

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.

4 Sept 95

Doppler Radar Scientist Check List

Flight ID 950904H
Aircraft # 42
Operators Black, Dodge
Radar Tech. Roles, Barr

Number of digital magnetic tapes on board ENOUGH

Number of tape labels on board ENOUGH

Component systems up and checked:

MARS ✓ Computer _____
DMTR1 ✓ DMTR2 _____
LF ✓ R/T# 121
TA ✓ R/T# R 201 T 101

Time correction between radar time and digital time _____

Radar Postflight Summary

Number of digital tapes used: DMTR1 _____
DMTR2 _____

Significant down time: INE #1

DMTR 1 _____ Radar LF _____
DMTR 2 _____ Radar TA _____

Other problems:

Tape 1 ended sometime around 210,
and 2nd tape was not loaded - so JRoles
loaded another - but we may have lost 5
min of FIAS

4 Sept 95

HRD Radar Tape Log

Flight 950904H Aircraft 42 Operator Black/Dodge Sheet of

Tape #	Time On (HHMMSS)	Time Off (HHMMSS)	Comments
			2132 take off
1	2145	~0210	224201 - FAST ON
		leg 2 (2302 ¹ FAST OFF
			2324 FAST ON
		leg 3 (2330 FAST OFF
			235230 FAST ON
		leg 4 (0006 FAST OFF
			002750 FAST ON
		leg 5 (0041 FAST OFF
			0100 FAST ON
		leg 6 (0113 FAST OFF
			013730 FAST ON
		leg 7 (014200 FAST OFF
			020449 " ON
		leg 8 (021645 OFF
			0238 ON
		leg 9 (0249 OFF
			031020 ON
		(0323 OFF
TAPE 2	0215	0409	

LUIS

~~NOAA~~ 950904#1 ~~NOA~~

2 plane mission from
Barbados -

Vortex Motion Experiment

NOAA 43 took off 1705Z

NOAA 42 crew:

LPS: John Gamache
Radar: Dodge/m. Black

C-seat: Pete Black

Observers/helpers:

Liz Ritchie

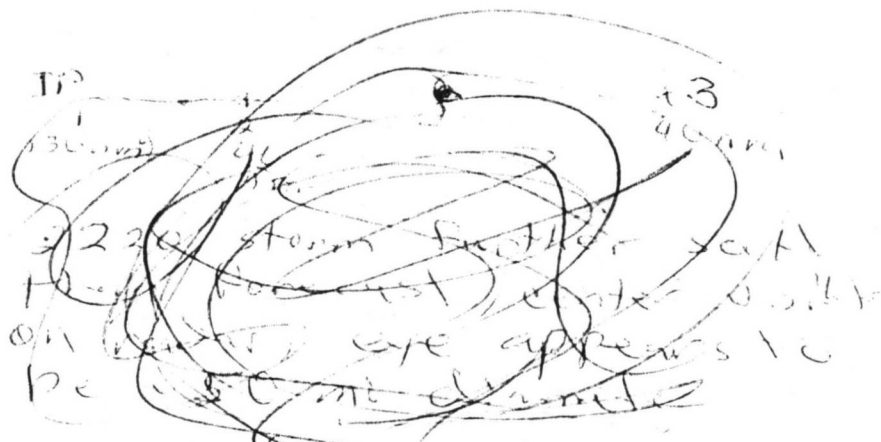
Wen-Chau Lee

Luis - 945 mb 140 kts

Take off: 213159

Started recording 214500

WIS-2



2237 - descent to FPI

2158 eye, closed, ~50 nm diam (?)
 well def on LF with several rainbands
 that we are traversing now. (stratiform)
 17°10' 59°45' Jacks Radar FIX
 at 2200

2212 Jack adjusts LF tilt up 0.50

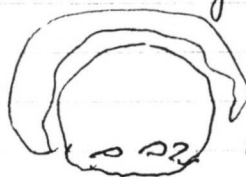
2215 first good rainband

2223 circle at 16°16' 59°51' to buy time for 43...

~~2223~~

LUCS-3

2231 eye ~40 nm across.



2234

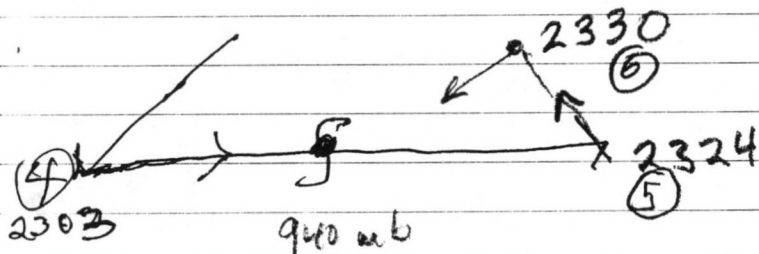
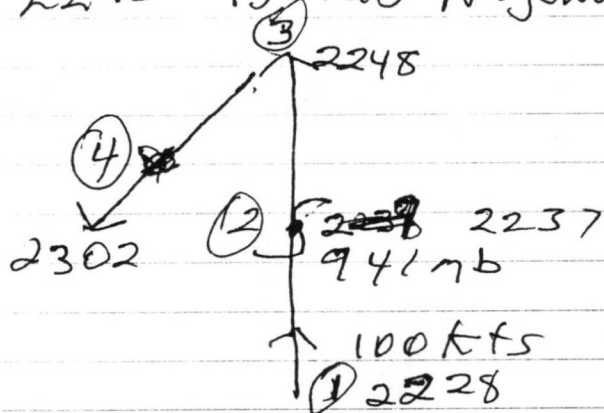
52 m/s

