# STS-122 / 1E

## *FD 03 Execute Package*

| MSG | Page(s) | Title |
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| 012A | 1 - 15 | FD03 Flight Plan Revision **(pdf)** |
| 013 | 16 - 17 | FD03 Mission Summary **(pdf)** |
| 009 | 18 - 20 | QD Keying Feature Removal **(pdf)** |
| 010 | 21 - 23 | Center Disk Cover Standoff Bracket Removal **(pdf)** |
| 014 | 24 | FD03 Transfer Message **(pdf)** |
| 015 | 25 | PHA Configuration For EVA **(pdf)** |
| 016 | 26 | CBM Launch Restraints Release **(pdf)** |
| 017A | 27 | Modification to RWS Drag-Thru-Cable Plan **(pdf)** |
| 018 | 28 - 31 | MTL Supply Jumper Big Picture Words **(pdf)** |
| 019 | --- | FD02 MMT Summary **(pdf - Electronic Only)** |
| 020 | 32 - 37 | FD03 RELMO and MNVR Pads **(pdf)** |

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

*Last Updated: Feb 9 2008 9:23AM GMT*
***JEDI*** *(**J**oint **E**xecute package **D**evelopment and **I**ntegration), v2.04.0003*

MSG INDEX


| MSG NO. | TITLE |
|---|---|
| 009 | QD Keying Feature Removal (16-0989) |
| 010 | Center Disk Cover Standoff Bracket Removal (16-0990) |
| 012 | FD03 Flight Plan Revision |
| 013 | FD03 Mission Summary |
| 014 | FD03 Transfer Message (16-0992) |
| 015 | PHA Configuration for EVA (16-0997) |
| 016 | CBM Launch Restraints Release (16-0993) |
| 017 | Modification to RWS Drag-Thru-Cable Plan |
| 018 | MTL Supply Jumper Big Picture Words (16-0996) |
| 019 | FD02 MMT Summary |
| 020 | FD03 RELMO and MNVR Pads |


1. We'd like to apologize for waking you up last night with the 'S66 SPLY H2O PRES' message. Below is a short explanation on why the message annunciated.

   At approximately MET 1/07:30, supply water tanks A and B hardfilled nominally and the supply water pressure began to increase. The pressure increased greater than the onboard upper limit (40 psi) which caused a ‘S66 SPLY H2O PRES’ message before the A/B and B/C check valves cracked. The limit has been TMBUed from 40 psi to 45 psi to prevent further nuisance alarms.

2. **Details for the FD3 Waste Water Dump**:
   The simo supply and waste water dumps originally scheduled for FD03 has been changed to a waste water dump only.

   At 1/14:00 MET, perform a waste water dump using SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) p. 5-2. Dump the waste tank to 5%, waste dump valve open duration is approx. 31 minutes. MCC will TMBU all S/W limits.

3. **Details for the Shuttle Condensate Collection:**
   For MS4 at 1/16:45 MET: In Step 1 of the SETUP of SHUTTLE CONDENSATE COLLECTION (ORB OPS, ECLS) p. 5-36, the Y-Y Condensate Hose and CWC s/n 5060 are stowed in MF71M.

4. **Details for the Node 2 O2 System Purge & P/B Setup:**
   For the CDR at 2/00:05 MET, make the following pen & ink changes to NODE 2 O2 SYSTEM PURGE AND SETUP FOR PREBREATHE USING SHUTTLE O2 (ASSY OPS, ACT&C/O):

   **In TOOLS AND EQIPMENT REQUIRED:**
   GO2 Transfer Flex Hose Assy is located in the Orbiter Windowshade Bag.

   **In step 4.7:**
   From:
   Close GO2 Transfer Flex Hose Assy bent-end QD.
   Remove plug.
   To:
   Remove plug from GO2 Transfer Flex Hose Assy bent-end QD

5. Preflight you requested the Node 2 Port CBM petal launch restraint release procedure be sent to you. It can be found in MSG 016 (16-0993), in case we get time for that get-ahead on any of our EVA's.

6. During recent joint airlock troubleshooting, PHA QD 26 in the equipment lock was found to have a slightly higher than expected leak rate. As a result, use only the right PHA QD 27 for mask prebreathe operations. Reference MSG 015 (16-0997) for the required configuration. Because of kickload concerns, we want to minimize the amount of time that the Relief Valve and the Tee Assembly are connected to the PHA ports when not in use. Therefore, in procedure 2.305 (10.2 psia Campout Mask Prebreathe) in step 22 (Disconnect PHA from PHA Port), disconnect the Relief Valve and the Tee Assembly, and stow in the PHA bag. This same note will apply to procedure 2.315 (Hygiene Break) in step 27 (Disconnect Relief Valve of PHA from PHA port).

7. After the EMU Prep for Transfer to ISS, you found no moleskin in Hans' ECOK. In addition to Rex's ECOK, you can find more moleskin the Crew Comfort Kit in the Equipment Lock M-02 Bag s/n 1010, EMU Soft Goods, outside pocket. This kit has moleskin and other like items that can be configured for your use.

8. Hans and Leo - Regarding the late-breaking change in the Vestibule Outfitting jumper plan, we have uplinked three documents for your review. JEDI 16-0996 (MSG 018) MTL Supply Jumper Big Picture Words will give an overview, with photos, of the new plan. Two associated contingency procedures have been uplinked in the event they are needed during Vestibule Outfitting: 16-0989 (MSG 009) QD Keying Feature Removal and 16-0990 (MSG 010) Center Disk Cover Standoff Bracket Removal. Please let us know if you have any questions.

9. The table below summarizes the Shuttle and ISS exercise constraints for today. These constraints are also denoted in your timelines for your reference.

| Activity | Exercise Constraints | |
|---|---|---|
| | Shuttle | ISS |
| OBSS HANDOFF | No exercise while both arms are grappled to OBSS | No exercise while both arms are grappled to OBSS |

10. REPLACE PAGES 2-6, 2-8, 3-20 THROUGH 3-29.

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**REPLANNED**

**FD03**
GMT 02/09/08 (040)

02/09/08 03:04:55

MET Day 001

12 13 14 15 16 17 18 19 20 21 22 23 002/00
08 09 10 11 12 13 14 15 16 17 18 19

MNVR NH NC4 T1

| | | | |
|---|---|---|---|
| STS-122 | CDR FRICK | SLEEP; WASTE; INIT; POST SLEEP; WASTE; TERM; POST SLEEP; ISS RNDZ OPS; APPROACH W/RPM; DOCKING*; PGRPL; GRPB; PWRDN; HATCH OPEN; SFTY BRIEF; BPSMU | |
| STS-122 | PLT POINDEXTER | SLEEP; CDM-D; POST SLEEP; RCCS*; RCCS@; MICMIU*; GRPB; PWRUP; ISS RNDZ OPS; APPROACH W/RPM; DOCKING*; MNVR-XLV; GRPB; PWRDN; H/O; SSV-2; SFTY BRIEF; EVA XFR | |
| STS-122 | MS1 MELVIN | SLEEP; LOG; POST SLEEP; GRPB; PWRUP; POST SLEEP; P/TVO2 DOCK S/U; N2*; EXERCISE; N2*; ISS RNDZ OPS; APPROACH W/RPM; DOCKING*; PGRPL; PTVO4P; STEVOUP; PTVO5P; STEVOUP; SFTY BRIEF; CTB | |
| STS-122 | MS2/EV1 WALHEIM | SLEEP; POST SLEEP; ISS RNDZ OPS; OIC*; SSV-3; ISS RNDZ OPS; APPROACH W/RPM; DOCKING*; DOCK; AUDIO; EXERCISE; SFTY BRIEF; EVA XFR | |
| STS-122 | MS3/EV2 SCHLEGEL | SLEEP; POST SLEEP; ISS RNDZ OPS; MDDEK; PRDEP; EMU RMVL; P/TVO2 DOCK OPS; DOCKING*; HATCH LEAK CK; ODS PREP FOR INGR; HATCH OPEN; SFTY BRIEF; EVA XFR | |
| STS-122 | MS4/EV3 LOVE | SLEEP; LOG; S/U*; SLVA; POST SLEEP; COND CWC S/U; EXERCISE; MDDEK; PRDEP; EMU RMVL; ISS RNDZ OPS; APPROACH W/RPM; DOCKING*; HATCH LEAK CK; ODS PREP FOR INGR; POST RNDZ PGSC CONFG; SFTY BRIEF | |
| UP | FE-2 EXP16 EYHARTS | SLEEP; SETUP; SLVA; POST SLEEP; ISS RNDZ OPS; P/TVO2 DOCK OPS; ISS RNDZ OPS; APPROACH W/RPM; SFTY BRIEF | |
| ISS | ISS CDR WHITSON | SLEEP; S/U; SLVA; POST SLEEP; DPC; O2 PR PREP; P/TV RPM VRFY S/U; EXERCISE CEVIS; EXERCISE RED; MIDDAY-MEAL; PREP; 4 POOMMO; RPMDL; PMA2 CFG; HATCH LEAK CK ISS; HATCH OPEN; SFTY BRIEF; ♣; BPSMU | |
| ISS | FE-1 MALENCHENKO | SLEEP; POST SLEEP; PW; DPC; PRESS; CNFG; STOW; P/TV RPM VRFY S/U; PRESS; VELO; EXERCISE TVIS; MIDDAY-MEAL; CTCP; 8 POOMMO; PMA2 CFG; HATCH LEAK CK ISS; CTC; HATCH OPEN; AKIMML; SFTY BRIEF; PW | |
| DN | FE-2 TANI | SLEEP; POST SLEEP; PW; DPC; WINDW; EXERCISE RED; EXERCISE CEVIS; MIDDAY-MEAL; TIMER; TIMER; DOCK VIDEO; PMA2 CFG; CAMD; CGISS; STOW; AUDIO; DCS CNFG; HATCH OPEN; SFTY BRIEF; DCS CNFG | |

