E.2 Lead Project Scientist (On-Board)

E.2.1 Preflight

✓ 1. Participate in general mission briefing.

✓ 2. Determine specific mission and flight requirements for assigned aircraft.

✓ 3. Determine from CARCAH or field program director whether aircraft has operational fix responsibility and discuss with AOC flight director/meteorologist and CARCAH unless briefed otherwise by field program director.

✓ 4. Contact HRD members of crew to:

a. Assure availability for mission.
b. Arrange ground transportation schedule when deployed.
c. Determine equipment status.

✓ 5. Meet with AOC flight crew at least 90 minutes before takeoff, provide copies of flight requirements and provide a formal briefing for the flight director, navigator, and pilots.

NA 6. Report status of aircraft, systems, necessary on-board supplies and crews to appropriate HRD operations center (MGOC in Miami or FGOC at remote recovery location).

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.

E.2.3 Postflight

_____ 1. Debrief scientific crew.

_____ 2. Report landing time, aircraft, crew, and mission status along with supplies (tapes, etc.) remaining aboard the aircraft to the appropriate HRD operations center (MGOC or FGOC).

_____ 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 the appropriate operations center (FGOC or MGOC) as to where you can be contacted and arrange for any further coordination required.

Form E-2
Page 1 of 5

On-Board Lead Project Scientist Check List

Date SEP. 24 Aircraft N42RF Flight ID 940924 #1

A. Participants

HRD		OAO	
Function	Participant	Function	Participant
Lead Proj. Sci.	GAMACHE	Flight Director	BOBERT
Cloud Physics		Pilots	KENNEDY, PLAYER
Radar	DODGE	Navigator	STRONG
Workstation		Sys. Engr.	ROLES
Photographer		Data Tech.	
Omegasonde	BURPEE	El. Tech.	
AXBT/AXCP	P. Black	Other	MC FADDEN
	J. LAWRENCE		

Take-Off	Location	Landing	Location
1653 UTC	P.V.	0148 UTC	P.V

B. Past and Forecast Storm Locations

Date/Time	Latitude	Longitude	MSLP	Max. Wind
13Z/24	15.2	117.3		70 kt
18Z	15.4	118.2		
02/25	15.8	119.3		
02/26	17 N	121 W		

C. Mission Briefing

Briefed Phil & Jack. We will fly at #2 5 & #3 10 thousand feet. doing 5 passes through storm in inner core structure and evolution.

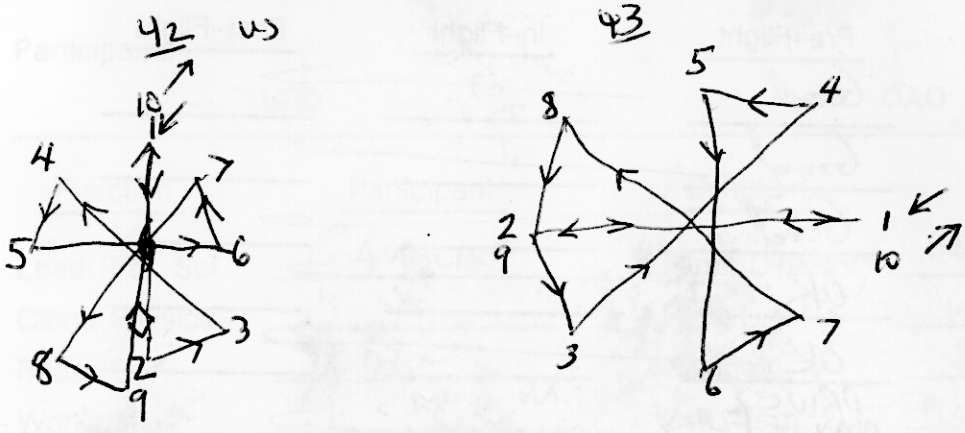
D. Equipment Status

Equipment	Pre-Flight	In-Flight	Post-Flight
Aircraft	Good	→	→
Radar/LF	Good	→	→
Radar/TA (Doppler)	Good	→	→
Cloud physics	OK	→	→
Data system	OK	→	→
Omegasondes	DRIVES MAY BE FLAKY	No errors on drives	→
AXBT/AXCP	OK I Think	→	→
Workstation	NONE	→	→
Photography	OK	Videos rewind	

REMARKS:

Things went very well on this flight. I said a prayer for this flight and God answered it with one of the least problem flights I've been on.

