

# STS-121/UHF1.1

## FD 12 Execute Package



MSG	Page(s)	Title
117A	1 - 3	<a href="#">FD12 Summary Timeline (pdf)</a>
110A	4 - 15	<a href="#">FD12 Flight Plan Revision (pdf)</a>
111	16	<a href="#">FD12 Mission Summary (pdf)</a>
112	17	<a href="#">FD12 Transfer Message (pdf)</a>
113A	18 - 20	<a href="#">Deltas Entry Stowage Maps (pdf)</a>
114	21	<a href="#">FD12 Water Summary (pdf)</a>
115	22	<a href="#">LiOH Cue Card Updates (pdf)</a>
116	23	<a href="#">FD11 MMT Summary (pdf)</a>

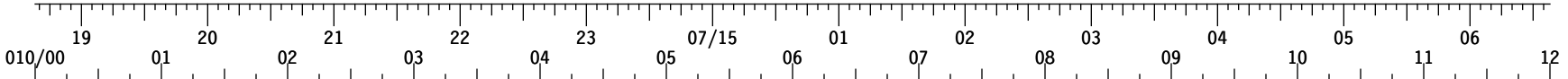
**Approved by FAO:** L. Eadie

Last Updated: Jul 15 2006 2:32AM GMT

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

GMT 07/14/06 (195)

MET Day 010



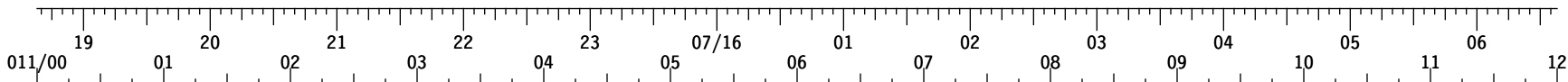
MISSION	PERSONNEL	ACTIVITY	TIME	STATUS	REMARKS
STS-121	FD11 CDR LINDSEY	* PRE SLEEP	19:00 - 20:00	SLEEP	
		PMC A/G	20:00 - 21:00	SLEEP	
	PLT KELLY	MAD S, M - N X L V, A - T T *, RNDZ TOOLS C/O	20:00 - 21:00	SLEEP	POST SLEEP
	MS1 FOSSUM		20:00 - 21:00	SLEEP	POST SLEEP
	MS2 NOWAK	OBSS SRVY PORT	20:00 - 21:00	SLEEP	POST SLEEP
	MS3 WILSON	OBSS SRVY PORT	20:00 - 21:00	SLEEP	POST SLEEP
	MS4 SELLERS	♦ RNDZ TOOLS C/O	20:00 - 21:00	SLEEP	POST SLEEP
ISS	ISS CDR	EVE PREP WK	20:00 - 21:00	SLEEP	PRE SLEEP-ISS, POST SLEEP
	FE-1	EVE PREP WK	20:00 - 21:00	SLEEP	PRE SLEEP-ISS, POST SLEEP
	FE-2	EVE PREP WK	20:00 - 21:00	SLEEP	PRE SLEEP-ISS, POST SLEEP
STS	DAY/NIGHT ORBIT		159 - 167		
	TDRS W -171		159 - 167		
	TDRS E - 46		159 - 167		
	Z -275		159 - 167		
	ORB ATT			BIAS -XLV -ZVV	
NOTES		♦OBSS SRVY PORT ♦PRE SLEEP *STS TO CMG		ISS EXTERNAL SURVEY	@POST SLE *REG RCNFG ^HTR

GMT 07/15/06 (196)

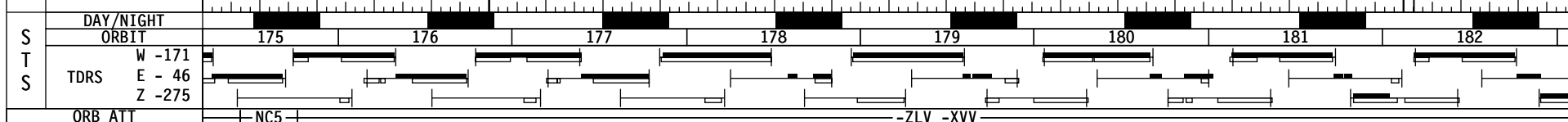
MET Day 010

		12	07	13	08	14	09	15	10	16	11	17	12	18	13	19	14	20	15	21	16	22	17	23	18	011/00
STS-121	FD12 CDR LINDSEY	POST SLEEP	FWA REL	EGRS HATCH CLS	A T T *	F E S *	G P R U B /	H L A U D /	M U N D V R K	UNDOCK OPS	SEP	M D U M R P	C W M C ^	G P R P D N	MEAL	M I N V R T L	O B S S S U R V E Y - S T B D	M I N V R T L	O B S S S U R V E Y - N O S E	M - N Z V L R V					PRE SLEEP	
	PLT KELLY	POST SLEEP	RNDZ TOOLS C/O	FWA REL	EGRS HATCH CLS	G P R U B /	R P R C S *			UNDOCK OPS	SEP	S I M O I N I T	G P R P D N	C O M M 1	A P C S I M O U T E R M *	A O P I U ^	MEAL	R P R S *	O B S S S U R V E Y - N O S E			EXERCISE		PRE SLEEP		
	MS1 FOSSUM	POST SLEEP	EMU XFER	FWA REL			C/L CMR INSTL			UNDOCK OPS	SEP	S E A R C T			MEAL	L A D C R T I	O B S S S U R V E Y - S T B D	EXERCISE	EMU H/W S T O W	POST EVA ENT P R E P			P D T E V A O C T	PRE SLEEP		
	MS2 NOWAK	POST SLEEP		FWA REL	L I M O K *		ODS VEST L K C K			UNDOCK OPS	SEP				MEAL	M S N R V R Y	O B S S S U R V E Y - S T B D		EXERCISE			O B S S B E R T H	R P M W S R D N	PRE SLEEP		
	MS3 WILSON	POST SLEEP	P/TV 04 S/U	FWA REL	P/TV 04 O P S E G R		ODS VEST L K C K			UNDOCK OPS	SEP				MEAL	M S N R V R Y	EXERCISE		O B S S S U R V E Y - N O S E			O B S S B E R T H	R P M W S R D N	PRE SLEEP		
	MS4 SELLERS	POST SLEEP	EMU XFER	FWA REL	P/TV 04 O P S E G R	S S V R 3	C/L CMR INSTL	P/TV03 S/U	P/TV03 O P S	UNDOCK OPS	SEP	POST UNDK P G S C C N F G			MEAL	F I L T E R C L E A N I N G		EXERCISE		EMU H/W S T O W	POST EVA ENT P R E P	V T R S /	V T R P B	P D T E V A O C T	PRE SLEEP	
ISS	ISS CDR	POST SLEEP	P W R K E P	D P C	FWA REL	C T T C								TVIS	M I D D A Y - M E A L	O B T R E A D Y E M R D R I L 13	IMS-BCR-TST				G T A E H S K T	VELO + HC	D P C			
	FE-1	POST SLEEP	P W R K E P	D P C	FWA REL	EGRS HATCH CLS			DEP T R S T R				RED	P M A 2 - D E P R E S S	M I D D A Y - M E A L	P M A 2 D P R S	R V P M A 2 R D P R S	CEVIS			C D P P C	COX	D P C			
	FE-2	POST SLEEP	P W R K E P	D P C	FWA REL				O V I E W S /	S W P R E P			TVIS	B S P T S O M W U	П И Л Л E D W L D & P L C M	M I D D A Y - M E A L	O B T R E A D Y E M R D R I L 13	RED				X F E R C O N F	D P C			
STS	DAY/NIGHT	[Day/Night Cycle]																								
	ORBIT	[Orbit Cycle]																								
STS	TDRS	[TDRS Cycle]																								
	ORB ATT	[Orbit Attitude]																								
NOTES	@MOTOROLA CHARG ♦MOTOROLA CK *DEPLOY @MOTOROLA CK *UNDOCK 10/15:30 *ON ♥MOTOROLA CK ΔLAB WINDOW OPS ▲MOTOROLA CLSOUT *CMG TO STS *HTR RCNFG *CTTC NOM CNFG *DEACT ^TEARDOWN *ACT ^DEACT *RECONFIG MPLM PRESS CK																									

GMT 07/15/06 (196)



