

# **Flight Data File Crew Activity Plan**

## **STS 51-I**

### **(Cycle 2 Trajectory)**

---

Mission Operations Directorate  
Operations Division

Final

July 15, 1985



National Aeronautics and  
Space Administration

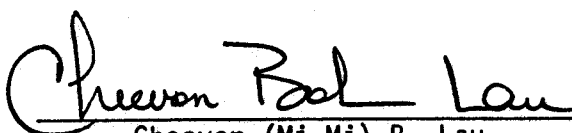
**Lyndon B. Johnson Space Center**  
Houston, Texas

MISSION OPERATIONS DIRECTORATE

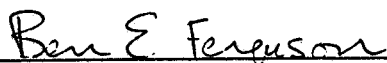
STS 51-I CREW ACTIVITY PLAN

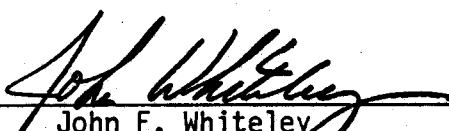
FINAL  
July 15, 1985

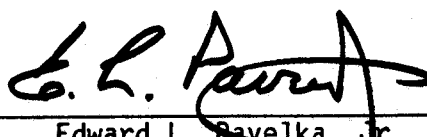
PREPARED BY:

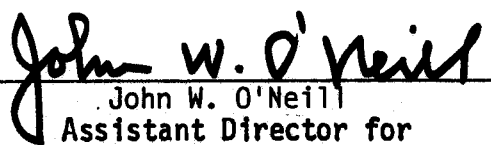
  
Cheevon (Mi-Mi) B. Lau  
Book Manager

APPROVED BY:

  
Ben E. Ferguson  
Head, Flight Activity Planning  
Section 1

  
John F. Whiteley  
Chief, Flight Activity Branch

  
Edward L. Pavelka, Jr.  
Chief, Operations Division

  
John W. O'Neill  
Assistant Director for  
Operations

This document is under the configuration control of the Crew Procedures Control Board (CPCB). All proposed changes must be submitted on standard JSC Form 482 to DH4/FDF Manager, Bldg 4, Rm 352, 713-483-2868.

Comments concerning this document may be addressed to DH4/Mi-Mi Lau, or DH4/Gail Schneider, Bldg 4, Rm 337, 713-483-5871.

Changes to the distribution list should be submitted in writing to DH4/Gwen Butler, Bldg 4, Rm 373, 713-483-5224.

Incorporates 482	
No: CAP-349A	CAP-391
CAP-376	CAP-395A
CAP-380A	CAP-396
CAP-382	CAP-397
CAP-383B	CAP-398
CAP-384A	FDF-576A
CAP-385	
CAP-390	

Incorporates DN	
No: CAP-01	
CAP-02	

ACKNOWLEDGMENTS

The following individuals contributed significantly to preparing the STS 51-I Crew Activity Plan:

<u>AREA</u>	<u>NAME</u>	<u>PHONE NO.</u>
Nominal Timeline	Gail Schneider	483-5871
CAPS Processing	Cynthia Nagy Mary Lou Stirling	483-3087 483-3087
Attitude and Pointing	Steve Hoefler	483-2201
Editing (Omniplan)	Mildred Cherry	483-3844
Word Processing (Omniplan)	J. Herrington J. Lucas P. Romero R. Scott T. Walker	

STS 51-I CREW ACTIVITY PLAN

**LIST OF EFFECTIVE PAGES**

FINAL 07/15/85

i.....	CAP/51-I/FIN	3-24.....	CAP/51-I/FIN
ii.....	CAP/51-I/FIN	3-25.....	CAP/51-I/FIN
iii.....	CAP/51-I/FIN	3-26.....	CAP/51-I/FIN
iv.....	CAP/51-I/FIN	3-27.....	CAP/51-I/FIN
v.....	CAP/51-I/FIN	3-28.....	CAP/51-I/FIN
vi.....	CAP/51-I/FIN	3-29.....	CAP/51-I/FIN
1-1.....	CAP/51-I/FIN	3-30.....	CAP/51-I/FIN
1-2.....	CAP/51-I/FIN	3-31.....	CAP/51-I/FIN
1-3.....	CAP/51-I/FIN	3-32.....	CAP/51-I/FIN
1-4.....	CAP/51-I/FIN	3-33.....	CAP/51-I/FIN
2-1.....	CAP/51-I/FIN	3-34.....	CAP/51-I/FIN
2-2.....	CAP/51-I/FIN	3-35.....	CAP/51-I/FIN
2-3.....	CAP/51-I/FIN	3-36.....	CAP/51-I/FIN
2-4.....	CAP/51-I/FIN	3-37.....	CAP/51-I/FIN
2-5.....	CAP/51-I/FIN	3-38.....	CAP/51-I/FIN
2-6.....	CAP/51-I/FIN	3-39.....	CAP/51-I/FIN
2-7.....	CAP/51-I/FIN	3-40.....	CAP/51-I/FIN
2-8.....	CAP/51-I/FIN	4-1.....	CAP/51-I/FIN
2-9.....	CAP/51-I/FIN	4-2.....	CAP/51-I/FIN
2-10.....	CAP/51-I/FIN	4-3.....	CAP/51-I/FIN
2-11.....	CAP/51-I/FIN	4-4.....	CAP/51-I/FIN
2-12.....	CAP/51-I/FIN	4-5.....	CAP/51-I/FIN
2-13.....	CAP/51-I/FIN	4-6.....	CAP/51-I/FIN
2-14.....	CAP/51-I/FIN	4-7.....	CAP/51-I/FIN
2-15.....	CAP/51-I/FIN	4-8.....	CAP/51-I/FIN
2-16.....	CAP/51-I/FIN	5-1.....	CAP/51-I/FIN
2-17.....	CAP/51-I/FIN	5-2.....	CAP/51-I/FIN
2-18.....	CAP/51-I/FIN	5-3.....	CAP/51-I/FIN
3-1.....	CAP/51-I/FIN	5-4.....	CAP/51-I/FIN
3-2.....	CAP/51-I/FIN	5-5.....	CAP/51-I/FIN
3-3.....	CAP/51-I/FIN	5-6.....	CAP/51-I/FIN
3-4.....	CAP/51-I/FIN	5-7.....	CAP/51-I/FIN
3-5.....	CAP/51-I/FIN	5-8.....	CAP/51-I/FIN
3-6.....	CAP/51-I/FIN	5-9.....	CAP/51-I/FIN
3-7.....	CAP/51-I/FIN	5-10.....	CAP/51-I/FIN
3-8.....	CAP/51-I/FIN	5-11.....	CAP/51-I/FIN
3-9.....	CAP/51-I/FIN	5-12.....	CAP/51-I/FIN
3-10.....	CAP/51-I/FIN	5-13.....	CAP/51-I/FIN
3-11.....	CAP/51-I/FIN	5-14.....	CAP/51-I/FIN
3-12.....	CAP/51-I/FIN	5-15.....	CAP/51-I/FIN
3-13.....	CAP/51-I/FIN	5-16.....	CAP/51-I/FIN
3-14.....	CAP/51-I/FIN	6-1.....	CAP/51-I/FIN
3-15.....	CAP/51-I/FIN	6-2.....	CAP/51-I/FIN
3-16.....	CAP/51-I/FIN	6-3.....	CAP/51-I/FIN
3-17.....	CAP/51-I/FIN	6-4.....	CAP/51-I/FIN
3-18.....	CAP/51-I/FIN	6-5.....	CAP/51-I/FIN
3-19.....	CAP/51-I/FIN	6-6.....	CAP/51-I/FIN
3-20.....	CAP/51-I/FIN	6-7.....	CAP/51-I/FIN
3-21.....	CAP/51-I/FIN	6-8.....	CAP/51-I/FIN
3-22.....	CAP/51-I/FIN		
3-23.....	CAP/51-I/FIN		

STS 51-I CAP CUE CARDS

DAP Book Front Cover.....	5-4	CAP/51-I/O/BAS
UNIV PTG (Back of DAP Book Front Cover).....	5-4	CAP/51-I/O/FIN
DAP A TOC.....	5-5	CAP/51-I/O/FIN
DAP A1.....	5-5	CAP/51-I/O/BAS
A1.....	5-5	CAP/51-I/O/BAS
DAP A2.....	5-6	CAP/51-I/O/BAS
A2.....	5-6	CAP/51-I/O/BAS
DAP A3.....	5-6	CAP/51-I/O/BAS
A3.....	5-6	CAP/51-I/O/BAS
DAP A4.....	5-7	CAP/51-I/O/BAS
A4.....	5-7	CAP/51-I/O/BAS
DAP A5.....	5-7	CAP/51-I/O/BAS
A5.....	5-7	CAP/51-I/O/FIN
DAP A6.....	5-8	CAP/51-I/O/BAS
A6.....	5-8	CAP/51-I/O/BAS
DAP A7.....	5-8	CAP/51-I/O/BAS
A7.....	5-8	CAP/51-I/O/FIN
DAP A8.....	5-9	CAP/51-I/O/BAS
A8.....	5-9	CAP/51-I/O/BAS
DAP A9.....	5-9	CAP/51-I/O/FIN
A9.....	5-9	CAP/51-I/O/FIN
DAP A10.....	5-10	CAP/51-I/O/FIN
A10.....	5-10	CAP/51-I/O/FIN
DAP A11.....	5-10	CAP/51-I/O/FIN
A11.....	5-10	CAP/51-I/O/FIN
(Blank).....	5-11	CAP/51-I/O/FIN
DAP B TOC.....	5-11	CAP/51-I/O/FIN
DAP B1.....	5-11	CAP/51-I/O/BAS
B1.....	5-11	CAP/51-I/O/BAS
DAP B2.....	5-12	CAP/51-I/O/BAS
B2.....	5-12	CAP/51-I/O/BAS
DAP B3.....	5-12	CAP/51-I/O/BAS
B3.....	5-12	CAP/51-I/O/BAS
DAP B4.....	5-13	CAP/51-I/O/BAS
B4.....	5-13	CAP/51-I/O/FIN
DAP B5.....	5-13	CAP/51-I/O/BAS
B5.....	5-13	CAP/51-I/O/BAS
DAP B6.....	5-14	CAP/51-I/O/FIN
B6.....	5-14	CAP/51-I/O/FIN
DAP B7.....	5-14	CAP/51-I/O/FIN
B7.....	5-14	CAP/51-I/O/FIN
DAP B8.....	5-15	CAP/51-I/O/FIN
B8.....	5-15	CAP/51-I/O/FIN
DAP B9.....	5-15	CAP/51-I/O/FIN
B9.....	5-15	CAP/51-I/O/FIN
(Blank).....	5-16	CAP/51-I/O/FIN
DAP Book (Back Cover).....	5-16	CAP/51-I/O/BAS

CONTENTS

PAGE

INTRODUCTION..... v

STS 51-I OVERVIEW..... 1-1

SUMMARY TIMELINE..... 2-1

DETAILED TIMELINE..... 3-1

    FLT DAY 1..... 3-2

    FLT DAY 2..... 3-6

    FLT DAY 3..... 3-10

    FLT DAY 4..... 3-15

    FLT DAY 5..... 3-19

    FLT DAY 6..... 3-24

    FLT DAY 7..... 3-29

    FLT DAY 8..... 3-34

    FLT DAY 9..... 3-39

CONSUMABLES CURVES..... 4-1

STS 51-I DAP BOOK..... 5-1

STS 51-I ATTITUDE TIMELINE..... 6-1

**This Page Intentionally Blank**

## INTRODUCTION

The STS 51-I Crew Activity Plan is the flight data file article that contains the on-orbit timeline. It does not contain the detailed timelines that are covered in the Ascent, Post Insertion, Rendezvous, EVA, Deorbit Prep, and Entry Checklists. The detailed RMS procedures required during the Rendezvous timeframe are in the 51-I Rendezvous book. During the EVA timeframe, the detailed RMS procedures are in the 51-I PDRS OPS Checklist. For continuity, the entire flight is shown in the summary level timeline.

This on-orbit timeline satisfies the objectives specified in the Flight Definition and Requirements Directive and the requirements of the STS 51-I Flight Requirements Document.

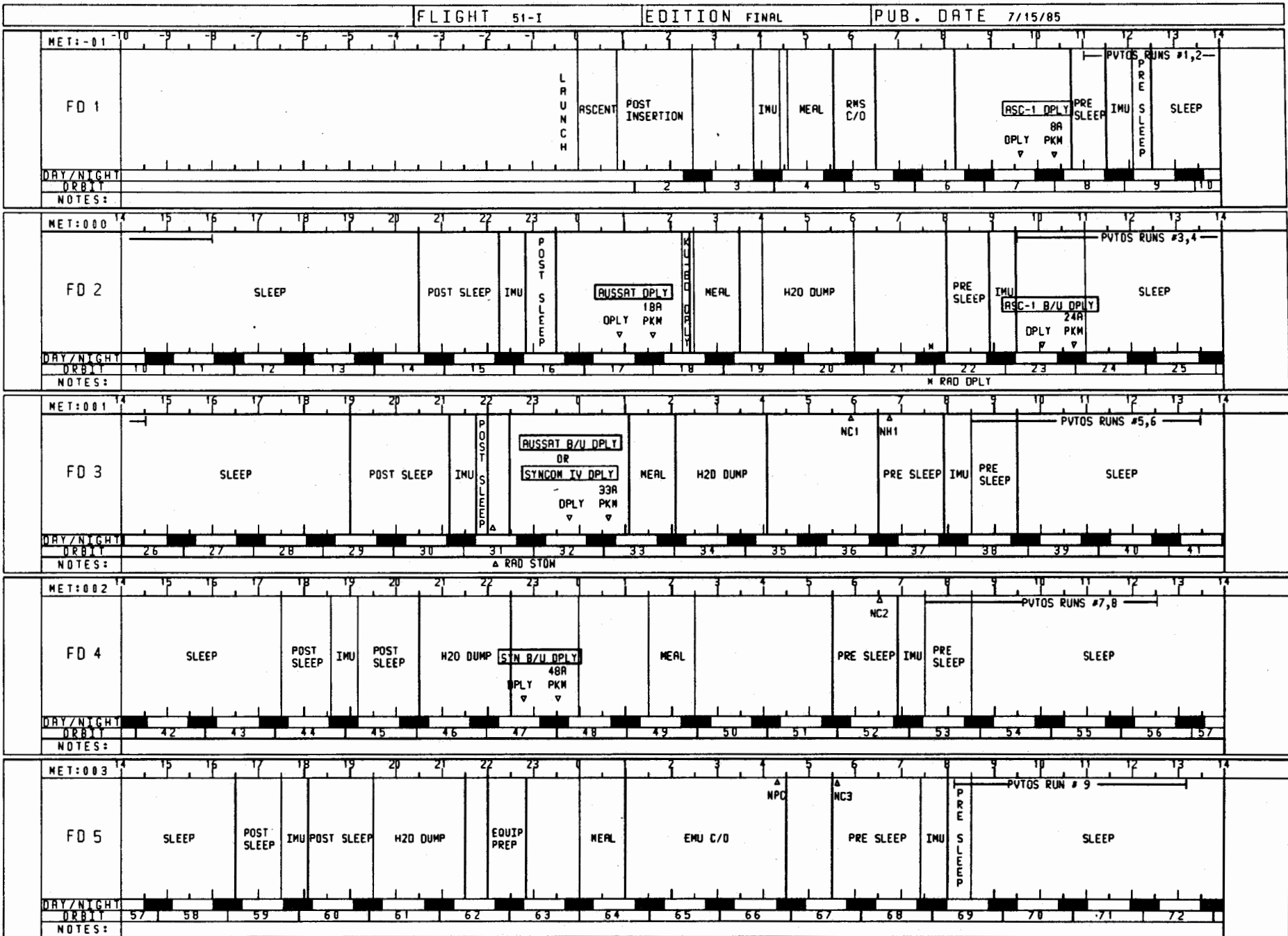
The flight profile (cycle 2 trajectory data) used for this Crew Activity Plan is for a launch date of August 24, 1985, at 08:10 CDT. Orbiter inertial attitudes are expressed relative to a mean of 1950 (M50) reference frame. The cycle 2 trajectory does not contain the orbit adjust burn on FD8 so actual AOS/LOS times may vary after that point. Additionally, on FD3 the trajectory reflects a circ burn, NH burn, and NC burn each separated by ~45 minutes. The CAP shows the most propellant conservative method with the circ burn deleted and NH and NC burn times swapped. The end result, trajectory wise, of either burn scenario is the same.

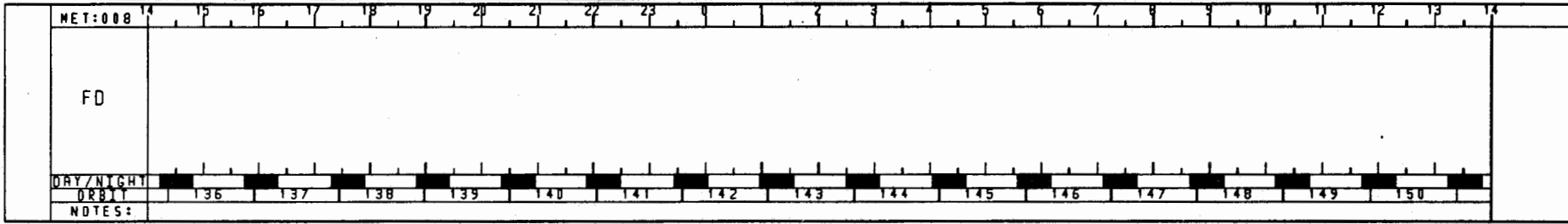
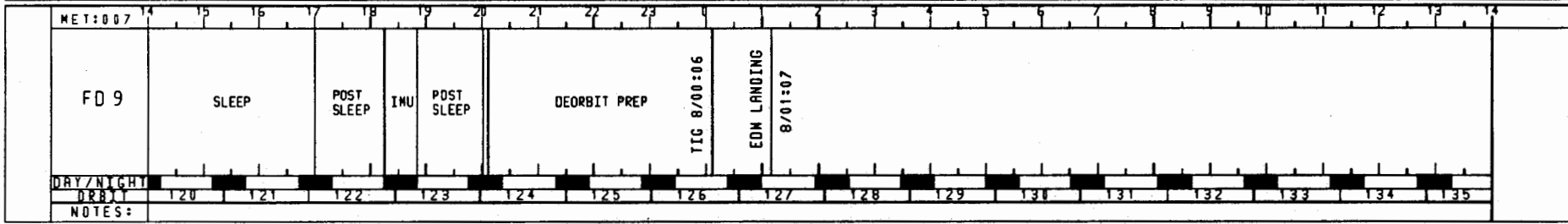
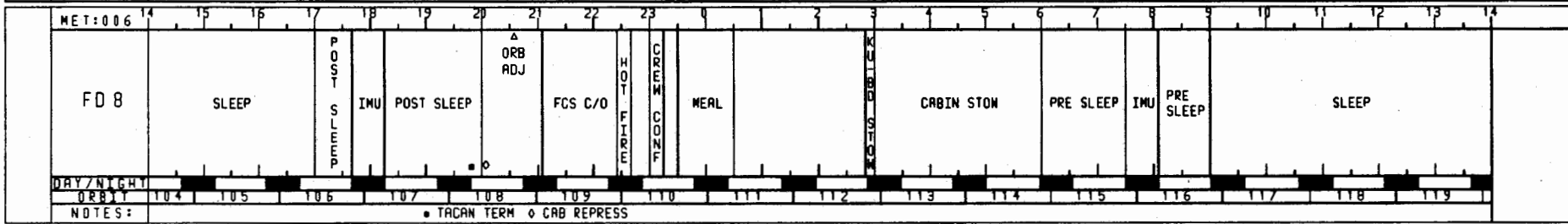
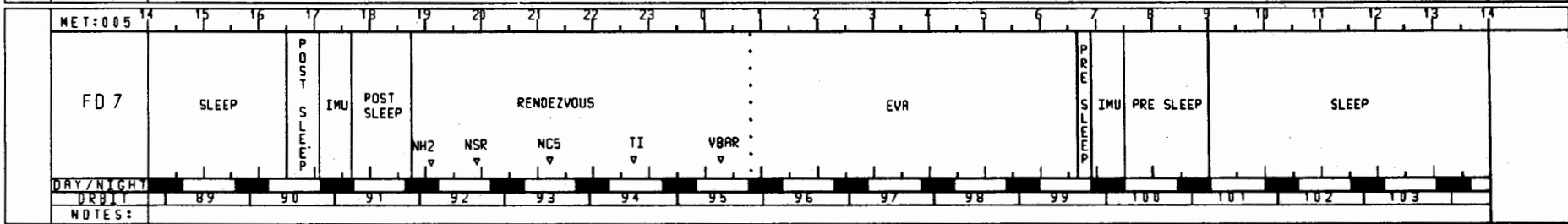
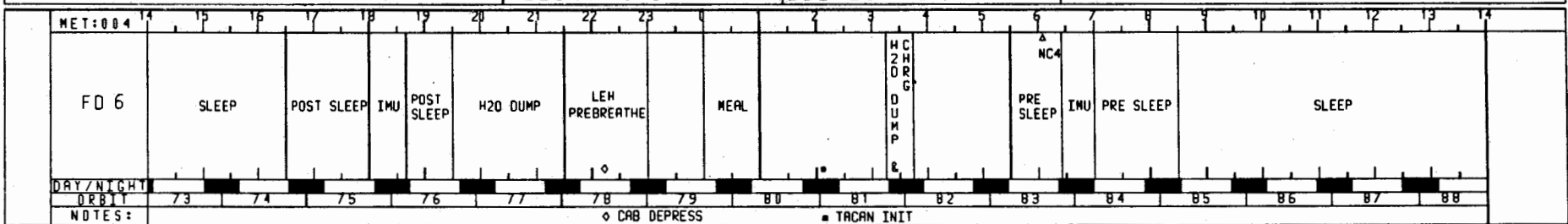
Finally, new satellite orbit data drives the launch time 10 to 20 minutes earlier than that reflected in the CAP. CDT times on the summary page will be off by that amount.



