STS-119 / 15A

FD 04 Execute Package

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034	---	SSRMS DOUG Setup Notes for 15A **(pdf - Electronic Only)**
035	24	STS-119 Water Ops Cue Card **(pdf)**
036A	25 - 27	Ergometer Troubleshooting Part 3 **(pdf)**
037A	---	Stowage Locations for FD04 **(pdf - Electronic Only)**

Approved by FAO: *Tobin Melroy*

Last Updated: Mar 18 2009 9:49AM GMT
JEDI *(**J**oint **E**xecute package **D**evelopment and **I**ntegration), v2.04.0003*

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MSG NO.	TITLE
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034	SSRMS DOUG Setup Notes for 15A (18-1267)
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036	Ergometer Troubleshooting Part 3
037	Stowage Locations for FD04 (18-1202A)

1. Cryo Config

   For today's cryo config, O2 Tanks 1 & 2 & H2 Tanks 2 & 4 will be active.

   R1 O2,H2 MANF VLV TK2 (two) - OP (tb-OP)
   O2 TK 1 HTRS A,B (two) - AUTO

   A15 CRYO TK5 HTRS O2 A,B (two) - OFF

2. EVA Consumables Cue Card and Battery Recharge Plan

   In the event the cue cards uplinked yesterday didn't fit well onto the card that you taped them to, we have uplinked more precisely sized cue cards in messages 17A (18-1272A) and 18A (18-1273A). There are no content changes. No need to print them out again if you are happy with the previous version.

3. Ergometer Troubleshooting Update

   We appreciate your help in troubleshooting the ergometer and based on the results we are incrementally moving toward more invasive procedures to try and regain the function. There are a number of conditions that could lead to the high resistance you experienced in the forward rotation direction. Those conditions include high internal tension caused by the motor, high tension caused by the manual control knob, a jam on the internal flywheel, or the braking band not properly riding in the groove of the flywheel.

   We have included in today's execute package a third IFM procedure that will attempt to reseat the braking band onto the flywheel. The procedure will also ask you to vacuum the box from the calibration strap port for a few minutes to determine if any debris is present within the unit. If this procedure is not successful, we are developing another IFM to remove a side panel on the ergometer box to find where the problem exists and correct it.

4. Water Loop Reconfiguration

   Today, Water Loop 2 will be reconfigured to help maximize condensate collection on ISS. This configuration may result in a cooler than normal cabin temperature. Notify MCC if cabin temperature becomes uncomfortable as other options are available.

5. ROBO OPS

   During the 15A pre-launch checkout, two of the three LEE B snare cables were observed in a 'C-curve' configuration and were consequently corrected in preparation for today's first grapple of the S6. For all subsequent SSRMS grapple operations, we would like you to check the Tip LEE snare cables for any 'C-curve' configurations which could prevent successful grappling. Please see MSG 033 (JEDI 18-1268) for more details and specific instructions to confirm the Tip LEE snare cable configuration.

   DOUG targets for all of the operations on 15A are on board ISS and MSG 034 (JEDI 18-1267) SSRMS DOUG Setup Notes for 15A is available to assist in DOUG setup for each of the Ops days. If required, this message is available to be printed. The system is ready for you to perform DOUG setup at anytime.

   Finally, MSG 32 (JEDI 18-1280) contains some pen and ink changes to two robotics procedures. One change accounts for updated Orbiter DAP analysis, while the other ensures that the LEE Lubrication activity is performed using Vernier rates.

6. REPLACE PAGES 2-10, 2-12 and 3-32 THROUGH 3-41.

REPLANNED

EXERCISE CONSTRAINTS - SEE DETAILS

GMT 03/18/09 (077) 12 13 14 15 16 17 18 19 20 21 22 23

MET Day 002 12 13 14 15 16 17 18 19 20 21 22 23 003/00

FD04

STS-119	CDR ARCHAMBAULT	SLEEP	POST SLEEP; FES*; S6 CAM SPRT; STS O2 P/B CONFIG; PAO HD; MEAL; S6 CAM SPRT; RLS\ MNVR@; DAP@
STS-119	PLT ANTONELLI	SLEEP	LOG; POST SLEEP; SRMS#; POST SLEEP; PRLA%; IMU; SRMS; PGPL/ GRPL; MEAL; TOOL AUDIT; SRMS S6 TO H/O; ERGOMETER IFM; ALT ERG EXERCISE
STS-119	MS1 ACABA	SLEEP	POST SLEEP; MCIU; SRMS#; POST SLEEP; PRLA%; XFER OPS; ALT ERG EXERCISE; SRMS; PGPL/ GRPL; TOOL CONFIG; PAO HD; MEAL; TOOL AUDIT; SRMS S6 TO H/O; RLS\ MNVR@
STS-119	MS2 SWANSON	SLEEP	SLVA; POST SLEEP; CWC#1; INIT; ALT ERG EXERCISE; CWC; TERM; CXCER; E_LK PREP; TOOL CONFIG; MEAL; TOOL AUDIT; XFER OPS; XFER; TAGUP; MOP; PRE SLEEP
STS-119	MS3 ARNOLD	SLEEP	SLVA; POST SLEEP; PTV06; SETUP; POST SLEEP; ALT ERG EXERCISE; E_LK PREP; TOOL CONFIG; PAO HD; MEAL; TOOL AUDIT; D2XS CAMR; XFER OPS; XFER; TAGUP; XFER; BEIEF; MOP; MDK*; PRE SLEEP
STS-119	MS4 PHILLIPS	SLEEP	LOG; SLVA; POST SLEEP; XFR; UPDAT; MDK; S6; PRGPL; S6 GRPL/UNBTH; SSRMS S6 TO H/O; RLS S6; SSRMS MNVR XLAT; MEAL; GAP; TERM1; SODF; XFER; S6 GRPL; SSRMS PARK; ALT ERG EXER
DN	FE-2 MAGNUS	SLEEP	POST SLEEP; ARED; PREP; DPC; PREP WORK; MLT; MMA; S6; PRGPL; S6 GRPL/UNBTH; SSRMS S6 TO H/O; RLS S6; SSRMS MNVR XLAT; MEAL; PWD FLUSH; PWD SMPL; MICRO; H2O; TOCA; TVIS
EXP-18	ISS CDR FINCKE	SLEEP	SLVA; POST SLEEP; PREP; DPC; D2XS; ARED; CEVIS; D2XS; SETUP; STS O2 P/B CONFIG; PAO HD; MEAL; CO2; JRNL; D2XS CAMR; DSMTR; TVIS QUARTLY MNT; CO2; PREP WORK
EXP-18	FE-1 LONCHAKOV	SLEEP	POST SLEEP; PREP; DPC; PREP WORK; AST; COX; EXERCISE TVIS; РБО 3 3 RMV; SOKOL LK CK; MEAL; SOKOL; DRY; РБО 3 3 RMV; ИП-1; MNT; GLOVE; PREP WORK; SOKOL
UP	FE-2 EXP18 WAKATA	SLEEP	POST SLEEP; PREP; DPC; PREP WORK; CMS OV; RED H/O; ADAPT; CEVIS; TH/O; TVIS; ADAPT; DOME GENE HW XFER; DOME; DOME GENE INSTL; DOME; SOKOL LK CK; DOME; MEAL; ADAPT; S6 GRPL; SSRMS PARK; PREP; WORK; PMC

