STS-134 / ULF6

FD 07 Execute Package

MSG	Page(s)	Title
071A	1 - 16	FD08 Flight Plan Revision
072	17	FD08 Mission Summary
073A	---	FD8 Event Summary Message (Mesa Verde School Event) (Not Distributed)
074	18	CLOSE/OPEN STAR TRACKER DOORS
075	19 - 28	PDRS Procedures for OBSS Sensor Protect
076	---	FD8 Event Summary Message (Not Distributed) (VIP Event with President of the Italian Republic)
077	29	FD8 Crew Choice Downlink Opportunities
078	---	ATV2 Cargo List (Electronic Uplink Only) (Not Distributed)
080	30 - 31	25S Undock Summary for STS Crew

Approved by FAO: *M. Scheib*
Approved by OpsPlan: *J. Kitchen*

Michael Scheib

Last Updated: May 22 2011 12:23 AM GMT
JEDI *(**J**oint **E**xecute package **D**evelopment and **I**ntegration), v3.0*

MSG INDEX

MSG NO.	TITLE
071	FD08 Flight Plan Revision
072	FD08 Mission Summary
073	FD08 PAO Event Summary
074	Close/Open Star Tracker Doors
075	PDRS Procedures for OBSS Sensor Protect
076	FD8 Event Summary Message (VIP Event with President of the Italian Republic)
077	FD8 Crew Choice Downlink Opportunities
078	ATV2 Cargo List
080	25S Undock Summary for STS Crew

1. Post-Sleep Cryo Config

   For today's post-sleep cryo config, O2 tanks 2, 3, & 4, and H2 tanks 2 & 5 will be active.

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

   A11 CRYO TK4 HTRS O2 A,B (two) - AUTO

   A15 CRYO TK5 HTR O2 A - OFF

2. Pre-Sleep Cryo Config

   √MCC for deltas prior to configuring for pre-sleep.

   For tonight's pre-sleep cryo config, manifold 1 will be closed with O2 and H2 tanks 1 & 5 active.

   A15 CRYO TK5 HTR O2 A - AUTO

   A11 CRYO TK4 HTRS O2 A,B (two) - OFF

   R1 O2 TK3 HTRS A,B (two) - OFF
   O2,H2 TK2 HTRS A,B (four) - OFF
   TK1 HTRS A,B (four) - AUTO
   MANF VLV TK1 (two) - CL (tb-CL)

3. LiOH Cue Card Updates

   CO2 levels are continuing to trend well below predicts, so the FD8 Post Sleep LiOH changeout can be deferred. Make the following P&I deltas to the cue card:

   - Strike the POST FD8 changeout from the cue card
   - The PRE FD11 and PRE FD12 changeouts should use the deferred STS-130 cans instead of the STS-132 cans currently listed
   - The POST FD17 changeout should use two STS-132 cans

4. STORRM
   Drew/Mark, We noticed yesterday during the VNS data retrieval from DRU1, the data transmission halted several times with a duration of half hour to an hour each. As a result, and because today is off duty, we've removed all STORRM operations for FD8 and we'll have some troubleshooting for you on FD9.

5. Message 077 contains Crew Choice Downlink opportunities during Off-Duty and PreSleep on FD8

6. Box – Your PFC has been rescheduled to the morning of FD09

7. Box and Roberto, to support the ULF6 Stowage Ops on Flight Day 9 we have uplinked message 078 (27-0662): ATV2 Cargo List which replaces message 66 (27-0290D) uplinked in the FD7 Execute Package. We will be uplinking an updated choreography message for your activities on FD9.

8. STS-134/ULF6 FD06 - MMT Summary

   The MMT met briefly today to review the orbiter systems and mission progress. Endeavour continues to perform exceptionally well. Great job on EVA 2. Kudos to the entire team on overcoming the unexpected challenges and completing all tasks. Enjoy your OFF Duty on FD8. Well deserved!

9. Reference message 80 for Soyuz undock information

10. REPLACE PAGES 2-26 AND 2-28, AND 3-80 THROUGH 3-91.

REPLANNED

GMT 05/23/11 (143) 01 12 02 13 03 14 04 15 05 16 06 17 07 18 08 19 09 20 10 21 11 22 12 23 007/00

MET Day 006

STS 134

FD08

CDR MARK	POST SLEEP						PAO EVENT			PST SLP	MDK#	OFF DUTY					POST EVA	TAG UP	MEAL	OFF DUTY									EXERCISE
PLT BOX	LOG	POST SLEEP									MCIU*	OFF DUTY							MEAL	OFF DUTY									EXERCISE
MS1 SPANKY	ASPRN	POST SLEEP					PAO EVENT			POST	SLEEP	OFF DUTY					POST EVA	TAG UP	MEAL	OFF DUTY						EXERCISE			OFF DUTY
MS2 ROBERTO	LOG	POST SLEEP									IENOS@	OFF DUTY							MEAL	OFF DUTY				PFC ISS OCA	EXERCISE				OFF DUTY
MS3 DREW	ASPRN	POST SLEEP										OFF DUTY					POST EVA	TAG UP	MEAL	OFF DUTY					EXERCISE				OFF DUTY
MS4 TAZ	LOG	POST SLEEP			PFC ISS OCA	PST SLP	PAO S/U	POST SLEEP				OFF DUTY					POST EVA	TAG UP	MEAL	OFF DUTY					EXERCISE				OFF DUTY

NO EXERCISE

DAY/NIGHT

ORBIT 103 104 105 106 107 108 109 110 111

TDRS W E Z

ISS TDRS AVAIL

ORB ATT BIAS -XLV -ZVV

NOTES
#STATUS CHECK
*FILTER CK
@STATUS CHECK

REPLANNED

GMT 05/23/11 (143) 13 14 15 16 17 18 19 20 21 22 23 05/24 12

MET Day 007 007/00 01 02 03 04 05 06 07 08 09 10 11

^25S UNDOCK

STS 134	FD08					FD09
	CDR MARK	OFF DUTY	PRE SLEEP	PMC A/G	PRE SLEEP	SLEEP	POST SLEEP
	PLT BOX	EXERCISE	IMU	STRTRK*	OMS^	PRE SLEEP	SLEEP	LOG	POST SLEEP
	MS1 SPANKY	OFF DUTY	MDK#	PRE SLEEP	SLEEP	POST SLEEP
	MS2 ROBERTO	OFF DUTY	PRESLP	PAO	EVENT	PRE SLEEP	SLEEP	LOG	POST SLEEP
	MS3 DREW	OFF DUTY	OBSS%	PRE SLEEP	SLEEP	POST SLEEP
	MS4 TAZ	OFF DUTY	OBSS%	PRE SLEEP	SLEEP	LOG	POST SLEEP

NO EXERCISE — NO EXERCISE [A]

DAY/NIGHT

ORBIT 111 112 113 114 115 116 117 118 119

TDRS W E Z

ISS TDRS AVAIL

ORB ATT BIAS -XLV -ZVV — 25S — RM — BIAS -XLV -ZVV

NOTES
*CLOSE DOORS%MNVR SENSOR PROTECT
^ACCUM REPRESS
#STATUS CHECK
[A] NO EXERCISE [ISS MNVR]

STS-134/ULF6 FD08

GMT Date 05/23 (143) | W | T D R S E | Z | D/N | O R B | MET Day 006 | A T T

FD08 EZ ACTIVITIES:
- √OCAC Filter
- √MDDK Duct Screen
- TEPC Status Check:
  - Verify display is backlit
- Hard reboot: STS-2(WINDECOM), STS-3(KFX) & STS-4(RPOP)

GMT	MET	ATT	CDR MARK	PLT BOX	MS1 SPANKY	NOTES
01:00	12:00		POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	SLEEP LOGBOOK (SDBI 1634) POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	EVA CREW: TAKE 1 ASPIRIN (325mg) POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
02:00	13:00	BIAS-XLV-ZVV				
03:00	14:00		PUBLIC AFFAIRS EVENT STS KU AVAIL: 13:46-14:14 Shuttle FD: Mark/Spanky Ref. MSG 073 POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) CGBA STATUS CHK; GLACIER STATUS CHK (CC)	L17 Check MCIU filter screen	PUBLIC AFFAIRS EVENT STS KU AVAIL: 13:46-14:14 Shuttle FD: Mark/Spanky Ref. MSG 073 POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
04:00	15:00		OFF DUTY	OFF DUTY	OFF DUTY	
	16:00					

