

MASTER

# Flight Data File Crew Activity Plan

PCN 1  
PCN 2

## STS-5

### Cycle 5 Trajectory

Flight Operations Directorate  
Operations Division

Final  
September 30, 1982



National Aeronautics and  
Space Administration

Lyndon B. Johnson Space Center  
Houston, Texas

FLIGHT DATA FILE

CONTROL

Ascent Checklist\*\*  
Post Insertion Book  
Crew Activity Plan  
Deorbit Preparation Book  
Contingency Deorbit Preparation Book\*\*  
Entry Checklist\*\*

SUPPORT

Orbit Operations Checklist\*\*  
Photo/TV Checklist  
Cue Cards\*\*  
Flight Maps and Charts\*\*

OFF-NOMINAL

Ascent Pocket Checklist\*\*  
Orbit Pocket Checklist\*\*  
Entry Pocket Checklist\*\*  
Systems Malfunction Procedures\*\*  
EVA Checklist\*\*  
EVA Operations Book\*\*  
Medical Checklist\*\*  
In-Flight Maintenance Checklist\*\*

REFERENCE

Reference Data\*\*  
Systems Data Book  
Data Processing System Dictionary

PAYLOADS RELATED\*

PDRS Operations Checklist\*\*  
Payload Deploy Checklist  
Payload Operations Checklist\*\*  
Payload Systems Data and Malfunction Procedures


\*If required  
\*\*May have flight supplement

FLIGHT OPERATIONS DIRECTORATE


STS-5 CREW ACTIVITY PLAN


FINAL  
September 30, 1982


PREPARED BY:

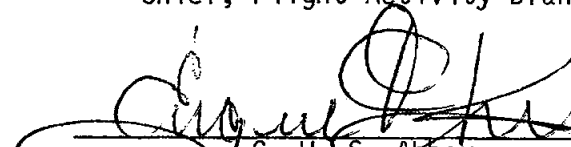
  
Henry J. Pierce, Jr.  
Book Manager

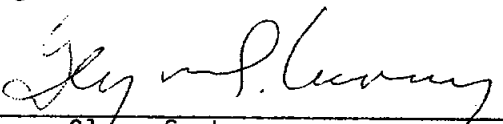
APPROVED BY:

  
John F. Whiteley  
Head, Flight Activity Planning Section

  
Ted A. Guillory  
Chief, Flight Activity Branch

  
J. W. O'Neill  
Chief, Operations Division

  
G. W. S. Abbey  
Director of Flight Operations

  
Glynn S. Lunney  
Manager, Space Shuttle Program Office

This document is under the configuration control of the Crew Procedures Control Board (CPCB). All proposed changes must be submitted on standard JSC Form 482 to CH4/R. D. Snyder, Bldg. 4, Rm 353, 713-483-2307.

Comments concerning this document may be addressed to CH4/Henry J. Pierce, Jr., Bldg 4, Rm 338, 713-483-5871.

Changes to the distribution list should be submitted in writing to CH4/Lisa Saunders, Bldg 4, Rm 373, 713-483-5224.

### ACKNOWLEDGMENTS

The following individuals contributed significantly in preparing the STS-5 Crew Activity Plan:

<u>AREA</u>	<u>NAME</u>	<u>PHONE NO.</u>
Nominal Timeline	C. R. Knarr	483-2201
Flight Day 3 Deployment Timeline	M. J. Dyson	483-5871
Wave Off (1 Day Late Entry) Timeline	M. J. Dyson	483-5871
Attitude and Pointing	J. G. Walding	483-2201
Editing (Kentron)	E. M. Hurlbut, Jr.	483-3844
Word Processing (Kentron)	K. Kerry D. Prange B. Ray P. Romero T. Walker	483-3810

## INTRODUCTION

The STS-5 Crew Activity Plan contains the on-orbit timeline, which is a flight data file article. It does not contain the detailed crew activities that will be covered in the STS-5 Ascent, Post Insertion, Deorbit Prep, or Entry checklists.

This on-orbit timeline satisfies the requirements of the STS-5 Flight Requirements Document, Final, Rev A, October 1, 1982 (exceptions noted in Table 8-1).





The flight profile (trajectory data) (Cycle 5) used for this Crew Activity Plan is from Ref. 2, which is for a launch date of November 11, 1982.

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### 3. Detailed Level Timeline (1-Hr Timespan)

The following letters (a-g) refer to those highlighted in Figure 1-3.

- a. **GSTDN COVERAGE** - In this column the GSTDN sites and their acquisition periods are identified. Each site acquisition period is annotated by a solid line, a dashed line or a dotted line. The different annotations indicate the following:

-  A site that has S-Band, UHF voice and TV capabilities (GDS, HAW, MIL, MLX, GDY)
-  A site with S-Band and UHF voice capabilities (BDA, GWM, ACN, BUC, DKR, MAD, MAX, IOS)
-  A site with only S-Band (no UHF or TV) capabilities (AGO, ORR)
-  A site with only UHF (no S-Band or TV) capabilities (BOT, YAR)

- b. **DAY/NIGHT CYCLE** - In this column a solid bar indicates the period when the Orbiter and Earth are in darkness. A slashed line indicates when the Orbiter is in daylight but the Earth beneath the Orbiter is still in darkness (terminator).
- c. **SOUTH ATLANTIC ANOMALY (SAA)** - This bar defines those periods when the Orbiter passes through the SAA.
- d. **MET TIMESCALE** - This format is a one-hour format with minute tick marks on the vertical timescale referenced to Mission Elapsed Time (MET) with liftoff occurring at 0/00:00:00.
- e. **ORBIT** - Indicates which orbit the spacecraft is in by numerical sequence. Orbit 1 begins at liftoff with subsequent orbits starting when the Earth's equator is crossed (ascending node).
- f. **CREWMAN COLUMNS** - The activities for the CDR, PLT, MS1, and MS2 are scheduled in these areas.
- g. **MCC COLUMN** - Any uplinks, commands or updates required are scheduled at the appropriate time in this column. A vertical line is also used to indicate TV coverage.
- h. In the timescale a DAP A and DAP B CONFIG reference will be included. A number is associated with both DAPs A and B; each number indicates a particular DAP configuration for either DAP A or DAP B. The DAP reference without parenthesis indicates the 'active' DAP for that time period on the page. Table 1-1 identifies the various configurations for DAP A and DAP B that are used in the STS-5 timeline.

TABLE 1-1. DAP A CONFIGURATIONS

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	
<u>TRANSLATION</u>											
PULSE ft/sec	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	
<u>ROTATION</u>											
DSC RT	NORM	0.200	0.400	0.200	0.200	0.200	0.200	2.000	0.200	1.000	0.200
	VERN	0.200	0.400	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
PULSE	NORM	0.10	0.10	0.30	0.10	0.10	0.10	0.10	0.10	0.10	0.10
	VERN	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.100	0.010	0.010
COMP	NORM	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	VERN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
<u>DEADBAND</u>											
ATT	NORM	5.00	1.00	5.00	1.00	5.00	5.00	5.00	5.00	5.00	3.00
	VERN	1.000	1.000	1.000	1.000	0.070	1.000	1.000	1.000	1.000	1.000
RATE	NORM	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
	VERN	.020	.020	.020	.020	.010	.020	.020	.020	.020	.020
<u>JET OPT</u>											
P		1	1	3	1	1	3	1	1	1	1
Y		1	1	3	3	1	3	1	1	1	1
<u>CNTL ACCEL</u>											
		0	0	0	0	0	0	0	0	0	0



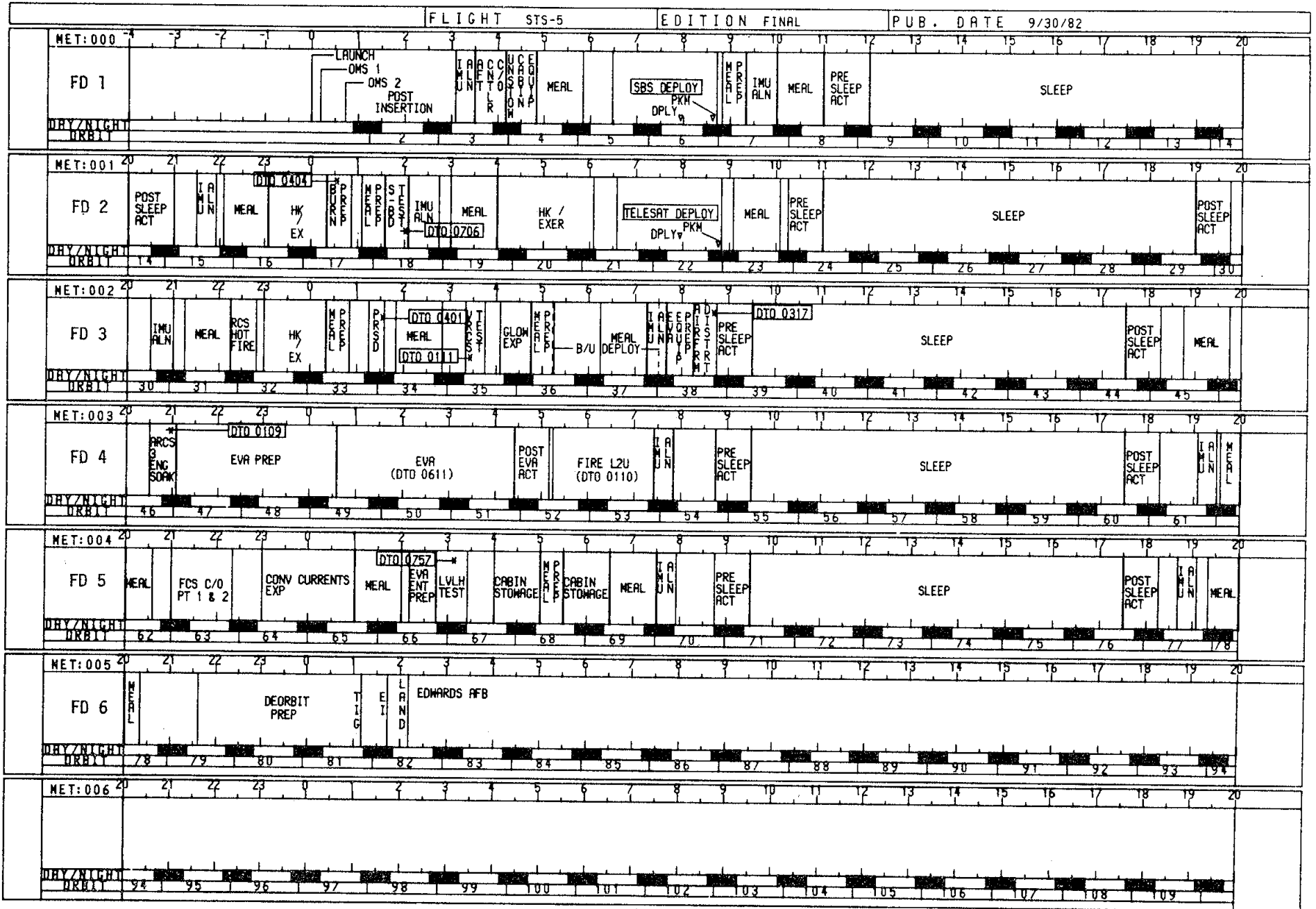
TABLE 1-1. DAP B CONFIGURATIONS (Concluded)

	B1	B2	B3	B4	B5	B6	B7
<u>TRANSLATION</u>							
PULSE ft/sec	0.02	0.02	0.02	0.02	0.02	0.02	0.02
<u>ROTATION</u>							
DSC RT	0.500	0.200	0.500	0.200	0.500	0.500	0.200
NORM	0.200	0.200	0.200	0.008	0.200	0.200	0.200
VERN							
PULSE	0.04	0.04	0.04	0.04	0.04	0.04	0.04
NORM	0.002	0.002	0.002	0.002	0.002	0.002	0.200
VERN							
COMP	.00	.00	.00	.00	.00	.00	.00
NORM	.000	.000	.003	.000	.000	.000	.000
VERN							
<u>DEADBAND</u>							
ATT	3.00	3.00	3.00	0.30	3.00	3.00	3.00
NORM	1.000	1.000	1.000	0.100	3.000	2.000	1.000
VERN							
RATE	0.20	0.20	0.20	0.20	0.20	0.20	0.20
NORM	.020	.020	.020	.010	.020	.020	.020
VERN							
<u>JET OPT</u>							
P	1	3	1	1	1	1	1
Y	1	3	1	3	1	1	1
<u>CNTL ACCEL</u>							
	0	0	0	0	0	0	0

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STS-5 OVERVIEW

# OVERVIEW



SUMMARY TIMELINE

SUMMARY  
TIMELINE

# SUMMARY TIMELINE

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
315:11:19 / 315:23:19	000:01:00 / 000:11:00	315:05:19 / 315:17:19	01 / 315 GMT	-25.7	●	NOVEMBER 11, 1982	STS-5	FINAL, PCN 1	10/26/82
CST : 315									
FD : 01									
MET : 000									

	6	7	8	9	10	11	12	13	14	15	16	17
CDR												
PLT												
MS1												
MS2												
DAY/NIGHT												
ORBIT		2		3		4		5		6		7
EARTH TRACE W/SAR												
GSTDN COVERAGE	-YAR -BDA -HAW -DKR -BUC -BOT -GWH -MLX -ACN -IOS -GWH -HAW -ACN -IOS -GWH -HAW -BUC -ACN -GDX -BOT -YAR -MIL -MLX -BDA -GWH -HAW -BUC -GWH -HAW -ACN -IOS -GWH -GDS -MIL -GWH -HAW -ACN -MIL -BUC -GWH -HAW -BUC -BOT -IOS -GWH											
TV												
DEORB KSC	↑ 00:56											
DPT EDW	↑ 02:31											
OPS	↑ 02:23											
ATT/MNVR	↑ 03:58											
GAS	↑ 26											
DPLY OPT	↑ SBS/TEL											

NOTES:	<ul style="list-style-type: none"> <li>○ SEAT EGRESS</li> <li>● SEAT EGRESS</li> <li>▲ SEAT EGRESS</li> <li>◆ SEAT EGRESS</li> <li>○ AFT CNTRL C/O</li> <li>● AUTO</li> <li>▲ CONFIG CNTLS</li> <li>◆ CONFIG CNTLS</li> <li>● ACTIVATION</li> <li>● TV/VTR DEACT</li> <li>● GAS EXP 26 ACT</li> <li>● FWD STATION</li> <li>○ UNSTON GAS ENCODER</li> </ul>
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GMT (D: )		MET (D:H:M)		CST (D:H:M)		FD/DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE				
315*23*19/ 316*11*19		000*11*00/ 000*23*00		315*17*19/ 316*05*19		02/ 315	GMT -24.1		NOVEMBER 11, 1982	STS-5	FINAL, PCN 2	11/4/82				
CST :315	FD :02	DOY:316	18	19	20	21	22	23	0	1	2	3	4	5		
MET :000	11	12	13	14	15	16	17	18	19	20	21	22	23			
CDR		PRE SLEEP ACT		SLEEP							POST SLEEP ACT		TRPR MSG	IMU MNYR	ICMUNE ACNT	MEAL
PLT		ZLV MNYR	PRE SLEEP ACT	SLEEP							POST SLEEP ACT		TPR MSG REVIEW	ICMUNE ACNT	MEAL	
MS1		PRE SLEEP ACT	PRE SLEEP ACT	SLEEP							POST SLEEP ACT		TRPR MSG	ICMUNE ACNT	MEAL	
MS2		PRE SLEEP ACT	PRE SLEEP ACT	SLEEP							POST SLEEP ACT		TRPR MSG	ICMUNE ACNT	MEAL	
DAY/NIGHT	[Day/Night Cycle: 8 hours dark, 16 hours light]															
ORBIT	[Orbit Diagram: 8, 9, 10, 11, 12, 13, 14, 15, 16]															
EARTH TRACE W/SAA	[Earth Trace Diagram]															
GSTDH COVERAGE	-AGD -ACN -GWH -AGO -ACH -DKR -GWH -AGD -DKR -ACN -HAD -MAX -YAR -DKR -MAD -MAX -DKR -MAD -MAX -MLX -BDA -DKR -MAD -BUC -MIL -HLX -BDA -DKR -MAD -DKR															
TV DEORB KSC OPT EDW	[TV Coverage Schedule]															
O/S	[O/S Schedule]															
A/T/MNYR	-ZLV GNC 2 SH 2															
CAS	[CAS Schedule]															
DPLY OPT	TEL 1 TEL 1 SBS 26 IMU (TOP SUN)															
NOTES:	ASE TEMP CHECK I TEL I TEL I TEL I TEL I TEL ASE TEMP CHECK HTR CONFIG OMS/RCS DSO 0404 - HEAD & EYE TRACKING DSO 0404 - HEAD & EYE TRACKING															

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	HOUSTON DATE	FLIGHT	EDITION	PUB.																		
316.11.19/ 316.23.19	000.23.00/ 001.11.00	316.05.19/ 316.17.19	02/ 316 GMT	-22.2	NOVEMBER 12, 1982	STS-5	FINAL. PCN 2	11/4/82																		
CST +316	6	7	8	9	10	11	12	13																		
FD +02	MET+001																									
MET +000	23	0	1	2	3	4	5	6																		
CDR	HK	EXER	BURN PREP	MEAL PREP	I MU M H V R	I M U A L N	T H R S H L D	Z L V M H V R	MEAL	V I S A C T I V I T Y	P M C	HK	W C S C L N	D R E E P L I O E W	D P L Y A T T	D E P L O Y	O M S S E P	W I N D O W P R O M H V R	A P K H	MEAL	P O D A B S	PRE SLEEP ACT				
PLT	Z L V M H V R	V A C I N N E R T	BURN PREP	RECIRC	Z L V M H V R	I M U A L N	S - B D T E S T	C O A S C A L	MEAL	V I S A C T I V I T Y	P M C	HK	EXER	D R E E P L I O E W	M H V R	D E P L O Y	B U R N	P R O M H V R	S P L Y D M P	MEAL	P O D A B S	PRE SLEEP ACT				
MS1	M E A L	K I N T E S T	BURN PREP	RECIRC	ACCEL SENSE	HK	EXER	MEAL	V I S A C T I V I T Y	A S C E N S E L E	P M C	HK	D R E E P L I O E W	S T A R T D P L Y	M E C H	T E R M				MEAL	P O D A B S	PRE SLEEP ACT				
MS2	M E A L	S G P R O O G T E H	K I N T E S T	HK	BURN PREP	ACCEL SENSE	S - B D T E S T	MEAL	V I S A C T I V I T Y	A S C E N S E L E	P M C	EXER	HK	D R E E P L I O E W	T S E T U P / A C T	C O U N T	S E E Q	S E E Q	MEAL PREP		MEAL	P O D A B S	PRE SLEEP ACT			
DAY/NIGHT																										
ORBIT	16	17	18	19	20	21	22	23	24																	
EARTH TRACE W/SAA																										
GSTDN COVERAGE	-IOS	-YAR	-HLX	-BDA	-DKR	-BUC	-ACN	-BOT	-HLX	-GDX	-GDS	-YAR	-GWH	-ACN	-BOT	-GWH	-HAW	-AGD	-ACN	-GWH	-IOS	-GWH	-HAW	-AGD	-ACN	-GWH
TV																										
DEORB KSC	1 23:29	1 01:05	1 02:40	1 04:07																						
OPT EDW		1 00:56	1 02:32																							
OFS																										
ATT/HNVR	-ZLV	RECIRC	-ZLV	S-BD	I MU / COAS							-ZLV					DPLY	SEP	W/P				STARBOARD SUN			
GAS																									26 LOW G	
DPLY OPT	1 TEL																								1 TEL	
NOTES:	<ul style="list-style-type: none"> <li>• START RUNS 1,2,3</li> <li>• CRYSTAL GROWTH EXP - START</li> <li>• DSO 0406 - KINESTHETIC REPEATABILITY</li> <li>• SPONGE GROWTH EXP - STOP RUN 1</li> <li>• DSO 0406 - KINESTHETIC REPEATABILITY</li> <li>• ASE TEMP CHECK</li> <li>• ICONN RET</li> <li>• OMS/RCS</li> <li>• DSO 0405 - ACCEL DETECTION SENSITIVITY</li> <li>• DSO 0404 - COLD OMS ENGINE RESTART</li> <li>• DSO 0408 - NEAR VISION ACUITY</li> <li>• DSO 0408 - NEAR VISION ACUITY</li> <li>• DSO 0405 - ACCEL DETECTION SENSITIVITY</li> <li>• DSO 0408 - NEAR VISION ACUITY</li> <li>• DSO 0408 - NEAR VISION ACUITY</li> <li>• DSO 0408 - NEAR VISION ACUITY</li> <li>• DSO 0408 - NEAR VISION ACUITY</li> <li>• ICONN RET</li> <li>• OMS/RCS</li> <li>• DSO 0408 - NEAR VISION ACUITY</li> <li>• TV/VTR DEACT</li> <li>• DSO 0301 - OXYGEN INTERACTION HTR ON</li> <li>• STBD SUN MNVR</li> <li>• DTD 0102 - NONSYMMETRICAL/ COLD OMS POD TCS TEST</li> </ul>																									



GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
316:23:19 / 317:11:19	001:11:00 / 001:23:00	316:17:19 / 317:05:19	03 / 316	GMT -20.3		NOVEMBER 12, 1982	STS-5	FINAL, PCN 1	10/26/82
CST: 316	DOY: 317								
FD: 03									
MET: 001									
CDR		SLEEP				POST SLEEP ACT	TPR MSG REVIEW	MEAL	RCS HOT
PLT		SLEEP				POST SLEEP ACT	TPR MSG REVIEW	MEAL	HK
MS1		SLEEP				POST SLEEP ACT	TPR MSG REVIEW	ACCEL SENSE	HK
MS2		SLEEP				POST SLEEP ACT	TPR MSG REVIEW	ACCEL SENSE	VTR SETUP
DAY/NIGHT	[Day/Night Cycle Bar]								
ORBIT	24	25	26	27	28	29	30	31	32
EARTH TRACE W/SAR	[Earth Trace Diagram]								
GSTDN COVERAGE	-AGO -ACN	-GMM	-DGR	-DGR -MAD -MAX	-MAX -IOS -YAR -ORR	-DGR -MAD -MAX	-MLX -BDA -DGR	-MLX -BDA -DGR	-GDX -GDS -MLX -BDA -DGR
TV DEORB KSC OPT EDW									
DPS	GNC 2 SM 2								
ATT/MNVR	STARBOARD SUN				26	IMU	STBD SUN	RCS	STBD SUN (PRCS CNTL)
GAS									
DPLY OPT	I SBS				I TEL	I TEL	I TEL	I TEL	I TEL
NOTES:	<ul style="list-style-type: none"> <li>● OMS/RCS ● MANUAL</li> <li>● DSO 0405 - ACCEL DETECTION SENSITIVITY</li> <li>● DSO 0774 - 5 TRK THRESHOLD VER</li> <li>● DSO 0406</li> <li>● TV/VTR DEACT</li> <li>● DTO 0111 - VRCS SING</li> <li>● ENC SOAKBACK TEST -</li> <li>● INH ALL PORT RCS</li> </ul>								

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE			
317:11:19 / 317:23:19	001:23:00 / 002:11:00	317:05:19 / 317:17:19	03 / 317 GMT	-18.4		NOVEMBER 13, 1982	STS-5	FINAL, PCN 1	10/26/82			
CST : 317 FD : 03 MET : 001 23	MET: 002											
CDR	HK	EXER	MEAL	HK	PNC	GLOW EXP	MEAL	PRE SLEEP ACT	SLEEP			
PLT	EXER	MEAL	HK	PNC	GLOW EXP	MEAL	PRE SLEEP ACT	SLEEP				
MS1	16MM S/U AND ACT	MEAL PREP	16MM S/U AND ACT	MEAL	HK	EXER	MEAL	EVA EQUIP PREP	PRE SLEEP ACT	SLEEP		
MS2	16MM S/U AND ACT	35MM CAMR S/U	HK	MEAL	HK	GLOW EXP	MEAL PREP	EXER	MEAL	EVA EQUIP PREP	PRE SLEEP ACT	SLEEP
DAY/NIGHT	[Day/Night Cycle]											
ORBIT	32	33	34	35	36	37	38	39	40			
EARTH TRACE W/SAR	[Earth Trace Diagram]											
GSTDN COVERAGE	[Coverage Data]											
TV	[TV Schedule]											
DEORB KSC OPT EDW	[Orbit Data]											
QPS	[QPS Data]											
ATT/HNVR	[Att/Hnvr Data]											
GAS	[Gas Data]											
DPLY OPT	[Dply Opt Data]											
NOTES:	<ul style="list-style-type: none"> <li>o RCS REG RECONFIG</li> <li>o DSO 0404 - HEAD &amp; EYE TRACKING</li> <li>o DSO 0406 - KINESTHETIC REPEATABILITY</li> <li>o DSO 0404 - HEAD &amp; EYE TRACKING</li> <li>o DSO 0904</li> <li>o DSO 0401 - PRSD STRAT TEST - PHR DOWN</li> <li>o VRCs TEST</li> <li>o DTO 0111 &amp; 0401 - VRCs SINGLE ENG SOAKBACK TEST MNRV AND PRSD TEST MNRV</li> <li>o DSO 0404 - HEAD &amp; EYE TRACKING</li> <li>o DTO 0613 (DEPLOY RADS)</li> <li>o DSO 0102 - NONSYMMETRICAL/COLD OMS POD TCS TEST</li> <li>o DTO 0317</li> <li>o TV/VTR DEACT</li> <li>o DTO 0111 - VRCs SINGLE ENGINE SOAKBACK TEST - ENABLE VRCs</li> <li>o DTO 0774 - S TRK THRESHOLD VER</li> <li>o 16MM CAMR ACT</li> </ul>											







GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
319:11:19/ 319:23:19	003:23:00/ 004:11:00	319:05:19/ 319:17:19	05/ 319 GMT	-10.9	●	NOVEMBER 15, 1982	STS-5	FINAL	9/30/82
CST : 319 FD : 05 MET : 003 23	MET:004								
CDR	MEAL PREP	MEAL	EXER	MEAL PREP	CABIN STORAGE	MEAL	PRE SLEEP ACT	SLEEP	
PLT	HK	MEAL	LVLH TEST	EXER	CABIN STORAGE	MEAL	PRE SLEEP ACT	SLEEP	
MS1		MEAL	EVA ENT PREP	EXER	CABIN STORAGE	MEAL	PRE SLEEP ACT	SLEEP	
MS2	CONV CURRENTS EXP	MEAL	EVA ENT PREP	EXER	CABIN STORAGE	MEAL	PRE SLEEP ACT	SLEEP	
DAY/NIGHT									
ORBIT	64	65	66	67	68	69	70	71	72
EARTH TRACE N/SAR									
GSTDN COVERAGE	BDR -DKR -ACN -BOT	-GDX -GDS -WIL -HLX -BDR -ACN -BOT	-YAR -GMM -HAW -BUC -GDX -GDS -WIL	-HLX -ACN -BOT -GMM -HAW -BUC	-IOS -GMM -HAW -BOT -IOS	-GMM -HAW -BOT -IOS	-IOS -GMM -HAW -AGO -ACN	-GMM -HAW -AGO -ACN	-GMM -AGO
TV	TV								
DEORB KSC OPT EDM	1 23:46	1 01:12							
DPS									
ATT/MNVR		NOSE SUN	LVLH				IMU	PTC	
GRS									
DPLY OPT									
NOTES:	<ul style="list-style-type: none"> <li>● SPONGE GROWTH EXP - START RUN 6</li> <li>● TV/VTR DEACT</li> <li>● DTD 0757 - DAP PERF IN LVLH MODE</li> <li>● DSO 0406 - KINESTHETIC REPEATABILITY</li> <li>● DSO 0406 - KINESTHETIC REPEATABILITY</li> </ul>								

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
319:23:19/ 320:11:19	004:11:00/ 004:23:00	319:17:19/ 320:05:19	06/ 319 GMT	-9.1	●	NOVEMBER 15, 1982	STS-5	FINAL	9/30/82

TIC  
 FD :06 DOY:320  
 MET :004 11 12 13 14 15 16 17 18 19 20 21 22 23

CDR	SLEEP	POST SLEEP ACT	TPR MSG REVIEW	MEAL	PLBD OPS
PLT	SLEEP	POST SLEEP ACT	TPR MSG REVIEW	MEAL	PLBD OPS
MS1	SLEEP	POST SLEEP ACT	TPR MSG REVIEW	MEAL	PL OPS
MS2	SLEEP	POST SLEEP ACT	TPR MSG REVIEW	MEAL	PL OPS

DAY/NIGHT	[Day/Night Cycle]								
ORBIT	72	73	74	75	76	77	78	79	80



GSTDN COVERAGE	-GWH -AGO -ACN -DKR	-GWH -DKR	-MAD -MAX -DKR -MAD -IOS	-YAR -ORR -MIL -BDA -DKR -MAD -IOS	-YAR -ORR -MIL -BDA -DKR -MAD	-IOS -YAR -ORR -MIL -BDA -DKR	-IOS -YAR -ORR -MIL -BDA -DKR -BOT -YAR -HAW -BLC	-MLX -BDA -DKR -YAR -HAW -BLC	-GDX -MIL -BDA
----------------	---------------------	-----------	--------------------------	------------------------------------	-------------------------------	-------------------------------	---	-------------------------------	----------------

TV	
DEORB KSC	
OPT EDM	
QPS	GNC 2 SH 2
ATT/MNVR	PTC IMU TRAIL SUN TOP SUN
GAS	
DPLY OPT	SBS TEL TEL

NOTES:

- IMU MNVR
- RAD FLDN
- △ DFI NB CAL
- △ PCM RCDR REMIND
- TOP SUN MNVR
- SSM HYD REPRESS
- LAST MEAL CLEANUP
- TAIL SUN MNVR
- FES ONTLR CHECK





DETAILED TIMELINE

FD 1

① IMU STAR ALIGN ATTITUDE PAD

<u>STAR ID</u>	<u>STARS AVAILABLE</u>
-Y: 36,KAUS AUSTRALIS	03:17 to 04:05
-Z: 27,DENEB	03:17 to 04:09
ANG DIFF: 85.5	

DUAL S TRKRALIGN ATT

R 49.2  
P 208.9  
Y 14

SINGLE S TRKRALIGN ATT

-Z:36 -Y:27  
R 326.5 135.9  
P 194.6 205.7  
Y 9.5 28.3

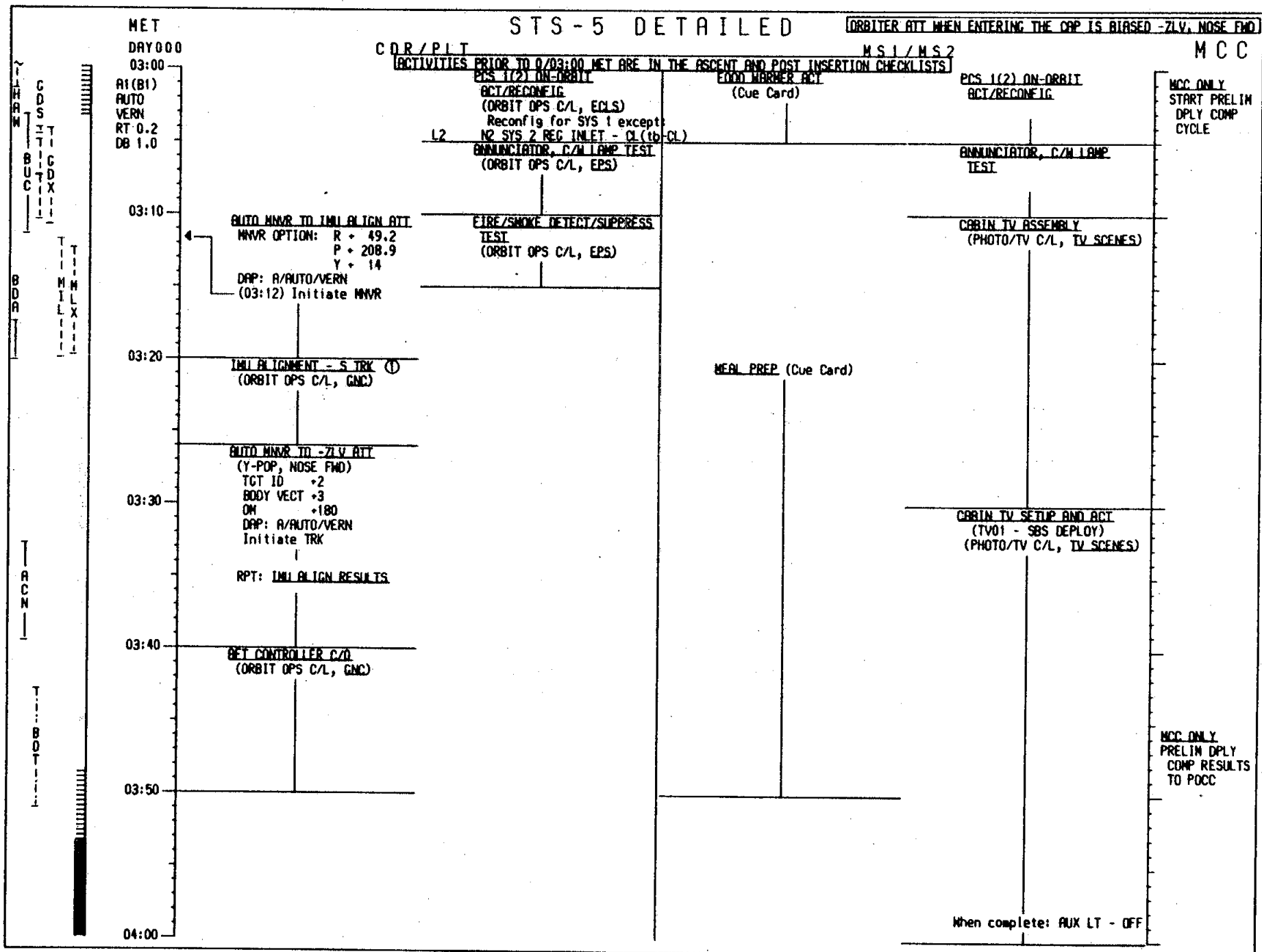
IMU ALIGN LOG

REQD ID: -Y\_\_ -Z\_\_ ANG ERR\_\_ .\_\_

ANG

 $\Delta X$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_ $\Delta Y$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_ $\Delta Z$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

EXECUTION TIME: \_\_ / \_\_ : \_\_ : \_\_



MET

STS-5 DETAILED

DAY 000

CDR/PLT

MS1/MS2

MCC

04:00

R1(B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0

04:10

ORB  
4

UNSTOW CABIN EQUIP

UNSTOW CABIN EQUIP

UNSTOW CABIN EQUIP

UNSTOW CABIN EQUIP

MCC ONLY  
PI AND PSP  
C/O

04:20

04:30

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

04:40

ON MCC CUE  
R2  
APU FUEL PUMP/VLV COOL B -  
OFF  
APU CNTLR PWR (three) - OFF

INFORM CREW  
GO FOR APU  
COOL OFF

04:50

MEAL

MEAL

MEAL

MEAL

MCC ONLY  
DPLY UPDATES  
DUE FROM  
POCC  
START FINAL  
DPLY COMP  
CYCLE

05:00

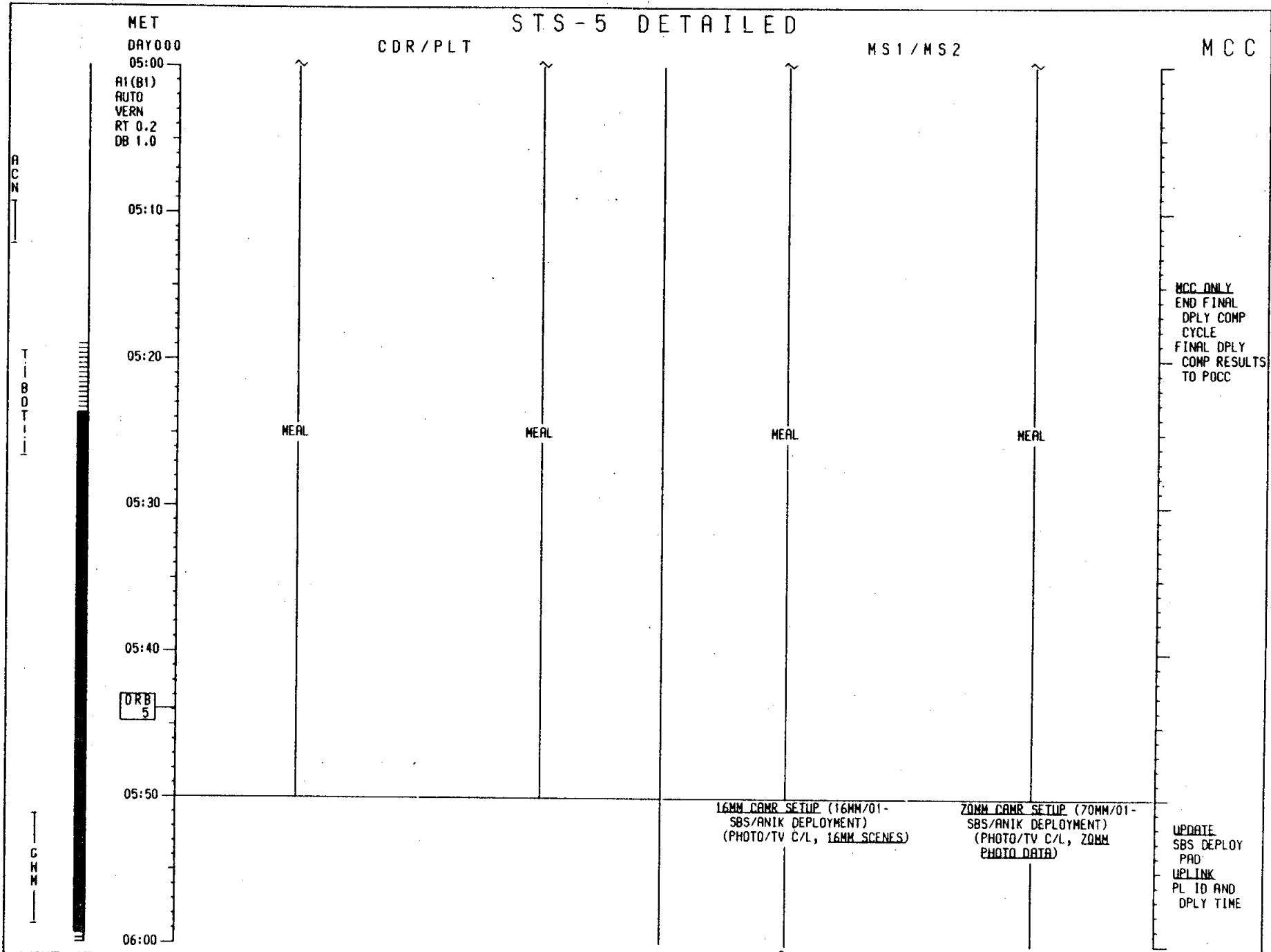
GMM

T  
H  
A  
M

GDS  
T  
B  
UD  
CX

M  
L  
X  
T

M  
L  
T



MET

# STS-5 DETAILED

DAY 000

CDR/PLT

MS1/MS2

MCC

06:00

R12 APU HTR GAS GEN/FUEL PUMP  
(three) - A AUTO

16MM CAMR SETUP

ZOOM CAMR SETUP

A1(B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0

6:05:27

UPLINK  
SPC LOAD -  
IOS COMM

06:10

06:20

DEPLOY  
PROCEDURES  
REVIEW

DEPLOY  
PROCEDURES  
REVIEW

DEPLOY  
PROCEDURES  
REVIEW

DEPLOY  
PROCEDURES  
REVIEW

06:30

SBS DEPLOYMENT  
(PL DPLY C/L, PAYLOAD  
CHECKOUT AND DEPLOY)

SBS DEPLOYMENT  
(PL DPLY C/L, PAYLOAD  
CHECKOUT AND DEPLOY)

SBS DEPLOYMENT  
(PL DPLY C/L, PAYLOAD  
CHECKOUT AND DEPLOY)

SBS DEPLOYMENT  
(PL DPLY C/L, PAYLOAD  
CHECKOUT AND DEPLOY)

A1(B4)  
AUTO  
VERN  
RT 0.2  
DB 1.0

INITIATE DEPLOY COUNTDOWN  
PREDEPLOY ORBITER CHECKS  
PREDEPLOY PAM CHECKS

06:40

06:50

07:00

MET

# STS-5 DETAILED

DAY 000

CDR/PLT

MS1/MS2

MCC

07:00

AI (B4)  
AUTO  
VERN  
RT 0.2  
DB 1.0

SBS DEPLOYMENT

SBS DEPLOYMENT

SBS DEPLOYMENT

SBS DEPLOYMENT

07:10

ORB  
6

DEPLOY OPERATIONS  
MNVR TO DEPLOY ATT

MCC ONLY  
START B/U  
DPLY COMP  
CYCLE

07:20

07:30

MECH SEQ START  
SUNSHIELD OPEN

UPLINK  
SPC LOAD -  
IOS COMM

07:40  
(A1)B4  
AUTO  
VERN  
RT 0.008  
DB 0.1

07:50

TERM SEQ START

08:00

◀ PAYLOAD DEPLOY  
PAYLOAD RECONF/GMS BURN PREP

IOS

COMM

TIME

LIVE

MET

# STS-5 DETAILED

DAY 000

CDR/PLT

MS1/MS2

MCC

08:00

A1(B4)  
AUTO  
VERN  
RT 0.2  
DB 1.0

SBS DEPLOYMENT

SBS DEPLOYMENT

SBS DEPLOYMENT

SBS DEPLOYMENT

MNVR TO SEP BURN ATT

08:10

OMS SEP BURN

MNVR TO PAYLOAD MONITOR ATT

08:20

08:30

MNVR TO WINDOW PROTECTION  
ATTITUDE

08:40

ORB  
7

PAM PERIGEE BURN

CHANGE DAP A:

ROT DISC RATE NORM - 0.5°/sec  
VERN - 0.2°/sec

DB ATT NORM - 3.0°  
VERN - 1.0°

DB RATE VERN - 0.02°/sec

JET OPT Y - 1

FUEL CELL PURGE - AUTO  
(Cue Card)

C3 JDFI RCDRS PCM - LO SANP  
MB MSN - STBY

TV/VTR DEACT

(TV01 - SBS DEPLOY)  
(PHOTO/TV C/L, TV SCENES)

VTR PLAYBACK

(TV01 - SBS DEPLOY)  
(PHOTO/TV C/L, TV SCENES)  
Perform SETUP (SCENE  
LOCATION)

MEAL PREP (Cue Card)

08:50

A1(B1)  
MAN/VERN  
RT 0.2  
DB 1.0

09:00

UPDATE  
(IF RECD)  
1 REV LATE  
SBS DPLY  
PAD



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IMU ALIGN LOG

REQD ID: -Y\_\_ -Z\_\_ ANG ERR\_\_ .\_\_

ANG

$\Delta X$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

$\Delta Y$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

$\Delta Z$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

EXECUTION TIME: \_\_ / \_\_ : \_\_ : \_\_

COAS CALIBRATION LOG

+X  $\Delta$  BIAS \_\_ .\_\_

UPDATE TIME:

\_\_ / \_\_ : \_\_

MET  
DAY 000  
09:00

# STS-5 DETAILED

MS1/MS2

MCC

CHM

THM

ACO

D  
VU  
TM  
Rp

AI(B1)  
MAN  
VERN  
RT 0.2  
DB 1.0

09:10

HOUSEKEEPING

VTR PLAYBACK

VTR PLAYBACK  
(PHOTO/TV C/L, TV SCENES)  
Perform PLAYBACK

MEAL PREP

AI(B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0

09:30

HOUSEKEEPING

AUTO MNVR TO IMU ALIGN ATT  
MNVR OPTION: R + 217.8  
P + 10.9  
Y + 347.8  
DAP: A/AUTO/VERN  
(09:20) Initiate MNVR

VTR DEACT  
(TV/VTR Cue Card)

HOUSEKEEPING

09:40

IMU ALIGNMENT - S TRK  
(ORBIT OPS C/L, GNC)  
STAR ID: -Y: 27, DENEBO  
-Z: 36, KAUS AUSTRALIS  
ANG DIF: 85.5  
STAR AOS/LOS - 09:19/10:06

(AI)B3  
MAN  
VERN  
RT 0.2  
DB 1.0

09:50

01 /COAS - OFF  
Unstow COAS, Fwd Adapter Brkt  
Mount FWD, plug in (01)  
  
COAS CALIBRATION  
(ORBIT OPS C/L, GNC)  
STAR ID: \*X: 54, DIPHDA  
STAR AOS/LOS: 09:39/10:27

AUTO MNVR TO COAS CAL ATT  
MNVR OPTION: R + 217.6  
P + 10.3  
Y + 341.7  
DAP: A/AUTO/VERN  
(09:42) Initiate MNVR

HOUSEKEEPING

UNSTOW GAS ENCODER  
Remove from locker  
Plug encoder cable connector  
into GAS connector on the  
outboard SSP  
Route cable and mount  
encoder as desired, using  
velcro

UPDATE  
H2O SPLY DUMP  
QTY TK A & B  
UPLINK  
SPC LOAD -  
IOS COMM

AI(B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0  
10:00

Change DAP B:  
ROT COMP VERN - .000  
SUPPLY WATER DUMP  
(ORBIT OPS C/L, ECLS)  
Dump to:  
QTY A = \_\_\_ B = \_\_\_

CO2 ABSORBER REPLACEMENT  
(Cue Card)

GAS ACTIVATION  
Set GAS Relay 01 Latent  
to Hot

MET

# STS-5 DETAILED

DAY 000

CDR/PLT

MS1/MS2

MCC

10:00

AI (BT)

AUTO

VERN

RT 0.2

DB 1.0

01

/CDRS PWR - OFF  
Stow CDRS, Fwd Adapter Brkt

10:10

ORB  
8

10:20

10:30

NEAL

NEAL

NEAL

NEAL

10:40

10:50

11:00

NCB

POSITION

COMM

.ET

STS-5 DETAILED

DAY 000

CDR/PLT

MS1/MS2

MCC

11:00  
A1 (B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L. CREW SYS)

AUTO MNVR TO -7LV ATT  
(Y-POP. NOSE FWD)  
TGT ID +2  
BODY VECT +3  
QM +180  
DAP: A/AUTO/VERN  
Initiate TRK

PAN ASE THERMAL TEST  
(PL DPLY C/L. QN-ORBIT OPS)  
Perform for ANIK only

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L. CREW SYS)

MCC ONLY  
COORD C&W/FDA  
LIMITS CLEANUP  
FOR CREW SLEEP

11:10

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L. CREW SYS)

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L. CREW SYS)

11:20

RPT: IMU ALIGN/COAS CAL  
RESULTS

11:30

11:40

DRP  
9

11:50

12:00

UPLINK  
SPC LOAD -  
1ST COMM  
ALERT

11:00  
11:10  
11:20  
11:30  
11:40  
11:50  
12:00

A  
C  
M

NET  
DAY 000

CDR/PLT

STS-5 C AILED

MS1/MS2

M U U

12:00  
R1 (B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0

12:10

12:20

12:30

12:40

12:50

13:00

SLEEP

SLEEP

SLEEP

SLEEP

4-12

9/30/82 STS-5/FIN

# STS-5 DETAILED

MET  
DAY 000

CDR/PLT

MS1/MS2

MCC

13:00  
ORB 10  
R1(B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0  
14:00  
ORB 11  
15:00  
ORB 12  
16:00  
ORB 13  
17:00  
18:00

SLEEP

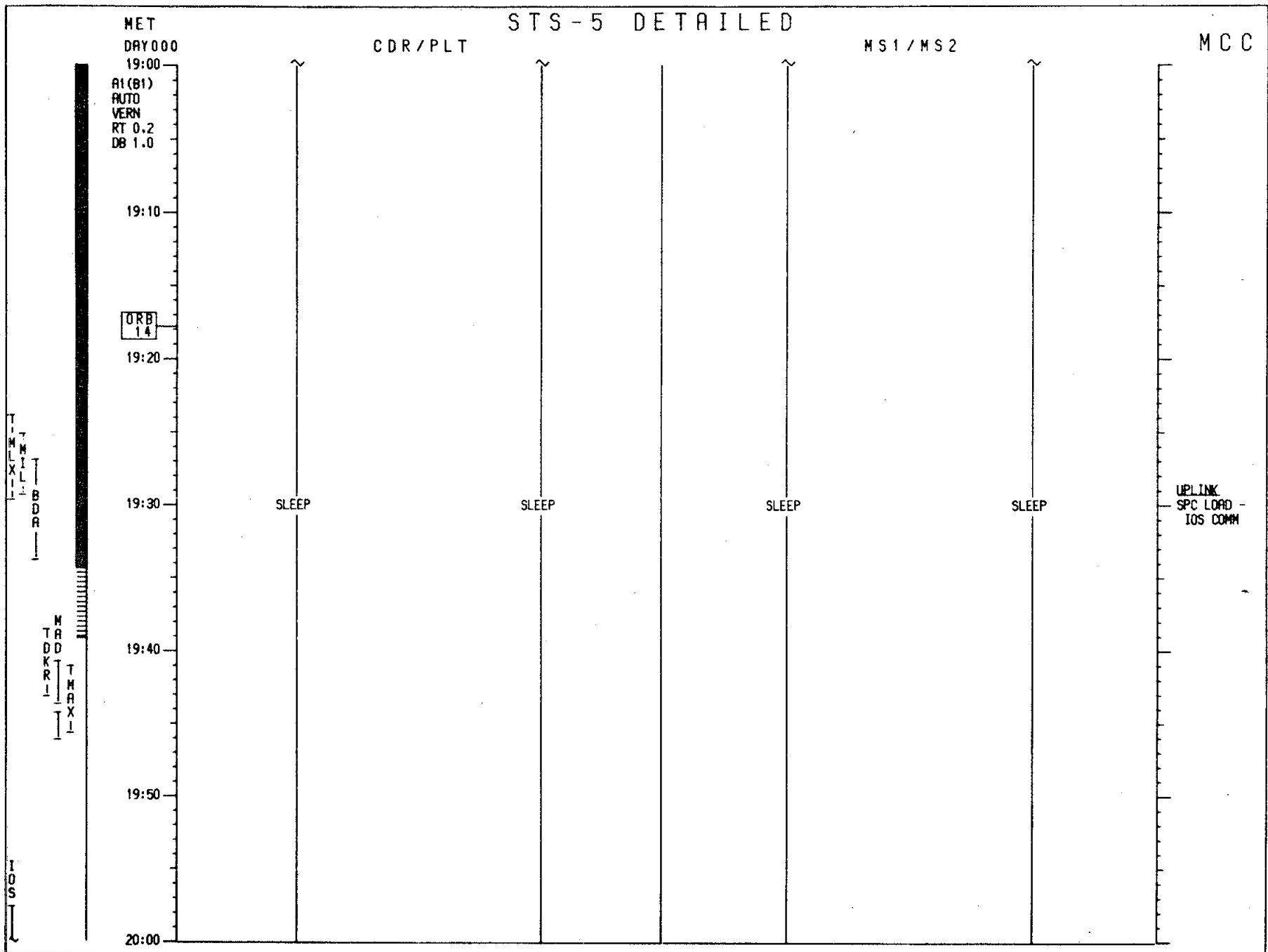
SLEEP

SLEEP

SLEEP







# STS-5 DETAILED

MET

DAY 000

CDR/PLT

MS1/MS2

MCC

20:00  
 R1(B1)  
 AUTO  
 VERN  
 RT 0.2  
 DB 1.0

POST SLEEP ACTIVITY  
 (ORBIT OPS C/L, CREW SYS)