DAY/NIGHT

ORBIT 41 42 43 44 45 46 47 48

TDRS W E Z

TDRS ISS AVAIL

ORB ATT BIAS -XLV -ZVV

NOTES

*PRI B - OFF
#MNVR CLR %RELEASE

@VIEW @UPDATE
*STATUS CK

REPLANNED

GMT 03/18/09 (077) 03/19 01 02 03 04 05 06 07 08 09 10 11

MET Day 003 003/00 01 02 03 04 05 06 07 08 09 10 11 12

FD04

STS-119	CDR ARCHAMBAULT	ARED; EVA 1 PROC RVW; PSLP; PMC A/G; PRE SLEEP; SLEEP
STS-119	PLT ANTONELLI	MOP; PRE SLEEP; EVA 1 PROC RVW; PRE SLEEP; CMPOUT PRB INIT; PRE SLEEP; SLEEP
STS-119	MS1 ACABA	CREW*; MUS; MOP; PRE SLEEP; EVA 1 PROC RVW; PRE SLEEP; SLEEP
STS-119	MS2 SWANSON	PRE SLEEP; EVA 1 PROC RVW; PRE SLEEP; EVA CAMPOUT PRB INIT; 10.2 DPRS; PRE SLEEP; SLEEP
STS-119	MS3 ARNOLD	PRE SLEEP; EVA 1 PROC RVW; PRE SLEEP; EVA CAMPOUT PRB INIT; PRE SLEEP; SLEEP
STS-119	MS4 PHILLIPS	ALT ERG EXER; MUS; PRE SLEEP; EVA 1 PROC RVW; PRE SLEEP; SLEEP
DN	FE-2 MAGNUS	GLACR; P/TV; 15A PRE SMP XFR; DPC; RECLM; TOCA*; PREP WORK; PRE SLEEP-ISS; SLEEP
EXP-18	ISS CDR FINCKE	♣; PL-CK; 15A PRE SMP XFR; DPC; EVA 1 PROC RVW; PRE SLEEP-ISS; SLEEP
EXP-18	FE-1 LONCHAKOV	SOKOL; PREP WORK; DPC; EVA 1 PROC RVW; PRE SLEEP-ISS; SLEEP
UP	FE-2 EXP18 WAKATA	PREP WORK; TVIS; SPD; DPC; EVA 1 PROC RVW; PRE SLEEP-ISS; SLEEP

DAY/NIGHT

ORBIT 48 49 50 51 52 53 54 55 56

TDRS W E Z

TDRS ISS AVAIL

ORB ATT BIAS -XLV -ZVV

NOTES
♣PREP WORK
*CHOICE D/L

STS-119 FD (04)

GMT Date 03/18 (077) | W | TDRSE | Z | D/N | DORB | ORB | MET Day 002 | STS ATT

12:00 13:00 14:00 15:00 16:00

CDR ARCHAMBAULT	PLT ANTONELLI	MS1 ACABA	NOTES
SLEEP	SLEEP	SLEEP	
POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	FLIGHT SLEEP LOG (ORB OPS, SDBI) POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
	S6 UNBERTH VIEWING (PDRS, S6 NOMINAL) Steps 1 and 2 POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	L17 Check MCIU filter screen S6 UNBERTH VIEWING (PDRS, S6 NOMINAL) Steps 1 and 2 POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
L1 FLASH EVAP CNTLR PRI B - OFF [A] P/TV06 ROBOTICS OPS (PHOTO/TV, SCENES) Ops			

BIAS - XLV - ZVV

FD04 EZ ACTIVITIES:
√OCAC FILTER & MDDK DUCT SCREEN
TEPC (STATUS CHECK)
(ORB OPS, CREW SYS)
HARD REBOOT ALL PGSCs EXCEPT:
STS-6(WLES) & STS-5(RPOP2)

[A] Monitor H20 LOOP 2 ICH FLOW on SM 88 APU/ENVIRON THERM.
L1 H20 LOOP 2 BYP MODE - MAN
BYP MAN - DECR
(Adjust until ICH FLOW no longer increases,~1300 +/- 50 lbm/hr)
Ref MSG 27 Item 4

STS-119 FD (04)

GMT Date 03/18 (077) | W | TDRSE | Z | D/N | DORB | ORB | MET Day 002 | STS ATT

12:00 13:00 14:00 15:00 16:00

BIAS -XLV -ZVV

MS2 SWANSON

SLEEP

LIQUID SLVA SAMPLE(ORB OPS,SDBI)

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

SHUTTLE/ISS H2O CNTR FILL
(ORB OPS, ECLS) Init Fill #1
Ref MSG 035

MS3 ARNOLD

SLEEP

LIQUID SLVA SAMPLE(ORB OPS,SDBI)