**This Page Intentionally Blank**

51-I  
OVERVIEW

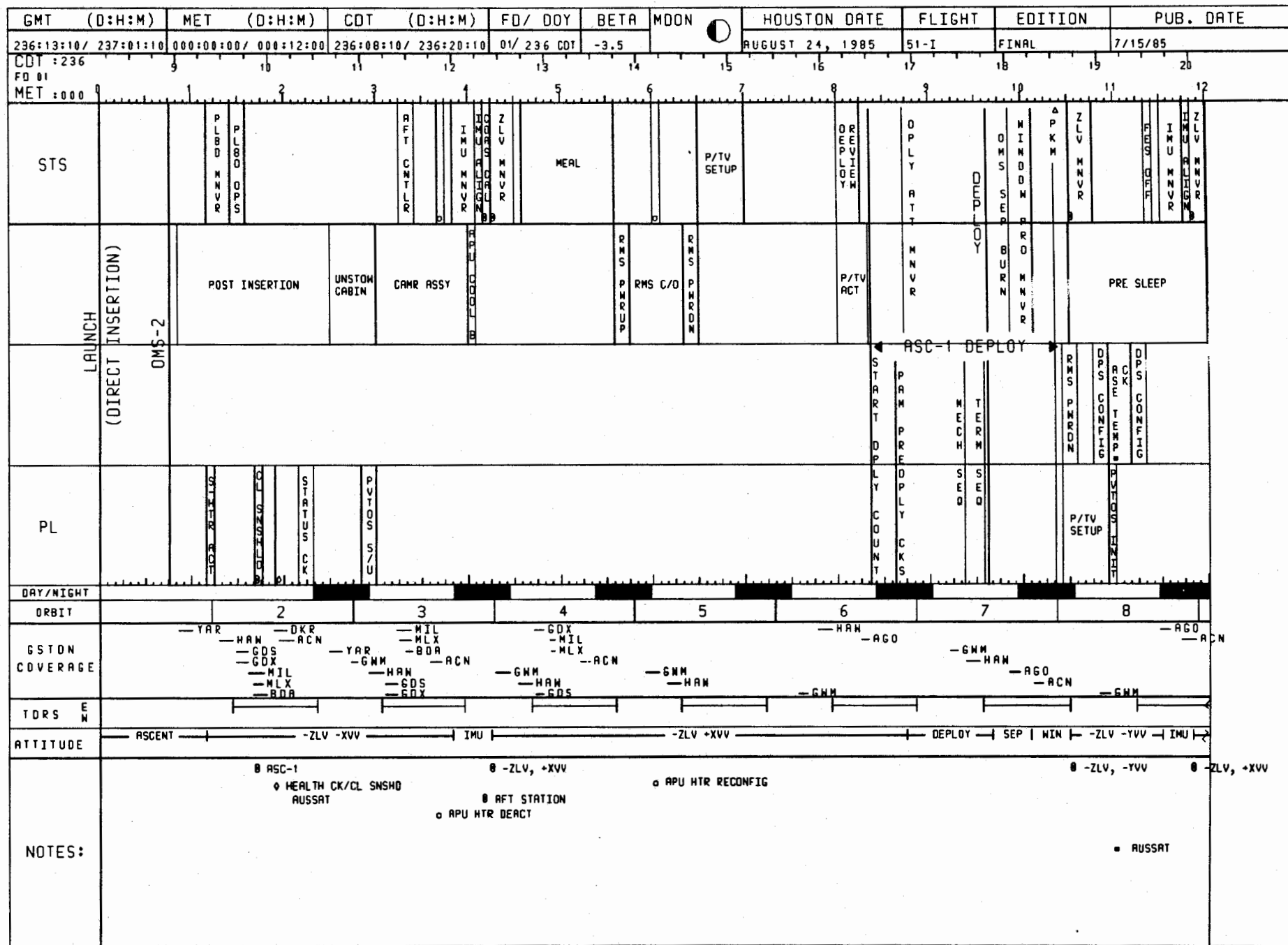




**This Page Intentionally Blank**

SUMMARY TIMELINE

# SUMMARY TIMELINE

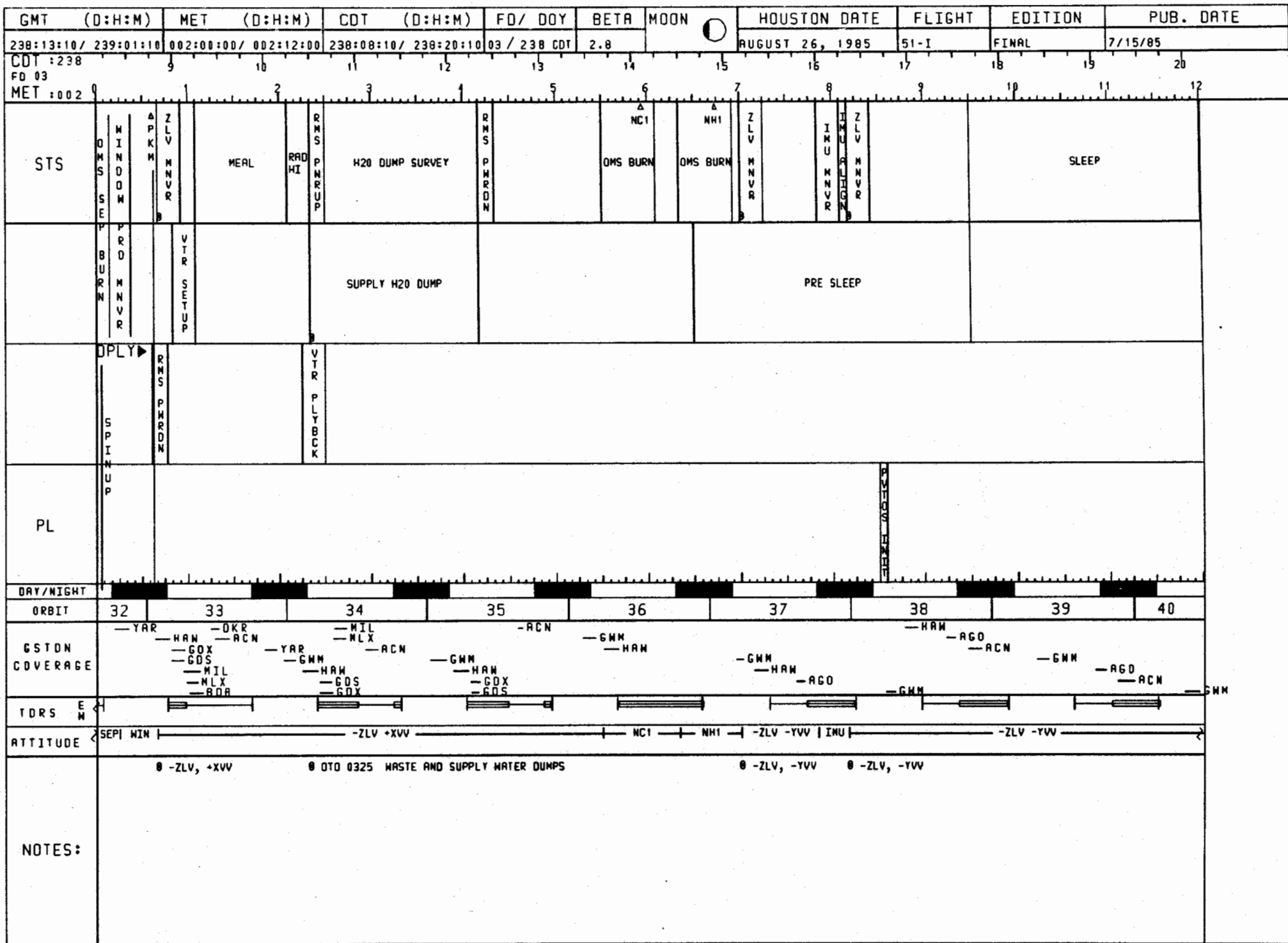


GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
237:01:10 / 237:13:10	000:12:00 / 001:00:00	236:20:10 / 237:08:10	01 / 236 CDT	-2.1		AUGUST 24, 1985	51-I	FINAL	7/15/85	
CDT : 236 FO 01										
MET : 000		CDT:237				FO 02				
STS	SLEEP							I M U M N V R	Z L V M N V R	O R E P V L O E Y
	PRE SLEEP									
PL							D P S C O M M I S S I O N S	A C K S I S T E R S	P / T V A C T	U P L Y  S T A R T  D O P P L Y  C O U N T
DAY/NIGHT										
ORBIT	9	10	11	12	13	14	15	16		
GSTDN COVERAGE	-GWH -AGO -RCN -DKR	-GWH -AGO	-DKR -MAD -MAX	-CAN	-YAR -CAN	-MAX -MIL -MLX -BDA -DKR -MAD	-YAR -CAN -MIL -MLX -BDA -DKR	-MAD -YAR -CAN -GDX -GDS -MIL -MLX	-BDA -DKR -YAR	
TDRS E M										
ATTITUDE										
NOTES:	-ZLV, +XVV									
										• AUSSAT



GMT (D:H:M)		MET (D:H:M)		CDT (D:H:M)		FD/ DOY		BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE																			
237:13:10 / 238:01:10		001:00:00 / 001:12:00		237:08:10 / 237:20:10		02 / 237 CDT		0.5		AUGUST 25, 1985	51-I	FINAL	7/15/85																			
CDT : 237		FD 02		MET : 001																												
STS	DPLY ATT	YD DMD	ONS SEP	MIN DOM	AP KM	ZLV MNV	DPS COM	LD DPS	MEAL	RAD HI	RMS PWR UP	H2O DUMP SURVEY	RMS PWR DN	FLTR IFM	IMU MNV	ZLV MNV	SLEEP															
	MNV	YD DMD	ONS SEP	MIN DOM	AP KM	ZLV MNV	DPS COM	LD DPS				SUPPLT H2O DUMP				PRE SLEEP																
PL																																
DAY/NIGHT																																
ORBIT	17				18				19				20				21				22				23				24			
BSTON COVERAGE	-HAN -ACN -YAR -BDA -ACN -MIL -MLX -GMM -HAN -AGO				-HAN -GDS -YAR -GMM -ACN -GMM -HAN -AGO				-HAN -GDS -YAR -GMM -ACN -GMM -HAN -AGO				-HAN -GDS -YAR -GMM -ACN -GMM -HAN -AGO				-HAN -GDS -YAR -GMM -ACN -GMM -HAN -AGO				-HAN -GDS -YAR -GMM -ACN -GMM -HAN -AGO				-HAN -GDS -YAR -GMM -ACN -GMM -HAN -AGO							
TORS E N																																
ATTITUDE	DEPLOY + SEP + WIN				-ZLV -YVV								IMU				-ZLV +XVV															
NOTES:	● -ZLV, -YVV				● DTD 0325 WASTE AND SUPPLY WATER DUMPS				● FILTER CLEANING				● -ZLV, +XVV				● DTD 0624 RADIATOR PERFORMANCE															

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE				
238:01:10 / 238:13:10	001:12:00 / 002:00:00	237:20:10 / 238:08:10	02 / 237 CDT	1.1		AUGUST 25, 1985	51-I	FINAL	7/15/85				
CDT : 237													
FD 02						FD 03							
MET : 001													
STS	SLEEP						IMU MNVVR	ZLV MNVVR	DRIVE LIDEM	START DPLY	DPLY ATT	DPLY ATT	
	POST SLEEP								P/TV ACT	COUNT T	MNVVR	DPLY ATT	
									P/TV SETUP	PRE DEP LOD	SYN DPLY	DOWN I START ATT	
PL									RAD STON	Y R ACT ION	C H E C K S	C H E C K	D E P L O Y
DAY/NIGHT													
ORBIT	25	26	27	28	29	30	31	32					
GSTON COVERAGE	-AGO -ACN	-GMM	-AGO -ACN -DKR	-DKR -MAD -MAX	-CAN	-MLX -MIL -BDA	-YAR -CAN	-MAX -MIL -MLX -BDA	-YAR -CAN	-MIL -MLX -BDA	-DKR	-YAR -CAN	-BDA -DKR -ACN
TORS													
ATTITUDE	-ZLV +XVV   IMU   -ZLV -XVV   DPLY												
NOTES:	● -ZLV, -XVV												



GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
239:01:10 / 239:13:10	002:12:00 / 003:00:00	238:20:10 / 239:08:10	03 / 238 CDT	4.5		AUGUST 26, 1985	51-I	FINAL	7/15/85	
CDT : 238 FD 03		CDT: 239		FD 04						
MET : 002										
STS	SLEEP				IMU MLV MNV MLV MLV MLV		RMS P NR UP	H2O DUMP SURVEY	RMS P NR DN	
								SPLY/MST H2O DUMP		
PL										
DAY/NIGHT										
DRBIT	40	41	42	43	44	45	46	47	48	
GSTDN COVERAGE	-AGO -ACN -DKR	-GWN	-AGO -DKR -MAD	-DKR -MAD -MAX	-CAN -MIL -BDA -DKR	-MAD -MAX -YAR -CAN	-DKR -MAD -MAX -MIL -MLX -BDA	-BDA -DKR -YAR -CAN -MIL -MLX	-MIL -BDA -MLX -DKR -ACN -GDS -GOX	-GOX -GDS -MIL -BDA -MLX
TORS E M										
ATTITUDE	-ZLV -YVV   IMU   -ZLV -YVV									
NOTES:	<p>⊙ -ZLV, -YVV</p> <p>⊙ DTO 0325 WASTE AND SUPPLY H2O DUMPS</p>									

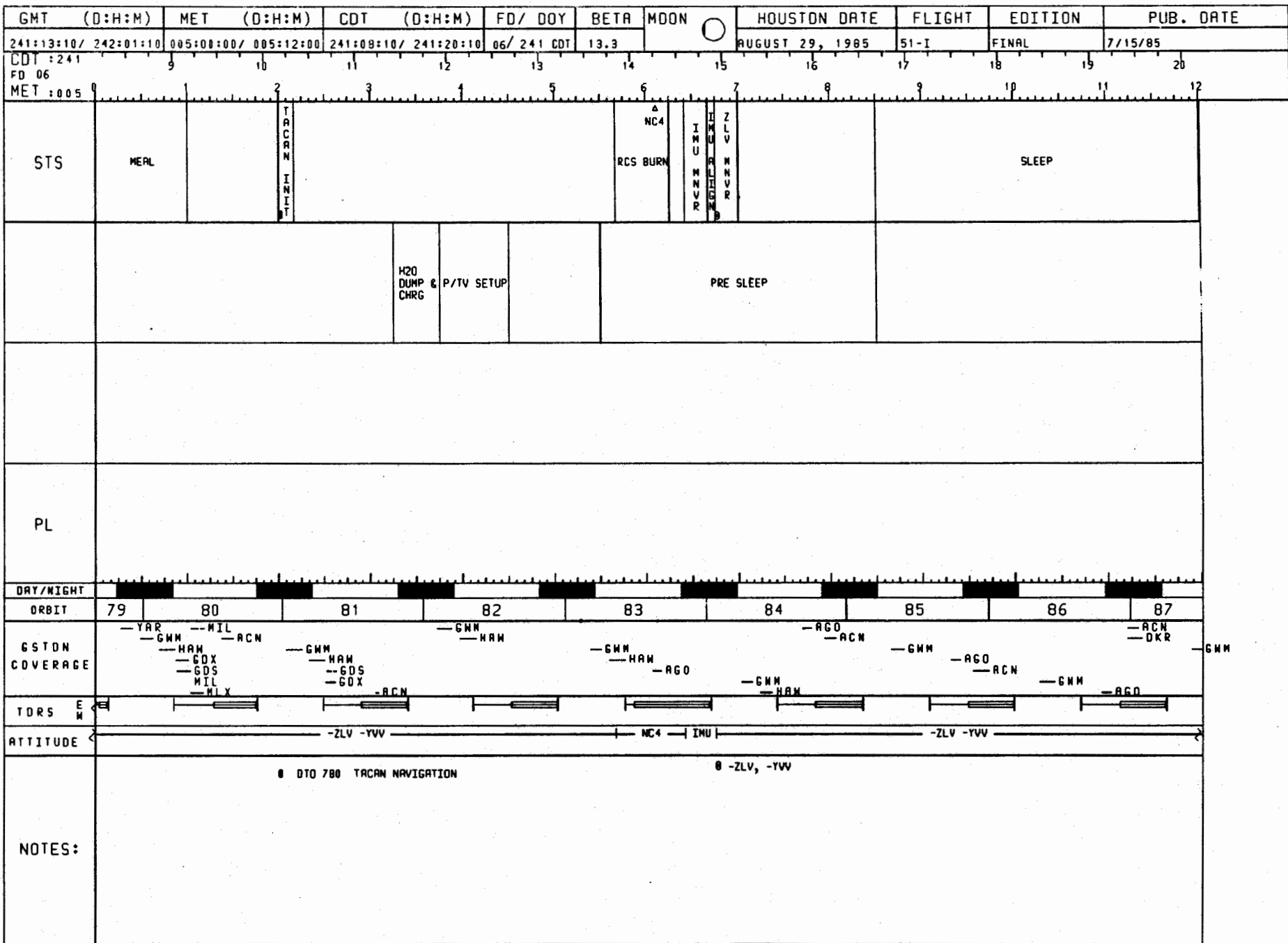
GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
239:13:10 / 240:01:10	003:00:00 / 003:12:00	239:08:10 / 239:20:10	04 / 239 CDT	6.2		AUGUST 27, 1985	51-I	FINAL	7/15/85	
CDT : 239 FD 04										
MET : 003										
STS	MEAL				NC2 RCS BURN	IMU ZLV MNV R		SLEEP		
								PRE SLEEP		
PL										
DAY/NIGHT										
ORBIT	48	49	50	51	52	53	54	55		
EFTON COVERAGE	MIL -BDA MLX -OKR -RCN	-HRW -GDS -GDX -MIL -MLX -BDA -GMM	-YAR -GMM -RCN	-HRW -GDS -GDX -MLX -MTI	-GMM -HRW	-GMM -HRW -AGO	-HRW -AGO -RCN	-GMM -AGO -RCN	-GMM -AGO -RCN	-AGO -RCN -OKR
TDRS										
ATTITUDE	-ZLV -YVW   NC2   IMU   -ZLV -YVW									
NOTES:	0 -ZLV, -YVW									

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ OGY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
240:01:10 / 240:13:10	003:12:00 / 004:00:00	239:20:10 / 240:08:10	04 / 239 CDT	8.0	☉	AUGUST 27, 1985	51-I	FINAL	7/15/85	
CDT : 239 FD 04										
MET : 003										
STS	SLEEP						H2O DUMP SURVEY			
							SUPPLY H2O DUMP	P/TV SETUP	P/TV ACT	
							FLTR IFM		EQUIP PREP	
PL										
DAY/NIGHT	[Day/Night Cycle Bar]									
ORBIT	56	57	58	59	60	61	62	63		
EASTON COVERAGE	-GWN	-AGO -DKR -ACN	CAN	-BDA -DKR -MAD -MAX	-YAR -CAN	-MIL -MLX -BDA -DKR -MAD -MAX	-CAN -MLX -MIL -BDA -DKR -MAD	-CAN -GDX -GDS -MIL -MLX -BDA -DKR	-YAR -HAM -ACN -GDS -GDX -MIL -BDA -MLX	-YAR -GMM
TDRS	[TDRS Coverage Bar]									
ATTITUDE	-ZLV -YVV									
NOTES:	@ -ZLV, -YVV @ FILTER CLEANING @ DTO 0325 WASTE AND SUPPLY WATER DUMPS									

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
240:13:10 / 241:01:10	004:00:00 / 004:12:00	240:08:10 / 240:20:10	05 / 240 CDT	9.8	○	AUGUST 28, 1985	51-I	FINAL	7/15/85	
CDT : 240										
FD 05										
MET : 004										
STS	MEAL		RCS BURN						SLEEP	
		P/TV ACT							PRE SLEEP	
		EMU C/D								
PL										
DAY/NIGHT	[Day/Night Cycle Bar]									
ORBIT	64	65	66	67	68	69	70	71		
GSTDN COVERAGE	-HAN -GDS -GDX -MIL -MLX -BDA	-YAR -GMM -HAN -GDX -GDS -MIL -MLX	-ACN -GMM -HAN -GDX -GDS	-GMM -HAN -GDX -GDS	-GMM -HAN -AGO -ACN	-GMM -HAN -AGO -ACN	-ACN -GMM -AGO -ACN -DKR	-GMM -HAN -AGO	-GMM -DKR	-GMM
TDRS	[TDRS Coverage Bars]									
ATTITUDE	-ZLV -YVV      NPC      NC3      -ZLV -YVV      IMU      -ZLV -YVV									
NOTES:	⑧ -ZLV, -YVV      ⑧ -ZLV, -YVV									

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
241:01:10 / 241:13:10	004:12:00 / 005:00:00	240:20:10 / 241:08:10	05 / 240 CDT	11.5	☉	AUGUST 28, 1985	51-I	FINAL	7/15/85
CDT: 240 FO 05									
MET: 004									
STS	SLEEP				IMU MNV	ZLV MNV	RMS PWR UP	H2O DUMP SURVEY	RMS PWR DN
								POST SLEEP	SPLY/WST H2O DUMP
									10.2 PREP 18.2 DEPRESS
									LEH PREBREATHE
PL									PVTOS STON
DAY/NIGHT	[Day/Night Cycle Bar]								
ORBIT	72	73	74	75	76	77	78	79	
GSTON COVERAGE	AGO --ACN --DKR		--DKR --MAD --MAX	--BDA --DKR --MAD --MAX	--MLX --BDA --DKR --MAD --MAX	--MLX --MIL --BDA --DKR	--GDS --GDX --MIL --BDA --MLX	--YAR --HAW --GDS --MIL --MLX --BDA	--DKR --ACN
TDRS E M	[Bar]	[Bar]	[Bar]	[Bar]	[Bar]	[Bar]	[Bar]	[Bar]	[Bar]
ATTITUDE	-ZLV -YVW								
NOTES:	• -ZLV, -YVW    • DTD 0325 WASTE AND SUPPLY H2O DUMPS    • 18.2 CONFIG								





GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
242:01:10 / 242:13:10	005:12:00 / 006:00:00	241:20:10 / 242:08:10	06 / 241 CDT	15.1	☉	AUGUST 29, 1985	51-I	FINAL	7/15/85	
CDT : 241 FD 06 MET : 005	21 22 23	24 25 26	27 28 29	30 31 02	03 04 05	06 07 08	09 10 11	12 13 14	15 16 17	
STS	SLEEP			IMU MNVVR	ZLV MNVVR	NH2 NSR	NC5	TI	RENDEZVOUS	
	POST SLEEP								P/TV ACT	
									EVA PREP	
PL								P/TV SETUP	P/TV ACT	
DAY/NIGHT	[Day/Night Cycle]									
ORBIT	87	88	89	90	91	92	93	94	95	
GSTDN COVERAGE	GMM -AGO -DKR -MAD		-CAN -DKR -MAD -MAX	-MIL -BDA -DKR -MAD -MAX -YAR	-CAN -MIL -MLX -BDA -DKR -MAD -MAX	-YAR -CAN -MIL -MLX -BDA -DKR	-CAN -HAW -DKR -ACN -GDS -GDY -MIL -BDA -MLX	-YAR -HAW -DKR -ACN -GDS -GDY -MIL	-BDA -MLX -DKR -ACN -GDS -GDY -YAR -GMM -HAW	GDS -GDY -MIL
TDRS E M	[TDRS Coverage]									
ATTITUDE	-ZLV -YVV			IMU	-ZLV -YVV		RENDEZVOUS			
NOTES:	⑧ -ZLV, -YVV									

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
242:13:10 / 243:01:10	006:00:00 / 006:12:00	242:08:10 / 242:20:10	07 / 242 CDT	16.8	☉	AUGUST 30, 1985	51-I	FINAL	7/15/85
CDT : 242 FD 07									
MET : 006									
STS	VBAR RENDEZVOUS								SLEEP
		P/TV ACT							PRE SLEEP
	EVA PREP A/E/P/R/E/S/S								POST EVA A/R/E/P/R/E/S/S
PL	P/TV ACT								
		EVA							
		EVA SUPPORT							
DAY/NIGHT									
ORBIT	95	96	97	98	99	100	101	102	
GSTDN COVERAGE	-MIL -MLX -BDA -ACN	-GDS -GDX -MIL -MLX -YAR -GMM -HAN	-ACN -GMM -HAN	-GMM -HAN -AGO	-GMM -HAN -AGO -ACN	-GMM -HAN -AGO -ACN	-GMM -HAN -AGO -ACN	-GMM -HAN -AGO -ACN	-DKR -GMM -AGO -ACN -DKR
TDRS E M									
ATTITUDE		RENDEZVOUS		+ZSI/FREE DRIFT		DPLY SEP B/O IMU		-ZLV +XVV	
NOTES:									⊙ -ZLV, +XVV

GMT (D:H:M)		MET (D:H:M)		CDT (D:H:M)		FD/ OGY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE		
243:01:10 / 243:13:10		006:12:00 / 007:00:00		242:20:10 / 243:08:10		07 / 242 CDT	18.5	☉	AUGUST 30, 1985	51-I	FINAL	7/15/85		
CDT :242				CDT:243		FD 08								
FD 17														
MET :006														
STS	SLEEP						IMU MNVVR	ZLV MNVVR	ORB ADJ RCS BURN	CONF ATT	FCS C/O	RCS CONF HOT	CREW CONF MNVVR	MEAL
	POST SLEEP						TACAN TERRN		P/TV SETUP		P/TV ACT			
							14.7 CABIN REPRESS		EMU MAINT RCHG		POST EVA ENT PREP		L REC CONF ACT	
PL														
DAY/NIGHT	[Day/Night Cycle]													
ORBIT	103	104	105	106	107	108	109	110	AR					
GSTDN COVERAGE	-DKR -MAD -MAX	-CAN	-MAX -YAR -CAN	-MAD -MAX -MIL -MLX -BDA -DKR	-YAR -CAN	-DKR -MAD -YAR -CAN	-MLX -BDA -DKR -YAR -CAN	-MIL -BDA -MLX -DKR -YAR -CAN	-HAN -GDS -GDY -MLX -BDA -ACN					
TDRS E M	[TDRS Coverage]													
ATTITUDE	-ZLV +XVV													
NOTES:	• -ZLV, +XVV • TV/VTR DEACT • -ZLV, +XVV													

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
243:13:10 / 244:01:10	007:08:00 / 007:12:00	243:08:10 / 243:20:10	08 / 243 CDT	20.2	☉	AUGUST 31, 1985	51-I	FINAL	7/15/85
CDT : 243 FO 88 MET : 007									
STS	MEAL	K U B D S T O M				I M U M N V R	Z L V M N V R		SLEEP
			CABIN STOW				PRE SLEEP		
PL									
DAY/NIGHT									
ORBIT	111	112	113	114	115	116	117	118	
GSTDN COVERAGE	-GMM -HAN -GDS -CDX -MIL -MLX	-GMM -HAN -GDS	-GMM -HAN -AGO	-GMM -HAN -AGO -ACN	-GMM -HAN -AGO	-ACN -GMM	-AGO -ACN -DKR	-GMM -AGO	-DKR -ACN -GMM
TORS									
ATTITUDE									
NOTES:	0 -ZLV, +XW								

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE				
244:01:10 / 244:13:10	007:12:00 / 008:00:00	243:20:10 / 244:08:10	08 / 243 CDT	21.8	☉	AUGUST 31, 1985	51-I	FINAL	7/15/85				
CDT : 243	21	22	23	CDT:244	FD 09	2	3	4	5	6	7	8	
FD 08	12	13	14	15	16	17	18	19	20	21	22	23	0
MET : 007													
STS	SLEEP						IMU MNV R		XSI MNV R		PLBD OPS		
	POST SLEEP						DEORBIT PREP						
	H R O R I Z O N A L D E C E N T R E L I N E												
PL	O P S N S H L D												
DAY/NIGHT	[Day/Night Cycle]												
DRBIT	119	120	121	122	123	124	125	126					
GSTDN COVERAGE	-DKR -MAD -MAX	-CAN -DKR -MAD -MAX	-MLX -MIL -BDA -DKR -MAD -MAX	-YAR -CAN -MIL -MLX -BDA -DKR -MAD	-YAR -CAN -MIL -MLX -BDA -DKR -MAD	-YAR -CAN -MIL -MLX -BDA -DKR	-MLX -CAN -HAW -GDS -GDX -MIL -BDA	-MIL -MLX -BDA -DKR -ACN -HAW -GDS -GDX	-HAW -GDS -GDS -MIL -MLX -YAR -GNN	-ACN			
TDRS E H	[TDRS Coverage]												
ATTITUDE	-ZLV +XVV   IMU   -XSI   IMU   DEORBIT BURN												
NOTES:													

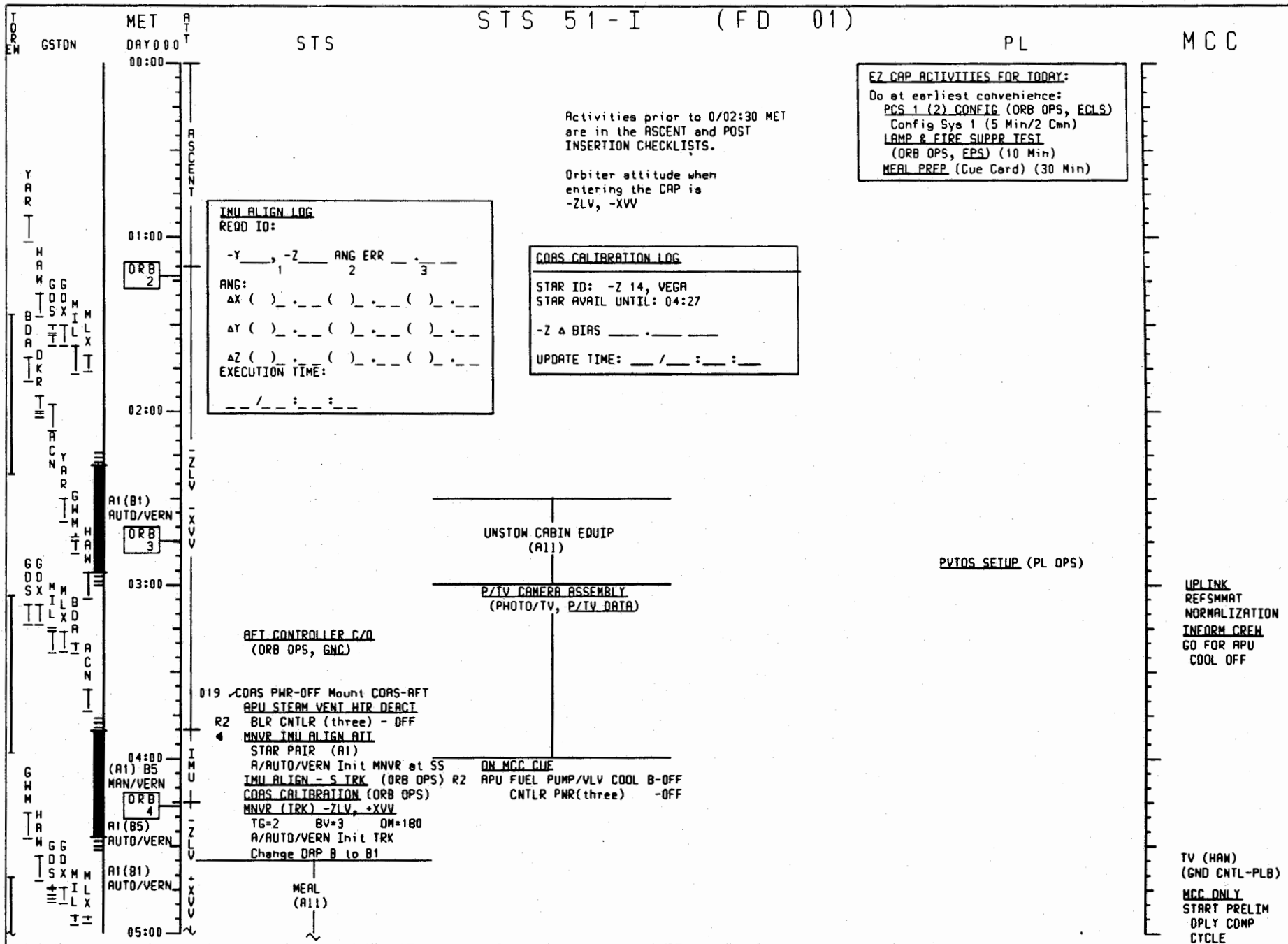
GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
244:13:10 / 245:01:10	008:00:00 / 008:12:00	244:08:10 / 244:20:10	09 / 244 CDT	23.4	☉	SEPTEMBER 1, 1985	51-I	FINAL	7/15/85	
CDT : 244 FD 09 MET : 008										
STS										
	DEORBIT BURN (8/00:06)	EDW LANDING (8/01:07)								
PL										
DAY/NIGHT										
ORBIT	126	127	128	129	130	131	132	133	134	
BSTON COVERAGE	-RCN	-GMM -HAW -BDS -SDX	-HAW	-GMM -HAW -AGO	-GMM -HAW -AGO	-RCN	-GMM -AGO -RCN	-DKR -GMM	-DKR -HAD	
TORS	E									
ATTITUDE	← ENTRY →									
NOTES:	• DEORBIT PREP									

