STS-131/19A

FD 12 Execute Package

MSG	Page(s)	Title
106A	1 - 15	FD12 Flight Plan Revision
107	16 - 17	FD12 Mission Summary
108	18	FD12 Transfer Message
109	19	FD12 Crew Choice Downlink
110A	20 - 21	Video Capture Procedure
111A	22 - 30	EMU LEMO Connector Verification
112	31 - 32	Catalytic Reactor Stowage Update
113	33 - 34	Reaction Self Test A31p Hard Drive Data Transfer

Approved by FAO:

L. Rush

Last Updated: Apr 16 2010 4:53 AM GMT

JEDI *(**J**oint **E**xecute package **D**evelopment and **I**ntegration), v3.0*

Ron had the distinction of being the first person to uplink a message on the Thermal Impulse Printing System on STS-43. Unfortunately he uplinked the wrong message.

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MSG INDEX

MSG NO.	TITLE
MSG-106	FD12 Flight Plan Revision
MSG-107	FD12 Mission Summary
MSG-108	FD12 Transfer Message
MSG-109	FD12 Crew Choice Downlink
MSG-110A	Video Capture Procedure
MSG-111A	EMU LEMO Connector Verification
MSG-112	Catalytic Reactor Stowage Update
MSG-113	Reaction Self Test A31p Hard Drive Data Transfer

1. Post-Sleep Cryo Config

For today's post-sleep cryo config, O2 tanks 2 and 4 and H2 tanks 2 and 5 will be active.

R1 O2,H2 MANF VLV TK2 (two) - OP (tb-OP)

Pre-Sleep Cryo Config

√MCC for deltas prior to configuring for pre-sleep.

For tonight's pre-sleep cryo config, manifold 1 will be closed with O2 tanks 1 and 4 and H2 tanks 1 and 5 active.

R1 O2 TK1 HTR A - AUTO
TK2 HTR A - OFF
H2 TK1 HTRS A,B (two) - AUTO
TK2 HTRS A,B (two) - OFF
O2,H2 MANF VLV TK1 (two) - CL (tb-CL)

2. Comm Loop Overview for Flight Day 12

S/G 1 & A/G 1	S/G 2	A/G 2
MPLM Berthing	Inspection File Downlink	Late Inspection
SSRMS Ops	Russian Ops	MPLM Pressure Check
EVA/Suit Activities	DPC	Transfer Ops
Exercise Constraints	All other ISS Comm	All other STS Comm

3. MMT Summary

The MMT met today to review orbiter systems and mission progress.

Discovery continues to perform very well. Thanks for your patience as the teams worked through the Node 2 Nadir CBM/CPA funnies. Again, a great testament of the outstanding teamwork that has been shown throughout the various mission challenges.

The ISS program voiced it's appreciation for all the hard work that the entire team has performed to ensure all the defined mission objectives were completed as planned .

4. PGSC Ultrabay Hard Drive

The management of the Ultrabay hard drives for the LDRI video conversion is as follows:

2 Ultrabay adapters & hard drives will be used for the LDRI video conversion. The Shuttle adapter is currently stowed in the FDF locker (MF43O) and the hard drive is labeled "STS LOAD". The ISS adapter is currently in SSC-5 on the ISS.

Prior to the STBD Survey, install the Shuttle ultrabay adapter & hard drive into the WORLDMAP bay.

Early in the STBD Survey timeframe, Soichi will remove the ISS Ultrabay from SSC-5 and will deliver it to you on the Shuttle.

Following the conversion of the final STBD LDRI video, remove the Shuttle ultrabay from WORLDMAP and deliver it to Soichi. This will be placed in SSC-5 for file downlink. Install the ISS ultrabay in WORLDMAP for the Nose and Port video conversion.

Following the conversion of the final Port LDRI video, remove the ISS ultrabay from WORLDMAP and deliver it to Soichi. This will be placed in SSC-5 for downlink once the ground is finished with the Shuttle ultrabay in SSC-5.

After the Shuttle ultrabay has been removed from SSC-5 it may be returned to the Shuttle and stowed in the FDF locker.

5. Reaction Self Test A31p Hard Drive Data Transfer

Perform MSG113, then perform the following:

- Remove A31p SSC1 Hard Drive (Laptop S/N: 1173 located at NOD1S4_B1) and install into EXPRESS Rack 6 Laptop in the LAB1O4 location, temp stow the ELC 6 hard drive then power it on and login as crewmember.

- Using a USB jump drive copy the Reaction Self Test Data located in "C:\program files\pulsar informatics\reaction self test\data" and transfer to the "T:\RST" folder using a laptop that is connected to the Ops LAN.

- Power off EXPRESS 6 Laptop and return hard drives back to original configuration.

6. <u>CWC Fill #7</u>
   Today you will be filling the final CWC of the flight. You will be using CWC S/N 1079, which can be found at JLP1P1. This bag contains about 4L of residual H2O, so term CWC Fill after 47 min or on MCC call. All other details can be found on the H2O Ops Cue Card (MSG012). After the fill, the CWC can be transferred to JMP1F6 Rack Front. You can also transfer the unused sample bags per the Middeck Transfer List Resupply Item 48.

7. <u>MS2 PFC</u>
   Dottie, this evening we have scheduled a PFC for you on ISS using an SSC. Please tag up with one of the ISS Crew to configure the SSC and S/G 2 audio. Please inform MCC which SSC you will be using.

8. REPLACE PAGES 2-44, 2-46 AND 3-130 THROUGH 3-139.

REPLANNED

FD12

GMT 04/16/10 (106)
β = 18
MET Day 010

18 19 20 21 22 23 011/00 01 02 03 04 05 06
05 06 07 08 09 10 11 12 13 14 15 16

STS-131

CDR POINDEXTER	SLEEP	POST SLEEP	MDDK / PGSCHD / INSTALL	EXERCISE	VIDEO CONVERSION	HD SWAP		MEAL	PORT WING SURVEY						
PLT DUTTON	SLEEP	POST SLEEP	P/TV06		STBD WING SRVY-LATE	IMU	EXERCISE		MEAL	PORT WING SURVEY					
MS1 MASTRACCHIO	SLEEP	POST SLEEP	MPLM@ / APCU#	APCU$ / CWC#7	EXERCISE	CTWCM / CXFER	H2O^	N2-I	MEAL	N2-T	EVA XFER TO STS				
MS2 METCALF-LINDENBURGER	SLEEP	POST SLEEP	MCIU / PRLA	STBD WING SRVY-LATE	NOSE CAP SURVEY	MEAL	MDDK XFER	EXER-CISE							
MS3 WILSON	SLEEP	LOG	POST SLEEP	SSRMS MPLM UNINSTL	SSRMS* / MPLM*	MNVR	DLI%	STBD WING SRVY-LATE	NOSE CAP SURVEY	VIDEO	CONV	MEAL	VIDEO CONVER-SION		
MS4 YAMAZAKI	SLEEP	LOG	POST SLEEP	SSRMS MPLM UNINSTL	SSRMS* / MPLM*	MNVR	DLI%	SSVE-5	XFER	UPDAT	MDDK XFER	EXERCISE	NOSE CAP SURVEY	MEAL	PORT WING SURVEY
MS5 ANDERSON	SLEEP	LOG	POST SLEEP	REACT	DATA	XFER	EXERCISE	MEAL	LEMO CONNECTOR VERIF	EVA XFER TO STS					

TDRS W E Z

DAY/NIGHT

ORBIT 170 171 172 173 174 175 176 177 178

ORB ATT BIAS -XLV -ZVV

TDRS AVAIL

NOTES

NO T2 (BACKOFF TO BERTH)