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

P/TV06 ROBOTICS OPS
(PHOTO/TV, SCENES)
Setup

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

MS4 PHILLIPS

SLEEP

FLIGHT SLEEP LOG (ORB OPS, SDBI)

LIQUID SLVA SAMPLE(ORB OPS,SDBI)

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

DAILY TRANSFER LIST UPDATE
Ref. Transfer List & MSG 030

MDDK ST CK (ASSY OPS, PAYLOADS)

ROBO: 1.100 S6 UNBERTH AND HANDOFF
Steps 1-3 Ref MSG 027 Item 5 & MSG 034

ROBO: 1.100 S6 UNBERTH AND HANDOFF
Steps 4-8 EXERCISE CONSTRAINT
Ref. MSG 027 Item 5 & MSG 033

NOTES

STS-119 FD (04)

GMT Date 03/18 (077) | W | TDRSE | Z | D/N | DORB | ORB | MET Day 002 | STS ATT

CDR ARCHAMBAULT	PLT ANTONELLI	MS1 ACABA	NOTES
P/TV06 ROBOTICS OPS (PHOTO/TV, SCENES) Ops	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	NO ARED WITH S6 ON SSRMS
	S6 UNBERTH VIEWING (PDRS, S6 NOMINAL) Steps 3-6 on SSRMS GO	S6 UNBERTH VIEWING (PDRS, S6 NOMINAL) Steps 3-6 on SSRMS GO	
	IMU STAR OF OPPTY ALIGN (ORB OPS, GNC)	TRANSFER OPS Ref. Transfer List & MSG 030	
		CYCLE ERGOMETER OPS (ORB OPS, CREW SYS) Perform ALTERNATE ERGOMETER EXERCISE √MCC-H Prior to start	
JOINT OPS: 3.120 PREBREATHE USING SHUTTLE O2 SETUP Steps 2-6	S6 HANDOFF FROM SSRMS TO SRMS (PDRS, S6 NOMINAL) EXERCISE CONSTRAINT	S6 HANDOFF FROM SSRMS TO SRMS (PDRS, S6 NOMINAL) EXERCISE CONSTRAINT	NO EXERCISE WHILE DOUBLE GRAPPLED
		EVA 1 TOOL CONFIG (EVA, TIMELINES)	UPLINK β21 + Mask Box 40,20, 51
PUBLIC AFFAIRS EVENT ISS KU AVAIL (19:10-19:55) Ref. MSG 031		PUBLIC AFFAIRS EVENT ISS KU AVAIL (19:10-19:55) Ref. MSG 031	UPLINK β21 + Mask Box 40,20, 21
MEAL	MEAL	MEAL	

BIAS-XLV-ZVV

STS-119 FD (04)

GMT Date 03/18 (077) | W | TDRSE | Z | D/N | DORB | ORB | MET Day 002 | STS ATT

MS2 SWANSON	MS3 ARNOLD	MS4 PHILLIPS	NOTES
CYCLE ERGOMETER OPS (ORB OPS, CREW SYS) Perform ALTERNATE ERGOMETER EXERCISE √MCC-H Prior to start	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	ROBO: 1.100 S6 UNBERTH AND HANDOFF Steps 4-8 EXERCISE CONSTRAINT Ref. MSG 027 Item 5 & MSG 033	NO ARED WITH S6 ON SSRMS
	CYCLE ERGOMETER OPS (ORB OPS, CREW SYS) Perform ALTERNATE ERGOMETER EXERCISE √MCC-H Prior to start		
SHUTTLE/ISS H2O CNTR FILL (ORB OPS, ECLS) Perform FILL TERMINATION			
CWC TRANSFER Transfer 1 CWC to ISS		ROBO: 1.100 S6 UNBERTH AND HANDOFF Steps 9-14 EXERCISE CONSTRAINT	
EVA SYSTEMS: 1.305 EQUIPMENT LOCK PREP	EVA SYSTEMS: 1.305 EQUIPMENT LOCK PREP		
EVA 1 TOOL CONFIG (EVA, TIMELINES)	EVA 1 TOOL CONFIG (EVA, TIMELINES)	ROBO: 1.110 S6 RELEASE & MNVR TO TRANSLATE Steps 1-3 EXERCISE CONSTRAINT	NO EXERCISE WHILE DOUBLE GRAPPLED
		ROBO: 1.110 S6 RELEASE & MNVR TO TRANSLATE Steps 4-6	
	PUBLIC AFFAIRS EVENT ISS KU AVAIL (19:10-19:55) Ref. MSG 031		
MEAL	MEAL	MEAL	

BIAS-XLV-ZVV

STS-119 FD (04)

GMT Date 03/18 (077) | W | TDRS E | Z | D/N | DORB 4 5 6 | ORB 6 7 8 | MET Day 002 | STS ATI | BIAS -XLV -ZVV

MET	CDR ARCHAMBAULT	PLT ANTONELLI	MS1 ACABA	NOTES
20:00	MEAL	MEAL	MEAL	NO UN-ISOLATED EXERCISE DURING MT TRANSLATE
		EVA TOOL AUDIT Ref. EVA 1 TOOL CONFIG (EVA, TIMELINES)	EVA TOOL AUDIT Ref. EVA 1 TOOL CONFIG (EVA, TIMELINES)	
21:00	P/TVO6 ROBOTICS OPS (PHOTO/TV, SCENES) Ops	S6 HANDBACK FROM SRMS TO SSRMS (PDRS, S6 NOMINAL) Steps 1-2 EXERCISE CONSTRAINT	S6 HANDBACK FROM SRMS TO SSRMS (PDRS, S6 NOMINAL) Steps 1-2 EXERCISE CONSTRAINT	NO ISS UNISOLATED EXERCISE DURING S6 HANDBACK
22:00		ERGOMETER IFM Ref MSG 027 Item 3 & MSG 036		NO EXERCISE WHILE DOUBLE GRAPPLED
	S6 HANDBACK FROM SRMS TO SSRMS (PDRS, S6 NOMINAL) Step 3. EXERCISE CONSTRAINT		S6 HANDBACK FROM SRMS TO SSRMS (PDRS, S6 NOMINAL) Step 3. EXERCISE CONSTRAINT	
23:00		CYCLE ERGOMETER OPS (ORB OPS, CREW SYS) Perform ALTERNATE ERGOMETER EXERCISE √MCC-H Prior to start		NO ARED WITH S6 ON SSRMS
	B DAP UPDATE: A: CA=3 (ITEM 28+3 EXEC) B: Rate DB=0.03 (ITEM 45+0.03 EXEC) B: CA=3 (ITEM 48+3 EXEC)			
00:00	√A12/FREE/VERN B			

