

STS-117/13A

FD 03 Execute Package



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005	18 - 21	IWIS INSTALLATION IN SHUTTLE AIRLOCK (pdf)
006	22	IWIS Big Picture Words for 13A (pdf)
016	23 - 27	FD03 RELMO and MNVR PADS (pdf)
017A	28	Port OMS Pod Survey (pdf)

Approved by FAO: Linda Delapp

Last Updated: Jun 10 2007 12:23PM GMT

JEDI (Joint **E**xecute package **D**evelopment and **I**ntegration), v2.04.0003

MSG 011C - FD03 FLIGHT PLAN REVISION

1 MSG INDEX

2

3	<u>MSG NO.</u>	<u>TITLE</u>
4	005	IWIS Installation in Shuttle Airlock
5	006	IWIS Big Picture Words for 13A
6	011C	FD03 Flight Plan Revision
7	012A	FD03 Mission Summary
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9	015	FD02 MMT Summary
10	016	FD03 RELMO and MNVR PADS
11	017A	Port OMS Pod Survey

12

13 1. During Post Sleep on FD3, perform the following actions to reconfigure the OMS Pod
14 heaters from B to A:

15

- 16 A14 RCS/OMS HTR L POD B - OFF
17 A - AUTO
18 R POD B - OFF
19 A - AUTO

20

21 2. For the Waste Water Dump at 01/14:15 MET, perform SUPPLY/WASTE WATER DUMP
22 (ORB OPS, ECLS) page 5-2, steps E, G, & I. Dump the tank to 5%. Waste Water
23 Nozzle open time will be approximately 26 minutes.

24

25 MCC will TMBU all limits.

26

27 3. Procedural Deltas to N2 REPRESS USING PAYLOAD N2 VALVES

28

29 In N2 REPRESS USING PAYLOAD N2 VALVES (ORB OPS, ECLS) p. 5-56, strike
30 thru references to CABIN N2 FLOW 2 H/W C&W channel 64 in steps 1 and 12. This
31 transducer is not functional and is currently inhibited. MCC will TMBU all SM limits in
32 steps 1 and 12.

33

34 4. Obtain a switch guard from MF14G, tray 4.

35

36 A7U Place a switch guard over the PL BAY FLOOD FWD BHD switch

37

38 5. Flight Day 3 Exercise Constraints

39

40 The table below summarizes the Shuttle and ISS exercise constraints for today. These
41 constraints are also denoted in your timelines for your reference.

42

Activity	Exercise Constraints	
	Shuttle	ISS
S3/S4 HANDOFF	No exercise while both arms are grappled to S3/S4	No exercise while both arms are grappled to S3/S4

43

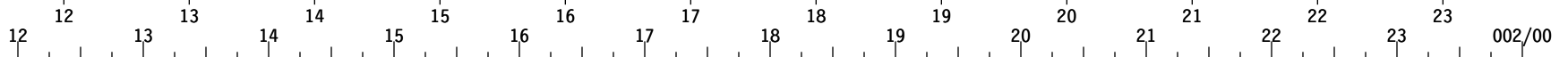
44 6. REPLACE PAGES 2-6, 2-8, AND 3-20 THROUGH 3-29.

45

46

FD03

GMT 06/10/07 (161)
 β=60
 MET Day 001

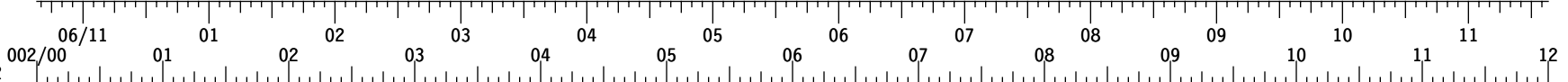


S T S - 1 1 7	CDR STURCKOW	SLEEP	MNVR POST SLEEP	SI VM UB	GP RUP BP	NC4^	ISS RNDZ OPS				Ti^	RPM^	APPROACH T/L	HATCH LEAK - STS	ODS PREP FOR INGR	INGRS HATCH OPEN	W L C B R I E F	PTV06 S/U	P/B SETUP W/STS 02	F E S *			
	PLT/R2/M1 ARCHAMBAULT	SLEEP	POST SLEEP	WI AN SIT TE	PS OL SE TE	GP RUP BP	ISS RNDZ OPS					APPROACH T/L	M T N E A R	S H /	GP R P R D N	N 2 *	G R A P L	W L C B R I E F	S3/S4 UNBTH	S H 3 /			
	MS1/EV3/R1 FORRESTER	SLEEP	POST SLEEP			EXERCISE			O I U *	M C I U	P/TV 02 OPS					GP R P R D N	G R A P L	W L C B R I E F	S3/S4 UNBTH	S H 3 /			
	MS2/EV4/M2 SWANSON	SLEEP	POST SLEEP	WI AN SIT TE	PS OL SE TE	WT B A E L S R E M E D	POST SLEEP		EXERCISE		ISS RNDZ OPS		APPROACH T/L	D O C K I N G *		PCS S E T U P - S T S	POST R N D Z P G S C N F G	W L C B R I E F	N 2 *	PST D K E V A X F R /	R E B A *	R C E T K	
	MS3/EV2/R1 OLIVAS	SLEEP	POST SLEEP			OMS P O D S R V Y	POST S L E E P	CON D C W S /	M P D R E K	EM U R M V L	EXERCISE		APPROACH T/L			P /	P /	P /	P /	W L C B R I E F	PST D K E V A X F R /	R E B A *	R C E T K
	MS4/EV1 REILLY	SLEEP	POST SLEEP			P/TV 02 S/U		M P D R E K	EM U R M V L	P/TV 02 O P S	EXERCISE		P/TV 02 O P S			HATCH L E A K - S T S	ODS P R E P F O R I N G R	INGRS H A T C H O P E N	W L C B R I E F	PST D K E V A X F R /	R E B A *	R C E T K	
MS5/FE-2 ANDERSON	SLEEP	POST SLEEP			EXERCISE			APPROACH T/L			C I W N C I T		C T W E L C R M			W L C B R I E F	I E L K S T O W	I E L K					
ISS CDR ЮРЧИХИН	SLEEP	POST SLEEP	D P C M N T	C P R E P	VR FY P /	TVIS	MIDDAY-MEAL		P R E M M	4 P O I L M		R P M D	HATCH L E A K - I S S				INGRS H A T C H O P E N	W L C B R I E F	C O M M	P/B S E T U P W /	I M S		
FE-1 KOTOB	SLEEP	POST SLEEP	D P C P R E P W O R K	C N F G	VR FY P /	RED	MIDDAY-MEAL		P R E M M	8 P O I L M			VELO			A K 1 M	W L C B R I E F	I E L K S T O W	I E L K				
FE-2 WILLIAMS	SLEEP	POST SLEEP	D P C R W N S D *	P R E P	CEVIS		MIDDAY-MEAL		V T I M E R	D W L D		P D V /		RED	W L C B R I E F	X F E R	SCU I N S T L						

SSRMS	WS2 PDGF2											
DAY/NIGHT	[Visual representation of day/night cycle]											
ORBIT	[Visual representation of orbit schedule]											
TDRS	W -171	[Visual representation of TDRS schedule]										
	E -46	[Visual representation of TDRS schedule]										
	Z -275	[Visual representation of TDRS schedule]										
ORB ATT	-ZLV -XVV -ZLV +YVV *CABLE CNCT *ACT RNDZ APRCH DK BIAS -XLV -ZVV *RPRS INIT *RPRS TERM *INSTAL											
NOTES	*1/20:00 DEACT*											

