

## FLIGHT DATA FILE

# Flight Plan

## STS-80

OFFICE LIBRARY  
FLIGHT PLAN CHIEF  
PLANNING NOTE  
FOUO  
(90X7)

### (Rotated FRR Cycle Trajectory)

## Mission Operations Directorate Operations Division

### Final September 30, 1996

<u>EVENT</u>	<u>CST</u>		
Launch	13:47	Fri	Nov 8
SPAS Deploy	20:47	Fri	Nov 8
WSF Deploy	19:02	Mon	Nov 11
WSF Grapple	23:04	Thurs	Nov 14
EVA 1	20:17	Sun	Nov 17
EVA 2	20:47	Tues	Nov 19
SPAS Grapple	00:22	Fri	Nov 22
Landing	06:31	Sun	Nov 24

National Aeronautics and  
Space AdministrationLyndon B. Johnson Space Center  
Houston, Texas

MISSION OPERATIONS DIRECTORATE

**STS-80 FLIGHT PLAN**

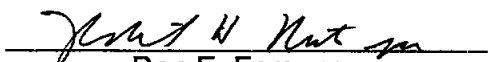
FINAL  
September 30, 1996

PREPARED BY:

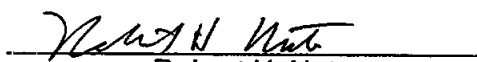


Fisher Reynolds  
Book Manager

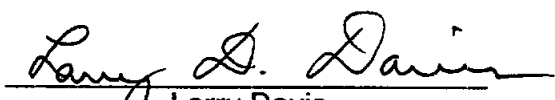
APPROVED BY:



Ben E. Ferguson  
Lead, Flight Planning  
and OPS Group



Robert H. Nute  
Chief, Flight Planning Branch



Larry Davis  
Chief, Operations Division



Brock R. Stone  
Assistant Director,  
for Operations

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Incorporates the following:			
482#:	FLT PLN-1825	FLT PLN-1830	FLT PLN-1834A MULTI-1284
	FLT PLN-1826	FLT PLN-1831	FLT PLN-1835
	FLT PLN-1828A	FLT PLN-1832	FLT PLN-1823
	FLT PLN-1829A	FLT PLN-1833A	
Exemption #: 82			

AREAS OF TECHNICAL RESPONSIBILITY

Book Manager/Lead FAO	DO4/F. Reynolds	244-1172
Lead Timeliner	DO4/L. DeLapp	483-1963
Lead Pointer	DO4/K. Lawson	244-1222

FLIGHT PLAN  
STS-80

**LIST OF EFFECTIVE PAGES**

	FINAL	09/30/96	
Sign Off .....	* 80/FIN	3-3 .....	80/FIN
ii .....	* 80/FIN	3-4 .....	80/FIN
iii .....	* 80/FIN	3-5 .....	80/FIN
iv .....	* 80/FIN	3-6 .....	80/FIN
v .....	* 80/FIN	3-7 .....	80/FIN
vi .....	* 80/FIN	3-8 .....	80/FIN
vii .....	80/FIN	3-9 .....	80/FIN
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\* - Omit from flight book

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3-73	80/FIN	6-7	* 80/FIN
3-74	80/FIN	6-8	* 80/FIN
3-75	80/FIN	7-1	* 80/FIN
3-76	80/FIN	7-2	* 80/FIN
3-77	80/FIN	7-3	* 80/FIN
3-78	80/FIN	7-4	* 80/FIN
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3-102	80/FIN		
3-103	80/FIN		
3-104	80/FIN		

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STS-80 FLIGHT PLAN FABRICATED ITEMS

<u>Title</u>	<u>Ref. Page</u>	<u>Item No.</u>
DAP A, DAP B TOC	7-2	FLT PLN-1a/80/O/B
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DAP A	7-3	FLT PLN-2a/80/O/A
DAP A1	7-3	FLT PLN-2b/80/O/A
A1	7-3	FLT PLN-3a/80/O/A
DAP A2	7-3	FLT PLN-3b/80/O/A
A2	7-4	FLT PLN-4a/80/O/A
DAP A3	7-4	FLT PLN-4b/80/O/A
A3	7-4	FLT PLN-5a/80/O/A
DAP A4	7-4	FLT PLN-5b/80/O/A
A4	7-5	FLT PLN-6a/80/O/B
DAP A5	7-5	FLT PLN-6b/80/O/A
A5	7-5	FLT PLN-7a/80/O/A
DAP A6	7-5	FLT PLN-7b/80/O/A
A6	7-6	FLT PLN-8a/80/O/B
DAP A7	7-6	FLT PLN-8b/80/O/A
A7	7-6	FLT PLN-9a/80/O/A
DAP A8	7-6	FLT PLN-9b/80/O/A
A8	7-7	FLT PLN-10a/80/O/A
DAP A9	7-7	FLT PLN-10b/80/O/B
A9	7-7	FLT PLN-11a/80/O/B
DAP A10	7-7	FLT PLN-11b/80/O/B
A10	7-8	FLT PLN-12a/80/O/B
DAP A11	7-8	FLT PLN-12b/80/O/B
A11	7-8	FLT PLN-13a/80/O/B
DAP A12	7-8	FLT PLN-13b/80/O/B
A12	7-9	FLT PLN-14a/80/O/B
DAP A13	7-9	FLT PLN-14b/80/O/B
A13	7-9	FLT PLN-15a/80/O/B
DAP A14	7-9	FLT PLN-15b/80/O/B
A14	7-10	FLT PLN-16a/80/O/B
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B1	7-11	FLT PLN-19a/80/O/A
DAP B2	7-11	FLT PLN-19b/80/O/A
B2	7-12	FLT PLN-20a/80/O/A
DAP B3	7-12	FLT PLN-20b/80/O/A
B3	7-12	FLT PLN-21a/80/O/A
DAP B4	7-12	FLT PLN-21b/80/O/A
B4	7-13	FLT PLN-22a/80/O/A
DAP B5	7-13	FLT PLN-22b/80/O/A
B5	7-13	FLT PLN-23a/80/O/A
DAP B6	7-13	FLT PLN-23b/80/O/A
B6	7-14	FLT PLN-24a/80/O/B
DAP B7	7-14	FLT PLN-24b/80/O/A
B7	7-14	FLT PLN-25a/80/O/A
DAP B8	7-14	FLT PLN-25b/80/O/A
B8	7-15	FLT PLN-26a/80/O/A

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B9 .....	7-15	FLT PLN-27a/80/O/B
DAP B10 .....	7-15	FLT PLN-27b/80/O/B
B10 .....	7-16	FLT PLN-28a/80/O/B
DAP B11 .....	7-16	FLT PLN-28b/80/O/B
B11 .....	7-16	FLT PLN-29a/80/O/B
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B12 .....	7-17	FLT PLN-30a/80/O/B
DAP B13 .....	7-17	FLT PLN-30b/80/O/B
B13 .....	7-17	FLT PLN-31a/80/O/B
DAP B14 .....	7-17	FLT PLN-31b/80/O/B
B14 .....	7-18	FLT PLN-32a/80/O/B
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B15 .....	7-18	FLT PLN-33a/80/O/B
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UNIV PTG .....	7-19	FLT PLN-34/80/O/A

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## INTRODUCTION

The STS-80 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. For continuity, the summary level timeline includes the entire flight.

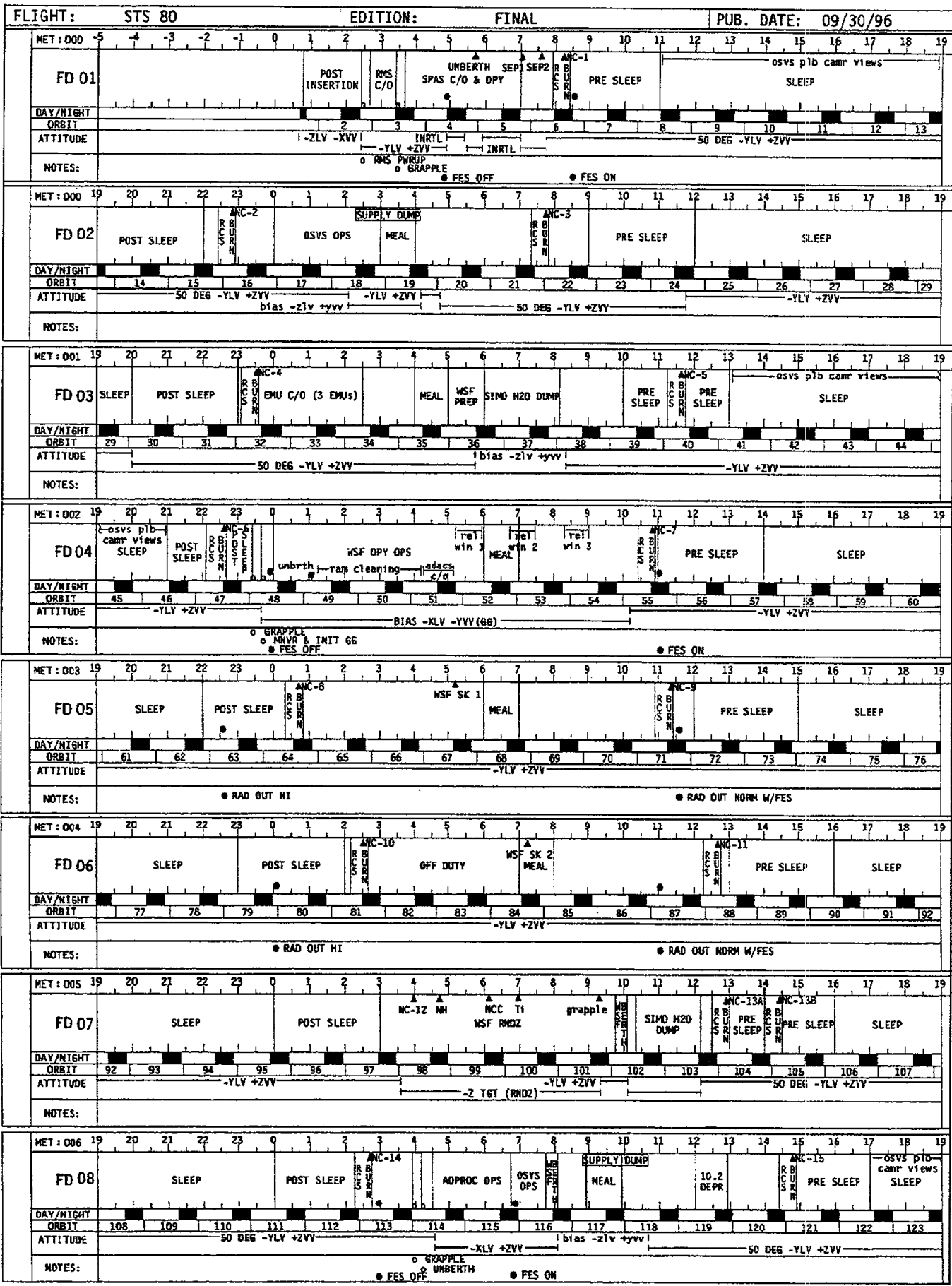
This on-orbit timeline satisfies the objectives specified in the Flight Definition and Requirements Directive, and the requirements of the STS-80 Flight Requirements Document. The Flight Plan, as part of the Flight Data File, meets the specifications of the Flight Cycle version of the STS-80 Flight Initialization Data Pack.

The trajectory profile used for this Flight Plan is for a launch date of November 8, 1996, at 13:47 CST. 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 timeline formats used in this Flight Plan are based on JSC-19933, Timeline Format Definitions and Standard Notes, Rev C, May 1990.

**OVERVIEW TIMELINE**



FLIGHT: STS 80		EDITION: FINAL		PUB. DATE: 09/30/96																						
MET: 007	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
FD 09	osvs p1b camr views		SLEEP		POST SLEEP		ANC-16 RCS BURST		SIMO H2O DUMP		MEAL		ANC-17 RCS BURST		PRE SLEEP		SLEEP									
DAY/NIGHT	[Day/Night Cycle]																									
ORBIT	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139										
ATTITUDE	50 DEG -YLV +ZVV					bias -zlv +yvv					IMU					50 DEG -YLV +ZVV										
NOTES:	o 10.2 DEPRESS																									
MET: 008	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
FD 10	SLEEP		POST SLEEP		ANC-18 RCS BURST		SUPPLY DUMP		EVA PREP		EVA DTO 1		ANC-19 RCS BURST		POST EVA		PRE SLEEP		SLEEP							
DAY/NIGHT	[Day/Night Cycle]																									
ORBIT	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154											
ATTITUDE	50 DEG -YLV +ZVV					bias -zlv +yvv					IMU					50 DEG -YLV +ZVV										
NOTES:	o EMU PURGE/ PREBRTH o A/L DEPR o A/L REPR																									
MET: 009	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
FD 11	SLEEP		POST SLEEP		ANC-20 RCS BURST		SUPPLY H2O DUMP		MEAL		ANC-21 RCS BURST		PRE SLEEP		SLEEP											
DAY/NIGHT	[Day/Night Cycle]																									
ORBIT	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170										
ATTITUDE	50 DEG -YLV +ZVV					bias -zlv +yvv					IMU					50 DEG -YLV +ZVV										
NOTES:	o EMU BATT RCHG TERM o EMU LTOH C/O																									
MET: 010	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
FD 12	SLEEP		POST SLEEP		ANC-22 RCS BURST		SIMO DUMP		EVA PREP		EVA DTO 2		ANC-23 RCS BURST		POST EVA		PRE SLEEP		SLEEP							
DAY/NIGHT	[Day/Night Cycle]																									
ORBIT	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186										
ATTITUDE	50 DEG -YLV +ZVV					bias -zlv +yvv					IMU					50 DEG -YLV +ZVV										
NOTES:	o EMU PURGE/ PREBRTH o A/L DEPR o 14.7 REPRESS o A/L REPR																									
MET: 011	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
FD 13	SLEEP		POST SLEEP		ANC-24 RCS BURST		OFF DUTY		MEAL		SUPPLY DUMP		OSVS OPS		ANC-25 RCS BURST		PRE SLEEP		SLEEP							
DAY/NIGHT	[Day/Night Cycle]																									
ORBIT	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202										
ATTITUDE	50 DEG -YLV +ZVV					bias -zlv +yvv					IMU					50 DEG -YLV +ZVV										
NOTES:	o EMU BATT RCHG TERM																									
MET: 012	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
FD 14	SLEEP		POST SLEEP		NC-26 MH		NCC T1 SPAS RNDZ		grapple		OSVS OPS		SUPPLY H2O DUMP		PRE SLEEP		SLEEP		-osvs							
DAY/NIGHT	[Day/Night Cycle]																									
ORBIT	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217											
ATTITUDE	50 DEG -YLV +ZVV					IMU					-Z TGT (RNDZ)					+ZLV +XVV					-ZLV -XVV					
NOTES:																										
MET: 013	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
FD 15	osvs p1b camr views		SLEEP		SIMO H2O DUMP		POST SLEEP		C/O VIEW		MEAL FCS C/O		CABIN STOW		SUPPLY H2O DUMP		PRE SLEEP		SLEEP							
DAY/NIGHT	[Day/Night Cycle]																									
ORBIT	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233										
ATTITUDE	-ZLV +YVV					IMU/HUD					COMM					-ZLV +YVV										
NOTES:	o RCS HOT FIRE																									
MET: 014	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
FD 16	SLEEP		POST SLEEP		SUPPLY H2O DUMP		MEAL		DEORBIT PREP		LDG		KSC LANDING 15/16:44													
DAY/NIGHT	[Day/Night Cycle]																									
ORBIT	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249										
ATTITUDE	-ZLV +YVV					IMU					D/O BURR					-XSI					COMM					
NOTES:																										


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**SUMMARY TIMELINE**



GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
314:07:47/ 314:19:47	000:12:00/ 001:00:00	314:01:47/ 314:13:47	02/314 GMT	-38.3		NOVEMBER 9, 1996	STS 80	FINAL	09/30/96
CST :314									
FD :01									
MET :000									MET:001
CDR	OSVS PLB CAMR VIEWS								
	SLEEP								
	POST SLEEP								
							LOAD DAP	NC-2 MULT AXIS RCS BURN	ELEVON PK
PLT	SLEEP								
	POST SLEEP								
							ERG SETUP	MULT AXIS RCS BURN	CMIX GROUP BS
									EXERCISES
MS1	SLEEP								
	POST SLEEP								
							ERG SETUP	OSVS CONFIG/PWRUP	RMS PWRUP
MS2	SLEEP								
	POST SLEEP								
							VTR S/U PLBK (ASCT, SPAS DPY)	SEM ACT	RMS HTR
									OSVS CONFIG/PWRUP
MS3	SLEEP								
	POST SLEEP								
							CMIX GROUP BS	CMIX GROUP BS	EXERCISES
DAY/NIGHT ORBIT									
TDRS									
ZOE CVG ATTITUDE	50 DEG -YLV +ZVV								
NOTES:	@MANUAL @RMS HTR ACT/MCIU FILTER CK V UPDATE LOCKER STOW								



GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/ DOY	BETA	MOON 	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
314:19:47 / 315:07:47		001:00:00 / 001:12:00		314:13:47 / 315:01:47		02 / 314 GMT	-39.8		NOVEMBER 9, 1996	STS 80	FINAL	09/30/96	
CST	:314	14	15	16	17	18	19	20	21	22	23	0 CST:315	
FD	:02	0	1	2	3	4	5	6	7	8	9	10	
MET	:001											11	
												12	
CDR	EXERCISE			DUMP SD PLM MNVVR	MEAL	SDM PUN YLR YLV +ZVV	NO ROLL MNVVR IR SPAS	FILTER CLEANING		NC-3 MULT AXIS RCS BURN	MEAL	PRE SLEEP	
PLT	EXERCISE		VIEW-CPL PREP		MEAL	CC MID XEA GOT	VT ES NT CPL PREP	VIEW-CPL 01 IS40		MULT AXIS RCS BURN	MEAL	PRE SLEEP	
MS1		OSVS OPS		SE SER P ARR N D R O N	MEAL			EXERCISE	VT ES NT CPL PREP	VIEW-CPL 02 S25	MEAL	PRE SLEEP	
MS2		OSVS OPS			MEAL			EXERCISE		P/TV04 SETUP	P/TV04 OPS	MEAL	PRE SLEEP
MS3					MEAL	CC MID XEA GOT	ER PP CF C/D			EXERCISE	CMIX GROUP D	MEAL	PRE SLEEP
DAY/NIGHT													
ORBIT		17	18	19	20	21	22	23	24				
TDRS	E W	TDRZ		TDRZ		DGS		TDRZ		TDRZ			
ZOE CVG		50 DEG -YLV +ZVV		-YLV +ZVV				50 DEG -YLV +ZVV				-YLV +ZVV	
ATTITUDE		bias -zlv +yvv											
NOTES:		@BIAS -ZLV +YVV				@BIAS 50° -YLV +ZVV							
						o WSB CNTLR SWAP							

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
315:07:47/ 315:19:47	001:12:00/ 002:00:00	315:01:47/ 315:13:47	03/315 GMT	-41.2		NOVEMBER 10, 1996	STS 80	FINAL	09/30/96
CST :315									
FD :02									
MET :001									MET:002
CDR	SLEEP					5 NOV ROLL SPLAS	POST SLEEP	NC-4 MULT AXIS RCS BURN	
PLT	SLEEP						POST SLEEP	MULT AXIS RCS BURN	MCHEUCR
MS1	SLEEP						POST SLEEP	AIR LOCK	EMU C/O 1,2
MS2	SLEEP						POST SLEEP	AIR LOCK	EMU C/O 1,2
MS3	SLEEP						POST SLEEP	AIR LOCK	EMU C/O 1,2
DAY/NIGHT									
ORBIT									
TDRS									
ZOE CVG									
ATTITUDE									
NOTES:	<p style="text-align: center;">@BIAS 50° -YLV +ZVV</p>								

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE							
315:19:47 / 316:07:47	002:00:00 / 002:12:00	315:13:47 / 316:01:47	03/315 GMT	-42.5		NOVEMBER 10, 1996	STS 80	FINAL	09/30/96							
CST :315 FD :03 MET :002	14	15	16	17	18	19	20	21	22	23	0	CST:316	1	12		
CDR					PAO EVENT	MEAL			WASTE DUMP MONITOR						NC-5 MULT AXIS RCS BURN	COMF MEED
PLT	VTR S/U	VTR PLBK (VIEW-CPL)			P/TV06 SETUP	MEAL		VIEW-CPL 03 S75	CMIX GROUP E		EXERCISE				MULT AXIS RCS BURN	PRE SLEEP
MS1	EMU C/O 1,2	GLUVE HEAT	EMU SWAP	EMU C/O 3		MEAL		EXERCISE		VIEW-CPL 04 S65						PRE SLEEP
MS2	EMU C/O 1,2	GLUVE HEAT	EMU SWAP	EMU C/O 3		MEAL	WSF PREDPY PREP		EXERCISE		P/TV S/U CREW CHC	CHOICE D/L	P/TV08 SETUP			PRE SLEEP
MS3	EMU C/O 1,2	GLUVE HEAT	EMU SWAP	EMU C/O 3		EXERCISE	MEAL	WSF PREDPY PREP		CMIX GROUP E			NAIHLRY CK			PRE SLEEP
DAY/NIGHT																
ORBIT	32	33	34	35	36	37	38	39	40							
TDRS	E	W														
ZOE CVG																
ATTITUDE	50 DEG -YLV +ZVV					bias -zlv +yvv					-YLV +ZVV					
NOTES:	<p style="text-align: center;">@BIAS -ZLV +YVV</p>															

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
316:07:47/ 316:19:47	002:12:00/ 003:00:00	316:01:47/ 316:13:47	04/316 GMT	-43.7	●	NOVEMBER 11, 1996	STS 80	FINAL	09/30/96

CST :316	2	3	4	5	6	7	8	9	10	11	12	13	0	MET:003
FD :03	12	13	14	15	16	17	18	19	20	21	22	23		
MET :002										FD 04				

CDR	PRE SLEEP	OSVS PLB CAMR VIEWS										POST SLEEP	NC-6 MULT AXIS RCS BURN	POST SLEEP	DUAL G2	RCS DEACT	GG INIT	
		SLEEP																
PLT	PRE SLEEP											POST SLEEP	MULT AXIS RCS BURN	POST SLEEP	P/TVO8 OPS			
		SLEEP																
MS1	PRE SLEEP											POST SLEEP				OSVS RCS DEACT	OSVS RCS DEACT	
		SLEEP																
MS2	PRE SLEEP											POST SLEEP	RMS HTR	POST SLEEP	RMS PWRUP	GRAPPLE	POST SLEEP	
		SLEEP																
MS3	PRE SLEEP	OCA DWNLNK											POST SLEEP	OCA DWNLNK	POST SLEEP			
			SLEEP															

DAY/NIGHT	[Shaded]								
ORBIT	40	41	42	43	44	45	46	47	48
TDRS	[Timeline]								
ZOE CVG	[Timeline]								
ATTITUDE	-YLV +ZVV								
	BIAS -XLV -YVV(GG)								
	@RMS HTR ACT/MCIU FILTER CK								

NOTES: ♦ FES OFF

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE															
316:19:47 / 317:07:47	003:00:00 / 003:12:00	316:13:47 / 317:01:47	04/316 GMT	-44.6	●	NOVEMBER 11, 1996	STS 80	FINAL	09/30/96															
CST :316 FD :04 MET :003	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	12	
CDR	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	MEAL	MEAL	EXERCISE	EXERCISE	EXERCISE	MEAL	MEAL
PLT	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	MEAL	MEAL	EXERCISE	EXERCISE	EXERCISE	MEAL	MEAL
MS1	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	MEAL	MEAL	EXERCISE	EXERCISE	EXERCISE	MEAL	MEAL
MS2	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	MEAL	MEAL	EXERCISE	EXERCISE	EXERCISE	MEAL	MEAL
MS3	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	WSF DPY OPS	MEAL	MEAL	EXERCISE	EXERCISE	EXERCISE	MEAL	MEAL
DAY/NIGHT	48	49	50	51	52	53	54	55	56															
TDRS	TDRZ	TDRZ	DGS	DGS	TDRZ	TDRZ	TDRZ	TDRZ	TDRZ															
ZOE CVG	TDRZ	TDRZ	DGS	DGS	TDRZ	TDRZ	TDRZ	TDRZ	TDRZ															
WSF					SEP OPS																			
ATTITUDE					BIAS -XLV -YV(GG)																			
NOTES:	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>WSF RELEASE WINDOW</b>  <b>OPEN: SR</b>  <b>CLOSE: SS-19 MIN</b> </div>																							

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE							
317:07:47 / 317:19:47	003:12:00 / 004:00:00	317:01:47 / 317:13:47	05/317 GMT	-45.4	●	NOVEMBER 12, 1996	STS 80	FINAL	09/30/96							
CST :317	FD :04	MET :003	12	13	14	15	16	17	18	19	20	21	22	23	0	MET:004
CDR	M E A L P R I V M E D C O N F	PRE SLEEP											POST SLEEP	R A D O U T H I	POST SLEEP	
PLT	M E A L	PRE SLEEP													POST SLEEP	
MS1	M E A L	PRE SLEEP													POST SLEEP	
MS2	M E A L	PRE SLEEP													POST SLEEP	
MS3	M E A L	PRE SLEEP	O C C D W N K												POST SLEEP	
DAY/NIGHT	[Day/Night Cycle]															
ORBIT	56	57	58	59	60	61	62	63								
TDRS	[TDRS Cycle]															
ZOE CVG	[ZOE CVG Cycle]															
WSF	[WSF Cycle]															
ATTITUDE	[ATTITUDE Cycle]															
NOTES:																

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
317:19:47 / 318:07:47	004:00:00 / 004:12:00	317:13:47 / 318:01:47	05 / 317 GMT	-46.0	●	NOVEMBER 12, 1996	STS 80	FINAL	09/30/96

CST :317	14	15	16	17	18	19	20	21	22	23	0	CST:318	1	12
FD :05	0	1	2	3	4	5	6	7	8	9	10	11		
MET :004														

CDR	POST SLEEP	NC-8 MULT AXIS RCS BURN			PAO EVENT	FILTER CLEANING		MEAL		EXERCISE		NC-9 MULT AXIS RCS BURN	DAILY CHECK
	POST SLEEP	MULT AXIS RCS BURN		GROUP	EXERCISE	VFT IIEE ELEM TMT -R- C-CP PRL LN	VIEW-CPL 05 S50	MEAL	VFT IIEE ELEM TMT -R- C-CP PRL LN	VIEW-CPL 10 PVGRAD	P/TV S/U CREW CHC	CHOICE D	MULT AXIS RCS BURN
MS1	POST SLEEP	VFT IIEE ELEM TMT -R- C-CP PRL LN	VIEW-CPL 08 S10	PAO EVENT	EXERCISE	MEAL		VFT IIEE ELEM TMT -R- C-CP PRL LN	VIEW-CPL 12 SS25				
MS2	POST SLEEP	P/TV S/U CREW CHC (SEM)	VTR VTR S/UPLBK (WSF DPY)	PAO EVENT	P/TV06 SETUP	MEAL						EXERCISE	
MS3	POST SLEEP	OC A D W N K	POST SLEEP	GROUP	EXERCISE	WSF SK 1	MEAL						EXERCISE

DAY/NIGHT	64	65	66	67	68	69	70	71
ORBIT								
TDRS	E							
ZOE CVG	TORSZ	TDRZ	DGS	TDRZ	TDRZ	TDRZ	TDRZ	TDRZ
WSF	RUN 2		RUN 3			RUN 4		RUN 5
ATTITUDE	-YLV +ZVV							

NOTES: ■ RAD OUT NORM W/FES





GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
318:19:47 / 319:07:47	005:00:00 / 005:12:00	318:13:47 / 319:01:47	06 /318 GMT	-46.7	●	NOVEMBER 13, 1996	STS 80	FINAL	09/30/96

CST :318 14 15 16 17 18 19 20 21 22 23 0 CST:319 1 12  
 FD :06 0 1 2 3 4 5 6 7 8 9 10 11 12  
 MET :005

CDR	PLT	MS1	MS2	MS3
RAD OUT HI POST SLEEP POST SLEEP NC-10 MULT AXIS RCS BURN OFF DUTY MEAL EXERCISE ND TA HI - L - R Y C K	POST SLEEP MULT AXIS RCS BURN OFF DUTY MEAL CMIX GRP H PAO EVENT EXERCISE VIEW-CPL 07 S35 VT IES WT - CP PR LE P	POST SLEEP OFF DUTY MEAL VIEW-CPL 06 S40 P/TV S/U CREW CHC CHOICE D /	POST SLEEP OFF DUTY MEAL P/TV06 SETUP PAO EVENT MC HE UC K FL TR EXERCISE	POST SLEEP OCA D W N L N K OFF DUTY MEAL WSF SK 2 CMIX GRP H ER P CL CK PAO EVENT CC M CK EXERCISE

DAY/NIGHT	ORBIT	TDRS	ZOE CVG	WSF	ATTITUDE
	80 81 82 83 84 85 86 87	E W			-YLV +ZVV

NOTES: ○ RAD OUT NORM W/FES

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
319:07:47 / 319:19:47	005:12:00 / 006:00:00	319:01:47 / 319:13:47	06 / 319 GMT	-46.7		NOVEMBER 14, 1996	STS 80	FINAL	09/30/96

CST	FD	MET	12	13	14	15	16	17	18	19	20	21	22	23	0	MET:006
:319	:06	:005														

CDR	ND IA HI L RY C R	NC-11 MULT AXIS RCS BURN		MEAL	PRE SLEEP	PRIV FAM CONF	PRE SLEEP					SLEEP				
PLT	VO I7 SW - C B P L	MULT AXIS RCS BURN		MEAL	PRE SLEEP	PRIV FAM CONF	PRE SLEEP					SLEEP				
MS1		EXERCISE		MEAL	PRE SLEEP	PRIV FAM CONF	PRE SLEEP					SLEEP				
MS2	EXERCISE			MEAL	PRE SLEEP							SLEEP				
MS3			PRE PP CL C K	MEAL	PRE SLEEP	O C A D W N L N K	PRE SLEEP					SLEEP				

DAY/NIGHT																
ORBIT																
TDRS	E															
ZOE CVG	W															
WSF																
ATTITUDE																

NOTES:

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
319:19:47 / 320:07:47	006:00:00 / 006:12:00	319:13:47 / 320:01:47	07 / 319 GMT	-46.5		NOVEMBER 14, 1996	STS 80	FINAL	09/30/96
CST :319 FD :07 MET :006									
CDR	POST SLEEP	POST SLEEP	NC-12	NH-WSF	NCC-WSF	T1-WSF	GRAPPLE	WSF RNDZ	EXERCISE
PLT	POST SLEEP				WSF RNDZ			EXERCISE	
MS1	POST SLEEP		RMS HTR	RMS PWR	WSF RNDZ		OSVS PWR	OSVS S/U	
MS2	POST SLEEP	EXERCISE	P/TV9A SETUP/OPS		WSF RNDZ		W TGT BIRTH	RMS PWR	WASTE DUMP MONITOR
MS3	POST SLEEP	POST SLEEP	ERC	CM	WSF RNDZ				EXERCISE
DAY/NIGHT									
ORBIT	95	96	97	98	99	100	101	102	103
TDRS									
ZOE CVG									
ATTITUDE									
	@RMS HTR ACT/MCIU FILTER CK								
	@BIAS -ZLV +YVV								
NOTES:									

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE					
320:07:47/ 320:19:47	006:12:00/ 007:00:00	320:01:47/ 320:13:47	07/320 GMT	-46.2		NOVEMBER 15, 1996	STS 80	FINAL	09/30/96					
CST :320 FD :07 MET :006	12	13	14	15	16	17	18	19	20	21	22	23	0	MET:007
CDR	MNV V R O L L S P A S S A G E	NC-13A MULT AXIS RCS BURN	MEAL	NC-13B MULT AXIS RCS BURN	PC R T V M E D	PRE SLEEP				SLEEP				
PLT	VTR S/U	MULT AXIS RCS BURN	MEAL	MULT AXIS RCS BURN		PRE SLEEP				SLEEP				
MS1		EXERCISE	MEAL			PRE SLEEP				SLEEP				
MS2	SD UM M O P T R E M	VTR PLBK (WSF RNDZ)	MEAL			PRE SLEEP				SLEEP				
MS3	EX E R C I S E	EX P P L C K	MEAL			PRE SLEEP	OC A D W N L N K			SLEEP				
DAY/NIGHT														
ORBIT	103	104	105	106	107	108	109	110	111					
TDRS	E													
ZOE CVG	W													
WSF														
ATTITUDE	50 DEG -YLV +ZVV													
NOTES:	@BIAS 50° -YLV +ZVV													

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE					
320:19:47 / 321:07:47	007:00:00 / 007:12:00	320:13:47 / 321:01:47	08/320 GMT	-45.6		NOVEMBER 15, 1996	STS 80	FINAL	09/30/96					
CST :320	14	15	16	17	18	19	20	21	22	23	0	CST:321	1	12
FD :08	0	1	2	3	4	5	6	7	8	9	10	11	12	
MET :007														
CDR	POST SLEEP	NC-14 MULT AXIS RCS BURN	POST SLEEP	EXERCISE	EXERCISE	FILTER CLEANING	FILTER CLEANING	EXERCISE	MEAL	MEAL	MEAL	MEAL	MEAL	PAO EVENT
PLT	POST SLEEP	MULT AXIS RCS BURN	EXERCISE	EXERCISE	VIEW-CPL 09 PV-LOW	VIEW-CPL 11 PVJUMP	VIEW-CPL 11 PVJUMP	VIEW-CPL 11 PVJUMP	MEAL	MEAL	MEAL	MEAL	MEAL	PAO EVENT
MS1	POST SLEEP	POST SLEEP	EXERCISE	EXERCISE	EXERCISE	EXERCISE	EXERCISE	EXERCISE	MEAL	MEAL	MEAL	MEAL	MEAL	PAO EVENT
MS2	POST SLEEP	POST SLEEP	EXERCISE	EXERCISE	EXERCISE	EXERCISE	EXERCISE	EXERCISE	MEAL	MEAL	MEAL	MEAL	MEAL	PAO EVENT
MS3	POST SLEEP	POST SLEEP	EXERCISE	EXERCISE	EXERCISE	EXERCISE	EXERCISE	EXERCISE	MEAL	MEAL	MEAL	MEAL	MEAL	PAO EVENT
DAY/NIGHT	111	112	113	114	115	116	117	118	119					
TDRS														
ZOE CVG														
WSF														
ATTITUDE														
NOTES:														

GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE			
321:07:47/ 321:19:47		007:12:00/ 008:00:00		321:01:47/ 321:13:47		08/321 GMT	-44.9		NOVEMBER 16, 1996	STS 80	FINAL	09/30/96			
CST	:321														
FD	:08														
MET	:007														
		12	13	14	15	16	17	18	19	20	21	22	23	0	MET:008
CDR	10:20 DEPRESS 10:00 NIGHT 10:00 NIGHT 10:00 NIGHT	10:20 DEPRESS	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT
PLT	10:20 DEPRESS	10:20 DEPRESS	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT	10:00 NIGHT
MS1	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV
MS2	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV	VIEW-CPL 14 CV
MS3	P/TV S/U CREW CHC	P/TV S/U CREW CHC	P/TV S/U CREW CHC	P/TV S/U CREW CHC	P/TV S/U CREW CHC	P/TV S/U CREW CHC	P/TV S/U CREW CHC	P/TV S/U CREW CHC	P/TV S/U CREW CHC	P/TV S/U CREW CHC	P/TV S/U CREW CHC	P/TV S/U CREW CHC	P/TV S/U CREW CHC	P/TV S/U CREW CHC	P/TV S/U CREW CHC
DAY/NIGHT															
ORBIT		119	120	121	122	123	124	125	126						
TDRS															
ZOE CVG															
ATTITUDE		50 DEG -YLV +ZVV													
NOTES:															

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
321:19:47/ 322:07:47	008:00:00/ 008:12:00	321:13:47/ 322:01:47	09/321 GMT	-44.0		NOVEMBER 16, 1996	STS 80	FINAL	09/30/96

CST :321 14 15 16 17 18 19 20 21 22 23 0 CST:322 1 12  
 FD :09 0 1 2 3 4 5 6 7 8 9 10 11 12  
 MET :008

CDR	OSVS PLB CAMR VIEWS	POST SLEEP	10 2 MAINT	NC-16 MULT AXIS RCS BURN	WCS COMPACT 1	DUMP MNV R	SD TO MM OP INIT	WASTE DUMP MONITOR	SD TO MM OP ITERM	IMU MNV R	SO ROLL MUS PAS	MEAL	DAILY CHECK	CABIN TEMP
	SLEEP													
PLT	SLEEP	POST SLEEP	MULT AXIS RCS BURN	MCHK IE UC K FLTR								MEAL		EXERCISE
	SLEEP													
MS1	SLEEP	POST SLEEP	MDDK PREP	EVA TOOL CONFIG								MEAL		
MS2	SLEEP	POST SLEEP	MDDK PREP	EVA TOOL CONFIG								MEAL		
MS3	SLEEP	POST SLEEP	OCA DWN LNK	POST SLEEP	MDDK PREP	EVA TOOL CONFIG						MEAL		EXERCISE
DAY/NIGHT	[Day/Night Cycle Diagram]													
ORBIT	127 128 129 130 131 132 133 134													
TDRS	[TDRS Diagram]													
ZOE CVG	[ZOE CVG Diagram]													
ATTITUDE	50 DEG -YLV +ZVV bias -zlv +yv v IMU 50 DEG -YLV +ZVV													
NOTES:	@BIAS -ZLV +YVV @BIAS 50° -YLV +ZVV @CABIN TEMP CNTL RECONFIG													

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
322:07:47 / 322:19:47	008:12:00 / 009:00:00	322:01:47 / 322:13:47	09/322 GMT	-42.9		NOVEMBER 17, 1996	STS 80	FINAL	09/30/96

CST :322	2	3	4	5	6	7	8	9	10	11	12	13	0	MET:009
FD :09	12	13	14	15	16	17	18	19	20	21	22	23		
MET :008														

CDR	EXERCISE	TAGG	NC-17 MULT AXIS RCS BURN	10 2 MAINT	MEAL	PRIV MED	PRE SLEEP		SLEEP
PLT	EXERCISE	TAGG	MULT AXIS RCS BURN		MEAL		PRE SLEEP		SLEEP
MS1					EXERCISE		MEAL		PRE SLEEP
MS2					EXERCISE		MEAL		PRE SLEEP
MS3				ERP CL CK	MEAL		PRE SLEEP	OCA D W N L N K	PRE SLEEP

DAY/NIGHT														
ORBIT	135	136	137	138	139	140	141	142						

TDRS	E													
	W													

ZOE CVG	50 DEG -YLV +ZVV													
ATTITUDE														

NOTES:



GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE					
322:19:47/ 323:07:47	009:00:00/ 009:12:00	322:13:47/ 323:01:47	10/322 GMT	-41.7		NOVEMBER 17, 1996	STS 80	FINAL	09/30/96					
CST :322	14	15	16	17	18	19	20	21	22	23	0	CST:323	1	12
FD :09	0	1	2	3	4	5	6	7	8	9	10	11	12	
MET :009		FD 10												
CDR	SLEEP	POST SLEEP	NC-18 MULT AXIS RCS BURN	POST SLEEP	DUMP MNV R	SD PULM YP MNV R	10 2 MAINT	EXERCISE	SD PULM YP MNV R	IMU MNV R	50 R R O L L M U S P A S	MEAL	ND A I L Y C K	
PLT	SLEEP	POST SLEEP	MULT AXIS RCS BURN	POST SLEEP	RMS HTR	EXERCISE	RMS P W R U P	PP RL E C E N V F A G	P/TV10 SETUP/ OPS			EVA RMS		
MS1	SLEEP	POST SLEEP				EVA PREP	EMU PURGE/ PREBRTH					EVA DT0 1		
MS2	SLEEP	POST SLEEP				EVA PREP	EMU PURGE/ PREBRTH					EVA DT0 1		
MS3	SLEEP	POST SLEEP	O C A D W N L N K	POST SLEEP	RMS HTR	EVA PREP	EMU PURGE/ PREBRTH					EVA SUPPORT		
DAY/NIGHT	[Day/Night Cycle Diagram]													
ORBIT	143 144 145 146 147 148 149 150													
TDRS	[TDRS Coverage Diagram]													
ZOE CVG	[ZOE Coverage Diagram]													
ATTITUDE	50 DEG -YLV +ZVV   bias -zlv +yvv   IMU   50 DEG -YLV +ZVV													
NOTES:	@BIAS -ZLV +YVV      @BIAS 50° -YLV +ZVV @RMS HTR ACT/MCIU FILTER CK													

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
323:07:47 / 323:19:47	009:12:00 / 010:00:00	323:01:47 / 323:13:47	10 / 323 GMT	-40.4		NOVEMBER 18, 1996	STS 80	FINAL	09/30/96

CST :323 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 MET:010  
 FD :10 12 13 14 15 16 17 18 19 20 21 22 23 0  
 MET :009

CDR			NC-19 MULT AXIS RCS BURN	10 2 MAINT	MEAL	PRE SLEEP	CONF PRIV	PRE SLEEP	SLEEP
PLT	EVA RMS	RMS PWRDN	MULT AXIS RCS BURN	PPOL STCN EFGA	MEAL			PRE SLEEP	SLEEP
MS1	EVA DTO 1	AR EVE SALON	POST EVA W/H2O	ER MC UH G B AI TN TI T	MEAL			PRE SLEEP	SLEEP
MS2	EVA DTO 1	AR EVE SALON	POST EVA W/H2O	ER MC UH G B AI TN TI T	MEAL			PRE SLEEP	SLEEP
MS3	EVA SUPPORT	AR EVE SALON	POST EVA W/H2O	ER MC UH G B AI TN TI T	FRP CL CK		OCA D W N K	PRE SLEEP	SLEEP

DAY/NIGHT ORBIT 151 152 153 154 155 156 157 158

TDRS E W

ZOE CVG ATTITUDE 50 DEG -YLV +ZVV


NOTES:



GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
324:07:47 / 324:19:47	010:12:00 / 011:00:00	324:01:47 / 324:13:47	11/324 GMT	-37.4		NOVEMBER 19, 1996	STS 80	FINAL	09/30/96
CST :324 FD :11 MET :010									MET:011
CDR	CHOICE D/L	EXERCISE	NC-21 MULT AXIS RCS BURN	10 2 MAINT	MEAL	PRNF MED	PRE SLEEP	SLEEP	
PLT	EXERCISE		MULT AXIS RCS BURN	TAG P	MEAL		PRE SLEEP	SLEEP	
MS1		EXERCISE			MEAL		PRE SLEEP	SLEEP	
MS2		EXERCISE			MEAL		PRE SLEEP	SLEEP	
MS3		EXERCISE		ER P C L C K	MEAL		PRE SLEEP	SLEEP	
DAY/NIGHT									
ORBIT	166	167	168	169	170	171	172	173	174
TDRS									
ZOE CVG									
ATTITUDE	50 DEG -YLV +ZVV								
NOTES:									

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE							
324:19:47 / 325:07:47	011:00:00 / 011:12:00	324:13:47 / 325:01:47	12 / 324 GMT	-35.8		NOVEMBER 19, 1996	STS 80	FINAL	09/30/96							
CST :324	14	15	16	17	18	19	20	21	22	23	0	CST:325	1	12		
FD :11	0	1	2	3	4	5	6	7	8	9	10	11	12			
MET :011																
CDR	SLEEP	POST SLEEP	NC-22 MULT AXIS RCS BURN	10 2 MAINT	DUMP MNR	SD DUMP INIT	WASTE DUMP MONITOR	SD DUMP TERM	IMU MNR	MNR USPAS	50 ROLL	1 4 7 REPRESS	PWR UP GRP B	MEAL	N D A I L Y C K	A R E E M E N T H L 2 0
PLT	SLEEP	POST SLEEP	MULT AXIS RCS BURN	RMS HTR	EXERCISE	RMS PWR UP	P/TV10 SETUP/ OPS	PP RL E C EN VF AG					EVA RMS			
MS1	SLEEP	POST SLEEP			EVA PREP		EMU PURGE/ PREBRTH							EVA DTO 2		
MS2	SLEEP	POST SLEEP			EVA PREP		EMU PURGE/ PREBRTH							EVA DTO 2		
MS3	SLEEP	POST SLEEP	POST SLEEP	O C A D W N L N K	E R P C L C K	EVA PREP	EMU PURGE/ PREBRTH							EVA SUPPORT		
DAY/NIGHT																
ORBIT	174	175	176	177	178	179	180	181	182							
TDRS																
ZOE CVG																
ATTITUDE	50 DEG -YLV +ZVV															
	bias -zlv +yvV															
	IMU															
	50 DEG -YLV +ZVV															
	@BIAS -ZLV +YVV															
	@BIAS 50° -YLV +ZVV															
NOTES:	@RMS HTR ACT/MCIU FILTER CK															

GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE				
325:07:47 / 325:19:47		011:12:00 / 012:00:00		325:01:47 / 325:13:47		12 / 325 GMT	-34.1		NOVEMBER 20, 1996	STS 80	FINAL	09/30/96				
CST	:325	2	3	4	5	6	7	8	9	10	11	12	13	0	MET:012	
FD	:12	12	13	14	15	16	17	18	19	20	21	22	23			
MET	:011															
CDR	EXERCISE	FILTER CLEANING			NC-23 MULT AXIS RCS BURN	MEAL	PRIV MED	CONF	PRE SLEEP							
PLT	EVA RMS		RMS P REDN	PP OL S T C N E F V G A	MULT AXIS RCS BURN	MEAL		PRE SLEEP								
MS1	EVA DTO 2		AR L E R S O N	POST EVA W/O H2O	ER MC UH G B A I T N T I T	EMU HELMET BULB		MEAL	PRE SLEEP							
MS2	EVA DTO 2		AR L E R S O N	POST EVA W/O H2O	ER MC UH G B A I T N T I T			MEAL	PRE SLEEP							
MS3	EVA SUPPORT		AR L E R S O N	POST EVA W/O H2O	ER MC UH G B A I T N T I T	ER P C L C K		MEAL	PRE SLEEP	O C A D W N L N K	PRE SLEEP					
DAY/NIGHT																
ORBIT	182	183	184	185	186	187	188	189								
TDRS																
ZOE CVG																
ATTITUDE	50 DEG -YLV +ZVV															
NOTES:																

