

# STS-118 Integrated Launch Site Flow Review

Presenter

**Stephen Reilly**

Date

**11-16-06**

## Program Freeze Point

### PRCB Presentation

**S115118M**

# STS-118 Integrated Launch Site Flow Review

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Baseline the STS-118 Mission Specific Requirements and Flow Plans.

The STS-118 Integrated Launch Site Requirements were established by PRCBD S115118K dated 10-23-06. This CR and the Associated Data Package were reviewed at the 11-13-06 FRWG.

KSC Integration\*

MK-SIO

Flight Integration\*

MO3/USA-PI

Orbiter Engineering\*

Requesting Approval

USA-OE

Payload/Cargo Engineering\*

Requesting Approval

USA-PI

Shuttle Processing\*

PH-B2

## Status in Backup

Flight Software

USA-FSW

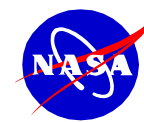
GFE FCE/EVA

MV5/XA

SSME

MP21

\*Backup Material Included



# STS-118 LAUNCH SITE FLOW REVIEW

Presenter <b>Amy Houts Gilfriche</b>
Date <b>NOVEMBER 16, 2006</b>

## LAUNCH

06/28/07 NET  
 39A/ MLP1  
 CREW SIZE: 6+1 UP/6+1 DN

## ORBIT

51.6 DEG  
 122 NM  
 DIRECT INSERTION  
 DURATION: 11+3 DAYS

## CONFIGURATION

OV-105 (20)  
 LP03;RP04  
 ET-117  
 BI-130  
 RSRM-97  
 (1) 2045 (2) 2051 (3) 2047  
 OI-30  
 RMS,ODS,OBSS,SSPTS

## CONSUMABLES

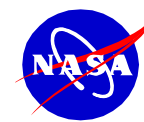
CRYO TANK SETS	5 (FULL)
GN2 TANKS	6 (FULL)
FWD RCS	1912# (2446# FULL)
AFT RCS	4970# (FULL)
OMS	24931#

## PAYLOAD

ISS 13A.1  
 ITS S5  
 SPACEHAB SM  
 ESP-3

## LANDING

SITE	KSC
TAL	ZARAGOZA
ALT. TAL	MORON & ISTRES
SCA	905

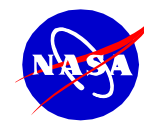


# STS-118 LAUNCH SITE FLOW REVIEW

Presenter <b>Amy Houts Gilfriche</b>
Date <b>NOVEMBER 16, 2006</b>

PERFORMANCE MARGIN

• SIMULATION MARGIN (SPLAF118)		<b>+2924</b>
• WEIGHT CHANGES SINCE SIMULATION		
• PAYLOAD	<b>+471</b>	
• OPERATOR	<b>+459</b>	
• ORBITER	<b>+1</b>	
• SSME	<b>-141</b>	
• NPC	<b>+48</b>	
• CREW COMPARTMENT	<b>-286</b>	
• OMS	<b>+544</b>	
• MPS PROP (NOT INERT)	<b>-512</b>	
• RECONSTR ASCENT PERF COLLECTOR	<b>-66</b>	
TOTAL WEIGHT CHANGES	<b>+518</b>	<b>-518</b>
• OTHER PERFORMANCE PROJECTIONS		
• PROTECTION FOR DOL DISPERSIONS		<b>-700</b>
• 6/11/07 LAUNCH DATE (PMBT&ATMOS)		<b>+30</b>
• PARTIAL PROJ FOR MPS BGT GEN0603S		<b>+36</b>
• OMS ASSIST ADJ (BASED ON 3287 USAGE)		<b>-34</b>
• PMBT FOR 6/28/07 LAUNCH DATE		<b>+50</b>
• SRB – M/P UPDATES		<b>-106</b>
• SRB BR / 0.90 MIL HIGHER THAN 0.3705 AVG		<b>+180</b>
• NEW ISP/THST FOR ENG SET 2045/2051/2047		<b>+281</b>
• PROJ TO 5 MIN WINDOW FROM INPLANE		<b>-600</b>
• PERFORMANCE CHANGES ADJUSTMENT		<b>+36</b>
• CURRENT BASELINED APM (11/14/06)		<b>+1579</b>
• IPT PROJECTED CHANGES		<b>-274</b>
• PROJ APM		<b>+1305</b>



# STS-118 LAUNCH SITE FLOW REVIEW

Presenter <b>Amy Houts Gilfriche</b>
Date <b>NOVEMBER 16, 2006</b>

## FLIGHT MASS PROPERTIES

<u>CASE</u>	<u>TOUCHDOWN WEIGHT pounds (LIMIT)</u>		<u>MACH 3.5 X C.G. inches (LIMIT)</u>	
NOMINAL	222948	(233000)	1076.7	(1075.2)
RTLS	238046	(245000)	1078.1	(1076.7)
TAL	235956	(244000)	1077.9	(1076.7)
AOA	232745	(242000)	1075.9	(1075.2)
CONT RTRN**	233387	(233000)	1077.1	(1075.2)

\*\* Contingency Return case exceeds 233K NEOM limit. (See Vol. X Bk. 1 Sec. 3.3.1.1.9)  
 Flight Specific STS-118 Aero-thermal Analysis Pending.

**NOTE:** RTLS 25 SEC FRCS DUMP  
 TAL 65 SEC FRCS DUMP  
 2714 LBS. AFT FUS BALLAST



## STS-118 Launch Site Flow Review

Presenter	Amy Houts-Gilfriche	
Date	11-16-2006	Page 1

- **STS-118 Orbiter/Ferry Mass Properties Have Been Reviewed by Space Shuttle Program Integration and Are Within Specified Limits**

<u>Case</u>	<u>Ferry Weight (LB)</u>	<u>Center of Gravity (inch)</u>		
		<u>X</u>	<u>Y</u>	<u>Z</u>
<u>Nominal</u> - Orbiter c.g. (SCA c.g.) (No CM Ballast, No Fluids Off-Loaded, No Payload Bay Opening)	221898	1111.6 (1407.4)	-0.2 (N/A)	373.2 (515.8)
<u>AOA</u> - Orbiter c.g. (SCA c.g.) (No Fluids Off-Loaded, No Payload Bay Opening)	229196	1111.2 (1407.0)	-0.2 (N/A)	374.1 (516.7)
<u>TAL</u> - Orbiter c.g. (SCA c.g.) (3 SSME's Removed, No Fluids Off-Loaded, No Payload Bay Opening, Max Weight 217000 LB)	207626	1069.0 (1364.9)	-0.3 (N/A)	374.8 (519.7)

**X c.g. Limits (Orbiter Coordinates)**

Nominal	=	1060.0 TO 1116.0
AOA	=	1060.0 TO 1116.0
TAL	=	1060.0 TO 1124.8

**Z c.g. Limits (Orbiter Coordinates)**

Nominal	=	360.0 TO 380.0
AOA	=	360.0 TO 380.0
TAL	=	360.0 TO 380.0



# **STS-118 LSFR**

## **Flight Requirements Status**

**PRCB 11/16/06**

**Gail Clark, Lead MIM**

**Robert Reynolds, USA Flight Mgr.**



## Flight Requirements Status

Presenter **Gail Clark**

Date **11/16/06**

Page **2**

### CMG

- **Addition of the CMG to the ESP-3 was approved at the SSPCB on 11/14/06**
  - **Increased weight of ESP-3 will require removal of Spacehab cargo**
  - **Schedules for Verification Loads Analysis is tight**
  - **Thermal requirements for the CMG will necessitate power for the ESP-3**
    - **May impact mission duration or pad hold**
    - **An IVT will be required**



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# STS-118 OV-105 Flight 20 LSFR Orbiter Element



L.R. (Bert) Wagster  
Doug Cline

USA/OE  
Boeing / VMMO

**November 16, 2006**

# STS-118, OV-105 Flight 20 LSFR Orbiter

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## Purpose:

- **Update Modification Authorizations, Deferrals and de-baseline**
  - **One Modification record authorization**
  - **Three MECSLSI Tech Order Updates**
  - **One Mod Record De-baseline**
  - **Three Deferrals (Re-Ids)**
  
- **Provide summary of SSPTS milestones**
- **Provide summary of requirements changes in work**

# OV-105 LSFR baseline updates

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## Request authorization to baseline the following additional mods

- MCR 23467 Waste Collector Subsystem dash number change (23467, 0105, 0)
  - Incorporates use of upgraded Waste Collector, WCS1000-25.
    - Revised usage of some soft good materials due to lack of availability
    - Improved heat shrink installation and added backshells on fan wiring to provide strain relief

## Mission Kit Modifications

- Remove M072-360828-006, ISS External Airlock Aft Hatch (blanket) from MECSLSI
  - TCS blankets and handholds (removed by cargo mechanical) not required on aft hatch due to the Spacehab installation
- Remove M072-740828-002 SSOR antenna installation tech order from MECSLSI
  - Duplicate requirement, antenna installation is part of MV0828A external airlock mission kit installation.
- Revise Aft Fuselage Ballast Tech order
  - Is: M072-851701-067 Was: M072-851701-066
  - Revised FRD requirement for max aft ballast to 2714 lbs, was 2697 lbs based on SODB change (OCR/D in work)

# OV-105 LSFR De-Baseline

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## Modification to be De-baselined

- **BRI-18 Main Landing Gear Door Flt.20 effectivity (TCTIV1019743REF, 0105, 0)**
  - MLGD BRI-18 tile implementation engineering changed to attrition effectivity
    - Engineering for MLGD perimeter tile array installation is released
      - Tree-ups and EO incorporation scheduled in December 2006.
  - All MLGD perimeter tile installations are authorized under attrition mod record with released engineering
- **BRI-18 Tile, Other Locations (attrition, no authorization required)**
  - Implements BRI-18 tile on NLGD perimeter, LESS Carrier Panel and Window 1-6 Carrier Panel locations.
    - Final TPS Work content to be partnered and baselined at Delta LSFR

<b>OV-105 STS-118 BRI-18 Tile Installation Forecast (LSFR)</b>				
<b>MLG</b>	<b>NLG</b>	<b>LESS C.P.</b>	<b>Window C.P</b>	<b>Total # of Tiles</b>
<b>11</b>	<b>16</b>	<b>11</b>	<b>11</b>	<b>49</b>

# OV-105 Baseline Deferrals

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Request partial deferral of the following mod records:

- **MCR 19530: K598-430106-001,0024,0 - Right Hand OMS Helium Access Door Fix (installed a doubler)**
  - Re-id of door was not performed. “Access door” is part of original build and is not removed for any maintenance or inspection requirements. Doubler was installed with door in-place
    - 73A310091#B14 (full deferral of EO to NFS)
- **MCR 19530: K598-430103-001,0013,0 - Left Hand OMS Helium Access Door Fix (installed a doubler) –**
  - Re-id of door was not performed. “Access door” is part of original build and is not removed for any maintenance or inspection requirements. Doubler was installed with door in-place
    - 73A310091#B14 (full deferral of EO to NFS)

# OV-105 Baseline Deferrals

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Request partial deferral of the following mod records (continued):

- **MCR 17177: TCTIV3517177REF,0024,0 - OMS Engine Subassy Configuration for Engine S/N 118**
  - OMS Engine S/N 116 was installed in RP04 for OV-105, STS-118
  - Engine S/N 118 is at White Sands for refurbishment and will become a spare
  - The following EO's modify the dash number that is applicable to the S/N 118 and will be deferred to a future flight.
    - V598-430001#A05 (full deferral of EO)
    - V598-430001#A11 (full deferral of EO)
    - V598-430002#NEW (full deferral of EO)

# Potential Mods

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## MCR 23452 – Fiducial Markings on WLE T-Seals ,

- Provides reference on WLE RCC T-seals to aid on-orbit imagery evaluation
  - Awaiting arc jet test results and engineering updates prior to implementation
  - Current schedule shows arc-jet testing in January '07 with engineering updates in March.
  - Will assess implementation at Delta LSFR

# SSPTS First Flight Project

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## Station to Shuttle Power Transfer System (SSPTS) Status

- **Vehicle test and checkout requirements to be documented on Chit planned for approval in December**
  - **Testing requires unique test equipment (power supplies), cables, connectors (see back-up)**
  - **Usage agreements with SSPF for power supplies, cable build-up and data pack review are in work with GSE design engineering**
  - **Draft chit for testing procedures is near completion**
- **Qual Site Approval (QSA) meeting will be conducted at vendor**
  - **Review to provide project confidence to proceed with flight unit installation and power-on testing with hardware in the orbiter**
- **Design Certification Review / System Acceptance Review (DCR/SAR) in March 2007**
- **Flow Management & Cargo Engineering Communities are reviewing installation & testing schedule options in support of potential flight of APCU instead of SSPTS PTU**



# Requirements Under Development For STS-118, OV-105 Flt 20

Requirement	Summary / Status	Action Required
GPC BBU R & R	<p>Chit J6135 approved for replacement of GPC 5 BBU on OV-105</p> <p>For GPC's 1-4, another chit will be submitted later with specific flt effectivities after partnering with Ground Ops and obtaining OPO approval</p> <ul style="list-style-type: none"> <li>- Board Date TBD, current plan is to target OV-105 Flight 20, but not mandatory for STS-118</li> </ul>	Generate Chit
Radiator Retract Hoses Halogen Check	<p>RCN OV17146 submitted, adds halogen leak check for every flow at both OPF &amp; Pad</p> <ul style="list-style-type: none"> <li>- Board Date 11/17/2006</li> </ul>	RCN Approval
SSPTS Checkout	<p>Chit under development for STS-118, will be followed by RCN for future flows</p> <ul style="list-style-type: none"> <li>- Est Board date 12/6/06,</li> </ul>	Approve Chit
<p>OBSS Integrated Test Requirements</p> <p>(Clearance checks if MPM(s) are removed)</p>	<p>Preliminary RCN OV17103 - requires OBSS clearance checks on initial install &amp; if MPM's are removed <i>(In support of 3/7/07 OBSS installation)</i></p> <ul style="list-style-type: none"> <li>- Board date TBD</li> <li>- Generate Chit if RCNs do not support schedule (Chit likely)</li> </ul>	RCN Approval (possible chit)
<p>OBSS Integrated Test Requirements</p> <p>(IBA detailed inspection)</p>	<p>Preliminary RCN OV17032 for OBSS IBA inspection (requirements for all flights as well as contingencies) is in rewrite, being worked in parallel with limited life requirement update RCN OS16824 <i>(In support of 3/7/07 OBSS installation)</i></p> <ul style="list-style-type: none"> <li>- Board date TBD</li> <li>- Generate Chit if RCNs do not support schedule (Chit likely)</li> </ul>	RCN Approval (possible chit)

# Requirements Under Development For STS-118, OV-105 Flt 20

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Requirement	Summary / Status	Action Required
AMEC/EMEC Tin Whisker Remediation	Chit 6167 in review for R&R of AMEC and EMEC an replace with reworked AMECs with tin plated card eyelets coated to preclude whiskers	Noon Board Approval

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**STS-118**  
**ISS – 13A.1 ITS-S5, SPACEHAB/SM, ESP3**  
**LAUNCH SITE FLOW REVIEW**

**PAYLOAD CARGO ENGINEERING STATUS**

**ABBAS ELSABAGH**

**Phone 281-212-6186**

**Date 11-16-2006**

# STS-118/ISS-13A.1 LSFR

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## ENGINEERING FLIGHT PRODUCT STATUS

### FLIGHT PRODUCTS

<u>DRAWING</u>	<u>TITLE</u>	<u>REV</u>	<u>EO</u>	<u>RELEASED</u>
• V072-200196	MECSLSI	E	E01	10-13-2006
• VA72-200196	CARGO ARRANGEMENT DRAWING	B	B01	10-13-2006
• VD72-200196	AVIONICS INTERFACE DIAGRAM	B	B01	10-13-2006
• VS72-200196	INTEGRATED AVIONICS SCHEMATIC	B	B01	10-17-2006
• VS70-540542	RETENTION SCHEMATIC DIAGRAM	B	B01	10-13-2006

FRED RELEASE

10-13-2006

MECSLSI UPDATE

ECD: 11-30-2006

### ISSUES:

- AFD CABLE INSTALLATION/NO INSTALLATION – IN SUPPORT OF ADVANCE HAZARDOUS GAS DETECTION SYSTEM (DEVIATION TO STANDARDIZATION DOCUMENT NSTS 60523)
- MANIFEST OF CMG ON ESP3
- DYNAMIC CLEARANCE OF KYA WITH ORBITER HARDWARE

### RESCUE FLIGHT STATUS

- STS-318 RECONFIGURATION ENGINEERING PRODUCTS WILL BE DEVELOPED BY THE ENGINEERING ORDER TO FOLLOW (EOTF) PROCESS.

