

STS-115/12A

FD 05 Execute Package



MSG	Page(s)	Title
048	1 - 2	FD05 Summary Timeline (pdf)
046	3 - 13	FD05 Flight Plan Revision (pdf)
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049	16 - 17	FD05 Transfer Message (pdf)
050	18	FD05 Water Summary Message (pdf)
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053	21	EVA 2 Summary Timeline Updates (pdf)
054	---	FD04 MMT Summary (pdf - Electronic Only)

Approved by FAO: *M. Scheib*

Last Updated: Sep 13 2006 3:09AM GMT

JEDI (Joint Execute package Development and Integration), v2.04.0003

REPLANNED

09/12/06 20:00 NO RRCS
NO UNISOLATED EXERCISE

FD05

GMT 09/13/06 (256)

MET Day 003

		12	13	14	15	16	17	18	19	20	21	22	23	15 004/00		
S T S - 1 1 5	CDR JETT	SLEEP	POST SLEEP	PMCA/G HYG BRK/HATCH CLS	CAMPOUT EVA PREP		EMURGE	EMU PREBREATHE	C LK DPRS	EXERCISE	MEAL	P/TV07 EVA OPS				
	PLT FERGUSON	SLEEP	POST SLEEP	EVA**	POST SLEEP	IOLFUM IIFNIB	EXERCISE	C IWN C I T #3	C T W E R M	C I W N C I T #4	MEAL	C T W E R M	C W C XFER	XFER OPS		
	MS1/EV1 TANNER	SLEEP	POST SLEEP	DCS FMT	POST SLEEP		P/TV07 EVA SETUP	EVA2 IVA SPPT								
	MS3/EV2 PIPER	SLEEP	POST SLEEP	DCS FMT	760 EVA CAMR S/U	POST SLEEP		EXERCISE	SSRMS CAMERA VIEWING		MCO EHU TGT OK	EMU BATT INIT	SSRMS CAMERA VIEWING			
	MS2/EV3 BURBANK	SLEEP (IN ISS A/L)	POST SLEEP	HYG BRK/PREBREATHE	A/L REPI	10.2 DPRS	CAMPOUT EVA PREP	EMURGE	EMU PREBREATHE	C LK DPRS	EVA 2 EGRESS/SETUP	SARJ PREP		RMV&STW P3 KEEL PIN	C/LINUGPR	
	MS4/EV4 MACLEAN	SLEEP (IN ISS A/L)	POST SLEEP	HYG BRK/PREBREATHE	CAMPOUT EVA PREP		EMURGE	EMU PREBREATHE	C LK DPRS	EVA 2 EGRESS/SETUP	SARJ PREP		RMV&STW P3 KEEL PIN	C/LINUGPR		
I S S	ISS CDR	SLEEP - ISS	POSTSLEEP-ISS	PREP WORK	DPC	TVIS		BITC LKT RMV	MIDDAY-MEAL	TK-PACK-PREP		TVIS	DPART PREP			
	FE-1	SLEEP - ISS	POSTSLEEP-ISS	PREP WORK	DPCAM	Γ-21P-XFER		TVIS	MIDDAY-MEAL	DPART PREP	*	SODF*	XFER OPS	TVIS		
	FE-2	SLEEP - ISS	POST SLEEP ISS	HYG BRK/HATCH CLS	PW	CAMPOUT EVA PREP	EMURGE	EMU PREBREATHE	C LK DPRS	MIDDAY-MEAL	MCO EHU TGT OK	EMU BATT INIT	TVIS	XFER OPS		
DAY/NIGHT		[Bar]		[Bar]		[Bar]		[Bar]		[Bar]		[Bar]		[Bar]		
ORBIT		56	57	58	59	60	61	62	63	64						
DAILY ORBIT		14	15	1	2	3	4	5	6	7						
TDRS		W -171.0	[Bar]		[Bar]		[Bar]		[Bar]		[Bar]		[Bar]		[Bar]	
		E -46.0	[Bar]		[Bar]		[Bar]		[Bar]		[Bar]		[Bar]		[Bar]	
		Z -275.0	[Bar]		[Bar]		[Bar]		[Bar]		[Bar]		[Bar]		[Bar]	
ORB ATT		BIAS -XLV -ZVV														
NOTES		*COMM Config										*12A-COLDBAG-CLN/STW				

FD05

GMT 09/13/06 (256)

NO UNISOLATED EXERCISE

09/12/06 20:25:34

REPLANNED

MET Day 004

		004/00		16	17	18	19	20	21	22	23	09/14	01	02	03	12
STS-115	CDR JETT	P/TV 09 S/U	H/O	M-NX VLR	COM ^	PRE SLEEP	PMC A/G	PRE SLEEP	H/O	MUNDRAT	SLEEP					
	PLT FERGUSON	XTFAIRG RUIP	BRICHEN T	FCMS C/O	PSRLN EEP	SICOND*	SINIMOT	SO STVU 2A	PRE SLEEP	STE MR OM	COND CWC DUMP	PRE SLEEP	SLEEP			
	MS1/EV1 TANNER	EVA2 IVA SPPT	POST EVA W/H2O, MTX			12A EMU SWAP EVA2	760*	PRE SLEEP		SLEEP						
	MS3/EV2 PIPER	XTFAIRG RUIP	CRP TRKS	POST EVA W/H2O, MTX			12A EMU SWAP EVA2	PRE SLEEP		SLEEP						
	MS2/EV3 BURBANK	C/ LINNUG PR	CRP TRKS	POST EVA W/H2O, MTX			BISN AIT	PRE SLEEP		SLEEP						
	MS4/EV4 MACLEAN	C/ LINNUG PR	CRP TRKS	POST EVA W/H2O, MTX			BISN AIT	PRE SLEEP		SLEEP						
ISS	ISS CDR	COX MNT	IMS EDIT	PREP WORK	DPC	PRESLEEP-ISS		SLEEP - ISS								
	FE-1	TVIS	IWIS SETUP	JRN L	PREP WORK	DWPREP LWORK	DPC	PS	*	PS	SLEEP - ISS					
	FE-2	XTFAIRG RUIP	BRICHEN T	PREP WORK			DPC	PRESLEEP-ISS		SLEEP - ISS						
DAY/NIGHT		[Gantt chart showing day/night cycles]														
ORBIT		[Gantt chart showing orbit parameters]														
DAILY ORBIT		[Gantt chart showing daily orbit parameters]														
TDRS		[Gantt chart showing TDRS parameters]														
ORB ATT		[Gantt chart showing orb att parameters]														
NOTES		^DECONFIG *SWAP *CAM DISASSEMBLY WATER DUMP *CREW-CHOICE-EVENT BIAS -XLV +ZVV														

MSG 046 - FD05 FLIGHT PLAN REVISION

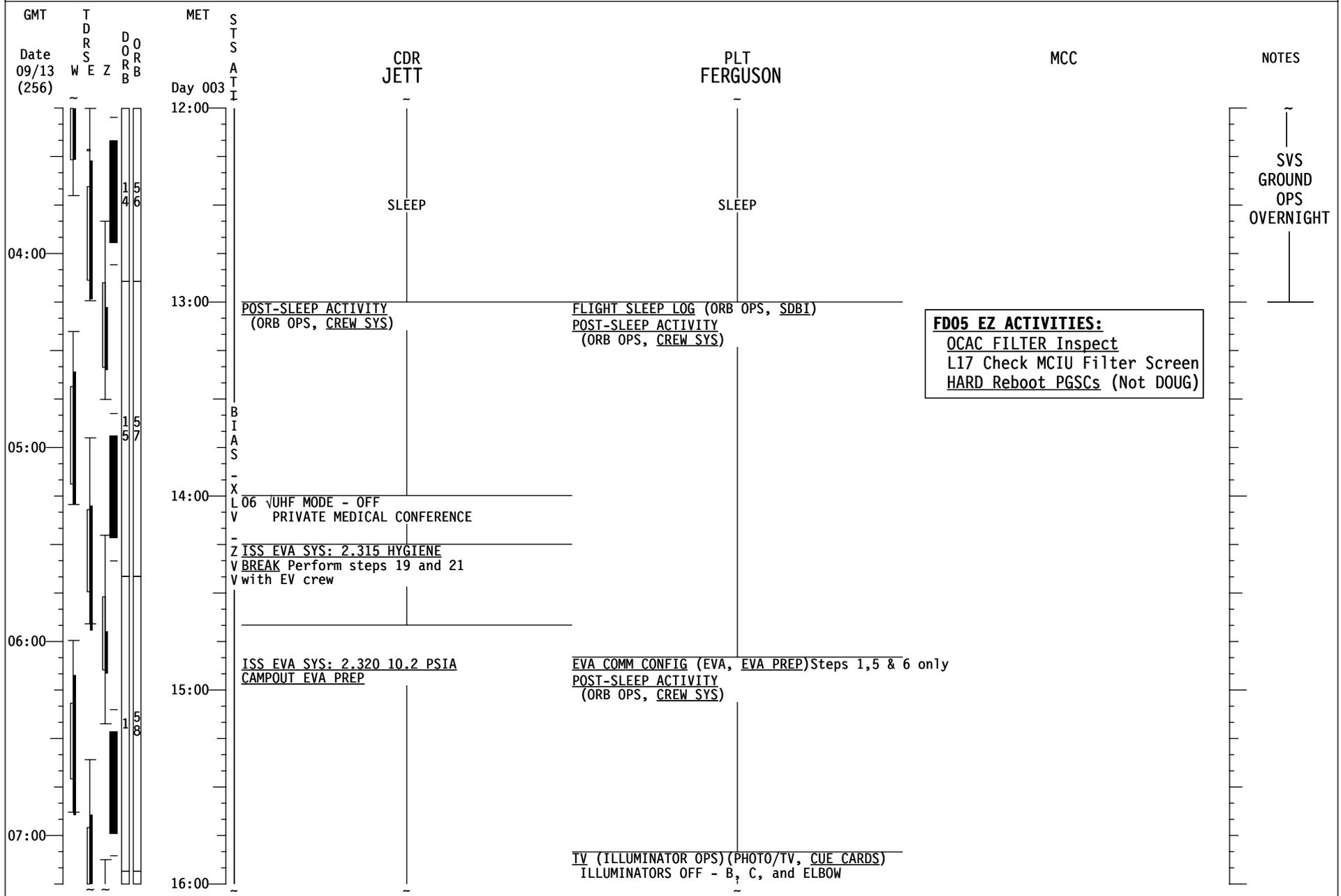
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MSG INDEX