STS-119 FD (04)

GMT Date 03/18 (077) | W | TDRSE | Z | D/N | DORB | ORB | MET Day 002 | STS ATT

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

BIAS - XLV - ZVV

MS2 SWANSON	MS3 ARNOLD	MS4 PHILLIPS	NOTES
MEAL	MEAL	MEAL	NO UN-ISOLATED EXERCISE DURING MT TRANSLATE
EVA TOOL AUDIT Ref. EVA 1 TOOL CONFIG (EVA, TIMELINES)	EVA TOOL AUDIT Ref. EVA 1 TOOL CONFIG (EVA, TIMELINES)	NLP VACCINE-3 TERMINATION (ASSY OPS,PAYLOADS) Terminate All GAPs	
TRANSFER OPS Ref. Transfer List & MSG 030	ISS PTV: 3.725 D2Xs EVA CAMERA TURNAROUND - CAMERA ONLY Steps 2-5	15A ROBO FS PEN AND INK CHANGES Ref. MSG 027 Item 5 & MSG 032	NO ISS UNISOLATED EXERCISE DURING S6 HANDBACK
	TRANSFER OPS Ref. Transfer List & MSG 030		
		ROBO: 1.120 S6 HANDBACK & MNVR TO OVERNIGHT PARK Steps 1-5 Ref. MSG 027 Item 5 & MSG 033 EXERCISE CONSTRAINT	NO EXERCISE WHILE DOUBLE GRAPPLED
TRANSFER TAGUP Coordinate with transfer counterpart	TRANSFER TAGUP Coordinate with transfer counterpart		
	TRANSFER BRIEF Call down status to MCC	ROBO: 1.120 S6 HANDBACK & MNVR TO OVERNIGHT PARK Steps 6-9 EXERCISE CONSTRAINT	NO ARED WITH S6 ON SSRMS
MOP (ASSY OPS, PAYLOADS)	MOP (ASSY OPS, PAYLOADS)		
PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	MDDK ST CK (ASSY OPS, PAYLOADS)Step 1 only PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	CYCLE ERGOMETER OPS (ORB OPS, CREW SYS) Perform ALTERNATE ERGOMETER EXERCISE √MCC-H Prior to start	

STS-119 FD (04)

GMT Date 03/18 (077) | W | TDRSE | Z | D/N | DORB | ORB | MET Day 003 | STS ATT | CDR ARCHAMBAULT | PLT ANTONELLI | MS1 ACABA | NOTES

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

6 7 8 9 | 48 49 50 51

BIAS-XLV-ZVV

CDR ARCHAMBAULT

ARED

EVA PROCEDURE REVIEW
Ref. EVA 1 (EVA, TIMELINES)

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

PRIVATE MEDICAL CONFERENCE

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

PLT ANTONELLI

MOP (ASSY OPS, PAYLOADS)

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

EVA PROCEDURE REVIEW
Ref. EVA 1 (EVA, TIMELINES)

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

EVA SYSTEMS: 1.206 10.2 PSIA
CAMPOUT MASK PREBREATHE

REF: EVA 1 TOOL CONFIG
(EVA, TIMELINES)

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

MS1 ACABA

DIGITAL PLAYBACK (CREW CHOICE)
(P/TV, CC) KU TDRW (00:03-00:18)

MUS (ASSY OPS, PAYLOADS)

MOP (ASSY OPS, PAYLOADS)

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

EVA PROCEDURE REVIEW
Ref. EVA 1 (EVA, TIMELINES)

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

STS-119 FD (04)

