

*Part*

**FLIGHT DATA FILE**

# Flight Plan

## STS-108

### (STS-108 FRR Cycle Trajectory)

### Mission Operations Directorate Operations Division

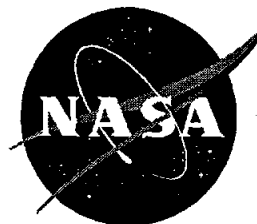
For the latest working copy of the Flight Plan, visit  
<http://mod.jsc.nasa.gov/do4/flightplan/fp.cfm?id=108>

**Final**  
**October 31, 2001**

<u>EVENT</u>	<u>MET</u>	<u>GMT</u>	<u>CST</u>
Launch	00 00:00	11/30/01 00:44	11/29/01 18:44
NC-1	00 03:34	11/30/01 01:22	11/29/01 19:22
TI	01 18:40	12/01/01 19:24	12/01/01 13:24
ISS Docking	01 21:00	12/01/01 21:44	12/01/01 15:44
MPLM Berth to ISS	02 18:00	12/02/01 18:44	12/02/01 12:44
EVA (4.0 hr)	04 19:30	12/04/01 20:14	12/04/01 14:14
MPLM Berth to STS	07 22:25	12/07/01 23:09	12/07/01 17:09
Undock	08 17:48	12/08/01 18:32	12/08/01 12:32
Starshine Deploy	09 16:52	12/09/01 17:36	12/09/01 11:36
Landing	10 19:57	12/10/01 20:41	12/10/01 14:41

National Aeronautics and  
Space Administration

Lyndon B. Johnson Space Center  
Houston, Texas



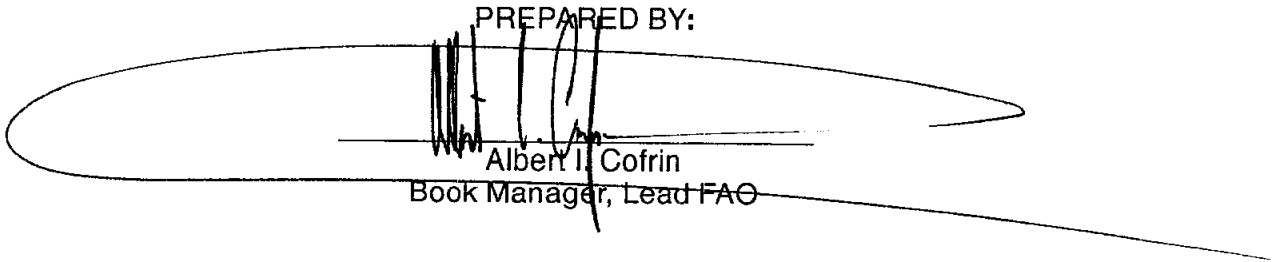
Verify this is the correct version for the pending operation (training, simulation, or flight).  
Electronic copies of FDF books are available. URL: <http://fltproc.jsc.nasa.gov/fdf>

MISSION OPERATIONS DIRECTORATE

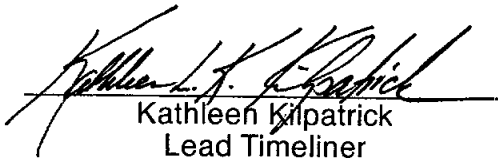
**STS-108 FLIGHT PLAN**

FINAL  
October 31, 2001

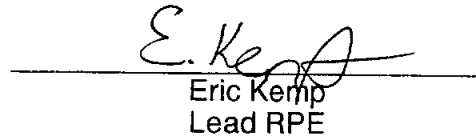
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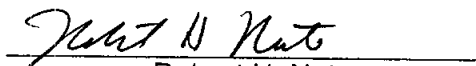


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Director of Operations

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Lead RPE	DO4/E. Kemp	281-244-1178

FLIGHT PLAN  
STS-108

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3-64	108/FIN	3-118	108/FIN
3-65	108/FIN	3-119	108/FIN
3-66	108/FIN	3-120	108/FIN
3-67	108/FIN	3-121	108/FIN
3-68	108/FIN	3-122	108/FIN
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STS-108 FLIGHT PLAN FABRICATED ITEMS

<u>Title</u>	<u>Ref. Page</u>	<u>Item No.</u>
DAP A, DAP B TOC	8-2	FLT PLN-1a/108/O/B
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DAP A	8-3	FLT PLN-2a/108/O/A
DAP A1	8-3	FLT PLN-2b/108/O/A
A1	8-3	FLT PLN-3a/108/O/A
DAP A2	8-3	FLT PLN-3b/108/O/A
A2	8-4	FLT PLN-4a/108/O/A
DAP A3	8-4	FLT PLN-4b/108/O/A
A3	8-4	FLT PLN-5a/108/O/A
DAP A4	8-4	FLT PLN-5b/108/O/A
A4	8-5	FLT PLN-6a/108/O/A
DAP A5	8-5	FLT PLN-6b/108/O/A
A5	8-5	FLT PLN-7a/108/O/A
DAP A6	8-5	FLT PLN-7b/108/O/A
A6	8-6	FLT PLN-8a/108/O/A
DAP A7	8-6	FLT PLN-8b/108/O/A
A7	8-6	FLT PLN-9a/108/O/A
DAP A8	8-6	FLT PLN-9b/108/O/A
A8	8-7	FLT PLN-10a/108/O/A
DAP A9	8-7	FLT PLN-10b/108/O/A
A9	8-7	FLT PLN-11a/108/O/A
DAP A10	8-7	FLT PLN-11b/108/O/A
A10	8-8	FLT PLN-12a/108/O/A
DAP A11	8-8	FLT PLN-12b/108/O/A
A11	8-8	FLT PLN-13a/108/O/A
DAP A12	8-8	FLT PLN-13b/108/O/B
A12	8-9	FLT PLN-14a/108/O/A
DAP A13	8-9	FLT PLN-14b/108/O/B
A13	8-9	FLT PLN-15a/108/O/A
(Blank)	8-9	FLT PLN-15b/108/O/A
DAP B	8-10	FLT PLN-16a/108/O/A
DAP B1	8-10	FLT PLN-16b/108/O/B
B1	8-10	FLT PLN-17a/108/O/A
DAP B2	8-10	FLT PLN-17b/108/O/A
B2	8-11	FLT PLN-18a/108/O/A
DAP B3	8-11	FLT PLN-18b/108/O/A
B3	8-11	FLT PLN-19a/108/O/A
DAP B4	8-11	FLT PLN-19b/108/O/A
B4	8-12	FLT PLN-20a/108/O/A
DAP B5	8-12	FLT PLN-20b/108/O/A
B5	8-12	FLT PLN-21a/108/O/A
DAP B6	8-12	FLT PLN-21b/108/O/A
B6	8-13	FLT PLN-22a/108/O/A
DAP B7	8-13	FLT PLN-22b/108/O/A
B7	8-13	FLT PLN-23a/108/O/A
DAP B8	8-13	FLT PLN-23b/108/O/A
B8	8-14	FLT PLN-24a/108/O/A
DAP B9	8-14	FLT PLN-24b/108/O/A
B9	8-14	FLT PLN-25a/108/O/A
DAP B10	8-14	FLT PLN-25b/108/O/A
B10	8-15	FLT PLN-26a/108/O/A
DAP B11	8-15	FLT PLN-26b/108/O/A
B11	8-15	FLT PLN-27a/108/O/A
DAP A12	8-15	FLT PLN-27b/108/O/B
B12	8-16	FLT PLN-28a/108/O/A
DAP B13	8-16	FLT PLN-28b/108/O/A
B13	8-16	FLT PLN-29a/108/O/A
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UNIV PTG	8-17	FLT PLN-30/108/O/A



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## INTRODUCTION

The STS-108 Flight Plan is the Flight Data File article that contains the on-orbit timeline. It does not contain the detailed timelines that are covered in the Ascent, Post Insertion, Deorbit Prep, and Entry Checklists. The detailed rendezvous and undocking timelines and procedures are contained in the Rendezvous Checklist. The detailed EVA task timelines and procedures are contained in the EVA Checklist.

This Flight Plan satisfies the mission requirements specified in the following documents:

- NSTS-07700 Vol III, Flight Definition and Requirements Document
- NSTS-17462-108, STS-108 Flight Requirements Document
- NSTS-37326, Shuttle Crew Scheduling Constraints

The timeline formats used in this Flight Plan are based on JSC-19933, Timeline Format Definitions and Standard Notes, Rev C, May 1990.

The STS-108 Flight Plan is based on a launch date of November 29, 2001 at 18:44 CST. Orbiter inertial attitudes are expressed relative to a mean of 1950 (M50) reference frame.

The following SCSC Exceptions have been submitted in order to meet Category 1 objectives:

- SCSC-108-1

The Flight Plan and other related mission information are available on the following Space Shuttle Flight Planning web site:

<http://mod.jsc.nasa.gov/do4/flightplan/fp.cmf?id=108>

OVERVIEW TIMELINE

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# (UF-1) STS-108 MISSION OVERVIEW (FINAL) TIMELINE (11+0+2) LAUNCH (11/30/01) 334/00:44:00 GMT, (11/29/01, 18:44 CST)

		▼NC1																							
GMT	333/12	13	14	15	16	17	18	19	20	21	22	23	334/0	1	2	3	4	5	6	7	8	9	10	11	12
MET	0/-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12
FD1													ASC	P/I	P/L ACT	PRE SLEEP							SLEEP		
Att													ASC	-ZLV+YVV		-ZLV-XVV							PSRD (11.5 HRS)		
		NC2▼						NPC▼						NC3▼											
FD2	0/12	13	14	15	16	17	18	19	20	21	22	23	1/0	1	2	3	4	5	6	7	8	9	10	11	12
		SLEEP		POST SLEEP				RMS C/O, OSVS C/O, ODS ACT & C/O, PRE-RNDZ C/O,					COLLIDE-2, GAS ACT, HR-REFLEX, EMU C/O, OFF-DUTY				PRE SLEEP							SLEEP	
Att								PSRD (11.5 HRS)																	PSRD (9.7 HRS)
		NH▼			▼NC4			▼TIG 18:40			▼DOCK 21:45														
FD3	1/12	13	14	15	16	17	18	19	20	21	22	23	2/0	1	2	3	4	5	6	7	8	9	10	11	12
		SLEEP		POST SLEEP					RNDZ & ISS DOCK				PMA2 14.7, ISS INGRESS,				PRE SLEEP							SLEEP	
ISS				WASTE DUMP									EMU XFER, A/L CK, CREW H/O												
Att								DAILY PLAN					CREW HANDOVER				DPC								SLEEP
Att								PSRD (9.7 HRS)		+ZLV+YVV		RNDZ													TEA
FD4	2/12	13	14	15	16	17	18	19	20	21	22	23	3/0	1	2	3	4	5	6	7	8	9	10	11	12
		SLEEP		POST SLEEP				RMS	MPLM TO NODE1		MEAL		TRANSFER, CREW H/O				PRE SLEEP							SLEEP	
ISS		SLEEP							IELK XFER & INSTALL		MEAL		MPLM VEST. OUTFIT,				DPC							SLEEP	
Att																									TEA
FD5	3/12	13	14	15	16	17	18	19	20	21	22	23	4/0	1	2	3	4	5	6	7	8	9	10	11	12
		SLEEP		POST SLEEP					XFER, EVA TOOL C/O		MEAL		SAFER C/O		10.2 DPRS		PRE SLEEP							SLEEP	
ISS		SLEEP							CREW H/O		MEAL		EVA BRIEF				DPC							SLEEP	
Att																									TEA
FD6	4/12	13	14	15	16	17	18	19	20	21	22	23	5/0	1	2	3	4	5	6	7	8	9	10	11	12
		SLEEP		POST SLEEP				EVA PREP/ PRE-		EVA (4 HR)			POST EVA		XFER		PRE SLEEP							SLEEP	
ISS		SLEEP						BREATHE (STS A/L)																	SLEEP
Att									CREW H/O, XFER		MEAL				XFER, CREW H/O		DPC								TEA
FD7	5/12	13	14	15	16	17	18	19	20	21	22	23	6/0	1	2	3	4	5	6	7	8	9	10	11	12
		SLEEP		POST SLEEP					ISS-EMU-RESIZE		MEAL		TRANSFER,				PRE SLEEP							SLEEP	
ISS		SLEEP						TRANSFER					WASTE DUMP												SLEEP
Att									CREW H/O		MEAL				CREW H/O		DPC								TEA
FD8	6/12	13	14	15	16	17	18	19	20	21	22	23	7/0	1	2	3	4	5	6	7	8	9	10	11	12
		SLEEP		POST SLEEP					TRANSFER		MEAL		TRANSFER		CREW		PRE SLEEP							SLEEP	
ISS		SLEEP							TRANSFER		MEAL		CBM-CPA INSTALL		DPC										SLEEP
Att																									TEA
FD9	7/12	13	14	15	16	17	18	19	20	21	22	23	8/0	1	2	3	4	5	6	7	8	9	10	11	12
		SLEEP		POST SLEEP					TRANSFER		MEAL		MPLM TO SHUTTLE				PRE SLEEP							SLEEP	
ISS		SLEEP							MPLM DE-OUTFIT		MEAL		TRANSFER		CBM		DPC								SLEEP
Att																									TEA
		UNDOCK 17:48▼						▼FIN SEP 19:17																	
FD10	8/12	13	14	15	16	17	18	19	20	21	22	23	9/0	1	2	3	4	5	6	7	8	9	10	11	12
		POST SLEEP						HATCH CLS	UN-	FLY-A	MEAL		OFF-DUTY				PRE SLEEP							SLEEP	
ISS								DOCK																	PSA
Att								DPC	UNDOCK																DAILY PLAN
Att								TEA	U/D	FLY-A	WASTE														PSRD (9HRS)
		ST DPLY 16:52▼																							
FD11	9/12	13	14	15	16	17	18	19	20	21	22	23	10/0	1	2	3	4	5	6	7	8	9	10	11	12
		POST SLEEP							FCS C/O, RCS HF, PILOT OPS, CABIN STOW,								PRE SLEEP							SLEEP	
Att									STARSHINE, OFF-DUTY																PSA
Att										DPLY															-ZLV-XVV
		▼D/O TIG 18:53																							
FD12	10/12	13	14	15	16	17	18	19	20	21	22	23	11/0	1	2	3	4	5	6	7	8	9	10	11	12
		POST SLEEP							DEORBIT PREP		ENT		KSC Landing												
Att																									
Att																									

▲LANDING 10/19:57

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**SUMMARY TIMELINE AND ISS SHORT TERM PLAN**



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**STS-108 (FD01)**

GMT 11/30/01  
 FD1 000/00  
 MET Day 000



STS-108	CDR GORIE	DIRECTOR LAUNCH INSERTION	PI ON STRT	-ZLVV	POST INSERTION	IMU	OIU	OMS BURN	NCI	PM SNV DR	GRP B/P/D	PMC A/G	PRE SLEEP	SLEEP
	PLT KELLY		PI ON STRT	-ZLVV	POST INSERTION	IMU	OMS BURN	APC U2	CBTM DAILY OPS	APC U2	PRE SLEEP	PRE SLEEP	<b>ASSUMPTIONS/GOALS</b> 1. 11+0+2 with STS A/L EVA 2. November 29, 2001 Launch 3. ISS Crew Shifts 9 hrs fwd to max CREW HANDOVER -Req. Exemption w/concurrence of both CREW REP & Responsible GND MED personnel. 4. Maintain STS SLEEP, P/P SLEEP, OFF-DUTY req'mts 5. Maintain ISS SLEEP, P/P SLEEP, EXERCISE req'mts -EXP 3 = 2 HR block EXERCISE req'mt -EXP 4 = 1 HR EXERCISE, from FD5 until Undock 6. LBNP for Russian EXP3 Crew FD8&9 (12hrs) 7. MPLM XFER Time Total avail = 124 Hrs	
	MS1 GODWIN		POST INSRT	PLB OP	POST INSERTION	GIRA INSTL	MACH 1	RMNSIT	PRE SLEEP					
	MS2 TANI		POST INSRT	PLB OP	POST INSERTION	OPSCRU AI NTER	AIDFCUBT	OMS BURN	ADP	LAMP	PRE SLEEP			
	ONUFRIENKO		POST INSERTION	PRE SLEEP	SLEEP									
	WALZ		POST INSRT	PLB OP	POST INSERTION	OPSCRU AI NTER	CO	PRE SLEEP	<b>ISS COMPLETED PRIOR TO STS ARRIVAL</b> COMM CHECK EVA COMM CHECK UF1 TIMELINE REVIEW SAFER CHECKOUT					
	BURSCH		POST INSERTION	OPSCRU AI NTER	CMBU TMLR	SEE S/U	RMNSIT	PRE SLEEP		SLEEP				
	MCC		DAY/NIGHT	ORBIT	TDRS	ORB ATT COLLIDE	CAPL	NOTES:						
			*OPEN LOCKER		*DEACT									

STS-108 (FD02)

GMT	11/30/01	13	14	15	16	17	18	19	20	21	22	23	12/01	001/00					
FD1	Day 000	12	13	14	15	16	17	18	19	20	21	22	23						
MET																			
STS-108	CDR GORIE	SLEEP						LD OAPS OMS BURN -ZLVV AELV EPV AFV AFV CRYO 02		A/L PREP	P/TV19 C/L CMR INST	RNDZ TOOLS C/O	RCS BURN	EMU C/O	MEAL	R D Z T /			
	PLT KELLY	SLEEP						LD OAPS OMS BURN T A E P C	RMS PU	RMS C/O	PLB SURVEY	P/TV19 C/L CMR INST	RNDZ TOOLS C/O	RCS BURN	P/TV 17 S/U VIDEO	F C *	MEAL	R D Z T /	
	MS1 GODWIN	SLEEP						RMS * M P L M * I H D	M E G / C S D H C I H D	P B I S A G R P /	RMS C/O	PLB SURVEY	RMS PD*	PTV 06 SU SSV	A R E I X T G N	EMU C/O	MEAL	R D Z T /	
	MS2 TANI	SLEEP						S I G I P U	P N S G E /	S T U * C W O R K	A M A G R S /	S I G I S /	A/L PREP	RNDZ PGSC S/U	O S S /	A R E I X T G N	EMU C/O	MEAL	R D Z T /
	ONUFRIENKO	SLEEP							ERGO METER S/U			HR S/U	HR OPR	HR OPR	HR MS3 SUB JECT	HR STW		MEAL	R D Z T /
	WALZ	SLEEP							H2O FILL S/U	G I R A #	RNDZ PGSC S/U	MDDK	HR FE1 SUBJECT				EMU C/O	MEAL	R D Z T /
	BURSCH	SLEEP							ERGO METER S/U	PCS S/U	VTR/VTR ACTP/B			HR FE2 SUBJECT	HR OPR		FILTER CLEAN	MEAL	R D Z T /
MCC																			
DAY/NIGHT																			
ORBIT		9	10	11	12	13	14	15	16	17									
TDRS	E W																		
ORB ATT																			
COLLIDE																			
CAPL																			
NOTES:																			

# STS-108 (FD02)

GMT 12/01/01  
 FD2 MET Day 001  
 001/00 01 02 03 04 05 06 07 08 09 10 11 12 12

STS-108	CDR GORIE	RDZ T/U	OFF DUTY	STS EXERCISE	RCS BURN	NC3 A	P M S N R D R	F M T N V R R	PRE SLEEP	P M C O C A	PRE SLEEP	SLEEP			
	PLT KELLY	RDZ T/U	STS EXERCISE	OFF DUTY	CBTM DAILY OPS	RCS BURN						PRE SLEEP	SLEEP		
	MS1 GODWIN	RDZ T/U	OFF DUTY				M P L M *	G A S G R P 2						PRE SLEEP	SLEEP
	MS2 TANI	RDZ T/U	OFF DUTY	STS EXERCISE								PRE SLEEP	SLEEP		
	ONUFRIENKO	RDZ T/U	OFF DUTY									PRE SLEEP	SLEEP		
	WALZ	RDZ T/U	OFF DUTY				M D D K						PRE SLEEP	SLEEP	
	BURSCH	RDZ T/U	OFF DUTY				M S B						PRE SLEEP	SLEEP	
	MCC DAY/NIGHT														
ORBIT															
TDRS E W															
ORB ATT COLLIDE CAPL															
NOTES:	*HTR OFF														

**STS-108 (FD03)**

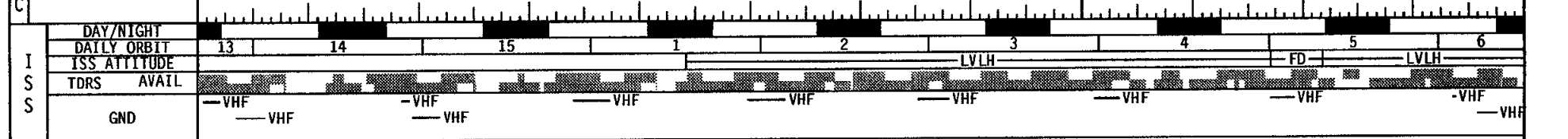
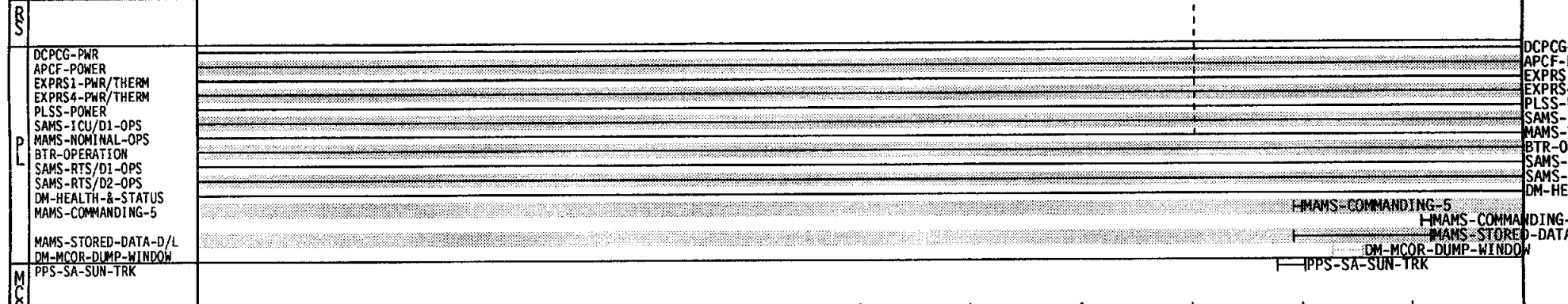
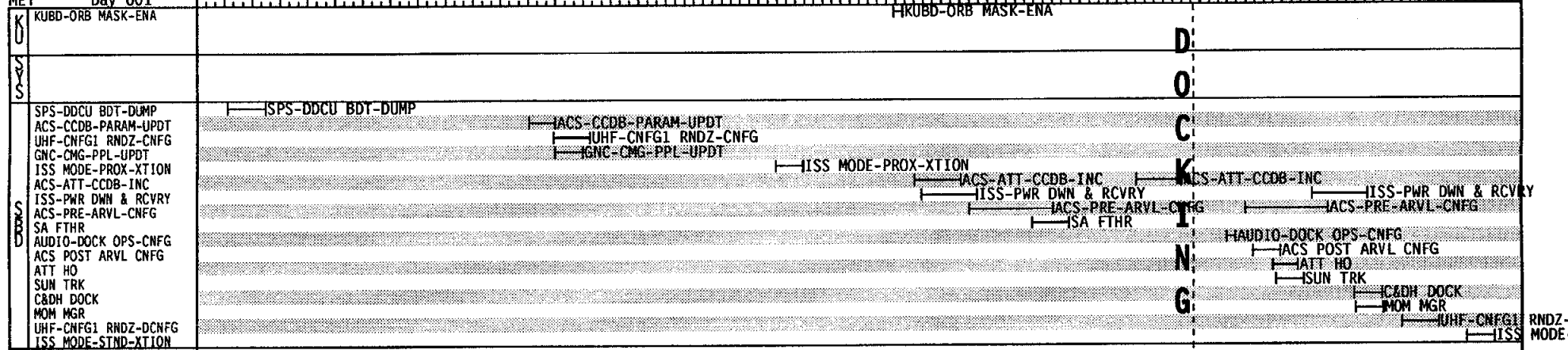
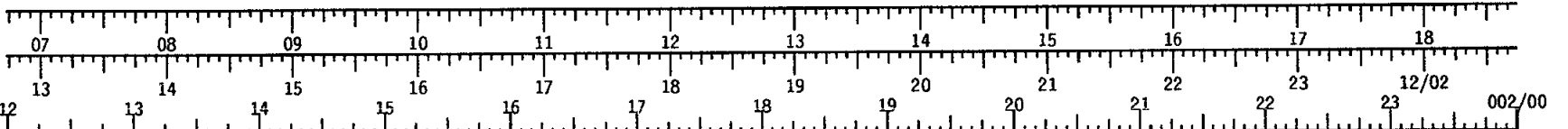
GMT		12/01/01		13	14	15	16	17	18	19	20	21	22	23	12/02	002/00				
FD3		Day 001		12	13	14	15	16	17	18	19	20	21	22	23					
MET		Day 001		12	13	14	15	16	17	18	19	20	21	22	23					
STS-108	CDR GORIE	SLEEP	+YVV POST SLEEP	SIMODMP INIT	PSOLSTEP	GRPB P/U	NH			NC4 ISS RNDZ	T1		APPROACH TIMELINE		TEA MNVR	GP/DPD	WEL COME	SBFR TIE F	MPLM	
	PLT KELLY	SLEEP	POST SLEEP	SIMODMP INIT	PSOLSTEP	GRPB P/U	PSOLSTEP	DMP TRM	ISS RNDZ			G O		AIUSS I O	P/B/T/M	CBTM DAILY OPS	WEL COME	SBFR TIE F	MDDK XFER OPS	
	MS1 GODWIN	SLEEP	POST SLEEP			P/TV 20 S/U			M C I U		F O R		P/TV20 OPS DK/UNDK		SH VTRVRS	GA P/TV21 S/U	WEL COME	SBFR TIE F	MDDK XFER OPS	
	MS2 TANI	SLEEP	POST SLEEP			EMU REMOV			A D F		ISS RNDZ		C H E A C K		ODS PREP INGRS	PGSC RCFC	WEL COME	SBFR TIE F	MDDK XFER OPS	
ISS-4	ONUFRIENKO	SLEEP	POST SLEEP			XFER PREP			i		MEAL		ODS PREP INGRS		HATCH OPEN	WEL COME	SBFR TIE F	HAND OVER		
	WALZ	SLEEP	POST SLEEP			XFER PREP			A P C L U D		A C C O N I R		EMU PREP ISS XFER		MEAL		HATCH OPEN	WEL COME	SBFR TIE F	HAND OVER
	BURSCH	SLEEP	POST SLEEP			XFER PREP			P/TV 20 S/U		MDDK		MEAL		HATCH OPEN		WEL COME	SBFR TIE F	HAND OVER	
ISS-3	CULBERTSON				EXERCISE CEVIS			P A M R A R 2 V L		L K C K S/U		L C H E A C K		HATCH OPEN		WEL COME	SBFR TIE F	HAND OVER		
	DEZHUROV				EXERCISE TVIS			P L S T A C K						WEL COME		SBFR TIE F	HAND OVER			
	TYURIN				EXERCISE TVIS									WEL COME		SBFR TIE F	HAND OVER			
MCC		MPLM																		
DAY/NIGHT		[Day/Night Cycle]																		
ORBIT		[Orbit Cycle]																		
DAILY ORBIT		[Daily Orbit Cycle]																		
TDRS		[TDRS Cycle]																		
ORB ATT		PSRD(11 hrs) +ZLV +YVV *HTR ON RNDZ *SA FTHR BIAS -XLV+ZVV *700-14 *HTR OFF																		
NOTES:																				

◆1/21:00

CT 12/01/01

GMT 12/01/01

MET Day 001

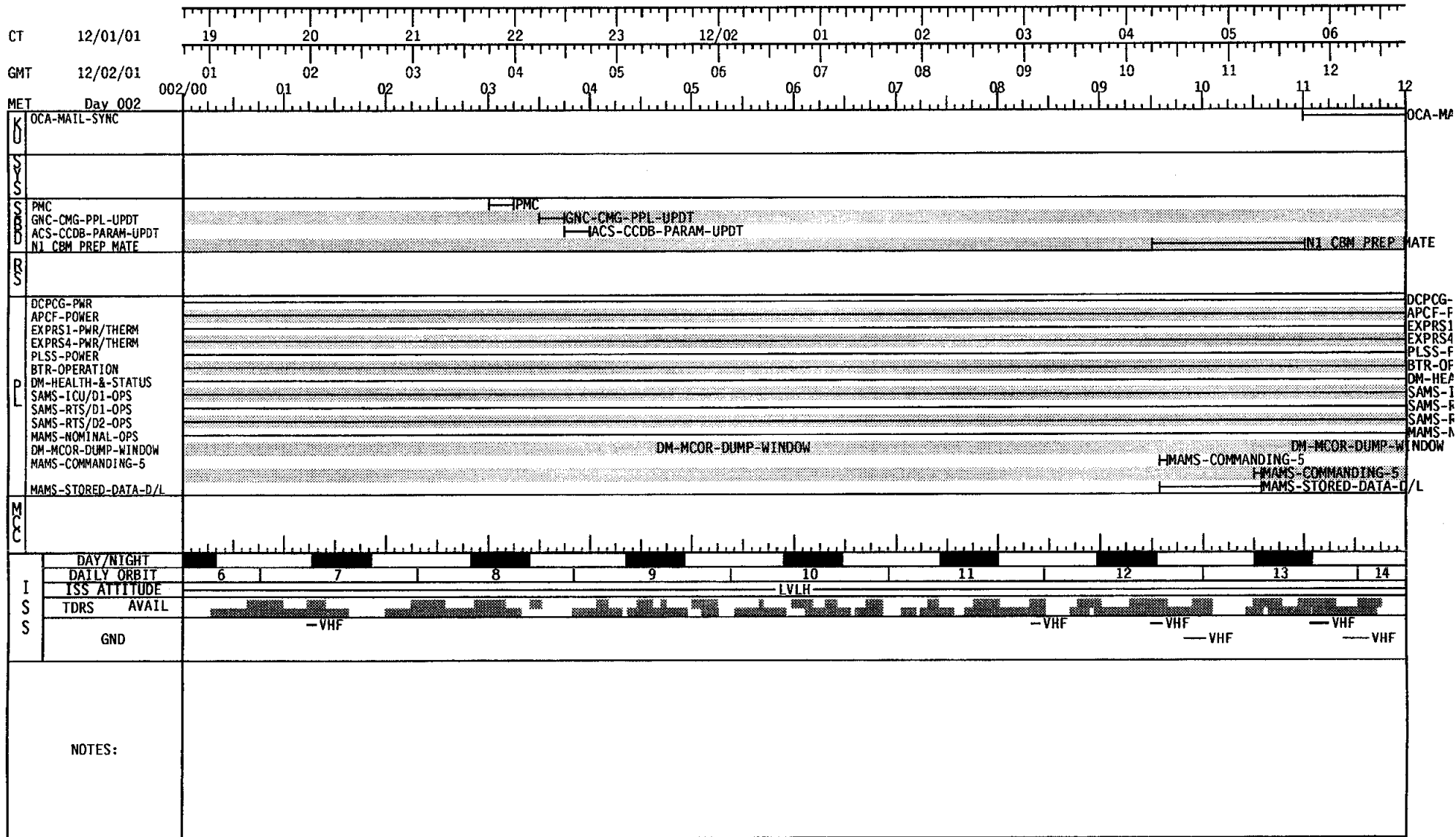


NOTES:

# STS-108 (FD03)

GMT 12/02/01 01 02 03 04 05 06 07 08 09 10 11 12  
 FD3 Day 002 002/00 01 02 03 04 05 06 07 08 09 10 11 12  
 MET

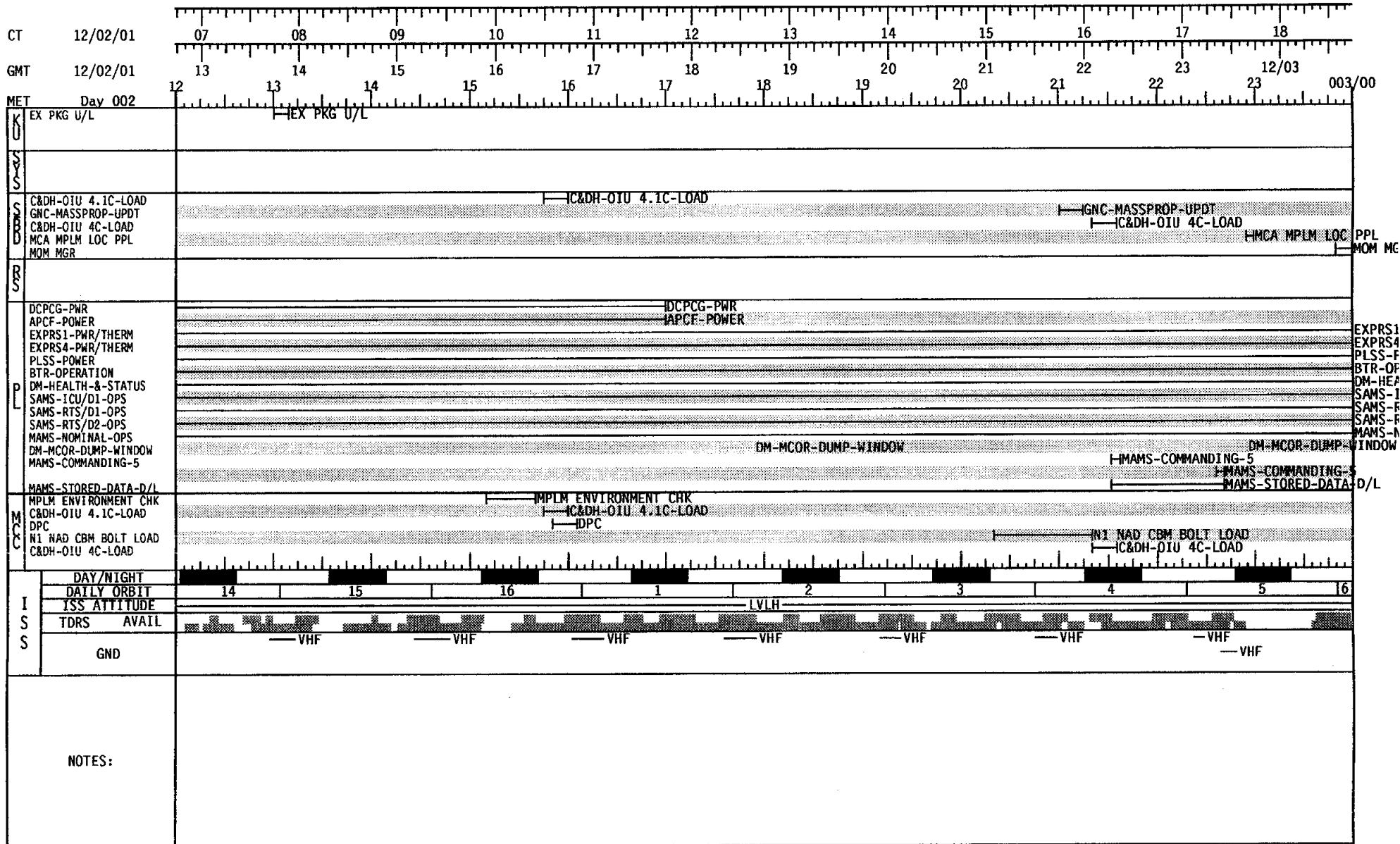
		ISS EXTERNAL SURVEY											
STS-108	CDR GORIE	STS EXERCISE	PSA	PRE SLEEP	PMC OCA	PRE SLEEP	SLEEP						
	PLT/RMS KELLY	MDDK XFER OPS	STS EXERCISE	PSA	PRE SLEEP			SLEEP					
	MS1/RMS GODWIN	MDDK XFER OPS	STS EXERCISE	IOG PLN #4 SLN GUIM	XFER CALL	PRE SLEEP			SLEEP				
	MS2 TANI	MDDK XFER OPS	STS EXERCISE	PRE SLEEP			SLEEP						
ISS-4	ONUFRLENKO	HAND OVER		MDDK	PMC	PRE SLEEP			SLEEP				
	WALZ	HAND OVER		EMU3 XFER TO ISS	PRE SLEEP			SLEEP					
	BURSCH	HAND OVER		PRE SLEEP			SLEEP						
ISS-3	CULBERTSON	HAND OVER		EMU XFER TO STS	PMC	PLN RVW	DPC	PRE-SLEEP			SLEEP		
	DEZHUROV	HAND OVER		PREP RPT	PMC	PLN RVW	DPC	PRE-SLEEP			SLEEP		
	TYURIN	HAND OVER		PMC	PLN RVW	DPC	PRE-SLEEP			SLEEP			
MCC		DPC											
DAY/NIGHT		[Shaded bars]											
ORBIT		33	34	35	36	37	38	39	40				
DAILY ORBIT		6	7	8	9	10	11	12	13				
TDRS		[Timeline with E/W markers]											
ORB ATT		BIAS -XLV+ZVV											
NOTES:													



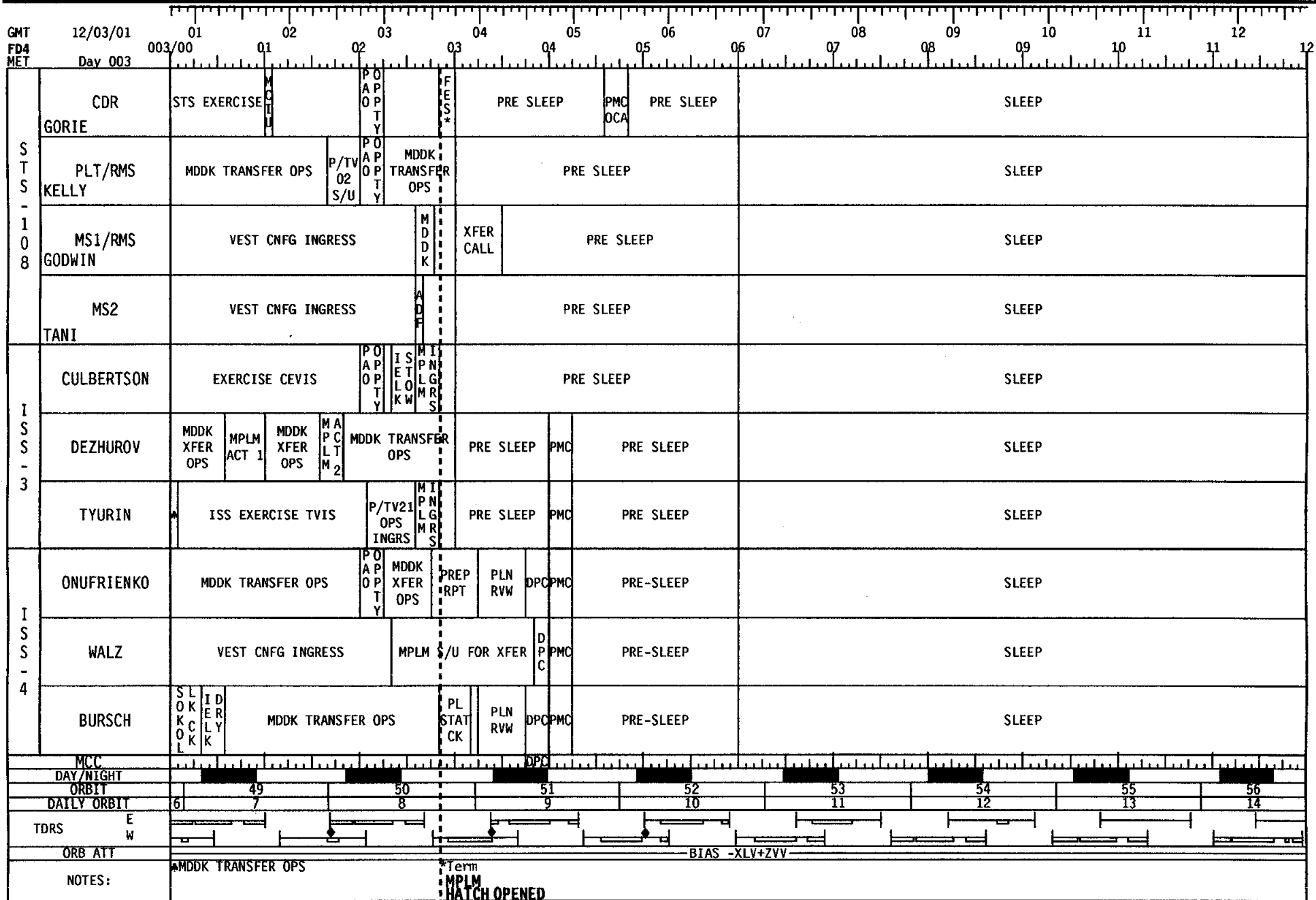


# STS-108 (FD04)

		12/02/01 13 14 15 16 17 18 19 20 21 22 23 12/03 003/00																							
		Day 002																							
STS-108	GORIE CDR	ISS EXT. SURVEY		SLEEP		POST SLEEP		APSA POL SEC LIT P2	POST SLEEP	IO LFL UM	P/T V22 S/U RMS	MPLM*	H2O 1 INIT		FCMS C/O	HT 2 ORM	MEAL		FES*						
	KELLY PLT/RMS	SLEEP		POST SLEEP		POST SLEEP			CBTM DAILY OPS	GR APL		ROEU*	MPLM UNBERTH		MPLM INSTL		BR AKE	UN GR P/D	MEAL		MDDK TRANSFER OPS		STS EXERCISE		
	GODWIN MS1/RMS	SLEEP		POST SLEEP		POST SLEEP		RH MT S*	RP MW SRA UPL	GR APL		ROEU*	MPLM UNBERTH		MPLM INSTL		BR AKE	UN GR P/D	MEAL		VEST PRESS		VEST EQUIP S/U	VEST CNFG INGRESS	
	TANI MS2	SLEEP		POST SLEEP		POST SLEEP								STS EXERCISE		MDDK TRANSFER OPS				MEAL		STS TAG FIT	VEST EQUIP S/U	VEST CNFG INGRESS	
ISS-4	ONUFRIENKO	SLEEP		POST SLEEP		POST SLEEP					STES 008 XFER TO ISS	MDDK TRANSFER OPS		IP ER LE KP	IELK INST & C/O		SL OK KOK	ID ER LY K	MEAL		SL OK KOK	MDDK TRANSFER OPS			
	WALZ	SLEEP		POST SLEEP		POST SLEEP		IP ER LE KP	N1 CBM PREP MATE		IELK INST & C/O		VE RE RI ACT	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	AB CO QL TS	CBCS CAMRA RMV	MEAL		VEST PRESS		ID ER LY K	VEST CNFG INGRESS			
	BURSCHE	SLEEP		POST SLEEP		POST SLEEP		ER4 PREP	STES 007 XFER TO ISS	MDDK PREP PWR XFERS	MDDK TRANSFER OPS	*	STES 007 ACT	STES 008 ACT	MDDK TRANSFER OPS	IP ER LE KP	MEAL		IELK INST & C/O						
ISS-3	CULBERTSON	SLEEP		POST-SLEEP		POST-SLEEP		DPC S L P	N1 CBM PREP MATE	CBCS INSTALL	APCF XFER TO MDDK	MDDK TRANSFER OPS		CBCS CAMRA RMV	MEAL		IELK INST & C/O								
	DEZHUROV	SLEEP		POST-SLEEP		POST-SLEEP		DPC S L P	PREP WORK	MDDK TRANSFER OPS	DCPCG -V TO MDDK	IELK INST & C/O		IS ET LO KW	EXERCISE CEVIS		MEAL								
	TYURIN	SLEEP		POST-SLEEP		POST-SLEEP		DPC S L P	PREP WORK	IELK INST & C/O		IS ET LO KW	MDDK TRANSFER OPS		MEAL		MDDK TRANSFER OPS								
MCC		MPLM																							
DAY/NIGHT		[Day/Night Cycle]																							
ORBIT		[Orbit Cycle]																							
DAILY ORBIT		[Daily Orbit Cycle]																							
TDRS		[TDRS Cycle]																							
ORB ATT		[Orbit Attitude]																							
NOTES:		*HTR ON *MCIU FLTR *HTR OFF *DEMATE *STES HSD TO1 S/U *Init *700-14																							



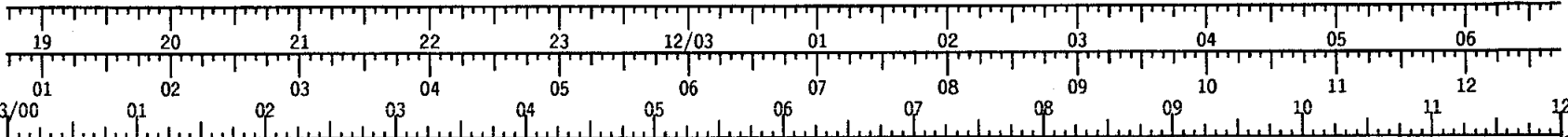
# STS-108 (FD04)



CT 12/02/01

GMT 12/03/01

MET Day 003



OCA-MAIL-SYNC

OCA-MA

MOM MGR

MOM MGR  
 INT INV VLV PPL  
 PMC

HENT INV VLV PPL  
 IPMC

EXPRS1-PWR/THERM

EXPRS4-PWR/THERM  
 PLSS-POWER  
 SAMS-RTS/D2-OPS  
 DM-HEALTH-&-STATUS  
 BTR-OPERATION  
 MAMS-NOMINAL-OPS  
 SAMS-ICU/D1-OPS  
 SAMS-RTS/D1-OPS  
 CPO/PRO-CMD

ICPO/PRO-CMD  
 ICPO/PRO-CMD

DM-VTR2-DUMP-WINDOW  
 DM-MCOR-DUMP-WINDOW

DM-VTR2-DUMP-WINDOW  
 DM-MCOR-DUMP-WINDOW

DM-MCOR-DUMP-WINDOW  
 DM-MCOR-DUMP-WINDOW

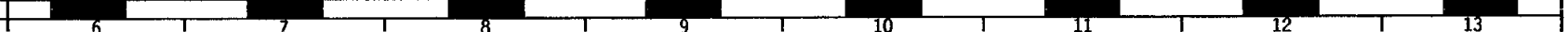
DM-MCOR-DUMP-WINDOW  
 DM-MCOR-DUMP-WINDOW

MAMS-COMMANDING-5  
 MAMS-COMMANDING-5  
 MAMS-COMMANDING-5  
 MAMS-COMMANDING-5

MAMS-STORED-DATA-D/L  
 MAMS-STORED-DATA-D/L

EXPRS1  
 EXPRS4  
 PLSS-F  
 SAMS-F  
 DM-HEA  
 BTR-OF  
 MAMS-N  
 SAMS-I  
 SAMS-F

DAY/NIGHT



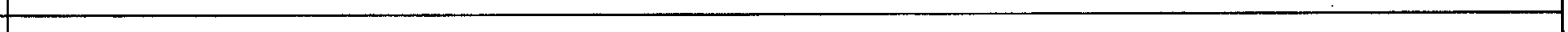
DAILY ORBIT



ISS ATTITUDE



TDRS AVAIL



GND



NOTES:

# STS-108 (FD05)

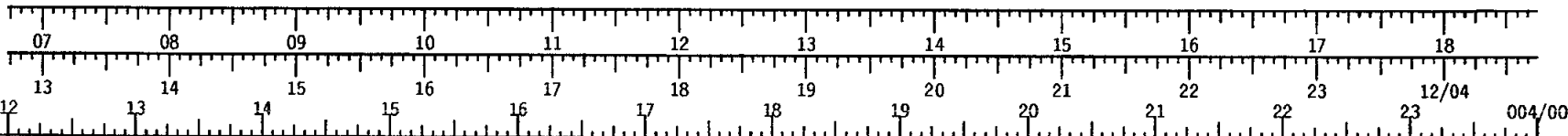
GMT 12/03/01 12 13 14 15 16 17 18 19 20 21 22 23 12/04 004/00  
 FD5 Day 003 MET

S T S - 1 0 8	CDR GORIE	SLEEP	POST SLEEP	H A O T MNR R E T BOST	REBOOST	+YVV MNR	SIMO DMP INIT	STS EXERCISE	DMP TRM	T M E N A V R	H A O T	MEAL	EVA TOOL CONFIG	R E B A *	R C B O	MDDK PREP	
	PLT/RMS KELLY	SLEEP	POST SLEEP	H2 2 INIT	MPLM TRANSFER OPS	H T 2 E O R M	MPLM TRANSFER OPS	STS EXERCISE	MEAL	MPLM TRANSFER OPS	PTV 02 SU						
	MS1/RMS GODWIN	SLEEP	POST SLEEP	MPLM TRANSFER OPS				STS EXERCISE	MEAL	EVA TOOL CONFIG	R E B A *	R C B O	MDDK PREP				
	MS2 TANI	SLEEP	POST SLEEP	STS EXERCISE	P/TV24 S/U	P/TV24 OPS	MPLM TRANSFER OPS	PGT C/O	MEAL	EVA TOOL CONFIG	R E B A *	R C B O	MDDK PREP				
I S S - 3	CULBERTSON	SLEEP	POST SLEEP	MDDK TRANSFER OPS				ISS EXERCISE TVIS	MEAL	MDDK TRANSFER OPS	HAND OVER						
	DEZHUROV	SLEEP	POST SLEEP	MPLM TRANSFER OPS	EXERCISE CEVIS			MPLM TRANSFER OPS	MEAL	HANDOVER							
	TYURIN	SLEEP	POST SLEEP	MPLM TRANSFER OPS				ISS EXERCISE RED	MEAL	HAND OVER							
I S S - 4	ONUFRIENKO	SLEEP	POST-SLEEP	DPC	PREP WORK	MPLM TRANSFER OPS				ISS EXERCISE CEVIS	MEAL	MPLM TRANSFER OPS	HAND OVER				
	WALZ	SLEEP	POST-SLEEP	DPC	PREP WORK	M D D K	MPLM TRANSFER OPS				MEAL	HANDOVER					
	BURSCH	SLEEP	POST-SLEEP	DPC	PREP WORK	PL STAT CK	MPLM XFER OPS	ISS EXERCISE CEVIS	MPLM TRANSFER OPS			MEAL	HAND OVER				
MCC		DPC															
DAY/NIGHT		ORBIT															
ORBIT		56	57	58	59	60	61	62	63	64							
DAILY ORBIT		14	15	16	1	2	3	4	5	6							
TDRS		E W															
ORB ATT		BIAS -XLV+ZVV				REBOOST		SIMO DUMP				BIAS -XLV+ZVV					
NOTES:		▲HO ATT ○HO ATT ◆PPS-SA-SUN-TRK *INSTALL															

CT 12/03/01

GMT 12/03/01

MET Day 003



EX PKG U/L

EX PKG U/L

SPS-RPCM-BDT-DUMP  
 HO ATT  
 MOM MGR  
 EPS-BGA-MODE-CNFG  
 PPS-SA-SUN-TRK

SPS-RPCM-BDT-DUMP

HO ATT

MOM MGR

EPS-BGA-MODE-CNFG

HO ATT

PPS-SA-SUN-TRK

EXPRS1-PWR/THERM  
 EXPRS4-PWR/THERM  
 PLSS-POWER  
 SAMS-ICU/D1-OPS  
 DM-HEALTH-&-STATUS  
 SAMS-RTS/D1-OPS  
 BTR-OPERATION  
 MAMS-NOMINAL-OPS  
 SAMS-RTS/D2-OPS  
 DM-MCOR-DUMP-WINDOW  
 MAMS-COMMANDING-5  
 MAMS-STORED-DATA-D/L

DM-MCOR-DUMP-WINDOW

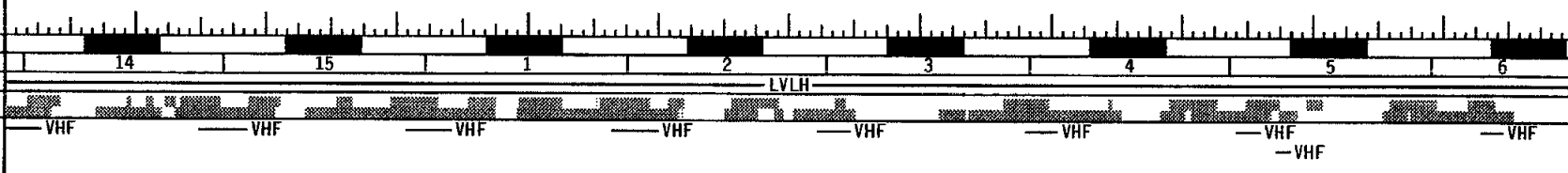
MAMS-COMMANDING-5

MAMS-COMMANDING-5

MAMS-STORED-DATA-D,

EXPRS1  
 EXPRS4  
 PLSS-F  
 SAMS-I  
 DM-HEA  
 SAMS-F  
 BTR-OF  
 MAMS-A  
 SAMS-F  
 DM-MCOR-DUI

DAY/NIGHT  
 DAILY ORBIT  
 ISS ATTITUDE  
 TDRS AVAIL  
 GND



NOTES:

# STS-108 (FD05)

GMT 12/04/01 01 02 03 04 05 06 07 08 09 10 11 12  
 FD5 004/00 01 02 03 04 05 06 07 08 09 10 11 12  
 MET Day 004

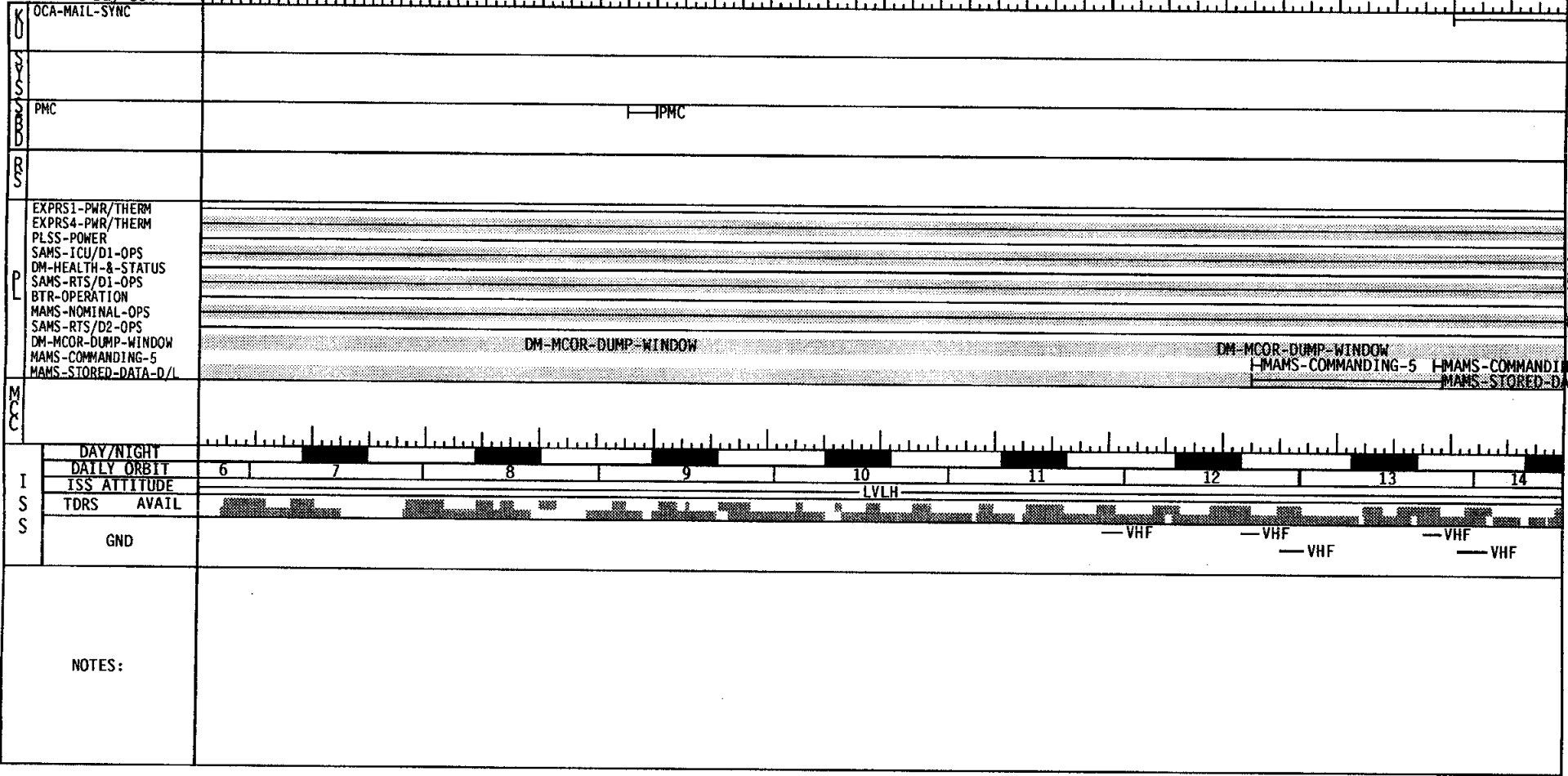
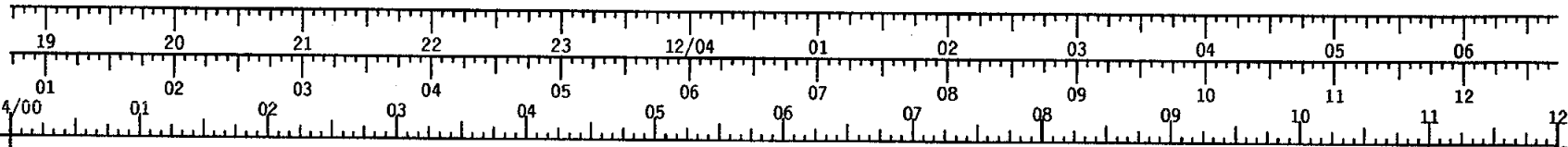
ISS	Crew Member	Activities		ISS		Pre-Sleep		Sleep		ISS External Survey
		PO	SA	IN	BIT	PT	BR	PM	OC	
STS-108	GORIE (CDR)	PO	SA	IN	BIT	PT	BR	PM	OC	SLEEP
	KELLY (PLT/RMS)	PO	SA	IN	BIT	PT	BR	PM	OC	SLEEP
	GODWIN (MS1/RMS)	PO	SA	IN	BIT	PT	BR	PM	OC	SLEEP
	TANI (MS2)	PO	SA	IN	BIT	PT	BR	PM	OC	SLEEP
ISS-3	CULBERTSON	PO	SA	IN	BIT	PT	BR	PM	OC	SLEEP
	DEZHUROV	PO	SA	IN	BIT	PT	BR	PM	OC	SLEEP
	TYURIN	PO	SA	IN	BIT	PT	BR	PM	OC	SLEEP
ISS-4	ONUFRLENKO	PO	SA	IN	BIT	PT	BR	PM	OC	SLEEP
	WALZ	PO	SA	IN	BIT	PT	BR	PM	OC	SLEEP
	BURSCHE	PO	SA	IN	BIT	PT	BR	PM	OC	SLEEP

MCC  
 DAY/NIGHT ORBIT  
 DAILY ORBIT  
 TDRS E W  
 ORB ATT  
 NOTES: \*MDDK PREP \*700-14  
 PTV 02 SU  
 MDDK PREP  
 BIAS -XLV+ZVV

CT 12/03/01

GMT 12/04/01

MET Day 004



OCA-MAIL-SYNC  
 IPMC  
 EXPRS1  
 EXPRS4  
 PLSS-F  
 SAMS-I  
 DM-HEALTH-&-STATUS  
 SAMS-F  
 BTR-OPERATION  
 MAMS-A  
 SAMS-F  
 DM-MCOR-DUMP-WINDOW  
 DM-MCOR-DUMP-WINDOW  
 MAMS-COMMANDING-5  
 MAMS-COMMANDING-5  
 MAMS-STORED-DATA-D/I



# STS-108 (FD06)

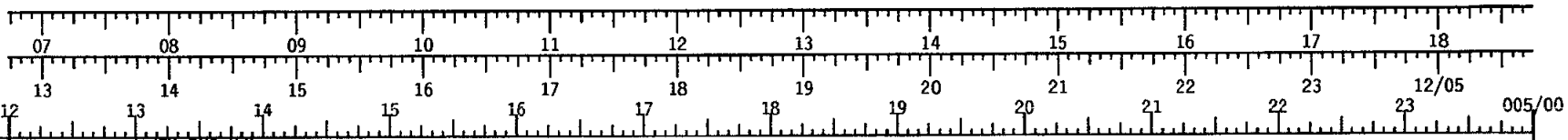
GMT 12/04/01 12 13 14 15 16 17 18 19 20 21 22 23 12/05 005/00  
 FD6 Day 004 MET

