

TO			FREQ	AIRWAY	MAGNETIC COURSE	DISTANCE	ESTIMATED		ACTUAL		GROUND SPEED
WPI	COORDINATES	IDENTIFICATION		ALTITUDE			MINS TO CHECK	TIME OVER CHECK	MINS TO CHECK	TIME OVER CHECK	
1	19-11 N 67-36 W	IDAHO	114.0	R 6 ↑	304	103	19	1950			
2	20-01 68-49	HARDY		A 17 ↑ 310	311	82	12	2002		2000	
3	21-26 71-09	GRAND TURN GT	18 232	A-17 310	308	156	20	2022		2022	
4	23-52 73-55	LASSI		BR 11 310	318	210	127	2049		2049	
5	25-17 76-20	ELJ ELEUTHERA	224	BR 11 ↑ 350	306	158	20	2109		2109	
6	26-38 78-22	GBN GRAND BAHAMA	326	BR 11 350	308	137	17	2126		2126	
7	28-09 80-00	STORM CENTER		D 350	317	123	16	2142			
	DELAY 100NM RADIUS			---			D 3+15	0059			
8	25-58 80-28	MIA MIA	106 115.9	D ---	190	135	17				
9	25-48 80-17	MIA INTNL		D ---	-	11	3				
				---			2+31				
				---			5+46				

Appendix J

Operational Checklists

19790903NI-LPS

27 45
80 45

FORM J-1

On-board Lead Project Scientist Checklist

700903N

DATE 03 SEP 79AIRCRAFT 712

FLT _____

A. Participants

Function	Participant	Function	Participant
Lead Proj. Sci.	<u>WILLOUGHBY</u>	Gust Probe	_____
Cloud Physics	_____	Omega Sonde	<u>DATZMAN</u>
AXBT	_____	Sys Eng	_____
Hot Film	_____	Data Tech	_____
Radar	_____	El Tech	_____
Flt DIR/MET	<u>PETERSEN</u>	Other	_____

Time Off

Location

Time On

Location

B. Past and Forecast Storm Position - Observed Positions

Date	Time	Lat	Lon	Date	Time	Lat	Lon	MSLP
<u>0322</u>	_____	<u>28</u>	<u>80</u>	<u>032142</u>	_____	<u>2742</u>	<u>8031</u>	_____
_____	_____	_____	_____	<u>04 0010</u>	_____	<u>2755</u>	<u>8034</u>	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

C. Mission Briefing

FLY PATTERN V. DROP MANY SONDES

790903 2

D. Equipment Status

<u>Equipment</u>	<u>Pre Flt</u>	<u>In Flt</u>	<u>Post Flt</u>	<u>Reports Collected</u>
Aircraft	↑	↑		
Radar	↑	↑		
Cloud Physics				
Data Sys	↑	↓		
Omega Sondes	↑ 1	↑ 1		
AXBT				
Gust Probe				
Hot Film				
Photography				

