

Fabian
20030904H

E.2 Lead Project Scientist

E.2.1 Preflight

- ☒ 1. Participate in general mission briefing.
- ☒ 2. Determine specific mission and flight requirements for assigned aircraft.
- ☒ 3. Determine from field program director whether aircraft has operational fix responsibility and discuss with AOC flight director/meteorologist unless briefed otherwise by field program director.
- ☒ 4. Contact HRD members of crew to:
 - a. Assure availability for mission.
 - b. Review filed program safety checklist
 - c. Arrange ground transportation schedule when deployed.
 - d. Determine equipment status.
- ☒ 5. Meet with AOC flight director and navigator at least 3 hours before take-off for initial briefing.
- ☒ 5. Meet with AOC flight crew at least 2 hours before take-off for crew briefing. Provide copies of flight requirements and provide a formal briefing for the flight director, navigator, and pilots.
- ☒ 6. Report status of aircraft, systems, necessary on-board supplies and crews to appropriate HRD operations center (MGOC in Miami).
- ☒ 7. *Before take-off*, brief the on-board GPS dropsonde operator on times and positions of drop times.
- ☒ 8. Perform a radio check with headsets. Make sure everyone's headsets is work properly.
- ☒ 9. Collect "mess" fee (\$2.00) from all on-board HRD flight crew members

E.2.2 In-Flight

- ☒ 1. Confirm from AOC flight director that satellite data link is operative (information).
- ☒ 2. Confirm camera mode of operation.
- ☒ 3. Confirm data recording rate.
- ☒ 4. Complete Form E-2.
- ☒ 5. Check in with the flight director to make sure the mission is going as planned (i.e. turns are made when they are supposed to be made).

E.2.3 Post flight

- ☐ 1. Debrief scientific crew.
- ☐ 2. Report landing time, aircraft, crew, and mission status along with supplies (tapes, etc.) remaining aboard the aircraft to MGOC.
- ☐ 3. Gather completed forms for mission and turn in at the appropriate operations center. [**Note:** all data removed from the aircraft by HRD personnel should be cleared with the AOC flight director.]
- ☐ 4. Obtain a copy of the 10-s flight listing from the AOC flight director. Turn in with completed forms.
- ☐ 5. Determine next mission status, if any, and brief crews as necessary.
- ☐ 6. Notify MGOC as to where you can be contacted and arrange for any further coordination required.
- ☐ 7. Prepare written mission summary using form E-2 p.3 (due to Field Program Director 1 week after the flight).

Lead Project Scientist Check List

Date 2003/09/04 Aircraft 42RF Flight ID 80030904H

A. —Participants:

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>Chang</u>	Flight Director	<u>Shepherd / Flaherty</u>
Cloud Physics		Pilots	<u>Kennedy / Halverson / Straig</u>
Radar	<u>Dodge / Markes</u>	Navigator	<u>Brakob</u>
Workstation	<u>Alverson</u>	Systems Engineer	<u>Torrey / Wade</u>
Photographer/Observer		Data Technician	<u>McMillan</u>
Dropwindsonde		Electronics Technician	<u>Rogers / Peek</u>
AXBT/AXCP/Guest	<u>Estaban / Kerr</u>	Other	<u>McFadden</u>

Take-Off: 1713 Location: TISX Landing: 0115 Location: TISX

Number of Eye Penetrations: (3)

B. —Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
<u>9/4 18Z</u>	<u>26</u>	<u>64.5</u>		
<u>04/2218</u>	<u>26°44"</u>	<u>64°25"</u>		
			<u>movement</u>	<u>350/11 kts</u>

C. —Mission Briefing:

CBLAST short pattern (Figure 4 in the HFP)
with N42RF at 7500' and N43RF at 5000'
100 nm SW of G. We will do a stair step
1st. 25°30' 65°30'