STS-108	CDR/IVA GORIE	SLEEP	POST SLEEP	PMCA/G	EVA PREP SUPPORT	EMU PURGE P/B	IVA EVA 1 SUPPORT	F E S * 14.7 REPRS	1 R 4 C F * 7 G	IVA EVA 1 SUPPORT	POST EVA W/ H2O RCH	
	PLT/RMS KELLY	SLEEP	POST SLEEP	LO L F * L U M	POST SLEEP	1 0 A M W R H D 2 2 S R U I P	P/TV23 S/U	EVA SUPPORT EVA (4 HRS)			RMS P/D	
	MS1/EV1 GODWIN	SLEEP	POST SLEEP	EVA PREP	EMU PURGE P/B	DEPR S	EVA1 SETUP	EVA (4 HRS)	EVA CLEAN UP	A/L REPR	POST EVA W/ H2O RCH	
	MS2/EV2 TANI	SLEEP	POST SLEEP	EVA PREP	EMU PURGE P/B	DEPR S	EVA1 SETUP	EVA (4 HRS)	EVA CLEAN UP	A/L REPR	POST EVA W/ H2O RCH	
ISS-3	CULBERTSON	SLEEP	POST SLEEP	M D D K	STS EXERCISE			MEAL				
	DEZHUROV	SLEEP	POST SLEEP	STS EXERCISE			MEAL					
	TYURIN	SLEEP	POST SLEEP	STS EXERCISE			MEAL					
ISS-4	ONUFRIENKO	SLEEP	POST-SLEEP	DPC	PREP WORK	TRANSFER OPS			MEAL	TRANSFER OPS		
	WALZ	SLEEP	POST-SLEEP	DPC	PREP WORK	TRANSFER OPS	EXERCISE TVIS	TRANSFER OPS	MEAL	TRANSFER OPS		
	BURSCH	SLEEP	POST-SLEEP	DPC	PREP WORK	PL STAT CK	TRANSFER OPS	EXERCISE TVIS	TRANSFER OPS	EVA SUPPORT	MEAL	TRANSFER OPS
MCC		DPC										
DAY/NIGHT ORBIT		[ORBIT GRAPH]										
DAILY ORBIT		72	73	74	75	76	77	78	79	80		
TDRS		14	15	1	2	3	4	5	6	7		
ORB ATT		[ORBIT ATTACHMENT]										
NOTES:		*RMSHTR BIAS -XLV+ZVV @POST DEPR /EGRS *H2O RCFG ♥POST DEPR /EGRS ΔPPS-P6 SA-FTHR										

CT 12/04/01

GMT 12/04/01

MET Day 004



EX PKG U/L

EX PKG U/L

EPS-PWRDN FOR EVA  
 PPS-P6 SA-FTHR  
 MOM MGR  
 PPS-SA-SUN-TRK  
 EPS-PWRUP FOR EVA

EPS-PWRDN FOR EVA

PPS-P6 SA-FTHR  
MOM MGR

PPS-SA-SUN-TRK  
EPS-PWRUP

EXPRS1-PWR/THERM  
 EXPRS4-PWR/THERM  
 PLSS-POWER  
 SAMS-ICU/D1-OPS  
 DM-HEALTH-3-STATUS  
 SAMS-RTS/D1-OPS  
 BTR-OPERATION  
 MAMS-NOMINAL-OPS  
 SAMS-RTS/D2-OPS  
 DM-MCOR-DUMP-WINDOW  
 MAMS-COMMANDING-5  
 MAMS-STORED-DATA-0/L

DM-MCOR-DUMP-WINDOW

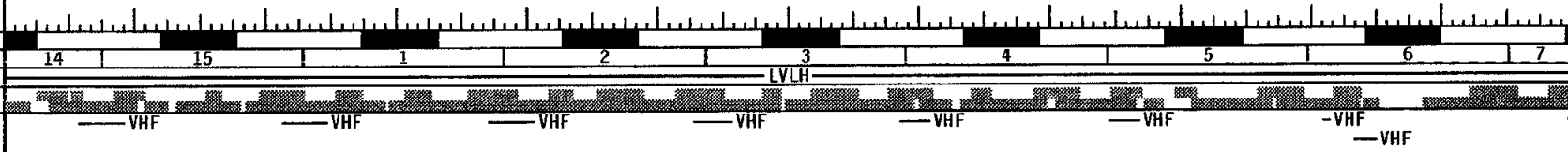
MAMS-COMMANDING-5

MAMS-STORED

EXPRS1  
 EXPRS4  
 PLSS-F  
 SAMS-I  
 DM-HEA  
 SAMS-F  
 BTR-OF  
 MAMS-M  
 SAMS-F  
 DM-MCC

COMMAN  
STORE

DAY/NIGHT  
 DAILY ORBIT  
 ISS ATTITUDE  
 TDRS AVAIL  
 GND

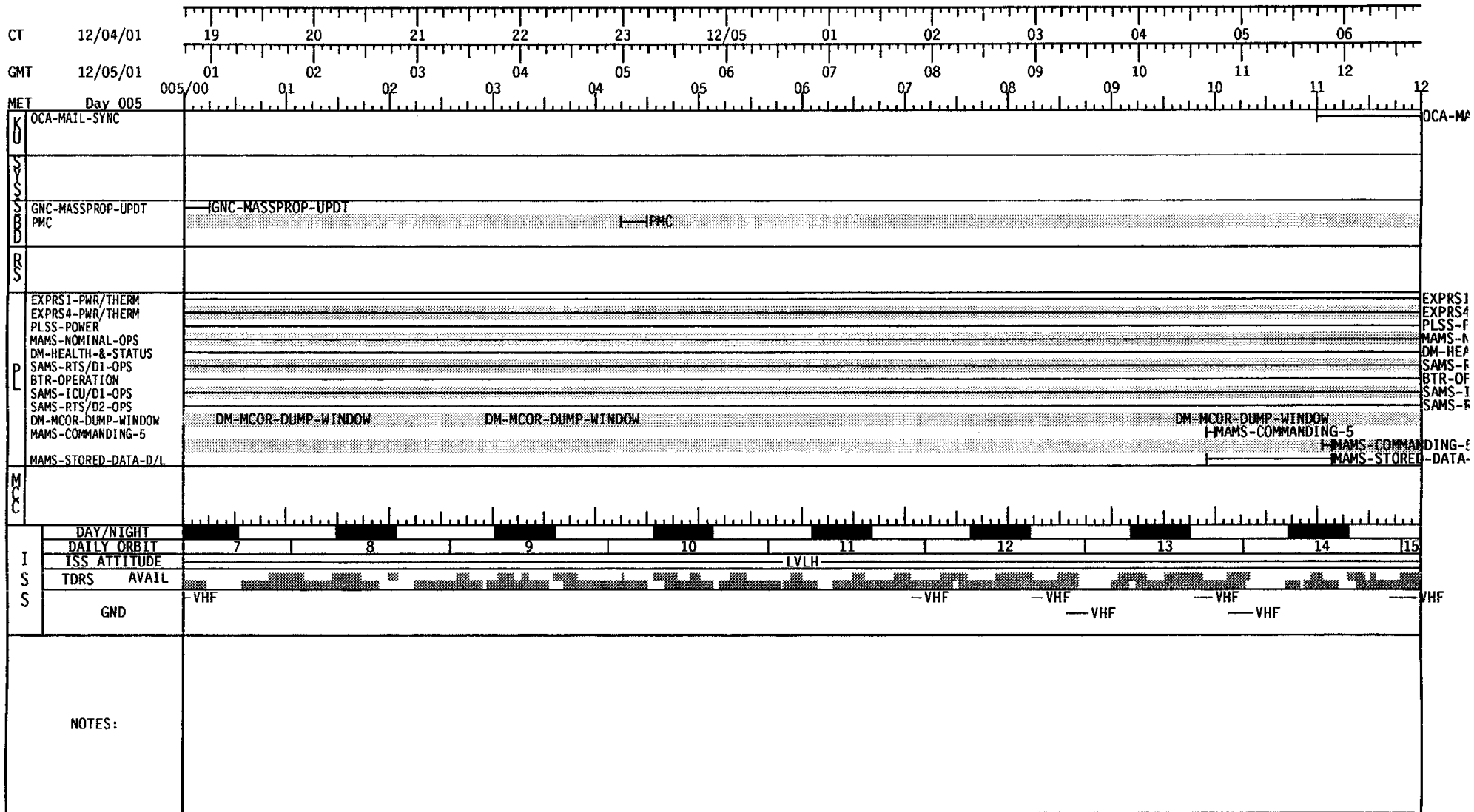


NOTES:

# STS-108 (FD06)

GMT 12/05/01 01 02 03 04 05 06 07 08 09 10 11 12  
 FD6 Day 005 005/00 01 02 03 04 05 06 07 08 09 10 11 12  
 MET

STS-108	CDR/IVA GORIE	POST EVA W/ H2O RCH		FES*		PRE SLEEP	PMC OCA	PRE SLEEP		SLEEP	
	PLT/RMS KELLY	CBTM DAILY OPS	INN TG RRMS	1 R 4 C 7 F 7 G		MPLM TRANSFER OPS		PRE SLEEP		SLEEP	
	MS1/EV1 GODWIN	POST EVA W/ H2O RCH				MPLM TRANSFER OPS	PSXT RLEFA EEEG EIRU PLP		PRE SLEEP		SLEEP
	MS2/EV2 TANI	POST EVA W/ H2O RCH				MPLM TRANSFER OPS			PRE SLEEP		SLEEP
ISS-3	CULBERTSON					MPLM TRANSFER OPS			PRE SLEEP		SLEEP
	DEZHUROV					MPLM TRANSFER OPS		PRE SLEEP	PMC	PRE SLEEP	SLEEP
	TYURIN					MPLM TRANSFER OPS		PRE SLEEP	PMC	PRE SLEEP	SLEEP
ISS-4	ONUFRLENKO	TRANSFER OPS	HR S/U	HR ICDR SUBJECT	EXERCISE TVIS	PREP RPT	PLN RVW	DPCPMC		PRE-SLEEP	SLEEP
	WALZ	TRANSFER OPS	HR OPR	HR FE1 SUBJECT	HR OPR	XT FA EG RUP	PLN RVW	DPCPMC		PRE-SLEEP	SLEEP
	BURSCH	TRANSFER OPS	HR OPR	HR FE2 SUBJECT	PL STAT CK	PLN RVW	DPCPMC			PRE-SLEEP	SLEEP
MCC											
DAY/NIGHT											
ORBIT		80	81	82	83	84	85	86	87		
DAILY ORBIT		7	8	9	10	11	12	13	14		
TDRS											
ORB ATT											
NOTES:		▲H2O RCFG *Term ⊕HR STW BIAS -XLV+ZVV									



# STS-108 (FD07)

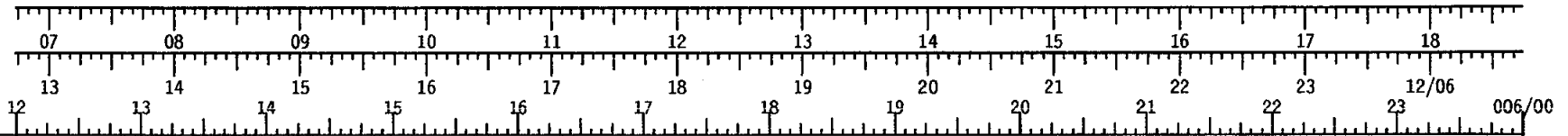
GMT 12/05/01 12 13 14 15 16 17 18 19 20 21 22 23 12/06 006/00  
 FD7 MET Day 005

STS-108	CDR GORIE	SLEEP	POST SLEEP	H O T B O O S T	M N V R R E B O O S T	REBOOST	+YVV M N V R	S I M O D U M P I N I T	A P U S S U E S S U E	T M E N D T R A V E L	H A N D O V E R	MEAL	M C I U
	PLT/RMS KELLY	SLEEP	POST SLEEP	MPLM TRANSFER OPS		STS EXERCISE	MPLM XFER OPS	P W R *	MPLM XFER OPS	P W R *	MEAL	MPLM TRANSFER OPS	
	MS1/RMS GODWIN	SLEEP	POST SLEEP	MPLM TRANSFER OPS		STS EXERCISE	MPLM TRANSFER OPS		MEAL		MPLM TRANSFER OPS		
	MS2 TANI	SLEEP	POST SLEEP	A S S S A T A P R E F E R	MPLM TRANSFER OPS		STS EXERCISE	MEAL		MPLM TRANSFER OPS			
ISS-3	CULBERTSON	SLEEP	POST SLEEP	HANDOVER		ISS EXERCISE RED		MEAL		HANDOVER			
	DEZHUROV	SLEEP	POST SLEEP	ISS EXERCISE TVIS		MPLM TRANSFER OPS		P/TV 21 S/U	RUS PAO	MEAL	HANDOVER		
	TYURIN	SLEEP	POST SLEEP	HANDOVER		MPLM TRANSFER OPS		RUS PAO	MEAL	HANDOVER			
ISS-4	ONUFRIENKO	SLEEP	POST-SLEEP	D P C	P R E P W O R K	HANDOVER		MPLM TRANSFER OPS	EXERCISE CEVIS	RUS PAO	MEAL	HANDOVER	
	WALZ	SLEEP	POST-SLEEP	D P C	P R E P W O R K	B T R C N T X C H G B T R	P L S T A T C K	EXERCISE CEVIS	MPLM TRANSFER OPS		MEAL	HANDOVER	
	BURSCH	SLEEP	POST-SLEEP	D P C	P R E P W O R K	M D D K	HANDOVER		MPLM TRANSFER OPS		MEAL	HANDOVER	
MCC	DPC												
DAY/NIGHT	[Bar chart showing day/night cycle]												
ORBIT	88	89	90	91	92	93	94	95					
DAILY ORBIT	15	1	2	3	4	5	6	7					
TDRS	[Bar chart showing TDRS activity]												
ORB ATT	BIAS -XLV+ZVV REBOOST SIMO DUMP BIAS -XLV+ZVV												
NOTES:	@METOX INIT ♦HO ATT ♦CAB TMP @HO ATT *TERM ♦PPS-SA-SUN-TRK *APU HTR RCFG *INIT												

CT 12/05/01

GMT 12/05/01

MET Day 005



S	EX PKG U/L	EX PKG U/L
	SPS-DDCU BDT-DUMP HO ATT MOM MGR EPS-BGA-MODE-CNFG PPS-SA-SUN-TRK	ISPS-DDCU BDT-DUMP HO ATT MOM MGR EPS-BGA-MODE-CNFG PPS-SA-SUN-TRK
P	EXPRS1-PWR/THERM EXPRS4-PWR/THERM PLSS-POWER SAMS-RTS/D1-OPS DM-HEALTH-&-STATUS SAMS-RTS/D2-OPS BTR-OPERATION MAMS-NOMINAL-OPS SAMS-ICU/D1-OPS DM-MCOR-DUMP-WINDOW DM-VTR2-DUMP-WINDOW MAMS-COMMANDING-5 MAMS-STORED-DATA-D/L	EXPRS1 EXPRS4 PLSS-F SAMS-F DM-HEA SAMS-F BTR-OF MAMS-A SAMS-I DM-MCOR-DUMP-WINDOW DM-VTR2-DUMP-WINDOW DM-VTR2-DUMP-WINDOW MAMS-COMMANDING-5 MAMS-COMMANDING-5 MAMS-STORED-DATA-D/L

ISS	DAY/NIGHT	15 16 1 2 3 4 5 6
	DAILY ORBIT	15 16 1 2 3 4 5 6
	ISS ATTITUDE	LVLH
	TDRS AVAIL	VHF VHF VHF VHF VHF VHF VHF VHF

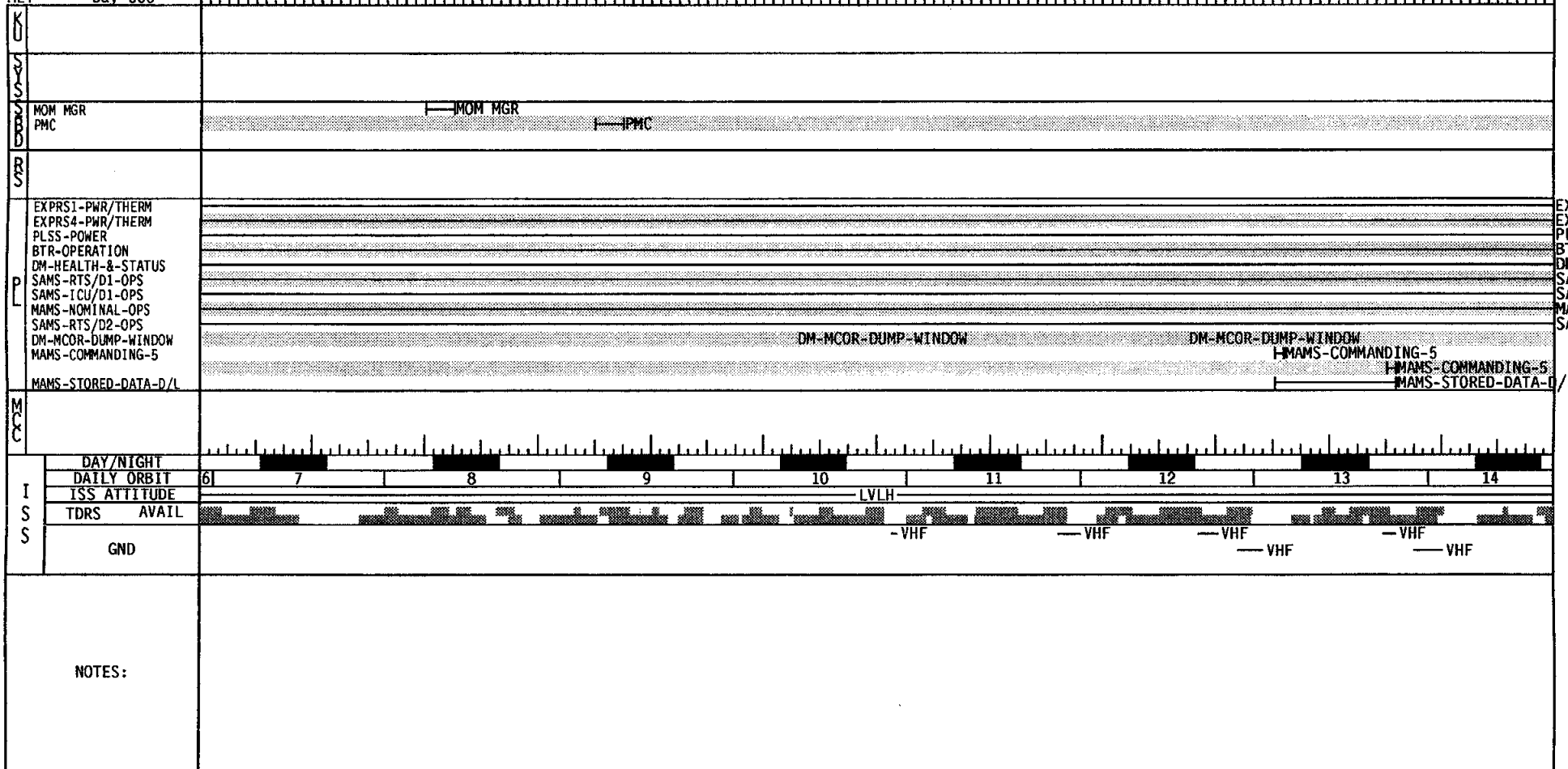
NOTES:

# STS-108 (FD07)

GMT 12/06/01 01 02 03 04 05 06 07 08 09 10 11 12  
 FD7 006/00 01 02 03 04 05 06 07 08 09 10 11 12  
 MET Day 006

STS-108	CDR GORIE			STS EXERCISE	PRE SLEEP	PMC OCA	PRE SLEEP	SLEEP		
	PLT/RMS KELLY	MPLM TRANSFER OPS	MPLM XFER OPS	P W R *	CBTM DAILY OPS		PRE SLEEP	SLEEP		
	MS1/RMS GODWIN	MPLM TRANSFER OPS			XFER CALL		PRE SLEEP	SLEEP		
	MS2 TANI	MPLM TRANSFER OPS		S A T D A T A F L U *			PRE SLEEP	SLEEP		
ISS-3	CULBERTSON	HANDOVER	MPLM TRANSFER OPS				PRE SLEEP	SLEEP		
	DEZHUROV	HANDOVER		LAP TOP SHL SWP	PRE SLEEP	PMC	PRE SLEEP	SLEEP		
	TYURIN	HANDOVER	EXERCISE CEVIS		PRE SLEEP	PMC	PRE SLEEP	SLEEP		
ISS-4	ONUFRIENKO	HANDOVER	MPLM XFER OPS	PREP RPT	PLN RVW	PMC DPC	PRE-SLEEP	SLEEP		
	WALZ	HANDOVER		PL STAT CK	PLN RVW	PMC DPC	PRE-SLEEP	SLEEP		
	BURSCH	HANDOVER	MPLM TRANSFER OPS	M D D K	EXERCISE TVIS	PLN RVW	PMC DPC	PRE-SLEEP	SLEEP	
MCC									DPC	
DAY/NIGHT										
ORBIT		95	96	97	98	99	100	101	102	103
DAILY ORBIT		7	8	9	10	11	12	13	14	15
TORS		E W								
ORB ATT		BIAS -XLV+ZVV								
NOTES:		*INIT *TERM *700-14								

CT 12/05/01 19 20 21 22 23 12/06 01 02 03 04 05 06  
 GMT 12/06/01 01 02 03 04 05 06 07 08 09 10 11 12  
 MET Day 006 006/00 01 02 03 04 05 06 07 08 09 10 11 12



EXPRESS1  
 EXPRESS4  
 PLSS-F  
 BTR-OF  
 DM-HEA  
 SAMS-F  
 SAMS-I  
 MAMS-A  
 SAMS-F

MAMS-COMMANDING-5  
 MAMS-COMMANDING-5  
 MAMS-STORED-DATA-D/L

NOTES:



# STS-108 (FD08)

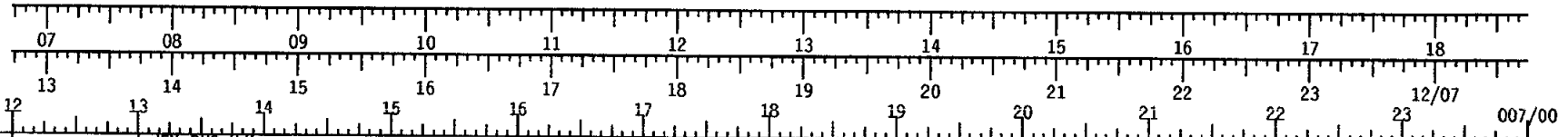
GMT 12/06/01 12 13 14 15 16 17 18 19 20 21 22 23 12/07 007/00  
 FD8 MET Day 006

S T S - 1 0 8	CDR GORIE	SLEEP	POST SLEEP	HA OT	MNVR RE BOOST	REBOOST	+M Y V V R	SIMO DMP INIT	CP R H E O W T O	DMP TRM	T M E A V R	HA O T	CREW CONF	MEAL	STS EXERCISE
	PLT/RMS KELLY	SLEEP	POST SLEEP	TRANSFER OPS		STS EXERCISE	P/TV22 S/U	CP R H E O W T O	MEAL	CREW CONF	TRANSFER OPS	PFC	CBTM DAILY OPS		
	MS1/RMS GODWIN	SLEEP	POST SLEEP	TRANSFER OPS	PFC	TRANSFER OPS	CP R H E O W T O	MEAL	CREW CONF	TRANSFER OPS					
	MS2 TANI	SLEEP	POST SLEEP	STS EXERCISE	ISS-EMU-RESIZE		CP R H E O W T O	MEAL	CREW CONF	EMU XFER	XFER OPS	PFC			
I S S - 3	CULBERTSON	SLEEP	POST SLEEP	PFC	TRANSFER OPS	EXERCISE TVIS	CP R H E O W T O	MEAL	CREW CONF	HAND OVER					
	DEZHUROV	SLEEP	POST SLEEP	HANDOVER		EXERCISE CEVIS	CP R H E O W T O	MEAL	CREW CONF	TRANSFER OPS	LOWER BODY NEG PRESS				
	TYURIN	SLEEP	POST SLEEP	HANDOVER		EXERCISE RED	CP R H E O W T O	MEAL	CREW CONF	TRANSFER OPS	LOWER BODY NEG PRESS				
I S S - 4	ONUFRIENKO	SLEEP	POST-SLEEP	DPC	PREP WORK	TRANSFER OPS		CP R H E O W T O	MEAL	CREW CONF	HAND OVER				
	WALZ	SLEEP	POST-SLEEP	DPC	PREP WORK	⊕	HANDOVER	PL STAT CK	STS EXERCISE	P/TV22 S/U	CP R H E O W T O	MEAL	CREW CONF	CBM CPA INST	
	BURSCH	SLEEP	POST-SLEEP	DPC	PREP WORK	M D D K	HANDOVER	ISS-EMU-RESIZE		CP R H E O W T O	MEAL	CREW CONF	CBM CPA INST		
MCC				DPC					CP R H E O W T O						
DAY/NIGHT															
ORBIT		103	104	105	106	107	108	109	110	111					
DAILY ORBIT		15	16	1	2	3	4	5	6	7					
TDRS															
ORB ATT				BIAS -XLV+ZVV		REBOOST		SIMO DUMP		BIAS -XLV+ZVV					
NOTES:						⊕METOX TERM ⊕HO ATT				⊕HO ATT ⊕PPS-SA-SUN-TRK		*700-14 ⊕XFER 01			

CT 12/06/01

GMT 12/06/01

MET Day 006



EX PKG U/L  
 I-EX PKG U/L

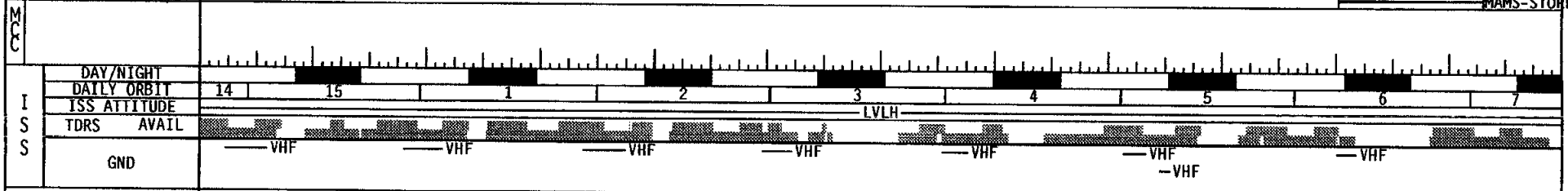
HO ATT  
 MOM MGR  
 EPS-BGA-MODE-CNFG  
 PPS-SA-SUN-TRK

I-HO ATT  
 I-MOM MGR  
 I-EPS-BGA-MODE-CNFG  
 I-PPS-SA-SUN-TRK

EXPRS1-PWR/THERM  
 EXPRS4-PWR/THERM  
 PLSS-POWER  
 SAMS-ICU/D1-OPS  
 DM-HEALTH-&-STATUS  
 SAMS-RTS/D1-OPS  
 BTR-OPERATION  
 MAMS-NOMINAL-OPS  
 SAMS-RTS/D2-OPS  
 DM-MCOR-DUMP-WINDOW  
 MAMS-COMMANDING-5  
 MAMS-STORED-DATA-D/L

EXPRS1  
 EXPRS4  
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 DM-HEA  
 SAMS-F  
 BTR-OF  
 MAMS-N  
 SAMS-F  
 DM-MCC

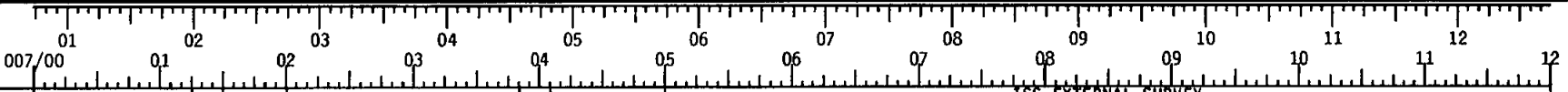
DM-MCOR-DUMP-WINDOW  
 MAMS-COMMANDING-5  
 MAMS-COMMANDING-5  
 MAMS-STOR  
 ED-DAI



NOTES:

# STS-108 (FD08)

GMT 12/07/01  
 FDB 007/00  
 MET Day 007

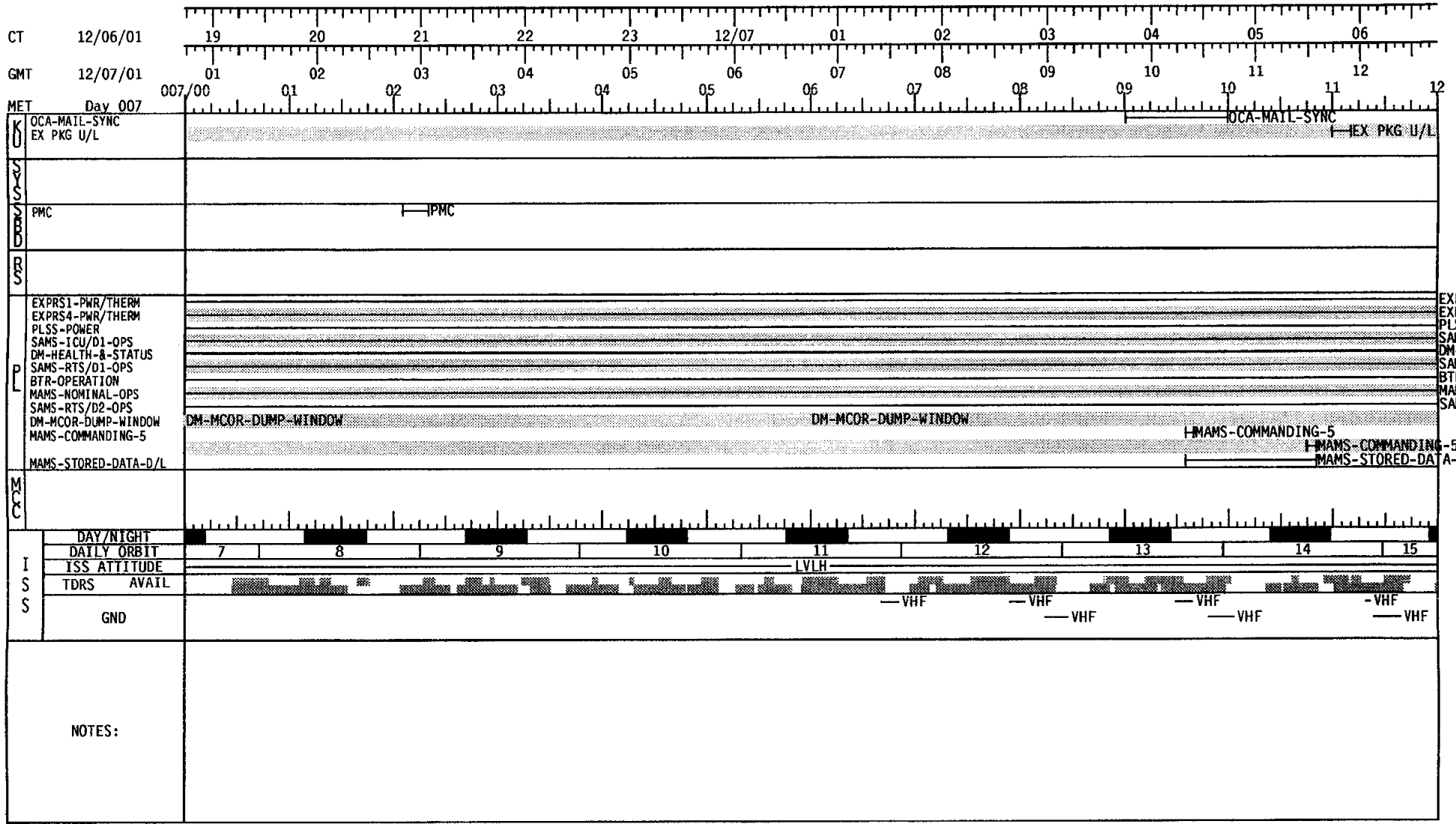


STS-108	CDR GORIE		PFC		PRE SLEEP	PMC OCA	PRE SLEEP	ISS EXTERNAL SURVEY			SLEEP
	PLT/RMS KELLY	ORCA 02 SETUP	02 XFER LOW PRES	02 XFER HIGH PRES	POST XFER 02 RCFG		PRE SLEEP				SLEEP
	MS1/RMS GODWIN	TRANSFER OPS	STS EXERCISE *			XFER CALL	PRE SLEEP				SLEEP
	MS2 TANI	XFER OPS	XFER CLN UP				PRE SLEEP				SLEEP
ISS-3	CULBERTSON	HAND OVER	TRANSFER OPS				PRE SLEEP				SLEEP
	DEZHUROV	LOWER BODY NEG PRESS				PMC	PFC	PRE SLEEP			SLEEP
	TYURIN	LOWER BODY NEG PRESS				PMC	PRE SLEEP	PFC	PRE SLEEP		SLEEP
ISS-4	ONUFRIENKO	HAND OVER	EXERCISE TVIS	PREP RPT		PMC	PLN RVW	DPC	PRE-SLEEP		SLEEP
	WALZ	ORCA 02 SETUP	02 XFER LOW PRES	02 XFER HIGH PRES	POST XFER 02 RCFG		PMC	PLN RVW	DPC	PRE-SLEEP	SLEEP
	BURSCHE	XFER OPS	EXERCISE CEVIS	M D D K	PL STAT CK		PMC	PLN RVW	DPC	PRE-SLEEP	SLEEP
MCC											
DAY/NIGHT											
ORBIT											
DAILY ORBIT											
TDRS											
ORB ATT											
NOTES:											

\*PLB CMR SVS CNFG

BIAS -XLV+ZVV

⊕ NI CBM PREP DEMATE



# STS-108 (FD09)

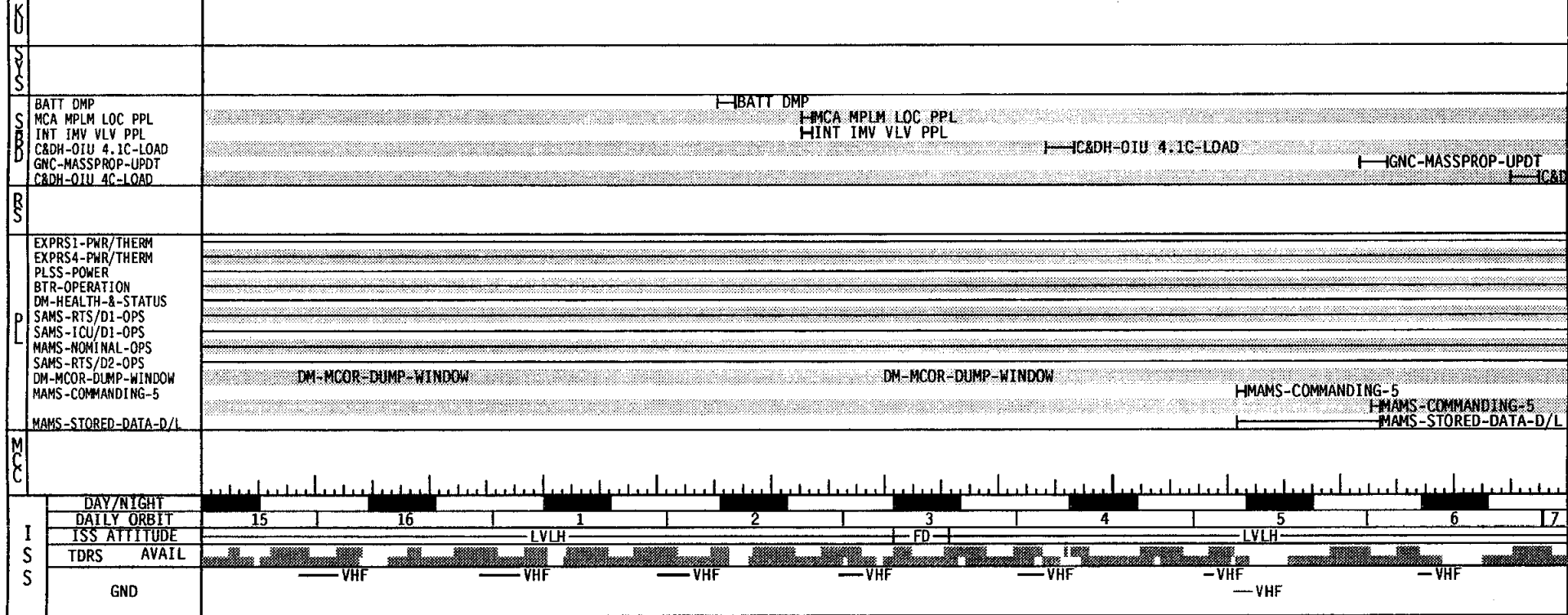
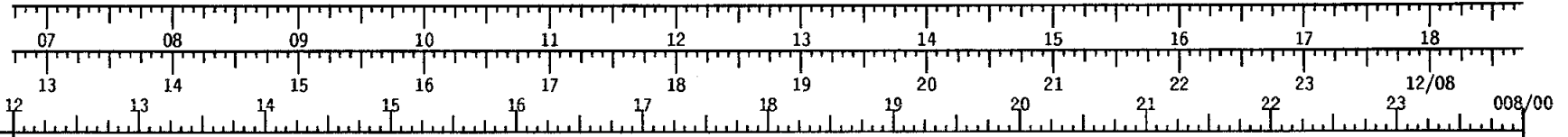
GMT 12/07/01 12 13 14 15 16 17 18 19 20 21 22 23 12/08 008/00  
 MET Day 007

STS-108	CDR GORIE	SLEEP	POST SLEEP		STS EXERCISE	FELTR CLN		P/TV22 S/U RMS	P/TV22 OPS RMS	RNDZ PGSC S/U	MEAL	P/TV22 OPS RMS			
	PLT/RMS KELLY	SLEEP	POST SLEEP		STS EXERCISE	CBTM DAILY OPS		RPMW SUP	GRAPL		MEAL	MPLM U/IN	MPLM BERTH	ROEU*	
	MS1/RMS GODWIN	SLEEP	POST SLEEP		MPELW M	MPLM XFER CLOSE OUT	XCFALRL	MDDK TRANSFER OPS	MSTU	STS EXERCISE	RPMW SUP	GRAPL	MPLM U/IN	MPLM BERTH	ROEU*
	MS2 TANI	SLEEP	POST SLEEP		TRANSFER OPS	MEPLRMS	MPELACT	VEST DEMATE CONFIG	STIAO	STS EXERCISE	MDDK TRANSFER OPS	RNDZ PGSC S/U	MEAL	MDDK XFER OPS	
ISS-3	CULBERTSON	SLEEP	POST SLEEP		HANDOVER		EXERCISE TVIS	VEST DEPRESS	CBCS S/U & C/O	HANDOVER	MEAL	HANDOVER			
	DEZHUROV	SLEEP	POST SLEEP		TRANSFER OPS		LOWER BODY NEG PRESS		STS EXERCISE		MDDK	MEAL	HAND OVER		
	TYURIN	SLEEP	POST SLEEP		RACK CNFG ENTRY		LOWER BODY NEG PRESS		HANDOVER	N1 NDR CBM DEMATE		MEAL	ISS EXERCISE TVIS		
ISS-4	ONUFRLENKO	SLEEP	POST-SLEEP	DPC	PREP WORK	HANDOVER	MDDK TRANSFER OPS	EXERCISE RED	VEST DEPRESS	CBCS S/U & C/O	HANDOVER	MEAL	HANDOVER		
	WALZ	SLEEP	POST-SLEEP	DPC	MPLM XFER OPS	RACK CNFG ENTRY	PLSTAT CK	MDDK TRANSFER OPS	EXERCISE RED	N1 NDR CBM DEMATE		MEAL	HAND OVER		
	BURSCHE	SLEEP	POST-SLEEP	DPC	PREP WORK	TRANSFER OPS	MEPLRMS	MPELACT	VEST DEMATE CONFIG	EXERCISE CEVIS	HANDOVER	MDDK TRANSFER OPS	MEAL	MDDK XFER	
MCC	DPC														
DAY/NIGHT	ORBIT														
DAILY ORBIT	119	120	121	122	123	124	125	126							
TDRS	15	1	2	3	4	5	6	7							
ORB ATT	E W														
NOTES:	BIAS -XLV+ZVV @SURVEY *Init *RMSHTR *700-14 *C&DH-01U 4.1C-LOAD *MPLM HATCH CLOSED @C&DH-01U 4 *MATE														

CT 12/07/01

GMT 12/07/01

MET Day 007



EXPRS1  
EXPRS4  
PLSS-F  
BTR-OF  
DM-HEA  
SAMS-F  
SAMS-I  
MAMS-A  
SAMS-F

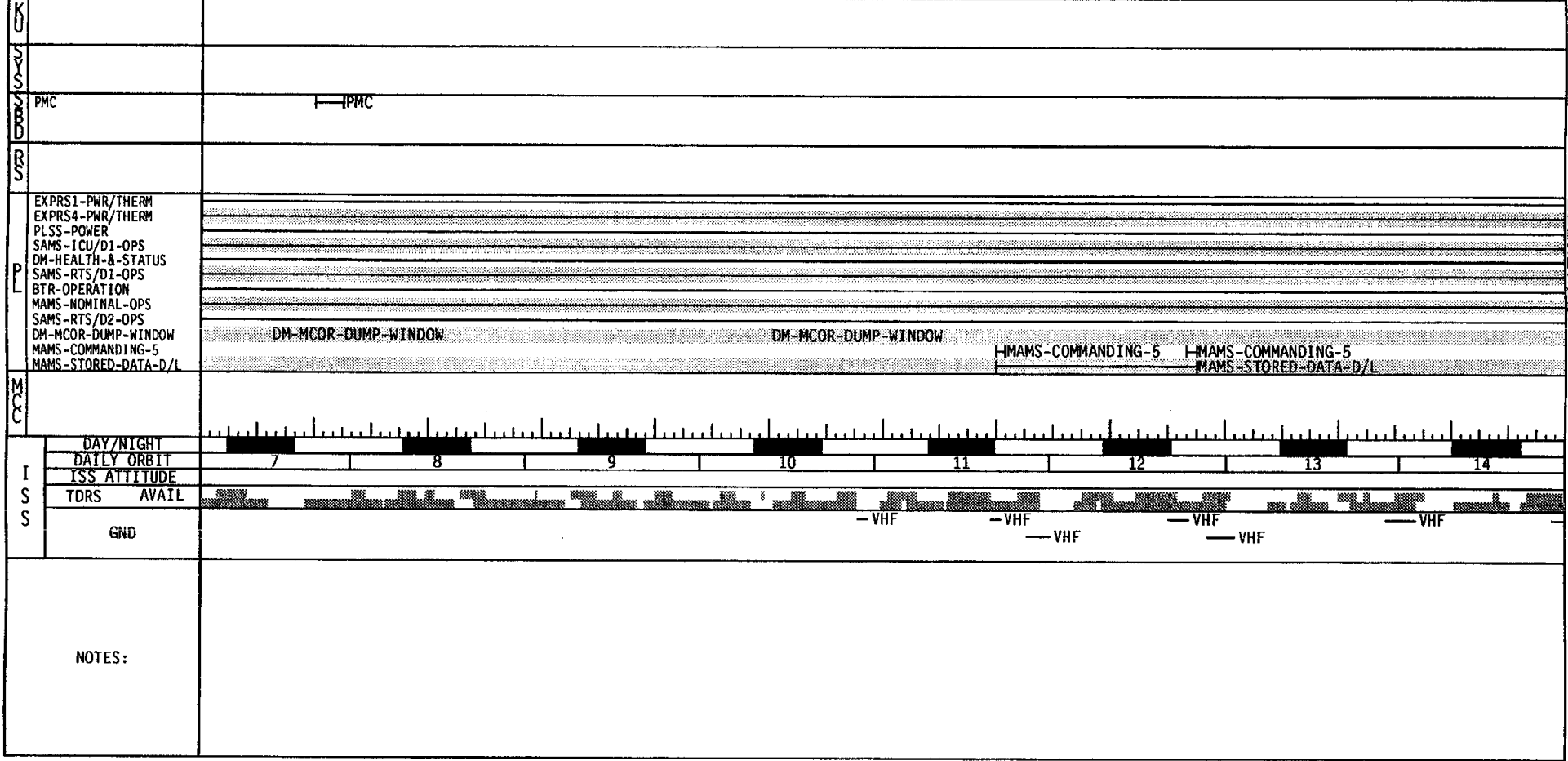
NOTES:

# STS-108 (FD09)

GMT 12/08/01 01 02 03 04 05 06 07 08 09 10 11 12  
 FD9 Day 008 008/00 01 02 03 04 05 06 07 08 09 10 11 12  
 MET

		ISS EXTERNAL SURVEY																	
STS-108	CDR GORIE	UNDOCK TAGUP	PRE SLEEP	PMC OCA	PRE SLEEP	SLEEP													
	PLT/RMS KELLY	UNDOCK TAGUP	PRE SLEEP	FES*	PRE SLEEP	SLEEP													
	MS1/RMS GODWIN	UNDOCK TAGUP	XFER CALL ⊕		PRE SLEEP	SLEEP													
	MS2 TANI	UNDOCK TAGUP			PRE SLEEP	SLEEP													
ISS-3	CULBERTSON	UNDOCK TAGUP			PRE SLEEP	SLEEP													
	DEZHUROV	HAND OVER	UNDOCK TAGUP	PMC	PRE SLEEP	SLEEP													
	TYURIN	ISS EXERCISE TVIS	UNDOCK TAGUP	PMC	PRE SLEEP	SLEEP													
ISS-4	ONUFRIENKO	PREP RPT	UNDOCK TAGUP	PMC	PLN RVW	DPC	PRE-SLEEP	SLEEP											
	WALZ	HAND OVER	UNDOCK TAGUP	PMC	PLN RVW	DPC	PRE-SLEEP	SLEEP											
	BURSCH	PL STAT CK	UNDOCK TAGUP	PMC	PLN RVW	DPC	PRE-SLEEP	SLEEP											
MCC		MPLM																	
DAY/NIGHT		[Day/Night Cycle]																	
ORBIT		127	128	129	130	131	132	133	134										
DAILY ORBIT		8	9	10	11	12	13	14	15										
TDRS		[TDRS Schedule]																	
ORB ATT		[Orbit Attitude]																	
NOTES:		*P/TV22 OPS RMS      ⊕PLB CMR SVS CNFG      *HTR OFF *MDDK XFER      *Term *HTR ON      BIAS -XLV+ZVV																	

CT 12/07/01 19 20 21 22 23 12/08 01 02 03 04 05 06  
 GMT 12/08/01 01 02 03 04 05 06 07 08 09 10 11 12  
 MET Day 008 008/00 01 02 03 04 05 06 07 08 09 10 11 12



EXPRS1  
 EXPRS4  
 PLSS-F  
 SAMS-I  
 DM-HEA  
 SAMS-F  
 BTR-OF  
 MAMS-M  
 SAMS-F



**STS-108 (FD10)**

GMT 12/08/01 12 13 14 15 16 17 18 19 20 21 22 23 12/09 009/00  
 MET Day 008

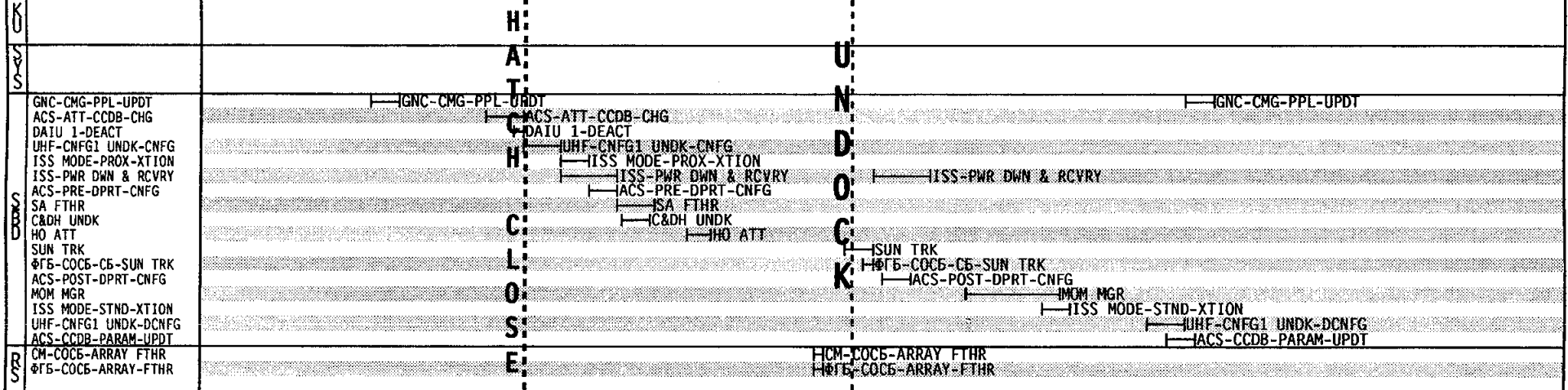
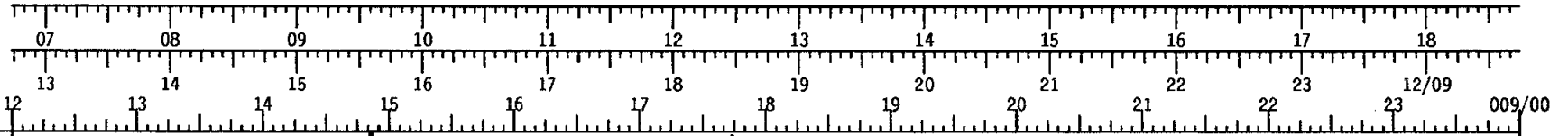
STS-108	CDR GORIE	POST SLEEP		EGRS HATCH CLS	ODS VEST LEAK CHECK	GP R P/B	H A U T R K	UNDOCK	FLYAROUND	CT DND	+YVY MNRV	SIMO DMP INIT	MEAL	DMP TRM	CONDENSATE CWC DUMP	-ZLV	STS EXERCISE	PO AP OPT Y
	PLT KELLY	POST SLEEP		02 REPRS	AI OI PL F CL F MU 2M	AP C U 2	CBTM DAILY OPS	P/TV19 C/L CMR	UNDOCK	FLYAROUND	S D G P SER / O A P R C T B	STS EXERCISE	MEAL	OFF DUTY			PO AP OPT Y	
	MS1 GODWIN	POST SLEEP		FC O I L U NOT AS LE	XFER CALL	EGRS HATCH CLS	ODS VEST LEAK CHECK	IS HL AUD B/O	P/TV20 OPS DK/UNDK	C/L CMR RMV	VTR P/B	MEAL	POST EVA ENT PREP	OFF DUTY		P/TV 02 S/U	PO AP OPT Y	
	MS2 TANI	POST SLEEP	POST SLEEP	P/TV 20 S/U	RNDZ POSC S/U	RNDZ TOOLS C/O	EMU INSTL	A D F	P/TV20 OPS DK/UNDK	VDS R D/R	VTR ACT	MEAL	POST EVA ENT PREP	STS EXERCISE	OFF DUTY		PO AP OPT Y	
ISS-3	CULBERTSON	POST SLEEP		HIC AIL TO CS HE		M D D K	STS EXERCISE	UNDOCK *	FLYAROUND		MEAL	STS EXERCISE	A D D K	OFF DUTY		PO AP OPT Y		
	DEZHUROV	POST SLEEP		STS EXERCISE				UNDOCK	FLYAROUND		STS EXERCISE	MEAL	OFF DUTY			PO AP OPT Y		
	TYURIN	POST SLEEP		STS EXERCISE				P/TV20 OPS DK/UNDK			MEAL	OFF DUTY	STS EXERCISE	OFF DUTY		PO AP OPT Y		
ISS-4	ONUFRIENKO	SLEEP	POST-SLEEP	DPC	PREP WORK			PMA2 DEPART					EXERCISE CEVIS					
	WALZ	SLEEP	POST-SLEEP	DPC	PREP WORK						EXERCISE RED							
	BURSCH	SLEEP	POST-SLEEP	DPC	PREP WORK	EGRS HATCH CLS					EXERCISE CEVIS							
MCC	DPC			MPLM														
DAY/NIGHT	DPC			MPLM														
ORBIT	134	135	136	137	138	139	140	141	142									
DAILY ORBIT	15	1	2	3	4	5	6	7	8									
TDRS	E W																	
ISS ATT	BIAS -XLV+ZVV *HTR ON																	
NOTES:	*INCR-COMM CNFG 1-VFY @SA FTHR *HO ATT *700-14																	
	*PT.A *HTR OFF																	

\*8/17:48

CT 12/08/01

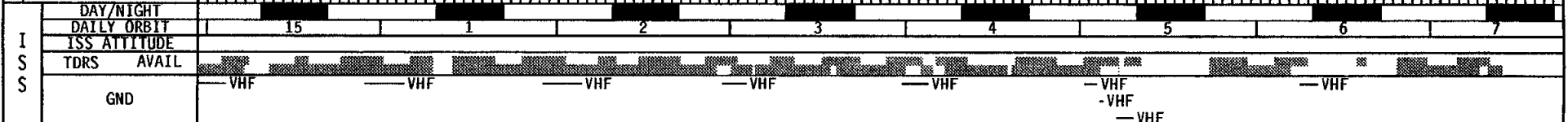
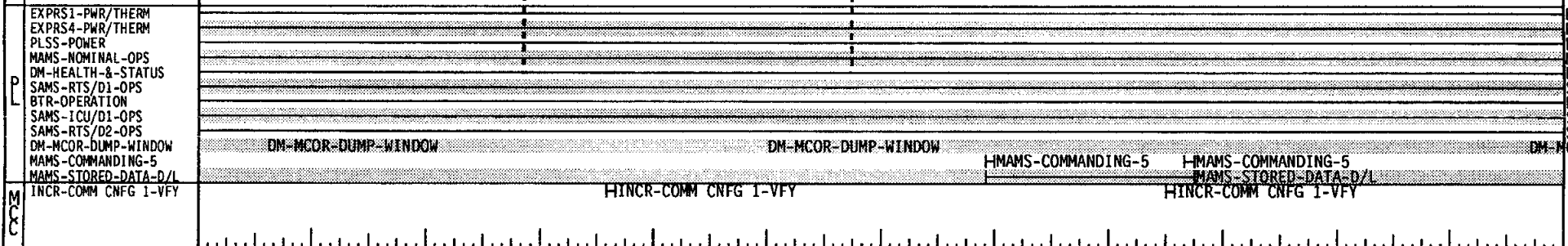
GMT 12/08/01

MET Day 008



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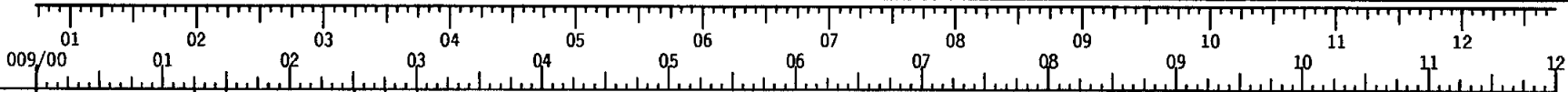


NOTES:

EXPRS1  
EXPRS4  
PLSS-F  
MAMS-A  
DM-HEA  
SAMS-F  
BTR-OF  
SAMS-I  
SAMS-F  
COR-DL

# STS-108 (FD10)

GMT 12/09/01  
 FD10  
 MET Day 009



STS-108	CDR	PRE SLEEP	PMC OCA	PRE SLEEP	P S R D	M N R R	F M R R	SLEEP	-ZLV Δ -YVV POST SLEEP
	GORIE								
	PLT	PRE SLEEP						SLEEP	POST SLEEP
	KELLY								
	MS1	PRE SLEEP						SLEEP	POST SLEEP
	GODWIN								
	MS2	PRE SLEEP						SLEEP	POST SLEEP
	TANI								
CULBERTSON	PRE SLEEP						SLEEP	POST SLEEP	
DEZHUROV	PRE SLEEP						SLEEP	POST SLEEP	
TYURIN	PRE SLEEP						SLEEP	POST SLEEP	

MCC	[Timeline bar]									
DAY/NIGHT	[Timeline bar]									
ORBIT	142	143	144	145	146	147	148	149	150	
TDRS	[Timeline bar]									
ORB ATT	[Timeline bar]									
COLLIDE	[Timeline bar]									
CAPL	[Timeline bar]									
NOTES:	[Timeline bar]									

# STS-108 (FD11)

GMT	12/09/01	13	14	15	16	17	18	19	20	21	22	23	12/10	010/00								
FD11	Day 009	12	13	14	15	16	17	18	19	20	21	22	23									
MET																						
STS-108	GORIE	CDR	POST SLEEP	POST SLEEP	PILOT	FCS C/O	HFOI TREP	DPLY MNVRE	SS THAI RNE	-Z YLV	CABIN STOW	D/O BRIEF	CABIN STOW	MEAL	PO AP OP TY	CABIN STOW	OFF DUTY	STS EXERCISE				
	KELLY	PLT	POST SLEEP	POST SLEEP	PILOT	FCS C/O	HFOI TREP	FRP M/S D*			CABIN STOW	D/O BRIEF	CABIN STOW	P/TV 02 S/U	MEAL	PSE N TUT V O S	STS EXERCISE	OFF DUTY	CBTM DAILY OPS			
	GODWIN	MS1	POST SLEEP		CABIN STOW	LAUNCH ENTRY SUIT CK	AP/TV 08 S/U *				CABIN STOW	D/O BRIEF	L-1 COM M	GAS GRP 5	PB SAC SIT U	MEAL	L-1 COM M	MEAL	SD S/ VA *	RECUMB SEAT S/U	L-1 COM M	OFF DUTY
	TANI	MS2	POST SLEEP		PILOT	FCS C/O	HFOI TREP	STAR SHINE			CABIN STOW	D/O BRIEF	CABIN STOW	MEAL	OFF DUTY	STS EXERCISE	DTO 700-14 OPS TEST2	SIGI ENTRY CFG	DTO 700-14 ENTRY			
	CULBERTSON		POST SLEEP	STS EXERCISE	MDDK	LAUNCH ENTRY SUIT CK					CABIN STOW	D/O BRIEF	CABIN STOW	MEAL	PO AP OP TY	OFF DUTY	STS EXERCISE	OFF DUTY	PGSC STOW PT.1	MDDK		
	DEZHUROV		POST SLEEP		CABIN STOW	LAUNCH ENTRY SUIT CK					STS EXERCISE	D/O BRIEF	CABIN STOW	MEAL	PO AP OP TY	RECUMB SEAT S/U	OFF DUTY					
	TYURIN		POST SLEEP	STS EXERCISE		LAUNCH ENTRY SUIT CK					CABIN STOW	D/O BRIEF	CABIN STOW	MEAL	PO AP OP TY	OFF DUTY	STS EXERCISE	OFF DUTY				
MCC				MPLM																		
DAY/NIGHT																						
ORBIT		150	151	152	153	154	155	156	157	158												
TDRS	E W																					
ORB ATT																						
COLLIDE																						
CAPL																						
NOTES:		*APU HTR ACT *HTR ON				*MPM STOW *PT.B *STARSHINE					*P/TV06		*HTR OFF									

# STS-108 (FD11)

GMT 12/10/01 01 02 03 04 05 06 07 08 09 10 11 12  
 FD11 MET Day 010 010/00 01 02 03 04 05 06 07 08 09 10 11 12

STS-108	CDR	PRE SLEEP	PMC A/G	PRE SLEEP	SLEEP	POST SLEEP		
	GORIE							
	PLT	ERGO METER STOW		PRE SLEEP	SLEEP	POST SLEEP		
	KELLY							
	MS1	PS PRE SLEEP	KU STOW	PRE SLEEP	L-1 COMM	PRE SLEEP	SLEEP	POST SLEEP
	GODWIN							
	MS2	OSCABD	KU STOW	PRE SLEEP	SLEEP	POST SLEEP		
	TANI							
CULBERTSON			PRE SLEEP	SLEEP	POST SLEEP			
DEZHUROV	ERGO METER STOW		PRE SLEEP	SLEEP	POST SLEEP			
TYURIN			PRE SLEEP	SLEEP	POST SLEEP			
MCC	DAY/NIGHT							
ORBIT	158 159 160 161 162 163 164 165							
TDRS	E W							
ORB ATT	-ZLV -YVV-							
COLLIDE								
CAPL								
NOTES:								

