

FLIGHT DATA FILE

Crew Activity Plan

STS-26

(Cycle 2R1 Trajectory)

Mission Operations Directorate
Operations Division

Final, Rev A
July 11, 1988

EVENT	CDT		
Launch	08:39	Mon	Aug 22
TDRS Deploy	14:53	Mon	Aug 22
EDW Landing	09:35	Fri	Aug 26



National Aeronautics and
Space Administration

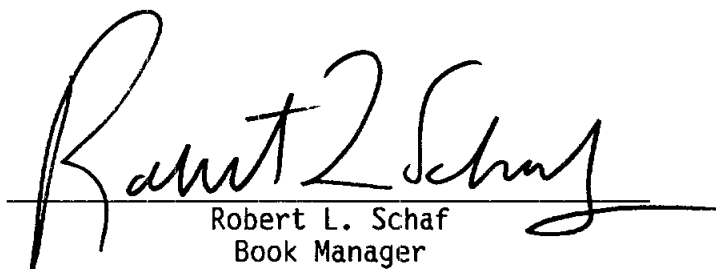
Lyndon B. Johnson Space Center
Houston, Texas

Based on 22 August 1988 Launch.
DO NOT USE FOR TRAINING
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MISSION OPERATIONS DIRECTORATE

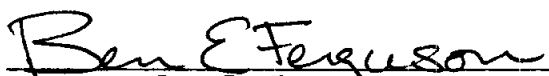
CREW ACTIVITY PLAN
STS-26FINAL, REVISION A
July 11, 1988

PREPARED BY:

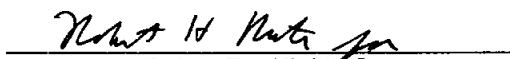


Robert L. Schaf
Book Manager


APPROVED BY:



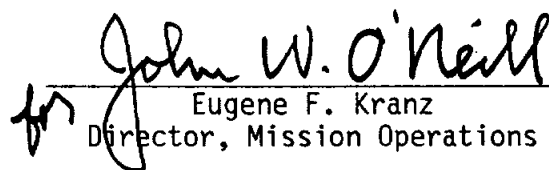
Ben E. Ferguson
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Section 1



John F. Whiteley
Chief, Flight Activity Branch



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Director, Mission Operations

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Book Manager	DH4/R. Schaf	483-4468
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Pointing	DH4/W. Ober	483-4459

STS-26 CREW ACTIVITY PLAN

LIST OF EFFECTIVE PAGES

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REV A 07/11/88

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A6.....*	7-8	CAP/26/0/BAS
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A8.....*	7-9	CAP/26/0/BAS
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DAP B4.....*	7-13	CAP/26/0/BAS
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INTRODUCTION

The STS-26 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. The detailed deploy procedures required during the deploy timeframe are in the IUS Deploy 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-26 Flight Requirements Document. This Crew Activity Plan, as part of the Flight Data File, meets the specifications of the Cycle 2 version of the STS-26B Flight Initialization Data Pack. (Addendum 4, PCN-5)

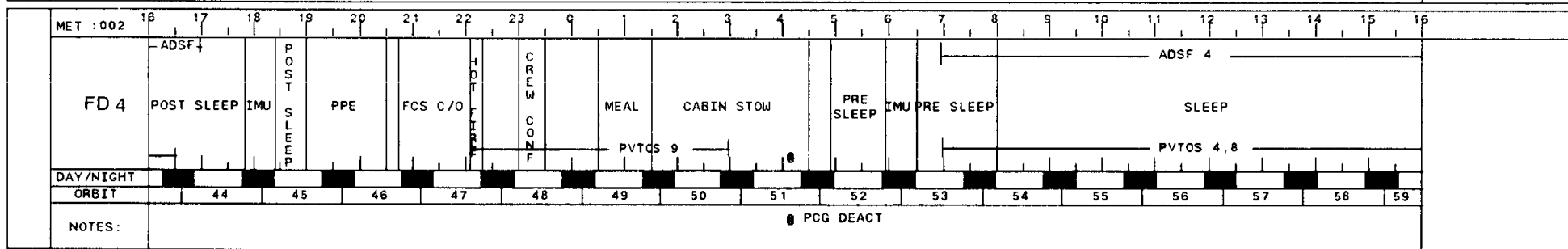
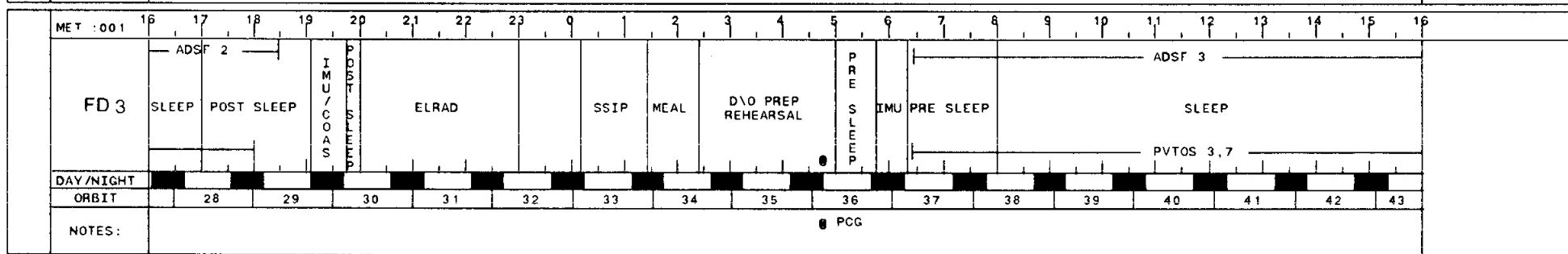
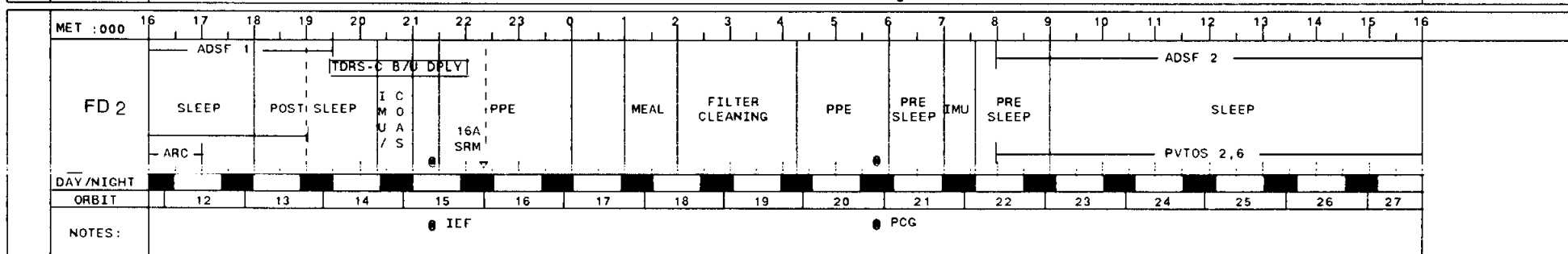
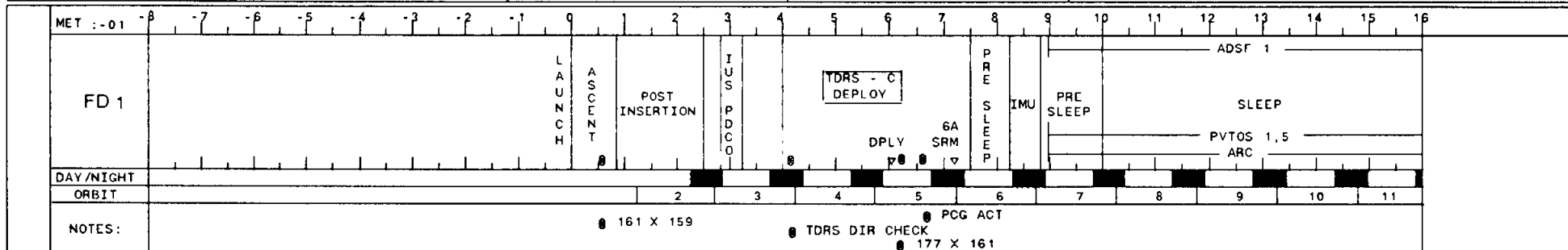
The flight profile used for this Crew Activity Plan is for a launch date of August 22, 1988, at 08:39 CDT. Orbiter inertial attitudes are expressed relative to a Mean of 1950 (M50) reference frame.

JSC-22354 Crew Scheduling Constraints (Appendix K, CPMP), Basic, March 1987, has been used to build the timelines contained in this Crew Activity Plan. The Flight Day 2 unscheduled EVA plan in Section 4-D is specifically addressed in approved Exemption Request #1 to this document.

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STS-26 OVERVIEW

FLIGHT STS 26 EDITION FINAL, REV A PUB. DATE 7/11/88

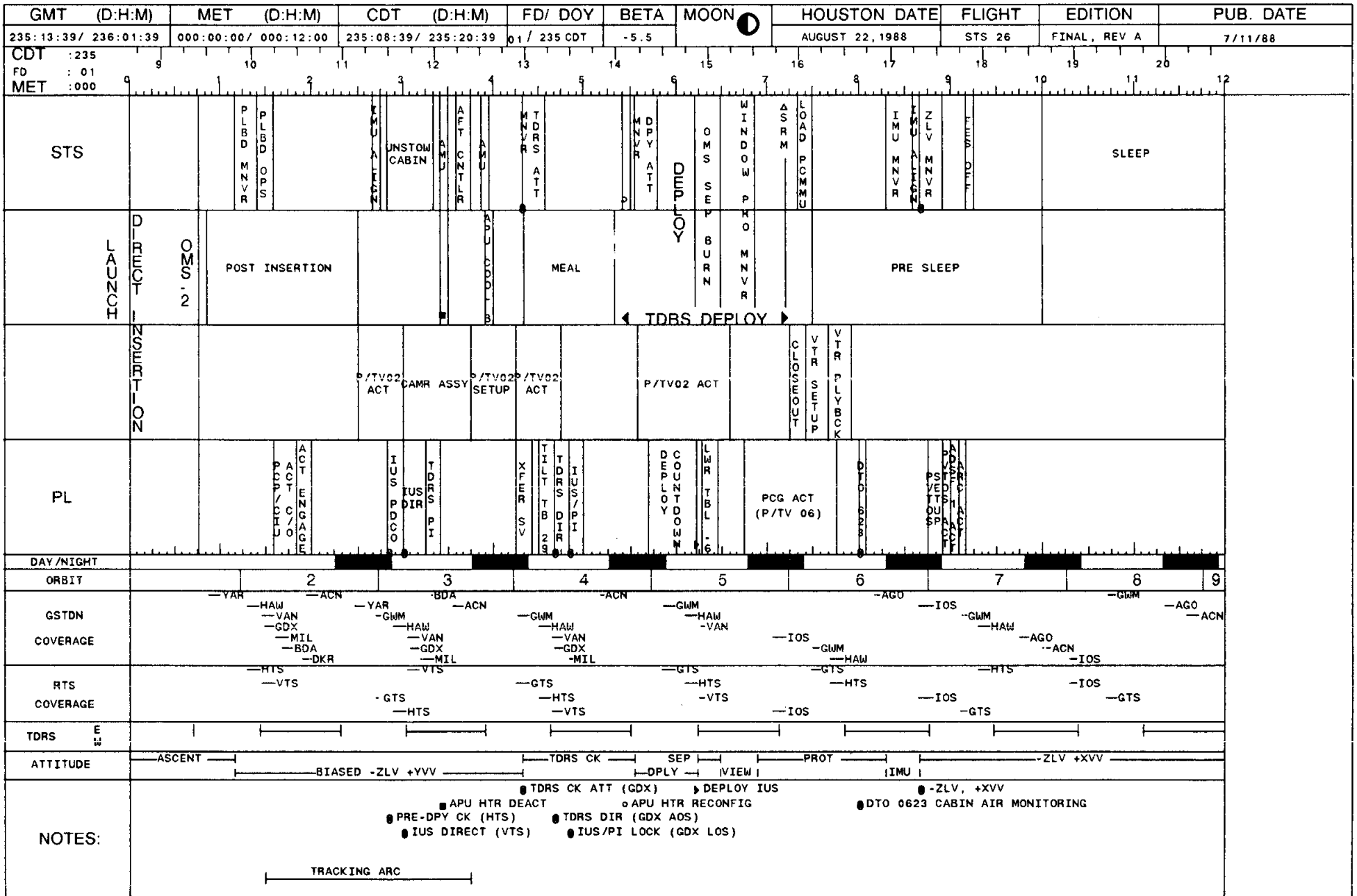


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SUMMARY TIMELINE

SUMMARY TIMELINE

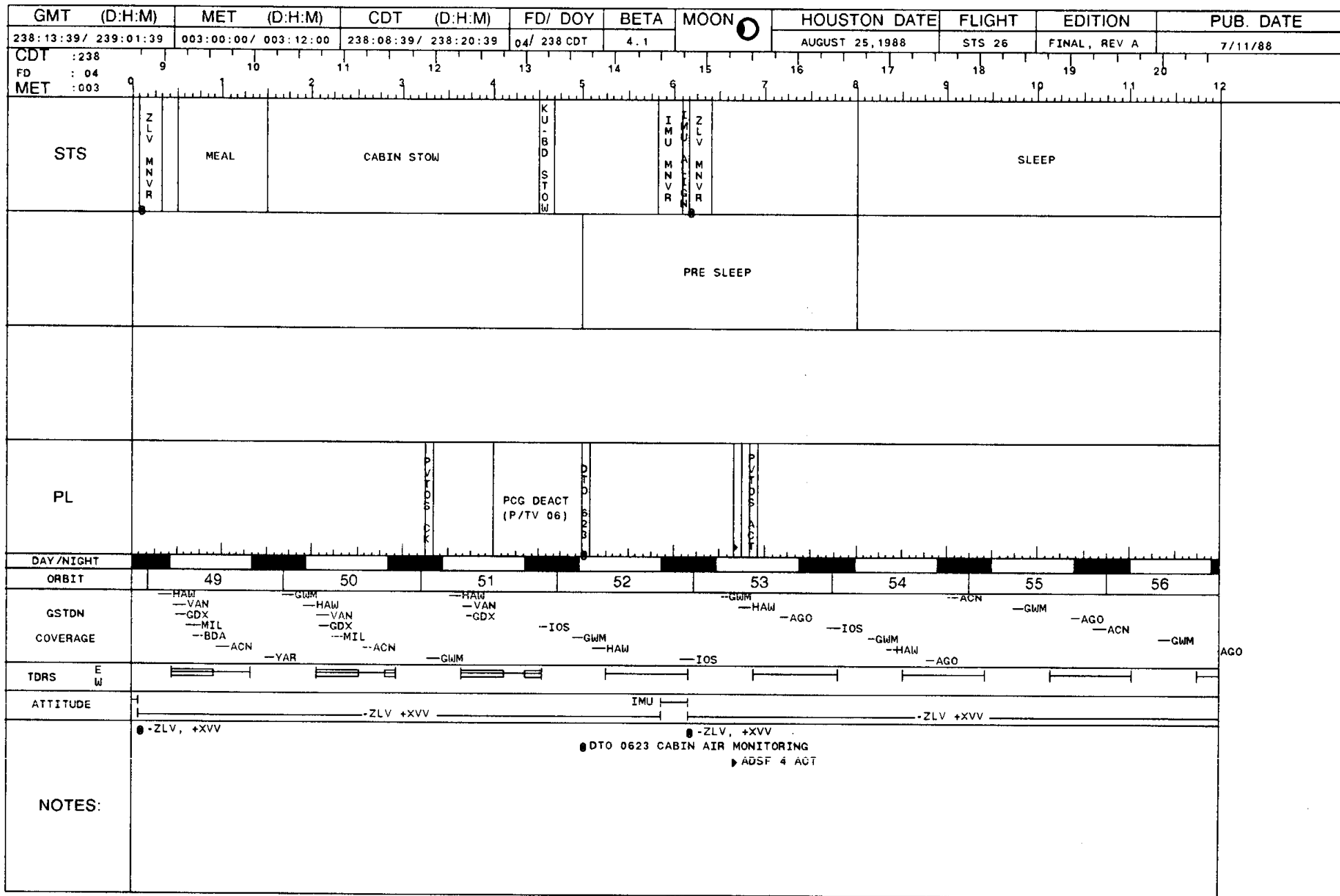


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CDT :235										
FD :01										
MET :000									MET:001	
STS	SLEEP						IMU MNV R	ZLV MNV R	KU·BB DPLY	AUTO MNV R
									P/TV13 SETUP	P/TV13 ACT
								P/TV07 SETUP	P/TV07 ACT	
PL									ARC DEACT	VTR SETUP
DAY/NIGHT										
ORBIT	9	10	11	12	13	14	15	16		
GSTDN COVERAGE	-GJM	-AGO -ACN -DKR	-GJM	-DKR -MAX	-YAR -CAN	-DKR -MAX -YAR -CAN	-BDA -DKR -MAX -IOS -YAR -CAN	-BDA -DKR -IOS -YAR -CAN	-BDA -DKR -IOS -YAR -CAN	-BDA -DKR -IOS -YAR -CAN
TDRS										
ATTITUDE										
NOTES:	<ul style="list-style-type: none"> ● AFT STATION ● -ZLV, +XVV ● PPE 									

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CDT : 236 FD : 02 MET : 001									MET:002
STS	SLEEP				IMU MNV R COAS MNV R TV09 SETUP TRK MNV R TRK MNV R				
					POST SLEEP		P/TV11 SETUP		
					P/TV09 SETUP		P/TV11 SETUP		
PL					P/TV09 ACT		P/TV09 ACT		
DAY/NIGHT									
ORBIT	25	26	27	28	29	30	31	32	
GSTDN COVERAGE	-GWM -AGO -ACN -DKR -GWM -DKR -MAX -CAN -BDA -DKR -MAX -IOS -YAR -MIL -BDA -DKR -MAX -IOS -YAR -CAN -MIL -BDA -DKR -IOS -YAR -CAN -VAN -GDx -MIL -BDA -DKR -YAR								
TDRS									
ATTITUDE	-ZLV +XVV IMU/COAS ELRAD (SS) ELRAD (SR)								
NOTES:	● ELRAD ● FWD STATION ● ELRAD ● ELRAD								

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CDT :237 FD : 03		MET :002										
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CDT :237									MET:003	
FD :03										
MET :002										
STS	SLEEP						FCS C/O			
PL										
DAY/NIGHT										
ORBIT	41	42	43	44	45	46	47	48		
GSTDN COVERAGE	-ACN -DKR	-GWM -AGO -DKR -ACN	-DKR -MAX	-YAR -CAN	-MAX -IOS -MIL -BDA -DKR	-IOS -YAR -CAN	-IOS -YAR -CAN	-IOS -YAR -CAN	-BDA -DKR -ACN	-YAR
TDRS										
ATTITUDE										
NOTES:										



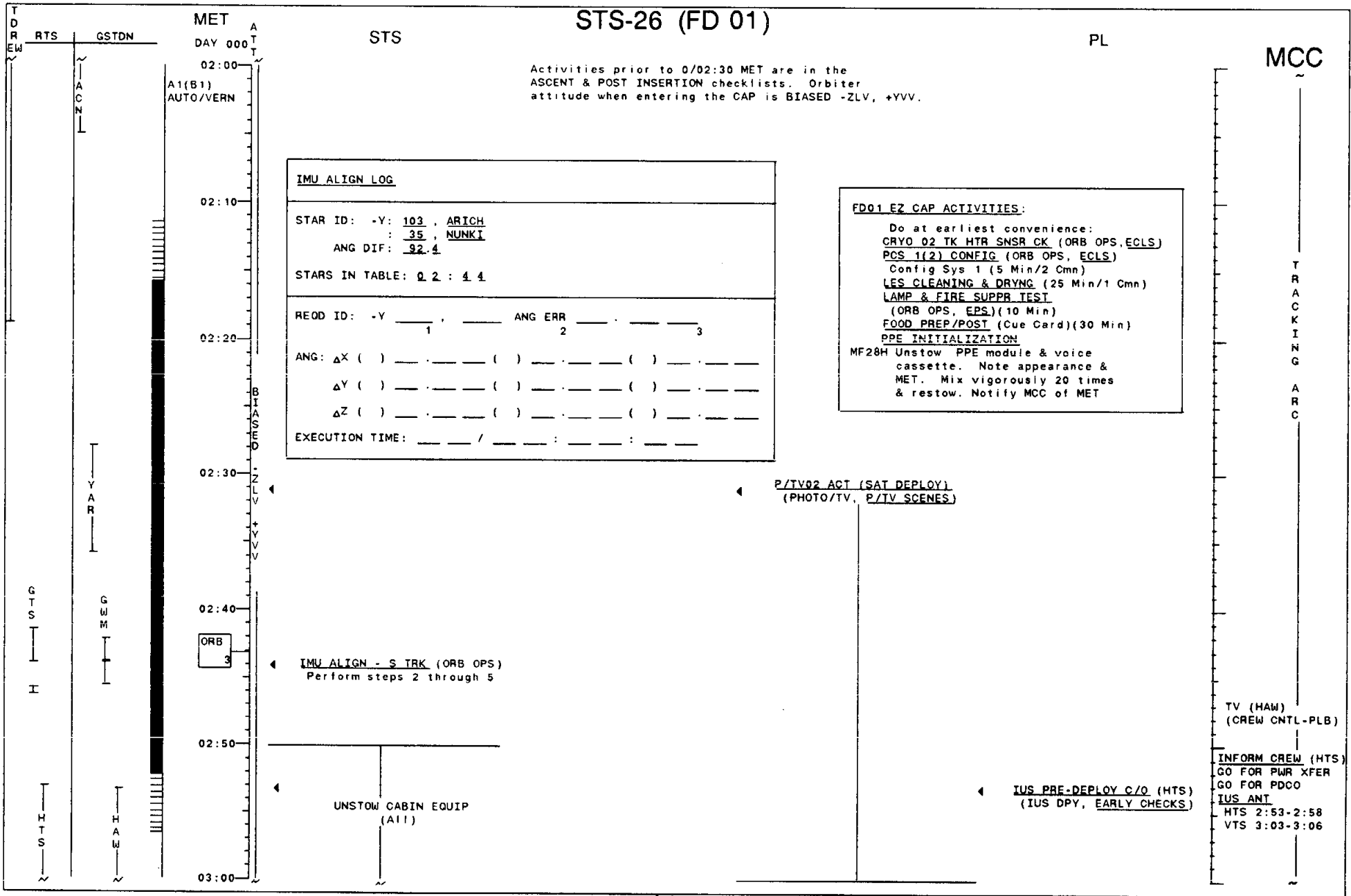
GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
239:01:39/ 239:13:39	003:12:00/ 004:00:00	238:20:39/ 239:08:39	05/ 238 CDT	5.9	☉	AUGUST 25, 1988	STS 26	FINAL, REV A	7/11/88
CDT : 238									
FD : 04									
MET : 003									MET:004
STS	SLEEP				IMU MNV R	XSI MNV R		IMU MNV R	PL UB D A L I G N O P S
PL									DEORBIT BURN (3/23:57)
DAY/NIGHT	[Day/Night Cycle: Alternating black and white bars]								
ORBIT	57	58	59	60	61	62	63	64	
GSTDN	AGO --ACN --DKR		--CAN	--BDA --DKR --MAX	--MIL --BDA --DKR --MAX	--MIL --BDA --DKR	--GDX --MIL --BDA --DKR	--GDX --MIL --BDA --DKR	
COVERAGE	--GWM	--DKR	--DKR --MAX	--IOS --YAR --CAN	--IOS --YAR --CAN	--IOS --YAR --CAN	--YAR --CAN --VAN	--YAR --HAW --VAN	
TDRS									
ATTITUDE	--ZLV +XVV								
				IMU	BIASED -XSI		IMU	DEORBIT BURN	ENTRY
NOTES:	● DTO 0623 CABIN AIR MONITORING								

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
239:13:39 / 240:01:39	004:00:00 / 004:12:00	239:08:39 / 239:20:39	05 / 239 CDT	7.7		AUGUST 26, 1988	STS 26	FINAL, REV A	7/11/88	
CDT : 239										
FD : 05										
MET : 004										
STS										
PL		EDW LANDING (4:00:56)								
DAY/NIGHT										
ORBIT	64	65	66	67	68	69	70	71	72	
GSTDN	-YAR -GWM	-ACN	-GWM	-GWM -HAW -VAN	-IOS	-GWM -HAW	-HAW -AGO	-AGO -ACN	-GWM	-GWM
COVERAGE	-HAW -VAN -GDX -MIL -BDA		-HAW -VAN -GDX -MIL		-IOS -GWM -HAW		-AGO -ACN -IOS		-GWM	-AGO -ACN -DKR
TDRS	E W									
ATTITUDE	ENTRY									
NOTES:										

