

```
*****  
*                                                                 *  
*              SHUTTLE COUNTDOWN (LPS)                          *  
*                                                                 *  
*****  
* EFFECTIVITY              CATEGORY: A                            *  
*                                                                 *  
*                                                                 *  
*                                                                 *  
*          CENTER:      KSC                                       *  
*                                                                 *  
*          SYSTEM:     TCO                                         *  
*                                                                 *  
*          SITE:      PAD A/B                                       *  
*                                                                 *  
*          VEHICLE:   OV-102/103/104/105                          *  
*                                                                 *  
*          FLOW:      ALL                                           *  
*                                                                 *  
*          DESIGN CENTER CONCURRENCE:  JSC & MSFC                *  
*****
```

UNITED SPACE ALLIANCE

```
*****
*
*           SHUTTLE COUNTDOWN (LPS)           *
*
*****
* EFFECTIVITY           CATEGORY: A           *
*                               HA-SVTBAMDGQ    *
*                               CWZF+ER        *
* CENTER:      KSC           SYSTEM:   TCO     *
* SITE: PAD A/B                                     *
* VEHICLE:     OV-102/103/104/105              *
* FLOW: ALL                                           *
* DESIGN CENTER CONCURRENCE:  JSC & MSFC      *
*****
```

PREPARED BY:

---

SFOC TEST DOCUMENTATION

APPROVED BY:

CONTRACTOR

---

SFOC SAFETY

-----  
THIS PROCEDURE CONTAINS HAZARDOUS OPERATIONS  
-----

REVISION RECORD PAGE  
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REV-CHANGE	DATE	REASON	PAGES AFFECTED	EFFECTIVITY
CM	: 03-19-98	: 128/USK217:	ALL	: STS90 & SUBS
	:	: RCN	:	:
	:	: KV13253	:	:
	:	: KV13251	:	:
	:	: OV13040M	:	:
	:	: OV13008	:	:
	:	: PP04839M1	:	:
	:	: MS13289	:	:
-----				
CN	: 05-19-98	: 129/USK023:	ALL	: STS91 & SUBS
	:	: RCN	:	:
	:	: SS13373	:	:
-----				
CO	: 09-29-98	: 130/USK217:	ALL	: STS95 & SUBS
	:	: RCN	:	:
	:	: KS13250	:	:
	:	: KV13253M	:	:
	:	: KS13486	:	:
-----				
CP	: 11-16-98	: 131/USK217:	ALL	: STS88 & SUBS
-----				
CQ	: 05-05-99	: 132/USK023:	ALL	: STS96 & SUBS
-----				
CR	: 07-07-99	: 133/USK206:	ALL	: STS93 & SUBS
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TABLE OF CONTENTS  
-----

	PAGE
	----
COVER PAGE	
APPROVAL PAGE/CHANGE RECORD PAGE	
TABLE OF CONTENTS	
OBJECTIVE/DESCRIPTION .....	NA
ILLUSTRATIONS .....	1
HAZARDOUS MANLOADING .....	NA
BAR CHARTS .....	15
 SECTION I - INFORMATION	
1.1 REFERENCED INSTRUCTIONS.....	16
1.2 COMPUTER SYSTEMS .....	NA
1.3 SPECIAL TOOLS, EQUIPMENT AND MATERIALS .....	NA
1.4 SUPPORT TOOLS, EQUIPMENT AND MATERIALS .....	NA
1.5 PERSONNEL REQUIREMENTS .....	NA
1.6 SAFETY REQUIREMENTS .....	NA
1.7 SPECIAL INSTRUCTIONS .....	NA
1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP.....	31
 SECTION II - PRE-OPERATION SETUP INSTRUCTIONS	NA
 SECTION III - OPERATION SUPPORT SETUP INSTRUCTIONS	NA
 SECTION IV - OPERATION INSTRUCTIONS	
13-0000 CALL TO STATION.....	73
14-0000 SHUTTLE COUNTDOWN CONTROL SEQUENCE (-43H THRU -11H).....	81
15-0000 SHUTTLE COUNTDOWN CONTROL SEQUENCE (-11H THRU -6H).....	501
16-0000 SHUTTLE FINAL COUNTDOWN CONTROL SEQUENCE (-06H THRU T-0).....	677
16-1153 RSLs ABORT SAFING.....	948
16-1155 BFS ENGAGE ABORT SAFING.....	959
16-1159 POST ABORT SAFETY CHECKS.....	973
17-0000 POST LAUNCH SECURING/RTLs CONTINGENCY.....	975

18-0000	RECYCLE CONTROL SEQUENCE.....	1071
19-0000	ORBITER RECYCLE.....	1099
20-0000	SRB RECYCLE.....	1125
21-0000	ET RECYCLE.....	1137
22-0000	SUPPORT RECYCLE.....	1141
23-0000	MCCH RECYCLE.....	1153
24-000	PAYLOAD IUS RECYCLE.....	1163
25-000	RESERVED.....	1165
26-000	RESERVED.....	1167
27-000	LATE CABIN VENT CONTINGENCY OPTION.....	1169
28-000	HOLD OPTION NO. 1 - UNPLANNED LONG DURATION BETWEEN T-9 MIN AND T-5 MIN.....	1171

SECTION V - POST OPERATION INSTRUCTIONS NA

APPENDICES

A THRU Y	.....	NA
Z	EMERGENCY INSTRUCTIONS .....	1183

LIST OF ILLUSTRATIONS  
-----

	PAGE
	----
FIGURE 1 KSC/WSSH COMM REQUIREMENTS.....	2
FIGURE 2 KSC (CX-39) TO DFRF AND SPECIFIED LOCAL DFRF COMM REQUIREMENTS.....	3
FIGURE 3 SPECIFIED KSC (CX-39) SLF COMM REQUIREMENTS.....	4
FIGURE 4 EXCLUSIVE USAGE CAMERA MATRIX (SHEETS 1, 2, AND 3).....	5
FIGURE 5 LC-39 CONTROL AREAS AND ROADBLOCKS.....	8
FIGURE 6 SLF CONTROLLED AREA.....	9
FIGURE 7 LDA MANLOADING.....	10
FIGURE 8 RSLs (ON BOARD) S/W & GLS (GND) S/W INTERACTION: T-38 SEC TO T-0.....	11
FIGURE 9 LAUNCH COUNTDOWN FLOW.....	12
FIGURE 10 ALLOWABLE WIND CONDITIONS FOR PAD LH2 AND GH2 WASHDOWNS.....	13
FIGURE 11 PLBD MOISTURE CONDITIONING REQUIREMENT FOR GROUND PROCESSING FLOW SCHEDULE OV-102 AND SUBS.....	14

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

FIGURE 1 - KSC/WSSH COMM REQUIREMENTS  
(FOR REFERENCE ONLY)

VOLUME 2 OF 5  
DATE: 07-07-99

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FIGURE 2 - KSC (CX-39) TO DFRF AND  
SPECIFIED LOCAL DFRF COMM REQUIREMENTS  
(FOR REFERENCE ONLY)



VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

FIGURE 3 - SPECIFIED KSC (CX-39) SLF COMM REQUIREMENTS  
(FOR REFERENCE ONLY)

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

FIGURE 4 - EXCLUSIVE USAGE CAMERA MATRIX (SHEET 1 OF 3)  
(FOR REFERENCE ONLY)

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

FIGURE 4 - EXCLUSIVE USAGE CAMERA MATRIX (SHEET 2 OF 3)  
(FOR REFERENCE ONLY)

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

FIGURE 4 - EXCLUSIVE USAGE CAMERA MATRIX (SHEET 3 OF 3)  
(FOR REFERENCE ONLY)

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

FIGURE 5 - LC-39 CONTROL AREAS AND ROADBLOCKS  
(FOR REFERENCE ONLY)

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

FIGURE 6 - SLF CONTROLLED AREA  
(FOR REFERENCE ONLY)

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

FIGURE 7 - LDA MANLOADING

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

FIGURE 8 - RSLs (ONBOARD) S/W & GLS (GND) S/W  
INTERACTION: T-38 SEC TO T-0  
(FOR REFERENCE ONLY)



VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

FIGURE 9 - LAUNCH COUNTDOWN FLOW  
(FOR REFERENCE ONLY)

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

FIGURE 10 - ALLOWABLE WIND CONDITIONS FOR PAD  
LH2 AND GH2 WASHDOWNS  
(FOR REFERENCE ONLY)

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

FIGURE 11 - PLBD MOISTURE CONDITIONING REQUIREMENT  
FOR GROUND PROCESSING FLOW SCHEDULE, OV-102 AND SUBS  
(FOR REFERENCE ONLY)

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

NOTE

BAR CHART IS PRINTED AND  
DISTRIBUTED SEPARATELY.

REFERENCE KSC INTEGRATED  
CONTROL SCHEDULE FOR  
PRELIMINARY AND FINAL BAR  
CHARTS.

BAR CHART

SECTION I  
 INFORMATION  
 -----

1.1 REFERENCED INSTRUCTIONS  
 -----

1.1.3 SUPPORTING SUBTASKS

SUBTASK NUMBER -----	SUBTASK TITLE/ FUNCTION TO BE PERFORMED -----	CALLING SEQ-STEP -----
M3034	PRESSURIZING AIR SYS,PADS A/B	14-0009
S9001VL2	SHUTTLE POWER UP/POWER DOWN (LPS)	14-0019 14-0046
C2000	LCC CCMS OPERATION SUPPORT	14-0053
S9001VL1	SHUTTLE POWER UP/POWER DOWN (LPS)	14-0085
V9001VL2	ORBITER POWER UP/POWER DOWN, DPS OPTIONS (LPS)	14-0106
V33-00012	MCDS OTV CAMERA/BRACKET AND OIS UNITS REMOVAL	14-0114
S9001VL2	SHUTTLE POWER UP/POWER DOWN (LPS)	14-0117
G6304	LH2/LOX SYSTEMS PURGE VERIFICATION	14-0126
V1040.002	PRSD CRYO LOAD AND FUEL CELL ACTIVATION	14-0128
V9021.002	OMS/RCS TRICKLE PURGE ACTIVATION/DEACTIVATION	14-0129
V1040.002	PRSD CRYO LOAD AND FUEL CELL ACTIVATION	14-0142 14-0143
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC)	14-0157
V66-90006	PLATFORM ACCESS SET, A70-0558 MIDDECK, CREW MODULE VERTICAL, REMOVAL	14-0165
V66-50009	INSTALLATION/REMOVAL AIRLOCK OUT VERTICAL ACCESS SET - CREW MODULE	14-0166
V3540	HGDS (U72-1186) B/U HGDS (U72-1350) HUMS (C72-1502) OPERATIONAL SUPT	14-0172

V66-00019	PLATFORM ACCESS SET A70-0558 AFT FLIGHT DECK INSTALLATION/REMOVAL	14-0174
V1123	GN&C COUNTDOWN AND MISSION SUPPORT TESTING (LPS)	14-0177
V80-95903	DOOR 59-03, OMS ENGINE LH SERVICE ACCESS, INSTALLATION	14-0178
V80-95904	DOOR 59-04, OMS ENGINE RH SERVICE ACCESS, INSTALLATION	14-0178
G3151	LOX SYSTEM PREPS FOR VEHICLE LOADING	14-0180
G3251	LH2 SYSTEM PREPS FOR VEHICLE LOADING (LPS)	14-0181
M3067	CABIN AIR(OXYGEN/NITROGEN) DISTRIBUTION SYSTEM	14-0187 14-0188 14-0189
V66-50009	INSTALLATION/REMOVAL AIRLOCK OUT VERTICAL ACCESS SET - CREW MODULE	14-0190
V66-90006	PLATFORM ACCESS SET, A70-0558 MIDDECK, CREW MODULE VERTICAL, REMOVAL	14-0190
V5097.003	CREW SYSTEMS STOWAGE - FLIGHT DECK/MIDDECK	14-0191
V66-00019	PLATFORM ACCESS SET A70-0558 AFT FLIGHT DECK INSTALLATION/REMOVAL	14-0192
V1040.002	PRSD CRYO LOAD AND FUEL CELL ACTIVATION	14-0193
V80-95903	DOOR 59-03, OMS ENGINE LH SERVICE ACCESS, INSTALLATION	14-0222
V80-95904	DOOR 59-04, OMS ENGINE RH SERVICE ACCESS, INSTALLATION	14-0222
V1123	GN&C COUNTDOWN AND MISSION SUPPORT TESTING (LPS)	14-0242
M3067	CABIN AIR(OXYGEN/NITROGEN) DISTRIBUTION SYSTEM	14-0245
Z3D00	DUAL TACAN BEACON 9946 FLT SUPPORT	14-0249
V3528.001	COMM AND TRACK STATION SETUP AND OPERATION - OPF (HB1/2)	14-0266

V3528.002	COMM AND TRACK STATION SETUP AND OPERATION - OPF BAY 3	14-0267
V3528.001	COMM AND TRACK STATION SETUP AND OPERATION - OPF (HB1/2)	14-0269
V3528.002	COMM AND TRACK STATION SETUP AND OPERATION - OPF BAY 3	14-0269
V1123	GN&C COUNTDOWN AND MISSION SUPPORT TESTING (LPS)	14-0273
M3079	AC, VENTILATING, PRESSURIZING SYS, MLP	14-0280
B5150	SUPPORT EQUIPMENT REMOVAL AND INSTALLATION	14-0307
M3022	COMPRESSED AIR SYSTEM	14-0316
M3088	LOW-LEVEL OXYGEN ANALYZER UNITS OPERATION	14-0319
D3008	PURGE/PRESSURIZATION AND LOCKOUT PROCEDURES FOR COMM ENCLOSURES	14-0342
D3012	OMI RECORD IS NOT IN THE DATABASE	14-0360 14-0361
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC) CONTROL STATION 132 TRANSFER PAD TO FIRING ROOM	14-0375
S9001VL1	SHUTTLE POWER UP/POWER DOWN (LPS)	14-0390 14-0456 14-0460
M3034	PRESSURIZING AIR SYS, PADS A/B	14-0479
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC) PREPS FOR AIR GN2 132 CHANGEOVER OPTION B - FINAL SU72166 PREPS	14-0492 14-0496
M3034	PRESSURIZING AIR SYS, PADS A/B	14-0508 14-0509
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC) AIR TO OTC CPVD GN2 STANDBY MODE AIR TO GN2 132 CHANGEOVER OPTION B - GN2 CHANGE	14-0515

V1040.002	PRSD CRYO LOAD AND FUEL CELL ACTIVATION	14-0540
D3012	OMI RECORD IS NOT IN THE DATABASE	14-0549
V1040.002	PRSD CRYO LOAD AND FUEL CELL ACTIVATION	14-0557 14-0560
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC) GN2 TO AIR CHANGEOVER 132 OPTION A ORBITER SUPPORT TERMINATION OF 232 ECS HAZARDOUS PURGE GN2 OPERATIONS CONTROL STATION 132 TRANSFER - FIRING ROOM TO PAD	14-0574 14-0576 14-0588 14-0596
S9001VL2	SHUTTLE POWER UP/POWER DOWN (LPS)	14-0610
V9001VL2	ORBITER POWER UP/POWER DOWN, DPS OPTIONS (LPS)	14-0613
D3008	PURGE/PRESSURIZATION AND LOCKOUT PROCEDURES FOR COMM ENCLOSURES	14-0620
V9018.001	MPS/SSME PREPS FOR PROPELLANT LOADING (LPS)	14-0628
G3251	LH2 SYSTEM PREPS FOR VEHICLE LOADING (LPS)	14-0629
G3151	LOX SYSTEM PREPS FOR VEHICLE LOADING	14-0633
T5401	H2 LEAK DETECTION EQUIPMENT INSTALLATION (LD 54 AND LD 55)	14-0642
V1040.002	PRSD CRYO LOAD AND FUEL CELL ACTIVATION	14-0643 14-0644
S9001VL2	SHUTTLE POWER UP/POWER DOWN (LPS)	14-0646
M3020	HIGH-PRESSURE GASEOUS HYDROGEN FACILITY	14-0648
M3097	HIGH PURITY GASEOUS OXYGEN SYSTEM	14-0648
V1040.002	PRSD CRYO LOAD AND FUEL CELL ACTIVATION	14-0667
V3538	MID-BODY UMBILICAL UNIT SUPPORT OPERATIONS	14-0674



V1040.002	PRSD CRYO LOAD AND FUEL CELL ACTIVATION	14-0677
V80-94500	DOOR 45, PRE-FLIGHT UMBILICAL PANEL ACCESS, INSTALLATION	14-0681
V3538	MID-BODY UMBILICAL UNIT SUPPORT OPERATIONS	14-0687
V3529	RSS PREPS FOR MATE/DEMATE	14-0691
M3097	HIGH PURITY GASEOUS OXYGEN SYSTEM	14-0725
M3083	MLP COMPOSITE STRUCTURE	14-0728
M3169	ORBITER WEATHER PROTECTION SYSTEM OPERATION	14-0753
G3251	LH2 SYSTEM PREPS FOR VEHICLE LOADING (LPS)	14-0762
V9001VL4	ORBITER POWER UP/POWER DOWN SSME OPTIONS (LPS)	14-0771
V9018.001	MPS/SSME PREPS FOR PROPELLANT LOADING (LPS)	14-0771
S9001VL1	SHUTTLE POWER UP/POWER DOWN (LPS)	14-0772
V2160	HYDRAULIC CHARGING UNIT (HCU) LPS SUPPORT OPERATIONS	14-0804
V2153	ORBITER ACCESS ARM (OAA) LPS SUPPORT OPERATION	14-0805
G2158	GOX VENT ARM LPS SUPPORT OPERATIONS - (LPS)	14-0806
V9018.001	MPS/SSME PREPS FOR PROPELLANT LOADING (LPS)	14-0818 14-0819
M3190	FIREX AND POTABLE WATER LAUNCH COUNTDOWN OPERATIONS	14-0836
V3529	RSS PREPS FOR MATE/DEMATE	14-0853
V2160	HYDRAULIC CHARGING UNIT (HCU) LPS SUPPORT OPERATIONS	14-0855
A2700	GROUND SUPPORT COMM SYS VALID	14-0859 14-0860

