

Flight Data File Crew Activity Plan

STS 41-D

Mission Operations Directorate
Operations Division

Final, Revision A
July 27, 1984

<u>EVENT:</u>	<u>CDT</u>		
Launch	07:35	Wed	Aug 29
SBS Deploy	15:33	Wed	Aug 29
SYNCOM Deploy	08:07	Thu	Aug 30
TELSTAR Deploy	08:17	Fri	Aug 31
Crew Press Conf	06:20	Mon	Sep 3
Edwards AFB Ldg	08:34	Tue	Sep 4



National Aeronautics and
Space Administration

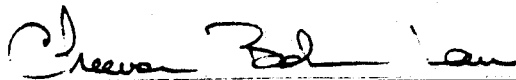
Lyndon B. Johnson Space Center
Houston, Texas

MISSION OPERATIONS DIRECTORATE

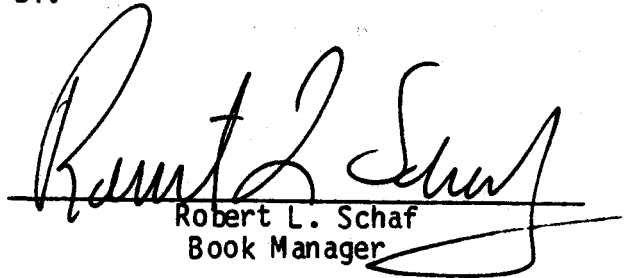
STS 41-D CREW ACTIVITY PLAN

FINAL, REVISION A
July 27, 1984

PREPARED BY:

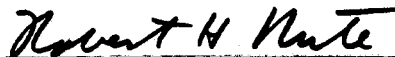


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Book Manager



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Book Manager

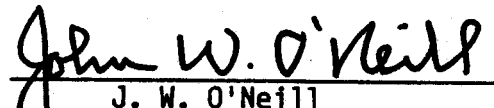
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This document is under the configuration control of the Crew Procedures Control Board (CPCB). All proposed changes must be submitted on standard JSC Form 482 to DH4/FDF Manager, Bldg 4, Rm 352, 713-483-2868

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

Incorporates 482
No: FDF-403C
FDF-412
CAP-208

ACKNOWLEDGMENTS

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STS 41-D CREW ACTIVITY PLAN

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~~FINAL 06/06/84~~

REV A 07/27/84

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INTRODUCTION

The STS 41-D 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, Deorbit Prep, and Entry checklists. For continuity, the entire flight is shown in the summary level timeline.

The section entitled 'Crew Activity Plan Notes (constraints and guidelines)', included in CAPs for previous flights, has been published as a generic document (not in individual CAPs).

This on-orbit timeline satisfies the objectives specified in the Flight Definition and Requirements Directive and the requirements of the STS 41-D Flight Requirements Document.

The flight profile (Cycle A trajectory data) used for this Crew Activity Plan is for a launch time of August 29, 1984, at 12:35 GMT.

Any payload specialist (PS) activities that are to be scheduled will appear in the MS3 row (for summary timelines)/column (for detailed timelines) and annotated with a 'PS'.

TDRS coverage will be shown on the summary and detailed timeline pages even though TDRS will not be available during the flight.

From flight days 4 through 7 (entry day), the summary and detailed timeline pages will reflect the combined EZ CAP and non-crewmembers specific formats.

- A. The objective of the EZ CAP is to not schedule activities that can be performed anytime during the designated day or anytime from flight days 4 through 7.

These activities include:

- Meal Prep
- Lunch Meal
- Exercise
- RCS Regulator Reconfig
- ECLSS Redundant Component C/O
- Heater Reconfig - B
- PCS (1)2 Config
- Lamp & Fire Suppr Test
- Radiation Monitoring Equipment (RME) Activation/Deactivation
- Medical DSOs (Near Vis & Contrast; Visual Perf Test)
- Cabin Config/Stow
- Meal Cleanup/Stowage
- TV Setup & Activation prior to daily designated live TV pass or VTR dump
- IMAX photos of OAST activities, CFES ops, and in-cabin activities
- CFES
- 'Shopping list' activities (not mandatory that they be performed during the flight)

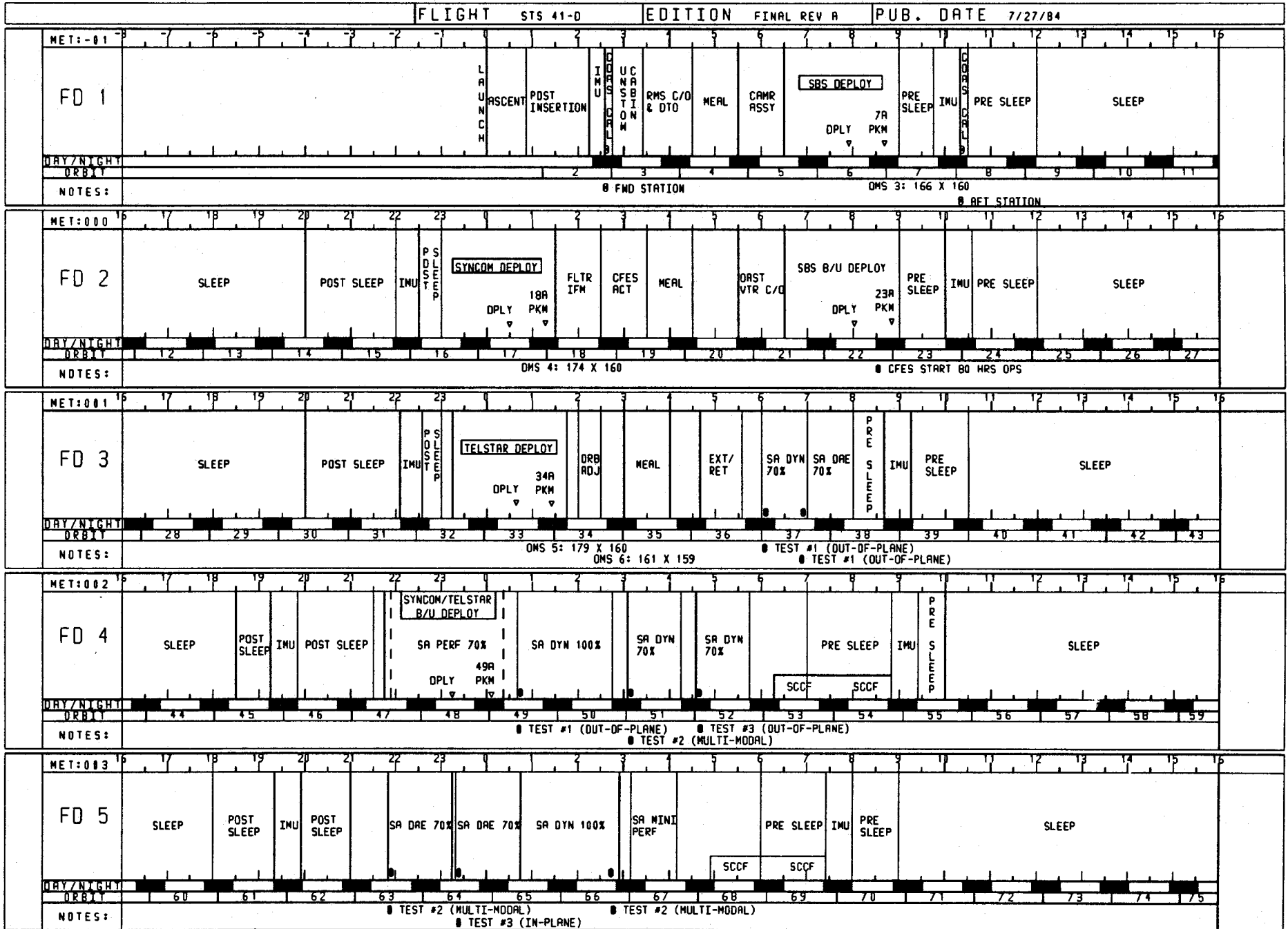
The EZ CAP activities' appropriate durations and constraints are contained on page 3-14A, 'EZ CAP - CREW SCHEDULED ACTIVITIES'. Page 3-14A also includes a log to aid the crew in their daily EZ CAP Status Report during the presleep timeframe.

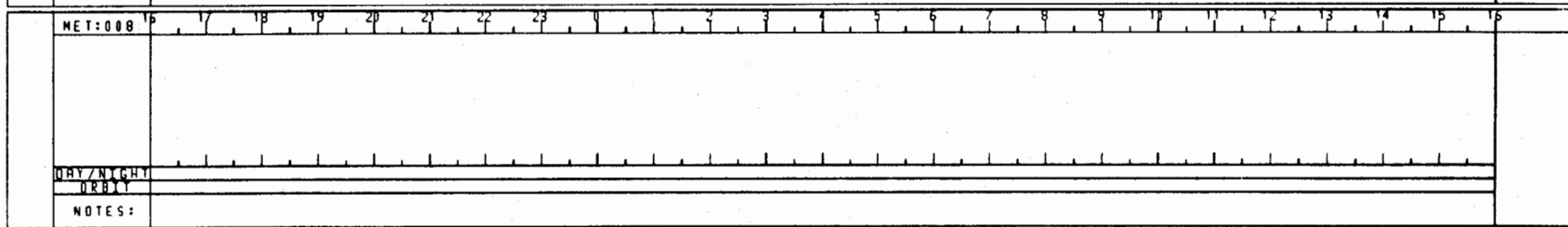
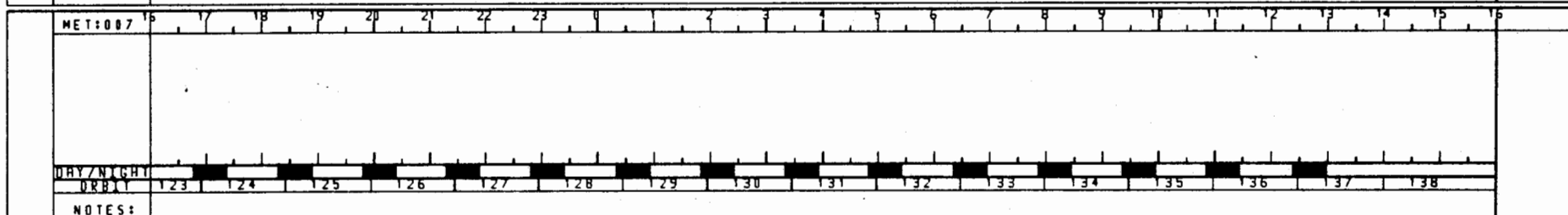
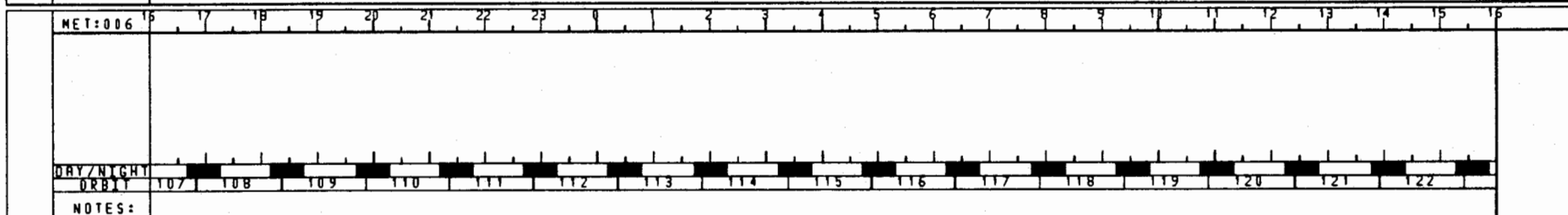
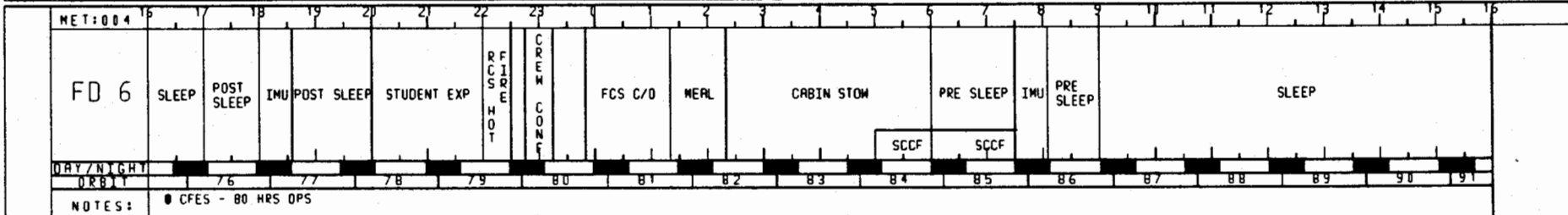
- B. The objective of the non-crewmembers specific format is to schedule activities under a STS or Payload heading. If several crewmembers are required for an activity, the number of crewmembers required will appear with that activity. This is shown only on the detailed timeline pages.

For the summary format, the top row is the STS row and the bottom row is the PL row; the middle rows are for simultaneous STS or PL activities.

Similarly for the detailed format, the STS column is the left column, and the PL column is the right column. The two middle columns are used for STS or PL activities to indicate when simultaneous (parallel) STS or PL activities are scheduled.

STS 41-D OVERVIEW





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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					
242:09:35/ 242:21:35	000:03:00/ 000:09:00	242:04:35/ 242:16:35	01/ 242 CDT	-1.2		AUGUST 29, 1984	STS 41-D	FINAL REV A	7/27/84					
CDT : 242 FD : 001 MET : -01	5 6 7 8 9 10 11 12 13 14 15 16													
	-3 -2 -1 0 1 2 3 4 5 6 7 8 9													
CDR				POST INSERTION	IMU MNV R	ZLV MNV R	UNSTOW CABIN		UNSTOW CABIN	PLY ATT	OMSS SEP	HINSON P	APKM	ZLV MNV R
PLT					PLBD MNV R	PLBD OPS	UNSTOW CABIN							P/TV SETUP
MS1		LAUNCH OMS - 1	OMS - 2		SUNSHIELD ACT	UNSTOW CABIN	CAMR ASSY	MEAL	CAMR ASSY	P/TV SETUP	SBS DEPLOY			P/TV SETUP
MS2					UNSTOW CABIN	MEAL PREP	UNSTOW CABIN							ASCX TEMP
MS3					UNSTOW CABIN	RMS C/O	RMS C/O	RMS C/O	CAMR ASSY	P/TV SETUP	P/TV ACT			RMS P/MON R
DAY/NIGHT														
ORBIT														
GSTON COVERAGE				-YAR	-HAM -GDS -GDX -MIL -MLX -BDR	-DKR -RCN -BOT	-YAR	-GDX -MIL -MLX -BDR	-RCN -BOT	-HAM -GDS -GDX -MIL	-RCN -BOT	-HAM	-BOT -IOS	-GMM -HAM -AGO
TORS E M														
ATTITUDE				ASCENT	BIASED -ZLV	IMU								
NOTES:														

▲ SYNCOM HTR ACT
 ● DTO 0507 PLBD INSTALLATION & RIGGING VERIFICATION
 ● TELSTAR
 ● CLOSE SBS SUNSHIELD FWD STATION

● -ZLV, -YVV ● APU HTR DEACT
 ● DTO 0621 FIRST PRODUCTION UNIT RMS TESTS
 ● RMS NOT STOWED
 ● DTO 622 CABIN ATMOSPHERE VERF WITH FULL CAB PRESSURE
 ● CPES (PS) ● APU HTR RECONFIG


● -ZLV, -YVV
 ● RMS NOT STOWED
 ● TELSTAR ONLY

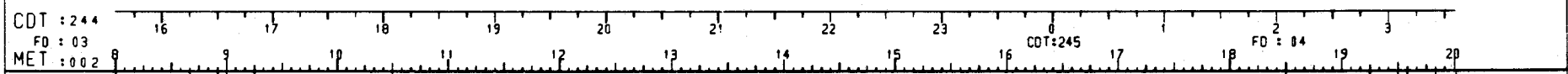
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242:21:35 / 243:09:35	000:09:00 / 000:21:00	242:16:35 / 243:04:35	01 / 242 CDT	0.1		AUGUST 29, 1984	STS 41-D	FINAL REV A	7/27/84							
CDT : 242 FD : 001 MET : 000	17	18	19	20	21	22	23	0	1	2	3	4	CDT:243	FD : 02	20	21
CDR	Z L V M N V R	I H U M N V R	I H U M N V R	Z L V M N V R												
PLT	P / T / V S U M S															
MS1		PRE SLEEP ACT				SLEEP										POST SLEEP ACT
MS2																
MS3	V T R S U M S	V T R P L Y B C K	V T R B O R D E													
DAY/NIGHT																
ORBIT	7	8	9	10	11	12	13	14								
GSTDN COVERAGE	-GMM -HAN	-AGO -RCN	-RCN	-GMM -AGO -RCN -DKR	-DKR -MAD		-DKR -MAD	-ORR	-IOS -MLX -MIL -BDA -DKR -MAD -MAX	-YAR -ORR						-MIL -MLX
TDRS E H																
ATTITUDE	-ZLV -YVV IMU															
NOTES:		0 -ZLV, -YVV	0 -ZLV, -YVV													
			0 AFT STATION													

