

E.5 Doppler Radar Scientist (On-Board)

The on-board Doppler radar scientist (DRS) is responsible for data collection from all radar systems on his/her assigned aircraft. Detailed operational procedures and check lists are contained in the operator's manual supplied to each operator. General supplementary procedures follow. (Check off and initial.)

E.5.1 Preflight

- ☒ 1. Determine the status of equipment and report results to the on-board lead project scientist (LPS).
- ☒ 2. Confirm mission and pattern selection from the on-board LPS.
- ☒ 3. *Eye wall Evolution*
Select the operational mode for radar system(s) after consultation with the on-board LPS.
- ☒ 4. Complete the appropriate preflight calibrations and check lists as specified in the radar operator's manual.

E.5.2 In-Flight

- ☒ 1. Operate the system(s) as specified in the operator's manual and as directed by the on-board LPS or as required for aircraft safety as determined by the AOC flight director or aircraft commander.

E.5.3 Postflight

- ☒ 1. Complete the summary check lists and all other appropriate check lists and forms.
- ☒ 2. Brief the on-board LPS on equipment status and turn in completed forms to the LPS.
- ☒ 3. Hand-carry all radar tapes and arrange delivery as follows:
 - a. Outside of Miami - to the HRD operations center (FGOC).
 - b. In Miami - to MGOC or to AOML/HRD. [Note: all data removed from the aircraft by HRD personnel should be cleared with the AOC flight director.]
- ☒ 4. Debrief at the appropriate operations center (FGOC or MGOC).
- ☒ 5. Determine the status of future missions and notify the appropriate operations center (FGOC or MGOC) as to where you can be contacted.

Out

42671

nr

Doppler Radar Scientist Check List

Flight ID 910907 H1
Aircraft # NOAA 42 rf
Operators Mike Black, Paul Leighton
Radar Tech. Jim Rolles

Number of digital magnetic tapes on board 14

Number of tape labels on board 7

Component systems up and checked:

MARS	<u>✓</u>	Computer	<u>✓</u>
DMTR1	<u>✓</u>	DMTR2	<u>✓</u>
LF	<u>✓</u>	R/T#	<u>SW 102</u>
TA	<u>✓</u>	R/T# <u>42671</u>	<u>42671</u>

Time correction between radar time and digital time _____

Radar Postflight Summary

Number of digital tapes used: DMTR1 5
DMTR2 4

Significant down time: see down time log
DMTR 1 _____ Radar LF _____
DMTR 2 _____ Radar TA _____

Other problems:

SEP 7 1991

Form E-5
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HRD Radar Down-Time Log

Operator Mike Black
Paul LeightonSheet 1 of 1

Item	Time Down (HHMMSS)	Time Up (HHMMSS)	Problem
Radar	162920	163704	Stopped updating
Radar System	1639		Froze in setup menu CPU Failure
	1700		Coming back on after boardswap
			levels missed & P swapping Tail RT to
		171230	Started again. Calibrations?
	184940		Radar taken down by Tim R. for adjustment
		185138	Back on
210000			Data system down
210300			Data system up
2220			Tail/radar not transmitting

Item List: DMTR1, DMTR2, COMP, MARS, LF, TA.

HRD Radar Tape Log

Flight 910907H1 Aircraft 42 Operator M. Black Sheet 1 of
P. Leighton

Tape #	Time On (HHMMSS)	Time Off (HHMMSS)	Comments
D1T1	145748		Start painting Bermuda, practice going from fast to cont. 1550 Decent
D1T1	~	1612	
D2T1	1612	?	162240 switched to fast 162920 Radar down
D1T1	163704	—	cont. tail then down
D1T2	171230	185632	New R/T - a little better
P2T2	175632		181230 Fast on 182130 Fast off
		184100	
D1T3	1841		184840 Fast on
		184930	Radar down for adjustment at 184930
			Back on at 185138 mhu doesn't
		~1923	know when he switched back to cont. ^{over set}
P2T3	~1923		193330 Fast on + 1855 1855 1855
		2015	1951 Fast off 2000 Double eye?
D1T4	2015		Fast on 2016 Fast off 2026 2026
		210305	Fast off at 205430
D2T4	210305		Fast on Fast off at 2104
			Fast on at 213045
	~2150		Fast off 2140
D1T5	2150		Fast on at 2207
			Fast off at 2215
			2220 Tail/radar defunct not aware with
		225130	

28 8
6235

2005

0558 After this we
had no more problems with
R/Ts although TART
seemed fairly insensitive.

* F/AST was run inside
eyewall and on
downwind leg on NE side
of storm.

0546 Radars turned off.

910907H1

RADAR

1300 Z Preparing to depart

Radar Operators: Mike Black
Paul Leighton*

LPS: Frank Marks

Workstation: Joe Griffin

Cloud Physics: No Precip Probes

~~Radar Tech~~

Electronic Eng: Jim Rolles

LF: 2 rpm

TAIL: 10 rpm

EYE WALL EVOLUTION

Delays in fueling caused late
start. Departed ~ 1444

1st tape started at 145748
1st Half hr practicing going from
fast to continuous

* 1st Deployment

1534 Possible eye spotted on Radar
1st leg will be in from the west
tilt set low to paint storm
Plan to fly at ~ 8000 ft

1550 Descending into storm

1555 at IP (loitering)

1558 Going in condition 1

PA 2340

eye appears open to South west radar
1605 now appears closed

160942 eye 27.32, 3 N
62.17 W

960 mb

120 Nm in east wall

type switched in eye

N162920 Radar down
Problem - unknown

turned off then on at 1637

up then down again
CPU. Problem Tim Rolles
switched boards and
switched tail RT
up again at N 171230

Inbound Point 1713

1717 looks good so far
reflectivities still somewhat
lower than expected on tail display

1720 picked up a little of
436 radar sweep with our
antenna interesting affect.

eye 41.5 N 62.24 17:25
62.27.5

1810 I screwed up and went too
fast too early (sounds like my sex life)
Bad.

Eye 18:34:48 27 49.4 N

62 29.8 W

30.4

Eye 19:27 27 55 N

62 33 W

I need to remember to clear the
error message better more often
flat

Eye 20:01

28 8 N

62 35 W

Dodde Eye

20:48 Mike starts playing with
options and going through various menus
He obviously had too many cigarettes
and too much coffee.

Eye

28 5.7 N

2840

20:41:30

62 39.4 W

961 mb

Eye 21:00

28 12.9 N

62 38.8 W

Eye 21:52:30

28 15.5 N

62 43.0 W

Expect to get back to station 1

at 2240 → 2242 let's see!

last

Eye

28 22.3 N

22:29:10

28,21

22:30

62 49.3 W

62,48

960 mb

will ferry to Bermuda at
end of this leg (Position 1)

11 eye penetrations

22:43:00 turn to North

Send Billy Williams
at AOC a RADAR composite