E. I. Proposed Flight Pattern (sketch or designate by number)



E. II. Actual Flight Pattern

As above, but with one extra pair of radial legs on each aircraft.

N-S on N42RF
E-W on N43RF

"Olivia"

Lead Project Scientist Event Log

24 Sept 1994

Date ~~940924~~ Flight 940924H1 LPS GAMACHE

Time	Event	Position	Comments
1653	T/O	Puerto Vallarta	
1837	ODW+LODZ drop	17°48' 112°47'	Began listening to 43's ODW drops. looks good.
1845	ODW listening	17°20' 113°54	Listening on 1st drop still good
1852	Report from NHC	17°8' 114°23'	15°7 118.3° 100kts 955mb 290 10kts
1900		16°48' 115°9'	We will switch to 10,000 ft 42 to 14,000
1905		1	118°16' 15°38' Jacks 1st radar fix
1905	Adjusting course Storm farther N.	1641 11532	Storm farther N. than expected.
			15°45' 118°0 Expected storm pos.
1929		16°40' 117°35'	Leveled out
2:41 1934	IP	16°38' 117°52'	IP tracking S
1940		16°13 11754	XBT away entering rain band
			XBT was good.
1943		15°56' 117°56'	100 kts as we level off
2:53 1746	9	15°44' 117°56'	954 mb 15°44' 117°56'
1949	15°33' 117°56'	15°34' 117°56'	~108 kts
1953	15°13 117°57'	→ 150	AXBT away
1957	Turn ②	15°07' 117°56	Turn ②
1957			ODW Away
3:12 2005	③	15°14' 117°18'	Turn to 315°
2015		15°49' 117°52'	about 120 Kts max
	9	15°54' 118°03'	

Phil says about 100kts at surface

4:32
LH

(3) of (3)

Lead Project Scientist Event Log

Date 24 Sept 1994 Flight 940924H1 LPS GAMACHE

Time	Event	Position	Comments
2247	S side of eyewall	16°6' 118°20'	108 kts
2249	6	~ 16°15' 118°19'	~948 mb
2251	N side of eyewall		119 kts
2302	Finish pattern	17°8' 118°20'	

Form E-2
Page 5 of 5

15°48 ~~118°~~ 117°55'

Sep24 1994

Lead Project Scientist Event Log

Date ~~94 09 24~~ Flight 940924 I1 LPS GAMACHE

1653

Time	Event	Position	Comments
~~18~~ 2030	(4)	16°28' 118°45'	Tracking 220°
2040	(5)	15°54' 118°57'	Tracking 090°
	6	15°54' 118°06'	949mb extrap press
2054		15°54' 117°53'	N ~~[illegible]~~ 130kts E segment
2059		15°54' 117°30'	AxBcenter BT looks good
2103	(6)	15°54' 117°14'	BT only had a few good data before stopping
2104			43 drops ODW
2110	(7)	16°24' 117°27'	heading 225° BT launched good
2119	~~8~~	16°7' 117°58'	BT launched - Bad
2120		16°4' 118°3'	N 115 kts
2126		15°49' 118°19'	105kt wind max behind us
2134	(8)	15°21' 118°46'	tracking 115°
2142	(9)	15°3' 118°11'	20° bank Rwd
2146	(9)		heading N
		16°3' 118°16'	~~93 kts~~ ~~947.5mb~~
	6		947.5mb ~~115kts~~ max
2150 2200 2310		16°12' 118°12'	115kt max on N side
2209	IP (1)	16°44' 118°12'	90-270 2 more passes N-S
2222	N eyewall	16°14' 118°17'	117kts max
2224	6	118°18.6'	measured 948.5mb
2235	(2)	15~~°~~17 118°18'	heading N

NOAA 42 94092HHI

Summary of RADAR Legs:

1746 - 175820 F/AST (Sea Surf on Ferry)