# STS-108 (FD12)

GMT 12/10/01 12 13 14 15 16 17 18 19 20 21 22 23 12/11 011/00  
 FD12 MET Day 010

STS-108	CDR GORIE	POST SLEEP	M P L P M C M A /G	POST SLEEP	O D A I E U A C T I O N P /U	GRP B P /U	IMU & VERIF	- M X N S V I R	DEORBIT PREP	D E O R B I T B U R N *	K S C L A N D I N G *		
	PLT KELLY	POST SLEEP		POST SLEEP			IMU & VERIF		DEORBIT PREP				
	MS1 GODWIN	POST SLEEP			T D M E E P A C C H T I	D M A /C A P A C H T I	U P R /I T I N E	M S U T F O L W R	O S T I A O C W			G S T I R O A W	DEORBIT PREP
	MS2 TANI	POST SLEEP			A I D D F L E R	A I D D F L E R	O S T I A O W	P S T I O N I N T E R	P G S C S T O W P T. 2			H 2 O C F G	DEORBIT PREP
	CULBERTSON	POST SLEEP											
	DEZHUROV	POST SLEEP											
	TYURIN	POST SLEEP											
	MCC	DAY/NIGHT	[Timeline bar with alternating black and white segments]										
ORBIT		166 167 168 169 170 171 172 173											
TDRS	E W	[Timeline bar with horizontal lines and dots]											
ORB ATT		-ZLV -YVV IMU -XSI COMM ENTRY											
COLLIDE													
CAPL													
NOTES:		*FC PURGE *HTR ON								*D/O BURN 10/18:56		*KSC LAND 10/19:57	

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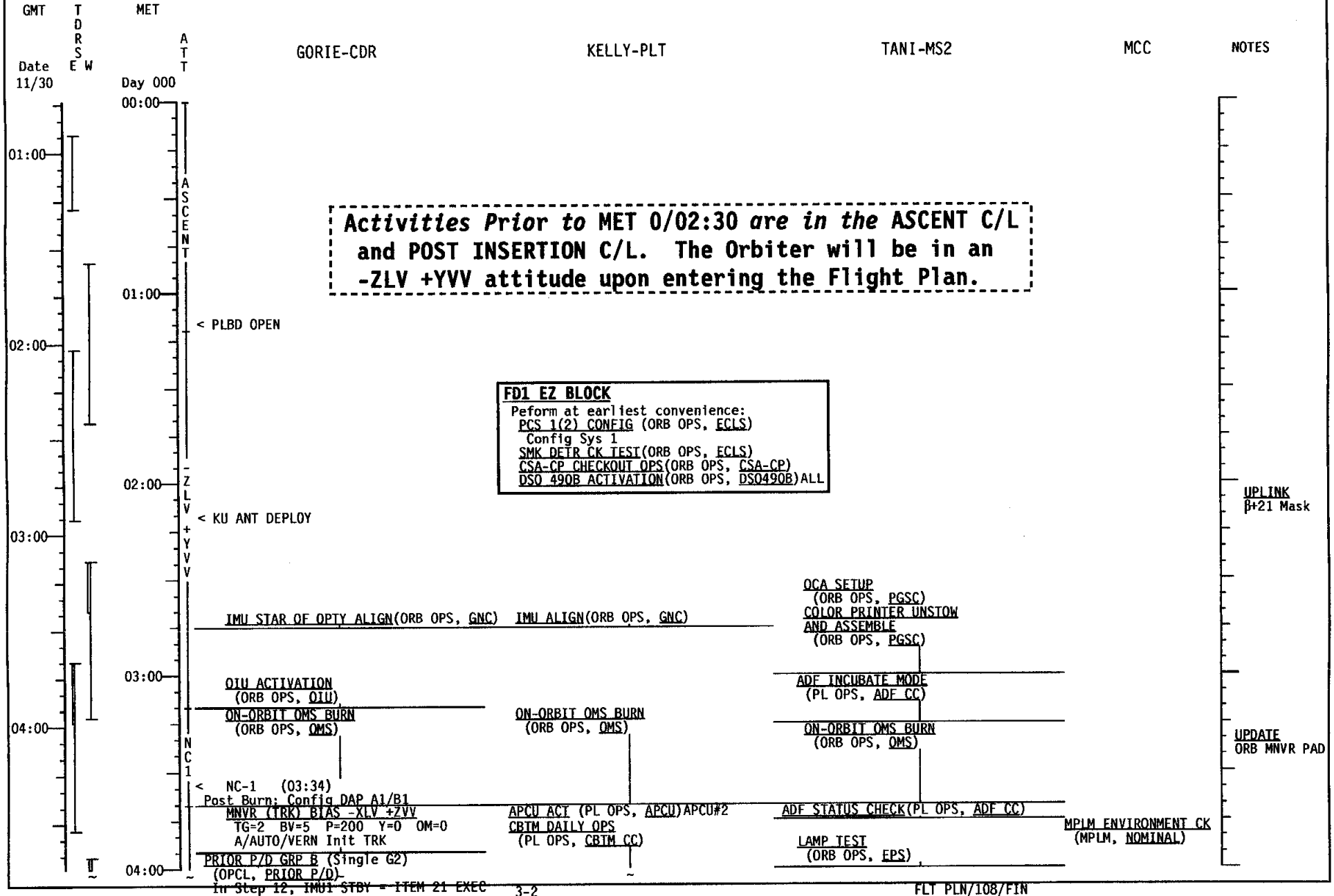
DETAILED TIMELINE

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TIMELINE



# DETAILED TIMELINE

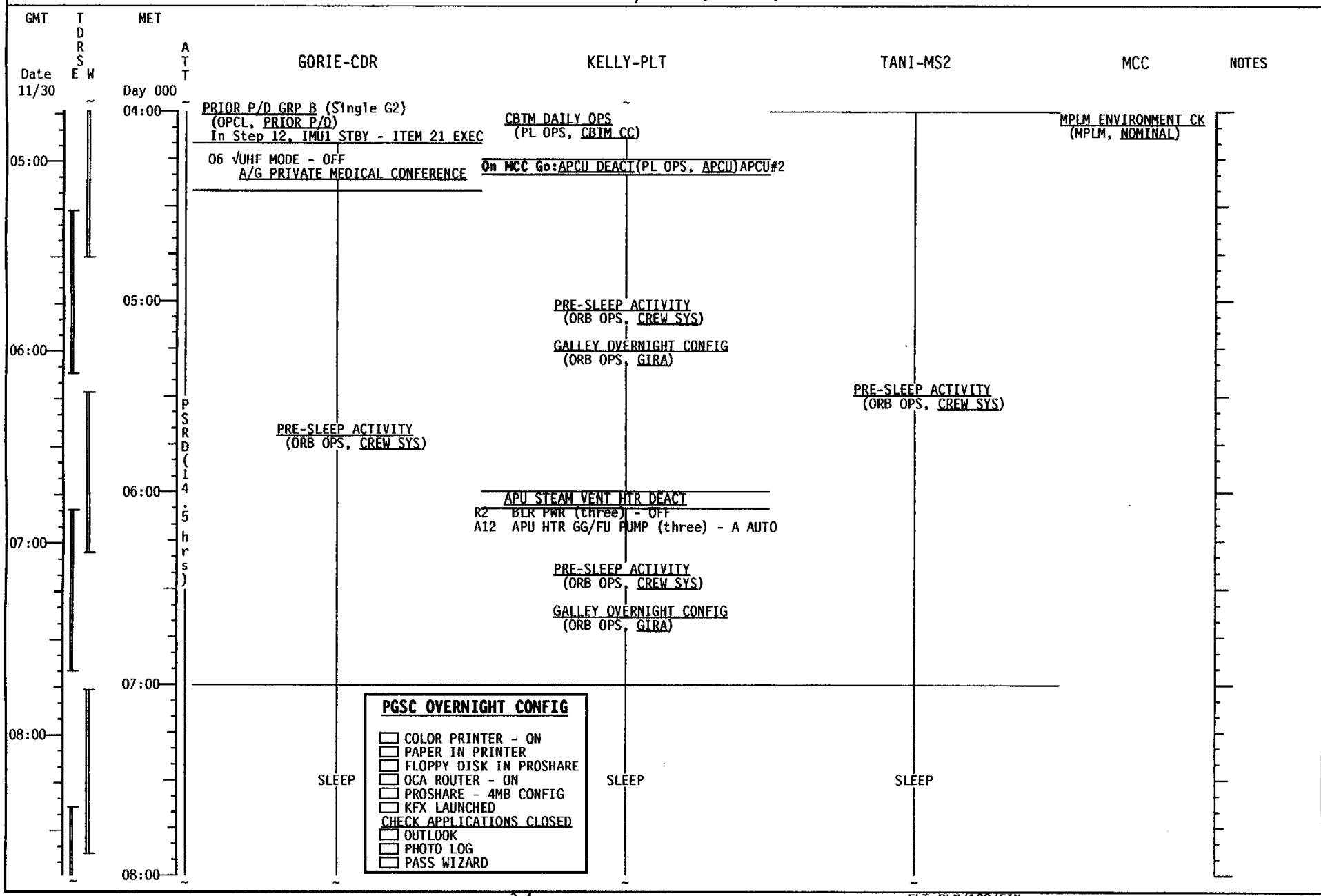
## STS-108/UF1 (FD 01)



STS-108/UF1 (FD 01)

GMT	MET	GODWIN-MS1	ONUFRIENKO	WALZ	BURSCH	NOTES
Date 11/30	Day 000					
00:00	00:00					
01:00						
02:00						
03:00						
04:00						
		GIRA INSTALLATION (ORB OPS, GIRA)		OCA SETUP (ORB OPS, PGSC) COLOR PRINTER UNSTOW AND ASSEMBLE (ORB OPS, PGSC)	OCA SETUP (ORB OPS, PGSC) COLOR PRINTER UNSTOW AND ASSEMBLE (ORB OPS, PGSC)	
				MAGR UNSTOW(ORB OPS, GPS)Steps 1-3	CBTM MUFFLER INSTALL	
		MACH-1 ACTIVATION (PL OPS, MACH-1)			SHUTTLE EMER EYEWASH (SEE) Unstow, attach on or near container(s) and attach near experiment location	
		ON-ORBIT INIT (PDRS, ON-ORBIT INIT)	MDDK ASCENT STATUS CHECKS (PL OPS, STATUS CHECKS)		ON-ORBIT INIT (PDRS, ON-ORBIT INIT)	

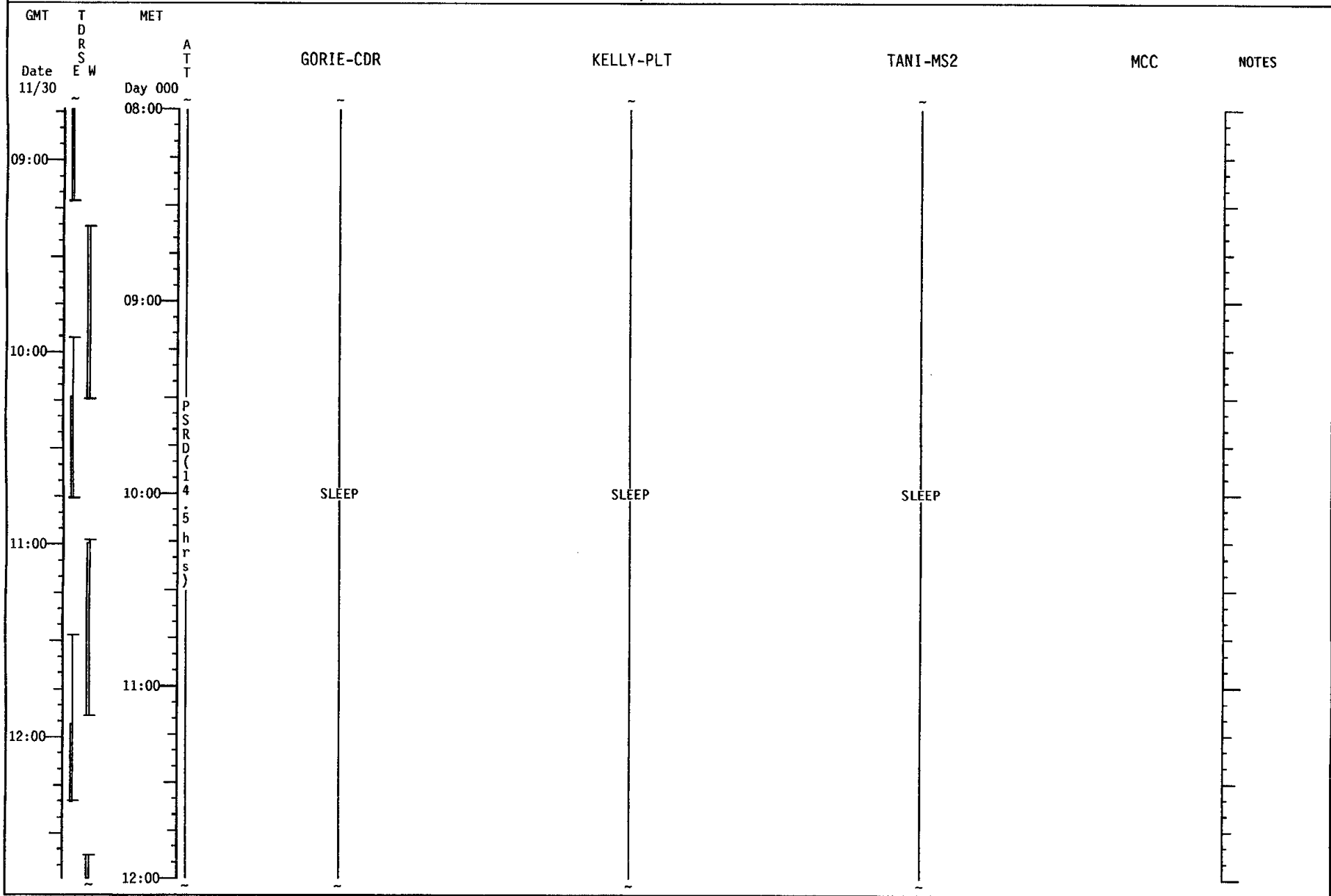
# STS-108/UF1 (FD 01)



STS-108/UF1 (FD 01)

GMT	MET	GODWIN-MS1	ONUFRIENKO	WALZ	BURSCH	NOTES
Date 11/30	Day 000					
04:00	04:00					
05:00			[A] STBD#2 Ingest Potassium Citrate/Placebo tablets (2) During Meal			
06:00		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) √HUM SEP for H2O accumulation	PRE-SLEEP ACTIVITY [A] (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (ORB OPS, CREW SYS)	
07:00						
08:00		SLEEP	SLEEP	SLEEP	SLEEP	
08:00						

# STS-108/UF1 (FD 01)

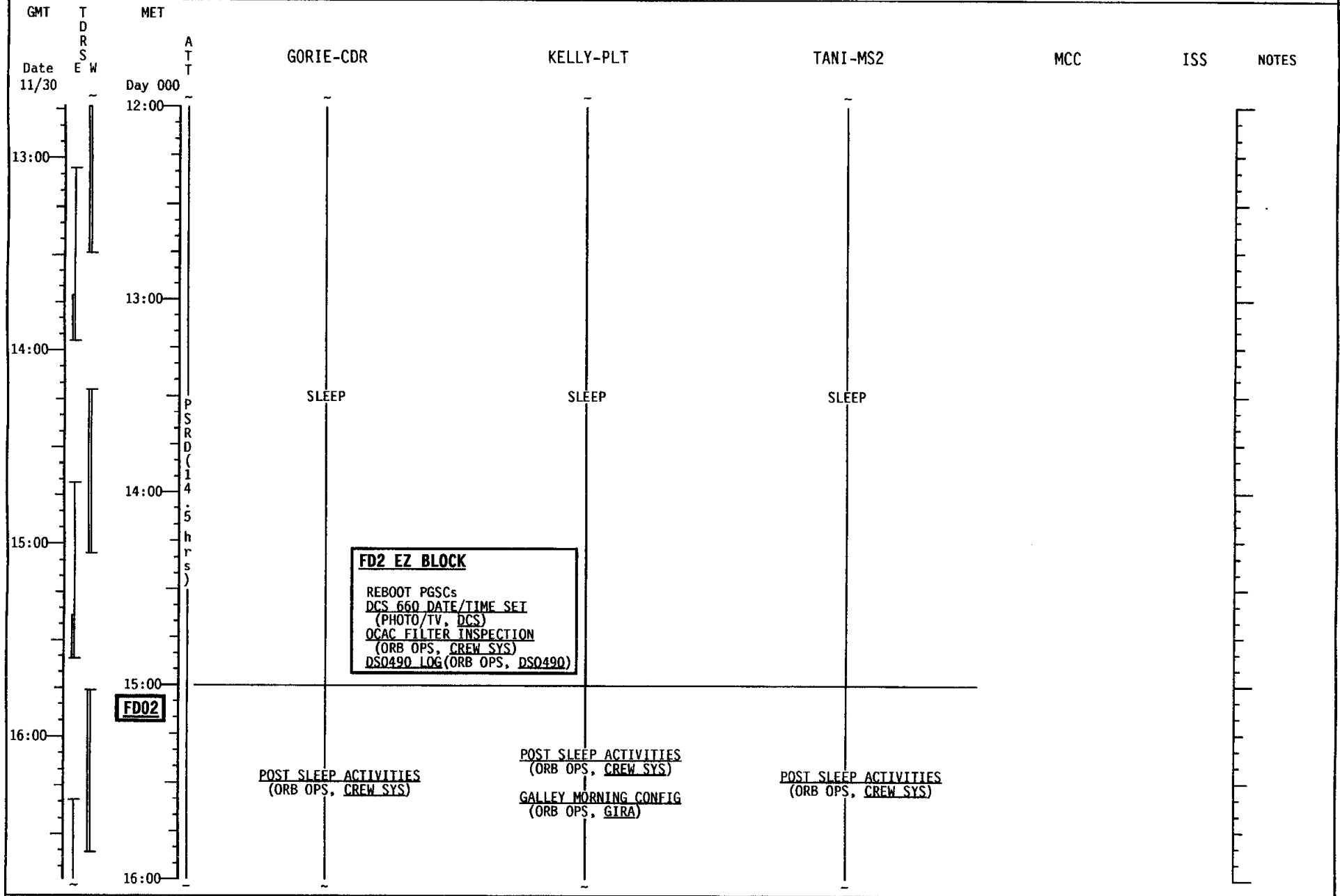


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STS-108/UF1 (FD 01)

GMT	MET	GODWIN-MS1	ONUFRLENKO	WALZ	BURSCH	NOTES
Date 11/30	Day 000					
08:00	08:00					
09:00						
10:00	09:00					
11:00	10:00	SLEEP	SLEEP	SLEEP	SLEEP	
12:00	11:00					
	12:00					

# STS-108/UF1 (FD 02)



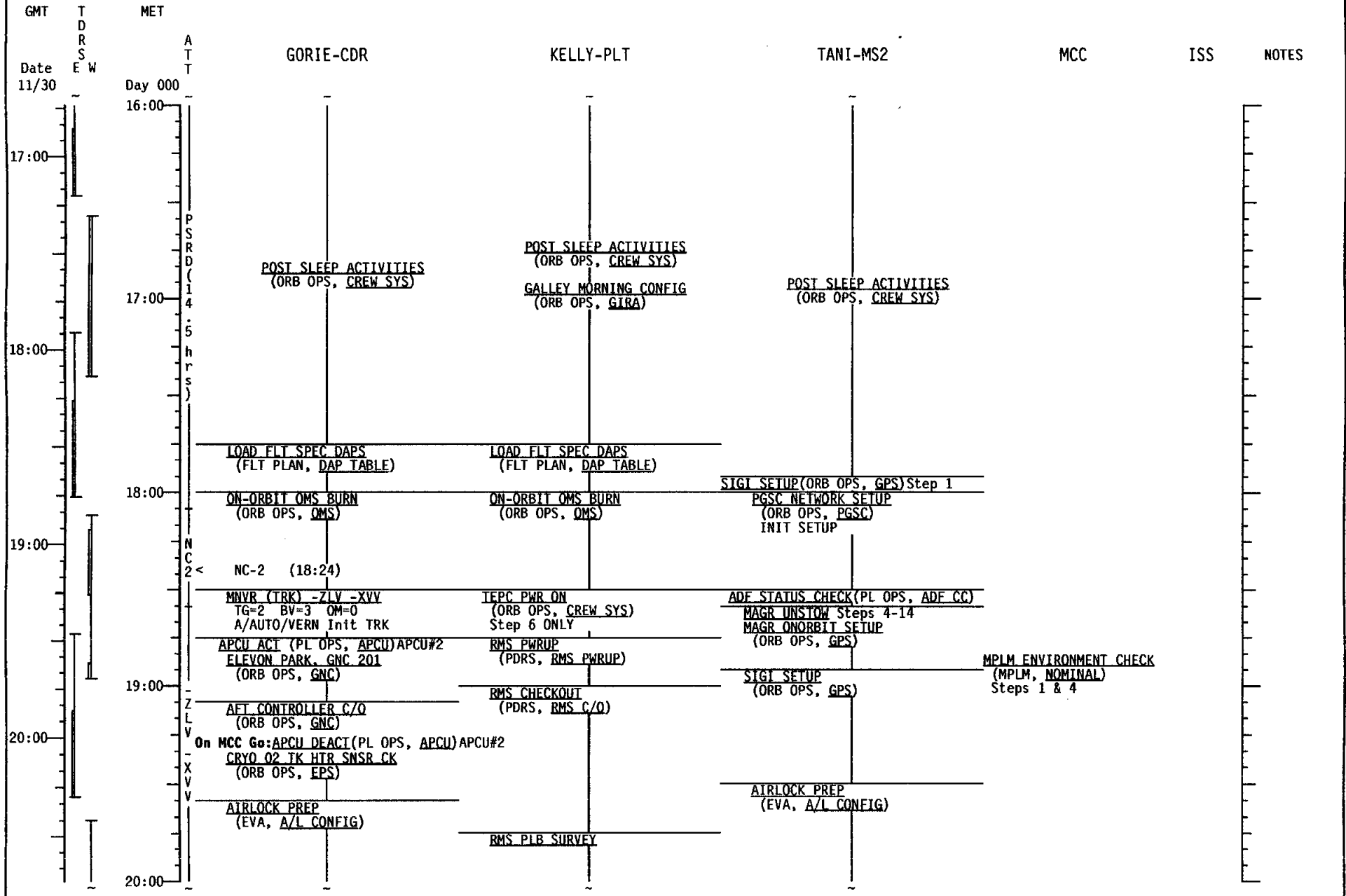
# STS-108/UF1 (FD 02)

GMT	MET	GODWIN-MS1	ONUFRIENKO	WALZ	BURSCH	NOTES
Date 11/30	Day 000					
12:00	12:00					
13:00						
	13:00					
14:00		SLEEP	SLEEP	SLEEP	SLEEP	
	14:00					
15:00						
	15:00					
16:00		<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	
	16:00					

FD02



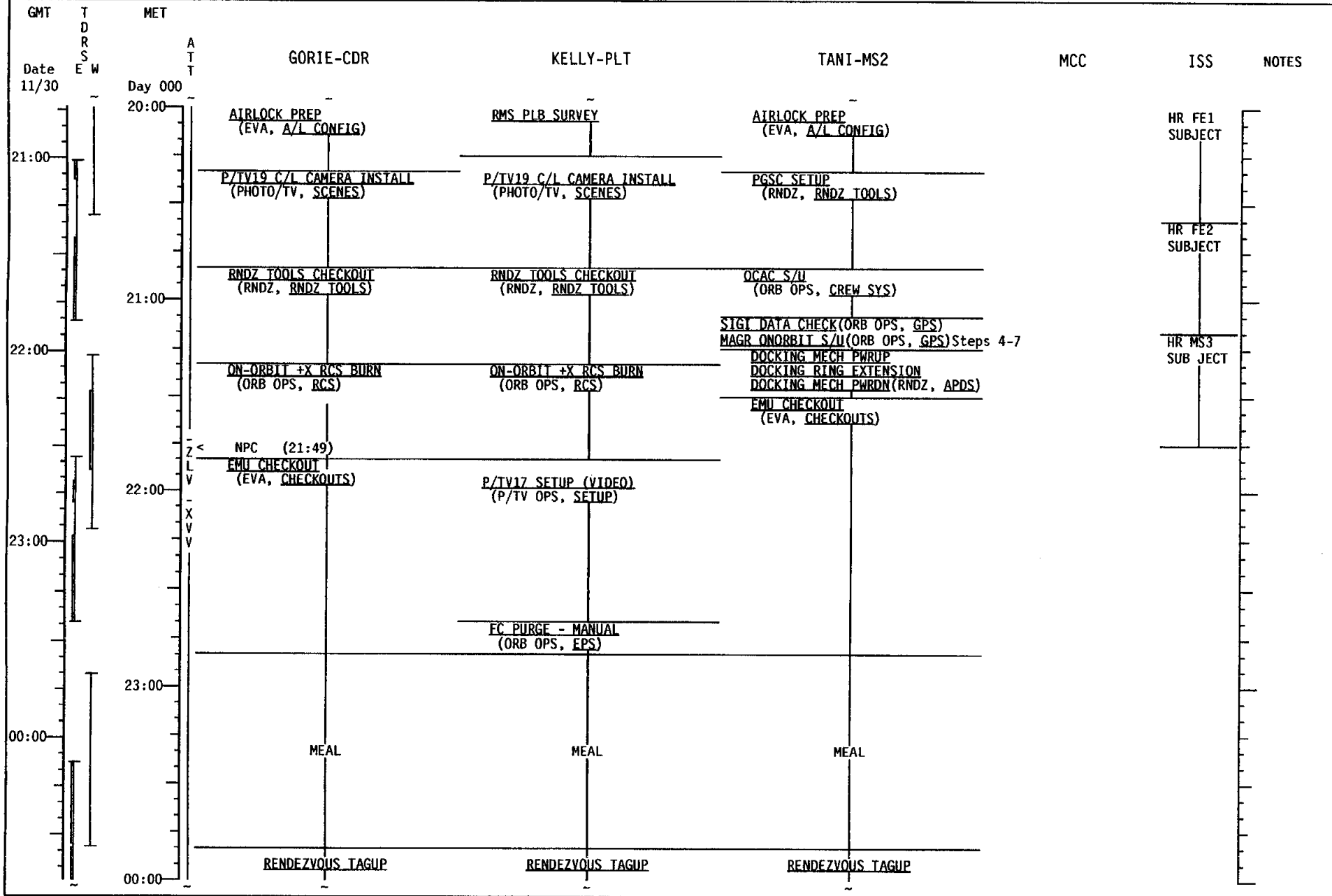
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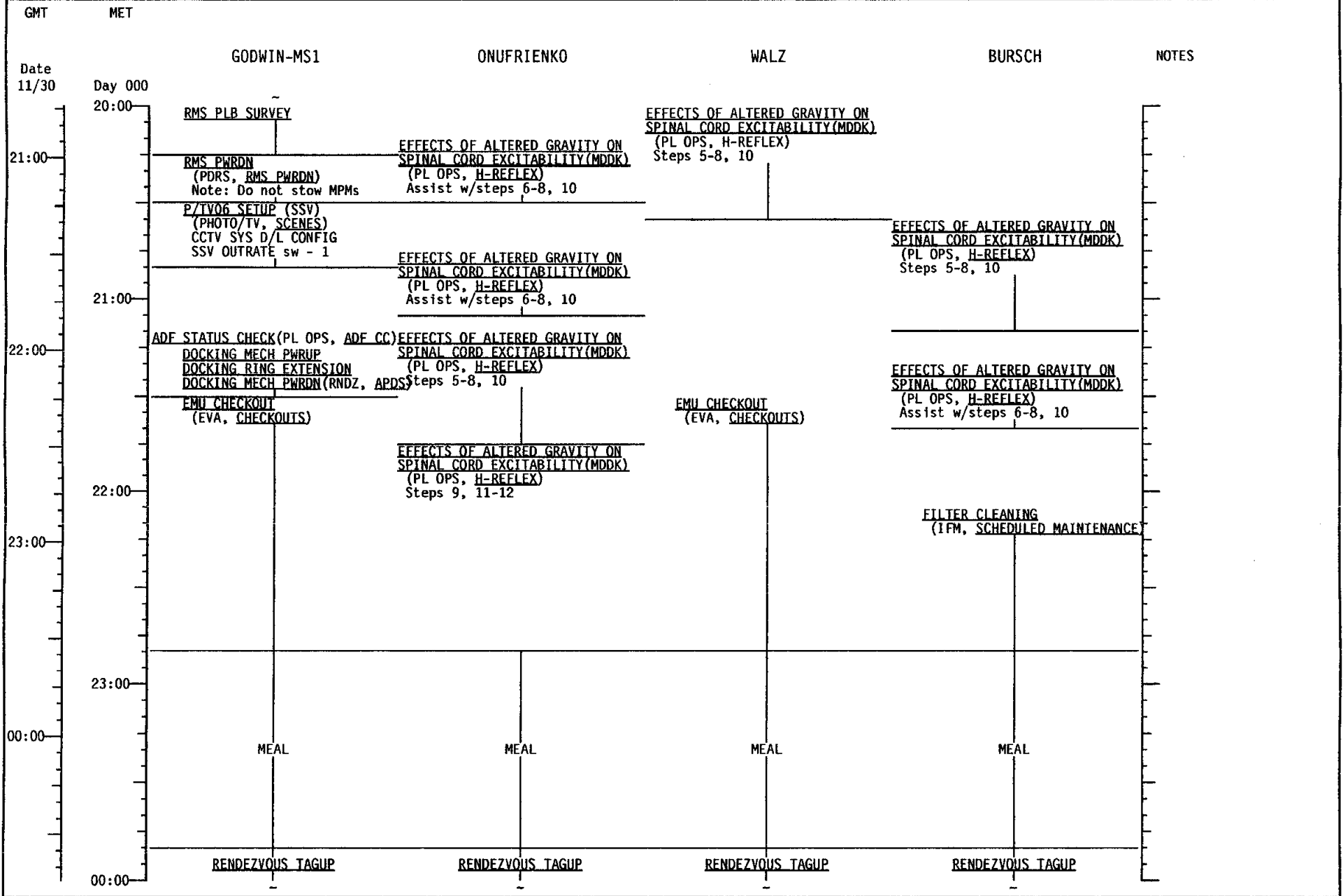
# STS-108/UF1 (FD 02)

GMT	MET	GODWIN-MS1	ONUFRIENKO	WALZ	BURSCH	NOTES
Date	11/30					
	Day 000					
16:00						
17:00		POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	
18:00		ABL PORT RMS HTR(two) - AUTO L17 Check MCIU Filter Screen L12 MPLM CH1 HTR PWR - ON MPLM CH2 HTR PWR - ON	CYCLE ERGOMETER OPS (ORB OPS, CREW SYS) ERGOMETER SETUP	SHUTTLE/ISS H2O CNTR FILL (ORB OPS, ECLS) Perform EQUIP PREP and TEE/HOSE PURGE	CYCLE ERGOMETER OPS (ORB OPS, CREW SYS) ERGOMETER SETUP	
19:00		DOCKING MECH INIT(RNDZ, APDS) PGSC HARDDISK UPDATE (ORB OPS, PGSC)		Do Not Perform CWC FILL #1	SHUTTLE PCS SETUP (JOINT OPS, COMM/DATA)	
		PGSC/BIA SETUP (PL OPS, GAS)				
		GAS/COLLIDE GROUP (PL OPS, GAS) GROUP 1				
19:00		RMS CHECKOUT (PDRS, RMS C/Q)		GIRA H2O SAMPLE (ORB OPS, GALLEY IODINE RMVL) PGSC SETUP (RNDZ, RNDZ TOOLS)	VTR ACTIVATION (CUE CARD, PLBK) Ascent	
20:00			EFFECTS OF ALTERED GRAVITY ON SPINAL CORD EXCITABILITY(MDDK) (PL OPS, H-REFLEX) Steps 1-4		PLAYBACK (CUE CARD, PLBK) KU avail 19:20 - 19:35	
		RMS PLB SURVEY		MDDK ASCENT STATUS CHECKS (PL OPS, STATUS CHECKS) Step 1-2		
20:00						

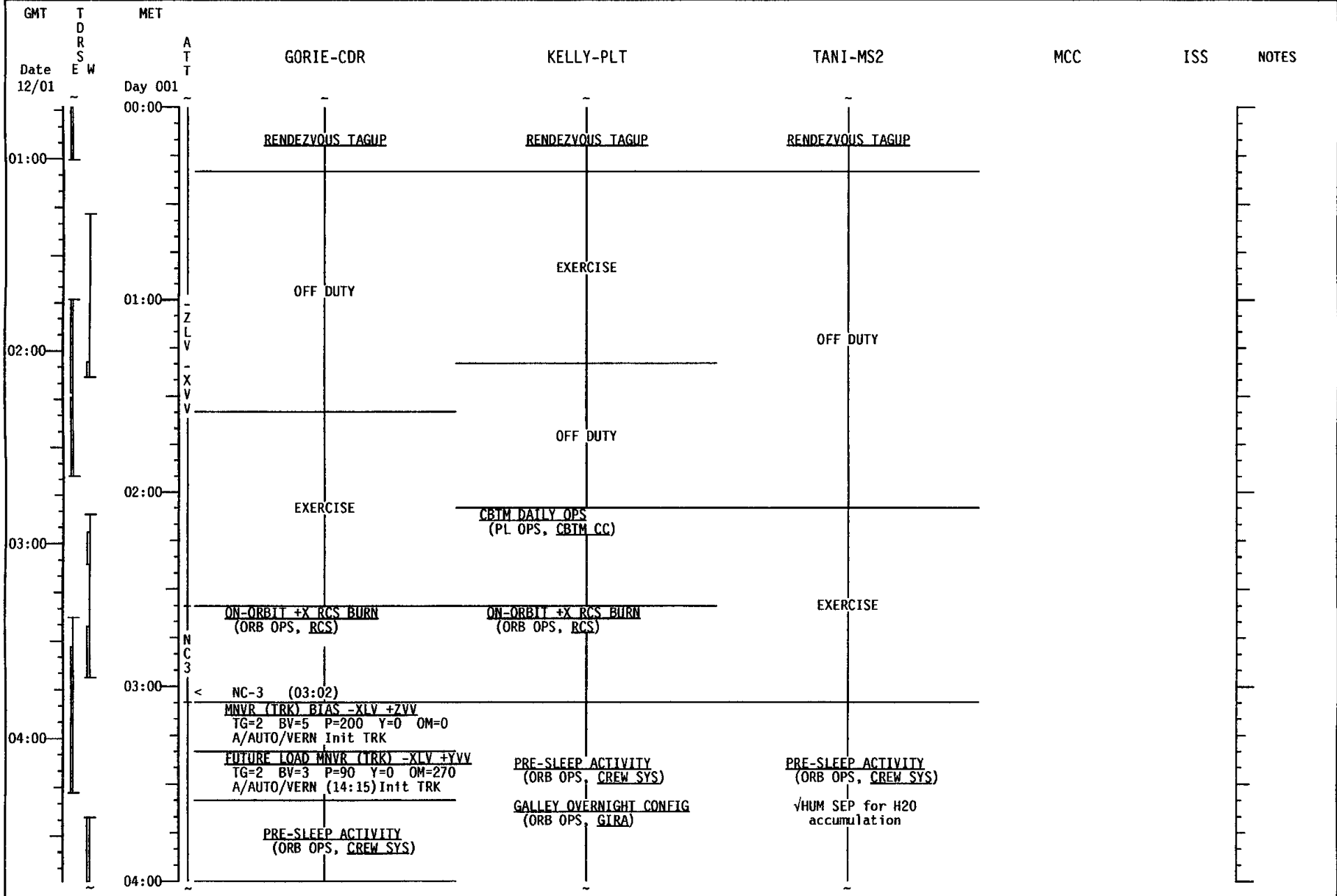
# STS-108/UF1 (FD 02)



# STS-108/UF1 (FD 02)



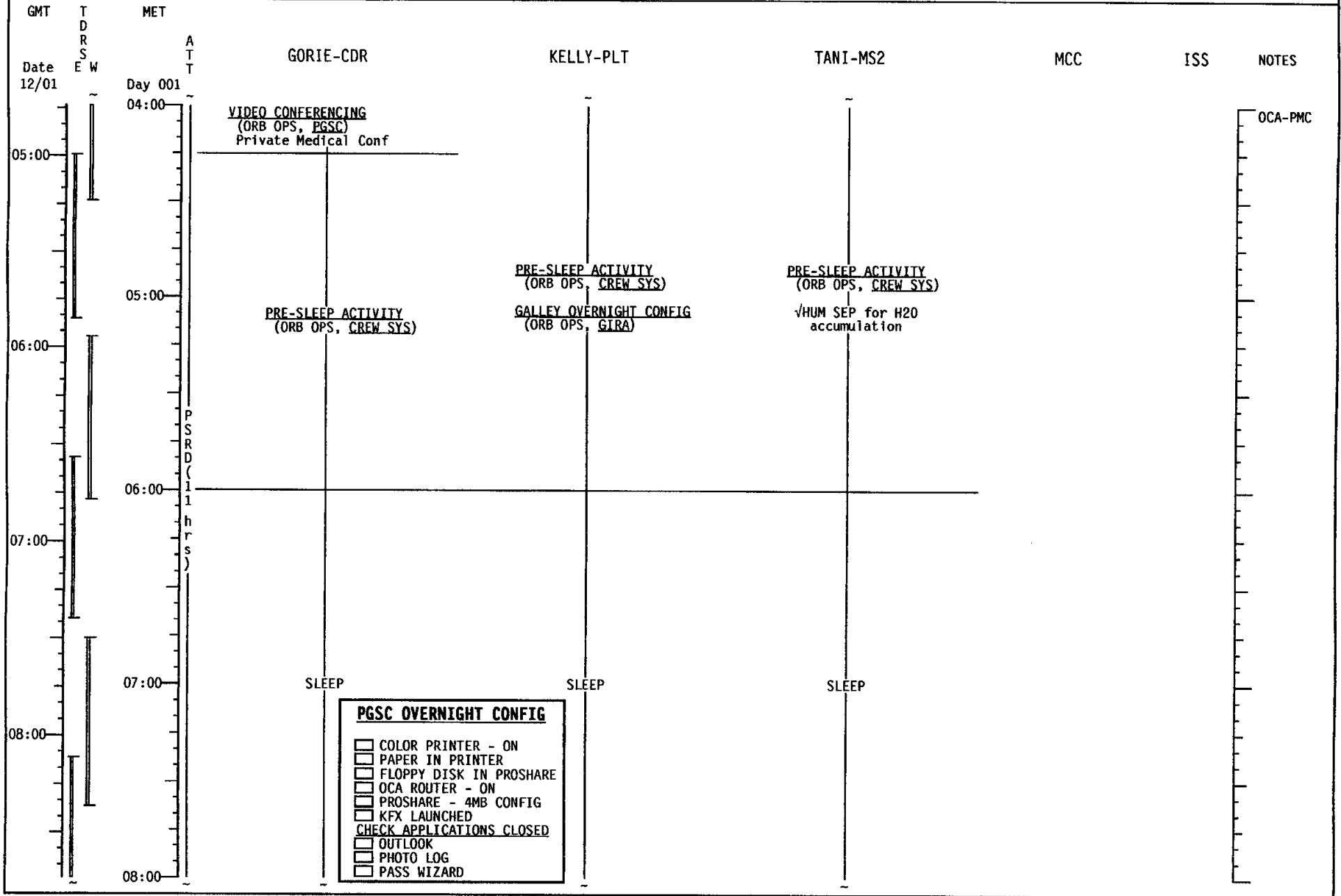
# STS-108/UF1 (FD 02)



# STS-108/UF1 (FD 02)

GMT	MET	GODWIN-MS1	ONUFRIENKO	WALZ	BURSCH	NOTES
Date 12/01	Day 001					
00:00	00:00	RENDEZVOUS TAGUP	RENDEZVOUS TAGUP	RENDEZVOUS TAGUP	RENDEZVOUS TAGUP	
01:00						
02:00	01:00	OFF DUTY	OFF DUTY	OFF DUTY	OFF DUTY	
03:00	02:00					
04:00	03:00	L12 MPLM CH1 HTR PWR - OFF CH2 HTR PWR - OFF GAS/COLLIDE GROUP (PL OPS, GAS) GROUP 2		MDDR ASCENT STATUS CHECKS (PL OPS, STATUS CHECKS) Step 2 ONLY	R2 BLR CNTRL/HTR (three) - B	
04:00	04:00	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY <span style="border: 1px solid black; padding: 0 2px;">A</span> (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY <span style="border: 1px solid black; padding: 0 2px;">A</span> (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY <span style="border: 1px solid black; padding: 0 2px;">A</span> (ORB OPS, CREW SYS)	
				<span style="border: 1px solid black; padding: 2px;">A</span> STBD#2 Ingest Potassium Citrate/Placebd tablets (2) During Meal		
	04:00					

# STS-108/UF1 (FD 02)



# STS-108/UF1 (FD 02)

GMT	MET	GODWIN-MS1	ONUFRIENKO	WALZ	BURSCH	NOTES
Date 12/01	Day 001					
04:00	04:00					
05:00	05:00					
	05:00	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY <span style="border: 1px solid black; padding: 0 2px;">A</span> (pg.3-15) (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY <span style="border: 1px solid black; padding: 0 2px;">A</span> (pg.3-15) (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY <span style="border: 1px solid black; padding: 0 2px;">A</span> (pg.3-15) (ORB OPS, CREW SYS)	
06:00	06:00					
07:00	07:00	SLEEP	SLEEP	SLEEP	SLEEP	
08:00	08:00					



# STS-108/UF1 (FD 02)

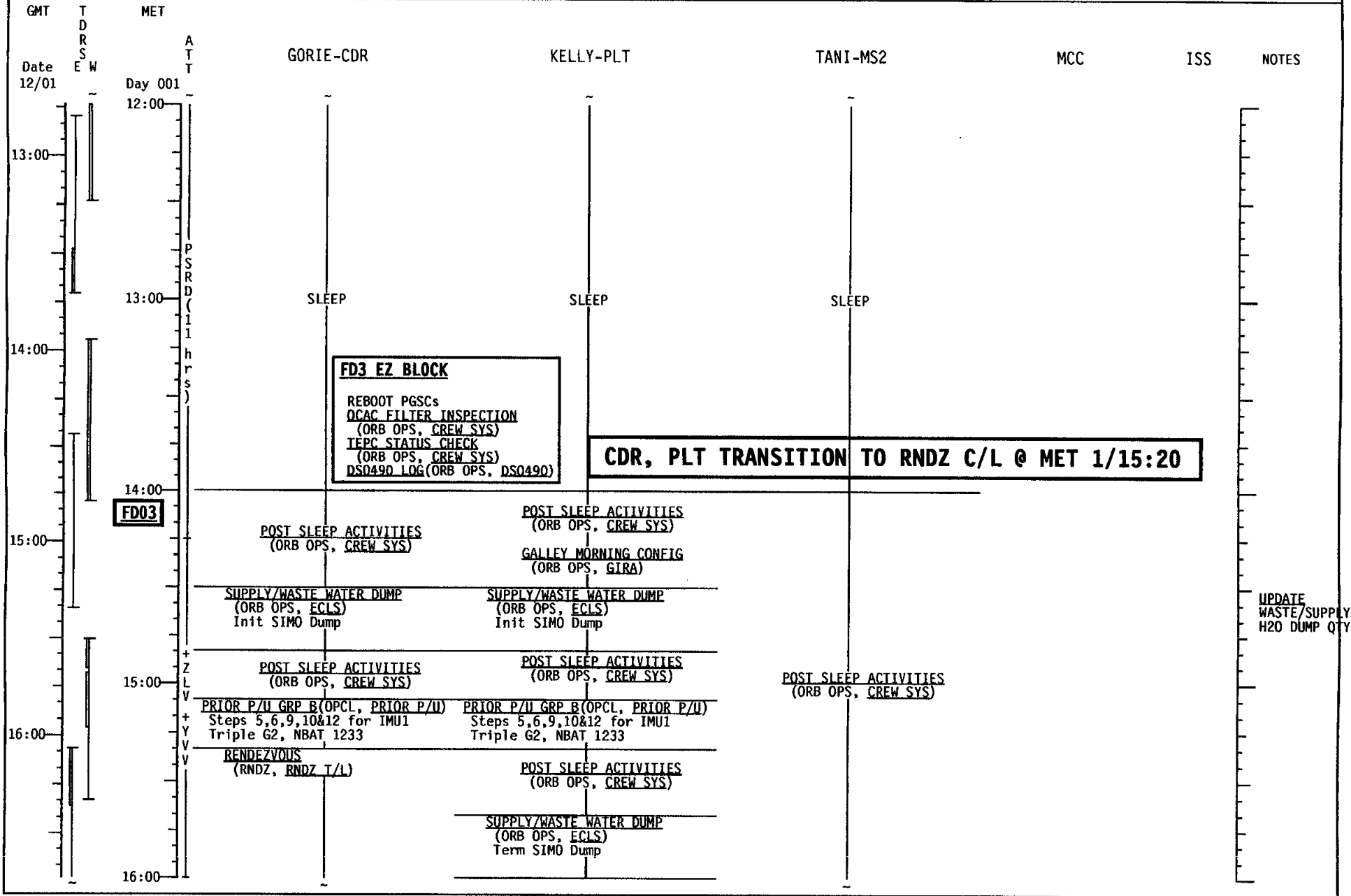
GMT	T D R S E W	MET	A T T	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date 12/01		Day 001							
08:00		08:00							
09:00									
		09:00							
10:00									
		10:00		SLEEP	SLEEP	SLEEP			
11:00									
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12:00									
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# STS-108/UF1 (FD 02)

GMT	MET	GODWIN-MS1	ONUFRIENKO	WALZ	BURSCHE	NOTES
Date 12/01	Day 001					
08:00	08:00					
09:00						
10:00	09:00					
11:00	10:00	SLEEP	SLEEP	SLEEP	SLEEP	
12:00	11:00					
	12:00					

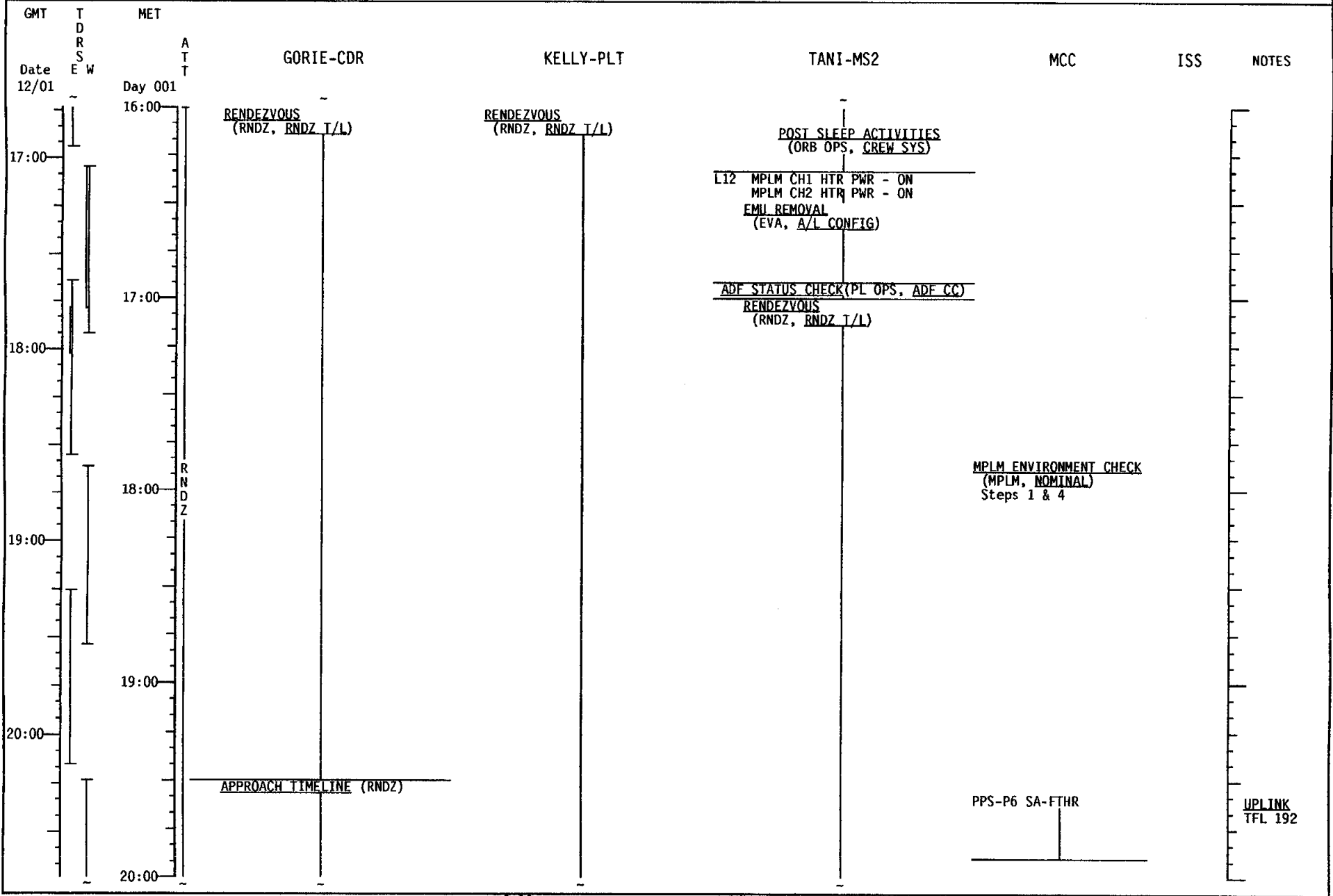
# STS-108/UF1 (FD 03)



# STS-108/UF1 (FD 03)

GMT	MET	GODWIN-MS1	ISS-4 ONUFRIENKO	ISS-4 WALZ	ISS-4 BURSCH	NOTES
Date 12/01	Day 001					
12:00						
13:00						
13:00		SLEEP	SLEEP	SLEEP	SLEEP	
14:00						
14:00						
15:00	<b>FD03</b>					
15:00		<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	
16:00						
16:00						

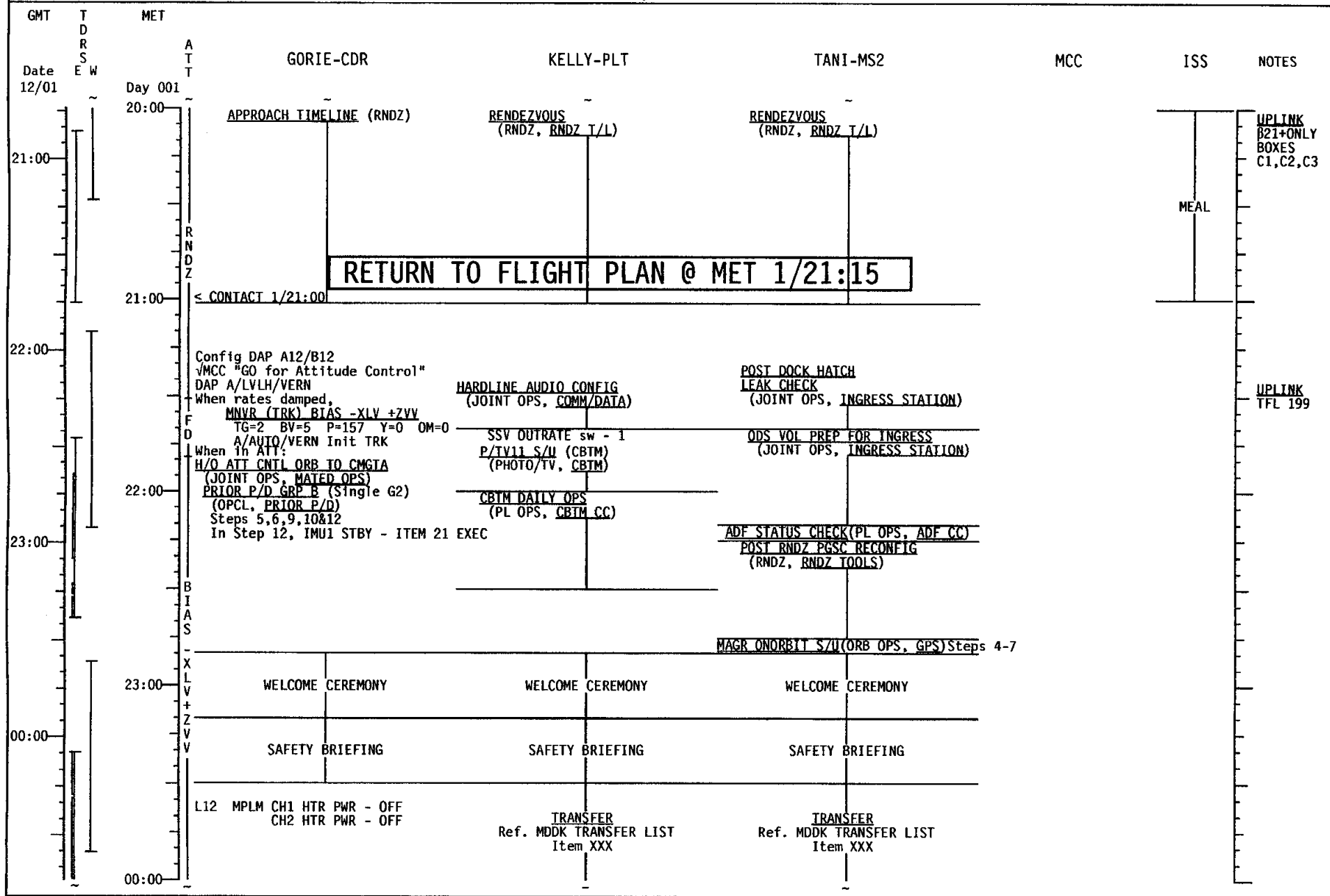
# STS-108/UF1 (FD 03)



# STS-108/UF1 (FD 03)

GMT	MET	GODWIN-MS1	ISS-4 ONUFRIENKO	ISS-4 WALZ	ISS-4 BIRSCH	NOTES
Date	12/01					
	Day 001					
16:00						
17:00		POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	
17:00		P/TV20 SETUP (ISS DOCK/UNDOCK) (PHOTO/TV, SCENES)				
18:00			TRANSFER PREP Ref. MDDK TRANSFER LIST Item XXX	TRANSFER PREP Ref. MDDK TRANSFER LIST Item XXX	TRANSFER PREP Ref. MDDK TRANSFER LIST Item XXX	
18:00		L17 Check MCIU Filter Screen P/TV20 OPS (ISS DOCK/UNDOCK) (PHOTO/TV, SCENES)		APCU ACT (PL OPS, APCU)APCU#2	P/TV20 SETUP (ISS DOCK/UNDOCK) (PHOTO/TV, SCENES)	
18:00				On MCC Go:APCU DEACT(PL OPS, APCU)APCU#2		
19:00				SHUTTLE CONDENSATE COLLECTION (ORB OPS, COND COLL) Steps 1-10	MDDK ASCENT STATUS CHECKS (PL OPS, STATUS CHECKS) Step 1-2	
19:00				SSOR ACT (JOINT OPS, COMM/DATA)		
19:00				EMU PREP FOR ISS TRANSFER (EVA, A/L CONFIG)		
20:00						
20:00						

# STS-108/UF1 (FD 03)

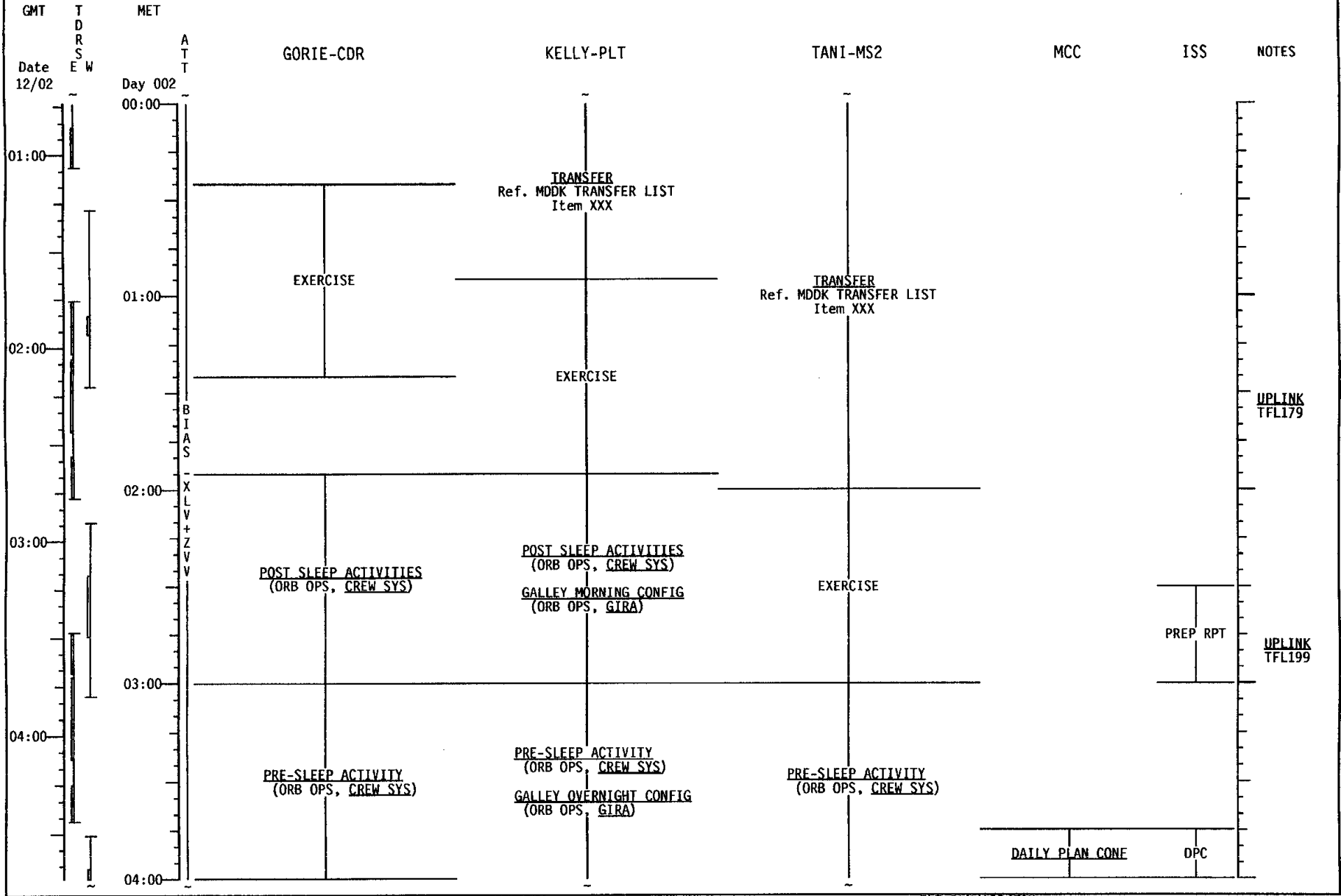


# STS-108/UF1 (FD 03)

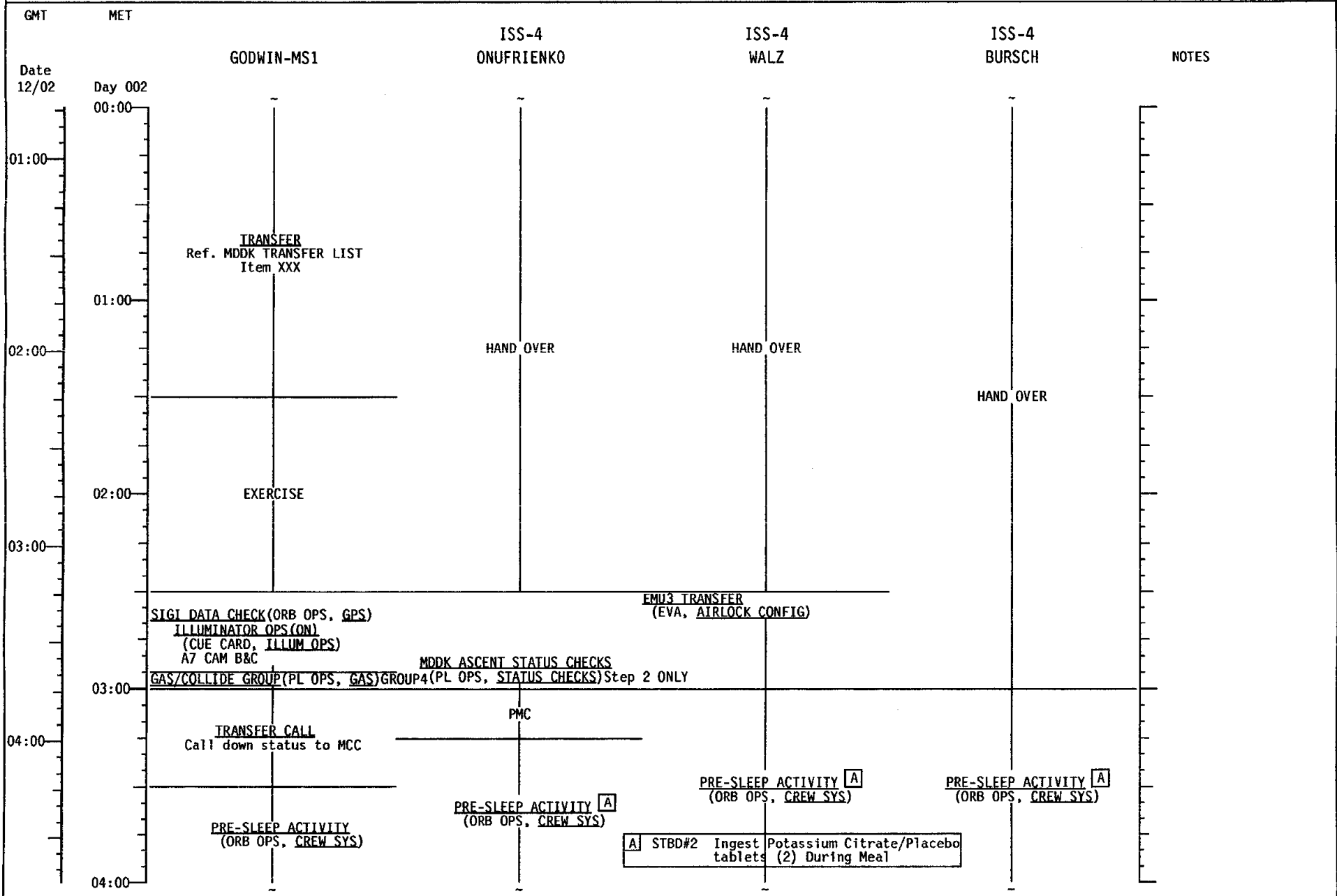
GMT	MET	GODWIN-MS1	ISS-4 ONUFRIENKO	ISS-4 WALZ	ISS-4 BURSCH	NOTES
Date 12/01	Day 001					
20:00		P/TV20 OPS (ISS DOCK/UNDOCK) (PHOTO/TV, SCENES)				
21:00			MEAL	MEAL	MEAL	
<b>RETURN TO FLIGHT PLAN @ MET 1/21:15</b>						
21:00						
22:00		SIGI DATA CHECK (ORB OPS, GPS) VTR ACTIVATION (DOCKING) (CUE CARD, PLBK)	ODS VOL PREP FOR INGRESS (JOINT OPS, INGRESS STATION)	HATCH OPEN STS/ISS DUCT INSTALL (JOINT OPS, INGRESS STATION)	HATCH OPEN STS/ISS DUCT INSTALL (JOINT OPS, INGRESS STATION)	
22:00		PLAYBACK (CUE CARD, PLBK) KU avail 22:45 - 23:00				
23:00		GAS/COLLIDE GROUP (PL OPS, GAS) GRP3 P/TV21 SETUP (ISS INTERNAL OPS) (PHOTO/TV, SCENES) INGRESS	HATCH OPEN STS/ISS DUCT INSTALL (JOINT OPS, INGRESS STATION)			
23:00		WELCOME CEREMONY	WELCOME CEREMONY	WELCOME CEREMONY	WELCOME CEREMONY	
00:00		SAFETY BRIEFING	SAFETY BRIEFING	SAFETY BRIEFING	SAFETY BRIEFING	
00:00		TRANSFER Ref. MDDK TRANSFER LIST Item XXX	HAND OVER	HAND OVER	HAND OVER	



