

STS-126/ULF2

FD 07 Execute Package



MSG	Page(s)	Title
055B	1 - 13	FD07 Flight Plan Revision (pdf)
056	14 - 15	FD07 Mission Summary (pdf)
057	16 - 18	FD07 Transfer Message (pdf)
058	19	FD06 MMT Summary (pdf)
059	---	Stowage Locations for FD07 (GMT 325) (pdf - Electronic Only)
060	---	2.155 ULF2 Sample Transfer Between MELFI and GLACIER (pdf - Electronic Only)

Approved by FAO: M. Blanton

A handwritten signature in black ink, appearing to read 'M. Blanton'.

Last Updated: Nov 20 2008 1:12PM GMT
JEDI (Joint Execute package Development and Integration), v2.04.0003

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MSG 055B - FD07 FLIGHT PLAN REVISION

1 MSG INDEX

2

3 <u>MSG NO.</u>	<u>TITLE</u>
4 055	FD07 Flight Plan Revision
5 056	FD07 Mission Summary
6 057	FD07 Transfer Message (18-0263)
7 058	FD06 MMT Summary
8 059	Stowage Locations for FD07 (GMT 325) (18-0259)
9 060	2.155 ULF2 Sample Transfer Between MELFI and GLACIER (18-0264)

10

- 11
- 12
- 13 1. For today's cryo config, O2 tanks 2 and 3 will be active with dual heaters and H2 tanks 2
14 and 5 will be active with dual heaters.

15

16 R1 O2, H2 MANF VLV TK2 (two) - OP (tb-OP)
17 O2 TK3 HTRS A, B (two) - AUTO

18

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

20

- 21 2. Heide, Shane and Eric: We noticed we didn't update today's post tool config.
22 We suggest you use the EVA 2 pre tool config uplinked yesterday (MSG 052) for both
23 pre and post tool config.

24

25 Also, based on your comments yesterday, we have updated our tool config on the
26 ground to reflect the following:

- 27 • An adjustable tether has been moved from the outside of the Large ORU Bag to
28 Heide's MWS
- 29 • Two additional dry wipes have been added inside the Large ORU Bag
- 30 ○ One on the Spare RET of the Crewlock Bag and
- 31 ○ One on the Fish Stringer
- 32

33 Let us know if you have additional tool deltas so we can help track tools.

34

- 35 3. Don, great job on the WRS Configure for Activation activity yesterday! We hope
36 everything went as smoothly for you as it looked to us. At your convenience, we would
37 like some clarification on some of the actions you performed during installation of some
38 of the components to help us refine our procedures.

39

40 During installation of PCPA and FCPA per steps 10 and 11 of 1.135 WRS RACKS
41 CONFIGURE FOR ACTIVATION, we noticed that you completely removed the shelves
42 from their tracks. Was this necessary to install the ORUs? Was there any trouble
43 realigning the shelves and sliding them back in?

44

- 45 4. Replace pages 3-68 through 3-77.
- 46
- 47
- 48
- 49

END OF PAGE 1 OF 11, MSG 055B

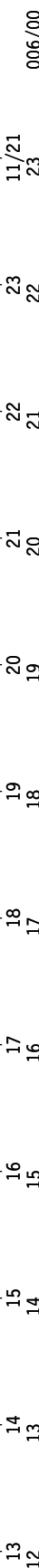
NO UNISOLATED EXERCISE
(DURING LEE LUBING)

REPLANNED

FD07

GMT 11/20/08 (325)

MET Day_005



D N	FE-2 CHAMITOFF	SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	MPLM XFER	MEAL	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	#
		SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	CETA CART RELOCATION	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	
I S S	ISS CDR FINCKE	SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	#
		SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	
U P	FE-1 LONCHAKOV	SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	#
		SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	
S T S	R3/M1 MS1 PETTIT	SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	#
		SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	
- 1 2	EV2 MS2 BOWEN	SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	#
		SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	
6	EV1 MS3 PIPER	SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	#
		SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	
2	R2/EV3 MS4 KIMBROUGH	SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	#
		SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	
1	FE-2 CHAMITOFF	SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	#
		SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	
S	ISS CDR FINCKE	SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	#
		SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	
U P	FE-2 EXP18 MAGNUS	SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	#
		SLEEP	POST SLEEP	HYG BRK/SHATCH	CAMPOUT EVA PREP	EMU PREBREATHE	C LK DPRS	EXERCISE	EXERCISE RED	C I N W N	MPLM XFER	EXERCISE	C T W E	CWC XFER	
DAY/NIGHT ORBIT		88	89	90	91	92	93	94	95	96					
TDRS		W -171.0	E -46.0	Z -275.0											
ORB ATT															
NOTES															