# DEVIATION FROM STANDARDIZATION NSTS 60523

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- **BACKGROUND:**

- ON 11/02/06, PRCB APPROVED THE STUDY OF THE ADVANCED HAZARDOUS GAS DETECTION/MONITORING SYSTEM
- THE MONITORING SYSTEM WILL UTILIZE PAYLOAD CARGO ENGINEERING MODIFIED HARNESS 38P77W461(V845-773461-00)
- PCE IS ASKING FOR AUTHORIZATION TO REMOVE THIS FROM THE FLIGHT MANIFEST TO ALLOW TIME TO MODIFY IT BEFORE FIRST MISSION IMPLEMENTATION OF ADVANCED HAZARDOUS GAS DETECTION SYSTEM (STS-122/123)

- **CABLE STATUS:**

- CURRENTLY, 461 HARNESS IS NOT INSTALLED – ON HOLD
- NOT INSTALLING THE 461 CABLE WILL DEVIATE FROM THE VEHICLE STANDARDIZATION DOCUMENT NSTS 60523
- THIS CABLE IS NOT BEING USED FOR THIS MISSION AND NO PLANS TO BE USED IN THE FUTURE - AS WE KNOW IT TODAY

# DEVIATION FROM STANDARDIZATION NSTS 60523 (CONTINUE)

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## REQUIRED AUTHORIZATION:

- **MISSION UNIQUE DEVIATION**

- **REQUIREMENTS: (NSTS 60523)**

- SEC 1.2 ORBITER/PAYLOAD INTEGRATION STANDARDIZATION DEFINES A SET OF AVIONICS SERVICES AND COMMON INTERFACES ON ALL ORBITER VEHICLES TO CONTROL MISSION UNIQUE DIFFERENCES BETWEEN FLIGHTS...**

- **AUTHORIZE MISSION UNIQUE DEVIATION:**

- **PCE IS ASKING THE PRCB TO ALLOW FOR ONE MISSION UNIQUE DEVIATION BY REMOVAL OF HARNESS 38P77W461 FROM OV-105 FLIGHT #20**

- **AFFECTED DOCUMENTATION**

- **UPDATE CARGO ENGINEERING DRAWING (VS, VD AND AFD WIRING T.O.)**

# ADDITION OF CMG TO THE MANIFEST

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- **ISS CR 010248 RELEASED FOR ASSESSMENT TO ADD THE CMG ON ESP3**
- **PCE EVALUATION IS:**
  1. **PRELIMINARY CLEARANCE ASSESSMENT SHOWED THE CMG INTRUSION INTO 87 AND 90 INCHES ENVELOPES HAVE SUFFICIENT STATIC CLEARANCE BETWEEN THE CMG AND ORBITER HARDWARE. THIS ASSESSMENT WAS A QUICK SANITY CHECK ASSESSMENT FOR THE FOLLOWING REASONS:**
    - **PCE CREATED AN INTEGRATED MODEL USING COORDINATES PROVIDED BY THE ISS AND THE CMG MODEL FROM STS-114 INSTEAD OF A CUSTOMER PROVIDED INTEGRATED MODEL**
    - **THE CLEARANCE ASSESSMENT DID NOT INCLUDE MLI BLANKET**
    - **THE CLEARANCE CHECK WAS ONLY BETWEEN CMG STRUCTURE AND ORBITER H/W. A COMPLETE ASSESSMENT WILL REQUIRE CHECK OF CLEARANCE WITH OTHER PAYLOADS IN THE CARGO BAY, ORUs AND IT SHOULD INCLUDE MLI BLANKET**
  2. **THERMAL: UPDATED ESP3 INTEGRATED THERMAL MODELS ( WITH CMG CONFIGURATION) ARE REQUIRED ASAP. PCE WILL INCLUDE THE ANALYSIS IN L-5 MONS REPORT DUE IN JANUARY 2007 OR AT L-1 MONTH**

# ADDITION OF CMG TO THE MANIFEST (CONTINUE)

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3. **STRUCTURE: VLA CYCLE 2 WILL REQUIRE VLA MODELS TO BE DELIVERED ON 1/23/2007 TO MEET LAUNCH DATE OF 06/28/2007**
  
4. **AVIONICS: PCE IS PROTECTING FOR POWER TO THE ESP3. NEW POWER ANALYSIS WILL BE REQUIRED**
  
5. **ICD WILL BE UPDATED BASED ON MODEL DELIVERY DATE. THE CURRENT ESP3 ICD SHOWS ENVELOPE. A SECTION 20 WILL HAVE TO DOCUMENT THE CMG INTRUSION**
  
6. **OMRS REQUIREMENTS TO TEST POWER INTERFACE WITH ESP3 WILL BE DOCUMENTED**



# STS-118/ISS-13A.1 LSFR

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## CARGO CLOSE CLEARANCE PROCESS

- THE FOLLOWING CLOSE DYNAMIC CLEARANCE AREAS HAVE BEEN IDENTIFIED:
  - ESP3 KYA AND ORBITER CROSSOVER ELECTRICAL WIRE –
    - HARD INTERFERENCE IDENTIFIED TO ORBITER WIRING
    - ORBITER RELOCATED THE WIRING TO PROVIDE POSITIVE DYNAMIC CLEARANCE OF 0.2 INCH W/O NOMINAL LANDING
    - ADDITION OF NOMINAL LANDING DCLA SHOWED DYNAMIC CLEARANCE REDUCED TO 0.06 INCH
  
  - ESP3 KEEL TRUNNION IS PULLING UP INTO KEEL LATCH BEARING BY 0.24”
    - SLD PANEL APPROVED THE EXCEEDANCE BASED ON LOW LOADS AND DYNAMIC CLEARANCE OF 0.24 INCH
    - ADDITION OF NOMINAL LANDING DCLA DID NOT CHANGE RESULTS
    - IF VLA SHOWED ANY HIGHER LOADS OR INCREASE IN THE EXCEEDANCE, PCE WILL RETURN TO SLD PANEL
  
- TWO CHITS ARE REQUIRED TO TAKE CLOSE CLEARANCE MEASUREMENTS OF ALL CLOSE CLEARANCE POINTS
  - FIRST CHIT WAS WRITTEN FOR OPF FLOW AND DURING PLB DOOR CYCLE AND PAYLOAD NOT INSTALLED. IT MEASURED THE DOOR LINKAGE AND THE SURROUNDING AREA. THIS CHIT WAS PERFORMED ON 11/04/2006 AND RESULTS ARE BEING REVIEWED.
  
  - SECOND CHIT WILL SUPPORT OPF FLOW AFTER THE KYA INSTALLED. THE CHIT WILL MEASURE THE KYA CLOSE CLEARANCE TO ORBITER

ECD: 01/19/2007

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# KSC Launch and Landing Project

## STS-118

### Launch Site Flow Review

November 16, 2006





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# Multi Flow

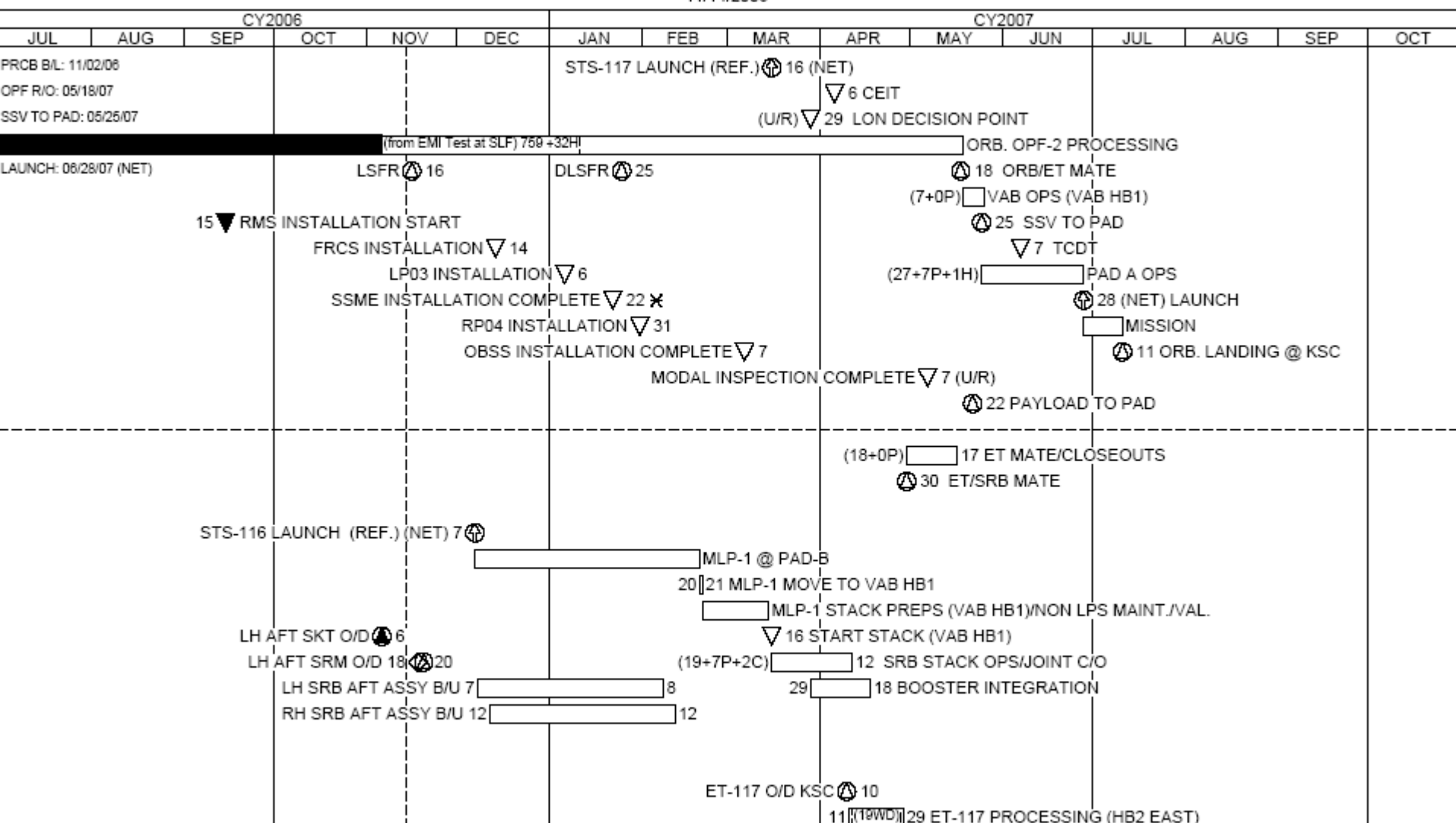
**T. Abadiotakis**

# STS-118 KSC Milestone Interface Chart

OPR: USA - J. HAZELTON, INTEG. OPS.  
NASA - T. ABADIOTAKIS, PH-O

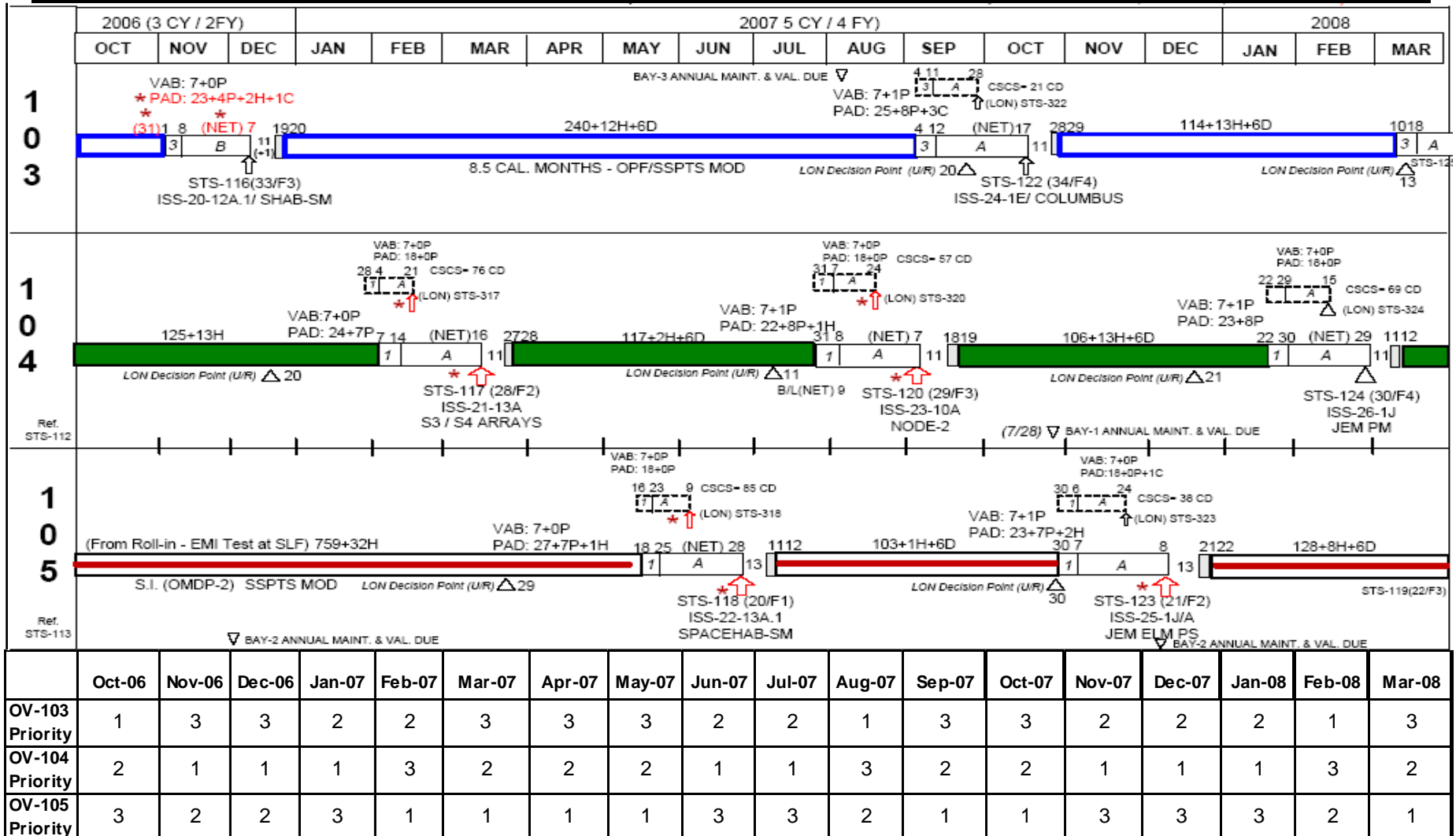
OV-105/20/ ISS-22-13A.1 (SPACEHAB-SM)  
CREW / DURATION: 7/ 13  
ET 117 / BI130/ RSRM 97 / MLP-1 / PAD-A / VAB HB1

SSP APPROVED MANIFEST (REF. CR #S042013FZ)  
Status as of:  
11/14/2006



THREATS: \* 1. PTU DELIVERY FOR SSPTS / APCU vs. SSPTS DECISION POINT 12/4/06 NOTES: 1. TWENTY-SECOND ISS/SSP FLIGHT

# Vehicle/TPS Manpower Allocation Priority



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# Flight Element Processing

**R. Goodman**

# Flight Element Processing Overview

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- **Significant Processing Deltas** **Presented**
- **Modification Summary** **Presented**
- **Chit Assessment** **Presented**
- **OPF Flow Milestones** **Presented**
- **Issues and Concerns** **Presented**
- **TPS Work Content** **Presented**
- **Stoplight Chart** **Presented**
- **Integrated Operations Summary** **Presented**

# Significant Processing Deltas

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- **OMDP System Requirements**
- **FRCS5, LP03 and RP04 Installation/Checkout**
- **OBSS Post STS-116**
- **Tin Whisker Remediation (4 LRU Installations Planned)**
- **SSPTS PTU Installation/Testing**
- **Modal Inspections**
- **Spacehab Transfer Post STS-116**



# Modification Work Summary

## (156 Baselined)

<u>Approved MCR</u>	<u>Title</u>	<u>ECD</u>
• 17177-23	WSB TCS Ground Strap	Mar 07
• 17177-25	DMHS Corrosion Repair	Jan 07
• 17177-39	Arrowhead Increased Strength	Jan 07
• 17177-44	DMHS Cotter Pin Hole Enlarge	Feb 07
• 19476	Improved MLG Tires	Feb 07
• 19546	Inboard Elevon (Drain Hole/HUB)	Jan 07
• 19569	MPM Pyro Harness	Dec 06
• 19589	Midbody X-Over	Dec 06
• 19746/19874	BRI Tile	Feb 07
• 19755	Boom	Feb 07
• 19758	WLE Micro-Tau	Mar 07
• 19763	WLE Horse Collar	Jan 07
• 19789	SSPTS (PTU/EMI)	Feb 07
• 19824	Improved Clearance with PLBD	Feb 07
• 19903	Sky Genie/Overhead Panel	Nov 06
• 23158	ET Arrowhead Anti Pinch Bushings	Jan 07
• 23272	DMHS Splice Line	Jan 07
• 23293	ET Salad Bowl Material Change	Mar 07
• 23371	T-Handle Pip-Pin & Flag	Mar 07
• 23435	ET Close Visual Indicator	Dec 06
• 23471	Booster Fan for SpaceHab	Mar 07