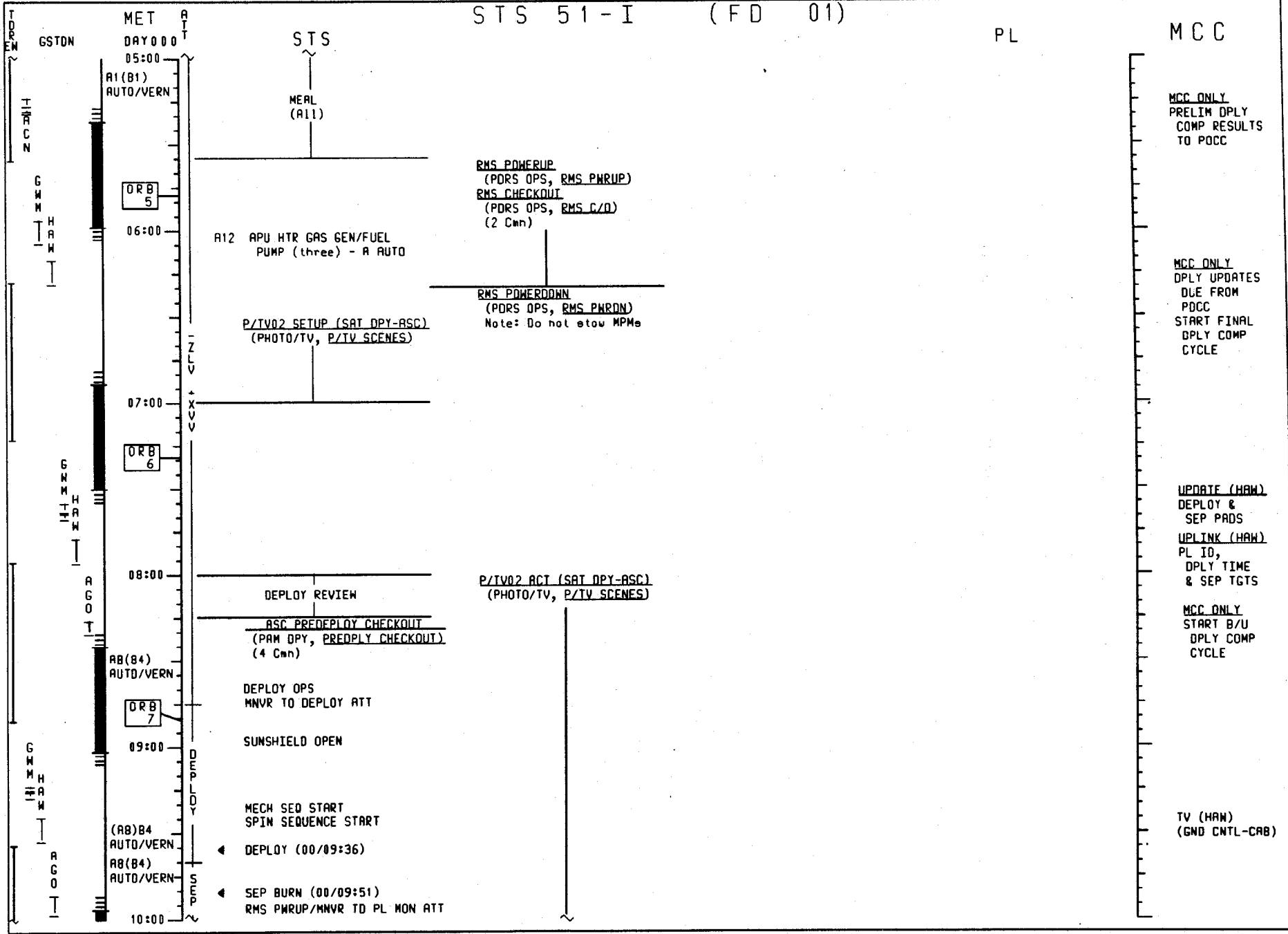
DETAILED TIMELINE

DETAILED  
TIMELINE



# DETAILED TIMELINE





STS

MET DAY 000

10:00

AB(B4)  
AUTO/VERN  
AB(B4)

ORB 8

MAN/VERN  
A1(B1)  
AUTO/VERN

11:00

ORB 9

12:00

13:00

ORB 10

14:00

ORB 11

15:00

MNVR WINDOW PROTECT ATT

◀ PKM (RMS PKM VIEW)  
Change DAP A,B to A1,B1

MNVR (TRK) -ZLV, -YVV  
TG=2 BV=3 DM=90  
A/AUTO/VERN Init TRK

L1 FLASH EVAP CNTLR PRI A(B) - OFF

◀ MNVR IMU ALIGN ATT  
STAR PAIR (A1)  
A/AUTO/VERN Init MNVR at SS  
IMU ALIGN - S TRK (ORB OPS)  
MNVR (TRK) -ZLV, -XVV  
TG=2 BV=3 DM=180  
A/AUTO/VERN Init TRK

SLEEP

P/TV02 ACT (SAT DPY-ASC)  
(PHOTO/TV, P/TV SCENES)

PRE SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

Do not perform  
ECLS, SUPPLY WATER DUMP

RMS POWERDOWN  
(PDRS OPS, RMS PWRDN)  
Note: Do not stow MPMs

SM OPS TRANSITION (S2 to S4)  
(ORB OPS, DPS)

PAM ASE TEMP CHECK  
(PAM DPY, DN-ORB OPS)  
Perform for: AUSSAT

SM OPS TRANSITION (S4 to S2)  
(ORB OPS, DPS)

P/TV02 SETUP (SAT DPY-AUSSAT)  
(PHOTO/TV, P/TV SCENES)

PVTOS INIT (PL OPS) Runs #1,2

IMU ALIGN LOG

REDD IO:

-Y \_\_\_\_\_ -Z \_\_\_\_\_ ANG ERR \_\_\_\_\_  
1 2 3

ANG:

ΔX ( ) . ( ) . ( ) .

ΔY ( ) . ( ) . ( ) .

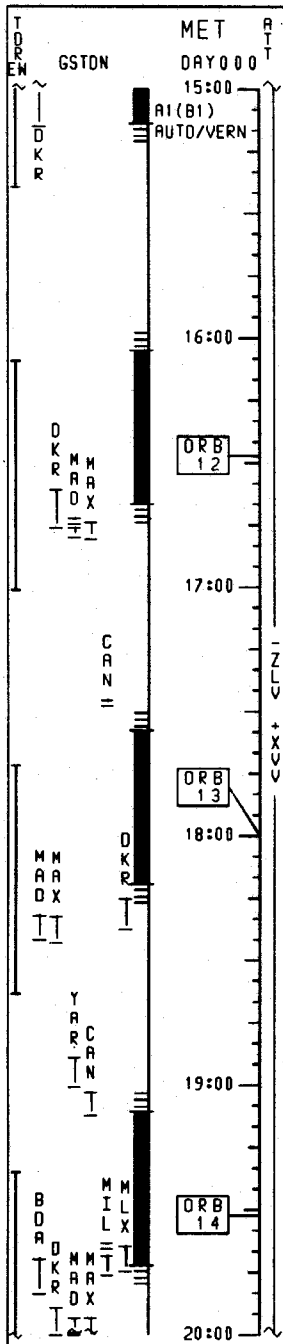
ΔZ ( ) . ( ) . ( ) .

EXECUTION TIME:

\_\_ / \_\_ : \_\_ : \_\_

PL

MCC



MCC ONLY  
 START PRELIM  
 OPLY COMP  
 CYCLE

MET DAY 000  
 20:00  
 A1(B1)  
 AUTO/VERN  
 21:00  
 ORB 15  
 22:00  
 ORB 16  
 23:00  
 ORB 17  
 (A8)B4  
 AUTO/VERN  
 00:00  
 ORB 17  
 DEPLOY  
 (A8)B4  
 AUTO/VERN  
 01:00

**IMU ALIGN LOG**  
 RECD ID:  
 -Y \_\_\_\_\_ -Z \_\_\_\_\_ ANG ERR \_\_\_\_\_  
 1 2 3  
 ANG:  
 ΔX ( ) . ( ) . ( ) .  
 ΔY ( ) . ( ) . ( ) .  
 ΔZ ( ) . ( ) . ( ) .  
 EXECUTION TIME:  
 \_ / \_ : \_ : \_

**EZ CAP ACTIVITIES FOR TODAY:**  
 EXERCISE (1 Hr/ALL)  
 MEAL PREP (Cue Card) (30 Min)  
 UNSTOW 02 BLEED ORIFICE ASSEMBLY  
 M032M ✓ LEH 02 5 vlv - CL  
 Insert 02 Bleed Orifice Assembly into  
 LEH 02 5 QD  
 LEH 02 5 vlv - OP

SM OPS TRANSITION (S2 to S4)  
 (ORB OPS, OPS)  
 PAM ASE TEMP CHECK  
 (PAM DPY, ON-ORB OPS)  
 Perform for: AUSSAT

POST SLEEP ACTIVITY  
 (ORB OPS, CREW SYS)  
 Do not perform  
 ECLS, SUPPLY WATER DUMP

MNVR IMU ALIGN ATT  
 STAR PAIR (A1)  
 A/AUTO/VERN Init MNVR at 55'  
 IMU ALIGN - S TRK (ORB OPS)  
 MNVR (TRK) -ZLV, +YVV  
 TG=2 BV=3 OM=270  
 A/AUTO/VERN Init TRK

PVTOS STATUS CK (PL OPS)

P/TV02 ACT (SAT DPY-AUSSAT)  
 (PHOTO/TV, P/TV SCENES)

DEPLOY REVIEW  
 AUSSAT PREDEPLOY CHECKOUT  
 (PAM DPY, PREDEPLOY CHECKOUT)  
 (4 Cnh)

DEPLOY OPS  
 MNVR TO DEPLOY ATT

MECH SEQ START/SUNSHIELD DP  
 SPIN SEQUENCE START

DEPLOY (1 /00:52)

MCC ONLY  
 PRELIM DPLY  
 COMP RESULTS  
 TO POCC

MCC ONLY  
 DPLY UPDATES  
 DUE FROM  
 POCC  
 START FINAL  
 DPLY COMP  
 CYCLE

UPDATE (MIL)  
 DEPLOY &  
 SEP PADS  
 UPLINK (BDA)  
 PL ID,  
 DPLY TIME  
 & SEP TGTS

MCC ONLY  
 START B/U  
 DPLY COMP  
 CYCLE

TV (HAW)  
 (GND CNTL-CAB)

MET DAY 001  
 01:00  
 A8(B4) AUTO/VERN  
 A8(B4) MAN/VERN  
 ORB 18  
 A1(B1) AUTO/VERN  
 02:00  
 03:00  
 ORB 19  
 04:00  
 ORB 20  
 05:00  
 06:00

STS  
 SEP BURN (01/01:07)  
 RMS PWRUP/MNVR TO PL NON ATT  
 MNVR WINDOW PROTECT ATT

PKM (RMS PKM VIEW)  
 Change OAP A,B to A1,B1

MNVR (TRK) -7LV, -YVV  
 TG=2 BV=3 DM=90  
 A/AUTO/VERN Init TRK  
 SN OPS TRANSITION (S4 to S2)  
 (ORB OPS, OPS)  
 LOAD PCMMU FORMAT (ORB OPS)  
 Load 103 / 161

MEAL (A11)

SUPPLY H2O DUMP  
 RAD HT, FES ACTIVE  
 (ORB OPS, ECLS)

RMS POWERUP  
 (PDRS OPS, RMS PWRUP)  
 H2O DUMP NOZZLE SURVEY  
 (PDRS OPS, EXT SURVEYS)

RMS POWERDOWN  
 (PDRS OPS, RMS PWRDN)  
 Note: Do not stow NPMs

KU-BD ANT DEPLOY  
 (ORB OPS, COMM/INST)  
 KU-BD ACTIVATION (COMM mode)  
 (ORB OPS, COMM/INST)

RMS POWERDOWN  
 (PDRS OPS, RMS PWRDN)  
 Note: Do not stow NPMs

VTR SETUP (ASC & AUS Deploys)  
 (Cue Card, IV/VIR)

VTR PLAYBACK (ASC & AUS Deploys)  
 (Cue Card, IV/VIR)  
 VTR at HAW,GDS,MIL (1/03:23)

SUPPLY WATER DUMP (OTO 325)  
 (ORB OPS, ECLS)  
 Monitor with wrist camera from  
 initiation to termination  
 Initiate when H2O SPLY NOZ T  
 exceeds 100 DEG  
 Terminate post bake out when  
 nozzle temps exceed 100 DEG

VTR (HAW, GDS, MIL)

TV (HAW) (GND CNTL-PLB)

MET DAY 001  
06:00  
ORB 21  
A1(B1)  
AUTO/VERN  
07:00  
ORB 22  
08:00  
ORB 23  
09:00  
ORB 24  
11:00

STS  
ETLIER CLEANING  
(IFM, SCHEDULED MAINTENANCE)

← MNVR IMU ALIGN ATT  
STAR PAIR (A1)  
A/AUTO/VERN Init MNVR at SS  
IMU ALIGN - S TRK (ORB OPS)  
MNVR (TRK) -ZLV, +XVV  
TG=2 BV=3 OM=180  
A/AUTO/VERN Init TRK

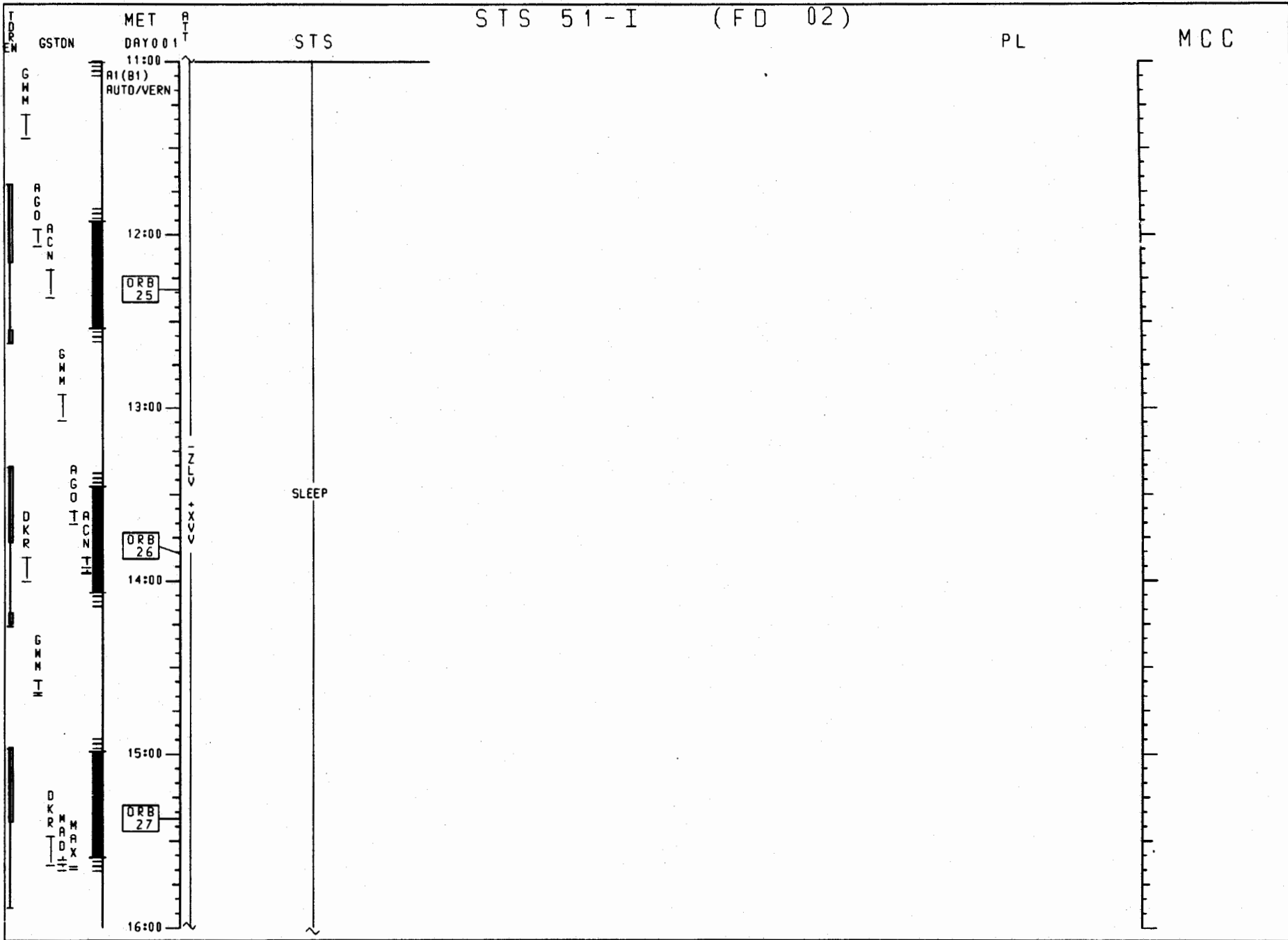
PRE SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

Do not perform  
ECLS, SUPPLY WATER DUMP

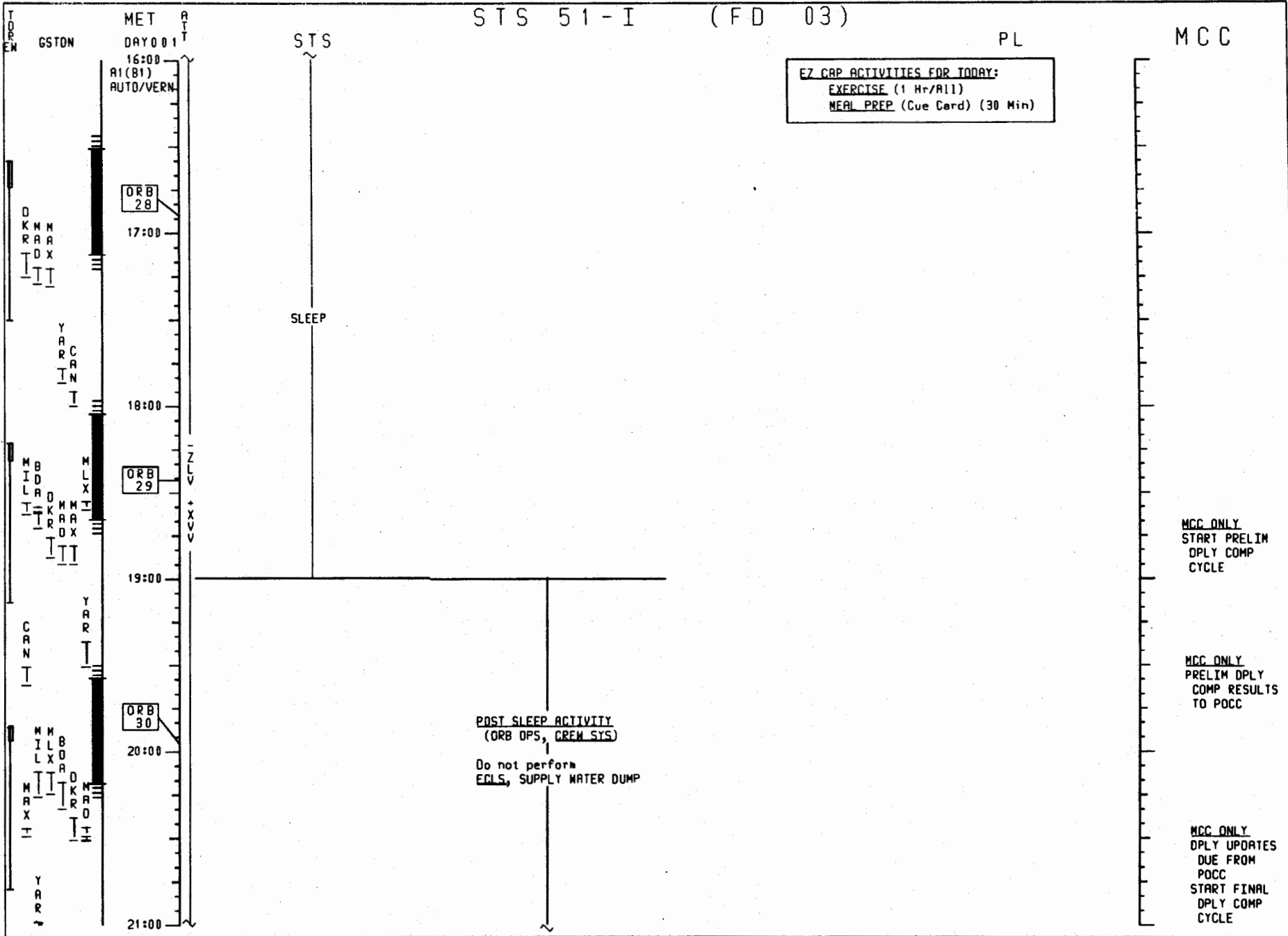
RAD STOW/DEPLOY (OTO 0624)  
(ORB OPS, ECLS)  
Step 2

IMU ALIGN LOG  
REQD ID:  
-Y \_\_\_ -Z \_\_\_ ANG ERR \_\_\_  
          1      2      3  
ANG:  
ΔX ( ) \_ \_ ( ) \_ \_ ( ) \_ \_  
ΔY ( ) \_ \_ ( ) \_ \_ ( ) \_ \_  
ΔZ ( ) \_ \_ ( ) \_ \_ ( ) \_ \_  
EXECUTION TIME:  
\_ \_ / \_ \_ : \_ \_ : \_ \_

PVTOS INIT (PL OPS)Runs #3,4







MET DAY 001  
 21:00  
 A1(B1)  
 AUTO/VERN  
 ORB 31  
 22:00  
 AB(B4)  
 AUTO/VERN  
 23:00  
 ORB 32  
 (AB)B4  
 AUTO/VERN  
 AB(B4)  
 002  
 00:00  
 AUTO/VERN  
 ORB 33  
 A1(B1)  
 AUTO/VERN  
 01:00  
 02:00

◀ MNVR IMU ALIGN ATT  
 STAR PAIR (A1)  
 A/AUTO/VERN Init MNVR at 55  
IMU ALIGN - S TRK (ORB OPS)  
MNVR (TRK) -7LV, -XVV  
 TG=2 BV=3 OM=0  
 A/AUTO/VERN Init TRK

POST SLEEP ACTIVITY  
 (ORB OPS, CREW SYS)

Do not perform  
 ECLS, SUPPLY WATER DUMP

P/TV02 SETUP (SAT DPY-SYNCOM)  
 (PHOTO/TV, P/TV SCENES)

P/TV02 ACT (SAT DPY-SYNCOM)  
 (PHOTO/TV, P/TV SCENES)

DEPLOY REVIEW

PAYLOAD CHECKOUT AND DEPLOY  
 (SYNCOM DPY, PL C/O & DEPLOY) (4 Cnh)  
 ✓ MPMs DEPLOYED  
 PIVOT/KEEL PIN RETRACTION

DEPLOY OPS

MNVR TO DEPLOY ATT  
 PUSH OFF PIN RETRACTION  
 STATUS CHECK  
 ◀ DEPLOY (1/23:47)

◀ SEP BURN (2/00:02)  
 RMS PWRUP/MNVR TO PL MON ATT  
 MNVR WINDOW PROTECT ATT

◀ PKM (RMS PKM VIEW)  
 Change DAP A,8 to A1,B1  
MNVR (TRK) -7LV, +XVV  
 TG=2 BV=3 OM=180  
 A/AUTO/VERN Init TRK

VTR SETUP (SYNCOM DPY)  
 (Cue Card, TV/VTR)

MEAL  
 (A11)

RAD STOW/DEPLOY (OTO 0624)  
 (ORB OPS, ECLS)  
 Step 1  
PVTOS STATUS CK (PL OPS)

IMU ALIGN LOG  
 RECD ID:  
 -Y \_\_, -Z \_\_ ANG ERR \_\_. \_\_  
 1 2 3  
 ANG:  
 ΔX ( ) . ( ) . ( ) .  
 ΔY ( ) . ( ) . ( ) .  
 ΔZ ( ) . ( ) . ( ) .  
 EXECUTION TIME:  
 \_ / \_ : \_ : \_

RMS POWERDOWN  
 (PORS OPS, RMS PWRDN)  
 Note: Do not stow MPMs

UPDATE (MIL)  
 DEPLOY &  
 SEP PRDS  
UPLINK (MIL)  
 DPLY TIME  
 & SEP TGTS  
MCC ONLY  
 START B/U  
 DPLY COMP  
 CYCLE

TV (MIL)  
 (GND CNTRL-CAB)

UPLINK (HAW)  
 KU COMM PWR-ON

TDRN  
GNDN  
HAW  
RACN  
GNDN  
HAW  
GNDN  
HAW  
GNDN  
HAW

GSTDN

MET  
DAY 002  
02:00

ORB 34

(A1)B1  
AUTO/VERN

STS

STS 51-I (FD 03)