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE							
243:09:35/ 243:21:35	000:21:00/ 001:09:00	243:04:35/ 243:16:35	02/ 243 CDT	1.6		AUGUST 30, 1984	STS 41-D	FINAL REV A	7/27/84							
CDT : 243	5	6	7	8	9	10	11	12	13	14	15	16				
FO : 002	MET:001															
MET : 000	21	22	23	0	1	2	3	4	5	6	7	8	9			
CDR	IMU MNV R	ZLV MNV R	START DPLY	DPLY ATT	OM S SEP	MIN DD P R O	P K M	ZLV MNV R	EXERCISE			CFES SUPPORT	PCH RTR ETN			
PLT			PLY COUNT	MNV R	BURN MNV R	VTR MNV R	VTR SETUP	VTR PLYBCK			EXERCISE	P/TV SETUP	NEAR VIS & CONTRST			
MS1	POST SLEEP ACT		PREP DEPLOY	PIN RET	STATUS CHECK	OMNIS TRAIN UP	P/TV SETUP	P/TV DPP	MEAL PREP	FLTR IFW	MEAL	VIS PERF	EXERCISE			
MS2			CHECKS	CRCT ION	DEPLOY				FLTR IFW	ASC TEMP	HRN DEACT	VIS PERF	EXERCISE			
MS3	P/TV SETUP	P/TV ACT	EXERCISE (PS)			RNS PWRUP	PKN INTOR	RMS PWRDN	P/TV SETUP	P/TV ACT	CFES ACT (PS) EXERCISE (MS3)	CFES SEP PREP	CFES PROC STAB	CFES CAL SAMP PUMP	CFES ELISA	NEAR VIS & CONTRST (PS)
DAY/NIGHT	[Day/Night Cycle]															
ORBIT	15	16	17	18	19	20	21	22								
GSTDN COVERAGE	-NIL -MLX -BDA -DKR	-MLX -MIL -BDA -DKR	-GDX -GDS -MIL -BDA -MLX -OKR	-BOT -YAR -HAW -ACN	-YAR -HAW -ACN	-GDX -GDS -MIL -HAW -GDS	-ACN -BOT -YAR -GMM -BOT	-GDX -MLX -ACN -BOT	-GDX -GDS -BOT -IOS	-BOT -IOS -GMM -HAW	-GMM -HAW	-BOT -IOS -GMM -HAW	-GMM -HAW	-BOT -IOS -GMM -HAW	-BOT -IOS -GMM -HAW	
TORS E M	[Torsion Data]															
ATTITUDE	-ZLV -YVW IMU -ZLV -YVW DPLY SEP WIN -ZLV +XVV															
NOTES:	<ul style="list-style-type: none"> • -ZLV, -YVW • -ZLV, +XVV • CABIN FAN FLTR CLEAN • CABIN FAN FLTR CLEAN • TELSTAR ONLY • CONFIG 187 • DSO 0440 VISUAL PERFORMANCE TEST • CFES • DSO 0408 NEAR VIS ACUITY 															

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
243:21:35 / 244:09:35	001:09:00 / 001:21:00	243:16:35 / 244:04:35	02 / 243 CDT	3.4		AUGUST 30, 1984	STS 41-D	FINAL REV A	7/27/84	
CDT : 243	FD : 002	MET : 001				CDT:244		FD : 03		
CDR	I U M N V R	Z L V								
PLT										
MS1	PRE SLEEP ACT			SLEEP					POST SLEEP ACT	
MS2										
MS3										
DAY/NIGHT										
DRBIT	23	24	25	26	27	28	29	30		
GSTON COVERAGE	-GMM -HAM	-AGD -RCN	-GMM	-AGD -RCN -DKR	-GMM	-DKR	-MAD -MAX	-YAR -ORR	-MAX -MIL -MLX -BDA -DKR -MAD	-IOS -YAR -ORR
TDRS E M										
ATTITUDE	-ZLV +XVV IMU					-ZLV -YVV				
NOTES:	0 -ZLV, -YVV									

GMT (D:H:M)		MET (D:H:M)		CDT (D:H:M)		FD/DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
244:09:35 / 244:21:35		001:21:00 / 002:09:00		244:04:35 / 244:16:35		03 / 244 CDT	5.2		AUGUST 31, 1984	STS #1-0	FINAL REV A	7/27/84
CDT : 244		MET : 002										
FD : 003												
MET : 001												
CDR												
PLT												
MS1												
MS2												
MS3												
DAY/NIGHT												
DRBIT												
GSTDN COVERAGE												
TORS E M												
ATTITUDE												
NOTES:												

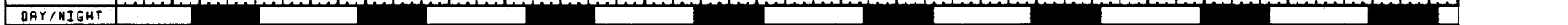
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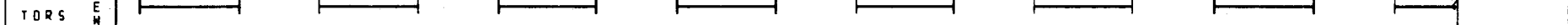
STS	IMU MNVVR	ZLV MNVVR	SLEEP	IMU MNVVR	ZLV MNVVR
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PRE SLEEP ACT	POST SLEEP ACT
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PL

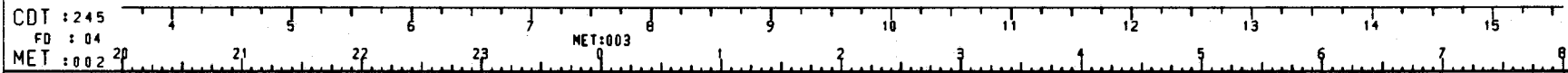
DAY/NIGHT	ORBIT
	38 39 40 41 42 43 44 45 46

GSTON COVERAGE	OKR
-HAM -AGD -ACN -IOS -GWM -AGD -ACN -GWM -AGO -OKR -GWM -AGO -OKR -YAR -ORR -OKR -MAD -OKR -MAD -MAX -MLX -MIL -BDA -OKR -MAD -YAR -ORR -MLX -MIL -BDA -OKR -MAD -MLX -MIL -BDA	OKR

TORS E	ATTITUDE
	IMU -ZLV +XVV IMU

NOTES:	• -ZLV, -XVV • -ZLV, +XVV EZ CAP
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GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON 	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
245:08:35/ 245:20:35	002:20:00/ 003:08:00	245:03:35/ 245:15:35	04 / 245 CDT	8.6		SEPTEMBER 1, 1984	STS 41-D	FINAL REV A	7/27/84



STS		P/D T/V M L I N K		T V D E A C T
-----	--	-------------------------------------	--	---------------------------------

POST SLEEP ACT				PRE SLEEP ACT
----------------	--	--	--	---------------

		P/T/V O P P	P/T/V O P P		A C K T E M P
--	--	----------------------	----------------------	--	---------------------------------

PL		SA PERF 70%	SA DYN 100%	SA DYN 70%	SA DYN 70%	SCCF DATA TAKE	P/T/V O P P
----	--	-------------	-------------	------------	------------	----------------------	----------------------

DAY/NIGHT: [Shaded bars indicating day/night cycle]

ORBIT	46	47	48	49	50	51	52	53	54
-------	----	----	----	----	----	----	----	----	----

GSTON COVERAGE	-DKR -HAD	-BDA -DKR	-MIL -MLX -BDA	-HAW -GDS -GDX	-ACN -BOT -YAR	-MIL -MLX -ACN -BOT	-GDS -ACN -BOT -IOS	-IOS -GMM -HAW	-AGO -BOT -IOS
-------------------	--------------	--------------	----------------------	----------------------	----------------------	------------------------------	------------------------------	----------------------	----------------------

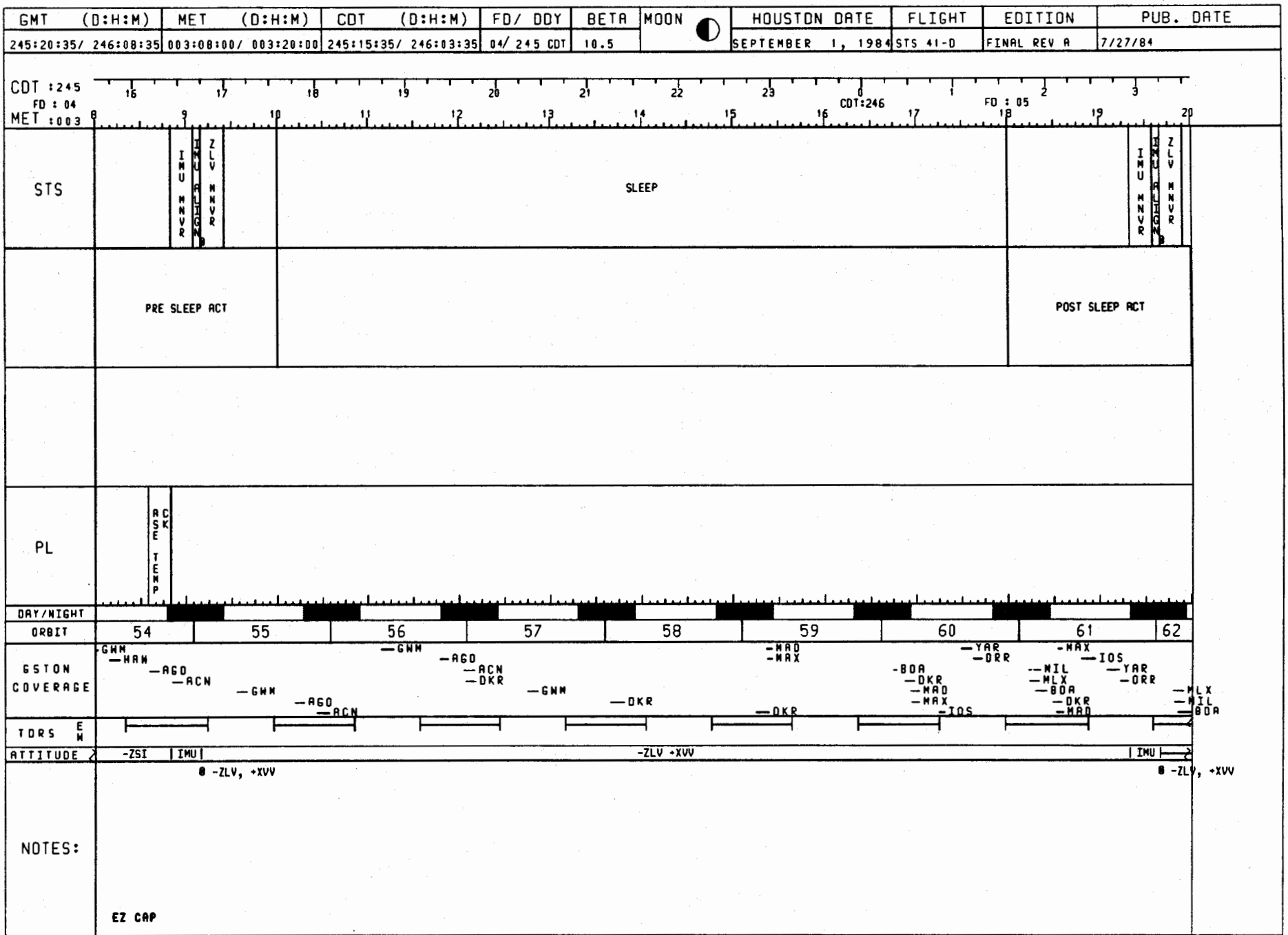
TORS	E								
------	---	--	--	--	--	--	--	--	--

ATTITUDE	-ZLV -XVV	-XSI	B/-XLV -YVV	B/-XLV -YVV	B/-XLV -YVV	-ZSI
----------	-----------	------	-------------	-------------	-------------	------

NOTES:

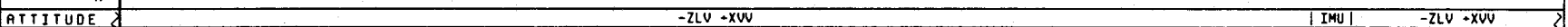
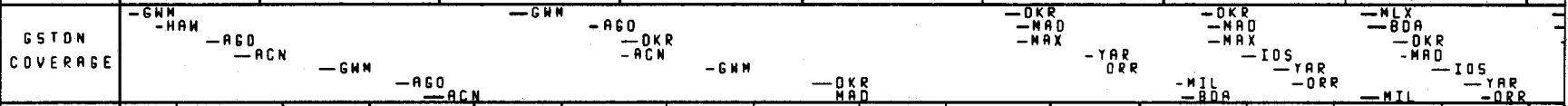
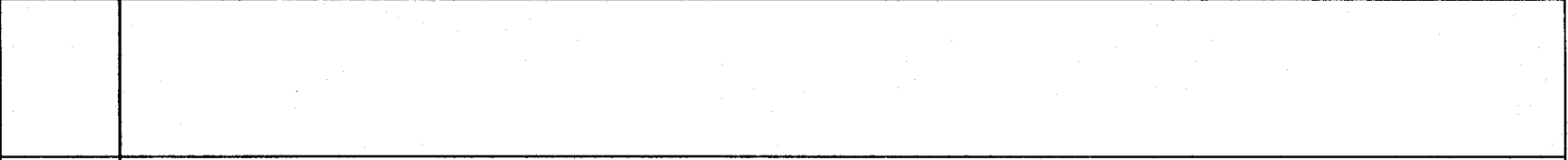
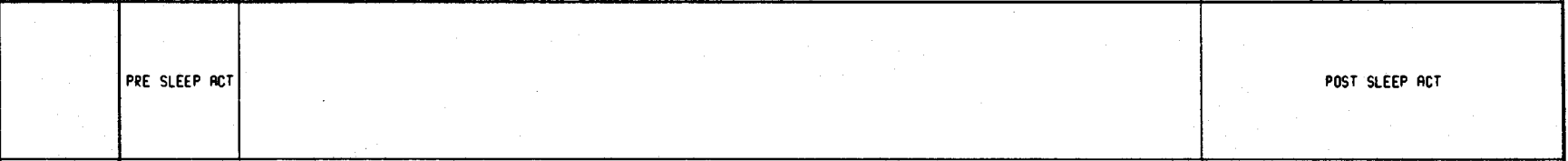
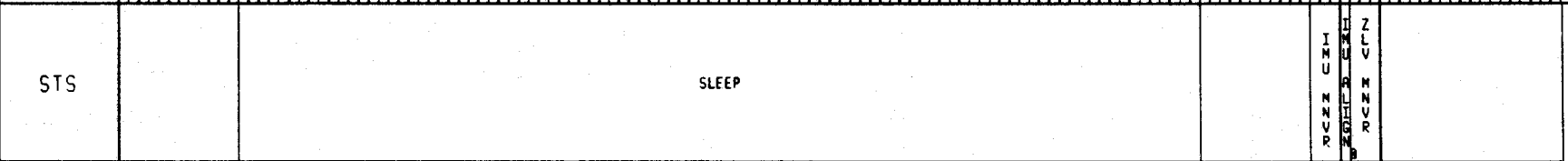
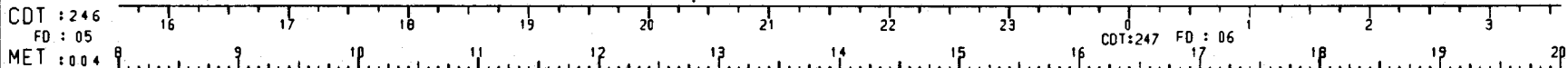
● TEST #1 (OUT-OF-PLANE) ● TEST #2 (MULTI-MODAL) ● TEST #3 (OUT-OF-PLANE)

EZ CAP



GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
246:08:35/ 246:20:35	003:20:00/ 004:08:00	246:03:35/ 246:15:35	05 / 246 CDT	12.3	☉	SEPTEMBER 2, 1984	STS 41-D	FINAL REV A	7/27/84	
CDT : 246 FD : 05 MET : 003 <div style="display: flex; justify-content: space-between; width: 100%;"> 202122232425262728293031323334353637383940 </div>										
STS									I M U A L T I T U D E	Z L V + X V U
POST SLEEP ACT					PRE SLEEP ACT					
P/T/V OPP			P/T/V OPP			A C K E T E M P				
PL	P/T/V OPP		SA DAE 70%	SA DAE 70%	SA DYN 100%	SA MINI PERF	S C C F D A T A T A K E		A C K E T E M P	
DAY/NIGHT										
ORBIT	62	63	64	65	66	67	68	69	70	
GSTON COVERAGE	BDA -DKR -IOS	-NIL -MLX -BDA -DKR -BOT GOS -RDX	-HAW -GDX -ACN -BOT -YAR -NIL -MLX -BDA -DKR	-HAW -GDX -ACN -BOT -YAR -HAW -GDX -ACN -BOT -YAR -GHW -HAW -BOT	-MLX -BDA -ACN -BOT -YAR -HAW -GDX -ACN -BOT -YAR -GHW -HAW -BOT	-GDS -GDX -MLX -NIL -ACN -BOT -GHW -HAW -BOT	-HAW -BOT -IOS -GHW -HAW -BOT -IOS	-GHW -HAW -AGO -ACN -IOS		
TDRS E M										
ATTITUDE	-ZLV +XVU		B/-XLV -YVU		B/-XLV -YVU		-XSI		-ZSI	IMU
NOTES:	● TEST #2 (MULTI-MODAL)			● TEST #2 (MULTI-MODAL)			○ P/T/V OOHNLINK		■ -ZLV, +XVU	
	● TEST #3 (IN-PLANE)									
EZ CAP										

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
246:20:35/ 247:08:35	004:08:00/ 004:20:00	246:15:35/ 247:03:35	05 / 246 CDT	14.1	☾	SEPTEMBER 2, 1984	STS 41-D	FINAL REV A	7/27/84



NOTES:

● CFES - 80 HOURS OPERATION

EZ CAP

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
247:08:35/ 247:20:35	004:20:00/ 005:08:00	247:03:35/ 247:15:35	06 / 247 CDT	15.9		SEPTEMBER 3, 1984	STS 41-D	FINAL REV A	7/27/84

CDT : 247
 FD : 06
 MET : 004

MET: 805

STS	P/TV DNLNK	PRCS HOT FIRE	ZLV MNVUR	CC CONFERENCE	FCS C/D	ZLV MNVUR	I MU MNVUR	ZLV MNVUR
PRE SLEEP ACT								
ASK TEMP								
PL	CRYSTAL S/U & ACT	CC CRYSTAL	P/TV OPP	P/TV OPP	CD CRYSTAL	SCCF DATA TAKE	P/TV OPP	ASK TEMP

