

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

Flt ID: 040901I	From: TBPB	To: TBPB
Flt. No: 0455	Blk In: 2306Z	Time On: 2303Z
ETD: 1400Z	Blk Out: 1402Z	Time Off: 1413Z
ETE: 9+00	Blk Time: 9+04 9.1 Hrs	Flt Time: 8+50 8.8 Hrs
Sponsoring Org: NOAA/HRD	Program: Hurr. 2004	Purpose: H. FRANCES

**AOC Flight Crew**

Aircraft Commander: TE BEEST, R	Data System: Lynch, T ✓
Co-Pilot: CHOY, B   STRONG, T	AVAPS: SMITH, J ✓
Navigator: GALLAGHER, T   ADLER, J ✓	System Eng: TONG, R ✓
Flight Eng: FLOYD, D ✓   BAST, G	A A:
Flight Director: SHEPHERD, T ✓	A A:
Avionics: SANS SOUCI, D ✓	Crew Chief:

**Participating Scientists / Visitors**

Name (Last, First)	Activity on Aircraft	Affiliation
ROGERS, R ✓	PI	HRD
ULHORN, E ✓	SFMR	
DODGE, P ✓	RADAR/ASPEN	
LASWELL, J ✓	Sci	SCRIPPS
WALSH, E ✓	↓	NASA
LITCHENDORE, T ✓	↓	✓ APL
FRENCH, J ✓	↓	NOAA

Remarks (Storm Name, Mission ID, Recco Times, Fix Times)	Recco Times	Fix #	Fix Time
Storm Name: <u>FRANCES</u>	1805		
	1849		
Mission ID: <u>NOAA3 WX06A FRANCES</u>	1907		
Penetration number and time	2028		
1-1707	2101		
2-1829	2152		
3-1952			

(See reverse for additional remarks)

40 43

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

Flight ID: **040901I**      Time Off: **1413Z**      Time On: **2303Z**

	A/C - Takeoff	Wx Station - Takeoff	A/C - Land	Wx Station - Land
Pressure	<b>1008.6 mb</b>	<b>1014.5 mb</b>	<b>1006.4 mb</b>	<b>1013.1 mb</b>

ATIS	Time	Observation
Takeoff	<b>Z</b>	
Land	<b>Z</b>	

	Number	Data Disposition / Date / Quality
Flight Level Tapes	<b>4</b>	
Radar Tapes	<b>1</b>	
Cloud Physics Tapes / CDs		
Video Tapes	<b>4</b>	
Dropsondes	<b>36</b>	Good:      Bad:
AXBT	<b>5</b>	
AXCP		
AXCTD		

**Remarks:** **813-368-9726**      **TEAL 15**      **77.6**  
**TBPA 1304 5929**  
**IP 2030 6840**  
**EYE 2200 7036 18Z**      **959 mb**  
**EYE 2110 7020 17Z**  
 - TT3 installed  
 - J-W "flakey" @ T.O.  
 - 1430 shut JW ↓ + pulling to window  
 - 1454 JW ↑  
 \*\* ASDL NOT WORKING @ beginning of flight  
 - SHUT DATA SYS DOWN - RESTART 1538  
 - 1611 SHUT DOWN main data - switch CPU  
 - ~1740 switch to QUADRANT going to ASDL





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

**Flight ID: I040901**

Sensor or system

Number or Name

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: 1413Z

Land: 2303Z

The RA-232 was substituted for the RA-159 during take off and landing due to spiking (T.O. 141001-141641; 230223-230600 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 (143255-163045 +10m offset; 205018-224435 +7m offset).

There were data gaps noted: 144930-144946; 152120-152136; 153319-153910; 161149-161719; 170131-170139; 180530-180543; 182235-182310; 191019-191030; 200116-200130; 200700-200710; 204719-204730.

Dew pointer #2 was replaced by dew pointer #1 due to spiking in DP#2 (170140-170627; 225536-225931).

The Johnson-Williams liquid water sensor was inoperative after ~1838Z.

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.