PL

MCC

MEAL  
SUPPLY H2O DUMP  
RAD HT, FFS ACTIVE  
(ORB OPS, ECLS)  
RMS POWERUP  
(PDRS OPS, RMS PWRUP)  
H2O DUMP NOZZLE SURVEY  
(PDRS OPS, EXT SURVEYS)

SUPPLY WATER DUMP (DTO 325)  
(ORB OPS, ECLS)

VTR PLAYBACK (SYNCOM OPY)  
(Cue Card, TV/VTR)  
VTR at HAW (2/2:16)

Monitor with wrist camera from  
initiation to termination  
Initiate when H2O SPLY NOZ T  
exceeds 100 DEG  
Terminate post bake out when  
nozzle temps exceed 100 DEG

03:00

04:00

05:00

06:00

07:00

RMS POWERDOWN  
(PDRS OPS, RMS PWRDN)  
Note: Do not stow MPHs

ON-ORBIT OMS BURN  
(ORB OPS, OMS)  
1 ENG BURN (2 Cmn)

◀ NC1 TIG (2/5:56)

ON-ORBIT OMS BURN  
(ORB OPS, OMS)  
1 ENG BURN (2 Cmn)

◀ NH1 TIG (2/6:42)

PRE SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

Do not perform  
ECLS, SUPPLY WATER DUMP

VTR (HAW)

TV (GDS, TORE)  
(GND CNTL-PLB)

UPDATE (TORE)  
OMS BURN PADS  
NC1, NH1

MET AT  
DAY 002  
07:00  
AI (B1)  
AUTO/VERN  
08:00  
ORB 38  
09:00  
ORB 39  
10:00  
ORB 40  
11:00  
12:00

STS  
MNVR (TRK) -ZLV, -YVV  
TG-2 BV-3 OM-90  
A/AUTO/VERN Init TRK

MNVR IMU ALIGN ATT  
STAR PAIR (A1)  
A/AUTO/VERN Init MNVR at 55  
IMU ALIGN - S TRK (ORB OPS)  
MNVR (TRK) -ZLV, -YVV  
TG-2 BV-3 OM-90  
A/AUTO/VERN Init TRK

PRE SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

Do not perform  
ECLS, SUPPLY WATER DUMP

PVTOS INIT (PL OPS)Runs #5,6

IMU ALIGN LOG  
REQD ID:  
-Y \_\_, -Z \_\_ ANG ERR \_\_. \_\_  
          1      2          3  
ANG:  
ΔX ( ) . ( ) . ( ) .  
ΔY ( ) . ( ) . ( ) .  
ΔZ ( ) . ( ) . ( ) .  
EXECUTION TIME:  
\_ / \_ : \_ : \_

SLEEP

PL

MCC

MET DAY 002  
12:00  
AI (B1)  
AUTO/VERN  
13:00  
14:00  
15:00  
16:00  
17:00

STS  
SLEEP

ORB 41

ORB 42

ORB 43

ORDER  
EM  
GSTON  
AGD  
ADCKNR  
GMM  
HDD  
DCKRDX  
14ZRC



MET DAY 002  
 17:00  
 RI (B1)  
 AUTO/VERN  
 ORB 44  
 18:00  
 ORB 45  
 19:00  
 ORB 46  
 21:00  
 ORB 47  
 22:00

TDR FM  
 GSTDN  
 MILA  
 MILK  
 MILR  
 MILD  
 MILX  
 MILB  
 MILC  
 MILA  
 MILK  
 MILR  
 MILD  
 MILX  
 MILB  
 MILC  
 DKKR  
 YARR  
 CANT  
 YARR  
 CANT  
 YARR  
 CANT  
 HARM

STS  
 SLEEP

← MNVR IMU ALIGN ATT  
 STAR PAIR (A1)  
 A/AUTO/VERN Init MNVR at SS  
 IMU ALIGN - S TRK (ORB OPS)  
 MNVR (TRK) -ZLV, -YVV  
 TG=2 BV=3 OM=90  
 A/AUTO/VERN Init TRK

POST SLEEP ACTIVITY  
 (ORB OPS, CREW SYS)  
 Do not perform  
 ECLS, SUPPLY WATER DUMP  
 Do EC PURGE - MANUAL  
 (Cue Card)

RMS POWERUP  
 (PDRS OPS, RMS PWRUP)  
 H2O DUMP NOZZLE SURVEY  
 (PDRS OPS, EXT SURVEYS)

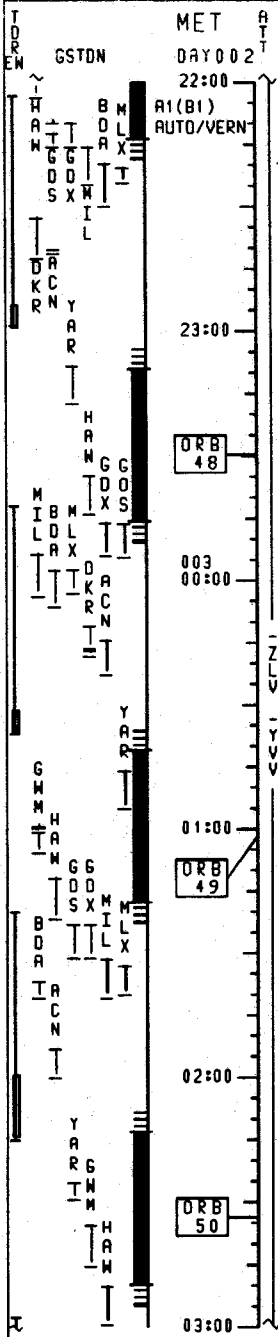
SUPPLY WATER DUMP  
 WASTE WATER DUMP  
 (ORB OPS, ECLS) (DTD 0325)  
 Dump simultaneously  
 Monitor with wrist camera from  
 initiation to termination  
 Initiate when H2O NDZ T exceeds:  
 SPLY 250 DEG WASTE 250 DEG  
 Terminate post bake out when  
 nozzle temps exceed:  
 SPLY 250 DEG WASTE 250 DEG

EZ CAP ACTIVITIES FOR TODAY:  
RCS REGULATOR RECONFIGURE  
 07/08 He PRESS A(three)-CL(tb-CL)  
 B(three)-GPC(tb-OP)  
 Perform midFlt/A.M.(10 Min)  
HEATER RECONFIC - B (ORB OPS, EPS)  
 Perform midFlt/A.M.(5 Min)  
EXERCISE (1 Hr/A11)  
MEAL PREP (Cue Card) (30 Min)  
ECLSS REDUNDANT COMPONENT C/O  
 (ORB OPS, ECLS) (10 Min)  
 Inform MCC when complete  
PCS 1 (2) CONEIG (ORB OPS, ECLS)  
 Config Sys 2 (5 Min/2 Cmh)  
 Perform midflight  
DSD 45B SALIVARY ACETAMINOPHEN  
PHARMACOKINETICS  
 (MED, MED DSD's)  
 Samples AT 0, .25, .5, 1, 2, 3,  
 4, 5, 6 and 8 hrs post-dosing

PWTDS STATUS CK (PL OPS)

IMU ALIGN LOG  
 RECD ID:  
 -Y \_\_, -Z \_\_ ANG ERR \_\_  
 1 2 3  
 ANG:  
 ΔX ( ) ( ) ( )  
 ΔY ( ) ( ) ( )  
 ΔZ ( ) ( ) ( )  
 EXECUTION TIME:  
 \_\_ / \_\_ : \_\_ : \_\_

TV (TORE, HAW)  
 (GND CNTL-PLB)



MET AT  
 DAY 002  
 22:00  
 23:00  
 003 00:00  
 01:00  
 02:00  
 03:00

STS  
 H2O DUMP NOZZLE SURVEY  
 (PDRS OPS, EXT SURVEYS)

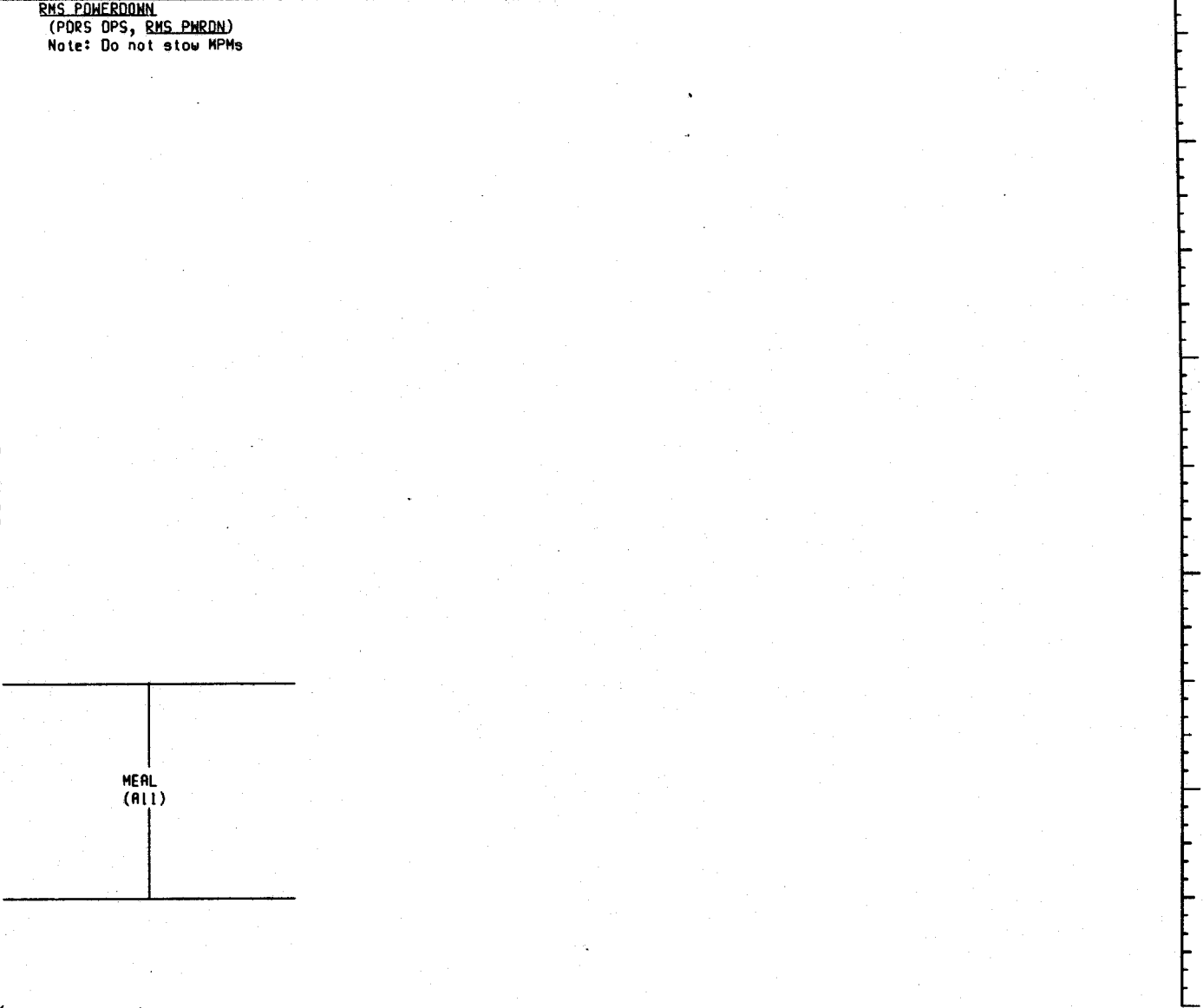
SUPPLY WATER DUMP  
 WASTE WATER DUMP  
 (ORB OPS, ECLS) (OTO 0325)

RMS POWERDOWN  
 (PDRS OPS, RMS PHRDN)  
 Note: Do not stow MPMs

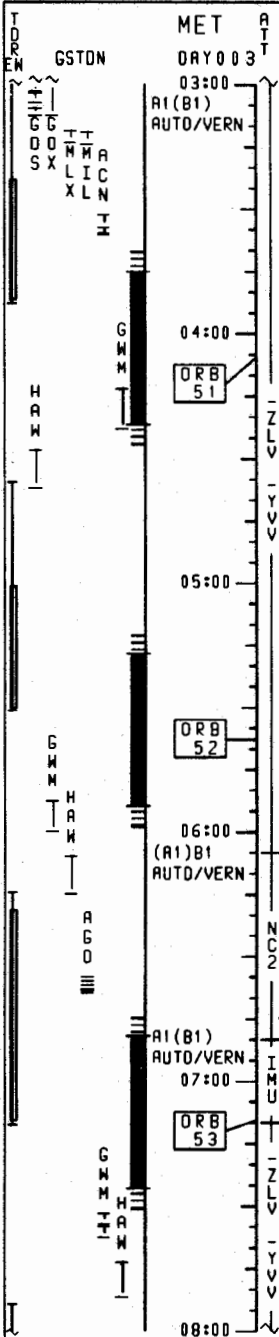
ORB 48

ORB 49

ORB 50



MEAL  
 (All)



MET DAY 003  
 03:00  
 A1 (B1)  
 AUTO/VERN  
 04:00  
 05:00  
 06:00  
 (A1)B1  
 AUTO/VERN  
 07:00  
 08:00

**IMU ALIGN LOG**  
 REQD ID:  
 -Y\_\_\_\_, -Z\_\_\_\_ ANG ERR \_\_\_\_  
 1 2 3  
 ANG:  
 ΔX ( ) \_\_\_\_ ( ) \_\_\_\_ ( ) \_\_\_\_  
 ΔY ( ) \_\_\_\_ ( ) \_\_\_\_ ( ) \_\_\_\_  
 ΔZ ( ) \_\_\_\_ ( ) \_\_\_\_ ( ) \_\_\_\_  
 EXECUTION TIME:  
 \_\_\_\_ / \_\_\_\_ : \_\_\_\_ : \_\_\_\_

**ON-ORBIT RCS BURN**  
 (ORB OPS, RCS)  
 (2 Cmn)

◀ NC2 TIG (3/6:33)

**PRE SLEEP ACTIVITY**  
 (ORB OPS, CREW SYS)

Do not perform  
 ECLS, SUPPLY WATER DUMP

◀ **MNVR IMU ALIGN AT**  
 STAR PAIR (A1)  
 A/AUTO/VERN Init MNVR at SS  
**IMU ALIGN - S TRK** (ORB OPS)  
**MNVR (TRK) -ZLV, -YVV**  
 TG=2 BV=3 DM=90  
 A/AUTO/VERN Init TRK

**UPDATE (TORE)**  
 RCS BURN PAD  
 NC2

**PVTOS INIT (PL OPS) Runs #7,8**



STS

MET  
 DRY 003  
 08:00  
 R1 (B1)  
 AUTO/VERN

09:00

10:00

11:00

12:00

13:00

~  
 PRE SLEEP ACTIVITY  
 (ORB OPS, CREW SYS)

Do not perform  
 ECLS, SUPPLY WATER DUMP

ORB 54

ORB 55

ORB 56

SLEEP

**STATIONING**

IN PROGRESS

ORBITAL HEIGHT

GSTON

AI (B1)  
A/R/D/V/E/R/N

ORB 57

ORB 58

ORB 59

ORB 60

18:00

17:00

16:00

15:00

14:00

13:00

DRY 003

MET AT

STS

SLEEP

POST SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

Do not perform  
ECLS, SUPPLY WATER DUMP

MNVR IMU ALIGN ATT  
STAR PAIR (A1)  
A/AUTO/VERN Init MNVR at SS  
IMU ALIGN - S TRK (ORB OPS)  
MNVR (TRK) -ZLV, -YVV

**EZ CAP ACTIVITIES FOR TODAY:**  
EXERCISE (1 Hr/A11)  
MEAL PREP (Cue Card) (30 Min)

**IMU ALIGN LOG**  
REQD ID:

-Y \_\_, -Z \_\_ ANG ERR \_\_  
1 2 3

ANG:  
ΔX ( ) ( ) ( )  
ΔY ( ) ( ) ( )  
ΔZ ( ) ( ) ( )

EXECUTION TIME:  
\_ / \_ : \_ : \_

MET

DAY 003

STS

MNVR (TRK) -ZLV, -YVV  
 TG=2 BV=3 OM=90  
 A/AUTO/VERN Init TRK

18:00

A1(B1)  
 AUTO/VERN

POST SLEEP ACTIVITY  
 (ORB OPS, CREW SYS)

Do not perform  
 ECLS, SUPPLY WATER DUMP

19:00

OTO 325 VENTED SPLY  
WST H2O TANK DUMP  
 (ORB OPS, ECLS)  
RMS POWERUP  
 (PORS OPS, RMS PHRUP)  
H2O DUMP NOZZLE SURVEY  
 (PORS OPS, EXT SURVEYS)

ORB 61

SUPPLY WATER DUMP (OTO 325)  
 (ORB OPS, ECLS)

FILTER CLEANING  
 (IFM, SCHEDULED MAINTENANCE)

PVTOS STATUS CK (PL OPS)

Monitor with wrist camera from  
 initiation to termination  
 Initiate when H2O SPLY NOZ T  
 exceeds 100 DEG  
 Terminate post bake out when  
 nozzle temps exceed 100 DEG

20:00

ORB 62

RMS POWERDOWN  
 (PORS OPS, RMS PHRDN)  
 Note: Do not stow MPMe

P/TV03 SETUP (MIDDECK ACT)  
 (PHOTO/TV, P/TV SCENES)

21:00

22:00

P/TV03 ACT (MIDDECK ACT)  
 (PHOTO/TV, P/TV SCENES)

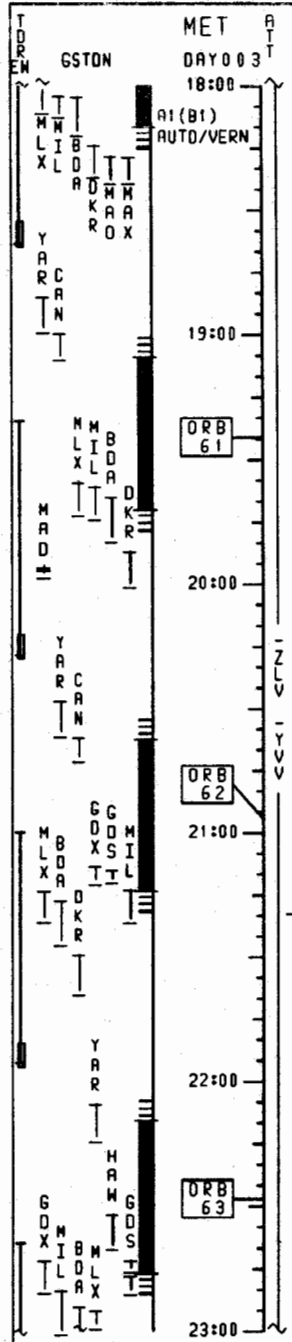
EQUIP PREP  
 (EVA C/L, EQUIP PREP)  
 NOTE: Do not config 35mm CAMR's

ORB 63

23:00

TV (TORE,GOS,MIL)  
 (GND CNTL-PLB)

TV (HAW)  
 (GND CNTL-CRB)



MET

DAY 003

23:00

STS

TDR EN  
 BDD  
 RKR  
 RAR  
 CCM  
 YAR  
 RRR  
 GMM  
 HMM  
 HMM  
 HMM  
 GGS  
 DD  
 SX  
 MIL  
 LXX  
 BDD  
 RAR  
 CCN  
 T  
 YAR  
 RGM  
 HMM  
 HMM  
 HMM  
 GGS  
 DD  
 XSM  
 MIL  
 LXX  
 T  
 T  
 RAR  
 CNT  
 T  
 GMM  
 HMM  
 HMM  
 GGS  
 DD  
 XSM  
 T  
 T  
 H

AI (B1)  
AUTO/VERN

004  
00:00

ORB  
64

MEAL  
(All)

01:00

P/TV03 ACT (MIDDECK ACT)  
(PHOTO/TV, P/TV SCENES)

ORB  
65

02:00

EMU CHECKOUT  
(EVR, EMU CHECKOUT)  
(2 Cmn)  
Perform for three EMU's

03:00

ORB  
66

TV (HAM, GDS,  
MIL, TORE)  
(GND CNTL-CAB)

UPDATE (GMM)  
RCS BURN PAD  
NPC

ON-ORBIT RCS BURN  
(ORB OPS, RCS) (2 Cmn)

04:00

MET DAY 004  
 04:00  
 (A1) B1  
 AUTO/VERN  
 05:00  
 06:00  
 (A1) B1  
 AUTO/VERN  
 07:00  
 08:00  
 09:00

STS  
 ON-ORBIT RCS BURN  
 (ORB OPS, RCS)  
 (2 Cmn)  
 NPC TIG (4/4:20)

P/TV03 ACT (MIDDECK ACT)  
 (PHOTO/TV, P/TV SCENES)

EMU CHECKOUT  
 (EVA, EMU CHECKOUT)  
 (2 Cmn)

ORB 67

TV DEACT (Cue Card, TV/VTR)

ON-ORBIT RCS BURN  
 (ORB OPS, RCS)  
 (2 Cmn)  
 NC3 TIG (4/5:35)

ORB 68

MNVR (TRK) -ZLV, -YVV  
 TG-2 BV-3 OM-90  
 A/AUTO/VERN Init TRK

IMU ALIGN LOG  
 REQD ID:  
 -Y \_\_, -Z \_\_ ANG ERR \_\_. \_\_  
 1 2 3  
 ANG:  
 ΔX ( ) . ( ) . ( ) .  
 ΔY ( ) . ( ) . ( ) .  
 ΔZ ( ) . ( ) . ( ) .  
 EXECUTION TIME:  
 \_\_ / \_\_ : \_\_ : \_\_

PRE SLEEP ACTIVITY  
 (ORB OPS, CREW SYS)

Do not perform  
 ECLS, SUPPLY WATER DUMP

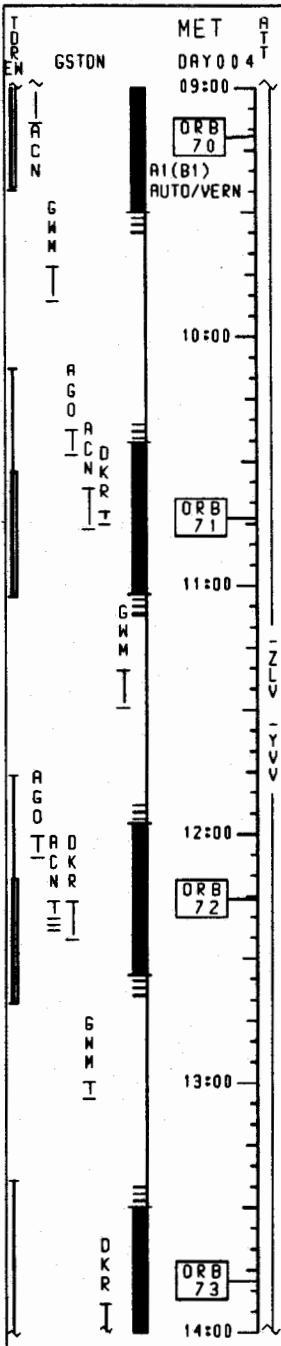
ORB 69

MNVR IMU ALIGN ATT  
 STAR PAIR (A1)  
 A/AUTO/VERN Init MNVR at SS  
 IMU ALIGN - S TRK (ORB OPS)  
 MNVR (TRK) -ZLV, -YVV  
 TG-2 BV-3 OM-90  
 A/AUTO/VERN Init TRK

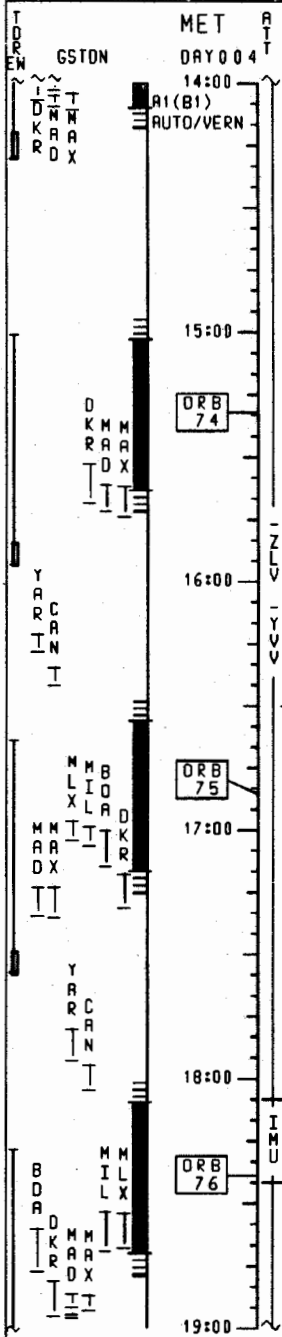
PVIDS INIT (PL OPS) Run #9

SLEEP

UPDATE (GMM)  
 RCS BURN PAD  
 NC3



SLEEP



**EZ CAP ACTIVITIES FOR TODAY:**  
EXERCISE (1 Hr/ALL)  
MEAL PREP (Cue Card) (30 Min)

**IMU ALIGN LOG**  
 RECD IO:  
 -Y\_\_\_\_, -Z\_\_\_\_ ANG ERR \_\_\_\_  
           1          2          3  
 ANG:  
 ΔX ( ) . ( ) . ( ) .  
 ΔY ( ) . ( ) . ( ) .  
 ΔZ ( ) . ( ) . ( ) .  
 EXECUTION TIME:  
 \_\_\_ / \_\_\_ : \_\_\_ : \_\_\_

POST SLEEP ACTIVITY  
 (ORB OPS, CREW SYS)  
 Do not perform  
 ECLS, SUPPLY WATER DUMP

MNVR IMU ALIGN ATT  
 STAR PAIR (A1)  
 A/AUTO/VERN Init MNVR at SS  
IMU ALIGN - S TRK (ORB OPS)  
MNVR (TRK) -7LV, -YVV  
 TG=2 BV=3 OM=90  
 A/AUTO/VERN Init TRK

PVTOS STATUS CK (PL OPS)  
PVTOS STOW (PL OPS)

TDRM  
GSTON  
YARCANT  
MLT  
XL  
BOAR  
D  
K  
R  
YARCANT  
HAW  
GG  
D  
S  
X  
I  
L  
L  
B  
DL  
AX  
T  
K  
K  
C  
N  
Y  
R  
R  
GG  
D  
S  
X  
I  
L  
L  
M  
B  
D  
D  
A  
A  
C  
N  
I  
O  
K  
R  
I  
005  
00:00

MET  
DAY 004

19:00  
AI (B1)  
AUTO/VERN  
ORB 77  
20:00  
ORB 78  
21:00  
ORB 79  
22:00  
23:00  
00:00

STS

STS 51-I (FD 06)

