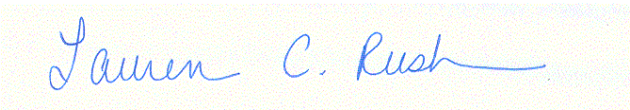
STS-131/19A

FD 03 Execute Package

MSG	Page(s)	Title
004A	1 - 13	FD03 Flight Plan Revision
005	14 - 15	FD03 Mission Summary
006	16 - 17	P1 FHRC P-Clamp Release
007	18	STS-131 (19A) Overview EVA Timelines - 3 EVAs
008	19 - 20	19A EVA 1 Updates
009	21 - 23	FD03 Transfer Message
010	24 - 25	Day of Rendezvous Data (TIGs & Relmo)
011	26 - 27	Exp 23 and STS-131/19A Emergency Response Agreements
012A	28 - 29	STS-131/19A H2O Ops Cue Card
013	30	EVA Tool Relocate to A/L Toolbox

Approved by FAO:
L. Rush



Last Updated: Apr 7 2010 12:18 AM GMT
***JEDI** (**J**oint **E**xecute package **D**evelopment and **I**ntegration), v3.0*

SYSTEM #	FAILURE	IMPACT	WORK AROUND
GNC	O3 FCR Pants ripped on Truck Egress in MCC parking lot prior to shift	O3 FCR unable to ingress MCC for start of shift.	O3 MPSR promoted to FCR for handover. O3 FCR will acquire backup pants and re-RNDZ with MCC.

An AR has been submitted and the MER is evaluating the failure.

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MSG INDEX

MSG NO.	TITLE
004	FD03 Flight Plan Revision
005	FD03 Mission Summary
006	P1 FHRC P-Clamp Release (23-0187)
007	19A EVA 1 Overview Timeline (23-0190)
008	19A EVA 1 Updates (23-0189)
009	FD03 Transfer Message (23-0191)
010	Day of Rendezvous Data (TIGs & Relmo)
011	Exp 23 and STS-131/19A Emergency Response Agreements (23-0180)
012	STS-131/19A H2O Ops Cue Card
013	EVA Tool Relocate to A/L Toolbox (23-0186)

1. Post Sleep Cryo Config

   For today's Post-Sleep cryo config, O2 Tanks 1 and 2 and H2 Tanks 2 and 4 will be active.

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

   A11 CRYO TK4 HTRS O2 A,B (two) - OFF

2. Video Playback - When time is available, please temporarily transfer the ET HANDHELD VIDEO G1 tapes, ET FORWARD WINDOW MINI-CAM V10 tapes, and the DOCKING V10 tapes to ISS. Time will later be scheduled to downlink these tapes via ISS assets.

   Reminder to use the 40 minute tapes in the VTR when recording docking video.

3. EVA - Due to the recent discussion of the EVA plasma hazard, all EVA ops outboard of the SARJ have been canceled for STS-131 (19A) including P6 battery prep. MSG 23-0189 (131-008) contains P&Is to the EVA 1 procedure to reflect the change. MSG 23-0190 (131-007) is an updated set of EVA Overview timelines and MSG 23-0187 (131-006) is an additional cuff checklist page showing the location of the P-Clamp bolts. MSG 23-0186 (131-013) contains a list of tools that will be relocated to the external toolboxes as a get-ahead during the EVAs.

4. Replace pages 2-6, 2-8 and 3-20 through 3-29.

REPLANNED

FD02

GMT 04/06/10 (096)
β = −27
MET Day 001

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

STS-131

CDR	POINDEXTER	SLEEP; ^MNVR FD03 POST SLEEP; IMU; GRPB; PWRUP; NC4^ ISS RNDZ OPS
PLT	DUTTON	SLEEP; POST SLEEP; GRPB; PWRUP; ISS RNDZ OPS
MS1	MASTRACCHIO	SLEEP; POST SLEEP; WASTE; INIT; POST SLEEP; WASTE; TERM; POST SLEEP; EMU$
MS2	METCALF-LINDENBURGER	SLEEP; POST SLEEP; OIU; APCU*; POST SLEEP; APCU@; MCIU; POST SLEEP; TRDR^; POST SLEEP; EXER -CISE
MS3	WILSON	SLEEP; LOG; POST SLEEP; ISS RNDZ OPS
MS4	YAMAZAKI	SLEEP; LOG; POST SLEEP; SSV-3; MDK; POST; SLEEP
MS5	ANDERSON	SLEEP; LOG; POST SLEEP; COND CWC S/U; POST SLEEP; EXERCISE; EMU$