DAY/NIGHT: 103, 104, 105, 106

5

STS-134/ULF6 FD08

GMT Date 05/23 (143) | W | TDRS E | TDRS Z | D/N | ORB | MET Day 006 | ATT | MS2 ROBERTO | MS3 DREW | MS4 TAZ | NOTES

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

ORB: 103 104 105 106

ATT: BIAS -XLV -ZVV

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

MS2 ROBERTO

- SLEEP LOGBOOK (SDBI 1634)
- POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)
- IENOS OPS (ASSY OPS, PAYLOADS) Step 1.4
- OFF DUTY

MS3 DREW

- EVA CREW: TAKE 1 ASPIRIN (325mg)
- POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)
- OFF DUTY

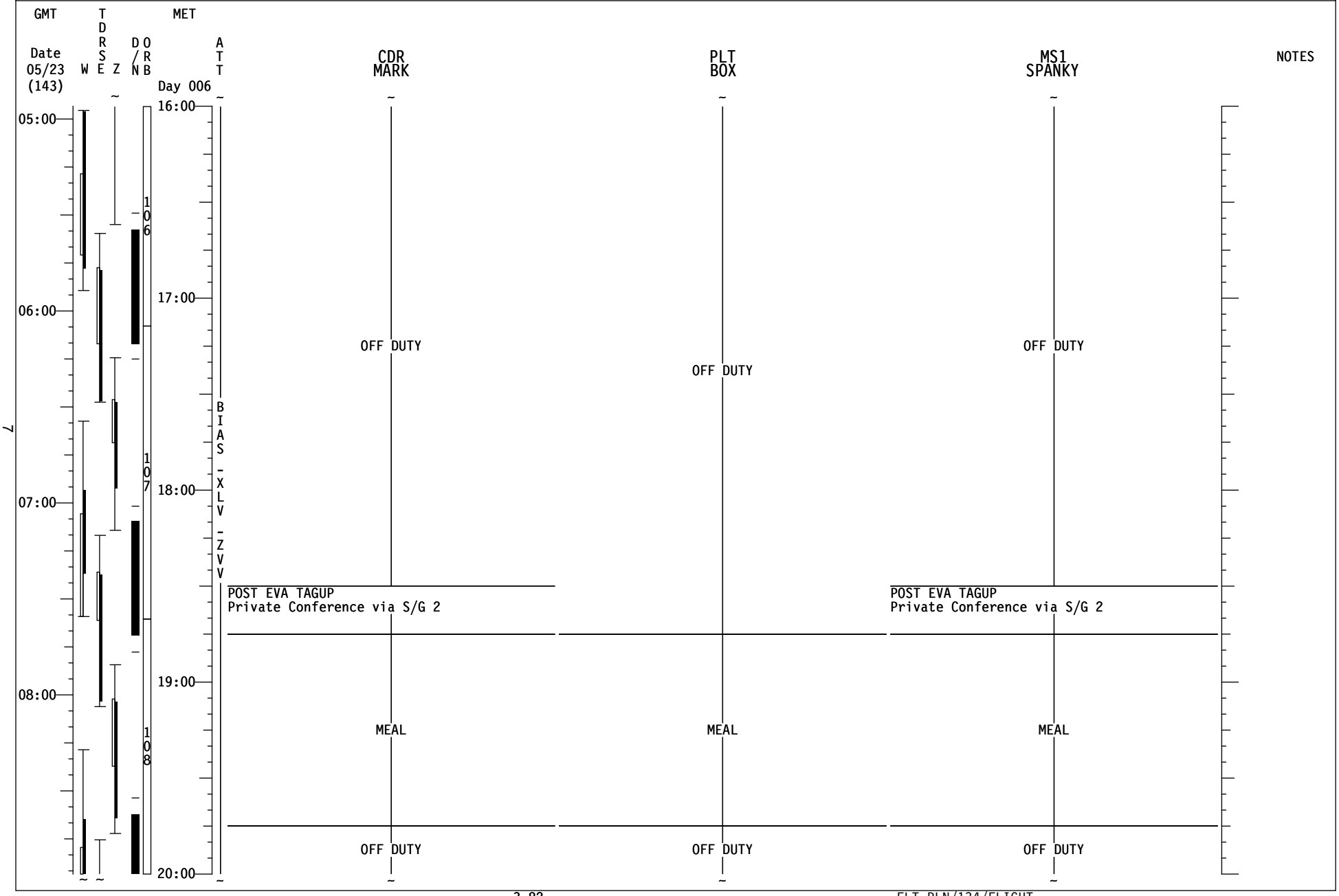
MS4 TAZ

- SLEEP LOGBOOK (SDBI 1634)
- POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)
- Private Family Conference [A]
  ISS KU AVAIL (12:56-13:35)
- POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)
- HD DIGITAL CC DLNLK (PHOTO/TV, CANON G1)
- POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)
- OFF DUTY

NOTES

[A] PFC to be performed using S-Band via Public Call 4 for audio and Ku-Band for video.
Please call down SSC preference before the conference and make sure that all applications expcept Netmeeting have been closed.

