# STS-125

## *FD 09 Execute Package*


| MSG | Page(s) | Title |
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| 067A | 1 - 13 | FD09 Flight Plan Revision **(pdf)** |
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| 069 | --- | FD08 MMT Summary **(pdf - Electronic Only)** |
| 070 | 16 | Video of AD Hinge During Release Ops **(pdf)** |
| 071 | 17 | Changes to HST Unberth and Release Procedures **(pdf)** |
| 072 | 18 | FD09 IMAX Notes **(pdf)** |

***Approved by FAO:*** *Jennifer Clevenger*

*Last Updated: May 19 2009 8:01AM GMT*
***JEDI*** *(**J**oint **E**xecute package **D**evelopment and **I**ntegration), v2.04.0003*

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MSG 067A - FD09 FLIGHT PLAN REVISION

MSG INDEX

| MSG NO. | TITLE |
|---|---|
| 067 | FD09 Flight Plan Revision |
| 068 | FD09 Mission Summary |
| 069 | FD08 MMT Summary |
| 070 | Video of AD Hinge During Release Ops |
| 071 | Changes to HST Unberth and Release Procedures |
| 072 | FD09 IMAX Notes |

1. Post Sleep Cryo Config
   R1 O2,H2 MANF VLV TK1 (two) - OP (tb-OP)
   TK2 HTRS A,B (four) - AUTO
   O2 TK3 HTR A - OFF
   H2 TK3 HTRS A,B (two) – OFF

2. Prior to performing UNBERTH BSA CONFIG, step 1, please take a photograph of the front of the BSA, to document the state of the status lights. This will help with engineering data post-flight since the information is lost once the unit is power cycled or turned off.

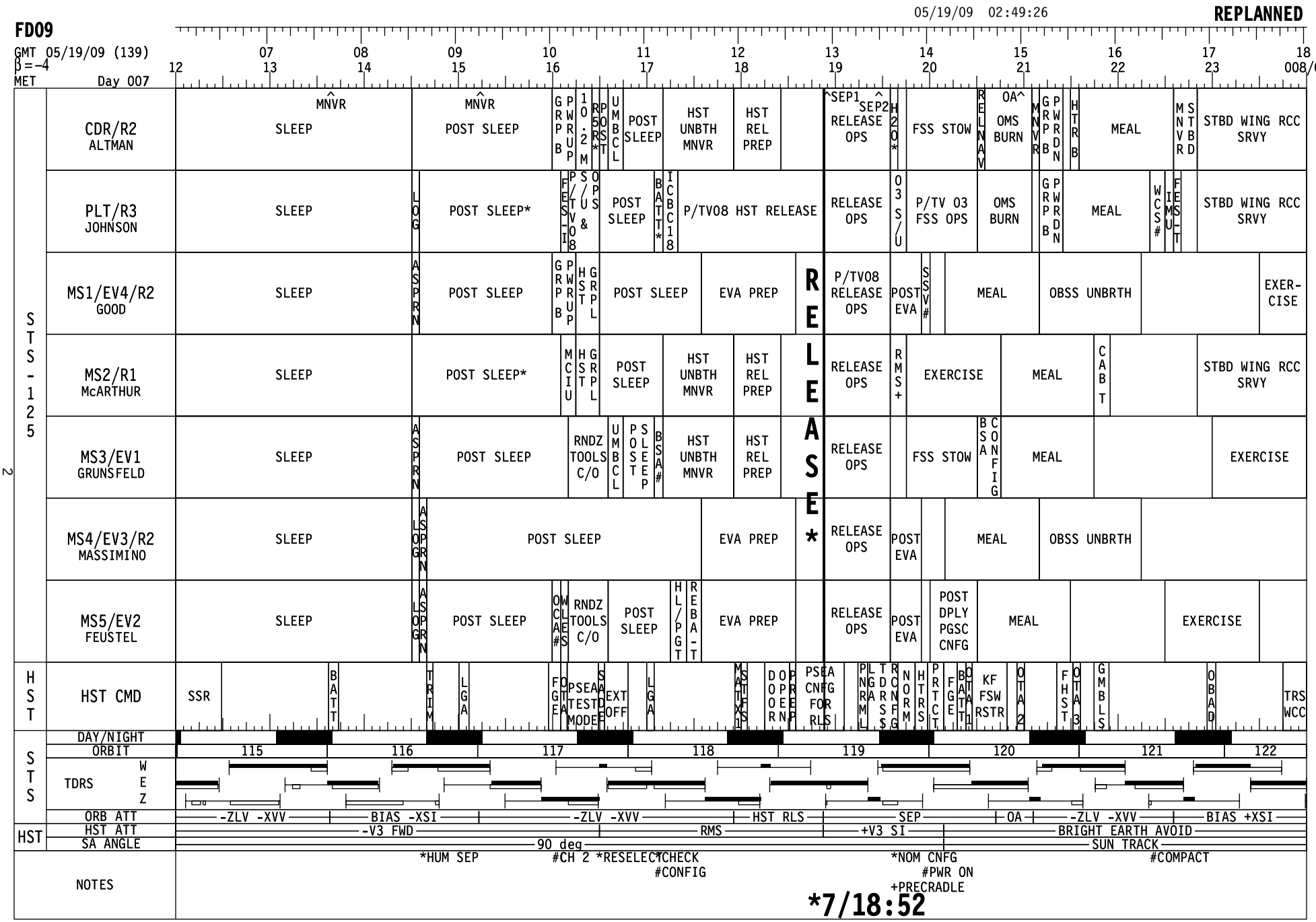
3. Since, WLES has finished all the planned MM/OD monitoring, the post-deploy reconfig to restore RPOP2 as the WLES backup laptop has been deleted. WLES will stay on single-laptop ops for the rest of the mission to continue to gather thermal data for engineering.