M3006	HVAC SYS/PTCR/ECS ROOM, PAD A, C-39	14-0866
M3023	PTCR/ECS RM. HVAC SYS, PAD B	14-0866
V1040.002	PRSD CRYO LOAD AND FUEL CELL ACTIVATION	14-0869
V2153	ORBITER ACCESS ARM (OAA) LPS SUPPORT OPERATION	14-0871
M3094	ROTATION SERVICE STRUCTURE OPERATION	14-0873
V3517	LH2 TSM PREPARATION TO SUPPORT INTEGRATED TEST	14-0878
V3518	LO2 TSM PREPARATION TO SUPPORT INTEGRATED TEST	14-0879
V9018.001	MPS/SSME PREPS FOR PROPELLANT LOADING (LPS)	14-0887
M3088	LOW-LEVEL OXYGEN ANALYZER UNITS OPERATION	14-0896
G2158	GOX VENT ARM LPS SUPPORT OPERATIONS - (LPS)	14-0901
T6446	EXTERNAL TANK (ET) PRE-CRYOLOAD/PAD TPS INSPECTION	14-0919
V3518	LO2 TSM PREPARATION TO SUPPORT INTEGRATED TEST	14-0927
V3517	LH2 TSM PREPARATION TO SUPPORT INTEGRATED TEST	14-0928
M3054	GN2 ENVIR/CAMERA LENS PURGE SYS	14-0933
M3176	GN2 ENVIRON/CAM LENS PURGE SYS, PAD B	14-0933
M3190	FIREX AND POTABLE WATER LAUNCH COUNTDOWN OPERATIONS	14-0933
D3008	PURGE/PRESSURIZATION AND LOCKOUT PROCEDURES FOR COMM ENCLOSURES	14-0934
V3517	LH2 TSM PREPARATION TO SUPPORT INTEGRATED TEST	14-0947
V3518	LO2 TSM PREPARATION TO SUPPORT INTEGRATED TEST	14-0947
M3088	LOW-LEVEL OXYGEN ANALYZER UNITS OPERATION	14-0961

		14-0962
M3189.001	SOUND SUPPRESSION LAUNCH COUNTDOWN OPERATIONS	14-0963
M3083	MLP COMPOSITE STRUCTURE	14-0980
M3134	PAD OPERATIONS, PADS A/B,C-39,KSC	14-0980
V1123	GN&C COUNTDOWN AND MISSION SUPPORT TESTING (LPS)	14-0998 14-1004 14-1005 14-1006
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC) DOCK SEAL INFLATION DEFLATION, OTC PPVM OPTION C	14-1025 14-1027
V2274	ORBITER/SRB ESP PLATFORM TRANSPORTER OPERATIONS	14-1035 14-1039
M3189.001	SOUND SUPPRESSION LAUNCH COUNTDOWN OPERATIONS	14-1043
M3169	ORBITER WEATHER PROTECTION SYSTEM OPERATION	14-1046 14-1050 14-1053 14-1054
C3041	CCMS OPERATION SUPPORT PATCHING	14-1072
M3189.001	SOUND SUPPRESSION LAUNCH COUNTDOWN OPERATIONS	14-1088 14-1094
V1117	COMMUNICATIONS LAUNCH CONFIGURATION CHECKOUT (LPS)	14-1116
V1040.002	PRSD CRYO LOAD AND FUEL CELL ACTIVATION	14-1118
S6444	SSV ICE AND DEBRIS ASSESSMENT	14-1128 14-1129
T6446	EXTERNAL TANK (ET) PRE-CRYOLOAD/PAD TPS INSPECTION	14-1138
V1117	COMMUNICATIONS LAUNCH CONFIGURATION CHECKOUT (LPS)	14-1141

		14-1149
		14-1164
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC) DOCK SEAL INFLATION DEFLATION, OTC PPVM OPTION C	14-1174
M3190	FIREX AND POTABLE WATER LAUNCH COUNTDOWN OPERATIONS	14-1179
V5097.003	CREW SYSTEMS STOWAGE - FLIGHT DECK/MIDDECK	14-1182
V66-90006	PLATFORM ACCESS SET, A70-0558 MIDDECK, CREW MODULE VERTICAL, REMOVAL	14-1186
V66-50009	INSTALLATION/REMOVAL AIRLOCK OUT VERTICAL ACCESS SET - CREW MODULE	14-1187
V1040.002	PRSD CRYO LOAD AND FUEL CELL ACTIVATION	14-1232
S9001VL2	SHUTTLE POWER UP/POWER DOWN (LPS)	14-1236
G2158	GOX VENT ARM LPS SUPPORT OPERATIONS - (LPS)	14-1254
M3197	HP GN2/GHE/COMP AIR/LPGN2 PREP, FRF	14-1266
G3251	LH2 SYSTEM PREPS FOR VEHICLE LOADING (LPS)	14-1268 14-1277
M3190	FIREX AND POTABLE WATER LAUNCH COUNTDOWN OPERATIONS	14-1311 14-1312
M3189.001	SOUND SUPPRESSION LAUNCH COUNTDOWN OPERATIONS	14-1318
M3011	6K/3K/750-PSIG GN2 SYS PRESS/DEPRESS	14-1321 14-1321
M3054	GN2 ENVIR/CAMERA LENS PURGE SYS	14-1321
M3131	PAD/FSS/RSS GHE SYS PRESS/DEPRESS	14-1321
M3176	GN2 ENVIRON/CAM LENS PURGE SYS, PAD B	14-1321
M3197	HP GN2/GHE/COMP AIR/LPGN2 PREP, FRF	14-1321 14-1321 14-1321

M3034	PRESSURIZING AIR SYS,PADS A/B	14-1326
V66-90002	EMERGENCY ALARMS AND LIGHTING, CREW COMPARTMENT, REMOVAL	14-1329
G3151	LOX SYSTEM PREPS FOR VEHICLE LOADING	14-1331 14-1339
A2203.002	RSS MOVES TO PARK	14-1365 14-1366 14-1382 14-1391 14-1401 14-1403
Q3018	PRE-LAUNCH, POST-LAUNCH, POST-FRF INSPECTION, ELEVATOR	14-1408
M3083	MLP COMPOSITE STRUCTURE	14-1415 14-1417 14-1418
M3088	LOW-LEVEL OXYGEN ANALYZER UNITS OPERATION	14-1422 14-1423
M3175	OPERATION OF HOLDING TANK INDUSTRIAL WASTEWATER SYSTEM	14-1426 14-1427
G2158	GOX VENT ARM LPS SUPPORT OPERATIONS - (LPS)	14-1428 14-1429
M3083	MLP COMPOSITE STRUCTURE	14-1436
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC) CONTROL STATION 132 TRANSFER - PAD TO FIRING ROOM ,ECS PREPARATIONS FOR AIR TO G	14-1438
A2203.002	RSS MOVES TO PARK	14-1439
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC)	14-1440
V6C68	PREVENTIVE MAINTENANCE PAD A/B ECS SYSTEM	14-1440
M3034	PRESSURIZING AIR SYS,PADS A/B	14-1453
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC)	14-1459

M3134	PAD OPERATIONS, PADS A/B,C-39,KSC	14-1463
D3008	PURGE/PRESSURIZATION AND LOCKOUT PROCEDURES FOR COMM ENCLOSURES	14-1474
M3190	FIREX AND POTABLE WATER LAUNCH COUNTDOWN OPERATIONS	14-1478
Q3018	PRE-LAUNCH, POST-LAUNCH, POST-FRF INSPECTION, ELEVATOR	14-1479
M3189.001	SOUND SUPPRESSION LAUNCH COUNTDOWN OPERATIONS	14-1484
G3251	LH2 SYSTEM PREPS FOR VEHICLE LOADING (LPS)	14-1489 14-1492
Q3018	PRE-LAUNCH, POST-LAUNCH, POST-FRF INSPECTION, ELEVATOR	15-0008
G3255	LH2 SYSTEM SCRUB-TURNAROUND	15-0016
M3022	COMPRESSED AIR SYSTEM	15-0019
S9001VL2	SHUTTLE POWER UP/POWER DOWN (LPS)	15-0020
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC) PREPS FOR 132 AIR GN2 CHANGEOVER,OPTION B - FINAL PREPS	15-0042
M3123	HPGHE/GN2/LPGN2 VALVE POSITIONING	15-0046
G3255	LH2 SYSTEM SCRUB-TURNAROUND	15-0047
M3034	PRESSURIZING AIR SYS,PADS A/B	15-0050
Q3018	PRE-LAUNCH, POST-LAUNCH, POST-FRF INSPECTION, ELEVATOR	15-0056 15-0057
S9001VL2	SHUTTLE POWER UP/POWER DOWN (LPS)	15-0067
V1040.002	PRSD CRYO LOAD AND FUEL CELL ACTIVATION	15-0068
M3006	HVAC SYS/PTCR/ECS ROOM, PAD A, C-39	15-0078
M3023	PTCR/ECS RM. HVAC SYS, PAD B	15-0078
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC)	

	AIR 132 TO GN2 STANDBY MODE AIR TO GN2 CHANGEOVER OPTION A - AIR TO GN2 STANDBY	15-0102
S9001VL1	SHUTTLE POWER UP/POWER DOWN (LPS)	15-0150
V1117	COMMUNICATIONS LAUNCH CONFIGURATION CHECKOUT (LPS)	15-0168
M3034	PRESSURIZING AIR SYS,PADS A/B	15-0173
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC) AIR-TO-GN2	15-0180
G3251	LH2 SYSTEM PREPS FOR VEHICLE LOADING (LPS)	15-0200
G3255	LH2 SYSTEM SCRUB-TURNAROUND	15-0201
G3151	LOX SYSTEM PREPS FOR VEHICLE LOADING	15-0223
G3155	LOX SYSTEM LAUNCH SCRUB/TURNAROUND	15-0223
G3251	LH2 SYSTEM PREPS FOR VEHICLE LOADING (LPS)	15-0237
G3255	LH2 SYSTEM SCRUB-TURNAROUND	15-0238
S9002VL16	INTEGRATED DATA REQUIREMENTS FOR S0007VL2, LAUNCH COUNTDOWN	15-0323
M3189.001	SOUND SUPPRESSION LAUNCH COUNTDOWN OPERATIONS	15-0378
G2158	GOX VENT ARM LPS SUPPORT OPERATIONS - (LPS)	15-0379
S1004	MPS LH2 SYSTEM AUTOMATIC LOAD AND DRAIN OPERATIONS (LPS)	15-0383
S6444	SSV ICE AND DEBRIS ASSESSMENT	15-0386
V1123	GN&C COUNTDOWN AND MISSION SUPPORT TESTING (LPS)	15-0393
G2158	GOX VENT ARM LPS SUPPORT OPERATIONS - (LPS)	15-0404 15-0405
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC)	15-0410
S1003	MPS LOX SYSTEM AUTOMATIC LOAD AND	

	DRAIN OPERATIONS	15-0416
		15-0419
		15-0425
		15-0426
C2000	LCC CCMS OPERATION SUPPORT	15-0456
V1123	GN&C COUNTDOWN AND MISSION SUPPORT TESTING (LPS)	15-0468
G2158	GOX VENT ARM LPS SUPPORT OPERATIONS - (LPS)	15-0528
V1040.002	PRSD CRYO LOAD AND FUEL CELL ACTIVATION	15-0653
S6444	SSV ICE AND DEBRIS ASSESSMENT	16-0002
S1003	MPS LOX SYSTEM AUTOMATIC LOAD AND DRAIN OPERATIONS	16-0011
V1123	GN&C COUNTDOWN AND MISSION SUPPORT TESTING (LPS)	16-0028
		16-0029
C2000	LCC CCMS OPERATION SUPPORT	16-0134
S6444	SSV ICE AND DEBRIS ASSESSMENT	16-0171
V1123	GN&C COUNTDOWN AND MISSION SUPPORT TESTING (LPS)	16-0276
		16-0277
S5018	INSERTION/REMOVAL OF SRB/SRSS AND GSE/SRSS GROUND STATION FLT CODES	16-0284
V2160	HYDRAULIC CHARGING UNIT (HCU) LPS SUPPORT OPERATIONS	16-0404
M3189.001	SOUND SUPPRESSION LAUNCH COUNTDOWN OPERATIONS	16-0435
Z3111	MSBLS-GS MISSION SUPPORT - KSC	16-0479
C2000	LCC CCMS OPERATION SUPPORT	16-0495
S1004	MPS LH2 SYSTEM AUTOMATIC LOAD AND DRAIN OPERATIONS (LPS)	16-0512
V1123	GN&C COUNTDOWN AND MISSION SUPPORT TESTING (LPS)	16-0532
S9002VL16	INTEGRATED DATA REQUIREMENTS FOR S0007VL2, LAUNCH COUNTDOWN	16-0743



		16-0828
V2160	HYDRAULIC CHARGING UNIT (HCU) LPS SUPPORT OPERATIONS	16-0946
S9002VL16	INTEGRATED DATA REQUIREMENTS FOR S0007VL2, LAUNCH COUNTDOWN	16-0994
S1004	MPS LH2 SYSTEM AUTOMATIC LOAD AND DRAIN OPERATIONS (LPS)	16-1154 16-1156
M3190	FIREX AND POTABLE WATER LAUNCH COUNTDOWN OPERATIONS	17-0019
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC) GN2 TO AIR CHANGE OVER- 212 OPTION B - POST LAUNCH OPERATIONS	17-0029
G3153	LOX SYSTEM SECURING AFTER LAUNCH (LPS)	17-0053
S1003	MPS LOX SYSTEM AUTOMATIC LOAD AND DRAIN OPERATIONS	17-0055
M3190	FIREX AND POTABLE WATER LAUNCH COUNTDOWN OPERATIONS	17-0086
V2153	ORBITER ACCESS ARM (OAA) LPS SUPPORT OPERATION	17-0132
V2160	HYDRAULIC CHARGING UNIT (HCU) LPS SUPPORT OPERATIONS	17-0132
G2158	GOX VENT ARM LPS SUPPORT OPERATIONS - (LPS)	17-0134
S5018	INSERTION/REMOVAL OF SRB/SRSS AND GSE/SRSS GROUND STATION FLT CODES	17-0136
S1004	MPS LH2 SYSTEM AUTOMATIC LOAD AND DRAIN OPERATIONS (LPS)	17-0184
V1040.002	PRSD CRYO LOAD AND FUEL CELL ACTIVATION	17-0198
M3189.001	SOUND SUPPRESSION LAUNCH COUNTDOWN OPERATIONS	17-0209
Q3018	PRE-LAUNCH, POST-LAUNCH, POST-FRF INSPECTION, ELEVATOR	17-0214
G3254	LH2 SYSTEM SECURING AFTER LAUNCH	17-0223

M3022	COMPRESSED AIR SYSTEM	17-0251
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC) TERMINATION OF ECS HAZ PURGE 132 GN2 OPERATION.	17-0258
M3034	PRESSURIZING AIR SYS,PADS A/B	17-0261
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC)	17-0262
M3097	HIGH PURITY GASEOUS OXYGEN SYSTEM	17-0286
M3020	HIGH-PRESSURE GASEOUS HYDROGEN FACILITY	17-0287
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC) MAIN BLOWER CHANGEOVER OPERATIONS ,DOCK SEAL INSPECTION ECS SYSTEM RELATIVE HUMI	17-0291
S6444	SSV ICE AND DEBRIS ASSESSMENT	17-0293
M3083	MLP COMPOSITE STRUCTURE	17-0304
M3088	LOW-LEVEL OXYGEN ANALYZER UNITS OPERATION	17-0306
M3079	AC,VENTILATING,PRESSURIZING SYS,MLP	17-0310 17-0310 17-0310
G3254	LH2 SYSTEM SECURING AFTER LAUNCH	17-0318
T5448	ET GH2 VENT UMBLICAL RETRACT SYSTEM ORDNANCE/GUCP REMOVAL	17-0323 17-0324
V1040.002	PRSD CRYO LOAD AND FUEL CELL ACTIVATION	17-0327
S2005	POST LAUNCH SECURING	17-0349 17-0351
S9001VL1	SHUTTLE POWER UP/POWER DOWN (LPS)	18-0046 18-0047
V1123	GN&C COUNTDOWN AND MISSION SUPPORT TESTING (LPS)	18-0089
S1003	MPS LOX SYSTEM AUTOMATIC LOAD AND DRAIN OPERATIONS	19-0002

S1004	MPS LH2 SYSTEM AUTOMATIC LOAD AND DRAIN OPERATIONS (LPS)	19-0002
V1040.003	FUEL CELL PRSD LAUNCH HOLD/RECYCLE/SCRUB CONTINGENCY OPERATIONS	19-0061
G2158	GOX VENT ARM LPS SUPPORT OPERATIONS - (LPS)	21-0002
M3189.001	SOUND SUPPRESSION LAUNCH COUNTDOWN OPERATIONS	22-0020 22-0022

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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B42AP0.050-B (1R )	APU BITE TEST (POST N2H4 LD TO L-24 HR) L02 B056-999	14-0409	_____
B42AP0.050-C (1R )	APU BITE TEST (T-9 HR) L02 B056-999	15-0257	_____
B42AP0.060-B (1 )	APU FREQ BITE (POST N2H4 LD TO L-24 HR) L02 B056-999	14-0409	_____
B42AP0.060-C (1 )	APU FREQ BITE TEST (T-9 HR) L02 B056-999	15-0257	_____
B42AP0.080-A (1R )	BEARING SOAK (POST N2H4 LD TO L-24 HR) L02 B056-999	14-0410	_____
B42AP0.080-B (1R )	BEARING SOAK (T-9 HR) L02 B056-999	15-0257	_____
GLUGGDMF0.004	HUMS GAS ANALYSIS MLP-3 GOTBU	15-0250 (MLP-3)	_____
GLVGGDMF0.004	HUMS GAS ANALYSIS MLP-2 GOTBU	15-0250 (MLP-2)	_____
GLWGGDMF0.004	HUMS GAS ANALYSIS MLP-1 GOTBU	15-0250 (MLP-1)	_____
GRVFEVRA1.005 (1 )	PAD A FSS ELEVATOR#1 OPERATIONAL CHECK GFF1-90	15-0009	_____
GRVFEVRA2.005 (1 )	PAD A FSS ELEVATOR#2 OPERATIONAL CHECK GFF1-90	15-0009	_____
GRXFEVRC0.005 (1 )	PAD B FSS ELEVATOR#1 OPERATIONAL CHECK GFF1-90	15-0009	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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GRXFEVRD0.005 (1 )	PAD B FSS ELEVATOR#2 OPERATIONAL CHECK GFF1-90	15-0009	_____
G51FGDMA0.060	HGDS - SYSTEM GAS ANALYSIS GOTBU	15-0250	_____
G51FGDMA0.095	B/U HGDS-SYSTEM GAS ANALYSIS GOTBU	15-0250	_____
G51FG0000.104	VERIFY VENT SEALS SUPPORT TANKING GOA;C	15-0528	_____
G61FGDMA0.060	HGDS - SYSTEM GAS ANALYSIS GOTBU	15-0250	_____
G61FGDMA0.095	B/U HGDS-SYSTEM GAS ANALYSIS GOTBU	15-0250	_____
G61FG0000.104	VERIFY VENT SEALS SUPPORT TANKING GOA;C	15-0528	_____
P018JB.035-C	QUIET TIME - LAUNCH COUNTDOWN PIUS V04F10	14-1228	_____
		15-0169	_____
		16-0118	_____
P018JC.010	LAUNCH COUNTDOWN - IUS RQMTS. PAXAF	15-0169	_____
		16-0692	_____
		16-1039	_____
		16-1078	_____
		16-1079	_____

