

*Shuttle*

# Flight Plan

## STS-75

(Flight Cycle Trajectory)

Mission Operations Directorate  
Operations Division

Final  
January 4, 1996

<u>EVENT</u>	<u>CST</u>		
Launch	14:27	Thur	February 15
TSS Flyaway	14:46	Sat	February 17
TSS Dock	12:54	Mon	February 19
USMP Micro-G	14:27	Tues	February 20
KSC Landing	06:44	Thur	February 29

National Aeronautics and  
Space Administration

Lyndon B. Johnson Space Center  
Houston, Texas

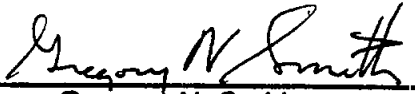


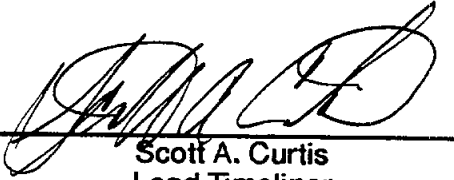
MISSION OPERATIONS DIRECTORATE

STS-75 FLIGHT PLAN


FINAL  
January 4, 1996

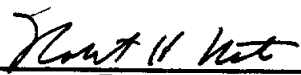
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Book Manager and  
Lead FAO

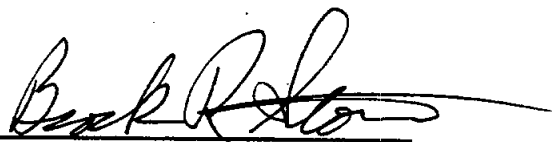
  
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	FLT PLN-1784A	FLT PLN-1790	FLT PLN-1796	MULTI-1229
	FLT PLN-1786	FLT PLN-1792		MULTI-1236
	FLT PLN-1787A	FLT PLN-1793		

Exemption #: 75

AREAS OF TECHNICAL RESPONSIBILITY

Lead FAO	DO4/G. Smith	244-1138
Lead Timeliner	DO4/S. Curtis	244-1085
TSS-1R Timeline	DO4/S. Chalmers	244-1022
USMP-3 Timeline	DO4/R. Smith	244-1166
Lead Pointing	DO4/T. Stockdale	244-5787
EVA Timelines	DO4/P. Bolton	244-1176

FLIGHT PLAN  
STS-75

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## INTRODUCTION

The STS-75 Flight 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 controlling timelines for the first part of the TSS-1R deployment phase, the last part of RET-1 phase, and the Creep/RET-2 phase are in the TSS Dynamics Checklist. For continuity, the entire flight is shown in the summary level timeline.

The Flight Plan, as part of the Flight Data File, is based upon the Flight Readiness Review (FRR) STS-75 Flight Initialization Data Pack. Flight cycle trajectory assumes a launch date of February 15, 1996, at 20:27 GMT.

Orbiter inertial attitudes are expressed relative to a Mean of 1950 (M50) reference frame.

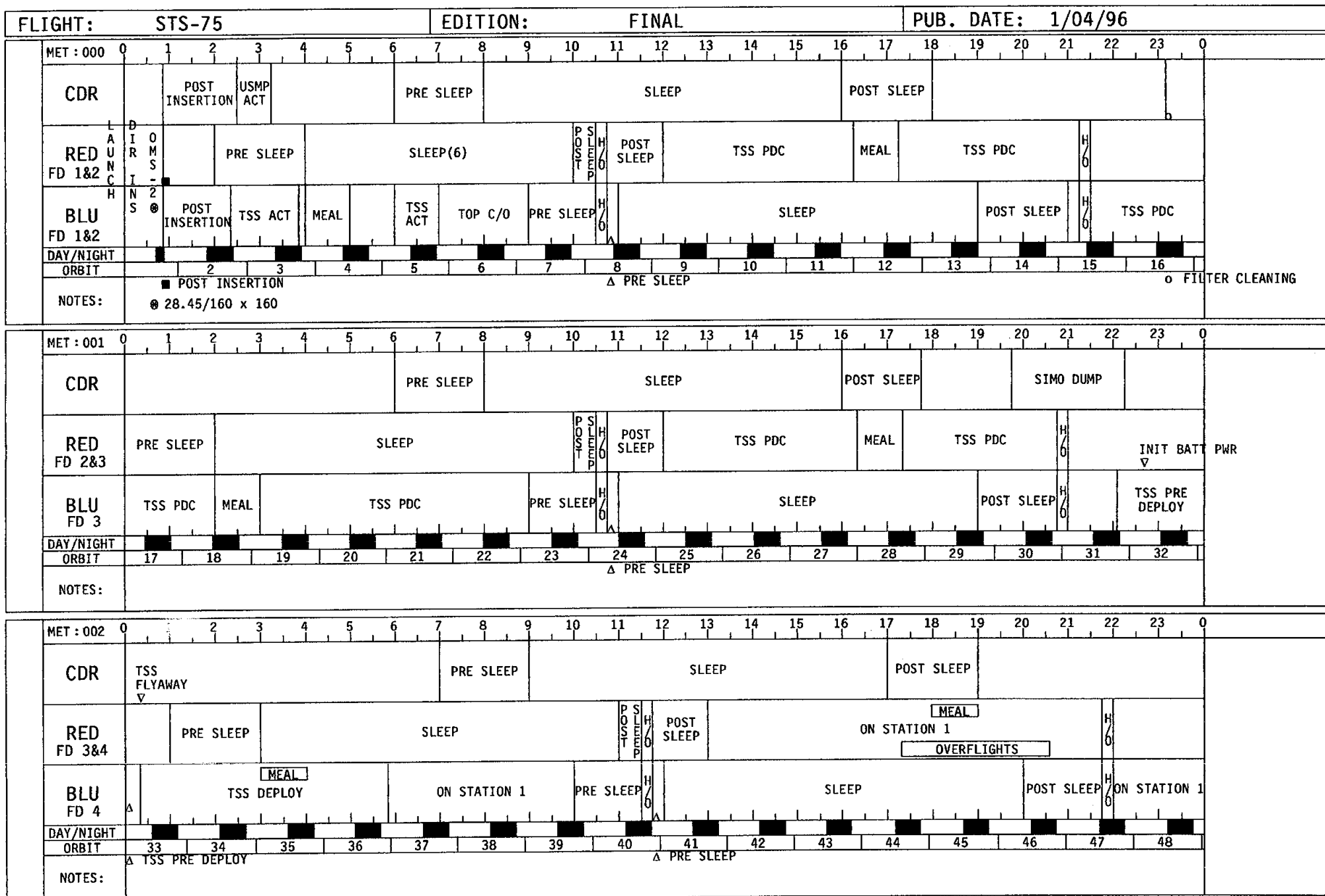
JSC-22359, Crew Scheduling Constraints (Appendix K, CPMP), Basic, Rev B, January 1992, has been used to build the timelines contained in this Flight Plan. The following Appendix K exemption has been submitted for STS-75:

- #75 - Allows MS1 to have a total mission sleep shift of 10 hours later so he can be part of the White Team during the TSS portion of the mission.

**OVERVIEW TIMELINE**



# OVERVIEW TIMELINE



MET : 003	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0			
CDR FD 4&5									PRE SLEEP	SLEEP (7)							POST SLEEP											
RED	PRE SLEEP		SLEEP								POST SLEEP	ON STATION 2					MEAL	CREEP	DOCK		BOOM RET SRL		LTCH					
BLU FD 5	ON STATION 1			RETRIEVAL TO 3.2K					PRE SLEEP	SLEEP (7)							POST SLEEP	TSS FINAL RETRIEVE		SAT SAFING								
DAY/NIGHT	[Day/Night Cycle]																											
ORBIT	49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64																											
NOTES:	Δ PRE SLEEP ▲ OST-2 START																											

MET : 004	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0			
CDR FD 5&6									PRE SLEEP	SLEEP							POST SLEEP											
RED	PRE SLEEP		SLEEP								POST SLEEP	TSS PRS					MEAL	TSS PRS		H/O								
BLU FD 6	TSS PRS	MEAL	TSS PRS					PRE SLEEP	SLEEP							POST SLEEP	TSS PRS											
DAY/NIGHT	[Day/Night Cycle]																											
ORBIT	65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80																											
NOTES:	Δ SAT SAFING Δ PRE SLEEP																											

MET : 005	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0			
CDR FD 6&7	OFF-DUTY						PRE SLEEP	SLEEP							POST SLEEP													
RED	SCAMS	PRE SLEEP		SLEEP								POST SLEEP	OFF-DUTY					MEAL	OFF-DUTY		H/O							
BLU FD 7	TSS PRS	MGBX S/U & C/O		MEAL	OFF-DUTY					PRE SLEEP	SLEEP							POST SLEEP										
DAY/NIGHT	[Day/Night Cycle]																											
ORBIT	81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96																											
NOTES:	Δ FILTER CLEANING																											

FLIGHT: STS-75      EDITION: FINAL      PUB. DATE: 1/04/96

MET: 006	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0				
CDR						PRE SLEEP					SLEEP				POST SLEEP					MGBX CSD 1		MEAL	RCS	BURN					
RED			PRE SLEEP								SLEEP			POST SLEEP	H/O					MEPH QUIESCENT		SAMS MICRO -6		MEAL					
BLU				MGBX FFT 1			MEAL							PS SLEEP	H/O	PRE SLEEP									SLEEP				POST SLEEP
DAY/NIGHT																													
ORBIT			97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112											
NOTES:	RCS BURN																												

MET: 007	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0				
CDR	RCS	BURN					PRE SLEEP																						
RED	H/O			PRE SLEEP											POST SLEEP	H/O													
BLU	H/O																												
DAY/NIGHT																													
ORBIT			113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128											
NOTES:																													

MET: 008	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0				
CDR	MC	GS	BD	X	1																								
RED	H/O			PRE SLEEP																									
BLU	POST	H/O																											
DAY/NIGHT																													
ORBIT			129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144											
NOTES:	o FILTER CLEANING																												

MET : 009	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0			
CDR	MGBX CSD 2		PRE SLEEP		SLEEP								POST SLEEP		OFF-DUTY				MEAL	MGBX CSD 3								
RED		PS SLEEP	H/O	PRE SLEEP	SLEEP								POST SLEEP		MGBX FFT 3				MEAL	OFF-DUTY								
BLU	POST SLEEP		H/O	AADSF QUIESCENT MEAL								POST SLEEP		PRE SLEEP		SLEEP												
DAY/NIGHT	[Day/Night Cycle]																											
ORBIT	145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160																											
NOTES:																												

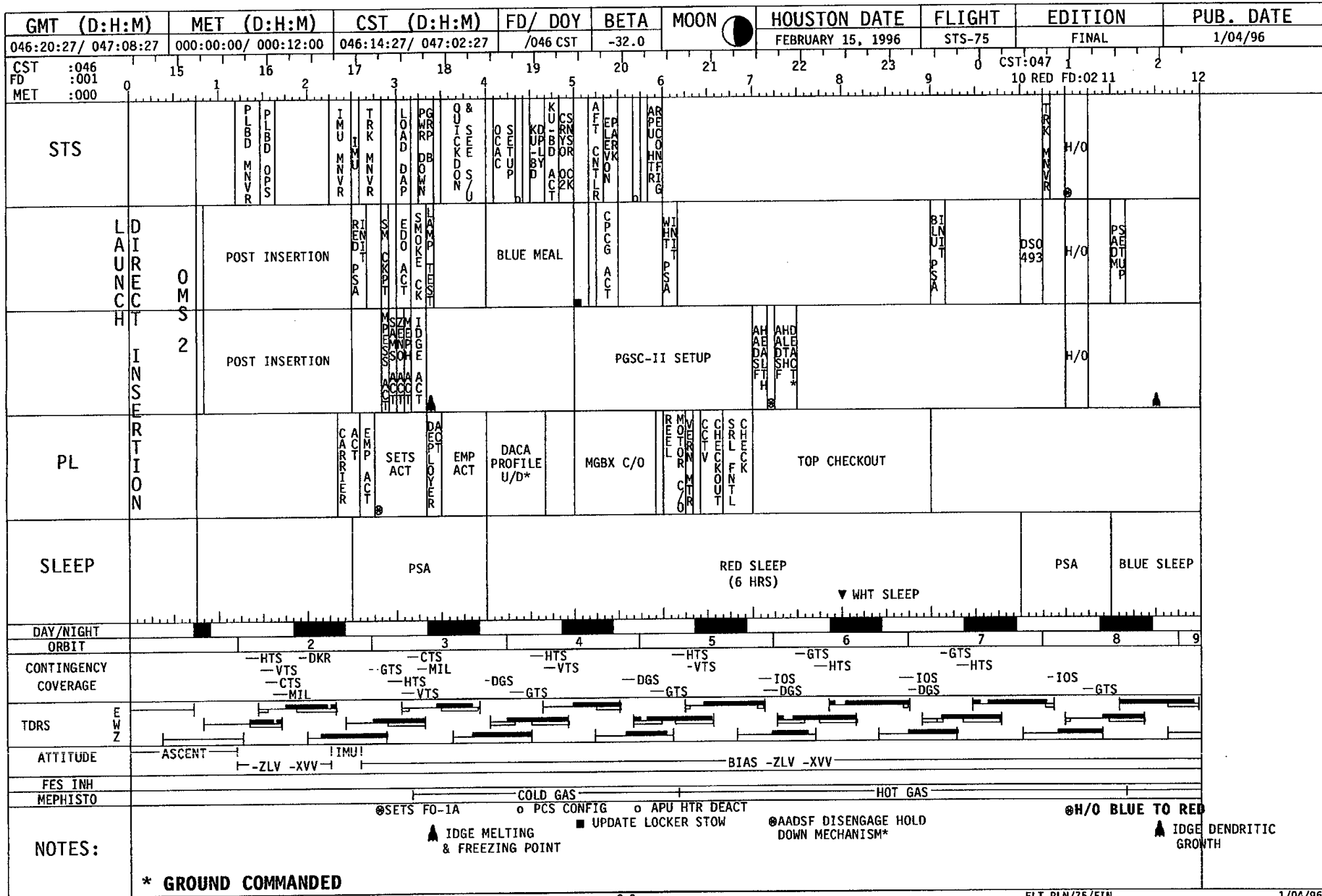
MET : 010	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0			
CDR	MGBX CSD 3		PRE SLEEP		SLEEP								POST SLEEP		MGBX CSD 4				MEAL									
RED		PRE SLEEP	H/O	PS SLEEP	SLEEP								POST SLEEP						MEAL	MGBX FFT 4								
BLU	SLEEP	POST SLEEP	H/O	PS SLEEP	MGBX RITSI 2				MEAL	SAMS MICRO -G		POST SLEEP		PRE SLEEP		SLEEP												
DAY/NIGHT	[Day/Night Cycle]																											
ORBIT	161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176																											
NOTES:	■ OFF-DUTY      ● AADSF STOW & DEACT																											

MET : 011	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0			
CDR	PRE SLEEP		SLEEP								POST SLEEP						MEAL											
RED		PRE SLEEP	H/O	SLEEP								POST SLEEP						MEAL	MGBX STOW	MEPH QUIESCENT								
BLU	SLEEP	POST SLEEP	H/O	PS SLEEP	MGBX RITSI 3				MEAL	POST SLEEP		PRE SLEEP		SLEEP														
DAY/NIGHT	[Day/Night Cycle]																											
ORBIT	177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192																											
NOTES:	■ PRE SLEEP      ● CREW CONFERENCE																											



**SUMMARY TIMELINE**

# SUMMARY TIMELINE







GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE						
047:20:27 / 048:08:27	001:00:00 / 001:12:00	047:14:27 / 048:02:27	/047 CST	-34.6		FEBRUARY 16, 1996	STS-75	FINAL	1/04/96						
CST :047 BLU FD: :002 MET :001	15	16	17	18	19	20	21	22	23	0	1	2	12		
STS	TRK MNRV	TRK MNRV	EXERCISE (CDR)	BLUE MEAL	MAG MNRV	MAG MNRV	MAG MNRV	MAG ROT	TRK MNRV	+ZLV YAW (LVLH ROTOR)	X45 ROLL (LVLH ROTOR)	TRK MNRV	TRK MNRV	XPOP ROLL (INRTL ROTOR)	MAG MNRV
	P/TV22 TOP	P/TV13 TOP	SIM OST	P/TV14 TOP	P/TV14 TOP	P/TV15 TOP	P/TV14 TOP							H/O	
	EXERCISE (RED)	SLA CAL*	RF LINK TEST			DSO 492B (BLU/WHT)	EXERCISE (BLUE)	EXERCISE (BLUE)				SLA CAL*		DSO 493	H/O
PL	1 PDC9	3 PDC9	1 PDC10	2 PDC10	3 PDC10	ELECTRON REFLECT	SLA CAL*	GAS INTERACT	BEAM STRUCTURE	ATT SCAN +ZLV YAW	ATT SCAN +X45 ROLL			ATT SCAN XPOP ROLL	ENV CAL ROT
SLEEP	PSA									RED SLEEP				PSA	BLUE SLEEP
															▼ WHT SLEEP
DAY/NIGHT	17	18	19	20	21	22	23	24							
ORBIT															
CONTINGENCY COVERAGE	VTS -CTS -MIL -DKR	HTS -VTS -CTS -MIL	GTS -HTS -VTS -CTS	MIL -GTS -HTS -DGS	VTS -GTS -HTS	DGS -GTS -HTS	IOS -DGS -GTS	HTS -GTS	IOS -GTS -HTS	HTS -GTS	IOS -GTS -HTS	HTS -GTS	HTS -GTS	HTS -GTS	GTS
TDRS															
ATTITUDE	GG	BIAS +ZLV -XVV	BIAS +YLV -ZVV		GG					+ZLV YAW	+X45 ROLL			+X POP ROLL	+Y TRK
FES INH															
MEPHISTO															
NOTES:	* GROUND COMMANDED @INCLUDES APS CHECKOUT @SETS FO-8A,C,B @SETS FO-3A @SETS FO-6D @SETS FO-6B @SETS FO-6A @H/O BLUE TO RED @SETS FO-9A @SETS FO-18 @SETS FO-19B														

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE											
048:08:27/ 048:20:27	001:12:00/ 002:00:00	048:02:27/ 048:14:27	/048 CST	-35.8		FEBRUARY 17, 1996	STS-75	FINAL	1/04/96											
CST :048 RED FD :003 MET :001	12 13 14 15 16 17 18 19 20 21 22 23 0										MET:002									
STS	ENV CAL ROT (INRTL ROTOR)	MAG M N V R	ENV CAL ROT (INRTL ROTOR)	MAG M N V R	ENV CAL ROT (INRTL ROTOR)	MAG M N V R	MAG M N V R	MAG M N V R	MAG M N V R	MAG M N V R	IMU M N V R	ZLV M N V R	SD ILM OP INIT	PMC	H/O	PG WRP	SD ILM OP	TRK M N V R	UHF	DEPLOY TIMELINE
	P/TV14 TOP		P/TV14 TOP		P/TV15 TOP		RED MEAL		P/TV15 TOP		EXERCISE (CDR)		H/O	HHL C/O		P/TV10 SETUP		P/TV10 TSS SRL'S & BOOM		
		DTO 667 PILOT		DSO 493							CHECKOUT	P/TV13 TOP	H/O			REEL	MOV	PDR	US	EXTENSION
PL	ENVIRO CAL PERP		ENVIRO CAL PAR		SCAN YPOP PITCH		SPREE RCS		STRUCTURE		DACA PROFILE U/D*		EXERCISE (RED)							SAT ATT INIT*
SLEEP	BLUE SLEEP										PSA									
	▼ WHT WAKEUP																			
DAY/NIGHT ORBIT	25		26		27		28		29		30		31		32					
CONTINGENCY COVERAGE	-GTS		---DKR		-GTS		-DKR		-DKR		-MIL		-DKR		-MIL		-VTS		-CTS	
TDRS	E W Z		---DKR		-GTS		-DKR		-DKR		-DKR		-DKR		-DKR		-DKR		-DKR	
ATTITUDE	+Y TRK		BIAS +XLV -ZVV		+X TRK		BIAS -ZLV -YVV		+Y POP PITCH		FPEG		IMU1		-ZLV +YVV		BIAS +ZLV -XVV			
FES INH MEPHISTO	SEEBECK 11A																			
NOTES:	*SETS F0-19B		*SETS F0-19A		*SETS F0-18A		*LATEST TIME 17:45		*CORE F0-17		*H/O RED TO BLUE		*TSS DYNAMICS C/L		*SAT BATTERY ACT		*1PDC34			
					*SETS F0-6C		*SPREE F0-6A		*SETS F0-18A											
	* GROUND COMMANDED																			

GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE													
048:20:27 / 049:08:27		002:00:00 / 002:12:00		048:14:27 / 049:02:27		/048 CST	-36.8		FEBRUARY 17, 1996	STS-75	FINAL	1/04/96													
CST :048	15	16	17	18	19	20	21	22	23	0	1	2													
BLU FD :003	0	1	2	3	4	5	6	7	8	9	10	11													
MET :002												RED FD:04 12													
STS	TSS	DEPLOY TIMELINE			BLUE MEAL	DOCK RING	SETUP	SETUP	EXERCISE (BLUE)	PASSIVE QUIET OST	EXERCISE (BLUE)	H/O													
FLYAWAY	SAT DEPLOY		P/TV10 TSS SAT DPLY	P/TV17 TOP	P/TV17 TOP	P/TV17 TOP	P/TV17 TOP	P/TV14 TOP	P/TV18 TOP	DSO 493	H/O														
PL	1 PDC34	1DEP1	2DEP1	3DEP1	1DEP2	2DEP2	3DEP2	1DEP3	2DEP3	3DEP3	1DEP4	2DEP4	3DEP4	1OST11	2OST11	3OST11	1OST12	2OST12	3OST12	1OST13	2OST13	3OST13	1OST14	2OST14	3OST14
SLEEP		PSA			RED SLEEP							PSA													
DAY/NIGHT																									
ORBIT	33	34	35	36	37	38	39	40																	
CONTINGENCY	-HTS -DKR	-GTS -MIL	-CTS -MIL	-VTS -MIL	-GTS -MIL	-HTS -MIL	-DGS -MIL	-GTS -MIL	-HTS -MIL	-DGS -MIL	-GTS -MIL	-HTS -MIL	-DGS -MIL	-GTS -MIL	-HTS -MIL	-DGS -MIL	-GTS -MIL	-HTS -MIL	-DGS -MIL	-GTS -MIL	-HTS -MIL	-DGS -MIL	-GTS -MIL	-HTS -MIL	-DGS -MIL
COVERAGE	-HTS -DKR	-GTS -MIL	-CTS -MIL	-VTS -MIL	-GTS -MIL	-HTS -MIL	-DGS -MIL	-GTS -MIL	-HTS -MIL	-DGS -MIL	-GTS -MIL	-HTS -MIL	-DGS -MIL	-GTS -MIL	-HTS -MIL	-DGS -MIL	-GTS -MIL	-HTS -MIL	-DGS -MIL	-GTS -MIL	-HTS -MIL	-DGS -MIL	-GTS -MIL	-HTS -MIL	-DGS -MIL
TDRS	E W Z																								
ATTITUDE																									
FES INH																									
MEPHISTO																									
SAT SPIN	HOLD	PASSIVE	SPIN .25	CONV	HOLD	PSV	SPIN .7																		
NOTES:	TSS DYNAMICS C/L		DF0-10D		DF0-4C		DF0-4B		DF0-3		H/O BLUE TO RED														
	* GROUND COMMANDED																								

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE																				
049:08:27 / 049:20:27	002:12:00 / 003:00:00	049:02:27 / 049:14:27	/049 CST	-37.7	☉	FEBRUARY 18, 1996	STS-75	FINAL	1/04/96																				
CST :049 RED FD :004 MET :002	12	13	14	15	16	17	18	19	20	21	22	23	24	0	MET:003														
STS			CVH HRA G R NC ES U		CVH HRA G R NC ES U	CVH HRA G R NC ES U	STATUS		DSQ 493	OVERFLIGHTS		EXERCISE (CDR)	H/O	CVH HRA G R NC ES U	EXERCISE (RED)														
			P/TV17 TOP		P/TV17 TOP				OST-1				DTO 667 PILOT	H/O	PAO SETUP EVENT														
			GAS CLOUD		GAS CLOUD				DRB RET*	GAS CLOUD			GAS CLOUD		P/TV14 TOP	P/TV17 TOP													
PL	30ST14	10ST15	20ST15	30ST15	10ST16	20ST16	30ST16	10ST17	30ST17	20ST18	30ST18	10ST19	20ST19	30ST19	10ST110	20ST110	30ST110	10ST111	30ST111	10ST112	20ST112	30ST112							
SLEEP																													
DAY/NIGHT																													
ORBIT	41		42		43		44		45		46		47		48														
CONTINGENCY COVERAGE	-GTS		-DKR		-GTS		-DKR		-DGS		-MIL -DKR		-MIL -DKR		-MIL -DKR		-MIL -DKR		-MIL -DKR		-MIL -DKR		-MIL -DKR		-MIL -DKR		-MIL -DKR		-MIL -DKR
TDRS																													
ATTITUDE																													
FES INH																													
MEPHISTO																													
SAT SPIN																													
NOTES:																													

\* GROUND COMMANDED

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE												
049:20:27 / 050:08:27	003:00:00 / 003:12:00	049:14:27 / 050:02:27	/049 CST	-38.4		FEBRUARY 18, 1996	STS-75	FINAL	1/04/96												
CST :049 BLU FD :004 MET :003	0 15	16	17	18	19	20	21	22	23	0	1	2	10	11	12						
STS	EXERCISE (RED)	PMO	EXERCISE (BLUE)	BLUE MEAL	FOR P/TV18	EXERCISE (BLUE)	ROLL RESONANCE	RET1/FLAT/CREEP TL													
	P/TV14 TOP	OST-1	P/TV18 TOP		P/TV18 TOP		RET-1		CREEP TEST		OST-2										
	P/TV14 TOP		P/TV18 TOP		P/TV18 TOP		P/TV17 TOP														
PL	1OST113	2OST113	3OST113	1OST114	3OST114	1OST15	2OST15	1RET11	3RET11	1RET12	2RET12	3RET12	1RET13	2RET13	1RET14	2RET14	1OST21	2OST21	3OST21		2OST22
SLEEP	PSA							RED SLEEP											PSA		BLUE SLEEP (7 HRS)
																			WHT SLEEP		
DAY/NIGHT	49	50	51	52	53	54	55	56													
ORBIT																					
CONTINGENCY	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR	HTS -DKR
COVERAGE	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL	VTS -MIL
TDRS																					
ATTITUDE																					
FES INH																					
MEPHISTO																					
SAT SPIN	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7	SPIN .7
NOTES:																					

\* GROUND COMMANDED

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE										
050:08:27/ 050:20:27	003:12:00/ 004:00:00	050:02:27/ 050:14:27	/050 CST	-38.9	●	FEBRUARY 19, 1996	STS-75	FINAL	1/04/96										
CST :050 RED FD :005 MET :003	12	13	14	15	16	17	18	19	20	21	22	23	24	0	MET:004				
STS	DTO 667 PILOT		CV HTR GR NG CS	TRK MNV S	PAO SETUP	PAO EVENT													
	EXERCISE (RED)		P/TV17 TOP	OST-2	GAS CLOUD	GAS CLOUD	RED MEAL	DSC 493	CREEP	H/O	RET-2	P/TV10 SETUP	P/TV10 TSS SAT DOCK		P/TV10 TSS BOOM & SRL'S				
		P/TV17 TOP	GAS CLOUD	GAS CLOUD	GAS CLOUD	PASSIVE QUIET OST	DSC 493			H/O					SECURE SAT				
PL	20ST22	30ST22	30ST23	10ST24	20ST24	30ST24	10ST25	20ST25	10ST26	20ST26	1CREEP1	2CREEP1	3CREEP1	1CREEP2	2CREEP2	1RET21	2RET21	3RET21	1RET22
SLEEP				BLUE SLEEP (7 HRS)					PSA										
DAY/NIGHT	[Day/Night Cycle Diagram]																		
ORBIT	[Orbit Cycle Diagram]																		
CONTINGENCY COVERAGE	[Contingency Coverage Diagram]																		
TDRS	[TDRS Coverage Diagram]																		
ATTITUDE	[Attitude Diagram]																		
FES INH	[FES INH Diagram]																		
MEPHISTO	[MEPHISTO Diagram]																		
SAT SPIN	[SAT SPIN Diagram]																		
NOTES:	<ul style="list-style-type: none"> <li>* GROUND COMMANDED</li> <li>○ RAD OUT NRM/NO FES</li> <li>● TEA</li> <li>○ LOS</li> <li>○ RAD OUT HI</li> <li>● SETS FO-16C</li> <li>● TSS DYNAMICS C/L</li> <li>● H/O RED TO BLUE</li> <li>○ +ZLV, +YVV</li> <li>△ RAD OUT NORM W/FES</li> </ul>																		



GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE			
051:08:27/ 051:20:27	004:12:00/ 005:00:00	051:02:27/ 051:14:27	/051 CST	-39.4	●	FEBRUARY 20, 1996	STS-75	FINAL	1/04/96			
CST :051 RED FD :006 MET :004									MET:005			
STS		ENV CAL ROT	ENV CAL ROT									
		P/TV15 TOP	P/TV15 TOP		RED MEAL		DSO 493	EXERCISE (CDR)	H/O	PAO SETUP	PAO EVENT	EXERCISE (RED)
		DTO 667 PILOT	EXERCISE (RED)		DSO 493		P/TV15 TOP	P/TV15 TOP		H/O	P/TV15 TOP	P/TV16 TOP
PL		ENVIRO CAL PERP	ENVIRO CAL PAR	ELECTRON REFLECT	SPREE RCS		SPREE RCS		INTERACT	INTERACT	ORBIT	ORBIT
SLEEP			BLUE SLEEP					PSA				
DAY/NIGHT					▼ CDR WAKE							
ORBIT	73	74	75	76	77	78	79	80				
CONTINGENCY COVERAGE	-DKR	-GTS	-DKR	-DKR	-MIL -DKR -IOS	-MIL -DKR -IOS	-MIL -DKR -IOS	-MIL -DKR -HTS -VTS -CTS	-DKR	-HTS -DKR	-MIL -DKR	-CTS -MIL -DKR -HTS -VTS
TDRS												
ATTITUDE	+ZLV +XVZ	+Y TRK	+X TRK	FPEG PAR	FPEG BIAS	+X PAR	FPEG BIAS	+ZLV -XVZ				
FES INH												
MEPHISTO					SEEBECK 11A							
NOTES:		◎SETS FO-3A ◎SETS FO-19B	◎SETS FO-19A	◎SETS FO-8B	◎SETS FO-18A	◎SETS FO-18A ◎SPREE FO-6D	◎SPREE FO-6C	◎H/O RED TO BLUE ◎SETS FO-18A ◎SETS FO-9B ◎SETS FO-18A	◎SETS FO-10 ◎SETS FO-9B	◎SETS FO-11 ◎SETS FO-10 ◎DCORE CHECKOUT ◎DCORE FO-17		
		* GROUND COMMANDED										



GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE																	
051:20:27 / 052:08:27		005:00:00 / 005:12:00		051:14:27 / 052:02:27		/051 CST	-39.4	●	FEBRUARY 20, 1996	STS-75	FINAL	1/4/96																	
CST :051		15		16		17		18		19		20		21		22		23		0		CST:052		1		2		12	
BLU FD :006																													
MET :005																													
STS		SAMS CAL		EXERCISE (BLUE)		-XLV M N V R		-XLV M N V R		PRIV FAM CONF		-XLV M N V R		-XLV M N V R		-XLV M N V R		DSO 493											
		PSE (C) (M) (R) (S) (T) (U) (V) (W) (X) (Y) (Z)		RIEN DT		PSETUP		PAO EVENT		BLUE MEAL		BLUE OFF DUTY		FILTER CLEANING		BI LN UT		PSA											
								CDR OFF DUTY																					
PL		DCORE (C) (M) (R) (S) (T) (U) (V) (W) (X) (Y) (Z)		MGBX VIDEO C/O																									
SLEEP				PSA						RED SLEEP								PSA											
												▼ CDR SLEEP START																	
DAY/NIGHT		81		82		83		84		85		86		87		88													
ORBIT																													
CONTINGENCY		-GTS --MIL		-GTS		-IOS		-GTS		-GTS		-GTS		-GTS		-DKR		-GTS											
COVERAGE		-HTS		-HTS		-HTS		-HTS		-HTS		-HTS		-HTS		-HTS		-HTS											
TDRS		E W																											
ATTITUDE		SAMS		BIAS -XLV -YVV		-XLV +ZVV		BIAS -XLV -ZVV		BIAS -XLV +ZVV		-XLV BIAS -ZVV		BIAS -XLV -YVV															
MEPHISTO																													
NOTES:		o SAMS REC ACT		o DCORE DMS SHUTDOWN FO-18		o SAMS REC DEACT		o BIAS -XLV -YVV		o -XLV, +ZVV (AASDF ATTITUDE TEST)		o BLUE TEAM		o BIAS -XLV -ZVV (AASDF ATTITUDE TEST)		o MS1 & MS3		o BIAS -XLV +ZVV (AASDF ATTITUDE TEST)		o -XLV BIAS -ZVV (AASDF ATTITUDE TEST)		o BIAS -XLV -YVV							



GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
052:20:27/ 053:08:27	006:00:00/ 006:12:00	052:14:27/ 053:02:27	/052 CST	-38.8	●	FEBRUARY 21, 1996	STS-75	FINAL	1/4/96
CST :052 BLU FD :007 MET :006									
STS	SD TU MM OP INIT		PRONF MED		SD TU MM OP TERM		CINDRIT PSA		MEPHISTO MICRO-G
	PT/OT/V14	RTENDIT/PSA	DSO 802 (BLUE)		BLUE MEAL				
	EXERCISE (BLUE)								
PL	MGBX FFFT 1		VTR PLBK		AADSFACT		AAXIALNDAI STT FE		AADSFRAMP *
	▼ PLT H/O TO MS3								
SLEEP	PSA		RED SLEEP		▼ CDR SLEEP START		PSA		
DAY/NIGHT ORBIT	97		98		99		100		101 102 103 104
COVERAGE	--GTS --MIL --HTS --VTS --CTS		--GTS --HTS --VTS		--IOS --GTS --HTS		--IOS --GTS		--DKR
TDRS	E W								
ATTITUDE	BIAS -XLV -YVV								
MEPHISTO	SEEBECK 7A				SEEBECK 7B				
NOTES:	o MEPH RCS BURN							⊗AADSFACT INIT EXPERIMENT *	
* GROUND COMMANDED									

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
053:08:27/ 053:20:27	006:12:00/ 007:00:00	053:02:27/ 053:14:27	/053 CST	-38.2		FEBRUARY 22, 1996	STS-75	FINAL	1/4/96

CST :053  
 BLU FD :007  
 MET :006

12 3 4 5 6 7 8 9 10 11 12 13 14 0 MET:007

13 RED FD:08 14

STS	H/O	MEPHISTO MICRO-G	DSO 493	SD PLM YP	SD PLM YP	YLV M NV BR	YLV M NV BR	MEPH RCS BURN	YLV M NV BR	R CR S	X LV M NV BR	μ-9
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	H/O		PSETUP 3/04	POPS 3/04	EXERCISE (RED)	RED MEAL	CDR MEAL	DSO 493	EXERCISE (CDR)			
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	H/O		SAMS MICRO-G	MGBX CSD 1 (CDR)				PSETUP 14	P/TV14 TOP	VTR PLBK	VTR PLBK	DTO 667 PILOT (PLT)
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PL	AADSF RAMP *	AADSF SOAK *	AADSF XLATE *	SOLUTAL DIFFUSION*
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SLEEP	PSA	BLUE SLEEP	PSA
		▼ CDR WAKEUP	

DAY/NIGHT	ORBIT	105	106	107	108	109	110	111	112
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COVERAGE	-DKR	-DKR	-DKR	-DKR	-DKR	-DKR	-DKR	-DKR	-DKR
			-IOS	-IOS	-MIL	-MIL	-HTS -DKR	-HTS -DKR	-HTS -MIL

TDRS	E W								
------	-----	--	--	--	--	--	--	--	--

ATTITUDE			BIAS -XLV -YVV					BIAS -XLV -YVV	
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MEPHISTO	SEEBECK 7B	SEEBECK 8A		
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NOTES:

⊙ H/O BLUE TO RED

○ HTR CONFIG

⊙ -YLV, -XVV

○ CABIN TEMP CNTL RECONFIG

○ PCS CONFIG

⊙ RCRS RECONFIG

⊙ BIAS -XLV -YVV

\* GROUND COMMANDED

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
053:20:27 / 054:08:27	007:00:00 / 007:12:00	053:14:27 / 054:02:27	/053 CST	-37.5	☉	FEBRUARY 22, 1996	STS-75	FINAL	1/4/96
CST :053 RED FD :008 MET :007									
STS									
PL									
SLEEP									
DAY/NIGHT									
ORBIT									
COVERAGE									
TDRS									
ATTITUDE									
MEPHISTO									
NOTES:	<p>H/O RED TO BLUE</p> <p>♦ CDR, MS2, &amp; PS</p> <p>⊙ BIAS-XLV -ZVV ♦ CDR &amp; MS4</p> <p>∇ PS</p> <p>⊙ BIAS -XLV -YVV</p> <p><b>* GROUND COMMANDED</b></p>								

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE							
054:08:27 / 054:20:27	007:12:00 / 008:00:00	054:02:27 / 054:14:27	/054 CST	-36.5		FEBRUARY 23, 1996	STS-75	FINAL	1/4/96							
CST :054 BLU FD :08 MET :007	3	4	5	6	7	8	9	10	11	12	13	14	0	MET:008		
STS	H/O	SD IUMM OP IN ITH	DSC 493	SD IUMM OP TERIM	PRIV FAM CONF		PSETUP TV05		PAO EVENT	PSETUP TV05	PAO EVENT		DSC 493			
	H/O	EXERCISE (RED)			EXERCISE (CDR)	DSO 802 (RED)	RED MEAL		CDR MEAL		MGBX CSD 1 (CDR)					
	H/O	BI LN UT PSA	MGBX RITSI 1 (MS2)					VTR PLBK	VTR PLBK			DTO 667 PILOT (PLT)				
PL												SOLUTAL DIFFUSION*				
SLEEP	PSA		PSA	BLUE SLEEP								PSA				
			▼ CDR WAKEUP													
DAY/NIGHT																
ORBIT		121	122	123	124	125	126	127	128							
COVERAGE		-DKR	-DKR	-MIL -DKR	-MIL -DKR	-MIL -DKR	-MIL -DKR	-HTS -DKR	-MIL	-GTS -MIL						
TDRS	E W															
ATTITUDE	BIAS -XLV -YVV															
MEPHISTO	SEEBECK 9A	PELTIER 12			SEEBECK 10A				PELTIER 13			SEEBECK 11B				
	H/O BLUE TO RED			MS4					CDR, MS2, & PS			CDR & RED TEAM				
NOTES:	* GROUND COMMANDED															

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE					
054:20:27 / 055:08:27	008:00:00 / 008:12:00	054:14:27 / 055:02:27	/054 CST	-35.5		FEBRUARY 23, 1996	STS-75	FINAL	1/4/96					
CST :054 RED FD :09 MET :008	0	15	16	17	18	19	20	21	22	23	0	1	2	12
STS	PSETUP PZTVOS	PAO EVENT H/O	PCONF PRIMED	XLV MNR	MINIT MICRO-G	AASDF MICRO-G						DSO 493	XLV MNR	
	MGBX CSD 1 (CDR)	H/O PSA	MGBX CSD 1 (CDR)		CDR PSA									
		H/O	EXERCISE (BLUE)		VTR PLBK MICRO-G		BLUE MEAL							
PL	SOLUTAL DIFFUSION*					STABILIZATION 2 *								
SLEEP	PSA		PSA	RED SLEEP						PSA				
							▼ CDR SLEEP START							
DAY/NIGHT ORBIT														
COVERAGE														
TDRS E W														
ATTITUDE	BIAS -XLV -YVV													
MEPHISTO	SEEBECK 11B													
NOTES:	⊙H/O RED TO BLUE ◀CDR & MS3      ⊙BIAS -XLV +ZVV												⊙BIAS -XLV -YVV	
	* GROUND COMMANDED													







GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE					
056:08:27/ 056:20:27	009:12:00/ 010:00:00	056:02:27/ 056:14:27	/056 CST	-31.4		FEBRUARY 25, 1996	STS-75	FINAL	1/4/96					
CST :056 BLU FD :10 MET :009	3	4	5	6	7	8	9	10	11	12	13	14	0	MET:010
STS	H/O	DSO 493 SD TU MM OPL M TU ER M	EXERCISE (MS2&PS)	BI LN UT PSA	P SET UP T V O 5	PA O E V E N T	V TR P L B K	V TR D E A C T						
	H/O	EXERCISE (BLUE)	CDR OFF DUTY				CDR MEAL				MGBX CSD 3 (CDR)			
	H/O		MGBX FFFT 3 (PLT)				RED MEAL				RED OFF DUTY			
PL			AADSF COOLDOWN *								AADSF COOLDOWN *			
SLEEP	PSA		PSA				BLUE SLEEP							
		▼ CDR WAKEUP												
DAY/NIGHT ORBIT	152	153	154	155	156	157	158	159	160					
COVERAGE	-DKR	-MIL -DKR	-MIL -DKR -IOS	-MIL -DKR -IOS	-MIL -DKR -IOS	-VTS -CTS -MIL -HTS -DKR	-HTS -DKR -VTS -CTS -MIL	-GTS -MIL -HTS -VTS	-GTS -HTS	-VTS				
TDRS	E													
ATTITUDE					BIAS -XLV -YVV									
MEPHISTO		SEEBECK 11B					PELTIER 14							
		H/O BLUE TO RED					RED TEAM							
NOTES:														

\* GROUND COMMANDED


GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
056:20:27/ 057:08:27	010:00:00/ 010:12:00	056:14:27/ 057:02:27	/056 CST	-29.8		FEBRUARY 25, 1996	STS-75	FINAL	1/4/96
CST :056 RED FD :11 MET :010	0 15 16	17 18 19 20 21 22 23	0 1 2 3 4 5 6 7 8 9 10 11 12						
STS	EXERCISE (PLT)	DSO 493	PROG FIELD	H/O	VTR PLBK	MEAL	VTR PLBK	MEAL	DSO 493
	MGBX CSD 3 (CDR)		CI ON RIT		EXERCISE (MS3&MS4)		BLUE MEAL	MGBX FILTER	
	RED OFF DUTY	RI EN DI T	H/O		MGBX RITSI 2 (MS1)		PSETUP 3/04	P/TV03/04 OPS	
PL	AADSF COOLDOWN *		AADSF STOW *		AADSF STOW *			SAMS MICRO-G	
SLEEP	BLUE SLEEP	PSA			RED SLEEP			PSA	
					▼ CDR SLEEP START				
DAY/NIGHT ORBIT	160	161	162	163	164	165	166	167	168
COVERAGE	-IOS	-GTS	-HTS	-GTS	-HTS	-GTS	-HTS	-GTS	-DKR
TDRS	E	W							
ATTITUDE					BIAS -XLV -YVV				
MEPHISTO					PELTIER 14				
NOTES:	H/O RED TO BLUE								
	* GROUND COMMANDED								

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE					
057:08:27 / 057:20:27	010:12:00 / 011:00:00	057:02:27 / 057:14:27	/057 CST	-28.0		FEBRUARY 26, 1996	STS-75	FINAL	1/4/96					
CST :057	3	4	5	6	7	8	9	10	11	12	13	14	0	MET:011
BLU FD :11	12	13	14	15	16	17	18	19	20	21	22	23		
MET :010		RED FD:12 14												
STS	DSO 493	H/O	EXERCISE (RED)	P S E T U P P A O E V E N T										
		H/O	EXERCISE (MS1)	B I N U I T P S A		DTO 667 PILOT (PLT)	RED MEAL			MGBX FFFT 4 (PLT)				
		H/O								CDR MEAL		EXERCISE (CDR)		V T R P L B K
PL														
SLEEP	PSA				PSA					BLUE SLEEP				
	CDR WAKEUP													
DAY/NIGHT														
ORBIT	168	169	170	171	172	173	174	175	176					
COVERAGE	-DKR		-MIL -DKR	-MIL -DKR	-MIL -DKR	-MIL -DKR	-MIL -DKR	-MIL -DKR	-MIL -DKR	-MIL -DKR	-MIL -DKR	-MIL -DKR	-MIL -DKR	-MIL -DKR
TDRS														
ATTITUDE														
MEPHISTO														
NOTES:		H/O BLUE TO RED		PLT, MS2, MS3, MS4, & PS										

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE						
057:20:27 / 058:08:27	011:00:00 / 011:12:00	057:14:27 / 058:02:27	/057 CST	-26.2		FEBRUARY 26, 1996	STS-75	FINAL	1/4/96						
CST :057 RED FD :12 MET :011	0 15	16	17	18	19	20	21	22	23	0	CST:058	1	2	11	12
STS	PROMPT MED	DSO 493	H/O									VTR PLBK	VTR PLBK	SD TO MM OP	INIT
	CIN RIT PSA		H/O			MGBX RITSI 3 (MS1)		BLUE MEAL					DSO 493		
	VTR PLBK	RIT PSA	H/O		EXERCISE (MS3)									EXERCISE (MS1&MS4)	
PL															
SLEEP	BLUE SLEEP	PSA				RED/CDR SLEEP								PSA	
DAY/NIGHT															
ORBIT	176	177	178	179	180	181	182	183	184						
COVERAGE	--IOS -GTS -HTS	-GTS -HTS	-GTS -HTS	-HTS	-GTS	-GTS	-GTS	-DKR	-DKR					-DKR	
TDRS	E W														
ATTITUDE						BIAS -XLV -YVV									
MEPHISTO					SEEBECK 8B									PELTIER 15	
NOTES:					H/O RED TO BLUE										

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE			
058:08:27 / 058:20:27	011:12:00 / 012:00:00	058:02:27 / 058:14:27	/058 CST	-24.3		FEBRUARY 27, 1996	STS-75	FINAL	1/4/96			
CST :058 BLU FD :12 MET :011	12	13 RED FD:13 14	15	16	17	18	19	20	21	22	23	0 MET:012
STS	H/O	SD IU MM OP TERM			BI LN UT PSA			WC COM PACT			MI CRO -G	MICRO-G
	H/O		P/TV05 SETUP	CREW CONF		CDR MEAL	MGBX DEACT & STOW		DSO 492B			
	EXERCISE H/O (MS1&MS4)	EXERCISE (RED)			EXERCISE (CDR)	RED MEAL	DTO 667 PILOT (PLT)					
PL	VT R PLBK											
SLEEP	PSA			PSA					BLUE SLEEP			
DAY/NIGHT ORBIT	184	185	186	187	188	189	190	191	192			
COVERAGE	-DKR -IOS	-DKR -IOS	-MIL -DKR	-MIL -DKR -IOS	-HTS -DKR -VTS -CTS -MIL	-MIL -DKR -VTS -CTS	-VTS -CTS -MIL -HTS	-HTS -VTS -GTS	-HTS -VTS -GTS	-HTS -VTS -GTS	-HTS -VTS -GTS	-HTS -VTS -GTS
TORS	E W											
ATTITUDE					BIAS -XLV -YVV							
MEPHISTO			PELTIER 15				SEEBECK 9B		SEEBECK 7C			
NOTES:	H/O BLUE TO RED											

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE					
058:20:27 / 059:08:27	012:00:00 / 012:12:00	058:14:27 / 059:02:27	/058 CST	-22.4		FEBRUARY 27, 1996	STS-75	FINAL	1/4/96					
CST :058 RED FD :13 MET :012	0	15	16	17	18	19	20	21	22	23	0	1	2	12
		2 BLU	3 FD:14	4	5	6	7	8	9	10	11	12		
STS	PRIV FAM CONF	PRIV MED	DSO 493	H/O		PRIV FAM CONF				SD PULM YP	DSO 493			SD PULM YP
		CI DRIT PSA		H/O		PAO EVENT		DSO 492B						FILTER CLEANING
		RI EN DI PSA		H/O						BLUE MEAL				EXERCISE (BLUE)
PL														
SLEEP	BLUE SLEEP		PSA			RED/CDR SLEEP								PSA
DAY/NIGHT ORBIT	192	193	194	195	196	197	198	199	200					
COVERAGE	-IOS	-GTS -HTS	-GTS -HTS	-IOS	-GTS	-DKR	-GTS	-DKR						-DKR
TORS	E													
ATTITUDE	W													
MEPHISTO		SEEBECK 7C				BIAS -XLV -YVV		SEEBECK 7D						PELTIER 16
NOTES:	PLT & MS2		H/O RED TO BLUE	BLUE TEAM										MS1 & MS3

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON 	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
059:08:27/ 059:20:27	012:12:00/ 013:00:00	059:02:27/ 059:14:27	/059 CST	-20.4		FEBRUARY 28, 1996	STS-75	FINAL	1/4/96
CST :059 BLU FD :13 MET :012	3 4 5 6 7 8 9 10 11 12 13 14	12 RED FD:14 13 14 15 16 17 18 19 20 21 22 23 0							MET:013
STS	H/O YLV MNV BR	M-9 MEPH RCS BURN	XLV MNV BR	M-9 MEPH RCS BURN	L11 C K C O M M	ZLV MNV BR	M-9 OMS BURN	L11 C K C O M M	+ZSI MNV R
	H/O	FCS C/O	RCS HOT	DPB ERR OEI RPE BIT	BI LN UI T P S A	CDR MEAL		CABIN STOW	
	H/O			DTO 667 PILOT	DTO 667 PILOT	RED MEAL	EXERCISE (RED/CDR)	FR G O M I R	
PL		EXERCISE (BLUE)						S P R E E D E A C T I O N S	
SLEEP	PSA				PSA		BLUE SLEEP		
DAY/NIGHT ORBIT	200	201	202	203	204	205	206	207	208
COVERAGE	-MIL -DKR -IOS	-DKR -IOS	-MIL -DKR -IOS	-VTS -CTS -MIL -DKR	-HTS -VTS -CTS -MIL	-GTS -MIL -HTS -VTS -CTS	-GTS -HTS -VTS	-IOS -GTS -HTS	
TDRS									
ATTITUDE			BIAS -XLV -YVV					+ZSI	
MEPHISTO				PELTIER 16				COOLDOWN	
NOTES:	H/O BLUE TO RED		BIAS -XLV -YVV		APU HTR RECONFIG		ZLV -XVV		o KU-BD STOW o DCORE SHUTDOWN FO-13
	o -YLV, -XVV		o APU HTR ACT						



GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE															
059:20:27 / 060:08:27	013:00:00 / 013:12:00	059:14:27 / 060:02:27	/059 CST	-18.3		FEBRUARY 28, 1996	STS-75	FINAL	1/4/96															
CST :059 RED FD :14 MET :013	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	12		
STS		DSO 493	H/O							DSO 493	O C A C S T O W	E D O D E A C T		P G W R P U B P	P R O N F M E D	X S I M N V R								
	CABIN STOW	C I D N R I P S A	H/O																		DSO 331	DEORBIT PREP		
		R I E N D I P S A	H/O	C P C C G D E A C T		CABIN STOW			BLUE MEAL			I M Z S D E A G P M E N O S D D D D A A A A		C A R R I E R D E A C T										
PL												R E E L M T S O R D E A C T												
SLEEP	BLUE SLEEP	PSA				RED/CDR SLEEP (6 HR)															PSA			
DAY/NIGHT																								
ORBIT	208	209	210	211	212	213	214	215	216															
COVERAGE	-IOS -GTS -HTS	-IOS -GTS -HTS	-GTS -HTS	-GTS	-GTS	-DKR	-GTS	-DKR	-DKR															
TDRS																								
ATTITUDE			+ZSI																			-XSI		
MEPHISTO	COOLDOWN					HOLD																		
NOTES:			⊙H/O RED TO BLUE			⊙-XLV, +ZVV															⊙DSO 331 EGRESS	LOCOMOTION		