STS-134/ULF6 FD08



STS-134/ULF6 FD08

GMT Date 05/23 (143) | W | TDRS E | Z | D/N | ORB | MET Day 006 | ATT | MS2 ROBERTO | MS3 DREW | MS4 TAZ | NOTES

05:00 06:00 07:00 08:00

16:00 17:00 18:00 19:00 20:00

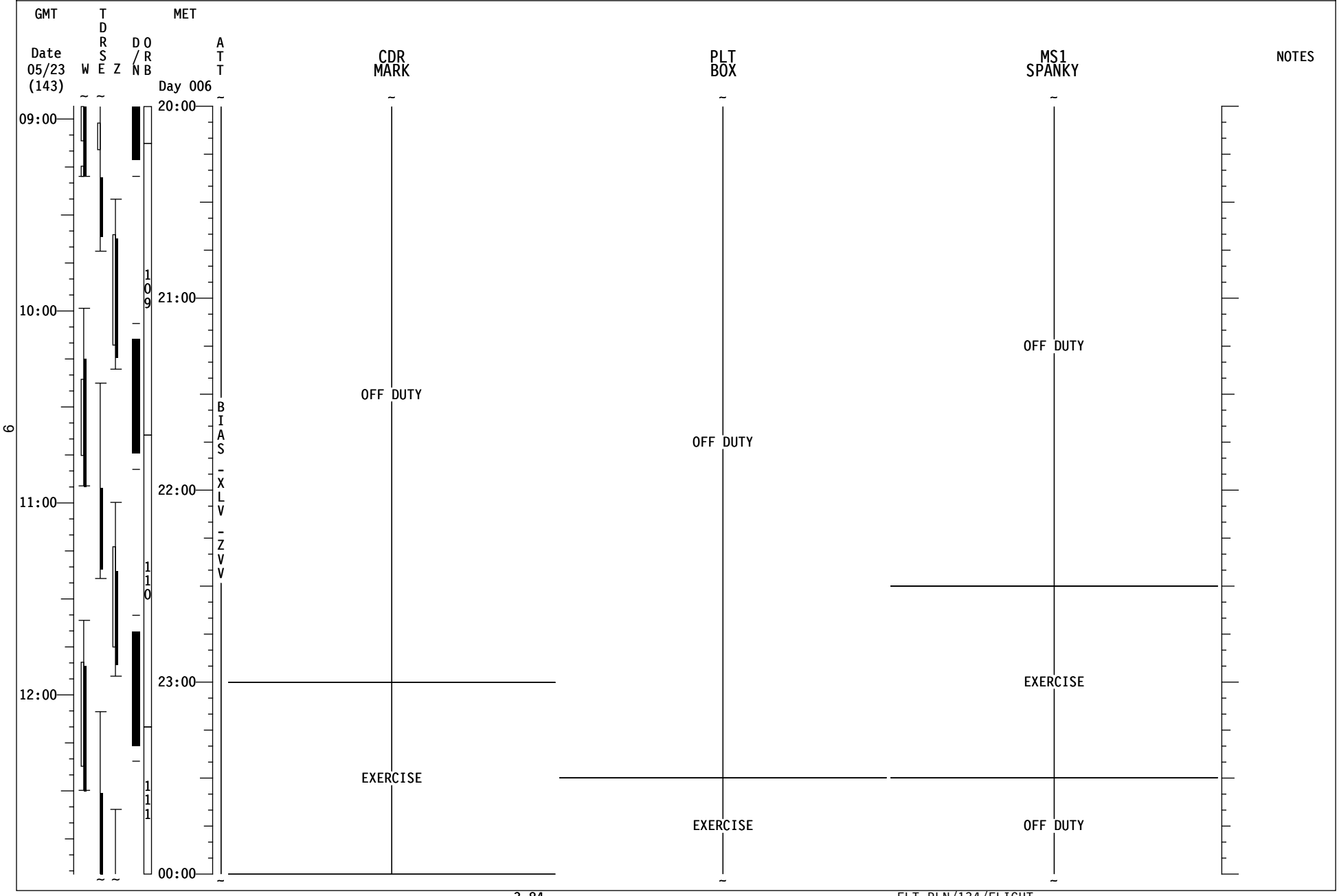
ORB: 106, 107, 108

ATT: BIAS-XLV-ZVV

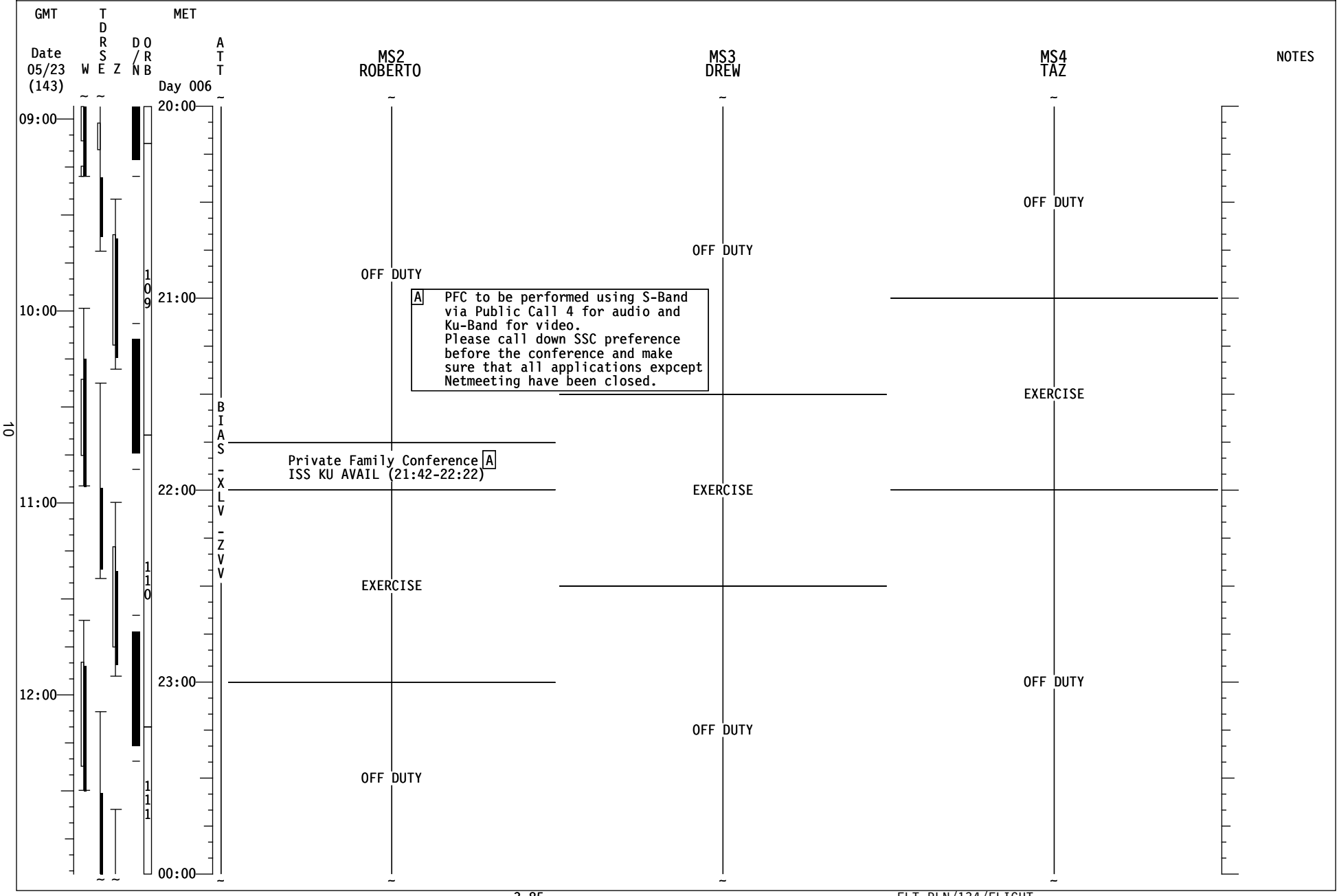
	MS2 ROBERTO	MS3 DREW	MS4 TAZ
	OFF DUTY	OFF DUTY	OFF DUTY
		POST EVA TAGUP Private Conference via S/G 2	POST EVA TAGUP Private Conference via S/G 2
	MEAL	MEAL	MEAL
	OFF DUTY	OFF DUTY	OFF DUTY

8

STS-134/ULF6 FD08



STS-134/ULF6 FD08



STS-134/ULF6 FD08

GMT Date 05/23 (143) | W | TDRS E | Z | D/N | ORB | MET Day 007 | ATT | CDR MARK | PLT BOX | MS1 SPANKY | NOTES

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

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

ORB: 111 112 113

ATT: BIAS-XLV-ZVV

CDR MARK

OFF DUTY

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

L9 PS AUD A/G 1,2 (two) - OFF
PRIVATE MEDICAL CONFERENCE
Private Conference via A/G 2

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

SLEEP

PLT BOX

EXERCISE

IMU STAR OF OPPORTUNITY ALIGN (ORB OPS,GNC)
CLOSE STAR TRACKER DOORS Ref. MSG 074
OMS ACCUM REPRESS B
PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

B C3 OMS ENG LEFT - ARM/PRESS (Wait 5 Seconds)
- OFF

SLEEP

MS1 SPANKY

OFF DUTY

CGBA STATUS CHK; GLACIER STATUS CHK (CC)
PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