DAY/NIGHT

ORBIT 25 26 27 28 29 30 31 32 33

TDRS
W -171.0
E -46.0
Z -275.0

ORB ATT: -ZLV -XVV; -ZLV +YVV; RNDZ; BIAS -XLV -ZVV

NOTES
*SALIVA KIT
*FILTER CHECK
@REG RCNFG
*HEATER RCNFG
*RPRS INIT
*ACT
*RPRS TERM
*1/21:39
♣C&T-NOD2 VD

**FD03** — **REPLANNED** — 02/09/08 03:04:55

GMT 02/09/08 (040) — NO EXERCISE

MET Day 002

| | | | |
|---|---|---|---|
| STS-122 | CDR FRICK | BPSMU; O2 RCNFG /PURGE; RMS; GRPL; RMS*; PRE; SLEEP | EVA1 PROC RVW; PRE SLEEP; PMC A/G; PRE SLEEP; SLEEP |
| STS-122 | PLT POINDEXTER | EVA XFR; CWC#2; INICT; CWC#1; XFER; E-LK PREP; CWC; TERM; CWC; XFER; PRE; SLEEP | EVA1 PROC RVW; PRE SLEEP*; SLEEP |
| STS-122 | MS1 MELVIN | CTB; OBSS GRPL; SSRMS OBSS UNBRTH; UNGRP; H/O; PLYBK; OPS | EVA1 PROC RVW; PRE SLEEP; SLEEP |
| STS-122 | MS2/EV1 WALHEIM | EVA XFR; REBA*; REBA; C/O; E-LK PREP; PRE SLEEP | EVA1 PROC RVW; PRE SLEEP; MASK PB/TOOL CONFIG; 10.2 DPRS; PRE SLEEP; SLEEP |
| STS-122 | MS3/EV2 SCHLEGEL | EVA XFR; REBA*; REBA; C/O; E-LK PREP; PRE SLEEP | EVA1 PROC RVW; PRE SLEEP; MASK PB/TOOL CONFIG; PRE SLEEP; SLEEP |
| STS-122 | MS4/EV3 LOVE | OBSS GRPL; MRL@; SSRMS OBSS UNBRTH; RMS; SETUP; RMS; GRPL; RMS*; PRE; SLEEP | EVA1 PROC RVW; PRE SLEEP; SLEEP |
| UP | FE-2 EXP16 EYHARTS | OBSS GRPL; SSRMS OBSS UNBRTH; UNGRP; H/O; SSRMS; MNVR | EVA1 PROC RVW; PRE SLEEP; PMC A/G; PRE SLEEP-ISS; SLEEP |
| ISS | ISS CDR WHITSON | BPSMU; O2 RCNFG /PURGE; PREP WORK; SODF; XFER | EVA1 PROC RVW; PRE SLEEP; PFC; PRE SLEEP-ISS; SLEEP |
| ISS | FE-1 MALENCHENKO | PW; CSA O2 CAL; СОГС ЭЛКТ ФПП INSTL; СОЖ MNT; PREP WORK; DWNLD | EVA1 PROC RVW; PRE SLEEP-ISS; SLEEP |
| DN | FE-2 TANI | ♣; OBSS GRPL; SSRMS OBSS UNBRTH; UNGRP; H/O; SSRMS; MNVR | EVA1 PROC RVW; DCS; PRE SLEEP-ISS; SLEEP |

DAY/NIGHT

ORBIT: 33, 34, 35, 36, 37, 38, 39, 40, 41

TDRS: W -171.0; E -46.0; Z -275.0

ORB ATT: BIAS -XLV -ZVV

NOTES: ♣DCS CNFG; *INSTALL; @RELEASE; *MNVR-COL VIEW; *√ HUM SEP

# STS-122 FD (03)

**REPLANNED**

GMT Date 02/09 (040) | W | TDRSE | Z | DORB 14 15 16 | ORB 25 26 27 | MET Day 001 | STS ATT -ZLV -XVV -ZLV+YVV

CDR FRICK | PLT POINDEXTER | MS1 MELVIN | NOTES

12:00

08:00

13:00

09:00

14:00

10:00

15:00

11:00

16:00

SLEEP (CDR FRICK)

SLEEP (PLT POINDEXTER)

SLEEP (MS1 MELVIN)

**< MNVR WATER DUMP ATT**

**FD03 EZ ACTIVITIES:**
OCAC FILTER INSPECTION
HARD REBOOT ALL PGSCs

SUPPLY/WASTE WATER DUMP
(ORB OPS, ECLS) Init Waste Dump
Ref. MSG 012, Item 2

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

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

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

RENDEZVOUS TIMELINE
(RNDZ, RENDEZVOUS T/L)

CDM DEACTIVATION (ORB OPS, CDM DTO)

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

RCS/OMS HEATER RECONFIG [A]

RCS REGULATOR RCNFG (ORB OPS, RCS)

IMU ALIGN - S TRK (ORB OPS, GNC)

L17 Check MCIU filter screen

PRIORITY PWRUP GRP B
(ORB PKT, PRIOR PWRDN)
Steps 12,10,9,6(Triple G2),5

RENDEZVOUS TIMELINE
(RNDZ, RENDEZVOUS T/L)

FLIGHT SLEEP LOG (ORB OPS, SDBI)

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

PRIORITY PWRUP GRP B
(ORB PKT, PRIOR PWRDN)
Steps 12,10,9,6(Triple G2),5

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

[A] A14 RCS/OMS HTR L POD B - OFF
A - AUTO
R POD B - OFF
A - AUTO

UPDATE H2O WASTE DUMP QTY

# STS-122 FD (03)

**REPLANNED**

GMT Date 02/09 (040) | W | TDRSE | Z | DORB | ORB | MET Day 001 | STS ATT

MS2 WALHEIM | MS3 SCHLEGEL | MS4 LOVE | FE-2 (UP) EYHARTS | NOTES

08:00 — 09:00 — 10:00 — 11:00 — 12:00 — 13:00 — 14:00 — 15:00 — 16:00

DORB 14 25 — 15 26 — 16 27

STS ATT: -ZLV — -XVV — -ZLV +YVV

| MS2 WALHEIM | MS3 SCHLEGEL | MS4 LOVE | FE-2 (UP) EYHARTS |
|---|---|---|---|
| SLEEP | SLEEP | SLEEP | SLEEP |
| POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | FLIGHT SLEEP LOG (ORB OPS, SDBI)<br>SETUP FOR SALIVA SAMPLE CLCT (ORB OPS, SDBI)<br>LIQUID SLVA SAMPLE (ORB OPS, SDBI) Ref. Transfer List: Item 27.5<br>POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | SETUP FOR SALIVA SAMPLE CLCT (ORB OPS, SDBI)<br>LIQUID SLVA SAMPLE (ORB OPS, SDBI) Ref. Transfer List: Item 27.5<br>POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) |

-7-

# STS-122 FD (03)

**REPLANNED**

GMT Date 02/09 (040) | W | TDRSE | Z | DORB 1 2 3 | ORB 28 29 30 | MET Day 001 | STS ATT

**CDR FRICK**

RENDEZVOUS TIMELINE
(RNDZ, RENDEZVOUS T/L)

**PLT POINDEXTER**

RENDEZVOUS TIMELINE
(RNDZ, RENDEZVOUS T/L)

**MS1 MELVIN**

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

P/TVO2 DOCK
(PHOTO/TV, SCENES)
Setup

N2 REPRESS USING PAYLOAD N2 VLVS [A]

[A] N2 REPRESS USING PAYLOAD N2 VLVS
(ORB OPS, ECLS)
Steps 1-5, On MCC Go, perform step 6
MCC will TMBU all S/W limits

EXERCISE

N2 REPRESS USING PAYLOAD N2 VLVS [B]
RENDEZVOUS TIMELINE
(RNDZ, RENDEZVOUS T/L)

[B] N2 REPRESS USING PAYLOAD N2 VLVS
(ORB OPS, ECLS)
On MCC Go, perform steps 7-12
MCC will TMBU all S/W limits

NOTES

12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00

RNDZ

< NH 1/16:30:23

< NC4 1/17:20:17

< Ti 1/18:51:58

**TRANSITION TO RNDZ C/L at MET 01/15:51:58**

**RNDZ PET 00:00 (Ti) at MET 01/18:51:58**

# STS-122 FD (03)

**REPLANNED**

GMT Date 02/09 (040) | W | TDRS E | TDRS Z | DORB 1 2 3 | ORB 28 29 30 | MET Day 001 | STS ATT | RNDZ

## MS2 WALHEIM

- POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)
- RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)
- SSP1 OIU PWR - OIU 1 ON (tb-UP)
- SSV OUTRATE - 3
- RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)

## MS3 SCHLEGEL

- POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)
- RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)
- MIDDECK PREP (EVA, EVA PREP) Steps 9-12,16
- EMU REMOVAL (EVA, AIRLOCK CONFIG)
- P/TVO2 DOCK (PHOTO/TV, SCENES) Ops

## MS4 LOVE

- POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)
- SHUTTLE CONDENSATE COLLECTION (ORB OPS, ECLS) Perform SETUP Ref. MSG 012, Item 3
- EXERCISE
- MIDDECK PREP (EVA, EVA PREP) Steps 9-12,16
- EMU REMOVAL (EVA, AIRLOCK CONFIG)
- RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)

## FE-2 (UP) EYHARTS

- POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)
- RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)
- P/TVO2 DOCK (PHOTO/TV, SCENES) Ops
- RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)

## NOTES

TFL 192

# STS-122 FD (03)

**REPLANNED**

GMT Date 02/09 (040) | W | TDRSE | Z | DORB | ORB | MET Day 001 | STS ATT

| CDR FRICK | PLT POINDEXTER | MS1 MELVIN | NOTES |
|---|---|---|---|
| RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L) | RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L) | RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L) | |
| APPROACH TIMELINE (RNDZ, CUE CARD CONFIG) | APPROACH TIMELINE (RNDZ, CUE CARD CONFIG) | APPROACH TIMELINE (RNDZ, CUE CARD CONFIG) | UPLINK β21 Only Box 90 |
| | | | UPLINK β21 Only Box 20,21 |
| **DOCKING (21:39)** | **RETURN TO FLIGHT PLAN** | | |
| OBSS HANDOFF FROM SSRMS (NODE 2) TO SRMS (PDRS, OBSS NOMINAL) Pre-Grapple MNVR, Steps 1-2 | √DAP A/LVLH/VERN MNVR (TRK) BIAS -XLV, -ZVV TG=2 BV=5 P=160 Y=354 OM=191 Init TRK, DAP:FREE >2 sec Then: DAP:A12/AUTO/VERN | OBSS HANDOFF FROM SSRMS (NODE 2) TO SRMS (PDRS, OBSS NOM) Pre-Grpl MNVR, Steps 1-2 | |
| PRIORITY PWRDN GRP B (ORB PKT) Steps 6(Single G2) and 12 06 S TRK PWR -Z - OFF | PRIORITY PWRDN GRP B (ORB PKT) Steps 6(Single G2) and 12 06 S TRK PWR -Z - OFF | | |
| | JOINT OPS: 3.111 HANDOVER ATTITUDE CONTROL ORBITER to CMGTA | P/TV04 INGRESS/EGRESS (PHOTO/TV, SCENES) Setup | |
| JOINT OPS: 2.104 HATCH OPENING AND STS/ISS DUCT INSTALLATION MCC-H will perform Steps 1,12-13 & 16 | SSV OUTRATE - 2 | | TFL 184 |
| | [A] Configure BPSMU & RWS Cables Ref. MSG 017 and Transfer List, Item 1, 801 & 802 | P/TV05 ISS INTERNAL OPS (HC) (PHOTO/TV, SCENES) Setup Ref. MSG 017 | |
| SAFETY BRIEFING | SAFETY BRIEFING | SAFETY BRIEFING | |
| P/TV05 ISS INTERNAL OPS [A] (PHOTO/TV, SCENES) | POST-DOCKING EVA TRANSFER/ RECONFIG (EVA, AIRLOCK CONFIG) | CTB TRANSFER Ref. Transfer List, Item 7 | |