# OV-105/Flt 20/STS-118 Chits

## (186 Approved to Date)

<u>LI</u>	<u>CHIT</u>	<u>DESCRIPTION</u>	<u>STATUS</u>	<u>WAD</u>
1.	J5616A & B	WLE, Nose Cap Chin Panel Thermography	Complete	TES-040
2.	J5620A	Corrosion Preventative Compounds to be Applied	Approved	STR-458
3.	J5854	TPS Upper Surf Window RCC Putty Repair Insp. (Flt 20/21)	Approved	RSI-150/XXX
4.	J5865	Booster Fan Bypass Duct Vehicle Fit Check & Verification	Approved	V1207
5.	J5930CR1	Orbiter Structure IML Surface Corrosion Inspection	Approved	STR-XXX
6.	J5941A	Ames Gap Filler On-Vehicle Pull Testing	Approved	RSI/FWD/MID
7.	J5941CR1	Ames Gap Filler On-Vehicle Pull Testing	Approved	RSI/FWD/MID
8.	J5941H	Ames Gap Filler On-Vehicle Pull Testing & Removal	Approved	FWD/MID
9.	J5952	RJD Removal & Installation (RJDA & RJDF)	Complete	EFC-017
10.	J5971	Evaluation of Putty Requirs for Potential Loss	Approved	RSI-164
11.	J5978C	External Tank Door Closure Visual Indicator	Approved	AFT-129
12.	J6116A	Ames Gap Filler (Flt 20-26)	Approved	Mid
13.	J6123	ASA, ATVC, RJDA R&R	Approved	EFC-016, 019, 020
14.	J6135	R&R GFC #5 BBU	Approved	DIG-101
15.	J6171	PLBD Optics Clearance Measurements	Complete	Opt-053
16.	J6173A	Evaluation of Ceramic Plugs	Pending	
17.	K5983	Tile Shim Inspection	Approved	V6037

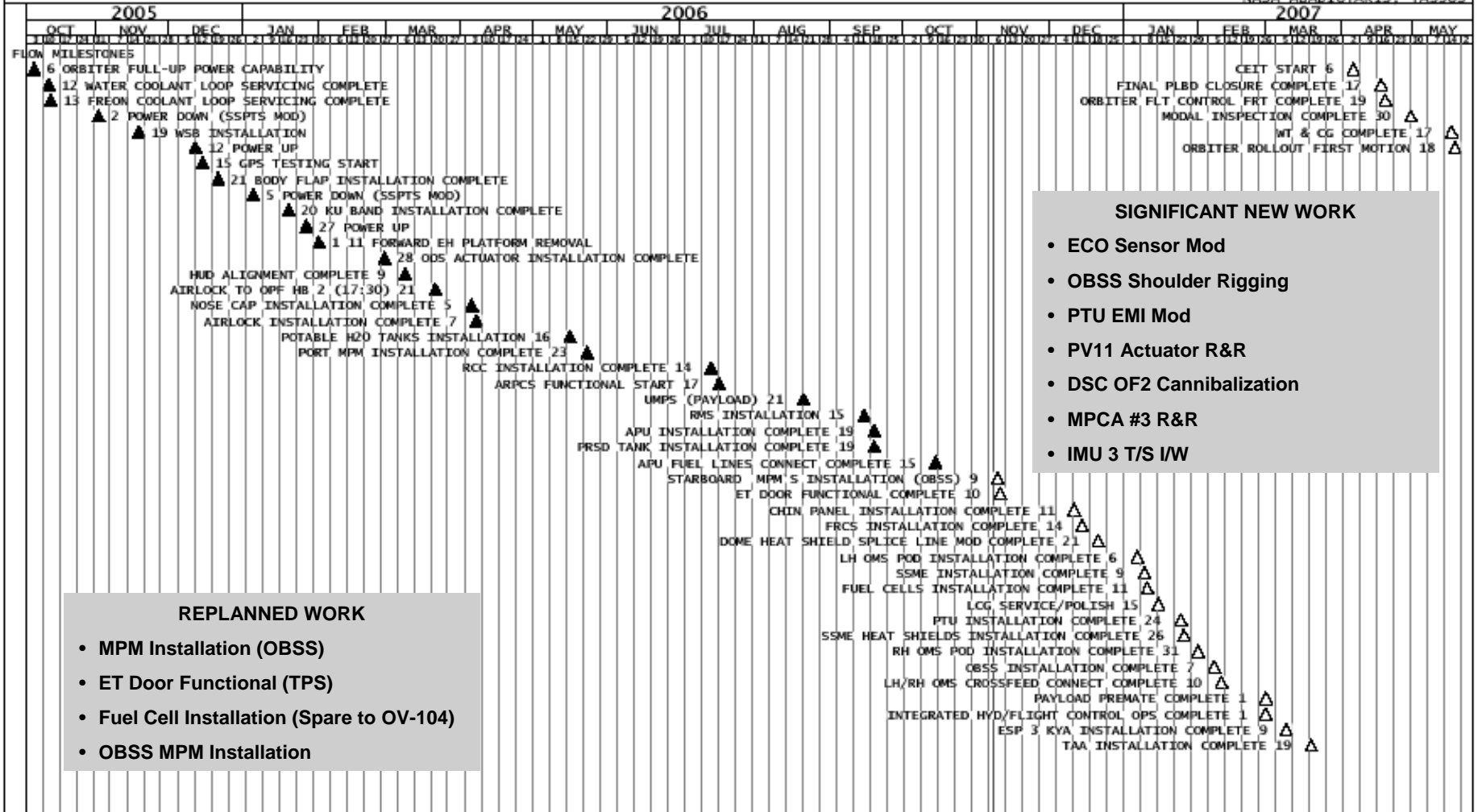
STATUS	
USA	NASA
C	C
Contract	NCMNT-contract

# STS-118/OV-105 OPF FLOW MILESTONES

UP PAYLOAD: ISS-22-13A.1

Creation Date: 20-SEP-2005  
Revision Date: 7-NOV-2006  
Revision : BK

OPR: USA-GOODMON, RANDAL D  
NASA-ABADIOTAKIS, TASSOS



- SIGNIFICANT NEW WORK**
- ECO Sensor Mod
  - OBSS Shoulder Rigging
  - PTU EMI Mod
  - PV11 Actuator R&R
  - DSC OF2 Cannibalization
  - MPCA #3 R&R
  - IMU 3 T/S I/W

- REPLANNED WORK**
- MPM Installation (OBSS)
  - ET Door Functional (TPS)
  - Fuel Cell Installation (Spare to OV-104)
  - OBSS MPM Installation

# Issues and Concerns

---

- **Work Content Growth**
  - **Chits**
  - **IPR'S**
  - **TPS Work Content**
    - **OV-103/OV-104 IFA's**
    - **OV-103/OV-104/OV-105 Parallel**
- **Tin Whiskers Box R/R Could result in Coldplate Damage / Removal**
  - **Extended Orbiter Power Down Required for Coldplate R/R**
- **OV-103 DFRC Landing Delaying SpaceHab/OBSS Transfer**
- **FRC5, LP03 RP04 and SSME's Delivery Dates**

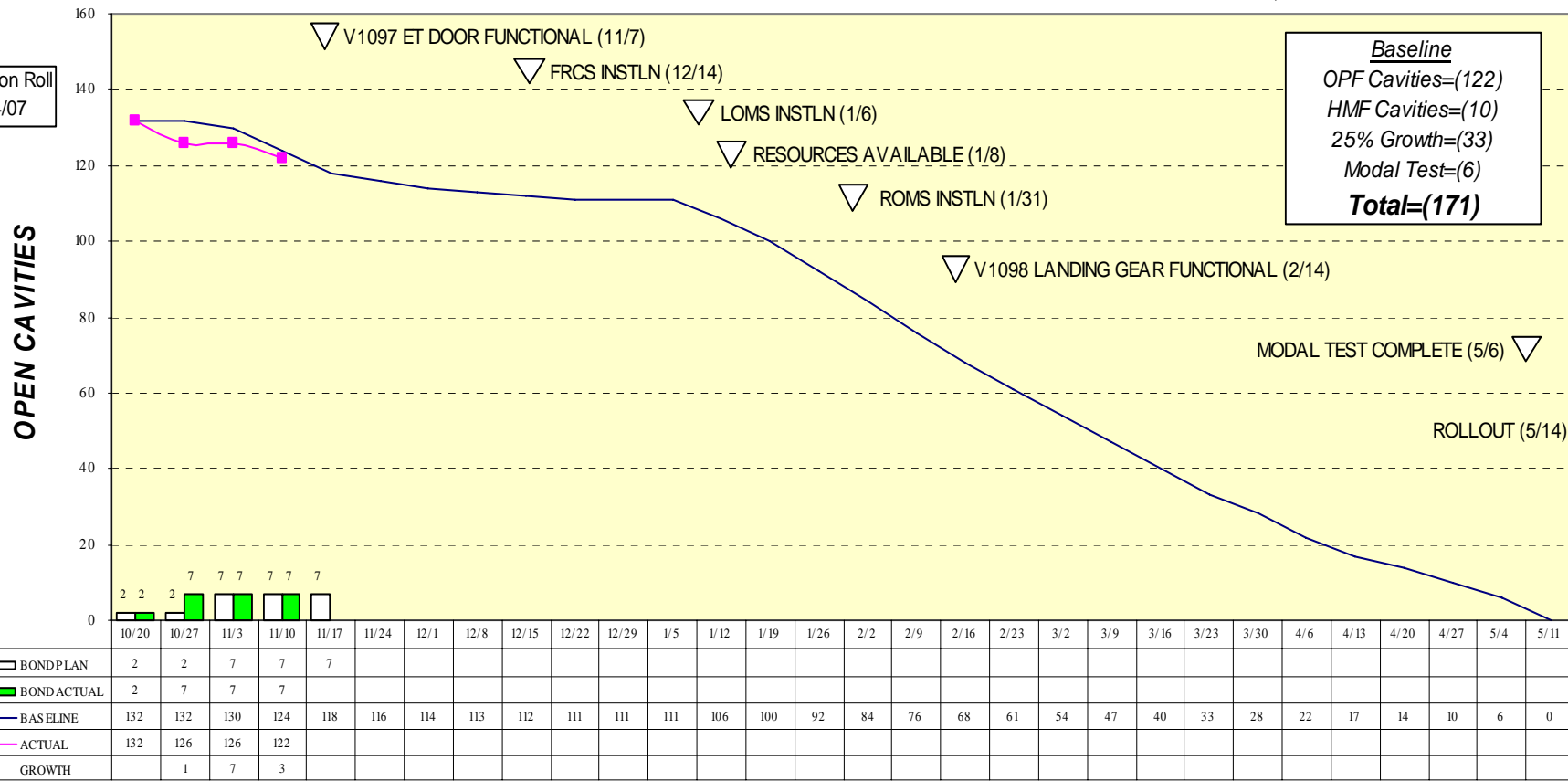
# STS-118/OV-105 BOND PLAN

STATUS	
USA	NASA
C	C
<small>C=Concur</small>	<small>NC=Not-concur</small>














**OV-105 (STS-118) TPS Bond Plan**  
**Includes HMF**




CONTACT: JOHN KROENING 1-0530  
 CREATION DATE: 20 OCT 2006  
 REVISION DATE: 20 OCT 2006  
 REVISION : A  
 OPR: USA-GOODMON, RANDY FM  
 NASA- ABADIOTAKIS, TASSOS PH-O

Based on Roll  
 5/14/07



# STS-118/OV-105 Ground Ops Processing

	Program Milestone	<u>Activity / Remarks</u>
STS-118 LAUNCH		Launch on June 28, 2007 (Window extends to July 17, 2007)
<u>Issues/Critical Path</u>		
OPF Roll Over 5/18/07		
OV-105 OPF Overall		Orbiter Roll Over: NET 5/18/07, Post-OMM processing continues
TPS		New bond plan in work with resources returning from OV-103
RMS/OBSS Installation		RMS installation complete, OBSS shoulder is installed, ready for optics alignment
PTU Delivery		Qual & Flight unit assembly (including GSE) in work, EDD TBD (was 1/13/07)
EFC Tin "Whiskers"		Two of six LRU's installed (last LRU EDD 11/15/06)
		ET/SRB Mate 4/30/07
SRB Stacking		SRB Stacking start target March 2007
ET Standalone C/O		ET-117 On Dock 4/10, ET on Dock to Launch 79 Days
		OPF Roll Over 5/18/07
ET/SRB Mate, Closeout		ET/SRB Mate on 4/30/07
		Launch NET 6/28/07
Integrated VAB/Pad Ops		VAB/Pad Integrated Flow processing to Launch
STS-320, LON for STS-118		ET-120 supports, Assessed LON Launch Aug 24, 2007 (ET-120 on dock date of 6/10/07)
<u>Potential Significant Growth</u>		
AMEC/EMEC Tin Whiskers		Possible Av Bay 4/5 coldplate damage (Chit in review)
LP03 GHE		Possible R&R ISO Vlv and/or Reg

-  Issue remains on schedule, 67% or better available Contingency Days remain in schedule
-  Issue encountering concerns/problems which may cause an impact, 34-66% available Contingency Days remain in schedule
-  Issue may impact a specific Program milestone, 33% or less available Contingency Days remain in schedule

**STATUS**

OPR: USA - J. Taylor, INTEG FM (1-7420)  
NASA - T. Abadiotakis, PH-O (1-9105)

USA NASA  
C C

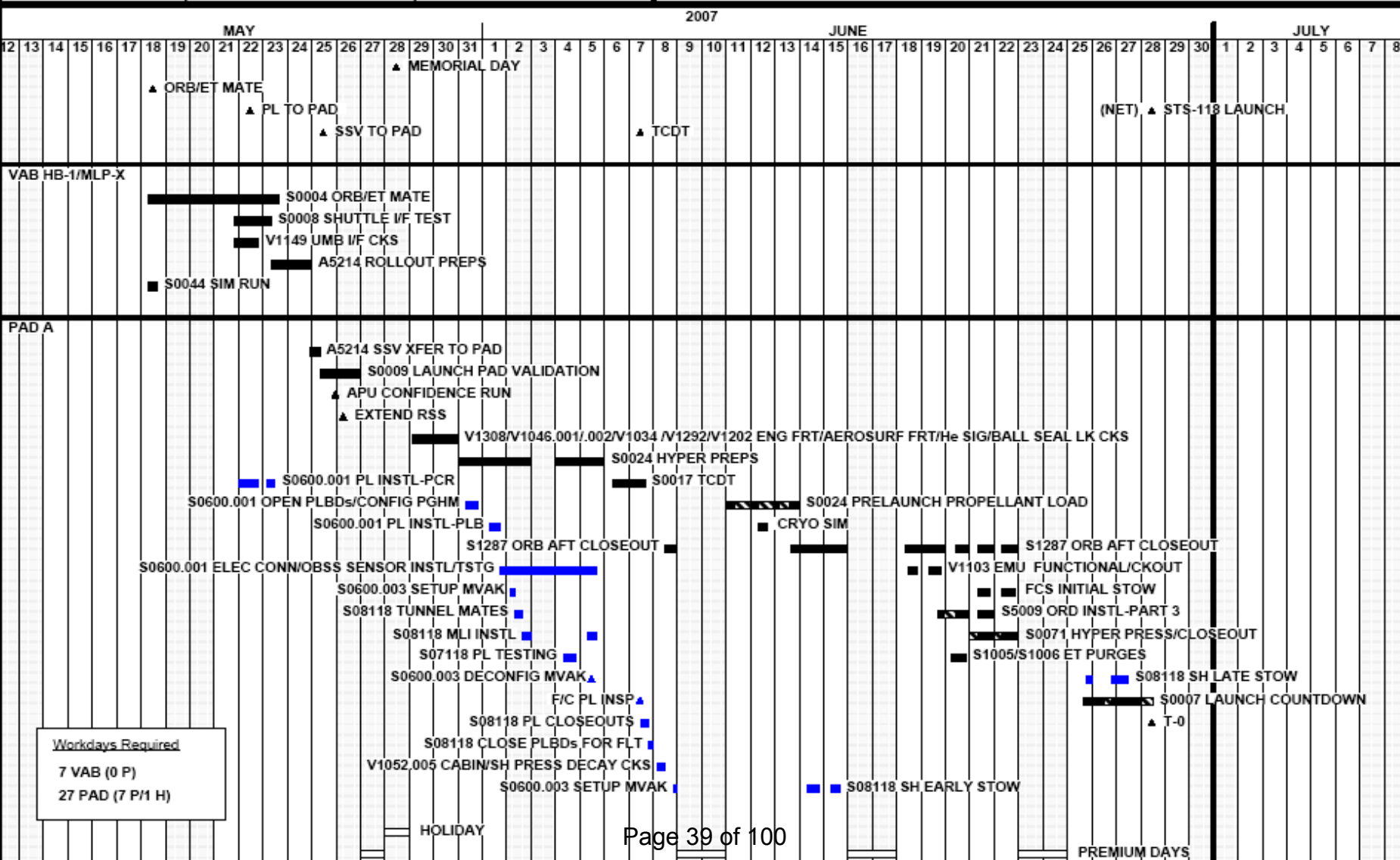
**CONCUR**

Creation Date: 17 OCT 06  
Revision Date: 19 OCT06  
Revision: A-2

**STS-118 / OV-105**

**Integrated Operations Assessment Summary**

Payloads:ISS-22-13A.1 / SPACEHAB (SM) (VERT)



# STS-118 Integrated Launch Site Flow Review

Presenter

**Stephen Reilly**

Date

**11-16-06**

## Backup Material

### FRWG Presentation (With Minor Changes)





# STS-118 Launch Site Flow Review

Presenter	Amy Houts-Gilfriche	
Date	11-16-06	

## SSP ICD Changes

- The Following ICD Changes, Program Designated For STS-118, are in the Review/Approval Cycle:

<u>IRN #</u>	<u>Description</u>	<u>Status</u>
IC-3056, IC-3057, IC-XXX	These IRNs reinstate the 3 string GPS requirements for OV-105 only, which also deletes the TACAN antennas. PRCBD S063125BR8, dated 02/19/04, authorizes the use of a 3 string GPS system on OV-105 only. Reference implementation MCR 18928.	ECD: 12-15-06



# STS-118 Launch Site Flow Review

Presenter	Amy Houts-Gilfriche	
Date	11-16-06	

## SSP LCC Changes

- **The Following LCC Open Work is designated STS-118 Mandatory:**

**LCN 01192 – SRB Implementation of New CRD Requirements**

**ECD: 05-25-07**

This change updates Booster Range Safety System (BRSS) requirements to accommodate new Command Receiver Decoder (CRD) implementation scheduled for STS-118.