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
060:08:27/ 060:20:27	013:12:00/ 014:00:00	060:02:27/ 060:14:27	/060 CST	-16.2		FEBRUARY 28, 1996	STS-75	FINAL	1/4/96
CST :060									
FD :15									
MET :013									MET:014
STS	IMU MNV R	IMU AL IGN	PL B D						
	DEORBIT PREP		DEORBIT BURN *	KSC LANDING *					
PL									
SLEEP									
DAY/NIGHT									
ORBIT	216	217	218	219	220	221	222	223	224
COVERAGE	--MIL -DKR -IOS	-DKR -IOS	-MIL -DKR -IOS	-MIL -DKR -IOS	-CTS -MIL -DKR -VTS	-HTS -VTS -CTS -MIL	-GTS -MIL -HTS -VTS -CTS	-GTS -MIL -HTS -VTS	-IOS -GTS -HTS
TDRS									
ATTITUDE									
MEPHISTO									
NOTES:	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px;">* DEORBIT BURN 13/15:14 *</div> <div style="border: 1px solid black; padding: 2px;">* KSC LANDING 13/16:14 *</div> </div>								

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DETAILED TIMELINE

DETAILED  
TIMELINE

# DETAILED TIMELINE

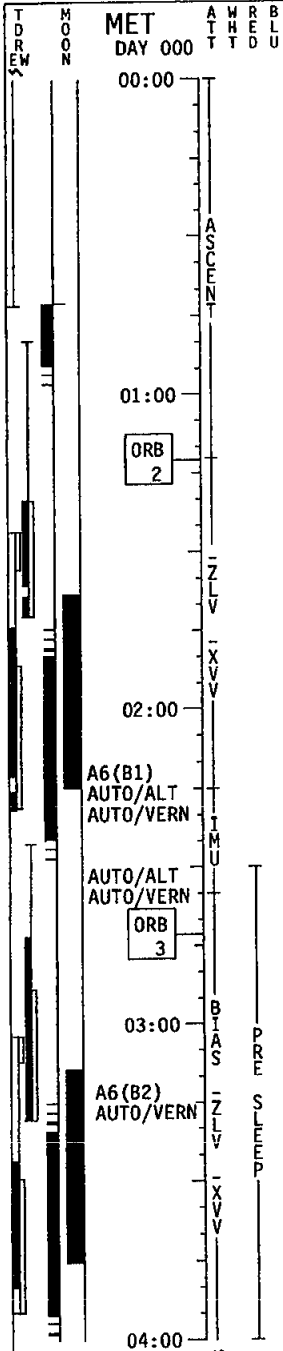
## STS-75 ( FD 01 )

STS

PL

MCC

Activities prior to 0/02:30 MET are in the ASCENT & POST INSERTION checklists. Orbiter attitude when entering the FLT PLN is IMU ALIGN



**RED FD01 EZ ACTIVITIES:**  
CPA OPS (ORB OPS, CREW SYS)

**A WATER LOOP 1 GPC CYCLE**

CRT X

1. SM, OPS 000 PRO
2. SM, OPS 201 PRO

**X: SMI DPS UTILITY**

3. ✓ CHECKPT RETRY ENA - ITEM 12 EXEC (\*)
4. UL CNTL AUTO - ITEM 35 EXEC (\*)

**X: SM 62 PCMMU/PL COMM**

5. PSP 1(2) I/O RESET - ITEM 6(7) EXEC (\*)
6. RESUME OR

**X: SM ANTENNA**

MNVR IMU ALIGN ATT  
STAR PAIR (B1)  
A/AUTO/ALT Init MNVR  
When in att & rates damped,  
DAP: VERN

IMU ALIGN - S TRK (ORB OPS)  
MNVR (TRK) SETS OUTGAS  
TG=2 BV=5  
P=80 Y=0 OM=0  
A/AUTO/ALT Init TRK  
When in att & rates damped,  
DAP: VERN

PRE-SLEEP ACTIVITY (RED)  
(ORB OPS FS, CREW SYS)  
✓ HUM SEP for water  
accumulation  
Sleep start at 04:00 (6hr)  
SM CKPT INIT (ORB OPS, DPS)  
Perform WATER LOOP CYCLE: block

EDO PALLET ACT  
(ORB OPS, EPS)

SMOKE DETN CKT TEST  
(ORB OPS, ECLS)

LAMP TEST (ORB OPS, EPS)

LOAD FLIGHT SPECIFIC DAP's  
(FLIGHT PLAN, DAP TABLE)

Change DAP B to B2

PRIORITY PWRDN GROUP B  
(ORB PKT, PRIOR PWRDN)  
Omit steps 7 & 11

QUICKDON MASKS Unstow, install  
and verify operations

SHUTTLE EMER EYEWASH (SEE)  
Unstow, attach on or near  
galley. Fill drink container(s)  
and attach near appropriate  
experiment locations

MPESS-B ACT (PL OPS, MPESS-B)

SAMS 1,2 ACT (PL OPS, SAMS)

ZENO ACT (PL OPS, ZENO)

MEPHISTO ACT (PL OPS, MEPHISTO)

IDGE ACT (PL OPS, IDGE)

CARRIER ACTIVATION  
(PL OPS, CARRIER)

EMP ACTIVATION Steps 1,3,5,6  
(TSS OPS, TSS ACT)

SETS ACTIVATION (FO-1A)  
(TSS OPS, SETS)

DEPLOYER ACTIVATION  
(TSS OPS, TSS ACT)

EMP ACTIVATION Steps 2,4  
(TSS OPS, TSS ACT)

UPLINK  
COMM CONFIG  
757

INFORM CREW  
GO FOR SETS  
PWR ON

INFORM CREW  
INSTRMT PWR  
ON COMPLETE  
INFORM CREW  
GO FOR LAUNCH  
LOCK RELEASE

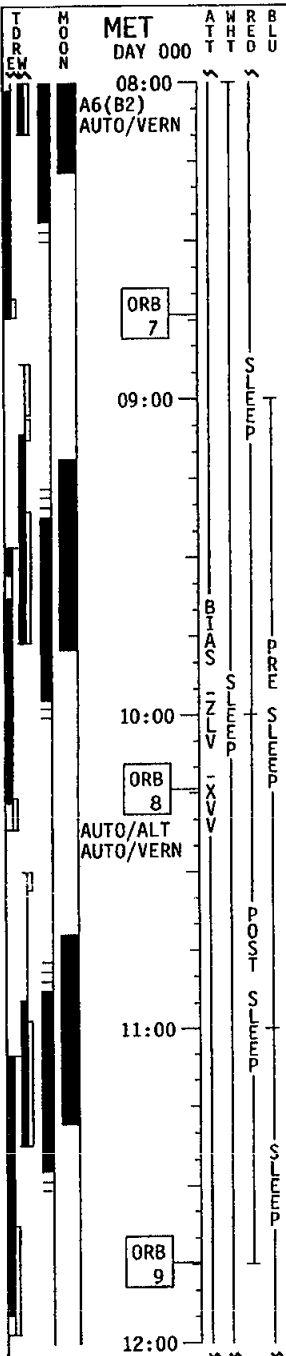


# STS-75 (BLU FD 01)

STS

PL

MCC



PRE-SLEEP ACTIVITY (BLUE)  
 (ORB OPS FS, CREW SYS)  
 Sleep start at 11:00 (8hr)

SALIVA SAMPLE (PLT)  
 (BIOMED, DSO 493)

MNVR (TRK) OUTGAS/COMM BIAS  
 TG=2 BV=5  
 P=81 Y=5 OM=30  
 A/AUTO/ALT (10:15) Init TRK  
 When in att & rates damped,  
 DAP: VERN

HANDOVER:	BLUE TO RED	HANDOVER:	BLUE TO RED	HANDOVER:	BLUE TO RED
-----------	-------------	-----------	-------------	-----------	-------------

PADM SETUP  
 (ORB OPS, PGSC)

RED FD02 EZ ACTIVITIES:  
 CPA OPS (ORB OPS, CREW SYS)  
 QCAC FILTER INSPECT

TOP CHECKOUT

RED FD02

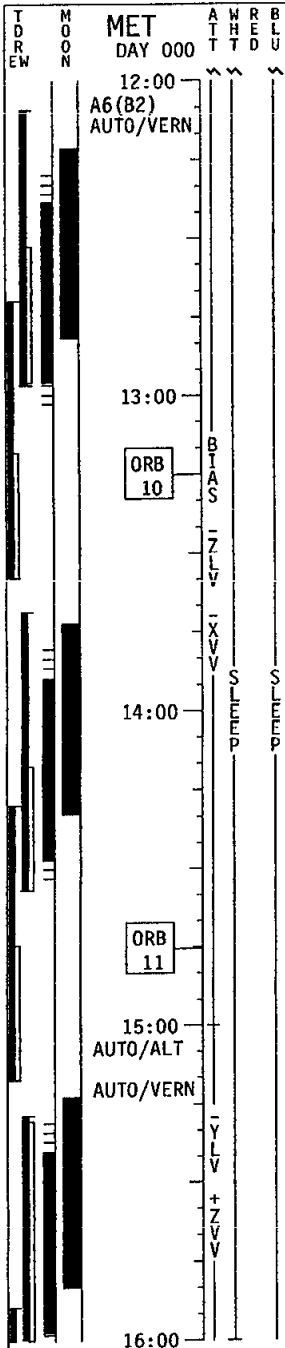
PADM XFER  
 PGSC UPDATES

# STS-75 (RED FD02) -PDC

STS

PL

MCC



P/TV13 SETUP (TOP FO-1)  
(PHOTO/TV, P/TV SCENES)  
Config: 1

P/TV13 ACT (TOP FO-1)  
(PHOTO/TV, P/TV SCENES)

P/TV13 SETUP (TOP FO-1)  
(PHOTO/TV, P/TV SCENES)  
Config: 1A

P/TV13 ACT (TOP FO-1)  
(PHOTO/TV, P/TV SCENES)

PORTABLE BLOOD ANALYZER  
(BIOMED, DSO 492B)  
PLT,MS2,PS1

SETS SHORT CAL (TSS OPS, SETS)  
DCORE CHECKOUT (FO-17)  
(TSS OPS, DCORE)

P/TV10 SETUP (TSS)  
(PHOTO/TV, P/TV SCENES)

P/TV10 ACT (TSS)  
(PHOTO/TV, P/TV SCENES)

SETS ACTIVATION (FO-1B&C)\*  
DEP HEALTH & STATUS  
POWERUP & INIT FPEG

SETS DEP/DDCS C/O (FO-1D)  
(TSS OPS, SETS)

DMS POWER ON & CHECKOUT  
(TSS OPS, DCORE)  
DCORE POWER ON (FO-6)  
(TSS OPS, DCORE)

SETS TETHER C/O & CAL (FO-5)  
(TSS OPS, SETS)

SETS TCVM C/O AND CAL (FO-3B)  
(TSS OPS, SETS)

SPREE C/O & VERIF (FO-1)  
(TSS OPS, SPREE)

INFORM CREW  
GO FOR DEP/DDCS  
I/F C/O

INFORM CREW  
GO FOR DMS  
SWITCH CLOSE  
INFORM CREW  
GO FOR DCORE  
PWR ON

INFORM CREW  
POCC CMDING  
FOR FO-5  
COMPLETE

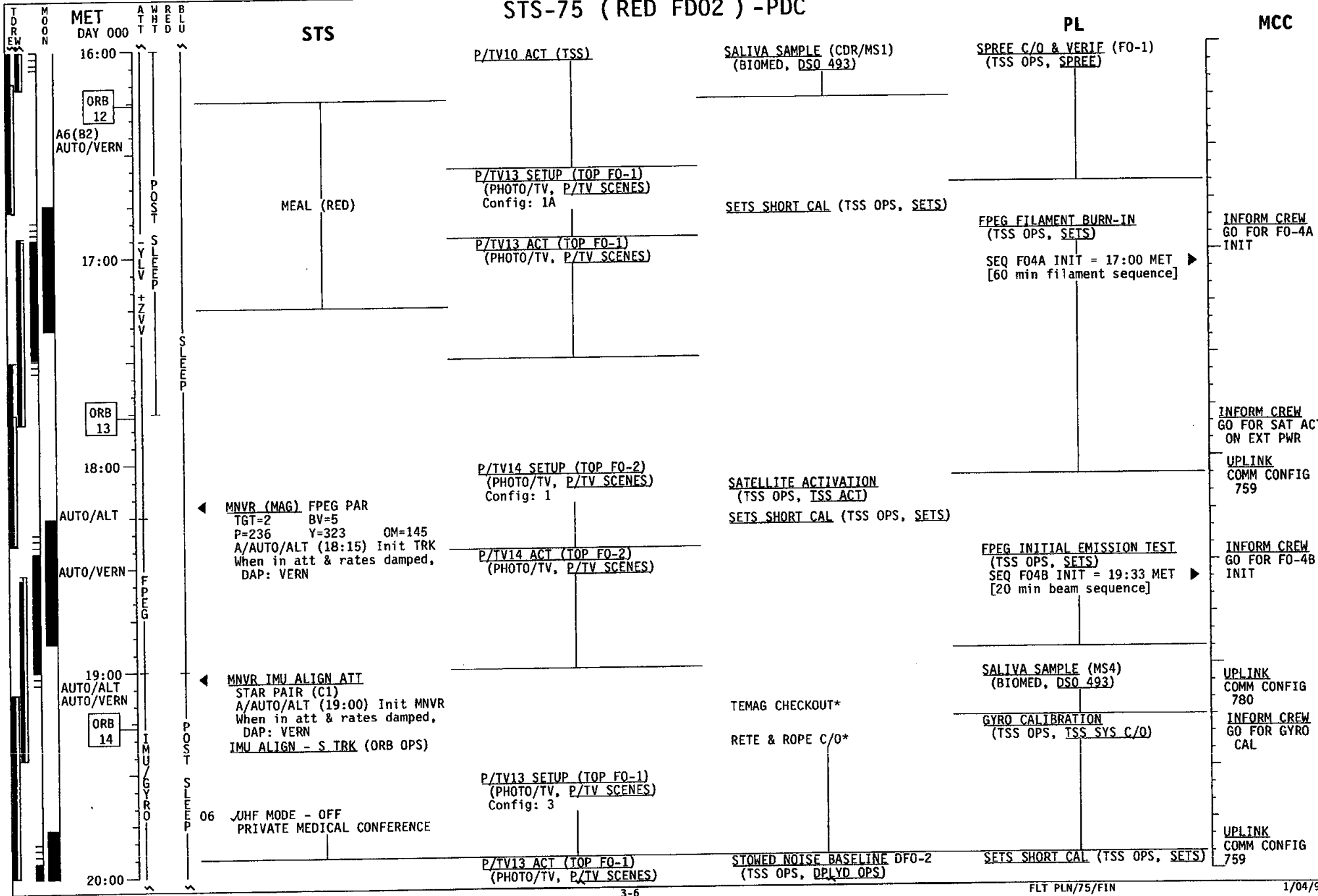
INFORM CREW  
TCVM Completed

INFORM CREW  
GO FOR SPREE  
ACT  
TV (TDRW/E)  
(CRW CNTL-PLB)

◀ MNVR (TRK) -YLV +ZVV  
TG=2 BV=5  
P=90 Y=270 OM=90  
A/AUTO/ALT (15:00) Init TRK  
When in att & rates damped,  
DAP: VERN



# STS-75 ( RED FD02 ) -PDC



# STS-75 (RED FD02) -PDC

TDR EW  
 MOON  
 MET DAY 000  
 A6(B2) AUTO/VERN  
 A9(B2) AUTO/ALT  
 FREE/VERN  
 AUTO/ALT  
 FREE/VERN  
 ORB 15  
 AUTO/ALT  
 FREE/VERN  
 21:00  
 AUTO/ALT  
 AUTO/VERN  
 22:00  
 ORB 16  
 A6(B2)  
 +ZLV  
 -XVV  
 23:00  
 FC PURGE - MANUAL  
 (ORB OPS, EPS)  
 FILTER CLEANING  
 (IFM, SCHEDULED MAINTENANCE)  
 ORB 17  
 001  
 00:00

A T T  
 W H E E D  
 B L U  
 A O S T  
 S H U L D A  
 B A S  
 + Z L V  
 - X V V

**STS**

PLT required for THRUST CHARACT (FO-6B)

Change DAP A to A9  
 MNVR (MAG) Y PAR [M]  
 A/AUTO/ALT (20:15) Init TRK

MNVR (MAG) Y PAR [M]  
 A/AUTO/ALT (20:35) Init TRK

MNVR (MAG) Y PAR [M]  
 A/AUTO/ALT (20:45) Init TRK

MNVR (TRK) FLYAWAY  
 TG=2 BV=5  
 P=300 Y=0 OM=180  
 A/AUTO/ALT (21:00) Init TRK  
 When in att & rates damped,  
 DAP: VERN

MNVR (TRK) DEPLOY  
 TG=2 BV=5  
 P=310 Y=0 OM=180  
 A/AUTO/VERN (21:20) Init TRK

P/TV05 SETUP (PAO)  
 (PHOTO/TV, P/TV SCENES)

PAO VOICE CHECK/EVENT  
 KU AVAIL (22:00 - 22:20)  
 All crew except PS

Config DAP A TO A6

MNVR (TRK) DEPLOY TEA  
 TG=2 BV=5  
 P=248 Y=0 OM=180  
 A/AUTO/VERN (22:40) Init TRK

FC PURGE - MANUAL  
 (ORB OPS, EPS)

FILTER CLEANING  
 (IFM, SCHEDULED MAINTENANCE)

P/TV13 ACT (TOP FO-1)

P/TV13 SETUP (TOP FO-1)  
 (PHOTO/TV, P/TV SCENES)  
 Config: 4

HANDOVER: RED TO BLUE

P/TV13 ACT (TOP FO-1)  
 (PHOTO/TV, P/TV SCENES)

P/TV20 SETUP (TOP FO-48)  
 (PHOTO/TV, P/TV SCENES)  
 Config: 1A

P/TV20 ACT (TOP FO-48)  
 (PHOTO/TV, P/TV SCENES)

STOWED NOISE BASELINE DFO-2  
 (TSS OPS, DPLYD OPS)

Note: Proc includes PRCs pulses and FES/H2O dumps

MNVR (MAG) Y PAR [M]			
Init TRK	20:15	20:35	20:45
TG =	2	2	2
BV =	5	5	5
P =	161	183	204
Y =	314	350	37
OM =	210	221	213

SETS SHORT CAL (TSS OPS, SETS)

ERGOMETER SETUP  
 (BIOMED, ERGO NOM OPS)

EXERCISE  
 (ALL RED)

**PL**

THRUSTER CHARACT (FO-6B)  
 (TSS OPS, SPREE)  
 +Y parallel to B-field  
 Perform thruster sequence  
 at 20:30, 20:40, 20:50

**SIM DEP**

MTL: 2PDC 7 (0/21:10:00)  
 STL: DEPI01 (/ / : : : )  
 DEP101  
 DEP101  
 DEP101  
 DEP101

MTL: 3PDC 7 (0/21:50:24)  
 STL: DEPI01 (/ / : : : )  
 DEP101  
 DEP101  
 DEP101

MTL: 1PDC 8 (0/22:17:20)  
 STL: DEPI01 (/ / : : : )  
 DEP101  
 DEP101  
 DEP101

MTL: 2PDC 8 (0/22:44:16)  
 STL: IVP24 (/ / : : : )

MTL: 3PDC 8 (0/23:29:00)  
 STL: S3A (/ / : : : )  
 DCP24

MTL: 1PDC9 (0/23:54:08)  
 STL: IVP24 (/ / : : : )

**MCC**

**BLUE FD02**

# STS-75 (BLUE FD02)-PDC

**MET**  
 DAY 001  
 00:00  
 A6(B2)  
 AUTO/VERN  
 FREE/VERN  
 AUTO/VERN  
 01:00  
 ORB 18  
 02:00

TDR EN  
 MOON  
 ATTT  
 WRELU  
 GG  
 PRIU S-LUNA  
 BIAS  
 +ZLV  
 -YVV

## STS

PRE-SLEEP ACTIVITY (RED)  
 (ORB OPS FS, CREW SYS)  
 ✓ HUM SEP for water accumulation  
 Sleep start at 02:00 (8hr)

◀ MNVR (TRK) GG BIAS -XLV -YVV  
 TG=2 BV=5  
 P=177.51 Y=0.77 OM=69.09  
 A/AUTO/VERN (00:14) Init TRK  
 When in Att & rates damped,  
 P/AP: A/FREE/VERN

◀ MNVR (TRK) OST-1 TEA  
 TG=2 BV=5  
 P=244.5 Y=0 OM=180  
 A/AUTO/VERN (00:39) Init TRK

EXERCISE  
 (CDR)

P/TV22 SETUP (TOP F0-50)  
 (PHOTO/TV, P/TV SCENES)  
 Config: 3

P/TV22 ACT (TOP F0-50)  
 (PHOTO/TV, P/TV SCENES)

P/TV13 SETUP (TOP F0-1)  
 (PHOTO/TV, P/TV SCENES)  
 Config: 4

P/TV13 ACT (TOP F0-1)  
 (PHOTO/TV, P/TV SCENES)

EXERCISE  
 (ALL RED)

SLA CAL\*  
 Minimize crew motion

RF LINK TEST  
 (TSS OPS, TSS SYS C/O)

APS CHECKOUT

## PL

IVP24

## SIM OST

MTL: 3PDC\_9 (1/00:49:16)  
 STL: (/ : : )

S20

312DP

S3A

MTL: 1PDC 10 (1/01:13:38)  
 STL: DCP12 (/ : : )

112DP

212DP

MTL: 2PDC10 (1/01:49:50)  
 STL: DCP12 (/ : : )

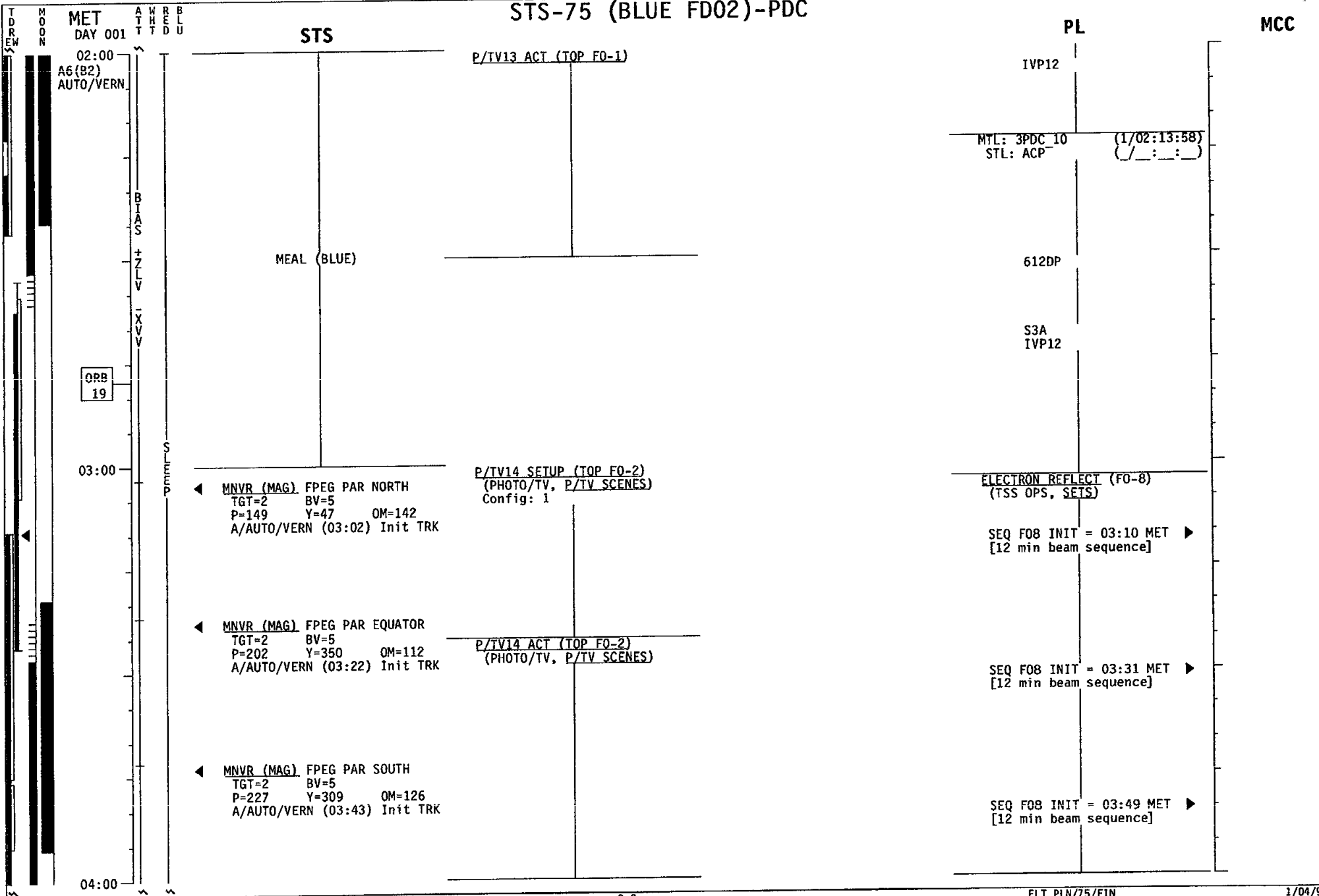
## MCC

INFORM CREW  
 SLA CAL  
 COMPLETE

INFORM CREW  
 GO FOR RF TLM  
 TO D/L

INFORM CREW  
 GO FOR IN-LINE  
 THRUSTER TEST

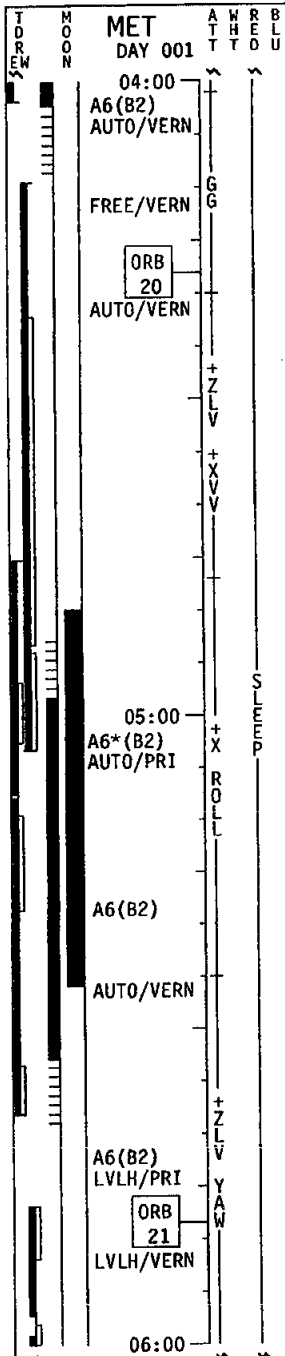
# STS-75 (BLUE FD02)-PDC



# STS-75 (BLUE FD02) -PDC

PL

MCC



◀ **MNVR (TRK) GG BIAS -XLV -YVV**  
 TG=2 BV=5  
 P=177.51 Y=0.77 OM=69.09  
 A/AUTO/VERN (04:01) Init TRK  
 When in Att & rates damped,  
 DAP: A/FREE/VERN

◀ **MNVR (TRK) +ZLV +XVV**  
 TG=2 BV=5  
 P=270 Y=0 OM=0  
 A/AUTO/VERN (04:20) Init TRK

◀ **MNVR (MAG) FPEG PAR**  
 R=144 P=350 Y=16  
 A/AUTO/VERN (04:47) Init MNVR

◀ **BEAM STRUCT ROT [S]**  
 Init rotor at 05:02

DAP: PRI  
 ◀ Reconfig DAP A\* to A6 (05:17)

◀ **MNVR (TRK) +ZLV**  
 TG=2 BV=5  
 P=270 Y=0 OM=135  
 A/AUTO/VERN (05:25) Init TRK

◀ **+ZLV YAW [Z]**  
 Init yaw at 05:40

**P/TV15 SETUP (TOP-2A)**  
 (PHOTO/TV, P/TV SCENES)  
 Config: 1A

**P/TV15 ACT (TOP FO-2A)**  
 (PHOTO/TV, TV/SCENES)

**+ZLV YAW [Z]**  
**GNC UNIV PTG**  
 ✓ERR TOT - ITEM 23 EXEC (\*)  
 FLT CNTLR PWR - ON  
 ADI ATT - LVLH  
 RATE - MED  
 When in Attitude,  
 DAP: A6/LVLH/PRI  
 DAP ROT: DISC/DISC/PULSE  
 ◀ RHC: +YAW (05:40 MET)  
 (target 0.4°/sec)  
 After 30 sec,  
 DAP: A/LVLH/VERN  
 Maintain YAW RATE = 0.4 ± 0.05

**BEAM STRUCT ROT [S]**  
**GNC 20 DAP CONFIG**  
 PRI ROT RATE - ITEM 10 + 0.4 EXEC  
 VERN ROT RATE - ITEM 23 + 0.4 EXEC  
**GNC UNIV PTG**  
 BODY VECT - ITEM 14 + 1 EXEC  
 When in Attitude,  
 DAP: A/AUTO/PRI  
 ◀ START ROT - ITEM 20 EXEC (05:02)  
 After 30 sec.  
 DAP: A/AUTO/VERN

**SETS SHORT CAL (TSS OPS, SETS)**

**PORTABLE BLOOD ANALYZER**  
 (BIOMED, DSO 492B)  
 CDR, MS1, MS3, MS4

**SLA CAL\***  
 Minimize crew motion

**GAS INTERACTIONS (FO-9A)**  
 (TSS OPS, SETS)  
 SEQ F09 INIT = 04:30 MET  
 [15 min passive mode seq]  
 Note: Proc includes FES  
 and H2O dumps

**BEAM STRUCTURE (FO-18)**  
 (TSS OPS, SETS)  
 SEQ F018 INIT = ROT INIT  
 [15 min beam sequence]

**SETS SHORT CAL (TSS OPS, SETS)**

**ATTITUDE SCAN: +ZLV YAW**  
 (TSS OPS, SETS) FO-6D  
 SEQ F06 INIT = ROT INIT  
 [90 min passive mode seq  
 which may be interrupted  
 periodically with a 0-5 min  
 FO-17 beam emission]

**INFORM CREW**  
 SLA CAL COMPLETE  
 TMBU  
 Sply H2O  
 dump Limits

**INFORM CREW**  
 PERFORM SETS  
 FO-17 & FO-9  
 (as req'd  
 by POCC)

# STS-75 (BLUE FD02) -PDC

## STS

## PL

## MCC

MET DAY 001

A T W R B  
T H H F L  
T T D U

06:00

A6 (B2)  
LVLH/VERN

◀ +ZLV YAW  
Maintain YAW RATE =  $0.4 \pm 0.05$

P/TV14 SETUP (TOP F0-2)  
(PHOTO/TV, P/TV SCENES)  
Config: 1

PRE-SLEEP ACTIVITY (WHT)  
(ORB OPS, CREW SYS)  
Sleep start at 08:00 (8hr)

ATTITUDE SCAN: +ZLV YAW

[90 min passive mode seq  
which may be interrupted  
periodically with a 0-5 min  
F0-17 beam emission]

INFORM CREW  
PERFORM SETS  
F0-17 & F0-9  
(as req'd  
by POCC)

07:00

(A6)B2  
AUTO/PRI  
AUTO/VERN

◀ When ADI YAW =  $45^\circ$  (~ 07:10 MET)  
DAP: B/AUTO/PRI  
When in att & rates damped,  
DAP: VERN

P/TV14 ACT (TOP F0-2)  
(PHOTO/TV, P/TV SCENES)

EXERCISE  
(ALL BLUE)

SETS SHORT CAL (TSS OPS, SETS)

ATTITUDE SCAN: +X45 ROLL  
(TSS OPS, SETS) F0-6B

INFORM CREW  
PERFORM SETS  
F0-17  
(as req'd  
by POCC)

A6 (B2)

ORB  
22

LVLH/PRI  
LVLH/VERN

◀ X45 ROLL 45  
Init roll at 07:15

X45 ROLL 45

GNC UNIV PTG

✓ERR TOT - ITEM 23 EXEC (\*)

✓FLT CNTLR PWR - ON  
✓ADI ATT - LVLH  
✓RATE - MED

When in Attitude,  
DAP: A/LVLH/PRI  
DAP ROT: PULSE/DISC/DISC  
◀ RHC: +ROLL (07:15 MET)  
(target  $0.4^\circ/\text{sec}$ )

After 30 sec,  
DAP: A/LVLH/VERN  
Maintain ROLL RATE =  $0.4 \pm 0.05$

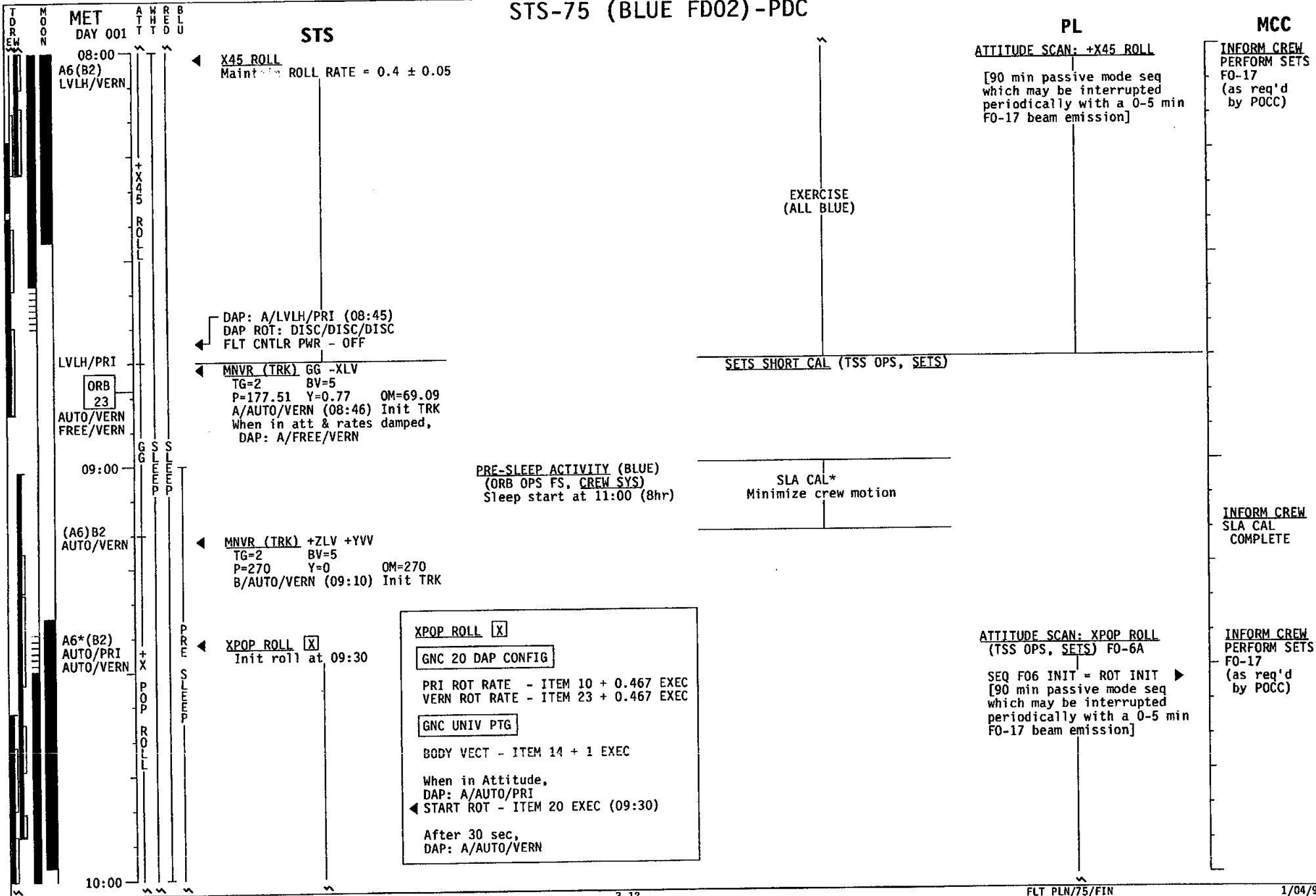
EXERCISE  
(ALL BLUE)

SEQ F06 INIT = ROT INIT ▶  
[90 min passive mode seq  
which may be interrupted  
periodically with a 0-5 min  
F0-17 beam emission]

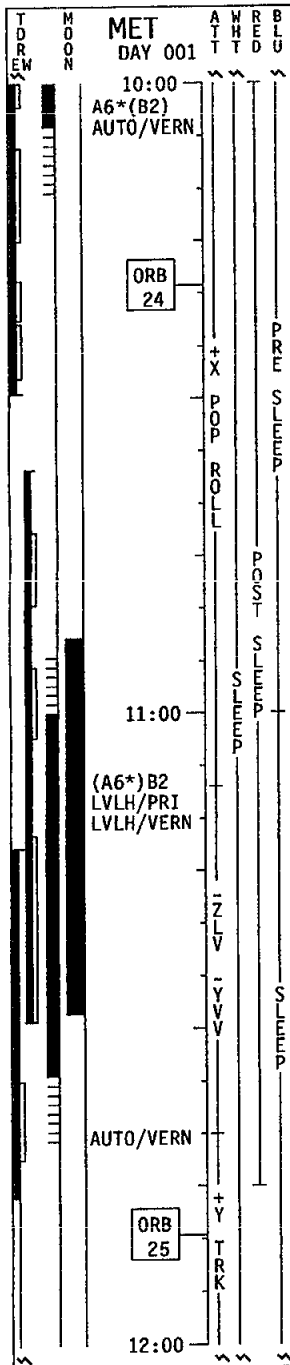
08:00

+X45  
ROLL

# STS-75 (BLUE FD02) -PDC



# STS-75 (BLUE FD02) -PDC



XPOP ROLL

SALIVA SAMPLE (PLT)  
(BIOMED, DSO 493)

ATTITUDE SCAN: XPOP ROLL  
(TSS OPS, SETS) F0-6A

INFORM CREW  
PERFORM SETS  
F0-17  
(as req'd  
by POCC)

SEQ F06 INIT = ROT INIT  
[90 min passive mode seq  
which may be interrupted  
periodically with a 0-5 min  
F0-17 beam emission]

HANDOVER: BLUE TO RED

HANDOVER: BLUE TO RED

RED FD03

**RED FD03 EZ ACTIVITIES:**  
 CPA OPS (ORB OPS, CREW SYS)  
 QCAC FILTER INSPECT  
 STATUS MONITORING (PL OPS, CPCG)

**ENVIRONMENT CAL ROT [C]**  
**GNC 20 DAP CONFIG**  
 VERN ROT RATE - ITEM 23 + 0.132 EXEC  
**GNC UNIV PTG**  
 BODY VECT - ITEM 14 + 5 EXEC  
 P - ITEM 15 + 218 EXEC  
 Y - ITEM 16 + 50 EXEC  
 When in Attitude,  
 DAP: A/AUTO/VERN  
 START ROT - ITEM 20 EXEC (12:00)

DAP: B/LVLH/PRI (11:07)  
When in att & rates damped,  
DAP: B/LVLH/VERN

MNVR (MAG) +Y PAR (COILS PERP)  
R=47 P=0 Y=37  
B/AUTO/VERN (11:40) Init MNVR

SETS SHORT CAL (TSS OPS, SETS)

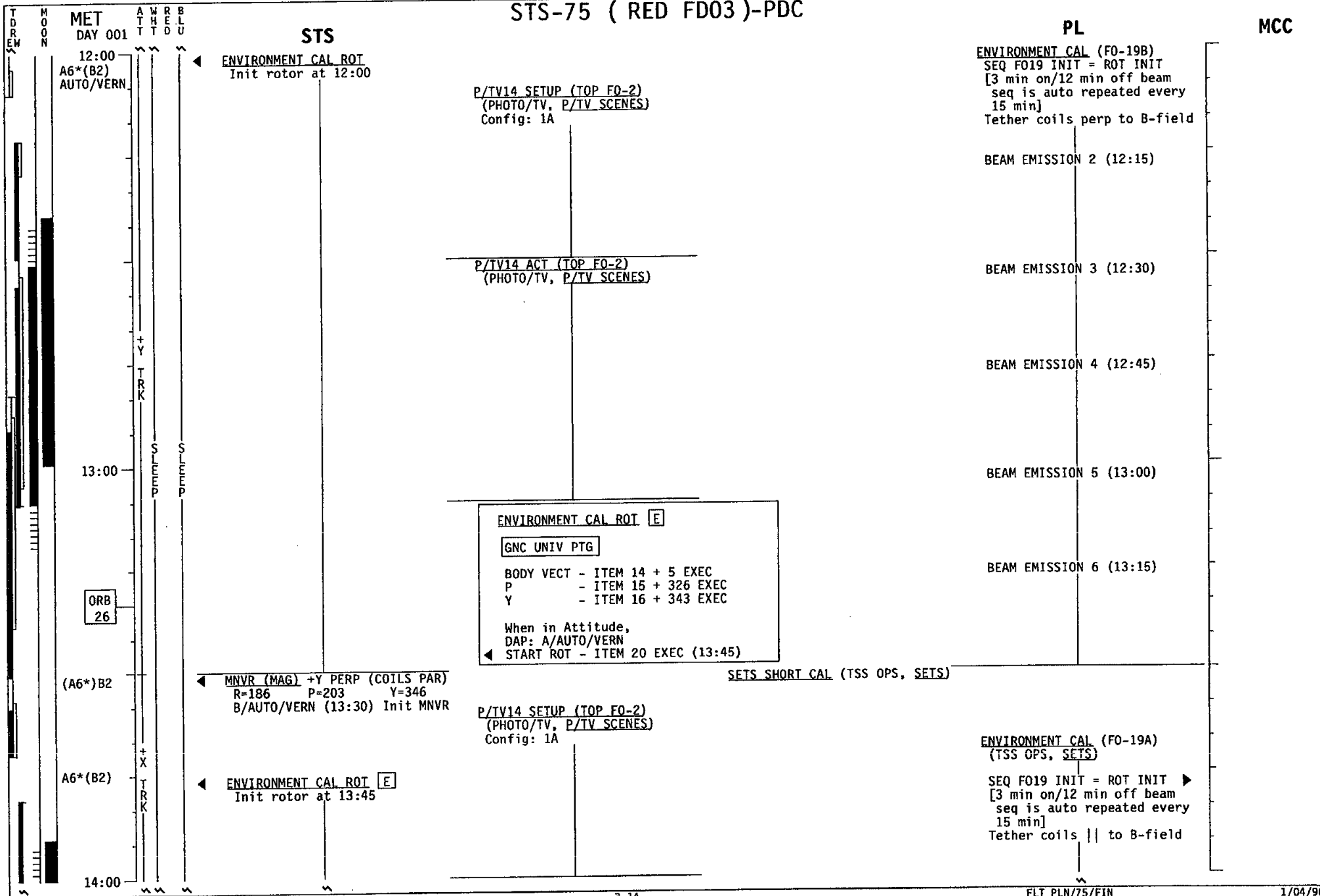
ENVIRONMENT CAL ROT [C]  
Init rotor at 12:00

ENVIRONMENT CAL (F0-19B)  
(TSS OPS, SETS)

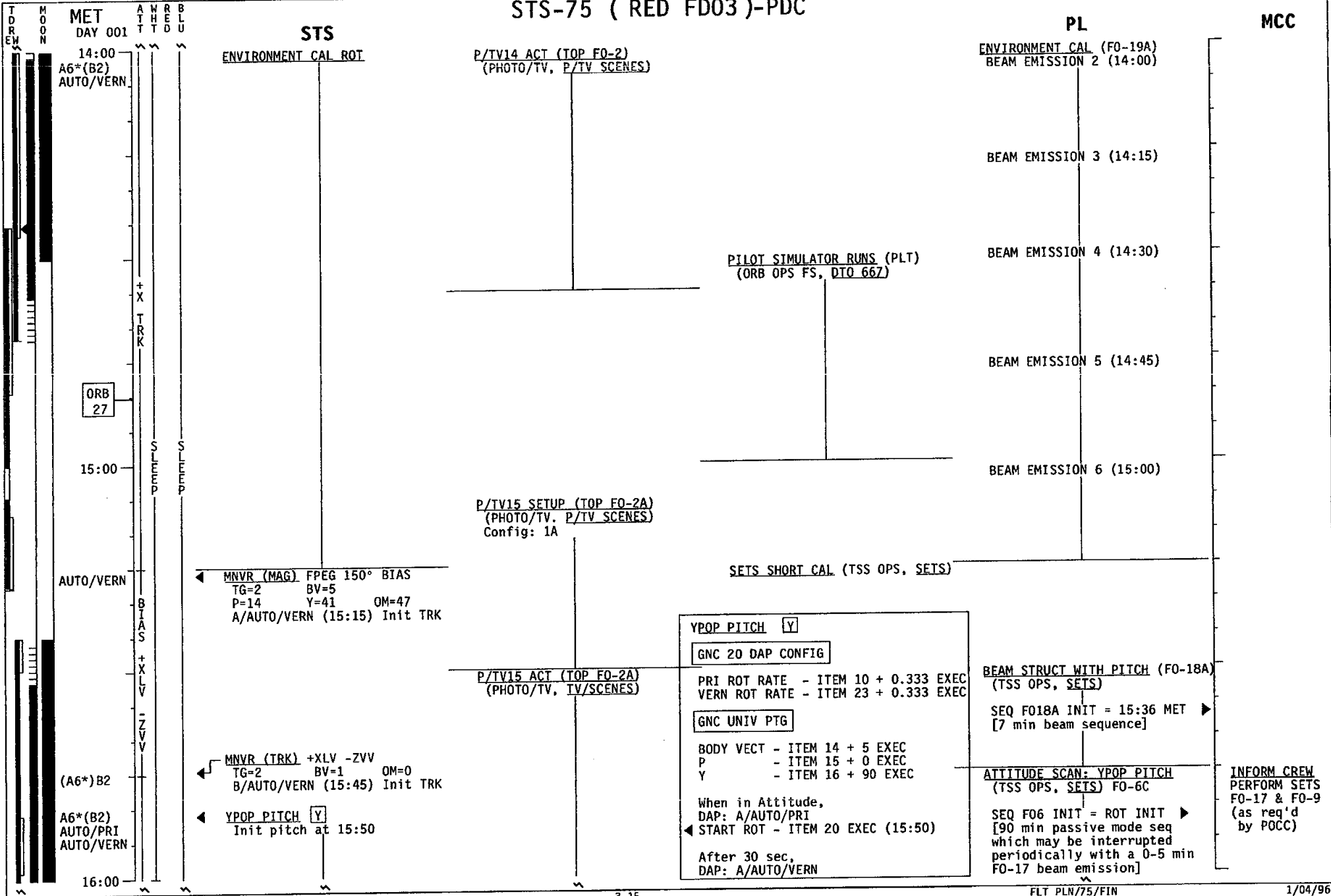
SEQ F019 INIT = ROT INIT



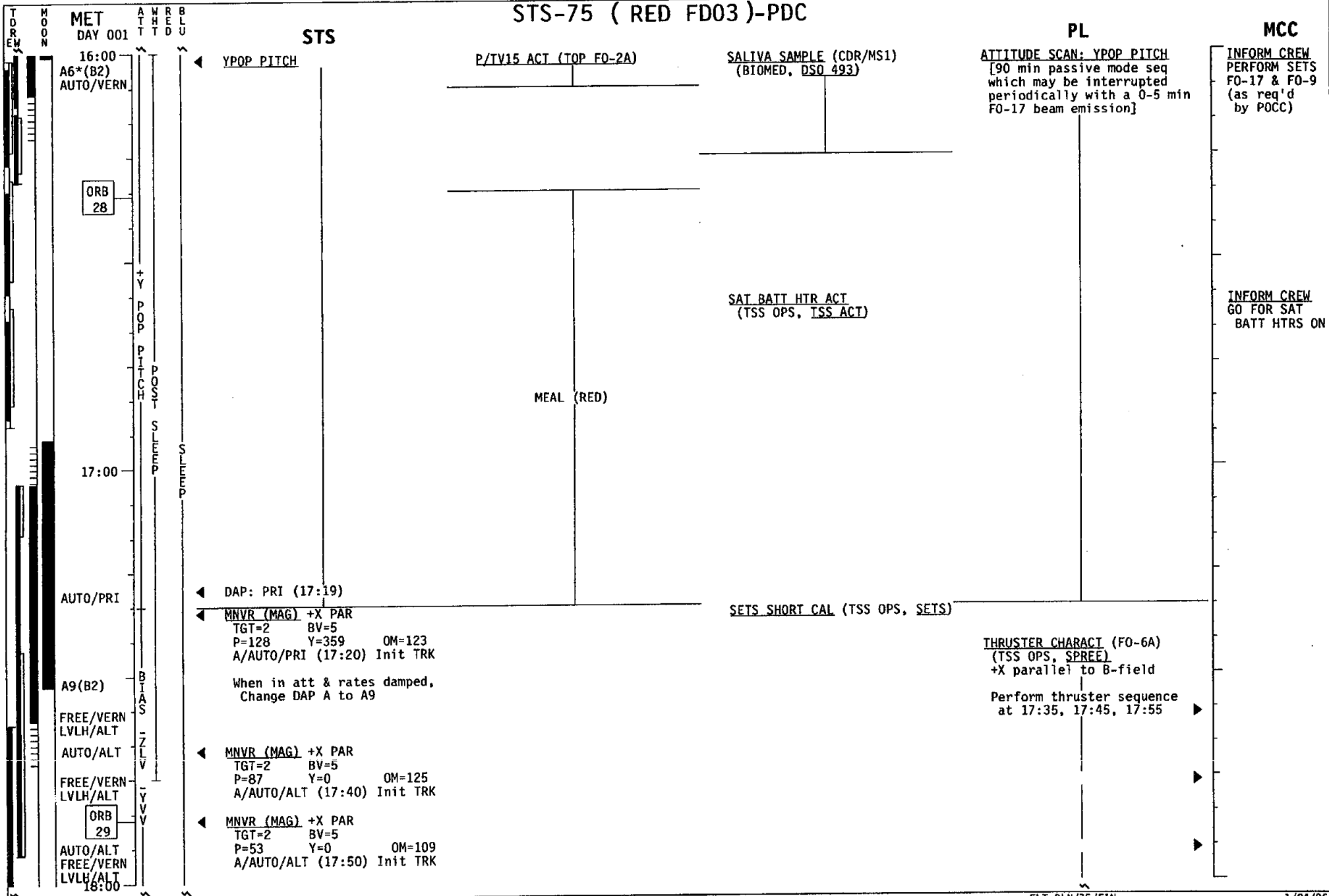
# STS-75 ( RED FD03 )-PDC



# STS-75 ( RED FD03 )-PDC



# STS-75 ( RED FD03 )-PDC



**MET**  
DAY 001

A  
T  
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E  
D  
B  
L  
U

**STS**

**PL**

**MCC**

16:00  
A6\*(B2)  
AUTO/VERN

◀ YPOP PITCH

P/TV15 ACT (TOP FO-2A)

SALIVA SAMPLE (CDR/MS1)  
(BIOMED, DSO 493)

ATTITUDE SCAN: YPOP PITCH  
[90 min passive mode seq  
which may be interrupted  
periodically with a 0-5 min  
FO-17 beam emission]

INFORM CREW  
PERFORM SETS  
FO-17 & FO-9  
(as req'd  
by POCC)

ORB  
28

SAT BATT HTR ACT  
(TSS OPS, TSS ACT)

INFORM CREW  
GO FOR SAT  
BATT HTRS ON

MEAL (RED)

17:00

◀ DAP: PRI (17:19)

SETS SHORT CAL (TSS OPS, SETS)

◀ MNRV (MAG) +X PAR  
TGT=2 BV=5  
P=128 Y=359 OM=123  
A/AUTO/PRI (17:20) Init TRK

THRUSTER CHARACT (FO-6A)  
(TSS OPS, SPREE)  
+X parallel to B-field

Perform thruster sequence  
at 17:35, 17:45, 17:55 ▶

When in att & rates damped,  
Change DAP A to A9

◀ MNRV (MAG) +X PAR  
TGT=2 BV=5  
P=87 Y=0 OM=125  
A/AUTO/ALT (17:40) Init TRK

◀ MNRV (MAG) +X PAR  
TGT=2 BV=5  
P=53 Y=0 OM=109  
A/AUTO/ALT (17:50) Init TRK

A9(B2)