DAY/NIGHT

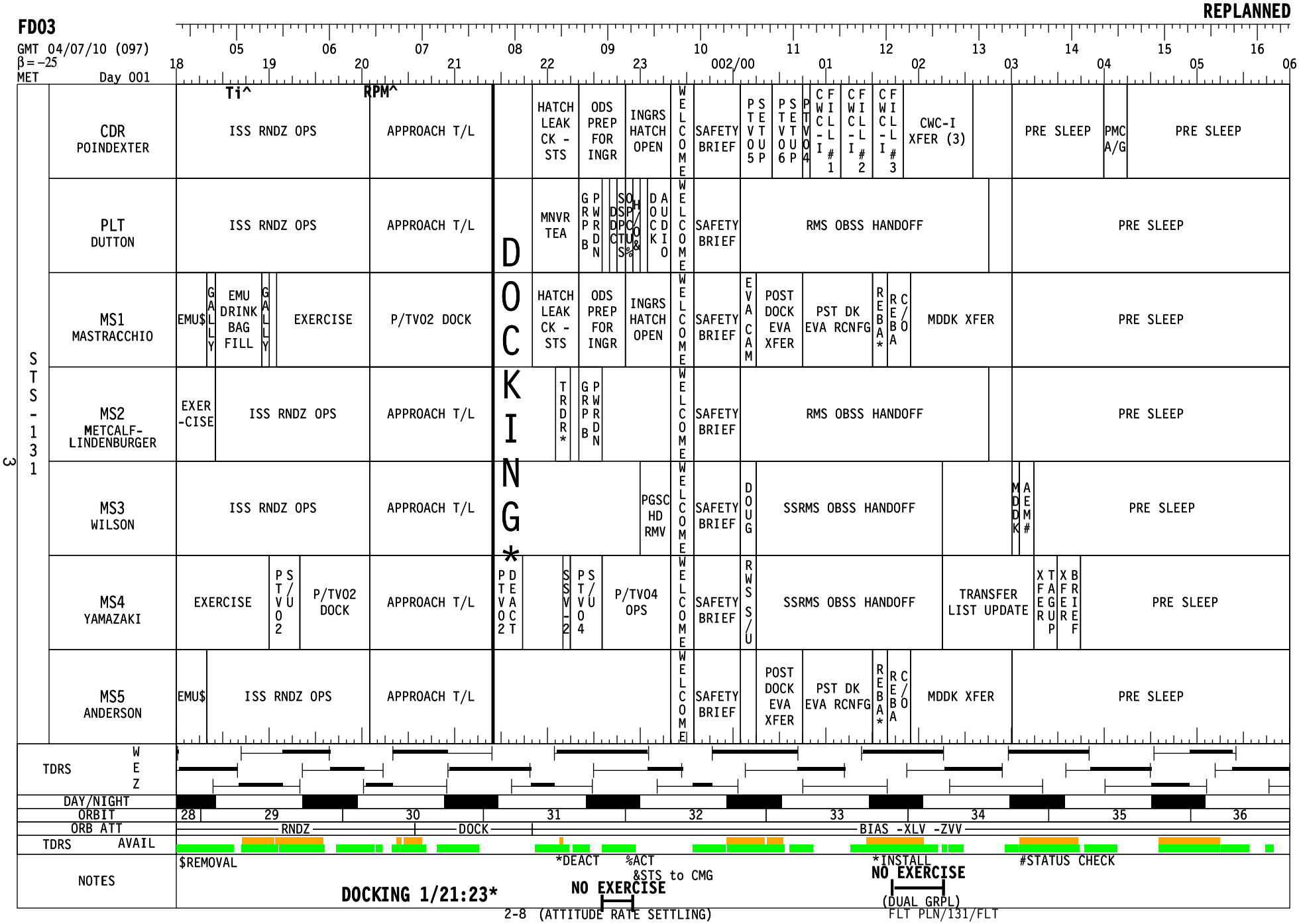
ORBIT: 21 22 23 24 25 26 27 28

TDRS: W E Z

ATTITUDE: -ZLV -XVV; BIAS -ZLV -YVV; RNDZ

*ACT @DEACT ^ACT REMOVAL$

NOTES


REPLANNED
FD03
GMT 04/07/10 (097)
β = −25
MET Day 001
05 06 07 08 09 10 11 12 13 14 15 16
18 19 20 21 22 23 002/00 01 02 03 04 05 06
STS-131
CDR POINDEXTER
ISS RNDZ OPS
Ti^
APPROACH T/L
RPM^
HATCH LEAK CK - STS
ODS PREP FOR INGR
INGRS HATCH OPEN
WELCOME
SAFETY BRIEF
PTVO5 SETUP
PTVO6 SETUP
PTVO4
CWC-I FILL #1
CWC-I FILL #2
CWC-I FILL #3
CWC-I XFER (3)
PRE SLEEP
PMC A/G
PRE SLEEP
PLT DUTTON
ISS RNDZ OPS
APPROACH T/L
DOCKING*
MNVR TEA
GRPB PWRDN
DDCTS
SOPCTUS
H/O&
DOCK AUDIO
WELCOME
SAFETY BRIEF
RMS OBSS HANDOFF
PRE SLEEP
MS1 MASTRACCHIO
EMU$
GALLY
EMU DRINK BAG FILL
GALLY
EXERCISE
P/TVO2 DOCK
HATCH LEAK CK - STS
ODS PREP FOR INGR
INGRS HATCH OPEN
WELCOME
SAFETY BRIEF
EVA CAM
POST DOCK EVA XFER
PST DK EVA RCNFG
REBA*
REBA C/O
MDDK XFER
PRE SLEEP
MS2 METCALF-LINDENBURGER
EXER -CISE
ISS RNDZ OPS
APPROACH T/L
TRDR*
GRPB PWRDN
WELCOME
SAFETY BRIEF
RMS OBSS HANDOFF
PRE SLEEP
MS3 WILSON
ISS RNDZ OPS
APPROACH T/L
PGSC HD RMV
WELCOME
SAFETY BRIEF
DOUG
SSRMS OBSS HANDOFF
MDDK
AEM#
PRE SLEEP
MS4 YAMAZAKI
EXERCISE
PTVO2 S/U
P/TVO2 DOCK
APPROACH T/L
PTVO2 DEACT
SSV-2
PTVO4 S/U
P/TVO4 OPS
WELCOME
SAFETY BRIEF
RWS S/U
SSRMS OBSS HANDOFF
TRANSFER LIST UPDATE
XFER TAGUP
XFER BRIEF
PRE SLEEP
MS5 ANDERSON
EMU$
ISS RNDZ OPS
APPROACH T/L
WELCOME
SAFETY BRIEF
POST DOCK EVA XFER
PST DK EVA RCNFG
REBA*
REBA C/O
MDDK XFER
PRE SLEEP
TDRS W E Z
DAY/NIGHT
ORBIT 28 29 30 31 32 33 34 35 36
ORB ATT RNDZ DOCK BIAS -XLV -ZVV
TDRS AVAIL
NOTES
$REMOVAL
*DEACT
%ACT
&STS to CMG
*INSTALL
#STATUS CHECK
DOCKING 1/21:23*
NO EXERCISE
2-8 (ATTITUDE RATE SETTLING)
NO EXERCISE
(DUAL GRPL)
FLT PLN/131/FLT

STS-131/19A FD03

REPLANNED

GMT Date 04/06 (096) | W | TDRSE | Z | D/N | ORB | MET Day 001 | STS ATI | CDR POINDEXTER | PLT DUTTON | MS2 METCALF-LINDENBURGER | NOTES

12:00 – 13:00 – 14:00 – 15:00 – 16:00

23:00 – 00:00 – 01:00 – 02:00

24 – 25 – 26 – 27

-ZLV -XVV

BIAS -ZLV -YVV

SLEEP | SLEEP | SLEEP

FD03 EZ ACTIVITIES:
TEPC (ORB OPS, CREW SYSTEMS)
Check Status
OCAC Filter Inspection
Hard reboot all PGSCs not shut down overnight, except: STS1 (OCA ROUTER), STS5 (RPOP2) and STS6 (WLES)

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

< FUT MNVR INIT (1/14:20 - Supply/Waste Water Dump)

TRANSITION to RNDZ C/L at MET 1/15:45

IMU STAR OF OPPTY ALIGN (ORB OPS, GNC)

PRIORITY PWRUP GRP B (ORB PKT, PRIOR PWRDN) Steps 12 (IMU 3),6 (Triple G2),5 | PRIORITY PWRUP GRP B (ORB PKT, PRIOR PWRDN) Steps 12 (IMU 3),6 (Triple G2),5 | SSP1 OIU PWR - OIU 1 ON (tb-UP)
On MCC GO: A15 APCU 1 OUTPUT - ON
CONV - ON

RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L) | RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L) | POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

TFL 199

MPLM PRESSURE CHECK

STS-131/19A FD03

REPLANNED

GMT Date 04/06 (096) | W | TDRSE | Z | D/N | ORB | MET Day 001 | STS ATI

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

12:00 – 13:00 – 14:00 – 15:00 – 16:00

23:00 – 00:00 – 01:00 – 02:00

24 – 25 – 26 – 27

-ZLV -XVV

BIAS -ZLV -YVV

MS1 MASTRACCHIO	MS3 WILSON	MS4 YAMAZAKI	MS5 ANDERSON	NOTES
SLEEP	SLEEP	SLEEP	SLEEP	
POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	SLEEP LOGBOOK (SDBI 1634)	SLEEP LOGBOOK (SDBI 1634)	SLEEP LOGBOOK (SDBI 1634)	
	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
SUPPLY/WASTE WATER DUMP (Waste Init) (ORB OPS, ECLS) Steps E,G. MCC will perform step B. Dump waste tank to 5%. Nozzle open time ~ 25 minutes.				UPDATE H2O WASTE DUMP QTY
POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)				
SUPPLY/WASTE WATER DUMP (Waste Term) (ORB OPS, ECLS) Step I. MCC will perform step K.				
POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)			SHUTTLE CONDENSATE COLLECTION (ORB OPS, ECLS) Perform SETUP using hardware in MF57C	
	RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)		POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	

5

STS-131/19A FD03

REPLANNED

GMT Date 04/07 (097)	W	T D R S E Z	D / N	O R B	MET Day 001	STS ATT	CDR POINDEXTER	PLT DUTTON	MS2 METCALF-LINDENBURGER	NOTES
					16:00		RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)	RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) On MCC GO: A15 APCU 1 CONV - OFF OUTPUT - OFF L17 Check MCIU filter screen POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	TFL 192
03:00				27					On MCC GO: TRIDAR ACTIVATION (Cue Card) POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
					17:00		< NC4 TIG (01/17:14:13)			
04:00				28					EXERCISE	
					18:00	RNDZ				
05:00							< Ti TIG (01/18:45:19)		RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)	
				29	19:00					
06:00				30	20:00					