FD03

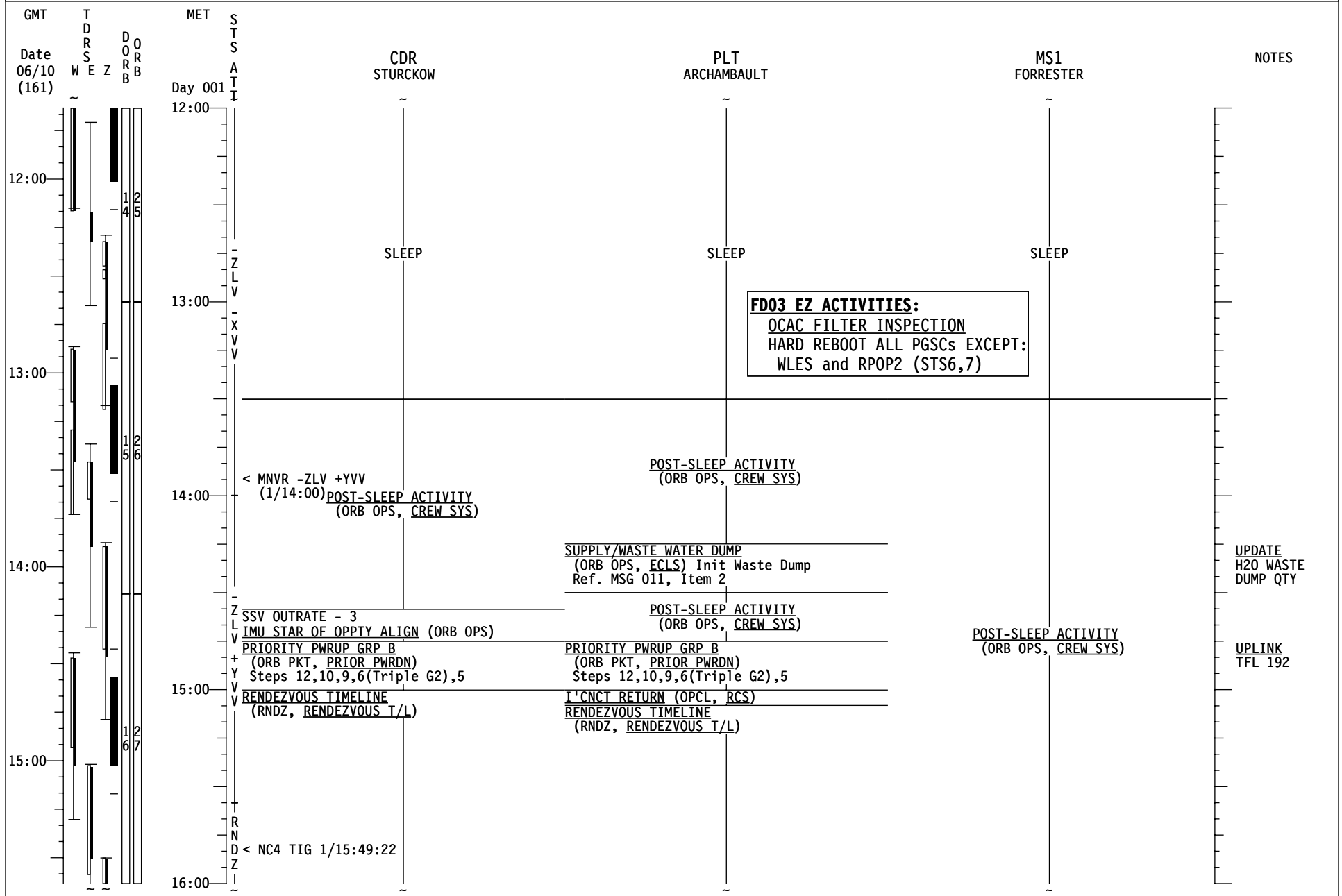
GMT 06/10/07 (161)
 β=58
 MET Day 002



S T S - 1 1 7	CDR STURCKOW	MUP ND RAT	FLIGHT	XFER	DAP	EVA 1 PROC REVIEW	PRE SLEEP	PMC A/G	PRE SLEEP	SLEEP	
	PLT/R2/M1 ARCHAMBAULT	S3/S4 H/O	SHO SAF RN MD	SUG 3 NRE 4 IPE PL W LY	DV RE IPE LY	EVA 1 PROC REVIEW	PRE SLEEP*			SLEEP	
	MS1/EV3/R1 FORRESTER	S3/S4 H/O		SUG 3 NRE 4 IPE PL W LY	DV RE IPE LY	EVA 1 PROC REVIEW	WIRL ILN IL SUM	PRE SLEEP		SLEEP	
	MS2/EV4/M2 SWANSON	E_LK		XFER		EVA 1 PROC REVIEW		PRE SLEEP		SLEEP	
	MS3/EV2/R1 OLIVAS	E_LK		PRE SLEEP		EVA 1 PROC REVIEW	PRE SLEEP	MASK PB/TOOL CONFIG	PRE SLEEP	SLEEP (8.5 HOURS)	
	MS4/EV1 REILLY	E_LK		PRE SLEEP		EVA 1 PROC REVIEW	PRE SLEEP	MASK PB/TOOL CONFIG	PRE SLEEP	SLEEP (8.5 HOURS)	
U P	MS5/FE-2 ANDERSON	IELK	CWC XFER	IWIS	CWC - STS	EVA 1 PROC REVIEW	DPC	C G B A	PRE SLEEP	SLEEP	
E X P - 1 5	ISS CDR ЮРЧИХИН	IMS	COX	PREP WORK		VELO	DPC	PRE SLEEP	BE MN ΠD Φ1 1	PRE SLEEP	SLEEP
	FE-1 KOTOV	IELK				EVA 1 PROC REVIEW	DPC	PRE SLEEP			SLEEP
D N	FE-2 WILLIAMS	DCS CNFG	SHO SAF RN MD	FR FS U	IWIS	EVA 1 PROC REVIEW	DPC	PRE SLEEP			SLEEP
SSRMS		S3/S4 H/O								WS2 PDGF2	
S T S	DAY/NIGHT	[Timeline bars for Day/Night]									
	ORBIT	[Timeline bars for Orbit]									
	TDRS	W -171	[Timeline bars for TDRS]								
	ORB ATT	E -46	[Timeline bars for Orb Att]								
Z -275		[Timeline bars for Z -275]									
ORB ATT		[Timeline bars for Orb Att]									
NOTES		*HTR DEACT NO EXERCISE				*HUM SEP BIAS -XLV -ZVV					

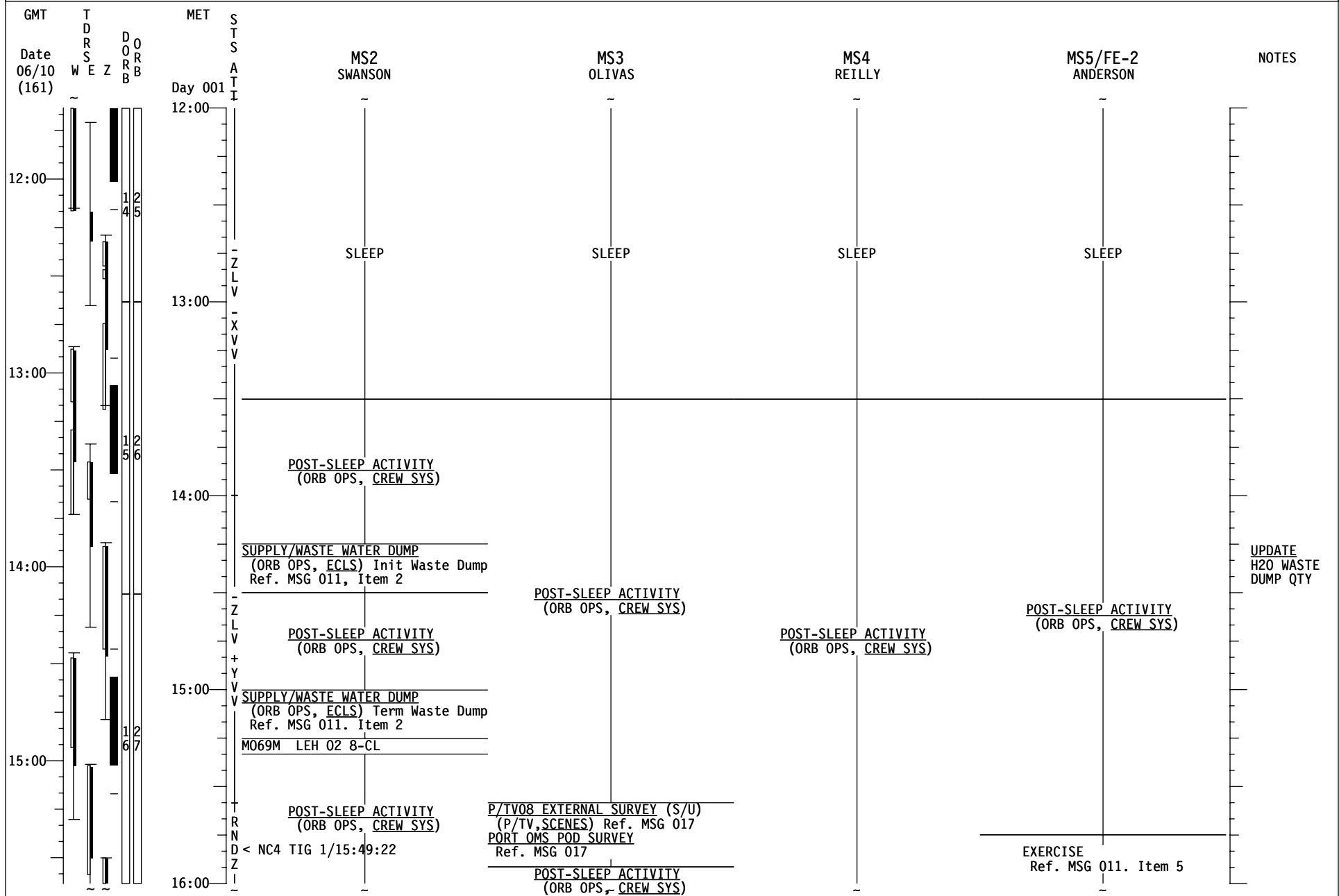
STS-117 (FD03)

REPLANNED



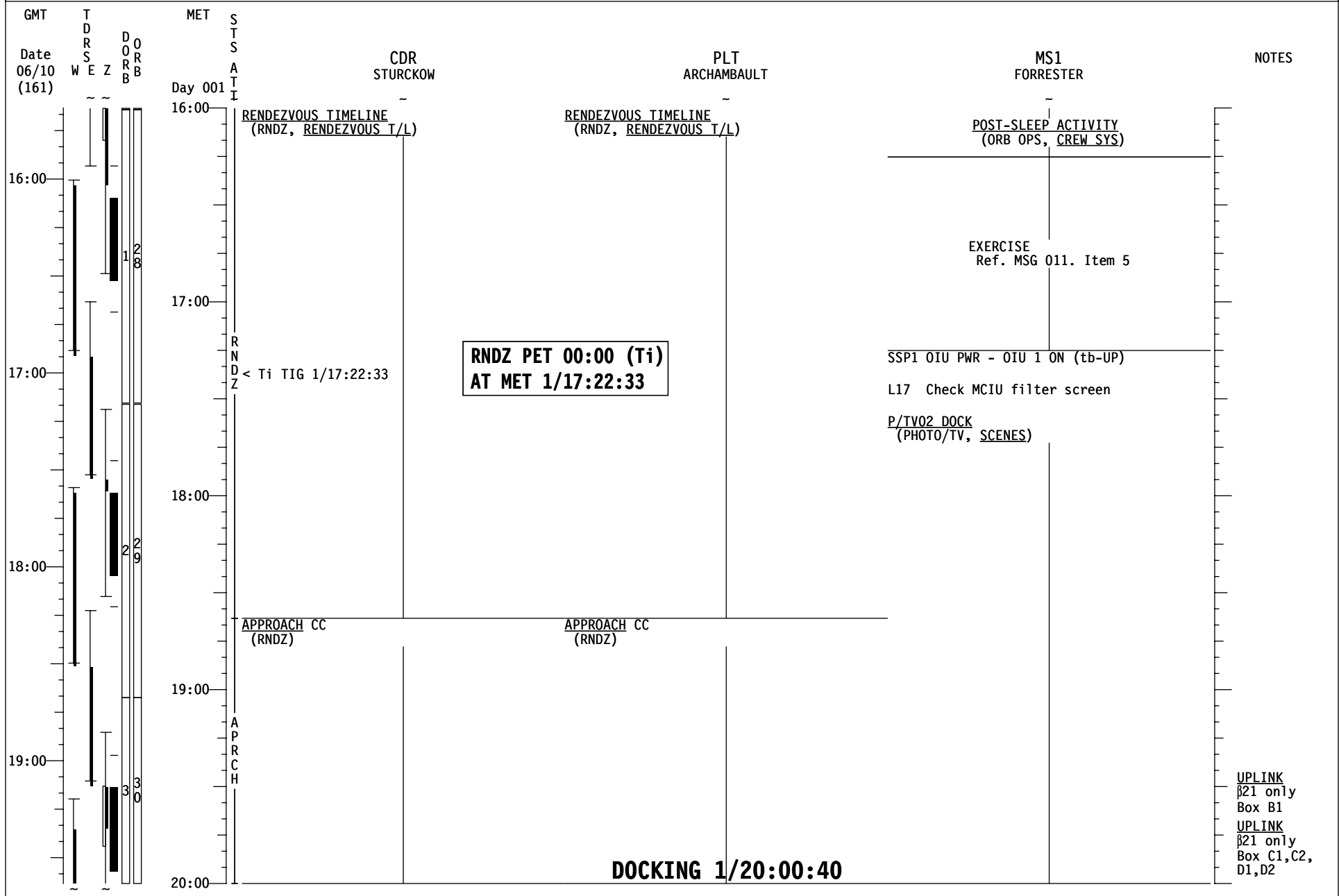
STS-117 (FD03)