FREE/VERN

LVLH/ALT

AUTO/ALT

FREE/VERN

LVLH/ALT

ORB  
29

AUTO/ALT

FREE/VERN

LVLH/ALT

18:00

# STS-75 (RED FD03)-PDC

STS

PL

MCC

TDRS  
 MOON  
 MET DAY 001  
 A9 (B2)  
 LVLH/ALT  
 A6 (B2)  
 LVLH/VERN  
 AUTO/VERN  
 18:00  
 19:00  
 20:00  
 ORB 30  
 IMU  
 A/CN1  
 S-STRUT  
 -ZLV  
 +YVVV

DAP: A/LVLH/VERN  
Change DAP A to A6

P/TV15 SETUP (TOP F0-2A)  
(PHOTO/TV, P/TV SCENES)  
Config: 1A

◀ MNVR (MAG) FPEG 30° BIAS  
TGT=2 BV=5  
P=272 Y=17 OM=148  
A/AUTO/VERN (18:15) Init TRK

SETS SHORT CAL (TSS OPS, SETS)

P/TV15 ACT (TOP F0-2A)  
(PHOTO/TV, TV/SCENES)

BEAM STRUCT WITH PITCH (F0-18A)  
(TSS OPS, SETS)

SEQ F018A INIT = 18:36 MET  
[7 min beam sequence]

◀ MNVR (MAG) FPEG 90° BIAS  
TGT=2 BV=5  
P=50 Y=338 OM=120  
A/AUTO/VERN (18:45) Init TRK

SEQ F018A INIT = 18:58 MET  
[7 min beam sequence]

◀ MNVR IMU ALIGN ATT  
STAR PAIR (C1)  
A/AUTO/VERN (19:05) Init MNVR

DCORE CHECKOUT (F0-17)  
(TSS OPS, DCORE)

SALIVA SAMPLE (MS4)  
(BIOMED, DSQ 493)

IMU ALIGN - S TRK (ORB OPS)

DACA PWR CYCLE  
(TSS OPS, PREDPLY OPS)

INFROM CREW  
GO FOR DACA  
POWER CYCLE

◀ MNVR (TRK) -ZLV, +YVV  
TG=2 BV=3 OM=270  
A/AUTO/VERN (19:25) Init TRK

DACA PROFILE UPDATE\*

UPLINK  
DACA PROFILE

SUPPLY/WASTE WATER DUMP  
(ORB OPS, ECLS)  
Initiate Supply/Waste Dump

EXERCISE  
(CDR)

P/TV13 SETUP (TOP F0-1)  
(PHOTO/TV, P/TV SCENES)  
Config: 1

UPDATE  
WASTE/SUPPLY  
H2O DUMP QTY

06 JHF MODE - OFF  
PRIVATE MEDICAL CONFERENCE



# STS-75 (BLUE FD03) -PDC

STS

PL

MCC

MET DAY 001  
A6(B2) AUTO/VERN

22:00

A6(B2) AUTO/VERN

ORB 32

SUPPLY/WASTE WATER DUMP  
(ORB OPS, ECLS)  
Terminate Supply/Waste Dump

◀ MNVR (TRK) BIAS +ZLV -XVV  
TG=2 BV=5  
P=300 Y=0 OM=180  
A/AUTO/VERN (22:15) Init TRK

06 UHF MODE - SPLX

P/TV10 SETUP (TSS)  
(PHOTO/TV, P/TV SCENES)

PREDEPLOY PREP  
(TSS OPS, PREDPLY OPS)

SETS SHORT CAL  
(TSS OPS, SETS)

P/TV10 ACT (TSS)  
(PHOTO/TV, P/TV SCENES)

UNLATCH SATELLITE  
(TSS OPS, PREDPLY OPS)  
OPEN SRL'S

SAT BATTERY ACT

SATELLITE INITIALIZATION\*

TEMAG CHECKOUT\*

**00:00 PET = 2/00:19 MET (FLYAWAY)**

DEPLOY TIMELINE  
(TSS DYN, DEPLOY TIMELINE)

MNVR to COMM ATT (OM=150)

SAT ATT VERIF  
(TSS OPS, PREDPLY OPS)

BOOM EXTENSION  
(TSS OPS, PREDPLY OPS)  
ESTABLISH RF LINK

RELEASE U1 UMBILICAL

EXTEND BOOM

MTL: 3PDC 33 (1/23:30:00)  
STL: S20 ( / : : )

DEP1

DEP1

DEP1

PHOTO SURVEY OF EXTENDED BOOM

MTL: 1PDC 34 (1/23:56:36)  
STL: ( / : : )

MNVR TO FLYAWAY ATT  
SPREE HV DISABLE

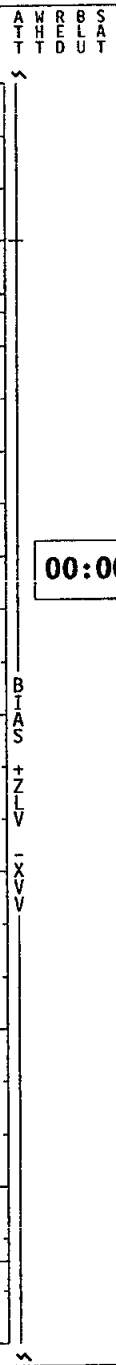
ORB 33

002  
00:00

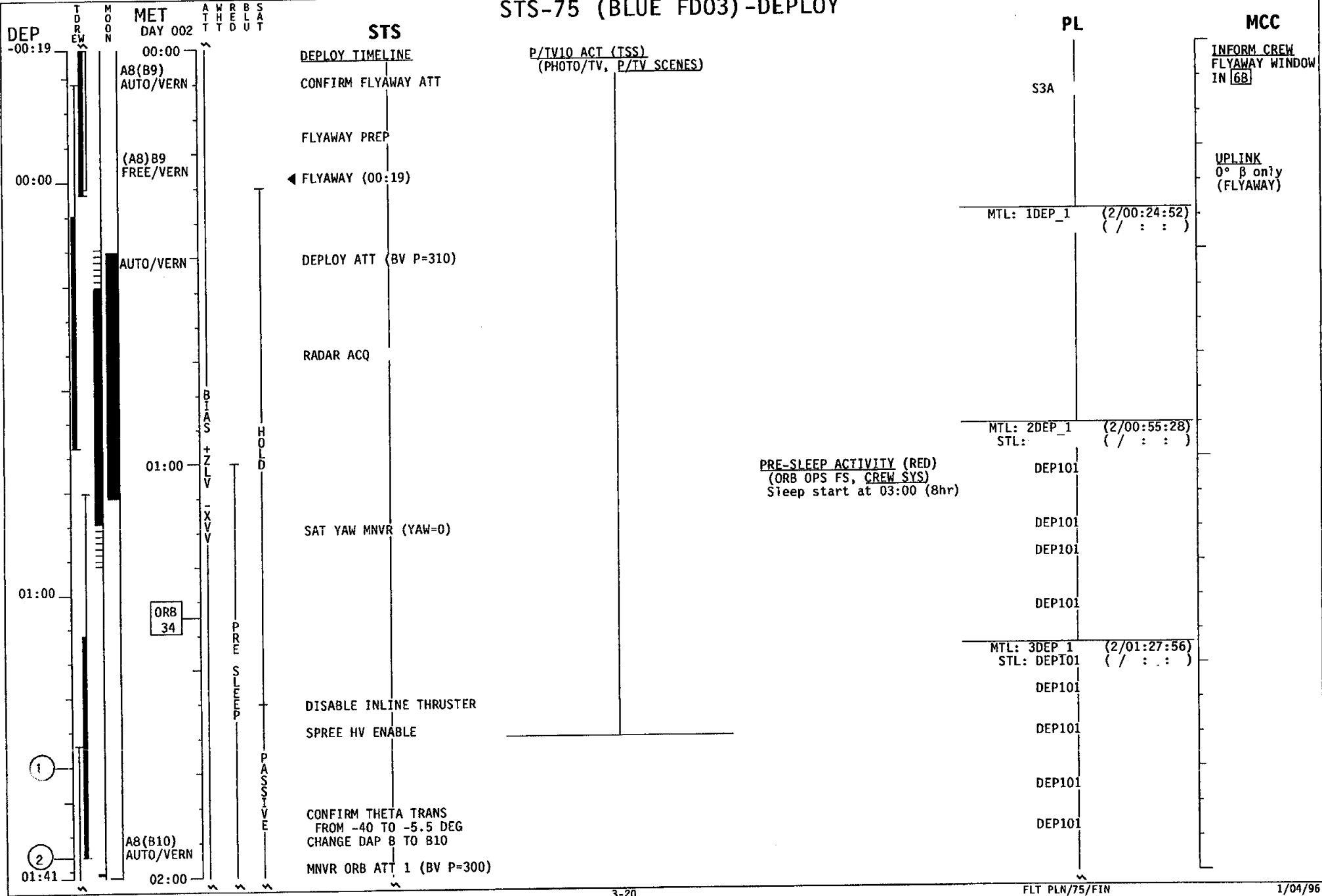
DEP -01:30

-01:00

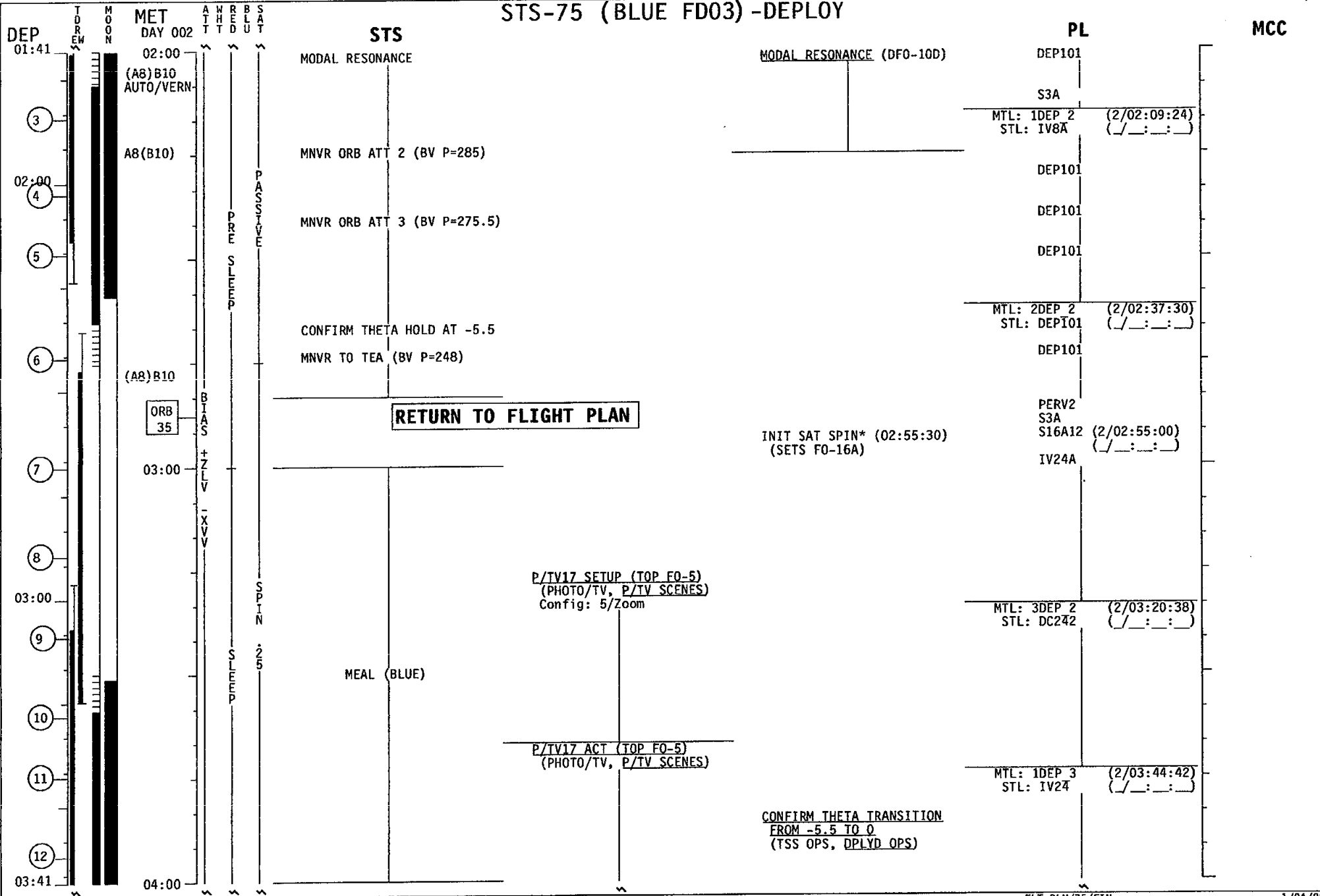
-00:19



# STS-75 (BLUE FD03) -DEPLOY

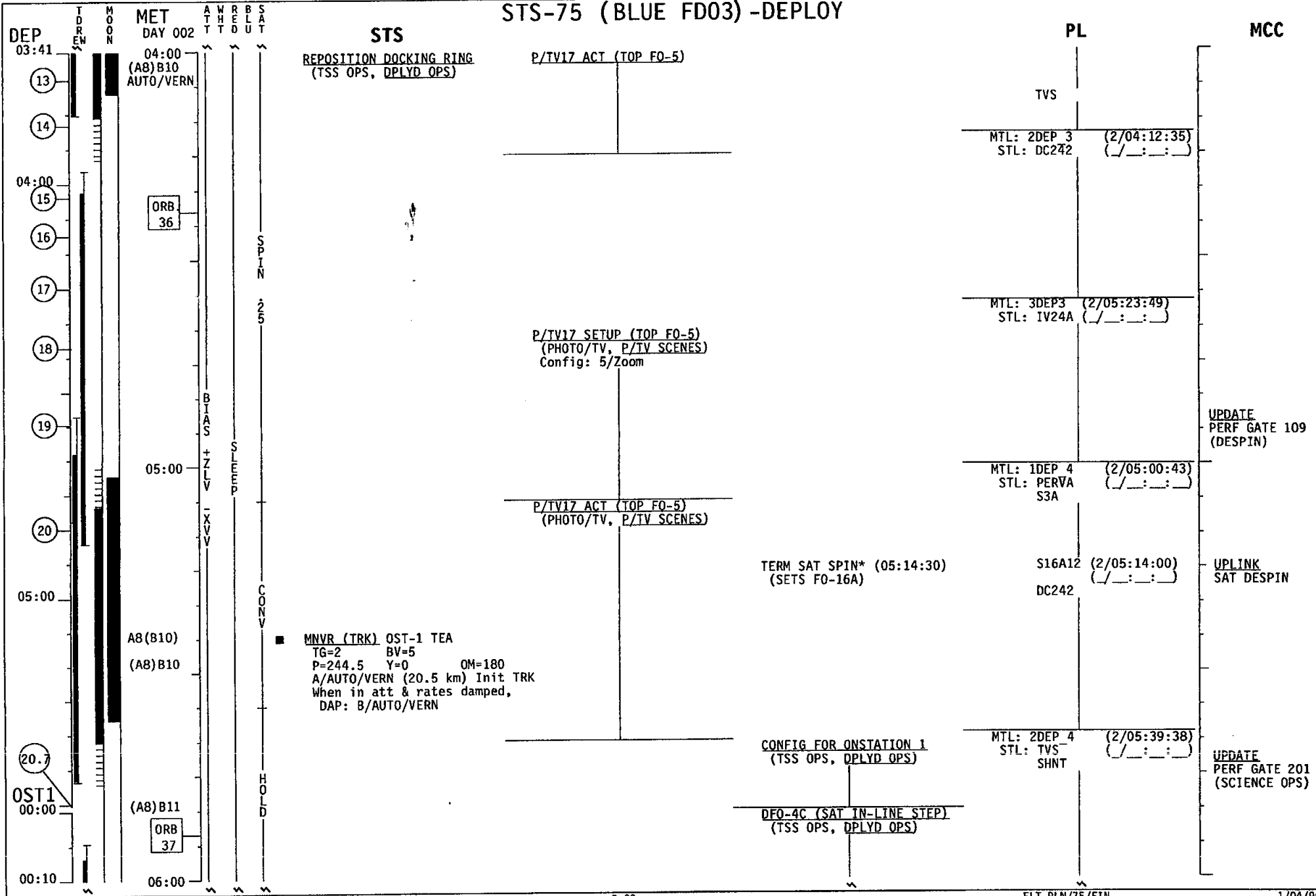


# STS-75 (BLUE FD03) -DEPLOY

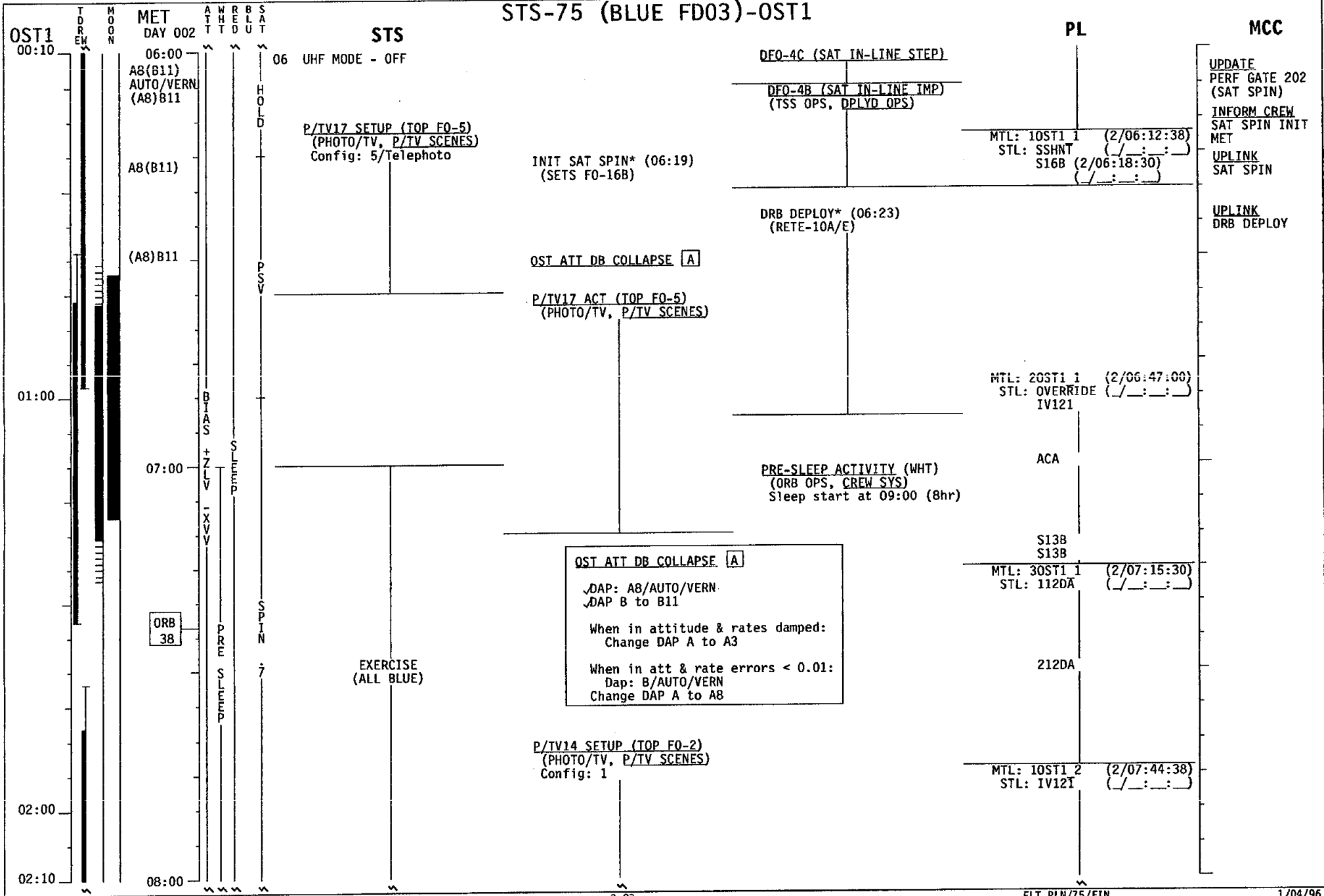




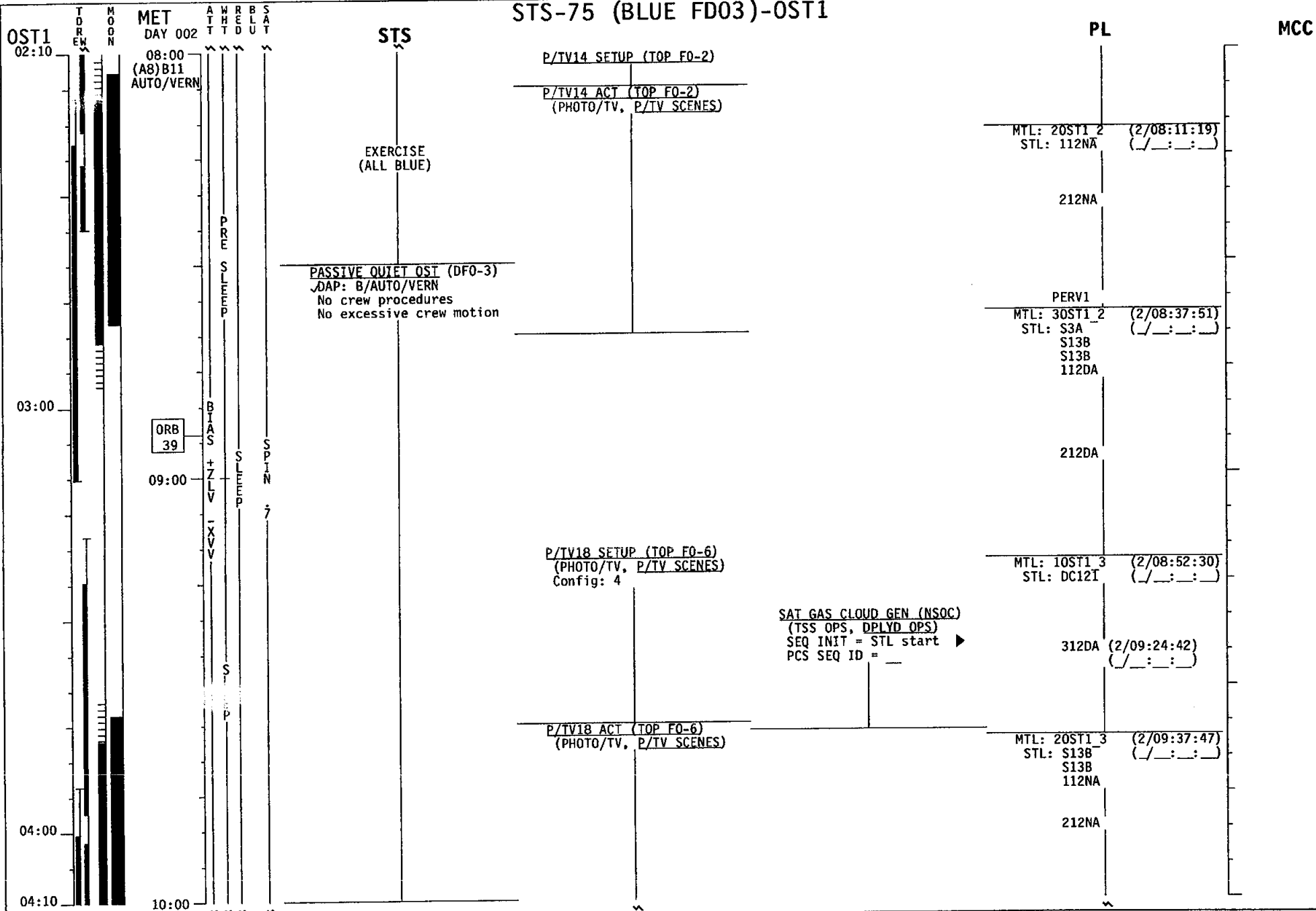
# STS-75 (BLUE FD03) -DEPLOY



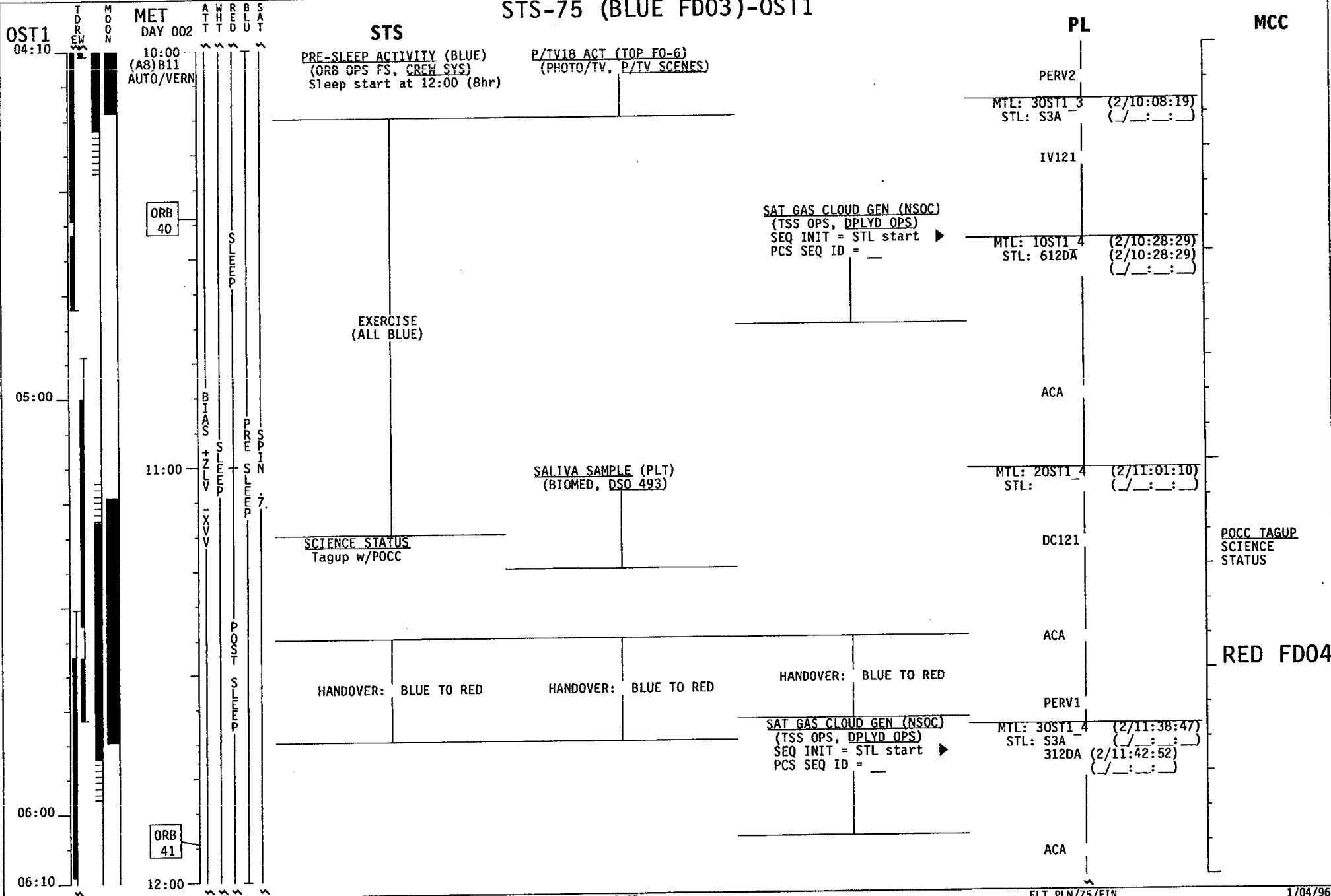
# STS-75 (BLUE FD03)-OST1



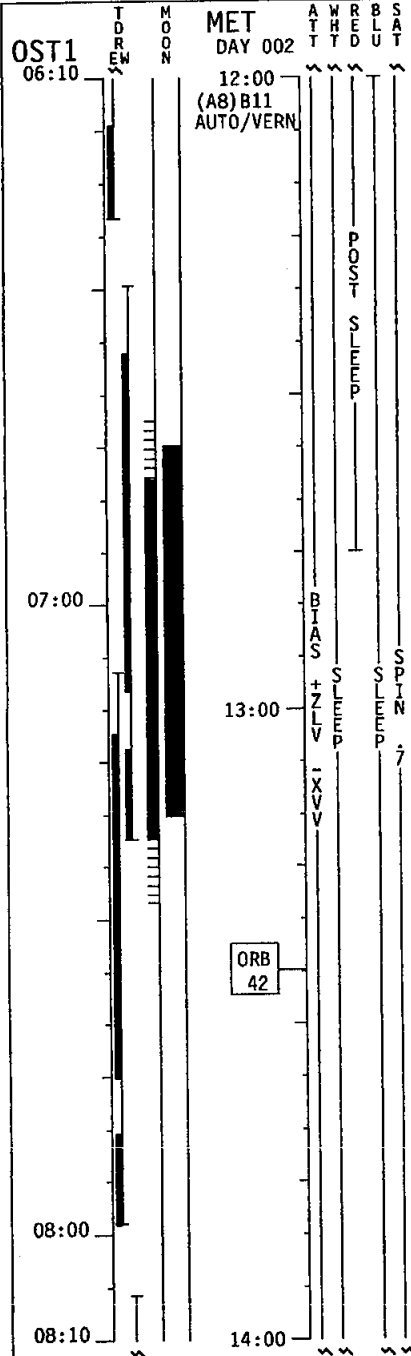
# STS-75 (BLUE FD03)-OST1



# STS-75 (BLUE FD03)-OST1



# STS-75 ( RED FD04)-OST1

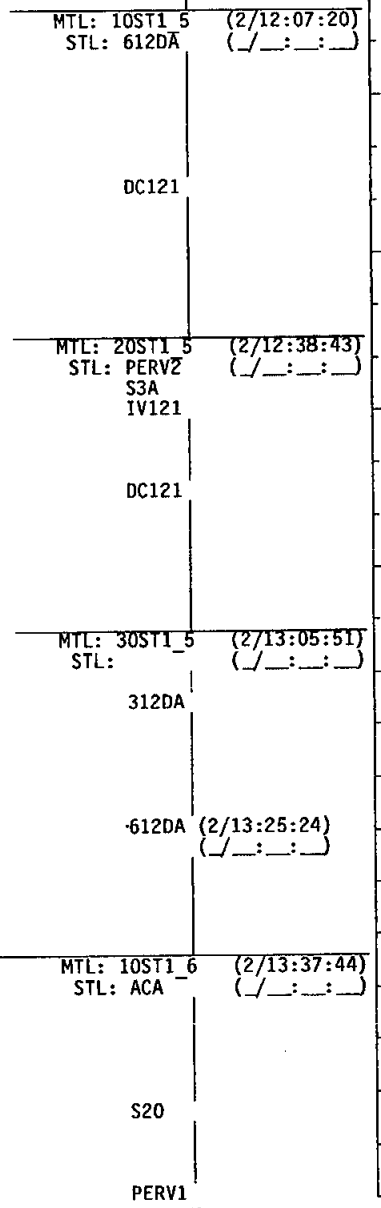


STS

**RED FD04 EZ ACTIVITIES:**  
 CPA OPS (ORB OPS, CREW SYS)  
 QCAC FILTER INSPECT  
 STATUS MONITORING (PL OPS, CPCG)

PL

MCC

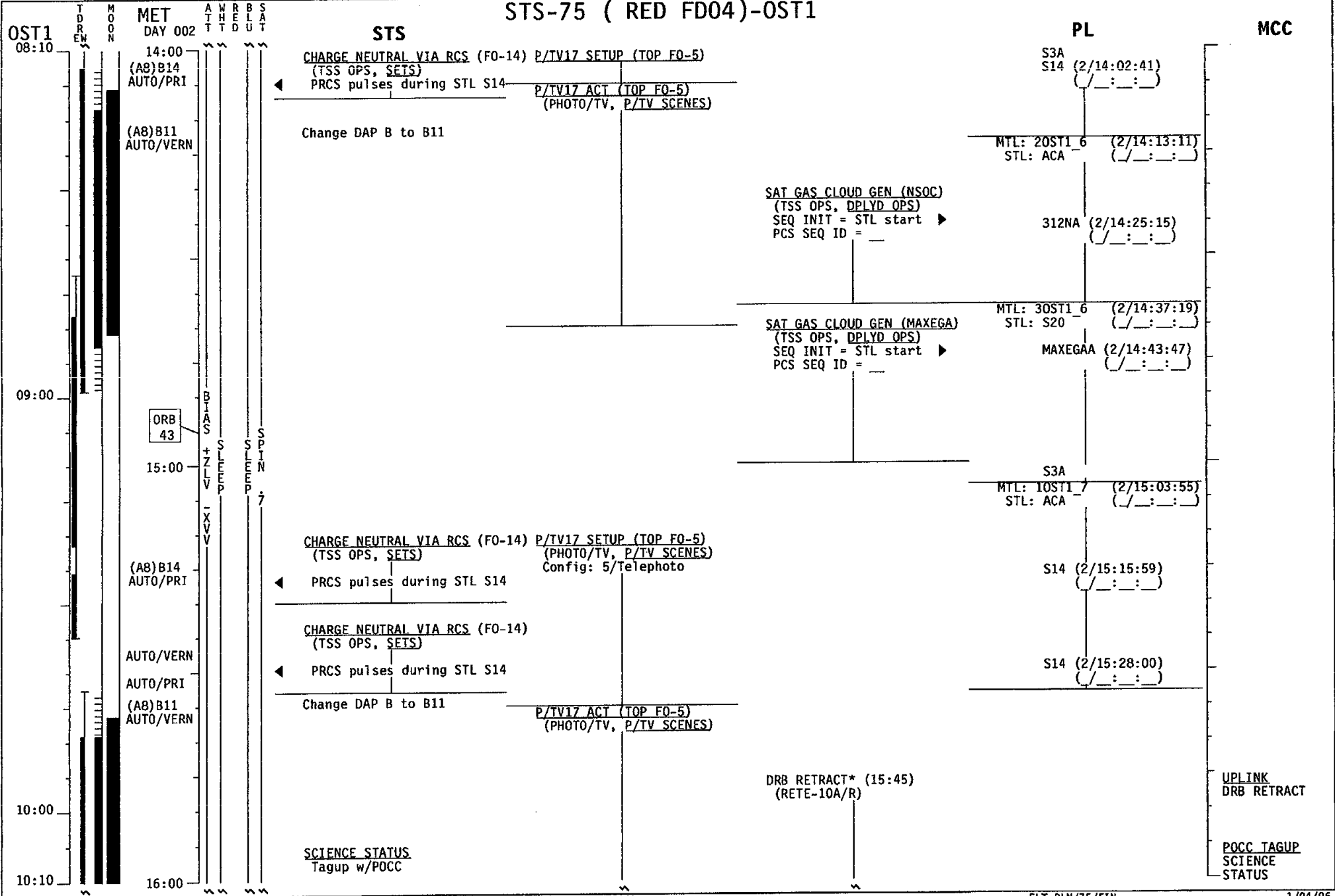


SAT GAS CLOUD GEN (NSOC)  
 (TSS OPS, DPLYD OPS)  
 SEQ INIT = STL start ▶  
 PCS SEQ ID = \_

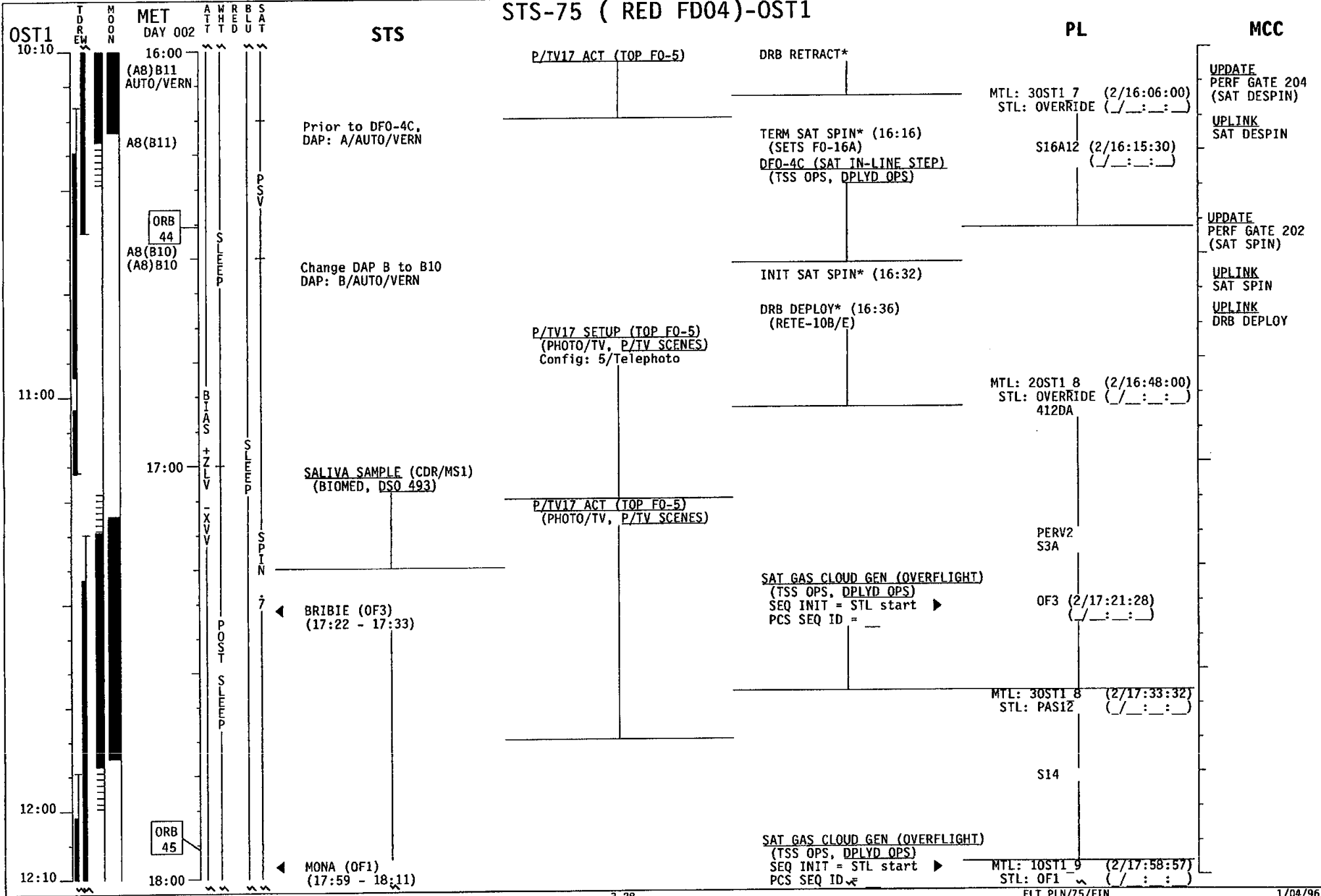
P/TV17 SETUP (TOP FO-5)  
 (PHOTO/TV, P/TV SCENES)  
 Config: 5/Telephoto

CHARGE NEUTRAL VIA RCS (FO-14)  
 (TSS OPS, SETS)

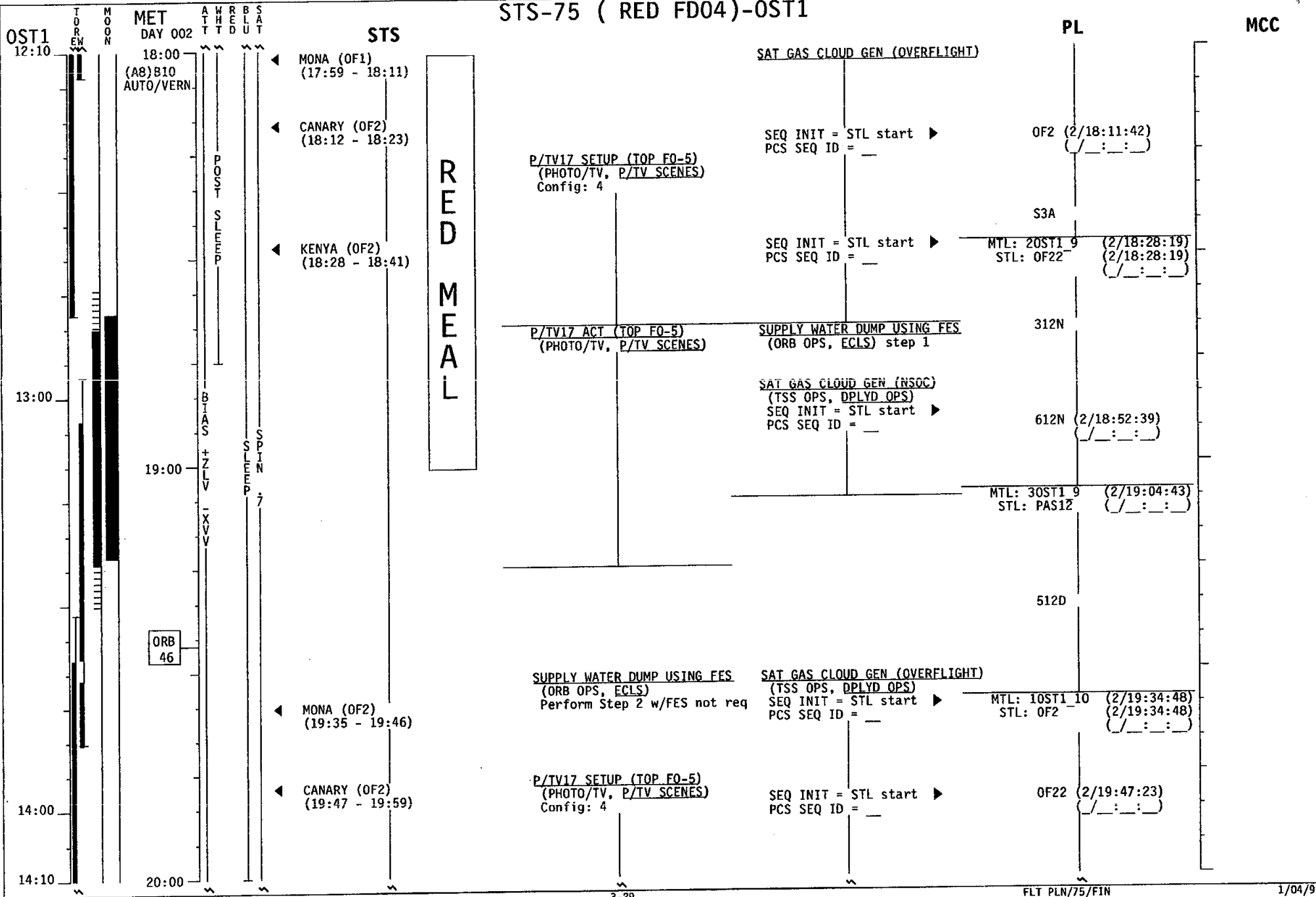
# STS-75 ( RED FD04)-OST1



# STS-75 ( RED FD04)-OST1

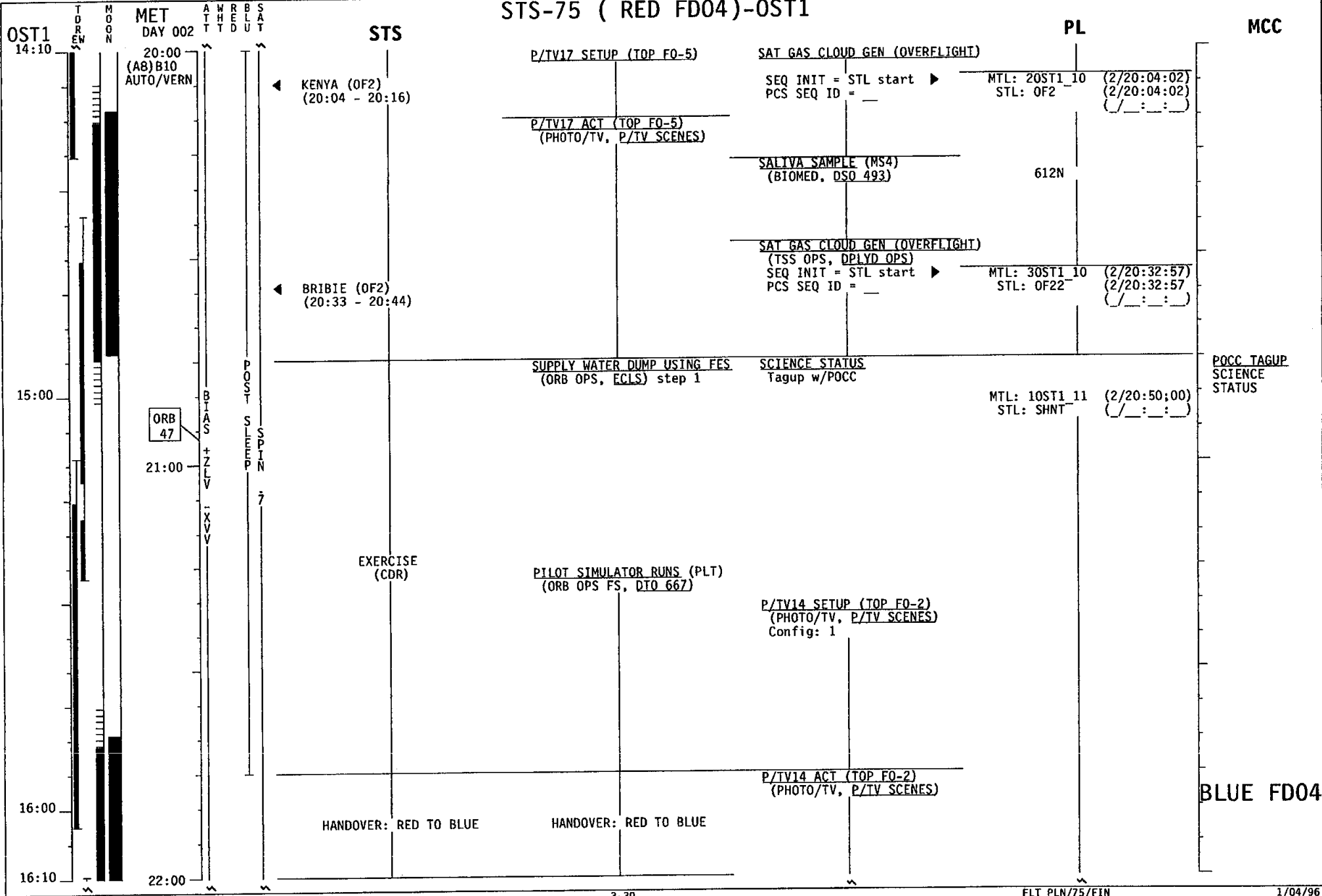


# STS-75 (RED FD04)-OST1





# STS-75 ( RED FD04)-OST1



# STS-75 (BLUE FD04)-OST1

OST1  
16:10

MET  
DAY 002

22:00  
(A8) B10  
AUTO/VERN

(A8) B14  
AUTO/PRI

ORB  
48

(A8) B10  
AUTO/VERN

17:00

23:00

18:00

18:10

ORB  
49

003  
00:00

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## STS

IMU ALIGN - S TRK (ORB OPS)

CHARGE NEUTRAL VIA RCS (F0-14)  
(TSS OPS, SETS)

PRCS pulses during STL S14

Change DAP B to B10

EXERCISE  
(ALL RED)

PAO EVENT SETUP  
RADIO ONLY EVENT

PAO VOICE CHECK/EVENT  
RADIO ONLY EVENT  
All crew

P/TV14 ACT (TOP F0-2)  
(PHOTO/TV, P/TV SCENES)

P/TV17 SETUP (TOP F0-5)  
(PHOTO/TV, P/TV SCENES)  
Config: 5/Telephoto

P/TV17 ACT (TOP F0-5)  
(PHOTO/TV, P/TV SCENES)

## PL

MTL: 30ST1 11 (2/22:16:00)  
STL: SSHNT ( / : : )  
PERV2  
S3A  
S14 (2/22:23:32)  
( / : : )

MTL: 10ST1 12 (2/22:29:06)  
STL: LVDCA ( / : : )

LVDCA

MTL: 20ST1 12 (2/22:59:40)  
STL: LVDCA ( / : : )

LVDCA

LVDCA

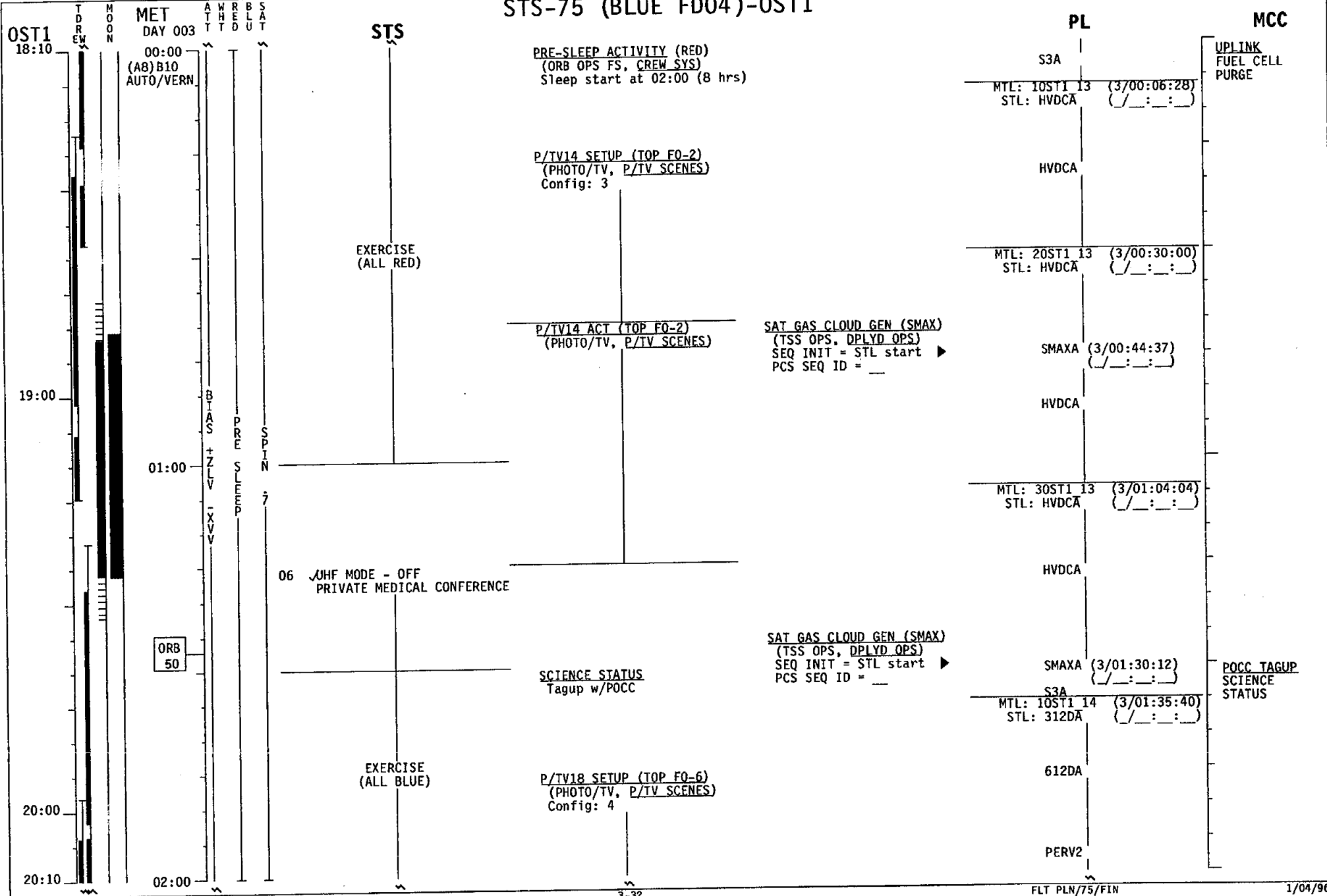
MTL: 30ST1 12 (2/23:35:52)  
STL: LVDCA ( / : : )