GMT Date 03/18 (077) | W | TDRSE | Z | D/N | DORB | ORB | MET Day 003 | STS ATT

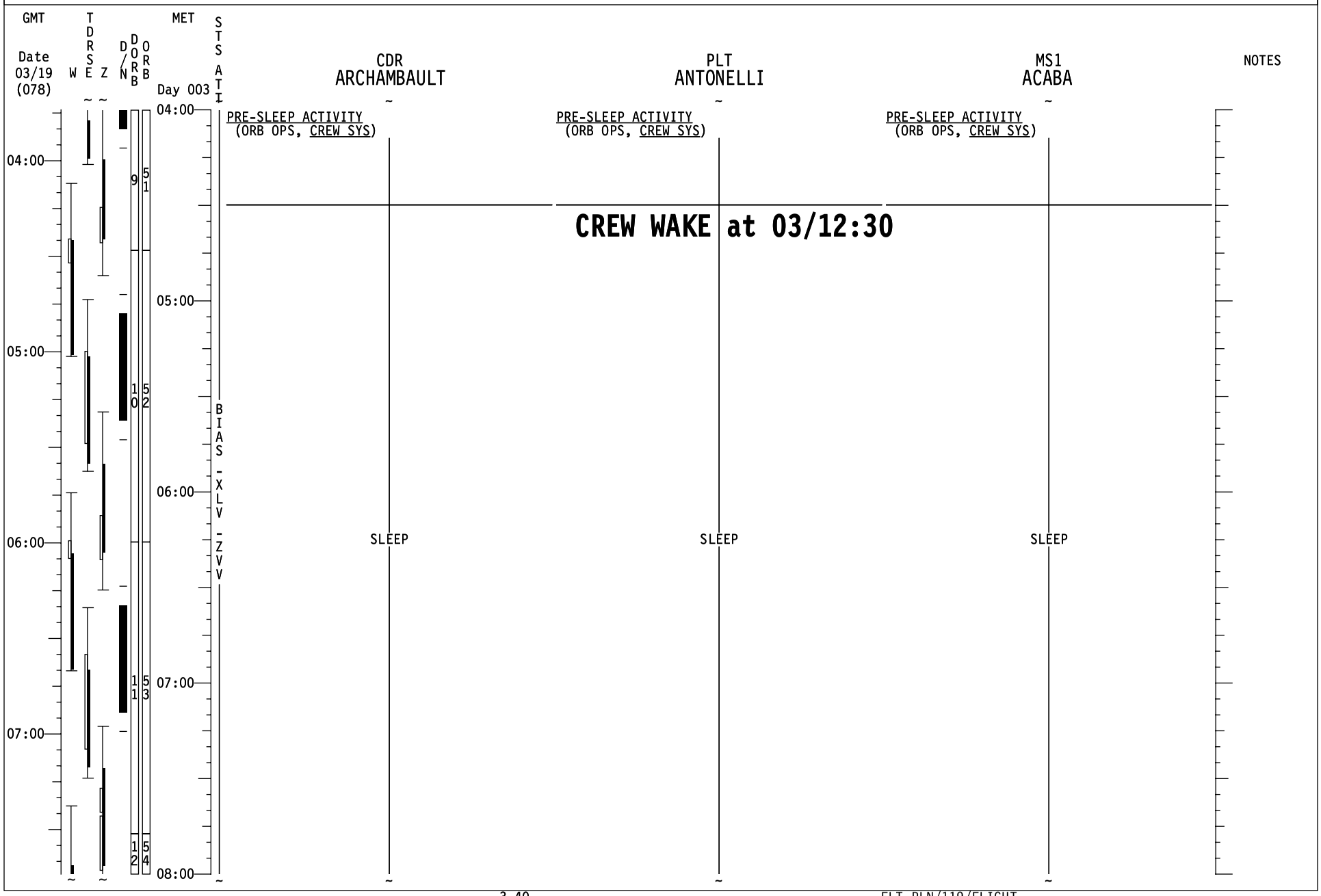
MS2 SWANSON	MS3 ARNOLD	MS4 PHILLIPS	NOTES
PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	CYCLE ERGOMETER OPS (ORB OPS, CREW SYS) Perform ALTERNATE ERGOMETER EXERCISE √MCC-H Prior to start	
		MUS (ASSY OPS, PAYLOADS)	
		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
EVA PROCEDURE REVIEW Ref. EVA 1 (EVA, TIMELINES)	EVA PROCEDURE REVIEW Ref. EVA 1 (EVA, TIMELINES)	EVA PROCEDURE REVIEW Ref. EVA 1 (EVA, TIMELINES)	
PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
EVA SYSTEMS: 1.206 10.2 PSIA CAMPOUT MASK PREBREATHE REF: EVA 1 TOOL CONFIG (EVA, TIMELINES)	EVA SYSTEMS: 1.206 10.2 PSIA CAMPOUT MASK PREBREATHE REF: EVA 1 TOOL CONFIG (EVA, TIMELINES)		

Time scale: 00:00, 01:00, 02:00, 03:00 (GMT); 00:00, 01:00, 02:00, 03:00, 04:00 (MET)

Day 003 STS ATT: BIAS-XLV-ZVV

Day 003 ORB: 6 48, 7 49, 8 50, 9 51

STS-119 FD (04)


GMT
Date 03/19 (078)
W
TDRSE
Z
D/N
DORB
ORB
MET
Day 003
STS ATI
CDR ARCHAMBAULT
PLT ANTONELLI
MS1 ACABA
NOTES
04:00
05:00
06:00
07:00
08:00
9
10
11
12
51
52
53
54
PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)
PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)
PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)
CREW WAKE at 03/12:30
BIAS -XLV -ZVV
SLEEP
SLEEP
SLEEP

STS-119 FD (04)

GMT Date 03/19 (078) | W | TDRS E | Z | D/N | DORB 9 10 11 12 | ORB 51 52 53 54 | MET Day 003 | STS ATT BIAS -XLV -ZVV

MS2 SWANSON | MS3 ARNOLD | MS4 PHILLIPS | NOTES

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

CREW WAKE at 03/12:30

05:00

06:00 — SLEEP

07:00

08:00

Good Morning Discovery!
Not only was your rendezvous flawless, but the view during the RPM of the Earth and ISS was so inspiring that we dimmed the lights in MCC and replayed it for the team. Great job!

YOUR CURRENT ORBIT IS: 198 X 185 NM

NOTAMS:

NOTAMS - ONE CHANGE

EDW -	EDW IN USE. EDT ELS DAY / VFR ONLY.
EDW -	LAKEBED RUNWAYS RED - WET.
NOR -	LAKEBED RUNWAYS GREEN.
FMH -	TACAN PVD103 DME ONLY.
DOV -	RWY 14/32 CLOSED.
MRN -	TACAN AOG23 OTS.
WAK -	TACAN AWK82 OTS.
HAW -	**TACAN ASI59 DME OTS.**
IKF -	NOT USABLE. NO AGREEMENT.
BEN -	NOT RECOMMENDED/NOT SUPPORTED.

NEXT 2 PLS OPPORTUNITIES:

EDW22 ORB 49 – 3/01:02 SCT250 7 240/5P8
EDW22 ORB 64 – 3/23:54 SCT120 BKN200 7 240/10P16

OMS TANK FAIL CAPABILITY:

L OMS FAILS: NO
R OMS FAILS: NO

LEAKING OMS PRPLT BURN:

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

OMS QUANTITIES(%)

L OMS OX = 36.1 R OMS OX = 35.8
FU = 35.6 FU = 35.8
Subtract interconnect counter for current OMS quantities.

DELTA V AVAILABLE:

OMS	332 FPS
ARCS (TOTAL ABOVE QTY1)	36 FPS
TOTAL IN THE AFT	368 FPS
ARCS (TOTAL ABOVE QTY2)	65 FPS
FRCS (ABOVE QTY 1)	37 FPS
AFT QTY 1	85 %
AFT QTY 2	48 %

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

The FD03 MMT met briefly to review mission progress with only a few items of discussion. The team heard the ascent quick look report and the overall performance of the integrated ascent GN&C system was very good. Also, the Damage Assessment Team is on schedule with their assessment and should have final results soon. Thus far, the team has noted a small fray on the Nose Landing Gear Door thermal barrier and two gap filler protrusions on the left OMS pod. Neither of these items present any concern. The team is looking forward to a successful rendezvous and docking and the start of the mated portion of the mission.

