

RADAR PREFLIGHT CHECKLIST

FLIGHT # 19770920 HI. RADAR Day 263

A.C. # N42RF

OPERATOR John Stewart / Barry Fennell
Trainee Jack Thomas

NUMBER OF DIGITAL MAGNETIC TAPES ONBOARD _____.

NUMBER OF VIDEO TAPES ONBOARD _____.

COMPONENT SYSTEMS UP AND CHECKED.

RDSC ✓
COMPUTER ✓
DMTR1 ✓
DMTR2 ✓

VTR ✓
DSC1 ✓
DSC2 ✓
SCOPES ✓

NO ✓
LF ✓
TA ✓

RADAR POSTFLIGHT SUMMARY

NUMBER OF DIGITAL TAPES USED DMTR 1 3
DMTR 2 2

NUMBER OF VIDEO TAPES USED 3.

SIGNIFICANT RECORDER DOWN TIME (other than for tape changes).

DMTR: LF 6 min
NO 6 min
TA 6 min

VTR: LF 0
NO 0
TA 0

OTHER PROBLEMS: (stabilization, interference, etc.)

DIGITAL RADAR LOG

FLIGHT 770920H

A.C. # N42RF

OPERATOR #1 John Stewart

#2 Jack Thomas

RADAR TECH Barry Fennell

RADAR ENG _____

RADAR SYSTEM TIME UP (recording)	<u>3:34</u>	LF
	<u>3:34</u>	NO
	<u>3:34</u>	TA

RADAR SYSTEM TIME DOWN	<u>0</u>	LF
	<u>0</u>	NO
	<u>0</u>	TA

TAPE#	TIME ON	TIME OFF	SOURCE RADARS	REWOUND?
V1	2021	2123	NO LF TA	NO
V2	2125	2227	NO LF TA	NO
V3	2230	2332	NO LF TA	NO
D1-1	2021	2125	NO LF	NO
D1-2	2129	2249	NO LF	NO
D1-3	2253	2355	NO LF	NO
D2-1	2021	2155	TA	NO
D2-2	2158	2332	TA	NO

TAPE#

TIME ON

TIME OFF

SOURCE RADARS

REWOUND?

Yes

RADAR DOWN-TIME LOG

ITEM:	TIME DOWN	TIME UP	PROBLEM
COMP	2027	2030	
COMP	2225	2227	
COMP	2234	2235	

YES

Item List: VTR, DMTR1, DMTR2, COMP, RDSC, LF, NO, TA, DSCA, DSCZ

RADAR OPERATOR PROCEDURE

1. Insure Data system up and running before take-off. Report any malfunctions to lead Project Scientist.

It is the RFC tech's responsibility to power-up and initialize all component parts of the RDS. It is the NHEML operator's responsibility to monitor the system during flight, log any failure, and report malfunction(s) to RFC tech for repair.

It is the NHEML operator's responsibility to insure near continuous recording on the 2 DMTR units, and VTR. This is done by maintaining a schedule of projected tape change times and performing these changes in anticipation of any penetrations/turbulence. (Fast-forward of short amounts of tape on the end of the current reel if necessary.) These duties are normally shared by NHEML operator and RFC tech to ease the load.

2. Note number of DMTR tapes and VTR tapes on boarding. Report to lead Project Scientist any shortage. For maximum endurance mission a minimum of 15 digital tapes and 10 analog tapes are required. For deployment insure at least 45 to 50 digital tapes and 30 VTR tapes have been brought (could be transported by C-130).
3. Note any failure of any component part to lead Project Scientist before take off.

4. Insure the correct switch settings on RDSC. Radar tech will probably set up the RDSC, but check it anyway soon after take-off. AS WELL AS AFTER ANY SYTEM RESTART.

Switch settings should be:

RADAR DATA SYSTEM CONTROL PANEL

SCAN CONVERTER INPUT CONTROLS				VTR CONTROLS				DMTR CONTROLS											
<p style="text-align: center;">SELECTION</p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">RAMS LOCAL X</div>				<p style="text-align: center;">MODE</p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">START STOP</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">RECORD PLAYBACK ←</div>				<div style="display: flex; justify-content: space-between;"> <div style="width: 33%;"> <p style="text-align: center;">DATA SELECTION</p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">RAMS LOCAL X</div> </div> <div style="width: 33%;"> <p style="text-align: center;">FAULT</p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">DMTR1 DMTR2</div> </div> <div style="width: 33%;"> <p style="text-align: center;">MODE</p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">RECORD PLAYBACK ←</div> </div> </div>											
<p style="text-align: center;">MANUAL SELECTION</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; display: inline-block;">NOSE RADAR</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">LF RADAR</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">TAIL RADAR</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">TEST</div> </div>				<p style="text-align: center;">INPUT SELECTION</p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">RAMS LOCAL X</div>				<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;">MANUAL SELECTION</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; display: inline-block;">NOSE RADAR X</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">LF RADAR X</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">TAIL RADAR</div> </div> </div> <div style="width: 50%;"> <p style="text-align: center;">TAPE DRIVE</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; display: inline-block;">START STOP</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">FAST FORWARD</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">REVERSE</div> </div> </div> </div>											
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DVIP CONTROLS															
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<p style="text-align: center;">INTEGRATION TIME (PRI'S)</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; display: inline-block;">7</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">15</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">31</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">63</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">127</div> </div>					<p style="text-align: center;">INTEGRATION TIME (PRI'S)</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; display: inline-block;">7</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">15</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">31</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">63</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">127</div> </div>					<p style="text-align: center;">INTEGRATION TIME (PRI'S)</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; display: inline-block;">7</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">15</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">31</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">63</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">127</div> </div>					

POWER
ON

DE MONITORS

+5

+15

-15

+20

COMMAND
ERROR

FAULT
WARNING

- 4a. To initiate recording on VTR, DMTR1, and DMTR2, push "RECORD" button under the "MODE" label: on the appropriate device, then press "START". If tape runs out, mounting a new reel will cause the system to begin recording again without having to reset this control unit.

5. After take-off, work with RFC tech to insure proper function of RDS:
This is done by recording a little radar data on the DMTR's and VTR,
then play it back through the system. (If storm is close this step
may not be possible.)
6. Activate recording system approximately 200 n.mi from storm center or
sooner if strong echoes or bands of echoes appear.
7. Maintain tape log and a list of times of anticipated tape changes.
8. Schedule tape changes to avoid as little data loss as possible. Do
Not Rewind Tapes.
For DMTRS: Turn power off momentarily, Push "LOAD". This will fast
forward tape off the end of the reel.
For VTR: Push "FAST FORWARD". Push "STOP" on RDSC.
9. Log time of all tape changes and label tapes with appropriately
annotated labels.
10. Maintain log of all data outages due to machine malfunction.
11. Normally NOSE and LF radars are recorded on DMTR 1, and TAIL on DMTR2.
Approximate tape consumption times are: DMTR 1 - 60 minutes, DMTR 2 -
90 minutes. VTR tape consumption time is ~ 62 minutes.
12. Monitor digital radar display as much as possible. This would normally
give you the first indication of system malfunctions (i.e. the screen
stops updating.)

13. On landing, give preflight and postflight checklists as well as radar downtime log to the lead Project Scientist.