@SHELL HTR ACT
#ACT $DEACT
%CLEAR
*UNGRAPPLE

^NOM CNFG

FLT PLN/131/FLT

REPLANNED

FD12

GMT 04/16/10 (106)
β = 21
MET Day 011

06 17 18 19 20 07 08 09 10 21 22 23 04/17 01 02 03 04 11 12 13 14 15 16 17 18

STS-131

CDR POINDEXTER	PORT WING SURVEY; HD SWAP; PRE SLEEP; PMC A/G; PRE SLEEP	SLEEP
PLT DUTTON	PORT WING SURVEY; SSV-2; PRE SLEEP	SLEEP
MS1 MASTRACCHIO	APCU#; APCU$; PRE SLEEP	SLEEP
MS2 METCALF-LINDENBURGER	EXER-CISE; XFR TAG; PRE SLEEP; PFC OCA; PRE SLEEP	SLEEP
MS3 WILSON	VIDEO CONVER-SION; AEM%; MDK; PRE SLEEP	SLEEP
MS4 YAMAZAKI	PORT WING SURVEY; XFR TAG; PRE SLEEP; XFER; BRIEF; PRE SLEEP	SLEEP
MS5 ANDERSON	PRE SLEEP	SLEEP

TDRS W E Z

DAY/NIGHT

ORBIT 178 179 180 181 182 183 184 185 186

ORB ATT BIAS -XLV -ZVV

TDRS AVAIL

NOTES #ACT $DEACT %STATUS CHECK

STS-131/19A FD12

REPLANNED

GMT Date 04/16 (106) | W | TDRS E | Z | DON/ORB | MET Day 010 | STS ATI

CDR POINDEXTER | PLT DUTTON | MS2 METCALF-LINDENBURGER | NOTES

03:00 | 04:00 | 05:00 | 06:00

16:00 | 17:00 | 18:00 | 19:00 | 20:00

169 | 170 | 171

BIAS-XLV-ZVV

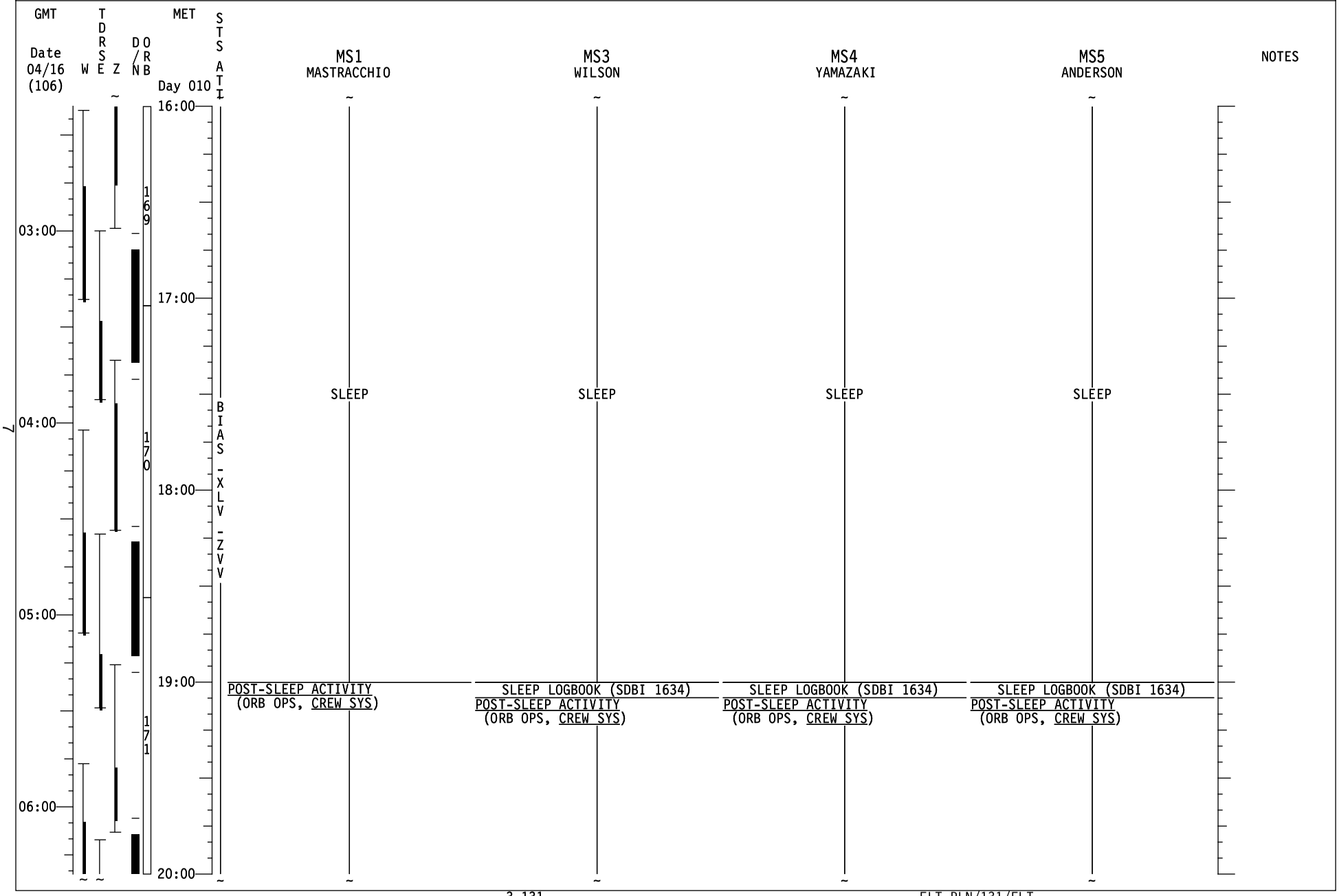
SLEEP | SLEEP | SLEEP

FD12 EZ ACTIVITIES:
TEPC (ORB OPS, CREW SYSTEMS)
Check Status
OCAC Inspection
Check MDDK Duct Screen
Hard reboot all PGSCs not shut down overnight.

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

STS-131/19A FD12

REPLANNED



STS-131/19A FD12

REPLANNED

GMT Date 04/16 (106) | W | TDRS E | TDRS Z | D/N | ORB | MET Day 010 | STS ATI

CDR POINDEXTER

20:00 — POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

21:00 — MERLIN STATUS CK (Cue Card)
GLACIER STATUS CK (Cue Card)
STL STATUS CK (Cue Card)
A31p DEVICE CHANGEOUT (ORB OPS, PGSC)
Steps 1-6, 9-11, 13
Ref MSG 106, Item 4

22:00 — EXERCISE

23:00 — VIDEO CONVERSION
Ref. MSG 110

00:00

PLT DUTTON

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

P/TV06 ROBOTICS OPERATIONS (P/TV, SCENES)
SETUP & OPS
Items 1 & 3 for MPLM Berth in PLB