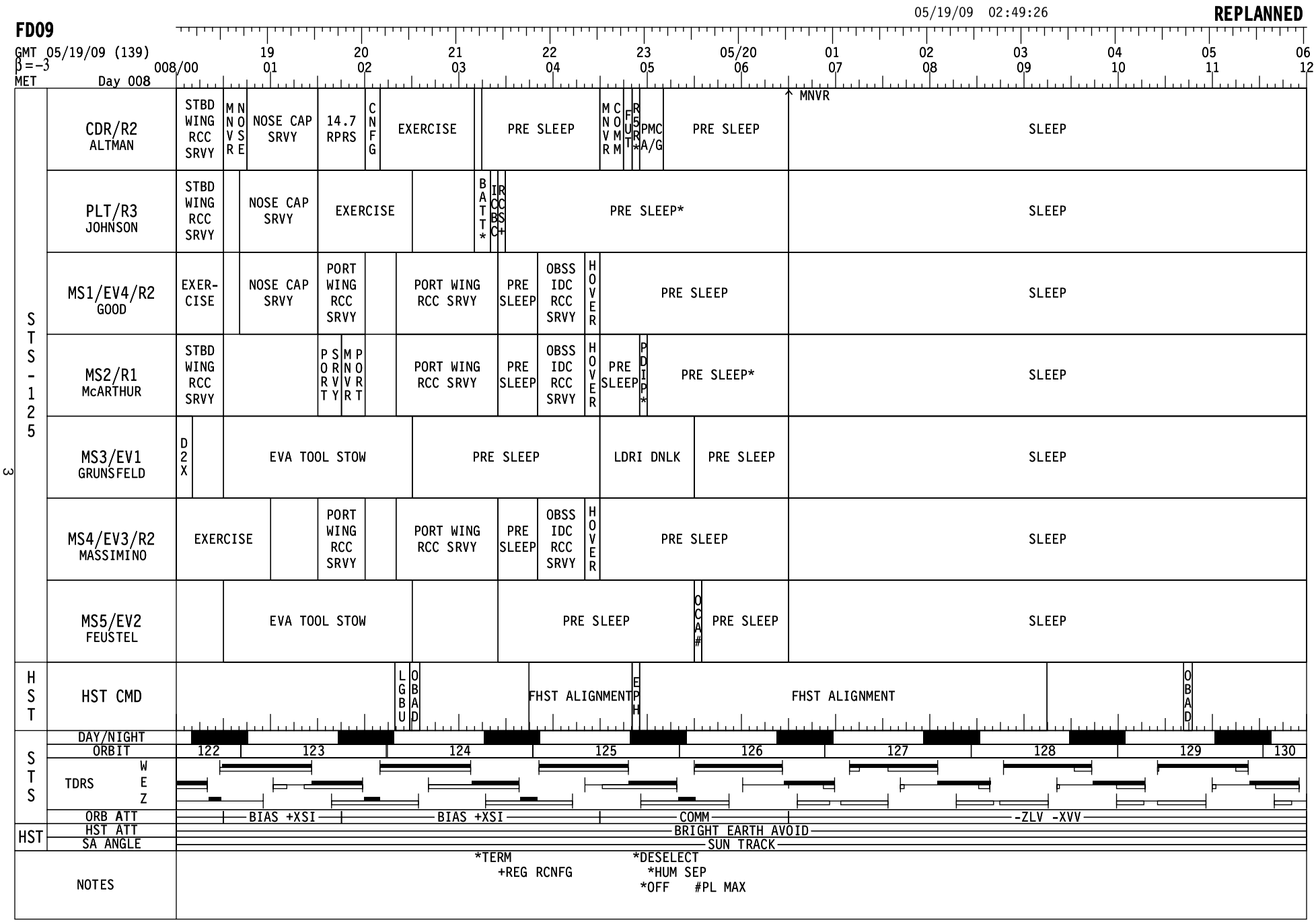
4. Please perform the following actions to secure the Potable Contingency Cross-Tie:
   - Using a ziploc bag and gray tape, cover the Potable Contingency Cross-Tie QD
   - Tape QD cap to wall
   - Inspect ziploc bag daily for moisture which would indicate the Potable Contingency Cross-Tie QD is leaking

   *Rationale: During the crew's attempt to remove the Supply Water Purge Device the Quick Disconnect (QD) on the purge device broke apart leaving the female portion of the purge device stuck to the male QD fitting on the wall.*

5. REPLACE PAGES 2-18 THROUGH 2-19 AND 3-92 THROUGH 3-101.

END OF PAGE 1 OF 13, MSG 067A


FD09
05/19/09 02:49:26
REPLANNED
GMT 05/19/09 (139)
β=-4
MET Day 007
12 13 14 15 16 17 18 19 20 21 22 23 008/00
STS-125
CDR/R2 ALTMAN
PLT/R3 JOHNSON
MS1/EV4/R2 GOOD
MS2/R1 McARTHUR
MS3/EV1 GRUNSFELD
MS4/EV3/R2 MASSIMINO
MS5/EV2 FEUSTEL
SLEEP
POST SLEEP
POST SLEEP*
MNVR
SEP1
SEP2
RELEASE OPS
FSS STOW
OMS BURN
MEAL
STBD WING RCC SRVY
P/TV08 HST RELEASE
P/TV 03 FSS OPS
EVA PREP
OBSS UNBRTH
EXER-CISE
EXERCISE
RELEASE*
HST CMD
DAY/NIGHT
ORBIT
115 116 117 118 119 120 121 122
TDRS W E Z
ORB ATT
HST ATT
SA ANGLE
-ZLV -XVV
BIAS -XSI
-ZLV -XVV
HST RLS
SEP
OA
-ZLV -XVV
BIAS +XSI
-V3 FWD
RMS
+V3 SI
BRIGHT EARTH AVOID
90 deg
SUN TRACK
NOTES
*HUM SEP
#CH 2 *RESELECT CHECK
#CONFIG
*NOM CNFG
#PWR ON
+PRECRADLE
#COMPACT
*7/18:52


GMT 05/19/09 (139)
β = -3
MET Day 008
008/00
19 01 20 02 21 03 22 04 23 05 05/20 06 01 07 02 08 03 09 04 10 05 11 06 12
MNVR
STS-125
CDR/R2 ALTMAN
STBD WING RCC SRVY
MNVR NOSE
NOSE CAP SRVY
14.7 RPRS
CNFG
EXERCISE
PRE SLEEP
MNVR COMM FUT RSR* PMC A/G
PRE SLEEP
SLEEP
PLT/R3 JOHNSON
STBD WING RCC SRVY
NOSE CAP SRVY
EXERCISE
BATT* IRCBS C+
PRE SLEEP*
SLEEP
MS1/EV4/R2 GOOD
EXER-CISE
NOSE CAP SRVY
PORT WING RCC SRVY
PORT WING RCC SRVY
PRE SLEEP
OBSS IDC RCC SRVY
HOVER
PRE SLEEP
SLEEP
MS2/R1 McARTHUR
STBD WING RCC SRVY
PORT SRVY MNVR PORT
PORT WING RCC SRVY
PRE SLEEP
OBSS IDC RCC SRVY
HOVER
PRE SLEEP
PDIP*
PRE SLEEP*
SLEEP
MS3/EV1 GRUNSFELD
D2X
EVA TOOL STOW
PRE SLEEP
LDRI DNLK
PRE SLEEP
SLEEP
MS4/EV3/R2 MASSIMINO
EXERCISE
PORT WING RCC SRVY
PORT WING RCC SRVY
PRE SLEEP
OBSS IDC RCC SRVY
HOVER
PRE SLEEP
SLEEP
MS5/EV2 FEUSTEL
EVA TOOL STOW
PRE SLEEP
OCA#
PRE SLEEP
SLEEP
HST
HST CMD
LGBU
OBAD
FHST ALIGNMENT
EPH
FHST ALIGNMENT
OBAD
STS
DAY/NIGHT
ORBIT
122 123 124 125 126 127 128 129 130
TDRS W E Z
ORB ATT
BIAS +XSI
BIAS +XSI
COMM
-ZLV -XVV
HST
HST ATT
BRIGHT EARTH AVOID
SA ANGLE
SUN TRACK
NOTES
*TERM
+REG RCNFG
*DESELECT
*HUM SEP
*OFF #PL MAX