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON 	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
325:19:47 / 326:07:47	012:00:00 / 012:12:00	325:13:47 / 326:01:47	13 / 325 GMT	-32.4		NOVEMBER 20, 1996	STS 80	FINAL	09/30/96

CST :325	14	15	16	17	18	19	20	21	22	23	0	CST:326	1	12
FD :12	0	1	2	3	4	5	6	7	8	9	10		11	
MET :012				FD 13										

CDR	SLEEP	POST SLEEP	NC-24 MULT AXIS RCS BURN		OFF DUTY	DUMP MNV	SD PUMP INIT	MEAL	DAILY CK	SD PUMP TERM	IMU MNV
PLT	SLEEP	POST SLEEP	MULT AXIS RCS BURN		OFF DUTY			MEAL	ER PCL CK		GR OUP J
MS1	SLEEP	POST SLEEP	COMBINE		OFF DUTY	RMS HTR		MEAL	ER MCH G BAT TERM	POST EVA ENT PREP	RMS P WRUP
MS2	SLEEP	POST SLEEP	EXERCISE	COMBINE				MEAL	ER MCH G BAT TERM	POST EVA ENT PREP	
MS3	SLEEP	POST SLEEP	OCA D N Z I N E R T I A L		OFF DUTY			MEAL	ER MCH G BAT TERM	POST EVA ENT PREP	GR OUP J CK


DAY/NIGHT														
ORBIT	190	191	192	193	194	195	196	197						
TDRS														
ZOE CVG														
ATTITUDE	50 DEG -YLV +ZVV													
	bias -zlv +yvv													

NOTES:

@BIAS -ZLV +YVV  
@RMS HTR ACT/MCIU FILTER CK


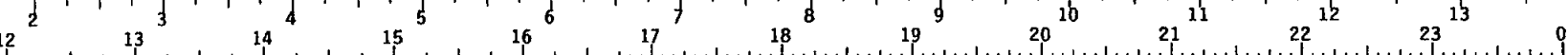
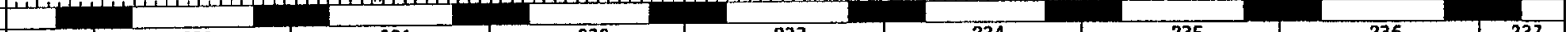
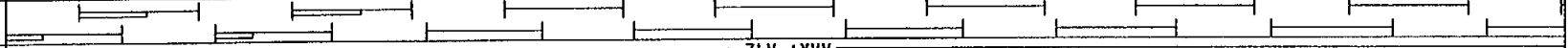
GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE			
326:07:47 / 326:19:47		012:12:00 / 013:00:00		326:01:47 / 326:13:47		13/326 GMT	-30.6		NOVEMBER 21, 1996	STS 80	FINAL	09/30/96			
CST	:326	2	3	4	5	6	7	8	9	10	11	12	13	0	MET:013
FD	:13	12	13	14	15	16	17	18	19	20	21	22	23		
MET	:012														
CDR	MNO ROLL SPL	EXERCISE	DTO 667 PILOT	PRE SLEEP	NC-25 MULT AXIS RCS BURN	MEAL	PRIV FAM CONF	PRE SLEEP			SLEEP				
PLT	EXERCISE	P/TV06 SETUP	DTO 667 PILOT	PRE SLEEP	MULT AXIS RCS BURN	MEAL	PRIV FAM CONF	PRE SLEEP			SLEEP				
MS1	OSVS SURVEY	RMS PWRDN	EVA QUESTION	PAO EVENT	EXERCISE	PRE SLEEP	MEAL	PRIV FAM CONF	PRE SLEEP		SLEEP				
MS2	OSVS SURVEY	EVA QUESTION	PAO EVENT	EVA TOOL STOW	PRE SLEEP	MEAL	PRE SLEEP				SLEEP				
MS3	EVA TOOL DATA XFER	EXERCISE	EVA TOOL STOW	PRE SLEEP	MEAL	PRE SLEEP	OCA DWNLNK	PRE SLEEP			SLEEP				
DAY/NIGHT															
ORBIT		198	199	200	201	202	203	204	205						
TDRS	E W														
ZOE CVG															
ATTITUDE		50 DEG -YLV +ZVV													
NOTES:	BIAS 50° -YLV +ZVV														



GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON 	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE					
326:19:47 / 327:07:47	013:00:00 / 013:12:00	326:13:47 / 327:01:47	14 / 326 GMT	-28.7		NOVEMBER 21, 1996	STS 80	FINAL	09/30/96					
CST :326	14	15	16	17	18	19	20	21	22	23	0	CST:327	1	12
FD :13	0	1	2	3	4	5	6	7	8	9	10	11	12	
MET :013			FD 14											
CDR	SLEEP	POST SLEEP	IMU MNV R	MNV R ROLL SPAS	POST SLEEP	NC-26	NH-SPAS SPAS RNDZ	NCC-SPAS	T1-SPAS	SPAS RNDZ	GRAPPLE	MNV R -ZLV -XVV	U L L A U T O	
PLT	SLEEP	POST SLEEP					SPAS RNDZ							
MS1	SLEEP	POST SLEEP				RMS HTR	EXERCISE	RMS PWRUP		SPAS RNDZ	RGPS	SPAS DEACT	OSVS OPS	
MS2	SLEEP	POST SLEEP				EXERCISE	P/TV11 SETUP/ OPS			SPAS RNDZ	RGPS		OSVS OPS	
MS3	SLEEP	POST SLEEP	O C A D W N L N K	POST SLEEP	ER P C L C K					SPAS RNDZ		RNDZ TOOLS STOW		
DAY/NIGHT	[Day/Night Cycle]													
ORBIT	206 207 208 209 210 211 212 213													
TDRS	[TDRS Events]													
ZOE CVG	[ZOE CVG Data]													
ATTITUDE	50 DEG -YLV +ZVV IMU -Z TGT (RNDZ) +ZLV +XVV													
NOTES:	@BIAS 50° -YLV +ZVV @RMS HTR ACT/MCIU FILTER CK													

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
327:07:47 / 327:19:47	013:12:00 / 014:00:00	327:01:47 / 327:13:47	14 / 327 GMT	-26.9		NOVEMBER 22, 1996	STS 80	FINAL	09/30/96
CST :327									
FD :14									
MET :013									MET:014
CDR	DAILY CHECK	EXERCISE	DTO 667 PILOT	MEAL	PRE SLEEP	OSVS PLB CAMR VIEWS			
PLT	COMPACT 2	EXERCISE	DTO 667 PILOT	MEAL	PRE SLEEP	SLEEP			
MS1		OSVS OPS		MEAL	PRE SLEEP	SLEEP			
MS2		OSVS OPS		MEAL	PRE SLEEP	PRIV FAM CONF	PRE SLEEP	SLEEP	
MS3		EXERCISE		MEAL	PRE SLEEP	PRIV FAM CONF	PRE SLEEP	SLEEP	
DAY/NIGHT ORBIT									
TDRS									
ZOE CVG ATTITUDE									
NOTES:									

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE					
327:19:47 / 328:07:47	014:00:00 / 014:12:00	327:13:47 / 328:01:47	15 / 327 GMT	-25.0		NOVEMBER 22, 1996	STS 80	FINAL	09/30/96					
CST :327 FD :14 MET :014	0 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7 8 9 10 11 12													
CDR	OSVS PLB CAMR VIEWS SLEEP	POST SLEEP	IMU MNV R	HUD IMU CAL	-ZLV +YVV	POST SLEEP	MT NO V RC OM M	CREW CONF	MNV R -ZLV +YVV	EXERCISE	DTO 667 PILOT	MEAL	FCS C/O	RCS HOT
PLT	SLEEP	POST SLEEP						CREW CONF		DTO 667 PILOT	EXERCISE	MEAL	FCS C/O	RCS HOT
MS1	SLEEP	POST SLEEP						CREW CONF			OSVS STOW	MEAL	CABIN STOW	EXERCISE
MS2	SLEEP	SD TU MM OP WASTE DUMP MONITOR	SD TU MM OP	POST SLEEP	CREW CONF	P/TV12 SETUP		SEM DEACT	DTO 667 PILOT			MEAL	FCS C/O	RCS HOT
MS3	SLEEP	POST SLEEP		O C A D W N L N K	POST SLEEP	CREW CONF	C O M M R C E R				MEAL	CABIN STOW		
DAY/NIGHT														
ORBIT	221	222	223	224	225	226	227	228	229					
GSTDN COVERAGE														
TDRS E W														
ATTITUDE		-ZLV +YVV		IMU/HUD	-ZLV +YVV	COMM			-ZLV +YVV					
NOTES:											▶ APU HTR ACT			■ APU HTR RCFG-FCS

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON 	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
328:07:47/ 328:19:47	014:12:00/ 015:00:00	328:01:47/ 328:13:47	15 /328 GMT	-23.1		NOVEMBER 23, 1996	STS 80	FINAL	09/30/96	
CST :328 FD :15 MET :014									MET:015	
CDR	NDAILY CHECK	AR MIL HL SL O	FILTER CLEANING	CABIN STOW	U L A U T O	CABIN STOW	MEAL	P R I V M E D	PRE SLEEP	SLEEP
PLT	CABIN STOW		ERG STOW	MEAL	LDG COMM C/O	PRE SLEEP	LDG COMM C/O B/U	P R E S L E E P	SLEEP	
MS1	EXERCISE	CABIN STOW		ERG STOW	MEAL	PRE SLEEP		SLEEP		
MS2	EXERCISE	CABIN STOW		SD PULM YP I N I T	MEAL	SD PULM YP T E R M	PRE SLEEP		SLEEP	
MS3	CABIN STOW	EXERCISE	CABIN STOW	M I N I M U M O R I T Y	MEAL	PRE SLEEP	O C A D W N L I N K	PRE SLEEP	SLEEP	
DAY/NIGHT										
ORBIT	229	230	231	232	233	234	235	236	237	
GSTDN COVERAGE	--MIL		--MIL		--DFR --MIL		--DFR --MIL		--DFR	
TDRS										
ATTITUDE	-ZLV +YVV									
NOTES:										

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE					
328:19:47 / 329:07:47	015:00:00 / 015:12:00	328:13:47 / 329:01:47	16/328 GMT	-21.2		NOVEMBER 23, 1996	STS 80	FINAL	09/30/96					
CST :328	14	15	16	17	18	19	20	21	22	23	0	CST:329	1	2
FD :15	0	1	2	3	4	5	6	7	8	9	10	11	12	
MET :015														
CDR	SLEEP	POST SLEEP												
PLT	SLEEP	POST SLEEP												
MS1	SLEEP	POST SLEEP												
MS2	SLEEP	POST SLEEP												
MS3	SLEEP	POST SLEEP												
DAY/NIGHT	[Day/Night Cycle Diagram]													
ORBIT	237	238	239	240	241	242	243	244	245					
TDRS	[TDRS Coverage Diagram]													
ZOE CVG	[ZOE Coverage Diagram]													
ATTITUDE	-ZLV +YVV													
NOTES:	⊗AEM MUFFLER STOW													

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
329:07:47 / 329:19:47	015:12:00 / 016:00:00	329:01:47 / 329:13:47	16 / 329 GMT	-19.3		NOVEMBER 24, 1996	STS 80	FINAL	09/30/96

CST :329	2	3	4	5	6	7	8	9	10	11	12	13	0	MET:016
FD :16	12	13	14	15	16	17	18	19	20	21	22	23		
MET :015														

CDR	DEORBIT PREP		LDG	
PLT	DEORBIT PREP	D E O R B I T  B U R N *	LDG	K S C
MS1	DEORBIT PREP		LDG	L A N D I N G *
MS2	DEORBIT PREP		LDG	
MS3	DEORBIT PREP		LDG	

DAY/NIGHT										
ORBIT	245	246	247	248	249	250	251	252		
TDRS										
ZOE CVG										
ATTITUDE	-XSI	IMU	COMM	D/O BURN						

NOTES:	* DEORBIT BURN 15/15:44	* KSC LANDING 15/16:44
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DETAILED TIMELINE

DETAILED  
TIMELINE



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TDR  
EW

MET  
DAY 000

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T  
E

CDR

PLT

STS-80 (FD 01)  
MS1

MS2

MS3

MCC

00:00

A6(B1)  
AUTO/ALT  
01:00

ORB  
2

FD 01 EZ ACTIVITIES  
PCS 1(2) CONFIG (ORB OPS, ECLS)  
Config Sys 1 (15 min/2 Cmn)  
CPA OPS (ORB OPS, CREW SYS) (15 min)

A6(B1)  
AUTO/VERN

02:00

A CMIX HEATER ACTIVATION  
MF14M Open CRIM-2 door  
Temp stow CRIM inner door  
HEAT- ON  
LED- ON  
Replace CRIM inner door  
Close CRIM-2 door

A1(B1)  
AUTO/VERN

Change DAP A to A1  
MNVN (TRK) -YLV +ZVV  
TG=2 BV=5  
P=0 Y=270 OM=90  
A/AUTO/VERN Init TRK  
AFT CONTROLLER C/O  
(ORB OPS, GNC)

CMIX HEATER ACTIVATION A

RMS POWERUP  
(PDRS OPS, RMS PWRUP)

CCM-A INIT(PL OPS, CCM-A)  
CARRIER ACTIVATION  
(PL OPS, WSF SYSTEM)

UPLINK  
Config 757

POCC CMD  
CARRIER TLM &  
RGPS

ORB  
3

P/TV02 SETUP (SPAS DPY)  
(P/TV, P/TV SCENES)

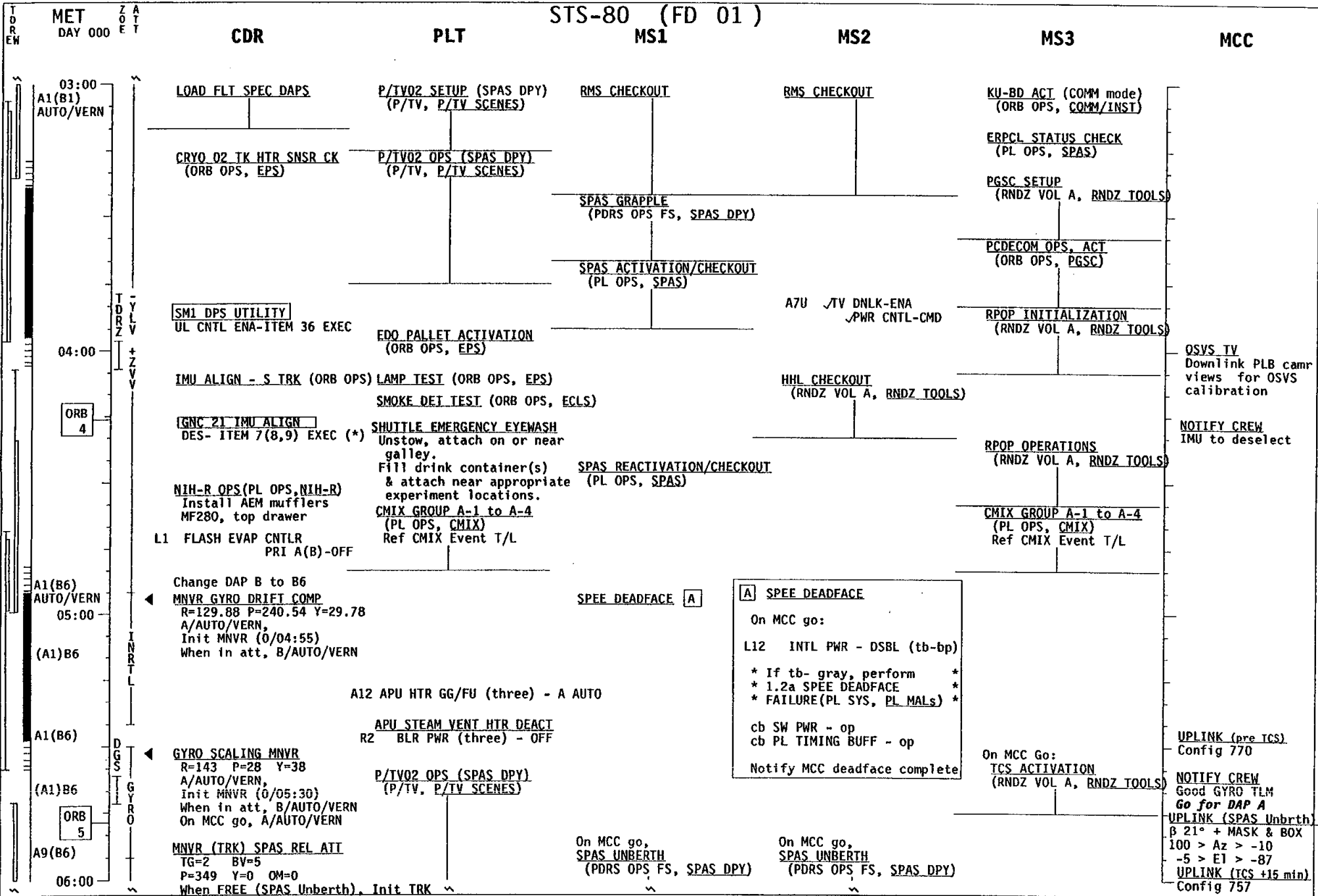
RMS CHECKOUT  
(PDRS OPS, RMS C/O)

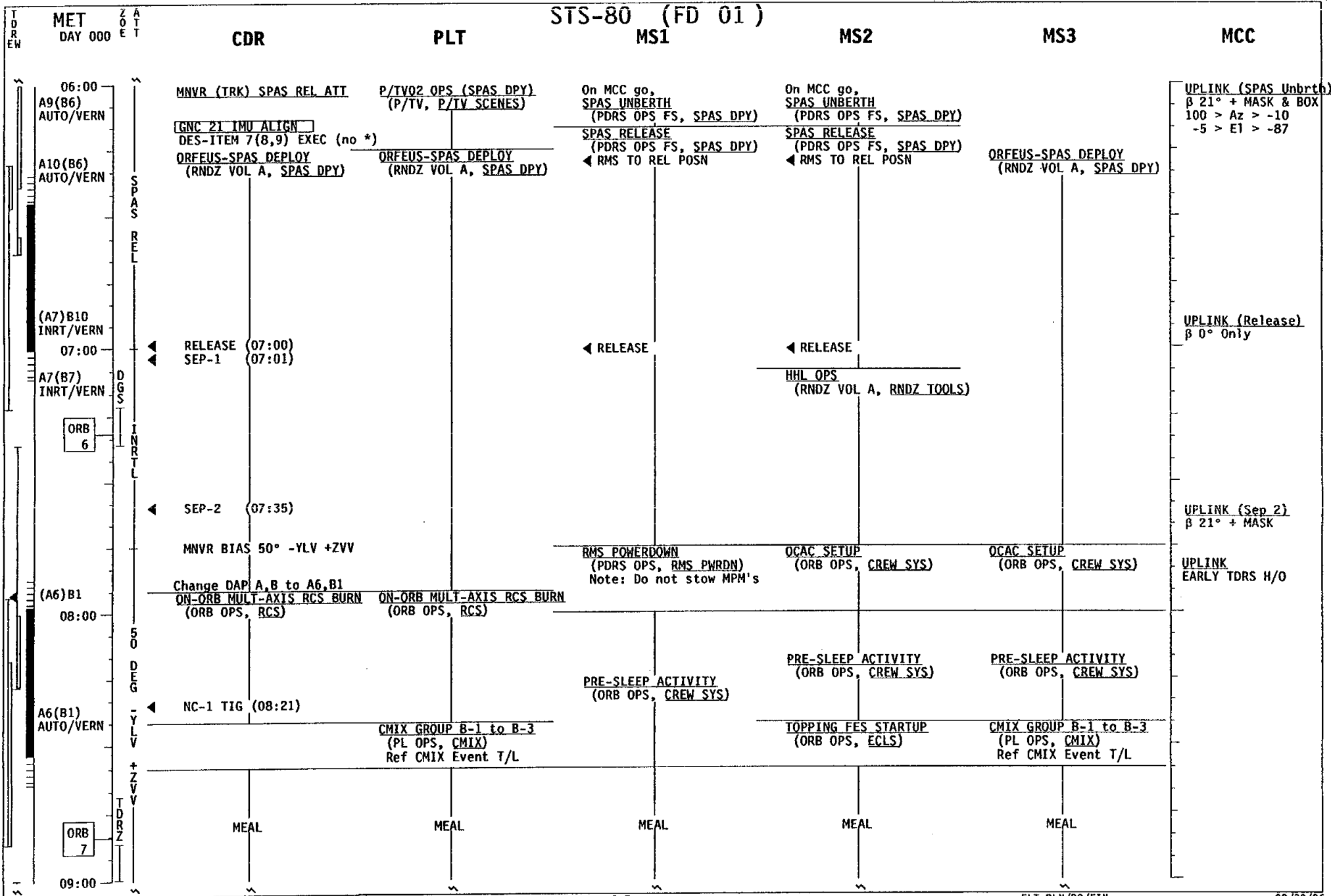
RMS CHECKOUT  
(PDRS OPS, RMS C/O)

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

LOAD FLT SPEC DAPS  
(FLT PLAN, DAP TABLES)  
A9, A10, B6, B9, B10

03:00





T  
D  
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W

MET  
DAY 000

Z  
O  
N  
E

# STS-80 (FD 01)

CDR

PLT

MS1

MS2

MS3

MCC

09:00

A6(B1)  
AUTO/VERN

MEAL

MEAL

MEAL

MEAL

MEAL

06 JHF MODE - OFF  
PRIVATE MEDICAL CONFERENCE

10:00

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

JHM SEP FOR WATER  
ACCUMULATION

A7U JTV DNLK-ENA  
PWR CNTL-CMD

SM1 DPS UTILITY  
UL CNTL AUTO-ITEM 35 EXEC

11:00

SLEEP

SLEEP

SLEEP

SLEEP

SLEEP

OSVS TV  
DOWNLINK  
PLB CAMR VIEWS

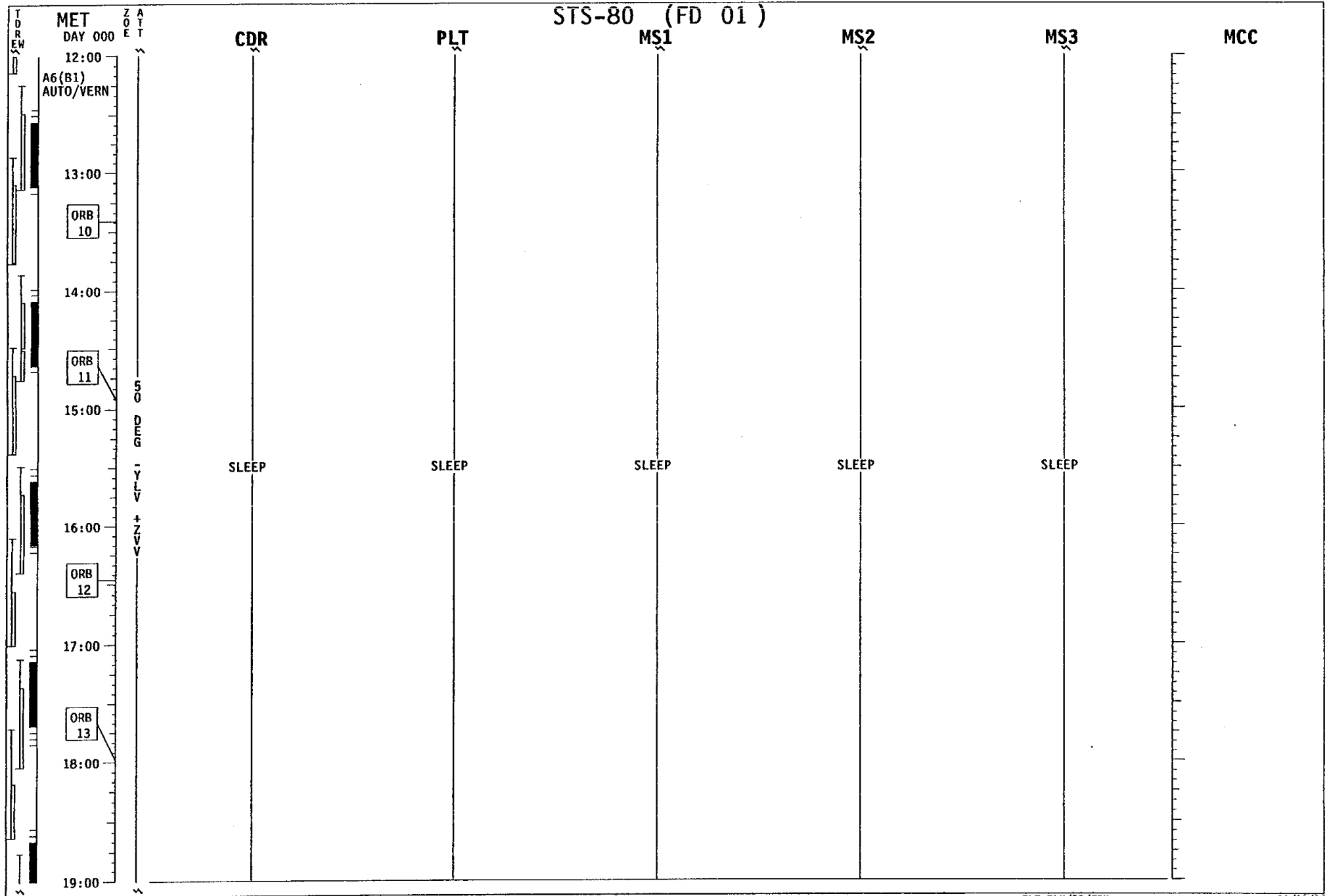
12:00

ORB  
8

ORB  
9

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STS-80 (FD 01)



T  
D  
R  
E  
W

MET  
DAY 000

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A  
T  
O  
E

# STS-80 (FD 02)

CDR

PLT

MS1

MS2

MS3

MCC

19:00  
A6 (B1)  
AUTO/VERN

ORB  
14

20:00

S  
O  
S  
G  
M  
D  
Y  
T  
V  
Z  
N  
V  
V

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

21:00

ORB  
15

VTR SETUP  
(Cue Card, TV/VTR)

VTR OPS-PLBK (ASCT, SPAS DPY)  
(Cue Card, TV/VTR)  
VTR at TDRE (21:27-21:55)

22:00

CYCLE ERGOMETER OPS  
(ORB OPS FS, ERGO OPS)  
Setup Ergometer

CYCLE ERGOMETER OPS  
(ORB OPS FS, ERGO OPS)  
Setup Ergometer

T  
D  
R  
E  
M

MET  
DAY 000  
Z  
O  
T  
E

# STS-80 (FD 02)

CDR

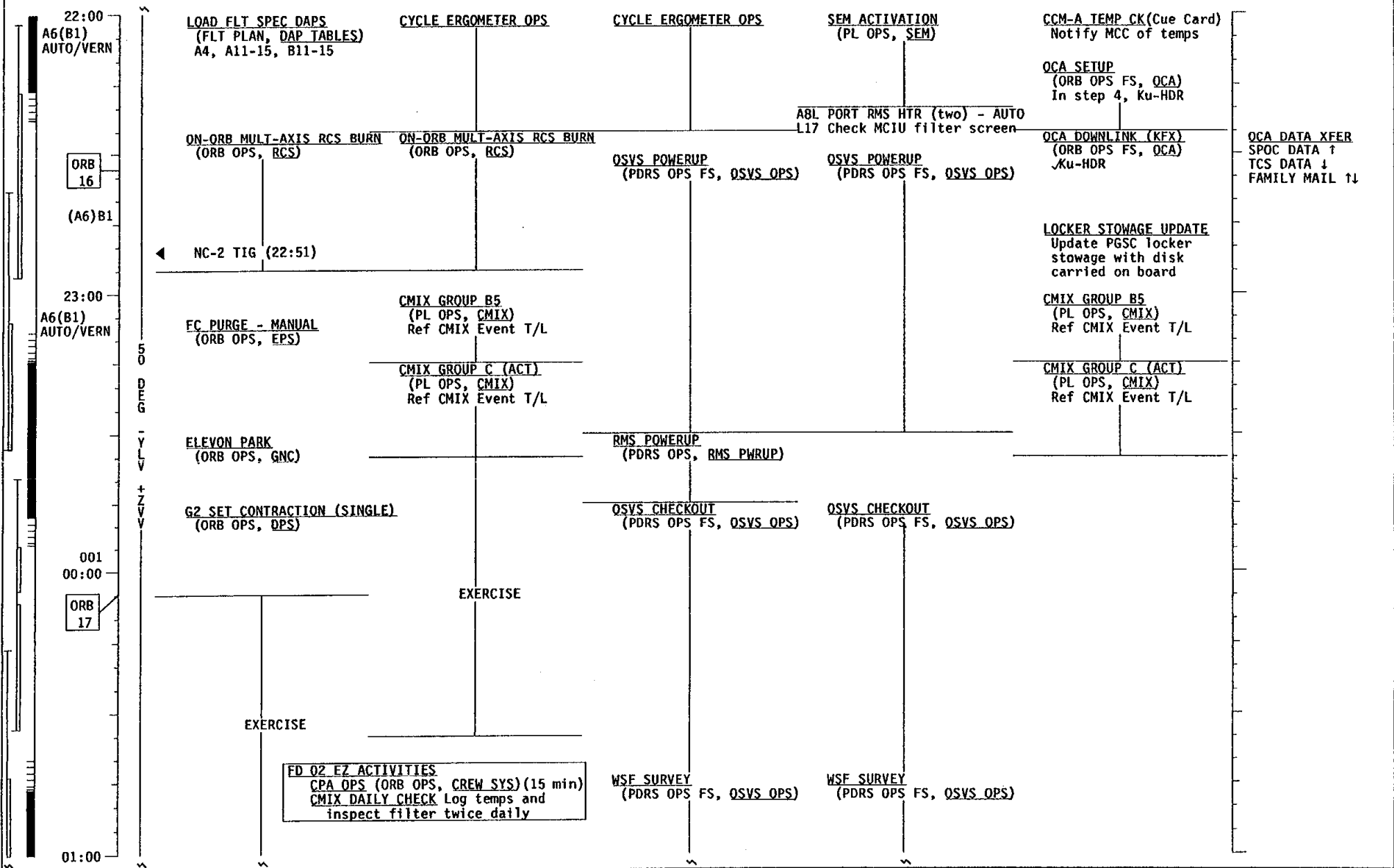
PLT

MS1

MS2

MS3

MCC



22:00  
A6(B1)  
AUTO/VERN  
  
LOAD FLT SPEC DAPS  
(FLT PLAN, DAP TABLES)  
A4, A11-15, B11-15

CYCLE ERGOMETER OPS

CYCLE ERGOMETER OPS

SEM ACTIVATION  
(PL OPS, SEM)

CCM-A TEMP CK(Cue Card)  
Notify MCC of temps

OCA SETUP  
(ORB OPS FS, OCA)  
In step 4, Ku-HDR

ON-ORB MULTI-AXIS RCS BURN  
(ORB OPS, RCS)

ON-ORB MULTI-AXIS RCS BURN  
(ORB OPS, RCS)

ABL PORT RMS HTR (two) - AUTO  
L17 Check MCIU filter screen

OCA DOWNLINK (KFX)  
(ORB OPS FS, OCA)  
Ku-HDR

OCA DATA XFER  
SPOC DATA ↑  
TCS DATA ↓  
FAMILY MAIL ↑↓

ORB  
16

OSVS POWERUP  
(PDRS OPS FS, OSVS OPS)

OSVS POWERUP  
(PDRS OPS FS, OSVS OPS)

(A6)B1

← NC-2 TIG (22:51)

LOCKER STOWAGE UPDATE  
Update PGSC locker  
stowage with disk  
carried on board

23:00  
A6(B1)  
AUTO/VERN

FC PURGE - MANUAL  
(ORB OPS, EPS)

CMIX GROUP B5  
(PL OPS, CMIX)  
Ref CMIX Event T/L

CMIX GROUP B5  
(PL OPS, CMIX)  
Ref CMIX Event T/L

50  
D  
E  
G  
-  
Y  
L  
V  
+  
Z  
V  
V

CMIX GROUP C (ACT)  
(PL OPS, CMIX)  
Ref CMIX Event T/L

CMIX GROUP C (ACT)  
(PL OPS, CMIX)  
Ref CMIX Event T/L

ELEVON PARK  
(ORB OPS, GNC)

RMS POWERUP  
(PDRS OPS, RMS PWRUP)

G2 SET CONTRACTION (SINGLE)  
(ORB OPS, DPS)

OSVS CHECKOUT  
(PDRS OPS FS, OSVS OPS)

OSVS CHECKOUT  
(PDRS OPS FS, OSVS OPS)

001  
00:00

ORB  
17

EXERCISE

EXERCISE

FD 02 EZ ACTIVITIES  
CPA OPS (ORB OPS, CREW SYS) (15 min)  
CMIX DAILY CHECK Log temps and  
inspect filter twice daily

WSF SURVEY  
(PDRS OPS FS, OSVS OPS)

WSF SURVEY  
(PDRS OPS FS, OSVS OPS)

01:00



T  
D  
R  
E  
W

MET  
DAY 001

Z  
A  
O  
T  
E

# STS-80 (FD 02)

CDR

PLT

MS1

MS2

MS3

MCC

01:00  
A6(B1)  
AUTO/VERN

ORB  
18

02:00

03:00  
ORB  
19

04:00

S  
O  
D  
E  
G  
-  
Y  
L  
V  
+  
Z  
V  
Y

T  
D  
R  
Z  
b  
i  
a  
s  
-  
z  
l  
v  
+  
y  
v  
v

EXERCISE

---

MNVR (TRK) BIAS -ZLV +YVV  
TG=2 BV=3 OM=310  
A/AUTO/VERN Init TRK

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

SMI DPS UTILITY  
UL CNTL ENA-ITEM 36 EXEC

ASSEMBLY  
(PL OPS, VIEW-CPL)

TEST PREPARATION  
(PL OPS, VIEW-CPL)

PRESSURE PRIME  
(PL OPS, VIEW-CPL)  
Wait period start

Wait period stop

WSF SURVEY

PLB SURVEY

RMS POWERDOWN  
(PDRS OPS, RMS\_PHRDN)  
Note: Do not stow MPM's

OSVS POWERDOWN  
(PDRS OPS FS, OSVS OPS)

WSF SURVEY

PLB SURVEY

UPDATE  
H2O SPLY DUMP  
QTY TK A & B

MEAL

MEAL

MEAL

MEAL

MEAL

T  
D  
R  
E  
W

MET  
DAY 001

Z  
O  
T

STS-80 (FD 02)

CDR

PLT

MS1

MS2

MS3

MCC

04:00  
A6(B1)  
AUTO/VERN

SUPPLY/WASTE WATER DUMP  
(ORB OPS, ECLS)  
Terminate Supply Dump  
MNVR (TRK) -YLV +ZVV  
TG=2 BV=5  
P=0 Y=270 OM=90  
A/AUTO/VERN Init TRK

CMIX GROUP C (DEACT)  
(PL OPS, CMIX)  
Ref CMIX Event T/L

CMIX GROUP C (DEACT)  
(PL OPS, CMIX)  
Ref CMIX Event T/L

SPAS RF ACQ (ERPCL)  
(PL OPS, SPAS)

ORB  
20

IMU ALIGN - S TRK (ORB OPS)

MNVR (TRK) BIAS 50° -YLV +ZVV TEST PREPARATION  
TG=2 BV=5 (PL OPS, VIEW-CPL)  
P=90 Y=320 OM=90  
A/AUTO/VERN Init TRK

TEST-IS40  
(PL OPS, VIEW-CPL)

05:00

FILTER CLEANING  
(IFM, SCHEDULED MAINTENANCE)

Downlink desired

5  
0  
D  
E  
G

R2 BLR CNTLR/HTR (three) - B

Cooldown start

EXERCISE

06:00

ORB  
21

Cooldown stop

TEST PREPARATION  
(PL OPS, VIEW-CPL)

EXERCISE

TEST-S25  
(PL OPS, VIEW-CPL)

Downlink desired

07:00

T  
D  
R  
E  
W

MET  
DAY 001

Z  
A  
T  
E

# STS-80 (FD 02)

CDR

PLT

MS1

MS2

MS3

MCC

07:00  
A6(B1)  
AUTO/VERN

(A6)B1

ORB 22

A6(B1)  
AUTO/VERN

08:00

5  
0  
D  
E  
G  
R  
E  
E  
S

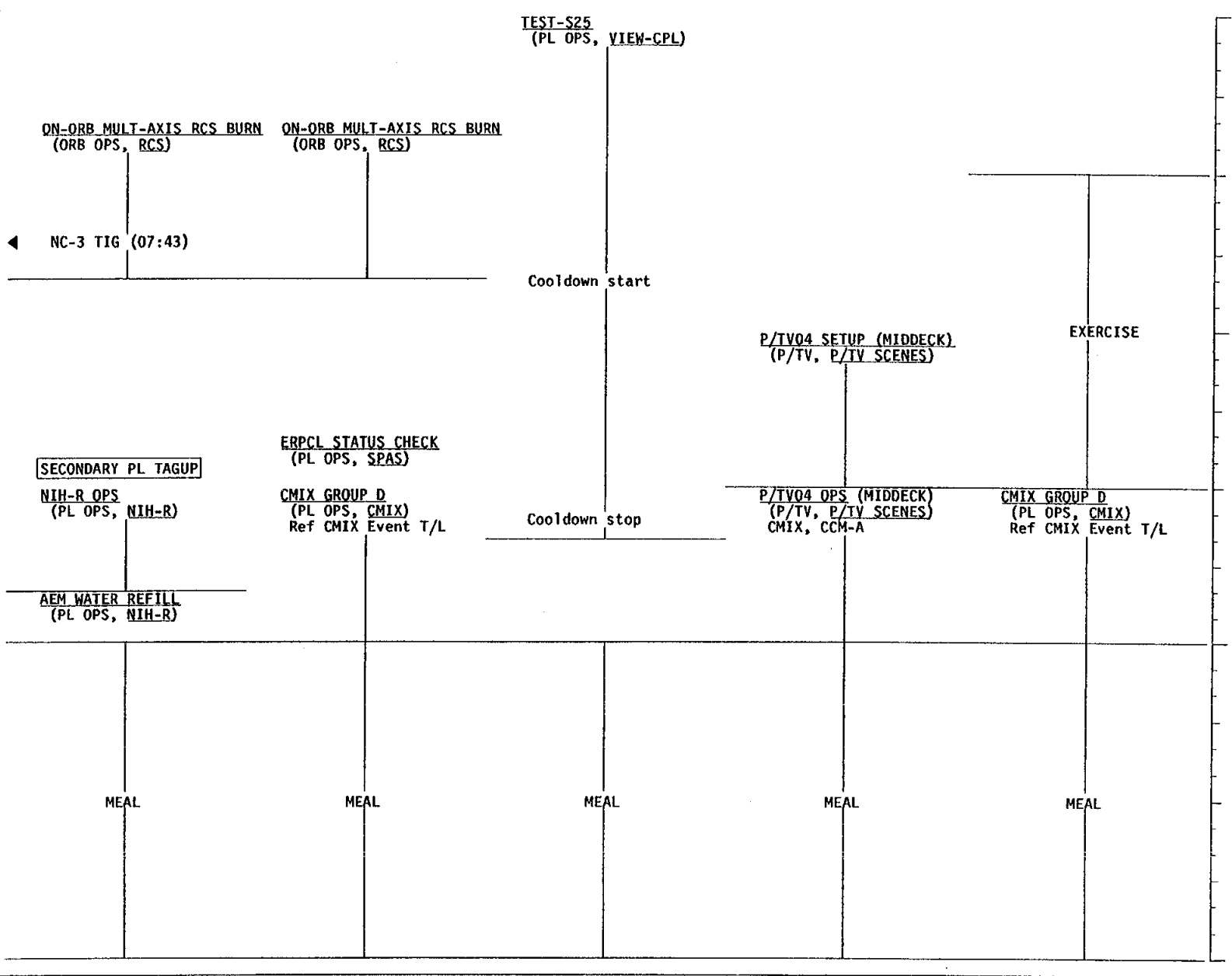
-  
Y  
L  
V

+  
Z  
V  
V

09:00

ORB 23

10:00



Y  
D  
R  
E  
W

MET  
DAY 001

Z  
A  
O  
E  
T

# STS-80 (FD 02)

CDR

PLT

MS1

MS2

MS3

MCC

10:00  
A6(B1)  
AUTO/VERN

ORB  
24

11:00

ORB  
25

12:00

13:00

50  
D  
E  
G  
-  
Y  
L  
V  
+  
Z  
V  
V  
-  
Y  
L  
V  
+  
Z  
V  
V

06 /UHF MODE - OFF  
PRIVATE MEDICAL CONFERENCE

SM1 DPS UTILITY  
UL CNTL AUTO-ITEM 35 EXEC

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

/HUM SEP FDR WATER  
ACCUMULATION

MNVR (TRK) -YLV +ZVV  
TG=2 BV=5  
P=0 Y=270 OM=90  
A/AUTO/VERN Init TRK

SLEEP

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

SLEEP

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

SLEEP

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

SLEEP

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

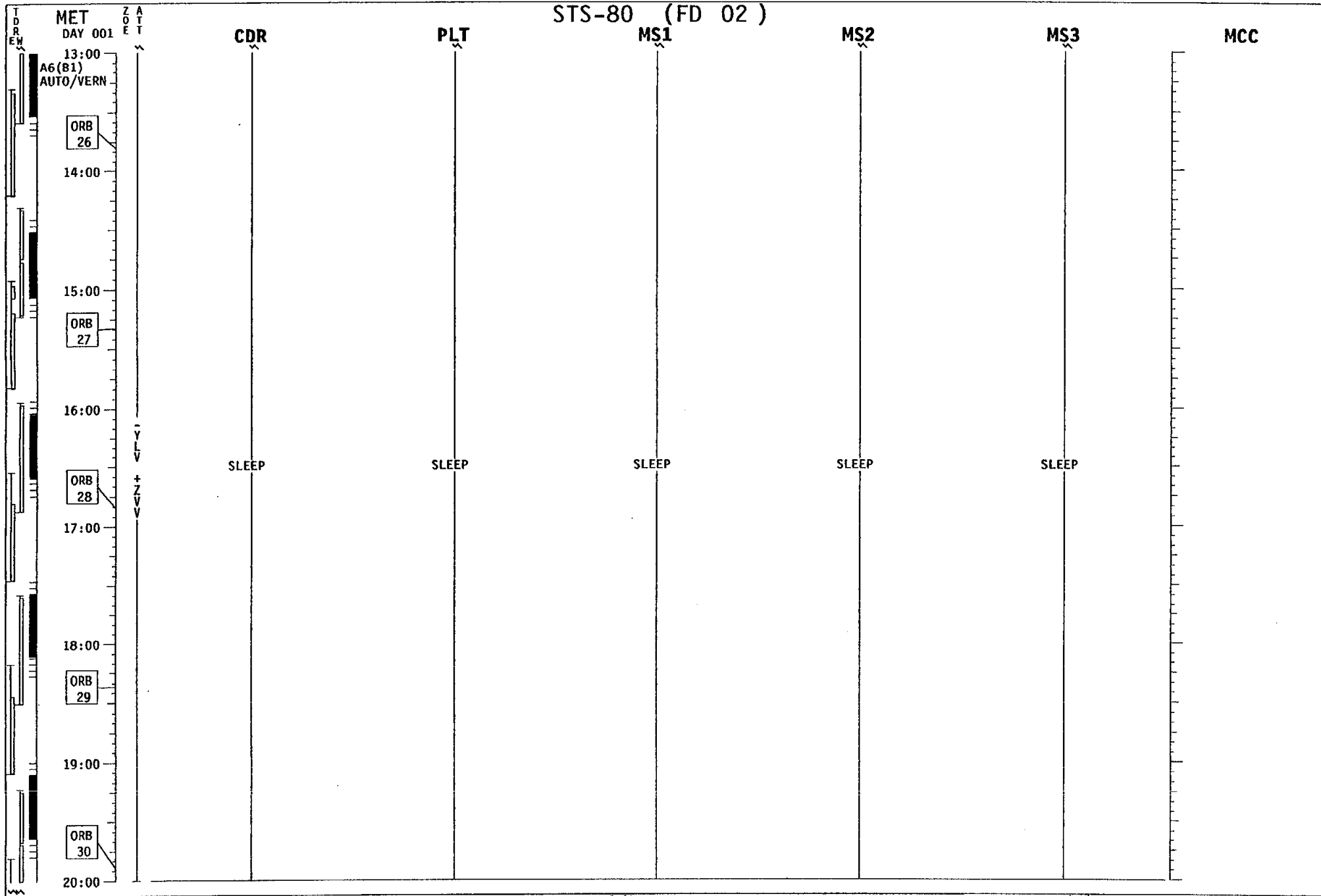
OCA DOWNLINK (KFX)  
(ORB OPS FS, OCA)  
/Ku-HDR

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

SLEEP

OCA DATA XFER  
FAMILY MAIL T1

STS-80 (FD 02)



T  
D  
R  
E  
W

MET  
DAY 001

Z  
A  
O  
T  
E

# STS-80 (FD 03)

CDR

PLT

MS1

MS2

MS3

MCC

20:00  
A6(B1)  
AUTO/VERN

MNVR(TRK)BIAS 50° -YLV +ZVV  
TG=2 BV=5  
P=90 Y=320 OM=90  
A/AUTO/VERN Init TRK

21:00

ORB  
31

50  
D  
E  
G  
-  
Y  
L  
V  
+  
Z  
V  
V

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

22:00

ORB  
32

23:00

OCA DOWNLINK (KFX)  
(ORB OPS FS, OCA)  
Ku-HDR

OCA DATA XFER  
SPOC DATA ↑  
FAMILY MAIL ↓↓

TDR  
EW

MET  
DAY 001

Z A  
O T  
E

# STS-80 (FD 03)

CDR

PLT

MS1

MS2

MS3

MCC

23:00  
A6(B1)  
AUTO/VERN  
(A6)B1

A6(B1)  
AUTO/VERN

002  
00:00

ORB  
33

01:00

ORB  
34

02:00

S  
O  
D  
E  
M  
-  
Y  
L  
V  
+  
Z  
V  
V

ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)

ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)

AIRLOCK PREP  
(EVA, NOM PROCEDURES)

AIRLOCK PREP  
(EVA, NOM PROCEDURES)

AIRLOCK PREP  
(EVA, NOM PROCEDURES)

◀ NC-4 TIG (23:27)

ERPL STATUS CHECK  
(PL OPS, SPAS)

EMU CHECKOUT AT 14.7 PSI  
(EVA, EMU CHECKOUT)  
(EMU's 1 and 2)