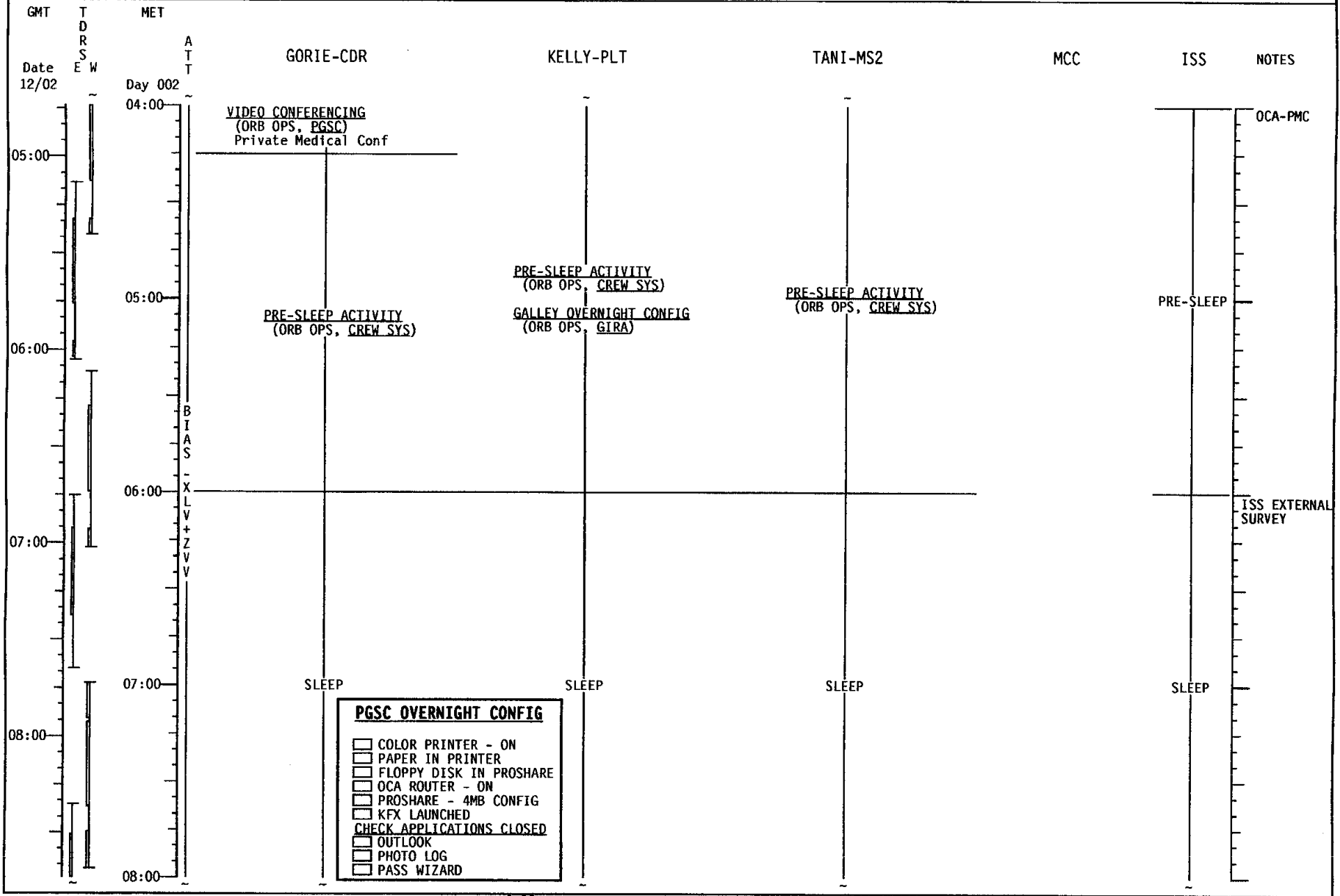
# STS-108/UF1 (FD 03)



# STS-108/UF1 (FD 03)



# STS-108/UF1 (FD 03)



# STS-108/UF1 (FD 03)

GMT	MET	GODWIN-MS1	ISS-4 ONUFRIENKO	ISS-4 WALZ	ISS-4 BURSCH	NOTES
Date 12/02	Day 002					
04:00						
05:00						
05:00		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (pg.3-27) (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (pg.3-27) (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (pg.3-27) (ORB OPS, CREW SYS)	
06:00						
06:00						
07:00						
07:00		SLEEP	SLEEP	SLEEP	SLEEP	
08:00						
08:00						

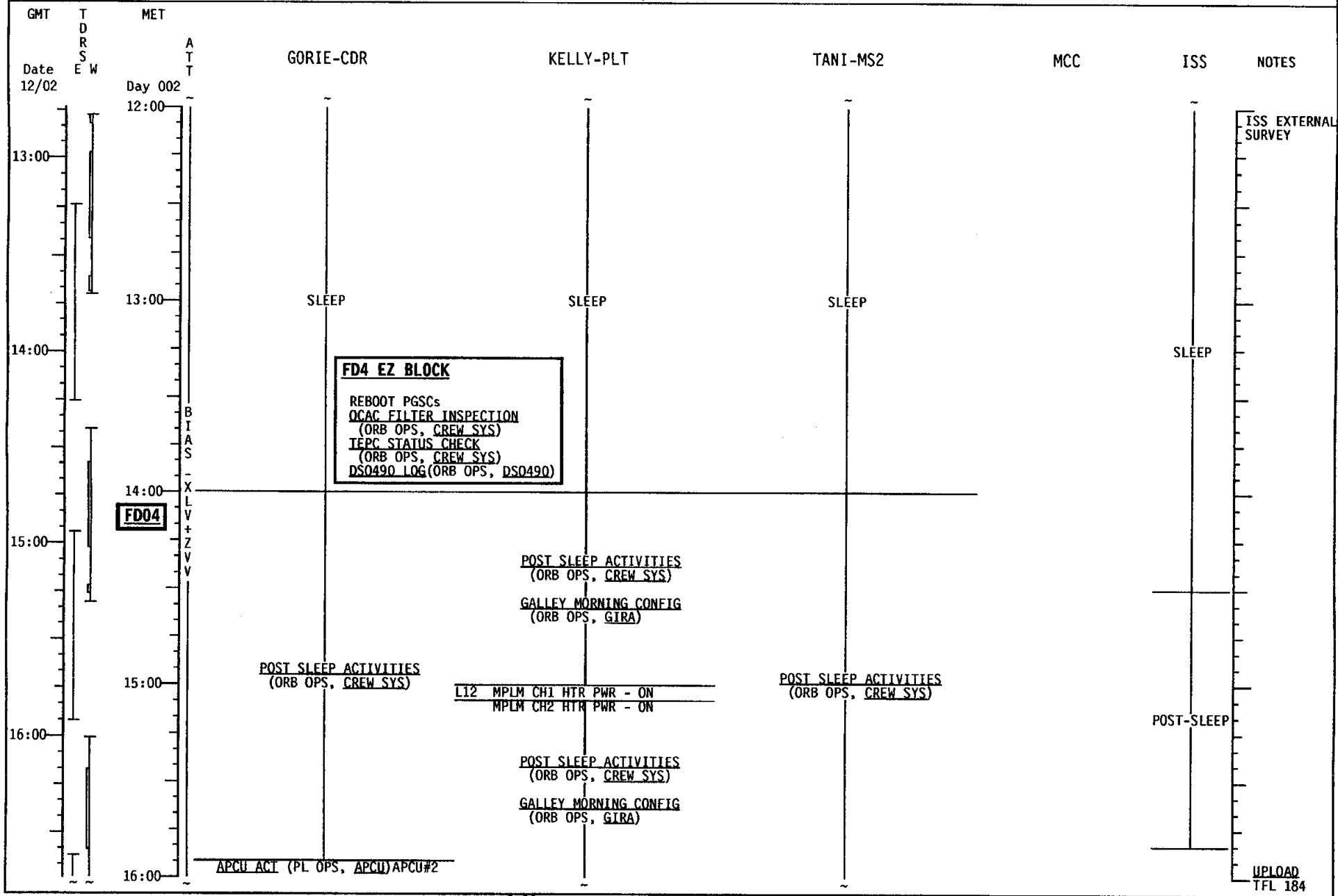
# STS-108/UF1 (FD 03)

GMT	T D R S E W	MET	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date 12/02		Day 002						
08:00		08:00						ISS EXTERNAL SURVEY
09:00		09:00						
10:00		10:00	SLEEP	SLEEP	SLEEP			
11:00		11:00						
12:00		12:00						

STS-108/UF1 (FD 03)

GMT	MET	GODWIN-MS1	ISS-4 ONUFRLENKO	ISS-4 WALZ	ISS-4 BURSCH	NOTES
Date 12/02	Day 002					
08:00	08:00					
09:00						
09:00	09:00					
10:00						
10:00	10:00	SLEEP	SLEEP	SLEEP	SLEEP	
11:00						
11:00	11:00					
12:00						
12:00	12:00					

# STS-108/UF1 (FD 04)



# STS-108/UF1 (FD 04)

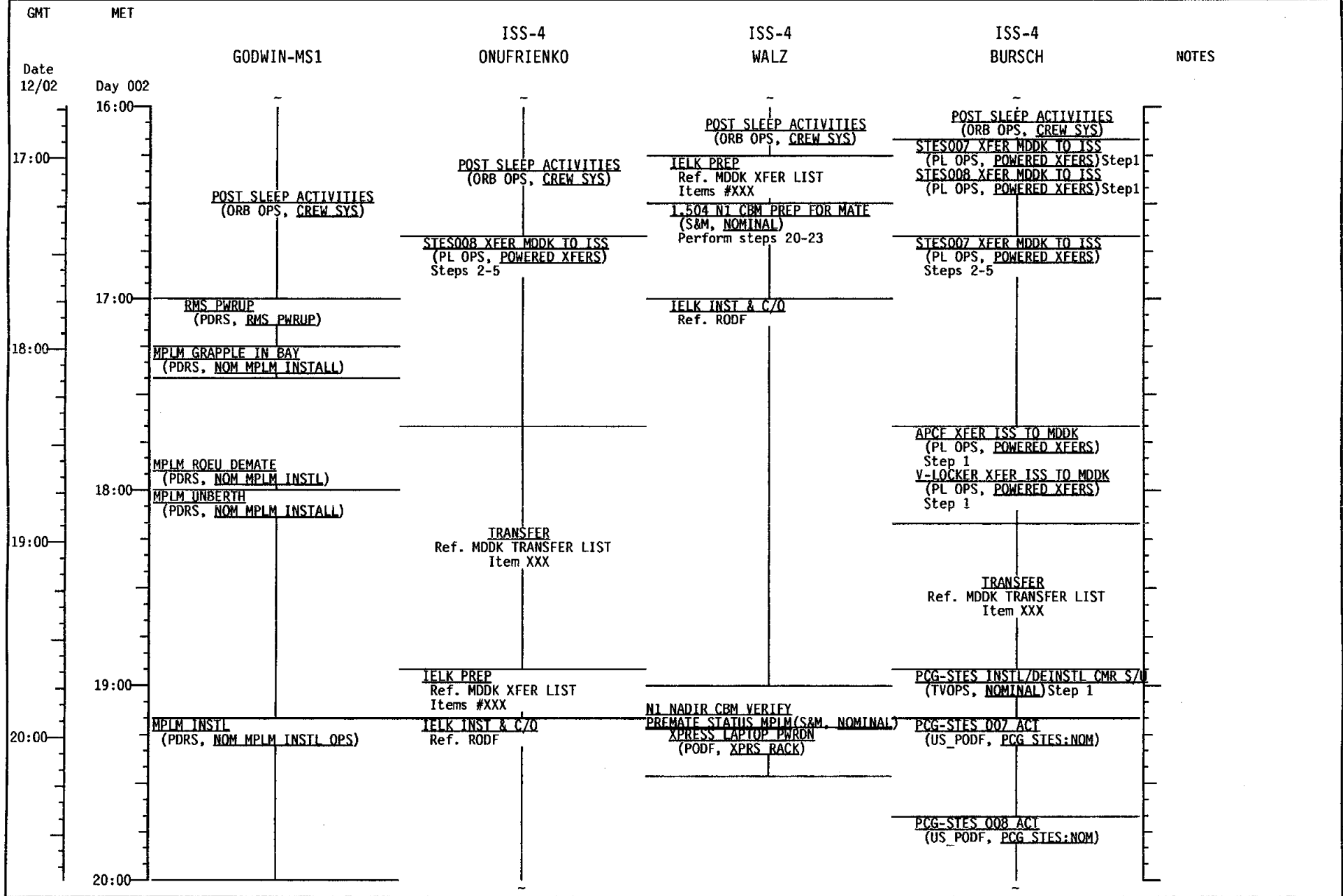
GMT	MET	GODWIN-MS1	ISS-4 ONUFRIENKO	ISS-4 WALZ	ISS-4 BURSCH	NOTES
Date	Day 002					
12/02	12:00					
13:00						
	13:00	SLEEP	SLEEP	SLEEP	SLEEP	
14:00						
	14:00					
		<b>FD04</b>				
15:00						
	15:00	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	
16:00						
	16:00	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)				
		A8L PORT RMS HTR(two) - AUTO L17 Check MCIU Filter Screen				



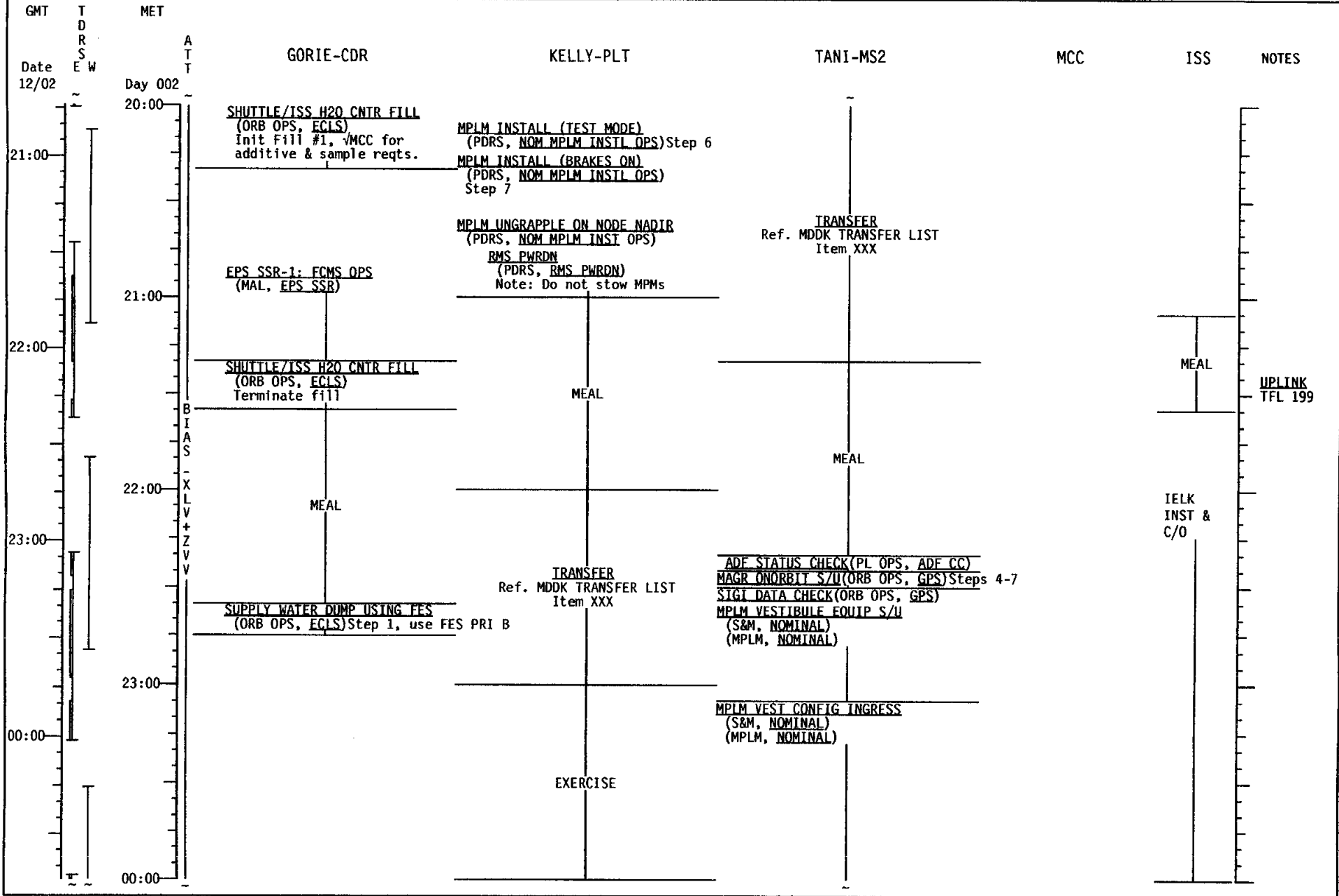
# STS-108/UF1 (FD 04)

GMT	T D R S E W	MET	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date 12/02		Day 002						
16:00			POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)		MPLM ENVIRONMENT CHECK (MPLM, NOMINAL) Steps 1 & 4	P/SLP	
17:00			On MCC Go: APCU DEACT (PL OPS, APCU) APCU#2	GALLEY MORNING CONFIG (ORB OPS, GIRA)	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)			UPLOAD TFL 179
			POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	CBTM DAILY OPS (PL OPS, CBTM CC)			N1 CBM PREP MATE	
			ILLUMINATOR OPS(OFF) (CUE CARD, ILLUM OPS) A7 CAM B&C				IELK INST & C/O	
17:00			P/TV22 SETUP (RMS) (PHOTO/TV, SCENES) Also Ref. ISS PHOTO/TV for ISS Camcorder Setup					
18:00				MPLM GRAPPLE IN BAY (PDRS, NOM MPLM INSTALL)	EXERCISE			
				MPLM ROEU DEMATE (PDRS, NOM MPLM INSTL)				
			L12 MPLM CH1 HTR PWR - OFF CH2 HTR PWR - OFF	MPLM UNBERTH (PDRS, NOM MPLM INSTALL)				
18:00								
19:00								
19:00					TRANSFER Ref. MDDK TRANSFER LIST Item XXX			
20:00				MPLM INSTL (PDRS, NOM MPLM INSTL OPS)				
20:00								

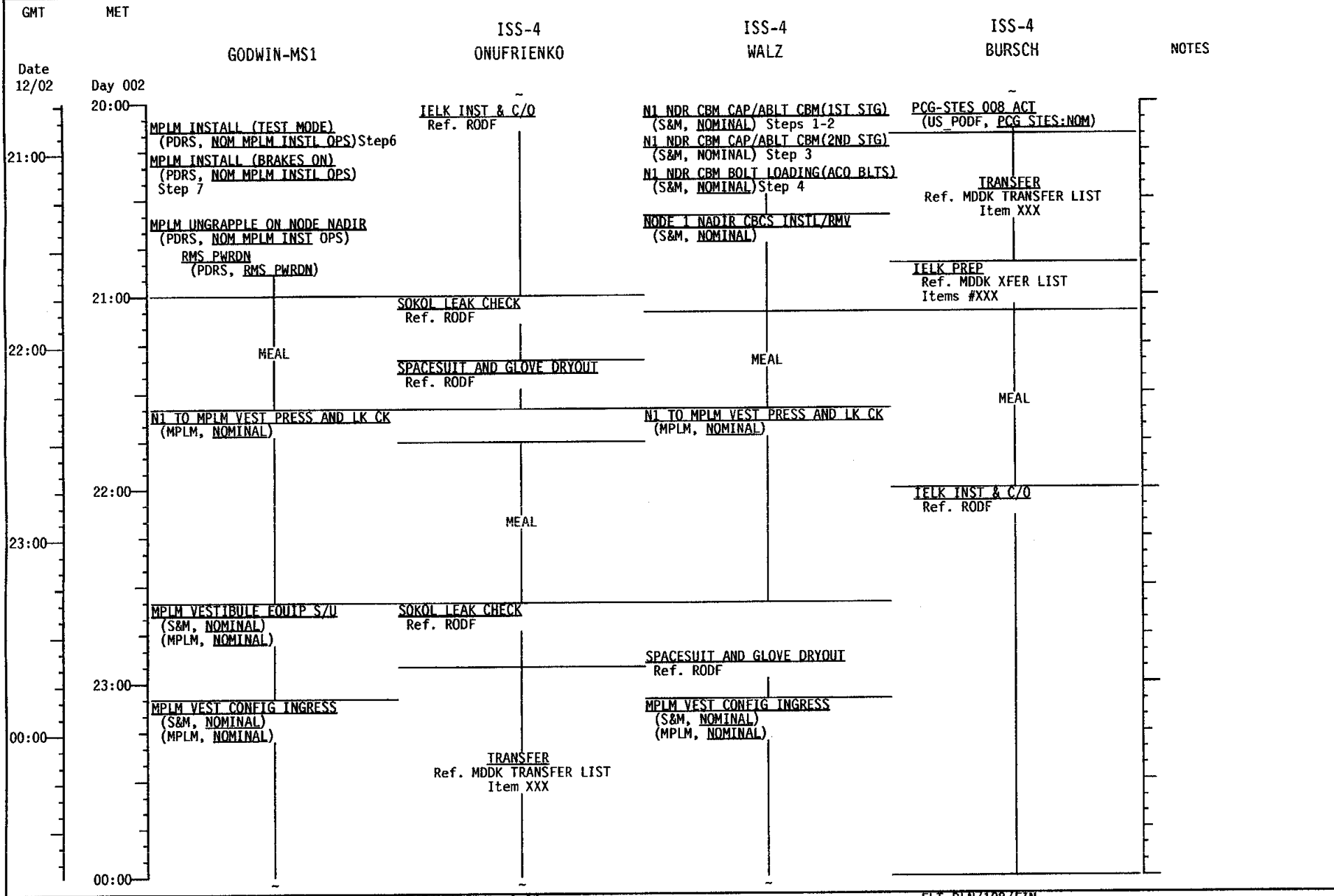
# STS-108/UF1 (FD 04)



# STS-108/UF1 (FD 04)



# STS-108/UF1 (FD 04)



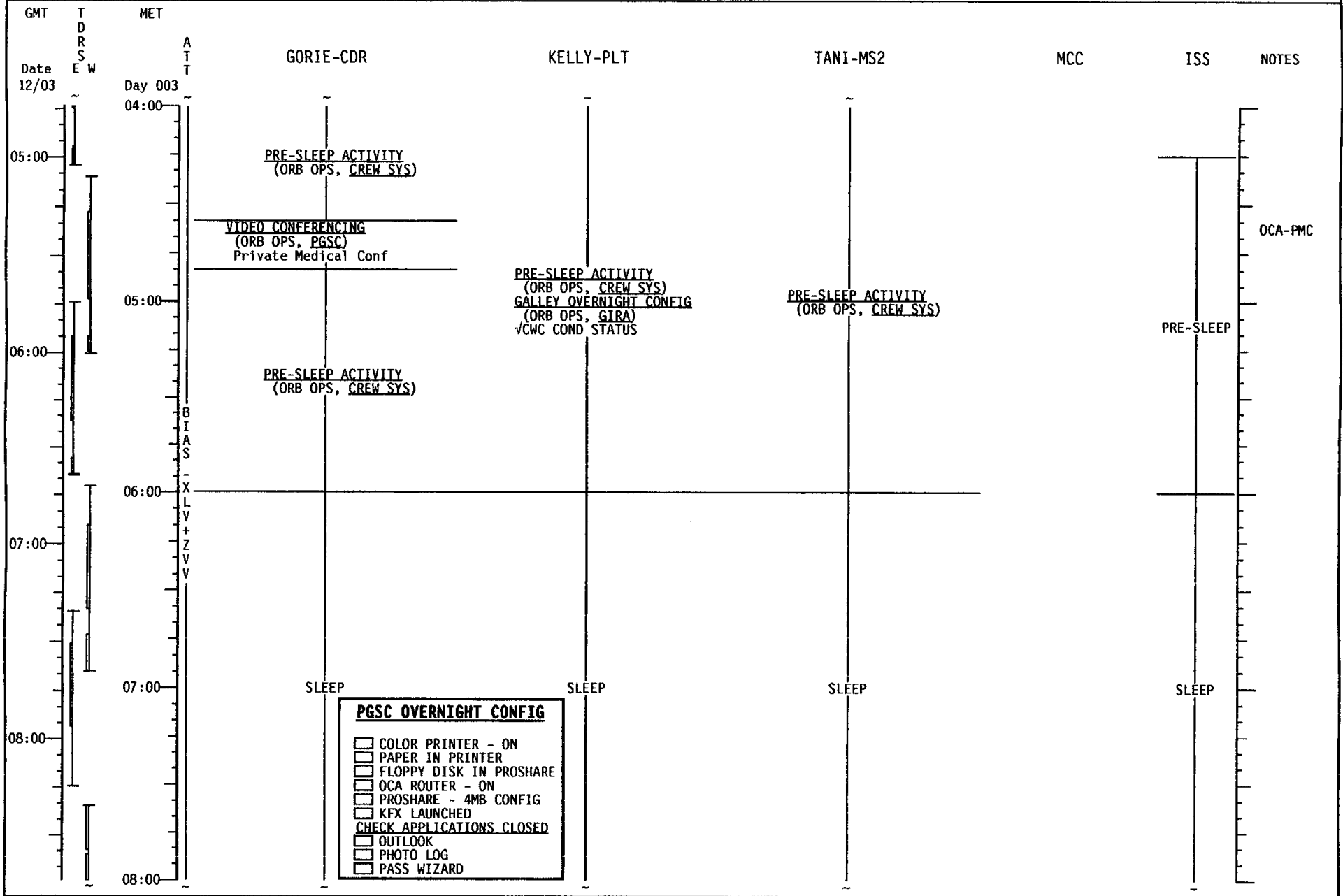
# STS-108/UF1 (FD 04)

GMT	T D R S E W	MET	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date 12/03		Day 003						
00:00					MPLM VEST CONFIG INGRESS (S&M, NOMINAL) (MPLM, NOMINAL)			
01:00			EXERCISE	TRANSFER Ref. MDDK TRANSFER LIST Item XXX				
		01:00	L17 Check MCIU Filter Screen					
02:00				P/TV02 SETUP (PA0) (PHOTO/TV, SCENES)				
		02:00	PUBLIC AFFAIRS EVENT	PUBLIC AFFAIRS EVENT Ku Avail 02:00-02:15				
03:00				TRANSFER Ref. MDDK TRANSFER LIST Item XXX	ADF STATUS CHECK (PL OPS, ADF CC)			
		03:00	SUPPLY WATER DUMP USING FES (ORB OPS, ECLS) Step 2, FES PRI B req'd				MPLM S/U FOR XFER	
04:00			PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) GALLEY OVERNIGHT CONEIG (ORB OPS, GIRA) VCWC COND STATUS	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)		PL STAT CK	
		04:00						DAILY PLAN CONE

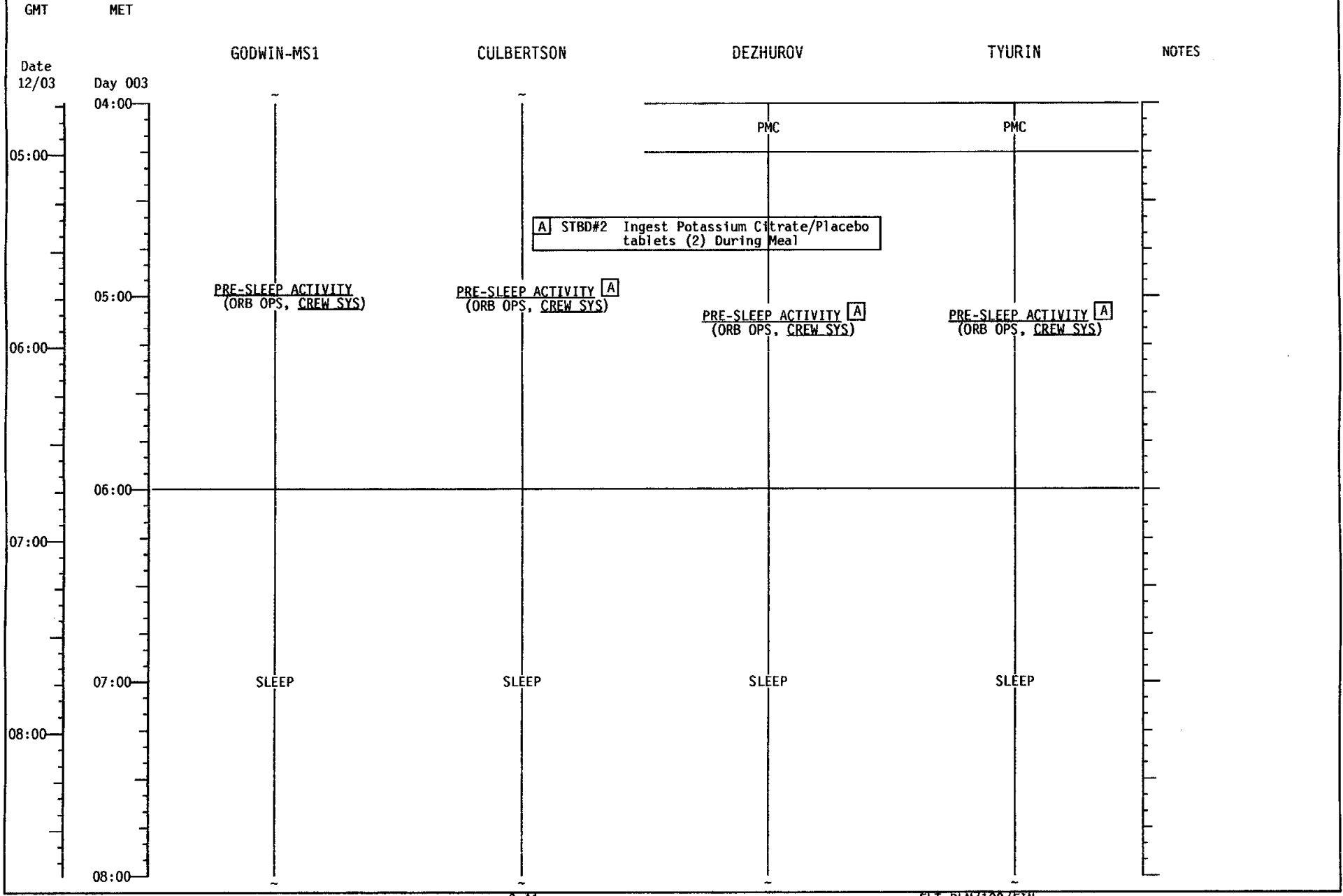
# STS-108/UF1 (FD 04)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/03	Day 003				<b>TRANSFER</b> Ref. MDDK TRANSFER LIST Item XXX	
00:00		MPLM VEST CONFIG INGRESS (S&M, NOMINAL) (MPLM, NOMINAL)				
01:00				TRANSFER Ref. MDDK TRANSFER LIST Item XXX		
				On Crew Go: MPLM ACTIVATION (MPLM, NOMINAL) Steps 1-7		
01:00			EXERCISE - CEVIS		ISS EXERCISE - TVIS	
02:00				TRANSFER Ref. MDDK TRANSFER LIST Item XXX		
				On Crew Go: MPLM ACTIVATION (MPLM, NOMINAL) Step 8		
02:00						
03:00			PUBLIC AFFAIRS EVENT		P/TV21 OPS (ISS INTERNAL OPS (PHOTO/TV, SCENES) INGRESS	
			IELK TEMP STOW Temp Stow in ISS. MPLM RETURN for Final Stow	TRANSFER Ref. MDDK TRANSFER LIST Item XXX		
		MDDK DESCENT STATUS CHECKS (PL OPS, STATUS CHECKS) Step 3	MPLM INGRESS (MPLM, NOMINAL)		MPLM INGRESS (MPLM, NOMINAL)	
03:00						
04:00		TRANSFER CALL Call down status to MCC				
		PRE-SLEEP ACTIVITY [A] (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (pg.3-41) (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (pg.3-41) (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (pg.3-41) (ORB OPS, CREW SYS)	
04:00						

# STS-108/UF1 (FD 04)



# STS-108/UF1 (FD 04)





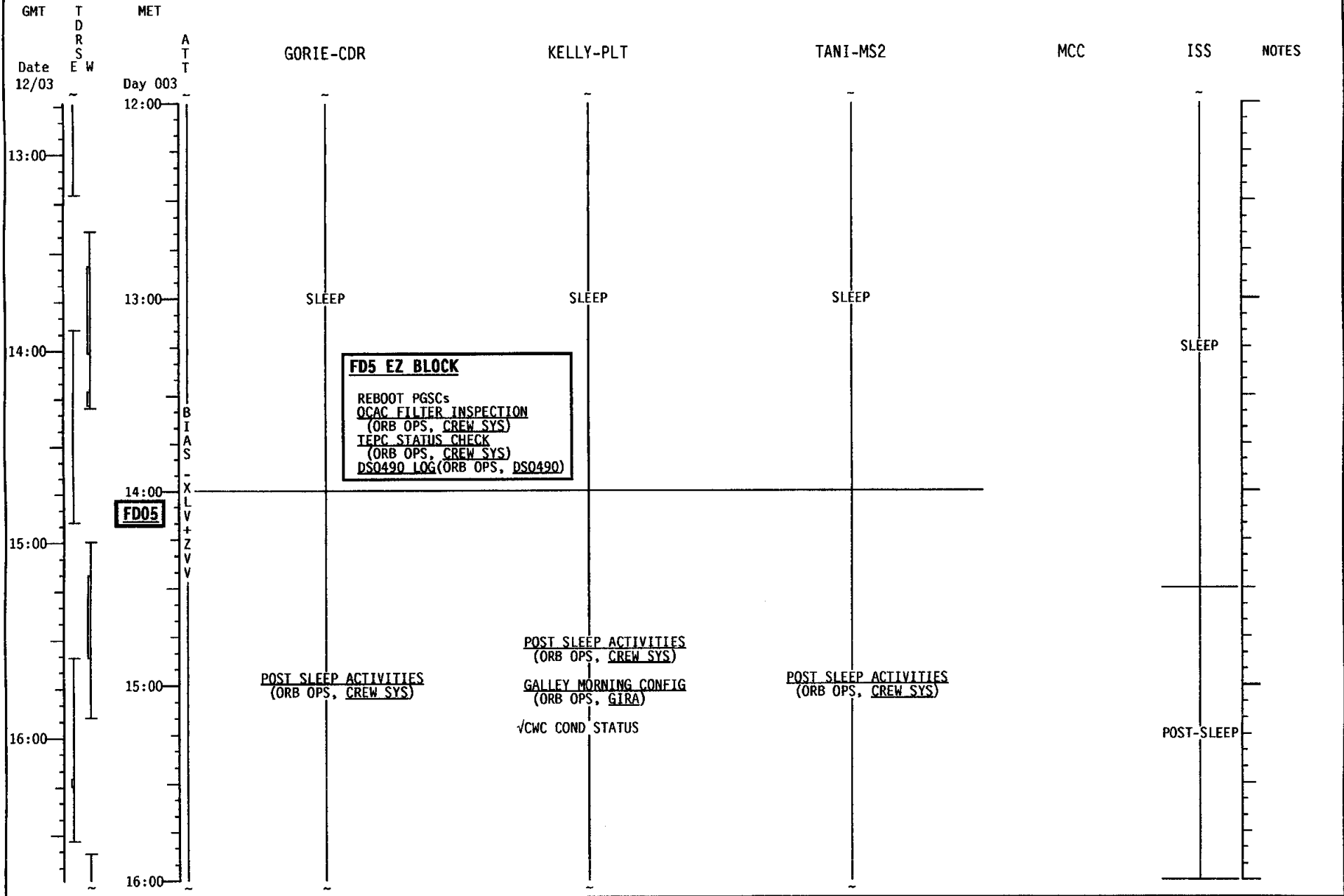
# STS-108/UF1 (FD 04)

GMT	T D R S E W	MET	A T T	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date 12/03		Day 003							
08:00		08:00							
09:00		09:00							
10:00		10:00							
11:00		11:00		SLEEP	SLEEP	SLEEP		SLEEP	
12:00		12:00							

# STS-108/UF1 (FD 04)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/03	Day 003					
08:00	08:00					
09:00						
10:00	09:00					
11:00	10:00	SLEEP	SLEEP	SLEEP	SLEEP	
12:00	11:00					
	12:00					

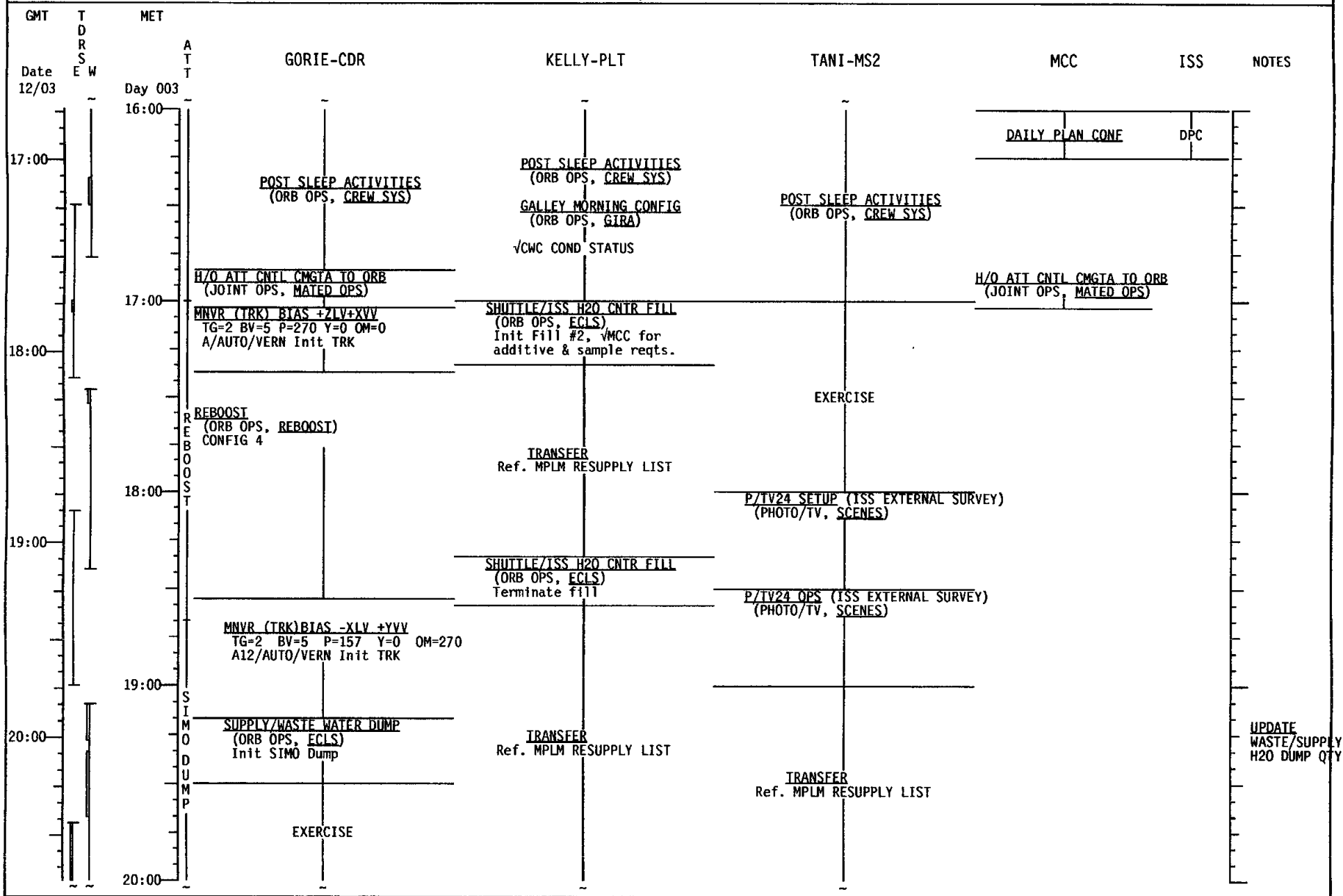
# STS-108/UF1 (FD 05)



# STS-108/UF1 (FD 05)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/03	Day 003					
12:00	12:00					
13:00						
13:00		SLEEP	SLEEP	SLEEP	SLEEP	
14:00						
14:00						
15:00	<b>FD05</b>					
15:00		<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	
16:00						
16:00						

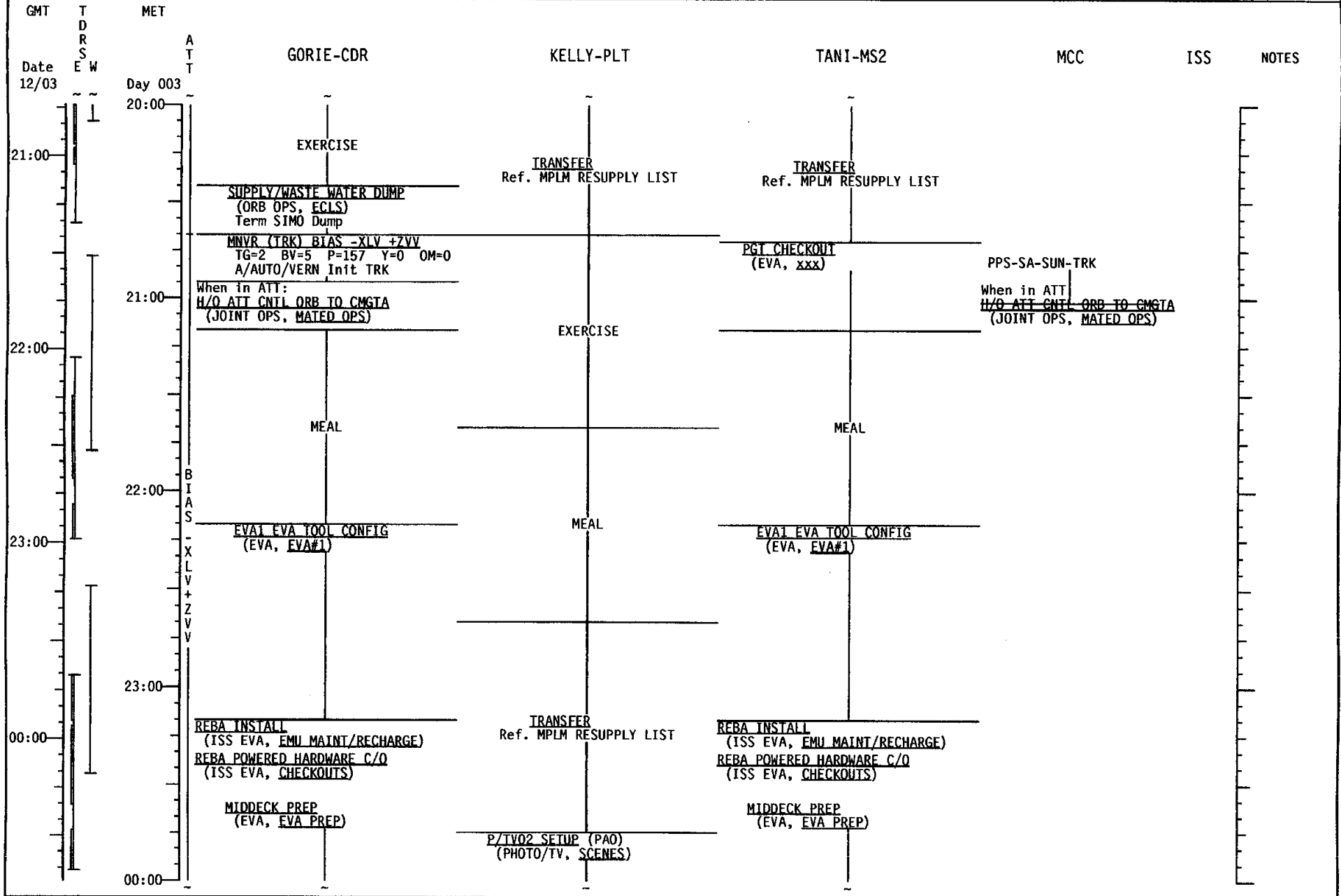
# STS-108/UF1 (FD 05)



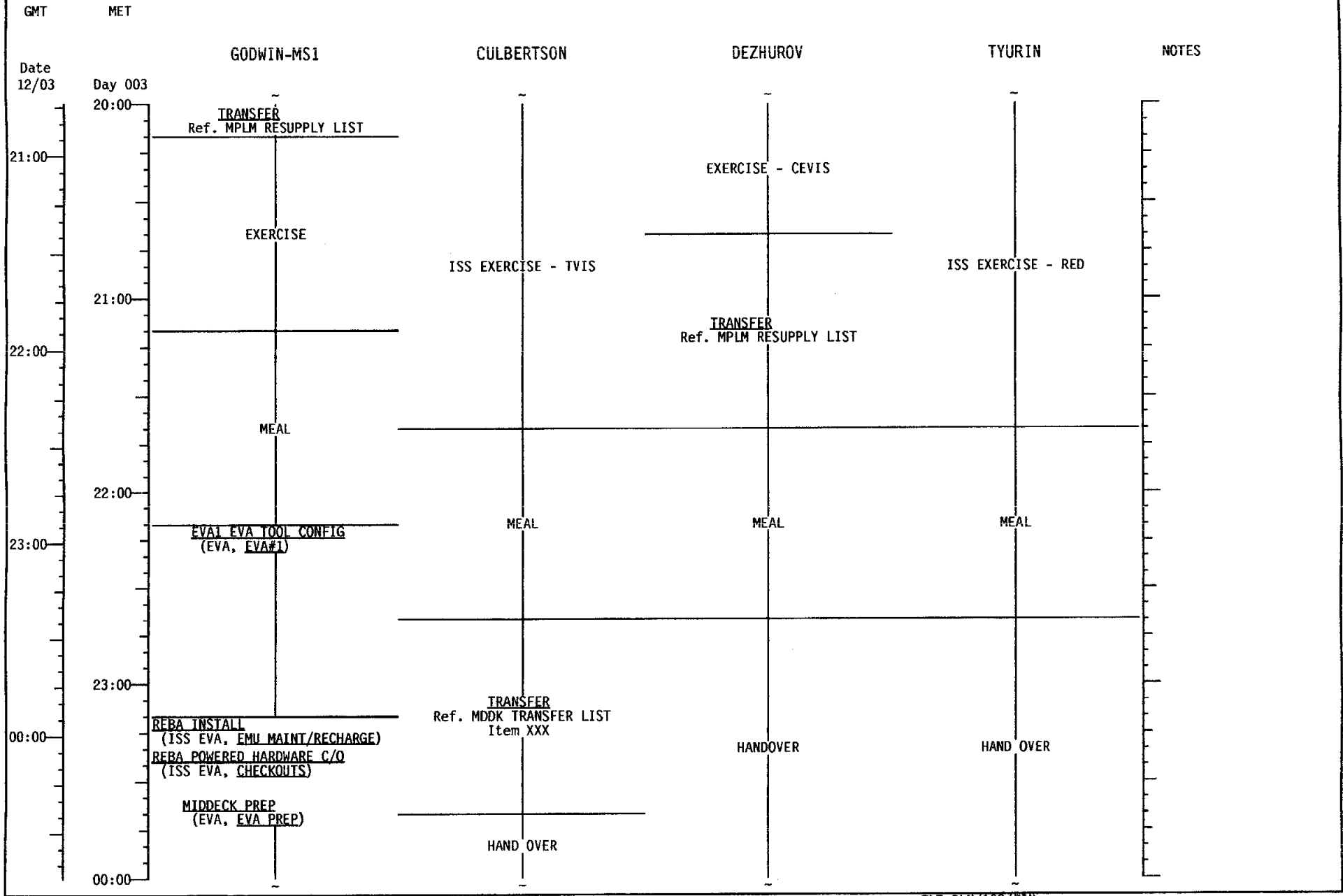
# STS-108/UF1 (FD 05)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/03	Day 003					
16:00	16:00					
17:00	17:00	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	
18:00	18:00			TRANSFER Ref. MPLM RESUPPLY LIST		
19:00	19:00	TRANSFER Ref. MPLM RESUPPLY LIST	TRANSFER Ref. MDDK TRANSFER LIST Item XXX		TRANSFER Ref. MPLM RESUPPLY LIST	
20:00	20:00		ISS EXERCISE - TVIS	EXERCISE - CEVIS	ISS EXERCISE - RED	
20:00	20:00					

# STS-108/UF1 (FD 05)



# STS-108/UF1 (FD 05)

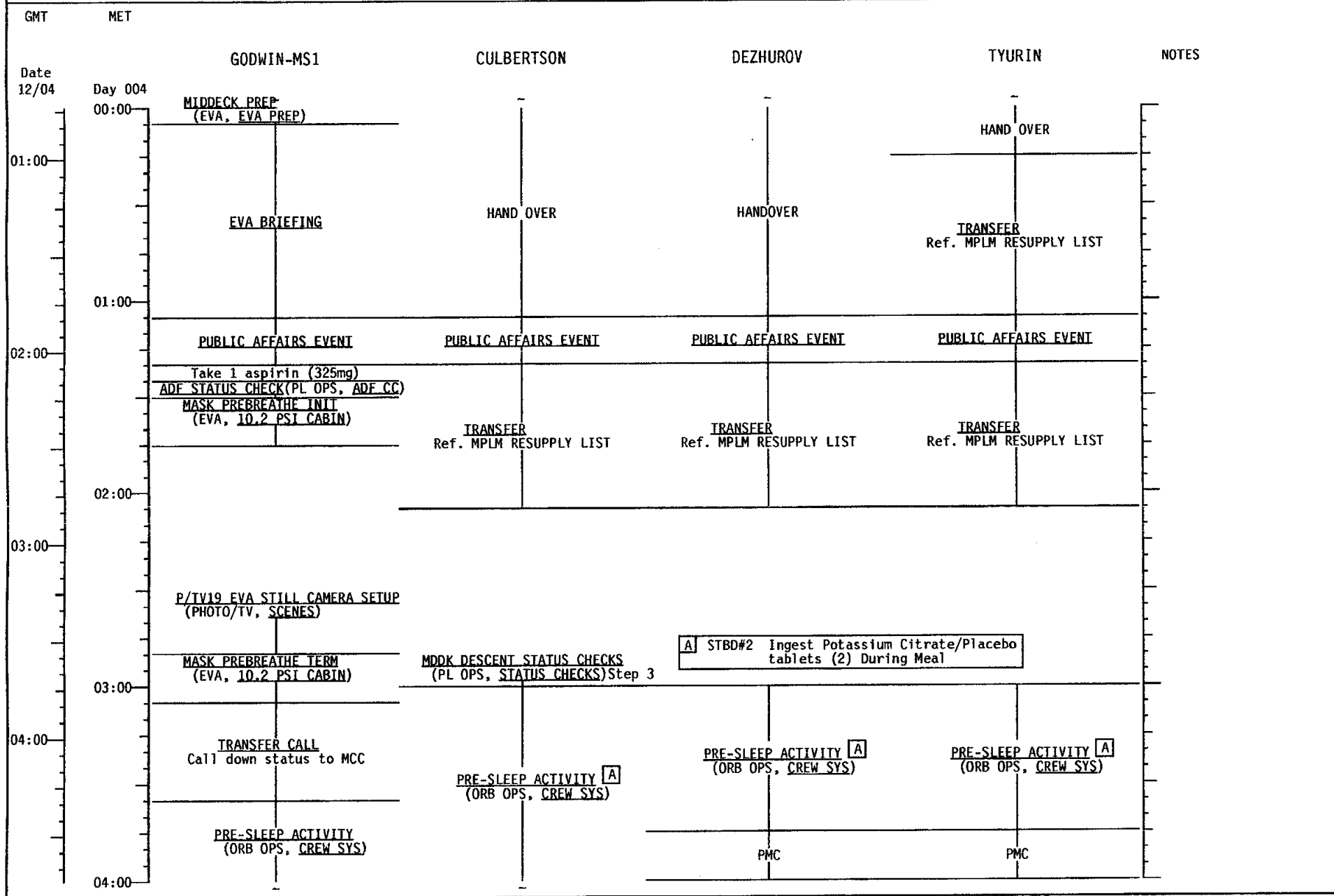




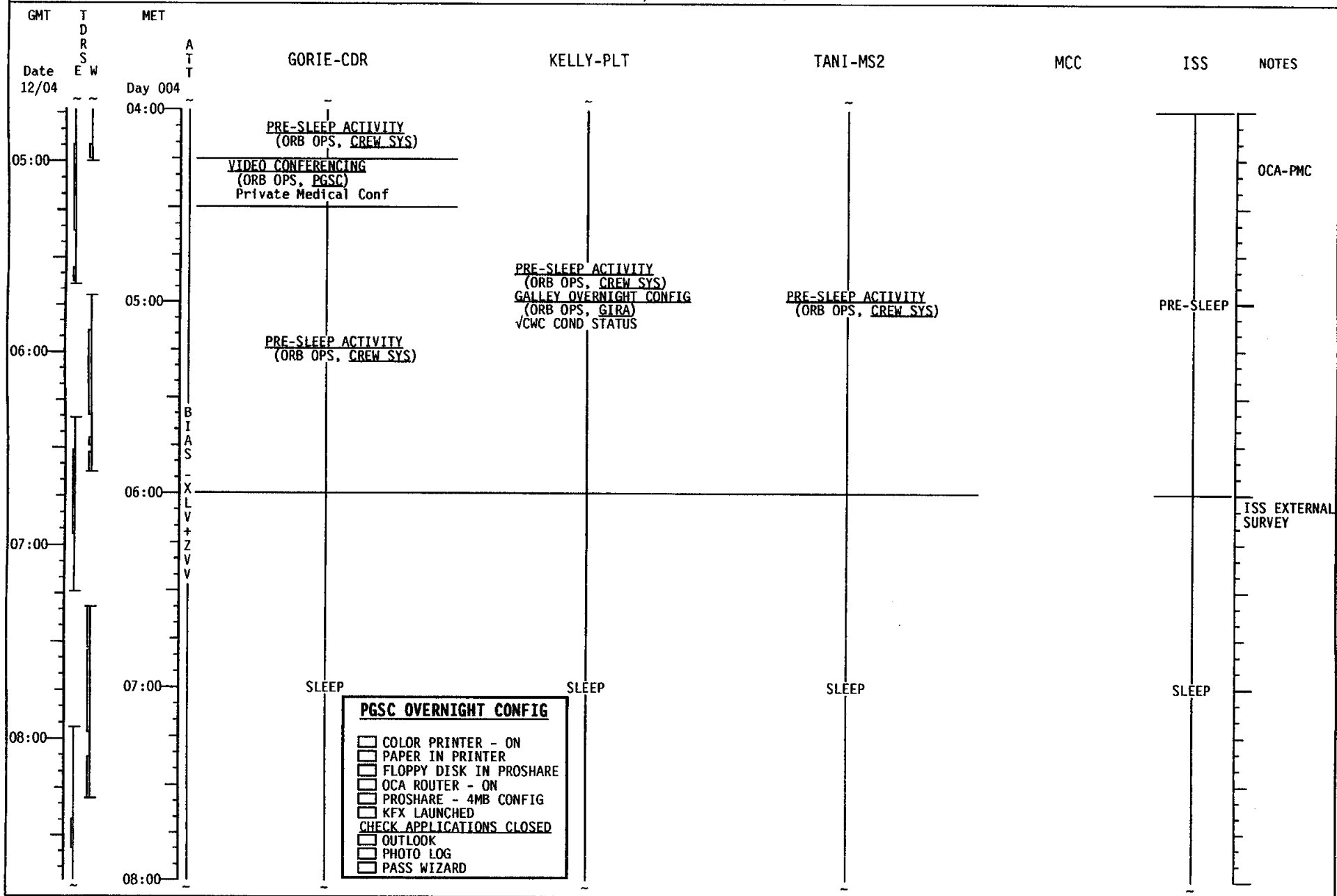
# STS-108/UF1 (FD 05)

GMT	T D R S E W	MET	A T T	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date 12/04		Day 004		MIDDECK PREP- (EVA, EVA PREP)	P/TY02 SETUP-(PAO) (PHOTO/TV, SCENES)	MIDDECK PREP- (EVA, EVA PREP)			
01:00				EVA BRIEFING	EVA BRIEFING	EVA BRIEFING			
02:00				PUBLIC AFFAIRS EVENT	PUBLIC AFFAIRS EVENT Ku Avail 01:05-01:19	PUBLIC AFFAIRS EVENT			
				FILTER CLEANING (IFM, SCHEDULED MAINTENANCE)		Take 1 aspirin (325mg) SIGI DATA CHECK(ORB OPS, GPS) MASK PREBREATHE INIT (EVA, 10.2 PSI CABIN)			
					TRANSFER Ref. MPLM RESUPPLY LIST				
03:00				ISS INTERIM EGRESS (JOINT OPS, EGRESS STATION)					
				PREP FOR 10.2 PSI CABIN (EVA, 10.2 PSI CABIN)	ILLUMINATOR OPS(ON) (CUE CARD, ILLUM OPS) A7 CAM B&C	MAGR ONORBIT S/U(ORB OPS, GPS) Steps 4-7			
				CABIN DEPRESS TO 10.2 PSI (EVA, 10.2 PSI CABIN)	CBTM DAILY OPS (PL OPS, CBTM CC)	P/TY19 EVA STILL CAMERA SETUP (PHOTO/TV, SCENES)			
				10.2 PSI CABIN CONFIG (EVA, 10.2 PSI CABIN)		MASK PREBREATHE TERM (EVA, 10.2 PSI CABIN)		PL STAT CK	
04:00				PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) GALLEY OVERNIGHT CONFIG (ORB OPS, GIRA) √CWC COND STATUS	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
							DAILY PLAN CONF	DPC	
04:00									