Time scale: 16:00, 17:00, 18:00, 19:00; MET 20:00, 21:00, 22:00, 23:00, 00:00

Attitude bars: RNDZ; DOCK; BIAS -XLV -ZVV

DORB: 3, 4, 5, 6; ORB: 30, 31, 32, 33

# STS-122 FD (03)

**REPLANNED**

GMT Date 02/09 (040) | W | TDRSE | Z | DORB | ORB | MET Day 001 | STS ATT

MS2 WALHEIM | MS3 SCHLEGEL | MS4 LOVE | FE-2 (UP) EYHARTS | NOTES

16:00 | 17:00 | 18:00 | 19:00

20:00 | 21:00 | 22:00 | 23:00 | 00:00

DORB 3 | 4 | 5 | 6

ORB 30 | 31 | 32 | 33

RNDZ

DOCK

BIAS-XLV-ZVV

**MS2 WALHEIM**

RENDEZVOUS TIMELINE
(RNDZ, RENDEZVOUS T/L)

APPROACH TIMELINE
(RNDZ, CUE CARD CONFIG)

JOINT OPS: 6.109 H/L ICOM AUDIO
Steps 1,5, & 6

EXERCISE

SAFETY BRIEFING

POST-DOCKING EVA TRANSFER/ RECONFIG
(EVA, AIRLOCK CONFIG)

**MS3 SCHLEGEL**

P/TVO2 DOCK
(PHOTO/TV, SCENES) Ops

POST DOCKING HATCH LEAK CHECK
(RNDZ, APDS)

A/L PREP FOR INGRESS - BOOSTER FAN ACTIVE
(RNDZ, APDS)

JOINT OPS: 2.104 HATCH OPENING AND STS/ISS DUCT INSTALLATION
MCC-H will perform
Steps 1,12-13 & 16

SAFETY BRIEFING

POST-DOCKING EVA TRANSFER/ RECONFIG
(EVA, AIRLOCK CONFIG)

**MS4 LOVE**

RENDEZVOUS TIMELINE
(RNDZ, RENDEZVOUS T/L)

APPROACH TIMELINE
(RNDZ, CUE CARD CONFIG)

POST DOCKING HATCH LEAK CHECK
(RNDZ, APDS)

A/L PREP FOR INGRESS - BOOSTER FAN ACTIVE
(RNDZ, APDS)

POST RNDZ PGSC CONFIG
Configure PGSCs per Usage Chart

SAFETY BRIEFING

**FE-2 (UP) EYHARTS**

RENDEZVOUS TIMELINE
(RNDZ, RENDEZVOUS T/L)

APPROACH TIMELINE
(RNDZ, CUE CARD CONFIG)

SAFETY BRIEFING

# STS-122 FD (03)

**REPLANNED**

GMT Date 02/09 (040) | W E Z | TDRS | DORB | ORB | MET Day 002 | STS ATT

## CDR FRICK

- P/TV05 ISS INTERNAL OPS (PHOTO/TV, SCENES)
  (See pg.3-24 for details)
- NODE 2 O2 SYSTEM PURGE AND SETUP FOR PREBREATHE USING SHUTTLE O2
  (ASSY OPS, ACT&C/O)
  Steps 4-12

  Ref. MSG 012, Item 4
  Ref. Transfer List: Item 21

  Do not perform step 12.3.
  Leave A/L10A2 panel temp stowed to provide passive ventilation during 1E docked ops.
- BIAS-XLV-ZVV
- OBSS HANDOFF FROM SSRMS (NODE 2) TO SRMS (PDRS, OBSS NOMINAL)
  Grapple, Steps 6-7
- OBSS MANEUVER TO COLUMBUS VIEWING POSITION (PDRS, OBSS NOMINAL)
- PRE-SLEEP ACTIVITY
  (ORB OPS, CREW SYS)
- EVA1 PROCEDURE REVIEW
  Ref: EVA1 BRIEFING CARD
  (EVA, TIMELINES)
- PRE-SLEEP ACTIVITY
  (ORB OPS, CREW SYS)
- PRIVATE MEDICAL CONFERENCE
  Perform via A/G2

## PLT POINDEXTER

- POST-DOCKING EVA TRANSFER/ RECONFIG
  (EVA, AIRLOCK CONFIG)
- SHUTTLE/ISS H2O CNTR FILL
  (ORB OPS, ECLS) INIT FILL #2
  Ref. MSG 005, Fill Dur ~52 min
- CWC TRANSFER
  Transfer 1 CWC to ISS
- EVA SYSTEMS: 1.305 EQUIPMENT LOCK PREP
  Steps 1-3 & 10-11 not req'd
  Ref. MSG 015

  Ref: STS-122 CONSUMABLES TRACKING CC (EVA)
- SHUTTLE/ISS H2O CNTR FILL
  (ORB OPS, ECLS)
  Perform FILL TERMINATION
- CWC TRANSFER
  Transfer 1 CWC to ISS
- PRE-SLEEP ACTIVITY
  (ORB OPS, CREW SYS)
- EVA1 PROCEDURE REVIEW
  Ref: EVA1 BRIEFING CARD
  (EVA, TIMELINES)
- PRE-SLEEP ACTIVITY
  (ORB OPS, CREW SYS)
- √HUM SEP for H2O Accumulation

## MS1 MELVIN

- CTB TRANSFER
  Ref. Transfer List, Item 7
  ROBOTICS: 1.110 OBSS GRAPPLE
- ROBOTICS: 1.111 OBSS MANEUVER TO HANDOFF
- ROBOTICS: 1.112 OBSS UNGRAPPLE
  Steps 1-2
- PLAYBACK (DIGITAL)
  (PHOTO/TV, CUE CARD)
  DOCKING VIDEO
  KU TDRW (02:21-02:56)
- EVA1 PROCEDURE REVIEW
  Ref: EVA1 BRIEFING CARD
  (EVA, TIMELINES)
- PRE-SLEEP ACTIVITY
  (ORB OPS, CREW SYS)

## NOTES

- UPLINK β21 + Mask Box 20,21
- **NO EXERCISE WHILE BOTH ARMS GRAPPLED TO OBSS**

# STS-122 FD (03)

**REPLANNED**

GMT Date 02/09 (040) | W | TDRS E | TDRS Z | DORB 6 | DORB 7 | DORB 8 | ORB 33 | ORB 34 | ORB 35 | MET Day 002 | STS ATL

20:00 21:00 22:00 23:00

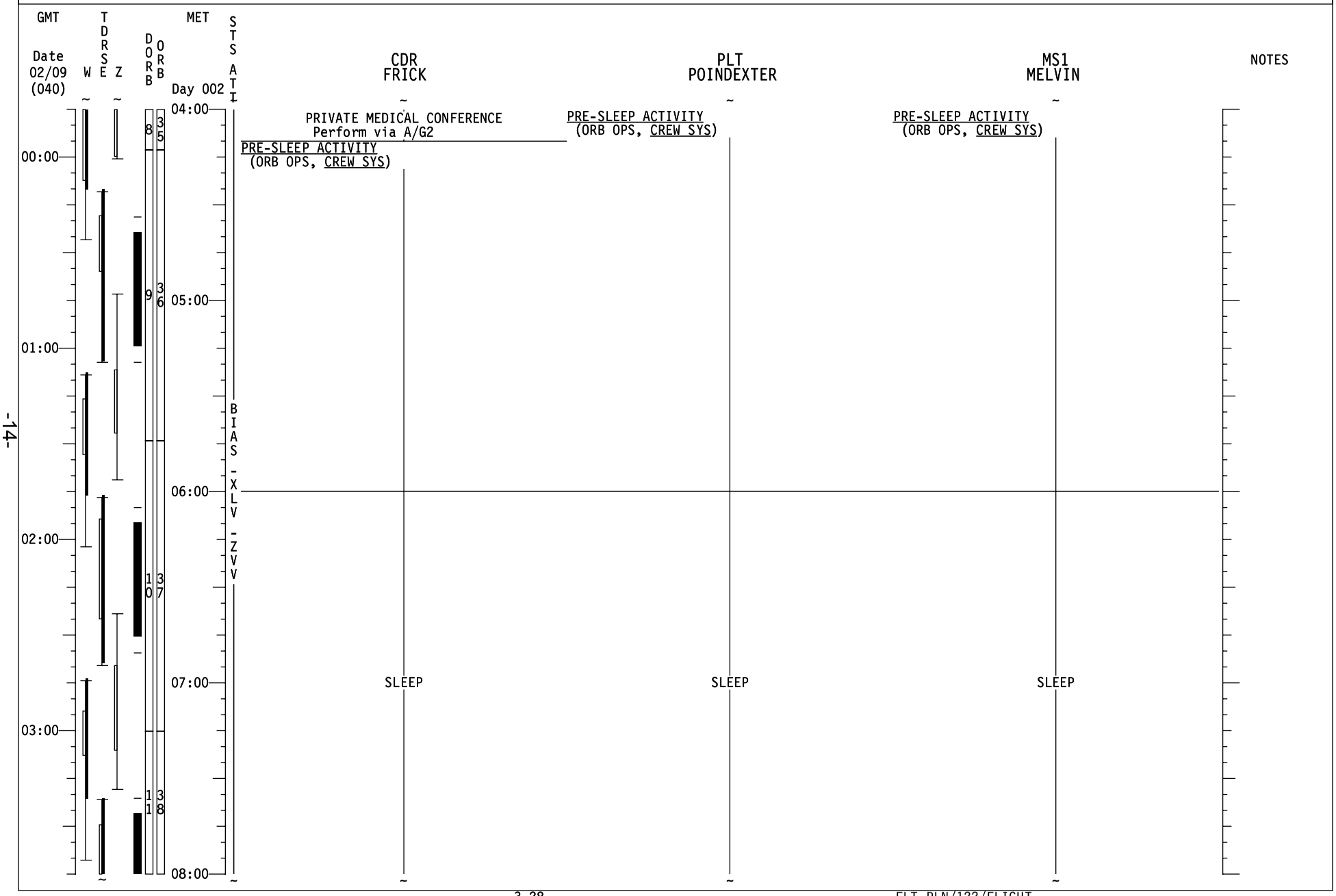
00:00 01:00 02:00 03:00 04:00

BIAS-XLV-ZVV

| MS2 WALHEIM | MS3 SCHLEGEL | MS4 LOVE | FE-2 (UP) EYHARTS | NOTES |
|---|---|---|---|---|
| POST-DOCKING EVA TRANSFER/ RECONFIG (EVA, AIRLOCK CONFIG) | POST-DOCKING EVA TRANSFER/ RECONFIG (EVA, AIRLOCK CONFIG) | ROBOTICS: 1.110 OBSS GRAPPLE | ROBOTICS: 1.110 OBSS GRAPPLE | |
| EVA SYSTEMS: 1.307 REBA INSTALL/ REMOVAL Perform INSTALLATION Steps 1-11 EVA SYSTEMS: 1.403 REBA POWERED HARDWARE C/O | EVA SYSTEMS: 1.307 REBA INSTALL/ REMOVAL Perform INSTALLATION Steps 1-11 EVA SYSTEMS: 1.403 REBA POWERED HARDWARE C/O | OBSS HANDOFF FROM SSRMS (NODE 2) TO SRMS (PDRS, OBSS NOMINAL) MRL Release, Steps 3-5 ROBOTICS: 1.111 OBSS MANEUVER TO HANDOFF | ROBOTICS: 1.111 OBSS MANEUVER TO HANDOFF | |
| EVA SYSTEMS: 1.305 EQUIPMENT LOCK PREP Steps 1-3 & 10-11 not req'd Ref. MSG 015 Ref: STS-122 CONSUMABLES TRACKING CC (EVA) | EVA SYSTEMS: 1.305 EQUIPMENT LOCK PREP Steps 1-3 & 10-11 not req'd Ref. MSG 015 Ref: STS-122 CONSUMABLES TRACKING CC (EVA) | SETUP RMS WORKSTATION | | |
| PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | OBSS HANDOFF FROM SSRMS (NODE 2) TO SRMS (PDRS, OBSS NOMINAL) Grapple, Steps 6-7 | | NO EXERCISE WHILE BOTH ARMS GRAPPLED TO OBSS |
| | | | ROBOTICS: 1.112 OBSS UNGRAPPLE Steps 1-2 | |
| | | OBSS MANEUVER TO COLUMBUS VIEWING POSITION (PDRS, OBSS NOMINAL) PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | ROBOTICS: 1.112 OBSS UNGRAPPLE Maneuver to Overnight Park Step 3 | |
| EVA1 PROCEDURE REVIEW Ref: EVA1 BRIEFING CARD (EVA, TIMELINES) | EVA1 PROCEDURE REVIEW Ref: EVA1 BRIEFING CARD (EVA, TIMELINES) | EVA1 PROCEDURE REVIEW Ref: EVA1 BRIEFING CARD (EVA, TIMELINES) | EVA1 PROCEDURE REVIEW Ref: EVA1 BRIEFING CARD (EVA, TIMELINES) | |
| PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | PRE SLEEP - ISS | |