REPLANNED



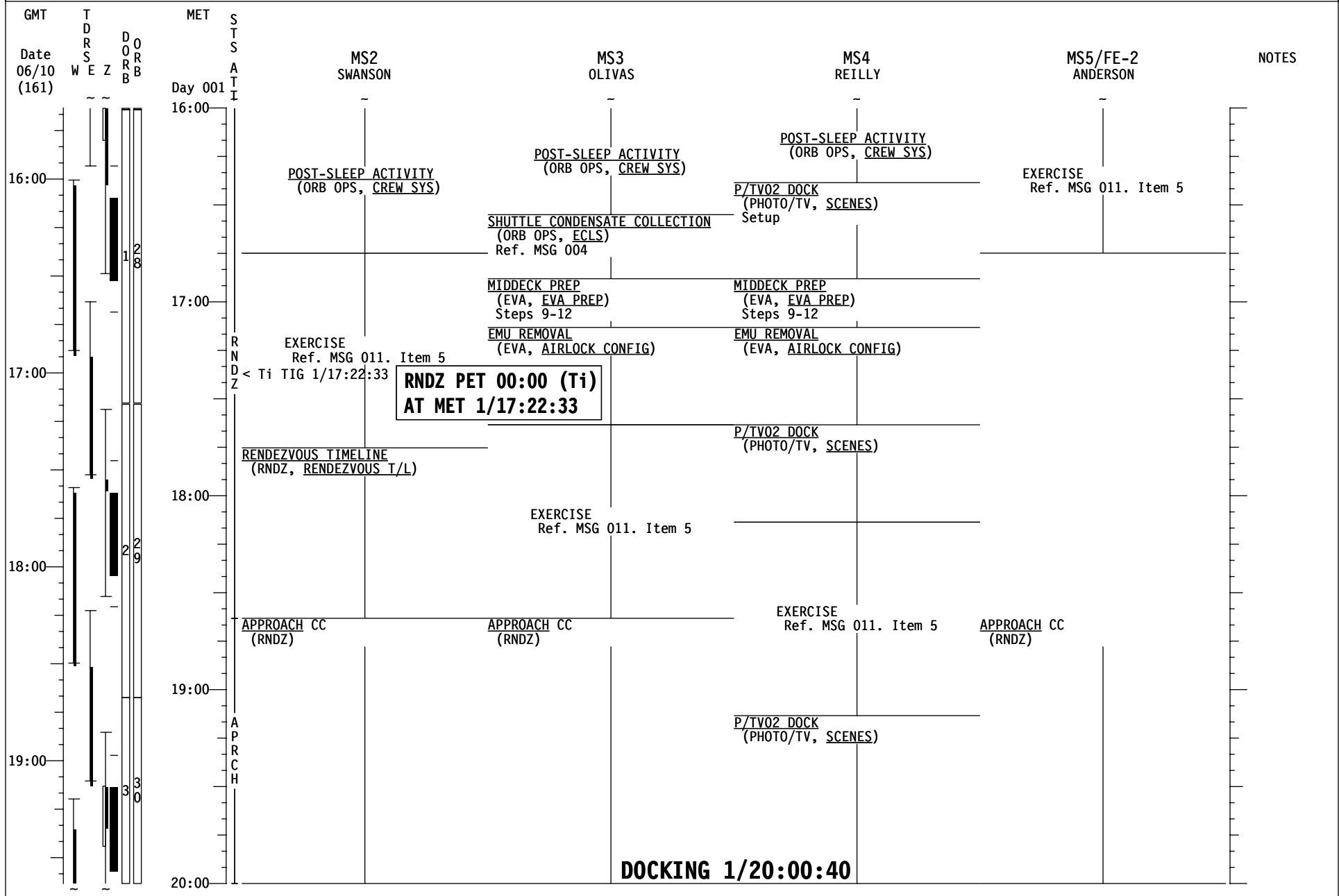
STS-117 (FD03)

REPLANNED



STS-117 (FD03)

REPLANNED



STS-117 (FD03)

REPLANNED

GMT	TDRS WSEZ	DORB DORB	MET	STS ATT	CDR STURCKOW	PLT ARCHAMBAULT	MS1 FORRESTER	NOTES
Date 06/10 (161)			Day 001					
20:00				D K				
					POST DOCKING HATCH LEAK CHECK (RNDZ, APDS)	√DAP A/LVLH/VERN MNVR (TRK) BIAS -XLV -ZVV [A] TG=2 BV=5 P=156 Y=43 OM=176 Init TRK, DAP: FREE >2 sec Then: DAP: A12/AUTO/VERN	[A] Note time of DAP: AUTO, MET 1/___:___ At 10 & 20 min after AUTO, DAP: FREE >2 sec, then DAP: AUTO	UPLINK TFL 184
21:00				I A S	B/L PREP FOR INGRESS - BYPASS CONFIG (RNDZ, APDS)	SSV OUTFATE - 2 JOINT OPS: 3.111 H/O ATT CONTROL ORB TO CMG TA	PRIORITY PWRDN GRP B (ORB PKT, PRIOR PWRDN) Steps 6(Single G2) and 12 06 S TRK PWR -Z - OFF	
21:00				L V	JOINT OPS: 2.106 HATCH OPEN AND DUCT INSTALL (BYPASS CONFIG) Steps 2-11	N2 RPRS USING PL N2 VLVS Init (ORB OPS,ECLS) Steps 1-5 On MCC Go, perform Step 6 Ref. MSG 011, Item 3	PRIORITY PWRDN GRP B (ORB PKT, PRIOR PWRDN) Steps 6(Single G2) and 12 06 S TRK PWR -Z - OFF	
				Z V V		S3/S4 GRAPPLE (PDRS, NOM S3/S4 OPS)	S3/S4 GRAPPLE (PDRS, NOM S3/S4 OPS)	
22:00					WELCOME	WELCOME	WELCOME	
22:00					SAFETY BRIEFING	SAFETY BRIEFING	SAFETY BRIEFING	
				B I A	P/TV06 S3/S4 INSTALLATION (PHOTO/TV, SCENES) Perform SETUP	S3/S4 UNBERTH (PDRS, NOM S3/S4 OPS)	S3/S4 UNBERTH (PDRS, NOM S3/S4 OPS)	
23:00				S	JOINT OPS: 3.120 PREBREATHE USING SHUTTLE O2 SETUP			
23:00				X L V				
				Z V V		S3/S4 HANDOFF (PDRS, NOM S3/S4 OPS)	S3/S4 HANDOFF (PDRS, NOM S3/S4 OPS)	
00:00					L1 FLASH EVAP CNTLR PRI B - OFF			

STS-117 (FD03)

REPLANNED

GMT	TDRS WSEZ	DORB DOORB	MET	STS ATT	MS2 SWANSON	MS3 OLIVAS	MS4 REILLY	MS5/FE-2 ANDERSON	NOTES
Date 06/10 (161)			Day 001						
20:00		30							
21:00		41							
22:00									
23:00		52							
00:00		63							

RETURN TO FLIGHT PLAN

POST DOCKING HATCH LEAK CHECK
(RNDZ, APDS)

SHUTTLE/ISS H2O CNTR FILL
(ORB OPS, ECLS) Init Fill #1
Ref. MSG 004

JOINT OPS: 6.107 PCS SETUP - SHUTTLE

P/TV04 INGRESS/EGRESS
(PHOTO/TV, SCENES)
Setup

A/L PREP FOR INGRESS - BYPASS CONFIG
(RNDZ, APDS)

POST RNDZ PGSC CONFIG
Configure PGSCs per EVA/RMS Usage Chart

P/TV05 ISS INTERNAL OPS (HC)
(PHOTO/TV, SCENES)
Setup

JOINT OPS: 2.106 HATCH OPEN AND DUCT INSTALL (BYPASS CONFIG)
Steps 2-11

PLAYBACK (DIGITAL)
(PHOTO/TV, CUE CARD)
KU TDRW (21:26-22:12)

SHUTTLE/ISS H2O CNTR FILL
(ORB OPS, ECLS)
Perform FILL TERMINATION

WLES RCNFG PST DCK (ORBOPS,WLES)

WELCOME

WELCOME

WELCOME

WELCOME

SAFETY BRIEFING

SAFETY BRIEFING

SAFETY BRIEFING

SAFETY BRIEFING

A| N2 RPRS USING PL N2 VLVS Term
(ORB OPS, ECLS)

POST-DOCKING EVA TRANSFER/RECNEG
(EVA, AIRLOCK CNFG)
Ref. Transfer List: 32, 33, 34, and 35

POST-DOCKING EVA TRANSFER/RECNEG
(EVA, AIRLOCK CNFG)
Ref. Transfer List: 32, 33, 34, and 35

IELK TEMP STOW
Temp Stow in ISS
Ref. Transfer List Items 24, 25, and 26.

POST-DOCKING EVA TRANSFER/RECNEG
(EVA, AIRLOCK CNFG)
Ref. Transfer List: 32, 33, 34, and 35

A| On MCC Go perform Steps 7-12
Ref. MSG 011, Item 3

IELK INSTALL & C/O
Ref. RODF

EVA SYSTEMS: 1.307 REBA
INSTALLATION/REMOVAL

EVA SYSTEMS: 1.307 REBA
INSTALLATION/REMOVAL

EVA SYSTEMS: 1.307 REBA
INSTALLATION/REMOVAL

EVA SYSTEMS: 1.403 REBA POWERED
HARDWARE CHECK

EVA SYSTEMS: 1.403 REBA POWERED
HARDWARE CHECK

EVA SYSTEMS: 1.403 REBA POWERED
HARDWARE CHECK

EVA SYS: 1.305 EQUIP LOCK PREP
REF: STS-117 CNSMABL TRKING CC (EVA)

EVA SYS: 1.305 EQUIP LOCK PREP
REF: STS-117 CNSMABL TRKING CC (EVA)

EVA SYS: 1.305 EQUIP LOCK PREP
REF: STS-117 CNSMABL TRKING CC (EVA)

STS-117 (FD03)