PL

MCC

POST SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

Do not perform  
ECLS, SUPPLY WATER DUMP

RMS POWERUP  
(PDRS OPS, RMS PWRUP)  
H2O DUMP NOZZLE SURVEY  
(PDRS OPS, EXT SURVEYS)

SUPPLY WATER DUMP  
WASTE WATER DUMP  
(ORB OPS, ECLS) (DTD 0325)

Dump simultaneously

Monitor with wrist camera from  
initiation to termination  
Initiate when H2O NOZ T exceeds:  
SPLY 175 DEG WASTE 175 DEG  
Terminate post bake out when  
nozzle temps exceed:  
SPLY 175 DEG WASTE 175 DEG

TV (MIL, TORE)  
(GND CNTL-PLB)

RMS POWERDOWN  
(PDRS OPS, RMS PWRDN)  
Note: Do not stow MPMs

LEH PREFREATHING INIT/TERM  
(C EVA OPS, 10.2 PSI CABIN)  
(2 Cmh)

PREP FOR 10.2 PSI CABIN (2 cmh)  
(C EVA OPS, 10.2 PSI CABIN)  
CABIN DEPRESS TO 10.2 PSI  
(C EVA OPS, 10.2 PSI CABIN)  
(2 Cmh)

10.2 PSI CABIN CONFIG  
(C EVA OPS, 10.2 PSI CABIN)



# STS 51-I (FD 06)

PL

MCC

MET AT  
DAY 005  
00:00  
A1 (B1)  
AUTO/VERN

01:00

02:00

03:00

04:00

05:00

STS

MEAL  
(A11)

ORB  
80

ORB  
81

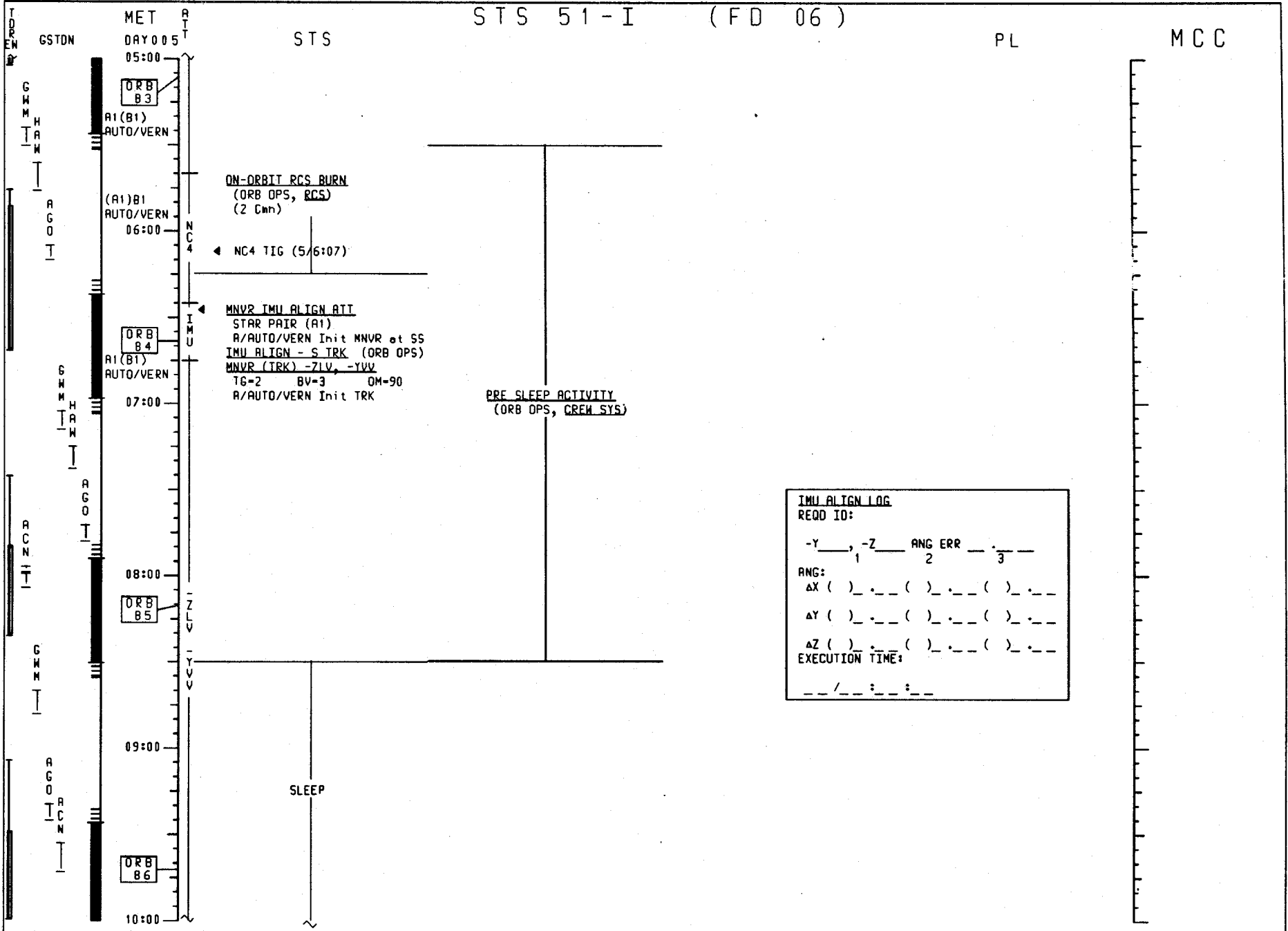
ORB  
82

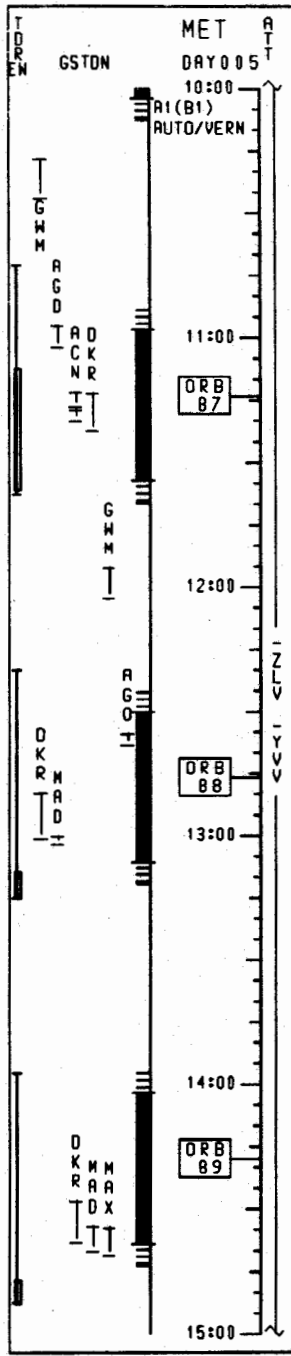
TACAN DTO, Step 1 (OTO 0780)  
(ORB OPS, GNC)

H2O DUMP & H2O CHARGE  
(EVA, EMU MAINT/RECHARGE)  
EMU 1 & 2  
(2 Chn)

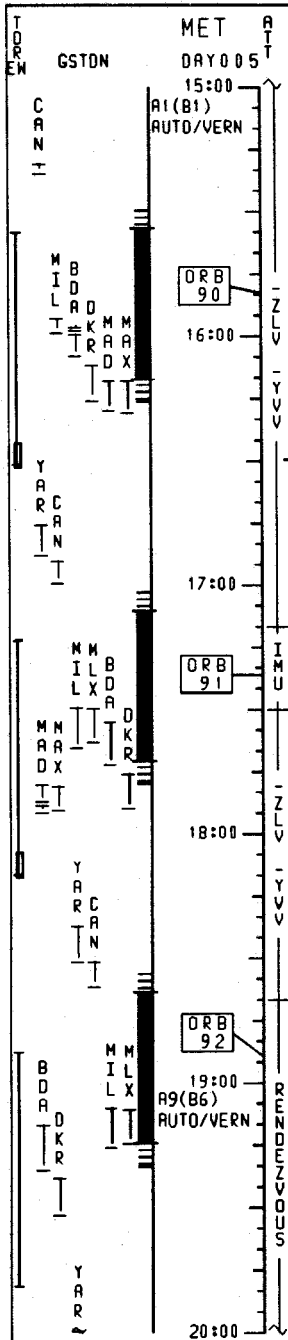
P/TVOR SETUP (RNDZ/EVA)  
(PHOTO/TV, P/TV SCENES)

UPDATE (TDRE)  
RCS BURN PAD  
NC4





STS  
SLEEP



STS  
SLEEP

NOMINAL RNDZ  
PET 0/00:00  
EQUALS  
MET 5/21:12  
(NCS TIG)

IMU ALIGN LOG  
REQD ID:  
-Y \_\_, -Z \_\_ ANG ERR \_\_. \_\_  
          1      2          3  
ANG:  
ΔX ( ) . ( ) . ( ) .  
ΔY ( ) . ( ) . ( ) .  
ΔZ ( ) . ( ) . ( ) .  
EXECUTION TIME:  
\_ / \_ : \_ : \_

◀ MNVR IMU ALIGN RTI  
STAR PAIR (A1)  
A/AUTO/VERN Init MNVR at SS  
IMU ALIGN - S TRK (ORB OPS)  
MNVR (TRK) -ZLV, -YVV  
TG=2 BV=3 DM=90  
A/AUTO/VERN Init TRK

POST SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

DETAILED TIMELINE  
(RNDZ, DETAILED TIMELINE)  
(2 CMN)

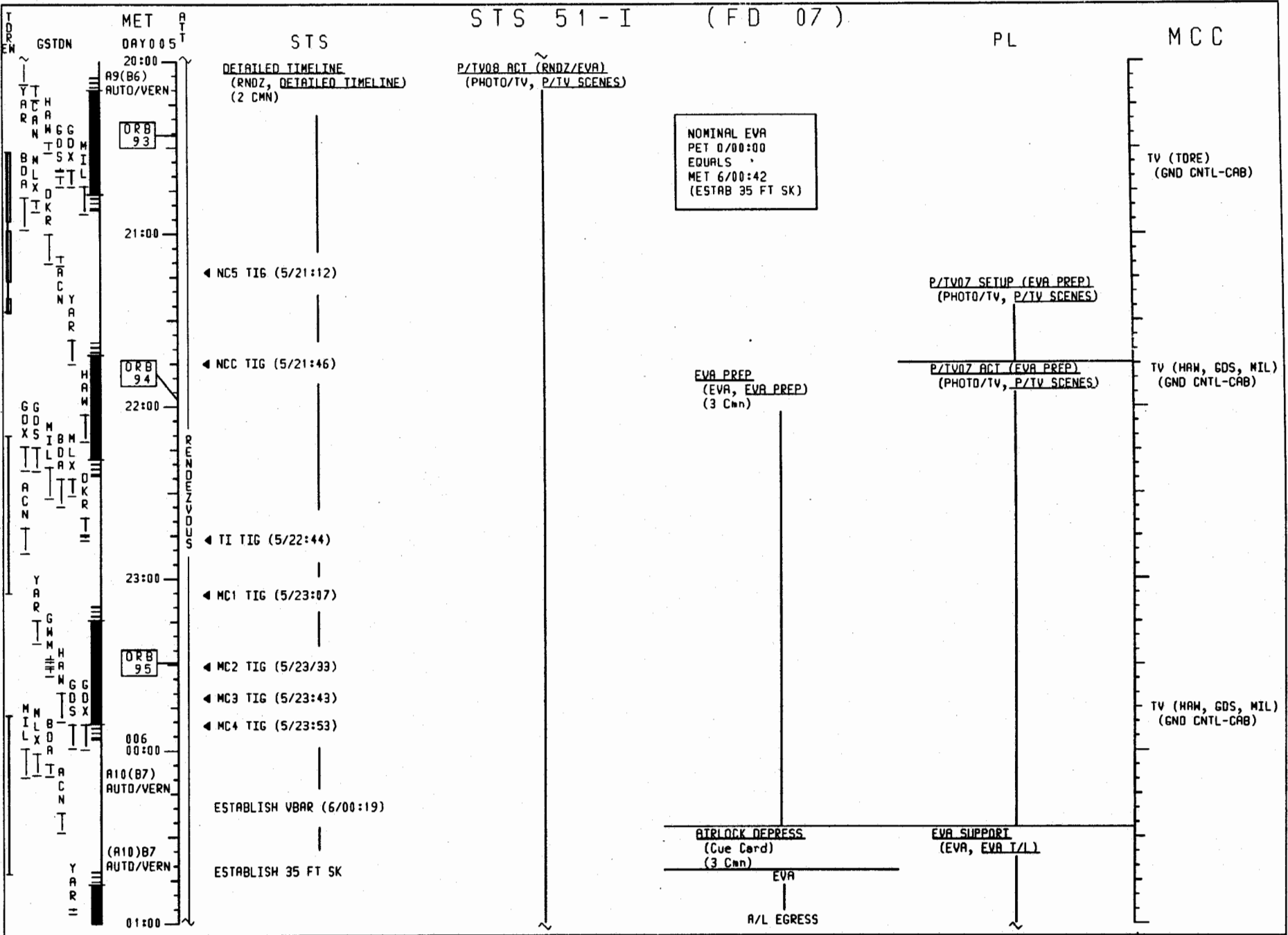
P/TVOB ACT (RNDZ/EVA)  
(PHOTO/TV, P/TV SCENES)

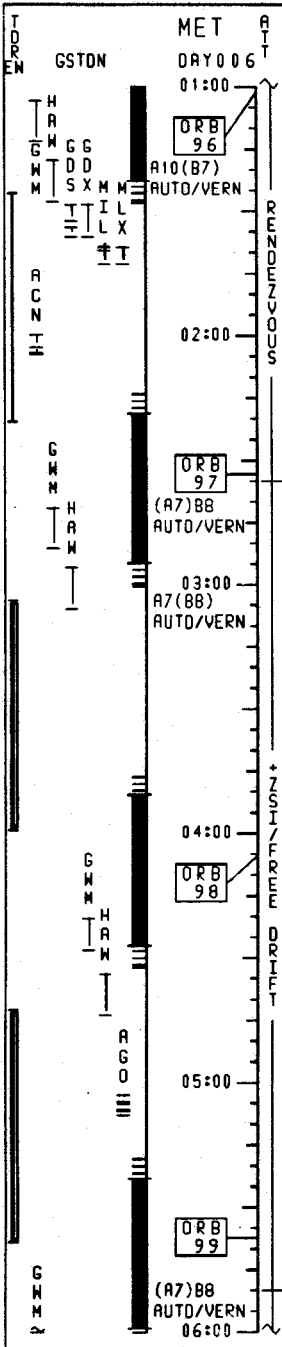
◀ NH2 TIG (5/19:11)

◀ NSR TIG (5/19:57)

UPLINK (MIL)  
TGT SV AND  
COV MATRIX  
UPDATE (DKR)  
NH2, NSR, NCS, MCC  
TI BURN PADS

TV (MIL)  
(GND CNTL-CAB)





STS

STS 51-I (FD 07)

P/TV08 ACT (RNDZ/EVA)  
(PHOTO/TV, P/TV SCENES)

EVA

PL  
EVA SUPPORT  
(EVA, EVA I/L)

MCC

TV (HAM, GDS, MIL)  
(GND CNTL-CAB)

STABILIZE S/C  
INSTALL SEP LEV TOOL

GRAPPLE S/C

TV (HAM)  
(GND CNTL-PLB)  
TV (TDRE)  
(GND CNTL-CAB)

SBU C/O

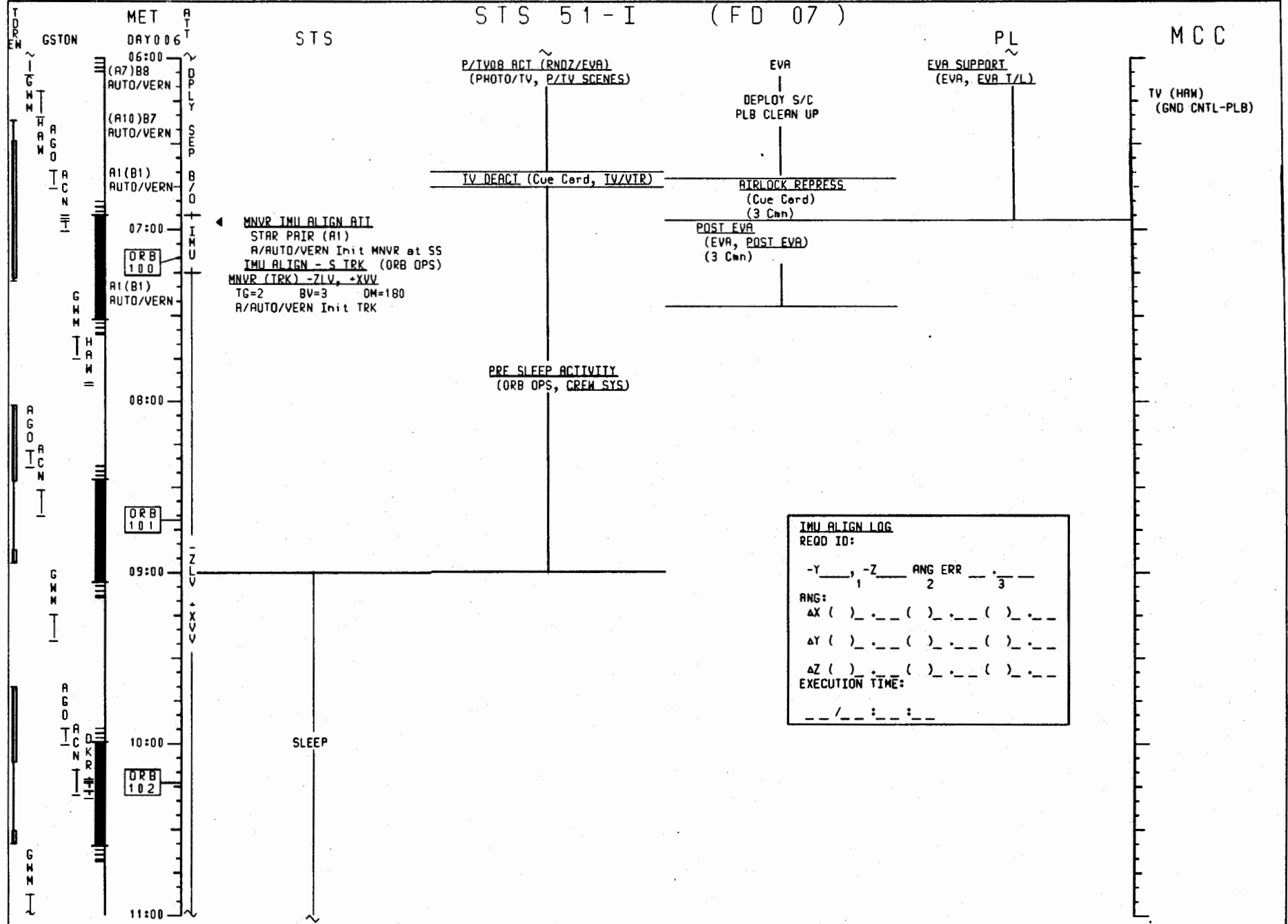
MOUNT SBU

CONNECT RPU  
DEPLOY OMNI ANT  
REMOVE RPU

TV (HAM)  
(GND CNTL-PLB)  
TV (TDRE)  
(GND CNTL-CAB)

SET S/C TIMERS

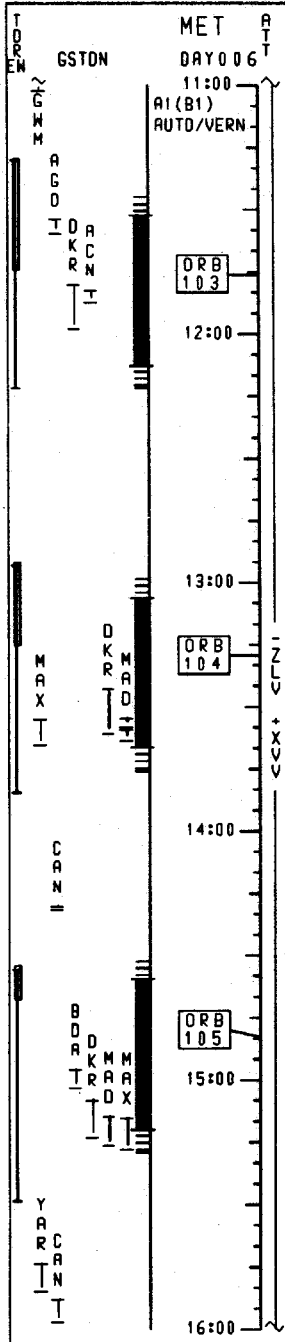
STS 51-I (FD 07)



← MNVR IMU ALIGN ATT  
 STAR PAIR (A1)  
 A/AUTO/VERN Init MNVR at SS  
 IMU ALIGN - S TRK (ORB OPS)  
 MNVR (TRK) -7LV, +XVV  
 TG=2 BV=3 DM=180  
 A/AUTO/VERN Init TRK

PRE SLEEP ACTIVITY  
 (ORB OPS, CREW SYS)

IMU ALIGN LOG  
 REQD ID:  
 -Y \_\_, -Z \_\_ ANG ERR \_\_  
           1      2          3  
 ANG:  
 ΔX ( ) . ( ) . ( ) .  
 ΔY ( ) . ( ) . ( ) .  
 ΔZ ( ) . ( ) . ( ) .  
 EXECUTION TIME:  
 \_\_ / \_\_ : \_\_





MET DAY 006  
 16:00  
 A1 (81)  
 AUTO/VERN  
 ORB 106  
 17:00  
 ORB 107  
 18:00  
 ORB 108  
 19:00  
 ORB 109  
 20:00  
 21:00

ORDER  
 GSTDN  
 MIL LX  
 BOA  
 RR  
 MM  
 ARX  
 YARCANT  
 MAOIT  
 YARCANT  
 GGOO  
 SIL  
 MB  
 LX  
 BOA  
 RR  
 DKKR  
 YARCANT

STS  
 SLEEP

MNVR IMU ALIGN ATT  
 STAR PAIR (A1)  
 A/AUTO/VERN Init MNVR at SS  
 IMU ALIGN - S TRK (ORB OPS)  
 MNVR (TRK) -ZLV, +XVV  
 TG=2 BV=3 OM=180  
 A/AUTO/VERN Init TRK

POST SLEEP ACTIVITY  
 (ORB OPS, CREW SYS)

IMU ALIGN LOG  
 RECD ID:  
 -Y \_\_\_\_\_ -Z \_\_\_\_\_ ANG ERR \_\_\_\_\_  
 1 2 3  
 ANG:  
 ΔX ( ) ( ) ( )  
 ΔY ( ) ( ) ( )  
 ΔZ ( ) ( ) ( )  
 EXECUTION TIME:  
 \_ / \_ : \_ : \_

TACAN DIA, Step 2 (OTO 0780)  
 (ORB OPS, GNC)

CABIN REPRESS TO 14.7 PSI  
 (C EVA OPS, 10.2 PSI CABIN)  
 (2 Cnn)

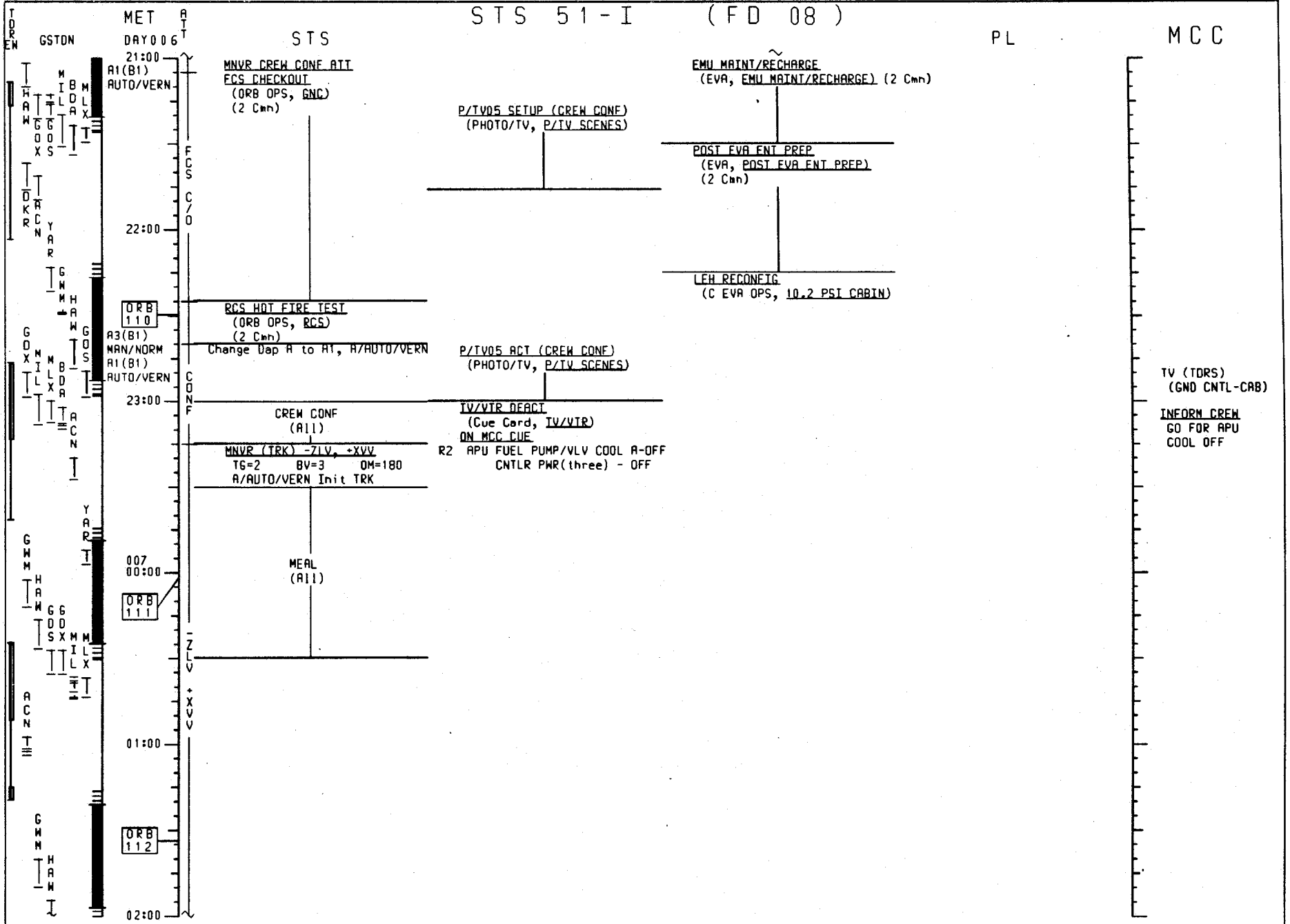
ON-ORBIT OMS BURN  
 (ORB OPS, RCS)  
 (2 Cnn)