STS-121	<b>FD12</b> CDR LINDSEY	PS R L E E P	NC5 RCS BURN	PRE SLEEP	PMC A/G	PRE SLEEP	SLEEP	POST SLEEP
	PLT KELLY	PS R L E E P	RCS BURN	PRE SLEEP		PRE SLEEP	SLEEP	POST SLEEP
	MS1 FOSSUM			PRE SLEEP			SLEEP	POST SLEEP
	MS2 NOWAK			PRE SLEEP			SLEEP	POST SLEEP
	MS3 WILSON			PRE SLEEP			SLEEP	POST SLEEP
	MS4 SELLERS			PRE SLEEP			SLEEP	POST SLEEP



STS GND  
-MIL -MIL  
-WHS -WHS

NOTES

MSG 110A - FD12 FLIGHT PLAN REVISION

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MSG INDEX

<u>MSG NO.</u>	<u>TITLE</u>
110	FD12 Flight Plan Revision
111	FD12 Mission Summary (13-0702)
112	FD12 Transfer Message (13-0703)
113	Deltas Entry Stowage Maps
114	FD12 Water Summary
115	LiOH Cue Card Updates
116	FD11 MMT Summary (13-0705)
117	FD12 Summary Timeline

1. NOTES FOR EVA HARDWARE STOW

Just a couple reminders for Piers and Mike for the EMU H/W STOW activity on FD12 and RCC DTO TOOL CLN/STW activity on FD13:

1. POST EVA RECONFIG AND TRANSFER (EVA, A/L CONFIG), POST TRANSFER STOW on FS 2-17, EMU Sys Transfer Bag #1 table at the bottom of the page:

- The External Airlock Floor Bag (launch position) changes to the MD Floor Bag (STBD 1) position for landing. We have the B/U gloves and the LiOH cans and caps being stowed in this bag.

2. EVA TOOLS MANAGEMENT (EVA, TOOLS AND STOWAGE), Reference message 103 (13-0682) - EVA TOOL MANAGEMENT PROCEDURE UPDATE, Flight Day 13 - CRM Bag Disassemble and Stow:

- In step 4 when you are stowing the 3rd CRM applicator in the PC1 bag, remember that a cutout was added in the foam for the flow shutoff valve so that it would not get rotated to the open position. The applicator has to go in the PC1 bag handle-first so that the valve handle lines up with the foam cutout.

2. EVA QUESTION

Piers, you reported that you would be doing step 23 of MSG 103 (13-0682) - EVA TOOL MANAGEMENT PROCEDURE UPDATE today. Since you transferred the CRM Bag back to the Orbiter yesterday, please verify that the contents of the CRM Bag match the contents of the table in step 23.

MSG 110A - FD12 FLIGHT PLAN REVISION

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3. MNVR FROM H/O TO STBD SURVEY DELTAS

For flight day 12 late inspection, LCS/IDC Characterization (OBSS LDRI RCC SURVEY - STBD, step 5) is not required. The sensors have already been characterized on previous flight days.

In OBSS MNVR FROM HANDOFF TO STBD LDRI ACAS START, step 3, update the procedure callout (FS 1-32) as follows:

- WAS: Perform OBSS LDRI RCC SURVEY - STBD (SURVEYS) steps 3-12
- IS: Perform OBSS LDRI RCC SURVEY - STBD (SURVEYS) steps 3, 4, 6-12

4. DAP OPS WITH L5L DESELECTED

Recall that with L5L deselected, undocking and separation will be performed with the ALT DAP. Additionally, the DAP will downmode to FREE anytime VERN is selected. You will need to reselect the previous DAP mode (AUTO, INRTL, or LVLH) after any DAP downmode to FREE after selecting VERN.

5. ROBO SUMMARY

MS2, MS3, FE-1

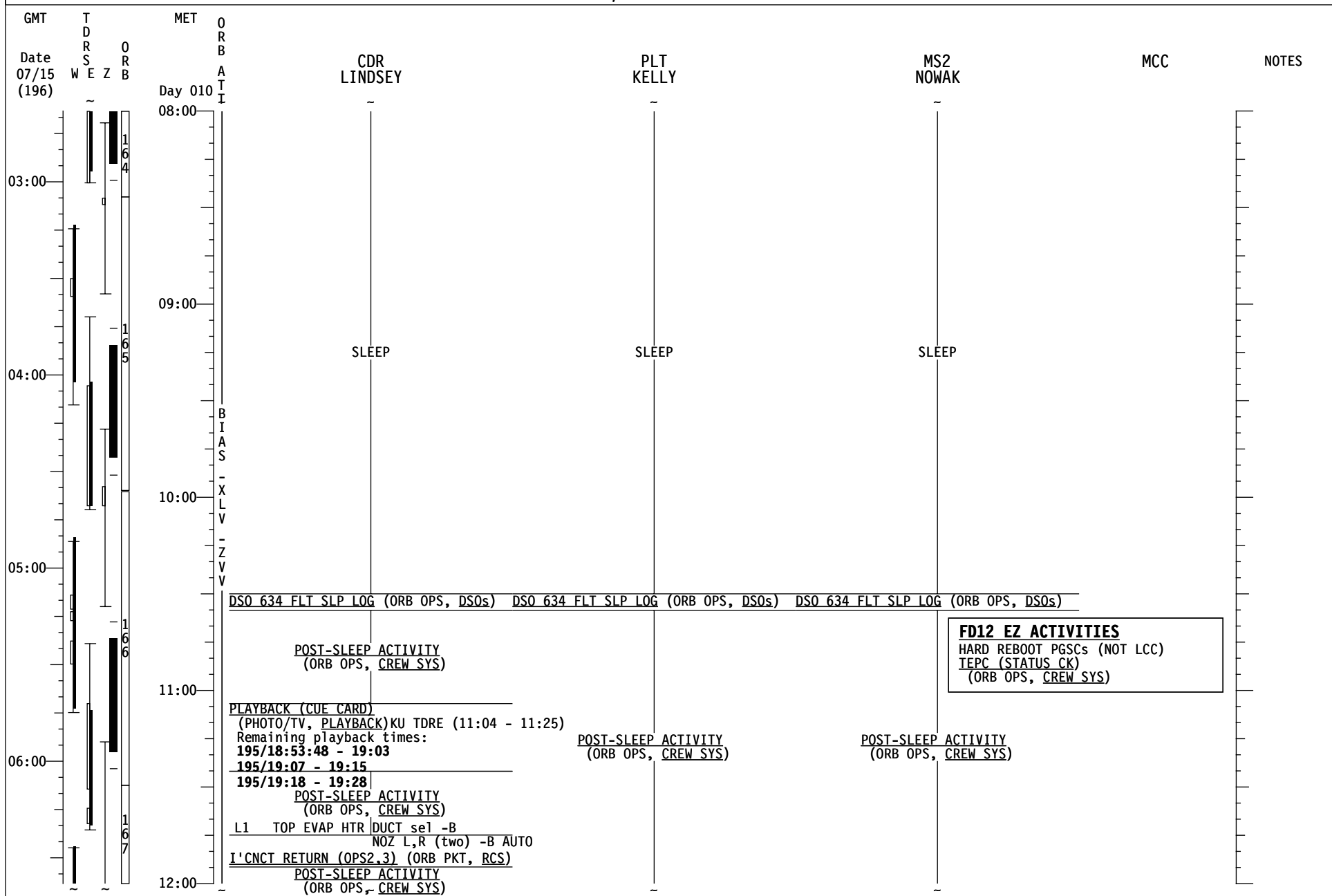
Good job completing the robotics ops despite our difficulties with the SSRMS! After you reported problems routing the Tip LEE camera during the Berthed MPLM Ungrapple procedure, the ground attempted to power cycle the Tip LEE VDU to recover video for you. Shortly after sending the Tip LEE VDU power off command, we lost comm with the SSRMS Prime String ACU which appears to have reset itself. When the ground attempted to power cycle the SSRMS prime string, the power up failed during a timeframe where we expect the ACU to perform BIT checks. The most expedient path to picking up with the timeline was to switch to the SSRMS redundant string where you completed all the days objectives. At the end of your operation, the ground performed troubleshooting on the SSRMS prime string while based on the MBS and could not recreate the failure.

Our forward plan is to have FE-1 perform 3 single joint maneuvers and grapple the Lab PDGF on GMT199. With the SSRMS double grappled, the ground will perform more troubleshooting of the SSRMS Prime string based from the Lab PDGF to see if the problem can be recreated from this base location.

