

09 Sept 1995

19950904I1. RADAR

Manly
950904I

Luis

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 950904 I
 Aircraft # 43
 Operators Markes / Vittard
 Radar Tech. Lynch

Number of digital magnetic tapes on board > 5

Number of tape labels on board > 50

Component systems up and checked:

MARS	<u>✓</u>	Computer	<u>✓</u>
DMTR1	<u>✓</u>	DMTR2	<u> </u>
LF	<u>✓</u>	R/T#	<u>103</u>
TA	<u>✓</u>	R/T#	<u>201</u>

Time correction between radar time and digital time

Radar Postflight Summary

Number of digital tapes used: DMTR1 4
 DMTR2

Significant down time:

DMTR 1 0011-0021
0051-0059
0258-0303
0356-end
 DMTR 2 NA

Radar LF same as DMTR1
 Radar TA same as DMTR1

Other problems:

numerous (4) times the radar system froze. Each time appeared that we couldn't restart TA process. Terry Lynch restarted radar program from HP to restart everything. We lost data on portions of 2 of the 6 legs across the eye # 3 & #5. #3 was in the eye (0011Z) & restarted on next inbound leg. #5 we lost in the eye (0258Z) and restarted in NNE eye wall on outbound leg.

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HRD Radar Tape Log

Flight 43RF Aircraft 950904I Operator Manly/V. Karp Sheet 1 of 2

Tape #	Time On (HHMMSS)	Time Off (HHMMSS)	Comments
1	21 2500		F/A CONT $\pm 18^\circ$ along outer band
			220540 switch to \perp on inbound leg from
			224930 FAST $\pm 5^\circ$ on downwind leg
			230040 switch to \perp on inbound leg
			2322 end leg at 50nm N of S
			232812 FAST on outbound leg $\pm 17.5^\circ$
			232933 back to \perp too much drift
			234954 FAST $\pm 18^\circ$ downwind leg
			Keeping sea clutter at ± 50 nm range on leg
		001114	froze up Terry restarting
2	002145		restarted inbound leg
			003930 start 50nm leg inbound on TK
			005102 radar froze in G
		005102	005232 reset
3	005900		at Turn at 50nm from G SE
			010126 FAST on downwind leg
			011400 \perp scan on inbound TK from ENE
			013510 end of 50nm leg from G TK 280° to G
			025947 FAST on downwind leg
			022846 \perp scan on inbound TK on 30° to G
			024800 start \perp leg at 50nm SSW of G
		025805	025805 system froze in G
4	030311		on 30° outbound leg from G - got it up in the eye and