<u>MSG NO.</u>	<u>TITLE</u>
46	FD05 Flight Plan Revision
47	FD05 Mission Summary (13-1202)
48	FD05 Summary Timeline
49	FD05 Transfer Message (13-1203)
50	FD05 Water Summary Message
51	EVA 2 Big Picture (13-1206)
52	FD05 Monitor Ops
53	EVA 2 Timeline Updates (13-1207)
54	FD04 MMT Summary (13-1208)

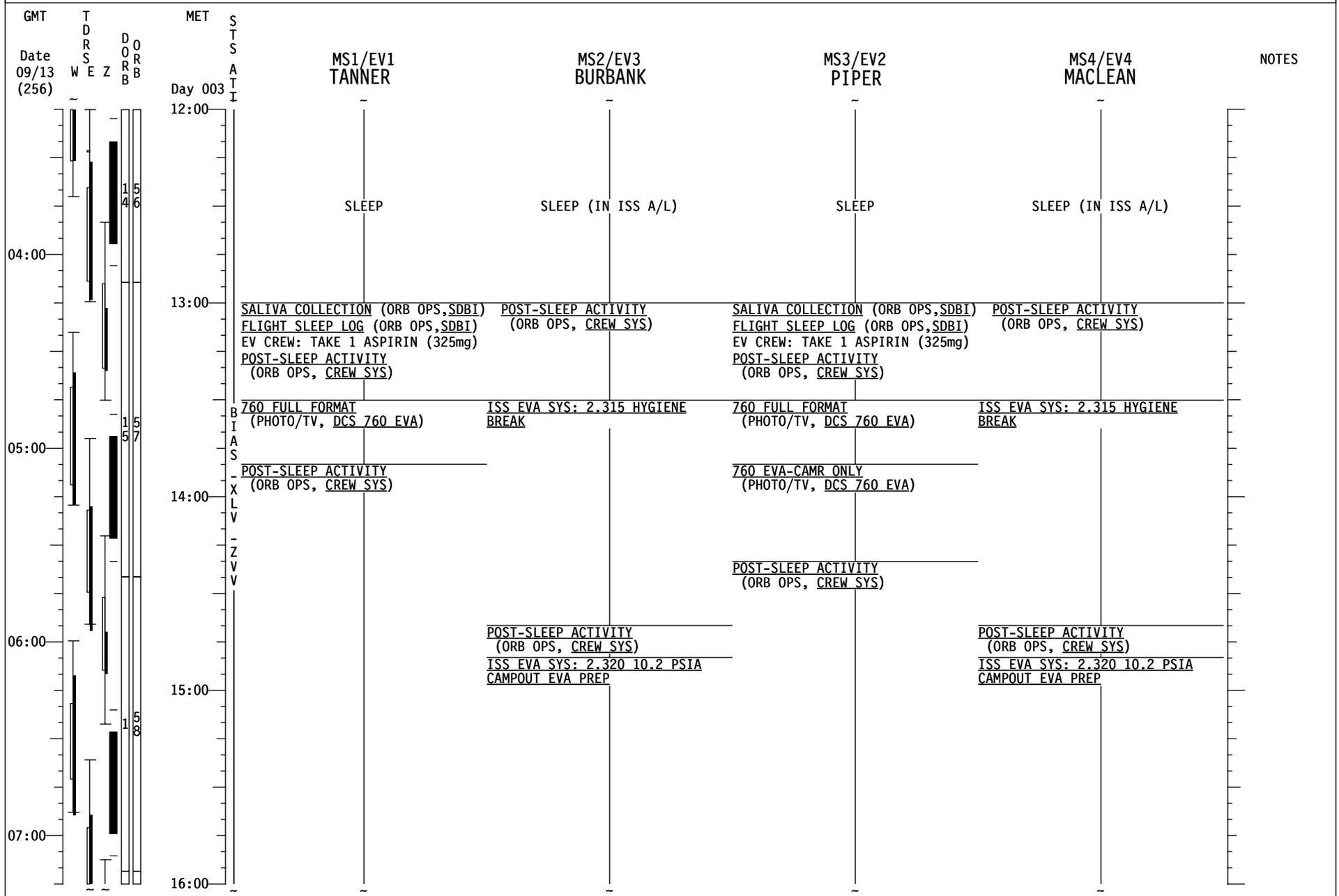
1. EV1 called down S/N 4056 and 2298 for the two retired RETs. 2298 does not correlate to any RET S/N being tracked on the ground. MCC requests the crew provide the S/N inscribed on that RET Box. It will most likely be a four-digit number beginning with a four (4xxx). Also, please provide any words with regards to the second RET release; MCC did not copy.
2. Reminder for exercise: Please be aware there are exercise constraints during and after the EVA, which fall near the scheduled exercise times. These are denoted on your summary and detailed pages for your reference.
3. REPLACE PAGES 3-44 THROUGH 3-53

STS-115 (FD05)

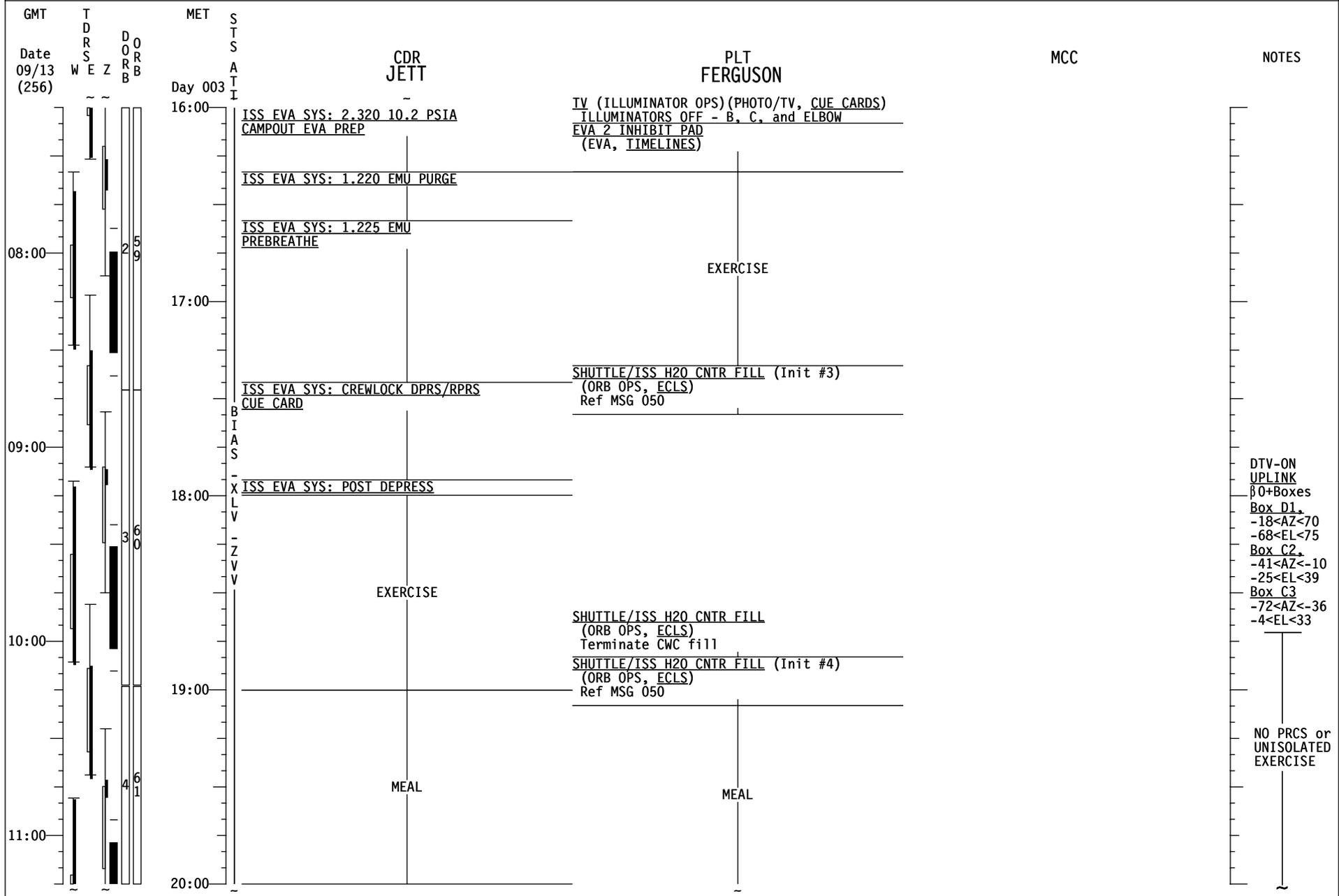


FD05 EZ ACTIVITIES:
 OCAC FILTER Inspect
 L17 Check MCIU Filter Screen
 HARD Reboot PGSCs (Not DOUG)

