STS-124 / 1J

FD 13 Execute Package

MSG	Page(s)	Title
108	1 - 15	FD13 Flight Plan Revision **(pdf)**
109	16 - 17	FD13 Mission Summary **(pdf)**
110	18 - 22	Water Dump Still Photo Procedure **(pdf)**
111	---	FD13 PAO Event Summary - ESPN / ABC News **(pdf - Electronic Only)**

Approved by FAO: *F. Fisher Reynolds III*

Last Updated: Jun 12 2008 4:48AM GMT
JEDI *(**J**oint **E**xecute package **D**evelopment and **I**ntegration), v2.04.0003*

MSG INDEX

MSG NO.	TITLE
108	FD13 Flight Plan Revision
109	FD13 Mission Summary
110	Water Dump Still Photo Procedure
111	FD13 PAO Event Summary – ESPN / ABC News

1. Post Sleep Cryo Config

For today's cryo config, O2 and H2 tanks 5 are active. H2 tank 5 is expected to deplete during the day. In addition, O2 tank 5 may deplete at the end of the day.

R1 O2, H2 MANF VLV TK1 (two) - OP (tb-OP)

A11 CRYO TK4 HTRS H2 A,B (two) – OFF

A15 CRYO TK5 HTRS H2 A,B (two) - AUTO

2. FD12 MMT Summary

The MMT met briefly to review the vehicle status and everything continues to look great. The team enjoyed the beautiful views of ISS during the fly-around including those of the new Kibo module. Inspection was on-going during the MMT and video analysis has begun. Tomorrow the MMT will receive a preliminary status of the inspection results as well as the entry plan provided by Flight Director Richard Jones.

3. Water Dump Photo Words

Garrett, regarding the photos during the FD 13 water dump at ~MET 11/22:00 (GMT 164/19:05), MSG 110 has been uplinked to provide instruction on how to take the photographs. The purpose is to characterize vented ice particles for impact to spacecraft in lower orbits: sublimation rates, bubble characteristics, surface characteristics, and orbital decay rates. If you have time, you will be supporting Objective 2 which is Part II of the message.

Objective 2 requires one crewmember, a 28-70 mm lens, and photography of water dump particles (highly resolved close up photos) during sunlight. Targets are slow moving particles (popcorn) within a few feet of the windows.

4. Simo Dump Details

Following OBSS BERTH at ~MET 11/22:00, perform a simo dump using SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) p. 5-2. MCC will TMBU FDA in steps B and K.

Dump the waste tank to 5%. Waste dump nozzle open time will be ~25 minutes.

Supply dump nozzle open time will be 30 minutes.

5. Pen and Ink Changes for Pre-Sleep and Post-Sleep

Make the following pen and ink changes to the Pre and Post Sleep checklists for the remainder of the mission:

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) pg 3-4.
Insert the following switch throw after MIDDECK ACTIVITY LIST Step 1.

1.1 MO10W O2 REG INLET SYS 2 vlv –CL

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) pg 3-7.
Insert the following switch throw after MIDDECK ACTIVITY LIST Step 4.

4.1 MO10W O2 REG INLET SYS 2 vlv -OP

6. Outlook Files

Your Outlook mail is growing and is getting to be more difficult to uplink. Please move all e-mails from your **Sent Items**, **Inbox**, and **Work Related** (**uplinked by CAPCOM**) to your Personal (PST) folders. This will help expedite Mail Synch uplinks with our limited Shuttle bandwidth.

7. REPLACE PAGES 2-44, 2-46, 2-47 and 3-138 THROUGH 3-147.

06/11/08 23:03:15 **REPLANNED**

GMT 06/11/08 (163) 011/00 22 01 23 02 06/12 03 01 04 02 05 03 06 04 07 05 08 06 09 07 10 08 11 09 12

MET Day 011

FD12

STS-124	CDR KELLY	PRE SLEEP	PMC OCA / PRE SLEEP	SLEEP		POST SLEEP
	PLT HAM	PRE SLEEP		SLEEP		POST SLEEP
	MS1 NYBERG	PRE SLEEP		SLEEP	LOG	POST SLEEP
	MS2 GARAN	PRE SLEEP		SLEEP	LOG	POST SLEEP
	MS3 FOSSUM	EXERCISE	PRE SLEEP	SLEEP		POST SLEEP
	MS4 HOSHIDE	PRE SLEEP		SLEEP		POST SLEEP
	MS5 REISMAN	PRE SLEEP		SLEEP		POST SLEEP
EXP 17	ISS CDR	PS	MBI 12	SLEEP (8.5)		
	FE-1	PS		SLEEP (8.5)		
	FE-2 CHAMITOFF	PS		SLEEP (8.5)		