# STS-108/UF1 (FD 05)



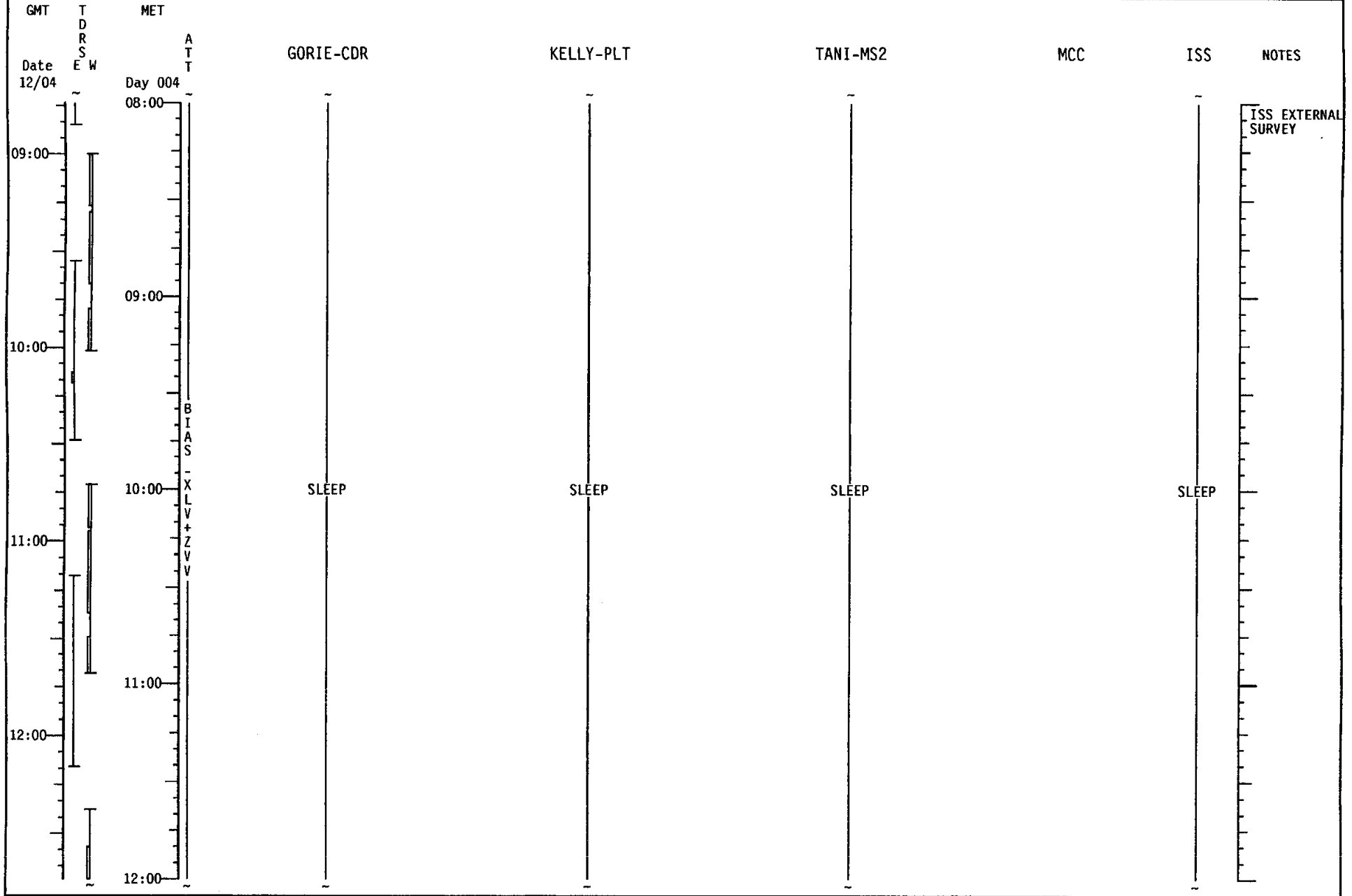
# STS-108/UF1 (FD 05)



# STS-108/UF1 (FD 05)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/04	Day 004					
04:00	04:00					
05:00						
05:00	05:00	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (pg.3-51) (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (pg.3-51) (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (pg.3-51) (ORB OPS, CREW SYS)	
06:00						
06:00	06:00					
07:00						
07:00	07:00	SLEEP	SLEEP	SLEEP	SLEEP	
08:00						
08:00	08:00					

# STS-108/UF1 (FD 05)



STS-108/UF1 (FD 05)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/04	Day 004					
08:00	08:00					
09:00						
	09:00					
10:00						
	10:00	SLEEP	SLEEP	SLEEP	SLEEP	
11:00						
	11:00					
12:00						
	12:00					

# STS-108/UF1 (FD 06)

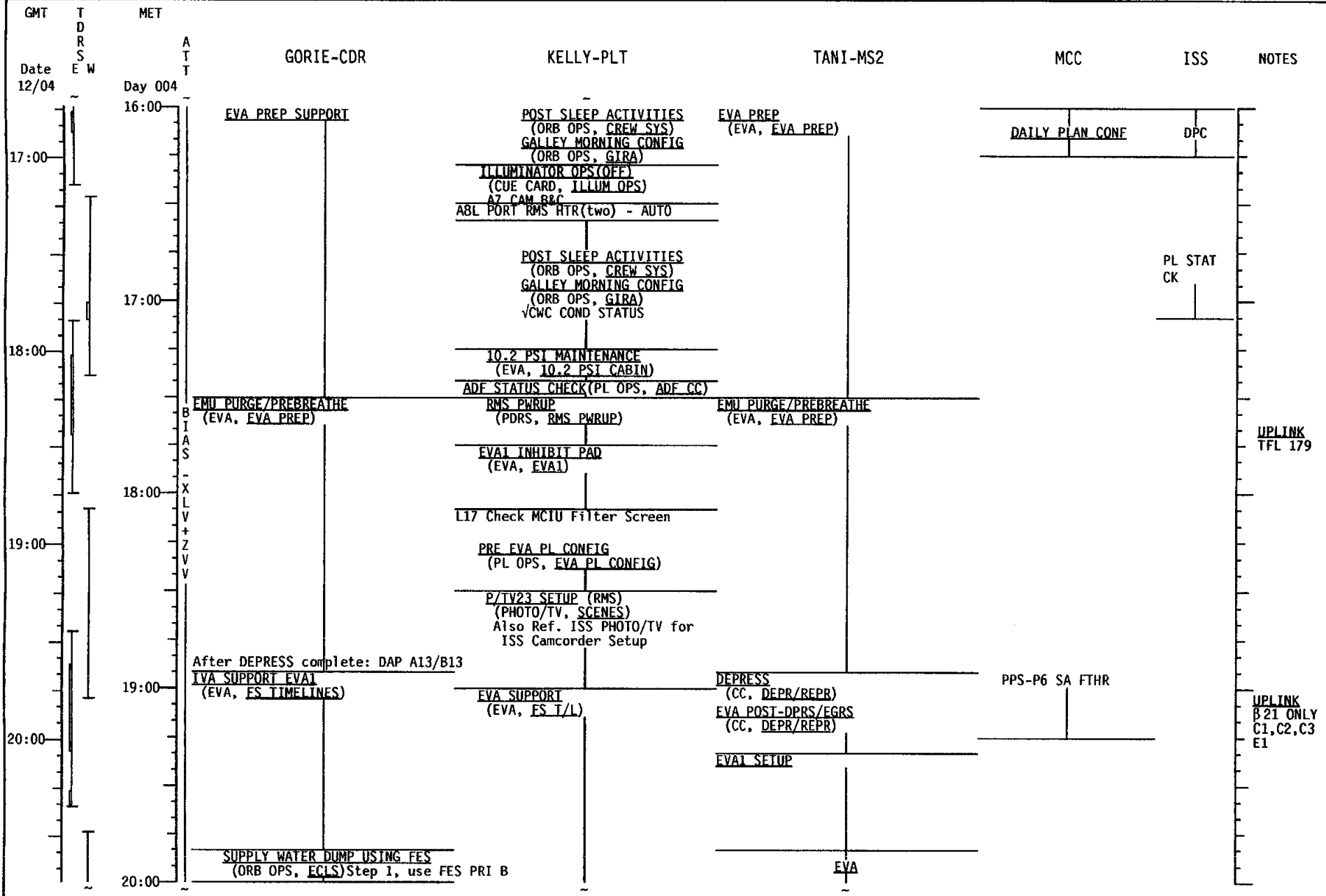
GMT	T D R S E W	MET	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date 12/04		Day 004						
12:00								ISS EXTERNAL SURVEY
13:00			SLEEP	SLEEP	SLEEP			
14:00			<b>FD6 EZ BLOCK</b> REBOOT PGSCs QCAC FILTER INSPECTION (ORB OPS, CREW SYS) TEPC STATUS CHECK (ORB OPS, CREW SYS) DSO490 LOG (ORB OPS, DSO490) DSO490 DOFF WATCH (ORB OPS, DSO490) Step C (MS1 & MS2)				SLEEP	
15:00								
16:00			POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS) GALLEY MORNING CONFIG (ORB OPS, GIRA)	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)		POST-SLEEP	
16:00			06 ✓UHF MODE - OFF A/G PRIVATE MEDICAL CONFERENCE					

# STS-108/UF1 (FD 06)

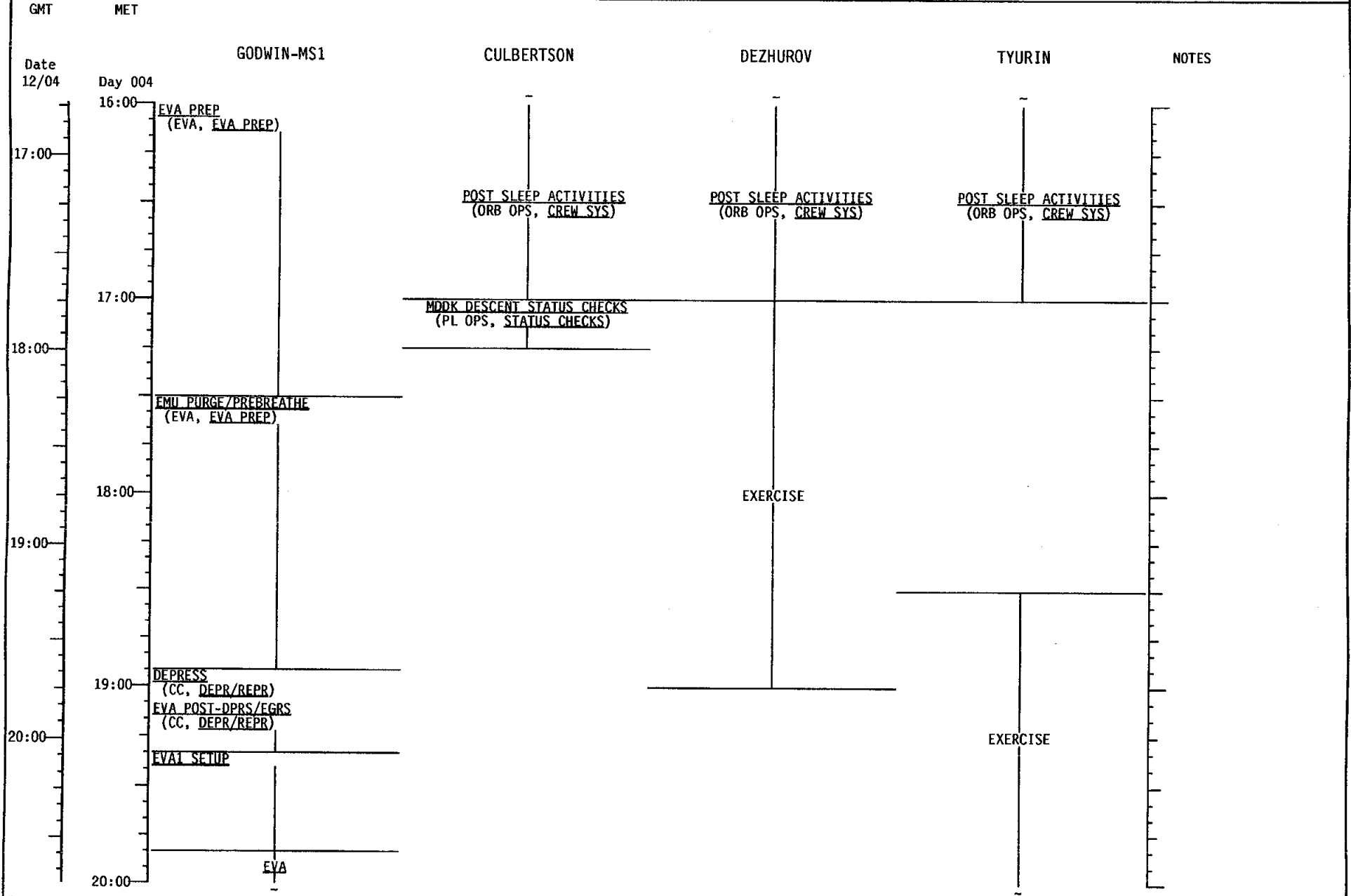
GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/04	Day 004					
12:00						
13:00						
13:00		SLEEP	SLEEP	SLEEP	SLEEP	
14:00						
14:00	FD06					
15:00		<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	
16:00						



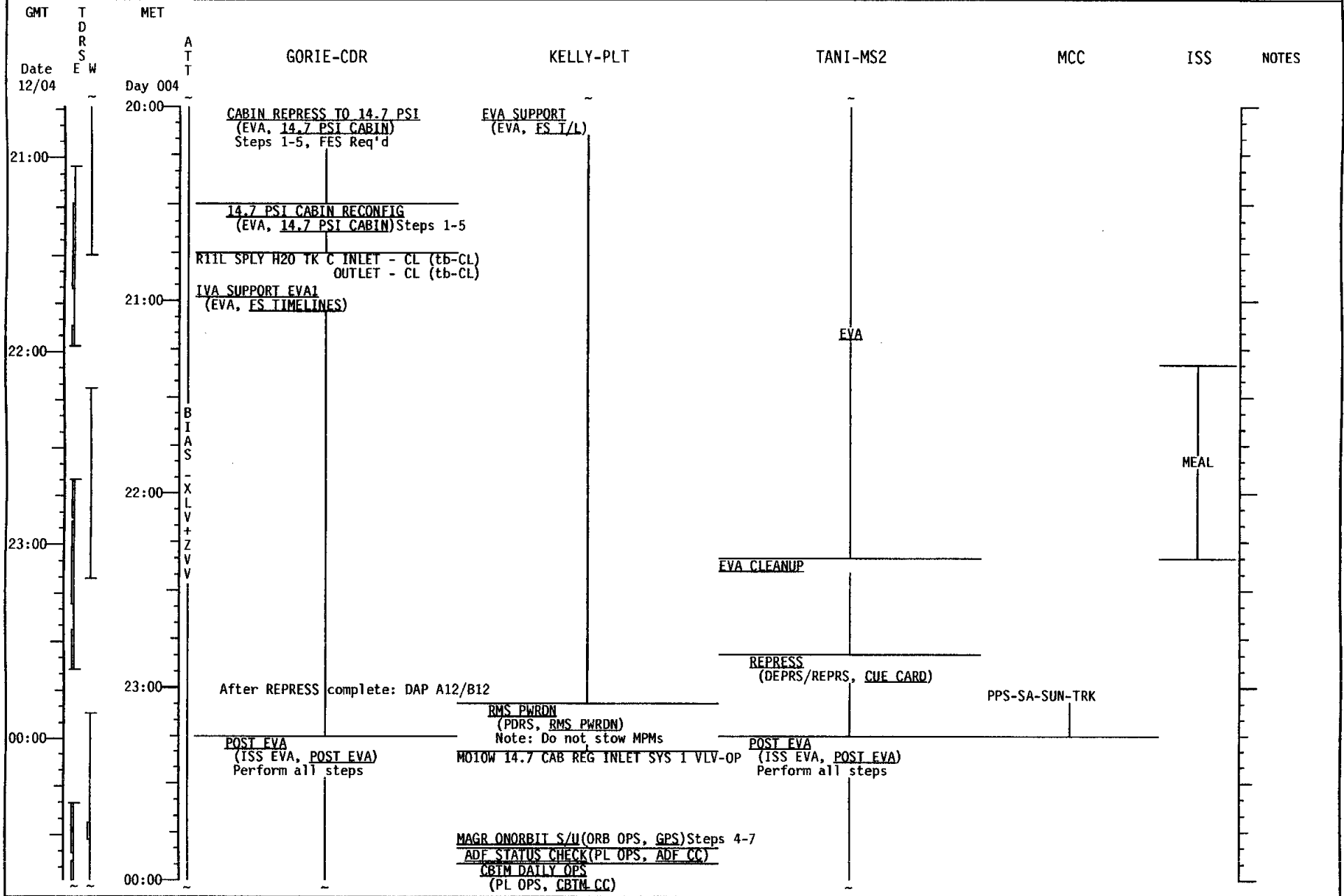
# STS-108/UF1 (FD 06)



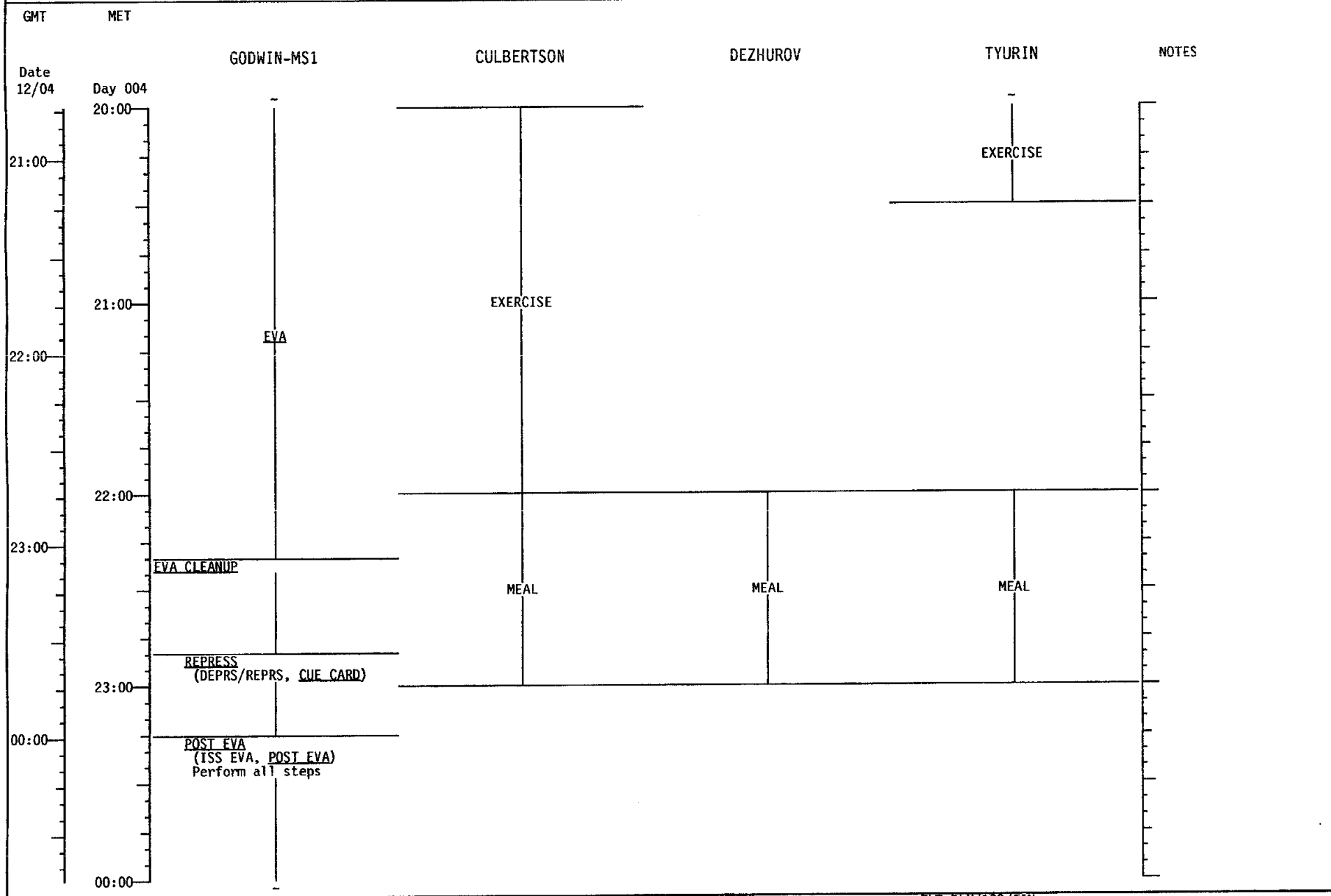
# STS-108/UF1 (FD 06)



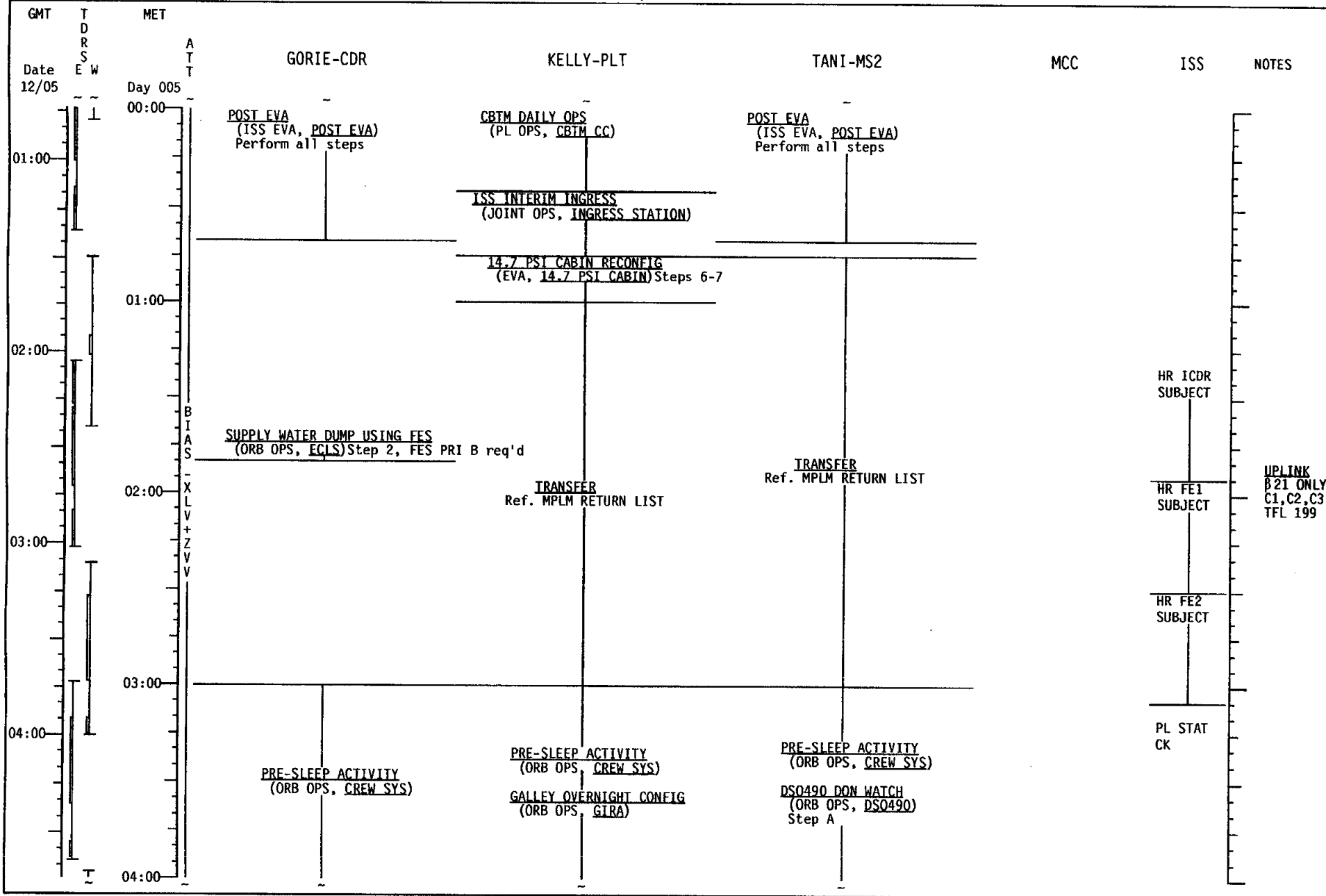
# STS-108/UF1 (FD 06)



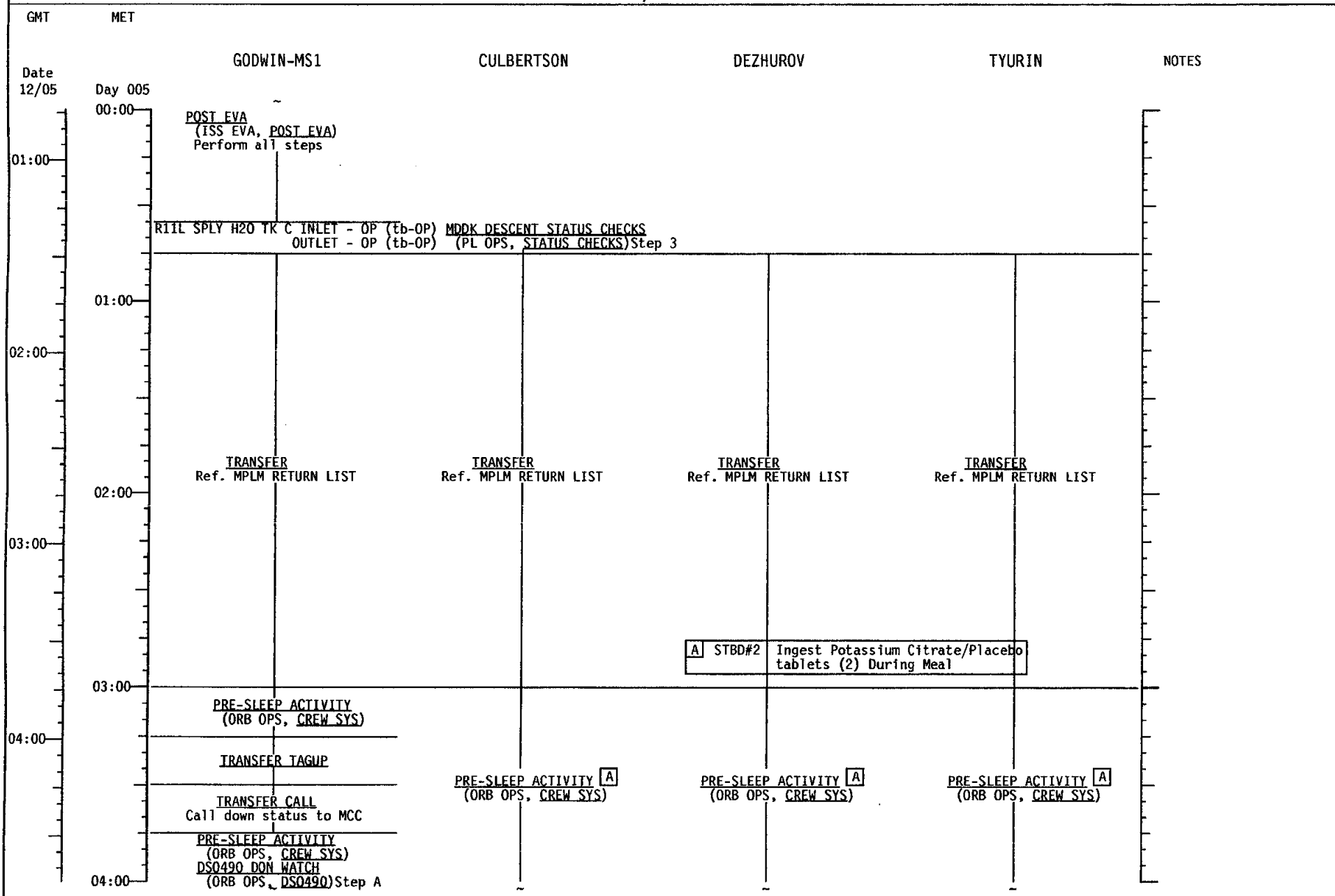
# STS-108/UF1 (FD 06)



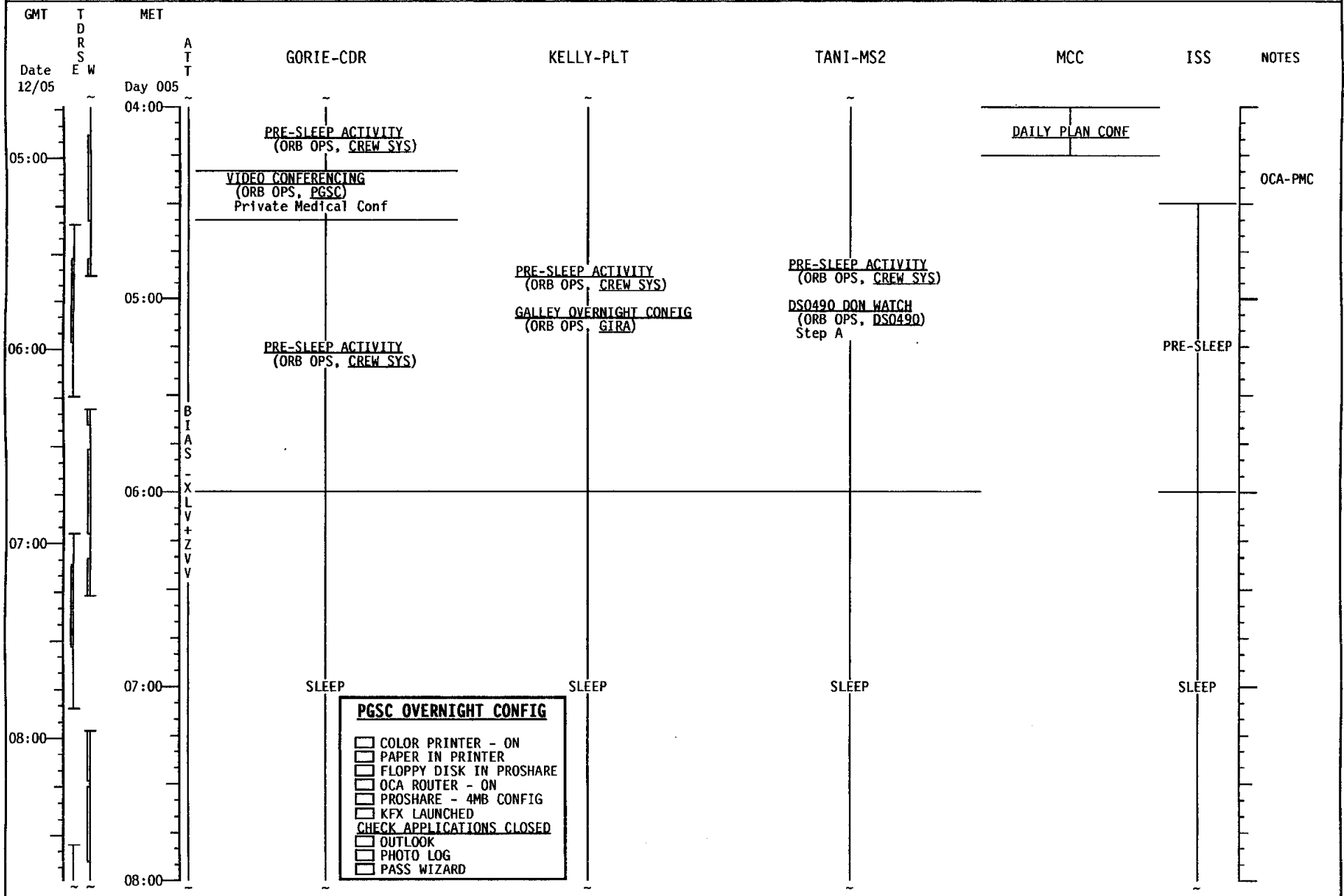
# STS-108/UF1 (FD 06)



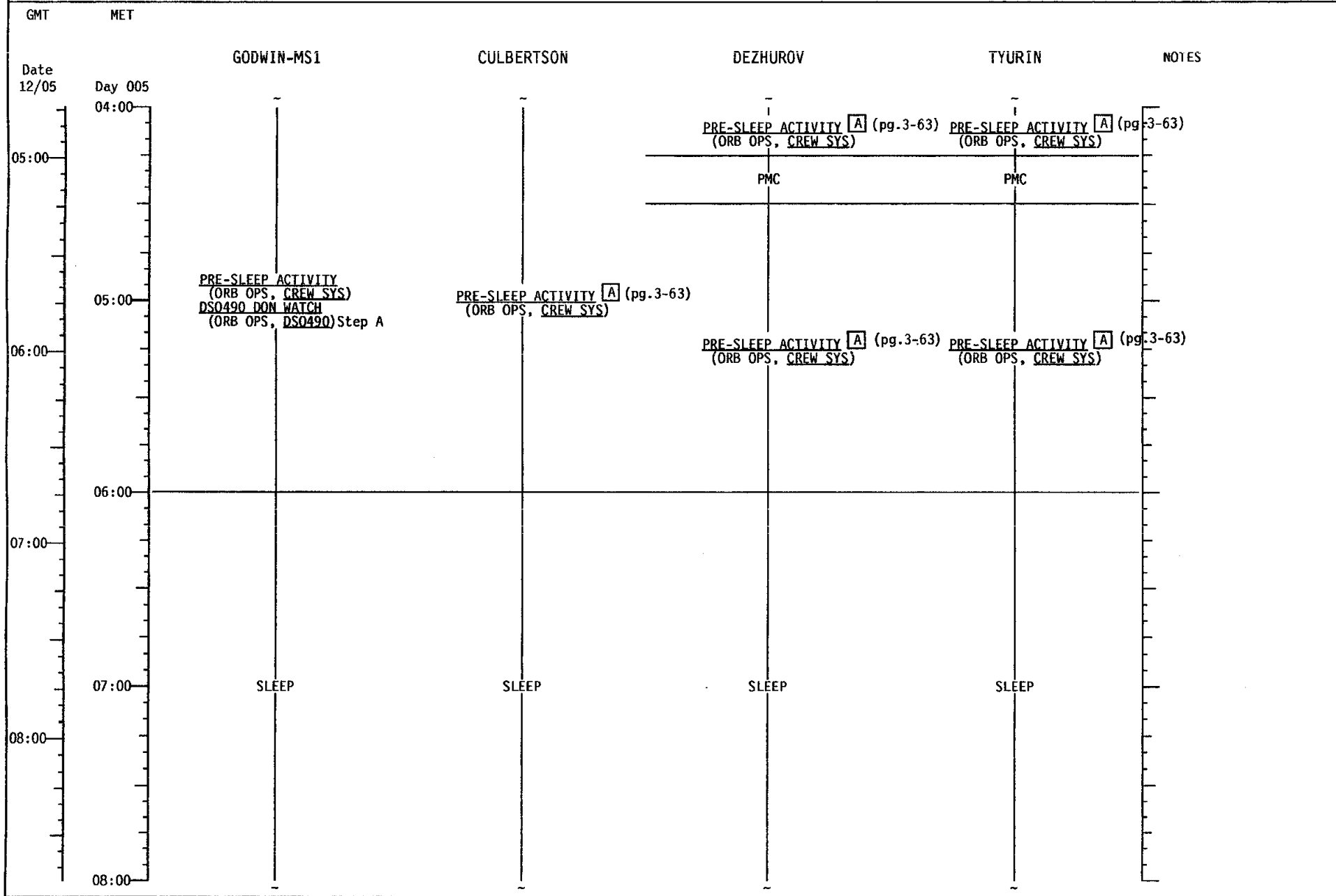
# STS-108/UF1 (FD 06)



# STS-108/UF1 (FD 06)

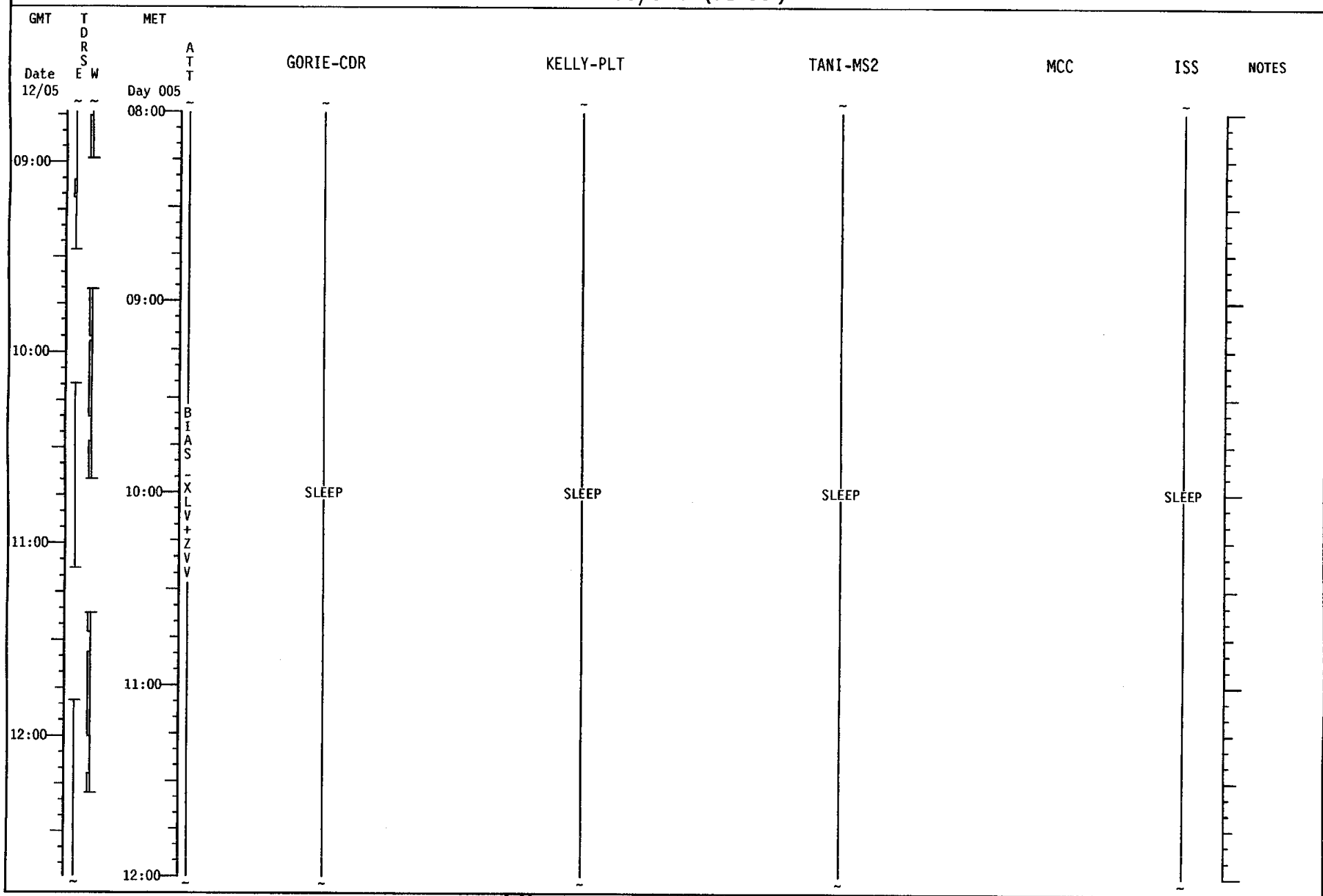


# STS-108/UF1 (FD 06)





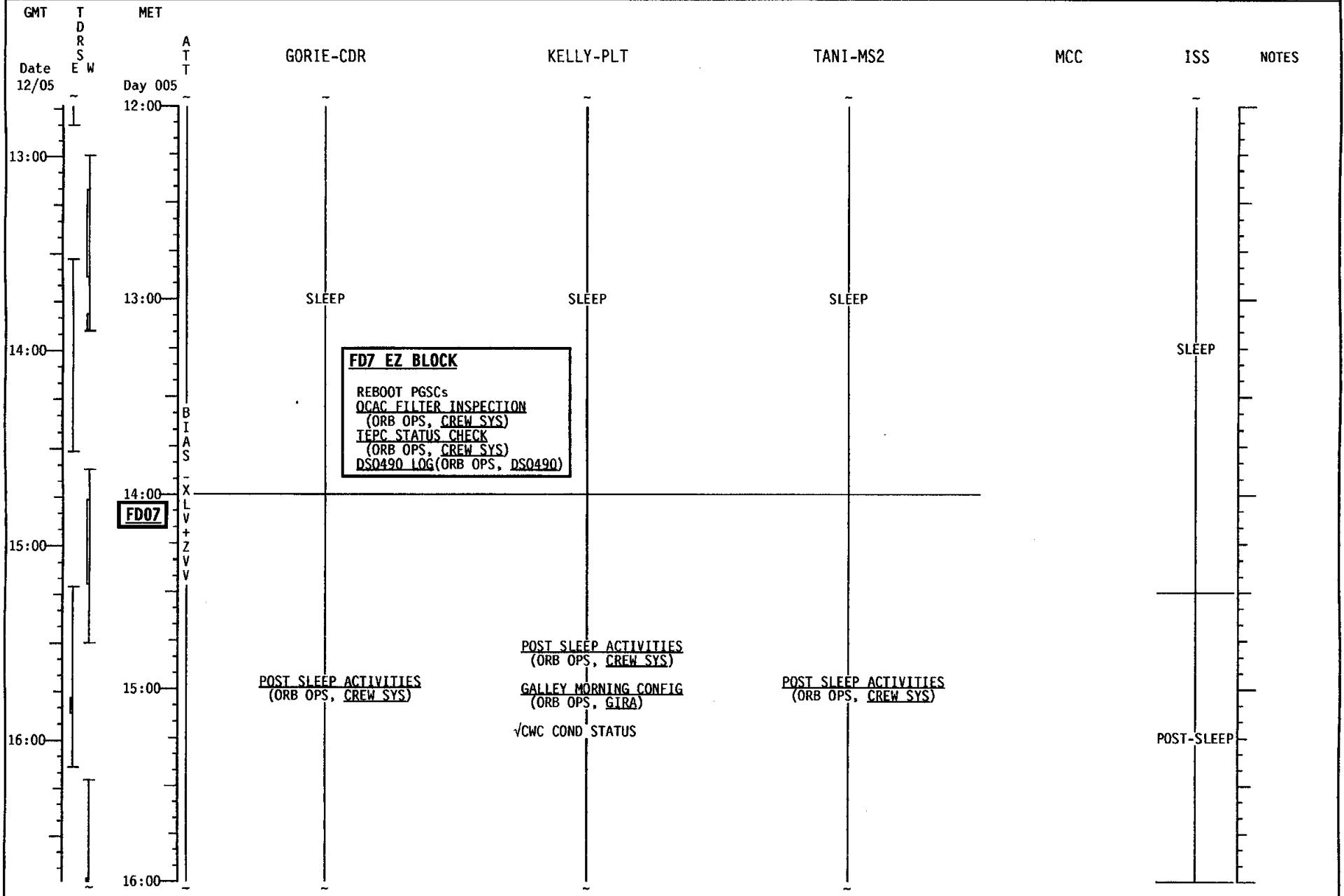
# STS-108/UF1 (FD 06)



STS-108/UF1 (FD 06)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/05	Day 005					
08:00	08:00					
09:00						
10:00	09:00					
11:00	10:00	SLEEP	SLEEP	SLEEP	SLEEP	
12:00	11:00					
	12:00					

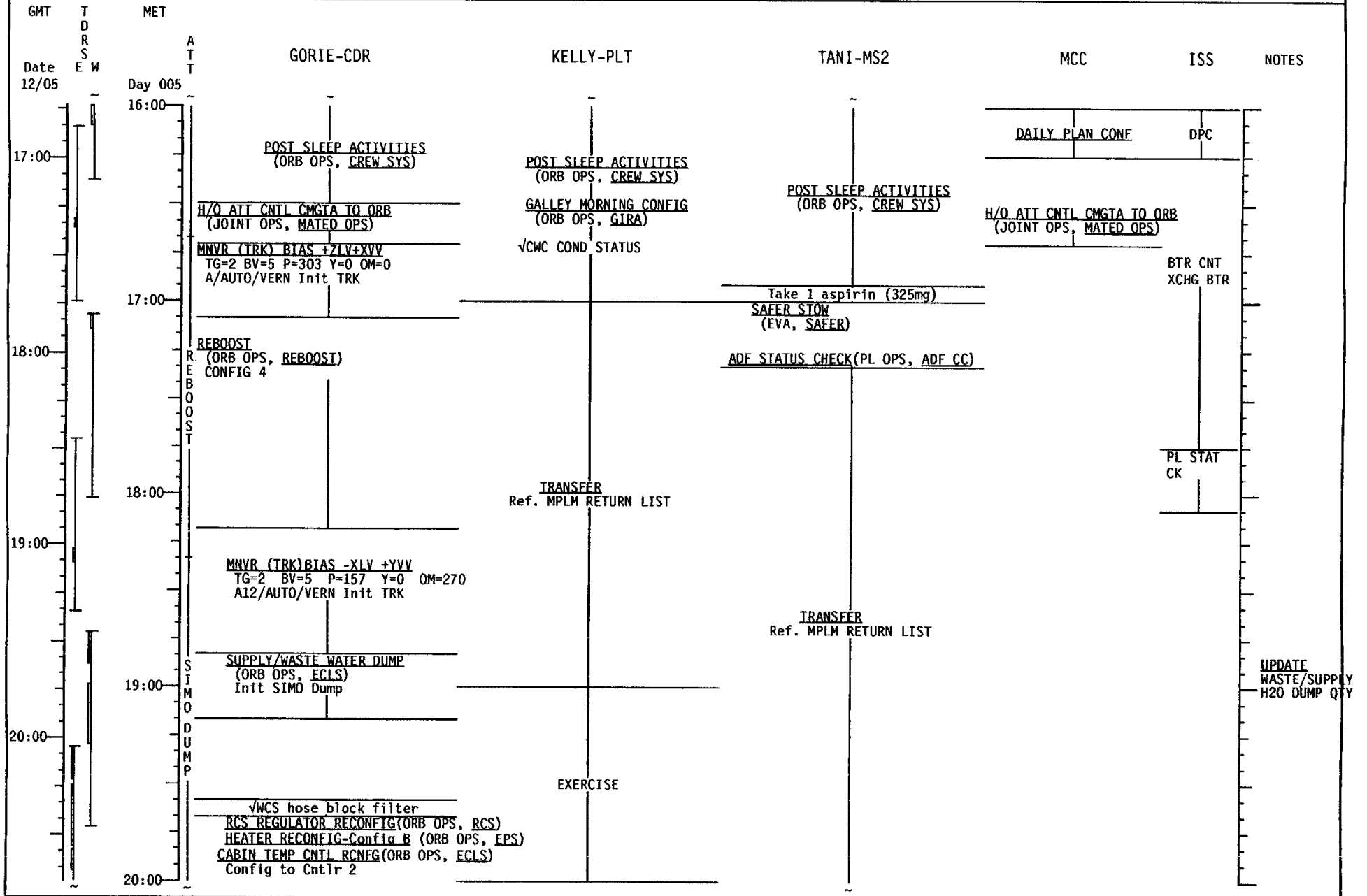
# STS-108/UF1 (FD 07)



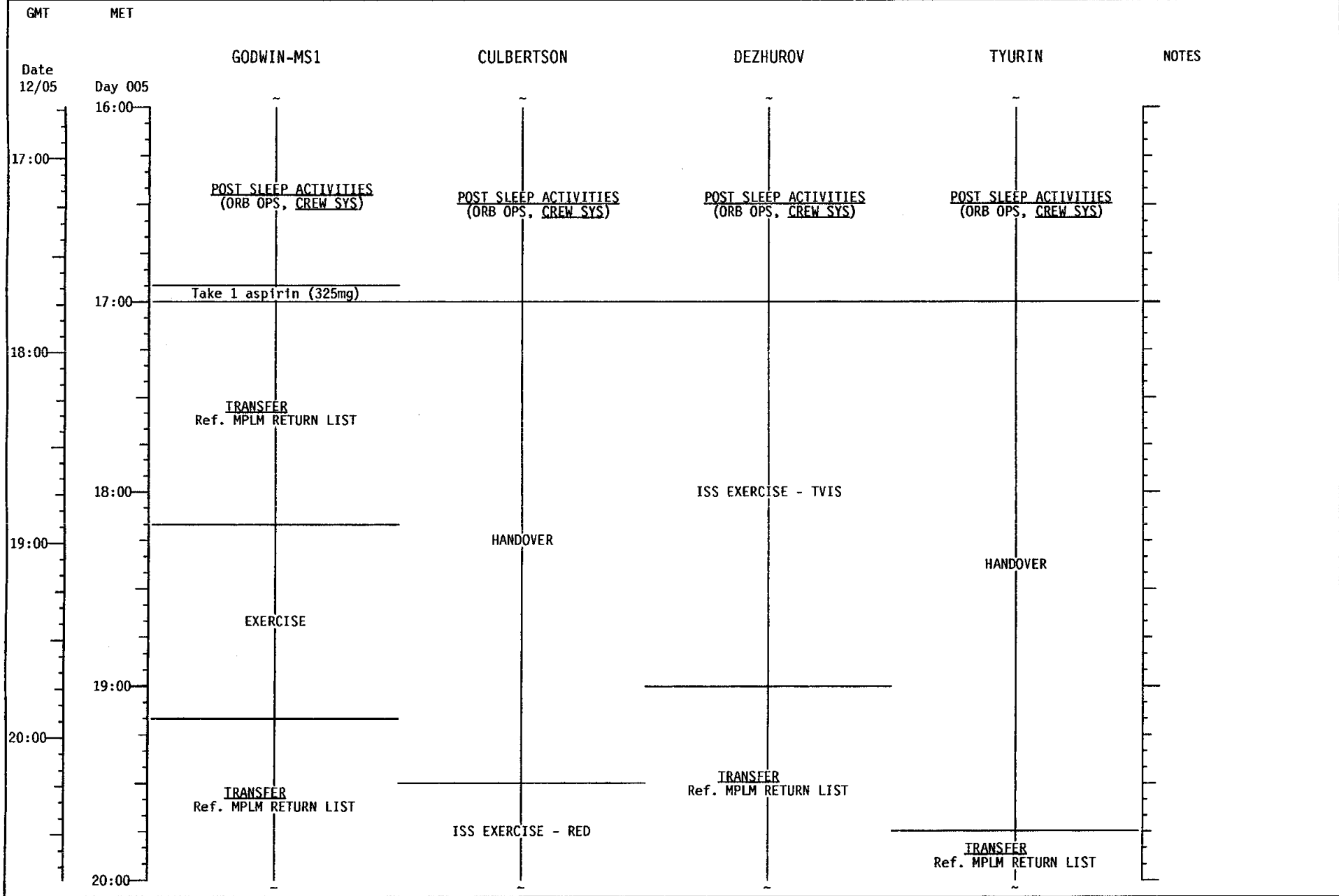
# STS-108/UF1 (FD 07)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/05	Day 005					
12:00						
13:00						
13:00		SLEEP	SLEEP	SLEEP	SLEEP	
14:00						
14:00						
15:00	<b>FD07</b>					
15:00		<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	
16:00						
16:00						

# STS-108/UF1 (FD 07)



# STS-108/UF1 (FD 07)



# STS-108/UF1 (FD 07)

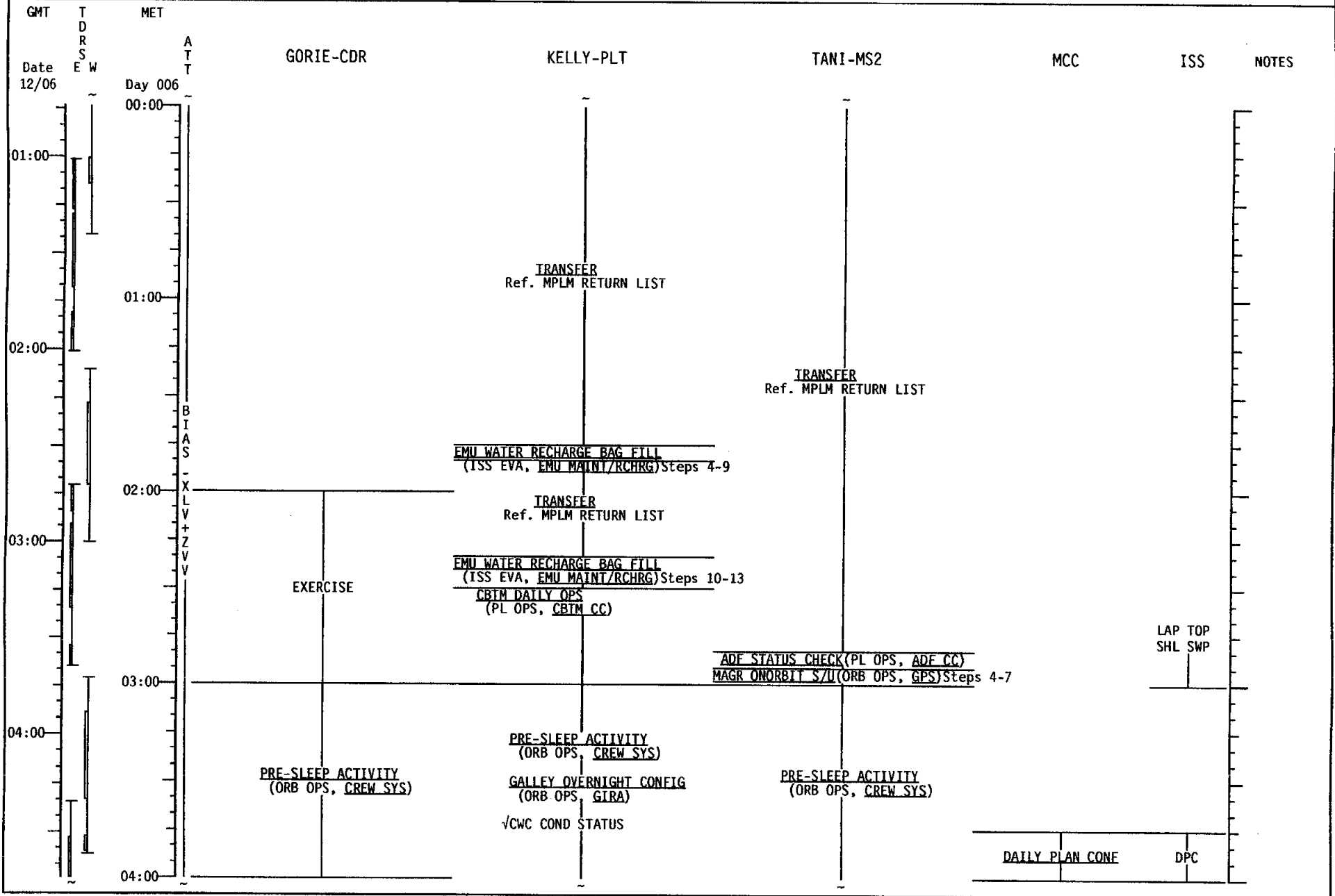
GMT	T D R S E W	MET	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date 12/05		Day 005						
20:00			<u>SUPPLY/WASTE WATER DUMP</u> (ORB OPS, ECLS) Term SIMO Dump <u>PWR OVERBOARD DUMP</u> (ORB OPS, ECLS)					
21:00			<u>MNVR (TRK) BIAS -XLV +ZVV</u> TG=2 BV=5 P=157 Y=0 OM=0 A/AUTO/VERN Init TRK	<u>TRANSFER</u> Ref. MPLM RETURN LIST	<u>TRANSFER</u> Ref. MPLM RETURN LIST	<u>PPS-SA-SUN-TRK</u>		
			When in ATT: <u>H/O ATT CNTL ORB TO CMGTA</u> (JOINT OPS, <u>MATED OPS</u> )			When in ATT: <u>H/O ATT CNTL ORB TO CMGTA</u> (JOINT OPS, <u>MATED OPS</u> )		
				<u>EMU WATER RECHARGE BAG FILL</u> (ISS EVA, <u>EMU MAINT/RCHRG</u> )Steps 1-9				
21:00				<u>TRANSFER</u> Ref. MPLM RETURN LIST	<u>EXERCISE</u>			
22:00				<u>EMU WATER RECHARGE BAG FILL</u> (ISS EVA, <u>EMU MAINT/RCHRG</u> )Steps 10-13				
22:00			<u>MEAL</u>	<u>MEAL</u>	<u>MEAL</u>		<u>MEAL</u>	
23:00								
00:00				<u>TRANSFER</u> Ref. MPLM RETURN LIST	<u>TRANSFER</u> Ref. MPLM RETURN LIST			
00:00								

# STS-108/UF1 (FD 07)

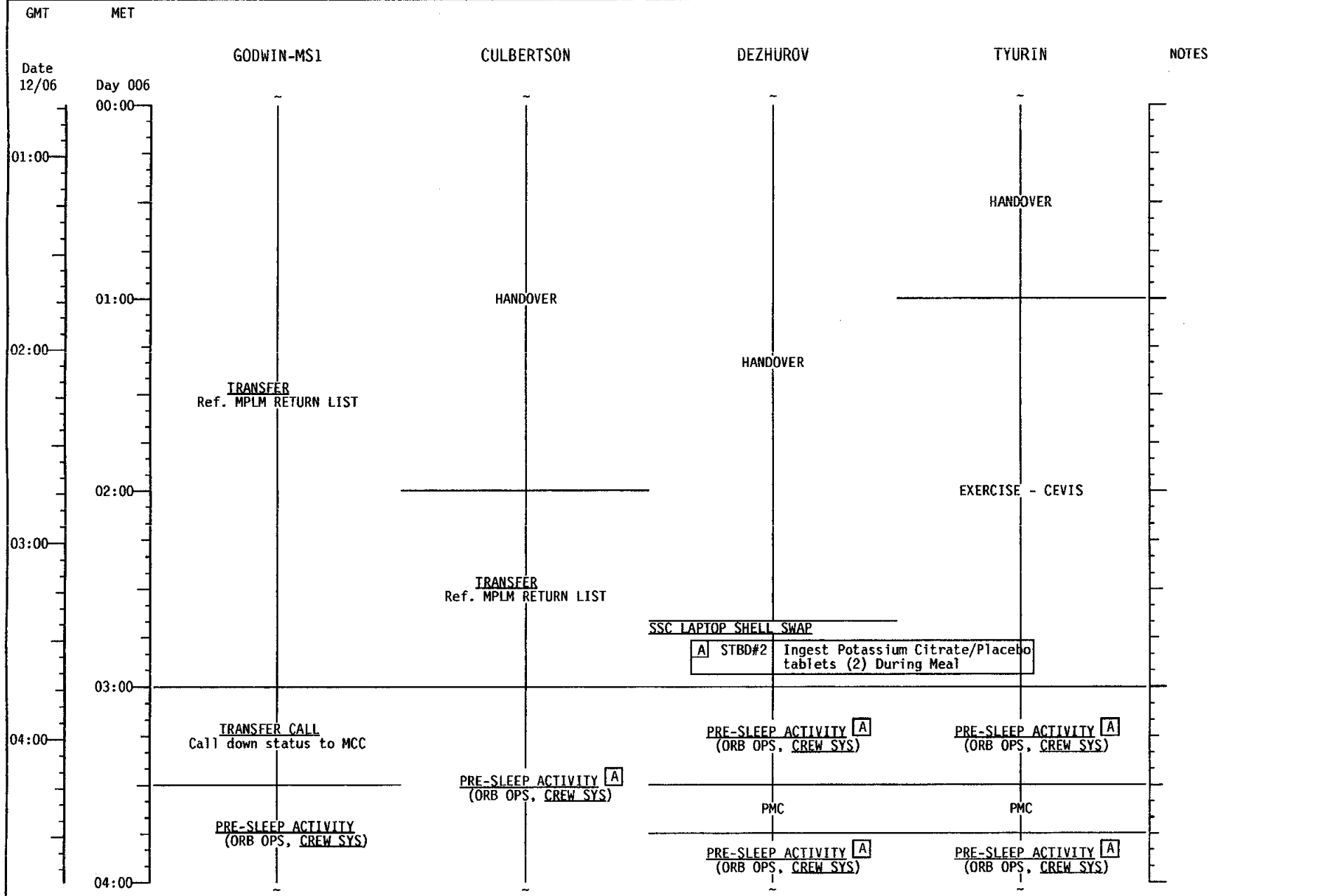
GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date	12/05					
	Day 005					
20:00						
21:00		TRANSFER Ref. MPLM RETURN LIST	ISS EXERCISE - RED	TRANSFER Ref. MPLM RETURN LIST	TRANSFER Ref. MPLM RETURN LIST	
21:00				P/TV21 ISS SETUP(PAO) (PHOTO/TV, SCENES)		
22:00				PUBLIC AFFAIRS EVENT Ku Avail 21:15-21:30 RUSSIAN EVENT	PUBLIC AFFAIRS EVENT Ku Avail 21:15-21:30 RUSSIAN EVENT	
22:00		MEAL	MEAL	MEAL	MEAL	
23:00						
23:00						
00:00		TRANSFER Ref. MPLM RETURN LIST	HANDOVER	HANDOVER	HANDOVER	
00:00						



