STS-133/ULF5

FD 12 Execute Package

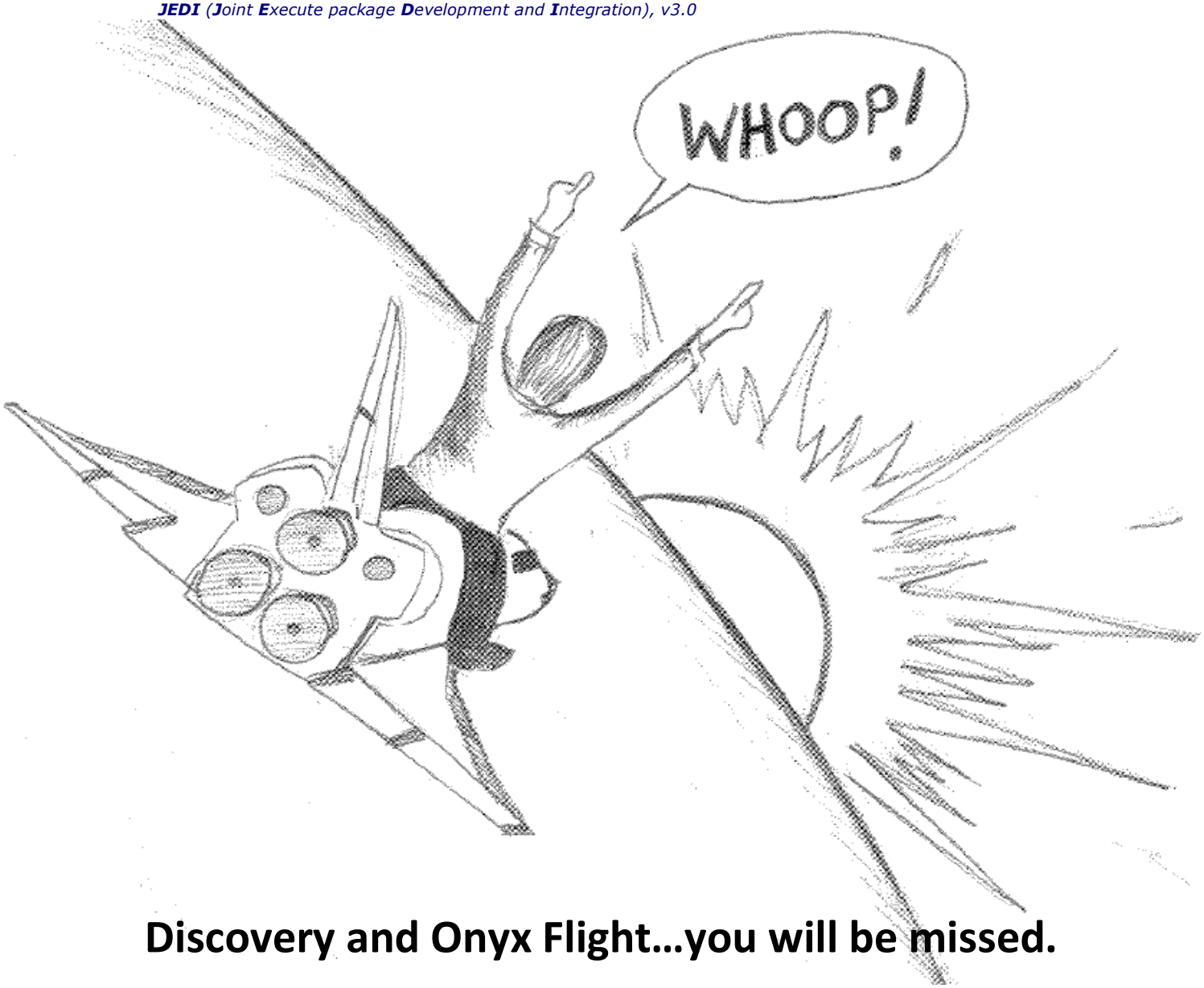
MSG	Page(s)	Title
097	1 - 17	FD12 Flight Plan Revision
098	18 - 19	FD12 Mission Summary
099B	20 - 24	STS-133 RAMBO-2 Procedure
100	25 - 26	Locker and Airlock Soft Stow Layout

Approved by FAO:

Crystal Hyde Crystal H Hyde

Last Updated: Mar 7 2011 6:18 AM GMT

JEDI *(**J**oint **E**xecute package **D**evelopment and **I**ntegration), v3.0*



Discovery and Onyx Flight…you will be missed.

RDER
HOARDERS

MSG INDEX

MSG NO.	TITLE
097	FD12 Flight Plan Revision (26-0983)
098	FD12 Mission Summary
099	STS-133 RAMBO-2 Procedure
100	Locker and Airlock Soft Stow Layout

1. **STS-133/ULF5 FD11 - MMT Summary -** The MMT met briefly today to review the orbiter systems and mission progress. Discovery continues to perform flawlessly and the teams are working no issues. The MMT gave an unanimous go for Undocking. The MMT was thankful for a superb docked mission. The teams went above and beyond expectations. This is a testament of the outstanding teamwork both up on the ISS/Shuttle complex and the ground. Enjoy the view of the Flyaround!.

2. **Comm Loop Overview**

FD12 GENERAL COMMUNICATION LOOP OVERVIEW

S/G 1 & A/G 1	S/G 2	A/G 2
• Undocking ops	• ISS Payloads • Russian Ops • DPC • OGS Maintenance • All other ISS Comm	• All other STS Comm

3. **Simo Dump Details -** Perform SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS), pg. 5-3. MCC will TMBU limits in steps B and K. Do not perform step J.
Supply nozzle open time will be 35 minutes.
Dump the waste tank to 5%. Nozzle open time will be ~40 minutes.

4. **Condensate Teardown -** Perform SHUTTLE CONDENSATE COLLECTION (ORB OPS, ECLS), pg. 5-43, TEARDOWN. Temp stow CWC S/N 5105 and 8' Yellow-Yellow hose on the Middeck for the dump tomorrow. After Step 1 of Condensate Teardown, perform the following switch throws:
L1 Hum Sep B - OFF
A - ON

5. **RAMBO2 -** MSG99 contains an updated procedure and rationale for the 3-burn RAMBO-2 opportunity on FD13. Please review and let us know if you have any questions.