EMU CHECKOUT AT 14.7 PSI  
(EVA, EMU CHECKOUT)  
(EMU's 1 and 2)

EMU CHECKOUT AT 14.7 PSI  
(EVA, EMU CHECKOUT)  
(EMU's 1 and 2)

L17 Check MCIU filter screen

**FD 03 EZ ACTIVITIES**  
 CPA OPS (ORB OPS, CREW SYS) (15 min)  
 OCAC FILTER INSPECT  
 CMIX DAILY CHECK Log temps and  
 inspect filter twice daily

VTR SETUP  
(Cue Card, TV/VTR)

VTR OPS-PLBK (VIEW-CPL)  
(Cue Card, TV/VTR)  
If required,  
VTR at TDRW (00:33-01:00)  
VTR at TDRE (01:10-01:37)

EMU HEATED GLOVE C/O  
(EVA, FS EVA PROCS)

EMU HEATED GLOVE C/O  
(EVA, FS EVA PROCS)

EMU HEATED GLOVE C/O  
(EVA, FS EVA PROCS)

EMU SWAP  
(EVA, NOM PROCEDURES)  
Swap EMUs 2 and 3

EMU SWAP  
(EVA, NOM PROCEDURES)  
Swap EMUs 2 and 3

EMU SWAP  
(EVA, NOM PROCEDURES)  
Swap EMUs 2 and 3

EMU CHECKOUT AT 14.7 PSI  
(EVA, EMU CHECKOUT)  
(EMU 3)

EMU CHECKOUT AT 14.7 PSI  
(EVA, EMU CHECKOUT)  
(EMU 3)

EMU CHECKOUT AT 14.7 PSI  
(EVA, EMU CHECKOUT)  
(EMU 3)

TDRW

MET DAY 002 ZONE

# STS-80 (FD 03)

CDR

PLT

MS1

MS2

MS3

MCC

EMU CHECKOUT AT 14.7 PSI

EMU CHECKOUT AT 14.7 PSI

EMU CHECKOUT AT 14.7 PSI

02:00  
A6(B1)  
AUTO/VERN

03:00

CCM-A TEMP CK(Cue Card)  
Notify MCC of temps

50 DEG  
YLV  
+ZVV

P/TV06 SETUP (PAO EVENTS)  
(P/TV, P/TV SCENES)

ORB  
35

EXERCISE

PAO VOICE CHECK/EVENT  
TV at TDRW  
(3:50-4:10)

PAO VOICE CHECK/EVENT

04:00

MEAL

MEAL

MEAL

MEAL

MEAL

05:00



T  
O  
R  
E  
W

MET  
DAY 002

Z  
A  
O  
E  
T

# STS-80 (FD 03)

CDR

PLT

MS1

MS2

MS3

MCC

05:00

ORB  
36

A6(B1)  
AUTO/VERN

06:00

ORB  
37

07:00

08:00

150  
DEG  
-YL  
+ZV  
bias  
-ZLV  
+YVV

MEAL

MEAL

MEAL

MEAL

MEAL

PRIORITY PWRDN GROUP B  
(ORB PKT, PRIOR PWRDN)  
Omit steps 8,11,13

TEST PREPARATION  
(PL OPS, VIEW-CPL)

PREDEPLOY PREP  
(PL OPS, WSE SYSTEM)

PREDEPLOY PREP  
(PL OPS, WSE SYSTEM)

TEST-S75  
(PL OPS, VIEW-CPL)

MNVR (TRK) BIAS -ZLV +YVV  
TG=2 BV=3 OM=310  
A/AUTO/VERN Init TRK

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

UPDATE  
WASTE/SUPPLY  
H2O DUMP QTY

Cooldown start

EXERCISE

WASTE DUMP MONITOR  
as req'd

Cooldown stop

EXERCISE

CMIX GROUP E  
(PL OPS, CMIX)  
Ref CMIX Event T/L

TEST PREPARATION  
(PL OPS, VIEW-CPL)

CMIX GROUP E  
(PL OPS, CMIX)  
Ref CMIX Event T/L

TEST-S65  
(PL OPS, VIEW-CPL)

TDRW

MET DAY 002

ZONE

# STS-80 (FD 03)

CDR

PLT

MS1

MS2

MS3

MCC

08:00

ORB 38

A6(B1) AUTO/VERN

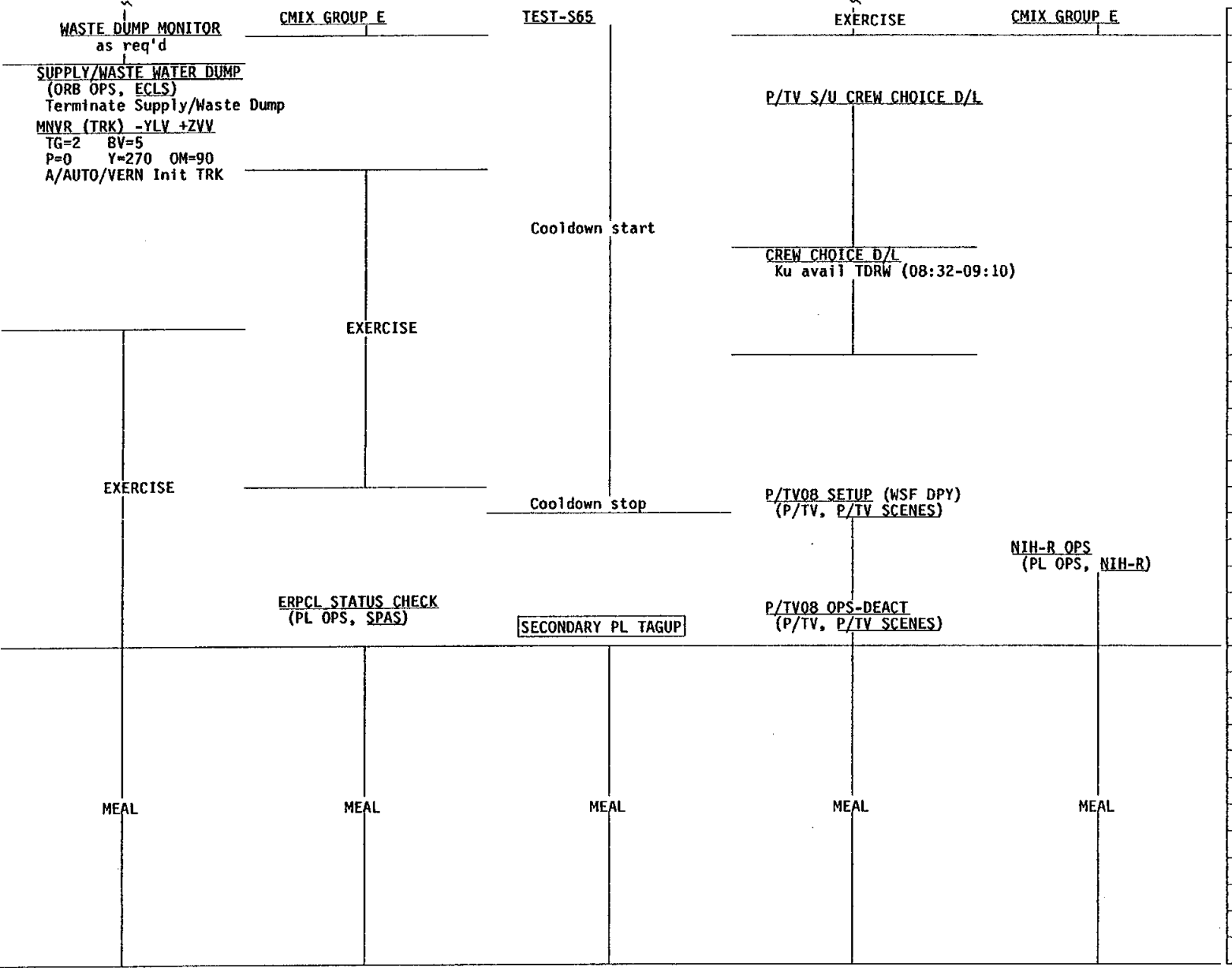
09:00

ORB 39

YLV +ZVV

10:00

11:00



T  
D  
R  
E  
W

MET  
DAY 002

Z  
A  
O  
E  
T

# STS-80 (FD 03)

CDR

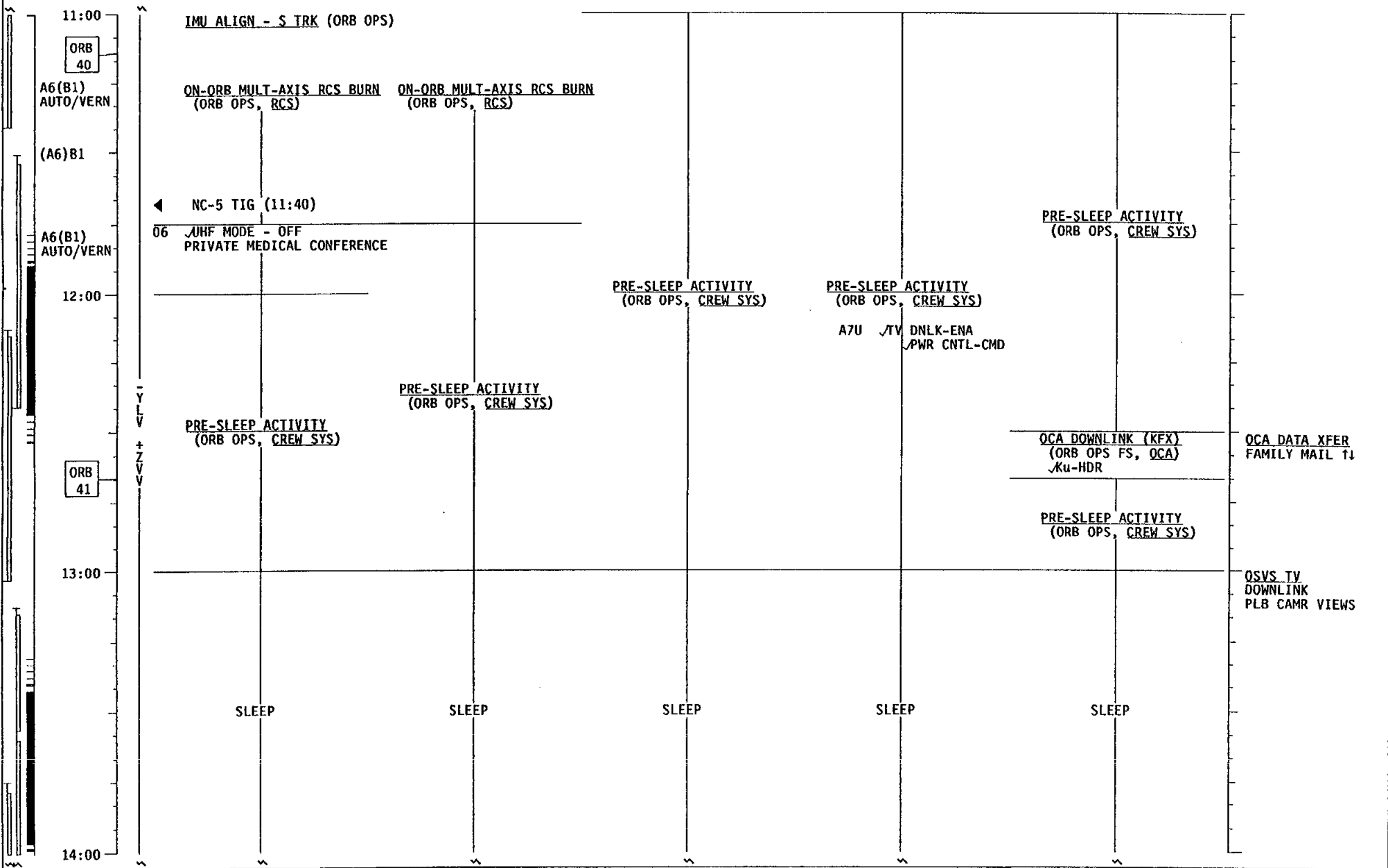
PLT

MS1

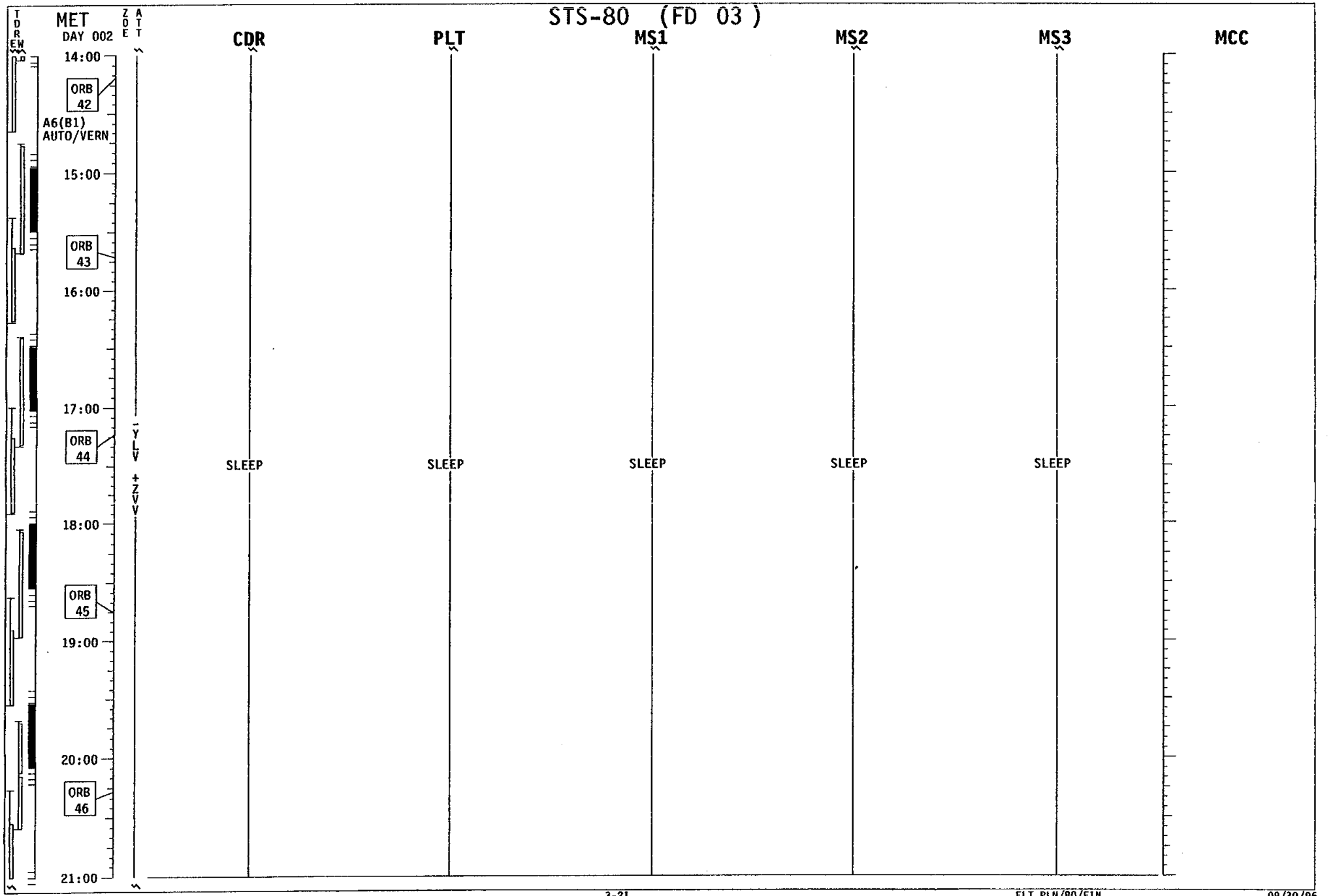
MS2

MS3

MCC



STS-80 (FD 03)



MET DAY 002

Z A D E T

CDR

PLT

MS1

MS2

MS3

MCC

14:00

15:00

16:00

17:00

18:00

19:00

20:00

21:00

ORB 42

ORB 43

ORB 44

ORB 45

ORB 46

A6(B1) AUTO/VERN

Y L V

+ Z V V

TDR

MET  
DAY 002Z A T  
O T E

STS-80 (FD 04)

CDR

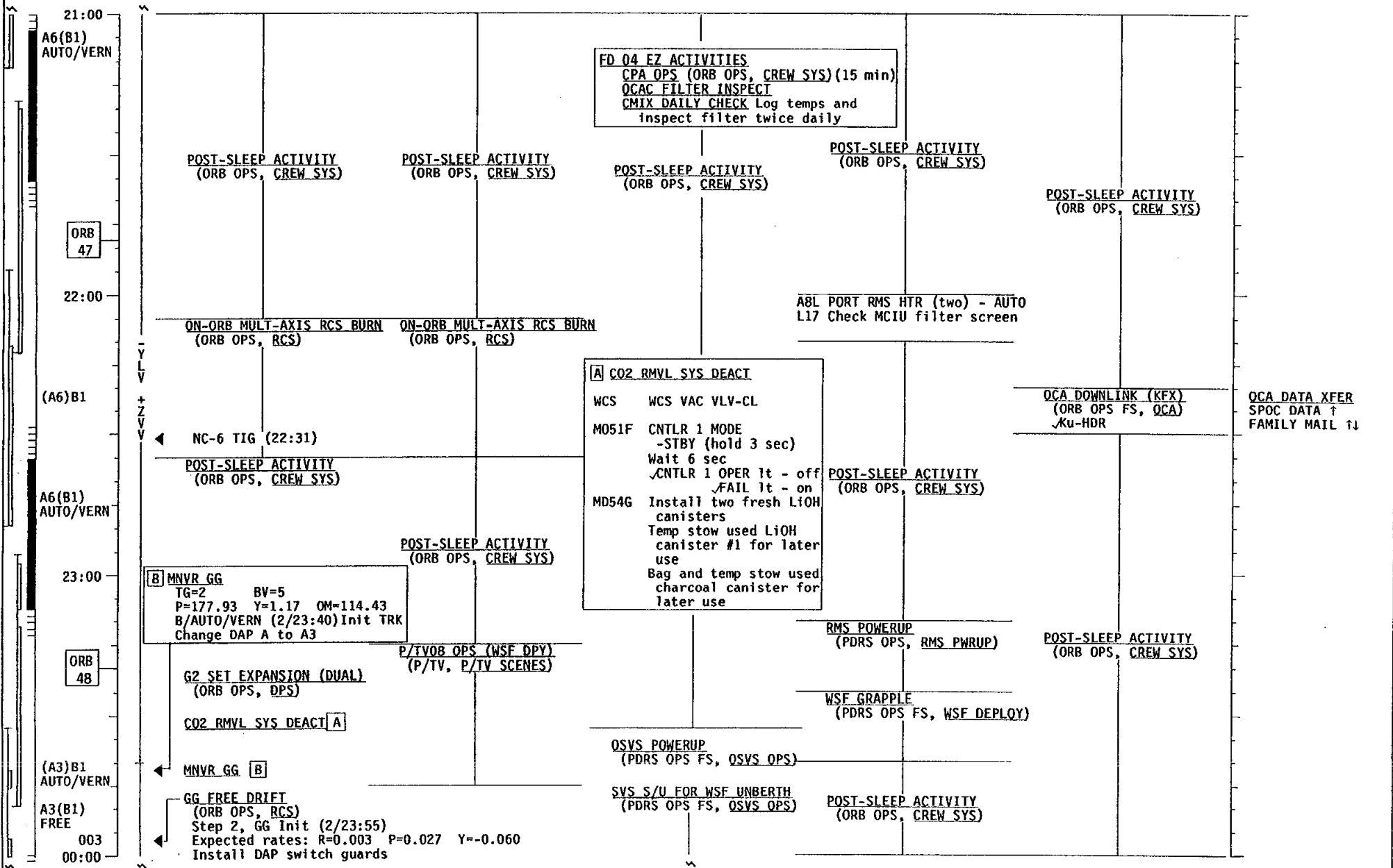
PLT

MS1

MS2

MS3

MCC



T  
D  
R  
E  
W

# STS-80 (FD 04)

MET  
DAY 003

CDR

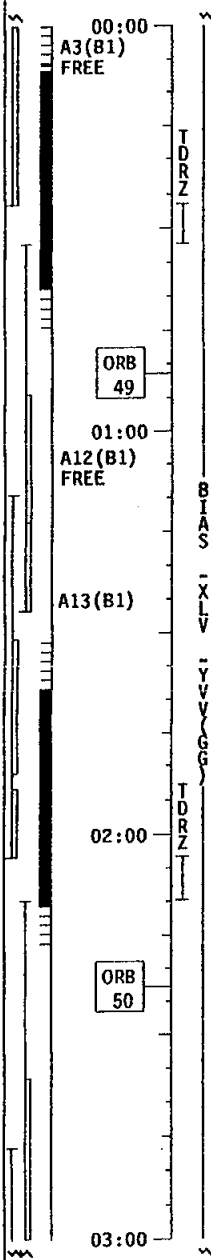
PLT

MS1

MS2

MS3

MCC



SMI DPS UTILITY  
UL CNTL ENA-ITEM 36 EXEC

TRANSITION TO RMA DPY C/L

TRANSITION TO RMA DPY C/L SVS S/U FOR WSF UNBERTH

TRANSITION TO RMA DPY C/L

TRANSITION TO RMA DPY C/L ERPCL STATUS CHECK  
(PL OPS, SPAS)

ERPCL DEACT  
A6L ✓ERPCL TB MODE- NORMAL  
DC PWR-OFF (tb-bp)  
\* If tb-gray, cycle sw \*  
\* If no joy, MCC \*

TRANSITION TO RMA DPY C/L

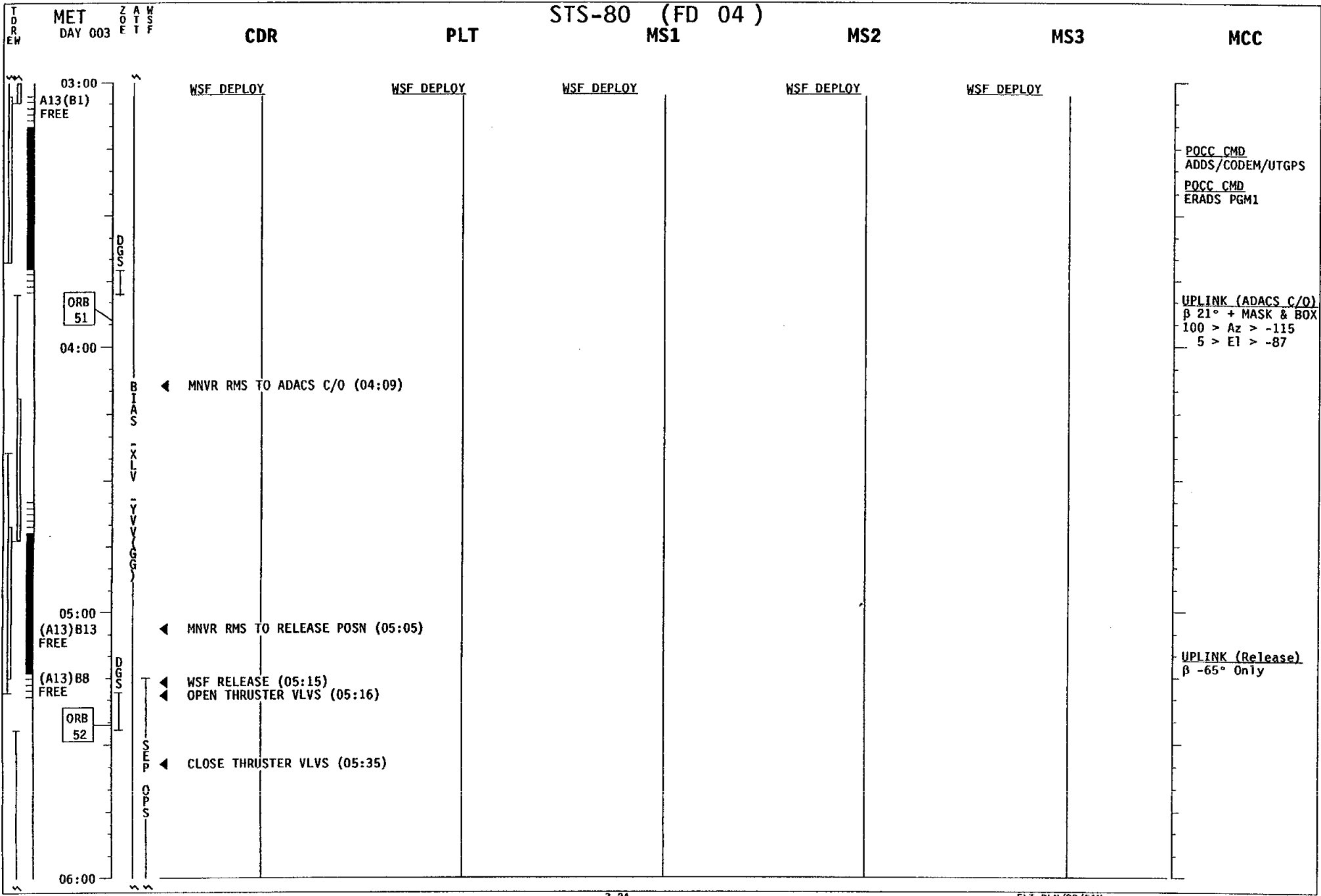
UPLINK (Unberth)  
β 21° + MASK & BOX  
100 > Az > 20  
-20 > El > -87

◀ WSF UNBERTH (01:05)

◀ MNVR RMS TO RAM CLEANING (01:23)

IMU ALIGN - S TRK (ORB OPS)  
WSF DEPLOY

NOTIFY CREW  
ALIGN IMUs



T  
D  
R  
E  
W

MET  
DAY 003

Z  
A  
W  
S  
T  
E  
T  
F

# STS-80 (FD 04)

CDR

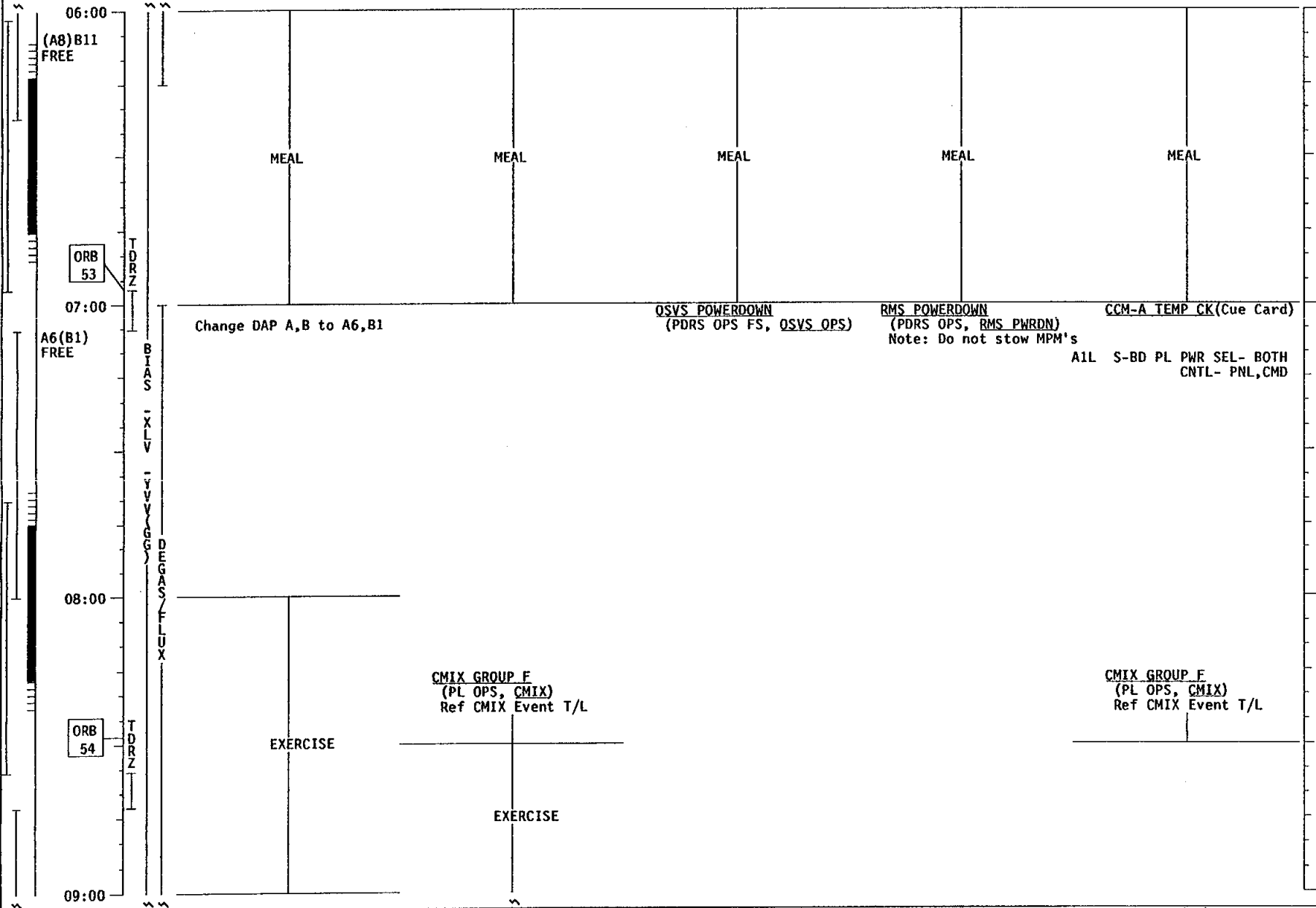
PLT

MS1

MS2

MS3

MCC





T D R E W

MET DAY 003

Z A W S  
O E T F

# STS-80 (FD 04)

CDR

PLT

MS1

MS2

MS3

MCC

09:00

A6(B1) FREE

ORB 55

10:00

(A6)B1 AUTO/PRI

11:00

A6(B1) AUTO/VERN

ORB 56

12:00

B I A S  
- X L V  
- Y V V (G G)  
T D R Z  
D E G A S T L U X  
- Y L V  
+ Z V V  
T D R Z

**A CO2 RMVL SYS ACT**

Perform CO2 RMVL SYS CNTRLR CONFIG ACT 1/DEACT 2 (ORB OPS, ECLS) and modify CHARCOAL CANISTER REPLACEMENTS as follows:

MD54G a. Remove two LiOH canisters, rebag and stow for later use  
b. Reinstall used LiOH canister #1 in slot A Unbag, reinstall used charcoal canister in Slot B

WCS WCS VAC VALV- OP

MNVR (TRK) -YLV +ZVV  
TG=2 BV=5  
P=0 Y=270 OM=90  
A/AUTO/VERN Init TRK

ON-ORB MULT-AXIS RCS BURN (ORB OPS, RCS)

ON-ORB MULT-AXIS RCS BURN (ORB OPS, RCS)

← NC-7 TIG (10:52)

SECONDARY PL TAGUP

TOPPING FES STARTUP (ORB OPS, ECLS)

CO2 RMVL SYS ACT A

MEAL

MEAL

MEAL

MEAL

MEAL

EXERCISE

EXERCISE

EXERCISE

EXERCISE

SPAS RF ACO (ERPCL)  
(PL OPS, SPAS)

ERPCL STATUS CHECK  
(PL OPS, SPAS)

NIH-R OPS  
(PL OPS, NIH-R)

UPLINK (WSF @ 8mt)  
β 21° + MASK

TDR  
EW

MET  
DAY 003

Z  
A  
D  
T  
F  
H  
S  
F

# STS-80 (FD 04)

CDR

PLT

MS1

MS2

MS3

MCC

12:00

A6(B1)  
AUTO/VERN

MEAL

MEAL

MEAL

MEAL

MEAL

SMI DPS UTILITY  
UL CNTL AUTO-ITEM 35 EXEC

06 JHF MODE - OFF  
PRIVATE MEDICAL CONFERENCE

DEGAS/FLUX

13:00

ORB  
57

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

YLV  
+ZVV

OCA DOWNLINK (KFX)  
(ORB OPS FS, OCA)  
Ku-HDR

OCA DATA XFER  
FAMILY MAIL TL

14:00

PREGROWTH

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

SLEEP

SLEEP

SLEEP

SLEEP

SLEEP

ORB  
58

15:00

STS-80 (FD 04)

MET  
DAY 003

ZONE  
A T F  
O T F  
E

CDR

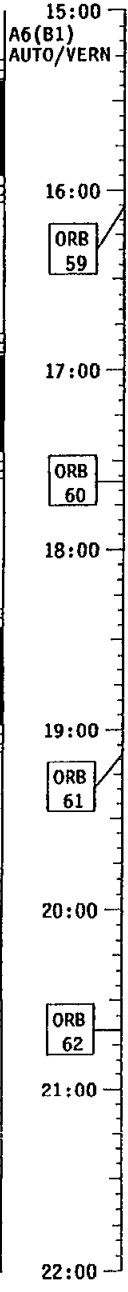
PLT

MS1

MS2

MS3

MCC



PERFORMANCE  
YLV  
+ZVV  
RUN  
1

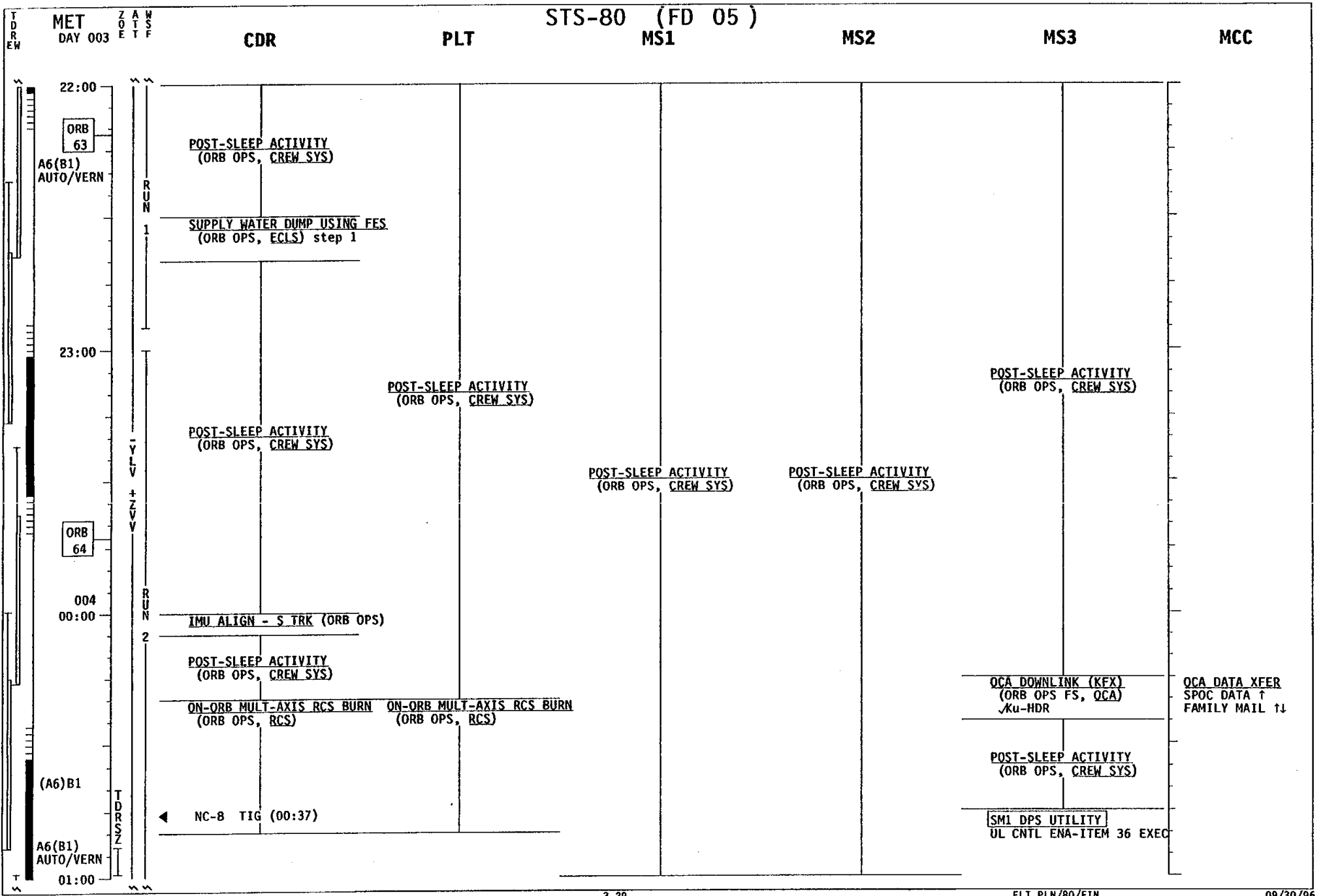
SLEEP

SLEEP

SLEEP

SLEEP

SLEEP



TDR  
EW

MET  
DAY 004

Z  
A  
W  
S  
F  
O  
T  
E

01:00  
A6(B1)  
AUTO/VERN

ORB  
65

02:00

03:00

04:00

RUN

TDRZ  
Y  
L  
V  
+  
Z  
V  
V

RUN

2

3

CDR

PLT

STS-80 (FD 05)

MS1

MS2

MS3

MCC

FD 05 EZ ACTIVITIES  
CPA OPS (ORB OPS, CREW SYS) (15 min)  
CMIX DAILY CHECK Log temps and  
inspect filter twice daily

TEST PREPARATION  
(PL OPS, VIEW-CPL)

TEST-S10  
(PL OPS, VIEW-CPL)

P/TV S/U CREW CHOICE D/L

ERPCL STATUS CHECK  
(PL OPS, SPAS)

CCM-A TEMP CK(Cue Card)

CREW CHOICE D/L (SEM)  
Ku avail TDRW (01:15-01:53)

VTR SETUP  
(Cue Card, TV/VTR)

VTR OPS-PLBK (WSF DPY)  
(Cue Card, TV/VTR)  
VTR at TDRE (1:55-2:30)

CMIX GROUP G  
(PL OPS, CMIX)  
Ref CMIX Event T/L

CMIX GROUP G  
(PL OPS, CMIX)  
Ref CMIX Event T/L

Cooldown start

EXERCISE

P/TV06 SETUP (PAO EVENTS)  
(P/TV, P/TV SCENES)

EXERCISE

Cooldown stop

PAO VOICE CHECK/EVENT  
TV at TDRE  
(03:45-04:05)

PAO VOICE CHECK/EVENT

PAO VOICE CHECK/EVENT

FAN FILTER CLEANING  
(PL OPS, VIEW-CPL)

T  
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W

MET  
DAY 004

Z  
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A  
H  
S  
T

# STS-80 (FD 05)

CDR

PLT

MS1

MS2

MS3

MCC

04:00

A6(B1)  
AUTO/VERN

ORB  
67

PAO VOICE CHECK/EVENT

TEST PREPARATION  
(PL OPS, VIEW-CPL)

PAO VOICE CHECK/EVENT

PAO VOICE CHECK/EVENT

EXERCISE

TEST-S50  
(PL OPS, VIEW-CPL)

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

05:00

Cooldown start

✓ WCS HOSE BLOCK FLTR

EXERCISE

◀ WSF SK BURN 1 (if req)  
(4/05:12)

ORB  
68

06:00

Cooldown stop

MEAL

MEAL

MEAL

MEAL

MEAL

07:00

Y  
L  
V  
+  
Z  
V  
V  
3  
T  
D  
R  
Z

T  
O  
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E  
W

MET  
DAY 004

Z  
A  
W  
S  
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T  
E  
T  
F

STS-80 (FD 05)

CDR

PLT

MS1

MS2

MS3

MCC

07:00  
A6(B1)  
AUTO/VERN

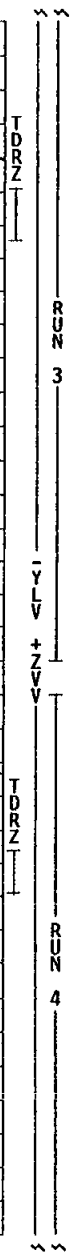
ORB  
69

08:00

ORB  
70

09:00

10:00



TEST PREPARATION  
(PL OPS, VIEW-CPL)

TEST-PV-GRAD  
(PL OPS, VIEW-CPL)

Cooldown start

EXERCISE

Cooldown stop

TEST PREPARATION  
(PL OPS, VIEW-CPL)

TEST-SS25  
(PL OPS, VIEW-CPL)

P/TV S/U CREW CHOICE D/L

TDR  
EH

MET  
DAY 004

ZAW  
OTSTF

STS-80 (FD 05)

CDR

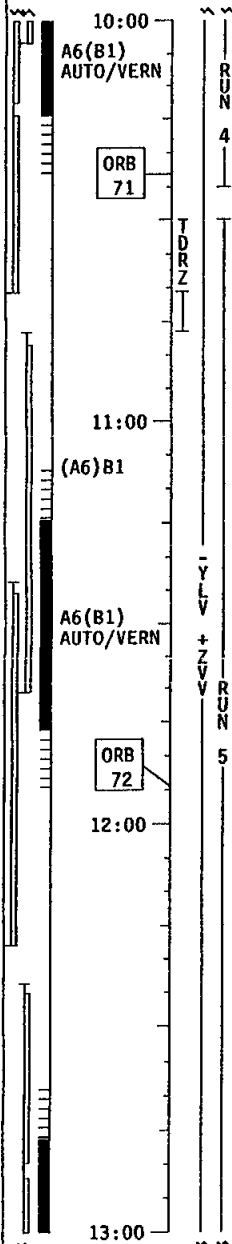
PLT

MS1

MS2

MS3

MCC



P/TV S/U CREW CHOICE D/L TEST-SS25

CREW CHOICE D/L  
Ku avail TDRE (10:15-10:40)

ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)

ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)

Cooldown start

SMI DPS UTILITY  
UL CNTL AUTO-ITEM 35 EXEC

◀ NC-9 TIG (11:18)

NIH-R OPS  
(PL OPS, NIH-R)

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

EXERCISE

AEM WATER REFILL  
(PL OPS, NIH-R)

SECONDARY PL TAGUP

Cooldown stop

ERPCL STATUS CHECK  
(PL OPS, SPAS)

MEAL

MEAL

MEAL

MEAL

MEAL



TDR EW

MET DAY 004

Z A W S  
O E T F

# STS-80 (FD 05)

CDR

PLT

MS1

MS2

MS3

MCC

13:00

A6(B1)  
AUTO/VERN

06 JHFH MODE - OFF  
PRIVATE MEDICAL CONFERENCE

ORB  
73

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

14:00

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

OCA DOWNLINK (KFX)  
(ORB OPS FS, OCA)  
Ku-HDR

OCA DATA XFER  
FAMILY MAIL ↑↓

RUN  
-YLV  
+ZVV

5

ORB  
74

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

15:00

SLEEP

SLEEP

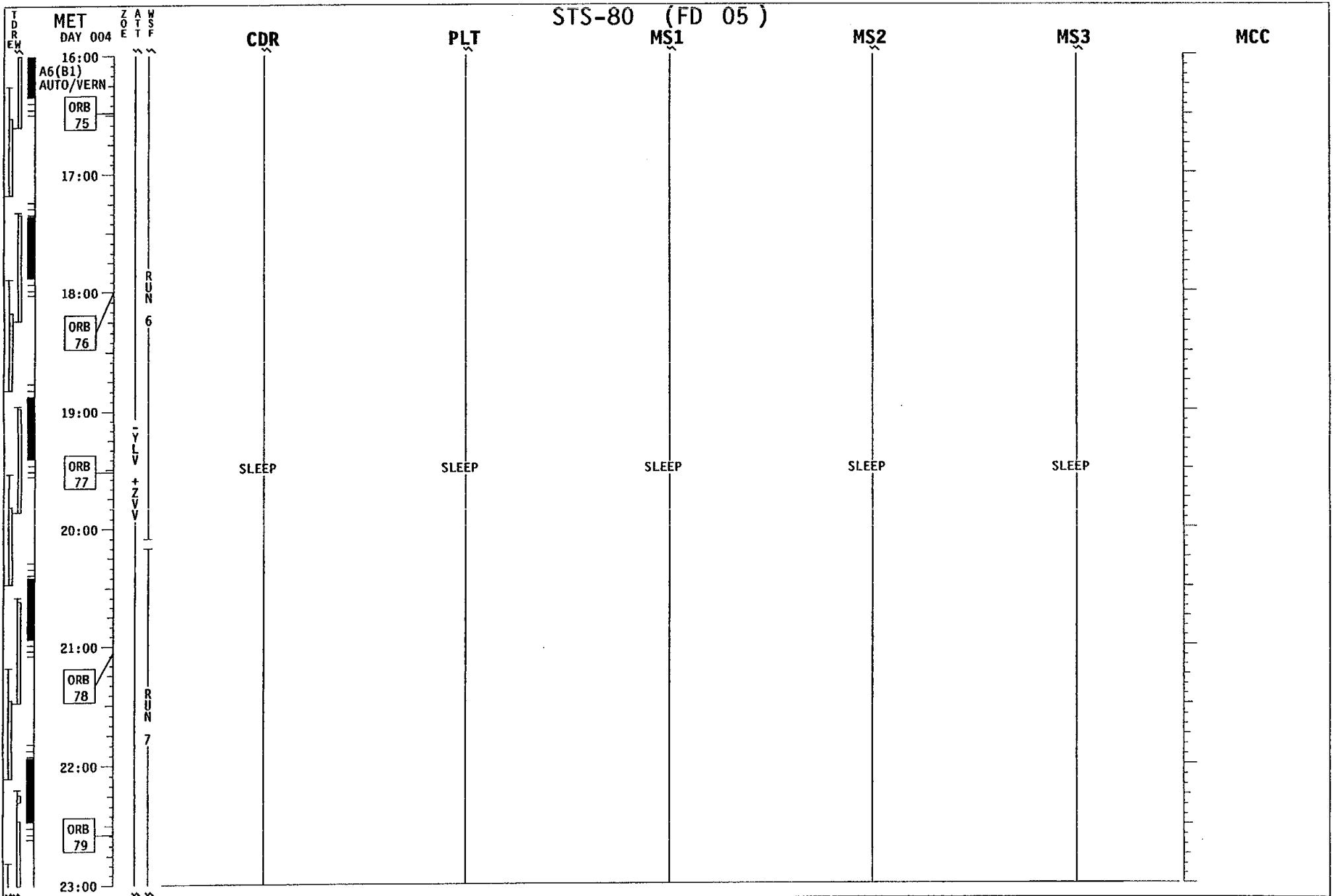
SLEEP

SLEEP

SLEEP

16:00

RUN  
6



T  
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MET  
DAY 004

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P

STS-80 (FD 06)