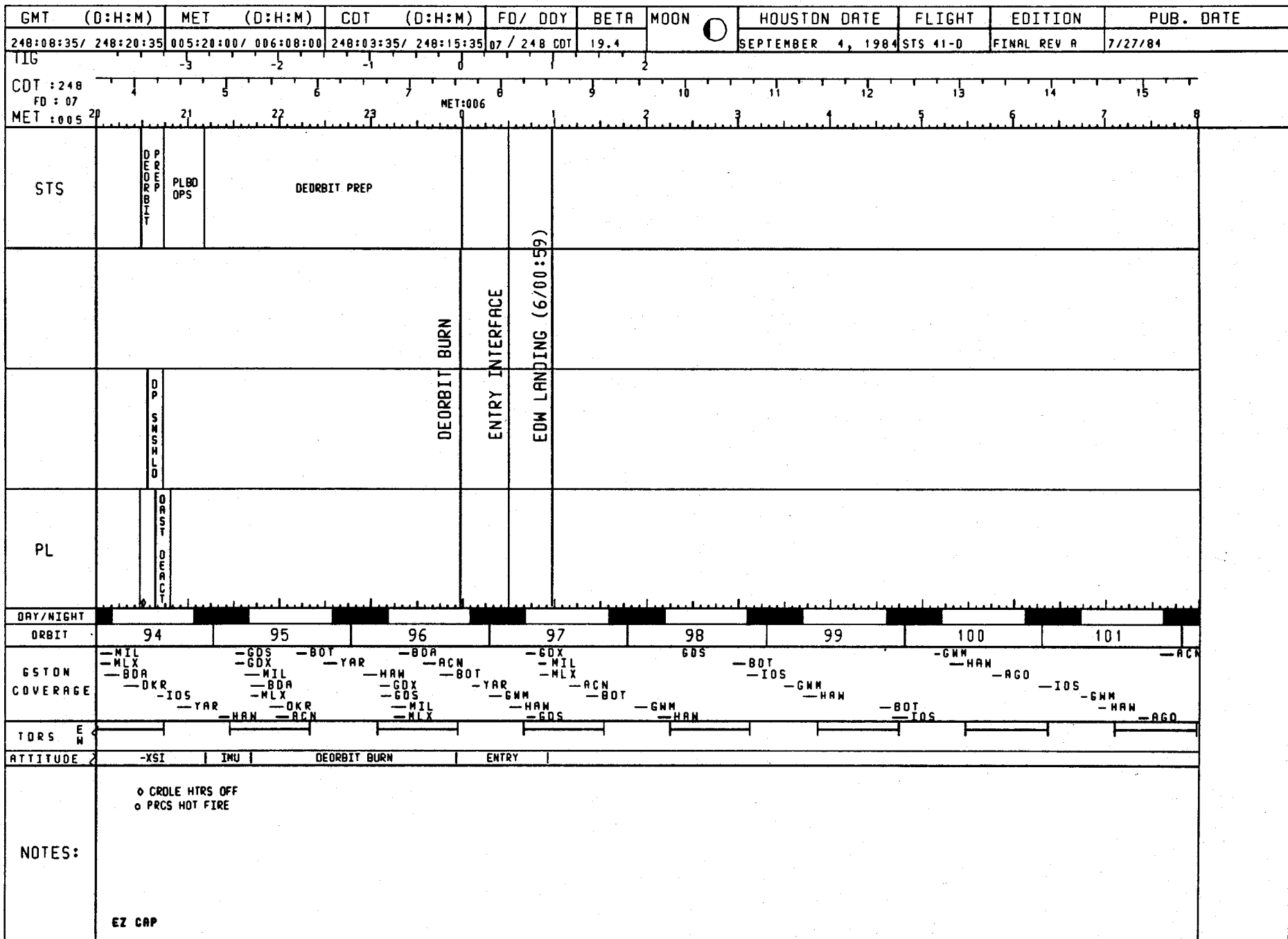
DRY/NIGHT	[Pattern]							
ORBIT	78	79	80	81	82	83	84	85
GSTON CDVERAGE	MIL BDA -DKR -IOS -YAR -ORR	-HAW -GDX -GDS -MIL -MLX -BDA -DKR	-ACN -BOT -YAR -HAW -GDX -GOS -MIL -YAR -GMM	-MLX -BDA -DKR -HAW -ACN -BOT -YAR -GMM -BOT	-HAW -GDS -GDX -MLX -MIL -ACN -BOT -IOS	-GMM -HAW -GDX -GDS -ACN -BOT -IOS	-BOT -IOS -GMM -HAW -AGD	-BOT -IOS -GMM -HAW -AGD -RCM -IOS
TORS EM	[Pattern]							
ATTITUDE	-ZLV +XVV		HOT FR		-ZLV +XVV		-ZSI	

NOTES:

STUDENT EXPERIMENT • DTO 0402 FOLLOW-ON VEHICLE PRCS
 HOT FIRE TEST
 • APU HTR ACT
 • -ZLV, -XVV

EZ CAP

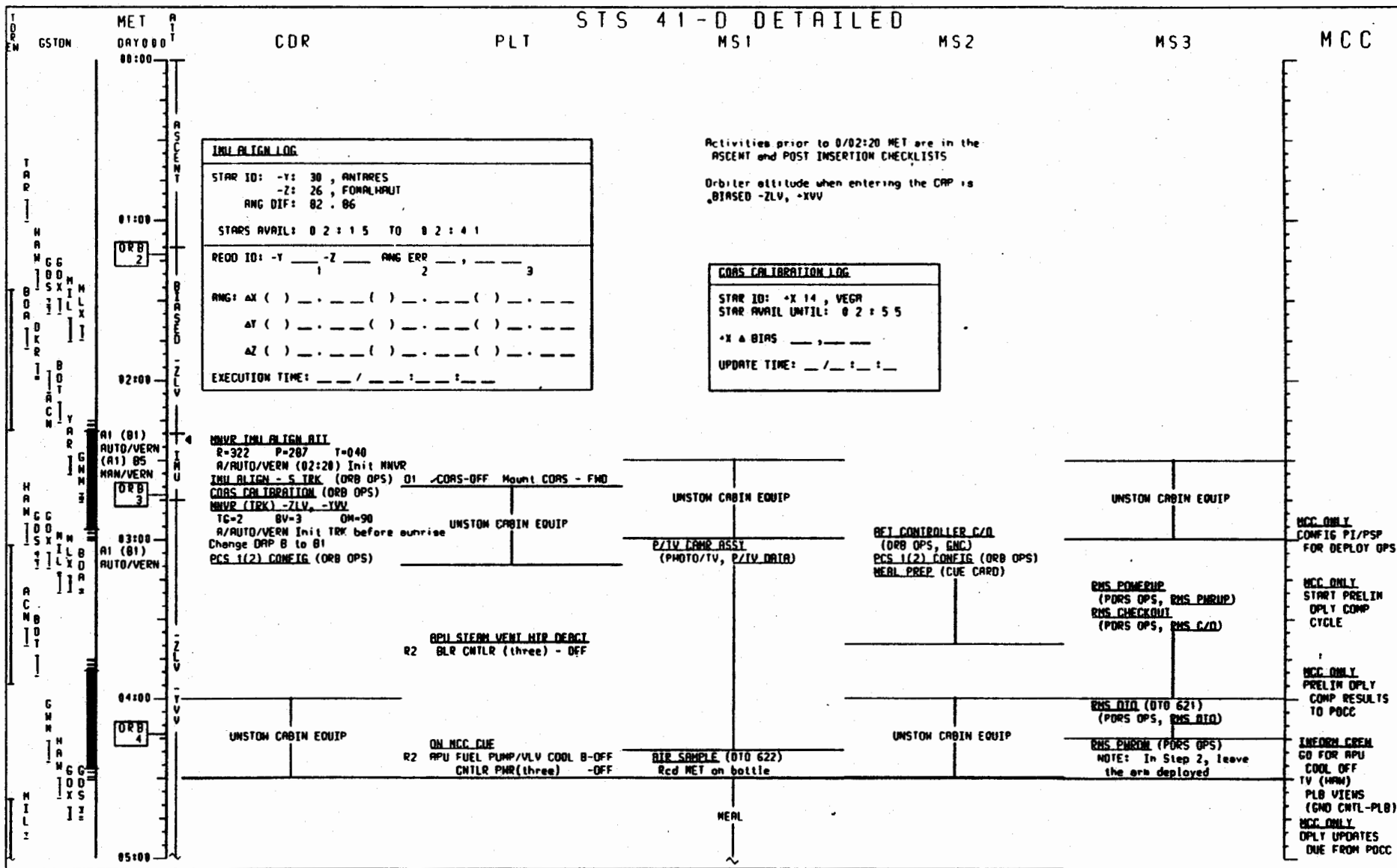
GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
247:20:35/ 248:08:35	005:08:00/ 005:20:00	247:15:35/ 248:03:35	06 / 247 CDT	17.7		SEPTEMBER 3, 1984	STS 41-D	FINAL REV A	7/27/84	
TIG						-7	-6	-5	-4	
CDT : 247	16 17 18 19 20 21 22 23 0 1 2 3									
FD : 06	CDT:248 FD : 07									
MET : 005	9 10 11 12 13 14 15 16 17 18 19 20									
STS	SLEEP						IMU ALIGN	TRK MNVR	RAD BOYP	
	PRE SLEEP ACT							POST SLEEP ACT		
PL										
DAY/NIGHT										
ORBIT	86	87	88	89	90	91	92	93		
GSTON COVERAGE	-GMM -AGO -ACN	-GMM -AGO -ACN	-GMM -AGO -DKR	-DKR -HAD -MAX	-DKR -HAD -MAX	-YAR -ORR	-DKR -HAD -MAX -IOS -YAR -ORR	-MIL -BDA -DKR -IOS -YAR -ORR		
TDRS										
ATTITUDE	-ZLV +XVV						IMU	-XSI		
NOTES:	EZ CAP						<input type="checkbox"/> TAIL SUN <input type="checkbox"/> HI LOAD HTR ON <input type="checkbox"/> FES <input type="checkbox"/> CNTLR CHECK			

