

Flight Data File Crew Activity Plan STS 61-C (Cycle 2 Trajectory)

Mission Operations Directorate
Operations Division

Final, Revision A
November 26, 1985

| <u>EVENT</u> | <u>CST</u> | | |
|-----------------------|------------|-----|--------|
| Launch | 06:00 | Wed | Dec 18 |
| SATCOM Deploy | 15:32 | Wed | Dec 18 |
| Crew Press Conference | 05:43 | Sun | Dec 22 |
| KSC Landing | 06:14 | Mon | Dec 23 |



National Aeronautics and
Space Administration

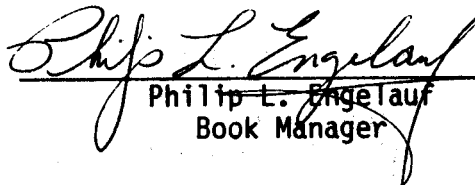
Lyndon B. Johnson Space Center
Houston, Texas

MISSION OPERATIONS DIRECTORATE


STS 61-C CREW ACTIVITY PLAN


FINAL, REVISION A
November 26, 1985


PREPARED BY:

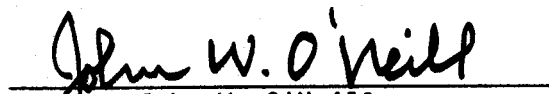

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This document is under the configuration control of the Crew Procedures Control Board (CPCB). All proposed changes must be submitted on standard JSC Form 482 to DH4/FDF Manager, Bldg 4, Rm 352, 713-483-2868.

Comments concerning this document may be addressed to DH4/Phil Engelauf, or DH4/Dennis Knutson, Bldg 4, Rm 348B, 713-483-3486.

Changes to the distribution list should be submitted in writing to DH4/Gwen Butler, Bldg 4, Rm 373, 713-483-5224.

Incorporates 482

| | | |
|-----|---------|------------|
| No: | CAP-444 | EZ CAP-453 |
| | CAP-445 | EZ CAP-454 |
| | CAP-446 | CAP-457 |
| | CAP-447 | CAP-459 |
| | CAP-448 | |

ACKNOWLEDGMENTS

The following individuals contributed significantly to preparing the STS 61-C Crew Activity Plan:

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STS 61-C CREW ACTIVITY PLAN

LIST OF EFFECTIVE PAGES

FINAL 11/26/85

| | | | |
|-----------|----------------|-----------|----------------|
| i..... | CAP/61-C/FIN A | 4-2..... | CAP/61-C/FIN A |
| ii..... | CAP/61-C/FIN A | 4-3..... | CAP/61-C/FIN A |
| iii..... | CAP/61-C/FIN A | 4-4..... | CAP/61-C/FIN A |
| iv..... | CAP/61-C/FIN A | 4-5..... | CAP/61-C/FIN A |
| v..... | CAP/61-C/FIN A | 4-6..... | CAP/61-C/FIN A |
| vi..... | CAP/61-C/FIN A | 4-7..... | CAP/61-C/FIN A |
| 1-1..... | CAP/61-C/FIN A | 4-8..... | CAP/61-C/FIN A |
| 1-2..... | CAP/61-C/FIN A | 5-1..... | CAP/61-C/FIN A |
| 1-3..... | CAP/61-C/FIN A | 5-2..... | CAP/61-C/FIN A |
| 1-4..... | CAP/61-C/FIN A | 5-3..... | CAP/61-C/FIN A |
| 2-1..... | CAP/61-C/FIN A | 5-18..... | CAP/61-C/FIN A |
| 2-2..... | CAP/61-C/FIN A | 6-1..... | CAP/61-C/FIN A |
| 2-3..... | CAP/61-C/FIN A | 6-2..... | CAP/61-C/FIN A |
| 2-4..... | CAP/61-C/FIN A | 6-3..... | CAP/61-C/FIN A |
| 2-5..... | CAP/61-C/FIN A | 6-4..... | CAP/61-C/FIN A |
| 2-6..... | CAP/61-C/FIN A | 6-5..... | CAP/61-C/FIN A |
| 2-7..... | CAP/61-C/FIN A | 6-6..... | CAP/61-C/FIN A |
| 2-8..... | CAP/61-C/FIN A | | |
| 2-9..... | CAP/61-C/FIN A | | |
| 2-10..... | CAP/61-C/FIN A | | |
| 2-11..... | CAP/61-C/FIN A | | |
| 2-12..... | CAP/61-C/FIN A | | |
| 3-1..... | CAP/61-C/FIN A | | |
| 3-2..... | CAP/61-C/FIN A | | |
| 3-3..... | CAP/61-C/FIN A | | |
| 3-4..... | CAP/61-C/FIN A | | |
| 3-5..... | CAP/61-C/FIN A | | |
| 3-6..... | CAP/61-C/FIN A | | |
| 3-7..... | CAP/61-C/FIN A | | |
| 3-8..... | CAP/61-C/FIN A | | |
| 3-9..... | CAP/61-C/FIN A | | |
| 3-10..... | CAP/61-C/FIN A | | |
| 3-11..... | CAP/61-C/FIN A | | |
| 3-12..... | CAP/61-C/FIN A | | |
| 3-13..... | CAP/61-C/FIN A | | |
| 3-14..... | CAP/61-C/FIN A | | |
| 3-15..... | CAP/61-C/FIN A | | |
| 3-16..... | CAP/61-C/FIN A | | |
| 3-17..... | CAP/61-C/FIN A | | |
| 3-18..... | CAP/61-C/FIN A | | |
| 3-19..... | CAP/61-C/FIN A | | |
| 3-20..... | CAP/61-C/FIN A | | |
| 3-21..... | CAP/61-C/FIN A | | |
| 3-22..... | CAP/61-C/FIN A | | |
| 3-23..... | CAP/61-C/FIN A | | |
| 3-24..... | CAP/61-C/FIN A | | |
| 3-25..... | CAP/61-C/FIN A | | |
| 3-26..... | CAP/61-C/FIN A | | |
| 4-1..... | CAP/61-C/FIN A | | |

STS 61-C CAP CUE CARDS

| | | |
|--|------|----------------|
| DAP Book Front Cover..... | 5-4 | CAP/61-C/O/FIN |
| UNIV PTG (Back of DAP Book Front Cover)..... | 5-4 | CAP/61-C/O/FIN |
| DAP A TOC..... | 5-5 | CAP/61-C/O/FIN |
| DAP A1..... | 5-5 | CAP/61-C/O/FIN |
| A1..... | 5-5 | CAP/61-C/O/FIN |
| DAP A2..... | 5-6 | CAP/61-C/O/FIN |
| A2..... | 5-6 | CAP/61-C/O/FIN |
| DAP A3..... | 5-6 | CAP/61-C/O/FIN |
| A3..... | 5-6 | CAP/61-C/O/FIN |
| DAP A4..... | 5-7 | CAP/61-C/O/FIN |
| A4..... | 5-7 | CAP/61-C/O/FIN |
| DAP A5..... | 5-7 | CAP/61-C/O/FIN |
| A5..... | 5-7 | CAP/61-C/O/FIN |
| DAP A6..... | 5-8 | CAP/61-C/O/FIN |
| A6..... | 5-8 | CAP/61-C/O/FIN |
| DAP A7..... | 5-8 | CAP/61-C/O/FIN |
| A7..... | 5-8 | CAP/61-C/O/FIN |
| DAP A8..... | 5-9 | CAP/61-C/O/FIN |
| A8..... | 5-9 | CAP/61-C/O/FIN |
| DAP A9..... | 5-9 | CAP/61-C/O/FIN |
| A9..... | 5-9 | CAP/61-C/O/FIN |
| DAP A10..... | 5-10 | CAP/61-C/O/FIN |
| A10..... | 5-10 | CAP/61-C/O/FIN |
| DAP A11..... | 5-10 | CAP/61-C/O/FIN |
| A11..... | 5-10 | CAP/61-C/O/FIN |
| DAP A12..... | 5-11 | CAP/61-C/O/FIN |
| A12..... | 5-11 | CAP/61-C/O/FIN |
| (Blank)..... | 5-11 | CAP/61-C/O/FIN |
| DAP B TOC..... | 5-11 | CAP/61-C/O/FIN |
| DAP B1..... | 5-12 | CAP/61-C/O/FIN |
| B1..... | 5-12 | CAP/61-C/O/FIN |
| DAP B2..... | 5-12 | CAP/61-C/O/FIN |
| B2..... | 5-12 | CAP/61-C/O/FIN |
| DAP B3..... | 5-13 | CAP/61-C/O/FIN |
| B3..... | 5-13 | CAP/61-C/O/FIN |
| DAP B4..... | 5-13 | CAP/61-C/O/FIN |
| B4..... | 5-13 | CAP/61-C/O/FIN |
| DAP B5..... | 5-14 | CAP/61-C/O/FIN |
| B5..... | 5-14 | CAP/61-C/O/FIN |
| DAP B6..... | 5-14 | CAP/61-C/O/FIN |
| B6..... | 5-14 | CAP/61-C/O/FIN |
| DAP B7..... | 5-15 | CAP/61-C/O/FIN |
| B7..... | 5-15 | CAP/61-C/O/FIN |
| DAP B8..... | 5-15 | CAP/61-C/O/FIN |
| B8..... | 5-15 | CAP/61-C/O/FIN |
| DAP B9..... | 5-16 | CAP/61-C/O/FIN |
| B9..... | 5-16 | CAP/61-C/O/FIN |
| (Blank)..... | 5-16 | CAP/61-C/O/FIN |
| DAP Book (Back Cover)..... | 5-17 | CAP/61-C/O/FIN |

CONTENTS

PAGE

INTRODUCTION..... v

STS 61-C OVERVIEW..... 1-1

SUMMARY TIMELINE..... 2-1

DETAILED TIMELINE..... 3-1

 FLT DAY 1..... 3-2

 FLT DAY 2..... 3-6

 FLT DAY 3..... 3-10

 FLT DAY 4..... 3-15

 FLT DAY 5..... 3-20

 FLT DAY 6..... 3-24

CONSUMABLES CURVES..... 4-1

STS 61-C DAP BOOK..... 5-1

STS 61-C ATTITUDE TIMELINE..... 6-1

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INTRODUCTION

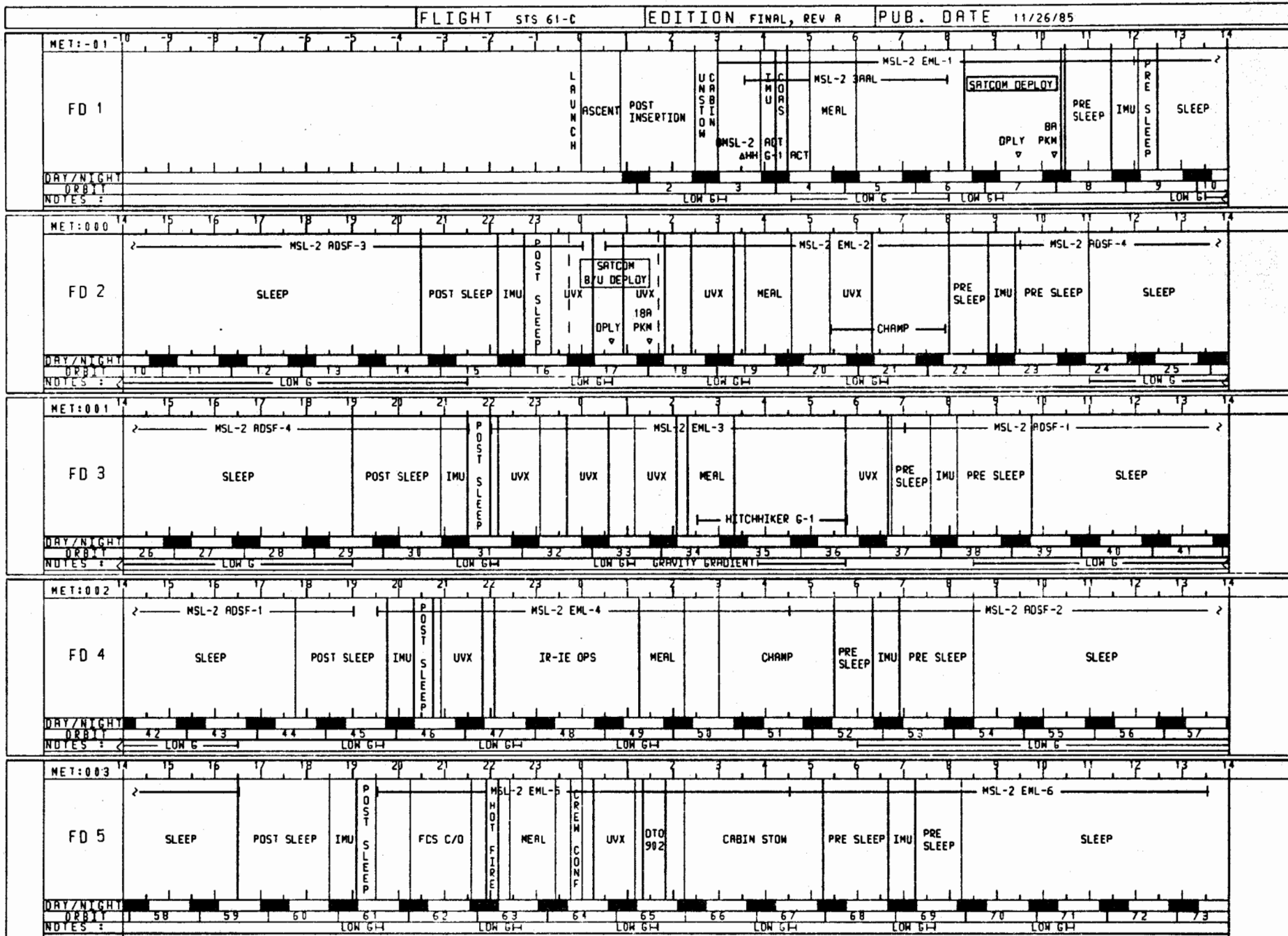
The STS 61-C Crew Activity Plan is the flight data file article that contains the on-orbit timeline. It does not contain the detailed timelines that are covered in the Ascent, Post Insertion, Deorbit Prep, and Entry Checklists. For continuity, the entire flight is shown in the summary level timeline.

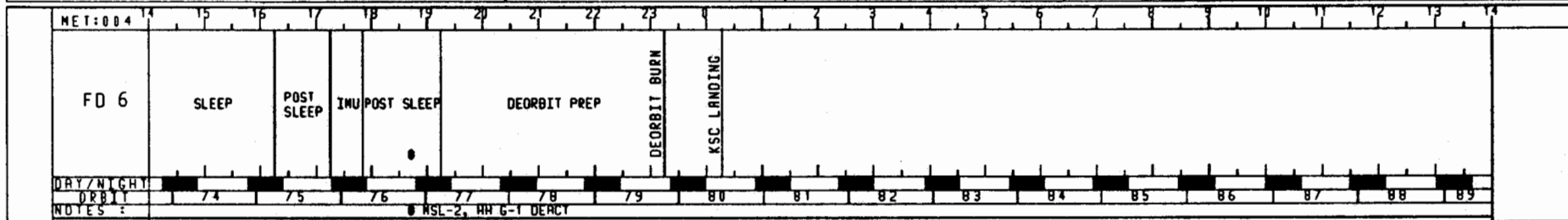
This on-orbit timeline satisfies the objectives specified in the Flight Definition and Requirements Directive and the requirements of the STS 61-C Flight Requirements Document.

The flight profile (Cycle 2 trajectory data) used for this Crew Activity Plan is for a launch date of December 20, 1985, at 12:00 GMT. The launch date change to December 18, 1985, at 12:00 GMT has been incorporated throughout the Crew Activity Plan where appropriate and does not impact the trajectory data. Orbiter inertial attitudes are expressed relative to the Mean of 1950 (M50) reference frame.

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STS 61-C OVERVIEW





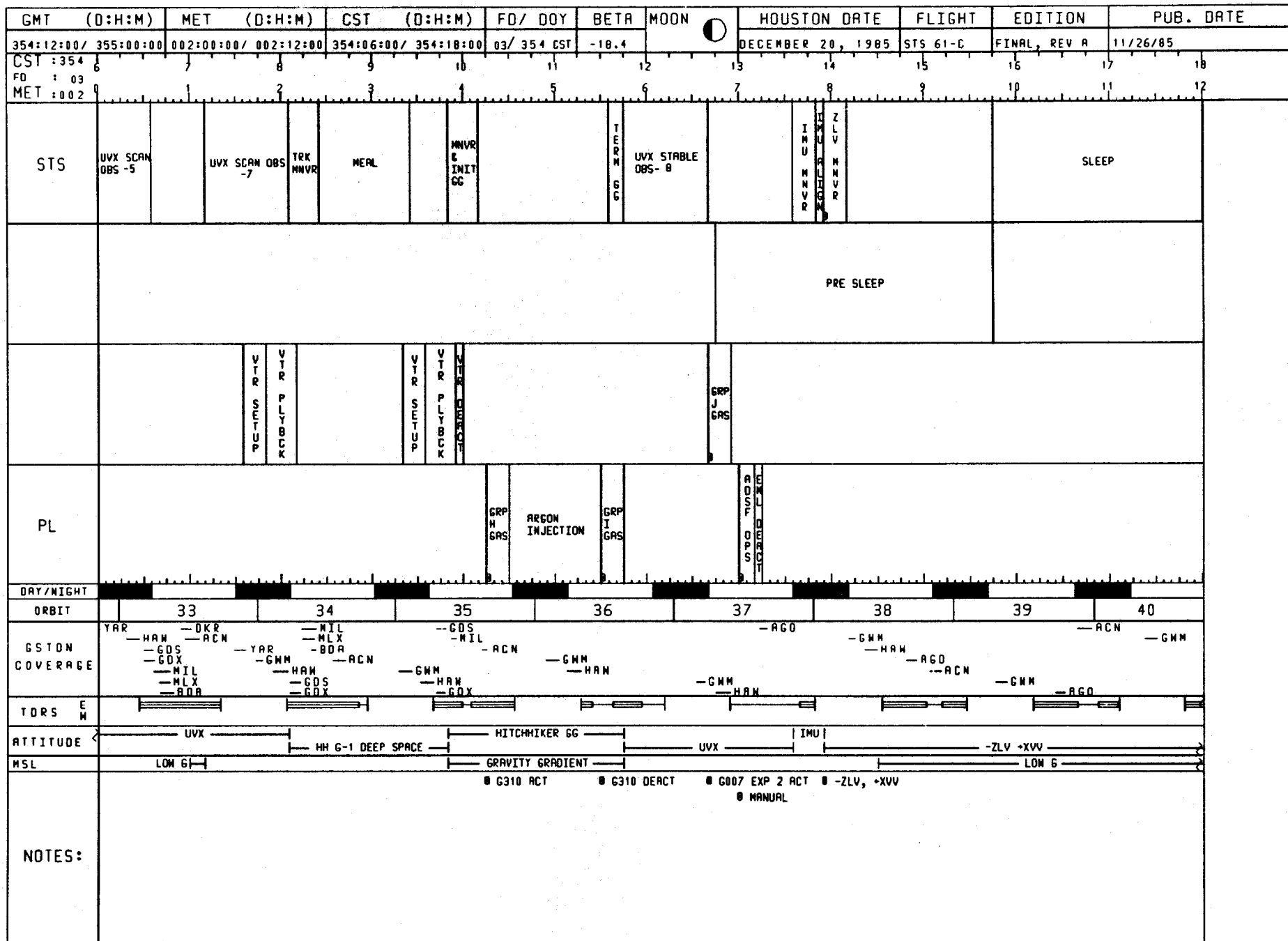
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SUMMARY TIMELINE

| GMT (D:H:M) | | MET (D:H:M) | | CST (D:H:M) | | FD/ DOY | BETA | MOON  | HOUSTON DATE | FLIGHT | EDITION | PUB. DATE | | |
|-----------------------|---|-----------------------|------|-----------------------|----------------------|--------------|----------------------|--|----------------------|----------------------|------------------------------|---|------------------------|------|
| 353:00:00 / 353:12:00 | | 000:12:00 / 001:00:00 | | 352:18:00 / 353:06:00 | | 01 / 352 CST | -24.3 | | DECEMBER 18, 1985 | STS 61-C | FINAL, REV A | 11/26/85 | | |
| CST : 352 | 18 | 19 | 20 | 21 | 22 | 23 | | 0 | 2 | 3 | 4 | 5 | 6 | |
| FD : 01 | | | | | | | | CST: 353 | | FD : 02 | | | | |
| MET : 000 | 12 | 13 | 14 | 15 | 16 | 17 | | 18 | 19 | 20 | 21 | 22 | 23 | 0 |
| STS | Z V V R | SLEEP | | | | | | | | | | I M U M N V R | UVX STABLE OBS-1 | |
| | PRE SLEEP | POST SLEEP | | | | | | | | | | V T R S U I T U P | | |
| | | | | | | | | | | | | GRP E GAS | | |
| PL | A D D I T I O N S | | | | | | | | | | | A C K T E M P | | |
| DAY/NIGHT | | | | | | | | | | | | | | |
| ORBIT | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | | | | | |
| GSTON COVERAGE | -GMM | -AGO -ACN -DKR | -GMM | -AGO -DKR | -DKR -MAD -MAX | CAN | -DKR -MAD -MAX | -YAR -CAN | -MAX -YAR -CAN | -MAD -YAR -CAN | -MLX -MIL -BDA -DKR | -MLX -MIL -BDA -DKR | -YAR -CAN | -YAR |
| TORS E M | | | | | | | | | | | | | | |
| ATTITUDE | -ZLV +XVV | | | | | | | | | | | | IMU | UVX |
| MSL | LOW 6 | | | | | | | | | | | | | |
| NOTES: | -ZLV, +XVV MANUAL | | | | | | | | | | UVX OUTGAS STOP G446 ACT | | | |