STS-115 (FD05)



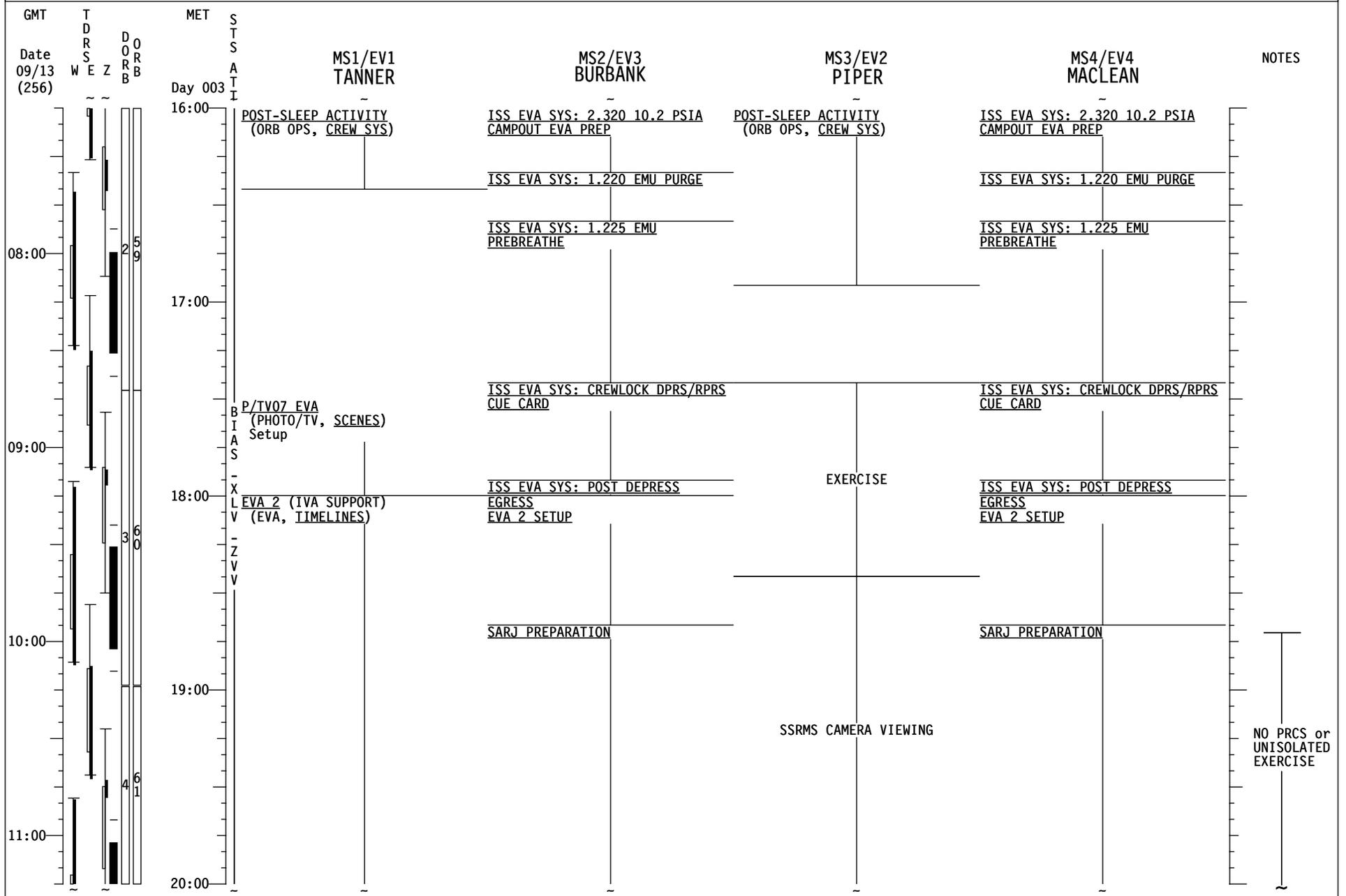
STS-115 (FD05)



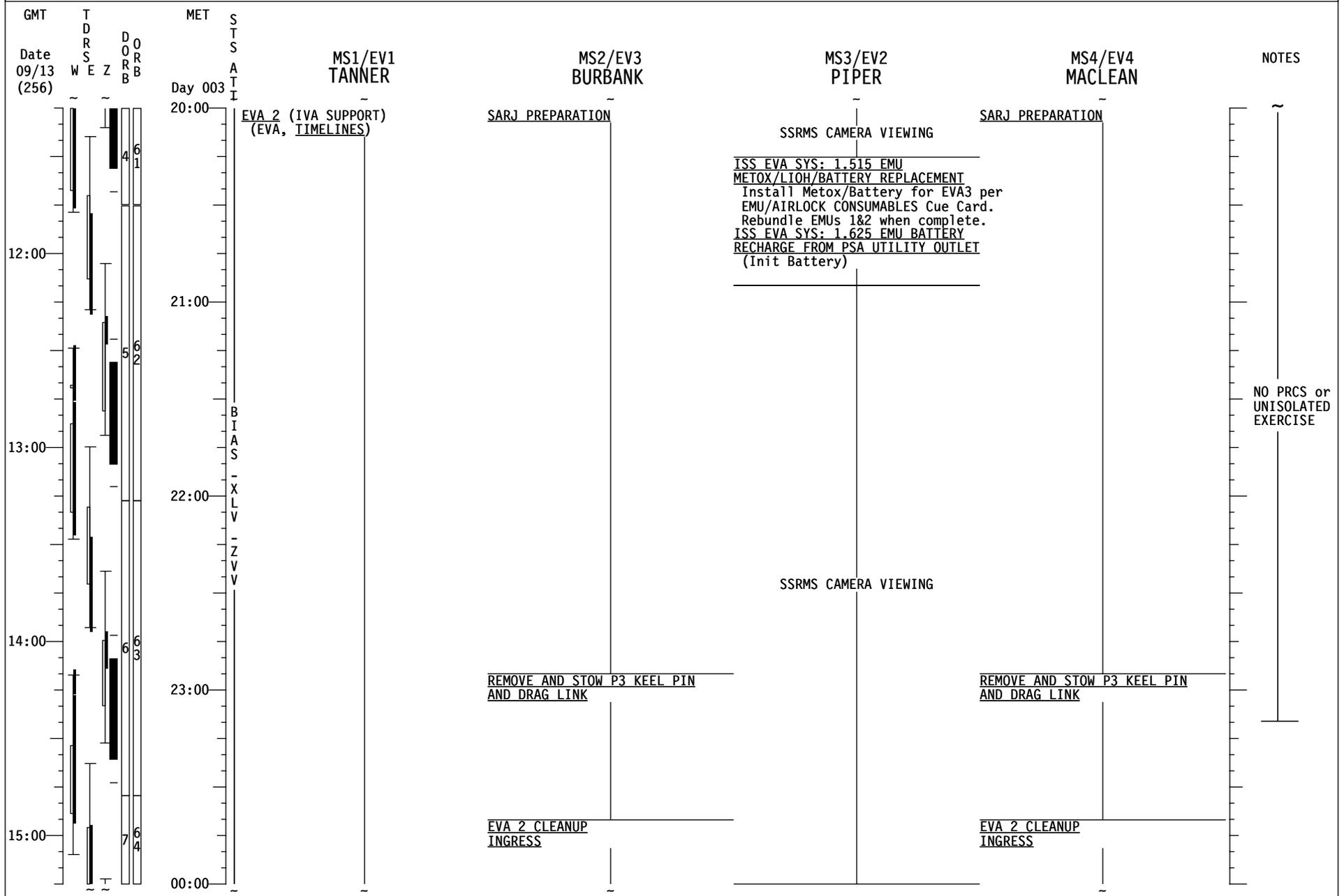
DTV-ON
UPLINK
β0+Boxes
Box D1
-18<AZ<70
-68<EL<75
Box C2
-41<AZ<-10
-25<EL<39
Box C3
-72<AZ<-36
-4<EL<33