1.8 OMRs REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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P095DB.030	PRELAUNCH ACTIVE COOLING PSHM;C	14-0611	_____
P095PR.893	MODULE COOLING - LAUNCH PSHM;C	16-0318	_____
S00E00.A00	RECONNECT GSE PWR VAF;C	18-0061	_____
S00E00.B40 (1 )	PFM/VFY DE-ARMING OF SSW CMD BUS VAF;C	19-0036	_____
S00E00.B50 (1 )	SECURE SSW SYSTEM VAF;C	19-0044 (SLPG2)	_____
S00E00.B60 (1 )	VERIFY/ACTIVATE SSME FIRE DETECTORS VAF;C	19-0044 (SLPG2)	_____
S00E00.B70	DISARM H2 BURN SYSTEM VAF;C	19-0044 (SLPG2)	_____
S00E00.B80	RE-EXTEND & LOCK OAA/CCAA VAF;C	19-0044 (SLPG2)	_____
S00E00.B85	LO2 SAFING AFTER TERM COUNT BREAKOUT VAF;C	19-0044 (SLPG2)	_____
S00E00.B90 (1 )	ANTI GEYSER RQMTS AFTER ENG SHUTDOWN VAF;C	16-1154  16-1154  16-1156  16-1156  19-0044 (SLPG2)	_____  _____  _____  _____  _____  _____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00E00.B95 (1 )	LH2 TOPPING LINE DRAIN BACK VAF;C	16-1154	_____
		16-1154	_____
		16-1156	_____
S00E00.012 (1 )	GH2 REDLINES SAF;C	21-0001	_____
S00E00.050	PVD RECYCLE CONFIGURATION VAF;C	19-0044 (SLPG2)	_____
S00E00.070 (1 )	SSME SHUTDN VERIFICATION VAF;C	19-0044 (SLPG2)	_____
S00E00.130 (1 )	PERFORM/VERIFY LH2 TANK VENTING TAF;C	16-1154	_____
		16-1156	_____
S00E00.137 (1 )	HEAT SHIELD WATER ACT. POST ABORT VAF;C	16-1154	_____
		16-1156	_____
S00E00.150 (1R )	INITIATE/VERIFY SSME PURGE SEQ 3 VAF;C	19-0044 (SLPG2)	_____
S00E00.160 (1 )	INITIATE/VERIFY SSME GN2 PURGE L03 V02FR12;C V03FR15;C V04FR11;C V05F;C	19-0025	_____
		19-0044 (SLPG2)	_____
S00E00.161 (1 )	ACTIVATE SSME GN2 PURGE HEATER POWER L02 V02FR12;C V03FR12;C V04FR8;C V05F;C	19-0026	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB\_\_\_\_\_/FLT\_\_\_\_ ET\_\_\_\_ SRB\_\_\_\_ LH\_\_\_\_ RH\_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT\_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_\_ NO \_\_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00E00.205 (1 )	PERFORM/VERIFY LH2 PREVLS CLOSED VAF;C	19-0044 (SLPG2)	_____
S00E00.305	ACTIVATE/VERIFY SSME MFVA HTR PWR ON VAF;C	19-0044 (SLPG2)	_____
S00E00.460	TERMINATE ET LO2 PRE-PRESS VAF;C	19-0044 (SLPG2)	_____
S00E00.490 (1 )	VERIFY ET INTERTANK COMPARTMENT TEMP TAF;C	21-0003	_____
S00E00.540 (1 )	MAINTAIN ET LH2 ULLAGE PRESS L02 TCN54-999;C	21-0003	_____
S00E00.660	SECURE OMS VAF;C	19-0034	_____
S00E00.670	PRSD TRANSFER TO EXTERNAL REACTANTS VAF;C	19-0062	_____
S00E00.710 (1R )	VERIFY APU'S SHUTDOWN VAF;C	19-0012	_____
S00E00.720	HPU SHUTDOWN SEQ (PRE AFT MDM LOCKOUT) BAF;C	19-0044 (SLPG2)	_____
S00E00.721-A (1 )	HPU SHUTDOWN SEQ (A, B, C, D) BAF;C	19-0044 (SLPG2,S)	_____
S00E00.721-B (1 )	FUEL ISOLATION VALVE CYCLE (E) BAF;C	20-0038	_____
S00E00.740	ENABLE RSRM JOINT HEATER SYSTEM L01 BCN097-098;C ENABLE RSRM JOINT HEATER SYSTEM L02 BCN099-999;C	20-0008	_____



1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00E00.742	ENABLE RSRM IGNITER HEATER SYSTEM	20-0008	_____
L01	BCN097-098;C		
	ENABLE RSRM IGNITER HEATER SYSTEM		
L02	BCN099-999;C	28-015	_____
S00E00.750 (1 )	SRM IGNITER S&A SAFING BAF;C	19-0044 (SLPG2)	_____
S00E00.751 (1 )	SRB RSS S&A SAFING BAF;C	19-0044 (SLPG2)	_____
S00E00.760 (1R )	SRB RSS INHIBIT RESET FOR RECYCLE BAF;C	19-0044 (SLPG2)	_____
S00E00.790 (1R )	INHIB LCA PIC FIRE CMDS FOR RECYCL VAF;C	19-0044 (SLPG2)	_____
S00E00.800 (1R )	SRM PIC CAP DISCHARGED VERIF BAF;C	19-0044 (SLPG2)	_____
S00E00.810 (1R )	ET VENT ARM PIC CAPS DISCHARGED SAF;C	19-0044 (SLPG2)	_____
S00E00.811	ORB OEX/MADS DEACTIVATION VAF;C	23-0003	_____
		28-011	_____
S00E00.820 (1R )	T-0 UMB PIC CAPS DISCHARGED SAF;C	19-0044 (SLPG2)	_____
S00E00.830 (1R )	SRB HOLDDOWN PIC CAPS DISCHARGED SAF;C	19-0044 (SLPG2)	_____
S00E00.840 (1R )	ACT HYD CIRC PUMPS FOR SSME WARM FLOW VAF;C	18-0014	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00E00.870 (1R )	REACTIVATE GROUND COOLING FLOW VAF;C	19-0044 (SLPG2)	_____
S00E00.880-A (1R )	CONFIGURE PASS FOR PRELAUNCH VAF;C	18-0041	_____
S00E00.880-B (1R )	CONFIGURE BFS FOR PRELAUNCH VAF;C	18-0041	_____
S00E00.890 (1R )	IMU TO GYROCOMPASS MODE VAF;C	18-0089	_____
S00E00.894 (1R )	ACTR INITIALIZATION MODE 1 SAF;C	19-0020	_____
S00E00.915 (1R )	BFS ONE SHOT DATA XFER VAF;C	18-0101	_____
S00E00.920 (1 )	ONBOARD C/D CLOCK STOPPED VERIF VAF;C	28-002	_____
S00E00.930 (1R )	SRB FWD MDM'S UNLOCK BAF;C	19-0044 (SLPG2)	_____
S00E00.940 (1 )	ONBD C/D CLOCK RECYCLED & STOPPED VAF;C	19-0044 (SLPG2)	_____
S00E00.950 (1R )	SRB AFT MDM'S UNLOCK BAF;C	19-0044 (SLPG2)	_____
S00E00.960 (1 )	VERIFICATION OF ORBITER GMTLO VAF;C	16-0958	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00E00.970	OPS RECORDER TERMINATION VAF;C	23-0006	_____
		28-011	_____
S00E00.975	P/L RECORD TERMINATION VAF;C	23-0009	_____
		23-0019	_____
		28-012	_____
S00E00.980 (1R )	CMD DCDRS POWER ACTIVATION VAF;C	19-0044 (SLPG2)	_____
S00E00.991	ET BIPOD HTRS REACTIVATION TAF;C	18-0069	_____
S00FA0.014	LPS VENT DOORS OVERRIDE WORD V02F12-90 V03F18-90 V04F13-90 V05F1-90	16-0809	_____
S00FA0.015 (1 )	L01 PIC RESISTANCE TEST (GO MODE) V02F25 V03F24 V05F13 L02 PIC RESISTANCE TEST (GO MODE) V02F26-90 V03F25-90 V04F21-90 V05F14-90	16-0088	_____
S00FA0.116 (1 )	L02 ET LO2 LOW RANGE ULLAGE PRESS XDCR CK T90-999	15-0417	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FA0.120 (1 )	LO2 VENT/RELIEF VLV ACTUATION LINE PGE TAF1-999	15-0417	_____
S00FA0.130 (1 )	LH2 VENT/RELIEF VLV ACTUATION LINE PGE TAF1-999	14-0627	_____
S00FA0.141 (1 )	VERIFY ET LO2 LOW RANGE PRESSURES L02 T45,49,51,54-999	15-0417	_____
S00FA0.213-A (1 )	PERFORM AND VERIFY SSMEC POWER ON L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	14-0893	_____
S00FA0.213-B (1 )	LOAD CONTROLLER MEMORY L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	14-0893	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FA0.213-C (1 )	EXECUTE SENSOR AND SPARK IGNITER C/O L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	14-0893	_____
S00FA0.213-D (1 )	EXECUTE COMMANDED CONTROLLER CHECKOUT L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	14-0893	_____
S00FA0.213-E (1 )	EXECUTE PNEU COMPONENT CHECKOUT L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	14-0893	_____
S00FA0.213-F (1 )	VERIFY SSME FLIGHT ACTIVE L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	14-0893	_____
S00FA0.213-G (1 )	ISSUE SSME PSN 3 COMMAND (REF. C-6) L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	14-0893	_____

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FA0.213-H (1 )	ISSUE SSME CONT RESET CMD L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	14-0893	_____
S00FA0.213-I (1 )	ISSUE SSME PSN1 COMMAND (REF. R-1) L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	14-0893	_____
S00FA0.213-J (1 )	VERIFY ACTUATOR COMMAND/POSITION L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	14-0893	_____
S00FA0.225	PERF/VFY INIT LH2 ORB/ET DISC CAV PURG L02 V02F22-90 V03F22-90 V04F18-90 V05F12-90	15-0083	_____
S00FA0.301 (1R )	LOAD/VFY FINAL PCM AND PDI FORMATS VAF1-90	14-0104	_____
S00FA0.365 (1R )	VFY FUEL CELL INSTRUMENTATION (PNL F9) VAF1-90	16-0311	_____
S00FA0.370-A (1R )	COMSEC 1 LOAD VERIFICATION VAF1-90	14-0127	_____
S00FA0.370-B (1R )	COMSEC 2 LOAD VERIFICATION VAF1-90	14-0127	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
 -----

VEHICLE/ELEMENT NO. ORB \_\_\_\_\_/FLT \_\_\_\_\_ ET \_\_\_\_\_ SRB \_\_\_\_\_ LH \_\_\_\_\_ RH \_\_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_  
 TOP WAS RUN AS A STANDALONE YES \_\_\_\_\_ NO \_\_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FA0.372-A	S-BAND PM STRING 1 STDN HI VAF1-90	15-0355	_____
S00FA0.372-C	AUDIO CENTER 1 & 2 VERIFICATION VAF1-90	14-1156	_____
S00FA0.372-D	COMSEC 1 & 2 OPERATION VAF1-90	15-0355	_____
S00FA0.372-E	FM 1 & 2 OPERATION VAF1-90	14-1156	_____
S00FA0.372-F	UHF OPERATION VAF1-90	14-1156	_____
S00FA0.372-H	S-BAND PM STRING 1 MODES VAF1-90	15-0355	_____
S00FA0.372-I	TRANSMIT P/L INTRG SWEEP WIDE CMD VAF1-90	15-0355	_____
S00FA0.435	HGDS OPERAT DURING TANKING/DETANK VAF1-90	15-0250	_____
		16-0007	_____
S00FA0.510 (1 )	RSS STATUS CHECK L03 B082-999	15-0463	_____
S00FA0.600 (1 )	RSRM PMBT B025,027-999;C	15-0388	_____
S00FA0.610 (1R )	RSRM SEGMENT JOINT HEATER SYSTEM L01 B042-098	15-0216	_____
	RSRM SEGMENT JOINT HEATER SYSTEM L02 B099-999		_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_\_/FLT\_\_\_\_\_ ET\_\_\_\_\_ SRB\_\_\_\_\_ LH\_\_\_\_\_ RH\_\_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT\_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_\_ NO \_\_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
S00FA0.620 (1R )	RSRM IGNITER HEATER SYSTEM L02 B073-098	14-1098	_____
	RSRM IGNITER HEATER SYSTEM L03 B099-999	15-0217	_____
		28-015	_____
S00FA0.630	VERIFY SRB SRGA BACKUP PWR SOURCE VAF1-90	15-0074	_____
S00FA0.770	FLT CNTL SRB TVC POWER UP VAF1-90	15-0277	_____
S00FA0.776 (1 )	RSRM NOZZLE FLEX BEARING TEMP LIMIT L04 B068-999	16-0022	_____
S00FA0.777 (1R )	RSRM NOZZLE TO CASE TEMPERATURE LIMIT L02 B062-999	16-0022	_____
S00FA0.810-A	LO2 17-INCH DISC AND LATCH POSITIONING VAF1-90	14-1340	_____
S00FA0.810-B	LH2 17-INCH DISC AND LATCH POSITIONING VAF1-90	14-1278	_____
S00FA0.820	VERIFY CREW ESC ROUTE TEMP/H2 SENSORS SAF1-999	15-0354	_____
S00FA0.850	SRB T-0 UMBILICAL PURGE B038-039,042-999	14-0991	_____
S00FA0.870	SOUND SUPPRESSION SYS INSP - WATER BAGS V02F11-90 V03F11-90 V04F7-90 V05F1-90	14-1477	_____



1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FA0.900	PRELAUNCH WEATHER BRIEFING (L-1 DAY) VAF1-90	14-1128	_____
S00FA0.940 (1R )	PITCH/ROLL/YAW CSS MODE COMMAND CHK VAF1-90	14-0272	_____
S00FA0.960	RSRM IGNITER HEATER SYS CURRENT VERIF B025,027,028 B032-999	14-1098 15-0217 20-0008	_____ _____ _____
S00FA0.970	RSRM FLD JNT HEATER SYS CURRENT VERIF B025,027,028 B032-999	15-0216 20-0008	_____ _____
S00FA0.980	DEACTIVATE RSRM IGNITER HEATER SYSTEM B030-999	16-1076 28-027	_____ _____
S00FB0.005 (1 )	ET TPS SURFACE MONITORING T23,27-29,31-999	17-0145	_____
S00FB0.011	CLOSEOUT AIR SAMPLE VAF1-90	16-0299	_____
S00FB0.050 (1 )	VFY ORB FWD/PLB/AFT PURGED WITH GN2 L02 V02F22-90 V03F23-90 V04F19-90 V05F12-90	16-0009	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB\_\_\_\_\_/FLT\_\_\_\_ ET\_\_\_\_ SRB\_\_\_\_ LH\_\_\_\_ RH\_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT\_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_  
 TOP WAS RUN AS A STANDALONE YES \_\_\_\_\_ NO \_\_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FB0.070 (1R )	VFY MPS HE SYS CONFIG VAF1-90	15-0595	_____
S00FB0.080 (1R )	MPS HELIUM SYSTEM ACTIVATION VAF1-90	15-0595	_____
S00FB0.082 (1R )	L02 SSME REG MONITORING REQUIREMENTS V02F23-90 V03F23-90 V04F20-90 V05F12-90	15-0595	_____
S00FB0.083	PNEU REG MONITORING REQUIREMENTS VAF1-90	15-0595	_____
S00FB0.090-A (1 )	MPS LO2 VLV PRELOADING CONFIGURATION VAF1-90	17-0055	_____
		21-0007	_____
S00FB0.090-B (1 )	MPS LH2 VLV PRELOADING CONFIGURATION VAF1-90	15-0595	_____
S00FB0.230 (1R )	L03 VERIFY ORB/LPS LDB REDUNDANCY V02F22-90 V03F23-90 V04F19-90 V05F12-90	15-0335	_____
S00FB0.281-A (1R )	S-BAND PM STRING 2 STDN HI VAF1-90	15-0355	_____
S00FB0.281-B (1R )	S-BAND PM STRING 2 MODES VAF1-90	15-0355	_____
S00FB0.281-C (1R )	FRAME SYNC THRESHOLD COMPARE VAF1-90	15-0355	_____
S00FB0.281-D	AGC LCC VERIFICATION	15-0355	_____

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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(1R )            VAF1-90

VOLUME 2 OF 5  
 DATE: 07-07-99

OMI NO. - S0007VL2  
 REV. - CR

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB\_\_\_\_\_/FLT\_\_\_\_ ET\_\_\_\_ SRB\_\_\_\_ LH\_\_\_\_ RH\_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT\_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_\_ NO \_\_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
S00FB0.290 (1 )	INITIATE ET INTERTANK PURGE T37-999	15-0595	_____
S00FB0.300 (1 )	L02 PERFORM/VERIFY SSME OXID PURGE V02F12-90 V03F15-90 V04F11-90 V05F1-90	17-0055	_____
S00FB0.310 (1 )	ISSUE SSME PURGE SEQ NO. 2 VAF1-90	17-0055	_____
S00FB0.320 (1 )	ISSUE SSME PURGE SEQ NO. 3 VAF1-90	17-0055	_____
S00FB0.330 (1 )	L04 INITIATE ET NOSE CONE PURGE & CONTROL T64-999;C	15-0417	_____
S00FB0.340 (1 )	MPS LO2 PREVLV OPEN RESPONSE TIME VAF1-90	17-0055	_____
S00FB0.350 (1 )	MONITOR GO2 VENT HOOD VAF1-90	17-0145	_____
S00FB0.360 (1 )	MONITOR ET/ORB MPS FOR LEAKAGE VAF1-90	17-0145	_____
S00FB0.370	L02 VFY RSS/RCVY BATTERY AMP-HR B082-999	15-0572	_____
		20-0014	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FC0.070 (1R )	L04 PFM HYD SYS CONFIG FOR CRYO LOAD V02F17-90 V03F19-90 V04F13-90 V05F7-90	15-0022	_____
S00FC0.072 (1R )	L03 PFM LDG GR SYS FINAL FILL V02F12-90 V03F15-90 V04F13-90 V05F2-90	15-0023	_____
S00FC0.080 (1 )	L02 INITIATE LO2 ORB/ET DISCONNECT PURGE V02F17-90 V03F19-90 V04F13-90 V05F7-90	17-0055	_____
S00FC0.090 (1 )	INSTL GO2 VENT HOOD & INITIATE PURGE VAF1-90	15-0406	_____
S00FC0.100 (1 )	VERIFY LO2 T-O UMB PURGE VAF1-90	17-0055	_____
S00FC0.120 (1 )	LO2 PRE-PRESS ANTI-ICING PURGE VAF1-90;C	17-0055	_____
S00FD0.062 (1 )	L03 PERFORM ORB/ET LO2 CHILLDOWN T90-999	17-0055	_____
S00FD0.073 (1 )	L03 PERFORM LO2 SLOW FILL T90-999	17-0055	_____
S00FD0.094	PERFORM LO2 FAST FILL FROM 2 TO 98 PCT	17-0055	_____