LVDCA

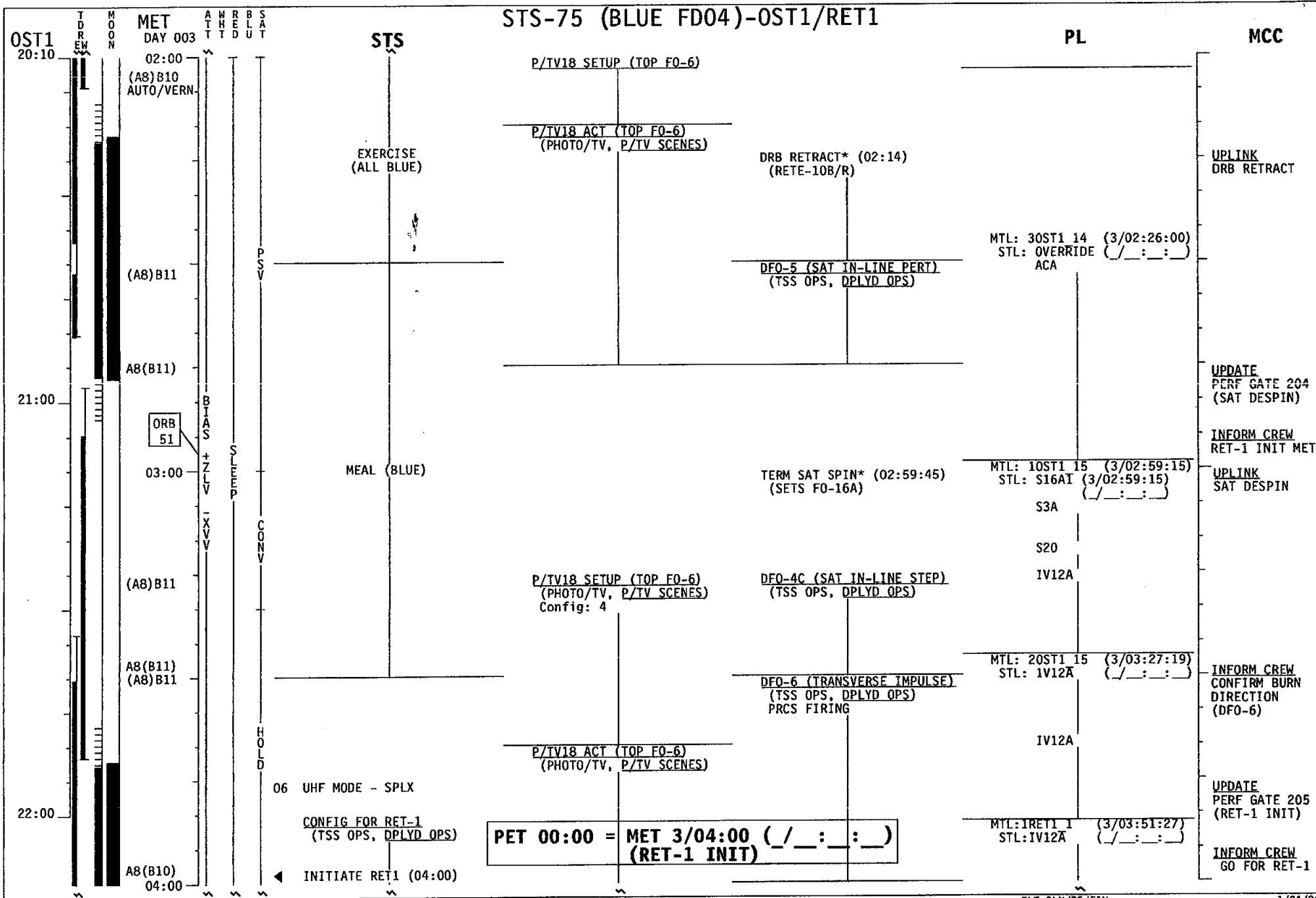
PERV1

## MCC

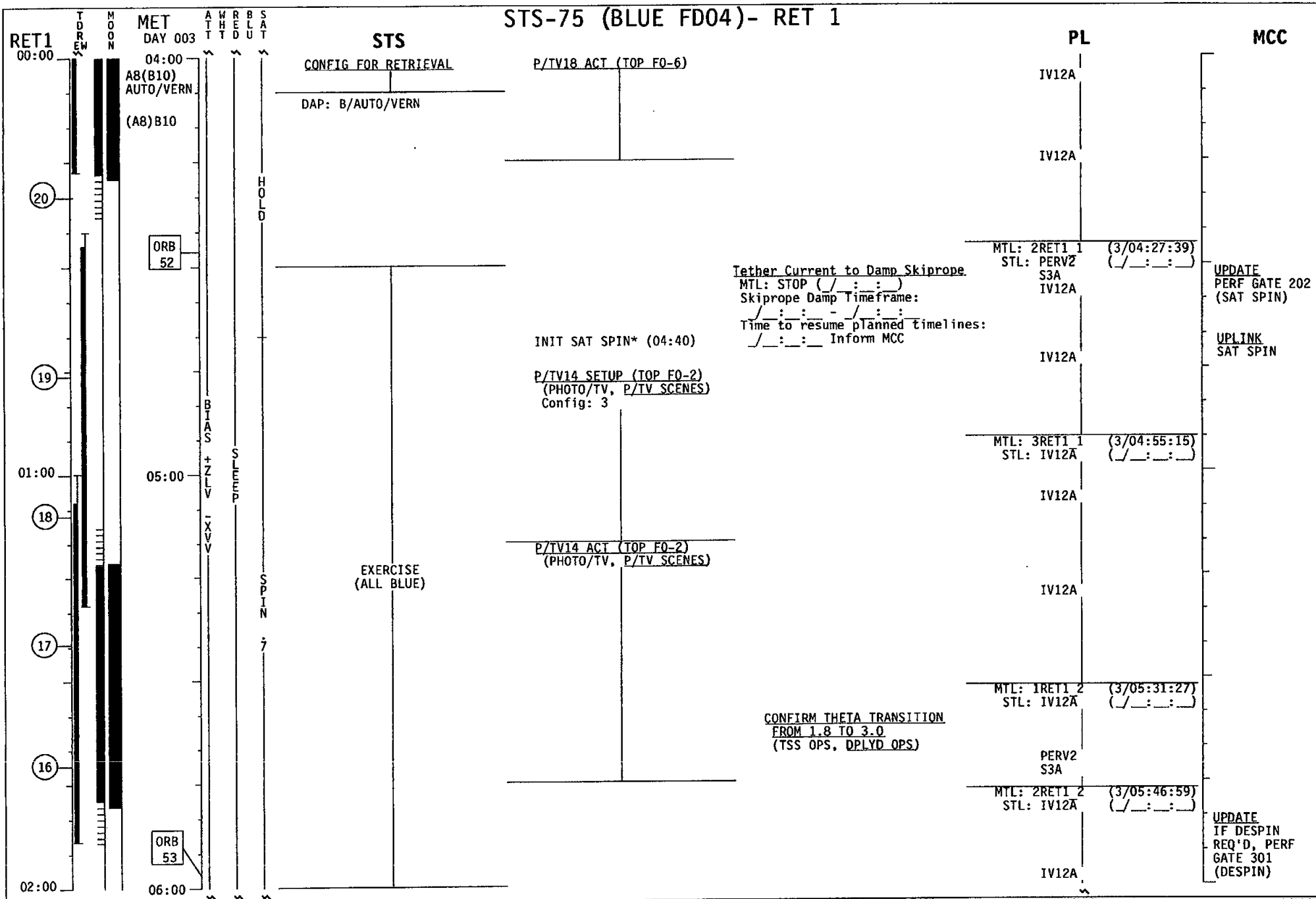
# STS-75 (BLUE FD04)-OST1



# STS-75 (BLUE FD04)-OST1/RET1



# STS-75 (BLUE FD04)- RET 1



RET1 00:00

TDR EW

MOON

MET DAY 003

04:00 AB(B10) AUTO/VERN

(A8)B10

ORB 52

01:00

05:00

ORB 53

02:00

06:00

STS

CONFIG FOR RETRIEVAL

P/TV18 ACT (TOP F0-6)

DAP: B/AUTO/VERN

HOLD

INIT SAT SPIN\* (04:40)

P/TV14 SETUP (TOP F0-2)  
(PHOTO/TV, P/TV SCENES)  
Config: 3

P/TV14 ACT (TOP F0-2)  
(PHOTO/TV, P/TV SCENES)

EXERCISE (ALL BLUE)

SPIN

PL

IV12A

IV12A

MTL: 2RET1 1 (3/04:27:39)  
STL: PERV2 S3A IV12A

IV12A

MTL: 3RET1 1 (3/04:55:15)  
STL: IV12A

IV12A

IV12A

MTL: 1RET1 2 (3/05:31:27)  
STL: IV12A PERV2 S3A

MTL: 2RET1 2 (3/05:46:59)  
STL: IV12A

IV12A

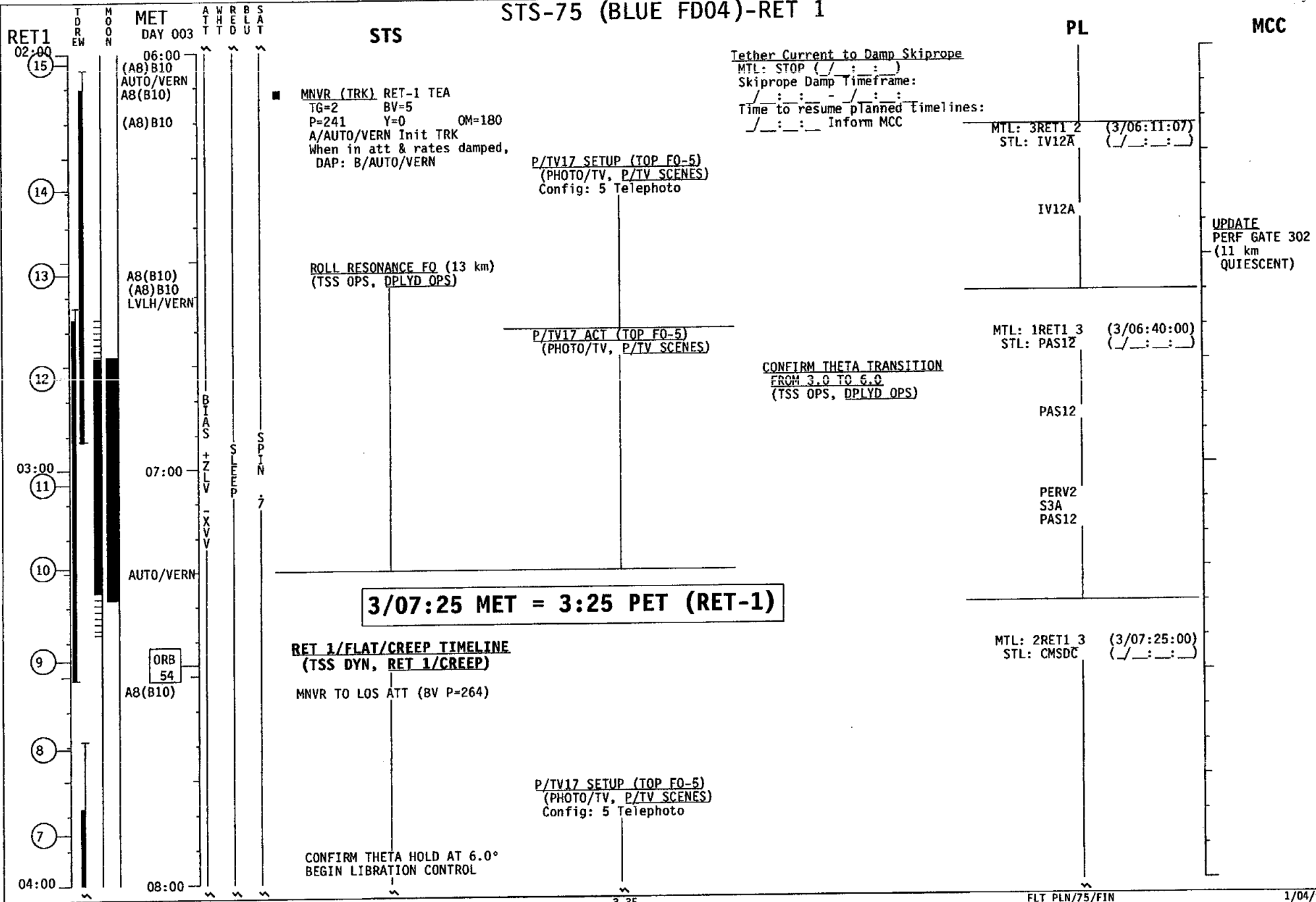
MCC

UPDATE  
PERF GATE 202  
(SAT SPIN)

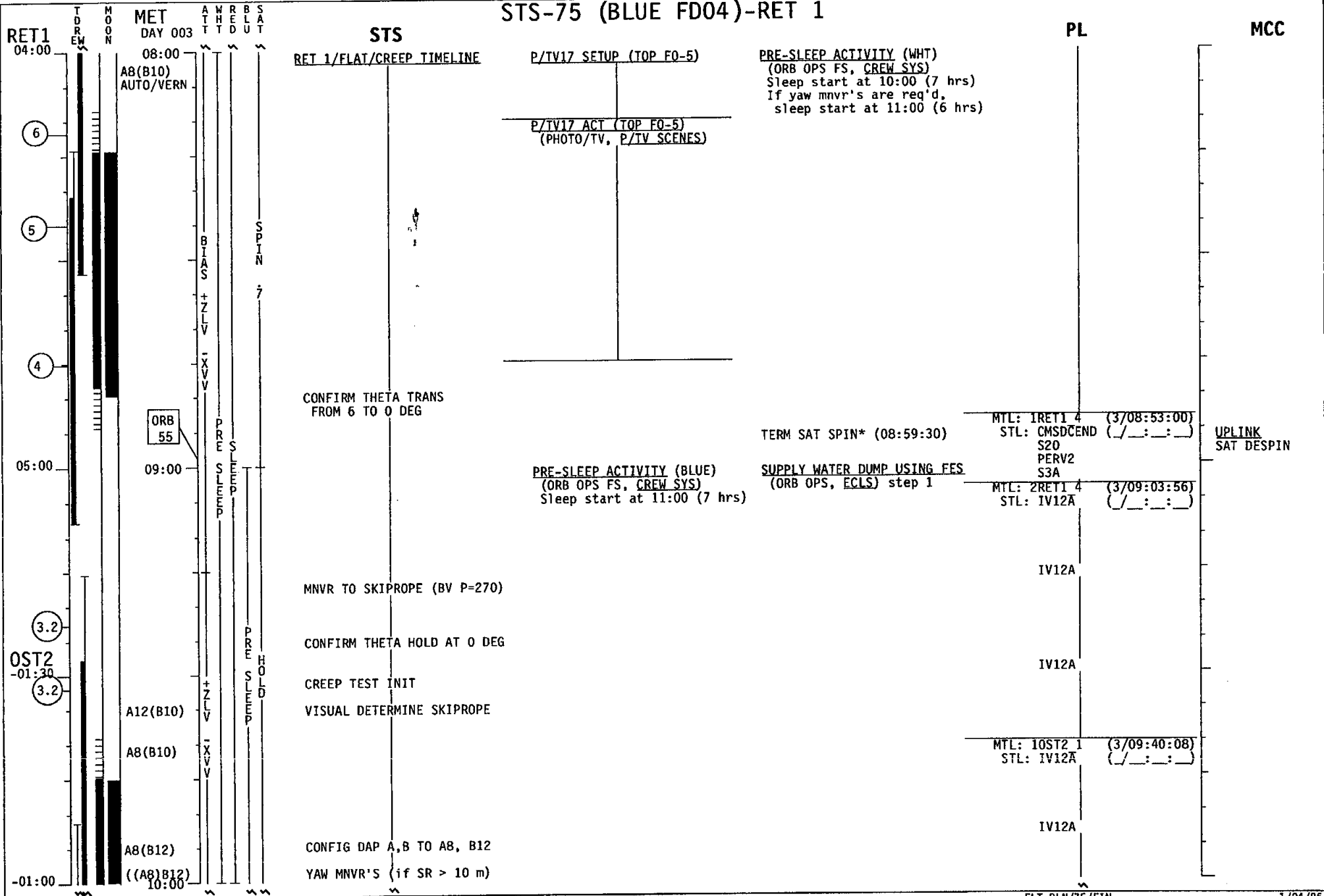
UPLINK  
SAT SPIN

UPDATE  
IF DESPIN  
REQ'D, PERF  
GATE 301  
(DESPIN)

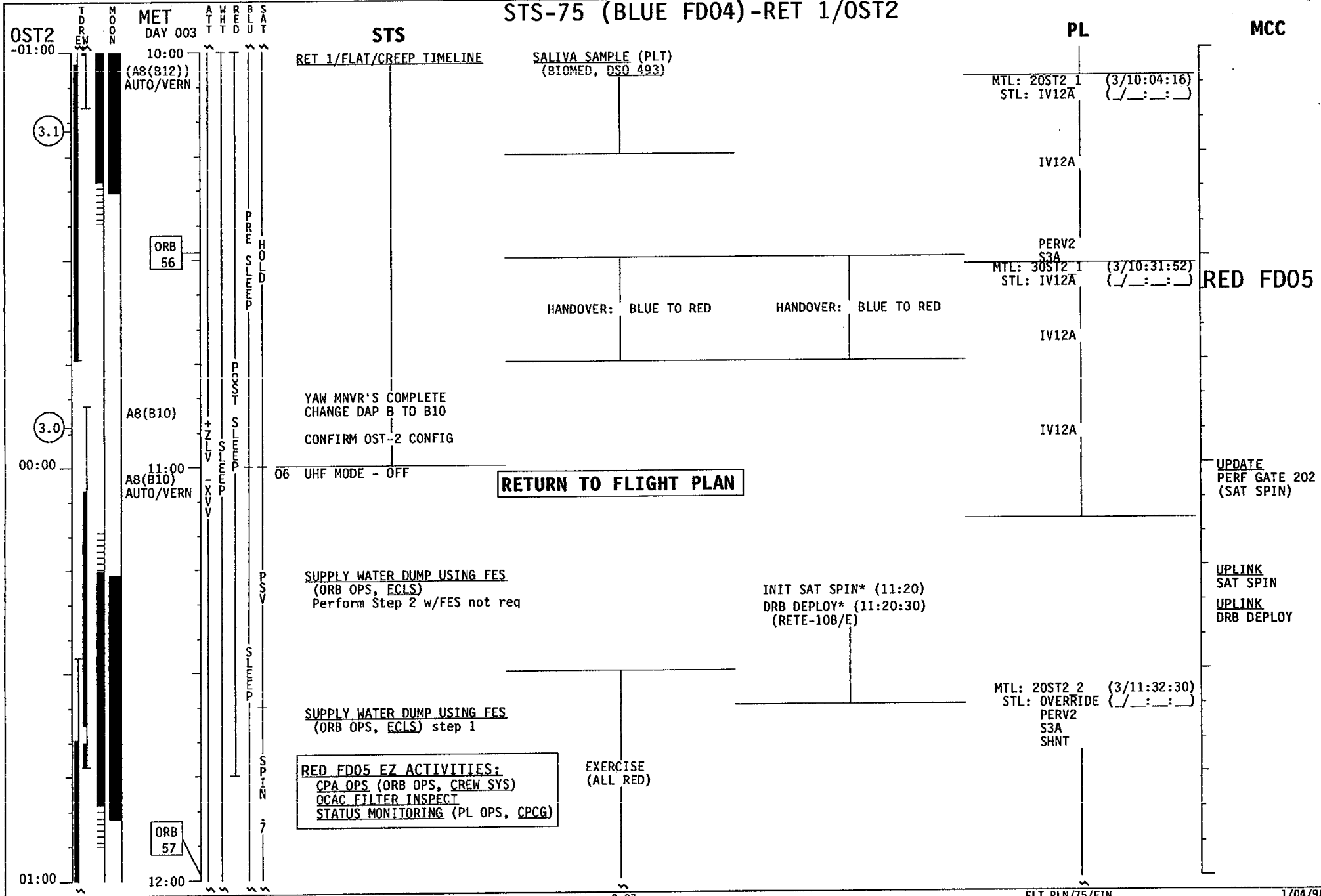
# STS-75 (BLUE FD04)-RET 1



# STS-75 (BLUE FD04)-RET 1

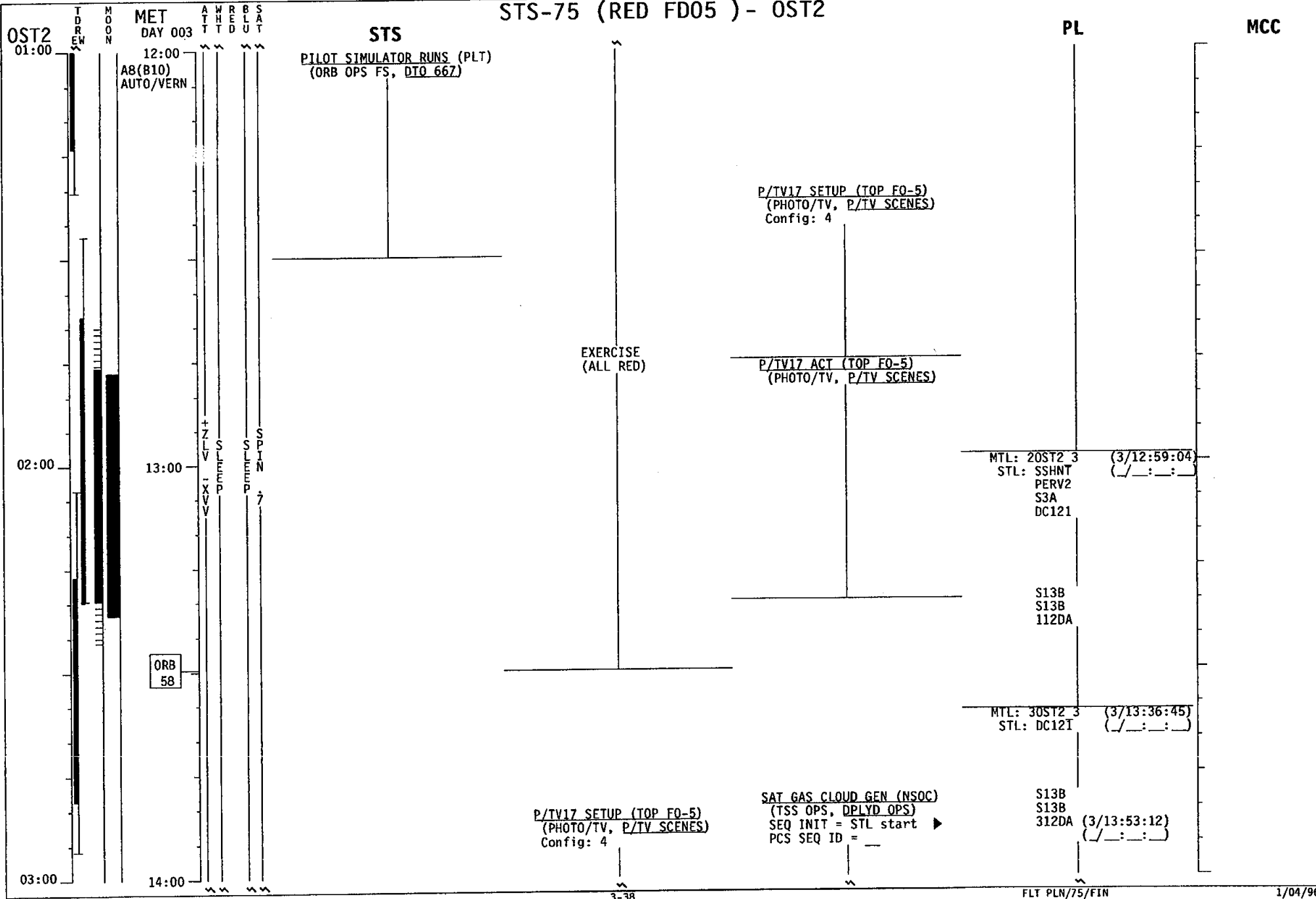


# STS-75 (BLUE FD04)-RET 1/OST2

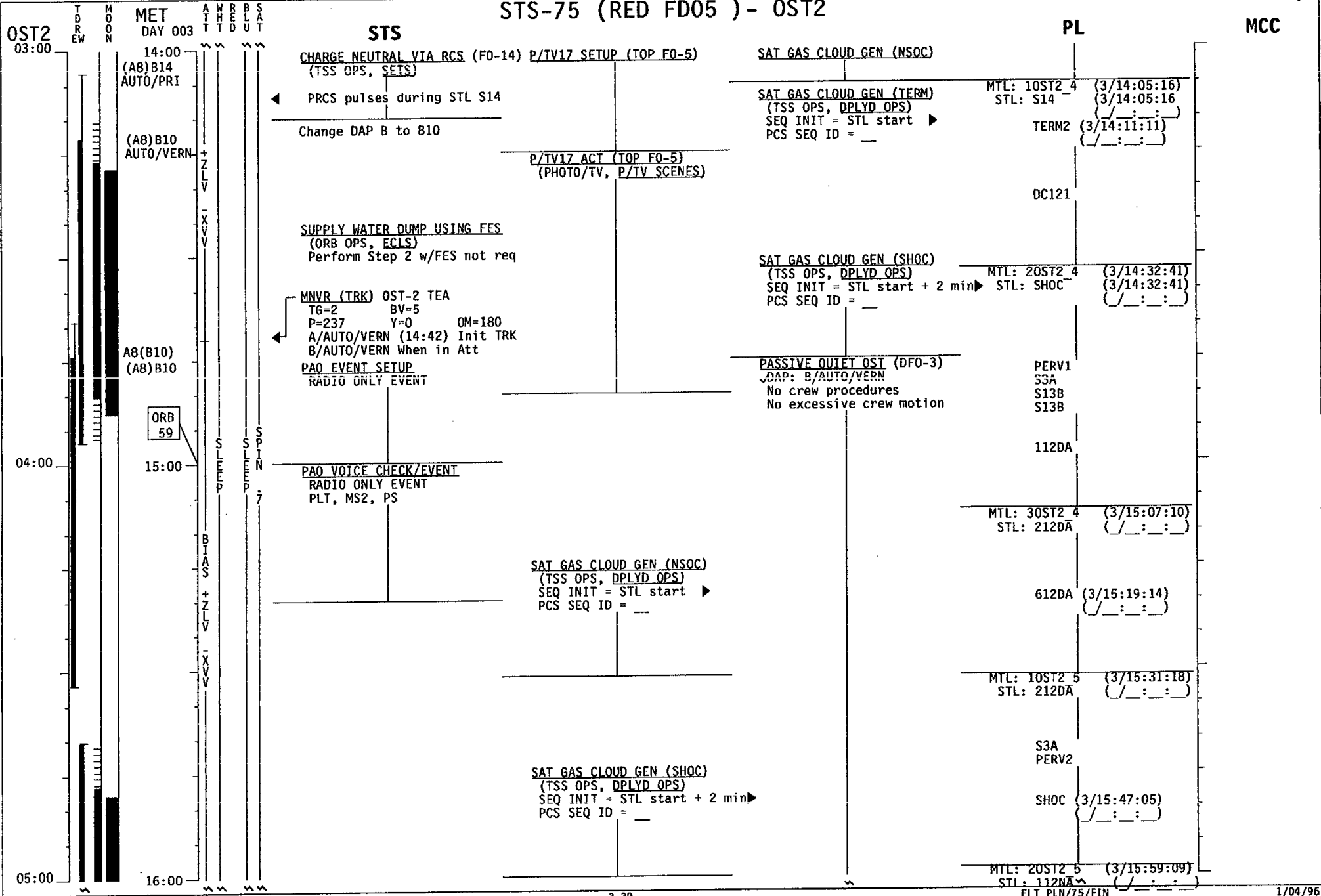




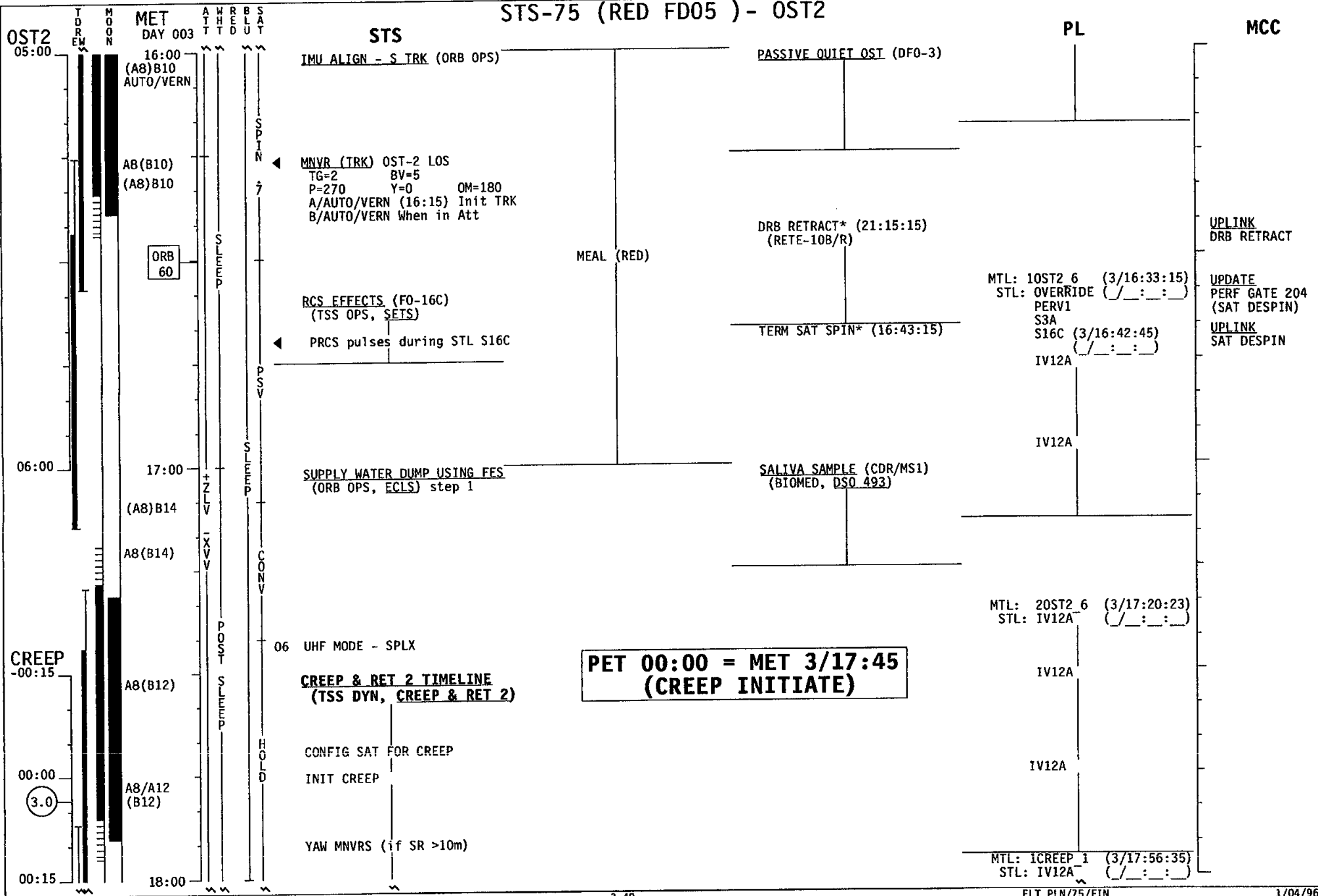
# STS-75 (RED FD05) - OST2



# STS-75 (RED FD05) - OST2

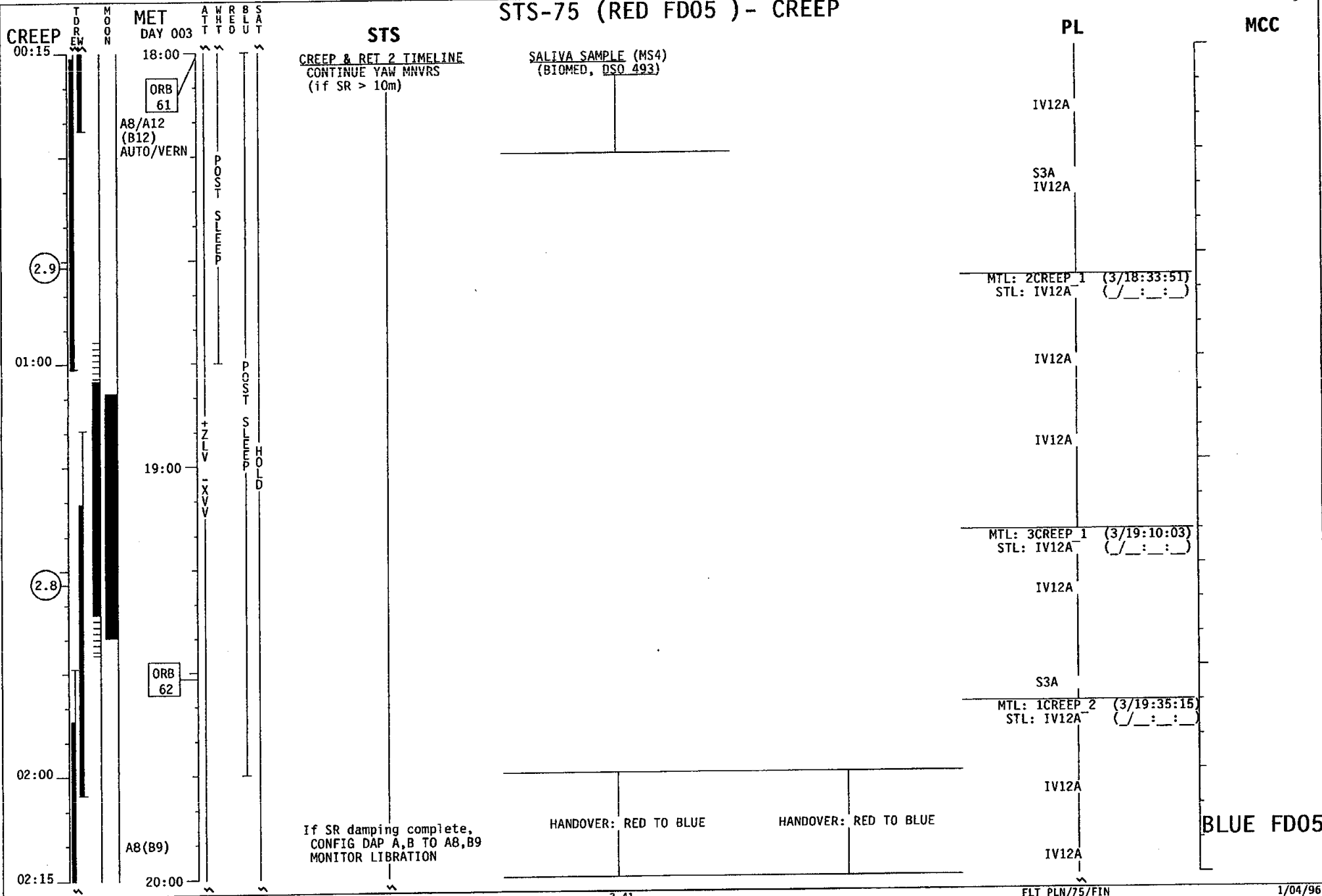


# STS-75 (RED FD05) - OST2

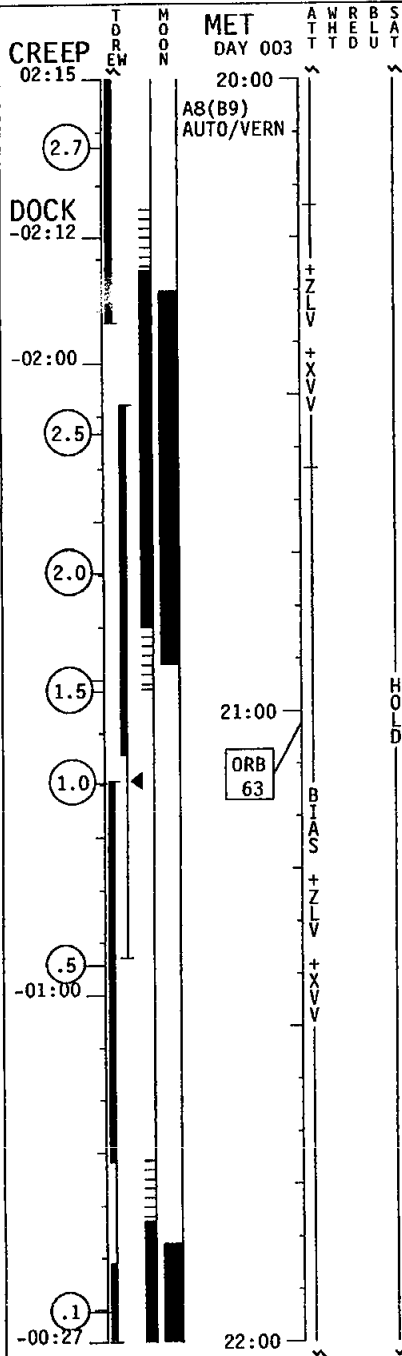


**PET 00:00 = MET 3/17:45  
 (CREEP INITIATE)**

# STS-75 (RED FD05) - CREEP



# STS-75 (BLUE FD05) - CREEP/RET 2



## STS CREEP & RET 2 TIMELINE

(IF 2.5 HR CREEP)  
PEMBERTON MNVR  
MNVR +ZLV +XVV

INIT RET-2 (20:27)

ORB ATT STEP 1 (BV P=280)

ORB ATT STEP 2 (BV P=290)

ORB ATT STEP 3 (BV P=300)

CONFIRM THETA AT 30 DEG

P/TV10 SETUP (TSS)  
(PHOTO/TV, P/TV SCENES)

P/TV10 ACT (TSS)  
(PHOTO/TV, P/TV SCENES)  
TSS DOCKING

SPREE HV DISABLE  
TURN ON INLINE THRUSTERS

## PL MCC

PL	MCC
MTL: 2CREEP 2 (3/20:11:27) STL: IV12A ( / : : )	INFORM CREW DOCK TIME IN 13C
IV12A	
S3A	
MTL: 1RET2 1 (3/20:36:39) STL: DEP1 ( / : : )	
DEP1	
DEP1	
DEP1	
MTL: 2RET2 1 (3/21:03:35) STL: DEP1 ( / : : )	UPLINK EARLY TDRS H/O
DEP1	
DEP1	
DEP1	TV (TDRW/E) (GND CNTL-PLB)
MTL: 3RET2 1 (3/21:30:31) STL: DEP1 ( / : : )	
DEP1	
DEP1	
DEP1	
DEP1	

# STS-75 (BLUE FD05) -RET 2/DOCK

**DOCK**  
-00:27

**T D R E W**  
00:00

**M O O M**  
00:00

**M E T**  
DAY 003

22:00  
A8(B9)  
AUTO/VERN

(A8)B9  
FREE/VERN

**ORB**  
64

A8(B9)  
AUTO/VERN

23:00

A6(B2)  
AUTO/VERN

004  
00:00

**A T T**  
**H R H E L D**  
**S B A T**

**B I A S**  
+ZLV  
+YVV

**H O L D**

## STS

CREEP & RET 2 TIMELINE

DISABLE SIDE THRUSTERS

◀ TSS DOCK (22:27)

■ MNVR (TRK) -ZLV +YVV 06  
TG=2 BV=3 OM=270  
A/AUTO/VERN Init TRK

SUPPLY/WASTE WATER DUMP  
(ORB OPS, ECLS)  
Initiate Supply/Waste Dump

HAND-HELD LIDAR STOW  
(TSS DYN, RNDZ TOOLS)

After BOOM RETRACT complete,  
Change DAP A, B to A6, B2

P/TV10 ACT (TSS)  
(PHOTO/TV, P/TV SCENES)

P/TV10 ACT (TSS)  
(PHOTO/TV, P/TV SCENES)  
BOOM RETRACT &  
SRL LATCH

SUPPLY WATER DUMP USING FES  
(ORB OPS, ECLS)  
Perform Step 2 w/FES reqd,  
(PRI A - ON)

FINAL PWRDN PREP\*

SECURE TSS SATELLITE  
(TSS OPS, POST-RTRVL OPS)

SAT POWER DOWN  
TERM RF LINK  
BOOM RETRACT INIT  
COARSE ALIGN

FINE ALIGN

CLOSE SRL'S

## PL

MTL: 1RET2 2 (3/22:04:11)  
STL: DEP1 ( / : : )

DEP1

DEP1

S3A

## MCC

UPLINK  
0° β ONLY  
(KU COMM MODE)

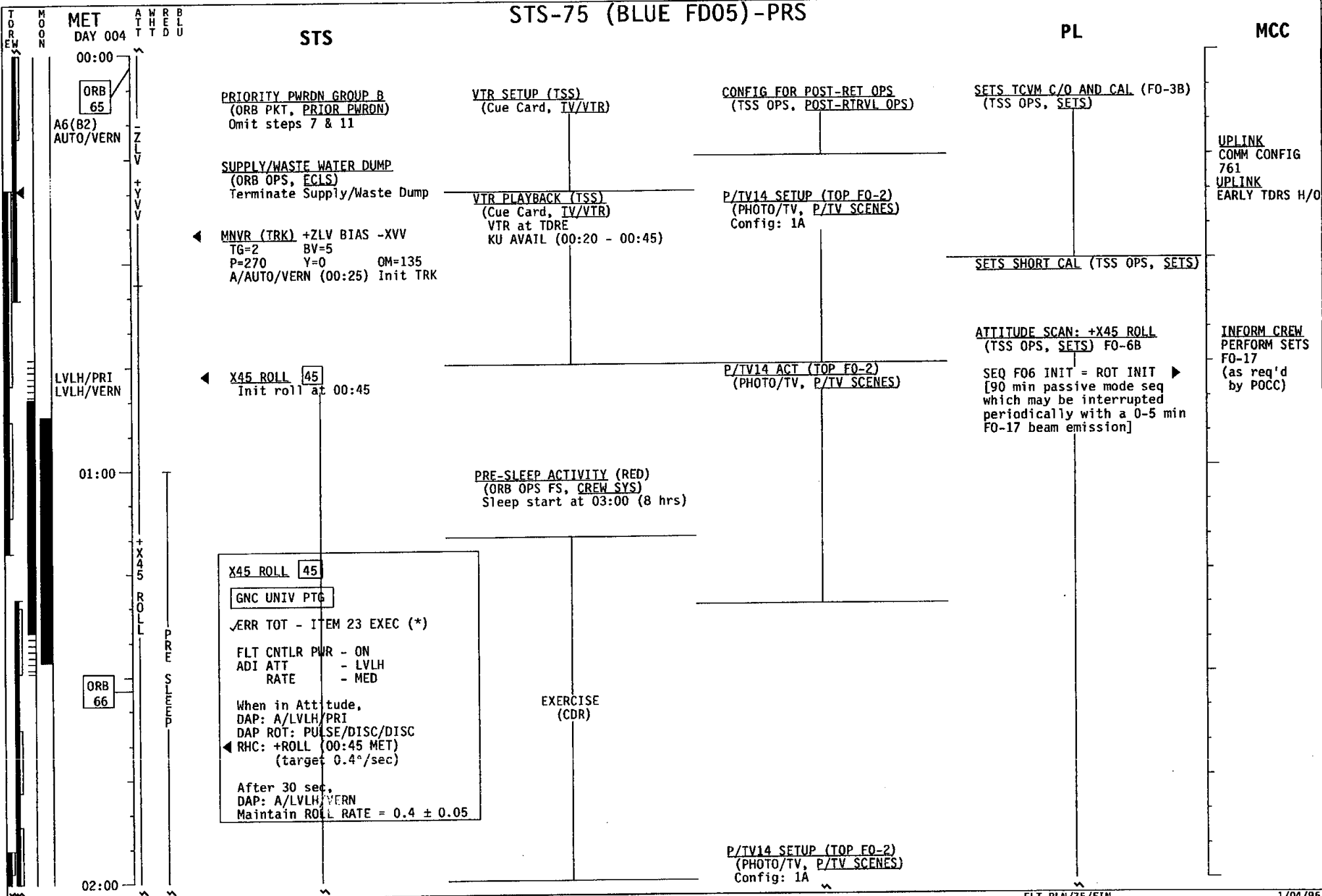
UPDATE  
WASTE/SUPPLY  
H2O DUMP QTY

UPLINK  
15° β ONLY  
(DOCK)

UPLINK  
EARLY TDRE H/O  
INFORM CREW  
GO FOR SAT  
PWRDN (RF  
LINK TERM)  
TV (TDRE)  
(GND CNTL-PLB)

UPLINK  
21° β+ MASK  
(BOOM RETRACT  
COMPLETE)

# STS-75 (BLUE FD05) - PRS



STS

PL

MCC

MET DAY 004

00:00

ORB 65

A6(B2) AUTO/VERN

LVLH/PRI LVLH/VERN

01:00

ORB 66

02:00

PRIORITY PWRDN GROUP B  
(ORB PKT, PRIOR PWRDN)  
Omit steps 7 & 11

SUPPLY/WASTE WATER DUMP  
(ORB OPS, ECLS)  
Terminate Supply/Waste Dump

◀ MNVR (TRK) +ZLV BIAS -XVV  
TG=2 BV=5  
P=270 Y=0 OM=135  
A/AUTO/VERN (00:25) Init TRK

◀ X45 ROLL 45  
Init roll at 00:45

X45 ROLL 45  
GNC UNIV PTG  
✓ERR TOT - ITEM 23 EXEC (\*)  
FLT CNTLR PWR - ON  
ADI ATT - LVLH  
RATE - MED  
When in Attitude,  
DAP: A/LVLH/PRI  
DAP ROT: PULSE/DISC/DISC  
◀ RHC: +ROLL (00:45 MET)  
(target 0.4°/sec)  
After 30 sec,  
DAP: A/LVLH/VERN  
Maintain ROLL RATE = 0.4 ± 0.05

VTR SETUP (TSS)  
(Cue Card, TV/VTR)

VTR PLAYBACK (TSS)  
(Cue Card, TV/VTR)  
VTR at TDRE  
KU AVAIL (00:20 - 00:45)

PRE-SLEEP ACTIVITY (RED)  
(ORB OPS FS, CREW SYS)  
Sleep start at 03:00 (8 hrs)

EXERCISE (CDR)

CONFIG FOR POST-RET OPS  
(TSS OPS, POST-RTRVL OPS)

P/TV14 SETUP (TOP FO-2)  
(PHOTO/TV, P/TV SCENES)  
Config: 1A

P/TV14 ACT (TOP FO-2)  
(PHOTO/TV, P/TV SCENES)

P/TV14 SETUP (TOP FO-2)  
(PHOTO/TV, P/TV SCENES)  
Config: 1A

SETS TCVM C/O AND CAL (FO-3B)  
(TSS OPS, SETS)

SETS SHORT CAL (TSS OPS, SETS)

ATTITUDE SCAN: +X45 ROLL  
(TSS OPS, SETS) FO-6B

SEQ F06 INIT = ROT INIT ▶  
[90 min passive mode seq  
which may be interrupted  
periodically with a 0-5 min  
FO-17 beam emission]

UPLINK COMM CONFIG 761  
UPLINK EARLY TDRS H/O

INFORM CREW PERFORM SETS FO-17  
(as req'd by POCC)

# STS-75 (BLUE FD05)-PRS

## STS

## PL

## MCC

MET DAY 004  
 02:00  
 A6(B2)  
 LVLH/VERN  
 (A6)B2  
 AUTO/PRI  
 AUTO/VERN  
 LVLH/PRI  
 LVLH/VERN  
 03:00  
 ORB 67  
 +ZLV YAW  
 (A6)B2\*  
 AUTO/VERN  
 04:00

**X45 ROLL**  
 Maintain ROLL RATE =  $0.4 \pm 0.05$

◀ When ADI Roll =  $180^\circ$  (-02:15 MET)  
 DAP: B/AUTO/PRI

When in att & rates damped,  
 DAP: VERN

◀ **+ZLV YAW** [Z]  
 Init yaw at 02:25

**+ZLV YAW** [Z]

GNC UNIV PTG

✓ERR TOT - ITEM 23 EXEC (\*)

✓FLT CNTRLR PWR - ON  
 ✓ADI ATT - LVLH  
 ✓RATE - MED

When in Attitude,  
 DAP: A6/LVLH/PRI  
 DAP ROT: DISC/DISC/PULSE

◀ RHC: +YAW (02:25 MET)  
 (target  $0.4^\circ/\text{sec}$ )

After 30 sec,  
 DAP: A/LVLH/VERN  
 Maintain YAW RATE =  $0.4 \pm 0.05$

06 ✓JHF MODE - OFF  
 PRIVATE MEDICAL CONFERENCE

P/TV14 SETUP (TOP F0-2)  
 (PHOTO/TV, P/TV SCENES)  
 Config: 1

GNC 20 DAP CONFIG

◀ PRI ROT RATE - ITEM 30 + 0.4 EXEC P/TV14 ACT (TOP F0-2)  
 DAP: B/LVLH/PRI (03:55) (PHOTO/TV, P/TV SCENES)

◀ MNVR (TRK) +ZLV +XVV  
 TG=2 BV=5  
 P=270 Y=0 OM=0  
 B/AUTO/PRI (04:00) Init TRK

P/TV14 SETUP (TOP F0-2)

P/TV14 ACT (TOP F0-2)  
 (PHOTO/TV, P/TV SCENES)

MEAL (BLUE)

EXERCISE  
 (ALL BLUE)

ATTITUDE SCAN: +X45 ROLL

SETS SHORT CAL (TSS OPS, SETS)

ATTITUDE SCAN: +ZLV YAW  
 (TSS OPS, SETS) F0-6D

SEQ F06 INIT = ROT INIT ▶  
 [90 min passive mode seq  
 which may be interrupted  
 periodically with a 0-5 min  
 F0-17 beam emission]

SETS SHORT CAL (TSS OPS, SETS)

INFORM CREW  
 PERFORM SETS  
 F0-17  
 (as req'd  
 by POCC)

INFORM CREW  
 PERFORM SETS  
 F0-17 & F0-9  
 (as req'd  
 by POCC)



# STS-75 (BLUE FD05)-PRS

MET DAY 004  
 04:00  
 (A6)B2\*  
 AUTO/PRI  
 AUTO/VERN  
 A6\*(B2\*)  
 AUTO/PRI  
 ORB 68  
 05:00  
 (A6\*)B2  
 AUTO/PRI  
 AUTO/VERN  
 06:00

## STS

When in att, DAP: VERN  
 DAP ROT: DISC/DISC/DISC  
 FLT CNTLR PWR OFF  
 +YPOP PITCH [Y]  
 Init pitch at 04:06

+YPOP PITCH [Y]

GNC 20 DAP CONFIG

PRI ROT RATE - ITEM 10 + 0.333 EXEC  
 VERN ROT RATE - ITEM 23 + 0.333 EXEC

GNC UNIV PTG

BODY VECT - ITEM 14 + 5 EXEC  
 P - ITEM 15 + 0 EXEC  
 Y - ITEM 16 + 90 EXEC

When in Attitude,  
 DAP: A/AUTO/PRI  
 START ROT - ITEM 20 EXEC (04:06)

After 30 sec,  
 DAP: A/AUTO/VERN

P/TV14 ACT (TOP FO-2)

EXERCISE (ALL BLUE)

P/TV14 SETUP (TOP FO-2)  
 (PHOTO/TV, P/TV SCENES)  
 Config: 1A

P/TV14 ACT (TOP FO-2)  
 (PHOTO/TV, P/TV SCENES)

Reconfig DAP B\* to B2  
 When ADI Pitch = 0° (- 05:36)  
 DAP: B/LVLH/PRI

When rates damped,  
 MNVR (TRK) GAS +ZLV +XV  
 TG=2 BV=5  
 P=270 Y=0 OM=0  
 B/AUTO/VERN Init TRK

## PL

ATTITUDE SCAN: YPOP PITCH  
 (TSS OPS, SETS) FO-6C

SEQ F06 INIT = ROT INIT  
 [90 min passive mode seq  
 which may be interrupted  
 periodically with a 0-5 min  
 FO-17 beam emission]

## MCC

INFORM CREW  
 PERFORM SETS  
 FO-17 & FO-9  
 (as req'd  
 by POCC)

SETS SHORT CAL (TSS OPS, SETS)

GAS INTERACTIONS (FO-9A)  
 (TSS OPS, SETS)