REMARKS

DROP #1 16 133
 212319
 26:29
 79:05

DROP 1 P-BAD
 22 23 25
 28 27
 79 26

DROP 4
 23 13
 28 15.8
 79 19.8

DROP #2
 221115
 27 35
 79 51.6

DROP 3
 23 00 21
 26-44
 79-44

1 SEVERAL DEFECTIVE SONDES
 SOME PROBLEMS GETTING STARTED
 ONLY ONE DROP ENROUTE

E. Proposed Flight Patterns

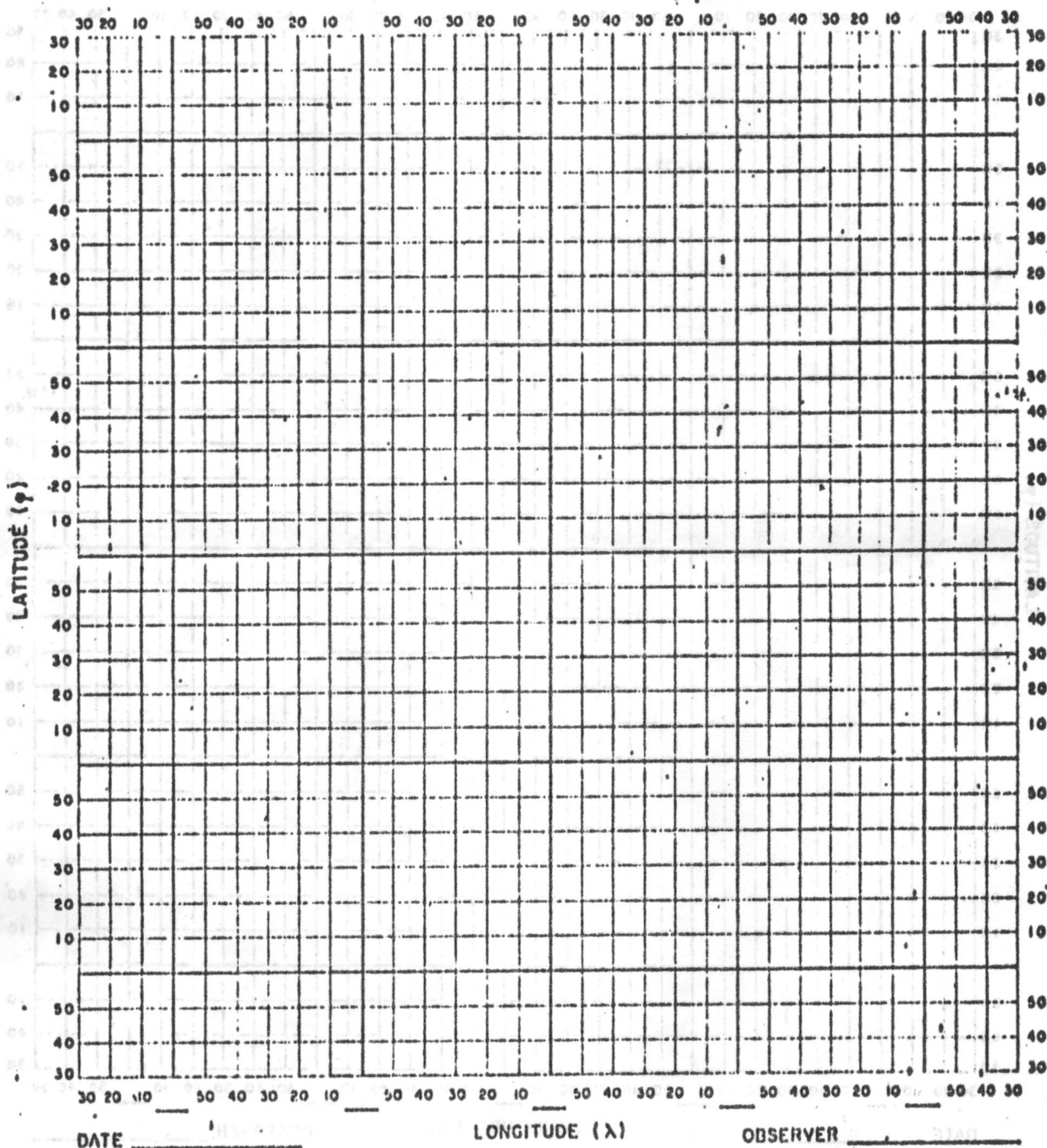
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F. Actual Flight Patterns

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HURRICANE RECCO PLOTTING CHART