CDR

PLT

MS1

MS2

MS3

MCC

23:00

A6(B1)  
AUTO/VERN

R  
U  
N

7

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

005

00:00

SUPPLY WATER DUMP USING FES  
(ORB OPS, ECLS) step 1

ORB  
80

V  
L  
V  
+  
Z  
V  
V

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

01:00

IMU ALIGN - S TRK (ORB OPS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

ORB  
81

02:00

OCA DOWNLINK (KFX)  
(ORB OPS FS, OCA)  
Ku-HDR

OCA DATA XFER  
SPOC DATA ↑  
FAMILY MAIL ↑↓

T  
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MET  
DAY 005

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F

# STS-80 (FD 06)

CDR

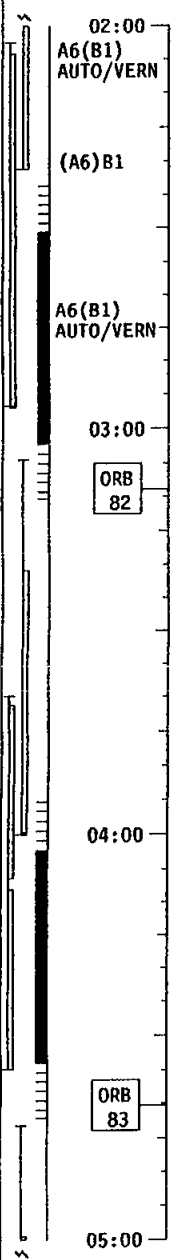
PLT

MS1

MS2

MS3

MCC



ON-ORB MULT-AXIS RCS BURN (ORB OPS, RCS)    ON-ORB MULT-AXIS RCS BURN (ORB OPS, RCS)

← NC-10 TIG (02:35)

OFF DUTY

OFF DUTY

OFF DUTY

OFF DUTY

OFF DUTY

T  
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MET  
DAY 005

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E  
F

# STS-80 (FD 06)

CDR

PLT

MS1

MS2

MS3

MCC

05:00

A6(B1)  
AUTO/VERN

06:00

ORB  
84

07:00

08:00

OFF DUTY

OFF DUTY

OFF DUTY

OFF DUTY

OFF DUTY

MEAL

MEAL

MEAL

MEAL

MEAL

◀ WSF SK BURN 2 (if req.)  
(05/07:10)

Y  
L  
V  
+  
Z  
V  
V

TDRW

MET  
DAY 005

ZONE  
A  
T  
S  
W  
T  
S

# STS-80 (FD 06)

CDR

PLT

MS1

MS2

MS3

MCC

08:00  
A6(B1)  
AUTO/VERN

<b>FD 06 EZ ACTIVITIES</b>
CPA OPS (ORB OPS, CREW SYS) (15 min)
QCAC FILTER INSPECT
CMIX DAILY CHECK Log temps and inspect filter twice daily

CMIX GROUP H  
(PL OPS, CMIX)  
Ref CMIX Event T/L

TEST PREPARATION  
(PL OPS, VIEW-CPL)

P/TV06 SETUP (PAO EVENTS)  
(P/TV, P/TV SCENES)

CMIX GROUP H  
(PL OPS, CMIX)  
Ref CMIX Event T/L

TEST-S40  
(PL OPS, VIEW-CPL)

ERPCL STATUS CHECK  
(PL OPS, SPAS)

PAO VOICE CHECK/EVENT  
TV at TDRW  
(08:30 to 08:50)

PAO VOICE CHECK/EVENT

PAO VOICE CHECK/EVENT

09:00

ORB  
86

Cooldown start

L17 Check MCIU filter screen    CCM-A TEMP CK(Cue Card)

EXERCISE

10:00

EXERCISE

Cooldown stop

TEST PREPARATION  
(PL OPS, VIEW-CPL)

P/TV S/U CREW CHOICE D/L

TEST-S35  
(PL OPS, VIEW-CPL)

CREW CHOICE D/L  
Ku avail TDRE (10:30-11:07)

11:00

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MET  
DAY 005

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F

# STS-80 (FD 06)

CDR

PLT

MS1

MS2

MS3

MCC

11:00  
A6(B1)  
AUTO/VERN

12:00  
(A6)B1  
ORB  
88

A6(B1)  
AUTO/VERN

13:00

ORB  
89

14:00

Y  
L  
V  
+  
Z  
V  
V

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

TEST-S35

CREW CHOICE D/L

Cooldown start

NIH-R OPS  
(PL OPS, NIH-R)

12:00

Cooldown stop

ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)

ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)

EXERCISE

EXERCISE

EXERCISE

◀ NC-11 TIG (12:39)

SECONDARY PL TAGUP

ERPCL STATUS CHECK  
(PL OPS, SPAS)

MEAL

MEAL

MEAL

MEAL

MEAL

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MET  
DAY 005

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E  
T  
F

# STS-80 (FD 06)

CDR

PLT

MS1

MS2

MS3

MCC

14:00  
A6(B1)  
AUTO/VERN

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

06 JHF MODE - OFF  
PRIVATE MEDICAL CONFERENCE

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

15:00

FAMILY CONFERENCE

FAMILY CONFERENCE

FAMILY CONFERENCE

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

ORB  
90

QCA DOWNLINK (KFX)  
(ORB OPS FS, QCA)  
Ku-HDR

QCA DATA XFER  
FAMILY MAIL TL

Y  
L  
V  
+  
Z  
V  
V

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

16:00

SLEEP

SLEEP

SLEEP

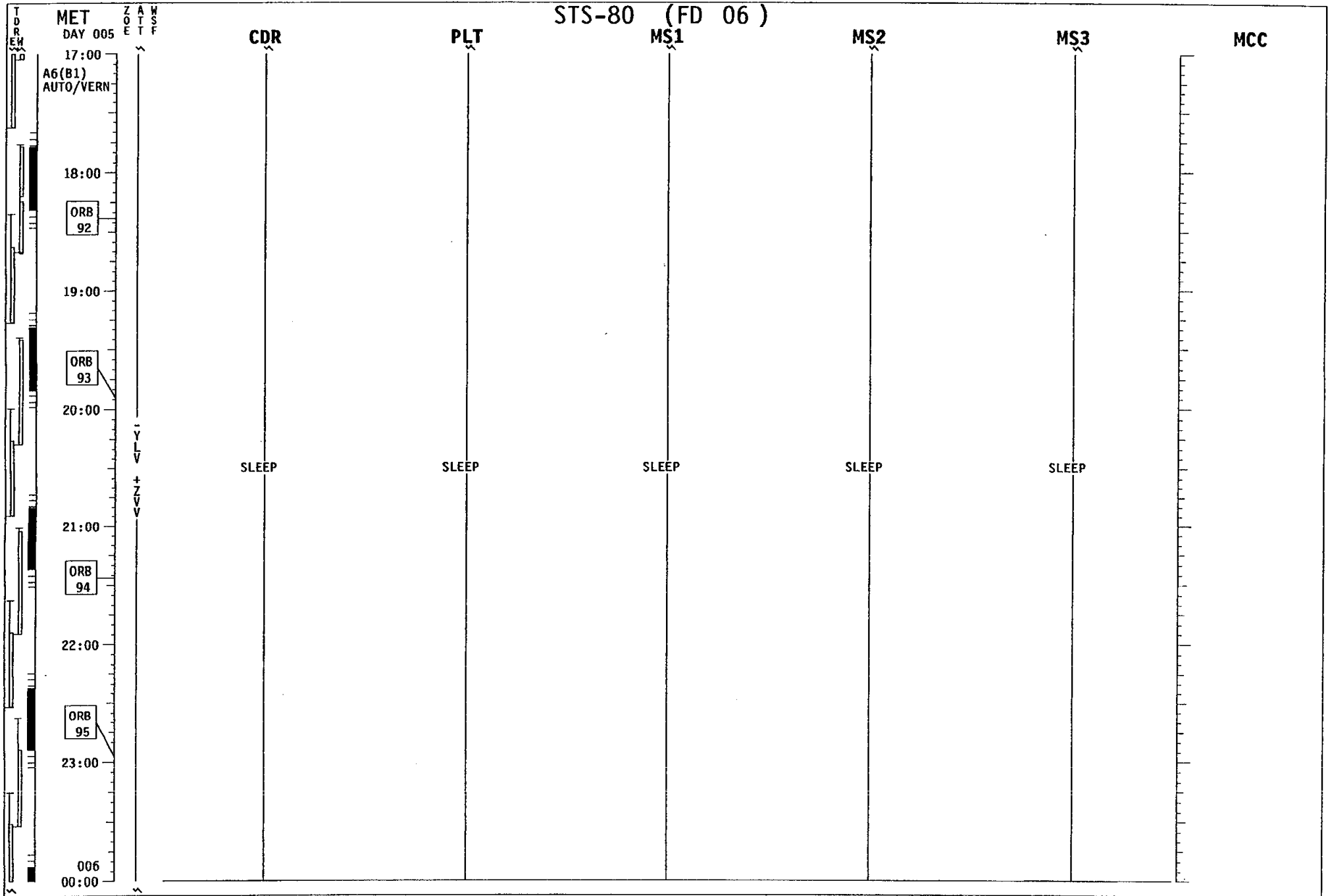
SLEEP

SLEEP

ORB  
91

17:00





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MET  
DAY 006

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STS-80 (FD 07 )  
MS1

CDR

PLT

MS2

MS3

MCC

00:00  
A6(B1)  
AUTO/VERN

ORB  
96

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

01:00

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

Y  
L  
V  
+  
Z  
V  
V

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRIORITY PWRUP GROUP B  
(ORB PKT, PRIOR PWRDN)  
Omit step 8  
(G2 set expansion will  
be done in WSF rndz c/1)

02:00

ORB  
97

IMU ALIGN - S TRK (ORB OPS)

OCA DOWNLINK (KFX)  
(ORB OPS FS, OCA)  
Ku-HDR

OCA DATA XFER  
SPOC DATA ↑  
FAMILY MAIL ↓↓

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

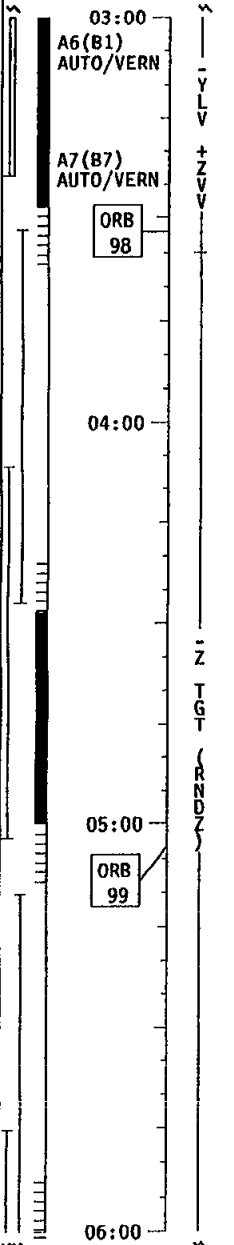
POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

03:00

TDR EW MET DAY 006 Z A W S F O E T F

# STS-80 (FD 07)

CDR PLT MS1 MS2 MS3 MCC



WSF RNDZ  
(RNDZ VOL B, RNDZ T/L)

NC-12 (03:54)

NH-WSF (04:41)

**FD 07 EZ ACTIVITIES**  
 CPA OPS  
 (ORB OPS, CREW SYS)  
 (15 min)  
 QCAC FILTER INSPECT  
 CMIX DAILY CHECK Log  
 temps and inspect  
 filter twice daily

WSF RNDZ  
(RNDZ VOL B, RNDZ T/L)

ABL PORT RMS HTR (two) - AUTO  
 L17 Check MCIU filter screen

RMS POWERUP  
 (PDRS OPS, RMS PWRUP)

WSF RNDZ  
 (RNDZ VOL B, RNDZ T/L)

EXERCISE

P/TV09A SETUP/OPS (WSF RETRV)  
 (P/TV, P/TV SCENES)

WSF RNDZ  
 (RNDZ VOL B, RNDZ T/L)

ERPCL STATUS CHECK  
 (PL OPS, SPAS)

CCM-A TEMP CK (Cue Card)

WSF RNDZ  
 (RNDZ VOL B, RNDZ T/L)

STS-80 (FD 07)

MET  
DAY 006

ZONE  
A T W S F

CDR

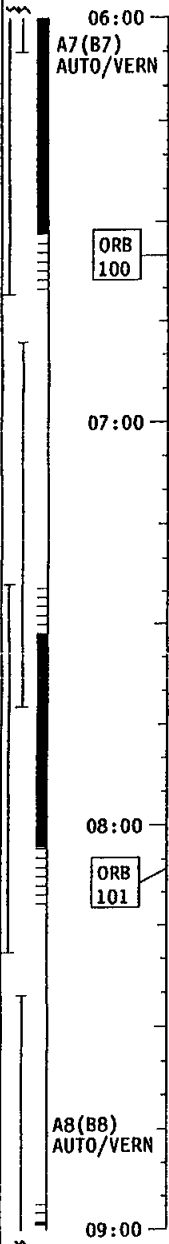
PLT

MS1

MS2

MS3

MCC



WSF RNDZ  
NCC-WSF (06:01)

WSF RNDZ

WSF RNDZ

WSF RNDZ

WSF RNDZ

T1-WSF (06:58)

SMI DPS UTILITY  
UL CNTL ENA-ITEM 36 EXEC  
WSF RNDZ

UPLINK (Grapple)  
β -5° Only

TDR  
EW

MET  
DAY 006

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# STS-80 (FD 07)

CDR

PLT

MS1

MS2

MS3

MCC

09:00

A12(B8)  
AUTO/VERN

ORB  
102

10:00

A6(B1)  
AUTO/VERN

ORB  
103

11:00

12:00

WSF RNDZ

WSF RNDZ

WSF RNDZ

WSF RNDZ

WSF RNDZ

← GRAPPLE (09:17)

MNVR (TRK) -YLV +ZVV

TG=2 BV=5  
P=0 Y=270 OM=90  
A/AUTO/VERN Init TRK

G2 SET CONTRACTION (SINGLE)  
(ORB OPS, DPS)

Change DAP A,B to A6,B1

MNVR (TRK) BIAS -ZLV +YVV

TG=2 BV=3 OM=310  
A/AUTO/VERN Init TRK

NIH-R OPS  
(PL OPS, NIH-R)

EXERCISE

EXERCISE

SM1 OPS UTILITY  
UL CNTL AUTO-ITEM 35 EXEC

OSVS POWERUP  
(PDRS OPS FS, OSVS OPS)

WSF BERTH (OSVS S/U)  
(PDRS OPS FS, WSF RETRV)  
Step 1

WSF BERTH  
(PDRS OPS FS, WSF RETRV)  
Steps 2-7

OSVS POWERDOWN  
(PDRS OPS FS, OSVS OPS)

WSF BERTH  
(PDRS OPS FS, WSF RETRV)  
Steps 2-7

RMS POWERDOWN  
(PDRS OPS, RMS PWRDN)  
Note: Do not stow MPM's

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

WASTE DUMP MONITOR  
as req'd

EXERCISE

UPLINK (Post Grpl)  
β 21° + MASK & BOX  
100 > Az > 10  
5 > El > -87

UPLINK (Post Berth)  
β 21° + MASK

UPDATE  
WASTE/SUPPLY  
H2O DUMP QTY

YLV  
+ZVV  
TDRZ  
bias  
-ZLV +YVV  
TDRZ

TDR  
EM

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DAY 006

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# STS-80 (FD 07)

CDR

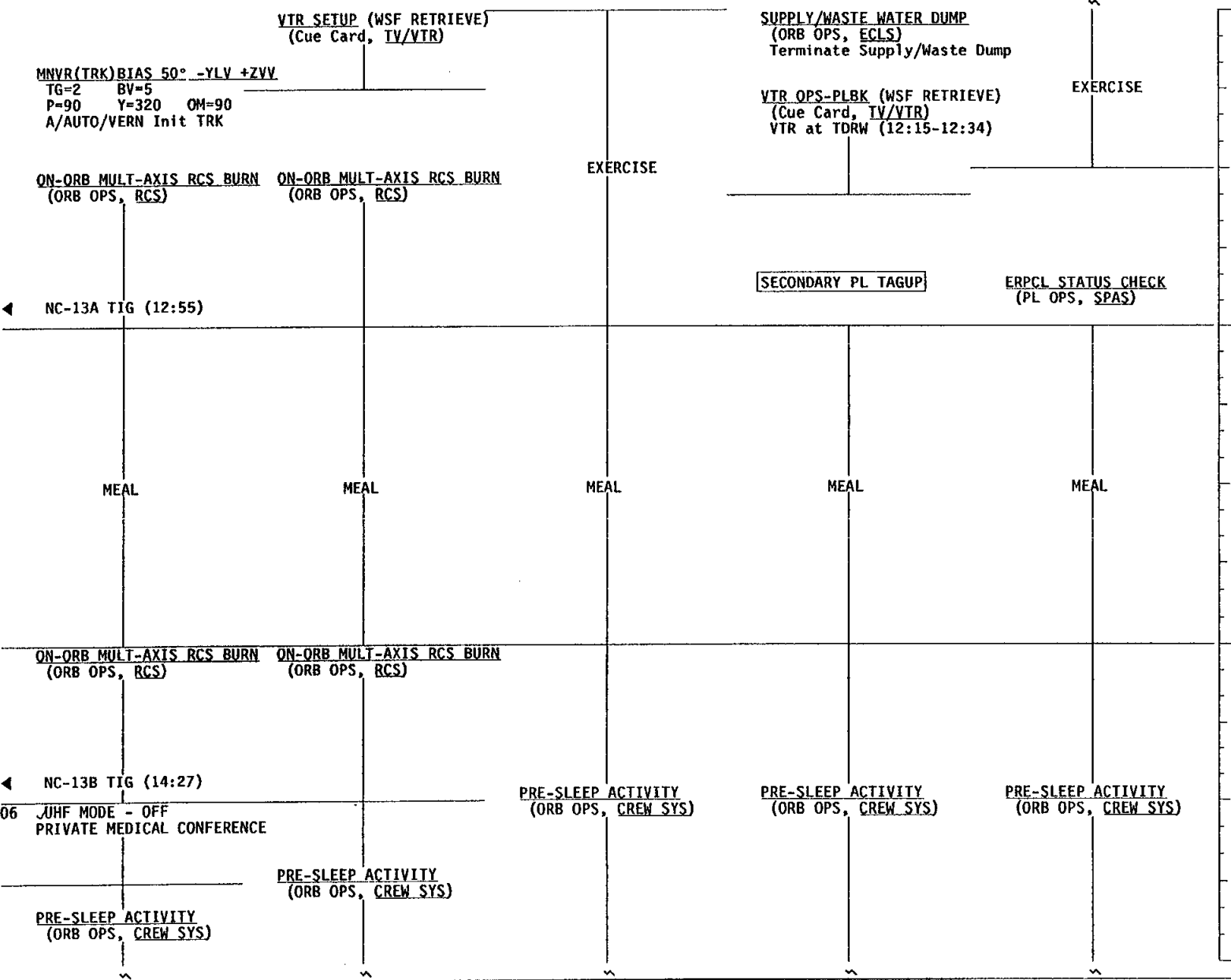
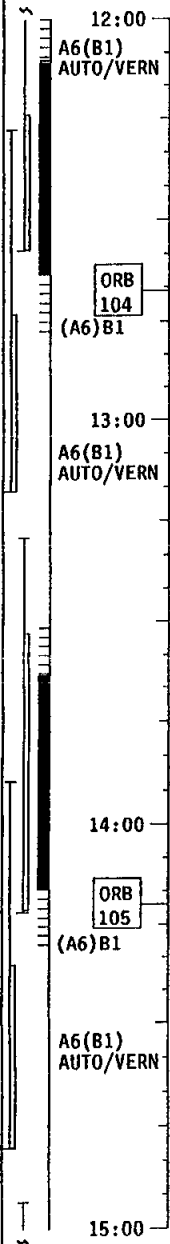
PLT

MS1

MS2

MS3

MCC



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MET Z A W  
DAY 006 O T S  
E T F

# STS-80 (FD 07)

CDR

PLT

MS1

MS2

MS3

MCC

15:00

A6(B1)  
AUTO/VERN

ORB  
106

16:00

5  
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G  
-  
Y  
L  
V  
+  
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V  
V

17:00

ORB  
107

18:00

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

SLEEP

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

SLEEP

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

SLEEP

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

SLEEP

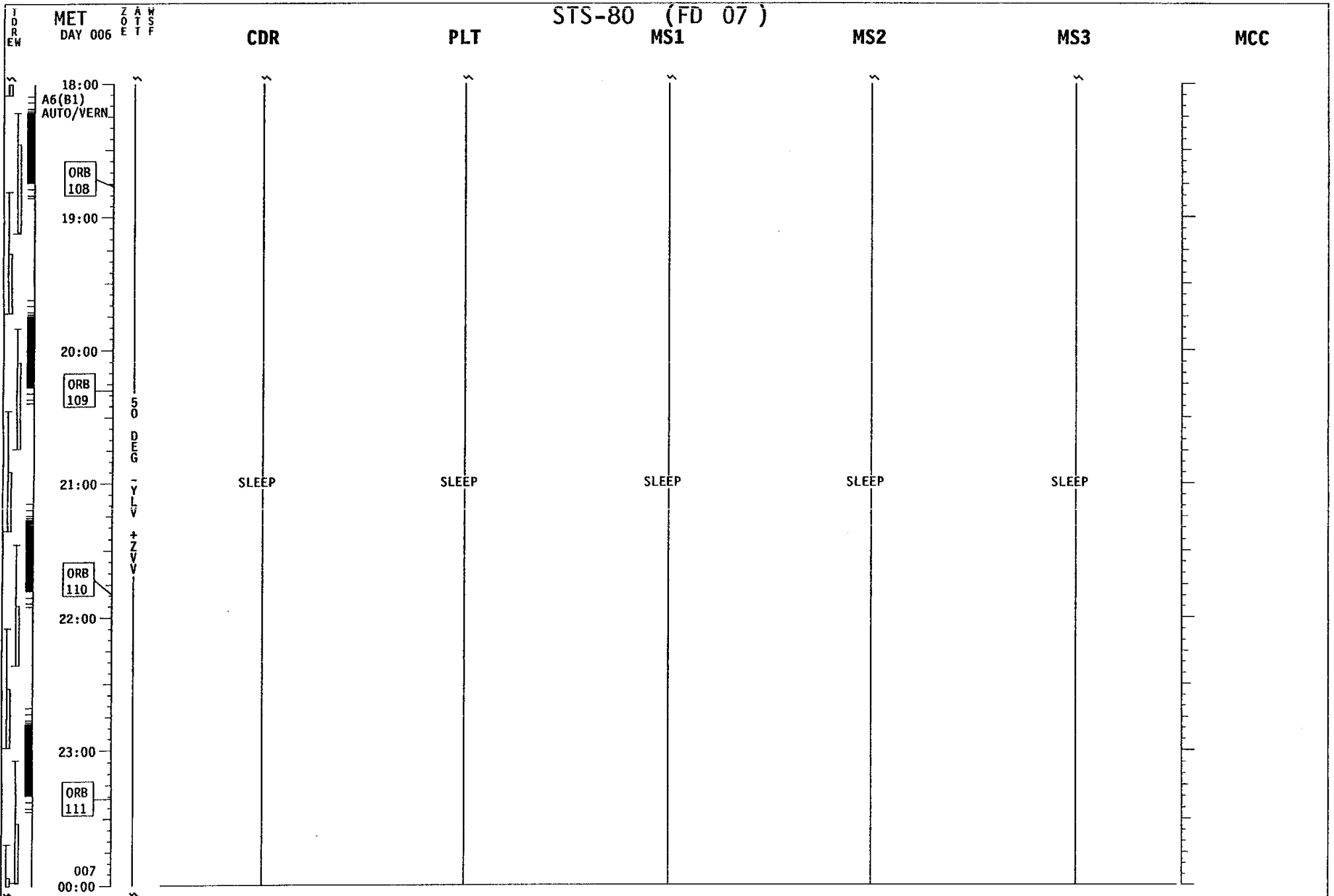
PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

QCA DOWNLINK (KFX)  
(ORB OPS FS, QCA)  
✓Ku-HDR

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

SLEEP

QCA DATA XFER  
FAMILY MAIL ↑





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DAY 007

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STS-80 (FD 08)

CDR

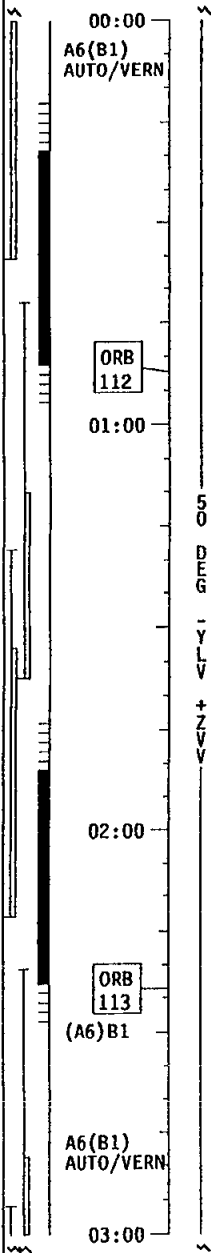
PLT

MS1

MS2

MS3

MCC



CDR	PLT	MS1	MS2	MS3	MCC
				POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)		POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)		
		POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
				OCA DOWNLINK (KFX) (ORB OPS FS, OCA) Ku-HDR	OCA DATA XFER SPOC DATA ↑ FAMILY MAIL ↑↓
ON-ORB MULT-AXIS RCS BURN (ORB OPS, RCS)	ON-ORB MULT-AXIS RCS BURN (ORB OPS, RCS)				
				POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
			A8L PORT RMS HTR (two) - AUTO L17 Check MCIU filter screen		
NC-14 TIG (02:40)			P/TV09B S/U (SYS OPS) (P/TV, P/TV SCENES)		
POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	CMIX GROUP I (PL OPS, CMIX) Ref CMIX Event T/L			CMIX GROUP I (PL OPS, CMIX) Ref CMIX Event T/L	
L1 FLASH EVAP CNTLR PRI A(B)-OFF					

T  
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M

MET  
DAY 007  
Z  
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W  
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T  
E  
T  
F

# STS-80 (FD 08)

CDR

PLT

MS1

MS2

MS3

MCC

03:00  
A6(B1)  
AUTO/VERN

04:00  
ORB  
114

A13(B1)  
AUTO/VERN

05:00  
ORB  
115

06:00

50  
D  
E  
G

- Y  
L  
V

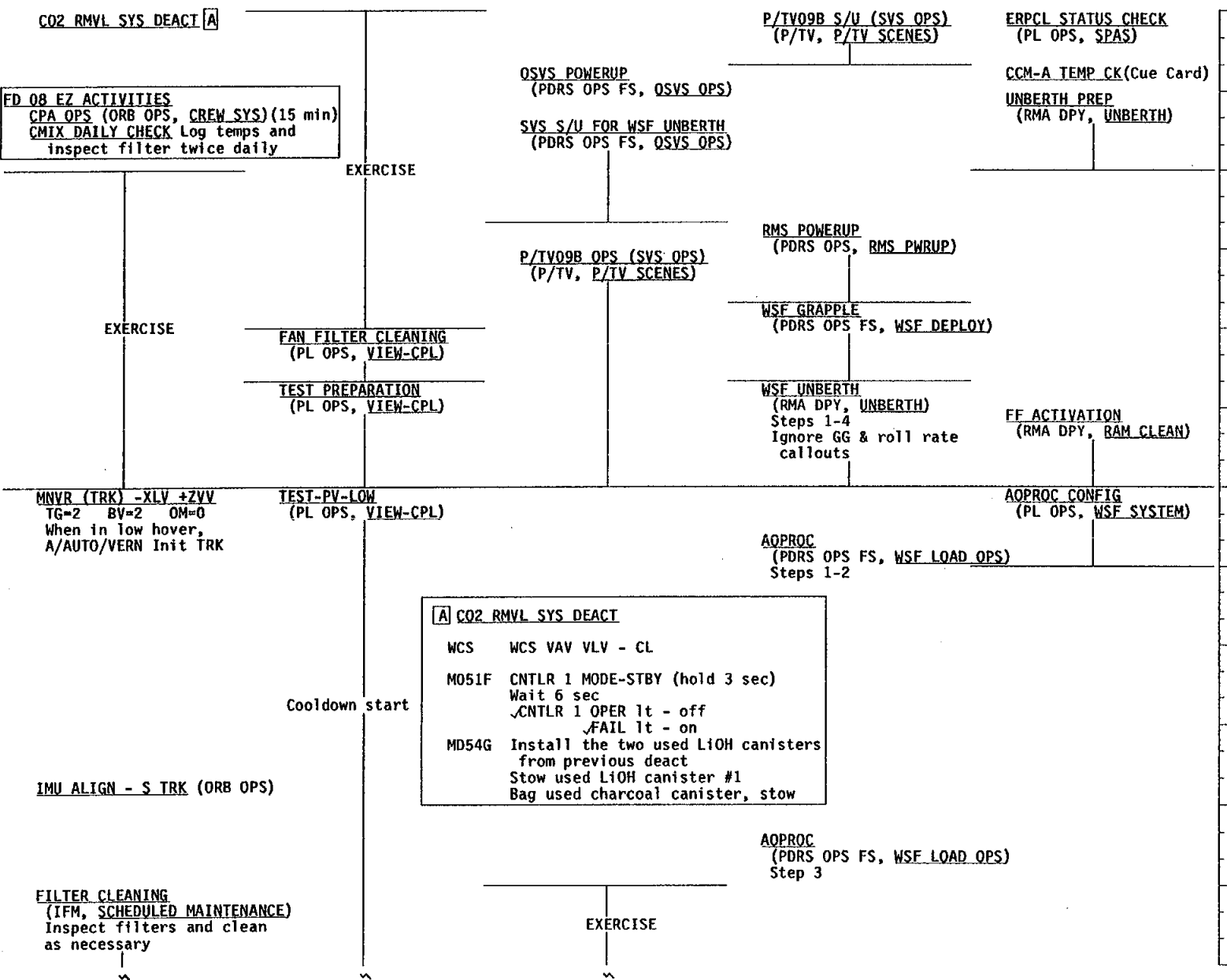
+ Z  
V  
V

A  
O  
P  
R  
O  
C

- X  
L  
V

+ Z  
V  
V

D  
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G  
A  
S  
S



**FD 08 EZ ACTIVITIES**  
CPA OPS (ORB OPS, CREW SYS) (15 min)  
CMIX DAILY CHECK Log temps and  
inspect filter twice daily

**A CO2 RMVL SYS DEACT**

WCS WCS VAV VLV - CL

M051F CNTLR 1 MODE-STBY (hold 3 sec)  
Wait 6 sec  
✓CNTLR 1 OPER lt - off  
✓FAIL lt - on

MD54G Install the two used LiOH canisters  
from previous deact  
Stow used LiOH canister #1  
Bag used charcoal canister, stow

**UPLINK (Unberth)**  
β 21° + MASK & BOX  
100 > Az > 20  
-20 > E1 > -87

T  
D  
R  
E  
W

MET  
DAY 007

Z  
O  
N  
E  
A  
W  
S  
F

# STS-80 (FD 08)

CDR

PLT

MS1

MS2

MS3

MCC

06:00  
A13(B1)  
AUTO/VERN

07:00  
(A14)B14  
AUTO/VERN

A14(B14)  
AUTO/VERN

08:00

A6(B1)  
AUTO/VERN

09:00

AOPROC  
GROWTH

XLV  
+ZVV

bias  
-ZVV  
+YVV

TDRZ

FILTER CLEANING

TEST-PV-LOW

Cooldown stop

**A CO2 RMVL SYS ACT**

Perform CO2 RMVL SYS CNTLR CONFIG (ACT 2/DEACT 1) (ORB OPS, ECLS) and modify CHARCOAL CANISTER REPLACEMENT as follows:

MD54G a. Remove LiOH canister from Slot B and stow  
b. Unbag, install new charcoal canister in Slot B

WCS WCS VAC VLV - OP

EXERCISE

TEST PREPARATION  
(PL OPS, VIEW-CPL)

WSF SYS-2A  
(PDRS OPS FS, WSF LOAD OPS)

WSF SYS-2A  
(PDRS OPS FS, WSF LOAD OPS)

BERTHING PREP  
(PL OPS, WSF SYSTEM)

TOPPING FES STARTUP  
(ORB OPS, ECLS)

TEST-PVJUMP  
(PL OPS, VIEW-CPL)

HEATER RECONFIG-Config B  
(ORB OPS, EPS)

CO2 RMVL SYS ACT **A**

WSF BERTH (OSVS S/U)  
(PDRS OPS FS, WSF RETRY)  
Step 1

Cooldown start

WSF BERTH  
(PDRS OPS FS, WSF RETRY)  
Steps 2,4-7

WSF BERTH  
(PDRS OPS FS, WSF RETRY)  
Steps 2,4-7

UPLINK (Berth)  
p 21° + MASK

**SMI DPS UTILITY**

UL CNTL ENA-ITEM 36 EXEC  
MNVR (TRK) BIAS -ZLV +YVV  
TG=2 BV=3 OM=310  
When WSF berth complete,  
A/AUTO/VERN Init TRK  
Change DAP B to B1  
SUPPLY/WASTE WATER DUMP  
(ORB OPS, ECLS)  
Initiate Supply Dump

OSVS POWERDOWN  
(PDRS OPS FS, OSVS OPS)

RMS POWERDOWN  
(PDRS OPS, RMS PWRDN)  
Note: Do not stow MPM's

EXERCISE

Cooldown stop

UPDATE  
H2O SPLY DUMP  
QTY TK A & B

MEAL

MEAL

MEAL

MEAL

MEAL

T D R E W

MET DAY 007 Z A W S F  
O T E

# STS-80 (FD 08)

CDR

PLT

MS1

MS2

MS3

MCC

09:00  
A6(B1)  
AUTO/VERN

MEAL

MEAL

MEAL

MEAL

MEAL

PRIORITY PWRDN GROUP B  
(ORB PKT, PRIOR PWRDN)  
Omit steps 8,11,13

TEST PREPARATION  
(PL OPS, VIEW-CPL)

TEST-SC  
(PL OPS, VIEW-CPL)

10:00

ORB  
118

SUPPLY/WASTE WATER DUMP  
(ORB OPS, ECLS)  
Terminate Supply Dump  
MNVR(TRK)BIAS 50° -YLV +ZVV  
TG=2 BV=5  
P=90 Y=320 OM=90  
A/AUTO/VERN Init TRK

Cooldown start

EXERCISE

SPAS RF ACO (ERPCL)  
(PL OPS, SPAS)

11:00

P/TV06 SETUP (PAO EVENTS)  
(P/TV, P/TV SCENES)

Cooldown stop

ORB  
119

PAO VOICE CHECK/EVENT  
TV at TDRE  
(11:30 to 11:50)

PAO VOICE CHECK/EVENT

TEST PREPARATION  
(PL OPS, VIEW-CPL)

PAO VOICE CHECK/EVENT

TEST-CV  
(PL OPS, VIEW-CPL)

12:00

bias  
-ZVV  
+YVV  
TDRZ  
50  
DEG  
-YLV  
+ZVV  
TDRZ

T  
D  
R  
E  
WMET  
DAY 007Z  
A  
W  
O  
T  
S  
E  
T  
F

STS-80 (FD 08)

CDR

PLT

MS1

MS2

MS3

MCC

12:00  
A6(B1)  
AUTO/VERNPREP FOR 10.2 PSI CABIN  
(EVA, 10.2 PSI CABIN)PREP FOR 10.2 PSI CABIN  
(EVA, 10.2 PSI CABIN)TEST-CV  
(PL OPS, VIEW-CPL)

P/TV S/U CREW CHOICE D/L

SM1 DPS UTILITY  
UL CNTL AUTO-ITEM 35 EXEC

10.2 CABIN DEPRESS

10.2 CABIN DEPRESS

CREW CHOICE D/L  
KU avail TDRW  
(12:21-13:00)10.2 PSI CABIN CONFIG  
(EVA, 10.2 PSI CABIN)10.2 PSI CABIN CONFIG  
(EVA, 10.2 PSI CABIN)

13:00

06 JHF MODE - OFF  
PRIVATE MEDICAL CONFERENCEORB  
120NIH-R OPS  
(PL OPS, NIH-R)VIEW-CPL STOWAGE  
(PL OPS, VIEW-CPL)

FAMILY CONFERENCE

FAMILY CONFERENCE

AEM WATER REFILL  
(PL OPS, NIH-R)5  
0  
D  
E  
G  
-  
Y  
L  
V  
+  
Z  
V  
V

SECONDARY PL TAGUP

ERPCL STATUS CHECK  
(PL OPS, SPAS)

14:00

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)ORB  
121

(A6)B1

A6(B1)  
AUTO/VERN  
15:00

◀ NC-15 TIG (14:53)

MEAL

MEAL

MEAL

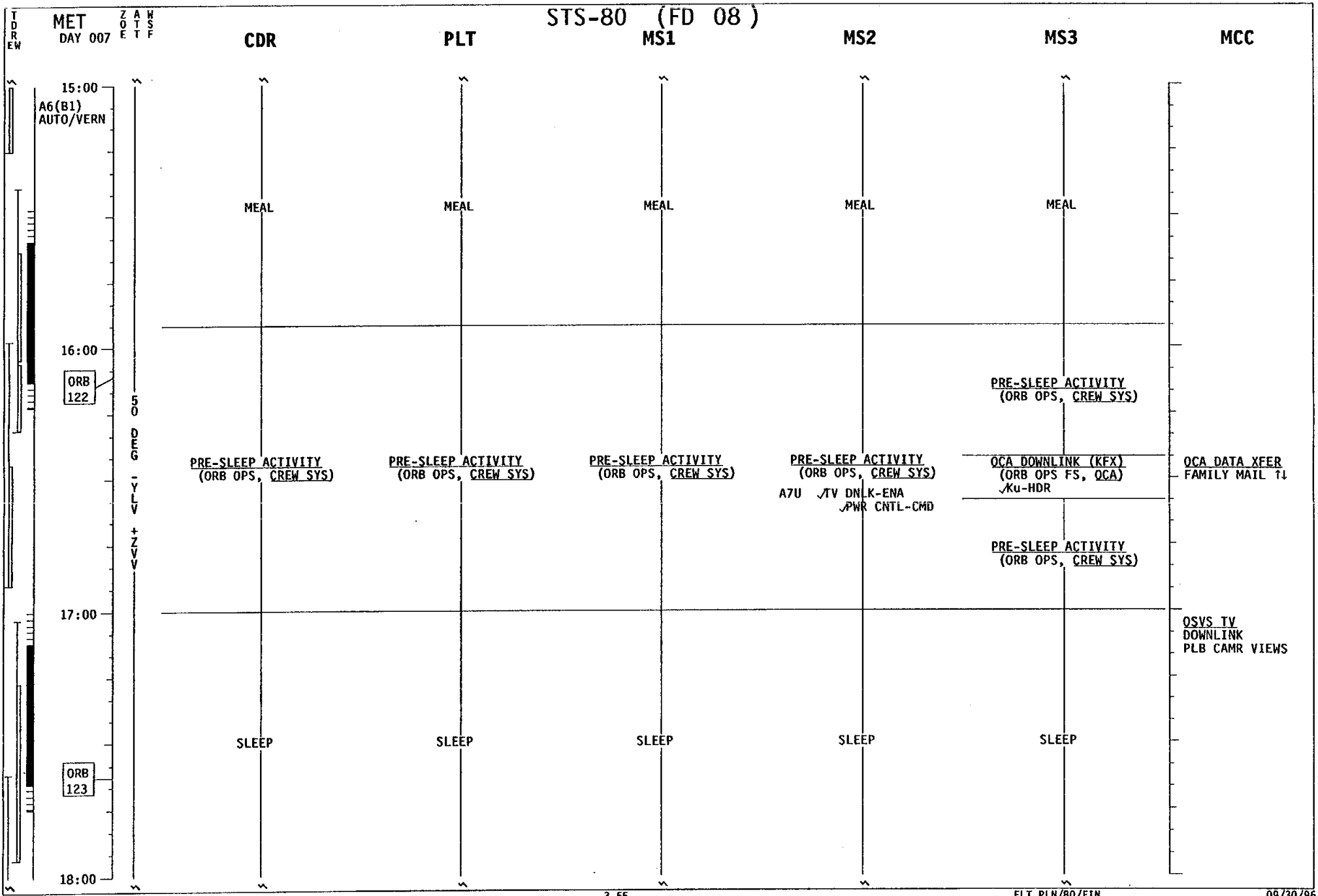
MEAL

MEAL

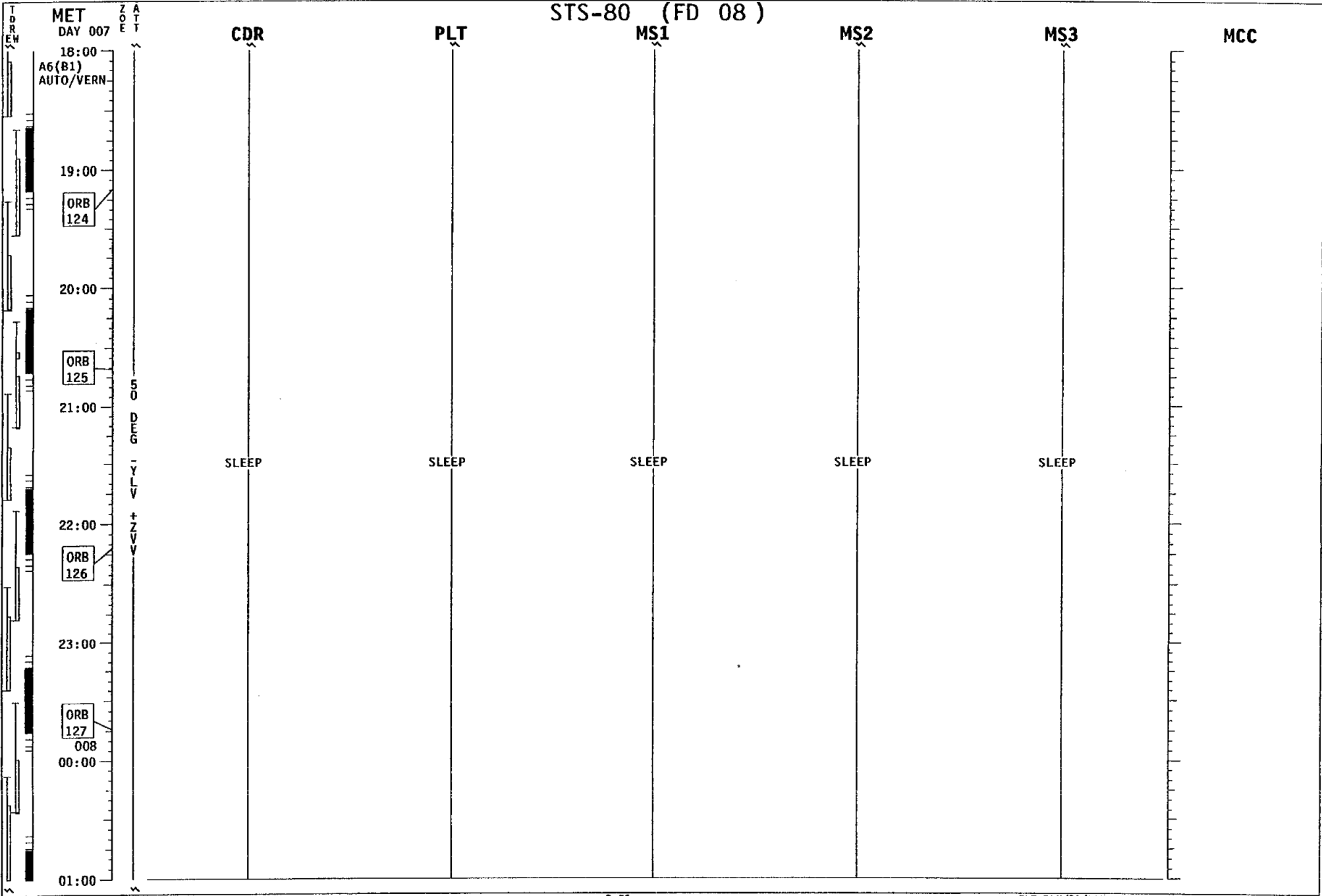
3-54

FLT PLN/80/FIN

09/30/96



STS-80 (FD 08)



T  
D  
R  
E  
W

MET  
DAY 008

Z  
O  
N  
E

# STS-80 (FD 09)

CDR

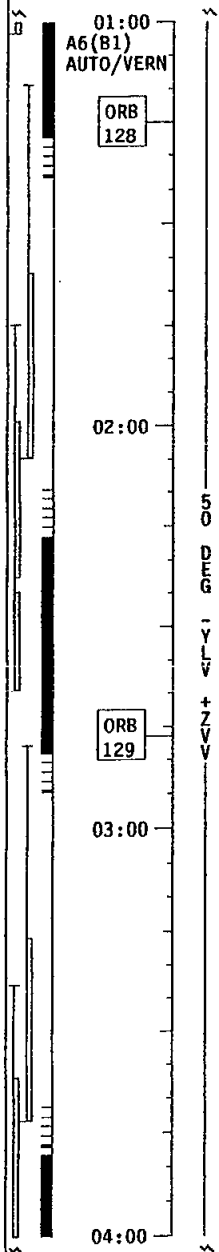
PLT

MS1

MS2

MS3

MCC



POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

OCA DOWNLINK (KFX)  
(ORB OPS FS, OCA)  
Ku-HDR

OCA DATA XFER  
SPOC DATA ↑  
FAMILY MAIL ↓↓

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)



TDR EW

MET DAY 008

Z A T  
O E

# STS-80 (FD 09)

CDR

PLT

MS1

MS2

MS3

MCC

<b>FD 09 EZ ACTIVITIES</b>
CPA OPS (ORB OPS, CREW SYS) (15 min)
QCAC FILTER INSPECT
CMIX DAILY CHECK Log temps and inspect filter twice daily

04:00  
A6(B1)  
AUTO/VERN

10.2 PSI MAINTENANCE  
(EVA, 10.2 PSI CABIN)

ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)

ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)

MIDDECK PREP  
(EVA, EVA PREP)

MIDDECK PREP  
(EVA, EVA PREP)

ERPCL STATUS CHECK  
(PL OPS, SPAS)

CCM-A TEMP CK (Cue Card)

MIDDECK PREP  
(EVA, EVA PREP)

ORB  
130  
(A6)B1

50 ← NC-16 TIG (04:37)