*GPS ANT A
*MPLM XFER
*CLNUP
*INGRS

*RPRS TERM

*RPRS INIT

*STATUS CHECK

*SODF-CUECARD-DPLY

*FILTER CHECK

BIAS -XLV -ZVV

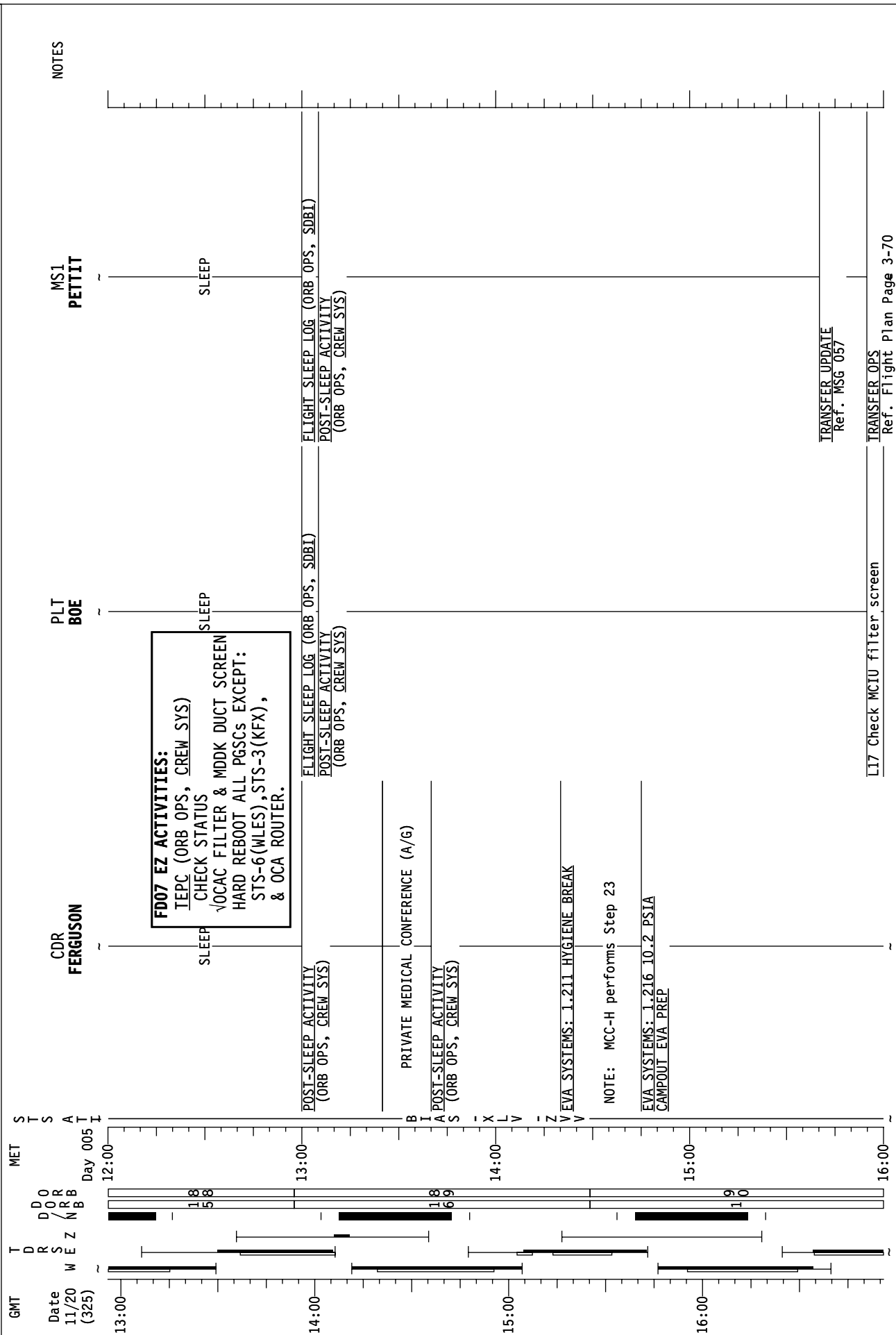
*RPRS TERM

*GPS ANT A
*MPLM XFER
*CLNUP
*INGRS

FLT PLN/126/FLIGHT

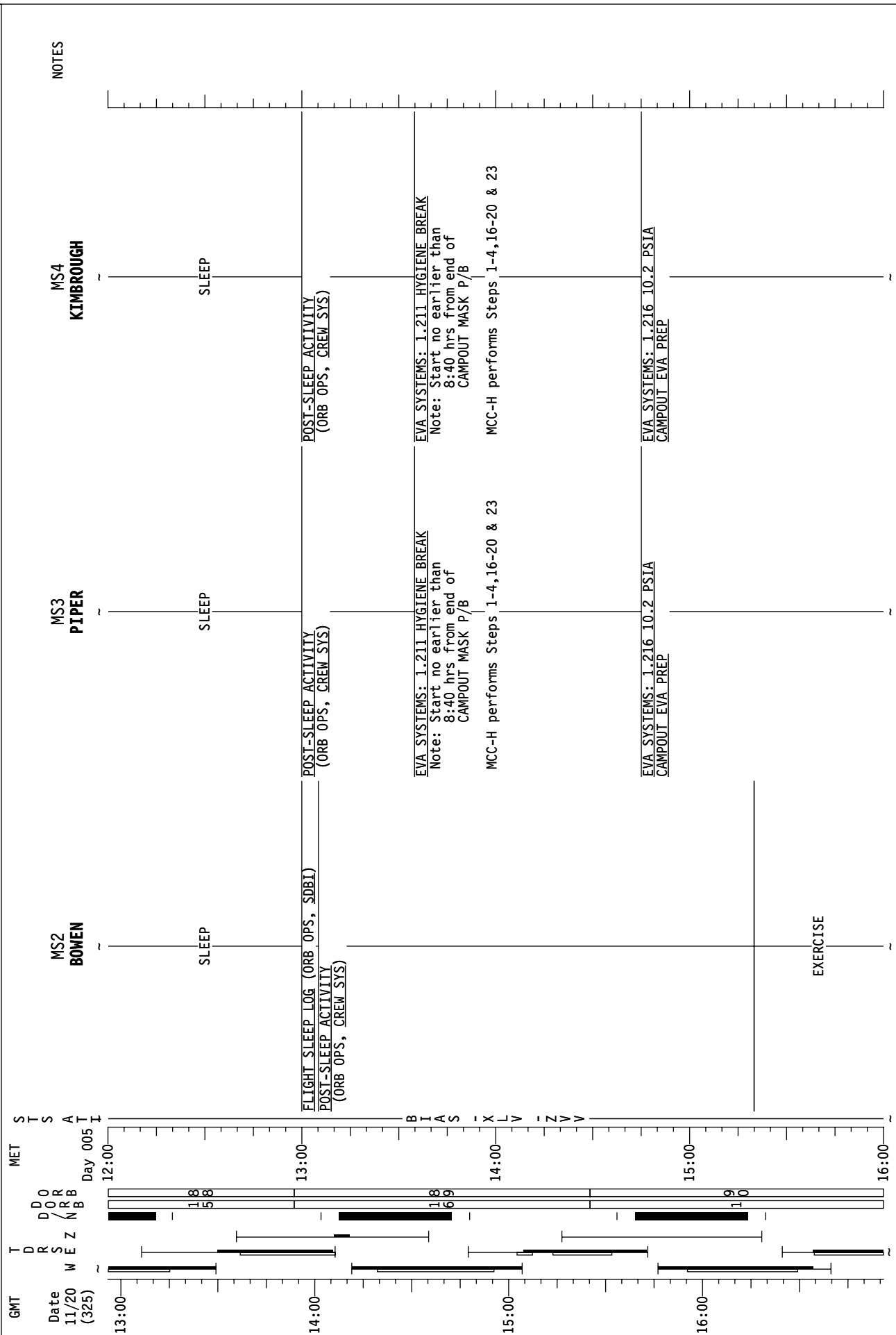
2-22

STS-126 FD (07)