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB\_\_\_\_\_/FLT\_\_\_\_ ET\_\_\_\_ SRB\_\_\_\_ LH\_\_\_\_ RH\_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT\_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_\_ NO \_\_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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(1 )	L06 T96-999		
	PERFORM LO2 FAST FILL FROM 2 TO 98 PCT		
	L07 T90-95	21-0007	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT\_\_\_\_ ET\_\_\_\_ SRB\_\_\_\_ LH\_\_\_\_ RH\_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT\_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_\_ NO \_\_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FD0.095-A	TURN SSME GN2 HEATER OFF VAF1-90	17-0055	_____
		21-0007	_____
S00FD0.095-B	SSME GN2 PURGE TEMPERATURE VAF1-90	16-1127	_____
S00FD0.121-A (1R )	MPS LO2 ECO SENSORS IND WET VAF1-90	17-0055	_____
		21-0007	_____
S00FD0.121-B (1R )	MPS LH2 LOW LVL SENSORS IND WET VAF1-90	16-0035	_____
S00FE0.020 (1 )	ACTIVATE LH2 T-0 UMB PLATE HE PURGE VAF1-90	15-0083	_____
S00FE0.040 (1 )	ACTIVATE TSM AND TUNNEL PURGES VAF1-90	15-0595	_____
S00FE0.050 (1 )	VFY ET GUCP LH2 VENT DISC CAVITY PURGE L02 T68-999	15-0595	_____
S00FE0.100 (1 )	INITIATE LH2 PREPRESS ANTI-ICING PURGE VAF1-90;C	16-0035	_____
S00FE0.111 (1 )	ORB MPS LH2 CHILLDOWN & FILL TO 5% L02 T45,48-51,54-95 ORB MPS LH2 CHILLDOWN & FILL TO 5% L03 T96-999	16-0035	_____

VOLUME 2 OF 5  
 DATE: 07-07-99

OMI NO. - S0007VL2  
 REV. - CR

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FE0.185 (1R )	SRB MDM PRELAUNCH VERIF L02 V02F18-90 V03F20-90 V04F14-90 V05F9-90	16-0519	_____
S00FE0.190 (1R )	PRELAUNCH MDM DISCRETES OUTPUT VERIF VAF1-90	16-0149 (VAS94)	_____
S00FE0.210	ACTR INITIALIZATION MODE 1 VAF1-90	16-0266	_____
S00FE0.225-A (1R )	MDM LL1 POWER SEPARATION B075-999	16-0519	_____
S00FE0.225-B (1R )	MDM LR1 POWER SEPARATION B075-999	16-0519	_____



1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_\_/FLT \_\_\_\_\_ ET \_\_\_\_\_ SRB \_\_\_\_\_ LH \_\_\_\_\_ RH \_\_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_\_ NO \_\_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FE0.230-A (1R )	MDM LL2 POWER SEPARATION L02 B070-999	16-0519	_____
S00FE0.230-B (1R )	MDM LR2 POWER SEPARATION L02 B070-999	16-0519	_____
S00FE0.240 (1 )	SRB DFI & SRBTS POWER UP B032,034,036,039 B040,042-999	16-0346	_____
S00FF0.011 (1 )	PERFORM LH2 FAST FILL TO 85 PERCENT L02 V02F12-90 V03F15-90 V04F12-90 V05F2-90	16-0073	_____
S00FF0.030 (1 )	LH2 RECIRC PUMP ACTIVATION/PREVLV CLOSE L02 V02F15-90 V03F17-90 V04F13-90 V05F4-90	16-0073	_____
S00FF0.070 (1 )	PRESSURIZE MPS HE TANKS TO FLT PRESS VAF1-90	15-0083	_____
S00FF0.081 (1 )	PERFORM LH2 REDUCED FAST FILL TO 98 PCT L02 V02F12-90 V03F15-90 V04F12-90 V05F1-90	16-0073	_____
S00FF0.082 (1 )	PERFORM LH2 TOPPING TO 100 PCT VAF1-90	16-0131	_____
S00FF0.091 (1 )	PERFORM LH2 REPLENISH FLOW AT 100 PCT VAF1-90	16-0133	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
S00FF0.095	PERFORM/VERIFY ET BIPOD HTRS PWR ON L03 T43,45,48-51 T54-999	16-0078	_____
S00FF0.101 (1 )	PFM LO2 TOPPING (FROM 98 TO 100 PCT) L05 T90-999	17-0055	_____
		21-0007	_____
S00FF0.145 (1 )	PERFORM LO2 REPLENISH FLOW AT 100 PCT L05 T90-999	17-0055	_____
		21-0007	_____
S00FF0.170	SRB HPU GAS GENERATOR BED HEATERS SAF1-999	16-0581	_____
		16-0876	_____
		(SGPW2)	_____
S00FF0.190 (1 )	CLOSE LH2 INBD FILL & DRAIN VLV VAF1-90	16-0073	_____
S00FF0.204 (1R )	LO2 & LH2 LIQ LVL SENSOR CONT VFY VAF1-90	16-0544	_____
S00FF0.215 (1R )	SRB RATE GYRO POWER ACTIVATION L03 V02F18-90 V03F21-90 V04F14-90 V05F9-90	16-0440	_____
S00FF0.230 (1R )	SRB RGA TORQUE TEST SAF1-999	16-0441	_____
S00FF0.235 (1R )	VERIFY/ARM RCS DRIVERS VAF1-90	16-0562	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FF0.250-A	MCCH TRANSMIT DAY OF LAUNCH I-LOAD VAF;C	16-0666	_____
S00FF0.250-B	PERFORM DOWNLIST DUMP OF PASS GPC PITCH VAF;C	16-0682	_____
S00FG0.050 (1R )	PERFORM MCC AIR-TO-GND VOICE CHECK VAF1-90	16-0638	_____
S00FG0.085	GPC - MTU CHAN 1 GMT/MET UPDATE VAF1-90	16-0565	_____
S00FH0.031 (1 )	L05 ACTIVATE AND VFY RANGE SAFETY SYS B082-999	16-0759	_____
S00FJ0.015	WSB N2 SUPPLY CONFIGURE FOR LAUNCH V02F17-90 V03F19-90 V04F13-90 V05F7-90	16-0827	_____
S00FK0.025-A (1R )	TRANSITION REDUNDANT SET TO FLT VAF1-90	16-0953	_____
S00FK0.025-B (1R )	DUMP AND VERIFY OPS-1 LOAD FROM VAF1-90	16-1013	_____
S00FK0.030 (1R )	CONFIGURE BFS GPC FOR FLIGHT VAF1-90	16-0966	_____
S00FK0.050-A (1R )	MPS LO2 VLVS PWR "ON" VERIF V02F25,26 V03F24 V05F13	16-0976	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FK0.050-B (1R )	MPS LH2 VLVS PWR "ON" VERIF V02F25,26 V03F24 V05F13	16-0975	_____
S00FK0.080 (1 )	MPS HE ISO VLV XFER CONTROL TO ORB VAF1-90	16-0974	_____
S00FM0.020 (1 )	GMT, GMTLO AND CDT SYNCHRONIZATION VAF1-90	16-0876 (SLP07)	_____
S00FM0.040	DEACTIVATE SSME MFVA HTR PWR VAF1-90	16-0876 (SGPT2)	_____
		16-1121	_____
S00FM0.043 (1 )	TERMINATE LO2 REPLENISH VAF1-90	17-0055	_____
		21-0007	_____
S00FM0.050 (1 )	CLOSE LO2 INBD FILL AND DRAIN VALVE VAF1-90	17-0055	_____
		21-0007	_____
S00FM0.060 (1 )	INITIATE LO2 TSM DRAIN VAF1-90	17-0055	_____
		21-0007	_____
S00FM0.110 (1R )	SPBK & RUDDER GRAVITY POS VAF1-90	14-1015 (SWB02)	_____
S00FM0.175 (1R )	PERFORM HYD SYS APU-POST START VAF1-90	16-1106	_____
S00FM0.210 (1 )	ARM SRB S&A DEVICES SAF1-999	16-0876 (SGPT2)	_____

VOLUME 2 OF 5  
 DATE: 07-07-99

OMI NO. - S0007VL2  
 REV. - CR

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_\_/FLT \_\_\_\_\_ ET \_\_\_\_\_ SRB \_\_\_\_\_ LH \_\_\_\_\_ RH \_\_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_\_ NO \_\_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FM0.250 (1 )	ISSUE SSME PURGE SEQ NO. 4 VAF1-90	16-0876 (SGPT2)	_____
S00FM0.270 (1 )	AEROSURFACE PROFILE VAF1-90	16-0876 (SSPS1)	_____
S00FM0.280 (1 )	BODY FLAP & SPBK LAUNCH POS VAF1-90	16-0876 (SGPU2)	_____
S00FM0.290 (1R )	BODY FLAP COMMAND OUTPUTS VAF1-90	16-0876 (SGPU2)	_____
S00FM0.300 (1R )	MPS GIMBAL PROFILE CHECK VAF1-90	16-0876 (SSPS1)	_____
S00FM0.310 (1 )	MPS ENGINES TO START POSITION VAF1-90	16-0876 (SGPU2)	_____
S00FM0.321 (1 )	TERMINATE ET HELIUM INJECT FLOW VAF1-90	17-0055 21-0007	_____ _____
S00FM0.330	TERMINATE LO2 PREPRESS ANTI-ICING PURGE VAF1-90	17-0055 21-0007	_____ _____
S00FM0.342 (1 )	CLOSE LO2 VENT VLV & PREPRESS TANK L04 T90-999	17-0055 21-0007	_____ _____
S00FM0.350 (1 )	PERFORM/VERIFY SSME GN2 PURGE OFF VAF1-90	16-0876 (SGPU2) 16-1126	_____ _____ _____

VOLUME 2 OF 5  
 DATE: 07-07-99

OMI NO. - S0007VL2  
 REV. - CR

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FM0.360	TERMINATE GO2 VENT HOOD PURGE VAF1-90	16-0876 (SLPJ0)	_____
S00FM0.370 (1 )	RETRACT GO2 VENT HOOD VAF1-90	16-0876 (SLPJ0)	_____
S00FM0.380 (1 )	TERMINATE LH2 TANK REPLENISH VAF1-90	16-1136 (SSH03)	_____
S00FM0.390	TERM LH2 PREPRESS ANTI-ICING PURGE VAF1-90	16-1136 (SSH03)	_____
S00FM0.400 (1 )	CL ET LH2 VENT VLV & INIT PRE-PRESS L02 T92-999	16-1136 (SSH03)	_____
S00FM0.430 (1 )	SRB AFT SKIRT INERTING PURGE B025,027-999	16-0986	_____
S00FM0.440 (1 )	TERMINATE NOSE CONE PURGE VAF1-90	17-0055	_____
		21-0007	_____
S00FM0.450 (1 )	TERMINATE ET INTERTANK PURGE L02 V02F18-90 V03F22-90 V04F15-90 V05F10-90	16-1136 (SSH03)	_____
S00FN0.040 (1R )	PERFORM SRB FWD MDM LOCKOUT B052-999	16-0876 (SGPW2)	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_\_/FLT \_\_\_\_\_ ET \_\_\_\_\_ SRB \_\_\_\_\_ LH \_\_\_\_\_ RH \_\_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_\_ NO \_\_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FN0.825	DEACTIVATE RSRM JOINT HEATER SYSTEM B031-999	16-0876 (SGPW2)	_____
S00FN0.840 (1 )	INTG VEHICLE GSE PWR REMOVAL V02F15-90 V03F18-90 V04F13-90 V05F5-90	16-0876 (SGPW2)	_____
S00FP0.030 (1 )	ET BIPOD HEATERS OFF L02 V02F15-90 V03F17-90 V04F13-90 V05F5-90	16-0876 (SGPW2)	_____
S00FP0.050 (1 )	CLOSE MPS LO2/LH2 OUTBD F/D VLVS VAF1-90	16-0876 (SGPW2)	_____
S00FP0.060 (1 )	INTG VEH GSE PWR OFF CMD REMOVAL VER V02F15-90 V03F18-90 V04F13-90 V05F5-90	16-0876 (SGPW2)	_____
S00FR0.010	REDUNDANT SET AUTO SEQ START VAF1-90	16-0876 (SGPW2)	_____
S00FR0.070 (1 )	START SRB HPU L02 B038-999	16-0876 (SGPW2)	_____
S00FS0.020	PERFORM GROUND COOLING SHUTDOWN VAF1-90	16-0876 (SLP26)	_____
S00FS0.030 (1 )	SRB GIMBAL TEST SAF1-999	16-0876 (SSPS1)	_____
S00FS0.080 (1R )	ORDNANCE ARMED VERIFICATION VAF1-90	16-0876 (SLP26)	_____

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FS0.090      PERFORM SRB AFT MDM LOCKOUT  
(1R )      L02 B052-999

16-0876 \_\_\_\_\_  
(SLP26) \_\_\_\_\_



1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_\_/FLT \_\_\_\_\_ ET \_\_\_\_\_ SRB \_\_\_\_\_ LH \_\_\_\_\_ RH \_\_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_\_ NO \_\_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FT0.020 (1R )	REMOVE RSS INHIBITS SAF1-999	16-0876 (SLP26)	_____
S00FT0.040 (1 )	TERMINATE MPS HE TANK FILL VAF1-90	16-0876 (SLP26)	_____
S00FT0.050 (1 )	DEACTIVATE MPS LH2 RECIRC SYS VAF1-90	16-0876 (SLP26)	_____
S00FT0.100	LPS ISSUE GO FOR SSME START VAF1-90	16-0876 (SLP26)	_____
S00FT0.110	ACTIVATE SSME FREE H2 BURN SYSTEM VAF1-90	16-0876 (SLP26)	_____
S00FT0.120	ACTIVATE SOUND SUPPRESSION WATER VAF1-90	16-0876 (SLP26)	_____
S00L00.030 (1 )	ET TANKING WIND VELOCITY LIMIT (KSC) SAF1-999	15-0210	_____
S00L00.051-A (1 )	LH2 TANK PRESSURE (WIND CONDITION) L02 T43,45,48-51 T54-999	14-0654  14-1269	_____  _____
S00L00.051-B (1 )	LO2 TANK PRESSURE (WIND CONDITION) L02 T43,45,48-51 T54-999	15-0417	_____
S00L00.080 (1 )	ET PROP LOADING LIGHTNING CONSTRAINTS SAF1-999	15-0210	_____

VOLUME 2 OF 5  
 DATE: 07-07-99

OMI NO. - S0007VL2  
 REV. - CR

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00L00.085	WIND PREDICTION - SRB RETRIEVAL AREA B072-999	15-0659	_____
		16-0291	_____
		16-0819	_____
		16-0935	_____
S00U00.010 (1 )	POST LAUNCH SHUTTLE/PAD AREA INSPECTION SAF1-999	17-0293	_____
S00U00.020-A (1 )	AN ENGINEERING PAD INSPECTION TEAM SAF1-999	16-0430	_____
S00U00.020-C (1 )	INSPECT ORBITER AFT ENGINE SAF1-999	16-0430	_____
S00U00.020-D (1 )	INFRARED SURVEILLANCE SAF1-999	16-0430	_____
S00U00.030 (1 )	PRELAUNCH SHUTTLE/PAD AREA INSPECTION SAF1-999	14-1183	_____
S00000.643 (1R )	SRB RGA POSITIVE/NEGATIVE TORQUE TEST SAF1-999;C	16-0441	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_  
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OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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T09QAL.030 (1 )	ET TPS INSPECTION ON PAD L04 T57-999	14-1358	_____
V05AG0.060-C	GN2 PURGE INITIATION TIME L05 V02F22-90 V03F23-90 V04F19-90 V05F12-90	15-0532	_____
V05AH0.050-C	GN2 PURGE INITIATION TIME L06 V02F22-90 V03F23-90 V04F19-90 V05F12-90	15-0532	_____
V05AH0.050-D	REDUCED PAYLOAD BAY PURGE RATE L06 V02F22-90 V03F23-90 V04F19-90 V05F12-90	16-1043	_____
V05AI0.060-C	PURGE PARAMETERS FOR ET LOADING - GN2 L04 V02F22-90 V03F23-90 V04F19-90 V05F12-90	15-0532	_____
V09AH0.090 (1 )	RSI - PCR SEAL/INTERFACE L03 V02F21-90 V03F22-90 V04F18-90 V05F12-90	14-1026 14-1175	_____ _____

VOLUME 2 OF 5  
 DATE: 07-07-99

OMI NO. - S0007VL2  
 REV. - CR

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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V30C00.010	PLBD MOISTURE CONDITIONING V02F25-90;C V03F25-90;C V04F21-90;C V05F13-90;C	14-1368	_____
V42BF0.130	VFY CLOSURE OF RCS XFEED VALVES (LCD) V02F20-90 V03F22-90 V04F17-90 V05F12-90	16-0983	_____
V43CF0.110-A	LEFT POD TANKS V02F20-90 V03F22-90 V04F17-90 V05F12-90	16-0021	_____
V43CF0.110-B	RIGHT POD TANKS V02F20-90 V03F22-90 V04F17-90 V05F12-90	16-0021	_____
V43CF0.120	PERFORM OMS ENGINE ACTIVATION (LCD) V02F20-90 V03F22-90 V04F17-90 V05F12-90	16-0823 (VWD72/V)	_____
V43CF0.130	VFY CLOSURE OF OMS XFEED VLVS (LCD) V02F20-90 V03F22-90 V04F17-90 V05F12-90	16-0983	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

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TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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V45CG0.040-A	FCP 1 C&W VERIF	16-0399	_____
	L02 V02F12-90		
	V03F15-90		
	V04F11-90		
	V05F1-90		
V45CG0.040-B	FCP 2 C&W VERIF	16-0399	_____
	L02 V02F12-90		
	V03F15-90		
	V04F11-90		
	V05F1-90		
V45CG0.040-C	FCP 3 C&W VERIF	16-0399	_____
	L02 V02F12-90		
	V03F15-90		
	V04F11-90		
	V05F1-90		
V45CH0.020 (1R )	PERFORM FUEL CELL CALIBRATION	15-0593	_____
	L01 V03F23		
	PERFORM FUEL CELL CALIBRATION		
	L02 V02F24-90		
	V03F24-90		
	V04F20-90		
	V05F12-90		
V45CH0.030 (1 )	PERFORM PRSD SYSTEM INTEGRITY CHECK	15-0593	_____
	V02F21-90		
	V03F22-90		
	V04F18-90		
	V05F12-90		
V45CH0.040	PERFORM PURGE OF FCP 1, 2 AND 3	16-0606	_____
	V02F21-90		
	V03F22-90		
	V04F18-90		
	V05F12-90		

VOLUME 2 OF 5  
 DATE: 07-07-99

OMI NO. - S0007VL2  
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1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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V45CH0.050	PERFORM FCP PRELAUNCH CONDITIONING V02F21-90 V03F22-90 V04F18-90 V05F12-90	16-0996	_____
V51AF0.245 (1R )	WEIGHT-ON-WHEELS PROXIMITY SWITCHES V02F22-90 V03F23-90 V04F19-90 V05F12-90	14-1014	_____
V51AF0.250	REDUNDANT WEIGHT ON WHEELS DETECTOR V02F22-90 V03F23-90 V04F19-90 V05F12-90	14-1013	_____
V51AG0.075-A	LH NLG TPDMS LONG TERM DECAY RATE L04 V02F16-20E20;C V03F18-21E21;C V04F13-17E17;C V05F5-11E11;C LH NLG TPDMS LONG TERM DECAY RATE L05 V02F21-90R21;C V03F22-90R22;C V04F18-90R18;C V05F12-90R12;C	15-0652	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_\_/FLT \_\_\_\_\_ ET \_\_\_\_\_ SRB \_\_\_\_\_ LH \_\_\_\_\_ RH \_\_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