POST SLEEP ACTIVITY  
 (ORBIT OPS C/L, CREW SYS)

POST SLEEP ACTIVITY  
 (ORBIT OPS C/L, CREW SYS)

POST SLEEP ACTIVITY  
 (ORBIT OPS C/L, CREW SYS)

UPLINK  
 SPC LOAD -  
 CLEAR COMM  
 ALERT

20:10

20:20

20:30

20:40

ORB  
 15

20:50

21:00

TISS

TYARR  
CORR



MM  
 LL  
 LX  
 TT  
 II  
 LL

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IMU ALIGN LOG

REQD ID: -Y\_\_ -Z\_\_ ANG ERR\_\_ .\_\_

ANG

$\Delta X$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

$\Delta Y$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

$\Delta Z$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

EXECUTION TIME: \_\_ / \_\_ : \_\_ : \_\_

CDR/PLT

MS1/MS2

21:00

A1 (B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0

MLX  
BDA

M  
D  
A  
D  
R

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Y  
A  
R  
O  
R  
R  
T

21:00  
21:10  
21:20  
21:30  
21:40  
21:50  
22:00

TELEPRINTER  
MESSAGE  
REVIEW

AUTO MNVR TO IMU ALIGN ATT  
MNVR OPTION: R + 217.8  
                  P + 10.9  
                  Y + 347.8  
DAP: A/AUTO/VERN  
(21:17) Initiate MNVR

TELEPRINTER  
MESSAGE  
REVIEW

TELEPRINTER  
MESSAGE  
REVIEW

TELEPRINTER  
MESSAGE  
REVIEW

UPLINK  
SPC LOAD -  
IOS COMM

UPDATE  
OMS/RCS  
ICONNECT  
CONFIG

PAM ASE THERMAL TEST  
(PL DPLY C/L, QN-ORBIT OPS)  
Perform for ANIK only

CO2 ABSORBER REPLACEMENT  
(Cue Card)

STAR TRACKER SELF-TEST  
(ORBIT OPS C/L, GNC)  
IMU ALIGNMENT - S TRK  
(ORBIT OPS C/L, GNC)  
STAR ID: -Y: 27, DENEH  
          -Z: 36, KAUS AUSTRALIS  
ANG DIF: 85.5  
STAR AOS/LOS - 21:24/22:11  
ICONNECT: I (R) OMS to RCS  
(ORBIT PKT C/L, RCS)

HEATER RECONFIG - CONFIG B  
(ORBIT OPS C/L, EPS)

QN-ORBIT HEAD/EYE TRACKING  
(DSO 0404)  
(ORBIT OPS C/L, MED\_DSO<sub>2</sub>)

UPDATE  
H2O SPLY DUMP  
QTY TK A & B

SUPPLY WATER DUMP  
(ORBIT OPS C/L, ECLS)  
Dump to:

QTY A = ---- B = ----

QN-ORBIT HEAD/EYE TRACKING  
(DSO 0404)  
(ORBIT OPS C/L, MED\_DSO<sub>2</sub>)

RPT: IMU ALIGN RESULTS

ET

STS-5 D AILED

JAY 000

CDR/PLT

MS1/MS2

M

22:00  
A1(B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0

FUEL CELL PURGE - AUTO  
(Cue Card)

ON-ORBIT HEAD/EYE TRACKING

22:10

ORB  
16

22:20

22:30

MEAL

MEAL

MEAL

MEAL

22:40

UPLINK  
SPC LOAD -  
IOS COMM

22:50

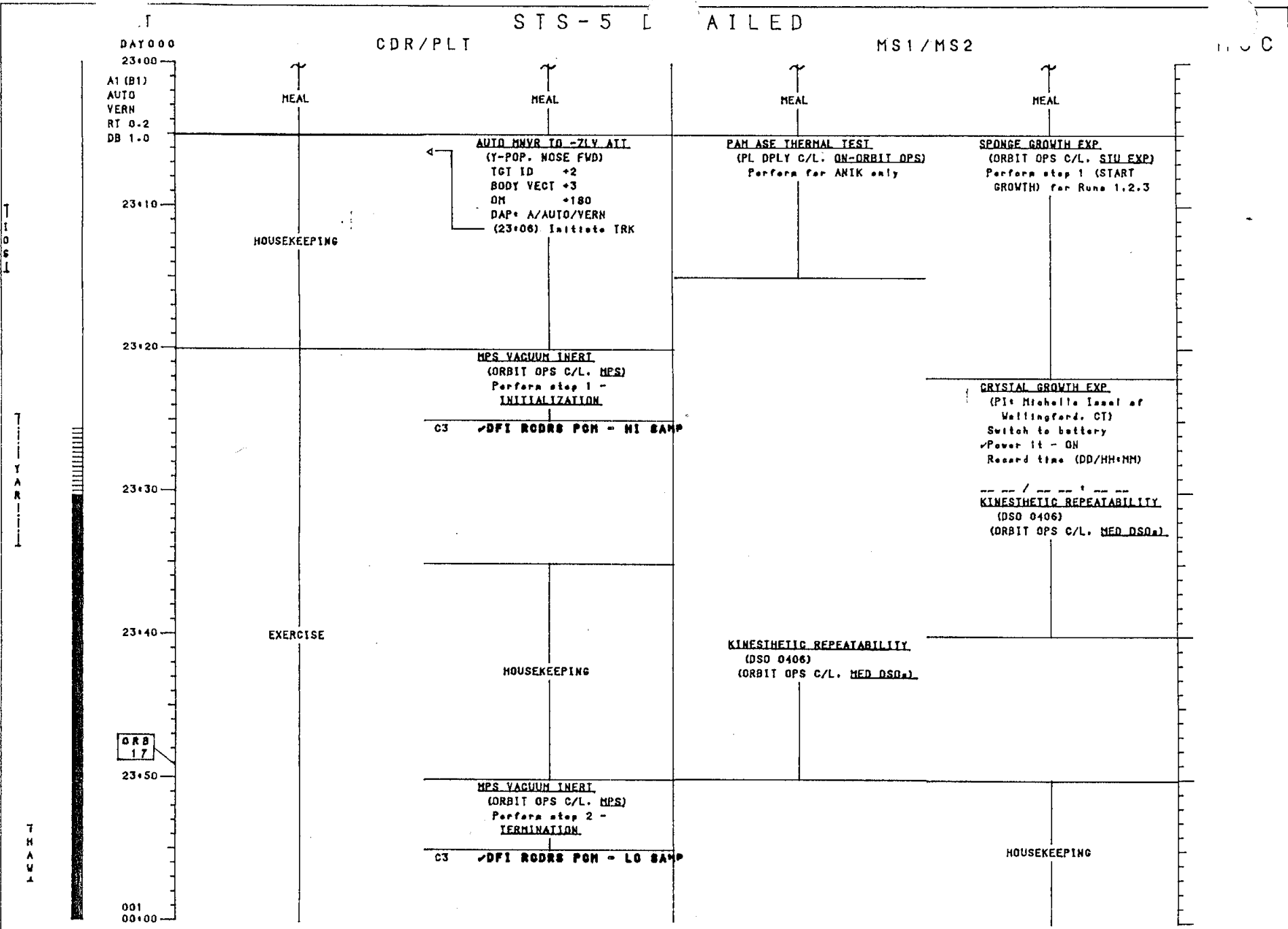
23:00

RRR

CCB

TT  
MLX  
BDR

DKR



DAY 000  
23:00  
A1 (B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0  
23:10  
23:20  
23:30  
23:40  
23:50  
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JAY001

CDR/PLT

STS-5 D TAILED

MS1/MS2

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GDX  
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BOTT  
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00:00  
A1(B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0  
  
00:10  
  
  
  
00:20  
  
  
  
00:30  
A1(B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0  
  
00:40  
  
  
  
00:50  
  
  
  
01:00  
A1(B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0

EXERCISE

DEFI PWR UP (BUC)  
R11:H DEFI PCM CONT 1,2,3 SGSC  
(three) - ON

DEFI POWER DOWN  
R11:H DEFI PCM CONT 1,2,3 SGSC  
(three) - OFF

ICONNECT RETURN (OPS 2,3)  
(ORBIT PKT C/L, RCS)

ON-ORBIT OMS BURN (OMS RESTART BURN) (OPS 2 BURN, L OMS BURN,  
NO XFEED) (DTO 0404 - COLD OMS ENGINE RESTART)  
(ORBIT OPS C/L, OMS)

MNVR TO OMS RESTART BURN ATT

BURN A TIG: 1/00:46:34

BURN B TIG: 1/00:50:35

C3 ✓DEFI RCDRS PCM - LO SAMP  
NB NSN - STBY

AUTO MNVR TO -ZLV ATT  
(Y-POP, NOSE FWD)  
TGT ID +2  
BODY VECT +3  
OH +180  
DAP: A/AUTO/VERN  
Initiate TRK

HOUSEKEEPING

SPONGE GROWTH EXP  
(ORBIT OPS C/L, STU EXP)  
Perform step 2 (STOP  
GROWTH) for Run 1

UPDATE  
OMS BURN PAD



# STS-5 DETAILED

MET

DAY 001

01:00

A1(B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0

CDR/PLT

MS1/MS2

MCC

AUTO MNVR TO -ZLV ATT

ACCEL DETECTION SENSITIVITY  
(DSO 0405)  
(ORBIT OPS C/L, MED DSOs)

ACCEL DETECTION SENSITIVITY  
(DSO 0405)  
(ORBIT OPS C/L, MED DSOs)

UPDATE  
OMS/RCS  
ICONNECT  
CONFIG

MEAL PREP (Cue Card)

ICONNECT: (R) OMS to RCS  
(ORBIT PKT C/L, RCS)

01:10

01:20

01:30

HOUSEKEEPING

S-BAND/LIFE ANTENNA PATTERNS  
(DTO 0706)  
(ORBIT OPS C/L, COMM DTO)  
Use upper antennas

S-BAND/LIFE ANTENNA PATTERNS

01:40

A7(B1)  
AUTO  
NORM  
RT 2.0  
DB 5.0

MIL ROS: 1/01:45  
LOS: 1/01:54

01:50

A1(B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0  
02:00

Change DAP A:  
ROT DISC RATE NORM - 0.2 °/sec

T  
H  
A  
R  
T

T  
H  
A  
M

B  
U  
C  
C  
S

T  
M  
L  
B  
D  
A

① IMU STAR ALIGN ATTITUDE PAD

<u>STAR ID</u>	<u>STARS AVAILABLE</u>
-Y: 59, SCHEAT	02:12 to 03:02
-Z: 33, PEACOCK	02:02 to 02:50
ANG DIFF: 91.2	
	<u>SINGLE S TRKR</u>
<u>DUAL S TRKR</u>	<u>ALIGN ATT</u>
<u>ALIGN ATT</u>	-Z:59 -Y:33
R 240.9	R 153.5 330.1
P 54.8	P 68.6 61.6
Y 345.2	Y 352.2 331.8

S TRK THRESHOLD LOG

	<u>ACQ</u>		
<u>S TRK</u>	<u>THOLD</u>	<u>ACQ MET</u>	<u>(D/HH:MM)</u>
-Y:	-----	___/___	: ---
-Z:	-----	___/___	: ---

IMU ALIGN LOG

REQD ID: -Y\_\_\_ -Z\_\_\_ ANG ERR\_\_\_ .\_\_\_

ANG

$\Delta X$  ( )\_\_\_ .\_\_\_ ( )\_\_\_ .\_\_\_ ( )\_\_\_ .\_\_\_

$\Delta Y$  ( )\_\_\_ .\_\_\_ ( )\_\_\_ .\_\_\_ ( )\_\_\_ .\_\_\_

$\Delta Z$  ( )\_\_\_ .\_\_\_ ( )\_\_\_ .\_\_\_ ( )\_\_\_ .\_\_\_

EXECUTION TIME:\_\_\_ / \_\_\_ :\_\_\_ :\_\_\_

COAS CALIBRATION LOG

-Z  $\Delta$  BIAS \_\_\_ .\_\_\_

UPDATE TIME:

\_\_\_ / \_\_\_ :\_\_\_

MET

# STS-5 DETAILED

DAY 001

CDR/PLT

MS1/MS2

MCC

02:00

A1(B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0

AUTO MNVR TO IMU ALIGN ATT

MNVR OPTION: R + 240.9  
P + 54.8  
Y + 345.2

DAP: A/AUTO/VERN  
(02:02) Initiate MNVR

02:10

IMU ALIGNMENT - S TRK ①  
(ORBIT OPS C/L, GNC)

02:20

S TRK THRESHOLD VER (DTO 774)

[GNC 22 S TRK/COAS CNTL]

S TRK THOLD-ITEM 13&14 - 3

Clear star table (ITEM 20)

Wait 2 min at each THOLD

reducing THOLD value

(2,1,0) until each star

acquired, then:

√S TRK THOLD -Z & -Y - 0

02:30

019 √COAS PWR - OFF  
A17 Unstow COAS  
Mount AFT, plug in (019)

EXERCISE

(A1)B3  
MAN  
VERN  
RT 0.2  
DB 1.0  
02:40

COAS CALIBRATION (DTO 0770)

(ORBIT OPS C/L, GNC)

STAR ID: -Z: 33, PEACOCK

STAR AOS/LOS - 02:02/02:50

019 √COAS PWR - OFF  
Stow COAS

02:50

DRB  
19

AUTO MNVR TO -ZLV ATT

(Y-POP, NOSE FWD)

TGT ID +2

BODY VECT +3

DM +180

DAP: A/AUTO/VERN

Initiate TRK

CHANGE DAP A:  
ROT. COMP VERN - .000

A1(B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0

RPT: IMU ALIGN/COAS CAL  
RESULTS

03:00

NEAR VISION ACUITY (Decal)  
(D50 0408)

A  
C  
N

T  
B  
O  
D  
Y

T  
Y  
A  
R

C  
M

# STS-5 DETAILED

MET  
DAY 001  
03:00  
R1 (B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0

CDR/PLT

MS1/MS2

MCC

T  
H  
R  
A  
C  
T  
I  
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L  
D  
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L  
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N  
E  
S

03:10

03:20

03:30

03:40

03:50

04:00

NEAL

NEAL

NEAL

NEAL

MCC ONLY  
START PRELIM  
DPLY COMP  
CYCLE

MCC ONLY  
PRELIM DPLY  
COMP RESULTS  
TO POCC

MET  
DRY001

CDR/PLT

# STS-5 DETAILED

MS1/MS2

MCC

04:00  
R1 (B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0

NEAR VISION ACUITY (DECAL)  
(DSO 0408)

ACCEL DETECTION SENSITIVITY  
(DSO 0405)  
(ORBIT OPS C/L, MED DSOs)

ACCEL DETECTION SENSITIVITY  
(DSO 0405)  
(ORBIT OPS C/L, MED DSOs)

04:10

04:20

ORBIT  
20

04:30

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

04:40

HOUSEKEEPING

NEAR VISION ACUITY (DECAL)  
(DSO 0408)

HOUSEKEEPING

UPLINK  
SPC LOAD -  
IOS COMM

04:50

NEAR VISION ACUITY (DECAL)  
(DSO 0408)

EXERCISE

MCC ONLY  
DPLY UPDATES  
DUE FROM  
POCC  
START FINAL  
DPLY COMP  
CYCLE

05:00

C  
M

T  
H  
A  
M  
I

C  
D  
S  
T  
T  
B  
U  
C

MET  
DAY 001  
05:00  
A1 (B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0

CDR/PLT

# STS-5 DETAILED

MS1/MS2

MCC

05:10

05:20

05:30

05:40

05:50

06:00

HOUSEKEEPING

EXERCISE

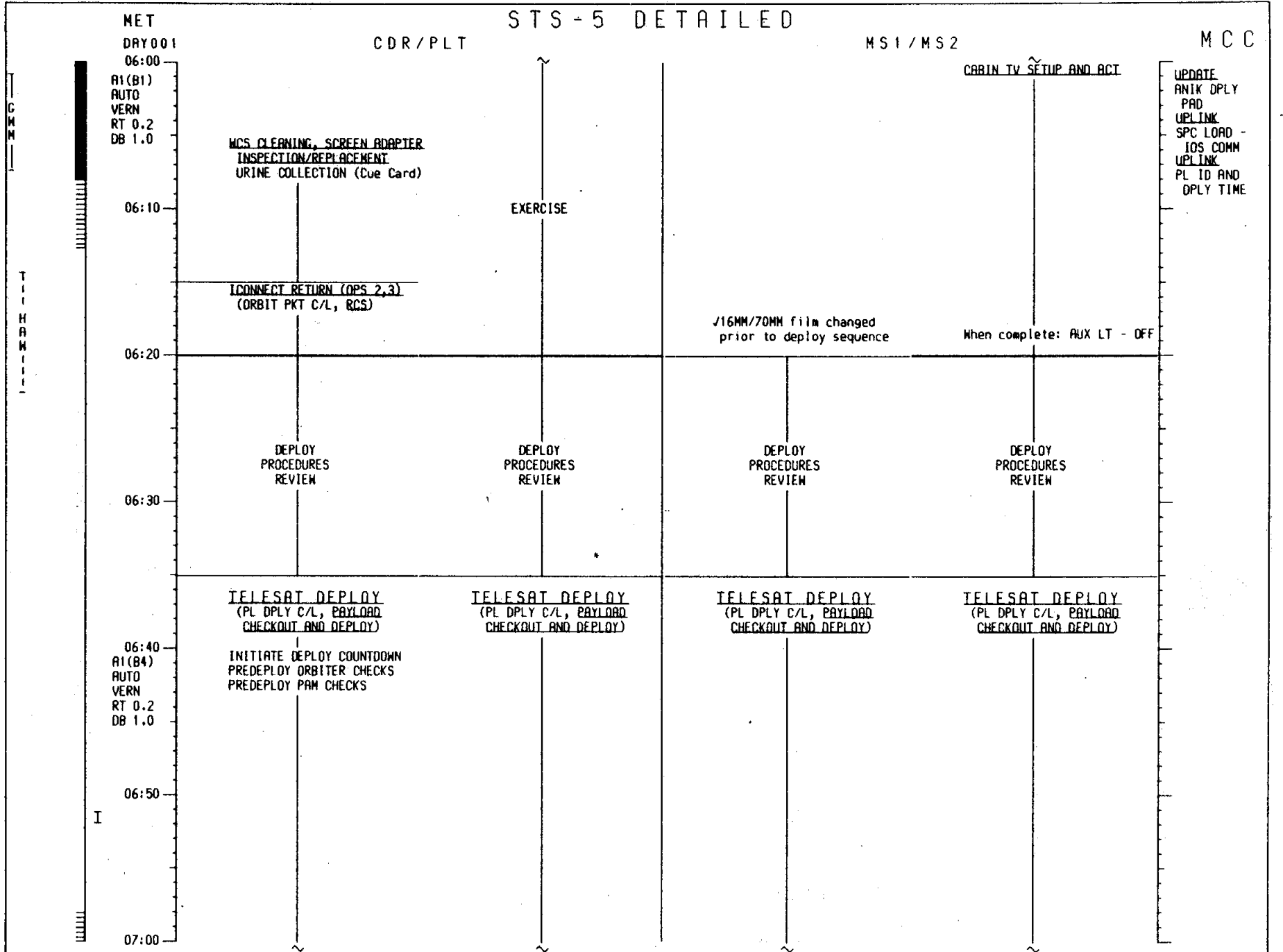
EXERCISE

HOUSEKEEPING

CABIN TV SETUP AND ACT  
(TV02 - ANIK DEPLOY)  
(PHOTO/TV C/L, TV SCENES)

MCC ONLY  
END FINAL  
DPLY COMP  
CYCLE  
FINAL DPLY  
COMP RESULTS  
TO POCC

ORB  
21



# STS-5 DETAILED

MET

DAY001

CDR/PLT

MS1/MS2

MCC

07:00  
A1(B4)  
AUTO  
VERN  
RT 0.2  
DB 1.0

TELESAT DEPLOY

TELESAT DEPLOY

TELESAT DEPLOY

TELESAT DEPLOY

07:10

07:20

07:30

07:40

(A1)B4  
AUTO  
VERN  
RT 0.008  
DB 0.1

07:50

08:00

DEPLOY OPERATIONS  
MNVR TO DEPLOY ATT

DRB  
22

MECH SEQ START  
SUNSHIELD OPEN

MCC ONLY  
START B/U  
DPLY COMP  
CYCLE

UPLINK  
SPC LOAD -  
IOS COMM

LT  
TV  
VE



MET

# STS-5 DETAILED

DAY 001

CDR/PLT

MS1/MS2

MCC

08:00

TELESAT DEPLOY

TELESAT DEPLOY

TELESAT DEPLOY

TELESAT DEPLOY

(A1)B4  
AUTO  
VERN  
RT 0.008  
DB 0.1

TERM SEQ START

◀ PAYLOAD DEPLOY

PAYLOAD RECONFIG  
OMS BURN PREP  
MNRV TO SEP BURN ATT

08:10

A1(B4)  
AUTO  
VERN  
RT 0.2  
DB 1.0

MEAL PREP (Cue Card)

08:20

OMS SEP BURN

MNRV TO PAYLOAD MONITOR ATT

08:30

MNRV TO WINDOW PROTECTION  
ATTITUDE

08:40

08:50

PAM PERIGEE BURN

CHANGE DAP B:

ROT DISC RATE NORM - 0.5"/sec  
VERN - 0.2"/sec  
DB ATT NORM - 3.0"  
VERN - 3.0"  
RATE VERN - 0.02"/sec  
JET OPT Y - 1

03 JDFI RCDRS PCM - LO SAMP  
NB MSN - STBY

SUPPLY WATER DUMP  
(ORBIT OPS C/L, ECLS)  
Dump to:

QTY A = \_\_\_ B = \_\_\_

TV/VTR DEACT  
(TV02 - ANIK DEPLOY)  
(PHOTO/TV C/L, TV SCENES)

A1(B5)  
AUTO  
VERN  
RT 0.2  
DB 3.0

09:00

UPDATE  
H2O SPLY DUMP  
QTY TK A & B  
UPDATE  
(IF REQD)  
1 REV LATE  
ANIK DPLY  
PAD

AC

TS

BT

IOS

# STS-5 DETAILED

MET  
DAY 001

CDR/PLT

MS1/MS2

MCC

09:00  
(A1)85  
AUTO  
VERN  
RT 0.2  
DB 3.0

AUTO MNVR TO STARBOARD SUN  
(+Y TO SUN, -X NORTH)  
TGT ID + 4  
BODY VECT + 5  
P + 0  
Y + 90  
ON + 90  
DAP: B/AUTO/VERN  
(09:02) Initiate TRK

09:10

09:20

09:30

09:40

09:50

10:00

MEAL

MEAL

MEAL

MEAL

MCC ONLY  
COORD C&W/FDA  
LIMITS CLEANUP  
FOR CREW SLEEP

# STS-5 DETAILED

MET

DAY 001

CDR/PLT

MS1/MS2

MCC

10:00

(A1)B5  
AUTO  
VERN  
RT 0.2  
DB 3.0

MEAL

MEAL

MEAL

MEAL

FUEL CELL PURGE - AUTO  
(Cue Card)

10:10

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L, CREW SYS)

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L, CREW SYS)

ON MCC CUE  
OXYGEN INTERACTION  
VALIDATION (DSO 0301)  
R1  
PL AFT MNB - ON

CO2 ABSORBER REPLACEMENT  
(Cue Card)

INFORM CREW  
GO FOR OX  
VAL START  
UPLINK  
SPC LOAD -  
1ST COMM  
ALERT

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L, CREW SYS)

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L, CREW SYS)

10:20

ORB  
24

10:30

10:40

10:50

11:00

ACN

CHM

MET  
DAY 001

CDR/PLT

STS-5 DETAILED

MS1/MS2

MCC

11:00  
(A1)85  
AUTO  
VERN  
RT 0.2  
DB 3.0

11:10

11:20

11:30

11:40

11:50

12:00

SLEEP

SLEEP

SLEEP

SLEEP

ORB  
25

11:00  
11:30  
12:00

ARC  
N

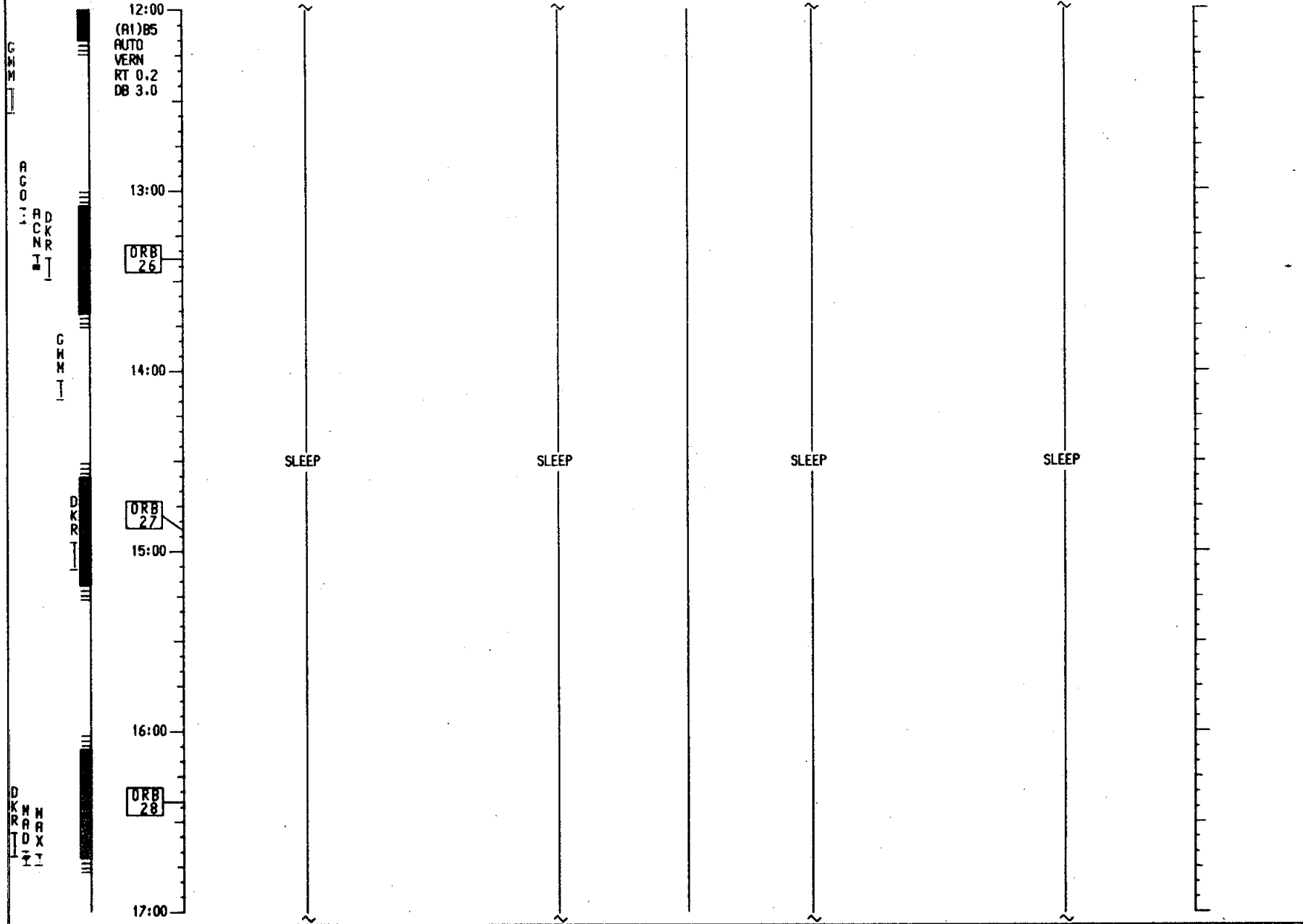
# STS-5 DETAILED

MET  
DAY 001  
12:00  
(R1)B5  
AUTO  
VERN  
RT 0.2  
DB 3.0

CDR/PLT

MS1/MS2

MCC



MET

DAY 001

17:00

(R1)85  
AUTO  
VERN  
RT 0.2  
DB 3.0

17:10

17:20

17:30

17:40

17:50

18:00

ORB  
29

# STS-5 DETAILED

CDR/PLT

MS1/MS2

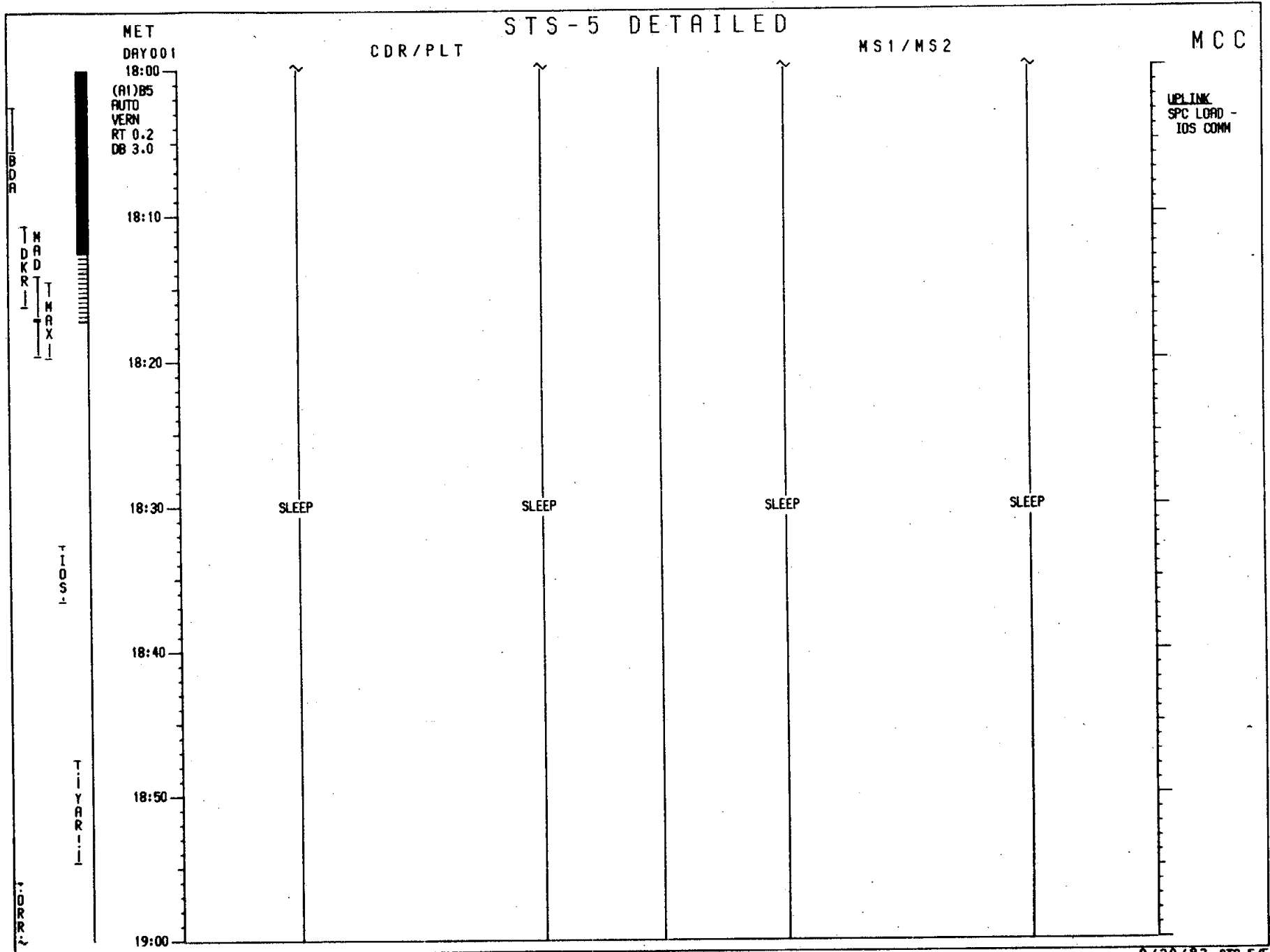
MCC

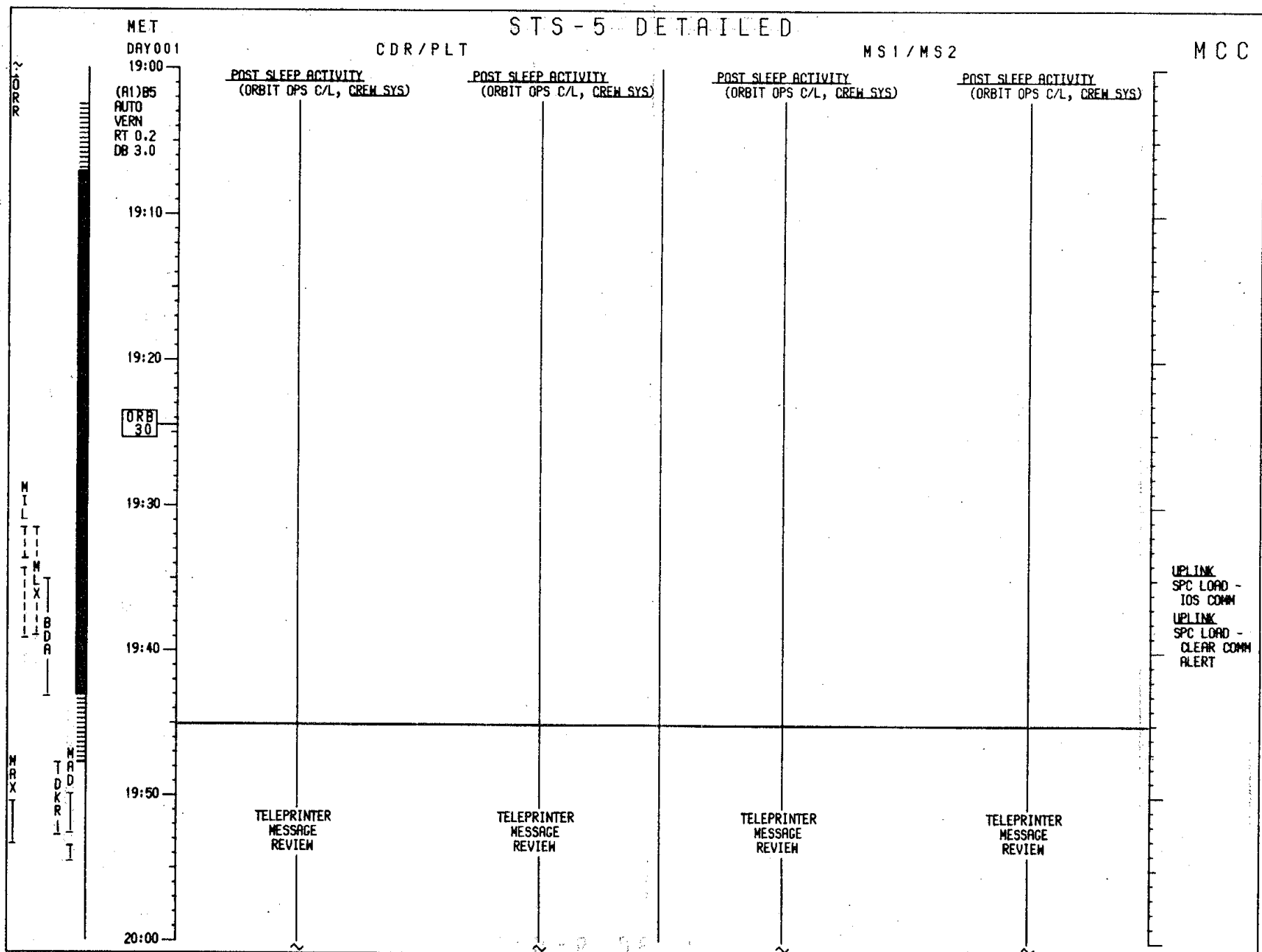
SLEEP

SLEEP

SLEEP

SLEEP







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IMU ALIGN LOG

REQD ID: -Y\_\_ -Z\_\_ ANG ERR\_\_ .\_\_

ANG

$\Delta X$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

$\Delta Y$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

$\Delta Z$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

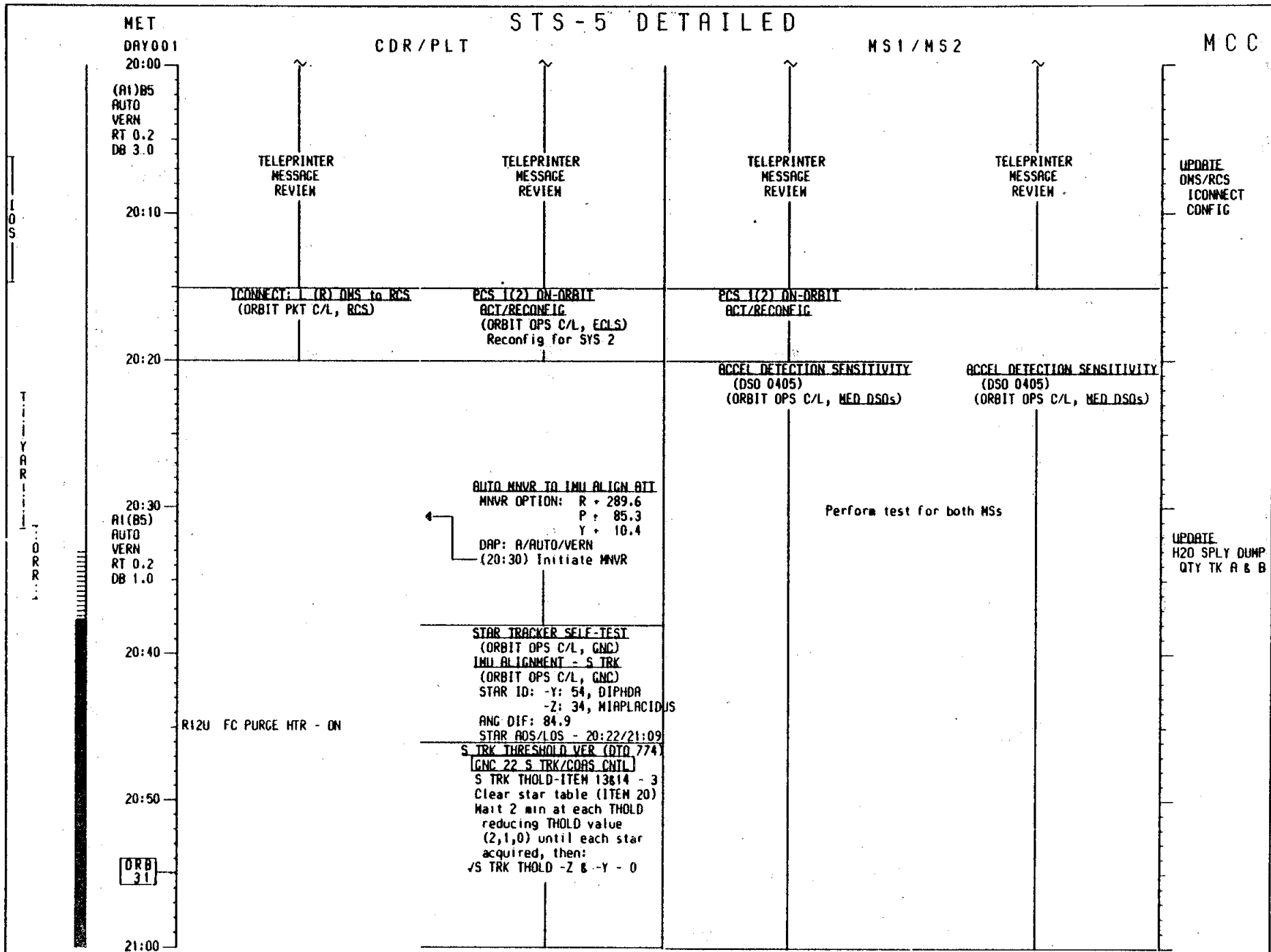
EXECUTION TIME: \_\_ / \_\_ : \_\_ : \_\_

S TRK THRESHOLD LOG

	ACQ		
<u>S TRK</u>	<u>THOLD</u>	<u>ACQ MET</u>	<u>(D/HH:MM)</u>

-Y:	_____	___/___	: _____
-----	-------	---------	---------

-Z:	_____	___/___	: _____
-----	-------	---------	---------



MET  
DAY001  
21:00

CDR/PLT

# STS-5 DETAILED

MS1/MS2

MCC

(A1)BS  
AUTO  
VERN  
RT 0.2  
DB 3.0

SUPPLY WATER DUMP  
(ORBIT OPS C/L, ECLS)  
Dump to:  
QTY A = \_\_\_\_\_ B = \_\_\_\_\_  
FUEL CELL PURGE - MAN  
(Cue Card)

AUTO MANVR TO STARBOARD SUN  
(-Y TO SUN, -X NORTH)  
TGT ID + 4  
BODY VECT + 5  
P + 0  
Y + 90  
OM + 90  
DAP: B/AUTO/VERN  
Initiate TRK

PAN ASE THERMAL TEST  
(PL DPLY C/L, ON-ORBIT OPS)

UPLINK  
SPC LOAD -  
IOS COMM

21:10

RPT: IML ALIGN RESULTS

CO2 ABSORBER REPLACEMENT  
(Cue Card)

21:20

21:30

21:40

21:50

22:00

MEAL

MEAL

MEAL

MEAL

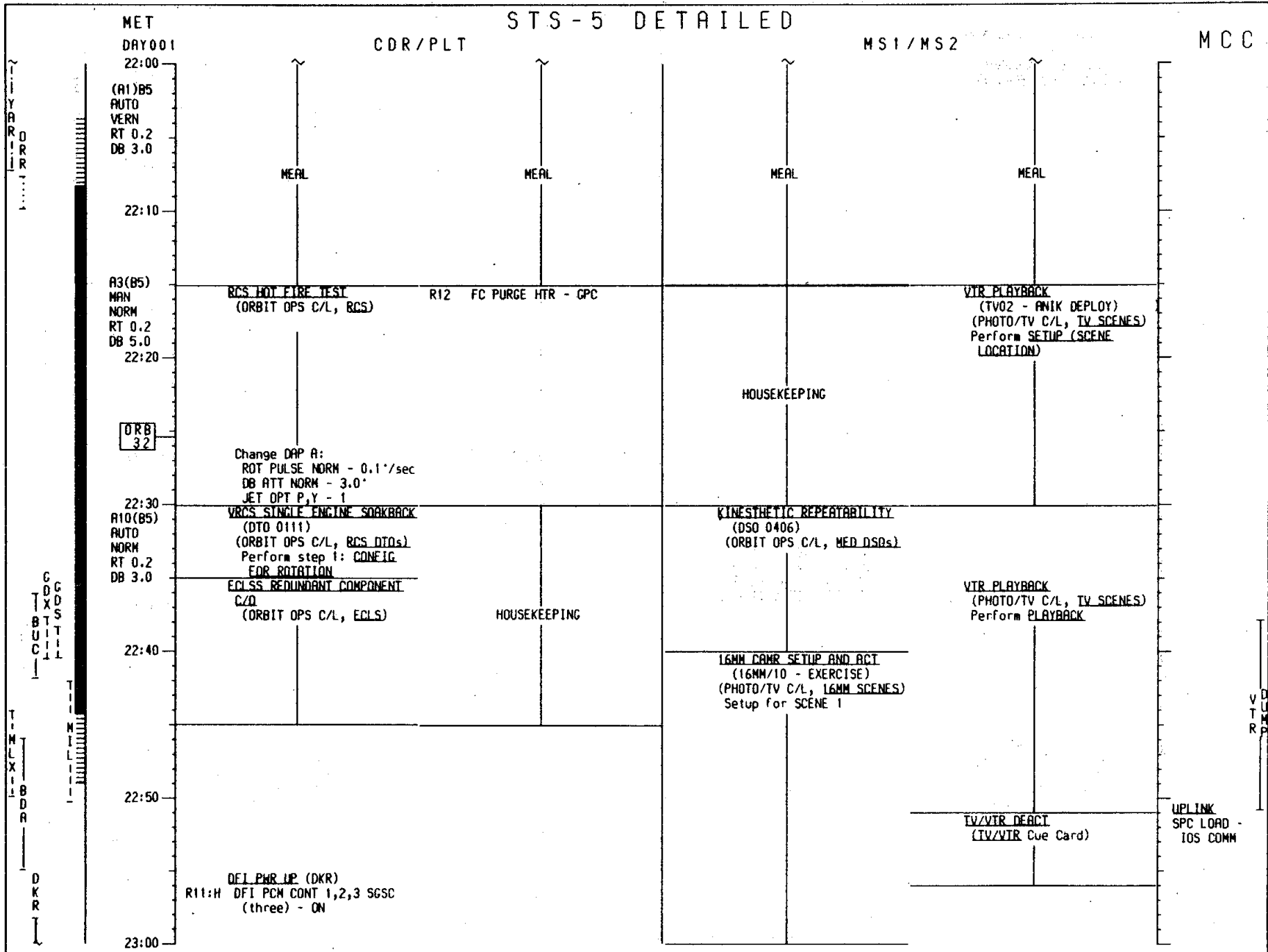
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MM  
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R

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S

Y  
A  
R  
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L



MET

# STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC

DAY 001

23:00

R10(B5)

AUTO

NORM

RT 0.2

DB 3.0

DEF POWER DOWN

R11:H DFI PCN CONT 1,2,3 SGSC  
(three) - OFF

23:10

SPONGE GROWTH EXP

(ORBIT OPS C/L, STILL EXP)

Perform step 1 (START

GROWTH) for Run 4

Perform step 2 (STOP

GROWTH) for Run 2

23:20

16MM CAMR SETUP AND ACT

(16MM/10 - EXERCISE)

(PHOTO/TV C/L, 16MM SCENES)

Setup for Scene 2

23:30

EXERCISE

23:40

16MM CAMR SETUP AND ACT

(16MM/05 - AFT FLT DECK

ACTIVITIES)

(PHOTO/TV C/L, 16MM SCENES)

23:50

ORB  
33

002  
00:00

RK0

B  
O  
T  
T  
O  
M

T  
I  
M  
E

MET  
DAY002  
00:00  
A10(B5)  
AUTO  
NORM  
RT 0.2  
DB 3.0

CDR/PLT

STS-5 DETAILED

MS1/MS2

MCC

T  
H  
R  
M  
I  
  
G  
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S  
T  
T  
B  
C  
D  
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X  
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B  
D  
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D  
K  
R  
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C  
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I  
I

00:10 HOUSEKEEPING

00:40  
07 RCS REGULATOR RECONFIGURE  
AFT L,R RCS  
He PRESS A (two) - CL (tb-CL)  
B (two) - GPC (tb-OP)

08 FWD RCS  
He PRESS A - CL (tb-CL)  
B - GPC (tb-OP)

00:50 EXERCISE

01:00

PRSD PERFORMANCE - PREP  
(DTG 0401)  
(ORBIT OPS C/L, EPS\_DTO)  
Perform step 1: PRSD  
PERFORMANCE PREP

16MM CAMR SETUP AND ACT

MEAL PREP (Cue Card)

16MM CAMR SETUP AND ACT  
(DTG 0404 - FWD FLT DECK  
ACTIVITIES)  
(PHOTO/TV C/L, 16MM SCENES)

SLSS COMM  
PERFORMANCE  
AT MIL  
(DTG 0705)

MET  
DAY 002

# STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC

R10(B5)  
AUTO  
NORM  
RT 0.2  
DB 3.0

01:10

01:20

01:30

01:40

01:50

02:00

16MM CAMR SETUP AND ACT

35MM CAMR SETUP  
(35MM/02 - GLOW EXP)  
(PHOTO/TV C/L, 35MM PHOTO  
DATA)

PRSD PERFORMANCE - POWER UP  
(DTO 0401)  
(ORBIT OPS C/L, EPS DTO)  
Perform step 2 -  
POWER UP

PRSD PERFORMANCE - POWER UP

EXERCISE

ORB  
34

HOUSEKEEPING

FIRE/SMOKE DETECT/SUPPRESS  
TEST  
(ORBIT OPS C/L, EPS)

KINESTHETIC REPEATABILITY  
(DSO 0406)  
(ORBIT OPS C/L, MED DSOs)

ANNUNCIATOR, C/W LAMP TEST

ANNUNCIATOR, C/W LAMP TEST  
(ORBIT OPS C/L, EPS)

MEAL

MEAL

MEAL

MEAL

T  
Y  
A  
R

G  
M  
M

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H  
A  
W

C  
D  
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B  
U  
C  
C

T  
C  
B  
X

T  
M  
B  
L  
L  
D  
R  
L  
L  
T



MET

DAY 002

A10 (B5)  
AUTO  
NORM  
RT 0.2  
DB 3.0

# STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC

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H  
H  
L  
L  
X  
A

A  
C  
H

B  
O  
T

Y  
A  
R  
T

Q  
M

02:00

02:10

MEAL

02:30

MEAL

02:40

MEAL

02:50

MEAL

ON-ORBIT HEAD/EYE TRACKING  
(DSD 0404)  
(ORBIT OPS C/L. MED. DSD<sub>A</sub>)

ORB  
35

HOUSEKEEPING

HOUSEKEEPING

03:00

NET

STS-5

TAILED

DAY 002

CDR/PLT

MS1/MS2

MCC

03:00  
A10 (B5)  
AUTO  
NORM  
RT 0.2  
DB 3.0

HOUSEKEEPING

HOUSEKEEPING

DN-ORBIT HEAD/EYE TRACKING  
(DSD 0404)  
(ORBIT OPS C/L. MED DSD)

03:10

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

03:20

03:30  
A10 (B5)  
MAN  
VERN  
RT 0.2  
DB 1.0

ON MGR CUE  
VRCS SINGLE ENGINE SOAKBACK  
(DTG 0111)  
(ORBIT OPS C/L. RGS DTG)  
Perform step 2: FIRE LSD.  
  
Notes Satisfies manv  
requirement of PRSD test

L2  
PCS 1 (2) ON-ORBIT  
ACT/RECONFIG  
(ORBIT OPS C/L. ECLS)  
Reconfig for SYS 1 except  
N2 SYS 2 REQ INLET -  
CL (15-CL)  
VRCS SINGLE ENGINE SOAKBACK

PCS 1 (2) ON-ORBIT  
ACT/RECONFIG

HOUSEKEEPING

TV SETUP AND ACT  
(TV07 - GLOW EXP)  
(PHOTO/TV C/L. TV SCENES)

INFORM CREW  
GO FOR VRCS

03:40

A10 (B5)  
AUTO  
NORM  
RT 0.2  
DB 3.0

PRSD PERFORMANCE - POWER  
DOWN (DTG 0401)  
(ORBIT OPS C/L. EPS DTG)  
Perform step 4: POWER DOWN.