6. REPLACE PAGES 3-126 THROUGH 3-135.

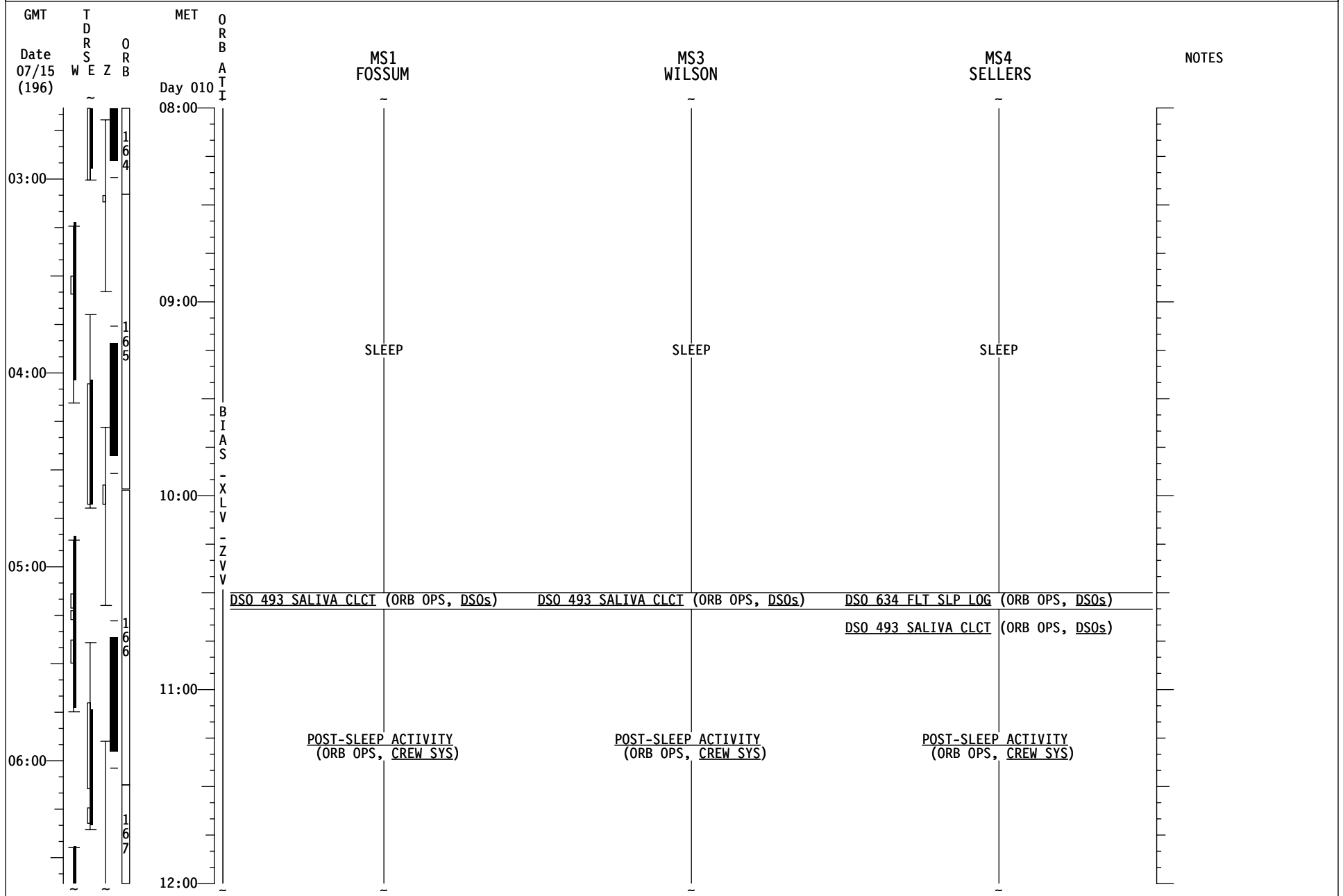
# STS-121/ULF 1.1 (FD 12)