	<b>Take off</b>	<b>Land</b>
Aircraft Static Pressure	1008.6 mb	1006.4 mb
Corrected Tower Pressure	1014.5 mb	1013.1 mb

Flight Director: Tom Shepherd  
813-828-3310 x3053



Mission Frances - CBLAST Fit ID 040901I

SED Crew Lynch, Sans Saei, Smith, Tong

Pre-Flight 12:20 Take-Off 14:12 Landing 23:03

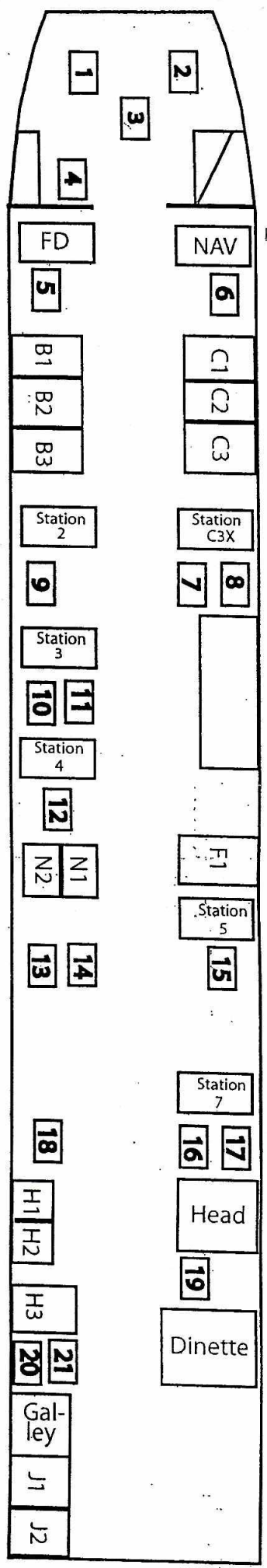
System		Pre-Flight		In-Flight			Post-Flight			
NAV	GPS	FM: 1		Y			LAT	LONG	GS	RE
	INE #1	Time On: 12:20 Aligned to:		Y			-5.4	13.7	2	7
	INE #2	Time On: 12:20 Aligned to:		Y			+5.3	-1.0	5	5
	Diff GPS			Y						
RADAR	MARS Data	Start	Stop	Ready?	HRD?		# DATs ? / Given To:			
	MARS	14:22	21:21	Y	Y/N		P. Dodge			
	MARS Data / Tape Status				LFRec	TARec	EOF's			
	MARS LU8	clean		Y	2771	51018	61			
PMS	MARS LU9	clean		Y						
	RADAR R/T/SN	Tail 202 / 102 LF 107		Y		Mod Switches	ON			
	Nose			Y		Mod Switches	OFF			
	FSSP Ref VDC:	Covers	OFF	Y		Power	OFF			
TEMP	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			Y / N			
PRESES		Cal High	Cal Low				Cal High	Cal Low		
	Temp #1	130.5	-30.5	Y			30.7	-30.2		
	Temp #2			Y			Power	OFF		
	Temp #3			Y			Power	OFF		
FLTLVL	Dewpoint	#1 #2 #3 (TDL)		Y			Power	OFF		
	Attack / Slip Angle	AP BP CP DP		Y			Power	OFF		
	Differential	P01 P02 P03 P04		Y			Power	OFF		
	Absolute	P51 P52 CBPS		Y			Power	OFF		
RAMS	Apn-159 SN:	66-024					Power	OFF		
	Apn-232 SN:	1761		Y			Power	OFF		
	Liquid Water	J&W	KX	Y		28V WOW: ON?	Power	OFF		
	Radiometer	CO2 SS		Y		28V WOW: ON?	Power	OFF		
MISC	RAMS Data	Start	Stop	Ready?	Errors-8:	Errors-9:	# DATs ?	Given To:		
	CPU: (A) B	13:54	23:06	Y	6	17	6	TOMS		
	RAMS Data / Tape Status				Slow Rec	Fast Rec	Disk Records: 2459			
	RAMS LU8	clean		Y	2159	24565	AVAPS 1049			
USER	RAMS LU9	clean		Y	2759	24565	AVAPS 1049			
	Flight Director Laptop			Y			Power	OFF		
	Network			Y						
	ASDL Mission #:	6X06A Name: France		Y	Freq: 30	Block: 10	Power	OFF		
AVAPS	C.I. Printer	Start	Stop	Ready?	Paper Bin Stores		Given To: HRP			
	PRATE: PD	13:58	23:06	Y	0%	25%	50%	75%	100%	
	Exterior Walk Around	Plugs	Covers	Y			Plugs	Covers		
	SATCOM	W/S Inmarsat GlobalStar		Y			Power	OFF		
SC	AXBT Internal	# Loaded: 5		Y			# Launched:	5		
	AXBT External	# Loaded:		Y		28V WOW	# Launched:			
	AVAPS	67 # On Board:		Y			# Dropped:	36		
	Video Cameras	Start	Stop	Ready?	Cameras	Mode	# Tapes ?	Given To:		
VHS VHS	13:57	23:08	Y	N/D/B/D	2 / 12	Lens Cap ?:				
FCU	-B-C-D-		Y			UPS	OFF			
USER	SFMR	(HRD) (AOC)		Y			Accelerometers			
	NASA SRA			Y			#1 (2 G):	8202		
	ARL BAT Probe, SST & ICA			Y			#2 (2.5 G):	6687		
	UW PDA			Y			#3 (3 G):	5767		
USER	Scripps MASS, Laser Alt, IR Cam & Sono			Y			#4 (3.5 G):	2872		
	RSMAS Licor			Y						