# STS-122 FD (03)

**REPLANNED**



# STS-122 FD (03)

**REPLANNED**

GMT Date 02/09 (040) | W | TDRSE | Z | DORB 8 9 10 11 | ORB 35 36 37 38 | MET Day 002 | STS ATI

BIAS-XLV-ZVV

| MS2 WALHEIM | MS3 SCHLEGEL | MS4 LOVE | FE-2 (UP) EYHARTS | NOTES |
|---|---|---|---|---|
| PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | PRE SLEEP - ISS | |
| EVA SYS: 2.305 10.2 PSIA CAMPOUT MASK PREBREATHE | EVA SYS: 2.305 10.2 PSIA CAMPOUT MASK PREBREATHE | | PRIVATE MEDICAL CONFERENCE Perform via A/G2 | |
| Ref: PRE EVA 1 TOOL CONFIG (EVA, TIMELINES) | Ref: PRE EVA 1 TOOL CONFIG (EVA, TIMELINES) | | | |
| Ref: STS-122 CONSUMABLES TRACKING CC (EVA) | Ref: STS-122 CONSUMABLES TRACKING CC (EVA) | | PRE SLEEP - ISS | |
| PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) | | | |
| SLEEP | SLEEP | SLEEP | SLEEP | |

Good Morning Atlantis!!!!

Thank you for the great day yesterday!

Like you, we are all looking forward to docking with station today!  It is just so thoughtful on your part to plan your arrival to happen on Peggy's birthday!!

YOUR CURRENT ORBIT IS: 136 X 126 NM

NOTAMS:

EDW – LAKEBED RUNWAYS RED.
NOR – LAKEBED RUNWAYS GREEN.
NKT – RWYS 05L/23R + 14L/32R NOT USABLE.
HAW – RWY 31 CLOSED; RWY 13 TODA 8,994'.
WAK – NOT USABLE.
IKF – NOT USABLE.
DIW – TACAN OTS.
LAJ – TACAN CH 45 OTS.
NGU – TACAN CHANNEL CHANGED TO CH 22.
BEN – POLITICALLY NOT RECOMMENDED/NOT SUPPORTED.
DOV – 14/32 CLOSED.
ZZA – FIRST 600M (~2,000') OF RWY 30L NOT AVAILABLE.  10,200' REMAINING.
JDG – DIEGO GARCIA: CLOSED FRI 1800Z - MON 0100Z.

NEXT 2 PLS OPPORTUNITIES:

EDW04 ORB 33 – 2/00:30 (FEW200 030/6P11)
EDW22 ORB 49 – 3/00:50 (FEW030 BKN250 270/2P3)

OMS TANK FAIL CAPABILITY:

L OMS FAIL:  NO  R OMS FAIL:  NO

LEAKING OMS PRPLT BURN:

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

OMS QUANTITIES(%)

L OMS  OX = 34.2  R OMS OX = 34.8
FU = 34.5  FU = 34.6

DELTA V AVAILABLE:

| | |
|---|---|
| OMS | 322 FPS |
| ARCS (TOTAL ABOVE QTY1) | 39 FPS |
| TOTAL IN THE AFT | 361 FPS |
| | |
| ARCS (TOTAL ABOVE QTY2) | 68 FPS |
| FRCS (ABOVE QTY 1) | 28 FPS |
| | |
| AFT QTY 1 | 82 % |
| AFT QTY 2 | 44 % |

| SYSTEM | FAILURE | IMPACT | WORK AROUND |
|---|---|---|---|
| PDRS | Stbd Aft MRL Sys 2 LAT msw not achieved due to driving single motor. Known problem due to rigging. | None | Use S94 Stbd Aft sys 1 and tb for Stbd Latch indications. Release indications will be nominal |

END OF PAGE 2 OF 2, MSG 013

OBJECTIVE:
Remove keying feature from low pressure quick disconnects.

DURATION:
30 minutes

CREW:
Two

MATERIALS:
Ziplock
sharpie

TOOLS:
MWA Utility Kit:
  Seat Track Restraint
  Clamp
ISS IVA TOOLBOX
Drawer 2:
  1/16” Hex Head, 1/4” Drive
  5/64” Hex Head, 1/4” Drive
Drawer 4:
  Folding L Wrench Set, 1/16” L Wrench
  Metric Folding L Wrench, 2mm L Wrench

REFERENCED PROCEDURES:
A.2.6 MAINTENANCE WORK AREA (MWA) INSTALLATION

NOTE
1. Notify **MCC-H** if other tools are used. Other tools may be more apporpriate for this activity.

2. Step 1 not required if Male QD is installed.

1. SETUP WORK AREA
   1.1 If MWA Work Surface Area is not deployed
   Perform {A.2.6 MAINTENANCE WORK AREA (MWA) INSTALLATION}, step 2 only (SODF: IFM: REFERENCE: APPENDIX A: ISS IVA TOOLS)

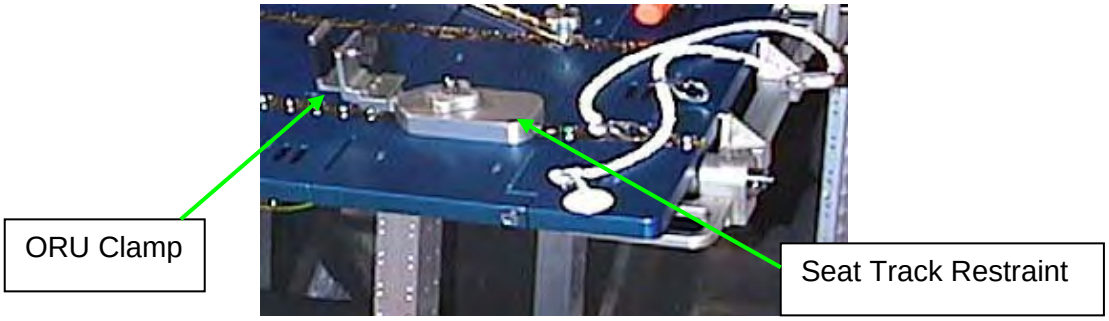



Figure 1.- MWA Work Surface Area with components installed

1.2 Install ORU Clamp onto Seat Track Restraint (two).
Install Seat Track Restraints onto MWA.

1.3 Secure QD in clamps.

2. REMOVE KEYING ON QD

NOTE
QD cap will first be loosened and not removed to prevent keying and retaining ring from floating off upon release.

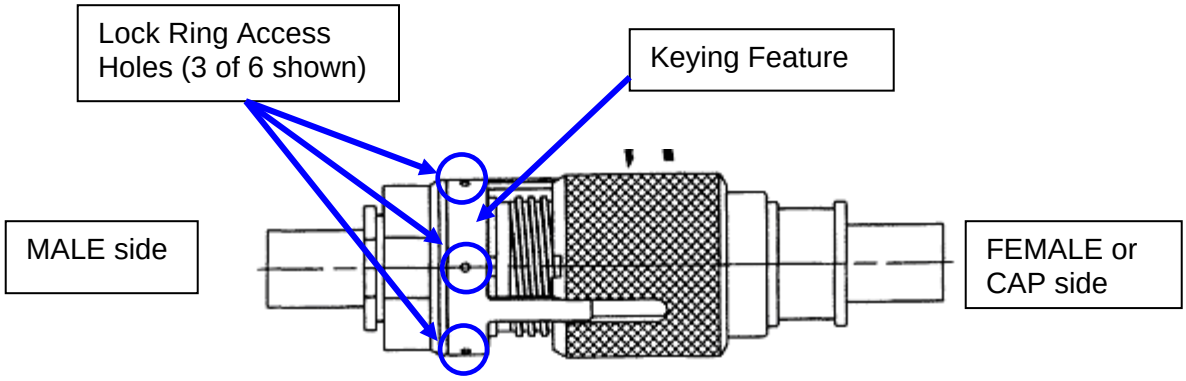
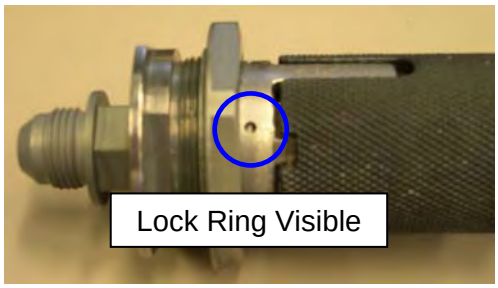



Figure 2.- Quick Disconnect

2.1 Loosen QD cap revealing a gap of approximatly 1/2”.
Ensure that keying feature is free to rotate.
Refer to Figure 2.



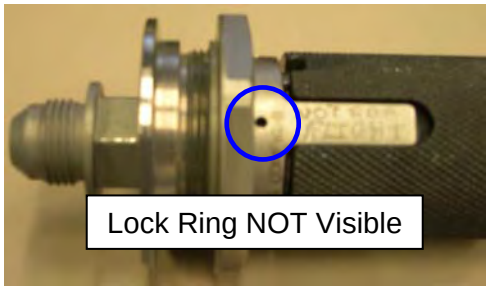




Figure 3.- Quick Disconnect Access Holes

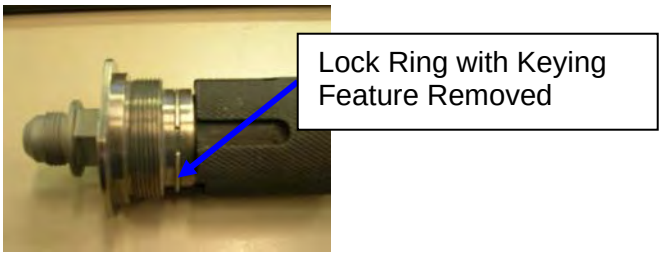



Figure 4.- Quick Disconnect with keying removed.