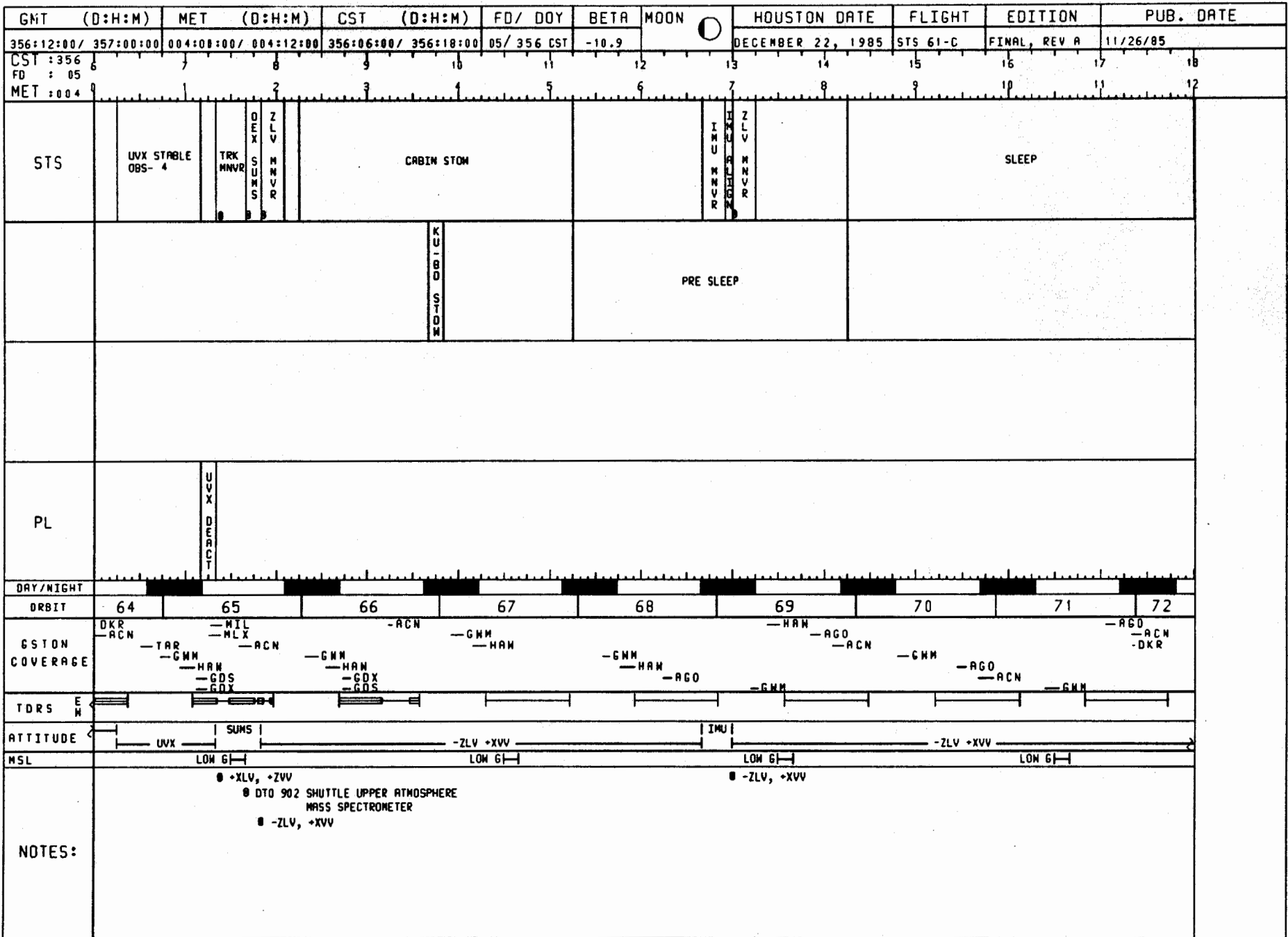
| GMT (D:H:M) | MET (D:H:M) | CST (D:H:M) | FO/DOY | BETA | MOON | HOUSTON DATE | FLIGHT | EDITION | PUB. DATE | | |
|-----------------------------------|--|--|------------------------------|---|--|--|----------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 353:12:00 / 354:00:00 | 001:00:00 / 001:12:00 | 353:06:00 / 353:18:00 | 02 / 353 CST | -22.3 | | DECEMBER 19, 1985 | STS 61-C | FINAL, REV A | 11/26/85 | | |
| CST : 353 FO : 02 MET : 001 | | | | | | | | | | | |
| STS | UVX STABLE | UVX STABLE OBS-2A | UVX SCAN OBS -3 | ZLV MNV VR | MEAL | UVX SCAN OBS -11 | AUTD MNV VR | REG R ON | I MU W NV VR | ZLV MNV VR | SLEEP |
| | VT R P L Y K B B C C E | FLTR IFM | | | | | | | | PRE SLEEP | |
| | | | | P/TV SETUP | | P/TV ACT | | GRP G GAS | | | |
| PL | | | | GRP F GAS | | | | | RA D S O B S | | |
| DAY/NIGHT | | | | | | | | | | | |
| ORBIT | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | | |
| GSTON CDVERAGE | -HAN -ACN -GDS -GDX | -YAR -BDA -HAN -ACN -MIL -BDA -MLX -OKP | -GDX -GDS -MIL -MLX | -YAR -ACN -GMM -HAN -GDS -GDX | -MIL -MLX -GMM -HAN -GDS -GDX | -GMM -HAN -GMM -HAN -G60 -ACN | -HAN -ACN -GMM | -GMM -HAN -G60 -ACN | -GMM -HAN -G60 -ACN | -GMM -HAN -G60 -ACN | -GMM -HAN -G60 -ACN |
| TORS E W | | | | | | | | | | | |
| ATTITUDE | UVX | | | | | | | | | | |
| MSL | LOW G | | LOW G | | LOW G | | LOW G | | LOW G | | LOW G |
| NOTES: | ● MANUAL ● FILTER CLEANING ● -ZLV, +XVV ● G446 DEACT ● CHAMP ● G007 EXP 1 ACT ● -ZLV, +XVV ● MANUAL | | | | | | | | | | |

| GMT (D:H:M) | MET (D:H:M) | CST (D:H:M) | FD/ DOY | BETA | MOON | HOUSTON DATE | FLIGHT | EDITION | PUB. DATE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|-----------------------|-----------------------|--------------|----------|----------|-------------------|----------|-----------------|----------------------|-----------------------|----------|----------|----------|----------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| 354:00:00 / 354:12:00 | 001:12:00 / 002:00:00 | 353:18:00 / 354:06:00 | 02 / 353 CST | -20.3 | | DECEMBER 19, 1985 | STS 61-C | FINAL, REV A | 11/26/85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CST : 353 FD : 02 MET : 001 | 18 19 12 | 20 13 | 21 14 | 22 15 | 23 16 | 24 17 | 25 18 | 26 19 | 27 20 | 28 21 | 29 22 | 30 23 | 31 24 | 32 25 | | | | | | | | | | | | | | | | | | | | | | | | | |
| STS | SLEEP | | | | | | | IMU WNV R | UVX STABLE OBS-10 | UVX SCAN OBS -5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | POST SLEEP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DAY/NIGHT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ORBIT | 25 | | 26 | | 27 | | 28 | | 29 | | 30 | | 31 | | 32 | | | | | | | | | | | | | | | | | | | | | | | | |
| GSTDN COVERAGE | ACN | -GMM | -RGO | -ACN | -DKR | -MAD | -MAX | -YAR | -CAN | -BDA | -DKR | -MAD | -MAX | -YAR | -CAN | -MLX | -BDA | -DKR | -MAD | -MAX | -YAR | -CAN | -MIL | -MLX | -BDA | -DKR | -YAR | -CAN | -GDX | -GDS | -MIL | -BDA | -MLX | -DKR | -YAR | -CAN | -HAM | -ACN | YAR |
| TDRS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ATTITUDE | -ZLV +XVV | | | | | | | | | | | | | | IMU | | UVX | | | | | | | | | | | | | | | | | | | | | | |
| MSL | LOW G | | | | | | | | | | | | | | LOW G | | | | | | | | | | | | | | | | | | | | | | | | |
| NOTES: | | | | | | | | | | | | | | | MANUAL | | | | | | | | | | | | | | | | | | | | | | | | |



| GMT (D:H:M) | MET (D:H:M) | CST (D:H:M) | FD/DOY | BETA | MOON | HOUSTON DATE | FLIGHT | EDITION | PUB. DATE | |
|-----------------------------------|--|--|--|----------|------|------------------------------|--------------|----------------------|----------------------|------|
| 355:12:00 / 356:00:00 | 003:00:00 / 003:12:00 | 355:06:00 / 355:18:00 | 04 / 355 CST | -14.6 | ☉ | DECEMBER 21, 1985 | STS 61-C | FINAL, REV A | 11/26/85 | |
| CST : 355 FD : 04 MET : 003 | | | | | | | | | | |
| STS | MEAL | AUTO MNRV | | | | | | SLEEP | | |
| | | | FLTR IFM | | | | | PRE SLEEP | | |
| | | P/TV SETUP | | | | | | | | |
| PL | P/TV ACT | | | | | | | | | |
| | | | P/TV ACT | | | | | | | |
| DAY/NIGHT | | | | | | | | | | |
| ORBIT | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | |
| GSTDN COVERAGE | -YAR -HAW -GDX -GDS -MIL -MLX -BDR | -ACN -YAR -GMM -HAW -GDS -MTI | -MLX -ACN -GMM -HAW -GDS -GDX | | -HAW | -GMM -HAW -AGO -ACN | -AGO -ACN | -GMM -AGO -ACN | -GMM -AGO -ACN | -GMM |
| TDRS E H | | | | | | | | | | |
| ATTITUDE | IR-IE | | | CHAMP | | IMU | | -ZLV +XVV | | |
| MSL | LOW G | | | | | | | LOW G | | |
| NOTES: | IR-IE | ● FILTER CLEANING ● CHAMP | | ● MANUAL | | ● -ZLV, +XVV | | | | |

| GMT (D:H:M) | MET (D:H:M) | CST (D:H:M) | FD/ DOY | BETA | MOON | HOUSTON DATE | FLIGHT | EDITION | PUB. DATE | | |
|-----------------------------------|--|-----------------------|--------------|------------------------------|------------------------------|--------------------------------------|--------------|--------------------------------------|------------------------------|--|--|
| 356:00:00 / 356:12:00 | 003:12:00 / 004:00:00 | 355:18:00 / 356:06:00 | 04 / 355 CST | -12.7 | ☉ | DECEMBER 21, 1985 | STS 61-C | FINAL, REV A | 11/26/85 | | |
| CST : 355 FD : 04 MET : 003 | | | | | | | | | | | |
| STS | SLEEP | | | | IMU MNV R | TRK MNV R | FCS C/D | RFI SRE HOT | AUTO MNV R | MEAL | CREF COM |
| | POST SLEEP | | | | | | | P/TV SETUP | | P/TV ACT | |
| PL | | | | | | GRP K GAS | TREADMILL | | | | |
| DAY/NIGHT | [Day/Night Cycle: Day (white), Night (black)] | | | | | | | | | | |
| ORBIT | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | | |
| GSTON COVERAGE | -AGD -ACN -DKR | -GNN | -DKR -MAD | -MAD -MAX -YAR -CAN | -MAD -MAX -YAR -CAN | -DKR -MAD -MAX -YAR -CAN | -BDA -DKR | -YAR -CAN -MIL -BDA -ACN | -MIL -BDA -MLX -DKR | -GDS -GDX -MIL -MLX -BDA -DKR | -GDS -GDX -MIL -MLX -BDA -DKR |
| TDRS | [TDRS Coverage: Horizontal bars with E/M labels] | | | | | | | | | | |
| ATTITUDE | -ZLV +XVV [IMU] +ZLV +XVV [TDRS] | | | | | | | | | | |
| MSL | LOW G [IMU] LOW G [TDRS] | | | | | | | | | | |
| NOTES: | ● +ZLV, +XVV ○ APU HTR ACT ■ AUTO ■ 6494 +ZLV OBS ● DSD 463 TREADMILL STRESS TEST | | | | | | | | | | |



| GMT (D:H:M) | MET (D:H:M) | CST (D:H:M) | FD/ DOY | BETA | MOON | HOUSTON DATE | FLIGHT | EDITION | PUB. DATE | | | |
|-----------------------|--|-----------------------|----------------------|------------------------------|--------------------------------------|------------------------------|---|---|----------------------------------|--------------|------------------------|--------------|
| 357:00:00 / 357:12:00 | 004:12:00 / 005:00:00 | 356:10:00 / 357:06:00 | 05 / 356 CST | -9.2 | | DECEMBER 22, 1985 | STS 61-C | FINAL, REV A | 11/26/85 | | | |
| CST : 356 18 | 19 | 20 | 21 | 22 | 23 | 0 | 2 | 3 | 4 | 5 | 6 | |
| FD : 05 | | | | | FD : 06 | CST: 357 | | | | | | |
| MET : 004 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 0 |
| STS | SLEEP | | | | | IMU MMVR | XSI MMVR | PL80 OPS | | | | |
| | POST SLEEP | | | | | DEORBIT PREP | | | | | DEORBIT BURN (4/23:14) | |
| PL | | | | | | GR L GAS | W H I T C C H I K E R | S O N - 2 | OP S M S H L O | | | |
| DAY/NIGHT | [Day/Night bar] | | | | | | | | | | | |
| ORBIT | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | | | |
| GSTON COVERAGE | -GNM -AGO -DKR | | -DKR -MAD -MAX | -BDA -DKR -MAD -MAX | -MLX -BDA -DKR -MAD -MAX | -MLX -MIL -BDA -DKR | -GDS -MIL -MLX -BDA -DKR | --GDS -GDY -MIL -BDA -MLX -DKR | -YAR -CAN | -YAR -CAN | -YAR -CAN | -YAR -CAN |
| TORS E M | [TORS E M bar] | | | | | | | | | | | |
| ATTITUDE | ← -ZLV +XVV IMU -XSI IMU DEORBIT BURN ENTRY → | | | | | | | | | | | |
| MSL | | | | | | | | | | | | |
| NOTES: | <ul style="list-style-type: none"> ● EMP BARO-ACT ● G332 DEACT ● G062 DEACT ● G007 DEACT ● SUBSYS DEACT | | | | | | | | | | | |

STS 61-C (FD 1)

PL

MCC

MET DAY 000
 10:00
 A8(B4) AUTO/VERN
 ORB 8
 A11(B1) AUTO/VERN
 11:00
 ORB 9
 12:00
 ORB 10
 13:00
 ORB 11
 14:00
 15:00

STS
 MNVR WINDOW PROTECT ATT
 PKM
 Change DAP A,B to A11,B1
 MNVR (TRK) -ZLV, +XVV
 TG=2 BV=3 OM=180
 A/AUTO/VERN Init TRK
 KU-RD ANT DEPLOY
 (ORB OPS, COMM/INST)
 KU-RD ACTIVATION (COMM mode)
 (ORB OPS, COMM/INST)
 MNVR IMU ALIGN ATT
 STAR PAIR (A1)
 A/AUTO/VERN Init MNVR at SS
 IMU ALIGN - S TRK (ORB OPS)
 MNVR (TRK) -ZLV, +XVV
 TG=2 BV=3 OM=180
 A/AUTO/VERN Init TRK

P/TV02 ACT (SAT DEPLOY-SATCOM)
 (PHOTO/TV, P/TV SCENES)

PRE SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

SLEEP

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

LEG PLETHYSMOGRAPHY (DSO 461)
 (MED, MED DSO's) (PS2)

3AAL DEACT (PL OPS)
 GAS ACTIVITIES GROUP C
 (PL OPS, GAS) G062 ACT, UVX
 OUTGAS START, G449 DEACT

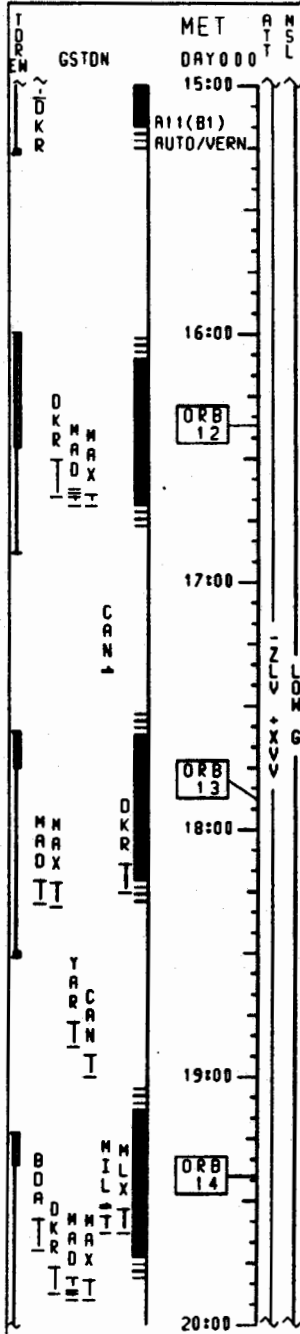
UPI TNK
 TFL 103/179

GAS ACTIVITIES GROUP D
 (PL OPS, GAS) G007 ACT,
 UVX OUTGAS Step 2
 ROSE OPS (PL OPS, ROSE)
 Steps 1 thru 3 - MANUAL
 EMI DEACT (PL OPS)

STS 61-C (FD 1)

PL

MCC



TDRS
YARRANT
MAD
YARRANT
DKR
YARRANT
HAM
BOLAX
TRACN

MET DAY 000
20:00
A11(B1) AUTO/VERN
ORB 15
21:00
ORB 16
22:00
A11(B4) AUTO/VERN (A11)B4 AUTO/VERN
ORB 17
001 80:00
A11(B4) AUTO/VERN
01:00

STS
SLEEP
IMU ALIGN LOG
REQD ID:
-Y, -Z ANG ERR
1 2 3
ANG:
ΔX () () ()
ΔY () () ()
ΔZ () () ()
EXECUTION TIME:
- / - : - : -
IMU
U
V
X
Y
Z
L
O
N
G

POST SLEEP ACTIVITY
(ORB OPS, CREW SYS)
Do not perform
WATER DUMPS within
1 hr of UVX OBS

◀ MNVR IMU ALIGN RTI
STAR PAIR (A1)
A/AUTO/VERN Init MNVR at SS
IMU ALIGN - S TRK (ORB OPS)

UVX STABLE OBS Tgt 1
(PL OPS, UVX)

VTR SETUP (02-SATCOM DEPLOY)
(Cue Card, IV/VTR)

VTR PLAYBACK (02-SATCOM DEPLOY)
(Cue Card, IV/VTR)
VTR at HAM-TDRS
VTR DEACT (Cue Card, IV/VTR)

UVX STABLE OBS Tgt 2A
(PL OPS, UVX)

FD 2 FZ CAP ACTIVITIES:
CHARACTERIZATION OF SMS (DSO 455)
 (MED, MED DSO^{2a}) (30 Min/1 Cmn and PS2)
SALIVARY SCOP/DEX KINETICS (DSO 457)
 (MED, MED DSO^{2a}) (10 Min/1 Cmn and PS2)
 Samples at 0, .5, 1, 2, 4, 6, 8, 10, 12, 24, and 36 hrs post-dosing
 Prefer start by 0/22:00 MET
QUALITY TILT-TRANSLATION
REINTERPRETATION (DSO 459)
 (MED, MED DSO^{2a}) (20 Min/PS1 and PS2)
 (45 Min/PS1 and PS2, Separate)
CHANGES IN TOTAL BODY WATER (DSO 460)
 (MED, MED DSO^{2a}) (15 Min/2 Cmn and PS2)
 Samples at 0, 3, and 5 hrs post-dosing
 Prefer start by 0/22:00 MET
LEG PLETHYSMOGRAPHY (DSO 461)
 (MED, MED DSO^{2a}) (15 Min/PS2)
CENTRAL VENOUS PRESSURE (DSO 462)
 (MED, MED DSO^{2a}) (15 Min/PS2)
 Perform in PRE/POST SLEEP
RENAL STONE RISK FACTOR (DSO 464)
 (MED, MED DSO^{2a}) (5 Min/PS2)
 Collect samples for 24 hrs
 Prefer start by 0/22:00 MET
EYE-HAND COORD DURING SMS (DSO 451)
 (MED, MED DSO^{2a}) (20 Min/PS2)
 (If Req'd)
EXERCISE (1 Hr/ALL)
MEAL PREP (Cue Card) (30 Min)
IBSE FILTER CLEANING
 (PL OPS, IBSE) Perform twice daily.