TRUE AT 25° LATITUDE, IN DEGREES AND MINUTES OF ϕ AND λ

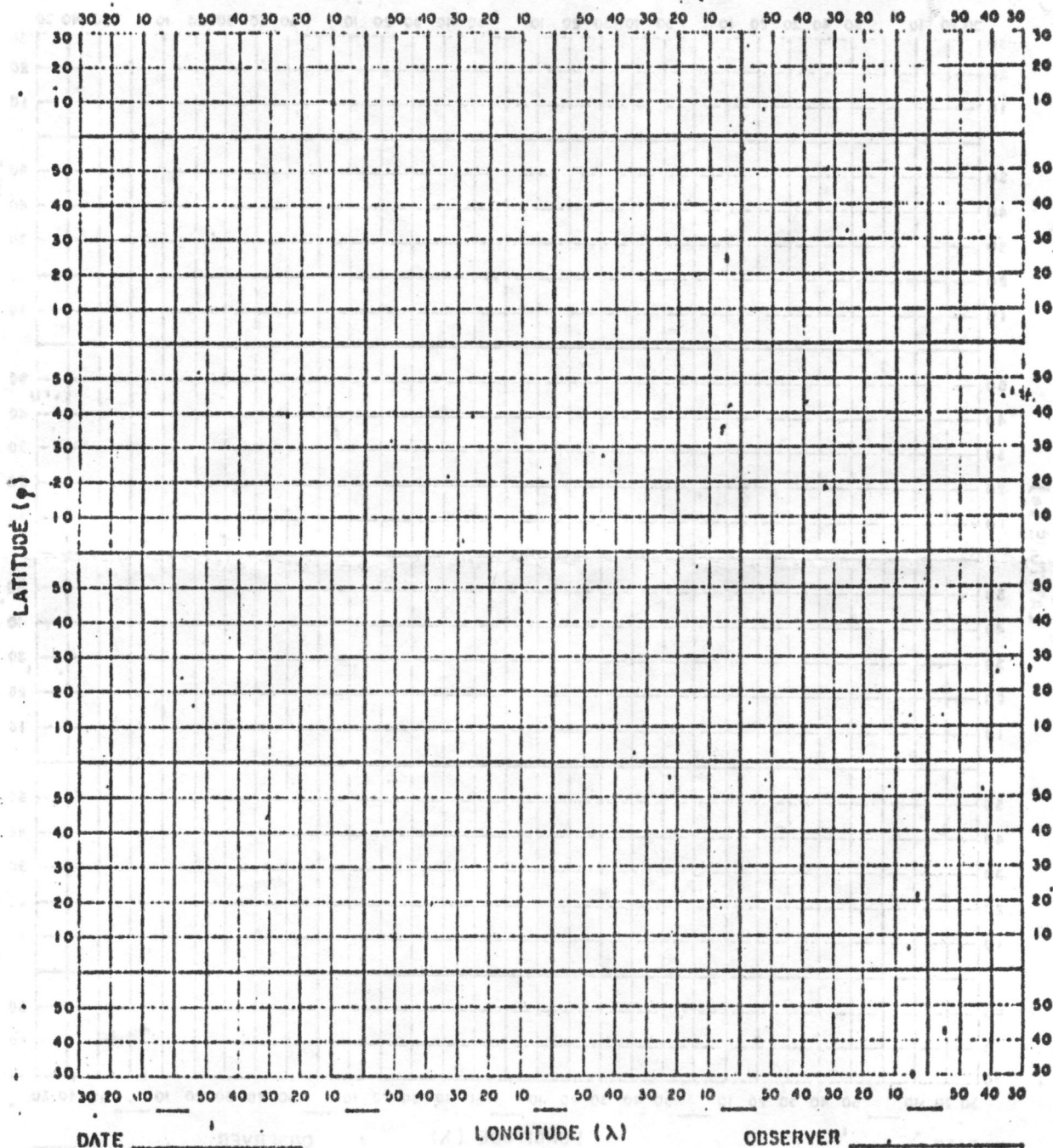


NOTE: LABEL FULL DEGREES ACCORDING TO LOCATION OF FLIGHT AREA

600007

HURRICANE RECCO PLOTTING CHART

TRUE AT 25° LATITUDE, IN DEGREES AND MINUTES OF ϕ AND λ



NOTE: LABEL FULL DEGREES ACCORDING TO LOCATION OF FLIGHT AREA

ARNOLD
National Aeronautics and
Space Administration



Ames Research Center
Moffett Field, California
94035

Reply to Attn of:

SEM:211-12

October 5, 1979

Mr. Robert E. Sheets
NOAA/NHEML
Gables One Tower, Room 520
1320 South Dixie Highway
Coral Gables, FL 33146

Dear Bob:

Enclosed you will find the data plots and track plots flown for
Hurricanes David and Frederic.

Flights 5 and 6 track plots now show continental and state boundaries
for the United States. Flight 7 is the usual overlay. Continental
boundaries for Cuba are not included in the data base as yet.

If you have any questions, please give me a call.

Sincerely,

George M. Alger
CV-990 Assistant Mission Manager

18 Enclosures

CV 990 1979 SUMMER PROGRAM
ADDAS PRINT LIST DEFINITIONS

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1. JULN DATE - Day of year at Prime Meridian.
2. TIME (H,M,S) - Universal Time from WWV.
3. LATITUDE - Present position geodetic latitude from INS serial BCD.
4. LONGITUDE - Present position geodetic longitude from INS serial BCD.
5. PRESS ALT - Aircraft pressure altitude in feet corresponding to U.S. Standard Atmosphere, 1962, from CADC (29.92 Barometric set).
6. RADAR ALT - Aircraft altitude in feet above ground from APN-159 system.
7. PITCH - Aircraft pitch angle from INS synchro (+ = up, - = down).
8. ROLL - Aircraft roll angle from INS synchro (+ = right, - = left).
9. GRND SPEED - Aircraft ground speed in knots from INS serial BCD.
10. TRU AIR SPD - True air speed in knots from CADC.
11. TRUE HDNG - Aircraft true geodetic heading in degrees from INS serial BCD.
12. WIND DIR - True geodetic direction in degrees from which wind is blowing from INS serial BCD.
13. WIND SPEED - Wind speed in knots from INS serial BCD.
14. DRIFT ANGL - Angle in degrees between true heading and track angle from INS serial BCD.
15. STAT TEMP (SAT) - Static air temperature in degrees Centigrade directly from CADC.
16. TOTAL TEMP (TAT) - Total air temperature in degrees Centigrade directly from Rosemount 102AH2AG probe.
17. IR SURF TEMP - Surface temperature beneath the aircraft in degrees Centigrade from PRT-5 radiometer.
18. CABIN ALT - Cabin altitude in feet from Rosemount 1241 AGCBEF probe.
19. #MUX CAL - A calibration signal for the ADDAS ADC varying from -10 to +10 VDC.
20. #MUX VOLT - A voltage-only printout of an in-flight selectable ADC channel.

INS =Inertial Navigation System
CADC =Central Air Data Computer
=Not required for flight director check.