Shuttle Ergometer Anomaly: After several unsuccessful troubleshooting attempts, the team is developing workaround options to use Station exercise assets to backfill the current unavailability of the shuttle ergometer. The team will continue to investigate other options.

John & Ricky,

You did very well on your first day of transfer, and we were happy to see downlink video of some of those bags traveling across the hatch!

Today the choreography is light – some Dome Gene items for Koichi and a returning PWD sample. You, Joe, & Swanny can use the scheduled transfer time working on resupply as desired – any items that do not have a flight day constraint listed in the notes column are fair game.

The Transfer List Excel file, FD4_Transfer_List_STS119.xls, locations are:

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

<u>FD04 Transfer Choreography</u>

- Koichi: Resupply Item 21 & 24: Transfer Dome Gene hardware to ISS per Dome Gene Transfer activity.
- Koichi: Resupply Item 21.1: Transfer the apparatus you temp stowed on FD02 to its returning middeck locker.
- Koichi: Return Item 721: Transfer returning Dome Gene foam after your Dome Gene activities.
- Sandy: Return Item 729: Transfer returning PWD sample to the middeck per IFM-PWD-FLUSH activity.

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

In the Transfer List **RETURN** tab
Replace the following pages:
Return 8, 9 & 10
Add the following page:
Return 11

Changes to the Transfer List are detailed below:

<u>RETURN</u>
Item 724 – item deleted
Item 729 – activity reference updated
Item 734 – item details updated
Item 735 – item details updated & activity reference added
Item 900 – new item
Item 901 – new item

<u>FD05 Transfer Choreography</u>

- Koichi & Sandy: Resupply Item 14: Transfer PCDF-PU per PCDF-PU Transfer activity

Have a great day and let us know if you have any questions!
- The 15A Transfer Team

Please make the following Pen and Ink changes to both the Red and Brown Robotics – Flight Supplement books.

Procedure 1.130 S6 Install and Release Step 5, page 38:

FROM: 5. ATTITUDE CLEANUP

If using shuttle attitude control and attitude maintenance required

DAP Update: A12/FREE/VERN
CA 4 (ITEM 28+4 EXEC)
DAP: (Wait 30 seconds) LVLH

When rates damped
DAP: FREE > 2 seconds
DAP: AUTO

When in attitude and rates damped
DAP: FREE

TO: 5. ATTITUDE CLEANUP

If using shuttle attitude control and attitude maintenance required

DAP Update: A12/FREE/VERN
Rot Rate = 0.04 (ITEM 23 + 0.04 EXEC)
Rate DB = 0.06 (ITEM 25 + 0.06 EXEC)
CA 4 (ITEM 28+4 EXEC)
DAP: (Wait 30 seconds) LVLH

When rates damped
DAP: FREE > 2 seconds
DAP: AUTO

When in attitude and rates damped
DAP: FREE

Procedure 1.420 SPDM Assembly Support Step 10, page 97:

FROM: 10. LEE LUBRICATION

NOTE
EV crew will require the WR joint at multiple positions to perform the LEE Lubrication. Apply Brakes at each Lubrication access point. Repeat step 10 as required by EV crew.

On EV GO, ready for Wrist Roll GCA:

DCP BRAKES SSRMS → OFF (Verify OFF)

PCS MSS: SSRMS: SSRMS

Enter Mode – Single (Verify blue)

DCP JOINT SELECT → Wrist Roll (Verify WR – Selected on PCS)

RHC RATE → COARSE (Verify Coarse on PCS)

THC Perform "+" and "-" Single Joint WR GCA as required by EV crew for LEE Lubrication access.

DCP BRAKES SSRMS → ON (Verify ON)

TO: 10. LEE LUBRICATION

NOTE
EV crew will require the WR joint at multiple positions to perform the LEE Lubrication. Apply Brakes at each Lubrication access point. Repeat step 10 as required by EV crew.

On EV GO, ready for Wrist Roll GCA:

DCP BRAKES SSRMS → OFF (Verify OFF)

PCS MSS: SSRMS: SSRMS

Enter Mode – Single (Verify blue)

DCP JOINT SELECT → Wrist Roll (Verify WR – Selected on PCS)

~~RHC RATE → COARSE (Verify Coarse on PCS)~~

THC Perform "+" and "-" Single Joint WR GCA as required by EV crew for LEE Lubrication access.

DCP BRAKES SSRMS → ON (Verify ON)

During the 15A pre-launch checkout, two of the three LEE B snare cables were observed in a 'C-curve' configuration. This configuration could prevent successful completion of a grapple operation. The definitive source of the problem is not yet known and is assumed to be a possibility for both LEE A and LEE B. MCC-H was able to return the cables to a nominal configuration by closing and opening the snare cables.

In order to confirm that the SSRMS LEE Snare cables are in the proper configuration for grapple operations during 15A, confirm with video that the snare cables do not protrude into the capture envelope prior to each grapple at the beginning of each step noted below. The following SSRMS positions and camera configurations are ideal for this task.

Procedure	Step	Position Name	Camera	Notes
1.120 S6 Handback and Maneuver to Overnight Park	3	S6 Handoff Pre-Grapple	SRMS Elbow (-21, +18)	Prior to second S6 grapple. SRMS at S6 Handback.
2.110 SSRMS Walkoff to Node 2 PDGF	4	Columbus Clearance	SRMS Elbow (-110, +40)	Prior to Node 2 walkoff. SRMS at OBSS pre-grapple at handoff.
2.120 OBSS Grapple-Unberth-Handoff to FI Viewing	4	OBSS Intermediate	S1 LOOB (+53, +24)	Prior to first OBSS grapple
2.130 OBSS Grapple-Handback-Berth to Ungrapple	3	OBSS Pre-grapple at Handoff	Camera B (-7, +41)	Prior to second OBSS grapple
2.140 SSRMS Walkoff to MBS PDGF 1 and Maneuver to Translate	3	OBSS Intermediate	S1 LOOB (+53, +24)	Prior to PDGF 1 walkoff

If the snare cables are not in the correct configuration, execute the following steps, which will close the snares, then open the snare as part of the LEE Setup for Capture command.

