

E.2 Cloud Physics Scientist (On Board)

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

E.2.1 Preflight

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

E.2.2 In-Flight

- ☒ 1. Operate instruments as specified in cloud physics operator's kit and as directed by HRD cloud physics scientist, unless superseded by directions from on-board LPS.

E.2.3 Postflight

- ☒ 1. Complete summary checklist forms and all other list forms.
- ☒ 2. Brief 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, such as formvar film, foil, etc., and turn these data sets in to the flight director, who will arrange delivery as follows:
 - a. Outside of Miami - to HRD operations center.
 - b. In Miami - to UAO DQAG offices.
- ☒ 4. Debrief as necessary at operations center.
- ☒ 5. Determine status of future missions and notify operations center as to where you can be contacted.

Cloud Physics Project Scientist Operational Checklist

DATE 8 Oct 85

AIRCRAFT 43RF

FLIGHT 851008I

A.

INSTRUMENT STATUS AND PERFORMANCE

	PreFlight	InFlight	PostFlight	Remarks	Data Units Collected
Johnson-Williams	✓	✓	✓		
Nimbrometer	—	—	—		
Lyman Alpha	—	—	—		
U. V.					
dewpoint					
Formvar	—	—	—		
Knollenberg					
Raindrop	✓	FAIR	FAIR		
Cloud Droplet	✓	✓	✓		
FSSP	✓	✓	✓		
Data System	✓	✓	✓		
& Displays					
Ice Particle Counter	—	—	—		
Mee					
ERT					
CO ₂ Radiometer	✓	✓	—		
Microwave Radiometer	—	—	—		
Aerosol	—	—	—		
Filters	—	—	—		
Bulk-Water					
INC					
CCN					

B.

REMARKS

1627/35 Heaters on.

Pcp probe - endrode voltages $\approx 0.5V$

Pcp probe steady and updates

2320 end rode voltages 0 - 2.591 3.584

1 - 0.535 0.537

2506 both probes updating at 158 m/s TAS

DATE 851008J

FLIGHT ISABEL

OPERATOR Willis

2-D Knollenberg Data Tape Log

Taxi 1214:00

T/O 1615/44

Tape #	EOF #	Time On	Time Off	Comments FSSP Range 1
1	res	1722/00 1623/30	1806/30	FSSP Range 1 Ends 2760 0.770 100% ok 2882 0.676
2		1806/49	1853/10	TAPE 2 didn't start (auto)
3		1853/18	1858/58	
4		1859/11	1904/15	
5		1904/45	1911/30	
6		1911/52	1921/50	rent system
7		1927/00	1941/35	
8		1941/40	1949/28	START CLIMB 1948/00 (1947) still doesn't switch auto
9		1949/39	1958/03	TURNING BACK 1955/00 +3.4°C
10		1958/19	2003/26	
11		2006/03 2003/37	2011/43	
12		2011/49	2016/24	
13		2016/36	2022/10	
14		2022/20	2027/20	
15		2027/37	2034/49	
16		2034/58	2039/52	
17		2040/10	2046/13	
18		2046/27	2051/40	IN TURN WILL WANT TO
19		2053/39	2059/50	

T 13.9

pretty
cellular

START
NEXT
TAPE

20

2100/06 2105/30

Sheet 2

DATE 10/08/85

FLIGHT 851008I

OPERATOR Willis

2-D Knollenberg Data Tape Log

Tape #	EOF #	Time On	Time Off	Comments
21		2106/00	2111/51	
22		2112/30	2117/45	
23		2118/00	2127/00	will descend to 50
24		2137/39	2144/34	will leave prober off while circling in center
25		2144/49	2152/06	
26		2152/19	2157/47	
27		2158/09	2204/55	
28		2214/12	2222/10	will delay start a few minutes between bands
29		2222/28	2230/15	
30		2230/30	2237/04	end in turn, will delay till turn complete
31		2238/24	2247/58	
32		2247/10	2252/29	
33		2252/48	2302/38	2300/30 START CLIMB
34		2302/51	2308/33	
35		2308/39	2316/40	
36		2317/17	2324/57	
37		2325/10	2330/50	
38		2331/07	2335/35	
39		2335/50	2341/10	

40

2341/17 2346/20

41

2346/30 2353/52

42

2354/03 2403/30

0005Z FIX

27/13'N 72 43'W 999mb

0016 climb no particles thor

DATE _____ FLIGHT _____ OPERATOR _____

Formvar Log

[illegible]