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TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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V51AG0.075-B	RH NLG TPDMS LONG TERM DECAY RATE	15-0652	_____
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L04 V02F16-20E20;C  
V03F18-21E21;C  
V04F13-17E17;C  
V05F5-11E11;C

RH NLG TPDMS LONG TERM DECAY RATE

L05 V02F21-90R21;C  
V03F22-90R22;C  
V04F18-90R18;C  
V05F12-90R12;C

V51AG0.075-C	LH INBD TPDMS LONG TERM DECAY RATE	15-0652	_____
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L04 V02F16-20E20;C  
V03F18-21E21;C  
V04F13-17E17;C  
V05F5-11E11;C

LH INBD TPDMS LONG TERM DECAY RATE

L05 V02F21-90R21;C  
V03F22-90R22;C  
V04F18-90R18;C  
V05F12-90R12;C

V51AG0.075-D	LH OUTBD TPDMS LONG TERM DECAY RATE	15-0652	_____
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L04 V02F16-20E20;C  
V03F18-21E21;C  
V04F13-17E17;C  
V05F5-11E11;C

LH OUTBD TPDMS LONG TERM DECAY RATE

L05 V02F21-90R21;C  
V03F22-90R22;C  
V04F18-90R18;C  
V05F12-90R12;C

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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V51AG0.075-E	RH INBD TPDMS LONG TERM DECAY RATE	15-0652	_____
L04	V02F16-20E20;C V03F18-21E21;C V04F13-17E17;C V05F5-11E11;C		
	RH INBD TPDMS LONG TERM DECAY RATE		
L05	V02F21-90R21;C V03F22-90R22;C V04F18-90R18;C V05F12-90R12;C		
V51AG0.075-F	RH OUTBD TPDMS LONG TERM DECAY RATE	15-0652	_____
L04	V02F16-20E20;C V03F18-21E21;C V04F13-17E17;C V05F5-11E11;C		
	RH OUTBD TPDMS LONG TERM DECAY RATE		
L05	V02F21-90R21;C V03F22-90R22;C V04F18-90R18;C V05F12-90R12;C		
V62AG0.010-D (1R )	ADJUST TANK QUANTITIES	16-0259	_____
L04	V02F21-90 V03F22-90 V04F18-90 V05F12-90		



1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP QC/ENG (CAP) VERIF
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V62AG0.050 (1R )	L01 FUEL CELL WATER LINE VERIFICATION V02F20 V04F17 V05F11 L02 FUEL CELL WATER LINE VERIFICATION V02F21-90 V03F22-90 V04F18-90 V05F12-90	16-0256 _____ (VWR05)
V63AR0.025	L01 FES PLUGS FINAL REMOVAL V02F20 V04F17 V05F11 L02 ATCS PLUGS FINAL REMOVAL V02F21-90 V03F22-90 V04F18-90 V05F12-90	14-0807 _____
V67AA0.030-B	SAMPLING AT L-2 TO L-0 DAYS V02F25-90 V03F25-90 V04F21-90 V05F13-90	14-0899 _____

VOLUME 2 OF 5  
 DATE: 07-07-99

OMI NO. - S0007VL2  
 REV. - CR

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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V71AD0.050 (1R )	L02 IMU GYROCOMPASS ALIGNMENT CHECK V02F22-90 V03F23-90 V04F19-90 V05F12-90	16-0701	_____
V72CA0.010-A	PASS DEU ACTIVATION V02F22-90 V03F23-90 V05F12-90	14-0078	_____
V72CA0.010-B	BFS DEU ACTIVATION V02F22-90 V03F23-90 V05F12-90	14-0094	_____
V72CA0.020 (1R )	PRELAUNCH BFC/ENGAGE VERIFICATION V02F22-90 V03F23-90 V04F19-90 V05F12-90	14-0064	_____
V72CA0.030 (1R )	PRELAUNCH BFC/CRT VERIFICATION V02F22-90;C V03F23-90;C V04F19-90;C V05F12-90;C	14-0064	_____
V72CA0.050-A	REDUNDANT SET ACTIVATION V02F22-90 V03F23-90 V04F19-90 V05F12-90	14-0334	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_  
 TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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V72CA0.050-B	BFS ACTIVATION V02F22-90 V03F23-90 V04F19-90 V05F12-90	14-0092	_____
V72CA0.050-C	BFS DUMP & COMPARE V02F22-90 V03F23-90 V04F19-90 V05F12-90	14-0092	_____
V72CA0.060-A	BFS ONE SHOT TRANSFER PREPS V02F22-90 V03F23-90 V04F19-90 V05F12-90	16-0816	_____
V72CA0.060-B	BFS ONE SHOT DATA TRANSFER V02F22-90 V03F23-90 V04F19-90 V05F12-90	16-0851	_____
V72CA0.070	POWER DOWN CMD DECODERS V02F22-90 V03F23-90 V04F19-90 V05F12-90	16-0876 (SLP26)	_____
V74AB0.020 (1R_ )	TACAN SELF TEST VAF1-90;C	14-0301 (SELF)	_____
V74AB0.102 (1R )	BLANKING AT PAD V02F20-90;C V03F22-90;C V04F17-90;C V05F11-90;C	14-0301 (BLANKIN)	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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V74AB0.190 (1R_ )	TACAN GROUND STATION INTERFACE VAF1-90;C	14-0301	_____ (GROUND)
V74AC0.011 (1R_ )	RADAR ALT. POWER ON VERIFICATION VAF1-90;C	14-0301	_____ (PWR)
V74AC0.020 (1R_ )	RADAR ALTIMETER SELF TEST VAF1-90;C	14-0301	_____ (SELF)
V74AD0.020 (1R_ )	MSBLS SELF TEST VAF1-90;C	14-0301	_____ (SELF)
V75AP0.010 (1R )	CONFIGURE OI PCMMU FOR LCD (GND CNTR) V02F22-90 V03F23-90 V04F19-90 V05F12-90	14-0282	_____
V75AP0.020	VERIFY OPS & P/L RCDRS CONFIG FOR LCD V02F22-90 V03F23-90 V04F19-90 V05F12-90	14-0843	_____
V75AP0.030 (1R )	MTU OSC FREQ VERIFY V02F22-90 V03F23-90 V04F19-90 V05F12-90	14-0176	_____
V75AP0.040 (1R )	OI PCMMU CONFIG FOR PNL CONTROL V02F22-90 V03F23-90 V04F19-90 V05F12-90	16-0306	_____
		18-0095	_____

1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP  
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VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_

SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

TOP WAS RUN AS A STANDALONE YES \_\_\_\_ NO \_\_\_\_

TOP WAS RUN AS A SUBTASK TO TOP \_\_\_\_\_.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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V78GA0.010	VFY MTU OEX/MADS TIMING SIGNALS V02F22-90 V03F23-90 V04F19-90 V05F12-90	14-0184	_____
V78GA0.020	CONFIGURE MADS/OEX FOR TERMINAL COUNT V02F22-90 V03F23-90 V04F19-90 V05F12-90	14-0843	_____
V78GA0.030	MADS PCM AND WB DATA STAT CK V02F22-90 V03F23-90 V04F19-90 V05F12-90	14-0184	_____
V79AS0.012 (1 )	FWD RCS SINGLE CMD TEST VAF1-90;C	15-0317 (VSB53)	_____
V79AS0.013 (1 )	FWD RCS SINGLE CMD TEST VAF1-90;C	15-0317 (VSB53)	_____
V79AS0.062 (1 )	AFT LEFT RCS SINGLE CMD TEST VAF1-90;C	15-0317 (VSB53)	_____
V79AS0.063 (1 )	AFT LEFT RCS SINGLE CMD TEST VAF1-90;C	15-0317 (VSB53)	_____
V79AS0.110 (1 )	AFT RIGHT RCS SINGLE CMD TEST VAF1-90;C	15-0317 (VSB53)	_____
V79AZ0.090 (1 )	OMS ACTUATOR STOW POSITION FOR LAUNCH V02F22-90 V03F22-90 V04F18-90 V05F12-90	15-0342 (SWB02)	_____

SECTION IV

OPERATION INSTRUCTIONS  
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SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
13-0000				CALL TO STATION -----	
13-0001	-1D19H00M T-43H00M (HOLDING)		NTD	PERFORM SHUTTLE COUNTDOWN CALL TO STATIONS.	SU72007
13-0002		NTD PA		ALL PERSONNEL SUPPORTING S0007, SHUTTLE COUNTDOWN, REPORT ON STATION FOR TEST STATUS CHECK	
13-0003		NTD 232	CMQC	REPORT S0007 CONSTRAINT STATUS.	
13-0004		NTD 232	CMQC	VERIFY INTEGRATED PRE-OPERATION SETUPS 1 AND 2 ARE COMPLETE.	
13-0005	-1D19H00M T-43H00M (HOLDING)	NTD 232	STM	VERIFY VOICE RECORDINGS AS SCHEDULED FOR S0007.	
13-0006		NTD 232		ANNOTATE VOICE TAPE:  DATE _____  TIME _____ GMT  VEHICLE _____  LOCATION _____  STS - _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.	
13-0007		NTD 232	OTC TBC	PERFORM S0007 CALL TO STATION AND REPORT TEST READINESS STATUS. FOLLOWING IS CURRENT REVISION LEVEL *SCC AND DATE FOR EFFECTIVE S0007 VOLUMES PTC FOR THIS LAUNCH. VERIFY ALL YOUR LPS ACTIVE SYSTEMS HAVE CORRECT REVISION AVAILABLE.  VOL 1 (PREPS) REV ____ DATE _____  VOL 2 (OPR SEQ) REV ____ DATE _____  VOL 3 (RECYCLE) REV ____ DATE _____  VOL 4 (SYST SEQ) REV ____ DATE _____  VOL 5 (CONTINGENCY/EMERGENCY)  REV ____ DATE _____		
13-0008		NTD 232	*SCC	VERIFY ALL SF PREPS COMPLETE AND READY TO SUPPORT S0007.		
13-0009		LPS 127	JSDC	VERIFY FOLLOWING:  1. SDC PERSONNEL AND EQUIPMENT READY TO SUPPORT S0007.  2. PCGOAL TO LAUNCH CONTROL ROOM RESTRICTED TO S0007 DATA ONLY.		
13-0010		LPS 127	JRPS	VERIFY RPS READY TO SUPPORT LAUNCH COUNTDOWN.		
13-0011		NTD 232	LPS	VERIFY LPS READY TO SUPPORT LAUNCH COUNTDOWN.  TCID _____  REV ____ MOD _____  OPERATING SYSTEM _____		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
13-0012		NTD 232 STM 111	STM JBFX	REQUEST JBFX REPORT TO NTD ON CHANNEL 232 FOR COMM CHECK AND BRIEFING, MONITOR CHANNEL 232 AND STANDBY TO FLOW FIREX WATER DIRECTED BY NTD PER EMERGENCY INSTRUCTIONS, VOL 5 APPENDIX Z.	WSSA SU72066
13-0013		NTD 232	OTC	VERIFY ORBITER IN STANDARD POWER CONFIGURATION.  SET COUNTDOWN CLOCK -----	
13-0014	-1D19H00M T-43H00M (HOLDING)	NTD 232	CGLS	SET COUNTDOWN CLOCK TO __ DAY, __ HOURS, __ MINUTES, __ SECONDS, AND COMMENCE COUNTING AT _____ GMT	
13-0015			CGLS	HOME CMD KEY - PRESS CDTS - __:___/___ DD HHMM SS  XMIT CMD KEY - PRESS	
13-0016			CGLS	HOME CMD KEY - PRESS CDTC __ __ / __ . 000 HH MM SS XMIT CMD KEY - PRESS	
13-0017		CGLS 232	NTD	THE COUNTDOWN CLOCK IS AT __ DAYS, __ HOURS, __ MINS, __ SEC AND HOLDING	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				ORBITER -----	
13-0018		OTC 132	CMQC	VERIFY ORBITER PRE-OPERATION SETUP 1 - PRE-OPERATION SETUP SUMMARY SHEET COMPLETE.	SU72031
13-0019	-1D19H00M T-43H00M (HOLDING)	OTC 132		ALL ORBITER PERSONNEL SUPPORTING S0007, SHUTTLE COUNTDOWN, REPORT TEST READINESS STATUS	
			CGLS	LCC FR GROUND LAUNCH SEQUENCER ENGR	
			CEPD	LCC FR ELECTRICAL POWER SYSTEM LEAD REPORTS FOR QPDS, PPDS	
			CISL	LCC FR ORBITER INSTRUMENTATION SYSTEM LEAD REPORTS FOR (JISE)	
			CECL	LCC FR ENVIRONMENTAL CONTROL LEAD REPORTS FOR: PGCU PAD GROUND COOLANT UNIT TECH	
			CDPS	LCC FR ORBITER DATA PROCESSING SYSTEM ENGINEER	
				*PAD PAD LEADER	
			CMQC	LCC FR QUALITY CONTROL (SYSTEM ENGINEER COVERAGE) REPORTS FOR PQCG - PAD QUALITY CONTROL GENERAL	
			CDR	COMMANDER (ORBITER LEFT SEAT)	
			PLT	PILOT (ORBITER RIGHT SEAT)	
			CTPE	LCC FR TEST PROJECT ENGINEER	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
13-0020		OTC 132	CEPD	VERIFY FOLLOWING PROGRAMS INACTIVE, THEY SHALL REMAIN INACTIVE FOR DURATION. OF THIS OMI.  VWC12 - MEC CRITICAL CMD VWC13 - GROUND PICS	
13-0021		OTC 232	NTD	ORBITER READY FOR S0007  PAYLOAD -----	
13-0022		NTD 232	PTC	VERIFY PAYLOAD SYSTEMS AND PERSONNEL ARE READY TO SUPPORT LAUNCH COUNTDOWN OPERATIONS.	
13-0023		PTC 232	NTD	PAYLOAD ELEMENTS READY FOR S0007.	
NOTE					
PERFORM THE FOLLOWING STEP FOR STS-93.					
13-0024		PTC 132 OTC	OTC CMQC CPVD PPVM	PERFORM ORBITER OPERATION SUPPORT SETUP 15 - PAYLOAD BAY PURGE VERIFICATION.	
NOTIFY PTC IMMEDIATELY IF PURGE GOES OUT OF SPEC. (STS-93) NOT PERFORMED					
EXTERNAL TANK/SRB -----					
13-0025	-1D19H00M T-43H00M (HOLDING)	TBC 136	CMQC	VERIFY EXTERNAL TANK AND SRB PRE-OPERATION SETUP 1 - PRE-OPERATION SETUP SUMMARY SHEETS COMPLETE.	SU72047
13-0026		TBC 232	NTD	ET/SRB READY FOR S0007.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
SUPPORT -----					
13-0027	-1D19H00M T-43H00M (HOLDING)	STM NET 104		ALL SUPPORT PERSONNEL SUPPORTING S0007 SHUTTLE LAUNCH COUNTDOWN REPORT TEST READINESS STATUS.	SU72064
		104	QBSE	MOBILE STRUCTURES ENG	STA
			VEEE	ELEVATOR CONTROL	CDPD
		111	GYCC	COMMUNICATIONS CONTROLLER	COMM
			JTCR	TIMING COUNTDOWN AND PHOTO CNTRL	
			JCFM	ESMS MEASUREMENT CONTROLLER	
			JCTL	INTEGR CONSOLE REPORTS FOR:	
				PCMP PAD CRANE CONT	CDPA
			JBEP	POWER CONSOLE LEAD	PWR
			JBPN	PNEUMATICS CONSOLE	PNSA
			JBAC	HVAC CONSOLE	HVAA
			JBFX	FIREX/POT. WATER CONSOLE	WSSA
			JBWC	SOUND SUPPRESSION CONSOLE	WSSA
			JB DY	SUPPORT SERV CONT REPORTS FOR:	
				GHBE HEAVY EQUIP	HESA
			JSTC	J-BOSC TEST CONDUCTOR, REPORTS FOR:	JSTC
				JSEP POWER CONSOLE LEAD	ELEC
				GSPN PNEUMATICS CONSOLE	PNU
				JSAC HVAC CONSOLE	AC
				JFIR FIRE CONSOLE	FIRE
				PMEH ENV HEALTH TECH	EH
				*SCB SCAPE SUITING TRAILER	LS
				JSDY SUPPORT SERV CONT	JSTC
				JSQC R&QA CONT	QA
				WCRG ROADS AND GROUNDS	RGR
				*SEC SECURITY CONSOLE	SEC
				GSFA FIRE ALARMS	FA
13-0028		NTD 232	STM	VERIFY SUPPORT PRE-OPERATION SUMMARY SHEET COMPLETE.	
13-0029		STM 232	NTD	SUPPORT READY FOR S0007.	
SAFETY -----					
13-0030		*SCC NET 105	*PSE *SEC JFIR	REPORT TEST READINESS STATUS ON RADIO NET - 105	SEC FIRE

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
13-0031		NTD 232	OTC TBC *SCC STM LPS PTC	VERIFY READY TO PROCEED WITH OPERATIONAL SEQUENCES	SU72007

NOTE

HOLDS - (STOPPING THE  
COUNTDOWN CLOCK)  
PRIOR TO T-20  
MINUTES.

A HOLD MAY BE REQUESTED BY:

- LD - LAUNCH DIRECTOR
- OTC - ORBITER TEST CONDUCTOR
- TBC - TANK/BOOSTER TEST CONDUCTOR
- PTC - PAYLOAD TEST CONDUCTOR
- PTD - NASA PAYLOAD TEST DIRECTOR
- CSPE - SHUTTLE PROJECT  
ENGR
- STM - SUPPORT TEST  
MANAGER
- \*SCC - SAFETY MANAGER LCC
- SRO - SUPERINTENDANT OF  
RANGE OPERATIONS
- \*FLT - FLIGHT DIRECTOR
- \*MIL - MILA
- LPS - LPS TEST CONDUCTOR

REQUEST FOR A HOLD WILL  
BE MADE TO THE NASA  
TEST DIRECTOR (NTD) ON  
OIS CH 232. THE NTD WILL  
EVALUATE THE REQUEST AND  
WILL HOLD THE CLOCK AT  
THE MOST ADVANTAGEOUS  
TIME.

SRB OI POWER UP FOR  
INSTRUMENTATION SCANS WILL  
BE PER S9001VL1 OPTION B ONLY.  
SRSS VEHICLE POWER SHALL NOT  
BE ACTIVATED BEFORE T-50  
MINUTES.