**REPLANNED**



# STS-121/ULF 1.1 (FD 12)

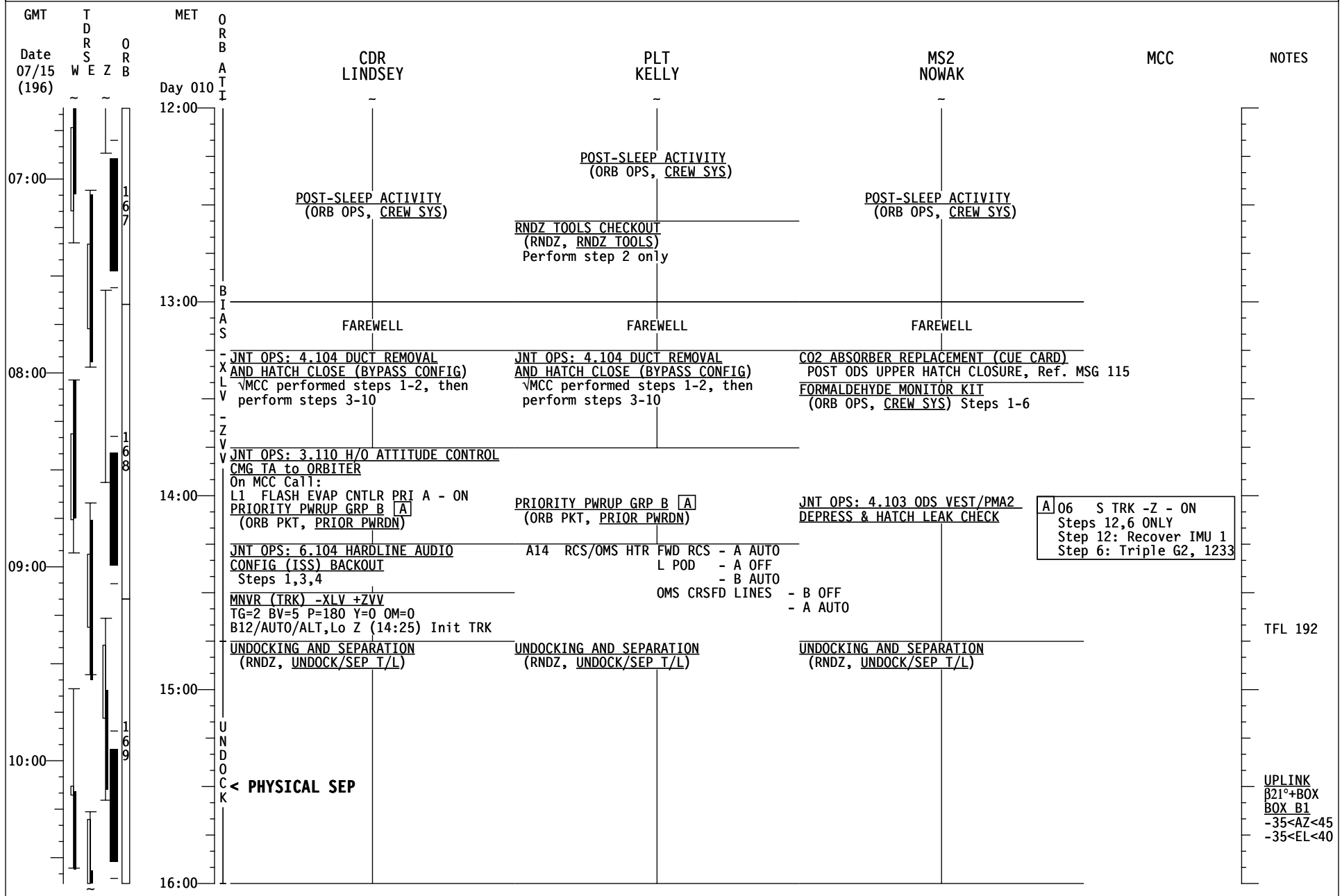
**REPLANNED**





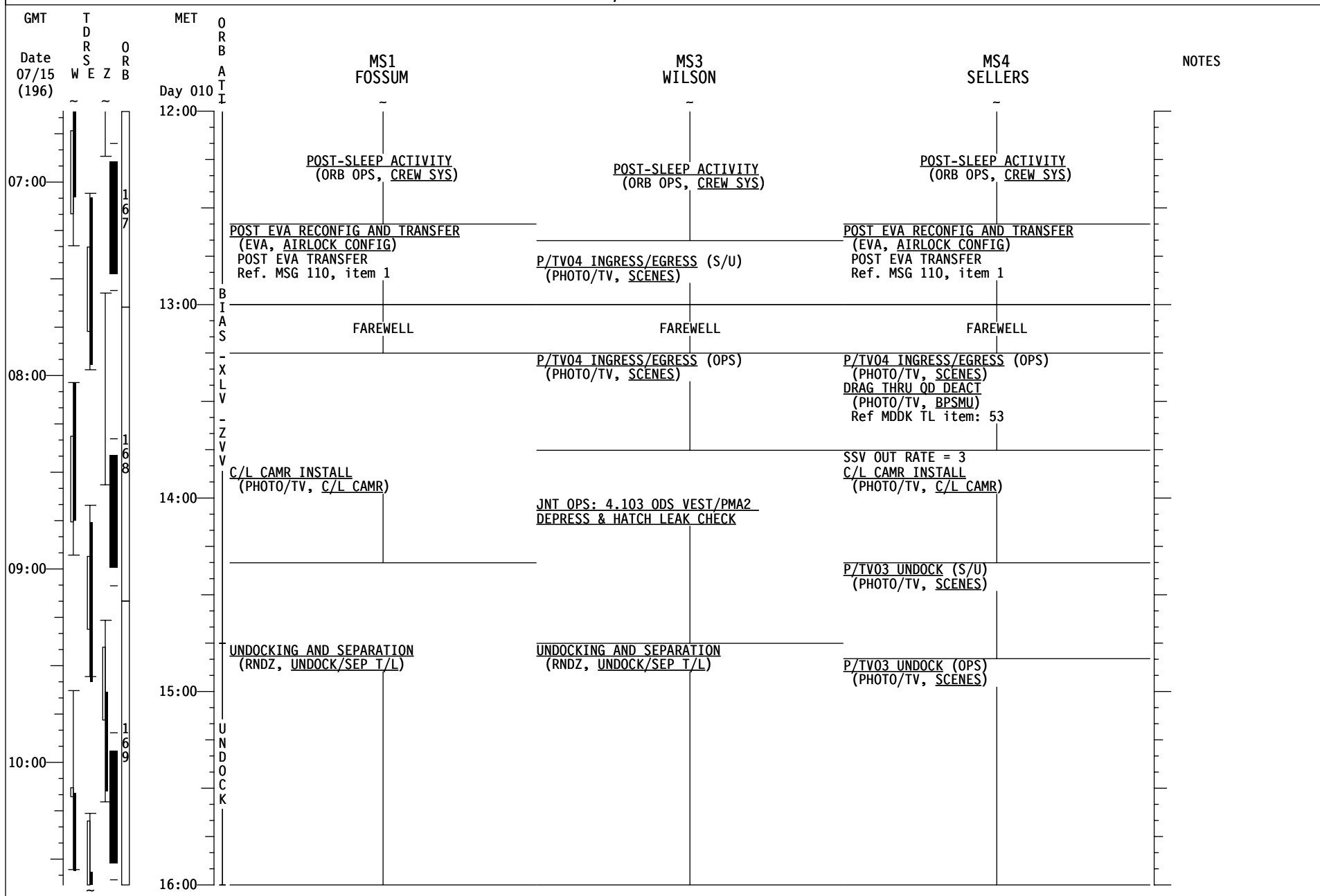
# STS-121/ULF 1.1 (FD 12)

**REPLANNED**



# STS-121/ULF 1.1 (FD 12)

**REPLANNED**



STS-121/ULF 1.1 (FD 12)

REPLANNED

GMT	T D R S E Z	MET	O R B	CDR LINDSEY	PLT KELLY	MS2 NOWAK	MCC	NOTES
Date 07/15 (196)	W E Z B	Day 010	A T T					
16:00				SEP/FLYAROUND (RNDZ, UNDOCK/SEP T/L)	SEP/FLYAROUND (RNDZ, UNDOCK/SEP T/L)	SEP/FLYAROUND (RNDZ, UNDOCK/SEP T/L)		
11:00				<b>RETURN TO FLIGHT PLAN</b>				UPLINK β21°+MASK
				CONFIG DAP A1,B1 MNVR BIAS (TRK) -ZLV +YVV TG=2 BV=5 P=90 Y=0 OM=270 A/AUTO/VERN Init TRK, Ref. MSG 110 item 4 SHUTTLE CONDENSATE COLLECTION (ORB OPS, ECLS) TEARDOWN				
17:00				IMU STAR OF OPTY ALIGN (ORB OPS, GNC)	SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) Init Supply/Waste Dump Ref. MSG 114			
12:00				PRIORITY PWRDN GRP B [A] (ORB PKT, PRIOR PWRDN)	PRIORITY PWRDN GRP B [A] (ORB PKT, PRIOR PWRDN)			[A] Steps 2,5,6,9,12 ONLY Step 6: Single G2, 1111 Step 12: IMU 1 STBY - ITEM 21 EXEC
					COMM STRING 1 C/O (PART A) (ORB OPS, COMM/INST)			
					CONFIG DAP A to A14	MEAL		TFL 184
				MEAL	ON MCC GO SSP1 APCU 1 OUTPUT RLY - CL (tb-gray)			
					SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) Terminate Supply/Waste Dump			MPLM: 1.101 MPLM ENVIRONMENT CHECK Steps 1 & 4 PRESS CK (NO fan)
18:00					ON MCC GO SSP1 APCU 1 OUTPUT RLY - OP (tb-bp)	OBSS MNVR HO TO STBD SRVY (PDRS, NOMINAL) Ref. MSG 110, item 3		
					SSP1 OIU PWR - OFF (tb-bp)			UPLINK β21°+MASK+ BOX A4 -122<AZ<110 -90<EL<45
13:00				MNVR STBD SURVEY TG=4 BV=5 P=0 Y=49 OM=155 A/AUTO/VERN Init TRK on MCC GO		OBSS LDRI RCC SRVY - STBD (PDRS, SURVEYS) Ref. MSG 110, item 3		
						MEAL		
						[B] ML86B:A cb MNA H2O LINE HTR A - c1 MNB H2O LINE HTR B - op ML86B:C cb MNA EXT ARLK HTR STRUC Z1/2/3 - c1 VEST Z1/2/3 - c1 MNB EXT ARLK HTR STRUC Z1/2/3 - op √VEST Z1/2/3 - op		
19:00								
14:00					MO10W 14.7 CAB REG INLET SYS 1 vlv - OP Expect 'S66 CAB N2, O2 1 FLO' messages Caution: Do not remain in WCS area during high flow, as introduction of N2 may cause hypoxia. A HTR RECONFIG [B]			
20:00				MNVR NOSE CAP SURVEY TG=4 BV=5 P=331 Y=0 OM=325 A/AUTO/VERN Init TRK on MCC GO	OBSS LDRI RCC SRVY - NOSE CAP (PDRS, SURVEYS)			UPLINK β21° Only