6. Replace pages 2-40 through 2-45 and 3-126 through 3-135.

REPLANNED

GMT 03/06/11 (065) 22 23 03/07 01 02 03 04 05 06 07 08 09

MET Day 010 010/00 01 02 03 04 05 06 07 08 09 10 11 12

FD11

STS-133

CDR **LINDSEY**	♣ PCS ACT PMC A/G PRE SLEEP	SLEEP	POST SLEEP
PLT **BOE**	⊕ PRE SLEEP	SLEEP	LOG POST SLEEP
MS1 **DREW**	PRE SLEEP	SLEEP	LOG POST SLEEP
MS2 **BOWEN**	PRE SLEEP	SLEEP	POST SLEEP
MS3 **BARRATT**	PRE SLEEP	SLEEP	LOG POST SLEEP
MS4 **STOTT**	MDK @ PRE SLEEP	SLEEP	POST SLEEP

STS

DAY/NIGHT

ORBIT 159 160 161 162 163 164 165 166

TDRS W E Z

ISS TDRS AVAIL

ORB ATT BIAS -XLV -ZVV

NOTES

♣ODS LEAK CHECK
⊕ODS LEAK CHECK
@STATUS CHECK

REPLANNED

GMT 03/06/11 (065) 22 23 03/07 01 02 03 04 05 06 07 08 09

MET Day 010 010/00 01 02 03 04 05 06 07 08 09 10 11 12

ISS TDRS AVAIL

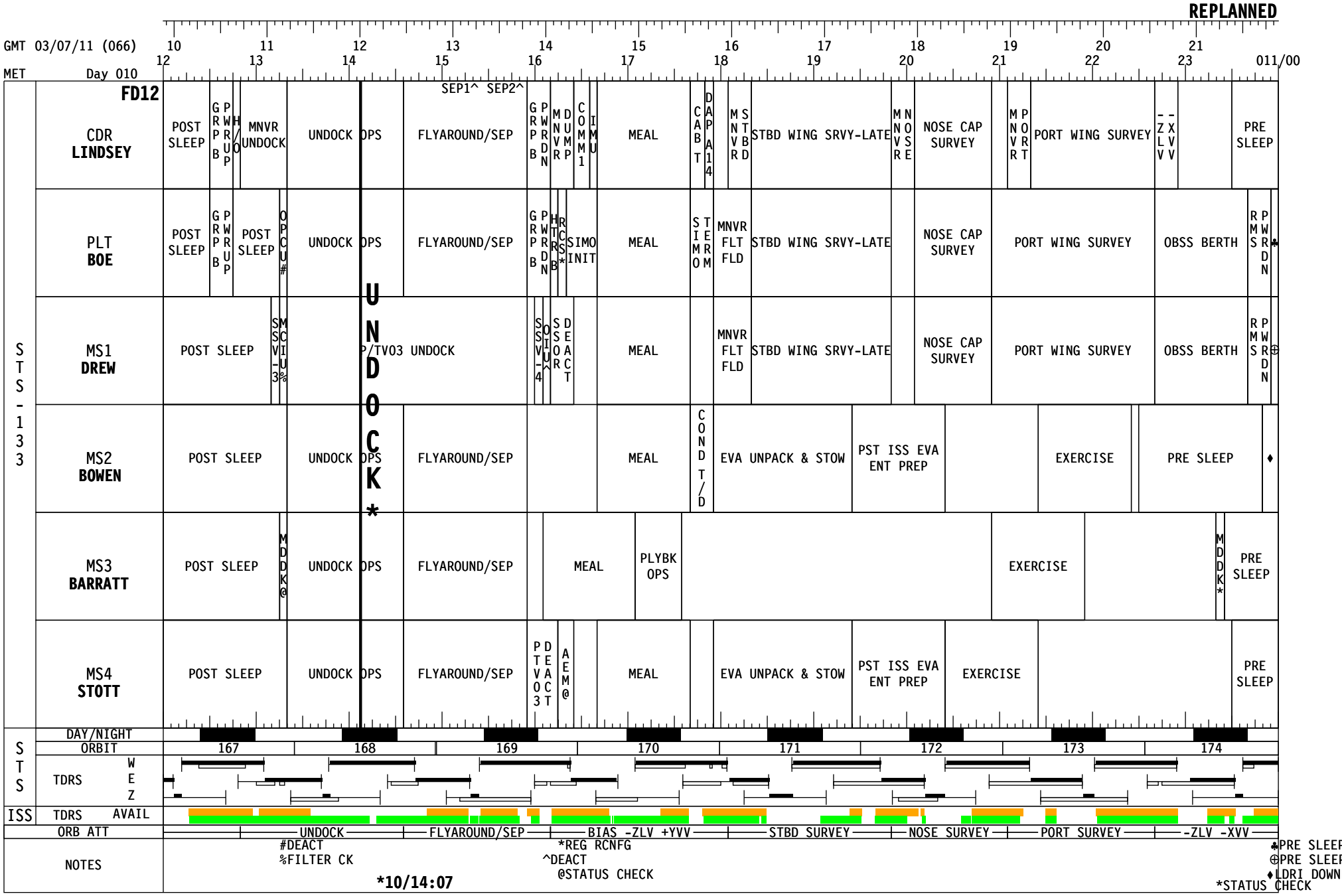
ISS	**FD11** ISS CDR **S. KELLY**	PRE SLEEP-ISS	SLEEP	♣	POST SLEEP
ISS	FE-1 **KALERI**	PRE SLEEP-ISS	SLEEP		POST SLEEP
ISS	FE-2 **SKRIPOCHKA**	PRE SLEEP-ISS	SLEEP		POST SLEEP
ISS	FE-4 **KONDRATYEV**	PRE SLEEP-ISS	SLEEP	⊕ ♦	POST SLEEP
ISS	FE-5 **NESPOLI**	PRE SLEEP-ISS	SLEEP	SHT CLS	POST SLEEP
ISS	FE-6 **COLEMAN**	PRE SLEEP-ISS	SLEEP	®	POST SLEEP