# STS-125 (FD09)

**REPLANNED**

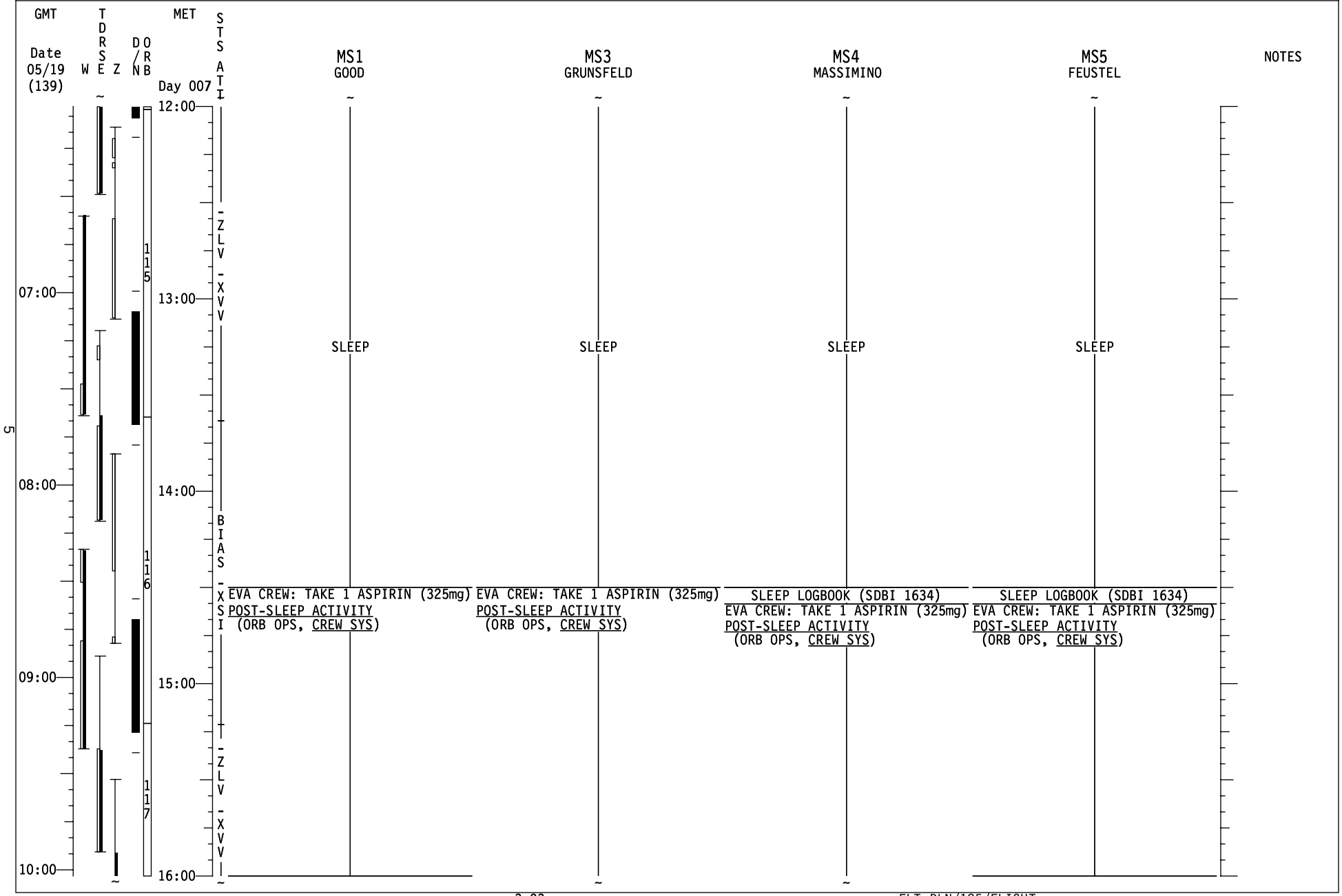
GMT Date 05/19 (139) | MET Day 007 | TDRS W E Z | DO/NB 115 116 117 | STS ATI -ZLV -XVV BIAS -XSI -ZLV -XVV

| CDR ALTMAN | PLT JOHNSON | MS2 McARTHUR | HST CMD | NOTES |
|---|---|---|---|---|
| 12:00 | | | SSR ENGINEERING PLAYBACK | UPLINK KU CH 2 -RNS |
| 13:00 SLEEP | SLEEP | SLEEP | | |
| < FUT MNVR INIT (Battery Charge) | | | PREP FOR BATTERY CHARGING | |
| 14:00 POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | SLEEP LOGBOOK (SDBI 1634)<br>POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)<br>√HUM SEP for H2O accumulation | POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)<br>√HUM SEP for H2O accumulation | OPEN TRIM RELAYS | |
| 15:00 | | | CONFIG LGAs FOR RELEASE | |
| < MNVR (TRK) -ZLV -XVV (DEU)<br>TG=2 BV=3 OM=0<br>A10/AUTO/VERN (7/15:14) Init TRK | | | | |
| 16:00 | | | TURN OFF FGEs BEFORE DEPLOY | |

**FD09 EZ ACTIVITIES:**
TEPC (ORB OPS, CREW SYSTEMS)
Check Status
OCAC Filter Inspection
Hard reboot all PGSCs not shut down overnight, except: STS1 (OCA Router), STS6 (RPOP2) and STS7 (WLES)