STS-131/19A FD03

REPLANNED

GMT Date 04/07 (097) | W | TDRSE | Z | D/N | ORB | MET Day 001 | STS ATT

MS1 MASTRACCHIO	MS3 WILSON	MS4 YAMAZAKI	MS5 ANDERSON	NOTES
POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
		SSV OUTRATE - 3 MERLIN STATUS CK (Cue Card) GLACIER STATUS CK (Cue Card) STL STATUS CK (Cue Card) POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	EXERCISE	
EMU REMOVAL (EVA, AIRLOCK CONFIG)			EMU REMOVAL (EVA, AIRLOCK CONFIG)	
GALLEY OVERNIGHT CONFIG (ORB OPS, ECLS) DIDB FILL Fill 6 DIDBs from galley with 32oz cold iodinated water. Stow in EVA Sys Xfer Bag.		EXERCISE	RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)	
GALLEY MORNING CONFIG (ORB OPS, ECLS)		P/TV02 DOCK (P/TV, SCENES) SETUP		
EXERCISE		P/TV02 DOCK (P/TV, SCENES) OPS, Items 1-3		

Time scale: 03:00, 04:00, 05:00, 06:00; 16:00, 17:00, 18:00, 19:00, 20:00

Orbits: 27, 28, 29, 30

RNDZ

7

STS-131/19A FD03

REPLANNED

GMT Date 04/07 (097) | W | TDRSE | Z | D/N | ORB | MET Day 001 | STS ATT

CDR POINDEXTER	PLT DUTTON	MS2 METCALF-LINDENBURGER	NOTES
RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)	RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)	RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)	
APPROACH (Cue Card)	APPROACH (Cue Card)	APPROACH (Cue Card)	

RNDZ

DOCK

DOCKING 1/21:23 - RETURN TO FLIGHT PLAN

B In Step 3 of G2 SET CONTRACTION √MCC or pause ~4 min (DAP Settling) DAP: as req'd

CDR POINDEXTER	PLT DUTTON	MS2 METCALF-LINDENBURGER	NOTES
POST DOCKING HATCH LEAK CHECK (RDNZ, APDS)	MNVR (TRK) BIAS -XLV -ZVV (Mated TEA) TG=2 BV=5 P=161.82 Y=0 OM=187.09 Init TRK, DAP: FREE > 2 sec, then DAP: A12/AUTO/VERN	TRIDAR DEACTIVATION (Cue Card)	
AIRLOCK PREP FOR INGRESS - AIRLOCK FAN ACTIVE (RNDZ, APDS)	When MNVR complete and Rates damped: PRIORITY PWRDN GRP B (ORB PKT, PRIOR PWRDN) Step 6 (Single G2) B, Step 12 (IMU 3) 06 S TRK PWR -Z - OFF	When MNVR complete and Rates damped: PRIORITY PWRDN GRP B (ORB PKT, PRIOR PWRDN) Step 6 (Single G2) D, Step 12 (IMU 3) 06 S TRK PWR -Z - OFF	TFL 184
JOINT OPS: 2.104 HATCH OPENING AND SHUTTLE/ISS DUCT INSTALL Perform steps 2-11 and 14-15 MCC-H will perform steps 1, 12-13 and 16-18	When ISS is GO for deadband collapse, DAP: B13 SSPTS ODS CONNECTOR VERIF C SSPTS OPCU ACTIVATION D When ISS is GO for attitude cntrl,DAP:FREE DAP A12/FREE/VERN Reload DAP B12 JOINT OPS: 6.109 HARDLINE ICOM AUDIO Steps 1,5,6	C SSPTS ODS CONNECTOR VERIF A15 ODS MATE X1,X2 (two) - ON √MCC then - OFF D On MCC GO: A15 OPCU 1,2 CONV (two) - ON R1 MN BUS TIE B - ON (tb-ON) C - ON (tb-ON)	NO EXERCISE (ATT RATES SETTLING)
WELCOME	WELCOME	WELCOME	
SAFETY BRIEFING	SAFETY BRIEFING	SAFETY BRIEFING	

BIAS-XLV-ZVV

07:00 08:00 09:00 10:00

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

30 31 32

8

STS-131/19A FD03

REPLANNED

GMT Date 04/07 (097) | W | TDRSE | Z | D/N | ORB | MET Day 001 | STS ATT

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

20:00 — RNDZ — DOCK — BIAS-XLV-ZVV

EXERCISE

P/TV02 DOCK
(P/TV, SCENES)
OPS, Items 1-3

RENDEZVOUS TIMELINE
(RNDZ, RENDEZVOUS T/L)
APPROACH (Cue Card)

P/TV02 DOCK
(P/TV, SCENES) OPS, Items 1-3
APPROACH (Cue Card)

RENDEZVOUS TIMELINE
(RNDZ, RENDEZVOUS T/L)
APPROACH (Cue Card)

07:00 — 30

21:00

DOCKING 1/21:23 - RETURN TO FLIGHT PLAN

P/TV02 DOCK
(P/TV, SCENES)
DEACTIVATION

08:00 — 31

POST DOCKING HATCH LEAK CHECK
(RDNZ, APDS)

22:00

SSV OUTRATE - 2
P/TV04 INGRESS/EGRESS
(P/TV, SCENES)
SETUP

AIRLOCK PREP FOR INGRESS -
AIRLOCK FAN ACTIVE
(RNDZ, APDS)

09:00

P/TV04 INGRESS/EGRESS
(P/TV, SCENES)
OPS
Ingress, Item 1

NO EXERCISE
(ATT RATES
SETTLING)

JOINT OPS: 2.104 HATCH OPENING AND
SHUTTLE/ISS DUCT INSTALL
Perform steps 2-11 and 14-15
MCC-H will perform steps 1,
12-13, and 16-18

23:00

A31p DEVICE CHANGEOUT
(ORB OPS, PGSC) Steps 2-7, 11
Note: As you face the keyboard, it's
the Ultrabay drive on the left.
Transfer Ultrabay HD to FE-5

32

WELCOME | WELCOME | WELCOME | WELCOME

10:00

SAFETY BRIEFING | SAFETY BRIEFING | SAFETY BRIEFING | SAFETY BRIEFING

00:00

6

STS-131/19A FD03

REPLANNED

GMT Date 04/07 (097) | W | TDRSE | Z | D/N | ORB | MET Day 002 | STS ATI

CDR POINDEXTER	PLT DUTTON	MS2 METCALF-LINDENBURGER	NOTES
SAFETY BRIEFING	SAFETY BRIEFING	SAFETY BRIEFING	
P/TV05 ISS INTERNAL OPS (HC) (P/TV, SCENES) SETUP	OBSS HANDOFF FROM SSRMS TO SRMS (PDRS, OBSS NOMINAL)	OBSS HANDOFF FROM SSRMS TO SRMS (PDRS, OBSS NOMINAL)	
P/TV06 ROBOTICS (P/TV, SCENES) SETUP			
P/TV04 INGRESS/EGRESS (DEACTIVATION) (P/TV, SCENES)			
CWC-I FILL #1 (ORB OPS, ECLS) Perform Parts D & E Ref. MSG 012			
CWC-I FILL #2 (ORB OPS, ECLS) Perform Parts D & E Ref. MSG 012			
CWC-I FILL #3 (ORB OPS, ECLS) Perform Parts D & E Ref. MSG 012			
CWC-I TRANSFER Transfer 3 CWC-Is to ISS			NO EXERCISE WHILE OBSS GRAPPLED BY RMS & SSRMS
PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) √HUM SEP for H2O accumulation	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	

Time scale: 11:00, 12:00, 13:00, 14:00; Day 002: 00:00, 01:00, 02:00, 03:00, 04:00

ORB: 32, 33, 34, 35

STS ATI: BIAS-XLV-ZVV

STS-131/19A FD03

REPLANNED

GMT Date 04/07 (097) | W | TDRSE | Z | D/N | ORB | MET Day 002 | STS ATT

11:00 | 12:00 | 13:00 | 14:00

ORB: 32, 33, 34, 35

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

STS ATT: BIAS - XLV - ZVV

MS1 MASTRACCHIO

SAFETY BRIEFING

TRANSFER OPS
Transfer EVA Camera Viewfinders
Ref. Middeck Transfer List:Item1
POST DOCKING EVA TRANSFER
(EVA, AIRLOCK CONFIG)
Ref. Middeck Transfer List:
Items 2, 3, & 4