STS

ORBIT 174 175 176 177 178 179 180 181 182

DAY/NIGHT

TDRS W -171 E -46 Z 275

ORB ATT -ZLV -XVV

NOTES

06/11/08 23:03:15 **REPLANNED**

CT 06/12/08 (164) 05 06 07 08 09 10 11 12 13 14 15 16

GMT 06/12/08 (164) 10 11 12 13 14 15 16 17 18 19 20 21

MET Day 011 12 13 14 15 16 17 18 19 20 21 22 23 012/00

STS-124

FD13

CDR KELLY	POST SLEEP	OFF DUTY	EXERCISE	OFF DUTY	MEAL	OFF DUTY	PFC	OFF DUTY	PAO EVENT	-ZLV -YVV	IMU	POD HTR	COMM 1	OAΔ +X RCS BURN	-ZLV -XVV	PRE SLEEP
PLT HAM	POST SLEEP	OFF DUTY	EXERCISE	OFF DUTY	PFC	MEAL	OFF DUTY	PAO EVENT	SIMO INIT	FCMS OPS	+X RCS BURN	PRE SLEEP
MS1 NYBERG	POST SLEEP	OFF DUTY	EXERCISE	OFF DUTY	MEAL	OFF DUTY	PFC	OFF DUTY	PAO EVENT	MCIU	OBSS BERTH	RMS PWRDN	PRE SLEEP
MS2 GARAN	POST SLEEP	OFF DUTY	EXERCISE	OFF DUTY	PFC	OFF DUTY	MEAL	OFF DUTY	PAO EVENT	OBSS BERTH	RMS PWRDN	SIMO TERM	PRE SLEEP
MS3 FOSSUM	POST SLEEP	EXERCISE	OFF DUTY	PFC	OFF DUTY	MEAL	OFF DUTY	PAO EVENT	PRE SLEEP
MS4 HOSHIDE	POST SLEEP	ANALOG	PAO S/U	OFF DUTY	EXERCISE	OFF DUTY	MEAL	PFC	OFF DUTY	PAO EVENT	PRE SLEEP
MS5 REISMAN	POST SLEEP	OFF DUTY	EXERCISE	OFF DUTY	MEAL	OFF DUTY	PAO EVENT	EXERCISE	SDTO PHOTO OPS	PRE SLEEP

STS

DAY/NIGHT

ORBIT 182 183 184 185 186 187 188 189 190

TDRS W -171 E -46 Z 275

ORB ATT -ZLV -XVV -ZLV -YVV OA

NOTES

06/11/08 23:03:15 **REPLANNED**

GMT 06/12/08 (164) 012/00 22 01 23 02 06/13 03 01 04 02 05 03 06 04 07 05 08 06 09 07 10 08 11 09 12

MET Day 012

FD13

STS-124																	
CDR KELLY	PRE SLEEP	PMC A/G	PRE SLEEP	SLEEP												POST SLEEP	
PLT HAM	PRE SLEEP			SLEEP												POST SLEEP	
MS1 NYBERG	PRE SLEEP			SLEEP											LOG	POST SLEEP	
MS2 GARAN	PRE SLEEP			SLEEP											LOG	POST SLEEP	
MS3 FOSSUM	PRE SLEEP			SLEEP											SLVA	DRY SLV	POST SLEEP	DRY SLV	POST SLEEP
MS4 HOSHIDE	PRE SLEEP			SLEEP											SLVA	DRY SLV	POST SLEEP	DRY SLV	POST SLEEP
MS5 REISMAN	PRE SLEEP			SLEEP											SLVA	DRY SLV	POST SLEEP	DRY SLV	POST SLEEP