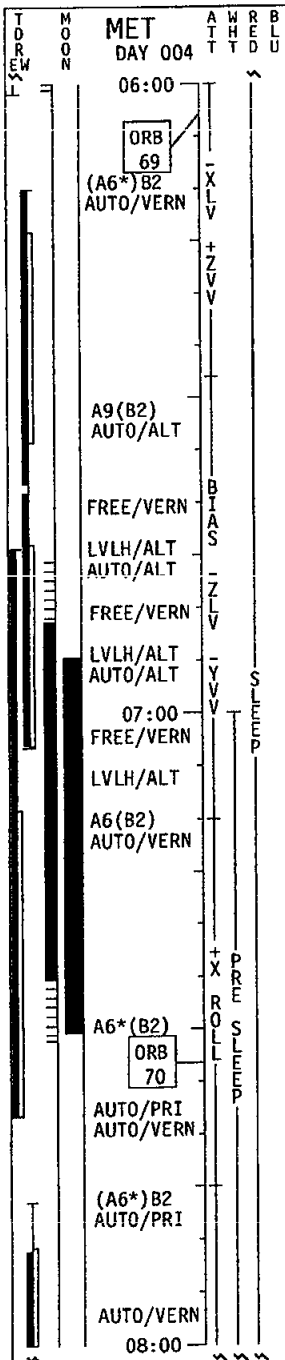
SEQ F09 INIT = 05:45 MET  
 [15 min passive mode seq]

Note: Proc includes FES  
 and H2O dumps

Do not turn DUMP NOZ HTR off

TMBU  
 Sply H2O  
 dump Limits

# STS-75 (BLUE FD05)-PRS



**STS**

◀ MNVR (TRK) -XLV +ZVV  
 TGT=2 BV=2  
 P=180 Y=0 OM=0  
 B/AUTO/VERN (06:00) Init TRK

PLT required for THRUSTER CHARACT (FO-6C)

Change DAP A to A9

◀ MNVR (MAG) +X PAR  
 TGT=2 BV=5  
 P=70 Y=1 OM=74  
 A/AUTO/ALT (06:28) Init TRK

◀ MNVR (MAG) +X PAR  
 TGT=2 BV=5  
 P=93 Y=0 OM=73  
 A/AUTO/ALT (06:45) Init TRK

◀ MNVR (MAG) +X PAR  
 TGT=2 BV=5  
 P=114 Y=0 OM=77  
 A/AUTO/ALT (06:55) Init TRK

Change DAP A to A6

◀ MNVR (MAG) FPEG PAR  
 R=253 P=161 Y=15  
 A/AUTO/VERN (07:10) Init MNVR

◀ BEAM STRUCT ROT [S]  
 Init rotor at 07:29

DAP: PRI

◀ MNVR (TRK) -XLV -ZVV  
 TGT=2 BV=2  
 P=180 Y=0 OM=180  
 B/AUTO/PRI (07:45) Init TRK  
 When in att & rates damped,  
 DAP: VERN

P/TV19 SETUP (TOP FO-47)  
 (PHOTO/TV, P/TV SCENES)  
 Config: 3

P/TV19 ACT (TOP FO-47)  
 (PHOTO/TV, P/TV SCENES)

FPEG CONDITIONING\*

PRE-SLEEP ACTIVITY (WHT)  
 (ORB OPS, CREW SYS)  
 Sleep start at 09:00 (8hr)

BEAM STRUCT ROT [S]

GNC 20 DAP CONFIG

PRI ROT RATE - ITEM 10 + 0.4 EXEC  
 VERN ROT RATE - ITEM 23 + 0.4 EXEC  
GNC UNIV PTG

BODY VECT - ITEM 14 + 1 EXEC

When in Attitude,  
 DAP: A/AUTO/PRI  
 START ROT - ITEM 20 EXEC (07:29)  
 After 30 sec.  
 DAP: A/AUTO/VERN

P/TV15 SETUP (TOP-2A)  
 (PHOTO/TV, P/TV SCENES)  
 Config: 1A

**PL**

GAS INTERACTIONS (FO-9C)  
 (TSS OPS, SETS)

SEQ F09 INIT = 06:10 MET ▶  
 [15 min passive mode seq]

Note: Proc includes FES and H2O dumps

---

THRUSTER CHARACT (FO-6C)  
 (TSS OPS, SPREE)  
 +X parallel to B-field

Perform thruster sequence at 06:40, 06:50, 07:00 ▶

---

SETS SHORT CAL (TSS OPS, SETS)

---

BEAM STRUCTURE (FO-18)  
 (TSS OPS, SETS)  
 SEQ F018 INIT = ROT INIT ▶  
 [15 min beam sequence]

---

GAS INTERACTIONS (FO-9D)  
 (TSS OPS, SETS)

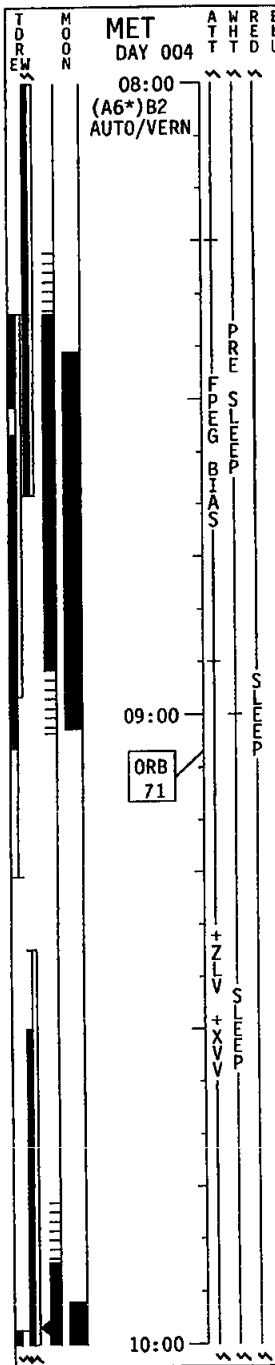
SEQ F09 INIT = 07:45 MET ▶  
 [15 min passive mode seq]

**MCC**

TMRU  
 Sply H2O dump Limits

TMBU  
 Sply H2O dump Limits

# STS-75 (BLUE FD05) - PRS



## STS

◀ MNVR (MAG) FPEG 30° BIAS  
TGT=2 BV=5  
P=296 Y=26 OM=194  
B/AUTO/VERN (08:15) Init TRK

◀ MNVR (MAG) FPEG 90° BIAS  
TGT=2 BV=5  
P=113 Y=291 OM=327  
B/AUTO/VERN (08:33) Init TRK

◀ MNVR (TRK) +ZLV +XVV  
TG=2 BV=5  
P=270 Y=0 OM=0  
B/AUTO/VERN (8:55) Init TRK

P/TV15 SETUP (TOP-2A)  
(PHOTO/TV, P/TV SCENES)  
Config: 1A

P/TV15 ACT (TOP F0-2A)  
(PHOTO/TV, TV/SCENES)

P/TV21 SETUP (TOP F0-49)  
(PHOTO/TV, P/TV SCENES)  
Config: 3

P/TV21 ACT (TOP F0-49)  
(PHOTO/TV, P/TV SCENES)

VTR SETUP (TSS)  
(Cue Card, TV/VTR)

VTR PLAYBACK (TSS)  
(Cue Card, TV/VTR)  
VTR on TDRW (09:30-10:00)

## PL

BEAM STRUCT WITH PITCH (F0-18A)  
(TSS OPS, SETS)

SEQ F018A INIT = 08:26 MET ▶  
[7 min beam sequence]

SEQ F018A INIT = 08:46 MET ▶  
[7 min beam sequence]

SETS SHORT CAL (TSS OPS, SETS)

ATTITUDE SCAN: +XVV  
(TSS OPS, SETS) F0-6E

[90 min passive mode seq  
which may be interrupted  
periodically with a 0-5 min  
F0-17 beam emission]

## MCC

INFORM CREW  
PERFORM SETS  
F0-17  
(as req'd  
by POCC)

# STS-75 (BLUE FD05)-PRS

**TDR**  
**EM**  
**ECOR**  
**MET**  
 DAY 004  
 10:00  
 (A6\*)B2  
 AUTO/VERN  
**ORB**  
 72  
 11:00  
 +ZLV  
 +XVV  
 12:00

**STS**

P/TV21 ACT (TOP FO-49)  
 (PHOTO/TV, P/TV SCENES)

PRE-SLEEP ACTIVITY (BLUE)  
 (ORB OPS FS, CREW SYS)  
 Sleep start at 12:00 (8 hrs)

**PL**

ATTITUDE SCAN: +XVV

**MCC**

INFORM CREW  
PERFORM SETS  
 FO-17  
 (as req'd  
 by POCC)

SALIVA SAMPLE (PLT)  
 (BIOMED, DSO 493)

SETS SHORT CAL (TSS OPS, SETS)

HANDOVER: BLUE TO RED

HANDOVER: BLUE TO RED

HANDOVER: BLUE TO RED

**RED FD06**

# STS-75 (RED FD06 )-PRS

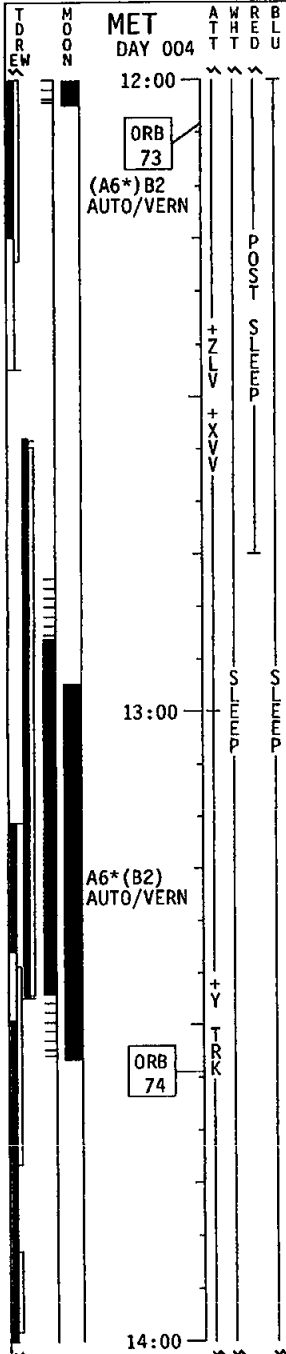
PL

MCC

STS

IMU ALIGN - S TRK (ORB OPS)

**RED FD06 EZ ACTIVITIES:**  
 CPA OPS (ORB OPS, CREW SYS)  
 QCAC FILTER INSPECT  
 STATUS MONITORING (PL OPS, CPCG)



◀ MNVR (MAG) +Y PAR (COILS PERP)  
 R =99 P=294 Y=4  
 B/AUTO/VERN (13:00) Init MNVR

SETS SHORT CAL (TSS OPS, SETS)

◀ ENVIRONMENT CAL ROT [C]  
 Init rotor at 13:15

ENVIRONMENT CAL (FO-19B)  
 (TSS OPS, SETS)  
 SEQ F019 INIT = ROT INIT ▶  
 [3 min on/12 min off beam  
 seq is auto repeated every  
 15 min]  
 Tether coils perp to B-field

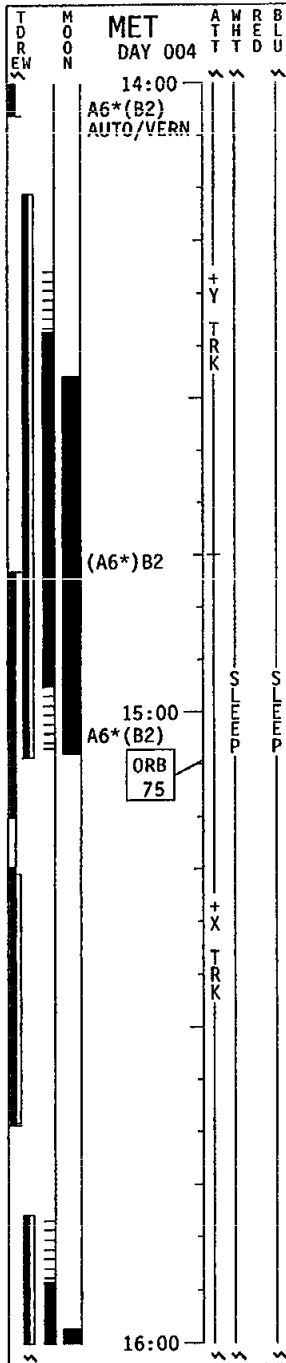
ENVIRONMENT CAL ROT [C]  
 GNC 20 DAP CONFIG  
 VERN ROT RATE - ITEM 23 + 0.132 EXEC  
 GNC UNIV PTG  
 BODY VECT - ITEM 14 + 5 EXEC  
 P - ITEM 15 + 40 EXEC  
 Y - ITEM 16 + 56 EXEC  
 When in Attitude,  
 DAP: A/AUTO/VERN  
 ◀ START ROT - ITEM 20 EXEC (13:15)

PILOT SIMULATOR RUNS (PLT)  
 (ORB OPS FS, DTG 66Z)

BEAM EMISSION 2 (15:30)

BEAM EMISSION 3 (15:45)

# STS-75 (RED FD06) - PRS



**STS**  
ENVIRONMENT CAL ROT

P/TV15 SETUP (TOP-2A)  
(PHOTO/TV, P/TV SCENES)  
Config: 1

ENVIRONMENT CAL ROT [E]

GNC 20 DAP CONFIG

VERN ROT RATE - ITEM 23 + 0.132 EXEC

GNC UNIV PTG

BODY VECT - ITEM 14 + 5 EXEC  
P - ITEM 15 + 333 EXEC  
Y - ITEM 16 + 21 EXEC

When in Attitude,  
DAP: A/AUTO/VERN  
START ROT - ITEM 20 EXEC (15:00)

P/TV15 ACT (TOP F0-2A)  
(PHOTO/TV, TV/SCENES)

**PL**  
ENVIRONMENT CAL (F0-19B)  
BEAM EMISSION 4 (14:00)

BEAM EMISSION 5 (14:15)

BEAM EMISSION 6 (14:30)

◀ MNVR (MAG) +Y PERP (COILS PAR)  
R=18 P=271 Y=356  
B/AUTO/VERN (14:45) Init MNVR

SETS SHORT CAL (TSS OPS, SETS)

◀ ENVIRONMENT CAL ROT [E]  
Init rotor at 15:00

ENVIRONMENT CAL (F0-19A)  
(TSS OPS, SETS)  
SEQ F019 INIT = ROT INIT ▶  
[3 min on/12 min off beam  
seq is auto repeated every  
15 min]  
Tether coils || to B-field

BEAM EMISSION 2 (15:15)

BEAM EMISSION 3 (15:30)

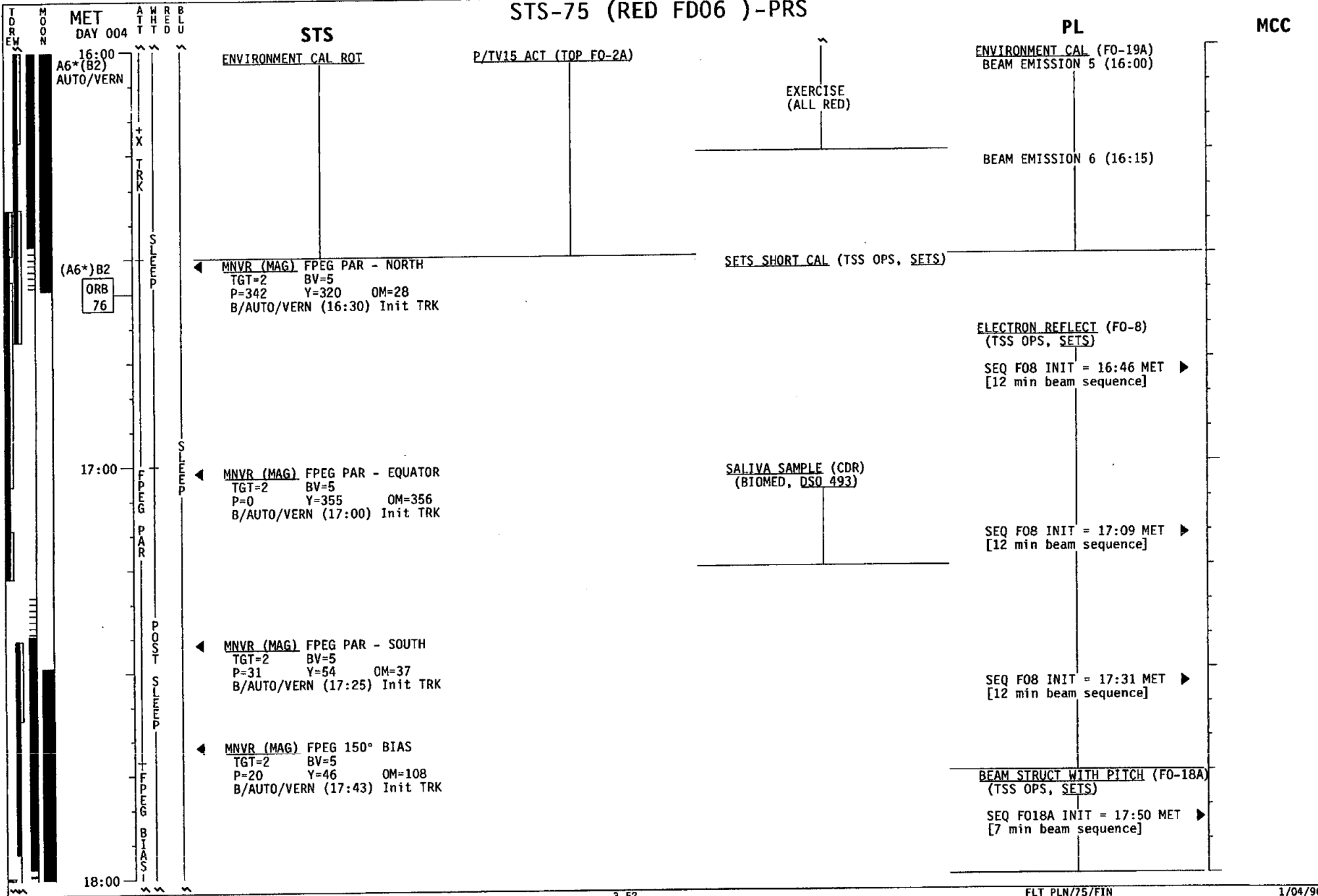
BEAM EMISSION 4 (15:45)

P/TV15 SETUP (TOP-2A)  
(PHOTO/TV, P/TV SCENES)  
Config: 1

EXERCISE  
(ALL RED)

P/TV15 ACT (TOP F0-2A)  
(PHOTO/TV, TV/SCENES)

# STS-75 (RED FD06 )-PRS



# STS-75 (RED FD06) - PRS

**MET DAY 004**  
 18:00  
 ORB 77  
 (A6\*) B2 AUTO/VERN  
 A9(B2) AUTO/ALT  
 FREE/VERN  
 LVLH/ALT AUTO/ALT  
 FREE/VERN LVLH/ALT  
 19:00 AUTO/ALT  
 FREE/VERN  
 LVLH/ALT AUTO/ALT  
 AUTO/VERN  
 ORB 78  
 20:00

STS

- Change DAP A to A9  
 ◀ **MNVR (MAG) +X PAR**  
 TG=2 BV=5 OM=65  
 P=98 Y=0  
 A/AUTO/ALT (18:35) Init TRK
- ◀ **MNVR (MAG) +X PAR**  
 TGT=2 BV=5 OM=53  
 P=131 Y=0  
 A/AUTO/ALT (18:50) Init TRK
- ◀ **MNVR (MAG) +X PAR**  
 TG=2 BV=5 OM=73  
 P=152 Y=0  
 A/AUTO/ALT (19:00) Init TRK
- ◀ **MNVR (MAG) FPEG 90° BIAS**  
 TGT=2 BV=5 OM=104  
 P=39 Y=305  
 A/AUTO/ALT (19:11) Init TRK  
 When in att & rates damped,  
 DAP: VERN

MEAL (RED)

SETS SHORT CAL (TSS OPS, SETS)

P/TV15 SETUP (TOP F0-2A)  
 (PHOTO/TV, P/TV SCENES)  
 Config: 1

P/TV15 ACT (TOP F0-2A)  
 (PHOTO/TV, TV/SCENES)

SETS SHORT CAL (TSS OPS, SETS)

PL

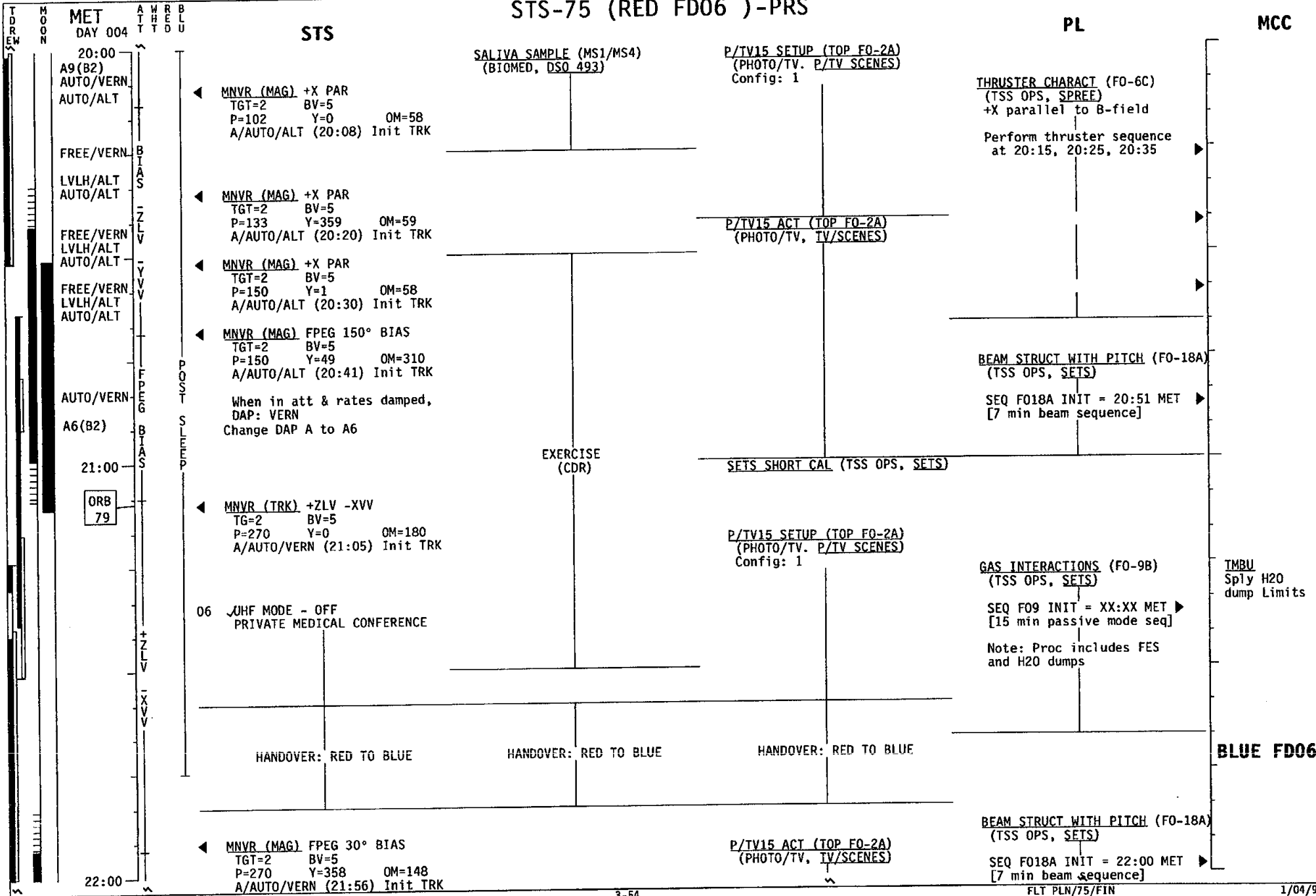
**THRUSTER CHARACT (F0-6D)**  
 (TSS OPS, SPREE)  
 +X axis parallel to B-field  
 Perform thruster sequence  
 at 18:45, 18:55, 19:05

**BEAM STRUCT WITH PITCH (F0-18A)**  
 (TSS OPS, SETS)  
 SEQ F018A INIT = 19:21 MET  
 [7 min beam sequence]

MCC



# STS-75 (RED FD06) - PRS



**PL** **MCC**

**STS**

SALIVA SAMPLE (MS1/MS4)  
(BIOMED, DS0 493)

P/TV15 SETUP (TOP FO-2A)  
(PHOTO/TV, P/TV SCENES)  
Config: 1

THRUSTER CHARACT (FO-6C)  
(TSS OPS, SPREE)  
+X parallel to B-field

Perform thruster sequence  
at 20:15, 20:25, 20:35

◀ MNVR (MAG) +X PAR  
TGT=2 BV=5  
P=102 Y=0 OM=58  
A/AUTO/ALT (20:08) Init TRK

◀ MNVR (MAG) +X PAR  
TGT=2 BV=5  
P=133 Y=359 OM=59  
A/AUTO/ALT (20:20) Init TRK

◀ MNVR (MAG) +X PAR  
TGT=2 BV=5  
P=150 Y=1 OM=58  
A/AUTO/ALT (20:30) Init TRK

◀ MNVR (MAG) FPEG 150° BIAS  
TGT=2 BV=5  
P=150 Y=49 OM=310  
A/AUTO/ALT (20:41) Init TRK

When in att & rates damped,  
DAP: VERN  
Change DAP A to A6

P/TV15 ACT (TOP FO-2A)  
(PHOTO/TV, TV/SCENES)

BEAM STRUCT WITH PITCH (FO-18A)  
(TSS OPS, SETS)

SEQ F018A INIT = 20:51 MET  
[7 min beam sequence]

EXERCISE  
(CDR)

SETS SHORT CAL (TSS OPS, SETS)

◀ MNVR (TRK) +ZLV -XVV  
TG=2 BV=5  
P=270 Y=0 OM=180  
A/AUTO/VERN (21:05) Init TRK

P/TV15 SETUP (TOP FO-2A)  
(PHOTO/TV, P/TV SCENES)  
Config: 1

GAS INTERACTIONS (FO-9B)  
(TSS OPS, SETS)

SEQ F09 INIT = XX:XX MET  
[15 min passive mode seq]

Note: Proc includes FES  
and H2O dumps

06 JHF MODE - OFF  
PRIVATE MEDICAL CONFERENCE

TMBU  
Sply H2O  
dump Limits

HANDOVER: RED TO BLUE

HANDOVER: RED TO BLUE

HANDOVER: RED TO BLUE

**BLUE FD06**

◀ MNVR (MAG) FPEG 30° BIAS  
TGT=2 BV=5  
P=270 Y=358 OM=148  
A/AUTO/VERN (21:56) Init TRK

P/TV15 ACT (TOP FO-2A)  
(PHOTO/TV, TV/SCENES)

BEAM STRUCT WITH PITCH (FO-18A)  
(TSS OPS, SETS)

SEQ F018A INIT = 22:00 MET  
[7 min beam sequence]

22:00

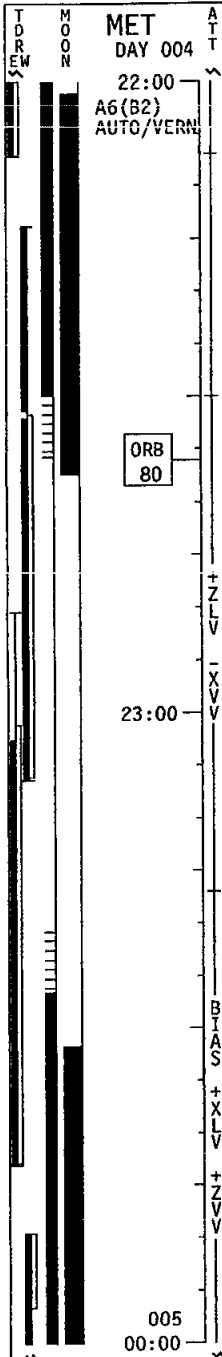
# STS-75 (RED FD06) - PRS

MET DAY 004

STS

PL

MCC



◀ MNVR (MAG) BEAM ON TAIL  
TGT=2 BV=5  
P=332 Y=1 OM=131  
A/AUTO/VERN (22:07) Init TRK

P/TV05 SETUP (PAO)  
(PHOTO/TV, P/TV SCENES)

P/TV15 ACT (TOP F0-2A)  
(PHOTO/TV, TV/SCENES)

BEAM STRUCT WITH PITCH (F0-18A)

ORBITER FLUORESCENCE (F0-10)  
(TSS OPS, SETS)

SEQ F010 INIT = 22:15 MET ▶  
[10 min beam emission]

◀ MNVR (TRK) +ZLV -XVV  
TG=2 BV=5  
P=270 Y=0 OM=180  
A/AUTO/VERN (22:30) Init TRK

SETS SHORT CAL (TSS OPS, SETS)

PAO VOICE CHECK/EVENT  
KU AVAIL (22:40 - 23:00)  
WHT & RED Team  
BLUF if available

GAS INTERACTIONS (F0-98)  
(TSS OPS, SETS)

SEQ F09 INIT = 22:55 MET ▶  
[15 min passive mode seq]

TMBU  
Sply H2O  
dump Limits

IMU ALIGN - S TRK (ORB OPS)

P/TV16 SETUP (TOP F0-3)  
(PHOTO/TV, P/TV SCENES)  
Config: 1

Note: Proc includes FES  
and H2O dumps

◀ MNVR (MAG) BEAM ON TAIL  
TGT=2 BV=5  
P=5 Y=10 OM=170  
A/AUTO/VERN (23:17) Init TRK

EXERCISE (ALL RED)

P/TV16 ACT (TOP F0-3)  
(PHOTO/TV, P/TV SCENES)

ORBITER FLUORESCENCE (F0-10)  
(TSS OPS, SETS)

SEQ F010 INIT = 23:30 MET ▶  
[10 min beam emission]

◀ MNVR (MAG) -X PAR  
TGT=2 BV=5  
P=5 Y=29 OM=188  
A/AUTO/VERN (23:40) Init TRK

BEAM EXCITATION (F0-11)  
(TSS OPS, SETS)

SEQ F011 INIT = 23:50 MET ▶  
[2 min beam emission, twice]  
Note: Includes PRCS and FES

DCORE CHECKOUT (F0-17)  
(TSS OPS, DCORE)

TDR EW

MET DAY 005

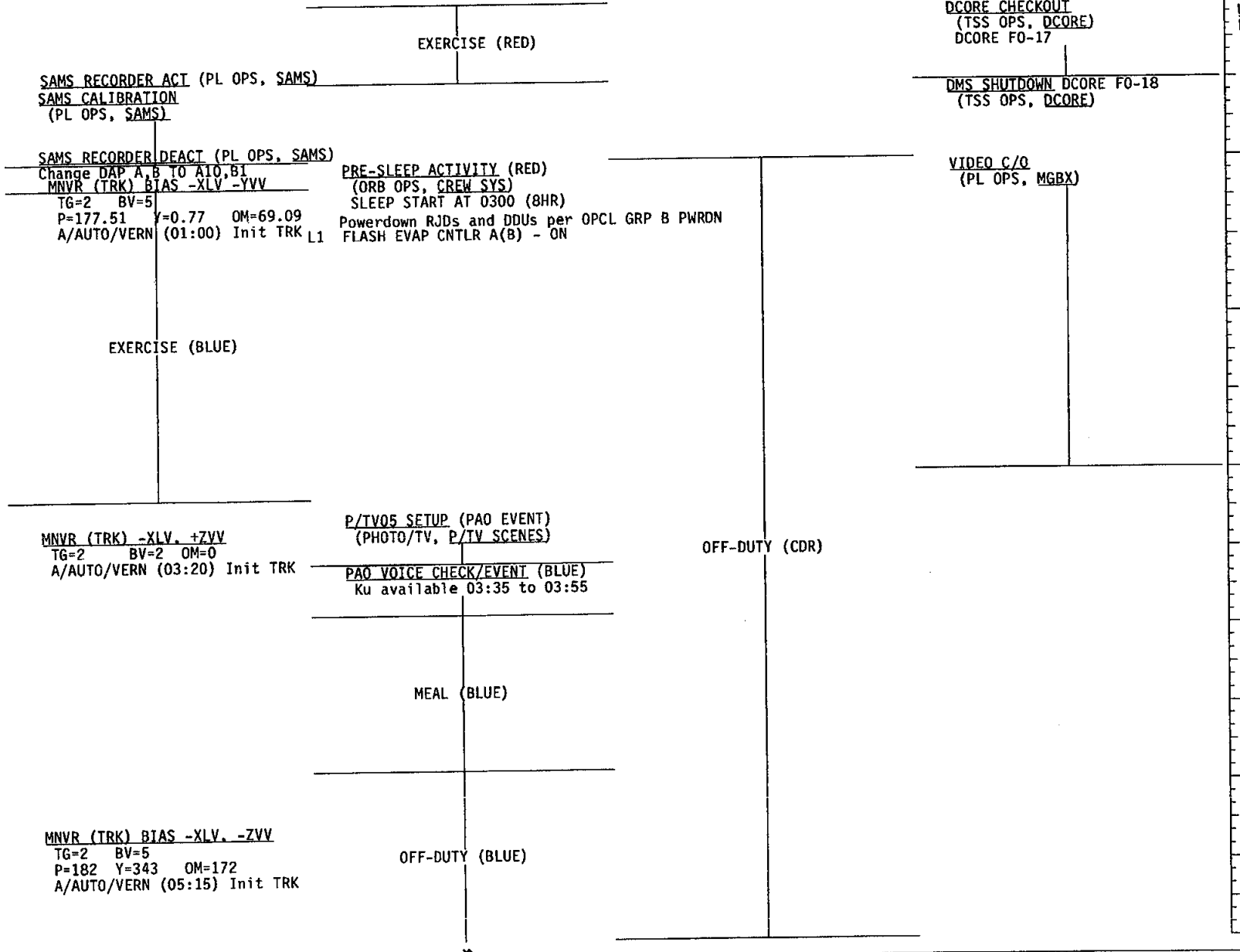
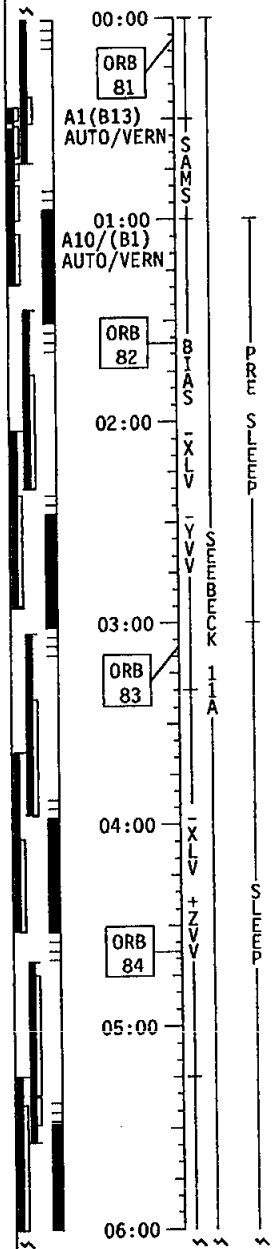
A T M C R B  
T T F D R L  
H H R D U

# STS-75 (BLU FD 06)

## STS

## PL

## MCC



TDR  
EW

MET  
DAY 005

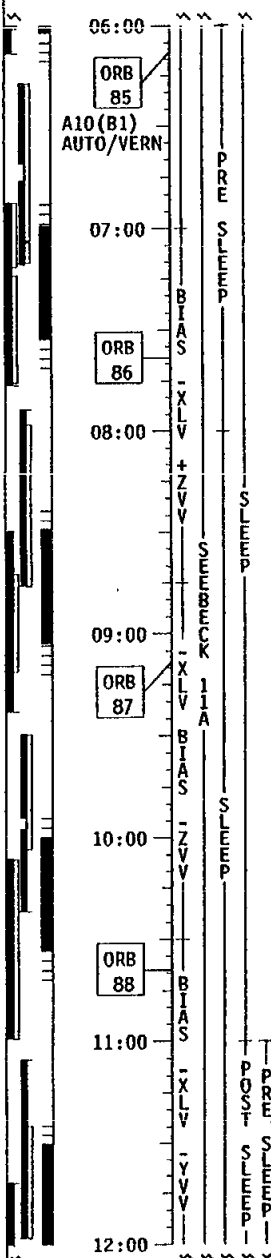
A T H C R B  
T T F D E L  
H E R D U

# STS-75 (BLU FD 06)

STS

PL

MCC



PRIVATE FAMILY CONFERENCE  
(MS1 & MS3)  
Ku available 06:30 to 07:00  
06 JHF MODE - OFF

MNVR (TRK) BIAS -XLV +ZVV  
TG=2 BV=5  
P=180 Y=343 OM=0  
A/AUTO/VERN (07:00) Init TRK

OFF-DUTY (BLUE)

MNVR (TRK) -XLV, BIAS -ZVV  
TG=2 BV=2 OM=221  
A/AUTO/VERN (08:45) Init TRK

MNVR (TRK) BIAS -XLV -YVV  
TG=2 BV=5  
P=177.51 Y=0.77 OM=69.09  
A/AUTO/VERN (10:30) Init TRK

SALIVA SAMPLE (PLT)  
(BIOMED, DSO 493)

FILTER CLEANING  
(IFM, SCHEDULED MAINTENANCE)  
Inspect filters and clean  
as necessary

✓ WCS HOSE BLOCK FOR DEBRIS

PRE-SLEEP ACTIVITY (BLUE)  
(ORB OPS, CREW SYS)  
SLEEP START AT 1300 (8HR)

PRE-SLEEP ACTIVITY (COR)  
(ORB OPS, CREW SYS)  
SLEEP START AT 0800 (8HR)



# STS-75 (RED FD 07)

MET  
DAY 005

STS

PL

MCC

TDR  
 EM  
 MET  
 DAY 005  
 A10(B1)  
 AUTO/VERN  
 ORB 93  
 18:00  
 A10(B1)  
 AUTO/VERN  
 ORB 94  
 19:00  
 A10(B1)  
 AUTO/VERN  
 ORB 95  
 20:00  
 (A10)B1  
 AUTO/VERN  
 FREE/VERN  
 ORB 96  
 21:00  
 A10(B1)  
 AUTO/VERN  
 ORB 96  
 22:00  
 (A10)B1  
 AUTO/VERN  
 FREE/VERN  
 006  
 23:00  
 (A10)B1  
 AUTO/VERN  
 FREE/VERN  
 006  
 00:00

06 JHF MODE - OFF  
 PRIVATE FAMILY CONFERENCE (PLT & MS2)  
 Ku available 17:55 to 18:25

OFF-DUTY (RED)

EXERCISE (CDR)

MEAL (RED)

PILOT SIMULATOR RUNS (CDR)  
 (ORB OPS, DTO 667)

**CREW QUIESCENT PERIOD**  
**5/21:15 TO 5/21:55**

OFF-DUTY (RED)

SALIVA SAMPLE (MS1&MS4)  
 (BIOMED, DSO 493)

MNVR (TRK) -YLV,-XVV  
 TG=2 BV=5  
 P=0 Y=270 OM=0  
 A/AUTO/VERN (21:00) Init TRK  
 MEPHISTO +Z RCS BURN  
 (ORB OPS FS, MEPHISTO)  
 (5 second burn)

◀ USMP-1 (21:45)  
 ◀ A/AUTO/VERN (TIG+10)

PILOT SIMULATOR RUNS (PLT)  
 (ORB OPS, DTO 667)

MEAL (CDR)

HANDOVER: RED TO BLUE

HANDOVER: RED TO BLUE

MNVR (TRK) BIAS -XLV -YVV  
 TG=2 BV=5  
 P=177.51 Y=0.77 OM=69.09  
 A/AUTO/VERN (23:15) Init TRK  
 MEPHISTO +Z RCS BURN  
 (ORB OPS FS, MEPHISTO)  
 (15 second burn)

◀ USMP-2 (00:00)

P/TV14 SETUP (TOP FO-2)  
 (PHOTO/TV, P/TV SCENES)  
 Config: 3

P/TV14 ACT (TOP FO-2)  
 (PHOTO/TV, P/TV SCENES)

**INITIATE CREW QUIESCENT PERIOD**  
**5/23:30 TO 6/00:10**

BLUE FD 07

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DAY 006  
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# STS-75 (BLU FD 07)

STS

PL

MCC

## END CREW QUIESCENT PERIOD AT 6/00:10

P/TV14 ACT (TOP FO-2)

◀ A/AUTO/VERN (TIG+10)  
Powerdown RJDs and DDUs per OPCL GRP B PWRDN

SUPPLY/WASTE WATER DUMP  
(ORB OPS, ECLS)  
Initiate Supply/Waste Dump

06 JHF MODE - OFF  
PRIVATE MEDICAL CONFERENCE

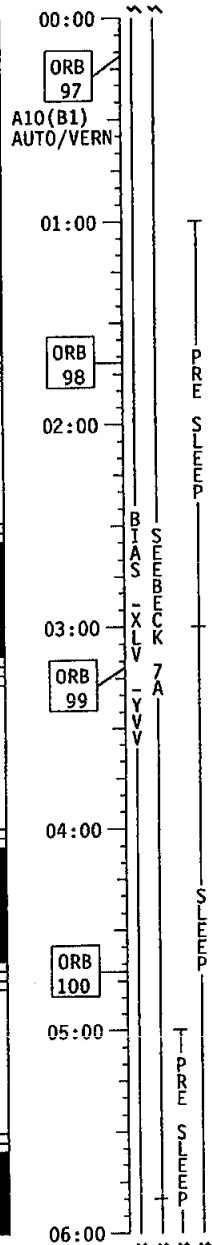
PRE-SLEEP ACTIVITY (RED)  
(ORB OPS, CREW SYS)  
SLEEP START AT 0300 (8HR)

EXERCISE (BLUE)  
MS3 exercise first

FFFT OPERATIONS 1  
(PL OPS, MGBX)  
PLT performs until 01:00  
MS3 will complete  
SAMPLES 1-4

Log significant micro-g  
disturbances caused by  
FFFT as time available

UPDATE  
WASTE/SUPPLY  
H2O DUMP QTY



SUPPLY/WASTE WATER DUMP  
(ORB OPS, ECLS)  
Terminate Supply/Waste Dump

EDUCATIONAL ACTIVITIES (DSO 802)  
(BLUE)

PRE-SLEEP ACTIVITY (CDR)  
(ORB OPS, CREW SYS)  
SLEEP START AT 0700 (8HR)

MEAL (BLUE)

**INITIATE CREW QUIESCENT PERIOD  
6/05:50 TO 6/16:45**

TDR EW MET DAY 006

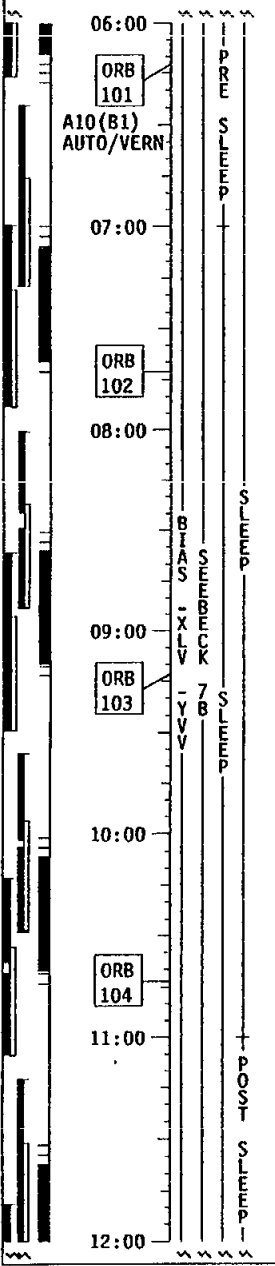
ATT H M P R C D R B L U

# STS-75 (BLU FD 07)

STS

PL

MCC



**CREW QUIESCENT PERIOD  
6/05:50 TO 6/16:45**

VTR ACT (CUE CARD, 8mm VTR)  
VTR PLAYBACK (FFF1)  
(CUE CARD, IV/VTR)  
VTR at TDRW  
(06:45 - 07:15)

VTR DEACT (CUE CARD, 8mm VTR)

AADF ACTIVATION  
(PL OPS, AADF)  
AADF INIT SCCS RELAYS\*  
AADF INIT EXP T/L \*  
AADF INIT TRANSLATION SYS\*

AADF RAMP \*

SALIVA SAMPLE (PLT)  
(BIOMED, DSO 493)



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DAY 006

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STS

STS-75 (BLU FD 07)

PL

MCC

12:00

ORB  
105

A10 (B1)  
AUTO/VERN

**CREW QUIESCENT PERIOD**  
**6/05:50 TO 6/16:45**

PRE-SLEEP ACTIVITY (BLUE)  
(ORB OPS, CREW SYS)  
SLEEP START AT 1400 (8HR)

HANDOVER: BLUE TO RED

HANDOVER: BLUE TO RED

HANDOVER: BLUE TO RED

13:00

IMU ALIGN - 5 TRK (ORB OPS)

AADSF RAMP \*

ORB  
106

RED FD08 EZ ACTIVITIES:  
CPA OPS (ORB OPS, CREW SYS)  
QCAC FILTER INSPECT  
STATUS MONITORING (PL OPS, CPCG)

RED FD 08

14:00

15:00

ORB  
107

SALIVA SAMPLE (CDR)  
(BIOMED, DSO 493)

16:00

AADSF SOAK \*

ORB  
108

◀ **END CREW QUIESCENT PERIOD**

P/TV03/04 SETUP (MDDK/FLT DK)  
(PHOTO/TV, P/TV SCENES)

SAMS MICRO-G TEST

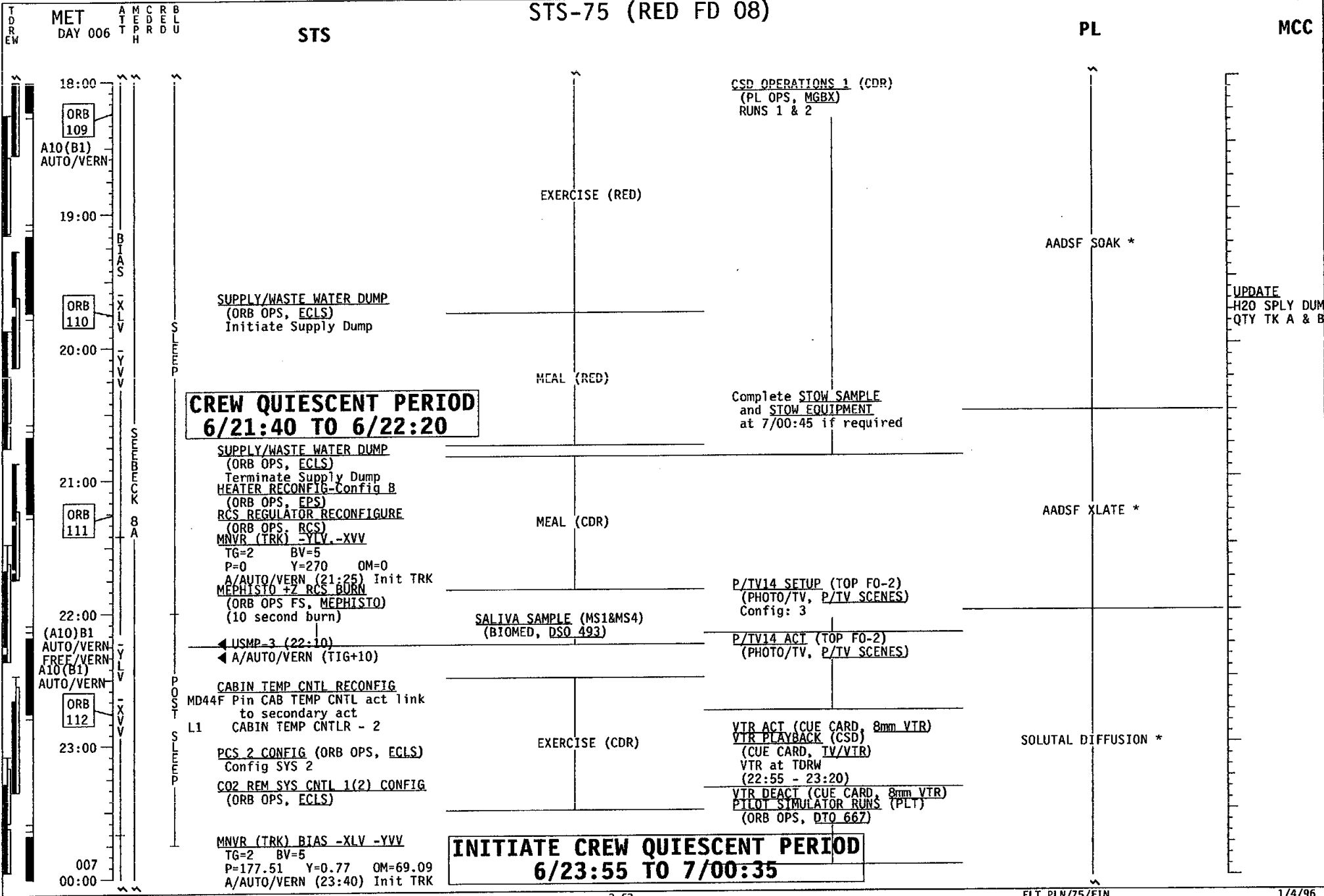
17:00

P/TV03/04 OPS (MDDK/FLT DK)  
(PHOTO/TV, P/TV SCENES)

18:00

EXERCISE (RED)

CSD OPERATIONS 1 (CDR)  
(PL OPS, MGBX)  
RUNS 1 & 2



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STS

STS-75 (RED FD 08)

PL

MCC

00:00

ORB  
113A10(B1)  
AUTO/VERN

01:00

ORB  
114

02:00

03:00

ORB  
115

04:00

05:00

ORB  
116

06:00

MEPHISTO +Z RCS BURN  
(ORB OPS FS, MEPHISTO)  
(25 second burn)◀ USMP-4 (00:25)  
◀ A/AUTO/VERN (TIG+10)  
Powerdown RJDs and DDU's  
per OPCL GRP B PWRDN  
CSD OPERATIONS 1 (CDR)  
(PL OPS, MGBX)  
SAMPLE and EQUIPMENT STOW06 JHF MODE - OFF  
PRIVATE MEDICAL CONFERENCEMNVR (TRK) BIAS -XLV, -ZV  
TG=2 BV=5  
P=182 Y=343 OM=172  
A/AUTO/VERN (02:10) Init TRK**INITIATE CREW QUIESCENT PERIOD  
7/03:00 TO 7/11:30**PAO VOICE CHECK/EVENT (CDR & MS4)  
Ku available 03:25 to 03:40PRE-SLEEP ACTIVITY (CDR)  
(ORB OPS, CREW SYS)  
SLEEP START AT 0600 (8HR)PRIVATE FAMILY CONFERENCE  
(PS)  
Ku available 05:00 to 05:30  
06 JHF MODE - OFF

HANDOVER: RED TO BLUE

HANDOVER: RED TO BLUE

**◀ END CREW QUIESCENT PERIOD AT 7/00:35**PRE-SLEEP ACTIVITY (RED)  
(ORB OPS, CREW SYS)  
SLEEP START AT 0300 (8HR)

EXERCISE (BLUE)

SOLUTAL DIFFUSION \*

P/TV05 SETUP (PAO EVENT)  
(PHOTO/TV, P/TV SCENES)PAO VOICE CHECK/EVENT (CDR & BLUE TEAM)  
Ku available 02:30 to 02:50BLUE FD 08  
UPLINK  
FC PURGETV (TDRE)  
(CREW  
CNTL-CAB)TV (TDRW)  
(CREW  
CNTL-CAB)

AADSF STABILIZATION-1\*

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DAY 007

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# STS-75 (BLU FD 08)

STS

PL

MCC

06:00

ORB  
117

A10(B1)  
AUTO/VERN

07:00

ORB  
118

08:00

09:00

ORB  
119

10:00

ORB  
120

11:00

12:00

**CREW QUIESCENT PERIOD  
7/03:00 TO 7/11:30**

MEAL (BLUE)

AADSF STABILIZATION-1\*

SALIVA SAMPLE (PLT)  
(BIOMED, OSO 493)

◀ **END CREW QUIESCENT PERIOD**

MNVR (TRK) BIAS -XLV -YVV  
TG=2 BV=5  
P=177.51 Y=0.77 OM=69.09  
A/AUTO/VERN (11:30) Init TRK

SUBBUCK 8 A  
BIAS  
XLV  
YVV  
SUBBUCK 9 A  
A  
S  
L  
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D  
E