POST-DOCKING EVA RECONFIG
(EVA, AIRLOCK CONFIG)

EVA SYS: 1.307 REBA INSTALLATION/
REMOVAL Perform INSTALLATION
Ref. CONSUMABLES TRACKING CC
EVA SYSTEMS: 1.403 REBA POWERED
HARDWARE CHECK

TRANSFER OPS
Ref. Middeck Transfer List
and MSG 009

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

MS3 WILSON

SAFETY BRIEFING

POC: 2.7.501 DOUG STARTUP
PROCEDURE Step 1
ROBOTICS: 1.100 OBSS UNBERTH &
HANDOFF

MERLIN STATUS CK (Cue Card)
GLACIER STATUS CK (Cue Card)
STL STATUS CK (Cue Card)
AEM UNIT#1 CK (Cue Card)
AEM UNIT#2 CK (Cue Card)
PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

MS4 YAMAZAKI

SAFETY BRIEFING

RWS SETUP
Adjust RWS restraints
ROBOTICS: 1.100 OBSS UNBERTH &
HANDOFF

DAILY TRANSFER LIST UPDATE
Ref. Middeck and MPLM
Transfer Lists & MSG 009

TRANSFER TAGUP
Coordinate with transfer
counterparts

TRANSFER BRIEF
Call down status to MCC

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

MS5 ANDERSON

SAFETY BRIEFING

POST DOCKING EVA TRANSFER
(EVA, AIRLOCK CONFIG)
Ref. Middeck Transfer List:
Items 2, 3, & 4

POST-DOCKING EVA RECONFIG
(EVA, AIRLOCK CONFIG)

EVA SYS: 1.307 REBA INSTALLATION/
REMOVAL Perform INSTALLATION
Ref. CONSUMABLES TRACKING CC
EVA SYSTEMS: 1.403 REBA POWERED
HARDWARE CHECK

TRANSFER OPS
Ref. Middeck Transfer List
and MSG 009

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

NOTES

NO EXERCISE
WHILE OBSS
GRAPPLED BY
RMS & SSRMS

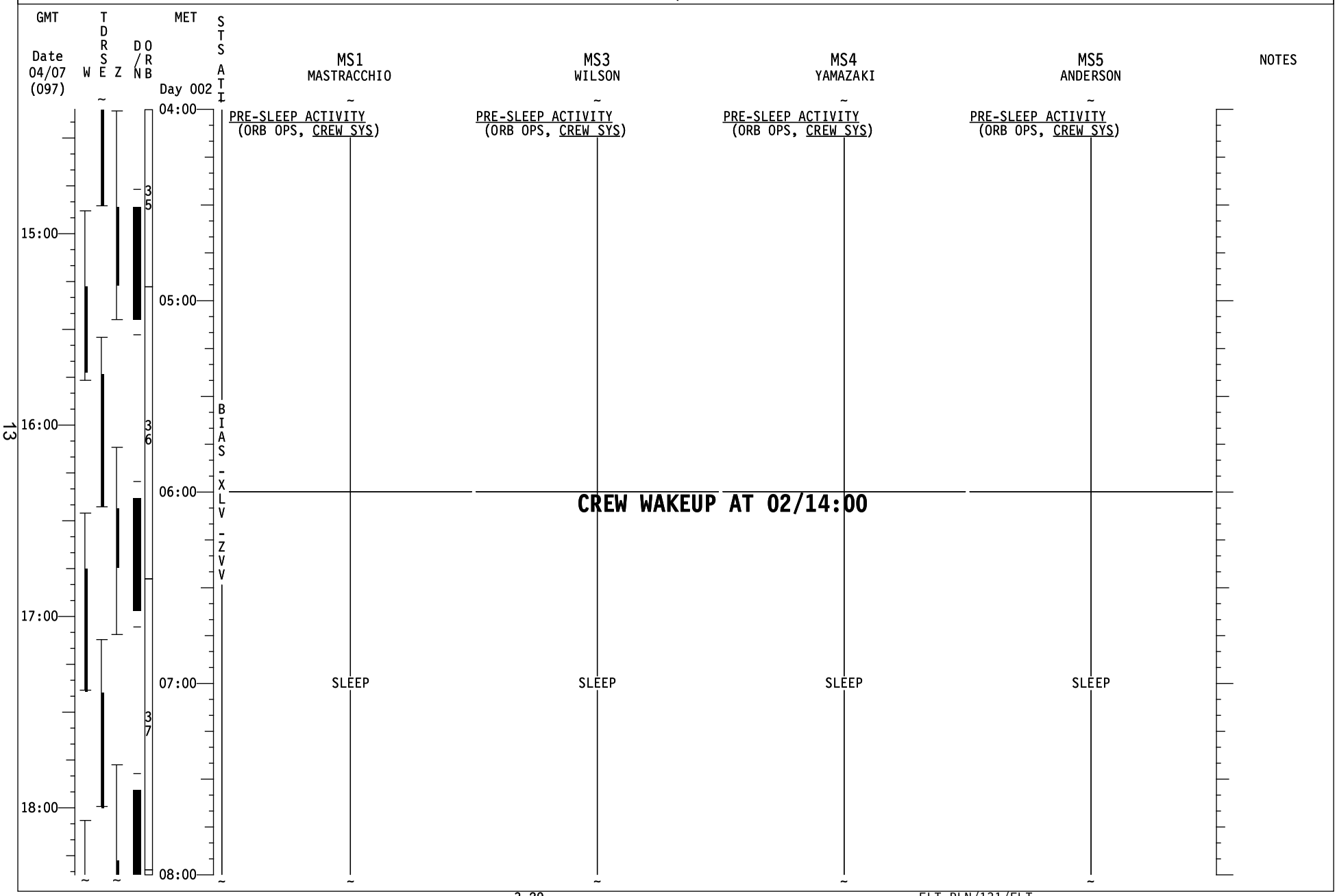
STS-131/19A FD03

REPLANNED

GMT Date 04/07 (097)	W	TDRSE	Z	D/N	ORB	MET Day 002	STS ATT	CDR POINDEXTER	PLT DUTTON	MS2 METCALF-LINDENBURGER	NOTES
						04:00		L9 PAYLOAD STATION A/G (two) - OFF PRIVATE MEDICAL CONFERENCE VIA A/G 2	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) √HUM SEP for H2O accumulation	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
					35			PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
15:00											
						05:00					
16:00					36		BIAS-XLV-ZVV				
						06:00			**CREW WAKEUP AT 02/14:00**		
17:00											
					37	07:00		SLEEP	SLEEP	SLEEP	
18:00											
						08:00					

STS-131/19A FD03

REPLANNED



Discovery,

Looks like a great day for a Rendezvous! We know the folks aboard ISS are looking forward to your arrival, and we're looking forward to seeing your smiling faces on downlink at last.

YOUR CURRENT ORBIT IS: 182 X 173 NM

NOTAMS:

EDW -	TEMP RWY IN USE. PERM RWY CLOSED FOR CONSTRUCTION.
EDW -	LAKEBED RWYS RED.
NOR -	LAKEBED RWYS GREEN.
FOK -	RWY 06/24 CLOSED.
DOV -	RWY 32 REIL OTS.
FMH -	RWY 23 ALS OTS.
YYT -	TACAN UYT23 AZIMUTH OTS.
YQX -	TACAN YQX74 AZIMUTH OTS.
JTY -	RWY 18 ALS OTS.
MYR -	RWY 18/36 CLOSED FROM 0340 - 0930 GMT.
IKF -	NOT USABLE. NO AGREEMENT.
BEN -	NOT RECOMMENDED/NOT SUPPORTED.