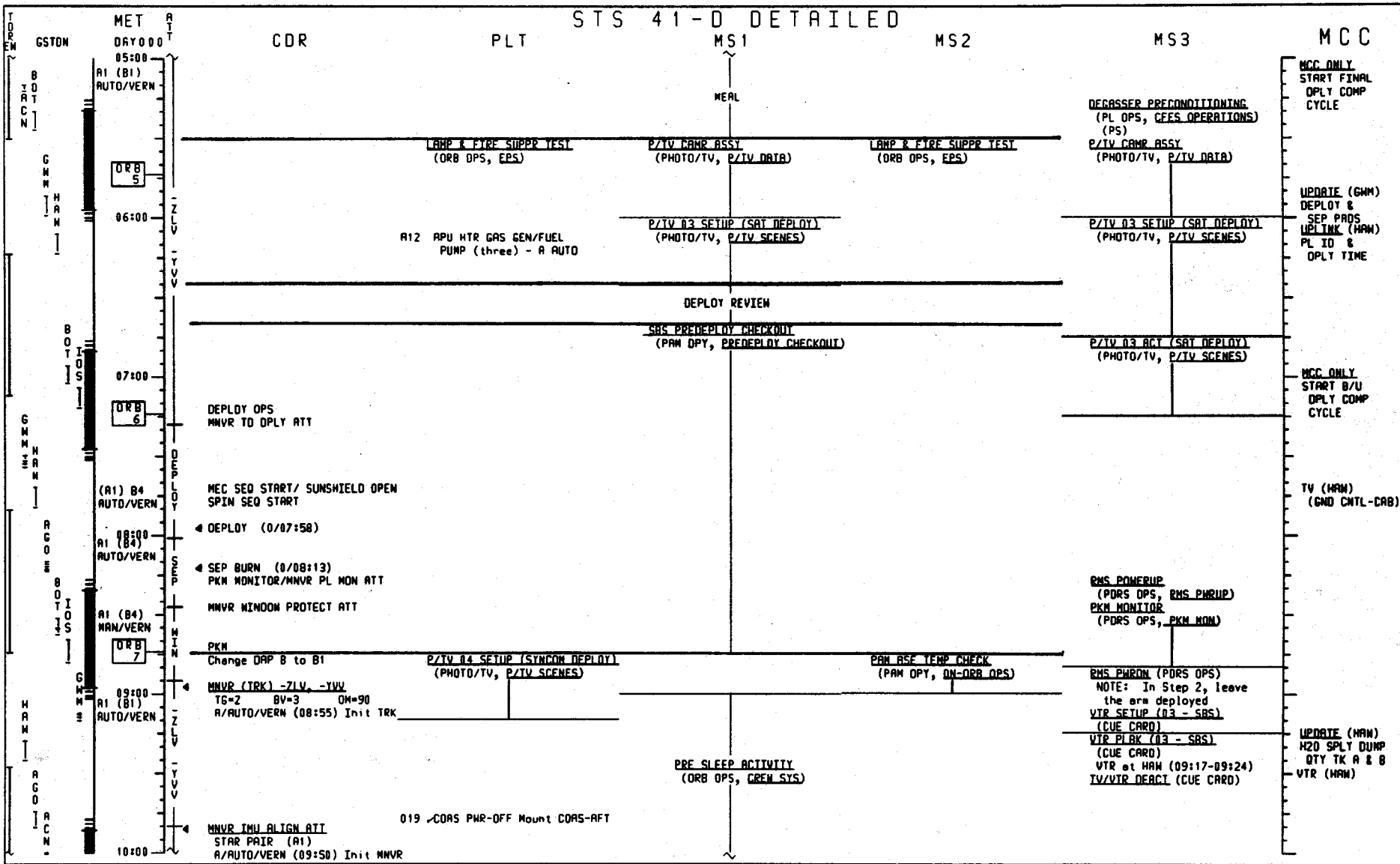


DETAILED TIMELINE

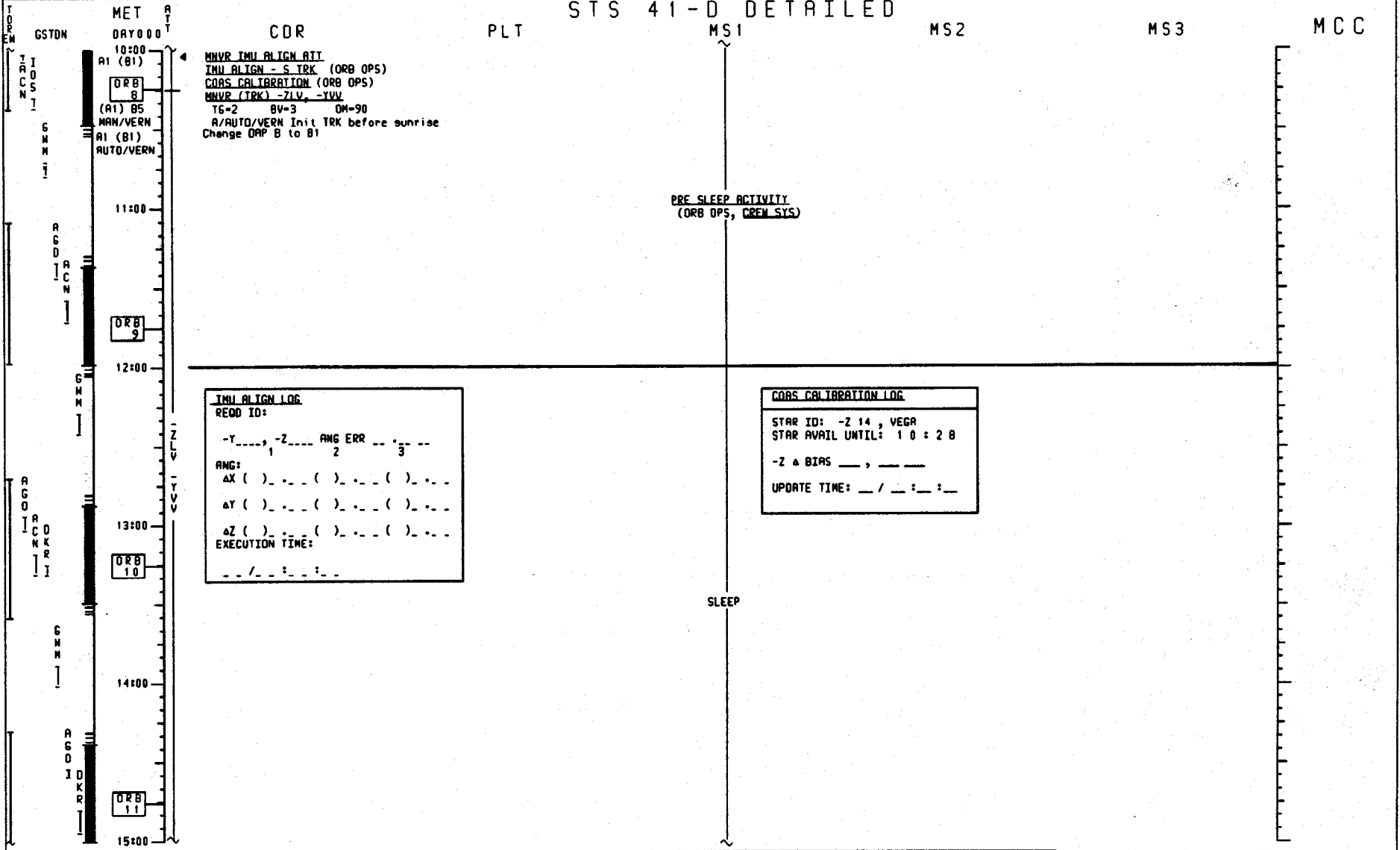
**DETAILED
TIMELINE**

**DETAILED
TIMELINE**





STS 41-D DETAILED



MET
 DAY 000
 10:00
 A1 (B1)
 ORB 8
 (A1) B5
 MAN/VERN
 A1 (B1)
 AUTO/VERN

COR

PLT

MS1

MS2

MS3

MCC

PRE SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

SLEEP

STS 41-D DETAILED

CDR

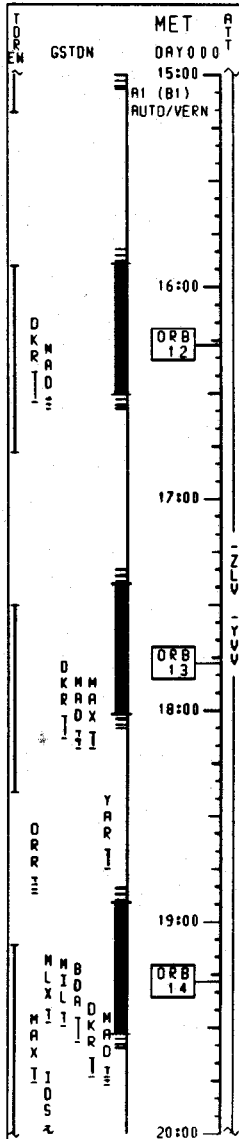
PLT

MS1

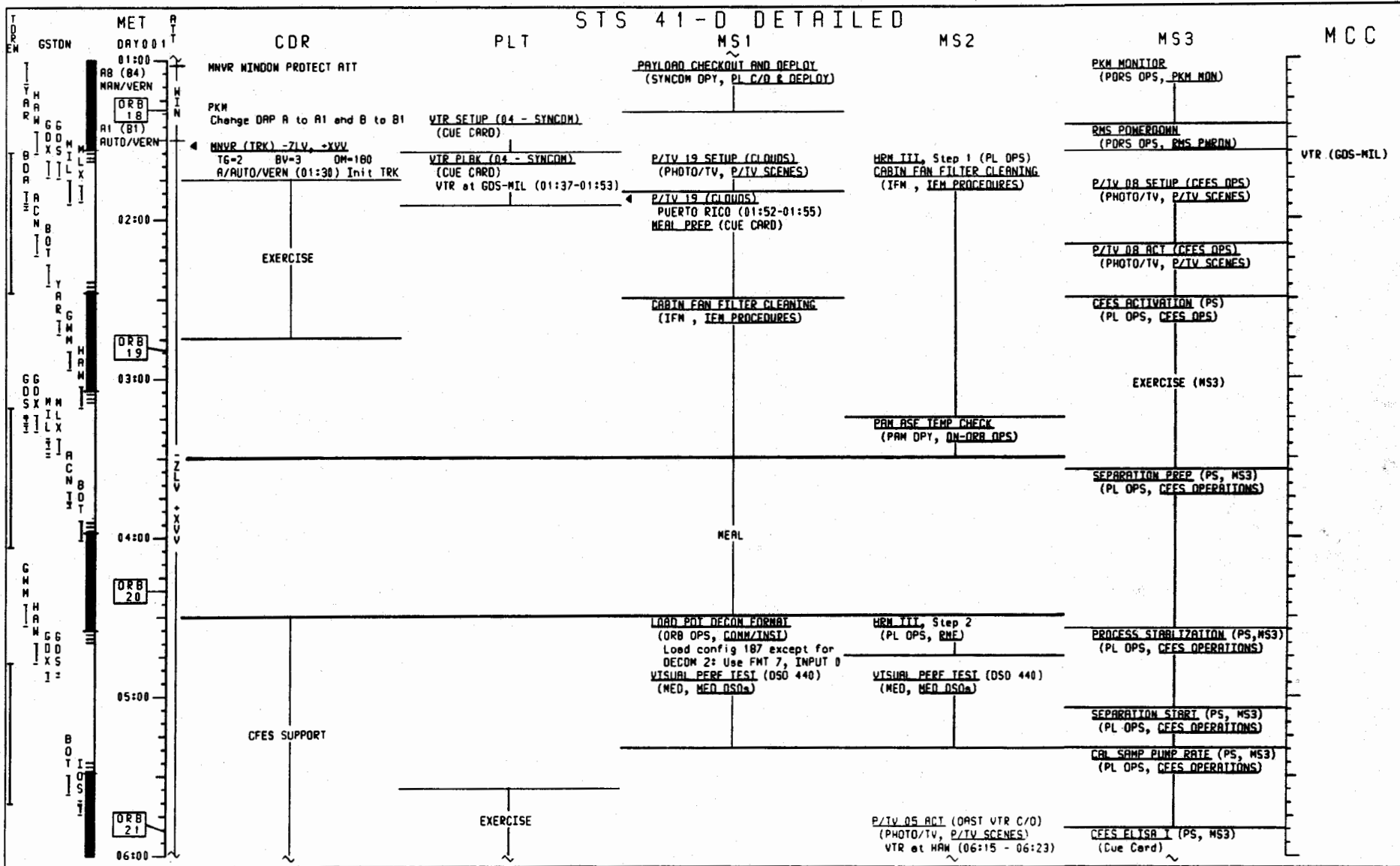
MS2

MS3

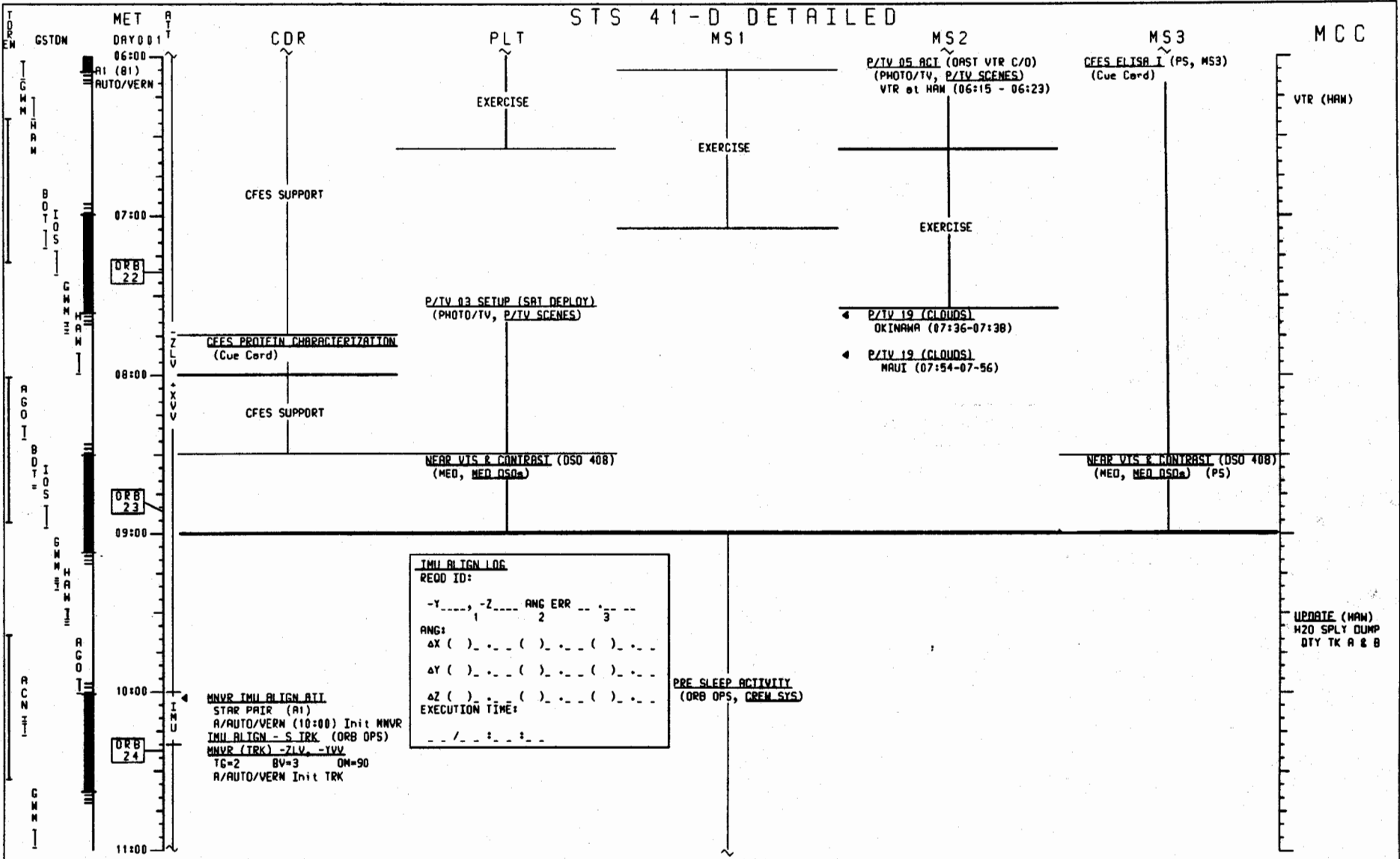
MCC



SLEEP



STS 41-D DETAILED



STS 41-D DETAILED

CDR

PLT

MS1

MS2

MS3

MCC

MET

DAY 001

11:00

RI (B1)
AUTO/VERN

ORB
25

12:00

ORB
26

14:00

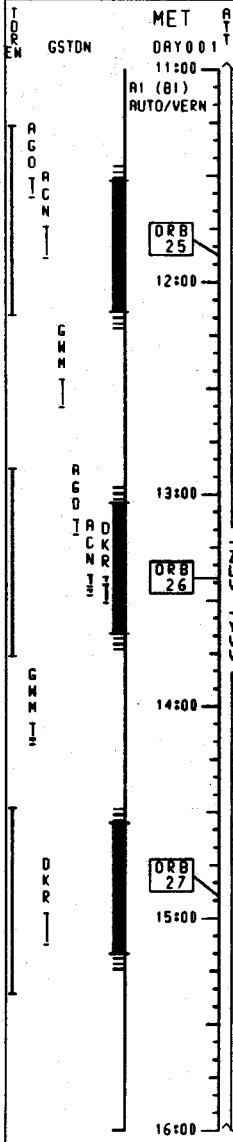
ORB
27

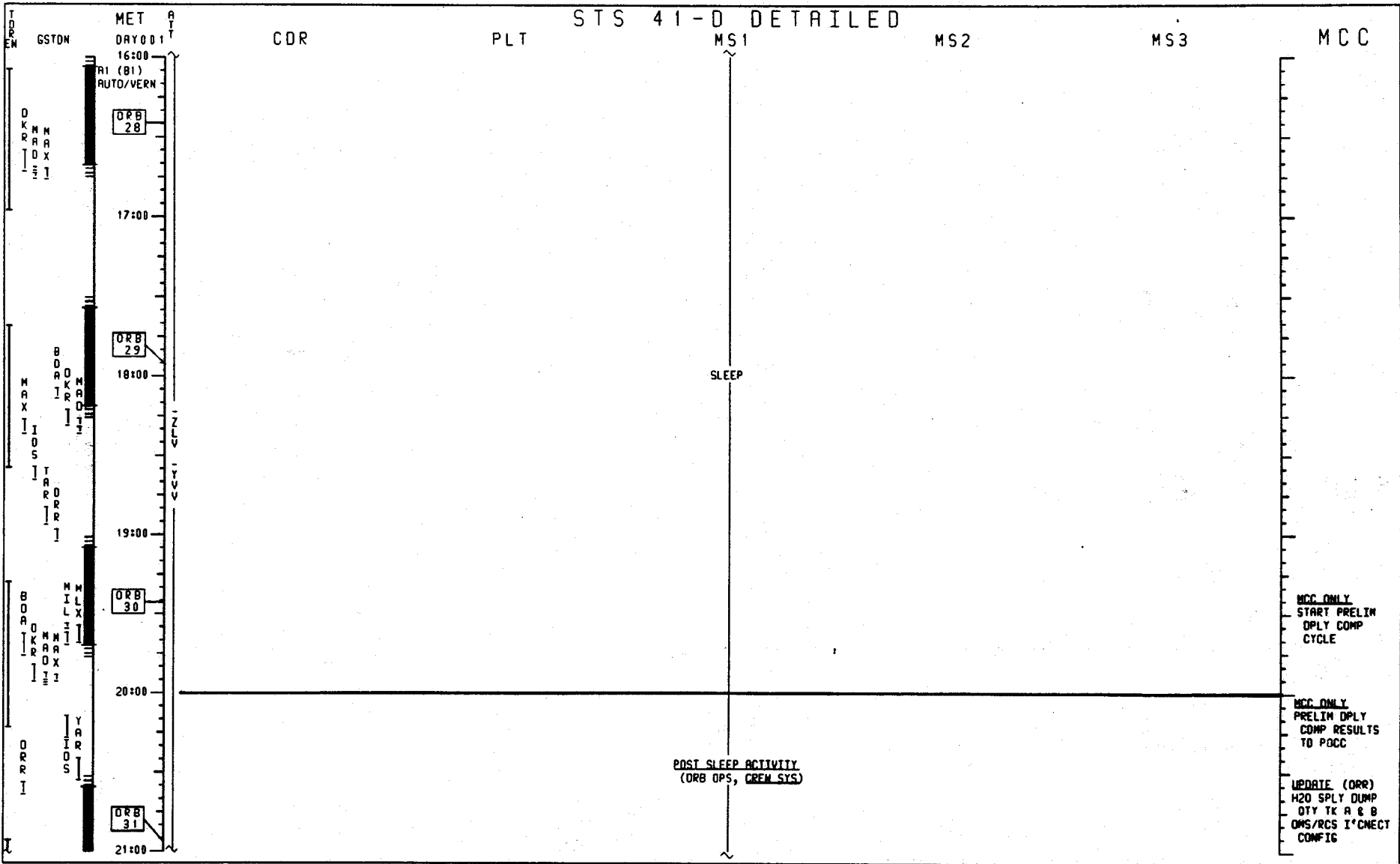
15:00

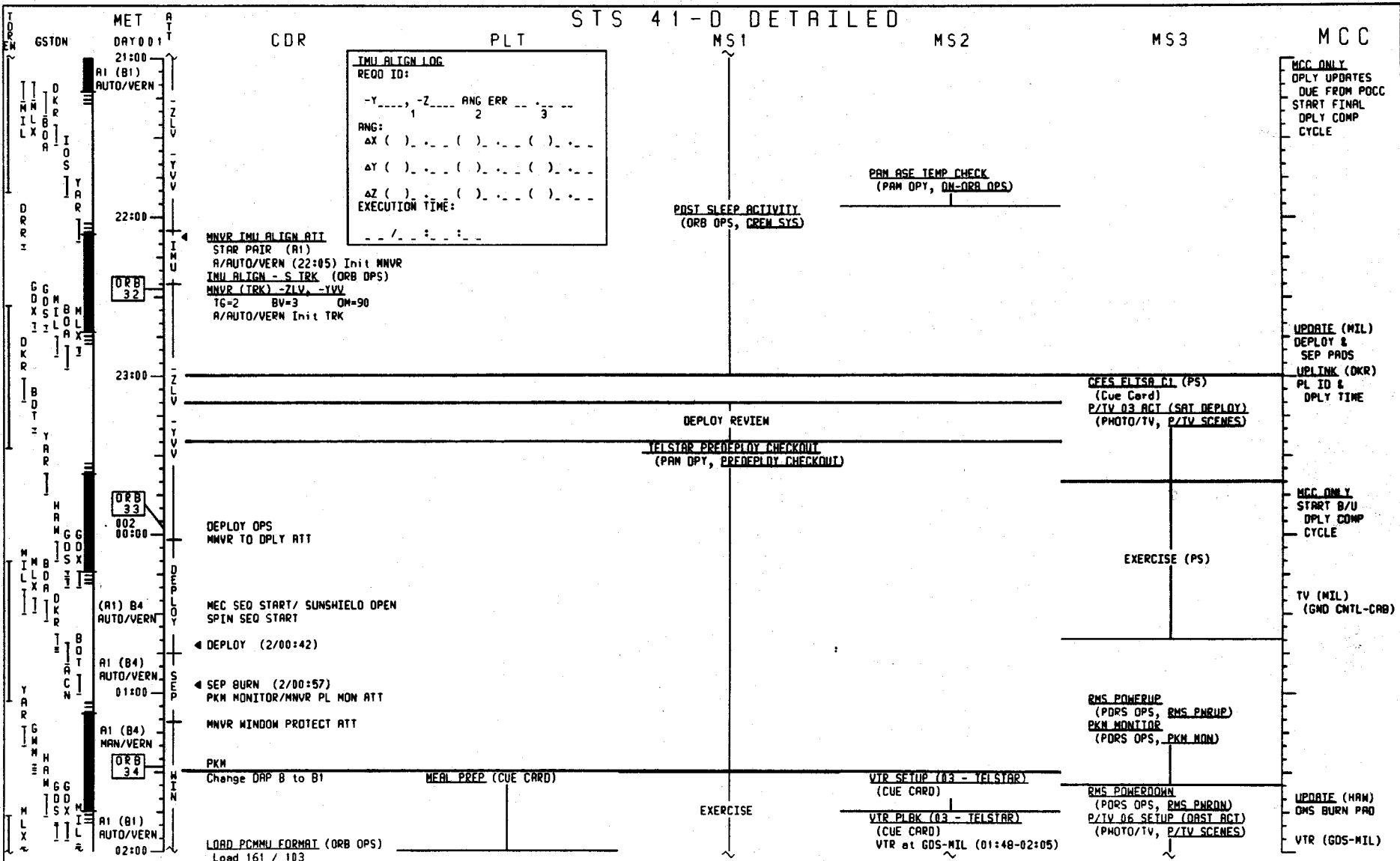
16:00

PRE SLEEP ACTIVITY
(ORB OPS, CREW SYS)