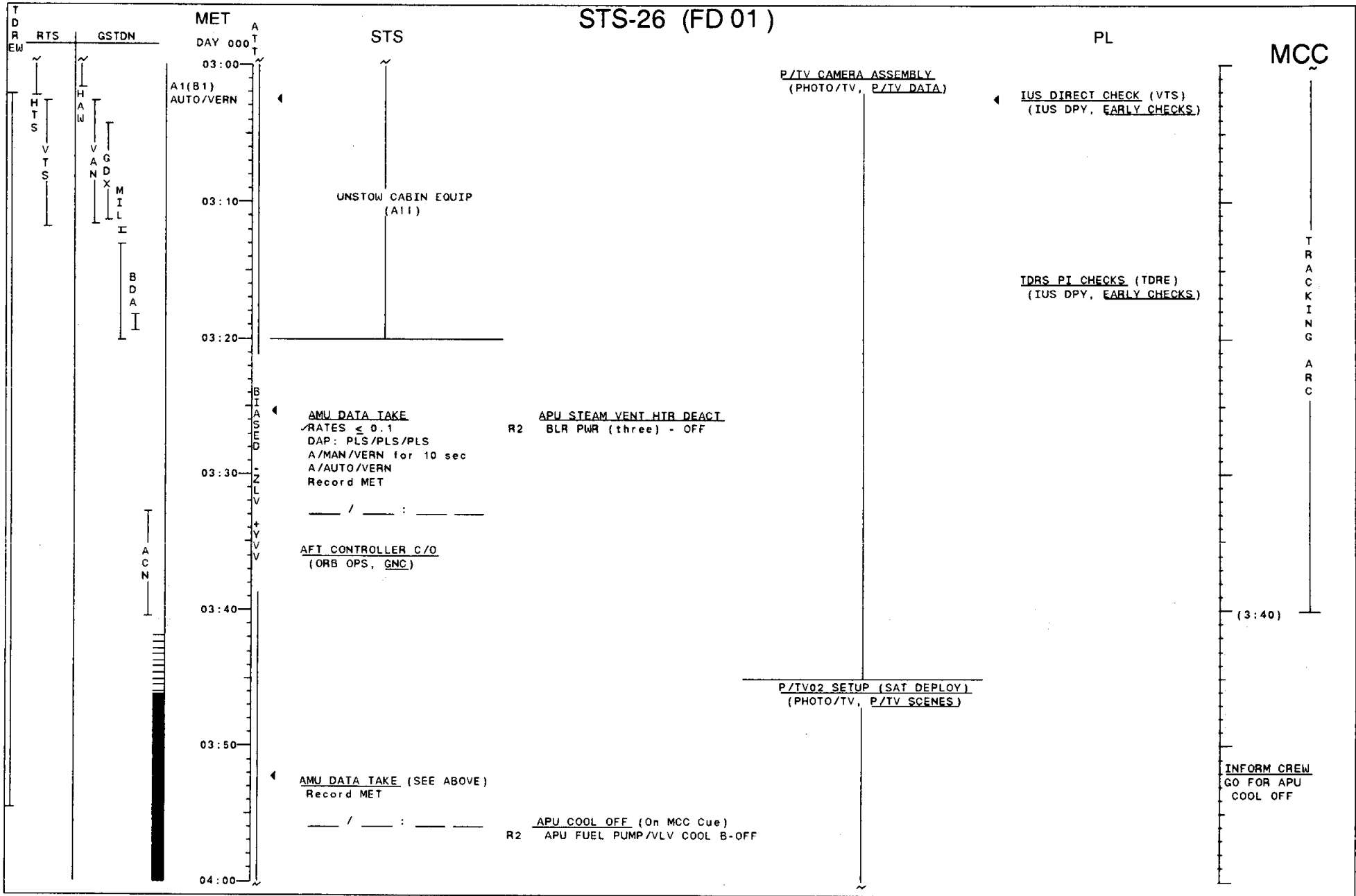
DETAILED TIMELINE

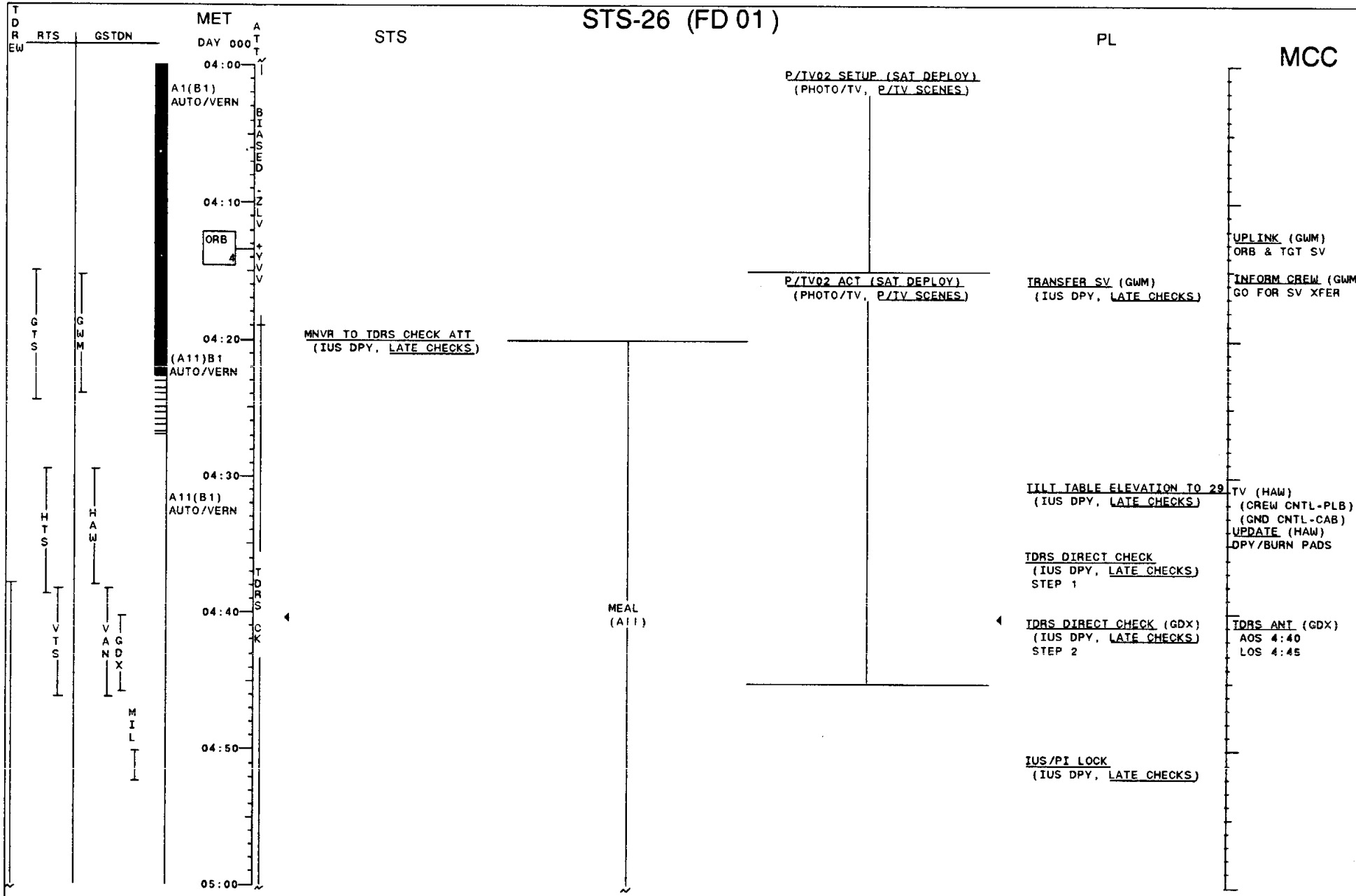
DETAILED
TIMELINE

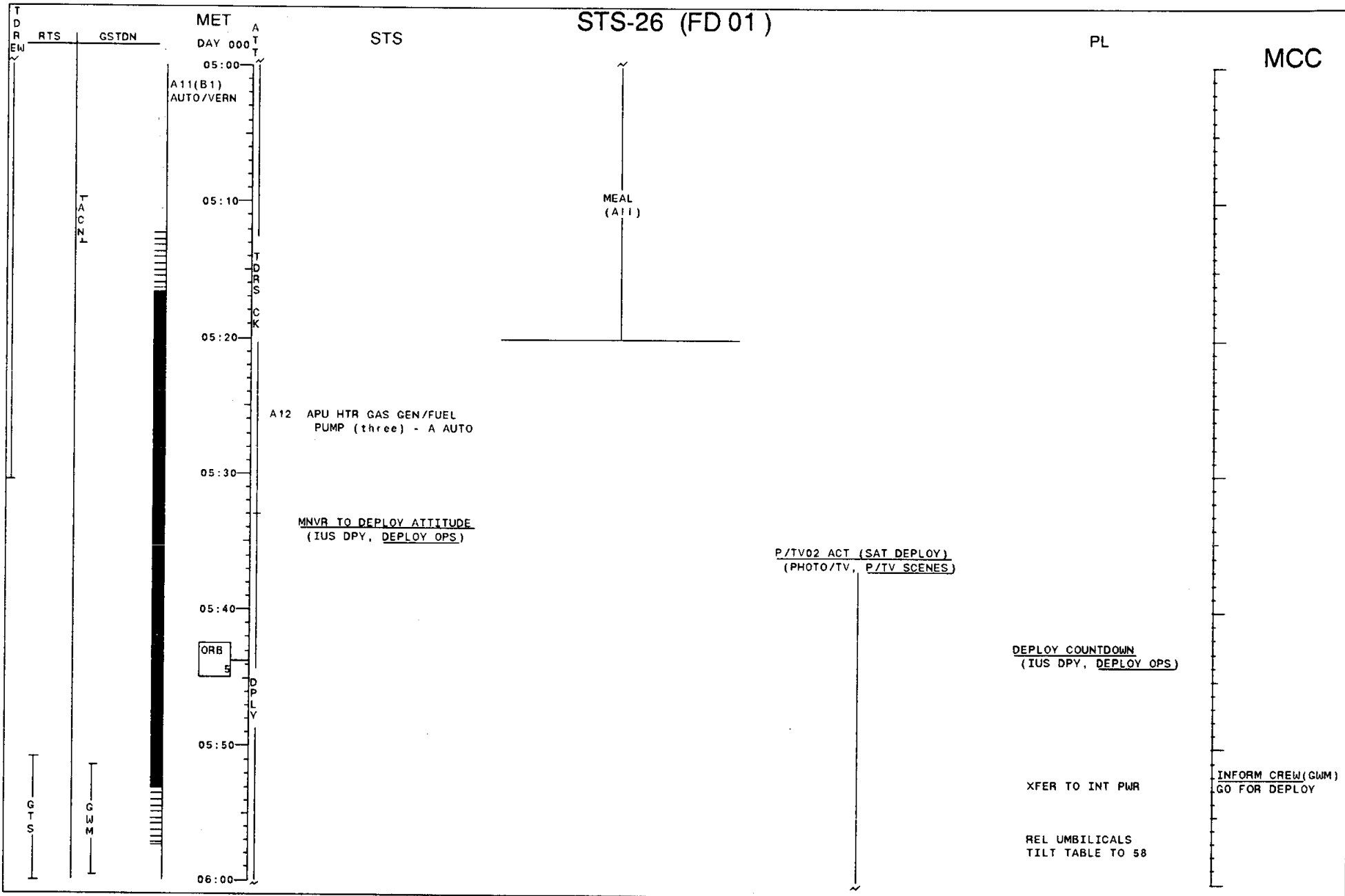
DETAILED TIMELINE

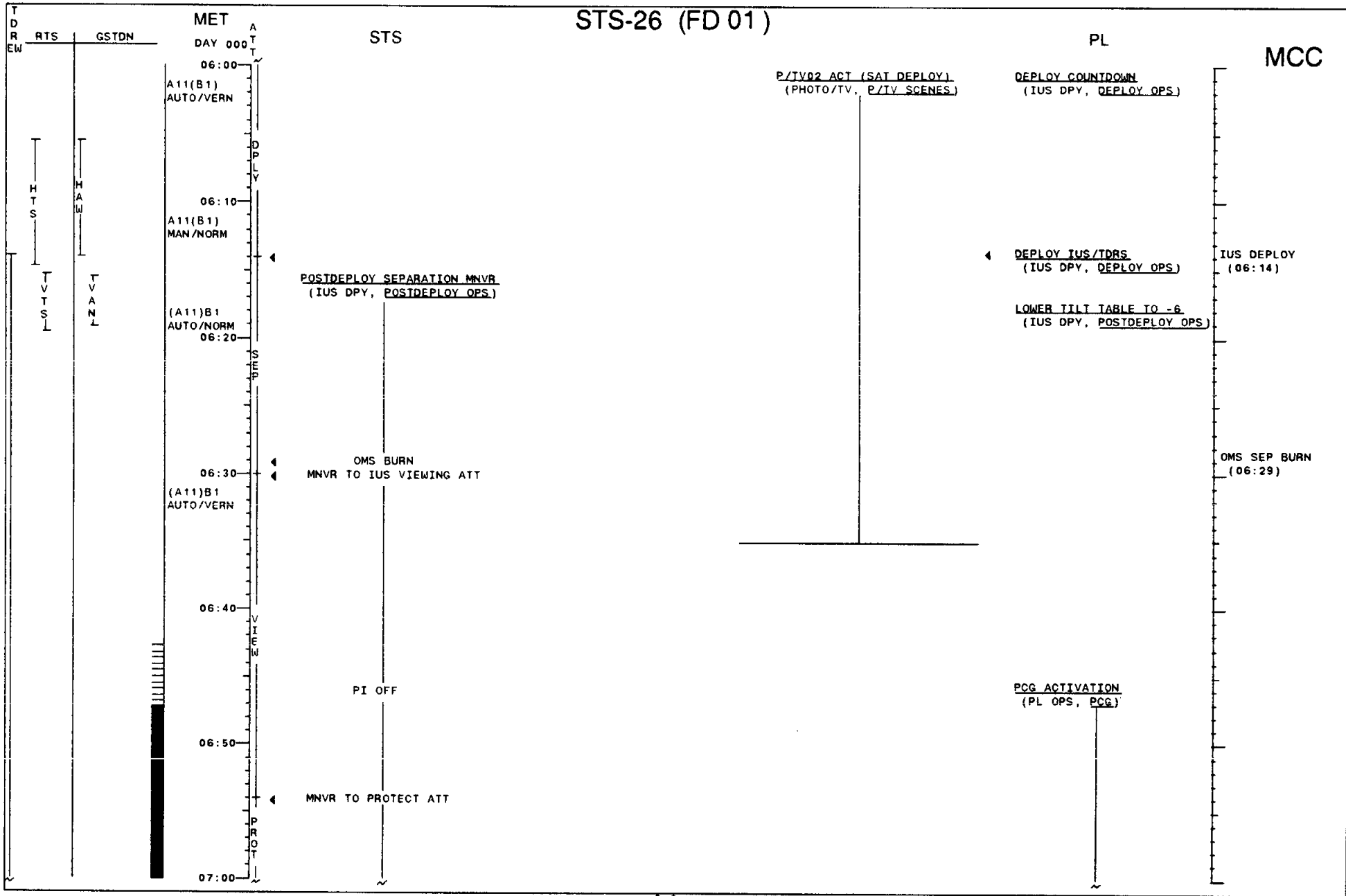


STS-26 (FD 01)

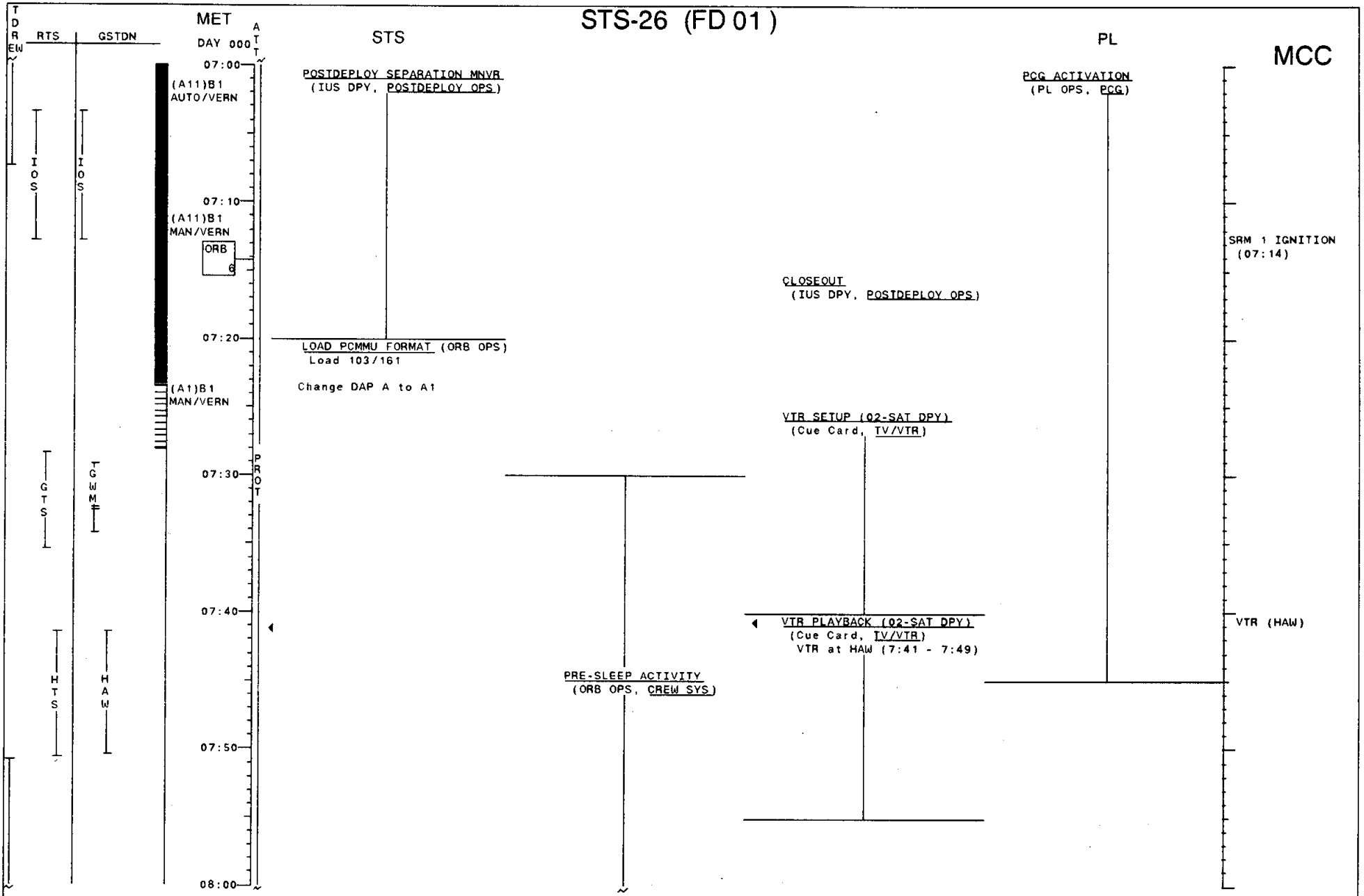


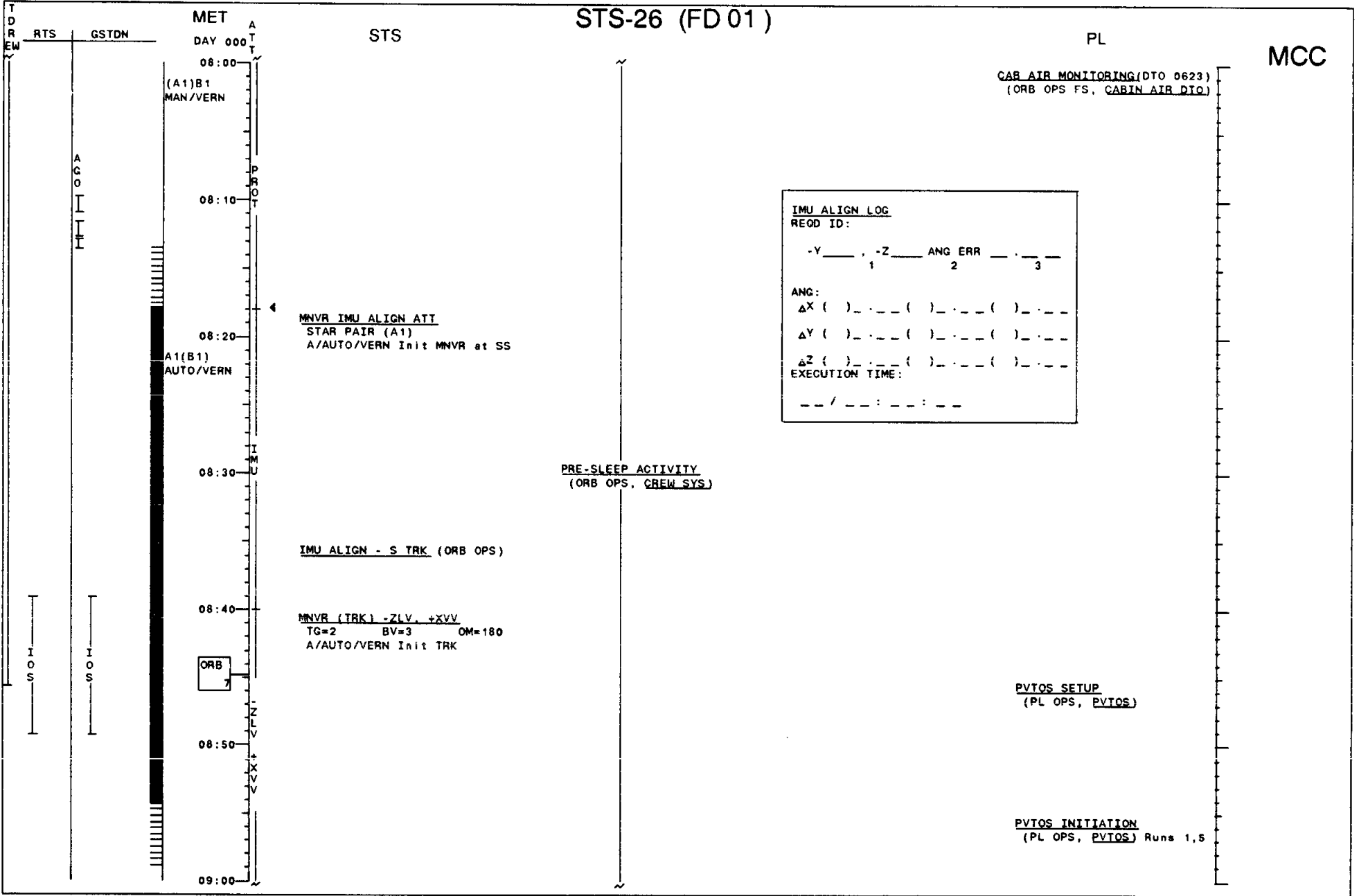


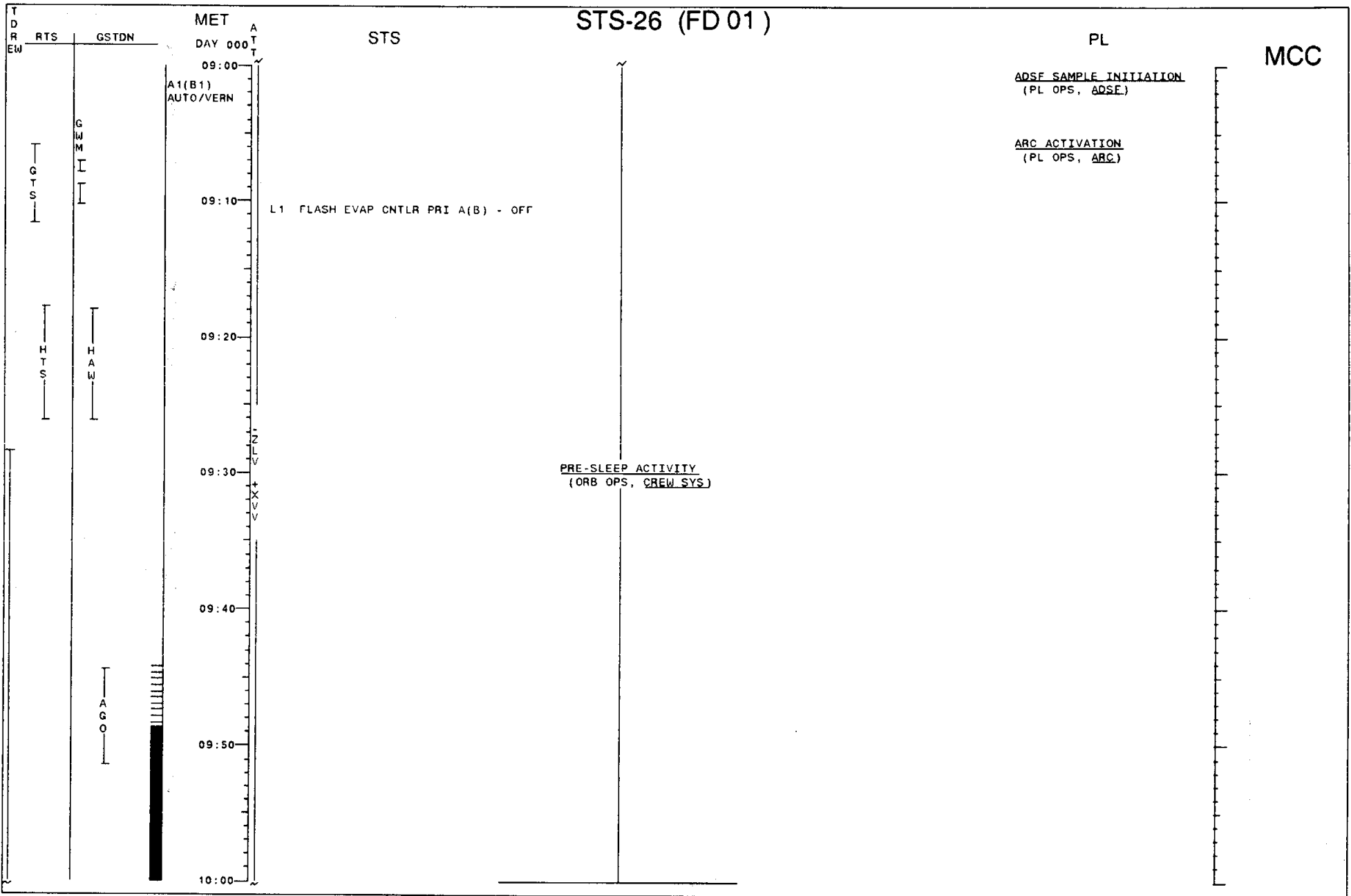




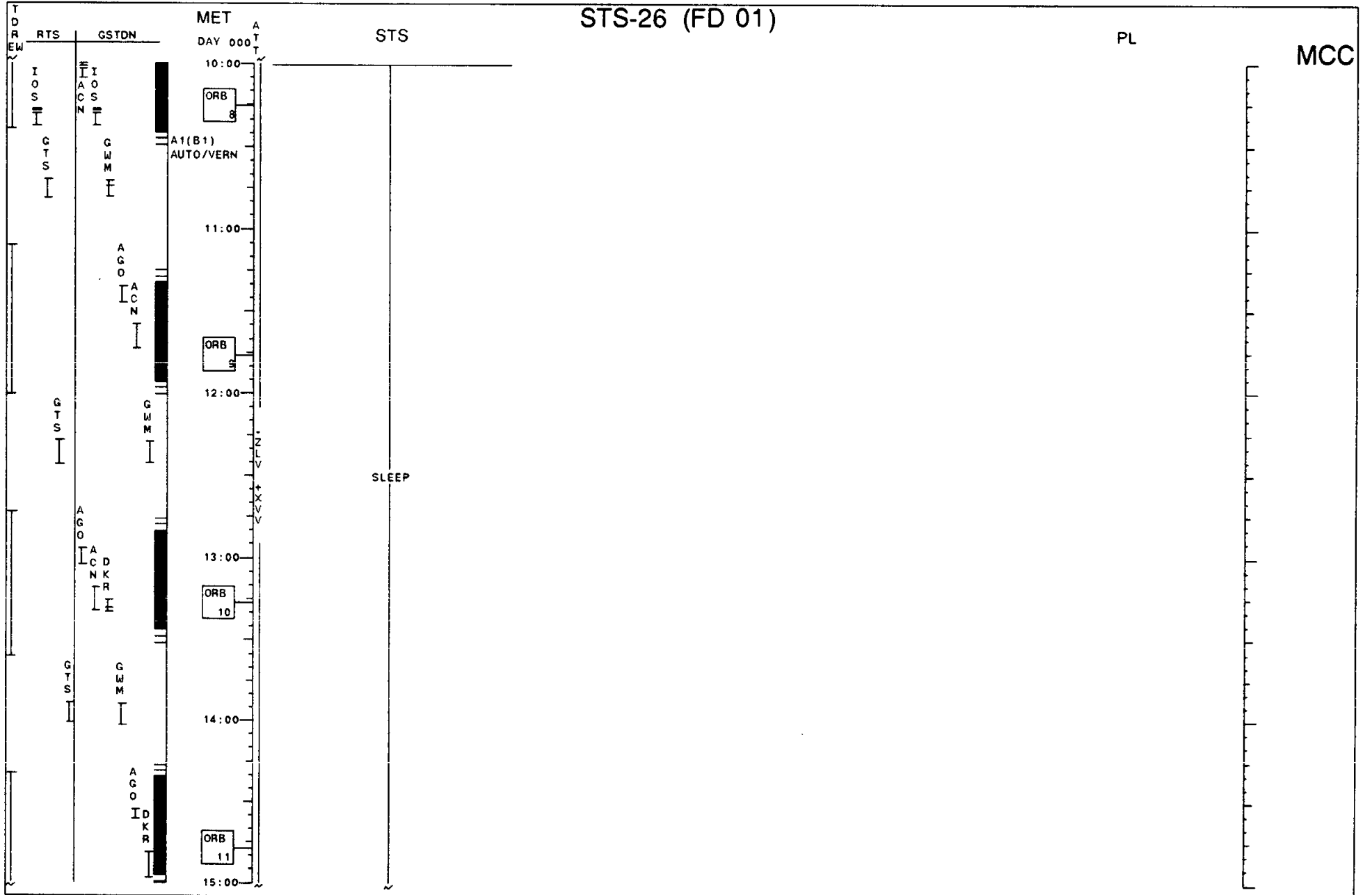
STS-26 (FD 01)