21. MACH NO. - Aircraft Mach number from CADC.
22. SATM - Static air temperature in degrees Centigrade, computed from MACH (21), and TAT (16).
- 23-26. #E1-E4 - Voltage conversions from a dedicated monitor channel in the ADDAS ADC.
27. PRESS MB - Computation of static air pressure in millibars from PRESS ALT (5). 790903W
28. D-VAL - Delta value obtained from RADAR ALT (6) minus PRESS ALT (5), in meters. 790903W
29. WX RADAR TILT - Weather radar tilt angle in degrees (- = down, + = up). 790903W
30. SIDE SLIP - The deviation in degrees of actual air flow from the axis of the aircraft on the horizontal plane.
31. DFPT-ARC - Ambient dew/frost point in degrees Centigrade from a General Eastern (Model 1011) dual-stage cooled-mirror hygrometer. Any values above 999. or below -999. indicate that the hygrometer has exceeded it's operational capabilities.
32. SP HUMID - The ratio of the mass of water vapor to the mass of air, expressed as gram/kilogram.
33. MAPS CO - The integrated columnar content of CO from the ground to the aircraft, in parts per billion.
34. SUNEL - Sun elevation angle corrected for atmospheric refraction and roll angle relative to the aircraft.
35. SUNAZ - Sun azimuth angle corrected for atmospheric refraction and roll angle relative to the left hand side of the aircraft (+ = sun is forward of aircraft wing).
36. VER ACC - Vertical Acceleration in G(s) from a CV-990 center of gravity accelerometer (see 37 but deviation is from 1 G).
37. LAT ACC - Lateral Acceleration in G(s) from a CV-990 center of gravity accelerometer. (Not an instantaneous reading, this represents the maximum deviation from 0(G) during a print interval.)
38. SOZEN - Uncorrected solar zenith angle.
39. SOAZ - Uncorrected solar azimuth angle.
40. VP - Averaged voltage of the HALOE vacuum path.
41. DELV - Averaged voltage of differential between vacuum and gas paths within HALOE.