OBSS DOCKED LDRI RCC SURVEY - STBD
Ref. MSGs 097 and 100

MS2 METCALF-LINDENBURGER

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

L17 Check MCIU filter screen
ROBO: 1.210 MPLM DEMATE AND BERTH
Steps 12-19

OBSS DOCKED LDRI RCC SURVEY - STBD
Ref. MSGs 097 and 100

NOTES

DESATS INHIBITED

07:00 — 08:00 — 09:00 — 10:00

172 — 173 — 174

BIAS-XLV-ZVV

STS-131/19A FD12

REPLANNED

GMT Date 04/16 (106) | W | T D R S E | Z | D/N | O R B | MET Day 010 | STS ATL

MS1 MASTRACCHIO | MS3 WILSON | MS4 YAMAZAKI | MS5 ANDERSON | NOTES

20:00

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

DESATS INHIBITED

07:00

172

21:00

ROBO: 1.210 MPLM DEMATE AND BERTH Steps 4, 11-19

ROBO: 1.210 MPLM DEMATE AND BERTH Steps 4, 11-19

08:00

BIAS-XLV

MPLM SHELL HTR ACT [A]
On MCC GO:
A15 APCU 1 OUTPUT - ON

ROBO: 1.210 MPLM DEMATE AND BERTH Steps 20-21

ROBO: 1.210 MPLM DEMATE AND BERTH Steps 20-21

TFL 199

22:00

SSRMS MNVR TO DLI CLEAR Ref. MSG 096

SSRMS MNVR TO DLI CLEAR Ref. MSG 096

MPLM PRESS CHECK

SSV OUTRATE - 5

-ZVV

On MCC GO:
A15 APCU 1 OUTPUT - OFF

173

SHUTTLE/ISS H2O CONTAINER FILL (HC) (ORB OPS, ECLS) Perform CWC FILL #7, Ref. MSG 012 Ref. MSG 106, item 6

DAILY TRANSFER LIST UPDATE Ref. MDDK Transfer List and MSG 108

REACTION SELF TEST A31P HARD DRIVE DATA XFER Perform MSG 113 then Ref. MSG 106, item 5

TFL 203

09:00

[A] R1 PL PRI MN C - ON (tb-ON)
SSP1 MPLM CHAN 1,2 HTR PWR (two) - ON (tb-gray)

23:00

EXERCISE

OBSS DOCKED LDRI RCC SURVEY - STBD Ref. MSGs 097 and 100

TRANSFER OPS Ref. MDDK Transfer List and MSG 108

174

10:00

SHUTTLE/ISS H2O CONTAINER FILL (HC) (ORB OPS, ECLS) Perform FILL TERMINATION

CWC TRANSFER Transfer 1 CWC to ISS

EXERCISE

00:00

STS-131/19A FD12

REPLANNED

GMT Date 04/16 (106) | W E Z | D/N | ORB 174 175 176 177 | MET Day 011 | STS ATI | CDR POINDEXTER | PLT DUTTON | MS2 METCALF-LINDENBURGER | NOTES

00:00 — 01:00 — 02:00 — 03:00 — 04:00 — 11:00 — 12:00 — 13:00 — 14:00

STS ATI: BIAS-XLV; ZVV

CDR POINDEXTER

- VIDEO CONVERSION Ref. MSG 110
- A31p DEVICE CHANGEOUT (ORB OPS, PGSC) Steps 2-6, 9-11 Transfer STS Ultrabay HD to FE-5
- MEAL

PLT DUTTON

- OBSS DOCKED LDRI RCC SURVEY - STBD Ref. MSGs 097 and 100
- IMU STAR OF OPPTY ALIGN (ORB OPS, GNC)
- EXERCISE
- MEAL

MS2 METCALF-LINDENBURGER

- OBSS DOCKED LDRI RCC SURVEY - STBD Ref. MSGs 097 and 100
- OBSS DOCKED LDRI RCC SURVEY - NOSE CAP Ref. MSGs 097 and 100
- MEAL

NOTES

STS-131/19A FD12

REPLANNED

GMT Date 04/16 (106) | W | TDRS E | Z | D/N | ORB | MET Day 011 | STS ATI

MS1 MASTRACCHIO | MS3 WILSON | MS4 YAMAZAKI | MS5 ANDERSON | NOTES

174 | 175 | 176 | 177

00:00 — 01:00 — 02:00 — 03:00 — 04:00 — 11:00 — 12:00 — 13:00 — 14:00

BIAS-XLV-ZVV

MS1 MASTRACCHIO

CWC TRANSFER Transfer 1 CWC to ISS
NOMINAL H2O CNFG
(ORB OPS, ECLS) √MCC for FES Pri A

N2 REPRESS INIT B

B N2 REPRESS USING P/L N2 VLVS
(ORB OPS, ECLS)Steps 1,3-7
MCC will TMBU S/W FDA

MEAL

MS3 WILSON

OBSS DOCKED LDRI RCC SURVEY - STBD
Ref. MSGs 097 and 100

OBSS DOCKED LDRI RCC SURVEY -
NOSE CAP
Ref. MSGs 097 and 100

VIDEO CONVERSION
Ref. MSG 110

MEAL

MS4 YAMAZAKI

TRANSFER OPS
Ref. MDDK Transfer List
and MSG 108

EXERCISE

OBSS DOCKED LDRI RCC SURVEY -
NOSE CAP
Ref. MSGs 097 and 100

MEAL

MS5 ANDERSON

EXERCISE

MEAL

EMU LEMO CONNECTOR VERIF
Ref. MSG 111
Perform procedure for ISS
EMU's 3005, 3009, 3010, and
the Planar HUT at NOD1P4_D

STS-131/19A FD12

REPLANNED

GMT Date 04/16 (106) | W | TDRS E | TDRS Z | DON | ORB | MET Day 011 | STS ATI

CDR POINDEXTER | PLT DUTTON | MS2 METCALF-LINDENBURGER | NOTES

04:00 — 05:00 — 06:00 — 07:00 — 08:00

15:00 — 16:00 — 17:00 — 18:00

177 — 178 — 179

BIAS-XLV-ZVV

CDR: MEAL

PLT: MEAL

MS2: MEAL

OBSS DOCKED LDRI RCC SURVEY - PORT
Ref. MSGs 097 and 100

OBSS DOCKED LDRI RCC SURVEY - PORT
Ref. MSGs 097 and 100

TRANSFER OPS
Ref. MDDK Transfer List
and MSG 108

EXERCISE

SSV OUTRATE - 2

TRANSFER TAGUP
Coordinate with transfer
counterparts

A31p DEVICE CHANGEOUT
(ORB OPS, PGSC)
Steps 2-6, 9-11 (Re-install Floppy Drive)
Transfer ISS Ultrabay HD to FE-5

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

L9 PAYLOAD STATION A/G (two) - OFF
PRIVATE MEDICAL CONFERENCE VIA A/G 2

STS-131/19A FD12

REPLANNED

GMT Date 04/16 (106) | W | TDRS E | TDRS Z | DON/ORB | MET Day 011

STS ATI

BIAS-XLV-ZVV

MS1 MASTRACCHIO

- MEAL
- N2 REPRESS TERM (On MCC GO) [C]
- [C] N2 REPRESS USING P/L N2 VLVS (ORB OPS, ECLS) on MCC go, perform steps 8-13 MCC will TMBU S/W FDA
- EVA TRANSFER TO SHUTTLE (EVA, AIRLOCK CONFIG) Ref. MDDK Transfer List: Items 703 & 704
- On MCC GO: A15 APCU 1 OUTPUT - ON
- On MCC GO: A15 APCU 1 OUTPUT - OFF
- PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

MS3 WILSON

- MEAL
- VIDEO CONVERSION Ref. MSG 110
- AEM UNIT#1 CK (Cue Card)
- AEM UNIT#2 CK (Cue Card)
- MERLIN STATUS CK (Cue Card)
- GLACIER STATUS CK (Cue Card)
- STL STATUS CK (Cue Card)
- PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

MS4 YAMAZAKI

- MEAL
- OBSS DOCKED LDRI RCC SURVEY - PORT Ref. MSGs 097 and 100
- TRANSFER TAGUP Coordinate with transfer counterparts
- PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)
- TRANSFER BRIEF Call down status to MCC
- PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

MS5 ANDERSON

- EVA TRANSFER TO SHUTTLE (EVA, AIRLOCK CONFIG) Ref. MDDK Transfer List: Items 703 & 704
- PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