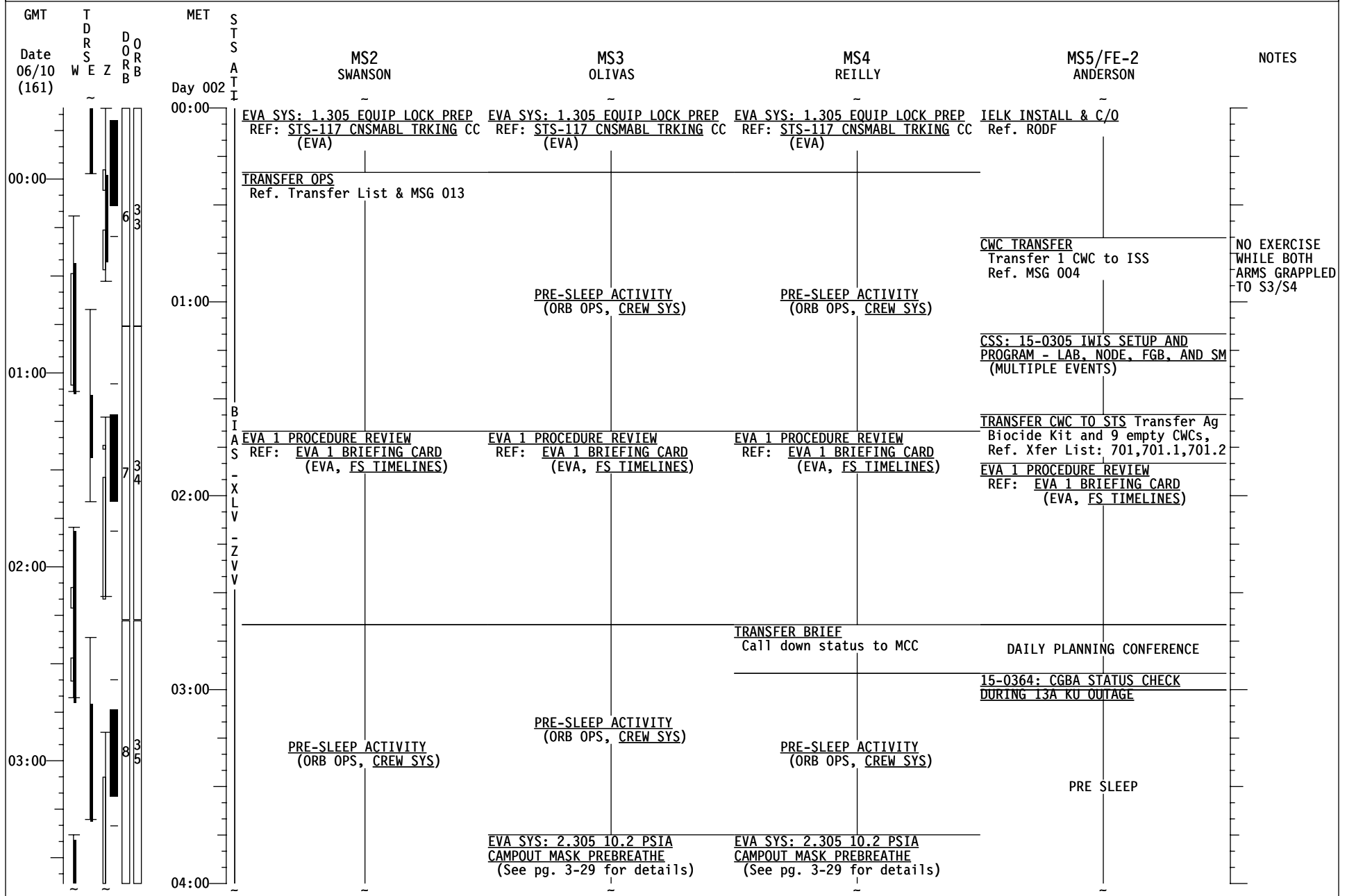
REPLANNED

GMT	T D R S E Z	D O R B	MET	S T S	CDR	PLT	MS1	NOTES
Date	W E Z		Day	A T I	STURCKOW	ARCHAMBAULT	FORRESTER	
06/10 (161)			002					
00:00					MNVR (TRK) UPDATE (Overnight Park) TG=2 BV=5 P=157 Y=46 OM=176 A12/FREE/VERN Init TRK	S3/S4 HANDOFF (PDRS, NOM S3/S4 OPS)	S3/S4 HANDOFF (PDRS, NOM S3/S4 OPS)	
00:00					L1 TOPPING EVAP HTR DUCT sel - OFF NOZ L,R (two) - OFF			
					TRANSFER OPS Ref. Transfer List & MSG 013	ROBOTICS: 1.101 S3/S4 HANDOFF		
01:00						S3/S4 UNGRAPPLE (PDRS, NOM S3/S4 OPS)	S3/S4 UNGRAPPLE (PDRS, NOM S3/S4 OPS)	
01:00						IA/3A SAW VIEWING (PDRS, VIEWING SUPPORT) Steps 1,2	IA/3A SAW VIEWING (PDRS, VIEWING SUPPORT) Steps 1,2	
					Change DAP to A15 EVA 1 PROCEDURE REVIEW REF: EVA 1 BRIEFING CARD (EVA, FS TIMELINES)	EVA 1 PROCEDURE REVIEW REF: EVA 1 BRIEFING CARD (EVA, FS TIMELINES)	EVA 1 PROCEDURE REVIEW REF: EVA 1 BRIEFING CARD (EVA, FS TIMELINES)	
02:00								
02:00								
03:00					PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)		A7U PORT RMS CAMERA - WRIST TV (ILLUMINATOR OPS) CC (PHOTO/TV) ILLUMINATORS ON - RMS WRIST	
03:00					PRIVATE MEDICAL CONFERENCE Perform via A/G 2	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) √HUM SEP for H2O Accumulation	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
04:00					PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			

NO EXERCISE
WHILE BOTH
ARMS GRAPPLED
TO S3/S4

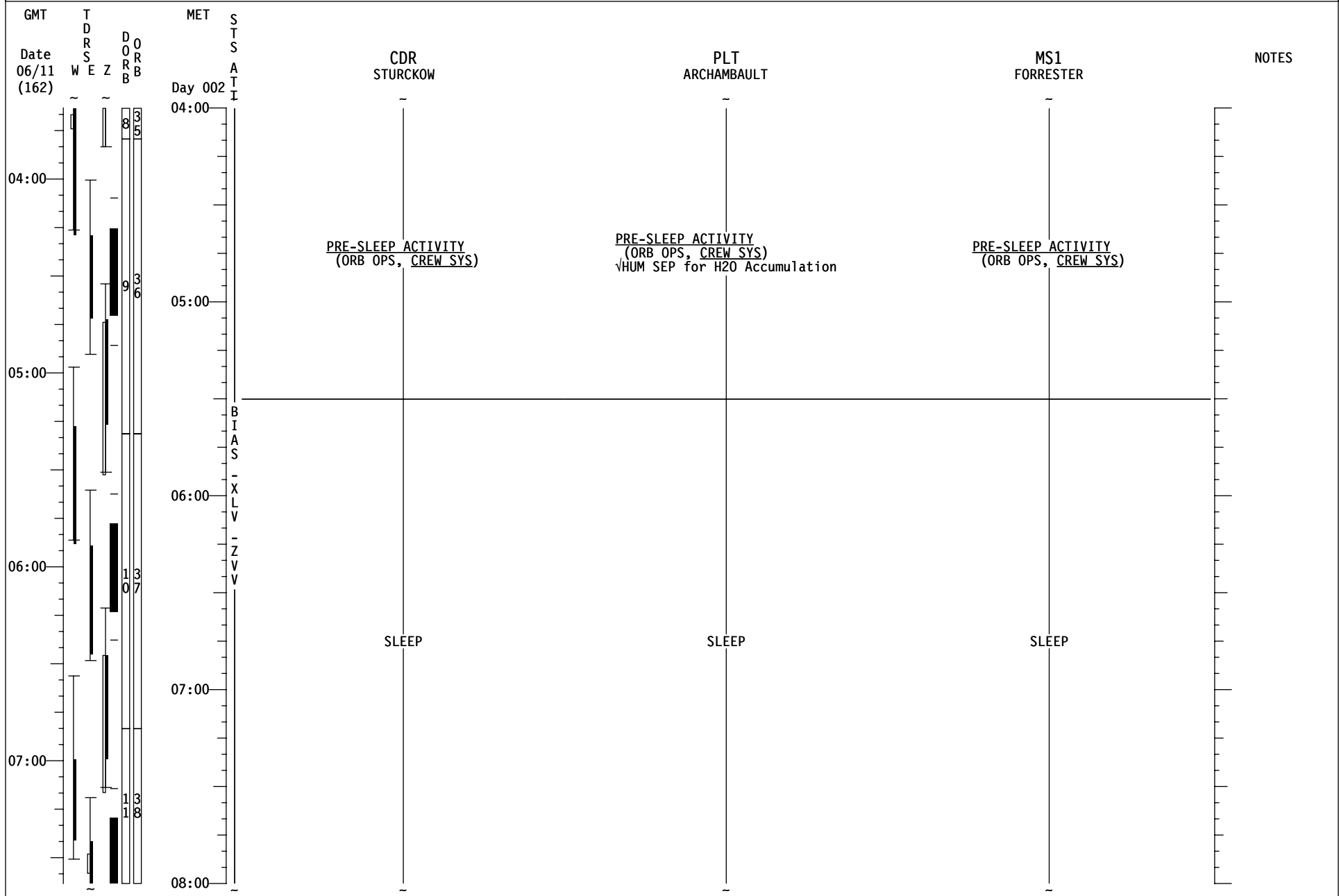
STS-117 (FD03)

REPLANNED



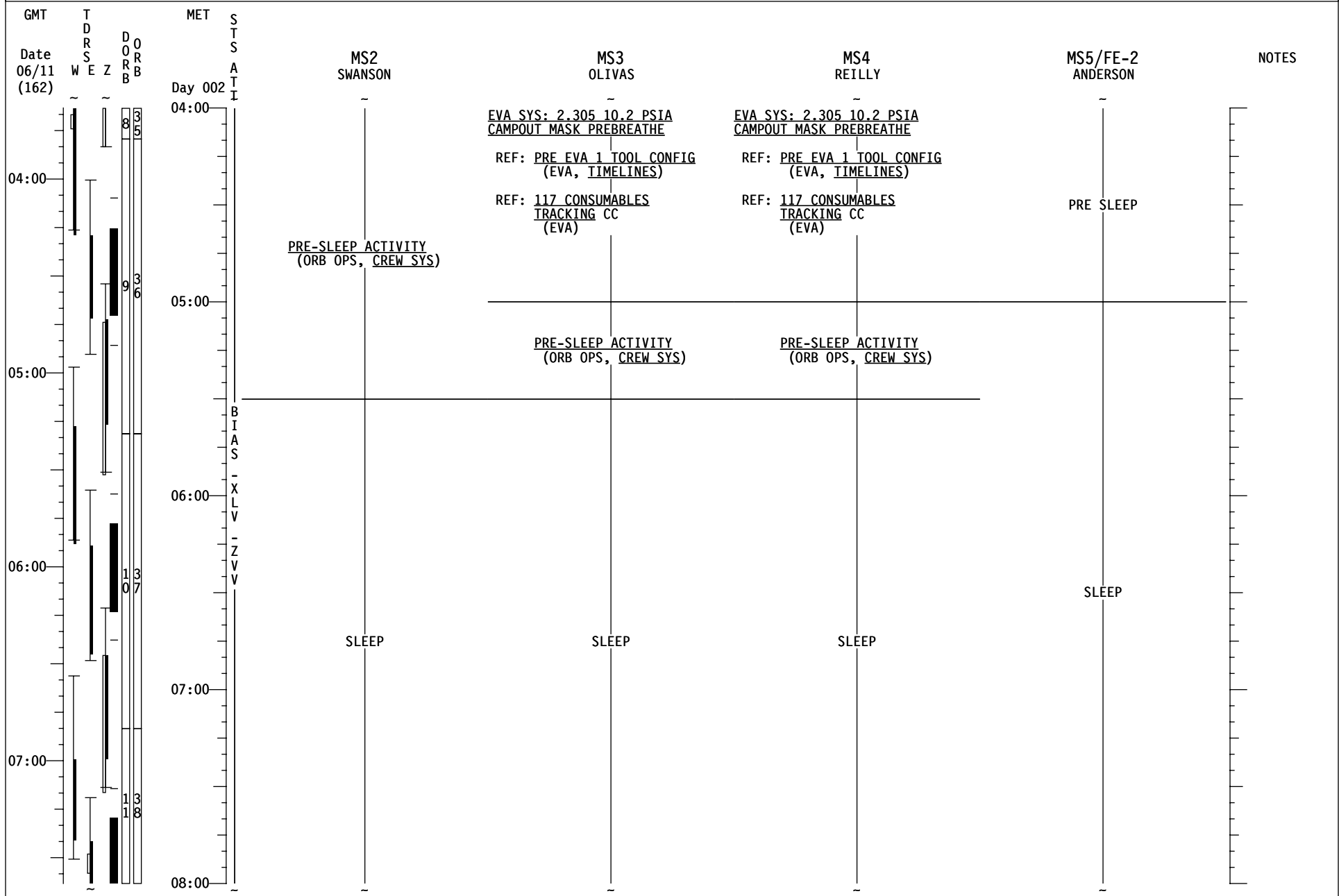
STS-117 (FD03)

REPLANNED



STS-117 (FD03)

REPLANNED



MSG 012A (15-0386A) - FD03 MISSION SUMMARY

Page 1 of 2

1 Good Morning Atlantis!
2 Super job yesterday with the surveys, EMU checkout and enjoying your first full day in
3 space. The videos you sent down were greatly appreciated. You have a full day ahead with
4 rendezvous, docking, S3/S4 handoff, and campout activities for EVA1.
5 The teams here on the ground are evaluating the OMS pod blanket imagery. Although this
6 does not appear to be a big issue, the teams are discussing several options. There is a new
7 procedure in today's timeline to get more photos of the Port OMS Pod for MS3 prior to the
8 NC4 burn, while in the burn attitude.
9 As you probably saw yesterday, the starboard aft #2 MRL microswitch was not obtained on
10 the OBSS during berth. This was expected.