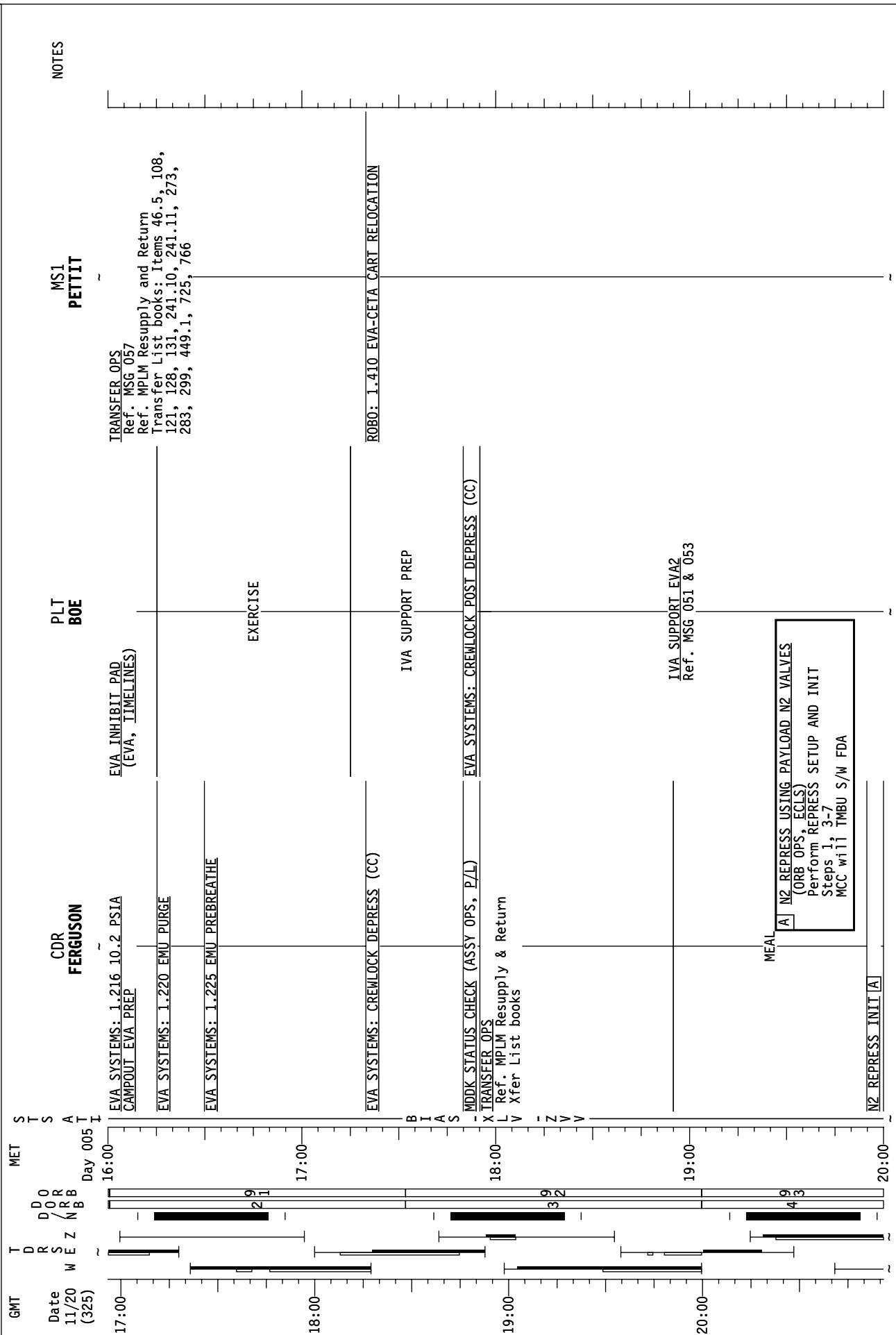
REPLANNED

STS-126 FD (07)



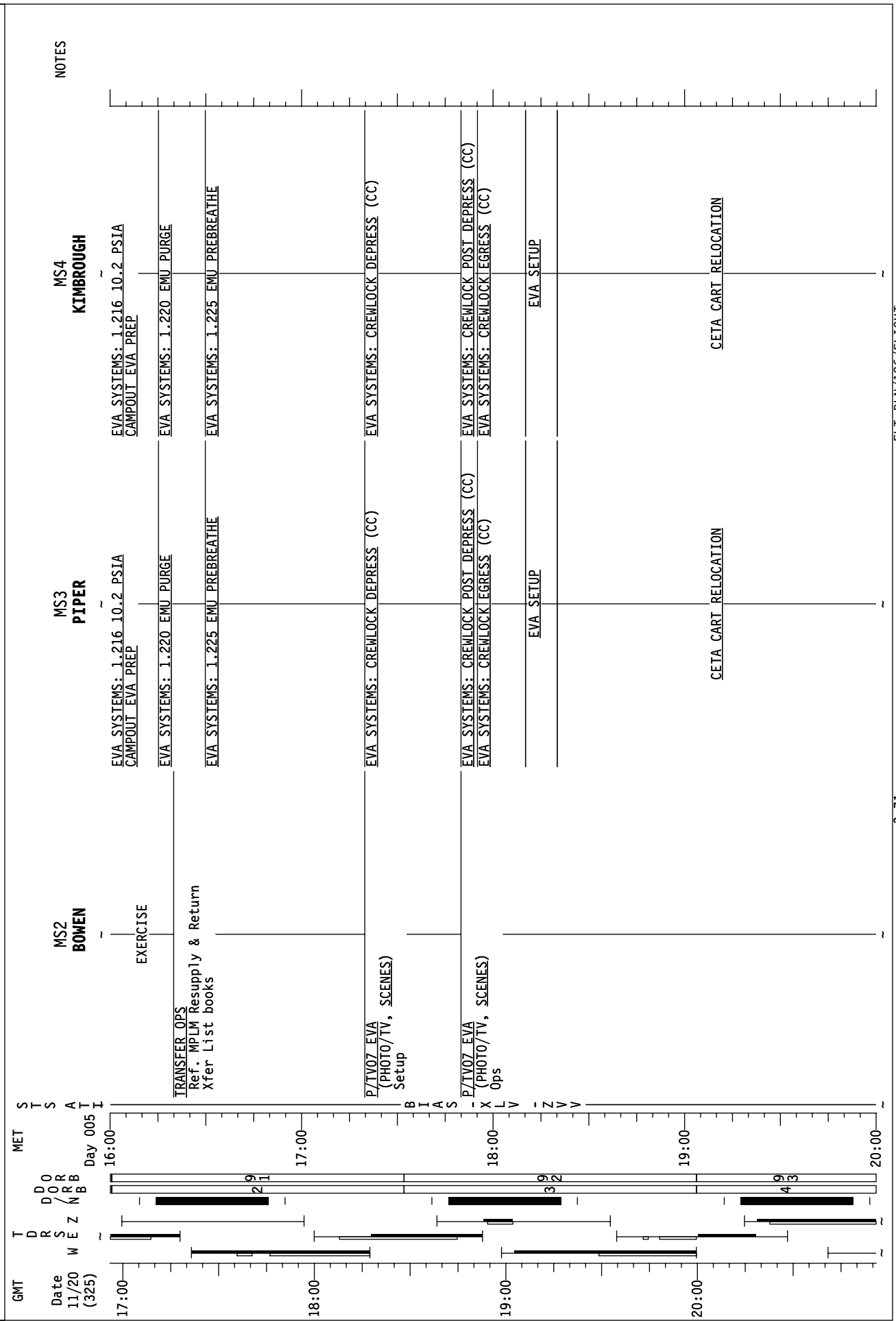
REPLANNED

STS-126 FD (07)