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0000				SHUTTLE COUNTDOWN CONTROL ----- SEQUENCE (-43H THRU -11H) -----	
NOTE					
OPERATIONS INVOLVING CRIT 1, 1R AND/OR 1S ITEMS ARE CONTAINED IN THE FOLLOWING SEQUENCE/STEPS.					
14-0001		CGLS	NTD	THE CDC STARTED AT _____ GMT.	
14-0002		NTD PA 232		LAUNCH COUNTDOWN IS NOW IN PROGRESS.	
FACILITY GO2/GH2 SUPPORT -----					
14-0003	-1D19H00M T-43H00M	STM 111	JBPN	PERFORM FOLLOWING:  1. VERIFY GH2 FIRE AND LEAK DETECTORS ARE NOT IN ALARM AND WITHIN ACCEPTABLE LIMITS C1 CONSOLE.  2. VERIFY PAD ____ GH2 AUTO FIRE MONITOR PROGRAM OFF AT THIS TIME.  (NGHXOW43E/PAD A) (NGHX0Y39E/PAD B)	PNSA
14-0004		JSTC 114	JFIR	(1P10) PLACE LCC ALARM BELLS IN BYPASS.  SRB ESP'S ON TRANSPORTER -----	
14-0005		TBC 136	CMQC	VERIFY SRB PRE-OPERATION SETUP 4 - SRB ESP OPERATIONS COMPLETE.	SU72050
14-0006		TBC 136	CMQC	VERIFY SRB PRE-OPERATION SETUP 6 - SRB AFT SKIRT GN2 PURGE SKID ACTIVATION COMPLETE.	SU72051 SU72124

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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WARNING

SRB AFT SKIRTS WILL BE  
 PURGED WITH GN2 FLOW TO  
 MAINTAIN REQUIRED SRB  
 TEMPERATURES.

NOTE

PERFORM NEXT STEP IF BEARING  
 PURGE REQUIRED.

14-0007		TBC 136	CBHY	PERFORM SRB OPERATION SUPPORT SETUP 5 - SRB AFT SKIRT GN2 PURGE ACTIVATION AS TEMPERATURES REQUIRE.	SU72049 SU72074
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NOT PERFORMED

PRESSURIZE ELEVATOR/MACHINE ROOMS

14-0008		STM NET 104	VEEE	UNLOCK RSS ELEVATOR MACHINE ROOM TO SUPPORT PRESSURIZATION. VERIFY WHEN COMPLETE.	CDPD
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14-0009	-1D19H00M T-43H00M	NTD 232 STM 111	STM JBAC	PRESSURIZE FSS ELEVATOR, RSS ELEVATOR AND HOIST MACHINE ROOMS PER OMI M3034 PAD A AND B. VERIFY WHEN COMPLETE.	HVAA SU72069
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14-0010	-1D19H00M T-43H00M	OTC 132	*PAD	START VERIFICATION OF ORBITER DOOR PANEL CONFIGURATION FOR TANKING AND LAUNCH PER ORBITER OPERATION SUPPORT SETUP 2, PART A.	SU72023
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PAD AND MLP CAMERA SETUP

14-0011		STM 111	JPHO	PERFORM FILM CAMERA SETUP ON MLP/FSS AND PAD PERIMETER (TO BE COMPLETED PRIOR TO T-09H15M).	SU72063 SU72416
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ACTIVATE PAD WARNING LIGHTS -----					
14-0012	-1D19H00M T-43H00M	NTD 232 *SCC NET 105	*SCC *PSE	SET PAD WARNING LIGHTS AT B, E AND F ROADS, HIGH PRESS BATTERY AND PTCR N&S STAIRWELL TO FLASHING AMBER.	SU72075
14-0013		*PSE NET 105 *SCC NTD 232	*SCC	WARNING LIGHTS AT B,E AND F ROADS, HIGH PRESSURE BATTERY AND PTCR N&S STAIRWELL ARE FLASHING AMBER.	
INHIBIT ADMIN PAGING -----					
14-0014	-1D19H00M T-43H00M	STM 111 GYCC 117	GYCC JBDY	INHIBIT ADMIN PAGING TO PAD _____.	COMM SU72067
TERMINATE WIRE FRAME WORK -----					
14-0015		STM 111	GYCC	VERIFY ALL ROUTINE WORK ON WIRE FRAMES TERMINATED, WARNING LIGHTS ACTIVATED AND EXCEPTION ACCESS PROCEDURE IN EFFECT FOR SHUTTLE LAUNCH COUNTDOWN. (FRAMES TO BE IN CONTROLLED MODE)	COMM
CONFIGURE NMAJORTEST PSEUDO -----					
14-0016		LPS		ISSUE NMAJORTEST PSEUDO TO VALUE OF 0007 HEXADECIMAL (7 DECIMAL).	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
MMU COMPARE TAPE/FILE CHECK IN -----					
14-0017	-1D19H00M T-43H00M	OTC 132	CVFS LPS	PERFORM ORBITER OPERATION SUPPORT SU72033 SETUP 7 - MEMORY COMPARE TAPE/FILE CHECK-IN. (15 MIN)	
OTV CAMERA USAGE -----					
14-0018		NTD 232 STM 138	OTC TBC STM JYVO	OTV CAMERA USAGE ASSIGNMENTS FOR COUNTDOWN ARE PER OTV CAMERA USAGE MATRIX, FIG 4 *SCC (IN FRONT SECTION OF THIS VOLUME).	COMM
TRANSFER ORBITER MAIN BUS POWER ----- SUPPLIES TO LOCAL SENSE -----					
NOTE					
A QUIET BUS IS REQUIRED FOR THE FOLLOWING OPERATION. EQUIPMENT POWER UP OR DOWN IS NOT PERMITTED UNTIL COMPLETION REPORTED.					
14-0019	-1D19H00M T-43H00M	OTC 132	CEPD	TRANSFER ORBITER MAIN BUS POWER SUPPLIES TO LOCAL SENSE AND ACTIVATE LOCAL SENSE VOLTAGE CONTROL PROGRAM PER OMI S9001VL2 (15 MIN).	SU72035
RT OMI LOG NO. _____					
ORBITER TIRR LOG -----					
14-0020		OTC 132	*PAD	BEGIN ORBITER TIRR LOG CLOSURE.	SU72025

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				TFL/DFL -----	
14-0021	-1D19H00M T-43H00M	OTC 132	CDPS	PERFORM ORBITER OPERATION SUPPORT SETUP 24 - TFL/DFL (15 MIN).	SU72010
				OMRS S00FA0.301	
				MEC CRITICAL CMD STATUS -----	
14-0022		OTC 132	CEPD	VERIFY MEC CRITICAL CMDS DISABLED.	SU72013
14-0023			CEPD	CRT (SWC02)	
				MEC CRIT CMD DSBL	
14-0024		CEPD 132	OTC	MEC CRITICAL CMDS DISABLED.	
14-0025		OTC 132 232 NTD	CEPD	MEC CRITICAL CMDS DISABLED AND SHALL REMAIN DISABLED FOR REMAINDER OF TEST. *SCC TBC	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0026		CDPS 132	OTC	ORBITER OPERATION SUPPORT SETUP 24 - TFL/DFL COMPLETE.	SU72010
14-0027		CVFS 132	OTC	MEMORY COMPARE TAPE/FILE CHECK IN COMPLETE.  MAIN BUS PWR SUPPLY TRANSFER COMPLETE -----	SU72033
14-0028		CEPD 132	OTC	ORBITER MAIN BUS POWER SUPPLY TRANSFER TO LOCAL SENSE COMPLETED.	SU72035
NOTE					
DO NOT PERFORM BFC TEST UNTIL MAIN BUS POWER SUPPLY TRANSFER IS COMPLETE.					
BFC TEST -----					
14-0029	-1D18H45M T-42H45M	OTC 232 NTD TBC PTC LPS OTC 132	NTD	DPS WILL BE CONFIGURED TO OPS 0 DL FMT 20 WITH MDM'S FF1, FF2 AND FF3 POWERED OFF. LDB SILENCE IS REQUIRED DURING TEST.(APPROXIMATELY 1 HOUR). GMT AND MET UPDATE WILL BE PERFORMED UPON TEST COMPLETION.	
14-0030	-1D18H45M T-42H45M	OTC 132	CDPS	PERFORM ORBITER BACKUP FLT CONTROLLER TEST PER S0007VL4 (SEQ 49 ITEM 1). (55 MIN)  OMRS V72CA0.020-1R OMRS V72CA0.030-1R	SU72016
14-0031	-1D18H30M T-42H30M	TBC 136	*PAD	LOX DUMP BASIN A253 (VENT LINE S/O) VLV - OPEN (CCW) *PAD PL04 INSTALL CHAIN AND LOCK	SU72052

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
PREFLT VOLTS ADJUST -----					
14-0032	-1D18H30M T-42H30M	OTC 132	CEPD	ADJUST PREFLT VOLTAGE TO REDUCE PREFLT TO ESS BUS LOAD	SU72037
14-0033			CEPD	CRT (VWC17)	
				PF1 (1D500) ITCU VOLTAGE _____	DD
				PF1 (1D500) ITCU CURRENT _____	DD
				PF2 (1D600) ITCU VOLTAGE _____	DD
				PF2 (1D600) ITCU CURRENT _____	DD
NOTE					
DO NOT PERFORM NEXT TWO STEPS IF PRE-FLIGHT VOLTAGES ARE BETWEEN 29.0 AND 29.5 VDC.					
14-0034			CEPD	CURSOR CNTL (VWC17) USING UP/DOWN ADJUST CURSORS, REDUCE PF1 AND PF2 ITCU VOLTS TO BETWEEN 29.0 AND 29.5 VDC	
				NOT PERFORMED	_____
14-0035			CEPD	CRT (VWC17)	
				ADJUSTED VOLTS AND AMPS	
				PF1 (1D500) ITCU VOLTAGE _____	DD
				PF1 (1D500) ITCU CURRENT _____	DD
				PF2 (1D600) ITCU VOLTAGE _____	DD
				PF2 (1D600) ITCU CURRENT _____	DD
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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1D500 BATTERY BACKUP ENABLE

NOTE

DO NOT PERFORM NEXT STEP IF LISTED CB'S ARE FOUND IN INDICATED POSITION.

14-0036		CEPD QPDS	PANEL L24 (COMPT 9A)		
			CKT 17		
			CB 17 - ON		
			CKT 25		
			CB 25 - ON		
					T: _____
				NOT PERFORMED	_____

14-0037		CEPD QPDS	RACK 6840		
			BATTERY CHARGER (PANEL A3)		
			MAIN CB - ON		
			CONTROL AND MONITOR PANEL (A4)		
			INTERRUPT/NORMAL SW - NORMAL		
					T: _____

14-0038		CEPD CRT	(VWC16)		
			PREFLT ITCU 1 VOLTAGE _____	VDC	BD
			CRT (VWC01)		
			BATTERY BACKUP		
			1D500 HI-TP V _____	VDC	BD

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
1D600 BATTERY BACKUP ENABLE					
-----					

NOTE

DO NOT PERFORM NEXT STEP IF LISTED CB'S ARE FOUND IN INDICATED POSITION.

14-0039		CEPD	QPDS	PANEL L24 (COMPT 9A) CKT 19 CB 19 - ON CKT 26 CB 26 - ON	
					T: _____
				NOT PERFORMED	_____

14-0040		CEPD	QPDS	RACK 6841 BATTERY CHARGER (PANEL A3) MAIN CB - ON	
				CONTROL AND MONITOR PANEL (A4) INTERRUPT/NORMAL SW - NORMAL	
					T: _____

14-0041		CEPD	CRT (VWC16)	PREFLT ITCU 2 VOLTAGE _____	VDC BD
			CRT (VWC01)	BATTERY BACKUP	
			1D600 HI-TP V _____	VDC	BD

14-0042		CEPD	OTC	132	PREFLIGHT BATTERY BACKUP ENABLE COMPLETE.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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-----  
 OMS/RCS C&W RECONFIGURATION  
 -----

NOTE

LIMIT CHANGE REQUIRED TO  
 PREVENT MASTER ALARMS PRIOR TO  
 ASCENT SWITCHLIST. (OMS ULLAGE  
 PRESSURE NEAR C&W TRIP POINT).

14-0043	-1D18H30M T-42H30M	OTC 132	COOS	PERFORM OMS/RCS C&W RECONFIGURATION.	SU72038
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14-0044		COOS	PLT	PANEL R13U CAUTION AND WARNING 1. PARAMETER SELECT TW'S - 007 LIMIT SET VALUE TW - 3.60 LIMIT SW - UPPER FUNC SW - SET/THEN READ VERIFY 007 IS 3.60 2. PARAM SEL TW'S - 017 FUNC SW - SET/THEN READ VERIFY 017 IS 3.60 3. PARAM SEL TW'S -037 FUNC SW - SET/THEN READ VERIFY 037 IS 3.60 4. PARAM SEL TW'S -047 FUNC SW - SET/THEN READ VERIFY 047 IS 3.60 5. (OMS KIT OX TK ULLAGE) PARAM SELECT TW'S - 077 PARAM SW - INHIBIT, REL PARAM STATUS SW - INHIBITED, HOLD VERIFY STATUS LT 077 - ON PARAM STATUS SW - CENTER 6. (OMS KIT FU TK ULLAGE) PARAM SELECT TW'S - 087 PARAM SW - INHIBIT, REL PARAM STATUS SW - INHIBITED, HOLD VERIFY STATUS LT 087 - ON PARAM STATUS SW - CENTER 7. PARAM SEL TW'S -120	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0045		COOS 132	OTC	OMS/RCS C&W RECONFIG COMPLETE.	
14-0046		OTC 132	CISL	PERFORM C&W GOAL SOFTWARE UPDATE FOR OMS/RCS PARAMETERS PER OMI S9001VL2.	
				L-3 DAY POTABLE H2O SAMPLE ----- AND TANK A QTY ADJUST -----	
14-0047	-1D18H00M T-42H00M	OTC 132 232 NTD 232 STM	CFCP NTD STM WBIO	PERFORM ORBITER POTABLE (L-3 DAY) WATER SAMPLES AND TANK A QUANTITY ADJUST PER S0007VL4 (SEQ 54 OPTION B) ON OIS CH 153. (1 HR) (BI01-853-3281/BEEPER 454-0488)	SU72040 SU72072

WMC FINAL STOWAGE COMPLETE  
 -----

NOTE

DO NOT PERFORM NEXT STEP  
 IF ALREADY COMPLETED FOR  
 MVAK MISSIONS.

14-0048		*PAD 132	OTC	ORBITER PRE-OPERATION SETUP 20 - WMC FINAL STOWAGE COMPLETE.	SU72043
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NOT PERFORMED \_\_\_\_\_

VERIFY AIR PURGES  
 -----

14-0049	-1D18H00M T-42H00M	OTC 132	*PAD PPVM	VERIFY ORBITER FORWARD, PAYLOAD BAY, AND AFT COMPARTMENTS AIR PURGE ACTIVATED PER V1122.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT STEP  
 IF MASS SPEC HAS ALREADY  
 BEEN REMOVED FROM MLP.

14-0050		*PAD	OTC	PROVIDE GSS STRUCTURES AND	STSA
		132		SFOC HEAVY EQUIPMENT SUPPORT AND	HESA
		OTC	NTD	REMOVE MASS SPEC MACHINE FROM MLP	SU72061
		232		COMPARTMENT 43A.	
		NTD	STM		
		STM	QBSE		
		111	GBHE		
			JBDY		

NOT PERFORMED

REMOVE PPU FROM MLP

NOTE

PERFORM NEXT STEP IF PPU  
 WAS NOT REMOVED UPON  
 ARRIVAL AT PAD.

14-0051		OTC	NTD	REMOVE PPU (S70-0534) FROM ZERO	HESA
		232		LEVEL MLP. (4 HRS)	
		NTD	STM		
		STM	JBDY		
		111			
		JBDY	GBHE		
		NET			
		104			

NOT PERFORMED

ESSENTIAL PERSONNEL

	GSS
	---
SUPVR/ENG	1
TECH	6

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
LPS CONSOLE SETUPS					
14-0052	-1D18H00M T-42H00M	NTD 232	LPS	PERFORM MASTER CONSOLE SETUPS.	SU72071

NOTE

NEXT STEP TAKES APPROX.  
 10 MINUTES TO COMPLETE.

14-0053		LPS	C1MC	PERFORM \$FEPCPR, REINIT AND DEMAND UPDATE ALL FEPS PER OMI C2000. TERM \$FEPCPR AT COMPLETION OF DEMAND UPDATE.	
14-0054		LPS	C1MC	VERIFY ACTIVE PROGRAMS AT MASTER CONSOLE:  \$HWMON (TCB1) AA008/AWP02 (TCB2) AA009/AWP01 (TCB4)	
14-0055		LPS	C1MC	VERIFY VIA AWP02 (PGB) FOTE DUAL POWER MONITORS INDICATE ON.	
14-0056		LPS	C1MC	VERIFY (AWP05 PGB PAD A OR AWP06 PGB PAD B) HIMS 5982, 5987, 6377 AND 6378 DISPLAYED IN MIXED MODE.	
14-0057		LPS	C1MC	ON VSB TELEMETRY SCREEN VERIFY FRAME COUNT INCREMENTING AND NO PACKET ERRORS.	
14-0058		LPS	C1MC	RECORD ANY REDUNDANT CPU'S NOT IN STANDARD H/W OR S/W CONFIGURATION. (TCG,GSE,PDR/SPA,LDB,OI,GPC,PLD)	
14-0059	-1D18H00M T-42H00M		LPS	VERIFY ALL REDUNDANT SWITCHES ACTIVE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0060		LPS 127	C1SE CTPE	DUMP GS2A FEP AND VERIFY AT LEAST 14 AVAILABLE 100 SAMPLE PER SECOND SLOTS. RETAIN OUTPUT ON STATION. RECORD ACTUAL NUMBER AVAILABLE_____	
14-0061		LPS 232 NTD TBC	NTD OTC TBC	VEHICLE SAFING PROCESSOR WILL BE RESET. SAFING INDICATORS AND METERS WILL CYCLE ON AND OFF. PLEASE DISREGARD UNTIL THIS SAFING STEP COMPLETED. THIS STEP TAKES 1 MINUTE TO COMPLETE CYCLE.	
14-0062		LPS	C1SE	VSB FEP, PRESS RESET SWITCH ON MVME 167 PANEL.  VERIFY FIRING ROOM CONSUMABLES -----	
14-0063	-1D18H00M T-42H00M	LPS		VERIFY FIRING ROOM CONSUMABLES.  BACKUP FLT CONTROLLER TEST COMPLETE -----	SU72071
14-0064	-1D17H50M T-41H50M	CDPS 132 OTC 232 NTD TBC PTC LPS	OTC NTD	BACKUP FLT CONTROLLER TEST COMPLETE (SEQ 49 S0007VL4). LDB SILENCE NO LONGER REQUIRED.  OMRSD V72CA0.020-1R OMRSD V72CA0.030-1R	SU72016
14-0065		OTC 132	CDPS	PERFORM DEU 1/2/4 LOAD PER S0007VL4 (SEQ 49 ITEM 2).  OMRS V72CA0.010-A	SU72019