DAY/NIGHT								
ORBIT	159	160	161	162	163	164	165	166
ALL VHF								

NOTES

♣SLEEP-LOG-ENTRY_CDR
⊕СОГС-ЭЛКТ-АФ-БЖ-MON
♦СОГС-БМП-Ф1-MNT-INIT
®BISP-PILL-INGEST_FE6

3


REPLANNED
GMT 03/07/11 (066)
MET Day 010
10 11 12 13 14 15 16 17 18 19 20 21
12 13 14 15 16 17 18 19 20 21 22 23 011/00
FD12
STS-133
CDR LINDSEY
POST SLEEP
GRPB
PWRUP
H/O
MNVR UNDOCK
UNDOCK OPS
SEP1^ SEP2^
FLYAROUND/SEP
GRPB
PWRDN
MNVR
DUMP
COMM1
IMU
MEAL
CAB T
DAP A14
MNVR
STBD
STBD WING SRVY-LATE
MNVR
NOSE
NOSE CAP SURVEY
MNVR
PORT
PORT WING SURVEY
-ZLV
-XVV
PRE SLEEP
PLT BOE
POST SLEEP
GRPB
PWRUP
POST SLEEP
OPCU#
UNDOCK OPS
FLYAROUND/SEP
GRPB
PWRDN
HTRB
RCS*
SIMO INIT
MEAL
SIMO
TERM
MNVR FLT FLD
STBD WING SRVY-LATE
NOSE CAP SURVEY
PORT WING SURVEY
OBSS BERTH
RMS
PWRDN
♣
MS1 DREW
POST SLEEP
SSV-3
MCIU%
UNDOCK
P/TV03 UNDOCK
SSV-4
OIU^
SSOR
DEACT
MEAL
MNVR FLT FLD
STBD WING SRVY-LATE
NOSE CAP SURVEY
PORT WING SURVEY
OBSS BERTH
RMS
PWRDN
⊕
MS2 BOWEN
POST SLEEP
UNDOCK OPS
FLYAROUND/SEP
MEAL
COND T/D
EVA UNPACK & STOW
PST ISS EVA ENT PREP
EXERCISE
PRE SLEEP
♦
MS3 BARRATT
POST SLEEP
MDDK@
UNDOCK OPS
FLYAROUND/SEP
MEAL
PLYBK OPS
EXERCISE
MDDK*
PRE SLEEP
MS4 STOTT
POST SLEEP
UNDOCK OPS
FLYAROUND/SEP
PTV03
DEACT
AEM@
MEAL
EVA UNPACK & STOW
PST ISS EVA ENT PREP
EXERCISE
PRE SLEEP
STS
DAY/NIGHT
ORBIT
167 168 169 170 171 172 173 174
TDRS
W
E
Z
ISS
TDRS AVAIL
ORB ATT
UNDOCK
FLYAROUND/SEP
BIAS -ZLV +YVV
STBD SURVEY
NOSE SURVEY
PORT SURVEY
-ZLV -XVV
NOTES
#DEACT
%FILTER CK
*REG RCNFG
^DEACT
@STATUS CHECK
*10/14:07
♣PRE SLEEP
⊕PRE SLEEP
♦LDRI DOWN
*STATUS CHECK

REPLANNED

GMT 03/07/11 (066) — 10 11 12 13 14 15 16 17 18 19 20 21 — 011/00

MET Day 010 — 12 13 14 15 16 17 18 19 20 21 22 23

ISS TDRS AVAIL — SEP1^

| | | |

REPLANNED

GMT 03/07/11 (066) 22 23 03/08 01 02 03 04 05 06 07 08 09

MET Day 011 011/00 01 02 03 04 05 06 07 08 09 10 11 12

FD12

STS-133						
CDR **LINDSEY**	PRE SLEEP	PMC A/G	PRE SLEEP	SLEEP		POST SLEEP
PLT **BOE**	PRE SLEEP			SLEEP	LOG	POST SLEEP
MS1 **DREW**	PRE SLEEP			SLEEP	LOG	POST SLEEP
MS2 **BOWEN**	LDRI DOWNLINK		PRE SLEEP	SLEEP		POST SLEEP
MS3 **BARRATT**	PRE SLEEP	OCA@	PRE SLEEP	SLEEP	LOG	POST SLEEP
MS4 **STOTT**	PRE SLEEP			SLEEP		POST SLEEP

STS		
DAY/NIGHT		
ORBIT		175 176 177 178 179 180 181 182
TDRS	W	
	E	
	Z	
ISS TDRS AVAIL		
ORB ATT		-ZLV -XVV
NOTES		@RATE RECONFIG

REPLANNED

GMT 03/07/11 (066) 22 23 03/08 01 02 03 04 05 06 07 08 09

MET Day 011 011/00 01 02 03 04 05 06 07 08 09 10 11 12

ISS TDRS AVAIL

		FD12	
ISS	ISS CDR **S. KELLY**	SLEEP	
ISS	FE-1 **KALERI**	SLEEP	
ISS	FE-2 **SKRIPOCHKA**	SLEEP	
ISS	FE-4 **KONDRATYEV**	SLEEP	
ISS	FE-5 **NESPOLI**	SLEEP	
ISS	FE-6 **COLEMAN**	SLEEP	

DAY/NIGHT

ORBIT: 175 176 177 178 179 180 181 182

ALL VHF

NOTES

STS-133 FD (12)

REPLANNED

GMT Date 03/07 (066) | W | T D R S E | Z | D/N | O R B | MET Day 010 | STS ATI

CDR **LINDSEY** | PLT **BOE** | MS1 **DREW** | NOTES

06:00 — 07:00 — 08:00 — 09:00 — 10:00 — 11:00 — 12:00

ORB: 164, 165, 166

STS ATI: BIAS-XLV-ZVV

SLEEP (CDR LINDSEY)

SLEEP (PLT BOE)

SLEEP (MS1 DREW)

FD12 EZ ACTIVITIES:
OCAC Filter Inspection
TEPC (STATUS CHECK)
(ORB OPS, CREW SYSTEMS)
Hard reboot all PGSCs not shut down overnight, except: STS1 (OCA ROUTER), STS5 (RPOP2) and STS6 (WLES)