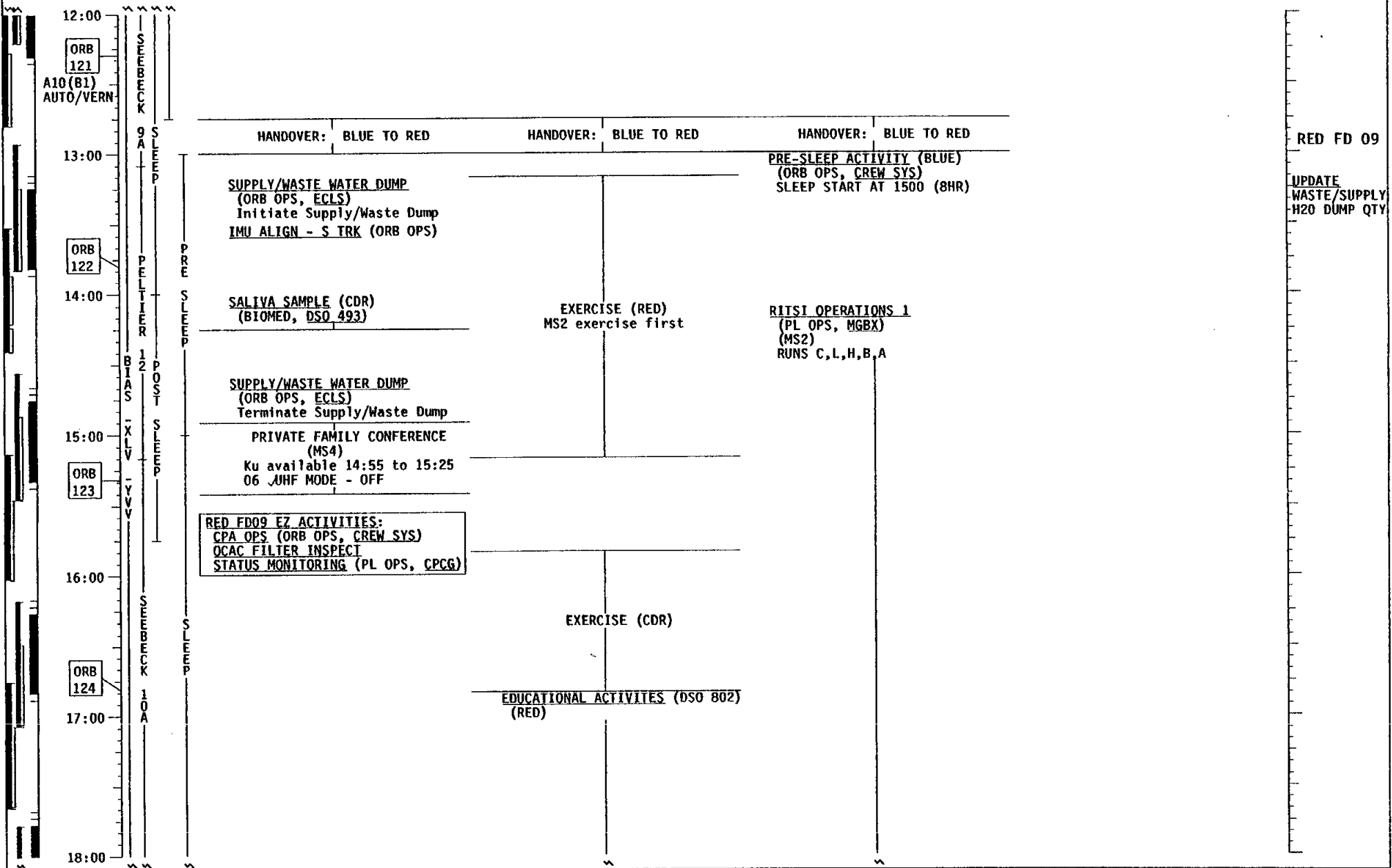
TDR  
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DAY 007A  
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STS

STS-75 (BLU FD 08)

PL

MCC



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MET  
DAY 007

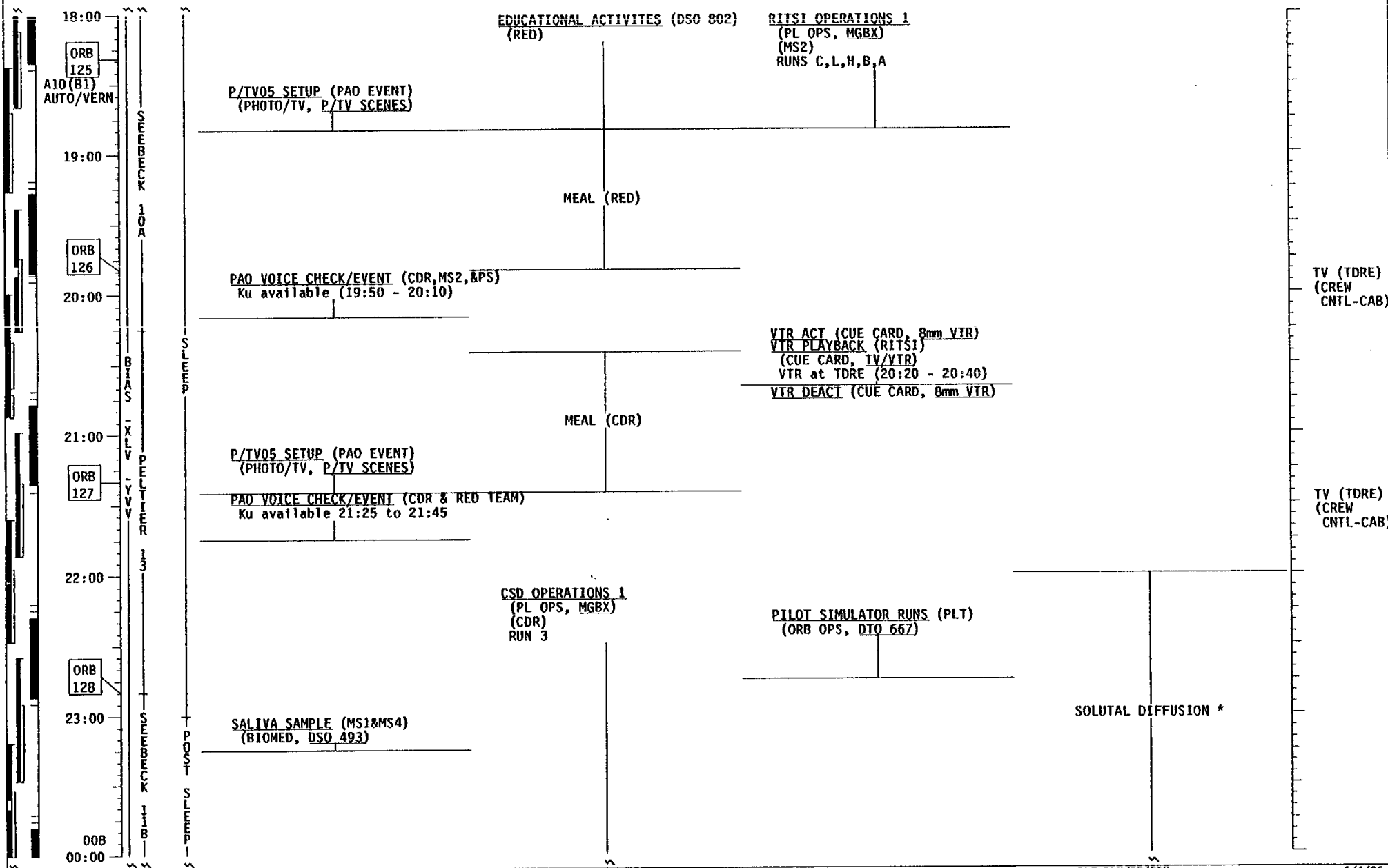
A  
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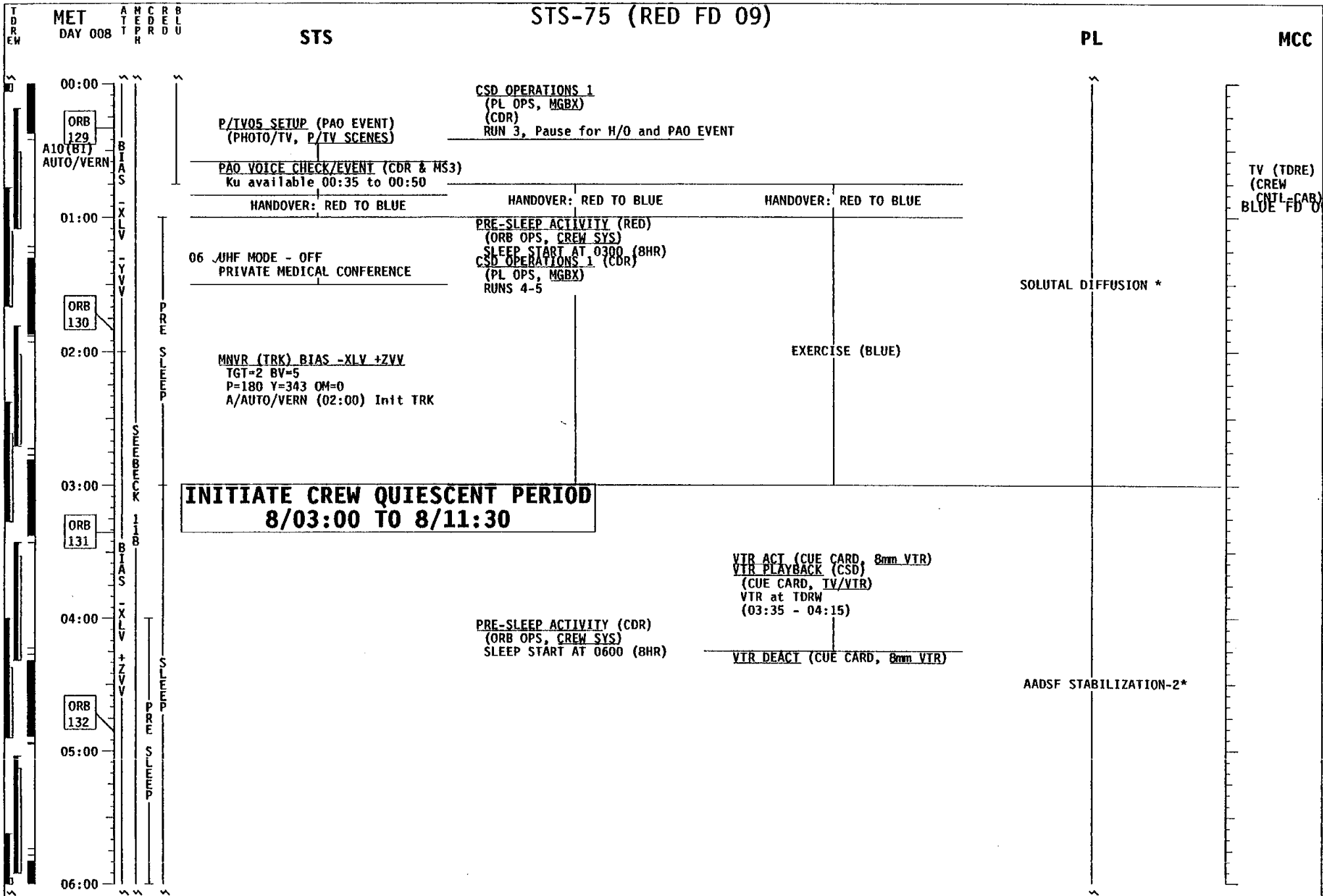
# STS-75 (RED FD 09)

STS

PL

MCC





ORDER MET  
DAY 008

A T T  
M E D  
C R E  
D E L  
R E D  
U

# STS-75 (BLU FD 09)

STS

PL

MCC

**CREW QUIESCENT PERIOD  
8/03:00 TO 8/11:30**

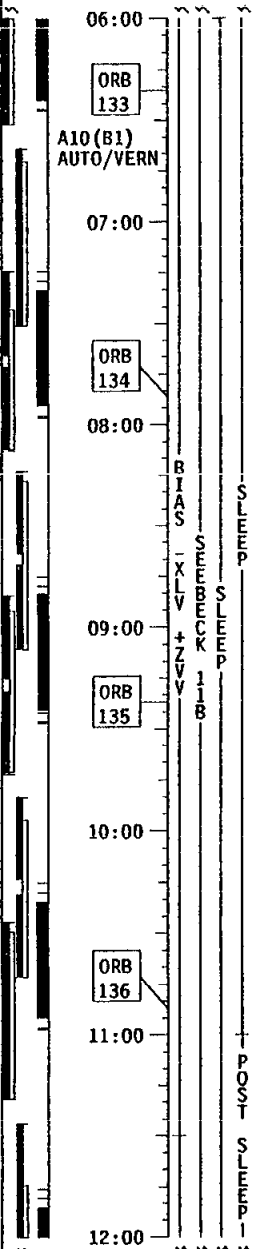
MEAL (BLUE)

AADF STABILIZATION-2\*

SALIVA SAMPLE (PLT)  
(BIOMED, DSO 493)

◀ **END CREW QUIESCENT PERIOD**

MNVR (TRK) BIAS -XLV -YVV  
TG=2 BV=5  
P=177.51 Y=0.77 OM=69.09  
A/AUTO/VERN (11:30) Init TRK





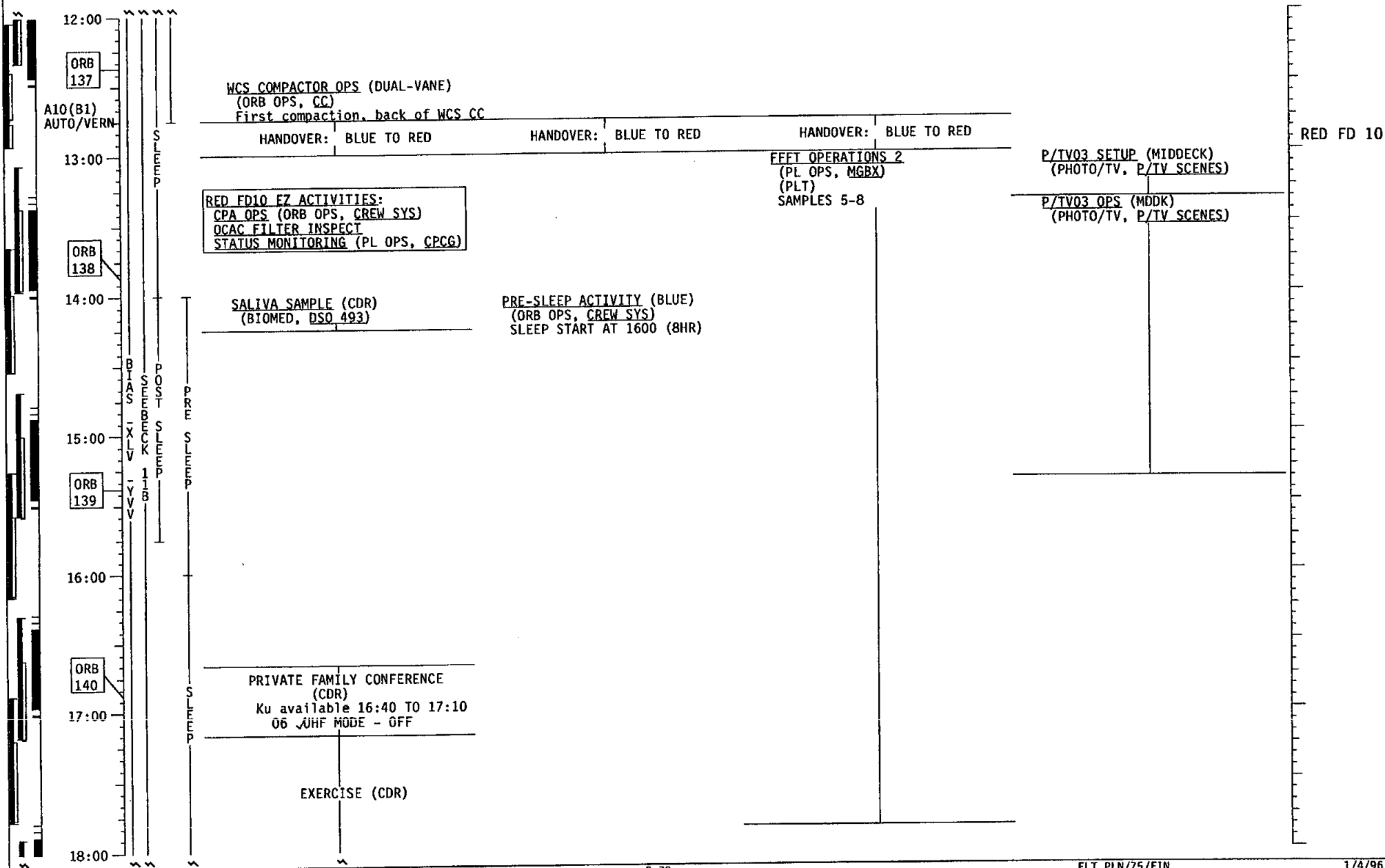
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DAY 008A  
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B  
U

STS

STS-75 (BLU FD 09)

PL

MCC



TDR  
EW

MET  
DAY 008

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# STS-75 (RED FD 10)

STS

PL

MCC

18:00

ORB  
141

A10(B1)  
AUTO/VERN

19:00

ORB  
142

20:00

21:00

ORB  
143

22:00

ORB  
144

23:00

009

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EXERCISE (CDR)

IMU ALIGN - S TRK (ORB OPS)

FILTER CLEANING  
(IFM, SCHEDULED MAINTENANCE)  
Inspect filters and clean  
as necessary

PILOT SIMULATOR RUNS (PLT)  
(ORB OPS, DTO 667)

MEAL (RED)

MEAL (CDR)

EXERCISE (RED)

EDUCATIONAL ACTIVITES (OSO 802)  
(RED)

VTR ACT (CUE CARD, 8mm VTR)  
VTR PLAYBACK (FFFT)  
(CUE CARD, TV/VTR)  
VTR at TDRW  
(18:15 - 18:45)

VTR DEACT (CUE CARD, 8mm VTR)

CSD OPERATIONS 2  
(PL OPS, MGBX)  
(CDR)  
RUNS 6-10

SOLUTAL DIFFUSION \*

TDRW

MET DAY 009

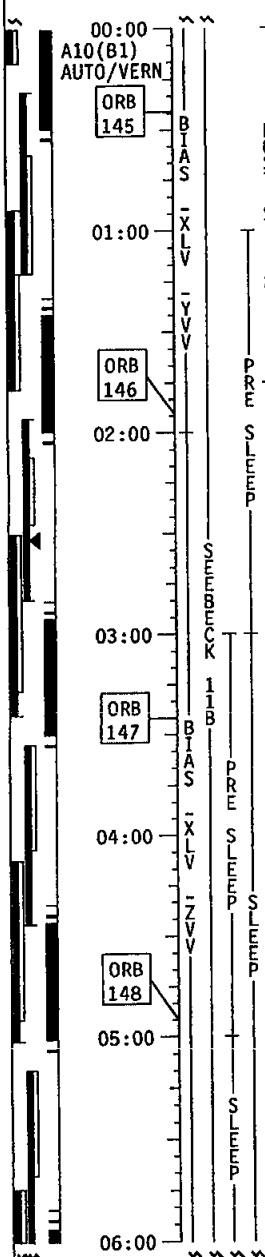
ATTN  
MCDR  
RFLD  
B

STS

STS-75 (RED FD 10)

PL

MCC



SALIVA SAMPLE (MS1&MS4)  
(BIOMED, DSO 493)

CSD OPERATIONS 2  
(PL OPS, MGBX)  
(CDR)  
RUNS 6-10

UPLINK  
FC PURGE

06 JHF MODE - OFF  
PRIVATE MEDICAL CONFERENCE

PRE-SLEEP ACTIVITY (RED)  
(ORB OPS, CREW SYS)  
SLEEP START AT 0300 (8HR)

SOLUTAL DIFFUSION \*

HANDOVER: RED TO BLUE

MNVR (TRK) -XLV, BIAS -ZVV  
TG=2 BV=2 OM=221  
A/AUTO/VERN (02:00) Init TRK

P/TV05 SETUP (PAO EVENT)  
(PHOTO/TV, P/TV SCENES)

BLUE FD 10

PAO VOICE CHECK/EVENT (CDR & BLUE TEAM)  
Ku available 02:35 to 02:55

TV (TDRE)  
(CREW  
CNTL-CAB)

**INITIATE CREW QUIESCENT PERIOD  
9/03:00 TO 9/11:30**

PRE-SLEEP ACTIVITY (CDR)  
(ORB OPS, CREW SYS)  
SLEEP START AT 0500 (8HR)

VTR ACT (CUE CARD, 8mm VTR)  
VTR PLAYBACK (CSD)  
(CUE CARD, TV/VTR)  
VTR at TDRW  
(03:35 - 04:00)  
VTR DEACT (CUE CARD, 8mm VTR)

AADSF STABILIZATION-3\*

OFF-DUTY (BLUE)

TDR  
EW

MET  
DAY 009

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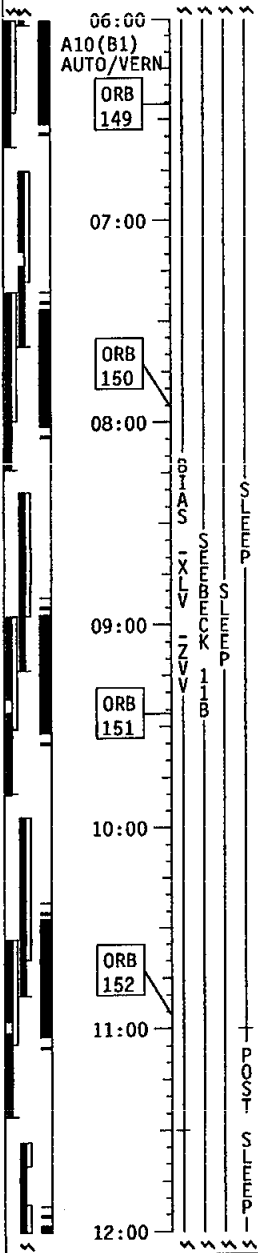
STS

STS-75 (BLU FD 10)

PL

MCC

**CREW QUIESCENT PERIOD  
9/03:00 TO 9/11:30**



OFF-DUTY (BLUE)

MEAL (BLUE)

OFF-DUTY (BLUE)

SALIVA SAMPLE (PLT)  
(BIOMED, DSO 493)

MNVR (TRK) BIAS -XLV -YVV  
TG=2 BV=5  
P=177.51 Y=0.77 OM=69.09  
A/AUTO/VERN (11:30) Init TRK  
SUPPLY/WASTE WATER DUMP  
(ORB OPS, ECLS)  
Initiate Supply/Waste Dump

◀ **END CREW QUIESCENT PERIOD**

AADSF STABILIZATION-3\*

AADSF COOLDOWN \*

UPDATE  
WASTE/SUPPL  
H2O DUMP Q1

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# STS-75 (BLU FD 10)

## STS

## PL

## MCC

12:00  
A10 (B1)  
AUTO/VERN

ORB  
153

13:00

HANDOVER: BLUE TO RED

HANDOVER: BLUE TO RED

HANDOVER: BLUE TO RED

SALIVA SAMPLE (CDR)  
(BIOMED, DSO 493)

FFFT OPERATIONS 3  
(PL OPS, MGBX)  
(PLT)  
SAMPLES 9-12

SUPPLY/WASTE WATER DUMP  
(ORB OPS, ECLS)  
Terminate Supply/Waste Dump  
IMU ALIGN - S TRK (ORB OPS)

RED FD11 EZ ACTIVITIES:  
CPA OPS (ORB OPS, CREW SYS)  
QCAC FILTER INSPECT  
STATUS MONITORING (PL OPS, CPCG)

EXERCISE (BLUE)

14:00

15:00

PRE-SLEEP ACTIVITY (BLUE)  
(ORB OPS, CREW SYS)  
SLEEP START AT 17:00 (8HR)

AADSF COOLDOWN \*

ORB  
155

16:00

EXERCISE  
(MS2 & PS)

OFF-DUTY (CDR)

ORB  
156

17:00

18:00

RED FD 11

I  
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MET  
DAY 009

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# STS-75 (RED FD 11)

STS

PL

MCC

18:00  
A10(B1)  
AUTO/VERN

ORB  
157

P/TVQ5 SETUP (PAO EVENT)  
(PHOTO/TV, P/TV SCENES)

PAO VOICE CHECK/EVENT (RED)  
Ku available 18:25 to 18:45

OFF-DUTY (CDR)

MEAL (RED)

TV (TDRW)  
(CREW  
CNTL-CAB)

19:00

ORB  
158

VTR ACT (CUE CARD, 8mm VTR)  
VTR PLAYBACK (FFFT)  
(CUE CARD, TV/VIR)  
VTR at TDRW  
(20:00 - 20:25)

MEAL (CDR)

AADSF COOLDOWN \*

VTR DEACT (CUE CARD, 8mm VTR)

CSD OPERATIONS 3  
(PL OPS, MGBX)  
(CDR)  
RUNS 11-15

21:00

ORB  
159

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OFF-DUTY (RED)

AADSF COOLDOWN \*

22:00

ORB  
160

23:00

010  
00:00

TDRW

MET DAY 010

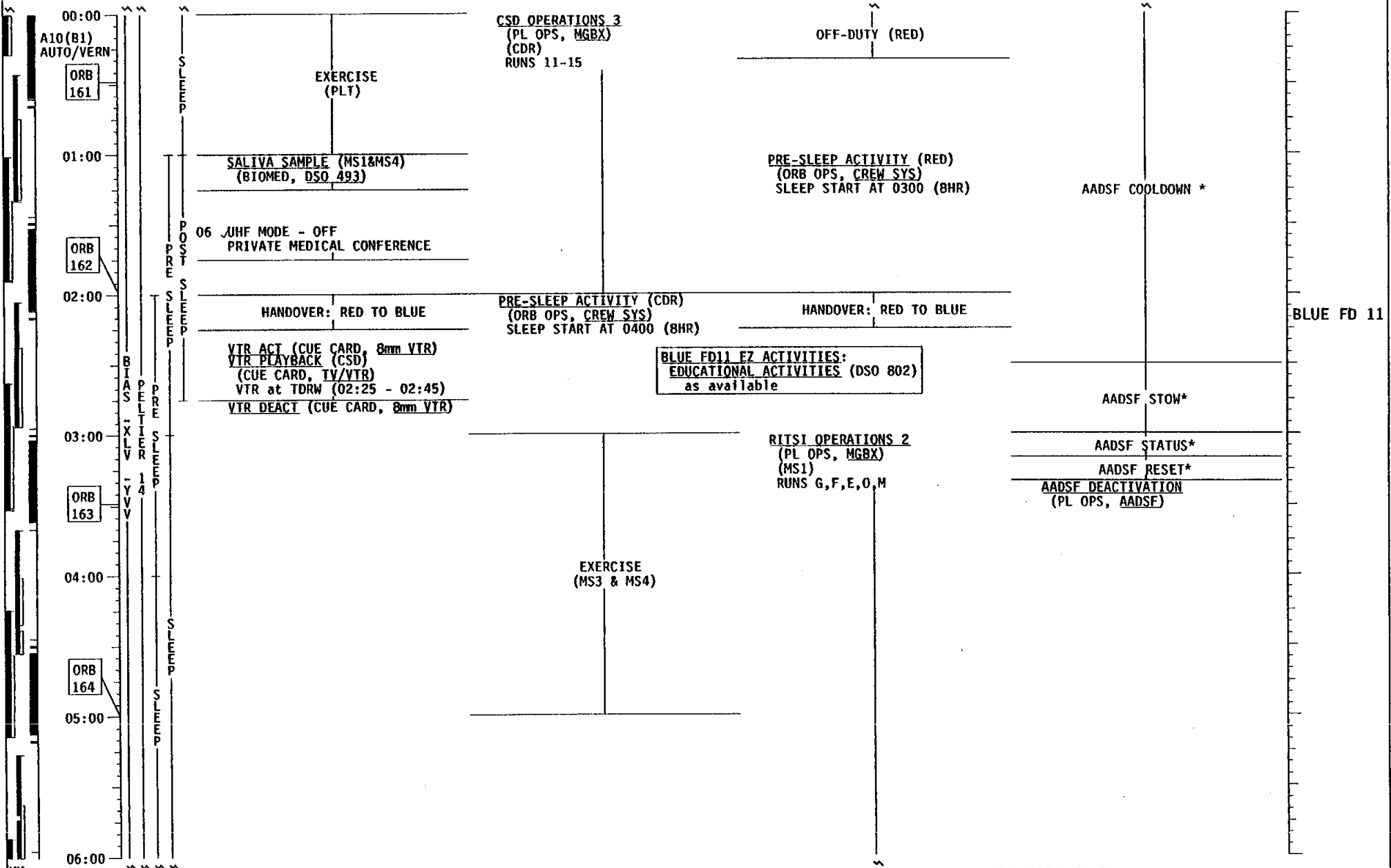
ATT  
MFR  
CDR  
RDR  
BLU

# STS-75 (RED FD 11)

STS

PL

MCC







TDR  
EW

MET  
DAY 010

A H C R B  
T H E D E L  
E P R D U

STS

STS-75 (BLU FD 11)

PL

MCC

12:00  
A10 (B1)  
AUTO/VERN

ORB  
169

POST  
SCHEDULE

SALIVA SAMPLE (CDR)  
(BIOMED, DSO 493)

HANDOVER: BLUE TO RED

HANDOVER: BLUE TO RED

HANDOVER: BLUE TO RED

13:00

RED FD12 EZ ACTIVITIES:  
CPA OPS (ORB OPS, CREW SYS)  
QCAC FILTER INSPECT

RED FD 12

14:00

EXERCISE (RED)

CSD OPERATIONS 4  
(PL OPS, MGBX)  
(CDR)  
RUNS TBD

ORB  
170

BIAS  
PELLETIER  
X  
L  
V

15:00

P/TV05 SETUP (PAO EVENT)  
(PHOTO/TV, P/TV SCENES)

PAO VOICE CHECK/EVENT (PLT, MS2, MS3, MS4, & PS)  
Ku available 15:20 to 15:40

EXERCISE  
(MS1)

TV (TDRE)  
(CREW  
CNTL-CAB)

ORB  
171

16:00

IMU ALIGN - S TRK (ORB OPS)

PRE-SLEEP ACTIVITY (BLUE)  
(ORB OPS, CREW SYS)  
SLEEP START AT 1800 (8HR)

17:00

ORB  
172

PRE  
SCHEDULE

PILOT SIMULATOR RUNS (PLT)  
(ORB OPS, DTO 66Z)

18:00

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MET  
DAY 010

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# STS-75 (RED FD 12)

STS

PL

MCC

18:00  
A10(B1)  
AUTO/VERN

ORB  
173

19:00

PELIER

20:00

ORB  
174

BIAS

21:00

ORB  
175

XLV

22:00

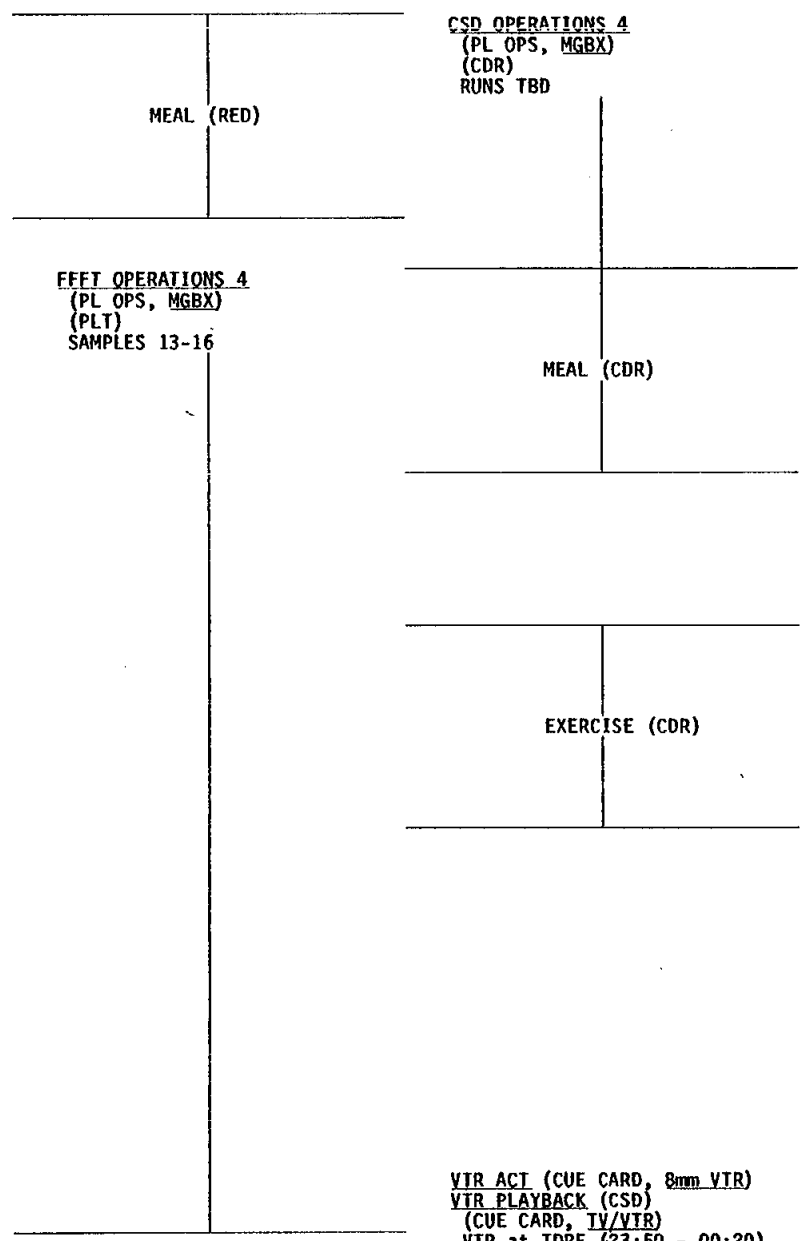
SEEBECK

23:00

ORB  
176

011

00:00



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DAY 011

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STS

STS-75 (RED FD 12)

PL

MCC

00:00

A10(B1)  
AUTO/VERN

ORB  
177

VTR PLAYBACK (CSD)  
(CUE CARD, TV/VTR)  
VTR at TDRE (23:50 - 00:20)  
VTR DEACT (CUE CARD, ~~8mm~~ VTR)

UPLINK  
FC PURGE

01:00

06 JHF MODE - OFF  
PRIVATE MEDICAL CONFERENCE

PRE-SLEEP ACTIVITY (CDR)  
(ORB OPS, CREW SYS)  
SLEEP START AT 0300 (8HR)

PRE-SLEEP ACTIVITY (RED)  
(ORB OPS, CREW SYS)  
SLEEP START AT 0300 (8HR)

02:00

SALIVA SAMPLE (MS1&MS4)  
(BIOMED, DSO 493)

ORB  
178

HANDOVER: RED TO BLUE

HANDOVER: RED TO BLUE

HANDOVER: RED TO BLUE

BLUE FD 12

03:00

BLUE FD12 EZ ACTIVITIES:  
EDUCATIONAL ACTIVITIES (DSO 802)  
as available

ORB  
179

04:00

RITSI OPERATIONS 3  
(PL OPS, MGBX)  
(MS1)  
RUNS K,D,I,N,P

EXERCISE  
(MS3)

05:00

ORB  
180

06:00

TDRW

MET DAY 011

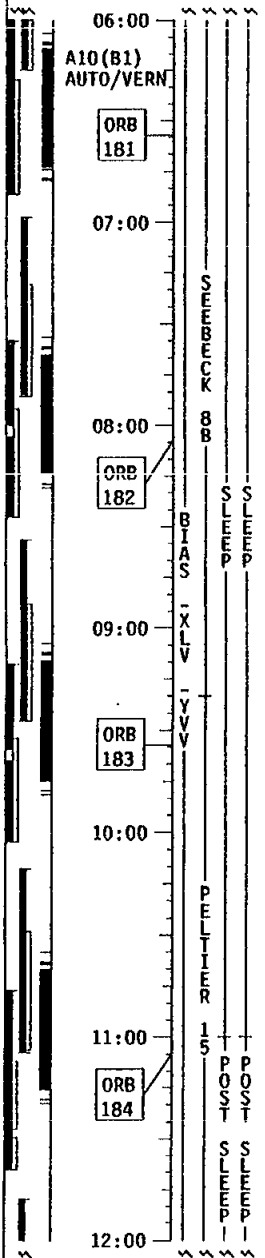
A T H C R B  
T T T E D R E L  
H H H D U

STS

STS-75 (BLU FD 12)

PL

MCC



RITSI OPERATIONS 3  
 (PL OPS, MGBX)  
 (MS1)  
 RUNS K,D,I,N,P

MEAL (BLUE)

VTR ACT (CUE CARD, 8mm VTR)  
 VTR PLAYBACK (FFFT)  
 (CUE CARD, TV/VTR)  
 VTR at TDRW (10:30 - 11:00)

VTR DEACT (CUE CARD, 8mm VTR)

SUPPLY/WASTE WATER DUMP  
 (ORB OPS, ECLS)  
 Initiate Supply/Waste Dump

SALIVA SAMPLE (CDR & PLT)  
 (BIOMED, DSQ 493)

EXERCISE  
 (MS1 & MS4)

UPDATE  
 WASTE/SUPPLY  
 H2O DUMP QTY

TDRW

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DAY 011

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# STS-75 (BLU FD 12)

STS

PL

MCC

12:00  
A10(B1)  
AUTO/VERN

ORB 185

13:00

ORB 186

14:00

ORB 187

15:00

ORB 188

16:00

17:00

ORB 188

18:00

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CREW SCHEDULE

HANDOVER: BLUE TO RED

SUPPLY/WASTE WATER DUMP  
(ORB OPS, ECLS)  
Terminate Supply/Waste Dump

IMU ALIGN - S TRK (ORB OPS)

P/TVO5 SETUP (PAO EVENT)  
(PHOTO/TV, P/TV SCENES)

CREW CONF  
(A11)  
Ku available 15:25 to 15:55

PRE-SLEEP ACTIVITY (BLUE)  
(ORB OPS, CREW SYS)  
SLEEP START AT 1800 (8HR)

EXERCISE (MS1 & MS4)

EXERCISE (RED)

EXERCISE (CDR)

HANDOVER: BLUE TO RED

HANDOVER: BLUE TO RED

HANDOVER: BLUE TO RED

VTR ACT (CUE CARD, 8mm VTR)  
VTR PLAYBACK (RITSI)  
(CUE CARD, TV/VTR)  
VTR at TDRW  
(12:10 - 12:35)  
VTR DEACT (CUE CARD, 8mm VTR)

RED FD 13

TDR  
EM

MET  
DAY 011

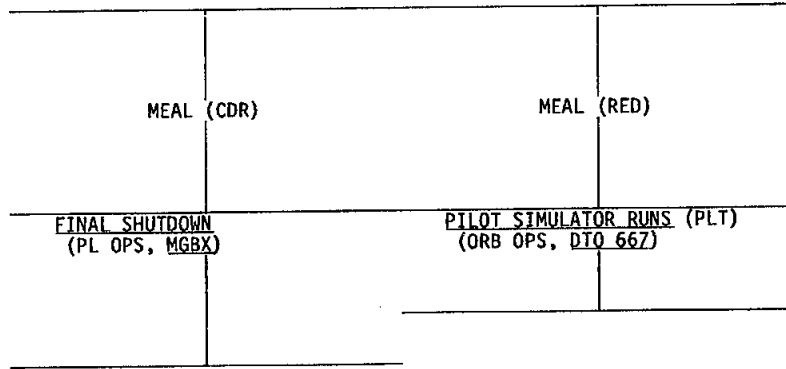
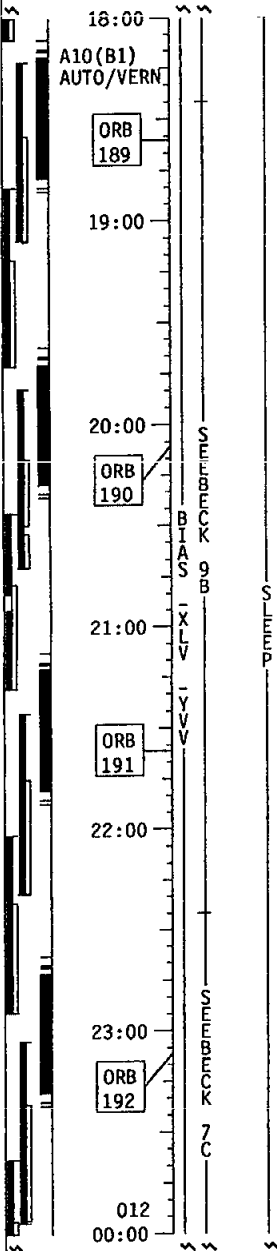
A M C R B  
T T E D L  
H P R D U

# STS-75 (RED FD 13)

STS

PL

MCC



WCS COMPACTOR OPS (DUAL-VANE)  
(ORB OPS, CC)  
Second compaction, back of WCS CC

PORTABLE BLOOD ANALYZER (RED)  
(BIOMED, DSO 492B)

**INITIATE CREW QUIESCENT PERIOD  
11/22:25 TO 12/10:40**

TDR  
EW

MET  
DAY 012

A T T  
M E P R  
C D R  
R E D  
B L U

STS

STS-75 (RED FD 13)

PL

MCC

**CREW QUIESCENT PERIOD**  
**11/22:45 TO 12/10:40**

00:00

A10 (B1)  
AUTO/VERN

06 JHF MODE - OFF  
PRIVATE FAMILY CONFERENCE (PLT & MS2)  
Ku available 00:00 to 00:30

ORB  
193

06 JHF MODE - OFF  
PRIVATE MEDICAL CONFERENCE

01:00

PRE-SLEEP ACTIVITY (CDR)  
(ORB OPS, CREW SYS)  
SLEEP START AT 0300 (8HR)

PRE-SLEEP ACTIVITY (RED)  
(ORB OPS, CREW SYS)  
SLEEP START AT 0300 (8HR)

02:00

SALIVA SAMPLE (MS1&MS4)  
(BIOMED, DSO 493)

ORB  
194

HANDOVER: RED TO BLUE

HANDOVER: RED TO BLUE

HANDOVER: RED TO BLUE

03:00

ORB  
195

04:00

P/TV05 SETUP (PAO EVENT)  
(PHOTO/TV, P/TV SCENES)

PAO VOICE CHECK/EVENT (BLUE)  
Ku available 04:20 to 04:40

05:00

ORB  
196

06:00

PRIVATE FAMILY CONFERENCE (MS1&MS3)  
Ku available 05:50 to 06:20  
06 JHF MODE - OFF

BLUE FD 13

TV (TDRE)  
(CREW  
CNTL-CAB)

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# STS-75 (BLU FD 13)

STS

PL

MCC

06:00  
A10(B1)  
AUTO/VERN

ORB  
197

PRIVATE FAMILY CONFERENCE (MS1&MS3)  
Ku available 05:50 to 06:20  
06 JHF MODE - OFF

**CREW QUIESCENT PERIOD  
11/22:25 TO 12/10:40**

PORTABLE BLOOD ANALYZER (BLUE)  
(BIOMED, DSO 492B)

08:00  
ORB  
198

09:00

ORB  
199

MEAL (BLUE)

10:00

◀ **END CREW QUIESCENT PERIOD**

SUPPLY/WASTE WATER DUMP  
(ORB OPS, ECLS)  
Initiate Supply Dump

SALIVA SAMPLE (CDR & PLT)  
(BIOMED, DSO 493)

11:00  
ORB  
200

FILTER CLEANING  
(IFM, SCHEDULED MAINTENANCE)

EXERCISE (BLUE)

12:00

SUPPLY/WASTE WATER DUMP  
(ORB OPS, ECLS)  
Terminate Supply Dump

UPDATE  
H2O SPLY DUMP  
QTY TK A & B



TDR EW MET DAY 012 A T T H C R E L B E D U

# STS-75 (BLU FD 13)

STS

PL

MCC

APU STEAM VENT HTR ACT  
R2 BLR CNTLR/HTR(three) -B  
PWR (three) -ON

HANDOVER: BLUE TO RED      HANDOVER: BLUE TO RED      HANDOVER: BLUE TO RED

MNVR (TRK) -YLV, -XVV  
TG=2 BV=5 P=0 Y=270 OM=0  
A/AUTO/VERN (12:20) Init TRK  
MEPHISTO +Z RCS BURN  
(ORB OPS FS, MEPHISTO)  
(5 second burn)

**CREW QUIESCENT PERIOD**  
12/12:35 TO 12/13:15

◀ USMP-5 (13:05)  
◀ A/AUTO/VERN (TIG+10)

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

RED FD14 EZ ACTIVITIES:  
CPA OPS (ORB OPS, CREW SYS)  
QCAC FILTER INSPECT  
STATUS MONITORING (PL OPS, CPCG)

EXERCISE (BLUE)

RCS HOT FIRE TEST  
(ORB OPS, RCS) (2 Cmn)

MNVR (TRK) BIAS -XLV -YVY  
TG=2 BV=5  
P=177.51 Y=0.77 OM=69.09  
A/AUTO/VERN (14:35) Init TRK  
MEPHISTO +Z RCS BURN  
(ORB OPS FS, MEPHISTO)  
(15 second burn)

**CREW QUIESCENT PERIOD**  
12/14:50 TO 12/15:30

◀ USMP-6 (15:20)  
◀ A/AUTO/VERN (TIG+10)

DEORBIT PREP BRIEF

LANDING-1 COMM C/O  
(ORB OPS, COMM/INST)  
East coast pass

PILOT SIMULATOR RUNS (CDR)  
(ORB OPS, DIO 667)

IMU ALIGN - S TRK (ORB OPS)

PRE-SLEEP ACTIVITY (BLUE)  
(ORB OPS, CREW SYS)  
SLEEP START AT 1800 (8HR)

PILOT SIMULATOR RUNS (PLT)  
(ORB OPS, DIO 667)

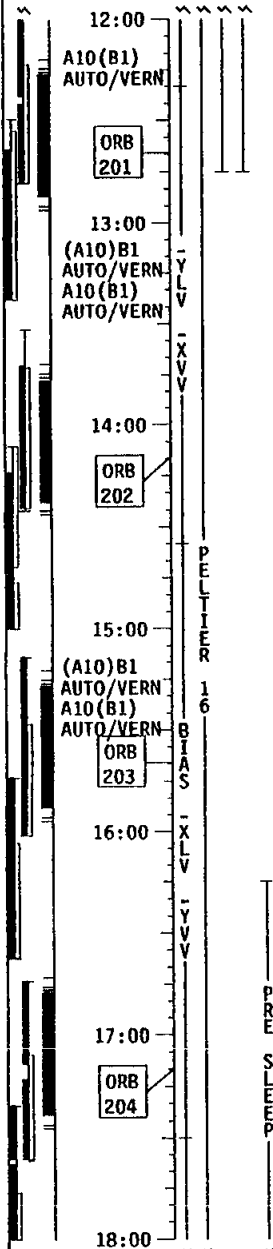
MNVR (TRK) -ZLV, -XVV  
TG=2 BV=3 OM=0  
A/AUTO/VERN (17:30) Init TRK  
ON-ORBIT OMS BURN  
(ORB OPS, OMS)

**CREW QUIESCENT PERIOD**  
12/17:45 TO 12/18:25

MEAL (RED)

RED FD 14

UPDATE  
ORBITAL  
MNVR PAD



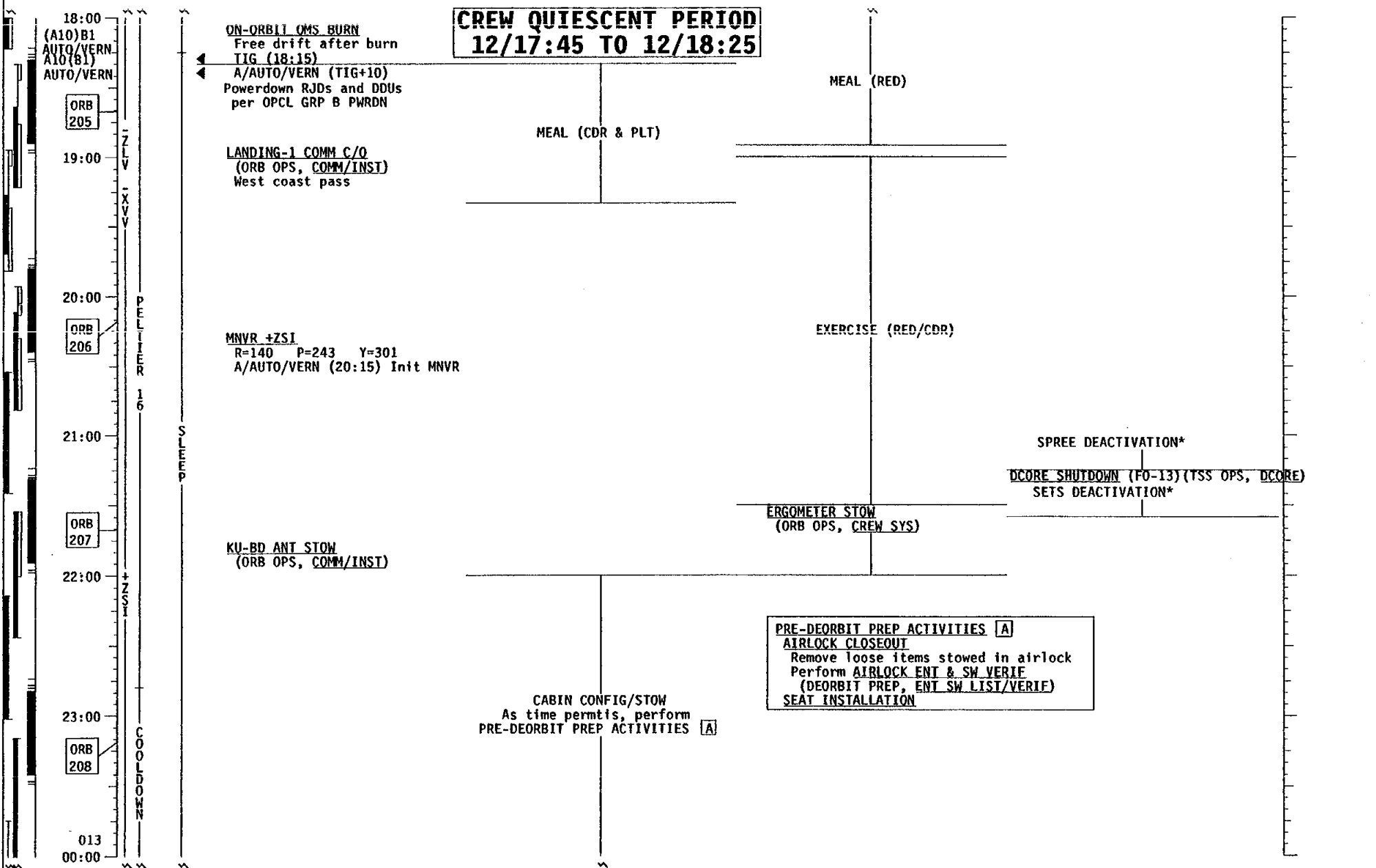
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STS

STS-75 (RED FD 14)