NO PRCS or
UNISOLATED
EXERCISE

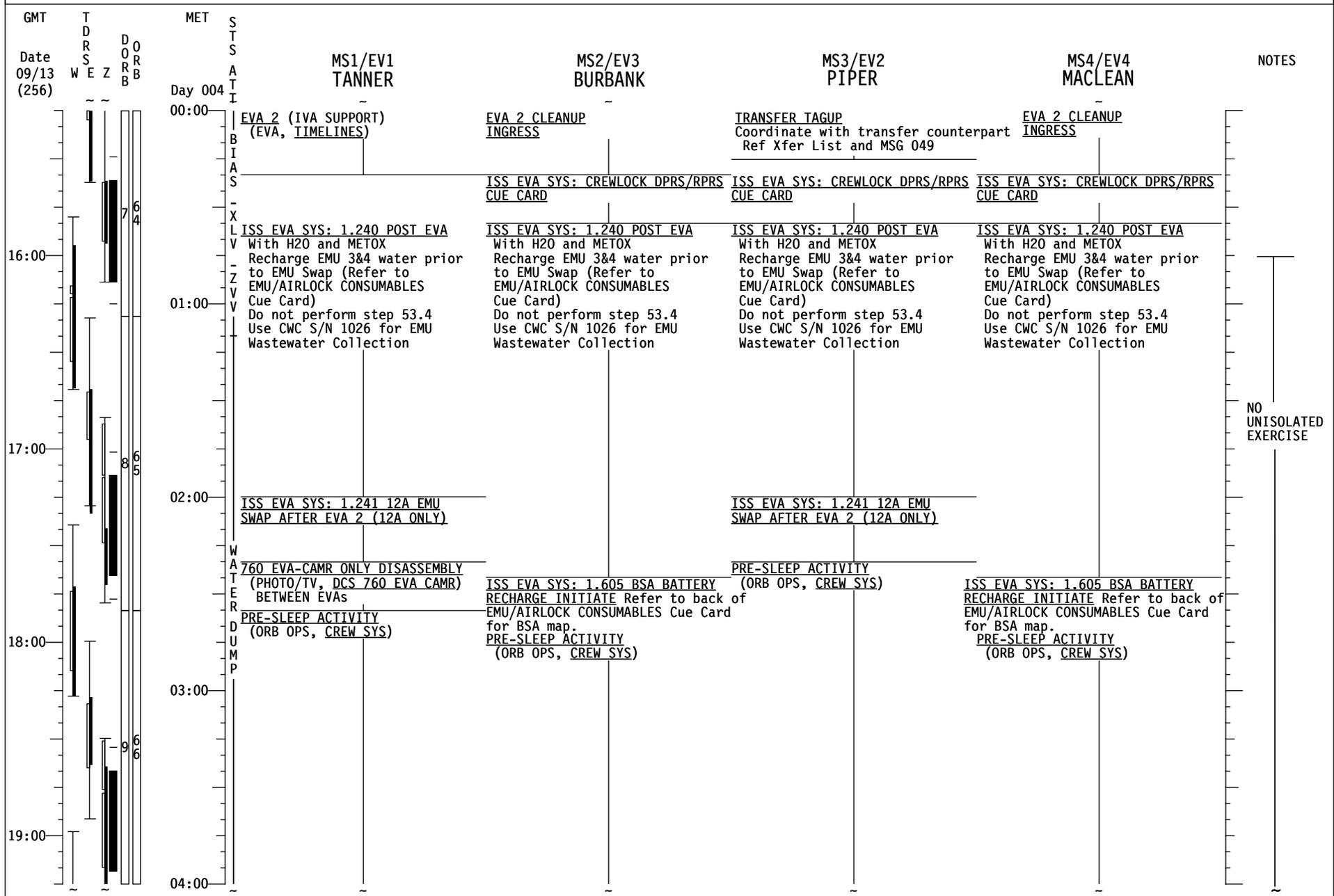
STS-115 (FD05)



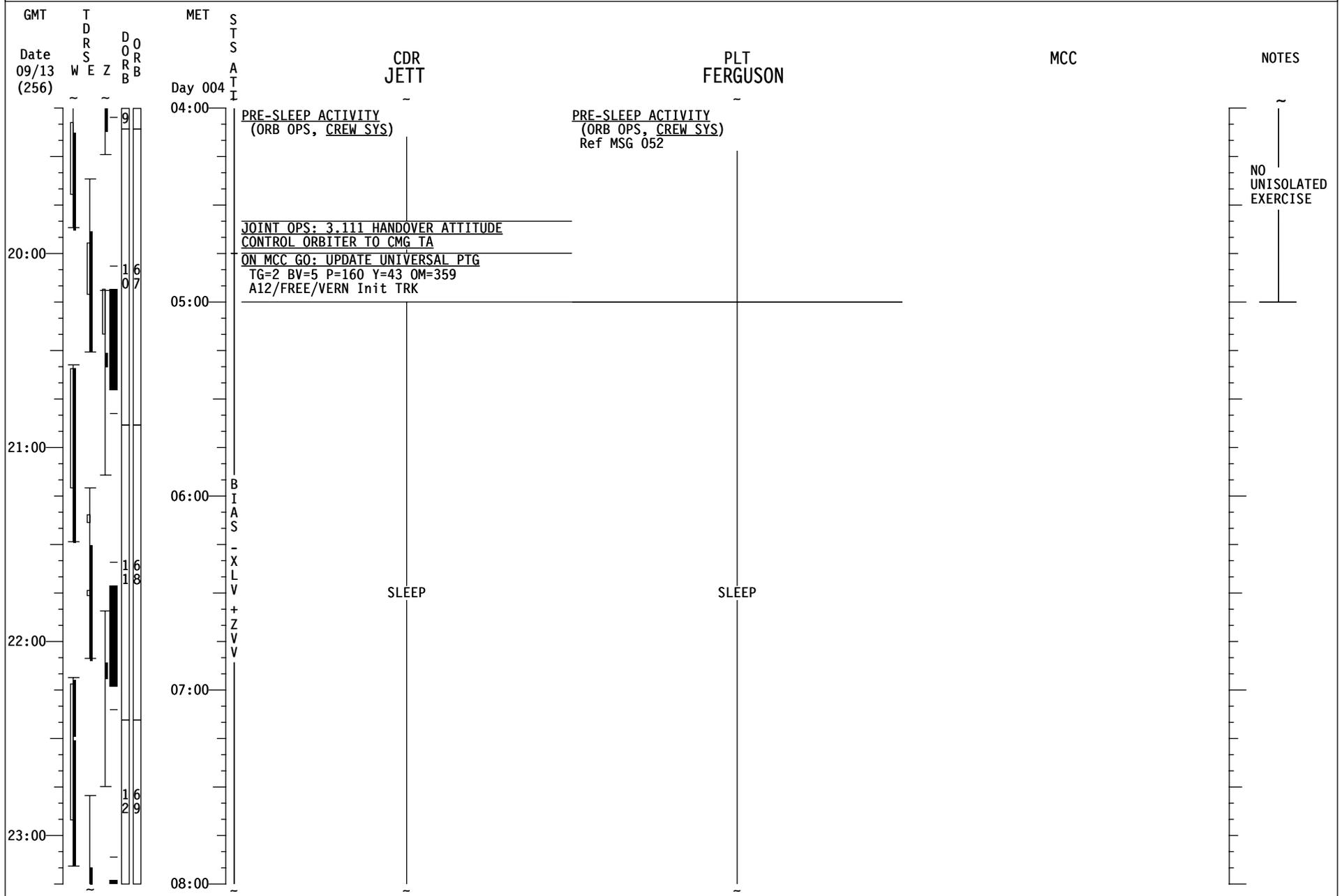
STS-115 (FD05)



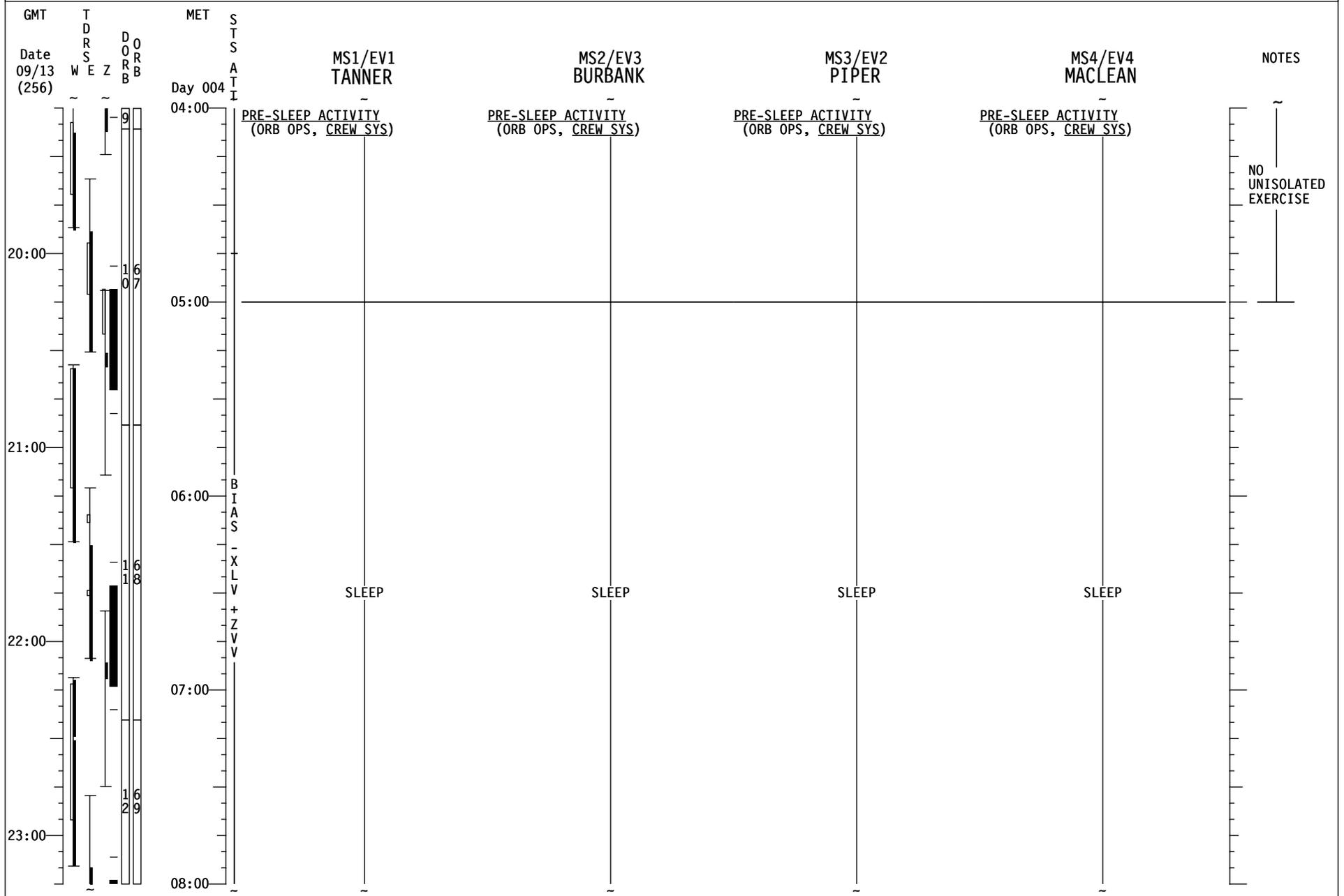
STS-115 (FD05)



