

RADAR PREFLIGHT CHECKLIST

AUG 8 1980

FLIGHT # 800808 I 1

A.C. # 43RF

AUG 8 1980

OPERATOR Marks

RADAR TECH Goldstein

NUMBER OF DIGITAL MAGNETIC TAPES ONBOARD 27

NUMBER OF VIDEO Cassettes TAPES ONBOARD 7

NUMBER OF TAPE LABELS ON BOARD 40

COMPONENT SYSTEMS UP AND CHECKED.

RDSC ✓

VTR ✓

COMPUTER ✓

DSC1 ✓

DMTR1 ✓

DSC2 ✓

DMTR2 ✓

SCOPES ✓

NO ✓

LF ✓

TA notail radar. Taken out before flight.

Time correction between radar time and digital time _____

RADAR POSTFLIGHT SUMMARY

NUMBER OF DIGITAL TAPES USED DMTR 1 5

DMTR 2 4 1 broke

NUMBER OF VIDEO Cassettes TAPES USED 2

SIGNIFICANT RECORDER DOWN TIME (other than for tape changes).

DMTR: LF 5-10 min
NO 5-10 min
TA NA

→ because SCR kept crashing on 3-4 penetrations.

VTR: LF X
NO X
TA X

OTHER PROBLEMS: (stabilization, interference, etc.)

intermittent radial spokes on LF display. Alan claims it's from noise on the lines. Probably will be on the tapes. Appears to be related to a/c power bursts.
DMTR ✓ indicator lights still switched.
and DMTR1 lights out. over

tape D2T3 broke in
a penetration.

about $\frac{1}{3}$ of a tape of good data
don't pitch it.

radial spokes of LF went away after
about half the flight.

LF appeared to have problems,
were getting lots of sea clutter at 2.5°
elev. and 5000' had to go to 4° tilts most
of the flight.

Nose looked very good.

TABLE 1
DATE: _____
TIME: _____
LOCATION: _____
OPERATOR: _____
Cassettes 2

TABLE 2
DATE: _____
TIME: _____
LOCATION: _____
OPERATOR: _____
HA
2-10 min
2-10 min
→ because SCR kept crashing
on 3 rd penetrations

TABLE 3
DATE: _____
TIME: _____
LOCATION: _____
OPERATOR: _____
~~HA~~
~~2-10 min~~
~~2-10 min~~

OTHER COMMENTS: (aircraft, instrument, etc.)
intermittent radial spokes on LF display. Also check if from
noise on the lines. Probably will be on the tapes. Appears to be related to
DTR lights still switched.
and DMTS: lights out.
over

INHEMIL RADAR TAPE LOG

AUG 8 1980

FLIGHT 800808J1

AIRCRAFT 43RF

OPERATOR Marks

SHEET 1 OF 2

TAPE #	TIME ON	TIME OFF	SOURCE RADARS			REWOUND?		COMMENTS
			NO	TA	LF	YES	NO	
DIT1	172430	182530	X		X		X	First sign of rain bands 1790 nmi. out.
UT1	182530	18206						started while counter at 1500' 1760 of 1760
D2T1	182636	191616	X		X		X	183120 SCR frozen. 183214 back up.
DIT2	191616	201600	X		X		X	start of SE leg.
D2T2	201840	204900	X		X		X	start of SW leg. 2036 SCR down, 203930 back up. 204020 down again. 204112 up again.
DIT3	204912	21522	X		X		X	cutting outer rainband heading ESE SCR down 211933 SCR up 212520
D2T3	21522	220605	X		X		X	SCR down at 220425 on penetration SCR up at 220602 radar tape snapped switching to DIT4
DIT4	221045	230606	X		X		X	
UT2	222102	~2250						counter reset to zero start NNE pass SCR down 223530 SCR up. 224035
								off at counter 102 battery ran out.

8 Aug. 1980 Allen Eye-wall experiment.

takeoff - ~1620 GMT

172430 started DITI elev. -1.0°
 first signs of rain bands bearing
 $270-340^\circ$. ~90 nmi out

173330 raised elev. up to 0.5°

173530 " " " " 1.0°

getting intermittent radial spokes on the
 LF radar. Spoke to Alan. He says he thinks
 its noise in the lines. The spokes will probably
 be on the tapes.