2.2 Inspect access holes (six) for lock ring.
Only use access holes where lock ring is present.
Each crew member, working opposite of one another, should pick two adjacent holes to use (four holes total).

2.3 Insert each tool (four) through access holes, where lock ring is visible (four)
(1/16” Hex Head)
(5/64” Hex Head)
(Folding L Wrench Set, 1/16” L Wrench)
(Metric Folding L Wrench, 2mm L Wrench)
Refer to Figure 3.

NOTE

1. If locking ring does not release within a few seconds, move tool to new hole and repeat release steps.

2. When locking ring is released, keying feature will be free floating.

3. A third crew member may pull on the keying feature to help free it from the lock ring.

2.4 Use tools (four) to depress locking ring until keying feature is freed.

2.5 Remove cap, keying feature and lock ring.
Temporarily stow loose parts in a ziplock.
Label ziplock “QD Locking Feature and Lock Ring” (sharpie)

2.6 Notify **MCC-H** of task completion.

## 16-0990 CENTER DISK COVER STANDOFF BRACKET REMOVAL



OBJECTIVE:
Remove the forward-zenith Center Disk Cover Standoff Bracket from the Node 2 Stbd vestibule. The bracket was found to interfere with the installation of the insulated MTL Supply and Nitrogen jumper during vestibule outfitting.

LOCATION:
Node 2 Stbd Vestibule

DURATION:
30 minutes

CREW:
One

MATERIALS:
12” x 12” Ziplock
Sharpie
Gray Tape
Flashlight

TOOLS:
DCS 760 Camera
ISS IVA TOOLBOX
Drawer 2:
  Ratchet, 1/4” Drive
  3/16” Hex Head, 1/4” Drive
  5/16” Hex Head, 3/8” Drive
  1/4” to 3/8” Adapter
Drawer 3:
  #2 Phillips Head Driver, 3/8” Drive

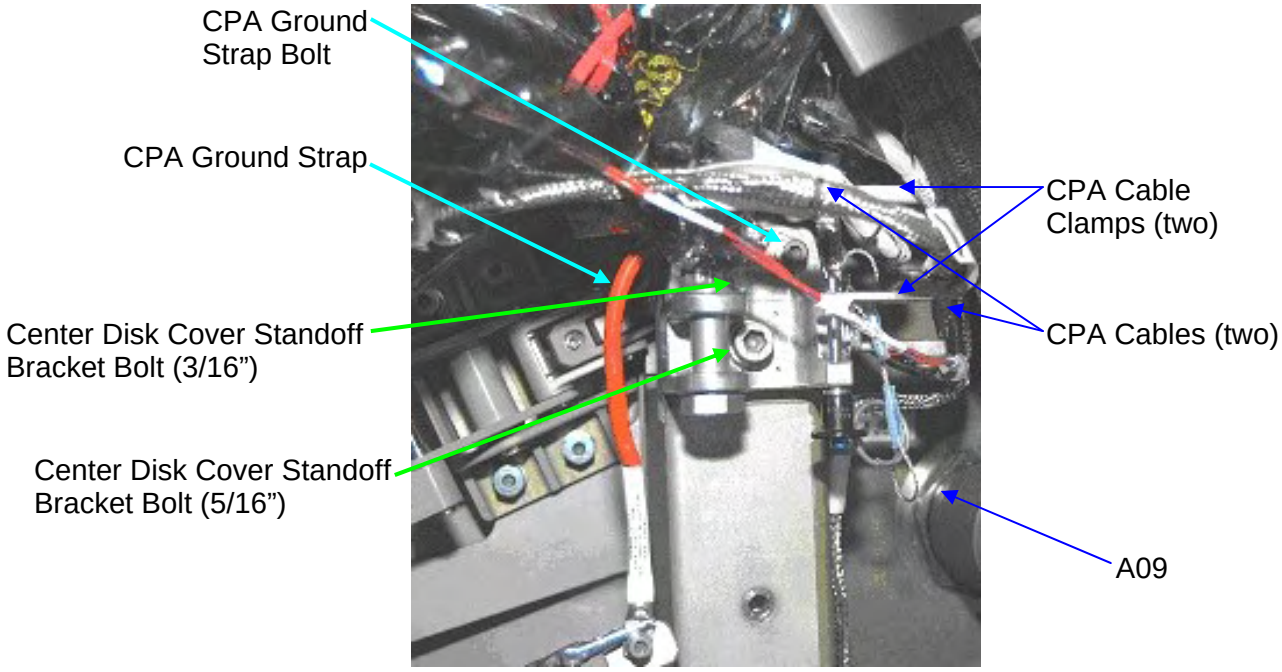



Figure 1. - View Looking Towards Node 2 from Inside Vestibule
(Node 2 Hatch Shown Closed)

BRACKET REMOVAL

Refer to Figure 1.

| NOTE |
|---|
| Center Disk Cover Standoff Bracket Bolts, Shims under Bracket Bolts and CPA Cable Clamps and Fastening Hardware are all non-captive. To mitigate FOD, stow loose parts in Ziplock Bag as bolts are removed. |

1. Retrieve 12" x 12" Ziplock Bag.
   Label "NOD2 STBD Center Disk Cover Standoff Bracket -- Loose Parts" (Sharpie).

2. Locate Node 2 Forward Zenith Center Disk Cover Standoff Bracket. Remove Pip Pin as required for fastener access.

3. Remove CPA Cable Clamps (two), Bolts (one each clamp) securing CPA cables (Ratchet, 1/4" Drive; 1/4"-3/8" Adapter; #2 Phillips Head Driver, 3/8" Drive).

4. Remove CPA Ground Strap, Bolt (one) (Ratchet, 1/4" Drive; 3/16" Hex Head).

| NOTE |
|---|
| Shims, which are used under the 3/16" bolts, will become free after the next two bolts are removed. |

5. <u>Removing Center Disk Cover Standoff Bracket</u>
   Remove Center Disk Cover Standoff Bracket, Bolt (one, 3/16”) (Ratchet, 1/4" Drive; 3/16" Hex Head).

   Remove Center Disk Cover Standoff Bracket, Bolt (one, 5/16”) (Ratchet, 1/4" Drive; 1/4”-3/8” Adapter; 5/16” Hex Head, 3/8” Drive).

   Remove CBM Center Disk Cover Bracket.

   After stowing all loose parts in “NOD2 STBD Center Disk Cover Standoff Bracket -- Loose Parts” Ziplock Bag, stow bag inside vestibule (Gray Tape).

6. Photo document removed bracket and loose parts bag (DCS 760 Camera).

7. Notify **MCC-H** of task completion.
   Stow tools and materials.

Good morning Leland & Stan,

Today we've added two additional BNC cables to the Transfer List. These are items 801 and 802 and are needed for the BPSMU/RWS activity scheduled on Steve later today.

The Transfer List Excel file, FD03_TransferList_STS122.xls, is located on the KFX machine in **C:\OCA-up\transfer**.

For ISS, the Transfer List Excel file, FD03_TransferList_STS122.xls, is located in **K:\OCA-up\transfer**.

**Q&As:**
**A:** Item 26.12 (Movie DVD): Leo was unable to locate this DVD during FD02 XFER PREP. We suggest looking in the bag containing Christmas gifts in MA16G.

**FD03 Choreography**

- Item 1, 801, & 802 (Steve): Deploy RWS Drag-through extensions during BPSMU/RWS activity.
- Item 7 (Leland): Transfer CSA ADAPTER/GSC 1.0 CTB (s/n 1306) during "CTB XFER" for CSA O2 CAL.
- Items 4, 29-33: Transfer OTSD, EMUs and EVA mesh bags to ISS during EVA XFER
- Item 21 (Peggy): Transfer GO2 Transfer Flex Hose Assy for O2 RCNFG/PURGE
- Item 39 (Dan): Transfer 0.5 CTB ISS PHOTO/TV RESUPPLY KIT for DCS CNFG
- Items 40 & 41 (Peggy): Transfer ODF to ISS during SODF XFER.

**Please update the Transfer List as follows:**

In **LAYOUTS** tab:
Add page L-1

In **RESUPPLY** tab:
Replace the following pages:
Resupply Page 2
Resupply Page 5
Resupply Page 6
Resupply Page 7
Resupply Page 10
Resupply Page 12

Call us with any questions.

- The Transfer Team

**16-0997 (MSG 015) – PHA Configuration for EVA**
**Page 1 of 1**

ECLSS engineering has requested that we minimize the cycling of the left PHA port (QD026) in the Equipment Lock. Based on past troubleshooting, QD026 has a higher than expected leak rate. Until the QD gets R&R'd, use a Tee Assy to support both PHA bags on the right PHA port (QD027).

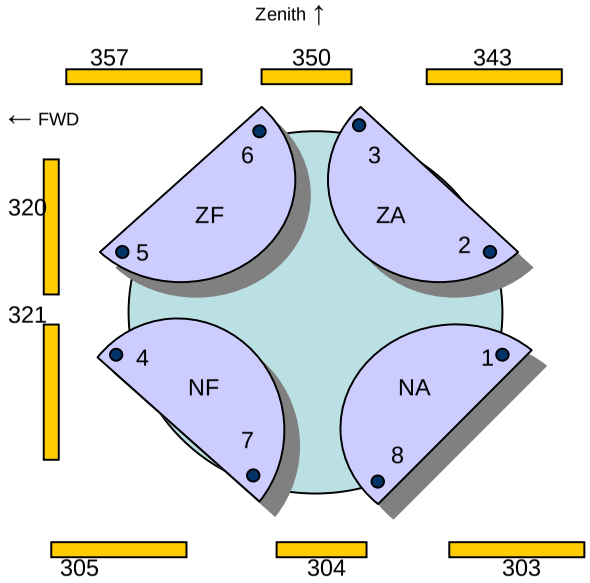
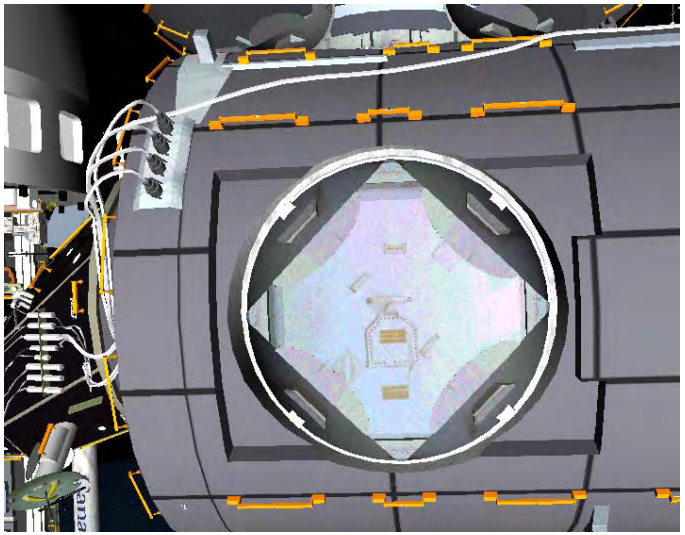
Please perform the following actions:

1. During Equipment Lock Prep, please configure the PHA bags accordingly:

   **Relief Valve Assy (1) →|← Tee Assy (1) →|← 120-ft PHA Bag (2)**

2. During all of your campout EVA prep activities, please connect the Relief Valve Assy only to the right PHA port (QD027).