STS-115 (FD05)



STS-115 (FD05)



MSG 047 (13-1202) - FD05 MISSION SUMMARY

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ARCS (TOTAL ABOVE QTY2)	70 FPS
FRCS (ABOVE QTY 1)	53 FPS
AFT QTY 1	89 %
AFT QTY 2	51 %

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

MSG 049 (13-1203) - FD05 TRANSFER MESSAGE

Page 1 of 7

1 Good Morning Heide, Steve, and Thomas!

2
3 Today you will have your first Transfer Tag-up and Briefing to notify the ground of the status
4 of transfer. For the Transfer Brief, please remember to report by Item # which items are
5 complete, and report any deltas to the transfer list that may have occurred.

6
7 The Transfer List Excel file, FD05_TransferList_STS115.xls, is located on the KFX machine
8 in **C:\OCA-up\transfer**.

9
10 For ISS, the Transfer List Excel file, FD05_TransferList_STS115.xls, is located in **K:\OCA-**
11 **up\transfer**.

12
13 Question for the Crew:

- 14 • On FD03 Brent mentioned there was a delta to the FD3 transfers, however no
15 Transfer Brief was scheduled so we have not yet received that information. Please
16 let us know what that delta was so we can update the Transfer List as required.

17 18 **Transfer Choreography for FD5:**

- 19 • Transfer Critical CHeCS items (Item #'s 19, 19.1, 19.2, 23, 23.1, 33, 34, 208, and
20 702)
- 21 • Complete EMCS CTB transfers and reconfigurations (Item #'s 30, 30.1, 30.2, 30.3,
22 31, 31.1, 31.2, and 31.3)
- 23 • Transfer Items required for EVA 3 from A/L Ext Floor Bag (Item #'s 9 thru 14)
- 24 • General Transfers

25 26 **Transfer Notes**

- 27 • The Middeck return-packing drawings will be uplinked on FD6 for your reference.
- 28 • The 'Yellow-tag' paperwork has cleared up for the new Defibrillator (Item #33) and
29 the Defibrillator Resupply Kit (Item #19.2). The yellow tags may now be removed
30 from this hardware, either during transfer, or during the DEFIB C/O on FD8.
- 31 • More yellow tag fun: a new item has been added to the transfer list, Item #208.
32 These Ice Packs have been certified for stowage on ISS, but not for use on ISS.
33 Therefore, these will need to be marked as 'Yellow-tagged: Check MCC-H before
34 use'. Unfortunately we have no spare yellow tags on ISS to place on these items, so
35 this will be done using a sharpie to write on the ziplock bag. Details in Transfer List.

36 37 **Please incorporate uplink pages as follows (call us with any questions):**

38
39 In the MDDK Transfer List '**RESUPPLY**' tab

40 Replace Page(s): 7, 13, 17, and 18

41 Add Page(s): none

42
43 In the MDDK Transfer List '**RETURN**' tab

44 Replace Page(s): 2

45 Add Page(s): none

46
47 In the MDDK Transfer List '**TRASH**' tab

48 Replace Page(s): none

49

50

MSG 049 (13-1203) - FD05 TRANSFER MESSAGE

Page 2 of 7

1 **Changes to the Transfer List are detailed below:**

2

3 **MIDDECK RESUPPLY**

4 **Item 19.2:** Updated constraints to note that the 'yellow-tag' on this item may be
5 removed, the item has been certified for use on ISS.

6 **Item 32:** Updated constraints to transfer after CWC fill #7 on FD7.

7 **Item 33:** Updated constraints to note that the 'yellow-tag' on this item may be
8 removed, the item has been certified for use on ISS.

9 **Item 205:** Updated 'Initial Stowage', added part number

10 **Item 206:** Updated 'Initial Stowage', added part number

11 **Item 208:** New Item

12 **Item 209:** New Item

13 **Item 210:** New Item

14

15 **MIDDECK RETURN**

16 **Item 407:** Updated weight

17 **Item 407.2:** New Item

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STS-115/12A Resupply Transfer List

CHNG	<input checked="" type="checkbox"/>	FD	Initials	Item #	Item Name	Qty	Initial Stowage	Temp Stowage	Stowage at Undock	Wt (lbs)	PROCEDURES/Constraints/ **Comments
				19	CHECS	1 sngl	MA9F		LAB1D1 Rack Front	24.85	**Remove and stow Item #'s 19.1 & 19.2. **Stow CTB with remaining items on Rack Front, near the top of the rack.
				19.1	ALSP Drug Pack	1	MA9F		LAB1D4_D1 {ALSP, s/n 1001}	3.75 (part of above)	**Swap. Ref Item #702 on the 'Return' Tab. If item does not fit in the designated location, swap locations with the AIRWAY SUBPACK (within the ALSP). Notify MCC-H if locations were swapped.
	X			19.2	Defibrillator Resupply Kit [s/n 1003]	1	MA9F	LAB1D4 Rack Front		6.7 (part of above)	The yellow tag on this item may now be removed, this item has been certified for use on ISS. Transfer prior to DEFIB C/O on FD8 **Transfer contents to lid of new HMS Defibrillator (Ref. Item #33) **This item will return on Middeck empty. Ref. Item #705 on the 'Return' Tab.

STS-115/12A Resupply Transfer List

CHNG	<input checked="" type="checkbox"/>	FD	Initials	Item #	Item Name	Qty	Initial Stowage	Temp Stowage	Stowage at Undock	Wt (lbs)	PROCEDURES/Constraints/ **Comments
X				32	SILVER BIOCIDES SYRINGE KIT [s/n 1001]	1	MD FLOOR PORT 1 (Bag A)	MDDK deployed	NOD1D2 {M-02 bag s/n 1026}	1.34	Transfer after 7th CWC fill is complete on FD7. **6 of these syringes are used for CWC fills.
X				33	HMS DEFIBRILLATOR [new] [s/n 1003]	1	MD FLOOR PORT 1 (Bag A)	LAB1D4 Rack Front	LAB1D4_J1	36.5	The yellow tag on this item may now be removed, this item has been certified for use on ISS. Checked out FD8 per {13-0027 2.8.375 DEFIBRILLATOR - CHECKOUT} {SODF: Uplinked Procedures: Med Ops} **Ref. Item #19.2 for items to stow in lid of Defibrillator prior to C/O of this item. **Swap. Ref. Item #717 on the 'Return' Tab for return of the 'OLD' Defibrillator.
				34	MICROBIOLOGY WATER ANALYSIS KIT - 3 [s/n's: 1168, 1169, 1170]	1 ziplock	MD FLOOR PORT 1 (Bag A)		NOD1D4_D1	1.2	

STS-115/12A Resupply Transfer List

CHNG	<input checked="" type="checkbox"/>	FD	Initials	Item #	Item Name	Qty	Initial Stowage	Temp Stowage	Stowage at Undock	Wt (lbs)	PROCEDURES/Constraints/ **Comments
Real Time Additions											
				201	RTV 142 [Item does not transfer]	1	MD FLOOR STBD 1 (Bag C)		MF43G	0.45	**Item does not transfer, but needs to change location in the middeck for return.
				202	433L TAPE	1	MD FLOOR STBD 1 (Bag C)		NOD1S4_B2 {0.5 CTB s/n 1195, b/c 006644J}	0.54	**Stow in 0.5 CTB: IMV/MPV/CDRA Parts, s/n 1195, b/c 006644J.
				203	FOAM APPLICATOR ASSEMBLY	1	MF28O		NOD1P4_A1 {0.5 CTB s/n 1099, b/c 006548J}	0.54	**Stow in Leak Patch kit (p/n 10105-10002-01), which is located inside 0.5 CTB: ISS Leak Kit, s/n 1099, b/c 006548J.
				204	CHEMICAL RESISTANT BAG ASSEMBLY	1	MF28O		NOD1P4_A1 {0.5 CTB s/n 1099, b/c 006548J}	0.05	**Stow in Leak Patch kit (p/n 10105-10002-01), which is located inside 0.5 CTB: ISS Leak Kit, s/n 1099, b/c 006548J.
X				205	RS422 PCMCIA Card/Cable Assembly (Quatech RS-422 Card) (p/n SDZ39129284-301)	1	LW MAR		A/L1O1 {1.0 CTB s/n 1161, b/c 004155J}	0.23	**Stow in 1.0 CTB: PGT HARDWARE, s/n 1161, b/c 004155J.
X				206	RS-422 ISS Laptop Support Adapter (RS-422 Adapter) (p/n SEZ39121212-301)	2	LW MAR		A/L1O1 {1.0 CTB s/n 1161, b/c 004155J}	0.26	**Stow in 1.0 CTB: PGT HARDWARE, s/n 1161, b/c 004155J.