STS

DAY/NIGHT

ORBIT 190 191 192 193 194 195 196 197 198

TDRS W -171 E -46 Z 275

ORB ATT -ZLV -XVV

GND —DFR —DFR -WSS —MLA —DFR —WSS —MLA —DFR —WSS —DFR

NOTES

STS-124 FD13

REPLANNED

GMT Date 06/12 (164) | W | T D R S E | Z | D/N | O R B | MET Day 011 | STS ATT

08:00 09:00 10:00 11:00 12:00

06:00 07:00 08:00 09:00

180 181 182

-ZLV -XVV

CDR KELLY	PLT HAM	MS1 NYBERG	Notes
SLEEP	SLEEP	SLEEP	
		FLIGHT SLEEP LOG (ORB OPS, SDBI)	
POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	

FD13 EZ ACTIVITES
√OCAC FILTER
HARD REBOOT ALL PGSCs EXCEPT:
STS7(WLES),STS5(RPOP),&
OCA ROUTER.

STS-124 FD13

REPLANNED

GMT Date 06/12 (164) | W | T D R S E | Z | D/N | O R B | MET Day 011 | STS ATT

MS2 GARAN | MS3 FOSSUM | MS4 HOSHIDE | MS5 REISMAN | Notes

06:00 07:00 08:00 09:00

08:00 09:00 10:00 11:00 12:00

180 181 182

-ZLV -XVV

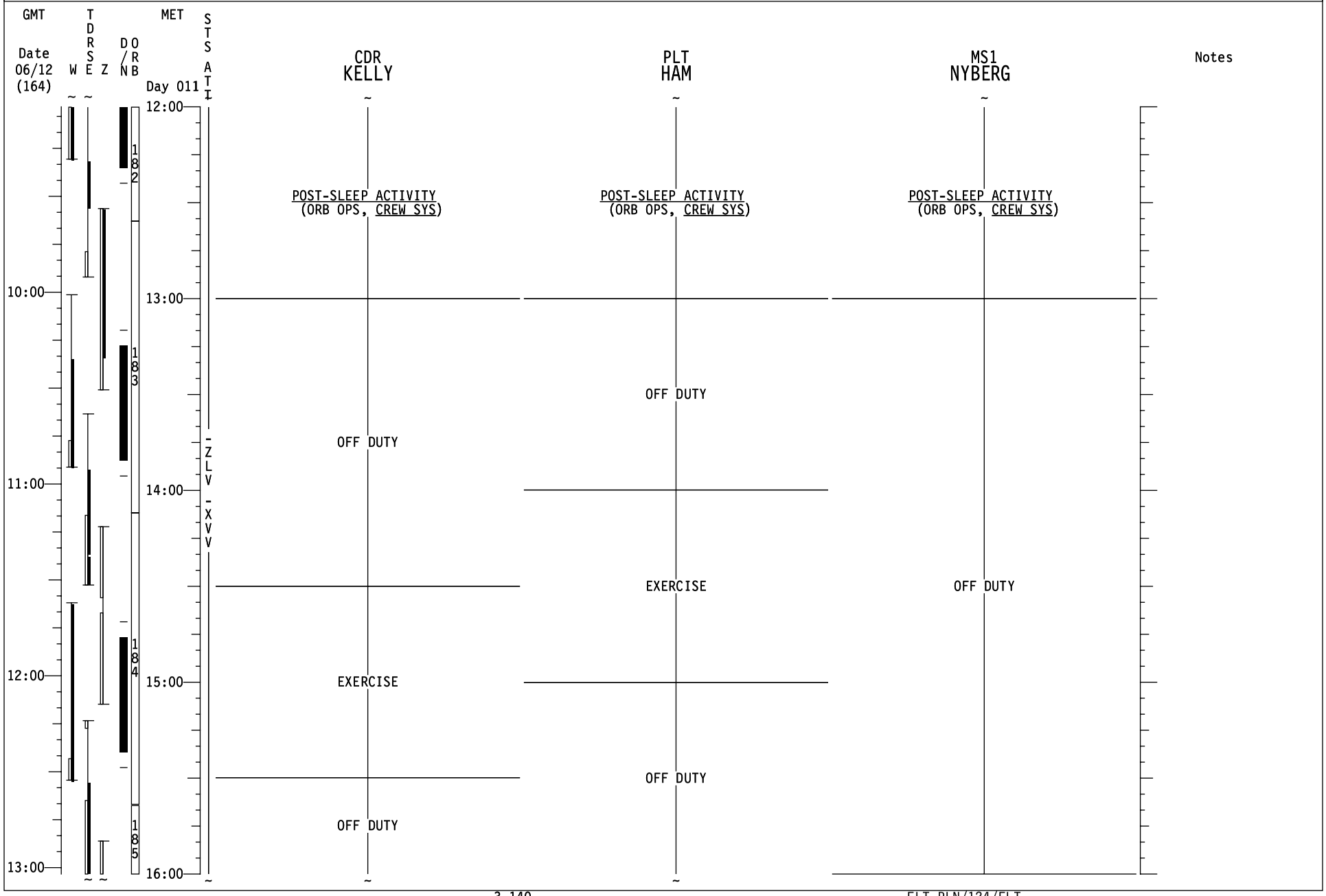
SLEEP

FLIGHT SLEEP LOG (ORB OPS, SDBI)

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

STS-124 FD13

REPLANNED



STS-124 FD13

REPLANNED

GMT Date 06/12 (164) | W | TDRSE | Z | DO/N | ORB | MET Day 011 | STS ATI

ORB: 182, 183, 184, 185

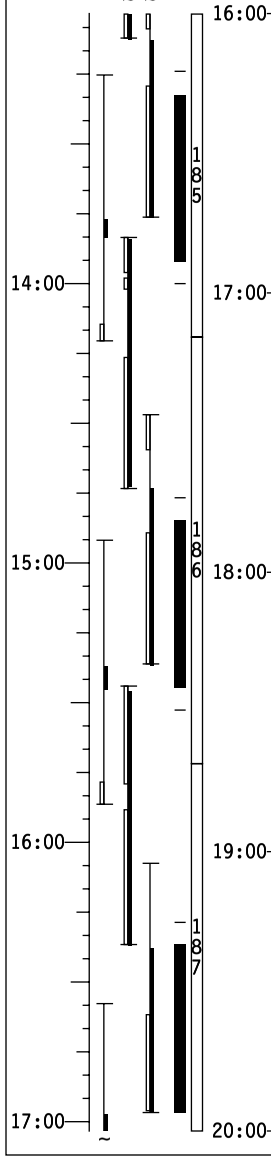