NEXT 2 PLS OPPORTUNITIES:

EDT04L	ORB 33 – 2/01:13	SKC	7	050/4P6
EDT22R	ORB 48 – 3/00:02	SKC	7	VRB03

OMS TANK FAIL CAPABILITY:

PRE NC-4:
L or R OMS FAILS: YES; SEE OOP WINDOW BELOW

POST NC-4:
L or R OMS FAILS: NO

LEAKING OMS PRPLT BURN:

PRE NC-4:
L or R OMS LEAK: BURN OOP AN + 79 <= TIG <= AN + 23

POST NC-4
L or R OMS LEAK: ALWAYS BURN RETROGRADE

OMS QUANTITIES(%)

PRE NC-4:
L OMS OX = 37.62 R OMS OX = 37.34
FU = 37.14 FU = 37.25

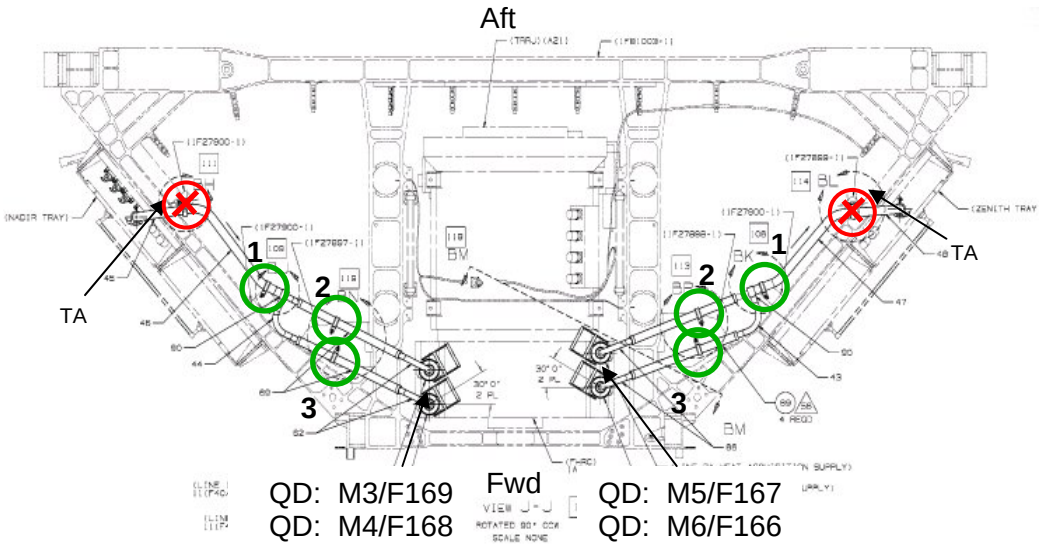
POST NC-4 :
L OMS OX = 34.02 R OMS OX = 35.40
FU = 33.54 FU = 35.33

DELTA V AVAILABLE:

OMS	326 FPS
ARCS (TOTAL ABOVE QTY1)	20 FPS
TOTAL IN THE AFT	346 FPS
ARCS (TOTAL ABOVE QTY2)	49 FPS
FRCS (ABOVE QTY 1)	30 FPS
AFT QTY 1	83 %
AFT QTY 2	45 %

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

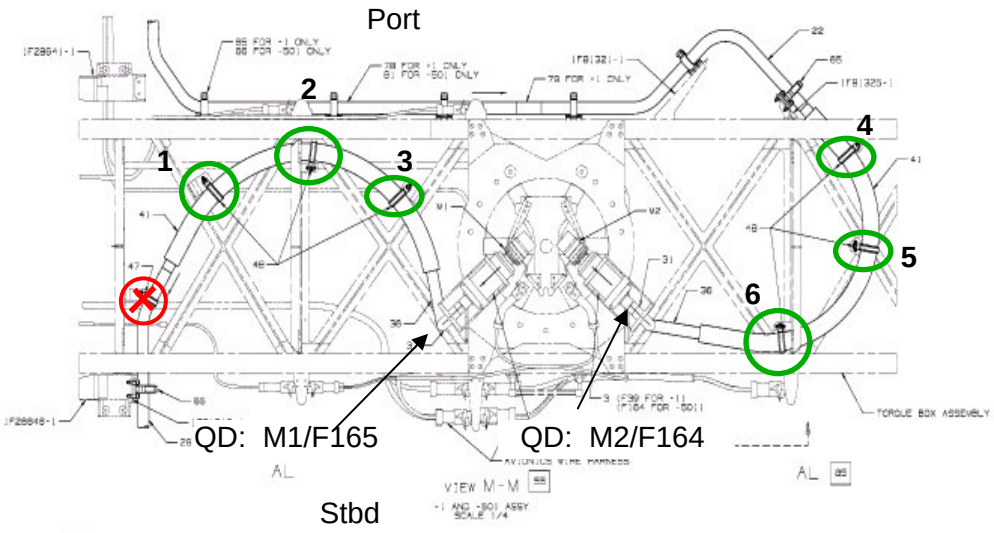
EVA 1 (EV2) P1 FHRC P-CLAMPS



FHRC P-clamps – Hose Box (Outboard)

06 APR 10

EVA 1 (EV2) P1 FHRC P-CLAMPS



FHRC P-clamps – Stinger (Inboard)

2 APR 10

23-0190 (MSG007): STS-131 (19A) Overview EVA Timelines - 3 EVAs

NOTE: All times are approximate. Arm blocks do not represent manuver times

Pre EVA 1 Empty ATA on S1. Full ATA on LMC.

EVA 1

	00:00		01:00		02:00		03:00		04:00			05:00			06:00	6:30
EV 1 (FF)	Egress	FGB Retrieve	Prep PLB ATA for Release	Release PLB ATA & H/O to SSRMS	JEM SEED Retrieve	AGB Retrieve / Install	S0 RGA R&R					WIFEX Reloc	F G B	G - A	Cleanup & Ingress	
EV 2 (FF)	Egress	Release S1 ATA FQDs	Prep PLB ATA for Release	Release PLB ATA & H/O to SSRMS	PLB Cleanup & Translation to ESP-2	AGB Retrieve / Install	S0 RGA R&R	P1 P-Clamps (1 Bay)		R G A	P1 P-Clamps (1 Bay)		Get-Aheads		Cleanup & Ingress	
SSRMS	Node 2 PDGF															
SSRMS					Full ATA on SSRMS		Full ATA to POA EV not required									Walkoff to MBS
Restrictions	S1 TRRJ Locked S1 SASA Off						MT **not** at WS 5						S1 TRRJ Locked			
Restrictions								P1 TRRJ Locked @ 0 deg								

Pre EVA 2 Full ATA on POA. Empty ATA on S1.

EVA 2

	00:00		01:00		02:00		03:00		04:00		05:00		06:00	6:30
EV 1 (FF)	Egress	Release S1 ATA & H/O to SSRMS		Tiedown ATA to CETA Cart	P1 Rad GF Stow Beam Install	AGB Release	Install ATA on S1		S1 ATA Connectors	Release CETA ATA & Install AGB		A/L MMOD Shields	Ingress	
EV 2 (FF)	Egress	Release S1 ATA & H/O to SSRMS		Tiedown ATA to CETA Cart		AGB Release	Install ATA on S1		APFR Relocate	Release CETA ATA & Install AGB		A/L MMOD Shields	Ingress	
SSRMS	MBS PDGF													
SSRMS		Receive ATA from EVA		S1 ATA to CETA Cart	Retrieve POA ATA		ATA to S1			CETA ATA Grapple		Empty ATA to POA EV not required		Walkoff to Node 2 PDGF
Restrictions	S1 TRRJ Locked; S1 SASA Off													
Restrictions					P1 TRRJ Locked @ 0									

Pre EVA 3 Empty ATA on POA. Full ATA on S1.