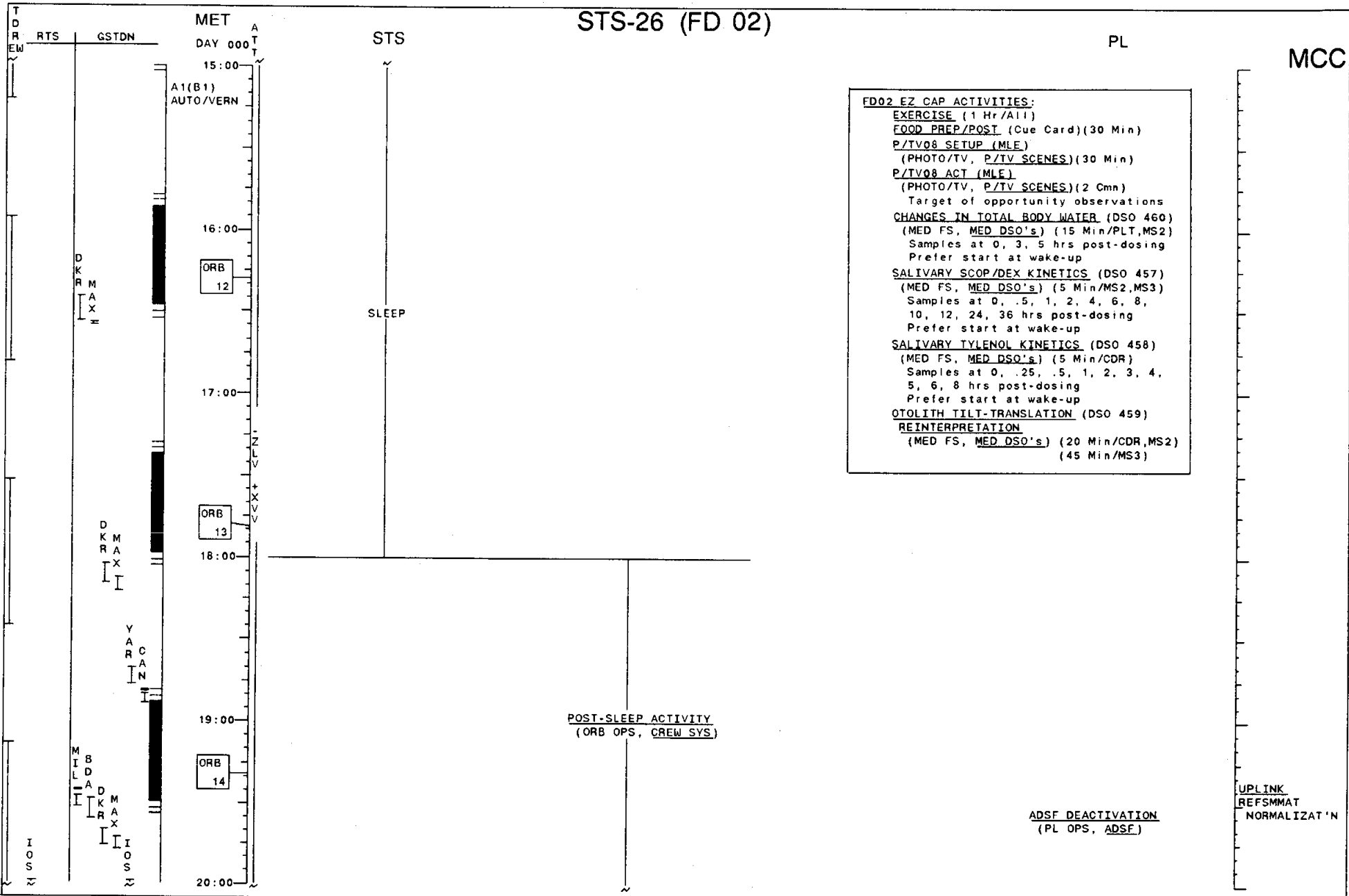




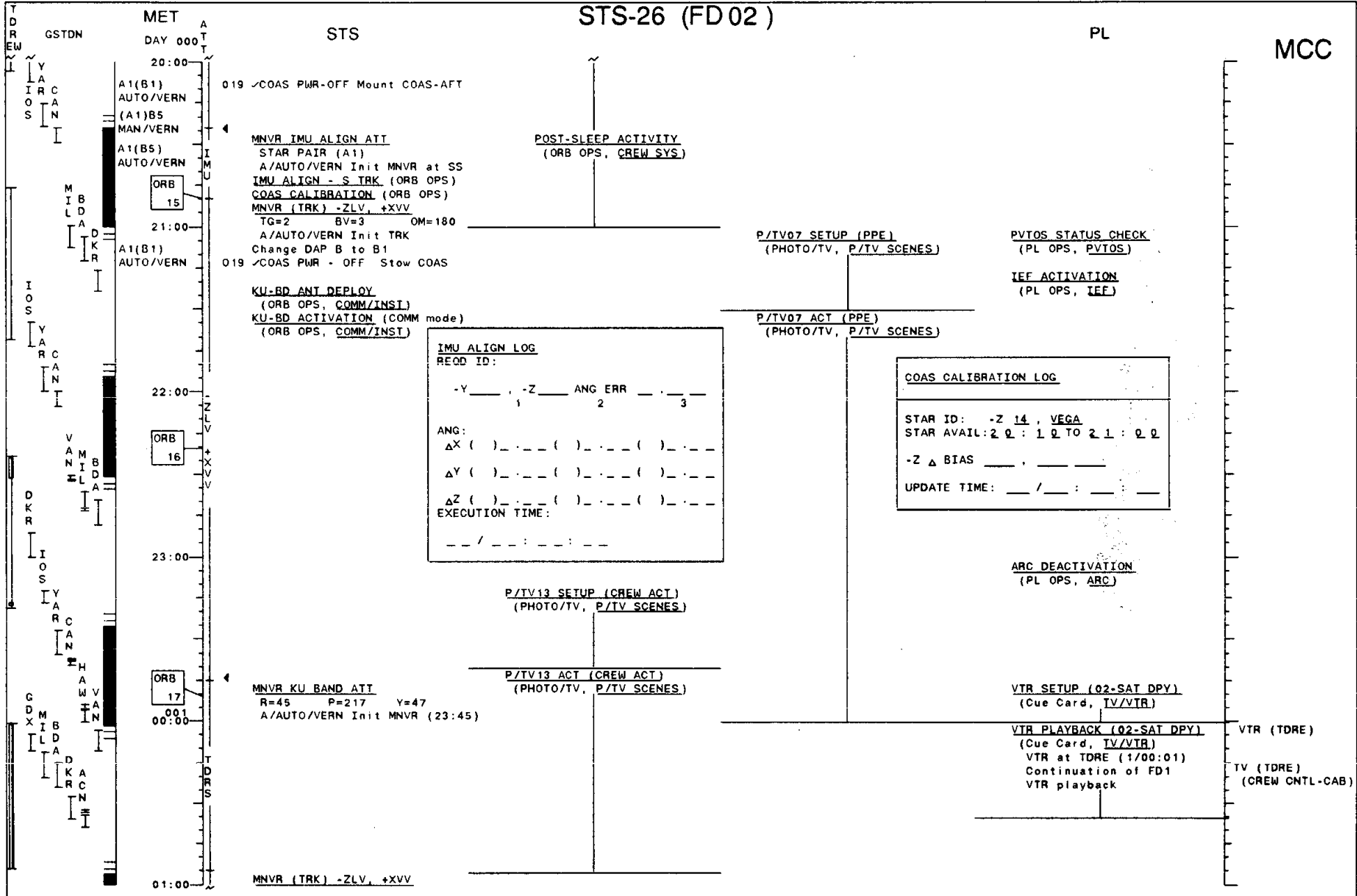
STS-26 (FD 01)



STS-26 (FD 02)



STS-26 (FD 02)



MET DAY 000
 20:00
 A1(B1) AUTO/VERN (A1)B5 MAN/VERN
 A1(B5) AUTO/VERN
 ORB 15
 21:00
 A1(B1) AUTO/VERN
 ORB 16
 22:00
 ORB 17
 00:00
 01:00

019 ✓COAS PWR-OFF Mount COAS-AFT
 MNVR IMU ALIGN ATT
 STAR PAIR (A1)
 A/AUTO/VERN Init MNVR at SS
 IMU ALIGN - S TRK (ORB OPS)
 COAS CALIBRATION (ORB OPS)
 MNVR (TRK) -ZLV, +XVV
 TG=2 BV=3 OM=180
 A/AUTO/VERN Init TRK
 Change DAP B to B1
 019 ✓COAS PWR - OFF Stow COAS

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

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

P/TV13 SETUP (CREW ACT)
 (PHOTO/TV, P/TV SCENES)

P/TV13 ACT (CREW ACT)
 (PHOTO/TV, P/TV SCENES)

MNVR KU BAND ATT
 R=45 P=217 Y=47
 A/AUTO/VERN Init MNVR (23:45)

MNVR (TRK) -ZLV, +XVV

POST-SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

P/TV07 SETUP (PPE)
 (PHOTO/TV, P/TV SCENES)

PVTOS STATUS CHECK
 (PL OPS, PVTOS)

IEF ACTIVATION
 (PL OPS, IEF)

P/TV07 ACT (PPE)
 (PHOTO/TV, P/TV SCENES)

COAS CALIBRATION LOG
 STAR ID: -Z 14, VEGA
 STAR AVAIL: 2 Q : 1 Q TO 2 1 : Q Q
 -Z Δ BIAS ____ , ____
 UPDATE TIME: ____ / ____ : ____

ARC DEACTIVATION
 (PL OPS, ARC)

VTR SETUP (02-SAT DPY)
 (Cue Card, TV/VTR)

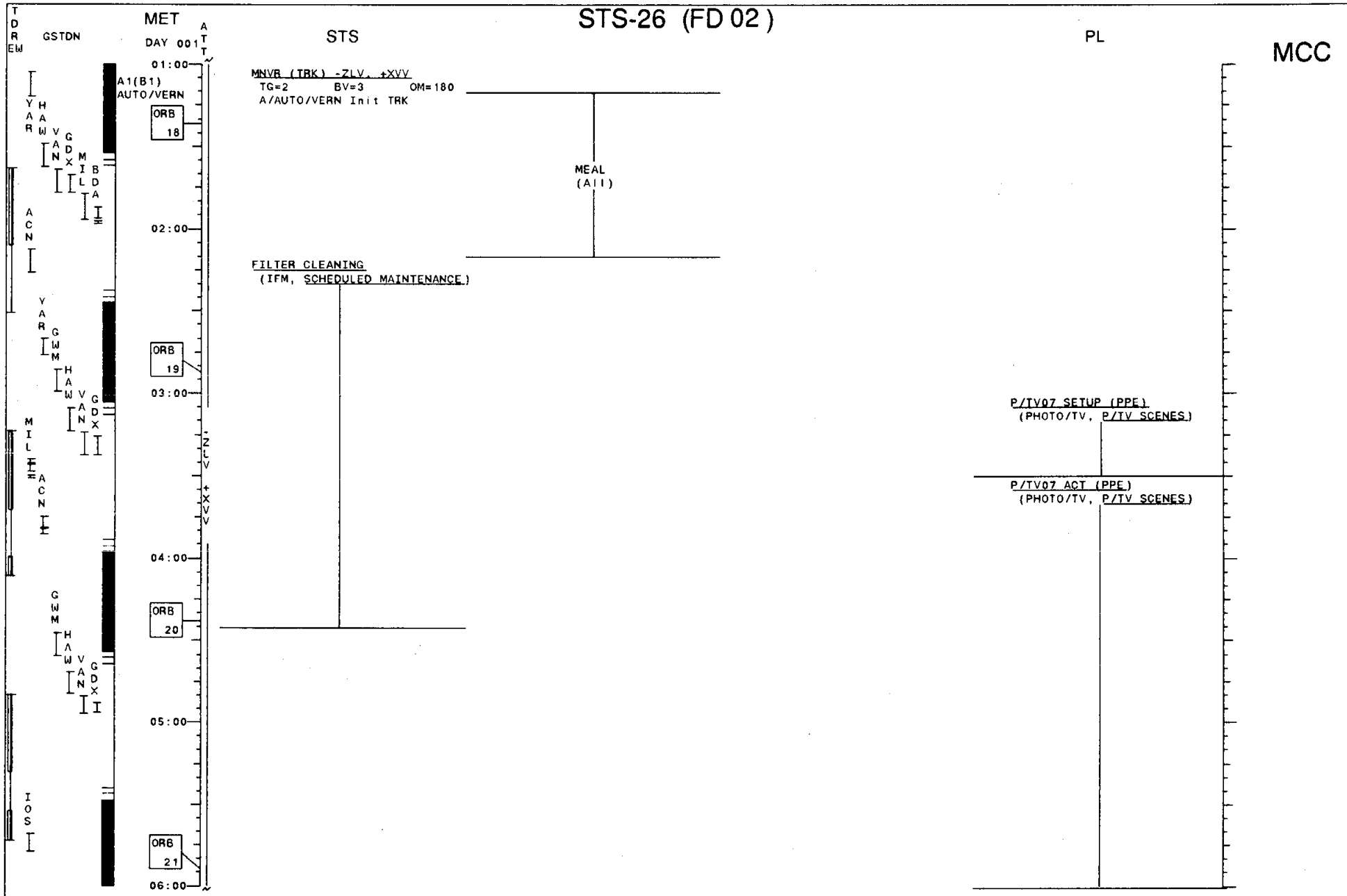
VTR PLAYBACK (02-SAT DPY)
 (Cue Card, TV/VTR)
 VTR at TDRE (1/00:01)
 Continuation of FD1
 VTR playback

VTR (TDRE)

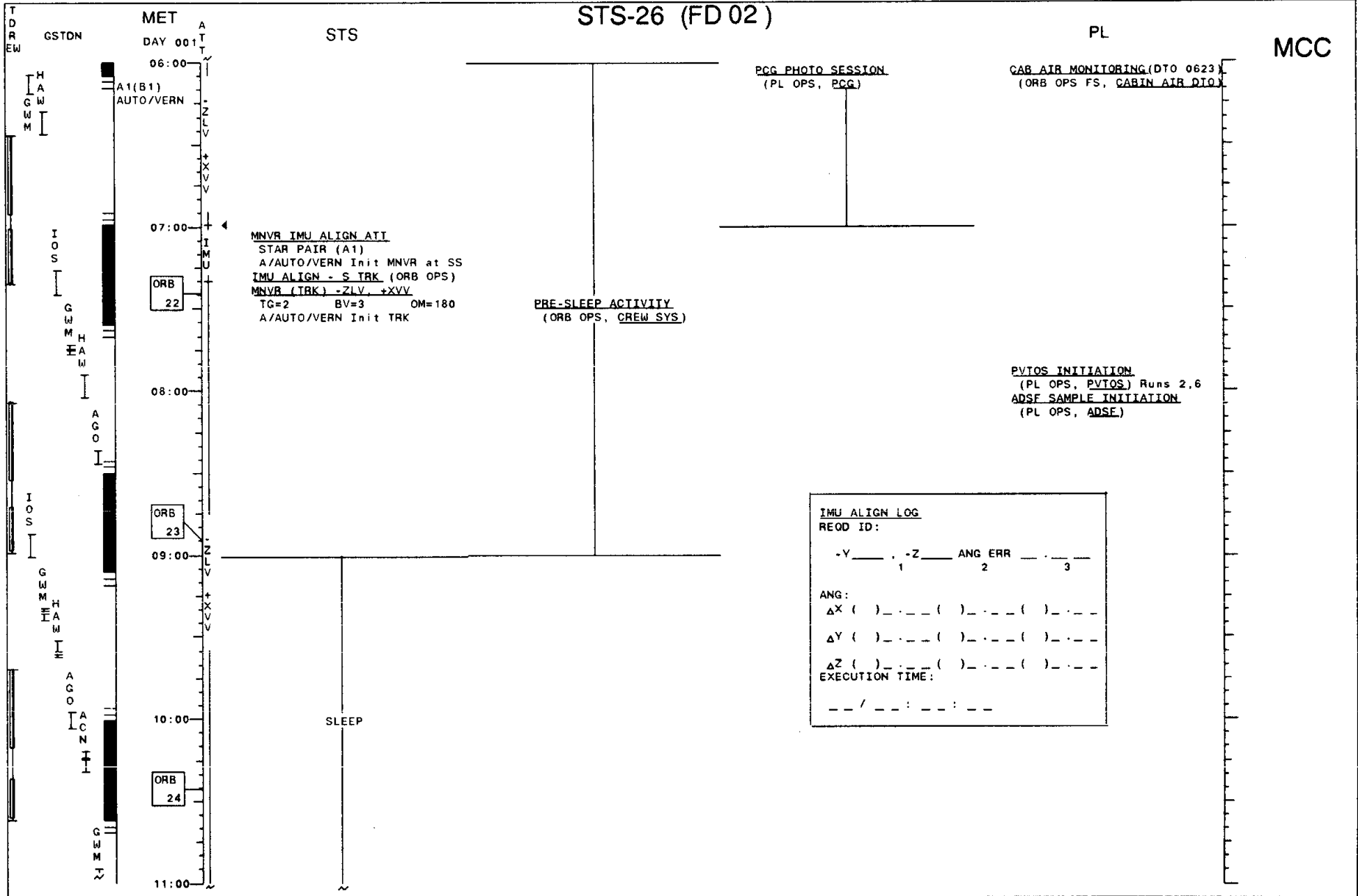
TV (TDRE)
 (CREW CNTL-CAB)

MCC

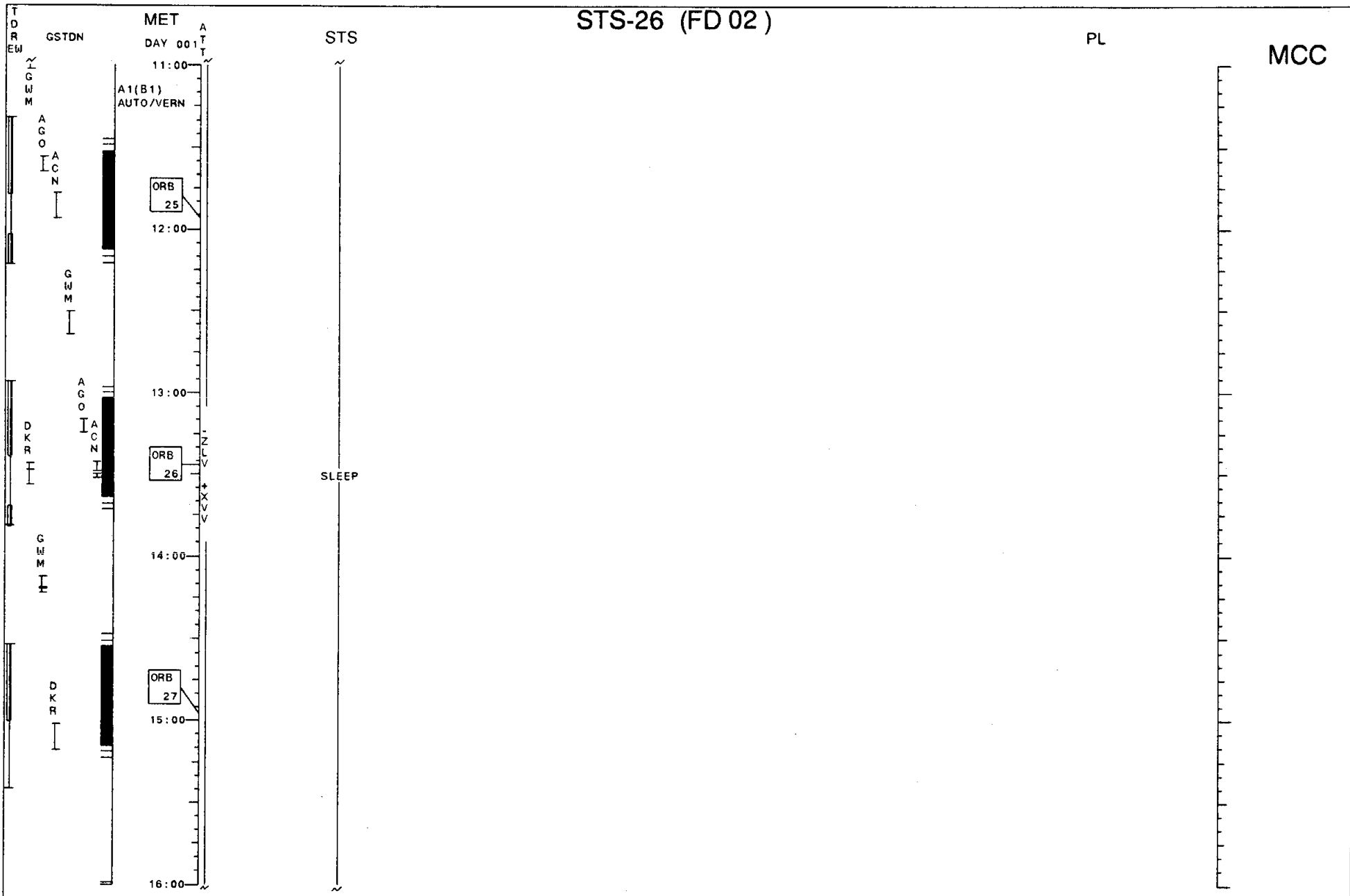
PL

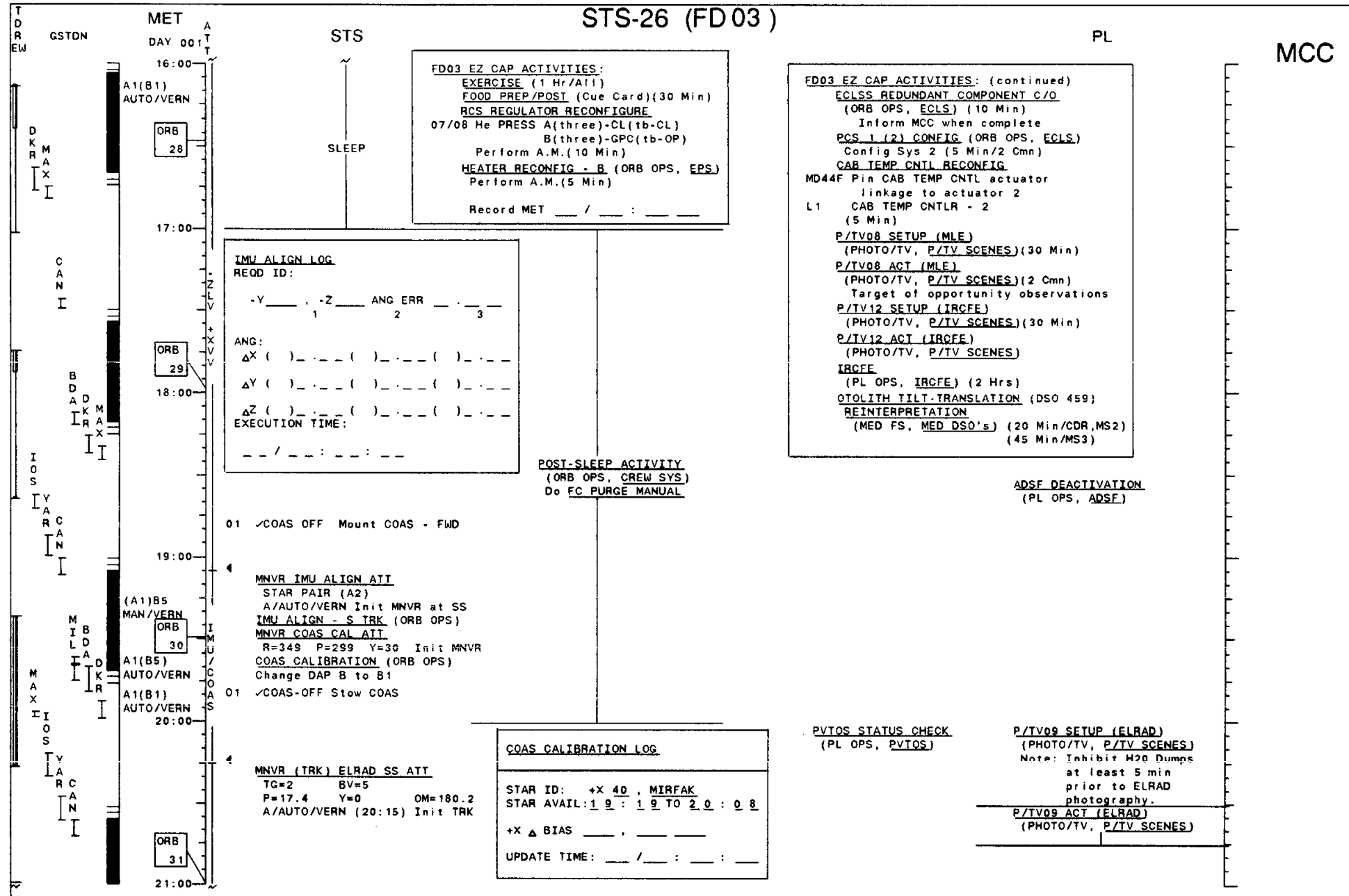


STS-26 (FD 02)



STS-26 (FD 02)



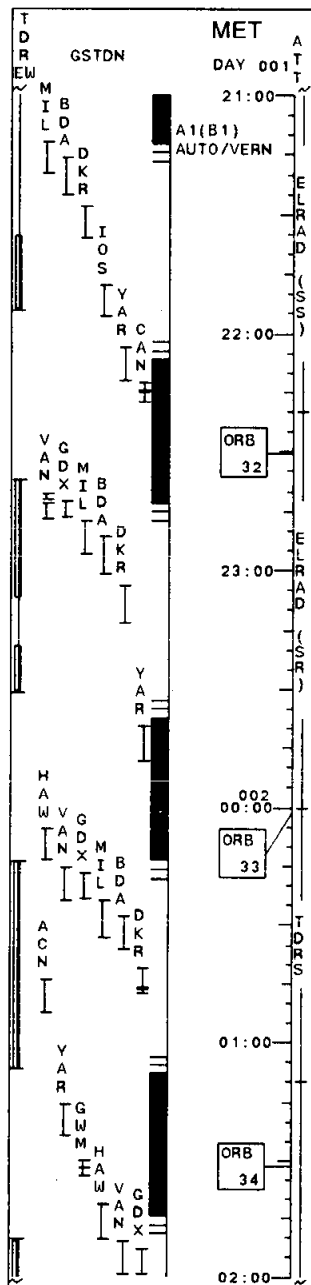


STS-26 (FD 03)

STS

PL

MCC



MNVR (TRK) ELRAD SR ATT
TG=2 BV=5
P=17.3 Y=0 OM=359.5
A/AUTO/VERN (22:20) Init TRK

P/TV11 SETUP (SSIP-CRYSTALS)
(PHOTO/TV, P/TV SCENES)

P/TV11 ACT (SSIP-CRYSTALS)
(PHOTO/TV, P/TV SCENES)

MNVR TDRS DOWNLINK
R=45 P=217 Y=47
A/AUTO/VERN Init MNVR (00:00)

P/TV10 SETUP (SSIP-METALS)
(PHOTO/TV, P/TV SCENES)

P/TV10 ACT (SSIP-METALS)
(PHOTO/TV, P/TV SCENES)

MNVR (TRK) -ZLV, +XV
TG=2 BV=3 OM=180
A/AUTO/VERN Init TRK

MEAL (All)

P/TV09 ACT (ELRAD)
(PHOTO/TV, P/TV SCENES)

P/TV09 ACT (ELRAD)
(PHOTO/TV, P/TV SCENES)

XTAL MEMBRANE
(PL OPS, XTAL MEMBRANE)