A6(B1)  
AUTO/VERN

05:00

EVA TOOL CONFIGURATION  
(EVA, TOOLS/TIMELINES)

EVA TOOL CONFIGURATION  
(EVA, TOOLS/TIMELINES)

EVA TOOL CONFIGURATION  
(EVA, TOOLS/TIMELINES)

WCS COMPACTOR OPS (DUAL VANE)  
(ORB OPS, CC)  
First Compaction,  
back of WCS CC

ORB  
131

MNVR (TRK) BIAS -ZLV +YVV  
TG=2 BV=3 OM=310  
A/AUTO/VERN Init TRK

06:00

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

L17 Check MCIU filter screen

b  
i  
a  
s

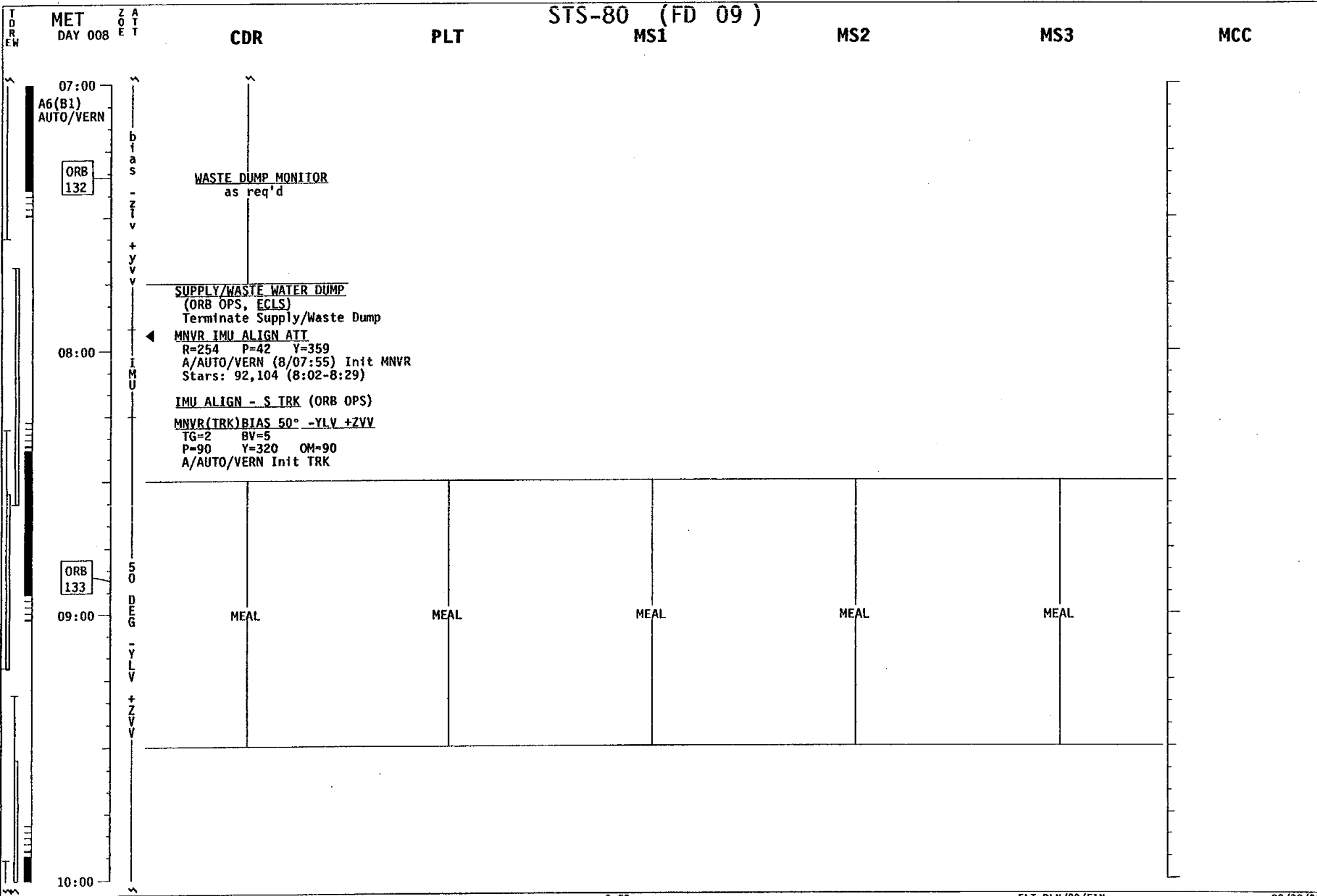
-  
Z  
L  
V

+  
Y  
V  
V

WASTE DUMP MONITOR  
as req'd

07:00

UPDATE  
WASTE/SUPPLY  
H2O DUMP QTY



T D R  
E W

MET  
DAY 008

Z A  
D O  
E T

STS-80 (FD 09)

CDR

PLT

MS1

MS2

MS3

MCC

10:00

A6(B1)  
AUTO/VERN

ORB  
134

11:00

NIH-R OPS  
(PL OPS, NIH-R)

5  
0

D  
E  
G

CABIN TEMP CNTL RECONFIG  
MD44F Pin CAB TEMP CNTL act link  
to secondary act  
L1 CABIN TEMP CNTLR - 2

Y  
L  
V

+  
Z  
V  
V

ORB  
135

12:00

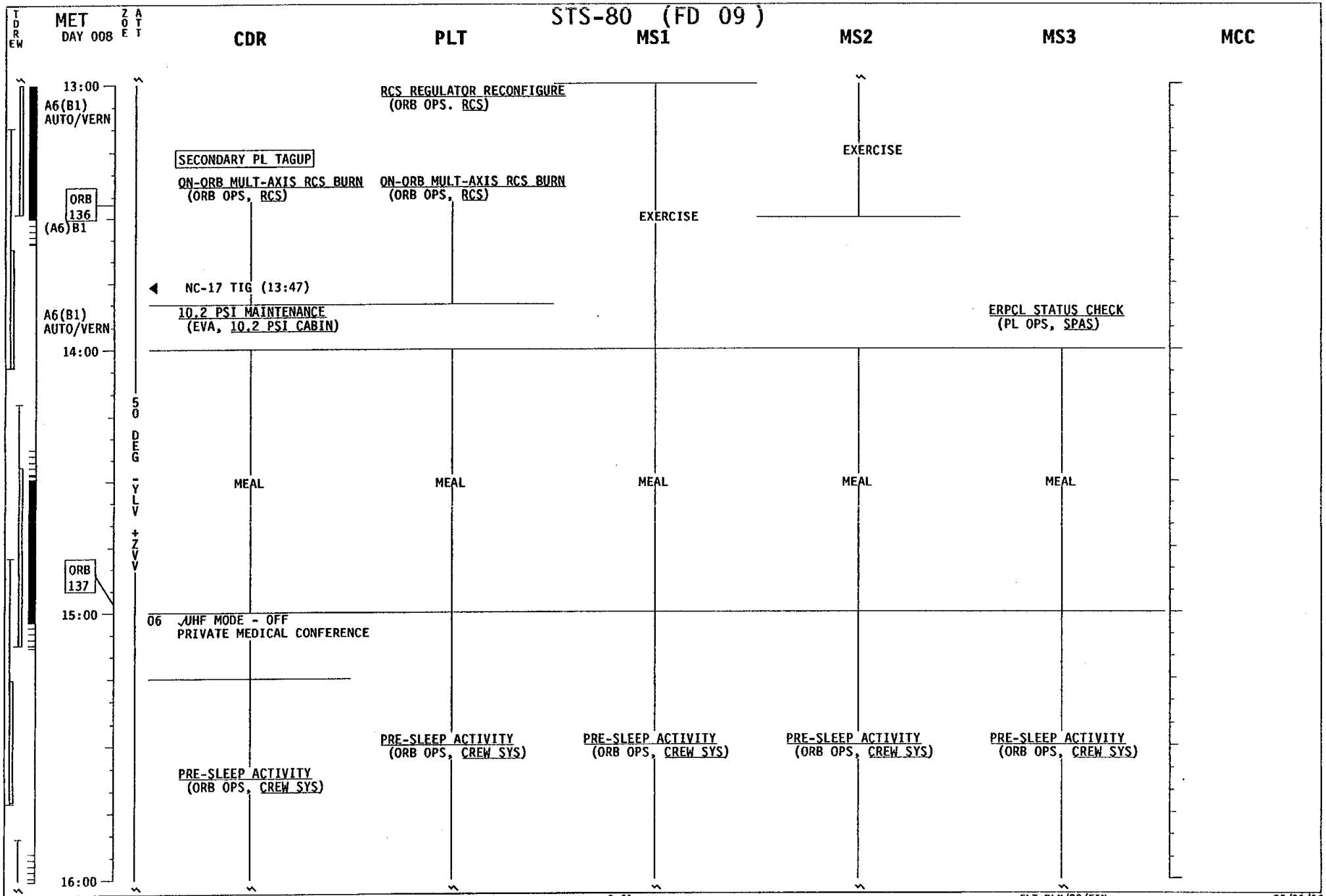
EXERCISE

EXERCISE

EXERCISE

EXERCISE

13:00



STS-80 (FD 09)

MET DAY 008

CDR

PLT

MSI

MS2

MS3

MCC

13:00  
A6(B1) AUTO/VERN  
ORB 136 (A6)B1  
A6(B1) AUTO/VERN  
14:00  
50 DEG  
+ZVV  
ORB 137  
15:00  
16:00

SECONDARY PL TAGUP

ON-ORB MULT-AXIS RCS BURN (ORB OPS, RCS)

ON-ORB MULT-AXIS RCS BURN (ORB OPS, RCS)

NC-17 TIG (13:47)

10.2 PSI MAINTENANCE (EVA, 10.2 PSI CABIN)

ERPCL STATUS CHECK (PL OPS, SPAS)

MEAL

MEAL

MEAL

MEAL

MEAL

06 JHF MODE - OFF PRIVATE MEDICAL CONFERENCE

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

TDR  
EW

MET  
DAY 008

Z  
O  
T  
E

# STS-80 (FD 09)

CDR

PLT

MS1

MS2

MS3

MCC

16:00

A6(B1)  
AUTO/VERN

ORB  
138

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

QCA DOWNLINK (KFX)  
(ORB OPS FS, QCA)  
Ku-HDR

QCA DATA XFER  
FAMILY MAIL T↓

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

17:00

50  
DEG  
-YLV  
+ZVV

18:00

ORB  
139

SLEEP

SLEEP

SLEEP

SLEEP

SLEEP

19:00

T  
D  
R  
E  
W

MET  
DAY 008

Z  
A  
T  
E

# STS-80 (FD 09)

CDR

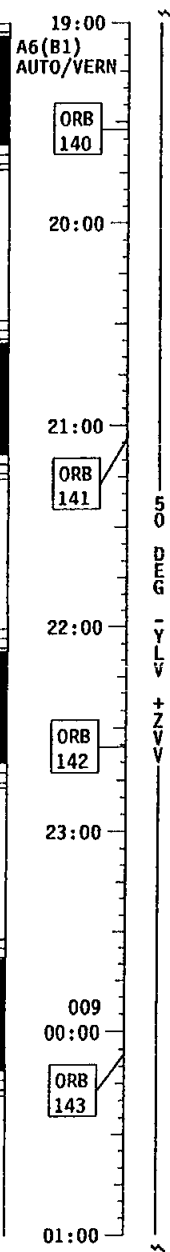
PLT

MS1

MS2

MS3

MCC



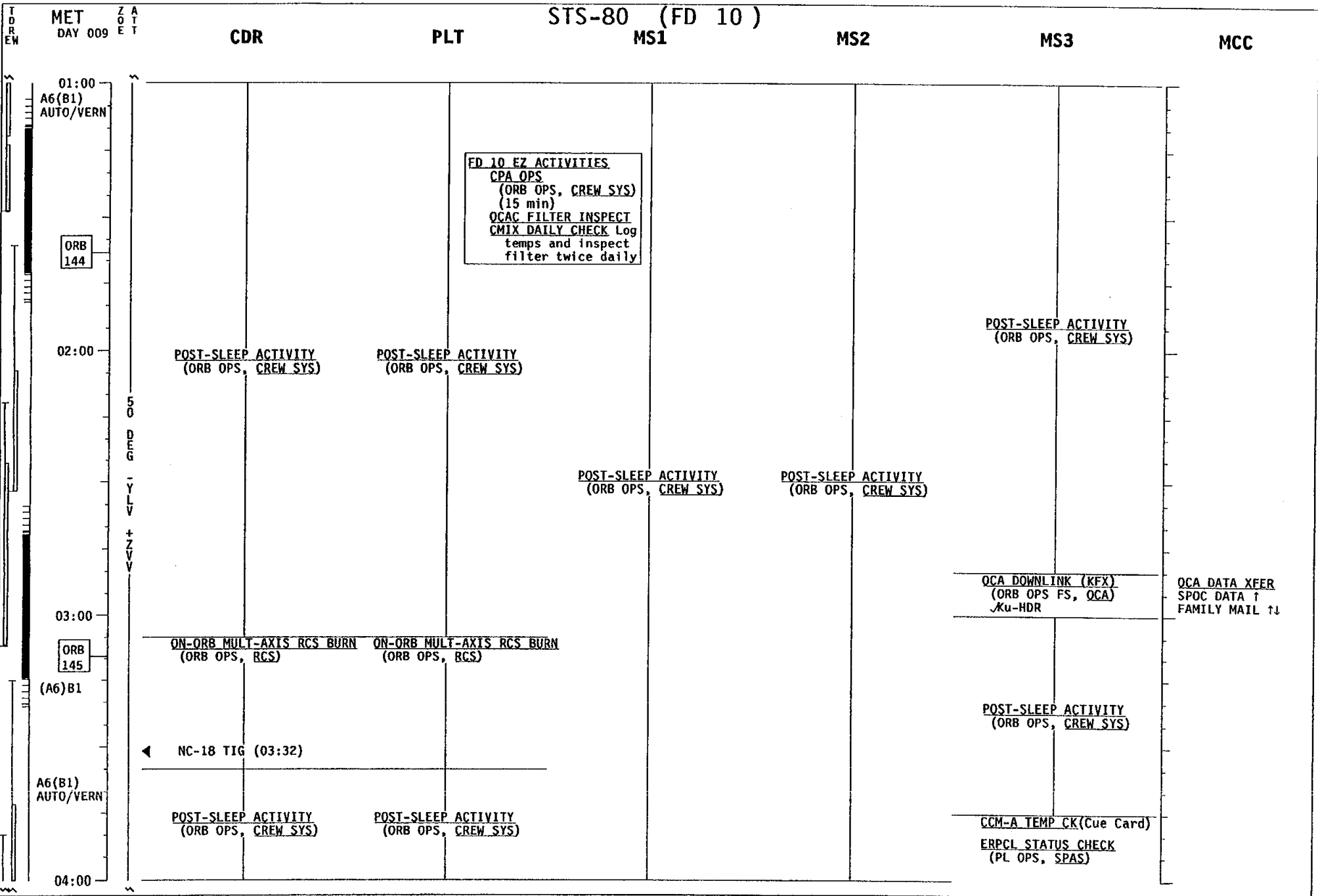
SLEEP

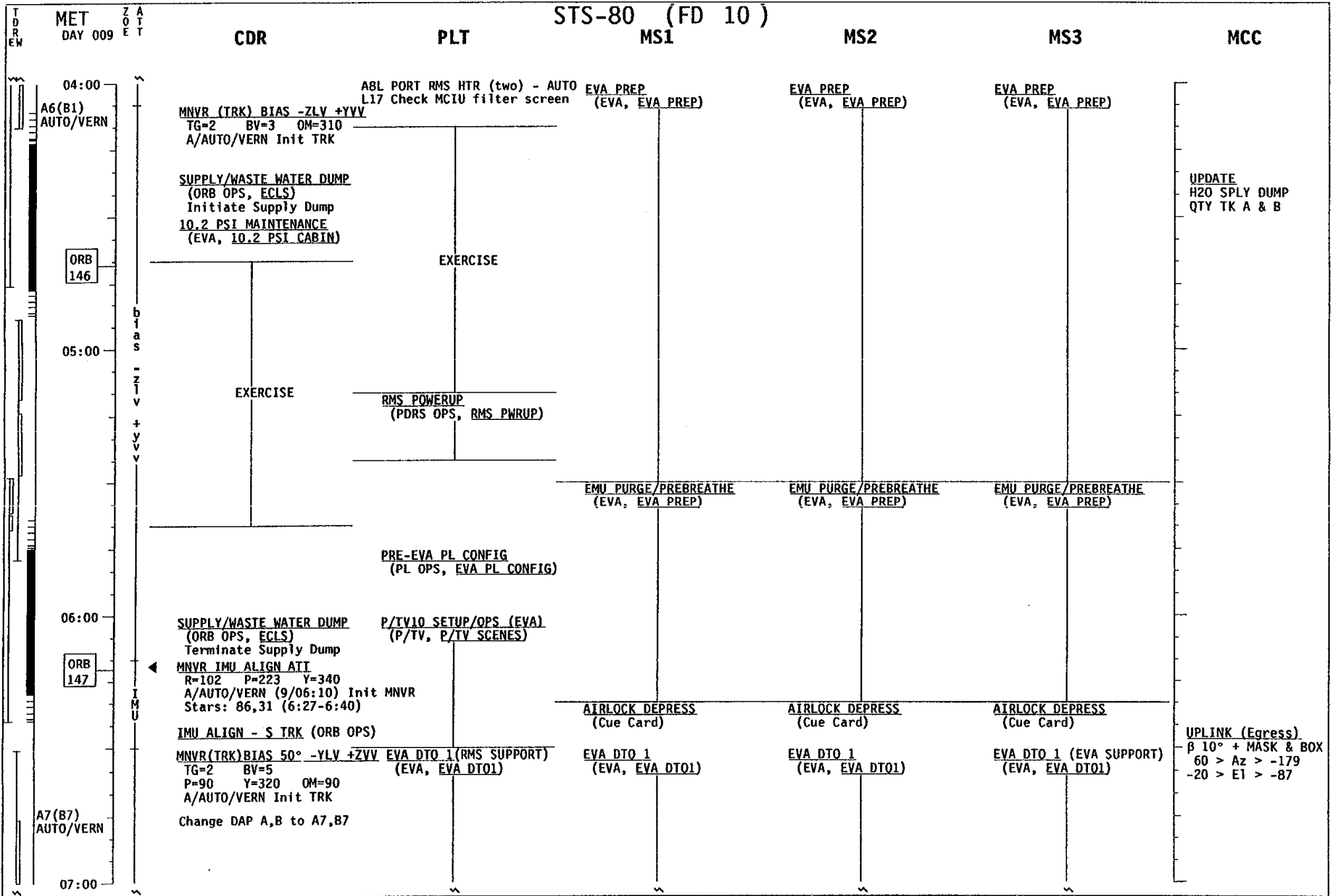
SLEEP

SLEEP

SLEEP

SLEEP









T  
D  
R  
E  
W

MET  
DAY 009

Z  
O  
T  
E

# STS-80 (FD 10)

CDR

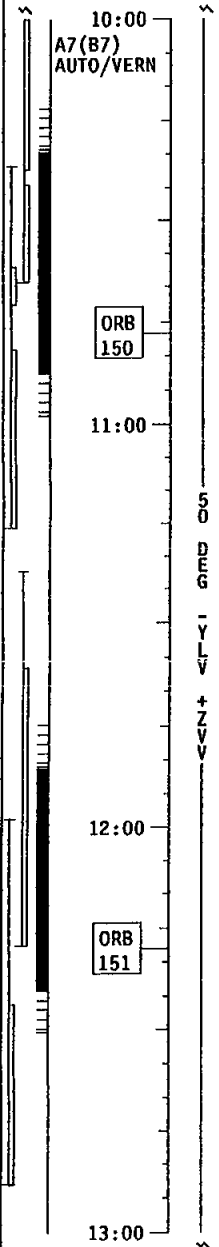
PLT

MS1

MS2

MS3

MCC



EVA DTO 1 (RMS SUPPORT)

EVA DTO 1

EVA DTO 1

EVA DTO 1 (EVA SUPPORT)

NIH-R OPS  
(PL OPS, NIH-R)

UPLINK (Ingress)  
β 21° + MASK

T  
D  
R  
E  
W

MET  
DAY 009

Z  
A  
O  
T  
E

# STS-80 (FD 10)

CDR

PLT

MS1

MS2

MS3

MCC

13:00  
A7(B7)  
AUTO/VERN

A6(B1)  
AUTO/VERN

ORB  
152

14:00  
(A6)B1

A6(B1)  
AUTO/VERN

5  
0  
D  
E  
G  
-  
Y  
L  
V  
+  
Z  
V  
V

Change DAP A,B to A6,B1  
DAP: A/AUTO/VERN

RMS POWERDOWN  
(PDRS OPS, RMS PWDRN)  
Note: Do not stow MPM's

AIRLOCK REPRESS  
(Cue Card)

AIRLOCK REPRESS  
(Cue Card)

AIRLOCK REPRESS  
(Cue Card)

POST EVA  
(EVA, POST EVA)  
With WATER RECHARGE

POST EVA  
(EVA, POST EVA)  
With WATER RECHARGE

POST EVA  
(EVA, POST EVA)  
With WATER RECHARGE

ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)

ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)

NC-19 TIG (14:13)

EMU BATTERY RECHARGE INIT  
(EVA, POST EVA)

EMU BATTERY RECHARGE INIT  
(EVA, POST EVA)

EMU BATTERY RECHARGE INIT  
(EVA, POST EVA)

POST-EVA PL CONFIG  
(PL OPS, EVA PL CONFIG)

SECONDARY PL TAGUP

10.2 PSI MAINTENANCE  
(EVA, 10.2 PSI CABIN)

ERPCL STATUS CHECK  
(PL OPS, SPAS)

15:00

ORB  
153

MEAL

MEAL

MEAL

MEAL

MEAL

16:00

T  
D  
R  
E  
W

MET  
DAY 009

Z  
O  
N  
E

# STS-80 (FD 10)

CDR

PLT

MS1

MS2

MS3

MCC

16:00  
A6(B1)  
AUTO/VERN

17:00

18:00

19:00

50  
D  
E  
G

-  
Y  
F  
V

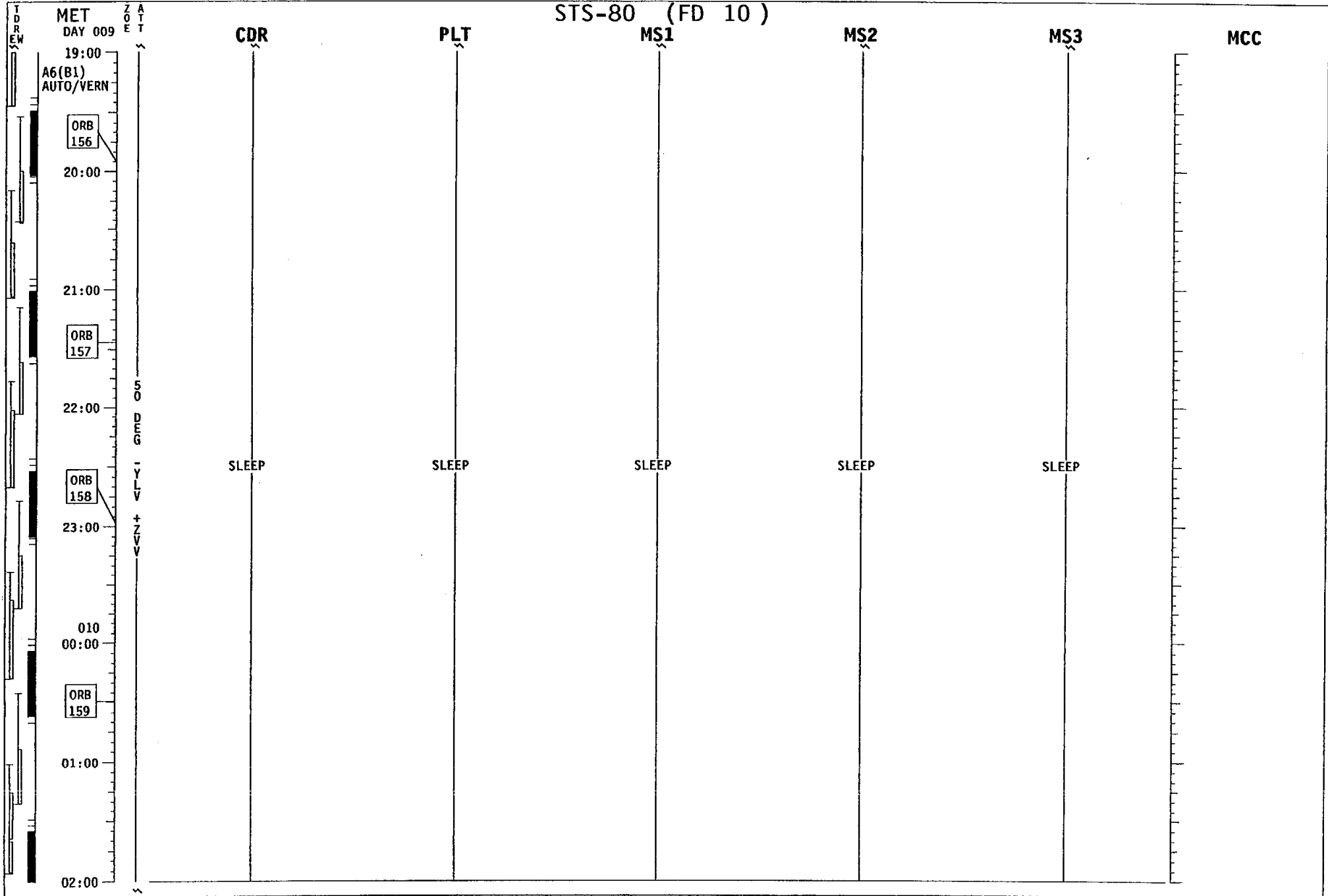
+  
Z  
V  
V

ORB  
154

ORB  
155

<p>PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)</p> <p>06 JHF MODE - OFF PRIVATE MEDICAL CONFERENCE</p> <p>PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)</p>	<p>PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)</p>	<p>PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)</p>	<p>PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)</p>	<p>PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)</p>	<p>PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)</p>
				<p>OCA DOWNLINK (KFX) (ORB OPS FS, OCA) Ku-HDR</p>	<p>OCA DATA XFER FAMILY MAIL TL</p>
SLEEP	SLEEP	SLEEP	SLEEP	SLEEP	SLEEP

STS-80 (FD 10)



T  
D  
R  
E  
W

MET  
DAY 010

Z  
O  
T

# STS-80 (FD 11)

CDR

PLT

MS1

MS2

MS3

MCC

02:00

ORB  
160

A6(B1)  
AUTO/VERN

03:00

5  
0  
D  
E  
G

ORB  
161

-  
Y  
L  
V  
+  
Z  
V  
V

04:00

05:00

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

QCA DOWNLINK (KFX)  
(ORB OPS FS, QCA)  
Ku-HDR

QCA DATA XFER  
SPOC DATA ↑  
FAMILY MAIL ↓

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

TDR  
EHMET  
DAY 010Z A  
O E  
T

STS-80 (FD 11)

CDR

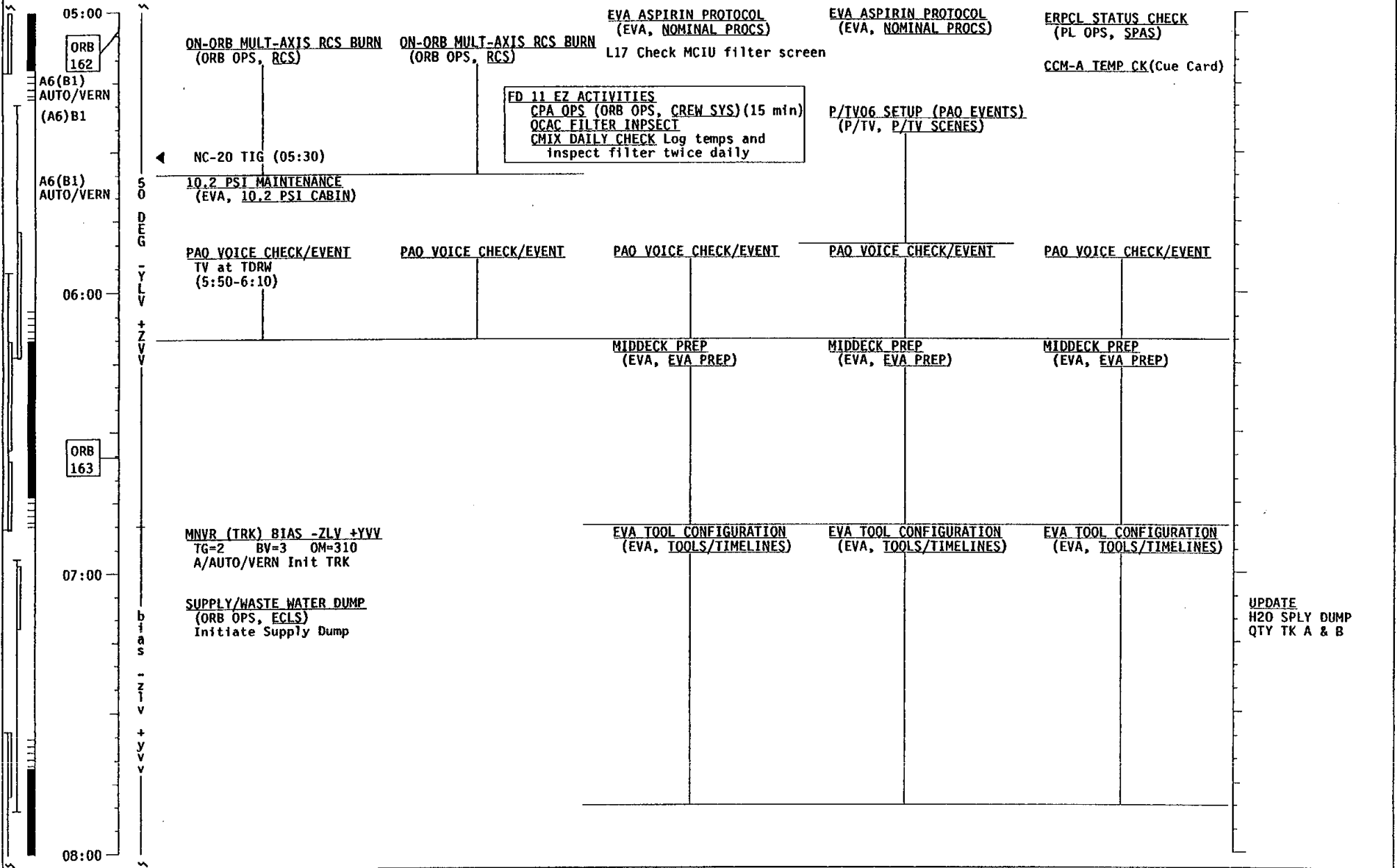
PLT

MS1

MS2

MS3

MCC



T  
D  
R  
E  
W

MET  
DAY 010

Z  
O  
N  
E

STS-80 (FD 11)

CDR

PLT

MS1

MS2

MS3

MCC

08:00

ORB  
164

A6(B1)  
AUTO/VERN

b  
i  
a  
s  
-  
z  
i  
v  
+  
y  
v  
v  
I  
M  
U  
5  
0  
D  
E  
G  
-  
y  
l  
v  
+  
z  
v  
v

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

MNVR IMU ALIGN ATT

R=273 P=50 Y=24  
A/AUTO/VERN (10/08:55) Init MNVR  
Stars: 37,109 (8:49-9:23)

IMU ALIGN - S TRK (ORB OPS)

MNVR(TRK)BIAS 50° -YLV +ZVV  
TG=2 BV=5  
P=90 Y=320 OM=90  
A/AUTO/VERN Init TRK

POST EVA QUEST  
(EVA, FS EVA PROCS)

POST EVA QUEST  
(EVA, FS EVA PROCS)

09:00

10:00

11:00

ORB  
165

MEAL

MEAL

MEAL

MEAL

MEAL



TDR  
EH

MET  
DAY 010

Z A  
O T

# STS-80 (FD 11)

CDR

PLT

MS1

MS2

MS3

MCC

11:00

ORB  
166

A6(B1)  
AUTO/VERN

NIH-R OPS  
(PL OPS, NIH-R)

EMU BATT RECHARGE TERM  
(EVA, POST EVA)

EMU BATT RECHARGE TERM  
(EVA, POST EVA)

EMU BATT RECHARGE TERM  
(EVA, POST EVA)

P/TV S/U CREW CHOICE D/L

EMU LI0H CHANGEOUT  
(EVA, POST EVA)

EMU LI0H CHANGEOUT  
(EVA, POST EVA)

EMU LI0H CHANGEOUT  
(EVA, POST EVA)

12:00

CREW CHOICE D/L  
Ku avail TDRW (12:04-12:44)

50  
DEG  
- Y L V  
+ Z V V

EXERCISE

ORB  
167

13:00

EXERCISE

14:00

EXERCISE

EXERCISE

TDR  
EM

MET  
DAY 010

Z A  
O T  
E

# STS-80 (FD 11)

CDR

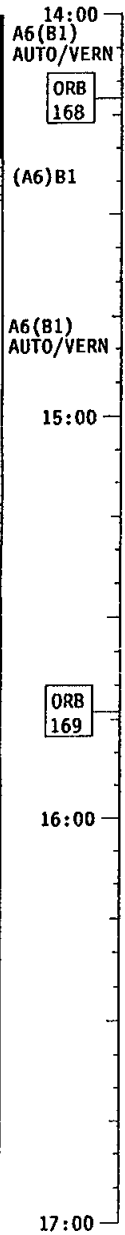
PLT

MS1

MS2

MS3

MCC



ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)

ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)

EXERCISE

EXERCISE

◀ NC-21 TIG (14:39)

10.2 PSI MAINTENANCE  
(EVA, 10.2 PSI CABIN)

SECONDARY PL TAGUP

ERPCL STATUS CHECK  
(PL OPS, SPAS)

MEAL

MEAL

MEAL

MEAL

MEAL

06 JHFH MODE - OFF  
PRIVATE MEDICAL CONFERENCE

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

T  
D  
R  
E  
H

MET  
DAY 010

Z  
A  
E  
T

# STS-80 (FD 11)

CDR

PLT

MS1

MS2

MS3

MCC

17:00  
A6(B1  
AUTO/VERN

ORB  
170

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

OCA DOWNLINK (KFX)  
(ORB OPS FS, OCA)  
Ku-HDR

OCA DATA XFER  
FAMILY MAIL TL

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

18:00

50  
GND  
Y  
V  
+  
N  
V  
V

ORB  
171

19:00

SLEEP

SLEEP

SLEEP

SLEEP

SLEEP

20:00

T  
D  
R  
E  
M

MET  
DAY 010

Z  
O  
T  
E

# STS-80 (FD 11)

CDR

PLT

MS1

MS2

MS3

MCC

20:00

ORB  
172

A6(B1)  
AUTO/VERN

21:00

ORB  
173

22:00

23:00

SLEEP

SLEEP

SLEEP

SLEEP

SLEEP

ORB  
174

01  
00:00

ORB  
175

01:00

02:00

5  
0  
D  
E  
G  
Y  
V  
+  
Z  
V  
V

T  
D  
R  
E  
W

MET  
DAY 011

Z  
A  
O  
T  
E

# STS-80 (FD 12)

CDR

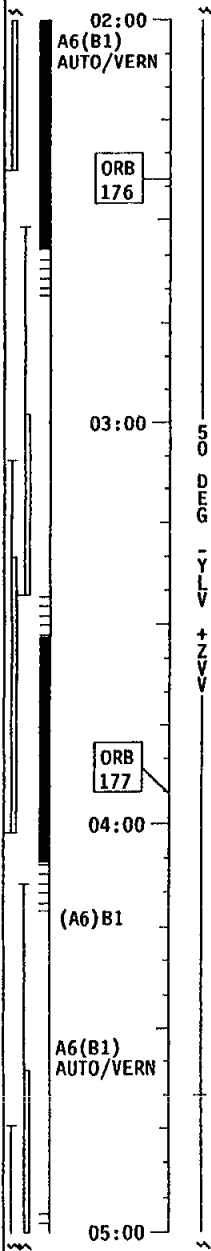
PLT

MS1

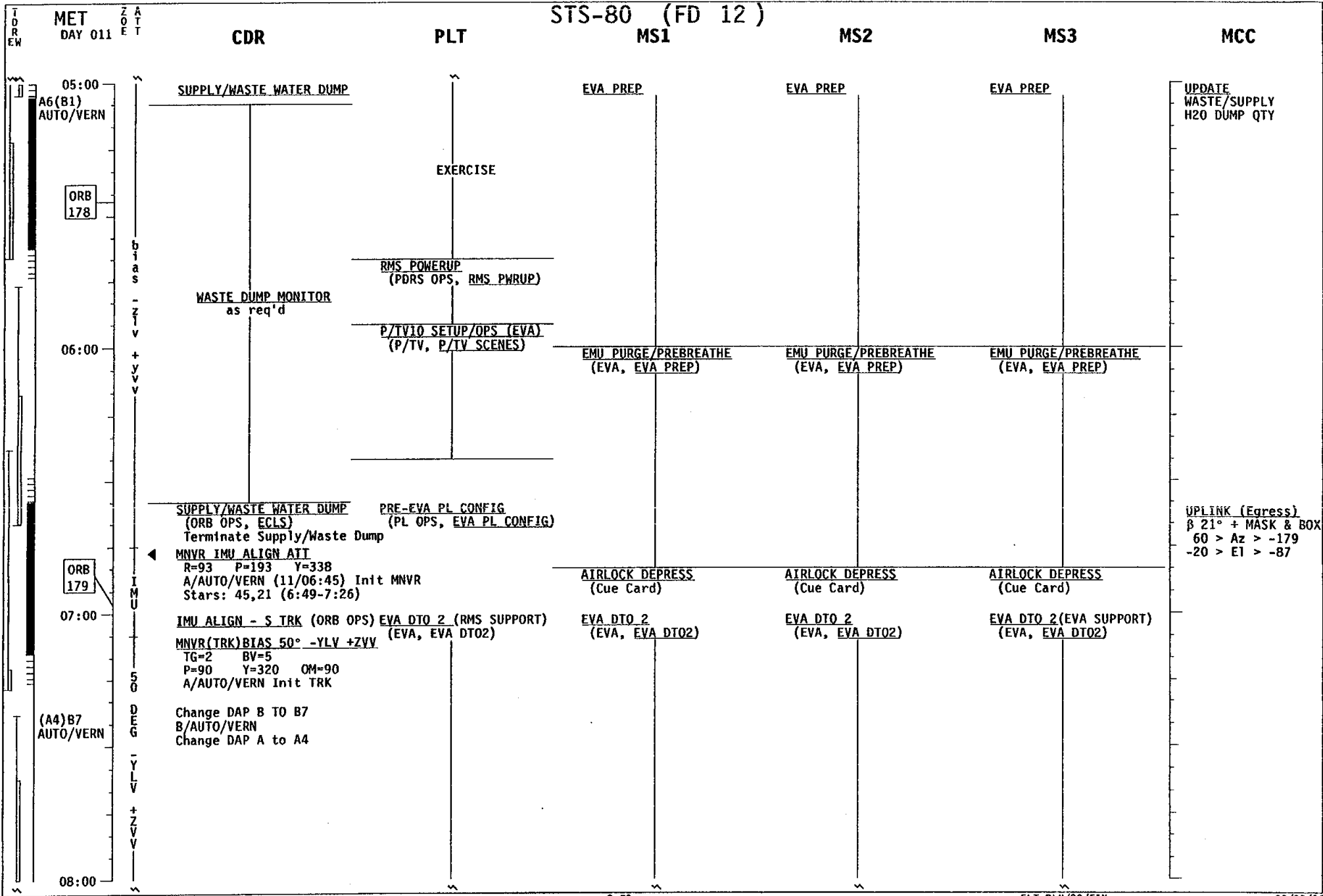
MS2

MS3

MCC



		<p>FD 12 EZ ACTIVITIES CPA OPS (ORB OPS, CREW SYS) (15 min) CMIX DAILY CHECK Log temps and inspect filter twice daily</p>				
03:00	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)		POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
					QCA DOWNLINK (KFX) (ORB OPS FS, QCA) Ku-HDR	QCA DATA XFER SPOC DATA ↑ FAMILY MAIL ↓
						POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)
04:00	ON-ORB MULT-AXIS RCS BURN (ORB OPS, RCS)	ON-ORB MULT-AXIS RCS BURN (ORB OPS, RCS)				
						CCM-A TEMP CK (Cue Card)
	NC-22 TIG (04:24)					ERPCL STATUS CHECK (PL OPS, SPAS)
	10.2 PSI MAINTENANCE (EVA, 10.2 PSI CABIN)	ABL PORT RMS HTR (two) - AUTO L17 Check MCIU filter screen	EVA PREP (EVA, EVA PREP)	EVA PREP (EVA, EVA PREP)		EVA PREP (EVA, EVA PREP)
	MNVR (TRK) BIAS -ZLV +YVV TG=2 BV=3 OM=310 A/AUTO/VERN Init TRK	EXERCISE				
	SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) Initiate Supply/Waste Dump					



TDR  
EWH

MET  
DAY 011

ZONE  
A  
E

# STS-80 (FD 12)

CDR

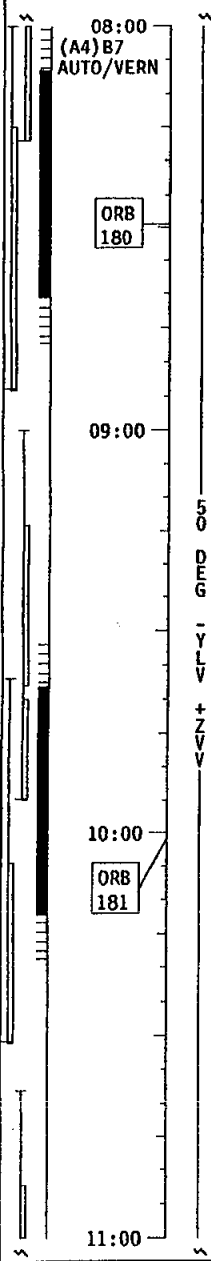
PLT

MS1

MS2

MS3

MCC



EVA DTO 2 (RMS SUPPORT)

EVA DTO 2

EVA DTO 2

EVA DTO 2 (EVA SUPPORT)

CABIN REPRESS TO 14.7 PSI  
(EVA, 10.2 PSI CABIN)

PRIORITY PWRUP GROUP B  
(ORB PKT, PRIOR PWRDN)  
Omit step 8  
(Remain single G2 until  
SPAS rndz)

MEAL

TDR EW

MET DAY 011 ZONE

# STS-80 (FD 12)

CDR

PLT

MS1

MS2

MS3

MCC

11:00

(A4)B7  
AUTO/VERN

NIH-R OPS  
(PL OPS, NIH-R)

EVA DTO 2 (RMS SUPPORT)

EVA DTO 2

EVA DTO 2

EVA DTO 2 (EVA SUPPORT)

AEM WATER REFILL  
(PL OPS, NIH-R)

ORB  
182

12:00

50  
D  
D  
G  
-  
Y  
L  
V  
+  
Z  
V  
V

EXERCISE

13:00

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

ORB  
183

RMS POWERDOWN  
(PDRS OPS, RMS PWRDN)  
Note: Do not stow MPM's

AIRLOCK REPRESS  
(Cue Card)

AIRLOCK REPRESS  
(Cue Card)

AIRLOCK REPRESS  
(Cue Card)

UPLINK (Ingress)  
β 21° + MASK

POST EVA  
(EVA, POST EVA)  
W/O WATER RECHARGE

POST EVA  
(EVA, POST EVA)  
W/O WATER RECHARGE

POST EVA  
(EVA, POST EVA)  
W/O WATER RECHARGE

Change DAP A to A6  
A/AUTO/VERN  
Change DAP B to B1

A6(B1)  
AUTO/VERN

14:00



TDR  
EM

MET Z A  
DAY 011 E T

# STS-80 (FD 12)

CDR

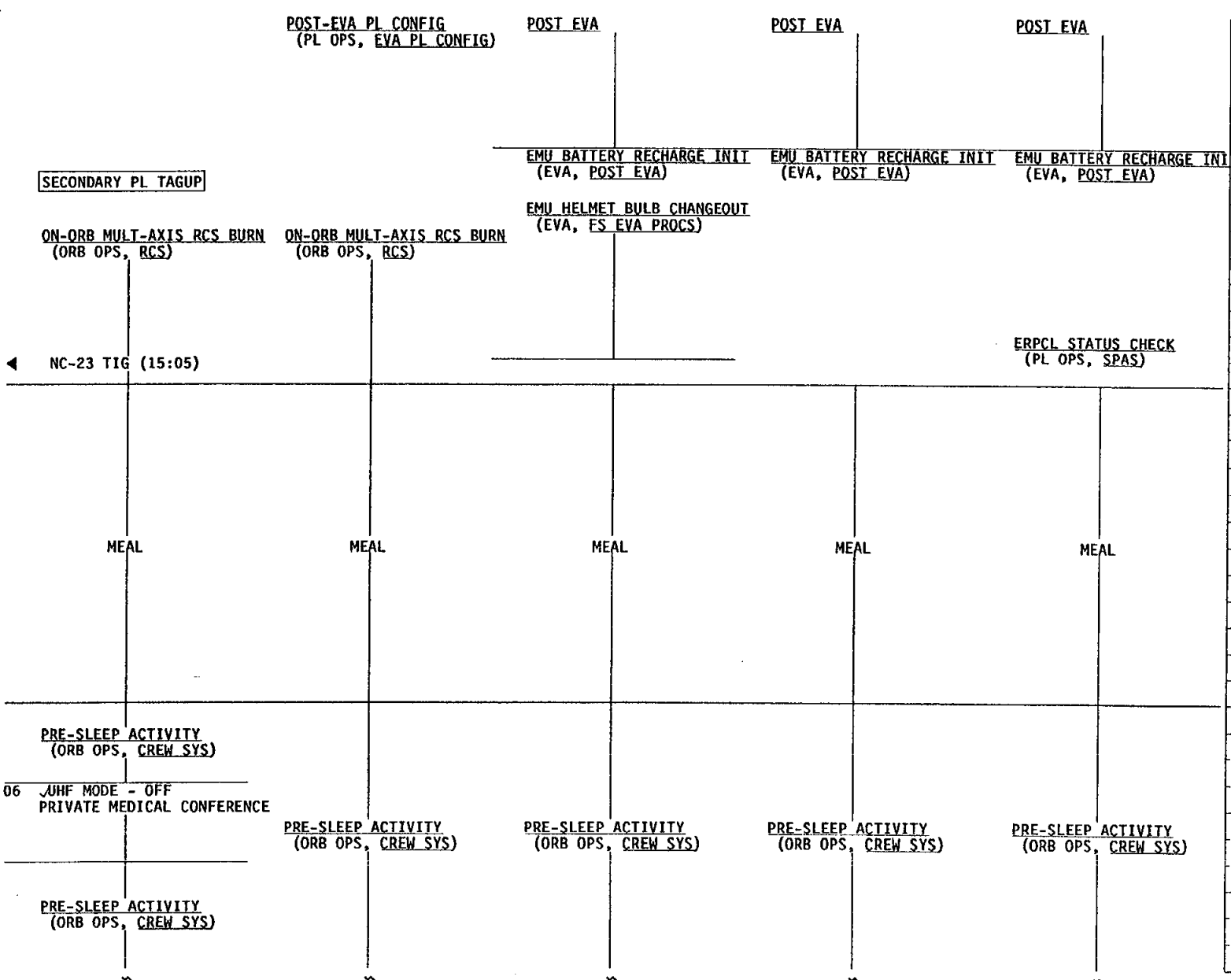
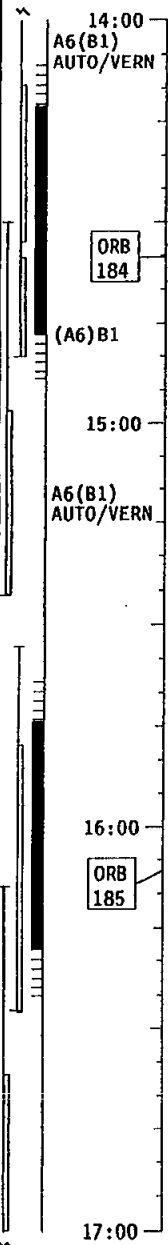
PLT