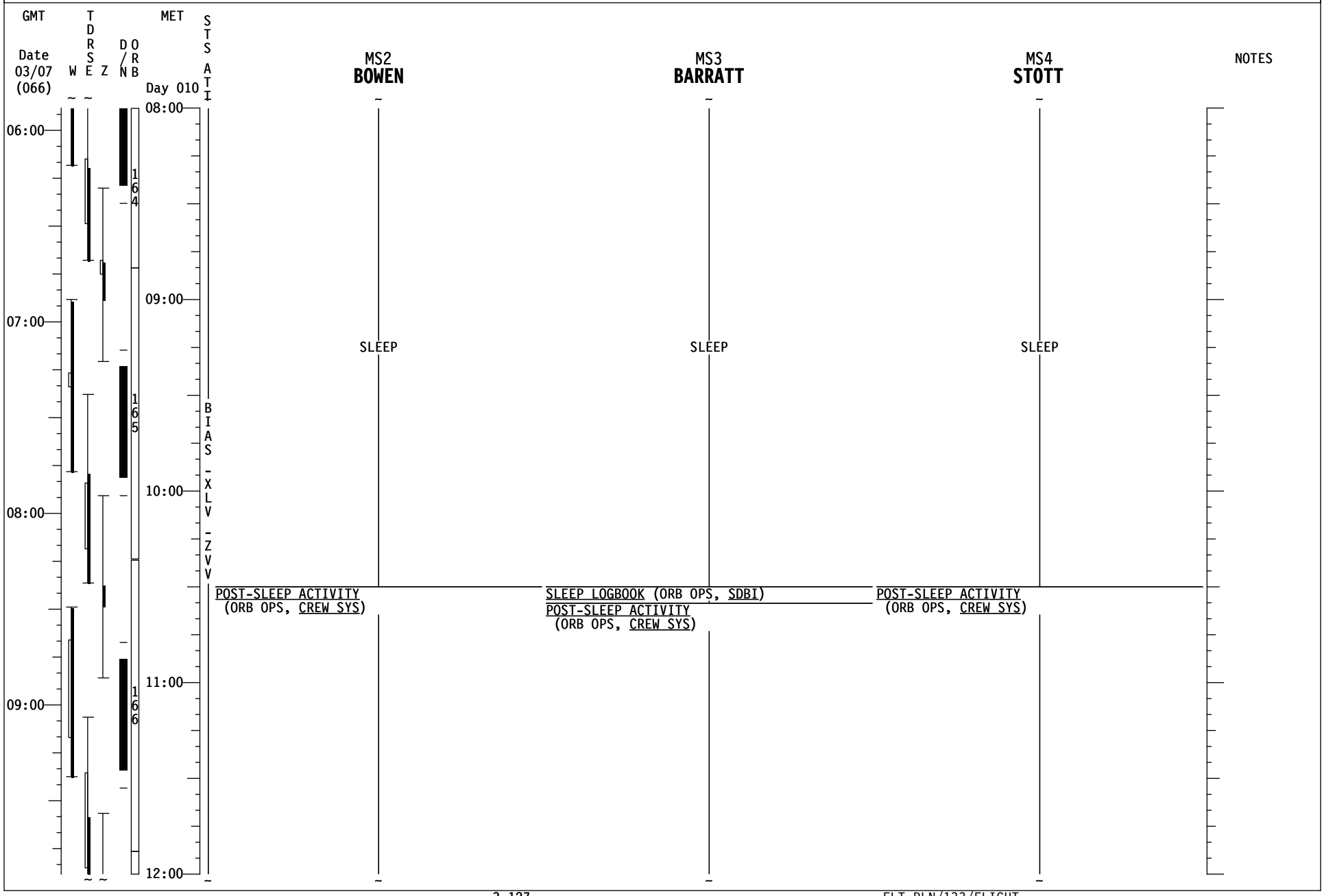
POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

SLEEP LOGBOOK (ORB OPS, SDBI)
POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

SLEEP LOGBOOK (ORB OPS, SDBI)
POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

STS-133 FD (12)

REPLANNED



STS-133 FD (12)

REPLANNED

GMT Date 03/07 (066) | W | TDRSE | Z | D/N | ORB | MET Day 010 | STS ATI

10:00 11:00 12:00 13:00

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

167 168 169

CDR LINDSEY

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

√MCC for Cryo Config
O6 S Trk PWR-Z - ON
PRIORITY PWRUP GRP B (ORB PKT, PRIOR PWRDN)
Step 12(Recover IMU3),
6(TripleG2,Remain FREE DRIFT)

H/O ATTITUDE CONTROL CMG TA TO ORB [A]
MNVR (TRK) UNDOCK
TG=2 BV=5 P=180 Y=0 OM=0
A12/AUTO/VERN, Init TRK

UNDOCKING AND SEPARATION
(RNDZ, UNDOCK/SEP T/L)

UNDOCK

[A] √A12/FREE/VERN
When ISS in Free Drift, DAP:LVLH
When Jet activity stopped for >5 sec,
DAP:FREE > 2 sec, then DAP:AUTO

UNDOCKING (14:07)

SEP/FLYAROUND
FLYAROUND
SEP BURNS
TERMINATE SEP OPS
(RNDZ, UNDOCK/SEP T/L)

FLYAROUND/SEP

< SEP1 TIG (15:22)

[C] Steps 5,6(Single G2),9, & 12
(In Step 12, IMU 3 STBY - ITEM 23 EXEC)

@10/16:00: √MCC for Cryo Config

< SEP2 TIG (15:50)

PRIORITY PWRDN GRP B(ORB PKT,PRIOR PWRDN) [C]

PLT BOE

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

O6 S Trk PWR-Z - ON
PRIORITY PWRUP GRP B (ORB PKT, PRIOR PWRDN)
Step 12(Recover IMU3),
6(TripleG2,Remain FREE DRIFT)

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

SSPTS OPCU DEACT [B]
UNDOCKING AND SEPARATION
(RNDZ, UNDOCK/SEP T/L)

[B] On MCC GO:
A15 OPCU 1,2 CONV(two) - OFF
R1 MN BUS TIE B - OFF(tb-OFF)
C - OFF(tb-OFF)

UNDOCKING

SEP/FLYAROUND
FLYAROUND
SEP BURNS
TERMINATE SEP OPS
(RNDZ, UNDOCK/SEP T/L)

PRIORITY PWRDN GRP B(ORB PKT,PRIOR PWRDN) [C]

MS1 DREW

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

SSV OUTRATE - 3
L17 Check MCIU filter screen
P/TV03 UNDOCK
(PHOTO/TV, SCENES)
Ops

NOTES

UPDATE
TFL 192

UPDATE
β21+MASK
Box 1,2,4

UPDATE
β21+MASK

STS-133 FD (12)