NOTES

- TFL 199
- MPLM PRESS CHECK
- TFL 184

STS-131/19A FD12

REPLANNED

GMT Date 04/16 (106) | W | TDRS E | Z | D/N | ORB | MET Day 011 | STS ATI

CDR POINDEXTER | **PLT** DUTTON | **MS2** METCALF-LINDENBURGER | NOTES

08:00 — L9 PAYLOAD STATION A/G (two) - OFF
PRIVATE MEDICAL CONFERENCE VIA A/G 2
PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

19:00

09:00 — PRIVATE FAMILY CONFERENCE
Ref. MSG 106, item 7
ISS KU AVAIL (08:29-09:10)
(09:12-09:31)

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

20:00

10:00 — **CREW WAKEUP AT 11/18:00**

21:00

11:00 — SLEEP | SLEEP | SLEEP

22:00

12:00

ORB: 179, 180, 181, 182

BIAS-XLV-ZVV

STS-131/19A FD12

REPLANNED

GMT Date 04/16 (106) | W | TDRS E | Z | D/N | ORB | MET Day 011 | STS ATI | MS1 MASTRACCHIO | MS3 WILSON | MS4 YAMAZAKI | MS5 ANDERSON | NOTES

19:00 — 20:00 — 21:00 — 22:00

08:00 — 09:00 — 10:00 — 11:00 — 12:00

179 — 180 — 181 — 182

BIAS-XLV-ZVV

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

CREW WAKEUP AT 11/18:00

SLEEP

Discovery,

Outstanding work yesterday. Let's get the MPLM in the Payload Bay, and do some late inspecting! Go Navy.

YOUR CURRENT ORBIT IS: 189 X 182 NM

NOTAMS (ADDED ILM)

EDW -	EDT 22R/04L IN USE. EDW 22/04 CLOSED FOR CONSTRUCTION.
EDW -	LAKEBED RWYS RED.
NOR -	LAKEBED RWYS GREEN.
ILM -	DME DIW107 OTS.
FOK -	RWY 06/24 CLOSED.
DOV -	RWY 32 REIL OTS.
FMH -	RWY 23 ALS OTS.
YYT -	TACAN UYT23 AZIMUTH OTS.
YQX -	DME YQX74 OTS.
JTY -	RWY 18 ALS OTS.
MYR -	RWY 18/36 CLOSED FROM 0340 - 0930 GMT.
KKI -	TACAN RIY92 OTS.
MRN -	RWY 20 THRESHOLD DISPLACED. RWY 02/20 LDA = 9085 FT.
PTN -	RWY 14/32 CLOSED.
IKF -	NOT USABLE. NO AGREEMENT.
BEN -	NOT RECOMMENDED/NOT SUPPORTED.

<u>NEXT 2 PLS OPPORTUNITIES:</u>

EDR22R	ORB 176 – 11/03:20	SCT200	7	220/07P10
KSC15	ORB 191 – 12/02:17	FEW025 FEW250	7	150/06P08

<u>OMS TANK FAIL CAPABILITY:</u>

L OMS FAILS: NO
R OMS FAILS: NO

<u>LEAKING OMS PRPLT BURN:</u>

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

<u>OMS QUANTITIES(%)</u>

L OMS	OX = 34.08	R OMS OX = 35.28
	FU = 33.60	FU = 35.21

DELTA V AVAILABLE:

OMS	339 FPS
ARCS (TOTAL ABOVE QTY1)	28 FPS
TOTAL IN THE AFT	367 FPS
ARCS (TOTAL ABOVE QTY2)	58 FPS
FRCS (ABOVE QTY 1)	25 FPS
AFT QTY 1	80 %
AFT QTY 2	42 %

THERE ARE NO FAILURE/IMPACT/WORK AROUNDS FOR TODAY.

Good Morning Naoko and Steph,

We missed talking with you last night, but we know you were very busy with MPLM activities.

Today you only have a few hours of middeck transfer scheduled to pack a handful of items tied to today's activities.

The Transfer List Excel file, FD12_Transfer_List_STS131.xls, locations are:

- Shuttle: **C:\OCA-up\transfer** (KFX machine)
- Station: **K:\OCA-up\transfer**

Transfer Notes

- **Catalytic Reactor Packing:** The Middeck Stowage Team has uplinked an updated Catalytic Reactor packing procedure in MSG112.

FD12 Choreography (in timeline order)

- **Item 48:** Transfer any unused CWC Water Sample Bags to ISS following last CWC fill.
- **Item 703 and 704:** Transfer EMUs 3008 and 3017 back to the middeck.
- **Items 431, 431.3, & 431.4:** Transfer dosimeters following the Dosimeter Stow activity.
- **Item 716:** Transfer NLP Cells 3 Stow Bag following the CGBA-5 NLP CELLS REMOVE activity.
- **Item 721:** Pack Catalytic Reactor for return in Bag C.

NO CHANGE PAGES TODAY!!

FD13 Choreography (in timeline order)

- **Item 713:** Transfer MERLIN return samples to the middeck per the MERLIN PACK activity.
- **Item 51 and 52:** Transfer STS6 and STS7 PGSCs to ISS per PGSC XFER activity.
- **Item 9:** Transfer BPSMU to ISS following P/TV05 Deact activity.
- **Item 702:** Transfer Double Coldbag to middeck per DCB XFER activity.
- **Item 950:** Transfer Imaging Processing Stowage Bag to the middeck for return.

Thanks again for all great work. Let us know if you have any questions.

- The STS-131 Transfer Team

MSG 109 (23-0306) - FD12 CREW CHOICE DOWNLINK

The following times indicate good Shuttle Sband on A/G 2 and ISS Ku for crew choice downlink.

AOS	LOS	Delta (min)	Notes
11/06:47	11/07:09	22	
11/07:18	11/08:04	46	KU 20 second H/O at 07:15:20 KU 20 second H/O at 07:21:49 A/G 20 second H/O at 07:47:28 KU gap from 07:49:52-07:52:12
11/08:28	11/08:46	18	
11/08:55	11/09:47	52	KU 20 second H/O at 09:10:32 A/G 20 second H/O at 09:23:35 KU gap from 09:31:24-09:33:54

Note: Please notify MCC-H 10 minutes prior to the event to allow for ground network configuration.

<u>Copying inspection video to an A31p computer</u>

Requires 40min tapes be used for recording inspection video

1. Acquire the following:
   - Mid-deck (MD) V10 (Naoko's Ascent Video)
   - AVIU (Naoko's Ascent Video at base of ladder)
   - IEEE 1394 "Firewire" cable (In A17, DTV Bag, in "Spare Ziploc" bag)
   - Digital Camcorder Video Power Cable (used for the MD camcorder)

2. Connect power to MD V10
   - Connect IEEE 1394 cable between WORLDMAP A31p and MD V10 (DV IN/OUT port on back of V10 beside batt adapter).

3. Power up MD V10 and insert 40-minute cassette with recorded video.

4. V10 should be found as "new hardware" on the A31p

5. In pop-up window titled, "Digital Video Device"
   - Select "Record Video using Windows Movie Maker"
   - Select ok
   - Movie maker should launch automatically
     - If Movie Maker does not launch automatically
     - Select Start button > Programs > Accessories > Windows Movie Maker
     - In "Windows Movie Maker" window, under "Movie Tasks > "1. Capture Video"
     - Sel "Capture from video device"

6. Under window titled "Video Capture Device"
   - Select Sony DV Device
   - Select Next

7. Under "Captured Video File"
   - For item 1, type "LDRI xxxx" ("LDRI STBD", "LDRI - Nose", "LDRI - Port", as required for tape)
   - For item 2, create new folder "D:\OCA DOWN\LDRI VIDEO" and save captured video at that location.
   - Sel Next

8. Under "Video Setting"
   - Select radio button "Digital Device Format (DV-AVI)"
   - Select Next

9. Under “Capture Method”
   - Select radio button, "Capture the entire tape automatically”
   - Select Next

10. Check “DV capture in progress” window displayed
    - Tape will rewind and then automatically play
    - Tape is captured in real time speed and should automatically stop when video is finished.