MS1

MS2

MS3

MCC



T  
D  
R  
E  
W

MET  
DAY 011

Z  
O  
T  
E

# STS-80 (FD 12)

CDR

PLT

MS1

MS2

MS3

MCC

17:00  
A6(B1)  
AUTO/VERN

ORB  
186

18:00

5  
D  
E  
G  
-  
Y  
L  
V  
+  
Z  
V  
V

19:00

ORB  
187

20:00

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

QCA DOWNLINK (KEX)  
(ORB OPS FS, QCA)  
Ku-HDR

QCA DATA XFER  
FAMILY MAIL 1↓

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

SLEEP

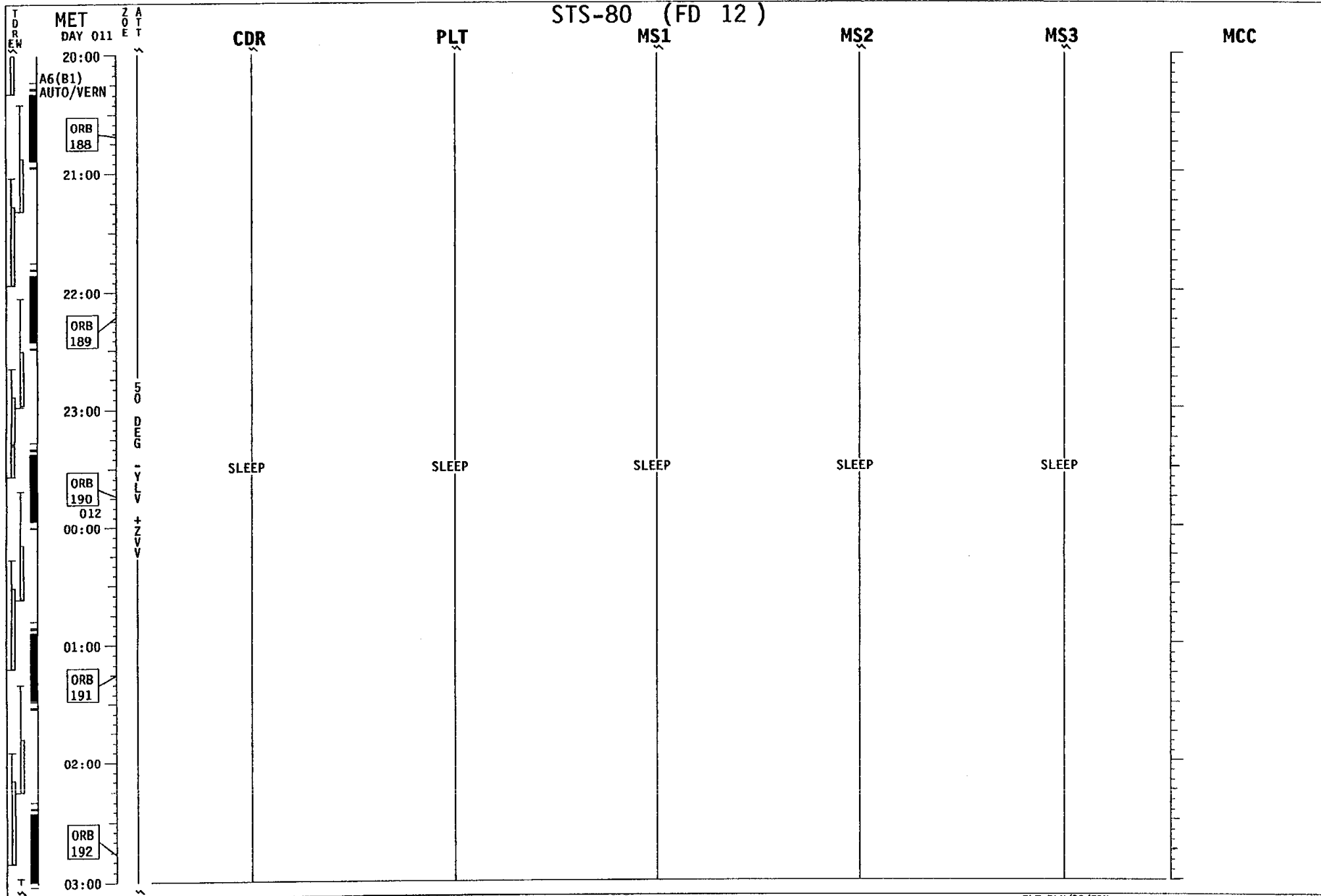
SLEEP

SLEEP

SLEEP

SLEEP

STS-80 (FD 12)



T  
D  
R  
E  
W

MET  
DAY 012

Z  
A  
T  
O  
E

# STS-80 (FD 13)

CDR

PLT

MS1

MS2

MS3

MCC

03:00  
A6(B1)  
AUTO/VERN

04:00

ORB  
193

05:00

ORB  
194

06:00

S  
O  
D  
E  
G  
-  
Y  
L  
V  
+  
Z  
V  
V

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

EXERCISE

ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)

ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)

EVA ASPIRIN PROTOCOL  
(EVA, NOMINAL PROCS)

EVA ASPIRIN PROTOCOL  
(EVA, NOMINAL PROCS)

OCA DOWNLINK (KFX)  
(ORB OPS FS, OCA)  
Ku-HDR

OCA DATA XFER  
SPOC DATA ↑  
PWR TOOL FILES ↑  
FAMILY MAIL ↓↓

T  
D  
R  
E  
W

MET  
DAY 012

Z  
O  
T  
E

# STS-80 (FD 13)

CDR

PLT

MS1

MS2

MS3

MCC

06:00

A6(B1)  
AUTO/VERN

(A6)B1

A6(B1)  
AUTO/VERN

07:00

ORB  
195

08:00

ORB  
196

09:00

5  
0  
D  
U  
E  
-  
Y  
L  
V  
+  
N  
A  
V

ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)

ON-ORB MULT-AXIS RCS BURN  
(ORB OPS, RCS)

← NC-24 TIG (06:22)

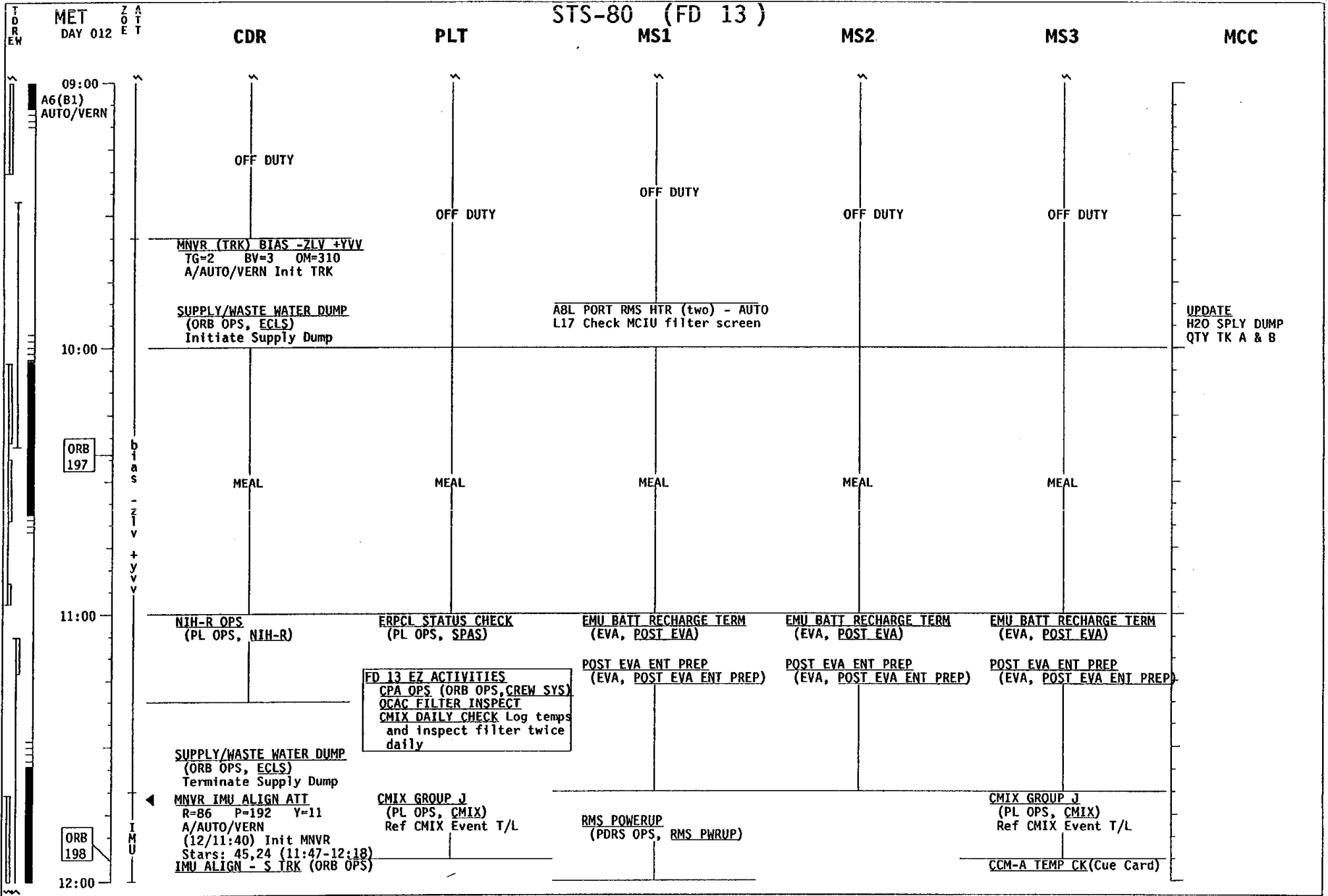
OFF DUTY

OFF DUTY

OFF DUTY

OFF DUTY

OFF DUTY



T  
D  
R  
E  
W

MET  
DAY 012

Z  
A  
O  
T  
E

# STS-80 (FD 13)

CDR

PLT

MS1

MS2

MS3

MCC

12:00  
A6(B1)  
AUTO/VERN

50  
DEG  
- YLV  
+ ZVV

ORB  
199

ORB  
200

15:00

MNVR(TRK)BIAS 50° -YLV +ZVV  
 TG=2 BV=5  
 P=90 Y=320 OM=90  
 A/AUTO/VERN Init TRK

WSF SURVEY

WSF SURVEY

POWER TOOL DATA TRANSFER

EXERCISE

EXERCISE

RMS POWERDOWN  
 (PDRS OPS, RMS PWRDN)  
 Note: Do not stow MPM's

POST EVA QUEST  
 (EVA, FS EVA PROCS)

P/TV06 SETUP (PAO EVENTS)  
 (P/TV, P/TV SCENES)

POST EVA QUEST  
 (EVA, FS EVA PROCS)

PILOT SIMULATOR  
 (ORB OPS FS, DTO 667)

EXERCISE

PAO VOICE CHECK/EVENT  
 TV at TDRE  
 (13:50-14:10)

PAO VOICE CHECK/EVENT

PILOT SIMULATOR  
 (ORB OPS FS, DTO 667)

SECONDARY PL TAGUP

ERPCL STATUS CHECK  
 (PL OPS, SPAS)

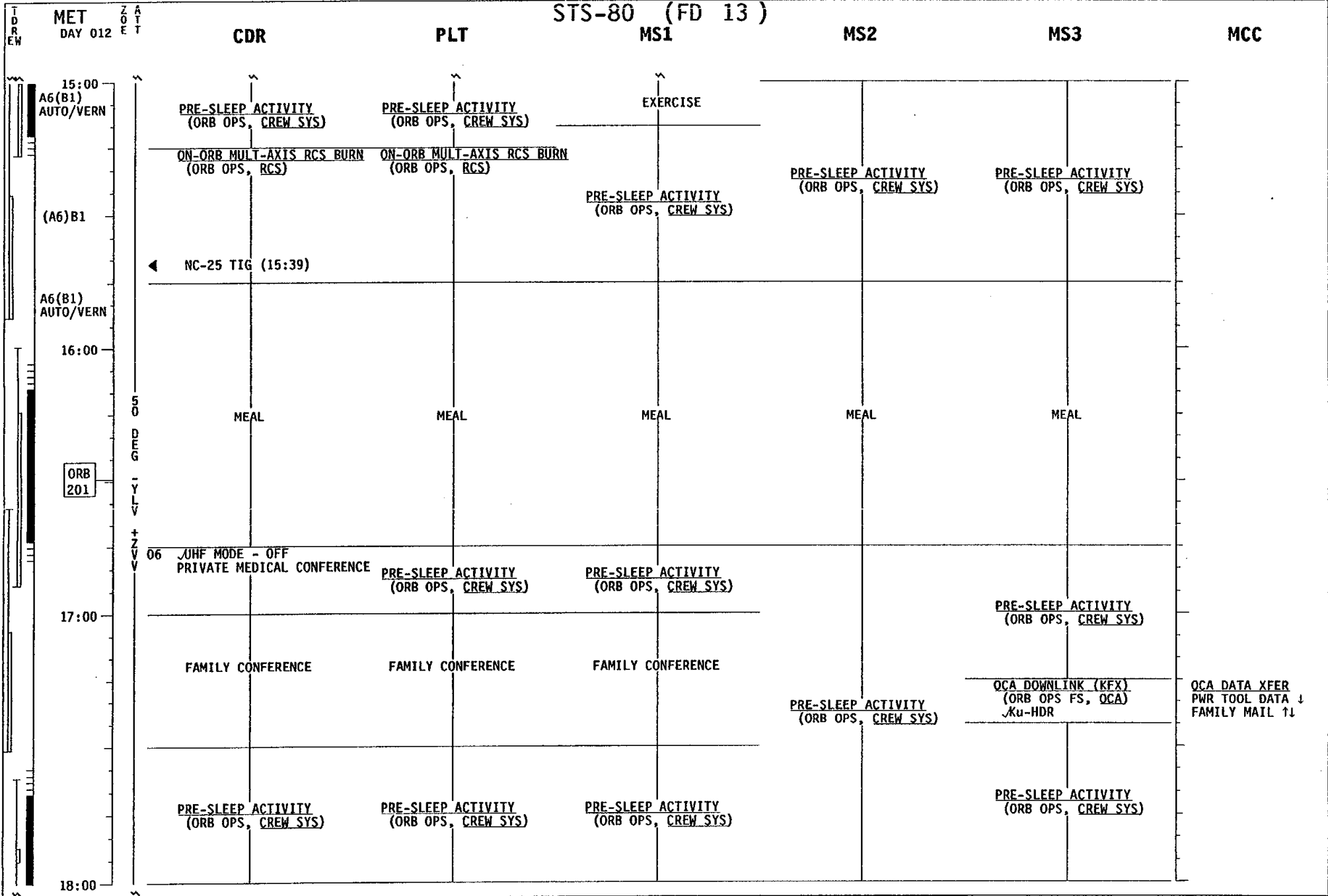
EXERCISE

EVA TOOL STOW

EVA TOOL STOW

PRE-SLEEP ACTIVITY  
 (ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
 (ORB OPS, CREW SYS)





STS-80 (FD 13)

MET DAY 012

CDR

PLT

MS1

MS2

MS3

MCC

18:00

ORB 202

A6(B1) AUTO/VERN

19:00

ORB 203

20:00

21:00

ORB 204

22:00

SLEEP

SLEEP

SLEEP

SLEEP

SLEEP

ORB 205

23:00

013

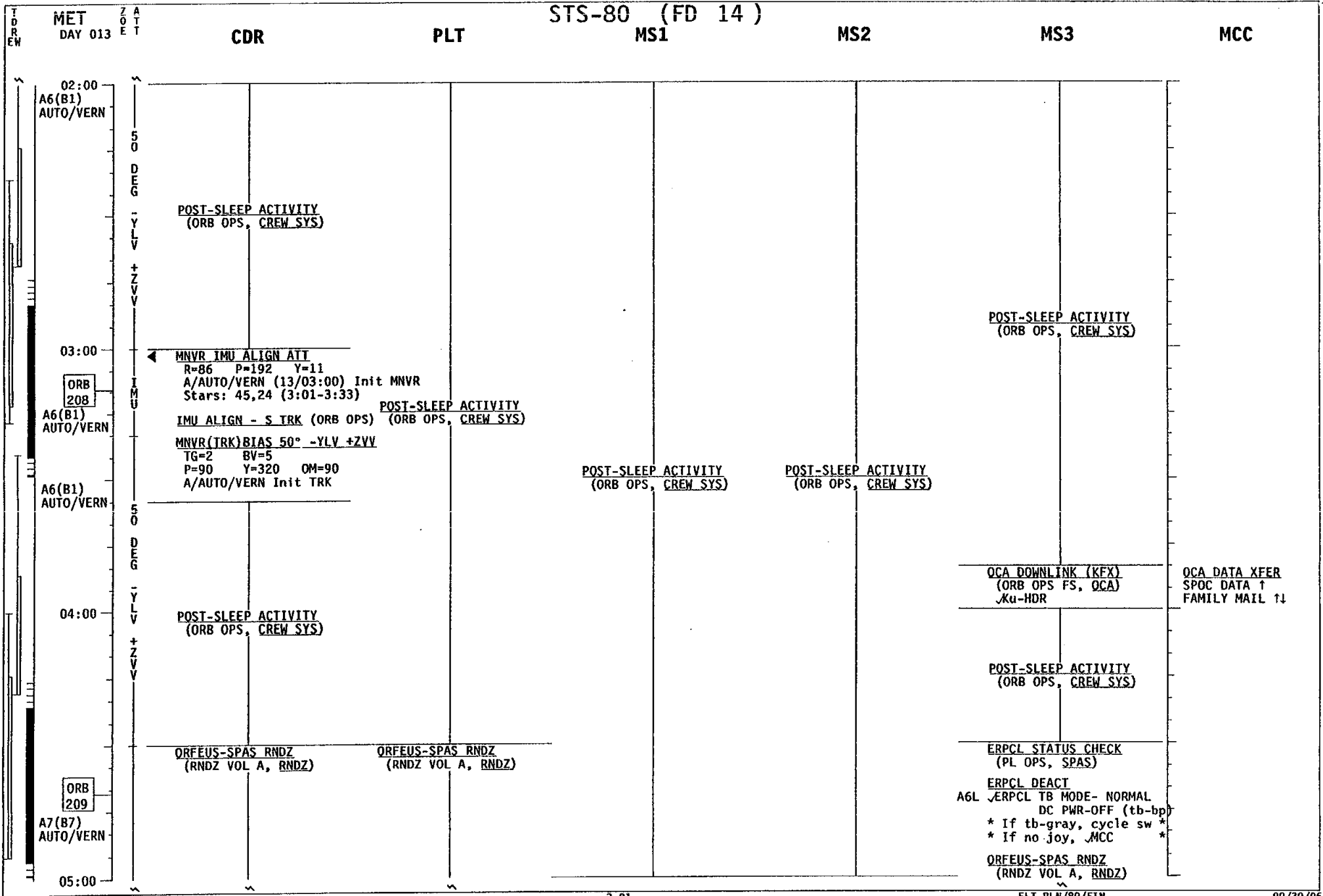
00:00

ORB 206

01:00

ORB 207

02:00



T  
D  
R  
E  
W

MET  
DAY 013

Z  
O  
E  
T

# STS-80 (FD 14)

CDR

PLT

MS1

MS2

MS3

MCC

05:00

A7 (B7)  
AUTO/VERN

ORFEUS-SPAS RNDZ

ORFEUS-SPAS RNDZ

FD 14 EZ ACTIVITIES
CPA OPS (ORB OPS, CREW SYS) (15 min)
OCAC FILTER INSPECT
CMIX DAILY CHECK Log temps and inspect filter twice daily

A8L PORT RMS HTR (two) - AUTO  
L17 Check MCIU filter screen

ORFEUS-SPAS RNDZ

◀ NC-26 (05:24)

EXERCISE

06:00

EXERCISE

P/TV11 SETUP/OPS (SPAS RETRV)  
(P/TV, P/TV SCENES)

◀ NH-SPAS (06:09)

ORB  
210

Z  
T  
G  
T  
(  
R  
N  
D  
Z  
)

RMS POWERUP  
(PDRS OPS, RMS PWRUP)

ORFEUS-SPAS RNDZ  
(RNDZ VOL A, RNDZ)

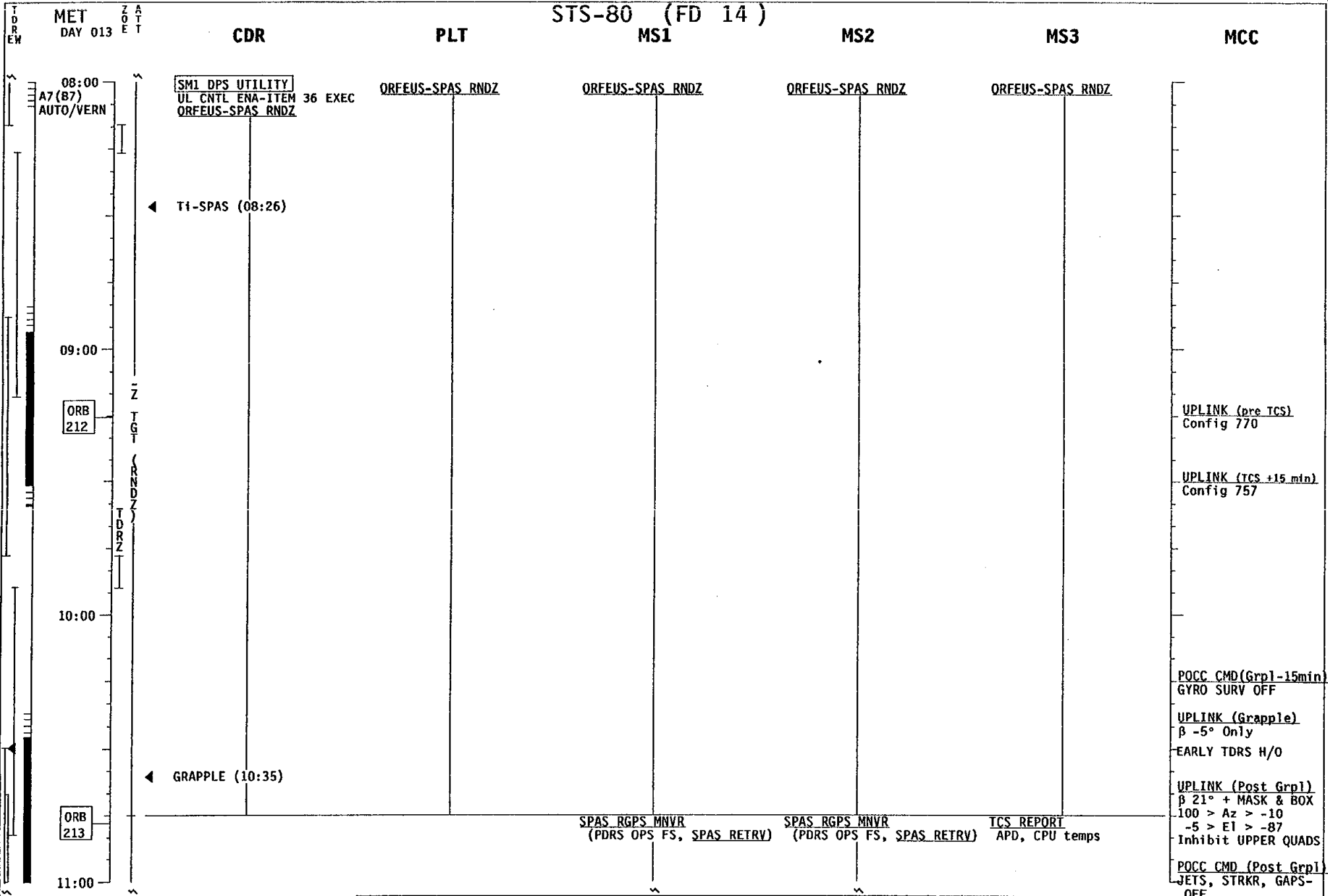
07:00

ORFEUS-SPAS RNDZ  
(RNDZ VOL A, RNDZ)

◀ NCC-SPAS (07:29)

ORB  
211

08:00



T  
D  
R  
E  
W

MET  
DAY 013

Z  
A  
T  
O  
E

# STS-80 (FD 14)

CDR

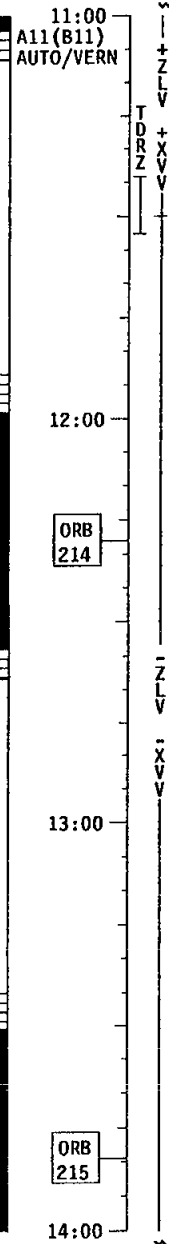
PLT

MS1

MS2

MS3

MCC



11:00  
A11(B11)  
AUTO/VERN

MNVR (TRK) -ZLV -XVV  
TG=2 BV=3 OM=0  
On MCC Go,  
A/AUTO/VERN Init TRK

**SM1 DPS UTILITY**  
UL CNTL AUTO-ITEM 35 EXEC

NIH-R OPS  
(PL OPS, NIH-R)

G2 SET CONTRACTION (SINGLE)  
(ORB OPS, DPS)

EXERCISE

After SPAS DEACT,  
C3 S-BD QUAD SEL-  
select best antenna

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

PILOT SIMULATOR  
(ORB OPS FS, DTO 667)

EXERCISE

SPAS RGPS MNVR

SPAS DEACT  
(PL OPS, SPAS)

On MCC go,  
SPAS 3A/6A MNVRS  
(PDRS OPS FS, QSVS OPS)

SPAS SINGLE CAMERA BERTH  
(PDRS OPS FS, QSVS OPS)

SPAS CC BERTH  
(PDRS OPS FS, QSVS OPS)

SPAS ELBOW CAM BERTH  
(PDRS OPS FS, QSVS OPS)

SPAS SINGLE JOINT BERTH  
(PDRS OPS FS, QSVS OPS)

SPAS RGPS MNVR

On MCC go,  
SPAS 3A/6A MNVRS  
(PDRS OPS FS, QSVS OPS)

SPAS SINGLE CAMERA BERTH  
(PDRS OPS FS, QSVS OPS)

SPAS CC BERTH  
(PDRS OPS FS, QSVS OPS)

SPAS ELBOW CAM BERTH  
(PDRS OPS FS, QSVS OPS)

SPAS SINGLE JOINT BERTH  
(PDRS OPS FS, QSVS OPS)

TCS REPORT  
APD, CPU temps

HHL STOW  
(RNDZ VOL A, RNDZ TOOLS)  
TCS DEACT  
(RNDZ VOL A, RNDZ TOOLS)  
Exit RPOP - [Shift]/[F10]  
PCDECOM OPS, DEACT  
(ORB OPS, PCDECOM OPS)

Stow rendezvous tools

CCM-A TEMP CK (Cue Card)

POCC CMD  
GYRO/SYSTEM PWRDN  
INFORM CREW  
Go for SPAS DEACT  
INFORM CREW  
Go for MNVR  
Go for OSVS ops

UPLINK (SYS)  
β 21° + MASK & BOX  
100 > Az > -20  
40 > Et > -87

T  
D  
R  
E  
W

MET  
DAY 013

Z  
O  
T  
E

STS-80 (FD 14)

CDR

PLT

MS1

MS2

MS3

MCC

14:00  
A11(B11)  
AUTO/VERN

A1(B1)  
AUTO/VERN

15:00

ORB  
216

Z  
L  
V

X  
V  
V

16:00

ORB  
217

17:00

PILOT SIMULATOR  
(ORB OPS FS, DTO 667)

EXERCISE

SPAS SINGLE JOINT BERTH

SPAS SINGLE JOINT BERTH

SPAS CAM BERTH  
(PDRS OPS FS, OSVS OPS)

SPAS CAM BERTH  
(PDRS OPS FS, OSVS OPS)

EXERCISE

SECONDARY PL TAGUP

P/TV06 SETUP (PAO EVENTS)  
(P/TV, P/TV SCENES)

SPAS BERTH  
(PDRS OPS FS, SPAS RETRY)  
Steps 4-9

SPAS BERTH  
(PDRS OPS FS, SPAS RETRY)  
Steps 4-9

RMS POWERDOWN  
(PDRS OPS, RMS PWRDN)

OSVS POWERDOWN  
(PDRS OPS FS, OSVS OPS)

UPLINK (Post Berth)  
β 21° + MASK

Change DAP A,B to A1,B1  
A/AUTO/VERN  
SUPPLY/WASTE WATER DUMP  
(ORB OPS, ECLS)  
Initiate Supply Dump

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

UPDATE  
H2O SPLY DUMP  
QTY TK A & B

MEAL

MEAL

MEAL

MEAL

MEAL

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

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

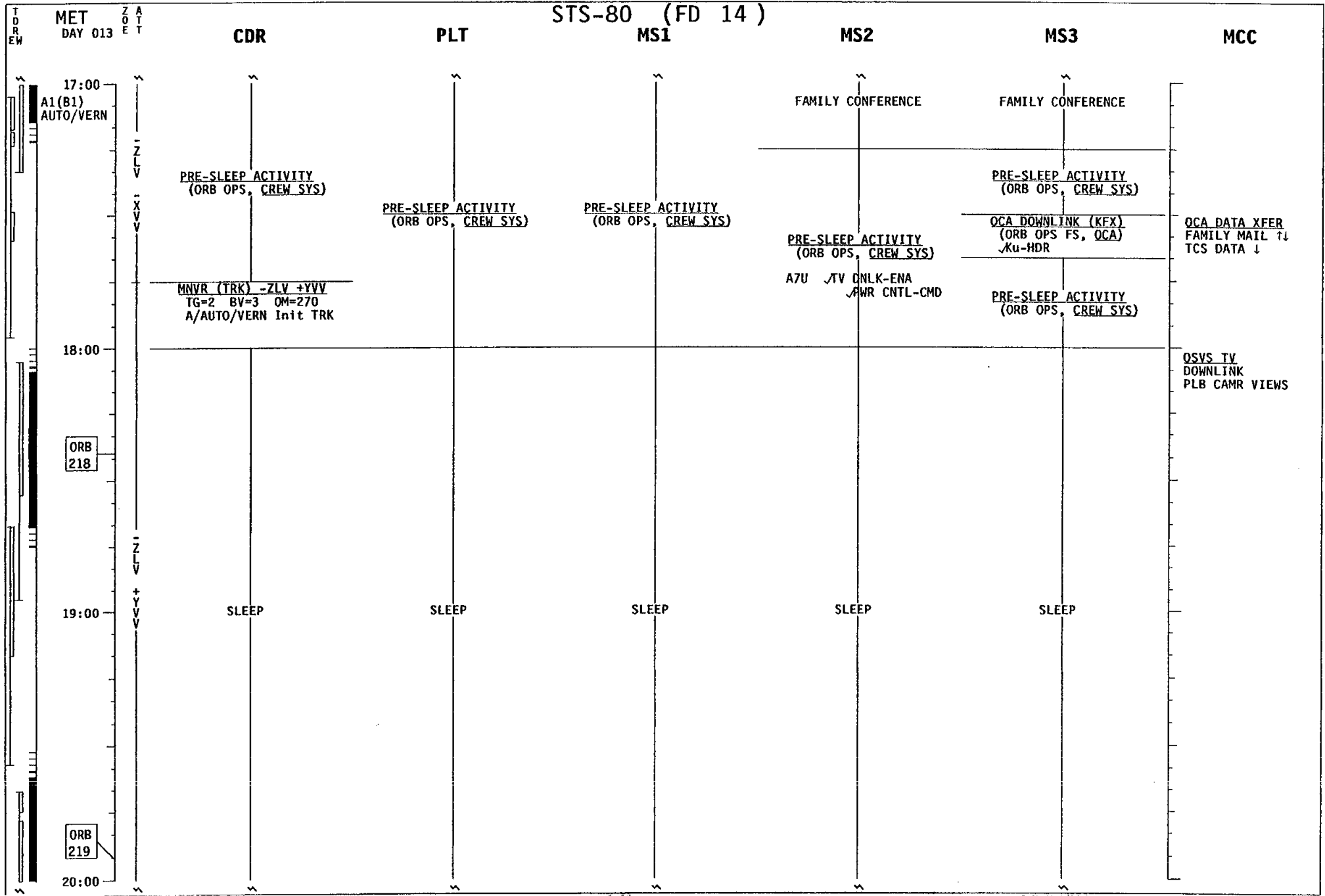
PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

06 JHF MODE - OFF  
PRIVATE MEDICAL CONFERENCE

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

FAMILY CONFERENCE

FAMILY CONFERENCE



MET DAY 013

STS-80 (FD 14)

CDR

PLT

MS1

MS2

MS3

MCC

17:00

A1(B1)  
AUTO/VERN

ZLV  
-ZLV  
-XVV  
-ZLV  
+YVV

18:00

ORB  
218

19:00

ORB  
219

20:00

FAMILY CONFERENCE

FAMILY CONFERENCE

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

QCA DOWNLINK (KFX)  
(ORB OPS FS, QCA)  
✓Ku-HDR

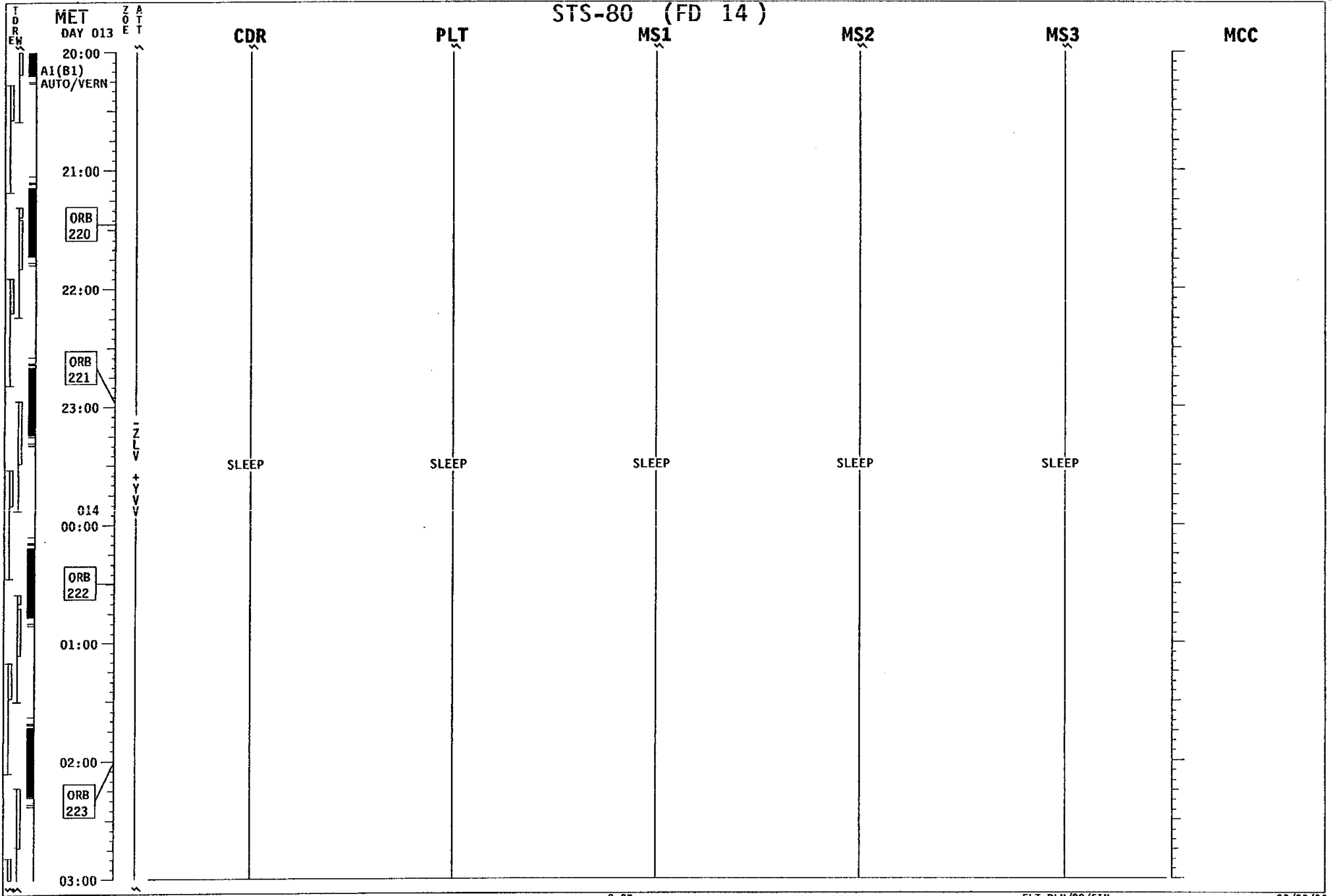
QCA DATA XFER  
FAMILY MAIL T↓  
TCS DATA ↓

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

A7U ✓TV DNK-ENA  
✓PWR CNTL-CMD

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

QSYS TV  
DOWNLINK  
PLB CAMR VIEWS





T  
D  
R  
E  
W

MET  
DAY 014  
Z  
O  
T  
E

STS-80 (FD 15)

CDR

PLT

MS1

MS2

MS3

MCC

03:00  
A1(B1)  
AUTO/VERN

ORB  
224

04:00

(A1)B5  
05:00  
ORB  
225

A1(B1)  
AUTO/VERN

06:00

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

IMU/ HUD  
MNVN IMU ALIGN ATT  
R=259 P=113 Y=66  
A/AUTO/VERN (14/04:30) Init MNVR  
Stars: 54,51 (4:25-5:01)

IMU ALIGN - S TRK (ORB OPS)  
HUD CAL (ORB OPS, GNC)  
Star: 11 (4:46-5:34)

MNVN (TRK) -ZLV +YVV  
TG=2 BV=3 OM=270  
A/AUTO/VERN Init TRK  
Change DAP B to B1

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

MNVN TO COMM ATT  
R=85 P=117 Y=9  
A/AUTO/VERN, Init MNVR (14/05:55)

FD 15 EZ ACTIVITIES  
CPA OPS  
(ORB OPS, CREW SYS)  
(15 min)  
CMIX DAILY CHECK Log  
temps and inspect  
filter twice daily

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

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

WASTE DUMP MONITOR  
as req'd

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

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

QCA DOWNLINK (KFX)  
(ORB OPS FS, QCA)  
Ku-HDR

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

UPDATE  
WASTE/SUPPLY  
H2O DUMP QTY

QCA DATA XFER  
SPOC DATA ↑  
FAMILY MAIL ↓

TDR  
EW

MET  
DAY 014  
Z  
O  
T  
E

# STS-80 (FD 15)

CDR

PLT

MS1

MS2

MS3

MCC

06:00  
A1(B1)  
AUTO/VERN

MNVR TO COMM ATT

POST-SLEEP ACTIVITY

POST-SLEEP ACTIVITY

POST-SLEEP ACTIVITY

POST-SLEEP ACTIVITY

UPLINK  
EARLY TDRS H/O

CREW CONF  
TV at TDRE  
(06:05-06:35)

CREW CONF

CREW CONF

CREW CONF

CREW CONF

ORB  
226

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

P/TV12 SETUP (PPOV/MINICAM)  
(P/TV, P/TV SCENES)

CCM-A TEMP CK (Cue Card)

PPOV camr dn1k video c/o  
Setup for FM downlink

07:00

08:00

ORB  
227

EXERCISE

PILOT SIMULATOR  
(ORB OPS FS, DTO 667)

EXERCISE

SEM DEACTIVATION  
(PL OPS, SEM)

PILOT SIMULATOR  
(ORB OPS FS, DTO 667)

OSYS STOW

09:00

COMM

ZLV  
+YVV

T  
D  
R  
E  
W

MET  
DAY 014

Z  
O  
T  
E

# STS-80 (FD 15)

CDR

PLT

MS1

MS2

MS3

MCC

09:00  
A1(B1)  
AUTO/VERN

PILOT SIMULATOR  
(ORB OPS FS, DTG 667)

EXERCISE

OSYS STOW

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

SMI DPS UTILITY  
UL CNTL ENA-ITEM 36 EXEC

ORB  
228

10:00

MEAL

MEAL

MEAL

MEAL

MEAL

T  
D  
R  
Z  
Z  
L  
V  
+  
Y  
V  
V

FCS CHECKOUT  
(ORB OPS, GNC)

FCS CHECKOUT  
(ORB OPS, GNC)

FCS CHECKOUT  
(ORB OPS, GNC)

11:00

ORB  
229

CABIN CONFIG/STOW

CABIN CONFIG/STOW

RCS HOT FIRE TEST  
(ORB OPS, RCS)

RCS HOT FIRE TEST  
(ORB OPS, RCS)

EXERCISE

RCS HOT FIRE TEST  
(ORB OPS, RCS)

Config DAP: A/AUTO/VERN

APU HEATER RECONFIG  
(ORB OPS, APU/HYDRAULICS)

12:00

D  
G  
S

T  
D  
R  
E  
N

MET  
DAY 014

Z  
A  
O  
T

STS-80 (FD 15)

CDR

PLT

MSI

MS2

MS3

MCC

12:00  
A1(B1)  
AUTO/VERN

NIH-R OPS  
(PL OPS, NIH-R)

AEM WATER REFILL  
(PL OPS, NIH-R)

FILTER CLEANING  
(IFM, SCHEDULED MAINTENANCE)

ORB  
230

EXERCISE

CABIN CONFIG/STOW  
(A11)

13:00

CABIN CONFIG/STOW  
(A11)

CABIN CONFIG/STOW  
(A11)

EXERCISE

EXERCISE

D  
Z  
G  
L  
V  
+  
Y  
V  
V

CABIN CONFIG/STOW  
(A11)

PRE-DEORBIT PREP ACTIVITIES

AIRLOCK CLOSEOUT

Remove loose items stored in Airlock  
Perform AIRLOCK ENT & SW VERIF  
(DEORBIT PREP, ENT SW LIST/VERIF)

SEAT INSTALLATION

CABIN CONFIG/STOW  
(A11)

14:00

SM1 OPS UTILITY  
UL CNTL AUTO-ITEM 35 EXEC

CABIN CONFIG/STOW  
(A11)

ORB  
231

CABIN CONFIG/STOW  
(A11)

CYCLE ERGOMETER OPS  
(ORB OPS FS, ERGO OPS)  
Ergometer Reconfig/Stow

CYCLE ERGOMETER OPS  
(ORB OPS FS, ERGO OPS)  
Ergometer Reconfig/Stow

15:00

MEAL

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

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

UPDATE  
H2O SPLY DUMP  
QTY TK A & B

T D R E W

MET DAY 014 Z A O T E T

STS-80 (FD 15)

CDR

PLT

MS1

MS2

MS3

MCC

15:00  
A1(B1)  
AUTO/VERN

ORB  
232

16:00

06 JHF MODE - OFF  
PRIVATE MEDICAL CONFERENCE

- Z L V  
+ Y V V

17:00

ORB  
233

18:00

MEAL

MEAL

MEAL

MEAL

MEAL

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

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

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

LANDING-1 COMM C/O (BACKUP)  
(ORB OPS, COMM/INST)