GAS ACTIVITIES GROUP E
 (PL OPS, GAS) G446 ACT,
 UVX OUTGAS STOP

PAN ASE TEMP CHECK
 (PAM OPY, ON-ORB OPS)

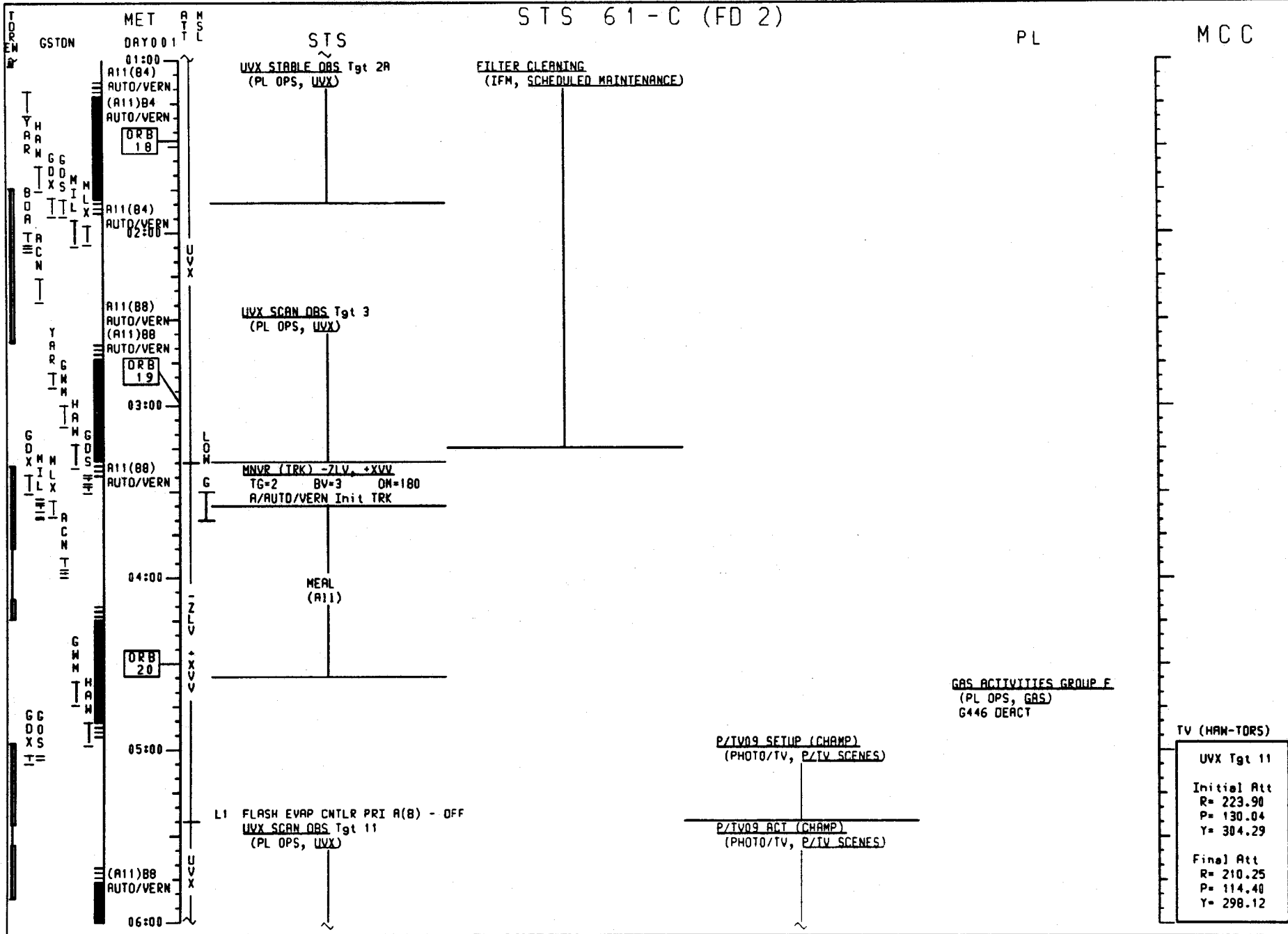
VTR (HAM-TDRS)

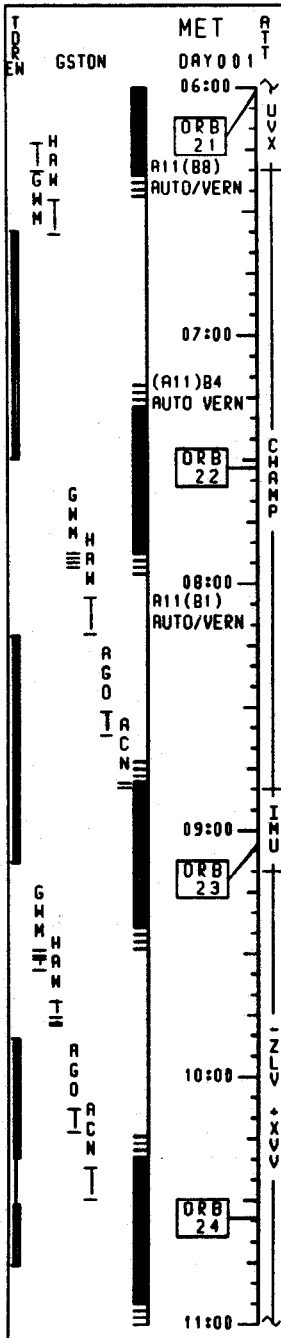
◀ EML OPS (PL OPS) - MANUAL

STS 61-C (FD 2)

PL

MCC





STS
 UVX SCAN OBS Tgt 11
 (PL OPS, UVX)

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

MNVR CHAMP ATT
 R=218 P=123 Y=301
 A/AUTO/VERN Init MNVR

IMU ALIGN LOG
 RECD ID:
 -Y____, -Z____ ANG ERR ____
 1 2 3
 ANG:
 AX () ____ () ____ () ____
 AY () ____ () ____ () ____
 AZ () ____ () ____ () ____
 EXECUTION TIME:
 __/__:__

◀ Config DAP: B4/AUTO/VERN
 at SS -5 Min

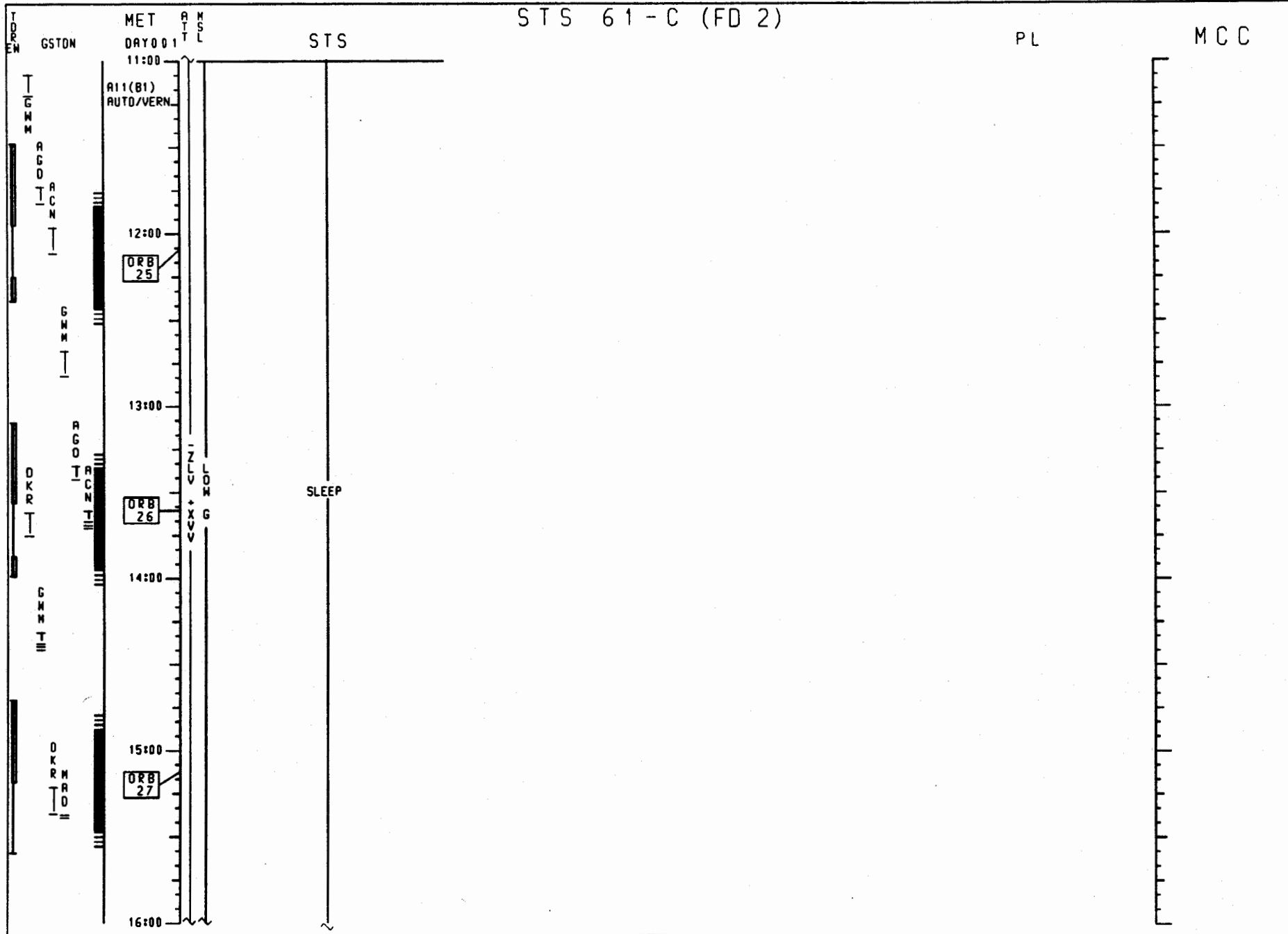
Config DAP: A/AUTO/VERN
 Change DAP B to B1
 L1 FLASH EVAP CNTLR PRI A(B) - ON

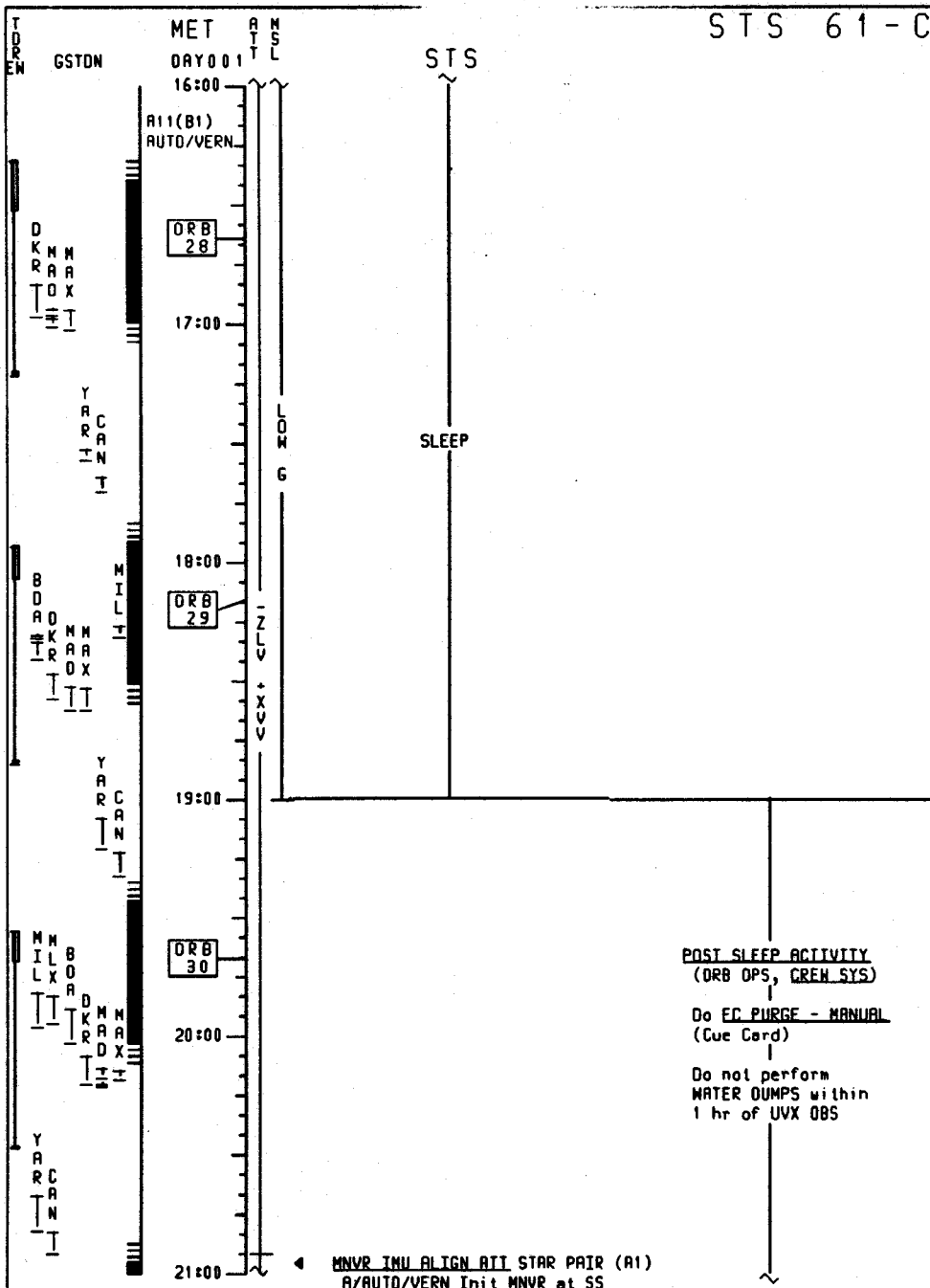
GAS ACTIVITIES GROUP 6
 (PL OPS, GAS)
 6007 EXP 1 ACT

◀ MNVR IMU ALIGN ATT
 STAR PAIR (A1)
 A/AUTO/VERN Init MNVR at SS
 IMU ALIGN - S TRK (ORB OPS)
 MNVR (TRK) -ZLV, +XVV
 TG=2 BV=3 ON=180
 A/AUTO/VERN Init TRK

PRE SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

ADSE OPS (PL OPS, ADSE)
 Steps 2 thru 3 - MANUAL
 EML DEACT (PL OPS)





FD 3 EZ GAP ACTIVITIES:

- MEAL PREP (Cue Card) (30 Min)
- EXERCISE (1 Hr/ALL)
- RCS REGULATOR RECONFIGURE
- 07/08 He PRESS A(three)-CL(tb-CL) B(three)-GPC(tb-OP)
- Perform midfl/A.M.(10 Min)
- HEATER RECONEIG - B (ORB OPS, EPS)
- Perform midfl/A.M.(5 Min)
- ECLSS REDUNDANT COMPONENT C/O (ORB OPS, ECLS) (10 Min)
- Inform MCC when complete
- PCS 1 (2) CONEIG (ORB OPS, ECLS)
- Config Sys 2 (5 Min/2 Cmn)
- Perform midflight
- CAB TEMP CNTL RECONEIG
- MD44F Pin CAB TEMP CNTL actuator linkage to actuator 2
- L1 CAB TEMP CNTLR - 2
- Perform midflight (5 Min)
- CREW MODULE WEARS (OTO 321) (Cue Card)
- ALIGNMENT MARKS (1 Hr)
- GAP WEARS (40 Min/2 Cmn)
- TAPE WEARS (20 Min/2 Cmn)
- CHARACTERIZATION OF SMS (DSO 455) (If Req'd) (MED, MED DSO's) (30 Min/PS2)
- SALIVARY SCOP/DEX KINETICS (DSO 457) Continued from FD2. Samples at 24 and 36 hrs post-dosing.
- OTOLITH TILT-TRANSLATION REINTERPRETATION (DSO 459) (MED, MED DSO's) (20 Min/PS1 and PS2) (45 Min/PS1 and PS2, Separate)
- CENTRAL VENOUS PRESSURE (DSO 462) (MED, MED DSO's) (15 Min/PS2) Perform in PRE/POST SLEEP
- RENAL STONE RISK FACTOR (DSO 464) Continued from FD 2 for PS2 Collect 24 hr sample
- EYE-HAND COORD DURING SMS (DSO 451) (MED, MED DSO's) (20 Min/PS2) (If Req'd)
- PAPER FIBER FORMATION (PL OPS, STUDENT EXP) (30 Min) Perform in A.M. when VTR available
- BASE FILTER CLEANING (PL OPS, BASE) Perform twice daily.