# STS-125 (FD09)

**REPLANNED**



# STS-125 (FD09)

**REPLANNED**

GMT Date 05/19 (139) | TDRS W E Z | DO/DNB 117 118 119 | MET Day 007 | STS ATL - ZLV - XVV HST RLS SEP

| 16:00 | CDR ALTMAN | PLT JOHNSON | MS2 McARTHUR | HST CMD | NOTES |
|---|---|---|---|---|---|
| | PRIORITY PWRUP GROUP B (ORB PKT, PRIOR PWRDN) Steps 12 (Recover IMU 3), 6 (Triple G2, 1233),5 | POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | TURN OFF FGEs BEFORE DEPLOY | |
| | 10.2 PSI MAINTENANCE (EVA, 10.2 PSI CBN) Step 3 only | SUPPLY WATER DUMP USING FES [A] | L17 Check MCIU filter screen | DISABLE ALL OTA HEATERS | |
| | R5R RESELECT [B] | P/TVO8 HST RELEASE (SETUP & OPS) (P/TV, SCENES) HST Grapple - Item 2 | HST GRAPPLE (HST DPY, GRAPPLE) | PSEA TEST MODE | |
| | POST-SLEEP ACT (ORB OPS,CREW SYS) | POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | POWER OFF SADE | |
| | HST UMB DISCONNECT (HST DPY, UNBERTH) | | | HST EXT PWR OFF & UMB DISCONNECT | |
| | POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | | | | |
| 17:00 | | √EMU Battery charging | | CONFIG LGAs FOR RELEASE | UPLINK β21 + Mask Boxes 1,2,5 |
| | HST UNBERTH (HST DPY, UNBERTH) Ref. MSG 065 and 071 | P/TVO9 ICBC3D (FILMING OPS) (P/TV, SCENES) Scene 18 Ref. MSG 072 | HST UNBERTH (HST DPY, UNBERTH) Ref. MSG 065 and 071 | | |
| | | P/TVO8 HST RELEASE (OPS) (P/TV, SCENES) FSS Berthing Latches, HST Unberth, HST Release - Items 2-3 Ref. MSG 070 | | [A] SUPPLY WATER DUMP USING FES (ORB OPS, ECLS) Step 1 only, using FES PRI A | |
| 18:00 | HST RELEASE PREP (HST DPY, RELEASE OPS) | | HST RELEASE PREP (HST DPY, RELEASE OPS) | POWER ON MA TX 1 FOR TDRSS COM | UPDATE HST RELEASE PAD |
| | | | | VERIFY STFS PRE-RELEASE CONFIG | |
| | | | | OPEN APERTURE DOOR | |
| | [B] GNC 23 RCS CRT RCS R - ITEM 3 EXEC (*) JET DES R5R - ITEM 37 EXEC (no*) | | | PREP FOR RMS RELEASE OF HST | |
| | | | | PSEA CONFIG FOR RELEASE & HST RELEASE | |
| 19:00 | HST RELEASE (RMS & HST Systems) (HST DPY, RELEASE OPS) SEP 1 TIG 7/18:53:00 SEP 2 TIG 7/19:28:25 Ref. MSG 071 | HST RELEASE (Orbiter) (HST DPY, RELEASE OPS) Ref. MSG 071 | HST RELEASE (RMS & HST Systems) (HST DPY, RELEASE OPS) Ref. MSG 071 | | |
| | | | | TRANSITION TO PRE-NORMAL MODE | |
| | | | | RECONFIGURE HST LGA DIRECT TDRSS | UPLINK β21 + Mask |
| | NOMINAL H2O CONFIG (ORB OPS, ECLS) L1 action and TOPPING FES STARTUP not req'd | P/TVO3 FSS OPS (SETUP) (P/TV, SCENES) | RMS PWRDN (PDRS, RMS PWRDN) Step 1 only | TRANSITION TO NORM MODE & MNVR TO BEA ATT | |
| | FSS STOW WITH BSP INSTALLED (PL OPS, IN-BAY OPERATIONS) | P/TVO3 FSS OPS (OPS) (P/TV, SCENES) FSS Stow - Item 5 | EXERCISE | CONFIG MCU & RETR/DEPL HTRS FOR NORMAL OPS | |
| 20:00 | | | | ENABLE CS HV PROTECT FUNCTION | |

# STS-125 (FD09)

**REPLANNED**

GMT Date 05/19 (139) | MET Day 007 | TDRS W E Z | DO/RNB 117 118 119 | STS ATL -ZLV -XLV HST RLS SEP

| MS1 GOOD | MS3 GRUNSFELD | MS4 MASSIMINO | MS5 FEUSTEL | NOTES |
|---|---|---|---|---|
| PRIORITY PWRUP GROUP B (ORB PKT, PRIOR PWRDN) Steps 12 (Recover IMU 3), 6 (Triple G2, 1233),5 | POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | RECONFIGURE OCA D/L RATE [C] | |
| HST GRAPPLE (HST DPY, GRAPPLE) | RNDZ TOOLS CHECKOUT (RNDZ, RNDZ TOOLS) | | WLES RNDZ TOOLS CHECKOUT PREP (ORB OPS, WLE SENSORS) | |
| | | | RNDZ TOOLS CHECKOUT (RNDZ, RNDZ TOOLS) | |
| POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | HST UMB DISCONNECT (HST DPY, UNBERTH) | | POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | |
| | POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | | | |
| | UNBERTH BSA CONFIG [D] (PL OPS, IN-BAY OPS) | | [C] L10 MUX/VTR/CC PWR - ON (LED ON) RECONFIGURE OCA D/L RATE (Ch. 2) (ORB OPS, PGSC) Part D then A, omit Step 4 | |
| | HST UNBERTH (HST DPY, UNBERTH) Ref. MSG 065 and 071 | | | |
| | | | [D] Step 1 only Ref. MSG 067, Item 2 | |
| | | | HELMET LIGHT/PGT BATT RCHRG(Term) (EVA, EMU MAINT/RECHARGE) | |
| | | | REBA BATTERY RECHARGE (TERM) (EVA, EMU MAINT/RECHARGE) | |
| EVA PREP (EVA, EVA PREP) Steps 1-31, hold before EMU DONNING | | EVA PREP (EVA, EVA PREP) Steps 1-31, hold before EMU DONNING | EVA PREP (EVA, EVA PREP) Steps 1-31, hold before EMU DONNING | |
| | HST RELEASE PREP (HST DPY, RELEASE OPS) | | | UPDATE HST RELEASE PAD |
| P/TVO8 HST RELEASE (OPS) (P/TV, SCENES) HST Release - Item 3 | HST RELEASE (Orbiter) (HST DPY, RELEASE OPS) Ref. MSG 071 | HST RELEASE (RMS & HST Systems) (HST DPY, RELEASE OPS) Ref. MSG 071 | HST RELEASE (Orbiter) (HST DPY, RELEASE OPS) Ref. MSG 071 | |
| | [E] Note: Stow TCUs in ECOKs, LCVGs in HUTs, reconnect LTAs & helmets | | | |
| POST EVA [E] (EVA, POST EVA) Steps 21, 28-31, 42-44, 61, 65-70 & 73 | FSS STOW WITH BSP INSTALLED (PL OPS, IN-BAY OPERATIONS) | POST EVA [E] (EVA, POST EVA) Steps 21, 28-31, 42-44, 61, 65-70 & 73 | POST EVA [E] (EVA, POST EVA) Steps 21, 28-31, 42-44, 61, 65-70 & 73 | |
| SSV PWR - ON OUTRATE - 3 | | | | UPLINK TFL 192 |