- **The Following LCC Open Work is designated STS-118 Non-Mandatory:**

**LCN 01193 – SRB Changes to Existing IRD Req. Due to New CRD R**

**ECD: 05-25-07**

This change retains the Integrated Receiver Decoder (IRD) specific requirements for missions equipped with IRD prior to the first flight of the new SRB RSS CRD, scheduled for STS-118.



<b>STS-118 Launch Site Flow Review</b>	<b>Presenter</b> MK-SIO / A. Swift	
	<b>Date</b> 11-16-06	<b>Page</b> 1

### **Mandatory RCNs:**

OV17206R1	V41 - 750 HELIUM REG PRESSURE TRANSDUCER	ECD 11/20/06
OS16824	F2V3 - RMS RE-CERT U/D AND IBA LL	PRELIMINARY
OV17103	V54 - OBSS STATIC CLEARANCE MEASUREMENT	PRELIMINARY
OV17032	V54 - OBSS IBA TESTING	PRELIMINARY
MB17193	B00 - CRD RETEST TABLE UPDATE	PRELIMINARY

### **Non-Mandatory Value Added RCNs:**

OV17135	V30 - RCM PHASE IV WING AND TAIL	ECD 11/20/06
KB17203	B00 - JNT HTR TEMP SNSR RESIST TEST U/D	11/15/06
OV17182	V46 - APU SCRUB	PRELIMINARY
OV16885	V54 - OBSS "D" FIELD UPDATE & EFF COR	PRELIMINARY



# Flight Requirements Status

Presenter **Gail Clark**

Date **11/16/06**

Page **3**

# BACKUP



## Flight Requirements Status

Presenter **Robert Reynolds**

Date **11/16/06**

Page **4**

- **STS-118 FRD Latest Revision: 009, dated September 1, 2006**
  - **Approved CRs for Revision 010**
    - **NSTS 17462-118-040 – Update EVA Hardware**
    - **NSTS 17462-118-041 – Update SSME's**
    - **NSTS 17462-118-042 – FPSR Crew Requested Items**
    - **NSTS 17462-118-043 – Add DSO's**
    - **NSTS 17462-118-045 – Update Aft Fuselage Ballast**
    - **NSTS 17462-118-046 – Update Launch Date**
  - **Open CRs**
    - **NSTS 17462-118-044 – Delete Late Spacehab SM Stowage Access**
    - **NSTS 17462-118-047 – Volume B Removal**
- **Revision 010 scheduled release: November 20, 2006**



## Flight Requirements Status

Presenter **Robert Reynolds**

Date **11/16/06**

Page **5**

- **STS-318 Latest Revision: Basic, dated August 24, 2006**
  - **Approved CRs for Revision 001**
    - **NSTS 17462-118-040 – Update EVA Hardware**
    - **NSTS 17462-118-041 – Update SSME's**
    - **NSTS 17462-118-042 – FPSR Crew Requested Items**
    - **NSTS 17462-318-002 – Update Launch Date**
  - **Open CRs**
    - **NSTS 17462-118-047 – Volume B Removal**
- **Revision 001 scheduled release: November 20, 2006**

CRs posted at <http://sspweb.jsc.nasa.gov/icbdata>



<b>Flight Requirements Status</b>	Presenter	<b>Gail Clark</b>
	Date	<b>11/16/06</b>

### 13A.1 MIP (NSTS 21506 )

- **Current version available on PILS: Revision D + Chg 3, 9/27/06**
- **Open CRs:**
  - **21506-0037, Update Payload Bay Purge Temperature – ECD 11/15/06**
  - **21506-0040, Control Weight Table Update – ECD 11/15/06**

### Spacehab Single Module CIP (NSTS 21426)

- **Current version available on PILS: Basic + Chg 1-56, 8/18/06**
- **CRs currently in review – None**

### FDRD for STS-118

- **Open CR S072118F, Add MAUI and RAMBO as Payloads of Opportunity to STS-118 – ECD 11/30/06**



## Flight Requirements Status

Presenter **Gail Clark**

Date **11/16/06**

Page **7**

### Flight Duration/SSPTS

- The decision whether SSPTS will support STS-118 will be made the first week of December 2006 by the JPRCB OSB to support installation on January 22, 2007 (for June 28, 2007 launch date)
  - A PRCB change to the FDRD will adjust the duration from 11 + 3 days:
    - to 14 or 13+(1) days depending on pad hold – for the SSPTS case
- OR
- to 11 or 11+(1) days – for the non-SSPTS case



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# **STS-118/318 Launch Site Flow Review Flight Software Overview**

**Judi Powell**

**FRWG 11/13/06**

**PRCB 11/16/2006**

# STS-118 LSFR (FSW)

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- **Products**

- **STS-118/OV-105 Base 2 software production schedule (available to field)**

- **Shuttle Data Tape**

**November 14, 2006**

- **Mass Memory Unit Contents**

**November 29, 2006**

- **STS-318/OV-105 deliveries will consist of the:**

- **STS-118 Base 2 SDT/Mass Memory**

- **STS-318 Flight Specific I-Loads**

- **post call-up changes if required**

- **None at this time**

# STS-118 LSFR (FSW)

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- **Open Items**
  - **STS-318 Flight Specific I-Loads available scheduled for 01/31/07**
  - **Living SCR to define configuration for STS-318 target for approval in January, 2007**
- **Concerns/Issues**
  - **There are no known issues or concerns with Flight Software in supporting STS-118 or STS-318**

# STS-118 LSFR (FSW) - Backup

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- STS-118/OV-105 Flight Software Payload Support:
  - ISS-13A
  - Orbiter Interface Unit (OIU)
  - Sequential Still Video (SSV)
  - Orbiter Docking System (ODS)
  - Trajectory Control System (TCS)
  - Assembly Power Converter Units (APCUs)
  - Station to Shuttle Power Transfer System (SSPTS)
- Major New Flight Software Support Items:
  - MCR 23448 - ECO Sensor (first full implementation)
  - SCR 93117 - SRB Command/Receiver Decoder (CRD) SRB Downlist

# STS-118 LSFR (FSW) - Backup

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- **STS-118 Source Changes/Edits for Primary Flight Software (Base 2)**
  - DR 101072 - Immediate Moding Skipped
  - DR 121191 - IPV Load/Store Problem on Discretes' Sets/Resets
  - SCR 92844A - Allow Uplink Change of AV Bay 3 Delta Pressure Parameter Scaling
  - SCR 92871C - RCS Manifold Auto-Close for Failed-On Jet
  - SCR 92872A - Make Cameras-Heater On Command Subject to RTC Moding
  - SCR 92877A - RMS SPEC 94 Changes to Support Starboard Boom
  - SCR 92879D - RMS Position Orientation Hold Select in Automatic Mode
  - SCR 92887A - RCS Auto Manifold Close Enable/Disable via SPEC 23
  - SCR 92889 - Remove Abort PE Engine-Out SSME Pitch Trim
  - SCR 92894B - RMS Auto POHS MSID Change
  - SCR 92899A - Correction CR to CR's 92871C and 92887A (RCS Auto Manifold Close)
  - SCR 92900A - SPEC 23 Display Change for Auto-Manifold Close
  - SCR 92909A - ET Camera Power Control Commands

# STS-118 LSFR (FSW) - Backup

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- **STS-118 Source Changes/Edits for Primary Flight Software (Base 2)(cont.)**
  - SCR 92920A - Eliminate Undesirable Roll Attitude Error Bias
  - SCR 92922B - RCS Manifold Isolation Valve Close Command Timing Correction
  - SCR 92950 – G/C Steer Roll Bias Ramp at PPD or MECO
  - SCR 92962 - Effectivity Change for SCR 92880 (STS-114 SSME Downlist Requirements)
  - SCR 93040A - Antenna Attitude Compensation Matrix Fix
  - SCR 93067A - Expand effectivity of SCR 92970B (SSPTS Computation and Display of Individual Fuel Cell Power) and SCR 92982B (SSPTS Ground Uplink Commanding by RTC Moding) to include STS-116
  - SCR 92882 – Allow Three String GPS for STS-116 and Subsequent OV-105 Flights
  
- **STS-118 Patch Implementation for Primary Flight Software (Base 2)**
  - SCR 93028 - Expand Effectivity of SCR 92971D (RCO-FSW Changes to Support Remote Control Orbiter)

# STS-118 LSFR (FSW) - Backup

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- **STS-118 Patch Implementation for Backup Flight Software (Base 2)**
  - **SCR 92804A - Provide BFS Target Nz for Composite Display**
  - **SCR 92889 - Remove Abort PE Engine-Out SSME Pitch Trim**
  - **SCR 92909A - ET Camera Power Control Commands**
  - **SCR 93020 - LT/RT Main Landing Gear Door Uplock Discretes Correction**

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# Back-up



# Modification record matrix

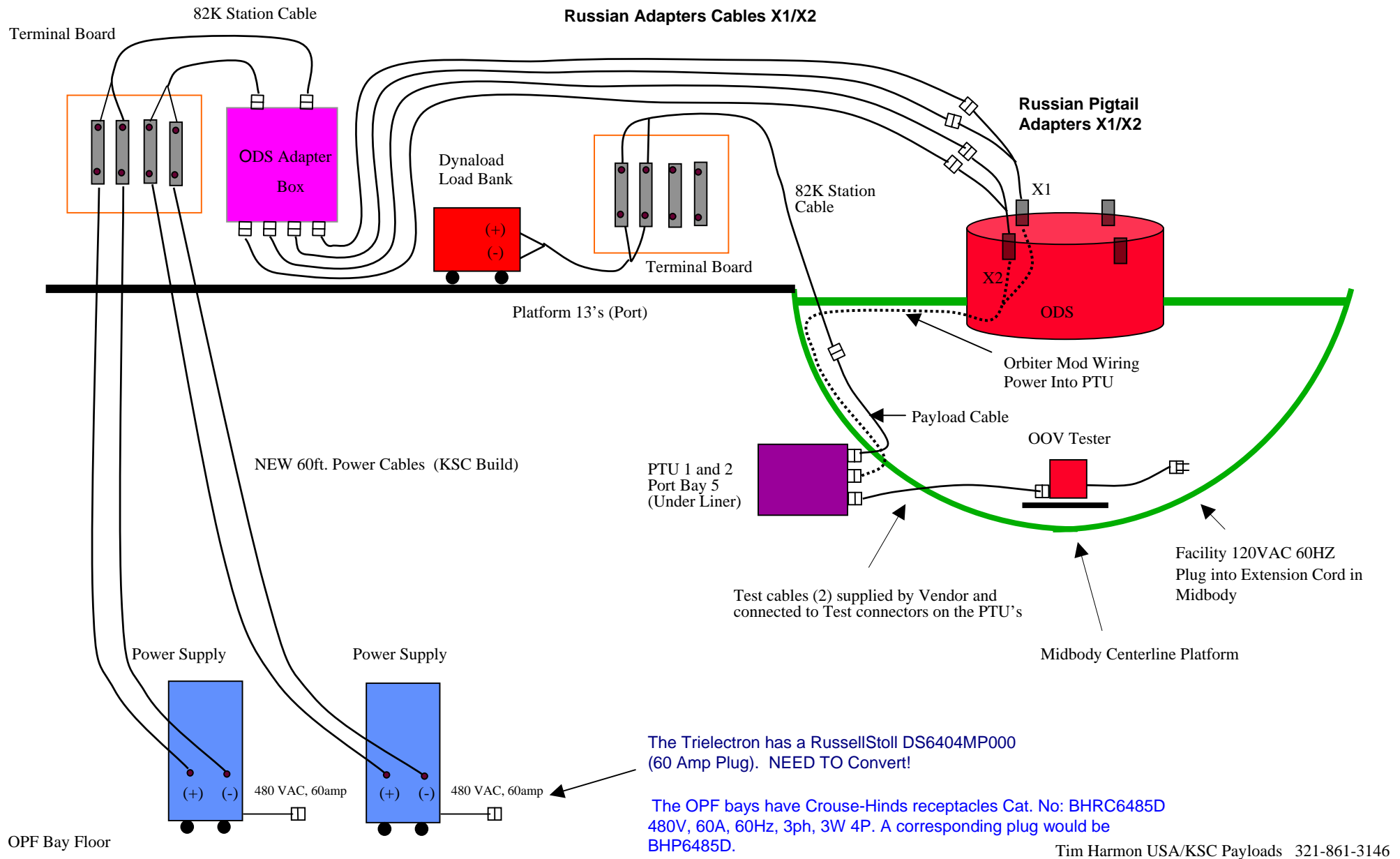
MCR NO.	MCR TITLE	KIT/ MOD RECORD & DESCRIPTION	TECH ORDER IMPACT	REMARKS
<b><u>Mods to be baselined</u></b>				
23467	Update WCS to -25 configuration	023467, 0105, 0 Placeholder OCR/D and MCR release in work to establish Flt 20 effectivity Est Engr Rel Date: 11/3/06 for V070-623002; 11/17 for V070-000001	No Tech Order Impact	Authorized by OCRD S064950BH for WCS1000-25 Configuration OCRD S064950BM in work to revise effectivity to Flt. 20 No MECSLSI Impact
<b><u>Mission Kit Updates</u></b>				
	ISS External Airlock Aft Hatch (Blanket)	Remove M072-360828-006 from MECSLSI Tech order installs TCS blankets nad handholds on ailock aft hatch which are not required with the Spacehab tunnel installation	Remove M072-360828-006 MODEL MV0828A	MECSLSI IMPACT
	SSOR antenna installation	Remove duplicate SSOR antenna installation from MECSLSI	Remove M072-740828-002 MODEL MV0828A	MECSLSI IMPACT
	Aft Ballast Tech Order Update	Rewvised aft ballast tech order installation to provide 2714 lbs aft ballast , was 2697 lbs, per FRD revision (CR/DIR FRD 17462-118-045). SODB change per PCIN S164080BW clarified and revised max aft ballast limits to be consistent with certification limits.	M072-851701-067 (IS) -066 (WAS) MODEL MV0573A	MECSLSI IMPACT
<b><u>Mods to De-Baselined</u></b>				
19743	Main Landing Gear Door Thermal Barrier Re-Design (BRI-18 perimeter tile installation)	TCTIV1019743REF, 0105, 0 Main Landing Gear Door (MLGD) Thermal Barrier Re-design	No Tech Order Impact	Removes flt 20 effectivity mod record from baseline. Replaced by attrition record SUB-EO-19743,0105,0
<b><u>Potential Mods</u></b>				
23452	Fiducial Markings on WLE RCC T-Seals	023452, 0105, 0 Placeholder Implement fiducial markings on WLE RCC T-seals using sharpie permanent marker to facilitate on-orbit imagery x-y-z coordinate location identification on RCC areas of interest. Authorized for Flt 20 effectivity on OCRD S165045A	none	Engineering release planned for 03/21/07 Arc jet testing under MCR 23056 forecast to start 01/15/07 followed by final test reports prior to engineering (installation and assembly spec ML0301-0023) update