STS-126 FD (07)

REPLANNED



STS-126 FD (07)

REPLANNED

GMT	Date 11/20 (325)	DRS W E Z	TDRS M E Z	MET Day 005 T	CDR FERGUSON	PLT BOE	MS1 PETTIT	NOTES
21:00				20:00	SHUTTLE/ISS H2O CNTR FILL (ORB OPS, ECLS) INIT FILL #5 Ref. MSG 029			
21:00				21:00	TRANSFER OPS Ref. MPLM Resupply & Return Xfer List books			
21:00				21:00	B N2 REPRESS USING PAYLOAD N2 VALVES (ORB OPS, ECLS) Perform REPRESS TERM AND RECONFIG Steps 8-13 MCC will TMBU S/W FDA			
21:00				21:00	SHUTTLE/ISS H2O CNTR FILL (ORB OPS, ECLS) Perform FILL TERMINATION			
21:00				21:00	B N2 REPRESS TERM B			
21:00				21:00	I IMU STAR OF OPPLY ALIGN (ORB OPS, GNC)			
21:00				21:00	A SHUTTLE/ISS H2O CNTR FILL (ORB OPS, ECLS) INIT FILL #6 Ref. MSG 029			
22:00				22:00	IVA SUPPORT EVA2 Ref. MSG 051 & 053			
22:00				22:00	EXERCISE			
22:00				22:00	EXERCISE			
23:00				23:00	SHUTTLE/ISS H2O CNTR FILL (ORB OPS, ECLS) Perform FILL TERMINATION			
23:00				23:00	CWC TRANSFER Transfer 2 CMCs to ISS			
23:00				23:00	TRANSFER OPS Ref. MPLM Resupply & Return Xfer List books			
00:00				00:00				
00:00				00:00				
00:00				00:00				

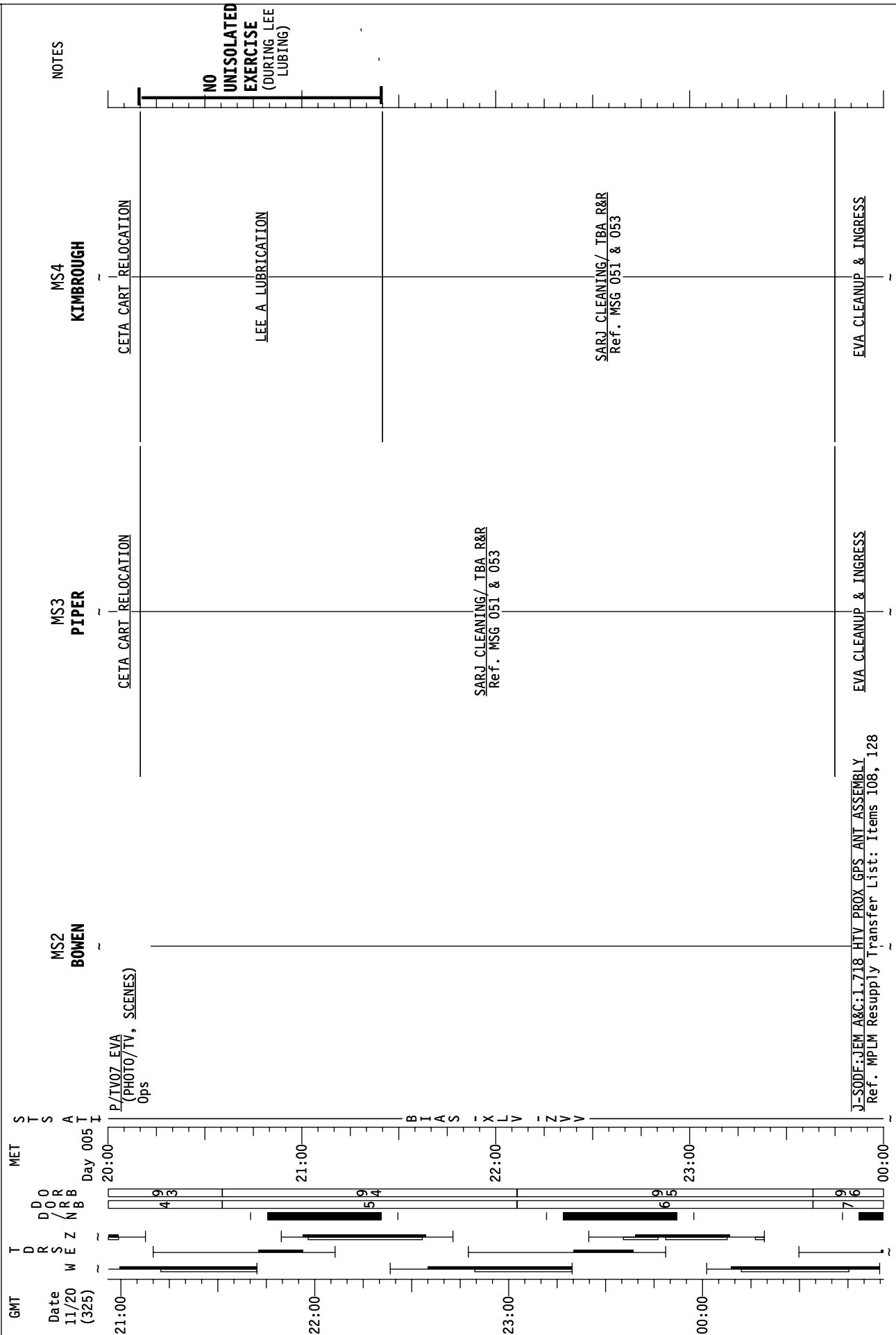
C 1: Locate Spare CPA 4
(P/N 2355260-3-1)
[JLP1S2 - 1.0 CTB #1361]
2: Verify J5 connector not loose
and there is no damage present.