174120 lowered elevation to 0° .

1804 plane dropped to 2600m (RA)

180720 raised the antenna up to 2.0°

181012 descending to 1500' for surface wind
 runs. raising elev. to $\sim 3.5^\circ$

181454 1st AXBT dropped from 444 m (RA)

elev. to 4.0°

wind $143/28 \text{ ms}^{-1}$

1833 climbed to 5000'

LF

1834 navigator took LF

1835 LF Gach.

183630 look like the eye at bearing 70° & 5 nmi

183811 LF shows eyewall 75 nmi bearing 20°

1st crossing

1839 starting inbound run from IP
diameter of eye look ~ 18 mm in
diameter

1841 X BT dropped.

184245 polaroid of LF

184700 " of nose

~~184800 " " LF~~

184833 X BT dropped.

184859 went to nose for VTR.

184920 back to LF

185045 polaroid of nose PPI scope

185218 X BT dropped.

eye diameter ~ 10-12 ^{mm} diameter

1853 went to zoom X3 for VTR

eyewall appears strong on SE and NW side of eyewall
eye looks square on LF

185630 moderate rain at d/c

185700 heavy rain at d/c

max winds
230 /

in eyewall

N West side eyewall has extensive level 3's

185820 in eyewall turning.

eyewall closed completely
reasonably smooth inside.

190000 starting second penetration

5000'

8 Aug. 1980 #2

190120 in heavy rain good level 3

max winds ~~027~~ / 56 m s⁻¹

center 24° 4' 92° 12'

Calculation.

190840 528 counter on VTR,

Not much precip. outside of eyewall

major outer rainband south and east of storm about 80 nmi out seems very strong. NW of storm no major activity.

2nd pass in X-pattern

191315 turning to go back at 500' heading track ~ 120°

1923 1st outer rainband starting,

winds NW 025 / 37 m s⁻¹

192435 ^{max} 028 / 41 m s⁻¹
SE → 030 / 45

1925 getting level 3 in eyewall

eyewall diameter

192540 polaroid of LF

max wind 015 / 60 m s⁻¹

192705 polaroid of LF . 192800 polaroid of LF

192710 in eye holding about turning SW

192910 heading SW level 3 in S eyewall

eye diameter ~ 12-15 nmi
width 6-8 nmi

193110 appears to be small
outer rainband on S side of center
coming in to eyewall on east side of
storm. only 8-10 km outside eyewall
large strong rainband about 50 mi
south of storm coming around toward
NE side of the eye.

194015 - VTR counts 810
25° elevation appears to be having
unusually ~~large~~ large problems with sea
clutter.

194350 turning to track NE again.
3rd track of X-pattern heading NNE

195230 set level 1 counts of 5

195300 switch to nose for VTR nose
appears to be set at level 2⁽³⁾ only.

195430 took polaroid of nose at level 2.

195545 " " of nose PPI scope
entering first outer rain band

265/35 ms⁻¹

outer rain band appears to come in
of N side of eyewall.
eyewall.

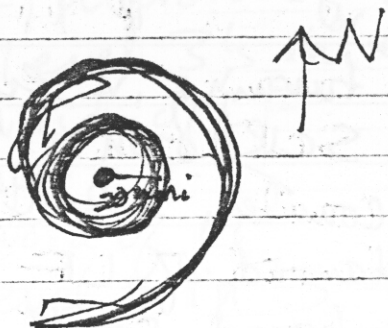
peak wind 240/45 ms⁻¹

195920 polaroid in eye.

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3

200030 turning in eye a little.
good level 3



200120 max wind

level 4 115/67 m s^{-1}

dropped 6 mb since first run (E. Zipse)
eye diameter still between 15-20 ~~mi~~ ^{nmi}
width ~5-6 nmi.

201110 switched to nose for VTR to show
rainband structure north of the storm.

Nose has been showing better detail than
LF so far.