over

Tape
HRD Radar ~~Down~~ Time Log

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Lucs

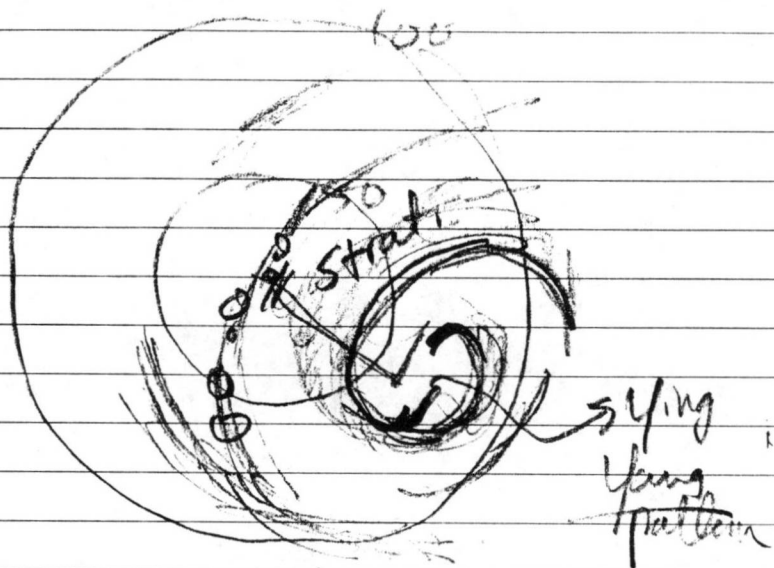
Operator Maule/Villard

Sheet 2 of 2

Tape Item	Time Down (HHMMSS)	Time Up (HHMMSS)	Problem Comments
			030922 FAST on downwind leg
			0316 good FAST slices into G on downwind leg
			032146 L scan at 50 nm WNW of G
			034209 turn at 50nm
			034600 radar froze again!!!
			0349 - 035015 nice updraft
			035220 ^{LF} back up again!!!
			problem seems to be <u>DSC2</u> ?
			035602 recording off
			035610 recording on
	~0359		TAOP seems to be screwy not DSC
			stowed radar ~80nm from G

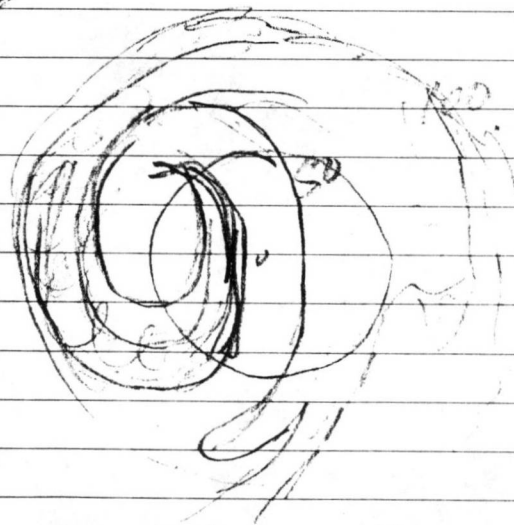
Item List: DMTR1, DMTR2, COMP, MARS, LF, TA.

0344



0352 nice wind profile
nice penetration - \swarrow

0414

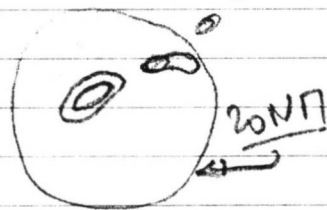


(1)

950904 J1 Luis
 VME from Barbados 500mb
 Franklin
 Marks
 Vittard
 HRD crew } Samsung
 Goldenberg
 Leighton

TO 210824 Z
 Barbados $13^{\circ} 4.7'' N$ $59^{\circ} 29.1'' W$

2120



212300 Squall line \uparrow $21.29 S$
 update to MIA

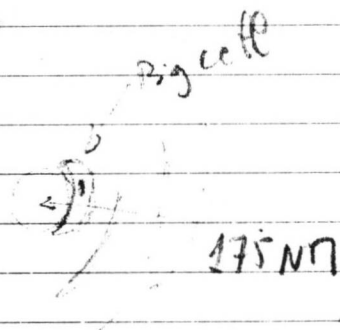
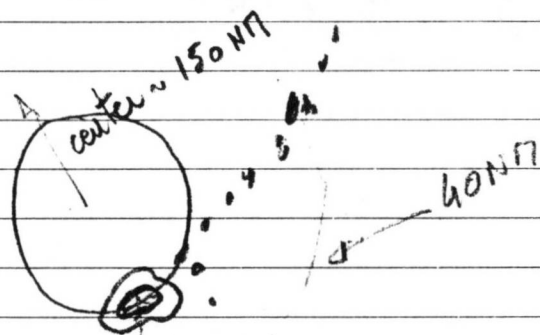
2133 N \pm 50 NN from center Luis