# Mod Engineering and Certification Matrix

MCR NO.	MCR TITLE	Est. Engr Release (MM/DD/YY)	G.O. Engr Need (MM/DD/YY)	Est. Hdwe Delivery (MM/DD/YY)	G.O. Hdwe Need (MM/DD/YY)	MOD/CERT GO / NO-GO	CERT SUBMITTAL DATE	CERT APPROVAL DATE	CERTIFICATION CR / CAR (BOEING)	REMARKS
<b>Mods to be Baseline</b>										
17177	<b>Re-route Payload Bay door latch wiring to mitigate dynamic clearance issue for STS-118</b> Re-routes Wire harness on bay 12 starboard payload bay door crossover linkage to mitigate wire clearance issue						N/R	N/R	N/R	
17177	<b>ODS Vestibule Air Duct Strap Deletion</b> Eliminates air duct retention strap from ODS vestibule duct. Strap was previously utilized for attaching the duct end in the ODS vestibule when the crew was present and to provide some mixing of air with ISS. To improve the air circulation with ISS, a new halo by-pass ducting configuration was developed which uses a T-handle clamp to attach the end of this duct to an ISS duct just below the Halo. With this configuration and the T-handle clamp, the velcro strap is not needed for duct securing.	Released	N/A	N/A	N/A	Go		N/A	N/A Ref. OCRD S165051	OCRD S165051 approved for fleet - first effectivity is OV-104 STS-115.  Tech order update removes existing strap - no new hardware.  MECSLSI Mission Equipment item: M072-643406-005 (was -004) ECLSS DUCT-EXT AIRLOCK (MV0828A)
17222	<b>New CCTV Pan Tilt Units</b>	Released	N/A (See GFE)	N/A (See GFE)	N/A	Go		N/A	GFE Hardware	
17222	<b>RMS Elbow Wedge</b>	Released	N/A (See GFE)	N/A (See GFE)	N/A	Go		N/A	GFE Hardware	
17222	<b>Installation of new WLE Micro-tau Sensor and Relay Units</b>	Released	N/A (See GFE)	N/A (See GFE)	N/A	Go		N/A	GFE Hardware	No Orbiter Certification required
17334	<b>Orbiter Provisions to accommodate EDO Cryo Feed-through boxes</b>	Released						N/A		No Orbiter Certification update required
19823	<b>Crew Optical Alignment Sight (COAS) Stowage Container Update</b>	Released						N/A	GFE Hardware	
19768	<b>MPM Guillotine Bolt Replacement</b>	10/13/06	N/A				submitted w/30 mission OBSS cert	11/22/06	CAR 08-44-000002-001K CR 44-000002-001K	
19896	<b>Emergency Egress Slide Deployment Mechanism</b>	10/30/06	N/A (See GFE)	N/A (See GFE)	12/13/06		11/30/06		CR 25-623-0015-0001 CR 25-651-000002-001	
23471	<b>Booster Fan Bypass ducting for Spacehab missions</b>		N/A (See GFE)	N/A (See GFE)		Go	9/20/06	11/22/06	CR 35-643500-002 CR 17-35-643500-002S	
23467	<b>Update WCS to -25 configuration</b>	11/17/06		Mid March '07			11/29/06	12/12/06	CR 23-623200-001 Rev. E CAR 07-23-623200-001E	

# SSPTS Vehicle Test Set-up

## PTU Power Test (with GSE 120VDC Power Supplies)





Presenter <b>MV5/Bruce Sauser</b>	
Date Nov 16, 2006	Page 1

# **STS-118 LSFR FCE/GFE Status**

**Bruce Sauser**  
**Manager, GFE & Flight Crew Equipment Office**  
**Johnson Space Center**  
**Nov 16, 2006**



<b>STS-118 LSFR</b> <b>Flight Crew Equipment/GFE</b>	<b>Presenter</b> MV5/Bruce Sauser	
	<b>Date</b> Nov 16, 2006	<b>Page</b> 2

- **Currently, no hardware certification issues for STS-118 hardware**
- **Need dates and delivery dates are partnered; team working to partner remaining dates**
- **Anticipate no issues delivering hardware**
- **Tech orders and hardware list noted in backup charts**



<b>STS-118 LSFR</b> <b>Flight Crew Equipment/GFE</b>	<b>Presenter</b> MV5/Bruce Sauser	
	<b>Date</b> Nov 16, 2006	<b>Page</b> 3

# BACKUP



**STS-118 LSFR**  
**Flight Crew Equipment/GFE**

Presenter <b>MV5/Bruce Sauser</b>	
Date Nov 16, 2006	Page 4

**STS-118 Rev-009 MV5 GFE**

Hardware	Tech Order	Eng(TO) Release	In MEC	Cert O/C	KSC HDW Need O/D	JSC HDW Planned O/D	KSC Remarks	JSC Remarks	JSC Contact
A (port forward)	M072-750025-058	03/24/2005	07/18/2006	C	02/05/2007	02/05/2007			Randall Moore
B (port aft)	M072-750025-067	03/24/2005	07/18/2006	C	02/05/2007	02/05/2007			Randall Moore
C (starboard aft)	M072-750025-060	03/24/2005	07/18/2006	C	02/05/2007	02/05/2007			Randall Moore
D (starboard forward)	M072-750025-061	11/24/2004	07/18/2006	C	02/05/2007	02/05/2007			Randall Moore
SRMS elbow camera	M072-544504-001	01/24/2005	07/18/2006	C	02/05/2007	02/05/2007			Randall Moore
SRMS wrist camera	M072-544504-003	03/04/2005	07/18/2006	C	02/05/2007	02/05/2007			Randall Moore
Centerline Airlock Camera (stowed)	M072-660828-002, plus CCCD stow	03/17/1999	07/18/2006	C	02/19/2007	02/19/2007			Randall Moore
Lefthand Umbilical Camera (forward)	M072-705001-017	10/28/2004	07/18/2006	C	04/27/2007	04/27/2007			Randall Moore
Lefthand Umbilical Camera (aft)	M072-705001-016	10/28/2004	07/18/2006	C	04/27/2007	04/27/2007			Randall Moore



**SPACE SHUTTLE PROGRAM**  
**Space Shuttle Orbiter Project Office**  
 NASA Johnson Space Center, Houston, Texas



**STS-118 LSFR**  
**Flight Crew Equipment/GFE**

Presenter  
**MV5/Bruce Sauser**

Date  
 Nov 16, 2006

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Hardware	Tech Order	Eng(TO) Release	In MEC	Cert O/C	KSC HDW Need O/D	JSC HDW Planned O/D	KSC Remarks	JSC Remarks	JSC Contact
Righthand Umbilical Camera	M072-705001-024	10/28/2004	07/18/2006	C	04/27/2007	04/27/2007			Randall Moore
Digital Television (DTV)	M072-710570-007		07/18/2006	O	11/15/2006	11/15/2006			Larry Schmidt
MCIU/RMS Situational Awareness Display (RSAD)	M072-710543-001	03/07/2000	07/18/2006	O	11/13/2006	11/13/2006			Larry Schmidt
Portable Foot Restraint (PFR)	M072-661568-029	03/11/2005	07/18/2006	C	02/12/2007	02/12/2007			Mickey McElroy
Sequential Still Video (SSV)	STOWED			C					Larry Schmidt
Tools for Rendezvous and Docking (TRAD)	M072-730021-018		07/18/2006	O	10/09/2006	10/09/2006			Larry Schmidt
Video Processing Unit (VPU)	M072-710338-006	07/05/2001	07/18/2006	C	11/13/2006	11/13/2006			Larry Schmidt
Winches	V070-650007-085	11/19/2004		C	02/12/2007	05/05/2006			Mickey McElroy
Wireless Video System (WVS)	M072-744007-001 UHF M072-344828-001 mount M072-744004-014 S-BAND M072-744004-013 S-BAND M072-744004-012 S-BAND M072-744004-015 S-BAND M072-744004-017 S-BAND M072-744004-018 S-BAND M072-744004-016 S-BAND			O					Gary Cox





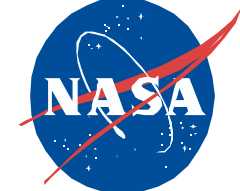
**STS-118 LSFR**  
**Flight Crew Equipment/GFE**

Presenter  
**MV5/Bruce Sauser**

Date  
 Nov 16, 2006

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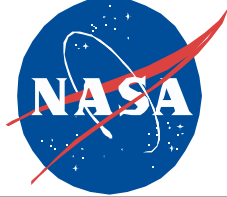
Hardware	Tech Order	Eng(TO) Release	In MEC	Cert O/C	KSC HDW Need O/D	JSC HDW Planned O/D	KSC Remarks	JSC Remarks	JSC Contact
Space to Space Orbiter Radio (SSOR)	M072-344828-002 M072-740828-002 antenna			C					Larry Schmidt
RMS Sideview Camera (RSC)	M072-710281-002 M072-000416-004 camera	11/24/2004	07/18/2006	C	02/05/2007	02/05/2007			Randall Moore
Wing Leading Edge (WLE) Instrumentation - Left Wing**	M072-756111-003			O		07/19/2006			Gary Cox
Wing Leading Edge (WLE) Instrumentation - Right Wing**	M072-756111-004	10/17/2005		C		07/19/2006			Gary Cox
OBSS Sensor Package 1	M072-710282-001		07/18/2006	O	02/13/2007	02/13/2007			Randall Moore
OBSS Sensor Package 2	M072-710282-004			O	02/13/2007				Larry Schmidt
WLE Batteries	M072-756111-003 M072-756111-004		07/18/2006	O	03/12/2007	03/12/2007			Gary Cox
SCU				C				Installed	
Port LWTSA				O	03/01/2007	03/01/2007			Mickey McElroy
Aft Thrust Structure Micro-Strain Gauge Unit (SGU)	M072-755110-007			C					Gary Cox
Aft Thrust Structure Micro-SGU batteries				O					Gary Cox



# **EVA Status**

## **STS-118/13A.1 Launch Site Flow Review**

**XA/Bridget Johnson  
Johnson Space Center  
November 16, 2006**



- **Bulkhead PFR**
  - Bulkhead PFR installation, SED33105308-307 – Tech Order: M072-661568-029
- **Winches**
  - Forward Winch, SED33101570-327
  - Aft Winch, SED33101570-325
- **Port TSA (Lightweight)**
  - Port LWTSA installation – Tech Order: M072-660850-003
  - Port LWTSA Tools installation – Tech Order: M072-660853-002
- **No Starboard TSA**
- **No Safety Tethers Routed in PLB**
- **No Slidewires**

**Endeavour STS-118**  
**Launch Site Flow Review**  
**Space Shuttle Main Engine**  
**16-November-2006**

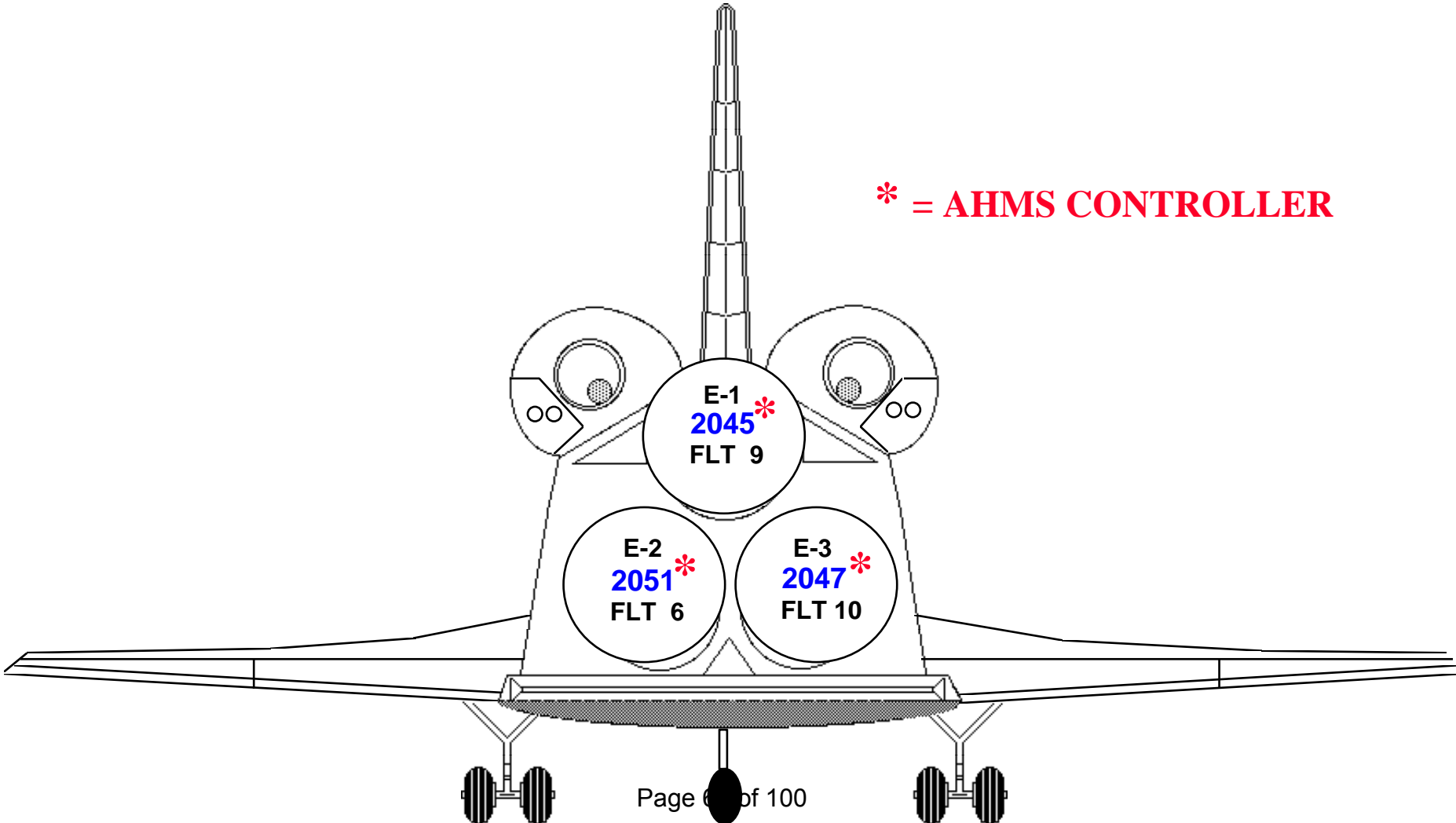
**SSME- KSC**  
**Greg Haile**  
**(321) 861-4060**  
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# STS-118 Launch Site Flow Review

## *SSME Allocations / Locations*

**\* = AHMS CONTROLLER**





# STS-118 Launch Site Flow Review

## *SSME Planned Modifications*

- Work authorized by Shuttle Project Action Request (SPAR) or Level II Change Request (CR)

ECP	Kit No	Description	Weight Impact	SPAR No./ CR No.	Engine	Status
1491	2R091576-10	Clamping Fasteners	+0 LB	ME-0221 R01 ME-0222 R01	2045 2051	Complete Complete
1480	2R091575-10	AHMS Controller	-4.4 LB	TBD	2045 2051 2047	To be worked To be worked To be worked
1511	2R091613-10	AHMS Weight Update	+0 LB	TBD	2045 2051 2047	To be worked To be worked To be worked



# STS-118 Launch Site Flow Review

## *Rocketdyne Action Requests (RAR)*

RAR Number	ENGINE	SPAR	DESCRIPTION	STATUS
1566	2045 2051	ME-0221RB ME-0222RB	Dye Penetrant Inspect HPFTP Speed Sensor.	CLOSED

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# BACKUP



# CONFIGURATION / Facilities

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- **OV-105: Flight 20**
- **OMS Pods: LP04 / RP01**
- **ET: 117**
- **SRB: BI – 130/RSRM 97**
- **SSME: 2045 (#1), 2051 (#2), 2047 (#3)**
- **Payload: ISS-13A.1, ITS-55, SpaceHab/SM, ESP3**
- **Flight Software: See LSRR**
- **Firing Room: 4**
- **OPF Bay: 2**
- **MLP: 1**
- **VAB High Bay: 1**
- **Pad: A**



# STS-118 Launch Site Flow Review

Presenter	Amy Houts-Gilfriche	
Date	11-16-06	

## Backup Material

- **SSP Systems Drawings** Attachment 1
- **SSP Authorized Modifications/Non-Standard Work** Attachment 2
- **SSP OMRS Waivers and Exceptions** Attachment 3
- **Launch Window** (Not Available)
- **Open Configuration Waivers** Attachment 4



# STS-118 Launch Site Flow Review

Presenter	Amy Houts-Gilfriche	
Date	11-16-06	

## SSP System Drawings

The Drawings Baseline Was Released By PRCB S115118BR2 on 10-23-06

- V072-000001-259 (Rev. UR01) Space Shuttle System (Rel. 07-13-06)
  - V072-200196-003 (Rev. E01) Mission Equipment Cargo Support (Rel. 10-09-06)
  - SGD32104441-501 (Rev. NC1) Crew Compartment Configuration (Rel. 10-13-06)
    - 502 Descent
  - V070-000001-005 Orbiter General Assembly
    - V070-410199-018 SSME Installation
  - 10100-0061-164 Integrated SRB General Assembly (BI-130)
  - 80901000000-519 External Tank Assembly (ET-117)
- STS-118 LSRR + 18 days Mission Configuration Product Plan (MCP) was last published on 10-23-06 and will be republished at ORR -14 days on 04-13-07.