# STS-125 (FD09)

**REPLANNED**

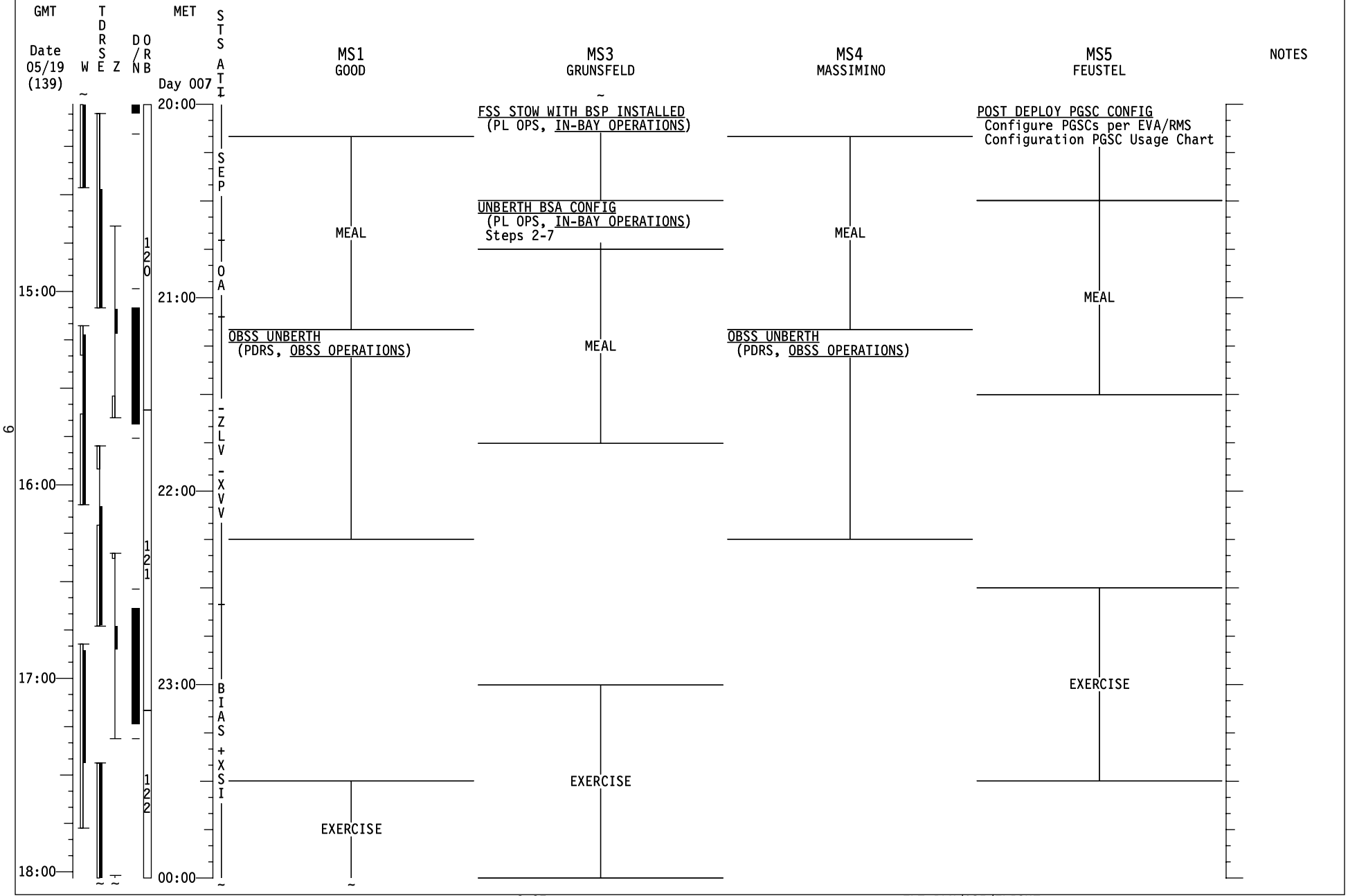
GMT Date 05/19 (139) | MET Day 007 | TDRS W E Z | DO/RNB 120 121 122