11
12

13 YOUR CURRENT ORBIT IS: 180 X 129 NM

14

15 NOTAMS:

16

17 MORON (MRN) – CLOSED

18

18 WAKE ISLAND (WAK) - CLOSED

19

19 GOOSE BAY (YYR) – RWY 08/26 CLOSED

20

20 KEFLAVIK (IKF) – UNUSABLE

21

21 RIO GALLEGOS (AWG) – UNUSABLE

22

23 NEXT 2 PLS OPPORTUNITIES:

24

25 EDW22 ORB 33 – 2/00:28 (SCT 250, 250/14P21)

26

26 EDW22 ORB 49 – 3/00:48 (FEW 130 SCT 250, 230/19P26)

27

28 OMS TANK FAIL CAPABILITY:

29

30 (Pre NC4)

(Post NC4)

31

31 L OMS FAIL: YES

L OMS FAIL: NO

32

32 R OMS FAIL: YES

R OMS FAIL: NO

33

34 LEAKING OMS PRPLT BURN:

35

36 (Pre NC4)

(Post NC4)

37

37 L OMS LEAK: ALWAYS OOP

L OMS LEAK: ALWAYS RETROGRADE

38

38 R OMS LEAK: ALWAYS OOP

R OMS LEAK: ALWAYS RETROGRADE

39

40 OMS QUANTITIES(%)

41

42 L OMS OX = 31.0 R OMS OX = 32.9

43

FU = 30.8 FU = 32.4

44

45 SUBTRACT I'CNCT COUNTER FOR CURRENT OMS QUANTITIES

46

47 DELTA V AVAILABLE:

48

49 OMS 284 FPS

50

50 ARCS (TOTAL ABOVE QTY1) 38 FPS

51

51 TOTAL IN THE AFT 322 FPS

MSG 012A (15-0386A) - FD03 MISSION SUMMARY

Page 2 of 2

1	ARCS (TOTAL ABOVE QTY2)	67 FPS
2	FRCS (ABOVE QTY 1)	29 FPS
3		
4	AFT QTY 1	83 %
5	AFT QTY 2	45 %
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MSG 013 (15-0387) - FD03 TRANSFER MESSAGE

Page 1 of 11

1 Good morning crew,

2

3 Today's Transfer List changed pages contain changes made to the list after it was published
4 and one new item. This will be one of the largest updates of the mission.

5

6 The Transfer List Excel file, FD03_TransferList_STS117.xls, is located on the KFX machine
7 in **C:\OCA-up\transfer**.

8

9 For ISS, the Transfer List Excel file, FD03_TransferList_STS117.xls, is located in **K:\OCA-**
10 **up\transfer**.

11

12 **Transfer Notes**

- 13 • We are still working the plan to transfer spare PGSC network cables and T
14 connectors from Shuttle to ISS. We will provide more details in a future Transfer
15 Message.

16

17 **Questions/Answers for the crew**

- 18 • None

19

20 **Choreography (items for transfer today)**

21 **TO ISS:**

22 Post-Docking EVA Transfer/Reconfig:

23 **Item 32 and 33:** EMUs 3004 & 3010

24 **Item 34:** External A/L Floor Bag

25 **Item 35:** EVA Systems Bag

26 **Items 24, 25, & 26:** Clay's IELK, Athletic shoes, and Bracelet-M Device

27 **Item 20:** IVA TOOLS/ECLSS 1.0 CTB (SCU and 10-50in-lbs Torque Wrench needed
28 today)

29 **Item 1:** Bru's A31p Video Adapter Cables (for Robotics ops today)

30 **Item 5:** Crew Care Package

31 **Item 27:** ISS P/TV Resupply Bag

32 **Item 7:** CHeCS/ISS MEDICAL ACCESSORY KIT 0.5 CTB (IMAK S/N 1022 needed
33 FD04)

34 **Item 6:** ODF 0.5 CTB

35

36 **FROM ISS:**

37 **Item 701.1:** Silver Biocide Syringe Kit (needed for CWC fills on MDDK)

38

39 **Please incorporate uplink pages as follows:**

40

41 In **RESUPPLY** tab

42 Replace Page(s): 2, 3, 4, 6, and 9

43

44 In **RETURN** tab

45 Replace Page(s): 1, 5, 6, and 7

46

47

48

49

50

51

MSG 013 (15-0387) - FD03 TRANSFER MESSAGE

Page 2 of 11

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

2 **RESUPPLY**

3 Item 6: Updated notes

4 Item 7.2: Updated quantity

5 Item 8.1: Corrected Return reference item number

6 Item 8.2: Corrected Return reference item number

7 Item 20.1: Added a comment

8 Item 800: New item

9

10 **RETURN**

11 Item 402.13: Suni completed this yesterday

12 Item 404.16: Added S/N

13 Item 701.2: Added S/N

14 Item 703.2: Corrected Resupply reference item number

15 Item 703.3: Corrected Resupply reference item number

16 Item 704: Added constraint

17 Item 705: Added constraint

18 Item 709: Multiple Updates

19 Item 710: Multiple Updates

20

21 Call us with any questions and have a great day!

22

23 - The Transfer Team

24

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MSG 015 (15-0390) - FD02 MMT SUMMARY

Page 1 of 2

1 The FD2 MMT met to review the mission progress and there were only a few items of
2 significant discussion. These included ascent imagery, Wing Leading Edge sensor data,
3 and the Port OMS Pod blanket.
4

5 **Imagery** - The team continues to review the ascent imagery data from the ET LOX Feedline
6 cameras, ground cameras, and debris radar. The preliminary characterization is that the
7 debris environment was nominal. The ET photography is still being assessed but the
8 preliminary assessment is that the hail damage repairs appear to be in good condition.
9

10 The debris events as noted by the ET LOX Feedline camera and Radar are as follows
11 (Figure 1):

- 12 • 1:55 - 2:18 MET - Six radar events with no correlation from Wing Leading Edge
13 sensor data or imagery.
- 14 • 2:02 MET - Debris outboard of Port OMS Pod. Characterized as most likely SRB
15 slag which is sometimes noted prior to staging. Not thought to be related to the Left
16 OMS blanket but imagery analysis continues.
- 17 • 2:19 MET - Debris on the starboard side between the Orbiter and ET.
- 18 • 2:21 MET - Debris on the starboard side of vehicle outboard of the ET.
- 19 • 6:09 MET - Debris between the Orbiter and the ET.
- 20 • 6:52 MET - Debris on the starboard side of the vehicle outboard of the ET.
21

22 **Wing Leading Edge Sensors** -

23 All the ascent WLEIDS data has been downlinked and the preliminary assessment is that
24 there were six indications that exceeded the 1.0 Grms reporting threshold during ascent.
25 This is similar to the number of indications noted on STS-114, 121, 115, and 116. One of
26 these was on the port wing (panel 5) with a value of 1.9 Grms and five were on the
27 starboard wing (panels 3,5,6,8,10) with values of 1.0-2.4 Grms. The reporting threshold is
28 not indicative of WLE damage and is an order of magnitude below any value where the
29 team may be concerned.
30

31 **Port OMS POD (Figure 2)** -

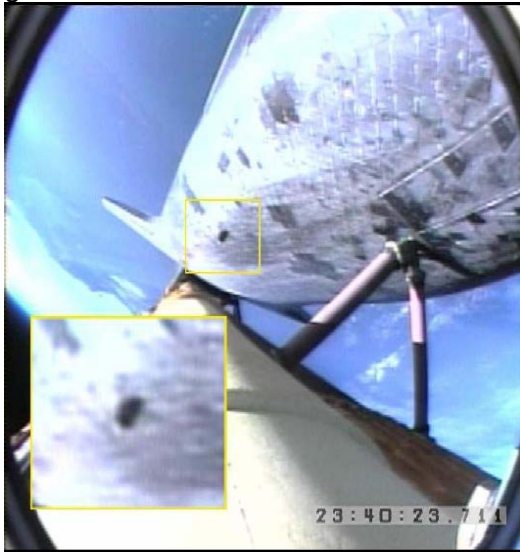
32 The team continues to analyze the damaged blanket on the Port OMS Pod for debris
33 transport, aerodynamic loads, and thermal stress. Currently the team does not consider it a
34 lien against deorbit/entry if required. The great imagery you provided yesterday continues to
35 be assessed to determine if the damage is a result of an insufficient bond between the
36 blanket and structure or was caused by debris. The additional FD2 data obtained using the
37 LDR1 and ITVC is very much appreciated and will greatly assist the team with further thermal
38 analysis of this area.
39

40 This blanket was replaced in January as part of the OV-104 ground processing flow due to
41 concerns with blanket stitching. This was part of the post STS-114 activity to replace
42 suspect blankets on all vehicles.
43
44
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50