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
DO NOT PERFORM ET OI POWERUP IF ALREADY UP.					
ET OI POWER UP -----					
NOT PERFORMED					_____
14-0066	-1D17H45M T-41H45M	NTD 232	TBC	PROCEED WITH ET OI POWER UP.	SU72053
14-0067		TBC 136	CMPS	PERFORM ET OI POWER UP.	
14-0068			CMPS	IF SAE12 NOT ACTIVE:  CONSOLE KYBD SAE12 PERF PGM KEY - PRESS	
NOT PERFORMED					_____
14-0069			CMPL	IF SAE02 NOT ACTIVE:  CONSOLE KYBD SAE02 PERF PGM KEY - PRESS	
NOT PERFORMED					_____
14-0070			CMPS	PFP (SAE12) PFPK4 TURN ON ET PWR - PRESS  CRT  VERIFY ET OI PWR ON	
14-0071			CMPL	IF NO LONGER REQUIRED SAE02 TERMINATE PFK15 PRESS TWICE	
NOT PERFORMED					_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0072			CMPS	IF NO LONGER REQUIRED SAE12 TERMINATE PFK15 PRESS TWICE	
				NOT PERFORMED	
14-0073	-1D17H45M T-41H45M	CMPS 136 TBC 232	TBC NTD	ET OI POWER UP COMPLETE.	SU72053
				ET OI POWER UP COMPLETE	
				NOTE	
				FOLLOWING STEP SUPPORTS ET HEATER VERIFICATION.	
14-0074		TBC 136 *PAD	*PAD	VERIFY KEY FOR ACCESS TO FOLLOWING PTCR ROOMS AVAILABLE.	
			PPWR	PAD A ROOMS 204 AND 210 PAD B ROOMS 203 AND 210	
				DPS TO G9 SIMPLEX	
				NOTE	
				IN NEXT TWO STEPS, DL FMT WILL BE 60 IF REQUIRED FOR PAYLOAD SUPPORT, 44 FOR ALL OTHERS.	
14-0075	-1D17H40M T-41H40M	OTC 132	CDPS	TRANSITION GPC 1 TO G9 SIMPLEX, DL FMT _____ (44 OR 60) PER S0007VL4 (SEQ 49 ITEM 3) (5 MIN).	SU72020
14-0076		CDPS 132 OTC 232 NTD	OTC NTD PTC TBC	TRANSITION TO G9 SIMPLEX, FMT _____ (44 OR 60) COMPLETE. FLIGHT CRITICAL MDM DATA NOW VALID.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
DEU 1/2/4 DUMP AND COMPARE -----					
14-0077	-1D17H40M T-41H40M	OTC 132	CODS LPS	PERFORM DEU 1/2/4 MEMORY DUMP AND COMPARE PER S0007VL4 (SEQ 49 ITEM 4) (15 MIN).	SU72022
OMRS V72CA0.010-A  DEU 1/2/4 DUMP AND COMPARE - COMPLETE -----					
14-0078	-1D17H25M T-41H25M	CODS 132	OTC	DEU 1/2/4 DUMP AND COMPARE COMPLETE (SEQ 49, S0007VL4).	SU72022
OMRSD V72CA0.010-A  BFS LOAD DUMP/COMPARE -----					
14-0079		OTC 132	CDPS CVFS LPS	LOAD, DUMP AND COMPARE BFS PROGRAM IN GPC 5 PER "DPS SYSTEMS" (SEQ 49, ITEM 5 AND 6) ON CH 152 (45 MIN).	SU72006
OMRS V72CA0.050-B OMRS V72CA0.050-C OMRS V72CA0.010-B					
NOTE					
PERFORM NEXT STEP IF BFS DUMP AND COMPARE (ALTERNATE METHOD) USING LPS RETRIEVAL METHOD DESIRED.					
14-0080		OTC 132	CVFS LPS	PERFORM BFS RETRIEVAL AND COMPARE USING LPS PER "DPS SYSTEMS" (SEQ 49 ITEM 8) ON CH 152 (30 MIN).	

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM FOLLOWING THREE STEPS  
 IF WASTE TANK VALVE INDICATES  
 CLOSE.

14-0081		CECL	CDR	PANEL ML86B ROW B MN A WASTE H2O TK 1 VLV CB - CLOSE	
				NOT PERFORMED	_____

14-0082		CECL	CDR	PANEL ML31C WASTE H2O TK 1 VLV SW - OPEN (15 SEC MAX) UNTIL TB OP, REL	
				NOT PERFORMED	_____

14-0083		CECL		CRT (VAG31, PG-B) TK 1 VLV POP ON	
				NOT PERFORMED	_____

NOTE

PERFORM NEXT STEP IF VAG60  
 IS ACTIVE AND IN AUTO MODE.

14-0084		CECL	VAG60	AUTO XMIT CURSOR KEY - PRESS VERIFY VAG60 IN MANUAL MODE	
				NOT PERFORMED	_____

CONFIG COOLING

-----

14-0085	-1D17H15M T-41H15M	OTC 132	CECL	PERFORM GSE/ORBITER COOLING ACTIVATION OR RECONFIGURATION PER FOLLOWING TABLE PER OMI S9001VL1 ON CH 143. (30 MIN)	SU72044
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OPERATION INSTRUCTIONS

-----  
SEQ            TIME            CMD    RESP                            DESCRIPTION                            VERIF.  
-----

CONFIGURATION TABLE  
-----

GCU'S AS REQUIRED  
FCL 1 PUMP A (CABIN SW)  
FCL 2 PUMP A (CABIN SW)  
WCL 1 PUMP A (CABIN SW)  
AV BAY 1 FAN A (CABIN SW)  
AV BAY 2 FAN B (CABIN SW)  
AV BAY 3 FAN A (CABIN SW)  
HUMIDITY SEP A  
CABIN FAN B (CABIN SW)

NOTE

ALLOW FAN A TO RUN  
INDEPENDENTLY FOR 2 MINUTES  
MINIMUM PRIOR TO PERFORMING  
FAN C - ON, TO VERIFY  
ABILITY TO SUPPORT COUNTDOWN  
OPERATIONS.

IMU FAN A AND C (CABIN SW)

14-0086

CECL CURSOR CNTL (VAG60)  
AUTO  
XMIT CURSOR KEY - PRESS

CRT

VERIFY VAG60 IN AUTO MODE

14-0087

-1D17H00M  
T-41H00M

CFCP OTC  
132

ORBITER POTABLE (L-3 DAY) WATER    SU72040  
SAMPLES AND TANK A QUANTITY ADJUST  
COMPLETE.



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

-----  
WASTE TANK QUANTITY ADJ (CONTINGENCY)  
-----

NOTE

PERFORM NEXT STEP IF WASTE  
TANK QUANTITY ADJUST REQUIRED  
AS PART OF COUNTDOWN.

ACCESS TO WCS IS REQUIRED TO  
SUPPORT WASTE TANK QUANTITY  
ADJUST.

14-0088	-1D17H00M T-41H00M	OTC 132	CFCP	PERFORM WASTE TANK QUANTITY ADJUST PER S0007VL4 (SEQ 54 OPTION C) TO ENSURE ENOUGH ULLAGE TO ACCEPT HUM SEP WATER TO MEET TARGETED LIFT-OFF QUANTITY FOR THIS MISSION (REF OMRS V62M0.020-B) (1 HR).	SU72045
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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LRD L-3 DAY VERIFICATIONS

NOTE

SOME LANDING SITES MAY NOT  
 BE MANNED DUE TO MISSION  
 REQUIREMENTS.

14-0089	-1D17H00M T-41H00M	LRD LF1		VERIFY FOLLOWING LANDING SITES MANNED TO SUPPORT LAUNCH AND NO CONSTRAINTS/OPEN ITEMS IDENTIFIED.	
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SITE	GO	NO GO	NOT MANNED
BANJUL	_____	_____	_____
BEN GUERIR	_____	_____	_____
ZARAGOZA	_____	_____	_____
MORON	_____	_____	_____
DFRF	_____	_____	_____
WSSH	_____	_____	_____

ET HEATER VERIF

14-0090	-1D17H00M T-41H00M	TBC 136	CPWR	PERFORM ET HEATER VERIFICATION PER S0007VL4 (SEQ 72). (15 MIN)	SU72048
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14-0091		CECL 132	OTC	GSE/ORBITER COOLING ACTIVATION/ RECONFIGURATION COMPLETE.	SU72044
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BFS GPC LOAD/DUMP AND COMPARE  
 -----  
 COMPLETE  
 -----

14-0092	-1D16H40M T-40H40M	CVFS 132	OTC	BFS GPC LOAD/DUMP AND COMPARE COMPLETE. (SEQ 49 S0007VL4).	SU72006
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OMRSD V72CA0.050-B  
 OMRSD V72CA0.050-C

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
DEU 3 DUMP/COMPARE -----					
NOTE					
DO NOT PERFORM NEXT STEP UNTIL BFS GPC LOAD/DUMP AND COMPARE COMPLETE.					
14-0093		OTC 132	CODS LPS	PERFORM DEU 3 MEMORY DUMP AND COMPARE PER S0007VL4 (SEQ 49 ITEM 9) (5 MIN)	SU72008
OMRS V72CA0.010-B					
14-0094			CODS OTC	DEU 3 DUMP/COMPARE COMPLETE.	
OMRSD V72CA0.010-B					
FINAL PDI/DFL FOR FLIGHT -----					
NOTE					
PERFORM NEXT TWO STEPS IF PDI LOADS REQUIRED.					
14-0095	-1D16H35M T-40H35M	OTC 132	CDPS CISL	PERFORM FINAL DFL FOR FLIGHT PER S0007VL4 (SEQ 49 ITEM 10) (10 MIN)	SU72011
NOT PERFORMED _____					
14-0096			CDPS OTC	FINAL PDI DFL FOR FLIGHT COMPLETE.	
OMRS S00FA0.301-1R					
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
TFL LOAD FOR FLIGHT -----					
14-0097		OTC 232 NTD	NTD TBC PTC LPS	BRIEF LOSS OF OI PCM DOWNLINK/DOWNLIST DATA WILL BE OCCURRING DURING TFL LOADS. DOWNLIST FRAME COUNT ERRORS MAY OCCUR.	SU72014
14-0098	-1D16H25M T-40H25M	OTC 232 NTD	NTD JRPS	SUPPORT CISL ON OIS CH 145 FOR SEQ 49 (S0007VL4).	
14-0099		OTC 132		CDPS PERFORM FINAL PCMMU TELEMETRY CISL LOADS FOR FLIGHT PER S0007VL4 JISE (SEQ 49 ITEM 11) ON CH 152 CDR (30 MIN).	

WASTE TANK QUANTITY ADJUST COMPLETE  
-----  
 (CONTINGENCY)  
 -----

NOTE

PERFORM NEXT STEP IF WASTE  
 TANK QUANTITY ADJUST PERFORMED  
 AS PART OF COUNTDOWN.

14-0100	-1D16H00M T-40H00M	CFCP 132	OTC	WASTE TANK QUANTITY ADJUST COMPLETE. (SEQ 54 OPTION C)	SU72045
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NOT PERFORMED \_\_\_\_\_

NOTE

DO NOT PERFORM NEXT STEP  
 IF MASS SPEC HAS ALREADY  
 BEEN REMOVED FROM MLP.

14-0101		QBSE NET 104 STM 232 NTD OTC OTC 132	STM NTD OTC *PAD	MASS SPEC MACHINE REMOVAL FROM MLP CMPT 43A COMPLETE.	STE SU72061
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

-----  
 TRANSPORT COMSEC UNIT TO ORBITER  
 -----

CAUTION

DO NOT ZEROIZE KYK-26 UNITS  
 UNLESS REQUIRED TO PROHIBIT  
 COMPROMISING LOADED UNITS.  
 (ZEROIZING MAY BE ACCOMPLISHED  
 BY HOLDING DEVICE SELECTOR  
 (MODE) SW TO Z ALL POSITION AND  
 PRESS INITIATE/INCREMENT  
 PUSHBUTTON SW).

NOTE

DO NOT PERFORM NEXT TWO STEPS  
 IF COMSEC LOAD ALREADY  
 PERFORMED.

14-0102	-1D16H00M T-40H00M	OTC 232	NTD	REQUEST COMSEC CUSTODIAN TRANSPORT LOADED KYK-26 UNIT FROM LCC TO ORBITER MIDDECK	COMM SU72136
		STM 111	GYCC	AT PAD IN SECURE TRANSPORTATION CASE. CUSTODIAN TO REPORT TO PAD	
		GYCC PTP	JYVJ	LEADER FOR CREW COMPARTMENT ENTRY. IF GPS ENCRYPTION LOAD REQUIRED, TRANSPORT ENCRYPTION KEY.	

NOT PERFORMED \_\_\_\_\_

14-0103		OTC 132	*PAD	COMSEC CUSTODIAN IS BRINGING COMSEC UNIT TO PAD AND WILL REQUIRE CREW CMPT ENTRY. VERIFY CERTIFIED SCO WILL BE IN CREW CMPT FOR UNIT TURNOVER AND LOADING.	
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
TFL LOAD FOR FLIGHT COMPLETE					
-----					
14-0104	-1D15H55M T-39H55M	CDPS 132	OTC	TFL LOAD FOR FLIGHT COMPLETE.  OMRSD S00FA0.301-1R  DOWNLINK FMT CHANGE (OPTIONAL)	SU72014
-----					

NOTE

PERFORM NEXT FOUR STEPS TO  
 ACTIVATE THE LAUNCH DOWNLINK  
 FORMAT IF LAUNCH DOWNLINK  
 FORMAT IS NOT 129.

14-0105		OTC 232 NTD	NTD TBC PTC	LAUNCH DOWNLINK FORMAT ____ WILL BE ACTIVATED.	SU72017
NOT PERFORMED _____					
14-0106		OTC 132	CDPS	ACTIVATE LAUNCH DOWNLINK FORMAT PER OMI V9001VL2 (SPECIAL INSTRUCTIONS).	
NOT PERFORMED _____					
14-0107			CDPS	CRT (VAS59 PGB)  VERIFY LAUNCH OI FMT ACTIVE	
NOT PERFORMED _____					
14-0108		CDPS 132 OTC 232 NTD	OTC NTD TBC PTC	LAUNCH DOWNLINK FORMAT ____ ACTIVATED.	
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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DDU/FLT CONT/HUD PWR UP & SELF TEST

NOTE

HDA WILL BE DISABLED  
 APPROXIMATELY 10 MIN.

14-0109	-1D15H50M T-39H50M	OTC 132	CODS	PERFORM DDU, FLIGHT CONTROL, AND HUD POWER UP AND SELF TEST PER S0007VL4 (SEQ 49 ITEM 12) (1 HR).	SU72024
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REMOVE PORTABLE OIS UNITS

NOTE

PERFORM NEXT STEP WHEN SRB  
 ESP OPS COMPLETE.

UCOM/GSS TECHS MEET AT  
 BASE OF FSS ELEVATOR.

14-0110	-1D15H30M T-39H30M	NTD 232	STM	UCOM REMOVE FOUR (4) OF THE SIX (6) PORTABLE OIS UNITS	COMM PNSA
		STM 111	GYCC JBPN	FROM ZERO LEVEL OF MLP, INBOARD AND OUTBOARD OF SRB FLAME HOLES.	SU72062
		GYCC 117	JYCD	(ONE (1) UNIT TO REMAIN OUTBOARD OF EACH SRB FLAME HOLE (TOTAL TWO) UNTIL COMPLETION OF SRB HPU TURBINE EXHAUST DUCT PLUG AND VENT DRAIN LINE SCRUBBER REMOVAL OPERATIONS.) INSTALL CAPS ON GOOSENECK CABLE CONNECTORS (30 MIN). GSS REMOVE PURGE FLEXHOSES ON MLP.	

UCOM  
 T: \_\_\_\_\_

GSS  
 T: \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0111		JBPN 111	STM	PURGE FLEXHOSE DISCONNECTED FOR REMOVAL OF FOUR OIS BOXES ON MLP.  MLP ZERO LEVEL OIS UNITS REMOVED	PNSA
14-0112	-1D15H00M T-39H00M	JYCD 117 GYCC 111 STM 232	GYCC STM NTD	FOUR OF THE SIX PORTABLE OIS UNITS ON ZERO LEVEL OF MLP INBOARD AND OUTBOARD OF SRB FLAME HOLES HAVE BEEN REMOVED. CAPS INSTALLED ON GOOSENECK CABLE CONNECTORS.	COMM SU72062
14-0113	-1D15H00M T-39H00M	CPWR 136	TBC	ET HEATER VERIFICATION COMPLETE. (S0007VL4 SEQ 72)  MCDS OTV CAMERA REMOVAL	SU72048
NOTE					
PERFORM NEXT TWO STEPS IF MCDS CAMERA INSTALLED.					
14-0114	-1D15H00M T-39H00M	OTC 132	*PAD	PERFORM MCDS OTV CAMERA REMOVAL FROM ORBITER CREW MODULE PER:  JC V33-00012 - MCDS OTV CAMERA/BRACKET AND OIS UNITS REMOVAL  (30 MIN)	SU72041
					NOT PERFORMED _____
14-0115	-1D15H00M T-39H00M	OTC 232 NTD STM 138 111	NTD STM JYVO GYCC	PROVIDE SUPPORT FOR REMOVAL OF MCDS OTV CAMERA AND CABLES FROM ORBITER CREW MODULE.	COMM SU72070
					NOT PERFORMED _____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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COMSEC UNIT LOAD

NOTE

DO NOT PERFORM NEXT TWO  
 STEPS IF COMSEC LOAD  
 ALREADY PERFORMED.

14-0116		CDR 132	OTC	KYK-26 UNIT HAS ARRIVED AT ORBITER CREW MODULE.	
				NOT PERFORMED	_____

14-0117	-1D15H00M T-39H00M	OTC 132	CCSE CDR	PERFORM COMSEC 1 AND 2 UNIT LOADING PER OMI S9001VL2 COMM OPTIONS (1H20M).	SU72110
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RT OMI LOG NO. \_\_\_\_\_

OMRS S00FA0.370-A-1R  
 OMRS S00FA0.370-B-1R

NOT PERFORMED \_\_\_\_\_

NOTE

DO NOT PERFORM NEXT STEP IF  
 GPS ENCRYPTION LOAD IS NOT  
 REQUIRED.

14-0118		OTC 132	CCSE	PERFORM GPS ENCRYPTION KEY LOAD PER S9001VL2.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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PRSD LOAD CONTINGENCY LIGHTING

NOTE

PERFORM NEXT STEP IF  
 PRSD LOAD TO OCCUR AT  
 NIGHT.

