

19810907H1-LPS

Form E-1
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On-board Lead Project Scientist Checklist

DATE 9/7/81

AIRCRAFT 42RF

FLT 810907H1

A. Participants

RAINBAND EXP

Function	Participant	Function	Participant
Lead Proj. Sci.	<u>JORGENSEN</u>	Gust Probe	<u>—</u>
Cloud Physics	<u>B. BLACK</u>	Omegasonde	<u>—</u>
AXBT	<u>—</u>	Sys Eng	<u>Barles</u>
Hot Film	<u>—</u>	Data Tech	<u>—</u>
Radar	<u>MARKS/LORD</u>	EI Tech	<u>CONNORS</u>
Flt Dir/Met	<u>DAVIS</u>	Other Pilot	<u>Adams/War</u> <u>Wentley - unable</u>
Take Off	<u>MIA</u>	Location	<u>1003Z</u>
Landing	<u>—</u>	Location	<u>—</u>

B. Past and Forecast Storm Position

Date	Time	Latitude	Longitude	MSLP
<u>06</u>	<u>2219</u>	<u>26° 15'</u>	<u>69° 11'</u>	<u>979</u>
<u>07</u>	<u>0500</u>	<u>27° 23'</u>	<u>69° 04'</u>	<u>979</u>
<u>07</u>	<u>12Z</u>	<u>28.2</u>	<u>68.9</u>	<u>85 km max wind</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

C. Mission Briefing

Rainband Experiment. 43 has 12Z fix and 18Z
fix (probably early). ~2 hr en-route time 6 hr in storm

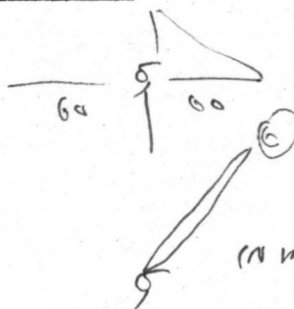
D. Equipment Status

<u>Equipment</u>	<u>Pre Flt</u>	<u>In Flt</u>	<u>Post Flt</u>	<u>Reports Collected</u>
Aircraft	ok	ok		
Radar	ok	ok		
Cloud Physics	ok	ok		
Data Sys	ok	ok		
Omegasondes	—	—		
AXBT	—	—		
Gust Probe	—	—		
Hot Film	—	—		
Photography	ok	ok		

REMARKS Doppler tape drive still acting up - Will
do no Doppler pattern. Cruise altitude to storm - 545m6
Knollenberg probes had problems - precip probe out most of
sight, No FSSP either

E. Proposed and Actual Flight Patterns

Fig 4 for start



Pilot scope problems (4Z →)