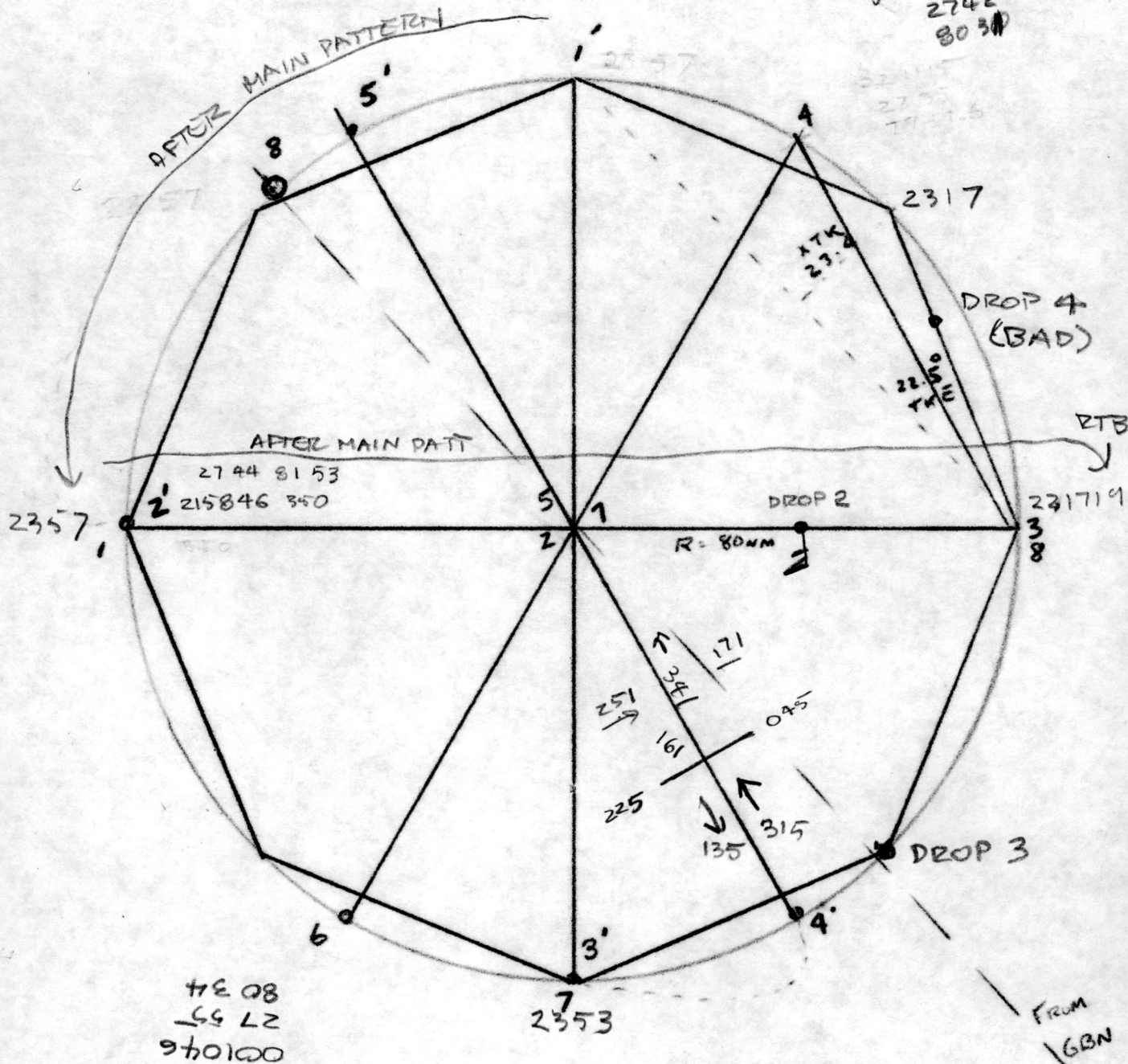
HUGH WILLOUGHBY
STEVE DATZMAN } NOAA

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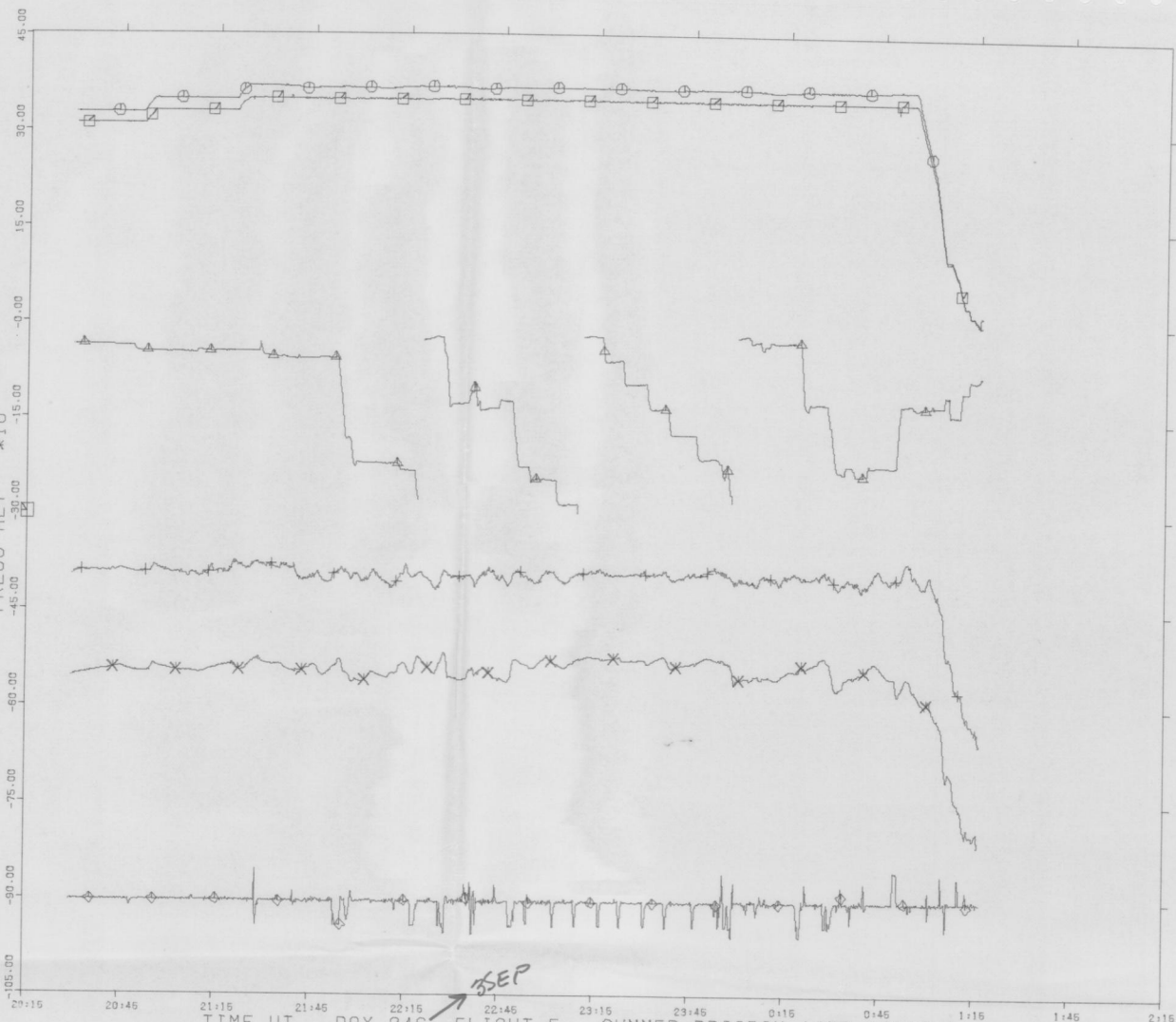
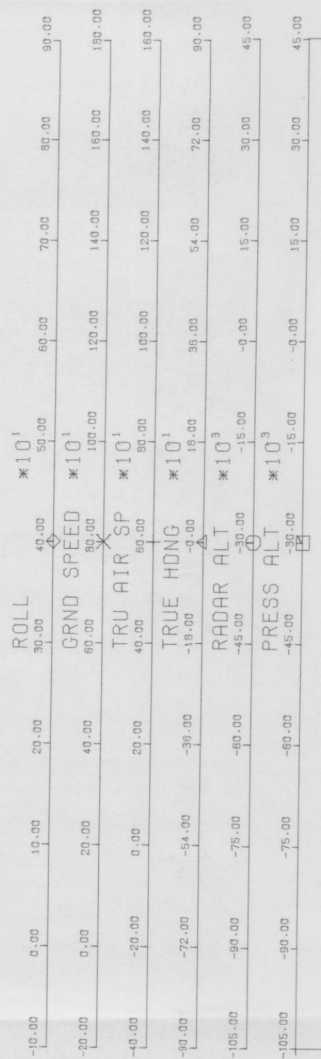
8225
FEET WET