# NOAA AIRCRAFT OPERATIONS CENTER

FlightID D40831 I



1. TEBEST, R  
PILOT
2. STRONG, T  
COPILOT
3. BAST, G  
FLIGHT ENGINEER
4. CHRY, B  
STATION 1
5. SHEPHERD, T  
FLIGHT DIRECTOR
6. GALLAGHER, T  
NAVIGATOR
7. FRENCH, J  
STATION C3X
8. LITCHENDORE, T  
STATION C3X
9. WILKINSON, E  
STATION 2
10. ROGERS, R  
STATION 3
11. DOBBS, P  
STATION 3
12. LYNCH, T  
STATION 4
13. FLOYD, D  
PROJECT SEAT
14. TONG, R  
PROJECT SEAT
15. SMITH, J  
STATION 5
16. LAWWELL, J  
STATION 7
17. WALSH, E  
STATION 7
18. SANS SOUCI, D  
STATION 8
19. ADAMS, J  
DINETTE
20. \_\_\_\_\_  
GALLEY
21. \_\_\_\_\_  
GALLEY

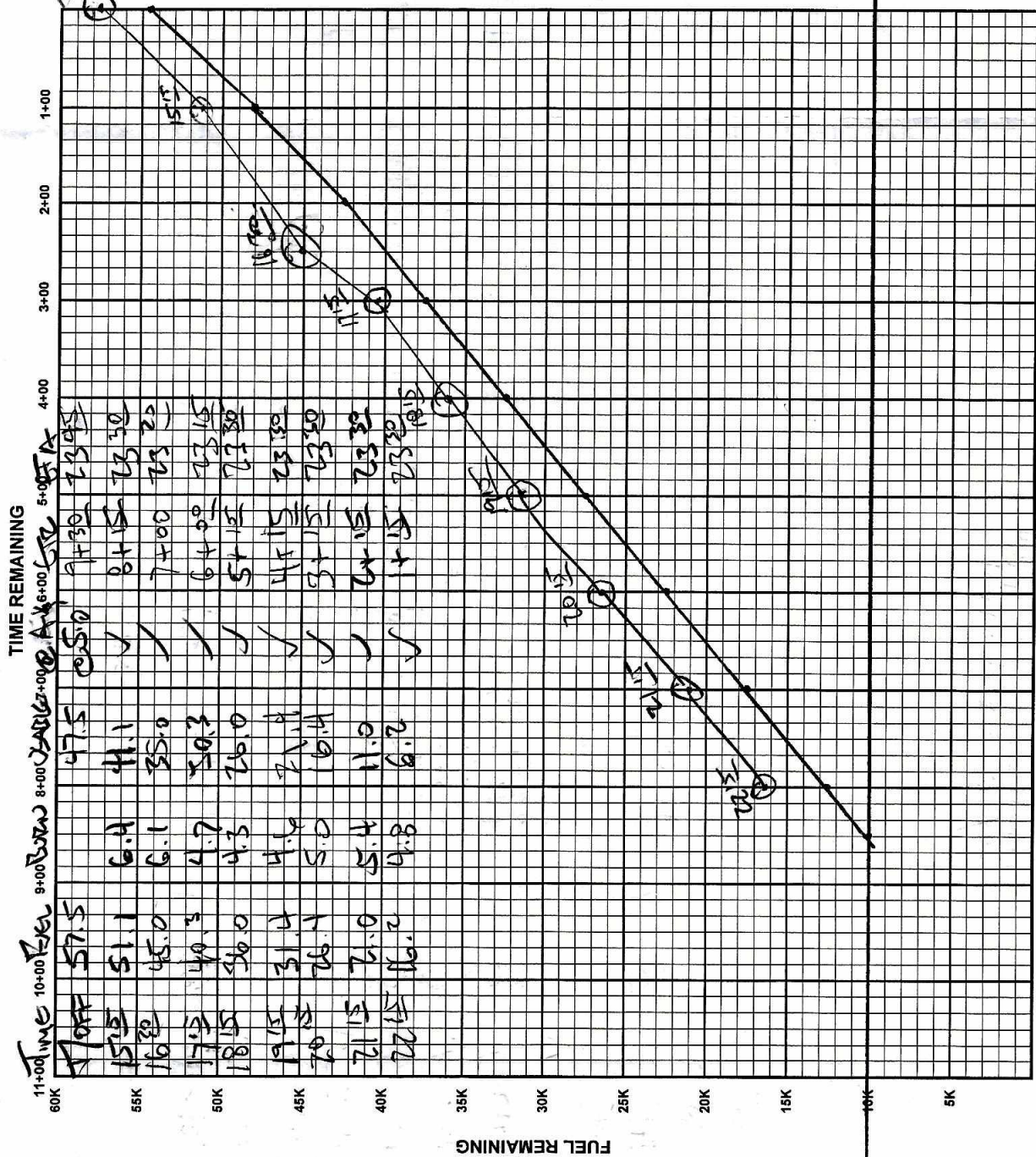


1834 2159 70 108

2349  
13527

12

RANGE CONTROL GRAPH

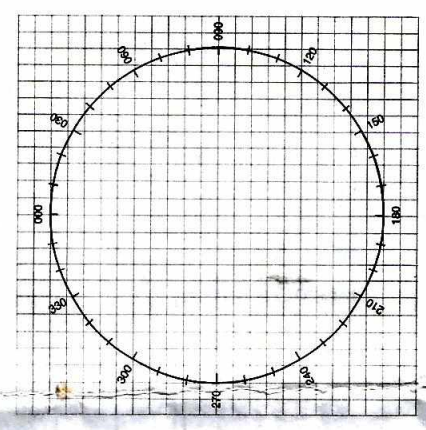


ENROUTE FUEL	
ENROUTE TIME	8+30
ENROUTE FUEL (6K 5K/4.5K RULE)	44.5