EVA 3

	00:00		01:00		02:00		03:00		04:00		05:00		06:00	6:30
EV 1 (FF)	Egress	AGB Stow	PLB Setup	Install ATA on LMC	FGB Remove/Stow		LWAPA Retrieve		CP13 ETVCG Light	S1 Rad GF Stow Beam Install		WIFEX Reloc	Cleanup & Ingress	
EV 2 (SSRMS)	Egress	AGB Stow	PLB Setup	Install ATA on LMC	SSRMS Setup	LWAPA Retrieve			SPDM CLPA Install & EP1 Cover Remove		SSRMS Cleanup		Cleanup & Ingress	
SSRMS	Node 2 PDGF													
SSRMS	Pre-EVA	AGB Stow	Mnvr to PLB	Install ATA on LMC	SSRMS Setup	LWAPA Retrieve			SPDM CLPA Install & EP1 Cover Remove		SSRMS Cleanup		Released from EVA Support	
Restrictions					S1 TRRJ Locked; S1 SASA Off					S1 TRRJ Locked @ 0				

Post EVA 3 Empty ATA on LMC. Full ATA on S1.

EVA Task Priorities

- Setup & Cleanup
- CAT 1
- CAT 2
- CAT 3

Timelined Get-aheads

Move WIFEX for ULF4 (EVA 3) (00:30)
Move APFRs (2) for ULF 4 (EVA 2) (00:15)

Get-aheads

~~Connect P4-P5 Jumper (EVA 1 only) (00:15)~~
Close P1 RBVM Thermal Bootie (00:15)
Release S1 FHRC P-Clamps (00:30 per bay)
Release P1 FHRC P-Clamps (00:30 per bay)
EVA 1 Retrieve A/L MMOD Shields
2010 Tool Relocate to Toolboxes

Due to the recent plasma hazard discussion, the P6 Battery Prep task has been removed from the STS-131 (19A) flight. The following tasks are being inserted into the nominal EVA 1 timeline:

- P1 FHRC P-clamp release
- WIF extender relocate (for ULF-4)
- Torque S1 ATA nadir FGB attachment bolts

EVA 1 get aheads (in priority order):

- Retrieval of the A/L MMOD shields from ESP-2
- Relocation of EVA tools to external airlock toolboxes

The following pen & inks are required for the EVA 1 procedure to accommodate these changes:

FS 7-7 (EVA 1 Inhibit Pad): Delete SARJ and P6 Battery Prep inhibits

FS 7-17 (EVA 1 Tool Config): Delete the 55-ft Safety Tether from C/L bag (was for P6 Battery Prep)
Delete Ratchet w/2 in socket from Int RET 4 of the C/L bag (was for P6 Battery Prep)
Add a Short MMOD Shield T-Handle Tool to Int RET 4 of the C/L bag (for A/L MMOD Shields)
Delete the 55-ft Safety Tether from Large ORU bag (was for P6 Battery Prep)
Add C/L bag with Lg/sm RET with the following tools for Tool Relocate:
Hammer
Vise Grips
Probe (Verify no sheath)
Pin Straightener

FS 7-18 (EVA 1 Tool Config): Delete the following tools from the Staging Bag (moved to C/L bag for Tool Relocate):
Hammer
Vise Grips
Probe
Pin Straightener

FS 7-24: Delete the 55-ft Safety Tether from C/L bag
Delete Ratchet w/2 in socket from Int RET 4 of the C/L bag
Add a Short MMOD Shield T-Handle Tool to Int RET 4 of the C/L bag

FS 7-28 EV2 column: Step 10: Was: Glove and gauntlet check
Is: Glove check
Step 11: Was: Retrieve C/L bag; stow on BRT
Is: Retrieve EVA ratchet; stow on MWS
Insert Step 12: Go to P1 FHRC P-Clamp Release on FS 7-124

FS 7-30 EV1 column: Delete Step 36

FS 7-31 IV column: Delete the 55-ft Safety Tether from EV1 MWS

FS 7-31 EV1 column: Step 54: Was: Glove and gauntlet check
Is: Glove check
FS 7-31 The Caution and step 48 through step 53 will move from the EV1 column to the EV2 column

FS 7-31 EV2 column: After step 53 from the EV1 column add the following steps:
Step 54:Glove check
Step 55: Go to P1 FHRC P-Clamp Release on FS 7-124

FS 7-32 to FS 7-35: Delete

FS 7-36 IV column: Delete Steps 1 & 2
FS 7-36 EV1 column: Delete Steps 2 - 9
Add Step 17: Stow Lg ORU bag at A/L
Add Step 18: Go to WIF Extender Relocate for STS-132 (ULF-4) on FS 7-39
Add Step 19: Go to S1 ATA FGB Bolts on FS 7-39
FS 7-36 EV2 column: Delete Steps 4-9

FS 7-37 Delete the 55-ft Safety Tether from C/L bag
Delete Ratchet w/2 in socket from Int RET 4 of the C/L bag
Add a Short MMOD Shield T-Handle Tool to Int RET 4 of the C/L bag
Delete Ratchet w/2 in socket from EV1 MWS

FS 7-40 to FS 7-41: Delete

Good morning Naoko, Stephanie, and STS-131 and Increment 23 crews,

Welcome to your first day of transfer ops! It's great to finally *hear* you on-orbit at least! Due to the shuttle KU issues and to reduce the bandwidth required of the ISS KU, we have reduced the quantity of uplinked transfer pages for today. We have only uplinked the Middeck and MPLM resupply change pages and *all* the Middeck and MPLM return transfer list pages. Our plan is to uplink all your Middeck and MPLM return layouts and drawings on FD04.

Today you'll be transferring your EMUs and EVA hardware to ISS for the EVA 1 prep on FD04. In addition you'll be transferring the STORRM DTO hardware and SODF in support of timelined activities today. Finally we'll also have you transfer the ESA Thermal Container (ECCO) and Area 51 bag, which will both be required for activities first thing tomorrow morning.

The Transfer List Excel file, FD03_Transfer_List_STS131.xls, locations are:

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

<u>Transfer Notes</u>

- **Fresh Food for ISS Crew:** Remember to transfer fresh food to the ISS crew today…I'm sure they will be anxiously awaiting it!

- **Electronic Transfer List:** If you choose to use the electronic transfer list, understand that upon launching the file you may receive a Security Warning prompt asking you to enable or disable macros. Please select 'Enable Macros' in order to use the search and sort features built into the list.

- **ISS Tool Drawer:** Pre-flight we recommended the ISS crew stow ISS Tool Drawer 2 in Node 2 to facilitate your MPLM activities throughout the flight. However, the ISS crew has decided that leaving the drawer installed in NOD1D4_G2 is more appropriate. Please let us know if this plan changes.

<u>FD03 Choreography</u>

- **Transfer the following EVA items to ISS:**
    - **Items 2 and 3:** EMU's s/n 3008 & 3017
    - **Item 4:** EVA Systems Transfer Bag
- **Item 31:** Transfer STORRM hardware for installation activity.
- **Item 37:** Transfer Area 51 CTB from Bag D to ISS for FD04 GSC Sample activity.
- **Item 40:** Transfer SODF CTB and ziplock.
- **Item 44:** Transfer ESA Thermal Container (ECCO) for FD04 ECCO Unpack.
- Transfer other Middeck Resupply items.