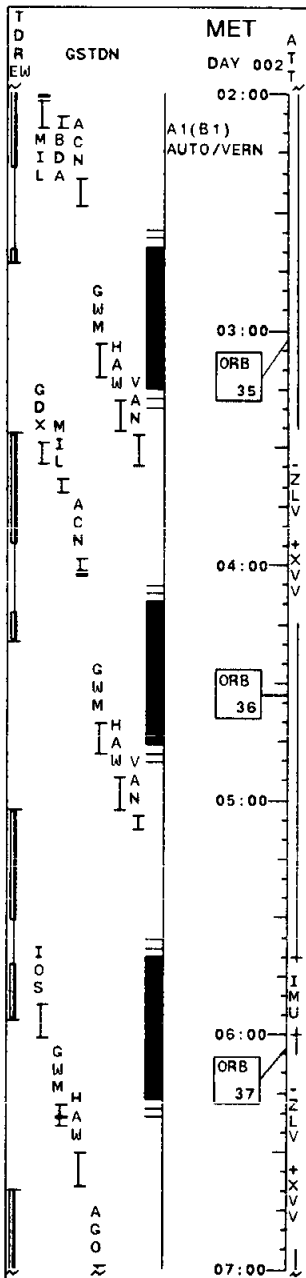
Ti GRAIN
(PL OPS, Ti GRAIN)

TV (TDRE)
(CREW CNTL-CAB)

STS-26 (FD 03)

PL

MCC



STS

MEAL (All)

DEORBIT PREP REHEARSAL
(D/O PREP, NOMINAL D/O PREP)(CDR,MS3)

IMU ALIGN LOG

REQD ID:

-Y _____ -Z _____ ANG ERR _____
1 2 3

ANG:

ΔX () () () ()

ΔY () () () ()

ΔZ () () () ()

EXECUTION TIME:

___ / ___ : ___ : ___

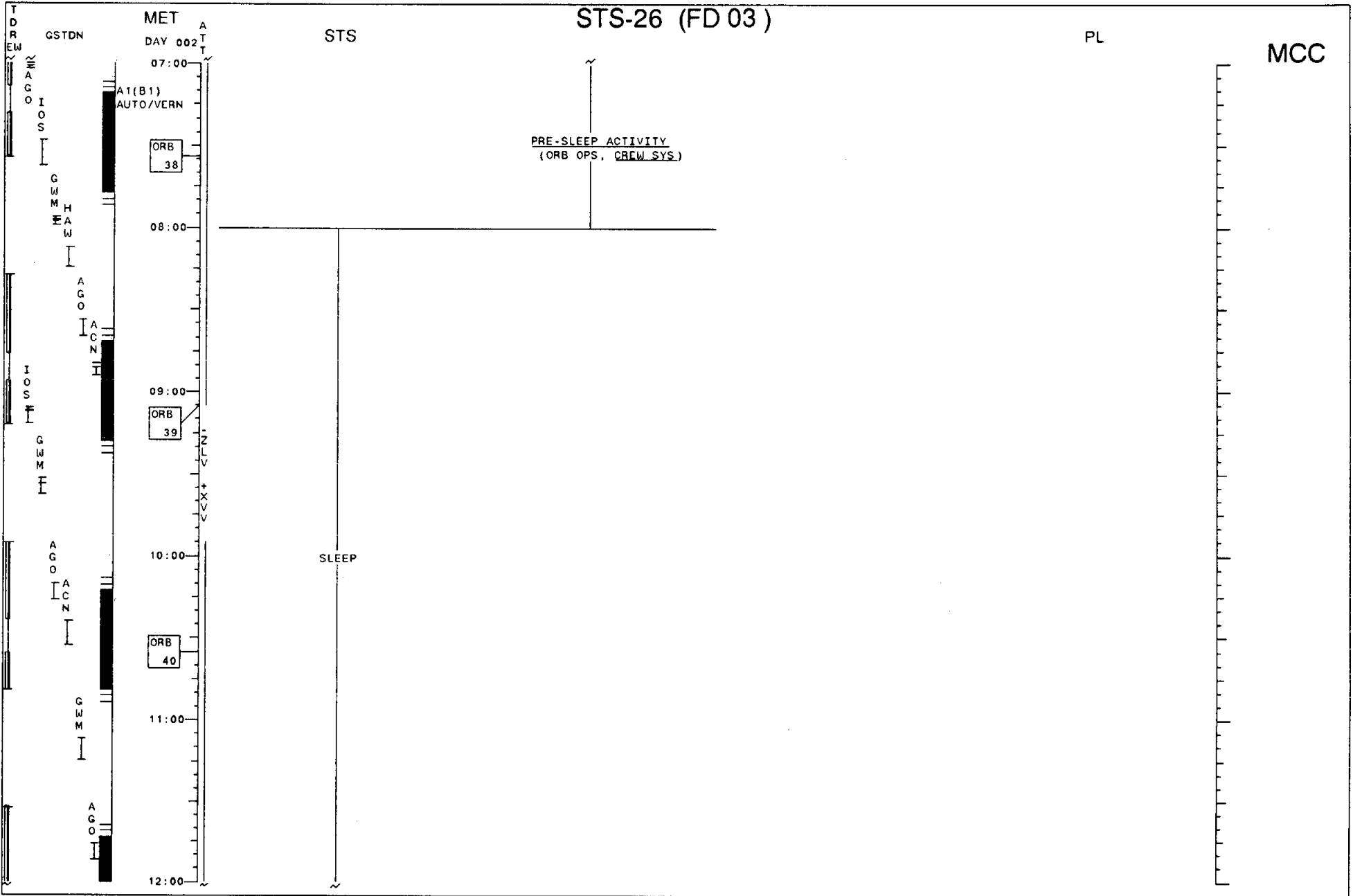
CAB AIR MONITORING(D/O 0623)
(ORB OPS FS, CABIN AIR D/O)

PCG PHOTO SESSION
(PL OPS, PCG)

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)

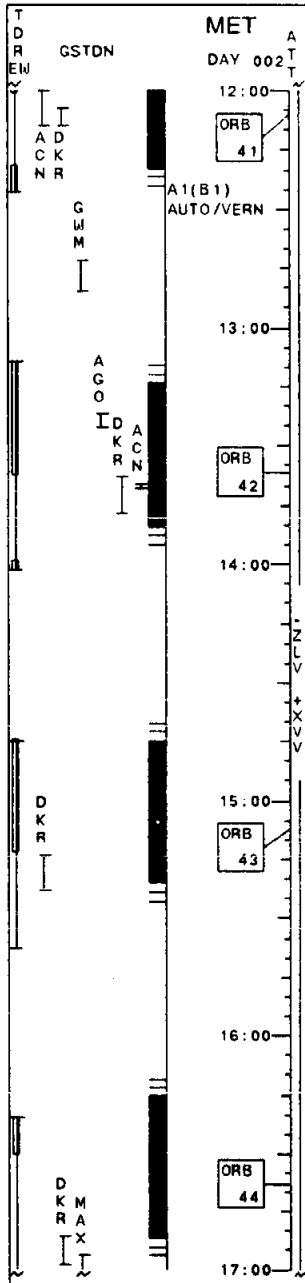
PVTOS INITIATION
(PL OPS, PVTOS) Runs 3.7
ADSF SAMPLE INITIATION
(PL OPS, ADSF)



STS-26 (FD 04)

PL

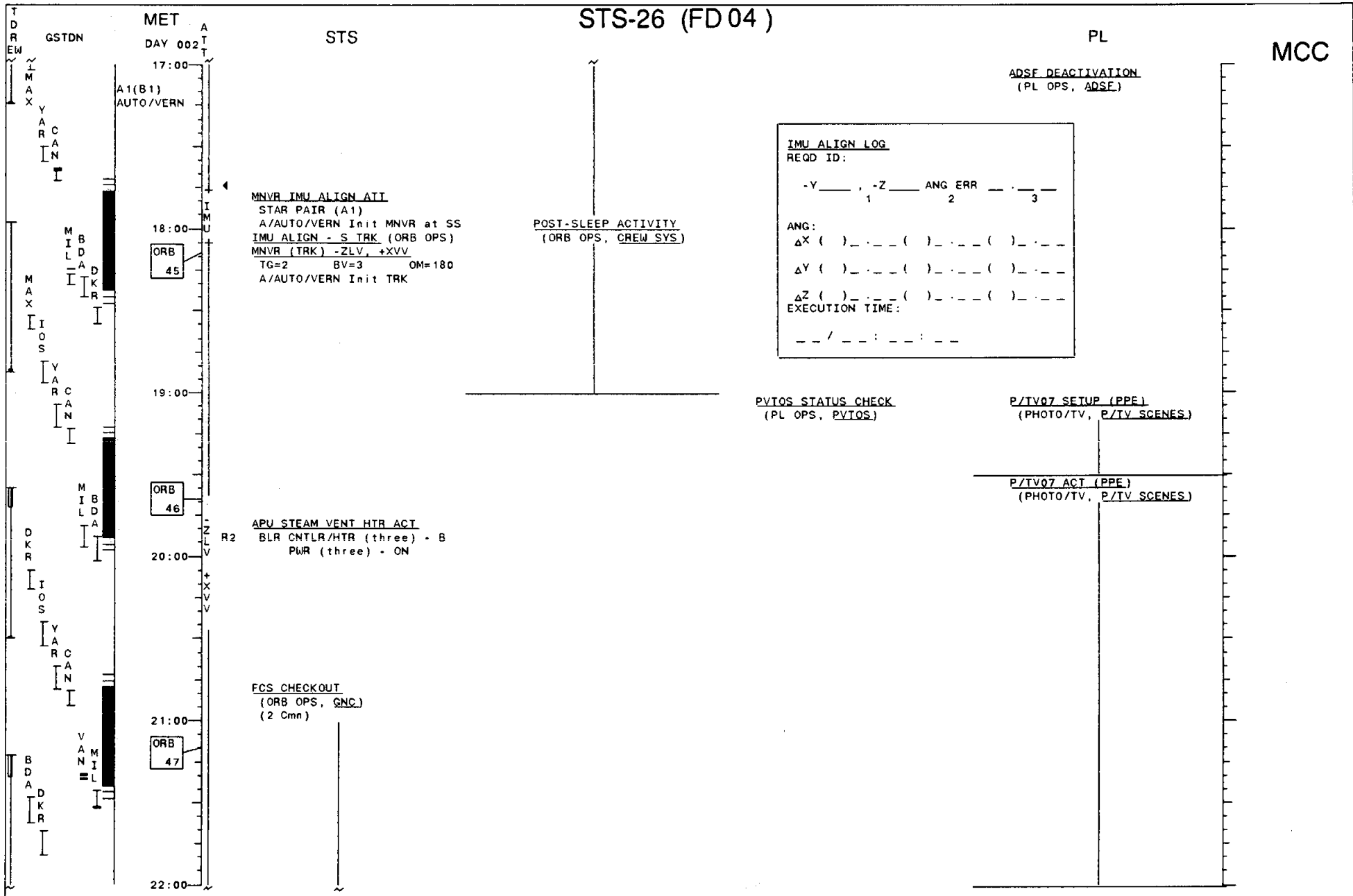
MCC



FD04 EZ CAP ACTIVITIES:

- EXERCISE (1 Hr/All)
- FOOD PREP/POST (Cue Card)(30 Min)
- P/TV08 SETUP (MLE)
(PHOTO/TV, P/TV SCENES)(30 Min)
- P/TV08 ACT (MLE)
(PHOTO/TV, P/TV SCENES)(2 Cmn)
Target of opportunity observations
- SALIVARY TYLENOL KINETICS (DSO 458)
(MED FS, MED DSO's) (5 Min/CDR)
Samples at 0, .25, .5, 1, 2, 3, 4, 5, 6, 8 hrs post-dosing
Prefer start at wake-up
- OTOLITH TILT-TRANSLATION (DSO 459)
- REINTERPRETATION
(MED FS, MED DSO's) (20 Min/CDR,MS2)
(45 Min/MS3)
- CHANGES IN TOTAL BODY WATER (DSO 460)
(MED FS, MED DSO's) (15 Min/PLT,MS2)
Samples at 0, 3, 5 hrs post-dosing
Prefer start at wake-up

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)



STS-26 (FD 04)

MET DAY 002
 17:00
 A1(B1)
 AUTO/VERN
 18:00
 ORB 45
 19:00
 ORB 46
 20:00
 R2
 21:00
 ORB 47
 22:00

STS

PL

MCC

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

ADSF DEACTIVATION
 (PL OPS, ADSF)

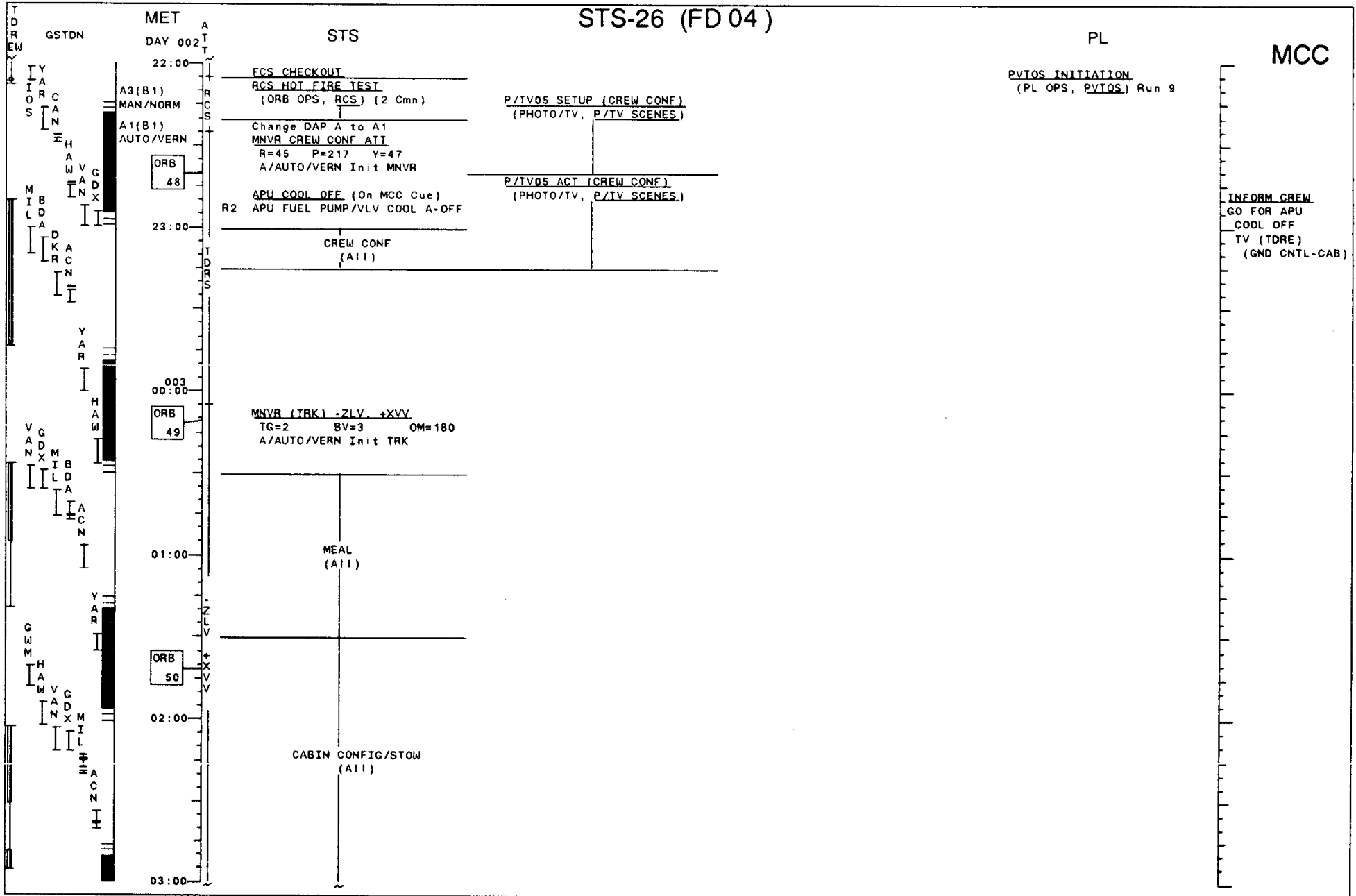
PVTQS STATUS CHECK
 (PL OPS, PVTQS)

P/TV07 SETUP (PPE)
 (PHOTO/TV, P/TV SCENES)

P/TV07 ACT (PPE)
 (PHOTO/TV, P/TV SCENES)

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

FCS CHECKOUT
 (ORB OPS, GNC)
 (2 Cmn)



STS-26 (FD 04)

TDR EW

GSTDN

MET DAY 003

A 03:00

ORB 51

A1(B1) AUTO/VERN

04:00

ZLV

+XVV

ORB 52

05:00

I O S S H H M M G H H A S H

06:00

I M U

ORB 53

07:00

ZLV

+XVV

ORB 54

08:00

STS

CABIN CONFIG/STOW (A11)

KU-BD ANT STOW (ORB OPS, COMM/INST)

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

IMU ALIGN LOG
 REOD ID:
 -Y ____ , -Z ____ ANG ERR ____
 1 2 3

ANG:
 ΔX () () ()
 ΔY () () ()
 ΔZ () () ()
 EXECUTION TIME
 - - / - - : - - : - -

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

PL

PVTOS STATUS CHECK (PL OPS, PVTOS)

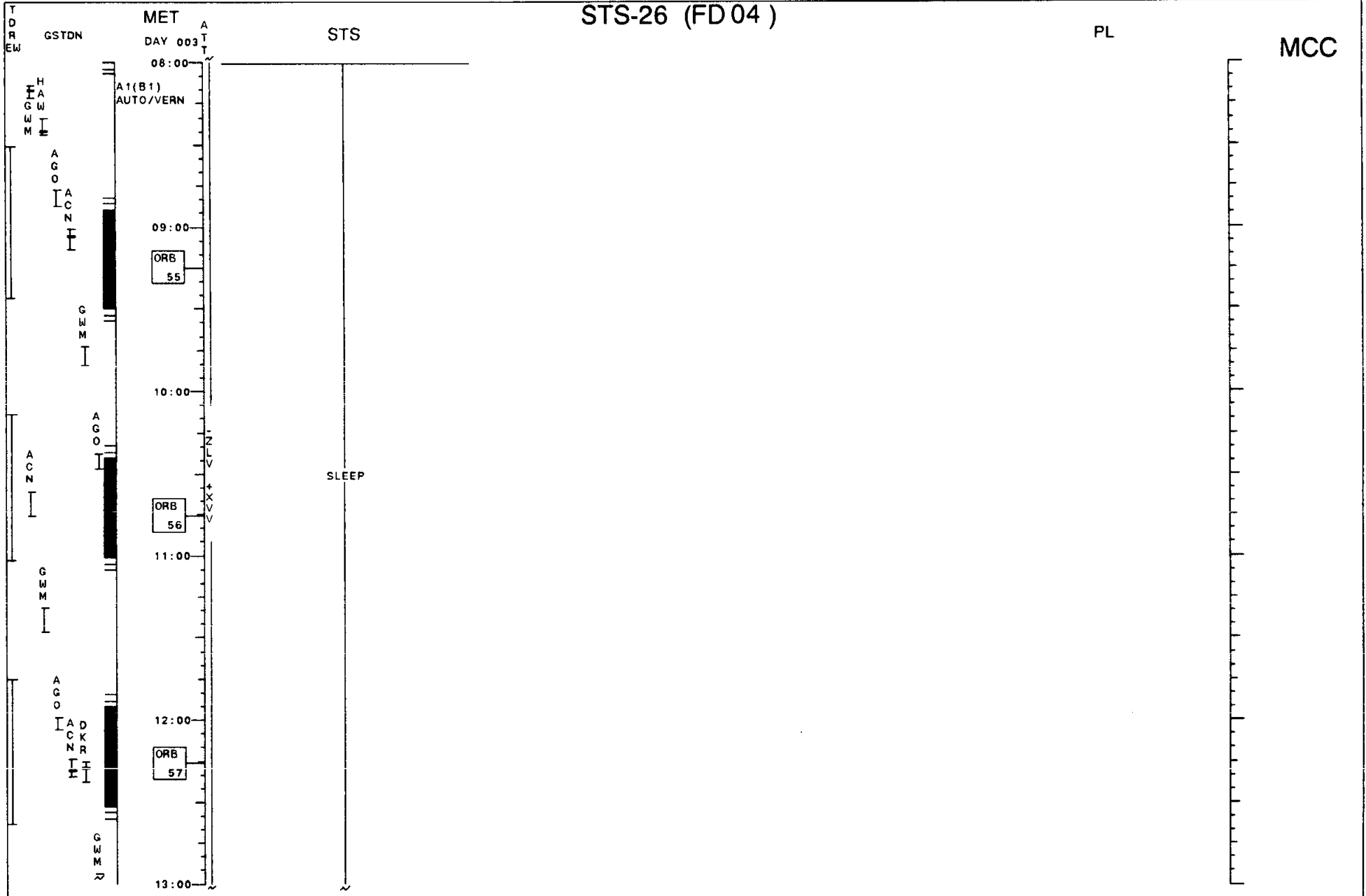
PCG DEACTIVATION (PL OPS, PCG)

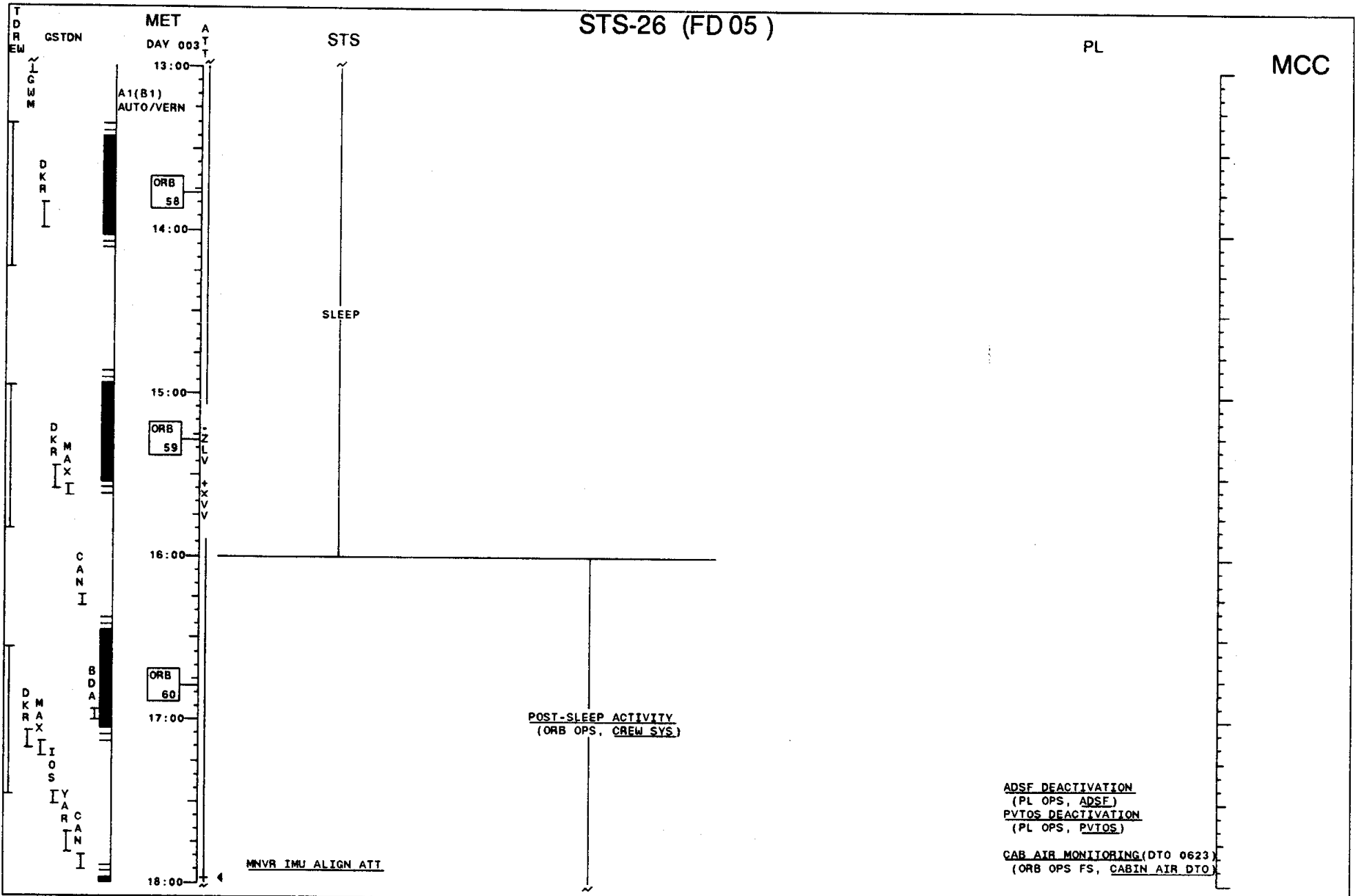
CAR AIR MONITORING (DTO 0623) (ORB OPS FS, CABIN AIR DTO)

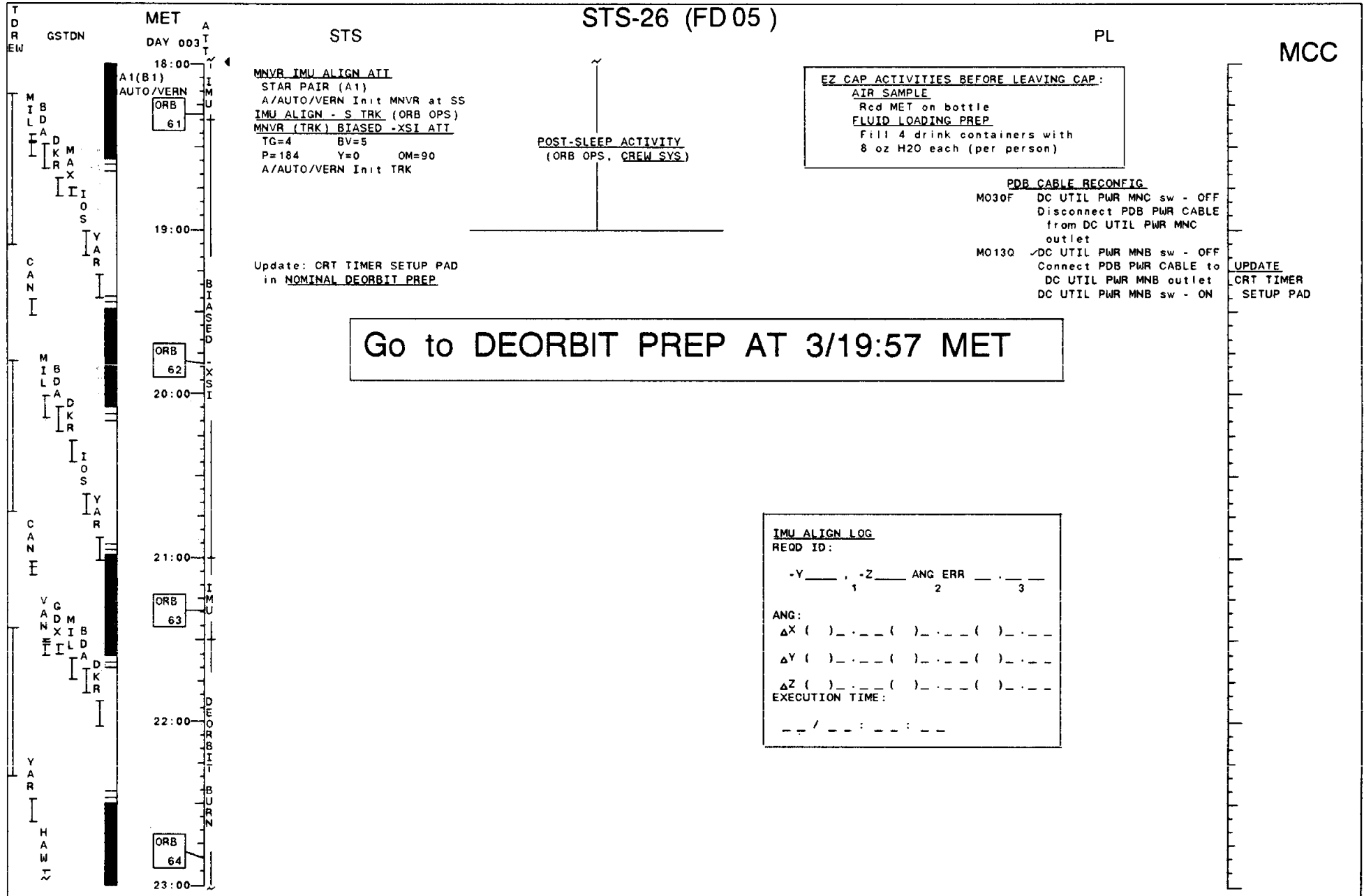
ADSF SAMPLE INITIATION (PL OPS, ADSF)
 PVTOS INITIATION (PL OPS, PVTOS) Runs 4, 8