STS ATI: -ZLV-XVV

MET	MS2 GARAN	MS3 FOSSUM	MS4 HOSHIDE	MS5 REISMAN	Notes
12:00	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
			ANALOG PAO CC (P/TV, SONY PD100)		
13:00	OFF DUTY	EXERCISE			
14:00	EXERCISE		OFF DUTY	OFF DUTY	
15:00	OFF DUTY	OFF DUTY A Omit VLHS item in Step 1. Omit Step 3. Use A/G2 for Audio & inform MCC which PGSC will be used.		EXERCISE	
16:00		NETMEETING VIDEO CONF (ORB OPS, PGSC) Private Family Conference KU TDRE (15:38-16:05) A OFF DUTY	EXERCISE		

STS-124 FD13

REPLANNED

GMT Date 06/12 (164) | W | TDRSE | Z | D/N | ORB | MET Day 011 | STS ATT | CDR KELLY | PLT HAM | MS1 NYBERG | Notes



16:00 – 20:00

STS ATT: -ZLV -XVV

CDR KELLY	PLT HAM	MS1 NYBERG
OFF DUTY	OFF DUTY	EXERCISE
	NETMEETING VIDEO CONF (ORB OPS, PGSC) Private Family Conference KU TDRE (17:14-17:41) A	OFF DUTY
MEAL	MEAL	MEAL
OFF DUTY	OFF DUTY	OFF DUTY
		NETMEETING VIDEO CONF (ORB OPS, PGSC) Private Family Conference KU TDRE (18:52-19:20) A
NETMEETING VIDEO CONF (ORB OPS, PGSC) Private Family Conference KU TDRZ (19:36-19:55) A		OFF DUTY
OFF DUTY		

A Omit VLHS item in Step 1.
Omit Step 3.
Use A/G2 for Audio & inform MCC which PGSC will be used.