Please incorporate uplink pages as follows (we've listed the updates in the order they printed out for you):

In the Middeck Transfer List **RESUPPLY** tab

Pen & Ink on the following pages:

Resupply 1 – Item 7: strike through Temp Stow location and add JPM1O3_B1 as the Stowage at Undock location

Resupply 4 – Item 30: in Quantity column change 1 ziplock to 1 food container

Resupply 5 – Items 32 and 33: strike through entire line items, as these were stowed in items 34 and 35 pre-flight

Resupply 6 – Item 40: add s/n 1116 to Quantity column

Resupply 8 – Item 53: add MA16G to Initial Stowage location

Replace the following page:

Resupply 2

Add the following page:

Resupply 9

In the Middeck Transfer List **RETURN** tab

Add the following pages:

Return 1 thru 7

In the MPLM Resupply Transfer List **A3 RSP** tab

Replace the following page:

Resupply 17

In the MPLM Resupply Transfer List **F2 RSP** tab

Replace the following page:

Resupply 21

In the MPLM Resupply Transfer List **F4 RSP** tab

Replace the following page:

Resupply 23

In the MPLM Resupply Transfer List **S2 RSR** tab

Replace the following page:

Resupply 35

In the MPLM Return Transfer List **RETURN** tab

Add the following pages:

Return 11 thru 26

In the MPLM Return Transfer List **MPLM FOAM** tab

Add the following pages:

Return 27 thru 29

In the MPLM Return Transfer List **MPLM CLEANUP** tab

Add the following page:

Return 30

FD04 Choreography

- **Item 45:** Transfer cold samples from MERLIN to CBEF per MERLIN UNPACK.
- **Item 39:** Transfer cold samples from Glacier to MELFI per GLACIER MELFI XFER.
- **MPLM Setup:**
  - **Items 100 and 101:** Deploy PBA and PFE in MPLM.
  - **Item 213:** Retrieve Naoko and Steph's MPLM Kit from MPL1S1_D2
  - Remove tape from RSRs.
- **Item 436.1:** Pack GSC (s/n 1092) for return following MPLM Ingress.
- **Item 111:** Transfer RGA from MPL1A2_C1 to ISS for EVA 1.
- **Item 191:** Transfer MPAC SEED Return Bag from MPL1P4_G2 to ISS for EVA 1.
- **Item 192 and 228:** Transfer Shuttle Contingency EMU LiOH from MPL1P4_G2 & S1_K1 to Middeck.

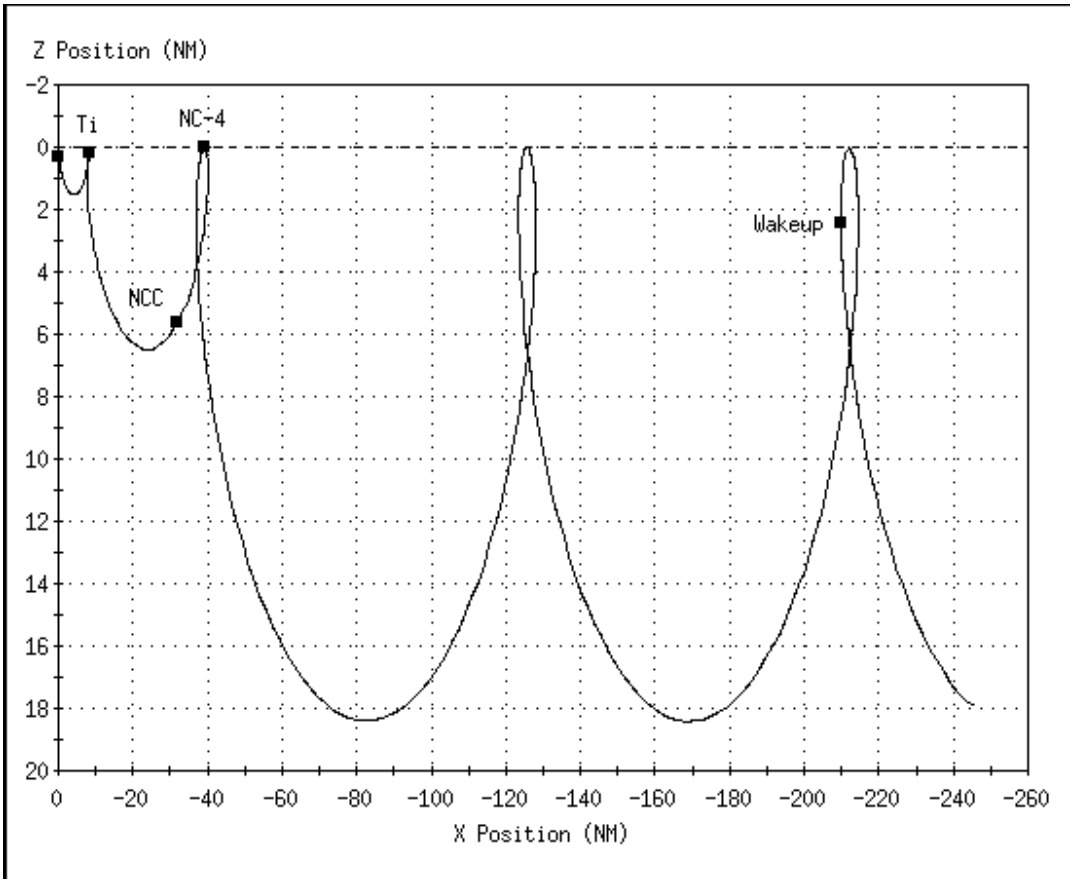
Have a great day and let us know if you have any questions!

- The STS-131 Transfer Team

MSG 010 - DAY OF RENDEZVOUS DATA (TIG'S & RELMO)

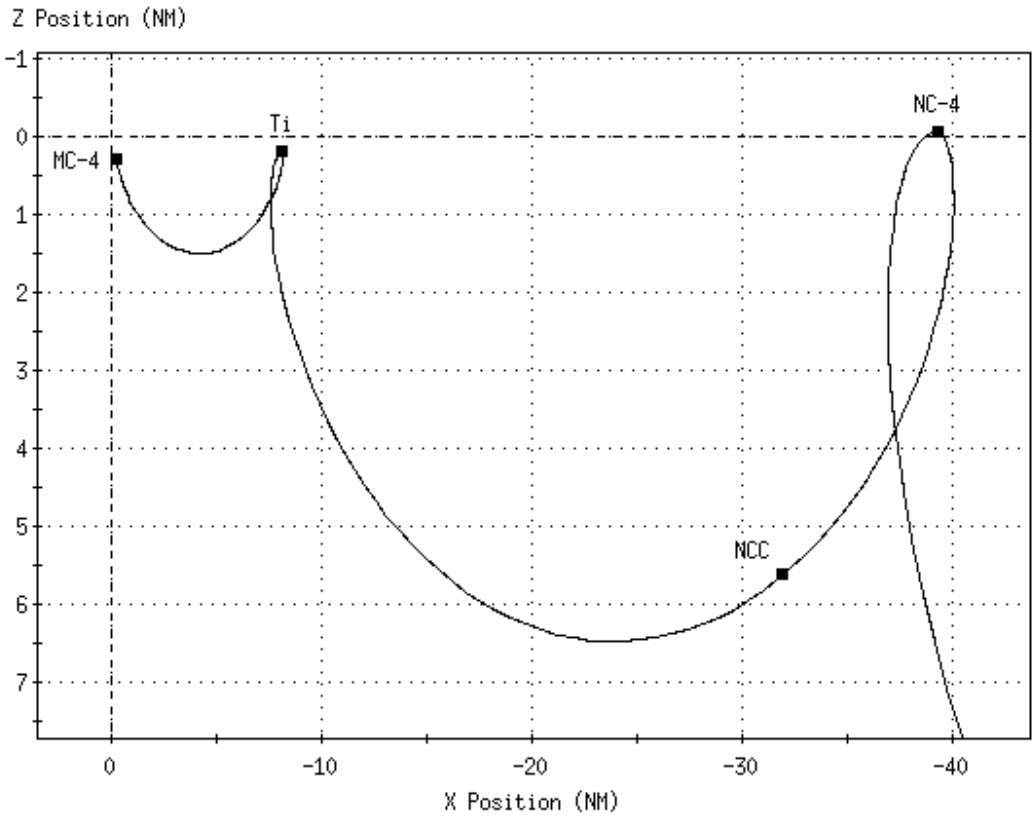
Rendezvous Summary

	MET	
NC4	001:17:14:13.805	
NCC	001:17:47:37.000	
TI	001:18:45:19.000	PET = 0:0 ; SS - 36 MIN
MC1	001:19:05:19.000	
MC2	001:19:35:13.000	ET = 0:0
MC3	001:19:52:13.000	MC2 + 17 MIN
MC4	001:20:02:13.000	MC2 + 27 MIN
DOCKING	001:21:23:00.000	



END OF PAGE 1 OF 2, MSG 010

MSG 010 - DAY OF RENDEZVOUS DATA (TIG'S & RELMO)



END OF PAGE 2 OF 2, MSG 010

The following points summarize the joint emergency response agreed to in training between the STS-131/19A commander Poindexter and Expedition 23 commander Kotov.