STS-115/12A Resupply Transfer List

CHNG	<input checked="" type="checkbox"/>	FD	Initials	Item #	Item Name	Qty	Initial Stowage	Temp Stowage	Stowage at Undock	Wt (lbs)	PROCEDURES/Constraints/ **Comments
				207	CWC Water Sample [Water Sampling Kit Assembly] [Un-used]	6	MD FLOOR PORT 1 (Bag A)		LAB1O6 {ISS Sample/Purge Kit, s/n 1001, b/c 00015606J}	0.24	**Transfer 6 unused CWC Water Sample (Water Sampling Kit Assemblies) from Orbiter Sample/Purge Kit to ISS. **Stow in ISS Sample/Purge Kit, s/n 1001, b/c 00015606J.
	X			208	SOMS Dual Ice Pack Assembly [ziplock containing qty 3]	1 ziplock	MA16G		LAB1D1 Rack Front {1.0 CTB s/n 1195, b/c 006691J}	2.1	These items are 'NO GO' for use on ISS. Retrieve the ziplock containing qty 3 ice packs. Using a sharpie write 'Yellow-tagged: Check MCC-H Before Use'. Verify this ziplock has been labeled 'SOMS Dual Ice Pack Assemblies'. If not, please label with the sharpie. Stow labeled ziplock in CTB from Item #19, 1.0 CTB: CHcCS, s/n 1195, b/c 006691J.
	X			209	Ethernet 10Base2 Cbl, 3 ft [p/n SED39129316-301] [s/n's 5037, 5038]	2	LW MAR		NOD1S4_C1 {1.0 CTB s/n 1131, b/c 004125J}	0.50	**Stow in 1.0 CTB: Spare A-31p Hardware, s/n 1131, b/c 004125J.
	X			210	Ethernet 10Base2 Cbl, 3 ft [p/n SED39129316-301] [s/n 5073]	1	LW MAR {1.0 CTB: Color Printer/ Accessories}		NOD1S4_C1 {1.0 CTB s/n 1131, b/c 004125J}	0.25	**Stow in 1.0 CTB: Spare A-31p Hardware, s/n 1131, b/c 004125J.

STS-115/12A Return Transfer List

CHNG	<input checked="" type="checkbox"/>	FD	Initials	Item #	Item Name	Qty	Initial Stowage	Temp Stowage	Stowage at Undock	Wt (lbs)	PROCEDURES/Constraints/ **Comments
				406	Return Bag 406 [CWCs]	1 sngl	LAB1D2		MD FLOOR PORT 1 (Bag A)	25.00	
X				407	Return Bag 407 [ISS PHOTO TV RESUPPLY BAG]	1 sngl	LAB1D3		MD CEIL STBD 1 (10 MLE)	23.70	
				407.1	DCS 760 Camera [p/n SEZ33113001-302, s/n 1014]	1	LAB1D3		MD CEIL STBD 1 (10 MLE)	3.64 (part of above)	Pack this item into this bag prior to transferring the bag.
X				407.2	1GB EVA Flash Card [s/n 1009]	1	A/L1O {1.0 CTB s/n 1221, b/c 006717J}		MD CEIL STBD 1 (10 MLE)	N/A	**Item is stowed in 1.0 CTB: EVA CAMERA ACCESSORIES, s/n 1221, b/c 006717J.
				407e	35MM FILM [P/N SED33101584-302]	11	LAB1D3 {1.0 ctb S/N 1083, B/C 004007J}		MD CEIL STBD 1 (10 MLE)	0.55 (part of above)	Pack remaining film into this bag prior to transferring the bag.
				407f	FILM CASSETTE CONTAINER [P/N SED33101586-302]	11	LAB1D3 {1.0 ctb S/N 1083, B/C 004007J}		MD CEIL STBD 1 (10 MLE)	N/A	Pack remaining film cassette containers (with film) into this bag prior to transferring the bag.
				409	Return Bag 409 [GAS TRAPS, FFA & METOX CAPS]	1 hlf	LAB1D2		MF43H	44.92	

MSG 050 - FD05 WATER SUMMARY MESSAGE

1 Today, there will be two CWC fills, a simo supply/waste H2O dump, the Shuttle Condensate
2 Collection CWC will be swapped out and dumped through the waste dump line. For today's
3 CWC fills, use any of the following CWCs: 1029, 1053, 1066, 1072, 1077 (on Middeck), or
4 1030, 1035, 1043 (pregathered on ISS).

5

6 **FD5 Shuttle/ISS H2O Container Fill Details - Shuttle Crew**

7

8 For both CWC Fills #3 and #4, use the following details:

9

10 **SHUTTLE/ISS H2O CONT FILL**

11 (ORB OPS, ECLS)

12 Ag Biocide is req'd. (Use syringe from Ag biocide kit s/n 1001)

13 Sample is not req'd.

14 Fill Duration: ~50 minutes

15 Report Serial Number and Barcode to MCC.

16

17 After the fills are complete, insert green label in CWC window; apply decals to CWC ends;
18 and mark CWC serial number on the end decals. Transfer the two filled CWCs to NOD1P3.
19 If there is insufficient room for the bags at this ISS location, stow CWCs at NOD1P1 and
20 report to MCC.

21

22 **Shuttle Condensation Collection Details – Shuttle Crew**

23 At MET 04/01:15, perform CHANGEOUT of SHUTTLE CONDENSATE COLLECTION (ORB
24 OPS, ECLS) p5-36 using empty CWC s/n 5092, which is pregathered on ISS.

25

26 **SIMO Supply/Waste Dump Details – Shuttle Crew**

27 At MET 04/01:25 perform a simo supply/waste H2O dump with the following details:

28

29 Perform SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) p 5-2, steps A, C through J.

30

31 Supply dump duration will be 30 minutes.

32

33 The waste tank will be dumped to 5%. Waste dump valve open duration will be ~13 minutes.

34

35 MCC will TMBU all limits.

36

37 **CWC Overboard Dump Details - Shuttle Crew**

38 When the waste dump is complete, perform a CWC overboard dump of Condensate CWC
39 s/n 5109 with the following details:

40

41 Perform CWC OVERBOARD DUMP (ORB OPS, ECLS) p 5-32 steps A, and C through G. In
42 step G, An additional CWC will be dumped later in the flight.

43

44 CWC s/n 5109 will take ~30 minutes to dump. Post dump, stow CWC s/n 5109 in MF710.

45

46 MCC will TMBU limits.

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1 Delta to Orbit Ops Checklist Pre-Sleep Activity. Add new Step 13 on Page 3-6

2
3 13. Shuttle Video Ch 92 Crew Sleep Configuration

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6 NOTE: 7 This procedure will configure ISS Loopback capability from CVIU 6 to VTR 2 8 using the shuttle's Monitor 2 and VPU capability.
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9
10 A3 TV MON 1,2
11 FILTER CLEANING CCTV MON
12 (IFM, SCHEDULED MAINTENANCE)
13 Page 4-9

14
15 A7 √TV DNLK-ENA
16 PWR CNTL - PNL
17 CONTR UNIT - MNA
18 CNTL - CMD (wait 10 sec for system initialization)

19 A3 TV MON 2
20 PWR - On

21 A7 VID OUT MON 2 pb - push
22 VID IN pb - PL2

23 R12 (VPU) √ PWR - ON
24 Green Jumper - ISS

25 A3 TV MON 2 - Verify Good ISS Image
26 Brightness Knob - Turn Counter CW
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13-1207 (MSG 053) – EVA 2 Summary Timeline Updates