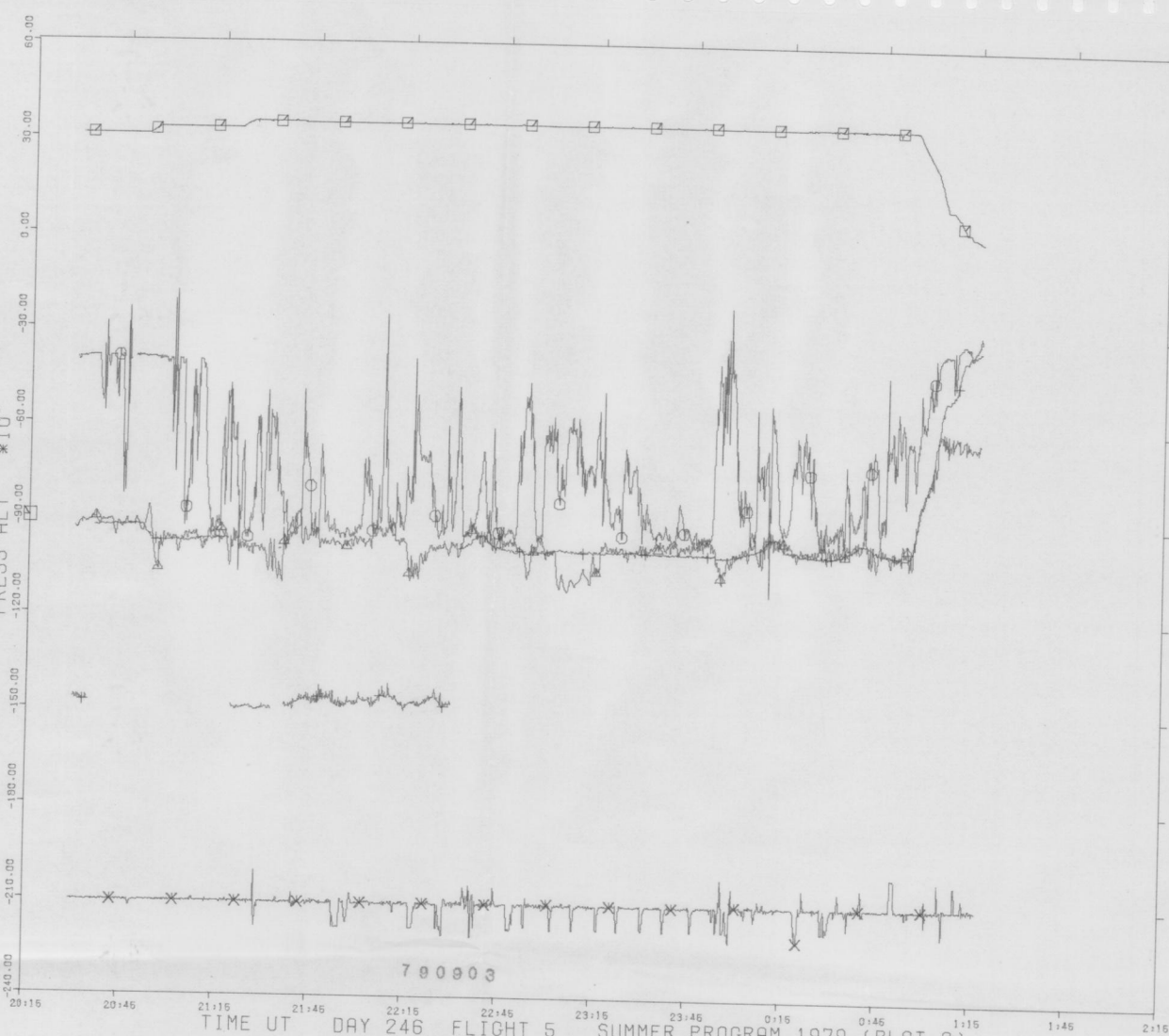
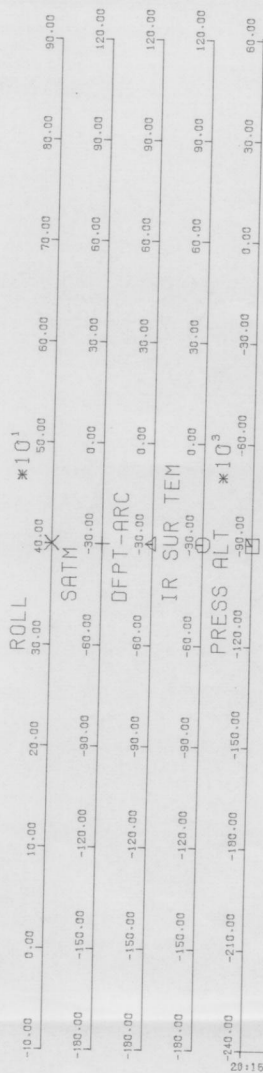
Q1 2142
2742
8030