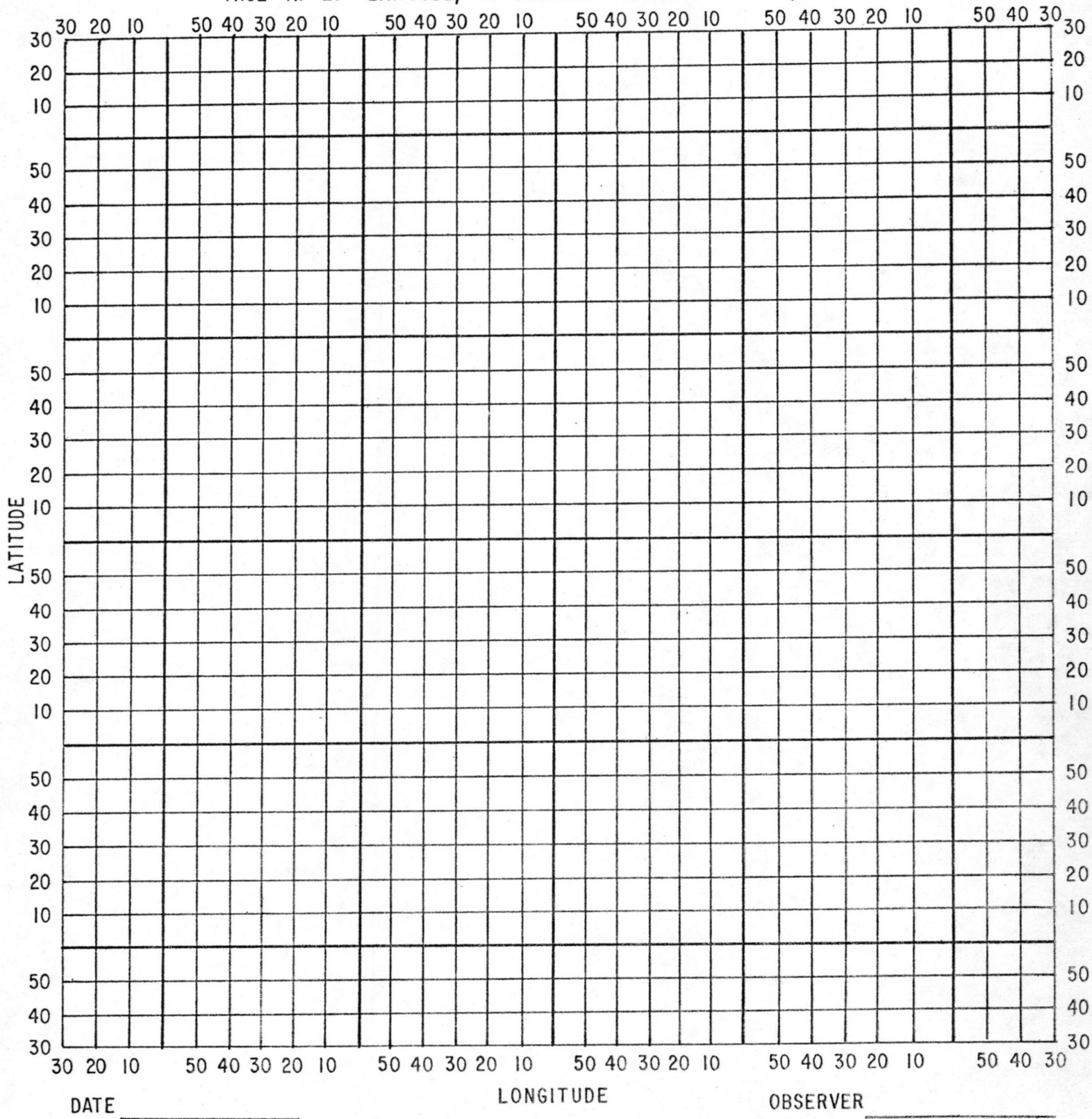
Coasting 1508Z → to fix nose radar problems
scope fixed 1540Z

<u>Eye fixes</u>		
1220 Z	28° 33'	68° 33'
1324 Z	28° 39'	68° 30'
1401 Z	28° 45'	68° 26'
1710 Z	29° 11'	68° 09'

20 stair steps in sting band due North of center ~60 nm
Eye closed off just prior to leaving

HURRICANE RECCO PLOTTING CHART

TRUE AT 25° LATITUDE, IN DEGREES AND MINUTES OF ϕ AND λ



NOTE: Label full degrees according to location of flight area

NHEML RADAR TAPE LOG

FLIGHT 810907H1 AIRCRAFT 42 RF

OPERATOR *Marks/LORD* SHEET 1 OF

TAPE #	TIME ON	TIME OFF	SOURCE RADARS			REWOUND?		COMMENTS
			NO	TA	LF	YES	NO	
DIT1	115515	125600	X		X		X	RA. 5000'
D2T1	120200	130218		X			X	
VCR1	115350 @1748	152140	X	X	X		X	eye about 150 km east navigator has bf.
DIT2	130057	174810	X		X		X	
D2T2	130545	1426		X			X	
DIT3	135121	145232	X		X		X	
D2T3	143135	152340		X		X	X	rewound tape.
DIT4	150137	160330	X		X		X	
D2T4	154312	1641?		X			X	Start of 2nd stair step
VCR2	153400 @0000	174820 @1247	160940 playback, hit what will end of run. 161400 X have to reload radar program at 1535-1545					
DIT5	161400	171403	X		X		X	lost run at 1000'
D2T5	164444	1750		X		X		rewound
DIT6	172316	1750				X		rewound.

