

E.3 Cloud Physics Scientist (On-Board)

The on-board cloud physics scientist (CPS) is responsible for cloud physics data collection on his/her assigned aircraft. Detailed operational procedures are contained in the cloud physics kit supplied for each aircraft. General procedures follow. (Check off and initial).

E.3.1 Preflight

- ☒ 1. Determine status of cloud physics instrumentation systems and report to the on-board lead project scientist (LPS).
- ☒ 2. Confirm mission and pattern selection from the on-board LPS.
- ☒ 3. Select mode of instrument operation.
- ☒ 4. Complete appropriate instrumentation preflight check lists as supplied in the cloud physics operator's kit.

E.3.2 In-Flight

- ☒ 1. Operate instruments as specified in the cloud physics operator's kit and as directed by the on-board LPS.

E.3.3 Postflight

- ☒ 1. Complete summary check list forms and all other appropriate forms.
- ☒ 2. Brief the on-board LPS on equipment status and turn in completed check sheets to the LPS.
- ☒ 3. Take cloud physics data tapes and other data forms and turn these data sets in as follows:
 - a. Outside of Miami - to the HRD operations center (FGOC). I KEEP PMS-DATs
 - b. In Miami - to AOML/HRD. [Note: all data removed from the aircraft by HRD personnel should be cleared with the AOC flight director.]
- ☒ 4. Debrief as necessary at the appropriate operations center (i.e., 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.

YH9GJ2-1I4CP05PPH

Date _____ Flight _____ Operator _____

[illegible]

Cloud Physics Project Scientist Operational Check List

Date 9/24/92 Aircraft N43RF Flight ID 920924I

A. Instrument Status and Performance:

System	Pre-Flight	In-Flight	Downtime	# of Tapes
Johnson-Williams	✓	✓		
PMS probes:	✓	✓		
2D-P	✓	poor		
2D-C	?	✓		
FSSP	✓	✓		
Data System	✓	✓		1 DAT
Recorder	✓	✓		
Formvar	UP	UP		
DRI Charge Probe	244 ok	UP		
DRI Field Mills	384	up?		
King Probe	N/A	N/A		

B. Remarks: SEA TIME = UTC-3

~~RHS MILL FAILED TRYING TO REPLACE W/1007 SPARE~~
FORMVAR & OTHER NOTES in log book

Formvar Log

Date SEP 24 1992

Flight 920924I

Operator R. A. BLACK

[illegible]

920922I

NEW DATA SYSTEM COMMANDS

INITIALIZE: M200 DAT4540

STOP RECORDS: file off

start record: file on

920924I: R.A. BLACK

1536Z

RHS mill failed in pre-flight. ~~Fixed~~ Tried to replace w/1007 spare, but mill head was too big to fit the hole. Put the original back in, & it seems to be OK. Maybe water got inside.

1543:30 2D-P #32 0.38V, #1=1.26V

1552:30 TAKEOFF ROLL

1617:30 at IP for TD — (VIRGIL??)

1621:25 2D-C good, 2DP#32 = 1.34 good.

SEA file on 1624:30 T = -4.2, GA = 5.7 km

1630 - descent to 1415 ft, turn S. 2D-C - aggregation

1729 SEA file off on 1732:00 (ferry to TINA)

1744:30 SEA FILE off 1809:30 file on

1816:44. descent → needles on display

1828 starting run into center T = +3, RA = 4.4 km 600 mb

1836 TINA rainband / eyewall

1840 - in the "eye", or what's left of it.

1847 file off 1903:35 file on: Entering light cloud. T = +2°C

1911Z melting ice.

1919:30 - heading into eyewall - more melting ice T = +1.5°C

1926:30 in "eye" of TINA 1938Z "eyewall" to the east.

920924I P.2

203115 heading SW into a weird shaped band of cloud
 $T = +6^{\circ}\text{C}$

203540 were in it.

204830 climb to -1°C level for microphysics.

2052:00 T1 may have gone bad.

2058:00 turning in at 340° toward eyewall on S. side

2100:30 needles

FV start count 81 on 210430 spd 4

film broke at 435 END FV.

210835 $T = 1.4$ start climb to -5°C level

2D-P #1 diode = 0.93V, then 0.72V at 2115:10

211735 columns, some rounded

SEA file off 2120:54 FINITO!