SLEEP

CREW WAKE AT 07/11:30

11

STS-134/ULF6 FD08

GMT Date 05/23 (143) | W | TDRS E | Z | D/N | ORB | MET Day 007 | ATT

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

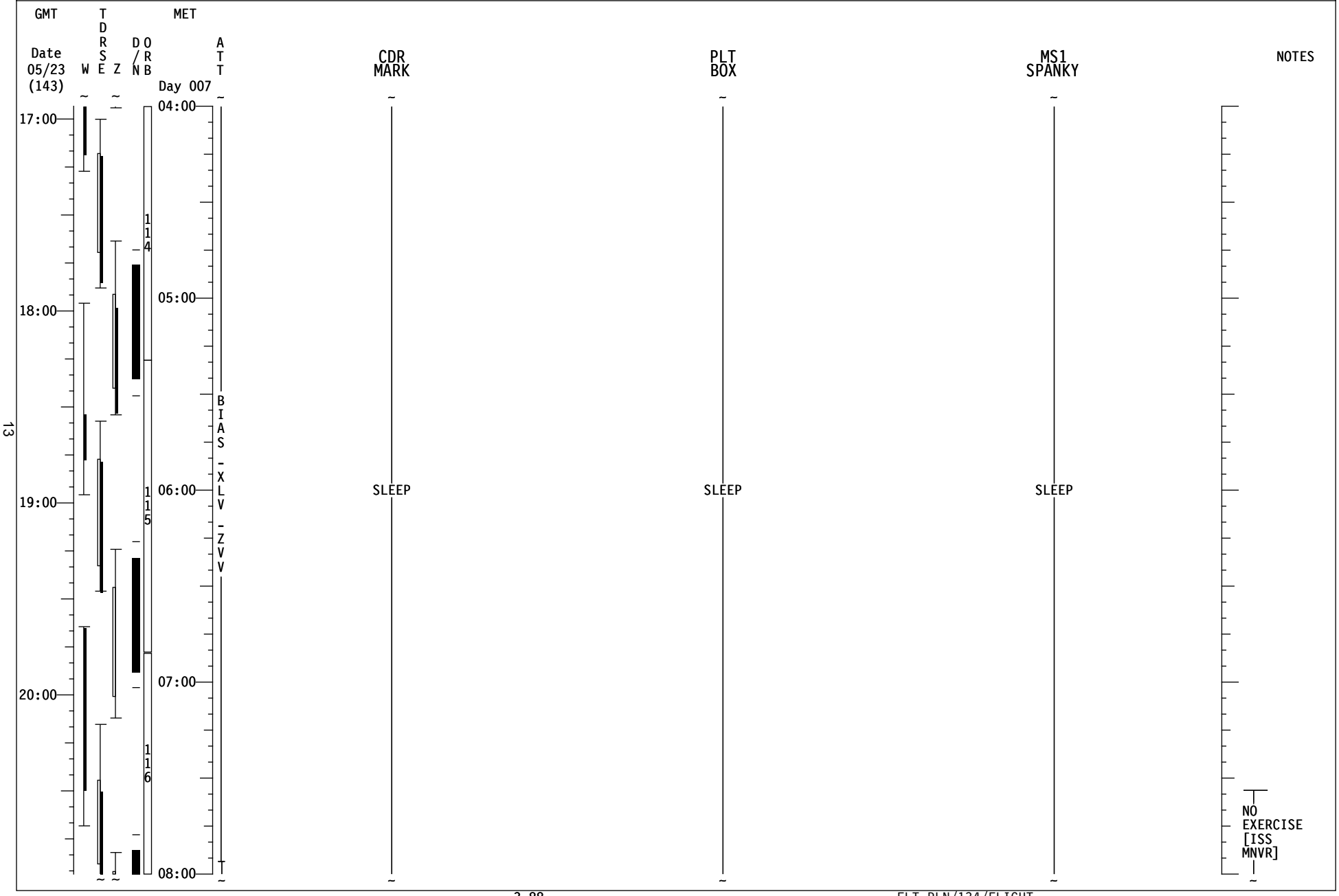
00:00 01:00 02:00 03:00 04:00

ORB: 111 112 113

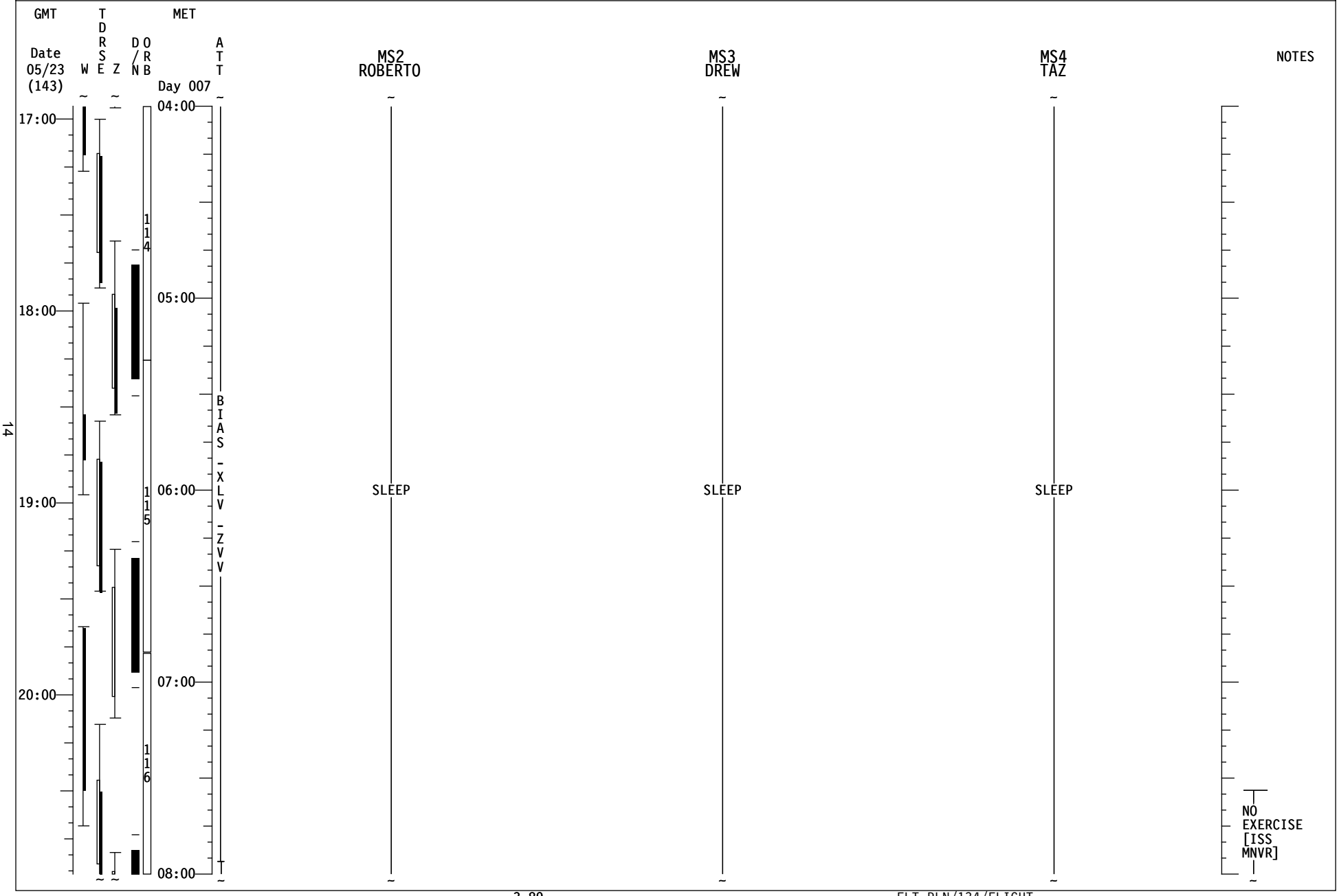
ATT: BIAS-XLV-ZVV

MS2 ROBERTO	MS3 DREW	MS4 TAZ	NOTES
OFF DUTY	OFF DUTY	OFF DUTY	
PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	OBSS MNVR UNDOCK TO SENSOR PROTECT Ref. MSG 075	OBSS MNVR UNDOCK TO SENSOR PROTECT Ref. MSG 075	
PUBLIC AFFAIRS EVENT ISS S & KU AVAIL: 00:29-00:59 Columbus: Roberto/Paolo Ref. MSG 076	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
CREW WAKE AT 07/11:30			
SLEEP	SLEEP	SLEEP	

