NOAA P-3 N43RF
CBLAST- CALIBRATION FLIGHT
FLIGHT 1

Flight ID: 040628I

Sensor or system	Number or Name
INE	2
Accelerometer	2
Temperature Probe	1
Dew Point Probe	2 (Edgetech)
Altitude (for vertical wind)	Radar Altimeter 159
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage 1281
Time Source	Micro 99
Constants File	CO3042.CON

Notes:

There was one time/data gap during this flight due to a data system crash between 174611Z-175150Z.

The King Liquid Water Sensor was inoperative during the entire flight.

RA-232 was substituted for RA-159 from 165301Z-165728Z and from 212420Z-212700Z.

Otherwise, All other instruments worked optimally during the flight.

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.

	Takeoff	**Landing**
Aircraft Static Pressure	1021.5 mb	1016.4 mb
Corrected Tower Pressure	1022.6 mb	1020.0 mb

Flight Director: Marty Mayeaux (813) 828-3310 ext. 3086

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

Flt ID: 040628I	From: KMCF	To: KMCF
Flt. No: 04-036	Blk In: 2134 z	Time On: 2124 z
ETD: 1300 z	Blk Out: 1648 z	Time Off: 1656 z
ETE: 5~~4~~+00	Blk Time: 4+46 (4.8) Hrs	Flt Time: 4 + 28 (4.5) Hrs
Sponsoring Org: HRD	Program: CBLAST	Purpose: Instrument Calibration

AOC Flight Crew

Aircraft Commander: ~~Strong~~ Silah	Data System: Lynch, T
Co-Pilot: ~~Silah~~ / Choy	AVAPS: Tong, R
Navigator: Adler / Strong	System Eng:
Flight Eng: Floyd / Klippel	A A:
Flight Director: Mayeaux / Damiano	A A:
Avionics:	Crew Chief:

Participating Scientists / Visitors

Name (Last, First)	Activity on Aircraft	Affiliation
Rogers, R	PI	HRD
Uhlhorn, E	Sci	~~HRD~~ HRD
Gamache, J	Obs	HRD
French, J	Sci	HRD
Lasswell, J	Sci	HRD
Walsh, E	Sci	HRD
Litchendorf, T	Sci	HRD
Friehe, C	OBS	ONR
Hvergo, J	OBS	ONR

Remarks (Storm Name, Mission ID, Recco Times, Fix Times)

Recco Times — Fix # — Fix Time

Storm Name:

Mission ID:

Penetration number and time

Inc 2 Replaced ~~for~~ Prior to mission

Balance Dewpt #1 172200 Radar Down - 174118 -

RA off 172857z

(See reverse for additional remarks)

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

Flight ID: 040628I	Time Off: 1656 Z	Time On: 2124 Z

[redacted]	A/C - Takeoff	Wx Station - Takeoff	A/C - Land	Wx Station - Land
Pressure	1021.5 mb	3020 1022.6 mb	1016.4 mb	3012 ~~1019.9~~ 1020.8 mb

ATIS	Time	Observation
Takeoff	1555 Z	10006KT 7sm FEW035 BKN110 29/24 A3020
Land	1955 Z	02005KT 7sm FEW035 30/21 A3012

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

Remarks:

1455Z 09009KT 27/23 PA-267 P6sm A3020 CIR

1555Z 10006KT 7sm FEW035 BKN110 29/24 A3020 -267PA

Flight ID: 040628I 12345678 Page ___ of ___

U.S. Dept. of Commerce / NOAA / Aircraft Operations Center Form 413-50

Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T_a	T_d	Press. Alt	Geo. Alt	Sfc Press.	Press. Sfc	Dyn. Press	Remarks
165857	2749	8229	34	35	121	4.8	26.1	19.5	281	371	1022.1	981.1	76.9	Takeoff
170100	2753	8230	210	208	135	5	26.3	16.0	286	372	1021.5	981.9	58.7	Start over Runway
170205	2750	8232												End over Runway
175610	2536	8334	271	271	101	11.5	21.7	16.7	845	955	1021.0	916.0	80.2	
183211	2559	8554	330	334	113	13.3	23.5	18.5	630	724	1020.2	939.8	64.9	4 Drop Suite 2400
183746	2617	8605												End 2400 ft leg
184005	2616	8605	150	150	120	9.3	22.9	21.3	630	724	1020.2	939.8	65.0	Begin Return 2400 ft
184608	2559	8553												End Return 2400 ft
185000	2601	8555	336	352	107	11.3	26.1	23.3	262	358	1019.9	979.9	63.0	Begin 1200 ft leg Dro
185515	2617	8605												End 1200 ft leg
185749	2616	8605	150	150	108	9.6	26.2	22.3	273	356	1020.2	980.3	69.0	Begin 1200 ft leg Return
190348	2558	8554												End 1200 ft leg Return
190653	2606	8554	331	334	101	9.7	26.9	24.1	194	267	1020.0	990.1	69.5 (Drop)	Begin 900 ft leg out
191207	2617	8605												End 900 ft leg out
191455	2616	8605	151	150	97	10.6	27.1	22.6	194	265	1020.0	990.2	65.1	Begin 900 ft leg in
192105	2558	8554												End 900 ft leg in
192402	2559	8554	316	319	100	12.9	27.9	23.9	109	174	1019.9	1000.2	65.6	Begin 600 ft leg out
192934	2613	8616												End 600 ft leg out
193234	2614	8609	136	135	107	10.9	28.0	23.2	110	174	1019.7	1000.2	65.6	Begin 600 ft leg in
193854	2559	8553										Drop		End 600 ft leg in
194222	2556	8542	91	94	114	11.1	22.3	17.6	786	885	1019.6	922.2	68.1	Begin Pitch Maneuver
194751	2556	8521												End Pitch maneuvers
194858	2556	8519	80	79	119	11.0	22.6	18.7	809	911	1019.7	919.5	65.3	Begin Yaws
195128														Begin Yaws Again
200057	2554	8429	108	109										End yaw maneuver
200251	2550	8416	108	109	111	7.9	22.5	17.5	815	910	1019.2	919.2	55.2	Begin speed maneuver
201430								170-240	KTS					End speed maneuver
201430	2554	8433	314	318										Start Circle Right
201655														End Circle Right
201710	2555	8435												Start circle left
201930														End circle left
202045	2557	8436	104	106	110	11.5	22.4	17.5	810	909	1019.4	919.4	63.7	Start leg 1 into wind
202325	2554	8430	195	195										Start leg 2
202605	2547	8431	285	285										Start leg 3
202850	2551	8442	015	015										Start leg 4
203050	2557	8441												End leg 4
204153	2634	8413	035	037	103	9.5	15.5	4.0	2027	2186	1019.0	790.8	87.7	Drop