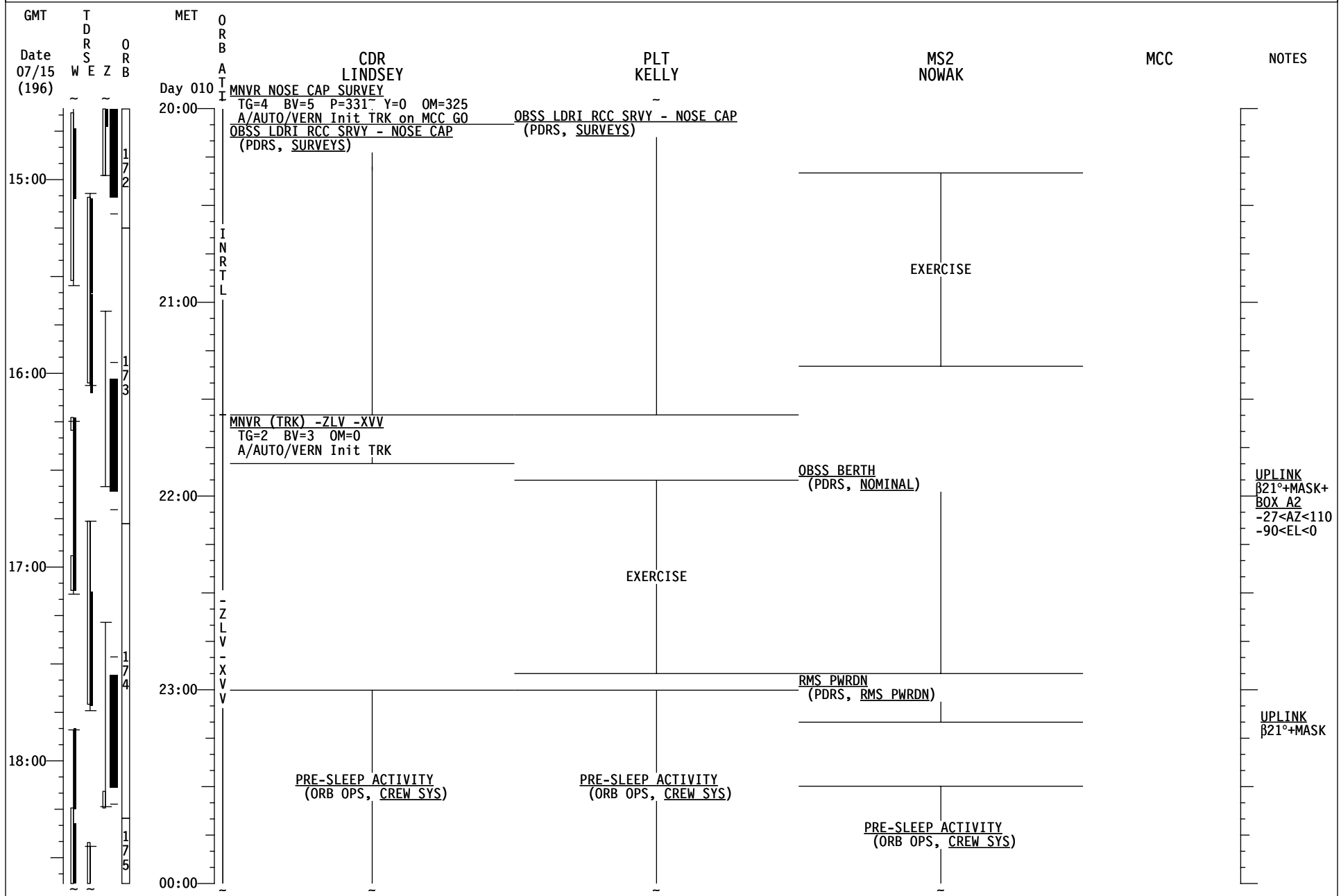
# STS-121/ULF 1.1 (FD 12)

**REPLANNED**

GMT	T D R S E Z	O R B	MET	O R B	MS1	MS3	MS4	NOTES
Date	W E Z	O R B	Day 010	A T T	FOSSUM	WILSON	SELLERS	
16:00					SEP/FLYAROUND (RNDZ, UNDOCK/SEP T/L)	SEP/FLYAROUND (RNDZ, UNDOCK/SEP T/L)	SEP/FLYAROUND (RNDZ, UNDOCK/SEP T/L)	
<b>RETURN TO FLIGHT PLAN</b>								
17:00					JNT OPS: 6.106 SSOR DEACTIVATION			POST UNDK PGSC CONFIG Configure PGSCs as needed WLES RCNFG POST DOCK/UNDK Ref. MSG 015
18:00					MEAL	MEAL	MEAL	
19:00					ACTIVATION (CUE CARD) (LDRI/ITVC Cue Card, PHOTO/TV)Steps 1,4,5 P/TV01 VIDEO S/U (PHOTO/TV,SCENES)Step 10 only OBSS LDRI RCC SRVY - STBD (PDRS, SURVEYS) Ref. MSG 110, item 3	OBSS MNVR HO TO STBD SRVY (PDRS, NOMINAL) Ref. MSG 110, item 3	FILTER CLEANING (IFM, SCHEDULED MAINTENANCE)	
20:00					EXERCISE	EXERCISE	EXERCISE	
					EXERCISE	OBSS LDRI RCC SRVY - NOSE CAP (PDRS, SURVEYS)		

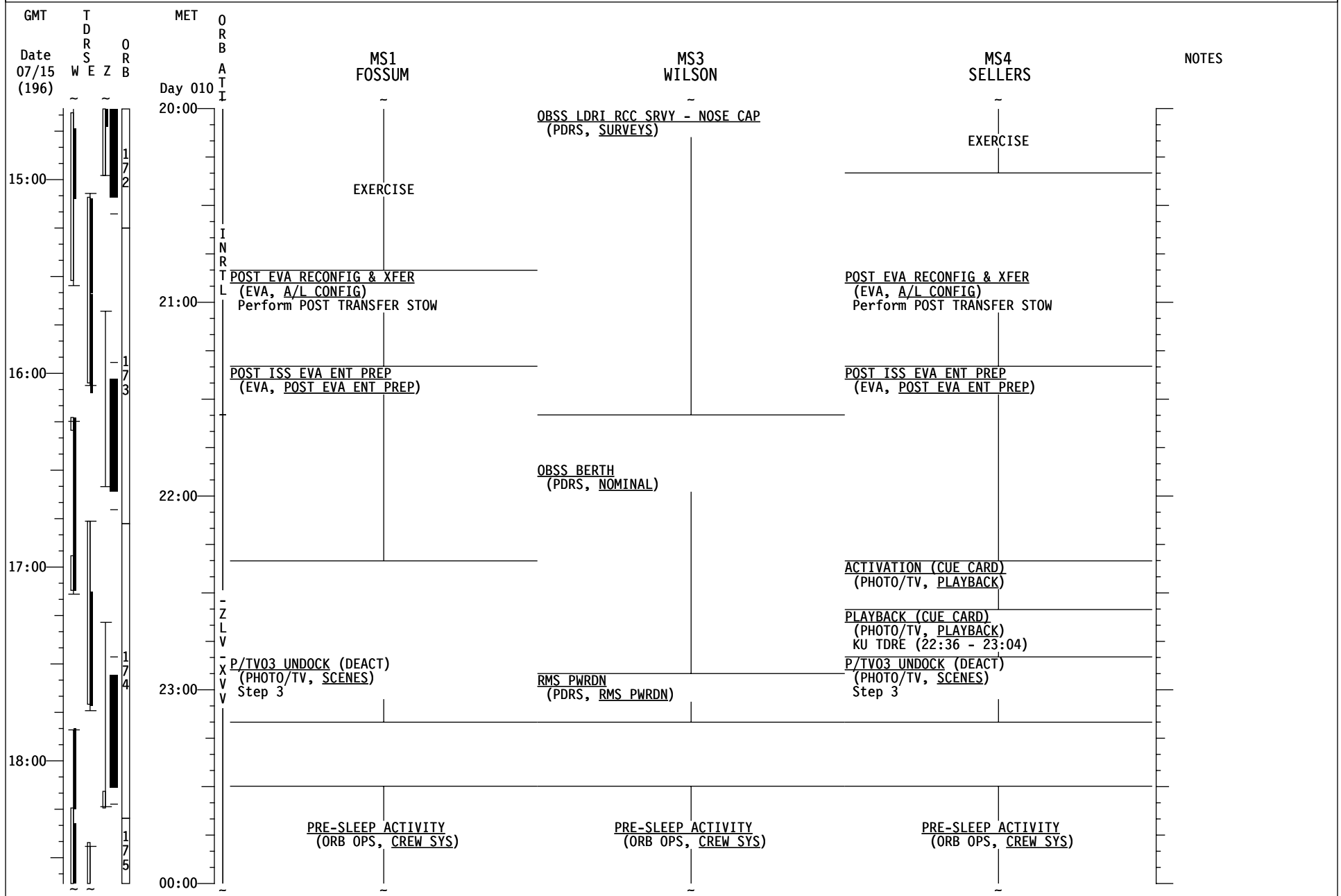
# STS-121/ULF 1.1 (FD 12)