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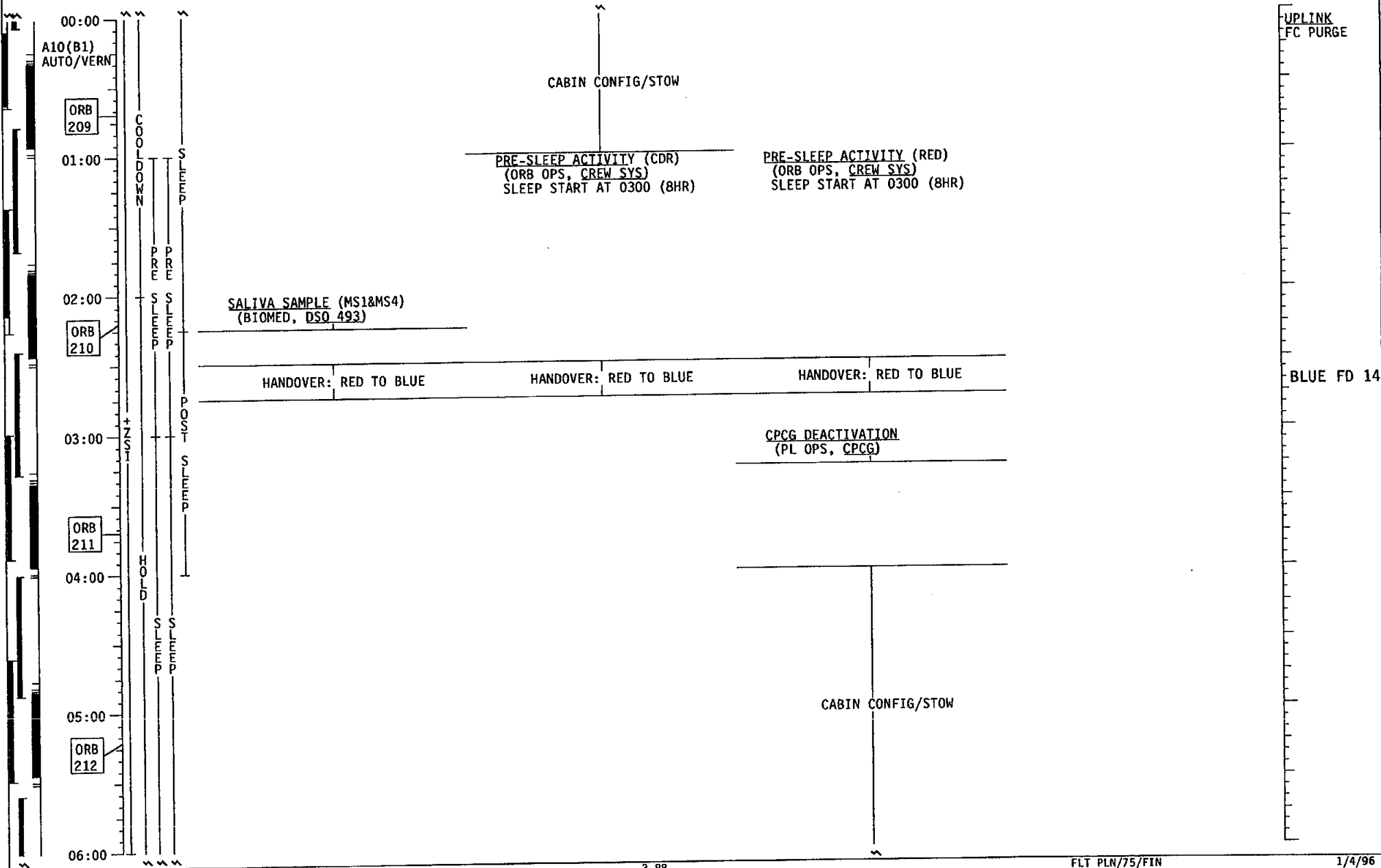
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STS

# STS-75 (RED FD 14)

PL

MCC





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## CONTINGENCY TIMELINES

72-HR MINIMUM DURATION FLIGHT (MDF) .....	4-2
SRL RELEASE/REEL LAUNCH LOCK RELEASE EVAs .....	4-4
DEPLOY EVA .....	4-6
RETRIEVAL EVA .....	4-8
96-HR MDF .....	4-10

CONTINGENCY  
TIMELINES

## 72-HR MINIMUM DURATION FLIGHT (MDF)

### MDF Decision:

Possible to declare MDF as late as 0/23:00 MET. Predeploy preparations would start immediately. Beneficial to declare MDF by 0/12:00 MET. If declared shortly after OMS-2, consider raising orbit to 175 nm circular to bring in the overflights (rule A2-12)

### Appendix K:

Potential 3-4 hr sleep shift on PLT on entry day  
Two consecutive shortened sleep periods for Red and Blue

### Landing:

EDW Rev 49 @ 3/01:06 MET  
EDW Rev 50 @ 3/02:42 MET (backup)

### TSS Profile:

DEP to 10 km (3 hr)  
OST-1 (13 hr @ 10 km)  
RET-1 from 10 km to 3 km (2.5 hr)  
OST-2 (1.5 hr @ 3 km)  
CREEP (2.5 hr)  
RET-2 (2 hr)  
To achieve 20.7 km OST costs an extra 2.5 hr (DEP) and 3 hr (RET-1)

### Overflights:

For a 175 nm circular orbit, Arecibo AOS = 1/02:00 MET  
(7 of 8 OFs possible)

### TSS PDC:

Limited to essential activations/checkouts required before Cat 1 science

### TSS PRS:

Non-interference basis during USMP micro-G and MGBX ops (eg., SETS FO-8G).  
Attitude changes are not allowed

### USMP:

Nominal activations  
12 hr of dedicated micro-G (AADSF)  
Satisfy all of rule A2-13, except MEPHISTO PELTIER V3 (4.5 of 12 hr scheduled)

### Thermal:

AA furnace active during last 15 hr of deployed ops (EECOM says OK)  
Potential for TSS components to approach U/Ls (TMBU management)  
FES inhibits during deployed ops are allowed (going in position)

### Thermal Cond:

None expected. MLG pressures will need monitoring. BET ok

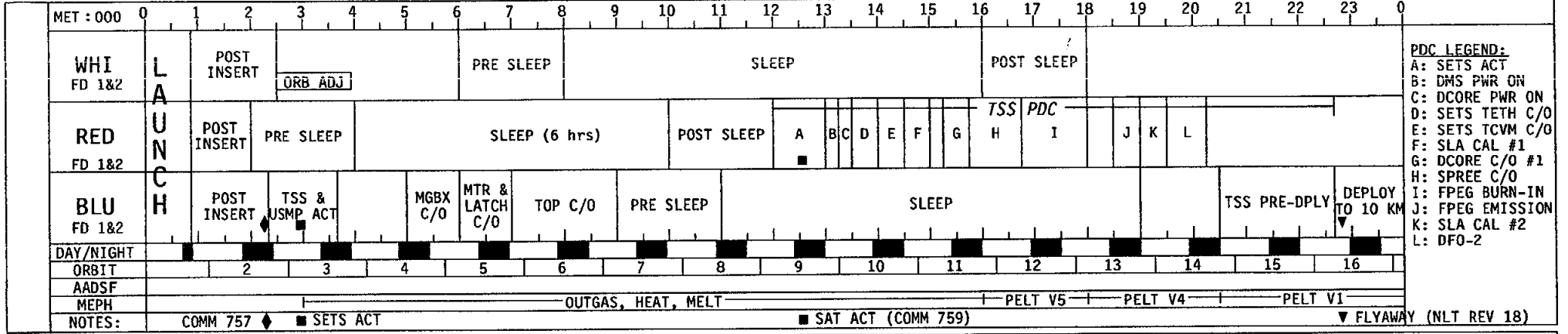
### Comm Config:

USMP is reduced from 33.6 k to 16 k during 0/12:30 to 2/01:30 MET  
USMP commanding will be required during TSS deployed ops

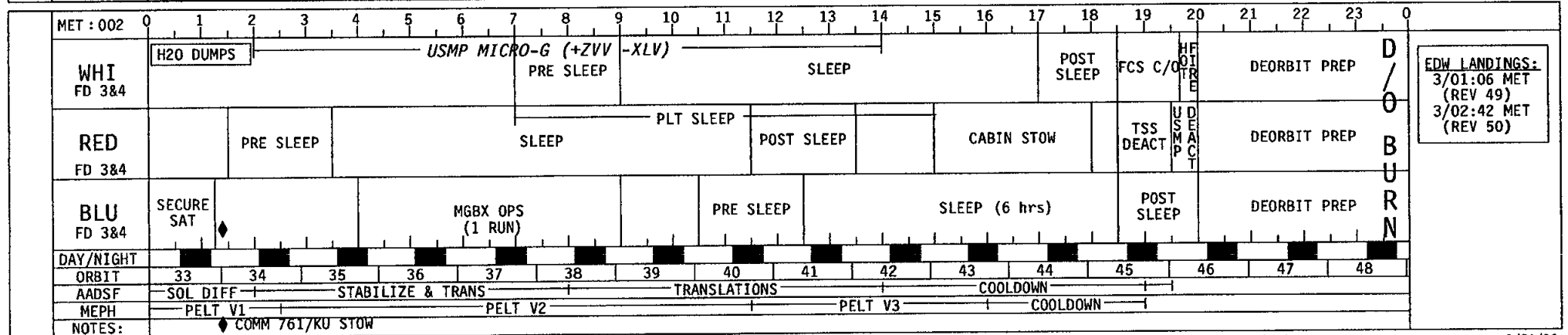
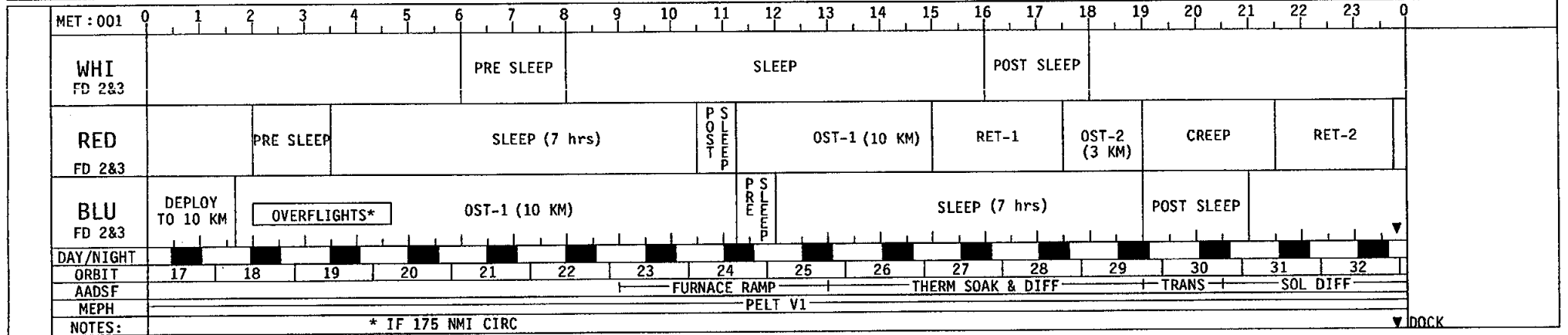
### IMU Aligns:

Counting on stars of opportunity

FLIGHT: STS-75 (72-HR MDF) EDITION: FINAL PUB. DATE: 1/04/96



**PDC LEGEND:**  
 A: SETS ACT  
 B: DMS PWR ON  
 C: DCORE PWR ON  
 D: SETS TETH C/O  
 E: SETS TCVM C/O  
 F: SLA CAL #1  
 G: DCORE C/O #1  
 H: SPREE C/O  
 I: FPEG BURN-IN  
 J: FPEG EMISSION  
 K: SLA CAL #2  
 L: DFO-2



**EDW LANDINGS:**  
 3/01:06 MET (REV 49)  
 3/02:42 MET (REV 50)



## SRL RELEASE/REEL LAUNCH LOCK RELEASE EVAs

This timeline is intended to be used for the SRL Release EVA and the Launch Lock EVA which may result due to a failure of either system during the FD 1 TSS activation and checkout timeframe (0/02:00 MET to 0/07:00 MET). If after Deployer Activation, Reel Motor Checkout, and SRL Functional Checkout on FD 1 it is determined that an unscheduled EVA is necessary because of a failure with the SRLs or the Launch Lock, the following timeline will be used. This EVA scenario results in a one-day delay for TSS deploy.

This timeline assumes the following:

- An additional day will be added to the TSS mission to accommodate the EVA.
- The EVA crew is as follows: EV1 is MS4, EV2 is MS3, and IV is MS1.
- 10.2 Depress occurs prior to 0/08:30 MET. (This will eliminate the need for a Mask Prebreathe & minimize in-suit prebreathe time.)
- Equipment Prep, EMU Checkout, and Middeck Prep will all be performed on Blue FD 2 prior to Red Pre-Sleep.
- The Blue sleep period the night before the EVA is 7 hours to start the EVA as early as possible and to end with minimal impact to the Red Pre-Sleep timeframe.
- Sleep cycles should be maintained as close to nominal as possible. The maximum EVA (airlock egress to airlock ingress) duration allowable without an impact to the Red Sleep Cycle is approximately 3 hours and 17 minutes. Airlock Ingress should begin no later than 1 hour prior to the Red Team's sleep.
- The duration of the Launch Lock Release EVA is approximately 1 hour.
- EVA durations for SRL Release vary depending on the number of latches failed and the type of failure: mechanical or electrical. If the worst case is assumed, three SRLs have failed, and there is not enough time to complete an EVA without impacting the Red Team's sleep cycle.

<u>No. of SRLs Failed</u>	<u>Mechanical EVA Duration (hr:mn)</u>	<u>Electrical EVA Duration (hr:mn)</u>
1	2:20	1:50
2	3:25	2:30
3	4:30	3:10

Following the EVA, the crew should resume TSS predeploy checkouts and prepare for deploy at approximately 3/00:40 MET.

MET : 000	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0			
CDR		POST INSERTION	USMP ACT		TSS ACT	PRE SLEEP	SLEEP										POST SLEEP											MEAL
RED			PRE SLEEP			SLEEP (6)					POST SLEEP																	
BLU		POST INSERTION		TSS ACT	MEAL				10.2 DPRSS	PRE SLEEP												POST SLEEP						
DAY/NIGHT																												
ORBIT		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16												
NOTES:	GO FOR EVA Δ PRE SLEEP ○ FILTER CLEANING																											

MET : 001	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0		
CDR							PRE SLEEP																				
RED		PRE SLEEP					SLEEP					POST SLEEP															
BLU											PRE SLEEP											POST SLEEP	EVA PREP	EPP NU/URB GE	DEBRES	EVA (3:17)	
DAY/NIGHT																											
ORBIT	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32											
NOTES:	Δ PRE SLEEP																										

MET : 002	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0		
CDR								PRE SLEEP																			
RED		PRE SLEEP						SLEEP					POST SLEEP														
BLU		EVA (3:17)									PRE SLEEP												POST SLEEP				
DAY/NIGHT																											
ORBIT	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48											
NOTES:	DEPLOY ▼ FLYAWAY Δ EMU BATT Δ PRE SLEEP																										

## DEPLOY EVA

This timeline is intended to be used for any unscheduled EVA resulting from failure of the TSS payload during deploy operations or just prior to deploy operations (1/21:00 to 1/23:00 MET). Possible EVAs include SRL Release, U1 Umbilical Retraction, Boom Motor Controller, and TSS Jump Start.

This timeline assumes the following:

- An additional day will be added to the TSS mission to accommodate the EVA.
- Targeted deploy time is 3/00:30 MET, which minimizes impact to the crew's circadian rhythm.
- The EVA duration is 1.5 hours, which will accommodate only a few single failure cases (e.g., U1 Retraction, Boom Extension, etc.)
- Forty-five minutes of Post EVA time is required for the crew to doff the EMUs, clean up the suits, and move to the flight deck to support TSS Deploy. The EVA crew is EV1 is MS4, EV2 is MS3, and IV is MS1.
- If more time is required (e.g., SRL latch release) the EVA can be extended to a maximum of 3 hours and deploy at 3/02:00. This results in an 18.5 hour workday for the Red Team. If more than 3 hours is necessary, the Red Team's circadian rhythm will be significantly impacted and consideration should be given to delaying deploy to the next dual crew awake period (approximately 10 hours).
- 1 hour and 20 minutes of Mask prebreathe begins at 1/23:10 MET and Cabin Depress to 10.2 psia begins at 2/00:00 MET.
- Airlock Prep may be performed during Mask Prebreathe. This is assumed so that middeck activity is kept to a minimum while the Red Team is sleeping.
- The Blue sleep period the night before the EVA is 7 hours to start the EVA as early as possible and to end with minimal impact to the Red Pre-Sleep timeframe.
- Sleep cycles should be maintained as close to nominal as possible.
- EVA durations for SRL Release vary depending on the number of latches failed. If the worst case is assumed, three SRLs have failed, and there is not enough time to complete an EVA without impacting the Red Team's sleep cycle.

<u>No. of SRLs Failed</u>	<u>Mechanical EVA Duration</u> (hr:mn)	<u>Electrical EVA Duration</u> (hr:mn)
1	2:20	1:50
2	3:25	2:30
3	4:30	3:10

- The duration of U1 Umbilical Retraction is 40 minutes.
- The duration of Boom Motor Controller is 1 hour and 30 minutes.
- The duration of TSS Jump Start is 1 hour and 20 minutes.



## RETRIEVAL EVA

This timeline is intended to be used for any unscheduled EVA resulting from failure of the TSS payload during retrieval operations (3/20:30 to 3/23:45 MET). Possible EVAs include Manual Satellite Alignment and Boom Motor Control Override.

This timeline assumes the following:

- An additional day will be added to the flight to accommodate the EVA.
- The EVA crew is as follows: EV1 is MS4, EV2 is MS3, and IV is MS1.
- 1 hour and 20 minutes of Mask Prebreathe begins at 4/00:00 MET and Cabin Depress to 10.2 psia begins at 4/00:50 MET.
- Airlock Prep may be performed during Mask Prebreathe. This is assumed so that middeck activity is kept to a minimum while the Red Team is sleeping.
- In-suit purge and prebreathe is 68 minutes.
- The Red sleep period the night before the EVA is 7 hours to allow the Blue Team (the EVA Team) to shift their sleep back an hour and receive 8 hours of sleep prior to the EVA. This also maximizes the EVA duration without impacting the start of the Red Team's sleep following the EVA.
- Sleep cycles should be maintained as close to nominal as possible. The maximum EVA (airlock egress to airlock ingress) duration allowable without an impact to the Red Sleep Cycle is approximately 2 hours. This assumes that Satellite Safing is started prior to Airlock Ingress and no later than 5/00:45 MET to allow the Red Team 1 hour of pre-sleep.
- The duration of the Manual Satellite Alignment is 1 hour.
- The duration of the Boom Motor Control Override is 1 hour and 30 minutes.

FLIGHT: STS-75      EDITION: RETRIEVAL EVA      PUB. DATE: 1/4/96

MET: 003	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0		
CDR FD 4&5	MEAL								PRE SLEEP		CREEP TEST			SLEEP (7)					POST SLEEP						DOCK	BOMB RETR SRE V	
RED								PRE SLEEP		SLEEP (7)		POST SLEEP			ON STATION 2		MEAL			CREEP			TSS FINAL RETRIEVE			H/O	FOR
BLU FD 5		MEAL							ON STATION 1				PRE SLEEP					SLEEP (7)								H/O	FOR
DAY/NIGHT																											
ORBIT	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64											
NOTES:																											

MET: 004	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	
CDR FD 5&6	MEAL								PRE SLEEP					SLEEP					POST SLEEP							
RED								PRE SLEEP		SLEEP (7)		POST SLEEP														
BLU FD 6		PREP	EMU CHECKOUT	MDDK PREP					PRE SLEEP				SLEEP					POST SLEEP	EVA PREP	PURGE P/B				EVA (2:10)		
DAY/NIGHT																										
ORBIT	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80										
NOTES:																										

MET: 005	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	
CDR FD 6&7									PRE SLEEP				SLEEP					POST SLEEP								
RED		SAT SAFING		PRE SLEEP					SLEEP			POST SLEEP														
BLU FD 7	EVA (2:10)		POST EVA		MEAL	ELECT REFLECT			ATT ENV -ZVV	PRE SLEEP			SLEEP					POST SLEEP								
DAY/NIGHT																										
ORBIT	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96										
NOTES:																										

## 96-HR MDF

### **MDF Decision:**

The MDF failure and decision occurs after reaching OST-1 at 20.7 km  
(2/06:00 – 2/15:00 MET)

### **Appendix K:**

Potential 3–4 hr sleep shift on PLT on entry day

### **Landing:**

EDW Rev 65 @ 4/01:26 MET  
EDW Rev 66 @ 4/03:02 MET (backup)

### **TSS Profile:**

DEP to 20.7 km (5.5 hr)  
OST-1 (9 hr @ 20.7 km)  
RET-1 (5.5 hr)  
CREEP (1 hr @ 3 km)  
RET-2 (2 hr)

### **Overflights:**

For a 160 nm circular orbit, the overflights occur during RET-1  
(Arecibo AOS = 2/18:06 MET)

### **TSS PDC:**

Nominal PDC completed

### **TSS PRS:**

Non-interference basis during USMP micro-G and MGBX ops  
(e.g., SETS FO-6G)  
Attitude changes are not allowed

### **USMP:**

Nominal activations  
12 hr of dedicated micro-G (AADSF)  
Satisfy all of rule A2-13, except MEPHISTO PELTIER V3 (4.5 of 12 hr scheduled)

### **Thermal:**

AA furnace active during last 15 hr of deployed ops (EECOM says OK)  
Potential for TSS components to approach U/Ls (TMBU management)  
FES inhibits during deployed ops are allowed (going in position)

### **Thermal Cond:**

None expected. MLG pressures will need monitoring. BET ok

### **Comm Config:**

USMP is reduced from 33.6 k to 16 k during 0/18:00 to 3/01:30 MET  
USMP commanding will be required during TSS deployed ops

### **IMU Aligns:**

Counting on stars of opportunity

FLIGHT: STS-75 (96-HR MDF) EDITION: FINAL PUB. DATE: 1/04/96

MET : 001	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	
WHI FD 2&3							PRE SLEEP	SLEEP						POST SLEEP												
RED FD 2&3	PRE SLEEP		SLEEP						POST SLEEP																	
BLU FD 2&3									PRE SLEEP		SLEEP						POST SLEEP									
DAY/NIGHT ORBIT	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32										
NOTES:																										

MET : 002	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	
WHI FD 3&4							PRE SLEEP	SLEEP						POST SLEEP												
RED FD 3&4	PRE SLEEP		SLEEP						POST SLEEP	OST-1 (20.7 km)				RET-1				CREEP	RET-2							
BLU FD 3&4	▼ FLYAWAY		OST-1 (20.7 km)						PRE SLEEP	SLEEP						OVERFLIGHTS		POST SLEEP		▼						
DAY/NIGHT ORBIT	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48										
NOTES:	▼ FLYAWAY																									

MET : 003	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	
WHI FD 4&5	H2O DUMPS		USMP MICRO-G (+ZVV -XIV)						PRE SLEEP	SLEEP						POST SLEEP	FCS C/O	RB CU SR N	DEORBIT PREP				<b>D / O  B U R N</b>			
RED FD 4&5	PRE SLEEP		SLEEP						POST SLEEP		CABIN STOW				TSS DEACT		U D E A C T	DEORBIT PREP								
BLU FD 4&5	SECURE SAT		MGBX OPS (1 RUN)						PRE SLEEP		SLEEP						POST SLEEP		DEORBIT PREP							
DAY/NIGHT ORBIT	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64										
NOTES:																										

EDW LANDING:  
4/01:26 MET (REV 65)  
4/03:02 MET (REV 66)



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DAP TABLE

DAP TABLE

**DAP TABLE**

**STS-75 DAP A - GENERIC**

	ITEM #	A1	A2	A4	A5	A6	A7
<b>PRI</b>							
ROT RATE	10 (50)	0.2000	0.4000	0.5000	0.2000	0.2000	0.2000
ATT DB	11 (51)	5.00	1.00	3.00	5.00	5.00	2.00
RATE DB	12 (52)	0.20	0.20	0.20	0.20	0.20	0.20
ROT PLS	13 (53)	0.10	0.10	0.10	0.10	0.10	0.10
COMP	14 (54)	.000	.000	.000	.000	.000	.000
P OPTION	15 (55)	ALL	ALL	ALL	ALL	TAIL	ALL
Y OPTION	16 (56)	ALL	ALL	ALL	ALL	TAIL	ALL
TRAN PLS	17 (57)	0.10	0.10	0.10	0.10	0.10	0.10
<b>ALT</b>							
RATE DB	18 (58)	0.200	0.200	0.200	0.070	0.070	0.200
JET OPT	19 (59)	ALL	ALL	ALL	ALL	TAIL	ALL
# JETS	20 (60)	2	2	2	1	1	2
ON TIME	21 (61)	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	22 (62)	0.00	0.00	0.00	0.00	0.00	0.00
<b>VERN</b>							
ROT RATE	23 (63)	0.2000	0.4000	0.2000	0.2000	0.2000	0.2000
ATT DB	24 (64)	1.000	1.000	1.000	1.000	1.000	1.000
RATE DB	25 (65)	.020	.020	.020	.020	.020	.020
ROT PLS	26 (66)	0.010	0.010	0.010	0.010	0.010	0.010
COMP	27 (67)	.000	.000	.000	.000	.000	.000
CNTL ACC	28 (68)	0	0	0	0	0	0
PURPOSE		NOMINAL	PTC	PRE/POST DEPLOY	LOSS OF VERNS (NOSE & TAIL)	LOSS OF VERNS (TAIL ONLY)	RNDZ

5-2

FLT PLN/75/FIN

STS-75 DAP A - FLIGHT SPECIFIC

	ITEM #	A3	A8	A9	A10	A12
<b>PRI</b>						
ROT RATE	10 (50)	0.2000	0.2000	0.2000	<b>0.1000</b>	0.2000
ATT DB	11 (51)	1.00	<b>3.00</b>	<b>3.00</b>	<b>3.00</b>	<b>0.30</b>
RATE DB	12 (52)	0.20	0.20	0.20	0.20	0.20
ROT PLS	13 (53)	0.10	0.10	0.10	0.10	0.10
COMP	14 (54)	.000	.000	.000	.000	.000
P OPTION	15 (55)	ALL	<b>TAIL</b>	<b>NOSE</b>	ALL	<b>TAIL</b>
Y OPTION	16 (56)	TAIL	<b>TAIL</b>	ALL	ALL	<b>TAIL</b>
TRAN PLS	17 (57)	0.10	0.05	<b>0.04</b>	<b>0.02</b>	<b>0.05</b>
<b>ALT</b>						
RATE DB	18 (58)	0.200	0.200	0.200	<b>0.070</b>	0.200
JET OPT	19 (59)	ALL	ALL	<b>TAIL</b>	<b>TAIL</b>	ALL
# JETS	20 (60)	2	2	2	<b>1</b>	2
ON TIME	21 (61)	0.08	0.08	0.08	0.08	0.08
DELAY	22 (62)	0.00	<b>4.70</b>	0.00	<b>1.00</b>	0.00
<b>VERN</b>						
ROT RATE	23 (63)	0.0080	0.2000	0.2000	0.2000	<b>0.0440</b>
ATT DB	24 (64)	0.070	1.000	1.000	1.000	<b>0.100</b>
RATE DB	25 (65)	.010	.020	.020	.020	.020
ROT PLS	26 (66)	0.010	0.010	<b>0.015</b>	0.010	0.010
COMP	27 (67)	.000	.000	.000	.000	.000
CNTL ACC	28 (68)	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>
PURPOSE		OST DB COLLAPSE	PROX OPS LOSS OF VERNS	SPREE	USMP	SKIPROPE DETERMINE

Note: **BOLD/ITALICS** indicate a change from the I-load.

STS-75 DAP B - GENERIC

	ITEM #	B1	B2	B3	B4	B5	B7	B8
<b>PRI</b>								
ROT RATE	30 (50)	0.5000	0.2000	0.2000	0.2000	0.2000	0.5000	0.2000
ATT DB	31 (51)	3.00	3.00	3.00	0.30	3.00	2.00	2.00
RATE DB	32 (52)	0.20	0.20	0.20	0.20	0.20	0.20	0.20
ROT PLS	33 (53)	0.04	0.04	0.04	0.04	0.04	0.04	0.04
COMP	34 (54)	.000	.000	.000	.000	.000	.000	.000
P OPTION	35 (55)	ALL	TAIL	ALL	TAIL	TAIL	ALL	ALL
Y OPTION	36 (56)	ALL	TAIL	ALL	TAIL	TAIL	ALL	ALL
TRAN PLS	37 (57)	0.10	0.02	0.02	0.02	0.02	0.05	0.01
<b>ALT</b>								
RATE DB	38 (58)	0.200	0.070	0.070	0.200	0.200	0.200	0.200
JET OPT	39 (59)	ALL	TAIL	ALL	ALL	ALL	ALL	ALL
# JETS	40 (60)	2	1	1	2	2	2	2
ON TIME	41 (61)	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	42 (62)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>VERN</b>								
ROT RATE	43 (63)	0.2000	0.2000	0.2000	0.0080	0.0160	0.2000	0.2000
ATT DB	44 (64)	1.000	1.000	1.000	0.100	0.033	1.000	1.000
RATE DB	45 (65)	.020	.020	.020	.010	.020	.020	.020
ROT PLS	46 (66)	0.002	0.002	0.002	0.002	0.002	0.002	0.002
COMP	47 (67)	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	48 (68)	0	0	0	0	0	0	0
PURPOSE		NOM OMS & RCS BURNS	LOSS OF VERNS (TAIL ONLY)	LOSS OF VERNS (NOSE & TAIL)	SSUS DEPLOY	COAS CAL	RNDZ	PROX OPS

STS-75 DAP B - FLIGHT SPECIFIC

	ITEM #	B9	B10	B11	B12	B13	B14
<b>PRI</b>							
ROT RATE	30 (50)	<b>0.1000</b>	<b>0.2000</b>	<b>0.2000</b>	<b>2.0000</b>	<b>1.0000</b>	<b>0.2000</b>
ATT DB	31 (51)	<b>2.00</b>	<b>5.00</b>	<b>15.00</b>	<b>5.00</b>	<b>2.00</b>	3.00
RATE DB	32 (52)	0.20	0.20	<b>0.50</b>	0.20	0.20	0.20
ROT PLS	33 (53)	0.04	<b>0.10</b>	<b>0.10</b>	<b>0.10</b>	0.04	0.04
COMP	34 (54)	.000	.000	.000	.000	.000	.000
P OPTION	35 (55)	ALL	<b>TAIL</b>	<b>TAIL</b>	ALL	ALL	<b>TAIL</b>
Y OPTION	36 (56)	ALL	<b>TAIL</b>	<b>TAIL</b>	ALL	ALL	<b>TAIL</b>
TRAN PLS	37 (57)	0.02	<b>0.05</b>	<b>0.05</b>	<b>0.05</b>	0.02	<b>0.01</b>
<b>ALT</b>							
RATE DB	38 (58)	0.200	<b>0.070</b>	0.200	0.200	0.200	0.200
JET OPT	39 (59)	ALL	<b>TAIL</b>	ALL	ALL	ALL	ALL
# JETS	40 (60)	2	<b>1</b>	2	2	2	2
ON TIME	41 (61)	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	42 (62)	0.00	0.00	0.00	0.00	0.00	0.00
<b>VERN</b>							
ROT RATE	43 (63)	<b>0.0500</b>	0.2000	0.2000	0.2000	0.2000	0.2000
ATT DB	44 (64)	1.000	<b>5.000</b>	<b>15.000</b>	1.000	1.000	1.000
RATE DB	45 (65)	.020	<b>.040</b>	<b>.050</b>	.020	.020	.020
ROT PLS	46 (66)	<b>0.004</b>	<b>0.050</b>	<b>0.010</b>	<b>0.010</b>	0.002	0.002
COMP	47 (67)	.000	.000	.000	.000	.000	.000
CNTL ACC	48 (68)	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	0	<b>1</b>
PURPOSE		PROX OPS	DPLY, RET 1 TEA LOSS OF VERNS	DFO2,4-9 OST DRIFT	SKIPROPE YAW MNVR	SAMS	SETS FO14,16C

Note: **BOLD/ITALICS** indicates a change from the I-load.

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ATTITUDE TIMELINE

ATTITUDE  
TIMELINE

Attitude Timeline

MET/GMT	MNVR OPTION	DAF	E/S	REF ATT/REMARKS	EVENT
1 000/01:12:00 MET 26:59 046/21:39:00 GMT 53:59	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 0.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV Tail Fwd PLHD Opening
2 000/02:15:00 MET 25:12 046/22:42:00 GMT 52:12	INRTL R=345.00 MNVR P=152.00 Y= 21.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	SUN R 219 P 140	Star Pair B1 -Y: 30 -Z: 29	IMU Align
3 000/02:35:00 MET 43:24 046/23:02:00 GMT 10:24	TGT=2 BV=5 P= 80.00 Y= 0.00 OM= 0.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 0 P 80	LVLH R= 0.00 P=190.00 Y= 0.00	TSS Outgas Bias -ZLV -XV
4 000/10:15:00 MET 17:32 047/06:42:00 GMT 44:32	TGT=2 BV=5 P= 81.00 Y= 5.00 OM= 30.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 5 P 81	LVLH R= 0.24 P=190.41 Y=329.63	TSS Outgas Comm Biased Bias -ZLV -XV
5 000/15:00:00 MET 09:22 047/11:27:00 GMT 36:22	TGT=2 BV=5 P= 90.00 Y=270.00 OM= 90.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 270 P 90	LVLH R= 0.00 P= 90.00 Y=270.00	DCORE/SPREE C/O -YLV +ZV
6 000/18:15:00 MET 28:26 047/14:42:00 GMT 55:26 SS @ 18:25	TGT=2 BV=5 P=236.00 Y=323.00 OM=145.00 FPEG    @ 18:43	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 222 P 117	LVLH R=172.34 P=137.42 Y= 48.69	FPEG Init FPEG Parallel Bias +ZLV -YV SETS 4b
7 000/19:00:00 MET 06:28 047/15:27:00 GMT 33:28	INRTL R=285.00 MNVR P=149.00 Y=307.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	SUN R 307 P 88	Star Pair C1 -Y: 28 -Z: 105	Satellite GYRO Cal IMU Align PDC 10
8 000/20:15:00 MET 22:28 047/16:42:00 GMT 49:28	TGT=2 BV=5 P=161.00 Y=314.00 OM=210.00 +Y  @ 20:32:15	A9 AUTO ALT RATE 0.2000 DB AT 3.00 DB RT 0.200	EARTH R 287 P 131	LVLH R=155.83 P= 95.06 Y= 48.75	RCS Characteriz Mag Parallel +Y Bias -XLV -ZV SPREE 6b
9 000/20:30:00 MET 047/16:57:00 GMT SR @ 20:30		A9 FREE VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 287 P 131	LVLH R=155.83 P= 95.06 Y= 48.75	RCS Characteriz VRCS/PRCS Jet Firings SPREE 6b
10 000/20:35:00 MET 38:50 047/17:02:00 GMT 05:50	TGT=2 BV=5 P=183.00 Y=350.00 OM=221.00 +Y  @ 20:42:15	A9 AUTO ALT RATE 0.2000 DB AT 3.00 DB RT 0.200	EARTH R 253 P 170	LVLH R=138.31 P= 98.86 Y= 5.54	RCS Characteriz Mag Parallel +Y Bias -XLV -ZV SPREE 6b
11 000/20:40:00 MET 047/17:07:00 GMT		A9 FREE VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 253 P 170	LVLH R=138.31 P= 98.86 Y= 5.54	RCS Characteriz VRCS/PRCS Jet Firings SPREE 6b
12 000/20:45:00 MET 49:23 047/17:12:00 GMT 16:23	TGT=2 BV=5 P=204.00 Y= 37.00 OM=213.00 +Y  @ 20:52:15	A9 AUTO ALT RATE 0.2000 DB AT 3.00 DB RT 0.200	EARTH R 118 P 137	LVLH R=156.43 P= 93.27 Y=316.95	RCS Characteriz Mag Parallel +Y Bias -XLV -ZV SPREE 6b

\*\*\* ALL ATTITUDES IN MEAN OF 1950 \*\*\*  
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Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT	
13 000/20:50:00 MET 047/17:17:00 GMT		A9 FREE DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 118 P 137	LVLH HOLD R=156.43 P= 93.27 Y=316.95	RCS Characteriz VRCS/PRCS Jet Firings SPREE 6b
14 000/21:00:00 MET 09:32 047/17:27:00 GMT 36:32	TGT=2 BV=5 P=300.00 Y= 0.00 OM=180.00	A9 AUTO DB AT 1.000 ALT DB RT 0.200	RATE 0.2000 DB AT 3.00 DB RT 0.200	EARTH R 180 P 60	LVLH R=180.00 P=210.00 Y= 0.00	SIMDEP Flyaway Bias +ZLV -XV TCOEL30
15 000/21:20:00 MET 50 047/17:47:00 GMT 50	TGT=2 BV=5 P=310.00 Y= 0.00 OM=180.00	A9 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 180 P 50	LVLH R=180.00 P=220.00 Y= 0.00	SIMDEP Deploy Att Bias +ZLV -XV
16 000/22:40:00 MET 45:10 047/19:07:00 GMT 12:10	TGT=2 BV=5 P=248.00 Y= 0.00 OM=180.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 180 P 112	LVLH R=180.00 P=158.00 Y= 0.00	SIMDEP TEA Bias +ZLV -XV
17 001/00:14:00 MET 24:22 047/20:41:00 GMT 51:22	TGT=2 BV=5 P=177.51 Y= 0.77 OM= 69.09	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 17 P 177	LVLH R=290.92 P= 91.61 Y=357.95	SLA Cal GG Setup Bias -XLV -YV SCORE 2
18 001/00:28:00 MET 047/20:55:00 GMT		A6 FREE DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 17 P 177	LVLH HOLD R=290.92 P= 91.61 Y=357.95	SLA Cal GG Free Drift SCORE 2
19 001/00:39:00 MET 49:16 047/21:06:00 GMT 16:16	TGT=2 BV=5 P=244.50 Y= 0.00 OM=180.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 180 P 116	LVLH R=180.00 P=154.50 Y= 0.00	SIM IV Bias +ZLV -XV OST1 TEA
20 001/03:02:00 MET 09:52 047/23:29:00 GMT 36:52	TGT=2 BV=5 P=149.00 Y= 47.00 OM=142.00 FPEG    @ 03:16	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 64 P 126	LVLH R=203.25 P= 88.05 Y=305.80	Beam Reflection Parallel North Bias +YLV -ZV SETS 8
21 001/03:22:00 MET 29:17 047/23:49:00 GMT 56:17 SS @ 03:28	TGT=2 BV=5 P=202.00 Y=350.00 OM=112.00 FPEG    @ 03:37	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 205 P 156	LVLH R=246.17 P= 89.44 Y= 24.06	Beam Reflection Parallel Near Bias -XLV -YV SETS 8
22 001/03:43:00 MET 47:26 048/00:10:00 GMT 14:26 SR @ 4:02	TGT=2 BV=5 P=227.00 Y=309.00 OM=126.00 FPEG    @ 03:55	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 239 P 115	LVLH R=210.47 P= 90.15 Y= 64.58	Beam Reflection Parallel South Bias -YLV -ZV SETS 8
23 001/04:01:00 MET 09:27 048/00:28:00 GMT 36:27	TGT=2 BV=5 P=177.51 Y= 0.77 OM= 69.09	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 17 P 177	LVLH R=290.92 P= 91.61 Y=357.95	SLA Cal GG Setup -XLV Bias -YV SCORE 2
24 001/04:10:00 MET 048/00:37:00 GMT		A6 FREE DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 17 P 177	LVLH HOLD R=290.92 P= 91.61 Y=357.95	SLA Cal GG Free Drift SCORE 2

\*\*\* ALL ATTITUDES IN MEAN OF 1950 \*\*\*  
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Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT	
25 001/04:20:00 MET 29:15 048/00:47:00 GMT 56:15	TGT-2 BV=5 P=270.00 Y= 0.00 OM= 0.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 180 P 90	LVLH R= 0.00 P= 0.00 Y= 0.00	Gas Interaction +ZLV +XVV SETS 9a
26 001/04:47:00 MET 58:00 048/01:14:00 GMT 25:00	INRTL R=144.00 MNVR P=350.00 Y= 16.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	SUN R 153 P 52		Beam Structure Roll Setup FPEG Parallel SETS 18
27 001/05:02:00 MET 048/01:29:00 GMT	INRTL BV=1 ROTR P= 0.00 Y= 0.00  AUTO ROLL:VERN	A6 AUTO DB AT 5.00 PRI DB RT 0.20	RATE 0.4000 DB AT 5.00 DB RT 0.20		INRTL R=144.00 P=350.00 Y= 16.00	Beam Structure +X Roll Mag Equat Cross SETS 18
28 001/05:17:00 MET 048/01:44:00 GMT	INRTL BV=1 ROTR P= 0.00 Y= 0.00	A6 AUTO DB AT 5.00 PRI DB RT 0.20	RATE 0.2000 DB AT 5.00 DB RT 0.20		INRTL R=144.00 P=350.00 Y= 16.00	Slow Rotor Roll
29 001/05:25:00 MET 38:49 048/01:52:00 GMT 02:05:49	TGT-2 BV=5 P=270.00 Y= 0.00 OM=135.00 ROLL ROTOR TERM	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 180 P 90	LVLH R=180.00 P=180.00 Y= 45.00	Enviro Scan +ZLV Yaw Setup Bias +ZLV -XVV SETS 6d
30 001/05:40:00 MET 048/02:07:00 GMT	LVLH FREE ROTATION ROTR ABOUT +Z AXIS RATE=0.400  MAN YAW (VERN)	A6 LVLH DB AT 5.00 PRI DB RT 0.20	RATE 0.2000 DB AT 5.00 DB RT 0.20		LVLH R=180.00 P=180.00 Y= 45.00	Enviro Scan +Z Yaw  SETS 6d
31 001/07:10:00 MET 048/03:37:00 GMT	TGT-2 BV=5 P=270.00 Y= 0.00 OM=135.00 YAW ROTOR TERM	B2 AUTO DB AT 3.00 PRI DB RT 0.20	RATE 0.2000 DB AT 3.00 DB RT 0.20	EARTH R 180 P 90	LVLH R=180.00 P=180.00 Y= 45.00	Enviro Scan +X45 Roll Setup +ZLV Bias -XVV SETS 6b
32 001/07:15:00 MET 048/03:42:00 GMT	LVLH FREE ROTATION ROTR ABOUT +X AXIS RATE=0.400  MAN ROLL (VERN)	A6 LVLH DB AT 5.00 PRI DB RT 0.20	RATE 0.2000 DB AT 5.00 DB RT 0.20		LVLH R=180.00 P=180.00 Y= 45.00	Enviro Scan X45 POP Roll  SETS 6b
33 001/08:45:00 MET 048/05:12:00 GMT		A6 LVLH DB AT 5.00 PRI DB RT 0.20	RATE 0.2000 DB AT 5.00 DB RT 0.20	EARTH R 180 P 90	LVLH R=180.00 P=180.00 Y= 45.00	Enviro Scan Roll Stop  SETS 6b
34 001/08:46:00 MET 55:03 048/05:13:00 GMT 22:03	TGT-2 BV=5 P=177.51 Y= 0.77 OM= 69.09	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 17 P 177	LVLH R=290.92 P= 91.61 Y=357.95	SLA Cal GG Setup -XLV Bias -YVV SCORE 2
35 001/09:00:00 MET 048/05:27:00 GMT		A6 FREE DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 17 P 177	LVLH R=290.92 P= 91.61 Y=357.95	SLA Cal GG Free Drift  SCORE 2
36 001/09:10:00 MET 23:51 048/05:37:00 GMT 50:51	TGT-2 BV=5 P=270.00 Y= 0.00 OM=270.00	B2 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 180 P 90	LVLH R= 0.00 P= 0.00 Y=270.00	Enviro Scan XPOP Setup +ZLV Nose North SETS 6a

\*\*\* ALL ATTITUDES IN MEAN OF 1950 \*\*\*  
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Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
37 001/09:30:00 MET 048/05:57:00 GMT	INRTL BV=1 ROTR P= 0.00 Y= 0.00  AUTO ROLL:VERN	A6* RATE 0.4670 AUTO DB AT 5.00 PRI DB RT 0.20		INRTL R= 74.75 P=241.78 Y=359.35	Enviro Scan +X Roll  SETS 6a
38 001/11:07:30 MET 048/07:34:30 GMT		B2 RATE 0.2000 LVLH DB AT 3.00 PRI DB RT 0.20	EARTH R 356 P 90	LVLH R=105.39 HOLD P=281.66 Y=270.23	Enviro Scan Roll Rot Term -ZLV -YVV SETS 6a
39 001/11:40:00 MET 49:55 048/08:07:00 GMT 16:55	INRTL R= 47.00 MNVR P= 0.00 Y= 37.00	B2 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	SUN R 236 P 68		Elec Enviro Cal Coils Perp Setup Att SETS 19b
40 001/12:00:00 MET 048/08:27:00 GMT	INRTL BV=5 ROTR P=218.00 Y= 50.00  Rot Rate =-0.132	A6* RATE 0.1320 AUTO DB AT 1.000 VERN DB RT 0.020		INRTL R= 47.00 P= 0.00 Y= 37.00	Elec Enviro Cal +Y B-field Trk  SETS 19b
41 001/13:30:00 MET 42:59 048/09:57:00 GMT 10:09:59	INRTL R=186.00 MNVR P=203.00 Y=346.00	B2 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	SUN R 95 P 136		Elec Enviro Cal Coils Parallel Setup Att SETS 19a
42 001/13:45:00 MET 048/10:12:00 GMT	INRTL BV=5 ROTR P=326.00 Y=343.00  Rot Rate =-0.132	A6* RATE 0.1320 AUTO DB AT 1.000 VERN DB RT 0.020		INRTL R=186.00 P=203.00 Y=346.00	Elec Enviro Cal +X B-field Trk  SETS 19a
43 001/15:15:00 MET 21:49 048/11:42:00 GMT 48:49 SS @ 1/15:32	TGT=2 BV=5 P= 14.00 Y= 41.00 OM= 47.00 BPV @ 15:39:30	A6* RATE 0.1320 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 74 P 43	LVLH R= 49.44 P=292.32 Y=322.33	Beam Structure 150 Mag Bias Bias +XLV -ZVV SETS 18a
44 001/15:45:00 MET 49:56 048/12:12:00 GMT 16:56	TGT=2 BV=1 P= 0.00 Y= 0.00 OM= 0.00	B2 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 153 P 0	LVLH R= 0.00 P=270.00 Y= 0.00	Enviro Scan Y POP Setup +XLV -ZVV SETS 6c
45 001/15:50:00 MET 048/12:17:00 GMT	INRTL BV=5 ROTR P= 0.00 Y= 90.00  AUTO PITCH:VERN	A6* RATE 0.3330 AUTO DB AT 5.00 PRI DB RT 0.20		INRTL R=269.69 P=331.63 Y=327.79	Enviro Scan +Y Pitch  SETS 6c
46 001/17:20:00 MET 27:46 048/13:47:00 GMT 54:46	TGT=2 BV=5 P=128.00 Y=359.00 OM=123.00 +X @ 17:36:15	A6* RATE 0.3330 AUTO DB AT 5.00 PRI DB RT 0.20	EARTH R 359 P 128	LVLH R=223.89 P= 54.55 Y=319.08	RCS Characteriz Mag Parallel +X Bias -ZLV -YVV SPREE 6a
47 001/17:35:00 MET 048/14:02:00 GMT SR @ 17:36		A9 RATE 0.2000 FREE DB AT 1.000 VERN DB RT 0.020	EARTH R 359 P 128	LVLH R=223.89 HOLD P= 54.55 Y=319.08	RCS Characteriz VRCS Jet Firings SPREE 6a
48 001/17:40:00 MET 43:25 048/14:07:00 GMT 10:25	TGT=2 BV=5 P= 87.00 Y= 0.00 OM=125.00 +X @ 17:46:15	A9 RATE 0.2000 AUTO DB AT 3.00 ALT DB RT 0.200	EARTH R 0 P 87	LVLH R=175.73 P=354.78 Y=305.11	RCS Characteriz Mag Parallel +X Bias -ZLV -YVV SPREE 6a

\*\*\* ALL ATTITUDES IN MEAN OF 1950 \*\*\*  
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Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
49 001/17:45:00 MET  048/14:12:00 GMT		A9 RATE 0.2000 FREE DB AT 1.000 VERN DB RT 0.020	EARTH R 360 P 87	LVLH R=175.73 HOLD P=354.78 Y=305.11	RCS Characteriz VRCS Jet Firings SPREE 6a
50 001/17:50:00 MET 53:07 048/14:17:00 GMT 20:07	TGT=2 BV=5 P= 53.00 Y= 0.00 OM=109.00 +X  @ 17:56:15	A9 RATE 0.2000 AUTO DB AT 3.00 ALT DB RT 0.200	EARTH R 0 P 53	LVLH R=119.78 P=293.37 Y=310.96	RCS Characteriz Mag Parallel +X Bias -ZLV -YVV SPREE 6a
51 001/17:55:00 MET  048/14:22:00 GMT		A9 RATE 0.2000 FREE DB AT 1.000 VERN DB RT 0.020	EARTH R 0 P 53	LVLH R=119.78 HOLD P=293.37 Y=310.96	RCS Characteriz VRCS Jet Firings SPREE 6a
52 001/18:05:00 MET  048/14:32:00 GMT		A9 RATE 0.2000 LVLH DB AT 1.000 VERN DB RT 0.020	EARTH R 360 P 53	LVLH R=119.78 HOLD P=293.37 Y=310.96	RCS Characteriz Complete
53 001/18:15:00 MET 27:27 048/14:42:00 GMT 54:27 SS @ 1/18:33	TGT=2 BV=5 P=272.00 Y= 17.00 OM=148.00 BPV  @ 18:39:30	A6 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 163 P 88	LVLH R=195.79 P=182.27 Y= 32.56	Beam Structure 30 Mag Bias Bias +ZLV -XV SETS 18a
54 001/18:45:00 MET 56:43 048/15:12:00 GMT 23:43 SR @ 19:06	TGT=2 BV=5 P= 50.00 Y=338.00 OM=120.00 BPV  @ 19:01:30	A6 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 332 P 53	LVLH R=138.29 P=286.32 Y=308.39	Beam Structure 90 Mag bias Bias -ZLV -YVV SETS 18a
55 001/19:05:00 MET 15:09 048/15:32:00 GMT 42:09	INRTL R=285.00 MNVR P=149.00 Y=307.00	A6 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	SUN R 307 P 89	Star Pair C1 -Y: 28 -Z: 105	IMU Align
56 001/19:25:00 MET 38:40 048/15:52:00 GMT 16:05:40	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=270.00	A6 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y= 90.00	Simo H2O Dump -ZLV Nose South
57 001/22:15:00 MET 28:15 048/18:42:00 GMT 55:15	TGT=2 BV=5 P=300.00 Y= 0.00 OM=180.00 CONFIG A8(B9)	A6 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 60	LVLH R=180.00 P=210.00 Y= 0.00	Pre Deploy Bias +ZLV -XV
58 001/23:10:00 MET 12:30 048/19:37:00 GMT 39:30	TGT=2 BV=5 P=300.00 Y= 0.00 OM=150.00	A6 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 60	LVLH R=163.90 P=213.69 Y= 25.66	Comm Biased Bias +ZLV -XV
59 001/23:55:00 MET 57:30 048/20:22:00 GMT 24:30	TGT=2 BV=5 P=300.00 Y= 0.00 OM=180.00	A8 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 60	LVLH R=180.00 P=210.00 Y= 0.00	Pre Deploy Bias +ZLV -XV
60 002/00:18:00 MET  048/20:45:00 GMT		B9 RATE 0.0500 FREE DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 60	LVLH R=180.00 HOLD P=210.00 Y= 0.00	Flyaway