Appearance

MAX S eyewall

FIX 17°06' 59°52' ~941 mb

2243 135 Kts N eyewall



2309 110 KTS MAX W eyewall

~2313 ~940 mb

2323 F/AST ON 2330 OFF

LOIS-4

2333 Turned from NE for pass #3

(6)

~125 KTS NE
eyewall

2340 Beautiful moon in the eye!
almost like the P. Rowan

2341 $17^{\circ}09' 60^{\circ}08' 8'$ FIX #3

2349 Twice Mike has noted spikes
in LF display, very brief - maybe 43?
ISLANDS show up well

235230 turn F/AST ON

(7)

0006 F/AST off
 $16^{\circ}30' 59^{\circ}42'$

0010 Jack P noted SQUARE eye
in LF! N, NE eyewall looks more
convective now...

0018: Maybe 45 dba in cell east
part of eyewall

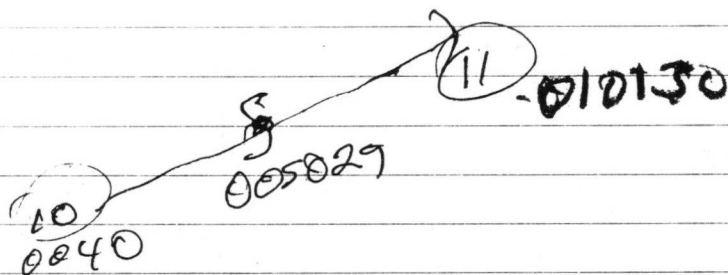
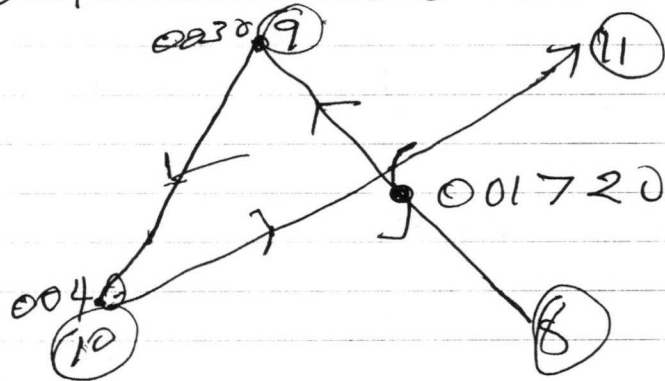
LOIS-5

002750 F/AST OFF

0030 F/AST ON

100 KT tail wind! 350 KTS
900 mph speed

0040 Continuous



0049:

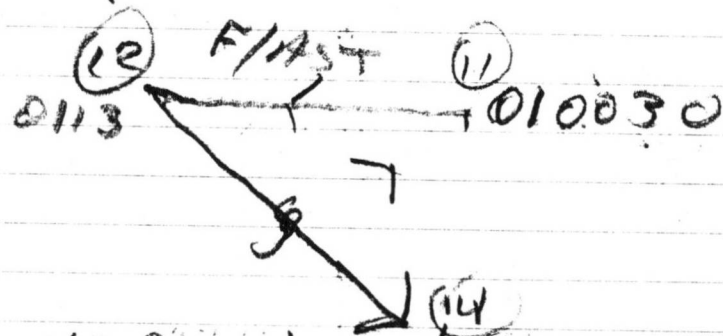
Can see the lights of NARRA43
just to the left of us and
closing

0051 A lot of interference
from their radar

LUI 6-6

0059
Storms moving
almost straight west
273° @ 12 kts

0058: looks like ~~two~~
double bright near eye,
one at 5 km and one
at 12 km



010420: in strong
convective band NE of center

0124: saw 43 out left side again

012715 FIX 17°04.1' 60°22.9'
936 mb
double pressure min on this
pass.

0136 - headed for pt 13

LUI 7

013730 F/AST ON 16°29' 59°55'
then heading NE for short
F/AST leg - OFF 14200

148 Jack remarks it is a pentagonal
eye!

FIX #7: 944 mb
015410 17°09.3 60°29'

020449 F/AST ON
0208 - Mike remarked eye
seemed smaller - JG agreed,
on LF clear area in eye is
~50 km across

0215 tape changed
PROBABLY lost 2-5 min

21645 F/AST off

0227 17°06.3 60°36' (#8)
233 130 kts 17°28 60°21

238 F/AST ON
249 F/AST OFF

