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.

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Doppler Radar Scientist Check List

Flight ID 920921H1

Aircraft # 42

Operators Dodge, Burpee

Radar Tech. ~~Roles~~ Neal Rains, Tim Roles

Number of digital magnetic tapes on board ~36

Number of tape labels on board sufficient

Component systems up and checked:

MARS	✓	Computer	✓
DMTR1	✓	DMTR2	✓
LF	✓	R/T#	124 (spare is 103)
TA	✓	R/T#	101 → 204

Time correction between radar time and digital time _____

Radar Postflight Summary

Number of digital tapes used: DMTR1 43

DMTR2 _____

Significant down time:

DMTR 1	none	Radar LF	none
DMTR 2	*	Radar TA	swapped transmitters at 1711

Other problems:

Sensitivity on LF vastly improved so we set refl. thresh to 2.0 – but then we set back to 1.5 (all before START of recording), then back to 1.7 at 163750 back to 2.0 1710

* DMTR 2 would not load Tape #4, could not find BOT marker. Tried 3 diff tapes, AOC will pull one and examine

1734: TA thresh set to 2.0

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HRD Radar Down-Time Log

Operator Dodge, Burpee Sheet 1 of 1

Item	Time Down (HHMMSS)	Time Up (HHMMSS)	Problem
TAIL	1711	1717	Tail Trans had to be swapped, because sensitivity way down. New Trans has magnetron that hadn't been used before – was 10 mg off others – so Neal R had to twiddle a lot to keep doppler coherent. More discuss in Green Book
1917-1919			TAIL out
2221-22	22 ~~EA~~		TAIL out (DSP lost trigger)

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

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HRD Radar Tape Log

Flight 920921H1 Aircraft 42RF Operator Dodge, Burpee Sheet 1 of ___

Tape #	Time On (HHMMSS)	Time Off (HHMMSS)	Comments
1-1	163750	1740	LF-2, TA 1 LF thresh ~~1.5~~ 1.7, TA thresh 1.6
2-1	1740	1821	
1-2	1821	~1910	1839 - F/AST on 1905 off
2-1	~1910	200946	1949 F/AST on 20:06 F/AST off
1-3	200943	2053	2053 F/AST ON (may be not on this tape!
2-3	2053	214028	2119 F/AST off
1-4	214028	2239	(LAST) 2205 F/AST ON