STS-124 FD13

REPLANNED

GMT Date 06/12 (164) | W | TDRSE | Z | D/N | ORB | MET Day 011 | STS ATT | MS2 GARAN | MS3 FOSSUM | MS4 HOSHIDE | MS5 REISMAN | Notes

16:00 – 17:00 – 18:00 – 19:00 – 20:00

14:00 – 15:00 – 16:00 – 17:00

185 – 186 – 187

-ZLV -XVV

MS2 GARAN	MS3 FOSSUM	MS4 HOSHIDE	MS5 REISMAN
OFF DUTY		EXERCISE	
NETMEETING VIDEO CONF (ORB OPS, PGSC) Private Family Conference KU TDRZ (16:16-16:43) A			
OFF DUTY	OFF DUTY	OFF DUTY	OFF DUTY
A Omit VLHS item in Step 1. Omit Step 3. Use A/G2 for Audio & inform MCC which PGSC will be used.			
MEAL	MEAL	MEAL	MEAL
		NETMEETING VIDEO CONF (ORB OPS, PGSC) Private Family Conference KU TDRE (18:26-18:45) A	
OFF DUTY	OFF DUTY	OFF DUTY	OFF DUTY

STS-124 FD13

REPLANNED

GMT Date 06/12 (164) | W | TDRSE | Z | D/N | ORB | MET Day 011 | STS ATT

CDR KELLY | PLT HAM | MS1 NYBERG | Notes

20:00 — OFF DUTY | OFF DUTY | OFF DUTY

-ZLV -XVV

PUBLIC AFFAIRS EVENT
KU TDRE: 20:31-20:51
Ref. MSG 111

PUBLIC AFFAIRS EVENT
KU TDRE: 20:31-20:51
Ref. MSG 111

PUBLIC AFFAIRS EVENT
KU TDRE: 20:31-20:51
Ref. MSG 111

18:00 — 188 — 21:00

MNVR (TRK) BIAS -ZLV -YVV (SIMO DUMP)
TG=2 BV=3 OM=110
A1/AUTO/VERN Init TRK

L17 Check MCIU filter screen

OBSS BERTH
(PDRS, OBSS NOM OPS)
Record Camera D

IMU STAR OF OPTY ALIGN (ORB OPS, GNC)

-ZLV -YVV

19:00 — 22:00

B A14 RCS/OMS HTR L POD -B OFF
-A AUTO
R POD -B OFF
-A AUTO

SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS)
INIT Dump once OBSS BERTH is complete.
Ref. MSG 108, Item 4

RMS PWRDN (PDRS, RMS PWRDN)
Stow MPMs
Port RMS Htr B-AUTO, A-OFF

189

RCS/OMS POD HTR RECONFIG B
COMM STRING 1 C/O (PART A)
(ORB OPS, COMM/INST)

FC MONITORING SYS (FCMS) OPS
(ORB OPS, EPS)

20:00 — 23:00

ON-ORBIT +X RCS BURN
(ORB OPS, RCS)

ON-ORBIT +X RCS BURN
(ORB OPS, RCS)

UPDATE
ORBITAL MNVR PAD

OA

< OA TIG (23:18)

MNVR (TRK) -ZLV -XVV
TG=2 BV=3 OM=0
A1/AUTO/VERN Init TRK

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

190

21:00 — 00:00

STS-124 FD13

REPLANNED

GMT Date 06/12 (164) | W | TDRSE | Z | D/N | ORB | MET Day 011 | STS ATI | MS2 GARAN | MS3 FOSSUM | MS4 HOSHIDE | MS5 REISMAN | Notes

20:00 — ZLV — OFF DUTY

XVV — PUBLIC AFFAIRS EVENT
KU TDRE: 20:31-20:51
Ref. MSG 111

18:00 — 188 — 21:00 — OBSS BERTH
(PDRS, OBSS NOM OPS)
Record Camera D

ZLV

19:00 — 22:00 — YVV — RMS PWRDN (PDRS, RMS PWRDN)
Stow MPMs
Port RMS Htr B-AUTO, A-OFF

189 — SUPPLY/WASTE WATER DUMP
(ORB OPS, ECLS) TERM

20:00 — 23:00 — OA

190 — PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

21:00 — 00:00

EXERCISE

SDTO PHOTO OPS
Ref. MSG 110

STS-124 FD13

REPLANNED

GMT Date 06/12 (164) | W | TDRSE | Z | D/N | ORB | MET Day 012 | STS ATI | CDR KELLY | PLT HAM | MS1 NYBERG | Notes

00:00 — PRE-SLEEP~ACTIVITY (ORB OPS, CREW SYS)