ROBOTICS: 1.410 EVA-CETA CART
RELOCATION
Step 32 MNVR to Overnight Park
SPARE CPA SEARCH

TRANSFER OPS
Ref. MPLM Resupply & Return
Xfer List books

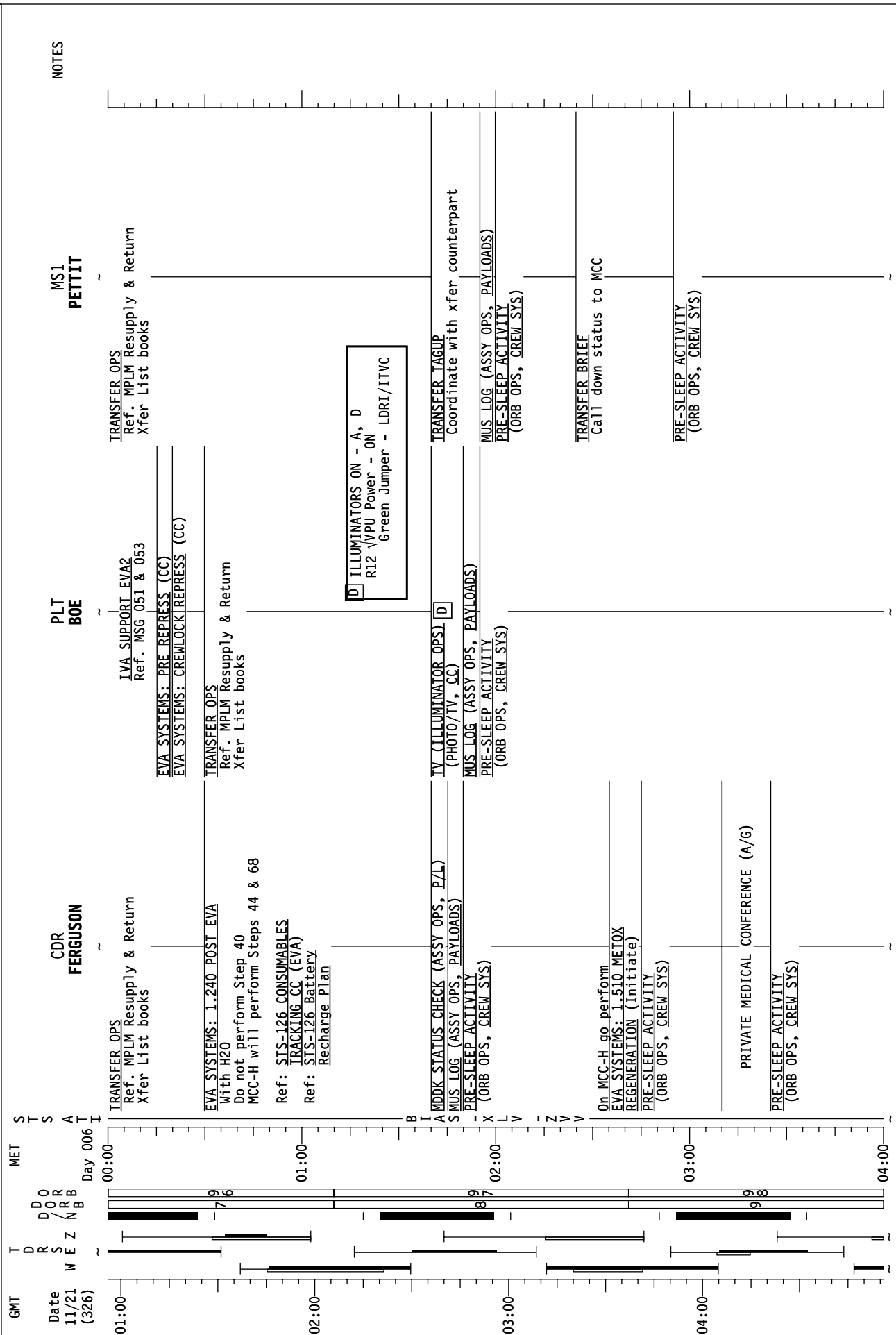
REPLANNED

STS-126 FD (07)



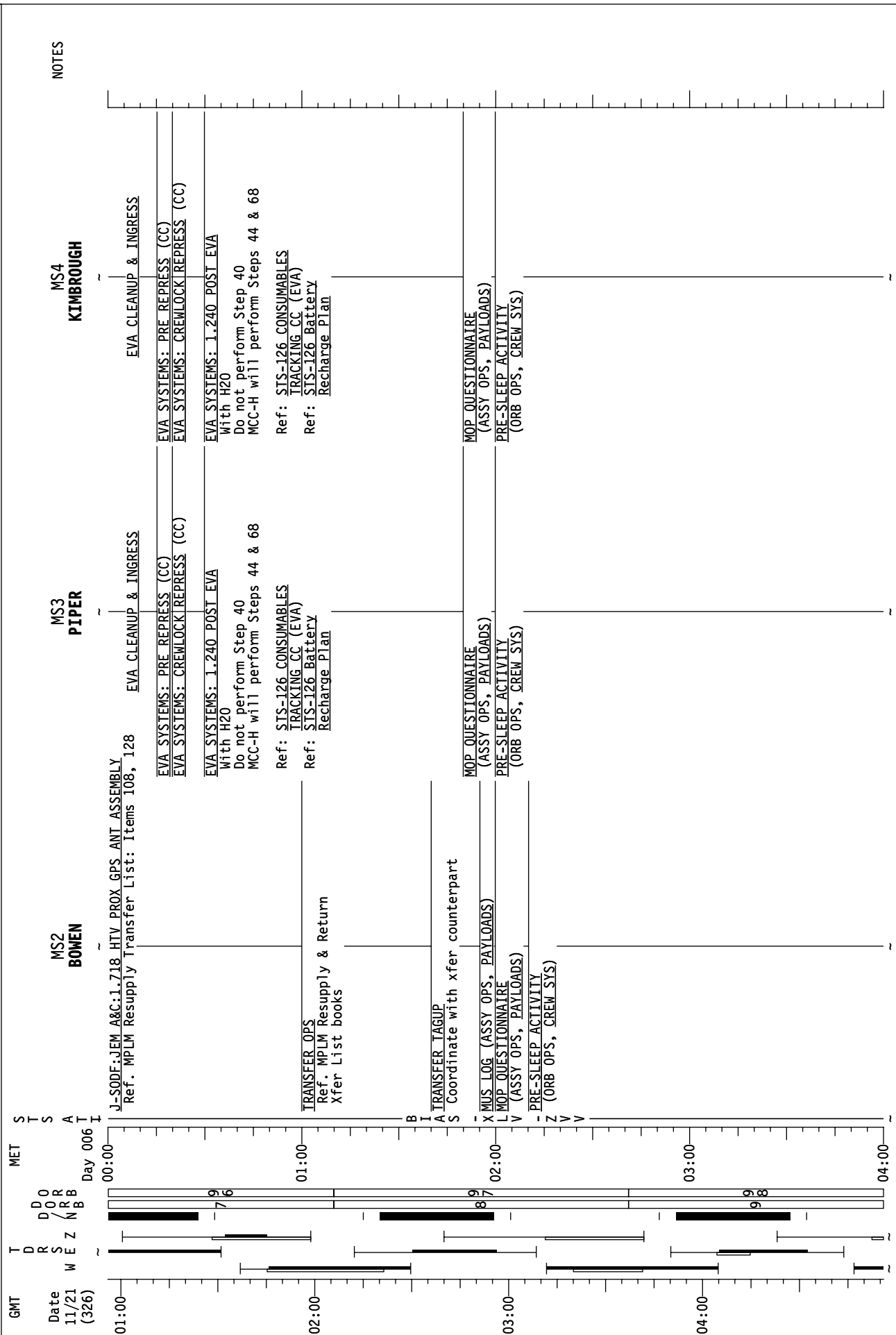
REPLANNED

STS-126 FD (07)