PRSD PERFORMANCE - POWER  
DOWN.

03:50

C3 DFI RODRS PON - HI SAMP

PRSD PERFORMANCE - POST  
PERFORMANCE (DTG 0401)  
(ORBIT OPS C/L. EPS DTG)  
Perform step 5: POST  
PRSD PERFORMANCE  
ZOMM CAMR SETUP  
(ZOMM/02 - GLOW EXP)  
(PHOTO/TV C/L. ZOMM  
PHOTO DATA)

EXERCISE

RADIATOR STOW/DEPLOY  
(DTG 0613)  
(ORBIT OPS C/L. MECH/PLR DTG)  
Perform Step 2 - DEPLOY  
RADIATORS.

HOUSEKEEPING

UPDATE  
GLOW ROT  
START TIME  
(IF REQD)

04:00

SWH

THAW

ODS  
TIG  
BU  
C  
T  
X  
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I

THLX

TMLA

ACH

ET

STS-5

TAILED

MS1/MS2

11CC

DAY 002

CDR/PLT

T  
B  
O  
T  
T  
O  
M

04:00  
 (A10)B5  
 AUTO/NORM  
 RT 0.2  
 DB 3.0  
 (A10)B5  
 AUTO/NORM  
 RT 0.5  
 DB 3.0  
 04:10  
 (A10)B5  
 MAN  
 NORM  
 FREE  
 DRIFT  
 04:20  
 (A10)B5  
 MAN  
 NORM  
 RT 0.5  
 DB 3.0  
 ORB  
 3.6  
 04:30  
 (A10)B5  
 MAN  
 NORM  
 FREE  
 DRIFT  
 04:40  
 (A10)B5  
 AUTO/NORM  
 RT 0.2  
 DB 3.0  
 04:50  
 (A10)B5  
 AUTO/NORM  
 RT 0.2  
 DB 3.0  
 05:00

GLOW EXP ROT MNVR  
 BODY VECT + 1  
 DAP: B/AUTO/NORM  
 ADI ATTITUDE - REF  
 ATT REF PB - PUSH  
 (04:06) INITIATE ROT  
 WHEN ROT RATE STABLE AT  
 ~ 0.5"/SEC:  
 DAP ROT: PULSE/PULSE/PULSE  
 DAP: B/MAN/NORM  
 ADJUST ROLL RATE WITH PULSES  
 TO ATTAIN 0.5"/SEC  
 S/C SUNSET  
 CALLOUT: "START FIRST PHOTO SEQUENCE"  
 (AT DARK HORIZON)  
 CALLOUTS:  
 AT ROLL = 450° - "1 MINUTE"  
 = 475° - "10 SECONDS"  
 AT ROLL = 480°:  
 DAP ROT: DISC/DISC/DISC  
 BEFORE START OF SECOND PHOTO SEQUENCE:  
 DAP ROT: PULSE/PULSE/PULSE  
 NULL ALL RATES WITH PULSES  
 CALLOUT: "START SECOND PHOTO SEQUENCE"  
 CALLOUT: "3 1/2 MIN TO SUNRISE"  
AUTO MNVR TO STARBOARD SUN  
 (+Y TO SUN, -X NORTH)  
 TGT ID + 4  
 BODY VECT + 5  
 P + 0  
 Y + 90  
 OH + 90  
 DAP: A/AUTO/NORM  
 NLT S/C SUNRISE: INITIATE TRK  
 DAP ROT: DISC/DISC/DISC

ZOOM CAMR SETUP  
INTEGRATED CAMR OPS  
 (70MM/02 - GLOW EXP)  
 (DSO 0904)  
 (PHOTO/TV C/L, ZOOM PHOTO  
 DATA)

HOUSEKEEPING  
INTEGRATED CAMR OPS  
 (70MM/02 - GLOW EXP)  
 (DSO 0904)  
 (PHOTO/TV C/L, ZOOM PHOTO  
 DATA)

EXERCISE

TV/VTR DEACT  
(TV/VTR CUE CARD)

MEAL PREP (CUE CARD)

UPLINK  
 SPC LOAD -  
 IOS COMM

C  
W  
M

H  
A  
W  
A  
I  
I  
A  
N  
B  
U  
C  
K

MET

DAY 002

CDR/PLT

STS-5 F AILED

MS1/MS2

M

05:00  
R10 (B5)  
AUTO  
NORM  
RT 0.2  
DB 3.0

05:10

05:20

05:30

05:40

05:50

06:00

MEAL PREP

EXERCISE

CABIN TV SETUP  
(TV03 - EVA EQUIP PREP)  
(PHOTO/TV C/L, TV SCENES)

16MM CAMR SETUP AND ACT  
(16MM/03 - CREW MEAL)  
(PHOTO/TV C/L, 16MM SCENES)

ORB  
37

MET

DAY 002

06:00

R10 (85)  
AUTO  
NORM  
RT 0.2  
DB 3.0

06:10

06:20

06:30

06:40

06:50

07:00

CDR/PLT

PAN ASE THERMAL TEST  
(PL DPLY C/L, ON-ORBIT OPS)

MEAL

# STS-5 DETAILED

MS1/MS2

16MM CAMR SETUP AND ACT

NOTE: Leave setup for  
16MM/06 - SLEEP PREP

MEAL

EXERCISE

MEAL

MCC

UPLINK  
SPC LOAD -  
105 COMM

TEMPERATURE

1-108A

IMU ALIGN LOG

REQD ID: -Y\_\_ -Z\_\_ ANG ERR\_\_ .

ANG  
 $\Delta X$  ( )\_\_ . ( )\_\_ . ( )\_\_ .

$\Delta Y$  ( )\_\_ . ( )\_\_ . ( )\_\_ .

$\Delta Z$  ( )\_\_ . ( )\_\_ . ( )\_\_ .

EXECUTION TIME: \_\_ / \_\_ : \_\_ :

S TRK THRESHOLD LOG

	ACQ		
S TRK	THOLD	ACQ MET	(D/HH:MM)
-Y:	_____	___/___	: _____
-Z:	_____	___/___	: _____

MET  
DAY 002  
07:00  
A10(B5)  
AUTO  
NORM  
RT 0.2  
DB 3.0

STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC

T  
B  
O  
T  
T  
O  
M

C  
M  
I

H  
A  
M

MEAL

MEAL

MEAL

MEAL

07:10

AUTO MNVR TO IMU ALIGN ATT  
MNVR OPTION: R + 84.7  
P + 355.9  
Y + 333.9  
DAP: A/AUTO/NORM  
(07:12) Initiate MNVR

EQUIP PREP  
(EVA C/L, EQUIP PREP)

EQUIP PREP  
(EVA C/L, EQUIP PREP)

07:20

IMU ALIGNMENT - S TRK  
(ORBIT OPS C/L, GNC)  
STAR ID: -Y: 13, RIGEL  
-Z: 38, NAVI  
ANG DIF: 85.2  
STAR AOS/LOS - 07:12/07:54  
S TRK THRESHOLD VER (DTD 774)  
[GNC 22 S TRK/CDAS CNTL]  
S TRK THOLD-ITEM 13&14 - 3  
Clear star table (ITEM 20)  
Wait 2 min at each THOLD  
reducing THOLD value  
(2,1,0) until each star  
acquired, then:  
JS TRK THOLD -Z & -Y - 0

MCS CLEANING, SCREEN ADAPTER  
INSPECTION/REPLACEMENT  
URINE COLLECTION (Cue Card)

ORB  
38

07:30

TV ACT (TV03 - EVA EQUIP  
PREP)  
(PHOTO/TV C/L, TV SCENES)

07:40

AUTO MNVR TO STARBOARD SUN  
(+Y TO SUN, -X NORTH)  
TGT ID + 4  
BODY VECT + 5  
P + 0  
Y + 90  
OM + 90  
DAP: A/AUTO/NORM  
Initiate TRK

07:50

08:00

UPDATE  
H2O SPLY DUMP  
QTY TK A & B

MET  
DAY 002

CDR/PLT

# STS-5 DETAILED

MS1/MS2

MCC

08:00  
R10(B5)  
AUTO  
NORM  
RT 0.2  
DB 3.0

SUPPLY WATER DUMP  
(ORBIT OPS C/L, ECLS)  
Dump to:

QTY A = \_\_\_ B = \_\_\_

RPT: INFL ALIGN RESULTS

AIRFRAME DISTORTION TEST  
(DTO 0317)  
(ORBIT OPS C/L, MECH/PLB  
DITs)

EQUIP PREP

EQUIP PREP

UPLINK  
SPC LOAD -  
105 COMM  
L  
I  
T  
V  
E

08:10

TV/VTR DEACT  
(TV/VTR Cue Card)

CABIN TV SETUP  
(TV04 - EVA PREP)  
(PHOTO/TV C/L, TV SCENES)

08:20

08:30

CONNECT RETURN (OPS 2,3)  
(ORBIT PKT C/L, RCS)

FUEL CELL PURGE - AUTO  
(Cue Card)

CO2 ABSORBER REPLACEMENT  
(Cue Card)

08:40

(R10)B5  
AUTO  
VERN  
RT 0.2  
DB 3.0

016:F  
C3

ON MCC CLUE  
VRCS SINGLE ENGINE SOAKBACK  
- RECONEIG (DTO 0111)

RJD L5/F5/R5 DRIVER - ON

DAP: B/AUTO/VERN

DFI RCDRS PCM - LO SAMP

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L, CREW SYS)

16MM CAMR ACT  
(16MM/06 - SLEEP PREP)  
(PHOTO/TV C/L, 16MM SCENES)

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L, CREW SYS)

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L, CREW SYS)

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L, CREW SYS)

MCC ONLY  
COORD C&W/FDA  
LIMITS CLEANUP  
FOR CREW SLEEP

INFORM CREW  
GO FOR VRCS

08:50

DRB  
39

09:00

UPLINK  
SPC LOAD -  
1ST COMM  
ALERT



STS-5 DETAILED

MET  
DAY 002  
09:00

CDR/PLT

MS1/MS2

MCC

POSITION



(R10)B5  
AUTO  
VERN  
RT 0.2  
DB 3.0

09:10

09:20

09:30

09:40

09:50

10:00

GNM

HMM

PRE SLEEP ACTIVITY

PRE SLEEP ACTIVITY

PRE SLEEP ACTIVITY

PRE SLEEP ACTIVITY

SLEEP

SLEEP

SLEEP

SLEEP

MET  
DAY 002  
10:00  
(R10)85  
AUTO  
VERN  
RT 0.2  
DB 3.0

# STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC

10:10

10:20

10:30

10:40

10:50

11:00

ORB  
4.0

SLEEP

SLEEP

SLEEP

SLEEP

10:00

10:20

11:00

# STS-5 DETAILED

MET  
DAY002  
11:00

CDR/PLT

MS1/MS2

MCC

(A10)BS  
AUTO  
VERN  
RT 0.2  
DB 3.0

ORB  
41

12:00

13:00

ORB  
42

14:00

15:00

ORB  
43

16:00

SLEEP

SLEEP

SLEEP

SLEEP

GNH  
ACG  
CD  
NKR  
GNH  
DA  
KCR  
GNH  
DRR  
AD

MET  
DAY 002

# STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC

16:00

(A10)BS  
AUTO  
VERN  
RT 0.2  
DB 3.0

16:10

16:20

16:30

ORB  
44

16:40

16:50

17:00

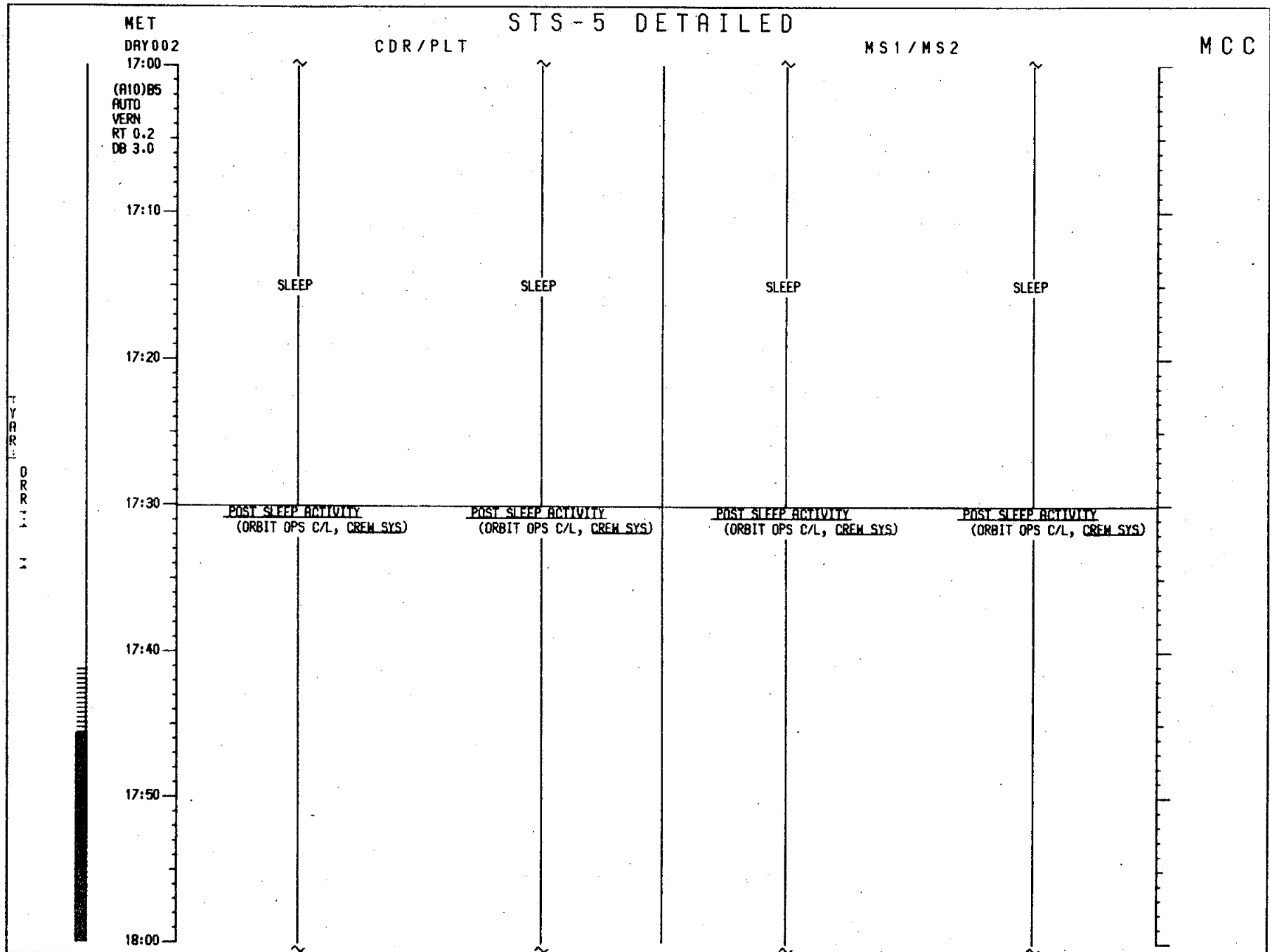
SLEEP

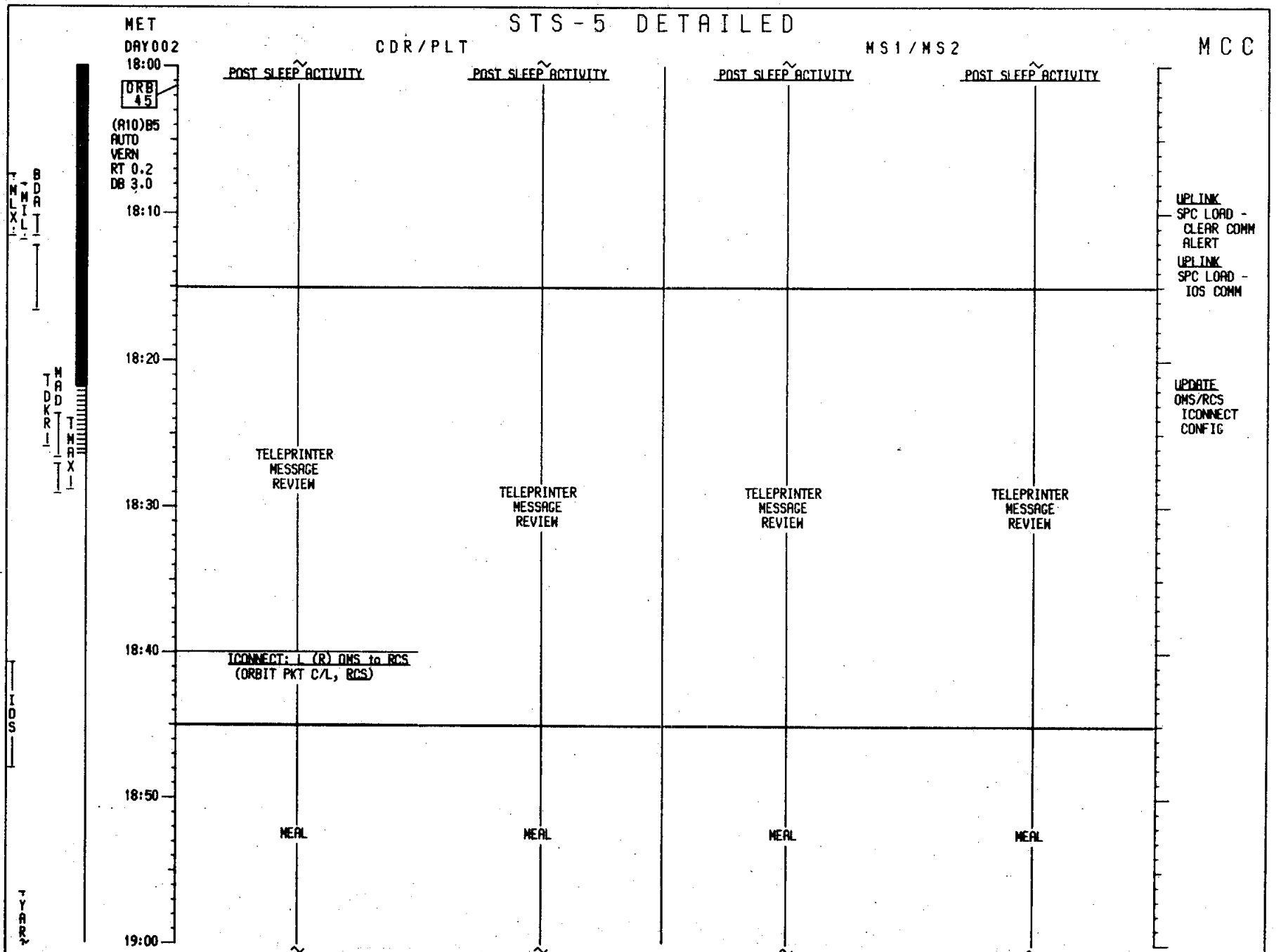
SLEEP

SLEEP

SLEEP

DRD  
RRD  
T  
M  
R  
X  
I





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IMU ALIGN LOG

REQD ID: -Y\_\_ -Z\_\_ ANG ERR\_\_ .\_\_

ANG

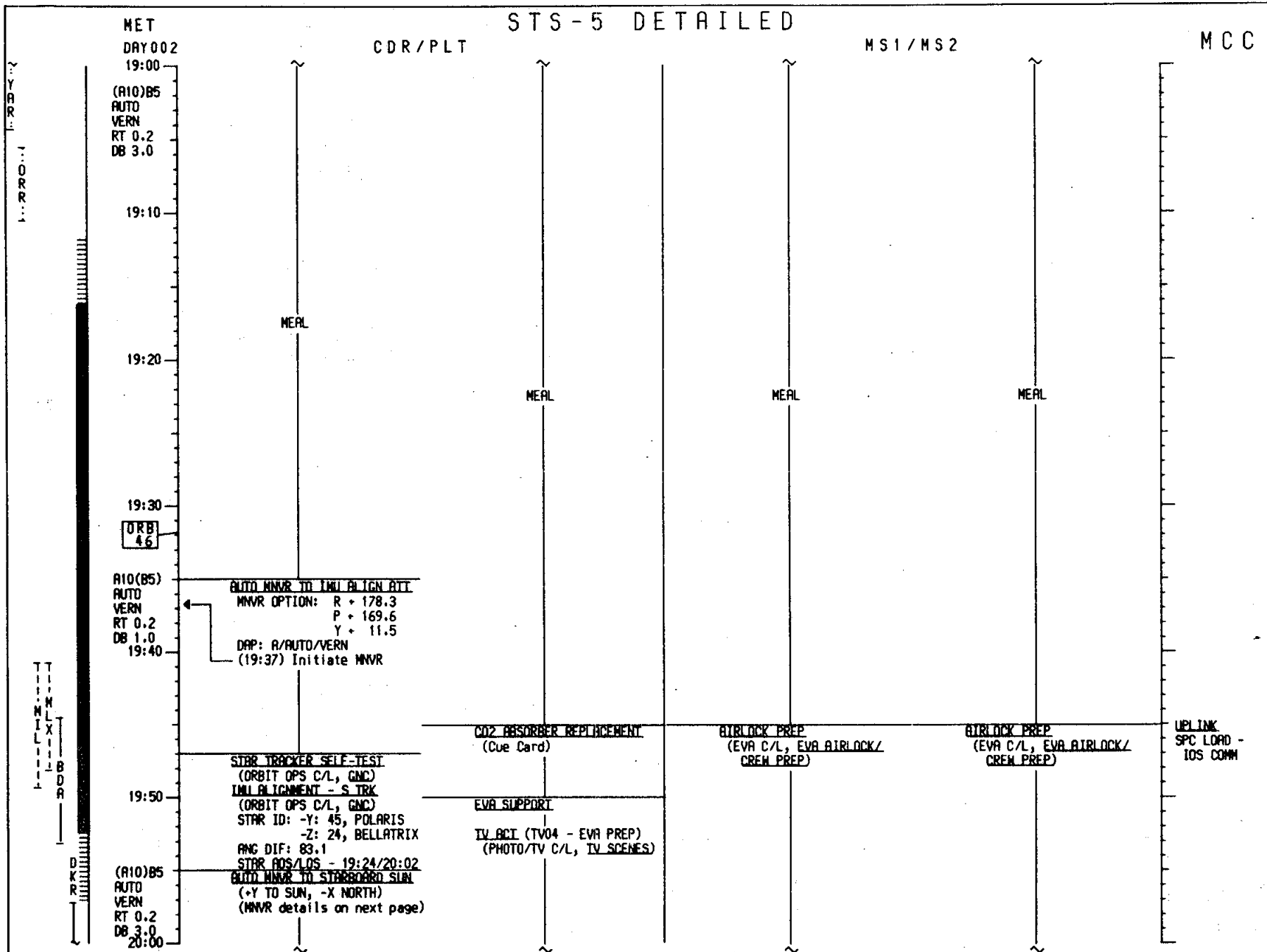
$\Delta X$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

$\Delta Y$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

$\Delta Z$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

EXECUTION TIME: \_\_ / \_\_ : \_\_ : \_\_





# STS-5 DETAILED

MET

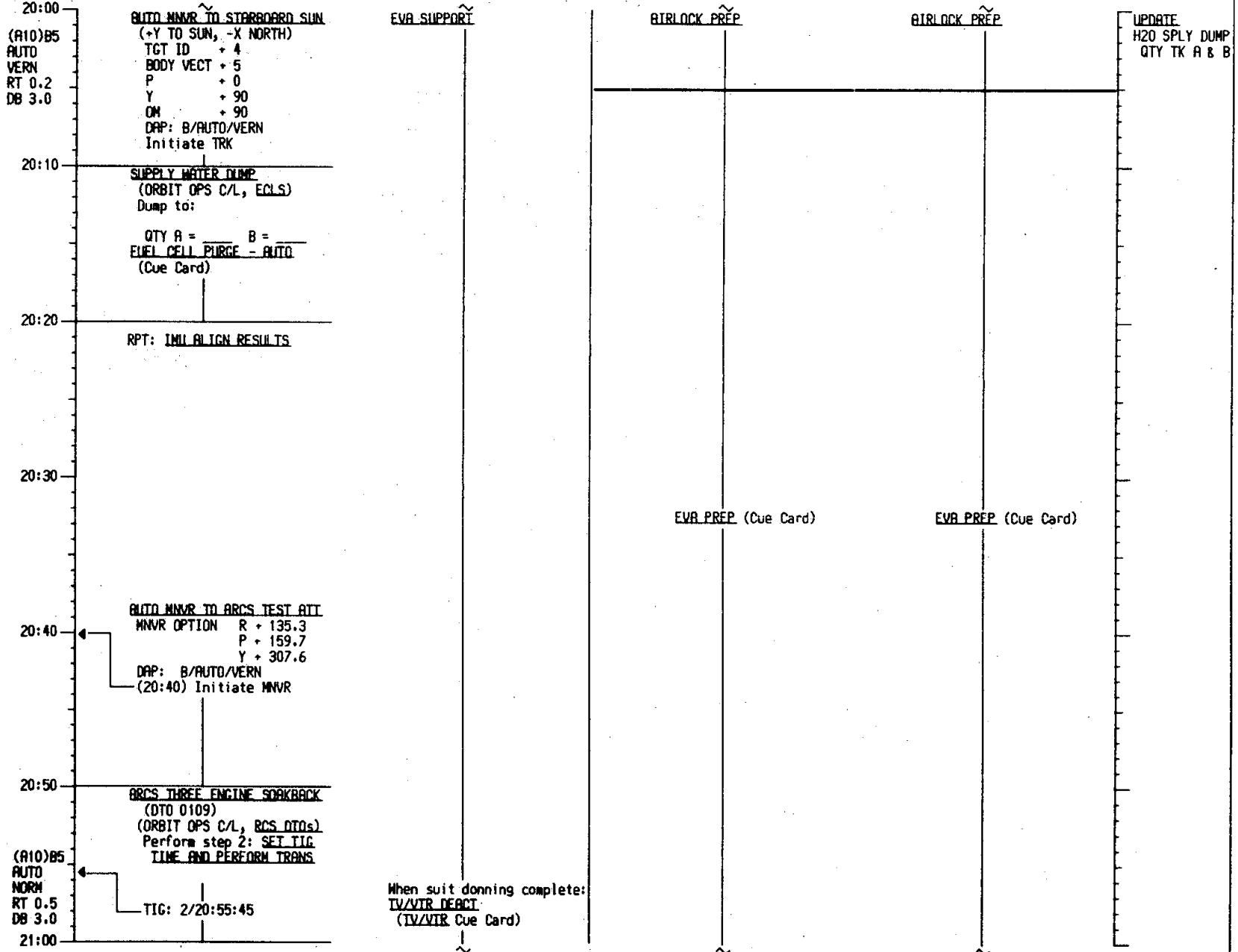
DAY 002

CDR/PLT

MS1/MS2

MCC

DARK



I OS

T Y A R I D R R

20:00  
(A10)B5  
AUTO  
VERN  
RT 0.2  
DB 3.0

20:10

20:20

20:30

20:40

20:50

(A10)B5  
AUTO  
NORM  
RT 0.5  
DB 3.0

21:00

AUTO MNVR TO STARBOARD SUN  
(+Y TO SUN, -X NORTH)  
TGT ID + 4  
BODY VECT + 5  
P + 0  
Y + 90  
ON + 90  
DAP: B/AUTO/VERN  
Initiate TRK

SUPPLY WATER DUMP  
(ORBIT OPS C/L, ECLS)  
Dump to:  
QTY A =      B =       
FUEL CELL PURGE - AUTO  
(Cue Card)

RPT: IMU ALIGN RESULTS

AUTO MNVR TO ARCS TEST ATT  
MNVR OPTION R + 135.3  
P + 159.7  
Y + 307.6  
DAP: B/AUTO/VERN  
(20:40) Initiate MNVR

ARCS THREE ENGINE SOAKBACK  
(DTO 0109)  
(ORBIT OPS C/L, RCS ATDs)  
Perform step 2: SET TIC  
TIME AND PERFORM TRANS  
TIC: 2/20:55:45

EVA SUPPORT

When suit donning complete:  
TV/VTR DEACT  
(TV/VTR Cue Card)

AIRLOCK PREP

EVA PREP (Cue Card)

AIRLOCK PREP

EVA PREP (Cue Card)

UPDATE  
H2O SPLY DUMP  
QTY TK A & B

# STS-5 DETAILED

MET  
DAY002  
21:00

CDR/PLT

MS1/MS2

MCC

ORB  
47  
(R10)B5  
AUTO  
VERN  
RT 0.2  
DB 3.0

AUTO MNR TO STARBOARD SUN  
(+Y TO SUN, -X NORTH)  
TGT ID + 4  
BODY VECT + 5  
P + 0  
Y + 90  
ON + 90  
DAP: B/AUTO/VERN  
Initiate TRK

EVA SUPPORT

(Start Prebreathe)

21:10

C3 DFI RCDRS PCN - HI SAMP

21:20

HOUSEKEEPING

21:30

GAS 26 DEACTIVATION  
Set GAS Relay 01 Hot to  
Latent

EVA\_PREP (Cue Card)

EVA\_PREP (Cue Card)

21:40

21:50

22:00

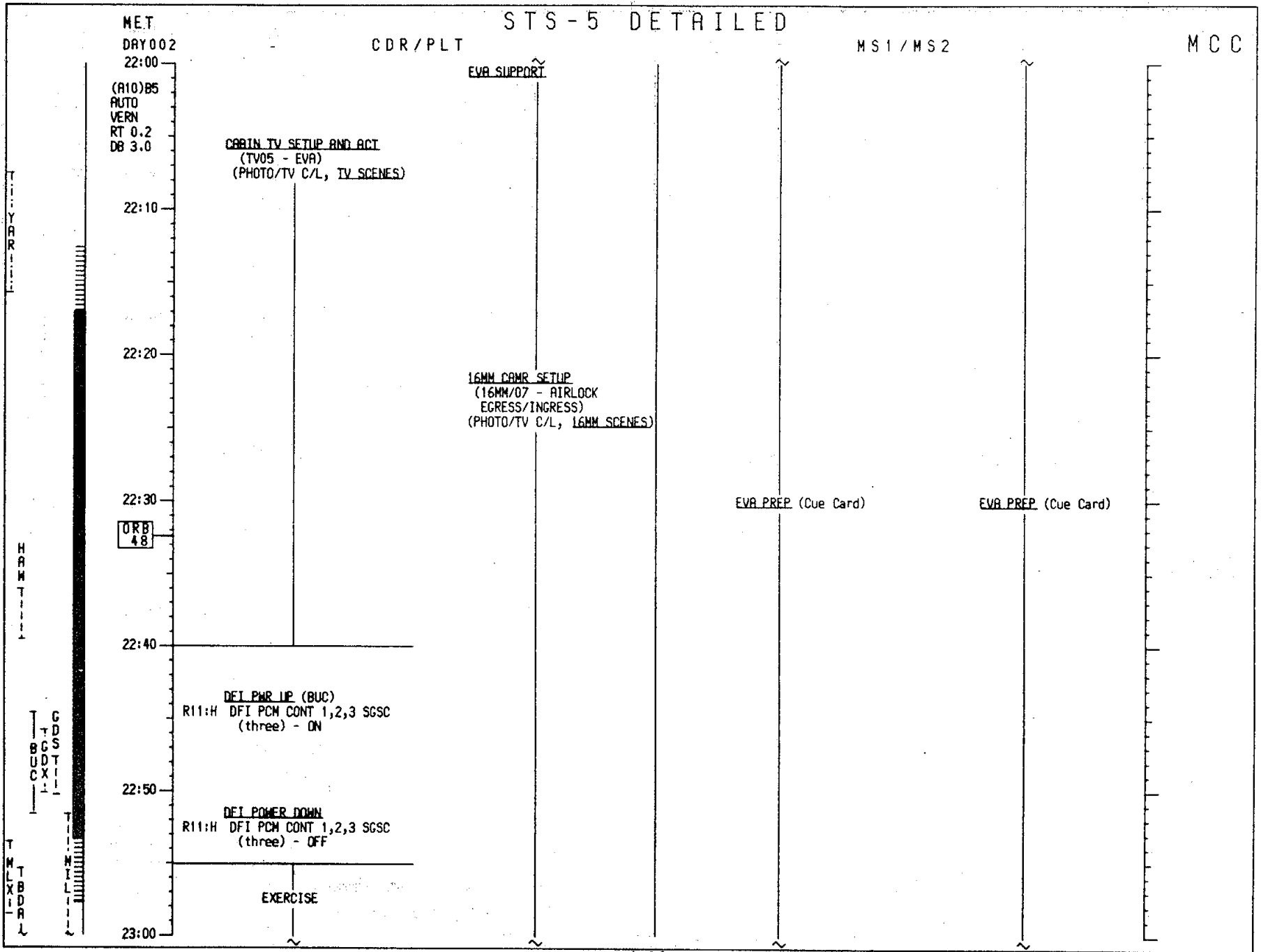
T  
M  
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L  
X  
I

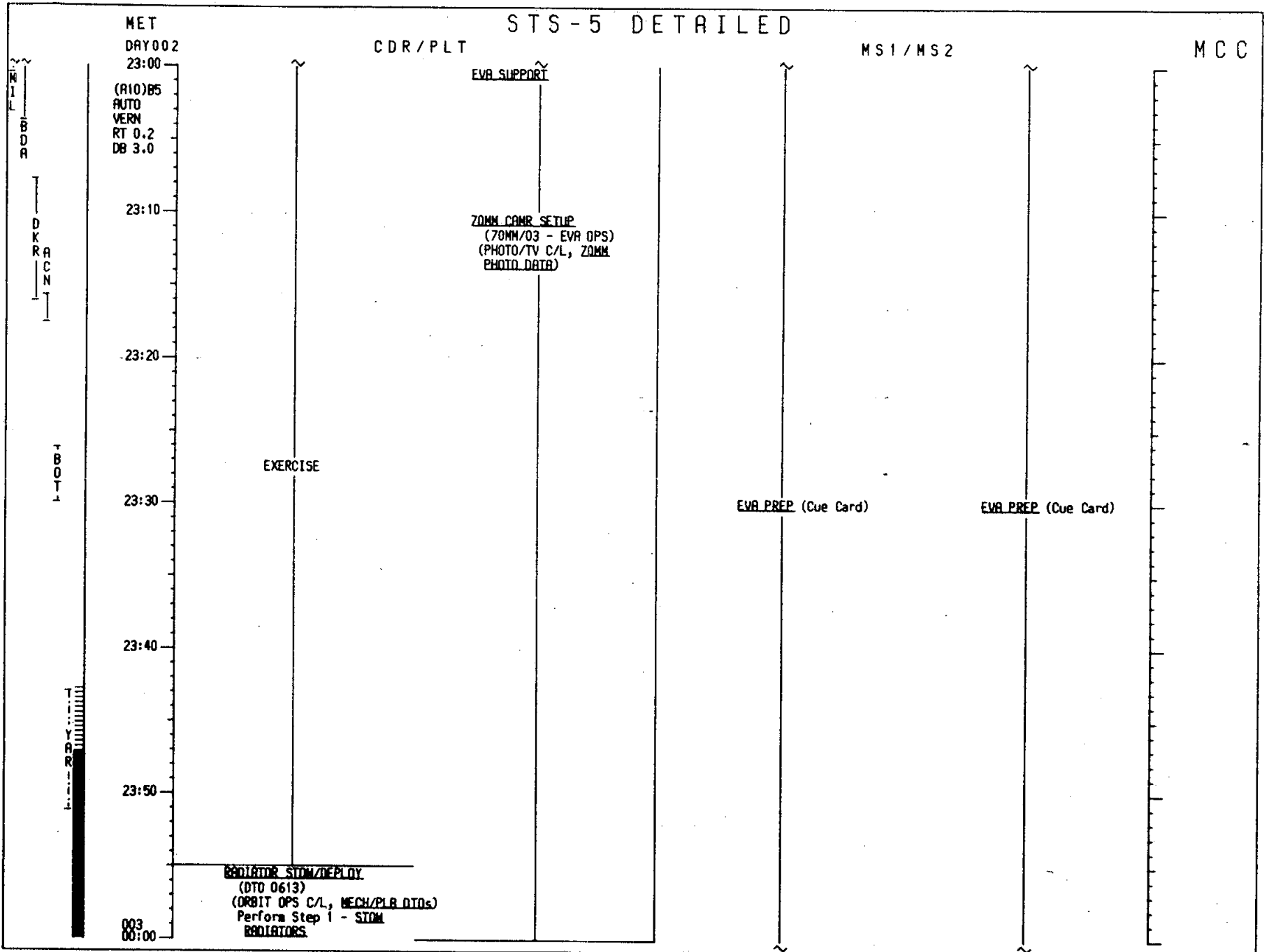
B  
D  
R

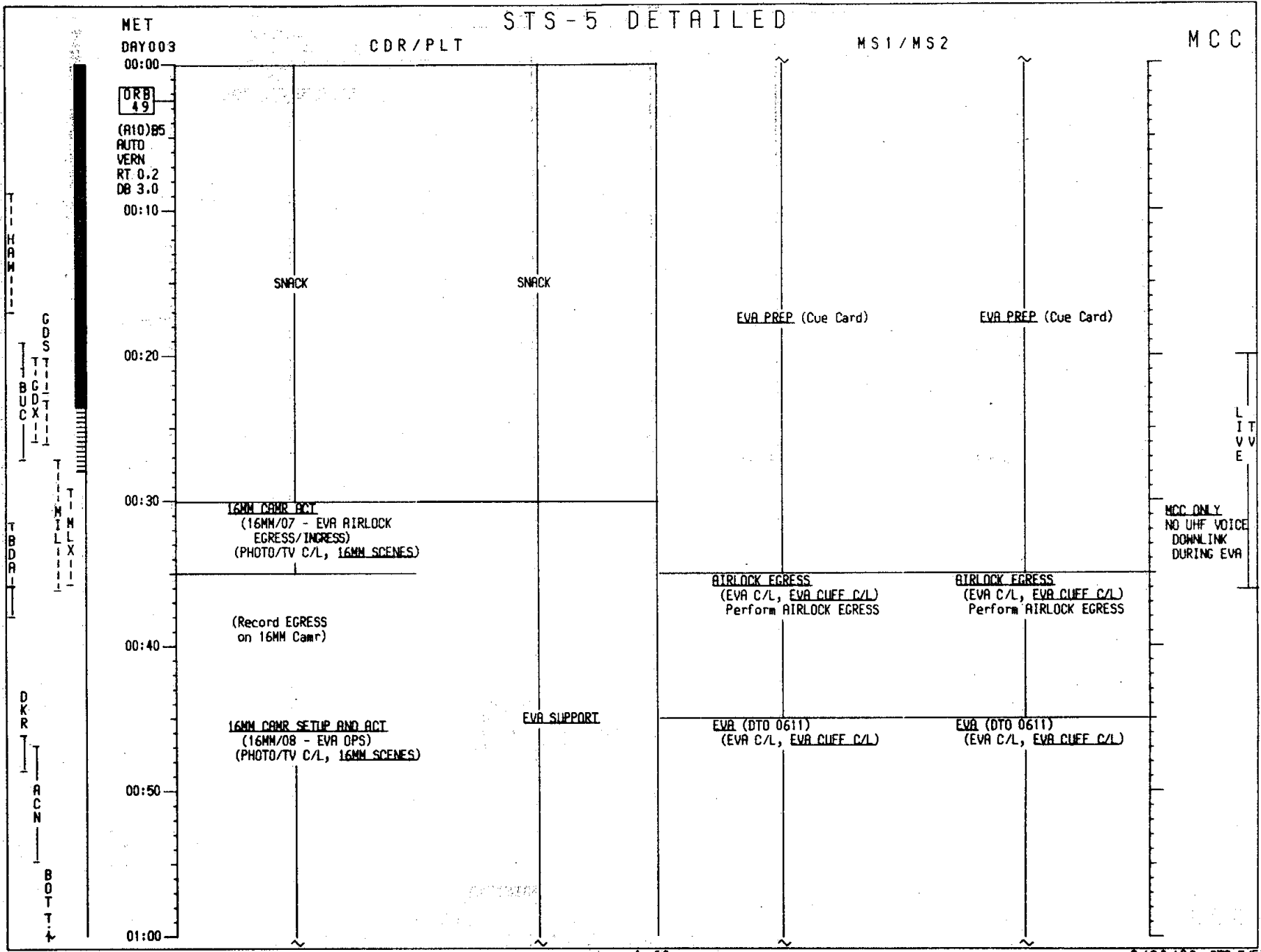
D  
K  
R

T  
I  
O  
S  
I

UPLINK  
SPC LOAD -  
IOS COMM







MET  
DAY003

# STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC

01:00  
(R10)85  
AUTO  
VERN  
RT 0.2  
DB 3.0  
  
01:10  
  
01:20  
  
01:30  
ORB  
50  
  
01:40  
  
01:50  
  
02:00

IGN COMB SETUP AND ACT

HOUSEKEEPING

EVA SUPPORT

EVA

EVA

(Aft translation and PLB inspection)

(Torque measurements)

BDT

T  
Y  
R

C  
M  
I

T  
H  
A  
M

T  
C  
D  
X  
L

G  
D  
S  
T  
B  
U  
C  
T  
A

L  
T  
V  
E  
L  
T  
V  
E

MET

STS-5 DETAILED

DRY 003

CDR/PLT

MS1/MS2

MCC

TT  
CC  
DD  
SS  
TT  
CC  
DD  
SS  
TT  
CC  
DD  
SS

TT  
CC  
DD  
SS  
TT  
CC  
DD  
SS

(A10)B5  
AUTO  
VERN  
RT 0.2  
DB 3.0

ON MCC CUE  
OXYGEN INTERACTION  
VALIDATION (DSO 0301)  
PL AFT MNB - OFF

R1

02:10

02:20

02:30

02:40

02:50

03:00

EVA SUPPORT

EVA

EVA

(Simulated Main Electronics  
Box replacement)

(Winch operations)

TT  
CC  
DD  
SS  
TT  
CC  
DD  
SS

TT  
CC  
DD  
SS  
TT  
CC  
DD  
SS



# STS-5 DETAILED

MET  
DAY 003  
03:00

CDR/PLT

MS1/MS2

MCC

ORB  
51  
(A10)B5  
AUTO  
VERN  
RT 0.2  
DB 3.0

03:10

03:20

03:30

03:40

03:50

04:00

(Translation with a large mass)

EVA SUPPORT

EVA

EVA

UPLINK  
SPC LOAD -  
IOS COMM

L  
T  
V  
V  
E

L  
T  
V  
V  
E

16MM CAMR SETUP AND ACT  
(16MM/07 - EVA AIRLOCK  
INGRESS/EGRESS)  
(PHOTO/TV C/L, 16MM SCENES)

C  
M  
M  
  
T  
H  
A  
M  
  
G  
C  
D  
S  
T  
T  
  
B  
U  
C  
I

NET  
DAY 003  
04:00  
(R10)B5  
AUTO  
VERN  
RT 0.2  
DB 3.0

# STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC

16MM CAMR SETUP AND ACT

EVA SUPPORT

EVA

EVA

04:10

(Record airlock ingress on  
16MM camr, then remove camr  
from airlock door if required)

AIRLOCK INGRESS  
(EVA C/L, EVA CUFF C/L)

AIRLOCK INGRESS  
(EVA C/L, EVA CUFF C/L)

04:20

MEAL PREP (Cue Card)

POST EVA (Cue Card)

POST EVA (Cue Card)

04:30

ORB  
52

TV/VTR DEACT  
(TV05 - EVA)  
(PHOTO/TV C/L, TV SCENES)

04:40

04:50

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

UPLINK  
SPC LOAD -  
IOS COMM

05:00

1000

1000

1000

MET  
DAY 003  
05:00

CDR/PLT

# STS-5 DETAILED

MS1/MS2

MCC

(A10)BS  
AUTO  
VERN  
RT 0.2  
DB 3.0

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

05:10

PAN ASE THERMAL TEST  
(PL DPLY C/L, ON-ORBIT OPS)

SPONGE GROWTH EXP  
(ORBIT OPS C/L, STILL EXP)  
Perform step 1 (START  
GROWTH) for Run 5

L2U DUTY CYCLE SOAKBACK  
(OTO 0110)  
(ORBIT OPS C/L, RCS DTOS)  
Perform step 2: SET TIC  
TIME AND PERFORM TRANS  
TIC 1: 3/05:21:22

L2U DUTY CYCLE SOAKBACK

05:20  
(A10)BS  
AUTO  
NORM  
RT 0.5  
DB 3.0

EMI MAINT RECHARGE  
(EVR C/L, EMI MAINT/  
RECHARGE)

EMI MAINT RECHARGE  
(EVR C/L, EMI MAINT/  
RECHARGE)

05:30  
(A10)BS  
AUTO  
VERN  
RT 0.2  
DB 3.0

C3 DFI RCDS PCH - NI SAMP

05:40

AUTO MNVR TO L2U TEST ATT  
MNVR OPTION R + 148.3  
P + 149.3  
Y + 309.4  
DAP: B/AUTO/NORM  
(05:42) Initiate MNVR

(A10)BS  
AUTO  
NORM  
RT 0.5  
DB 3.0

L2U DUTY CYCLE SOAKBACK  
(OTO 0110)  
(ORBIT OPS C/L, RCS DTOS)  
Perform step 2: SET TIC  
TIME AND PERFORM TRANS  
TIC 2: 3/05:51:26

L2U DUTY CYCLE SOAKBACK

05:50

06:00

T  
I  
M  
E  
A  
X  
I  
S

T  
I  
M  
E  
A  
X  
I  
S

# STS-5 DETAILED

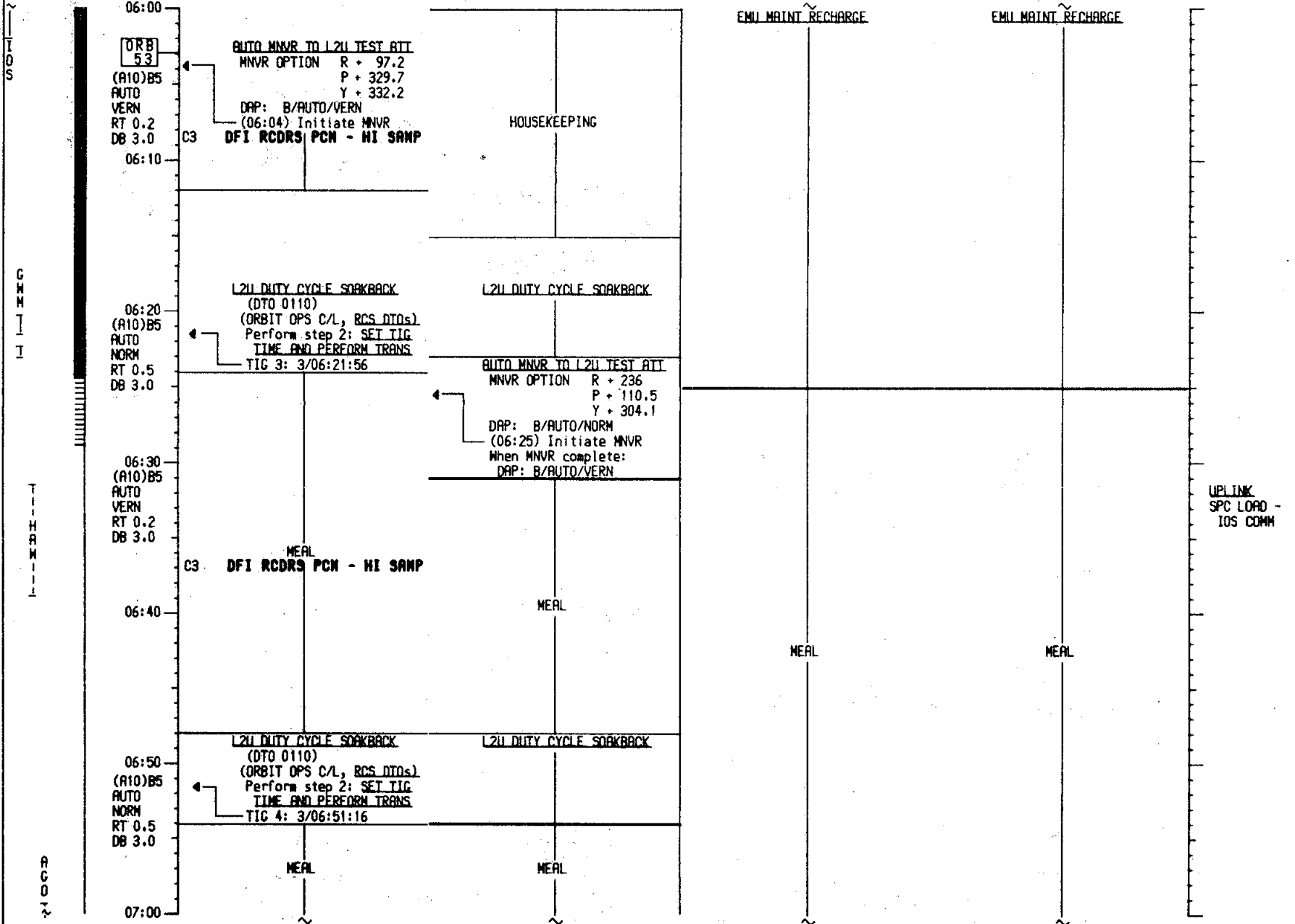
MET

DAY 003

CDR/PLT

MS1/MS2

MCC



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IMU ALIGN LOG

REQD ID: -Y\_\_ -Z\_\_ ANG ERR\_\_ .