201500 back to LF for VTR.

201620 turning back to eye.

4th penetration. from NNE to SSW, turn in eye to

202447 went to nose for VTR. 202500 back to LF

elev. 4000' 202615 raised elev. to 3.5° ~~at~~

202710 went to nose for VTR. 202718 back to LF

202828 entering first outer rainband.

NE 110/43 m s^{-1}

in 107/48 m s^{-1}

SW

203000 polaroid LF good level 3 in eye wall

winds and radar eye aren't matched.

203257 polaroid of LF

203310 " " "

203400 turning in eye to SE

203600 SCR down

VTR 1260 counter 204220Z

204300 polaroid of LF

nice rain band south and east of the eye.
70 mi.

204517 polaroid of LF

204912 entering outer rainband:

205145 moderate rain outside a/c

level 2 with flecks of level 3

good attenuation in rainband.

205325 switched to nose for VTR.

205459 switched to LF for VTR

205515 turn for NNW track.

5th pass

outer rainband good level 3's

210020 polaroid of LF in outer rainband.

210225 switch to nose for VTR

210249 polaroid of nose

210400 switch to LF for VTR.

210715 polaroid of LF

210838 " " "

211058 navtg. took LF

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#10

d. +4°

211435z Got LF back.

211510 took polaroid of nose PPE

211650 good level 3's in eye wall

211726 polaroid of LF

211750 turning.

211850 polaroid of LF

good level 4 in S and north eye wall

211933 what a bump everything crashed.
clock radar computer,

212520 radar up again.

NW side eye wall is getting much stronger.
peak gust $\sim 80 \text{ m s}^{-1}$

orbiting on north west side of the storm
until we get the data system back up again.
seem to be in the middle of a rain band.

winds 066 / $40-45 \text{ m s}^{-1}$

VTR on nose.

214430 turning back for another pattern
elev. 24.0°

~~6th~~ pass toward BSE

VTR on nose.

220200 Polaroid of LF

220345 " " "

220425 SCR out

220602 SCR up

220717 polaroid of LF

221818 Switched to NOSE for VTR.
222102 Started second VTRZ
222335 polaroid of NO
2222~~16~~ went to NO on VTR
NOSE very good on this run again.

222810 LF on VTR
222840 NO on VTR
~~222920 NO on polaroid, bad.~~
223000 " " "
223030 LF on VTR.

223140 polaroid of NOSE
SSW eyewall Very strong. level 4
on LF level 6 on NO.
15-17 nmi eye diameter

Very symmetric,
rainbands have moved to south side
eyewall were we penetrated the last two
times.

SCR down 223630
up 224035

224250 VTR to nose.

big rainband north of eyewall ~60-70 nmi.

224830 entering outer rainband.
225612 turning in outer rainband,
225900 heading S for 2nd pass
230128 VTR on NOSE

probably not on VTR
no polaroids left.
7th pass - heading SSW.
winds in rainband

#5
8 Aug. 1980

230220 106 / 50 ms^{-1} sustained.
on NOSE for VTR

230230 to LF for VTR

231300 to NO for VTR

eye diameter $\sim 10^{12}$ μm wide

231426 to LF for VTR

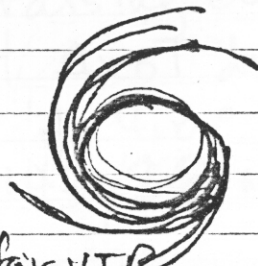
231654 eye looks ruff, inside on NOSE
to NO for VTR

231800 in eye diameter less than $10 \mu\text{m}$

231835 turning in eye.

917 mb (from Hugh) 913 mb from C-130 drop
231955 out we gooooo!!!
to ESE

232050 to LF for VTR
to NO for VTR



eyewall structure
on last penetration

to LF for VTR

heading toward ESE

2335 in ~~NE~~ rainband.

turned ENE from pt. 5 track 070°

2341 into second ENE rainband.

good level 4's changed tapes
moderate rain at a/a good observation.

000750 started climb to Ferry height.

003710 going through little cloud line.

0035 painting Southern Louisiana.