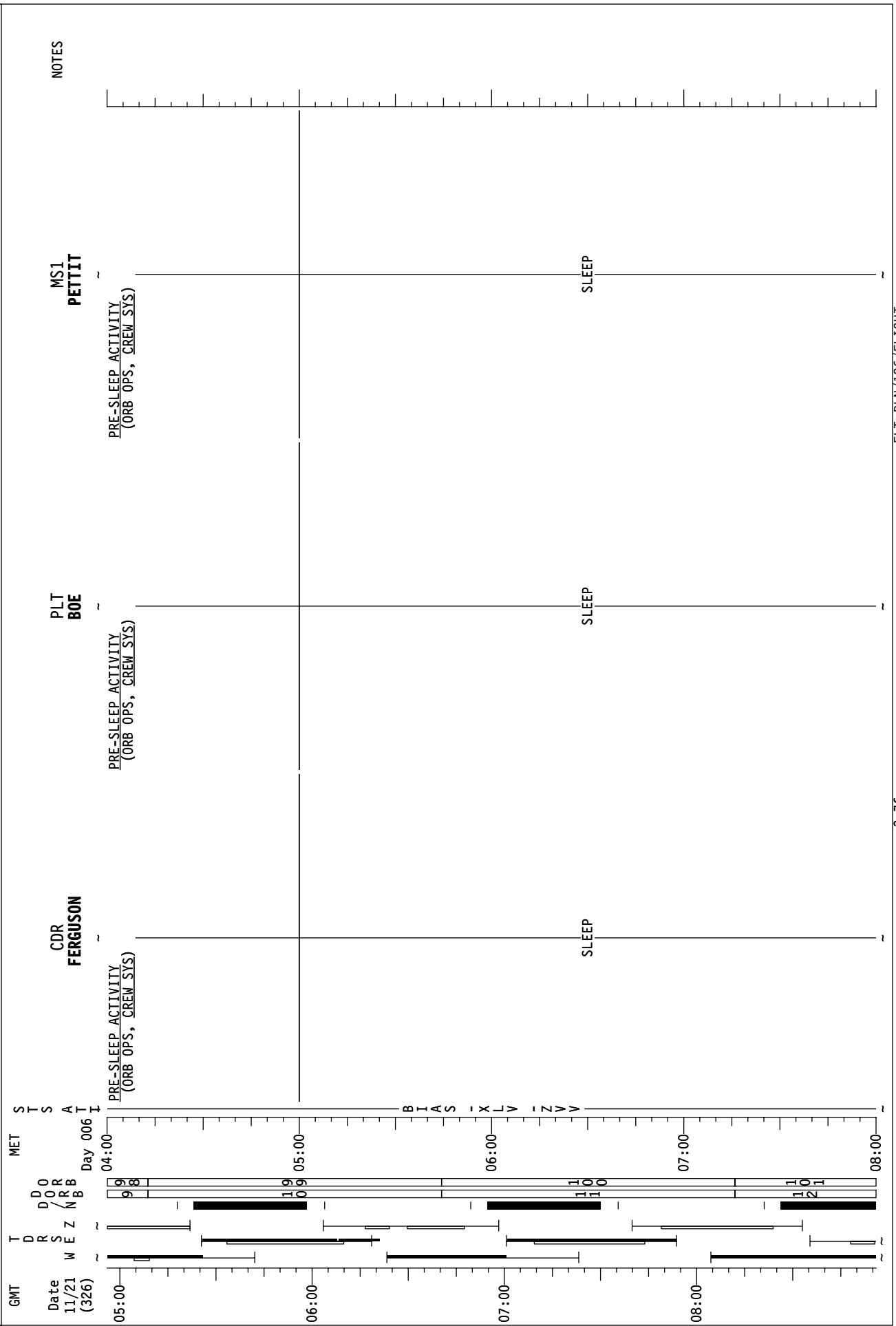
REPLANNED

STS-126 FD (07)



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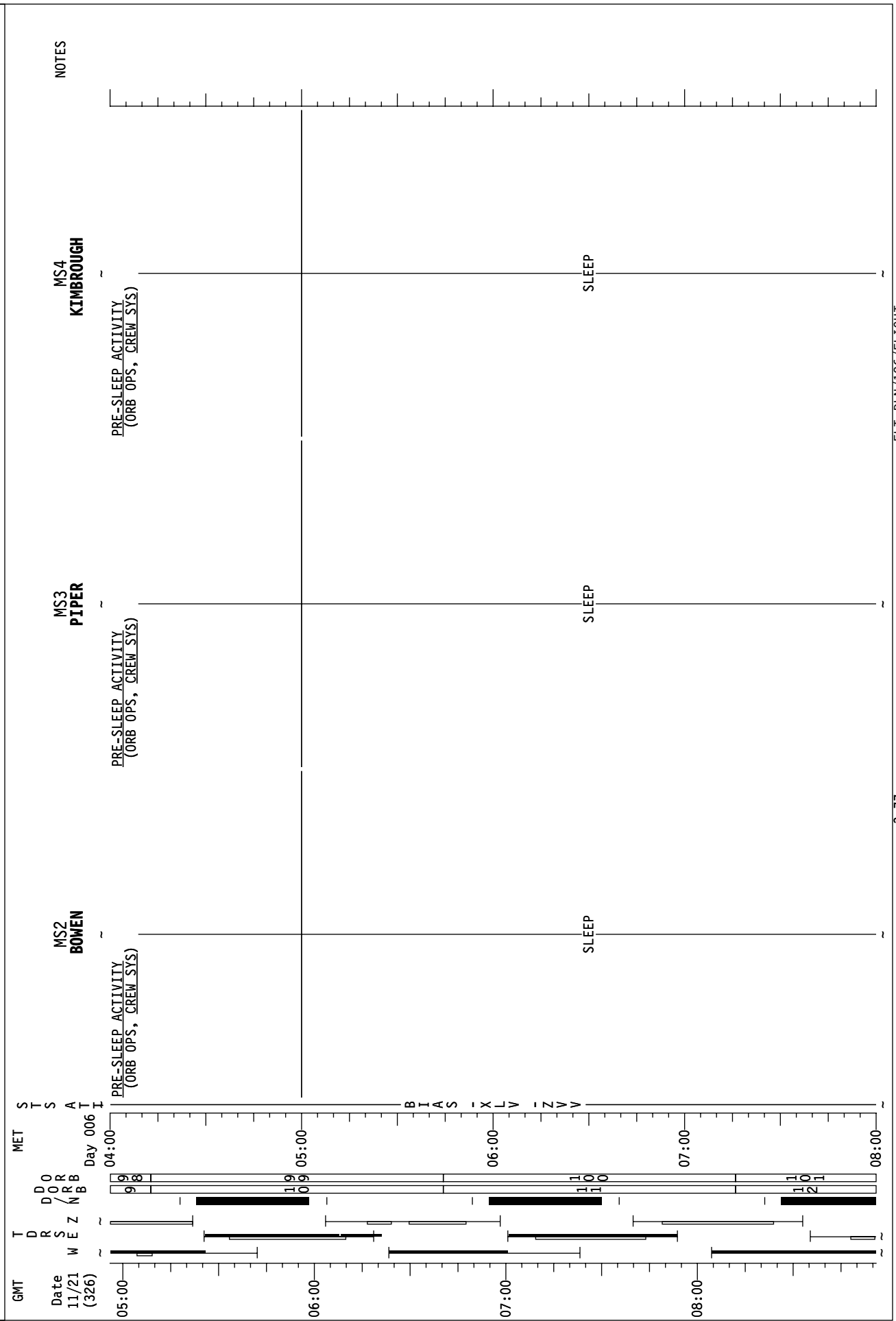
STS-126 FD (07)