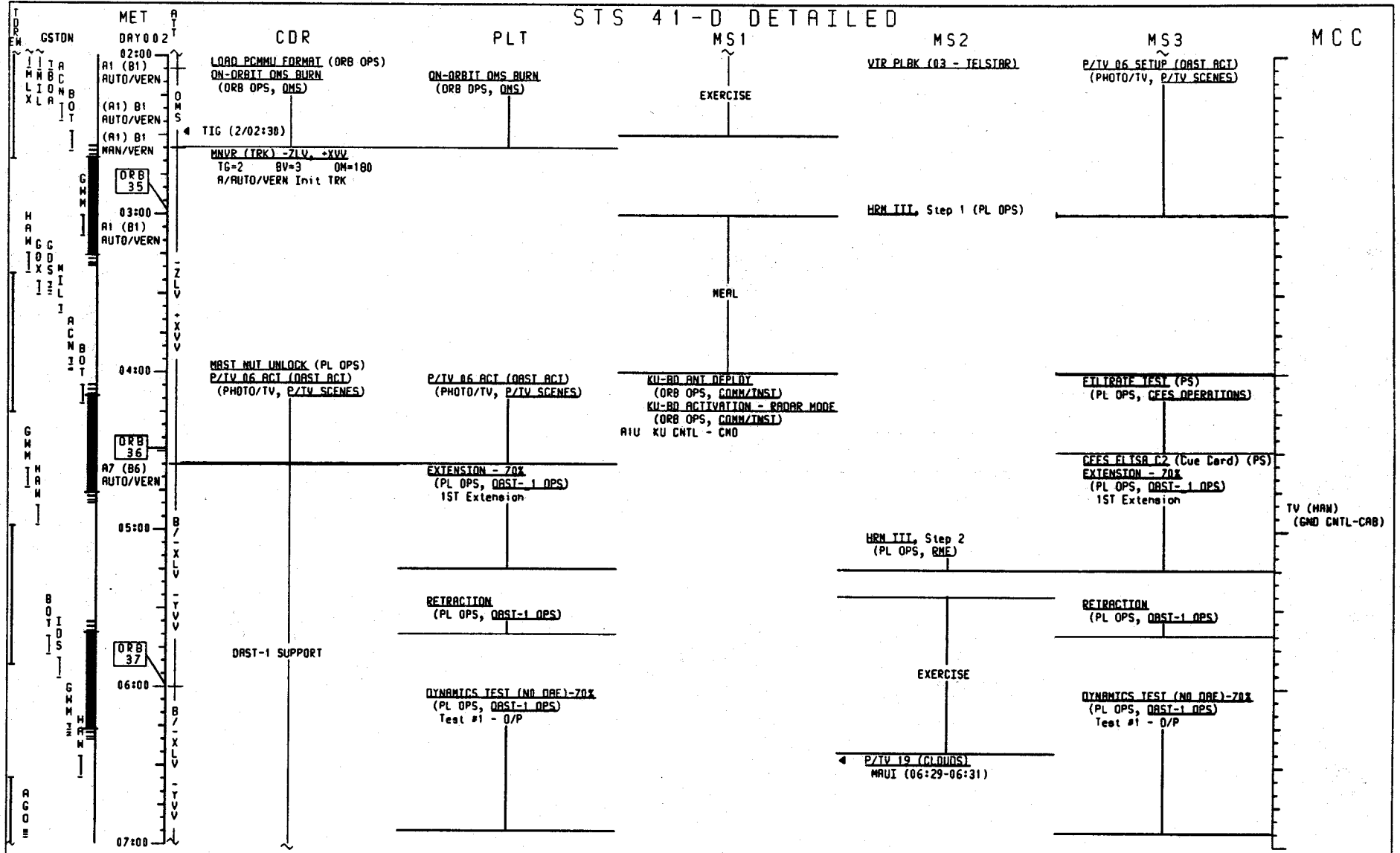
SLEEP



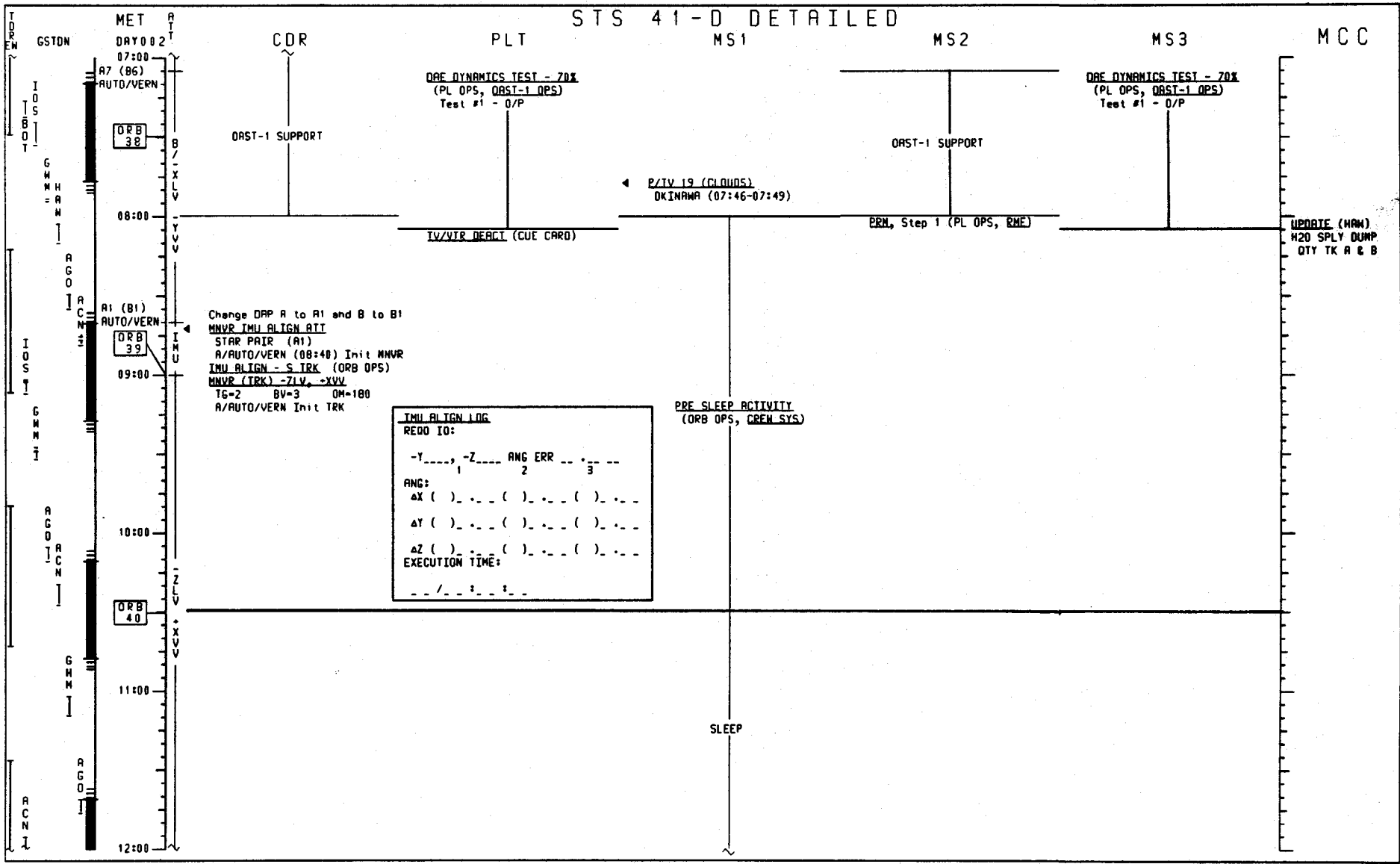




STS 41-D DETAILED



STS 41-D DETAILED



IMU ALIGN LOG
 REFO IO:
 -Y____, -Z____ ANG ERR ____
 1 2 3
 ANG:
 ΔX () _ . . () _ . . () _ . .
 ΔY () _ . . () _ . . () _ . .
 ΔZ () _ . . () _ . . () _ . .
 EXECUTION TIME:
 _ / _ : _ : _

STS 41-D DETAILED

CDR

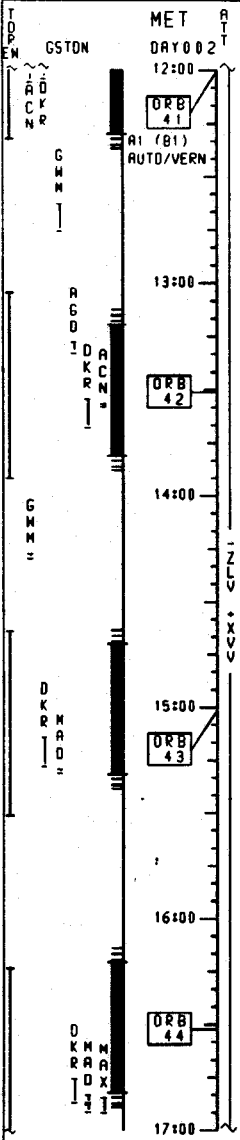
PLT

MS1

MS2

MS3

MCC



SLEEP

EZ CAP - CREW SCHEDULED ACTIVITIES

NOTES:

(X/Y) X: Crew Time Required

Y: No. of Persons if > 1

Unless stated otherwise, procedures are in the ORB OPS or Cue Card.
MEAL and EXERCISE do not have procedures.

LOUDS Opps up to FD6 Presleep will be shown.

Constraints (noted with '*'):

No EXERCISE during OAST-1 EXT, RET, or DYN TESTS
Complete CFES OPS VTR (P/TV 08) and review prior to FD5

PERFORM DAILY:

- Meal Prep (30 min)
- Meal (1 hr/6)
- Exercise* (1 hr/6)
- IMAX Reload (30 min/2)

SCHEDULE ANYTIME:

Crew Module Measurement (DTO 0321-Cue Card)

- Alignment Marks (1 hr) -- / -- : --
- Gap Measurements (40 min/2) -- / -- : --
- Tape Measurements (20 min/2) -- / -- : --

Exterior Surveys (DTO 0322-PDRS OPS)

- RMS POWERUP (10 min) -- / -- : --
- EXTERIOR SURVEYS (1.5 hrs) -- / -- : --
- RMS POWERDOWN (10 min) -- / -- : --

P/TV 06 OAST -1 Activities

- IMAX - Static Mast (100%) -- / -- : --
- IMAX -Top of Dynamic Mast -- / -- : --

SCHEDULE ANYTIME (cont):

P/TV 08 CFES OPS*

- IMAX/PAO -- / -- : --

P/TV 09, 10, 11 In-Cabin Activities

- IMAX -- / -- : --

P/TV 14 Earth Views

- IMAX - Earth Features (3 sites) -- / -- : --
- Terminator Crossing -- / -- : --
- Circular Storm -- / -- : --

SHOPPING LIST:

- FD1 - MCP Act (DSO 0439 - MED DSO) -- / -- : --
- P/TV 17 Glow (DSO 0305) -- / -- : --
- P/TV 19 CLOUDS Opps. (Presleep)
- OKINAWA 0/09:02 - 0/09:04

- FD2 - MCP Act (DSO 0439 - MED DSO) -- / -- : --
- P/TV 19 CLOUDS Opps (Postsleep)
- CAPE CANAVERAL 0/22:36 - 0/22:38
- P/TV 19 CLOUDS Opps (Presleep)
- OKINAWA 1/09:12 - 1/09:14
- 1/10:48 - 1/10:50

- FD3 - MCP Act (DSO 0439 - MED DSO) -- / -- : --
- P/TV 19 CLOUDS Opps (Postsleep)
- DIEGO GARCIA 1/20:15 - 1/20:17
- CAPE CANAVERAL 1/22:47 - 1/22:49
- P/TV 19 CLOUDS Opps. (Presleep)
- OKINAWA 2/09:22 - 2/09:24

ADDITIONAL OAST TEST: * (PL OPS)

- SA DAE 70% (Test #4-M/M)
- SA DAE 100% (Test #1-M/M)
- SA DAE 100% (Test #2 - O/P)
- SA DYN 70% (Test #4 - M/M)
- RET/EXT PERF
- MAST TEMP GRADIENT

___ / ___ : ___
___ / ___ : ___
___ / ___ : ___
___ / ___ : ___
___ / ___ : ___
___ / ___ : ___

FD4

Set-up for Live TV, Orb 48:

P/TV 06 OAST-1 Activities (15 min)

Midflight Reconfig:

RCS Regulator Reconfig (a.m.) (10 min)

07/08 He PRESS A(three)-CL (tb-CL)

B(three)-GPC (tb-OP)

ECLSS Redundant Component C/O (10 min)

HTR Reconfig - B (6 min)

PCS (1) 2 Config (5 min/2)

AIR SAMPLE (DTO 0622) Rcd MET on Bottle

___ / ___ : ___
___ / ___ : ___
___ / ___ : ___
___ / ___ : ___
___ / ___ : ___

RME OPS (PL OPS):

PRM Deact (Step 2) (5 min)

HRM Act (Step 1) (5 min)

HRM Deact (Step 2) (15 min)

___ / ___ : ___
___ / ___ : ___
___ / ___ : ___

CFES OPS (PL OPS):

ELISA C3, C4 (Cue Card) (2.5 hrs)

FILTRATE TEST (30 min)

MED DSO (MED):

Near Vis & Contrast (DSO 0408)

(30 min/PLT, PS)

Visual Perf Test (DSO 0440)

(30 min/MS1, MS2)

___ / ___ : ___
___ / ___ : ___

SHOPPING LIST - P/TV 19 CLOUDS Opps.

Postsleep

CAPE CANAVERAL 2/21:19 - 2/21:21

Presleep

OKINAWA 3/07:54 - 3/07:56

3/09:29 - 3/09:32

FD5

Set-up for VTR Dump, Orb 68:

P/TV 08 CFES OPS (15 min)

RME OPS (PL OPS):

PRM Act (Step 1) (5 min)

HRM Act (Step 1) (5 min)

HRM Deact (Step 2) (15 min)

___ / ___ : ___
___ / ___ : ___
___ / ___ : ___

CFES OPS (PL OPS):

ELISA D (Cue Card) (4 hrs)

ELISA C5 (Cue Card) (2.5 hrs)

FILTRATE TEST (30 min)

STOP COLLECTION (10 min)

SHOPPING LIST - P/TV 19 CLOUDS Opps.

Postsleep

DIEGO GARCIA 3/18:54 - 3/18:57

Presleep

OKINAWA 4/08:01 - 4/08:03

FD6

Set-up for Live TV/VTR Dump, Orb 79:

P/TV 15 Student Experiment (35min)

Set-up for Live TV Orb 80:

P/TV 13 Crew Conference (20 min)

RME OPS (PL OPS):

PRM Deact (Step 2) (5 min)

___ / ___ : ___

CFES OPS (PL OPS):

FILTRATE TEST (30 min)

START COLLECTION (30 min)

FLUSH & DEACT (30 min)

POST-PROCESS PRODUCT MIX (30 min)

PROTEIN CHARACTERIZATION (Cue Card) (30 min)

POST-PROCESS PROD. MIX STOP (15 min)

MED DSO (MED):

Near Vis & Contrast (DSO 0408)

(30 min/PLT,PS)

Visual Perf Test (DSO 0440)

(30 min/MS1, MS2)

___ / ___ : ___

___ / ___ : ___

Day Before Entry Reconfig:

LAMP & FIRE SUPPR TEST (10 min)

CABIN CONFIG/STOW (2.5 hrs/6)

___ / ___ : ___

FD7

Before Leaving CAP

Meal Cleanup/Stowage (10 min)

Fluid Loading Prep (DSO 0402)

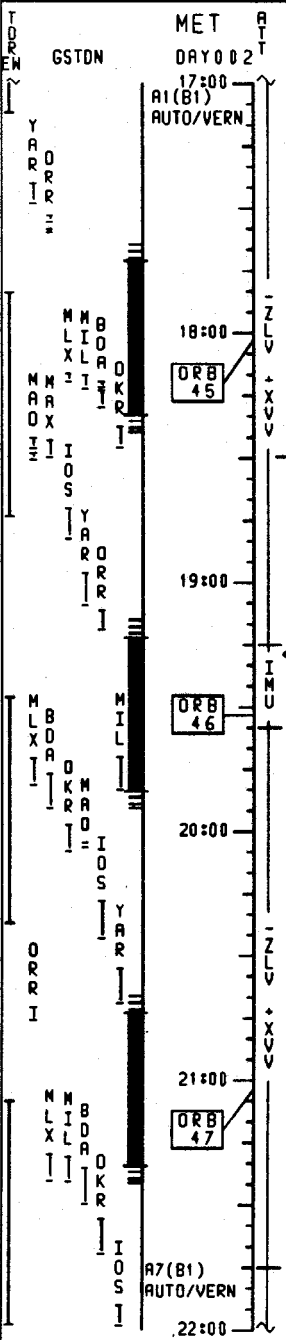
Fill 4 drink containers with 8 oz H2O each
(per crew member)

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STS 41-D DETAILED (EZ CAP)

PL

MCC



17:00
A1(B1)
AUTO/VERN

18:00
ORB 45

19:00

20:00
ORB 46

21:00

21:00
ORB 47

22:00
A7(B1)
AUTO/VERN

STS

SLEEP

TMU ALIGN LOG			
REQO ID:			
-Y	1	-Z	2
		ANG ERR	3
ANG:			
ΔX	()	()	()
ΔY	()	()	()
ΔZ	()	()	()
EXECUTION TIME:			
/ : : :			

MNVR TMU ALIGN ATT
 STAR PAIR (A1)
 A/AUTO/VERN (19:15) Init MNVR
 TMU 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)

Do MANUAL FC PURGE

UPDATE (IOS)
 H2O SPLY DUMP
 QTY TK A & B
 OMS/RCS I'CONNECT
 CONFIG

PERFORMANCE TEST
 (PL OPS, DAST-1 OPS)
 (3 CMN)

STS 41-D DETAILED (EZ CAP)

STS

PL

MCC

TERMINAL
GSTDN
MET DAY 003
03:00
04:00
05:00
06:00
07:00
08:00

ORB 51
A7(B6)
AUTO/VERN

ORB 52

ORB 53
A1(B1)
AUTO/VERN

ORB 54

HAWK
GWS
MWS
I=

INCB
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-
Y
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V

Z
S
T

TV/VTR DEACT (Cue Card)

PAN ASE TEMP CHECK
(PAN OPY, ON-ORB OPS)

DYNAMICS TEST (NO DAE)-70X
(PL OPS, QAST-1 OPS)
(3 CMN) Test #2 - M/M

DYNAMICS TEST (NO DAE)-70X
(PL OPS, QAST-1 OPS)
(3 CMN) Test #3 - O/P

Change DAP A to A1
Change DAP B to B1
◀ SCCE DATA TAKE
(PL OPS, QAST-1 OPS)
Step 1

◀ P/TV 19 (CLOUDS)
MAUI (06:36 - 06:38)

PRE SLEEP ACTIVITY
(ORB OPS, CREW SYS)
EZ CAP STATUS REPORT

UPDATE (AGO)
H2O SPLY DUMP
QTY TK A & B

STS 41-D DETAILED (EZ CAP)

PL

MCC

MET DAY 003

STS

08:00
A1 (B1)
AUTO/VERN

09:00

ORB 55

10:00

ORB 56

11:00

12:00

ORB 57

13:00

MNVR IMU ALIGN ATT
STAR PAIR (A1)
A/AUTO/VERN (08:50) Init MNVR
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)