MCC

STS-26 (FD 04)







STS-26 (FD 05)

MNVR IMU ALIGN ATT
 STAR PAIR (A1)
 A/AUTO/VERN Init MNVR at SS
IMU ALIGN - S TRK (ORB OPS)
MNVR (TRK) BIASED -XSI ATT
 TG=4 BV=5
 P=184 Y=0 OM=90
 A/AUTO/VERN Init TRK

POST-SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

EZ CAP ACTIVITIES BEFORE LEAVING CAP:
AIR SAMPLE
 Rcd MET on bottle
FLUID LOADING PREP
 Fill 4 drink containers with
 8 oz H2O each (per person)

PDB CABLE RECONFIG
 M030F DC UTIL PWR MNC sw - OFF
 Disconnect PDB PWR CABLE
 from DC UTIL PWR MNC
 outlet
 M0130 DC UTIL PWR MNB sw - OFF
 Connect PDB PWR CABLE to
 DC UTIL PWR MNB outlet
 DC UTIL PWR MNB sw - ON

Update: CRT TIMER SETUP PAD
 in NOMINAL DEORBIT PREP

UPDATE
 CRT TIMER
 SETUP PAD

Go to DEORBIT PREP AT 3/19:57 MET

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

CONTINGENCY TIMELINES

7A TDRS INSERTION..... 4A-1
8D TDRS INSERTION..... 4B-1
16A TDRS INSERTION..... 4C-1
18A TDRS (EVA) INSERTION..... 4D-1

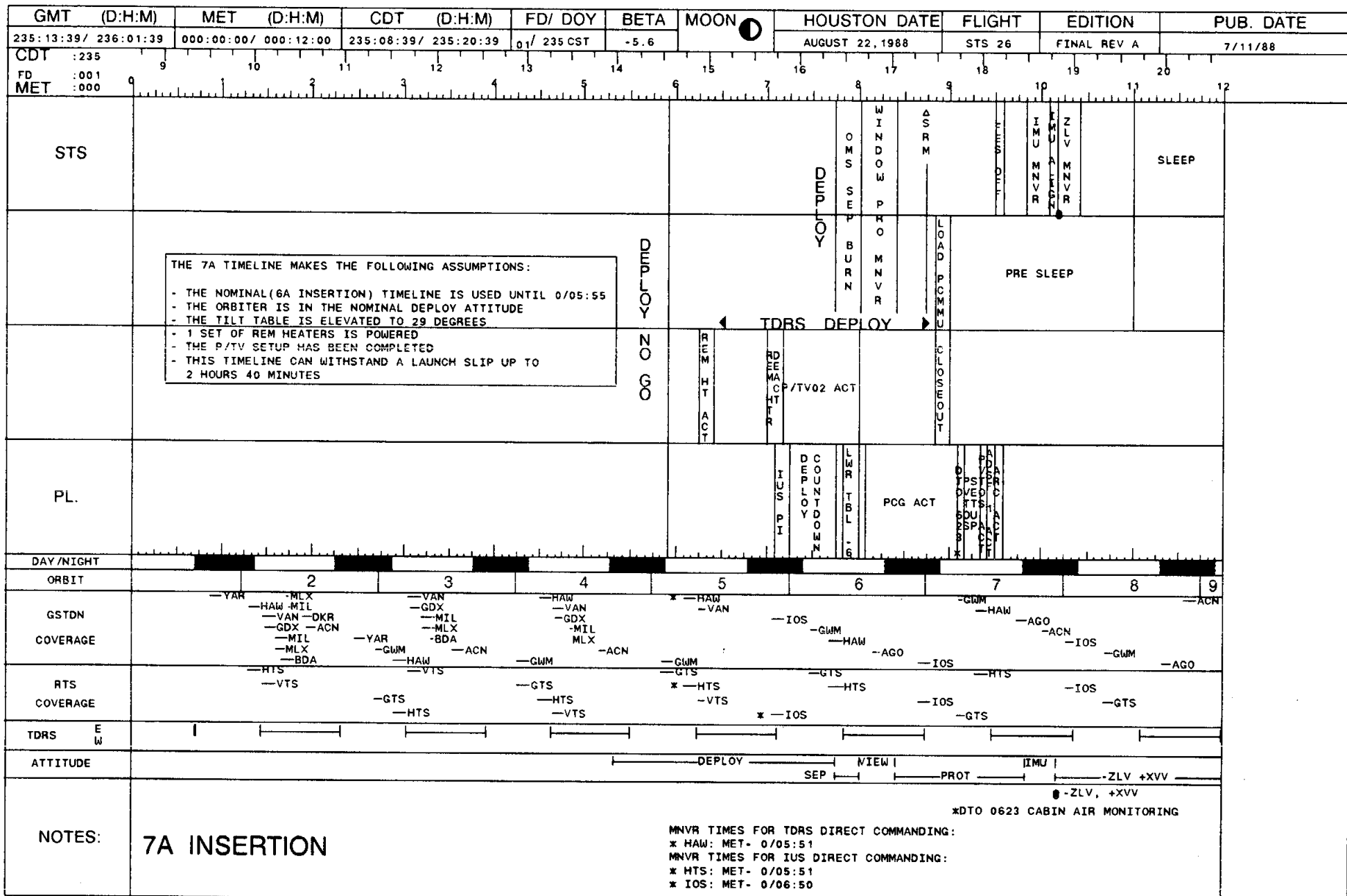
CONTINGENCY
TIMELINES

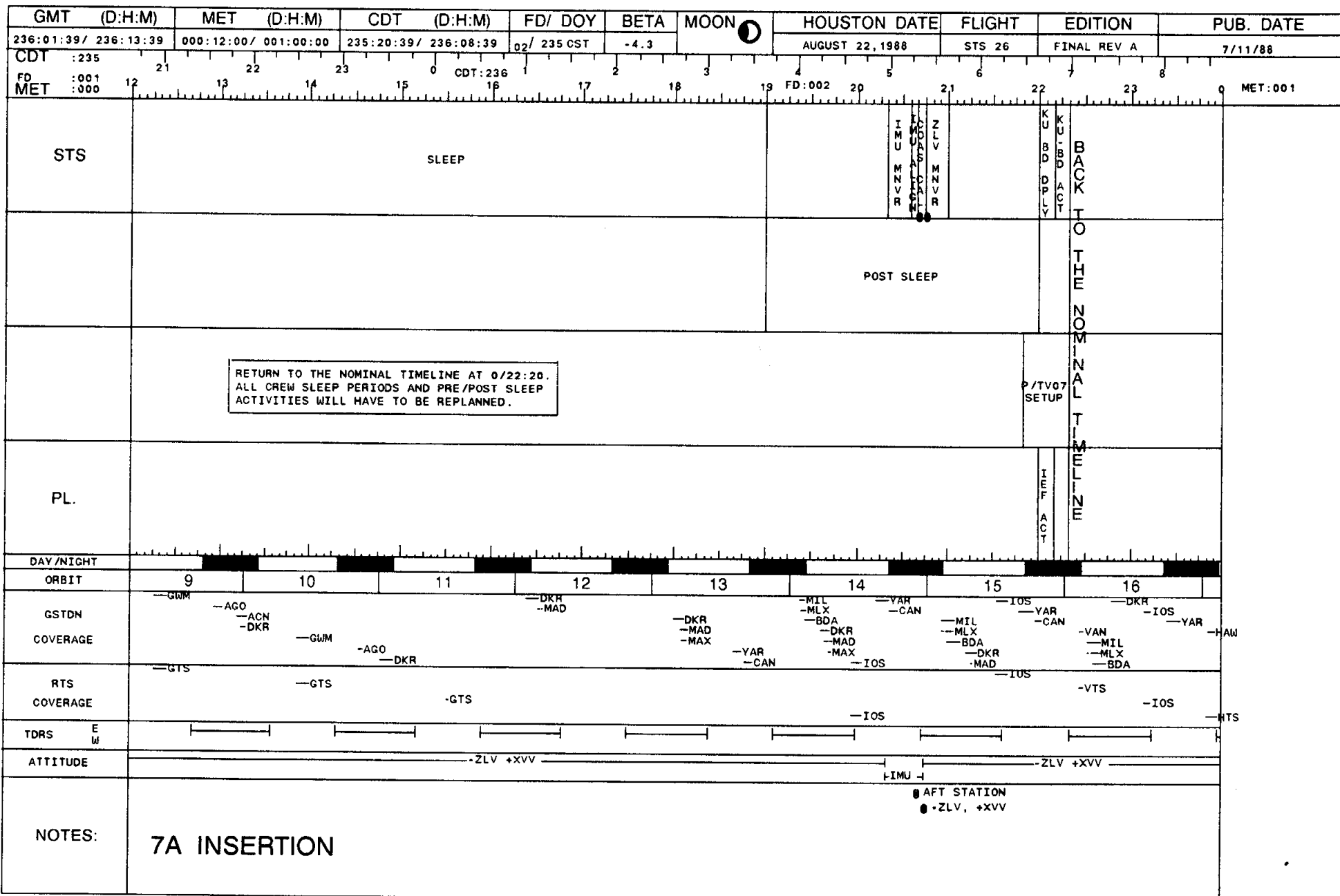
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7A TDRS INSERTION

The 7A Insertion Timeline is designed to accommodate delaying deployment of TDRS to the 7A insertion opportunity. The nominal timeline is used until the GO/NO-GO point in the deploy countdown for the nominal (6A insertion) timeline. The timeline is based on the nominal Cycle 2R1 OMS-2 insertion.

7A TDRS



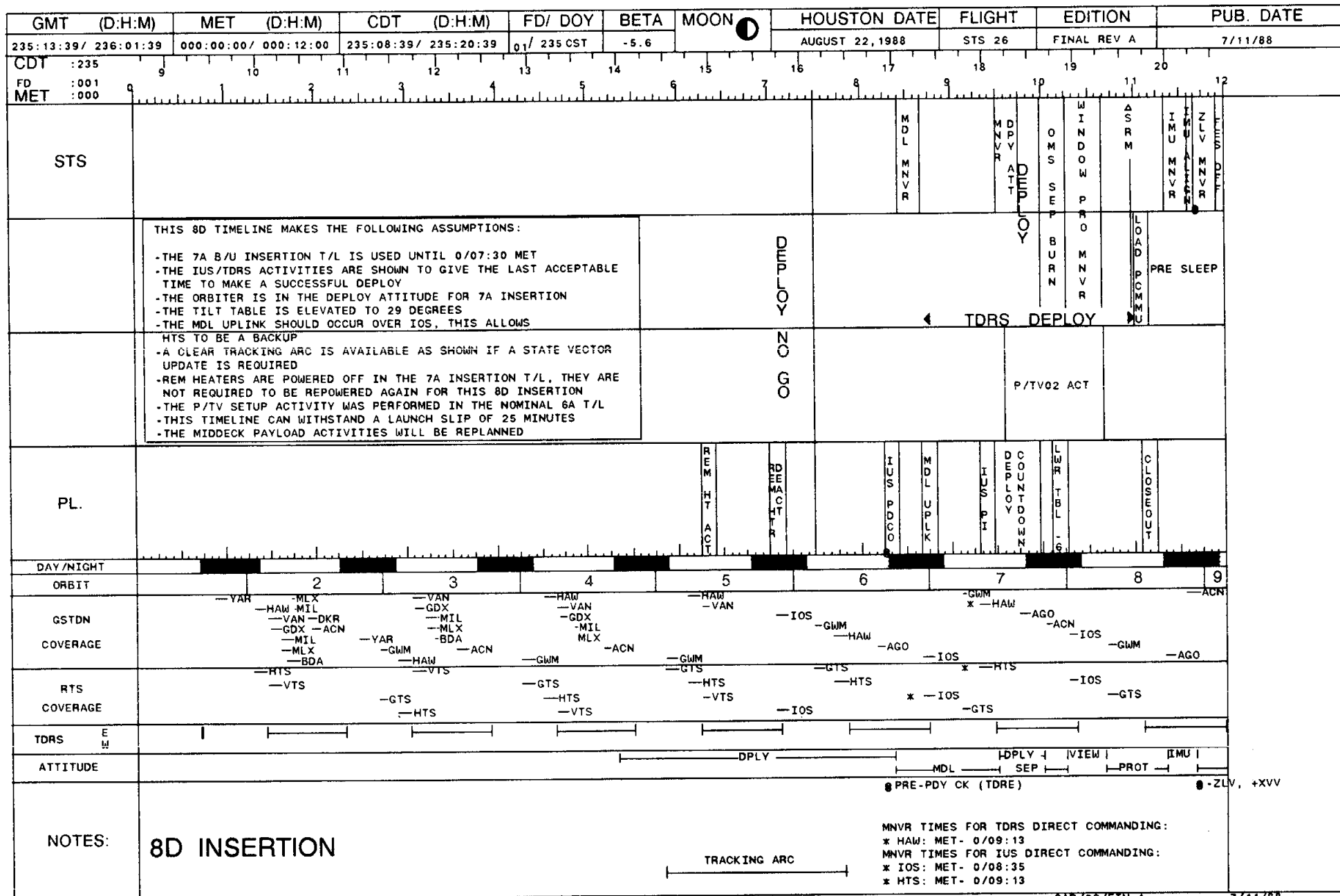


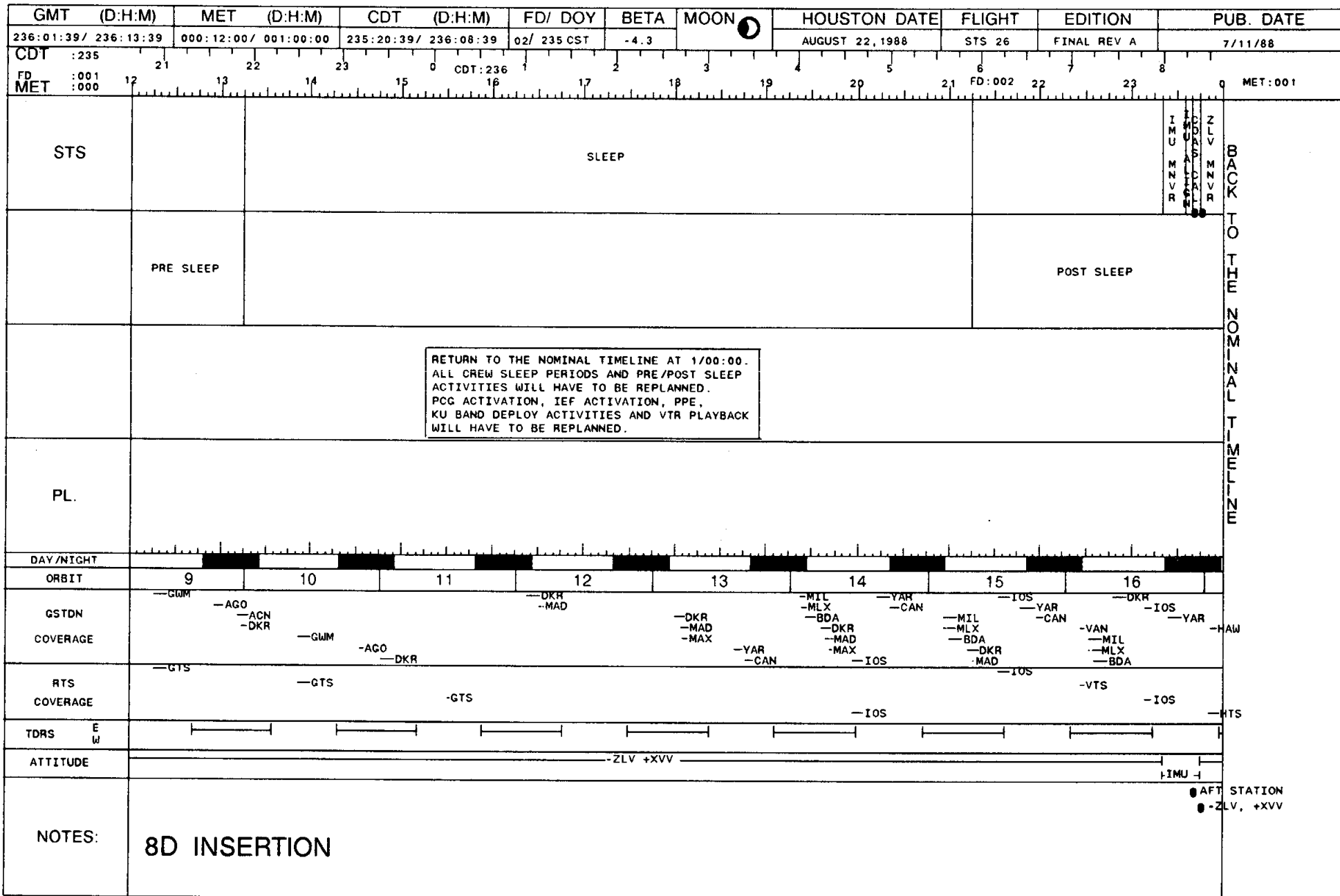
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8D TDRS INSERTION

The 8D Insertion Timeline is designed to accommodate delaying deployment of TDRS for the 8D insertion opportunity. The 7A insertion timeline is used up to the GO/NO-GO decision point in the deploy countdown. An 8D insertion will be considered if a high probability of deploying exists or if a 16A insertion cannot be accommodated due to orbiter or IUS/TDRS problems. Additional assumptions are shown on page 4B-2. The timeline is based on the nominal Cycle 2R1 OMS-2 insertion.

8D TDRS



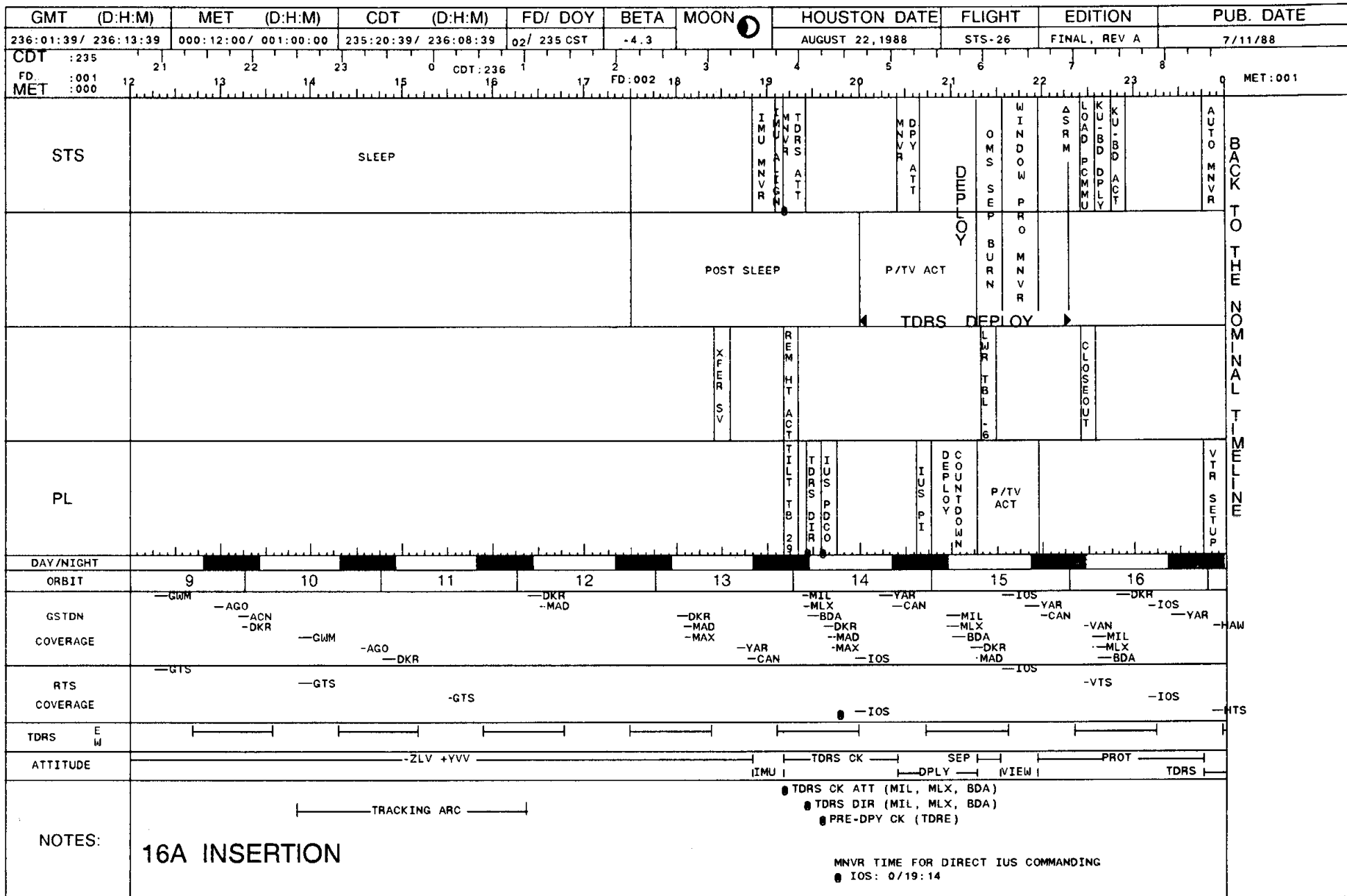


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16A TDRS INSERTION

The 16A Insertion Timeline is designed to accommodate delaying deployment of TDRS for the 16A insertion opportunity. The timeline assumes an attempt at 7A insertion failed at the GO/NO-GO decision point in the deploy countdown procedure. The timeline begins during crew post sleep and assumes the tilt table is stowed at 0°. Additional assumptions are shown on page 4C-2. The timeline is based on the nominal Cycle 2R1 OMS-2 insertion.

16A TDRS



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18A TDRS (EVA) INSERTION

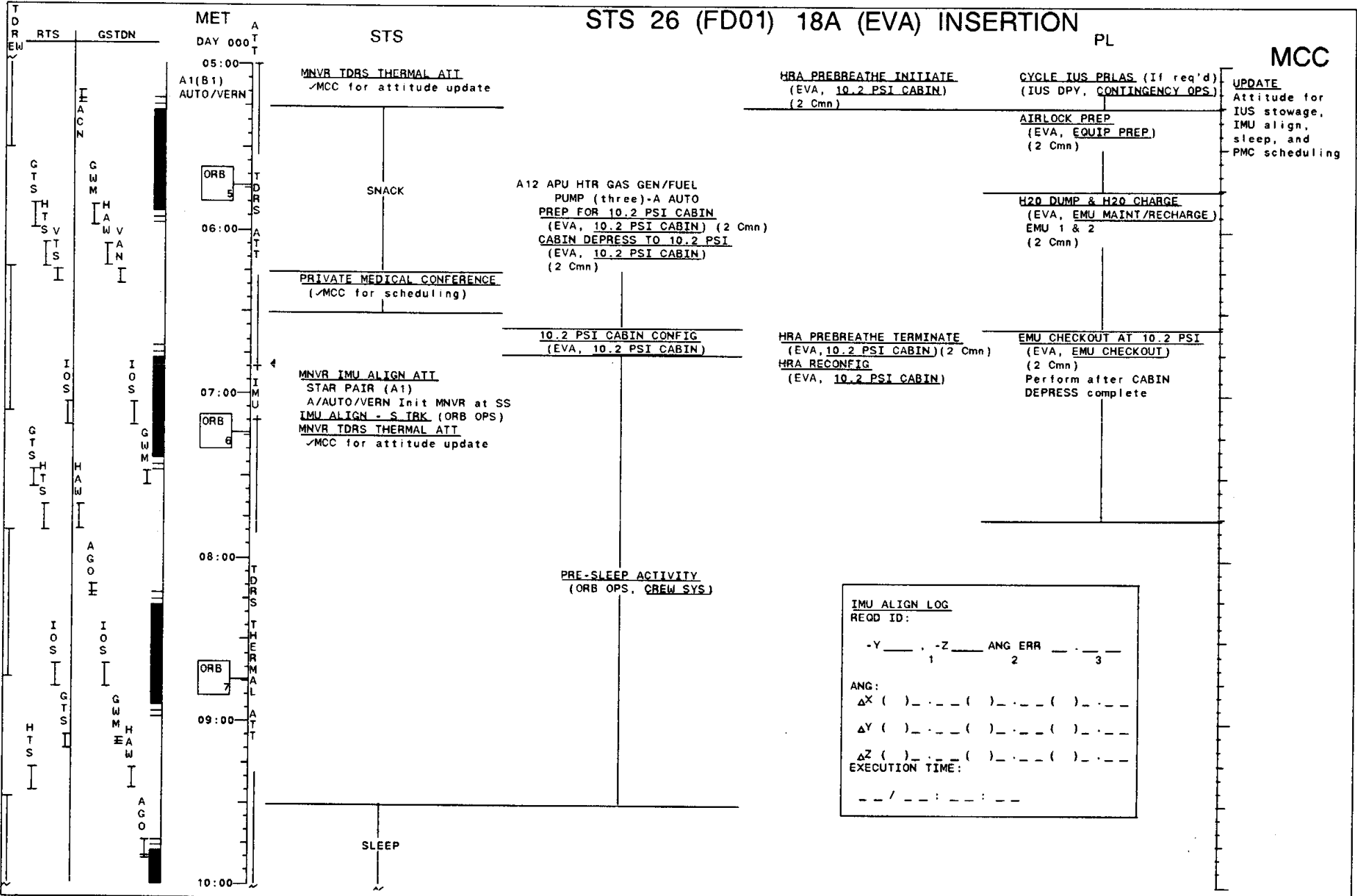
The 18A Insertion Timeline is designed to accommodate delaying deployment of TDRS for the 18A insertion opportunity following an EVA to manually raise the tilt table. The decision to perform an EVA must be made by 0/05:00 MET in order to meet EVA preparation and equipment checkout constraints. The 10.2 psi cabin EVA protocol is used. There will be no Flight Day 1 EVA. The Contingency EVA Operations STS-26 Flight Supplement, Contingency EVA for Payload Failures Section, is the source document for the 18A insertion timeline. Additional assumptions are shown on pages 4D-2 and 4D-3. The timeline is based on the nominal Cycle 2R1 OMS-2 insertion.