# STS-118 Launch Site Flow Review

Presenter	Amy Houts-Gilfriche	
Date	11-16-06	

## SSP System Drawings - Cont'd

### Ferry Configuration

- V072-000001-260 (Rev. UR01) Space Shuttle System Drawing (Rel. 07-13-06)
- V072-200196-004 (Rev. E01) Mission Equipment Cargo Support (Rel. 10-09-06)
- SGD32104441-001 (Rev. NC1) Crew Compartment Configuration (Rel. 10-13-06)
- V072-300055-014 (Rev. BL01) Ferry Flight Configuration (Rel. 06-21-06)

SCA 905

W MAR

ML60B 6013 -307	PRIME C/L CAM GFE TV CONTROL
ML60E TBD -TBD	PGSC/ PGSC ACCESS
ML60J 6066 -324	COLOR PRINTER & PAPER
CTB	TRAD
ML60M 6014 -309	B/U C/L CAM ULTRA SONIC LEAK DETECTOR

VOL B	-TBD
-------	------

VOL 3B (MA73J)	7425 -307
QUICK DON MASKS (3) CABIN AIR CLEANER/ SPOTLIGHT BATTS PD100 CC/FLASH/ LCD MON DCS 760 400MM LENS	

A16	8706 -307
DTV CAMERA BAG 35MM CAMERA BAG PILOT FRED LEG BAR	

CDR	Scott J. Kelly
PLT	Charles Hobough
M/S #1	Tracy E. Caldwell
M/S #2	Rick Mastracchio
M/S #3	David Williams
M/S #4	Barbara Morgan
M/S #5	UP Clay Anderson
M/S #6	DN Suni Williams

# ASCENT MODULAR LOCKER LAYOUT

PANTRY FOOD	1622 -308	MF57A	1622 -308	PANTRY FOOD	1622 -302
		PANTRY FOOD			

## MIDDECK FORWARD

MF14E 2760 -306 FRESH FOOD FRESH FOOD	MF28E 5452 -326 IFM BREAKOUT BOX TURNBUCKLES AIR BOTTLES WWD FLT RMS IFM KIT	MF43E TBD CBT-M #1	5962 -303 MF57E 6269 -307 PRINTER TRAYS IODINE REMOVAL 6256-303	MF71E 1901 -305 PLT CLOTH
MF14G 2762 -307 MENU FOOD MENU FOOD	6300 MF28G 6250 -337 -345 IFM TOOLS 2163-302 2161-305 2162-306	MF43G TBD CBT-M #2	1903 MF57G 1903 -305 M/S #2 CLOTH	MF71G 1900 -308 CDR CLOTH
MF14H 2763 -304 MENU FOOD MENU FOOD	6684 MF28H TBD POST INSERTION #2 ALTIMETER	MF43H TBD CBT-M #3	5473 MF57H 5473 -305 ORBITER FDF	MF71H TBD MYO
MF14K 2764 -306 MENU FOOD MENU FOOD	6231 MF28K 6231 -335 POST INSERTION #1	6240 MF43K 6240 -311 SODF FDF	8700 MF57K 8700 -307 HYGIENE SODF	8700 MF71K 8700 TBD ENTRY GMTS HCTB
MF14M 2765 -304 MENU FOOD MENU FOOD	8938 MF28M 8938 -TBD HYGIENE	6299 MF43M 6299 -313 COAS/FLUOR LT LIGHT SHIELDS DCS 760 AUDIO DOS	3005 MF57M 3005 -304 M/S #4 CLOTH	1902 MF71M 1902 -308 M/S #1 CLOTH
MF14O 2766 -305 MENU FOOD MENU FOOD	2767 MF28O 2767 -304 MENU FOOD MENU FOOD			1908 MF71O 1908 -309 CREW SUPPORT

A17	7424 -302
CC BAG #1 CC BAG #2 QUICK DON MASKS (4) HATCH TOOL	

VOL D	TBD
(MD52C)	
TILE OVERLAY	

VOLUME F	1403 -306
(MD76M)	
WET TRASH	

VOLUME G	1800 -343
(MD80R)	
CONT UCDs WASTE MGMT	

VOLUME H	8068 -TBD
(MD23B)	
EVA ACCESS (INBD)	
EVA ACCESS (OBD)	8065 -TBD
HIGH TORQUE TOOLS	

WMC	4575 -309	0914 -331
(MA82H)		
TOWELS AND RESUPPLY ITEMS WMC DISPENSER		
1st DAY CLOTH		
1641-323		

EXT AIRLOCK	TBD
2-EMUs	(PORT)
EXT A/L FLOOR SAFER HAND CONTROL DIDB'S (17) ORU TOOL KIT	

MA9N	TBD
SOFT STWG BAGS	
PHK'S (TBD)	4980-307
RESTR/MEAL TRAYS 3 BRACKETS	7934-311
CCK/FIBERSCOPE/ CHEM LTS(RED)	5311-307

## MIDDECK AFT

MA9D 7521 -TBD CONDENSATE SUPA (14) INGRESS CSA-CP	MA16D 6020 -TBD G-SUITS (6)
MA9F TBD PGSC ACCESS	MA16F 4033 -313 DC VACUUM
MA9G TBD PGSC ACCESS	MA16G 8737 -TBD RCC NOAX DOUBLE "COLDBAG"
MA9J TBD PGSC ACCESS RF LAN	MA16J 8723 -302 STOW N GO CTB
MA9L TBD M/S #5 UP CLOTH HCTB	MA16L TBD ISS RESERVE
MA9N	MA16N 3006 -304 MED KITS

MD CEIL (PORT 1)	TBD
SPARE DTV HDW RCC TOOLS TPS HDW AMMONIA DET KIT CRACK BAG	

MD CEIL (PORT 2)	TBD
LCVG (2) B/U CCC (4) EVA GLOVES (2 PR)	

MD CEIL (STBD 1)	TBD
IELK	

MD CEIL (STBD 2)	TBD
ACES G-SUIT HYGIENE (ICTB) SPACEHAB DUCT M/S #5 DN CLOTH (HCTB)	

MD FLOOR (PORT 1)	TBD
CBTM MUFFLERS FRED	

MD FLOOR (PORT 2)	TBD
LCVG ANDERSON ECOK ANDERSON DON FILTER MU 3 MICRON FILTERS (6)	

MD FLOOR (STBD 1)	TBD
IPT RESERVE (2 MLE)	

MD FLOOR (STBD 2)	TBD
ISS RESERVE	

29 LIOH + 1 ATCO STOWED IN LIOH BOX 3 INSTLD 18 LIOH STOWED IN SPACEHAB
---

C/D JSC (XXXX-TBD) P/D JSC (XXXX-TBD) C/D KSC (XXXX-TBD) P/D KSC (XXXX-TBD) ISS LABEL (XXXX-TBD)
--

WINDOW SHADE BAG - (5548-340)
WINDOW SHADES IFM CABLES & HOSES (4259-331) CAMERA SHROUDS FILM CHG BAG

L10A1: AVIU(6686-324) L10A2: DTV MUX L10A3: DTV/ VTR/VIP L11A1: PDIP 2 L11A2: A3; OIU 1/2 L12A1: SSP 1 L12A2: SSP 2 L12A3: PDIP R12A1: OIU R12A2: OPP
--

CTB HLF SGL	
LAUNCH TBD TBD	
RETURN TBD TBD	

* NOT APPROVED
o L-24 LATE LOAD
⊗ SWAP
⊗ TRANSFER HARDWARE
CTB CARGO TRANSFER BAG
HCTB HALF CARGO TRANSFER BAG

DWG NO. SGD32104441  
CCFE: TRACY HUNT  
(281) 483-3063  
/USR/DWGS/LOCKER/STS118

NOTE: LOCKER LAYOUTS ARE FOR REFERENCE ONLY & ARE NOT RELEASED DWGS. FOR RELEASED DRAWING, PLEASE REFER TO THE CREW COMPARTMENT CONFIGURATION DRAWING FOR THIS FLIGHT (SGD32104441)



# STS-118 Launch Site Flow Review

Presenter	Amy Houts-Gilfriche	
Date	11-16-06	

## Modification Impact Report

- Mission Equipment Modifications and Orbiter Modifications analyzed for impacts to OMRSD, LCC, ICD, EMI, Software, and GSE.
- A total of 25 MCRs have been approved and/or pending mods
- Current MCR impact status:
  - No impacts for all six disciplines 17
  - One or more disciplines with impacts, documentation approved and/or pending approval 6
    - MCRs 19476, 19823, 23371, 23410, and 23438
  - Possible impacts still under review 2
    - MCR 19789 is being reviewed for OMRSD impacts
    - MCR 23448 is being reviewed for EMI impacts

*underlined MCRs have impacts in other disciplines*

MCR/ECP	STAT SITE	ITEM/KIT NUMBER TCTI NUMBER	SEQ EISN NO.	DESCRIPTION / GENERAL REMARKS	PRCB AUTHDATE	PRIO FLT
	INC KAS	FEC KET-0085	0117 000	INSTALLATION OF ET GUCP INCONEL BELLOWS	ET-0063B 2002-04-02	SCHD
B02121	AUTH MAF	N091	0117 000	LO2 FEEDLINE BELLOWS HEATERS RTF CAIB RECOMMENDATION 3.2-1 FOR ET THERMAL PROTECTION SYSTEM MODIFICATION.	S062612B 2005-06-10	

TOTAL MODS = 2

MCR/ECP	STAT	ITEM/KIT NUMBER	SEQ	DESCRIPTION / GENERAL REMARKS	PRCB AUTHDATE	PRIO FLT
-----	SITE	TCTI NUMBER	EISN NO.	-----	-----	-----
012999	COMP KSC	TCTIM0012999REF	0005 002	DISCREPANT BLANKET AROUND MILKSTOOL - EOTF ADDED PER EO V525-000002 T11 & V525-366000 B01 AUTH PER S063125QR4 UNTIL STS-118 LSFR	S063125QR4 2006-06-13	MAND 020
017177	COMP KSC	TCTIM0017177REF	0003 001	ODS VESTIBULE AIR DUCT STRAP DELETION ADDED PER V828-000002 F11	S115118K 2006-10-23	MAND 020
017222	AUTH KSC	TCTIM0017222REF	0007 002	IMPLEMENTATION OF NEW PAN & TILT UNIT MODEL MV0082A ADDED PER V082-000002 E07	S115118K 2006-10-23	MAND 020
	AUTH KSC	TCTIM0017222REF	0005 003	IMPLEMENTATION OF NEW PAN & TILT UNIT MODEL MV0548A ADDED PER EO V548-000002 D29	S115118K 2006-10-23	MAND 020
	AUTH KSC	TCTIM0017222REF	0003 003	INSTALLATION OF NEW WLE MICRO TAU SENSOR & RELAY UNITS ADDED PER V886-000002 A11	S115118K 2006-10-23	MAND 020
019759	AUTH JSC	TCTIM6619759REF	0003 000	INCREASE STRENGTH OF EMERGENCY EGRESS NET MECHANISM ADDED PER V828-660101 B03	S063027P 2004-05-13	OPTY 020
019768	AUTH KSC	TCTIM0019768REF	0007 000	RMS MPM GUILLOTINE RETENTION FASTENER MOD ADDED PER V082-000002 E10.	S115118K 2006-10-23	MAND 020
	AUTH KSC	TCTIM0019768REF	0003 000	OBSS MPM GUILLOTINE RETENTION FASTENER MOD ADDED PER V092-000002 A10.	S115118K 2006-10-23	MAND 020
019775	COMP KSC	TCTIM3619775REF	0003 000	ADD CUT LINES TO BLKT INSTL AROUND WIRE SUPRT STRUCTURE-EOTF ADDED PER EO V073-360063 B02	S063125QR4 2006-06-13	MAND 020
019823	AUTH JSC	TCTIM0019823REF	0003 000	MODIFY LONG MIDDECK BAG STRAPS TO ELIM VELCRO INTERFERENCE ADDED PER V828-000002 F09 & -660221 A06	S063027T 2005-07-18	OPTY 020
	AUTH JSC	TCTIM6619823REF	0005 000	CREW OPTICAL ALIGNMENT SIGHT (COAS) - ADD LINING TO CUSHION ADDED PER EO V620-660740 A10	S115118K 2006-10-23	MAND 020
019824	AUTH KSC	TCTIM0019824REF	0007 000	IMPROVED CLEARANCE W/PLBD BELLCRANK-RMS MPM COVER FASTENER ADDED PER EO V082-000002 E08. E/I 7 HDWE WAS PARTI ALLY MODIFIED & USED/FLOWN ON OV-103 OBSS MPM	S115116J 2006-01-11	MAND 020
	AUTH KSC	TCTIM0019824REF	0003 000	IMPROVED CLEARANCE W/PLBD BELLCRANK-OBSS MPM COVER FASTENER ADDED PER EO V092-000002 A07	S115116J 2006-01-11	MAND 020
023367	AUTH KSC	K828-643012-001	0003 000	AIRLOCK BOOSTER FAN BYPASS MODIFICATION ADDED BY EDS I/F PER KIT EO NEW REF. CR S115118F	S115118F 2006-05-18	MAND 020

TOTAL MODS =

14



MCR/ECP	STAT	ITEM/KIT NUMBER	SEQ	DESCRIPTION / GENERAL REMARKS	PRCB	PRIO
-----	SITE	TCTI NUMBER	EISN NO.	-----	AUTHDATE	FLT
	AUTH	J5338	0024 009	OMS POD ACCESS DOOR INSPECTION	OMS-0034B	SCHD
	KSC		SPAR	RP04-28	2000-07-21	028
012999	AUTH	TCTIV3512999REF	0024 001	OV-105 BLANKET REPLACEMENT INSTALLATION - EOTF	S063125QR4	MAND
	KSC	NOT REQUIRED		ADDED BY EDS I/F & PER EO 73A840000 D02 & 73A84006 5 C03	2006-06-13	027

TOTAL MODS = 2

MCR/ECP	STAT SITE	ITEM/KIT NUMBER TCTI NUMBER	SEQ EISN NO.	DESCRIPTION / GENERAL REMARKS	PRCB AUTHDATE	PRIO FLT
	COMP KSC	J5550R1	0105 000 NSW	STS-115 ADDITIONAL STRUCTURAL INSPECTION REQUIREMENTS	S115115BR4 2003-01-17	MAND 020
	PLND KSC	J5558	0105 000 NSW	OV-105 SUBSYSTEM INSPECTION REQUIREMENTS FOR OMDP EXTENSION	S115115BR1 2002-11-12	MAND 020
	XXX KSC	J5568	0105 000 SPAR	MAGR-S3S LRU ROTATION AT BATTERY CHANGEOUT OBSOLETE. CHIT CLOSURE SUBMITTED 12/14/04.	ORB-0056 R02 2003-01-07	MAND 021
	COMP KSC	J5578	0105 000 NSW	MPS BSTRA BALL ROTATION ADDED PER 2/27/03 DAILY.	S052923KZ 2003-02-28	MAND 020
	COMP KSC	J5578R2	0105 000 NSW	MPS BSTRA BALL ROTATION RECORD CREATED PER 3/6/03 DAILY.	S052923KZR1 2003-03-10	MAND 020
	COMP KSC	J5578R4	0105 000 NSW	MPS BALL STRUT TIE ROD ASSEMBLY (BSTRA) BALL ROTATION PER 8/8/03 DAILY SPRCB. REF. CR S061930C	S052923KZR2 2003-08-29	MAND 020
	PLND KSC	J5608	0105 000 NSW	INSPECTION OF REINFORCED CARBON-CARBON (RCC) PARTS	S052923LN 2003-05-21	SCHD 020
	PLND KSC	J5616A	0105 000 NSW	THERMOGRAPHY INSPECTION OF REINFORCED CARBON-CARBON PARTS CREATED PER OS DAILY CHIT.	S052923LT 2003-06-18	MAND 020
	COMP KSC	J5636	0105 000 SPAR	MODAL IMPULSE GROUND TEST TO DETERMINE FLEXLINE CHARACTERIST ICS AND VALIDATE STRUCTURAL MODELS	ORB-0066 R16 2003-07-22	MAND 020
	AUTH KSC	J5669R1	0105 000 NSW	MPS FLEX HOSE INSPECTION AND LEAK CHECK REQMTS FOR OV-105	S052923MZ 2003-12-01	MAND 020
	AUTH KSC	J5670	0105 000 NSW	FLEX HOSE INSPECTION AND LEAK CHECK REQMTS FOR OV-105	S052923NA 2003-12-08	MAND 020
	PLND KSC	J5677A	0105 000 SPAR	VENDOR NDE INSPECTION & BASELINING OF RCC CHIN PANEL ASSEMBLIES AND OV-104 NOSE CAP	ORB-0066R17 2003-11-06	MAND 020
	PLND KSC	J5678	0105 000 NSW	ORBITER TPS LOWER SURFACE BOND VERIFICATION TEST	S052923MV 2003-11-10	MAND 020
	PLND KSC	J5682R1	0105 000 NSW	ET DOOR DRIVE ACTUATOR STALL TEST NEW RECORD ADDED PER OSB DIR MOVE TO NEXT FLT WHEN MANIFESTED	S052923NB 2004-01-20	SCHD 020
	PLND KSC	J5735	0105 000 NSW	ASMT OF POT NEG MRGN IN EXISTING MLGD TILE/THERMAL BAR DSGN MOVE TO STS W/MANIFESTED	S052923NT 2004-05-04	MAND 020