SLEEP

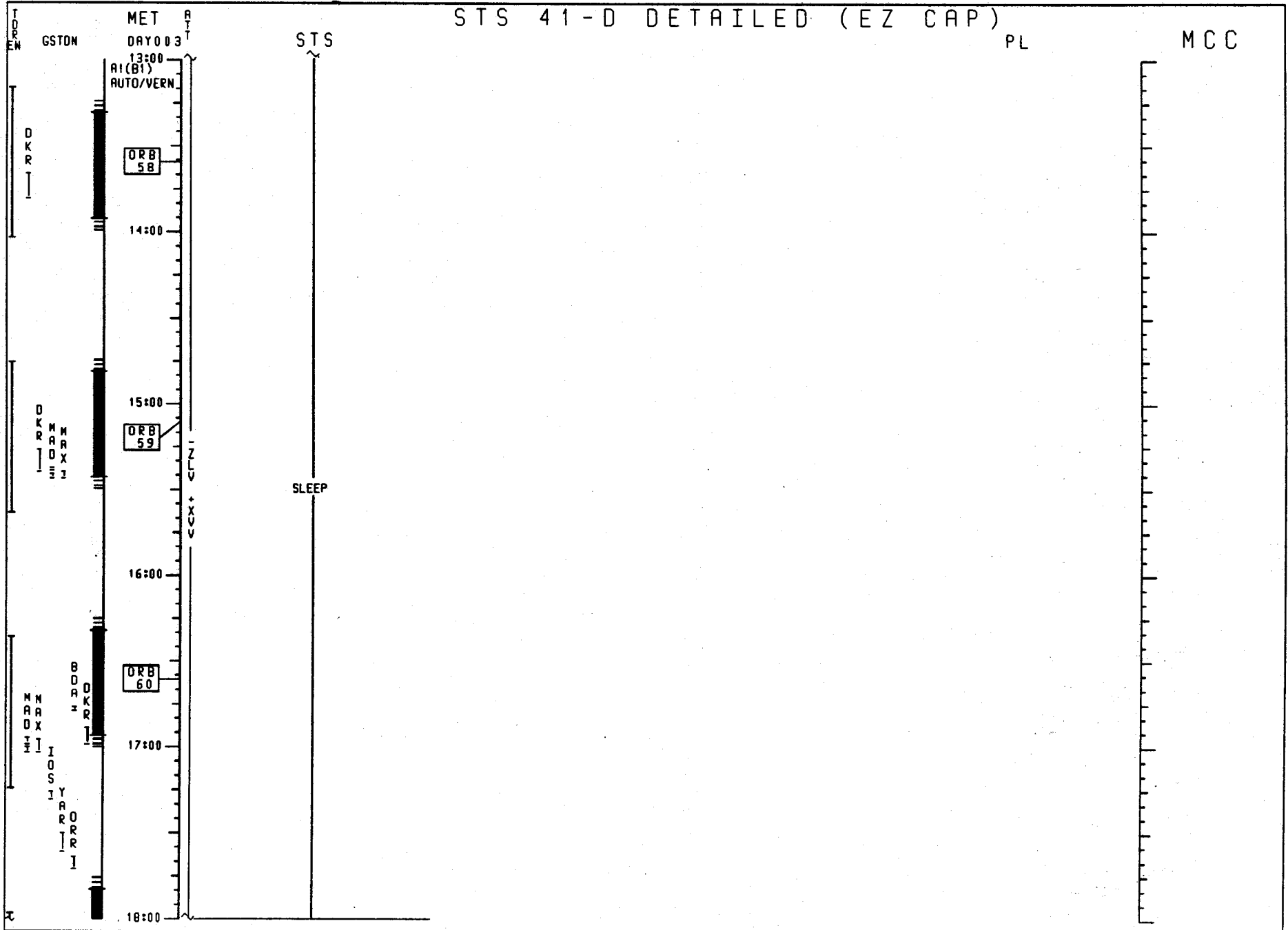
PAM ASF TEMP CHECK
(PAM DPY, ON-ORB OPS)

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

STS 41-D DETAILED (EZ CAP)

PL

MCC

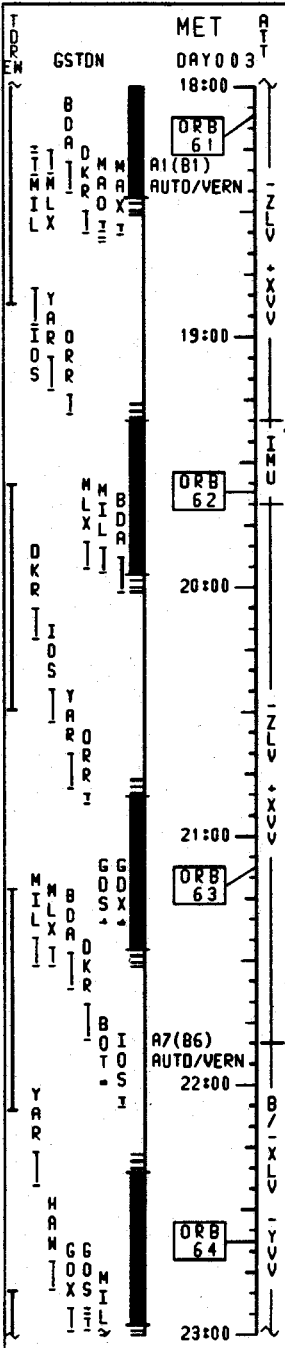


STS 41-D DETAILED (EZ CAP)

STS

PL

MCC



MNV IMU ALIGN ATT
 STAR PAIR (A1)
 A/AUTO/VERN (19:20) Init MNV
IMU ALIGN - S TRK (ORB OPS)
MNV (TRK) -ZLV, -XVV
 TG=2 BV=3 OM=100
 A/AUTO/VERN Init TRK

POST SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

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

UPDATE (MIL)
 H2O SPLY DUMP
 QTY TK A & B
 ONS/RCS I'CONNECT
 CONFIG

← P/TV 19 (CLOUDS)
 CAPE CANAVERAL (21:26-21:29)

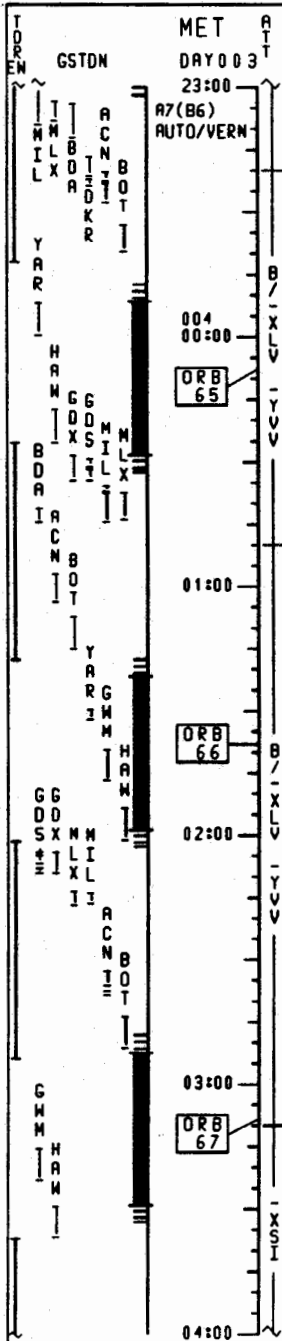
DAE DYNAMICS TEST - 70X
 (PL OPS, QBST-1 OPS)
 (4 CNN) Test #2 - M/M

STS 41-D DETAILED (EZ CAP)

STS

PL

MCC



◀ P/TV 19 (CLOUDS)
CAPE CANAVERAL (23:02-23:04)

DAE DYNAMICS TEST - 70%
(PL OPS, OAST-1 OPS)

DAE DYNAMICS TEST - 70%
(PL OPS, OAST-1 OPS)
(4 CMN) Test #3 - I/P

◀ P/TV 19 (CLOUDS)
PUERTO RICO (00:43-00:45)

DYNAMICS TEST (NO DAE)-100%
(PL OPS, OAST-1 OPS)
(3 CMN) Test #2 - M/M

MINI PERFORMANCE TEST
(PL OPS, OAST-1 OPS)
(3 CMN)

STS 41-D DETAILED (EZ CAP)

STS

PL

MCC

TOR EM
 BOT I OS
 G M H A W
 BOT I OS
 G M H A W
 A G G O
 A C N
 I O S
 I M U
 H A W
 A G G O
 A C N

MET
 DAY 004
 04:00
 A7(B6)
 AUTO/VERN
 05:00
 06:00
 07:00
 08:00
 09:00

ORB 68
 A1(B1)
 AUTO/VERN
 ORB 69
 ORB 70

P/TV 08 (CFES OPS)
VTR DUMP at HAW (05:05-05:13)

MNVR IMU ALIGN ATT
 STAR PAIR (A1)
 A/AUTO/VERN (07:25) Init MNVR
 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)

EZ CAP STATUS REPORT

PAN ASE TEMP CHECK
(PAN DPY, ON-ORB OPS)

MINI PERFORMANCE TEST
(3 CMN)

Change DAP A to A1
 Change DAP B to B1
SCCE DATA TAKE
 (PL OPS, ORST-1 OPS)
 Step 2

NOTE: CFES - 80 HRS OPS TIME ENDS
AT 4/16:00 MET

PAN ASE TEMP CHECK
(PAN DPY, ON-ORB OPS)

VTR (HAW)

UPDATE (IOS)
M20 SPLY DUMP
QTY TK A & B

<u>IMU ALIGN LOG</u> :			
RECD ID:			
-Y	-Z	ANG ERR	
1	2	3	
ANG:			
ΔX	()	()	()
ΔY	()	()	()
ΔZ	()	()	()
EXECUTION TIME:			
..	/	:	:

STS 41-D DETAILED (EZ CAP)

PL

MCC

STS

MET

DAY 004
09:00

ORB
71

A1 (B1)
AUTO/VERN

10:00

ORB
72

11:00

12:00

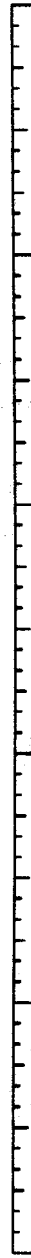
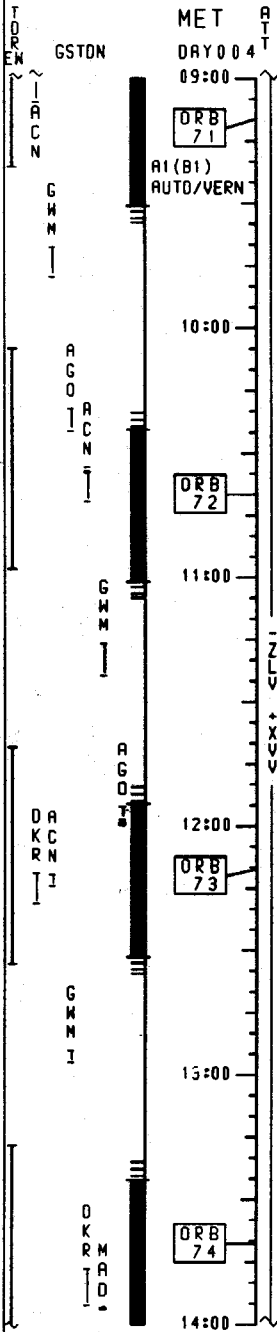
ORB
73

13:00

ORB
74

14:00

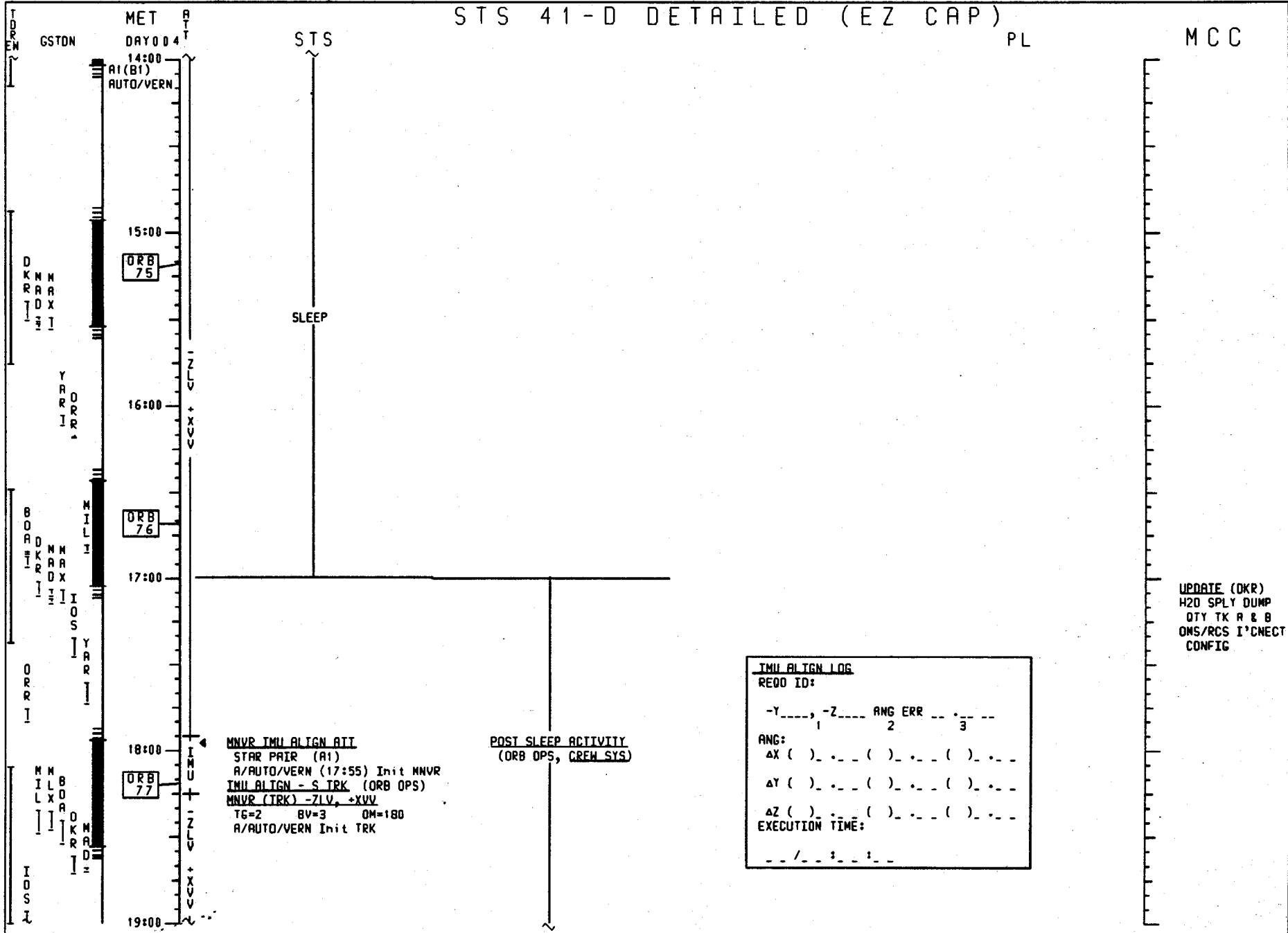
SLEEP



STS 41-D DETAILED (EZ CAP)

PL

MCC



UPDATE (DKR)
H2O SPLY DUMP
QTY TK A & B
ONS/RCS I'CONNECT
CONFIG

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

STS 41-0 DETAILED (EZ CAP)

STS

PL

MCC

TDRN
GSTON
A1(B1)
AUTO/VERN
19:00
ORB 78
20:00
ORB 79
21:00
ORB 80
22:00
A3(B1)
MAN/VERN
HOT
A1(B1)
AUTO/VERN
23:00
R2
005
00:00

19:00
20:00
21:00
22:00
23:00
00:00

POST SLEEP ACTIVITY
(ORB OPS, CREW SYS)

CRYSTAL GROWTH SETUP & ACT
(PL OPS, STUDENT EXP)

CRYSTAL GROWTH MONITOR
(PL OPS, STUDENT EXP)

P/TV 15 (STUDENT EXPERIMENT)
LIVE TV at MIL (21:31 - 21:39)

◀ P/TV 19 (CLOUDS)
CAPE CANAVERAL (21:33-21:36)

TV (MIL)
(GND CNTL-CAB)

VEHICLE PRCS HOT FIRE (OTO 0402)
(ORB OPS, RCS DTD)
(2 CMN)

Change DAP A to A1
MNVR (TRK) -7LV, +XVV
TG-2 BV-3 OM-180
A/AUTO/VERN Init TRK

P/TV 13 (CREW CONFERENCE)
LIVE TV at HAW, GDS, MIL
(22:48 - 23:15)