MET DAY 001 21:00
 ORB 31
 A11(B1) AUTO/VERN
 22:00
 ORB 32
 A11(B4) AUTO/VERN
 23:00
 A11(B4) AUTO/VERN
 A11(B0) AUTO/VERN
 (A11)B0 AUTO/VERN
 002 00:00
 ORB 33
 A11(B0) AUTO/VERN
 01:00
 A11(B0) AUTO/VERN
 02:00
 ORB 34

STS

MNVR IMU ALIGN ATT

IMU ALIGN - S TRK (ORB OPS)

POST SLEEP ACTIVITY
(ORB OPS, CREW SYS)

Do not perform
WATER DUMPS within
1 hr of UVX OBS

UVX STABLE OBS Tgt 10
(PL OPS, UVX)

IMU ALIGN LOG

REQD ID:

-Y __, -Z __ ANG ERR __
1 2 3

ANG:

ΔX () () ()

ΔY () () ()

ΔZ () () ()

EXECUTION TIME:

__ / __ : __ : __

UVX SCAN OBS Tgt 5
(PL OPS, UVX)

UVX SCAN OBS Tgt 7
(PL OPS, UVX)

VTR SETUP (00-STUDENT EXP)

(Cue Card, TV/VTR)

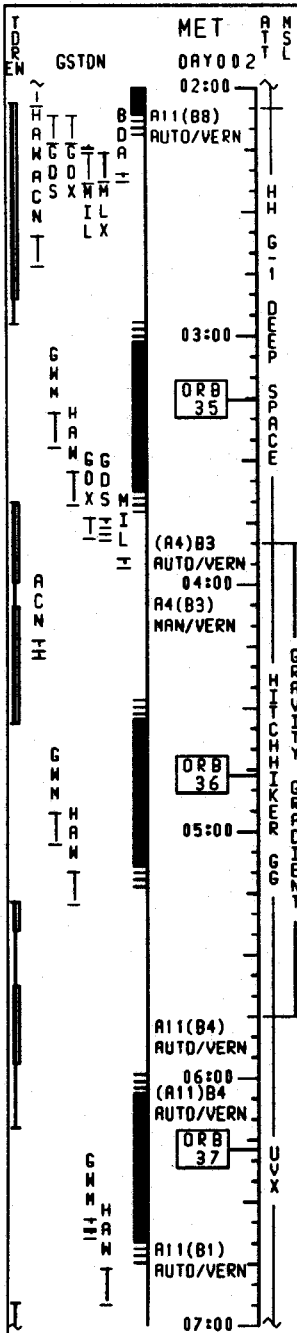
VTR PLAYBACK (00-STUDENT EXP)

(Cue Card, TV/VTR)

VTR at MAW-TDRS

◀ EML OPS (PL OPS) - MANUAL
PAM ASE TEMP CHECK
(PAM OPY, ON-ORB OPS)

VTR (MAW-TDRS)



STS

UVX SCAN OPS, Tgt 7
MNVR (TRK) -7 DEEP SPACE
 TG=2 BV=5 DM=0
 P=270 Y=290
 A/AUTO/VERN (02:05) Init TRK

MEAL (A11)

GG FREE DRIFT, Steps 1 and 2
 (ORB OPS, RCS)
 TG=2 BV=1 DM=180
 ReInit GG if errors exceed:
 P=-7 R=: 90

GG FREE DRIFT, Step 3
 (ORB OPS, RCS)
UVX STABLE OPS Tgt 8
 (PL OPS, UVX)

Change DAP B to B1

VTR PLAYBACK (0A-STUDENT EXP.)
 VTR at HAW-TDRS

VTR SETUP (ORBITER TOUR)
 (Cue Card, TV/VTR)

VTR PLAYBACK (ORBITER TOUR)
 (Cue Card, TV/VTR)
 VTR at HAW-TDRS

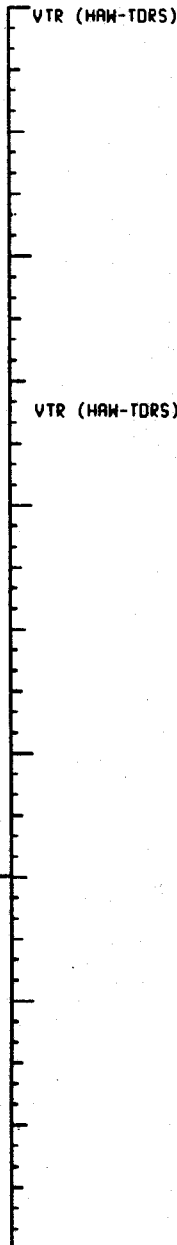
VTR DEACT (Cue Card, TV/VTR)

GAS ACTIVITIES GROUP H
 (PL OPS, GAS)
 G310 ACT
ARGON INJECTION IN GALLIUM
 (PL OPS, STUDENT EXP.)

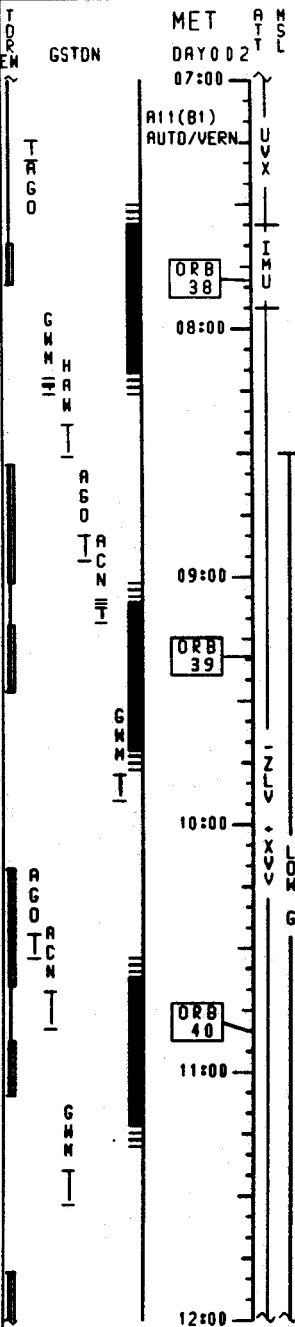
GAS ACTIVITIES GROUP I
 (PL OPS, GAS)
 G310 DEACT

GAS ACTIVITIES GROUP J
 (PL OPS, GAS)
 G007 EXP 2 ACT

PRE SLEEP ACTIVITY
 (ORB OPS, CREW SYS)



ADSF OPS (PL OPS, ADSE)
 Steps 2 thru 3 - MANUAL
 EML DEACT (PL OPS)



MET DAY 002
 07:00
 A11(B1)
 AUTO/VERN
 08:00
 09:00
 10:00
 11:00
 12:00

STS

◀ MNVR IMU ALIGN ATT
 STAR PAIR (A1)
 A/AUTO/VERN Init MNVR at 55
 IMU ALIGN - S TRK (ORB OPS)
 MNVR (TRK) -71V, +XVV
 TG=2 BV=3 OM=180
 A/AUTO/VERN Init TRK

PRE SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

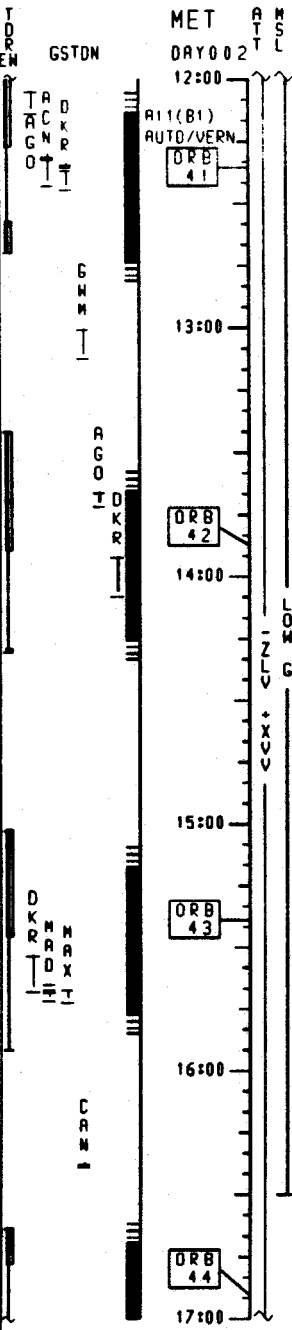
SLEEP

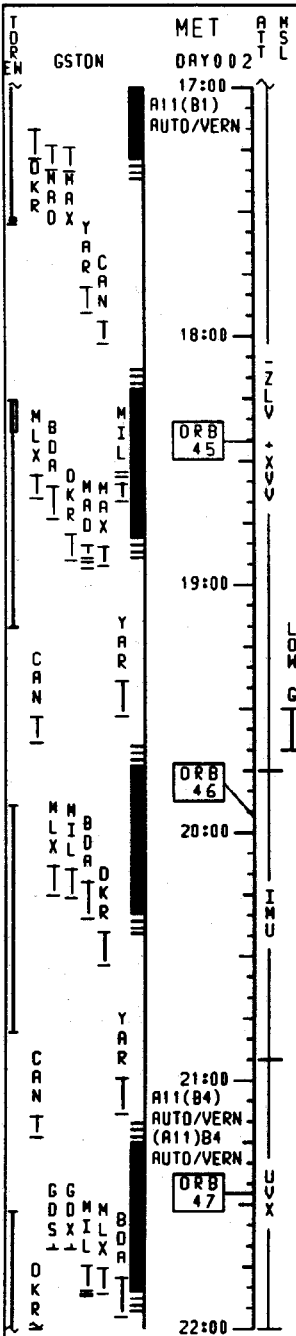
| IMU ALIGN LOG | | |
|-----------------|------|---------|
| REQD ID: | | |
| -Y | -Z | ANG ERR |
| 1 | 2 | 3 |
| ANG: | | |
| ΔX () | () | () |
| ΔY () | () | () |
| ΔZ () | () | () |
| EXECUTION TIME: | | |
| __ / __ | : __ | : __ |

ORB 38

ORB 39

ORB 40





STS

SLEEP

IMU ALIGN LOG
REQD ID:

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

ANG:
 ΔX () . . . () . . . () . . .
 ΔY () . . . () . . . () . . .
 ΔZ () . . . () . . . () . . .

EXECUTION TIME:
_ / _ : _ : _

POST SLEEP ACTIVITY
(ORB OPS, CREW SYS)

Do not perform
WATER DUMPS within
1 hr of UVX OBS

◀ **MNVR IMU ALIGN ATT**
STAR PAIR (A1)
A/AUTO/VERN Init MNVR at SS
IMU ALIGN - S TRK (ORB OPS)

UVX STABLE OBS Tgt 9
(PL OPS, UVX)

ED 4 E7 CAP ACTIVITIES:

MEAL PREP (Cue Card) (30 Min)
EXERCISE (1 Hr/ALL)
IBSE FILTER CLEANING
(PL OPS, IBSE) Perform twice daily.

CHARACTERIZATION OF SMS (DSO 455)
(MED, MED DSO's) (30 Min/PS2)

SALIVARY SCOP/DEX KINETICS (DSO 457)
(MED, MED DSO's) (10 Min/PS2)
Samples at 0, .5, 1, 2, 4, 6, 8,
10, 12, 24, and 36 hrs post-dosing
Prefer start by 2/19:00 MET

QUALITY TILT-TRANSLATION
REINTERPRETATION (DSO 459) (Optional)
(MED, MED DSO's) (20 Min/PS1 and PS2)
(45 Min/PS1 and PS2, Separate)

LEG PLETHYSMOGRAPHY (DSO 461)
(MED, MED DSO's) (15 Min/PS2)

CENTRAL VENOUS PRESSURE (DSO 462)
(MED, MED DSO's) (15 Min/PS2)
Perform in PRE/POST SLEEP

◀ **EML OPS** (PL OPS) - MANUAL

PAN ASE TEMP CHECK
(PAM OPY, DN-ORB OPS)

P/TV05 SETUP (TR-TE OPS)
(PHOTO/TV, P/TV SCENES)

STS 61-C (FD 4)

PL

MCC

MET ATSL
DAY 0 02

STS

MNVR (TRK) TR-TE ATI
TG-2 BV-5 OM-0
P=30 Y=0
A/AUTO/VERN Init TRK

P/TV05 SETUP (TR-TE OPS)
(PHOTO/TV, P/TV SCENES)

P/TV05 ACT (TR-TE OPS)
(PHOTO/TV, P/TV SCENES)

TDR EN
GSTDN
D K R Y A R T
H A N G
B N D L A X
G G D D X S
M I L
Y A R G T M M
H A N
M L X
A C N T

22:00
A11(B4)
AUTO/VERN
23:00
003
00:00
01:00
02:00
03:00

LOW G

IRI

LOW G

ORB 48

ORB 49

ORB 50

MEAL (A11)

FILTER CLEANING
(IFM, SCHEDULED MAINTENANCE)
Do not perform AV BAY FLTR
CLNG unless directed by MCC

P/TV09 SETUP (CHAMP)
(PHOTO/TV, P/TV SCENES)

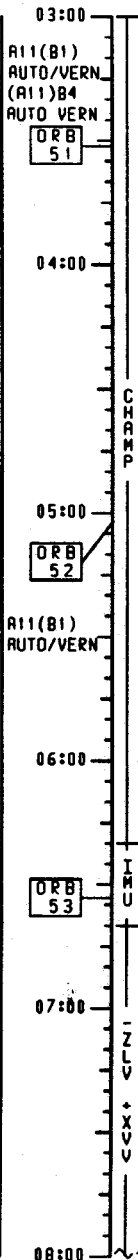
L1 FLASH EVAP CNTLR PRI A(B) - OFF

TV (HAM-TORS)

TV (HAM-TORS)

MET ATMSL
DAY 003

STS



◀ MNVR CHAMP ATT
R-221 P-127 Y-302
A/AUTO/VERN
Init MNVR at SS -20 Min
Config DAP: B4/AUTO/VERN

~
FILTER CLEANING
(IFM, SCHEDULED MAINTENANCE)
Do not perform AV BAY FLTR
CLNG unless directed by MCC

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

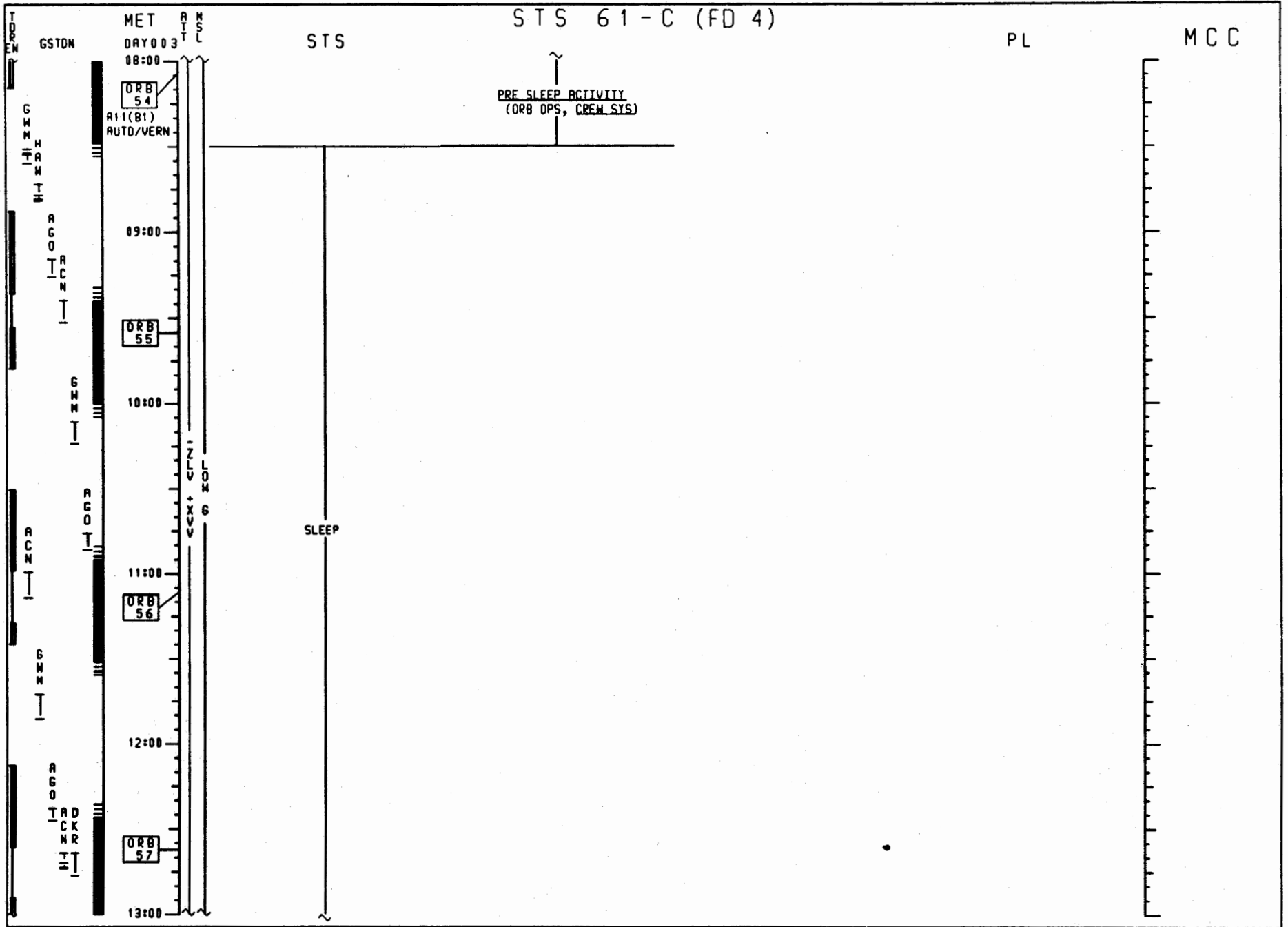
ADSE OPS (PL OPS, ADSE)
Steps 2 thru 3 - MANUAL
EMI DEACT (PL OPS)

Config DAP: A/AUTO/VERN
Change DAP B to B1
L1 FLASH EVAP CNTLR PRI A(B) - ON

◀ MNVR IMU ALIGN ATT
STAR PAIR (A1)
A/AUTO/VERN Init MNVR at SS
IMU ALIGN - S TRK (ORB OPS)
MNVR (TRK) -ZLV, +XVV
TG=2 BV=3 OM=180
A/AUTO/VERN Init TRK

PRE SLEEP ACTIVITY
(ORB OPS, CREW SYS)

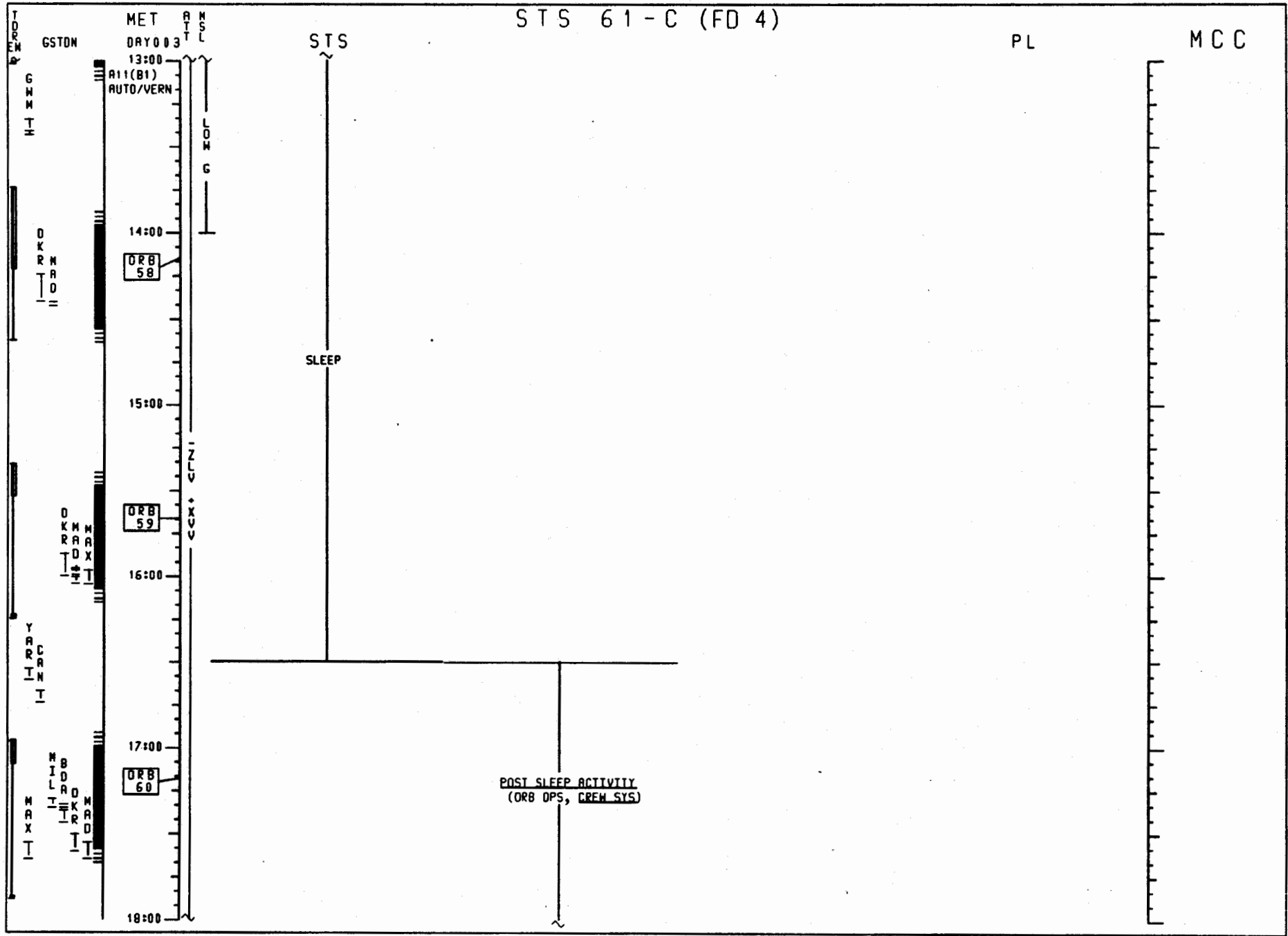
IMU ALIGN LOG
REQD ID:
-Y___, -Z___ ANG ERR ___
 1 2 3
ANG:
ΔX () . () . () .
ΔY () . () . () .
ΔZ () . () . () .
EXECUTION TIME:
_ / _ : _ : _