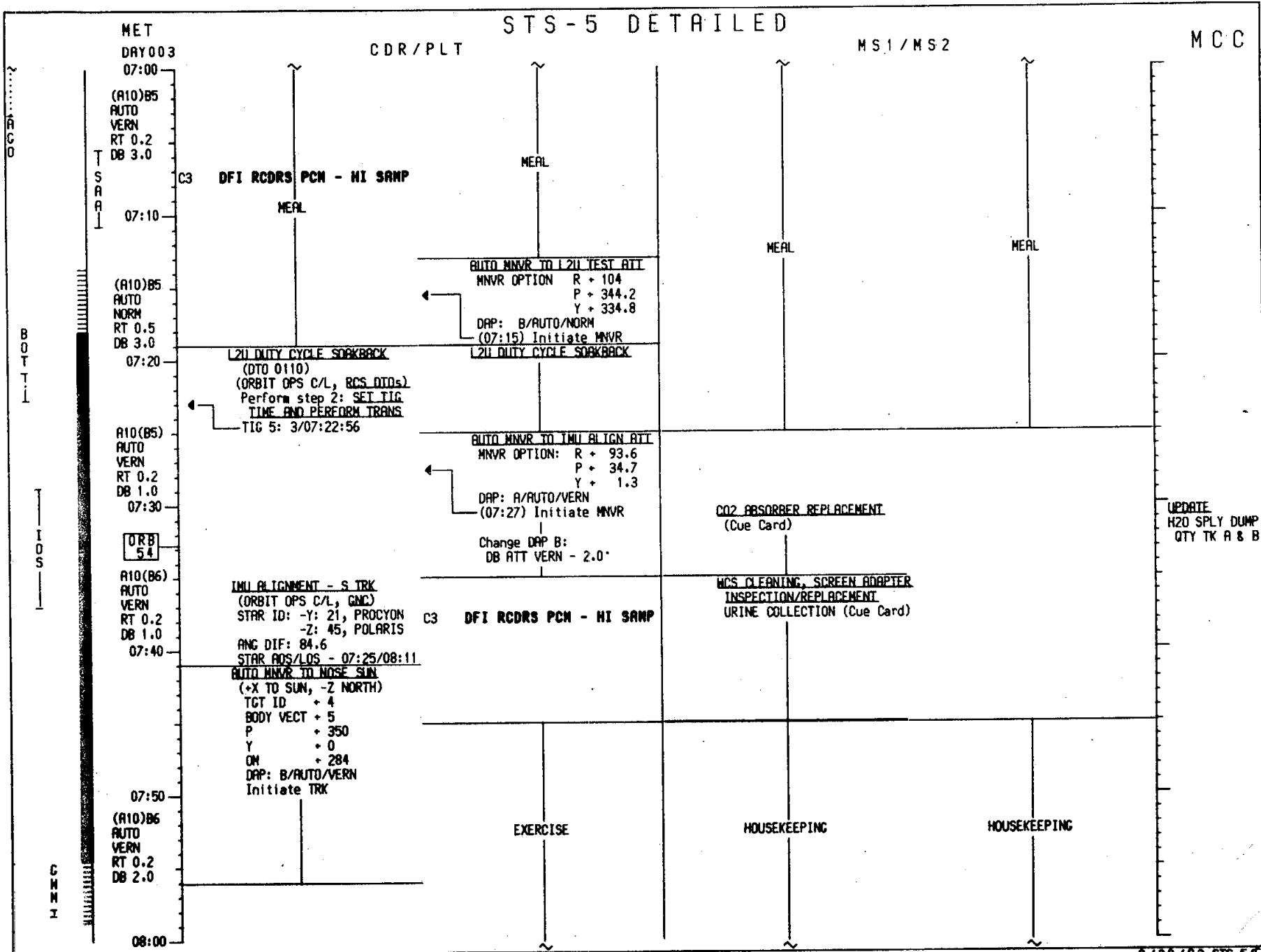
ANG

$\Delta X$  ( )\_\_ . ( )\_\_ . ( )\_\_ .

$\Delta Y$  ( )\_\_ . ( )\_\_ . ( )\_\_ .

$\Delta Z$  ( )\_\_ . ( )\_\_ . ( )\_\_ .

EXECUTION TIME: \_\_ / \_\_ : \_\_ : \_\_



MET  
DAY 003  
08:00

# STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC

(A10)B6  
AUTO  
VERN  
RT 0.2  
DB 2.0

SUPPLY WATER DUMP  
(ORBIT OPS C/L, ECLS)  
Dump to:

QTY A = \_\_\_ B = \_\_\_

RPT: IMU ALIGN RESULTS

MCC ONLY  
COORD C&M/FDA  
LIMITS CLEANUP  
FOR CREW SLEEP

HOUSEKEEPING

HOUSEKEEPING

EXERCISE

08:10

08:20

08:30

ORCS THREE ENGINE SOAKBACK  
(DTO 0109)  
(ORBIT OPS C/L, RCS DTAs)  
Perform step 3: RECONFIG  
TO NOMINAL except leave  
PCM RCDR in HI SAMP  
until end of PRE SLEEP

CONNECT RETURN (OPS 2,3)  
(ORBIT PKT C/L, RCS)

UPLINK  
SPC LOAD -  
1ST COMM  
ALERT

08:40

FUEL CELL PURGE - AUTO  
(Cue Card)

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L, CREW SYS)

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L, CREW SYS)

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L, CREW SYS)

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L, CREW SYS)

08:50

09:00

HERM-I

RECO-1

T  
S  
A  
R  
I

A  
C  
N  
I  
I



MET  
DAY 003  
09:00

# STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC

DRB  
5.5  
(A10)B6  
AUTO  
VERN  
RT 0.2  
DB 2.0

PRE SLEEP ACTIVITY

PRE SLEEP ACTIVITY

PRE SLEEP ACTIVITY

PRE SLEEP ACTIVITY

09:10

09:20

09:30

09:40

09:50

10:00

C3 JDFI RCORS PCN - LO SANP

SLEEP

SLEEP

SLEEP

SLEEP

T  
C  
M  
I

MET  
DRY 003  
10:00  
(A10)B6  
AUTO  
VERN  
RT 0.2  
DB 2.0

# STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC

1.000

R  
C  
N

10:10

10:20

10:30

10:40

10:50

11:00

ORB  
56

SLEEP

SLEEP

SLEEP

SLEEP

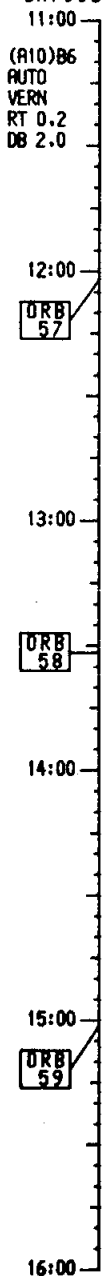
# STS-5 DETAILED

NET  
DRY003

CDR/PLT

MS1/MS2

MCC



SLEEP

SLEEP

SLEEP

SLEEP

MET  
DAY 003  
16:00  
(A10)B6  
AUTO  
VERN  
RT 0.2  
DB 2.0

# STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC

16:10

16:20

16:30

16:40

16:50

17:00

SLEEP

SLEEP

SLEEP

SLEEP

ORB  
6.0

ORBIT  
TIME

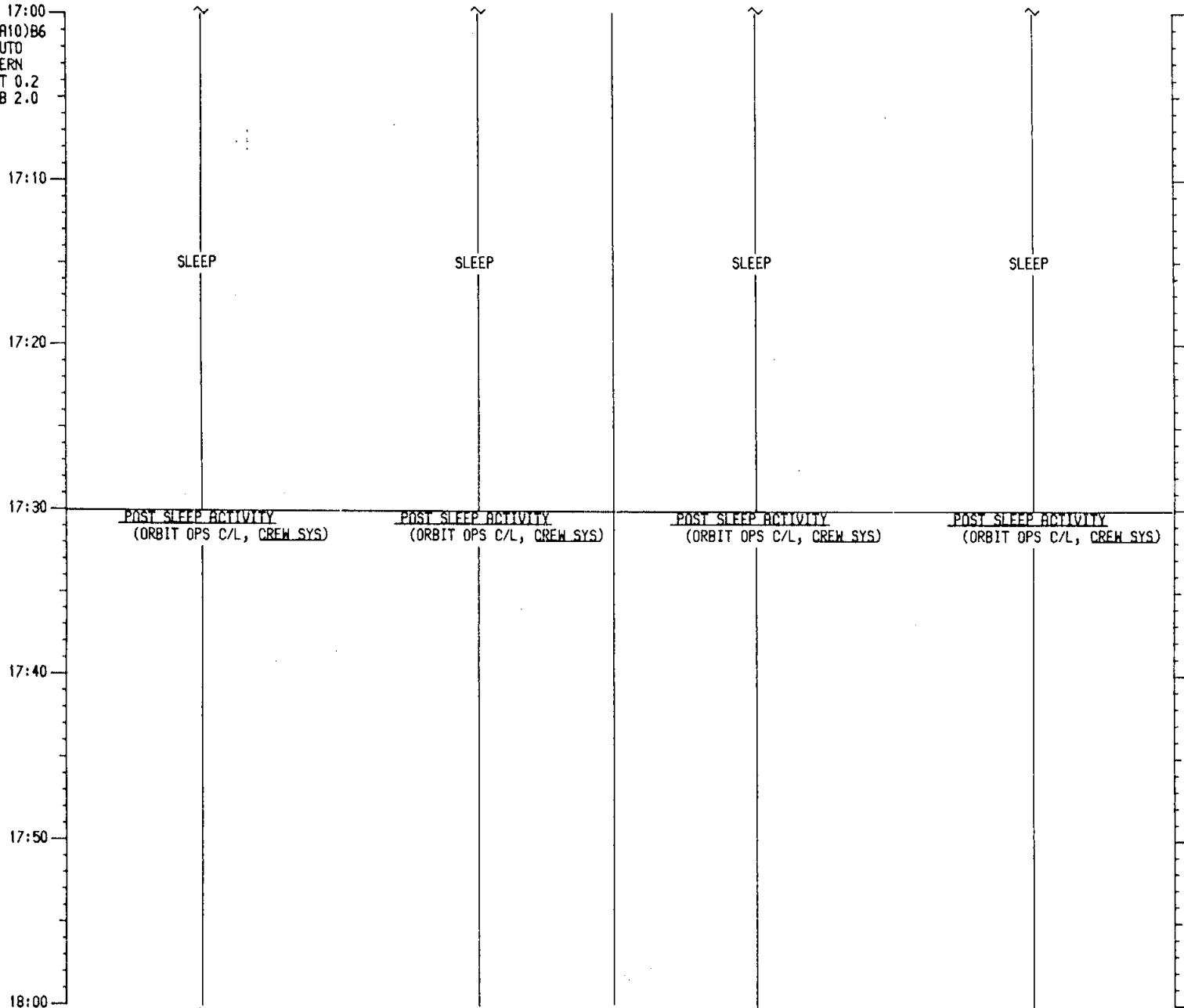
MET  
DRY003  
17:00  
(A10)B6  
AUTO  
VERN  
RT 0.2  
DB 2.0

# STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC



17:00  
17:10  
17:20  
17:30  
17:40  
17:50  
18:00

ET

STS-5 LAILED

DAY 003

CDR/PLT

MS1/MS2

1100

18:00

DRB  
81

(A10) B6  
AUTO  
VERN  
RT 0.2  
DB 2.0

18:10

POST SLEEP ACTIVITY

POST SLEEP ACTIVITY

POST SLEEP ACTIVITY

POST SLEEP ACTIVITY

UPLINK  
SPC LOAD -  
IOS COMM  
HYD/ATCS TIME  
CONSTANTS

18:20

18:30

18:40

18:50

19:00

TELEPRINTER  
MESSAGE  
REVIEW

TELEPRINTER  
MESSAGE  
REVIEW

TELEPRINTER  
MESSAGE  
REVIEW

TELEPRINTER  
MESSAGE  
REVIEW

FUEL CELL PURGE - AUTO  
(Cue Card)

HYD/ATCS INTERACTION TEST  
(DSO 0406)  
Perform HYD THERMAL  
CONDITIONING - ENABLE  
(ORBIT OPS C/L. APU/HYD)

CO2 ABSORBER REPLACEMENT  
(Cue Card)

NEAR VISION ACUITY (Dessl)  
(DSO 0408)

L1  
FLASH EVAP CNTLR  
PRI A.B - OFF  
SEC - OFF  
RAD CNTLR OUT TEMP - HI

ON-ORBIT HEAD/EYE TRACKING  
(DSO 0404)  
(ORBIT OPS C/L. MED DSO)

HOUSEKEEPING

M I L I T A R Y

D K R I M A D M A X I M I

I O S

T A R T I

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IMU ALIGN LOG

REQD ID: -Y\_\_ -Z\_\_ ANG ERR: .\_\_

ANG

$\Delta X$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

$\Delta Y$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

$\Delta Z$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

EXECUTION TIME: \_\_ / \_\_ : \_\_ : \_\_



T

STS-5 L AILED

CDR/PLT

MS1/MS2

MCC

DAY 003

19:00

(A10)B6  
AUTO  
VERN  
RT 0.2  
DB 2.0

HOUSEKEEPING

ON-ORBIT HEAD/EYE TRACKING  
(DSO 0404)  
(ORBIT OPS C/L. MED DSO)

PAN ASE THERMAL TEST  
(PL DPLY C/L. ON-ORBIT OPS)

UPDATE  
H2O SPLY DUMP  
QTY TK A & B

19:10

A10 (B6)  
AUTO  
VERN  
RT 0.2  
DB 1.0

AUTO MNVR TO IMU ALIGN ATT  
MNVR OPTION: R = 73  
P = 279.6  
Y = 321.7  
DAP: A/AUTO/VERN  
(19:18) Initiate MNVR

ACCEL DETECTION SENSITIVITY  
(DSO 0405)  
(ORBIT OPS C/L. MED DSO)

ACCEL DETECTION SENSITIVITY  
(DSO 0405)  
(ORBIT OPS C/L. MED DSO)

19:20

STAR TRACKER SELF-TEST  
(ORBIT OPS C/L. RNC)  
IMU ALIGNMENT - S TRK  
(ORBIT OPS C/L. RNC)  
STAR ID: -Y = 54. DIPHOA  
-Z = 27. DENEK  
ANG DIF = 83.7  
STAR AOS/LOS - 19:00/19:44

SUPPLY WATER DUMP  
(ORBIT OPS C/L. ECLS)  
Dump to:  
QTY A = ----- B = -----

19:30

ORB 62  
(A10)B6  
AUTO  
VERN  
RT 0.2  
DB 2.0

AUTO MNVR TO NOSE SUN  
(+X TO SUN, -Z NORTH)  
TGT ID = 4  
BODY VECT = 5  
P = 350  
Y = 0  
ON = 284  
DAP: B/AUTO/VERN  
Initiate TRK

19:40

RPT: IMU ALIGN RESULTS

MEAL

MEAL

MEAL

19:50

MEAL

UPLINK  
SPC LOAD -  
10S COMM

20:00

YARRI  
CORR

TT  
MLX  
BDA

DKR

ET

STS-5 DRAILED

DAY 003  
20:00  
(A1)B6  
AUTO  
VERN  
RT 0.2  
DB 2.0

CDR/PLT

MS1/MS2

M1

DKR

IOS

TYAR

20:10

20:20

20:30

20:40

(A1)B6  
AUTO  
VERN  
RT 0.2  
DB 2.0

20:50

21:00

MEAL

MEAL

MEAL

MEAL

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

ACCEL DETECTION SENSITIVITY  
(DSO 0405)  
(ORBIT OPS C/L, MED DSOs)

ACCEL DETECTION SENSITIVITY  
(DSO 0405)  
(ORBIT OPS C/L, MED DSOs)

CHANGE DAP A:  
DB ATT NORM - 5.0

L1 HYD/ATCS INTERACTION TEST  
(DTO 0406)  
Perform HYD THERMAL  
CONDITIONING - TERMINATE  
(ORBIT OPS C/L, APU/HYD)  
RAD CNTLR OUT TEMP - NORM

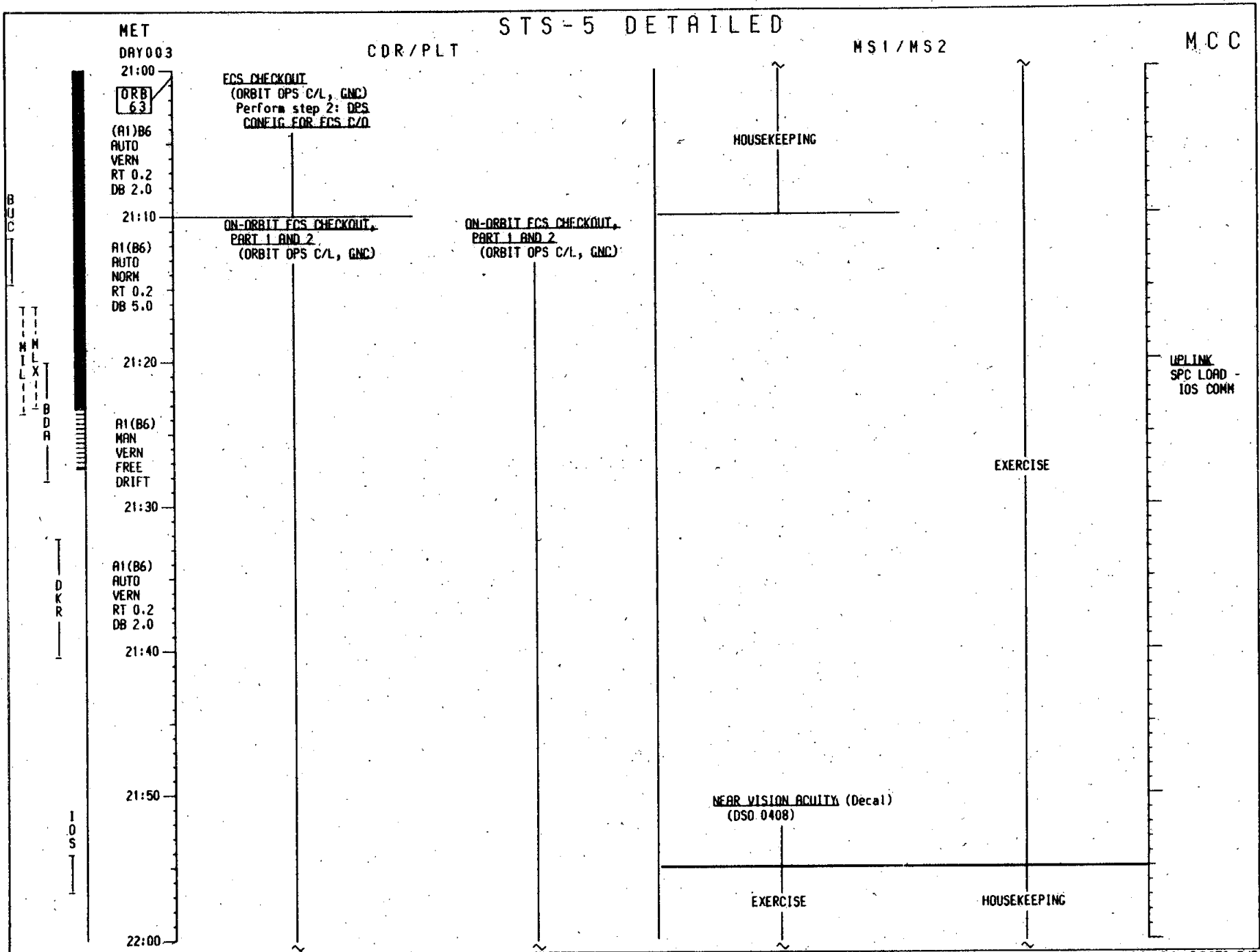
Stow all equip when complete

ECS CHECKOUT  
(ORBIT OPS C/L, GNC)  
Perform step 1: ECS AND  
DED DISPLAY CONFIG

ECS CHECKOUT  
(ORBIT OPS C/L, GNC)  
Perform step 1: ECS AND  
DED DISPLAY CONFIG

HOUSEKEEPING

EXERCISE



MET

DAY 003

# STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC

22:00  
R1 (B6)  
AUTO  
VERN  
RT 0.2  
DB 1.0

ON-ORBIT ECS CHECKOUT,  
PART 1 AND 2

ON-ORBIT ECS CHECKOUT,  
PART 1 AND 2

HOUSEKEEPING

22:10

16MM CAMR SETUP  
(16MM/09 - STUDENT  
EXPERIMENTS)  
(PHOTO/TV C/L, 16MM SCENES)

ECS CHECKOUT  
(ORBIT OPS C/L, GNC)  
Perform OPS TO NOMINAL O/D

22:20

ECS CHECKOUT  
(ORBIT OPS C/L, GNC)  
Perform ECS & DED DISPLAY  
RECONFIG

ECS CHECKOUT  
(ORBIT OPS C/L, GNC)  
Perform ECS & DED DISPLAY  
RECONFIG

EXERCISE

CABIN TV SETUP AND ACT  
(TV06 - STUDENT EXPERIMENTS)  
(PHOTO/TV C/L, TV SCENES)

22:30

ORB  
64

DAP: B/AUTO/VERN

(R1)B6  
AUTO  
VERN  
RT 0.2  
DB 2.0

NEAR VISION ACUITY (Decal)  
(DSO 0408)

22:40

NEAR VISION ACUITY (Decal)  
(DSO 0408)

DEI PWR UP (BUC)  
R11:H DFI PCM CONT 1,2,3 SGSC  
(three) - ON

22:50

DEI POWER DOWN  
R11:H DFI PCM CONT 1,2,3 SGSC  
(three) - OFF

23:00

ON MCC CUE  
R2 APU FUEL PUMP/VLV COOL A -  
OFF  
APU CNTRLR PWR (three) - OFF

INFORM CREW  
GO FOR APU  
COOL OFF

TELETYPE

TELETYPE

TELETYPE

TELETYPE

# STS-5 DETAILED

MET

DRY 003

CDR/PLT

MS1/MS2

MCC

23:00  
(R1)B6  
AUTO  
VERN  
RT 0.2  
DB 2.0

CONVECTION CURRENTS EXP  
(ORBIT OPS C/L, STIL EXP)

23:10

23:20

23:30

MEAL PREP. (Cue Card)

23:40

HOUSEKEEPING

23:50

ORB  
62  
00:00

BOARD

DCN

BO

Y

MET  
 DAY 004  
 00:00  
 (A1)B6  
 AUTO  
 VERN  
 RT 0.2  
 DB 2.0

CDR/PLT

STS-5 DETAILED

MS1/MS2

MCC

HAW  
 GDS  
 CUB  
 C/D  
 X  
 BDB  
 N  
 N  
 X  
 RCN  
 B

00:10  
 00:20  
 00:30  
 00:40  
 00:50  
 01:00

Reconfig Cabin TV for  
 Crystal and Sponge exp  
 demos after HAW LOS per  
 PHOTO/TV C/L (TV06)

CONVECTION CURRENTS EXP  
 Convection Currents TV demo  
 live at HAW then Crystal  
 Growth TV demo live at GDS

Convection Currents TV demo

Crystal Growth TV demo  
 (PI: Michelle Issel,  
 Wallingford, CT)

SPONGE GROWTH EXP  
 (ORBIT OPS C/L, STILL EXP)  
 Perform step 1 (START  
 GROWTH) for Run 6

Sponge Growth TV demo  
 live at MIL

CONVECTION CURRENTS EXP  
 Complete exp and stow equip

TV/UTR DEACT  
 (TV06 - STUDENT EXPERIMENTS)  
 (PHOTO/TV C/L, TV SCENES)

LIT  
 VVE  
 LIT  
 VVE  
 LIT  
 VVE

MET

# STS-5 DETAILED

DAY 004

CDR/PLT

MS1/MS2

MCC

01:00  
(R1)B6  
AUTO  
VERN  
RT 0.2  
DB 2.0

01:10

01:20

ORB  
66

01:30

MEAL

MEAL

MEAL

MEAL

01:40

01:50

02:00

01:00

01:20

01:30

01:50

02:00

MET

DAY 004

02:00

(R1)B6

AUTO

VERN

RT 0.2

DB 2.0

CDR/PLT

# STS-5 DETAILED

MS1/MS2

MCC

CUBS  
T  
M  
L  
L  
X  
I

ZCRA  
I

IBOT

02:10

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

PRIVATE  
MEDICAL  
COMMUNICATION

02:20

POST EVA ENTRY PREP  
(EVA C/L, POST EVA ENTRY  
PREP)

POST EVA ENTRY PREP  
(EVA C/L, POST EVA ENTRY  
PREP)

02:30

02:40

AUTO MNR TO -XIV ATT

(Z-POP, PLB NORTH)

TGT ID + 2

BODY VEC + 2

OM + 90

DAP: B/AUTO/VERN

(02:44) Initiate TRK

02:50

EXERCISE

MANUAL LVLH TEST (OTO 0757)  
(ORBIT OPS C/L, GNC DTD)

AB(B6)

LVLH

VERN

RT 0.2

DB 1.0

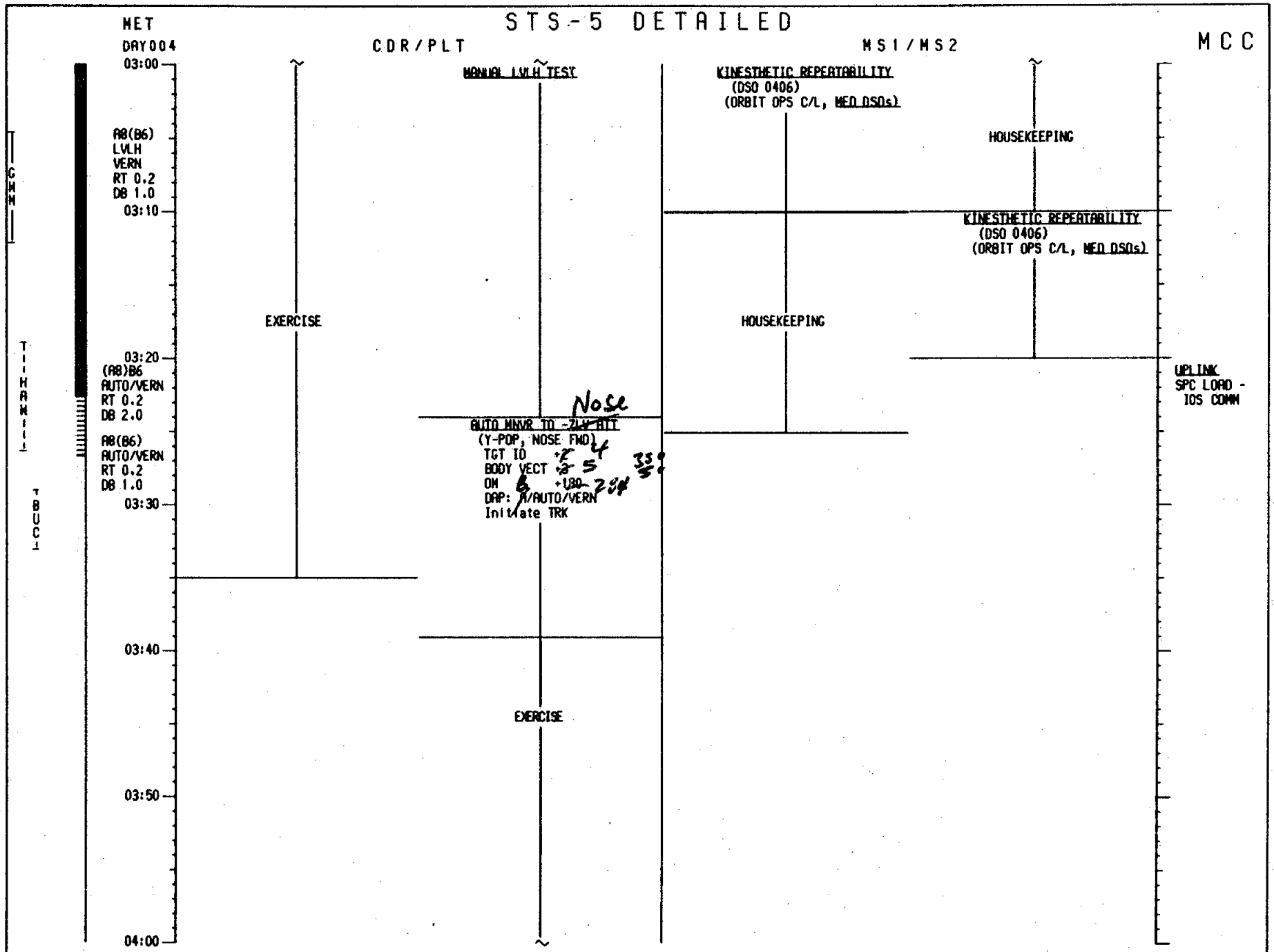
ORB

67

03:00

HOUSEKEEPING





# STS-5 DETAILED

MET

DAY 004

04:00  
 (A8)B6  
 AUTO  
 VERN  
 RT 0.2  
 DB 2.0

CDR/PLT

MS1/MS2

MCC

T  
I  
B  
O  
T  
T  
L  
  
 T  
I  
O  
S  
  
 T  
C  
M  
N  
  
 T  
H  
A  
M  
L

04:10

04:20

04:30

04:40

04:50

05:00

CABIN CONFIG/STOW  
 (ORBIT OPS C/L, CREW SYS)

EXERCISE

STOW GAS ENCODER  
 Disconnect cable from  
 encoder and SSP  
 Stow encoder and cable

ORB  
68

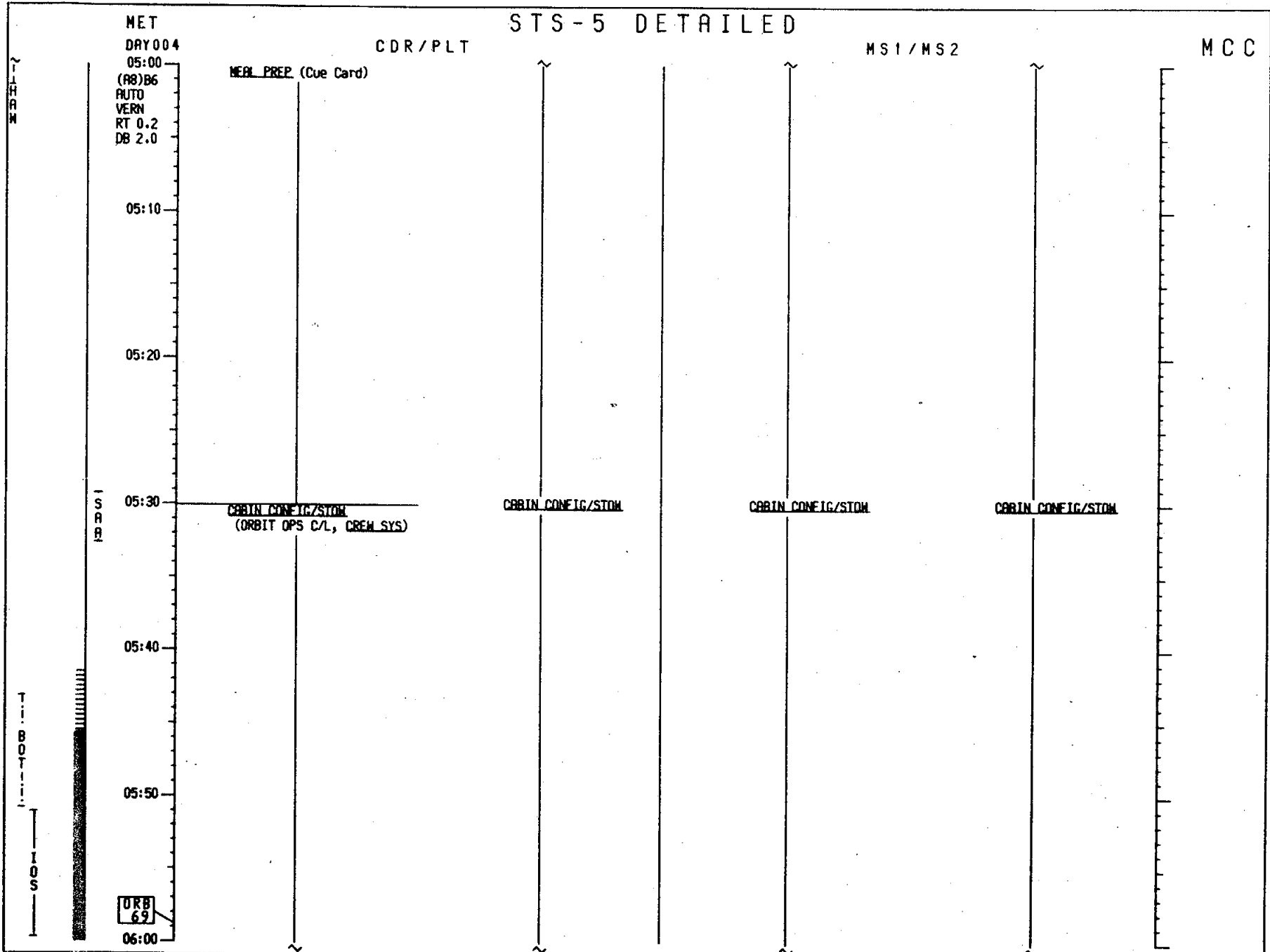
CABIN CONFIG/STOW  
 (ORBIT OPS C/L, CREW SYS)

CABIN CONFIG/STOW  
 (ORBIT OPS C/L, CREW SYS)

CABIN CONFIG/STOW  
 (ORBIT OPS C/L, CREW SYS)

Insure cabin TV, 70MM and 16MM  
 camrs and camr accessories  
 properly stowed. Stow film,  
 cassettes, notes, and other  
 appropriate items in "Return to  
 Houston" bag (AV BAY 3B).

UPLINK  
 SPC LOAD -  
 IOS COMM



NET  
DAY 004  
06:00  
(RB)B6  
AUTO  
VERN  
RT 0.2  
DB 2.0

# STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC

06:10

CABIN CONFIG/STOW

CABIN CONFIG/STOW

CABIN CONFIG/STOW

CABIN CONFIG/STOW

06:20

06:30

UPLINK  
SPC LOAD -  
IOS COMM

06:40

MEAL

MEAL

MEAL

MEAL

06:50

07:00

T  
H  
M

Y  
C  
A  
I

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IMU ALIGN LOG

REQD ID: -Y\_\_\_ -Z\_\_\_ ANG ERR\_\_\_ .\_\_\_

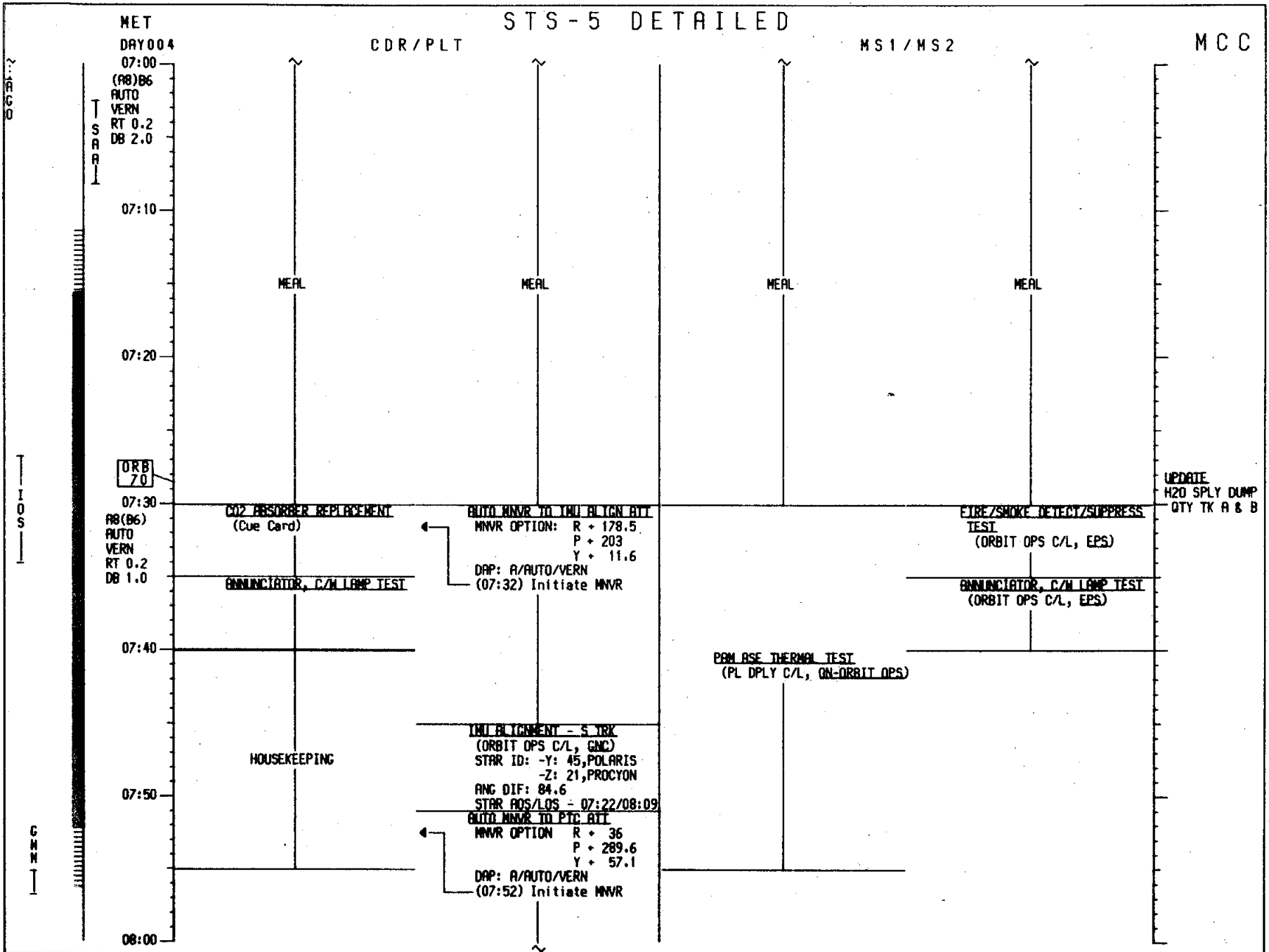
ANG

$\Delta X$  ( )\_\_\_ .\_\_\_ ( )\_\_\_ .\_\_\_ ( )\_\_\_ .\_\_\_

$\Delta Y$  ( )\_\_\_ .\_\_\_ ( )\_\_\_ .\_\_\_ ( )\_\_\_ .\_\_\_

$\Delta Z$  ( )\_\_\_ .\_\_\_ ( )\_\_\_ .\_\_\_ ( )\_\_\_ .\_\_\_

EXECUTION TIME:\_\_\_ / \_\_\_ :\_\_\_ :\_\_\_



MET  
DRY004  
08:00

CDR/PLT

# STS-5 DETAILED

MS1/MS2

MCC

A2(B6)  
AUTO/NORM  
RT 0.4  
DB 1.0  
A2(B6)  
AUTO/VERN  
RT 0.4  
DB 1.0  
08:10

SUPPLY WATER DUMP  
(ORBIT OPS C/L, ECLS)  
Dump to:

QTY A = \_\_\_ B = \_\_\_

RPT: IMU ALIGN RESULTS

AUTO MNVR TO PTC ATT

0.4 DEG/SEC PTC  
(ORBIT OPS C/L, RCS)  
Perform step 1 - INITIATE  
PTC ROTATION

MCC ONLY  
COORD C&W/FDA  
LIMITS CLEANUP  
FOR CREW SLEEP

HOUSEKEEPING

08:20

FUEL CELL PURGE - AUTO  
(Cue Card)

08:30

MCS CLEANING, SCREEN ADAPTER  
INSPECTION/REPLACEMENT  
URINE COLLECTION (Cue Card)

08:40

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L, CREW SYS)

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L, CREW SYS)

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L, CREW SYS)

PRE SLEEP ACTIVITY  
(ORBIT OPS C/L, CREW SYS)

08:50

ORB  
71  
09:00

IMU LINK  
SPC LOAD -  
1ST COMM  
ALERT

H  
A  
M  
T

1  
:0  
0  
C  
C  
B  
A  
1

T  
S  
A  
R  
I

A  
C  
N  
I



MET  
DRY 004  
09:00

# STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC

R2(B6)  
AUTO  
VERN  
RT 0.4  
DB 1.0

09:10

09:20

09:30

09:40

09:50

10:00

PRE SLEEP ACTIVITY

PRE SLEEP ACTIVITY

PRE SLEEP ACTIVITY

PRE SLEEP ACTIVITY

SLEEP

SLEEP

SLEEP

SLEEP

C  
M  
M

# STS-5 DETAILED

MET  
DAY 004  
10:00  
R2(B6)  
AUTO  
VERN  
RT 0.4  
DB 1.0

CDR/PLT

MS1/MS2

MCC

1.0000

NCR

10:10  
10:20  
10:30  
10:40  
10:50  
11:00

DRB  
72

SLEEP

SLEEP

SLEEP

SLEEP

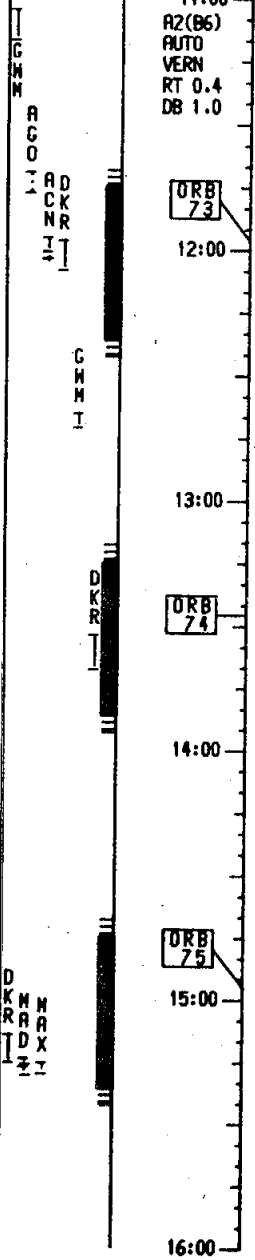
STS-5 DETAILED

NET  
DAY004  
11:00  
R2(B6)  
AUTO  
VERN  
RT 0.4  
DB 1.0

CDR/PLT

MS1/MS2

MCC



ORB 73

12:00

13:00

ORB 74

14:00

ORB 75

15:00

16:00

SLEEP

SLEEP

SLEEP

SLEEP

# STS-5 DETAILED

MET:  
DAY 004  
16:00  
R2(B6)  
AUTO  
VERN  
RT 0.4  
DB 1.0

CDR/PLT

MS1/MS2

MCC

16:10

16:20

ORBI  
76

16:30

16:40

16:50

17:00

SLEEP

SLEEP

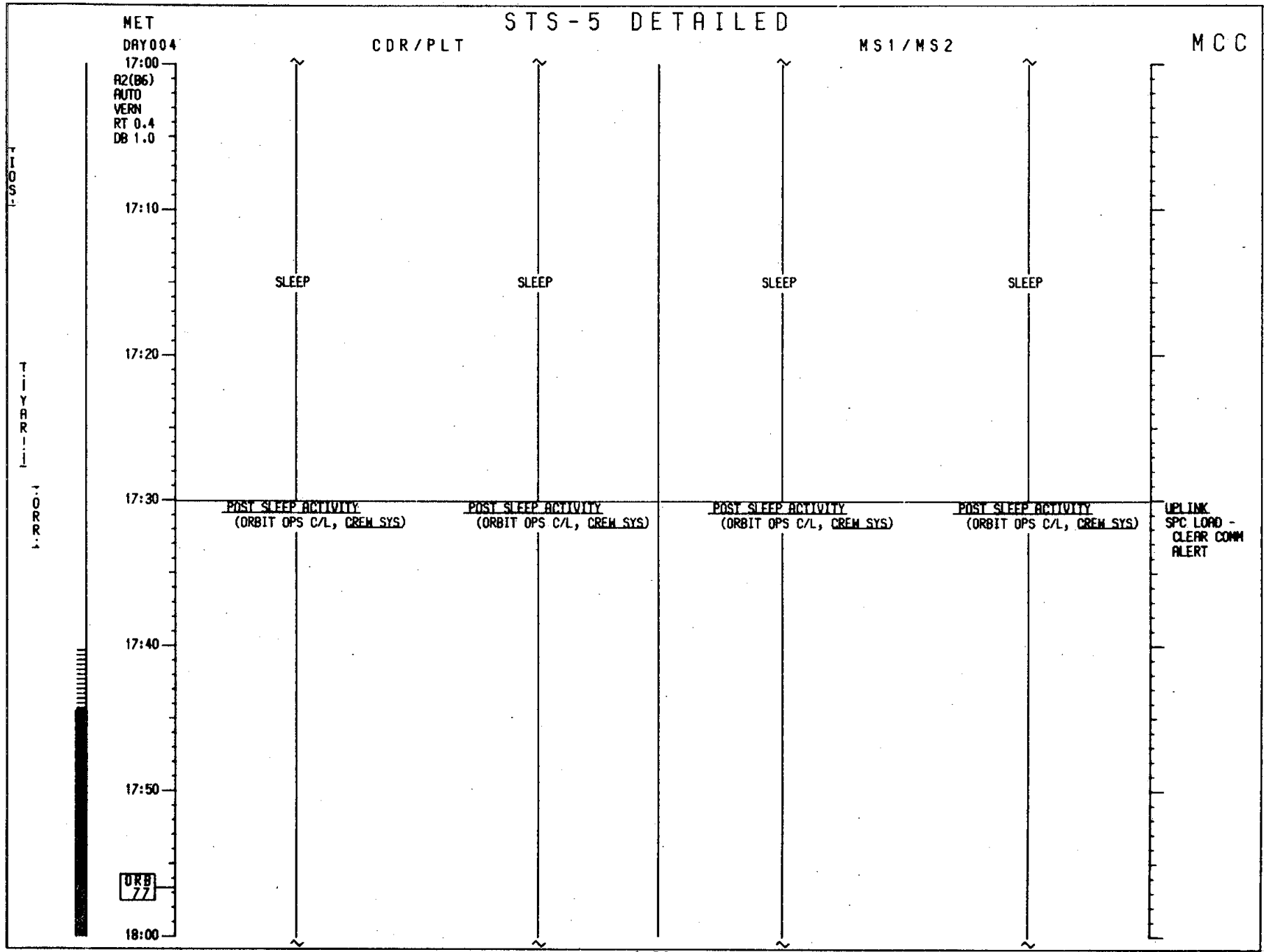
SLEEP

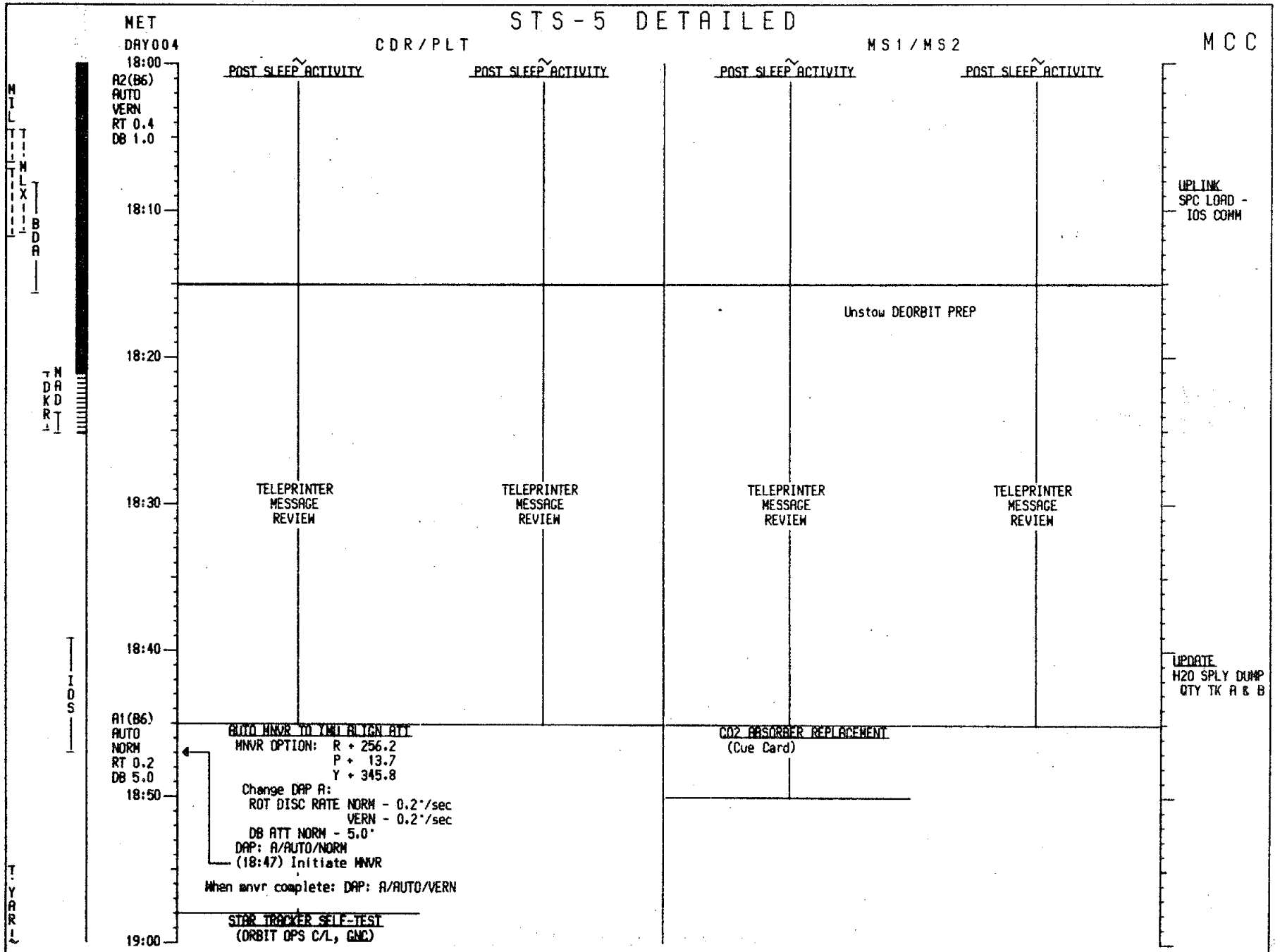
SLEEP

UPLINK  
SPC LOAD -  
IOS COMM

B  
O  
R

L  
R  
K  
D  
1  
M  
A  
R  
D  
M  
A  
X  
1





IMU ALIGN LOG

REQD ID: -Y\_\_ -Z\_\_ ANG ERR\_\_ .\_\_

ANG

$\Delta X$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

$\Delta Y$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

$\Delta Z$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

EXECUTION TIME: \_\_ / \_\_ : \_\_ : \_\_

MET

DRY004

CDR/PLT

# STS-5 DETAILED

MS1/MS2

MCC

19:00  
R1 (B6)  
AUTO  
VERN  
RT 0.2  
DB 1.0

IMU ALIGNMENT - S TRK  
(ORBIT OPS C/L, GNC)  
STAR ID: -Y: 22, ALTAIR  
          -Z: 51, ATRIA  
RNC DIF: 84.0  
STAR AOS/LOS - 18:41/19:25

DEI PWR UP (ORR)  
R11:H DEI PCH CONT 1,2,3 SGSC  
(three) - ON

DEI POWER DOWN  
R11:H DEI PCH CONT 1,2,3 SGSC  
(three) - OFF

19:10

MNVR TO TAIL SUN  
MNVR OPTION R + 298.5  
                  P + 49.3  
                  Y + 22.2  
DAP: A/AUTO/VERN  
(19:08) Initiate MNVR

SUPPLY WATER DUMP  
(ORBIT OPS C/L, ECLS)  
Dump to:

QTY A = \_\_\_\_\_ B = \_\_\_\_\_  
FUEL CELL PURGE - AUTO  
(Cue Card)

19:20

L1 HI LOAD DUCT HTR - B

ORB  
78

19:30

19:40

MEAL

MEAL

MEAL

MEAL

RPT: IMU ALIGN RESULTS

UPLINK  
SPC LOAD -  
IOS COMM

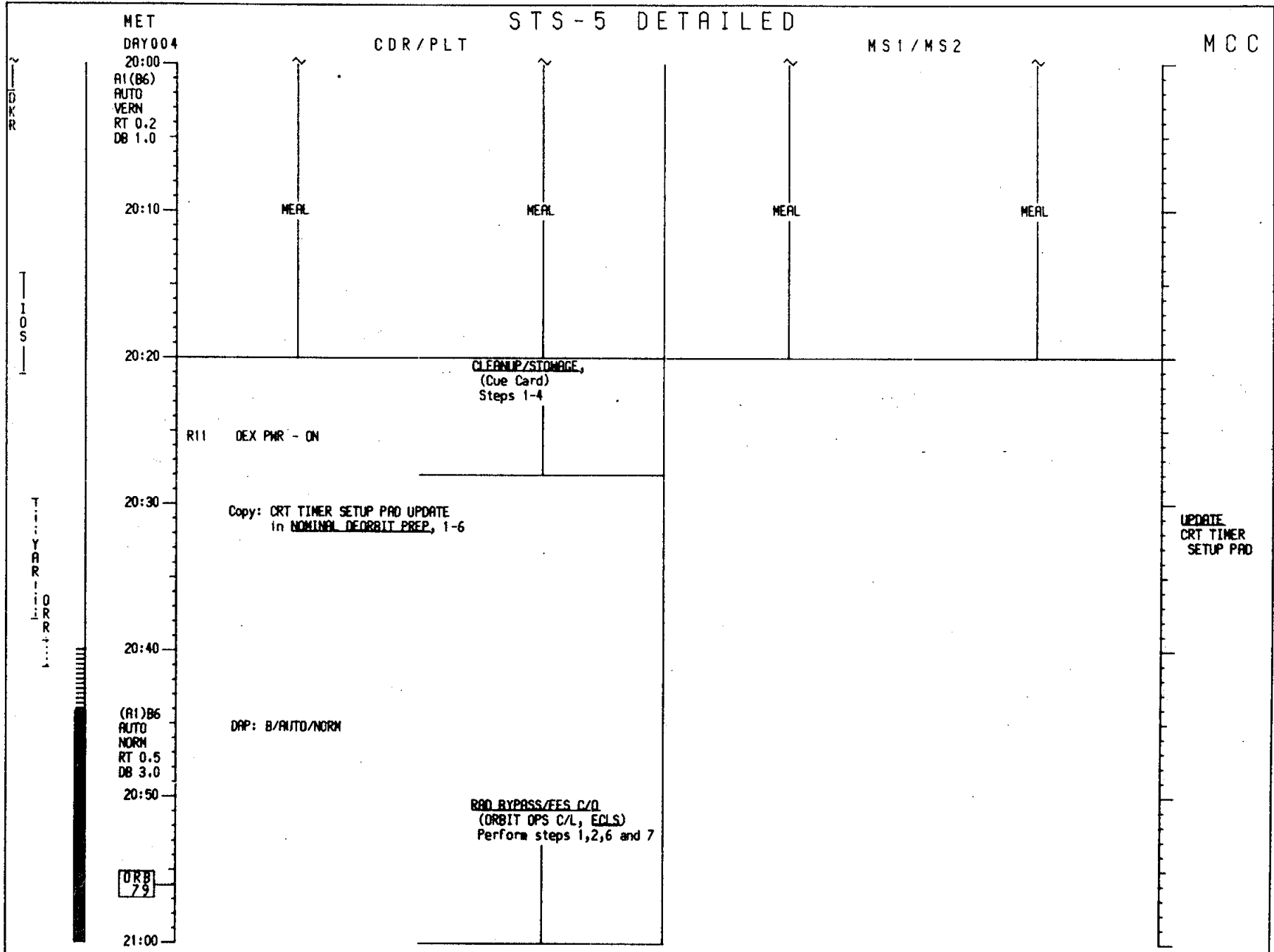
19:50

20:00

YARRR  
1.4

TT  
H  
L  
X  
L  
B  
D  
A  
T  
D  
K  
R  
L





MET

STS-5 DETAILED

CDR/PLT

MS1/MS2

MCC

DAY 004

21:00

(A1)B6  
AUTO  
NORM  
RT 0.5  
DB 3.0

21:10

21:20

(A1)B1  
AUTO  
NORM  
RT 0.5  
DB 3.0

21:30

21:40

21:50

22:00

CHANGE DRP B:  
DB ATT VERN - 1.0

GO TO DEORBIT PREP

C  
X  
O  
S  
S  
O  
S

M  
T  
X  
M  
X  
M  
T

A  
B

D  
K  
R

B  
O  
T  
T  
L  
E

CONTINGENCY TIMELINES

HIGH PRIORITY MISSION..... 5A-1  
FLIGHT DAY 3 DEPLOYMENT..... 5B-1  
WAVE OFF (1 DAY LATE ENTRY)..... 5C-1

CONTINGENCY  
TIMELINES

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## HIGH PRIORITY MISSION

HIGH PRIORITY  
MISSION

- The High Priority Mission is approximately 51 hours in duration.
- The nominal CAP is used through both the SBS deploy in FD 1 and the Telesat deploy on FD 2 with the following exceptions:
  - The RCS Hot Fire test is done immediately after the morning meal on FD 2.
  - The S-Band test (DT0 0706) is deleted. In its place will be the FCS checkout with Step 1 to start at 1/01:20.
  - The IMU align is moved to follow the FCS C/O with the maneuver starting approximately 1/02:40. The COAS cal and threshold test are deleted.
  - Vacuum inerting is done only if mandatory.
  - Entry stowage is accomplished primarily by the PLT and MS's between the morning meal and the deploy. Experiments nominally scheduled during this time will be done only on a time available basis.
  - If previously activated, the GAS experiment is deactivated, and the encoder is stowed.
  - The Oxygen Interaction Validation experiment heater is not activated.
  - The starboard Sun attitude following the Telesat deploy will be replaced by a PTC attitude.
- At crew wakeup after the second sleep period (1/19:00), the CAP for deorbit day will be used starting at 4/17:30. This will be used until the Deorbit Prep book is entered. The planned TIG for the High Priority Mission is 2/02:41 using the last Edwards opportunity. This allows the nominal 7 3/4 hours from wakeup to deorbit TIG. The nominal 3 1/2 hour deorbit prep will be used.