06 √UHF MODE - OFF
PRIVATE MEDICAL CONFERENCE
Perform Via A/G 2

22:00 — 01:00 — PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) — PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) — PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

23:00 — 02:00 — **WAKE UP AT 12/10:00**

00:00 — 03:00 — SLEEP — SLEEP — SLEEP

01:00 — 04:00

190 191 192

-ZLV -XVV

STS-124 FD13

REPLANNED

GMT Date 06/12 (164) | W | TDRS E | Z | D/N | ORB | MET Day 012 | STS ATT

MS2 GARAN | MS3 FOSSUM | MS4 HOSHIDE | MS5 REISMAN | Notes

00:00 — 01:00 — 02:00 — 03:00 — 04:00

22:00 — 23:00 — 00:00 — 01:00

190 — 191 — 192

-ZLV -XVV

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

WAKE UP AT 12/10:00

SLEEP

MSG 109 - FD13 MISSION SUMMARY

Good Morning Discovery

Today is a mostly full day off. The corner office would like to kindly remind you to fill out your timecards appropriately. :-)

Time to relax and enjoy the view.

YOUR CURRENT ORBIT IS: 186 X 181 NM

NOTAMS:

EDW –	LAKEBED RUNWAY 15/33 ELS ONLY. OTHER LAKEBED RWYS RED.
NOR –	LAKEBED RUNWAYS GREEN.
NTU –	NGU TACAN CH CHANGED TO 86Y.
YJT –	TACAN CH 78 DME ONLY.
HAW –	RWY 31 CLOSED. RWY 13 TODA 8,994'.
WAK –	CLOSED. NOT USABLE.
IKF –	NOT USABLE. NO AGREEMENT.
BEN –	NOT RECOMMENDED/NOT SUPPORTED.
ZZA –	FIRST 600M (~2,000') OF RWY 30L NOT AVAILABLE. 10,200' REMAINING.

NEXT 2 PLS OPPORTUNITIES:

EDT04L	ORB	188 – 11/21:05	SKC	060/6P9
EDT04L	ORB	203 – 12/19:53	SKC	060/5P9

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 = 30.3 R OMS OX = 30.3
FU = 29.9 FU = 30.3

SUBTRACT INTERCONNECT COUNTER TO OBTAIN CURRENT OMS QUANTITIES

END OF PAGE 1 OF 2, MSG 109

MSG 109 - FD13 MISSION SUMMARY

DELTA V AVAILABLE:

OMS	313 FPS
ARCS (TOTAL ABOVE QTY1)	23 FPS
TOTAL IN THE AFT	336 FPS
ARCS (TOTAL ABOVE QTY2)	57 FPS
FRCS (ABOVE QTY 1)	16 FPS
AFT QTY 1	76 %
AFT QTY 2	38 %

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

END OF PAGE 2 OF 2, MSG 109

Water Dump Still Photo Procedures

I. Water Dump Spray Photos (Objective 1)

Objective: Photograph water dump spray with 400mm lens in hatch window with slave flash illuminating from window 1

1. Unstow Hardware

Nikon D2Xs camera body with card, batt
400mm lens
2ea Nikon SB-800 flashes

2. Configure Camera

Lens - 400mm
Aperture - Min, locked
Lens Focus Mode - M
Focus distance - 20ft
Body Focus Mode - M
√Batt installed
√Flash Card installed
Pwr - ON
Top LCD
√Batt
√Frames remaining sufficient
Exp Comp ( ) - 0.0
Exp Mode - P
Meter - Matrix ( )
Diopter - Adjust
Frame Rate - S
√BKT disabled - 0 F
Rear LCD
ISO - 100
√QUAL - RAW
√WB 0,A
AF Area Mode - [[ ]]
√Focus Area - Center
√Focus Selector Lock - L