PET-00:01 Flyaway @ SS-15  
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Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
61 002/00:29:00 MET 32:20	TGT=2 BV=5 P=310.00 Y= 0.00 OM=180.00	B9 RATE 0.0500 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 50	LVLH R=180.00 P=220.00 Y= 0.00	Deploy Bias +ZLV -XV
048/20:56:00 GMT 59:20 PET+00:10	CNTL ACCEL TO 1				
62 002/01:58:00 MET 50	TGT=2 BV=5 P=300.00 Y= 0.00 OM=180.00	A8 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 60	LVLH R=180.00 P=210.00 Y= 0.00	Deploy Att Step 1 Bias +ZLV -XV
048/22:25:00 GMT 50 PET+01:39					
63 002/02:16:00 MET 17:15	TGT=2 BV=5 P=285.00 Y= 0.00 OM=180.00	A8 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 75	LVLH R=180.00 P=195.00 Y= 0.00	Deploy Att Step 2 Bias +ZLV -XV
048/22:43:00 GMT 44:15 PET+01:57					
64 002/02:25:00 MET 47	TGT=2 BV=5 P=275.50 Y= 0.00 OM=180.00	A8 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 85	LVLH R=180.00 P=185.50 Y= 0.00	Deploy Att Step 3 Bias +ZLV -XV
048/22:52:00 GMT 48 PET+02:06					
65 002/02:44:00 MET 46:17	TGT=2 BV=5 P=248.00 Y= 0.00 OM=180.00	A8 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 112	LVLH R=180.00 P=158.00 Y= 0.00	Deploy TEA Bias +ZLV -XV
048/23:11:00 GMT 13:18 PET+02:25					
66 002/05:24:00 MET 17	TGT=2 BV=5 P=244.50 Y= 0.00 OM=180.00 L = 20.5 km B10/AUTO/VERN	A8 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 116	LVLH R=180.00 P=154.50 Y= 0.00	OST1 TEA Bias +ZLV -XV
049/01:51:00 GMT 18 L = 20.5 km					
67 002/06:30:00 MET	TGT=2 BV=5 P=244.50 Y= 0.00 OM=180.00 L = 20.7 km B11/AUTO/VERN	A3 RATE 0.0080 AUTO DB AT 0.070 VERN DB RT 0.010	EARTH R 180 P 116	LVLH R=180.00 P=154.50 Y= 0.00	OST1 TEA DB Collapse Bias +ZLV -XV
049/02:57:00 GMT					
68 003/04:00:00 MET	B10/AUTO/VERN				RET1 Init
050/00:27:00 GMT PET 0:00					
69 003/06:05:00 MET 17	TGT=2 BV=5 P=241.00 Y= 0.00 OM=180.00 L = 14.8 km B10/AUTO/VERN	A8 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 119	LVLH R=180.00 P=151.00 Y= 0.00	RET1 TEA Bias +ZLV -XV
050/02:32:00 GMT 18 L = 14.8 km					
70 003/07:30:00 MET 31:55	TGT=2 BV=5 P=264.00 Y= 0.00 OM=180.00 PET+03:30	A8 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 96	LVLH R=180.00 P=174.00 Y= 0.00	RET1 LOS Bias +ZLV -XV
050/03:57:00 GMT 58:55 PET+03:30					
71 003/09:15:00 MET 30	TGT=2 BV=5 P=270.00 Y= 0.00 OM=180.00 PET+05:15 A12/AUTO/VERN	A8 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 90	LVLH R=180.00 P=180.00 Y= 0.00	RET1 Skiprope Evaluation +ZLV -XV
050/05:42:00 GMT 30 PET+05:15					
72 003/10:00:00 MET	B12/AUTO/PRI				CREEP TEST Skiprope Damp Yaw Mnvis
050/06:27:00 GMT PET-01:00					

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Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
73 003/11:00:00 MET  050/07:27:00 GMT  PET 00:00	A8/AUTO/VERN				OST2 Arrival
74 003/14:42:00 MET 44:45 050/11:09:00 GMT 11:45	TGT=2 BV=5 P=237.00 Y= 0.00 OM=180.00 B10/AUTO/VERN	A8 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 123	LVLH R=-180.00 P=147.00 Y= 0.00	OST2 TEA DFO-3 Bias +ZLV -XV
75 003/16:15:00 MET 17:45 050/12:42:00 GMT 44:45	TGT=2 BV=5 P=270.00 Y= 0.00 OM=180.00	A8 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 90	LVLH R=-180.00 P=180.00 Y= 0.00	OST2 LOS
76 003/17:45:00 MET  050/14:12:00 GMT  PET+00:00	A12/AUTO/VERN				CREEP Init Skiprope Eval
77 003/17:55:00 MET  050/14:22:00 GMT  PET+00:10	B12/AUTO/PRI				CREEP Skiprope Damp Yaw Mnvis
78 003/19:55:00 MET  050/16:22:00 GMT  PET+02:10	A8 (B9) /VERN				CREEP Libration Cntl
79 003/20:12:00 MET 27:00 050/16:39:00 GMT 54:00 PET-02:15	TGT=2 BV=5 P=270.00 Y= 0.00 OM= 0.00	A8 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 90	LVLH R= 0.00 P= 0.00 Y= 0.00	RET2 Mnvr Nose Fwd +ZLV +XV
80 003/20:37:00 MET 50 050/17:04:00 GMT 50 PET-01:50	TGT=2 BV=5 P=280.00 Y= 0.00 OM= 0.00	A8 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 80	LVLH R= 0.00 P=350.00 Y= 0.00	RET2 Att Step 1 Bias +ZLV +XV
81 003/20:44:00 MET 50 050/17:11:00 GMT 50 PET-01:43	TGT=2 BV=5 P=290.00 Y= 0.00 OM= 0.00	A8 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 70	LVLH R= 0.00 P=340.00 Y= 0.00	RET2 Att Step 2 Bias +ZLV +XV
82 003/20:51:00 MET 50 050/17:18:00 GMT 50 PET-01:36	TGT=2 BV=5 P=300.00 Y= 0.00 OM= 0.00 CNTL ACCEL TO 2	A8 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 60	LVLH R= 0.00 P=330.00 Y= 0.00	RET2 Att Step 3 Bias +ZLV +XV
83 003/22:24:00 MET  050/18:51:00 GMT  PET-00:03		B9 RATE 0.0500 FREE DB AT 1.000 VERN DB RT 0.020	EARTH R 180 P 60	LVLH R= 0.00 HOLD P=330.00 Y= 0.00	DOCK
84 003/22:30:00 MET 43:15 050/18:57:00 GMT 19:10:15	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=270.00	A8 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 90.00	H2O Dump -ZLV Nose North

\*\*\* ALL ATTITUDES IN MEAN OF 1950 \*\*\*  
\*\*\* PYR EULER SEQUENCE \*\*\*

## Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
85 004/00:25:00 MET 40:00 050/20:52:00 GMT 21:07:00	TGT=2 BV=5 P=270.00 Y= 0.00 OM=135.00	A6 AUTO VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 180 P 90	LVLH R=180.00 P=180.00 Y= 45.00	Enviro Scan X45 POP Setup +ZLV Bias -XV SETS 6b
86 004/00:45:00 MET 050/21:12:00 GMT	LVLH FREE ROTATION ROTR ABOUT +X AXIS RATE=0.400  MAN ROLL (VERN)	A6 LVLH PRI RATE 0.2000 DB AT 5.00 DB RT 0.20		LVLH R=180.00 P=180.00 Y= 45.00	Enviro Scan +X Roll  SETS 6b
87 004/02:15:00 MET 050/22:42:00 GMT	TGT=2 BV=5 P=270.00 Y= 0.00 OM=135.00 ROLL ROTOR TERM	B2 AUTO PRI RATE 0.2000 DB AT 3.00 DB RT 0.20	EARTH R 180 P 90	LVLH R=180.00 P=180.00 Y= 45.00	Enviro Scan +ZLV Yaw Setup +ZLV Bias -XV SETS 6d
88 004/02:25:00 MET 050/22:52:00 GMT	LVLH FREE ROTATION ROTR ABOUT +Z AXIS RATE=0.400  MAN YAW (VERN)	A6 LVLH PRI RATE 0.2000 DB AT 5.00 DB RT 0.20		LVLH R=180.00 P=180.00 Y= 45.00	Enviro Scan +Z Yaw  SETS 6d
89 004/04:00:00 MET 04:22 051/00:27:00 GMT 31:23	TGT=2 BV=5 P=270.00 Y= 0.00 OM= 0.00 YAW ROTOR TERM	B2* AUTO PRI RATE 0.4000 DB AT 3.00 DB RT 0.20	EARTH R 180 P 90	LVLH R= 0.00 P= 0.00 Y= 0.00	Enviro Scan +YPOP Setup +ZLV +XV SETS 6c
90 004/04:06:00 MET 051/00:33:00 GMT	INRTL BV=5 ROTR P= 0.00 Y= 90.00  AUTO PITCH:VERN	A6* AUTO PRI RATE 0.3330 DB AT 5.00 DB RT 0.20		INRTL R=106.31 P=166.78 Y=304.21	Enviro Scan +Y Pitch  SETS 6c
91 004/05:36:00 MET 051/02:03:00 GMT		B2 LVLH PRI RATE 0.2000 DB AT 3.00 DB RT 0.20	EARTH R 180 P 87	LVLH R=359.95 P=356.60 Y= 0.22	Enviro Scan Pitch Term +ZLV +XV SETS 6c
92 004/05:36:30 MET 47 051/02:03:30 GMT 47	TGT=2 BV=5 P=270.00 Y= 0.00 OM= 0.00	B2 AUTO VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 180 P 90	LVLH R= 0.00 P= 0.00 Y= 0.00	Gas Interaction +ZLV +XV SETS 9a
93 004/06:00:00 MET 07:30 051/02:27:00 GMT 34:30	TGT=2 BV=2 P=180.00 Y= 0.00 OM= 0.00	B2 AUTO VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 73 P 180	LVLH R= 0.00 P= 90.00 Y= 0.00	Gas Interaction -XLV +ZV SETS 9c
94 004/06:28:00 MET 38:30 051/02:55:00 GMT 03:05:30	TGT=2 BV=5 P= 70.00 Y= 1.00 OM= 74.00 +X  @ 06:42:45	A9 AUTO ALT RATE 0.2000 DB AT 3.00 DB RT 0.200	EARTH R 1 P 70	LVLH R= 49.64 P=233.47 Y=295.19	RCS Characteriz Mag Parallel +X Bias -ZLV -YV SPREE 6c
95 004/06:40:00 MET 051/03:07:00 GMT		A9 FREE VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 1 P 70	LVLH R= 49.64 P=233.47 Y=295.19	RCS Characteriz VRCS Jets  SPREE 6c
96 004/06:45:00 MET 46:55 051/03:12:00 GMT 13:55 SS @ 6:51	TGT=2 BV=5 P= 93.00 Y= 0.00 OM= 73.00 +X  @ 06:52:45	A9 AUTO ALT RATE 0.2000 DB AT 3.00 DB RT 0.200	EARTH R 360 P 93	LVLH R=350.29 P=169.84 Y=287.25	RCS Characteriz Mag Parallel +X Bias -ZLV -YV SPREE 6c

\*\*\* ALL ATTITUDES IN MEAN OF 1950 \*\*\*  
 \*\*\* PYR EULER SEQUENCE \*\*\*

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FLT PLN/75/FIN

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT	
97 004/06:50:00 MET 051/03:17:00 GMT		A9 FREE DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 360 P 93	LVLH R=350.29 HOLD P=169.84 Y=287.25	RCS Characteriz VRCS Jets SPREE 6c
98 004/06:55:00 MET 56:47 051/03:22:00 GMT 23:47	TGT=2 BV=5 P=114.00 Y= 0.00 OM= 77.00 +X  @ 07:02:45	A9 AUTO ALT	RATE 0.2000 DB AT 3.00 DB RT 0.200	EARTH R 0 P 114	LVLH R=299.58 P=116.81 Y=297.11	RCS Characteriz Mag Parallel +X Bias -ZLV -YV SPREE 6c
99 004/07:00:00 MET 051/03:27:00 GMT		A9 FREE DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 360 P 114	LVLH R=299.58 HOLD P=116.81 Y=297.11	RCS Characteriz VRCS Jets SPREE 6c
100 004/07:10:00 MET 20:47 051/03:37:00 GMT 47:47	INRTL R=253.00 MNVR P=161.00 Y= 15.00	A6 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	SUN R 315 P 148		Beam Structure Roll Setup FPEG Parallel SETS 18
101 004/07:29:00 MET 051/03:56:00 GMT	INRTL BV=1 ROTR P= 0.00 Y= 0.00  AUTO ROLL:VERN	A6* AUTO PRI	RATE 0.4000 DB AT 5.00 DB RT 0.20		INRTL R=253.00 P=161.00 Y= 15.00	Beam Structure +X Roll Mag Equat Cross SETS 18
102 004/07:45:00 MET 56:05 051/04:12:00 GMT 23:05	TGT=2 BV=2 P=180.00 Y= 0.00 OM=180.00 ROLL ROTOR TERM	B2 AUTO PRI	RATE 0.2000 DB AT 3.00 DB RT 0.20	EARTH R 280 P 180	LVLH R=180.00 P= 90.00 Y= 0.00	Gas Interaction -XLV -ZVV SETS 9d
103 004/08:15:00 MET 24:36 051/04:42:00 GMT 51:36 SS @ 8:22	TGT=2 BV=5 P=296.00 Y= 26.00 OM=194.00 BPV  @ 08:29:30	B2 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 152 P 67	LVLH R=209.25 P=203.22 Y=358.22	Beam Structure 30 Mag Bias Bias +ZLV -XVV SETS 18a
104 004/08:33:00 MET 44:48 051/05:00:00 GMT 11:48 SR @ 8:55	TGT=2 BV=5 P=113.00 Y=291.00 OM=327.00 BPV  @ 08:49:30	B2 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 289 P 98	LVLH R= 72.15 P=171.79 Y= 11.27	Beam Structure 90 Mag Bias Bias -YLV +XVV SETS 18a
105 004/08:55:00 MET 09:10:00 051/05:22:00 GMT 37:00	TGT=2 BV=5 P=270.00 Y= 0.00 OM= 0.00	B2 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 180 P 90	LVLH R= 0.00 P= 0.00 Y= 0.00	Enviro Scan +ZLV +XVV SETS 6e
106 004/13:00:00 MET 11:28 051/09:27:00 GMT 38:28	INRTL R= 99.00 MNVR P=294.00 Y= 4.00	B2 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	SUN R 233 P 82		Elec Enviro Cal Coils Perp Setup Att SETS 19b
107 004/13:15:00 MET 051/09:42:00 GMT	INRTL BV=5 ROTR P= 40.00 Y= 56.00  Rot Rate =0.122	A6* AUTO VERN	RATE 0.1320 DB AT 1.000 DB RT 0.020		INRTL R= 99.00 P=294.00 Y= 4.00	Elec Enviro Cal +Y B-field Trk SETS 19b
108 004/14:45:00 MET 51:36 051/11:12:00 GMT 18:36	INRTL R= 18.00 MNVR P=271.00 Y=356.00	B2 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	SUN R 314 P 99		Elec Enviro Cal Coils Parallel Setup Att SETS 19a

\*\*\* ALL ATTITUDES IN MEAN OF 1950 \*\*\*  
\*\*\* PYR EULER SEQUENCE \*\*\*

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
109 004/15:00:00 MET 051/11:27:00 GMT	INRTL BV=5 ROTR P=333.00 Y= 21.00  Rot Rate =0.132	A6* RATE 0.1320 AUTO DB AT 1.000 VERN DB RT 0.020		INRTL R= 18.00 P=271.00 Y=356.00	Elec Enviro Cal +X B-field Trk  SETS 19b
110 004/16:30:00 MET 41:52 051/12:57:00 GMT 13:08:52 SR @ 16:28	TGT=2 BV=5 P=342.00 Y=320.00 OM= 28.00 FPEG    @ 16:52	B2 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 250 P 43	LVLH R= 21.84 P=268.89 Y= 43.22	Beam Reflection Anti-Para North Bias +XLV -ZV SETS 8
111 004/17:00:00 MET 03:48 051/13:27:00 GMT 30:48	TGT=2 BV=5 P= 0.00 Y=355.00 OM=356.00 FPEG    @ 17:15	B2 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 270 P 5	LVLH R=355.98 P=270.35 Y= 4.99	Beam Reflection Anti-Para Near Bias +XLV -ZV SETS 8
112 004/17:25:00 MET 30:45 051/13:52:00 GMT 57:45 SS @ 17:24	TGT=2 BV=5 P= 31.00 Y= 54.00 OM= 37.00 FPEG    @ 17:37	B2 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 69 P 60	LVLH R= 21.31 P=270.68 Y=300.26	Beam Reflection Anti-Para South Bias +YLV -ZV SETS 8
113 004/17:43:00 MET 49:40 051/14:10:00 GMT 16:40	TGT=2 BV=5 P= 20.00 Y= 46.00 OM=108.00 BPV    @ 17:53:30	B2 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 72 P 49	LVLH R=102.48 P=318.91 Y=353.32	Beam Structure 150 Mag Bias Bias +YVV +XV SETS 18a
114 004/18:35:00 MET 44:09 051/15:02:00 GMT 11:09	TGT=2 BV=5 P= 98.00 Y= 0.00 OM= 65.00 +X    @ 18:46:45	A9 RATE 0.2000 AUTO DB AT 3.00 ALT DB RT 0.200	EARTH R 0 P 98	LVLH R=343.38 P=161.61 Y=296.17	RCS Characteriz Mag Parallel +X Bias -ZLV SPREE 6d
115 004/18:45:00 MET 051/15:12:00 GMT		A9 RATE 0.2000 FREE DB AT 1.000 VERN DB RT 0.020	EARTH R 360 P 98	LVLH R=343.38 P=161.61 Y=296.17	RCS Characteriz VRCS Jets  SPREE 6d
116 004/18:50:00 MET 52:55 051/15:17:00 GMT 19:55	TGT=2 BV=5 P=131.00 Y= 0.00 OM= 53.00 +X    @ 18:56:45	A9 RATE 0.2000 AUTO DB AT 3.00 ALT DB RT 0.200	EARTH R 360 P 131	LVLH R=318.96 P=124.70 Y=322.93	RCS Characteriz Mag Parallel +X Bias -ZLV -YVV SPREE 6d
117 004/18:55:00 MET 051/15:22:00 GMT SS @ 18:55		A9 RATE 0.2000 FREE DB AT 1.000 VERN DB RT 0.020	EARTH R 0 P 131	LVLH R=318.96 P=124.70 Y=322.93	RCS Characteriz VRCS Jets  SPREE 6d
118 004/19:00:00 MET 02:25 051/15:27:00 GMT 29:25	TGT=2 BV=5 P=152.00 Y= 0.00 OM= 73.00 +X    @ 19:06:45	A9 RATE 0.2000 AUTO DB AT 3.00 ALT DB RT 0.200	EARTH R 360 P 152	LVLH R=289.10 P= 98.84 Y=333.32	RCS Characteriz Mag Parallel +X Bias -XLV -YVV SPREE 6d
119 004/19:05:00 MET 051/15:32:00 GMT		A9 RATE 0.2000 FREE DB AT 1.000 VERN DB RT 0.020	EARTH R 360 P 152	LVLH R=289.10 P= 98.84 Y=333.32	RCS Characteriz VRCS Jets  SPREE 6d
120 004/19:11:00 MET 20:09 051/15:38:00 GMT 47:09 SR @ 19:29	TGT=2 BV=5 P= 39.00 Y=305.00 OM=104.00 BPV    @ 19:24:30	A9 RATE 0.2000 AUTO DB AT 3.00 ALT DB RT 0.200	EARTH R 294 P 64	LVLH R=102.43 P=223.76 Y=310.13	Beam Structure 90 Mag Bias Bias -YLV +ZV SETS 18a

\*\*\* ALL ATTITUDES IN MEAN OF 1950 \*\*\*  
\*\*\* PYR EULER SEQUENCE \*\*\*

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
121 004/20:08:00 MET 14:18 051/16:35:00 GMT 41:18	TGT=2 BV=5 P=102.00 Y= 0.00 OM= 58.00 +X  @ 20:16:45	A9 AUTO DB AT 3.00 ALT DB RT 0.200	RATE 0.2000 R 360 P 102	EARTH LVLH R=341.60 P=158.14 Y=303.95	RCS Characteriz Mag Parallel +X Bias -ZLV -YV SPREE 6c
122 004/20:15:00 MET 051/16:42:00 GMT		A9 FREE DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 0 P 102	EARTH LVLH R=341.60 P=158.14 Y=303.95	RCS Characteriz VRCS Jets SPREE 6c
123 004/20:20:00 MET 22:35 051/16:47:00 GMT 49:35 SR @ 19:28	TGT=2 BV=5 P=133.00 Y=359.00 OM= 59.00 +X  @ 20:26:45	A9 AUTO DB AT 3.00 ALT DB RT 0.200	RATE 0.2000 R 359 P 133	EARTH LVLH R=311.70 P=118.26 Y=320.73	RCS Characteriz Mag Parallel +X Bias -ZLV -YV SPREE 6c
124 004/20:25:00 MET 051/16:52:00 GMT SS @ 20:25		A9 FREE DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 359 P 133	EARTH LVLH R=311.70 P=118.26 Y=320.73	RCS Characteriz VRCS Jets SPREE 6c
125 004/20:30:00 MET 31:26 051/16:57:00 GMT 58:26	TGT=2 BV=5 P=150.00 Y= 1.00 OM= 58.00 +X  @ 20:36:45	A9 AUTO DB AT 3.00 ALT DB RT 0.200	RATE 0.2000 R 2 P 150	EARTH LVLH R=305.64 P=107.79 Y=335.42	RCS Characteriz Mag Parallel +X Bias -ZLV -YV SPREE 6c
126 004/20:35:00 MET 051/17:02:00 GMT		A9 FREE DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 2 P 150	EARTH LVLH R=305.64 P=107.79 Y=335.42	RCS Characteriz VRCS Jets SPREE 6c
127 004/20:41:00 MET 50:35 051/17:08:00 GMT 17:35 SR @ 20:59	TGT=2 BV=5 P=150.00 Y= 49.00 OM=310.00 BPV  @ 20:54:30	A9 AUTO DB AT 3.00 ALT DB RT 0.200	RATE 0.2000 R 67 P 125	EARTH LVLH R= 44.94 P= 72.49 Y= 53.43	Beam Structure 150 Mag Bias Bias +YLV +ZVV SETS 18a
128 004/21:05:00 MET 18:43 051/17:32:00 GMT 45:43	TGT=2 BV=5 P=270.00 Y= 0.00 OM=180.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 180 P 90	EARTH LVLH R=180.00 P=180.00 Y= 0.00	Gas Interaction +ZLV -XV SETS 9b
129 004/21:56:00 MET 58:40 051/18:23:00 GMT 25:40 SS @ 21:56	TGT=2 BV=5 P=270.00 Y=358.00 OM=148.00 BPV  @ 22:03:30	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 182 P 90	EARTH LVLH R=178.00 P=180.00 Y= 32.00	Beam Structure 30 Mag Bias Bias +ZLV -XV SETS 18a
130 004/22:07:00 MET 12:20 051/18:34:00 GMT 39:20 SR @ 22:29	TGT=2 BV=5 P=332.00 Y= 1.00 OM=131.00 BPV  @ 22:15	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 178 P 28	EARTH LVLH R=134.78 P=251.44 Y= 21.37	Fluorescence Bias +XLV -YV SETS 10
131 004/22:30:00 MET 36:29 051/18:57:00 GMT 19:03:29	TGT=2 BV=5 P=270.00 Y= 0.00 OM=180.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 180 P 90	EARTH LVLH R=180.00 P=180.00 Y= 0.00	Gas Interaction +ZLV -XV SETS 9b
132 004/23:17:00 MET 25:03 051/19:44:00 GMT 52:03 SS @ 23:27	TGT=2 BV=5 P= 5.00 Y= 10.00 OM=170.00 BPV  @ 23:30	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 64 P 11	EARTH LVLH R=169.04 P=276.74 Y= 8.93	Fluorescence Bias +XLV +ZVV SETS 10

\*\*\* ALL ATTITUDES IN MEAN OF 1950 \*\*\*  
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Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
133 004/23:40:00 MET 42:11 051/20:13:00 GMT 15:11	TGT=2 BV=5 P= 5.00 Y= 29.00 OM=188.00 -X    @ 23:50	A6 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 81 P 29	LVLH R=186.38 P=271.26 Y= 29.37	Beam Excite -X Parallel Bias +XLV +ZVV SETS 11
134 005/00:30:00 MET 051/20:57:00 GMT	INRTL BV=5 ROTR P= 0.00 Y= 90.00	B13 RATE 1.0000 AUTO DB AT 2.00 PRI DB RT 0.20		INRTL R=296.89 P=120.79 Y= 10.92	Sams Cal Pitch
ROT DAP: FREE					
135 005/00:36:00 MET 051/21:03:00 GMT		B13 RATE 1.0000 INRTL DB AT 2.00 PRI DB RT 0.20	SUN R 268 P 111	INRTL R=296.89 HOLD P=120.79 Y= 10.92	Sams Cal Pitch Complete
136 005/00:37:00 MET 051/21:04:00 GMT	INRTL BV=1 ROTR P= 0.00 Y= 0.00	B13 RATE 1.0000 AUTO DB AT 2.00 PRI DB RT 0.20		INRTL R=296.89 P=120.79 Y= 10.92	Sams Cal Roll
ROT DAP: FREE					
137 005/00:43:00 MET 051/21:10:00 GMT		B13 RATE 1.0000 INRTL DB AT 2.00 PRI DB RT 0.20	SUN R 268 P 111	INRTL R=296.89 HOLD P=120.79 Y= 10.92	Sams Cal Roll Complete
138 005/00:44:00 MET 051/21:11:00 GMT	INRTL BV=5 ROTR P=270.00 Y= 0.00	B13 RATE 1.0000 AUTO DB AT 2.00 PRI DB RT 0.20		INRTL R=296.89 P=120.79 Y= 10.92	Sams Cal Yaw
ROT DAP: FREE					
139 005/00:50:00 MET 051/21:17:00 GMT		B13 RATE 1.0000 INRTL DB AT 2.00 PRI DB RT 0.20	SUN R 268 P 111	INRTL R=296.89 HOLD P=120.79 Y= 10.92	Sams Cal Yaw Complete
140 005/00:51:00 MET 051/21:18:00 GMT		A6 RATE 0.2000 FREE DB AT 1.000 VERN DB RT 0.020	SUN R 267 P 111	INRTL R=296.89 HOLD P=120.79 Y= 10.92	Sams Cal Free Drift
141 005/01:00:00 MET 10:56 051/21:27:00 GMT 37:56	TGT=2 BV=5 P=177.51 Y= 0.77 OM= 69.09	A10 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 17 P 177	LVLH R=290.92 P= 91.61 Y=357.95	USMP GG Bias -XLV -YVV
142 005/03:20:00 MET 25:46 051/23:47:00 GMT 52:46	TGT=2 BV=2 P=180.00 Y= 0.00 OM= 0.00	A10 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 232 P 180	LVLH R= 0.00 P= 90.00 Y= 0.00	AADSF Cal -XLV +ZVV
143 005/05:15:00 MET 29:22 052/01:42:00 GMT 56:22	TGT=2 BV=5 P=182.00 Y=343.00 OM=172.00	A10 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 263 P 163	LVLH R=187.76 P= 89.63 Y= 17.11	AADSF Cal Bias -XLV -ZVV
144 005/07:00:00 MET 14:23 052/03:27:00 GMT 41:23	TGT=2 BV=5 P=180.00 Y=343.00 OM= 0.00	A10 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 270 P 163	LVLH R= 0.00 P= 90.00 Y=343.00	AADSF Cal Bias -XLV +ZVV

\*\*\* ALL ATTITUDES IN MEAN OF 1950 \*\*\*  
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Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT	
145 005/08:45:00 MET 56:37	TGT=2 BV=2 P=180.00 Y= 0.00 OM=221.00	A10 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 10 P 180	LVLH R=139.00 P= 90.00 Y= 0.00	AADSF Cal -XLV Bias -ZVV
052/05:12:00 GMT 23:37						
146 005/10:30:00 MET 42:40	TGT=2 BV=5 P=177.51 Y= 0.77 OM= 69.09	A10 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 17 P 177	LVLH R=290.92 P= 91.61 Y=357.95	USMP GG Bias -XLV -YVV
052/06:57:00 GMT 07:09:40						
147 005/21:00:00 MET 13:38	TGT=2 BV=5 P= 0.00 Y=270.00 OM= 0.00	A10 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 270 P 90	LVLH R= 90.00 P=180.00 Y= 0.00	Mephisto Sample Settling RCS Burn -YLV -XVV
052/17:27:00 GMT 40:38	RCS BURN ~21:45					
148 005/23:15:00 MET 28:38	TGT=2 BV=5 P=177.51 Y= 0.77 OM= 69.09	A10 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 17 P 177	LVLH R=290.92 P= 91.61 Y=357.95	Mephisto GG Sample Settling RCS Burn Bias -XLV -YVV
052/19:42:00 GMT 55:38	RCS BURN ~6/0:00					
149 006/21:25:00 MET 38:38	TGT=2 BV=5 P= 0.00 Y=270.00 OM= 0.00	A10 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 270 P 90	LVLH R= 90.00 P=180.00 Y= 0.00	Mephisto Sample Settling RCS Burn -YLV -XVV
053/17:52:00 GMT 18:05:38	RCS BURN ~22:10					
150 006/23:40:00 MET 53:38	TGT=2 BV=5 P=177.51 Y= 0.77 OM= 69.09	A10 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 17 P 177	LVLH R=290.92 P= 91.61 Y=357.95	Mephisto GG Sample Settling RCS Burn Bias -XLV -YVV
053/20:07:00 GMT 20:38	RCS BURN ~7/0:25					
151 007/02:10:00 MET 18:43	TGT=2 BV=5 P=182.00 Y=343.00 OM=172.00	A10 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 263 P 163	LVLH R=187.76 P= 89.63 Y= 17.11	AADSF 1 Bias -XLV -ZVV
053/22:37:00 GMT 45:43						
152 007/11:30:00 MET 38:43	TGT=2 BV=5 P=177.51 Y= 0.77 OM= 69.09	A10 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 17 P 177	LVLH R=290.92 P= 91.61 Y=357.95	USMP GG Bias -XLV -YVV
054/07:57:00 GMT 08:05:43						
153 008/02:00:00 MET 05:54	TGT=2 BV=5 P=180.00 Y=343.00 OM= 0.00	A10 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 270 P 163	LVLH R= 0.00 P= 90.00 Y=343.00	AADSF 2 Bias -XLV +ZVV
054/22:27:00 GMT 32:54						
154 008/11:30:00 MET 35:54	TGT=2 BV=5 P=177.51 Y= 0.77 OM= 69.09	A10 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 17 P 177	LVLH R=290.92 P= 91.61 Y=357.95	USMP GG Bias -XLV -YVV
055/07:57:00 GMT 08:02:54						
155 009/02:00:00 MET 12:40	TGT=2 BV=2 P=180.00 Y= 0.00 OM=221.00	A10 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 14 P 180	LVLH R=139.00 P= 90.00 Y= 0.00	AADSF 3 -XLV Bias -ZVV
055/22:27:00 GMT 39:40						
156 009/11:30:00 MET 42:40	TGT=2 BV=5 P=177.51 Y= 0.77 OM= 69.09	A1 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 17 P 177	LVLH R=290.92 P= 91.61 Y=357.95	USMP GG Bias -XLV -YVV
056/07:57:00 GMT 08:09:40						

\*\*\* ALL ATTITUDES IN MEAN OF 1950 \*\*\*  
\*\*\* PYR EULER SEQUENCE \*\*\*

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
157 012/12:20:00 MET 33:38	TGT=2 BV=5 P= 0.00 Y=270.00 OM= 0.00	A10 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 EARTH R 270	LVLH R= 90.00 P=180.00 Y= 0.00	Mephisto Sample Settling RCS Burn -YLV -XVV
059/08:47:00 GMT 09:00:38	RCS BURN ~13:05				
158 012/14:35:00 MET 48:38	TGT=2 BV=5 P=177.51 Y= 0.77 OM= 69.09	A10 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 EARTH R 17	LVLH R=290.92 P= 91.61 Y=357.95	Mephisto GG Sample Settling RCS Burn Bias -XLV -YVV
059/11:02:00 GMT 15:38	RCS BURN ~15:20				
159 012/17:30:00 MET 38:53	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 0.00	A10 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 EARTH R 360	LVLH R= 0.00 P=180.00 Y= 0.00	Mephisto Sample Settling -ZLV -XVV
059/13:57:00 GMT 14:05:53					
160 012/18:05:00 MET 06:51	INRTL R=240.00 MNVR P=346.00 Y=341.00	A1 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 SUN R 115	TIG = 12/18:15	Mephisto OMS Burn
059/14:32:00 GMT 33:51					
161 012/18:20:00 MET 23:07	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 0.00	A10 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 EARTH R 0	LVLH R= 0.00 P=180.00 Y= 0.00	Mephisto Sample Settling -ZLV -XVV
059/14:47:00 GMT 50:07					
162 012/20:15:00 MET 27:04	INRTL R=140.00 MNVR P=243.00 Y=301.00	A10 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 SUN R 180		+ZSI Therm Cond
059/16:42:00 GMT 54:04					
163 013/06:00:00 MET 09:47	TGT=2 BV=2 P=180.00 Y= 0.00 OM= 0.00	A10 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 EARTH R 313	LVLH R= 0.00 P= 90.00 Y= 0.00	-XLV +ZVV Therm Cond
060/02:27:00 GMT 36:47					
164 013/10:59:00 MET 11:06:50	TGT=4 BV=5 RA= 340.932 DEC= -8.064S P=184.00 Y= 0.00 OM= 90.00	A1 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 SUN R 180	INRTL R= 26.28 P=184.74 Y= 17.14	-XSI COLDSOAK
060/07:26:00 GMT 33:50					
165 013/12:16:00 MET 29:22	INRTL R=185.00 MNVR P=205.00 Y=346.00	A1 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 SUN R 112	-Y: 21 -Z: 17	D/O IMU Align
060/08:43:00 GMT 56:22					
166 013/12:34:00 MET 47:19	INRTL R=345.00 MNVR P=152.00 Y= 21.00	A1 AUTO DB AT 5.00 PRI DB RT 0.20	RATE 0.2000 SUN R 198	-Y: 30 -Z: 29	D/O IMU Verif
060/09:01:00 GMT 14:19					
167 013/12:54:00 MET 13:02:27	INRTL R=240.00 MNVR P=213.00 Y= 11.00	A1 AUTO DB AT 5.00 PRI DB RT 0.20	RATE 0.2000 SUN R 99		D/O Comm
060/09:21:00 GMT 29:27					
168 013/14:59:00 MET 15:04:48	INRTL R=277.00 MNVR P= 49.00 Y=324.00	TRN AUTO DB AT 3.50 PRI DB RT 0.20	RATE 0.5000 SUN R 248	TIG: 13/15:14	D/O Burn
060/11:26:00 GMT 31:48					

\*\*\* ALL ATTITUDES IN MEAN OF 1950 \*\*\*  
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**FLIGHT PLAN NOTES**

FLIGHT PLAN NOTES  
(CONSTRAINTS AND GUIDELINES)

A. FLIGHT DESCRIPTION

Orbiter: OV102/Columbia  
 Inclination: 28.45°  
 Insertion Altitude: 160 X 161 nm  
 Duration: 14 + 2 + 2 days (2 extension days will be considered for payload contingencies)

B. MAJOR EVENTS

<u>EVENT</u>	<u>ORBIT</u>	<u>MET</u>	<u>DATE</u>	<u>ΔV</u> <u>(fps)</u>	<u>HA/HP</u> <u>(nm)</u>
Launch	--	00/00:00	02/15/96	--	--
OMS-2	1	00/00:42	02/15/96	221.7	160/161
TSS Flyaway	33	02/00:19	02/17/96	--	159/162
TSS On-Station 1	37	02/05:49	02/17/96	--	159/162
Arecibo Overflight	45	02/18:06	02/18/96	--	159/162
TSS Retrieve 1	50	03/04:00	02/18/96	--	159/162
TSS Creep Test	55	03/09:30	02/18/96	--	158/162
TSS On-Station 2	55	03/11:00	02/18/96	--	158/162
TSS Creep	61	03/17:45	02/19/96	--	158/162
TSS Retrieve 2	62	03/20:30	02/19/96	--	158/162
TSS Dock	64	02/22:27	02/19/96	--	158/162
USMP PRCS 1	94	05/21:45	02/21/96	--	157/162
USMP PRCS 2	96	06/00:00	02/21/96	--	157/162
USMP PRCS 3	111	06/22:10	02/22/96	--	157/162
USMP PRCS 4	112	07/00:25	02/22/96	--	157/162
USMP PRCS 5	201	12/13:05	02/28/96	--	155/162
USMP PRCS 6	202	12/15:20	02/28/96	--	155/162
USMP OMS	204	12/18:15	02/28/96	--	155/162
Deorbit	218	13/15:14	02/29/96	256.0	--
KSC Landing	219	13/16:14	02/29/96	--	--

C. LANDING OPPORTUNITIES

		<u>Landing Orbit</u>	<u>Site</u>	<u>Local Time</u>	<u>MET</u>
		<u>No.</u>			
Nominal	Primary	219	KSC	07:44 EST	13/16:14
	1 Rev Late	220	KSC	09:20 EST	13/17:53
1 Day Late	Primary	235	KSC	07:50 EST	14/16:23
	1 Rev Late	236	KSC	09:26 EST	14/17:59
2 Days Late	Primary	251	KSC	07:56 EST	15/16:29
	1 Rev Late	252	KSC	09:32 EST	15/18:05

D. CREW

CDR (White) - Andy Allen  
 PLT (Red) - Scott Horowitz  
 MS1 (White/Blue) - Jeff Hoffman (IV)  
 MS2 (Red) - Maurizio Cheli  
 MS3 (Blue) - Claude Nicollier (EV)  
 MS4 (Blue) - Franklin Chang-Diaz (EV)  
 PS1 (Red) - Umberto Guidoni

FLIGHT PLAN NOTES

## E. COMMUNICATIONS

TDRS Support: East (41° W), West (174° W), Z (85° E)  
 Backup Real-Time TV: GDS(GDX), MIL(MLX)  
 Contingency GSTDN: MIL(MLX), BDA(BDX), DKR (UHF only), and GDS(GDX)  
 Contingency RTS: HTS, GTS, VTS, IOS, CTS, DGS, OTS, and IOS also has VHF capability

Lead time for site callup: GSTDN - 2 hr, RTS - 4 hr

## F. PAYLOADS

### 1. Tethered Satellite System - 1R (TSS-1R)

TSS-1R is an orbital flight facility for a wide variety of scientific experiments and technological investigations in near-Earth orbit. TSS-1R is used to deploy, maintain on-station, and retrieve scientific payloads mounted on the satellite above or below an orbiting space shuttle. TSS-1R has tethered system dynamics and scientific objectives.

#### a. Dynamics Objective

During the TSS-1R mission a primary objective is deploying the satellite to a distance of 20.7 km above the orbiter (away from Earth), maintaining on-station, and retrieving the satellite back into the payload bay with the orbiter operating in a 160 nm, near-circular orbit. Figure 7-1 shows the TSS-1R operations profile. The mission is divided logically into ten major phases of activity.

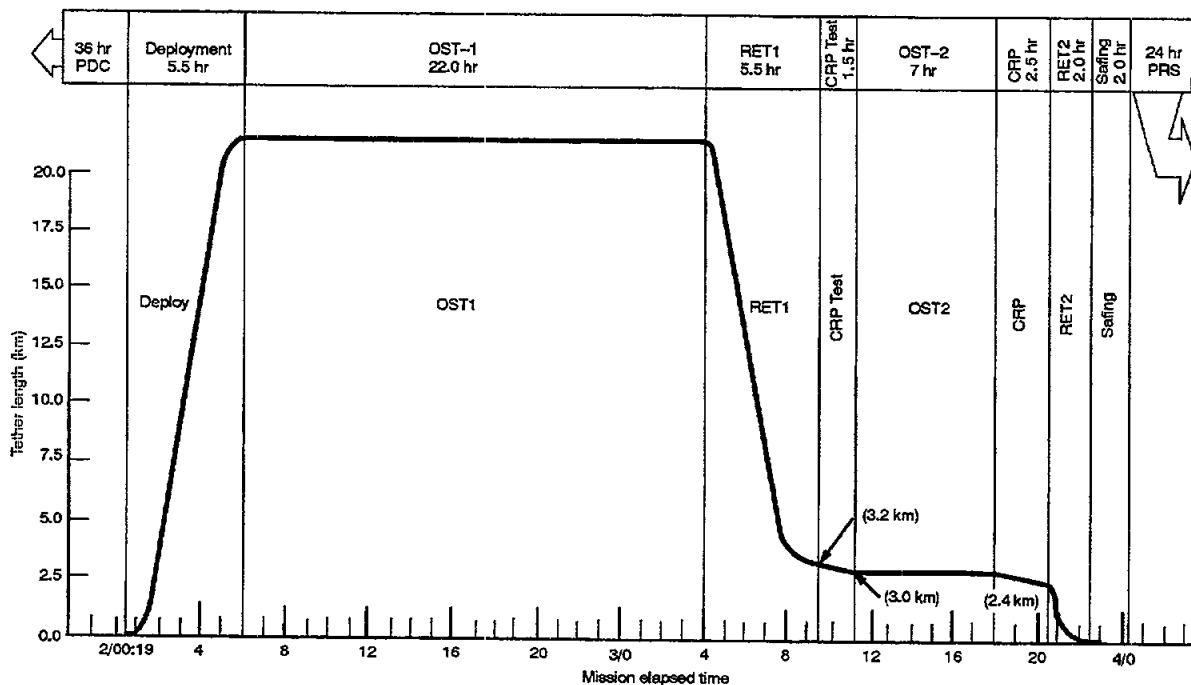


Figure 7-1.- TSS-1R operations profile.

#### (1) Pre-Deployment Quiescent (PDQ)

The objective of this phase is to activate and verify the operation of the Enhanced MDM Pallet. The deployer is also powered on at the beginning of this phase.

**(2) Pre-Deployment Checkout (PDC)**

This phase marks the actual beginning of the TSS-1R mission. The initial activities in PDC involve the activation and checkout of the satellite and science equipment. The rest of this phase is dedicated to the performance of various science objectives.

**(3) Deployment (DEP)**

The satellite is deployed to a distance of 20.7 km. Satellite deployment occurs in an orbiter-tail-forward attitude. Tether reelout is automatically controlled by the deployer system.

**(4) On-Station 1 (OST1)**

This phase of the TSS-1R mission will demonstrate electrical power generation and characterize system current-voltage response. Other objectives for this phase are to characterize satellite sheath, current collection, and current closure.

**(5) Retrieval 1/Creep Test (RET1/Creep Test)**

The RET1 phase will retrieve the satellite to a tether length of 3.2 km and is scheduled to begin after a minimum of 21 hours of OST1. RET1 will begin.

CREEP Test will retrieve the satellite to a tether length of 3.0 km and may contain orbiter yaw maneuvers during the last hour of the test. This period will be used to test orbiter RCS ability to dampen tether skiprope.

**(6) On-Station 2 (OST2)**

OST2 begins at a tether length of 3.0 km. The purpose of OST2 is to provide an on-station period to set up final retrieval phasing.

**(7) Creep (CRP)**

The creep portion of the TSS-1R profile begins at a tether length of 3.0 km. The tether is slowly reeled in to a length of 2.4 km or the start of RET2. Creep duration will be between 2.5 and 5.0 hours. Tether creep provides a retrieval plateau with an active reel to aid tether dynamics control activities which may be required.

**(8) Retrieval 2 (RET2)**

The satellite is retrieved to the docking ring during this phase. Maneuvering the orbiter to achieve proper satellite-to-docking ring alignment may be required.

**(9) Post Retrieval Safing (PRS)**

The first part of this phase involves the powering down of the satellite and deployer. The balance of the PRS phase is used for science objectives.

## (10) Post Retrieval Quiescent (PRQ)

The PRQ phase is begun after the science equipment is deactivated and continues until the EMP is deactivated just prior to deorbit prep.

### b. Science Objectives

Another TSS-1R mission objective is to investigate the electrodynamic characteristics of satellite-tether-orbiter systems. Physical dynamics of the system will also be studied. The TSS-1R electrodynamic science equipment supports investigations of the system in its plasma environment by providing the capability to manipulate and observe current flow in the conductive tether.

#### (1) Cargo Bay Science

The TSS-1R cargo bay science instrumentation is mounted on the TSS-1R MPRESS. The bulk of the cargo bay science equipment is controlled by a series of master timelines (MTL). MTLs are a collection of science equipment commands executed by the Display and Control System (DDCS), which resides in a PGSC.

- (a) **Deployer Core Equipment (DCORE)** – As part of the total tether current control system, DCORE allows variation of the TSS-1R satellite electrical potential. This is done by controlling the current that flows between the satellite and the orbiter through the tether as a result of the electromagnetic force generated by motion of the tether through the geomagnetic field. DCORE has two electron gun assemblies (EGAs) which are used to manage current flow in the tether when the satellite is deployed.
- (b) **Shuttle Electrodynamic Tether System (SETS)** – SETS provides measurements of tether voltage and current, plasma environment of the orbiter, perturbations of the tether current, orbiter environment, and electrons extracted from the orbiter structure. The SETS fast pulse electron gun (FPEG) is used to generate an electron beam in support of science investigations while the satellite is deployed, as well as during the PDC and PRS phases.
- (c) **Shuttle Potential and Return Electron Experiment (SPREE)** – SPREE measures the full ion and electron distribution functions in the energy range from 10eV to 10keV for all unobstructed directions out of the shuttle bay. From this data, SPREE determines orbiter potential with respect to the ambient plasma, return currents to the orbiter that result from electron gun operations, and ion and electron heating. The SPREE DPU performs onboard processing of this spectral data to determine the orbiter's negative potential which is made available to the crew on the aft flight deck and to ground personnel. SPREE also directly studies Wave Particle Interactions (WPI) resulting from both the electrodynamic properties of the TSS-1R and FPEG and EGA operations.

**(2) Satellite Science**

Other science investigation equipment is mounted on the satellite. The operation of this equipment is transparent to the crew.

- (a) Satellite Core Equipment (SCORE) – SCORE provides support to investigations on both the satellite and the deployer.**
- (b) Research on Orbital Plasma Electrodynamics (ROPE) – The experimental objectives of ROPE are to study the interaction that occurs when a large conducting body moves through a collisionless space plasma at supersonic sub-Alfvénic speeds.**
- (c) Research on Electrodynamic Tether Effects (RETE) – The RETE experiment is an investigation of the physical processes in the space charge region surrounding the satellite which determine particle collection and, hence, current in the tether.**
- (d) Magnetic Field Experiment for TSS-1R Emissions (TEMAG) – The objective of this experiment is to investigate the magnetic signature of the tether current and its closure through the structure of the sheath surrounding the satellite. It also measures the magnetic signature of the ionosphere currents including distributed and concentrated anomalies of the Earth's magnetic field in order to determine the core and the crustal contributions, and dynamic behavior of the satellite.**

**(3) Theoretical Science Investigations**

Theoretical science investigations own no onboard hardware but perform studies based on data acquired during the TSS-1R mission.

- (a) Investigation of Electromagnetic (EM) Emissions by the Electrodynamic Tether (EMET) – The objective of the EMET is to establish by analytical and observational methods the detectability of Ultra Low Frequency (ULF) and Extremely Low Frequency (ELF) electromagnetic emissions.**
- (b) Theoretical and Experimental Investigation on TSS Dynamic Noise (TEID) – This experimental objective is to characterize the dynamic noise of the TSS caused by events such as elastic vibration modes, satellite librations, and possible causes of external excitation.**
- (c) Investigation and Measurement of Dynamic Noise (IMDN) – In conjunction with TEID, IMDN attempts to characterize the dynamic noise environment of the TSS-1R.**
- (d) Theory and Modeling in Support of Tether (TMST) – The objective of the TMST experiment is to characterize the electrodynamic coupling between a moving conductor (TSS-1R) and the ionosphere.**
- (e) Observations at the Earth's Surface of EM Emissions by TSS-1R (OESEE) – The objective of the OESEE experiment, in cooperation with EMET, is to characterize the reception of the Earth's surface of electromagnetic VLF/ULF/ELF signals from an electrically-conducting tether in low-Earth orbit.**

## 2. United States Microgravity Payload - 3 (USMP-3)

The USMP-3 payload consists of two Multipurpose Equipment Support Structures (MPESs) with supporting subsystems, a bridge structure, and five experiments. The forward MPES with subsystems is the Spacelab MPES-A carrier. The aft MPES is the Spacelab MPES carrier. The two carriers bridged together are the Spacelab MPES-B carrier.

The USMP-3 consists of the following five experiments:

### a. Space Acceleration Measurement System (SAMS)

The SAMS is capable of measuring accelerations of a variety of space experiments and storing and downlinking large blocks of data. Two separate SAMS units will be flown to support the requirements of the other payload experiments.

### b. Advanced Automated Directional Solidification Furnace (AADSF)

The AADSF is a furnace designed to conduct material processing experiments. AADSF is a multizone-type furnace capable of establishing very steep thermal gradients as well as long isothermally heated regions.

### c. Material Pour L'Etude Des Phenomenes Interessant La Solidification Sur Terre Et En Orbite (MEPHISTO)

The purpose of the MEPHISTO apparatus is to perform fundamental studies of different parameters which influence crystalline growth, such as the thermal gradient, the solidification rate, and the characteristics of the solidified sample under microgravity.

### d. Isothermal Dendritic Growth Experiment (IDGE)

The objective of the IDGE is to develop and verify a mathematical model relating dendrite growth rates and tip radii to tip undercooling.

### e. Critical Fluid Light Scattering Experiment (Zeno)

The objective of Zeno is to measure the decay rates and correlation lengths of density fluctuations in xenon at its critical point as a function of temperature, pressure, and density by a technique of photon correlation light scattering.

All of the experiments require a minimum microgravity environment.

## 3. Orbital Acceleration Research Experiment (OARE)

The OARE will acquire accurate measurement data of low level aerodynamic acceleration on the orbiter in the free-molecular flow regime of the upper atmosphere.



#### 4. Middeck Glovebox (MGBX)

The MGBX is a facility designed for materials science and biological science experiment handling. The facility provides an enclosed working area for experiment manipulation and observation in the orbiter middeck. This working area can serve as a sealed environment that is isolated from the middeck atmosphere, as a constantly recirculating environment that is maintained at a pressure lower than the middeck ambient, or as a working area open to the middeck atmosphere.

The MGBX accommodates three experiments:

##### a. Radiative Ignition and Transition to Spread Investigation (RITSI)

The objective of the RITSI experiment is to conduct a study of the radiative ignition and transition to flame spread in low gravity and in the presence of very low speed air flows with varying width samples. Results will be compared with theoretical models.

##### b. Comparative Soot Diagnostics (CSD)

The objective of CSD is to understand the change in particulate properties due to differences between micro-g and nano-g environments.

##### c. Forced Flow Flame-Spreading Test (FFFT)

The objective of the FFFT experiment is to identify the influence of bulk fuel temperature and low-speed flow velocity on the flammability, ignition, flame growth, and flame spreading behavior of solid fuel in a microgravity environment.

All of the experiments require a minimum microgravity environment.

#### 5. Commercial Protein Crystal Growth-IV (CPCG-IV)

The CPCG payload is designed to conduct experiments which will supply information on the scientific methods and commercial potential for growing large high-quality protein crystals in microgravity. The CPCG will be installed and operated in the orbiter middeck. The CPCG payload consists of a Commercial Refrigerator Incubator Module (CRIM), its contents, and several stowed items.

#### G. ON-ORBIT DTOs

##### 1. DTO 667 - Portable In-Flight Landing Operations Trainer (PILOT)

This DTO consists of a laptop PC with landing software and a spare RHC (essentially a landing simulator). The DTO will attempt to verify that the simulator will assist the CDR and PLT in maintaining a high level of proficiency for approach and landing on EDO missions.

## H. ON-ORBIT DSOs

1. DSO 331 – Interaction of the Space Shuttle LES and Sustained Weightlessness on Egress Locomotion

The purpose of this DSO to investigate the effect of the Launch Entry Suit/Advanced Crew Escape Suit (KES/ACES) on egress locomotion and to directly assess the emergency egress capacity of crewmembers at wheel stop. Prior to Deorbit Prep the crewmembers will instrument themselves with the Egress Monitor Assembly designed to measure O2 consumption, body temperatures, heart rate, and ventilatory equivalent.

2. DSO 492B – In-Flight Evaluation of a Portable Clinical Blood Analyzer (PCBA)

This DSO will test the functional parameters of the PCBA in microgravity. Analytic capability and fluid movement will be validated by testing control fluids. Integrated procedures will be tested including blood sample collection.

3. DSO 493 – Monitoring Latent Virus Reactivation and Shedding in Astronauts

This DSO will study space flight-induced immunocompetence focusing on the potential for reactivation and dissemination (shedding) of latent viruses. Saliva samples will be collected daily from participating crewmembers.

4. DSO 802 – Educational Activities

The purpose of this DSO is to produce educational videos using the attraction of spaceflight to capture the interest of students and motivate them toward careers in science, engineering, and mathematics.

5. DSO 901 – Documentary Television

The purpose of DSO 901 is to provide live television or VTR dumps of crew activities, orbiter operations, payload deployment/retrieval operations, Earth views, and rendezvous/proximity operations.

6. DSO 902 – Documentary Motion Picture

The purpose of DSO 902 is to provide documentary and public affair motion picture photography of the orbiter's basic capabilities and key flight objectives. Documentation shall include launch, crew activities, payload deployment/retrieval, landing, and unscheduled activities of special interest.

7. DSO 903 – Documentary Still Photography

The purpose of DSO 903 is to provide still photography of crew activities, orbiter operations, payload deployment/retrieval and operations, Earth views, and unscheduled items of interest.

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