The picture below shows the two snare cables in the 'C-curve' configuration.

1. SNARE CLOSE

PCS MSS: SSRMS: Tip LEE: SSRMS Tip LEE

cmd 'Snare' Close ▶ Slow, Soft Stops

Verify Speed – Slow
Verify Stops – Soft

Verify '**Confirm or Terminate**' prompt.

CAUTION
Due to end-to-end system latency, the RHC Trigger is hot up to 3 seconds prior to receiving a Trigger Hot icon status on the PCS.

NOTE
Once the trigger is hot, only safing or trigger commands should be sent to the Robotics equipment. If a configuration change is required, including routing MSS Cameras, safe the system to exit LEE operations (SCR 23262, 14662).

cmd Confirm (Verify RHC Trigger Hot icon)

Verify LEE Mode – Close Snares

RHC TRIGGER → press (hold until 'Snare' Brakes – On) (12 s max)

PCS Verify 'Snare' Close – blue

2. <u>LEE SETUP FOR CAPTURE</u>

cmd Capture ▶ Setup ▶ Slow (Verify Speed – Slow)

Verify '**Confirm or Terminate**' prompt.

cmd Confirm (Verify Trigger Hot icon)

Verify LEE Mode – Setup for Capture

RHC TRIGGER → press (momentarily)

PCS Verify 'Snare' Open – blue
Verify 'Carriage' Extend – blue
Verify 'Latch' Unlatch – blue
Verify Motors – Inh (340 s max)

CWC FILLS

	CWC No.	Record S/N Used	Mineral Kit Ref: Kit Table	Ag Biocide Kit Ref: Kit Table	Sample Kit Ref: Kit Table	CWC Label	CWC Launch Location
☐	1		S/N 1003	S/N 1003	S/N 1004 (Note A)	Blue (Pot)	**Must be filled first**. Launched in MD FLOOR (STBD 2, BAG D); Available Potable S/Ns: 1090 ☐ 1091 ☐ In pregathered M-02 bag (Note E); Available Potable S/Ns: 1085 ☐ 1094 ☐ 1083 ☐ 1084 ☐ 1086 ☐ 1089 ☐
☐	2		S/N 1003	S/N 1003	S/N 1004 (Note A)	Blue (Pot)	
☐	3		S/N 1003	S/N 1003	S/N 1004 (Note A)	Blue (Pot)	
☐	4		S/N 1003	S/N 1003	S/N 1004 (Note A)	Blue (Pot)	
☐	5		S/N 1003	S/N 1003	S/N 1004 (Note A)	Blue (Pot)	
☐	6		S/N 1003	S/N 1003	S/N 1004 (Note A)	Blue (Pot)	
☐	7		Not Req'd	S/N 1006	S/N 1004 (Note A)	Green (Tech)	In pregathered M-02 bag (Note E); Available Technical S/Ns: 1008 ☐ 1029 ☐ 1051 ☐ 1030 ☐ 1050 ☐ 1064 ☐ 1069 ☐
☐	8		Not Req'd	S/N 1006	S/N 1004 (Note A)	Green (Tech)	
☐	9		Not Req'd	S/N 1006	S/N 1004 (Note A)	Green (Tech)	
☐	10 (Note F)		Not Req'd	S/N 1006	S/N 1004 (Note A)	Green (Tech)	
☐	11 (Note F)		Not Req'd	S/N 1006	Not Req'd	Green (Tech)	

Pre-Fill Checklist:

- Disinfect CWC QD and Transfer Hose QD
  1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐ 8☐ 9☐ 10☐ 11☐

Post-Fill Checklist:

- Take Sample, filling Sample Bag nearly full
  1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐ 8☐ 9☐ 10☐
- Record MET on Sample Bag label
  1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐ 8☐ 9☐ 10☐
- Check correct label is in CWC window
  1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐ 8☐ 9☐ 10☐ 11☐
- Check correct decal on CWC end
  1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐ 8☐ 9☐ 10☐ 11☐
- Check correct CWC S/N on end decal
  1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐ 8☐ 9☐ 10☐ 11☐
- Report S/N to MCC
  1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐ 8☐ 9☐ 10☐ 11☐
- Transfer CWC to NOD2D2
  1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐ 8☐ 9☐ 10☐ 11☐
- Cap Transfer Hose QD between each fill

CWC Fill Notes:

A. Stow filled sample bags and purge bag (only one purge is done during the flight, at CWC Fill setup) in MF14E.
B. Rough handling may cause leakage.
C. Have towel ready to absorb any liquid released when mating/demating connections.
D. Fill each CWC for 52 min or Term CWC Fill on MCC call.
E. Pregathered M-02 bag (S/N 1026) originally located in NOD2D2. Some CWCs may still contain residual water (~ 10 lb/bag) and will be located outside the mesh bag. Prior to filling, report if bag has a significant amount of residual water.
F. CWCs #10 and #11 will be filled only if water quantities and mission duration allow.

Kit Table

Kit	S/N	Stowage Location	Undock Location
Sample/Purge Kit	1004	MD FLOOR (STBD 2, BAG D)	MD CEIL (STBD 2, BAG H)
Mineralization Kit	1003	MD FLOOR (STBD 2, BAG D)	MD CEIL (STBD 2, BAG H)
Ag Biocide Kit	1003	Pregathered M-02 bag (Note E)	MD CEIL (STBD 2, BAG H)
Ag Biocide Kit	1006	Pregathered M-02 bag (Note E)	NOD2D2 (M-02 Bag, S/N 1026)

PWR OPS

	PWR No.	PWR S/N	Stowage Location	Actions
☐	1	1026	Pregathered M-02 Bag (Note E)	Dump, fill and transfer to A/L1D1

PWR Fill Notes: Do not detach PWR (EMU H2O Recharge Bag) QD restraint during PWR ops.
PWR will be dumped using the Supply Water Dump system.