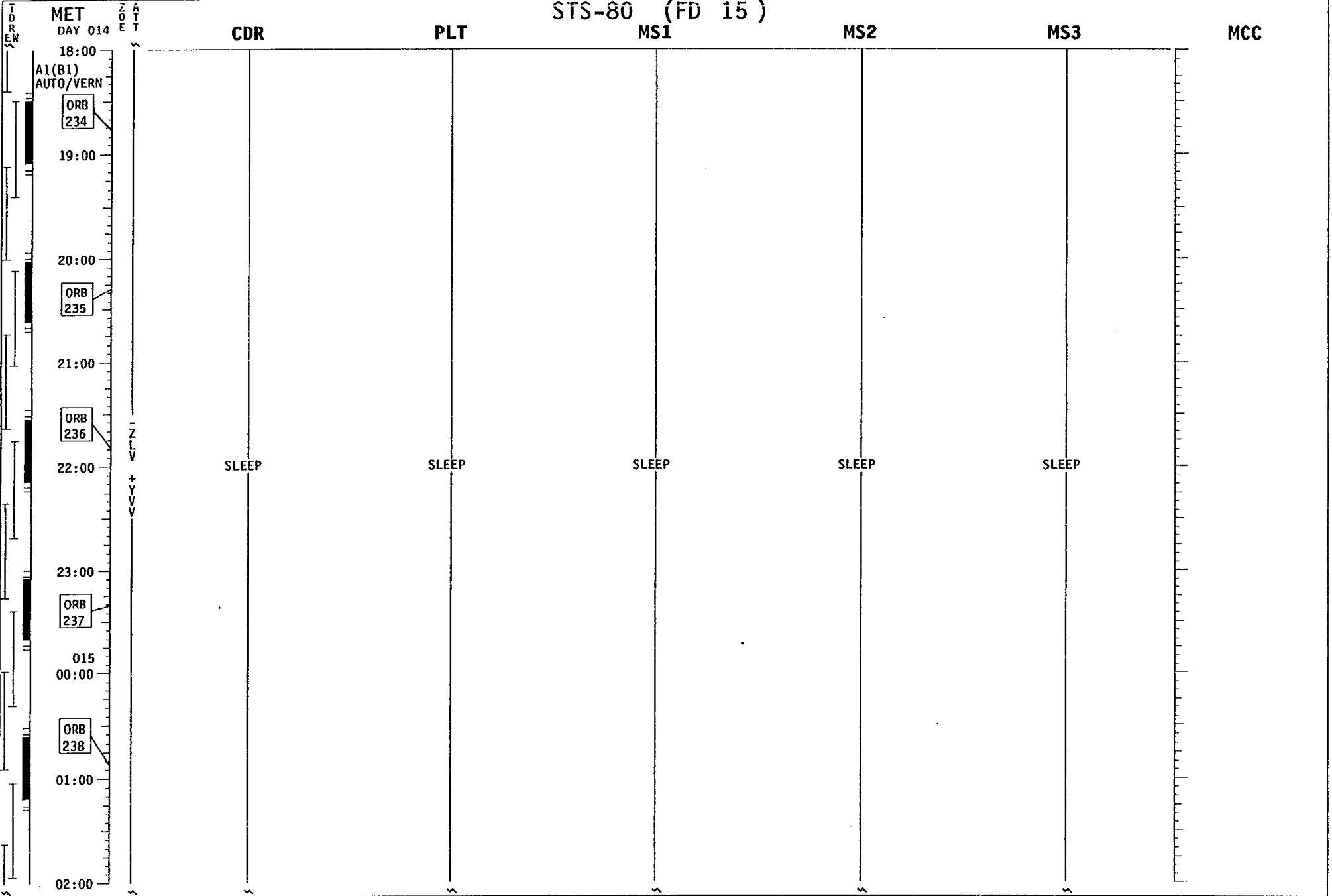
QCA DOWNLINK (MF)  
(ORB OPS FS, QCA)

QCA DATA XFER  
FAMILY MAIL T↓

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

STS-80 (FD 15)



T  
O  
R  
E  
W

MET  
DAY 015

Z  
A  
O  
T  
E

# STS-80 (FD 16)

CDR

PLT

MS1

MS2

MS3

MCC

02:00

A1(B1)  
AUTO/VERN

ORB  
239

SLEEP

SLEEP

SLEEP

SLEEP

SLEEP

03:00

Z  
L  
V  
+  
V  
V  
V

ORB  
240

04:00

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

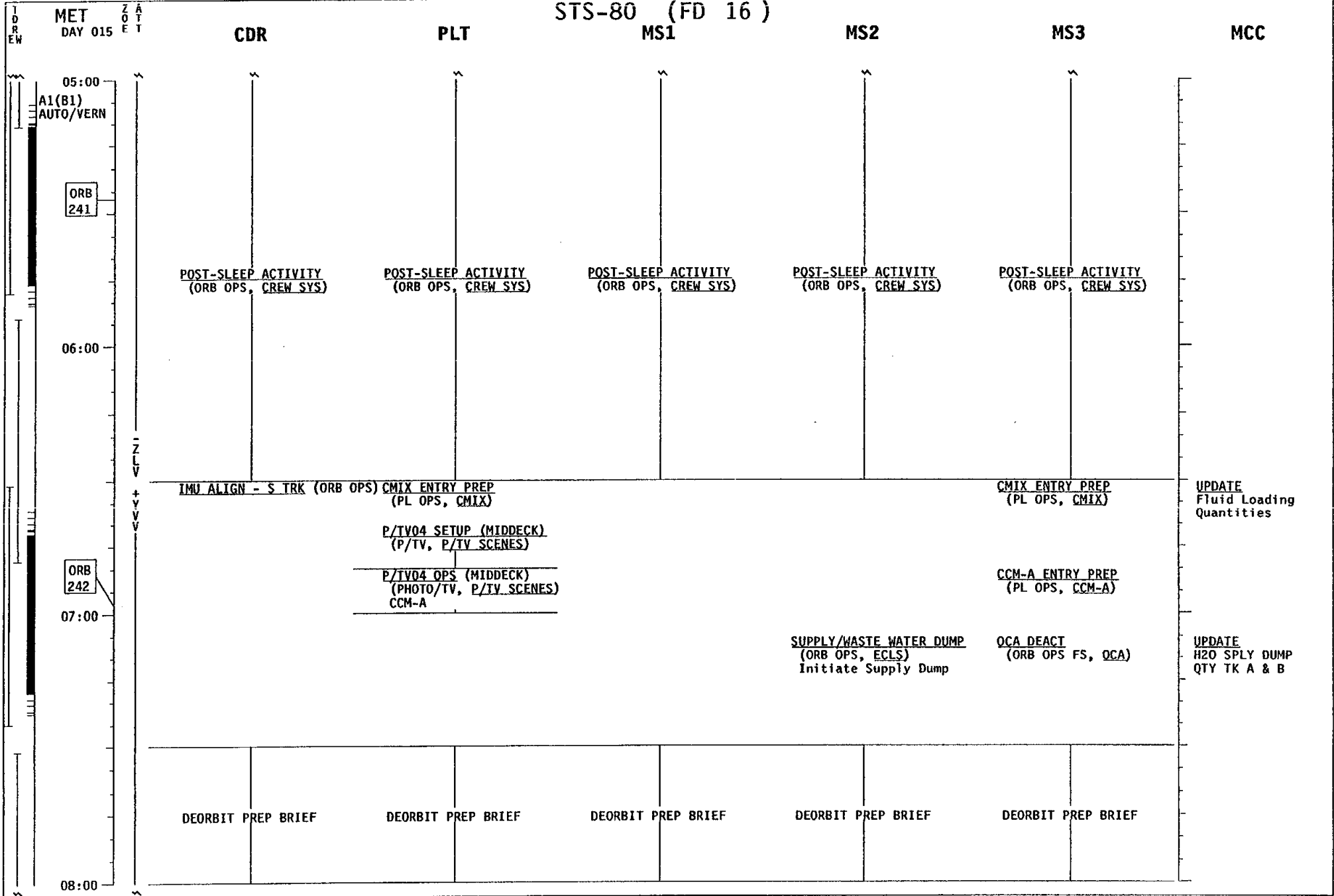
POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

05:00





T  
D  
R  
E  
W

MET  
DAY 015

Z  
O  
T  
E

# STS-80 (FD 16)

CDR

PLT

MS1

MS2

MS3

MCC

08:00

A1(B1)  
AUTO/VERN

ORB  
243

09:00

QCAC STOW  
(ORB OPS, CREW SYS)

QCAC STOW  
(ORB OPS, CREW SYS)

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

EZ ACTIVITIES BEFORE LEAVING FLT PLN  
AIR SAMPLE  
Rcd MET and location on bottle  
FLUID LOADING PREP  
Fill drink containers per MCC

NIH-R OPS  
(PL OPS, NIH-R)  
Stow AEM mufflers

WSF CARRIER DEACT  
(PL OPS, WSF SYSTEM)

EDO PALLET DEACTIVATION  
(ORB OPS, EPS)

10:00

ORB  
244

MEAL

MEAL

MEAL

MEAL

MEAL

11:00

T  
D  
R  
E  
W

MET  
DAY 015

Z  
O  
E  
T

CDR

PLT

STS-80 (FD 16)

MS1

MS2

MS3

MCC

11:00  
A1(B1)  
AUTO/VERN

ORB  
245

12:00

13:00

ORB  
246

14:00

Y  
Z  
L  
V  
+  
Y  
V  
V  
Y  
I  
X  
S  
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U  
C  
O  
M  
M

◀ MNVR (TRK) -XSI ATT  
TG=4 BV=5  
P=184 Y=0 OM=90  
A/AUTO/VERN (15/11:25) Init TRK

Go to DEORBIT PREP C/L at 15/11:44

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## CONTINGENCY TIMELINES

CONTINGENCY  
TIMELINES

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GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
313:11:47 / 314:11:47		-000:08:00 / 000:16:00		313:05:47 / 314:05:47		/313 CST	-36.8		NOVEMBER 8, 1996	STS-80	FINAL	09/30/96
CST	:313	6	7	8	9	10	11	12	13	14	15	16
FD	:01	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2
MET	:000											
CDR											PRE SLEEP	SLEEP
PLT											PRE SLEEP	SLEEP
JMP ST												SLEEP
PRLA												SLEEP
TELE DR												SLEEP
EVA												SLEEP
MS3												SLEEP
DAY/NIGHT												
ORBIT												
TDRS												
NOTES:												

LAUNCH

Latest time for events ---->

▲ RMS PWRUP    ▶ SPEE DEADFACE    ▼ SPAS PWRDN  
 ► RMS PWRUP    ▼ SPEE DEADFACE  
 ▼ RMS PWRUP

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
314:11:47 / 315:11:47	000:16:00 / 001:16:00	314:05:47 / 315:05:47	/314 CST	-38.8		NOVEMBER 9, 1996	STS-80	FINAL	09/30/96

CST :314	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	CST:315	1	2	3	4	5		
FD :02	16	17	18	19	20	21	22	23	MET:001	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MET :000																										

CDR	SLEEP	POST SLEEP	SPAS CHECKS															PRE SLEEP	SLEEP								
PLT	SLEEP	POST SLEEP																PRE SLEEP	SLEEP								
JMP ST	SLEEP	POST SLEEP																PRE SLEEP	SLEEP								
PRLA	SLEEP	POST SLEEP																PRE SLEEP	SLEEP								
TELE DR	SLEEP	POST SLEEP																PRE SLEEP	SLEEP								
EVA	SLEEP	POST SLEEP	MIDDECK PREP	TOOL CONFIG	EVA PREP	PURGE / PREBREATHE	EVA	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> EVA Prep &amp; Purge may begin earlier if Middeck Prep &amp; Tool Config are completed on FD 1 </div>										POST EVA W/H2O	PRE SLEEP	SLEEP							
MS3	SLEEP	POST SLEEP	MIDDECK PREP	TOOL CONFIG	EVA PREP	PURGE / PREBREATHE	EVA SUPPORT											PRE SLEEP	SLEEP								
DAY/NIGHT ORBIT																											
TDRS	E																										W

NOTES:	▽ SPEE DEADFACE	△ SPEE DEADFACE	◆ A/L REPRS
	▶ SPEE DEADFACE	◆ BATT RECHG INIT	
	◀ A/L DEPRS		
	◁ A/L DEPRS		

DAP TABLES



# DAP TABLE

<u>DAP</u>	<u>PURPOSE</u>	<u>DAP</u>	<u>PURPOSE</u>
A1	- NOMINAL	B1	- NOMINAL
A2	- PTC		OMS & RCS BURNS
A3	- GG	B2	- LOSS OF VERN (TAIL ONLY)
A4	- EDFT-05 EVA LOADED RMS	B3	- LOSS OF VERN (NOSE & TAIL)
A5	- LOSS OF VERN (NOSE & TAIL)	B4	- SSUS DEPLOY
A6	- LOSS OF VERN (TAIL ONLY)	B5	- COAS CAL
A7	- RENDEZVOUS	B6	- PREDEPLOY SPAS GYRO CALIBRATION
A8	- PROX OPS	B7	- RENDEZVOUS
A9	- ORFEUS-SPAS LOW HOVER	B8	- PROX OPS
A10	- ORFEUS-SPAS RELEASE CAPTURE (NOM & SJ) RGPS HIGH	B9	- ORFEUS-SPAS DB COLLAPSE W/O POSN HOLD RMS BO
A11	- ORFEUS-SPAS ALL SVS	B10	- ORFEUS-SPAS NOMINAL DB COLLAPSE RMS PH
A12	- WSF LOW HOVER NOMINAL CAPTURE	B11	- ORFEUS-SPAS RGPS LOW
A13	- WSF RAM CLEAN AOPROC CLEAN AOPROC	B12	- ORFEUS-SPAS CONT EVA EVA HOVER WORKSITE #1 WORKSITE #2
A14	- WSF SVS TOP	B13	- WSF RELEASE STATIONARY RMS
A15	- RNDZ TRANSITION TO RBAR	B14	- WSF SINGLE JOINT CAPTURE SVS SIDE
		B15	- RNDZ TRANSITION TO RBAR

CNTL ACC	= 0	UNLOADED RMS
	= 1	WSF LOW HOVER, NOMINAL CAPTURE
	= 2	WSF RAM CLEAN, AOPROC
	= 3	WSF ADACS C/O
	= 4	WSF RELEASE, WSF SVS
	= 5	ORFEUS - SPAS LOW HOVER, RGPS LOW AND CONTINGENCY EVA
	= 6	ORFEUS - SPAS RELEASE, CAPTURE
	= 7	NOT USED
	= 8	ORFEUS - SPAS SVS
	= 9	LOADER RMS EVA

UNIV PTG	
TGT ID	= 1 Orbiting Vehicle = 2 Earth ctr = 3 Earth tgt Input LAT ( $\pm 90$ ) LON ( $\pm 180$ , + = East) ALT (-3444.0 to 20000.0 nm)
	= 4 Sun ctr = 5 Celestial tgt Input RA (0-359.99) DEC ( $\pm 90$ ) = 11-110 Nav Stars
BODY VECT	= 1 +X* = 2 -X* = 3 -Z* = 4 -Y Star Tracker* = 5 Optional Input P (0-359.99) Y (270-359.99, 0-90)
* input OM	→ OM (0-359.99)
MON AXIS	= 1 +X = 2 -X

**STS-80 GENERIC DAP A CONFIGURATIONS**

	ITEM #	A1	A2	A3	A5	A6	A7	A8
<b>PRI</b>								
ROT RATE	10	0.2000	0.4000	0.2000	0.2000	0.2000	0.2000	0.2000
ATT DB	11	5.00	1.00	1.00	5.00	5.00	2.00	2.00
RATE DB	12	0.20	0.20	0.20	0.20	0.20	0.20	0.20
ROT PLS	13	0.10	0.10	0.10	0.10	0.10	0.10	0.10
COMP	14	.000	.000	.000	.000	.000	.000	.000
P OPTION	15	ALL	ALL	ALL	ALL	TAIL	ALL	ALL
Y OPTION	16	ALL	ALL	TAIL	ALL	TAIL	ALL	ALL
TRAN PLS	17	0.10	0.10	0.10	0.10	0.10	0.10	0.05
<b>ALT</b>								
RATE DB	18	0.200	0.200	0.200	0.070	0.070	0.200	0.200
JET OPT	19	ALL	ALL	ALL	ALL	TAIL	ALL	ALL
# JETS	20	2	2	2	1	1	2	2
ON TIME	21	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>VERN</b>								
ROT RATE	23	0.2000	0.4000	0.0080	0.2000	0.2000	0.2000	0.2000
ATT DB	24	1.000	1.000	0.070	1.000	1.000	1.000	1.000
RATE DB	25	.020	.020	.010	.020	.020	.020	.020
ROT PLS	26	0.010	0.010	0.010	0.010	0.010	0.010	0.010
COMP	27	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	28	0	0	0	0	0	0	0
PURPOSE		NOMINAL	PTC	GG	LOSS OF VERN (N/T)	LOSS OF VERN (TAIL ONLY)	RNDZ	PROX OPS

STS-80 DAP A CONFIGURATIONS

	ITEM #	A4	A9	A10	A11	A12	A13	A14	A15
<b>PRI</b>									
ROT RATE	10 (50)	<b>0.1000</b>	<b>0.1000</b>	<b>0.1000</b>	<b>0.1000</b>	<b>0.1000</b>	<b>0.1000</b>	<b>0.1000</b>	<b>0.0650</b>
ATT DB	11 (51)	3.00	<b>3.00</b>	<b>3.00</b>	<b>3.00</b>	<b>3.00</b>	<b>3.00</b>	<b>3.00</b>	<b>2.00</b>
RATE DB	12 (52)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
ROT PLS	13 (53)	0.10	<b>0.04</b>	<b>0.04</b>	<b>0.04</b>	<b>0.04</b>	<b>0.04</b>	<b>0.04</b>	0.10
COMP	14 (54)	.000	.000	.000	.000	.000	.000	.000	.000
P OPTION	15 (55)	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
Y OPTION	16 (56)	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
TRAN PLS	17 (57)	0.10	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	0.10
<b>ALT</b>									
RATE DB	18 (58)	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
JET OPT	19 (59)	ALL	ALL	ALL	<b>TAIL</b>	ALL	<b>TAIL</b>	ALL	ALL
# JETS	20 (60)	2	2	2	2	2	2	2	2
ON TIME	21 (61)	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	22 (62)	<b>10.00</b>	<b>6.20</b>	<b>8.30</b>	<b>7.20</b>	<b>5.80</b>	<b>7.10</b>	<b>7.10</b>	0.00
<b>VERN</b>									
ROT RATE	23 (63)	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	<b>0.0650</b>
ATT DB	24 (64)	<b>3.000</b>	<b>3.000</b>	<b>3.000</b>	<b>3.000</b>	<b>3.000</b>	<b>3.000</b>	<b>3.000</b>	1.000
RATE DB	25 (65)	<b>.200</b>	<b>.200</b>	<b>.200</b>	<b>.200</b>	<b>.200</b>	<b>.200</b>	<b>.200</b>	.020
ROT PLS	26 (66)	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
COMP	27 (67)	.000	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	28 (68)	<b>9</b>	<b>5</b>	<b>6</b>	<b>8</b>	<b>1</b>	<b>2</b>	<b>4</b>	0
PURPOSE			ORFEUS-SPAS			WSF			RNDZ
	EDFT-05 EVA LOADED RMS		LOW HOVER	RELEASE CAPTURE (NOM & SJ) RGPS HIGH	ALL SVS	LOW HOVER NOMINAL CAPTURE	RAM CLEAN AOPROC CLEAN AOPROC ① ②	SVS TOP	TRANSITION TO RBAR

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

- ① Mod in procedure - CNTL ACC (ITEM 28) = 3 for ADACS C/O
- ② Mod in procedure - VERN ATT DB (ITEM 24) = 30° for AOPROC

5-4

FLT PLN/80/FIN

**STS-80 GENERIC DAP B CONFIGURATIONS**

	ITEM #	B1	B2	B3	B4	B5	B7	B8
<b>PRI</b>								
ROT RATE	30	0.5000	0.2000	0.2000	0.2000	0.2000	0.5000	0.2000
ATT DB	31	3.00	3.00	3.00	0.30	3.00	2.00	2.00
RATE DB	32	0.20	0.20	0.20	0.20	0.20	0.20	0.20
ROT PLS	33	0.04	0.04	0.04	0.04	0.04	0.04	0.04
COMP	34	.000	.000	.000	.000	.000	.000	.000
P OPTION	35	ALL	TAIL	ALL	TAIL	TAIL	ALL	ALL
Y OPTION	36	ALL	TAIL	ALL	TAIL	TAIL	ALL	ALL
TRAN PLS	37	0.10	0.02	0.02	0.02	0.02	0.05	0.01
<b>ALT</b>								
RATE DB	38	0.200	0.070	0.070	0.200	0.200	0.200	0.200
JET OPT	39	ALL	TAIL	ALL	ALL	ALL	ALL	ALL
# JETS	40	2	1	1	2	2	2	2
ON TIME	41	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>VERN</b>								
ROT RATE	43	0.2000	0.2000	0.2000	0.0080	0.0160	0.2000	0.2000
ATT DB	44	1.000	1.000	1.000	0.100	0.033	1.000	1.000
RATE DB	45	.020	.020	.020	.010	.020	.020	.020
ROT PLS	46	0.002	0.002	0.002	0.002	0.002	0.002	0.002
COMP	47	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	48	0	0	0	0	0	0	0
PURPOSE		NOMINAL OMS RCS BURNS	LOSS OF VERN (TAIL ONLY)	LOSS OF VERN (N/T)	SSUS DEPLOY	COAS CAL	RNDZ	PROX OPS

STS-80 DAP B CONFIGURATIONS

	ITEM #	B6	B9	B10	B11	B12	B13	B14	B15	
<b>PRI</b>										
ROT RATE	30 (50)	<b>0.0500</b>	<b>0.0500</b>	<b>0.0500</b>	<b>0.1000</b>	<b>0.1000</b>	<b>0.1000</b>	<b>0.1000</b>	<b>0.0650</b>	
ATT DB	31 (51)	<b>1.00</b>	<b>2.00</b>	<b>1.00</b>	3.000	3.00	3.00	3.00	<b>2.00</b>	
RATE DB	32 (52)	0.20	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	0.04	
COMP	34 (54)	.000	.000	.000	.000	.000	.000	.000	.000	
P OPTION	35 (55)	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	
Y OPTION	36 (56)	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	
TRAN PLS	37 (57)	0.02	0.02	0.02	0.02	0.02	0.02	0.02	<b>0.05</b>	
<b>ALT</b>										
RATE DB	38 (58)	<b>0.100</b>	<b>0.100</b>	<b>0.100</b>	0.200	0.200	<b>0.100</b>	0.200	0.200	
JET OPT	39 (59)	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	
# JETS	40 (60)	<b>1</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	
ON TIME	41 (61)	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	
DELAY	42 (62)	0.00	<b>8.30</b>	<b>8.30</b>	<b>4.90</b>	<b>3.50</b>	<b>7.10</b>	<b>6.30</b>	0.00	
<b>VERN</b>										
ROT RATE	43 (63)	<b>0.0440</b>	<b>0.0320</b>	<b>0.0160</b>	0.2000	0.2000	0.2000	0.2000	<b>0.0650</b>	
ATT DB	44 (64)	<b>0.100</b>	<b>2.000</b>	<b>0.500</b>	<b>3.000</b>	<b>3.000</b>	<b>2.000</b>	<b>3.000</b>	1.000	
RATE DB	45 (65)	<b>.010</b>	<b>.040</b>	<b>.020</b>	<b>.200</b>	<b>.200</b>	<b>.040</b>	<b>.200</b>	<b>.020</b>	
ROT PLS	46 (66)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	
COMP	47 (67)	.000	.000	.000	.000	.000	.000	.000	.000	
CNTL ACC	48 (68)	0	<b>6</b>	<b>6</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>4</b>	0	
PURPOSE			ORFEUS-SPAS				WSF			
		PREDPY SPAS GYRO CAL	DB COLLAPSE W/O POSN HOLD RMS BO	NOMINAL DB COLLAPSE RMS PH	RGPS LOW	CONT EVA EVA HOVER WORKSITE #1 WORKSITE #2	RELEASE STATIONARY RMS	SINGLE JOINT CAPTURE SVS SIDE	RNDZ TRANSITION TO RBAR	

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

5-6

FLT PLN/80/FIN

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

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**ATTITUDE TIMELINE**



ATTITUDE  
TIMELINE

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
1 000/01:12:00 MET 27:00 313/20:59:00 GMT 21:14:00	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	Post Insertion
2 000/02:30:00 MET 40:00 313/22:17:00 GMT 27:00	TGT=2 BV=5 P= 0.00 Y=270.00 OM= 90.00	A1 AUTO VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 270 P 90	LVLH R= 0.00 P= 90.00 Y=270.00	RGPS Spaceview -YLV Belly Fwd SOPA @ 4:05
3 000/04:55:00 MET 05:05:24 314/00:42:00 GMT 52:24	INRTL R=129.88 MNVR P=240.54 Y= 29.78	A1* AUTO VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	SUN R 90 P 105		Gyro Drift Comp
4 000/05:10:00 MET 314/00:57:00 GMT	When in Att B6/AUTO/VERN			Sun = 90 Moon = 78 > 16 deg Limb 5:08 to 5:55	15 min data collection 0/5:10 - 0/5:25
5 000/05:30:00 MET 42:55 314/01:17:00 GMT 29:55	INRTL R=143.00 MNVR P= 28.00 Y= 38.00	A1 AUTO VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	SUN R 195 P 142	EA P = 45.00 Y = -35.26 ANG = 155.00	Gyro Scaling
6 000/05:45:00 MET 314/01:32:00 GMT	When in Att B6/AUTO/VERN			Sun Ang = 127 Moon Ang = 108 Constant Ang to Earth Limb = 19	5 min data collection 0/5:45 - 0/5:50
7 000/05:55:00 MET 06:02:55 314/01:42:00 GMT 49:55	TGT=2 BV=5 P=349.00 Y= 0.00 OM= 0.00	A9 AUTO VERN RATE 0.2000 DB AT 3.000 DB RT 0.200	EARTH R 180 P 11	LVLH R= 0.00 P=281.00 Y= 0.00	Setup for SPAS Release Bias +XLV Bay Fwd
8 000/06:57:30 MET 314/02:44:30 GMT		B9 INRT VERN RATE 0.0320 DB AT 2.000 DB RT 0.040	SUN R 48 P 55	INRTL R=156.85 HOLD P=247.63 Y=300.93	SPAS Deploy Deploy Time = 00/07:00
9 000/07:45:00 MET 52:52 314/03:32:00 GMT 39:52	TGT=2 BV=5 P= 90.00 Y=320.00 OM= 90.00	A6 AUTO VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 320 P 90	LVLH R= 0.00 P=140.00 Y=270.00	SPAS Roll 50 Biased -ZLV Nose North
10 001/02:05:00 MET 16:53 314/21:52:00 GMT 22:03:53	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=310.00	A6 AUTO VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y= 50.00	H2O Dump FR 2-44 Zone C
11 001/04:10:00 MET 22:40 314/23:57:00 GMT 315/00:09:40	TGT=2 BV=5 P= 0.00 Y=270.00 OM= 90.00	A6 AUTO VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 270 P 90	LVLH R= 0.00 P= 90.00 Y=270.00	ERPCL Test
12 001/04:45:00 MET 49:10 315/00:32:00 GMT 36:10	TGT=2 BV=5 P= 90.00 Y=320.00 OM= 90.00	A6 AUTO VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 320 P 90	LVLH R= 0.00 P=140.00 Y=270.00	SPAS Roll 50 Biased -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
13 001/11:45:00 MET 49:10 315/07:32:00 GMT 36:10	TGT=2 BV=5 P= 0.00 Y=270.00 OM= 90.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 270 P 90	EARTH LVLH R= 0.00 P= 90.00 Y=270.00	FDO Drag Test
14 001/20:00:00 MET 04:10 315/15:47:00 GMT 51:10	TGT=2 BV=5 P= 90.00 Y=320.00 OM= 90.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 320 P 90	EARTH LVLH R= 0.00 P=140.00 Y=270.00	SPAS Roll 50 Biased -ZLV Nose North
15 002/05:45:00 MET 56:53 316/01:32:00 GMT 43:53	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=310.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 360 P 90	EARTH LVLH R= 0.00 P=180.00 Y= 50.00	H2O Dump FR 2-44 Zone C
16 002/08:20:00 MET 32:40 316/04:07:00 GMT 19:40	TGT=2 BV=5 P= 0.00 Y=270.00 OM= 90.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 270 P 90	EARTH LVLH R= 0.00 P= 90.00 Y=270.00	SPAS 0 Deg Comm -YLV Belly Fwd
17 002/23:40:00 MET 51:11 316/19:27:00 GMT 38:11	TGT=2 BV=5 P=177.93 Y= 1.17 OM=114.43	B1 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 29 P 178	EARTH LVLH R=245.55 P= 90.21 Y=357.63	WSF Deploy Setup for Ram Clean RMS mnvr
18 002/23:55:00 MET 316/19:42:00 GMT	GG Init DAP: FREE MET: 02/23:55				
19 002/23:55:01 MET 003/01:12:32 316/19:42:01 GMT 20:59:32	TGT=2 BV=5 P=180.00 Y= 0.00 OM= 68.00	A12 FREE DB AT 3.000 VERN DB RT 0.200	RATE 0.0100 R 345 P 180	EARTH LVLH R=292.00 P= 90.00 Y= 0.00	GG Roll to Ram Clean RMS Mnvr DAP: FREE
20 003/01:13:30 MET 14:00 316/21:00:30 GMT 01:00	TGT=2 BV=5 P=180.00 Y= 0.00 OM= 62.00	A13 FREE DB AT 3.000 VERN DB RT 0.200	RATE 0.2000 R 15 P 180	EARTH LVLH R=298.00 P= 90.00 Y= 0.00	RMS Mnvr Ram Clean
21 003/01:15:00 MET 02:29:38 316/21:02:00 GMT 22:16:38	TGT=2 BV=5 P=180.00 Y= 0.00 OM=122.00	A13 FREE DB AT 3.000 VERN DB RT 0.200	RATE 0.0134 R 164 P 180	EARTH LVLH R=238.00 P= 90.00 Y= 0.00	Roll reversal @ 03/02:35
22 003/02:35:01 MET 03:43:59 316/22:22:01 GMT 23:30:59	TGT=2 BV=5 P=180.00 Y= 0.00 OM= 62.00	A13 FREE DB AT 3.000 VERN DB RT 0.200	RATE 0.0145 R 159 P 180	EARTH LVLH R=298.00 P= 90.00 Y= 0.00	Roll to ADACS RMS offset pt
23 003/03:45:00 MET 47:20 316/23:32:00 GMT 34:20	TGT=2 BV=5 P=180.00 Y= 0.00 OM= 90.00	A13 FREE DB AT 3.000 VERN DB RT 0.200	RATE 0.2000 R 87 P 180	EARTH LVLH R=270.00 P= 90.00 Y= 0.00	RMS Mnvr ADACS C/O
24 003/05:13:00 MET 50 317/01:00:00 GMT 50	TGT=2 BV=5 P=180.00 Y= 0.00 OM= 80.00	B13 FREE DB AT 2.000 VERN DB RT 0.040	RATE 0.2000 R 90 P 180	EARTH LVLH R=280.00 P= 90.00 Y= 0.00	WSF Release MET: 03/05:14

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

Attitude Timeline

MET/GMT		MNVR OPTION	DAP		E/S	REF ATT/REMARKS	EVENT
25	003/10:10:00 MET 19:32	TGT=2 BV=5 P= 0.00 Y=270.00 OM= 90.00	A6 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 270 P 90	LVLH R= 0.00 P= 90.00 Y=270.00	-YLV Belly Fwd -Z to WSF
26	006/03:10:00 MET 13:00	TGT=2 BV=2 P=180.00 Y= 0.00 OM= 0.00	B7 AUTO PRI	RATE 0.5000 DB AT 2.00 DB RT 0.20	EARTH R 279 P 180	LVLH R= 0.00 P= 90.00 Y= 0.00	WSF Star Trker
27	006/03:35:00 MET 47:54	INRTL R=230.78 MNVR P=347.24 Y=299.08	A7 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	SUN R 50 P 72	Posigrade +X Heads Up	NC - 12 WSF TIG: 06/03:54
28	006/03:56:00 MET 04:02:01	TGT=2 BV=2 P=180.00 Y= 0.00 OM= 0.00	A7 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 59 P 180	LVLH R= 0.00 P= 90.00 Y= 0.00	-Z Target Track
29	006/05:55:00 MET 06:11:40	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 0.00	A7 AUTO VERN	RATE 0.0900 DB AT 1.000 DB RT 0.020	EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y= 0.00	-Z Target Track On WSF -Rbar
30	006/06:14:00 MET 27:20	TGT=2 BV=5 P= 10.00 Y= 0.00 OM= 0.00	B7 AUTO VERN	RATE 0.1000 DB AT 1.000 DB RT 0.020	EARTH R 360 P 10	LVLH R= 0.00 P=260.00 Y= 0.00	-Z Target Track
31	006/06:45:00 MET 55:04	INRTL R=125.30 MNVR P=171.90 Y= 58.70	A7 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	SUN R 131 P 106	Retrograde OMS Heads Down	Ti WSF TIG: 06/06:58
32	006/07:00:00 MET 02:23	TGT=2 BV=1 P= 0.00 Y= 0.00 OM= 0.00	B7 AUTO PRI	RATE 0.5000 DB AT 2.00 DB RT 0.20	EARTH R 111 P 0	LVLH R= 0.00 P=270.00 Y= 0.00	-Z Target Track
33	006/07:25:00 MET 35:00	TGT=2 BV=5 P=330.00 Y= 0.00 OM= 0.00	A7 AUTO VERN	RATE 0.0500 DB AT 1.000 DB RT 0.020	EARTH R 180 P 30	LVLH R= 0.00 P=300.00 Y= 0.00	-Z Target Track
34	006/07:43:00 MET 08:13:18	TGT=2 BV=5 P=270.00 Y= 0.00 OM= 0.00	A7 AUTO VERN	RATE 0.0330 DB AT 1.000 DB RT 0.020	EARTH R 180 P 90	LVLH R= 0.00 P= 0.00 Y= 0.00	Rbar
35	006/09:00:00 MET 07:30	TGT=2 BV=5 P=270.00 Y= 0.00 OM= 90.00	B8 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= 90.00	WSF Capture
36	006/09:20:00 MET 35:00	TGT=2 BV=5 P= 0.00 Y=270.00 OM= 90.00	A7 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 270 P 90	LVLH R= 0.00 P= 90.00 Y=270.00	-YLV +ZVV

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

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT	
37 006/10:05:00 MET 17:40 320/05:52:00 GMT 06:04:40	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=310.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 360	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 50.00	H2O Dump FR 2-44 Zone C
38 006/12:10:00 MET 21:53 320/07:57:00 GMT 08:08:53	TGT=2 BV=5 P= 90.00 Y=320.00 OM= 90.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 320	EARTH R 320 P 90	LVLH R= 0.00 P=140.00 Y=270.00	SPAS Roll 50 Biased -ZLV Nose North
39 007/04:30:00 MET 38:21 321/00:17:00 GMT 25:21	TGT=2 BV=2 P=180.00 Y= 0.00 OM= 0.00	A12 AUTO DB AT 3.000 VERN DB RT 0.200	RATE 0.2000 R 2	EARTH R 2 P 180	LVLH R= 0.00 P= 90.00 Y= 0.00	AOPROC -XLV Belly Fwd SPAS +/- 30 deg
40 007/08:05:00 MET 13:21 321/03:52:00 GMT 04:00:21	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=310.00	A1 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 360	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 50.00	H2O Dump FR 2-44 Zone C
41 007/10:40:00 MET 51:53 321/06:27:00 GMT 38:53	TGT=2 BV=5 P= 90.00 Y=320.00 OM= 90.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 320	EARTH R 320 P 90	LVLH R= 0.00 P=140.00 Y=270.00	SPAS Roll 50 Biased -ZLV Nose North
42 008/05:50:00 MET 06:01:53 322/01:37:00 GMT 48:53	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=310.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 360	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 50.00	H2O Dump FR 2-44 Zone C
43 008/07:55:00 MET 08:07:46 322/03:42:00 GMT 54:46	INRTL R=254.00 MNVR P= 42.00 Y=359.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 56	SUN R 56 P 102	Special Star Pr -Y: 92 -Z: 104	IMU align Stars Avail 8:02 to 8:29
44 008/08:15:00 MET 25:29 322/04:02:00 GMT 12:29	TGT=2 BV=5 P= 90.00 Y=320.00 OM= 90.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 320	EARTH R 320 P 90	LVLH R= 0.00 P=140.00 Y=270.00	SPAS Roll 50 Biased -ZLV Nose North
45 009/04:05:00 MET 16:53 322/23:52:00 GMT 323/00:03:53	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=310.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 0	EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y= 50.00	H2O Dump FR 2-44 Zone C
46 009/06:10:00 MET 23:49 323/01:57:00 GMT 02:10:49	INRTL R=102.00 MNVR P=223.00 Y=340.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 124	SUN R 124 P 64	Special Star Pr -Y: 86 -Z: 31	IMU align Stars Avail 6:27 to 6:40
47 009/06:30:00 MET 38:44 323/02:17:00 GMT 25:44	TGT=2 BV=5 P= 90.00 Y=320.00 OM= 90.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 320	EARTH R 320 P 90	LVLH R= 0.00 P=140.00 Y=270.00	SPAS Roll 50 Biased -ZLV Nose North
48 010/06:50:00 MET 07:01:53 324/02:37:00 GMT 48:53	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=310.00	A6 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.2000 R 360	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 50.00	H2O Dump FR 2-44 Zone C

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

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
49 010/08:55:00 MET 09:09:53 324/04:42:00 GMT 56:53	INRTL R=273.00 MNVR P= 50.00 Y= 24.00	A6 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	SUN R 41 P 114	Special Star Pr -Y: 37 -Z: 109	IMU align Stars Avail 8:49 to 9:23
50 010/09:15:00 MET 25:44 324/05:02:00 GMT 12:44	TGT=2 BV=5 P= 90.00 Y=320.00 OM= 90.00	A6 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 320 P 90	LVLH R= 0.00 P=140.00 Y=270.00	SPAS Roll 50 Biased -ZLV Nose North
51 011/04:40:00 MET 51:53 325/00:27:00 GMT 38:53	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=310.00	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= 50.00	H2O Dump FR 2-44 Zone C
52 011/06:45:00 MET 54:42 325/02:32:00 GMT 41:42	INRTL R= 93.00 MNVR P=193.00 Y=338.00	A6 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	SUN R 138 P 45	Special Star Pr -Y: 45 -Z: 21	IMU align Stars Avail 6:49 to 7:26
53 011/07:05:00 MET 18:01 325/02:52:00 GMT 03:05:01	TGT=2 BV=5 P= 90.00 Y=320.00 OM= 90.00	A1 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 320 P 90	LVLH R= 0.00 P=140.00 Y=270.00	SPAS Roll 50 Biased -ZLV Nose North
54 012/09:35:00 MET 46:53 326/05:22:00 GMT 33:53	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=310.00	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= 50.00	H2O Dump FR 2-44 Zone C
55 012/11:40:00 MET 50:27 326/07:27:00 GMT 37:27	INRTL R= 86.00 MNVR P=192.00 Y= 11.00	A6 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	SUN R 157 P 74	Special Star Pr -Y: 45 -Z: 24	IMU align Stars Avail 11:47 to 12:18
56 012/12:00:00 MET 11:44 326/07:47:00 GMT 58:44	TGT=2 BV=5 P= 90.00 Y=320.00 OM= 90.00	A6 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 320 P 90	LVLH R= 0.00 P=140.00 Y=270.00	SPAS Roll 50 Biased -ZLV Nose North
57 013/03:00:00 MET 14:44 326/22:47:00 GMT 23:01:44	INRTL R= 86.00 MNVR P=192.00 Y= 11.00	A6 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	SUN R 157 P 74	Special Star Pr -Y: 45 -Z: 24	IMU align Stars Avail 3:01 TO 3:33
58 013/03:20:00 MET 31:05 326/23:07:00 GMT 18:05	TGT=2 BV=5 P= 90.00 Y=320.00 OM= 90.00	A6 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	EARTH R 320 P 90	LVLH R= 0.00 P=140.00 Y=270.00	SPAS Roll 50 Biased -ZLV Nose North
59 013/04:35:00 MET 38:21 327/00:22:00 GMT 25:21	TGT=2 BV=2 P=180.00 Y= 0.00 OM= 0.00	B7 RATE 0.5000 AUTO DB AT 2.00 PRI DB RT 0.20	EARTH R 46 P 180	LVLH R= 0.00 P= 90.00 Y= 0.00	SPAS S Trker
60 013/05:05:00 MET 17:15 327/00:52:00 GMT 01:04:15	INRTL R=276.71 MNVR P= 32.41 Y=322.18	A7 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	SUN R 29 P 73	Posigrade +X Heads Up	NC - 26 SPAS TIG: 13/05:22

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

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
61 013/05:24:00 MET 30:01 327/01:11:00 GMT 17:01	TGT=2 BV=2 P=180.00 Y= 0.00 OM= 0.00	A1 AUTO VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 0 P 180	LVLH R= 0.00 P= 90.00 Y= 0.00	-Z Target Track
62 013/07:26:00 MET 41:00 327/03:13:00 GMT 28:00	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 0.00	A1 AUTO VERN RATE 0.1000 DB AT 1.000 DB RT 0.020	EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y= 0.00	-Z Target Track On -Rbar
63 013/07:45:00 MET 58:20 327/03:32:00 GMT 45:20	TGT=2 BV=5 P= 10.00 Y= 0.00 OM= 0.00	B7 AUTO VERN RATE 0.1000 DB AT 1.000 DB RT 0.020	EARTH R 0 P 10	LVLH R= 0.00 P=260.00 Y= 0.00	-Z Target Track
64 013/08:16:00 MET 26:00 327/04:03:00 GMT 13:00	INRTL R= 83.65 MNVR P=210.75 Y= 23.64	A7 AUTO VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	SUN R 153 P 94	Retrograde OMS Heads Down	Ti SPAS TIG: 13/08:26
65 013/08:28:00 MET 30:45 327/04:15:00 GMT 17:45	TGT=2 BV=1 P= 0.00 Y= 0.00 OM= 0.00	B7 AUTO PRI RATE 0.5000 DB AT 2.00 DB RT 0.20	EARTH R 22 P 0	LVLH R= 0.00 P=270.00 Y= 0.00	-Z Target Track
66 013/08:53:00 MET 09:03:00 327/04:40:00 GMT 50:00	TGT=2 BV=5 P=330.00 Y= 0.00 OM= 0.00	A7 AUTO VERN RATE 0.0500 DB AT 1.000 DB RT 0.020	EARTH R 180 P 30	LVLH R= 0.00 P=300.00 Y= 0.00	-Z Target Track
67 013/09:11:00 MET 41:18 327/04:58:00 GMT 05:28:18	TGT=2 BV=5 P=270.00 Y= 0.00 OM= 0.00	A7 AUTO VERN RATE 0.0330 DB AT 1.000 DB RT 0.020	EARTH R 180 P 90	LVLH R= 0.00 P= 0.00 Y= 0.00	Rbar
68 013/11:30:00 MET 45:00 327/07:17:00 GMT 32:00	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 0.00	A1 AUTO VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV Tail Fwd
69 013/17:45:00 MET 52:30 327/13:32:00 GMT 39:30	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=270.00	A1 AUTO VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 90.00	-ZLV Nose South
70 014/04:30:00 MET 43:46 328/00:17:00 GMT 30:46	INRTL R=259.00 MNVR P=113.00 Y= 66.00	A1 AUTO VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	SUN R 33 P 121	Special Star Pr -Y: 54 -Z: 51	IMU Align Stars Avail 4:25 to 5:01
71 014/04:50:00 MET 328/00:37:00 GMT				HUD Star: 11	HUD Cal Star Avail 4:46 to 5:34
72 014/05:00:00 MET 06:00 328/00:47:00 GMT 53:00	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=270.00	A1 AUTO VERN RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y= 90.00	-ZLV Nose South

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

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT		
73 014/05:55:00 MET 03 328/01:42:00 GMT 03	INRTL R= 85.00 MNVR P=117.00 Y= 9.00	A1 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	SUN R 203 P 66		Crew Conf	
74 014/06:35:00 MET 48:07 328/02:22:00 GMT 35:07	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=270.00	A1 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y= 90.00	-ZLV Nose South	
75 015/11:25:00 MET 38:11 329/07:12:00 GMT 25:11	TGT=4 BV=5 P=184.00 Y= 0.00 OM= 90.00	RA= 239.528 DEC= -20.496S	A1 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	SUN R 180 P 176	INRTL R=238.38 P=327.16 Y= 57.30	Rad Coldsoak -XSI Bay Space @ Noon
76 015/12:46:00 MET 54:40 329/08:33:00 GMT 41:40	INRTL R=120.00 MNVR P= 49.00 Y= 1.00		A1 AUTO PRI	RATE 0.2000 DB AT 5.00 DB RT 0.20	SUN R 186 P 93	Star Pr -Y: 56 -Z: 32	D-O IMU Align
77 015/13:06:00 MET 08:54 329/08:53:00 GMT 55:54	INRTL R=195.00 MNVR P=339.00 Y= 32.00		B1 AUTO PRI	RATE 0.5000 DB AT 3.00 DB RT 0.20	SUN R 97 P 155	Star Pr -Y: 21 -Z: 49	D-O IMU Verif
78 015/13:21:00 MET 23:51 329/09:08:00 GMT 10:51	INRTL R=143.00 MNVR P=293.00 Y= 33.00		TRN AUTO PRI	RATE 0.5000 DB AT 3.50 DB RT 0.20	SUN R 90 P 150		D-O Thermal
79 015/15:29:00 MET 33:18 329/11:16:00 GMT 20:18	INRTL R= 67.00 MNVR P=187.00 Y=307.00		B1 AUTO PRI	RATE 0.5000 DB AT 3.00 DB RT 0.20	SUN R 133 P 26		D-O Burn TIG: 15/15:44