4E 08
55 72
940100

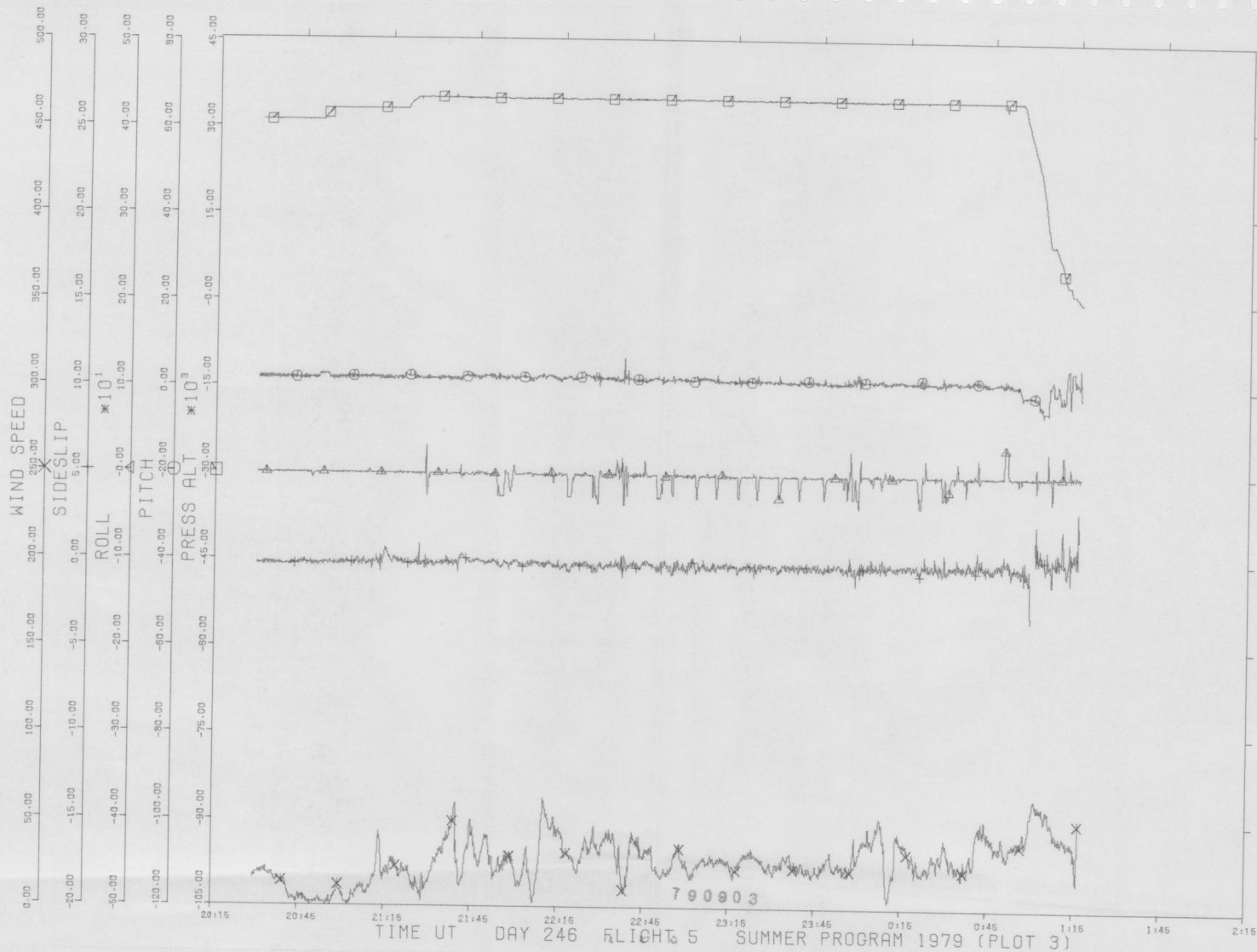


FLIGHT 5 SUMMER PROGRAM 1979 (PLOT 1)