Rev. B - 03/17/2009 [FD3]

ERGOMETER TROUBLESHOOTING PART 3 (45 min)

OBJECTIVE: Troubleshoot/unjam cycle Ergometer. Concept is to reseat braking band and/or untwist calibration strap on flywheel, check for floating debris.

LOCATION: Cycle Ergometer on Middeck

TOOLS REQD:

MF28G Tray 1	Gray Tape
	Torque Wrench (10-50 in-lb)
MF28G Tray 3	¼ in Drive Ratchet
	4 in Extension ¼ in Drive
ISS IVA Tools Drawer 2	2.5 mm Hex Head ¼ in Drive
MF43M	Vacuum
MISC	T-Shirt (to collect debris)
	Ziplock bags (size sufficient to put T-Shirt filter in)
	Sharpie

NOTE:
If at any point during following steps a grinding noise/rattling sounds are heard from within ergometer, stop activity, call MCC

NOTE:
Ergometer braking band contains a pigtail calibration strap that could be causing internal binding on flywheel. Following steps will attempt to reduce slack in braking band to prevent binding on flywheel, help realign braking band on flywheel if it has become unseated

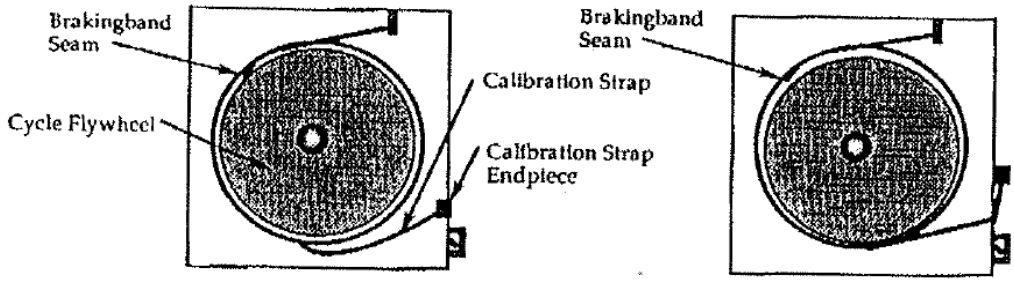
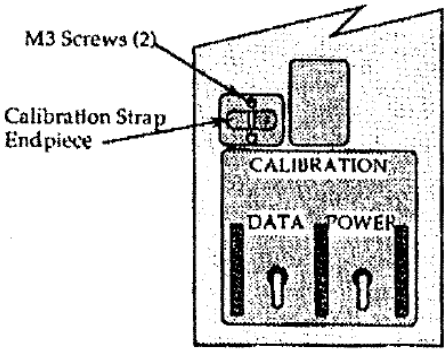


Figure 1 – Drawing of Ergometer Flywheel, Braking Band, Calibration Strap

Middeck 1. √ ERGOMETER ON/OFF - OFF

2. Remove M3 screws (two) (ref. Figure 2, items 43 and 44) from square bracket. (¼ in Drive Ratchet, 4 in Extension ¼ in Drive, 2.5 mm Hex Head ¼ in Drive) Temp stow screws

3. Extend calibration strap out of Ergometer casing by pulling out on endpiece bracket. Ensure that strap is not twisted



Figures 2 & 3 – Location of Calibration Strap Endpiece

Figure 4 – Removal of Calibration Strap Bracket

4. Assemble Vacuum Cleaner with Flex Hose (black rubber) attachment
5. Cut 6x6 in square from T-Shirt
6. Wrap square around tip of Flex Hose attachment to use as filter. Secure with Gray tape
7. Dampen T-Shirt filter at tip of hose to help hold debris in place
8. Cover the bracket opening with filter end of Flex Hose attachment
9. VACUUM – ON
10. Operate vacuum for 5 minutes
11. Remove Flex Hose from bracket opening, check T-Shirt filter for debris. If found, photograph
12. VACUUM - OFF
13. Remove T-Shirt filter from end of Flex Hose using care to retain debris on filter. Place T-Shirt filter in Ziplock bag

14. Using Sharpie, label Ziplock bag as “Ergometer Filter Debris”, stow with Vacuum Cleaner

15. While holding calibration strap tight, rotate pedals forward. (If the band is not aligned on internal flywheel, rotating pedals while holding strap should seat braking band back into its groove.) If pedals are able to be rotated forward, go to step 17

16. If unable to rotate pedals forward, reinstall calibration strap bracket using M3 screws (two) torque to 16 in-lb (torque wrench 2.5 mm Hex Head, ¼” Drive). Exit procedure and stow tools. Report status to MCC

17. Use Gray Tape to secure calibration strap to Ergometer housing. Refer to figure 5. This will prevent excess slack from potentially binding with flywheel/other Ergometer internal components

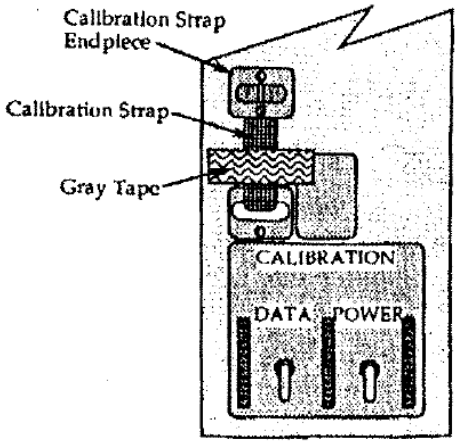


Figure 5 – Location for Gray Tape

18. Insert manual knob, rotate pedals forward. Verify change of resistance with rotation of the manual knob. Report to MCC

19. Remove the manual knob

20. Cover broken decal over stepper motor control port with Gray Tape

21. ERGOMETER ON/OFF - ON

22. While rotating pedals forward, adjust POWER REF (W) on Control Panel. Verify Control Panel is regulating resistance. Report to MCC

23. Stow M3 screws (two) in Ziplock bag, place in Ergometer accessory bag.

24. Stow tools