N43RF Hurricane / CBLAST '04 Flight Performance Log

Mission Instr. Test Flight Flt ID 040628I

SED Crew Lynch, Tong

Pre-Flight 14:00 Take-Off 16:56 Landing 21:24

	System			Pre-Flight	In-Flight		Post-Flight			
NAV	GPS	FM: 1		DSS			LAT	LON	GS	RE
	INE #1	Time On: 13507	Aligned to: 0	DSS			-3.5	+1.6	2	4
	INE #2	Time On: 13507	Aligned to: 0	DSS			-3.1	+1.8	2	4
	Diff GPS			TL						
RADAR	MARS Data	Start	Stop	Ready?	HRD?		# DATs ? 2 Given To: J. Grom.			
	MARS	17:17	17:35	TL	Y / N (2)					
	MARS Data / Tape Status 17:53		21:07		LFRec	TARec	EOF's			
	MARS LU8	Clean TL		TL						
	MARS LU9	Clean TL		TL						
	RADAR R/T SN Tail 202 102LF 102			TL	Mod Switches ON		Mod Switches OFF			
	Nose			DSS			Power OFF			
PMS	FSSP Ref VDC:	Covers	OFF	NI			Covers ON			
	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	30.0	-30.5	TL				30.7	-30.2	
	Temp #2			TL				Power OFF		
	Temp #3			NI	(3)			Power OFF		
	Dewpoint #1 #2 #3 (TDL)			TL				Power OFF		
PRES	Attack / Slip Angle AP DAP BP DBP			TL				Power OFF		
	Differential PQ1 PQ2 PQ3 PQ4			TL				Power OFF		
	Absolute PS1 PS2 CRPS			TL				Power OFF		
FLTLVL	Apn-159 SN: SN-1			TL				Power OFF		
	Apn-232 SN: 1699			TL				Power OFF		
	Liquid Water	J&W King			28V WOW: ON ?			Power OFF		
	Radiometer	CO2 SST		TL	28V WOW: ON ?			Power OFF		
RAMS	RAMS Data	Start	Stop	Ready?	Errors 8:	Errors 9:	# DATs ? 4 Given To: MM			
	CPU: A B	16:45	17:46	TL	Ø	Ø	Power OFF			
	RAMS Data / Tape Status 17:52		21:35		Slow Rec	Fast Rec	Disk Records: 1342			
	RAMS LU8	Clean TL		TL						
	RAMS LU9	Clean TL		TL						
	Flight Director Laptop			TL			Power OFF			
	Network			NI						
	ASDL Mission #: 40X40X4	Name: TEST		TL	Freq: 30	Block: 10	Power OFF			
	C.I. Printer	Start	Stop	Ready?	Paper Bin Stores		Given To: MM			
	PRATE: 10	16:45		TL	0% 25% 50% 75% 100%		Power OFF			
MISC	Exterior Walk Around	Plugs	Covers	RT			Plugs Covers			
	SATCOM W/S	Inmarsat	GlobalStar	DSS			Power OFF			
	AXBT Internal	# Loaded:					# Launched:			
	AXBT External	# Loaded: 8		DSS	28V WOW		# Launched: 8			
	AVAPS	# On Board: 4		JAS			# Dropped: 1			
	Video Cameras	Start	Stop	Ready?	Cameras	Mode	# Tapes ? Ø Given To: —			
	VHS SVHS				N L R D	2 / 12	Lens Cap ?:			
	FCU	A B C		Ø			UPS OFF			
USER	SFMR HRD AOC						Accelerometers			
	NASA SRA						#1 (2 G): 8208			
	ARL BAT Probe, SST & IRGA						#2 (2.5 G): 10687			
	UW PDA						#3 (3 G): 5967			
	Scripps MASS, Laser Alt, IR Cam & Sono						#4 (3.5 G): 2892			
	RSMAS Licor			TL						

17:46
17:52

Please Note any Discrepencies

Item #	Zulu Time	Problem Description	Initials	Status
1	PRE	DO NOT USE TCU "A" as unit is PRONE TO GLITCHES	RT	—
2	17:13	MARS LU 8 gives tape write error	TL	OK
3	17:23	Dropout #1 - balance knob is full clockwise + unit still below balance line	TL	OK
4	17:34	Sattcom w/s won't 'establish a connection' Headset shows 9600 connection	TL	OK
5		Ch 12 display locked up - reset - OK	TL	—
6		IALU data burst error - ASCII conversion - Fastx	TL	—
7		DROPSONDE MADE LATE WINDS ≈ 28 sec	RT	OK
8		ABT tube 1B did not have Buoy in tube line - launched OK	RT	OK

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N43RF AXBT DROP LOG

Project : Hurr '03 / CBLAST Mission : C-BLAST TEST 1 Flight ID : 040628i

Operators : R.T

Take Off : 1656 Landing : 2124

Drop #	Drop Time	Channel	Tube	Lot	Comments	Good
1	1832	10	1G	—		✓
2	1832	12	1A	—		✓
3	1832	16	1B	—		✓
4	1850	14	1C	—	20 sec of info	
5	1907	12	4G	—		✓
6	1907	16	1D	—		✓
7	1939	14	1E	—		✓
8	2041	11	1F	—		

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N43RF AVAPS DROP LOG

Project : Hurr '03 / CBLAST Mission : C-BLAST TEST Flight ID : 040628i

Take Off : 1656 Landing : 2124

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Winds Time	Operator	Comments	Good ?
1	034538064	1	-.4	1832	LATE	R.T.		✓
-		2	-.3	"	"	R.T.		✓
		3	-.3	"	"	R.T.		✓
		4	-.3	"	"	R.T.		✓
						R.Y		

SQ 4128

OUT 1648
OFF 1656
ON
IN

NOAA FORM 56-49
(2-95)

MISSION PREFLIGHT LOG

DESTINATION	MISSION	NAVIGATOR	AIRCRAFT COMMANDER	FLIGHT DIRECTOR	SCHEDULED / ACTUAL TAKEOFF Z	DATE OF TAKEOFF
KMCF	CAL-43	STRONG	SLAH	MAYEAUX	1700	28 JUNO4

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
1) SRQ	27-23.9 82-33.3	V579																
2) VUOLA	26-57.1 82-19.9	✓																
3) RSW	26-31.8 81-46.6	✓																
4) MARCH	25-53.5 81-47.0	V225																
6 CLEAR	27-29.6 84-47.0																	
7 BLAND	27-54.9 83-09.3																	
8 MCF																		