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## FLIGHT DAY 3 DEPLOYMENT

### Discussion

This timeline is written to cover either an SBS or TELESAT deployment on FD 3 with an Orbit 38A PKM.

In addition to the summary timeline detailed pages are provided from wakeup until sleep.

### Assumptions

This timeline assumes that -ZLV attitude has been and will be maintained until the payload is deployed.

It assumes a recirc burn has not yet been accomplished. This means the groundtrack and day/night may be earlier than nominal by ~5 min.

### Comparison with Nominal FD 3

1. Attitude is -ZLV versus Stbd Sun. Morning IMU attitude provides two 30-minute Top Sun periods for payload conditioning.
2. PAM ASE Thermal Test deleted.
3. Airframe Distortion Test deleted.
4. Vernier jet control maintained and VRCS Single Engine Soakback Test deleted.
5. PRSD performance earlier by ~2 hr 15 min, and the time between powerup and mnvr shortened to 1 hr 45 min because of recirc burn.
6. All 16mm Camr activities except for those associated with Deployment deleted.
7. Kinesthetic Repeatability deleted.
8. Glow Experiment deleted.
9. A recirc burn which supports Cold OMS Engine Restart added.
10. IMU alignment just before noon meal added.
11. Spacecraft State of Health Check added ~3 hr 20 min prior to deployment.
12. All activities between 2/05:00 and 2/09:00 moved to make room for deployment. These include Meal Prep, Exercise, Meal, HK, IMU alignment, EVA Equipment Prep, FC Purge, I'cnect Rtn, Sply Dump, and CO2 Abs changeout. The moved IMU alignment does not support Star Trkr Threshold Test.
13. Presleep and sleep 15 min later. FD 4 wakeup unchanged.
14. Activation of Oxygen Interaction Validation test delayed to Post-Deploy period of FD 3. Deactivation delayed to end of Starboard Sun.

Impact to FDs 4 and 5

TV Setup for EVA (15 min) not done prior to TV Act scheduled first thing in the morning.

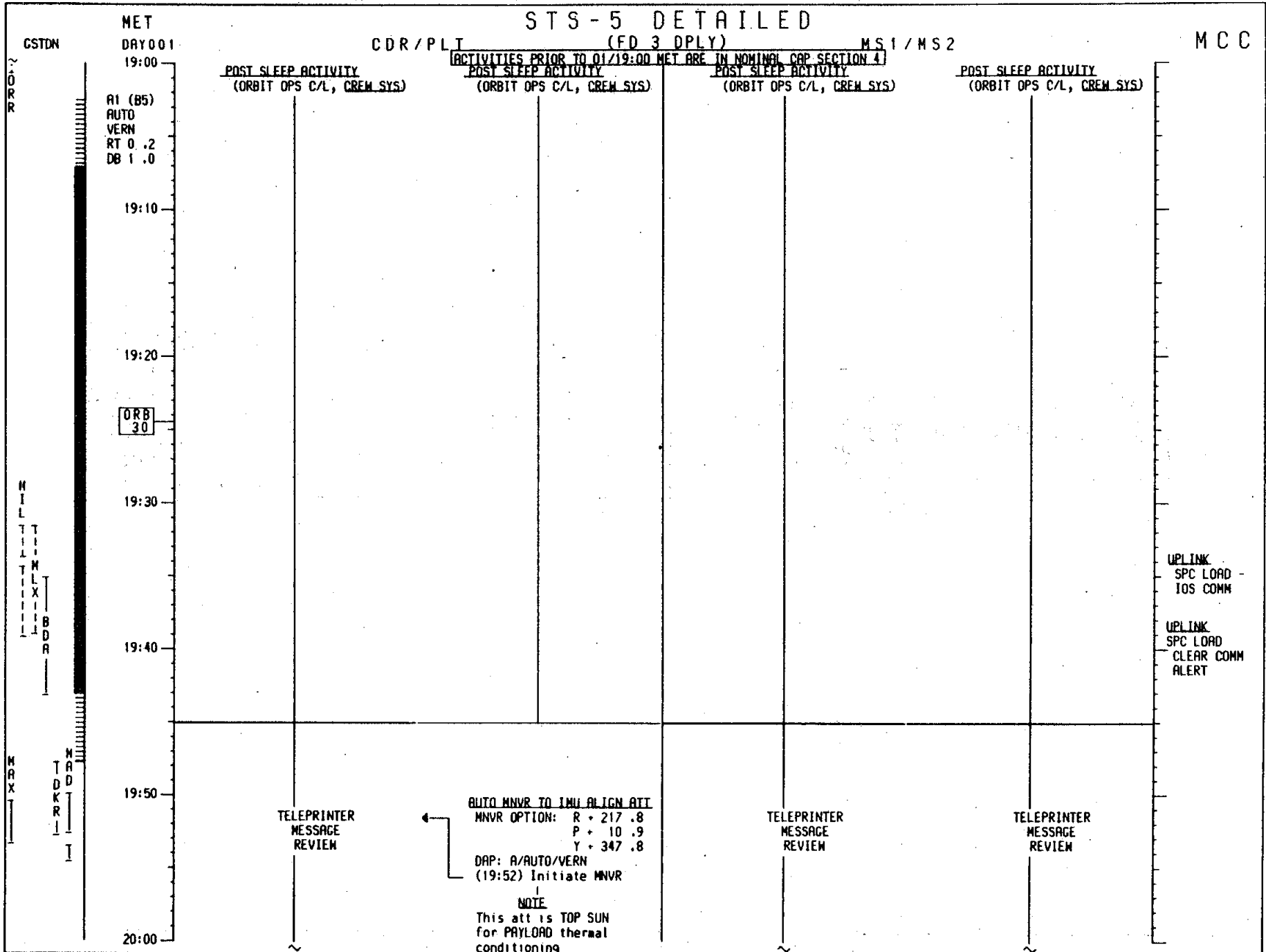
Because of achieving Stbd Sun ~23 hr later than nominal, Nose Sun will be deleted. This brings the total Stbd Sun to ~41.5 versus ~46 hr. The Hydraulic/ATCS Thermal Test which requires Nose Sun will be deleted.



GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
316:23:19/ 317:11:19	001:11:00/ 001:23:00	316:17:19/ 317:05:19	03/ 316 GMT	-20.3		NOVEMBER 12, 1982	STS-5	FINAL, PCN 1	10/26/82
CST: 316	FD: 03	DOY: 317			CST: 317	FD: 03			
MET: 001									
CDR	SLEEP					POST SLEEP ACT	TPR MSG REVIEW	MEAL	
PLT	SLEEP					POST SLEEP ACT	IMU TPR MSG MNV REVIEW	MEAL	
MS1	SLEEP					POST SLEEP ACT	TPR MSG REVIEW	ACCEL SENSE	MEAL
MS2	SLEEP					POST SLEEP ACT	TPR MSG REVIEW	ACCEL SENSE	MEAL
DAY/NIGHT	[Day/Night Cycle]								
ORBIT	24	25	26	27	28	29	30	31	32
EARTH TRACE W/SAA	[Earth Trace]								
GSTDN COVERAGE	-ACG -ACN -GWM -DKR -DKR -HAD -MAX -MAX -IOS -YAR -ORR -DKR -HAD -MAX -MLX -BDA -DKR -IOS -YAR -ORR -GDX -GDS -MLX -BDA -DKR -IOS -YAR -ORR -MLX -BDA -DKR								
TV									
DEORB KSC OPT EDM									
DPS	GNC 2 SM 2								
ATT/HNVR	-ZLV								
CAS	26 LOW C								
DPLY OPT	SBS TEL TEL TEL TEL TEL TEL								
NOTES:	<p>FD 3 DPLY</p> <ul style="list-style-type: none"> <li>● OMS/RCS</li> <li>● MANUAL</li> <li>● DSO 0405 - ACCEL DETECTION SENSITIVITY</li> <li>● DTO 0774 - STAR TRACKER THRESHOLD VERIFICATION</li> <li>● DSO 0405 - ACCEL DETECTION SENSITIVITY</li> <li>■ CONN RET OMS/RCS</li> </ul>								

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
317:11:19/ 317:23:19	001:23:00/ 002:11:00	317:05:19/ 317:17:19	03/ 317 GMT	-18.4		NOVEMBER 13, 1982	STS-5	FINAL, PCN 1	10/26/82
CST: 317									
FD: 03	MET: 002								
MET: 001 23									
CDR	BURN PREP	ZLV	HK						
PLT	BURN PREP	PRSD	MEAL PREP	HK					
MS1	BURN PREP	EVA EQUIP PREP		HK					
MS2	BURN PREP	EVA EQUIP PREP		HK					
DAY/NIGHT									
ORBIT	32	33	34	35	36	37	38	39	40
EARTH TRACE W/SAA									
GSTDN COVERAGE	-DKR -BOT -LOS	--CDS -MLX -YAR -CWM -HAM -BDA -ACN -BOT	-MLX -BUC -CDS -COX -MLL	-BUC -CWM -HAM -BUC	-CWM -HAM -BUC	-HGO -BOT -LOS	-HGO -BOT -LOS	-GWM -HAM -RCO	-LOS -GWM -HAM -RCO
TV									
DEORB KSC	1 23:40	1 01:16							
DPT EDM		1 01:06	1 02:41						
DPS					GNC 2 SH 2				
ATT/MNVR	RECIRC	-ZLV	PRSD		-ZLV	DPLY	SEP	PRD	IMU
GRS									STBD SUN
DPLY OPT					26				
NOTES:	<ul style="list-style-type: none"> <li>• RCS REG RECONFIG</li> <li>• DSO 0301 - OXYGEN INTERACTION VALIDATION - HTR ON</li> <li>• DSO 0401 - PRSD STRATIFICATION TEST - MNVR AND PWR DOWN</li> <li>• DSO 0401 - PRSD STRATIFICATION TEST - POWER UP</li> <li>• DSO 0401 - PRSD STRATIFICATION TEST - POWER UP</li> <li>• DSO 0404 - HEAD &amp; EYE TRACKING</li> <li>• STBD SUN MNVR</li> <li>• DSO 0102 - NONSYMMETRICAL/ COLD OMS POD TCS TEST</li> <li>• ARCS PREP</li> <li>• DSO 0109 - ARCS THREE ENGINE SOAKBACK TEST - INHIBIT PORT POD PRCS</li> </ul>								

FD 3 DPLY

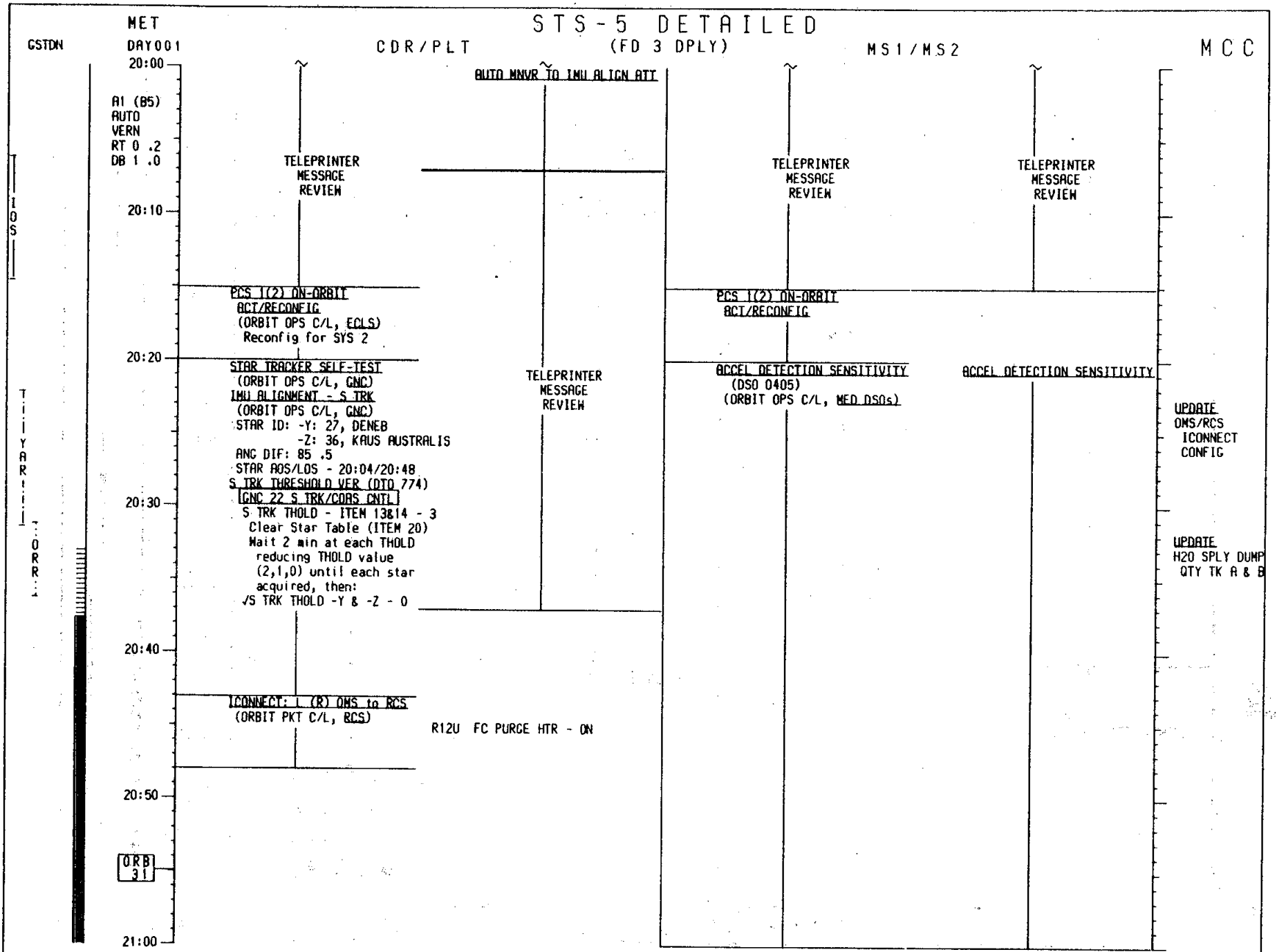


IMU ALIGN LOG

REQD ID; -Y \_\_\_ -Z \_\_\_ ANG ERR \_\_\_ . \_\_\_  
ANG  
 $\Delta X$  ( ) \_\_\_ . \_\_\_ ( ) \_\_\_ . \_\_\_ ( ) \_\_\_ . \_\_\_  
 $\Delta Y$  ( ) \_\_\_ . \_\_\_ ( ) \_\_\_ . \_\_\_ ( ) \_\_\_ . \_\_\_  
 $\Delta Z$  ( ) \_\_\_ . \_\_\_ ( ) \_\_\_ . \_\_\_ ( ) \_\_\_ . \_\_\_  
EXECUTION TIME: \_\_\_ / \_\_\_ : \_\_\_ : \_\_\_

S TRK THRESHOLD LOG

S TRK	ACQ THOLD	ACQ MET (D/HH:MM)
-Y:	___	___/___ : ___
-Z:	___	___/___ : ___



# STS-5 DETAILED

(FD 3 DPLY)

MCC

GSTDN

NET

DAY 001

CDR/PLT

MS1/MS2

21:00

SUPPLY WATER DUMP  
(ORBIT OPS C/L, ECLS)  
Dump to:

QTY A = \_\_\_ B = \_\_\_

FUEL CELL PURGE - MAN  
(Cue Card)

R1 (B5)  
AUTO  
VERN  
RT 0 .2  
DB 1 .0

21:10

CO2 ABSORBER REPLACEMENT  
(Cue Card)

RPT: IMU ALIGN RESULTS

UPLINK  
SPC LOAD -  
IOS COMM

21:20

21:30

MEAL

MEAL

MEAL

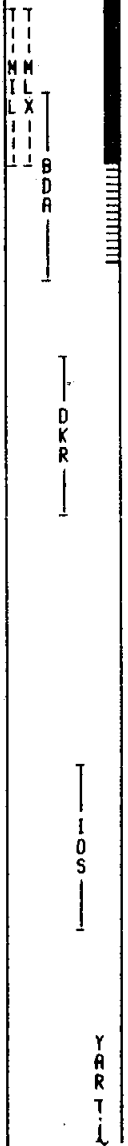
MEAL

21:40

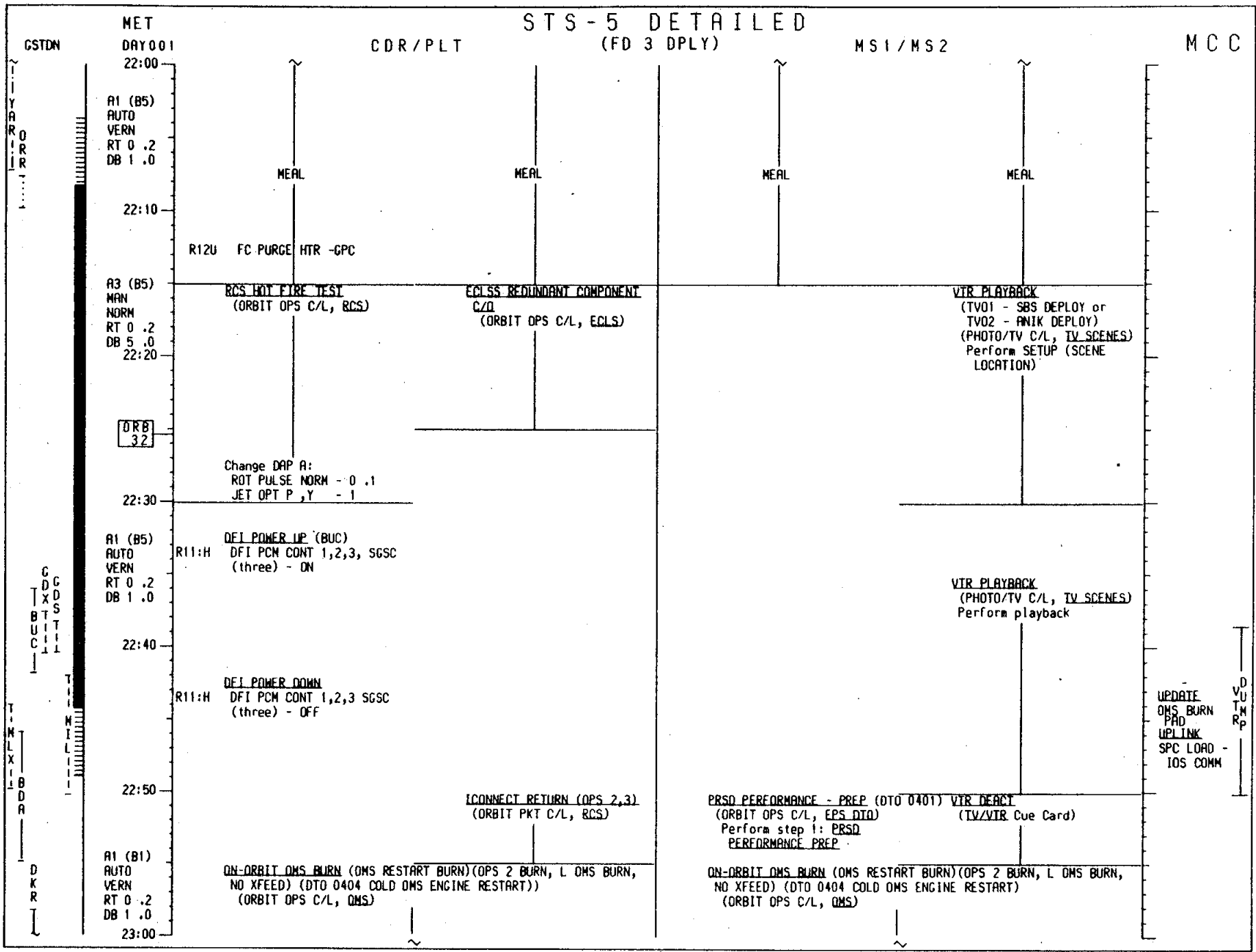
21:50

AUTO MNVR TO -ZLV ATT  
(Y-POP, NOSE FWD)  
TGT ID +2  
BODY VECT +3  
OM +180  
DAP: A/AUTO/VERN  
Initiate TRK

22:00



# STS-5 DETAILED (FD 3 DPLY)



# STS-5 DETAILED

(FD 3 DPLY)

GSTDN

NET

DAY 001

23:00

AI (81)  
AUTO  
VERN  
RT 0 .2  
DB 1 .0

CDR/PLT

MS1/MS2

MCC

MNVR TO OMS RESTART BURN ATT

ON-ORBIT OMS BURN

ON-ORBIT OMS BURN

23:10

23:20

BURN A TIC: 1/23:22:00

BURN B TIC: 1/23:26:00

23:30

AUTO MNVR TO -ZLV ATT  
(Y-POP, NOSE FWD)  
TGT ID +2  
BODY VECT +3  
OH +180  
DAP: A/AUTO/VERN  
Initiate TRK

PRSD PERFORMANCE - POWER UP  
(OTO 0401)  
(ORBIT OPS C/L, EPS DTO)  
Perform step 2 -  
POWER UP

PRSD PERFORMANCE - POWER UP

23:40

CONNECT: L (RT) OMS to RCS  
(ORBIT PKT C/L, RCS)

EQUIP PREP  
(EVA C/L, EQUIP PREP)

EQUIP PREP

UPDATE  
OMS/RCS  
CONNECT  
CONFIG

23:50

ORB  
33

002  
00:00

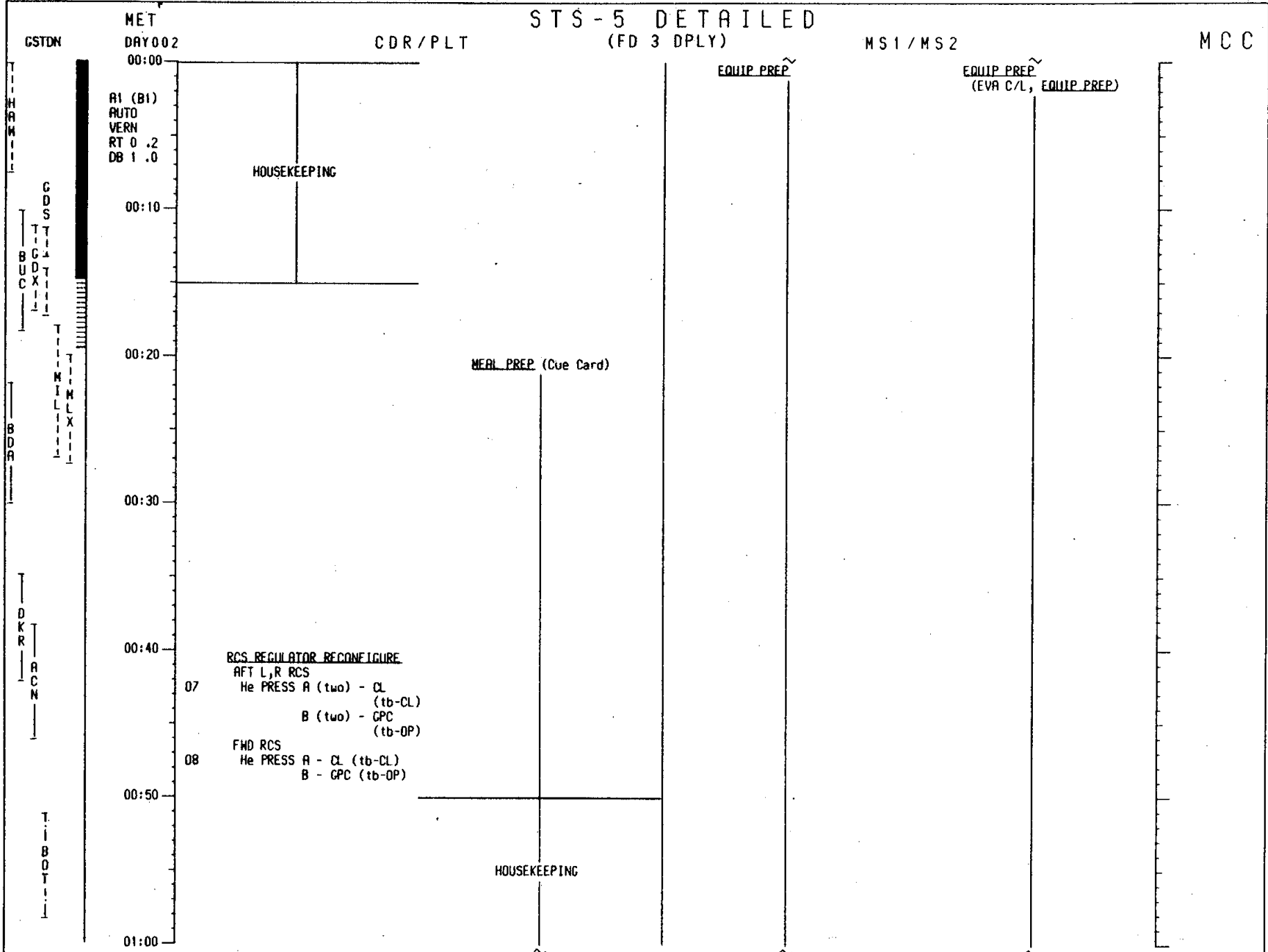
DKR

BOT  
TOS

T  
Y  
A  
R



# STS-5 DETAILED (FD 3 DPLY)



IMU ALIGN LOG

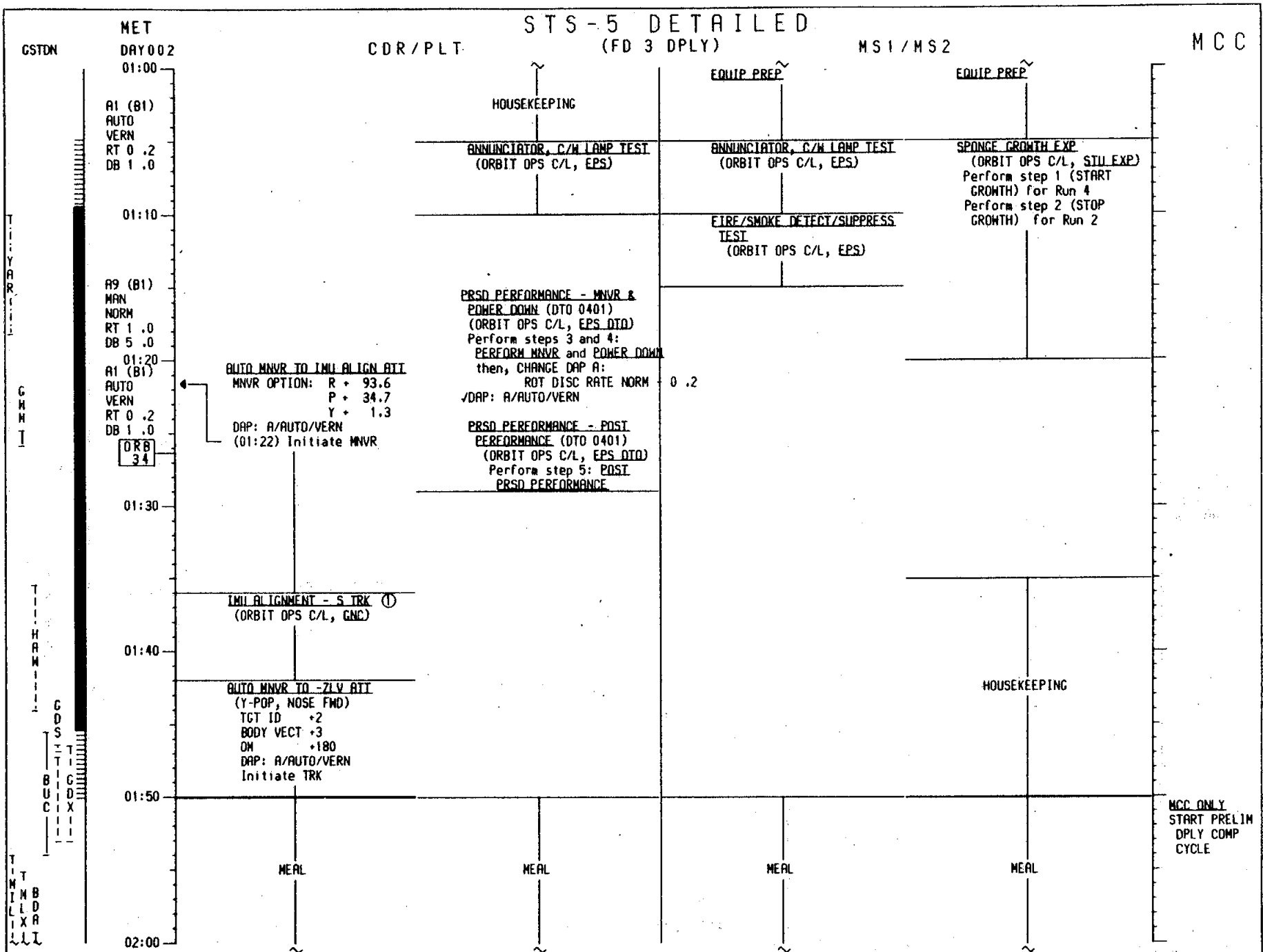
REQD ID; -Y\_\_ -Z\_\_ ANG ERR\_\_ .\_\_  
ANG  
 $\Delta X$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_  
 $\Delta Y$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_  
 $\Delta Z$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_  
EXECUTION TIME: \_\_ / \_\_ : \_\_ :

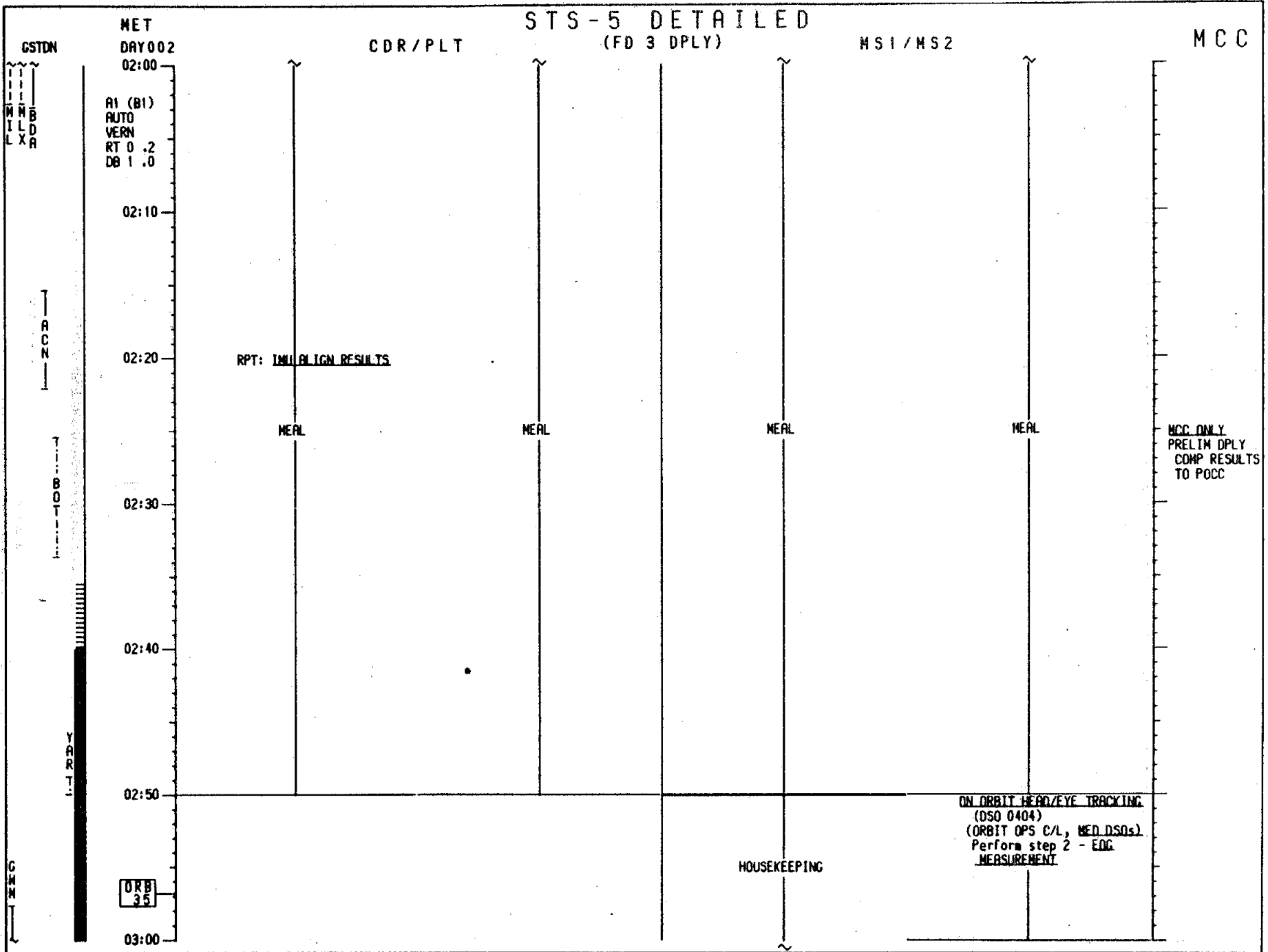
① IMU STAR ALIGN ATTITUDE PAD

<u>STAR ID</u>	<u>STARS AVAILABLE</u>
-Y: 21, PROCYON	01:15 to 02:03
-Z: 45, POLARIS	01:18 to 02:09
ANG DIFF: 84 .6	

<u>DUAL S TRKR</u>	<u>SINGLE S TRKR</u>
<u>ALIGN ATT</u>	<u>ALIGN ATT</u>
R 93 .6	-Z: 21 -Y: 45
P 34 .7	R 7 .9 179 .9
Y 1 .3	P 27 .6 22 .7
	Y 348 .5 9 .6





STS-5 DETAILED  
(FD 3 DPLY)

CDR/PLT

MS1/MS2

MCC

MET  
DAY002  
03:00

AI (BI)  
AUTO  
VERN  
RT 0 +2  
DB 1.0

03:10

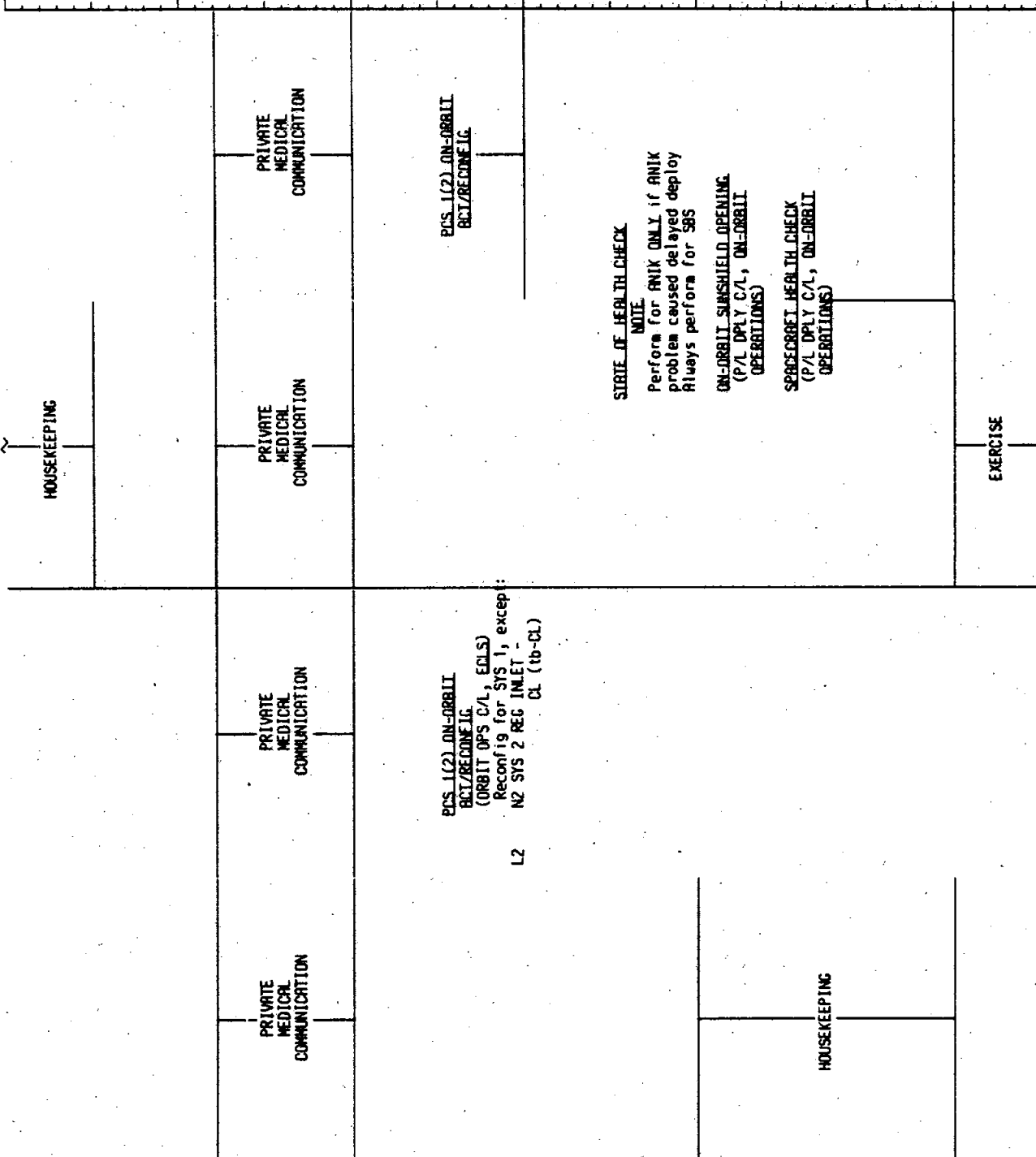
03:20

03:30

03:40

03:50

04:00



PCS 1(2) ON-ORBIT  
BET/REDNEIG  
(ORBIT OPS C/L, ECLS)  
Reconfg for SYS 1, except:  
L2 N2 SYS 2 REG INLET -  
CL (1b-CL)

PCS 1(2) ON-ORBIT  
BET/REDNEIG

STATE OF HEALTH CHECK  
NOTE  
Perform for ANIK ONLY if ANIK  
problem caused delayed deploy  
Always perform for SBS  
ON-ORBIT SUNSHIELD OPENING  
(P/L DPLY C/L, ON-ORBIT  
OPERATIONS)  
SPACECRAFT HEALTH CHECK  
(P/L DPLY C/L, ON-ORBIT  
OPERATIONS)

MCC ONLY  
DPLY UPDATES  
DUE FROM  
POCC  
START FINAL  
DPLY COMP  
CYCLE

CSTON

G M M I

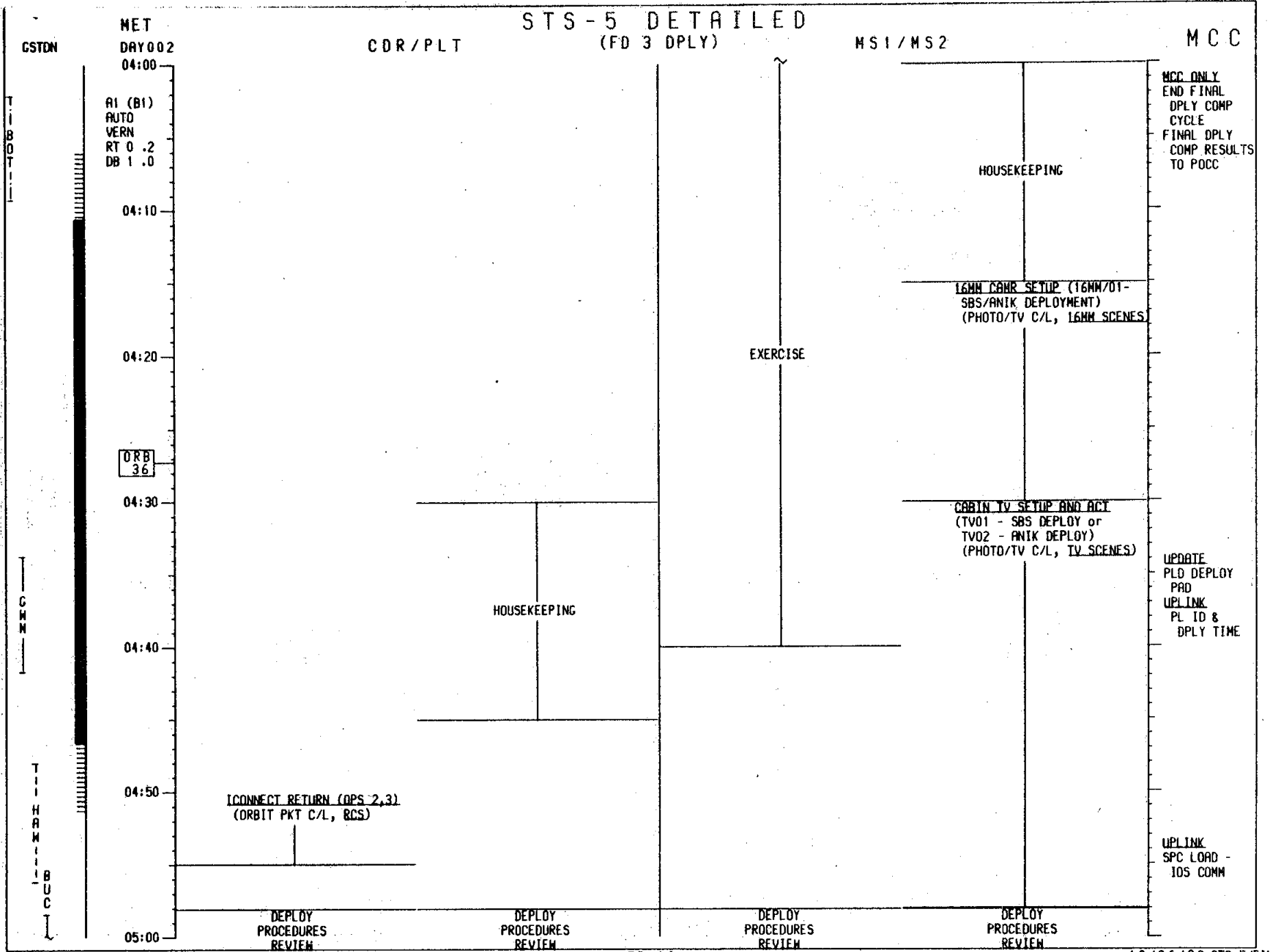
T H R A M I I I

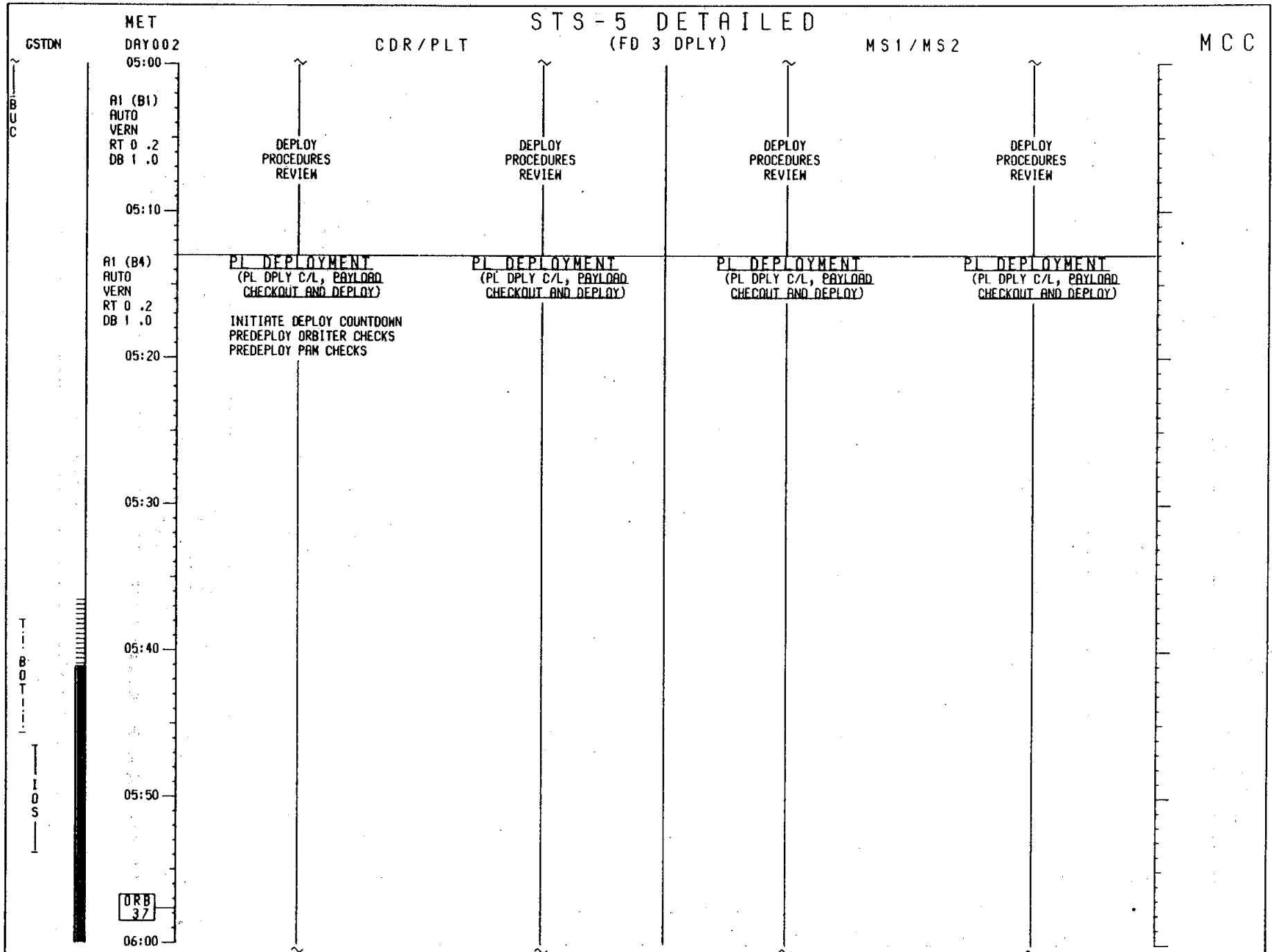
C D S  
E T  
T I  
B I D  
U C T X  
C T I I