REPLANNED

GMT Date 03/07 (066) | W | TDRSE | Z | D/N | ORB | MET Day 010 | STS ATI

10:00 11:00 12:00 13:00

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

167 168 169

UNDOCK

FLYAROUND/SEP

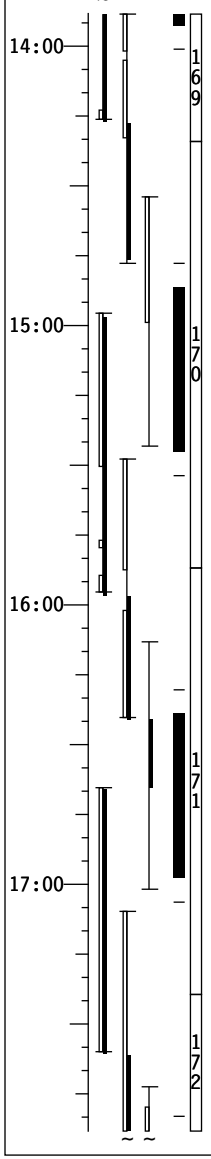
MS2 BOWEN	MS3 BARRATT	MS4 STOTT	NOTES
POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
UNDOCKING AND SEPARATION (RNDZ, UNDOCK/SEP T/L)	GLACIER STATUS CK (Cue Card) - Both Units UNDOCKING AND SEPARATION (RNDZ, UNDOCK/SEP T/L)	UNDOCKING AND SEPARATION (RNDZ, UNDOCK/SEP T/L)	
UNDOCKING (14:07)	UNDOCKING		
SEP/FLYAROUND FLYAROUND SEP BURNS TERMINATE SEP OPS (RNDZ, UNDOCK/SEP T/L)	SEP/FLYAROUND FLYAROUND SEP BURNS TERMINATE SEP OPS (RNDZ, UNDOCK/SEP T/L)	SEP/FLYAROUND FLYAROUND SEP BURNS TERMINATE SEP OPS (RNDZ, UNDOCK/SEP T/L)	
< SEP1 TIG (15:22)			
< SEP2 TIG (15:50)			
		P/TV03 UNDOCK (PHOTO/TV, SCENES) Perform DEACTIVATION	

FLT PLN/133/FLIGHT

STS-133 FD (12)

REPLANNED

GMT Date 03/07 (066) | W | TDRSE | Z | D/N | ORB | MET Day 010 | STS ATI



MET	CDR LINDSEY	PLT BOE	MS1 DREW	NOTES
16:00	PRIORITY PWRDN GRP B See pg 3-128	PRIORITY PWRDN GRP B See pg 3-128	SSV OUTRATE - 4 SSP1 OIU PWR - OFF (tb-bp) Expect 'S62 BCE BYP PSP1' message JOINT OPS: 6.106 SSOR DEACTIVATION	UPDATE TFL 188
	MNVR (TRK) BIAS -ZLV +YVV (Dump) TG=2 BV=3 OM=230 A1/AUTO/VERN	HEATER RECONFIG-CONFIG B (ORB OPS, EPS) RCS REGULATOR RECONFIG (ORB OPS, RCS)		
	COMM STRING 1 C/O (PART A) (ORB OPS, COMM/INST)	SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) Initiate Supply/Waste Dump Ref. MSG 097, Item 3		
	IMU STAR OF OPPTY ALIGN (ORB OPS, GNC)			
17:00	MEAL	MEAL	MEAL	
	CABIN TEMP CONTROLLER RECNFG 2(1) (ORB OPS, ECLS) DAP: A14/AUTO/VERN	SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) Terminate Supply/Waste Dump		
18:00		OBSS MNVR TO FLAT FIELD (PDRS, OBSS NOMINAL)	OBSS MNVR TO FLAT FIELD (PDRS, OBSS NOMINAL)	
	MNVR (TRK) BIAS +YSI (Stbd Survey) TG=4 BV=5 P=0 Y=40 OM=300 A14/AUTO/VERN Init TRK			
	OBSS LDRI RCC SURVEY - STBD (PDRS, OBSS OPS)	OBSS LDRI RCC SURVEY - STBD (PDRS, OBSS OPS)	OBSS LDRI RCC SURVEY - STBD (PDRS, OBSS OPS)	
19:00				
20:00	MNVR (TRK) BIAS +XSI (Nose Cap Survey) TG=4 BV=5 P=330 Y=0 OM=345 A14/AUTO/VERN,RCC SRVY-STBD cmplt,Init TRK			

BIAS -ZLV +YVV

STBD SURVEY

STS-133 FD (12)

REPLANNED

GMT Date 03/07 (066) | W | TDRSE | Z | D/N | ORB | MET Day 010 | STS ATI

14:00 | 15:00 | 16:00 | 17:00

169 | 170 | 171 | 172

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

BIAS - ZLV + YVV

STBD SURVEY

MS2 BOWEN

MEAL

SHUTTLE CONDENSATE COLLECTION (ORB OPS, ECLS)
Perform TEARDOWN
Ref. MSG 097, Item 4

EVA UNPACK AND STOW
(EVA, AIRLOCK CONFIG)

POST ISS EVA ENT PREP
(EVA, POST EVA ENT PREP)

MS3 BARRATT

MEAL

DIGITAL VIA VTR (CUE CARD, DIGITAL PLAYBACK)
Undocking
KU TDRW (17:05-17:37)

MS4 STOTT

P/TV03 UNDOCK (PHOTO/TV, SCENES)
Perform DEACTIVATION

AEM CHECK (CUE CARD)

MEAL

EVA UNPACK AND STOW
(EVA, AIRLOCK CONFIG)

POST ISS EVA ENT PREP
(EVA, POST EVA ENT PREP)

NOTES

STS-133 FD (12)

REPLANNED

GMT Date 03/07 (066) | W | TDRS E | Z | D/N | ORB | MET Day 010 | STS ATI

CDR **LINDSEY**	PLT **BOE**	MS1 **DREW**	NOTES
MNVR (TRK) BIAS +XSI (Nose Cap Survey) See 3-130 OBSS LDRI RCC SURVEY-NOSE CAP (PDRS, OBSS OPS)	OBSS LDRI RCC SURVEY-NOSE CAP (PDRS, OBSS OPS)	OBSS LDRI RCC SURVEY-NOSE CAP (PDRS, OBSS OPS)	
NOSE SURVEY			
	OBSS LDRI RCC SURVEY-PORT (PDRS, OBSS OPS)	OBSS LDRI RCC SURVEY-PORT (PDRS, OBSS OPS)	
MNVR TRK BIAS -YSI (Port Survey) TG=4 BV=5 P=0 Y=323 OM=330 A14/AUTO/VERN,RCC SRVY-PORT Step 3 cmplt,Init TRK OBSS LDRI RCC SURVEY-PORT (PDRS, OBSS OPS)			
PORT SURVEY			
MNVR (TRK) -ZLV -XVV TG=2 BV=3 OM=0 A14/AUTO/VERN,RCC SRVY-PORT Step 13, Init TRK	OBSS BERTH (PDRS, OBSS OPS)	OBSS BERTH (PDRS, OBSS OPS)	
-ZLV -XVV			
PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) √Hum Sep for H2O Accumulation	RMS PWRDN (PDRS, RMS PWRDN)	RMS PWRDN (PDRS, RMS PWRDN)	
	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	