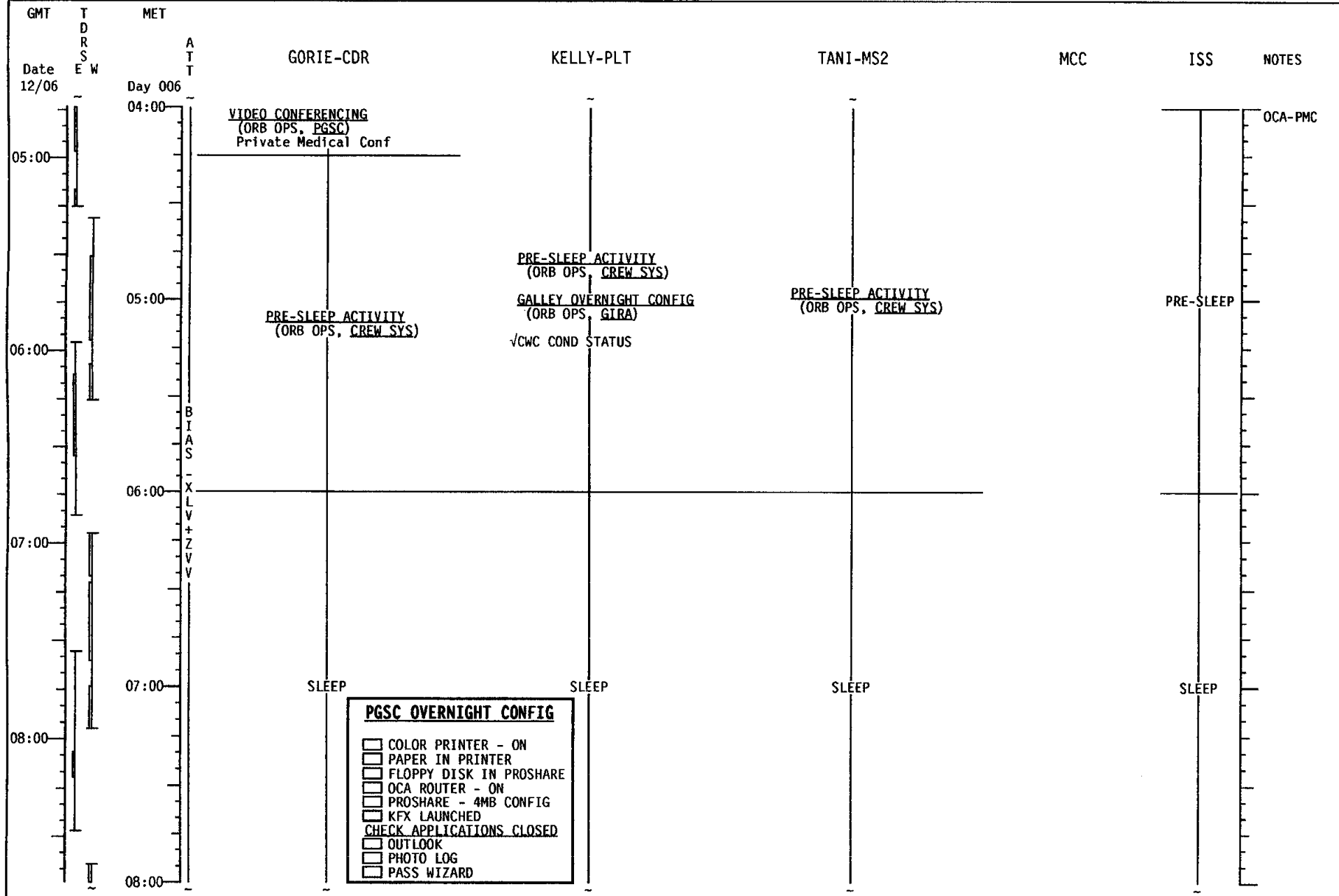
# STS-108/UF1 (FD 07)



# STS-108/UF1 (FD 07)



# STS-108/UF1 (FD 07)



# STS-108/UF1 (FD 07)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/06	Day 006					
04:00  05:00  06:00  07:00  08:00	04:00  05:00  06:00  07:00  08:00	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (pg.3-75) (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (pg.3-75) (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (pg.3-75) (ORB OPS, CREW SYS)	
		SLEEP	SLEEP	SLEEP	SLEEP	

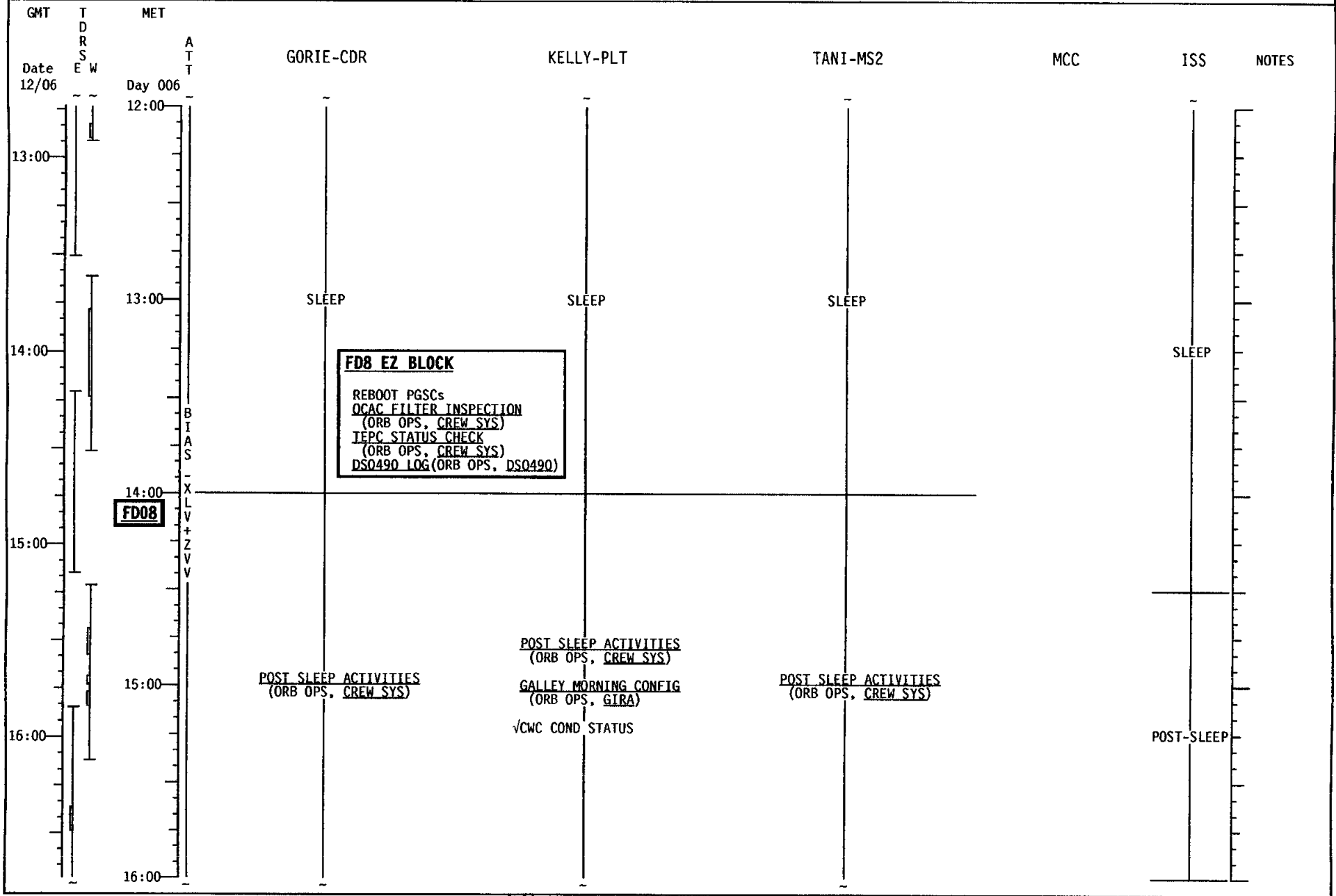
# STS-108/UF1 (FD 07)

GMT	T D R S E W	MET	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date 12/06		Day 006						
08:00		08:00						
09:00		09:00						
10:00		10:00						
11:00		11:00	SLEEP	SLEEP	SLEEP		SLEEP	
12:00		12:00						

# STS-108/UF1 (FD 07)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/06	Day 006					
08:00	08:00					
09:00						
10:00	09:00					
11:00	10:00	SLEEP	SLEEP	SLEEP	SLEEP	
12:00	11:00					
	12:00					

# STS-108/UF1 (FD 08)



# STS-108/UF1 (FD 08)

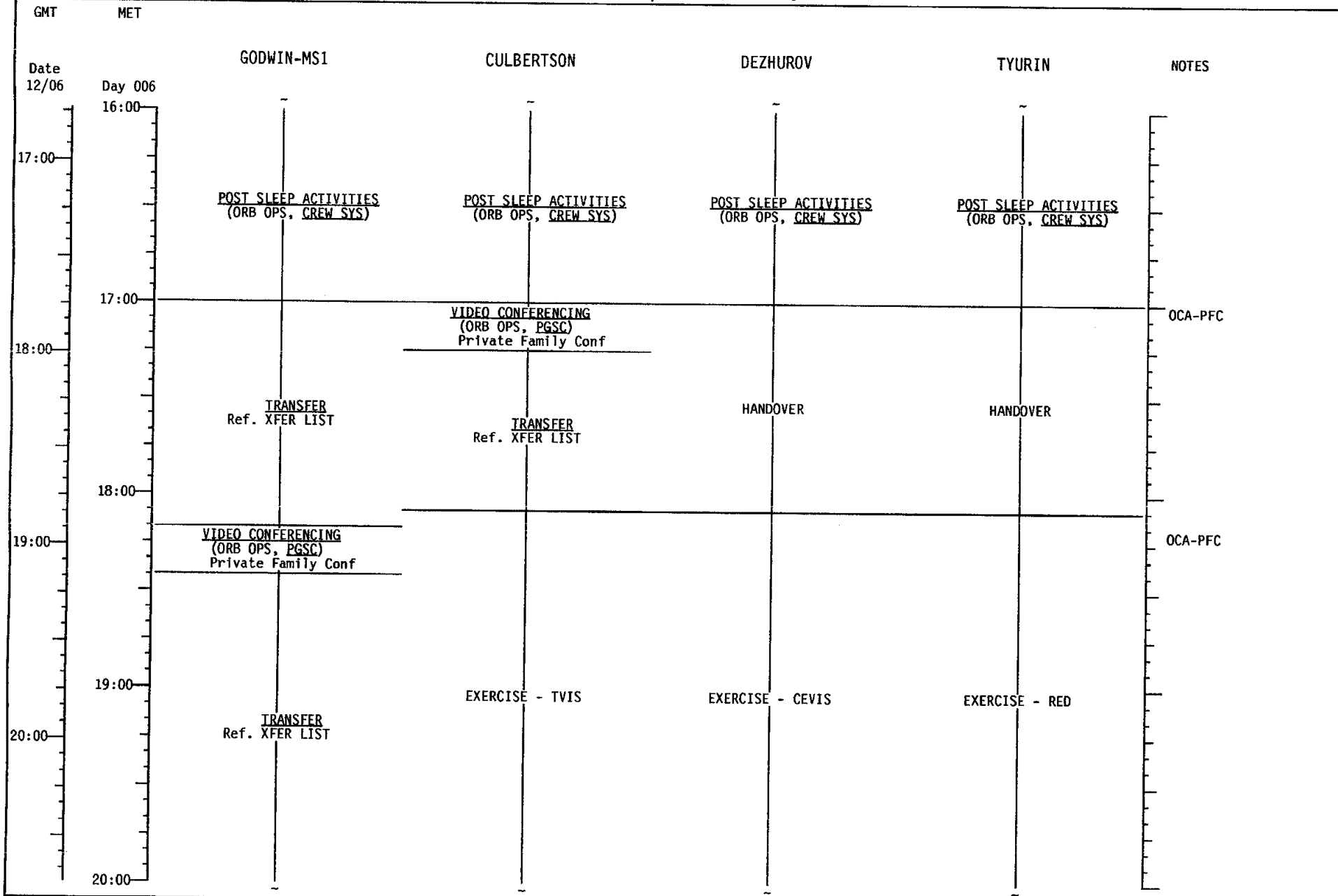
GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/06	Day 006					
12:00						
13:00						
13:00		SLEEP	SLEEP	SLEEP	SLEEP	
14:00						
14:00	<b>FD08</b>					
15:00						
15:00		<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	
16:00						
16:00						



# STS-108/UF1 (FD 08)

GMT	T D R S E W	MET	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date 12/06		Day 006						
16:00						DAILY PLAN CONF	DPC	
17:00			POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS) GALLEY MORNING CONFIG (ORB OPS, GIRA) √CWC COND STATUS	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)			
18:00			H/O ATT CNL CMGTA TO ORB (JOINT OPS, MATED OPS) MNVR (TRK) BIAS -XLV-ZVV TG=2 BV=5 P=174 Y=0 OM=180 A/AUTO/VERN Init TRK L17 Check MCIU Filter Screen	H/O ATT CNL CMGTA TO ORB (JOINT OPS, MATED OPS)	EXERCISE			
19:00			REBOOST (ORB OPS, REBOOST) CONFIG 4	TRANSFER Ref. XFER LIST				
20:00			MNVR (TRK)BIAS -XLV +YVV TG=2 BV=5 P=157 Y=0 OM=270 A12/AUTO/VERN Init TRK SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) Init SIMO Dump	EXERCISE	ISS-EMU-RESIZE		PL STAT CK	
20:00				P/TV21 SETUP (ISS INTERNAL) (PHOTO/TV, SCENES) Also Ref. ISS PHOTO/TV for ISS Camcorder Setup				UPDATE WASTE/SUPPLY H2O DUMP QTY

# STS-108/UF1 (FD 08)



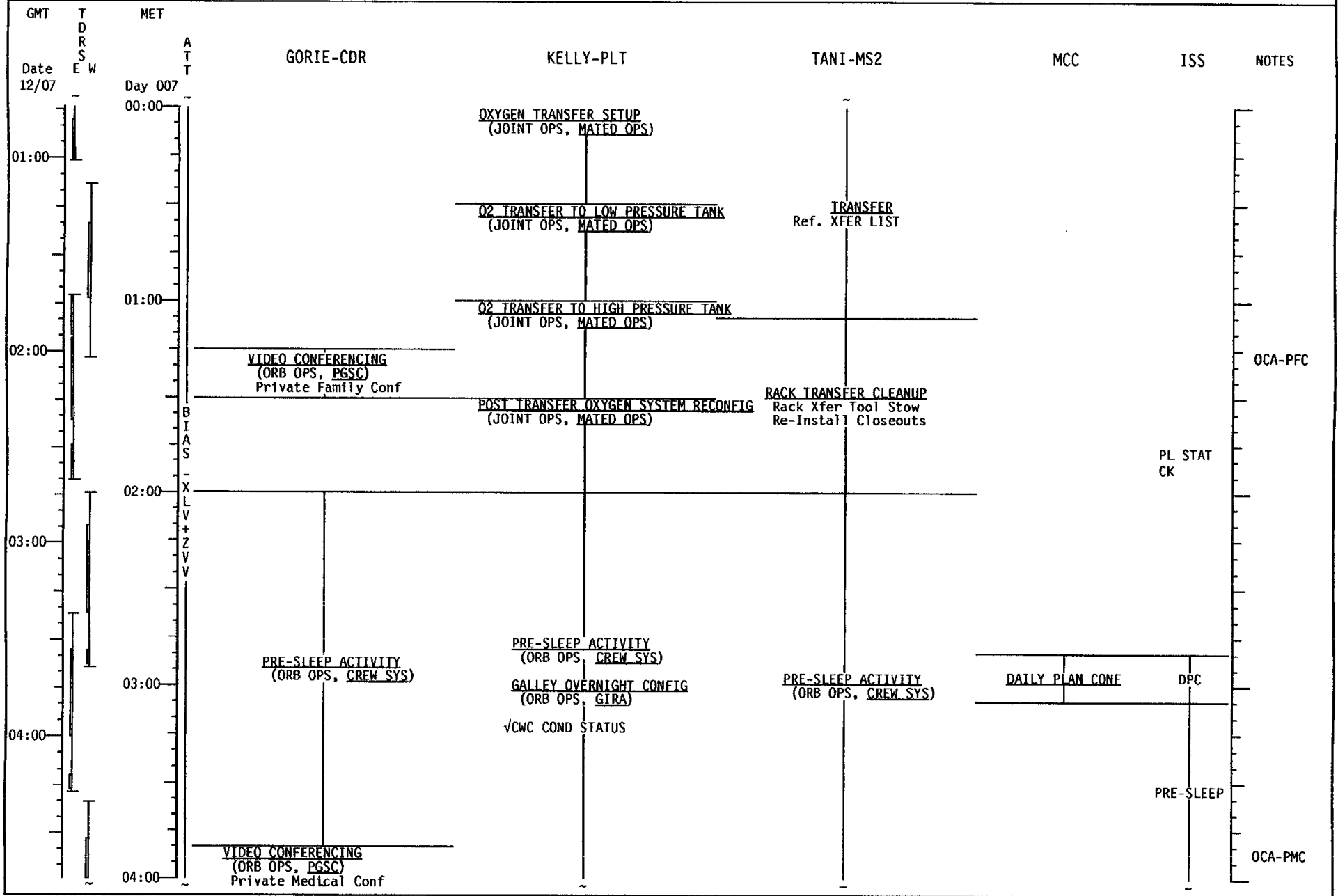
# STS-108/UF1 (FD 08)

GMT	T D R S E W	MET	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date 12/06		Day 006						
20:00				P/TV21 SETUP-(ISS INTERNAL) (PHOTO/TV, SCENES)	ISS-EMU-RESIZE			
21:00			CREW PHOTO	CREW PHOTO	CREW PHOTO		CREW PHOTO	
			<u>SUPPLY/WASTE WATER DUMP</u> (ORB OPS, ECLS) Term SIMO Dump <u>PWR OVERBOARD DUMP</u> (ORB OPS, ECLS)					
			<u>MNVR (TRK) BIAS -XLV +ZVV</u> TG=2 BV=5 P=157 Y=0 OM=0 A/AUTO/VERN Init TRK					
21:00				MEAL	MEAL			
						PPS-SA-SUN-TRK		
22:00			When in ATT: <u>H/O ATT CNIL ORB TO CMGTA</u> (JOINT OPS, MATED OPS)					
			CREW CONFERENCE	CREW CONFERENCE Ku avail 21:34 - 22:00	CREW CONFERENCE		CREW CONF	
22:00					<u>EMU PREP FOR STS TRANSFER</u> (EVA, AIRLOCK CONFIG)		CBM CPA INST	
23:00			MEAL	<u>TRANSFER</u> Ref. XFER LIST	<u>MAGR ONORBIT S/U</u> (ORB OPS, GPS)Steps 4-7			
					<u>TRANSFER</u> Ref. XFER LIST			
00:00			EXERCISE	<u>VIDEO CONFERENCING</u> (ORB OPS, PGSC) Private Family Conf	<u>VIDEO CONFERENCING</u> (ORB OPS, PGSC) Private Family Conf			OCA-PFC
				<u>CBTM DAILY OPS</u> (PL OPS, CBTM CC)	<u>TRANSFER</u> Ref. XFER LIST			OCA-PFC
00:00								

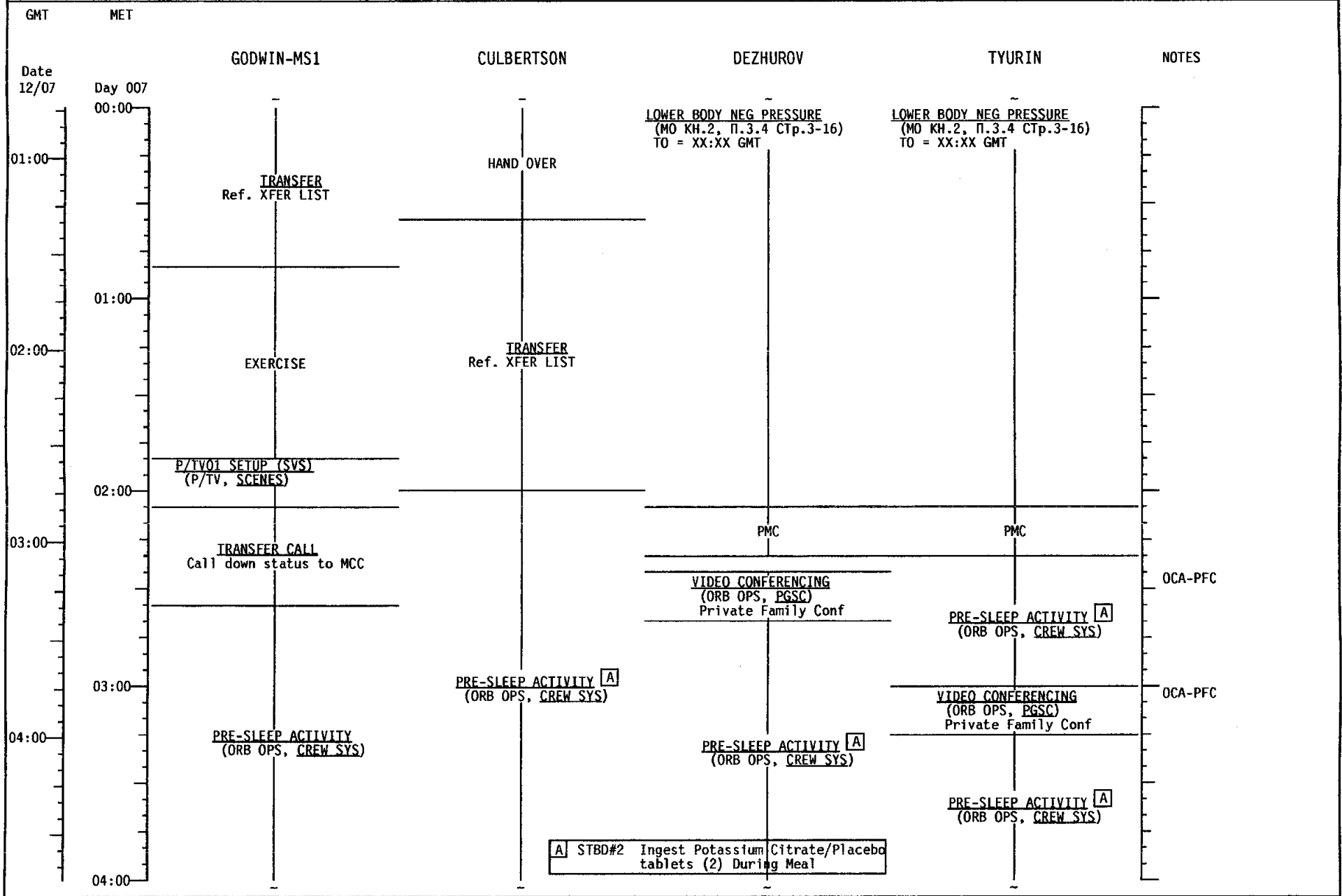
# STS-108/UF1 (FD 08)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/06	Day 006					
20:00		TRANSFER Ref. XFER LIST	EXERCISE - TVIS	EXERCISE - CEVIS	EXERCISE - RED	
21:00		CREW PHOTO	CREW PHOTO	CREW PHOTO	CREW PHOTO	
21:00		MEAL	MEAL	MEAL	MEAL	
22:00		CREW CONFERENCE	CREW CONFERENCE	CREW CONFERENCE	CREW CONFERENCE	
22:00						
23:00				TRANSFER Ref. XFER LIST	TRANSFER Ref. XFER LIST	
23:00		TRANSFER Ref. XFER LIST	HAND OVER			
00:00				LOWER BODY NEG PRESSURE (MO KH.2, П.3.4 CТp.3-16) TO = XX:XX GMT	LOWER BODY NEG PRESSURE (MO KH.2, П.3.4 CТp.3-16) TO = XX:XX GMT	
00:00						

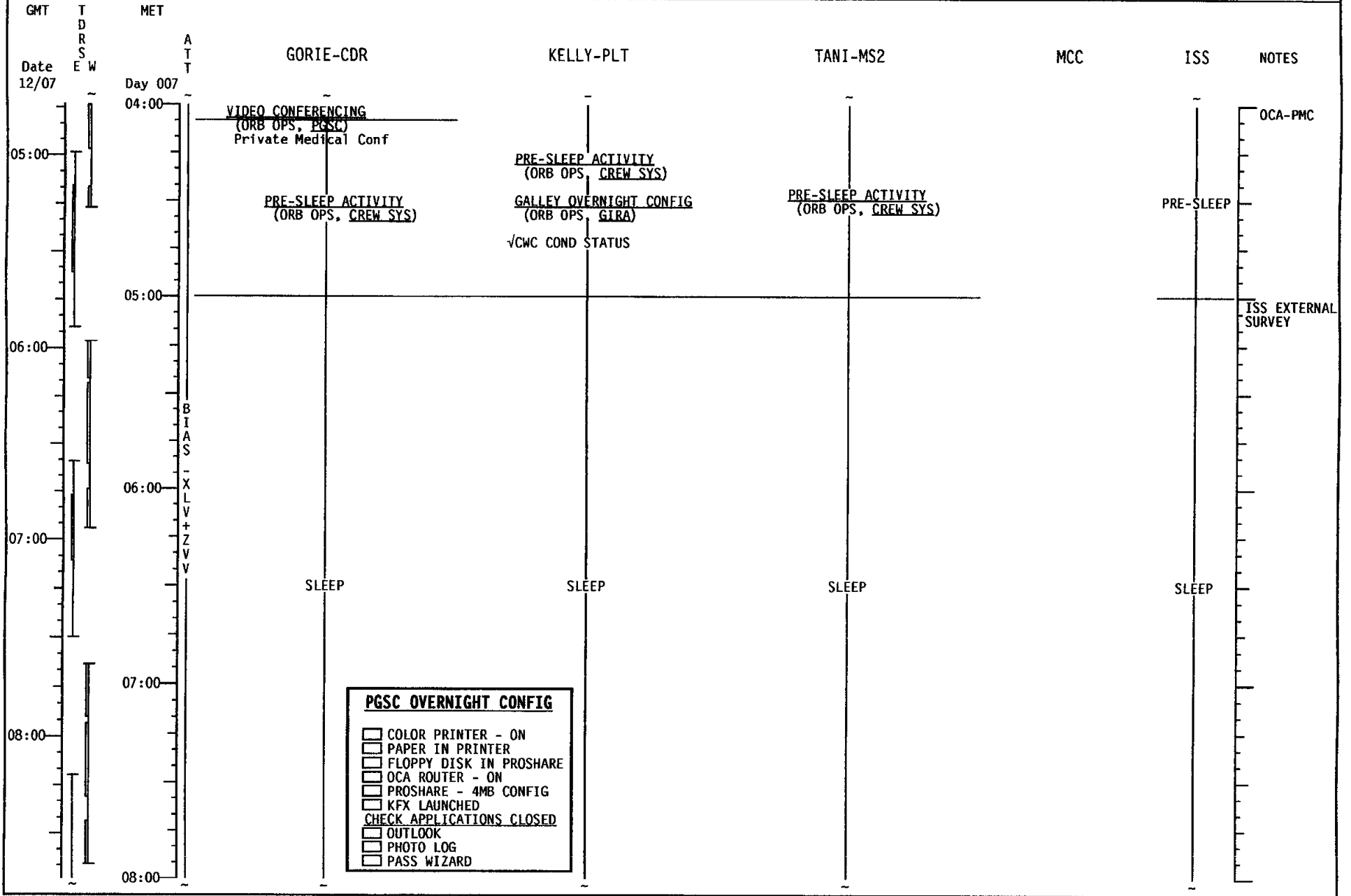
# STS-108/UF1 (FD 08)



# STS-108/UF1 (FD 08)



# STS-108/UF1 (FD 08)



# STS-108/UF1 (FD 08)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/07	Day 007					
04:00 05:00 06:00 07:00 08:00	04:00 05:00 06:00 07:00 08:00	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (pg.3-87) (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (pg.3-87) (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (pg.3-87) (ORB OPS, CREW SYS)	ISS EXTERNAL SURVEY
		SLEEP	SLEEP	SLEEP	SLEEP	



# STS-108/UF1 (FD 08)

GMT	T D R S E W	MET	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date 12/07		Day 007						
08:00		08:00						ISS EXTERNAL SURVEY
09:00								
10:00		09:00						
		10:00	SLEEP	SLEEP	SLEEP			
11:00		10:00				1.508 N1 CBM PREP FOR DEMATE (S&M, NOMINAL)	SLEEP	
		11:00						
12:00		11:00						
		12:00						

STS-108/UF1 (FD 08)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/07	Day 007					ISS EXTERNAL SURVEY
08:00	08:00					
09:00						
10:00						
11:00		SLEEP	SLEEP	SLEEP	SLEEP	
12:00						

# STS-108/UF1 (FD 09)

GMT	T D R S E W	MET	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date 12/07		Day 007						
12:00								ISS EXTERNAL SURVEY
13:00			SLEEP	SLEEP	SLEEP		SLEEP	
			<b>FD9 EZ BLOCK</b> REBOOT PGSCs QCAC FILTER INSPECTION (ORB OPS, CREW SYS) IEPC STATUS CHECK (ORB OPS, CREW SYS) DSO490 LOG (ORB OPS, DSO490)					
		13:00						
		<b>FD09</b>						
14:00								
15:00			POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS) GALLEY MORNING CONFIG (ORB OPS, GIRA) √CWC COND STATUS	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)		POST-SLEEP	
15:00								
16:00						DAILY PLAN CONF	DPC	
16:00								

# STS-108/UF1 (FD 09)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/07	Day 007					
12:00	12:00	SLEEP	SLEEP	SLEEP	SLEEP	
13:00	13:00					ISS EXTERNAL SURVEY
14:00	14:00					
15:00	15:00	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	
16:00	16:00					

FD09

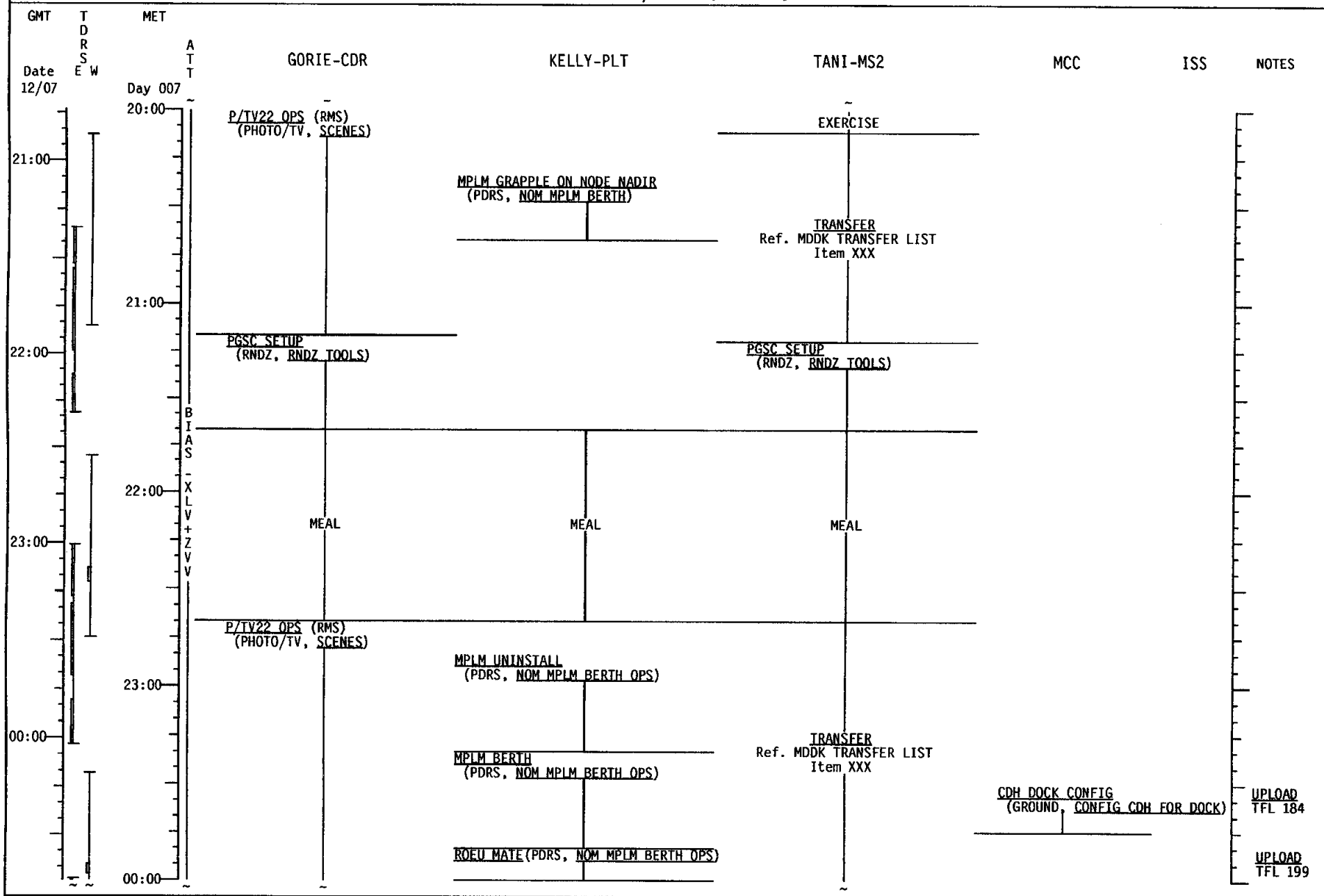
# STS-108/UF1 (FD 09)

GMT	T D R S E W	MET	A T T	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date 12/07	~ ~	Day 007	16:00						
17:00	~ ~				EXERCISE	TRANSFER Ref. XFER LIST			
				EXERCISE		MPLM EGRESS (MPLM, NOMINAL)		MPLM EGRS	
18:00					CBTM DAILY OPS (PL OPS, CBTM CC)	MPLM DEACTIVATION (MPLM, NOMINAL) Steps 1-2, 4-9		PL STAT CK	
						MPLM VESTIBULE CNEG FOR DEMATE (S&M, NOMINAL) (MPLM, NOMINAL)			
				SUPPLY WATER DUMP USING FES (ORB OPS, ECLS) Step 1, use FES PRI B					
				FILTER CLEANING (IFM, SCHEDULED MAINTENANCE)					
19:00									
					TRANSFER Ref. MDDK TRANSFER LIST Item XXX				
						SIGI DATA CHECK (ORB OPS, GPS)			
						MAGR ONORBIT S/U (ORB OPS, GPS) Steps 4-7			
						ADF STATUS CHECK (PL OPS, ADF CC)			
20:00				P/TV22 SETUP (RMS) (PHOTO/TV, SCENES) Also Ref. ISS PHOTO/TV for ISS Camcorder Setup					
					RMS PWRUP (PDRS, RMS PWRUP)				
						EXERCISE			
				P/TV22 OPS (RMS) (PHOTO/TV, SCENES)			CDH DOCK CONFIG (GROUND, CONFIG CDH FOR DOCK)		UPLOAD TFL 179
20:00									

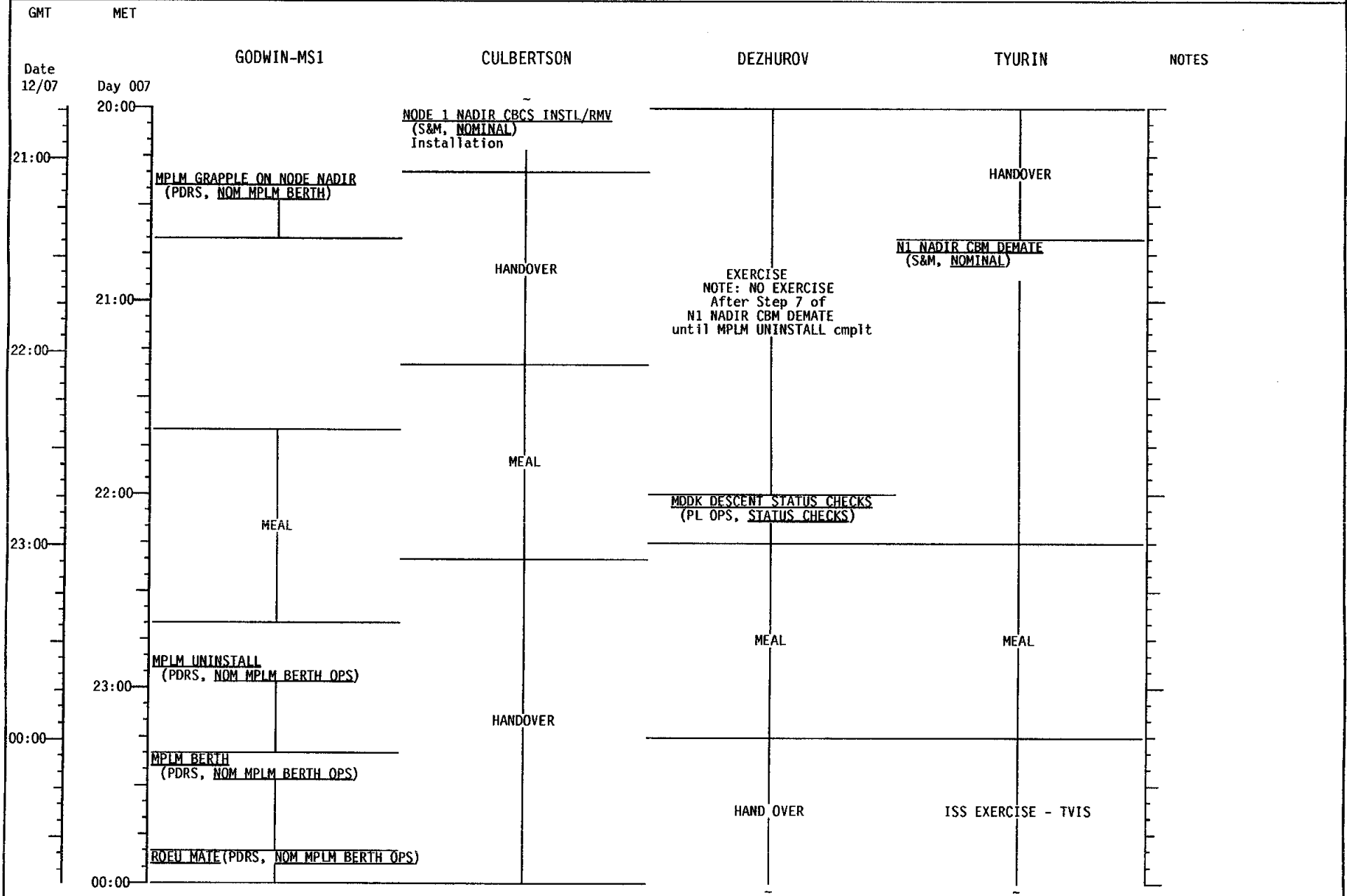
# STS-108/UF1 (FD 09)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/07	Day 007					
16:00		MPLM DEW MEASUREMENT (MPLM, NOMINAL)				
17:00		MPLM XFER CLOSE OUT	HANDOVER	TRANSFER Ref. XFER LIST	CONFIGURE MPLM RACKS FOR RE-ENTRY (PL OPS, RACK OPS)	
17:00		TRANSFER CALL Call down status to MCC				
18:00				LOWER BODY NEG PRESSURE (MO KH.2, П.3.4 CТp.3-16) TO = XX:XX GMT	LOWER BODY NEG PRESSURE (MO KH.2, П.3.4 CТp.3-16) TO = XX:XX GMT	
18:00		TRANSFER Ref. MDDK TRANSFER LIST Item XXX	EXERCISE - TVIS			
19:00		ABL PORT RMS HTR(two) - AUTO L17 Check MCIU Filter Screen				
19:00		EXERCISE	NI/MPLM VEST DEPRESS (MPLM, NOMINAL)			
20:00		RMS PWRUP (PDRS, RMS PWRUP)				
20:00			NODE 1 NADIR CBCS INSTL/RMV (S&M, NOMINAL) Installation -			

# STS-108/UF1 (FD 09)



# STS-108/UF1 (FD 09)





# STS-108/UF1 (FD 09)

GMT	T D R S E W	MET	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date	12/08	Day 008						
00:00			P/TV22 OPS (RMS) (PHOTO/TV, SCENES)	MPLM UNGRAPPLE IN BAY (PDRS, NOM MPLM BERTH)	TRANSFER Ref. MDDK TRANSFER LIST Item XXX			
01:00			L12 MPLM CH1 HTR PWR - ON MPLM CH2 HTR PWR - ON	RMS PWRDN (PDRS, RMS PWRDN) Note: Do not stow MPMs		MPLM ENVIRONMENT CK (MPLM, NOMINAL)	PL STAT CK	
			ADF STATUS CHECK (PL OPS, ADF CC)					
			UNDOCK TAGUP	UNDOCK TAGUP	UNDOCK TAGUP		UNDOCK TAGUP	
01:00				ILLUMINATOR OPS (ON) (CUE CARD, ILLUM OPS) A7 CAM B&C				
02:00			PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)  GALLEY OVERNIGHT CONFIG (ORB OPS, GIRA)				
						DAILY PLAN CONC	DPC	
02:00			VIDEO CONFERENCING (ORB OPS, PGSC) Private Medical Conf	SUPPLY WATER DUMP USING FES (ORB OPS, ECLS) Step 2, FES PRI B req'd				
03:00					PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			OCA-PMC
03:00			PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)  GALLEY OVERNIGHT CONFIG (ORB OPS, GIRA)			PRE-SLEEP	
04:00								
04:00			L12 MPLM CH1 HTR PWR - OFF CH2 HTR PWR - OFF					

**PGSC OVERNIGHT CONFIG**

- COLOR PRINTER - ON
- PAPER IN PRINTER
- FLOPPY DISK IN PROSHARE
- OCA ROUTER - ON
- PROSHARE - 4MB CONFIG
- KFX LAUNCHED
- CHECK APPLICATIONS CLOSED
- OUTLOOK
- PHOTO LOG
- PASS WIZARD

# STS-108/UF1 (FD 09)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/08	Day 008					
00:00		MPLM UNGRAPPLE IN BAY (PDRS, NOM MPLM BERTH)				
01:00		APCU ACT (PL OPS, APCU) APCU#2 MDDK DESCENT STATUS CHECKS (PL OPS, STATUS CHECKS)	TRANSFER Ref. MDDK TRANSFER LIST Item XXX	HAND OVER	ISS EXERCISE - TVIS	
		UNDOCK TAGUP	UNDOCK TAGUP	UNDOCK TAGUP	UNDOCK TAGUP	
01:00		On MCC Go: APCU DEACT (PL OPS, APCU) APCU#2				
02:00		TRANSFER CALL Call down status to MCC				
		P/TV01 SETUP (SYS) (P/TV, SCENES)				
02:00			A STBD#2 Ingest Potassium Citrate/Placebo tablets (2) During Meal			
03:00			PRE-SLEEP ACTIVITY [A] (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY [A] (ORB OPS, CREW SYS)	
03:00		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)				
04:00						
04:00						

# STS-108/UF1 (FD 09)

GMT	T D R S E W	MET	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date 12/08		Day 008						
04:00								
05:00								
06:00								
07:00			SLEEP	SLEEP	SLEEP			ISS EXTERNAL SURVEY
08:00								

# STS-108/UF1 (FD 09)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/08	Day 008					ISS EXTERNAL SURVEY
04:00	04:00					
05:00						
06:00	05:00					
07:00	06:00	SLEEP	SLEEP	SLEEP	SLEEP	
08:00	07:00					
	08:00					

# STS-108/UF1 (FD 09)

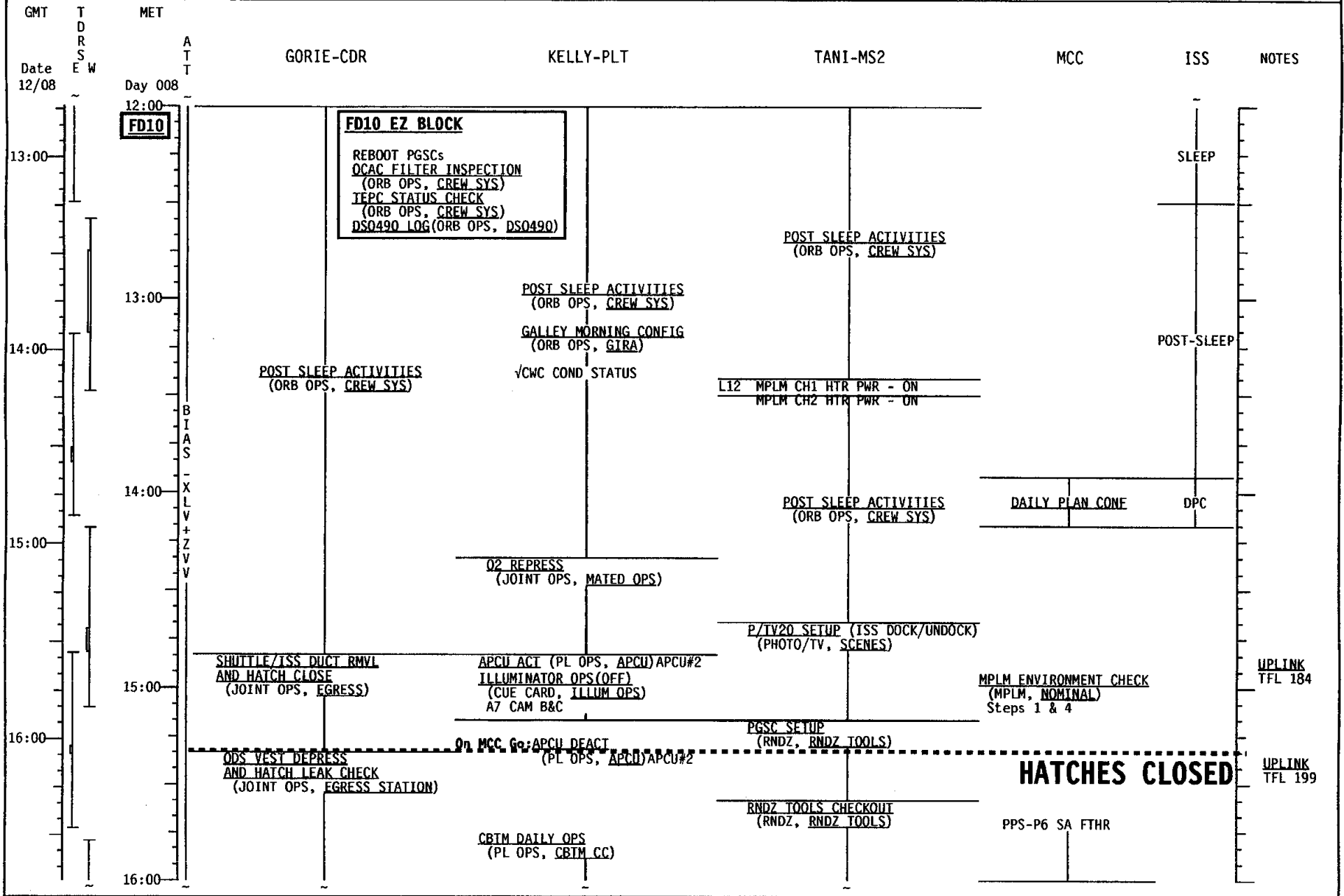
GMT	T D R S E W	MET	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	ISS	NOTES
Date 12/08		Day 008						
08:00		08:00						
09:00		09:00						
10:00		10:00						
11:00		11:00	SLEEP	SLEEP	SLEEP			
12:00		12:00						

ISS EXTERNAL SURVEY

# STS-108/UF1 (FD 09)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/08	Day 008					
08:00	08:00					ISS EXTERNAL SURVEY
09:00						
10:00	09:00					
11:00	10:00	SLEEP	SLEEP	SLEEP	SLEEP	
12:00	11:00					
	12:00					

# STS-108/UF1 (FD 10)

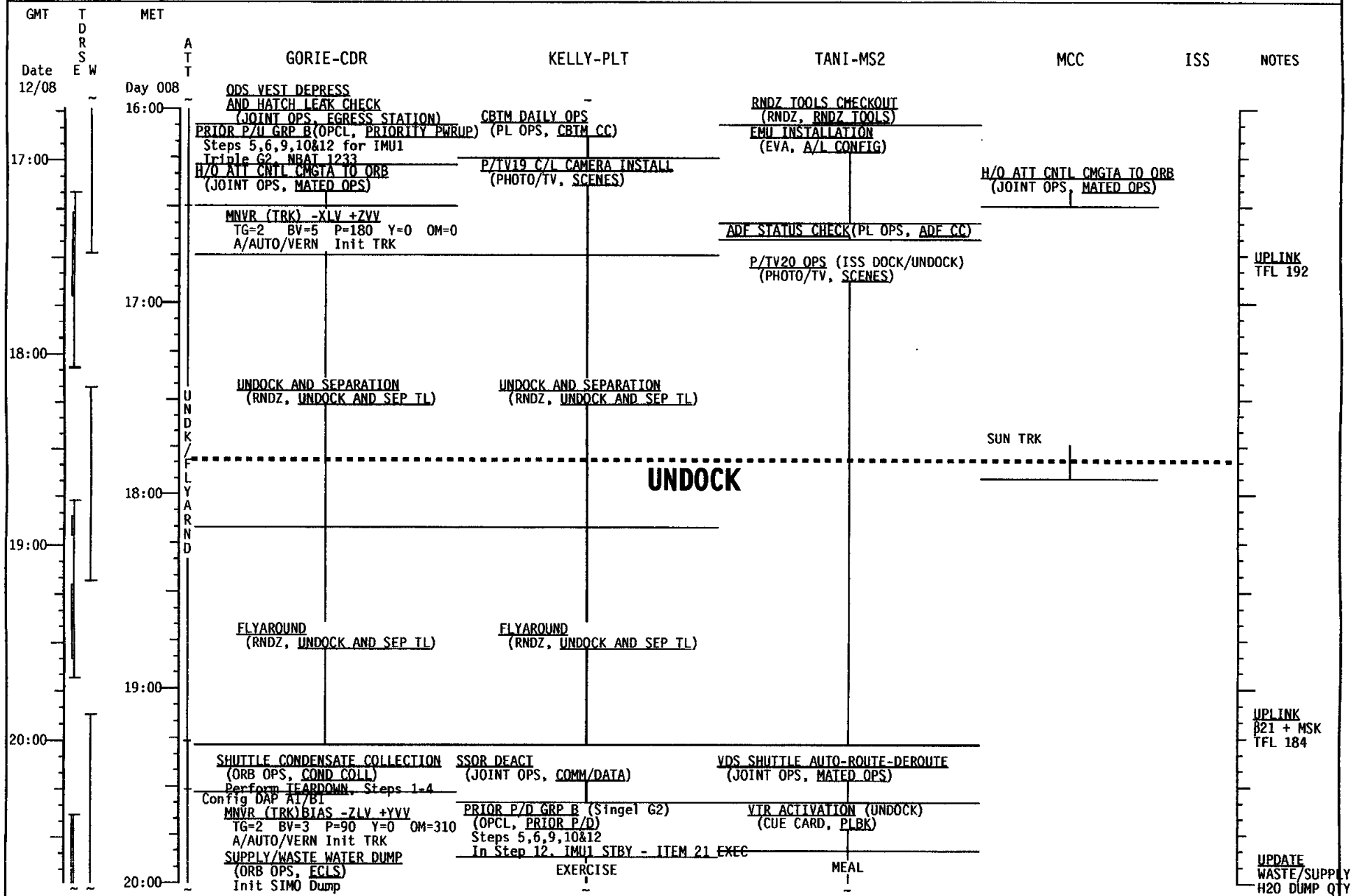


# STS-108/UF1 (FD 10)

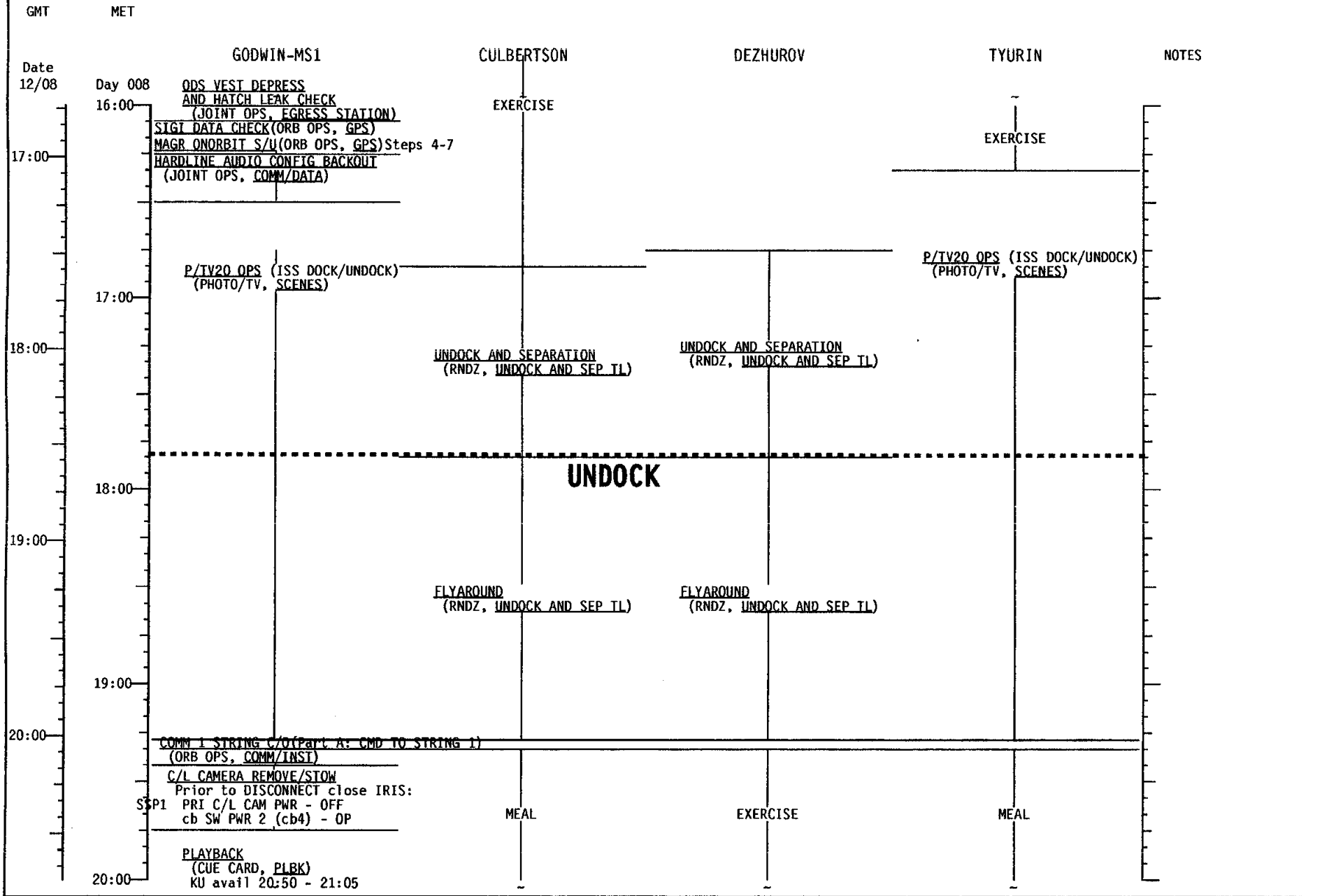
GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/08	Day 008					
12:00	<b>FD10</b>					
13:00						
13:00		POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)				
14:00			POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	
14:00		FINAL TRANSFER CLOSEOUT				
15:00		TRANSFER CALL Call down status to MCC				
15:00		SHUTTLE/ISS DUCT RMVL AND HATCH CLOSE (JOINT OPS, EGRESS)				
16:00		<b>HATCHES CLOSED</b>				
		ODS VEST DEPRESS AND HATCH LEAK CHECK (JOINT OPS, EGRESS STATION)		EXERCISE		
			MDDK DESCENT STATUS CHECKS (PL OPS, STATUS CHECKS)		EXERCISE	
16:00			EXERCISE			



# STS-108/UF1 (FD 10)



# STS-108/UF1 (FD 10)



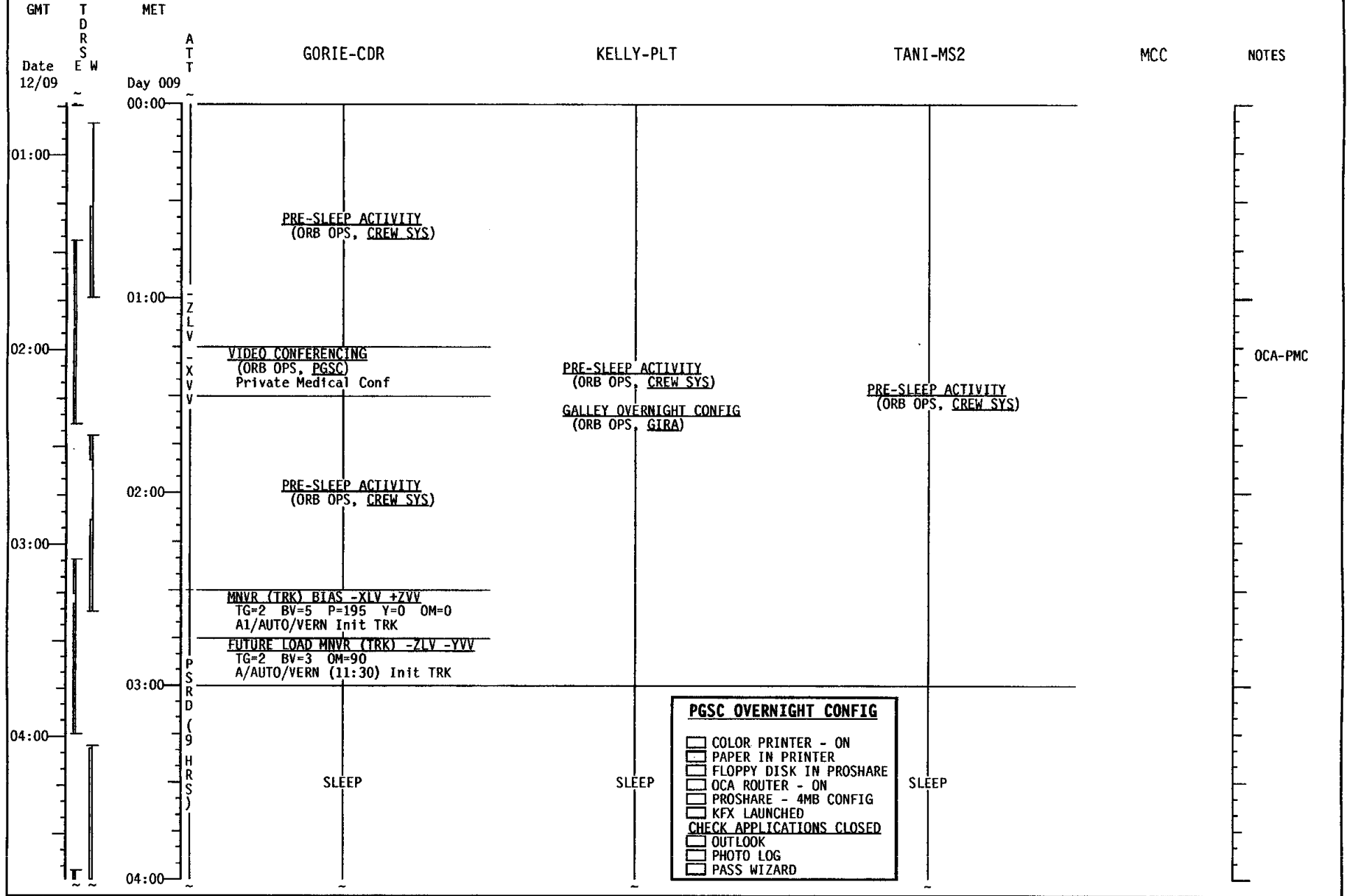
# STS-108/UF1 (FD 10)