| | CDR ALTMAN | PLT JOHNSON | MS2 McARTHUR | HST CMD | NOTES |
|---|---|---|---|---|---|
| 20:00 | FSS STOW WITH BSP INSTALLED (PL OPS, IN-BAY OPERATIONS) | P/TVO3 FSS OPS (OPS) (P/TV, SCENES) FSS Stow - Item 5 | EXERCISE | ENABLE CS HV PROTECT FUNCTION<br>TURN ON FGEs AFTER DEPLOY<br>ENABLE BATT SOC SAFEMODE TEST(S)<br>ENABLE OTA STAGE 1 HEATERS | |
| | RNDZ NAV DISABLE [F]<br>ON-ORBIT OMS BURN (ORB OPS, OMS) | ON-ORBIT OMS BURN (ORB OPS, OMS) | | KF THRESHOLD FSW RESTORATION | UPDATE ORBITAL MNVR PAD |
| 21:00 | < OA TIG (7/20:57:40) | | | ENABLE OTA STAGE 2 HEATERS | |
| | MNVR (TRK) -ZLV -XVV [G]<br>PRIORITY PWRDN GROUP B (ORB PKT, PRIOR PWRDN) Steps 5,6 (Single G2, 1111),9, 10,12 (IMU 3 STBY-ITEM 23 EXEC) | PRIORITY PWRDN GROUP B (ORB PKT, PRIOR PWRDN) Steps 5,6 (Single G2, 1111),9, 10,12 (IMU 3 STBY-ITEM 23 EXEC) | MEAL | | |
| | HEATER RCNFG-CNFG B (ORB OPS, EPS) | | | FHST OBAD & CHECKOUT<br>ENABLE OTA STAGE 3 HEATERS | |
| | [G] MNVR (TRK) -ZLV -XVV<br>TG=2 BV=3 OM=0<br>A1/AUTO/VERN Init TRK | MEAL | CABIN TEMP CONTROLLER RECNFG 2(1) (ORB OPS, ECLS) | RE-CENTER HGA GIMBALS | |
| 22:00 | MEAL | | | | |
| | | WCS COMPACTOR OPS (DUAL-VANE) (Cue Card) | [F] RNDZ NAV DISABLE<br>NET 7/20:22<br>GNC 201 UNIV PTG<br>CANCEL - ITEM 21 EXEC<br>GNC 33 REL NAV<br>RNDZ NAV ENA - ITEM 1 EXEC (no*) | | |
| | MNVR (TRK) BIAS +XSI (STBD Srvy) TG=4 BV=5 P=0 Y=40 OM=30 A14/AUTO/VERN (7/22:35) Init TRK | IMU STAR OF OPPTY ALIGN (ORB OPS, GNC)<br>SUPPLY WATER DUMP USING FES (ORB OPS, ECLS) Step 2 only, FES PRI A req'd | | | |
| 23:00 | OBSS LDRI/IDC RCC SURVEY - STBD (PDRS, OBSS OPERATIONS) Steps 4-7 require daylight SR: 23:13 SS: 00:09 | OBSS LDRI/IDC RCC SURVEY - STBD (PDRS, OBSS OPERATIONS) Steps 4-7 require daylight SR: 23:13 SS: 00:09 | OBSS LDRI/IDC RCC SURVEY - STBD (PDRS, OBSS OPERATIONS) Steps 4-7 require daylight SR: 23:13 SS: 00:09 | FHST OBAD CORRECTION & HLGBU DATA | |
| 00:00 | | | | TRANSITION TO TRSWCC | |

STS ATT: SEP — OA — -ZLV -XVV — BIAS +XSI

# STS-125 (FD09)

**REPLANNED**



# STS-125 (FD09)

**REPLANNED**

GMT Date 05/19 (139) | MET Day 008 | STS ATT | CDR ALTMAN | PLT JOHNSON | MS2 McARTHUR | HST CMD | NOTES

TDRS W E Z | DO/NB 1 2 3 4

00:00
OBSS LDRI/IDC RCC SURVEY - STBD (PDRS, OBSS OPERATIONS) Steps 4-7 require daylight SR: 23:13 SS: 00:09
MNVR (TRK) BIAS +XSI (Nose Cap Survey) TG=4 BV=5 P=330 Y=0 OM=57 A14/AUTO/VERN (RCC SRVY-STBD cmplt) Init TRK
OBSS LDRI/IDC RCC SURVEY - NOSE CAP (PDRS, OBSS OPERATIONS)

19:00 / 01:00
BIAS +XSI
CABIN REPRESS TO 14.7 PSI (EVA, 10.2 PSI CABIN)

20:00 / 02:00
14.7 PSI CABIN CONFIG (EVA, 10.2 PSI CABIN) Work parens steps to configure to PCS 2
EXERCISE

21:00 / 03:00
BIAS +XSI
PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

22:00 / 04:00

10

# STS-125 (FD09)

**REPLANNED**

GMT Date 05/19 (139) | MET Day 008 | STS ATT

| MS1 GOOD | MS3 GRUNSFELD | MS4 MASSIMINO | MS5 FEUSTEL | NOTES |
|---|---|---|---|---|
| 00:00 EXERCISE | D2Xs EVA CAMR (P/TV, REF PROC) D2Xs EVA-CAMR ONLY DISASSEMBLY Perform Post-EVA | EXERCISE | EVA TOOL STOW (EVA, TIMELINES) | |
| OBSS LDRI/IDC RCC SURVEY - NOSE CAP (PDRS, OBSS OPERATIONS) | EVA TOOL STOW (EVA, TIMELINES) | | | |
| 01:00 | | | | |
| OBSS LDRI/IDC RCC SURVEY - PORT (PDRS, OBSS OPERATIONS) Steps 1-3 and setup of Step 4 | | OBSS LDRI/IDC RCC SURVEY - PORT (PDRS, OBSS OPERATIONS) Steps 1-3 and setup of Step 4 | | |
| 02:00 | | | | |
| OBSS LDRI/IDC RCC SURVEY - PORT (PDRS, OBSS OPERATIONS) Perform Steps 4-10 Steps 4-6 require daylight SR: 02:19 SS: 03:15 Ref. MSG 064 | PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | OBSS LDRI/IDC RCC SURVEY - PORT (PDRS, OBSS OPERATIONS) Perform Steps 4-10 Steps 4-6 require daylight SR: 02:19 SS: 03:15 Ref. MSG 064 | | |
| 03:00 | | | | |
| PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | | PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | |
| OBSS IDC RCC SURVEY - PORT (PDRS, ORBITER SURVEY OPS) (See pg. 3-101 for details) | | OBSS IDC RCC SURVEY - PORT (PDRS, ORBITER SURVEY OPS) (See pg. 3-101 for details) | | |
| 04:00 | | | | |

TDRS W E Z | DO/NB 1 2 | 1 2 3 | 1 2 4 | BIAS +XSI | BIAS +XSI

19:00 20:00 21:00 22:00

11

# STS-125 (FD09)

**REPLANNED**

GMT Date 05/19 (139) | MET Day 008 | TDRS W E Z | DO/RNB 125 126 127 | STS ATT COMM -ZLV -XVV

## CDR ALTMAN

04:00 PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

MNVR (INRTL) (Comm)
R=22 P=259 Y=57
A1/AUTO/VERN (RCC SRVY-PORT Step 11) Init MNVR
FUTURE LOADED MNVR (-ZLV -XVV)
TG=2 BV=3 OM=0
A1/AUTO/VERN (8/06:30) Init TRK
R5R DESELECT H
O6 √UHF MODE - OFF
L9 PAYLOAD STATION AUDIO A/G (two) - OFF
PRIVATE MEDICAL CONFERENCE

05:00 PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

06:00 FUT MNVR INIT (-ZLV -XVV)

07:00 SLEEP

08:00

## PLT JOHNSON

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)
√HUM SEP for H2O accumulation

SLEEP

## MS2 McARTHUR

OBSS IDC RCC SURVEY - PORT
(PDRS, ORBITER SURVEY OPS)
Requires daylight
SR: 03:52
SS: 04:49

OBSS LDRI/IDC RCC SURVEY - PORT
(PDRS, OBSS OPERATIONS) Step 11
Do not proceed to OBSS BERTH

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

PDIP 1 KU BAND RATE - OFF

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)
√HUM SEP for H2O accumulation

SLEEP

## HST CMD

FHST/FHST ALIGNMENT
(DATA COLLECT)

LOAD EPHEMERIS

FHST/FHST ALIGNMENT
(DATA COLLECT)

## NOTES

UPLINK
KU CH 2 -RNS

H GNC 23 RCS

CRT RCS R - ITEM 3 EXEC (*)
JET DES R5R - ITEM 37 EXEC (*)

NOTE
Expect DAP RECONFIG message.
DAP will mode to FREE.