T M I L I

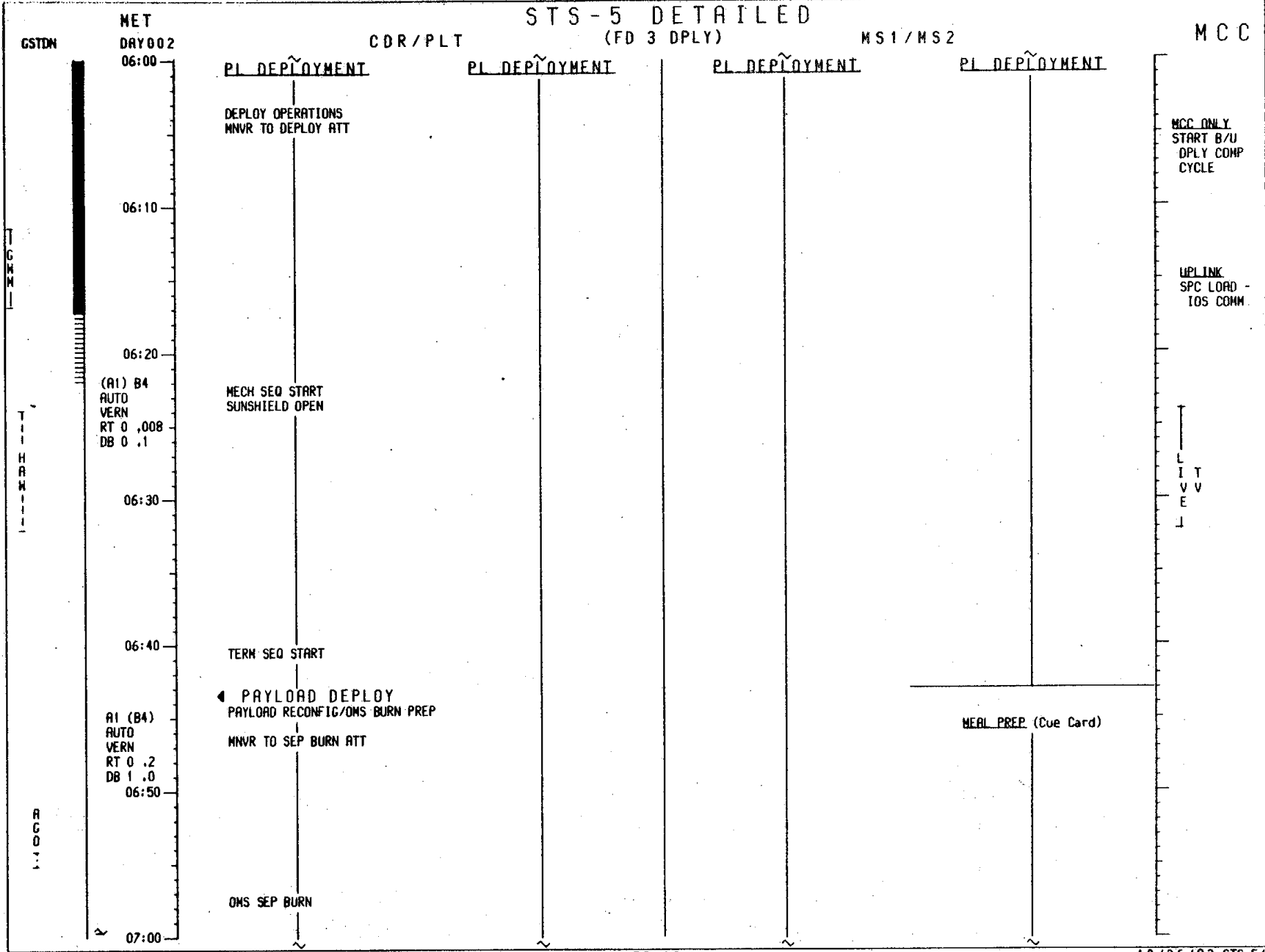
T M L X I I

R C C N T I





ORB  
37





# STS-5 DETAILED

(FD 3 DPLY)

MET  
DAY 002

CDR/PLT

MS1/MS2

MCC

GSTDN

T  
I  
M  
E  
I  
N  
T  
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R  
V  
A  
L  
S

C  
M  
M  
I  
H  
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M

S  
A  
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E  
L  
L  
I  
T  
E  
M  
E  
T  
R  
Y

07:00  
A1 (B4)  
AUTO  
VERN  
RT 0 .2  
DB 1 .0

07:10

07:20

ORB  
38

07:30  
A1 (B4)  
MAN  
VERN  
RT 0 .2  
DB 1 .0

(A1) B5  
AUTO  
NORM  
RT 0 .5  
DB 3 .0

07:40

A1 (B5)  
AUTO  
VERN  
RT 0 .2  
DB 1 .0

07:50

(A1) B5  
AUTO  
VERN  
RT 0 .2  
DB 3 .0

08:00

PI DEPLOYMENT  
MNVR TO PAYLOAD MONITOR ATT

PI DEPLOYMENT

PI DEPLOYMENT

MEAL PREP (Cue Card)

MNVR TO WINDOW PROTECTION  
ATTITUDE

PAM PERIGEE BURN

CHANGE DAP B:  
ROT DISC RATE NORM - 0.5"/sec  
                  VERN - 0.2"/sec  
DB ATT NORM - 3.0  
                  VERN - 3.0  
RATE VERN - .02"/sec  
JET OPT Y - 1

AUTO MNVR TO IMU ALIGN ATT  
MNVR OPTION: R + 93 .6  
                  P + 34 .7  
                  Y + 1 .3

DAP: B/AUTO/NORM  
(07:40) Initiate MNVR  
When MNVR Complete:  
DAP: A/AUTO/VERN

IMU ALIGNMENT - S TRK  
(ORBIT OPS C/L, GNC)  
STAR ID: -Y: 21, PROCYON  
          -Z: 45, POLARIS  
ANG DIF: 84 .6  
STAR AOS/LDS: 07:20/08:05

AUTO MNVR TO STARBOARD SUN  
(+Y TO SUN, -X NORTH)  
TGT ID + 4  
BODY VECT + 5  
P + 0  
Y + 90  
OM + 90  
DAP: B/AUTO/VERN  
Initiate TRK

ARCS THREE ENGINE SOAKBACK  
(DTO 512)  
(ORBIT OPS C/L, RCS DTGs)  
Perform step 1: CONFIG  
FOR TRANSI  
FUEL CELL PURGE - AUTO  
(Cue Card)

SUPPLY WATER DUMP  
(ORBIT OPS C/L, ECLS)  
Dump to:

QTY A = \_\_\_\_\_ B = \_\_\_\_\_  
ON MCC CUE  
OXYGEN INTERACTION  
VALIDATION (DSO 0301)  
PL AFT MNB - ON

TV/VTR DEACT  
(TV/VTR Cue Card)

CO2 ABSORBER REPLACEMENT  
(Cue Card)

UPDATE  
(IF RECD)  
1 REV LATE  
PL DPLY  
PAD  
UPDATE  
H2O SPLY DUMP  
QTY TK A & B

INFORM CREW  
GO FOR OX  
VAL START

IMU ALIGN LOG

REQD ID; -Y\_\_ -Z\_\_ ANG ERR\_\_ .\_\_

ANG  
 $\Delta X$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

$\Delta Y$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

$\Delta Z$  ( )\_\_ .\_\_ ( )\_\_ .\_\_ ( )\_\_ .\_\_

EXECUTION TIME: \_\_ / \_\_ : \_\_ : \_\_

GSTDN

MET  
DRY002  
08:00

CDR/PLT

# STS-5 DETAILED

(FD 3 DPLY)

MS1/MS2

MCC

(R1) B5  
AUTO  
VERN  
RT 0 .2  
DB 3 .0

RPT: IMU ALIGN RESULTS

08:10

08:20

08:30

MEAL

MEAL

MEAL

MEAL

UPLINK  
SPC LOAD -  
IOS COMM

08:40

08:50

ORB  
39

09:00

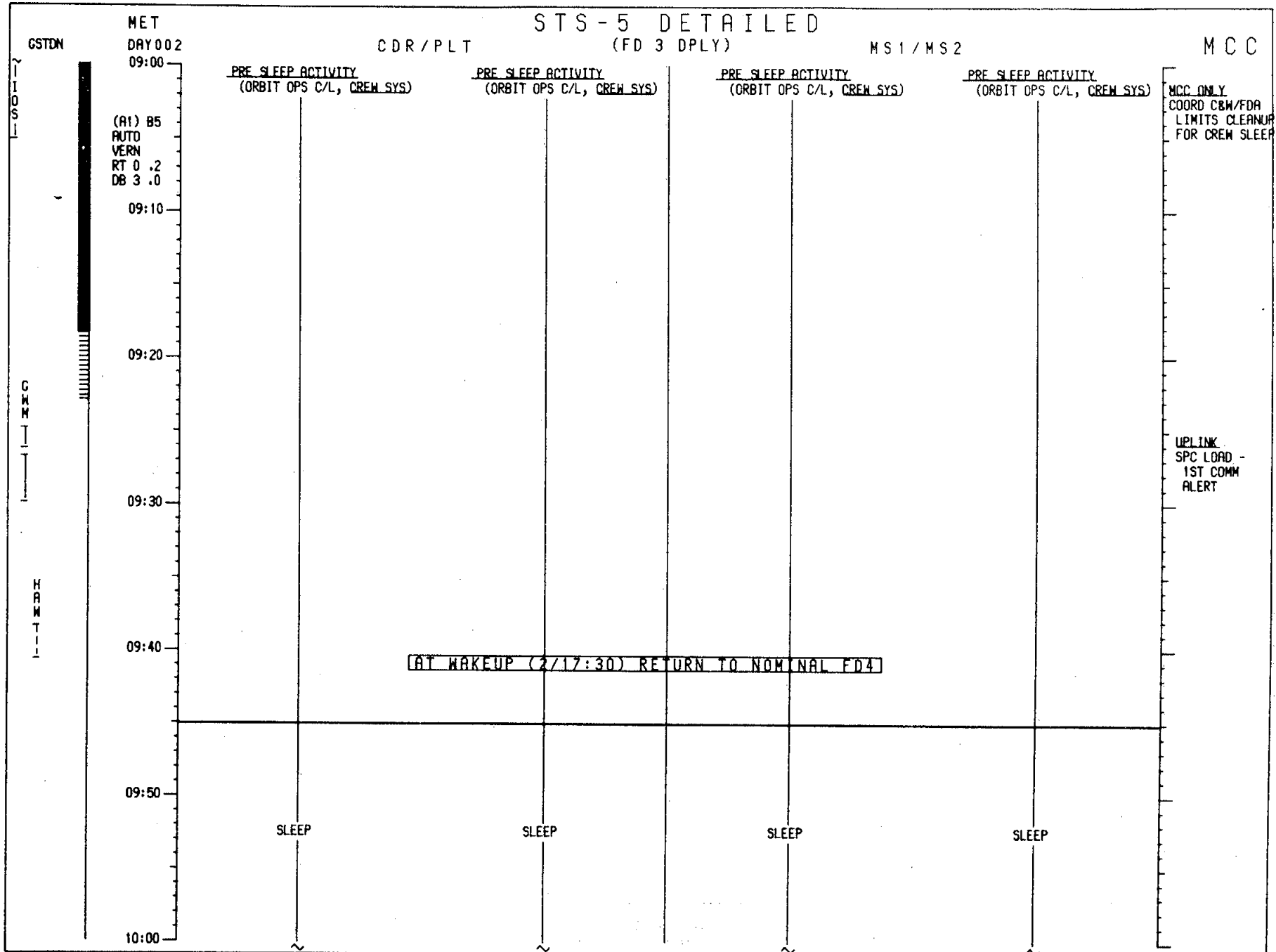
H  
R  
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E



WAVE OFF (1 DAY LATE ENTRY)

The timeline provided in this section is designed to follow a Deorbit Prep Backout on FD 6. It therefore assumes that the nominal timeline has already been accomplished.

Note that exercise for each crewmember is the only activity scheduled prior to the evening meal. This is to allow extra time for reconfiguration or troubleshooting.

WAVE OFF

WAVE OFF

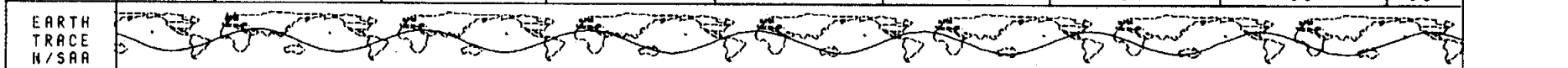
GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
320:11:19/ 320:23:19	004:23:00/ 005:11:00	320:05:19/ 320:17:19	06/ 320 GMT	-7.3		NOVEMBER 16, 1982	STS-5	FINAL, PCN 1	10/26/82	
TIC FD : 06 MET : 004 23 MET: 005										
CDR	BURN PREP	BURN PREP	BURN PREP	BURN PREP	EXER	HK	MEAL	PRE SLEEP ACT	SLEEP	
PLT	BURN PREP	BURN PREP	BURN PREP	BURN PREP	EXER		MEAL	PRE SLEEP ACT	SLEEP	
MS1	BURN PREP	BURN PREP	BURN PREP	BURN PREP	EXER		MEAL	PRE SLEEP ACT	SLEEP	
MS2	BURN PREP	BURN PREP	BURN PREP	BURN PREP	EXER	MEAL PREP	MEAL	PRE SLEEP ACT	SLEEP	
DAY/NIGHT										
ORBIT	80	81	82	83	84	85	86	87	88	
EARTH TRACE W/SAA										
GSTDN COVERAGE	-DKR -ACN -BOT	-CDX -GDS -MLL -NLX -ACN -BOT	-HAM -BUC -CDX -GDS -MLL -NLX -ACN -BOT	-BOT -GMM -HAM	-BOT -IOS -GMM -HAM	-BOT -IOS -HAM -AGO -IOS -GMM -AGO	-BOT -IOS -GMM -HAM	-ACN -GMM -AGO -ACN -DKR	-ACN -GMM -AGO -ACN -DKR	-ACN -GMM -AGO -ACN -DKR
TV	DEORB KSC 1 23:43 OPT EDW 1 01:10									
QPS	G2 S2	GNC 3 BFS	GNC 2 SH 2							
ATT/MNVR	TOP SUN	DEORB BURN	-ZLV Y-POP (NOSE FWD)					IMU	PTC X-POP	
CAS										
DPLY OPT										
NOTES:	INSTALL SEAT INSTALL SEAT ▲ C&M RESET ▲ SECURE AFT STR	▲ SEAT EGRS ○ SEAT EGRS ▲ SEAT EGRS ▲ CLOTHING CNFG ▲ APU CNTRL PWR OFF ■ SEAT EGRS ■ VERN HTR ACT ■ CLOTHING CNFG	○ MNVR -ZLV Y-POP ○ PCS MD ○ SEAT EGRS ○ DFI CONT 3 ▲ PCS - FLT DECK	WAVEOFF						

GMT (D:H:M)	MET (D:H:M)	CST (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
320:23:19/ 321:11:19	005:11:00/ 005:23:00	320:17:19/ 321:05:19	07/ 320 GMT	-5.6		NOVEMBER 16, 1982	STS-5	FINAL	9/30/82

TTC  
 FD : 07 DOY:321  
 MET : 005 11 12 13 14 15 16 17 18 19 20 21 22 23

CDR	SLEEP	POST SLEEP ACT	TPR MSG REVIEW	MEAL	PLBO OPS
PLT	SLEEP	POST SLEEP ACT	TPR MSG REVIEW	MEAL	PLBO OPS
MS1	SLEEP	POST SLEEP ACT	TPR MSG REVIEW	MEAL	PL OPS
MS2	SLEEP	POST SLEEP ACT	TPR MSG REVIEW	MEAL	

DAY/NIGHT	[Pattern of Day/Night bars]								
ORBIT	88	89	90	91	92	93	94	95	96



GSTDN COVERAGE	-CAN -AGO -ACN -DKR	-HAD -MAX -YAR -ORR	-DKR -HAD -MAX -NIL -YAR -ORR	-MLX -BDA -DKR -IOS -YAR -ORR	-MLX -BDA -DKR -IOS -YAR -ORR	-MLX -BDA -DKR -IOS -YAR -ORR	-MLX -BDA -DKR -IOS -YAR -ORR	-MLX -BDA -DKR -IOS -YAR -ORR	-MLX -BDA -DKR -IOS -YAR -ORR	-MLX -BDA -DKR -IOS -YAR -ORR
----------------	---------------------	---------------------	-------------------------------	-------------------------------	-------------------------------	-------------------------------	-------------------------------	-------------------------------	-------------------------------	-------------------------------

TV	
DEORB KSC	
OPT EDM	
OPS	CNC 2 SH 2
ATT/MNVR	PTC X-POP
GAS	IMU TRAIL TO SUN IMU
DPLY OPT	

NOTES:  
**HAVEOFF**

o TAIL SUN MNVR • LAST MEAL CLEANUP  
 o IMU MNVR  
 o RAD FLOW  
 A DFI WE CAL  
 A PCM RCOR REMIND  
 o TOP SUN MNVR  
 o SNE HYD REPRESS  
 A DONN HARNESS

GMT (D:H:M)		MET (D:H:M)		CST (D:H:M)		FD/DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
321:11:19 / 321:23:19		005:23:00 / 006:11:00		321:05:19 / 321:17:19		07 / 321 GMT	-4.0	●	NOVEMBER 17, 1982	STS-5	FINAL	9/30/82
TIC FD :07 MET :005 23												
MET:006												
CDR	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS
PLT	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS
MS1	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS
MS2	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS	DRS
DAY/NIGHT	[Day/Night Cycle]											
ORBIT	96	97	98	99	100	101	102	103	104			
EARTH TRACE W/SAR	[Earth Trace]											
GSTDN COVERAGE	-DKR -ACN -BOT	-GDS -GDL -MLX -GMM -HAW -BUC	-HAW -BUC -GDS	-HAW	-BOT -TOS -GMM -HAW -AGO	-TOS -GMM -HAW -AGO -BOT	-ACN -GMM -HAW -AGO -ACN	-GMM -AGO	-ACN -GMM -AGO -DKR	-GMM		
TV												
DEORB KSC	1 23:41											
OPT EDM	1 01:07											
OPS	GNC 3 RES											
ATT/MNVR	TOP TO SUN DEORB BURN/EI											
CAS												
DPLY OPT												
NOTES:	o DED DISP * DED DISP A C&M RESET A SECURE AFT STA  <b>HAVEOFF</b>											







MET  
DAY 005  
02:00

CDR/PLT

# STS-5 DETAILED

(WAVEOFF)

MS1/MS2

MCC

TT  
II  
MM  
IL  
LX

A  
C  
N

B  
O  
T  
T  
O  
M

02:10

02:20

02:30

02:40

02:50

03:00

THIS HOUR EXECUTED IN DEORBIT PREP AND  
INCLUDED HERE FOR TRAJECTORY INFORMATION ONLY

ORB  
83

MET  
DAY005  
03:00

CDR/PLT

# STS-5 DETAILED

(WAVEOFF)

MS1/MS2

MCC

328

03:10

ACTIVITIES PRIOR TO 5/03:10 ARE IN DEORBIT PREP

R1 (B1)  
AUTO  
VERN  
RT 0 .2  
DB 1 .0

03:20

UPLINK  
SPC LOAD-  
IOS COMM

03:30

EXERCISE

03:40

03:50

04:00

T  
H  
R  
A  
N  
S  
M  
I  
T

MET  
DAY 005  
04:00

CDR/PLT

# STS-5 DETAILED (WAVEOFF)

MS1/MS2

MCC

A1 (B1)  
AUTO  
VERN  
RT 0 .2  
DB 1 .0

04:10

04:20

04:30

04:40

04:50

05:00

EXERCISE

EXERCISE

UPLINK  
SPC LOAD-  
IOS COMM

MET  
DAY 005  
05:00

CDR/PLT

# STS-5 DETAILED (WAVEOFF)

MS1/MS2

MCC

A1 (B1)  
AUTO  
VERN  
RT 0.2  
DB 1.0

05:10

EXERCISE

05:20

MEAL PREP (Cue Card)

T  
S  
A  
R  
I

05:30

05:40

EXERCISE

05:50

ORB  
65

06:00

T  
S  
A  
R  
I  
10 S



IMU ALIGN LOG

REQD ID: -Y \_\_\_ -Z \_\_\_ ANG ERR \_\_\_ . \_\_\_

ANG

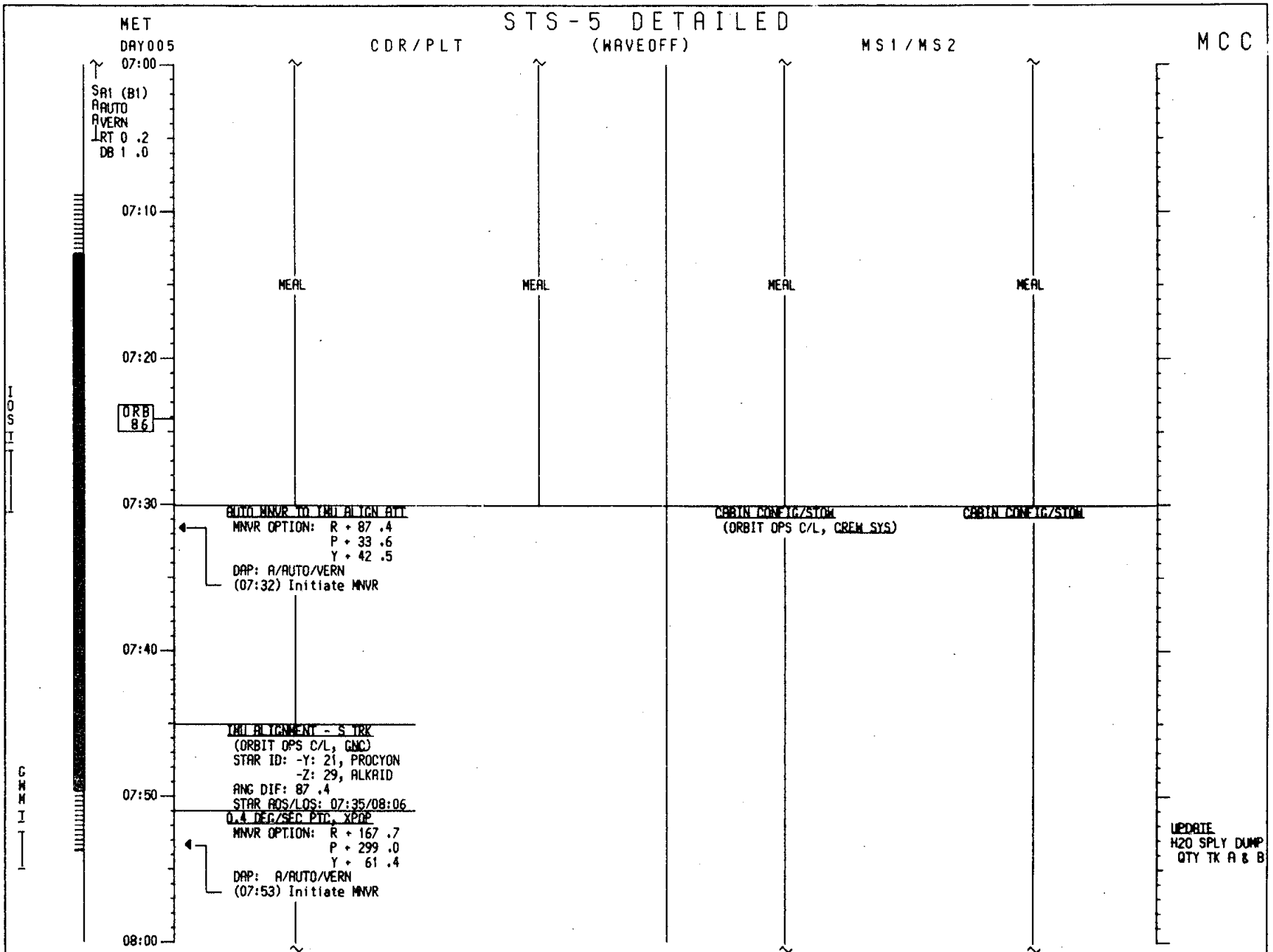
$\Delta X$  ( ) \_\_\_ . \_\_\_ ( ) \_\_\_ . \_\_\_ ( ) \_\_\_ . \_\_\_

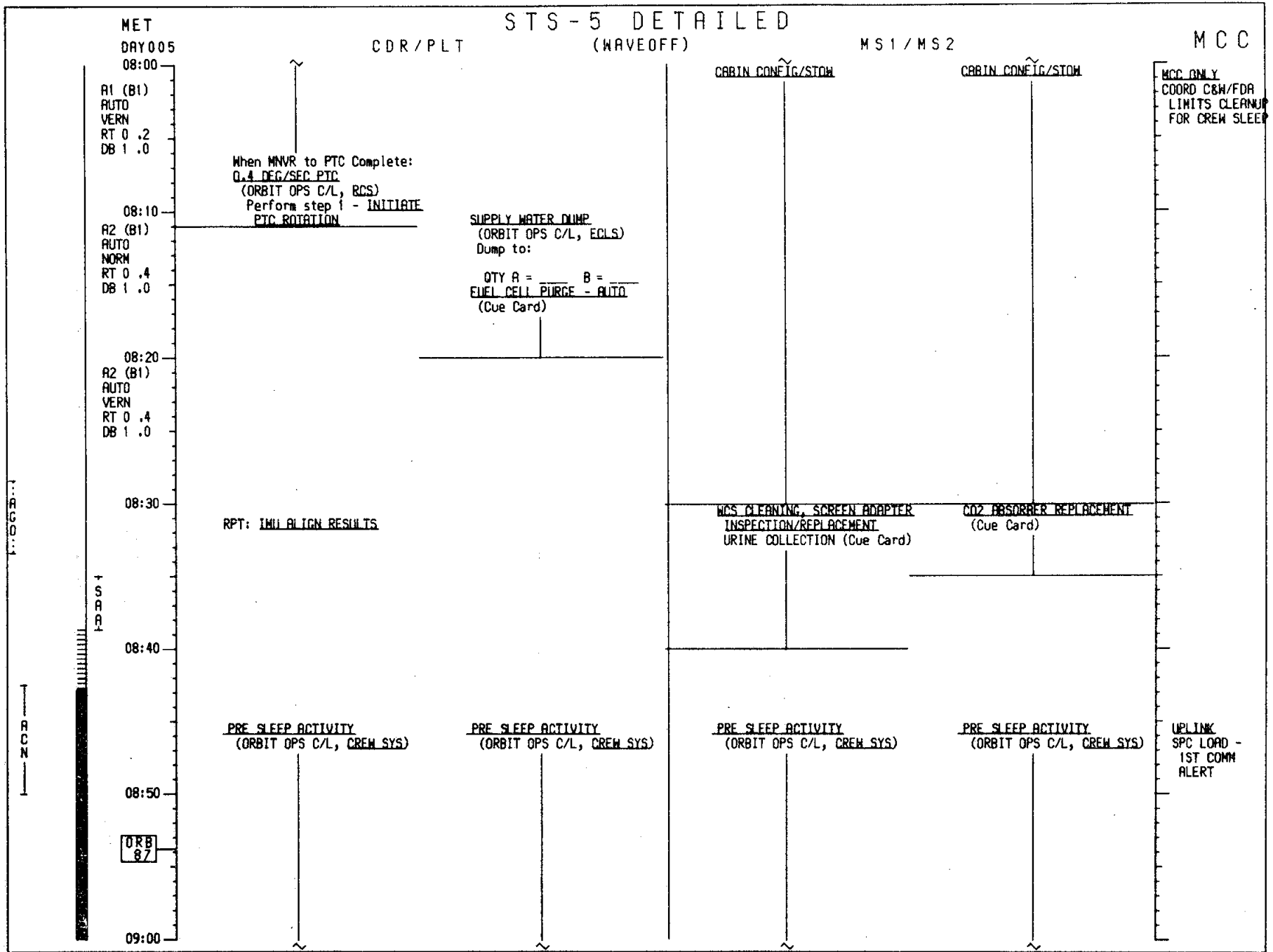
$\Delta Y$  ( ) \_\_\_ . \_\_\_ ( ) \_\_\_ . \_\_\_ ( ) \_\_\_ . \_\_\_

$\Delta Z$  ( ) \_\_\_ . \_\_\_ ( ) \_\_\_ . \_\_\_ ( ) \_\_\_ . \_\_\_

EXECUTION TIME: \_\_\_ / \_\_\_ : \_\_\_ : \_\_\_







MET  
DAY 005  
09:00

STS-5 DETAILED  
(WAVEOFF)  
CDR/PLT MS1/MS2

MCC

RZ (B1)  
AUTO  
VERN  
RT 0 .4  
DB 1 .0

PRE SLEEP ACTIVITY

PRE SLEEP ACTIVITY

PRE SLEEP ACTIVITY

PRE SLEEP ACTIVITY

09:10

09:20

09:30

09:40

09:50

10:00

SLEEP

SLEEP

SLEEP

SLEEP

G  
M  
N

MET  
DRY005  
10:00

R2 (B1)  
AUTO  
VERN  
RT 0 .4  
DB 1 .0

# STS-5 DETAILED (WAVEOFF)

CDR/PLT

MS1/MS2

MCC

10:10

10:20

10:30

10:40

10:50

11:00

DRB  
88

SLEEP

SLEEP

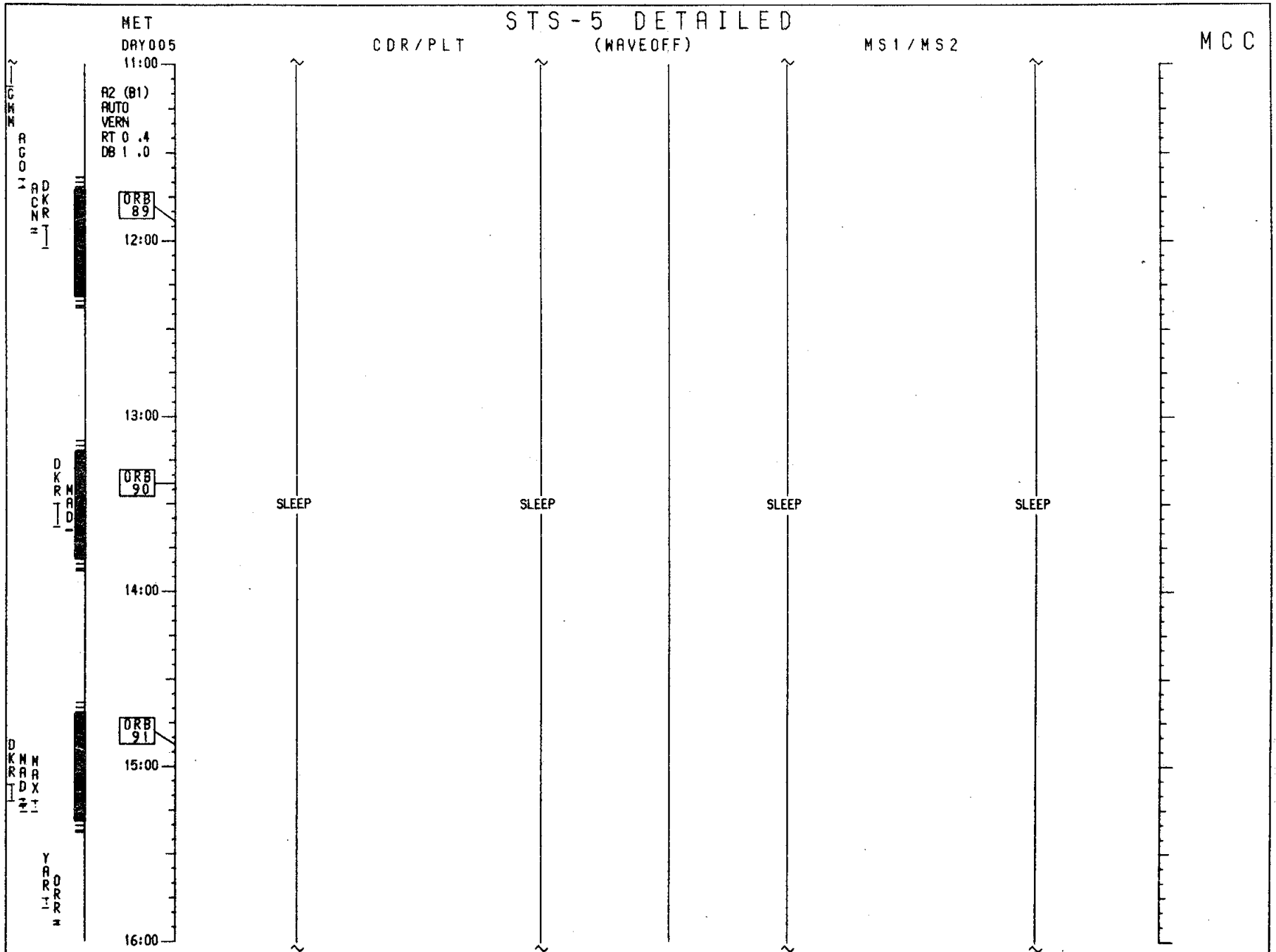
SLEEP

SLEEP

10:00

DRB  
88

11:00



MET  
DRY005  
16:00

A2 (B1)  
AUTO  
VERN  
RT 0 .4  
DB 1 .0

16:10

16:20

ORB  
92

16:30

16:40

16:50

17:00

CDR/PLT

STS-5 DETAILED  
(WAVEOFF)

MS1/MS2

MCC

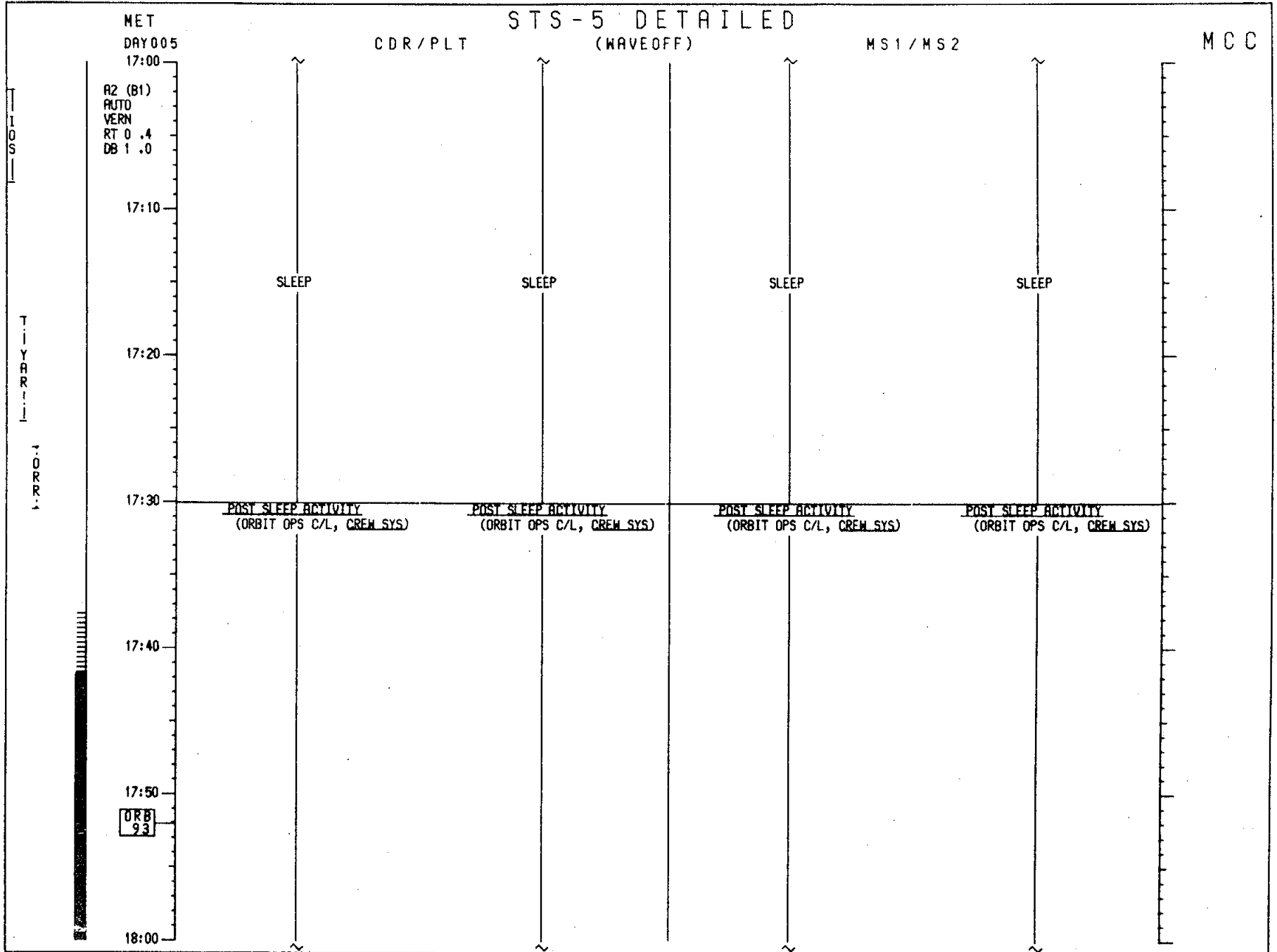
SLEEP

SLEEP

SLEEP

SLEEP

UPLINK  
SPC LOAD -  
IOS COMM



MET  
DAY 005  
18:00

# STS-5 DETAILED (WAVEOFF)

CDR/PLT

MS1/MS2

MCC

T  
M  
L  
X  
B  
D  
R

A2 (B1)  
AUTO  
VERN  
RT 0 .4  
DB 1 .0

POST SLEEP ACTIVITY

POST SLEEP ACTIVITY

POST SLEEP ACTIVITY

POST SLEEP ACTIVITY

UPLINK  
SPC LOAD -  
CLEAR COMM  
ALERT  
SPC LOAD -  
IOS COMM

18:10

18:20

18:30

18:40

A1 (B1)  
AUTO  
NORM  
RT 0 .2  
DB 5 .0

TELEPRINTER  
MESSAGE  
REVIEW

TELEPRINTER  
MESSAGE  
REVIEW

TELEPRINTER  
MESSAGE  
REVIEW

TELEPRINTER  
MESSAGE  
REVIEW

Unstow DEORBIT PREP

I  
O  
S

AUTO MNR TO LMO ALIGN ATT  
MNR OPTION: R + 256 .2  
P + 13 .7  
Y + 345 .8

CHANGE DAP A:  
ROT DISC RATE NORM - 0 .2 '/sec  
VERN - 0 .2 '/sec  
DB ATT NORM - 5 .0  
DAP: A/AUTO/NORM  
(18:47) Initiate MNR

CO2 ABSORBER REPLACEMENT  
(Cue Card)

18:50

When mnr complete:  
DAP: A/AUTO/VERN

STAR TRACKER SELF-TEST  
(ORBIT OPS C/L, GND)

19:00

T  
Y  
A  
R



```
IMU_ALIGN_LOG
REQD ID: -Y__ -Z__ ANG ERR__ .__
ANG
ΔX ( )__ .__ ( )__ .__ ( )__ .__
ΔY ( )__ .__ ( )__ .__ ( )__ .__
ΔZ ( )__ .__ ( )__ .__ ( )__ .__
EXECUTION TIME: __ / __ : __ : __
```

MET

DAY 005

CDR/PLT

# STS-5 DETAILED

(WAVEOFF)

MS1/MS2

MCC

19:00

AI (B1)  
AUTO  
VERN  
RT 0 .2  
DB 1 .0

IMU ALIGNMENT - S TRK  
(ORBIT OPS C/L, GNC)  
STAR ID: -Y: 22, ALTAIR  
          -Z: 51, ATRIA  
ANC DIF: 84 .0  
STAR AOS/LOS: 18:39/19:21

MNVR TO TAIL SUN  
MNVR OPTION R + 298.5  
              P + 49.4  
              Y + 22.5

DAP: A/AUTO/VERN  
(19:07) Initiate MNVR

19:10

19:20

19:30

19:40

19:50

20:00

ORB  
94

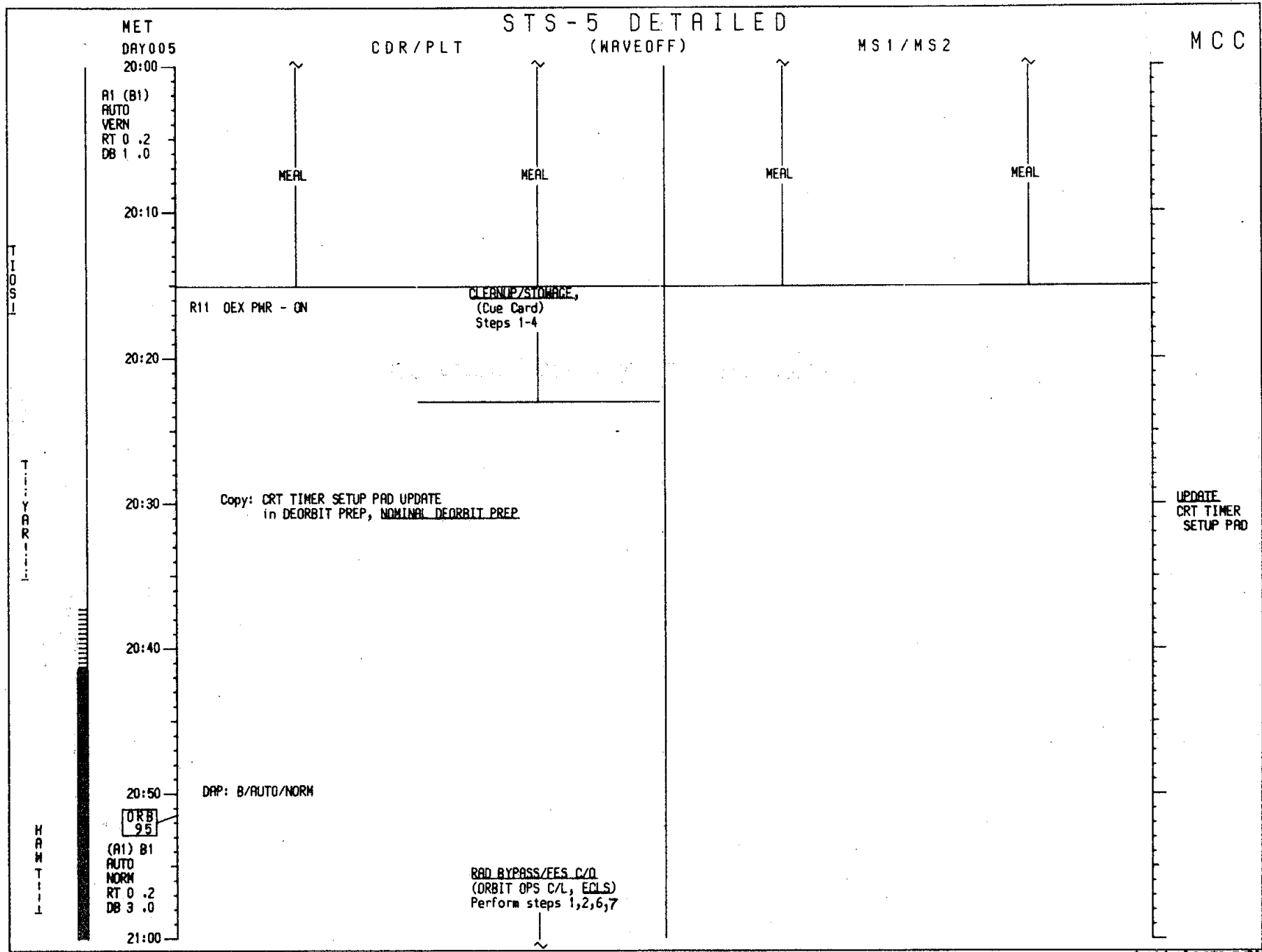
MERL  
RPT: IMU ALIGN RESULTS

MERL

MERL

MERL

UPLINK  
SPC LOAD -  
IOS COMM



T I O S I  
H A W T I I

MET  
DAY 005  
21:00

# STS-5 DETAILED

CDR/PLT

(WAVEOFF)

MS1/MS2

MCC

RAD BYPASS/FES C/O

AI (B1)  
AUTO  
NORM  
RT 0 .2  
DB 3 .0

21:10

21:20

21:30

21:40

21:50

22:00

GO TO DEORBIT PREP, NOMINAL DEORBIT PREP

CGO  
LXDC1  
LXDC2  
LXDC3  
LXDC4  
LXDC5  
LXDC6  
LXDC7  
LXDC8  
LXDC9  
LXDC10  
LXDC11  
LXDC12  
LXDC13  
LXDC14  
LXDC15  
LXDC16  
LXDC17  
LXDC18  
LXDC19  
LXDC20  
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LXDC39  
LXDC40  
LXDC41  
LXDC42  
LXDC43  
LXDC44  
LXDC45  
LXDC46  
LXDC47  
LXDC48  
LXDC49  
LXDC50

RK0  
RZ0B  
RZ0C  
RZ0D  
RZ0E  
RZ0F  
RZ0G  
RZ0H  
RZ0I  
RZ0J  
RZ0K  
RZ0L  
RZ0M  
RZ0N  
RZ0O  
RZ0P  
RZ0Q  
RZ0R  
RZ0S  
RZ0T  
RZ0U  
RZ0V  
RZ0W  
RZ0X  
RZ0Y  
RZ0Z

T0B  
T0C  
T0D  
T0E  
T0F  
T0G  
T0H  
T0I  
T0J  
T0K  
T0L  
T0M  
T0N  
T0O  
T0P  
T0Q  
T0R  
T0S  
T0T  
T0U  
T0V  
T0W  
T0X  
T0Y  
T0Z

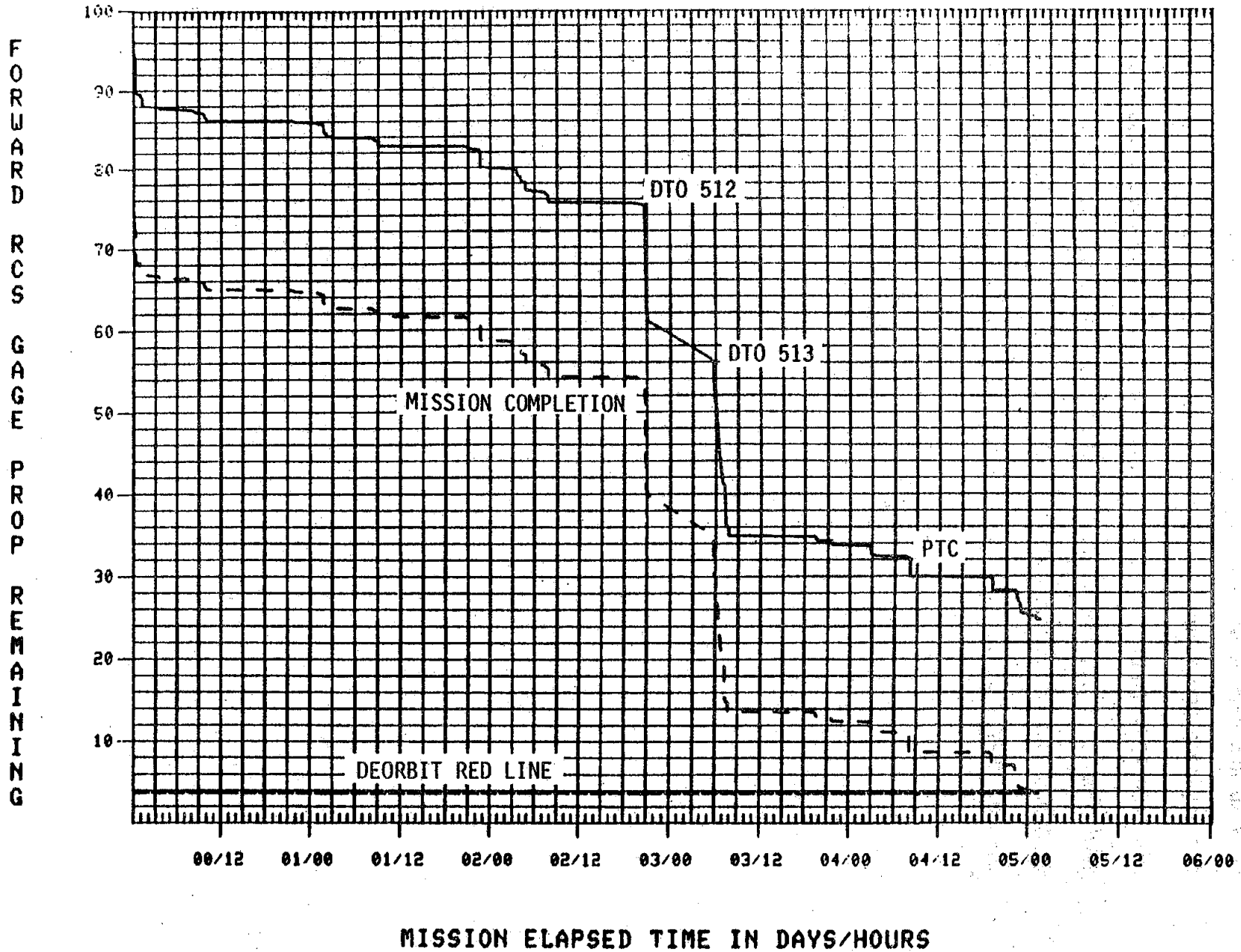
CONSUMABLES CURVES

FORWARD RCS PROP REMAINING.....	6-2	
AFT RCS PROP REMAINING.....	6-3	
OMS PROP REMAINING.....	6-4	
SUPPLY WATER.....	6-5	
CRYO H2 CURVE.....	6-6	
CRYO O2 CURVE.....	6-7	