18A TDRS

GMT (D:H:M)		MET (D:H:M)		CDT (D:H:M)		FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE													
236:01:39/ 236:13:39		000:12:00/ 001:00:00		235:20:39/ 236:08:39		02/ 235 CDT	-4.3	☉	AUGUST 22, 1988	STS-26	FINAL, REV A	7/11/88													
CDT	:235	21	22	23	0	CDT:236	2	3	4	5	6	7	8	9	0	MET:001									
FD	:001	12	13	14	15	16	17	18	19	20	21	22	23												
MET	:000																								
STS	SLEEP															IMU MNV R	AUTO MNV R	MTDRS ATT	RE HT ACT	TDRS DIR	RDEE MACH TTR	MDPY ATT			
	POST SLEEP																	P/TV02 SETUP			P/TV02 ACT				
	<p>FD2 ASSUMPTIONS:</p> <ul style="list-style-type: none"> - IUS/TDRS IS THERMALLY DEPLOYABLE ON FD2. - ATTEMPTS WILL BE MADE TO RAISE THE IUS/TDRS PRIOR TO THE AIRLOCK DEPRESS. IF SUCCESSFUL THE EVA WILL NOT OCCUR AS SCHEDULED. - ATTEMPTS TO RAISE PAST 29 DEG PRIOR TO EVA (UMBILICALS DISCONNECTED) MUST WAIT UNTIL AFTER "18A BAT" TIME <p>LIMIT ON IUS BATTERIES.</p> <ul style="list-style-type: none"> - TDRS DIRECT CHECK OPPORTUNITIES: MIL 15, CAN 15, MIL 16. - THE TIMELINE RETURNS TO NOMINAL AT 01/09:00. - MIDDECK PAYLOAD ACTIVITIES SHOULD BE REPLANNED. 															7 5 EVA PREP M I N	S U I T P / B	A / L D E P R E S S	EVA						
PL	<ul style="list-style-type: none"> - TDRS DIRECT CHECK OPPORTUNITIES: MIL 15, CAN 15, MIL 16. - THE TIMELINE RETURNS TO NOMINAL AT 01/09:00. - MIDDECK PAYLOAD ACTIVITIES SHOULD BE REPLANNED. 															X F E R S V	I U S P D C O	PLB PREP 18A BAT	16A DPY	EVA SUPPORT 19A BAT		17A DPY	I U S P I	D E P L O Y D O W N	
DAY/NIGHT	[Day/Night Cycle: 9h Day, 5h Night, 9h Day, 5h Night, 9h Day, 5h Night, 9h Day, 5h Night, 9h Day, 5h Night]																								
ORBIT	9	10	11	12	13	14	15	16																	
GSTDN	-GMM	-AGO	-ACN	-DKR	-DKR	-MAD	-MLX	-BDA	-DKR	-MAD	-MIL	-MLX	-BDA	-DKR	-MAD	-CAN	-VAN	-MIL	-MLX	-BDA	-DKR	-IOS	-YAR	-AW	
COVERAGE		-GMM	-AGO	-DKR			-YAR	-CAN			-MIL	-YAR	-CAN			-IOS	-YAR								
RTS	-GTS		-GTS		-GTS																				
COVERAGE																									
TDRS	[Timeline: TDRS Thermal Att (9-12), IMU (13-14), TDRS Att (14-15), TDRS CK (15-16), Deploy (16-17)]																								
ATTITUDE	TDRS THERMAL ATT IMU TDRS ATT TDRS CK DEPLOY																								
NOTES:	<p>18A (EVA) INSERTION</p> <p>● TDRS CK ATT (FOR MIL REV 15) ● IUS PI LOCK</p> <p>● IUS PDCO (TDRS-E) (✓ 64K) ● TDRS DIRECT CHECK (MIL)</p>																								

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
236:13:39 / 237:01:39	001:00:00 / 001:12:00	236:08:39 / 236:20:39	02 / 236 CDT	-2.7	☉	AUGUST 23, 1988	STS-26	FINAL, REV A	7/11/88
CDT :236									
FD :002									
MET :001									
STS	WINDOOR SUSP KUBBD ACT	ASRM AUTO MNV R	KUBBD DPLY	MEAL	ZLV MNV R				
	WINDOOR SUSP KUBBD ACT	ASRM AUTO MNV R	KUBBD DPLY				PRE SLEEP		
		EVA	POST EVA					RETURN TO NOMINAL (6A) TIMELINE AT 01/09:00 MET	
								WITH THE EXCEPTION OF THE FOLLOWING POST EVA ACTIVITIES: -EMU MAINTENANCE/RECHARGE -POST EVA ENTRY PREP -14.7 CABIN REPRESS	
PL	EVA SUPPORT								
DAY/NIGHT									
ORBIT		18	19	20	21	22	23	24	
GSTDN	-GDX -MLX -BDA -DKR -ACN	-HAW -VAN -GDX -MIL -MLX -BDA -YAR	-YAR -GWM -HAW -VAN -GDX -MIL -MLX -VTS	-ACN -GWM -HAW -VAN -GDX	-HAW -GWM -HAW -VAN -GDX	-IOS -GWM -HAW -AGO	-HAW -AGO -ACN	-GWM -AGO -ACN	
RTS		-HTS -VTS	-GTS -HTS	-GTS -HTS -VTS	-GTS -HTS -VTS	-GTS -HTS -IOS	-GTS -HTS -IOS	-GTS	
TDRS									
ATTITUDE		-PROT	-TDRS		-ZLV +XVV			-ZLV +XVV	
NOTES:	18A (EVA) INSERTION								

STS 26 (FD01) 18A (EVA) INSERTION

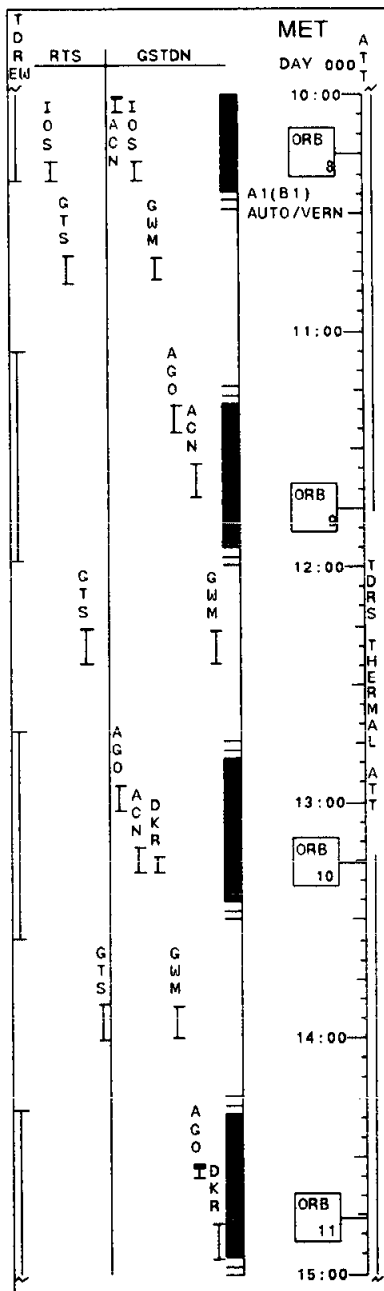


IMU ALIGN LOG			
REQD ID:			
-Y	-Z	ANG ERR	---
1	2	3	---
ANG:			
ΔX	()	()	()
ΔY	()	()	()
ΔZ	()	()	()
EXECUTION TIME:			
-- / -- : -- : --			

STS 26 (FD01) 18A (EVA) INSERTION

PL

MCC



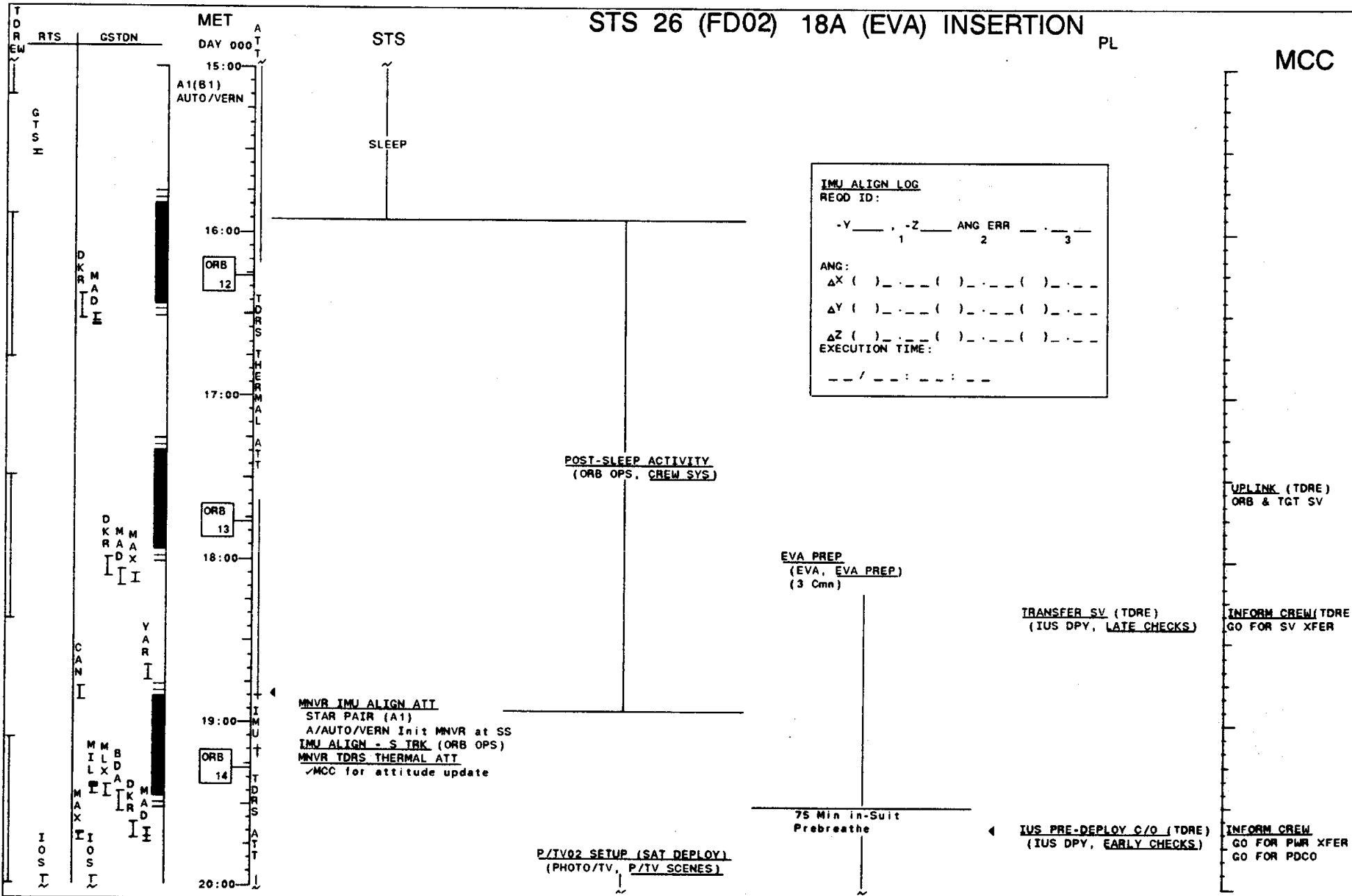
STS

SLEEP

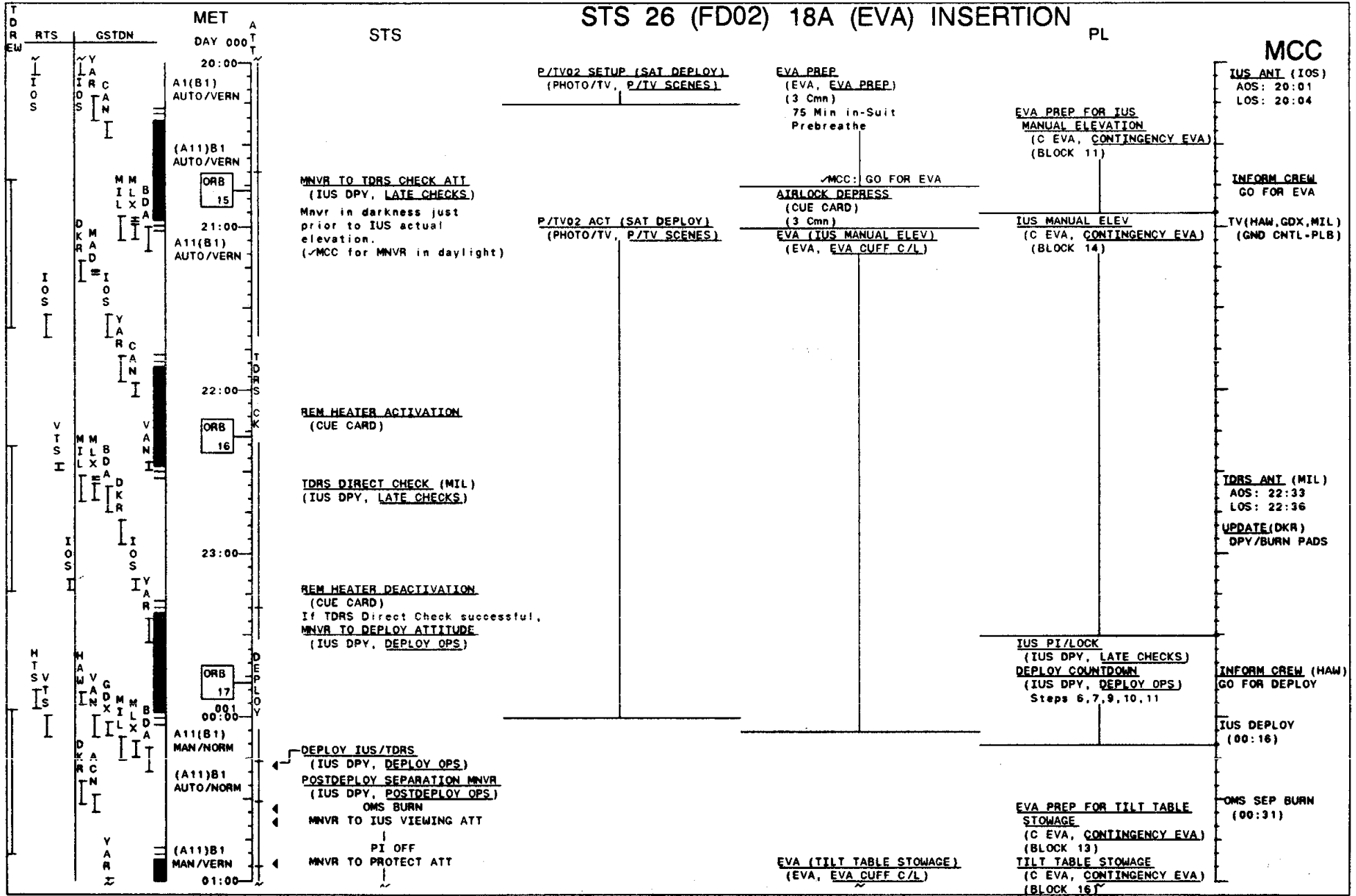
STS 26 (FD02) 18A (EVA) INSERTION

PL

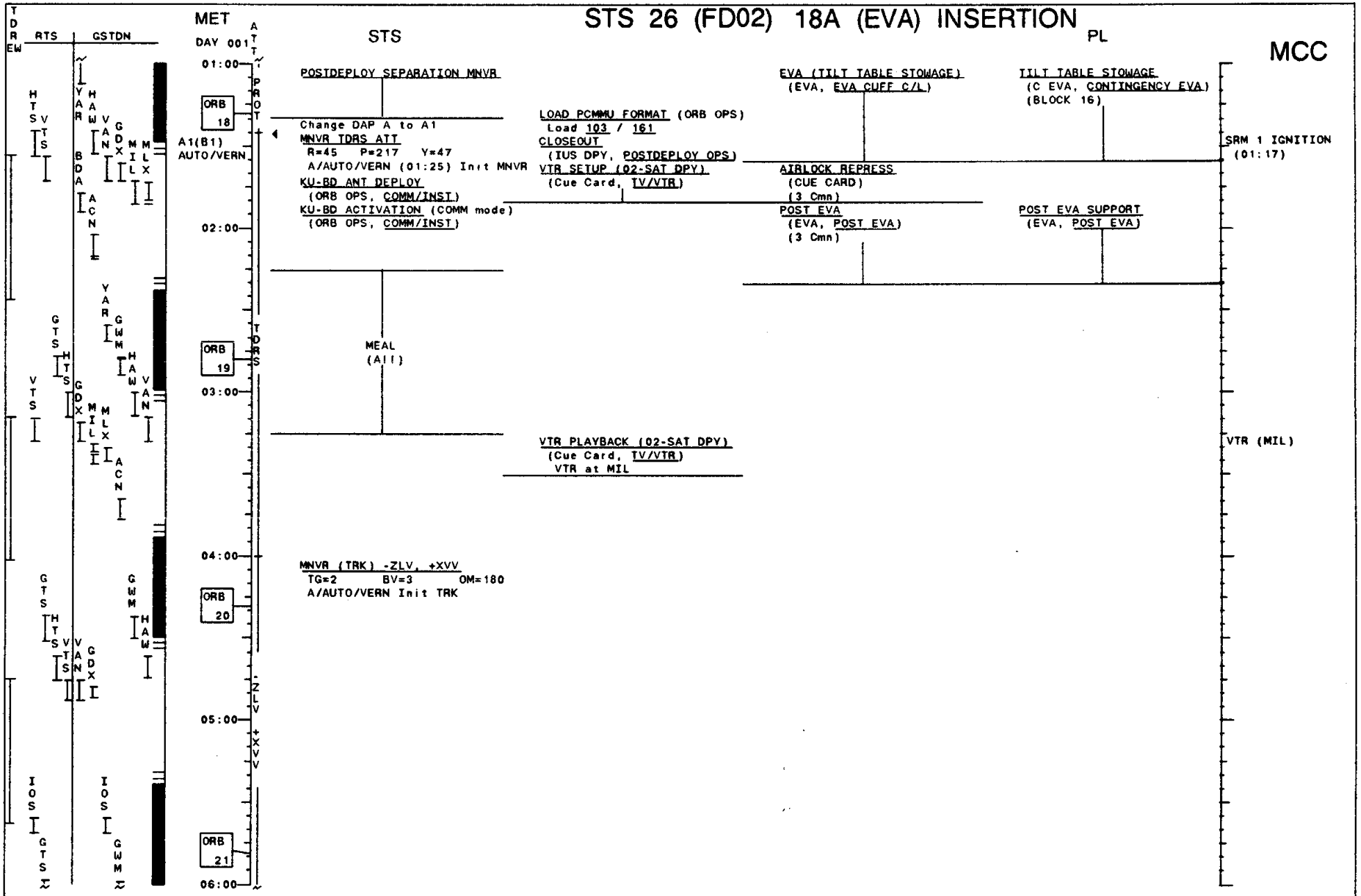
MCC



STS 26 (FD02) 18A (EVA) INSERTION



STS 26 (FD02) 18A (EVA) INSERTION



STS 26 (FD02) 18A (EVA) INSERTION

PL

MCC

TD EM	RIS	USTON	ML1	A
			DAY 001	515
H I S	H A M		06 00	
			A1(B1)	
			AUTO/VERN	
			07 00	
			A1(B5)	
			MAN/VERN	
			ORB	
			08 00	
			A1(B1)	
			AUTO/VERN	
			09 00	
			ORB	
			10 00	
			ORB	
			11 00	

019 QUAS FOR GET Mount QUAS-A11
 MN/R IMU ALIGN A11
 STAR PAIR (A1)
 A/AUTO/VERN INIT MN/R at SS
 IMU ALIGN - S IME (ORB OPS)
 QUAS CALIBRATION (ORB OPS)
 MN/R TIME 217.1277
 10-2 B-3 OM-180
 A/AUTO/VERN INIT IME
 019 QUAS FOR GET STAR QUAS
 Change DAP B to B1

PRE-SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

IMU ALIGN LOG			
STAR ID			
ANG	Δ^2 ()	()	()
	Δ^1 ()	()	()
	Δ^2 ()	()	()
CALCULATION TIME	/	/	

GO TO CAP, DETAILED TIMELINE, 38

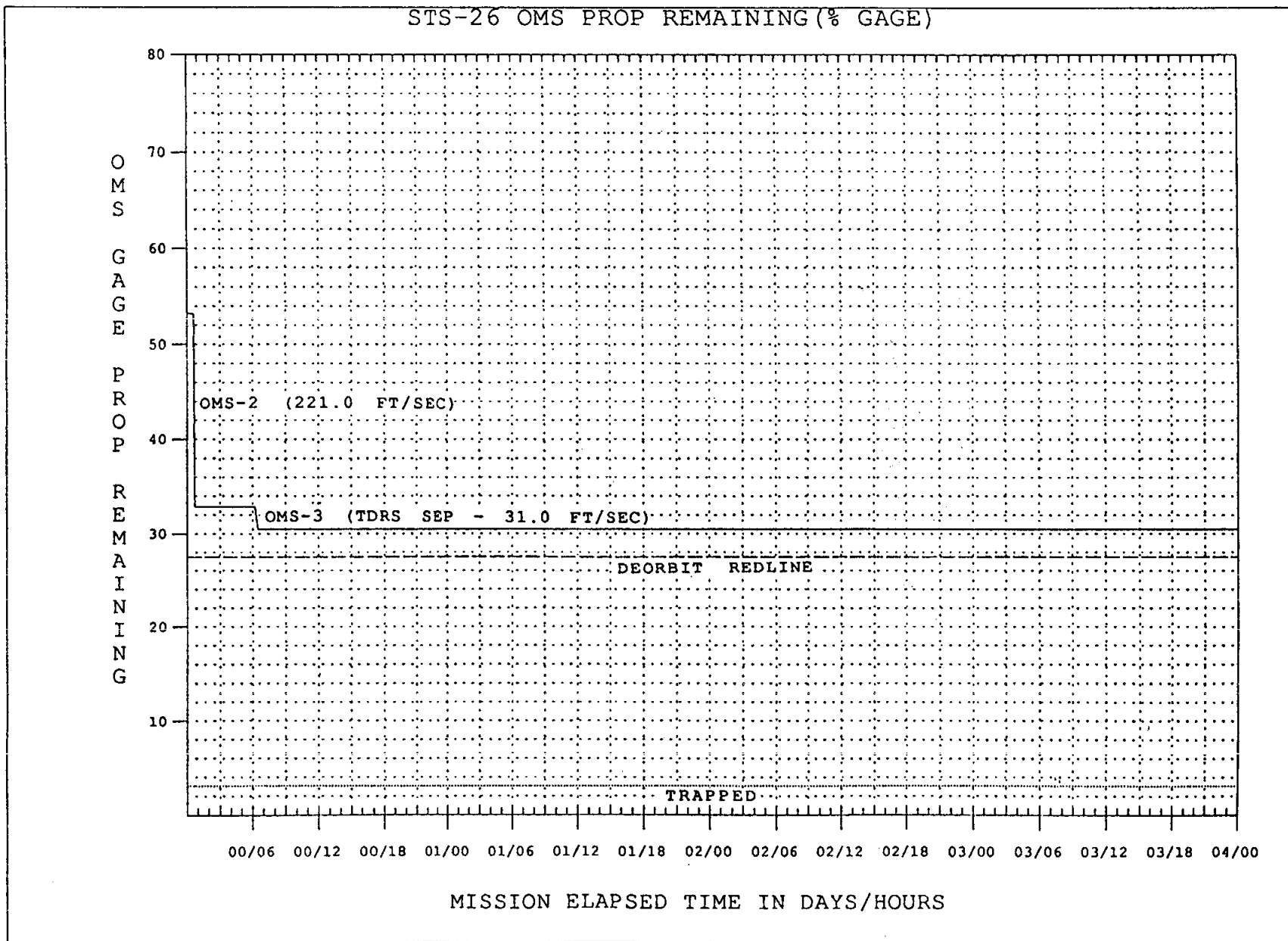
QUAS CALIBRATION LOG	
STAR ID	-Z
STAR AVAIL	TO
-Z Δ BIAS	
UPDATE TIME	/ /

CONSUMABLES CURVES

CONSUMABLES
CURVES

CONSUMABLES
CURVES

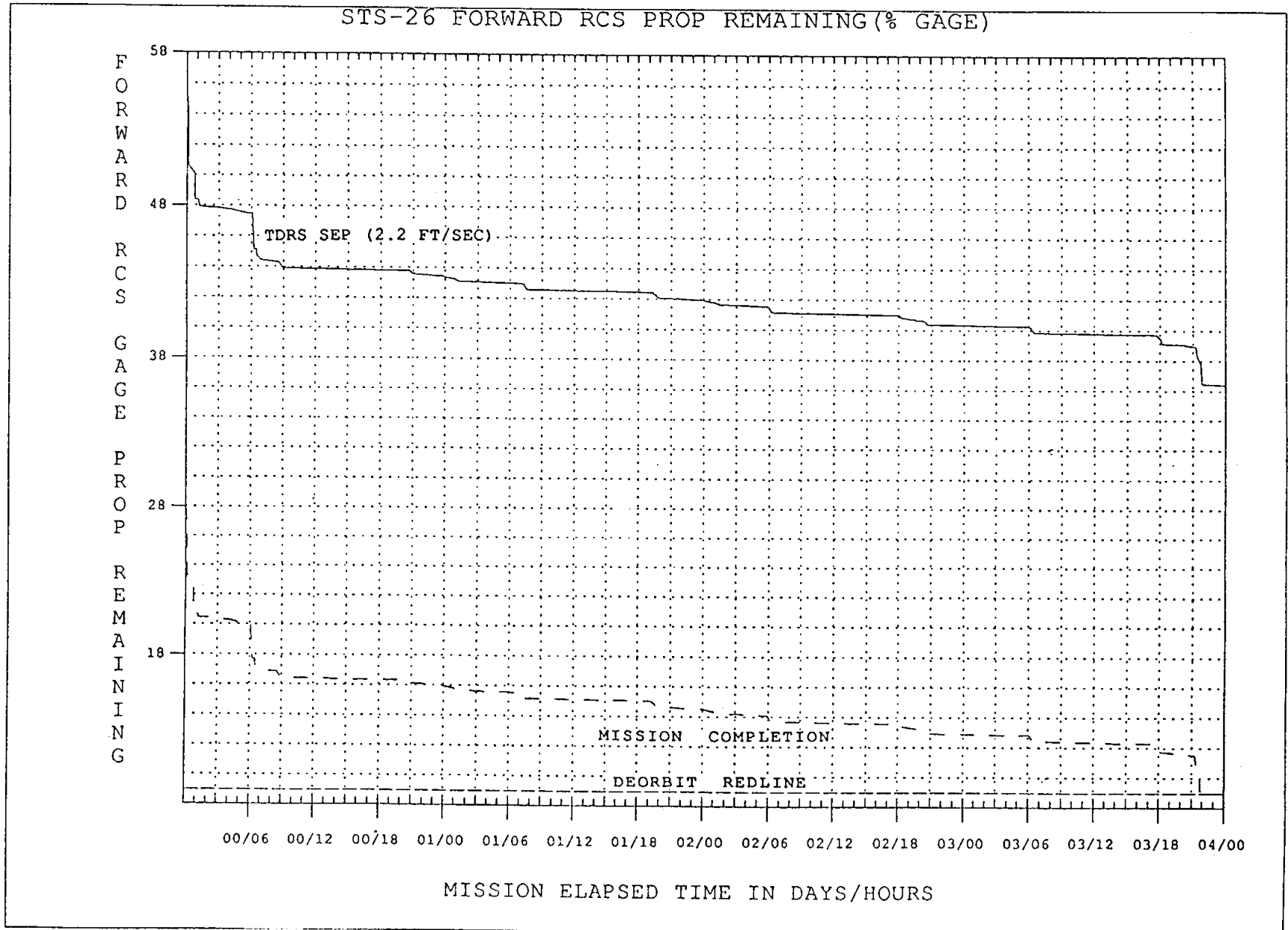
FIDP: CY2/Add 4/PCN 3/1 Feb. 88
CAP/ATL: Basic, 25 Nov. 87
Charts generated by: Bill Hollister/RSOC (DF75)
Charts generated on: 31 Mar. 88