C3 DAP: AUTO

**Crew Wake: 8/14:30**

23:00 00:00 01:00 02:00

12

# STS-125 (FD09)

**REPLANNED**

GMT Date 05/19 (139) | MET Day 008

| MS1 GOOD | MS3 GRUNSFELD | MS4 MASSIMINO | MS5 FEUSTEL | NOTES |
|---|---|---|---|---|
| OBSS IDC RCC SURVEY - PORT (PDRS, ORBITER SURVEY OPS) Requires daylight SR: 03:52 SS: 04:49 | PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | OBSS IDC RCC SURVEY - PORT (PDRS, ORBITER SURVEY OPS) Requires daylight SR: 03:52 SS: 04:49 | PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | |
| OBSS LDRI/IDC RCC SURVEY - PORT (PDRS, OBSS OPERATIONS) Step 11 Do not proceed to OBSS BERTH | DIGITAL VIA VTR (Cue Card, DIGITAL PLAYBACK) LDRI surveys KU TDRW (03:51-04:47) KU TDRE (04:48-05:19) | OBSS LDRI/IDC RCC SURVEY - PORT (PDRS, OBSS OPERATIONS) Step 11 Do not proceed to OBSS BERTH | RECONFIGURE OCA D/L RATE [I] | |
| PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | |
| SLEEP | SLEEP | SLEEP | SLEEP | |

**Crew Wake: 8/14:30**

[I] After Crew Choice D/L complete:
L10 √MUX/VTR/CC PWR - ON (LED ON)
RECONFIGURE OCA D/L RATE (PL Max)
(ORB OPS, PGSC) Part C, omit Step 4
L10 MUX/VTR/CC PWR - OFF (LED OFF)

TDRS E W Z | D/O N B 125 126 127 | STS ATI COMM -Z LV -X V

MSG 068A - FD09 MISSION SUMMARY

Good Morning Atlantis!!!

Thanks to all of your extraordinary efforts, Hubble is now better than new!

Happy Hubble release day!!!

HST Program Words:
This morning, you watch us from the pinnacle of human existence, representing the pinnacle of our craft, and leaving Hubble at the apex of its scientific power. No stone has been left unturned in making the Observatory the best that we know how to make it. In fact, you must come home now because the carriers have been fully emptied and there is nothing else left to do: congratulations on successfully completing a 110% effort! As a result, Hubble is now ready to resume its role as humankind's most powerful eyes on the Universe.

The engineering assessment of the low gain antenna shows no signs of electrical damage and there are no concerns about leaving the LGAPC installed, we actually believe the thermal protection it provides will extend the antenna's life.

Finally, we successfully completed the FGS Functional Test. So, everything you installed passed its FT requirements. Awesome!

YOUR CURRENT ORBIT IS: 305 X 302 NM

NOTAMS:

| | |
|---|---|
| EDW | LAKEBED RUNWAY 15/33 ELS ONLY. OTHER LAKEBED RWYS RED. |
| NOR | LAKEBED RUNWAYS GREEN. |
| MRN | TACAN AOG 23X OUT OF SERVICE. |
| GUA | RUNWAY 06R/24L CLOSED. |
| GDV | RUNWAY 03R/21L CLOSED. |
| KIN | UNUSABLE. |
| GSA | UNUSABLE. |
| AMB | UNUSABLE. |
| EIP | NOT USABLE. NO AGREEMENT. |
| BEN | NOT RECOMMENDED/NOT SUPPORTED. |
| BYD | POLITICALLY NOT RECOMMENDED**.** RUNWAY 32 THREHOLD DISP. 700M |
| AAT | POLITICALLY NOT RECOMMENDED**.** |
| LRB | POLITICALLY NOT RECOMMENDED**.** TACAN CH 85 OUT**.** |

NEXT 2 PLS OPPORTUNITIES:

EDW22 ORB 121 – 07/22:41 SCT150 7 230/06P14
EDW22 ORB 136 – 08/21:52 FEW150 7 230/11P19

OMS TANK FAIL CAPABILITY:

LOMS FAILS: NO
ROMS FAILS: NO

LEAKING OMS PRPLT BURN:

END OF PAGE 1 OF 2, MSG 068A

MSG 068A - FD09 MISSION SUMMARY

L OMS LEAK: ALWAYS BURN RETROGRADE
R OMS LEAK: ALWAYS BURN RETROGRADE

OMS QUANTITIES(%) Pre Orbit Adjust :

L OMS OX = 51.2 R OMS OX = 51.1
FU = 51.2 FU = 51.2

OMS QUANTITIES(%) Post Orbit Adjust :