Page 1 of 1

00:00		POST DEPRESS (00:05)	POST DEPRESS (00:05)
		EVA 2 EGRESS/SETUP (00:40) • Translation to P3	EVA 2 SETUP (00:40) • Translation to P3
01:00		•Stow Bag #2 Face 4	•Stow Bag #1 Face 1
		SARJ PREPARATION (04:15) • Remove SARJ Cover #13 – Face 4	SARJ PREPARATION (04:15) • Remove SARJ Cover #19 – Face 2
02:00		• Remove SARJ Cover #12 – Face 4	• Remove SARJ Cover #18 – Face 3
		• Remove SARJ Cover #10 – Face 5	• Remove SARJ Cover #17 – Face 3
03:00		• Remove SARJ Cover #9 – Face 5	• Remove SARJ Cover #16 – Face 3
		• Remove SARJ Cover #4 – Face 1	• Remove SARJ Cover #8 – Face 5
04:00	√ MCC-H GO Prior to Removing Last Launch Restraint MCC-H – DLA to LOCK	• Remove SARJ Cover #2 – Face 6	• Remove SARJ Cover #7 – Face 5
		• Remove SARJ Cover #1 – Face 6	• Remove SARJ Cover #6 – Face 6
05:00		• Remove SARJ Launch Restraint 1B	• Remove SARJ Launch Restraint 3 B
		• Remove SARJ Launch Restraint 6B	• Remove SARJ Launch Restraint 4 B
06:00		• Remove SARJ Launch Restraint 2	• Relocate ORU transfer bag #2
		• Remove SARJ Launch Restraint 5	
		REMOVE AND STOW P3 KEEL PIN AND DRAG LINK (00:45) (page FS 7-69)	REMOVE AND STOW P3 KEEL PIN AND DRAG LINK (00:45) (page FS 7-69)
		• Remove P3 SVS Target • P3 MT Stop PIP Pin pull	• Rotate P1 MT Stop • Install ETRS • Rotate P3 Tether Shuttle Stop
		EVA 2 CLEANUP/INGRESS (00:40)	EVA 2 CLEANUP/INGRESS (00:40)
		PRE REPRESS (00:05)	PRE REPRESS (00:05)

FD4 MMT Crew Summary

The FD 4 MMT performed a final review of the RPM tile photography and FD2 inspection data. **The key result of this review is that Atlantis has been cleared for entry. Here are the details:**

a) Tile and Thermal Blanket Analysis - Based on the assessment of all FD3 RPM imagery, the tile looks extremely clean and the only area of interest was the aft port ET door structure side tile. These are shown in Figure 1 and were cleared based on the small damage size and good integrity of the ET thermal barrier as determined by the photography. The minimal tile damage is indicative of the outstanding ET performance which is consistent with the debris environment observed by the ground cameras and radar, the ET feedline camera, ET handheld photography, and ET umbilical photography.

In terms of thermal blankets, additional ISS imagery was obtained for the thermal blanket protrusions on the starboard OMS pod. This imagery, shown in Figure 2, has been used to clear these protrusions for entry because the insulation within the blanket is still in place, the thermal performance will not be affected, and the location does not present a debris threat.

b) ET Doors - The RPM imagery was evaluated and the lighting was determined to be acceptable for paint stripe evaluation. There is no evidence of off nominal thermal barrier protrusions, off-nominal steps, or that any of the paint stripe is visible. The ET Doors are closed, latched, and in a good config for entry (See Figure 3)

c) RCC Analysis - As an update to the FD3 MMT summary, all of the RCC has been analyzed using the FD 2 LDRI data, ascent imagery, and ascent radar tracking data. The ascent imagery and radar data identified no confirmed impact events on the wing leading edge or nose cap RCC. The LDRI imagery has been thoroughly reviewed and the RCC is in good health and safe for entry. An example of panel 6L imagery and black spots due to the booster sep motors is shown in Figure 4. The IDC images obtained of the starboard wing lower surface (Scan 2) during the survey were utilized in clearing a few areas of the RCC. An example comparison of the LDRI and IDC data is shown in Figure 5.

d) Wing Leading Edge Sensors - As discussed previously, the WLE sensor system identified a total of six ascent events, the most significant being an event at 14.3 seconds (Reference Figure 1 in the FD 3 MMT status). After a thorough review of all ascent imagery and radar sources, none of the WLE events were determined to be the result of an impact. Further post flight investigation of the ascent WLE sensor signature using the results from STS-114 and STS-121 will be performed.

MSG 054 (13-1208) - FD04 MMT SUMMARY

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e) Gap Fillers- All three gap fillers (port elevon, right ET Door, and left ET Door) that were discussed yesterday have been cleared for entry. The port elevon gap filler is 1 inch high and about 2.8 inches long and is shown in Figure 6. This gap filler has been cleared since there is no violation of thermal or structural margins in this area based on pre-flight assessments using very conservative heavyweight ISS thermal analysis with a boundary layer trip at Mach 25. The starboard ET door gap filler (Figure 7) is only protruding a maximum of 0.32 inches. Based on previous thermal and structural analysis performed on STS-121 for protruding gap fillers near this same location, this gap filler is acceptable for entry.

The gap filler on the port ET door is not a gap filler at all and has been determined to be about a 1 inch x 4 inch plastic shim stock that was inadvertently left on the orbiter when an adjacent tile was installed in 2004. Multiple views from imagery have concluded that this is shim stock (see Figure 8) and extensive paperwork and pre-flight imagery reviews indicate that no gap filler was installed in this area. The shim stock material melts at approximately 480 degrees Fahrenheit, which occurs about 3 to 4 minutes after EI. This is well before any possible early transition even if the transition to turbulent flow were to happen at Mach 25. Additionally, even if this were a gap filler (which it is not), thermal and structural analysis based on the conservative Mach 25 boundary layer trip work from STS-121 would clear this as a concern for entry. Finally, debris liberation and transport analysis for this shim stock is not a concern .

Orbiter Systems Status-There were only a few systems items discussed. Brief summaries are provided for items that were discussed or have changed from previous MMT summaries:

1) Payload Bay Door Microswitches - The Starboard PLBD Closed B microswitch is now indicating the nominal OFF config for the door opened. If this microswitch continues to perform nominally, then the starboard door will close in dual motor time during deorbit prep.

2) KU-Band Antenna- As you know the Ku-Band antenna did not slew to the designated GPC angles when commanded from STANDBY to ON via Stored Program Command (SPC). This was recovered by commanding the system to STANDBY and back to ON. Since this time KU system operations have been nominal. The Ku electronics will continue to be monitored carefully and at this time no specific cause of the problem has been identified.

3) SARJ Launch Lock Cover 21 Captive Bolt - The bolt/spring that was lost overboard in the zenith direction past covers 20, 19, and 18 was thought to be traveling toward the plus V-bar. Preliminary relative motion analysis predicts a slow opening rate to ~10 miles in front of the stack by FD6. More details will be provided as they become available.

Figure 1: Port ET Door Tile Damage

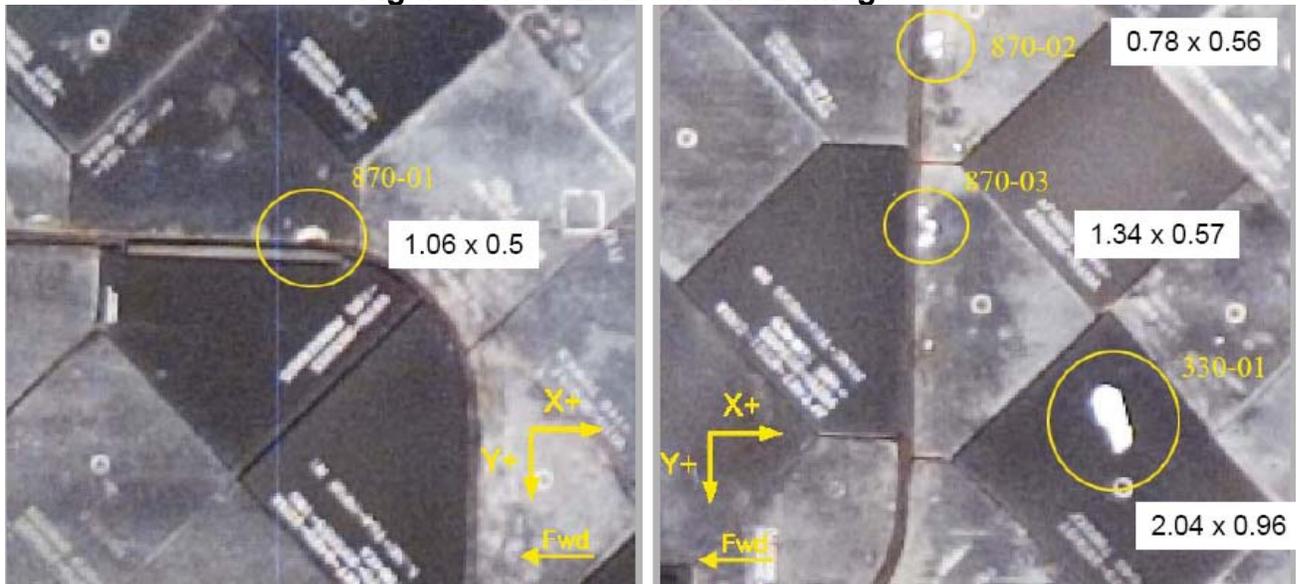


Figure 2: Thermal Blanket Protrusion on Right OMS POD

- Small fabric noted protruding on RH OMS Pod
- Station imagery identified insulation is still in place
- Thermal performance of blanket will not be affected
- Downstream location does not present a debris threat