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

APU STEAM VENT HTR ACT
BLR CNTLR PWR/HTR(three)-B
CNTLR(three) -ON

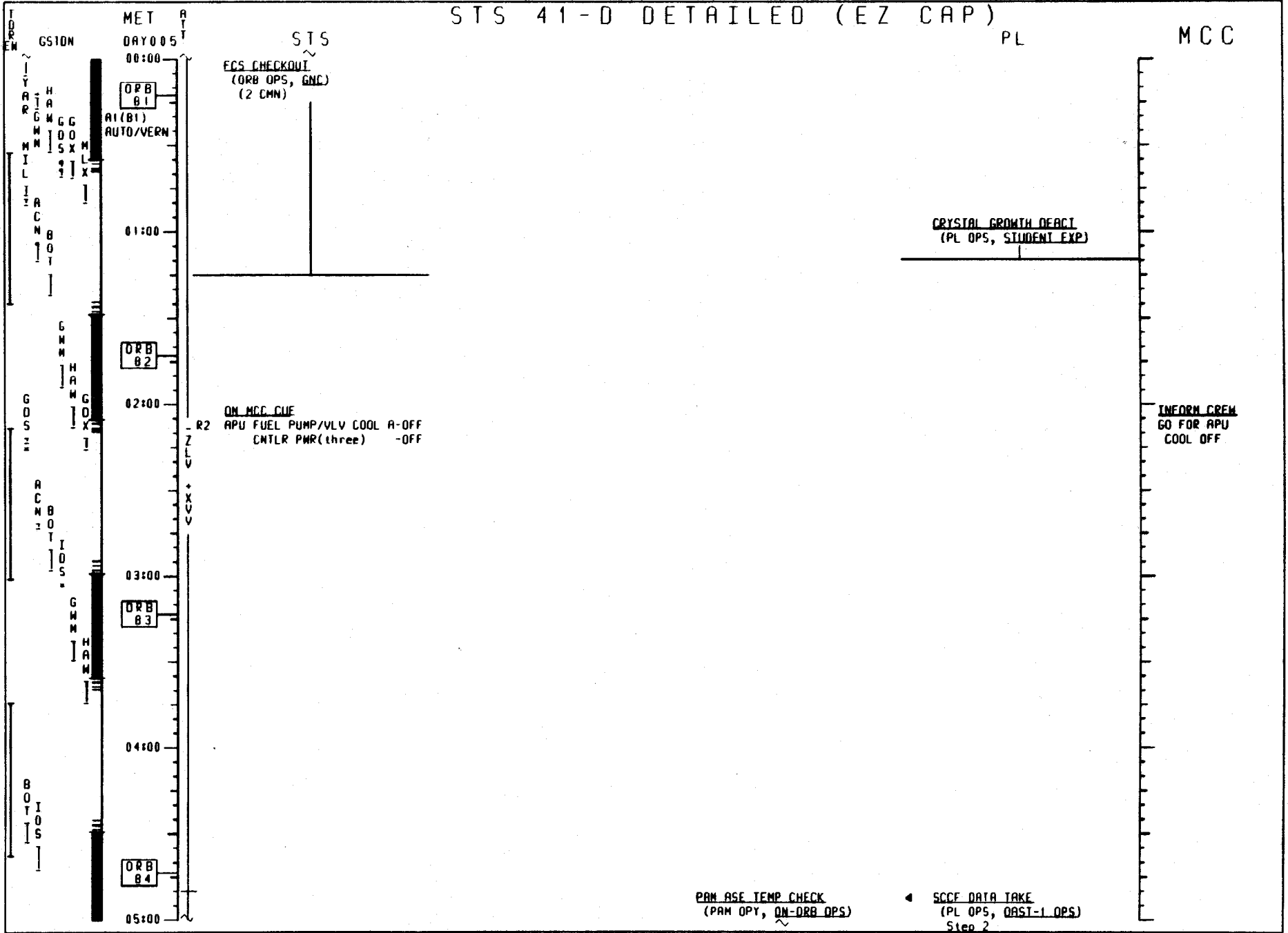
◀ P/TV 19 (CLOUDS)
PUERTO RICO (23:10-23:11)

ECS CHECKOUT
(ORB OPS, GNC) - (2 CMN)

STS 41-D DETAILED (EZ CAP)

PL

MCC



STS 41-D DETAILED (EZ CAP)

MCC

MET DAY 005
 05:00
 06:00
 07:00
 08:00
 09:00
 10:00

STS

PAM ASE TEMP CHECK
(PAM OPY, ON-ORB OPS)

PL
SCCF DATA TAKE
 (PL OPS, ORST-1 OPS)
 Step 2
 P/TV 19 (CLOUDS)
 MAUI (05015 - 05:17)

UPDATE (IOS)
 H2O SPLY DUMP
 QTY TK A & B

AI (B1)
 AUTO/VERN

ORB 85

ORB 86

ORB 87

PRE SLEEP ACTIVITY
(ORB OPS, CREW SYS)
 EZ CAP STATUS REPORT

MNVR TMU ALGN ATT
 STAR PAIR (A1)
 A/AUTO/VERN (07:30) Init MNVR
 TMU ALGN - S TRK (ORB OPS)
 MNVR (TRK) -ZLV, +XVV
 TG=2 BV=3 OM=180
 A/AUTO/VERN Init TRK

PAM ASE TEMP CHECK
(PAM OPY, ON-ORB OPS)

SCCF DATA TAKE (PL OPS)
 Step 3

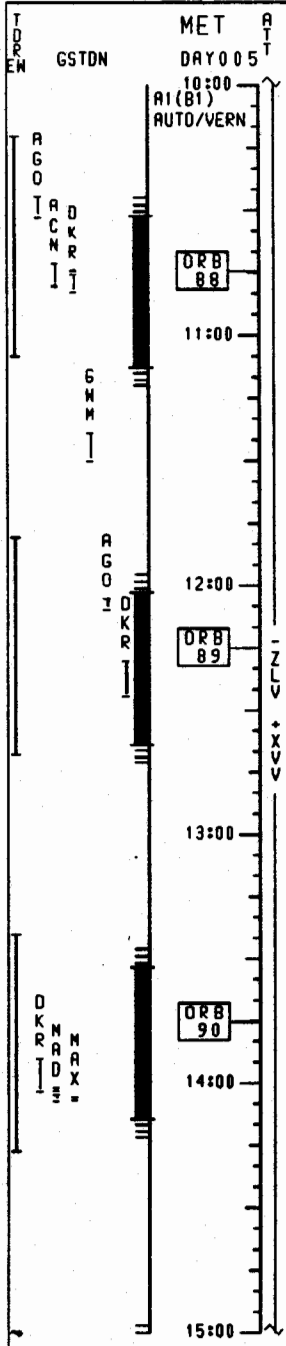
TMU ALGN LOG
 RECD ID:
 -Y____, -Z____ ANG ERR ___ . ___
 1 2 3
 ANG:
 ΔX () . . . () . . . () . . .
 ΔY () . . . () . . . () . . .
 ΔZ () . . . () . . . () . . .
 EXECUTION TIME:
 - - / - - : - -

SLEEP

STS 41-D DETAILED (EZ CAP)

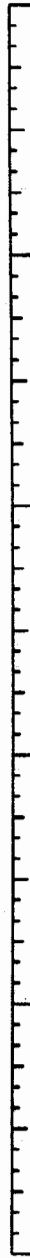
PL

MCC



STS

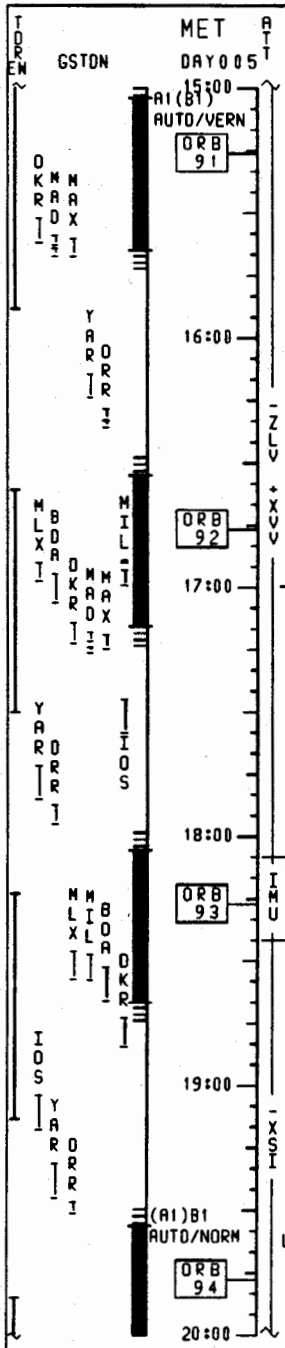
SLEEP



STS 41-D DETAILED (EZ CAP)

PL

MCC



MET DAY 005

15:00
A1 (B1)
AUTO/VERN
ORB 91

16:00

17:00
ORB 92

18:00
ORB 93

19:00

20:00
(A1) B1
AUTO/NORM
ORB 94

STS

SLEEP

MNVR IMU ALIGN ATT
 STAR PAIR (A1)
 A/AUTO/VERN (18:05) Init MNVR
 IMU ALIGN - S TRK (ORB OPS)
MNVR (TRK) - XSI ATT
 TG=4 BV=5 OM=270
 P=184 Y=0
 A/AUTO/VERN Init TRK
 L1 HI LOAD DUCT HTR - B

POST SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

L1 HI LOAD EVAP - ENA
BAD BYPASS/FES C/O
 (ORB OPS, ECLS)
 Steps 1,2,4
 (Delete last 2 lines
 of step 4)

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

UPDATE (BDR)
 H2O SPLY DUMP
 QTY TK A & B
 OMS/RCS I'CONNECT
 CONFIG

STS 41-D DETAILED (EZ CAP)

PL

MCC

MET

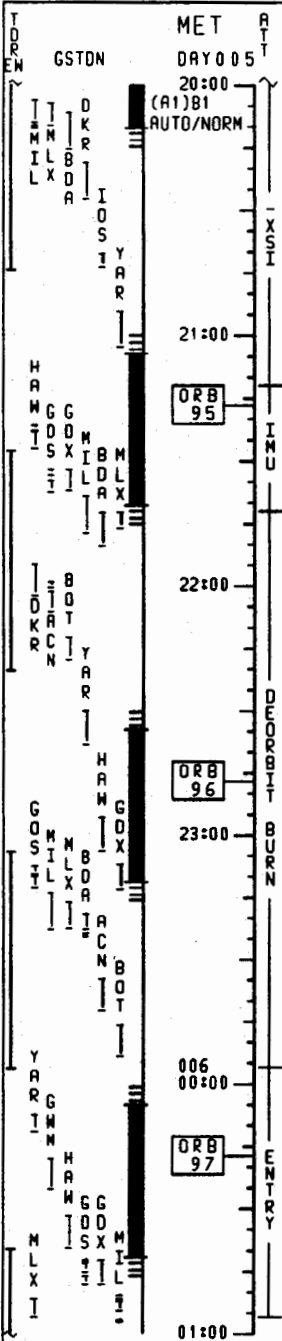
DAY 005

STS

Update: CRT TIMER SETUP PAD
in NOMINAL DEORBIT PREP

Go to DEORBIT PREP at 5/20:29 MET

UPDATE (MIL)
CRT TIMER
SETUP PAD



CONTINGENCY TIMELINES

**CONTINGENCY
TIMELINES**

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**HIGH PRIORITY MISSION
(TBS)**

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

**CONSUMABLES CURVES
(TBS)**

**CONSUMABLES
CURVES**

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STS 41-D DAP BOOK

DAP A CONFIGURATIONS..... 6-2
DAP B CONFIGURATIONS..... 6-3
STS 41-D DAP BOOK..... 6-4

DAP BOOK

TABLE 9-11
DAP A CONFIGURATIONS

	A1*	A2	A3	A4	A5	A6	A7	A8
<u>TRANSLATION</u>								
PULSE ft/sec	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
<u>ROTATION</u>								
DSC RT NORM o/sec	0.200	0.400	0.200	0.200	0.200	0.200	0.200	0.500
VERN o/sec	0.200	0.400	0.200	0.008	0.200	0.200	0.100	0.200
PULSE NORM o/sec	0.10	0.10	0.30	0.10	0.10	0.10	0.10	0.10
VERN o/sec	0.010	0.010	0.010	0.010	0.050	0.010		0.010
COMP NORM o/sec	.00	.00	.00	.00	.00	.00	.00	.00
VERN o/sec	.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	5.00	3.00
VERN (deg)	1.000	1.000	1.000	0.070	1.000	1.000	2.000	1.000
RATE NORM o/sec	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
VERN o/sec	.020	.020	.020	.010	.020	.020	.020	.020
<u>JET OPT</u>								
P	1	1	3	1	1	3	1	1
Y	1	1	3	3	1	3	1	1
<u>CNTL ACCEL</u>	0	0	0	0	0	0		0

*I-LOADED OPS-2 DAP CONFIGURATION

TABLE 9-11 (Cont)
DAP B CONFIGURATIONS

	B1*	B2	B3	B4	B5	B6	B7
<u>TRANSLATION</u>							
PULSE ft/sec	0.02	0.02	0.02	0.02	0.02	0.01	0.02
<u>ROTATION</u>							
DSC RT NORM o/sec	0.500	0.200	0.200	0.200	0.200	0.200	0.068
VERN o/sec	0.200	0.200	0.200	0.008	0.016	0.100	0.068
PULSE NORM o/sec	0.04	0.04	0.04	0.04	0.04	0.10	0.04
VERN o/sec	0.002	0.002	0.002	0.002	0.002		0.002
COMP NORM o/sec	.00	.00	.00	.00	.00	.00	.00
VERN o/sec	.000	.000	.000	.000	.000	.000	.000
<u>DEADBAND</u>							
ATT NORM (deg)	3.00	3.00	3.00	0.300	3.00	5.00	3.00
VERN (deg)	1.000	1.000	1.000	0.100	0.033	2.000	1.000
RATE NORM o/sec	0.20	0.20	0.20	0.20	0.20	0.20	0.20
VERN o/sec	.020	.020	.020	.010	.020	.020	.020
<u>JET OPT</u>							
P	1	3	1	1	3	1	1
Y	1	3	1	3	3	1	1
<u>CNTL ACCEL</u>	0	0	0	0	0		0

*I-LOADED OPS-2 DAP CONFIGURATION

DAP BOOK



41-D/O/BAS

41-D/O/BAS

UNIV PTG	
TGT ID = 1	Orbiting Vehicle
= 2	Earth ctr
= 3	Earth tgt
	Input LAT (± 90)
	LON (± 180 , + = East)
	ALT (± 99.99 nm)
= 4	Sun ctr
= 5	Celestial tgt
	Input RA (0-359.99)
	DEC (± 90)
= 11-60	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 +	OM (0-359.99)
MON AXIS = 1 +X	
	2 -X

G20 DAP CONFIG			
CNTL ACCEL = 0	Orbiter alone	JET OPT = 1	Normal
= 1	OAST-1 Dynamics Test	= 2	Nose only
= 2	OAST-1 Dynamics Test	= 3	Tail only
= 3	OAST-1 Dynamics Test		
= 4	OAST-1 Dynamics Test		

(reduced copy)

DAP PURPOSE

- A1 - NOMINAL
- ZLV
- IMU ALIGN
- TAIL ONLY CONTROL
- BACKOUT
- PRE/POST PAM DEPLOY
- OMS BURN
- TAIL-TO-SUN
- LOSS OF VERN
- A2 - PTC
- A3 - RCS HOT FIRE
- A4 - GG
- A5 - IMU ROLL
- A6 - LOSS OF VERN
- (TAIL ONLY)
- A7 - OAST-1 OPS
- A8 - SYNCOM-IV SEP

- 41-D/O/BAS

A1

DAP A1

PURPOSE:

- ZLV
- IMU ALIGN
- TAIL ONLY CONTROL BACKOUT
- PRE/POST PAM DEPLOY
- OMS BURN
- TAIL-TO-SUN
- LOSS OF VERN
- (NOSE & TAIL)

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

DEADBAND

5.0 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

- 41-D/O/BAS

- 41-D/O/BAS

A2

(reduced copy)

A1

DAP A2

PURPOSE:

PTC

A2

0.1 0

1 TRANSLATION PULSE

0.4 0 0

2 ROTATION DSC RT NORM

0.4 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

1.0 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

41-D/O/BAS

41-D/O/BAS

A3

A2

DAP A3

PURPOSE:

RCS HOT FIRE

A3

0.1 0

1 TRANSLATION PULSE

0.2 0 0

2 ROTATION DSC RT NORM

0.2 0 0

3 VERN

0.3 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

3

12 JET OPT P

3

13 Y

0

14 CNTL ACCEL

41-D/O/BAS

41-D/O/BAS

A4

(reduced copy)

A3

DAP A4

PURPOSE:

GG

A4

0.1 0

1 TRANSLATION PULSE

0.2 0 0

2 ROTATION

0.0 0 8

3 DSC RT NORM

0.1 0

4 PULSE NORM

0.0 1 0

5 VERN

.0 0

6 COMP NORM

.0 0 0

7 VERN

DEADBAND

1.0 0

8 ATT NORM

0.0 7 0

9 VERN

0.2 0

10 RATE NORM

0.0 1 0

11 VERN

1

12 JET OPT P

3

13 Y

0

14 CNTL ACCEL

- 41-D/O/BAS

- 41-D/O/BAS

A5

DAP A5

PURPOSE:

IMU ROLL

A5

0.1 0

1 TRANSLATION PULSE

0.2 0 0

2 ROTATION

0.2 0 0

3 DSC RT NORM

0.1 0

4 PULSE NORM

0.0 5 0

5 VERN

.0 0

6 COMP NORM

.0 0 0

7 VERN

DEADBAND

5.0 0

8 ATT NORM

1.0 0 0

9 VERN

0.2 0

10 RATE NORM

0.0 2 0

11 VERN

1

12 JET OPT P

1

13 Y

0

14 CNTL ACCEL

- 41-D/O/BAS

- 41-D/O/BAS

A6

(reduced copy)

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 4

PULSE NORM

0.0 1 0 5

VERN

.0 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

0.0 2 0 11

VERN

3 12

JET OPT P

3 13

Y

0 14

CNTL ACCEL

41-D/O/BAS

41-D/O/BAS

A7

A6

DAP A7

PURPOSE:

OAST-1 OPS

0.1 0 1

TRANSLATION
PULSE

0.2 0 0 2

ROTATION
DSC RT NORM

0.1 0 0 3

VERN

0.1 0 4

PULSE NORM

.0 0 0 5

VERN

.0 0 0 6

COMP NORM

.0 0 0 7

VERN

5.0 0 8

DEADBAND
ATT NORM

2.0 0 0 9

VERN

0.2 0 10

RATE NORM

0.0 2 0 11

VERN

1 12

JET OPT P

1 13

Y

0 14

CNTL ACCEL

41-D/O/BAS

41-D/O/BAS

A8

(reduced copy)

A7

DAP A8

PURPOSE:

SYNCOM-IV SEP

A8

0.1 0 1 TRANSLATION PULSE

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

3.0 0 8 DEADBAND
1.0 0 0 9 ATT NORM
 VERN

0.2 0 10 RATE NORM
0.0 2 0 11 VERN

1 12 JET OPT P
1 13 Y

0 14 CNTL ACCEL

41-D/O/BAS

41-D/O/FIN

A8

DAP	PURPOSE
B1	- NOMINAL PRCS IMU ALIGN TOP-TO-SUN TAIL ONLY CNTRL BACKOUT OMS & RCS BURNS
B2	- LOSS OF VERN (TAIL ONLY)
B3	- LOSS OF VERN; GG MNVR
B4	- PAM/FRISBEE DEPLOY
B5	- COAS CAL
B6	- OAST-1 DYNAMICS
B7	- LFC COLD SOAK

41-D/O/BAS

41-D/O/FIN

B1

(reduced copy)

DAP B1

PURPOSE:

PRCS IMJ ALIGN
TOP-TO-SUN
TAIL ONLY CONTROL BACKOUT
OMS & RCS BURNS

B1

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
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

41-D/O/BAS

41-D/O/BAS

B2

B1

DAP B2

PURPOSE:

LOSS OF VERN
(TAIL ONLY)

B2

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

41-D/O/BAS

41-D/O/BAS

B3

(reduced copy)

B2

DAP B3

PURPOSE:

LOSS OF VERN
(NOSE & TAIL)
GG MNVR

B3

TRANSLATION				
PULSE		15		<u>0.0 2</u>
ROTATION				
DSC RT	NORM	16		0.2 0 0
	VERN	17		<u>0.2 0 0</u>
PULSE	NORM	18		<u>0.0 4</u>
	VERN	19		<u>0.0 0 2</u>
COMP	NORM	20		<u>.0 0 0</u>
	VERN	21		<u>.0 0 0</u>
DEADBAND				
ATT	NORM	22		3.0 0
	VERN	23		<u>1.0 0 0</u>
RATE	NORM	24		0.2 0
	VERN	25		<u>0.2 0</u>
JET OPT	P	26		1
	Y	27		<u>1</u>
CNTL ACCEL		28		<u>0</u>

41-D/O/BAS

41-D/O/BAS

B4

PURPOSE:

PAM DEPLOY
FRISBEE DEPLOY

B4

TRANSLATION				
PULSE		15		<u>0.0 2</u>
ROTATION				
DSC RT	NORM	16		0.2 0 0
	VERN	17		<u>0.0 0 8</u>
PULSE	NORM	18		<u>0.0 4</u>
	VERN	19		<u>0.0 0 2</u>
COMP	NORM	20		<u>.0 0 0</u>
	VERN	21		<u>.0 0 0</u>
DEADBAND				
ATT	NORM	22		0.3 0
	VERN	23		<u>0.1 0 0</u>
RATE	NORM	24		0.2 0
	VERN	25		<u>0.0 1 0</u>
JET OPT	P	26		1
	Y	27		<u>3</u>
CNTL ACCEL		28		<u>0</u>

41-D/O/FIN

41-D/O/BAS

B5

(reduced copy)

B4

DAP B5

PURPOSE:

COAS CAL

B5

TRANSLATION				
PULSE		15	<u>0.0</u>	<u>2</u>
ROTATION				
DSC RT	NORM	16	0.2	0 0
	VERN	17	<u>0.0</u>	<u>1 6</u>
PULSE	NORM	18	<u>0.0</u>	<u>4</u>
	VERN	19	<u>0.0</u>	<u>2</u>
COMP	NORM	20	<u>0.0</u>	<u>0</u>
	VERN	21	<u>.0</u>	<u>0 0</u>
DEADBAND				
ATT	NORM	22	3.0	0
	VERN	23	<u>0.0</u>	<u>3 3</u>
RATE	NORM	24	0.2	0
	VERN	25	<u>0.0</u>	<u>2 0</u>
JET OPT	P	26		<u>3</u>
	Y	27		<u>3</u>
CNTL ACCEL		28		<u>0</u>

41-D/O/BAS

41-D/O/BAS

B6

B5

DAP B6

PURPOSE:

OAST-1 DYNAMICS

B6

TRANSLATION				
PULSE		15	<u>0.0</u>	<u>1</u>
ROTATION				
DSC RT	NORM	16	0.2	0 0
	VERN	17	<u>0.1</u>	<u>0 0</u>
PULSE	NORM	18	<u>0.1</u>	<u>0</u>
	VERN	19	<u>0.0</u>	<u>0</u>
COMP	NORM	20	<u>0.0</u>	<u>0</u>
	VERN	21	<u>.0</u>	<u>0 0</u>
DEADBAND				
ATT	NORM	22	5.0	0
	VERN	23	<u>2.0</u>	<u>0 0</u>
RATE	NORM	24	0.2	0
	VERN	25	<u>0.0</u>	<u>2 0</u>
JET OPT	P	26		<u>1</u>
	Y	27		<u>1</u>
CNTL ACCEL		28		<u>-</u>

41-D/O/BAS

41-D/O/BAS

B7

(reduced copy)

B6

DAP B7

PURPOSE:

LFC COLD SOAK

B7

TRANSLATION			
PULSE	15		<u>0.0 2</u>
ROTATION			
DSC RT NORM	16		0.0 6 8
VERN	17		<u>0.0 6 8</u>
PULSE NORM	18		0.0 4
VERN	19		<u>0.0 0 2</u>
COMP NORM	20		.0 0
VERN	21		<u>.0 0 0</u>
DEADBAND			
ATT NORM	22		3.0 0
VERN	23		<u>I.0 0 0</u>
RATE			
NORM	24		0.2 0
VERN	25		<u>0.0 2 0</u>
JET OPT			
P	26		1
Y	27		<u>I</u>
CNTL ACCEL	28		<u>0</u>

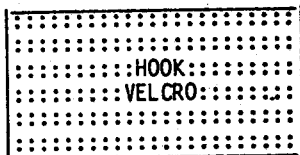
_ 41-D/O/BAS

_ 41-D/O/BAS

B7

_ 41-D/O/BAS

(reduced copy)



41-D/O/BAS



(reduced copy)

ATTITUDE TIMELINE

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 0/00:09:30	MNVR R+336.00 P+184.00 Y+344.00	* AUTO *	DSC 0.500 DB AT 3.50 DB RT 0.30	SUN θ 36 φ 161		OMS-1 ATT
2 0/00:10:25	OMS IGNITION	* AUTO *	DSC 0.500 DB AT 3.50 DB RT 0.30		DV = 238 DT = 2:37	OMS-1
3 0/00:20:00 24:45	MNVR R+ 28.00 P+330.00 Y+359.00	* AUTO *	DSC 0.500 DB AT 3.50 DB RT 0.30	SUN θ 169 φ 106		OMS-2 ATT
4 0/00:44:39	OMS IGNITION	* AUTO *	DSC 0.500 DB AT 3.50 DB RT 0.30		DV = 195 DT = 2:06	OMS-2
5 0/01:10:00 18:46	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00	A1 AUTO NORM	DSC 0.200 DB AT 5.00 DB RT 0.20	EARTH θ 90 φ 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
6 0/02:20:00 29:33	MNVR R+322.00 P+287.00 Y+ 40.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 112 φ 184	-Z:26 -Y:30 +X:14 02:15-02:41	IMU/+X COAS
7 0/02:46:00 58:10	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+180 P+ 0 Y+270	-ZLV NOSE NORTH
8 0/07:18:05 31:14	MNVR R+142.21 P+137.11 Y+279.72	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 90 φ 287		SBS DEPLOY ATT
9 0/07:58:05	DEPLOY	B4 AUTO VERN	DSC 0.008 DB AT 0.10 DB RT 0.01			SBS DEPLOY
10 0/08:01:05 09:08	MNVR R+ 24.00 P+324.70 Y+344.30	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 165 φ 181		SBS SEP ATT
11 0/08:13:05	OMS IGNITION	A1 AUTO NORM	DSC 0.200 DB AT 5.00 DB RT 0.20		DV = 11 DT = 00:10	SBS SEP BURN
12 0/08:16:05 17:07	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	SBS MONITOR

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 0/08:27:05 39:21	TRK TGT=2 BV=5(250.00, 39.00) OM= 27.80	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 105 0 139	LVLH R+ 29 P+ 19 Y+ 39	WINDOW PROTECT
2 0/08:43:05	STOP	A1 MAN VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 105 0 139	INRTL R+220 P+ 67 Y+348	SBS PKM
3 0/08:55:00 09:08:39	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+180 P+ 0 Y+270	-ZLV NOSE NORTH
4 0/09:50:00 59:01	MNVR R+ 60.90 P+240.10 Y+318.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 90 0 107	-Z ST: 14 -Y ST: 26 9:47-10:28	IMU ALIGN- COAS CAL A1-STAR 14
5 0/10:16:00 28:36	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+180 P+ 0 Y+270	-ZLV NOSE NORTH
6 0/21:55:00 22:04:03	MNVR R+ 60.90 P+240.10 Y+318.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 89 0 107	-Z ST: 14 -Y ST: 26 21:51-22:32	IMU ALIGN PAIR A1
7 0/22:16:00 27:54	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+180 P+ 0 Y+270	-ZLV NOSE NORTH
8 1/00:11:41 21:35	MNVR R+183.50 P+ 73.54 Y+ 22.01	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 83 0 183		SYNCOM DEPLOY ATT
9 1/00:31:41	DEPLOY	B4 MAN VERN	DSC 0.008 DB AT 0.10 DB RT 0.01			SYNCOM DEPLOY
10 1/00:34:41 40:31	MNVR R+ 25.00 P+323.40 Y+346.00	A8 AUTO NORM	DSC 0.500 DB AT 3.00 DB RT 0.20	SUN 0 164 0 172		SYNCOM SEP ATT
11 1/00:46:41	OMS IGNITION	A8 AUTO NORM	DSC 0.500 DB AT 3.00 DB RT 0.20		DV = 15 DT = 00:12	SYNCOM SEP BURN
12 1/00:49:41 50:02	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	SYNCOM MONITOR

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 1/01:00:41 15:09	TRK TGT=2 BV=5(249.00, 8.00) OM= 6.00	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 111 0 172	LVLH R+ 5 P+ 21 Y+ 8	WINDOW PROTECT
2 1/01:16:41	STOP	A8 MAN VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 112 0 174	INRTL R+199 P+ 50 Y+ 17	SYNCOM PKM
3 1/01:28:00 42:17	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 1/10:00:00 10:39	MNVR R+ 60.90 P+240.10 Y+318.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 89 0 106	-Z ST: 14 -Y ST: 26 9:56-10:37	IMU ALIGN PAIR A1
5 1/10:21:00 32:58	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+180 P+ 0 Y+270	-ZLV NOSE NORTH
6 1/22:05:00 14:02	MNVR R+ 60.90 P+240.10 Y+318.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 89 0 106	-Z ST: 14 -Y ST: 26 22:01-22:43	IMU ALIGN PAIR A1
7 1/22:26:00 37:59	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+180 P+ 0 Y+270	-ZLV NOSE NORTH
8 2/00:02:06 15:52	MNVR R+115.80 P+ 99.32 Y+286.86	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 90 0 275		TELSTAR DEPLOY ATT
9 2/00:42:06	DEPLOY	B4 AUTO VERN	DSC 0.008 DB AT 0.10 DB RT 0.01			TELSTAR DEPLOY
10 2/00:45:06 53:17	MNVR R+ 24.00 P+312.10 Y+344.30	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 152 0 168		TELSTAR SEP ATT
11 2/00:57:06	OMS IGNITION	A1 AUTO NORM	DSC 0.200 DB AT 5.00 DB RT 0.20		DV = 11 DT = 00:09	TELSTAR SEP BURN
12 2/01:00:06 01:12	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 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	TELSTAR MONITOR

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 2/01:11:06 24:16	TRK TGT=2 BV=5(244.00, 27.00) OM= 18.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 113 φ 150	LVLH R+ 17 P+ 26 Y+ 28	WINDOW PROTECT
2 2/01:27:06	STOP	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 123 φ 151	INRTL R+211 P+ 47 Y+357	TELSTAR PKM
3 2/02:10:00 17:35	MNVR R+156.90 P+128.40 Y+ 17.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 32 φ 192		ORBIT ADJUST
4 2/02:30:00	OMS IGNITION	A1 AUTO NORM	DSC 0.200 DB AT 5.00 DB RT 0.20		DV = 35 DT = 00:23	ORBIT ADJUST
5 2/02:35:00 50:00	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 φ 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
6 2/04:35:00 46:33	TRK TGT=2 BV=2(180.00, 0.00) OM= 60.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 180 φ 0	LVLH R+300 P+ 90 Y+ 0	1ST EXTENSON
7 2/08:40:00 44:41	MNVR R+ 60.90 P+240.10 Y+318.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 88 φ 106	-ZST:14 -YST:26 08:41-09:17	IMU ALIGN PAIR A1
8 2/09:01:00 14:31	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 φ 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
9 2/19:15:00 26:16	MNVR R+ 60.90 P+240.10 Y+318.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 88 φ 106	-ZST:14 -YST:26 19:08-19:50	IMU ALIGN PAIR A1
10 2/19:36:00 48:55	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 φ 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
11 2/22:10:00 25:01	TRK TGT=4 BV=2(180.00, 0.00) OM=270.00	A7 AUTO VERN	DSC 0.100 DB AT 2.00 DB RT 0.02	SUN 0 180 φ 91	INRTL R+299 P+341 Y+352	PERFORMANCE TEST
12 3/01:30:00 54:55	TRK TGT=2 BV=2(180.00, 0.00) OM= 60.00	A7 AUTO VERN	DSC 0.100 DB AT 2.00 DB RT 0.02	EARTH 0 180 φ 0	LVLH R+300 P+ 90 Y+ 0	GG DYNAMICS

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 3/06:00:00 07:01	TRK TGT=4 BV=3(90.00, 0.00) OM= 0.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 90 0 0	INRTL R+171 P+247 Y+332	-ZSI/SCCF
2 3/08:50:00 58:54	MNVR R+ 60.90 P+240.10 Y+318.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 87 0 106	-ZST:14 -YST:26 08:42-09:23	IMU ALIGN PAIR A1
3 3/09:11:00 23:31	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 3/19:20:00 30:47	MNVR R+ 60.90 P+240.10 Y+318.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 87 0 106	-ZST:14 -YST:26 19:15-19:56	IMU ALIGN PAIR A1
5 3/19:41:00 54:17	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 3/21:50:00 22:13:06	TRK TGT=2 BV=2(180.00, 0.00) OM=300.00	A7 AUTO VERN	DSC 0.100 DB AT 2.00 DB RT 0.02	EARTH 0 180 0 0	LVLH R+ 60 P+ 90 Y+ 0	GG DYNAMICS (C')
7 3/23:20:00 40:00	TRK TGT=2 BV=2(180.00, 0.00) OM= 60.00	A7 AUTO VERN	DSC 0.100 DB AT 2.00 DB RT 0.02	EARTH 0 180 0 0	LVLH R+300 P+ 90 Y+ 0	GG DYNAMICS (C')
8 4/03:10:00 34:56	TRK TGT=4 BV=2(180.00, 0.00) OM=270.00	A7 AUTO VERN	DSC 0.100 DB AT 2.00 DB RT 0.02	SUN 0 180 0 353	INRTL R+298 P+342 Y+352	MINI PERF TEST
9 4/04:45:00 54:59	TRK TGT=4 BV=3(90.00, 0.00) OM= 0.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 90 0 0	INRTL R+171 P+248 Y+332	-ZSI/SCCF
10 4/07:25:00 33:52	MNVR R+ 60.90 P+240.10 Y+318.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 86 0 105	-ZST:14 -YST:26 07:18-08:00	IMU ALIGN PAIR A1
11 4/07:46:00 58:46	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 4/17:55:00 18:05:26	MNVR R+ 60.90 P+240.10 Y+318.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 86 0 105	-ZST:14 -YST:26 17:51-18:33	IMU ALIGN PAIR A1

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 4/18:16:00 29:32	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 5/04:50:00 05:04:54	TRK TGT=4 BV=3(90.00, 0.00) OM= 0.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 90 0 360	INRTL R+172 P+249 Y+333	-ZSI/SCCF
3 5/07:30:00 38:55	MNVR R+ 60.90 P+240.10 Y+318.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 85 0 105	-ZST:14 -YST:26 07:25-08:06	IMU ALIGN PAIR A1
4 5/07:51:00 08:04:07	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
5 5/18:05:00 16:25	MNVR R+ 60.90 P+240.10 Y+318.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 85 0 105	-ZST:14 -YST:26 17:57-18:39	IMU ALIGN PAIR A1
6 5/18:26:00 40:54	TRK TGT=4 BV=5(184.00, 0.00) OM=270.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 176 0 172	INRTL R+296 P+342 Y+357	-XSI
7 5/21:12:00 14:41	MNVR R+226.90 P+ 35.90 Y+ 44.20	B1 AUTO NORM	DSC 0.500 DB AT 3.00 DB RT 0.20	SUN 0 110 0 166	-ZST:26 -YST:14 20:58-21:40	IMU ALIGN
8 5/21:27:00 30:39	MNVR R+165.60 P+157.20 Y+ 4.30	B1 AUTO NORM	DSC 0.500 DB AT 3.00 DB RT 0.20	SUN 0 7 0 218	-ZST:32 -YST:49 21:20-21:59	IMU VERIF
9 5/21:42:00 42:38	MNVR R+153.00 P+148.00 Y+353.00	B1 AUTO NORM	DSC 0.500 DB AT 3.00 DB RT 0.20	SUN 0 21 0 249		DEORBIT BURN ATT
10 5/23:59:04	OMS IGNITION	* AUTO *	DSC 0.500 DB AT 3.50 DB RT 0.30			DEORBIT BURN
11 6/00:05:00 09:17	MNVR R+193.00 P+ 18.00 Y+ 27.00	* AUTO *	DSC 0.500 DB AT 3.50 DB RT 0.30	SUN 0 132 0 208		EI-5 ATT
12 6/00:21:32	LVLH	* AUTO *	DSC 0.500 DB AT 3.50 DB RT 0.30	EARTH 0 80 0 179	LVLH R+ 1 P+ 39 Y+359	EI-5

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