D. —Equipment Status (Up ↑, Down ↓, Not Available —, Not Used O)

Equipment	Pre-Flight	In-Flight	Post-Flight	# of DATs or Expendables
Aircraft	↑	↑	✓	
Radar/LF	↑	↑	✓	
Radar/TA (Doppler)	↑	↑	✓	
Cloud Physics	↑	↑	✓	
Data System	↑	↑	✓	
GPS sondes	↑	↑ AVAPB started once		38 6 PChang/32 HED
AXBT/AXCP	↑	none	none	NA
Workstation	↑	↑	↑	↑
Videography	↑	↑	↑	↑

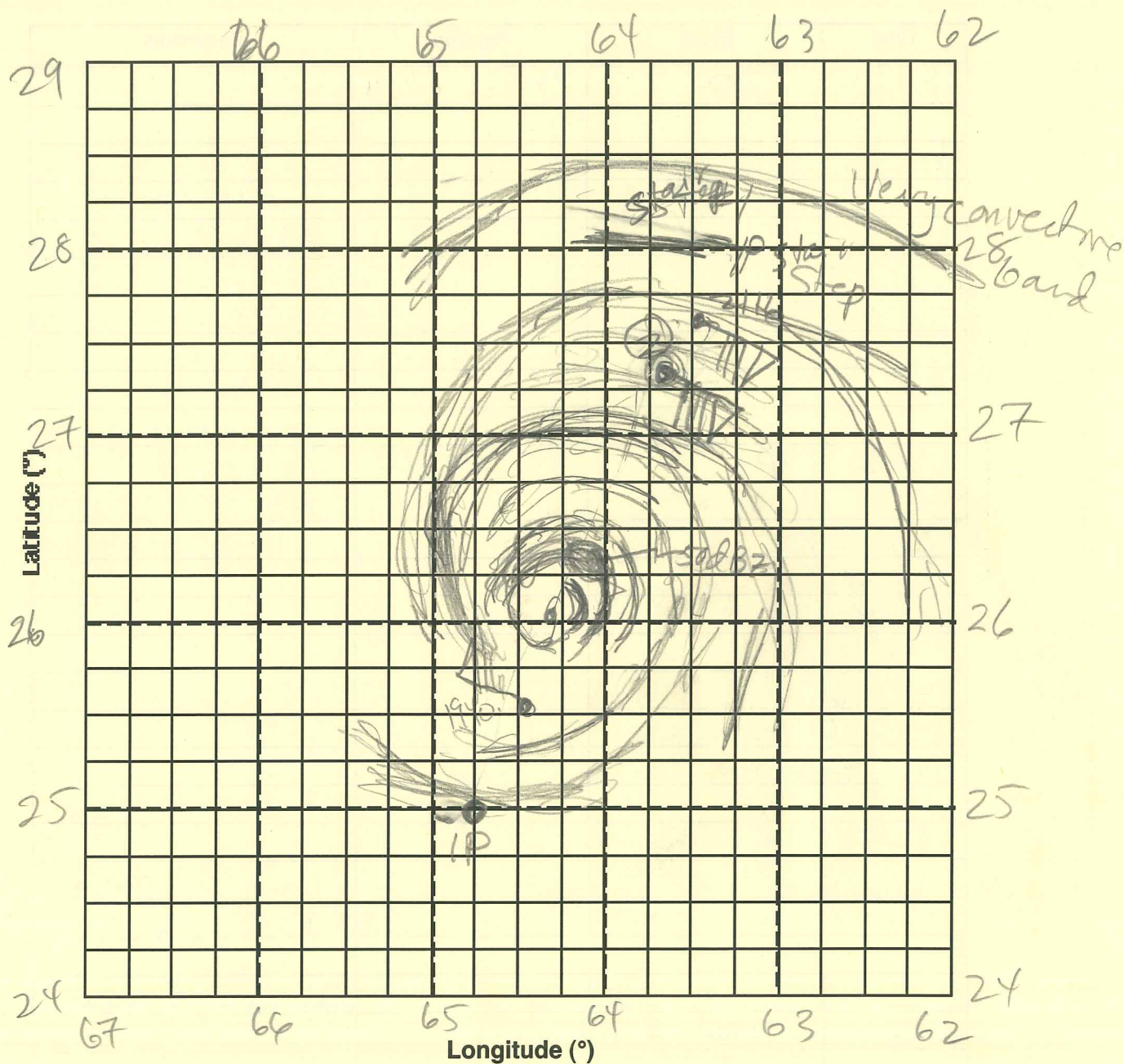
REMARKS:

Another good data set! We had a complete Fig 4 and manage at least 1 more starstep 280 nm NNE of center. We did a number of traverses of the NE eyewall for PChang that had >50 dBZ echo at our PL (7500'). Very good rephysics data with huge raindrop on 13 traverse of the band. All in all a good day.

1 minor glitch when AVAPBZ was down to 1 channel on outbound leg of 1st part of Fig 4. But Bob Peek got it back working again. That (10 min) radar outage in eye after 1st leg.

Observer's Flight Track Worksheet

Date 9/4/2003 Flight 20030904H Observer Marks



#1

Lead Project Scientist Event Log

Date 9/4/2003 Flight 20030903H LPS Chang/Marks

Time	Event	Position	Comments
1713	TO	1742 6448	
190153	at IP 80nm SW 86	2458 6528	orbiting to align with N43RF
			80nm SW of center
			BAT probe failed
			still have thermo
1917			N43RF decides to abort
			stairstep go into flight
193054	IP	250 6445	TK 025
			1936 TEAL25 in G
194438	D1		1942 1st AB drop
194448	D2		
194456	D3		
194506	D4		
194516	D5		
194526	D6		too soon!
194536	D7		
194547	D8		at peak FL wind
1949	6 (1)		
			lost GPS on 3 channels
			1952 radar system down or well
			for AVAPS #3
2017	IP6 2612 6413		Circle in eye TK 025
			195730 radar back up

TEAL25

26°00.4
64°18'
94/mb

D8

2002 N43RF
AVAPS
reboot

2002
LF ring at
40nm

LF ring
at
45 nm
range

#2

Lead Project Scientist Event Log

Date 9/4/2003 Flight 20030904H LPS Chang/Marler J6c

Time	Event	Position	Comments
202143	D9		
202206	D10		
202230	D11	133kt MBL	great up physics
202248	D12		50dBZ echo
202305	D13		huge rain drops
			biggest I ever saw!!
			2025 LF lost sensitivity
2043	start down		Seam reset OK
	downward		N43RF wants to extend leg 40nm to do stair step
205001	end leg	28° 31.3' 63° 23'	turn upwind
205900	D14		
210249	D15		
210505	D16		
210715	end upwind leg		TK 280 to 6 for P. Chang
2121	IP at ②		TK 215 to 6
213320	D17 PC1		in NE 6 wall
213405	D18 PC2		awesome up physics in NE 6 wall
213436	D19 PC3		no rain yet
2138	②	2734 6419	TK 295° to ③
214515	D20 PC4		out
214622	D21 PC5		
214326	D22 PC6		

5

stair step
3

P. Chang
3

P. Chang
3

D22 PC6
HPD
16

#3

Lead Project Scientist Event Log

Date 9/4/2003 Flight 20030904H LPS Chang/Marler ob

Time	Event	Position	Comments
2150 - 2154			in big ramband w/ 9
220121	(B)	27° 65' 30"	long up/down great upphysics?
2209			back in the big band
221440	D23		Bank of 9
221453	D24		
221507	D25		
221520	D26		perfect
221532	D27		
221547	D28		
221602	D29		
221820	D30		
2218	G (3)	26° 44' 6425	in S eyewall
223523	D31		
223533	D32		
223550	D33		a little early
223609	D34		
223620	D35		
223634	D36		
223644	D37		
223709	D38		LF vmg at 15 nm
2300	end leg at 4		head for TISX
011530	land	TISX	