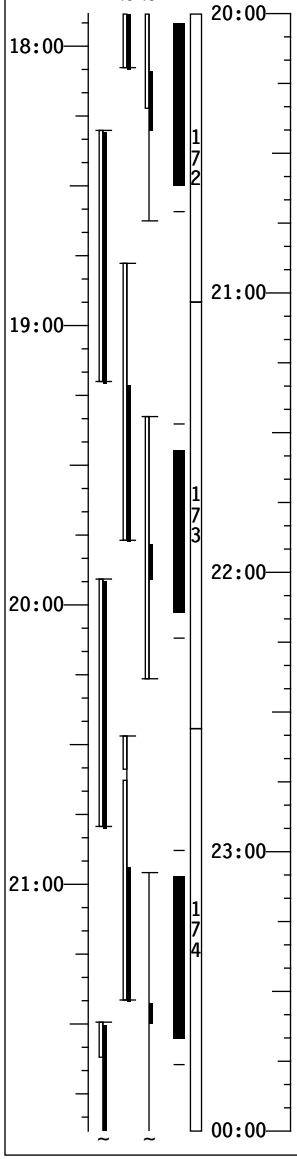
Time axis: 18:00, 19:00, 20:00, 21:00; MET 20:00, 21:00, 22:00, 23:00, 00:00

ORB: 172, 173, 174

STS-133 FD (12)

REPLANNED

GMT Date 03/07 (066) | W | TDRSE | Z | D/N | ORB | MET Day 010 | STS ATI



NOSE SURVEY

PORT SURVEY

-ZLV -XVV

MS2 **BOWEN**	MS3 **BARRATT**	MS4 **STOTT**	NOTES
POST ISS EVA ENT PREP (EVA, POST EVA ENT PREP)		POST ISS EVA ENT PREP (EVA, POST EVA ENT PREP)	
		EXERCISE	
	EXERCISE		
EXERCISE			
PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
	GLACIER STATUS CK (Cue Card) - Both Units PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
DIGITAL VIA VTR (CUE CARD,DIGITAL PLAYBACK) LDRI SURVEYS, See 3-135 for KU Time			

STS-133 FD (12)

REPLANNED

GMT Date 03/07 (066) | W | TDRS E | Z | D/N | ORB | MET Day 011 | STS ATI

CDR **LINDSEY** | PLT **BOE** | MS1 **DREW** | NOTES

22:00 | 23:00 | 00:00 | 01:00 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00

175 | 176 | 177

-ZLV-XVV

CDR LINDSEY

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

O6 √UHF MODE - OFF
L9 PAYLOAD STATION A/G (two) - OFF
PRIVATE MEDICAL CONFERENCE via A/G2

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

SLEEP

PLT BOE

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

SLEEP

MS1 DREW

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

SLEEP

CREW WAKE @ 11/10:30

STS-133 FD (12)

REPLANNED

GMT Date 03/07 (066) | W | TDRS E | Z | D/N | ORB | MET Day 011 | STS ATI

MS2 **BOWEN** | MS3 **BARRATT** | MS4 **STOTT** | NOTES

22:00 | 23:00 | 00:00 | 01:00

175 | 176 | 177

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

-ZLV-XVV

MS2 BOWEN

DIGITAL VIA VTR (CUE CARD, DIGITAL PLAYBACK)
LDRI SURVEYS
KU TDRW (23:37-23:44)
(00:02-00:29)
KU TDRE (00:40-01:07)

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

SLEEP

MS3 BARRATT

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

RECONFIGURE OCA RATE D
PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

D After LDRI PLAYBACK Complete:
L10(MUX) √MUX/VTR/CC PWR - ON (LED ON)
RECONFIGURE OCA DOWNLINK RATE
(ORB OPS, PGSC) Perform Part C
Omit Step 4

SLEEP

MS4 STOTT

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

SLEEP

CREW WAKE @ 11/10:30

Good Morning Discovery!!!

Thanks for a SUPER docked mission!!!! What a perfect mission for Discovery and, of course, her crew!!!!

Happy undocking day!!!!!

YOUR CURRENT ORBIT IS: 195 X 185 NM

NOTAMS - (ONE CHANGE - DELETED LAJ)

EDW -	EDW 22L/04R IN USE. EDT 22R/04L EMERGENCY DAY USE ONLY.
EDW -	LAKEBED RWYS RED.
NOR -	LAKEBED RWYS GREEN.
ZZA -	NOT USABLE. UNDER CONSTRUCTION.
MRN -	MRN20 ALS OTS.
BEN -	NOT USABLE. NOT SUPPORTED.
NTU -	RWY 05R/23L CLSD.
WAL -	TACAN SBY49 DME ONLY.
YYT -	TACAN UYT23 DME ONLY.
YQX -	TACAN YQX74 DME ONLY.
FFA -	NOT USABLE. IN CARETAKER STATUS.
ESN -	DME BAG78 OTS.
IKF -	NOT USABLE. NO AGREEMENT

<u>NEXT 2 PLS OPPORTUNITIES:</u>

KSC33	ORB171 – 10/18:49	SCT020 SCT200	7	020/09P14
EDW04	ORB188 – 11/20:45	SCT250	7	040/09P13

OMS TANK FAIL CAPABILITY:

L or R OMS FAILS: NO

LEAKING OMS PRPLT BURN:

L or R OMS LEAK: ALWAYS BURN RETROGRADE

OMS QUANTITIES(%)

L OMS OX = 35.15 R OMS OX = 34.46
FU = 34.77 FU = 34.48

FOR CURRENT QTYS, SUBTRACT INCN'T COUNTER

DELTA V AVAILABLE:

OMS	360 FPS
ARCS (TOTAL ABOVE QTY1)	33 FPS
TOTAL IN THE AFT	393 FPS
ARCS (TOTAL ABOVE QTY2)	66 FPS
FRCS (ABOVE QTY 1)	11 FPS
AFT QTY 1	74 %
AFT QTY 2	37 %

There are no Failure/Impact/Work Arounds for Today.