END OF PAGE 1 OF 5, MSG 110

3. <u>Configure Master Flash</u>

Install fresh batts
Mount flash to camera body
ON/OFF pb - ON
√MODE - TTL BL
√Zoom - Auto (no M)
Navigation/SEL Pad – push SEL, hold (to enter menu system)
– sel Standby control ‘**STBY**”
– push SEL (to enter)
– push +/- to highlight 300
– push SEL (to select)
– sel Multi Flash control ' '
– push SEL (to enter)
– push +/- to highlight '**MASTER**'
– push SEL (to select)
ON/OFF pb - push (to exit MENU)
Navigation/SEL Pad – push SEL (to select '**# next to CH**')
– push +/- (to select '**1**')
– push SEL (to select Master, '**M'**)
MODE pb - push (to sel '**M - - -**’)
Navigation/SEL Pad – push SEL (to select Group A, '**A**’)
MODE pb - push (to sel ‘**A TTL. . .**’)
Navigation/SEL Pad – push +/- (to sel '**A TTL 0.0**')
– push SEL (to select Group B, ‘**B**’)
MODE pb - push (to sel ‘**B - - -**’)
Navigation/SEL Pad – push SEL (to select Group C, ‘**C**’)
MODE pb - push (to sel ‘**C - - -**’)

Remove, retract diffuser
Set Tilt to +45°
Set Pan to 180° (45° up and backwards)
(Adjust as required to aim Flash head through interdeck access.)

4. <u>Configure Slave Flash</u>

Install fresh batts
ON/OFF pb - ON
Navigation/SEL Pad – push SEL, hold (to enter menu system)
– sel Multi Flash control ' '
– push SEL (to enter)
– push +/- to highlight '**REMOTE**’
– push SEL (to select)
ON/OFF pb - push (to exit menu)
√'**REMOTE**' displayed on LCD
Navigation/SEL Pad – push SEL (to select '**CH**’)
– push +/- (to select '**1**')
– push SEL (to select '**GROUP**')
– push +/- (to select '**A**')
– push '' (to select '**85mm**')

END OF PAGE 2 OF 5, MSG 110

Remove, retract diffuser
Tilt - Direct
Set Pan to 180° so that wireless sensor will face the aft flight deck when in window 1
Test fire Camera to ensure slave Flash fires

5. Image Capture

NOTE
Wait between photos until slave flash (flight deck) has recharged (Red READY LED ON w/beep).

Position photographer with Camera at side hatch window

Remove hatch window UV filter

Position second crew member with Remote Flash in window 1 area directing flash towards water dump particles

Do not cover Flash sensors on front or sides of Flash. (See figure 1)

Figure 1 - SB-800 Flash.

Clear area of interdeck access to allow for slave flash operation

Test fire Camera to ensure slave Flash fires

Photograph water dump

6. Deactivation

Replace hatch window UV filter

For both flashes:

Navigation/SEL Pad – push SEL, hold (to enter MENU system)

– sel Multi Flash control ' '

– push SEL (to select)

– push +/- to highlight '**OFF**'

– push SEL (to select)

ON/OFF pb - push (to exit)

- OFF

Set Pan to 0°

Set Tilt to 45°

Install diffuser

Lens Focus Mode - M/A

Body Focus Mode - S

Pwr - OFF

Download images

END OF PAGE 4 OF 5, MSG 110

II. Water Dump “Popcorn” Photos (Objective 2)

Objective: Photograph water dump crystals floating by windows during daylight.

1. Unstow Hardware

Nikon D2Xs camera body with card, batt
28-70mm lens

2. Configure Camera

Lens - 28-70mm (set at 70mm)
Aperture - Min, locked
Lens Focus Mode - M
Focus distance - 1m
Body Focus Mode - M
√Batt installed
√Flash Card installed
Pwr - ON
Top LCD
√Batt
√Frames remaining sufficient
Exp Comp ( ) - 0.0
Exp Mode - M
SS - 500
Aperture - F8
Meter - Matrix ( )
Diopter - Adjust
Frame Rate - S
√BKT disabled - 0 F
Rear LCD
ISO - 100
√QUAL - RAW
√WB 0,A
AF Area Mode - [[ ]]
√Focus Area - Center
√Focus Selector Lock - L

3. Image Capture

Capture sunlit crystals out of window with most crystals visible

Adjust Focus as reqd

Adjust Shutter Speed for better exposure as reqd

4. Deactivation

Lens Focus Mode - M/A
Body Focus Mode - S
Exposure Mode - P
Pwr - OFF
Download images

END OF PAGE 5 OF 5, MSG 110