L OMS OX = 29.9 R OMS OX = 29.8
FU = 30.2 FU = 30.0

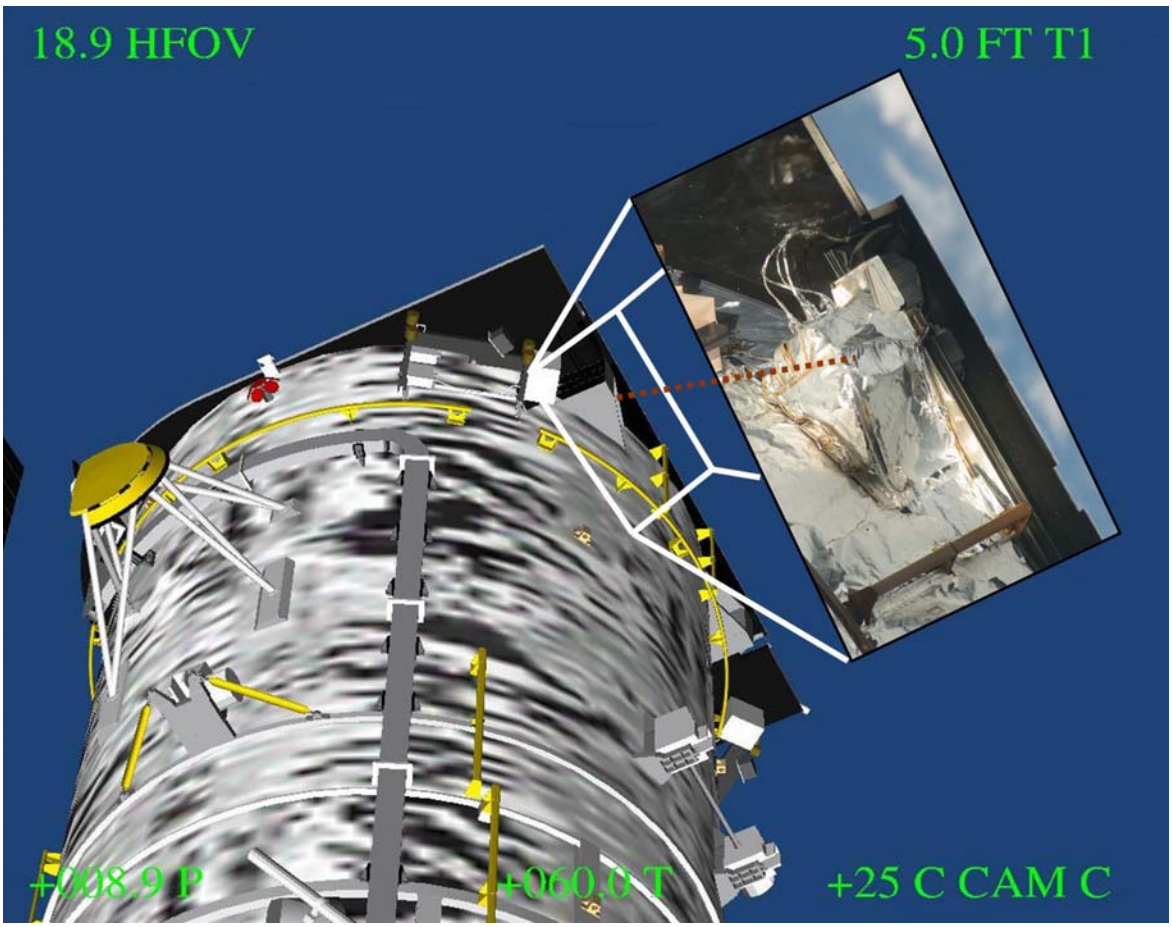
| DELTA V AVAILABLE: | Pre Orbit Adjust | Post Orbit Adjust |
|---|---|---|
| OMS | 514 FPS | 284 FPS |
| ARCS (TOTAL ABOVE QTY1) | 24 FPS | 22 FPS |
| TOTAL IN THE AFT | 538 FPS | 306 FPS |
| ARCS (TOTAL ABOVE QTY2) | 54 FPS | 52 FPS |
| FRCS (ABOVE QTY 1) | 12 FPS | 11 FPS |
| AFT QTY 1 | 75% | 75% |
| AFT QTY 2 | 38% | 37% |

| SYSTEM | FAILURE | IMPACT | WORK AROUND |
|---|---|---|---|
| ECLS | Purge Device could not be removed from Contingency Cross Tie QD. | Supply water dumpline cannot be purged following a supply water nozzle dump. | No further supply dumps will be planned. Supply water will be managed using the FES. Dumpline is available if required. |

END OF PAGE 2 OF 2, MSG 068A

MSG 070 - VIDEO OF AD HINGE DURING RELEASE OPS

During P/TV 08 Item #3, HST Release, use PLB Camera C to view the AD hinge, specifically centered on the AD hinge (+V3 side of HST). There is torn MLI in the area near the hinge (see picture below) and we would like to know if any MLI tears away as a result of the AD opening.




END OF PAGE 1 OF 1, MSG 070

MSG 071 - CHANGES TO HST UNBERTH AND RELEASE PROCEDURES

In preparation for ICBC filming of unberth and the RNS data take on FD09, please make the following changes to the HST Deploy Checklist.

**HST UNBERTH (HUBBLE SPACE TELESCOPE DEPLOY CHECKLIST, UNBERTH), p. 2-8**

Add to step 7 prior to CCTV - config for unberth:

NOTE: PL BAY FLOODS are desired to be ON for ICBC filming of unberth and for the RNS data take in step 9. FLOODS may be turned OFF if required for lighting constraints during SRMS Ops.

A7U PL BAY FLOODS AFT (two) - ON
FWD BHD - ON

**HST RELEASE (HUBBLE SPACE TELESCOPE DEPLOY CHECKLIST, RELEASE OPS), p. 3-12**

ADD to Orbiter column:
10. A7U PL BAY FLOODS AFT (two) - OFF
FWD BHD - OFF

Rationale: IMAX is concerned about lighting conditions for ICBC filming in step 7 of HST UNBERTH if the activity slips in the timeline. RNS is concerned about the lighting available during the data take in step 9 of HST UNBERTH. Turning on all possible payload bay flood lights will increase the chance for successful filming and a successful RNS data take.

END OF PAGE 1 OF 1, MSG 071

MSG 072 - FD09 IMAX NOTES

**ICBC SCENES**

Super job on the two scenes yesterday, they looked great from here. Only one more to go! You should allow the camera to run out on this one.

FD9 SCENE

Scene 18: HST Unberth. 30mm 50 seconds. So as not to repeat the view of the berthing scene, we suggest shooting unberth between 18 inches and 60 inches above the FSS, ending before it reaches the FSS Hover position at 70 inches. Based on a nominal rate of 0.07 ft per second for the unberth maneuver, it should take 50 seconds to travel from 18 to 60 inches.

**Camera Notes**

Thanks for the latest 24F HD downlink.

The two cameras (60i/24F) look very different and we are unable to figure out why. Apart from the frame rate the only other difference in the camera settings is the focus control.

We are trying to get smarter here, so we would like to propose a short comparison test with the two cameras. We suggest shooting a side by side test on the flight deck, with plenty of light, with both cameras in AUTO FOCUS mode. Shoot a minute of the same subject with each camera and keep the cameras as steady as possible.

This should tell us if the cameras are operating at the same quality and/or if the 24F camera should be operated in the Auto Focus mode for any re-enactments you are planning on shooting. It may also tell us if we should be shooting in 60i for the remainder of our footage or not.

This test can be downlinked for feedback as part of the crew choice downlink.

END OF PAGE 1 OF 1, MSG 072