## GET AHEAD- NODE 2 PORT ACBM LAUNCH LOCKS (00:20)

| IV | EV1/EV2 – (FF) |
|---|---|
| <br>**Launch lock latch release using Adj. Eq. tether**<br>  <br> | **RELEASE PORT PCBM PETAL LAUNCH LOCKS** (00:20)<br><br>CAUTION<br>Both petal launch locks must be engaged to allow for translation on the petal<br><br>1. Translate to Node 2 port CBM<br>2. Release LR 1 by using HR 343 and holding petal ZA<br>3. Release LR 2 by using HR 343<br>4. Release LR 3 using HR 350<br>5. Release LR 4 using HR 357 and holding petal ZF<br>6. Release LR 5 using HR 357<br>7. Release LR 6 using HR 350<br>8. Translate to nadir side<br>9. Release LR's 7 and 8 using HR 304<br><br>**CLEANUP**<br>10. Inspect gloves<br><br>  <br>Node 2 Port CBM |

For MS1 or CDR, please obtain (2) additional BNC-BNC cables in preparation for P/TV05 ISS Internal Ops (Photo/TV, Scenes) at MET 001/23:00 and MET 001/23:45, respectively. One cable is located in Vol 3B and the other is in a Ziplock labeled "Entry Video" within the A17 DTV bag. See attachment for pictures of BNC-BNC cables. Once the cables are acquired, they should be connected to the existing RWS Drag-thru-Cable Extensions to the end with the BNC Straight adapter. The ISS crew has prepared their half of the cables to receive these extensions. The final connection to the RWS Drag-thru-Cables on ISS will proceed as previously planned; these will be left on station.

The workaround for Entry Video will use the BNC-BNC cable currently used for Mon 2 C-in (between MUX VTR Mon and the Bal/Unbal transformer) to replace the cable from the “Entry Ziploc".

**BNC-BNC cable in Vol 3B**
VIU LCD Cbl 20’ - SED39122260-320
S/N 1014

**BNC-BNC cable in A17 DTV bag**
BNC Video Cbl 15’ - SED33105779-301
S/N 5015

**Connect new cables to each of the existing extensions**

**Proceed as previously planned**

Peggy, Dan, Hans and Leo,

**MTL Supply Jumper Big Picture Words** - Kudos for having the forethought to request that we fly up the extra TCS Vestibule Omega Jumpers in the Vestibule Outfitting Kit!! We now can put one of them to good use. Due to some late-breaking analysis, it seems that without the JEM installed, the MTL Vestibule Supply Jumper (to Columbus) will be cold enough to condense. So, we'll now use the extra LTL Omega Supply Jumper, which is insulated, in place of the uninsulated MTL Omega Supply Jumper in the Forward Vestibule Quadrant. Analysis shows these two supply jumpers are fully interchangable, including QD keying. However, we have uplinked a procedure to remove the keying feature from the QD, if it becomes necessary.

But wait, there's more! Since this spare LTL Omega Supply Jumper is insulated, we believe it will interfere with one of the CBM Center Disk Cover Brackets and cause the Supply jumper to protrude a little bit into the hatch corridor. We also think that if the bracket remains installed it will be difficult to install the QD Insulation Mitten on the Node 2 side. Later in the outfitting procedure, the bracket may also make it difficult to install the Nitrogen Jumper behind the MTL TCS Supply Jumper (the bracket makes it difficult to rotate the now-insulated, MTL Omega Supply Jumper out of the way to use the dreaded FFTD on the Nitrogen Jumper Gamah Fitting). Dan and Hans, you may remember we saw a similar issue during OOCT on the LTL Omega jumpers, prompting us to use straight TCS Insulated Jumpers in those locations (aft quadrant).

The CBM Center Disk Cover Bracket removal has two little gotchas: 1) none of the hardware is captive: p-clamp fastening and mounting hardware, as well as a plethora of stacked shims behind each of the mounting bolts, and 2) there are two locating pins on the bracket that are inserted into tight-fitting holes on the bulkhead, which can make it difficult to remove the bracket. We think that it will take 15 minutes to remove the bracket, or up to 30 minutes if you have to struggle due to the tight locating pins.

We have **not** updated the Vestibule Outfitting Procedure with this change. Rather, we are simply telling you to exchange the MTL Supply Jumper with the 'spare' LTL Omega Supply jumper in Step 9 of Columbus Vestibule Outfitting (Assy Ops book). **It will be your call** as to whether the CBM Center Disk Cover Bracket really needs to be removed, as we think it will. It may be that only the cable P-Clamps need to removed. In either case, we have a procedure in the IPV Uplinked Procedures folder with all the info you need. Use care to avoid insulation damage in any event. You can remove the bracket at any time and just bag, tag and gray tape the loose parts inside the Vestibule.

Reference Products:
{ US_SODF; Assembly Operations ISS - 1E: Activation and Checkout; Columbus Vestibule Outfitting}
{Uplinked Procedures; Assembly Ops; 16-0990 Center Disk Cover Standoff Bracket Removal}
{Uplinked Procedures; IFM; 16-0989 QD Keying Feature Removal}

Here are some pictures from Building 9 Vestibule Outfitting Trainer and from OOCT to help familiarize yourself with above issues.

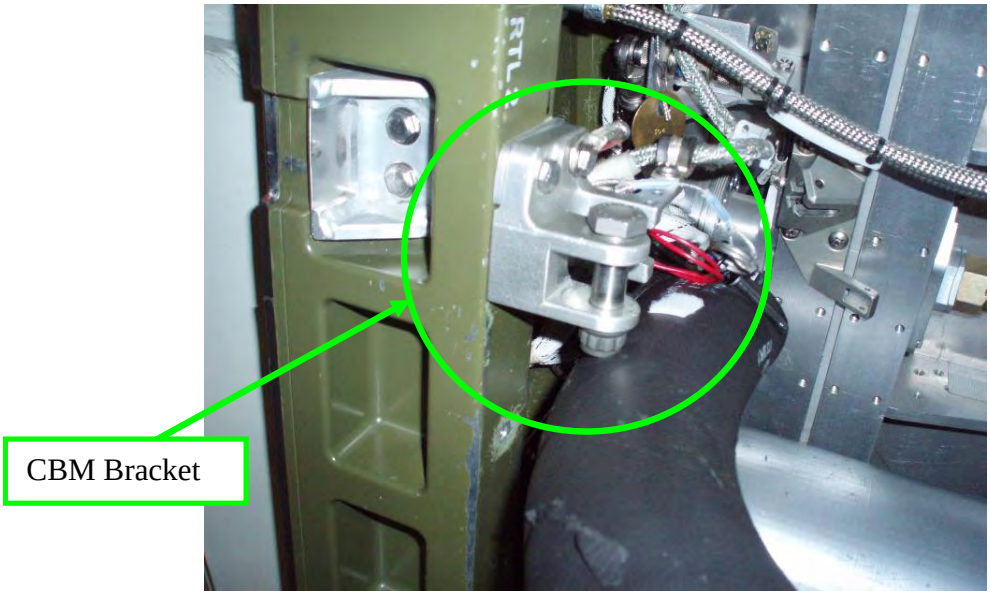



Figure 1: Building 9 Vestibule Trainer - Forward Quadrant 'spare' LTL Omega Supply Jumper and CBM Center Disk Cover Bracket Interference

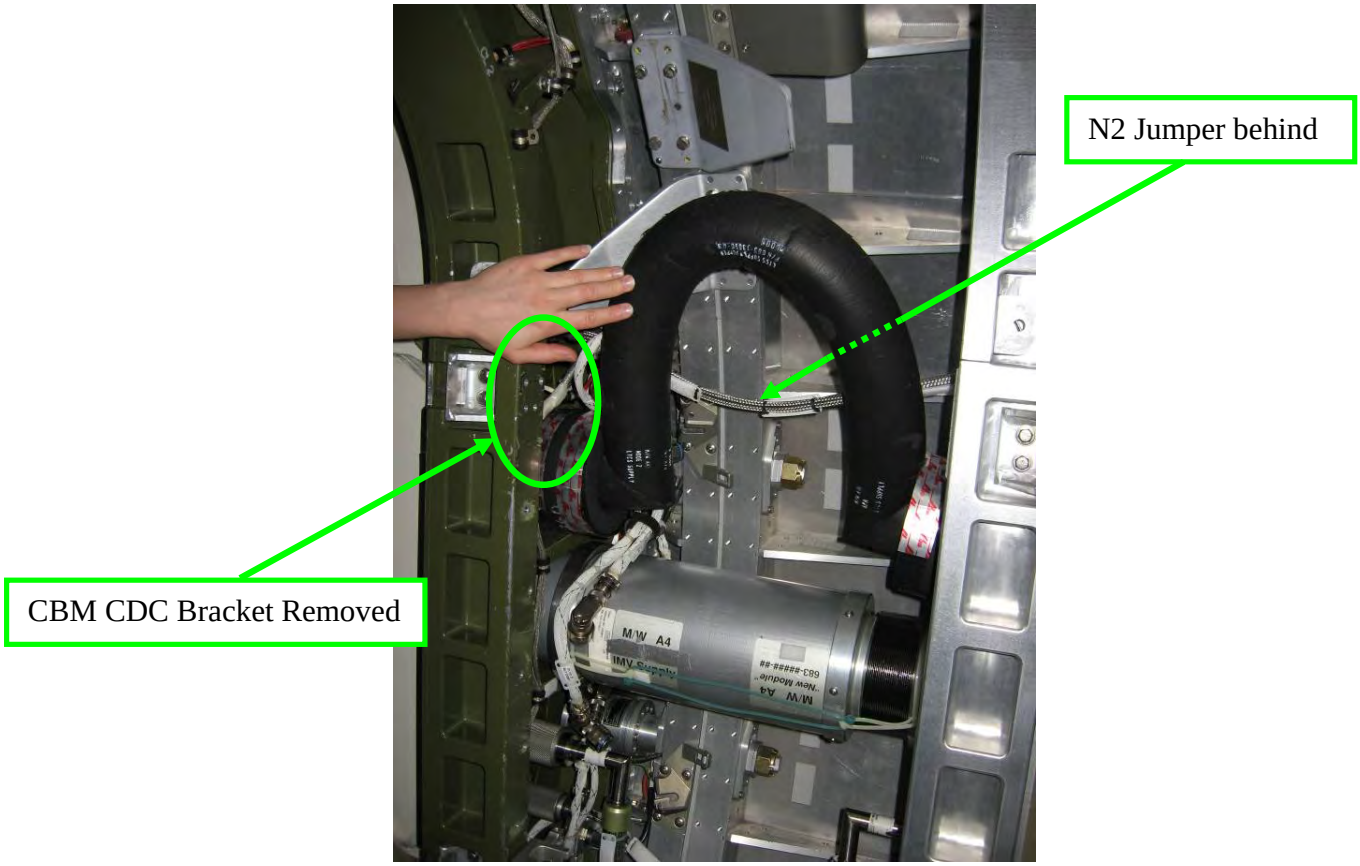



Figure 2: Building 9 Vestibule Trainer - LTL Omega Supply Jumper installed in MTL Supply Location - CBM Center Disk Cover (CDC) Bracket Removed