GMT	T D R S E W	MET	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	NOTES
Date 12/08		Day 008					
20:00			SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) Init SIMO Dump				
21:00			MEAL	EXERCISE	MEAL		
22:00			SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) Terminate SIMO SUPPLY/WASTE H2O Dump				
			CWC OVERBOARD DUMP (ORB OPS, COND COLL) Dump 2 Condensate CWCs	MEAL			
23:00			MNVR (TRK) -ZLV -XVV TG=2 BV=3 OM=0 A/AUTO/VERN Init TRK		EXERCISE		
			IMU STAR OF OPP ALIGN(ORB OPS, GNC)	OFF DUTY			
00:00			EXERCISE		OFF DUTY		
00:00			PUBLIC AFFAIRS EVENT Ku Avail 23:45 - 00:00	PUBLIC AFFAIRS EVENT	PUBLIC AFFAIRS EVENT		UPDATE WASTE/SUPPLY H2O DUMP QTY

# STS-108/UF1 (FD 10)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date	12/08					
Day	008					
20:00		PLAYBACK (COE CARD, PLBK) KU avail 20:50 - 21:05	MEAL	EXERCISE	MEAL	
21:00		MEAL				
21:00		POST EVA ENTRY PREP (EVA, POST EVA ENTRY PREP) Note: Delete Step 29	EXERCISE	MEAL	OFF DUTY	
22:00			ADF STATUS CHECK (PL OPS, ADF CC) MDDK DESCENT STATUS CHECKS (PL OPS, STATUS CHECKS) Step 3			
22:00					EXERCISE	
23:00		OFF DUTY	OFF DUTY	OFF DUTY		
23:00					OFF DUTY	
00:00		P/TVO2 SETUP (PAO) (PHOTO/TV, SCENES)				
00:00		PUBLIC AFFAIRS EVENT	PUBLIC AFFAIRS EVENT	PUBLIC AFFAIRS EVENT	PUBLIC AFFAIRS EVENT	

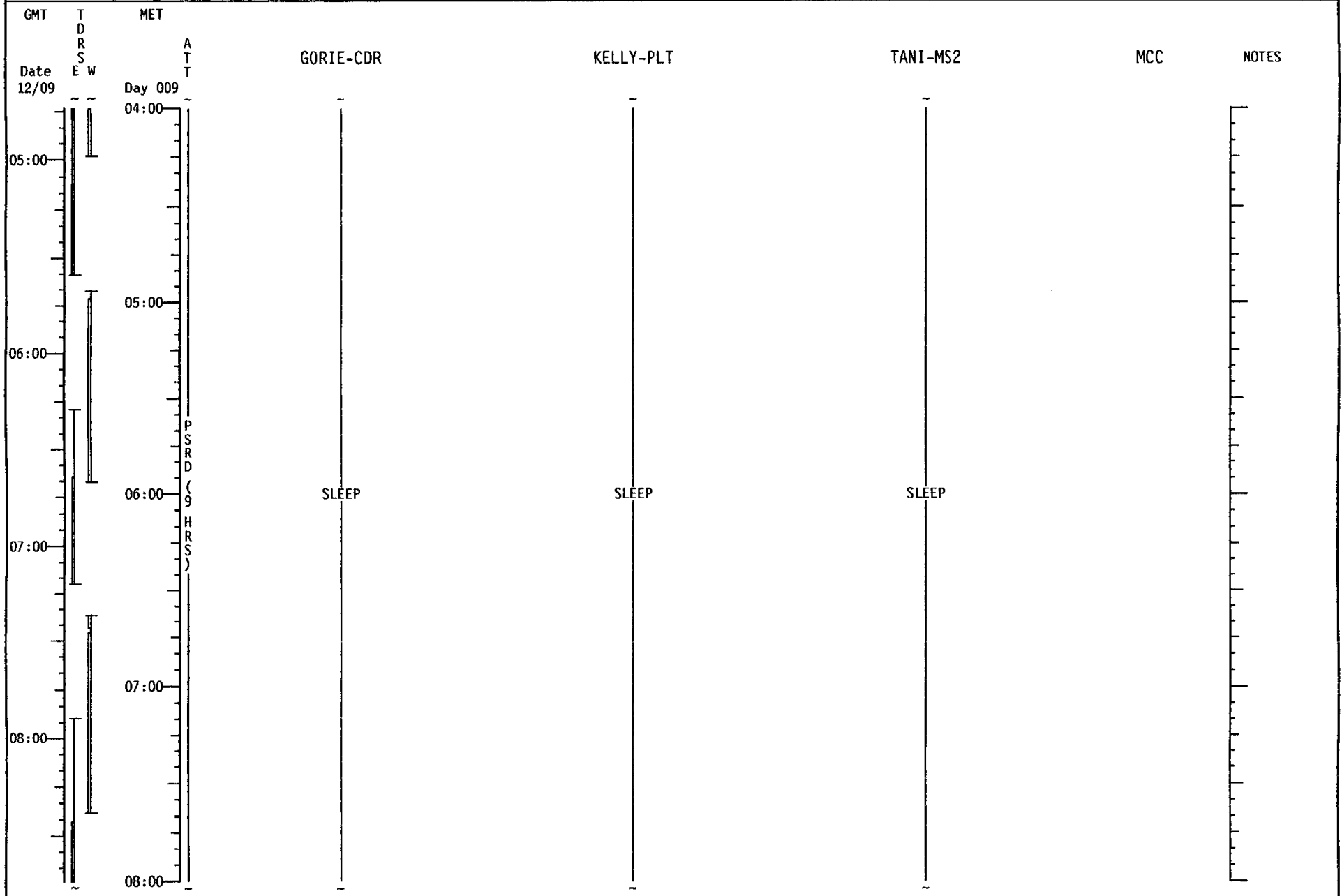
# STS-108/UF1 (FD 10)



# STS-108/UF1 (FD 10)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/09	Day 009					
00:00  01:00  02:00  03:00  04:00	00:00  01:00  02:00  03:00  04:00	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY <span style="border: 1px solid black; padding: 0 2px;">A</span> (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY <span style="border: 1px solid black; padding: 0 2px;">A</span> (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY <span style="border: 1px solid black; padding: 0 2px;">A</span> (ORB OPS, CREW SYS)	
				<span style="border: 1px solid black; padding: 2px;">A</span> STBD#2 Ingest Potassium Citrate/Placebo tablets (2) During Meal		
		SLEEP	SLEEP	SLEEP	SLEEP	

# STS-108/UF1 (FD 10)

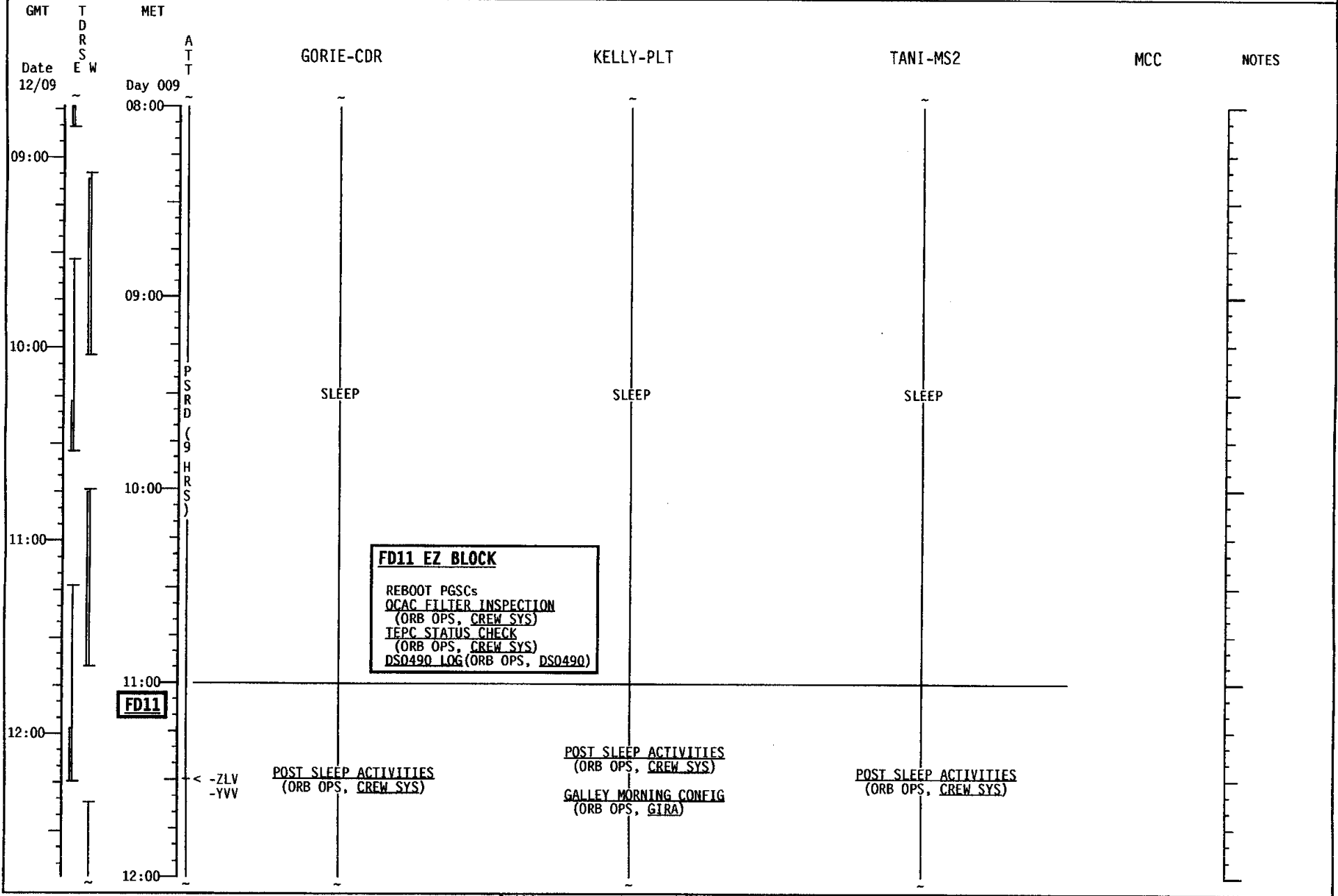


# STS-108/UF1 (FD 10)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/09	Day 009					
04:00	04:00					
05:00						
	05:00					
06:00						
	06:00	SLEEP	SLEEP	SLEEP	SLEEP	
07:00						
	07:00					
08:00						
	08:00					



# STS-108/UF1 (FD 11)



**FD11**

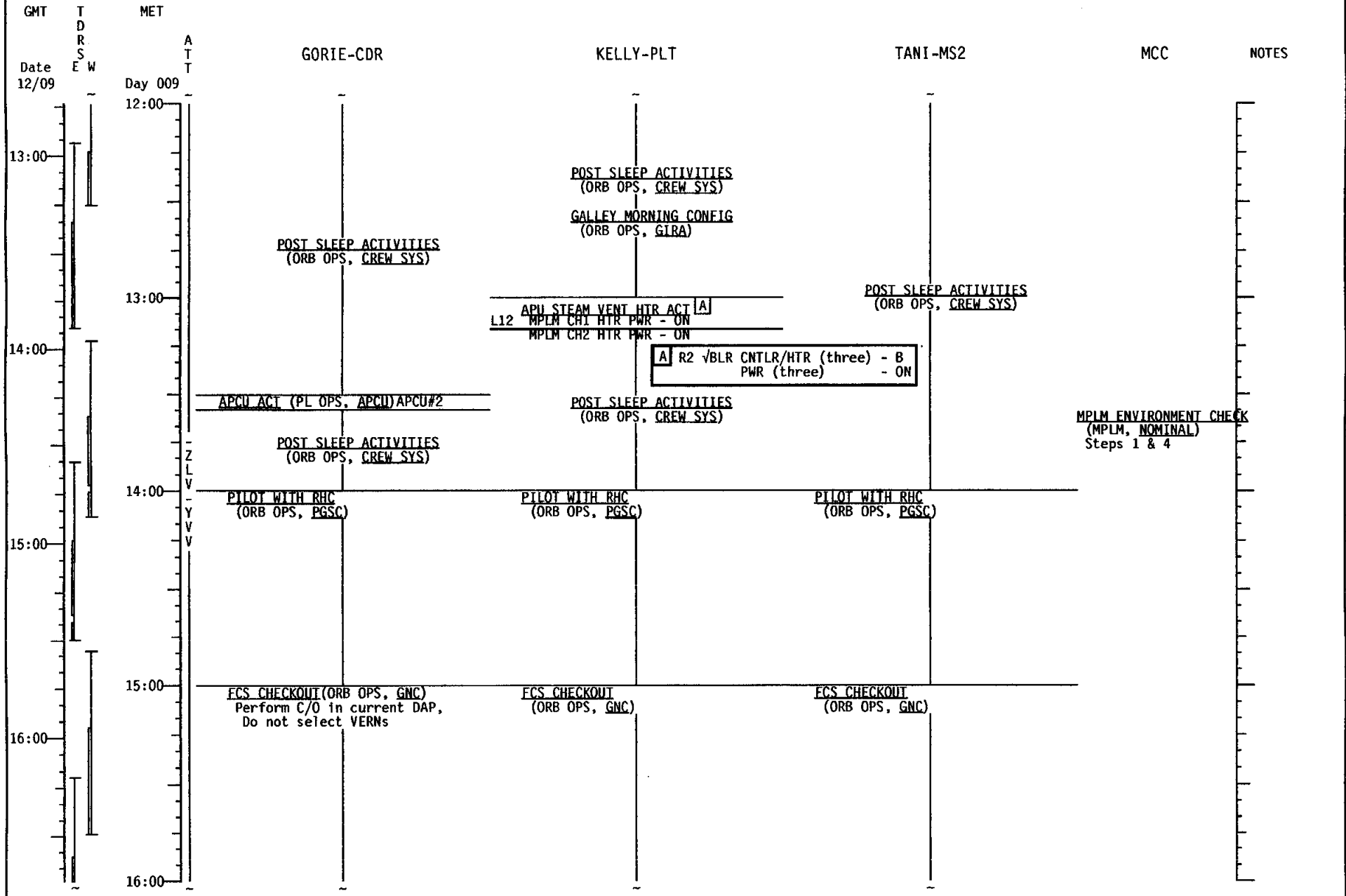
< -ZLV  
-YVV

# STS-108/UF1 (FD 11)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/09	Day 009					
08:00	08:00					
09:00						
	09:00					
10:00		SLEEP	SLEEP	SLEEP	SLEEP	
	10:00					
11:00						
	11:00					
12:00						
	12:00					
		< -ZLV -XVV				
		<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	
	12:00					

FD11

# STS-108/UF1 (FD 11)



# STS-108/UF1 (FD 11)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date	Day 009					
12:00						
13:00						
13:00		<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	
14:00						
14:00			EXERCISE			
15:00		CABIN CONFIG/STOW	<u>MDDK DESCENT STATUS CHECKS</u> (PL OPS, STATUS CHECKS)	CABIN CONFIG/STOW	EXERCISE	
15:00						
16:00		<u>LAUNCH ENTRY SUIT CHECK</u> Verify Fit	<u>LAUNCH ENTRY SUIT CHECK</u> Verify Fit	<u>LAUNCH ENTRY SUIT CHECK</u> Verify Fit	<u>LAUNCH ENTRY SUIT CHECK</u> Verify Fit	
16:00						

# STS-108/UF1 (FD 11)

GMT	T D R S E W	MET	A T T	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	NOTES
12/09		Day 009						
16:00				FCS CHECKOUT (ORB OPS, GNC) Perform C/O in current DAP, Do not select VERNs	FCS CHECKOUT (ORB OPS, GNC)	FCS CHECKOUT (ORB OPS, GNC)		
17:00				RCS HOT FIRE TEST (ORB OPS, RCS)	RCS HOT FIRE TEST (ORB OPS, RCS)	RCS HOT FIRE TEST (ORB OPS, RCS)		
				MNVR (TRK) STARSHINE DEPLOY TG=2 BV=5 P=180 Y=0 OM=240 A1/AUTO/VERN Init TRK	RMS PWRDN (PDRS, RMS PWRDN) Stow MPMS, Step 3,5,6	STARSHINE DEPLOY (PL OPS, MACH-1)		
				STARSHINE DEPLOY (PL OPS, MACH-1)				
17:00				MNVR (TRK) -ZLV -YVV TG=2 BV=3 OM=90 A/AUTO/VERN Init TRK				
18:00					CABIN CONFIG/STOW	CABIN CONFIG/STOW		
				CABIN CONFIG/STOW				
18:00								
19:00				D/O BRIEF	D/O BRIEF	D/O BRIEF		
					CABIN CONFIG/STOW			
19:00				CABIN CONFIG/STOW		CABIN CONFIG/STOW		
20:00					P/TV02 SETUP (PAO) (PHOTO/TV, SCENES)			
				MEAL	MEAL	MEAL		
20:00								

# STS-108/UF1 (FD 11)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/09	Day 009					
16:00		<del>ADF STATUS CHECK (PL OPS, ADF CC)</del> <del>P/TV08 SETUP (STARSHINE)</del> <del>(PHOTO/TV, SCENES)</del>				
17:00		CABIN CONFIG/STOW	CABIN CONFIG/STOW	EXERCISE	CABIN CONFIG/STOW	
18:00		<del>COMM STRING C/O PT. B (ORB OPS, COMM/INST)</del>				
		CABIN CONFIG/STOW				
18:00						
19:00		D/O BRIEF	D/O BRIEF	D/O BRIEF	D/O BRIEF	
		<del>LANDING-1 COMM C/O</del> <del>(ORB OPS, COMM/INST)</del>				
		<del>GAS/COLLIDE GROUP</del> <del>(PL OPS, GAS)</del> <del>GROUP 5</del>				
19:00		PGSC/BIA STOW (PL OPS, GAS)	CABIN CONFIG/STOW	CABIN CONFIG/STOW	CABIN CONFIG/STOW	
20:00		L17 Check MCIU Filter Screen				
		MEAL	MEAL	MEAL	MEAL	
20:00						

# STS-108/UF1 (FD 11)

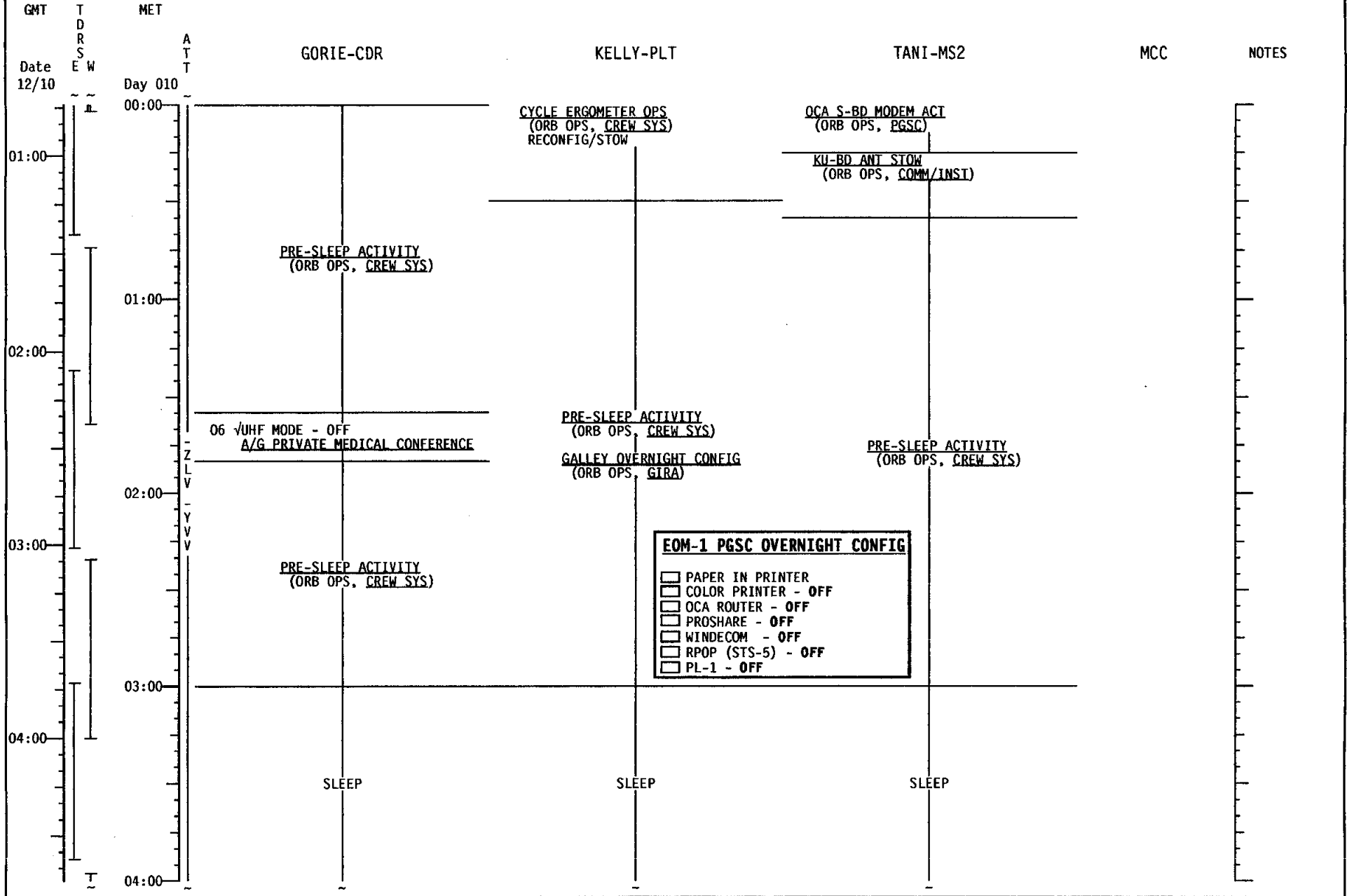
GMT	T D R S E W	MET	A T T	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	NOTES
Date 12/09		Day 009						
21:00		20:00		MEAL	MEAL	MEAL		
				<u>PUBLIC AFFAIRS EVENT</u> Ku Avail 20:25 - 20:45	<u>P/TV05 SETUP (ENTRY VIDEO)</u> (PHOTO/TV, SCENES)			
		21:00		CABIN CONFIG/STOW		OFF DUTY		
22:00					EXERCISE			
		22:00	Z L V	OFF DUTY		EXERCISE		
23:00			Y V V		OFF DUTY	<u>OPS 2 GPS TEST</u> (ORB OPS, GPS)		
		23:00				<u>SIGT ENTRY CONFIG</u> (ORB OPS, GPS)		
00:00				EXERCISE	<u>CBTM DAILY OPS</u> (PL OPS, CBTM CC)	<u>MAGR ENTRY SETUP</u> (ORB OPS, GPS)		
		00:00				<u>CABIN TEMP CNTRL RCNFG</u> (ORB OPS, ECLS) <u>ADF STATUS CHECK</u> (PL OPS, ADF CC)		

# STS-108/UF1 (FD 11)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date	12/09					
	Day 009					
20:00		MEAL				
21:00		LANDING-1 COMM C/O (ORB OPS, COMM/INST)	MEAL	MEAL	MEAL	
		MEAL				
		P/TVO6 DEACT(SSV) (PHOTO/TV, SCENES)	PUBLIC AFFAIRS EVENT	PUBLIC AFFAIRS EVENT	PUBLIC AFFAIRS EVENT	
		RECUMBENT SEAT KIT ATTACH (ORB OPS, RSK)		RECUMBENT SEAT KIT ATTACH (ORB OPS, RSK)		
21:00						
22:00			OFF DUTY			
		LANDING-1 COMM C/O(BACKUP) (ORB OPS, COMM/INST)			OFF DUTY	
		L12 MPLM CHI HTR PWR - OFF CH2 HTR PWR - OFF				
22:00						
23:00			EXERCISE			
		OFF DUTY		OFF DUTY		
23:00			OFF DUTY		EXERCISE	
00:00						
			PGSC NETWORK (ORB OPS, PGSC) Stow STS PGSCs not needed for OCA OPS			
					OFF DUTY	
00:00			MDDK DESCENT STATUS CHECKS (PL OPS, STATUS CHECKS) Step 3			



# STS-108/UF1 (FD 11)



# STS-108/UF1 (FD 11)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date	Day 010					
12/10	00:00	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)		CYCLE ERGOMETER OPS (ORB OPS, CREW SYS) RECONFIG/STOW		
01:00		KU-BD ANT STOW (ORB OPS, COMM/INST)				
	01:00					
02:00		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)				
			PRE-SLEEP ACTIVITY [A] (ORB OPS, CREW SYS)		PRE-SLEEP ACTIVITY [A] (ORB OPS, CREW SYS)	
	02:00	LANDING-1 COMM C/O (ORB OPS, COMM/INST)		PRE-SLEEP ACTIVITY [A] (ORB OPS, CREW SYS)		
03:00		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)				
		GALLEY OVERNIGHT CONFIG (ORB OPS, GIRA)				
	03:00			[A] STBD#2 Ingest Potassium Citrate/Placebo tablets (2) During Meal		
04:00		SLEEP	SLEEP	SLEEP	SLEEP	
	04:00					

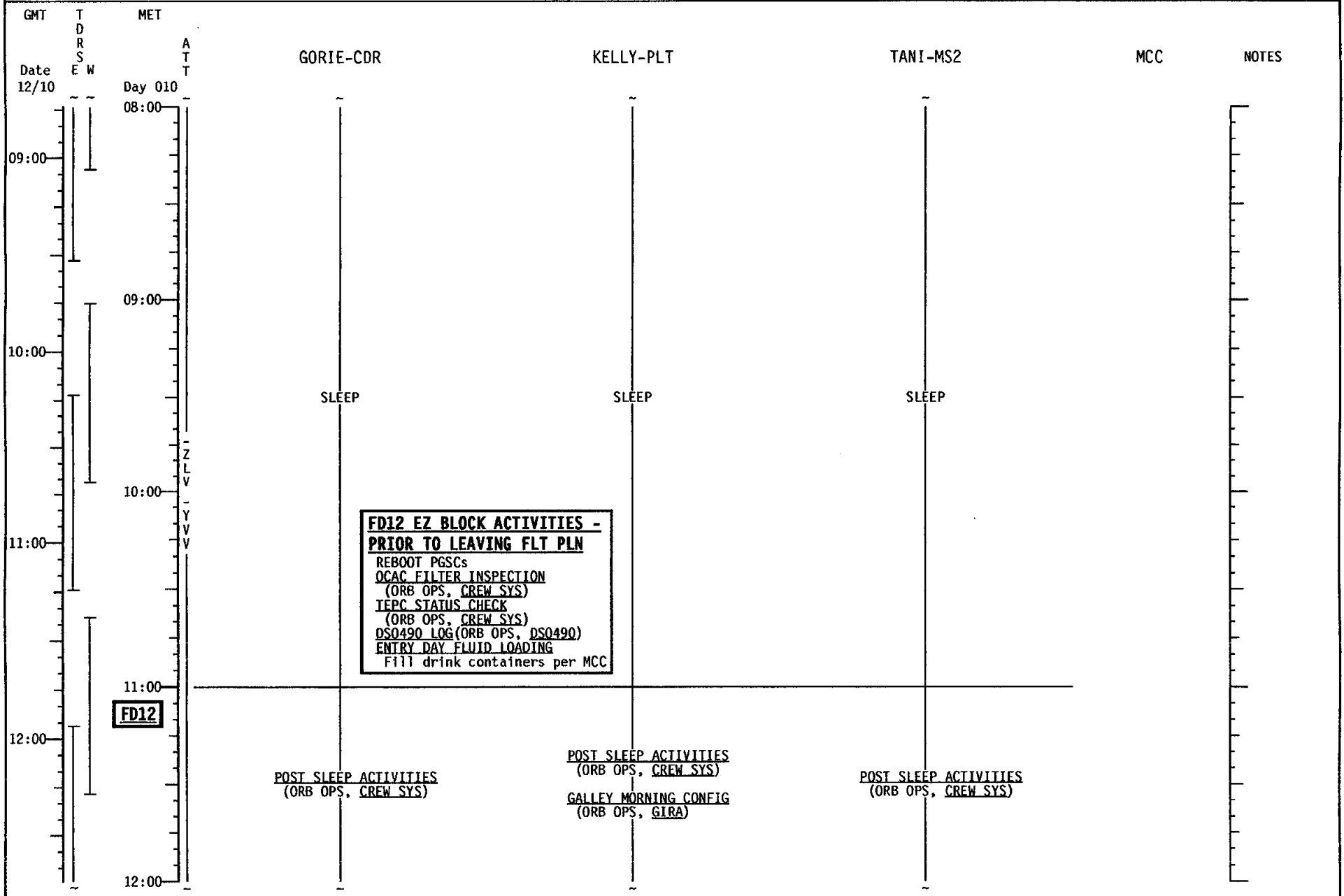
# STS-108/UF1 (FD 11)

GMT	T D R S E W	MET	GORIE-CDR	KELLY-PLT	TANI-MS2	MCC	NOTES
Date 12/10		Day 010					
04:00		04:00					
05:00		05:00					
06:00		06:00	SLEEP	SLEEP	SLEEP		
07:00		07:00					
08:00		08:00					

STS-108/UF1 (FD 11)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/10	Day 010					
04:00	04:00					
05:00						
	05:00					
06:00						
	06:00	SLEEP	SLEEP	SLEEP	SLEEP	
07:00						
	07:00					
08:00						
	08:00					

# STS-108/UF1 (FD 12)

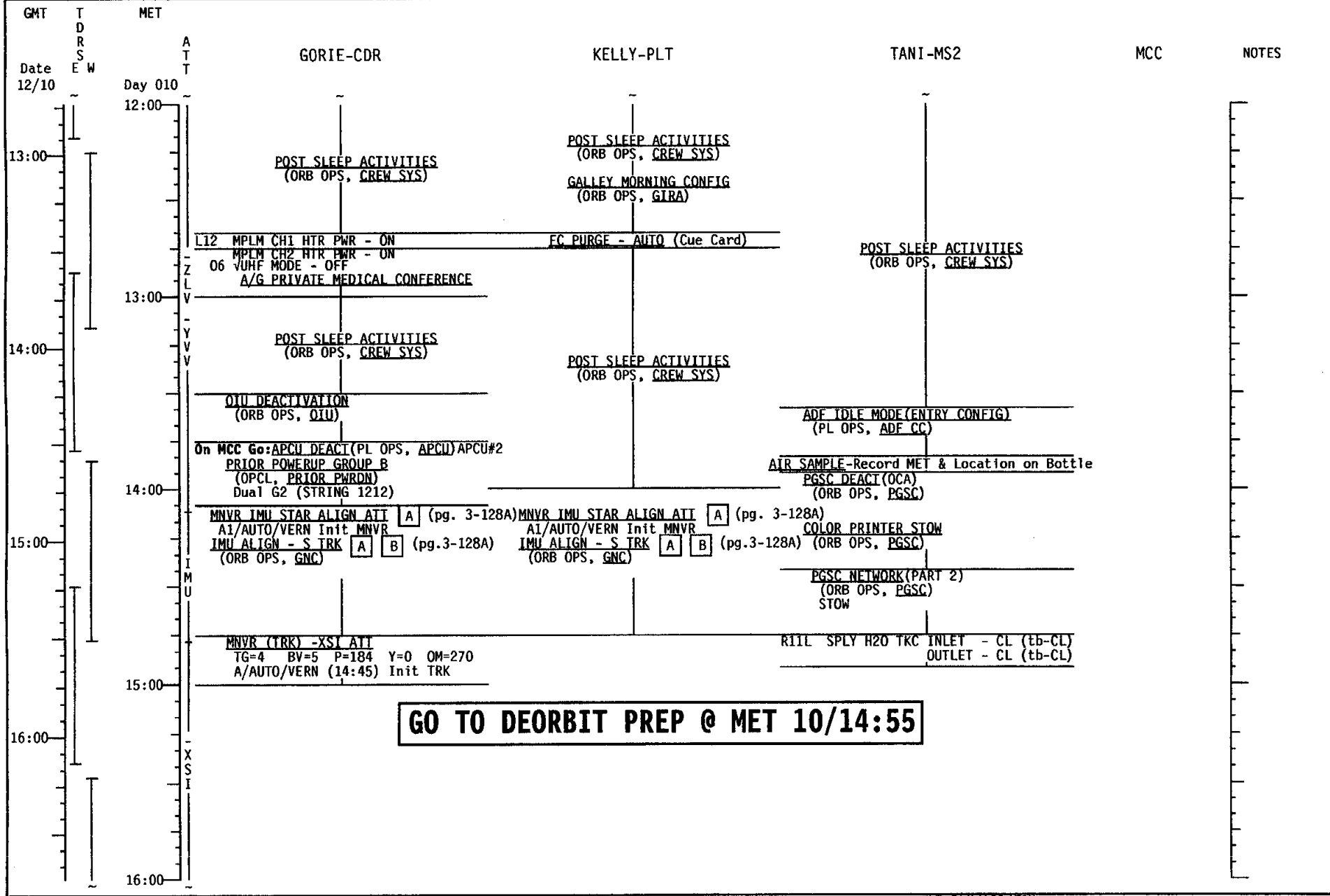


FD12

# STS-108/UF1 (FD 12)

GMT	MET	GODWIN-MSi	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/10	Day 010					
08:00	08:00					
09:00						
	09:00					
10:00						
	10:00	SLEEP	SLEEP	SLEEP	SLEEP	
11:00						
	11:00					
12:00	<b>FD12</b>	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	<u>POST SLEEP ACTIVITIES</u> (ORB OPS, CREW SYS)	
	12:00					
12:00						

# STS-108/UF1 (FD 12)



A	IMU STAR ALIGN
ID: -Y: 25, REGULUS	
MET (10/13:51 TO 10/14:42)	
-Z: 15, HADAR	
MET (10/14:12 TO 10/15:01)	
ANG DIFF: 86.0	
DUAL S TRKR      2nd ATTITUDE ALIGNMENT      (SINGLE S TRKR)	
	-Z: 25      -Y: 15
R 202	133      281
P 219	242      211
Y 312	311      298
<b>REQD ID:</b>	
-Y: _____, -Z: _____, ANG ERR _____, _____	
ANG:	1                          2                          3
$\Delta X$	( ) _____, _____ ( ) _____, _____ ( ) _____, _____
$\Delta Y$	( ) _____, _____ ( ) _____, _____ ( ) _____, _____
$\Delta Z$	( ) _____, _____ ( ) _____, _____ ( ) _____, _____
EXECUTION TIME: ____/____:__:__ MET	

B	IMU STAR VERIFICATION
ID: -Y: 17, ACRUX	
MET (10/14:09 TO 10/14:58)	
-Z: 20, ARCTURUS	
MET (10/14:27 TO 10/15:12)	
ANG DIFF: 85.0	
DUAL S TRKR      2nd ATTITUDE ALIGNMENT      (SINGLE S TRKR)	
	-Z: 17      -Y: 20
R 289	195      358
P 184	194      205
Y 55	69      48
<b>REQD ID:</b>	
-Y: _____, -Z: _____, ANG ERR _____, _____	
ANG:	1                          2                          3
$\Delta X$	( ) _____, _____ ( ) _____, _____ ( ) _____, _____
$\Delta Y$	( ) _____, _____ ( ) _____, _____ ( ) _____, _____
$\Delta Z$	( ) _____, _____ ( ) _____, _____ ( ) _____, _____
<b>If any <math>\Delta X</math>, <math>\Delta Y</math>, OR <math>\Delta Z &gt; 0.1</math> Check MCC</b>	
EXECUTION TIME: ____/____:__:__ MET	



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3-128B

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FLT PLN/108/FIN

# STS-108/UF1 (FD 12)

GMT	MET	GODWIN-MS1	CULBERTSON	DEZHUROV	TYURIN	NOTES
Date 12/10	Day 010					
12:00						
13:00		POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)				
13:00			POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	POST SLEEP ACTIVITIES (ORB OPS, CREW SYS)	
14:00		TEPC (ORB OPS, CREW SYS) DEACT				
		MACH-1 DEACT (PL OPS, MACH-1)				
14:00		URINE PRETREAT ENTRY PREP (CUE CARD, URINE PRETREAT CHANGEOUT)				
15:00		CBTM MUFFLER STOW				
		OCAC STOWAGE (ORB OPS, CREW SYS)				
		GIRA STOWAGE (ORB OPS, GIRA)				
15:00		<b>GO TO DEORBIT PREP @ MET 10/14:55</b>				
16:00						
16:00						



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STS-108 DAP TABLE

STS-108  
DAP TABLE

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<u>DAP</u>	<u>PURPOSE</u>	<u>DAP</u>	<u>PURPOSE</u>
A1	- NOMINAL	B1	- OMS/RCS BURNS
A2	- PTC	B2	- LOSS OF VERN (TAIL ONLY)
A3	- GG	B3	- LOSS OF VERN (ALL)
A4	- PRE/POST DEPLOY	B4	- SSUS DEPLOY
A5	- LOSS OF VERN (ALL)	B5	- COAS/HUD CAL
A6	- LOSS OF VERN (TAIL ONLY)	B6	-
A7	- RENDEZVOUS	B7	- RENDEZVOUS
A8	- TERMINAL PHASE	B8	- TERMINAL PHASE
A9	- PROX OPS/FLYAROUND	B9	- PROX OPS/FLYAROUND
A10	- DOCKING	B10	- DOCKING
A11	- AUTO REBOOST	B11	-
A12	- VRCS MATED STACK	B12	- ALT MATED STACK AND RMS OPS
A13	- A/L DEPRESS ATTITUDE CONTROL	B13	- A/L DEPRESS RATE DAMPING
A14	-	B14	-
A15	-	B15	-

DAPs FOR MATED OPS ARE BASED ON ANALYSIS FROM  
GNC, PDRS, AND DRAPER LABS

UNIV PTG	
TGT ID	= 1 Orbiting Vehicle = 2 Earth ctr = 3 Earth tgt Input LAT ( $\pm 90$ ) LON ( $\pm 180$ , + = Earth) 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

CNTL ACC = 0 UNLOADED RMS  
= 1 VRCS MATED CONTROL  
= 2 ALT PRCS MATED CONTROL  
= 3 A/L DEPRESS VRCS MATED CONTROL  
= 4 A/L DEPRESS ALT PRCS MATED CONTROL  
= 5-9 NOT USED

STS-108 DAP A1 THROUGH A8 CONFIGURATIONS

	ITEM #	A1	A2	A3	A4	A5	A6	A7	A8
<b>PRI</b>									
ROT RATE	10(50)	0.2000	0.4000	0.2000	0.5000	0.2000	0.2000	0.2000	0.0500
ATT DB	11(51)	5.00	1.00	0.30	3.00	5.00	5.00	2.00	2.00
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	0.10	0.10	0.10	0.10	0.10	0.10	0.10
COMP	14(54)	.000	.000	.000	.000	.000	.000	.000	.000
P OPTION	15(55)	ALL	ALL	ALL	ALL	ALL	TAIL	ALL	ALL
Y OPTION	16(56)	ALL	ALL	TAIL	ALL	ALL	TAIL	ALL	ALL
TRAN PLS	17(57)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
<b>ALT</b>									
RATE DB	18(58)	0.200	0.200	0.070	0.200	0.070	0.070	0.100	0.100
JET OPT	19(59)	ALL	ALL	ALL	ALL	ALL	TAIL	ALL	ALL
# JETS	20(60)	2	2	1	2	1	1	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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>VERN</b>									
ROT RATE	23(63)	0.2000	0.4000	0.0080	0.2000	0.0500	0.0500	0.0160	0.0500
ATT DB	24(64)	1.000	1.000	0.070	1.000	1.000	1.000	1.000	1.000
RATE DB	25(65)	.020	.020	.010	.020	.020	.020	.020	.020
ROT PLS	26(66)	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.050
COMP	27(67)	.000	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	28(68)	0	0	0	0	0	0	0	0
PURPOSE		NOMINAL	PTC	GG	PRE/POST DEPLOY	LOSS OF VERN (ALL)	LOSS OF VERN (TAIL ONLY)	RNDZ	TERMINAL PHASE

STS-108 DAP A9 THROUGH A15 CONFIGURATIONS

	ITEM #	A9	A10	A11	A12	A13
<b>PRI</b>						
ROT RATE	10(50)	0.1300	0.0500	<b>0.1000</b>	<b>0.1000</b>	<b>0.1000</b>
ATT DB	11(51)	1.00	0.50	<b>10.00</b>	5.00	5.00
RATE DB	12(52)	0.10	0.10	0.20	0.20	0.20
ROT PLS	13(53)	0.100	0.100	0.100	<b>0.040</b>	<b>0.040</b>
COMP	14(54)	.000	.000	.000	.000	.000
P OPTION	15(55)	TAIL	TAIL	<b>TAIL</b>	<b>TAIL</b>	<b>TAIL</b>
Y OPTION	16(56)	TAIL	TAIL	<b>TAIL</b>	<b>TAIL</b>	<b>TAIL</b>
TRAN PLS	17(57)	0.050	0.050	0.100	<b>0.010</b>	<b>0.010</b>
<b>ALT</b>						
RATE DB	18(58)	0.100	0.100	<b>0.070</b>	<b>0.070</b>	<b>0.070</b>
JET OPT	19(59)	TAIL	TAIL	<b>TAIL</b>	<b>TAIL</b>	<b>TAIL</b>
# JETS	20(60)	2	2	<b>3</b>	<b>3</b>	<b>3</b>
ON TIME	21(61)	0.08	0.08	0.08	0.08	0.08
DELAY	22(62)	0.00	0.00	<b>11.60</b>	<b>11.04</b>	<b>11.04</b>
<b>VERN</b>						
ROT RATE	23(63)	0.1300	0.0500	<b>0.1000</b>	<b>0.1000</b>	<b>0.1000</b>
ATT DB	24(64)	1.000	0.500	<b>5.000</b>	<b>3.000</b>	<b>3.000</b>
RATE DB	25(65)	.020	.020	<b>.050</b>	<b>.050</b>	<b>.080</b>
ROT PLS	26(66)	0.050	0.050	0.010	<b>0.002</b>	<b>0.002</b>
COMP	27(67)	.000	.000	.000	.000	.000
CNTL ACC	28(68)	0	0	<b>1,2*</b>	<b>1</b>	<b>3,4**</b>
PURPOSE		PROX OPS/ FLYAROUND	DOCKING	AUTO REBOOST	VRCS MATED STACK	A/L DEPRESS ATTITUDE CONTROL

**BOLD-ITALIC** indicate a change from the I-load

\*1 For VERN, 2 for ALT

\*\*3 For VERN, 4 for ALT



STS-108 DAP B1 THROUGH B8 CONFIGURATIONS

	ITEM #	B1	B2	B3	B4	B5	B6	B7	B8
<b>PRI</b>									
ROT RATE	30(50)	0.5000	0.2000	0.2000	0.2000	0.2000	0.5000	0.5000	0.0500
ATT DB	31(51)	3.00	3.00	3.00	0.30	3.00	3.00	2.00	2.00
RATE DB	32(52)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
ROT PLS	33(53)	0.040	0.040	0.040	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	TAIL	ALL	TAIL	TAIL	ALL	ALL	ALL
Y OPTION	36(56)	ALL	TAIL	ALL	TAIL	TAIL	ALL	ALL	ALL
TRAN PLS	37(57)	0.10	0.02	0.02	0.02	0.02	0.02	0.05	0.05
<b>ALT</b>									
RATE DB	38(58)	0.200	0.070	0.070	0.100	0.200	0.200	0.100	0.100
JET OPT	39(59)	ALL	TAIL	ALL	ALL	ALL	ALL	ALL	ALL
# JETS	40(60)	2	1	1	2	2	2	2	2
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>VERN</b>									
ROT RATE	43(63)	0.2000	0.2000	0.2000	0.0080	0.0160	0.2000	0.2000	0.0500
ATT DB	44(64)	1.000	1.000	1.000	0.100	0.033	1.000	1.000	1.000
RATE DB	45(65)	.020	.020	.020	.010	.020	.020	.020	.020
ROT PLS	46(66)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.020
COMP	47(67)	.000	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	48(68)	0	0	0	0	0	0	0	0
PURPOSE		OMS/RCS BURNS	LOSS OF VERN (TAIL ONLY)	LOSS OF VERN (ALL)	SSUS DEPLOY	COAS/HUD CAL		RNDZ	TERMINAL PHASE

STS-108 B9 THROUGH B15 DAP CONFIGURATIONS

	ITEM #	B9	B10	B11	B12	B13
<b>PRI</b>						
ROT RATE	30(50)	0.1300	0.0500	0.5000	<b>0.1000</b>	<b>0.1000</b>
ATT DB	31(51)	1.00	0.50	3.00	<b>5.00</b>	<b>40.00</b>
RATE DB	32(52)	0.10	0.10	0.20	0.20	0.20
ROT PLS	33(53)	0.040	0.040	0.040	0.040	0.040
COMP	34(54)	.000	.000	.000	.000	.000
P OPTION	35(55)	TAIL	TAIL	ALL	<b>TAIL</b>	<b>TAIL</b>
Y OPTION	36(56)	TAIL	TAIL	ALL	<b>TAIL</b>	<b>TAIL</b>
TRAN PLS	37(57)	0.010	0.010	0.020	<b>0.010</b>	<b>0.010</b>
<b>ALT</b>						
RATE DB	38(58)	0.100	0.100	0.200	<b>0.070</b>	<b>0.070</b>
JET OPT	39(59)	TAIL	TAIL	ALL	<b>TAIL</b>	<b>TAIL</b>
# JETS	40(60)	2	2	2	<b>3</b>	<b>3</b>
ON TIME	41(61)	0.08	0.08	0.08	0.08	0.08
DELAY	42(62)	0.00	0.00	0.00	<b>11.04</b>	<b>11.04</b>
<b>VERN</b>						
ROT RATE	43(63)	0.1300	0.0500	0.2000	<b>0.1000</b>	<b>0.1000</b>
ATT DB	44(64)	1.000	0.500	1.000	<b>3.000</b>	<b>40.000</b>
RATE DB	45(65)	.020	.020	.020	<b>.050</b>	<b>.050</b>
ROT PLS	46(66)	0.020	0.020	0.002	0.002	0.002
COMP	47(67)	.000	.000	.000	.000	.000
CNTL ACC	48(68)	0	0	0	<b>2</b>	<b>3,4*</b>
PURPOSE		PROX OPS/ FLYAROUND	DOCKING		ALT MATED STACK AND RMS OPS	A/L DEPRESS RATE DAMPING

**BOLD-ITALIC** indicate a change from I-load or prior flight DAP configuration  
 \*3 for VERN, 4 for ALT

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ATTITUDE TIMELINE

ATTITUDE  
TIMELINE

Attitude Timeline

MET/GMT	ORBITER		REF ATT/REMARKS	EVENT
	MNVR OPTION	DAP E/S/ $\beta$		
1 000/00:30:00 M  334/01:14:00 G	INRTL R = 39.00 MNVR P = 125.00 Y = 336.00  MNVR TRN/AUTO/PRI HOLD (same)	RATE 0.5000 DB AT 3.50 DB RT 0.20  SUN R 242 P 35 $\beta = 29$	DV= 98.4  LVLH EQUIV (0,12,0)	OMS-2 Posi Head Up Dual OMS TIG 00:39
2 000/01:12:00 M 19:53  334/01:56:00 G 02:03:53	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 270.00  MNVR A6/AUTO/ALT HOLD (same)	RATE 0.2000 DB AT 5.00 DB RT 0.070  EARTH R 0 P 90 $\beta = 29$	LVLH R= 0.00 P=180.00 Y= 90.00	-ZLV +YVV PLBD, SOPA
3 000/03:10:00 M 21:12  334/03:54:00 G 04:05:12	INRTL R = 209.00 MNVR P = 104.00 Y = 323.00  MNVR B1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020  SUN R 96 P 30 $\beta = 29$	DV= 68.7  LVLH EQUIV (180,348,0)	NC-1 Posi Head Down Dual OMS TIG 03:35
4 000/03:40:00 M 54:59  334/04:24:00 G 38:59	LVLH TRACK TGT = 2 P = 200.00 BV = 5 Y = 0.00 OM = 0.00  MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020  EARTH R 180 P 160 $\beta = 29$	LVLH R= 0.00 P= 70.00 Y= 0.00	BIAS -XLV +ZVV PSRD Deep Space DA = 15.1 deg at Perigee
5 000/18:00:00 M 14:31  334/18:44:00 G 58:31	INRTL R = 209.00 MNVR P = 100.00 Y = 328.00  MNVR B1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020  SUN R 93 P 36 $\beta = 29$	DV= 8.0  LVLH EQUIV (180,348,6)	NC-2 Posi Head Down Right OMS TIG 18:25
6 000/18:30:00 M 44:31  334/19:14:00 G 28:31	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 0.00  MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020  EARTH R 0 P 90 $\beta = 29$	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV
7 000/21:20:00 M 30:51  334/22:04:00 G 14:51	INRTL R = 61.00 MNVR P = 244.00 Y = 326.00  MNVR B1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020  SUN R 177 P 70 $\beta = 29$	DV= 3.8  LVLH EQUIV (90,270,280)	NPC OOP Head Down +X RCS NORMZ TIG 21:49
8 000/21:50:00 M 57:34  334/22:34:00 G 41:34	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 0.00  MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020  EARTH R 0 P 90 $\beta = 29$	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV
9 001/02:10:00 M 24:56  335/02:54:00 G 03:08:56	INRTL R = 152.00 MNVR P = 277.00 Y = 41.00  MNVR B1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020  SUN R 77 P 150 $\beta = 29$	DV= 3.0  LVLH EQUIV (180,350,0)	NC-3 Posi Head Down +X RCS NORMZ TIG 02:37
10 001/02:40:00 M 54:59  335/03:24:00 G 38:59	LVLH TRACK TGT = 2 P = 200.00 BV = 5 Y = 0.00 OM = 0.00  MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020  EARTH R 180 P 160 $\beta = 29$	LVLH R= 0.00 P= 70.00 Y= 0.00	BIAS -XLV +ZVV PSRD Deep Space DA = 15.1 deg at Perigee

ALL ORBITER DATA IN  
MEAN OF 1950 AND PYR EULER SEQUENCE

5-2

FLT PLN/108/FIN

Attitude Timeline

MET/GMT	ORBITER		REF ATT/REMARKS	EVENT
	MNVR OPTION	DAP E/S/ $\beta$		
11 001/14:15:00 M 26:01 335/14:59:00 G 15:10:01	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 270.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 $\beta = 28$	LVLH R= 0.00 P=180.00 Y= 90.00	-ZLV +YVV Simo Dump Future Load
12 001/16:00:00 M 11:01 335/16:44:00 G 55:01	INRTL R = 33.00 MNVR P = 188.00 Y = 39.00 MNVR A7/AUTO/ALT HOLD (same)	RATE 0.2000 DB AT 2.00 DB RT 0.100 SUN R 211 P 108 $\beta = 28$	DV=150.9 LVLH EQUIV (0,12,0)	NH Posi Head Up Dual OMS TIG 16:20
13 001/16:22:00 M 335/17:06:00 G	HOLD A7/LVLH/VERN	RATE 0.0160 DB AT 1.000 DB RT 0.020 EARTH R 181 P 110 $\beta = 28$	LVLH R=359.25 HOLD P= 19.71 Y=359.91	DAP LVLH Hold for NC-4
14 001/17:02:00 M 04:13 335/17:46:00 G 48:13	INRTL R = 322.00 MNVR P = 2.00 Y = 324.00 MNVR A7/AUTO/ALT HOLD (same)	RATE 0.2000 DB AT 2.00 DB RT 0.100 SUN R 331 P 77 $\beta = 28$	DV=124.6 LVLH EQUIV (0,12,0)	NC-4 Posi Head Up Dual OMS TIG 17:07
15 001/17:09:00 M 12:41 335/17:53:00 G 56:41	LVLH TRACK TGT = 2 P = 0.00 BV = 5 Y = 0.00 OM = 0.00 MNVR B7/AUTO/ALT HOLD (same)	RATE 0.5000 DB AT 2.00 DB RT 0.100 EARTH R 73 P 0 $\beta = 28$	LVLH R= 0.00 P=270.00 Y= 0.00	-Z TGT TRK Sunset 17:36
16 001/17:30:00 M 43:53 335/18:14:00 G 27:53	LVLH TRACK TGT = 2 P = 350.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A7/AUTO/VERN HOLD (same)	RATE 0.0120 DB AT 1.000 DB RT 0.020 EARTH R 180 P 10 $\beta = 28$	LVLH R= 0.00 P=280.00 Y= 0.00	-Z TGT TRK
17 001/17:44:00 M 335/18:28:00 G			DV= 0.0	NCC No Maneuver Multi-Axis RCS TIG 17:44
18 001/17:45:00 M 18:12:47 335/18:29:00 G 56:47	LVLH TRACK TGT = 2 P = 335.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A7/AUTO/VERN HOLD (same)	RATE 0.0090 DB AT 1.000 DB RT 0.020 EARTH R 180 P 25 $\beta = 28$	LVLH R= 0.00 P=295.00 Y= 0.00	-Z TGT TRK
19 001/18:13:00 M 24:54 335/18:57:00 G 19:08:54	LVLH TRACK TGT = 2 P = 0.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A7/AUTO/VERN HOLD (same)	RATE 0.0350 DB AT 1.000 DB RT 0.020 EARTH R 25 P 0 $\beta = 28$	LVLH R= 0.00 P=270.00 Y= 0.00	-Z TGT TRK
20 001/18:25:00 M 28:41 335/19:09:00 G 12:41	INRTL R = 317.00 MNVR P = 353.00 Y = 322.00 MNVR A7/AUTO/ALT HOLD (same)	RATE 0.2000 DB AT 2.00 DB RT 0.100 SUN R 332 P 78 $\beta = 28$	DV= 8.9 LVLH EQUIV (0,12,354)	TI Posi Head Up Left OMS TIG 18:40

ALL ORBITER DATA IN  
MEAN OF 1950 AND PYR EULER SEQUENCE

5-3

FLT PLN/108/FIN

Attitude Timeline

MET/GMT	ORBITER		REF ATT/REMARKS	EVENT
	MNVR OPTION	DAP E/S/ $\beta$		
21 001/18:42:00 M 45:40 335/19:26:00 G 29:40	LVLH TRACK TGT = 2 P = 0.00 BV = 5 Y = 0.00 OM = 0.00 MNVR B7/AUTO/ALT HOLD (same)	RATE 0.5000 DB AT 2.00 DB RT 0.100 EARTH R 256 P 0 $\beta = 28$	LVLH R= 0.00 P=270.00 Y= 0.00	-Z TGT TRK Sunset 19:08
22 001/18:54:00 M 19:23:46 335/19:38:00 G 20:07:46	LVLH TRACK TGT = 2 P = 335.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A7/AUTO/VERN HOLD (same)	RATE 0.0140 DB AT 1.000 DB RT 0.020 EARTH R 180 P 25 $\beta = 28$	LVLH R= 0.00 P=295.00 Y= 0.00	-Z TGT TRK
23 001/19:24:00 M 56:46 335/20:08:00 G 40:46	LVLH TRACK TGT = 2 P = 278.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A7/AUTO/VERN HOLD (same)	RATE 0.0290 DB AT 1.000 DB RT 0.020 EARTH R 180 P 82 $\beta = 28$	LVLH R= 0.00 P=352.00 Y= 0.00	-Z TGT TRK
24 001/19:58:00 M 20:00:40 335/20:42:00 G 44:40	LVLH TRACK TGT = 2 P = 270.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A8/AUTO/VERN HOLD (same)	RATE 0.0500 DB AT 1.000 DB RT 0.020 EARTH R 180 P 90 $\beta = 28$	LVLH R= 0.00 P= 0.00 Y= 0.00	+ZLV +XVV Establish RBAR after MC4 TIG
25 001/20:10:00 M 21:32 335/20:54:00 G 21:05:32	LVLH TRACK TGT = 2 P = 180.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A9/AUTO/PRI HOLD (same)	RATE 0.1300 DB AT 1.00 DB RT 0.10 EARTH R 352 P 180 $\beta = 28$	LVLH R= 0.00 P= 90.00 Y= 0.00	-XLV +ZVV TORVA
26 001/20:59:30 M 335/21:43:30 G	HOLD A10/FREE/VERN	RATE 0.0500 DB AT 0.500 DB RT 0.020 EARTH R 27 P 180 $\beta = 28$	LVLH R= 0.00 HOLD P= 90.00 Y= 0.00	DAP FREE Docking Contact 21:00:00
27 001/21:19:00 M 335/22:03:00 G	HOLD A12/LVLH/VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050 EARTH R 234 P 180 $\beta = 28$	LVLH R= 0.00 HOLD P= 90.00 Y= 0.00	STS ATT CNTL
28 001/21:20:00 M 23:50 335/22:04:00 G 07:50	LVLH TRACK TGT = 2 P = 157.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A12/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 3.000 DB RT 0.050 EARTH R 0 P 157 $\beta = 28$	LVLH R= 0.00 P=113.00 Y= 0.00	BIAS -XLV +ZVV Approx ISS TEA
29 001/21:45:00 M 335/22:29:00 G	HOLD A12/FREE/VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050 EARTH R 0 P 157 $\beta = 28$	LVLH R= 0.00 HOLD P=113.00 Y= 0.00	ISS ATT CNTL
30 001/22:30:00 M 38 335/23:14:00 G 38	LVLH TRACK TGT = 2 P = 157.17 BV = 5 Y = 359.67 OM = 0.10 MNVR A12/FREE/VERN HOLD (same)	RATE 0.0100 DB AT 3.000 DB RT 0.050 EARTH R 359 P 157 $\beta = 28$	LVLH R= 0.04 P=112.83 Y=359.66	MOMENTUM MGMT

ALL ORBITER DATA IN  
MEAN OF 1950 AND PYR EULER SEQUENCE

5-4

FLT PLN/108/FIN



Attitude Timeline

MET/GMT	ORBITER		REF ATT/REMARKS	EVENT
	MNVR OPTION	DAP E/S/ $\beta$		
31 003/16:59:00 M  337/17:43:00 G	  HOLD A12/LVLH/VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050  EARTH R 359 P 157 $\beta = 25$	LVLH R= 0.04 HOLD P=112.83 Y=359.66	STS ATT CNTL
32 003/17:00:00 M 24:18 337/17:44:00 G 18:08:18	LVLH TRACK TGT = 2 P = 303.00 BV = 5 Y = 0.00 OM = 0.00  MNVR A12/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 3.000 DB RT 0.050  EARTH R 180 P 57 $\beta = 25$	LVLH R= 0.00 P=327.00 Y= 0.00	BIAS +ZLV +XVV
33 003/17:33:00 M  337/18:17:00 G	LVLH TRACK TGT = 2 P = 303.00 BV = 5 Y = 0.00 OM = 0.00  MNVR A11/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 5.000 DB RT 0.050  EARTH R 180 P 57 $\beta = 25$	LVLH R= 0.00 P=327.00 Y= 0.00	REBOOST #1 Config 4 17:33-18:33
34 003/18:40:00 M 19:06:01 337/19:24:00 G 50:01	LVLH TRACK TGT = 2 P = 157.00 BV = 5 Y = 0.00 OM = 270.00  MNVR A12/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 3.000 DB RT 0.050  EARTH R 0 P 157 $\beta = 25$	LVLH R= 90.00 P= 90.00 Y= 23.00	BIAS -XLV +YVV Simo Dump
35 003/20:40:00 M 55:00 337/21:24:00 G 39:00	LVLH TRACK TGT = 2 P = 157.00 BV = 5 Y = 0.00 OM = 0.00  MNVR A12/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 3.000 DB RT 0.050  EARTH R 0 P 157 $\beta = 24$	LVLH R= 0.00 P=113.00 Y= 0.00	BIAS -XLV +ZVV Approx ISS TEA
36 003/21:05:00 M  337/21:49:00 G	  HOLD A12/FREE/VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050  EARTH R 0 P 157 $\beta = 24$	LVLH R= 0.00 HOLD P=113.00 Y= 0.00	ISS ATT CNTL
37 003/21:15:00 M 38 337/21:59:00 G 38	LVLH TRACK TGT = 2 P = 157.17 BV = 5 Y = 359.67 OM = 0.10  MNVR A12/FREE/VERN HOLD (same)	RATE 0.0100 DB AT 3.000 DB RT 0.050  EARTH R 359 P 157 $\beta = 24$	LVLH R= 0.04 P=112.83 Y=359.66	MOMENTUM MGMT
38 004/19:05:00 M  338/19:49:00 G	  HOLD A13/FREE/VERN	RATE 0.1000 DB AT 3.000 DB RT 0.080  EARTH R 359 P 157 $\beta = 22$	LVLH R= 0.04 HOLD P=112.83 Y=359.66	DAP A13 (B13) A/L Depress
39 004/23:15:00 M  338/23:59:00 G	  HOLD A12/FREE/VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050  EARTH R 359 P 157 $\beta = 22$	LVLH R= 0.04 HOLD P=112.83 Y=359.66	DAP A12 (B12) A/L Repress
40 005/16:39:00 M  339/17:23:00 G	  HOLD A12/LVLH/VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050  EARTH R 359 P 157 $\beta = 20$	LVLH R= 0.04 HOLD P=112.83 Y=359.66	STS ATT CNTL