11. When tape is finished (preview window video freezes), select “Stop Capture”
    - In “Windows Movie Maker” pop-up notice box, select “Yes” option
    - Import window will pop up and record video to .avi file over the next few minutes.

12. Eject and stow tape cassette.

13. For subsequent tapes:
    - Insert new cassette into V10
    - In “Windows Movie Maker” window, under “Movie Tasks > 1. Capture Video”
      - Sel "Capture from video device"
      - Repeat steps 6 thru 12

BACKGROUND:
Failure #1: During STS-130 EMU Power Harness Assembly (EMUPH) S/N 1042 failed to provide power from the REBA to the Wireless Video System (WVS) on EMU 3004. An investigation found the cause of the failure to be improper assembly of the LEMO connector. Excessive amounts of shielding inside the connector allowed the pins to move independently of the connector housing, causing misalignment with the mating connector.
Failure #2: EMU 3018 returned on STS-130 and was investigated due to multiple comm issues experienced with this suit on multiple flights. The EMU Electrical Harness (EEH) was found to be damaged at the connection to the comm cap. Two of the sockets on the connector that mates to the comm cap were found to be damaged.

OBJECTIVE:
Obtain photographs of the sockets on the EEH connector that interfaces with the comm cap on all three EMUs on board, and the spare HUT. Measure three of the connectors on the EMU Power Harness on all three EMUs on board in order to verify proper assembly.

DURATION:
45 Minutes

Photograph EEH LEMO Connectors

CAUTION
All personal jewelry should be removed prior to beginning work on any EMU interfaces or sealing surfaces.

The following items in Table 1 are required for camera setup:

Table 1.

Nomenclature	Part No.	Serial No.
4GB EVA Flash Card	SEZ33120539-301	
60mm Micro Lens	SED33104062-301	
D2Xs Camera	SEZ33120534-302	
D2Xs Battery	SEZ33120535-302	
SB-800 Flash	SEZ33117229-303	

1. D2Xs CAMERA SETUP
As required, refer to 3.103 D2Xs NOMENCLATURE, all (SODF: ISS PTV: NIKON D2Xs).

1.1 D2Xs Camera Settings
Lens – 60mm Micro
Aperture – Minimum, locked
Focus Mode – A
Focus Limit – FULL
Body Focus Mode – S
√Battery installed
√Flash Card installed
sw Power → ON
Top LCD:
√Battery

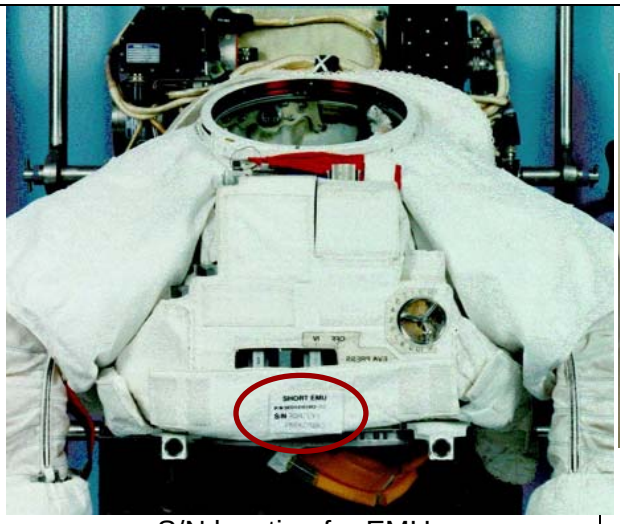
√Frames remaining sufficient
Exposure Compensation (⊡) – '**0.0**'
Mode – '**A**'
f/stop – '**16**'
Meter – Matrix (⁂)
Diopter – Adjust
Frame Rate – S
√BKT – '**0F**'
Rear LCD:
√ISO – '**200**'
√QUAL – '**RAW**'
√WB – '**0**','**A**'
sw AF Area Mode → [[ ]]
√Focus Area – Center
√sw Focus Selector Lock – L

1.2 <u>SB-800 Flash Settings</u>
pb ON/OFF → ON
√MODE – ' ϟ TTL BL '
√Exposure Compensation – '**0EV**'
√Zoom – Auto (No '**M**' displayed above '**Zoom**')
Tilt – Direct

2. Perform steps 2.1 through 2.6 serially for each EMU and HUT ORU:

2.1 If EMU, Helmet ←I→ HUT
If HUT ORU, Neck Ring Cover ←I→ HUT

2.2 Take photo of EMU serial number (for HUT ORU an overall picture is fine).This pairs the EEH connector photos with associated EMU for ground review, reference Figure 1 below.



S/N location for EMU

HUT ORU

Figure 1. – EMU S/N Locations.

2.3 Inspect EEH connector sockets (connection to comm cap) for damage, report any damage to **MCC-H**.
Reference Figure 2 below for EEH connector location and examples of socket damage.

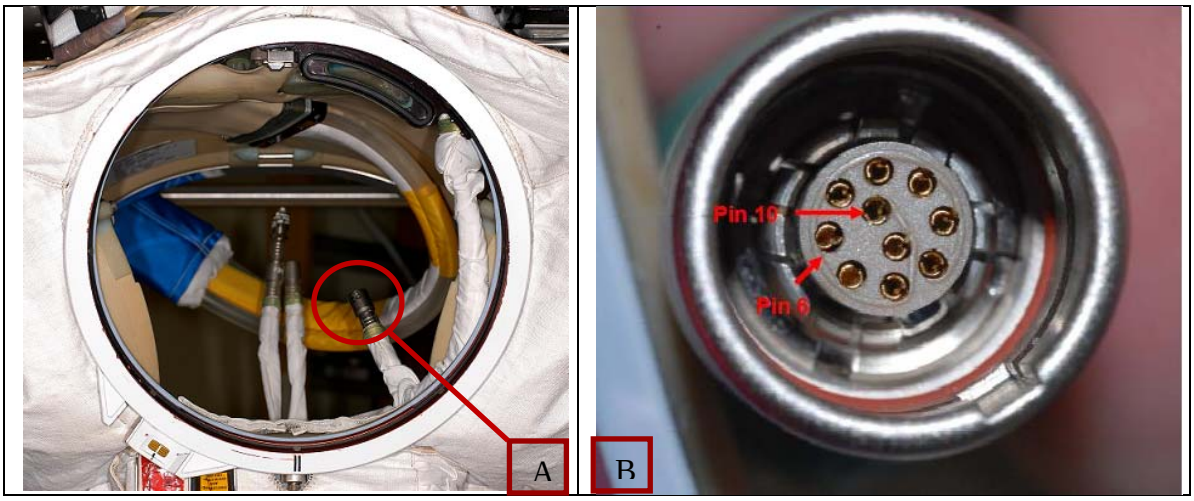


Figure 2.– A. EEH Connector Location.
B. Examples of Socket Damage to Pins 6 and 10.

2.4 Take photos of EEH connector socket (Figure 2-B), taking photos at a slight angle may improve the clarity of the sockets.

2.5 Zoom in on image to verify focus. While viewing picture on the LCD:
2.5.1 pb ENTER → Press
2.5.2 pb Thumbnail ( )→ Press and hold, then
2.5.3 Main Comand Dial → Rotate to zoom in
2.5.4 Use Multi Selector (Thumb Pad) to move around the image

2.6 When photos complete:
If EMU, Helmet →I← HUT
If HUT ORU, Neck Ring Cover →I← HUT

3. Place photos on SSC for downlink.

4. <u>D2Xs CAMERA DEACTIVATION</u>
<u>D2Xs Camera Settings</u>
Mode – '**P**'

5. Restow camera equipment from Table 1 as required.

Inspect EMU Power Harness LEMO Connectors P1 and P4

Use Table 2 to record measurements in the following steps:

Table 2.