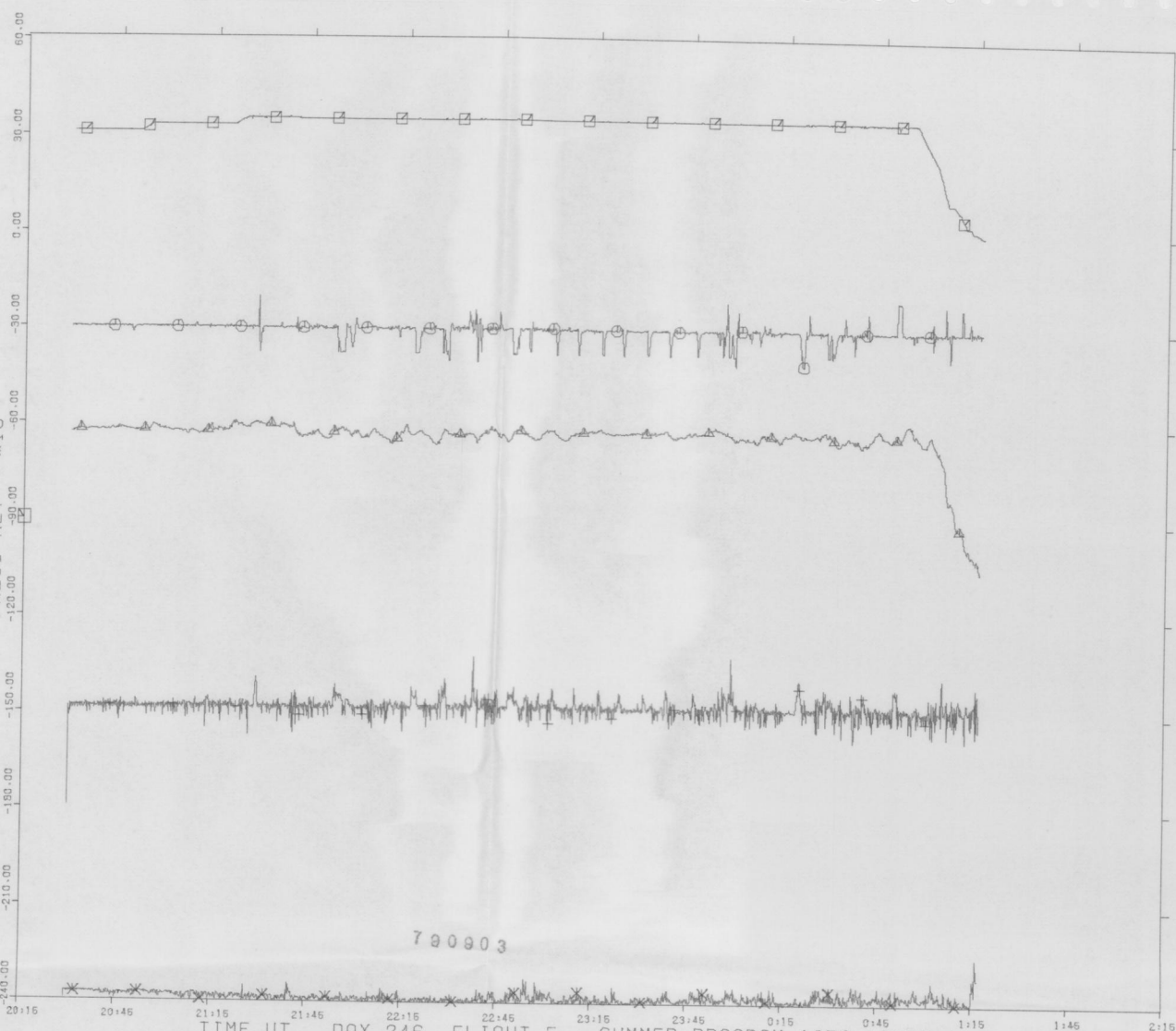
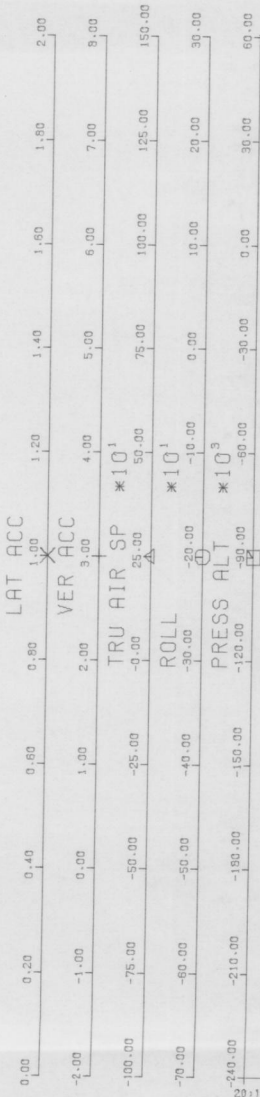
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LAT ACC

VER ACC

TRU AIR SP $\times 10^1$ ROLL $\times 10^1$ PRESS ALT $\times 10^3$ 

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TIME UT DAY 246 FLIGHT 5 SUMMER PROGRAM 1979 (PLOT 4)

