

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. 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.

Doppler Radar Scientist Check List

Flight ID 930930I1
Aircraft # 43
Operators Dodge
Radar Tech. JACK ROLES

Number of digital magnetic tapes on board at least 14

Number of tape labels on board enough

Component systems up and checked:

MARS	<u>✓</u>	Computer	<u> </u>
DMTR1	<u>✓</u>	DMTR2	<u> </u>
LF	<u>✓</u>	R/T#	<u>124</u>
TA	<u>✓</u>	R/T#	<u>101</u>

Time correction between radar time and digital time

Radar Postflight Summary

Number of digital tapes used: DMTR1
DMTR2

Significant down time:

DMTR 1	<u> </u>	Radar LF	<u> </u>
DMTR 2	<u> </u>	Radar TA	<u> </u>

Other problems:

1751-52 $\frac{1}{2}$ sys locked up - maybe due to msg overflow
2037-2048 Doppler out.
2110 - started recording DBZ only
2120 - Doppler came back, for rest
of flight.

HRD Radar Tape Log

Flight 93093011 Aircraft 43 Operator Dodge Sheet of

[illegible]

HRD Radar Down-Time Log

Operator Dodge

Sheet ____ of ____

Item	Time Down (HHMMSS)	Time Up (HHMMSS)	Problem

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

HRD Radar Down-Time Log

Operator _____

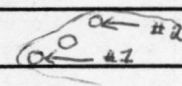
Sheet ____ of ____

Item	Time Down (HHMMSS)	Time Up (HHMMSS)	Problem

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

HRD Radar Tape Log

Flight 930930I Aircraft _____ Operator Alverson Sheet 7 of _____

Tape #	Time On (HHMMSS)	Time Off (HHMMSS)	Comments
<u>1A</u>	<u>17:30:00</u>	<u>18:15:00</u>	<u>Initial setting of levels</u>
			<u>#1: Penetration #1 17:35</u> 
			<u>#2: Penetration #1 17:45</u>
			<u>Penetration #2 17:50</u>
			<u>Penetration #3 17:56</u>
			<u>Penetration #4 17:59</u>
			<u>Penetration #5 18:03 -16</u>
			<u>cut left channel 18:04</u>
			<u>Penetration #6 18:06</u>
			<u>Penetration #7 18:10 right channel cut</u>
			<u>Penetration #8 18:13</u>
<u>1B</u>	<u>18:15:00</u>	<u>19:00:00</u>	<u>Penetration #9 18:16</u>
			<u>#3 Penetration #1 18:19</u>
			<u>Penetration #2 18:25</u>
			<u>Penetration #3 18:33</u>
			<u>#4 Penetration #4 18:39</u>
			<u>#5 Penetration #5 18:49</u>
			<u>#6 Penetration #6 18:56</u>
<u>2A</u>	<u>19:01:00</u>	<u>19:22:00</u>	<u>Penetration #7 19:03</u>
	<u>19:48:00</u>	<u>20:13:00</u>	
<u>2B</u>	<u>20:25:00</u>	<u>20:58:00</u>	<u>#4 Penetration #1 20:30</u>
	<u>20:11:00</u>	<u>21:18:00</u>	<u>Penetration #2 20:35</u>
			<u>Penetration #3 21:14</u>

3A 21:21:00 22:07:00

Penetration #4 21:23
#5 Penetration #1 21:26
Penetration #5 21:29
Penetration 21:35 lightning 21:37
21:53 - 21:58

*decaying
developing*

18:11-18:13

930928I1 Clouds & Climate
Willis, Marks, Dodge, R Black, Kaplan

Nobody wrote a damn thing in this
book during G EMILY! For shame...

1630 we taxing to take off from
OPALOCKA for Cu puncher

1631 Take Off

1704 - We're headed to TAMPA -
engine #4 had problems. ~~वे. गै.?~~

Tail had some problems

but OK after they rebooted
and reset coho. There was a great
cell over FLORIDA BAY too, which
may have captured at the very
beginning of the only tape
we are recording.

1724: Actually have  in
range of tail as we track 198°
~~off~~ just moving off W coast of
FL.

1733: getting some data as we fly
under anvil

1736: Good Cb to the left

173745: ~~smearing~~ tail smearing
again

174015: ODW drop

1808 $\frac{1}{2}$ System backup
1819 LF looks a bit noisy
182243 ODW drop
raised LF threshold to 2.0,
that got rid of some noise

1830 turning to head 90° for
last last 5 minute leg of ODW test
(or is it LDW, or Memorex?)

1833 picking up Cb's on Tail again
183630 Changed FAST TOLF from
 $\pm 20^\circ$ to $\pm 24.5^\circ$ for this last
b5b of recording as we fly ~~by~~
N of line (cold front?) and
head for TAMPA

1845 stopped recording

1850 landed MacDell

930930I1

$\frac{1}{2}$ Marks, Dodge

* Black, Willis

$\frac{1}{2}$ Aberson



N. Bond

(CPM/JTSAO)

1627 - taxing out

1630 take off

1659 - LF a bit noisy

170117 : ODW out

170152 : 2nd soude (LD) out

1702 Ω sounds good

~~1706: turn for~~

TAIL looks GOOD

170834 turn to track 330

LODZ failed but ODW looks good

1736 FAST OFF to ~~0~~ first
cell

173854 " ON

1745 2nd (different Cb)

FAST off

1747 - on

175049 FAST off

1751

Radar sys Locked up
(no data on penetration)

1752 back up. staying in I mode

1755 pass #4 for now.

1802 pass #5

1806 pass #6

180911 #7

(2)

164944

1813 pass 8
1817 switching to CLOUD #3
1825 cloud 3 pass 2
1832 - we MAY BE headed back to
cloud 3, pass 3
1837 pass 4
1848 PASS 5
1851 F/AST on as we hunt
for new cell to irritate
1855 F/AST off for $\rightarrow$
1858 F/AST ON 1902 F/AST off

1905 F/AST off

191833 ODW drop $24^{\circ}36' 81^{\circ}8'$
hdg 240

2026 after a fruitless quest down
CUBA way we are over Bahamas
headed for twin growing towers

2029 F/AST off as we $\rightarrow$
2032 " on
2034 F/AST off

2037 radar sys fu:
TAIL antenna prob.

(3) 930930II

2048 BACK UP
But Doppler is CACA
so stopped again

2110 back up, JBZ only

2120 Doppler BACK!
2140 FM put us in F/AST sector
2149 out of sector mode.
to F/AST continuous
2153 F/AST off
2157 on this last pass the
doppler may gone incho again...
2158 F/AST on
2239 stopped recording.