**REPLANNED**



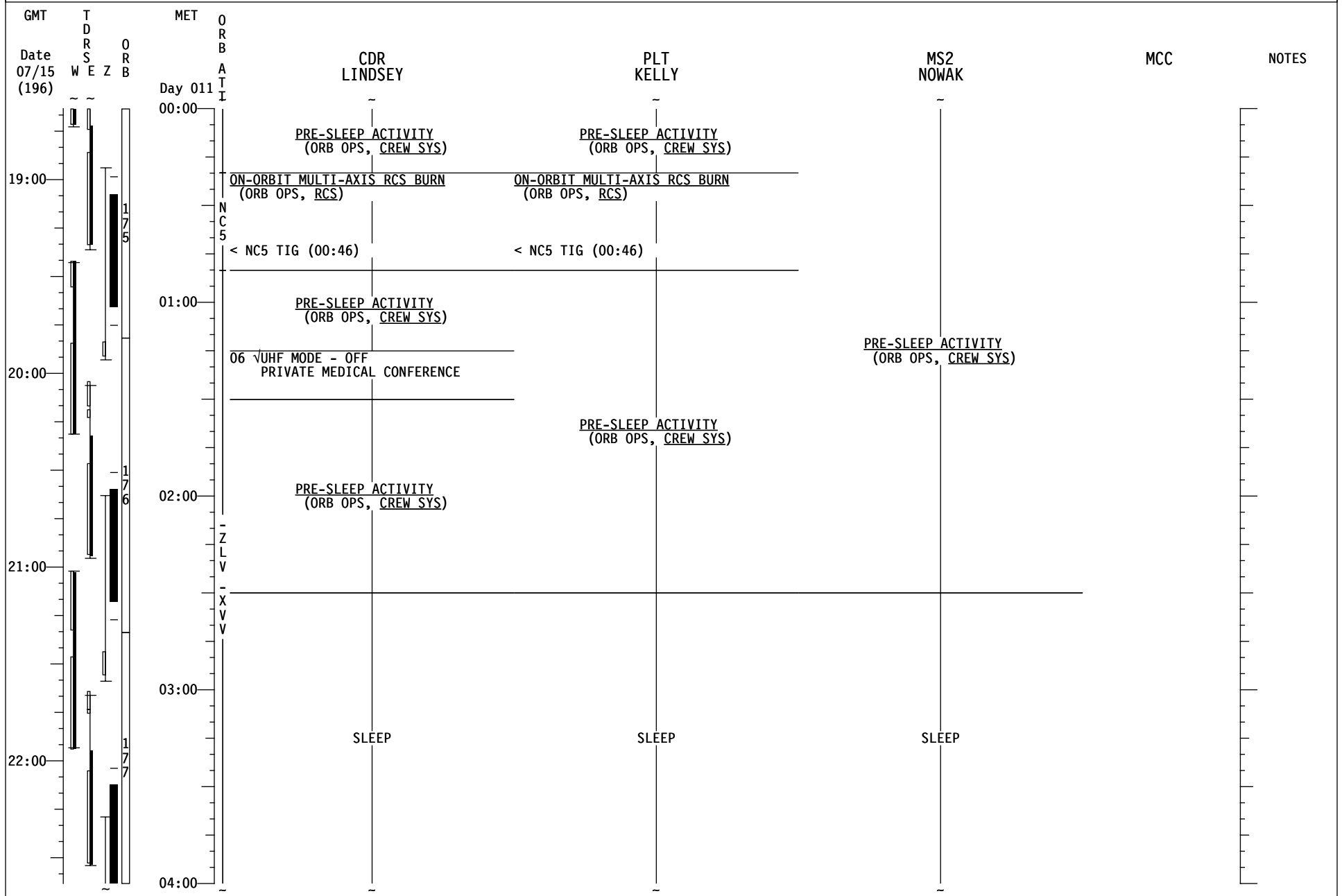
# STS-121/ULF 1.1 (FD 12)

**REPLANNED**



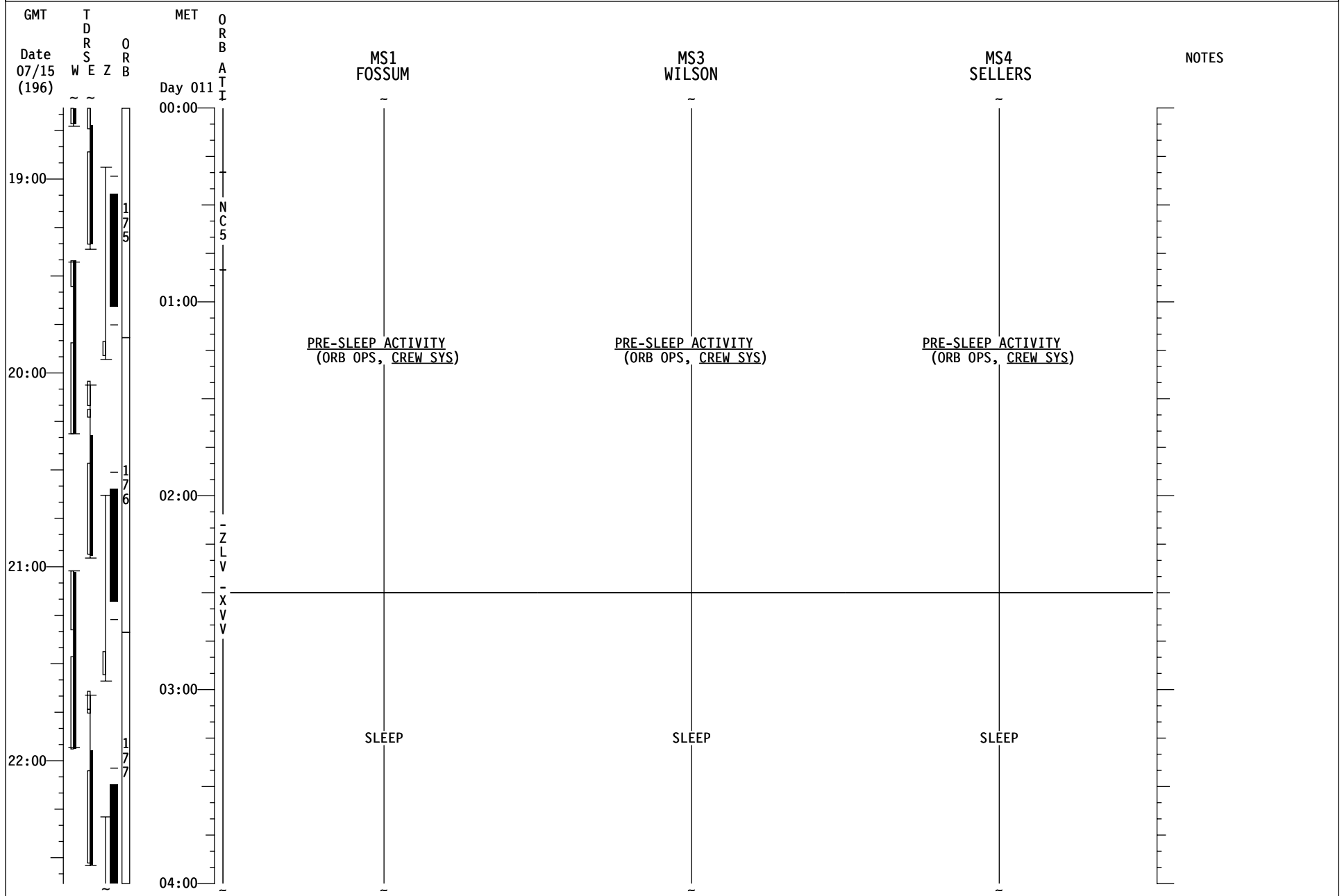
# STS-121/ULF 1.1 (FD 12)

**REPLANNED**



# STS-121/ULF 1.1 (FD 12)

**REPLANNED**



PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY  
(ORB OPS, CREW SYS)

SLEEP

SLEEP

SLEEP



**MSG 111 (13-0702) - FD12 MISSION SUMMARY**

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Good Morning, Discovery. Have a great Undocking.

YOUR CURRENT ORBIT IS: 191 X 177 NM

NOTAMS:

GUAM (GUA) - RUNWAY END IDENTIFIER LIGHTS 06R UNSERVICEABLE TIL 24 AUG  
GUAM (GUA) – RWY 06L/24R CLOSED UNTIL 31 JULY  
ORMOND BEACH (KOMN) – TAC (OMN CH 73) AZIMUTH OUT OF SERVICE UFN  
LAJES – TACAN 45X OUT OF SERVICE TIL 8 SEP  
KING KHALID - VORTAC CH 92X OPERATIONAL BUT CAUTION ADVISED DUE TO NO  
MONITORING  
AMBERLEY (AMB) – CLOSED  
RIO GALLEGOS (AWG) - NOT APPROVED  
ISTRES (FMI) – 33 RWY REMAINING MARKERS AVAIL ARE 300,600,900M

NEXT 2 PLS OPPORTUNITIES:

NOR23 ORB172 – 10/21:30 (BKN120 BKN220, 100@5P7)  
EDW22 ORB188 – 11/20:15 (FEW150 SCT250, 230@5P10)

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 = 34.6 R OMS OX = 37.2  
FU = 35.1 FU = 37.9

SUBTRACT I'CNCT COUNTER FOR CURRENT OMS QUANTITIES

DELTA V AVAILABLE:

OMS	335 FPS
ARCS (TOTAL ABOVE QTY1)	28 FPS
TOTAL IN THE AFT	363 FPS
ARCS (TOTAL ABOVE QTY2)	58 FPS
FRCS (ABOVE QTY 1)	31 FPS
AFT QTY 1	83 %
AFT QTY 2	45 %

**MSG 112 (13-0703) - FD12 TRANSFER MESSAGE**

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Good morning Thomas, Stephanie, and Steve,

You're just about done! Based on your calls last night, the only things we have remaining for you are:

- Item 54: BPSMU & associated cables
- Item 702: EMU s/n 3009
- Item 703: EMU s/n 3010
- Item 704: EMU s/n 3013
- Item 821: New Middeck Resupply item

We added one new item to the Mddk Resupply list (add page Resupply 11). We apologize for the late addition. This was unfortunately overlooked preflight.