MSG 015 (15-0390) - FD02 MMT SUMMARY

Page 2 of 2

1 Figure 1: LOX Feedline Camera MET: 2:19

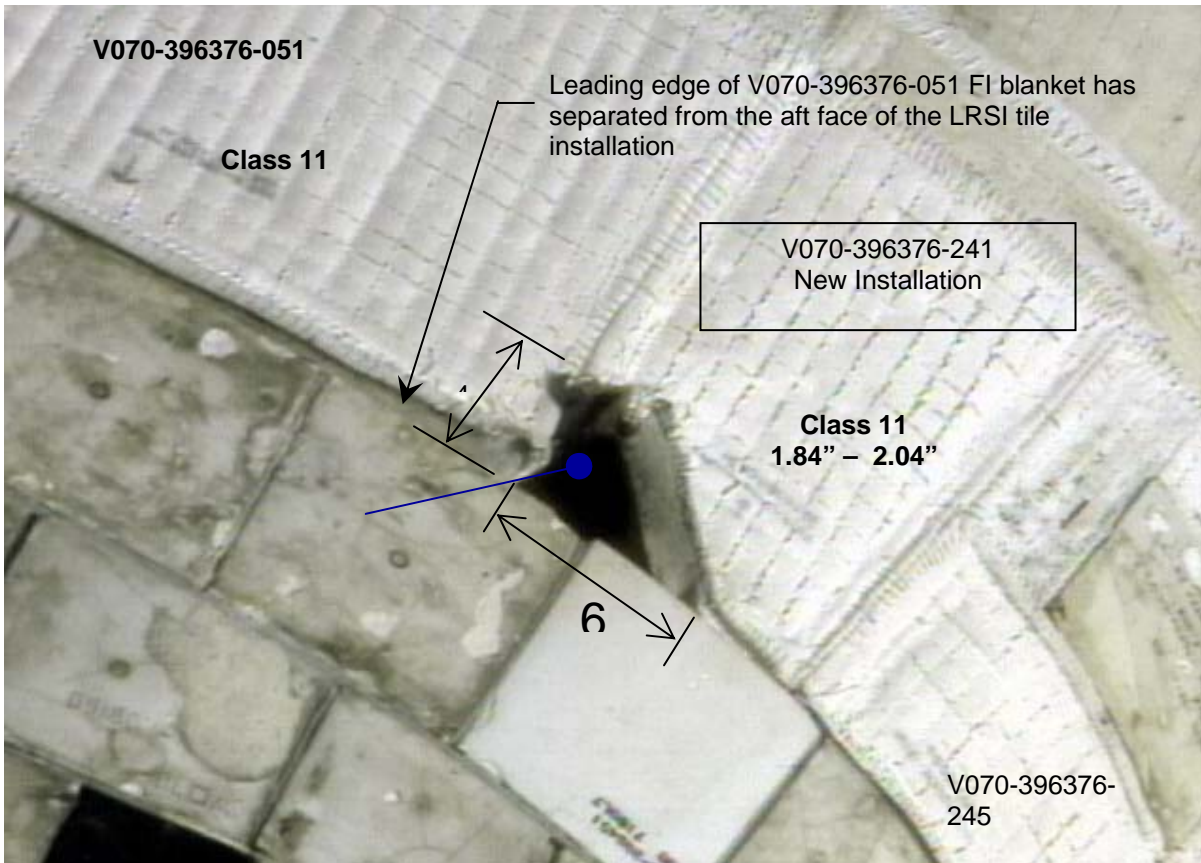


MET 2:21



2
3
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6

Figure 2: Port OMS POD (**Note:** The arrow for leading edge separation should point to raised blanket):



7
8
9
10
11

15-0374 (MSG - 005) IWIS INSTALLATION IN SHUTTLE AIRLOCK

Page 1 of 4 pages

OBJECTIVE:

Install IWIS Accelerometer in the Shuttle Airlock.

LOCATION:

Stowed: LAB1P5_A1

DURATION:

30 minutes, Install

20 minutes, Remove

PARTS:

IWIS CTB (B/C 006637J):

Accelerometer (P/N 0060-04-012)

Accelerometer Interface Plate (P/N 0060-04-015)

IWIS Accelerometer Extension Cable, 6'. (P/N 0060-04-053)

Remote Sensing Unit (P/N SEG16102889-301) prepositioned in LAB Fwd Endcone

MATERIALS:

DCS 760 Camera

Dry Wipes

Gray Tape

IWIS CTB (B/C 006637J):

Velcro Ties

REFERENCED PROCEDURES:

None

1. INSTALLING IWIS ACCELEROMETER ON SHUTTLE AIRLOCK WALL

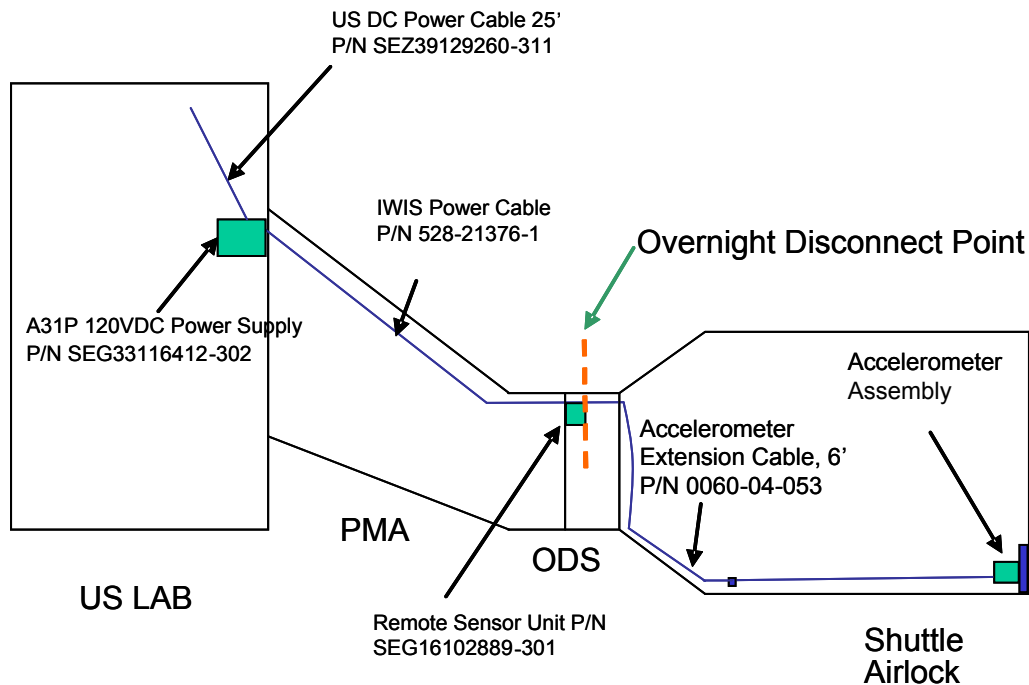


Figure 1. Overview of IWIS Installation on Shuttle.

15-0374 (MSG - 005) IWIS INSTALLATION IN SHUTTLE AIRLOCK

Page 2 of 4 pages

- 1.1 Retrieve IWIS accelerometer, interface plate from stowage. Loosen thumbscrew and detach accelerometer from interface plate, if attached.

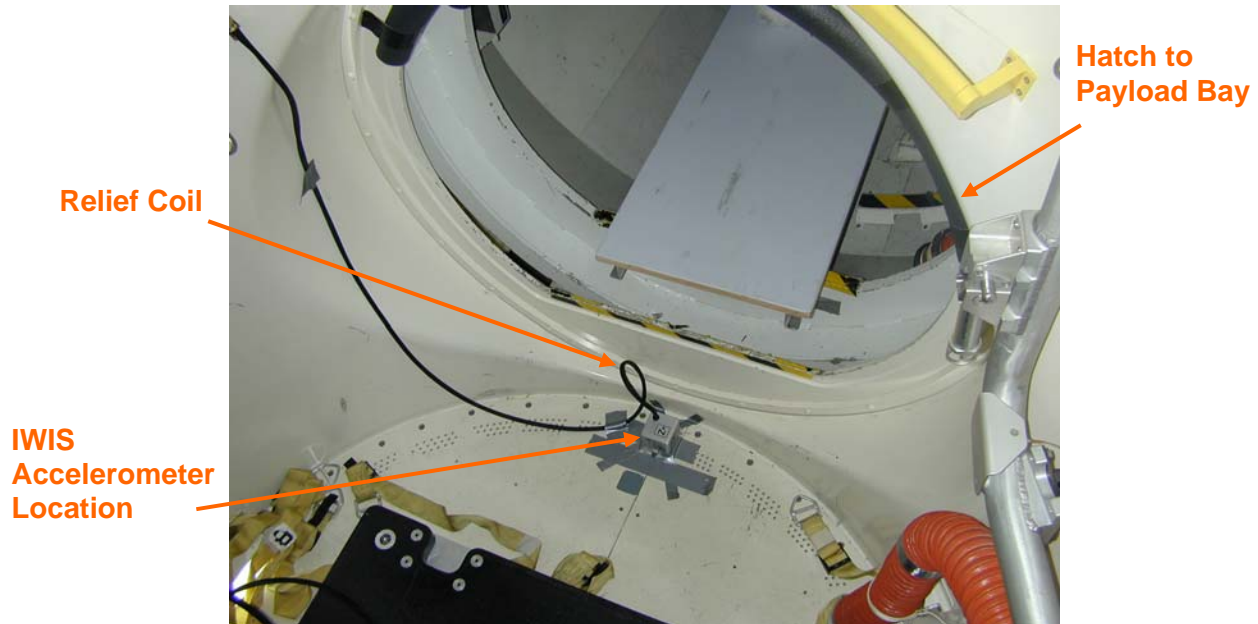


Figure 2. Accelerometer Installation Location.

- 1.2 Locate Installation Location on aft-most section (near hatch to Payload Bay) of floor of Shuttle Airlock along the centerline. Refer to Figure 2. Clean area with Dry Wipe.

NOTE

Gray Tape will be used to secure the accelerometer interface plate to the Shuttle Wall.

- 1.3 Seat Interface Plate on installation area. Refer to Figure 2. Using Gray Tape, secure Interface Plate to floor. Ensure tape does not interfere with the three accelerometer seating mounts.
- 1.4 Install Accelerometer onto Interface Plate, tighten thumbscrew firmly with fingers while holding accelerometer with other hand.

CAUTION

Avoid bend radii of less than 1 inch. Coil in accelerometer cable could be damaged.

- 1.5 Using small piece of Gray Tape, secure a section of cable ~10 inches long to the floor as a relief coil. Refer to Figure 2.