AUTH	J5765	105	000	WSB POST FLIGHT TANK OFFLOAD QUANTITY	ORB-0078B	MAND
KSC		SPAR			2005-03-09	021
AUTH	J5881	0105	000	LOWER LESS ACCESS CARRIER PANEL POST FLT TORQUE CHK VERIF'N	ORB-0078R05	MAND
KSC		SPAR			2005-08-17	021
AUTH	J5883	0105	000	HUB AND DRAIN HOLE TILE MANUAL DEFLECTION TEST	ORB-0078R02	MAND
KSC		SPAR			2005-08-16	021

MCR/ECP	STAT SITE	ITEM/KIT NUMBER TCTI NUMBER	SEQ EISN NO.	DESCRIPTION / GENERAL REMARKS	PRCB AUTHDATE	PRIOR FLT
	AUTH KSC	J5884	0105 000 SPAR	THERMAL BARRIER FLOW PATH INSPECTION	ORB-0078R03 2005-08-16	MAND 021
	AUTH KSC	J5885	0105 000 SPAR	ARROWHEAD TILE INSPECTION	ORB-0078R04 2005-08-16	MAND 021
	PLND KSC	J5892	0105 000 SPAR	INSTRUMENTED MLG DOOR LINKAGES FOR STRAIN GAGE MEASUREMENTS TO CORRELATE STRESSES IN MECHANISM DURING GEAR CYCLES SUPPORTING ENV. SEAL RPL	ORB-0066R25 2005-05-23	MAND 020
	AUTH KSC	J5930CR1	0105 000 NSW	ORBITER STRUCTURE IML SURFACE CORROSION SAMPLING INSPECTION	S052923WQR1 2006-08-01	MAND 020
	AUTH KSC	J5941CR1	0105 000 NSW	AMES GAP FILLER ON-VEHICLE PULL TESTING	S052923VYR2 2006-01-30	MAND 020
	PLND KSC	J5941H	0105 000 SPAR	AMES GAP FILLER ON-VEHICLE PULL TESTING AND REMOVAL	ORB-0066 R46 2006-05-11	MAND 020
	AUTH KSC	J5968	0105 000 SPAR	INSPECTION OF MPS LH2 FEEDLINE GIMBAL JOINT FLOWLINERS ON OV-103, OV-104, AND OV-105	ORB-0078R07 2005-10-11	MAND 021
	AUTH KSC	J5978C	0105 000 NSW	EXTERNAL TANK DOOR CLOSURE VISUAL INDICATOR	S052923WGR1 2006-03-26	MAND 020
	COMP KSC	J6092	0105 000 SPAR	CHANGE THE HYDRAULIC FLUID IN THE OV-105 RUDDER SPEED BRAKE (RSB) POWER DRIVE UNIT (PDU),SN 404, GEARBOX	ORB-0066 R45 2006-04-27	MAND 020
	COMP KSC	J6095	0105 000 SPAR	MICRO-STRAIN GAUGE UNIT (MSGU) TAPE & CRACK INSPECTION	ORB-0066R47 2006-05-16	MAND 020
	COMP KSC	J6097	0105 000 SPAR	OV-105 THERMAL WINDOW 3 & 4 REMOVALS	ORB-0066 R48 2006-05-19	MAND 020
	PLND KSC	J6102A	0105 000 NSW	ACREAGE FLEXIBLE INSULATION BLANKET INSPECTIONS	S052923YN 2006-06-13	MAND 020
	COMP KSC	J6105	0105 000 SPAR	MPS GHE REG OUT CHECK VALVE X-RAY INSPECTION	ORB-0066R49 2006-06-01	MAND 020
	AUTH KSC	J6116A	0105 000 SPAR	AMES GAP FILLER REMOVAL AND REPLACEMENT	ORB-0066R54 2006-10-09	MAND 020
	PLND KSC	J6123	0105 000 SPAR	ASA #3 & #4, ATVC #3, AND RJDA #1 R&R FOR OV-105, FLT 20	ORB-0066 R51 2006-07-07	MAND 020

COMP	J6124A	0105 000	MAGR-S3S LINK-007 FIRMWARE UPGRADE	ORB-0066R52	MAND
KSC		SPAR		2006-07-19	020
PLND	J6135	0105 000	REMOVAL AND REPLACEMENT OF OV-105 GPC # 5 BBU	ORB-0066R53	MAND
KSC		SPAR		2006-07-28	020
PLND	J6171	0105 000	PLB MEASUREMENTS SUPPORTING STS-118&STS-123 CLOSE CLEARANCES	ORB-0066 R56	MAND
KSC		SPAR		2006-11-01	020

MCR/ECP	STAT	ITEM/KIT NUMBER	SEQ	DESCRIPTION / GENERAL REMARKS	PRCB AUTHDATE	PRIO FLT
-----	SITE	TCTI NUMBER	EISN NO.	-----	-----	-----
	AUTH KSC	J6173	0105 000	EVALUATION OF CERAMIC INSERT PLUGS	ORB-0066 R55 2006-10-26	MAND 020
	COMP KSC	K5984	0105 000	CANNIBALIZATION OF MADS PCM FRM OV-105 IN SUPPORT OF OV-103	S052923WF 2006-01-19	MAND 020
	COMP KSC	K5992	0105 000	CANNIBALIZATION OF RSB BLOCK SEAL FROM OV-105	S052923WL 2006-01-23	MAND 020
	COMP KSC	K6161	0105 000	CANNIBALIZATION OF DSC OF2 FROM OV-105 TO OV-103	S052923ZE 2006-09-25	MAND 020
012999	COMP KSC	TCTIM3612999REF	0001 002	FABRICATION AND INSTALLATION OF NEW TCS BLANKET - EOTF ADDED PER EO V439-362000 A08(REF PR TCS-5-20-1955 , -1969- PROG AUTH PER S063125QR4 UNTIL 118 LSFR	S063125QR4 2006-06-13	MAND 020
	PLND KSC	TCTIVXX12999REF	0105 020	SHUTTLE TURNAROUND PR/TPS EO-TO-FOLLOW OV-105 FLIGHT 20 ADDED PER EO V070-340385 B09 (REF: STR-5-20-5367)	NOT REQD	020
	PPDF KSC	TCTIV1912999REF	0105 004	INSTALLATION OF SPAR ANGLE SPACER - EOTF ADDED PER EO V070-199201 B06, REF PR TES-5-20-0611 & TES-5- 20-0612	S063125QR4 2006-06-13	MAND 020
	COMP KSC	TCTIV2012999REF	0105 002	DRAG CHUTE SUPPORT MOD, MATCH FASTENERS W/BLKT SLITS - EOTF ADDED BY EDS I/F & EO V070-363909 C04 (REF PR TCS-5-20-1906) -	S063125QR4 2006-06-13	MAND 020
	AUTH KSC	TCTIV3112999REF	0105 001	TCS BLKT INSTALLATION, REMOVAL FOR PVD PURGE VENT - EOTF ADDED BY EDS I/F & V070-361900 E10 (REF: FRC5-20-0 638)	S063125QR4 2006-06-13	MAND 020
	AUTH KSC	TCTIV3212999REF	0105 004	NLG, LENGTHEN FASTENER FOR PROPER THREAD PROTRUSION - EOTF ADDED PER EO V070-582230 A05, REF: HYD-5-20-0664	S063125QR4 2006-06-13	MAND 020
	AUTH KSC	TCTIV3312999REF	0105 007	GPS ENCRYPTION PANEL CONNECTOR LOCATION CHANGE - EOTF ADDED BY EDS I/F & V070-334654 B07 (REF PR COM-5-20-0318)	S063125QR4 2006-06-13	MAND 020
	COMP KSC	TCTIV3312999REF	0105 005	CLOSEOUT PANEL FASTENER GRIP LENGTH - EOTF ADDED BY EDS I/F & EO V070-333100 P12, REF PR: STR -5-20- 4906	S063125QR4 2006-06-13	MAND 020
	COMP KSC	TCTIV3312999REF	0105 006	OV-105 BLANKET REQMT FOR ADDITIONAL CUT LINES - EOTF ADDED BY EDS I/F & V070-061005 G08	S063125QR4 2006-06-13	MAND 020
	PLND KSC	TCTIV3512999REF	0105 006	ATTACH GROUND JUMPERS FROM BLANKETS TO STRUCTURE - EOTF ADDED BY EDS I/F PER EO V070-363200#C02, (PR TCS-5 -20-2035)	S063125QR4 2006-06-13	MAND 020

PLND	TCTIV3512999REF 0105 005	WATER SPRAY BOILER BLKT MOD DUE TO HYD LINE INTERFER - EOTF	S063125QR4	MAND
KSC	NOT REQUIRED	ADDED BY EDS I/F & V070-363400 C01, V070-363453 B0 5 (REF TCS-5-20-1920)	2006-06-13	020
COMP	TCTIV3612999REF 0105 035	FABRICATE AND INSTALL SUPPORT STRUCTURE BLANKET - EOTF	S063125QR4	MAND
KSC		ADDED PER EO V070-362673 B02 (REF PR TCS-5-20-1930 )- AUTH PER S063125QR4 UNTIL STS-118 LSFR	2006-06-13	020

MCR/ECP	STAT	ITEM/KIT NUMBER	SEQ	DESCRIPTION / GENERAL REMARKS	PRCB	PRIO
-----	SITE	TCTI NUMBER	EISN NO.	-----	AUTHDATE	FLT
012999	COMP KSC	TCTIV7512999REF	0105 000	REPLACEMENT OF TEMP SENSOR MEASUREMENTS - EOTF ADDED BY EDS I/F & V070-754109 D07	S063125QR4 2006-06-13	MAND 020
	AUTH KSC	TCTIV7912999REF	0105 029	TERMINAL BOARD LOCATION & HARNESS FOR OPTIMAL INSTL - EOTF ADDED PER EO V070-797021 F13, REF PR OEL-5-20-5030 AUTH PER S063125QR4 UNTIL STS-118 L5FR	S063125QR4 2006-06-13	MAND 020
013201	COMP KSC	TCTIV6513201REF	0105 000	RELOCATE SNAP STUD TO AVOID INTERFER W/SORG WATER LINE ADDED BY EDS I/F & EO V070-650505 B38 REF. CR S115118F	S115118F 2006-05-18	MAND 020
017177	PLND KSC	TCTIV7917177REF	0105 004	REROUTE WIRE HARNESS TO ELIMINATE WIRING CLEARANCE ISSUE ADDED PER EO V070-794315 B11 (REPLACES PLACEHOLDER 017177, 0105,19)	S115118K 2006-10-23	MAND 020
	AUTH KSC	TCTIV8517177REF	0105 005	DHS PIVOT TUBE INSTL, DIAMETER SIZE CHANGE FOR DRILLED HOLE CREATED PER EO V070-351949 A07	S115116J 2006-01-11	MAND 020
017334	PLND KSC	TCTIV3617334REF	0105 001	ORB SCAR PROVISIONS TO ACCOM EDO CRYO LINE FEED THRU BOXES ADDED TO TRACK PORTION OF EO'S NOT INSTALLED DUE T O DISPLACEMENT BY T.O. M072-346154-4.REF PAR K1452	S115118K 2006-10-23	MAND 020
019476	AUTH KSC	TCTIV1019476REF	0105 000	IMPROVED MLG TIRE & WHEEL ASSEMBLY ADDED BY EDS I/F PER EO V070-756124 NEW	S115116L 2006-02-10	MAND 020
019775	COMP KSC	TCTIV3419775REF	0105 004	REPLACE FASTENERS WITH HI-LOK SCREWS TO AVOID DAMAGE - EOTF ADDED BY EDS I/F AUTH PER S063125QR4 UNTIL STS-118 L5FR	S063125QR4 2006-06-13	MAND 020
	COMP KSC	TCTIV3619775REF	0105 003	TIE DOWN ON STRINGER TO ATTACH BLANKET - EOTF ADDED BY EDS I/F & V070-366995 A06 (REF: TCS-5-20-1867)	S063125QR4 2006-06-13	MAND 020
	COMP KSC	TCTIV3619775REF	0105 004	NEW THERMAL BLKTS TO ALLOW CLEARANCE AROUND COAX CABLES-EOTF ADDED BY EDS I/F. REF PR'S TCS-5-20-1869, -1870 & -1871	S063125QR4 2006-06-13	MAND 020
	PLND KSC	TCTIV3619775REF	0105 002	INSTALLATION OF BUTTONS AND BLANKET FOR OV-105 - (EOTF) ADDED BY EDS I/F & V070-361169 B01, V070-361100 J0 7MOVE TO OV-105 FLT 20 WHEN REMANIFESTED	S063125QR4 2006-06-13	MAND 020
	COMP KSC	TCTIV6119775REF	0105 006	ADD CLAMP RQMT TO SUPPORT THE RE-ROUTING OF SUPPLY LINE-EOTF ADDED BY EDS I/F & V070-623051 C04, REF: WWM-5-20-0082-	S063125QR4 2006-06-13	MAND 020
	COMP KSC	TCTIV7319775REF	0105 000	ELIMINATE INTERFERENCE W/ INTERNAL PANEL COMPONENTS-EOTF ADDED BY EDS I/F PER V070-730022 G02 (REF: TPSB DDC-5-20- 030)	S063125QR4 2006-06-13	MAND 020
019823	PLND KSC	TCTIV6519823REF	0105 000	AFT WINCH INSTALLATION PROCEDURE ADDED BY EDS I/F PER EO V070-650007 F05	S063125AA 2006-04-03	MAND 020



019896	AUTH 019896	0105 000	EMERGENCY EGRESS SLIDE DEPLOYMENT MECHANISM	S115118K	MAND
	KSC	CONTR	PER D. CLINE REQUEST	2006-10-23	020
019903	AUTH TCTIV3319903REF	0105 000	SKY GENIE INSTALLATION AND AFD OVERHEAD CLOSEOUT PANEL MOD	S115118FR1	MAND
	KSC NOT REQUIRED		ADDED BY EDS I/F & V070-390392 B09, REPLACED PLACE HOLDER	2006-06-27	020
			019903,0105,0		