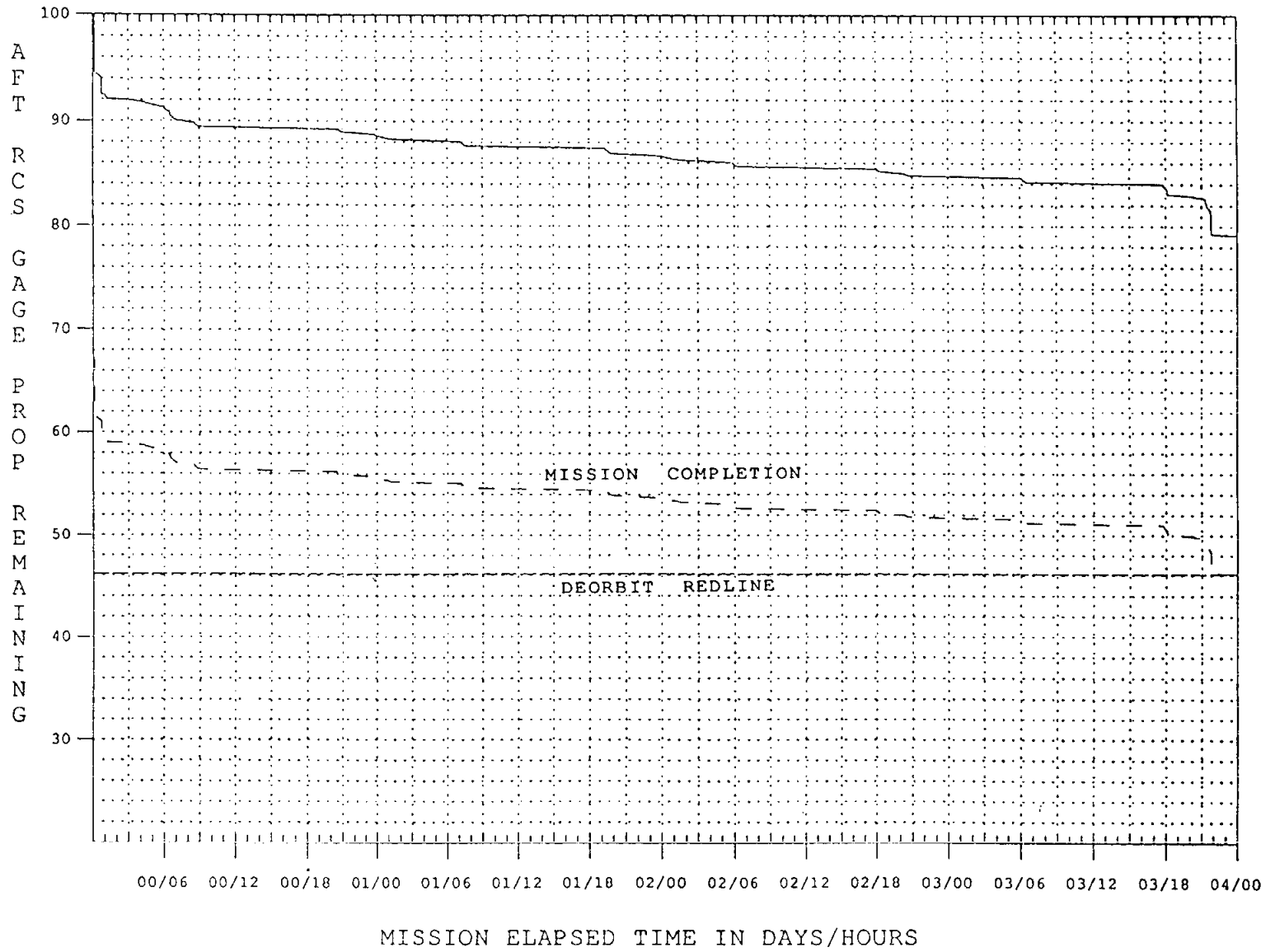
5-2

CAP/26/FIN A

STS-26 FORWARD RCS PROP REMAINING (% GAGE)



STS-26 AFT RCS PROP REMAINING (% GAGE)



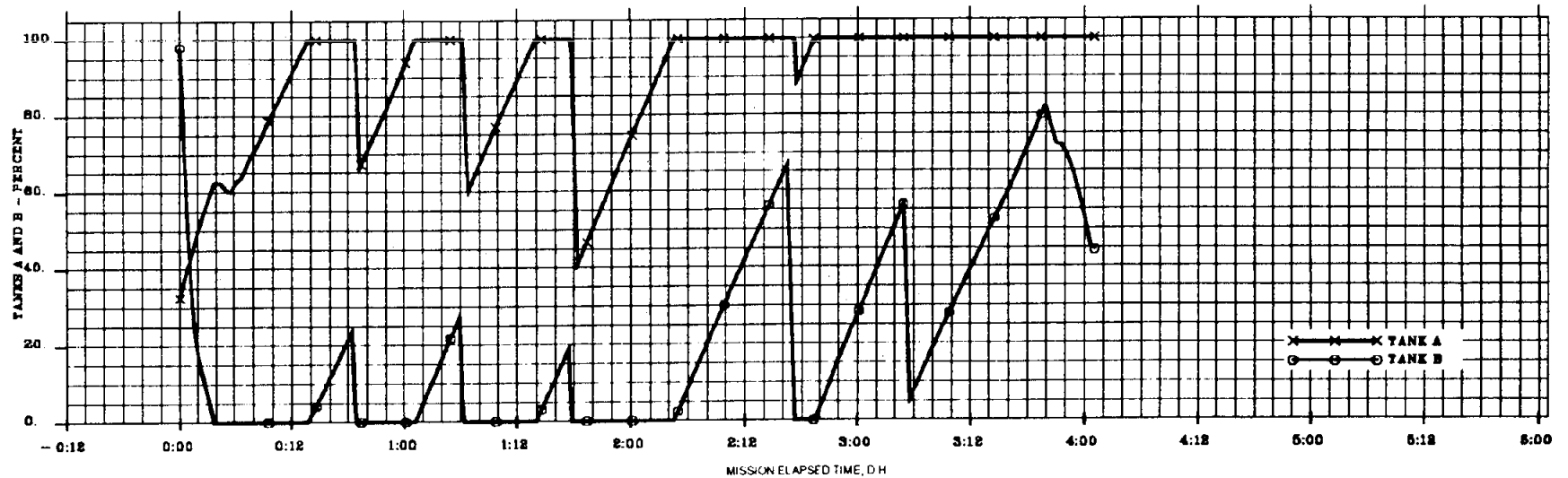
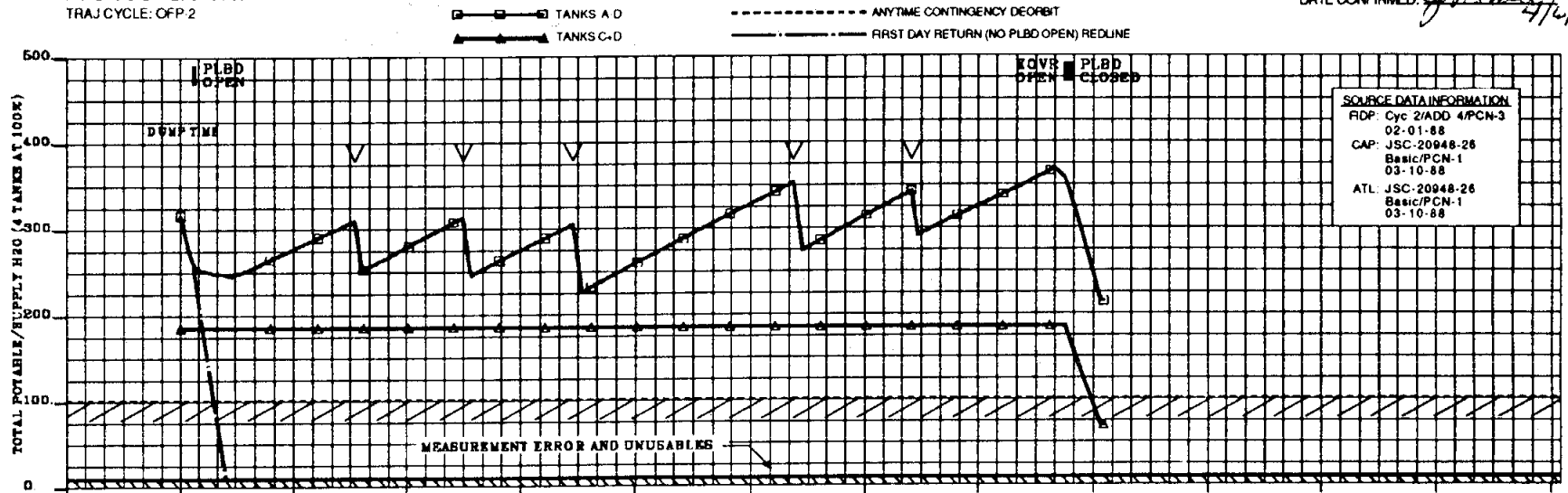
5-4

CAP/26/FIN A

KHANDAKER M. RAHMAN
 ANALYSIS DATE: 04-04-88
 TRAJ CYCLE: OFP-2

MISSION OPERATIONS DIRECTORATE - SYSTEMS DIVISION

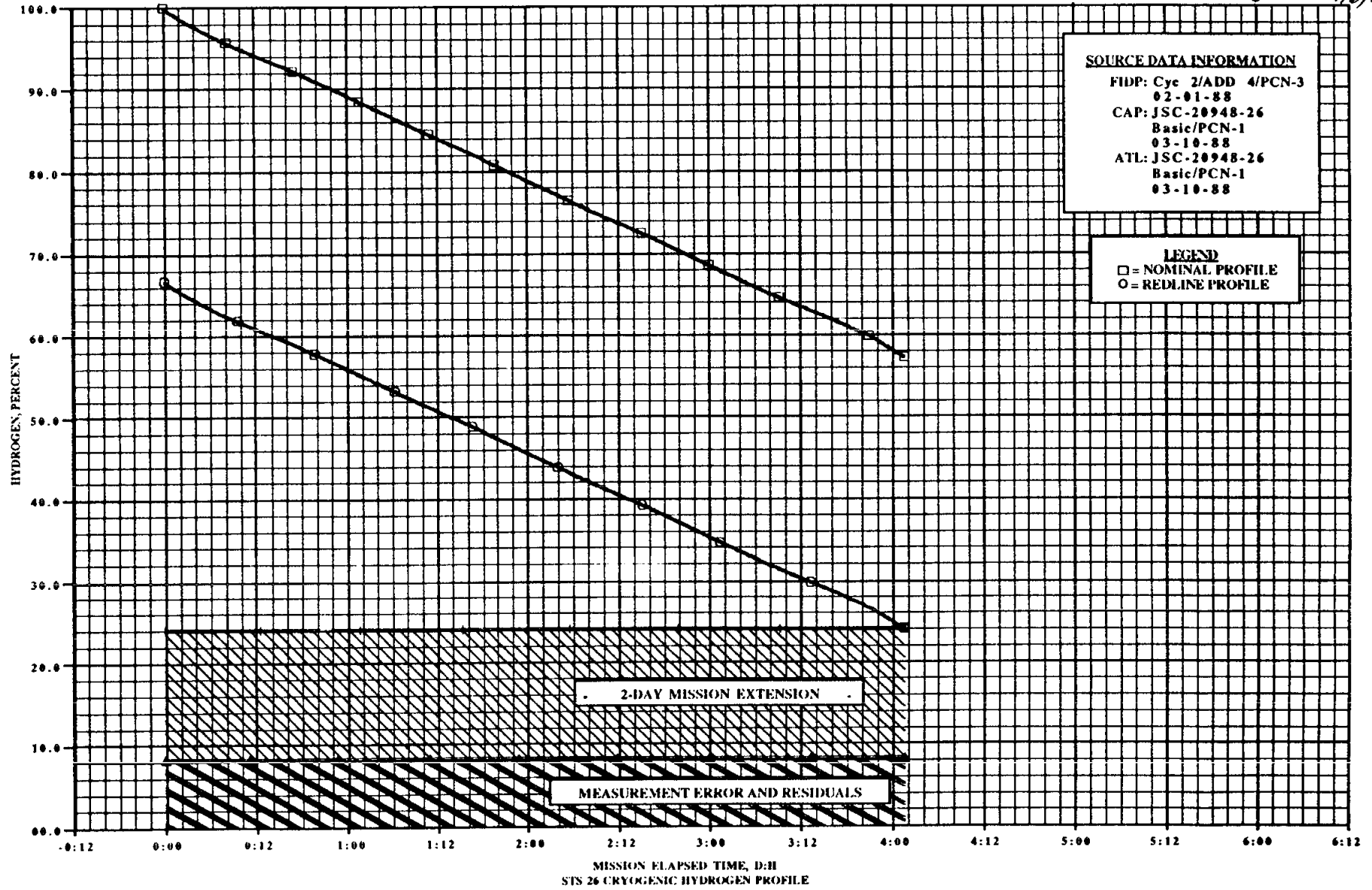
DATE CONFIRMED: *J. P. Kelly 4/16/88*



STS-26 SUPPLY WATER

R. D. PECHACEK
ANALYSIS DATE: 04-04-88
TRAJ CYCLE: OFP-2

DATA CONFIRMED: *J. Clark*
7/6/8



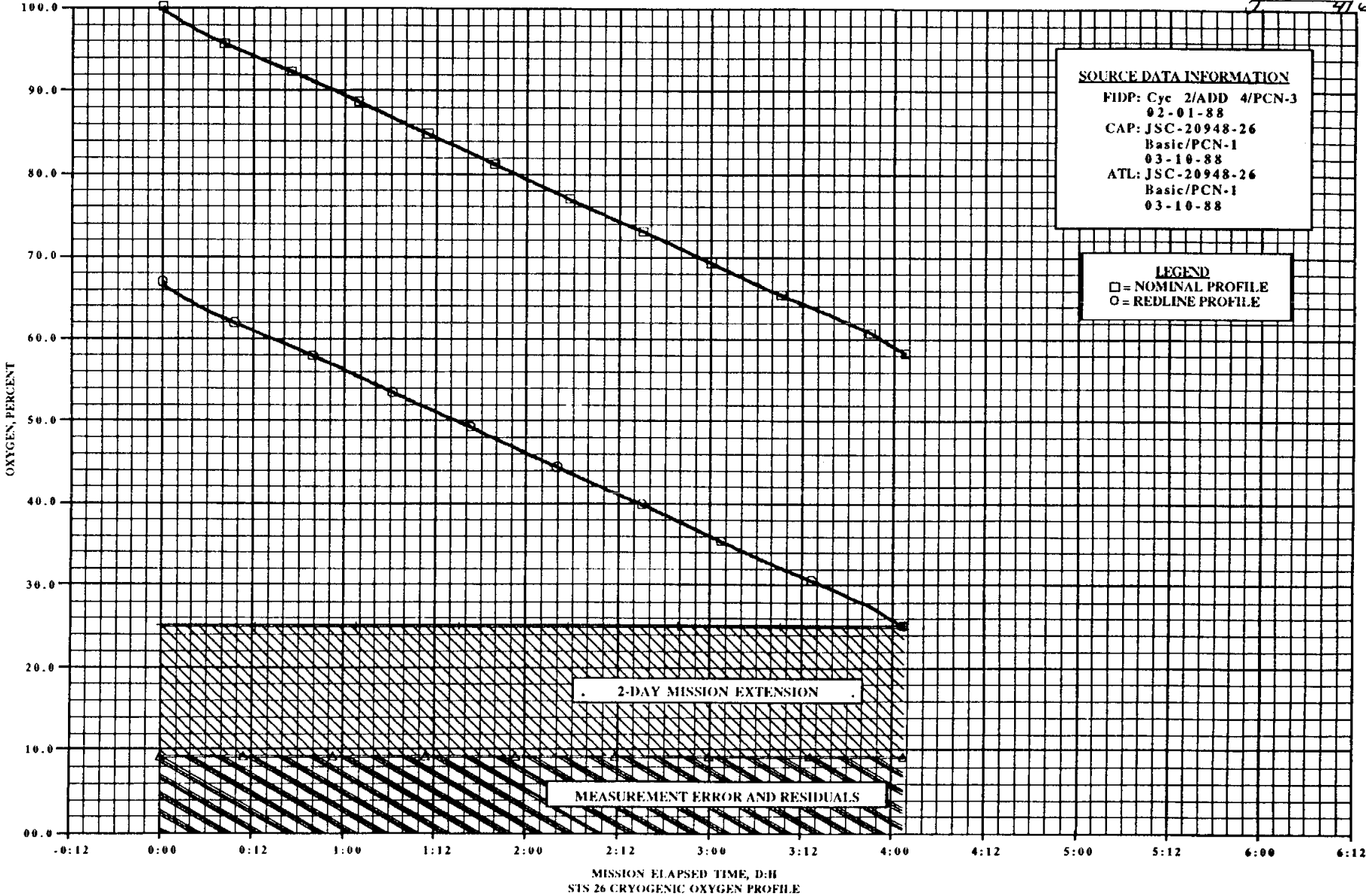
5-6

CAP/26/FIN A

MISSIONS OPERATIONS DIRECTORATE
SYSTEMS DIVISION

R. D. PECHACEK
ANALYSIS DATE: 04-04-88
TRAJ CYCLE: OFF-2

DATA CONFIRMED *J. Clark* 7/6/88



5-7

CAP/26/FIN A

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

CREW ACTIVITY PLAN NOTES
(CONSTRAINTS AND GUIDELINES)

A. FLIGHT DESCRIPTION

The STS-26 (OV-103) launch from KSC on August 22, 1988 (Cycle 2R1) will be into a 160 nm orbit at an inclination of 28.5 degrees. The mission duration will be 5 days. Nominal landing occurs at EDW on August 26, 1988.

Landing opportunities are:

		<u>Landing Orbit No.</u>	<u>Site</u>	<u>Local Time</u>
Nominal	Primary	65	EDW	07:35
	Backup	66	EDW	09:11
	Weather Alt.	65	NOR	08:38
1 Day Late	Primary	80	EDW	06:12
	Backup	81	EDW	07:48
	Weather Alt.	80	NOR	07:15
2 Days Late	Primary	96	EDW	06:24
	Backup	97	EDW	08:00
	Weather Alt.	96	NOR	07:27

MAJOR EVENTS

LAUNCH (KSC) August 22, 1988
 MET (DD/HH:MM:SS) 0/00:00:00
 Day of year 235
 CDT/GMT 08:39/13:39

OMS-2
 MET (DD/HH:MM:SS) 0/00:42:00
 DV (fps) 222
 DT (MM:SS) 2:22
 ORBIT ha/hp (nm) 159 x 161

TDRS/IUS DEPLOY (6A INSERTION)
 MET (DD/HH:MM:SS) 0/06:14

OMS SEPARATION BURN
 MET (DD/HH:MM:SS) 0/06:29
 DV (fps) 31
 DT (MM:SS) 00:19
 ORBIT ha/hp (nm) 177 x 161

DEORBIT BURN
 MET (DD/HH:MM:SS) 03/23:57
 DV (fps) 304

LANDING (EDW)
 MET (DD/HH:MM:SS) 04/00:56:00
 Day of year 239
 CDT/GMT 09:35/14:35

B. CREW

1. The crewman responsible for performing an EVA, should one become necessary, are: MS3 will be EV1, MS1 will be EV2, and PLT will be IV1
2. There will be 5 crewmen flying this mission, with each specialist assigned to the following tasks:

CDR - Overall mission decisions, vehicle control, GNC, ECLSS, C&W, DPS, Medical
 PLT - APU/HYD, MPS, EPS, OMS, RCS, Earth Obs
 MS1 - IUS/TDRS, OASIS, Crew Equipment
 MS2 - Communications, SPOC/HP41, PLBD/RAD
 MS3 - EMU, TV, Instrumentation FDF, IFM Habitability, Middeck Payloads

C. ORBITER SYSTEMS

1. Communications and Instrumentation

- a. The Operational Instrumentation (OI) system will nominally be managed from the ground through uplink real-time commands coordinated with the crew.
- b. There are 13 GSTDN sites available for on-orbit coverage: CAN, GDY, MIL (MLX), BDA, HAW, GWM, AGO, ACN, MAD (MAX), YAR, DKR, IOS, and VAN
- c. There are 3 GSTDN sites available for real-time TV: GDY, MIL (MLX), and HAW.
- d. There are 2 GSTDN sites available for UHF voice only: YAR, IOS
- e. There are 4 SGLS sites available for on-orbit coverage during the TDRS/IUS mission: IOS, VTS, GTS, HTS.
- f. TDRS-E is assumed to be in position (41 degrees W).
- g. The only means available for HDR uplink (e.g., Teleprinter) while encrypted is through MIL, BDA and TDRS-E.

2. Guidance and Navigation

- a. The Orbiter state vector must be uplinked whenever downtrack error in the on-board vector becomes greater than 20 nm, but is usually uplinked when errors are much greater than 5 nm. These are real-time calls. In addition, state vectors must be uplinked for specified targets when utilizing an Orbiting Vehicle as a TGT ID with Universal Pointing.
- b. IMU alignments occur approximately every 12 hours in the morning and evening activities and prior to major events requiring low navigation uncertainty.
- c. In order not to perturb the Tracking Arc before the deploy, the first IMU align will be in a bias -ZLV +YVV attitude.

The orbiter will be biased in yaw assuring acquisition of stars for the IMU align before the IUS deploy.

3. Environmental Control and Life Support Subsystem (ECLSS)

- a. The CO2 absorbers are installed for launch and entry and are alternately replaced on-orbit as required.
- b. There are four supply water tanks and one waste water tank which are loaded for launch with volumes sufficient to meet an orbit 3 launch day deorbit with PLBDs failed closed. If waste water production exceeds storage capacity, a real-time call will be made to perform a waste tank dump. Normally two supply water dumps will occur per flight day. A real-time call will be made prior to each to inform the crew whether a dump is required, and to what level. Tanks A and B will be dumped to a level that will allow the tanks to be full prior to the next daily group of deorbit opportunities.

4. DC Utility Power Usage

The following table is the DC Utility Power Outlet Schedule. This table shows the times of outlet reconfigurations during the mission.

STS-26 DC UTILITY POWER OUTLET SCHEDULE

MET OUTLET	PRELAUNCH	POST INSERTION	ON ORBIT			DEORBIT PREP
		0/02:00	0/08:45	0/09:00	3/19:00	3/23:00
019	PLT*	----	----	----	----	PLT
MO52J	MS3*	----	----	ADSF	----	MS3
F1	----	----	----	----	----	----
MO13Q	PDB**	----	PVTOS	PVTOS	PDB**	PDB**
A11	MS1*, MS2*	----	----	----	----	MS1, MS2
A15	CDR*	TLPR	TLPR	TLPR	TLPR	CDR
MO30F	----	PDB**	PDB**	PDB**	----	----

NOTES:

* Crewman suit fan

** Power distribution box with ARC and PCG

If an outlet column is blank, the outlet is not in use

D. TEXT UPLINK SYSTEM

1. The teleprinter (TPR) will provide an on-orbit capability to receive and reproduce text-only data (such as procedures, weather data, and CAP updates or changes) from MCC. The TPR uses S-Band and is not dependent on TDRS Ku-Band. TPR uplink requires 1 to 2.5 minutes per message, depending upon the number of lines (up to 66). Activation includes powering up the unit during Post Insertion. The TPR will remain on continuously until deactivation prior to seat ingress on entry day.

E. TELEVISION/PHOTOGRAPHY

1. The CCTV systems provide two color wide-angle cameras for in-cabin coverage. There will also be four PLBD TV cameras and two Remote Manipulator System (RMS) TV cameras (RMS Elbow, RMS end effector). The two RMS TV cameras will only be available if the RMS is carried on the flight. There are three different lens assemblies for the PLB and RMS TV cameras (color lens assembly, monochrome lens assembly and wide angle lens assembly). The type of lens assembly for each PLB and RMS TV camera can be selected pre-flight by the payload customer.
2. There is a video tape recorder available with 30 min cassettes.
3. 35mm, 16mm, and 70mm camera systems are available.

F. PAYLOADS

1. TDRS (Tracking and Data Relay Satellite)

The TDRS-C is a communication satellite which is the second of two spacecraft launched in the process of assembling the Tracking and Data Relay Satellite System. The system will provide a high-capacity communication and data link with the STS as well as other spacecraft and launch vehicles. TDRS-A was launched on STS-6. The nominal IUS/TDRS-C deployment opportunity occurs 60 minutes prior to node 6A (ascending) at 0/8:14 MET. Backup opportunities occur prior to 7A and 16A. A contingency opportunity occurs 60 minutes prior to 8D (descending).

2. IUS (Inertial Upper Stage)

The IUS is a two-stage solid rocket, inertially stabilized upper stage which will place TDRS-C in a geosynchronous orbit. The IUS ignites its first stage (SRM-1) for transfer orbit insertion 60 minutes after TDRS-C/IUS deployment. The second burn (SRM-2) occurs approximately 7 hours after deployment, resulting in a 0 degree inclination, geosynchronous orbit at 178 degree W longitude for the 6A deployment opportunity.

3. OASIS-I (Orbiter Experiments Autonomous Supporting Instrumentation System)

The OASIS-I payload will collect environmental data for Orbiter primary payloads. OASIS is capable of collecting a variety of environmental parameters based on specific transducer configurations for each flight. For STS-26, OASIS is configured to interface with TDRS-C/IUS. OASIS has transducers/sensors mounted on the forward and aft IUS ASE to measure thermal, acoustic, vibration, stress, and acceleration data.

4. ADSF (Automated Directional Solidification Furnace)

The ADSF is a furnace facility designed to conduct materials processing experiments. It takes the space of 5 middeck lockers. It consists of a furnace container which houses 4 samples, a Control Electronics Container (CEC), and a Middeck Electronics Module (MEM). The 4 samples will run for 10 hours 30 minutes each.

5. PVTOS (Physical Vapor Transport of Organic Solids)

PVTOS is an experiment which will observe and study sublimation of 9 organic solids in a micro-g environment via gaseous diffusion. It takes the space of 3 Middeck lockers and consists of a Experiment Apparatus Container (EAC), and a Generic Electronics Module (GEM). Each of the 9 cells takes 5 hours of processing.

6. ARC (Aggregation of Red Blood Cells)

The ARC payload will conduct experiments which will supply information on the kinetics of aggregation of human red blood cells, the morphology of red blood cell aggregates, and the viscosity of whole blood at lower and higher flow rates. It consists of 2 sealed packages, the Experiment Apparatus Container (EAC) and the Electronics Equipment Package (EEP). It takes the place of 3 middeck lockers. The experiment run time is 8 hours.

7. IEF (Isoelectric Focusing Experiment)

IEF is a payload which will evaluate the effect of electro-osmosis on isoelectric focusing in the absence of gravity. The IEF is a completely self-contained assembly which takes up 1 Middeck locker. Experiment duration is 1.5 hours.

8. MLE (Mesoscale Lightning Experiment)

The objective of MLE is to photograph large scale upper atmospheric lightning using the Cargo Bay cameras and a 35 mm camera. It is a target of opportunity observation where the crew will document lightning phenomenon at one of 6 designated areas. It requires 2 crewmen to make the observation. Observations are to be made on at least 2 night passes per flight day.

9. ELRAD (Earth Limb Radiance Experiment)

The ELRAD payload will measure the radiance of twilight sky for various positions of the sun from sunset (and sunrise) to 9 degrees below the earth's horizon. It requires 1 crewman to perform the experiment, a 35 mm camera with an 85 mm lens and 3 photographic sequences (1 sunrise and 2 sunsets).

10. IRCFE (Infrared Communication Flight Experiment)

The purpose of this payload is to demonstrate the use of infrared communication. This system will replace the radio frequency communication system used by 1 crewman for a 2 hour period. Operation should occur during the passage through the South Atlantic Anomaly.