FLIGHT LOG

Date: 9/07/81

Flight Identification: 810907H

Aircraft: RFC 42

Departed: 0950Z

Arrived: 1949Z

Purpose: HURRICAN RAINBAND EXPERIMENT

Pattern: AT SK 1-2-3-4-5-2-4-
4 PENETRATIONS

TAPE LOG

<u>TAPE TYPE</u>	<u>NUMBER</u>	<u>FROM [DAY/TIME (Z)]</u>	<u>TO [DAY/TIME (Z)]</u>
RFC Standard	1	1005	1949
Original	2	1005	1949
Knollenberg	16	1214	1720
OTHER			
VTR	2	1153	1750
RADAR	11	1155	1750

EQUIPMENT STATUS:

<u>SYSTEM</u>		<u>STATUS / UP</u>	<u>DOWN</u>	<u>NOT USED</u>	<u>REMARKS</u>
NAV	INE 1	X			
	INE 2	X			
	ONE				
	DOPL				
RADAR	NOSE	X			
	LF	X			
	TAIL	X			
	DATA SYSTEM	X			
RAMS	DATA SYSTEM	X			
	TOTAL TEMP. 1	X			
	TOTAL TEMP. 2	X			
	DEWPOINT	X			
	ATTACK ANGLE	X			
	SLIP ANGLE	X			
	ABS. PRESS.	X			
	DIFF. PRESS.	X			
	RADAR ALT.	X			
	J & W	X			
PMS	OAP 2DP	X			PROBLEMS
	OAP 2DC	X			
	FSSP 100			X	
	DATA SYSTEM	X			
IPC					
FOIL				X	
CO ₂ RADIOMETER		X			
MICROWAVE RADIOMETER		X			
SFC. RADIOMETER		X			
FORMWAR				X	
PHOTOGRAPHY	FWD	X			
	LS	X			
	RS	X			
	DWN	X			
	RADAR	X			
AXB	TUBES			X	
	RECEIVERS			X	
ODW				X	
SEEDER				X	

DATE 9/7/81

FLIGHT 810907H1

LPS JORGENSEN

Floyd

Lead Project Scientist Event Log

EVENT	TIME*	POSITION	COMMENTS**
turn to 090 Desend to 1.5 km	114300	28.15 72.23	Initial descent to I.P E-W leg start 115112
* EYE CWTB	122000	28°33' 68°33'	Circle once in eye 100 m to W side 85 knots E side
At pt 3	125100	28.55 67.37	turn to 312°
At pt 4	131015	29.65 68.51	turn to 180° (left turn)
* At Eye Ctr	132400	28°39' 68°30'	MSLP 9.74 mb TRK 180
At pt 5	134139	27.55 68.52	turn 90-270 frk 600 1.5 km
* Eye cwtb	140110	28°45' 68°26'	MSLP 9.76
Desend	140914	29.32 68.49	Going to 1000 ft
At 1000	141350	29.55 68.50	IN Band
At pt 1	141600	29.69 68.50	Desend to 500 ft
at 500 ft	141840	29.61 68.41	TRK 180 through band
turn	142211	29.36 68.42	TRK 180
TRK 000	142349	29.39 68.41	TRK 315 to 000
End Run	142925	29.68 68.42	Turning 180/climb to 2 kft
At 2 kft	143240	29.76 68.39	TRK 180°
turn 180	143737	29.41 68.40	
TRK 330°	144000	29.45 68.37	TRK 000
End leg 1	144450	29.73 68.40	Climbing to 5 kft turn 180
TRK 180	144715	29.69 68.35	TRK 180°
turn	145143	29.36 68.38	