	CONNECTOR LENGTH (inches)		
	P1	**P4**	**J5**
EMU 3005			
EMU 3010			
EMU 3009			
SPEC.	≤1.895 inches	≤1.252 inches	≤1.670 inches

6. Retrieve the Caliper located in drawer 5 of the ISS IVA Toolbox.

7. Perform A.2.14 - CALIPER ACCURACY CHECK, all (SODF: IFM: REFERENCE: APPENDIX A: ISS IVA TOOLS).

Perform steps 8 to 31 for EMUs 3005, 3010, and 3009:

8. Unzip thermal cover on back of PLSS.
Affix thermal cover to top of EMU with Velcro.

9. Locate EMU Power Harness P1 connector, reference Figure 3 below.

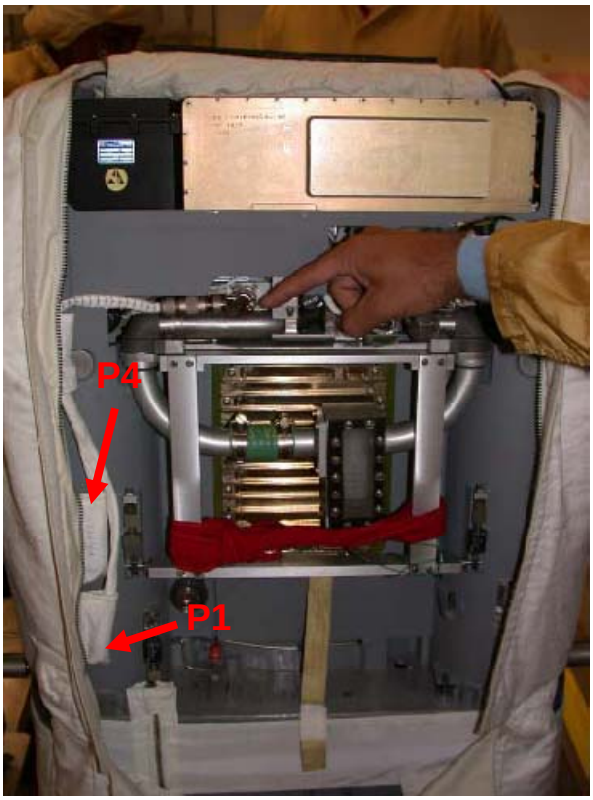


Figure 3.– Locations of P1 and P4 Connectors.

10. Untuck EMU Power Harness (EMUPH) P1 connector from sleeve.

11. Using Caliper measure Length, L, of EMUPH P1 connector (REBA interface), Reference Figure 4 below.

Figure 4.– P1 Connector Overall Length.

12. Record P1 connector length in Table 2.

13. Tuck EMUPH P1 connector back into sleeve.

14. Locate P4 connector of EMUPH, reference Figure 3.

15. Untuck EMUPH P4 connector from sleeve.

16. Using Caliper measure length, L, of EMUPH P4 connector (PCS interface), reference Figure 5 below.

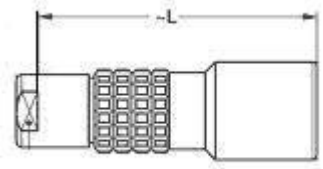


Figure 5.– P4 Connector Overall Length.

17. Record P4 connector length in Table 2.

18. Tuck EMUPH P4 connector back into sleeve.

19. Close thermal cover and zipper.
    Verify finger access to pump priming valve on back of PLSS.

<u>Inspect EMU Power Harness LEMO Connector J5</u>

20. Unzip and unsnap left TMG Tunnel, reference Figure 6 below.

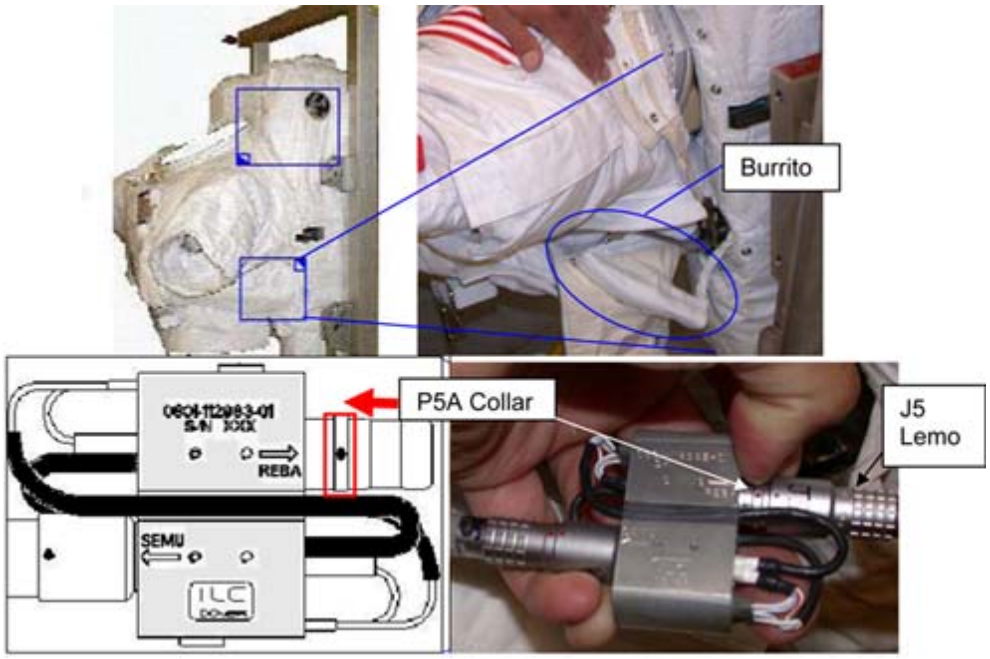


Figure 6. – J5 LEMO Location.

21. Inside the left TMG Tunnel, open the “Burrito” (Velcro pouch) to expose EMU Voltage Regulator.

22. Remove voltage regulator from “Burrito”.

23. Disconnect the EMU Power Harness J5 connector from the voltage regulator using the following technique:
If gap is not visible between P5A and J5, lightly pull out the J5 connector exposing a small gap between the two red dots.
Using fingernail or seal removal tool retract P5A REBA Collar toward voltage regulator while gently pulling EMUPH J5 connector to disconnect.

Reference Figures 7 and 8 below.

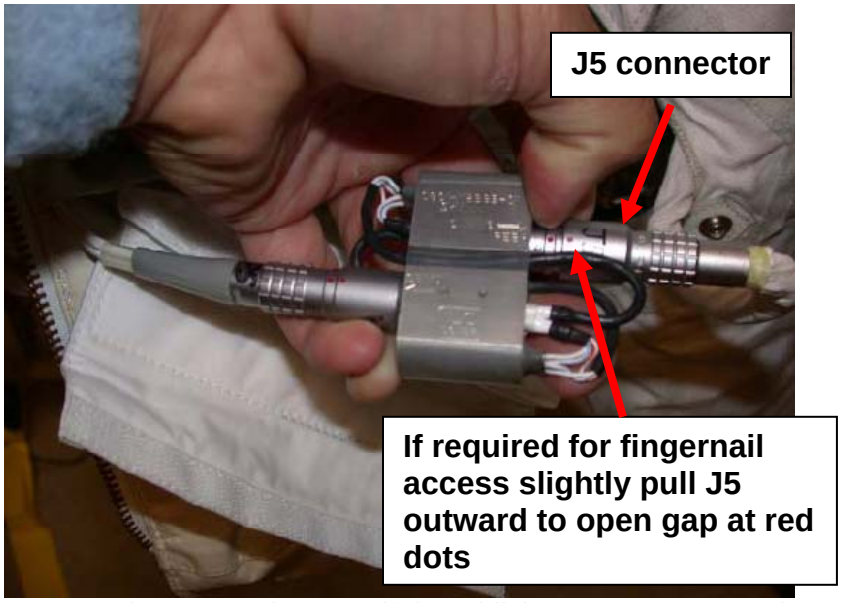


Figure 7.– Voltage Regulator Verify/Establish Gap Between Red Dots.