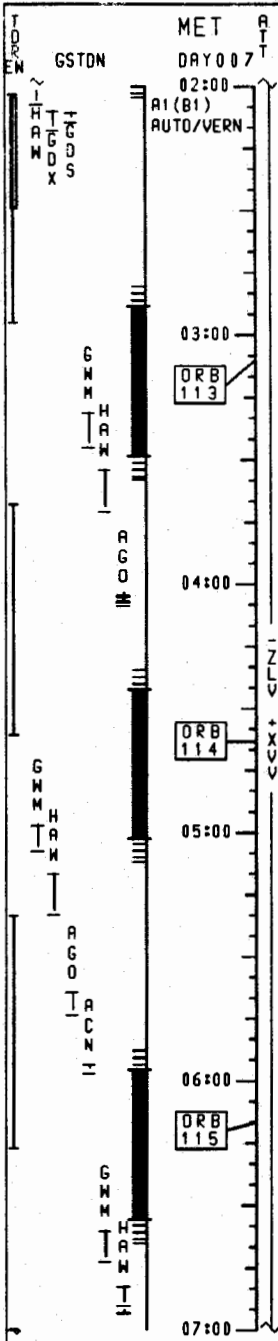
EMU MAINT/RECHARGE  
 (EVA, EMU MAINT/RECHARGE)  
 (2 Cnn)

◀ ORB ADJ TIC (6/20:38)

MNVR CREW CONF ATT  
 R=282 P=98 Y=27  
 A/AUTO/VERN Init MNVR

UPDATE (MIL)  
 OMS BURN PAD  
 ORB ADJ





STS

STS 51-I (FD 08)

PL

MCC

KUI-BO ANT STOW  
(ORB OPS, COMM/INST)

ORB 113

ORB 114

ORB 115

-----

CABIN CONFIG/STOW  
(A11)

-----

PRE SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

STS 51-I (FD 08)

PL

MCC

MET DAY 007  
 07:00  
 A1 (B1)  
 AUTO/VERN  
 08:00  
 09:00  
 10:00  
 11:00  
 12:00

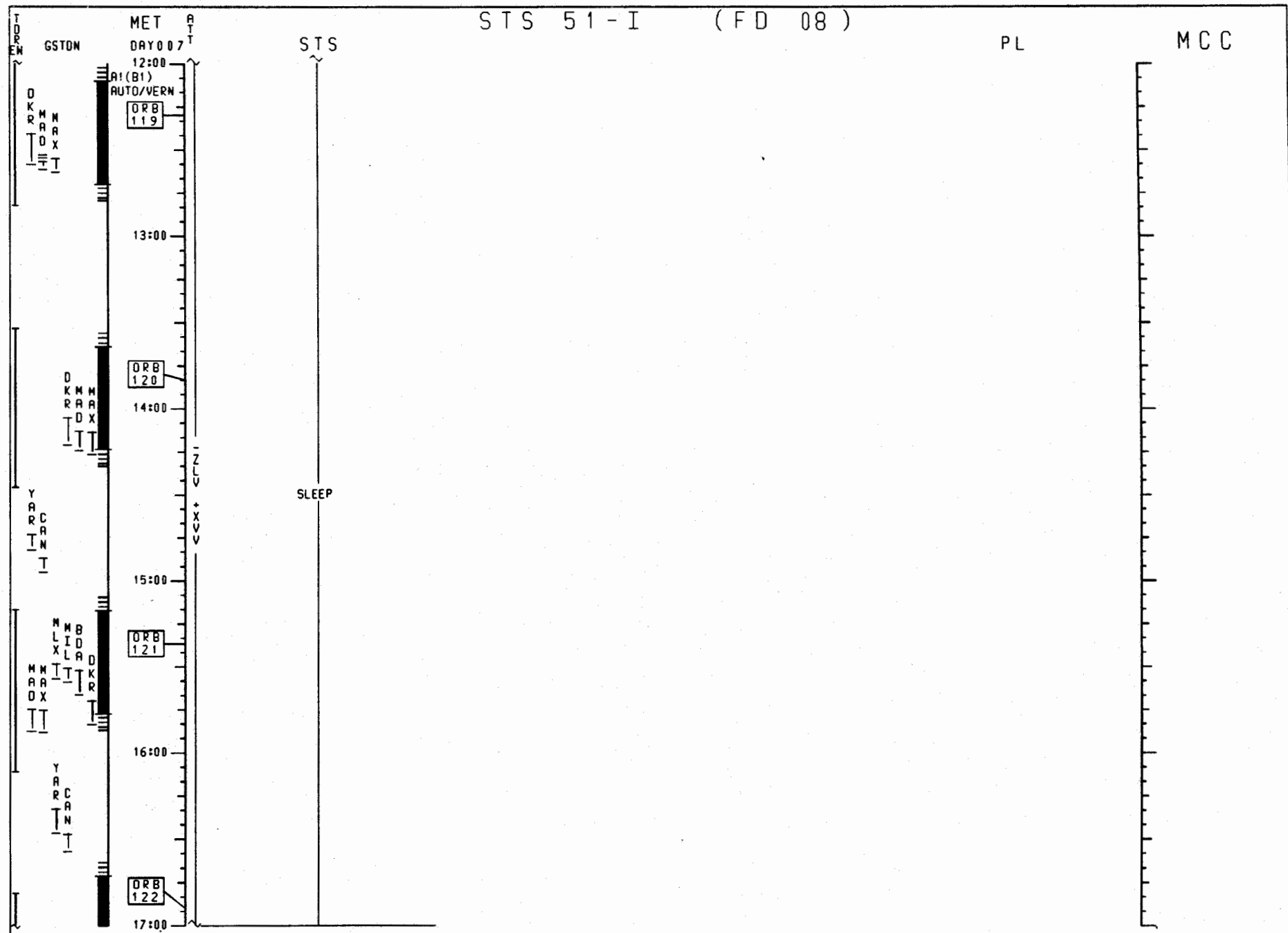
STS

MNVR IMU ALIGN AT  
 STAR PAIR (A1)  
 A/AUTO/VERN Init MNVR at SS  
IMU ALIGN - S TRK (ORB OPS)  
MNVR (TRK) -7LV, +XVV  
 TG=2 BV=3 OM=180  
 A/AUTO/VERN Init TRK

PRE SLEEP ACTIVITY  
 (ORB OPS, CREW SYS)

SLEEP

IMU ALIGN LOG  
 RECD ID:  
 -Y\_\_\_\_, -Z\_\_\_\_ ANG ERR \_\_\_\_  
           1      2      3  
 ANG:  
 ΔX ( ) . . . . . ( ) . . . . . ( ) . . . . .  
 ΔY ( ) . . . . . ( ) . . . . . ( ) . . . . .  
 ΔZ ( ) . . . . . ( ) . . . . . ( ) . . . . .  
 EXECUTION TIME:  
 \_ : \_ / \_ : \_ : \_



MET DAY 07 17:00  
 18:00  
 19:00  
 20:00  
 21:00  
 22:00

YARCANT  
 YARCANT  
 YARCANT  
 YARCANT  
 YARCANT

AI(B1)  
 AUTO/VERN  
 ORB 123  
 ORB 124  
 ORB 125

MNVR IMU ALIGN AT  
 STAR PAIR (A1)  
 A/AUTO/VERN AT SS Init MNVR  
 IMU ALIGN - S TRK (ORB OPS)  
 MNVR (TRK) - XST AT  
 T6-4 BV-5 P-184 Y-0 OM-90  
 A/AUTO/VERN Init TRK  
 Update: CRT TIMER SETUP PAD  
 in NOMINAL DEORBIT PREP

POST SLEEP ACTIVITY  
 (ORB OPS, CREW SYS)

EZ CAP ACTIVITIES BEFORE LEAVING CAP:  
ATR SAMPLE  
 Rcd MET on bottle  
FLUID LOADING PREP  
 Fill 4 drink containers with  
 8 oz H2O each (per person)  
STOW O2 BLEED ORIFICE ASSEMBLY  
 M032M LEH 02 5 vlv - CL  
 Remove and stow O2 Bleed orifice  
 M032M LEH 02 5 vlv - As Req.

IMU ALIGN LOG  
 RECD ID:  
 -Y\_\_\_\_, -Z\_\_\_\_ ANG ERR \_\_\_\_  
 1 2 3  
 ANG:  
 ΔX ( ) . ( ) . ( ) .  
 ΔY ( ) . ( ) . ( ) .  
 ΔZ ( ) . ( ) . ( ) .  
 EXECUTION TIME:  
 \_\_/\_\_/\_\_:\_\_

UPDATE  
 CRT TIMER  
 SETUP PAD

GO TO DEORBIT PREP AT 7/20:06 MET

**This Page Intentionally Blank**

**CONSUMABLES CURVES**

**CONSUMABLES  
CURVES**

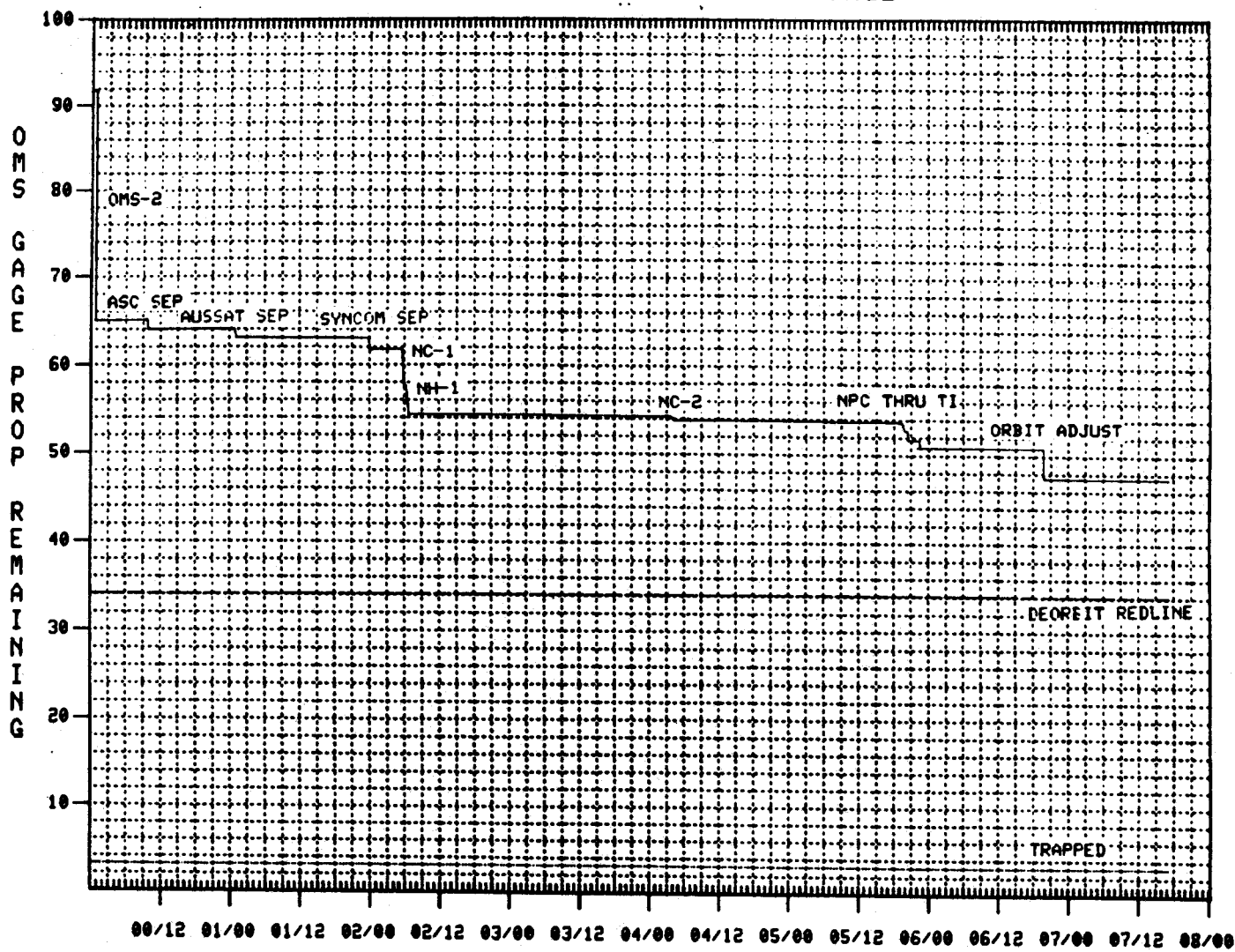


CONSUMABLES  
CURVES

24 JUNE 1985  
SDDS J-767 ADD 4  
PREPARED BY: S.H. HOLLISTER  
VERIFIED BY:

*Richard Hollister*

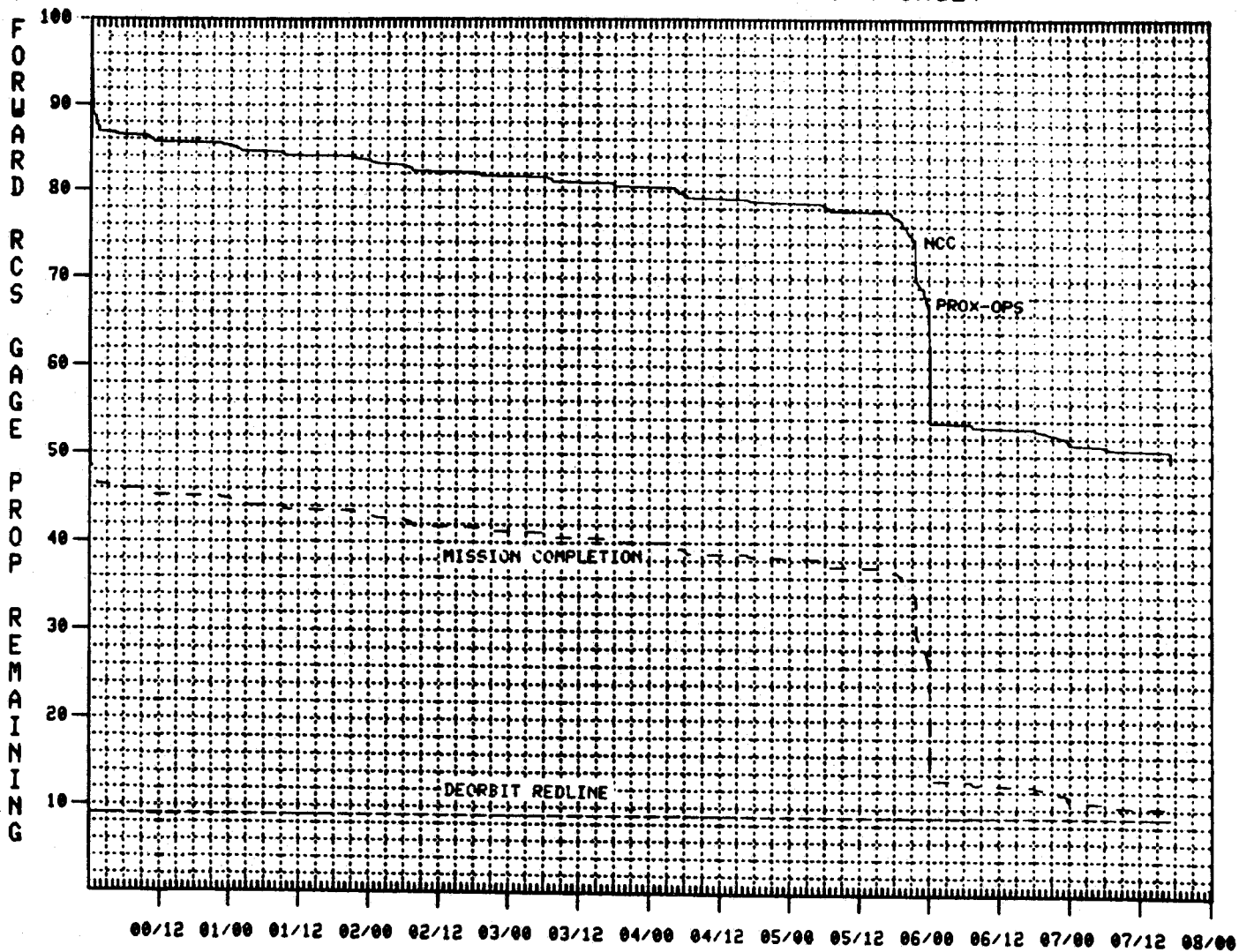
51-I OMS PROP REMAINING(% GAGE)



MISSION ELAPSED TIME IN DAYS/HOURS

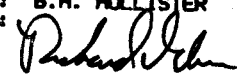
*Richard John*

### 51-I FORWARD RCS PROP REMAINING(% GAGE)

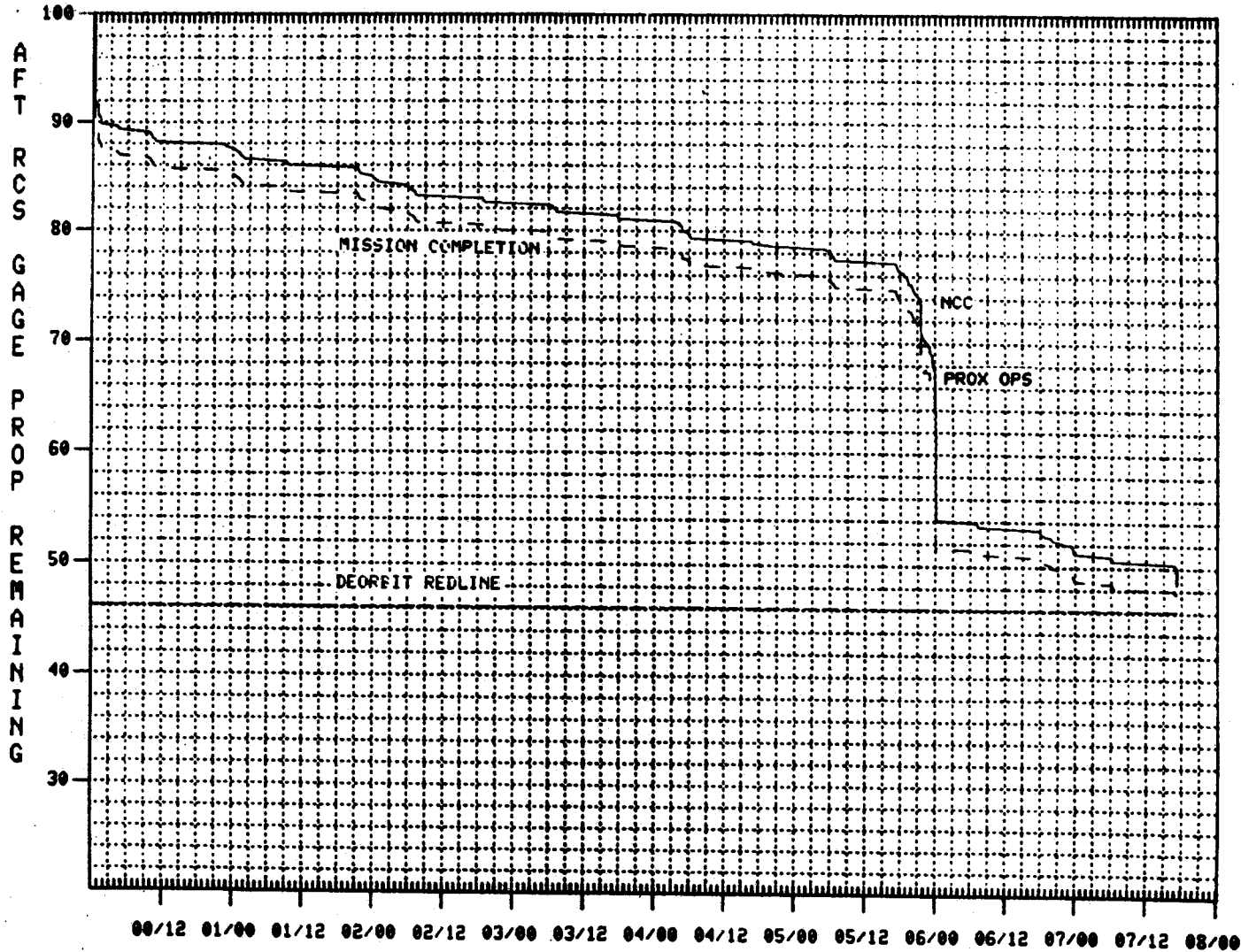


MISSION ELAPSED TIME IN DAYS/HOURS

24 JUNE 1995  
SODS J-767 ADD 4  
PREPARED BY: B.H. HOLLISTER  
VERIFIED BY:



### 51-I AFT RCS PROP REMAINING(% GAGE)

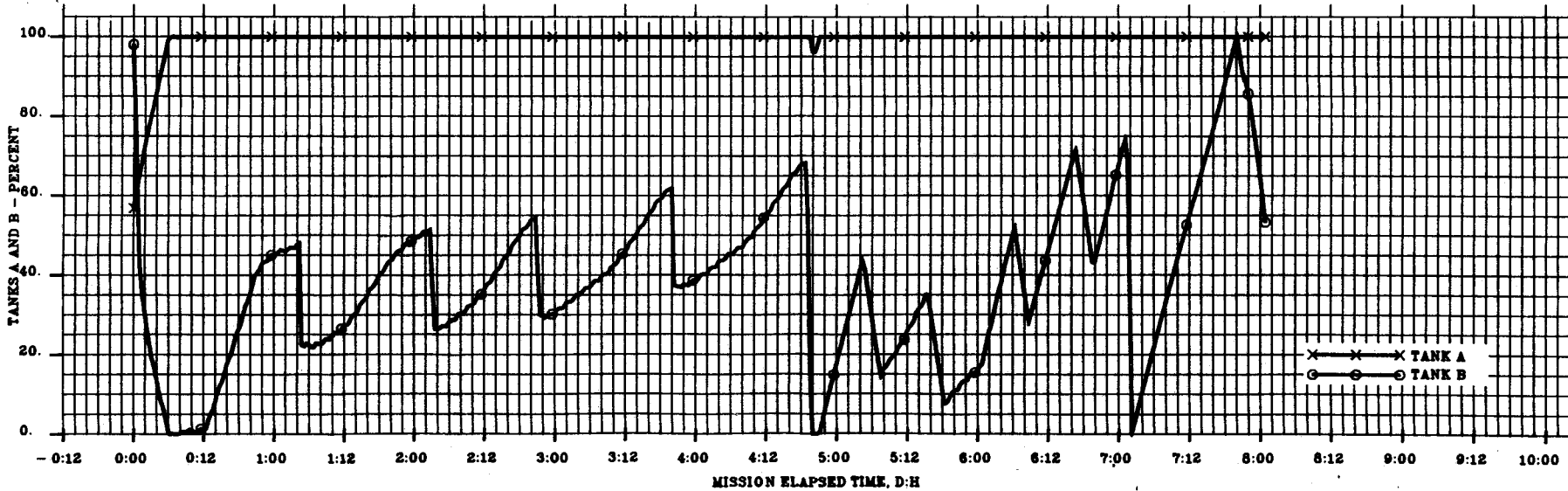
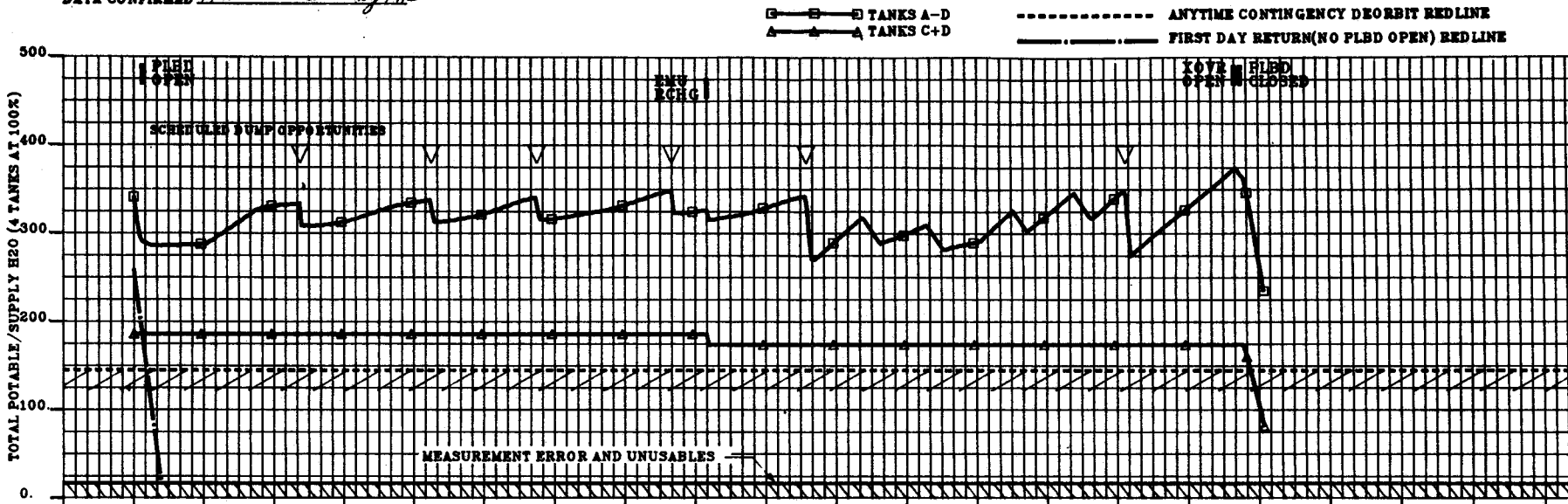


MISSION ELAPSED TIME IN DAYS/HOURS

EMMIT FISHER, SR.