D38
HRD32/PC6

Faban 030904 H

foynl. trk

9	71744	19:55:44	copy 1	1940 - 2000	
	72238	20:03:58			
9	77926	21:38:46	copy 2	2126 2146	
	78200	21:43:20			
	80593	22:23:13	copy 3	2210 2240	Bad
	81094	22:31:34			Interference

030904 I

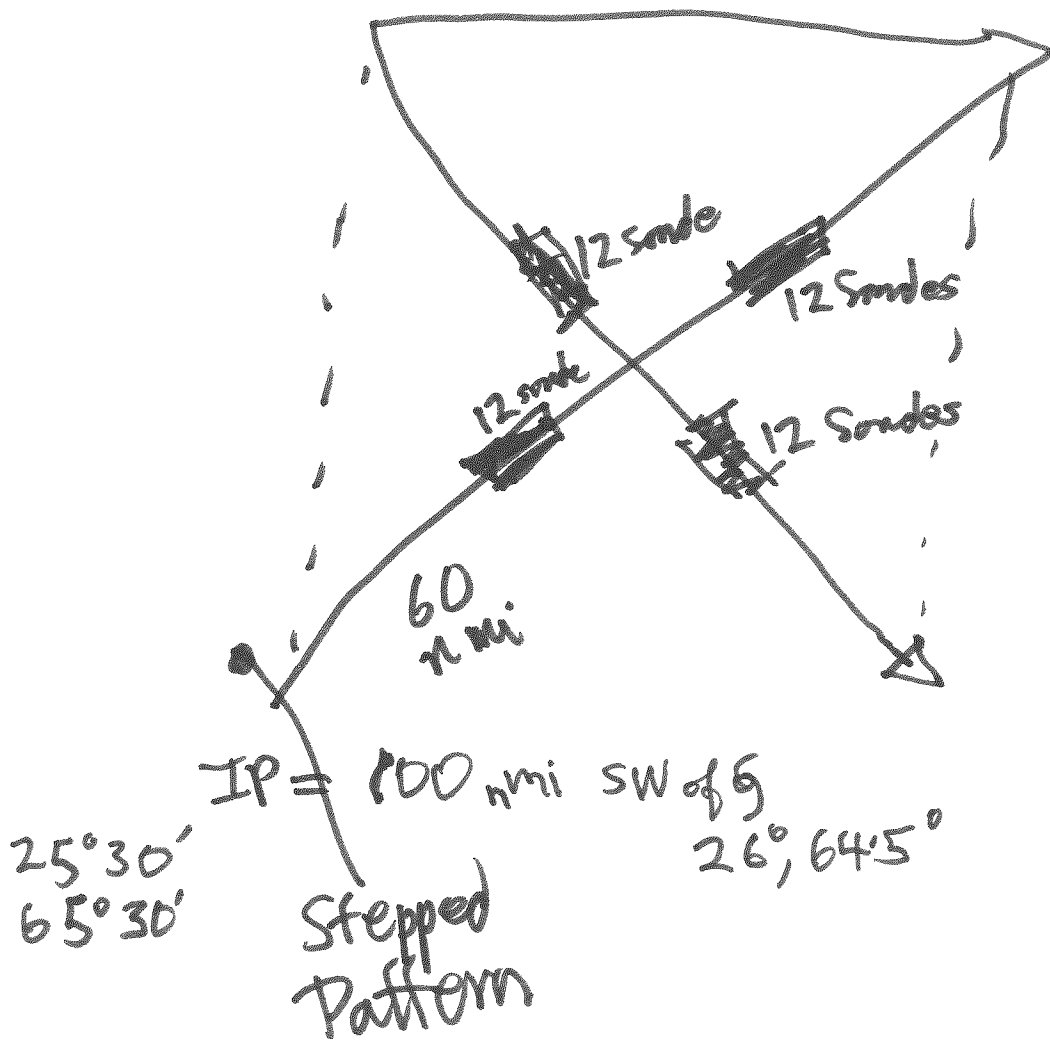
	71314	19:48:34	copy 1	1936 - 1956	Bad
	71460	19:51:00			Interference
9	80279	22:17:59	copy 2	2210 - 2236	
	80475	22:21:15	2228		