CONSUMABLES  
CURVES

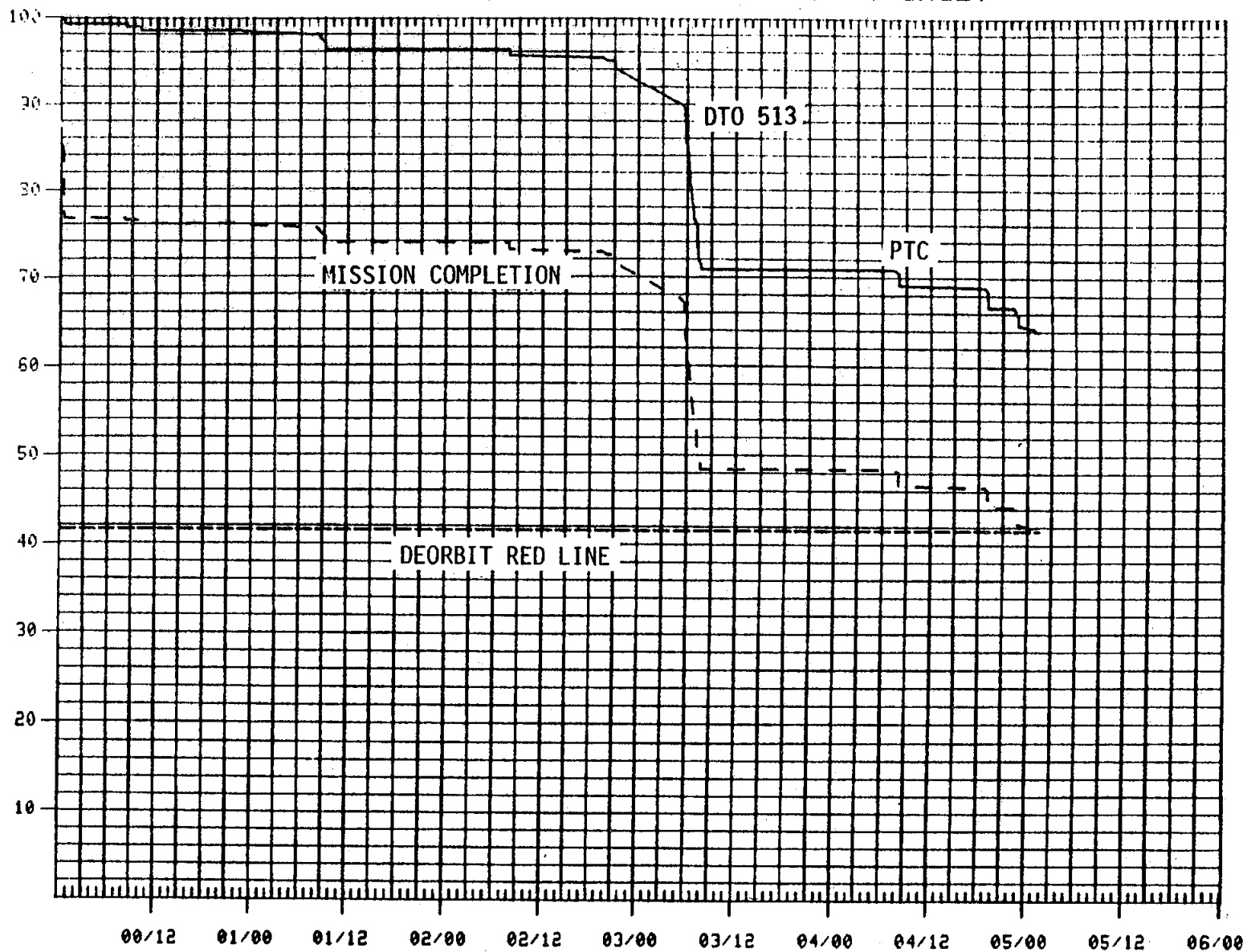
CONSUMABLES  
CURVES

STS-5 FORWARD RCS PROP REMAINING (% GAGE)



# STS-5 AFT RCS PROP REMAINING (% GAGE)

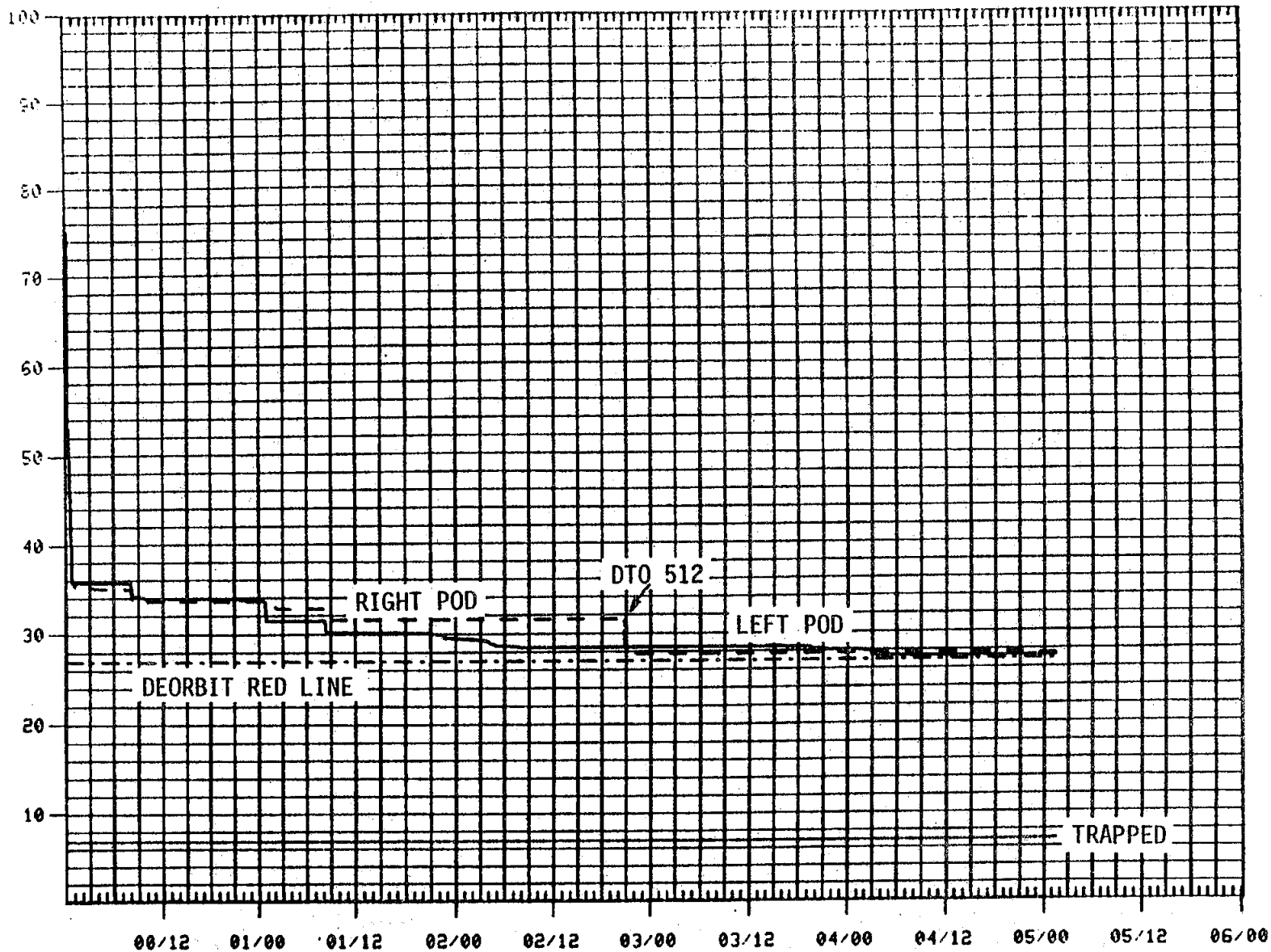
AFT  
RCS  
GAGE  
PROP  
REMAINING



MISSION ELAPSED TIME IN DAYS/HOURS

# STS-5 OMS PROP REMAINING (% GAGE)

OMS GAGE PROP REMAINING



MISSION ELAPSED TIME IN DAYS/HOURS

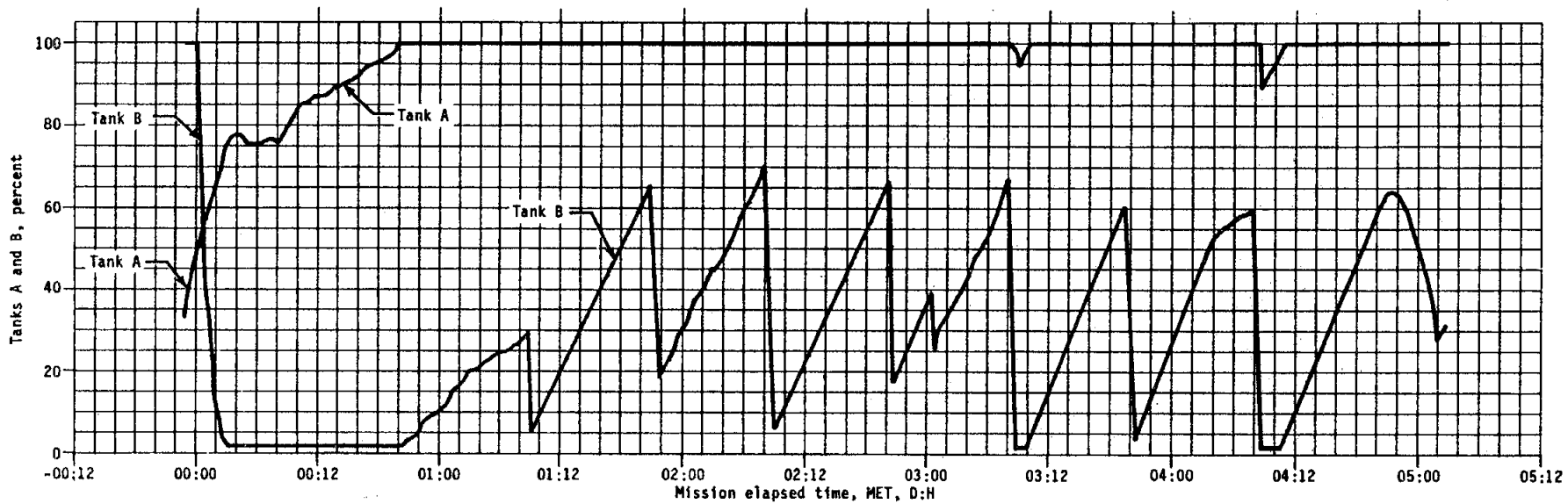
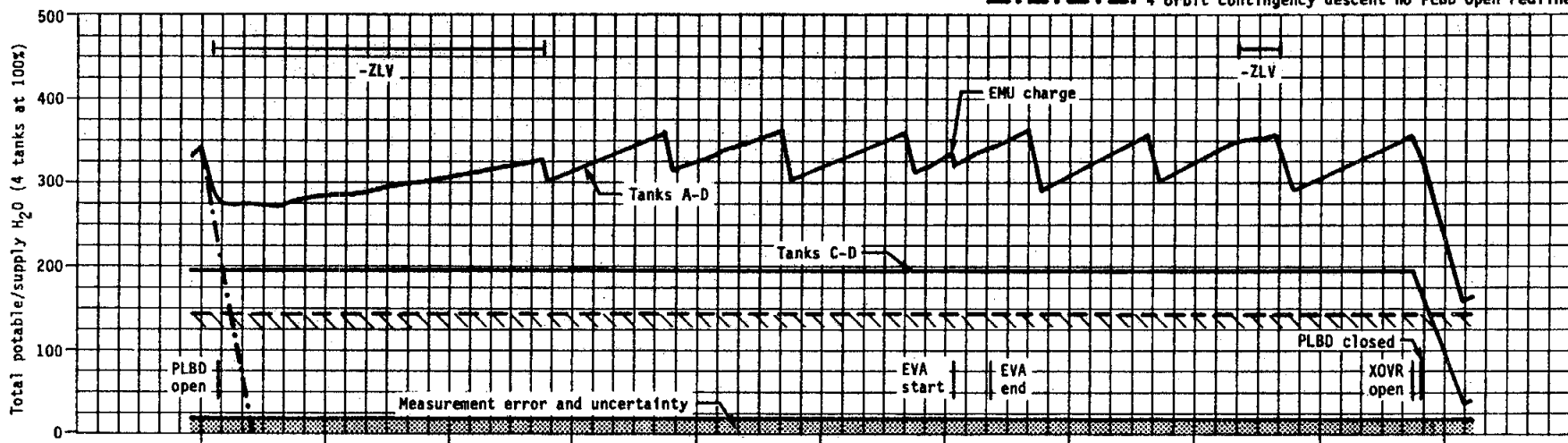


M. Salidi/FPB/MPAD

Data source JSC 17859 (CAP) 9/30/82

Data confirmed *M. Salidi*

----- Anytime contingency deorbit (165 min) redline  
- - - - - 4 orbit contingency descent no PLBD open redline

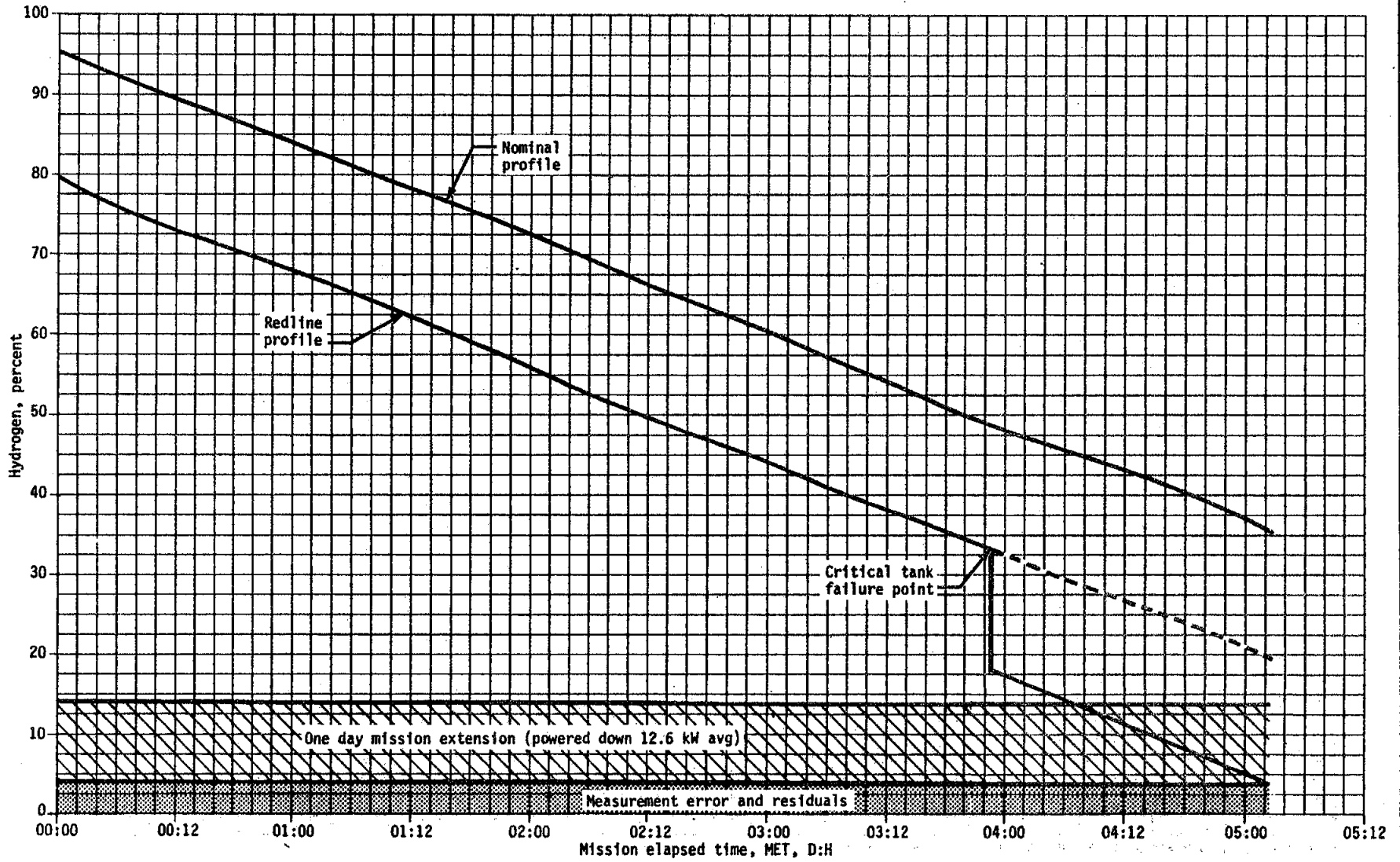


STS-5 supply water.

5-9

STS-5/FIN 1

E. Fisher, Sr., T. Cleghorn/FPB/MPAD  
Data source JSC 17859 (CAP) 9/30/82  
Data confirmed *Ernie C. Fisher Jr.*



STS-5 Hydrogen.

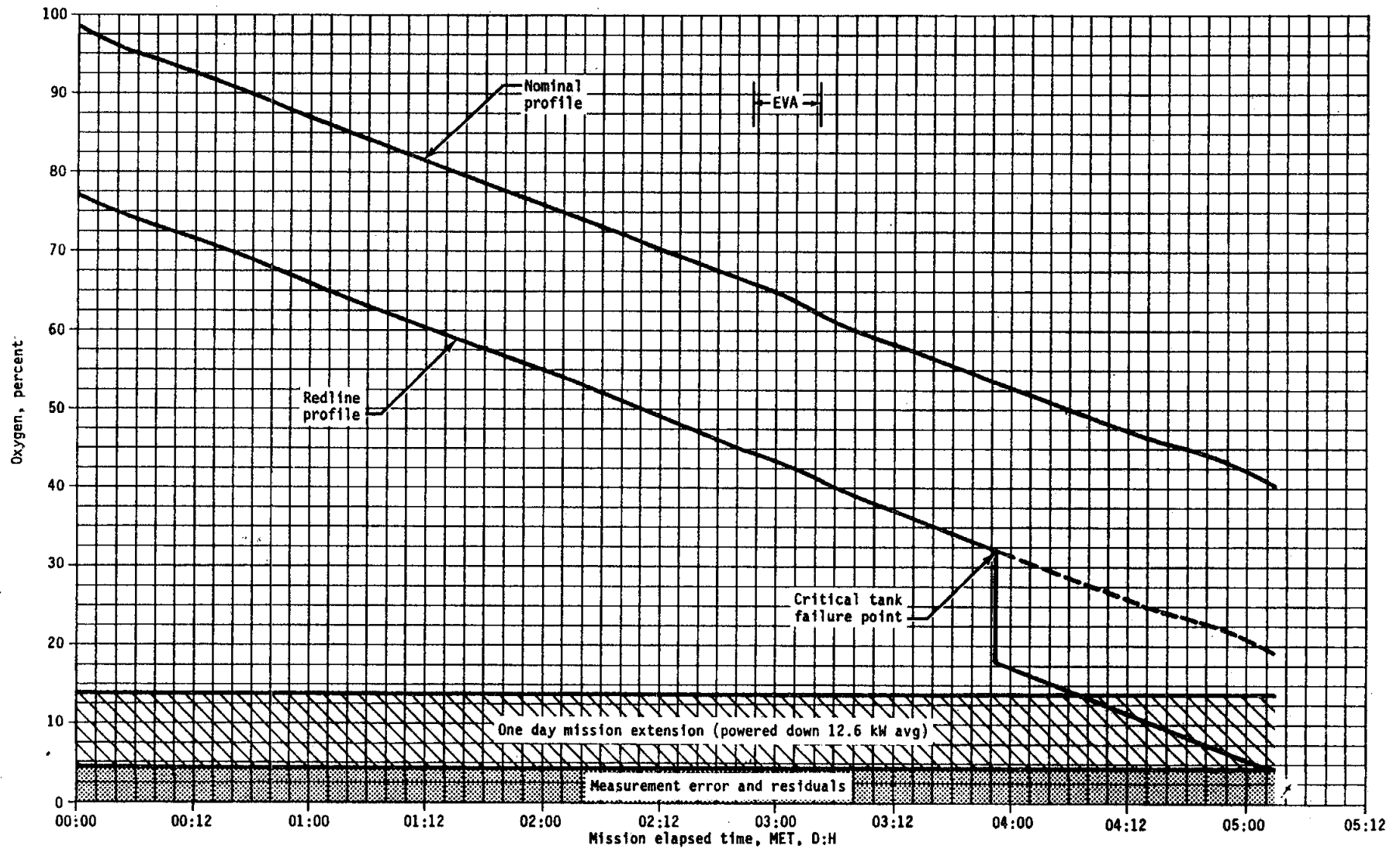
9-9

STS-5/FIN 1

E. Fisher, Sr., T. Cleghorn/FPB/MPAD

Data source JSC 17859 (GAP) 9/30/82

Data confirmed *Emmit L. Fisher, Sr.*



STS-5 Oxygen.

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CREW ACTIVITY PLAN NOTES  
(CONSTRAINTS AND GUIDELINES)

FLIGHT DESCRIPTION.....	7-2
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PAYLOADS.....	7-7

CAP NOTES

CREW ACTIVITY PLAN NOTES  
(CONSTRAINTS AND GUIDELINES)

A. FLIGHT DESCRIPTION

STS-5 will launch from KSC on November 11, 1982, into a 160 NM orbit at an inclination of 28.45°. The mission duration will be 5 days (~122 hrs). Landing will occur at KSC on 16 November 1982.

MAJOR EVENTS (APPROX TIMES & DATA)

<u>LAUNCH (KSC)</u>	11 November 1982	
MET (DD:HH:MM:SS)	0/00:00:00	
Day of Year	315	
CST/GMT	0619/1219	
<u>MECO</u>		
MET (DD:HH:MM:SS)	0/00:08:35	
ALT (nm)	60	
<u>OMS-1</u>		
MET (DD:HH:MM:SS)	0/00:10:29	
$\Delta V$ (fps)	235	
$\Delta T$ (MM:SS)	02:30	
ORBIT ha/hp (nm)	160 x 51.5	
<u>OMS-2</u>		
MET (DD:HH:MM:SS)	0/00:44:39	
$\Delta V$ (fps)	194	
$\Delta T$ (MM:SS)	01:58	
ORBIT ha/hp (nm)	160 x 160	
<u>SBS SEPARATION (OMS)</u>		
MET (DD:HH:MM:SS)	0/08:13:24	
$\Delta V$ (fps)	15.9	
$\Delta T$ (MM:SS)	00:09	
ORBIT ha/hp (nm)	169 x 160	
<u>RECIRC (OMS)</u>		
MET (DD:HH:MM:SS)	1/00:46:34	1/00:50:35
$\Delta V$ (fps)	1.8	12.3
$\Delta T$ (MM:SS)	2.0	14.1
ORBIT ha/hp (nm)	167 x 160	160 x 160
<u>TELESAT SEPARATION (OMS)</u>		
MET (DD:HH:MM:SS)	1/08:20:01	
$\Delta V$ (fps)	15.9	
$\Delta T$ (MM:SS)	00:09	
ORBIT ha/hp (nm)	169 x 160	

DTO 512 (RCS ORBIT ADJUST - RETROGRADE)  
 TIG (DD:HH:MM:SS) 2/20:55:45  
 ΔV (fps) 32.4  
 ΔT (MM:SS) 00:30  
 ORBIT ha/hp (nm) 146 x 165

DTO 513 (RCS ORBIT ADJUST)  
 TIG (DD:HH:MM:SS)  
 for each 30 sec burn 3/05:21:22 (RETROGRADE) |  
 3/05:51:26 (RETROGRADE)  
 3/06:21:56 (OUT-OF-PLANE)  
 3/06:51:16 (RETROGRADE) |  
 3/07:22:56 (OUT-OF-PLANE)  
 ΔV Total (fps) 55  
 ΔT Total (MM:SS) 02:32  
 ORBIT ha/hp (nm) 152 x 139

DEORBIT BURN  
 MET (DD:HH:MM:SS) 5/01:09:46  
 ΔV (fps) 262  
 ΔT (MM:SS) 02:21  
 ORBIT ha/hp (nm) 149 x -3

ENTRY INTERFACE  
 MET (DD:HH:MM:SS) 5/01:36:16

LANDING (EDW) 16 November 1982  
 MET (DD:HH:MM:SS) 5/02:06:16  
 Day of year 320  
 CST/GMT 08:25/14:25

B. CREW

1. Crew designations and responsibilities

- a. Commander (CDR): Prime crewman for launch, entry and aborts. Responsible for overall command of the vehicle, including the safety of the vehicle and crew, and the accomplishment of mission objectives. Prime crewman with PLT for DPS, GNC, MPS, and PLBD operations.
- b. Pilot (PLT): Prime crewman with CDR for DPS, GNC, MPS, and PLBD operations. Prime crewman for STS IFM operations.
- c. Mission Specialist (MS): Prime crewmen for PAM/SBS and PAM/TELESAT systems and operations. Prime crewmen for attached payload systems and operations. Prime crewmen for the Orbiter ECLS and C/W systems, all EVA operations, and Photo/TV operations.

2. A typical crew day will be that specified in the STS Work Day Handbook (Ref. 5). The daily on-orbit STS activities and their scheduling constraints are identified in the referenced document. |

3. The crew will launch with an emergency egress harness restraint over Intravehicular Activity (IVA) clothing. Anti-G suits will be worn by all crewmembers for entry. Electro oculogram (EOG) electrodes will be worn by the MS in the Middeck for launch and entry.
4. All crewmembers will launch wearing the Launch/Entry Helmets (LEH). After ascent, the MS seated on the middeck will unstow all Wireless Communication Control Units (WCCUs) and distribute them to the rest of the crew. Prior to seat ingress on entry day, all crewmembers will stow the WCCUs and don the LEHs for entry until landing. During the sleep period, both the middeck and flight deck speaker boxes will be configured for air-to-ground voice and C/W tones. A tone level check will be conducted prior to the first crew sleep period. During sleep, the WCCUs are turned off and stowed.

## C. ORBITER SYSTEMS

### 1. Electrical Power System

- a. A crew-initiated automatic purge of the fuel cells will be scheduled approximately every 12 hours, as described in Ref. 5.
- b. The fuel cell purge schedule is shown in Table 9-1.

### 2. Communications and Instrumentation

- a. The Operational Instrumentation (OI) system will be managed from the ground through uplink commands coordinated with the crew. Exceptions to this would be the result of contingencies. Real-time OI data will be transmitted to MCC during each ground station pass via the S-Band PM downlink. In parallel with this, one of the two operations recorders will dump recorded OI data at a 5- or 8-to-1 playback-to-record ratio (depending upon whether or not voice is included in the recorded data). One OI recorder will be recording at all times, and the other will dump during station passes via the S-Band FM downlink. Video downlink causes an exception to this recorder dump plan, but only during the station passes where TV is scheduled as a crew activity.
- b. The Development Flight Instrumentation (DFI) system will be crew-controlled. The Wideband Ascent Recorder is not used on orbit. The PCM Recorder will be operated during the entire mission in one of three modes: CONTINUOUS RECORD, HI SAMPLE (a 10 second snapshot of data every 5 minutes), or LO SAMPLE (a 10 second snapshot of data every 10 minutes). The Wideband Mission Recorder will be operated in the continuous record mode, with all tracks recording in parallel, as required for DTOs or DSOs. DFI data will be downlinked every ground station pass via a separate S-Band DFI FM downlink. This data will be recorded at the ground station for post-flight shipment to MCC. Recorded DFI data will not be dumped to ground stations during on-orbit operations.



- c. There are 14 GSTDN sites for on-orbit coverage: ORR, BUC, GDS, MIL, BDA, HAW, GWM, AGO, IOS, ACN, MAD, YAR, BOT and DKR.
- d. Three (3) GSTDN sites can be used for real-time TV: GDS, MIL, and HAW.
- e. Two (2) sites have only UHF voice capability: YAR and BOT.

### 3. Guidance and Navigation

- a. Uplink of the block data via teleprinter will be performed realtime whenever required in flight.
- b. The Orbiter state vector is uplinked as often as errors in in the on-board vector dictate.
- c. IMU alignments will be routinely scheduled as described in Ref. 5.
- d. The on-orbit avionics configuration for STS-5 is listed below. GPC 3 (freeze-dried) and GPC 5 (BFS) will be turned off during on-orbit operations. One additional GNC GPC may be powered down during orbit to reduce electrical loads. If this occurs, that additional GPC will be powered up for any operations where redundancy is required.

GPCs - 3 RUN (2 GNC, 1 SM), 2 OFF

IMUs - 3 OPERATE

STAR TRACKERS - 2 ON

MASS MEMORY UNITS - 2 ON

FLIGHT CRITICAL MDMs - 8 ON

- e. Each IMU will be aligned with different REFSMMATs to provide skewed platforms for enhancement of redundancy management at launch and entry. The launch and entry REFSMMATs are different, requiring the REFSMMATs to be changed on-orbit. The ADI RELMATs will be configured to support specific flight phase requirements.



#### D. INTERIM TELEPRINTER SYSTEM (ITS)

1. The Interim Teleprinter System (ITS) will be used for STS-5. The system will provide an on-orbit capability to receive and reproduce text data (such as procedures and CAP updates or changes) from the MCC during routine and off-nominal situations.
2. Activation includes powering up the unit during Post Insertion. The teleprinter will then remain on continuously throughout the flight until deactivation prior to seat ingress on entry day.

#### E. TELEVISION/PHOTOGRAPHY

1. The CCTV system will be used for STS-5. This system provides two cameras for in-cabin coverage and four payload bay TV cameras for coverage of payload bay activities. The system, after activation, may be managed by ground commands during live coverage passes. For TV coverage outside of STDN coverage, the crew must manage the CCTV system and the Video Tape Recorder (VTR).
2. There is a video tape recorder (VTR) available to record video during periods when there is no STDN coverage. The video is recorded on 30-minute cassettes and will normally not be dumped to the ground. Recorded video can be dumped to the ground if desired. VTR management must be performed by the crew.
3. 16mm, 35mm, and 70mm camera systems are available.

#### F. REMOTE MANIPULATOR SYSTEM

The RMS will not be carried on this flight.

#### G. PAYLOADS

1. ACIP (Aerodynamic Coefficient Identification Package)

The data from this experiment are recorded on the OEX recorder. The experiment is controlled by commands sent from the ground; the only crew operation is to turn on the ACIP heaters after completing the post insertion activities and to turn the OEX power on prior to data takes so that the OEX recorder will be available. The heaters are left on for the duration of the flight and the OEX power is cycled as required. The ACIP experiment may be turned on several times during the flight by ground command to collect data.

## 2. GAS (Get Away Special)

The GAS payload is a self-contained experiment package that requires minimal crew activity. After the crew is given approval for orbit operations, the crew unstows a handheld controller and activates the payload. Once activated, an internal controller sequentially executes the materials processing experiment steps at the appropriate time. The experiment does not require any special attitudes during its operation. There are, however, 2 periods of low 'G' vernier attitude control required. They occur from 24-25 hours and from 50-52 hours. Deactivation of the GAS and stowing of the handheld controller occur prior to the EVA. GAS experiment activation and operation times are provided in Table 9-11.

## 3. SBS (Satellite Business Systems)

The Satellite Business Systems (SBS) Payload is a deployable, upper-stage spacecraft powered by a Payload Assist Module (PAM) solid-rocket motor. The deployment opportunities are determined by constraints imposed on the right ascension of the ascending node of the orbit. SBS will normally be deployed first which is an orbit 6 descending node deployment followed 45 minutes later by an orbit 7 ascending node PAM Perigee Kick Motor (PKM) burn. If launch timing or orbiter systems problems preclude deploying for a 7A PKM burn, SBS will be rescheduled for a 23A PKM burn. In the event that SBS experiences systems problems at its first deploy opportunity, backup deploy opportunities are available for an orbit 38 ascending node PKM burn. SBS deployment events and times for an Orbit 7A PKM burn are provided in Table 9-8.

## 4. TELESAT

The TELESAT payload is also a deployable upper-stage spacecraft powered by a PAM solid-rocket motor. Again, the deployment opportunities are determined by constraints imposed on the right ascension of the ascending node of the orbit. TELESAT will normally be deployed second which is an orbit 23A PKM burn (if SBS is rescheduled for a 23A PKM as described in paragraph 4 above). In the event that TELESAT experiences systems problems at its first deploy opportunity, backup deploy opportunities are available for a 38A PKM burn. TELESAT deployment events and times are provided in Table 9-9 for an Orbit 23A PKM burn.

## 5. STUDENT EXPERIMENTS

There are three Shuttle Student Involvement Projects on STS-5.

### a. SE 81-2 'The Growth of Porifera in Zero Gravity'

This experiment is designed to determine the rate of growth of animals in the Porifera phylum (sponges) in a zero G environment. The experiment consists of 18 specimen bags (stowed in a middeck locker) containing a disassociated sponge cell solution and a 'starter' solution. Six of the 18 bags also contain a 'stopper' solution used to stop the growth at a specified time. The specimen bags are started and stopped according to the schedule in table 9-10. There are no special attitudes or G limits required by this experiment.

### b. SE 81-5 'The Formation of Crystals in a Weightless Environment'

This experiment is designed to help develop methods for growing crystals in zero gravity with a minimum of imperfection. The experiment consists of an apparatus stowed in a middeck locker. The experiment is activated by a single switch on orbit and runs unattended continuously for 100 hours. It is highly desirable to remain on VRCS control for the duration of the experiment. Deactivation of this experiment can be accomplished using the ON-OFF switch mentioned above, but is not required. See table 9-10 for activation/deactivation times.

### c. SE 81-9 'Convection in Zero Gravity'

The purpose of this experiment is to study the influence of depth and size of container and heat rate on surface tension induced flows in a micro G environment. The experiment consists of an apparatus stowed on the middeck which must be unstowed and set up in conjunction with TV camera before the experiment can begin. To conduct the experiment (approximately a 2-hour operation), the crew must successively fill each container with Krytox oil, heat it, and record the resulting fluid convection flow on the VTR. There are no special attitudes required by this experiment, but it is required that a LOW G attitude control mode (VRCS CNTL) be maintained for the duration of the experiment. Also, it is requested that minimum crew activity occur in the vicinity of the experiment when it is being run. See table 9-10 for activation/operation times.

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DETAILED TEST OBJECTIVES (DTOs),  
DETAILED SUPPLEMENTARY OBJECTIVES (DSOs)

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DTOs/DSOs

## INTRODUCTION

The following Table describes the scheduling rationale for STS-5 DTOs and DSOs. A detailed description of the DTOs and DSOs can be found in Reference 1.

DTOs/DSOs



TABLE 8-1 STS-5 ON-ORBIT CREW ACTIVITY RELATED DTOs/DSOs

DTO NUMBER	TITLE	SCHEDULED (DD/HH:MM) (MET)	SCHEDULING REMARKS
DTO 0102	Nonsymmetrical/Cold OMS Pod TCS Test	+YSI 1/09:10- 3/05:15  +XSI 3/07:40- 4/02:40	This thermal test specifies a sequence of attitudes: 10 hours of Passive Thermal Conditioning (PTC), followed by 40 hours of Starboard Sun inertial attitude hold (+Y Solar Inertial), followed by 20 hours of Nose Sun inertial attitude hold (+X Solar Inertial with a 10° pitch-up). The PTC cannot be scheduled due to time constraints, but 47 hours of Starboard Sun and 19 hours of Nose Sun attitude hold are accomplished
DTO 0109	ARCS Three Engine Soakback Test	2/21:00	Should be preceded by at least 20 hours of +YSI or Nose Sun (DTO 0102). All port pod PRCS inhibited for 5 hours before the test and for 5 hours after. The test is a 30-sec burn of L1U, L2U, and L4U accomplished using a High Z translation maneuver and is done in retrograde burn attitude to adjust the orbit for entry. The burn is in attitude hold rather than free drift
DTO 0110	ARCS Single Engine Duty Cycle Soakback Test	3/05:20- 3/07:25	Should be preceded by at least 20 hours of +YSI or Nose Sun (DTO 0102). All port pod PRCS inhibited for 5 hours before the test and 5 hours after. The test is a series of five 30-second burns of L2U, each separated by 30 minutes. The burns are accomplished by doing a +Z translation maneuver. Burns are retrograde to adjust the orbit for entry. Only 2 hours of high sample DFI PCM data collection is accomplished

TABLE 8-1 STS-5 ON-ORBIT CREW ACTIVITY RELATED DTOs/DSOs

DTO NUMBER	TITLE	SCHEDULED (DD/HH:MM) (MET)	SCHEDULING REMARKS
DTO 0111	VRCS Single Engine Soakback Test	2/03:40	Should be preceded by at least 20 hours of +YSI or Nose Sun, however only 18 hours of Starboard Sun is accomplished. All RCS in port pod must be inhibited for 5 hours before the test and 5 hours after. The test is a single 125-sec burn of jet L5D which is accomplished as a pitch maneuver required for FTO 0401
DTO 0317	Airframe Unsymmetrical Distortion Test	2/08:05	
DTO 0401	PRSD Stratification Test	85%: 2/01:20-2/03:40	Test scheduled once at 85% cryo level. Two hours with no maneuvers or OMS burns must occur prior to the pitch maneuvers at the end of the test. The test for cryo level at 50% is not scheduled due to time constraints
DTO 0404	COLD OMS Engine Restart	1/00:50	Scheduled as recircularization burn
DTO 0406	Hydraulic/ATCS Thermal Interaction Test	3/18:45	
DTO 0506	PLBD Centerline Latch Performance	(POST INSERTION and DEORBIT PREP)	

TABLE 8-1 STS-5 ON-ORBIT CREW ACTIVITY RELATED DTOs/DSOs

DTO NUMBER	TITLE	SCHEDULED (DD/HH:MM) (MET)	SCHEDULING REMARKS
DTO 0571	Air Data Subsystem Performance	(Entry)	Crew deploys left air data probe at Mach 5.0 during entry
DTO 0611	EMU/EVA Evaluation	3/00:45 3/04:15	No attitude maneuvers are accomplished
DTO 0613	Stowed Radiator Performance Test	2/04:00 to 3/00:00	RADS deployed between these times
DTO 0615	WCS Modification Evaluation		Accomplished with normal WCS operation
DTO 0616	Cabin Atmosphere Sampling	~4/05:30	Scheduled as a part of cabin config/stow on Flight Day 5
DTO 0705	Shuttle Launch Support System Communications Performance	2/00:18	No crew interaction

TABLE 8-1 STS-5 ON-ORBIT CREW ACTIVITY RELATED DTOs/DSOs

DTO NUMBER	TITLE	SCHEDULED (DD/HH:MM) (MET)	SCHEDULING REMARKS
DTO 0706	S-BD/UHF Antenna Tests	1/01:35	Only one pass is scheduled and tests the upper antennas
DTO 0713	Orbiter/Detached Payload Communications	SBS DEPLOY	Accomplished as part of nominal SBS checkout/deployment and by maneuver to a payload track attitude after deploy
DTO 0720	Very Lightweight Headset Evaluation		Shopping List
DTO 0757	DAP Performance in LVLH Mode	4/02:50	
DTO 0770	AFT Station COAS Cal	1/02:35	
DTO 0771	On Orbit TACAN Navigation		Shopping List
DTO 0772	Visual Star Sightings for B/U IMU Align		Shopping List
DTO 0774	Star Tracker Threshold Level Test	1/02:21 1/20:45 2/07:27	

TABLE 8-1 STS-5 ON-ORBIT CREW ACTIVITY RELATED DTOs/DSOs

DSO NUMBER	TITLE	SCHEDULED (DD/HH:MM) (MET)	SCHEDULING REMARKS
DSO 0301	Evaluation of Oxygen Interaction with Material	Act 1/10:10  Deact 3/02:05	Activate over ACN so MCC can watch bus loads change. Deact over MIL
DSO 0401	Validation of Predictive Tests and Countermeasures for Space Motion Sickness	Pre-Sleep	Scheduled daily as part of Pre-Sleep Activity
DSO 0402	Cardiovascular Deconditioning Countermeasure Assessment	Flight Days 4, 5 and 6	
DSO 0404	On-Orbit Head/Eye Tracking	0/21:30 0/21:55 2/02:50 2/03:00 3/19:00 3/18:50	
DSO 0405	Acceleration Detection Sensitivity	1/01:00 1/20:20 3/19:15 3/20:35	

TABLE 8-1 STS-5 ON-ORBIT CREW ACTIVITY RELATED DTOs/DSOs

DSO NUMBER	TITLE	SCHEDULED (DD/HH:MM) (MET)	SCHEDULING REMARKS
DSO 0406	Kinesthetic Repeat-ability	0/23:30 0/23:40 2/01:40 4/02:55 4/03:00 4/03:10	
DSO 0408	Near Vision Acuity	1/04:00 1/04:45 1/04:50 3/22:35 3/22:40	
DSO 0901	Documentary Television	0/07:40 1/07:50 2/08:00 3/00:20 3/01:45 3/03:20 4/00:10	SBS Deploy - Live and VTR (Dump HAW 0/09:10) TELESAT Deploy - Live and VTR (Dumped CONUS 0/23:35) AIRLOCK PREP - Live } EVA - Live Student Experiments - Live

TABLE 8-1 STS-5 ON-ORBIT CREW ACTIVITY RELATED DTOs/DSOs

DSO NUMBER	TITLE	SCHEDULED (DD/HH:MM) (MET)	SCHEDULING REMARKS
DSO 0902	Documentary Motion Picture Photography	FD 1 FD 2 FD 3  FD 4 FD 5	SBS Deploy TELESAT Deploy Exercise Meal MLR Deact Pre-Sleep EVA Exercise
DSO 0903	Documentary Still Photography	FD 1 FD 2 FD 4 Throughout Flight	70mm of SBS Deploy 70mm of TELESAT Deploy 70mm of EVA Shopping list items for 70mm and 35mm

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TABLES

TABLE 9-1  
ORBITER FUEL CELL PURGES

APPROX MET (D/HH:MM)	FUEL CELL PURGE	
	NO.	TIME SINCE LAST PURGE (HH:MM)
0/02:00	1	--
0/08:50	2	06:50
0/22:00	3	13:10
1/10:05	4	12:05
*1/21:05	5	11:00
2/08:35	6	11:30
2/20:15	7	11:40
3/08:40	8	12:25
3/18:45	9	10:05
4/08:25	10	13:40
4/19:15	11	10:50

\*MANUAL

TABLES

TABLE 9-2  
 ORBITER SUPPLY WATER DUMPS

APPROX MET (D/HH:MM)	SUPPLY H2O	
	NO.	TIME SINCE LAST DUMP (HH:MM)
0/09:55	1	--
0/21:50	2	11:55
1/08:55	3	11:05
1/21:00	4	12:05
2/08:00	5	11:00
2/20:10	6	12:10
3/08:05	7	11:55
3/19:30	8	11:25
4/08:00	9	12:30
4/19:10	10	11:10

TABLE 9-3  
CO2 ABSORBER REPLACEMENT

APPROX MET (D/HH:MM)	CO2 ABSORBER REPLACEMENT		
	NO.	POSITION	TIME ON CANISTER (HH:MM)
*-0/01:45	1 & 2	A & B	--
**0/09:55	3	A	11:40
0/21:25	4	B	23:10
1/10:10	5	A	24:15
1/21:10	6	B	23:45
2/08:35	7	A	22:25
2/19:45	8	B	22:35
3/07:30	9	A	22:55
3/18:45	10	B	23:00
4/07:30	11	A	24:00
4/18:45	12	B	24:00

\*INITIAL INSTALLATION BOTH CO2 ABSORBERS  
 \*\*CO2 ABSORBER NO. 1 IS REWRAPPED AND SAVED FOR  
 CONTINGENCY

TABLE 9-4  
CRYO MANAGEMENT

EVENT	APPROX MET (D/HH:MM)	O2/H2 TANK HTRS SWITCH CONFIGURATION
ON-ORBIT CONFIGURATION (AS OF)	0/03:00	O2 TK1 & 2 HTRS A,B (four) - AUTO H2 TK1 & 2 HTRS A,B (four) - AUTO O2 TK3 HTRS (two) - AUTO H2 TK3 HTRS (two) - AUTO O2 TK4 HTRS (two) - OFF H2 TK4 HTRS (two) - OFF
PRSD STRATIFICATION TEST (85%) PREP	2/00:50	O2 TK1,2&3 HTRS (all) - OFF H2 TK1,2&3 HTRS (all) - OFF
POWERUP	2/01:20	O2 TK1 HTRS (two) - AUTO H2 TK1 HTRS (two) - AUTO
MANEUVER	2/03:30	
POWERDOWN	2/03:40	
POST	2/03:45	O2,H2 TK1,2 HTRS A,B (eight)-AUTO O2,H2 TK3 HTRS A,B (four)-OFF

TABLE 9-5  
DFI WIDEBAND ASCENT RECORDER USAGE

APPROX MET (D/HH:MM:SS)	MODE	PWR	$\Delta$ T USAGE (MM:SS)	ACCUM USAGE (MM:SS)	TAPE REMAINING (MM:SS)
-0/00:05:30	CONT	ON	--	00:00	32:00
0/00:13:00	STBY	ON	18:30	18:30	13:30
0/00:43:00	CONT	ON	00:00	18:30	13:30
0/00:47:00	STBY	ON	00:04	22:30	09:30
0/01:05:00	STBY	OFF	00:00	22:30	09:30

TABLE 9-6  
DFI WIDEBAND MISSION RECORDER USAGE

APPROX MET (D/HH:MM)	MODE	PWR	ΔT USAGE (MM:SS)	ACCUM USAGE (HH:MM:SS)	TAPE RE- MAINING (HH:MM:SS)	REASON
-0/00:06	CONT	ON	--	00:00:00	02:00:00	LAUNCH THROUGH OMS-1 BURN
0/00:13	STBY	ON	19:00	00:19:00	01:41:00	POST OMS-1 BURN
0/00:43	CONT	ON	00:00	00:19:00	01:41:00	OMS-2 BURN
0/00:47	STBY	ON	04:00	00:23:00	01:37:00	POST OMS-2 BURN
0/01:05	STBY	OFF	00:00	00:23:00	01:37:00	NOMINAL CON- FIGURATION
0/08:01	STBY	ON	00:00	00:23:00	01:37:00	OMS BURN PREP
0/08:11	CONT	ON	00:00	00:23:00	01:37:00	OMS SEP BURN (SBS)
0/08:15	STBY	OFF	04:00	00:27:00	01:33:00	NOMINAL CON- FIGURATION
1/00:33	STBY	ON	00:00	00:27:00	01:33:00	OMS BURN PREP
1/00:45	CONT	ON	00:00	00:27:00	01:33:00	COLD OMS ENGINE RESTART
1/00:52	STBY	OFF	07:00	00:34:00	01:26:00	NOMINAL CON- FIGURATION
1/08:07	STBY	ON	00:00	00:34:00	01:26:00	OMS BURN PREP
1/08:19	CONT	ON	00:00	00:34:00	01:26:00	OMS SEP BURN (ANIK)
1/08:23	STBY	OFF	04:00	00:38:00	01:22:00	NOMINAL CON- FIGURATION
4/22:33	CONT	ON	00:00	00:38:00	01:22:00	WIDEBAND CALI- BRATION
4/22:34	STBY	OFF	01:00	00:39:00	01:21:00	NOMINAL CON- FIGURATION
5/01:08	CONT	ON	00:00	00:39:00	01:21:00	DEORBIT BURN
5/01:14	STBY	OFF	06:00	00:45:00	01:15:00	NOMINAL CON- FIGURATION
5/01:33	CONT	ON	00:00	00:45:00	01:15:00	EI-3 THROUGH ROLLOUT
5/02:11	STBY	OFF	36:00	01:21:00	00:39:00	POST ROLLOUT

TABLE 9-7  
DFI PCM RECORDER USAGE

APPROX MET (D/HH:MM)	MODE	$\Delta T$ (HH:MM)	$\Delta T$ TAPE* USAGE (HH:MM:SS)	ACCUM USAGE (HH:MM:SS)	TAPE RE- MAINING (HH:MM:SS)	REASON
-0/00:06	CONT	--	--	--	05:52:00	LAUNCH THROUGH OMS-1 BURN
0/00:14	LO SAMP	00:20	00:20:00	00:20:00	05:32:00	NOMINAL CONFIGURA- TION
0/00:43	CONT	00:29	00:00:22	00:20:22	05:31:38	OMS-2 BURN
0/00:47	LO SAMP	00:04	00:04:00	00:24:22	05:27:38	NOMINAL CONFIGURA- TION
0/01:31	CONT	00:44	00:00:44	00:25:06	05:26:54	PLBD OPENING
0/01:34	LO SAMP	00:03	00:03:00	00:28:06	05:23:54	NOMINAL CONFIGURA- TION
0/08:11	CONT	06:37	00:06:58	00:35:04	05:16:56	OMS SEP BURN (SBS)
0/08:15	LO SAMP	00:04	00:04:00	00:39:04	05:12:56	NOMINAL CONFIGURA- TION
0/23:25	HI SAMP	15:10	00:16:19	00:55:23	04:56:37	MPS VACUUM INERT-INIT
0/23:55	LO SAMP	00:30	00:00:55	00:56:18	04:55:42	MPS VACUUM INERT-TERM
1/00:45	CONT	00:50	00:00:44	00:57:02	04:54:58	COLD OMS ENGINE RESTART
1/00:52	LO SAMP	00:07	00:07:00	01:04:02	04:47:58	NOMINAL CONFIGURA- TION
1/08:19	CONT	07:27	00:07:53	01:11:55	04:40:05	OMS SEP BURN (ANIK)

\*11 SEC OF TAPE USED EVERY 5 MIN 11 SEC FOR HI SAMPLE AND 10 MIN 11 SEC  
FOR LOW SAMPLE



TABLE 9-7 (Continued)  
DFI PCM RECORDER USAGE

APPROX MET (D/HH:MM)	MODE	ΔT (HH:MM)	ΔT TAPE* USAGE (HH:MM:SS)	ACCUM USAGE (HH:MM:SS)	TAPE RE- MAINING (HH:MM:SS)	REASON
1/08:23	LO SAMP	00:04	00:04:00	01:15:55	04:36:05	NOMINAL CONFIGURA- TION
2/03:30	CONT	19:07	00:20:32	01:36:27	04:15:33	VRCS SINGLE ENGINE TEST
2/03:50	HI SAMP	00:20	00:20:00	01:55:27	03:56:33	POST VRCS TEST
2/08:40	LO SAMP	04:50	00:10:05	02:06:32	03:45:28	NOMINAL CONFIGURA- TION
2/20:50	CONT	12:10	00:12:17	02:18:49	03:33:11	ARCS THREE ENGINE TEST
2/21:10	HI SAMP	00:20	00:20:00	02:38:49	03:13:11	POST ARCS TEST
3/02:15	HI SAMP	05:05	00:10:38	02:49:27	03:02:33	STARBOARD SUN
3/05:21	CONT	03:06	00:06:25	02:55:52	02:56:08	ARCS SINGLE ENGINE TEST
3/05:36	HI SAMP	00:15	00:15:00	03:10:52	02:41:08	ARCS SINGLE ENGINE TEST
3/05:51	CONT	00:15	00:00:22	03:11:14	02:40:46	ARCS SINGLE ENGINE TEST
3/06:08	HI SAMP	00:17	00:17:00	03:28:14	02:23:46	ARCS SINGLE ENGINE TEST
3/06:21	CONT	00:13	00:00:22	03:28:36	02:23:24	ARCS SINGLE ENGINE TEST
3/06:37	HI SAMP	00:16	00:16:00	03:44:36	02:07:24	ARCS SINGLE ENGINE TEST