RESERVE AT DESTINATION	10.0
REQUIRED RAMP	54.5
ACTUAL RAMP FUEL	57.5

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	5500
RESERVE AT DEPARTURE	
PSR FUEL	

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



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

PRESS ALT		TIME		IAS		PRESS ALT		"F" FACTOR	
10,000	1.0	200	1.0	.99	.99	300	.99	.99	.99
20,000	.99	250	.98	.97	.97	350	.97	.97	.97
30,000	.97	300	.96	.95	.95	400	.95	.95	.95
40,000	.96	350	.94	.92	.92	450	.92	.92	.92

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

DISTANCE REMAINING

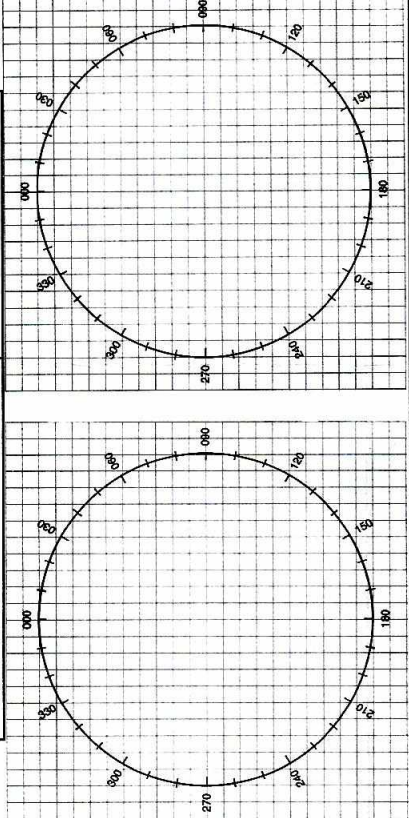
ETP = .5(TOTAL DISTANCE x OUTBOUND WIND FACTOR)



14.5  
14.4  
72

CLEARANCES	
FREQ	ALT HDG
	OTHER
	SG1 ASS5 COY PRE4 TOMA
	ASS5 TDR G4B JTAGS E507
	Compt #1160
	SARAC USE 7 WIND 15564
	COY ASS5 B61 .1BFB