~~1845~~

~~1845~~

42 - NO BT's, Buoys

43 - 2 BT's in stepped pattern
and ① in rear quad
of storm



182 22°21' 62°35'

4 BT'S

2: At stairstep IP CH 12

3: One eyewall legs CH 12

CBLAST EXPERIMENT

IP 21°30'
64°12'

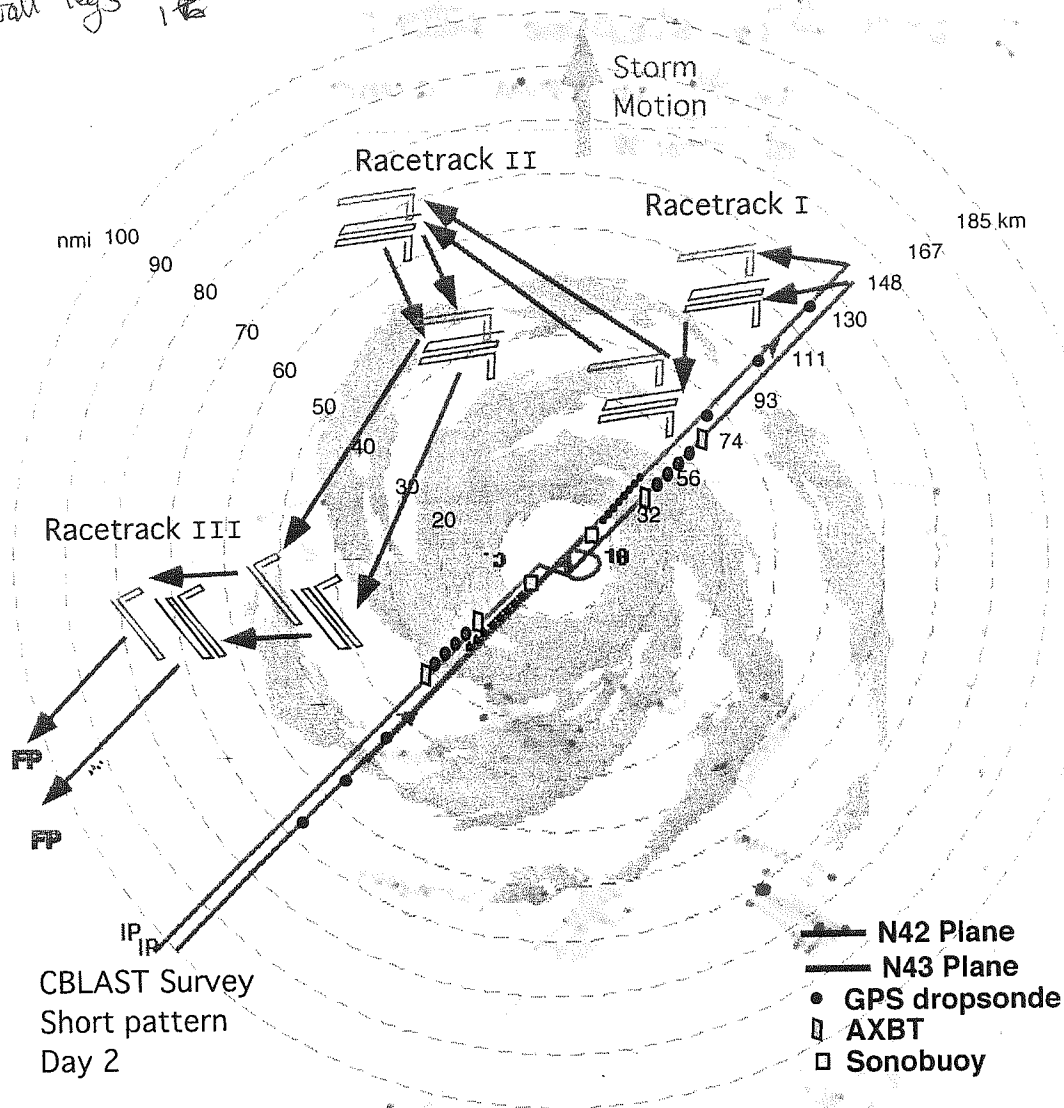
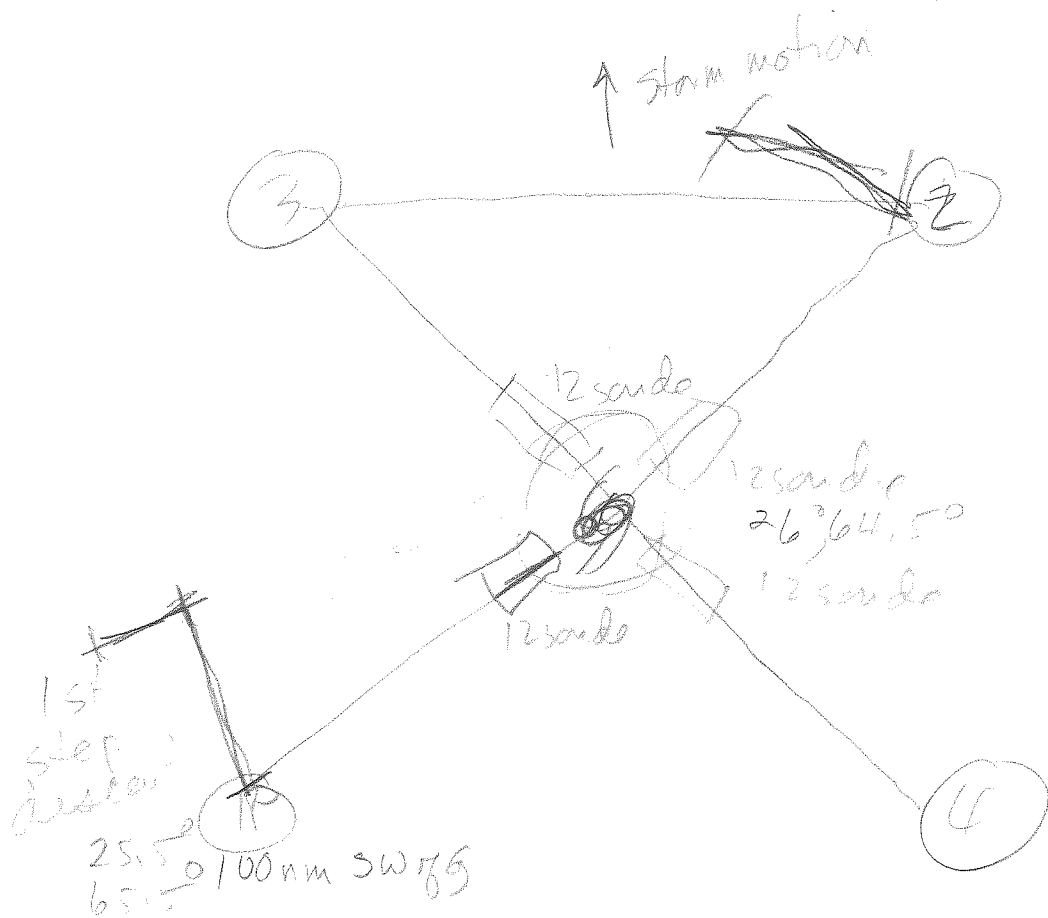


Fig. 3. CBLAST short pattern, Day 2.