11. PPE (Phased Partitioning Experiment)

The PPE payload will document the phenomena of surface tension effects on mixed fluids in the absence of gravity. The experiment consists of a module with 15 chambers of mixed fluids. One crewman will shake up the module and document the separation of the fluid at intervals of time.

12. SSIP 82-5, 82-4 (Shuttle Student Involvement Projects)

Student experiment 82-4 is called "The Effect of Weightlessness on Grain Formation and Strength in Metals". Its objective is to observe the transformation and resolidification of Titanium alloys in a zero-g environment. It utilizes 1/2 a middeck locker. It contains 4 Titanium alloy samples contained in pyrex mounted on the experiment base plate. One crewman will send a 10 second charge through each of the wires and they will be analyzed after the mission.

Student experiment 82-5 is called "Utilizing a Semi-Permeable Membrane to Direct Crystal Growth in Zero-Gravity". Its objective is to observe and obtain crystal growth between 2 aqueous solutions in a deionized water solution. The experiment uses 1/2 middeck locker. It contains 3 crystal growth units. The unit will be activated by turning the handles on each end of the units. The Lead Acetate solution and the Potassium Iodide solution will mix in the deionized water and promote crystal growth. The crystal growth will be documented on video and analyzed post mission.

13. PCG (Protein Crystal Growth)

The objective of the PCG is to produce large, high quality crystals of selected proteins under controlled conditions in microgravity. The payload mounts in place of 1 middeck locker. Experiment operation consists of initiation of the crystal growth once on orbit, and photography at 24 hours intervals.

G. ON-ORBIT DSO'S

1. Salivary Pharmacokinetics of Scop-Dex (DSO 457)

The purpose of this DSO is to investigate the pharmacokinetics of scopolamine and dextroamphetamine during space flight. When the degree and nature of the pharmacokinetics are determined, the therapeutic consequences may be predicted. The crewmember will take the drug after an 8 hour fast, and take salivary samples at required intervals during the flight day.

2. Salivary Acetaminophen Pharmacokinetics (DSO 458)

This DSO investigates the pharmacokinetics of Acetaminophen (Tylenol). This drug is used for evaluation because it distributes into the saliva with a ratio similar to blood plasma. The crewmembers will take the Tylenol after an 8 hour fast and take salivary samples at specified intervals during the flight day.

3. Otolith Tilt-Translation Reinterpretation (DSO 459)

The objective of this DSO is to collect data which will allow development of a trainer to preadapt astronauts to the sensory changes produced by microgravity. Two crewmembers will work together to obtain data regarding their perceived position each flight day. One crewmember will wear the OTTR goggles for data collection of otolith response.

4. Changes in Total Body Water During Spacecraft (DSO 460)

The purpose of this DSO is to measure the changes in total body water that occur during spaceflight. These measurements will also prove valuable in future studies which will track fluid shifts among specific body fluid compartments. The procedure involves ingestion of a dose of water labeled with the stable isotope oxygen-18, followed by periodic collection of saliva samples to determine the concentration of labeled water after establishment of a steady-state distribution.

5. Documentary Television (DSO 901)

This DSO requires live television transmission or VTR dumps of crew activities and spacecraft functions which include: Payload Bay Views, TDRS-C/IUS Predeploy and Deploy Activities, VTR Downlink of Deploy Activities, In-Flight Crew Conference, and unscheduled TV Activities.

6. Documentary Motion Picture Photography (DSO 902)

This DSO requires documentary and public affair motion picture photography of significant activities which best depicts the basic capabilities of the Space Shuttle and key objectives. This DSO includes motion picture photography of TDRS-C/IUS Predeploy and Deploy Activities, Flight Deck Activities, Middeck Activities, and any unscheduled Motion Picture Photography.

7. Documentary Still Photography (DSO 903)

This DSO requires still photography of crew activities in the orbiter, spacecraft accommodations and mission related scenes of general public and historical interest. Still photography with 70mm format for exterior photography and 35mm format for interior photography is required.

H. ON-ORBIT DTOs

1. Cabin Air Monitoring (DTO 623)

This DTO will use the solid sorbent sampler to continuously sample the Orbiter atmosphere throughout the flight. The solid sorbent sampler is to be flown on first flights of a new vehicle or after extensive non-metallic materials refurbishment in the Orbiter cabin.

I. TIMELINE FORMATS

1. The timeline formats used in this Crew Activity Plan are based on JSC document 19933: Timeline Format Definitions and Standard Notes, Revision B, May 25, 1987.

STS-26 DAP BOOK

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		0.10	0.10	0.05	0.25
<u>ROTATION</u>											
DSC RT NORM °/sec	0.200	0.400	0.200	0.200	0.200	0.200		0.500	0.200	0.200	0.200
VERN °/sec	0.200	0.400	0.200	0.008	0.200	0.200		0.200	0.200	0.200	0.200
PULSE NORM °/sec	0.10	0.10	0.30	0.10	0.10	0.10		0.10	0.10	0.10	0.05
VERN °/sec	0.010	0.010	0.010	0.010	0.050	0.010		0.010	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	2.00	2.00	1.00
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		.020	.020	.020	.010
<u>JET OPT</u>											
P	1	1	3	1	1	3		1	1	1	1
Y	1	1	3	3	1	3		1	1	1	1
<u>CNTL ACCEL</u>											
	0	0	0	0	0	0		0	0	0	0

*I-LOADED OPS-2 DAP Configuration

DAP B CONFIGURATIONS

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

*I-LOADED OPS-2 DAP Configuration

DAP BOOK

HOOK
VELCRO

CAP/26/0/BAS

UNIV PTG	
TGT ID = 1	Orbiting Vehicle
= 2	Earth ctr
= 3	Earth tgt
	Input LAT (± 90)
	LON (± 180 , + = East)
	ALT (-3444.0 to 20000.0 nm)
= 4	Sun ctr
= 5	Celestial tgt
	Input RA (0-359.99)
	DEC (± 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/26/0/BAS

G20 DAP CONFIG	
CNTL ACCEL = 0	Orbiter alone
= 1	thru 5 not used
JET OPT = 1	Normal
= 2	Nose only
= 3	Tail only

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 - (Blank)
- A8 - PRE/POST DEPLOY
- A9 - RENDEZVOUS
- A10 - PROX OPS
- A11 - IUS DEPLOY

CAP/26/0/BAS



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 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/26/0/BAS

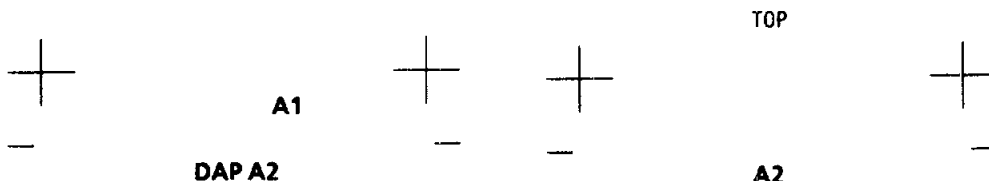


CAP/26/0/BAS



A2

TOP



PURPOSE:
PTC

0.1 0 1 TRANSLATION PULSE

ROTATION

0.4 0 0 2 DSC RT NORM

0.4 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

1.0 0 8 ATT NORM

1.0 0 0 9 VERN

0.2 0 10 RATE NORM

.0 2 0 11 VERN

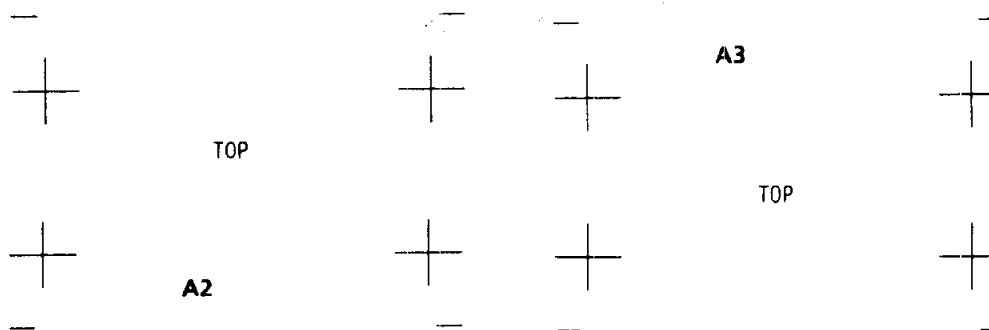
1 12 JET OPT P

1 13 Y

0 14 CNTL ACCEL

CAP/26/0/BAS

CAP/26/0/BAS



PURPOSE:
RCS HOT FIRE

0.1 0 1 TRANSLATION PULSE

ROTATION

0.2 0 0 2 DSC RT NORM

0.2 0 0 3 VERN

0.3 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 8 ATT NORM

1.0 0 0 9 VERN

0.2 0 10 RATE NORM

.0 2 0 11 VERN

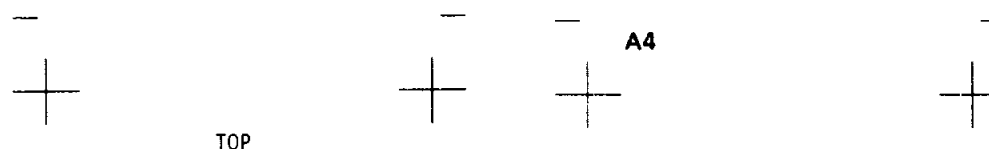
3 12 JET OPT P

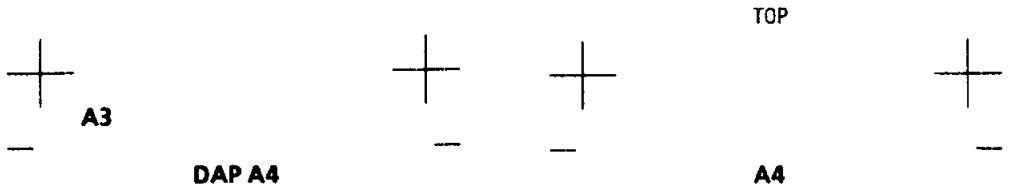
3 13 Y

0 14 CNTL ACCEL

CAP/26/0/BAS

CAP/26/0/BAS





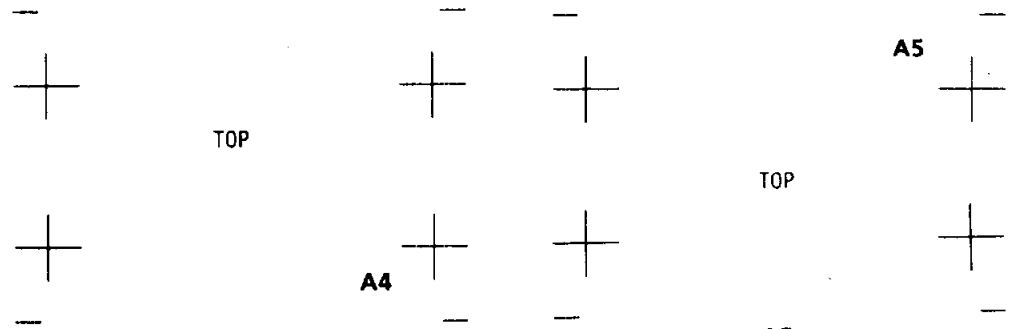
DAP A4

PURPOSE:
GG

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

CAP/26/0/BAS

CAP/26/0/BAS



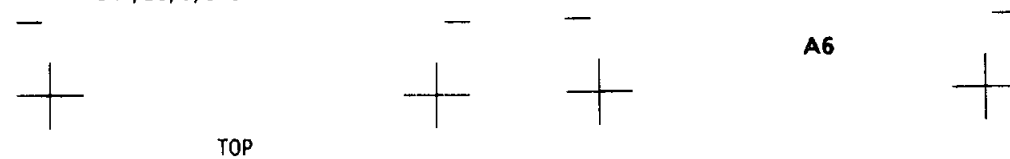
DAP A5

PURPOSE:
IMU ROTATION

- 0.1 0 1 TRANSLATION PULSE
- 0.2 0 0 2 DSC RT NORM
- 0.2 0 0 3 VERN
- 0.1 0 4 PULSE NORM
- 0.0 5 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 2 0 11 VERN
- 1 12 JET OPT P
- 1 13 Y
- 0 14 CNTL ACCEL

CAP/26/0/BAS

CAP/26/0/BAS



TOP



A5



DAP A6

A6

PURPOSE:

LOSS OF VERN
(TAIL ONLY)

0.1 0

1 TRANSLATION
PULSE

0.2 0 0

ROTATION

2 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

3

12 JET OPT P

3

13 V

0

14 CNTL ACCEL

CAP/26/0/BAS

CAP/26/0/BAS



A7

TOP

TOP



A6



DAP A7

A7

PURPOSE: (Blank)

0.0 0 0

1 TRANSLATION
PULSE

0.0 0 0

ROTATION

2 DSC RT NORM

0.0 0 0

3 VERN

0.0 0 0

4 PULSE NORM

0.0 0 0

5 VERN

0.0 0 0

6 COMP NORM

0.0 0 0

7 VERN

DEADBAND

0.0 0 0

8 ATT NORM

0.0 0 0

9 VERN

0.0 0 0

10 RATE NORM

0.0 0 0

11 VERN

0

12 JET OPT P

0

13 Y

0

14 CNTL ACCEL

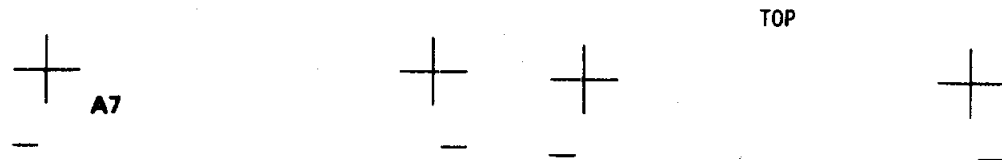
CAP/26/0/BAS

CAP/26/0/BAS



A8

TOP



DAP A8

PURPOSE:
PRE/POST DEPLOY

TOP



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 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 0 9 VERN
- 0.2 0 10 RATE NORM
- .0 2 0 11 VERN
- 1 12 JET OPT P
- 1 13 Y

CAP/26/0/BAS

CAP/26/0/BAS



TOP



A8



A9

TOP



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 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 0 9 VERN
- 0.2 0 10 RATE NORM
- .0 2 0 11 VERN
- 1 12 JET OPT P
- 1 13 Y

CAP/26/0/BAS

CAP/26/0/BAS



TOP



A10



TOP

A9

DAPA10

PURPOSE:
PROX OPS

0.0 5

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

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/26/0/BAS

CAP/26/0/BAS

A11

TOP

TOP

A10

DAPA11

PURPOSE:
IUS DEPLOY

0.2 5

1 TRANSLATION
PULSE

0.2 0 0

2 ROTATION
DSC RT NORM

0.2 0 0

3 VERN

0.0 5

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

1.0 0 0

9 VERN

0.2 0

10 RATE NORM

.0 1 0

11 VERN

1

12 JET OPT P

1

13 Y

0

14 CNTL ACCEL

CAP/26/0/BAS

CAP/26/0/BAS

TOP

TOP



A11

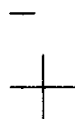


DAP PURPOSE

- 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 - (Blank)

CAP/26/O/BAS

CAP/26/O/BAS



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
	VERN	23	1.0 0 0

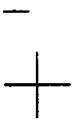
RATE	NORM	24	0.2 0
	VERN	25	.0 2 0

JET OPT	P	26	1
	Y	27	1

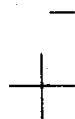
CNTL ACCEL 28 0

CAP/26/O/BAS

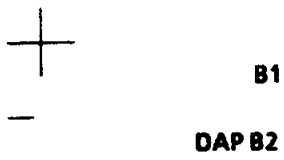
CAP/26/O/BAS



B2



TOP



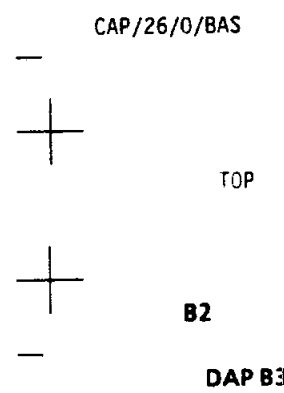
DAP B2

PURPOSE:
LOSS OF VERN
(TAIL ONLY)

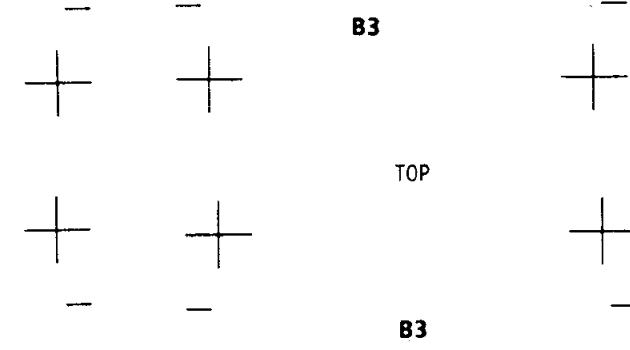


TRANSLATION			
PULSE	15	0.0 2	
ROTATION			
DSC RT	NORM 16	0.2	0 0
	VERN 17	0.2	0 0
PULSE	NORM 18	0.0	4
	VERN 19	0.0	2
COMP	NORM 20	.0	0
	VERN 21	.0	0
DEADBAND			
ATT	NORM 22	3.0	0
	VERN 23	1.0	0
RATE	NORM 24	0.2	0
	VERN 25	.0	2
JET OPT	P 26	3	
	Y 27	1	
CNTL ACCEL	28	0	

CAP/26/0/BAS

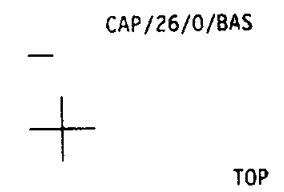


PURPOSE:
LOSS OF VERN
(NOSE & TAIL)
GG MNVR



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	2
COMP	NORM 20	.0	0
	VERN 21	.0	0
DEADBAND			
ATT	NORM 22	3.0	0
	VERN 23	1.0	0
RATE	NORM 24	0.2	0
	VERN 25	.0	2
JET OPT	P 26	1	
	Y 27	1	
CNTL ACCEL	28	0	

CAP/26/0/BAS



B3

DAP B4

PURPOSE:
SSUS DEPLOY

CAP/26/0/BAS

TOP

DAP B5

PURPOSE:
COAS CAL

CAP/26/0/BAS

TOP

B4

TRANSLATION
PULSE 15 0.0 2

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

DEADBAND
ATT NORM 22 0.3 0
VERN 23 0.1 0 0

RATE NORM 24 0.2 0
VERN 25 .0 1 0

JET OPT P 26 3
Y 27 3

CNTL ACCEL 28 0
CAP/26/0/BAS

B5

TOP

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
VERN 21 .0 0 0

DEADBAND
ATT NORM 22 3.0 0
VERN 23 0.0 3 3

RATE NORM 24 0.2 0
VERN 25 .0 2 0

JET OPT P 26 3
Y 27 3

CNTL ACCEL 28 0
CAP/26/0/BAS

B6

TOP

B5

DAP B6

PURPOSE:
RENDEZVOUS

CAP/26/0/BAS

TOP

B6

DAP B7

PURPOSE:
PROX OPS

CAP/26/0/BAS

TOP

TOP

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
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/26/0/BAS

B7

TOP

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
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/26/0/BAS

B8

TOP



B7



DAP B8

B8

PURPOSE: (Blank)

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	-
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CAP/26/0/BAS

CAP/26/0/BAS



TOP



B8



CAP/26/0/BAS



TOP



TOP
BACK COVER 'DAP BOOK'



HOOK
VELCRO

CAP/26/0/BAS



STS-26 ATTITUDE TIMELINE

ATTITUDE
TIMELINE

Attitude Timeline

MET	MNVR OPTION	DAP	E/S	REMARKS	EVENT
1 0/01:10:00 20:51	TRK TGT=2 BV=3(90.00, .00) OM=281.00	A1 DSC .200 AUTO DB AT 5.00 NORM DB RT .20	EARTH T 90 P 0	LVLH R+ 0 P+180 Y+ 79	BIASED -ZLV NOSE SOUTH PLBD OPENING
2 0/04:19:00 32:46	MNVR R+333.00 P+283.00 Y+ 1.00	B1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02	SUN T 90 P 180		TDRS DIRECT CHECK ATT
3 0/05:33:00 35:38	TRK TGT=4 BV=5(280.20, .00) OM=270.00 DEPLOY 0/6:13:33	A11 DSC .200 AUTO DB AT 1.00 VERN DB RT .01	SUN T 80 P 180	INRTL R+326 P+259 Y+340	TDRS DEPLOY ATTITUDE
4 0/06:14:33	ROT BV=5(.00,270.00)	A11 DSC .430 MAN DB AT 1.00 NORM DB RT .20		ROT R+326 START P+259 ATT Y+340	-2.2 FPS SEP AND BEGIN -70 DEG PITCH
5 0/06:14:41	ROT BV=5(.00,270.00)	A11 DSC .860 MAN DB AT 1.00 NORM DB RT .20		ROT R+325 START P+256 ATT Y+342	SEP CUTOFF CONTINUE -70 DEG PITCH
6 0/06:15:59	CANCEL	A11 DSC .200 MAN DB AT 1.00 NORM DB RT .20	SUN T 9 P 178	INRTL R+327 P+201 Y+ 22	END OF -70 DEG PITCH
7 0/06:20:33 25:11	MNVR R+247.00 P+ 67.00 Y+318.00	B1 DSC .500 AUTO DB AT 3.00 NORM DB RT .20	SUN T 134 P 112	TIG 0/06:28:33	OMS SEP ATTITUDE
8 0/06:28:59 30:29	TRK TGT=1 BV=3(90.00, .00) OM= .00	B1 DSC .500 AUTO DB AT 3.00 NORM DB RT .20	SUN T 133 P 66		IUS VIEWING ATTITUDE
9 0/06:52:33 58:07	TRK TGT=1 BV=5(310.00, .00) OM= 23.60	B1 DSC .500 AUTO DB AT 3.00 NORM DB RT .20	SUN T 80 P 163		WINDOW PROTECT ATTITUDE
10 0/07:13:33	CANCEL	B1 DSC .200 MAN DB AT 1.00 VERN DB RT .02	SUN T 80 P 163	INRTL R+319 P+337 Y+ 69	INRTL HOLD
11 0/08:18:00 30:33	MNVR R+282.00 P+119.00 Y+320.00	A1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02	SUN T 96 P 109	STAR PR A1	IMU ALIGN
12 0/08:40:00 53:39	TRK TGT=2 BV=3(90.00, .00) OM=180.00	A1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02	EARTH T 90 P 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD

ATTITUDE
TIMELINE

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 0/20:24:00 34:47	MNVR R+282.00 P+119.00 Y+320.00		A1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02	SUN T 96 P 109	STAR PR A1 -Z COAS:14 -Y ST:26	IMU ALIGN COAS CAL
2 0/20:50:00 21:02:37	TRK TGT=2 BV=3(90.00, .00) OM=180.00		A1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02	EARTH T 90 P 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
3 0/23:45:00 59:57	MNVR R+ 45.00 P+217.00 Y+ 47.00		A1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02	SUN T 28 P 173		KU-BAND ATT
4 1/00:55:00 01:09:56	TRK TGT=2 BV=3(90.00, .00) OM=180.00		A1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02	EARTH T 90 P 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
5 1/06:59:00 07:09:41	MNVR R+282.00 P+119.00 Y+320.00		A1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02	SUN T 95 P 108	STAR PR A1	IMU ALIGN
6 1/07:20:00 33:56	TRK TGT=2 BV=3(90.00, .00) OM=180.00		A1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02	EARTH T 90 P 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
7 1/19:05:00 17:19	MNVR R+344.00 P+310.00 Y+ 25.00		A1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02	SUN T 101 P 160	STAR PR A2	IMU ALIGN
8 1/19:25:00 25:55	MNVR R+349.00 P+299.00 Y+ 30.00		A1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02	SUN T 90 P 160	+X COAS:40	COAS CAL
9 1/20:15:00 27:28	TRK TGT=2 BV=5(17.40, .00) OM=180.20		A1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02	EARTH T 17 P 0	LVLH R+180 P+287 Y+ 0	ELRAD SUNSET
10 1/22:20:00 34:55	TRK TGT=2 BV=5(17.30, .00) OM=359.50		A1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02	EARTH T 17 P 1	LVLH R+359 P+253 Y+ 0	ELRAD SUNRISE
11 2/00:00:00 05:15	MNVR R+ 45.00 P+217.00 Y+ 47.00		A1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02	SUN T 29 P 173		KU-BAND ATT
12 2/01:10:00 24:40	TRK TGT=2 BV=3(90.00, .00) OM=180.00		A1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02	EARTH T 90 P 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD

ALL ATTITUDES IN MEAN OF 1950

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 2/05:40:00 50:34	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC .200 DB AT 1.00 DB RT .02	SUN T 94 P 108	STAR PR A1	IMU ALIGN
2 2/06:00:00 14:11	TRK TGT=2 BV=3(90.00, .00) OM=180.00	A1 AUTO VERN	DSC .200 DB AT 1.00 DB RT .02	EARTH T 90 P 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
3 2/17:46:00 56:33	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC .200 DB AT 1.00 DB RT .02	SUN T 94 P 108	STAR PR A1	IMU ALIGN
4 2/18:05:00 19:24	TRK TGT=2 BV=3(90.00, .00) OM=180.00	A1 AUTO VERN	DSC .200 DB AT 1.00 DB RT .02	EARTH T 90 P 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
5 2/22:25:00 39:23	MNVR R+ 45.00 P+217.00 Y+ 47.00	A1 AUTO VERN	DSC .200 DB AT 1.00 DB RT .02	SUN T 30 P 174		KU-BAND ATT
6 3/00:05:00 19:22	TRK TGT=2 BV=3(90.00, .00) OM=180.00	A1 AUTO VERN	DSC .200 DB AT 1.00 DB RT .02	EARTH T 90 P 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
7 3/05:52:00 06:02:33	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC .200 DB AT 1.00 DB RT .02	SUN T 93 P 108	STAR PR A1	IMU ALIGN
8 3/06:10:00 24:37	TRK TGT=2 BV=3(90.00, .00) OM=180.00	A1 AUTO VERN	DSC .200 DB AT 1.00 DB RT .02	EARTH T 90 P 0	LVLH R+180 P+ 0 Y+ 0	-ZLV NOSE FWD
9 3/17:58:00 18:08:33	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC .200 DB AT 1.00 DB RT .02	SUN T 93 P 108	STAR PR A1	IMU ALIGN
10 3/18:20:00 27:10	TRK TGT=4 BV=5(184.00, .00) OM= 90.00	A1 AUTO VERN	DSC .200 DB AT 1.00 DB RT .02	SUN T 176 P 180	INRTL R+215 P+ 15 Y+338	TAIL SUN COLD SOAK
11 3/21:00:00 07:10	MNVR R+282.00 P+119.00 Y+320.00	A1 AUTO VERN	DSC .200 DB AT 1.00 DB RT .02	SUN T 93 P 108	-Z ST:14 -Y ST:26	D/O IMU ALIGN
12 3/21:20:00 23:39	MNVR R+183.00 P+ 59.00 Y+ 16.00	B1 AUTO NORM	DSC .500 DB AT 3.00 DB RT .20	SUN T 118 P 217	-Z ST:37 -Y ST:23	IMU VERIF

Attitude Timeline

MET	MNVN OPTION	DAP	E/S	REMARKS	EVENT
1 3/21:30:00 33:13	MNVN R+ 74.00 P+160.00 Y+ 42.00	B1 AUTO NORM	DSC .500 DB AT 3.00 DB RT .20	SUN TIG T 31 3/23:57:00 P 261	DEORBIT ATT

ALL ATTITUDES IN MEAN OF 1950

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