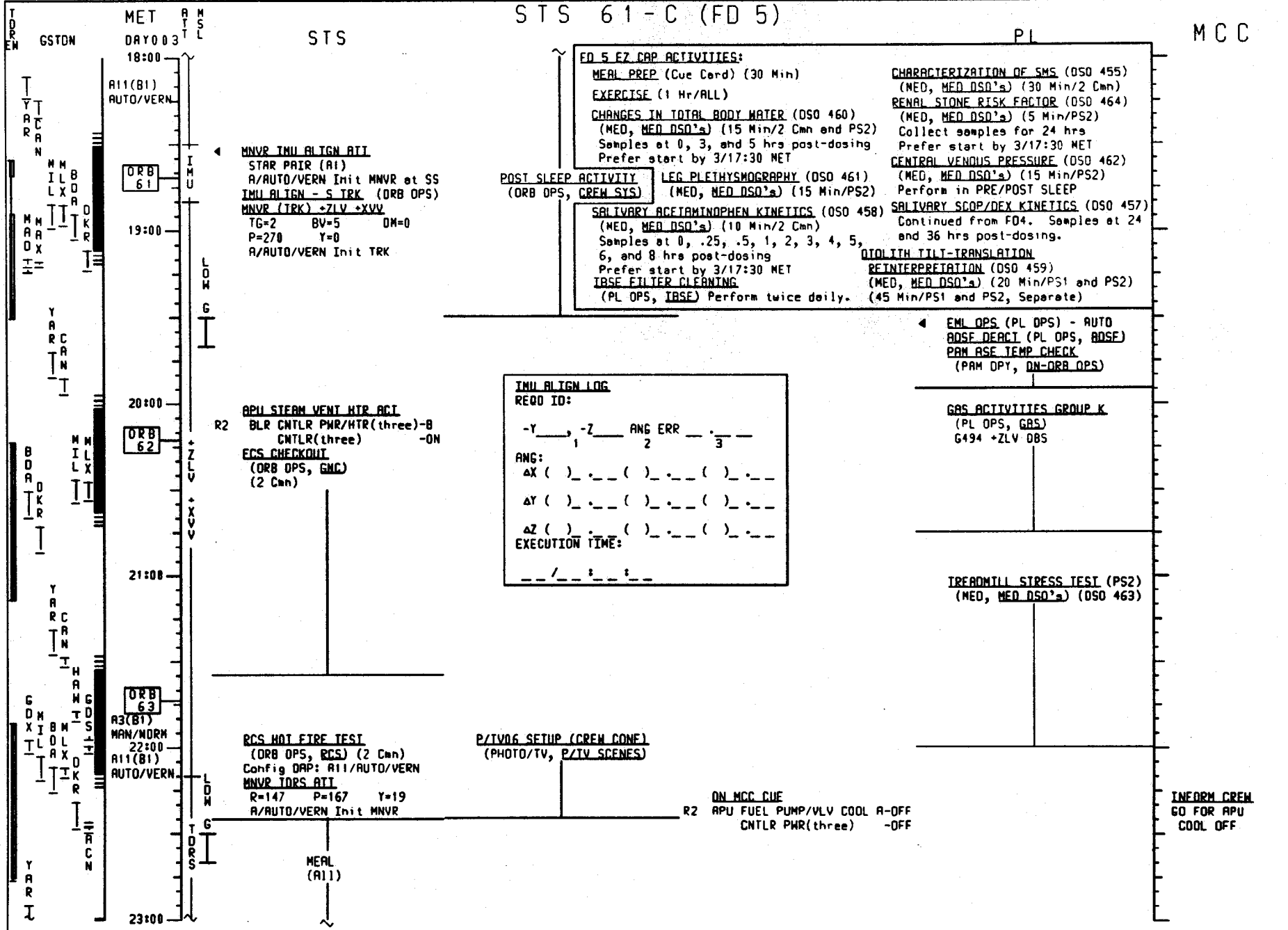


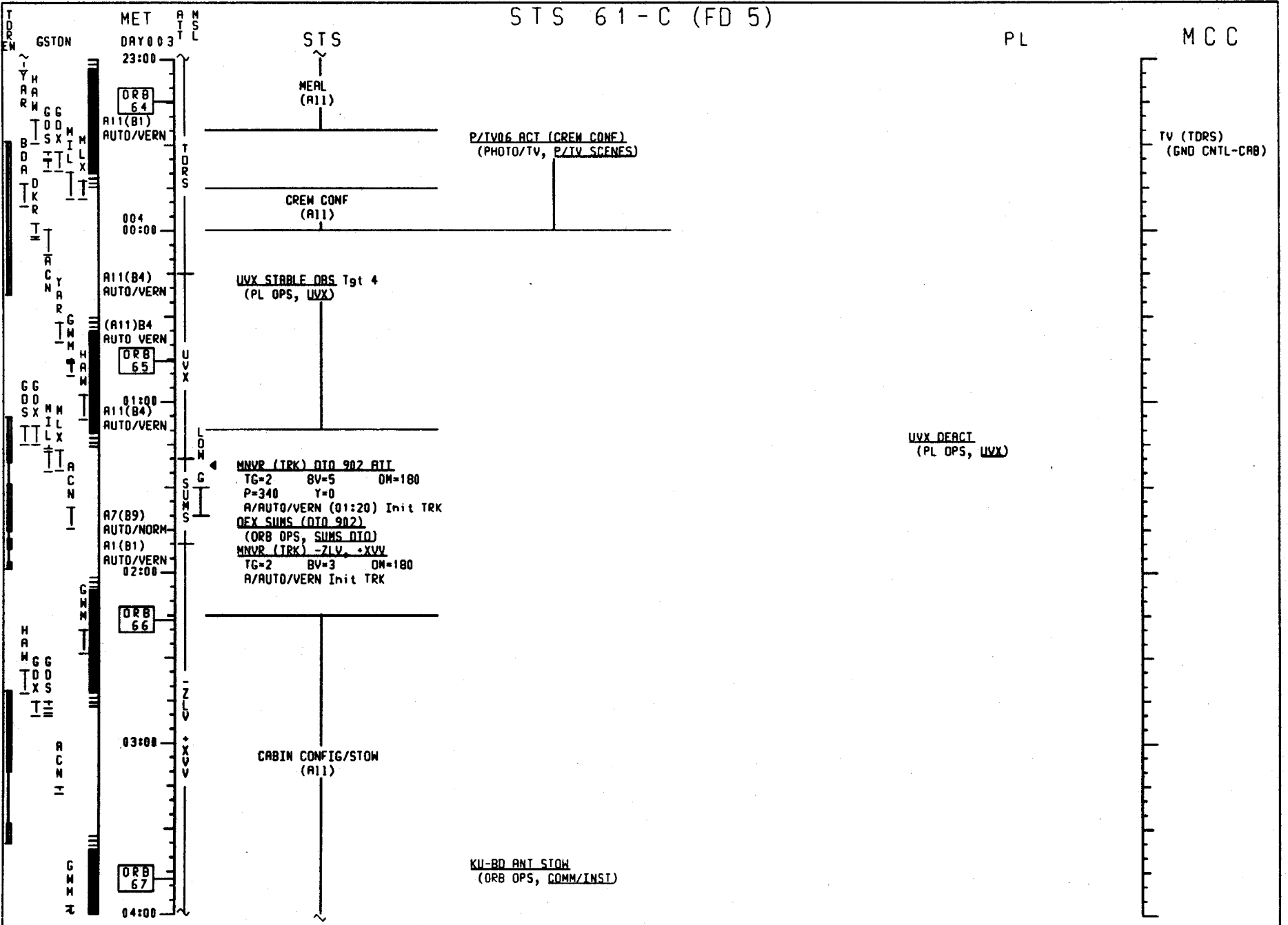
STS 61-C (FD 4)

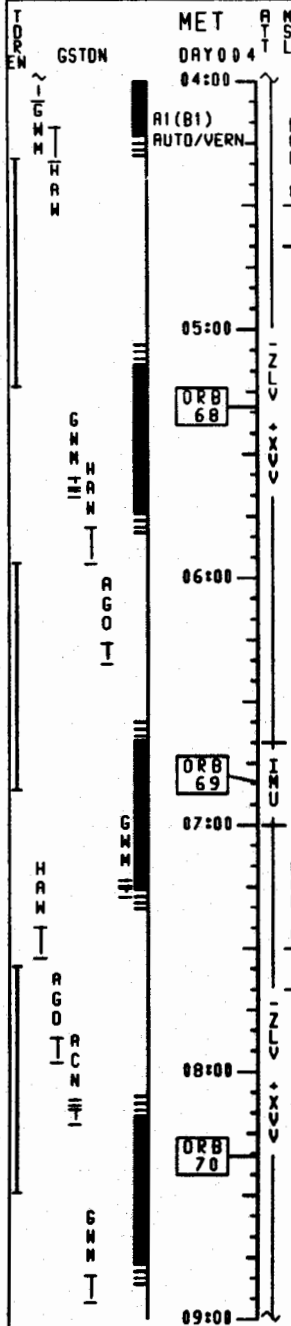
PL

MCC









STS

CABIN CONFIG/STOW (A11)

Horizontal line at approximately 05:00

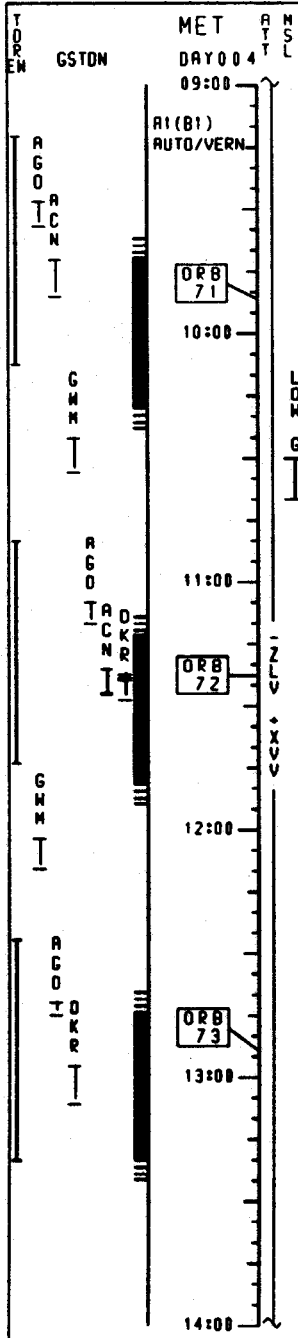
Horizontal line at approximately 08:00

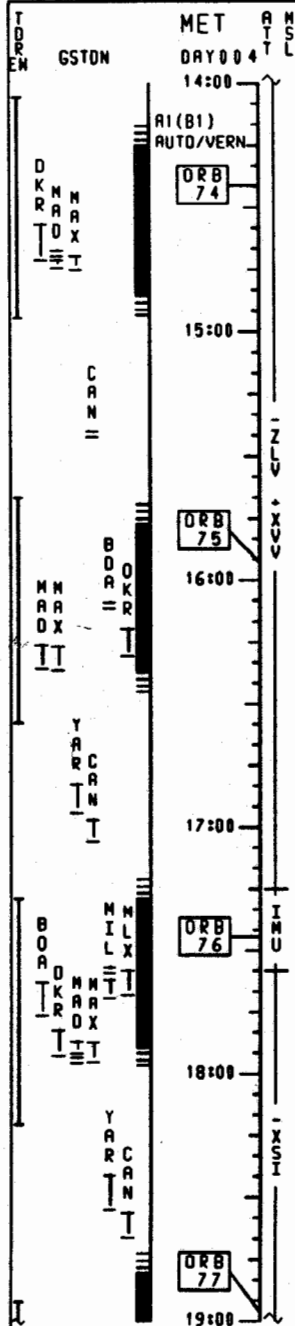
4 MNVR IMU ALIGN RTI
 STAR PAIR (A1)
 A/AUTO/VERN Init MNVR at SS
 IMU ALIGN - S TRK (ORB OPS)
 MNVR (TRK) -71V, +XVV
 TG-2 BV-3 OM-180
 A/AUTO/VERN Init TRK

PRE SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

SLEEP

IMU ALIGN LOG
 REQ ID:
 -Y___, -Z___ ANG ERR ___
 1 2 3
 ANG:
 ΔX () . () . () .
 ΔY () . () . () .
 ΔZ () . () . () .
 EXECUTION TIME:
 ___ / ___ : ___ : ___





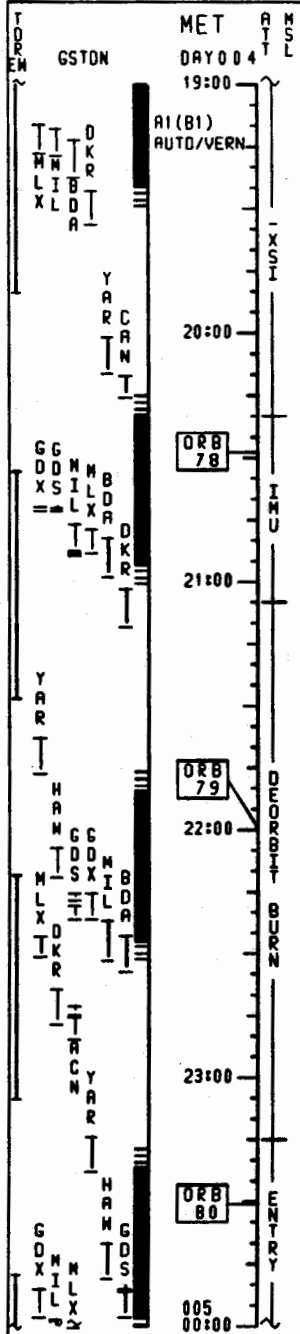
EZ CAP ACTIVITIES BEFORE LEAVING CAP:
FLUID LOADING PREP
 Fill 4 drink containers with 8 oz M20 each (per person)
BUXIN LEVELS AND STARCH GRAINS IN PLANT ROOTS
 (PL OPS, STUDENT EXP) (30 Min)
AIR SAMPLE
 Rcd MET on bottle
LEG PLETHYSMOGRAPHY (DSO 461)
 (MED, MED DSO's) (15 Min/PS2)
TREADMILL STRESS TEST (DSO 463)
 Continue Holter monitoring thru landing for PS2
RENAL STONE RISK FACTOR (DSO 464)
 Continued from FD 5 for PS2
 Collect 24 hr sample

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

POST SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

IMU ALIGN LOG
 REQ ID:
 -Y____, -Z____ ANG ERR ____
 1 2 3
 ANG:
 ΔX () ____ () ____ () ____
 ΔY () ____ () ____ () ____
 ΔZ () ____ () ____ () ____
 EXECUTION TIME:
 ____ / ____ : ____ : ____

GAS ACTIVITIES GROUP 1
 (PL OPS, GAS) G332, G062
 & G007 DEACT, EMP BARO ACT
 EML DEACT (PL OPS)
 MSI-2 SUBSYS DEACT (PL OPS)
HITCHHIKER DEACT
 (PL OPS, HITCHHIKER)



STS 61-C (FD 6)

STS

Update: CRT TIMER SETUP PAD
in NOMINAL DEORBIT PREP

POST SLEEP ACTIVITY
(ORB OPS, CREW SYS)

GO TO DEORBIT PREP AT 19:14 MET

PL

GAS ENCDR SIGH (2)
(PL OPS, GAS)

MCC

UPDATE
CRT TIMER
SETUP PAD

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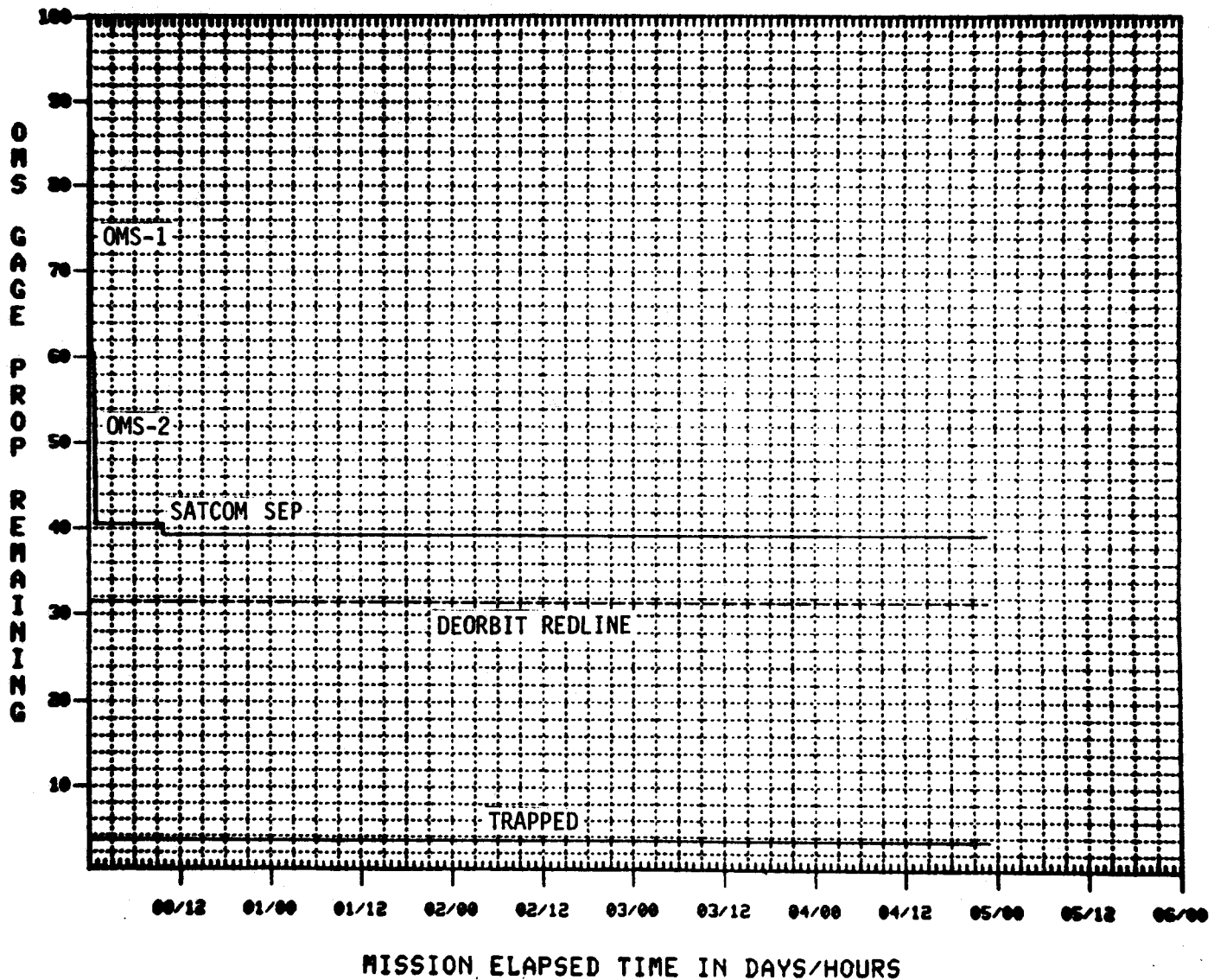
CONSUMABLES CURVES