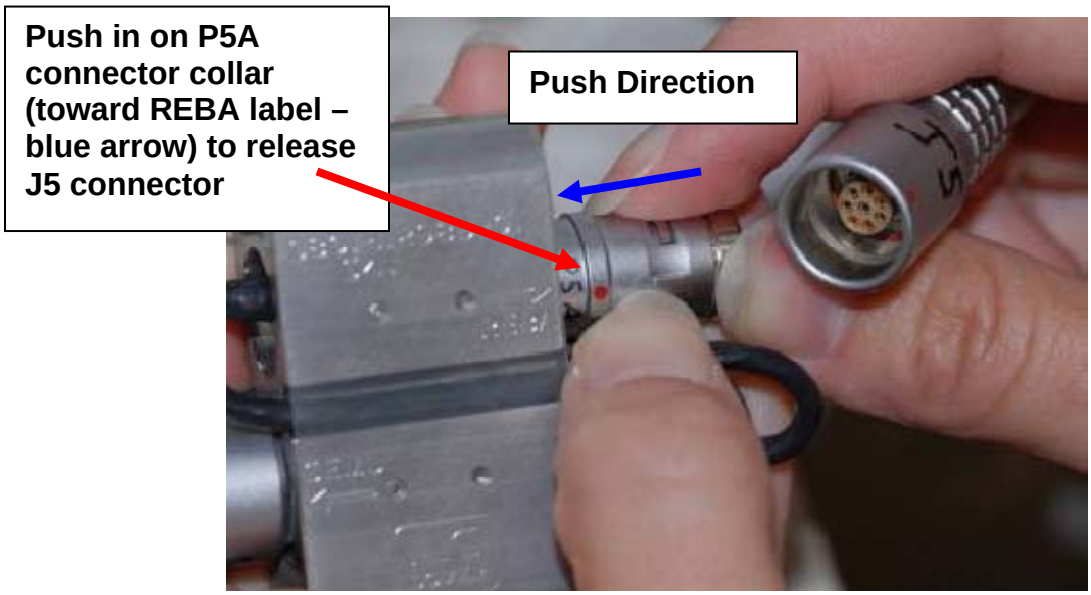


Figure 8.– Voltage Rregulator P5A Disconnected from EMUPH J5.

24. Temporarily stow the voltage regulator in the Burrito.

25. Using Caliper measure length, L, of EMUPH J5 connector (ILCVR interface), reference Figure 9 below.

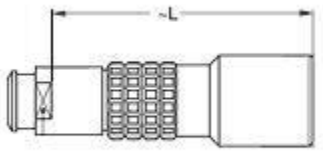


Figure 9.– J5 Connector Overall Length.

26. Record J5 connector length in Table 2.
27. Reconnect EMUPH J5 connector to glove voltage regulator P5A collar.
28. Stow voltage regulator in “Burrito”.
29. Stow “Burrito” in left TMG tunnel.
30. Zip and snap left TMG tunnel.
31. Zip rear TMG thermal cover.
32. Repeat steps 8 to 31 for next EMU.
33. Return Caliper to ISS IVA Toolbox.
34. Report measurements from Table 2 to **MCC-H**.

MD FLOOR STBD 1 (BAG C) – Catalytic Reactor ORU Stowage Instructions:

The following pages contain the instructions for the return stowage configuration of the Catalytic Reactor.

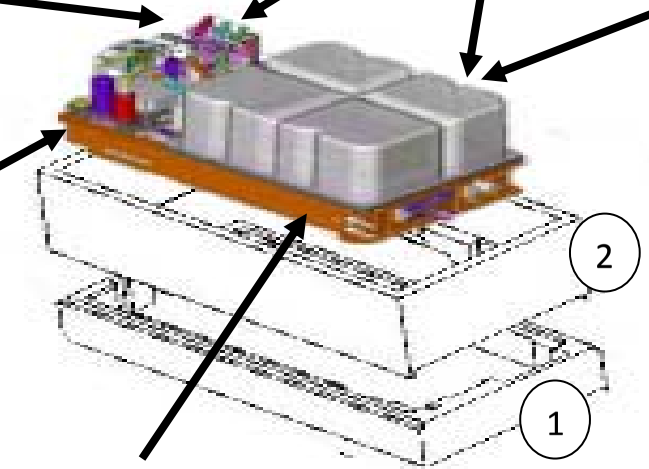
1. Please remove the foam labeled "CCC/Food container" and place this foam into either end of Bag A (RFTA).
2. Once you have retrieved the Catalytic Reactor foam box (Return Item 721) place the ORU in Foam (1). Then place Foam (2) over the ORU.
3. Fill the side voids (3) underneath the ORU frame "lip" with laundry and/or towels as shown below:

RETURN ITEM 721

Caution: Do not place any packing material above lip of ORU frame.

(3) Laundry/Towels

Fill void with small piece of foam between electrical (black) connectors ONLY and (2). These are located below lip.



Caution: Do not place any packing material around/under water QDs

(3) Laundry/Towels

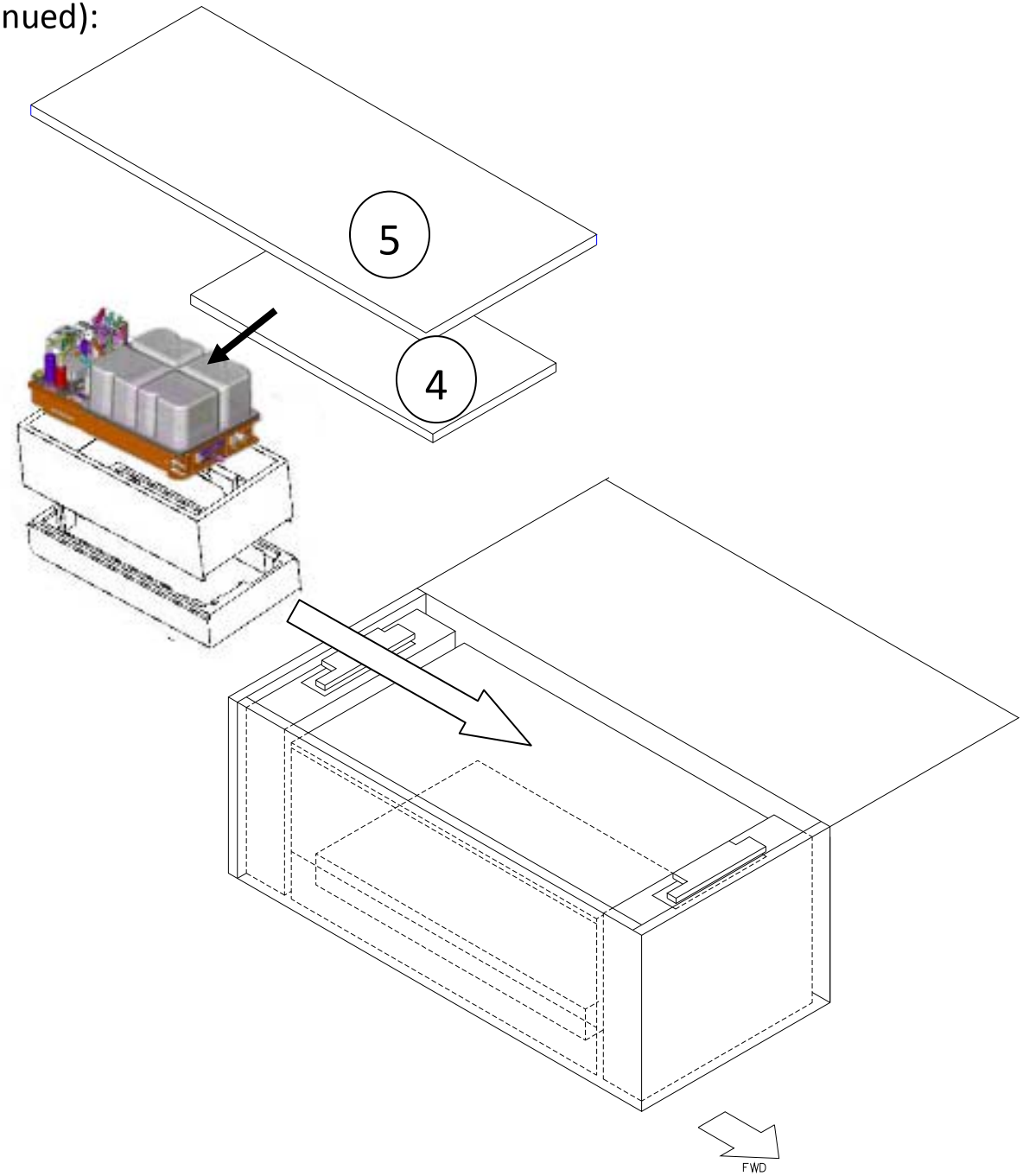
Catalytic Stowage Instructions (Continued):