We are excited that we have a RAMBO-2 opportunity the morning of FD13. However, this opportunity has a predicted duration of 5:36 which is shorter than we were expecting pre-flight for windows in which all three burns would be requested. In order to try to get the WAKE, RAM and OOP burns all executed in this window we have modified the procedure in the ORB OPS FS in the following ways:

1. The second and third burns in the sequence (RAM and OOP) no longer need to occur at a specified TIG. The first burn (WAKE) will occur at a specified MET but as soon as you are ready to execute the second and third burns we would like you to do so keeping in mind the 20 second wait periods called out in the procedure.

2. We have increased the manevuer rate from 1 deg/sec to 1.25 deg/sec.

3. To help simplify the execution, we have written the STS-133 Flight Specific solution (WAKE then RAM then OOP) directly into the procedure. Thus, the procedure no longer has a "do loop" as the exact steps for this opportunity are written out explicitly in a serial fashion.

The revised procedure begins on the next page of this message.

NOTE

This procedure completes a WAKE, RAM and Out-of-Plane burn in that order, in the following observation window:

MET WINDOW OPEN: 011/14:30:31

MET WINDOW CLOSE: 011/14:36:07

WINDOW DURATION: 5:36

Count-up pacing times from window open, prefaced with a "~", are provided to enhance time awareness as the crew works through the procedure and will ensure completion of all burns within the window. If the maneuver in Step 8 has not been initiated by the No Later Than (NLT) time provided, the crew can proceed to Step 10.

-15:00 or earlier

1. MANEUVER TO WAKE BURN ATTITUDE

GNC 20 DAP CONFIG

√DAP A1, B1 loaded

UNIV PTG

TGT ID – ITEM 8 +2 EXEC
BODY VECT – ITEM 14 +5 EXEC
P – ITEM 15 + 220 EXEC
Y – ITEM 16 +0 EXEC
OM – ITEM 17 +0 EXEC

DAP: A/AUTO/VERN(ALT)
TRK – ITEM 19 EXEC (CUR - *)

2. INITIATE TIMER

GNC 2 TIME

Set count down/count up timer for the WINDOW OPEN time

√MET – ITEM 2 EXEC (*)
CRT TIMER COUNT TO – ITEM 17 +1 4+3 0+3 1 EXEC

3. SETUP

O14:E, O15:E — cb DDU L (two) – cl

O14:F, O15:F, O16:F — Pri RJD LOGIC,DRIVER (sixteen) – ON

GNC 20 DAP CONFIG

DAP B PRI ROT RATE – ITEM 30 +1 . 2 5 EXEC
ATT DB – ITEM 31 + 5 EXEC
P OPTION – ITEM 35 EXEC (NOSE)
Y OPTION – ITEM 36 EXEC (NOSE)

DAP TRANS: NORM/PULSE/PULSE

4. VERIFY WAKE BURN ATTITUDE

-01:00 Verify in attitude

F6 FLT CNTLR PWR – ON

-00:20 DAP: B/AUTO/PRI

5. WAKE BURN

0:00 THC +X (in) for 10 seconds

FLT CNTLR PWR – OFF

Wait 20 seconds before executing the next maneuver

6. RAM BURN MANEUVER

UNIV PTG

P – ITEM 15 +120 EXEC
Y – ITEM 16 +0 EXEC
OM – ITEM 17 +0 EXEC

DAP: B/AUTO/ALT

~00:35 TRK – ITEM 19 EXEC (CUR - *)

When in attitude with rates <0.2 deg/sec and if VRCS available:
DAP: B/VERN

When rates stable:
DAP: B/PRI

Wait 20 seconds before THC inputs

7. RAM BURN

F6 FLT CNTLR PWR – ON

~02:45 THC +X (in) for 10 seconds

F6 FLT CNTLR PWR – OFF

Wait 20 seconds before executing the next maneuver.

8. OOP BURN MANEUVER

UNIV PTG

P – ITEM 15 +80 EXEC
Y – ITEM 16 +0 EXEC
OM – ITEM 17 +90 EXEC

DAP: B/AUTO/ALT
~03:15 (NLT 03:45) TRK – ITEM 19 EXEC (CUR - *)

When in attitude with rates <0.2 deg/sec and if VRCS available:
DAP: B/VERN

When rates stable:
DAP: B/PRI

Wait at least 20 seconds before THC inputs

9. OOP BURN

F6 FLT CNTLR PWR – ON

~05:10 THC +X (in) for 10 seconds

F6 FLT CNTLR PWR – OFF

10. CLEANUP

Wait 20 seconds before returning to VERN(ALT) below or executing a maneuver

GNC 20 DAP CONFIG
DAP B1 – ITEM 2 +1 EXEC

DAP TRANS: PULSE/PULSE/PULSE
DAP: A/VERN(ALT)