Hdg 30
TRK 29

21 37 22 S

22 W

21.41
TRK: 31°

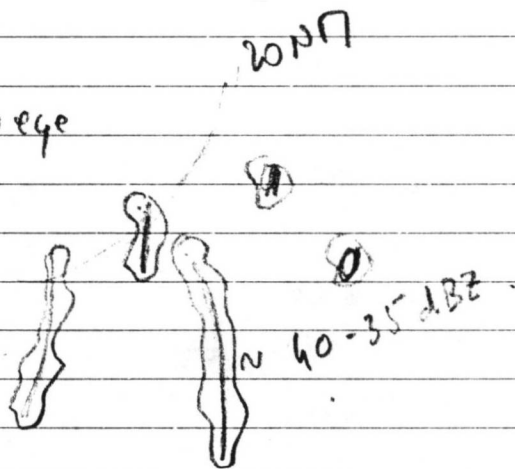


22.13.31 ODW #D1
22.18.41 ODW #D2

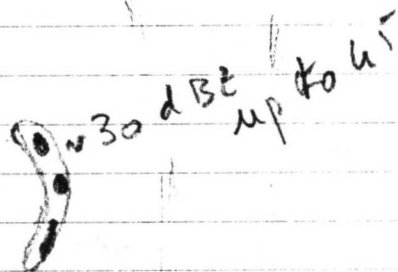
21.50

TRK: 31°

~ 130 NT to eye
Alt 6111 m.

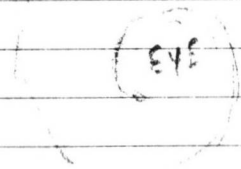


22.15



22^h10 ~ center
22^h44 ~ eyewall exit.
precip.

22^h47



22.05 Trn left 270°

2269 turn left downwind leg.

225128 ODW #D3

225912 ODW #D4

2300 Turn left penetration leg ↑ North

2307 ~eyewall

2310 ~ center

2315 ~eyewall

2321 turn right to north east leg

232226 ODW #D5

233429 ODW #D6

2339 ? ODW # ?

Downwind leg

010 DC#2 down

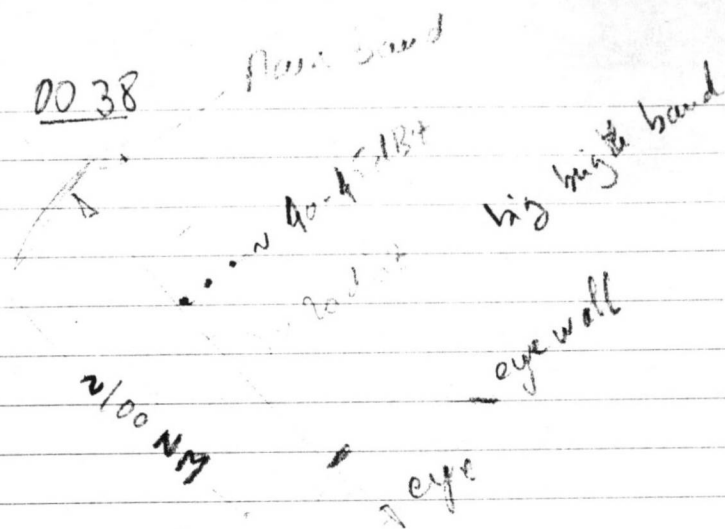
018 turning left for penetration leg S-E

018 45 ODW.

021 30 DES's work

023 40 ODW.

0038



0047

eyewall

0050

center

eyewall 40 NM



40 NM

0103 turn left downwind leg

0111 East side of eyewall like a bow give a asymmetric structure

0114 turn left for penetration leg.
011505 ODW

Cell seems to form in the
S-E part of eye wall and then growing up
to the north.

0135 turn right for long external leg.

013606 ODW

014423 ODW #13

0155 Climbing

0200 turning left for external downwind leg

0227 turning left for inward leg.

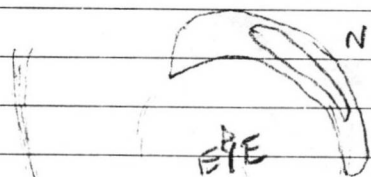
023802 visible Island on TA right side

023827 ODW

0240 over a nice lightning cell.

0243 Descent to 2100 ft

0252



SOUTH

N35-40 1BE

0255 FIEWALL

0300 Radar down.

0307 Radar works.

0309 left turn for small downwind leg.

031039 ODW

Strong highland.

0322 left turn for last penetration.

032309 ODW

eyewall and eye

0341 turn right for home leg.

034313 ODW

0344 Climbing

035602 ODW