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:  
 UHF/VOICE VHF/VOICE MF/VOICE HF/ICW MF/ICW  
 243.0 121.5 2182 KHZ 8364 KHZ 500 KHZ  
 MAYDAY, MAYDAY, MAYDAY  
 THIS IS 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	K ERR	INS 2 POSITION	K ERR	VAR +E=>	TH	DR +R=>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS		
13	XU	13-05.0 059-27.5	13-05.0 059-27.5	+1.1	13-05.0 059-27.5	+1.1	15W	281	11	280	236	050	5	7160	225	BASS	73	18	1431	105# 184		
15	A	17-12.2 067-04.3	17-13.0 067-04.7	+1.8	17-12.2 067-04.7	+1.8	15W	312	11	311	294	170	15	7160	225	CONA	73	15	1620			
16	A	20-42.2 068-37.5	20-42.2 068-37.3	+1.5	20-42.2 068-37.3	+1.5	17W	191	17	308	257	200	72	8000	246	CX	90	17	1700			
17	A	21-15.9 070-04.5	21-15.9 070-08.9	+3.3	21-15.9 070-08.9	+3.3	12W	184	22	187	266	355	35	1500	230	#2						
18	A	21-35.3 070-56.8	21-36.4 070-57.5	+1.1	21-36.4 070-57.8	+1.1	12W	040	24	065	232	335	93	8000	242							
19	A	22-51.1 070-07.2	22-51.1 070-05.9	+3.9	22-51.1 070-06.2	+3.9	12W	199	14	185	254	075	61	1500	231							
20	A	20-44.8 070-47.6	20-44.8 070-45.5	+4.2	20-43.4 070-47.0	+4.2	11W	194	15	181	230	258	61	8000	245							
21	A	18-14.9 066-20.6	18-14.9 066-19.9	+4.1	18-11.1 066-22.8	+4.1	13W	173	7	171	318	180	15	4000	323	1001	205	+50	2205			
22	A	15-12.2 061-43.6	15-10.3 061-42.5	+4.0	15-05.9 061-46.3	+4.0	14W	131	11	132	322	087	5	1210	222	FOF	58	+18	2232			
23	A	13-04.6 059-29.4	13-11.0 059-25.7	+5.4	12-59.3 059-30.4	+5.4															FOF: 0+50=8.8	
23	A																					BLU 9+04=9.1

7741

1851  
512  
512







511

TRAVEL 15 1700 60 874 551 40 7474 35.7 POS 0 KLS

NOAA FORM 56-49 (2-95)

MISSION PREFLIGHT LOG				NAVIGATOR				FLIGHT DIRECTOR				SCHEDULED / ACTUAL TAKEOFF Z DATE OF TAKEOFF							
WP	W/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	
TRAVEL	13-04.5																		
TRAVEL	059-29.6																		
TRAVEL	14-02.8																		
TRAVEL	060-28.0																		
TRAVEL	14-35.4																		
TRAVEL	061-01.4																		
TRAVEL	17-41.1																		
TRAVEL	064-42.0																		
TRAVEL	17-50.9																		
TRAVEL	065-53.2																		
TRAVEL	18-28.1																		
TRAVEL	066-24.7																		
TRAVEL	19-41.1																		
TRAVEL	067-17.6																		
TRAVEL	20-14.2																		
TRAVEL	067-51.9																		
TRAVEL	21-10																		
TRAVEL	070-20																		
TRAVEL	18-22.9																		
TRAVEL	067-06.5																		
TRAVEL	17-58.8																		
TRAVEL	065-53.2																		
TRAVEL	17-44.1																		
TRAVEL	064-42.0																		
TRAVEL	16-18.1																		
TRAVEL	063-00.0																		
TRAVEL	15-08.1																		
TRAVEL	061-38.8																		
TRAVEL	14-35.4																		
TRAVEL	061-01.4																		
TRAVEL	14-02.8																		
TRAVEL	060-28.0																		
TRAVEL	13-04.5																		
TRAVEL	059-29.6																		

INS PERFORMANCE	
INS 1	INS 2
BEGIN ALIGN TIME	12 11 12 11
ALIGN STATUS (0-5)	0
END NAV TIME	23 20 23 20
START NAV TIME	13 53 13 53
DELTA T	12 16 12 16

TERMINAL ERRORS	
INS 1	INS 2
DELTA LAT	-5.4 +5.3
DELTA LON	+3.7 -1.0
RGS	2 5
RADIAL ERROR	7 5

REMARKS	