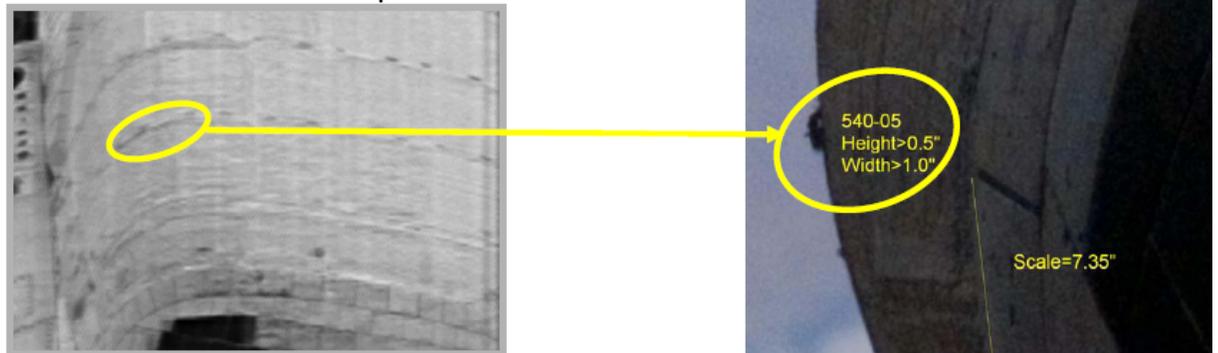


Figure 3: ET Door Tile Damage



Figure 4: Panel 6L LDRI Image

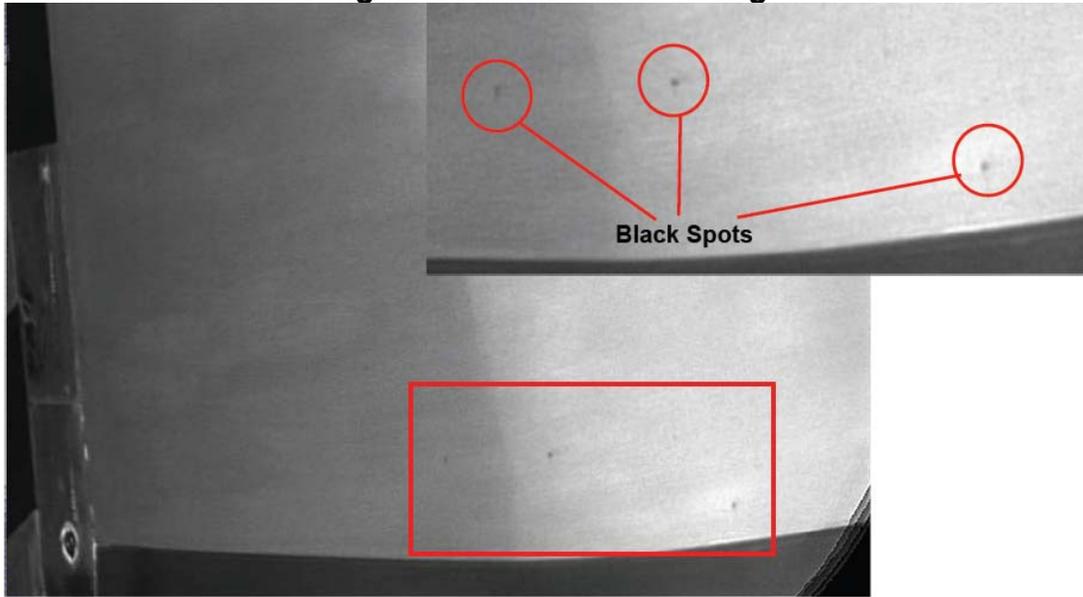


Figure 5: Example of IDC Image Assisting with LDRI Region of Interest (ROI)

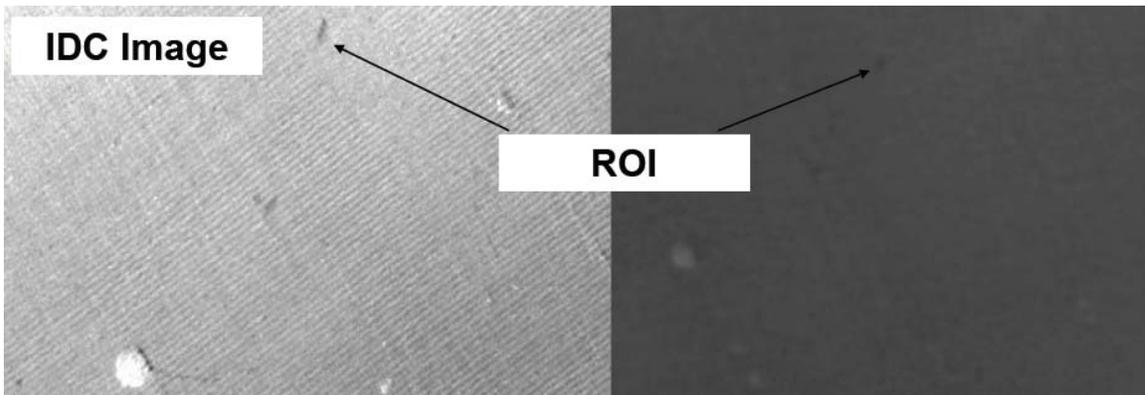


Figure 6: Port Elevon Gap Filler

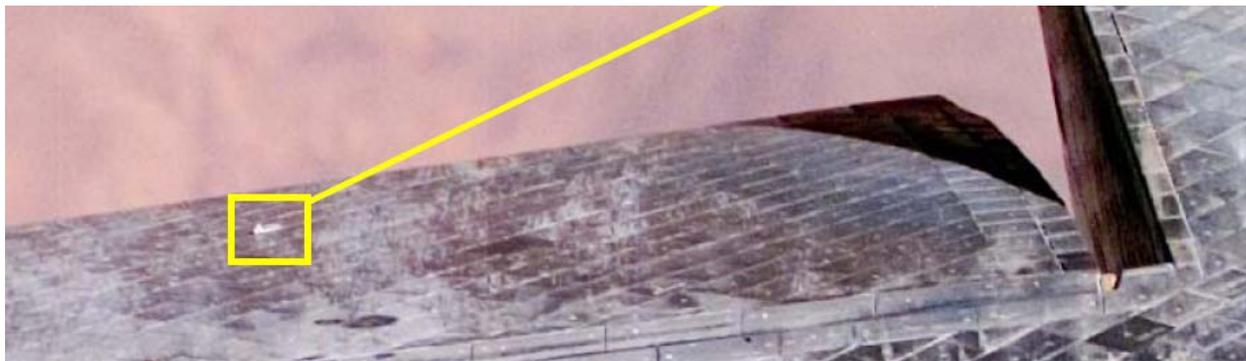


Figure 7: Starboard ET Door Gap Filler

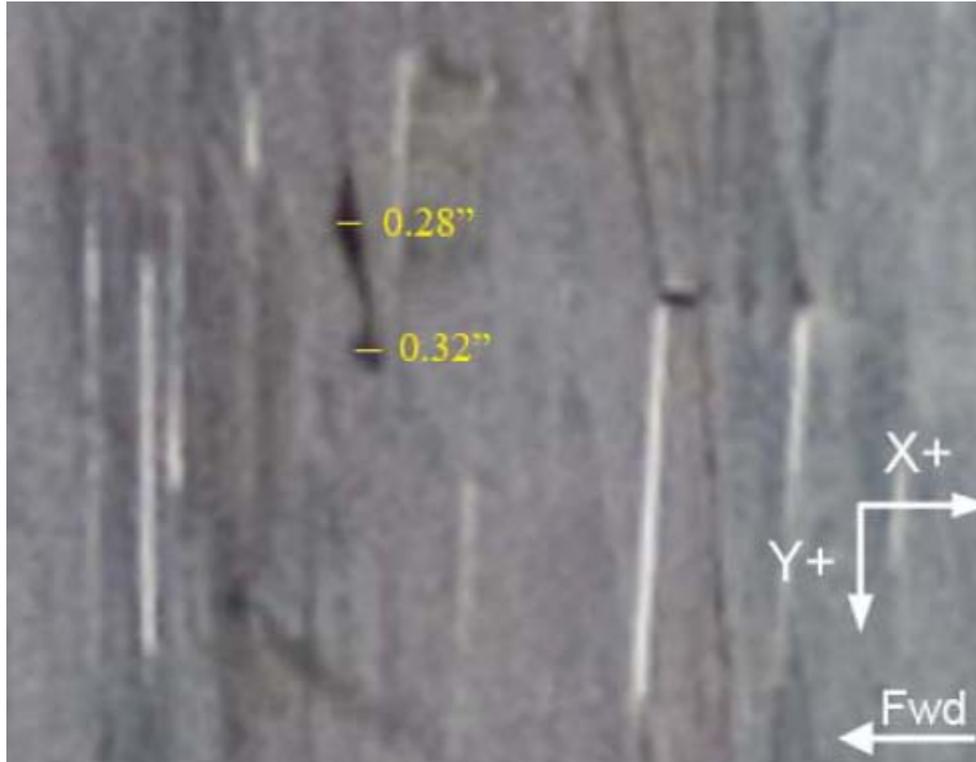


Figure 8: Port ET Door Shim Stock