INS PERFORMANCE	INS 1	INS 2
BEGIN ALIGN TIME	1350	1350
ALIGN STATUS (0-5)	0	0
END NAV TIME	2235	2235
START NAV TIME	1640	1640
DELTA T	5+55	5+55

TERMINAL ERRORS	INS 1	INS 2
DELTA LAT	-3.5	-3.1
DELTA LON	+1.6	+1.8
RGS	2	2
RADIAL ERROR	4	4

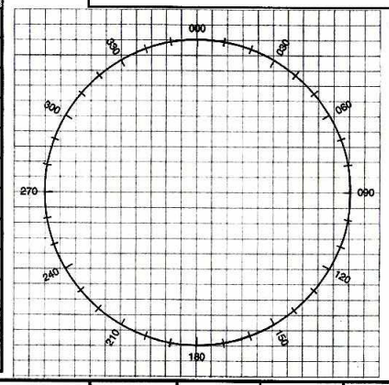
REMARKS

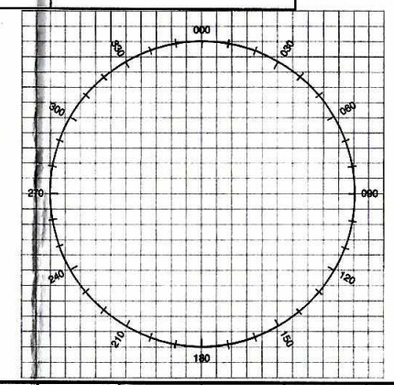
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
AIRCRAFT OPERATIONS CENTER

CLEARANCES			
FREQ	ALT	HDG	OTHER

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:

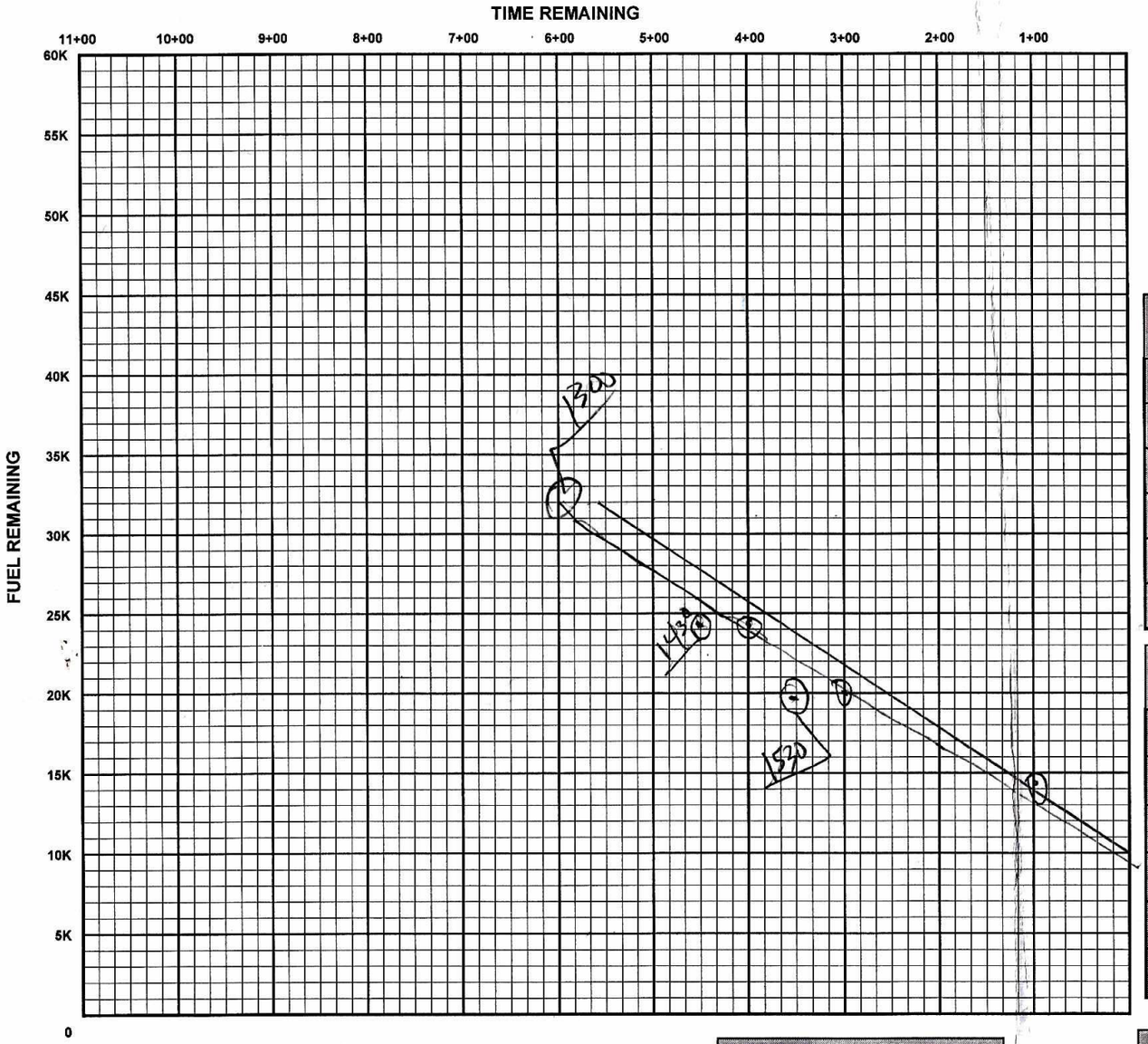
UHF/VOICE	VHF/VOICE	MF/VOICE	HF/CW	MF/CW
243.0	121.5	2182 KHZ	8364 KHZ	500 KHZ

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	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
	V																				
1739	G	25-46.1 82-23.7	25-46.6 82-23.7	-.5 0	25-46.3 82-23.8	-.2 -.1	250	HW	229	VR	230	244	075	8	3K	235	?				[illegible]
1746	G	25-33 82-50					US	3[illegible]	[illegible]	VL	288	243									
1754	G	25-36.9 83-23.2									266	243					IP				
1810	O																				
1810	O	25-40 84-38	25-40 85-38		25-40 84-38		276		273	1L	272	250									
Buoy → 1933	G	25-58.8 85-53.8																			
1930	△G	26-14.7 86-10.0	26-15.9 86-09.8	-1.2 -.2	26-15.1 86-09.3	-.4 -.7															
2002	△G	25-53.6 84-29.9	25-55.4 84-29.3	-1.8 -.6	25-54.3 84-29.2	+.3 +.7	112		110	2L	108	195	130	20							
2038	△G	26-21.0 84-23.4	26-23.2 84-23.0	-2.2 +.4	26-22.4 84-22.5	-1.4 +.9	042		039	3L	036	252	085	9	7D	256	BLAND	108	426	2106	
	V	27-51.0 82-29.6	27-54.6 82-28.0	-3.5 +1.6	27-54.1 82-27.8	-3.1 +1.8															

RANGE CONTROL GRAPH



DISTANCE REMAINING

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

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

ENROUTE FUEL	
ENROUTE TIME	5+30
ENROUTE FUEL (6K, 5K,4.5K RULE)	
RESERVE AT DESTINATION	
REQUIRED RAMP	
ACTUAL RAMP FUEL	

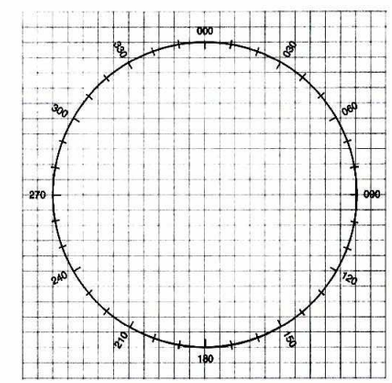
TACTICAL (OFFSTA TO DESTINATION)	4 ENG	3 ENG
DISTANCE (OFFSTA TO DEST)		
ENROUTE TIME (OFFSTA TO DEST)		
BURN RATE (LBS/HR)	4500	5500
ENROUTE FUEL REQUIRED		
RESERVE AT DESTINATION		
FUEL AT OFFSTA		

POINT OF SAFE RETURN	4 ENG	3 ENG
ETP DISTANCE (TO DEPARTURE)		
ENROUTE TIME (TO DEPARTURE)		
BURN RATE (LBS/HR)	4500	5500
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			

CEX SIGHT	
GMT	
GHA	
CORR	
GHA	
LONG +W -E	
EXACT LHA	
LAT	
BODY	
DEC	
HC / D	
CORR	
HC	
Z	
ZN	



"F" FACTOR				
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
1705	221	4900			+26c	242	237