Thomas, there's time scheduled for you to do a little debrief with Margaret later today. We're all interested in finding out how you performed transfer so quickly! A list of questions for the debrief is in 13-0704.

Thanks for making this such a great Transfer Mission. We really enjoyed working with such a great crew!

See you on the ground!

-The Transfer Team-

**STS-121/ULF1.1 Resupply Transfer List**

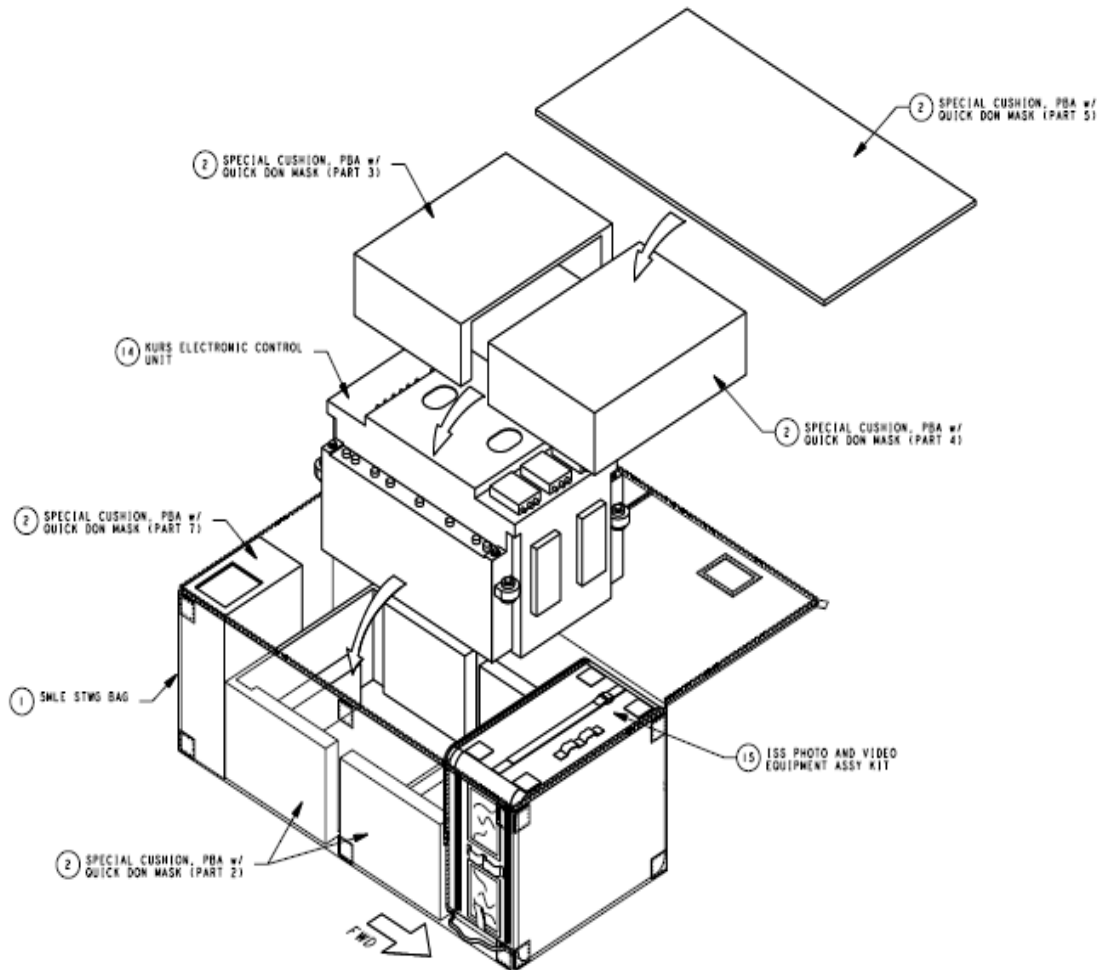
Chg Flag	<input checked="" type="checkbox"/>	FD	Crew Initials	Item #	Item Name	Qty	Initial Stowage	Temp Stowage	Stowage at Undock	Wt (lbs)	PROCEDURES/Constraints/ **Comments
X				821	FE-2 [Thomas Reiter]	1	Mddk Temp Stow		ISS Crew Pref	Private	**Ensure FE-2 is transferred with plenty of water, favorite foods, and cozy socks.

[ ] - indicates note added by Transfer Team (not seen on actual label)

## MSG 113A - DELTAS ENTRY STOWAGE MAPS

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Reference the included updates to Message 086 for Middeck Stowage. These supercede the stowage layout in your Middeck Transfer List book.



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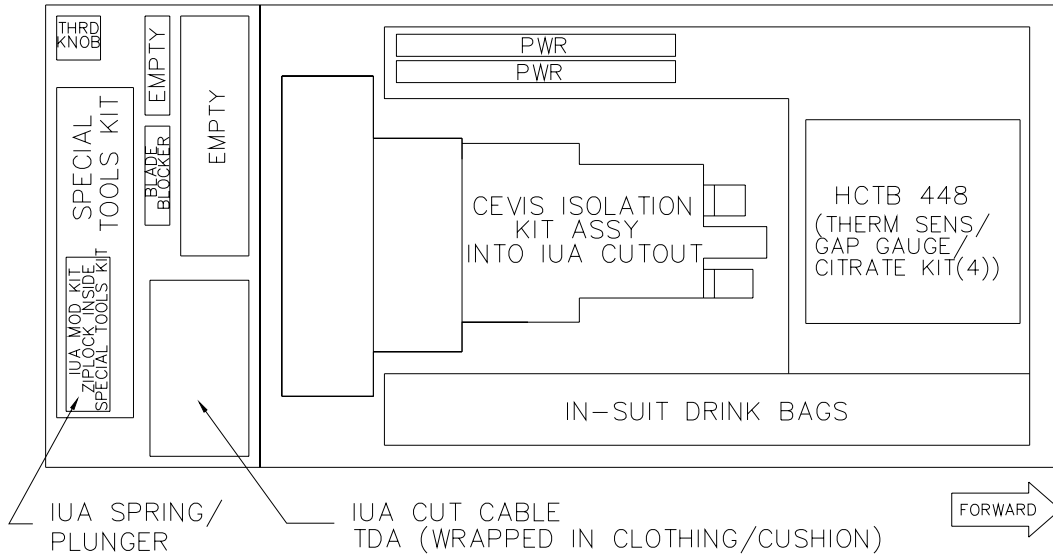
### AIRLOCK FLOOR BAG(C)

- "EYES" OF KURS FACE UP AS SHOWN
- EXCESS CUSHION CAN BE STOWED IN BAG I OR PUT INTO JETTISON STOWAGE BAG. IF A JETTISON STOWAGE BAG IS NEEDED, IT MUST BE TETHERED TO THE A/L AFT HANDRAIL STAND-OFFS AND TAPED TO THE FLOOR AS BEST AS POSSIBLE.