**CONSUMABLES
CURVES**

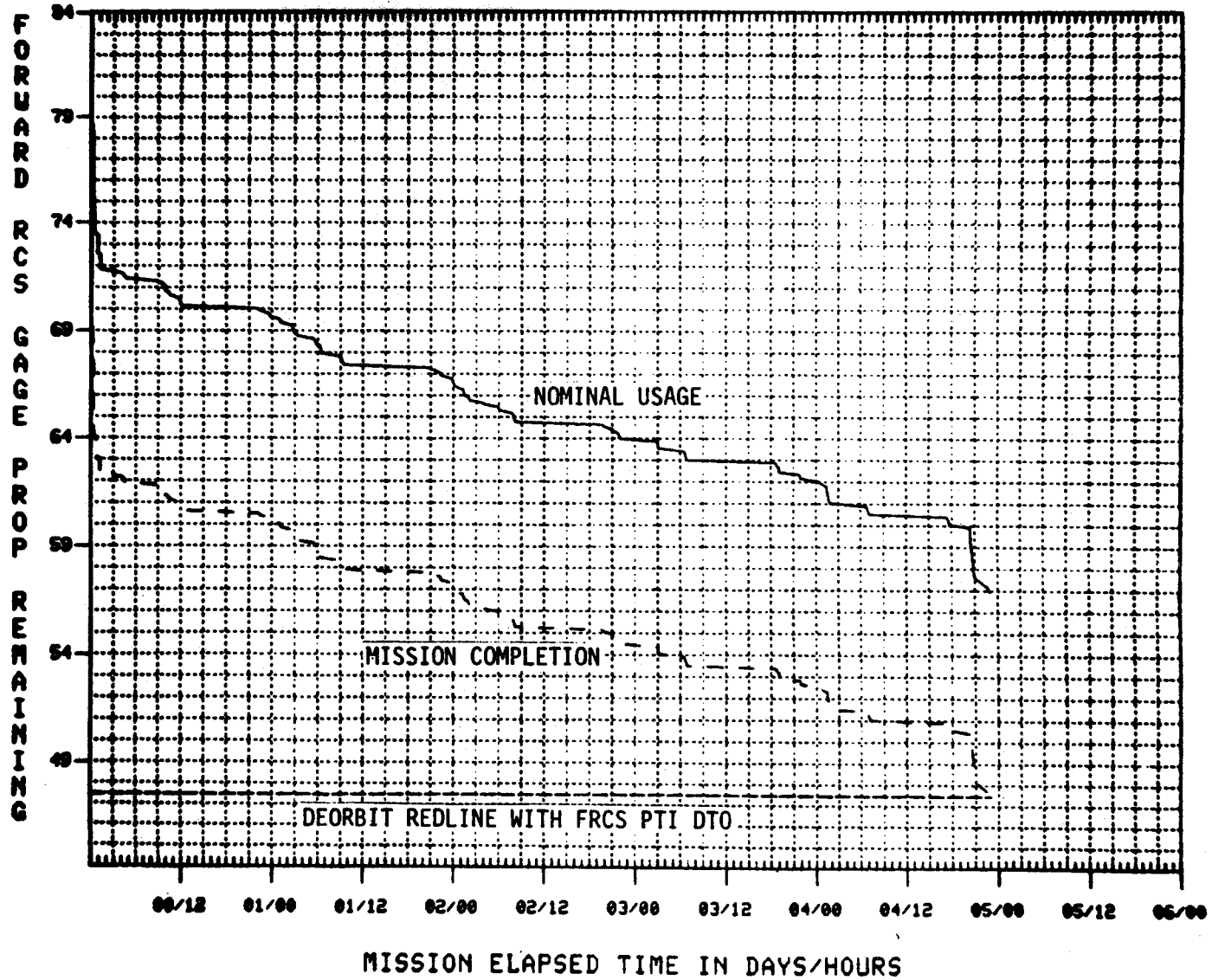
CONSUMABLES
CURVES

C. D. PRUST
SODS J-779 ADD 4
JSC-20771 (CAP) FINAL 10/25/85
CHECKED BY: Bill Hollister

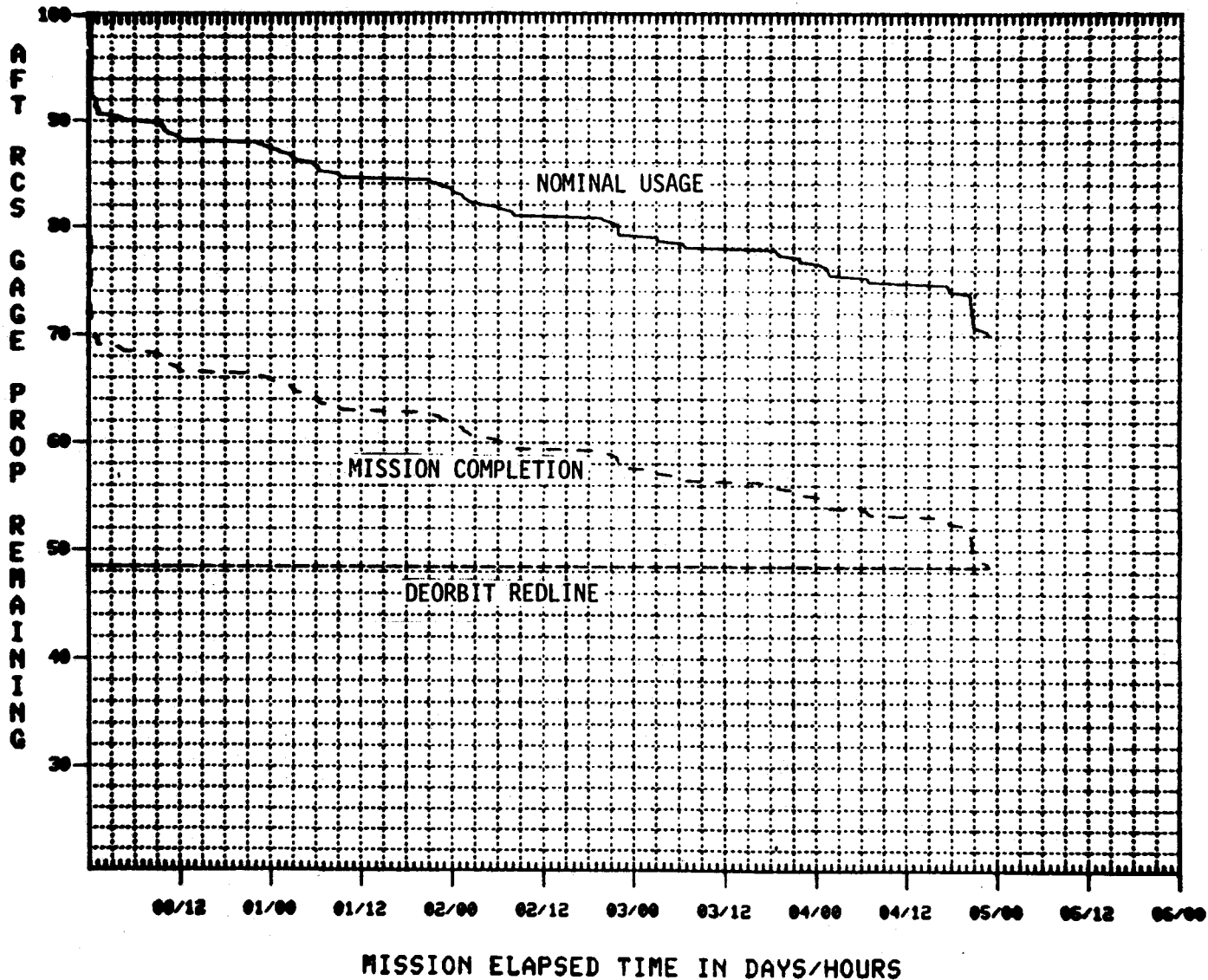
61-C OMS PROP REMAINING(% GAGE)



61-C FORWARD RCS PROP REMAINING(% GAGE)



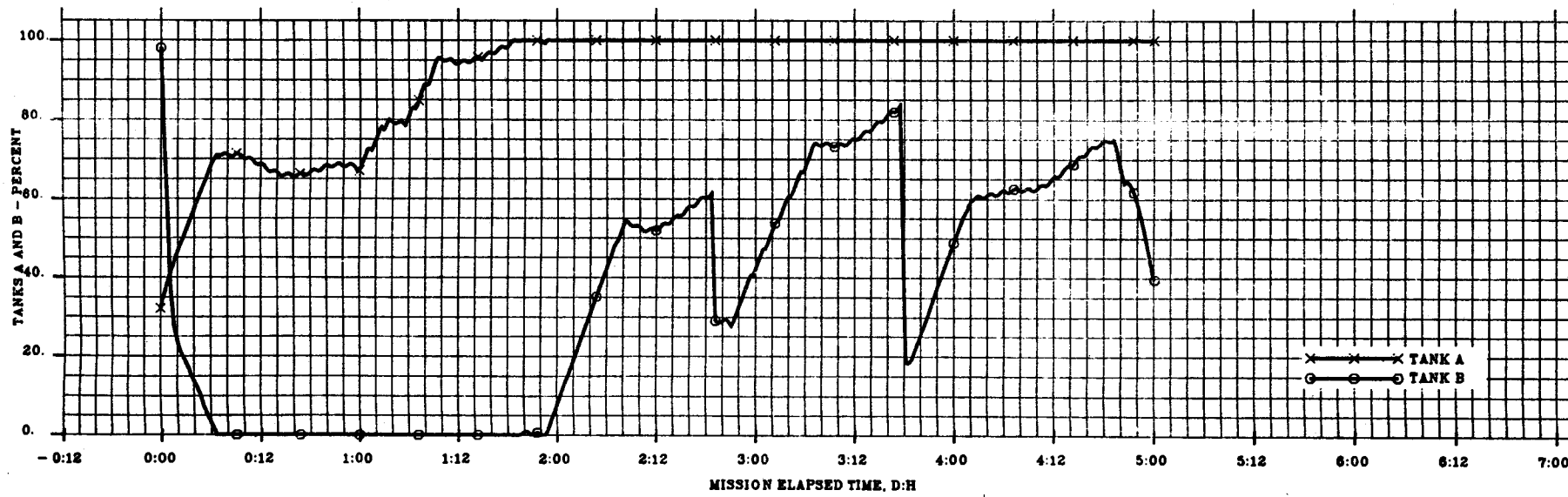
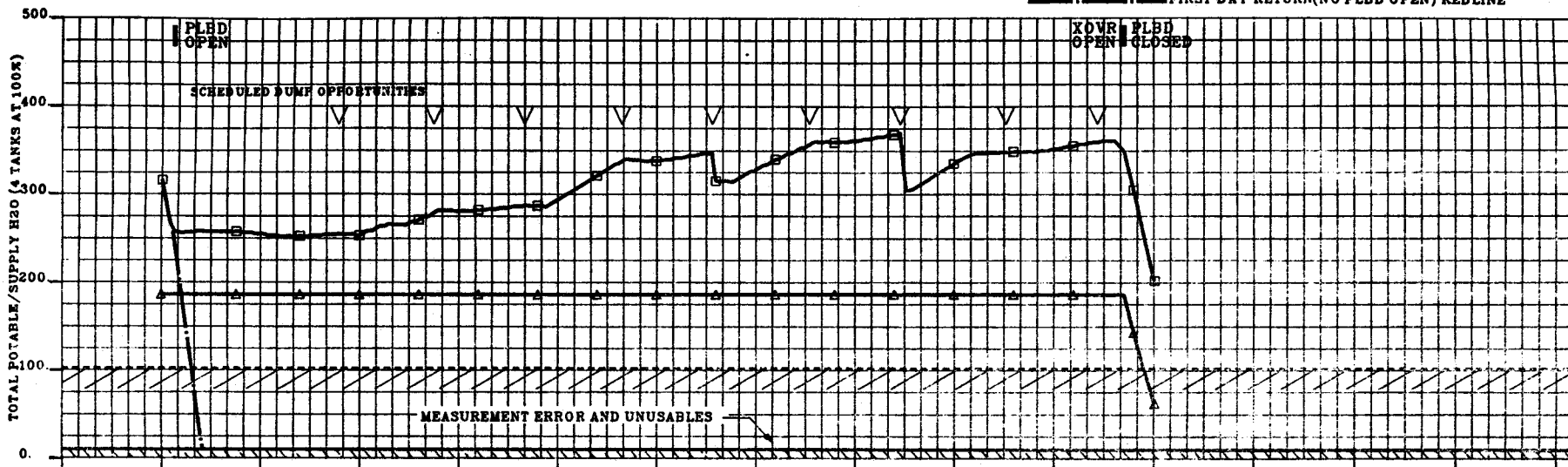
61-C AFT RCS PROP REMAINING(% GAGE)



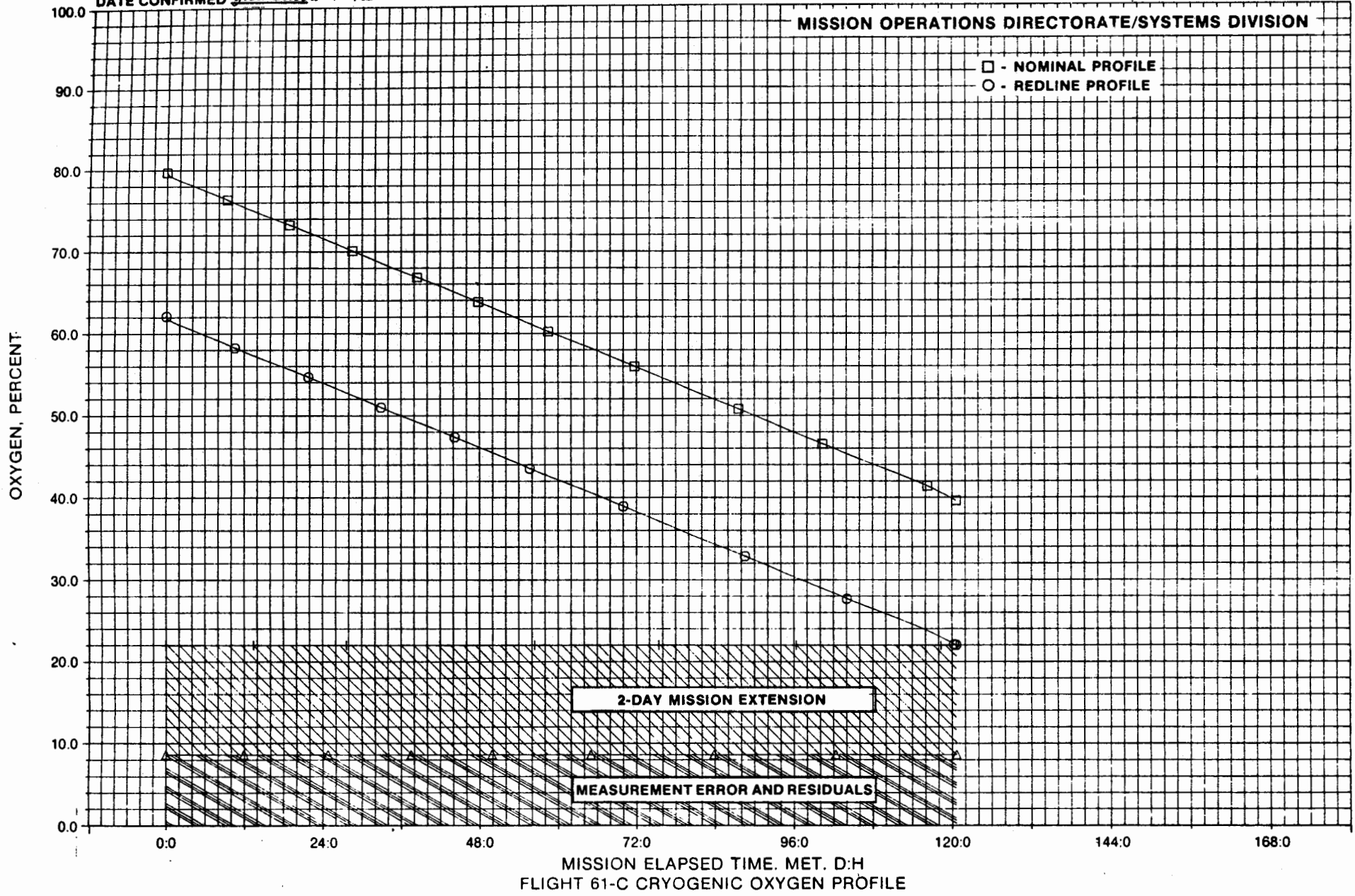
CAROL MCCONNELL
 FINAL OCTOBER 1985
 DATA CONFIRMED *10/24/85 Carol McConnell*

TRAJECTORY: OFF CYCLE 2
 CAP: FINAL OCTOBER 1985
 ANALYSIS DATE: 10/21/85

□-□-□ TANKS A-D
 ▲-▲-▲ TANKS C+D
 - - - - - ANYTIME CONTINGENCY DEORBIT REDLINE
 ——— FIRST DAY RETURN (NO PLBD OPEN) REDLINE

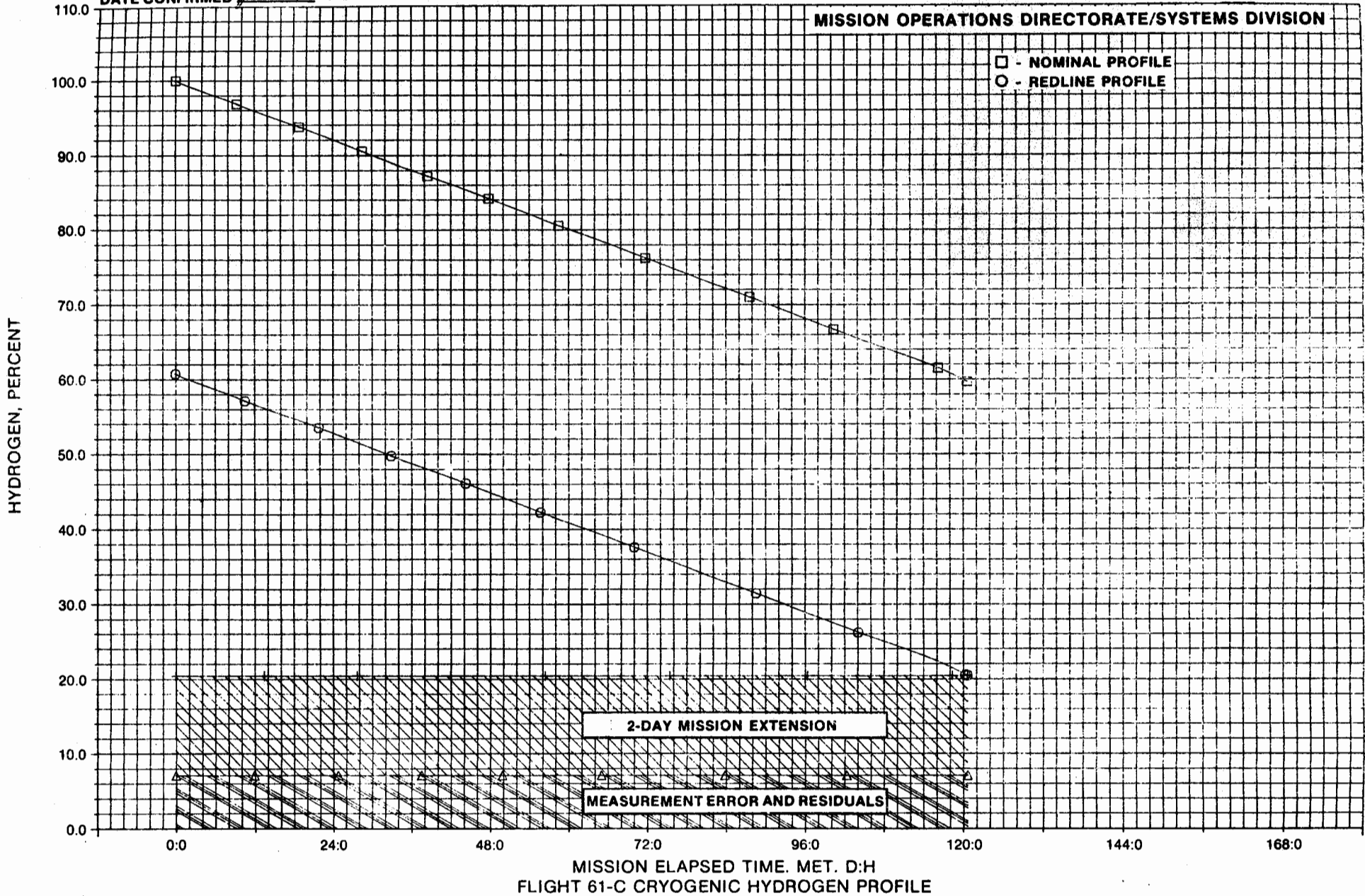


MISSION OPERATIONS DIRECTORATE/SYSTEMS DIVISION



MISSION ELAPSED TIME, MET, D:H
FLIGHT 61-C CRYOGENIC OXYGEN PROFILE

MISSION OPERATIONS DIRECTORATE/SYSTEMS DIVISION



MISSION ELAPSED TIME, MET. D:H
FLIGHT 61-C CRYOGENIC HYDROGEN PROFILE

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

DAP BOOK

DAP A CONFIGURATIONS

| | A1* | A2 | A3 | A4 | A5 | A6 | A7 | A8 | A9 | A10 | A11 | A12 |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| <u>TRANSLATION</u> | | | | | | | | | | | | |
| PULSE ft/sec | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.05 | 0.10 | |
| <u>ROTATION</u> | | | | | | | | | | | | |
| DSC RT | | | | | | | | | | | | |
| NORM °/sec | 0.200 | 0.400 | 0.200 | 0.200 | 0.200 | 0.200 | 0.500 | 0.500 | 0.200 | 0.200 | 0.200 | |
| VERN °/sec | 0.200 | 0.400 | 0.200 | 0.008 | 0.200 | 0.200 | 0.500 | 0.200 | 0.200 | 0.200 | 0.200 | |
| PULSE | | | | | | | | | | | | |
| NORM °/sec | 0.10 | 0.10 | 0.30 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | |
| VERN °/sec | 0.010 | 0.010 | 0.010 | 0.010 | 0.050 | 0.010 | 0.010 | 0.010 | 0.010 | 0.010 | 0.010 | |
| COMP | | | | | | | | | | | | |
| NORM °/sec | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | |
| VERN °/sec | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | |
| <u>DEADBAND</u> | | | | | | | | | | | | |
| ATT | | | | | | | | | | | | |
| NORM (deg) | 5.00 | 1.00 | 5.00 | 1.00 | 5.00 | 5.00 | 0.50 | 3.00 | 2.00 | 2.00 | 1.00 | |
| VERN (deg) | 1.000 | 1.000 | 1.000 | 0.070 | 1.000 | 1.000 | 0.500 | 1.000 | 1.000 | 1.000 | 1.000 | |
| RATE | | | | | | | | | | | | |
| NORM °/sec | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | |
| VERN °/sec | .020 | .020 | .020 | .010 | .020 | .020 | .020 | .020 | .020 | .020 | .020 | |
| <u>JET OPT</u> | | | | | | | | | | | | |
| P | 1 | 1 | 3 | 1 | 1 | 3 | 3 | 1 | 1 | 1 | 3 | |
| Y | 1 | 1 | 3 | 3 | 1 | 3 | 3 | 1 | 1 | 1 | 3 | |
| CNTL ACCEL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