\*11 SEC OF TAPE USED EVERY 5 MIN 11 SEC FOR HI SAMPLE AND 10 MIN 11 SEC FOR LOW SAMPLE

TABLE 9-7 (Continued)  
DFI PCM RECORDER USAGE

APPROX MET (D/HH:MM)	MODE	ΔT (HH:MM)	ΔT TAPE* USAGE (HH:MM:SS)	ACCUM USAGE (HH:MM:SS)	TAPE RE- MAINING (HH:MM:SS)	REASON
3/06:52	CONT	00:15	00:00:22	03:44:58	02:07:02	ARCS SINGLE ENGINE TEST
3/07:07	HI SAMP	00:15	00:15:00	03:59:58	01:52:02	ARCS SINGLE ENGINE TEST
3/07:22	CONT	00:15	00:00:22	04:00:20	01:51:40	ARCS SINGLE ENGINE TEST
3/07:34	HI SAMP	00:14	00:14:00	04:14:20	01:37:40	ARCS SINGLE ENGINE TEST
3/09:29	LO SAMP	01:55	00:04:02	04:18:22	01:33:38	NOMINAL CONFIGURA- TION
3/21:15	CONT	11:46	00:12:39	04:31:01	01:20:59	FCS CHECK- OUT
3/21:21	LO SAMP	00:06	00:06:00	04:37:01	01:14:59	NOMINAL CONFIGURA- TION
4/22:15	CONT	24:54	00:26:46	05:03:47	00:48:13	PLBD CLOSING/ STRAIN GAGE
4/22:20	LO SAMP	00:05	00:05:00	05:08:47	00:43:13	NOMINAL CONFIGURA- TION
4/22:36	LO SAMP	00:16	00:00:11	05:08:58	01:36:00	PCM RCDR REWIND
5/01:04	CONT	02:28	00:02:34	00:02:34	01:33:26	TIG-6 THROUGH ROLLOUT
5/02:09	HI SAMP	01:05	01:05:00	01:07:34	00:28:26	POST ROLL- OUT

\*11 SEC OF TAPE USED EVERY 5 MIN 11 SEC FOR HI SAMPLE AND 10 MIN 11 SEC FOR LOW SAMPLE

TABLE 9-8  
 SBS DEPLOYMENT EVENTS AND TIMES  
 (ORBIT 7A PKM BURN)

EVENT	APPROX MET (D/HH:MM)	DEPLOY MINUS (HH:MM)
START DEPLOY ACTIVITY	0/06:29	01:30
MNVR TO DEPLOY ATT	0/07:19	00:40
MECHANICAL SEQUENCE START	0/07:39	00:20
DEPLOY	0/07:59	00:00
OMS SEP MNVR	0/08:14	(+ )00:15
PKM IGNITION	0/08:44	(+ )00:45

TABLE 9-9  
TELESAT DEPLOYMENT EVENTS AND TIMES  
(ORBIT 23A PKM BURN)

EVENT	APPROX MET (D/HH:MM)	DEPLOY MINUS (HH:MM)
START DEPLOY ACTIVITY	1/06:35	01:30
MNVR TO DEPLOY ATT	1/07:25	00:40
MECHANICAL SEQUENCE START	1/07:45	00:20
DEPLOY	1/08:05	00:00
OMS SEP MNVR	1/08:20	(+)00:15
PKM IGNITION	1/08:50	(+)00:45

TABLE 9-10  
STUDENT EXPERIMENT  
ACTIVATION AND OPERATION TIMES

EVENT	APPROX MET (D/HH:MM)	DURATION (HH:MM)
SPONGE GROWTH EXPERIMENT		
Start Run 1	0/23:05	01:00
Run 2		24:00
Run 3		*
Stop Run 1	1/00:10	--
Stop Run 2	1/23:05	--
Start Run 4		*
Start Run 5	3/05:15	*
Start Run 6	4/00:25	*
CRYSTAL GROWTH EXPERIMENT		
Activation	0/23:20	**
CONVECTION CURRENT EXPERIMENT	3/23:00	~ 02:00

- \* Operates continuously until removed post landing  
 \*\* Operates continuously until battery is discharged.  
 (approximately 100 hours)

TABLE 9-11  
GAS EXPERIMENT ACTIVATION AND OPERATION TIMES

EVENT	APPROX MET (D/HH:MM)	DURATION (HH:MM)
GAS Encoder Unstow	0/09:40	On-Orbit
GAS Experiment 26 Activation	0/09:55	59:35
Low Accel Constraint	1/10:00	01:00
Low Accel Constraint	2/12:00	02:00
Deactivation	2/21:30	--
GAS Encoder Stow	4/04:15	--

TABLE 9-12 - ATTITUDE AND EVENT TIMELINE

MET (D/HH:MM:SS)	EVENT	ATTITUDE (P,Y,R EULER SEQ)			ATT MODE	DEADBANDS		DISC RATE (°/sec)	DAP			EARTH		SUN		REMARKS
		Roll	Pitch	Yaw		ATT (deg)	RATE (°/sec)		SEL	CONT	RCS	θ	φ	θ	φ	
0/00:08:43.76	MECO	332	261	351	INRTL	3.5	0.3	0.5	*	AUTO	*	88	0	35	226	
0/00:08:49	ET SEP (4 fps,-Z)															
0/00:09:30	MAN MNVR TO OMS 1 ATT	--	--	--	--	N/A	N/A	N/A	*	MAN ACCEL	*	--	--	--	--	
0/00:10:00	OMS 1 ATT	336	280	345	INRTL	3.5	0.3	0.5	*	AUTO	*	73	0	51	215	
0/00:10:38	OMS 1 IGNITION															240.9 fps ΔV
0/00:13:08	OMS 1 CUTOFF															
0/00:14:21	MPS DUMP TERMINATED															
0/00:20:00	AUTO MNVR TO OMS 2 ATT	--	--	--	--	3.5	0.3	0.5	*	AUTO	*	--	--	--	--	MNVR TIME = 5 MIN EIG ANG = 143°
0/00:25:00	OMS 2 ATT	29	66	359	INRTL	3.5	0.3	0.5	*	AUTO	*	6	184	153	287	
0/00:44:48	OMS 2 IGNITION															194.4 fps ΔV
0/00:46:46	OMS 2 CUTOFF															
0/00:55:00	DPS RECONFIG TO GNC 2 (OMS-2 ATT)					5.0	0.2	0.2	A1	AUTO	NORM					
0/01:05:00	INITIATE BIAS -ZLV NOSE FWD ATT MODE	--	--	--	--	5.0	0.2	0.2	A1	AUTO	NORM	--	--	--	--	MNVR TIME = 6 MIN EIG ANG = 66°
0/01:11:00	BIAS -ZLV ATT (PLBD OPENING)	210	0	0	LVLH	5.0	0.2	0.2	A1	AUTO	NORM	90	330	88	304	TGT ID 2 P 90° BODY VECT 5 Y 330° OM 180
0/03:12:00	AUTO MNVR TO IMU ALIGN ATT	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 7 MIN EIG ANG = 77°
0/03:19:00	IMU ALIGN ATT	49.2	208.9	14.0	INRTL	1.0	0.02	0.2	A1	AUTO	VERN	175	176	36	250	-YST: 36 KAUS AUSTRALIS -ZST: 27 DENEb SEP 85.5 0/03:17 - 0/04:05

TABLE 9-12 Continued

MET (D/HH:MM:SS)	EVENT	ATTITUDE (P, Y, R EULER SEQ)			ATT MODE	DEADBANDS		DISC RATE (°/sec)	DAP			EARTH		SUN		REMARKS
		Roll	Pitch	Yaw		ATT (deg)	RATE (°/sec)		SEL	CONT	RCS	$\theta$	$\phi$	$\theta$	$\phi$	
0/03:27:00	INITIATE -ZLV YPOP NOSE FWD ATT MODE	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 12 MIN EIG ANG = 138°
0/03:39:00	-ZLV YPOP ATT	180	0	0	LVLH	1.0	0.02	0.2	A1	AUTO	VERN	90	0	135	217	TGT ID 2 BODY VECT 3 OM 180
0/07:18:00	AUTO MNVR TO SBS DEPLOY ATT	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 11 MIN EIG ANG = 132°
0/07:29:00	SBS DEPLOY ATT	24.07	87.26	292.56	INRTL	1.0	0.02	0.2	A1	AUTO	VERN	85	215	90	284	-Z TO SPIN AXIS TGT -Y TO SUN
0/07:38:00	DAP RECONFIG					0.1	0.01	0.2	B4	AUTO	VERN					
0/07:58:24	SBS DEPLOY															
0/08:02:00	AUTO MNVR TO OMS SEP BURN ATT	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 6 MIN EIG ANG = 73°
0/08:08:00	OMS SEP ATT	23.9	33.8	343.8	INRTL	1.0	0.02	0.2	A1	AUTO	VERN	70	0	144	225	
0/08:12:00	OMS PREP					5.0	0.2	0.2	A1	AUTO DISC	NORM					
0/08:13:24	OMS IGNITION															16 fps $\Delta V$
0/08:13:32	OMS CUTOFF															
0/08:15:00	INITIATE SBS TRACK ATT	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 1 MIN EIG ANG = 9°
0/08:16:00	SBS TRACK ATT	180	0	0	LVLH	1.0	0.02	0.2	A1	AUTO	VERN	90	0	151	239	TGT ID 2 BODY VECT 3 OM 180
0/08:28:00	INITIATE ORBITER PROTECTIVE ATT	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 14 MIN EIG ANG = 161°
0/08:42:00	ORBITER PROTECTIVE ATT	12.0	34	32	LVLH	1.0	0.02	0.2	A1	AUTO	VERN	118	148	104	127	TGT ID 2 P = 238 BODY VECT 5 Y = 27 OM = 21
0/08:42:30	ATTITUDE HOLD	209.2	123.2	351.5	INRTL	1.0	0.02	0.2	A1	MAN DISC	VERN	115	151	100	131	

TABLE 9-12 Continued

MET (D/HH:MM:SS)	EVENT	ATTITUDE (P, Y, R EULER SEQ)			ATT MODE	DEADBANDS		DISC RATE (°/sec)	DAP			EARTH		SUN		REMARKS
		Roll	Pitch	Yaw		ATT (deg)	RATE (°/sec)		SEL	CONT	RCS	θ	φ	θ	φ	
0/08:43:24	PAM PKM IGNITION															
0/09:20:00	AUTO MNVR TO IMU ALIGN ATT	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 10 MIN EIG ANG = 114°
0/09:30:00	IMU ALIGN ATT	217.8	10.9	347.8	INRTL	1.0	0.02	0.2	A1	AUTO	VERN	56	151	134	2	-YST: 27 DENEK SEP 85.5 -ZST: 36 KAUS AUSTRALIS 0/09:19 - 0/10:06
0/09:40:00	AUTO MNVR TO COAS CAL ATT	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 1 MIN EIG ANG = 6°
0/09:41:00	COAS CAL ATT	217.6	10.3	341.7	INRTL	1.0	0.02	0.2	B3	MAN DISC	VERN	101	159	129	5	+X COAS STAR: 54 DIPHDA 0/09:39 - 0/10:27
0/11:01:00	INITIATE -ZLV YPOP NOSE FWD ATT MODE	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 14 MIN EIG ANG = 158°
0/11:15:00	-ZLV YPOP ATT	180	0	0	LVLH	1.0	0.02	0.2	A1	AUTO	VERN	90	0	146	227	TGT ID 2 BODY VECT 3 OM 180
0/21:17:00	AUTO MNVR TO IMU ALIGN ATT	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 14 MIN EIG ANG = 166°
0/21:31:00	IMU ALIGN ATT	217.8	10.9	347.8	INRTL	1.0	0.02	0.2	A1	AUTO	VERN	42	148	133	1	-YST: 27 DENEK SEP 85.5 -ZST: 36 KAUS AUSTRALIS 0/21:24 - 0/22:11
0/23:06:00	INITIATE -ZLV YPOP NOSE FWD ATT MODE	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 14 MIN EIG ANG = 159°
0/23:20:00	-ZLV YPOP ATT	180	0	0	LVLH	1.0	0.02	0.2	A1	AUTO	VERN	90	0	148	226	TGT ID 2 BODY VECT 3 OM 180
1/00:22:00	AUTO MNVR TO RECIRC BURN ATT #1	--	--	--	--	1.0	0.02	0.2	B1	AUTO	VERN	--	--	--	--	MNVR TIME = 13 MIN EIG ANG = 153°
1/00:35:00	RECIRC BURN ATT #1	193.8	203.7	18.2	INRTL	1.0	0.02	0.2	B1	AUTO	VERN	137	324	43	110	
1/00:46:00	OMS PREP					3.0	0.2	0.2	B1	AUTO DISC	NORM					
1/00:46:34	OMS IGNITION															LEFT OMS 1.8 fps ΔV
1/00:46:36	OMS CUTOFF															



TABLE 9-12 Continued

MET (D/HH:MM:SS)	EVENT	ATTITUDE (P, Y, R EULER SEQ)			ATT MODE	DEADBANDS		DISC RATE	DAP			EARTH		SUN		REMARKS
						ATT	RATE		SEL	CONT	RCS	θ	φ	θ	φ	
1/00:50:35	OMS IGNITION															LEFT OMS 12.3 fps ΔV
1/00:50:49	OMS CUTOFF															
1/00:56:00	INITIATE -ZLV YPOP NOSE FWD ATT MODE	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 14 MIN EIG ANG = 169°
1/01:10:00	-ZLV YPOP ATT	180	0	0	LVLH	1.0	0.02	0.2	A1	AUTO	VERN	90	0	123	334	TGT ID 2 BODY VECT 3 OM 180
1/01:44:00	S-BD ANT ROT	331.6	246.5	356.7	ROTR	5.0	0.2	2.0	A7	AUTO	NORM	90	0	24	247	EIG AXIS P = 0 Y = 0
1/01:55:00	ATTITUDE HOLD	221.6	246.5	356.7	INRTL	1.0	0.02	0.2	A7	AUTO	VERN	134	120	24	7	
1/02:06:00	AUTO MNVR TO IMU ALIGN ATT	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 14 MIN EIG ANG = 165°
1/02:19:00	IMU ALIGN ATT (THRESHOLD)	240.9	54.8	345.2	INRTL	1.0	0.02	0.2	A1	AUTO	VERN	69	153	147	42	-YST: 59 SCHEAT (2.6) SEP 91.2 -ZST: 33 PEACOCK (2.1) 1/02:12 - 1/02:50
1/02:32:00	AFT STATION COAS CAL (-Z)					1.0	0.02	0.2	B3	MAN DISC	VERN					-Z COAS STAR: 33 PEACOCK 1/02:02 - 1/02:50
1/02:45:00	INITIATE -ZLV YPOP NOSE FWD ATT MODE	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 13 MIN EIG ANG = 150°
1/02:58:00	-ZLV YPOP ATT	180	0	0	LVLH	1.0	0.02	0.2	A1	AUTO	VERN	90	0	58	335	TGT ID 2 BODY VECT 3 OM 180
1/07:26:00	AUTO MNVR TO TELESAT DEPLOY ATT	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 12 MIN EIG ANG = 137°
1/07:38:00	TELESAT DEPLOY ATT	24.28	80.39	290.86	INRTL	1.0	0.02	0.2	A1	AUTO	VERN	80	207	90	277	-Z TO SPIN AXIS TGT -Y TO SUN
1/07:46:00	DAP RECONFIG					0.1	0.01	0.2	B4	AUTO	VERN					
1/08:06:22	TELESAT DEPLOY															
1/08:10:00	AUTO MNVR TO OMS SEP BURN ATT	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 7 MIN EIG ANG = 74°

TABLE 9-12 Continued

MET (D/HH:MM:SS)	EVENT	ATTITUDE (P, Y, R EULER SEQ)			ATT MODE	DEADBANDS		DISC RATE (°/sec)	DAP			EARTH		SUN		REMARKS
		Roll	Pitch	Yaw		ATT (deg)	RATE (°/sec)		SEL	CONT	RCS	θ	φ	θ	φ	
1/08:17:00	OMS SEP BURN ATT	23.7	26.1	343.6	INRTL	1.0	0.02	0.2	A1	AUTO	VERN	79	0	140	213	
1/08:19:00	OMS PREP					5.0	0.2	0.2	A1	AUTO DISC	NORM					
1/08:20:12	OMS IGNITION															16 fps ΔV
1/08:20:20	OMS CUTOFF															
1/08:23:00	INITIATE TELESAT TRACK ATT	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 2 MIN EIG ANG = 140°
1/08:25:00	TELESAT TRACK ATT	180	0	0	LVLH	1.0	0.02	0.2	A1	AUTO	VERN	90	0	155	237	TGT ID 2 BODY VECT 3 OM 180
1/08:36:00	INITIATE ORBITER PROTECTIVE ATT	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 14 MIN EIG ANG = 161°
1/08:50:00	PROTECTIVE ATT	12	34	32	LVLH	1.0	0.02	0.2	A1	AUTO	VERN	118	148	108	128	P = 238 TGT ID 2 Y = 27 BODY VECT 5 OM = 21
1/08:50:30	ATTITUDE HOLD	209.2	117.2	351.7	INRTL	1.0	0.02	0.2	A1	MAN DISC	VERN	115	151	104	133	
1/08:51:22	PAM PKM IGNITION															
1/09:02:00	INITIATE +YSI XPOP ATT MODE	--	--	--	--	3.0	0.02	0.2	B5	AUTO	VERN	--	--	--	--	MNVR TIME = 6 MIN EIG ANG = 61°
1/09:08:00	+YSI XPOP ATT	237.4	110	304.6	INRTL	3.0	0.02	0.2	B5	AUTO	VERN	98	22	90	90	TGT ID 4 P = 0 BODY VECT 5 Y = 90 OM = 90
1/20:30:00	AUTO MNVR TO IMJ ALIGN ATT	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 8 MIN EIG ANG = 90°
1/20:38:00	IMJ ALIGN ATT (THRESHOLD)	289.6	85.3	10.4	INRTL	1.0	0.02	0.2	A1	AUTO	VERN	80	96	143	54	-YST: 54 DIPHDA (2.2) -ZST: 34 MIAPLACIDUS (1.8) SEP 84.9 1/20:22:00 - 1/21:09:00
1/21:00:00	INITIATE +YSI XPOP ATT MODE	--	--	--	--	3.0	0.02	0.2	B5	AUTO	VERN	--	--	--	--	MNVR TIME = 8 MIN EIG ANG = 90°
1/21:08:00	+YSI XPOP ATT	237.2	110.3	304.6	INRTL	3.0	0.02	0.2	B5	AUTO	VERN	102	41	90	90	TGT ID 4 P = 0 BODY VECT 5 Y = 90 OM = 90

TABLE 9-12 Continued

MET (D/HH:MM:SS)	EVENT	ATTITUDE (P, Y, R EULER SEQ)			ATT MODE	DEADBANDS		DISC RATE (°/sec)	DAP			EARTH		SUN		REMARKS
		Roll	Pitch	Yaw		ATT (deg)	RATE (°/sec)		SEL	CONT	RCS	θ	φ	θ	φ	
1/22:30:00	RCS HOT FIRE TEST					N/A	N/A	N/A	A3	MAN PULSE	NORM					
1/22:33:00	RCS HOT FIRE TEST					1.0	0.02	0.2	A3	MAN DISC	VERN					
1/22:35:00	INITIATE +YSI XPOP ATT MODE	--	--	--	--	3.0	0.2	0.2	A10	AUTO	NORM	--	--	--	--	MNVR TIME = TBD MIN EIG ANG = TBD
1/22:45:00	+YSI XPOP ATT	237.2	110.4	304.6	INRTL	3.0	0.2	0.2	A10	AUTO	NORM	95	16	90	90	TGT ID 4 P = 0 BODY VECT 5 Y = 90 OM = 90
2/03:30:00	VRCS/PRSD TEST (125 SEC VRCS)	237.2	110.4	304.6	ROTR	1.0	0.02	0.2	A10	MAN ACCEL	VERN	80	325	90	90	EIG AXIS P = 0 Y = 270 EIG ANG = 125°
2/03:32:05	ATTITUDE HOLD	330.8	245.7	12.6	INRTL	1.0	0.2	0.2	A10	AUTO	NORM	132	16	35	270	
2/03:35:00	INITIATE +YSI XPOP ATT MODE	--	--	--	--	3.0	0.2	0.2	A10	AUTO	NORM	--	--	--	--	MNVR TIME = 11 MIN EIG ANG = 125°
2/03:46:00	+YSI XPOP ATT	237.8	110.4	304.6	INRTL	3.0	0.2	0.2	A10	AUTO	NORM	73	259	90	89	TGT ID 4 P = 0 BODY VECT 5 Y = 90 OM = 90
2/04:06:00	GLOW EXP ROT	237.0	110.4	304.6	ROTR	3.0	0.2	0.5	B5	AUTO	NORM	90	180	90	90	EIG AXIS P 0 Y 0
2/04:09:00	FREE DRIFT					N/A	N/A	N/A	A10	MAN PULSE	NORM					
2/04:22:00	ATTITUDE HOLD	357.0	110.4	304.6	INRTL	3.0	0.2	0.2	A10	MAN DISC	NORM	106	358	90	330	
2/04:47:00	INITIATE +YSI XPOP ATT MODE	--	--	--	--	3.0	0.2	0.2	A10	AUTO	NORM					MNVR TIME 10 MIN EIG ANG 120°
2/04:57:00	+YSI XPOP ATT	237.0	110.4	304.6	INRTL	3.0	0.2	0.2	A10	AUTO	NORM	84	339	90	90	P=0 Y=90 BODY VECT 5 OM=90
2/07:17:00	AUTO MNVR TO IMU ALIGN ATT	--	--	--	--	3.0	0.2	0.2	A10	AUTO	NORM	--	--	--	--	MNVR TIME = 9 MIN EIG ANG = 98°
2/07:26:00	IMU ALIGN ATT (THRESHOLD)	84.7	355.9	333.9	INRTL	3.0	0.2	0.2	A10	AUTO	NORM	130	113	112	130	-YST: 13 RIGEL SEP 85.2 -ZST: 38 NAVI (2.8) 2/07:12 - 2/07:54
2/07:45:00	INITIATE +YSI XPOP ATT MODE	--	--	--	--	3.0	0.2	0.2	A10	AUTO	NORM	--	--	--	--	MNVR TIME = 9 MIN EIG ANG = 98°

TABLE 9-12 Continued

MET (D/HH:MM:SS)	EVENT	ATTITUDE (P, Y, R EULER SEQ)			ATT MODE	DEADBANDS		DISC RATE (0/sec)	DAP			EARTH		SUN		REMARKS
		Roll	Pitch	Yaw		ATT (deg)	RATE (0/sec)		SEL	CONT	RCS	θ	φ	θ	φ	
2/07:54:00	+YSI XPOP ATT	236.9	110.5	304.6	INRTL	3.0	0.2	0.2	A10	AUTO	NORM	88	355	90	90	TGT ID 4 P = 0 BODY VECT 5 Y = 90 OM = 90
2/08:40:00	RCS RECONFIG					3.0	0.02	0.2	B5	AUTO	VERN					
2/19:37:00	AUTO MNVR TO IMU ALIGN ATT	--	--	--	--	1.0	0.02	0.2	A10	AUTO	VERN	--	--	--	--	MNVR TIME = 10 MIN EIG ANG = 115°
2/19:47:00	IMU ALIGN ATT	178.3	169.6	11.5	INRTL	1.0	0.02	0.2	A10	AUTO	VERN	117	160	66	155	-YST: 45 POLARIS SEP -ZST: 24 BELLATRIX 83.1 2/19:24 - 2/20:02
2/19:55:00	INITIATE +YSI XPOP ATT MODE	--	--	--	--	3.0	0.02	0.2	B5	AUTO	VERN	--	--	--	--	MNVR TIME = 10 MIN EIG ANG = 115°
2/20:05:00	+YSI XPOP ATT	236.5	110.5	304.4	INRTL	3.0	0.02	0.2	B5	AUTO	VERN	82	330	90	90	TGT ID 4 P = 0 BODY VECT 5 Y = 90 OM = 90
2/20:40:00	AUTO MNVR TO ARCS SOAKBACK ATT	--	--	--	--	3.0	0.02	0.2	B5	AUTO	VERN	--	--	--	--	MNVR TIME = 12 MIN EIG ANG = 143°
2/20:52:00	ARCS SOAKBACK ATT	135.3	159.7	307.6	INRTL	3.0	0.02	0.2	B5	AUTO	VERN	75	285	63	229	
2/20:55:45	ARCS +Z TRANSLATION					3.0	0.2	0.2	B5	AUTO	NORM					DAP TRANS PULSE/PULSE/HIGH Z
2/21:00:00	DAP RECONFIG					3.0	0.02	0.2	B5	AUTO	VERN					
2/21:05:00	INITIATE +YSI XPOP ATT MODE	--	--	--	--	3.0	0.02	0.2	B5	AUTO	VERN	--	--	--	--	MNVR TIME = 12 MIN EIG ANG = 143°
2/21:17:00	+YSI XPOP ATT	236.4	110.6	304.4	INRTL	3.0	0.02	0.2	B5	AUTO	VERN	100	42	90	90	TGT ID 4 P = 0 BODY VECT 5 Y = 90 OM = 90
3/05:20:00	L2U BURN 1 PREP					3.0	0.2	0.5	B5	AUTO	NORM					
3/05:21:22	L2U BURN 1					3.0	0.2	0.5	B5	AUTO	NORM					
3/05:23:00	DAP RECONFIG					3.0	0.02	0.2	B5	AUTO	VERN					
3/05:42:00	AUTO MNVR TO L2U BURN 2 ATT	--	--	--	--	3.0	0.2	0.5	B5	AUTO	NORM	--	--	--	--	MNVR TIME = 4 MIN EIG ANG = 120°

TABLE 9-12 Continued

MET (D/HH:MM:SS)	EVENT	ATTITUDE (P,Y,R EULER SEQ)			ATT MODE	DEADBANDS		DISC RATE (°/sec)	DAP			EARTH		SUN		REMARKS
		Roll	Pitch	Yaw		ATT (deg)	RATE (°/sec)		SEL	CONT	RCS	θ	φ	θ	φ	
3/05:46:00	L2U BURN 2 ATT	148.3	149.3	309.4	INRTL	3.0	0.2	0.5	B5	AUTO	NORM	77	292	70	207	
3/05:51:26	L2U BURN 2															
3/05:53:00	DAP RECONFIG					3.0	0.02	0.2	B5	AUTO	VERN					
3/06:04:00	AUTO MNVR TO L2U BURN 3 ATT	--	--	--	--	3.0	0.02	0.2	B5	AUTO	VERN	--	--	--	--	MNVR TIME = 13 MIN EIG ANG = 148°
3/06:17:00	L2U BURN 3 ATT	97.2	329.7	332.2	INRTL	3.0	0.02	0.2	B5	AUTO	VERN	48	90	90	104	
3/06:20:00	BURN PREP					3.0	0.2	0.5	B5	AUTO	NORM					
3/06:21:56	L2U BURN 3															
3/06:24:00	DAP RECONFIG					3.0	0.02	0.2	B5	AUTO	VERN					
3/06:26:00	AUTO MNVR TO L2U BURN 4 ATT	--	--	--	--	3.0	0.2	0.5	B5	AUTO	NORM	--	--	--	--	MNVR TIME = 4 MIN EIG ANG = 91°
3/06:30:00	L2U BURN 4 ATT	236	110.5	304.1	INRTL	3.0	0.02	0.2	B5	AUTO	VERN	89	356	90	90	
3/06:50:00	DAP RECONFIG					3.0	0.2	0.5	B5	AUTO	NORM					
3/06:51:16	L2U BURN 4															
3/06:53:00	DAP RECONFIG					3.0	0.02	0.2	B5	AUTO	VERN					
3/07:15:00	AUTO MNVR TO L2U BURN 5 ATT	--	--	--	--	3.0	0.2	0.5	B5	AUTO	NORM	--	--	--	--	MNVR TIME = 3 MIN EIG ANG = 90°
3/07:18:00	L2U BURN 5 ATT	104.0	344.2	334.8	INRTL	3.0	0.2	0.5	B5	AUTO	NORM	176	90	103	104	
3/07:22:56	L2U BURN 5															

TABLE 9-12 Continued

MET (D/HH:MM:SS)	EVENT	ATTITUDE (P, Y, R EULER SEQ)			ATT MODE	DEADBANDS		DISC RATE (0/sec)	DAP			EARTH		SUN		REMARKS
		Roll	Pitch	Yaw		ATT (deg)	RATE (0/sec)		SEL	CONT	RCS	$\theta$	$\phi$	$\theta$	$\phi$	
3/07:24:00	DAP RECONFIG					3.0	0.02	0.2	B5	AUTO	VERN					
3/07:27:00	AUTO MNVR TO IMU ALIGN ATT	--	--	--	--	1.0	0.02	0.2	A10	AUTO	VERN	--	--	--	--	MNVR TIME = 5 MIN EIG ANG = 60°
3/07:32:00	IMU ALIGN ATT	93.6	34.7	1.3	INRTL	1.0	0.02	0.2	A10	AUTO	VERN	173	60	158	136	-YST: 21 PROCYON SEP -ZST: 45 POLARIS 84.6 3/07:25 - 3/08:11
3/07:43:00	INITIATE XSI ZPEP ATT MODE	--	--	--	--	2.0	0.02	0.2	B6	AUTO	VERN	--	--	--	--	MNVR TIME = 14 MIN EIG ANG = 162°
3/07:57:00	X SI ZPEP ATT	75.3	232.4	351.4	INRTL	2.0	0.02	0.2	B6	AUTO	VERN	85	257	10	180	TGT ID 4 P = 350 BODY VECT 5 Y = 0 OM = 284
3/19:15:00	AUTO MNVR TO IMU ALIGN ATT	--	--	--	--	1.0	0.02	0.2	A10	AUTO	VERN	--	--	--	--	MNVR TIME = 5 MIN EIG ANG = 57°
3/19:20:00	IMU ALIGN ATT	73.0	279.6	321.7	INRTL	1.0	0.02	0.2	A10	AUTO	VERN	109	97	47	96	-YST: 54 DIPHDA SEP -ZST: 27 DENEH 83.7 03/19:00 - 03/19:44
3/19:30:00	INITIATE X SI XPEP ATT MODE	--	--	--	--	2.0	0.02	0.2	B6	AUTO	VERN	--	--	--	--	MNVR TIME = 5 MIN EIG ANG = 56°
3/19:35:00	X SI ZPEP ATT	75.9	232.8	351.2	INRTL	2.0	0.02	0.2	B6	AUTO	VERN	2	311	10	180	TGT ID 4 P = 350 BODY VECT 5 Y = 0 OM = 284
3/21:05:00	DPS RECONFIG TO GNC B					1.0	0.02	0.2	A1	AUTO	VERN					
3/21:20:00	FCS CHECKOUT APU START					5.0	0.2	0.2	A1	AUTO	NORM					
3/21:25:00	APU SHUTDOWN					1.0	0.02	0.2	A1	AUTO	VERN					
3/21:30:00	SENSOR TEST					N/A	N/A	N/A	A1	MAN PULSE	VERN					
3/21:35:00	RE-ESTABLISH X SI ZPEP ATT	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 3 MIN EIG ANG 30°
3/21:38:00	X SI ZPEP ATT	76	232.9	351.2	INRTL	2.0	0.02	0.2	B6	AUTO	VERN	134	255	10	180	TGT ID 4 P = 350 BODY VECT 5 Y = 0 OM = 284
4/02:44:00	INITIATE -XLV ZPOP PLBD NORTH ATT MODE	--	--	--		1.0	0.02	0.2	B6	AUTO	VERN	--	--	--	--	MNVR TIME = 9 MIN EIG ANG = 101°

TABLE 9-12 Continued

MET (D/HH:MM:SS)	EVENT	ATTITUDE (P, Y, R EULER SEQ)			* ATT MODE	DEADBANDS		DISC RATE (0/sec)	DAP			EARTH		SUN		REMARKS
		Roll	Pitch	Yaw		ATT (deg)	RATE (0/sec)		SEL	CONT	RCS	θ	φ	θ	φ	
4/02:53:00	-XLV ZPOP ATT	270	90	0	LVLH	1.0	0.02	0.2	A8	AUTO	VERN	180	0	133	104	TGT ID 2 BODY VECT 2 OM = 90
4/02:54:00	LVLH TEST ROLL MNVR	--	--	--	--	1.0	0.02	0.2	A8	MAN DISC	VERN	--	--	--	--	MNVR TIME = 1 MIN EIG ANG = 10°
4/02:55:00	ATTITUDE HOLD	280	90	0	LVLH	1.0	0.02	0.2	A8	LVLH	VERN	180	0	141	97	
4/02:59:00	INITIATE -XLV ZPOP PLBD NORTH ATT	--	--	--	--	1.0	0.02	0.2	A8	AUTO	VERN	--	--	--	--	MNVR TIME = 1 MIN EIG ANG = 10°
4/03:00:00	-XLV ZPOP ATT	270	90	0	LVLH	1.0	0.02	0.2	A8	AUTO	VERN	180	0	159	121	TGT ID 2 BODY VECT 2 OM = 90
4/03:01:00	LVLH TEST PITCH MNVR	--	--	--	--	1.0	0.02	0.2	A8	MAN DISC	VERN	--	--	--	--	MNVR TIME = 1 MIN EIG ANG = 10°
4/03:02:00	ATTITUDE HOLD	270	90	350	LVLH	1.0	0.02	0.2	A8	LVLH	VERN	170	0	170	93	
4/03:06:00	INITIATE -XLV ZPOP PLBD NORTH ATT	--	--	--	--	1.0	0.02	0.2	A8	AUTO	VERN	--	--	--	--	MNVR TIME = 1 MIN EIG ANG = 10°
4/03:07:00	-XLV ZPOP ATT	270	90	0	LVLH	1.0	0.02	0.2	A8	AUTO	VERN	180	0	166	223	TGT ID 2 BODY VECT 2 OM = 90
4/03:08:00	LVLH TEST YAW MNVR	--	--	--	--	1.0	0.02	0.2	A8	MAN DISC	VERN	--	--	--	--	MNVR TIME = 1 MIN EIG ANG 10°
4/03:09:00	ATTITUDE HOLD	270	100	0	LVLH	1.0	0.02	0.2	A8	LVLH	VERN	170	90	167	216	
4/03:13:00	INITIATE -XLV ZPOP PLBD NORTH ATT	--	--	--	--	1.0	0.02	0.2	A8	AUTO	VERN	--	--	--	--	MNVR TIME = 1 MIN EIG ANG = 10°
4/03:14:00	-XLV ZPOP ATT	270	90	0	LVLH	1.0	0.02	0.2	A8	AUTO	VERN	180	0	141	253	TGT ID 2 BODY VECT 2 OM = 90
4/03:15:00	LVLH TEST PULSE MNVR (+X ROT)	--	--	--	--	1.0	0.02	0.2	A8	MAN DISC	VERN	--	--	--	--	MNVR TIME = 2 MIN EIG ANG = 24°
4/03:17:00	ATTITUDE HOLD	294	90	0	LVLH	1.0	0.02	0.2	A8	LVLH	VERN	180	0	129	232	
4/03:25:00	INITIATE -ZLV YPOP NOSE FWD ATT MODE	--	--	--	--	2.0	0.02	0.2	B6	AUTO	VERN	--	--	--	--	MNVR TIME = 12 MIN EIG ANG = 135°

TABLE 9-12 Continued

MET (D/HH:MM:SS)	EVENT	ATTITUDE (P, Y, R EULER SEQ)			ATT MODE	DEADBANDS		DISC RATE (°/sec)	DAP			EARTH		SUN		REMARKS
		Roll	Pitch	Yaw		ATT (deg)	RATE (°/sec)		SEL	CONT	RCS	θ	φ	θ	φ	
4/03:37:00	-ZLV YPOP ATT	180	0	0	LVLH	2.0	0.02	0.2	B6	AUTO	VERN	90	0	41	196	TGT ID 2 BODY VECT 3 OM = 180
4/07:32:00	AUTO MNVR TO IMU ALIGN ATT	--	--	--	--	1.0	0.02	0.2	A8	AUTO	VERN	--	--	--	--	MNVR TIME = 13 MIN EIG ANG = 156°
4/07:45:00	IMU ALIGN ATT	178.5	203	11.6	INRTL	1.0	0.02	0.2	A8	AUTO	VERN	83	153	41	134	-YST: 45 POLARIS SEP -ZST: 21 PROCYON 84.6 4/07:22 - 4/08:09
4/07:52:00	AUTO MNVR TO PTC ATT	--	--	--	--	1.0	0.02	0.2	A8	AUTO	VERN	--	--	--	--	MNVR TIME = 10 MIN EIG ANG = 109°
4/08:02:00	PTC ATT	36.0	289.8	57.1	INRTL	1.0	0.2	0.4	A2	AUTO	NORM	94	292	90	180	
4/08:03:00	.40/sec PTC ROT	36.0	289.8	57.1	ROTR	1.0	0.2	0.4	A2	AUTO	NORM	94	296	90	180	EIG AXIS:BODY VECT 4
4/08:04:00	DAP RECONFIG					1.0	0.02	0.4	A2	AUTO	VERN					
4/18:47:00	AUTO MNVR TO IMU ALIGN ATT	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 11 MIN EIG ANG = 129°
4/18:58:00	IMU ALIGN ATT	256.2	13.7	345.8	INRTL	1.0	0.02	0.2	A1	AUTO	VERN	89	131	131	324	-YST: 22 ALTAIR SEP -ZST: 51 ATRIA 84.0 4/18:41 - 4/19:25
4/19:08:00	AUTO MNVR TO TAIL SUN	--	--	--	--	1.0	0.02	0.2	A1	AUTO	VERN	--	--	--	--	MNVR TIME = 6 MIN EIG ANG = 63°
4/19:14:00	TAIL SUN ATT	298.5	49.3	22.2	INRTL	1.0	0.02	0.2	A1	AUTO	VERN	104	93	176	178	
4/20:45:00	CONFIG TO PRCS					3.0	0.2	0.5	B6	AUTO	NORM					
4/21:25:00	DAP RECONFIG					3.0	0.2	0.5	B1	AUTO	NORM					
4/22:22:00	AUTO MNVR TO IMU ALIGN ATT	--	--	--	--	3.0	0.2	0.5	B1	AUTO	NORM	--	--	--	--	MNVR TIME = 3 MIN EIG ANG = 84°
4/22:25:00	IMU ALIGN ATT	167.3	193.4	71.5	INRTL	3.0	0.2	0.5	B1	AUTO	NORM	72	120	94	138	-YST: 37 ALPHERATZ SEP -ZST: 23 BETELGEUSE 83.5 4:22:15 - 4:22:50
4/22:30:00	AUTO MNVR TO IMU ALIGN VERIF	--	--	--	--	3.0	0.2	0.5	B1	AUTO	NORM	--	--	--	--	MNVR TIME = 3 MIN EIG ANG = 63°



TABLE 9-12 Concluded

MET (D/HH:MM:SS)	EVENT	ATTITUDE (P,Y,R EULER SEQ)			ATT MODE	DEADBANDS		DISC RATE (°/sec)	DAP			EARTH		SUN		REMARKS
		Roll	Pitch	Yaw		ATT (deg)	RATE (°/sec)		SEL	CONT	RCS	θ	φ	θ	φ	
4/22:33:00	IMU ALIGN VERIF	178.5	203.0	11.6	INRTL	3.0	0.2	0.5	B1	AUTO	NORM	44	147	41	135	-YST: 45 POLARIS SEP -ZST: 21 PROCYON 84.6 4/22:21 - 4/23:08
4/22:50:00	AUTO MNVR TO TOP SUN ATT	--	--	--	--	3.0	0.2	0.5	B1	AUTO	NORM	--	--	--	--	MNVR TIME = 4 MIN EIG ANG = 109°
4/22:54:00	TOP SUN ATT	191.7	307.8	334.1	INRTL	3.0	0.2	0.5	B1	AUTO	NORM	19	162	70	0	
4/23:04:00	DPS CONFIG TO GNC 3					3.5	0.3	0.5	*	AUTO	*					
4/23:34:00	CONFIG RJDs															
5/00:54:00	AUTO MNVR TO DEORBIT BURN ATT	--	--	--	--	3.5	0.3	0.5	*	AUTO	*	--	--	--	--	MNVR TIME = 3 MIN EIG ANG = 74°
5/00:57:00	DEORBIT BURN ATT	153	232	349	INRTL	3.5	0.3	0.5	*	AUTO	*	119	359	8	112	
5/01:06:00	ACTIVATE SINGLE APU															
5/01:09:46	DEORBIT IGNITION															262.1 fps ΔV
5/01:12:07	DEORBIT BURN CUT-OFF															
5/01:26:00	AUTO MNVR TO EI-5 ATT	--	--	--	--	3.5	0.3	0.5	*	AUTO	*	--	--	--	--	MNVR TIME = 5 MIN EIG ANG = 131°
5/01:27:00	ACTIVATE REMAINING APUs															
5/01:31:00	EI-5 ATT	189	103	29	INRTL	3.5	0.3	0.5	*	AUTO	*	106	179	131	171	
5/01:36:16	EI	1	39	359	LVLH	3.5	0.3	0.5	*	AUTO	*	129	180	112	172	

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## ABBREVIATIONS/ACRONYMS

More complete compilations of abbreviations and acronyms are available in the Acronyms and Abbreviations Dictionary (Ref. 8).

ABBREVIATIONS/  
ACRONYMS

ABBREVIATIONS/ACRONYMS

ABS	ABSORBER
ACIP	AERODYNAMIC COEFFICIENTS IDENTIFICATION PACKAGE
ACN	ASCENSION ISLAND (STDN SITE)
ACT	ACTIVATE/ACTIVATION
ACTY	ACUITY
ADI	ATTITUDE DIRECTOR INDICATOR
AGO	SANTIAGO, CHILE (STDN SITE)
ALN	ALIGNMENT
ANT	ANTENNA
AOA	ABORT ONCE AROUND
AOS	ACQUISITION OF SIGNAL
ATCS	ACTIVE THERMAL CONTROL SYSTEM
ATT	ATTITUDE
ATO	ABORT TO ORBIT
BDA	BERMUDA ISLAND; BWI (STDN SITE)
BHD	BULKHEAD
BLKT	BLANKET
BOT	BOTSWANA (STDN SITE)
BUC	BUCKHORN, CALIFORNIA (STDN SITE)
BYP	BYPASS
CAL	CALIBRATION
CAMR	CAMERA
CCTV	CLOSED-CIRCUIT TV
CCU	CREWMAN COMMUNICATIONS UMBILICAL
CDR	COMMANDER
CHG	CHANGE
CL	CHECKLIST

ABBREVIATIONS/  
ACRONYMS

CLN	CLEAN
C/O	CHECKOUT
COAS	CREWMAN OPTICAL ALIGNMENT SIGHT
COM	COMMUNICATIONS
CONFIG/CNFG	CONFIGURATION
CONV	CONVECTION
CST	CENTRAL STANDARD TIME
CSTL	CRYSTAL
CTLS	CONTROLS
C&W	CAUTION AND WARNING
DAP	DIGITAL AUTOPILOT
DB	DEADBAND
DEACT	DEACTIVATION
DEU	DISPLAY ELECTRONICS UNIT
DFI	DEVELOPMENT FLIGHT INSTRUMENTATION
DKR	DAKAR, SENEGAL (STDN SITE)
DMS	DATA MANAGEMENT SYSTEM
DMP	DUMP
DPLY	DEPLOY
DSO	DETAILED SUPPLEMENTARY OBJECTIVE
DTO	DETAILED TEST OBJECTIVE
ECLS	ENVIRONMENTAL CONTROL LIFE SUPPORT SYSTEM
EDW	EDWARDS AFB, CALIFORNIA (DEORB OPT SITE)
EI	ENTRY INTERFACE
EMU	EXTRAVEHICULAR MOBILITY UNIT
ENA	ENABLE
ENT	ENTRY
EOG	ELECTRO OCULOGRAM

EVA	EXTRAVEHICULAR ACTIVITY
EX/EXER	EXERCISE
EXP	EXPERIMENT
F&S	FIRE AND SMOKE DETECTION
FC	FUEL CELL
FCS	FLIGHT CONTROL SYSTEM
FD	FLIGHT DAY
FDF	FLIGHT DATA FILE
FES	FLASH EVAPORATOR SYSTEM
FM	FREQUENCY MODULATION
F/W	FOOD WARMER
FWD	FORWARD
GAS	GETAWAY SPECIAL
GDS	GOLDSTONE, CALIFORNIA (STDN SITE, 1ST ANTENNA)
GDX	GOLDSTONE, CALIFORNIA (STDN SITE, 2ND ANTENNA)
GMT	GREENWICH MEAN TIME
GNC	GUIDANCE NAVIGATION AND CONTROL
GPC	GENERAL PURPOSE COMPUTER
GRP	GROUP
GRW	GROWTH
GSTDN	GROUND SPACE TRACKING & DATA NETWORK
GWM	GUAM ISLAND, U.S. (STDN SITE)
HAW	HAWAII (KAUAI, STDN SITE)
HK	HOUSEKEEPING
HL	HI LOAD FLASH EVAPORATOR
HTR	HEATER
HYD	HYDRAULIC

IMU	INERTIAL MEASUREMENT UNIT
INH	INHIBIT
INIT	INITIATE
INRTL	INERTIAL
IOS	INDIAN OCEAN (SGLS SITE)
KIN	KINESTHETIC
KSC	KENNEDY SPACE CENTER
LEH	LAUNCH/ENTRY HELMET
LOS	LOSS-OF-SIGNAL
LVLH	LOCAL VERTICAL LOCAL HORIZONTAL
MAD	MADRID, SPAIN (STDN SITE, 1ST ANTENNA)
MAX	MADRID, SPAIN (STDN SITE, 2ND ANTENNA)
MCC	MISSION CONTROL CENTER
MD	MIDDECK
MDM	MULTIPLEXER/DEMULTIPLEXER
MECH	MECHANISM; MECHANICAL
MECO	MAIN ENGINE CUTOFF
MET	MISSION ELAPSED TIME
MIL	MERRITT ISLAND, FLORIDA (STDN SITE)
MILA	MERRITT ISLAND LAUNCH AREA
MLR	MONODISPERSE LATEX REACTOR
MLX	MERRITT ISLAND, FLORIDA (STDN SITE, 2ND ANTENNA)
MNVR	MANEUVER
MPS	MAIN PROPULSION SYSTEM
MSG	MESSAGE
NAV	NAVIGATION
OI	OPERATIONAL INSTRUMENTATION

OMS	ORBITAL MANEUVERING SYSTEM
O/O	ON ORBIT
OPS	OPERATIONS; OPERATIONAL SEQUENCE
ORB	ORBITER
ORR	ORRORAL VALLEY, AUSTRALIA (STDN SITE)
OX	OXYGEN
PAM	PAYLOAD ASSIST MODULE
PAM-D	PAM, DELTA CLASS SPACECRAFT
PCM	PULSE-CODE MODULATION
PCS	PRESSURE CONTROL SYSTEM
PERF	PERFORMANCE
PKM	PERIGEE KICK MOTOR
PL	PAYLOAD
PLBD	PAYLOAD BAY DOORS
PLD	PAYLOAD
PLT	PILOT
PM	PHASE MODULATION
PMC	PRIVATE MEDICAL COMMUNICATION
PRCS	PRIMARY REACTION CONTROL SYSTEM
PREP	PREPARATION
PRO	PROCEED
PRSD	POWER REACTANT SUPPLY AND DISTRIBUTION
PSA	PRE/POST SLEEP ACTIVITY
PTC	PASSIVE THERMAL CONTROL
PWRDN	POWERDOWN
RAD	RADIATOR
RCS	REACTION CONTROL SYSTEM
REF	REFERENCE



REFSMMAT	REFERENCE STABLE MEMBER MATRIX
RELMAT	RELATIVE MATRIX
RF	RADIO FREQUENCY
RMS	REMOTE MANIPULATOR SYSTEM
ROT	ROTATION/ROTA FIELD
RSET	RESET
RTC	REAL-TIME COMMAND
SAA	SOUTH ATLANTIC ANOMALY
S-BD	S-BAND
SBS	SATELLITE BUSINESS SYSTEMS (PAYLOAD)
SEL	SELECT
SEP	SEPARATION
SEQ	SEQUENCE
SGLS	SPACE GROUND LINK SYSTEM/STATION (DOD)
SPC	STORED PROGRAM COMMAND
SPLY	SUPPLY
SPNG	SPONGE
ST/S TRKR	STAR TRACKER
STBD	STARBOARD
STDN	SPACE TRACKING & DATA NETWORK
STS	SPACE TRANSPORTATION SYSTEM
STW	STOW
S/U	SETUP
SW	SWITCH
SYS	SYSTEM
TB	TALKBACK
TELESAT	TELESAT (CANADIAN PAYLOAD)
TERM	TERMINATE; TERMINAL

THRSHLD	THRESHOLD
TIG	TIME OF IGNITION
TPR	TELEPRINTER
UHF	ULTRA HIGH FREQUENCY
VAC	VACUUM
VAL	VALIDATION
VER	VERIFICATION
VIS	VISUAL
VRCS	VERNIER REACTION CONTROL SYSTEM
VTR	VIDEO TAPE RECORDER
WB	WIDEBAND
WCS	WASTE COLLECTION SYSTEM
W/P	WINDOW PROTECTION
XFER	TRANSFER
X-POP	X BODY AXIS PERPENDICULAR TO ORBIT PLANE
YAR	YARRAGADEE (STDN SITE)
Y-POP	Y BODY AXIS PERPENDICULAR TO ORBIT PLANE
-ZLV	-Z LOCAL VERTICAL (-Z BODY AXIS TOWARDS EARTH)



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C. Cooper  
White Sands Test Facility  
RD/R. Tillet  
Charles Draper Laboratory  
555 Technology Square  
Cambridge, MA 02139  
Attn: J. Turnbull (3)  
Patrick A.F.B., FL 32925  
AFTEC/OL-BF7YED  
HQ NORAD/DOYY  
Cheyenne Mtn Complex,  
CO 80914 (2)  
Hamilton Standard  
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IA204/R. C. Wilde  
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5301 Bolsa Avenue  
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