15-0374 (MSG - 005) IWIS INSTALLATION IN SHUTTLE AIRLOCK

Page 3 of 4 pages

1.6 Mate connectors:

Accelerometer Cable →|← IWIS Accelerometer Extension Cable, 6'

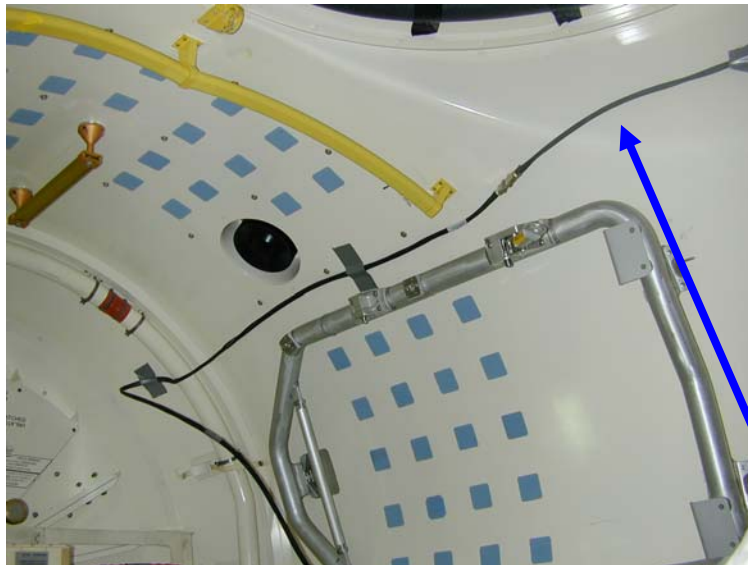
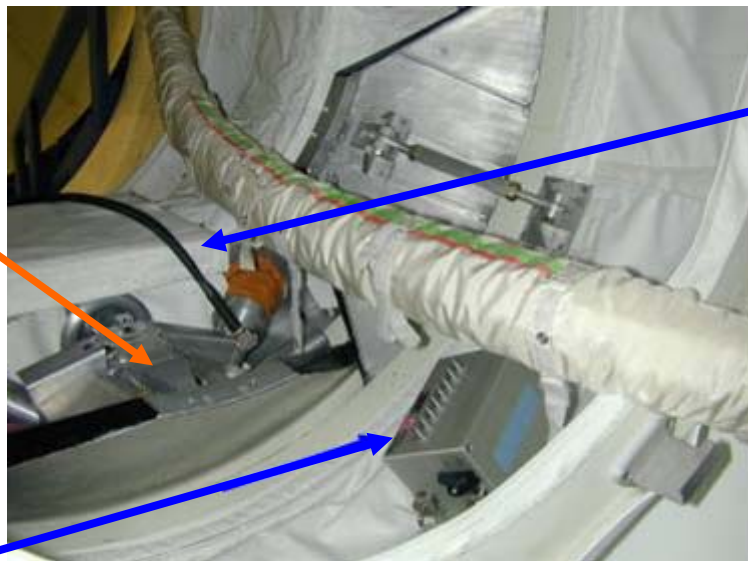


Figure 3. Routing of cables from Shuttle Airlock towards Orbiter Docking System (ODS).

Avoid Capture Latch Manual Release Lever buttons



Cable routed from Airlock to ODS

RSU

Figure 4. Remote Sensing Unit (RSU) Installation Location in ODS Vestibule.

CAUTION

Avoid areas of ODS Capture Latch Manual Release Levers (three locations) to prevent inadvertent configuration changes.

15-0374 (MSG - 005) IWIS INSTALLATION IN SHUTTLE AIRLOCK

Page 4 of 4 pages

- 1.7 Route Accelerometer Cable, IWIS Accelerometer Extension Cable 6' from installation location through Shuttle Airlock towards the ODS vestibule, avoiding ODS Capture Latch Manual Release Levers.
Refer to Figures 3, 4.
Secure as necessary, coiling extra length (Gray Tape, Velcro Ties).

NOTE

If necessary the 120 VDC Power Supply may be pulled through the LAB Forward vestibule into PMA 2 to allow more cable length tolerance.

- 1.8 Locate RSU prepositioned in LAB Forward Endcone area.
Pull RSU, RSU Power Cable through LAB Forward vestibule, PMA 2.
IWIS Accelerometer Extension Cable, 6' →|← RSU
 - 1.9 Secure RSU in or near ODS Vestibule (Gray Tape, Velcro Ties).
√Antenna pointed inboard.
 - 1.10 Photodocument Accelerometer from three different angles; photodocument cable routing and RSU position (DCS 760 Camera).
2. REMOVING IWIS ACCELEROMETER FROM SHUTTLE AIRLOCK WALL
- 2.1 Verify RSU located near ODS Vestibule disconnected from 6' Ext Cable.
 - 2.2 Deroute Accelerometer Cable, IWIS Accelerometer Extension Cable, 6' from ODS vestibule, removing any Gray Tape, Velcro Ties as necessary.
 - 2.3 Demate connectors:
Accelerometer Cable ←|→ IWIS Accelerometer Extension Cable, 6'
 - 2.4 Remove Gray Tape securing Accelerometer relief coil.
 - 2.5 Loosen thumbscrew on Interface Plate, remove Accelerometer from Interface Plate.
Refer to Figure 1.
 - 2.6 Remove Gray Tape securing Interface Plate to Shuttle Airlock wall.
Remove Interface Plate from wall.
 - 2.7 Stow Accelerometer, Interface Plate, IWIS Accelerometer Extension Cable 6', Velcro Ties in IWIS CTB.

15-0361 (MSG 006) – IWIS Big Picture Words for 13A
Page 1 of 1

1 Suni-

2

3 During the 13A flight, there will be two IWIS data-takes on FD 4. The first will capture the
4 S3/S4 truss segment berthing and the second will capture a series of Russian thruster
5 firings designed to excite specific dynamic modes of the ISS structure during docked
6 operations. One setup session will program IWIS for both of these data-takes. This will
7 cause a slightly different GUI signature than what you are used to seeing, and that is noted
8 in the setup and program procedure (15-0305).

9

10 You will be staging a 5th RSU (LAB/Orbiter RSU) at the LAB FWD hatch for the thruster
11 firing data take. The LAB/Orbiter RSU will receive data from an accelerometer that will be
12 deployed in the shuttle A/L. This will result in an accelerometer cable through the PMA 2
13 hatch, but this will only occur for a short period of time around the thruster firing data take.

14

15 Here is an overview of the IWIS activities and the procedures that will be used:

16

17 FD03:

- 18 • Crew plugs in and stages LAB/Orbiter RSU for FD4's accelerometer installation.
 - 19 ○ **15-0317: IWIS RSU Power Cable Installation/Removal for IWIS Orbiter**
 - 20 **Sensor; Step 1**
- 21 • Crew programs IWIS for both data-takes
 - 22 ○ **15-0305: IWIS Set Up & Program - LAB, NODE, FGB and SM (Multi-**
 - 23 **Event)**

24

25 FD04:

- 26 • IWIS automatically takes data for the S3/S4 Berthing.
- 27 • Crew installs accelerometer in the shuttle A/L and connects the cable from the
28 LAB/Orbiter RSU to the accelerometer in shuttle A/L. (It is important to note that the
29 power to the LAB/Orbiter RSU should not be turned off during the cable connection.)
 - 30 ○ **15-0374 (MSG 005): IWIS Installation in Shuttle Airlock; Step 1**
- 31 • IWIS automatically takes data for the Russian Thruster Firings.
- 32 • Crew disconnects the shuttle A/L accelerometer cable from the LAB/Orbiter RSU
 - 33 ○ **15-0316: IWIS Accelerometer Cable Disconnect from IWIS RSU**

34

35 FD05:

- 36 • Crew tears-down IWIS:
 - 37 ○ **15-0304: IWIS Power Down - LAB, NODE, FGB and SM (Multiple Events)**
 - 38 ○ **15-0317: IWIS RSU Power Cable Installation/Removal for IWIS Orbiter**
 - 39 **Sensor; Step 2**
 - 40 ○ **15-0374 (MSG 005): IWIS Installation in Shuttle Airlock; Step 2**

41

42 Note that there will not be an automated data download following the event. All data will be
43 downloaded from the RSUs post flight.

44

45 RSU 1028 (the one you recovered from deep sleep) is not expected to have issues,
46 however, if that RSU does not program successfully, press with the programming of the
47 other 4 RSUs as there are additional sensors that will provide us with what we need.

FLIGHT NOTE

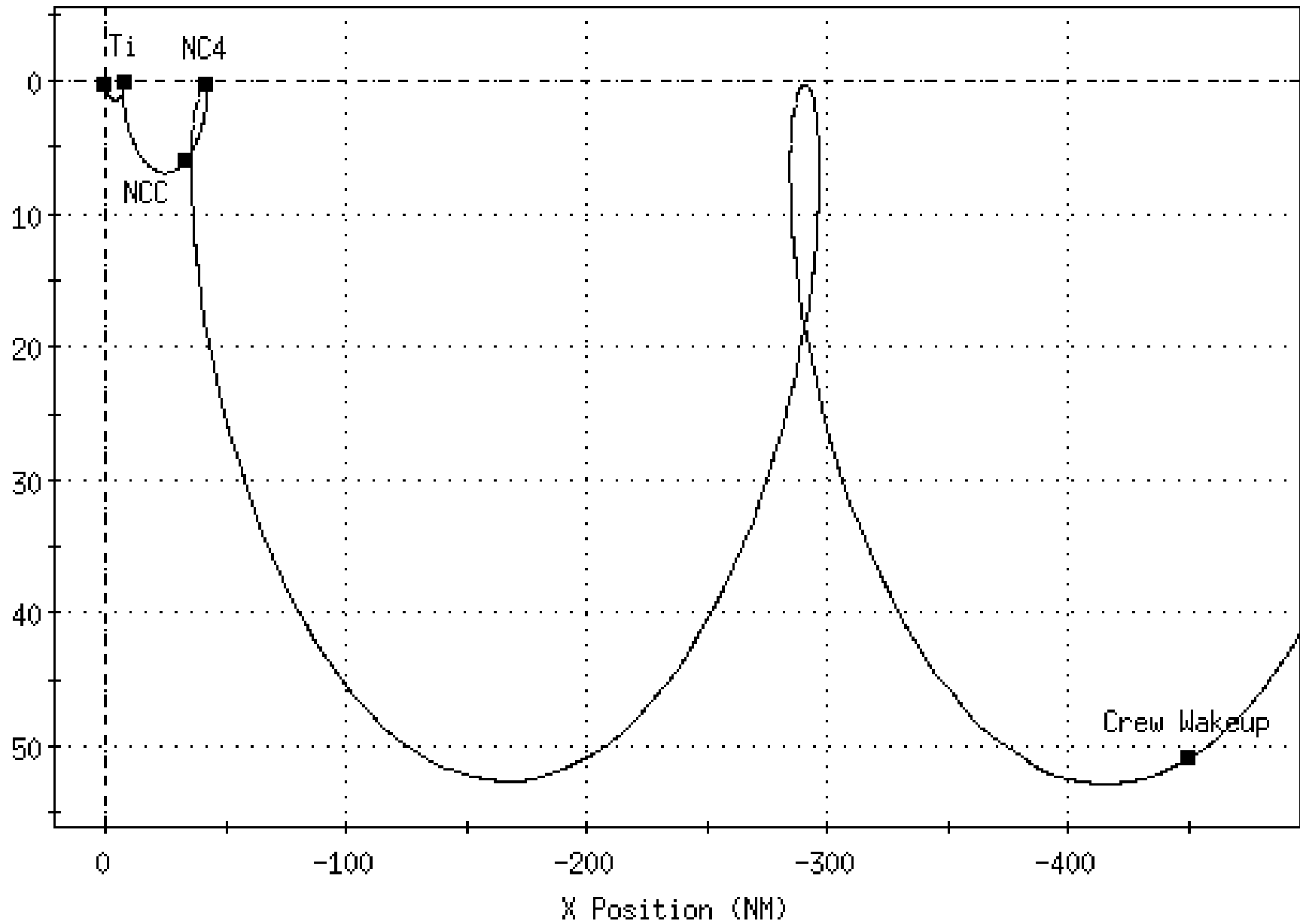
TO: FD, CAPCOM, FAO, RENDEZVOUS, PROP, GC
FROM: FDO
SUBJECT: MANEUVER TIGS
Nominal