FLT PLN/126/FLIGHT

3-76

STS-126 FD (07)



MSG 056 - FD07 MISSION SUMMARY

1 Good Morning Endeavour!!!!

2

3 Thanks for another outstanding day!

4

5 Have a great EVA day!

6

7 YOUR CURRENT ORBIT IS: 194 X 186 NM

8

9 NOTAMS:

10

11 **NOTAMS - TWO CHANGES**

12

13 **DELETED PTN AND ILM NOTAMS.**

14

EDW – EDT IN USE FOR STS-126. EDW ELS DAY / VFR ONLY.

15

EDW – LAKEBED RUNWAY 15/33 ELS ONLY. OTHER LAKEBED RWYS RED.

16

NOR – LAKEBED RUNWAYS GREEN.

17

MRN – RWY 02 THLD DISPL 1,000' FOR MAINT. RWY 20 LDA 10,800'.

18

ZZA – 20' HIGH BARRIER IN OVERRUN OF RWY 30L. LDA 12,200'.

19

DOV – RWY 14/32 CLOSED.

20

HAW – RWY 13 THLD DISPLACED, 9,019' USABLE.

21

AMB – RWY 15/33 CLOSED.

22

YHZ – RWY 05/23 CLOSED.

23

YYT – RWY 16/34 CLOSED.

24

IKF – NOT USABLE. NO AGREEMENT.

25

BEN – NOT RECOMMENDED/NOT SUPPORTED

26

27 NEXT 2 PLS OPPORTUNITIES:

28

29 EDT22R ORB 95 – 5/22:57 FEW250 7 290/09P15

30

EDT04L ORB 111 – 6/23:23 FEW250 7 030/04P07

31

32 OMS TANK FAIL CAPABILITY:

33

34 L OMS FAILS: NO

35

35 R OMS FAILS: NO

36

37 LEAKING OMS PRPLT BURN:

38

39 L OMS LEAK: ALWAYS BURN RETROGRADE

40

40 R OMS LEAK: ALWAYS BURN RETROGRADE

41

42 OMS QUANTITIES(%)

43

44 L OMS OX = 33.6 R OMS OX = 34.0

45

FU = 33.3 FU = 33.8

46

46 Subtract interconnect counter for current OMS quantities.

47

48

49

50

51

MSG 056 - FD07 MISSION SUMMARY

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DELTA V AVAILABLE:

OMS	342 FPS
<u>ARCS (TOTAL ABOVE QTY1)</u>	<u>37 FPS</u>
TOTAL IN THE AFT	379 FPS
ARCS (TOTAL ABOVE QTY2)	70 FPS
FRCS (ABOVE QTY 1)	25 FPS
AFT QTY 1	80 %
AFT QTY 2	42 %

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

MSG 057 (18-0263) - FD07 TRANSFER MESSAGE

Page 1 of 12

1 Good morning Don, STS-126 & Increment 18 crews!

2
3 Thanks for another great day of transfer yesterday! I know we've already said this, but it
4 really is a joy to watch you all making us look good up there. And with MPLM transfer in full-
5 swing, we definitely agree with Don that it looks like a fire ant mound that's just been kicked!

6
7 Today you'll be filling the RFTA, so there are a few items you'll need to transfer in support of
8 that activity. In addition, you'll also be transferring some items required for the TOCA
9 assembly. Later in the afternoon you'll be deploying the new Radiation Area Monitors and
10 packing up some ITCS samples and Russian water samples for return in the middeck. And
11 finally you'll need to transfer the new REBAs to support the charging activities in the
12 evening.

13
14 The Transfer List Excel file, FD7_Transfer_List_STS126.xls, locations are:

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

17
18 **Transfer Questions**

- 19
20 • **Item 214:** We noticed you didn't call the "LiOH #32, #33" CTB (item 214) complete last
21 night. Since you have completed all the other resupply and return items in the P4_K1
22 and K2 locations, can you please confirm that this 1.0 CTB of LiOH has been removed
23 and is temp stowed elsewhere?
24
- 25 • **ZSR Configuration:** Don, you reported that you stowed the RFTAs in the C1/D1/E1/F1
26 locations of the JLP ZSR. We were hoping they could be stowed horizontally in these
27 locations instead to save the C1 location for other hardware. We thought they would
28 protrude only a couple inches from the ZSR front. However, as you reported, the ZSR
29 has lost approximately 5 inches of stowage depth due to the modifications performed
30 early in the flight. We weren't expecting to lose this much volume and would like you to
31 photo-document the current configuration for us, so we can provide further direction.
32 Also, can you confirm if this 5 inches is lost along the entire length of the ZSR? In
33 general, as long as the hardware is secure (using bungees if needed), items stowed
34 within the JEM ZSRs can protrude from their locations.
35
- 36 • **Item 794:** Don, we understand that you stowed 4 WHC corner brackets in the CTB that
37 launched the K-bars/Pivot Fittings (item 230). Unfortunately, yesterday's Restow Note
38 for the NOD2S5 RSR activity directed you to add the K-bars removed from that rack to
39 this CTB as well. However, OSO would like to keep these K-bars on ISS. Can you
40 please confirm that 0.5 CTB s/n 1133 (now item 794) does not contain these NOD2S5
41 RSR K-bars?
42