MCR/ECP	STAT	ITEM/KIT NUMBER	SEQ	DESCRIPTION / GENERAL REMARKS	PRCB AUTHDATE	PRIO FLT
-----	SITE	TCTI NUMBER	EISN NO.	-----	-----	-----
019903	PLND JSC	VK70-660005-001	0105 000	MODIFY SKY GENIE ASSEMBLY RECORD BUILT PER MCR 19903, REPLACED PLACEHOLDER 0 19903, 0105,0	S115118FR1 2006-06-27	MAND 020
023272	PLND KSC	VK70-852105-001	0105 000	PROVISIONS FOR DOME HEAT SHIELD SPLICE LINE MODIFICATION-MOD ADDED BY EDS I/F & EO V070-857139 NEW	S115116J 2006-01-11	MAND 020
023371	AUTH KSC	TCTIV3123371REF	0105 000	EGRESS SYSTEM T-HANDLE SAFETY PIN & FLAG REPLACEMENT W/ GFE ADDED BY EDS I/F PER EO V070-553301 D02 REF. CR S115118F	S115118F 2006-05-18	MAND 020
023410R1	AUTH KSC	VK70-421015-001	0105 000	FORWARD REACTION CONTROL SYSTEM (FRCS)RAIN COVER REDESIGN ADDED BY EDS I/F & KIT EO NEW, REF: CR S115118F TO BE WORKED CONCURRENTLY WITH VK70-421018, GRL	S115118F 2006-05-18	MAND 020
023420	AUTH KSC	TCTIV3423420REF	0105 000	ELIMINATION OF "0" GAGE WIRE DAMAGE IN LOWER MIDBODY WIRE * ADDED BY EDS I/F, (NOTE: THIS RECORD ALONG WITH MC D GQA REPLACES PLACEHOLDER 023420,0105,0)	S063125Y 2005-10-31	MAND 020
023435	PLND KSC	TCTIV0023435REF	0105 000	ET DOOR CLOSURE VISUAL INDICATOR ADDED BY EDS I/F & EO V070-000008 F09	S115116G 2006-02-14	MAND 020
023438	AUTH KSC	VK70-421018-001	0105 000	TYVEK COVE MOD KIT FOR DOWN FIRING THRUSTERS BUILT PER MCR 023438(NOTE: TO BE WORKED CONCURRENT LY WITH VK70-421015-001) REF. CR S115118F	S115118F 2006-05-18	MAND 020
023448	COMP KSC	TCTIV3523448REF	0105 000	ECO SENSOR, BAYS 5 & 6 RE-WIRING ADDED PER EO V070-775505 C05 & -775506 B27 REPLACED PLCHLDR RECORD 023448,0105,0	S115118J 2006-06-30	MAND 020
	COMP KSC	TCTIV7023448REF	0105 000	ECO SENSOR SYSTEM INSTRUMENTATION (STARTUP) ADDED BY EDS I/F & V070-755262 D04 REF. PLCHLDR RECORD 023448,0105,0	S115118J 2006-06-30	MAND 020
	COMP KSC	TCTIV7923448REF	0105 000	ECO SENSOR, INTER-BAY WIRING, BAYS 5 & 6 ADDED PER EO V070-775607 B16 REPLCD PLCHLDR RECORD 023448, 0105,0	S115118J 2006-06-30	MAND 020
023463	COMP KSC	TCTIV3123463REF	0105 000	OVERHEAD WINDOW 7 FASTENER TORQUE INCREASE ADDED BY EDS I/F & EO'S V070-310001 K30 & V070-390 003 C09, REPLACED PLACEHOLDER 023463, 0105, 0	S115118G 2006-05-02	MAND 020

TOTAL MODS = 79

MCR/ECP	STAT SITE	ITEM/KIT NUMBER TCTI NUMBER	SEQ EISN NO.	DESCRIPTION / GENERAL REMARKS	PRCB AUTHDATE	PRIO FLT
	AUTH	B470ECP3789R000	B130 000	RSRM AFT SEGMENT STIFFENER RING FOAM APPLICATION TCTI	S170809R2	
	KAS				2006-08-15	
	PLND	FEC RSRM-114	B130 000	ENGR CLARIFICATION OF FIELD JOINT INSULATION J-JOINT	S171216	
	KAS				2006-08-17	

TOTAL MODS = 2

MCR/ECP	STAT SITE	ITEM/KIT NUMBER TCTI NUMBER	SEQ EISN NO.	DESCRIPTION / GENERAL REMARKS	PRCB AUTHDATE	PRIO FLT
KLO-1566	COMP KSC	KLO-1566	2045 000 SPAR	DYE PENETRANT INSPECT HPFTP SPEED SENSORS (POST STS-121) SSME REMANIFEST, PER PRCBD S115118K-DTD 10/23/06	ME-0221B 2006-08-09	SCHD 009
	AUTH KSC	KLO-1566	2051 000 SPAR	DYE PENETRANT INSPECT HPFTP SPEED SENSORS (POST STS-121) SSME REMANIFEST, PER PRCBD S115118K-DTD 10/23/06	ME-0222B 2006-08-09	SCHD 006
KLO-1569	AUTH KSC	KLO-1569	2047 000 SPAR	DYE PENETRANT INSPECT HPFTP SPEED SENSORS	ME-0224B 2006-10-27	MAND 010
1480	AUTH KAR	2R091575-010	2045 000	ADVANCED HEALTH MANAGEMENT ENGINE CONTROLLER SSME REMANIFEST, PER PRCBD S115118K, 10/23/06	ME-0221R02 2006-09-29	SCHD 009
	AUTH KAR	2R091575-010	2051 000	ADVANCED HEALTH MANAGEMENT ENGINE CONTROLLER SSME REMANIFEST PER PRCBD S115118K, 10/23/06	ME-0222R02 2006-09-29	SCHD 006
1491	INC KAR	2R091576-010	2045 000	FASTENER MODIFICATIONS TO SMALL LINE CLAMPING PER TCTI E41-01491-01 SSME REMANIFEST PER PRCBD S115118K, DTD 10/23/06	ME-0221R01 2006-08-22	SCHD 009
	INC KAR	2R091576-010	2051 000	FASTENER MODIFICATIONS TO SMALL LINE CLAMPING PER TCTI E41-01491-01 SSME REMANIFEST, PER PRCBD S115118K, 10/23/06	ME-0222R01 2006-08-22	SCHD 006
1511	AUTH KAR	2R091613-010	2045 000	WEIGHT UPDATES FOR AHMS ENGINE CONTROLLER REF TCTI E41-01511-01 SSME REMANIFEST PER PRCBD S115118K, 10/23/06	ME-0221R02 2006-09-29	SCHD 009
	AUTH KAR	2R091613-010	2051 000	WEIGHT UPDATES FOR AHMS ENGINE CONTROLLER REF TCTI E41-01511-01 SSME REMANIFEST PER PRCBD S115118K, DTD 10/23/06	ME-0222R02 2006-09-29	SCHD 006

TOTAL MODS =

9

PCASS  
FLIGHT-SPECIFIC  
Approved STS-118 OMRS Waivers and Exceptions

WVR EXC	ELEMENT PROJECT	PRCBD NUMBER WAI VER# (STAT) (INITIAL STS)	ABSTRACT RAS REQUIREMENTS	EI SN PAYLOAD	STS	BEG	END
+	ORB	S053296PA	OMRSD EXCEPTION REQUEST -	105		019	020
		EK10244 (A)	WASTE SYSTEM CITRIC ACID FLUSH (EK10244 )	104		027	027
				102		029	029
		S053296PJ	OMRSD EXCEPTION REQUEST -	105		019	023
		EK10261 (A)	WING LEADING EDGE RCC PANEL REFURBISHMENT(EK10261)				
		S053296YY	OMRSD EXCEPTION REQUEST -	104		027	027
		EK10343R1 (A)	PBD DRIVEACTUATOR TORQUE LIMITER TEST(EK10343R1)	105		020	020
S053297AY	OMRSD EXCEPTION REQUEST -	105		020	020		
EK10346R1 (A)	V30 - MODAL ANALYSIS EFFECTIVITY (EK10346R1)						
S053297ZY	OMRSD EXCEPTION REQUEST -	105		020	020		
EK10476 (A)	V30 - MIDFUSELAGE DETAILED INSPECTIONS( EK10476)						
S053298JC	OMRSD EXCEPTION REQUEST -	105		020	021		
EK10500R1 (A)	SYSTEM 1 02 FLOWMETER NON- FUNCTIONAL(EK 10500R1)						
S053298KB	OMRSD EXCEPTION REQUEST -	105		020	020		
EK10516 (A)	MANIPULATOR ARM ASSEMBLY MAY VIOLATE 18 0 DAYINSTALLATION TIME LIMIT (EK10516)						
W	ET	S053296PP	OMRSD WAIVER REQUEST - ET	102		028	028
		WK10270 (A)	DOOR DRIVE PDU LIMITER SLIP TEST (WK10270)	104		027	028
				105		019	020
	OMS	S053294ZV	OMRSD WAIVER REQUEST - OMS	0024		024	031



ACTIVE WAIVERS FOR  
OV-103 (STS-116)

Item #	Authority	Date	Waiver Description	Effectivity	Wad
47	S052310A	02/14/91	Fly with FRSI instead of tile	OV-103, Flight 12 & Subs (flight by flight evaluation)	<b>OK TO RETIRE S061954B MV 4-2 RTF-130 Briefing</b>
53	S052428A	03/27/91	Allows specified flights to fly with interim TPS repair after each mission to minimize damage to surrounding tile during ferry flight	STS-37, STS-39, STS-40, STS-42 thru STS-999	<b>STAYS OPEN</b>
101	S076972	11/19/91	Permit the modified GPCs (AP101-S) Battery Back-up Unit to fly with annotated fastener improvements without rolling the LRU Part Number	STS-42, STS-44, STS-47 and STS-49 thru STS-999	<b>STAYS OPEN</b>
327	S115114VR5	03/17/05	Partial installation of M072-784633-014 (harness installation - interface panel - MADS #3). The M072-784663-014 Technical Order was established to incorporate the crossover bracket modification at locations X0863 and X0750. The dash number configuration for the Technical Order was not baselined until January 25, 2005 (PRCBD S115114VR2). This area was closed out before this time and would cause significant impact to verify configuration of this Technical Order dash number -014.	OV-103, Flight 31 OV-103, Flight 32 <b>WAIVER for STS-121</b>	INS-3-28-279 (installed Tech Order)
***** SEE NSTS 07700 VOLUME IV BOOK 2 FOR COMPLETE DETAILS *****					
328	S115114WR1	04/07/05	Partial installation of M072-794500-004, for Integrated Vehicle Health Monitoring (IVHM) harness installation, calls for the removal of the unused IVHM harness and routing hardware. This requirement was manifested after the Bay 13 Longerons Bridge installation was complete. With the installation of the bridge, the removal of the IVHM harness is no longer possible without the removal of the bridge.	OV-103, Flight 31 OV-103, Flight 32 <b>WAIVER for STS-121</b>	OEL-3-31-304 PTL OEL-3-31-4432 PTL
***** SEE NSTS 07700 VOLUME IV BOOK 2 FOR COMPLETE DETAILS *****					

ACTIVE WAIVERS FOR  
OV-103 (STS-116)

Item #	Authority	Date	Waiver Description	Effectivity	Wad
329	S115114AM	08/15/05	<p>The following requirements are waived to allow OV-103, Flight 31 to fly (ferry) with the following out-of-configuration conditions:</p> <ol style="list-style-type: none"><li>1) V070-391139-025 (blanket under window #1 removed for ferry flight)</li><li>2) M072-421502-002 (did not perform acetone wipe prior to universal thruster plug assemblies - procedural omission)</li><li>3) V070-753110-003 (camera mount will not be installed for ferry flight)</li></ol> <p>***** SEE NSTS 07700 VOLUME IV BOOK 2 FOR COMPLETE DETAILS *****</p>	OV-103, Flight 31	Ferry Flight from Dryden
330	S115114VR15	09/16/05	<p>The following requirement is waived to allow OV-103 to ferry from DFRC to KSC with the following out-of-configuration condition:</p> <p>TCS blanket V070-362917-001 located at Door #44 NOT installed.</p> <p>***** SEE NSTS 07700 VOLUME IV BOOK 2 FOR COMPLETE DETAILS *****</p>	OV-103, Flight 31 Ferry Flight	Ferry Flight from Dryden



ACTIVE WAIVERS FOR  
OV-103 (STS-116)

Item #	Authority	Date	Waiver Description	Effectivity	Wad
331	S115114VR15	09/16/05	<p>The following requirement is waived to allow OV-103 to ferry from DFRC to KSC with the following out-of-configuration condition:</p> <ol style="list-style-type: none"><li>1) Two switches on Panel A15 will ferry without switch guards (P/N G070-700904-001). In lieu of switch guards at two locations, tape was installed.</li><li>2) Eight GSE switch guards were left installed and not removed as required by Technical Order M072-710700-002 as called out in the ferry flight drawing.</li><li>3) Three switch guards are not installed on Panel L4 for TACAN circuit breakers. The procedure does not include the switch guard installation.</li></ol> <p>***** SEE NSTS 07700 VOLUME IV BOOK 2 FOR COMPLETE DETAILS *****</p>	OV-103, Flight 31 Ferry Flight	Ferry Flight from Dryden
332	S115121TR8	05/04/06	<p>The following requirement is waived to allow OV-103 to fly with the following out-of-configuration condition:</p> <p>M072-794500-004 IVHM harness installation Bay 13 called out by MECSLSI V072-200201 NOT removed from OV-103.</p> <p>During STS-114 processing this Tech Order configuration called for the removal of an un-used IVHM harness along with the routing hardware. At the time the Tech Order was made a requirement for Flight 31, the Bay 13 longeron had already been installed for flight. The harness was demated and stowed in place per MR and was deferred to a future flight at which time Bay 13 longeron will be removed since the Bay 13 longeron was not removed this flight, a configuration waiver is needed for STS-121.</p>	OV-103, Flight 32	

ACTIVE WAIVERS FOR  
OV-103 (STS-116)

Item #	Authority	Date	Waiver Description	Effectivity	Wad
333	S115121TR8	05/04/06	<p>The following requirement is waived to allow OV-103 to fly with the following out-of-configuration condition:</p> <p>Partial installation of M072-784633-014 (harness installation - interface panel - MADS#3). The M072-784633-014 Tech Order was established to incorporate the crossover bracket modification at locations X0863 and X0750. The dash number configuration for the Tech Order was not baselined until January 25, 2005 (PRCBD S115114VR2). This area was closed out before this time and would cause significant impact to verify configuration of this Tech Order dash number -014.</p> <p>***** SEE NSTS 07700 VOLUME IV BOOK 2 FOR COMPLETE DETAILS *****</p>	OV-103, Flight 32	
335	S115116NR2	08/18/06	<p>The following requirement is waived to allow OV-103 to fly with the following out-of-configuration condition:</p> <p>M072-794500-004 IVHM harness installation Bay 13 called out by MECSLSI V072-200195 not removed from OV-103.</p> <p>During STS-114 processing, this Tech Order configuration called for the removal of an unused IVHM harness along with the routing hardware. At the time the Tech Order was made a requirement for Flight 31, the Bay 13 longeron had already been installed for flight. The harness was demated and stowed in place per MR and was deferred to a future flight at which time Bay 13 longeron will be removed since the Bay 13 longeron was not removed this flight, a configuration waiver is needed for STS-116.</p>	OV-103, Flight 33	

ACTIVE WAIVERS FOR  
OV-103 (STS-116)

Item #	Authority	Date	Waiver Description	Effectivity	Wad
336	S115116NR2	08/18/06	<p>The following requirement is waived to allow OV-103 to fly with the following out-of-configuration condition:</p> <p>M072-794500-004 IVHM harness installation Bay 13 called out by MECSLSI V072-200201.</p> <p>During OMDP, the crossover bracket modification was successfully implemented at all four locations with no technical issues by engineering defined by Orbiter drawings as well as three Tech Orders (M072-794011, M072-794021 and M072-794051). The M072-784633-014 Tech Order was established to incorporate the crossover bracket modification at two locations (X0863 and X0750).</p> <p>At the X0863 location, M072-784633-014 called for the removal of a clamp and six screws to reflect the change harness mounting due to the new wire tray shape. TPS OEL-3-31-245 incorporated the electrical portion of this modification per the vehicle drawings as well as the three tank set harness Tech Orders. During STS-114 processing, the WAD was reviewed and it was determined that an error exists in the M072-784633 engineering. This Tech Order reflects harness routing at the X0863 that does not reflect the as-built configuration on the Orbiter. A one flight configuration waiver was processed and approved for STS-114 and STS-121. All hardware on this Tech Order supports MADS wire routing, there were no observed wire routing violations noted during Flight 31 midbody closeout and all MADS testing will be completed and verified. No technical issue with hardware, installation, or function of MADS. There was no access to this area this flow to perform wire routing as-designed condition. A configuration waiver is needed for STS-116 for this Tech Order.</p>	OV-103, Flight 33	

ACTIVE WAIVERS FOR  
OV-103 (STS-116)

Item #	Authority	Date	Waiver Description	Effectivity	Wad
337	S115116NR4	10/27/06	<p>Tech Order M072-544501-087 - install, M072-544501-027 - remove, -087 configuration is for the new over-center stops being installed. Mission-unique loads will not require these new stops. Program decision was made to not remove the RMS.</p> <p>This configuration will incorporate the over-center stops mod, the change is to all four MPM locations. The new stops, replace existing GFE stops, incorporate a stronger design to address mission-unique loads that have a potential to exceed the current mechanism capability. The decision was made not to incorporate this mod during STS-116 flow due to the low potential for load exceedence. Since -087 established the over-center stops mod along with other mods that were completed for this flow,a configuration waiver is needed for STS-116. In addition the removal of the -027 from the previous mission was not completed.</p>	OV-103, Flight 33	
338	S115116NR4	10/27/06	<p>Tech Order M072-794021-026 install, M072-794021-019 remove, -026 configuration is for the new over-center stops being installed. The change is rerouting and retaping of the wire harnesses near the over-center stops to alleviate any interference. Program decision was made to not remove the RMS.</p> <p>This configuration would reroute and retape harnesses on the MPMs to support the over-center stops mod. Since -026 established a new configuration in support of the over-center stop mod and this was not worked this flight, a configuration waiver is needed for STS-116. In addition, the removal of the -019 from the previous mission was not completed.</p>	OV-103, Flight 33	