- Note 1. The pattern should be aligned 45° from storm heading. Preferred IP is in left-rear quadrant.
- Note 2. The two WP-3Ds fly 'in trail' with high plane at 7,000 ft RA (12,000 ft in CAT 4 or 5), and low plane at 5,000 ft RA from IP to 2, 2,500 ft RA thereafter, conditions permitting (8,000 ft for CAT 4 or 5). The lower WP-3D will lead the upper WP-3D.
- Note 3. Aircraft should reach their respective IP's as simultaneously as possible, with the IP for upper WP-3D at a radius of 120 nm, and the IP for the lower WP-3D at a radius of 108 nm.
- Note 4. The lower WP-3D will start a sequence of four near-eyewall drops on inbound legs at approximately $2R_{MAX}$. High-level aircraft should start series of 8 eyewall drops 30 s after end of low plane drops, ending at inner edge of eyewall. Orbit in the center till all drops have cleared. Reverse the sequence on the outbound leg.

42 No B⁺s, bugs

20030921
Fabian



030902H (3)

19.
st
19
at
19
na
ba
19
C
20
fo
20
in
20
A
n
W
2
20
he
21
20

217 LF down, 219 up
eyewall / RB has
50KM spiral struct



2207: turn to head through
NE eyewall

2215 shape to eyewall like a
scythe



17 2234: LF down

There were several brief LF
freezes/resets that I did not
note. One may have caused a
10-20 minute tape gap.

0006 knitted.



030904H

LAST CBLAST flight into Fabian
"LPS": P CHANG SONDES SIMABERSON
KIBITZER / HAD LPS FORM FILER: F MARKS
1/2 WKSTN: Dodge
1713 T/O from St Coix

2001 - circling in eye. 3 of our
AVAPS channels down on sys #2 —
and 43cs AVAPS down also.

1/2, WKSTN

030904H ①

Plan is to fly ~2 1/2 H to storm, do stepped descent pattern
then X pattern and motor back

1718 T/O

1834. BAT Probe failed as far as winds
but mission will continue as planned
will do stepped pattern along and
cross wind.

1915 near IP as 43 searches for place to work

1915 abandoning stepped ascent
plan to SW-NE pass through storm
26°11' 64°22' IP

SND Pattern

1932 43 started drop sequence? No 1 misunderstood.
Plan to try stair st

1941 43 drop #1 1943 43 finished dropping

194433 #1

194455 #2

194456 #3

194512 #4

1948 PRF → 2100

1953 - Lost GPS on 3 channels, 2nd system

1953-1958 ~~1953~~ down. 1958 PRF → 2100

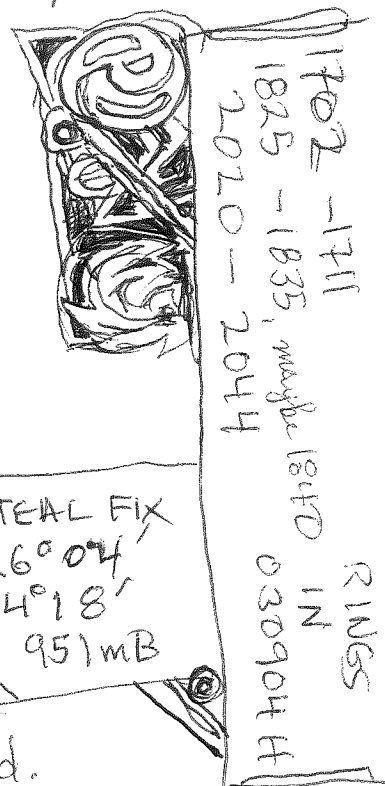
2000 - 43 told us THEIR AVAPS down as well. Coincidence again?

2021 started our out bound 5-drop seq

52 m/s max SFMR

2023 seq finished

2034 PRF → 2100



030904H (2)

2049 starting 300° pass for start of along wind.

we at 28° 01.5' 63° 16.4' W

SEMR 17 m/s

3 drops along wind;

2055 - changed - 1st leg will be UPWIND, 20 nmi leg
so we're returning

0115 LANDED
2218 - in eye circling