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

DAP BOOK



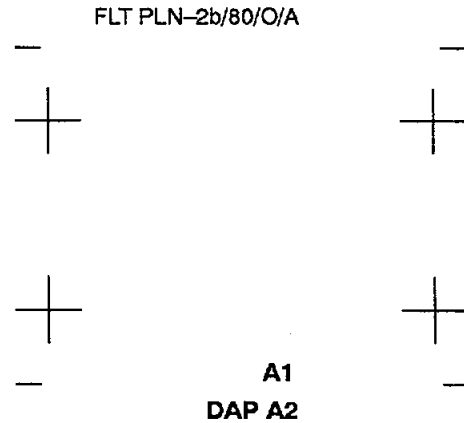
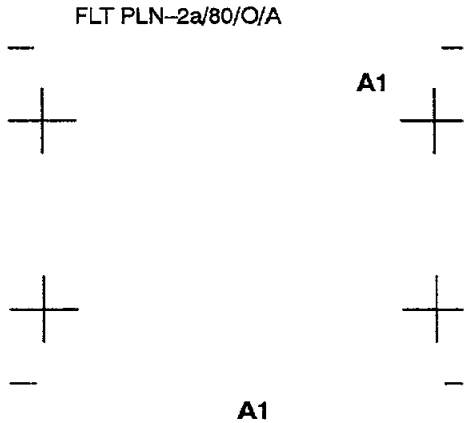
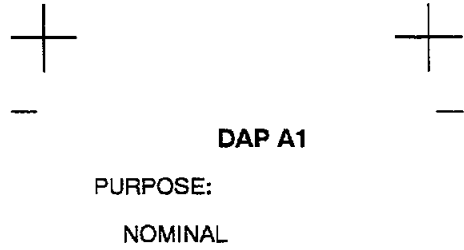
<u>DAP</u>	<u>PURPOSE</u>	<u>DAP</u>	<u>PURPOSE</u>
A1	NOMINAL	B1	NOMINAL
A2	PTC	B2	OMS & RCS BURNS
A3	GG	B2	LOSS OF VERN
A4	EDFT-05 EVA		(TAIL ONLY)
	LOADED RMS	B3	LOSS OF VERN
A5	LOSS OF VERN		(NOSE & TAIL)
	(NOSE & TAIL)	B4	SSUS DEPLOY
A6	LOSS OF VERN (TAIL ONLY)	B5	COAS CAL
A7	RENDEZVOUS	B6	PREDEPLOY SPAS
A8	PROX OPS		GYRO CAL
A9	ORFEUS-SPAS LOW HOVER	B7	RENDEZVOUS
A10	ORFEUS-SPAS RELEASE	B8	PROX OPS
	CAPTURE	B9	ORFEUS-SPAS
	(NOM & SJ)		DB COLLAPSE
A11	ALL SVS		W/O POSN HOLD
A12	WSF LOW HOVER	B10	RMS BO
	NOMINAL CAPTURE		ORFEUS-SPAS
A13	WSF RAM CLEAN		NOMINAL DB
	AOPROC CLEAN		COLLAPSE
	AOPROC		RMS PH
A14	WSF SVS TOP	B11	ORFEUS-SPAS
A15	RNDZ TRANSITION TO RBAR		RGPS LOW
		B12	ORFEUS-SPAS
			CONT EVA
			EVA HOVER
			WORKSITE #1
			WORKSITE #2
		B13	WSF RELEASE
			STATIONARY RMS
		B14	WSF SINGLE JOINT
			CAPTURE
			SVS SIDE
		B15	RNDZ TRANSITION
			TO RBAR

FLT PLN-1a/80/O/B

- CNTL ACC = 0 UNLOADED RMS
- = 1 WSF LOW HOVER,  
NOMINAL CAPTURE
- = 2 WSF RAM CLEAN, AOPROC
- = 3 WSF ADACS C/O
- = 4 WSF RELEASE, WSF SVS
- = 5 ORFEUS - SPAS LOW HOVER, RGPS  
LOW AND CONTINGENCY EVA
- = 6 ORFEUS - SPAS RELEASE, CAPTURE
- = 7 NOT USED
- = 8 ORFEUS - SPAS SVS
- = 9 LOADER RMS EVA

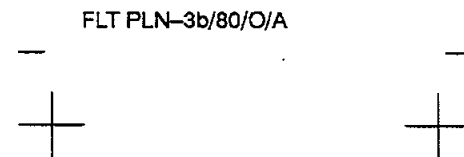
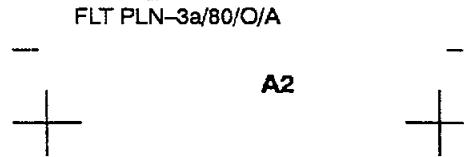
FLT PLN-1b/80/O/B

(reduced copy)



<b>DAP A 0 1</b>	<b>1</b>	<b>PRI</b>
0.2 0 0 0	10	ROT RATE
- 5.0 0	11	ATT DB
0.2 0	12	RATE DB
0.1 0	13	ROT PLS
0.0 0	14	COMP
ALL	15	P OPTION
ALL	16	Y OPTION
0.1 0	17	TRAN PLS
		ALT
0.2 0 0	18	RATE DB
ALL	19	JET OPT
2	20	#JETS
0.0 8	21	ON TIME
- 0.0 0	22	DELAY
		VERN
0.2 0 0 0	23	ROT RATE
- 1.0 0 0	24	ATT DB
0.2 0	25	RATE DB
0.0 1 0	26	ROT PLS
0.0 0	27	COMP
0	28	CNTL ACC

PURPOSE:  
PTC



(reduced copy)



**A2**

DAP A 0 2	1	PRI
0.4 0 0 0	10	ROT RATE
- 1.0 0	11	ATT DB
0.2 0	12	RATE DB
0.1 0	13	ROT PLS
.0 0 0	14	COMP
ALL	15	P OPTION
ALL	16	Y OPTION
0.1 0	17	TRAN PLS
		ALT
0.2 0 0	18	RATE DB
ALL	19	JET OPT
2	20	#JETS
0.0 8	21	ON TIME
- 0.0 0	22	DELAY
		VERN
0.4 0 0 0	23	ROT RATE
- 1.0 0 0	24	ATT DB
.0 2 0	25	RATE DB
0.0 1 0	26	ROT PLS
.0 0 0	27	COMP
0	28	CNTL ACC

FLT PLN-4a/80/O/A

**A2**

**DAP A3**

PURPOSE:  
GG

FLT PLN-4b/80/O/A

**A3**



**A3**

DAP A 0 3	1	PRI
0.2 0 0 0	10	ROT RATE
- 1.0 0	11	ATT DB
0.2 0	12	RATE DB
0.1 0	13	ROT PLS
.0 0 0	14	COMP
ALL	15	P OPTION
TAIL	16	Y OPTION
0.1 0	17	TRAN PLS
		ALT
0.2 0 0	18	RATE DB
ALL	19	JET OPT
2	20	#JETS
- 0.0 8	21	ON TIME
- 0.0 0	22	DELAY
		VERN
0.0 0 8 0	23	ROT RATE
- 0.0 7 0	24	ATT DB
.0 1 0	25	RATE DB
0.0 1 0	26	ROT PLS
.0 0 0	27	COMP
0	28	CNTL ACC

FLT PLN-5a/80/O/A

**DAP A4**

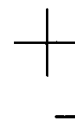
PURPOSE:  
EDFT-05  
EVA  
LOADED RMS

FLT PLN-5b/80/O/A

**A4**



(reduced copy)



**A4**

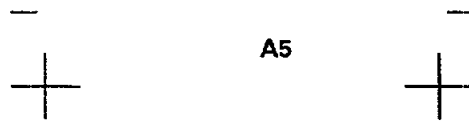
**A4  
DAP A5**

DAP A 0 4	1/3	PRI
<u>0.1 0 0 0</u>	10/50	ROT RATE
- 3.0 0	11/51	ATT DB
- 0.2 0	12/52	RATE DB
0.1 0	13/53	ROT PLS
.0 0 0	14/54	COMP
ALL	15/55	P OPTION
ALL	16/56	Y OPTION
0.1 0	17/57	TRAN PLS
		ALT
<u>0.2 0 0</u>	18/58	RATE DB
ALL	19/59	JET OPT
2	20/60	#JETS
0.0 8	21/61	ON TIME
1 0.0 0	22/62	DELAY
		VERN
<u>0.2 0 0 0</u>	23/63	ROT RATE
- 3.0 0 0	24/64	ATT DB
- 2 0 0	25/65	RATE DB
0.0 1 0	26/66	ROT PLS
.0 0 0	27/67	COMP
9	28/68	CNTL ACC

PURPOSE:  
LOSS OF VERN  
(NOSE & TAIL)

FLT PLN-6a/80/O/B

FLT PLN-6b/80/O/A



**A5**



**A5**

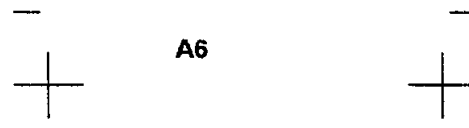
DAP A 0 5	1	PRI
<u>0.2 0 0 0</u>	10	ROT RATE
- 5.0 0	11	ATT DB
- 0.2 0	12	RATE DB
0.1 0	13	ROT PLS
.0 0 0	14	COMP
ALL	15	P OPTION
ALL	16	Y OPTION
0.1 0	17	TRAN PLS
		ALT
<u>0.0 7 0</u>	18	RATE DB
ALL	19	JET OPT
1	20	#JETS
0.0 8	21	ON TIME
- 0.0 0	22	DELAY
		VERN
<u>0.2 0 0 0</u>	23	ROT RATE
- 1.0 0 0	24	ATT DB
.0 2 0	25	RATE DB
0.0 1 0	26	ROT PLS
.0 0 0	27	COMP
0	28	CNTL ACC

**A5  
DAP A6**

PURPOSE:  
LOSS OF VERN  
(TAIL ONLY)

FLT PLN-7a/80/O/A

FLT PLN-7b/80/O/A



**A6**



(reduced copy)



**A6**

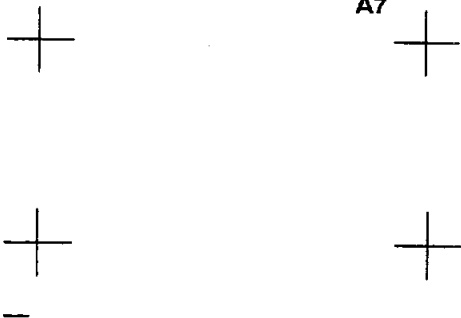
**DAP A7**

A6

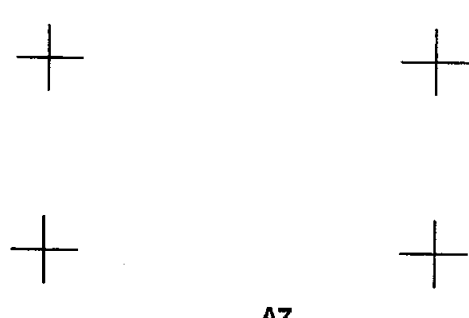
DAP A 0 6 1/3 PRI  
 0.2 0 0 0 10/50 ROT RATE  
 - 5.0 0 11/51 ATT DB  
 0.2 0 12/52 RATE DB  
 0.1 0 13/53 ROT PLS  
 .0 0 0 14/54 COMP  
 TAIL 15/55 P OPTION  
 TAIL 16/56 Y OPTION  
 0.1 0 17/57 TRAN PLS  
 ALT  
 0.0 7 0 18/58 RATE DB  
 TAIL 19/59 JET OPT  
 1 20/60 #JETS  
 0.0 8 21/61 ON TIME  
 - 0.0 0 22/62 DELAY  
 VERN  
 0.2 0 0 0 23/63 ROT RATE  
 - 1.0 0 0 24/64 ATT DB  
 .0 2 0 25/65 RATE DB  
 0.0 1 0 26/66 ROT PLS  
 .0 0 0 27/67 COMP  
 0 28/68 CNTL ACC  
 FLT PLN-8a/80/O/B

PURPOSE:  
 RENDEZVOUS

FLT PLN-8b/80/O/A



**A7**



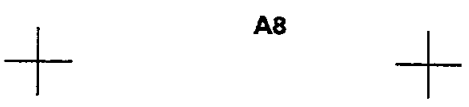
**A7**

**A7  
DAP A8**

DAP A 0 7 1 PRI  
 0.2 0 0 0 10 ROT RATE  
 - 2.0 0 11 ATT DB  
 0.2 0 12 RATE DB  
 0.1 0 13 ROT PLS  
 .0 0 0 14 COMP  
 ALL 15 P OPTION  
 ALL 16 Y OPTION  
 0.1 0 17 TRAN PLS  
 ALT  
 0.2 0 0 18 RATE DB  
 ALL 19 JET OPT  
 2 20 #JETS  
 0.0 8 21 ON TIME  
 - 0.0 0 22 DELAY  
 VERN  
 0.2 0 0 0 23 ROT RATE  
 - 1.0 0 0 24 ATT DB  
 .0 2 0 25 RATE DB  
 0.0 1 0 26 ROT PLS  
 .0 0 0 27 COMP  
 0 28 CNTL ACC  
 FLT PLN-9a/80/O/A

PURPOSE:  
 PROX OPS

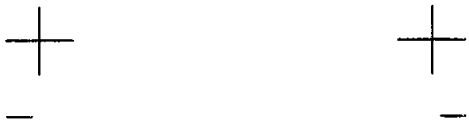
FLT PLN-9b/80/O/A



**A8**



(reduced copy)



**A8**

**A8**

**DAP A9**

DAP A 0 8	1	PRI
<u>0.2 0 0 0</u>	10	ROT RATE
<u>- 2.0 0</u>	11	ATT DB
<u>- 0.2 0</u>	12	RATE DB
<u>0.1 0</u>	13	ROT PLS
<u>.0 0 0</u>	14	COMP
ALL	15	P OPTION
ALL	16	Y OPTION
<u>0.0 5</u>	17	TRAN PLS
		ALT
<u>0.2 0 0</u>	18	RATE DB
ALL	19	JET OPT
<u>2</u>	20	#JETS
<u>0.0 8</u>	21	ON TIME
<u>- 0.0 0</u>	22	DELAY
		VERN
<u>0.2 0 0 0</u>	23	ROT RATE
<u>- 1.0 0 0</u>	24	ATT DB
<u>.0 2 0</u>	25	RATE DB
<u>0.0 1 0</u>	26	ROT PLS
<u>.0 0 0</u>	27	COMP
<u>0</u>	28	CNTL ACC

PURPOSE:  
ORFEUS-SPAS LOW HOVER

FLT PLN-10a/80/O/A

FLT PLN-10b/80/O/B



**B9**

**A9**

**DAP A10**

DAP A 0 9	1/3	PRI
<u>0.1 0 0 0</u>	10/50	ROT RATE
<u>- 3.0 0</u>	11/51	ATT DB
<u>0.2 0</u>	12/52	RATE DB
<u>0.0 4</u>	13/53	ROT PLS
<u>.0 0 0</u>	14/54	COMP
ALL	15/55	P OPTION
ALL	16/56	Y OPTION
<u>0.0 1</u>	17/57	TRAN PLS
		ALT
<u>0.2 0 0</u>	18/58	RATE DB
ALL	19/59	JET OPT
<u>2</u>	20/60	#JETS
<u>- 0.0 8</u>	21/61	ON TIME
<u>- 6.2 0</u>	22/62	DELAY
		VERN
<u>0.2 0 0 0</u>	23/63	ROT RATE
<u>- 3.0 0 0</u>	24/64	ATT DB
<u>.2 0 0</u>	25/65	RABE DB
<u>0.0 1 0</u>	26/66	ROT PLS
<u>.0 0 0</u>	27/67	COMP
<u>5</u>	28/68	CNTL ACC

PURPOSE:  
ORFEUS-SPAS RELEASE  
CAPTURE (NOMINAL & SJ)  
RGPS HIGH

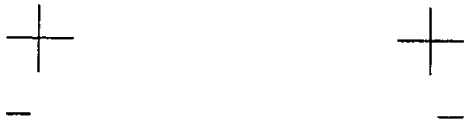
FLT PLN-11a/80/O/B

FLT PLN-11b/80/O/B



**A10**

(reduced copy)



**A10**

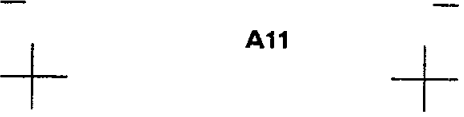
**A10  
DAP A11**

DAP A 1 0	1/3	PRI
0.1 0 0 0	10/50	ROT RATE
- 3.0 0	11/51	ATT DB
0.2 0	12/52	RATE DB
0.0 4	13/53	ROT PLS
.0 0 0	14/54	COMP
ALL	15/55	P OPTION
ALL	16/56	Y OPTION
0.0 1	17/57	TRAN PLS
		ALT
0.2 0 0	18/58	RATE DB
ALL	19/59	JET OPT
2	20/60	#JETS
0.0 8	21/61	ON TIME
- 8.3 0	22/62	DELAY
		VERN
0.2 0 0 0	23/63	ROT RATE
- 3.0 0 0	24/64	ATT DB
.2 0 0	25/65	RATE DB
0.0 1 0	26/66	ROT PLS
.0 0 0	27/67	COMP
6	28/68	CNTL ACC

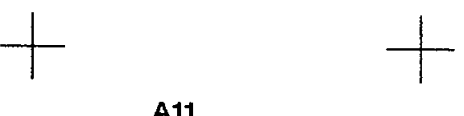
PURPOSE:  
ALL SVS

FLT PLN-12a/80/O/B

FLT PLN-12b/80/O/B



**A11**



**A11**

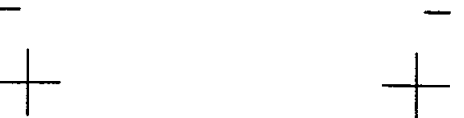
**A11  
DAP A12**

DAP A 1 1	1/3	PRI
0.1 0 0 0	10/50	ROT RATE
- 3.0 0	11/51	ATT DB
0.2 0	12/52	RATE DB
0.0 4	13/53	ROT PLS
.0 0 0	14/54	COMP
ALL	15/55	P OPTION
ALL	16/56	Y OPTION
0.0 1	17/57	TRAN PLS
		ALT
0.2 0 0	18/58	RATE DB
TAIL	19/59	JET OPT
2	20/60	#JETS
0.0 8	21/61	ON TIME
- 7.2 0	22/62	DELAY
		VERN
0.2 0 0 0	23/63	ROT RATE
- 3.0 0 0	24/64	ATT DB
.2 0 0	25/65	RATE DB
0.0 1 0	26/66	ROT PLS
.0 0 0	27/67	COMP
8	28/68	CNTL ACC

PURPOSE:  
WSF LOW HOVER  
NOMINAL CAPTURE

FLT PLN-13a/80/O/B

FLT PLN-13b/80/O/B



**A12**

(reduced copy)

A12

A12

DAP A 1 2	1/3	PRI
<u>0.1 0 0 0</u>	10/50	ROT RATE
<u>- 3.0 0</u>	11/51	ATT DB
<u>0.2 0</u>	12/52	RATE DB
<u>0.0 4</u>	13/53	ROT PLS
<u>.0 0 0</u>	14/54	COMP
ALL	15/55	P OPTION
ALL	16/56	Y OPTION
<u>0.0 1</u>	17/57	TRAN PLS
		ALT
<u>0.2 0 0</u>	18/58	RATE DB
ALL	19/59	JET OPT
<u>2</u>	20/60	#JETS
<u>0.0 8</u>	21/61	ON TIME
<u>- 5.8 0</u>	22/62	DELAY
		VERN
<u>0.2 0 0 0</u>	23/63	ROT RATE
<u>- 3.0 0 0</u>	24/64	ATT DB
<u>.2 0 0</u>	25/65	RATE DB
<u>0.0 1 0</u>	26/66	ROT PLS
<u>.0 0 0</u>	27/67	COMP
<u>1</u>	28/68	CNTL ACC

FLT PLN-14a/80/O/B

DAP A13

PURPOSE:

WSF RAM CLEAN  
AOPROC CLEAN  
AOPROC

NOTE  
Change CNTL ACC to 3  
for ADACS C/O

FLT PLN-14b/80/O/B

A13

A13

DAP A 1 3	1/3	PRI
<u>0.1 0 0 0</u>	10/50	ROT RATE
<u>- 3.0 0</u>	11/51	ATT DB
<u>0.2 0</u>	12/52	RATE DB
<u>0.0 4</u>	13/53	ROT PLS
<u>.0 0 0</u>	14/54	COMP
ALL	15/55	P OPTION
ALL	16/56	Y OPTION
<u>0.0 1</u>	17/57	TRAN PLS
		ALT
<u>0.2 0 0</u>	18/58	RATE DB
TAIL	19/59	JET OPT
<u>2</u>	20/60	#JETS
<u>0.0 8</u>	21/61	ON TIME
<u>- 7.1 0</u>	22/62	DELAY
		VERN
<u>0.2 0 0 0</u>	23/63	ROT RATE
<u>- 3.0 0 0</u>	24/64	ATT DB
<u>.2 0 0</u>	25/65	RATE DB
<u>0.0 1 0</u>	26/66	ROT PLS
<u>.0 0 0</u>	27/67	COMP
<u>2</u>	28/68	CNTL ACC

FLT PLN-15a/80/O/B

A13  
DAP A14

PURPOSE:

WSF SVS TOP

FLT PLN-15b/80/O/B

A14

(reduced copy)





**A14**

**A14**

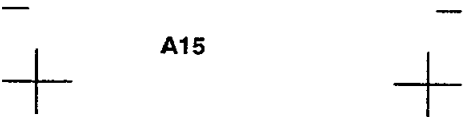
**DAP A15**

DAP A 1 4	1/3	PRI
0.1 0 0 0	10/50	ROT RATE
- 3.0 0	11/51	ATT DB
0.2 0	12/52	RATE DB
0.0 4	13/53	ROT PLS
.0 0 0	14/54	COMP
ALL	15/55	P OPTION
ALL	16/56	Y OPTION
0.0 1	17/57	TRAN PLS
		ALT
0.2 0 0	18/58	RATE DB
ALL	19/59	JET OPT
2	20/60	#JETS
0.0 8	21/61	ON TIME
- 7.1 0	22/62	DELAY
		VERN
0.2 0 0 0	23/63	ROT RATE
- 3.0 0 0	24/64	ATT DB
.2 0 0	25/65	RATE DB
0.0 1 0	26/66	ROT PLS
.0 0 0	27/67	COMP
4	28/68	CNTL ACC

RNDZ TRANSITION TO RBAR

FLT PLN-16a/80/O/B

FLT PLN-16b/80/O/A



**A15**



**A15**

**A15**

DAP A 1 5	1/3	PRI
0.0 6 5 0	10/50	ROT RATE
- 2.0 0	11/51	ATT DB
0.2 0	12/52	RATE DB
0.1 0	13/53	ROT PLS
.0 0 0	14/54	COMP
ALL	15/55	P OPTION
ALL	16/56	Y OPTION
0.1 0	17/57	TRAN PLS
		ALT
0.2 0 0	18/58	RATE DB
ALL	19/59	JET OPT
2	20/60	#JETS
0.0 8	21/61	ON TIME
- 0.0 0	22/62	DELAY
		VERN
0.0 6 5 0	23/63	ROT RATE
- 1.0 0 0	24/64	ATT DB
.0 2 0	25/65	RATE DB
0.0 1 0	26/66	ROT PLS
.0 0 0	27/67	COMP
0	28/68	CNTL ACC

FLT PLN-17a/80/O/B

FLT PLN-17b/80/O/A



(reduced copy)



**DAP B**

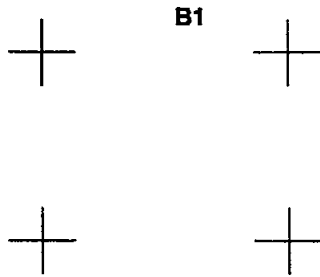


**DAP B1**

PURPOSE:

NOMINAL  
OMS & RCS BURNS

FLT PLN-17a/80/O/A



**B1**

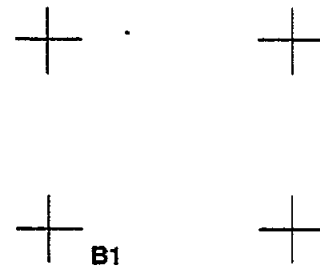
2	DAP B 0 1
30	<u>0.5 0 0 0</u>
31	<u>- 3.0 0</u>
32	<u>0.2 0</u>
33	<u>0.0 4</u>
34	<u>- 0.0 0</u>
35	ALL
36	ALL
37	<u>0.1 0</u>
38	<u>0.2 0 0</u>
39	ALL
40	2
41	<u>0.0 8</u>
42	<u>- 0.0 0</u>
43	<u>0.2 0 0 0</u>
44	<u>- 1.0 0 0</u>
45	<u>- 0.2 0</u>
46	<u>0.0 0 2</u>
47	<u>- 0.0 0</u>
48	0

FLT PLN-19a/80/O/A



**B2**

FLT PLN-17b/80/O/A



**B1**

**DAP B2**

PURPOSE:

LOSS OF VERN  
(TAIL ONLY)

FLT PLN-18b/80/O/A



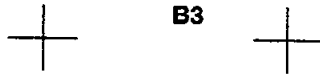
(reduced copy)



**B2**

2	DAP B 0 2
30	<u>0.2 0 0 0</u>
31	- <u>3.0 0</u>
32	<u>0.2 0</u>
33	<u>0.0 4</u>
34	<u>.0 0 0</u>
35	TAIL
36	TAIL
37	<u>0.0 2</u>
38	<u>0.0 7 0</u>
39	TAIL
40	1
41	<u>0.0 8</u>
42	- <u>0.0 0</u>
43	<u>0.2 0 0 0</u>
44	- <u>1.0 0 0</u>
45	<u>.0 2 0</u>
46	<u>0.0 0 2</u>
47	<u>.0 0 0</u>
48	0

FLT PLN-20a/80/O/A



**B3**



**B3**

2	DAP B 0 3
30	<u>0.2 0 0 0</u>
31	- <u>3.0 0</u>
32	<u>0.2 0</u>
33	<u>0.0 4</u>
34	<u>.0 0 0</u>
35	ALL
36	ALL
37	<u>0.0 2</u>
38	<u>0.0 7 0</u>
39	ALL
40	1
41	<u>0.0 8</u>
42	- <u>0.0 0</u>
43	<u>0.2 0 0 0</u>
44	- <u>1.0 0 0</u>
45	<u>.0 2 0</u>
46	<u>0.0 0 2</u>
47	<u>.0 0 0</u>
48	0

FLT PLN-21a/80/O/A



**B4**



**B2**

**DAP B3**

PURPOSE:  
LOSS OF VERN  
(NOSE & TAIL)

FLT PLN-19b/80/O/A



**B3**

**DAP B4**

PURPOSE:  
SSUS DEPLOY

FLT PLN-20b/80/O/A



(reduced copy)



**B4**

2 DAP B 0 4  
 30 0.2 0 0 0  
 31 - 0.3 0  
 32 0.2 0  
 33 0.0 4  
 34 .0 0 0  
 35 TAIL  
 36 TAIL  
 37 0.0 2  
  
 38 0.2 0 0  
 39 ALL  
 40 2  
 41 0.0 8  
 42 - 0.0 0  
  
 43 0.0 0 8 0  
 44 - 0.1 0 0  
 45 .0 1 0  
 46 0.0 0 2  
 47 .0 0 0  
 48 0

FLT PLN-22a/80/O/A



**B5**



**B5**

2 DAP B 0 5  
 30 0.2 0 0 0  
 31 - 3.0 0  
 32 0.2 0  
 33 0.0 4  
 34 .0 0 0  
 35 TAIL  
 36 TAIL  
 37 0.0 2  
  
 38 0.2 0 0  
 39 ALL  
 40 2  
 41 0.0 8  
 42 - 0.0 0  
  
 43 0.0 1 6 0  
 44 - 0.0 3 3  
 45 .0 2 0  
 46 0.0 0 2  
 47 .0 0 0  
 48 0

FLT PLN-23a/80/O/A



**B6**



**B4**

**DAP B5**

PURPOSE:  
 COAS CAL

FLT PLN-21b/80/O/A



**B5**

**DAP B6**

PURPOSE:  
 PREDEPLOY SPAS  
 GYRO CAL

FLT PLN-22b/80/O/A



(reduced copy)



**B6**

2/4	DAP B 0 6
30/50	<u>0.0 5 0 0</u>
31/51	<u>- 1.0 0</u>
32/52	<u>0.2 0</u>
33/53	<u>0.0 4</u>
34/54	<u>.0 0 0</u>
35/55	ALL
36/56	ALL
37/57	<u>0.0 2</u>
38/58	<u>0.1 0 0</u>
39/59	ALL
40/60	1
41/61	<u>0.0 8</u>
42/62	<u>- 0.0 0</u>
43/63	<u>0.0 4 4 0</u>
44/64	<u>- 0.1 0 0</u>
45/65	<u>.0 1 0</u>
46/66	<u>0.0 0 2</u>
47/67	<u>.0 0 0</u>
48/68	0

FLT PLN-24a/80/O/B



**B7**



**B7**

2	DAP B 0 7
30	<u>0.5 0 0 0</u>
31	<u>- 2.0 0</u>
32	<u>0.2 0</u>
33	<u>0.0 4</u>
34	<u>.0 0 0</u>
35	ALL
36	ALL
37	<u>0.0 5</u>
38	<u>0.2 0 0</u>
39	ALL
40	2
41	<u>0.0 8</u>
42	<u>- 0.0 0</u>
43	<u>0.2 0 0 0</u>
44	<u>- 1.0 0 0</u>
45	<u>.0 2 0</u>
46	<u>0.0 0 2</u>
47	<u>.0 0 0</u>
48	0

FLT PLN-25a/80/O/A



**B8**

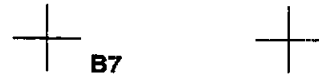
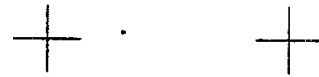


**B6**

**DAP B7**

PURPOSE:  
RENDEZVOUS

FLT PLN-23b/80/O/A



**B7**

**DAP B8**

PURPOSE:  
PROX OPS

FLT PLN-24b/80/O/A



(reduced copy)



**B8**

2	DAP B 0 8
30	<u>0.2 0 0 0</u>
31	<u>- 2.0 0</u>
32	<u>0.2 0</u>
33	<u>0.0 4</u>
34	<u>.0 0 0</u>
35	ALL
36	ALL
37	<u>0.0 1</u>
38	<u>0.2 0 0</u>
39	ALL
40	<u>2</u>
41	<u>0.0 8</u>
42	<u>- 0.0 0</u>
43	<u>0.2 0 0 0</u>
44	<u>- 1.0 0 0</u>
45	<u>.0 2 0</u>
46	<u>0.0 0 2</u>
47	<u>.0 0 0</u>
48	<u>0</u>

FLT PLN-26a/80/O/A



**B9**



**B9**

2/4	DAP B 0 9
30/50	<u>0.0 5 0 0</u>
31/51	<u>- 2.0 0</u>
32/52	<u>0.2 0</u>
33/53	<u>0.0 4</u>
34/54	<u>.0 0 0</u>
35/55	ALL
36/56	ALL
37/57	<u>0.0 2</u>
38/58	<u>0.1 0 0</u>
39/59	ALL
40/60	<u>2</u>
41/61	<u>0.0 8</u>
42/62	<u>- 8.3 0</u>
43/63	<u>0.0 3 2 0</u>
44/64	<u>- 2.0 0 0</u>
45/65	<u>.0 4 0</u>
46/66	<u>0.0 0 2</u>
47/67	<u>.0 0 0</u>
48/68	<u>6</u>

FLT PLN-27a/80/O/B



**B10**



**B8**

**DAP B9**

PURPOSE:

ORFEUS-SPAS  
DB COLLAPSE W/O  
POSN HOLD

RMS BO



FLT PLN-26b/80/O/B



**B9**

**DAP B10**

PURPOSE:

ORFEUS-SPAS  
NOMINAL  
DB COLLAPSE

RMS PH



FLT PLN-27b/80/O/B

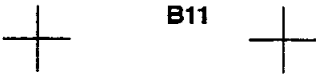
(reduced copy)



**B10**

2/4	DAP B 1 0
30/50	<u>0.0 5 0 0</u>
31/51	<u>- 1.0 0</u>
32/52	<u>0.2 0</u>
33/53	<u>0.0 4</u>
34/54	<u>.0 0 0</u>
35/55	ALL
36/56	ALL
37/57	<u>0.0 2</u>
38/58	<u>0.1 0 0</u>
39/59	ALL
40/60	<u>2</u>
41/61	<u>0.0 8</u>
42/62	<u>- 8.3 0</u>
43/63	<u>0.0 1 6 0</u>
44/64	<u>- 0.5 0 0</u>
45/65	<u>.0 2 0</u>
46/66	<u>0.0 0 2</u>
47/67	<u>.0 0 0</u>
48/68	<u>6</u>

FLT PLN-28a/80/O/B



**B11**



**B11**

2/4	DAP B 1 1
30/50	<u>0.1 0 0 0</u>
31/51	<u>- 3.0 0</u>
32/52	<u>0.2 0</u>
33/53	<u>0.0 4</u>
34/54	<u>.0 0 0</u>
35/55	ALL
36/56	ALL
37/57	<u>0.0 2</u>
38/58	<u>0.2 0 0</u>
39/59	ALL
40/60	<u>2</u>
41/61	<u>0.0 8</u>
42/62	<u>- 4.9 0</u>
43/63	<u>0.2 0 0 0</u>
44/64	<u>- 3.0 0 0</u>
45/65	<u>.2 0 0</u>
46/66	<u>0.0 0 2</u>
47/67	<u>.0 0 0</u>
48/68	<u>5</u>

FLT PLN-29a/80/O/B



**B12**



**B10**

**DAP B11**

PURPOSE:

ORFEUS-SPAS  
RGPS LOW

FLT PLN-28b/80/O/B



**B11**

**DAP B12**

PURPOSE:

ORFEUS-SPAS  
CONTINGENCY  
EVA  
EVA HOVER  
WORKSITE #1  
WORKSITE #2

FLT PLN-29b/80/O/B



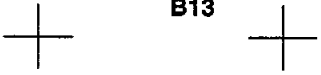
(reduced copy)



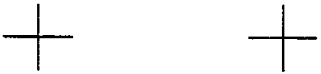
**B12**

2/4	DAP B 1 2
30/50	<u>0.1 0 0 0</u>
31/51	- <u>3.0 0</u>
32/52	<u>0.2 0</u>
33/53	<u>0.0 4</u>
34/54	<u>.0 0 0</u>
35/55	ALL
36/56	ALL
37/57	<u>0.0 2</u>
38/58	<u>0.2 0 0</u>
39/59	ALL
40/60	<u>2</u>
41/61	<u>0.0 8</u>
42/62	- <u>3.5 0</u>
43/63	<u>0.2 0 0 0</u>
44/64	- <u>3.0 0 0</u>
45/65	<u>.2 0 0</u>
46/66	<u>0.0 0 2</u>
47/67	<u>.0 0 0</u>
48/68	<u>5</u>

FLT PLN-30a/80/O/B



**B13**



**B13**

2/4	DAP B 1 3
30/50	<u>0.1 0 0 0</u>
31/51	- <u>3.0 0</u>
32/52	<u>0.2 0</u>
33/53	<u>0.0 4</u>
34/54	<u>.0 0 0</u>
35/55	ALL
36/56	ALL
37/57	<u>0.0 2</u>
38/58	<u>0.1 0 0</u>
39/59	ALL
40/60	<u>2</u>
41/61	<u>0.0 8</u>
42/62	- <u>7.1 0</u>
43/63	<u>0.2 0 0 0</u>
44/64	- <u>2.0 0 0</u>
45/65	<u>.0 4 0</u>
46/66	<u>0.0 0 2</u>
47/67	<u>.0 0 0</u>
48/68	<u>4</u>

FLT PLN-31a/80/O/B



**B14**



**B12**

**DAP B13**

PURPOSE:  
 WSF RELEASE  
 STATIONARY RMS

FLT PLN-30b/80/O/B



**B13**

**DAP B14**

PURPOSE:  
 WSF SINGLE JOINT  
 CAPTURE  
 SVS SIDE

FLT PLN-31b/80/O/B



(reduced copy)





**B14**

2/4	DAP B 1 4
30/50	<u>0.1 0 0 0</u>
31/51	<u>- 3.0 0</u>
32/52	<u>0.2 0</u>
33/53	<u>0.0 4</u>
34/54	<u>.0 0 0</u>
35/55	ALL
36/56	ALL
37/57	<u>0.0 2</u>
38/58	<u>0.2 0 0</u>
39/59	ALL
40/60	<u>2</u>
41/61	<u>0.0 8</u>
42/62	<u>- 6.3 0</u>
43/63	<u>0.2 0 0 0</u>
44/64	<u>- 3.0 0 0</u>
45/65	<u>.2 0 0</u>
46/66	<u>0.0 0 2</u>
47/67	<u>.0 0 0</u>
48/68	<u>4</u>

FLT PLN-32a/80/O/B



**B15**



**B15**

2/4	DAP B 1 5
30/50	<u>0.0 6 5 0</u>
31/51	<u>- 2.0 0</u>
32/52	<u>0.2 0</u>
33/53	<u>0.0 4</u>
34/54	<u>.0 0 0</u>
35/55	ALL
36/56	ALL
37/57	<u>0.0 5</u>
38/58	<u>0.2 0 0</u>
39/59	ALL
40/60	<u>2</u>
41/61	<u>0.0 8</u>
42/62	<u>- 0.0 0</u>
43/63	<u>0.0 6 5 0</u>
44/64	<u>- 1.0 0 0</u>
45/65	<u>.0 2 0</u>
46/66	<u>0.0 0 2</u>
47/67	<u>.0 0 0</u>
48/68	<u>0</u>

FLT PLN-33a/80/O/B



**B14**

**DAP B15**

RNDZ TRANSITION  
TO RBAR



FLT PLN-32b/80/O/B



**B15**

FLT PLN-33b/80/O/A



(reduced copy)

UNIV PTG	
TGT ID =	1 Orbiting Vehicle
	= 2 Earth ctr
	= 3 Earth tgt
	Input LAT ( $\pm 90$ )
	LON ( $\pm 180$ , + = East)
	ALT (-3444.0 to 20000.0 nm)
	= 4 Sun ctr
	= 5 Celestial tgt
	Input RA (0-359.99)
	DEC ( $\pm 90$ )
	= 11-110 Nav Stars
BODY VECT =	1 +X*
	= 2 -X*
	= 3 -Z*
	= 4 -Y Star Tracker*
	= 5 Optional
	Input P (0-359.99)
	Y (270-359.99, 0-90)
*Input OM →	OM (0-359.99)
MON AXIS =	1 +X
	= 2 -X

FLT PLN-35/80/O/A

FLT PLN-35/80/O/A is mounted on the back of the DAP Book

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FLIGHT PLAN NOTES

FLIGHT PLAN  
NOTES

FLIGHT PLAN NOTES  
(CONSTRAINTS AND GUIDELINES)

A. FLIGHT DESCRIPTION

Orbiter: OV102/Columbia  
 Inclination: 28.5°  
 Insertion Altitude: 190 nm  
 Duration: 16 + 2 days

B. MAJOR EVENTS

<u>EVENT</u>	<u>MET</u>	<u>DATE</u>	<u>CST</u>	<u>GMT</u>	<u>ΔV</u>	<u>HA/HP</u>
Launch	00/00:00	11/08/96	13:47	312/19:47	--	--
OMS-2	00/00:43	11/08/96	14:30	312/20:30	277	190/191
SPAS Deploy	00/07:00	11/08/96	20:47	313/02:47	--	190/192
WSF Deploy	03/05:15	11/11/96	19:02	316/01:02	--	189/192
WSF Grapple	06/09:17	11/14/96	23:04	319/05:04	--	188/193
EVA 1	09/06:30	11/17/96	20:17	322/02:17	--	--
EVA 2	11/07:00	11/19/96	20:47	324/02:47	--	--
SPAS Grapple	13/10:35	11/22/96	00:22	326/06:22	--	186/193
Deorbit	15/15:44	11/24/96	05:31	328/11:31	304	--
Landing	15/16:44	11/24/96	06:31	328/12:31	--	--

C. LANDING OPPORTUNITIES

		<u>Landing Orbit</u>	<u>Site</u>	<u>Local Time</u>	<u>MET</u>
		<u>No.</u>			
Nominal	Primary	248	KSC	07:31	15/16:44
	1 Rev Late	249	KSC	09:08	15/18:21
1 Day Late	Primary	264	KSC	07:58	16/17:11
	1 Rev Late	265	KSC	09:34	16/18:47
2 Days Late	Primary	279	KSC	06:47	17/16:00
	1 Rev Late	280	KSC	08:23	17/17:36

D. CREW

CDR - Ken Cockrell  
 PLT - Kent Rominger  
 MS1 - Tammy Jernigan (EV1)  
 MS2 - Tom Jones (EV2)  
 MS3 - Story Musgrave (IV)

E. COMMUNICATIONS

SHUTTLE

TDRS Support: East (41° W), West (174° W), Z (85° E)  
 Backup Realtime TV: GDS(GDX) and MIL(MLX)  
 Contingency GSTDN: DFR\*, MIL(MLX)\*, BDA(BDX), and GDS(GDX)  
 Contingency RTS: HTS, GTS, VTS, CTS, and DGS

\*UHF capability

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

## F. PAYLOADS

1. Orbiting Retrievable Far and Extreme Ultraviolet Spectrometer (ORFEUS) – Shuttle Pallet Satellite (SPAS) II

The ORFEUS/SPAS II is an RMS-deployable free flying payload. The payload will carry the ORFEUS telescope to observe targets in the far and extreme ultraviolet wavelengths, the Interstellar Medium Absorption Profile Spectrograph (IMAPS) to study the properties of stars and the interstellar medium, the Passive Surface Effects Sample Monitor (SESAM) the Automated Rendezvous Preparatory Program GPS Receiver (ARP), and the Students' Experiment on ASTRO-SPAS (SEAS). Following deploy, the SPAS will be controlled by the ground through the orbiter payload interrogator (PI) and the extended range payload communications link (ERPCL).

2. Wake Shield Facility (WSF) – 3

The WSF payload consists of an RMS-deployable free flyer experiment platform, a cross-bay carrier structure, and four "smart" canisters mounted on the carrier. The WSF is controlled by the ground using the WSF provided communications link. As a backup to the ground, the crew may control the WSF using a PGSC. While deployed, the free flyer creates a wake which provides a high vacuum environment essential to Molecular Beam Epitaxy (MBE) and Chemical Beam Epitaxy (CBE) thin film growth. During free flight, WSF uses processing equipment to grow GaAs and GaAsSi thin films within this vacuum wake. The WSF MBE growths are extremely sensitive to contamination so they are scheduled after WSF has separated from the orbiter. Post-retrieval, the Atomic Oxygen Processor (AOPROC) test will be performed with the WSF free flyer on the RMS.

3. Commercial Materials Dispersion Apparatus Instrumentation Technology Associates Experiment (CMIX), Configuration B

The CMIX is a collection of experiments housed within a Commercial Refrigerator Incubator Module (CRIM), replacing a middeck locker. The CRIM contains several Materials Dispersion Apparatus (MDA) minilab units designed to mix a variety of fluids in the microgravity environment. In addition, the CMIX payload will contain several Bioprocessing Modules (BPMs) and Liquid Mixing Apparatuses (LMAs). The BPMs and LMAs are designed to mix fluids to perform various microgravity experiments.

4. Physiological and Anatomical Rodent Experiment/National Institute of Health-Rodents (PARE/NIH-R)

The PARE/NIH-R is a series of experiments designed to determine whether exposure to microgravity results in physiological or anatomical changes in rodents. The experiment consists of rodents in two animal enclosure modules (AEMs) each of which will occupy one middeck locker. The crew will observe the health of the rodents daily and will refill the water reservoir as required.

5. Visualization in an Experimental Water Capillary Pumped Loop (VIEW-CPL)

This payload will investigate the operation of a capillary pumped loop (CPL) in a microgravity environment through the use of a capillary evaporator with a window for flow visualization.

6. Cell Culture Module, Configuration A (CCM-A)

The objective of CCM-A is to validate models of muscle, bone, and endothelial biochemical and functional loss induced by microgravity stress. The crew is required to activate a time tag at the beginning and end of the mission.

7. Biological Research in Canister (BRIC) block I

The BRIC payload is designed to investigate the effects of spaceflight on small plant specimens. There are no crew activities required for this payload.

8. Midcourse Space Experiment (MSX) – payload of opportunity

Orbiter thruster firings will be used as a sensor calibration and evaluation target for the space-based ultraviolet, infrared, and visible sensors on the MSX.

G. ON-ORBIT RMEs

GPS Relative Navigation Experiment (RGPS) (RME 1311)

The objectives of RME 1311 are to support validation of the GPS models in ESA's ATV ground verification facilities, to demonstrate the performance of real-time relative GPS using GPS data from the ORFEUS-SPAS and data from GPS hardware on the orbiter, to learn the effect of common satellite versus non-common satellite tracking between different GPS receivers, to gain experience in passing GPS data, to gain insight into the usable ranges for relative GPS, and to provide a relative GPS environment utilizing the planned ATV GPS receiver and a GPS receiver of measurement type and accuracy comparable to the planned ISS GPS receiver.

H. ON-ORBIT DTOs

1. ET TPS Performance, Method 1 (DTO 312)

Cameras located in the orbiter umbilical well will be used to obtain photographs of the ET after separation.

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

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

\*3. EVA Hardware for Future Scheduled EVA Missions, Test 13, End-to-End Maintenance & Assembly Evaluation (DTO 671)

The main objective of this DTO is to demonstrate International Space Station on-orbit, end-to-end EVA assembly, and maintenance operations.

4. Orbiter Space Vision System (OSVS) Flight Video Taping (DTO 700-10)

The purpose of this DTO is to record camera video of special targets under varying on-orbit conditions to support OSVS development.

5. Orbiter Space Vision System (OSVS) Flight Unit Testing (DTO 700-11)

The purpose of this DTO is to evaluate the operation and performance of OSVS in conjunction with the orbiter closed circuit television (CCTV) system and crew operations in the on-orbit environment. The OSVS will collect data during the payload unberth, deploy, retrieve, and berth operations.

\*6. EMU Thermal Comfort & EVA Worksite Thermal Environment Evaluation (DTO 833)

The objective of this DTO is to support the development of an improved thermal model of the EMU.

7. Handheld Lidar (HHL) Procedures (DTO 840)

This DTO will use the handheld laser rangefinder to aid the crew during deploy and rendezvous phases.

\*These DTOs comprise EDFT-05

I. ON-ORBIT DSOs

1. Inter-Mars Tissue Equivalent Proportional Counter (ITEPC) (DSO 482)

This DSO consists of two units, each consisting of a spectrometer, radiation detector, data storage board, and support electronics mounted on an adaptive payload carrier (APC) on the sidewall of the payload bay. The purpose of the experiment is to demonstrate the ability of the hardware to withstand the radiation environment for future EVAs, as well as single event upset data.



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TELEDYNE BROWN ENGINEERING  
CUMMINGS RESEARCH PARK  
300 SPARKMAN DRIVE, NW  
P. O. BOX 70007  
HUNTSVILLE, AL 35807-7007  
MS 172/GILCHRIST, M.

---

UNIVERSITY OF ALABAMA  
RESEARCH INSTITUTE BLDG/M-65  
301 SPARKMAN DRIVE  
HUNTSVILLE, AL 35899  
DANIELS,N.  
WHATSON,C.

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UNIVERSITY OF HOUSTON  
SPACE VACUUM EPITAXY CENTER  
SCIENCE AND RESEARCH ONE  
ROOM 724  
4800 CALHOUN ROAD  
HOUSTON, TX 77024-5507  
STERLING, M., DR.

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UNIVERSITY OF MARYLAND  
DEPARTMENT OF MECHANICAL ENG.  
COLLEGE PARK, MD 20742  
HEROLD,K.  
KOLOS,K.

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