N/A  
DATA CONFIRMED *Mohamed Saad by PAB*

TRAJECTORY OFF CYCLE 1  
CAP: PAB/IN: 8/19/85  
ANALYSIS DATE: 8/22/85



STS 51-I SUPPLY WATER

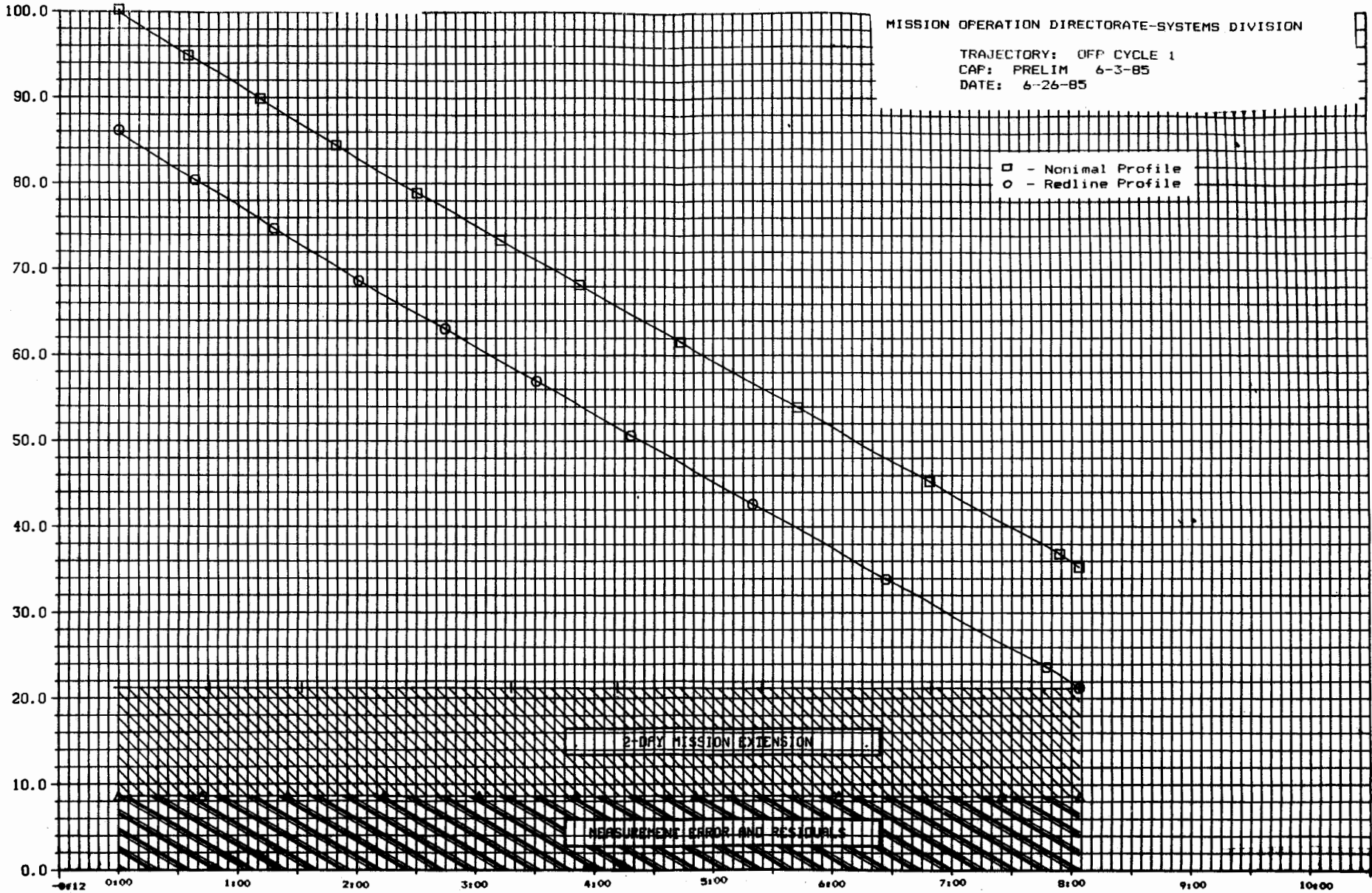
P. Baillie/DF6  
N/A  
Date Confirmed 6/26/85 *Jan Clark*

MISSION OPERATION DIRECTORATE-SYSTEMS DIVISION

TRAJECTORY: OFF CYCLE 1  
CAP: PRELIM 6-3-85  
DATE: 6-26-85

□ - Nominal Profile  
○ - Redline Profile

OXYGEN, PERCENT

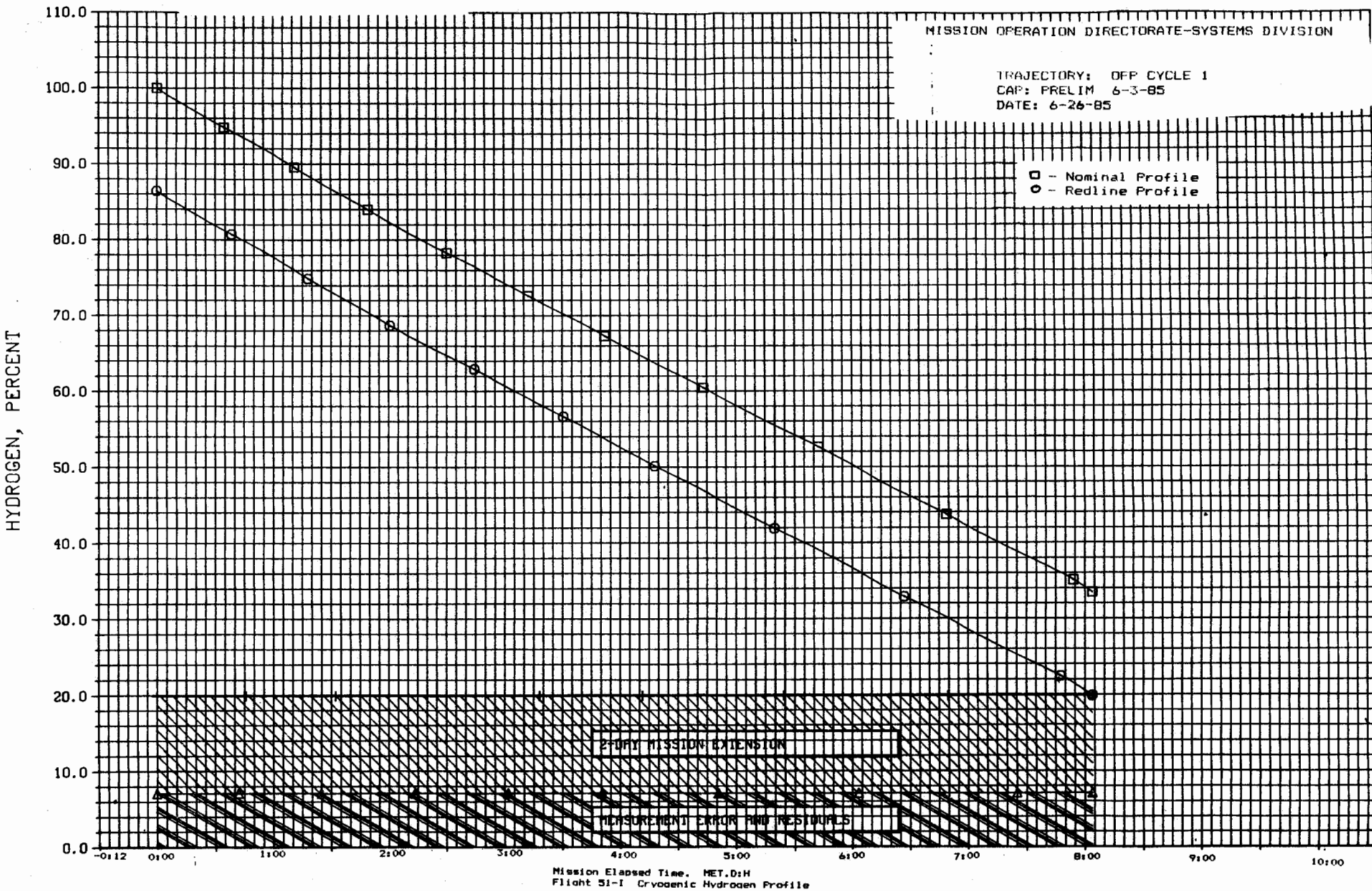


Mission Elapsed Time, MET.DtH  
Flight 51-I Cryogenic Oxygen Profile

P. Raillie/DF6

N/A

Date Confirmed 6/26/85 *Jed Clark*



**This Page Intentionally Blank**

**The sections following this divider page will  
not be included in flight copies.**



DAP BOOK

TABLE 5-1  
DAP A CONFIGURATIONS

	A1*	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11
<u>TRANSLATION</u>											
PULSE ft/sec	0.10	0.10	0.10	0.10	0.10	0.10	0.02	0.10	0.10	0.05	
<u>ROTATION</u>											
DSC RT											
NORM %/sec	0.200	0.400	0.200	0.200	0.200	0.200	0.100	0.500	0.200	0.200	
VERN %/sec	0.200	0.400	0.200	0.008	0.200	0.200	0.150	0.200	0.200	0.200	
PULSE											
NORM %/sec	0.10	0.10	0.30	0.10	0.10	0.10	0.04	0.10	0.10	0.10	
VERN %/sec	0.010	0.010	0.010	0.010	0.050	0.010	0.002	0.010	0.010	0.010	
COMP											
NORM %/sec	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
VERN %/sec	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
<u>DEADBAND</u>											
ATT											
NORM (deg)	5.00	1.00	5.00	1.00	5.00	5.00	3.00	3.00	2.00	2.00	
VERN (deg)	1.000	1.000	1.000	0.070	1.000	1.000	1.000	1.000	1.000	1.000	
RATE											
NORM %/sec	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	
VERN %/sec	.020	.020	.020	.010	.020	.020	.100	.020	.020	.020	
<u>JET OPT</u>											
P	1	1	3	1	1	3	3	1	1	1	
Y	1	1	3	3	1	3	3	1	1	1	
<u>CNTL ACCEL</u>											
	0	0	0	0	0	0	2	0	0	0	

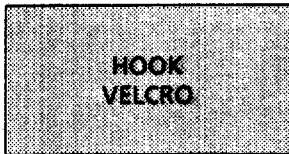
\*I-LOADED OPS-2 DAP Configuration

TABLE 5-1 (Cont)  
DAP B CONFIGURATIONS

	B1*	B2	B3	B4	B5	B6	B7	B8	B9
<u>TRANSLATION</u>									
PULSE ft/sec	0.02	0.02	0.02	0.02	0.02	0.05	0.01	0.02	
<u>ROTATION</u>									
DSC RT									
NORM °/sec	0.500	0.200	0.200	0.200	0.200	0.500	0.200	0.100	
VERN °/sec	0.200	0.200	0.200	0.008	0.016	0.200	0.200	0.150	
PULSE									
NORM °/sec	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
VERN °/sec	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	
COMP									
NORM °/sec	.00	.00	.00	.00	.00	.00	.00	.00	
VERN °/sec	.000	.000	.000	.000	.000	.000	.000	.000	
<u>DEADBAND</u>									
ATT									
NORM (deg)	3.00	3.00	3.00	0.30	3.00	2.00	2.00	3.00	
VERN (deg)	1.000	1.000	1.000	0.100	0.033	1.000	1.000	1.000	
RATE									
NORM °/sec	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	
VERN °/sec	.020	.020	.020	.010	.020	.020	.020	.100	
<u>JET OPT</u>									
P	1	3	1	3	3	1	1	3	
Y	1	3	1	3	3	1	1	3	
CNTL ACCEL	0	0	0	0	0	0	0	5	

\*I-LOADED OPS-2 DAP Configuration

# DAP BOOK



CAP/51-I/O/BAS

UNIV PTG	
TGT ID = 1	Orbiting Vehicle
= 2	Earth ctr
= 3	Earth tgt
	Input LAT ( $\pm 90$ )
	LON ( $\pm 180$ , + = East)
	ALT (-3444 to 20,000nm)
= 4	Sun ctr
= 5	Celestial tgt
	Input RA (0-359.99)
	DEC ( $\pm 90$ )
= 11-110	Nav Stars
BODY VECT = 1	+X*
= 2	-X*
= 3	-Z*
= 4	PTC ( $\sim 2^\circ$ below +X)*
= 5	Optional
	Input P (0-359.99)
	Y (270-359.99, 0-90)
* input OM $\rightarrow$	OM (0-359.99)
MON AXIS = 1	+X
2	-X

CAP/51-I/O/FIN

G20 DAP CONFIG			
CNTL ACCEL = 0	Orbiter alone	JET OPT = 1	Normal
= 1	(not used)	= 2	Nose only
= 2	RMS OPS	= 3	Tail only
= 3	(not used)		
= 4	(not used)		
= 5	RMS/SYNCOM F3 deploy		

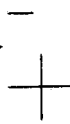
TOP



DAP                      PURPOSE

- A1 - NOMINAL  
IMU ALIGN  
LOSS OF VERN  
(NOSE & TAIL)
- A2 - PTC
- A3 - RCS HOT FIRE
- A4 - GG
- A5 - IMU ROTATION
- A6 - LOSS OF VERN  
(TAIL ONLY)
- A7 - RMS OPS
- A8 - PRE/POST DEPLOY
- A9 - RENDEZVOUS
- A10 - PROX OPS
- A11 - (Blank)

CAP/51-I/O/FIN



A1



TOP



**DAP A1**

**PURPOSE:**

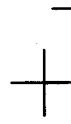
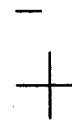
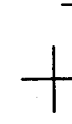
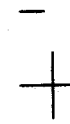
NOMINAL  
IMU ALIGN  
LOSS OF VERN  
(NOSE & TAIL)

**A1**

0.1 0	1	TRANSLATION PULSE
0.2 0 0	2	ROTATION DSC RT NORM
0.2 0 0	3	VERN
0.1 0	4	PULSE NORM
0.0 1 0	5	VERN
.0 0	6	COMP NORM
.0 0 0	7	VERN
5.0 0	8	DEADBAND ATT NORM
1.0 0 0	9	VERN
0.2 0	10	RATE NORM
.0 2 0	11	VERN
1	12	JET OPT P
1	13	Y
0	14	CNTL ACCEL

CAP/51-I/O/BAS

CAP/51-I/O/BAS



A2

TOP

TOP

A1

DAP A2

PURPOSE:

PTC

0.1 0

1

TRANSLATION  
PULSE

0.4 0 0

2

ROTATION  
DSC RT NORM  
VERN

0.4 0 0

3

PULSE NORM

0.1 0 0

4

VERN NORM

0.0 1 0

5

COMP NORM

.0 0 0

6

VERN

.0 0 0

7

DEADBAND  
ATT NORM  
VERN

1.0 0 0

8

1.0 0 0

9

0.2 0 0

10

RATE NORM

.0 2 0

11

VERN

1

12

JET OPT P

1

13

Y

0

14

CNTL ACCEL

CAP/51-I/O/BAS

CAP/51-I/O/BAS

A3

TOP

TOP

A2

DAP A3

PURPOSE:

RCS HOT FIRE

0.1 0

1

TRANSLATION  
PULSE

0.2 0 0

2

ROTATION  
DSC RT NORM  
VERN

0.2 0 0

3

PULSE NORM

0.3 0 0

4

VERN NORM

0.0 1 0

5

COMP NORM

.0 0 0

6

VERN

.0 0 0

7

DEADBAND  
ATT NORM  
VERN

5.0 0 0

8

1.0 0 0

9

0.2 0 0

10

RATE NORM

.0 2 0

11

VERN

3

12

JET OPT P

3

13

Y

0

14

CNTL ACCEL

CAP/51-I/O/BAS

CAP/51-I/O/BAS

A4

TOP

TOP

A3

DAP A4

PURPOSE:

GG

A4

TRANSLATION  
PULSE

0.1 0

1

ROTATION

0.2 0 0

2

DSC RT NORM

0.0 0 8

3

VERN

0.1 0 0

4

PULSE NORM

0.0 1 0

5

VERN

.0 0 0

6

COMP NORM

.0 0 0

7

VERN

DEADBAND

1.0 0 0

8

ATT NORM

0.0 7 0

9

VERN

0.2 0 0

10

RATE NORM

.0 1 0

11

VERN

1

12

JET OPT P

3

13

Y

0

14

CNTL ACCEL

CAP/51-I/O/BAS

CAP/51-I/O/BAS

A5

TOP

TOP

A4

DAP A5

PURPOSE:

IMU ROTATION

A5

TRANSLATION  
PULSE

0.1 0

1

ROTATION

0.2 0 0

2

DSC RT NORM

0.2 0 0

3

VERN

0.1 0 0

4

PULSE NORM

0.0 5 0

5

VERN

.0 0 0

6

COMP NORM

.0 0 0

7

VERN

DEADBAND

5.0 0 0

8

ATT NORM

1.0 0 0

9

VERN

0.2 0 0

10

RATE NORM

.0 2 0

11

VERN

1

12

JET OPT P

1

13

Y

0

14

CNTL ACCEL

CAP/51-I/O/BAS

CAP/51-I/O/FIN

A6

TOP

TOP

A5

DAP A6

PURPOSE:

LOSS OF VERN  
(TAIL ONLY)

0.1 0

1

TRANSLATION  
PULSE

0.2 0 0

2

ROTATION  
DSC RT NORM

0.2 0 0

3

VERN

0.1 0 0

4

PULSE NORM

0.0 1 0

5

VERN

.0 0 0

6

COMP NORM

.0 0 0

7

VERN

DEADBAND

5.0 0 0

8

ATT NORM

1.0 0 0

9

VERN

0.2 0 0

10

RATE NORM

.0 2 0

11

VERN

3

12

JET OPT P

3

13

Y

0

14

CNTL ACCEL

CAP/51-I/O/BAS

CAP/51-I/O/BAS

A7

TOP

TOP

A6

DAP A7

PURPOSE: RMS OPS

0.0 2

1

TRANSLATION  
PULSE

0.1 0 0

2

ROTATION  
DSC RT NORM

0.1 5 0

3

VERN

0.0 0 4

4

PULSE NORM

0.0 0 2

5

VERN

.0 0 0

6

COMP NORM

.0 0 0

7

VERN

DEADBAND

3.0 0 0

8

ATT NORM

1.0 0 0

9

VERN

0.2 0 0

10

RATE NORM

.1 0 0

11

VERN

3

12

JET OPT P

3

13

Y

2

14

CNTL ACCEL

CAP/51-I/O/BAS

CAP/51-I/O/FIN

A8

TOP



TOP

A7

DAP A8

PURPOSE:

PRE/POST DEPLOY

A8

0.1 0 1 TRANSLATION PULSE

0.5 0 0 2 ROTATION DSC RT NORM  
 0.2 0 0 3 VERN  
 0.1 0 4 PULSE NORM  
 0.0 1 0 5 VERN  
 .0 0 0 6 COMP NORM  
 .0 0 0 7 VERN

3.0 0 8 DEADBAND ATT NORM  
 1.0 0 9 VERN

0.2 0 10 RATE NORM  
 .0 2 0 11 VERN

1 12 JET OPT P  
 1 13 Y

0 14 CNTL ACCEL

CAP/51-I/O/BAS

CAP/51-I/O/BAS

A9

TOP

TOP

A8

DAP A9

PURPOSE:

RENDEZVOUS

A9

0.1 0 1 TRANSLATION PULSE

0.2 0 0 2 ROTATION DSC RT NORM  
 0.2 0 0 3 VERN  
 0.1 0 4 PULSE NORM  
 0.0 1 0 5 VERN  
 .0 0 0 6 COMP NORM  
 .0 0 0 7 VERN

2.0 0 8 DEADBAND ATT NORM  
 1.0 0 9 VERN

0.2 0 10 RATE NORM  
 .0 2 0 11 VERN

1 12 JET OPT P  
 1 13 Y

0 14 CNTL ACCEL

CAP/51-I/O/FIN

CAP/51-I/O/FIN

A10

TOP

TOP

A9

DAP A10

PURPOSE:

PROX OPS

A10

TRANSLATION  
PULSE

0.0 5

ROTATION

0.2 0 0	2	DSC RT	NORM
0.2 0 0	3		VERN
0.1 1 0	4	PULSE	NORM
0.0 1 0	5		VERN
.0 0 0	6	COMP	NORM
.0 0 0	7		VERN

DEADBAND

2.0 0	8	ATT	NORM
1.0 0 0	9		VERN
0.2 0	10	RATE	NORM
.0 2 0	11		VERN

1 12 JET OPT P  
1 13 Y

0 14 CNTL ACCEL

CAP/51-I/O/FIN

CAP/51-I/O/FIN

A11

TOP

TOP

A10

DAP A11

PURPOSE: (Blank)

A11

TRANSLATION  
PULSE

-. - -

ROTATION

-. - -	2	DSC RT	NORM
-. - -	3		VERN
-. - -	4	PULSE	NORM
-. - -	5		VERN
-. - -	6	COMP	NORM
-. - -	7		VERN

DEADBAND

-. - -	8	ATT	NORM
-. - -	9		VERN
-. - -	10	RATE	NORM
-. - -	11		VERN

- 12 JET OPT P  
- 13 Y

- 14 CNTL ACCEL

CAP/51-I/O/FIN

CAP/51-I/O/FIN

TOP

TOP

A11

DAP                    PURPOSE

- B1 - NOMINAL  
      PRCS IMU ALIGN  
      OMS & RCS BURNS
- B2 - LOSS OF VERN  
      (TAIL ONLY)
- B3 - LOSS OF VERN  
      (NOSE & TAIL)  
      GG MNVR
- B4 - SSUS DEPLOY
- B5 - COAS CAL
- B6 - RENDEZVOUS
- B7 - PROX OPS
- B8 - RMS/SYNCOM F3  
      DEPLOY
- B9 - (Blank)

CAP/51-I/O/FIN

CAP/51-I/O/FIN

B1

TOP

TOP

DAP B1

B1

PURPOSE:

NOMINAL  
PRCS IMU ALIGN  
OMS & RCS BURNS

TRANSLATION  
PULSE            15            0.0 2

ROTATION

DSC RT	NORM	16	0.5	0	0
	VERN	17	0.2	0	0
PULSE	NORM	18	0.0	4	
	VERN	19	0.0	0	2
COMP	NORM	20	.0	0	0
	VERN	21	.0	0	0

DEADBAND

ATT	NORM	22	3.0	0	0
	VERN	23	1.0	0	0

RATE	NORM	24	0.2	0	
	VERN	25	.0	2	0

JET OPT	P	26		1	
	Y	27		1	

CNTL ACCEL    28            0

CAP/51-I/O/BAS

CAP/51-I/O/BAS

B2

TOP

TOP

B1

DAP B2

PURPOSE:

LOSS OF VERN  
(TAIL ONLY)

CAP/51-I/O/BAS

TOP

B2

DAP B3

PURPOSE:

LOSS OF VERN  
(NOSE & TAIL)  
GG MNVR

CAP/51-I/O/BAS

TOP

B3

TOP

B3

TRANSLATION  
PULSE 15 0.0 2

ROTATION  
DSC RT NORM 16 0.2 0 0  
VERN 17 0.2 0 0  
PULSE NORM 18 0.0 4  
VERN 19 0.0 0 2  
COMP NORM 20 .0 0 0  
VERN 21 .0 0 0

DEADBAND  
ATT NORM 22 3.0 0  
VERN 23 1.0 0 0

RATE NORM 24 0.2 0  
VERN 25 .0 2 0

JET OPT P 26 3  
Y 27 3

CNTL ACCEL 28 0

CAP/51-I/O/BAS

TRANSLATION  
PULSE 15 0.0 2

ROTATION  
DSC RT NORM 16 0.2 0 0  
VERN 17 0.2 0 0  
PULSE NORM 18 0.0 4  
VERN 19 0.0 0 2  
COMP NORM 20 .0 0 0  
VERN 21 .0 0 0

DEADBAND  
ATT NORM 22 3.0 0  
VERN 23 1.0 0 0

RATE NORM 24 0.2 0  
VERN 25 .0 2 0

JET OPT P 26 1  
Y 27 1

CNTL ACCEL 28 0

CAP/51-I/O/BAS

B4

TOP

B3

DAP B4

PURPOSE:

SSUS: DEPLOY

B4

TRANSLATION			
PULSE	15	0.0	2

ROTATION			
DSC RT	NORM	16	0.2 0 0
	VERN	17	0.0 0 8
PULSE	NORM	18	0.0 0 4
	VERN	19	0.0 0 2
COMP	NORM	20	0.0 0 0
	VERN	21	0.0 0 0

DEADBAND			
ATT	NORM	22	0.3 0 0
	VERN	23	0.1 0 0

RATE	NORM	24	0.2 0 0
	VERN	25	0.0 1 0

JET OPT	P	26	3
	Y	27	3

CNTL ACCEL 28 0

CAP/51-I/O/FIN

CAP/51-I/O/BAS

B5

TOP

TOP

B4

DAP B5

PURPOSE:

COAS CAL

B5

TRANSLATION			
PULSE	15	0.0	2

ROTATION			
DSC RT	NORM	16	0.2 0 0
	VERN	17	0.0 1 6
PULSE	NORM	18	0.0 0 4
	VERN	19	0.0 0 2
COMP	NORM	20	0.0 0 0
	VERN	21	0.0 0 0

DEADBAND			
ATT	NORM	22	3.0 0 0
	VERN	23	0.0 3 3

RATE	NORM	24	0.2 0 0
	VERN	25	0.0 2 0

JET OPT	P	26	3
	Y	27	3

CNTL ACCEL 28 0

CAP/51-I/O/BAS

CAP/51-I/O/BAS

B6

TOP

TOP

B5

DAP B6

PURPOSE:

RENDEZVOUS

CAP/51-I/O/FIN

B6

TRANSLATION PULSE 15 0.0 5

ROTATION DSC RT NORM 16 0.5 0 0 VERN 17 0.2 0 0 PULSE NORM 18 0.0 4 VERN 19 0.0 0 2 COMP NORM 20 .0 0 0 VERN 21 .0 0 0

DEADBAND ATT NORM 22 2.0 0 VERN 23 1.0 0 0

RATE NORM 24 0.2 0 VERN 25 .0 2 0

JET OPT P 26 1 Y 27 1

CNTL ACCEL 28 0

CAP/51-I/O/FIN

B7

TOP

TOP

B6

DAP B7

PURPOSE:

PROX OPS

CAP/51-I/O/FIN

B7

TRANSLATION PULSE 15 0.0 1

ROTATION DSC RT NORM 16 0.2 0 0 VERN 17 0.2 0 0 PULSE NORM 18 0.0 4 VERN 19 0.0 0 2 COMP NORM 20 .0 0 0 VERN 21 .0 0 0

DEADBAND ATT NORM 22 2.0 0 VERN 23 1.0 0 0

RATE NORM 24 0.2 0 VERN 25 .0 2 0

JET OPT P 26 1 Y 27 1

CNTL ACCEL 28 0

CAP/51-I/O/FIN

B8

TOP

TOP

B7

DAP B8

PURPOSE:

RMS/SYNCOM F3 DEPLOY

B8

TRANSLATION PULSE 15 0.0 2

ROTATION DSC RT NORM 16 0.1 0 0 VERN 17 0.1 5 0 PULSE NORM 18 0.0 4 VERN 19 0.0 2 COMP NORM 20 0.0 0 VERN 21 0.0 0

DEADBAND ATT NORM 22 3.0 0 VERN 23 1.0 0 0

RATE NORM 24 0.2 0 VERN 25 0.1 0

JET OPT P 26 3 Y 27 3

CNTL ACCEL 28 5

CAP/51-I/O/FIN

CAP/51-I/O/FIN

B9

TOP

TOP

B8

DAP B9

PURPOSE: (Blank)

B9

TRANSLATION PULSE 15 . . .