1926 - 1957 N-S (1)

195747 - 200513 F/AST

2005 — 2031 SE-NW (2)

203114 - 203910 F/AST (2032-2036 data gap)

2039 - 2104 W → E (3)

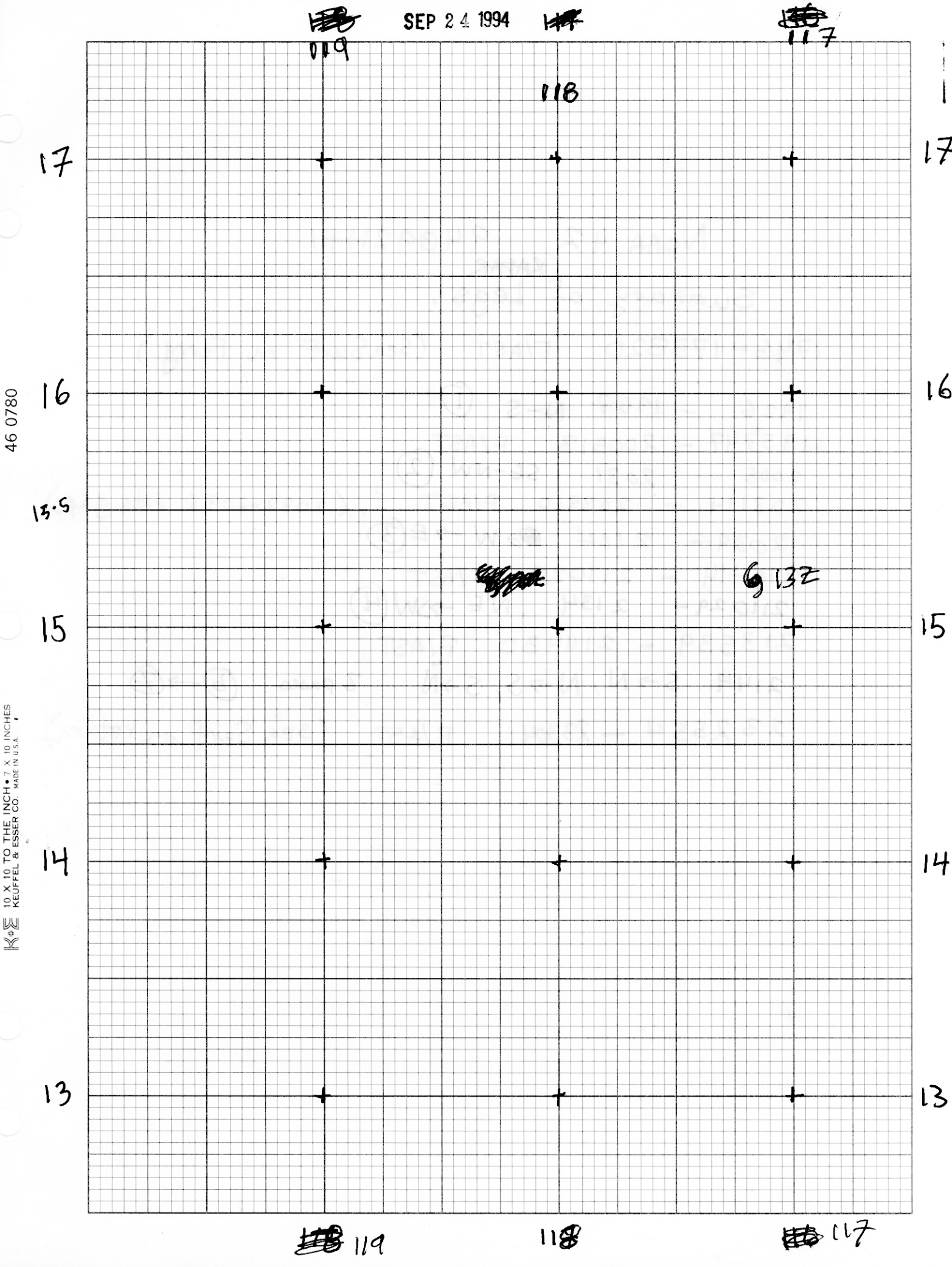
210414 - 211029 F/AST

211029 - 2134 NE → SW (4)