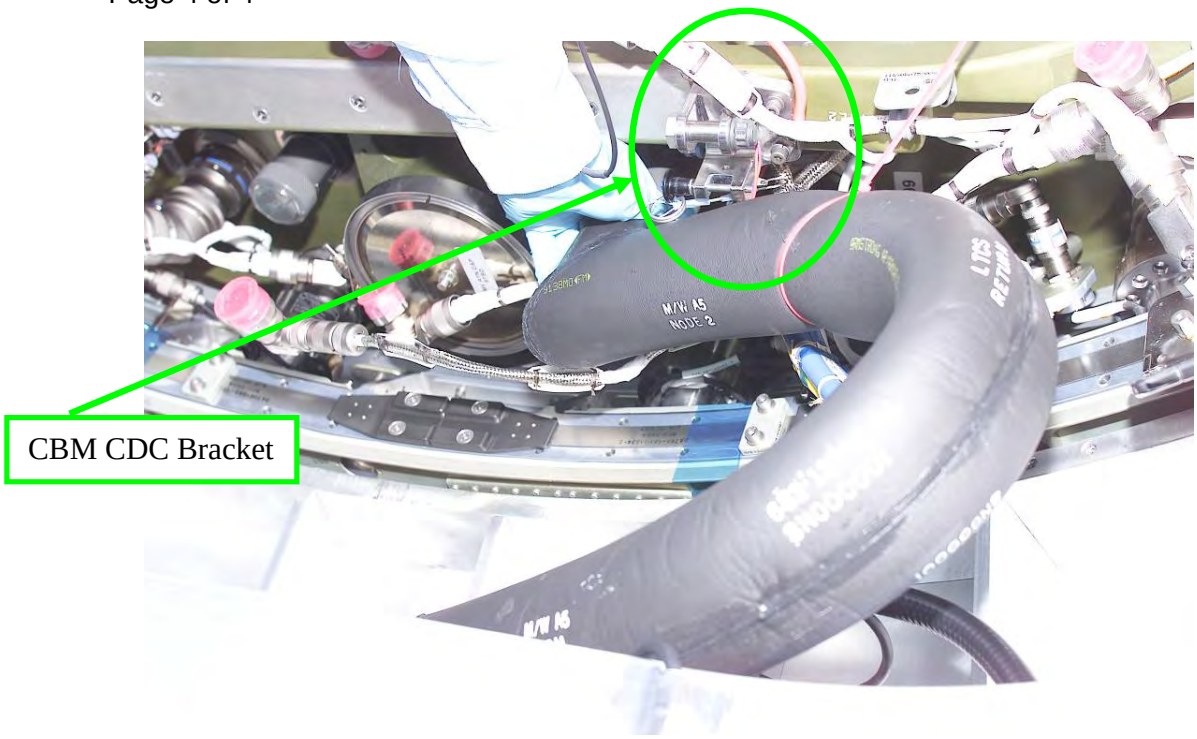



Figure 3: OOCT - Aft Quadrant LTL Omega Jumper Interference

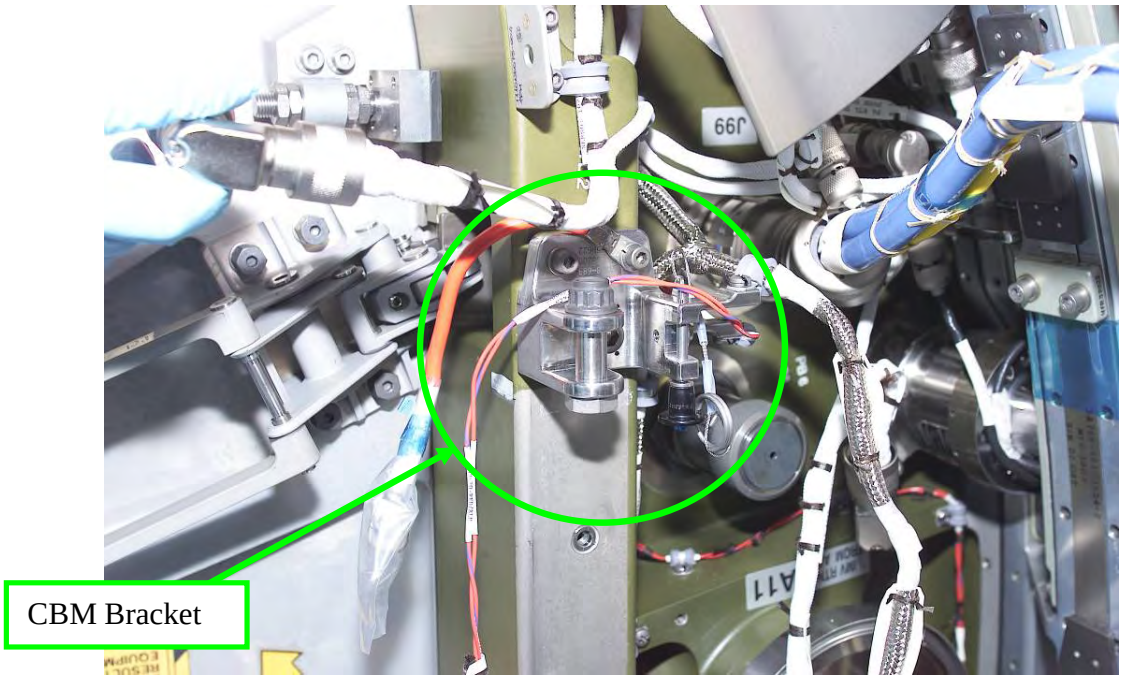


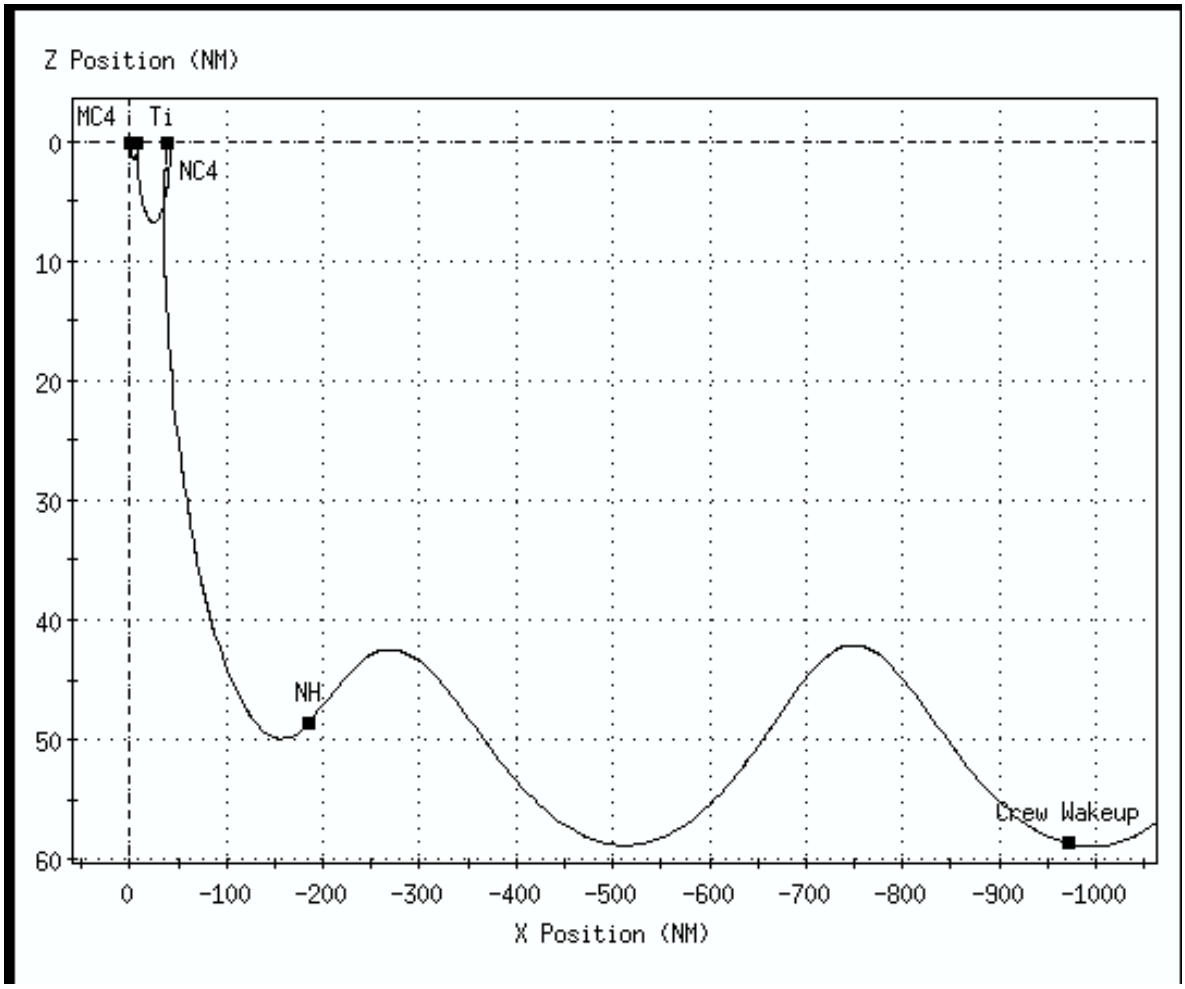

Figure 4: OOCT - Aft Quadrant CBM Center Disk Cover Bracket - Forward Quadrant Bracket is similar