*1-Loaded OPS-2 DAP Configuration

DAP B CONFIGURATIONS

| | B1* | B2 | B3 | B4 | B5 | B6 | B7 | B8 | B9 |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| <u>TRANSLATION</u> | | | | | | | | | |
| PULSE ft/sec | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.05 | 0.01 | 0.02 | 0.02 |
| <u>ROTATION</u> | | | | | | | | | |
| DSC RT | | | | | | | | | |
| NORM °/sec | 0.500 | 0.200 | 0.200 | 0.200 | 0.200 | 0.500 | 0.200 | 1.000 | 0.500 |
| VERN °/sec | 0.200 | 0.200 | 0.200 | 0.008 | 0.016 | 0.200 | 0.200 | 0.008 | 0.500 |
| PULSE | | | | | | | | | |
| NORM °/sec | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |
| VERN °/sec | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| COMP | | | | | | | | | |
| NORM °/sec | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| VERN °/sec | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| <u>DEADBAND</u> | | | | | | | | | |
| ATT | | | | | | | | | |
| NORM (deg) | 3.00 | 3.00 | 3.00 | 0.30 | 3.00 | 2.00 | 2.00 | 5.00 | 10.00 |
| VERN (deg) | 1.000 | 1.000 | 1.000 | 0.100 | 0.033 | 1.000 | 1.000 | 0.050 | 10.000 |
| RATE | | | | | | | | | |
| NORM °/sec | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.50 |
| VERN °/sec | .020 | .020 | .020 | .010 | .020 | .020 | .020 | .010 | .500 |
| <u>JET OPT</u> | | | | | | | | | |
| P | 1 | 3 | 1 | 3 | 3 | 1 | 1 | 3 | 3 |
| Y | 1 | 3 | 1 | 3 | 3 | 1 | 1 | 3 | 3 |
| <u>CNTL ACCEL</u> | | | | | | | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

*I-LOADED OPS-2 DAP Configuration

DAP BOOK



CAP/61-C/O/FIN

CAP/61-C/O/FIN

| UNIV PTG | |
|--------------------------|-----------------------------|
| TGT ID = 1 | Orbiting Vehicle |
| = 2 | Earth ctr |
| = 3 | Earth tgt |
| | Input LAT (± 90) |
| | LON (± 180 , + = East) |
| | ALT (-3444 to 20,000 nm) |
| = 4 | Sun ctr |
| = 5 | Celestial tgt |
| | Input RA (0-359.99) |
| | DEC (± 90) |
| = 11-110 | Nav Stars |
| BODY VECT = 1 | +X* |
| = 2 | -X* |
| = 3 | -Z* |
| = 4 | PTC (~ 2 below +X)* |
| = 5 | Optional |
| | Input P (0-359.99) |
| | Y (270-359.99, 0-90) |
| * Input OM \rightarrow | OM (0-359.99) |
| MON AXIS = 1 | +X |
| = 2 | -X |

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

TOP



- | <u>DAP</u> | <u>PURPOSE</u> |
|------------|---|
| A1 | - NOMINAL IMU ALIGN LOSS OF VERN (NOSE & TAIL) |
| A2 | - PTC |
| A3 | - RCS HOT FIRE |
| A4 | - GG |
| A5 | - IMU ROTATION |
| A6 | - LOSS OF VERN (TAIL ONLY) |
| A7 | - DTO 902 |
| A8 | - PRE/POST DEPLOY |
| A9 | - RENDEZVOUS |
| A10 | - PROX OPS |
| A11 | - TAIL ONLY (1 DEG DB) |
| A12 | - (Blank) |

CAP/61-C/O/FIN



A1



TOP



DAP A1

A1

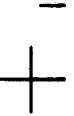
PURPOSE:

NOMINAL
IMU ALIGN
LOSS OF VERN
(NOSE & TAIL)

- | | | |
|---------|----|----------------------|
| 0.1 Q | 1 | TRANSLATION PULSE |
| | | ROTATION |
| 0.2 Q Q | 2 | DSC RT NORM |
| 0.2 Q Q | 3 | VERN |
| 0.1 Q | 4 | PULSE NORM |
| 0.0 1 Q | 5 | VERN |
| .0 Q Q | 6 | COMP NORM |
| .0 Q Q | 7 | VERN |
| | | DEADBAND |
| 5.0 Q Q | 8 | ATT NORM |
| 1.0 Q Q | 9 | VERN |
| 0.2 Q | 10 | RATE NORM |
| .0 2 Q | 11 | VERN |
| 1 | 12 | JET OPT P |
| 1 | 13 | Y |
| Q | 14 | CNTL ACCEL |

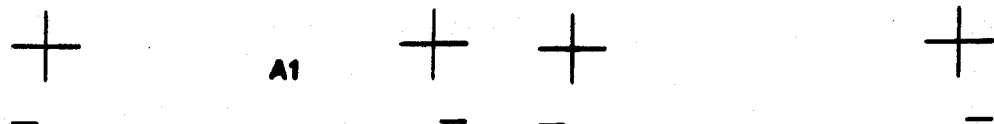
CAP/61-C/O/FIN

CAP/61-C/O/FIN



A2

TOP



A1

DAP A2

PURPOSE:
PTC

A2

0.1 Q 1 TRANSLATION PULSE

0.4 Q Q 2 ROTATION DSC RT NORM
0.4 Q Q 3 VERN
0.1 Q 4 PULSE NORM
0.0 1 Q 5 VERN
.0 Q 6 COMP NORM
.0 Q Q 7 VERN

1.0 Q 8 DEADBAND ATT NORM
1.0 Q Q 9 VERN

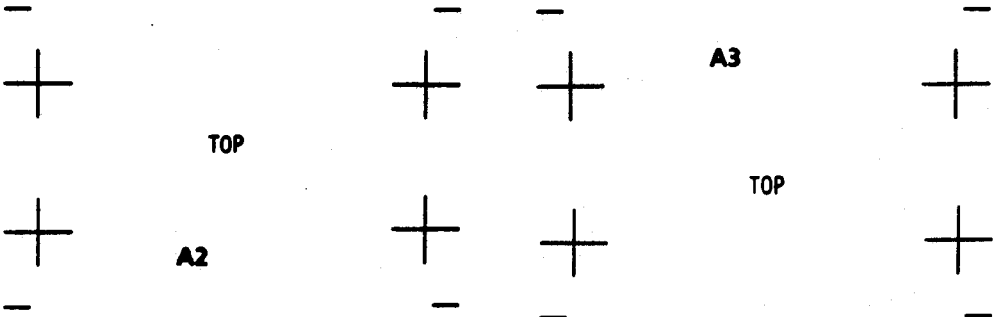
0.2 Q 10 RATE NORM
0.2 Q 11 VERN

1 12 JET OPT P
1 13 Y

Q 14 CNTL ACCEL

CAP/61-C/O/FIN

CAP/61-C/O/FIN



TOP

A3

TOP

A2

DAP A3

PURPOSE:

RCS HOT FIRE

A3

0.1 Q 1 TRANSLATION PULSE

0.2 Q Q 2 ROTATION DSC RT NORM
0.2 Q Q 3 VERN
0.3 Q 4 PULSE NORM
0.0 1 Q 5 VERN
.0 Q 6 COMP NORM
.0 Q Q 7 VERN

5.0 Q 8 DEADBAND ATT NORM
1.0 Q Q 9 VERN

0.2 Q 10 RATE NORM
0.2 Q 11 VERN

3 12 JET OPT P
3 13 Y

Q 14 CNTL ACCEL

CAP/61-C/O/FIN

CAP/61-C/O/FIN



TOP

A4

+

A3

+

+

TOP

+

DAP A4

A4

PURPOSE:

GG

| | | | |
|---------|----|-------------|------|
| 0.1 0 | 1 | TRANSLATION | |
| | | PULSE | |
| | | ROTATION | |
| 0.2 0 0 | 2 | DSC RT | NORM |
| 0.0 0 0 | 3 | | VERN |
| 0.1 0 0 | 4 | PULSE | NORM |
| 0.0 1 0 | 5 | | VERN |
| .0 0 0 | 6 | COMP | NORM |
| .0 0 0 | 7 | | VERN |
| | | DEADBAND | |
| 1.0 0 0 | 8 | ATT | NORM |
| 0.0 7 0 | 9 | | VERN |
| | | RATE | NORM |
| 0.2 0 | 10 | | VERN |
| .0 1 0 | 11 | | |
| | | JET OPT | P |
| 1 | 12 | | Y |
| 3 | 13 | | |
| 0 | 14 | CNTL ACCEL | |

CAP/61-C/O/FIN

CAP/61-C/O/FIN

+

+

+

A5

+

TOP

TOP

+

+

+

+

A4

DAP A5

A5

PURPOSE:

IMU ROTATION

| | | | |
|---------|----|-------------|------|
| 0.1 0 | 1 | TRANSLATION | |
| | | PULSE | |
| | | ROTATION | |
| 0.2 0 0 | 2 | DSC RT | NORM |
| 0.2 0 0 | 3 | | VERN |
| 0.1 0 0 | 4 | PULSE | NORM |
| 0.0 5 0 | 5 | | VERN |
| .0 0 0 | 6 | COMP | NORM |
| .0 0 0 | 7 | | VERN |
| | | DEADBAND | |
| 5.0 0 0 | 8 | ATT | NORM |
| 1.0 0 0 | 9 | | VERN |
| | | RATE | NORM |
| 0.2 0 | 10 | | VERN |
| .0 2 0 | 11 | | |
| | | JET OPT | P |
| 1 | 12 | | Y |
| 1 | 13 | | |
| 0 | 14 | CNTL ACCEL | |

CAP/61-C/O/FIN

CAP/61-C/O/FIN

+

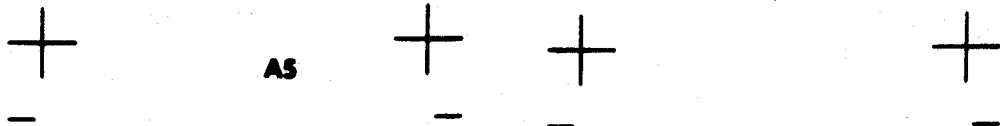
+

+

A6

+

TOP



A5

DAP A6

PURPOSE:
LOSS OF VERN
(TAIL ONLY)

0.1 0

1

TRANSLATION
PULSE

0.2 0 0

2

ROTATION
DSC RT NORM
VERN

0.2 0 0

3

PULSE NORM

0.1 0 0

4

VERN

0.0 1 0

5

COMP NORM

.0 0 0

6

VERN

.0 0 0

7

DEADBAND

5.0 0 0

8

ATT NORM

- 1.0 0 0

9

VERN

0.2 0 0

10

RATE NORM

.0 2 0

11

VERN

3

12

JET OPT P

3

13

Y

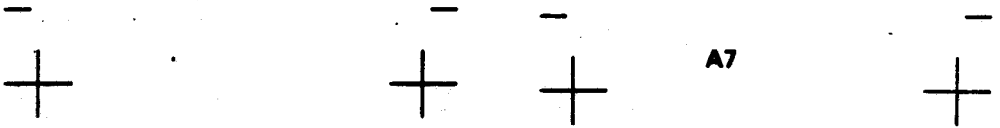
0

14

CNTL ACCEL

CAP/61-C/O/FIN

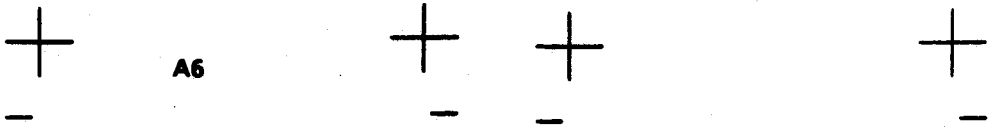
CAP/61-C/O/FIN



A7

TOP

TOP



A6

DAP A7

PURPOSE:
DTO 902

0.1 0

1

TRANSLATION
PULSE

0.5 0 0

2

ROTATION
DSC RT NORM
VERN

0.5 0 0

3

PULSE NORM

0.1 0 0

4

VERN

0.0 1 0

5

COMP NORM

.0 0 0

6

VERN

.0 0 0

7

DEADBAND

- 0.5 0 0

8

ATT NORM

- 0.5 0 0

9

VERN

0.2 0 0

10

RATE NORM

.0 2 0

11

VERN

3

12

JET OPT P

3

13

Y

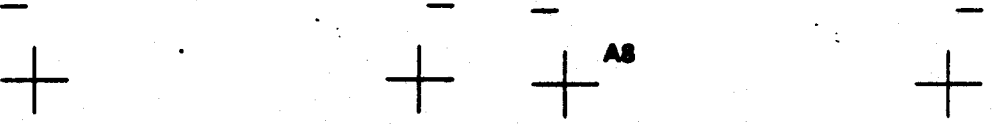
0

14

CNTL ACCEL

CAP/61-C/O/FIN

CAP/61-C/O/FIN



A8

TOP

+

A7

+

+

TOP

+

DAP A8

A8

PURPOSE:
PRE/POST DEPLOY

| | | | |
|---------|----|-------------|------|
| 0.1 Q | 1 | TRANSLATION | |
| | | PULSE | |
| | | ROTATION | |
| 0.5 Q Q | 2 | DSC RT | NORM |
| 0.2 Q Q | 3 | | VERN |
| 0.0 1 Q | 4 | PULSE | NORM |
| 0.0 1 Q | 5 | | VERN |
| .0 Q Q | 6 | COMP | NORM |
| .0 Q Q | 7 | | VERN |
| | | DEADBAND | |
| 3.0 Q | 8 | ATT | NORM |
| 1.0 Q Q | 9 | | VERN |
| | | RATE | |
| 0.2 Q | 10 | | NORM |
| .0 2 Q | 11 | | VERN |
| | | JET OPT | P |
| 1 | 12 | | |
| 1 | 13 | | Y |
| | | CNTL ACCEL | |
| Q | 14 | | |

CAP/61-C/O/FIN

CAP/61-C/O/FIN

+

+

+

A9

+

TOP

TOP

+

A8

+

+

+

DAP A9

A9

PURPOSE:
RENDEZVOUS

| | | | |
|---------|----|-------------|------|
| 0.1 Q | 1 | TRANSLATION | |
| | | PULSE | |
| | | ROTATION | |
| 0.2 Q Q | 2 | DSC RT | NORM |
| 0.2 Q Q | 3 | | VERN |
| 0.1 Q | 4 | PULSE | NORM |
| 0.0 1 Q | 5 | | VERN |
| .0 Q Q | 6 | COMP | NORM |
| .0 Q Q | 7 | | VERN |
| | | DEADBAND | |
| 2.0 Q | 8 | ATT | NORM |
| 1.0 Q Q | 9 | | VERN |
| | | RATE | |
| 0.2 Q | 10 | | NORM |
| .0 2 Q | 11 | | VERN |
| | | JET OPT | P |
| 1 | 12 | | |
| 1 | 13 | | Y |
| | | CNTL ACCEL | |
| Q | 14 | | |

CAP/61-C/O/FIN

CAP/61-C/O/FIN

+

+

+

A10

+

TOP

TOP

A9

DAP A10

PURPOSE:

PROX OPS

A10

| | | | | |
|----------|---|----|-------------|------|
| 0.0 | 5 | 1 | TRANSLATION | |
| | | | PULSE | |
| ROTATION | | | | |
| 0.2 | 0 | 0 | DSC RT | NORM |
| 0.2 | 0 | 0 | | VERN |
| 0.0 | 1 | 0 | PULSE | NORM |
| 0.0 | 1 | 0 | | VERN |
| 0.0 | 0 | 0 | COMP | NORM |
| 0.0 | 0 | 0 | | VERN |
| DEADBAND | | | | |
| 2.0 | 0 | 8 | ATT | NORM |
| 1.0 | 0 | 0 | | VERN |
| RATE | | | | |
| 0.2 | 0 | 10 | | NORM |
| 0.2 | 0 | 11 | | VERN |
| 1 | | 12 | JET OPT | P |
| 1 | | 13 | | Y |
| 0 | | 14 | CNTL ACCEL | |

CAP/61-C/O/FIN

CAP/61-C/O/FIN

A11

TOP

TOP

A10

DAP A11

PURPOSE:

TAIL ONLY (1 DEG DB)

A11

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

CAP/61-C/O/FIN

CAP/61-C/O/FIN

A12

TOP

A11

+

TOP

+

DAP A12

PURPOSE: (Blank)

A12

- 1 TRANSLATION PULSE
- 2 ROTATION DSC RT NORM
- 3 VERN
- 4 PULSE NORM
- 5 VERN
- 6 COMP NORM
- 7 VERN
- 8 DEADBAND ATT NORM
- 9 VERN
- 10 RATE NORM
- 11 VERN
- 12 JET OPT P
- 13 Y
- 14 CNTL ACCEL

CAP/61-C/O/FIN

CAP/61-C/O/FIN

+

+

+

+

TOP

TOP

+

A12

+

+

+

- | <u>DAP</u> | <u>PURPOSE</u> |
|------------|--|
| B1 | - NOMINAL PRCS IMU ALIGN OMS & RCS BURNS |
| B2 | - LOSS OF VERN (TAIL ONLY) |
| B3 | - LOSS OF VERN (NOSE & TAIL) GG MNVR |
| B4 | - SSUS DEPLOY |
| B5 | - COAS CAL |
| B6 | - RENDEZVOUS |
| B7 | - PROX OPS |
| B8 | - UVX SCAN |
| B9 | - DTO 902 |

CAP/61-C/O/FIN

CAP/61-C/O/FIN

+

+

+

B1

+

TOP

TOP

DAP B1

PURPOSE:

NOMINAL
PRCS IMU ALIGN
OMS & RCS BURNS

B1

TRANSLATION
PULSE 15 0.0 2

ROTATION
DSC RT NORM 16 0.5 0 0
VERN 17 0.2 0 0
PULSE NORM 18 0.0 4
VERN 19 0.0 0 2
COMP NORM 20 .0 0 0
VERN 21 .0 0 0

DEADBAND
ATT NORM 22 3.0 0
VERN 23 1.0 0 0

RATE NORM 24 0.2 0
VERN 25 .0 2 0

JET OPT P 26 1
Y 27 1

CNTL ACCEL 28 0

CAP/61-C/O/FIN

CAP/61-C/O/FIN

B2

TOP

TOP

B1

DAP B2

PURPOSE:

LOSS OF VERN
(TAIL ONLY)

B2

TRANSLATION
PULSE 15 0.0 2

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

DEADBAND
ATT NORM 22 3.0 0
VERN 23 1.0 0 0

RATE NORM 24 0.2 0
VERN 25 .0 2 0

JET OPT P 26 3
Y 27 3

CNTL ACCEL 28 0

CAP/61-C/O/FIN

CAP/61-C/O/FIN

B3

TOP

TOP

B2

DAP B3

PURPOSE:

LOSS OF VERN
(NOSE & TAIL)
GG MNVR

B3

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

CAP/61-C/O/FIN

CAP/61-C/O/FIN

B4

TOP

TOP

B3

DAP B4

PURPOSE:

SSUS DEPLOY

B4

| | | | | |
|-------------|------|----|-----|-----|
| TRANSLATION | | | | |
| PULSE | 15 | | 0.0 | 2 |
| ROTATION | | | | |
| DSC RT | NORM | 16 | 0.2 | 0 0 |
| | VERN | 17 | 0.0 | 0 0 |
| PULSE | NORM | 18 | 0.0 | 4 |
| | VERN | 19 | 0.0 | 0 2 |
| COMP | NORM | 20 | | 0 0 |
| | VERN | 21 | .0 | 0 0 |
| DEADBAND | | | | |
| ATT | NORM | 22 | 0.3 | 0 |
| | VERN | 23 | 0.1 | 0 0 |
| RATE | | | | |
| | NORM | 24 | 0.2 | 0 |
| | VERN | 25 | .0 | 1 0 |
| JET OPT | | | | |
| | P | 26 | | 3 |
| | Y | 27 | | 3 |
| CNTL ACCEL | | 28 | | 0 |

CAP/61-C/O/FIN

CAP/61-C/O/FIN

B5

TOP

TOP

B4

DAP B5

PURPOSE:
COAS CAL

B5

| | | | | |
|-------------|------|----|-----|-----|
| TRANSLATION | | | | |
| PULSE | 15 | | 0.0 | 2 |
| ROTATION | | | | |
| DSC RT | NORM | 16 | 0.2 | 0 0 |
| | VERN | 17 | 0.0 | 1 6 |
| PULSE | NORM | 18 | 0.0 | 4 |
| | VERN | 19 | 0.0 | 0 2 |
| COMP | NORM | 20 | 0.0 | 0 0 |
| | VERN | 21 | 0.0 | 0 0 |
| DEADBAND | | | | |
| ATT | NORM | 22 | 3.0 | 0 |
| | VERN | 23 | 0.0 | 3 3 |
| RATE | | | | |
| | NORM | 24 | 0.2 | 0 |
| | VERN | 25 | 0.2 | 0 |
| JET OPT | | | | |
| | P | 26 | | 3 |
| | Y | 27 | | 3 |
| CNTL ACCEL | | 28 | | 0 |

CAP/61-C/O/FIN

CAP/61-C/O/FIN

B6

TOP

TOP

B5

DAP B6

PURPOSE:
RENDEZVOUS

B6

| | | | | |
|-------------|------|----|-----|-----|
| TRANSLATION | | | | |
| PULSE | 15 | | 0.0 | 5 |
| ROTATION | | | | |
| DSC RT | NORM | 16 | 0.5 | 0 0 |
| | VERN | 17 | 0.2 | 0 0 |
| PULSE | NORM | 18 | 0.0 | 4 |
| | VERN | 19 | 0.0 | 0 2 |
| COMP | NORM | 20 | 0.0 | 0 0 |
| | VERN | 21 | 0.0 | 0 0 |
| DEADBAND | | | | |
| ATT | NORM | 22 | 2.0 | 0 |
| | VERN | 23 | 1.0 | 0 0 |
| RATE | | | | |
| | NORM | 24 | 0.2 | 0 |
| | VERN | 25 | 0.2 | 0 |
| JET OPT | | | | |
| | P | 26 | | 1 |
| | Y | 27 | | 1 |
| CNTL ACCEL | | 28 | | 0 |

CAP/61-C/O/FIN

CAP/61-C/O/FIN

B7

TOP

TOP

B6

DAP B7

PURPOSE:
PROX OPS

| | | | |
|-------------|------|----|---------|
| TRANSLATION | | | |
| PULSE | | 15 | 0.0 1 |
| ROTATION | | | |
| DSC RT | NORM | 16 | 0.2 0 0 |
| | VERN | 17 | 0.2 0 0 |
| PULSE | NORM | 18 | 0.0 4 |
| | VERN | 19 | 0.0 0 2 |
| COMP | NORM | 20 | .0 0 0 |
| | VERN | 21 | .0 0 0 |

| | | | |
|----------|------|----|---------|
| DEADBAND | | | |
| ATT | NORM | 22 | 2.0 0 |
| | VERN | 23 | 1.0 0 0 |

| | | | |
|------|------|----|--------|
| RATE | NORM | 24 | 0.2 0 |
| | VERN | 25 | .0 2 0 |

| | | | |
|---------|---|----|---|
| JET OPT | P | 26 | 1 |
| | Y | 27 | 1 |

CNTL ACCEL 28 0

CAP/61-C/O/FIN

CAP/61-C/O/FIN

B8

TOP

TOP

B7

DAP B8

PURPOSE:
UVX SCAN

| | | | |
|-------------|------|----|---------|
| TRANSLATION | | | |
| PULSE | | 15 | 0.0 2 |
| ROTATION | | | |
| DSC RT | NORM | 16 | 1.0 0 0 |
| | VERN | 17 | 0.0 0 0 |
| PULSE | NORM | 18 | 0.0 4 |
| | VERN | 19 | 0.0 0 2 |
| COMP | NORM | 20 | .0 0 0 |
| | VERN | 21 | .0 0 0 |

| | | | |
|----------|------|----|---------|
| DEADBAND | | | |
| ATT | NORM | 22 | 5.0 0 |
| | VERN | 23 | 0.0 5 0 |

| | | | |
|------|------|----|--------|
| RATE | NORM | 24 | 0.2 0 |
| | VERN | 25 | .0 1 0 |

| | | | |
|---------|---|----|---|
| JET OPT | P | 26 | 3 |
| | Y | 27 | 3 |

CNTL ACCEL 28 0

CAP/61-C/O/FIN

CAP/61-C/O/FIN

B9

TOP

TOP

DAP 89

89

PURPOSE:
DTO 902

TRANSLATION
PULSE 15 0.0 2

| | |
|----------|-----------------|
| ROTATION | |
| DSC RT | NORM 16 0.5 0 0 |
| | VERN 17 0.5 0 0 |
| PULSE | NORM 18 0.0 0 4 |
| | VERN 19 0.0 0 2 |
| COMP | NORM 20 0.0 0 0 |
| | VERN 21 0.0 0 0 |

| | |
|----------|-----------------|
| DEADBAND | |
| ATT | NORM 22 1 0.0 0 |
| | VERN 23 1 0.0 0 |

| | |
|------|---------------|
| RATE | NORM 24 0.5 0 |
| | VERN 25 0.5 0 |

| | |
|---------|--------|
| JET OPT | P 26 3 |
| | Y 27 2 |

CNTL ACCEL 28 0

CAP/61-C/O/FIN

CAP/61-C/O/FIN

TOP

CAP/61-C/O/FIN

TOP

TOP
BACK COVER 'DAP BOOK'



CAP/61-C/O/FIN



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ATTITUDE TIMELINE

Attitude Timeline

ATTITUDE
TIMELINE

| NET | MNVR OPTION | | DAP | E/S | REMARKS | EVENT |
|------------------------------|---|---------------------|-------------------------------------|-------------------------|------------------------------|-----------------------|
| 1 0/01:10:00 | TRK TGT=2 BV=5< 90.00, 325.00> OM=100.00 | A1 AUTO NORM | DSC .200 DB AT 5.00 DB RT .20 | EARTH T 90 P 325 | LVLH R+215 P+ 0 Y+ 0 | PLBD OPENING |
| 2 0/03:58:00 04:00:33 | MNVR R+103.00 P+ 27.00 Y+357.00 | A1 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 70 P 189 | | IMU ALIGN COAS CAL |
| 3 0/04:23:00 34:20 | TRK TGT=2 BV=3< 90.00, .00> OM=100.00 | A1 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | EARTH T 90 P 0 | LVLH R+100 P+ 0 Y+ 0 | -ZLV NOSE FWD |
| 4 0/08:52:00 09:02:11 | MNVR R+351.00 P+110.00 Y+ 24.00 GENERIC ATTITUDE * | A0 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 93 P 269 | | SATCOM DEPLOY ATT |
| 5 0/09:35:00 40:47 | MNVR R+ 82.00 P+ 36.00 Y+ 64.00 GENERIC ATTITUDE * | A0 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 137 P 217 | | OMS SEP ATT |
| 6 0/09:50:00 50:57 | TRK TGT=2 BV=3< 90.00, .00> OM=100.00 | A0 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | EARTH T 90 P 0 | LVLH R+100 P+ 0 Y+ 0 | -ZLV NOSE FWD |
| 7 0/10:01:00 15:16 | TRK TGT=1 BV=5<310.00, .00> OM= 12.00 GENERIC ATTITUDE * | A0 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | EARTH T 100 P 170 | LVLH R+ 0 P+ 10 Y+ 9 | WINDOW PROTECT ATT |
| 8 0/10:17:00 | CANCEL GENERIC ATTITUDE * | A0 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 103 P 144 | INRTL R+103 P+199 Y+ 7 | PKM |
| 9 0/10:27:00 41:05 | TRK TGT=2 BV=3< 90.00, .00> OM=100.00 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | EARTH T 90 P 0 | LVLH R+100 P+ 0 Y+ 0 | -ZLV NOSE FWD |
| 10 0/11:33:00 43:31 | MNVR R+103.00 P+ 27.00 Y+357.00 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 70 P 189 | | IMU ALIGN |
| 11 0/11:53:00 12:05:50 | TRK TGT=2 BV=3< 90.00, .00> OM=100.00 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | EARTH T 90 P 0 | LVLH R+100 P+ 0 Y+ 0 | -ZLV NOSE FWD |
| 12 0/22:10:00 20:15 | MNVR R+103.00 P+ 27.00 Y+357.00 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 77 P 189 | | IMU ALIGN |

ALL ATTITUDES IN MEAN OF 1950

*ACCURATE TO WITHIN +/- 15 DEGREES.

Attitude Timeline

| MET | MNVR OPTION | | DAP | E/S | REMARKS | EVENT |
|------------------------------|---|---------------------|-------------------------------------|-----------------------|----------------------------|---|
| 1 0/23:29:00 39:17 | MNVR R+165.37 P+311.61 Y+309.00 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 58 P 122 | | UVX-1 |
| 2 1/01:01:00 07:18 | MNVR R+175.61 P+346.83 Y+ 17.91 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 112 P 119 | | UVX-2A |
| 3 1/02:29:00 35:11 | MNVR R+173.28 P+ 49.56 Y+336.25 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 50 P 117 | | UVX-3 START |
| 4 1/02:46:00 03:00:58 | MNVR R+170.23 P+ 41.82 Y+337.26 | B8 AUTO VERN | DSC .008 DB AT .05 DB RT .01 | SUN T 53 P 122 | - | UVX-3 END |
| 5 1/03:11:00 20:51 | TRK TGT=2 BV=3(90.00, .00) OM=180.00 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | EARTH T 90 P 0 | LVLH R+180 P+ 0 Y+ 0 | -ZLV NOSE FWD |
| 6 1/05:31:00 45:09 | MNVR R+223.90 P+130.04 Y+304.29 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 21 P 2 | | UVX-11 START |
| 7 1/05:48:00 06:09:08 | MNVR R+210.25 P+114.40 Y+298.12 | B8 AUTO VERN | DSC .008 DB AT .05 DB RT .01 | SUN T 11 P 4 | | UVX-11 END |
| 8 1/06:20:00 20:26 | MNVR R+218.00 P+123.00 Y+301.00 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 16 P 3 | | COMET HALLEY ACTIVE MONITORING PROGRAM |
| 9 1/08:48:00 56:22 | MNVR R+103.00 P+ 27.00 Y+357.00 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 77 P 188 | | IMU ALIGN |
| 10 1/09:08:00 21:10 | TRK TGT=2 BV=3(90.00, .00) OM=180.00 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | EARTH T 90 P 0 | LVLH R+180 P+ 0 Y+ 0 | -ZLV NOSE FWD |
| 11 1/20:57:00 21:07:19 | MNVR R+103.00 P+ 27.00 Y+357.00 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 76 P 188 | | IMU ALIGN |
| 12 1/22:16:00 19:12 | MNVR R+120.35 P+ 4.30 Y+335.18 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 65 P 176 | | UVX-10 |

Attitude Timeline

| MET | MNVR OPTION | DAF | E/S | REMARKS | EVENT | |
|-----------------------------|---|---------------------|-------------------------------------|------------------------|-----------------------------|----------------|
| 1 1/23:44:00 49:18 | MNVR R+168.76 P+ 1.97 Y+ 17.39 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 105 P 125 | | UVX-5 START |
| 2 2/00:01:00 18:41 | MNVR R+164.12 P+ 19.09 Y+ 13.39 | B8 AUTO VERN | DSC -.016 DB AT .05 DB RT .01 | SUN T 94 P 128 | | UVX-5 END |
| 3 2/01:15:00 18:04 | MNVR R+170.46 P+342.46 Y+ 24.76 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 119 P 125 | | UVX-7 START |
| 4 2/01:32:00 52:48 | MNVR R+166.15 P+353.14 Y+ 22.72 | B8 AUTO VERN | DSC .008 DB AT .05 DB RT .01 | SUN T 113 P 129 | | UVX-7 END |
| 5 2/02:05:00 15:22 | TRK TGT=2 BV=5(270.00,290.00) OM= .00 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | EARTH T 90 P 250 | LVLH R+290 P+ 0 Y+ 0 | DEEP SPACE |
| 6 2/03:50:00 04:01:01 | TRK TGT=2 BV=1(.00, .00) OM=180.00 | B3 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | EARTH T 0 P 180 | LVLH R+180 P+270 Y+ 0 | GG ATT |
| 7 2/05:52:00 06:05:12 | MNVR R+ 29.46 P+340.22 Y+ 41.88 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 135 P 273 | | UVX-8 |
| 8 2/07:35:00 43:51 | MNVR R+103.00 P+ 27.00 Y+357.00 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 76 P 188 | | IMU ALIGN |
| 9 2/07:55:00 08:08:04 | TRK TGT=2 BV=3(90.00, .00) OM=180.00 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | EARTH T 90 P 0 | LVLH R+180 P+ 0 Y+ 0 | -ZLV NOSE FWD |
| 10 2/19:44:00 54:24 | MNVR R+103.00 P+ 27.00 Y+357.00 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 75 P 188 | | IMU ALIGN |
| 11 2/21:03:00 05:51 | MNVR R+ 75.24 P+ 19.13 Y+335.81 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 59 P 220 | | UVX-9 |
| 12 2/22:00:00 13:27 | TRK TGT=2 BV=5(30.00, .00) OM= .00 | A11 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | EARTH T 30 P 0 | LVLH R+ 0 P+240 Y+ 0 | IR-IE |

Attitude Timeline

| NET | MNVR OPTION | | DAP | E/S | REMARKS | EVENT |
|-----------------------------|---|--|---|-------------------------|---------------------------------------|---|
| 1 3/03:00:00 14:58 | MNVR R+221.00 P+127.00 Y+302.00 | | A11 DSC .200 AUTO DB AT 1.00 VERN DB RT .02 | SUN T 21 P 0 | | COMET HALLEY ACTIVE MONITORING PROGRAM |
| 2 3/06:22:00 30:32 | MNVR R+103.00 P+ 27.00 Y+357.00 | | A11 DSC .200 AUTO DB AT 1.00 VERN DB RT .02 | SUN T 75 P 100 | | IMU ALIGN |
| 3 3/06:42:00 54:58 | TRK TGT=2 BV=3(90.00, .00) OM=100.00 | | A11 DSC .200 AUTO DB AT 1.00 VERN DB RT .02 | EARTH T 90 P 0 | LVLH R+100 P+ 0 Y+ 0 | -ZLV NOSE FWD |
| 4 3/10:31:00 41:30 | MNVR R+103.00 P+ 27.00 Y+357.00 | | A11 DSC .200 AUTO DB AT 1.00 VERN DB RT .02 | SUN T 75 P 107 | | IMU ALIGN |
| 5 3/10:51:00 19:05:50 | TRK TGT=2 BV=5(270.00, .00) OM= .00 | | A11 DSC .200 AUTO DB AT 1.00 VERN DB RT .02 | EARTH T 90 P 100 | LVLH R+ 0 P+ 0 Y+ 0 | +ZLV NOSE FWD |
| 6 3/21:50:00 56:24 | MNVR R+147.00 P+167.00 Y+ 19.00 | | A11 DSC .200 AUTO DB AT 1.00 VERN DB RT .02 | SUN T 105 P 99 | | CREW CONF |
| 7 4/00:23:00 35:23 | MNVR R+ 80.69 P+ 21.80 Y+332.01 | | A11 DSC .200 AUTO DB AT 1.00 VERN DB RT .02 | SUN T 53 P 215 | | UVX-4 |
| 8 4/01:20:00 26:34 | TRK TGT=2 BV=5(340.00, .00) OM=100.00 | | A11 DSC .200 AUTO DB AT 1.00 VERN DB RT .02 | EARTH T 20 P 100 | LVLH R+100 P+250 Y+ 0 | DTO 902 START ATT |
| 9 4/01:43:00 | ROT BV=5(.00,270.00) | | A7 DSC .500 AUTO DB AT .50 NORM DB RT .20 | | ROT R+250 START P+215 ATT Y+ 40 | DTO 902 ROTATION |
| 10 4/01:49:00 | LVLH | | A7 DSC .500 AUTO DB AT .50 NORM DB RT .20 | EARTH T 176 P 100 | LVLH R+100 P+ 94 Y+ 0 | DTO 902 STOP ATT |
| 11 4/01:50:00 57:49 | TRK TGT=2 BV=3(90.00, .00) OM=100.00 | | A1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02 | EARTH T 90 P 0 | LVLH R+100 P+ 0 Y+ 0 | -ZLV NOSE FWD |
| 12 4/06:39:00 49:12 | MNVR R+103.00 P+ 27.00 Y+357.00 | | A1 DSC .200 AUTO DB AT 1.00 VERN DB RT .02 | SUN T 74 P 107 | | IMU ALIGN |

Attitude Timeline

| NET | MNVR OPTION | | DAP | E/S | REMARKS | EVENT | |
|-----------------------------|---|--|--------------------|-------------------------------------|-----------------------|-------------------------------|---------------|
| 1 4/06:59:00 07:12:13 | TRK TGT=2 BY=3(90.00, .00) OM=100.00 | | A1 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | EARTH T 90 P 0 | LVLH R+100 P+ 0 Y+ 0 | -ZLV NOSE FWD |
| 2 4/17:17:00 27:16 | MNVR R+103.00 P+ 27.00 Y+357.00 | | A1 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 74 P 107 | | IMU ALIGN |
| 3 4/17:37:00 47:50 | TRK TGT=4 BY=5(104.00, .00) OM= 90.00 | | A1 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 176 P 176 | INRTL R+311 P+255 Y+ 70 | TAIL SUN |
| 4 4/20:14:00 27:29 | MNVR R+101.00 P+255.00 Y+325.00 | | A1 AUTO VERN | DSC .200 DB AT 1.00 DB RT .02 | SUN T 79 P 166 | | IMU ALIGN |
| 5 4/20:30:00 32:30 | MNVR R+ 86.00 P+192.00 Y+ 11.00 | | B1 AUTO NORM | DSC .500 DB AT 3.00 DB RT .20 | SUN T 100 P 161 | | IMU VERIF |