213539 - 214430 F/AST

2144 S → N, N → S, S → N 3 passes (5) → (7)

232554 — 233041 F/AST (Sea Surf on return)


SEP 24 1994
119
118
117
17
16
15.5
15
14
13
132
119
118
117

INNER CORE STRUCTURE AND EVOLUTION EXPERIMENT

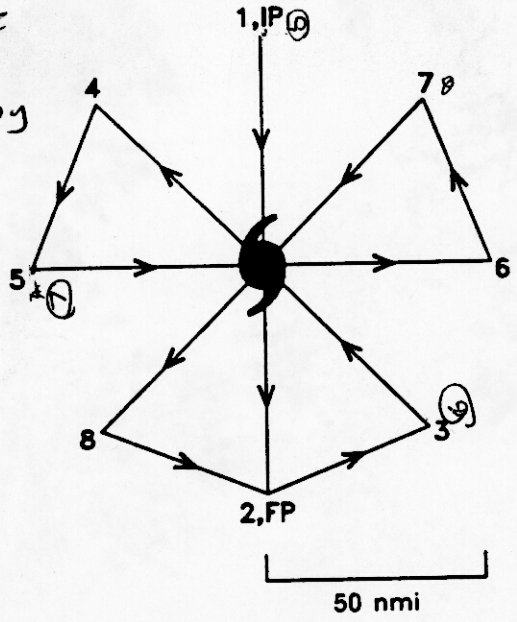


Fig. 9. **Inner Core Structure and Evolution Experiment: Upper aircraft pattern.**

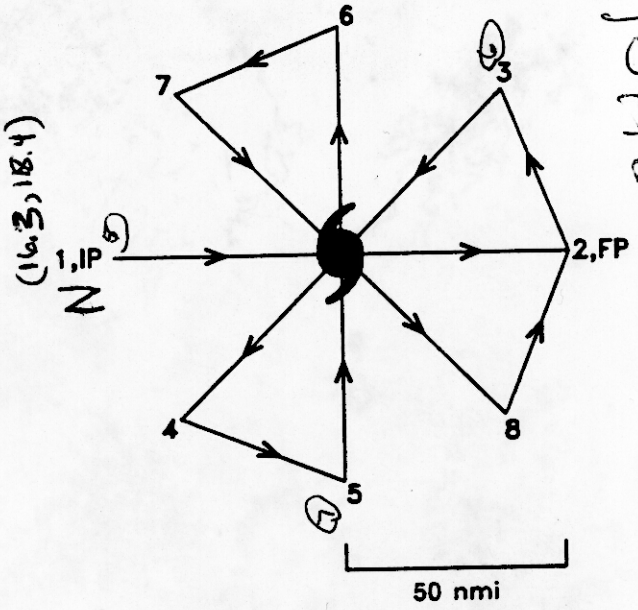


Fig. 10. **Inner Core Structure and Evolution Experiment: Lower aircraft pattern.**

Note 1.	AOC upper and lower aircraft fly 1–2–3–4–5–6–7–8–2 in their respective patterns (Figs. 9 and 10, respectively).
Note 2.	Each aircraft should be at the designated altitude upon reaching the IP and should maintain that altitude until point 8.
Note 3.	True air speed calibration is required (Fig. C–1).
Note 4.	The patterns may be entered along any compass heading, but the upper aircraft pattern should always be rotated 90° counterclockwise from the lower pattern.
Note 5.	Aircraft may attempt to find a wind center on each pass, but should not "hunt" unless directed to do so. Track deviations should be kept to a minimum (10° or less).
Note 6.	Cross checks between the aircraft INE and hard reference points or radio navigation aids are essential.
Note 7.	During each pattern, the ODW drop in the eye should occur during the first pass through the center (a backup would be dropped in the second pass). During passes with ODW drops, the upper aircraft should be 5 min behind lower aircraft.
Note 8.	During downwind legs, Doppler radar should be operated in FAST (forward/aft scanning technique) mode. (Not applicable to aircraft with dual–beam antenna.)