*Log times of all significant altitude changes, turns, and eye fixes

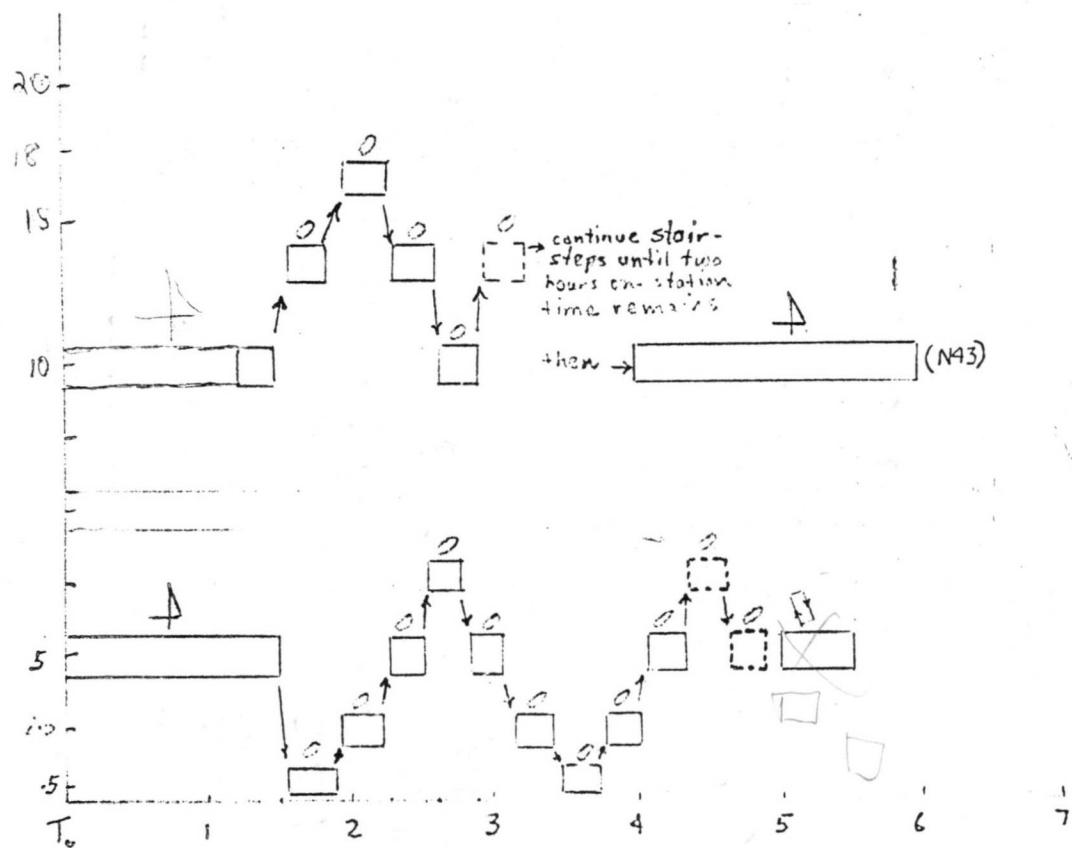
**New altitude, heading, center position, etc.

<u>Event</u>	<u>Time</u>	<u>Position</u>	<u>Comments</u>
TRK 000	145400	29.4 68.33	TRK 000 SKT
End leg	150000	29.78 68.34	Trk 000
Climb to 8kft	150202	29.9 68.34	Turning 180°
at 8kft	150432	29.83 68.30	TRK 202°
turning 180°	151033	29.38 68.35	
TRK 3540	151240	29.43 68.29	at 8kft
End leg	151807	29.79 68.31	at 8kft

Continuing to fix Nose radar problem

start leg	153944	29.99 68.25	TRK 179
End leg	154443	29.64 68.25	turning 180° at 8kft
start leg	154617	29.65 68.19	TRK 323°
End leg	155050	29.94 68.26	Descent turn 180°
start leg	155345	29.26 68.22	SKT TRK 180
End leg	155833	29.52 68.23	turning 180°
start leg	160050	29.51 68.13	TRK 348 SKT
End leg	160630	29.91 68.17	Descent to 2kft Turn 180°
start leg	160900	29.86 68.08	TRK 180°
End leg	161329	29.57 68.13	turning 180°
start	161546	29.63 68.12	2kft TRK 354

<u>EVENT</u>	<u>Time</u>	<u>Position</u>	<u>Comments</u>
End leg	162200	30.02 68.13	Descending to 500 ft
start leg	162430	29.72 68.09	turning 180°
End	162918	29.62 68.1	500 ft TRK 180°
Start Leg	163122	29.66 68.07	turn 180°
End	163600	computer down	500 ft TRK 000
Start leg	164500	29.95 68.1	TRK 180 at 2 kft
End leg	164900	29.7 68.1	turning 180
start leg	165100	29.77 68.1	at 2 kft TRK 359
End leg	165550	30.03 68.11	climb to 5 kft turn 180
start	165830	29.94 68.09	at 5 kft TRK 180°
IN eye	170800		max wind N side 52 m s ⁻¹
Eye Cntr	171000	29°11' 68°09'	
		max wind	wsid ~ 55 m s ⁻¹
Climb out	1731 Z	To M/A	



- Flight Pattern for Outer-Rainband Experiment.