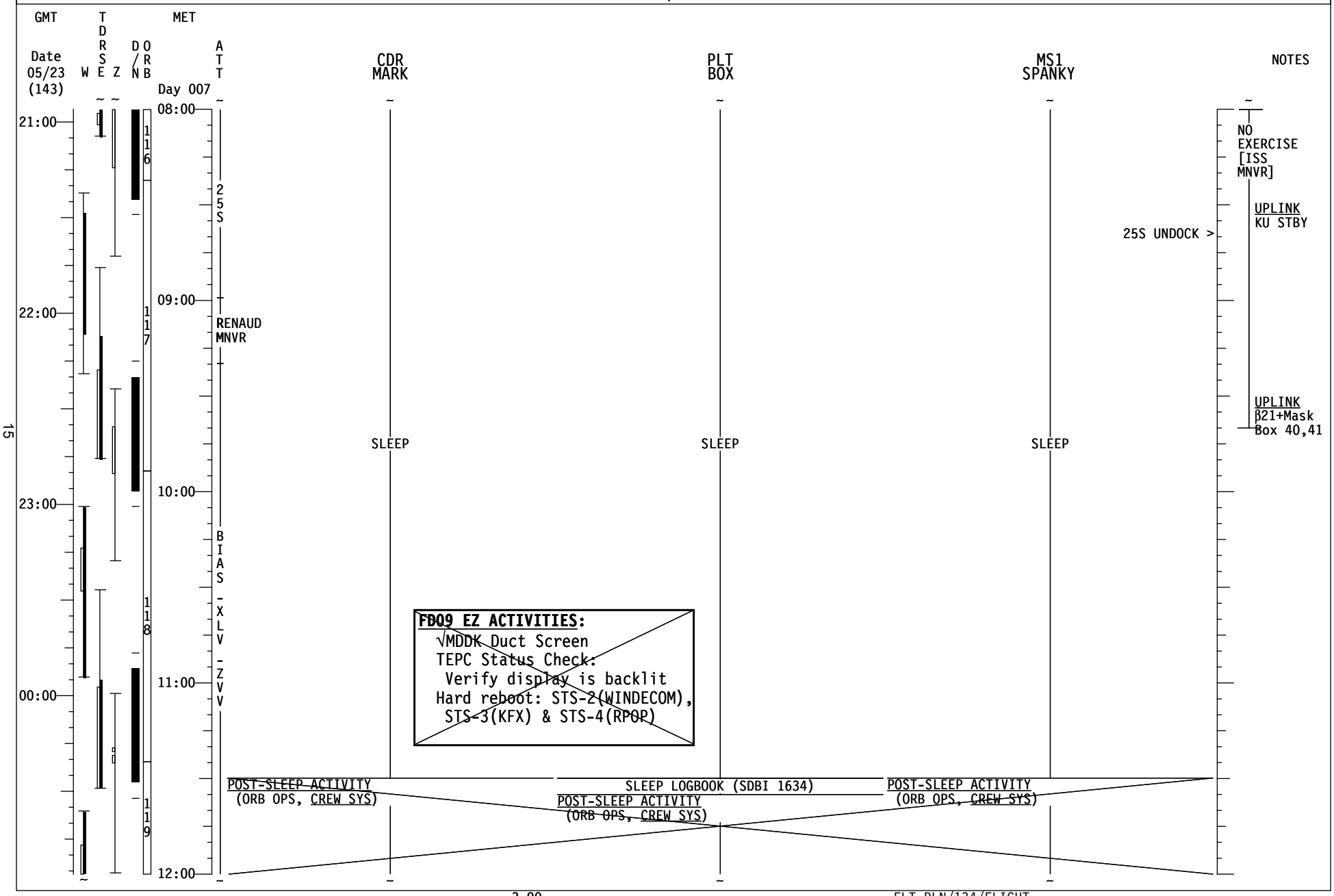
STS-134/ULF6 FD08



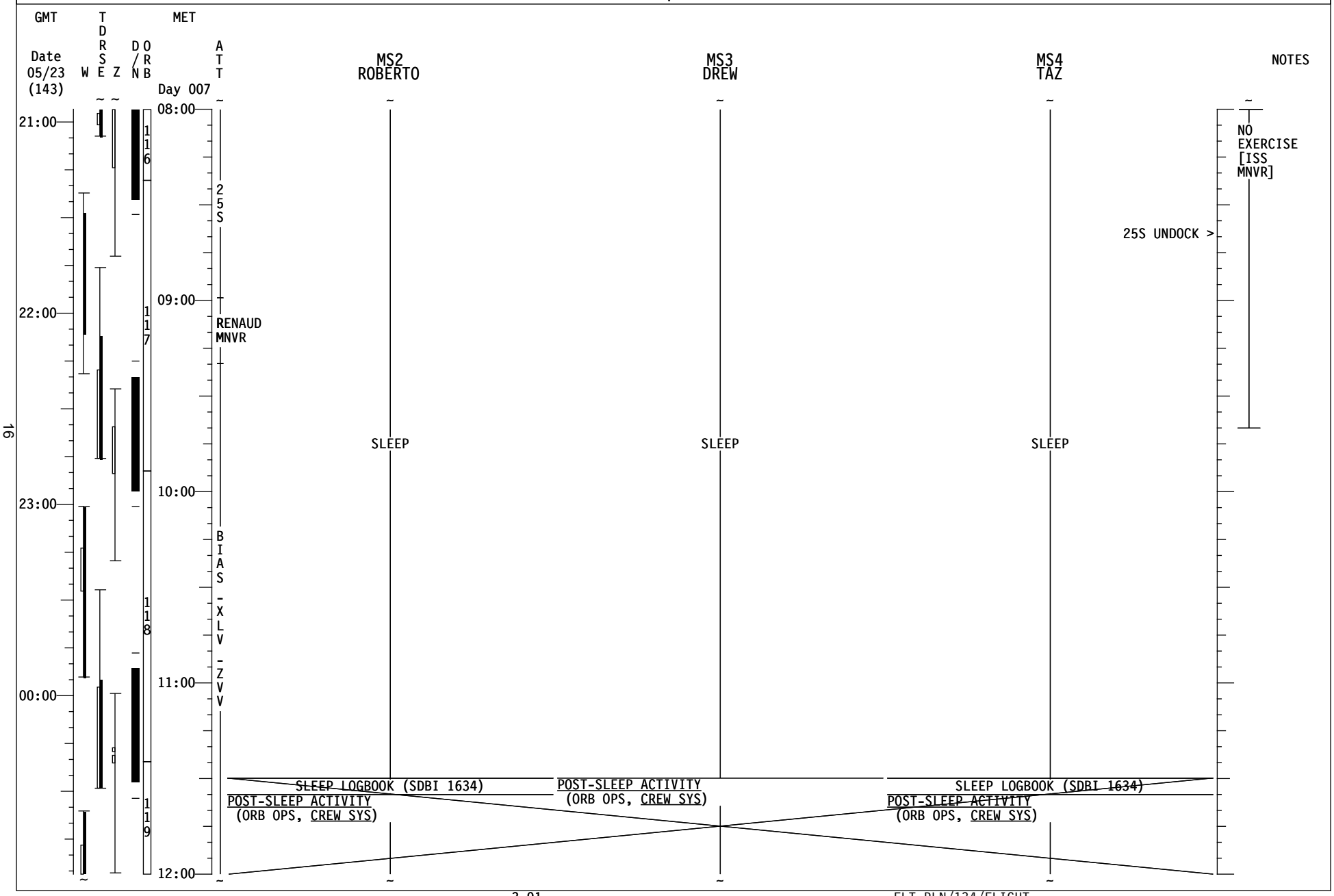
STS-134/ULF6 FD08



STS-134/ULF6 FD08



STS-134/ULF6 FD08



MSG 072 - FD08 MISSION SUMMARY

Good Morning Endeavour!!!!

Great job on the EVA yesterday!

Enjoy your very well deserved off duty day!!!!!

YOUR CURRENT ORBIT IS: 187 X 183 NM

NOTAMS -

EDW -	EDW 22L/04R IN USE. EDT 22R/04L EMERGENCY DAY USE ONLY.
EDW -	LAKEBED RWYS RED.
NOR -	LAKEBED RWYS GREEN.
HNL -	RWY 08R/26L CLSD
NTU -	RWY 05R/23L CLSD.
FFA -	NOT USABLE. IN CARETAKER STATUS.
LAJ -	RWY WIDTH REDUCED TO 154' - EAST SIDE OF RWY CLSD.
BEN -	NOT USABLE. NOT SUPPORTED.
IKF -	NOT USABLE. NO AGREEMENT

NEXT 2 PLS OPPORTUNITIES:

EDW22 ORB 110 – 6/22:33 SCT150 BKN250 7 240/15P22
EDW22 ORB 126 – 7/22:57 SKC 7 240/10P16

OMS TANK FAIL CAPABILITY:

NO

LEAKING OMS PRPLT BURN:

L or R OMS LEAK: ALWAYS BURN RETROGRADE

OMS QUANTITIES(%)

L OMS OX = 33.23 R OMS OX = 34.28
FU = 33.24 FU = 33.95

FOR CURRENT QTYS, SUBTRACT INCN'T COUNTER

DELTA V AVAILABLE:

OMS	346 FPS
ARCS (TOTAL ABOVE QTY1)	46 FPS
TOTAL IN THE AFT	392 FPS
ARCS (TOTAL ABOVE QTY2)	79 FPS
FRCS (ABOVE QTY 1)	32 FPS
AFT QTY 1	82 %
AFT QTY 2	44 %

END OF PAGE 1 OF 1, MSG 072

MSG 074 - CLOSE/OPEN STAR TRACKER DOORS

To prevent contamination, the -Y star tracker will be powered off and both star tracker doors will be closed prior to the Soyuz undock. When the undock is complete we will reopen the star tracker doors and the -Y star tracker will remain powered.

The CLOSE STAR TRACKER DOORS procedure will be referenced in the FD08 Flight Plan Revision.
The OPEN STAR TRACKER DOORS procedure will be referenced in the FD09 Flight Plan Revision.

CLOSE STAR TRACKER DOORS

O6 S TRK PWR -Y - OFF

S TRK DR CNTL SYS (two) - CL (start timer)
√POS tb (two) - bp
When both tb - CL (~8-24 sec), or either tb - bp for >24 sec,
S TRK DR CNTL SYS (two) - OFF
* If tb-bp>8 sec, notify MCC *

OPEN STAR TRACKER DOORS

O6 S TRK PWR (two) - ON
GNC I/O RESET

S TRK DR CNTL SYS (two) - OP (start timer)
√POS tb (two) - bp
When both tb - OP (~8-24 sec), or either tb - bp for >24 sec
S TRK DR CNTL SYS (two) - OFF
* If tb-bp>8 sec, notify MCC*

S TRK PWR -Z - OFF

END OF PAGE 1 OF 1, MSG 074

OBSS MNVR UNDOCK TO SENSOR PROTECT

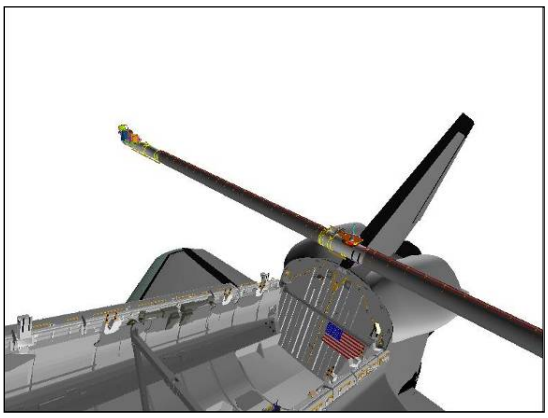
1. SETUP

Verify SSRMS at DLI Viewing posn:

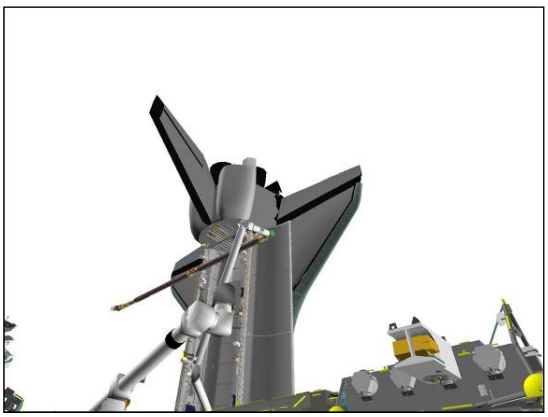
SR	SY	SP	EP	WP	WY	WR
-66.2	+47.0	-134.9	-48.0	-15.8	-150.9	-90.6

DNLK	A
DTV	Elbow
MON 1	09: P1LOOB(D)
MON 2	C(RSC)

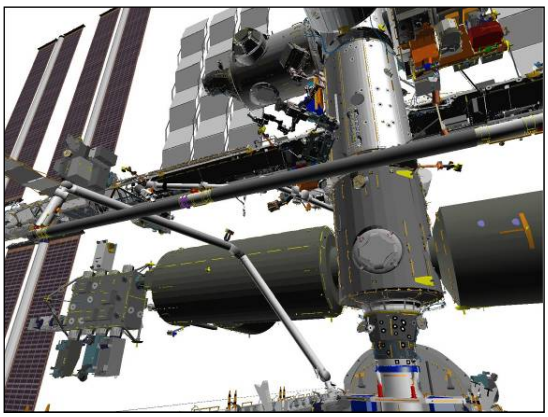
CCTV A (20,30)



ELBOW (-70,10)



09: P1 LOOB (140,40)



CCTV C (-25,25)

SM 94 PDRS CONTROL

√PL ID, ITEM 3: 1

√INIT ID, ITEM 24: 1

END POS – ITEM 18 -9 6 7 -6 4 3 -3 8 6 EXEC

ATT – ITEM 21 + 6 0 +3 4 9 +2 8 2 EXEC

CMD CK – ITEM 25 EXEC (GOOD)

Verify at UNDOCK posn:

	X	Y	Z	PITCH	YAW	ROLL	PLID	
√	-1041	-362	-602	44	270	0	1	*
	SY	SP	EP	WP	WY	WR		
√	+25.8	+66.3	-49.0	-85.9	+10.7	-100.2		

*display singularity

2. MNVR TO INTERMEDIATE 1 POSITION

NOTE

Minimum clearance between SRMS and JEM is 29 inches during maneuver. Monitor with Camera A

RHC RATE – COARSE (RATE MIN tb-OFF)
BRAKES – OFF (tb-OFF)
MODE – OPR CMD, ENTER (READY lt on)

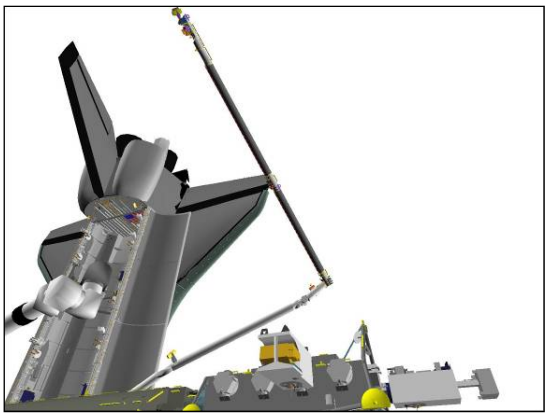
AUTO SEQ – PROCEED (IN PROG lt on)

When AUTO SEQ IN PROG lt – off:
BRAKES – ON (tb-ON)

INTERMEDIATE 1 posn: (2:55)

	X	Y	Z	PITCH	YAW	ROLL	PL ID
√	-967	-643	-386	60	349	282	1
	SY	SP	EP	WP	WY	WR	
√	+62.5	+25.2	-23.5	+0.9	-13.1	-21.8	

CCTV A (45,10)



09: P1 LOOB (160,40)

3. MNVR TO INTERMEDIATE 2 POSITION

SM 94 PDRS CONTROL

END POS – ITEM 18 -8 1 6 -5 7 6 -1 8 0 EXEC
ATT – ITEM 21 +0 +1 1 +3 2 8 EXEC
CMD CK – ITEM 25 EXEC (GOOD)

BRAKES – OFF (tb-OFF)
MODE – OPR CMD, ENTER (READY lt on)

AUTO SEQ – PROCEED (IN PROG lt on)

When AUTO SEQ IN PROG lt – off:
Verify position/joint angles

INTERMEDIATE 2 posn: (2:15)

	X	Y	Z	PITCH	YAW	ROLL	PL ID
√	-816	-576	-180	0	11	328	1
	SY	SP	EP	WP	WY	WR	
√	+74.5	+16.2	-33.0	-52.6	+6.0	-44.5	

CCTV A (45,0)

ELBOW (-30,10)

4. <u>MNVR TO SENSOR PROTECT POSITION</u>

RHC RATE – VERN (RATE MIN tb-ON)
MODE – SINGLE, ENTER

Mnvr to SENSOR PROTECT posn (within 2”/1º):

	SY	SP	EP	WP	WY	WR	
Intmd 2	+74.5	+16.2	-33.0	-52.6	+6.0	-44.5	
1: WR -						-102.8	
Protect	+74.5	+16.2	-33.0	-52.6	+6.0	-102.8	
	X	Y	Z	PITCH	YAW	ROLL	PL ID
	-820	-575	-180	358	313	327	1

BRAKES – ON (tb-ON)
MODE – not DIRECT (lt off)
PARAM – PORT TEMP
JOINT – CRIT TEMP

CCTV A (45,0)

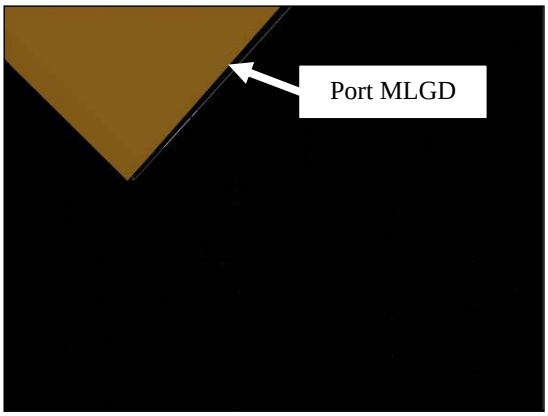
ELBOW (-65,10)

5. <u>CONFIGURE SENSOR PACK 1</u>

R12 (VPU) Green Jumper – LDRI/ITVC

A7U MUX 1 L ← MIDDECK
LDRI MODE 2 pb – push (ITVC Video)
DTV ← PL2

PAN/TILT ITVC to (90,-90)



ITVC (90,-90)

DTV ← as desired (not PL2)

R12 (VPU) Green Jumper – ISS

Notify MCC/ISS CDR that SRMS & OBSS configured for Soyuz undock

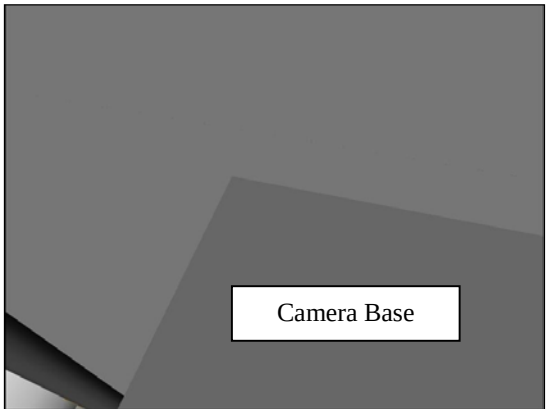
6. <u>CONFIGURE PLB CAMERAS</u>

A7U √PORT RMS CAMERA – ELBOW

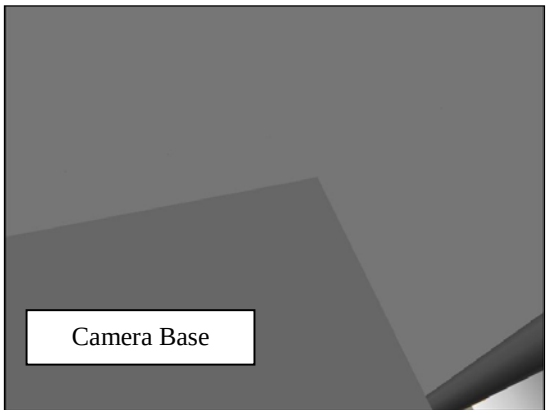
<u>NOTE</u>
MCC will complete this step from the ground