ROTATION DSC RT NORM 16 . . . VERN 17 . . . PULSE NORM 18 . . . VERN 19 . . . COMP NORM 20 . . . VERN 21 . . .

DEADBAND ATT NORM 22 . . . VERN 23 . . .

RATE NORM 24 . . . VERN 25 . . .

JET OPT P 26 - Y 27 -

CNTL ACCEL 28 -

CAP/51-I/O/FIN

CAP/51-I/O/FIN

TOP

B9

CAP/51-I/O/FIN

TOP

TOP  
BACK COVER 'DAP BOOK'

HOOK  
VELCRO

CAP/51-I/O/BAS



ATTITUDE TIMELINES

Attitude Timeline

ATTITUDE  
TIMELINE

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 0/01:10:00	TRK TGT=2 BV=3( 90.00, 0.00) OM= 0.00	A1 AUTO NORM	DSC 0.200 DB AT 5.00 DB RT 0.20	EARTH 0 90 0 0	LVLH R+ 0 P+180 Y+ 0	PLBD OPENING -ZLV TAIL FWD
2 0/03:50:00 04:01:07	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 95 0 108		IMU ALIGN COAS CAL PAIR A1
3 0/04:15:00 27:57	TRK TGT=2 BV=3( 90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
4 0/06:46:01 56:30	MNVR R+ 89.97 P+ 97.31 Y+ 10.08	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 90 0 296		ASC DEPLOY
5 0/09:39:01 46:22	MNVR R+130.00 P+ 27.00 Y+338.00	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 166 0 248		SEP BURN
6 0/09:54:01 55:24	TRK TGT=2 BV=3( 90.00, 0.00) OM=180.00	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	PAYLOAD VIEWING
7 0/10:05:01 17:49	TRK TGT=2 BV=5(245.00, 32.00) OM= 20.00	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 111 0 146	LVLH R+ 21 P+ 25 Y+ 31	WINDOW PROTECT
8 0/10:21:01	CANCEL	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 90 0 156	INRTL R+293 P+ 13 Y+ 64	INRTL HOLD FOR PKM
9 0/10:31:00 44:16	TRK TGT=2 BV=3( 90.00, 0.00) OM= 90.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 360	LVLH R+ 0 P+180 Y+270	-ZLV -YVV
10 0/11:30:00 39:10	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 94 0 108		IMU ALIGN PAIR A1
11 0/11:50:00 12:03:40	TRK TGT=2 BV=3( 90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
12 0/22:10:00 20:49	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 94 0 108		IMU ALIGN PAIR A1

## Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 0/22:30:00 40:05	TRK TGT=2 BV=3( 90.00, 0.00) OM=270.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 360	LVLH R+ 0 P+180 Y+ 90	-ZLV +YVV
2 1/00:10:25 19:41	MNVR R+ 94.54 P+ 96.84 Y+ 10.66	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 90 0 291		RUSSAT DEPLOY
3 1/00:54:25 01:01:47	MNVR R+132.00 P+ 28.00 Y+334.00	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 165 0 229		SEP BURN
4 1/01:09:25 10:49	TRK TGT=2 BV=3( 90.00, 0.00) OM=180.00	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	PAYLOAD VIEWING
5 1/01:20:25 33:13	TRK TGT=2 BV=5(245.00, 32.00) OM= 20.00	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 111 0 146	LVLH R+ 21 P+ 25 Y+ 31	WINDOW PROTECT
6 1/01:36:25	CANCEL	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 95 0 156	INRTL R+295 P+ 11 Y+ 60	INRTL HOLD FOR PKM
7 1/01:50:00 02:02:44	TRK TGT=2 BV=3( 90.00, 0.00) OM= 90.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 360	LVLH R+ 0 P+180 Y+270	-ZLV -YVV
8 1/08:55:00 09:04:17	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 94 0 108		IMU ALIGN PAIR A1
9 1/09:15:00 28:18	TRK TGT=2 BV=3( 90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
10 1/21:10:00 21:41	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 93 0 108		IMU ALIGN PAIR A1
11 1/21:30:00 39:04	TRK TGT=2 BV=3( 90.00, 0.00) OM= 0.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+ 0 P+180 Y+ 0	-ZLV TAIL FWD
12 1/23:27:33 34:00	MNVR R+336.29 P+290.67 Y+ 66.40	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 71 0 185		SYNCOM DEPLOY

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 1/23:50:33 56:21	MNVR R+125.00 P+ 16.00 Y+325.00	A8 AUTO NORM	DSC 0.500 DB AT 3.00 DB RT 0.20	SUN θ 169 φ 167		SEP BURN
2 2/00:05:33 08:31	TRK TGT=2 BV=3( 90.00, 0.00) OM=180.00	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH θ 103 φ 9	LVLH R+180 P+ 0 Y+ 0	PAYLOAD VIEWING
3 2/00:16:33 31:06	TRK TGT=2 BV=5(252.00, 9.00) OM= 7.00	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH θ 108 φ 171	LVLH R+ 6 P+ 18 Y+ 9	WINDOW PROTECT
4 2/00:32:33	CANCEL	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 91 φ 176	INRTL R+314 P+326 Y+ 56	INRTL HOLD FOR PKM
5 2/00:40:00 54:12	TRK TGT=2 BV=3( 90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH θ 90 φ 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
6 2/05:35:00 44:27	MNVR R+142.00 P+ 38.00 Y+306.00	B1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 144 φ 173		NC-1
7 2/06:42:00 47:25	MNVR R+183.00 P+256.00 Y+ 24.00	B1 AUTO NORM	DSC 0.500 DB AT 3.00 DB RT 0.20	SUN θ 59 φ 342		NH-1
8 2/07:00:00 06:35	TRK TGT=2 BV=3( 90.00, 0.00) OM= 90.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH θ 90 φ 360	LVLH R+ 0 P+180 Y+270	-ZLV -YVV
9 2/07:50:00 59:11	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 93 φ 108		IMU ALIGN PAIR A1
10 2/08:10:00 22:01	TRK TGT=2 BV=3( 90.00, 0.00) OM= 90.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH θ 90 φ 360	LVLH R+ 0 P+180 Y+270	-ZLV -YVV
11 2/18:35:00 44:18	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 92 φ 107		IMU ALIGN PAIR A1
12 2/18:55:00 19:07:16	TRK TGT=2 BV=3( 90.00, 0.00) OM= 90.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH θ 90 φ 360	LVLH R+ 0 P+180 Y+270	-ZLV -YVV

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 3/06:33:00	RCS BURN (IF REQD)	B1 MAN NORM	DSC 0.500 DB AT 3.00 DB RT 0.20			NC-2
2 3/06:50:00 59:14	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 92 φ 107		IMU ALIGN PAIR A1
3 3/07:10:00 22:10	TRK TGT=2 BV=3( 90.00, 0.00) OM= 90.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH θ 90 φ 360	LVLH R+ 0 P+180 Y+270	-ZLV -YVV
4 3/17:35:00 44:21	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 92 φ 107		IMU ALIGN PAIR A1
5 3/17:55:00 18:07:26	TRK TGT=2 BV=3( 90.00, 0.00) OM= 90.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH θ 90 φ 360	LVLH R+ 0 P+180 Y+270	-ZLV -YVV
6 4/04:20:00	RCS BURN (IF REQD)	B1 MAN NORM	DSC 0.500 DB AT 3.00 DB RT 0.20			NPC
7 4/05:35:00	RCS BURN (IF REQD)	B1 MAN NORM	DSC 0.500 DB AT 3.00 DB RT 0.20			NC-3
8 4/05:45:00	TRK TGT=2 BV=3( 90.00, 0.00) OM= 90.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH θ 90 φ 360	LVLH R+ 0 P+180 Y+270	-ZLV -YVV
9 4/07:25:00 34:38	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 91 φ 107		IMU ALIGN PAIR A1
10 4/07:45:00 57:55	TRK TGT=2 BV=3( 90.00, 0.00) OM= 90.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH θ 90 φ 360	LVLH R+ 0 P+180 Y+270	-ZLV -YVV
11 4/18:05:00 14:15	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 91 φ 107		IMU ALIGN PAIR A1
12 4/18:25:00 37:15	TRK TGT=2 BV=3( 90.00, 0.00) OM= 90.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH θ 90 φ 0	LVLH R+ 0 P+180 Y+270	-ZLV -YVV

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 5/06:07:00	RCS BURN (IF REQD)	B1 MAN NORM	DSC 0.500 DB AT 3.00 DB RT 0.20			NC-4
2 5/06:25:00 34:46	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 90 φ 107		IMU ALIGN PAIR A1
3 5/06:45:00 58:06	TRK TGT=2 BV=3( 90.00, 0.00) OM= 90.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH θ 90 φ 360	LVLH R+ 0 P+180 Y+270	-ZLV -YVV
4 5/17:10:00 19:57	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 90 φ 106		IMU ALIGN PAIR A1
5 5/17:30:00 43:23	TRK TGT=2 BV=3( 90.00, 0.00) OM= 90.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH θ 90 φ 360	LVLH R+ 0 P+180 Y+270	-ZLV -YVV
6 5/19:11:00	RCS BURN(IF REQD)	A9 MAN NORM	DSC 0.200 DB AT 2.00 DB RT 0.20			NH-2
7 5/19:37:00 40:40	MNVR R+297.00 P+357.00 Y+327.00	B6 AUTO NORM	DSC 0.500 DB AT 2.00 DB RT 0.20	SUN θ 164 φ 287		NSR
8 5/19:59:00 20:01:17	TRK TGT=1 BV=3( 90.00, 0.00) OM= 0.00	B6 AUTO NORM	DSC 0.500 DB AT 2.00 DB RT 0.20	EARTH θ 0 φ 0	LVLH R+ 0 P+270 Y+ 0	SYNCOM TRK
9 5/20:55:00 59:40	MNVR R+295.00 P+329.00 Y+ 28.00	B6 AUTO NORM	DSC 0.500 DB AT 2.00 DB RT 0.20	SUN θ 117 φ 198		NC-5
10 5/21:15:00 17:04	TRK TGT=1 BV=3( 90.00, 0.00) OM= 0.00	B6 AUTO NORM	DSC 0.500 DB AT 2.00 DB RT 0.20	EARTH θ 0 φ 0	LVLH R+ 0 P+270 Y+ 0	SYNCOM TRK
11 5/21:46:00	RCS BURN(IF REQD)	A9 MAN NORM	DSC 0.200 DB AT 2.00 DB RT 0.20			NCC
12 5/21:47:00	TRK TGT=1 BV=3( 90.00, 0.00) OM= 0.00	A9 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH θ 0 φ 0	LVLH R+ 0 P+270 Y+ 0	SYNCOM TRK

## Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 5/22:30:00 34:25	MNVR R+ 82.00 P+169.00 Y+325.00	A9 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 59 0 346		TI
2 5/22:46:00	TRK TGT=1 BV=3( 90.00, 0.00) OM= 0.00	B6 AUTO NORM	DSC 0.500 DB AT 2.00 DB RT 0.20			SYNCOM TRK
3 5/23:07:00	RCS BURNS	A9 MAN NORM	DSC 0.200 DB AT 2.00 DB RT 0.20			MC 1 THRU 4
4 6/00:04:00 19:00	TRK TGT=2 BV=2(180.00, 0.00) OM= 0.00	A10 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 180 0 0	LVLH R+ 0 P+ 90 Y+ 0	VBAR
5 6/00:42:00	INERTIAL HOLD	B7 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02			INERTIAL STATIONKEEPING
6 6/02:35:00 53:10	TRK TGT=4 BV=5(270.00, 0.00) OM=150.00	B8 AUTO VERN	DSC 0.150 DB AT 1.00 DB RT 0.10	SUN 0 91 0 180	INRTL R+203 P+110 Y+333	BOTTOM SUN EVA ATTITUDE
7 6/05:50:00	MNVR R+ P+ TBD Y+	B8 AUTO VERN	DSC 0.150 DB AT 1.00 DB RT 0.10			SYNCOM RE-DEPLOY
8 6/06:15:00	MNVR R+ P+ TBD Y+	B7 AUTO NORM	DSC 0.200 DB AT 2.00 DB RT 0.20			RCS SEP
9 6/06:20:00	TRK TGT=4 BV=5(135.00, 45.00) OM=118.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 120 0 55	INRTL R+124 P+302 Y+317	EVA BAKEOUT
10 6/06:55:00 07:03:11	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 89 0 106		IMU ALIGN PAIR A1
11 6/07:15:00 28:37	TRK TGT=2 BV=3( 90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
12 6/17:40:00 50:42	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 89 0 106		IMU ALIGN PAIR A1

## Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 6/18:00:00 13:33	TRK TGT=2 BV=3( 90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
2 6/20:20:00 35:00	MNVR R+ 66.00 P+173.00 Y+ 36.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 21 0 250		ORBIT ADJUST
3 6/20:50:00 21:04:27	MNVR R+282.00 P+ 98.00 Y+ 27.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 82 0 97		CREW CONF ATT
4 6/22:25:00	CANCEL	A3 MAN NORM	DSC 0.200 DB AT 5.00 DB RT 0.20	SUN 0 82 0 97	INRTL R+282 P+ 98 Y+ 27	RCS HOT FIRE
5 6/23:15:00 21:48	TRK TGT=2 BV=3( 90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
6 7/07:30:00 40:56	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 88 0 106		IMU ALIGN PAIR A1
7 7/07:50:00 08:03:16	TRK TGT=2 BV=3( 90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
8 7/18:15:00 25:57	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 88 0 106		IMU ALIGN PAIR A1
9 7/18:35:00 42:38	TRK TGT=4 BV=5(184.00, 0.00) OM= 90.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 176 0 189	INRTL R+209 P+ 12 Y+343	TAIL SUN COLD SOAK
10 7/21:06:21 20:34	MNVR R+345.00 P+152.00 Y+ 22.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 34 0 17		DEORBIT IMU ALIGN
11 7/21:26:21 29:11	MNVR R+285.00 P+186.00 Y+331.00	B1 AUTO NORM	DSC 0.500 DB AT 3.00 DB RT 0.20	SUN 0 48 0 162		DEORBIT IMU VERIF
12 7/21:40:00 44:59	MNVR R+ 69.00 P+170.00 Y+ 41.00	B1 AUTO NORM	DSC 0.500 DB AT 3.00 DB RT 0.20	SUN 0 27 0 243		DEORBIT BURN



FLIGHT DATA FILE  
CORE DISTRIBUTION  
06/28/85

ZK-25/Rockwell Tech Data  
LS0-233/A. Grenville

Marshall Space Flight Center

MDTSCO, Bldg 4666,  
DCC/L. White  
MS 12A/K. Jackson  
SA82/R. R. Pride  
EE45/R. Marmann  
PMIC/TBE/J. Humphrey  
17C/J. R. Hutchins

Goddard Space Flight Center  
405/J. B. Hartmann

NASA SSPRO - Palmdale

MR5/R. R. Frazer  
PL14/H. Kuznicki

McDonnell Douglas - Houston

A2/L. T. Guderian  
A3/G. Venables  
D3/M. Pipher (2)  
D4/H. Stegall  
R. DeVall

Charles Stark Draper Lab

MS23/R. A. Larson (2)

IBM - Houston

MC9236/A. J. Sava  
T&O Library  
MC8212/Verification Library  
MC9186/Project Office Library  
MC6251/Wilson-Lib.

Lockheed - Houston

B12/M. Martin  
B12/E. M. Bains

Singer-Link - Houston

SMS Data Library

Honeywell Inc. Avionic Division

13350 U.S. Highway 19  
Clearwater, FL 33546  
#818-5/J. R. Peterson

Martin-Marietta Corp. - Denver

- GOLDENROD -  
G6245/Library  
G6495/G. Miller  
G6496/J. Barnes  
L8010/J. Ferguson

Space Division

Worldway Postal Center  
P.O. Box 92960  
Los Angeles, CA 90009  
SD-YOM/FDF (5)

YOO/Data Mgr. (2)  
SD-YUI/J. Laur  
CFCT/M. Bangan

Space Communications Co.

P.O. Box 235  
Las Cruces, NM 88001  
Attn: G. Harris

AFSCF/VOS

P.O. Box 3430  
Sunnyvale, CA 94086  
Lt. Col. Etbauer (10)

TRW

1 Space Park  
Bldg M2/Rm 2375  
Redondo Beach, CA 90278  
J. M. Payne

Applied Research Inc.

ARI/E. C. Miller

Applied Research Inc.

3930 Freedom Circle  
Santa Clara, CA 95054  
P. Howland

LAB For ATMOS & SPACE PHYS.

5525 Central Ave.  
Boulder, CO 80301  
Attn: Alan Stern

Total 140

51-1  
CREW ACTIVITY PLAN  
DELTA DISTRIBUTION  
07/16/85

JSC

AC/Associate Director  
AH22/Chief  
AP/Dep. Director  
AP3/Support (4)  
BARR/Director  
CB/Family Escort Mgr  
C2/Tech. Assist.  
MDTSCO  
DA/Director  
DA8/Fit. Tech.  
DA4/Asst. Director  
DE/Chief  
DE2/Documentation (6)  
DF22/Head  
DF24/Head  
DF4/Chief  
DF6/GNC (4)  
Chief  
DF7/Chief  
Environ. Sect. (2)  
Elect. Sect. (2)  
DG4/Chief  
Comm & Attached (5)  
Crew Sys. (10)  
Orbiter Sys (4)  
DG6/ASC-Ent. Sect. (12)  
Detached Payload Sect. (7)  
Orb.-Computer Sect. (12)  
DH/Chief  
USAF (6)  
DM2/Support (16)  
DM34/DGO/FDO (2)  
DM5/Chief (7)  
DM6/Shuttle Land Supt.  
DM62/Flt. Dynamics (8)  
DH4/Bookmanager (50)  
DH6/Branch Office (12)  
DM63/Ground Nav. (2)  
EC/Assist. Chief  
Assist. for Payloads  
EC12/Support  
EC2/EMU Anal. (3)  
Support (2)  
EC3/Mgr.CFE Crew Provision(5)  
EC6/Chief  
EE2/Support (2)  
EE3/RCA Support  
EE4/Support  
EE8/Support (2)  
EF12/Support  
EF2/SAIL Oper. Branch  
EH3/Support (2)  
EH5/Support (2)  
EL25/Mission Analysis Div.

EN3/Support (2)  
EN4/Chief  
ES12/Chief  
ES3/Sect. Head  
EW3/Support (3)  
EX4/Support (3)  
F. W. Brizzolara  
FA/Director  
Assist. Director  
FM/P/L Adv. Mgr.  
FM3/Support (5)  
FM7/P/L Adv. Mgr  
Payloads & Adv. Tech Mgr.  
FS4/GDSM (2)  
JL/Chief (3)  
JL15/Support (6)  
JM34/Sec. Branch  
LA/Program Mgr.  
Dep. Mgr.  
LA3/Manager  
Tech. Assist (3)  
LA5/Manager  
LA532/Support  
LA6/Manager  
LD/Support  
LE/Support  
LF/Support  
Manager  
LJ/Support  
LM/Manager  
Support (4)  
LN/Support (2)  
LP/Manager  
Support (5)  
LT/Manager  
MD/Manager  
MD2/Support  
MD3/Chief (2)  
Manager (2)  
ME/Manager (2)  
ME3/Manager  
MG/Manager (2)  
MP/Manager (2)  
MP5/CPCB Rep (5)  
NS2/Chief  
SC5/Support  
SD3/Support  
Mission Scientist  
SK/Manager, SSEOP  
SN3/Support  
SN4/SSEOP (4)  
SP22/Support  
ZR2/AFTEC  
ZR1/AFOTEC/OL-DD  
ZS8/SMG (3)

NASA Headquarters

EM-8/R. H. Benson  
MGF-9/E. Harkleroad  
LF-6/R. Shafer

~~ED 10/J. W. McCulla~~  
OTI-O/R. Tucker  
EBM/H. Bielstein

McDonnell Douglas - Houston

A1/T. D. Bruchmiller  
J. S. French  
A2/Y. Parks  
D3/M. D. Pipher (3)

Singer-Link - Houston

D. E. Bolon

Kennedy Space Center

CM-CIO-2A/W. R. Fletcher  
MDTSCO/B. C. Adams  
NWSI-D/Repository (20)  
EX-NTS/R. Buckley  
SE-GDS-21/W. Patrick  
SE-GDS-22/P. Puckett  
SE-MSD-11/I. Velez  
SO-TOD/C. Henschel  
ZK-25/Rockwell Tech Data (14)  
LSO-207/J. Likon

TRW - Houston

C. Cooper  
L. Pieniazek

White Sands Test Facility

RD/R. Tillet

Charles Stark Draper Laboratory

555 Technology Square  
Cambridge, MA 02139  
J. Turnball

Dryden Flt. Research Facility

O5/G. P. Layton

HQ NORAD/DOYY

Cheyenne Mtn Complex,  
CO 80914 (2)

Hamilton Standard

Windsor Locks, CT 06096  
1A204/R. C. Wilde  
1A-2-7/F. H. Greenwood (4)

Rockwell - Houston

ZC01/(16)

Rockwell International STS

12214 Lakewood Blvd.  
Downey, CA 90241  
O41-BA36/S. Grzebyk (54)

AFFTC - Edwards AFB

Air Force Flight Test Center  
6510 Test Wing/TEG

JSC  
AP/Director  
AP3/Support (2)  
Pub. Information

CA7/Chief  
DA6/Chief (2)  
DF/Chief  
DF24/INCO (4)  
DF6/Sys. Analysis Sect.  
DF63/Head  
DG/Rockwell  
DG4/Crew Sys. (2)  
DH4/FDF MGR  
FAO  
T/L

Ft. Act Br (17)  
DH6/Branch Off. (3)

EC/Chief  
EC2/Support (4)  
EH3/Chief  
Support

EH4/Chief  
EH5/Chief  
Support

EN43/Head  
EN44/Head  
EX/FDF CPCB Rep.  
FE42/Head

JM2/Technical Library (3)

JM24/COD Pub Center  
MD/Manager  
MD3/Support  
MD5/CPCB Rep.  
MF/GFE Project Office  
Support (RIC)

NS/Safety Div.  
SD2/Surgeon  
Support

ZR1/MMC Library (2)  
ZR2/Mission Support (2)

Barrios  
A. T. McDowell (2)

Boeing  
HS-04/D. Bennett

NASA Headquarters  
MC/C. Lee  
TX-1/J. G. Maley  
MOE/R. D. McCafferty (2)

Kennedy Space Center  
SE-PEO-A/J. A. Thomas  
SO-A/Astronaut Office (2)

Edwards AFB, CA 93523  
236/R. G. Hoey

Ford Aerospace  
Communications Corp.  
3939 Fabian Way  
Palo Alto, CA 94303  
G60/W. C. Hayes

Ford Aerospace - Houston  
SISO-1A/Tech Lib (15)  
SISO-30B/R. Marriott (2)  
SISO-30C/F. Pitts (2)  
M. Wadsworth (2)

Marshall Space Flight Center  
AS24D/J. Martin (2)  
CA10/L. Cywanowicz  
D. Drachlis  
ED42/G. Fichtl  
ED43/O. Vaughn  
ED44/K. Hill  
EH11/M. H. Johnston  
EL01/C. Griner  
C. Owen  
EL12/S. Noneman  
EL14/R. Riquelmy  
D. B. Channell  
J. Ellison  
EL15/J. King  
EL21/J. P. Lindberg  
EL22/J. D. Weiler (3)  
EL25/G. Wittenstein  
C. McClard  
EL66/M. Slayden  
JA21/J. Cremin  
NA51/M. A. Horst  
PMIC/TBE  
B. Peyton  
A. McClendon (3)  
B. Hornsby

JPL  
4800 Oak Grove Dr.  
Pasadena, CA 91109  
D. J. Kerrisk

Hughes Aircraft  
P.O. Box 92919  
Los Angeles, CA 90009  
S41-B360/B. Bienstock\*  
J. Juraco\*  
D. Iwai\*  
S41-B333/A. Castellano\*

SPAR Aerospace  
825 Caledonia Rd.  
Toronto, Canada M683X8  
C Jenkins (NASA) (3)\*

HQ NORAD/J3SC  
STOP 7  
Peterson AFB, CO 80914

AT&T Longlines  
999 Sepulveda  
El Segundo, CA 90245  
Attn: W. L. Harrison\*

NRL  
Washington, DC 20375  
4129/R. Cruddace\*

NOAA-NEDIS  
Dr. Michael R. Helfert (2)  
NOAA Liaison Manager  
Code SC2, NASA-JSC  
Houston, TX 77058

Dr. Russell Koffler  
Director,  
NOAA-NESDIS  
FB4, Room 1069  
Code E/SP  
Suitland, MD 20233

ATTN TECH LIBRARY MC/GA50  
3370 Miraloma Ave.  
P.O. Box 3105  
Anaheim, CA 92803

National Research Council of  
Canada  
Space Technology Program  
Office  
Bldg. M-60, Room B-21  
Montreal Road  
Ottawa, Ontario, Canada  
K1A 0R6  
Dr. K. H. Doetsch  
B. A. Aikenhead

Ford Aerospace - Houston  
SISD-30C/M. Wadsworth (2)

McDonnell Douglas  
Aeronautics Co.  
5301 Bolsa Avenue  
Huntington Beach, CA 92647  
Attn: 12-3/C. A. DeRos (5)  
I. J. Webster

Comsat General Corp.  
999 N. Sepulveda Blvd.  
Suite 720  
El Segundo, CA 90245  
William J. Keck, Program Mgr. (2)  
Laurence R. Stumpf, Deputy  
Program Mgr.

Space Command  
2nd Space Wing/JOX  
Shuttle Operations  
Falcon AFS, CO 80912-5000  
Attn: Capt. J. P. Squatrito

PVTOS  
3M/SRL C. Podsaidly (3)  
Science Research Center  
201-IS-05 3M Center  
St. Paul, MN 55144

Aussat  
Max Crisp (4)  
999 North Sepulveda Blvd.  
Suite 616  
El Segundo, CA 90245

American Satellite Corp.  
J. W. Koletty  
R. White (5)  
1801 Research Blvd. MS-28  
Rockville, MD 20850

RCA ASTRO Electronics  
P. O. Box 800  
Princeton, NJ 08540  
B. Elero (5)  
K. Muller

SYNCOM\*  
Hughes Aircraft  
P. O. Box 92919  
Los Angeles, CA 90009  
S1/D309/C. Rubens (3)  
S1/D317/A. J. Jones  
S32/C315/L. W. Butterworth (2)

Nasa White Sands Stdn Station  
P. O. Drawer G.S.C.  
Las Cruces, NM 88004

---

Total 595