COPIES: 1

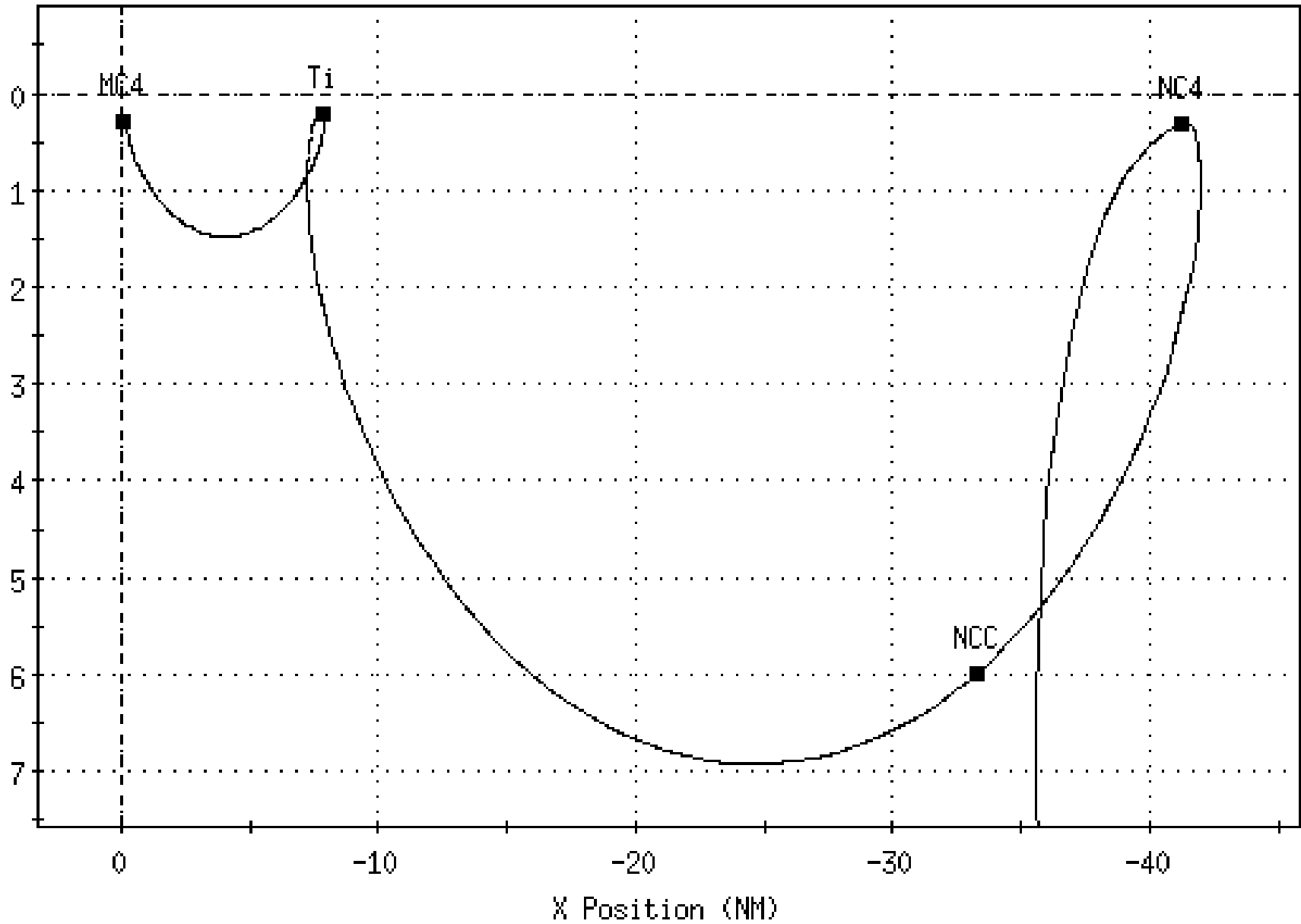
MET

NC-4	001:15:49:23.000	
NCC	001:16:24:51.000	
TI	001:17:22:33.000	PET = 0:0 ; SS - 36 MIN
MC1	001:17:42:33.000	
MC2	001:18:12:27.000	ET = 0:0
MC3	001:18:29:27.000	MC2 + 17 MIN
MC4	001:18:39:27.000	MC2 + 27 MIN
DOCK	001:20:00:40.000	

Z Position (NM)



Z Position (NM)



PRELIMINARY ORBIT MANEUVER PAD FOR NC-4 (RNDZ pg. 3-4)

<p>OMS BOTH 1 <input checked="" type="checkbox"/></p> <p>L 2 <input type="checkbox"/></p> <p>R 3 <input type="checkbox"/></p> <p>RCS SEL 4 <input type="checkbox"/> +X -X MULTI-AXIS</p> <p>TV ROLL 5 <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/></p> <p>TRIM LOAD P 6 <input type="text" value="(+)"/> <input type="text" value="0"/> <input type="text" value="."/> <input type="text" value="8"/></p> <p>LY 7 <input type="text" value='(-)"/'/> <input type="text" value="5"/> <input type="text" value="."/> <input type="text" value="7"/></p> <p>RY 8 <input type="text" value="(+)"/> <input type="text" value="5"/> <input type="text" value="."/> <input type="text" value="7"/></p> <p>WT 9 <input type="text" value="2"/> <input type="text" value="5"/> <input type="text" value="0"/> <input type="text" value="3"/> <input type="text" value="0"/> <input type="text" value="9"/></p> <p>TIG 10 <input type="text" value="0"/> <input type="text" value="1"/> / <input type="text" value="1"/> <input type="text" value="5"/> : <input type="text" value="4"/> <input type="text" value="9"/> : <input type="text" value="2"/> <input type="text" value="3"/> . <input type="text" value="0"/></p> <p>TGT PEG 7 ΔV_X 19 <input type="text" value="(+)"/> <input type="text" value="0"/> <input type="text" value="8"/> <input type="text" value="0"/> <input type="text" value="."/> <input type="text" value="3"/></p> <p>ΔV_Y 20 <input type="text" value="(+)"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="."/> <input type="text" value="0"/></p> <p>ΔV_Z 21 <input type="text" value="(+)"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="2"/> <input type="text" value="."/> <input type="text" value="5"/></p>	<p>BURN ATT</p> <table border="1" style="margin-left: 20px;"> <tr><td>R 24</td><td>1</td><td>2</td><td>7</td></tr> <tr><td>P 25</td><td>2</td><td>0</td><td>7</td></tr> <tr><td>Y 26</td><td>0</td><td>1</td><td>9</td></tr> </table>	R 24	1	2	7	P 25	2	0	7	Y 26	0	1	9	<p>ΔV_{TOT} <input type="text" value="0"/> <input type="text" value="8"/> <input type="text" value="0"/> <input type="text" value="."/> <input type="text" value="3"/></p> <p>TGO <input type="text" value="0"/> <input type="text" value="0"/> : <input type="text" value="5"/> <input type="text" value="1"/></p> <p>VGO X <input type="text" value="(+)"/> <input type="text" value="0"/> <input type="text" value="7"/> <input type="text" value="7"/> <input type="text" value="."/> <input type="text" value="6"/></p> <p>VGO Y <input type="text" value="(+)"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="."/> <input type="text" value="0"/></p> <p>VGO Z <input type="text" value="(+)"/> <input type="text" value="0"/> <input type="text" value="2"/> <input type="text" value="0"/> <input type="text" value="."/> <input type="text" value="9"/></p> <p>HA <input type="text" value="1"/> <input type="text" value="8"/> <input type="text" value="0"/> HP <input type="text" value="(+)"/> <input type="text" value="1"/> <input type="text" value="7"/> <input type="text" value="5"/></p> <p>TGT <input type="text" value="1"/> <input type="text" value="8"/> <input type="text" value="0"/> <input type="text" value="(+)"/> <input type="text" value="1"/> <input type="text" value="7"/> <input type="text" value="5"/></p>																																																																												
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NOTES
 Treat loss of GPC3 as 2nd gimbal fail on the R

PRELIMINARY ORBIT MANEUVER PAD FOR Ti (RNDZ pg. 3-6)

OMS BOTH 1	<input type="checkbox"/>
L 2	<input checked="" type="checkbox"/>
R 3	<input type="checkbox"/>
RCS SEL 4	<input type="checkbox"/>
TV ROLL 5	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
TRIM LOAD P 6	(+) 0 . 8
LY 7	(+) 4 . 6
RY 8	(-) 4 . 8
WT 9	2 4 8 3 3 0
TIG 10	0 1 / 1 7 : 2 2 : 3 3 . 0
TGT PEG 7 ΔVX 19	(+) 0 0 9 . 6
ΔVY 20	(-) 0 0 0 . 9
ΔVZ 21	(+) 0 0 0 . 1

+X	<input type="checkbox"/>
-X	<input type="checkbox"/>
MULTI-AXIS	<input type="checkbox"/>

TI DELAY	
TGT PEG 7 ΔVX 19	(-) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
ΔVY 20	(-) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
ΔVZ 21	(-) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
NEW TI (BASETIME)	0 1 / 1 8 : 5 3 : 3 9 . 0

BURN ATT

R 24	1	2	6
P 25	2	2	5
Y 26	0	2	3

ΔVTOT 0 0 9 . 6

TGO 0 0 : 1 2

VGO X	(+)	0	0	9	. 1
VGO Y	(+)	0	0	1	. 9
VGO Z	(+)	0	0	2	. 4

HA HP

TGT 1 8 1 (+) 1 7 9

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<p>TIG SLIP: If Ti not started by nominal TIG + <u>4</u> min (G34 as reqd), reload original TIG and go to TI DELAY, 5-27</p> <p>Max TI DELAY TIG slip <u>5</u> min. <input checked="" type="checkbox"/> DO NOT UPDATE TIG <input type="checkbox"/> UPDATE TIG AFTER ___ MIN.</p>																																

NOTES

MSG 017A - PORT OMS POD SURVEY

1 A port OMS pod survey has been added to the timeline today to get additional pictures of
2 the damaged blanket. The pictures will be taken with a sunlit OMS Pod using the 400mm
3 lens to look into the cavity in order to determine if there is any sub-insulation remaining in
4 the cavity. The best opportunity to meet the desired lighting conditions occurs just prior to
5 the NC4 burn while in the burn attitude at approximately 01/15:45 MET.
6

7 Below are deltas to P/TV08 EXTERNAL SURVEY S/U Step 1:

- 8 1. Perform the "If Sunlit steps"
- 9
- 10 2. Was: Lens - 180mm
11 Is: Lens - 400mm
12
- 13 3. Was: $\sqrt{\text{BKT}}$ - Disabled
14 Is: BKT - Enabled
15
- 16 4. Was: SS - 1000
17 Is: SS - 500
18
- 19 5. Was: Film Adv - S
20 Is: File Adv - C_H
21
- 22 6. Add: CSM - 17-1, 01A (apature)
23

24 When taking the pictures, frame for blanket damaged area. Verify good exposure after the
25 initial bracketed series.

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