PAN/TILT CCTV D to (+165,-50)
A to (-165,-50)
ELBOW to (+90,-90)
CCTV B to (+165,-50
C to (-165,-50)

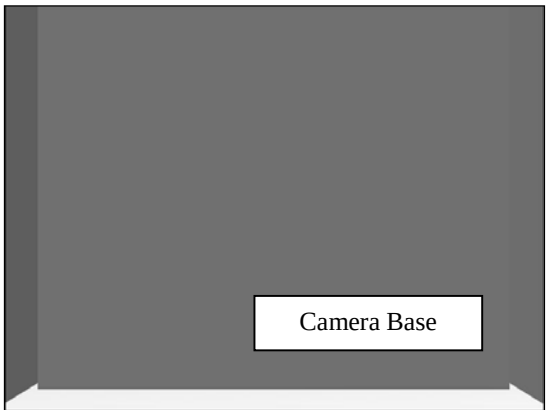
View from Parked Camera



CCTV D (165,-50)

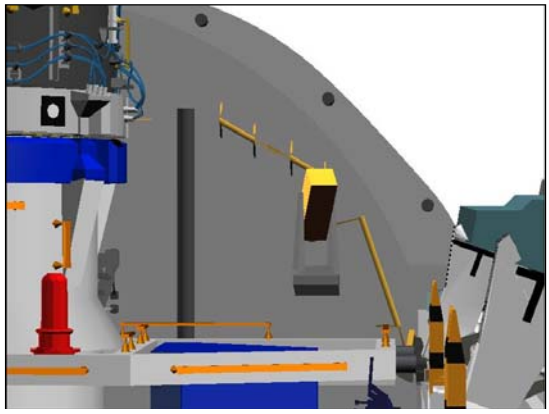


CCTV A (-165,-50)

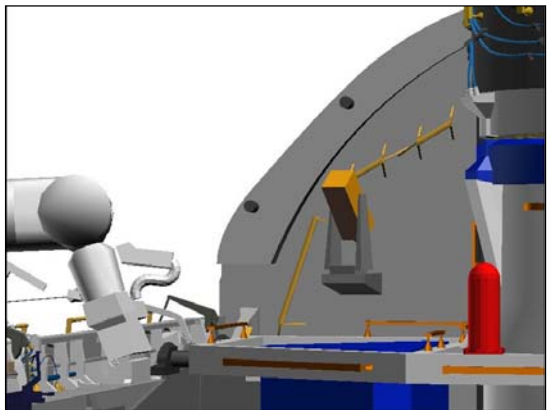


ELBOW (90,-90)

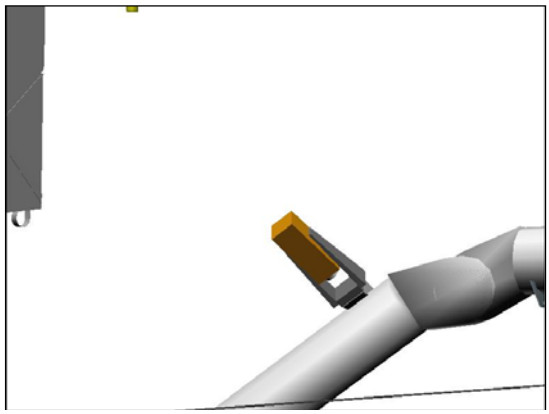
View of Parked Camera



CCTV C (0,0) HFOV: 9.8° (Full In)

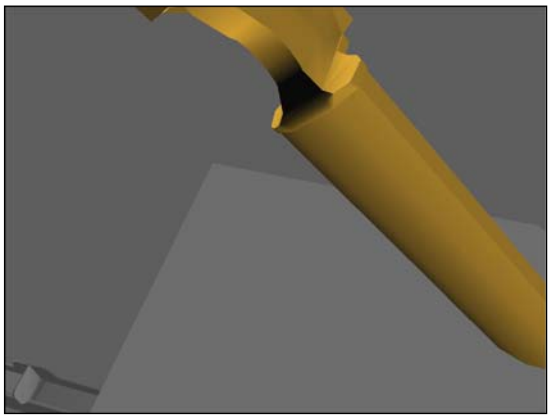


CCTV C (-15,0) HFOV: 9.8° (Full In)

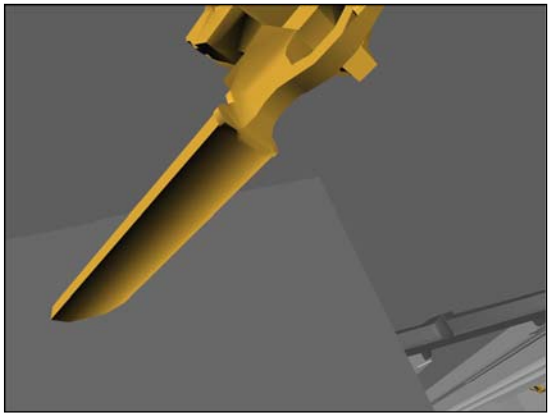


CCTV C (-40,0) HFOV: 9.8° (Full In)

View from Parked Camera

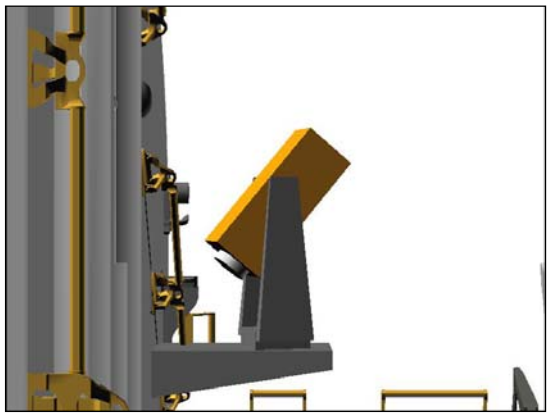


CCTV B (165,-50)

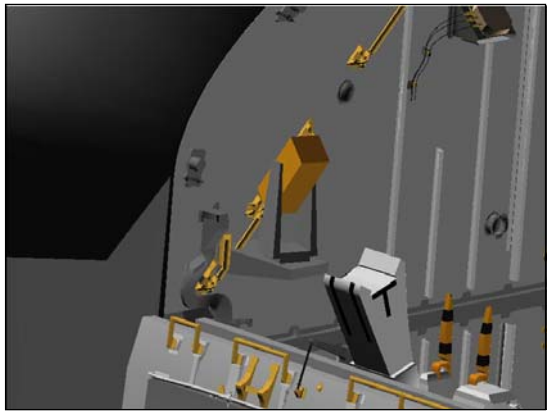


CCTV C (-165,-50)

View of Parked Camera



CCTV C (-90,0) HFOV: 20°



Bird Eye

OBSS MNVR SENSOR PROTECT TO UNDOCK

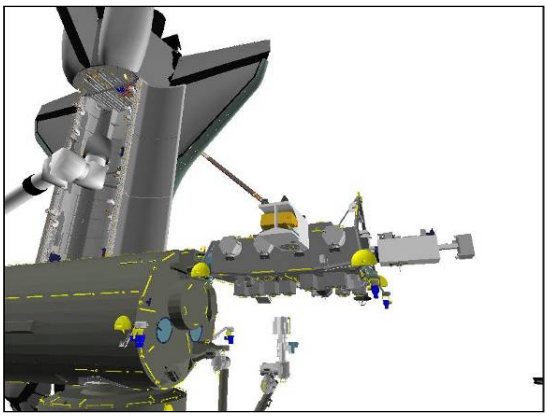
1. SETUP FOR MNVR TO UNDOCK

When Soyuz undock complete:

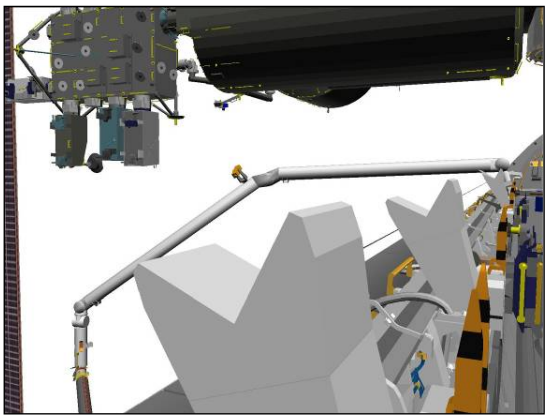
DNLK	A
DTV	Elbow(RSC)
MON 1	09: P1LOOB(D)
MON 2	B(C)

CCTV A (45,0)

ELBOW (-65,10)



09: P1 LOOB (160,20)



CCTV B (-25,-5)

SM 94 PDRS CONTROL

√PL ID, ITEM 3: 1

√INIT ID, ITEM 24: 1

Verify SENSOR PROTECT posn:

	X	Y	Z	PITCH	YAW	ROLL	PL ID
√	-820	-575	-180	358	313	327	1
	SY	SP	EP	WP	WY	WR	
√	+74.5	+16.2	-33.0	-52.6	+6.0	-102.8	

2. MNVR TO INTERMEDIATE 2 POSITION

RHC √RATE – VERN (RATE MIN tb-ON)
BRAKES – OFF (tb-OFF)
MODE – SINGLE, ENTER

Mnvr to INTERMEDIATE 2 posn (within 2”/1º):

	SY	SP	EP	WP	WY	WR	
Protect	+74.5	+16.2	-33.0	-52.6	+6.0	-102.8	
1: WR +						-44.5	
Intmd 2	+74.5	+16.2	-33.0	-52.6	+6.0	-44.5	
	X	Y	Z	PITCH	YAW	ROLL	PL ID
	-816	-576	-180	0	11	328	1

CCTV A (45,0)

ELBOW (-30,10)

3. MNVR TO INTERMEDIATE 1 POSITION

SM 94 PDRS CONTROL
END POS – ITEM 18 -9 6 7 -6 4 3 -3 8 6 EXEC
ATT – ITEM 21 + 6 0 +3 4 9 +2 8 2 EXEC
CMD CK – ITEM 25 EXEC (GOOD)

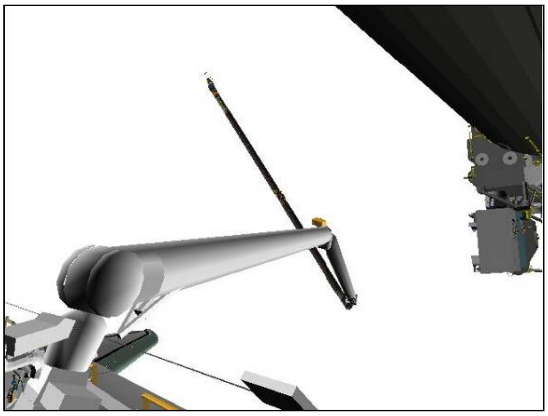
RHC RATE – COARSE (RATE MIN tb-OFF)
MODE – OPR CMD, ENTER (READY lt on)

AUTO SEQ – PROCEED (IN PROG lt on)

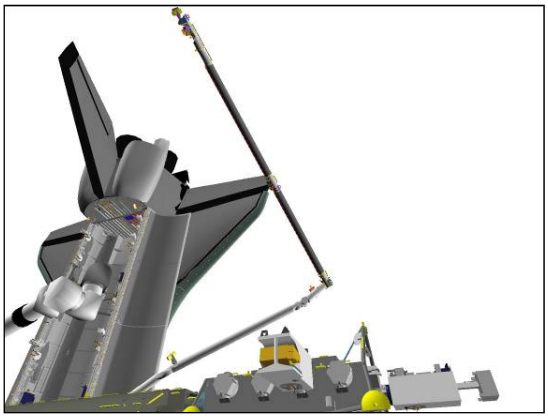
When AUTO SEQ IN PROG lt – off:
BRAKES – ON (tb-ON)

INTERMEDIATE 1 posn: (2:15)

	X	Y	Z	PITCH	YAW	ROLL	PL ID
√	-967	-643	-386	60	349	282	1
	SY	SP	EP	WP	WY	WR	
√	+62.5	+25.2	-23.5	+0.9	-13.1	-21.8	



CCTV A (45,10)



09: P1 LOOB (160,40)

4. MNVR TO UNDOCK POSITION

NOTE

Minimum clearance between SRMS and JEM is 29 inches during manuever. Monitor with Camera A

SM 94 PDRS CONTROL

END POS – ITEM 18 -1 0 4 1 -3 6 2 -6 0 2 EXEC
ATT – ITEM 21 +4 4 +2 7 0 +0 EXEC
CMD CK – ITEM 25 EXEC (GOOD)

BRAKES – OFF (tb-OFF)
MODE – OPR CMD, ENTER (READY lt on)

AUTO SEQ – PROCEED (IN PROG lt on)

When AUTO SEQ IN PROG lt – off:
BRAKES – ON (tb-ON)

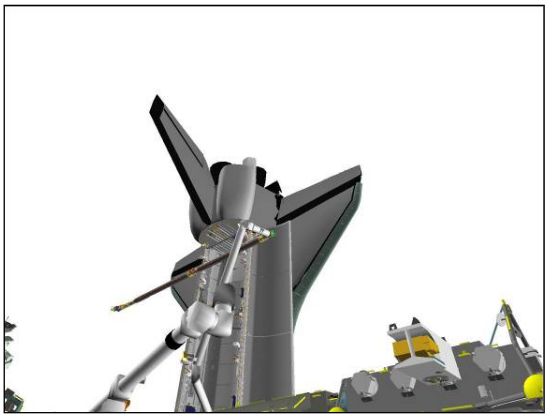
UNDOCK posn: (2:55)

	X	Y	Z	PITCH	YAW	ROLL	PL ID	
√	-1041	-362	-602	44	270	0	1	*
	SY	SP	EP	WP	WY	WR		
√	+25.8	+66.3	-49.0	-85.9	+10.7	-100.2		

*Display singularity

MODE – not DIRECT (lt off)
PARAM – PORT TEMP
JOINT – CRIT TEMP

CCTV A (20,30)



09: P1 LOOB (140,40)

MSG 077 - FD8 Crew Choice Downlink Opportunities

Off-Duty Day of FD8

TDRS	AOS	LOS	Delta (min)	Notes
W-171	6/14:40	6/15:11	31	
E-TDS	6/15:18	6/15:50	32	
W-171	6/16:22	6/16:46	24	
E-TDS	6/16:51	6/17:14	23	
W-171	6/18:08	6/18:25	17	
E-TDS	6/18:27	6/18:40	13	During Meal
W-171	6/19:52	6/20:10	18	
W-171	6/21:26	6/21:49	23	Time overlaps with MS2 ISS OCA PFC

Pre-Sleep Evening of FD8

TDRS	AOS	LOS	Delta (min)	Notes
W-171	7/02:02	7/02:17	15	
E-TDS	7/02:42	7/02:55	13	

We wanted to provide you with a high level overview of the 25S undock and photography operations. If you haven't already seen the animation of these operations, it's on the ISS servers at T:/temp/25S_Photo_Op/.

25S undock is about three hours before the Endeavour crew (and Ron) are scheduled to wake up on FD9. The ISS will mode to Russian Segment attitude control and maneuver to the 25S undock attitude followed by undocking at 08:36 MET. Dima will fly the Soyuz out to 200 meters and hold that position while Paolo takes pictures. ISS will rotate the stack to pose for the pictures with an attitude maneuver that will take about 15 minutes. Once the photography is complete, Soyuz will depart at 09:19 MET and ISS will return the stack to the normal attitude at 09:25 MET. ISS will return to USOS attitude control shortly thereafter. The entire photography operation will occur during a single insolation pass.

25S Undock Event Summary

MET	Activity
007/07:44	Handover from CMG to RS thruster control
007/07:56	ISS maneuvers to 25S undock attitude (~15 min mnvr)
007/08:36	25S undock command (separation is ~3 minutes later)
007/08:42	25S performs manual separation burn (~1 m/s)
007/08:45	25S performs station-keeping burn (180-200 meters from undock port)
007/08:45 - 08:54	Crew preps for photography; opens hatch to orbital module
007/08:54	Photography begins
007/08:59	ISS maneuvers to photo attitude (~15 min mnvr)
007/09:19	25S manual separation burn (~0.73 m/s)
007/09:24	Sunset
007/09:25	ISS maneuvers to the nominal mated attitude
007/10:04	Handover from thruster to CMG control

During these operations (from 007/07:44 – 007/10:04 MET), ergometer use is prohibited due to loads constraints while on RS thrusters. One additional detail, the HHL is not certified for ops on the Soyuz, so please don't use the HHL during the undock and separation operations.

For those who are awake, you'll have an amazing view from Endeavour of the stack with Earth behind it during Soyuz undock and separation, and you'll see Soyuz out any port facing windows at the end of the big maneuver. We thought you might want some helpful photo/TV hints for anyone who does choose to get up early, but of course it is not required.

If you have a clear shot of the ISS with Earth in background, here's what we suggest:

For Daylit Objects:
Camera - D3
Lens - 14-24mm
Exp Mode - P
ISO - 200
Other settings nominal

For Night Shots:
Camera - D3
Lens - 14-24mm
Follow D3s CITY LIGHTS or D3s STARS settings located on page FS 2-40 in (PHOTO/TV, REFERENCED PROCEDURES)