GENERAL

- Emergency response will be conducted per published procedures: EMER-1 SODF, Joint Emergency Egress (JEE), Joint Emergency Undock and Separation (JEUS) and "ISS Ammonia Response – Shuttle Crew" cue card in Joint Operations SODF , and Orbit Pocket Checklist in Shuttle FDF.
- ISS crew has the lead for response in any ISS Emergency case.
- Shuttle crew has the lead for response in any Shuttle Emergency case.
- Shuttle crewmembers will use the nearest available PBA when required.
- The Shuttle crew may take the Node 2 hose extension kit if required for O2 mask support during JEE execution.
- JEE cue cards will be posted on ISS at the Node 2 Forward Hatch, and in the Equipment Lock area in the Airlock (2 copies). Copies will also be posted on the Mid deck and Flight deck on Discovery.
- The ISS Ammonia Leak – Shuttle Crew cue card will be posted in PMA2.
- Shuttle crewmember responsibilities will be divided as follows:
    - CDR (Poindexter): JEE/JEUS procedure execution. Maintain comm with ISS and MCC-H.
    - MS1 (Mastracchio), MS5 (Anderson): EVA equipment retrieval from ISS.
    - MS3 (Wilson): Crew headcount at Node2 forward hatch. Hatch closures per JEE (Node 2 forward hatch on CDR go; subsequent hatch closures will be reported to CDR).
    - MS4 (Yamazaki):Ammonia test kit operation. Assist MS3 with hatch closures.
    - MS2 (Metcalf-Lindenburger): Shuttle Airlock fan deactivation.

RAPID DEPRESS

- If a Shuttle crewmember detects obvious physical evidence of a rapid depress, they will annunciate the Rapid Depress alarm. Otherwise, they will inform an ISS crewmember, who will determine the appropriate response.
- This response does not change during campout.

FIRE

- In the event of a Shuttle fire, the crew will initiate an ISS Fire alarm to stop ISS ventilation.
- If a Shuttle crewmember sees visible smoke or flames on ISS, they will annunciate the Fire alarm, flip the Rack Power Switch (if available) to power down the affected rack, and use a PFE.
- If a Shuttle crewmember smells a burning odor, they will inform a Station crewmember, who will determine the appropriate response.
- In the event of smelling smoke, the crew will annunicate on the Big Loop and the shuttle crew will egress to the shuttle.

TOXIC ATM

- If a Shuttle crewmember smells ammonia, they will annunciate the TOX ATM alarm.
- If MCC-H sees indications of an ammonia leak, MCC-H will make the following call on the big loop (S/G1-A/G1): **"Ammonia Leak, Execute Emergency Response – I say again – Ammonia Leak, Execute Emergency Response."**
- No equipment from ISS will be retrieved for return on Shuttle in an ammonia response (including EMUs).
- If the alarm is being initiated for a toxic substance other than ammonia, the crew will communicate this via PAGE prior to depressing the TOX ATM alarm.

CWC-I FILLS

	CWC-I Fill No.	CWC-I Launch Location	Record S/N Used	Disinfect QDs (INIT)	Report CWC-I S/N To MCC (← Fill Duration ~10 minutes →)	TERM at MET: (TERM)	Cap R-Y Hose	Verify Label In Windows	Sample/Purge Kit Ref: Kit Table	Transfer To:	
☐	1	Pregathered at NOD2O2 (Note C) ☐ 2057 ☐ 2059 ☐ 2060 ☐ 2061 ☐ 2062 ☐ 2063 ☐ 2064 ☐ 2065		☐	☐		☐	☐ Purple	☐ S/N 1003 (Note A)	☐	JPM1F6 Rack Front
☐	2			☐	☐		☐	☐ Purple	☐ S/N 1003 (Note A)	☐	
☐	3			☐	☐		☐	☐ Purple	☐ S/N 1003 (Note A)	☐	
☐	4			☐	☐		☐	☐ Purple		☐	
☐	5			☐	☐		☐	☐ Purple		☐	
☐	6			☐	☐		☐	☐ Purple	☐ S/N 1003 (Note A)	☐	
☐	7			☐	☐		☐	☐ Purple		☐	
☐	8			☐	☐		☐	☐ Purple	☐ S/N 1003 (Note A)	☐	

CWC-I Fill Notes:

A. Stow filled sample bags in MF14E.

B. Rough handling may cause leakage.

C. Some CWCs may contain residual water. Prior to filling, report if CWC-I has a significant amount of residual water.

Kit Table

Kit	S/N	Stowage Location	Undock Location
Sample/Purge Kit	1003	MF71C	MF71C

FINAL

CWC FILLS

INIT ← Fill Duration ~52 minutes → TERM

	CWC Fill No.	CWC Launch Location	Record S/N Used	Disinfect QDs	Mineral Syringe Kit Ref: Kit Table	Report CWC S/N to MCC	Ag Biocide Kit Ref: Kit Table	TERM at MET:	Cap Water Transfer Hose	Verify Label In Window	Sample/Purge Kit Ref: Kit Table	Transfer to:	
☐	1	NOD2O2 M-02 Bag S/N 1026 (Note D) ☐ 1004 ☐ 1030 ☐ 1043 ☐ 1064 ☐ 1077		☐		☐	S/N 1006 ☐		☐	Green ☐		☐	JPM1F6 Rack Front
☐	2			☐		☐	S/N 1006 ☐		☐	Green ☐		☐	
☐	3			☐		☐	S/N 1006 ☐		☐	Green ☐		☐	
☐	4			☐		☐	S/N 1006 ☐		☐	Green ☐		☐	
☐	5			☐		☐	S/N 1006 ☐		☐	Green ☐		☐	
☐	6 (Note A)			☐		☐	S/N 1006 ☐		☐	Green ☐		☐	
☐	7 (Note A)			☐		☐	S/N 1006 ☐		☐	Green ☐		☐	

CWC Fill Notes:

A. CWC Fills 6 and 7 will only be completed if water available (docked extension days). MCC will provide CWC S/Ns and locations.

B. Rough handling may cause leakage.

C. Fill each CWC for 52 min or Term CWC Fill on MCC call.

D. M-02 Bag originally located in NOD2O2. Some CWCs may contain residual water and will be located outside of bags. Prior to filling, report if CWC has a significant amount of residual water.

Kit Table

Kit	S/N	Stowage Location	Undock Location
Mineral Syringe Kit (no planned use)	1001	MF71C	MF71C
Ag Biocide Kit	1006	NOD2O2 M-02 Bag S/N 1026	MF71C
	1010	MF71C	NOD2O2 M-02 Bag S/N 1026
Sample/Purge Kit	1003	MF71C	MF71C

PWR FILL

	PWR No.	PWR S/N	Stowage Location	Actions
☐	1	1005	A/L1D1	After EVA3, fill and return to A/L1D1

PWR Fill Notes: Do not detach PWR (EMU H2O Recharge Bag) QD restraint during PWR ops.

FINAL

Destination: Airlock Toolboxes

NOTE

A/L Toolboxes do not have toolboard sliders except for slot 3

Toolbox door must have at least 1 latch locked when leaving the area or local tethering to the door

Tool	Current Location	Final Location	Notes
Hammer	Crewlock Bag	Stbd A/L Toolbox Slot 1 - Open Nadir Door	
Vise Grips	Crewlock Bag	Stbd A/L Toolbox Slot 5 - Open Zenith Door	If covered in Kapton Tape contact **MCC-H**
Probe	Crewlock Bag	Stbd A/L Toolbox Panel 9 - Zenith Door	
Pin Straightener	Crewlock Bag	Port A/L Toolbox Slot 1 - Open Zenith Door	
Short MMOD Shield T-Handle	Crewlock Bag	Port A/L Toolbox Slot 5 - Open Nadir Door	Board may not be in Toolbox. Leave tool in crewlock bag if no board available for stowage.