3. Use the “loose piece” of minicell (white) foam (4) located in Bag C to replace the lost foam lid. Cut foam piece to fit directly over the thermal enclosure box (white cover) ONLY.

4. Place ORU/foam configuration in Bag C (as shown on pictorial)

5. Place final foam piece (5) on top of bag

6. Report completion of plan.



2.4.202 A31p 60 GB HARD DRIVE CHANGEOUT

(POC/E7 - ALL/FIN 3) Page 1 of 2 pages

OBJECTIVE:

This procedure is intended for mandatory A31p 60 GB Hard Drive changeouts.

On MCC GO

CAUTION
A31p 60 GB Hard Drive is sensitive to physical shock. Incorrect handling can cause damage and permanent loss of data.

A31p

1. Exit all applications.
2. Perform shut down.
   sel ► Start ► Shut Down ► Shut down ► OK
3. ✓A31p Laptop power – Off
4. Remove all PCMCIA cards.
5. Close A31p Laptop cover.
6. Turn A31p Laptop over so that bottom side faces up.
7. For location of A31p 60 GB Hard Drive refer to Figure 1.
   A31p 60 GB Hard Drive is attached to Hard Drive cover.

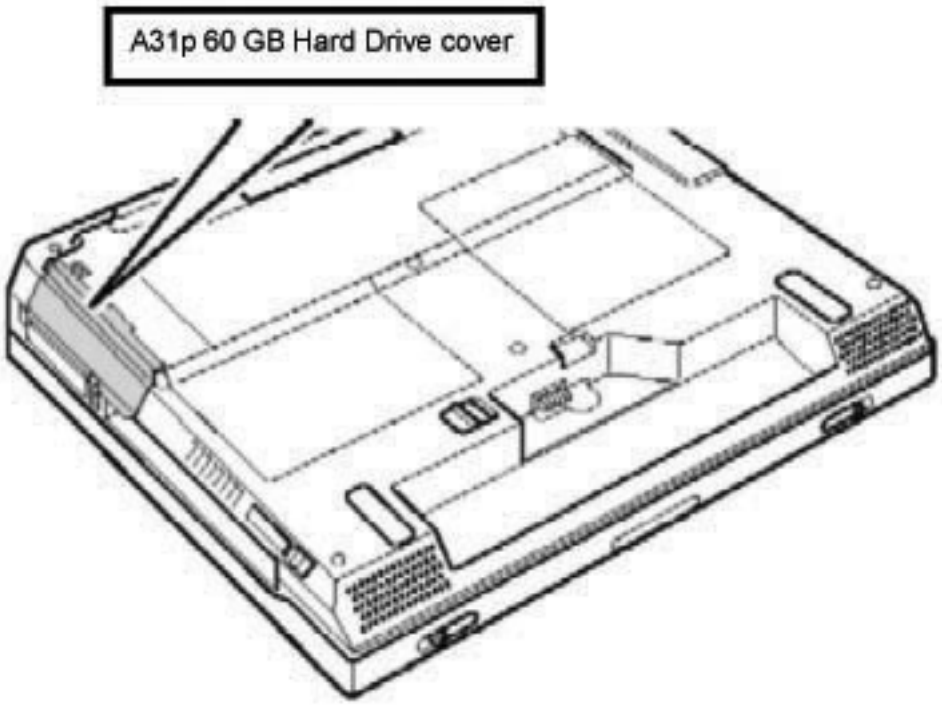


Figure 1. A31p 60 GB Hard Drive Location.

8. Refer to Figure 2 for removing A31p 60 GB Hard Drive.

Gently pull cover and A31p 60 GB Hard Drive out from the A31p Laptop to remove from slot.

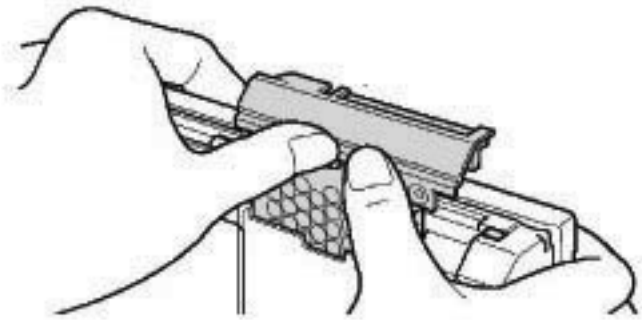


Figure 2. A31p 60 GB Hard Drive Removal.

9. Remove cover from A31p 60 GB Hard Drive.
   Refer to Figure 3.

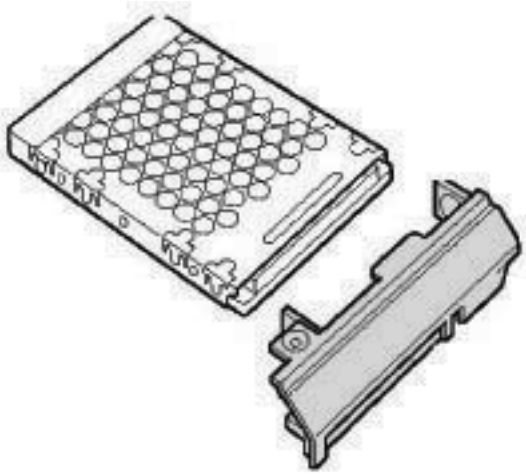


Figure 3. A31p 60 GB Hard Drive Cover Removal.

10. Place removed A31p 60 GB Hard Drive into Ziplock Bag before stowing.
11. Visually inspect pins on spare A31p 60 GB Hard Drive to ensure they are not bent or broken.
12. Attach cover to new A31p 60 GB Hard Drive.
13. Insert A31p 60 GB Hard Drive into Hard Drive slot.
14. Flip A31p Laptop over to original position.
    Reinsert PCMCIA cards.
15. A31p Laptop pwr button → On
16. Report procedure complete to MCC-H.