ALL ORBITER DATA IN  
MEAN OF 1950 AND PYR EULER SEQUENCE

Attitude Timeline

MET/GMT	ORBITER		REF ATT/REMARKS	EVENT
	MNVR OPTION	DAP E/S/ $\beta$		
41 005/16:40:00 M 17:04:18  339/17:24:00 G 48:18	LVLH TRACK TGT = 2 P = 303.00 BV = 5 Y = 0.00 OM = 0.00  MNVR A12/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 3.000 DB RT 0.050  EARTH R 180 P 57 $\beta = 20$	LVLH R= 0.00 P=327.00 Y= 0.00	BIAS +ZLV +XVV
42 005/17:11:00 M  339/17:55:00 G	LVLH TRACK TGT = 2 P = 303.00 BV = 5 Y = 0.00 OM = 0.00  MNVR A11/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 5.000 DB RT 0.050  EARTH R 180 P 57 $\beta = 20$	LVLH R= 0.00 P=327.00 Y= 0.00	REBOOST #2 Config 4 17:11-18:11
43 005/18:20:00 M 46:01  339/19:04:00 G 30:01	LVLH TRACK TGT = 2 P = 157.00 BV = 5 Y = 0.00 OM = 270.00  MNVR A12/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 3.000 DB RT 0.050  EARTH R 0 P 157 $\beta = 20$	LVLH R= 90.00 P= 90.00 Y= 23.00	BIAS -XLV +YVV Simo Dump
44 005/20:15:00 M 30:00  339/20:59:00 G 21:14:00	LVLH TRACK TGT = 2 P = 157.00 BV = 5 Y = 0.00 OM = 0.00  MNVR A12/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 3.000 DB RT 0.050  EARTH R 0 P 157 $\beta = 19$	LVLH R= 0.00 P=113.00 Y= 0.00	BIAS -XLV +ZVV Approx ISS TEA
45 005/20:40:00 M  339/21:24:00 G	   HOLD A12/FREE/VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050  EARTH R 0 P 157 $\beta = 19$	LVLH R= 0.00 HOLD P=113.00 Y= 0.00	ISS ATT CNTL
46 005/20:50:00 M 38  339/21:34:00 G 38	LVLH TRACK TGT = 2 P = 157.17 BV = 5 Y = 359.67 OM = 0.10  MNVR A12/FREE/VERN HOLD (same)	RATE 0.0100 DB AT 3.000 DB RT 0.050  EARTH R 359 P 157 $\beta = 19$	LVLH R= 0.04 P=112.83 Y=359.66	MOMENTUM MGMT
47 006/17:09:00 M  340/17:53:00 G	   HOLD A12/LVLH/VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050  EARTH R 359 P 157 $\beta = 17$	LVLH R= 0.04 HOLD P=112.83 Y=359.66	STS ATT CNTL
48 006/17:10:00 M 39:59  340/17:54:00 G 18:23:59	LVLH TRACK TGT = 2 P = 174.00 BV = 5 Y = 0.00 OM = 180.00  MNVR A12/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 3.000 DB RT 0.050  EARTH R 0 P 174 $\beta = 17$	LVLH R=180.00 P= 84.00 Y= 0.00	BIAS -XLV -ZVV
49 006/17:49:00 M  340/18:33:00 G	LVLH TRACK TGT = 2 P = 174.00 BV = 5 Y = 0.00 OM = 180.00  MNVR A11/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 5.000 DB RT 0.050  EARTH R 0 P 174 $\beta = 16$	LVLH R=180.00 P= 84.00 Y= 0.00	REBOOST #3 Config 3 17:49-18:49
50 006/18:55:00 M 19:10:13  340/19:39:00 G 54:13	LVLH TRACK TGT = 2 P = 157.00 BV = 5 Y = 0.00 OM = 270.00  MNVR A12/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 3.000 DB RT 0.050  EARTH R 0 P 157 $\beta = 16$	LVLH R= 90.00 P= 90.00 Y= 23.00	BIAS -XLV +YVV Simo Dump

ALL ORBITER DATA IN  
MEAN OF 1950 AND PYR EULER SEQUENCE

5-6

FLT PLN/108/FIN

Attitude Timeline

MET/GMT	ORBITER		REF ATT/REMARKS	EVENT
	MNVR OPTION	DAP E/S/ $\beta$		
51 006/20:50:00 M 21:05:00 340/21:34:00 G 49:00	LVLH TRACK TGT = 2 P = 157.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A12/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 3.000 DB RT 0.050 EARTH R 0 P 157 $\beta = 16$	LVLH R= 0.00 P=113.00 Y= 0.00	BIAS -XLV +ZVV Approx ISS TEA
52 006/21:15:00 M 340/21:59:00 G	HOLD A12/FREE/VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050 EARTH R 0 P 157 $\beta = 16$	LVLH R= 0.00 HOLD P=113.00 Y= 0.00	ISS ATT CNTL
53 006/21:25:00 M 38 340/22:09:00 G 38	LVLH TRACK TGT = 2 P = 157.17 BV = 5 Y = 359.67 OM = 0.10 MNVR A12/FREE/VERN HOLD (same)	RATE 0.0100 DB AT 3.000 DB RT 0.050 EARTH R 359 P 157 $\beta = 16$	LVLH R= 0.04 P=112.83 Y=359.66	MOMENTUM MGMT
54 008/16:29:00 M 342/17:13:00 G	HOLD A12/LVLH/VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050 EARTH R 359 P 157 $\beta = 10$	LVLH R= 0.04 HOLD P=112.83 Y=359.66	STS ATT CNTL
55 008/16:30:00 M 33:48 342/17:14:00 G 17:48	LVLH TRACK TGT = 2 P = 180.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A12/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 3.000 DB RT 0.050 EARTH R 0 P 180 $\beta = 10$	LVLH R= 0.00 P= 90.00 Y= 0.00	-XLV +ZVV Config for Sep
56 008/17:45:00 M 342/18:29:00 G	HOLD A12/FREE/VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050 EARTH R 333 P 180 $\beta = 9$	LVLH R= 0.00 HOLD P= 90.00 Y= 0.00	DAP FREE Undocking Physical Sep 17:48:00
57 008/17:49:00 M 342/18:33:00 G	HOLD B9/LVLH/VERN	RATE 0.1300 DB AT 1.000 DB RT 0.020 EARTH R 261 P 180 $\beta = 9$	LVLH R= 0.00 HOLD P= 90.00 Y= 0.00	DAP LVLH
58 008/18:10:00 M 342/18:54:00 G	LVLH FREE ROTATION ROTR ABOUT +Y AXIS RATE=0.130 MNVR A9/LVLH/VERN HOLD (same)	RATE 0.1300 DB AT 1.000 DB RT 0.020 $\beta = 9$	LVLH R= 0.00 P= 90.00 Y= 0.00	FLY AROUND
59 008/19:07:45 M 342/19:51:45 G	HOLD A9/LVLH/VERN	RATE 0.1300 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 $\beta = 9$	LVLH R= 0.00 HOLD P=180.45 Y= 0.00	LVLH HOLD
60 008/19:12:00 M 48 342/19:56:00 G 48	INRTL R = 287.00 MNVR P = 303.00 Y = 25.00 MNVR B1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 SUN R 344 P 142 $\beta = 9$	DV= 6.0 LVLH EQUIV {0,190,0}	FINAL SEP Retro Head Down +X RCS LOWZ TIG 19:17

ALL ORBITER DATA IN  
MEAN OF 1950 AND PYR EULER SEQUENCE

5-7

FLT PLN/108/FIN

Attitude Timeline

MET/GMT	ORBITER		REF ATT/REMARKS	EVENT
	MNVR OPTION	DAP E/S/ $\beta$		
61 008/19:35:00 M 42:43 342/20:19:00 G 26:43	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 310.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 $\beta = 9$	LVLH R= 0.00 P=180.00 Y= 50.00	BIAS -ZLV +YV Simo Dump Zone C
62 008/22:25:00 M 29:10 342/23:09:00 G 13:10	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 0.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 $\beta = 9$	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XV
63 009/02:30:00 M 38:45 343/03:14:00 G 22:45	LVLH TRACK TGT = 2 P = 195.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 180 P 165 $\beta = 8$	LVLH R= 0.00 P= 75.00 Y= 0.00	BIAS -XLV +ZV PSRD Deep Space DA = 19.4 deg at Perigee
64 009/11:30:00 M 40:45 343/12:14:00 G 24:45	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 90.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 $\beta = 7$	LVLH R= 0.00 P=180.00 Y=270.00	-ZLV -YV Future Load Wing Forward EOM Therm Cond
65 009/16:25:00 M 38:15 343/17:09:00 G 22:15	LVLH TRACK TGT = 2 P = 180.00 BV = 5 Y = 0.00 OM = 240.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 131 P 180 $\beta = 6$	LVLH R=120.00 P= 90.00 Y= 0.00	BIAS -XLV -ZV Starshine Posi Deploy SR+1 16:52
66 009/17:00:00 M 13:15 343/17:44:00 G 57:15	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 90.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 $\beta = 6$	LVLH R= 0.00 P=180.00 Y=270.00	-ZLV -YV Wing Forward EOM Therm Cond
67 010/14:05:00 M 09:50 344/14:49:00 G 53:50	INRTL R = 202.00 MNVR P = 219.00 Y = 312.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 SUN R 35 P 52 $\beta = 2$	-Y:25 REGULUS (13:51-14:42) -Z:15 HADAR (14:12-15:01)	IMU ALIGN
68 010/14:25:00 M 35:37 344/15:09:00 G 19:37	INRTL R = 289.00 MNVR P = 184.00 Y = 55.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 SUN R 310 P 129 $\beta = 2$	-Y:17 ACRUX (14:09-14:58) -Z:20 ARCTURUS (14:27-15:12)	VERIFICATION
69 010/14:45:00 M 59:19 344/15:29:00 G 43:19	TGT= 4 BV = 5 P = 184.00 Y = 0.00 OM = 270.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 SUN R 180 P 176 $\beta = 2$	INRTL R= 20.86 P=289.78 Y= 62.61 RA= 256.876 DEC= -22.897S	-XSI Solar Beta +2
70 010/16:26:00 M 37:25 344/17:10:00 G 21:25	INRTL R = 164.00 MNVR P = 280.00 Y = 36.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 SUN R 90 P 150 $\beta = 2$		COMM

ALL ORBITER DATA IN  
MEAN OF 1950 AND PYR EULER SEQUENCE

5-8

FLT PLN/108/FIN

Attitude Timeline

MET/GMT	ORBITER		REF ATT/REMARKS	EVENT
	MNVR OPTION	DAP E/S/ $\beta$		
71 010/18:36:00 M 40:17  344/19:20:00 G 24:17	INRTL R = 278.00 MNVR P = 307.00 Y = 18.00  MNVR TRN/AUTO/PRI HOLD (same)	RATE 0.5000 DB AT 3.50 DB RT 0.20  SUN R 358 P 134 $\beta = 1$	KSC 170  LVLH EQUIV (0,192,0)	D/O BURN Retro Head Down Dual OMS TIG 18:56
72 010/19:01:00 M 04:40  344/19:45:00 G 48:40	INRTL R = 15.87 MNVR P = 55.04 Y = 277.65  MNVR TRN/AUTO/PRI HOLD (same)	RATE 0.5000 DB AT 3.50 DB RT 0.20  SUN R 356 P 24 $\beta = 1$		EI-5 INRTL
73 010/19:21:00 M   344/20:05:00 G	LVLH TRACK TGT = 2 P = 230.00 BV = 5 Y = 0.00 OM = 0.00  MNVR TRN/AUTO/PRI HOLD (same)	RATE 0.5000 DB AT 3.50 DB RT 0.20  EARTH R 180 P 130 $\beta = 1$	LVLH R= 0.00 P= 40.00 Y= 0.00	EI-5 LVLH

**FLIGHT PLAN NOTES**

**FLIGHT PLAN NOTES  
(CONSTRAINTS AND GUIDELINES)**

**A. FLIGHT DESCRIPTION**

Orbiter: OV105 – Endeavour  
 Inclination: 51.6°  
 Beta Angle: 30 – 0 deg.  
 Insertion Altitude: 122 nautical miles  
 Rendezvous Altitude: 215 nautical miles  
 Duration: 11+0+2 days

**B. SHUTTLE AND STATION CREW**

CDR – Dominic Gorie	MS4 (up) – Dan Bursch
PLT – Mark Kelly	MS5 (up) – Yuri Onufrienko
MS1 – Linda Godwin	ISS (down) – Frank Culbertson
MS2 – Dan Tani	ISS (down) – Vladimir Dezhurov
MS3 (up) – Carl Walz	ISS (down) – Mikhail Tyurin

**C. MAJOR EVENTS**

<u>EVENT</u>	<u>FD</u>	<u>MET</u>	<u>LOCAL DATE</u>	<u>LOCAL TIME</u>	<u>GMT</u>
Launch	01	00/00:00	11/29/01	18:44 CST	334/00:44
OMS-2	01	00/00:38	11/29/01	19:22 CST	334/01:22
NC1	01	00/03:34	11/29/01	22:18 CST	334/04:18
NC2	02	00/18:24	11/30/01	13:08 CST	334/19:08
NPC	02	00/21:49	11/30/01	16:33 CST	334/22:23
NC3	02	01/02:36	11/30/01	21:20 CST	335/03:20
NH	03	01/16:20	12/01/01	11:04 CST	335/17:04
NC4	03	01/17:07	12/01/01	11:51 CST	335/17:51
TI	03	01/18:40	12/01/01	13:24 CST	335/19:24
ISS docking	03	01/21:00	12/01/01	15:44 CST	335/21:44
Ingress 1	03	01/22:45	12/01/01	17:29 CST	335/23:29
MPLM Berth to ISS	04	02/18:00	12/02/01	12:44 CST	336/18:44
MPLM Hatch Open	04	03/02:50	12/02/01	21:34 CST	337/03:34
Reboost 1	05	03/17:33	12/03/01	12:17 CST	337/18:17
EVA (6.5hrs)	06	04/19:30	12/04/01	14:14 CST	338/20:14
Reboost 2	07	05/17:11	12/05/01	11:55 CST	339/17:55
Reboost 3	08	06/17:49	12/06/01	12:33 CST	340/18:33
MPLM Hatch Close	08	07/16:00	12/07/01	10:44 CST	341/16:44
MPLM Berth to STS	09	07/22:25	12/07/01	17:09 CST	341/23:09
Undock	10	08/17:48	12/08/01	12:32 CST	342/18:32
Sep	10	08/19:17	12/08/01	14:01 CST	342/20:01
Starshine DPLY	11	09/16:52	12/09/01	11:36 CST	343/17:36
Deorbit	12	10/18:53	12/10/01	13:37 CST	344/19:37
Landing	12	10/19:57	12/10/01	14:41 CST	344/20:41

**FLIGHT PLAN  
NOTES**

## D. LANDING OPPORTUNITIES

		<u>Landing Orbit</u> <u>No.</u>	<u>Site</u>	<u>CST</u>	<u>MET</u>
Nominal	Primary	170	KSC	15:27	10/19:57
	1Rev Late	171	KSC	17:04	10/21:34
	Weather Alt	172	EDW	18:36	10/23:06
1 Day Late	Primary	185	KSC	14:29	11/18:59
	1Rev Late	186	EDW	16:05	11/20:35
	Weather Alt	187	EDW	17:38	11/22:08
2 Days Late	Primary	200	KSC	13:31	12/18:01
	1Rev Late	201	KSC	15:07	12/19:37
	Weather Alt	202	EDW	16:38	12/21:08

## E. COMMUNICATIONS

The Summary Timeline contains several data bands for ground site and TDRS events. The TDRS band reflects the three TDRS satellites that will be used for orbiter coverage (East, West, and Z) and their longitudinal position. The data shown contains Ku-band coverage (unshaded bars) as well as the TDRS SHO schedule (solid bars). The SHO schedule depicts early handovers and Z satellite coverage.

The RGS band contains the AOS/LOS of the Russian ground sites used by the FGB and SM. The data displayed is a summation of the AOS/LOS times of all the ground sites on each respective pass.

### Shuttle

TDRS Support: East (47° W), West (171° W), Z (85° E)  
 Ground Sites (\*): MIL, BDA, (BDX\*), GDS, and WLP  
 Contingency RTS: DGS, GTS, HTS, MIL, BDA, OTS, VTS, and NHS

### \*UHF Capability

Lead time for site callup – 2 hr for GSTDN; 4 hr for RTS

### ISS

TDRS Support: East (41° W), West (174° W), Z (85° E)  
 Russian RTS (\*): DJS, PPK, ULD, SHK, and USK

\*The five Russian Remote Tracking Sites (RTSs) represent the available Regul SM Command Sites. The AOS/LOS of the sites are integrated into a single band on summary timeline tab data, but are displayed individually on the ISS detail timeline pages.

## F. PAYLOADS

### 1. LAUNCH PACKAGE (LP) UF-1

The main purpose of Mission UF-1 is to transfer hardware into the ISS and perform the third ISS crew rotation of the Expedition 3 and 4 crews. No new permanent modules will be delivered. Logistic transfer hardware will be launched within a pressurized Multipurpose Logistics Module (MPLM), located in the orbiter payload bay. The orbiter middeck will be used to stow equipment required for crew rotation, MPLM activation, and ingress hardware.



The orbiter will dock to PMA2 of the ISS, with the tail pointed down toward Earth. Ingress is planned after docking for a number of middeck transfer items. Included in this transfer are two SAFER units, one EMU, two CWCs.

The next day the MPLM will be installed on the ISS and remain berthed until the day before undocking, when it will be stowed back in the payload bay.

A shortened, 4-hr EVA is scheduled on FD06 to perform a Bearing Motor Roll Ring Module (BMRRM) thermal Blanket installation.

## G. SECONDARY PAYLOADS

### 1. AVIAN DEVELOPMENT FACILITY (ADF)

ADF is a single powered middeck experiment involving the development of Japanese quail eggs in a microgravity environment. The main objective for this flight will be to verify the operational capabilities of the ADF for future, more complex experiments.

### 2. MULTIPLE APPLICATION CUSTOMIZED HITCHHIKER-1 (MACH-1)

MACH-1 is a collection of experiments mounted on a crossbay GAS Bridge Assembly (GBA). The experiments will include a deployable payload STARSHINE-2; and will include the Prototype Synchrotron Radiation Detector (PSRD), Collisions Into Dust Experiment-2 (COLLIDE-2), along with Space Experiment Module-11 (SEM-11).

### 3. COMMERCIAL BIOMEDICAL TESTING MODULE (CBTM)

CBTM is a middeck powered experiment that will test pharmaceuticals, and develop and examine animal models in microgravity for several pharmaceutical and biotechnology companies. The experiment will consist of three Animal Enclosure Modules (AEMs) with mice.

### 4. GET-AWAY SPECIAL (GAS) PAYLOADS

GAS-064: Experiment sponsored by Penn State University to fly and verify a plant growth chamber for seed germination and development.

GAS-221: Seven experiments sponsored by Utah State University.

GAS-730: Swedish Space Corporation sponsors this experiment to achieve weak Marangoni flows at varying rates.

GAS-761: Experiment sponsored by Argentine Association for Space Technology to fly seven experiments.

GAS-775: NASA sponsored experiment reflight of GAS-703 (STS-77) and GAS-702 (STS-69) to study smoldering combustion during long-term microgravity periods.

GAS-785: NASA-AMES Research Center sponsored experiment to determine the on-orbit performance of a low-power miniature two-stage orifice pulse tube cryocooler operating in a microgravity environment.

SEM-12: Space Experiment Module-12 is a GAS can with an assortment of experiments.

## 5. SIMPLEX

This payload of opportunity will measure OMS burn plume characteristics from ground based observations sites.

### H. IN-FLIGHT DETAILED TEST OBJECTIVES (DTOs)

#### 1. ERGOMETER VIBRATION TEST DURING MATED OPERATIONS (DTO 262)

The purpose of this DTO of opportunity is to identify vibration perturbations in the mated stack whilst exercise is in progress on the shuttle. This involves SAMS data retrieval during one exercise period involving cycle rpm protocols.

#### 2. MAGR GPS (DTO 700-14)

The purpose of this DTO is to demonstrate the performance and operation of the Global Positioning System (GPS) during the orbiter ascent, on-orbit, entry, and landing phases, utilizing a modified military GPS receiver processor and the existing orbiter GPS antennas.

#### 3. SIGI (DTO 700-22)

The purpose of this DTO is to demonstrate the performance and operation of the CRV (Crew Return Vehicle) Space Integrated Global Positioning System (GPS)/Inertial Navigation System (INS) (SIGI) as a means of determining navigation parameters for the entry flight regime. This will be accomplished by testing updated software.

### I. In-Flight DETAILED SUPPLEMENTAL OBJECTIVES (DSOs)

#### 1. Bioavailability and Performance Effects of Promethazine During Space Flight (DSO 490B)

The purpose of DSO 490B is to evaluate PMZ as the anti-motion sickness medication of choice for treating SMS during Shuttle missions. Shuttle crewmembers will ingest PMZ as needed and record results.

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FLIGHT PLAN WALKTHROUGH

FLIGHT PLAN  
WALKTHROUGH

### Flight Day 1

- Standard FD01 orbit activities.
- Setups completed for PGSCs (OCA, network).
- Secondary payloads are activated and PSRD data takes (GRND commanded) are initiated prior to pre-sleep. Time in PSRD attitude is 9 hr.
- The crew goes to sleep 7 hr after launch to support docking on FD03 and the nominal EOM landing time.
- APCU 2 is activated to support the MPLM Environment Checks. APCU 1 and 2 output relays are closed and the APCU 2 converter is powered on. With the APCU 2 output relay closed and the OIU activated, the ground team can partially activate the MPLM to monitor the MPLM environment. The MPLM data will be monitored as much as possible during the flight depending on which TFL is loaded (not all TFLs contain the MPLM data).

### Flight Day 2

- Checkouts include RMS, OSVS, and RNDZ tools, as well as setup of Ergometer. PGSC network is fully set up.
- The crew will set up all generic PHOTO/TV equipment, in addition to the Sequential Still Video (SSV).
- EMU Checkout (Part 1).
- Setup of the Contingency Water Container (CWC) equipment.
- An H-Reflex run is performed on this day for all three Increment 4 crewmembers. A subject run can start anytime after Setup is complete. An assisting crewmember is required during a data collection run.
- The STS crew will sleep shift 1 hr earlier to support docking the following morning. The docking will not be restricted to occur over Russian Ground Sites.
- On ISS, the CBCS (centerline camera) is installed on the Node Nadir hatch window in preparation for the MPLM install. Note: This can be done anytime before the MPLM Install on FD04.
- GAS payloads are activated and middeck powered payloads start their daily checks.
- Crew has 1 hr of off-duty.
- Orbiter maneuvers to PSRD attitude prior to pre-sleep for a total of 9 hr of data take time.

### Flight Day 3

- The first waste dump will be performed on the morning of this day. FDO would like this dump to be scheduled as close to the first rendezvous burn as possible to minimize trajectory dispersions. A CWC will be set up to collect condensate fluid during docked operations. It will be dumped via the waste nozzle post undock.
- Prior to docking, the EMUs should be removed from the airlock to make room for transfers.
- Docking is not required to occur over a Russian ground sites.
- After docking, a leak check will be performed on the ODS.
- The stack will stay in free drift until the leak check is completed. The shuttle will then maneuver the stack into the nominal docking attitude after damping rates. Once in attitude, attitude control will be handed over to ISS. ISS will maintain attitude control during the entire docked timeframe using the Lab CMGs. However, it is assumed that if Shuttle has the prop, they will perform any maneuvers that may be required.
- After the first hatch opening and welcome ceremonies, transfer, and handover time is priority one. The Expedition 4 IELKs will be temporarily stowed in the ISS until they are installed on FD04.
- A crewmember is not considered transferred until the IELK Installation and Checkout is completed and the AMP and ALSP are transferred for that crewmember.
- The transfer tagup is an opportunity for the loadmaster (MS2) to coordinate with fellow crewmembers (including someone on ISS), and call down results to MCC (A/G comm is made available for the last 5 min of the activity).

- All on-coming IELKs will be temporarily transferred and located in the ISS until installation occurs.

#### **Flight Day 4**

- First thing in post-sleep, the ground is going to perform some CBM operations to check out the port and nadir CBMs. This is in preparation for the MPLM transfer. The petals for the nadir CBM are opened as late as possible before the seal C/O. After the seal C/O, the RMS will grapple the MPLM and start the MPLM Install PDRS procedure.
- Just prior to unberth, the MPLM is powered down and the Remotely Operated Electrical Umbilical (ROEU) is disconnected. Once ROEU disconnect is complete, the MPLM can be unberthed from the payload bay and installed onto the ISS. MS1 is prime and PLT is back-up for the MPLM RMS activities.
- On ISS, the MPLM Ingress Setup activity can be completed anytime prior to VESTIBULE PRESSURIZATION.
- After the MPLM is installed, the CBCS Camera can be removed from the Node Nadir hatch window. VESTIBULE PRESSURIZATION and VESTIBULE OUTFITTING can then be performed.
- MPLM ACTIVATION can start before VESTIBULE OUTFITTING is complete. Certain steps can be performed after certain steps of the VESTIBULE OUTFITTING are completed. The procedures should reference each other as required.
- The ISS crew will remove the four Lab forward CBM motor controllers and prep the MPLM for ingress and transfer activities occurring on FD05.
- On ISS, the Increment 3 and Increment 4 teams are getting as much handover as possible on this day while still meeting the exercise requirements. For the returning Increment 3 crew, they are supposed to exercise 2 hr per day.
- Expedition 3 IELKs are uninstalled and the Expedition 4 IELKs are installed in the ISS.
- Shuttle crew transfers items on middeck including the powered middeck payloads PCG-ST5-007 and -008.
- APCF transfer requires ground commanding, and since the crew is a backup, we will need an ISS crewmember to supervise.
- The first PAO Event is scheduled for this day for the three crewmembers.

#### **Flight Day 5**

- Two CWCs are filled and transferred over to the ISS.
- EVA Tools Checkout and Procedure Review.
- Hatches are closed and the orbiter depresses to 10.2 psi in preparation for an STS A/L EVA.
- APCU jumpers are installed to power the MPLM via the shuttle.

#### **Flight Day 6**

- MPLM transfer continues.
- BRMRRM EVA is performed.
- Orbiter is repressed to 14.7 upon EVA egress.
- Hatches are opened after EVA and APCU jumpers are disconnected, returning power to the MPLM.

#### **Flight Day 7**

- Transfers and crew handover continues.
- Waste Dump is performed on this day.
- Powered ISS payload BTR samples are transferred to the Shuttle.
- ISS PAO event.
- An H-reflex run is performed on this day for all three Increment 4 crewmembers. A subject run can start anytime after setup is complete. An assisting crewmember is required during a data collection run.

### **Flight Day 8**

- Transfers and crew handover continues.
- CBM controllers are installed for overnight ground checkout.
- Crew Conference with both ISS and STS crews.
- Russian Expedition 3 crewmembers perform LBNP ops.

### **Flight Day 9**

- The ISS crew will egress the MPLM.
- Once MPLM DEACTIVATION, VESTIBULE DEOUTFITTING, and VESTIBULE DEPRESS are completed, the shuttle crew can transfer the MPLM back to the shuttle payload bay. The procedure is the same as the MPLM Install on FD06, but in reverse.
- MPLM is moved back to the payload bay.
- For the other ISS crewmembers not involved in the MPLM activities, crew handover time is the top priority for this day.
- All crewmembers review undock procedures.
- Russian Expedition 3 crewmembers perform LBNP ops.

### **Flight Day 10**

- Following the Egress, a leak check of the ODS vestibule is performed, the ODS Centerline Camera is reinstalled, and the crew transitions to the Undock rendezvous checklist.
- Following Undocking, a one rev flyaround is scheduled before final sep from ISS. It is desired to have the separation burn occur about a minute prior to orbital night, thereby having a majority of the flyaround occur during daylight. Undock is scheduled 69 min prior to this final sep time.
- SIMO dump after burn.
- The afternoon is for off-duty time and exercise for the ISS Crew.
- PSRD attitude is initiated for data collection during crew sleep (9 hr).

### **Flight Day 11**

- After 3 hr of post-sleep, the crew performs FCS Checkout, RCS Hot Fire, L-1 Comm checks and a Deorbit Prep Briefing.
- STARSHINE is deployed.
- Cabin stow takes up a majority of the rest of the day, along with exercise for everyone before the Ergometer is stowed.
- There may be an orbit adjust burn to bring in EOM landing opportunities.
- Off-duty in the morning for the Expedition 3 crewmembers.
- PGSC Stow is broken up into two parts. This first part will stow all PGSCs other than those required for OCA MFX ops on FD12. Nonessential PGSCs will be powered down over night, including the OCA hardware in order to maintain a cabin-cooled environment.
- The recumbent seat setup is partially performed in preparation for landing.

### **Flight Day 12**

- The crew performs last of the stowage activities before transitioning to the Deorbit Prep book.
- PGSC Stow part two stows any remaining PGSC equipment used for OCA MFX operations.
- The Recumbent Seat Setup is finished after the final LiOH changeout at the end of post-sleep.

DAP BOOK CONFIGURATION

DAP BOOK  
CONFIGURATION





TOP

DAP	PURPOSE	DAP	PURPOSE
A1	- NOMINAL	B1	- OMS/RCS BURNS
A2	- PTC	B2	- LOSS OF VERN (TAIL ONLY)
A3	- GG	B3	- LOSS OF VERN (ALL)
A4	- PRE/POST DEPLOY	B4	- SSUS DEPLOY
A5	- LOSS OF VERN (ALL)	B5	- COAS/HUD CAL
A6	- LOSS OF VERN (TAIL ONLY)	B6	-
A7	- RENDEZVOUS	B7	- RENDEZVOUS
A8	- TERMINAL PHASE	B8	- TERMINAL PHASE
A9	- PROX OPS/FLYAROUND	B9	- PROX OPS/FLYAROUND
A10	- DOCKING	B10	- DOCKING
A11	- AUTO REBOOST	B11	-
A12	- VRCS MATED STACK	B12	- ALT MATED STACK AND RMS OPS
A13	- A/L DEPRESS ATTITUDE CONTROL	B13	- A/L DEPRESS RATE DAMPING
A14	-	B14	-
A15	-	B15	-

- CNTL ACC = 0 UNLOADED RMS
- = 1 VRCS MATED CONTROL
- = 2 ALT PRCS MATED CONTROL
- = 3 A/L DEPRESS VRCS MATED CONTROL
- = 4 A/L DEPRESS ALT PRCS MATED CONTROL
- = 5-9 NOT USED



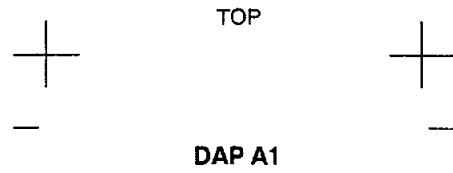
FLT PLN-1a/108/O/B

TOP

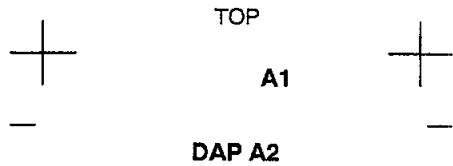
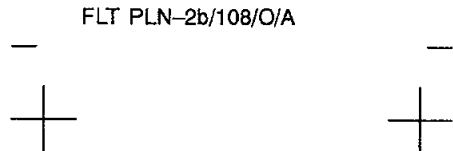
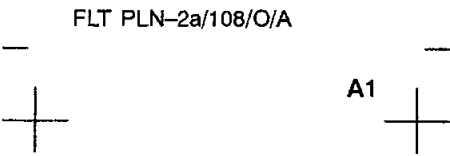
FLT PLN-1b/108/O/A



(reduced copy)

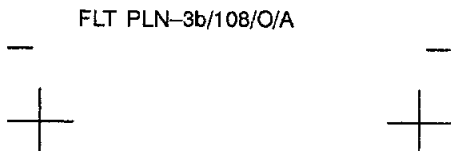
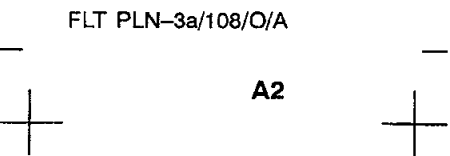


PURPOSE:  
NOMINAL



PURPOSE:  
PTC

DAP A 0 1	1	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
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
0.2 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



(reduced copy)

TOP  
A2

DAP A 0 2	1	PRI
0.4 0 0 0	10/50	ROT RATE
- 1.0 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
0.4 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-4a/108/O/A

A3

TOP  
A3

DAP A 0 3	1	PRI
0.2 0 0 0	10/50	ROT RATE
- 0.3 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
TAIL	16/56	Y OPTION
0.1 0	17/57	TRAN PLS
		ALT
0.0 7 0	18/58	RATE DB
ALL	19/59	JET OPT
1	20/60	#JETS
- 0.0 8	21/61	ON TIME
- 0.0 0	22/62	DELAY
		VERN
0.0 0 8 0	23/63	ROT RATE
- 0.0 7 0	24/64	ATT DB
.0 1 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-5a/108/O/A

A4

TOP  
A2  
DAP A3

PURPOSE:  
GG

FLT PLN-4b/108/O/A

+

TOP  
DAP A4

PRE/POST DEPLOY

FLT PLN-5b/108/O/A

+

(reduced copy)



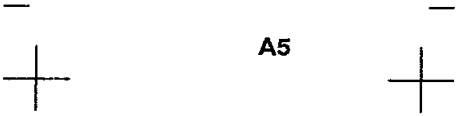
TOP



A4

DAP A 0 4	1	PRI
0.5 0 0 0	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
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
0.2 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-6a/108/O/A



A5



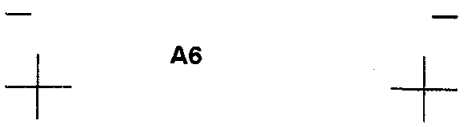
TOP



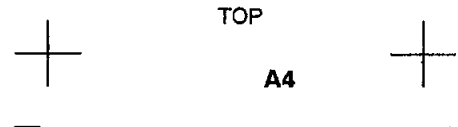
A5

DAP A 0 5	1	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
ALL	15/55	P OPTION
ALL	16/56	Y OPTION
0.1 0	17/57	TRAN PLS
		ALT
0.0 7 0	18/58	RATE DB
ALL	19/59	JET OPT
1	20/60	#JETS
0.0 8	21/61	ON TIME
- 0.0 0	22/62	DELAY
		VERN
0.0 5 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-7a/108/O/A



A6



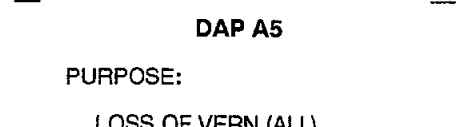
TOP



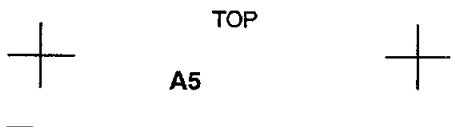
A4

DAP A5

PURPOSE:  
LOSS OF VERN (ALL)



FLT PLN-6b/108/O/A



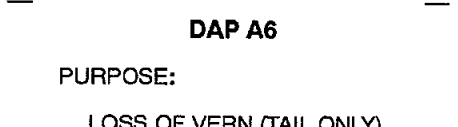
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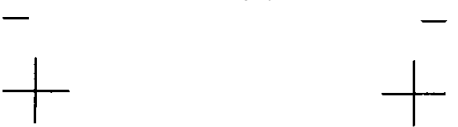
A5

DAP A6

PURPOSE:  
LOSS OF VERN (TAIL ONLY)



FLT PLN-7b/108/O/A



(reduced copy)



TOP

A6

DAP A 0 6	1	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 0	22/62	DELAY
		VERN
0.0 5 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/108/O/A



A7



TOP

A7

DAP A 0 7	1	PRI
0.2 0 0 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
0.1 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 1 6 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-9a/108/O/A



A8

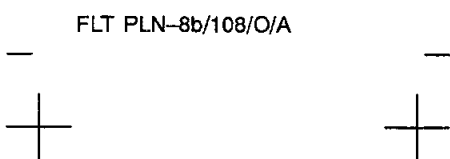


TOP

A6

DAP A7

PURPOSE:  
RENDEZVOUS



FLT PLN-8b/108/O/A

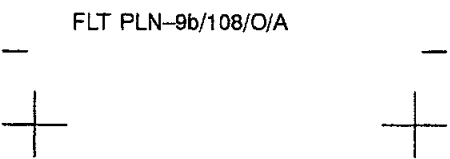


TOP

A7

DAP A8

PURPOSE:  
TERMINAL PHASE



FLT PLN-9b/108/O/A

(reduced copy)

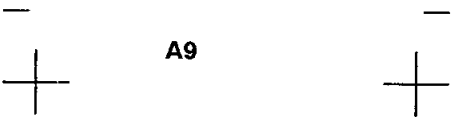


TOP

**A8**

DAP A 0 8 1 PRI  
 0.0 5 0 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  
 0.1 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 0 22/62 DELAY  
 VERN  
 0.0 5 0 0 23/63 ROT RATE  
 - 1.0 0 0 24/64 ATT DB  
 .0 2 0 25/65 RATE DB  
 0.0 5 0 26/66 ROT PLS  
 .0 0 0 27/67 COMP  
 0 28/68 CNTL ACC

FLT PLN-10a/108/O/A



**A9**



TOP

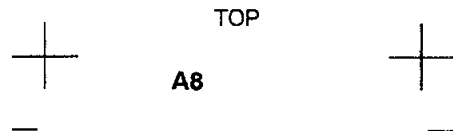
**A9**

DAP A 0 9 1 PRI  
 0.1 3 0 0 10/50 ROT RATE  
 - 1.0 0 11/51 ATT DB  
 0.1 0 12/52 RATE DB  
 0.1 0 0 13/53 ROT PLS  
 .0 0 0 14/54 COMP  
 TAIL 15/55 P OPTION  
 TAIL 16/56 Y OPTION  
 0.0 5 0 17/57 TRAN PLS  
 ALT  
 0.1 0 0 18/58 RATE DB  
 TAIL 19/59 JET OPT  
 2 20/60 #JETS  
 0.0 8 21/61 ON TIME  
 0.0 0 22/62 DELAY  
 VERN  
 0.1 3 0 0 23/63 ROT RATE  
 - 1.0 0 0 24/64 ATT DB  
 .0 2 0 25/65 RATE DB  
 0.0 5 0 26/66 ROT PLS  
 .0 0 0 27/67 COMP  
 0 28/68 CNTL ACC

FLT PLN-11a/108/O/A



**A10**



TOP

**A8**

**DAP A9**

PURPOSE:

PROX OPS/FLYAROUND



FLT PLN-10b/108/O/A



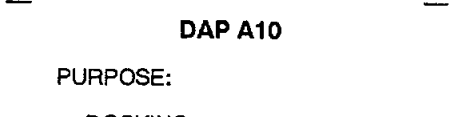
TOP

**A9**

**DAP A10**

PURPOSE:

DOCKING



FLT PLN-11b/108/O/A



(reduced copy)

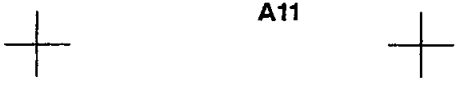


TOP

**A10**

DAP A 1 0 1 PRI  
 0.0 5 0 0 10/50 ROT RATE  
 0.5 0 11/51 ATT DB  
 0.1 0 12/52 RATE DB  
 0.1 0 0 13/53 ROT PLS  
 .0 0 0 14/54 COMP  
 TAIL 15/55 P OPTION  
 TAIL 16/56 Y OPTION  
 0.0 5 0 17/57 TRAN PLS  
 ALT  
 0.1 0 0 18/58 RATE DB  
 TAIL 19/59 JET OPT  
 2 20/60 #JETS  
 0.0 8 21/61 ON TIME  
 0.0 0 22/62 DELAY  
 VERN  
 0.0 5 0 0 23/63 ROT RATE  
 - 0.5 0 0 24/64 ATT DB  
 .0 2 0 25/65 RATE DB  
 0.0 5 0 26/66 ROT PLS  
 .0 0 0 27/67 COMP  
 0 28/68 CNTL ACC

FLT PLN-12a/108/O/A



**A11**

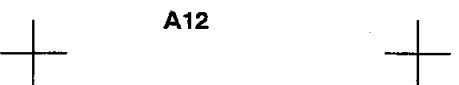


TOP

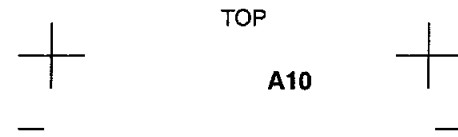
**A11**

DAP A 1 1 1 PRI  
 0.1 0 0 0 10/50 ROT RATE  
 1 0 0 0 11/51 ATT DB  
 0.2 0 12/52 RATE DB  
 0.1 0 0 13/53 ROT PLS  
 .0 0 0 14/54 COMP  
 TAIL 15/55 P OPTION  
 TAIL 16/56 Y OPTION  
 0.1 0 0 17/57 TRAN PLS  
 ALT  
 0.0 7 0 18/58 RATE DB  
 TAIL 19/59 JET OPT  
 3 20/60 #JETS  
 0.0 8 21/61 ON TIME  
 1 1.6 0 22/62 DELAY  
 VERN  
 0.1 0 0 0 23/63 ROT RATE  
 - 5.0 0 0 24/64 ATT DB  
 .0 5 0 25/65 RATE DB  
 0.0 1 0 26/66 ROT PLS  
 .0 0 0 27/67 COMP  
 1.2 28/68 CNTL ACC

FLT PLN-13a/108/O/A



**A12**

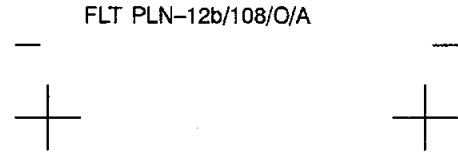


TOP

**A10**

**DAP A11**

PURPOSE:  
 AUTO REBOOST



FLT PLN-12b/108/O/A

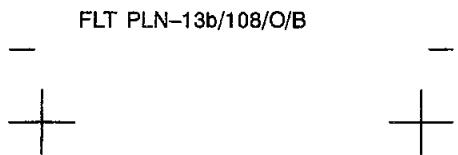


TOP

**A11**

**DAP A12**

PURPOSE:  
 VRCS MATED STACK



FLT PLN-13b/108/O/B

(reduced copy)

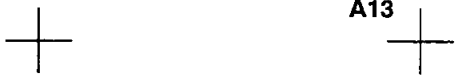


TOP

A12

DAP A 1 2	1	PRI
0.1 0 0 0	10/50	ROT RATE
- 5.0 0	11/51	ATT DB
0.2 0	12/52	RATE DB
0.0 4 0	13/53	ROT PLS
.0 0 0	14/54	COMP
TAIL	15/55	P OPTION
TAIL	16/56	Y OPTION
0.0 1 0	17/57	TRAN PLS
		ALT
0.0 7 0	18/58	RATE DB
TAIL	19/59	JET OPT
3	20/60	#JETS
0.0 8	21/61	ON TIME
1.1.0.4	22/62	DELAY
		VERN
0.1 0 0 0	23/63	ROT RATE
- 3.0 0 0	24/64	ATT DB
.0 5 0	25/65	RATE DB
0.0 0 2	26/66	ROT PLS
.0 0 0	27/67	COMP
1	28/68	CNTL ACC

FLT PLN-14a/108/O/A



A13



TOP

A12

DAP A13

PURPOSE:  
A/L DEPRESS ATTITUDE  
CONTROL

FLT PLN-14b/108/O/B

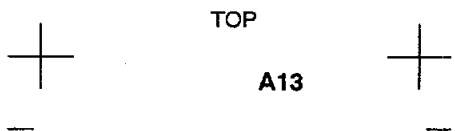


TOP

A13

DAP A 1 3	1	PRI
0.1 0 0 0	10/50	ROT RATE
- 5.0 0	11/51	ATT DB
0.2 0	12/52	RATE DB
0.0 4 0	13/53	ROT PLS
.0 0 0	14/54	COMP
TAIL	15/55	P OPTION
TAIL	16/56	Y OPTION
0.0 1 0	17/57	TRAN PLS
		ALT
0.0 7 0	18/58	RATE DB
TAIL	19/59	JET OPT
3	20/60	#JETS
0.0 8	21/61	ON TIME
1.1.0.4	22/62	DELAY
		VERN
0.1 0 0 0	23/63	ROT RATE
- 3.0 0 0	24/64	ATT DB
.0 8 0	25/65	RATE DB
0.0 0 2	26/66	ROT PLS
.0 0 0	27/67	COMP
3.4	28/68	CNTL ACC

FLT PLN-15a/108/O/A



TOP

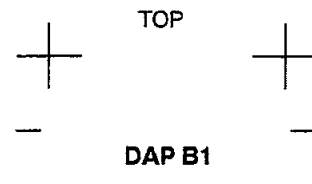
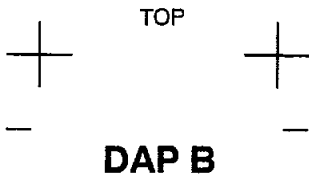
A13

FLT PLN-15b/108/O/A



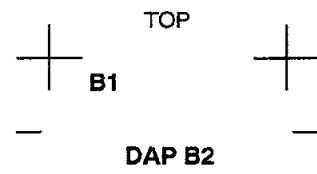
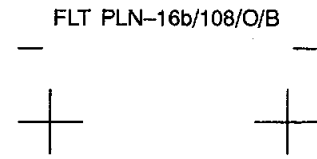
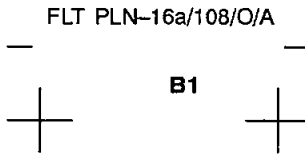
(reduced copy)





PURPOSE:

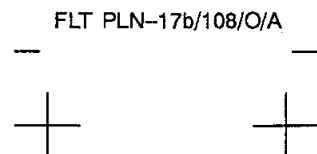
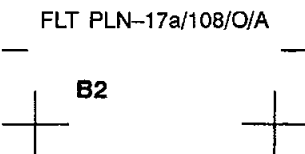
OMS/RCS BURNS



PURPOSE:

LOSS OF VERN  
(TAIL ONLY)

2	DAP B 0 1
30/50	0.5 0 0 0
31/51	- 3.0 0
32/52	0.2 0
33/53	0.0 4
34/54	.0 0 0
35/55	ALL
36/56	ALL
37/57	0.1 0
38/58	0.2 0 0
39/59	ALL
40/60	2
41/61	0.0 8
42/62	- 0.0 0
43/63	0.2 0 0 0
44/64	- 1.0 0 0
45/65	.0 2 0
46/66	0.0 0 2
47/67	.0 0 0
48/68	0



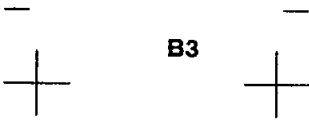
(reduced copy)



**B2**

2	DAP B 0 2
30/50	0.2 0 0 0
31/51	- 3.0 0
32/52	0.2 0
33/53	0.0 4
34/54	.0 0 0
35/55	TAIL
36/56	TAIL
37/57	0.0 2
38/58	0.0 7 0
39/59	TAIL
40/60	1
41/61	0.0 8
42/62	- 0.0 0
43/63	0.2 0 0 0
44/64	- 1.0 0 0
45/65	.0 2 0
46/66	0.0 0 2
47/67	.0 0 0
48/68	0

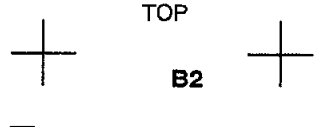
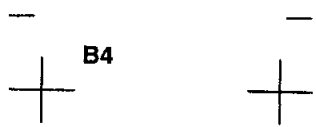
FLT PLN-18a/108/O/A



**B3**

2	DAP B 0 3
30/50	0.2 0 0 0
31/51	- 3.0 0
32/52	0.2 0
33/53	0.0 4
34/54	.0 0 0
35/55	ALL
36/56	ALL
37/57	0.0 2
38/58	0.0 7 0
39/59	ALL
40/60	1
41/61	0.0 8
42/62	- 0.0 0
43/63	0.2 0 0 0
44/64	- 1.0 0 0
45/65	.0 2 0
46/66	0.0 0 2
47/67	.0 0 0
48/68	0

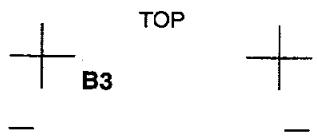
FLT PLN-19a/108/O/A



**DAP B3**

PURPOSE:  
LOSS OF VERN  
(ALL)

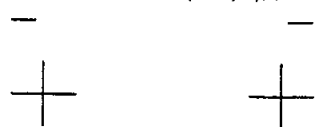
FLT PLN-18b/108/O/A



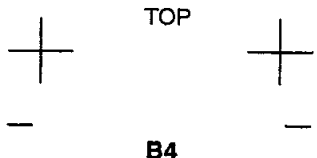
**DAP B4**

PURPOSE:  
SSUS DEPLOY

FLT PLN-19b/108/O/A

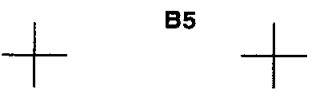


(reduced copy)



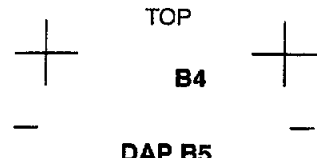
2/4	DAP B 0 4
30/50	0.2 0 0 0
31/51	- 0.3 0
32/52	0.2 0
33/53	0.0 4
34/54	.0 0 0
35/55	TAIL
36/56	TAIL
37/57	0.0 2
38/58	0.1 0 0
39/59	ALL
40/50	2
41/61	0.0 8
42/62	- 0.0 0
43/63	0.0 0 8 0
44/64	- 0.1 0 0
45/65	.0 1 0
46/66	0.0 0 2
47/67	.0 0 0
48/68	0

FLT PLN-20a/108/O/A



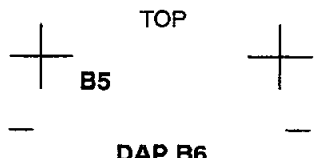
2	DAP B 0 5
30/50	0.2 0 0 0
31/51	- 3.0 0
32/52	0.2 0
33/53	0.0 4
34/54	.0 0 0
35/55	TAIL
36/56	TAIL
37/57	0.0 2
38/58	0.2 0 0
39/59	ALL
40/60	2
41/61	0.0 8
42/62	- 0.0 0
43/63	0.0 1 6 0
44/64	- 0.0 3 3
45/65	.0 2 0
46/66	0.0 0 2
47/67	.0 0 0
48/68	0

FLT PLN-21a/108/O/A



PURPOSE:  
COAS/HUD CAL

FLT PLN-20b/108/O/A



PURPOSE:

FLT PLN-21b/108/O/A





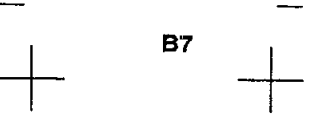
**B6**

2/4	DAP B 0 6
30/50	0.5 0 0 0
31/51	- 3.0 0
32/52	0.2 0
33/53	0.0 4
34/54	.0 0 0
35/55	ALL
36/56	ALL
37/57	0.0 2

38/58	0.2 0 0
39/59	ALL
40/60	2
41/61	0.0 8
42/62	- 0.0 0

43/63	0.2 0 0 0
44/64	- 1.0 0 0
45/65	.0 2 0
46/66	0.0 0 2
47/67	.0 0 0
48/68	0

FLT PLN-22a/108/O/A



**B7**



**B7**

2/4	DAP B 0 7
30/50	0.5 0 0 0
31/51	- 2.0 0
32/52	0.2 0
33/53	0.0 4
34/54	.0 0 0
35/55	ALL
36/56	ALL
37/57	0.0 5

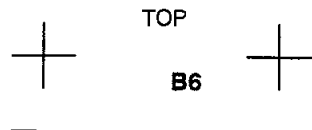
38/58	0.1 0 0
39/59	ALL
40/60	2
41/61	0.0 8
42/62	- 0.0 0

43/63	0.2 0 0 0
44/64	- 1.0 0 0
45/65	.0 2 0
46/66	0.0 0 2
47/67	.0 0 0
48/68	0

FLT PLN-23a/108/O/A



**B8**



**B6**

**DAP B7**

PURPOSE:

RENDEZVOUS

FLT PLN-22b/108/O/A



**B7**

**DAP B8**

PURPOSE:

TERMINAL PHASE

FLT PLN-23b/108/O/A



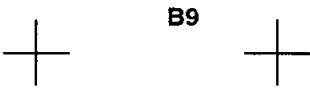
(reduced copy)



**B8**

2/4	DAP B 0 8
30/50	0.0 5 0 0
31/51	- 2.0 0
32/52	0.2 0
33/53	0.0 4
34/54	.0 0 0
35/55	ALL
36/56	ALL
37/57	0.0 5
38/58	0.1 0 0
39/59	ALL
40/60	2
41/61	0.0 8
42/62	0.0 0
43/63	0.0 5 0 0
44/64	- 1.0 0 0
45/65	.0 2 0
46/66	0.0 0 2
47/67	.0 0 0
48/68	0

FLT PLN-24a/108/O/A



**B9**



**B9**

**B9**

2/4	DAP B 0 9
30/50	0.1 3 0 0
31/51	- 1.0 0
32/52	0.1 0
33/53	0.0 4 0
34/54	.0 0 0
35/55	TAIL
36/56	TAIL
37/57	0.0 1 0
38/58	0.1 0 0
39/59	TAIL
40/60	2
41/61	0.0 8
42/62	0.0 0
43/63	0.1 3 0 0
44/64	- 1.0 0 0
45/65	.0 2 0
46/66	0.0 2 0
47/67	.0 0 0
48/68	0

FLT PLN-25a/108/O/A



**B10**



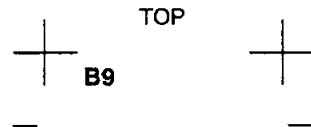
**B8**

**DAP B9**

PURPOSE:

PROX OPS/  
FLYAROUND

FLT PLN-24b/108/O/A



**B9**

**B9**

**DAP B10**

PURPOSE:

DOCKING

FLT PLN-25b/108/O/A





**B10**

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

FLT PLN-26a/108/O/A



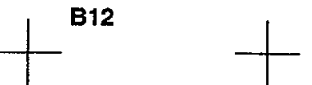
**B11**



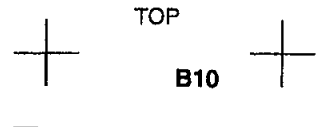
**B11**

2/4	DAP B 1 1
30/50	0.5 0 0 0
31/51	3.0 0
32/52	0.2 0
33/53	0.0 4 0
34/54	.0 0 0
35/55	ALL
36/56	ALL
37/57	0.0 2 0
38/58	0.2 0 0
39/59	ALL
40/60	2
41/61	0.0 8
42/62	0.0 0
43/63	0.2 0 0 0
44/64	- 1.0 0 0
45/65	.0 2 0
46/66	0.0 0 2
47/67	.0 0 0
48/68	0

FLT PLN-27a/108/O/A



**B12**



**B10**

**DAP B11**

PURPOSE:

FLT PLN-26b/108/O/A



**B11**

**DAP B12**

PURPOSE:

ALT MATED STACK  
AND RMS OPS

FLT PLN-27b/108/O/B



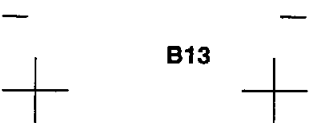
(reduced copy)



**B12**

2/4	DAP B 1 2
30/50	0.1 0 0 0
31/51	5.0 0
32/52	0.2 0
33/53	0.0 4 0
34/54	.0 0 0
35/55	TAIL
36/56	TAIL
37/57	0.0 1 0
38/58	0.0 7 0
39/59	TAIL
40/60	3
41/61	0.0 8
42/62	1 1.0 4
43/63	0.1 0 0 0
44/64	- 3.0 0 0
45/65	.0 5 0
46/66	0.0 0 2
47/67	.0 0 0
48/68	2

FLT PLN-28a/108/O/A



**B13**



**B13**

2/4	DAP B 1 3
30/50	0.1 0 0 0
31/51	4 0.0 0
32/52	0.2 0
33/53	0.0 4 0
34/54	.0 0 0
35/55	TAIL
36/56	TAIL
37/57	0.0 1 0
38/58	0.0 7 0
39/59	TAIL
40/60	3
41/61	0.0 8
42/62	1 1.0 4
43/63	0.1 0 0 0
44/64	4 0.0 0 0
45/65	.0 5 0
46/66	0.0 0 2
47/67	.0 0 0
48/68	3.4

FLT PLN-29a/108/O/A



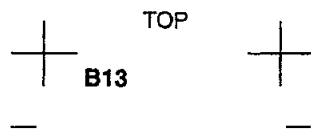
**B12**

**DAP B13**

PURPOSE:

A/L DEPRESS  
RATE DAMPING

FLT PLN-28b/108/O/A



**B13**

FLT PLN-29b/108/O/A



(reduced copy)

UNIV PTG	
TGT ID =	1 Orbiting Vehicle
	= 2 Earth ctr
	= 3 Earth tgt
	Input LAT ( $\pm 90$ )
	LON ( $\pm 180$ , + = Earth)
	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-30/108/O/A

FLT PLN-30/108/O/A is mounted on the back of the DAP Book



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FLIGHT DATA FILE  
Distribution  
108 FLT PLN FS FIN

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AP/LEAD PAO  
CB/ STS-108 FLIGHT CREW (5)  
CB/CHIEF, ASTRONAUT OFF.  
CB/FLIGHT CREW (7)  
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DAB/LEAD STS FD (4)  
DAB2/ACTION CENTER  
DF22/LEAD DPS (3)  
DF23/LEAD CATO (3)  
DF24/INCO FDF REP (4)  
DF25/LEAD ODIN (3)  
DF52/LEAD MMACS (3)  
DF53/LEAD OSO (3)  
DF62/LEAD GNC (3)  
DF63/LEAD PROP (3)  
DF64/ADCO (3)  
DF73/LEAD EGIL (3)  
DF74/PHALCON LIBRARY (5)  
DF82/LEAD EECOM (3)  
DF83/LEAD ECLSS (3)  
DF84/LEAD THOR (3)  
DM3/LEAD RNDZ (3)  
DM3/LEAD TOPO (3)  
DM32/LEAD FDO (6)  
DO13/HSG-H LIBRARY (3)  
DO13/HSG-M LIBRARY (2)  
DO13/HSG-MTLO  
DO13/MSR LIBRARY (2)  
DO13/TTI LIBRARY (2)  
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DO353/FDF MNGR/RESERVE (15)  
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DT34/CONTROL PROP (2)  
DT35/DPS/NAV LIBRARY (3)

DT36/SHUTTLE SYSTEMS  
DT37/CARGO SYSTEMS  
DT37/SHUTTLE COMMUNICATIONS  
DX22/LEAD PDRS (4)  
DX22/LEAD ROBO (3)  
DX25/RMS TRAINING GROUP (3)  
DX32/LEAD EVA (3)  
DX32/PERSON, S.  
DX34/PHOTO/TV  
GP23/STIC (3)  
MER/30 LIBRARY  
MT3/IPT  
NC62/MORAN, S. (2)  
OM2/CONSOLE SUPPORT (2)  
OV/LEAD ISS GC  
OV/LEAD SHUTTLE GC  
SD24/SURGEON (3)  
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H017-D307/WARD, J.  
H019-E7522/FERGUS, E.M.

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