115	1511	1511				
46	7.55-18.3		087	W	025		282						15	115	1511	1511				
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50	7.55-18.3		087	W	025		282						15	115	1511	1511				
51	7.55-18.3		087	W	025		282						15	115	1511	1511				
52	7.55-18.3		087	W	025		282						15	115	1511	1511				
53	7.55-18.3		087	W	025		282						15	115	1511	1511				
54	7.55-18.3		087	W	025		282						15	115	1511	1511				
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56	7.55-18.3		087	W	025		282						15	115	1511	1511				
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72	7.55-18.3		087	W	025		282						15	115	1511	1511				
73	7.55-18.3		087	W	025		282						15	115	1511	1511				
74	7.55-18.3		087	W	025		282						15	115	1511	1511				
75	7.55-18.3		087	W	025		282													