Return to FLT PLN attitude

11. <u>RECONFIGURE TO GROUP B POWERDOWN</u>

√MCC

O14:E, O15:E — cb DDU L (two) – op

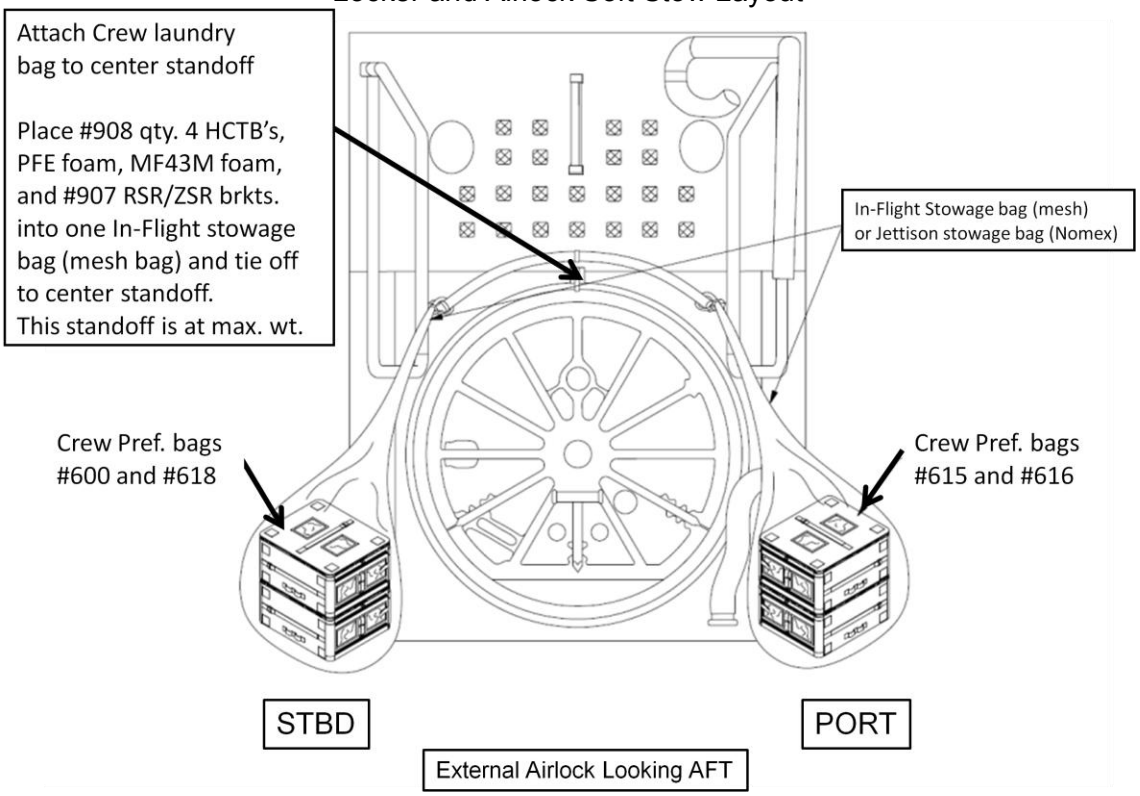
O14:F, O15:F, O16:F — Pri RJD LOGIC,DRIVER (sixteen) – OFF
RJDA 1A L2/R2 MANF DRIVER – ON

MSG 100 - LOCKER AND AIRLOCK SOFT STOW LAYOUT

Good morning STS-133 Flight Crew,
The following pages contain the latest Return Modular Locker Layout along with an updated Ext. A/L soft stow layout. Any necessary updates will be submitted via another message. Please let us know if you have any questions or comments.

-The STS-133 Middeck Stowage Team

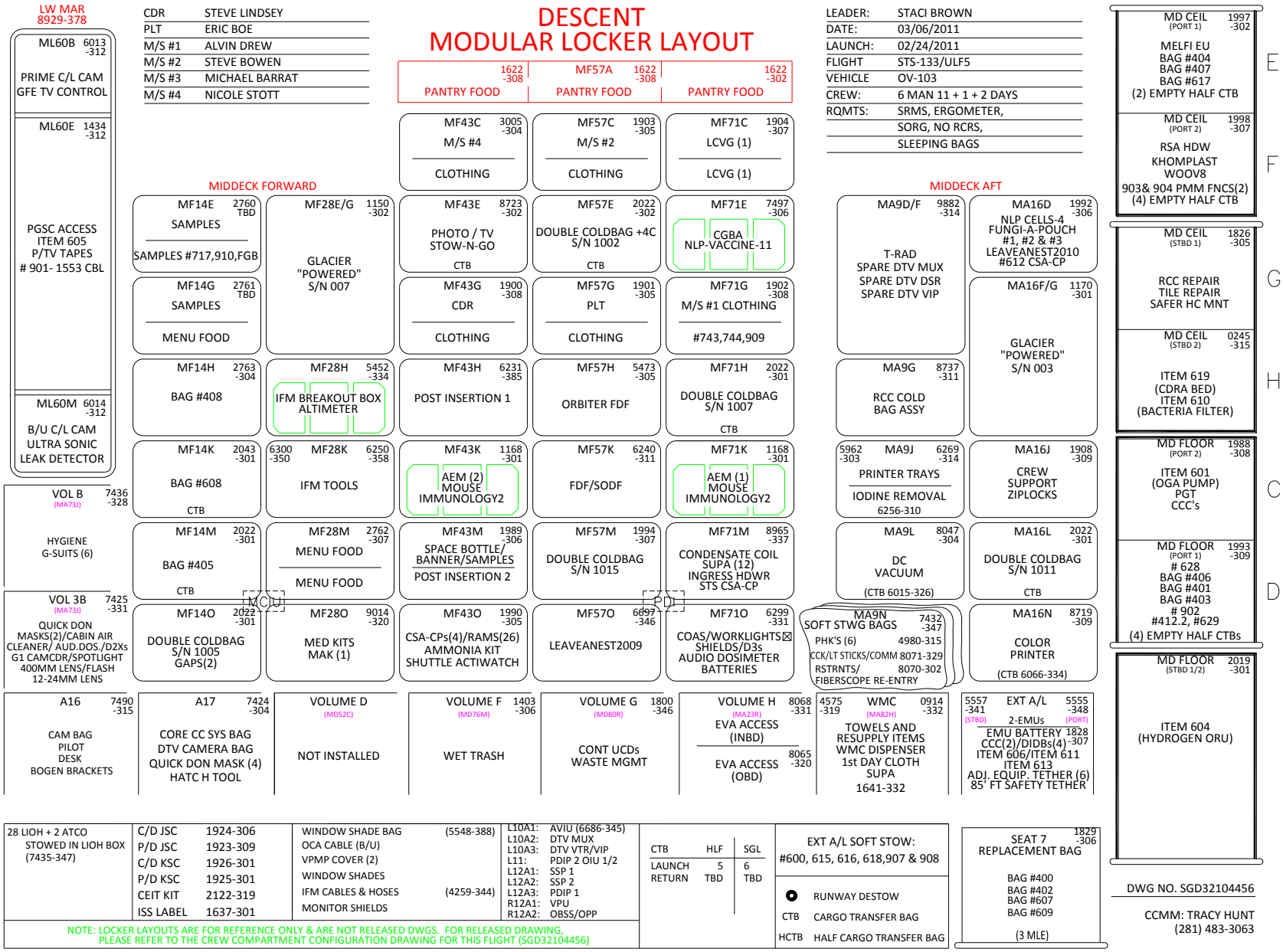
Locker and Airlock Soft Stow Layout



External Airlock (Soft Stow): Tie off mesh bag/Jettison stowage bags to hand rail standoffs and restrain to floor as trained. In-flight stowage bags (mesh bags) may be substituted for the Jettison stowage bags (Nomex).
Note: Assigned handrail standoffs are at their mass limit with this configuration.

END OF PAGE 1 OF 2, MSG 100

MSG 100 - LOCKER AND AIRLOCK SOFT STOW LAYOUT



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END OF PAGE 2 OF 2, MSG 100