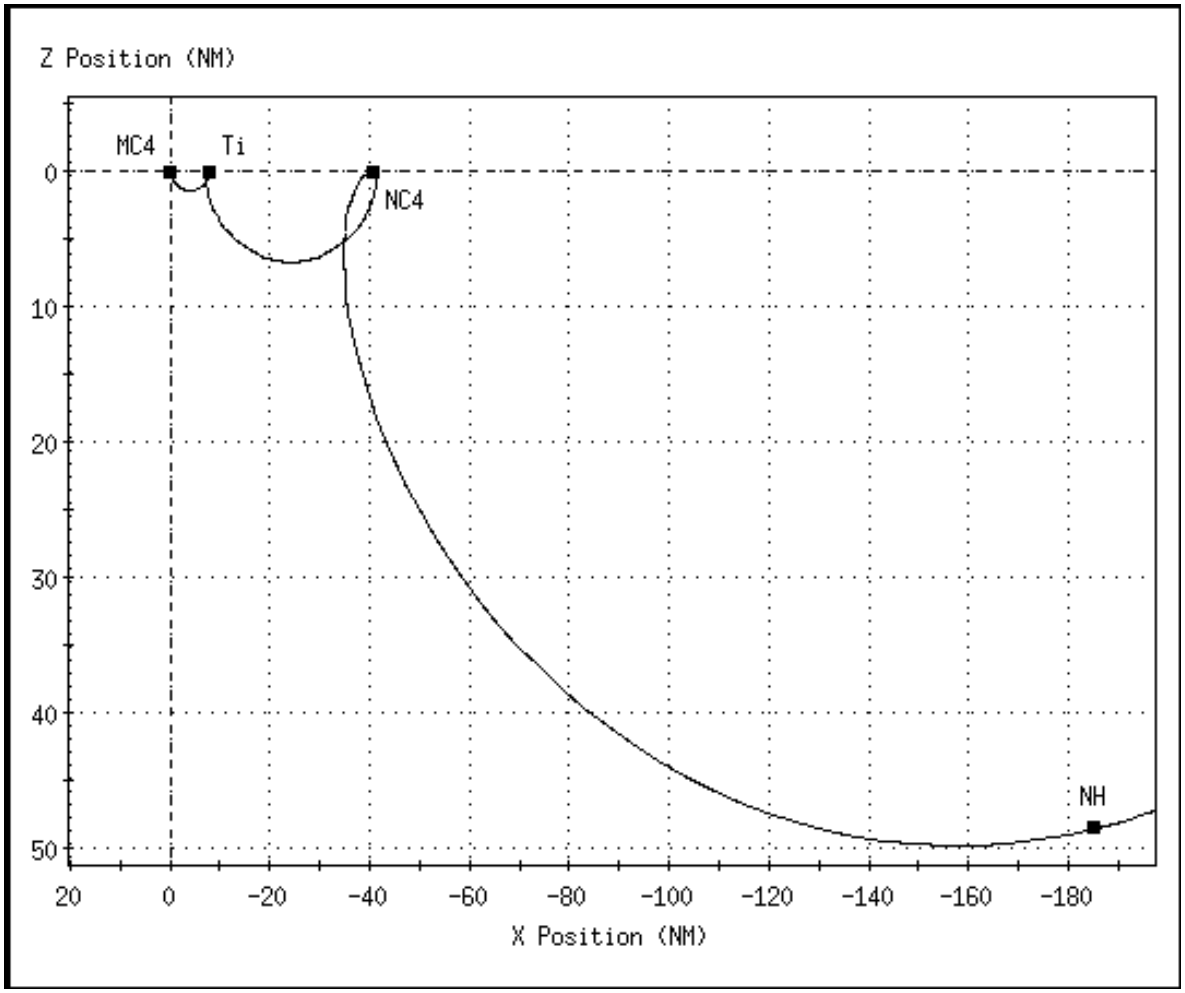
FLIGHT NOTE

TO: FD, CAPCOM, FAO, RENDEZVOUS, PROP, GC
FROM: FDO
SUBJECT: MANEUVER TIGS

COPIES: 1

| | MET | |
|---|---|---|
| NH | 001:16:30:32.232 | |
| NC4 | 001:17:20:25.337 | |
| NCC | 001:17:54:16.000 | |
| TI | 001:18:51:58.000 | PET = 0:0 ; SS - 38 MIN 30 SEC |
| MC1 | 001:19:11:58.000 | |
| MC2 | 001:19:41:52.000 | ET = 0:0 |
| MC3 | 001:19:58:52.000 | MC2 + 17 MIN |
| MC4 | 001:20:08:52.000 | MC2 + 27 MIN |


Z Position (NM)
MC4
Ti
NC4
NH
Crew Wakeup
0
10
20
30
40
50
60
0
-100
-200
-300
-400
-500
-600
-700
-800
-900
-1000
X Position (NM)


Z Position (NM)
MC4
Ti
NC4
NH
0
10
20
30
40
50
20
0
-20
-40
-60
-80
-100
-120
-140
-160
-180
X Position (NM)

# PRELIMINARY ORBIT MANEUVER PAD FOR NH (PADS RNDZ p.3-2)

| | | |
|---|---|---|
| OMS BOTH | 1 | X |
| L | 2 | |
| R | 3 | |
| RCS SEL | 4 | |
| TV ROLL | 5 | 000 |
| TRIM LOAD P | 6 | (+)0.7 |
| LY | 7 | (-)5.7 |
| RY | 8 | (+)5.7 |
| WT | 9 | 251461 |
| TIG | 10 | 01/16:30:32.2 |
| TGT PEG 7 ΔVX | 19 | (+)091.1 |
| ΔVY | 20 | (+)000.0 |
| ΔVZ | 21 | (+)003.3 |

RCS SEL: [ ] +X [ ] -X [ ] MULTI-AXIS

| BURN ATT | | |
|---|---|---|
| R | 24 | 040 |
| P | 25 | 177 |
| Y | 26 | 039 |

| | | |
|---|---|---|
| ΔVTOT | | 091.1 |
| TGO | | 00:59 |
| VGO | X | (+)088.0 |
| VGO | Y | (+)000.0 |
| VGO | Z | (+)023.7 |

| | HA | HP |
|---|---|---|
| TGT | 182 | (+)129 |

NOTES

OMS GMBL CK:

| | PRE | POST-BURN |
|---|---|---|
| L PRI | | X |
| L SEC | | |
| R PRI | | X |
| R SEC | | |
| NONE | X | |

RCS I'CNCT:
- [ ] L OMS → RCS
- [ ] R OMS → RCS
- [X] NONE

DOWN MODE OPTIONS:
- [X] 2 OMS → 1 OMS
- [ ] 1 OMS → RCS
- [ ] NONE

OMS HE REG TEST: [ ] NONE

| | L GPC | L OP | L CL | R GPC | R OP | R CL |
|---|---|---|---|---|---|---|
| A | | X | | | X | |
| B | X | | | X | | |

-X RCS BURNS:

| | BURN ATT | | LVLH ATT |
|---|---|---|---|
| P 15 | N/A | R | N/A |
| Y 16 | N/A | P | N/A |
| OM 17 | N/A | Y | N/A |

ORBIT BURN MONITOR

GPC FILL-INS 1 (3)
- [X] CRIT BURN
- [ ] NON-CRIT BURN

MAX TIG SLIP ___ MIN.
- [ ] DO NOT UPDATE TIG
- [ ] UPDATE TIG AFTER ___ MIN.

NOTES

Treat loss of gpc 3 as second gimbal fail on the Right

# PRELIMINARY ORBIT MANEUVER PAD FOR NC4 (PADS RNDZ p.3-4)

| | | |
|---|---|---|
| OMS BOTH 1 | X | |
| L 2 | | |
| R 3 | | |
| RCS SEL 4 | | +X / -X / MULTI-AXIS |
| TV ROLL 5 | 000 | |
| TRIM LOAD P 6 | (+)0.7 | |
| LY 7 | (-)5.7 | |
| RY 8 | (+)5.7 | |
| WT 9 | 249214 | |
| TIG 10 | 01/17:20:25.3 | |
| TGT PEG 7 ΔVX 19 | (+)075.8 | |
| ΔVY 20 | (+)000.0 | |
| ΔVZ 21 | (+)002.2 | |

BURN ATT

| | | |
|---|---|---|
| R 24 | 311 | |
| P 25 | 342 | |
| Y 26 | 334 | |

| | |
|---|---|
| ΔVTOT | 075.8 |
| TGO | 00:48 |
| VGO X | (+)073.2 |
| VGO Y | (+)000.0 |
| VGO Z | (+)019.7 |

| | HA | HP |
|---|---|---|
| TGT | 183 | (+)171 |

NOTES

OMS GMBL CK:

| | PRE | POST-BURN |
|---|---|---|
| L PRI | | X |
| L SEC | | |
| R PRI | | X |
| R SEC | | |
| NONE | X | |

RCS I'CNCT:

- [ ] L OMS → RCS
- [ ] R OMS → RCS
- [X] NONE

DOWN MODE OPTIONS:

- [X] 2 OMS → 1 OMS
- [ ] 1 OMS → RCS
- [ ] NONE

OMS HE REG TEST: [ ] NONE

| | L GPC | L OP | L CL | R GPC | R OP | R CL |
|---|---|---|---|---|---|---|
| A | X | | | X | | |
| B | | X | | | X | |

-X RCS BURNS:

| | BURN ATT | | LVLH ATT |
|---|---|---|---|
| P 15 | N/A | R | N/A |
| Y 16 | N/A | P | N/A |
| OM 17 | N/A | Y | N/A |

ORBIT BURN MONITOR

GPC FILL-INS 1 (3)

- [X] CRIT BURN
- [ ] NON-CRIT BURN

MAX TIG SLIP ___ MIN.

- [ ] DO NOT UPDATE TIG
- [ ] UPDATE TIG AFTER ___ MIN.

NOTES

Treat loss of gpc 3 as second gimbal fail on the Right

# PRELIMINARY ORBIT MANEUVER PAD FOR Ti (PADS RNDZ p. 3-6)

| | | |
|---|---|---|
| OMS BOTH | 1 | |
| L | 2 | X |
| R | 3 | |
| RCS SEL | 4 | |
| TV ROLL | 5 | 000 |
| TRIM LOAD P | 6 | (+)0.7 |
| LY | 7 | (+)4.8 |
| RY | 8 | (-)4.8 |
| WT | 9 | 247359 |
| TIG | 10 | 01/18:51:58.0 |
| TGT PEG 7 ΔVX | 19 | (+)009.1 |
| ΔVY | 20 | (-)000.1 |
| ΔVZ | 21 | (+)000.1 |

RCS SEL:
- [ ] +X
- [ ] -X
- [ ] MULTI-AXIS

BURN ATT

| | | |
|---|---|---|
| R | 24 | 309 |
| P | 25 | 331 |
| Y | 26 | 327 |

| | | |
|---|---|---|
| ΔVTOT | | 009.1 |
| TGO | | 00:12 |
| VGO | X | (+)008.6 |
| VGO | Y | (+)001.8 |
| VGO | Z | (+)002.3 |

| | HA | HP |
|---|---|---|
| TGT | 184 | (+)176 |

## NOTES

OMS GMBL CK:

| | PRE | POST-BURN |
|---|---|---|
| L PRI | | X |
| L SEC | | |
| R PRI | | X |
| R SEC | | |
| NONE | X | |

RCS I'CNCT:
- [ ] L OMS → RCS
- [ ] R OMS → RCS
- [X] NONE

DOWN MODE OPTIONS:
- [ ] 2 OMS → 1 OMS
- [X] 1 OMS → RCS
- [ ] NONE

OMS HE REG TEST:

[ ] NONE

| | L GPC | L OP | L CL | R GPC | R OP | R CL |
|---|---|---|---|---|---|---|
| A | | | X | | | |
| B | | X | | | | |

-X RCS BURNS:

| | BURN ATT | | | | LVLH ATT | | |
|---|---|---|---|---|---|---|---|
| P | 15 | N | / | A | R | N | / | A |
| Y | 16 | N | / | A | P | N | / | A |
| OM | 17 | N | / | A | Y | N | / | A |

ORBIT BURN MONITOR

GPC FILL-INS 1 (3)
- [X] CRIT BURN
- [ ] NON-CRIT BURN

TIG SLIP: If Ti not started by nominal TIG + ___ min go to Ti DELAY, 5-27

Max Ti DELAY TIG slip ___ min.
- [ ] DO NOT UPDATE TIG
- [ ] UPDATE TIG AFTER ___ MIN.

## Ti DELAY

| | | |
|---|---|---|
| TGT PEG 7 ΔVX | 19 | (-) |
| ΔVY | 20 | (-) |
| ΔVZ | 21 | (-) |

NEW Ti ( BASETIME ) 01/20:23:13.0

## NOTES