MSG 113A - DELTAS ENTRY STOWAGE MAPS

1

BAG B (PF2)

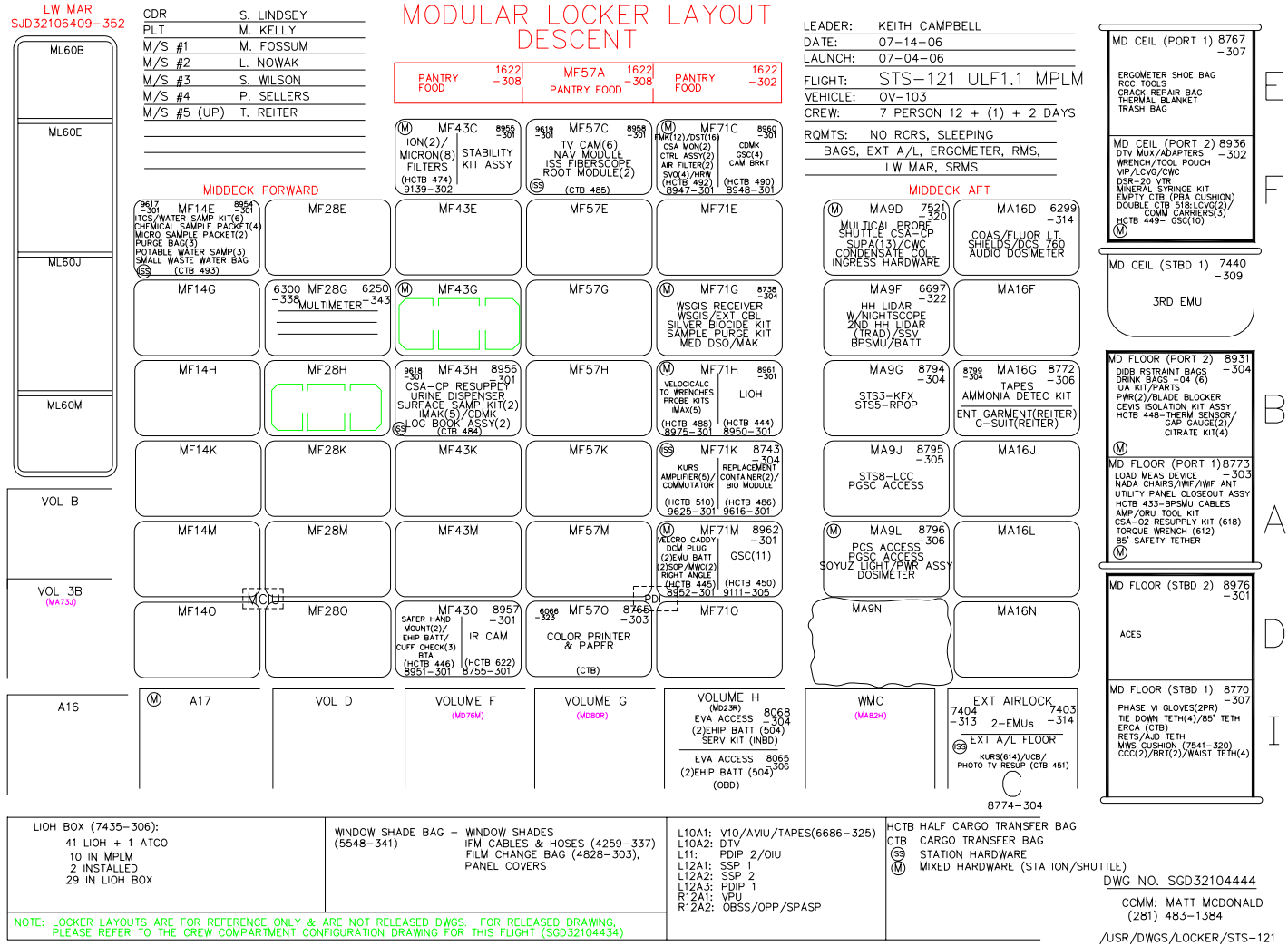


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- EXCESS CUSHION CAN BE STOWED IN BAG I OR PUT INTO JETTISON STOWAGE BAG. IF A JETTISON STOWAGE BAG IS NEEDED, IT MUST BE TETHERED TO THE A/L AFT HANDRAIL STAND-OFFS AND TAPED TO THE FLOOR AS BEST AS POSSIBLE.
- IUA CONNECTORS/CAPS CAN BE PLACED INTO ANY EMPTY CUTOUT. PACK IN A WAY TO MINIMIZE MOVEMENT
- IUA COMPONENTS (SPRING/PLUNGER, CUT CABLE AND TDA) STOWAGE LOCATIONS ARE SUGGESTIONS AND CAN BE REARRANGED IN BAG BY CREW IF NECESSARY

MSG 113A - DELTAS ENTRY STOWAGE MAPS

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MSG 114 - FD12 WATER SUMMARY

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Today after undocking we will perform a simo supply/waste water dump and Shuttle condensation collection will be terminated. Details for condensate are in the Detailed Flight Plan in the CDR's column at 10/16:45 MET.

**Simo Dump Details**

At MET 10/16:45 perform a simo supply/waste water dump with the following details:

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

Dump supply water for approximately 45 minutes.

The waste tank will be dumped to 5%. Waste dump valve open duration will be approximately 32 minutes.

MCC will TMBU limits.

**FLIGHT DAY 3 DOCKING  
ORBITER with ISS  
CO2 ABSORBER REPLACEMENT**

FLIGHT DAY	POS A	POS B	CK CMLPT
LAUNCH	STS-121 1	STS-121 2	
PRE FD1	"	"	
POST FD2	STS-121 3	STS-121 4	
PRE FD2	"	STS-121 5	
POST FD3	STS-121 6	STS-121 7	
PRE FD3	STS-121 8	"	
POST FD4 (MPLM)	"	"	
PRE FD4	"	STS-121 9	
POST FD5 (EVA 1)	"	"	
PRE FD5	STS-121 10	"	
POST FD6	"	"	
PRE FD6	"	STS-121 11	
POST FD7 (EVA 2)	"	"	
PRE FD7	STS-114 32	"	
POST FD8	"	"	
PRE FD8	"	STS-114 33	
POST FD9 (EVA 3)	"	"	
PRE FD9	"	"	
POST FD10	"	"	
PRE FD10	"	"	
POST FD11 (MPLM)	"	"	
PRE FD11	"	"	
POST FD12 (Undock)	"	"	
MID FD12	STS-114 34	STS-114 35	
PRE FD12	"	STS-114 36*	
POST FD13	STS-114 37	STS-114 38	
PRE FD13	STS-114 39*	"	
POST FD14 (EOM)	STS-114 40	STS-114 41	
PRE FD14	"	STS-114 42	
POST FD15 (EOM+1)	STS-114 43	STS-114 44	
PRE FD15	STS-114 45	"	
POST FD16 (EOM+2)	STS-114 46	STS-121 19	
PRE FD16	"	STS-121 20	
POST FD17 (EOM+3)	STS-121 21	STS-121 22	

\*Reseal LiOH cans w/ Gray Tape and stow  
(Location of canisters and LiOH Exchange plan on back)

NOTE: This card is specifically used for the STS-121 mission with the Orbiter conducting single shift operations with a crew size of 7up/6down. This changeout scheme reflects FD3 docking with ISS and includes the energy dependent day.



**MSG 116 (13-0705) - FD11 MMT SUMMARY**

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**FD11 MMT Crew Summary**

Today's MMT focused on the APU 1 pressure decay. There was also a review of plan to deploy resources to image the Orbiter on re-entry in order to attempt to capture boundary layer transition, especially since we know we have irregularities on the lower surface due to protruding gap fillers.

**APU 1 Tank Pressure Decay** – The APU 1 fuel tank pressure continues to decay at a steady rate (actually it is slowing very slightly as the pressure and temperature drops).

There is still no way to determine if the leak is N2 or hydrazine. The assumption still stands that if the leak is hydrazine, it will be a vapor. JSC engineering, White Sands and the NESC are collaborating on that part of the story.

The MMT narrowed the options down to a forward plan that will be finalized tomorrow. As of today, we are going to use APU 1 for FCS checkout. This will give us a chance to evaluate the APU and to monitor the leak rate afterwards. If the leak rate increases, we would burn the APU to depletion while in orbit. There is also an option to run the APU longer during FCS checkout, such that entry usage will leave the tank quantity close to depletion after wheelstop. One of the factors affecting that decision is the concern of possible Water Spray Boiler freeze-up if the APU is run long enough to need cooling (WSB 1 does not have a PGME mixture). Nominal FCS checkout does not require WSB cooling.

The entry plan as of today is to use APU 1 nominally, most likely with a pre-TIG start. Starting it earlier than TIG-5 would burn off more fuel but would create complications for the deorbit burn weather decision-making process.

Post-landing, KSC will perform their usual post-landing procedures and sniff checks of the aft vent doors to confirm if the leak was indeed hydrazine. Plans for how long to operate the APU post-landing are still being discussed.