43 **Transfer Notes**

- 44
45 • **Launch Restraints Clarification:** Don, you've reported that you currently have the
46 WHC Kabin long launch restraints and the WRS Jumper launch restraints temp stowed
47 in the endcone bungee jail. We just wanted to make sure that you knew we are
48 accounting for these as MPLM Return items 793 and 795, and they will be stowed for
49 return in MPL1A4_A1.
50

MSG 057 (18-0263) - FD07 TRANSFER MESSAGE

Page 2 of 12

- 1 • **LHA words:** We understand that you stowed LHA s/n 272 in 3.0 CTB item 447. We
2 have confirmed with the ISS Program that this LHA can return, therefore we are
3 considering item 447 complete as you have it packed.
4
- 5 • **Missing Uplinked Page:** We apologize that you are missing MPLM Return page 16 that
6 was originally uplinked on FD05. Based on last night's transfer brief, the changes we
7 made are now outdated. However, we have uplinked an updated version to ensure that
8 we are all on the same page (no pun intended).
9
- 10 • **Handheld Mic Cable:** On FD03 you reported transferring the Handheld Mic (item 45)
11 and cable to ISS. We have verified that this cable should be removed from the mic and
12 transferred back to MF71H for return. The mic and cable are currently deployed in
13 NOD2.
14
- 15 • **Eric:** As you probably already know, you currently have more than 5 unused LiOH cans
16 in the LiOH Box. Therefore you can perform the remaining LiOH swaps between the
17 MPLM, ISS, and Middeck as you have time. If you don't get to this today, we'll plan on
18 adding it to the FD08 choreography.
19

FD07 Choreography

- 20 • **Item 121:** REFH Kit needed for RFTA Fill.
- 21 • **Items 241.10 & 241.11:** Transfer Compressor and Compressor Cable prior to RFTA fill
22 activity.
23
- 24 • **Item 273:** Transfer LAB TOCA N2 Hose for the TOCA Assembly activity.
- 25 • **Item 283:** Transfer TOCA Hardware 1 CTB for the TOCA Assembly activity.
- 26 • **Item 131:** Startup Filter Kit needed for WRS WPA Filter Install activity.
- 27 • **Item 46.5:** Radiation Area Monitors (RAMs) required for RAM Install activity.
- 28 • **Item 449.1:** Pack Russian water samples for return in MF14E.
- 29 • **Item 766:** Pack Startup Filter Kit for return.
- 30 • **Item 108:** Transfer GPS Antennas and Electrical Connectors from MPL1A1_A1 for GPS
31 assembly.
- 32 • **Item 128:** Transfer GPS Brackets from MPL1A4_A1 for GPS assembly.
- 33 • **Item 725:** Pack JEM ITCS and LAB ITCS samples for return and transfer to MF14E.
- 34 • **Item 299:** Transfer REBAs post-EVA for charging activities.
- 35 • **Focus on finishing up Resupply items in order to pack Return items.**
36

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

MIDDECK TRANSFER BOOK

41 In the Middeck Transfer List **RETURN** tab

42 Replace the following pages:

43 Return 2, 5, and 8
44

45 In the Middeck Transfer List **MDDK RTN REALTIME ADDITIONS** tab

46 Replace the following page:

47 Return 10
48
49
50

MSG 057 (18-0263) - FD07 TRANSFER MESSAGE

Page 3 of 12

1 **MPLM RETURN TRANSFER BOOK**

2
3 In the MPLM Return Transfer List **LAYOUTS** tab

4 Replace the following pages:

5 L-1 and L-12

6
7 In the MPLM Return Transfer List **RETURN** tab

8 Replace the following pages:

9 Return 16 and 22

10
11 In the MPLM Return Transfer List **MPLM RETURN REALTIME ADDITIONS** tab

12 Replace the following page:

13 Return 31

14
15 **Changes to the Transfer List are detailed below:**

16
17 **MDDK RETURN**

18 Item 441.1 – new item

19 Item 449.1 – new item

20 Item 704.2 – item deleted and changed to item 954.1

21 Item 725 – update to contents and notes

22 Item 952 – updates to notes

23 Items 954 & 954.1 – new items

24 Item 961 – new item

25
26 **MPLM RETURN**

27 Item 447.1 – updates to LHA serial numbers

28 Item 769 – added note

29 Item 955 thru 960 – all new items

30
31
32 **FD08 Choreography**

- 33 • **Item 312:** Transfer PWRs from MPL1S4_K2 for first PWR FILL activity on FD08.
- 34 • **Items 15 & 16:** Transfer ETVCG PTU/CTVC and TVCIC from middeck for ETVCG
- 35 Assembly.
- 36 • **Item 137:** Transfer ETVCG Light from MPL1F1_H1 for ETVCG Assembly.
- 37 • **Item 726:** Pack NODE 2 LTL and MTL samples for return in middeck.
- 38 • **Item 30, 31, 714, 719, 720, & 728:** Transfer samples between GLACIER and MELFI per
- 39 ULF2 Sample Transfer.
- 40 • **Items 214, 237, 248, 249, 250 & 294:** Transfer 11 unused LiOH cans to ISS LiOH
- 41 Stockpile.
- 42 • **Items 770, 771, & 772:** Transfer 5 used LiOH cans to MPLM for return.

43
44
45 Have a great day!

46
47 - The STS-126 Transfer Team

MSG 058 - FD06 MMT SUMMARY

1 The MMT met and reviewed orbiter status, mission progress, and EVA 1. Endeavour
2 continues to perform quite well and there were no new anomalies to discuss. The mission is
3 progressing extremely well due to your hard work and extra effort. Cargo transfer to the ISS
4 is well ahead of the timeline and several other status items indicate you are consistently
5 ahead of the timeline. The IMMT and MMT concurred with the plan to use the orbiter to
6 provide a 3 fps boost on FD08. Additionally, in the days to come, the IMMT and MMT will
7 review the mission requirements and progress against the option for a +1 docked day.

8
9 **EVA 1** - All objectives for EVA 1 were accomplished along with some get ahead tasks. An
10 assessment was performed to determine if the lost tools will have an impact on the
11 remaining EVAs. There are mitigation steps for all of the lost tools. Further, it has been
12 determined that one of the two NOAX dispensing tools could be used to replace the lost
13 grease dispensing tool, in the unlikely event that is required. That decision will occur after
14 evaluating the alternate lubrication techniques employed on EVA 2. Finally, both pairs of
15 gloves were reviewed by the ground team, determined to be in great shape and Go for the
16 next EVA.

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END OF PAGE 1 OF 1, MSG 058