14-0119		OTC 132	*PAD	VERIFY PORTABLE FACILITY LIGHTING IN PLACE FOR PRSD LOAD.	
				NOT PERFORMED	_____

HYDROGEN FIRE DETECTOR TEST  
 VERIFICATION

14-0120		CHGD 132	OTC	PERFORMING HYDROGEN FIRE DETECTOR TEST VERIFICATION.	SU72026
		OTC	CGSS	DETECTORS WILL BE ACTIVATED CMPL MOMENTARILY.	FIRE

14-0121	-1D15H00M T-39H00M	OTC 132	CHGD	PROCEED WITH HYDROGEN FIRE DETECTOR TEST VERIFICATION. REPORT ANY ANOMALIES.	
				_____	GMT

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP FOR EACH  
HYDROGEN FIRE DETECTOR SYSTEM:

HWW14 = PADFD (LH2 HFDS)  
HWW15 = MLPFD (LH2 HFDS)  
HWW16 = EEFDS (EGR HFDS)  
HWW20 = FCPFD (FCP HFDS)

14-0122

CHGD CRT (SAW01/HWW14/HWW15/HWW16)

VERIFY "CONF" INDICATION ON FOR  
EACH FIRE DETECTOR PRIMARY AND  
SECONDARY.

CURSOR CNTL  
PERFORM SELF TEST COMMAND ON FOR  
EACH FIRE DETECTOR:  
STC  
XMIT CURSOR KEY - PRESS

CRT  
VERIFY "ALRM" AND "SELF"  
INDICATION ON FOR EACH FIRE  
DETECTOR PRIMARY AND SECONDARY.

CURSOR CNTL  
PERFORM SELF TEST COMMAND  
OFF FOR EACH FIRE DETECTOR  
STC  
XMIT CURSOR KEY - PRESS

CRT  
VERIFY "ALRM" AND "SELF"  
INDICATION OFF FOR EACH FIRE  
DETECTOR PRIMARY AND SECONDARY.

14-0123

CHGD OTC HYDROGEN FIRE DETECTOR TEST  
132 VERIFICATION COMPLETE.  
OTC CGSS  
CMPL \_\_\_\_\_ GMT

SU72026

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
DDU/FLT CONT/HUD PWR AND SELF TEST ----- COMPLETE -----					
14-0124	-1D14H50M T-38H50M	CODS 132	OTC	DDU, FLIGHT CONTROL AND HUD POWER UP AND SELF TEST COMPLETE. (SEQ 49 S0007VL4)	SU72024
NOTE  PERFORM NEXT STEP IF MCDS CAMERA INSTALLED.					
14-0125	-1D14H30M T-38H30M	*PAD 132	OTC	MCDS OTV CAMERA AND ASSOCIATED BRACKET AND CABLES REMOVED FROM ORBITER CREW MODULE.	SU72041
NOT PERFORMED _____					
14-0126	-1D14H00M T-38H00M	TBC 136 *PAD PLH4 PME4	*PAD	PERFORM ALL SEQUENCES OF OMI G6304 LH2/LOX SYSTEMS PURGE VERIFICATION.	SU72057

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				COMSEC UNIT LOAD COMPLETE	
14-0127	-1D14H00M T-38H00M	CCSE 132	OTC	COMSEC UNIT LOADING PER S9001VL2 COMPLETE.	SU72110
				OMRSD S00FA0.370-A-1R OMRSD S00FA0.370-B-1R	
14-0128		OTC 132	CFCP	PERFORM PRSD PREPS FOR GO2/GH2 CC LINE PRESSURIZATION PER OMI V1040.002.	SU72009
				DISC OMS TRICKLE PURGE	
14-0129		OTC 132	*PAD	DISCONNECT OMS TRICKLE PURGE PER OMI V9021.002 (3 HR).	SU72032
14-0130		LPS 232	NTD	SUPPORT PRE-OPERATION SETUP INSTRUCTION 6 - LCC2 HSP1 LAUNCH SUPPORT CONFIGURATION COMPLETE.	
				LPS	
14-0131		STM 111 JSTC 114	JSTC JFIR	30 MINUTE NOTIFICATION FOR FIRE AT GO2/GH2 C/C PRESS.	

NOTE

DO NOT PERFORM GO2/GH2 CC LINE PRESSURIZATION IF GO2/GH2 CC LINES REMAINED PRESSURIZED FROM PREVIOUS OPERATIONS.

GO2/GH2 CC LINE PRESSURIZATION

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0132		NTD	OTC	VERIFY READY TO CLEAR CONTROL	PNSA
		232	STM	AREA FOR GO2 AND GH2 BATTERY	
				*SCC PRESSURIZATION.	
		STM	JBPN		
		111			
		JBPN	GBPN		
		NET			
		104			
14-0133	-1D13H00M	GBPN	JBPN	READY TO CLEAR FOR CROSS	PNSA
	T-37H00M	NET		COUNTRY LINE PRESSURIZATION.	
		104			
		JBPN	STM		
		111			
		STM	NTD		
		232			
		NTD	*SCC		
14-0134	-1D13H00M	CFCP	OTC	PRSD PREPS FOR CC LINE	SU72009
	T-37H00M	132		PRESSURIZATION COMPLETE.	
		OTC	NTD	READY TO SUPPORT CROSS-COUNTRY	
		232		LINE REACTANT PURGE AND	
				PRESSURIZATION PER V1040.002.	
14-0135		*PSE	*SCC	VERIFY FIRE/RESCUE ON SITE AT	FIRE
		NET		PAD GATE AND EMERGENCY MEDICAL	SU72068
		105		SERVICES AVAILABLE FROM FIRE	
		*SCC	NTD	STATION NO. 2 AND COMM CHECKS	
		NTD	STM	WITH NTD, *SCC, AND *PSE COMPLETE	
		232		FOR GO2/GH2 CC LINE PRESSURIZATION.	
		STM	JSTC		
		111			
		JSTC	JFIR		
		114			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				CLEAR FOR GO2/GH2 CROSS-COUNTRY	
				LINE PURGE PRESSURIZATION	
14-0136	-1D13H00M T-37H00M	NTD 232	*SCC	REQUEST FOLLOWING CONTROL AREAS BE CLEARED OF NONESSENTIAL	SU72012
		NET 105	*SCC *PSE	PERSONNEL AND SFOC SAFETY CONCURRENCE TO PROCEED.	
				NONESSENTIAL PERSONNEL CLEAR:	
				1. GH2 BATTERIES	
				2. GO2 BATTERIES	
				3. S72-0699-1 PNL FSS 75-FT LVL (5 FT)	
				ALL PERSONNEL CLEAR:	
				1. 50-FT FROM GH2 FLARE STACK	
				2. 50-FT FROM GH2/GO2 CROSS COUNTRY LINES	
				VERIFY ESSENTIAL PERSONNEL ATTIRED IN NONSTATIC PRODUCING FLAME RETARDANT COVERALLS AND NONSPARKING FOOTWEAR.	
				ESSENTIAL PERSONNEL	
				ORB NASA SFOC	
				--- ----	
				ENG/SUPV 1 1	
				TECHNICIAN 4	
				QUALITY 2 1	
				SAFETY 1 1	
				*PAD 1	
				*SCO 2	
				(GO2/GH2 FACIL) GSS PZ-A3	
				-----	
				ENG 1 1	
				TECHNICIAN 4	
				QUALITY 1	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0137		NTD PA		ATTENTION ON PAD ____:  ALL PERSONNEL CLEAR 50 FT FROM GH2 FLARE STACK AND 50 FT FROM GO2/GH2 CROSS-COUNTRY LINES.  NONESSENTIAL PERSONNEL CLEAR 200-FT RADIUS OF GH2, 25-FT RADIUS FROM GO2 BATTERIES AND 5-FT RADIUS FROM S72-0699-1 PNL, FSS 75-FT LVL.	
NOTE					
GH2 CC LINE PURGE BY GSS SHOULD START IMMEDIATELY AFTER SAFETY CONCURRENCE TO PROCEED WITH HAZARDOUS OPERATIONS. GH2 CC LINE PRESS SHOULD START FIRST.					
14-0138	-1D12H30M T-36H30M	*PSE NET 105 *SCC 232 NTD OTC OTC 132	*SCC NTD OTC CFCP	CONTROL AREA FOR CC LINE REACTANT PURGE AND PRESSURIZATION CLEAR OF NONESSENTIAL PERSONNEL. ESSENTIAL PERSONNEL ARE PROPERLY ATTIRED. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH PRSD GO2 AND GH2 FLOW OPERATIONS AND VENTING TO FLARE STACK.	SU72012
14-0139		NTD PA		ATTENTION ON PAD ____:  VENTING TO FLARE STACK WILL OCCUR. ALL PERSONNEL REMAIN CLEAR.	
14-0140		OTC	CFCP	PERFORM TEST TEAM BRIEFING ON HAZARDS INVOLVED AND APPLICABLE APPENDIX Z SAFING FUNCTIONS.	
14-0141		OTC	CHGD	PERFORM LH2 HLDS/HFDS (HWW20) MONITORING. REPORT OUT OF TOLERANCE CONDITIONS TO CFPC ON OIS CH 153:  HLDS = 10,000 PPM ABOVE BASELINE  HFDS = ALARM ON INDICATION	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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WARNING

HAZARDOUS OPERATION - GO2/  
 GH2 REACTANT PURGE FOLLOW  
 (HAZARD IS PRESENCE OF OXYGEN  
 AND HYDROGEN AND GO2/GH2  
 PRESSURIZATION).

GO2/GH2 CROSS-COUNTRY LINE PURGE PRESS

NOTE

DO NOT PERFORM NEXT TWO STEPS  
 IF VERIFIED PRIOR TO CALL TO  
 STATIONS.

14-0142	-1D12H30M	NTD	STM	PERFORM FOLLOWING:	SU72015
	T-36H30M	232			SU72065
		STM	JBPN	NOTE	SU72076
		111			
		JBPN	GBPN	PERFORM SUBSTEP 1 IF GH2	
		NET		CROSS COUNTRY LINE HAS A	
		104		GHE BLANKET PRESSURE.	
			1.	PERFORM GH2 CROSS-COUNTRY	PNSA
				LINE PRESSURIZATION PER	
				OPERATION INSTRUCTIONS OF	
				M3020 AND OMI V1040.002,	
				SEQ ____ . COORDINATE WITH	
				CFCP ON OIS CH 153 (2H00M).	

NOT PERFORMED

SS1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0142				NOTE	
CON'T				PERFORM SUBSTEP 2 IF GH2 CROSS COUNTRY LINE HAS A GH2 BLANKET PRESSURE OF 500 PSIG MAX.	
			2.	PERFORM GH2 CROSS-COUNTRY LINE PRESSURIZATION PER OPERATION INSTRUCTIONS OF M3020. REPORT COMPLETION.	PNSA
				NOT PERFORMED	_____
					SS2
			3.	PERFORM GO2 CC LINE PRESSURIZATION PER M3097 OPERATION INSTRUCTIONS.	
				NOT PERFORMED	_____
14-0143		OTC	CFCP	ASSIST JBPN WITH GH2 CROSS-COUNTRY LINE PURGE AND PRESSURIZATION PER OMI V1040.002 SEQ _____.	
		132			
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT STEP  
 IF VERIFIED PRIOR TO CTS.

14-0144		STM	CMQC	SUPPORT PRE-OPERATION SETUP 9 -	
		111		SRB FLAME DEFLECTOR MOVE TO LAUNCH	
		232	NTD	POSITION COMPLETE.	
		NTD	TBC		
				NOT PERFORMED	_____

NOTE

DO NOT PERFORM NEXT STEP  
 IF VERIFIED PRIOR TO CTS.

14-0145		STM	CMQC	SUPPORT PRE-OPERATION SETUP	STSA
		232	NTD	10 - MLP/PAD SS I/F CONNECTION AND WATER TROUGH INSTALLATION/ FILL COMPLETE.	
				NOT PERFORMED	_____

NOTE

DO NOT PERFORM NEXT STEP  
 IF VERIFIED PRIOR TO CTS.

14-0146		STM	CMQC	SUPPORT PRE-OPERATION SETUP 11 -	
		232	NTD	WASHDOWNS COMPLETE.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
RLDS 6292 CONFIDENCE CHECKS -----					
14-0147		CHGD 132	OTC CFCP	PERFORMING RLDS 6292 CONFIDENCE CHECKS. IGNORE RLDS 6292 LEAK DETECTOR INDICATIONS UNTIL COMPLETION.	SU72027
_____ GMT					
14-0148		CHGD		CURSOR CNTL (SAW01/HWW21) MFC POWER - ON PUMP 1 - ON PUMP 3 - ON XMIT CURSOR KEY - PRESS	
NOTE					
ALLOW A 5 MINUTE MINIMUM MFC WARMUP PRIOR TO DATA RECORDING.					
14-0149		CHGD		CURSOR CNTL (SAW01/HWW21) MANUAL SELECT SV1 (CAL) SV2 (CAL) SV3 (CAL) SV4 (CAL) HE Z CURSOR BLOCK XMIT CURSOR KEY - PRESS	
CRT					
RECORD AND VERIFY PRIMARY INDICATIONS					
6292A1 = _____ PPM 0 +/-4000					
6292A2 = _____ PPM 0 +/-4000					
6292A3 = _____ PPM 0 +/-4000					
6292A4 = _____ PPM 0 +/-4000					
MFC1 = _____ SLPM 2.8 +/-0.5					
MFC3 = _____ SLPM 2.8 +/-0.5					
MFC5 = _____ SLPM 2.8 +/-0.5					
MFC7 = _____ SLPM 2.8 +/-0.5					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

LEAK DETECTORS SHOULD BE  
CONDITIONED WITH SPAN GAS  
AT LEAST 3 TIMES PRIOR TO  
DATA RECORDING.

14-0150

CHGD CURSOR CNTL (SAW01/HWW21)

HE S CURSOR BLOCK  
XMIT CURSOR KEY - PRESS

CRT  
RECORD AND VERIFY PRIMARY INDICATIONS

6292A1 = \_\_\_\_\_ PPM BD  
6292A2 = \_\_\_\_\_ PPM BD  
6292A3 = \_\_\_\_\_ PPM BD  
6292A4 = \_\_\_\_\_ PPM BD

MFC1 = \_\_\_\_\_ SLPM 2.8 +/-0.5  
MFC3 = \_\_\_\_\_ SLPM 2.8 +/-0.5  
MFC5 = \_\_\_\_\_ SLPM 2.8 +/-0.5  
MFC7 = \_\_\_\_\_ SLPM 2.8 +/-0.5

HE Z CURSOR BLOCK  
SUPPORT MODE  
XMIT CURSOR KEY - PRESS

14-0151

CHGD CURSOR CNTL (SAW01/HWW21)

MFC POWER - OFF  
PUMP 1 - OFF  
PUMP 3 - OFF  
XMIT CURSOR KEY - PRESS

14-0152

CHGD OTC RLDS 6292 CONFIDENCE CHECKS SU72027  
132 CFCP COMPLETE. NO ANOMALIES NOTED.

\_\_\_\_\_ GMT

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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PUMP HOLDING TANKS  
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14-0153		STM NET 104	QBSE	OBTAIN HOLDING TANK DEPTH MEASUREMENTS (M3175). REPORT DATA.	STSA
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EAST TANK DEPTH \_\_\_\_\_ IN. BD  
 DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 WEST TANK DEPTH \_\_\_\_\_ IN. BD  
 DATE \_\_\_\_\_ TIME \_\_\_\_\_

NOTE

PERFORM NEXT TWO STEPS IF  
 LESS THAN 400,000 GALLONS  
 CAPACITY REMAINING IN EITHER  
 TANK, OR IF DIRECTED BY  
 QBSE (1-0662) TO PUMP  
 HOLDING TANK(S).

14-0154		STM NET 104	QBSE	PUMP HOLDING TANK(S) TO OBTAIN 400,000 GALLON CAPACITY MINIMUM. (8 HRS) REPORT TANK DEPTHS AND VERIFY WHEN COMPLETE.	STSA SU72126
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NOT PERFORMED \_\_\_\_\_

14-0155		QBSE NET 104	STM	HOLDING TANK PUMPING COMPLETE.	STSA SU72126
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EAST TANK DEPTH \_\_\_\_\_ IN. BD  
 DATE \_\_\_\_\_ START TIME \_\_\_\_\_  
 WEST TANK DEPTH \_\_\_\_\_ IN. BD  
 DATE \_\_\_\_\_ START TIME \_\_\_\_\_  
 VALVES OPEN DATE \_\_\_\_\_ TIME \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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GN2 PREPS  
 -----

NOTE

PAYLOAD BAY PURGE WILL BE INTERRUPTED INTERMITTENTLY FOR ECS EQUIPMENT VERIFICATIONS.

14-0156		OTC 132	CMQC	VERIFY ORBITER PRE-OPERATION SETUP 10 - ECS LOCAL OPERATIONS COMPLETE.	SU72018
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14-0157		OTC 132	CPVD	PERFORM GN2 PREPS PER OMI V1122 SEQUENCES: (2 HRS)	SU72104
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1. "CONTROL STATION TRANSFER, PAD TO FIRING ROOM"
2. "PREPS FOR AIR TO GN2 CHANGEOVER, OPTION A, INITIAL PREPS"
3. "CONTROL STATION TRANSFER, FIRING ROOM TO PAD"

RT OMI LOG NO. \_\_\_\_\_

GH2 CC LINE PURGE/PRESSURIZATION  
 -----  
 COMPLETE  
 -----

NOTE

DO NOT PERFORM NEXT THREE STEPS IF GO2/GH2 CC LINES REMAINED PRESSURIZED FROM PREVIOUS OPERATIONS.

14-0158	L-1D12H00M T-36H00M	JBPN 111 STM 232	STM NTD	GH2 CC LINE PURGE/PRESSURIZATION COMPLETE. CONTINUING WITH GO2 CC LINE PRESSURIZATION.	PNSA SU72065 SU72085
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0159		CFCP	OTC	GH2 CC LINE PURGE/PRESSURIZATION	
		132		COMPLETE. GH2 VENTING TO LH2	
		OTC	NTD	FLARE STACK HAS TERMINATED.	
		232		REQUEST FOLLOWING AREAS BE	
		NTD	*SCC	RE-OPENED FOR CONTROLLED WORK.	
		*SCC	*PSE		
		NET		1. LH2 FLARE STACK	
		105		2. PERIMETER ROAD AT GH2 BATTERIES	
				FOLLOWING CONTROLS REMAIN IN EFFECT.	
				NONESSENTIAL PERSONNEL CLEAR:	
				1. GH2 BATTERIES	
				2. GO2 BATTERIES	
				3. S72-0699-1 PNL	
				FSS 75 FT LVL (5 FT)	
				ALL PERSONNEL CLEAR:	
				50 FT FROM GH2/GO2 CC LINES	
				NOT PERFORMED	_____
14-0160		*PSE	*SCC	LH2 FLARE STACK AND PERIMETER	
		NET		ROAD AT GH2 BATTERIES ARE OPEN	
		105		FOR CONTROLLED WORK.	
		*SCC	NTD		
		232			
		NTD	OTC		
			STM		
			TBC		
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

WALKDOWN TO BE PERFORMED  
 AFTER PAD SURFACE/FLAME  
 TRENCH WASHDOWN AND  
 PRIOR TO PAD CLEAR FOR  
 PRSD LOADING.

14-0161	-1D12H00M T-36H00M	NTD PA		ATTENTION ON PAD-_____.	
				ALL PERSONNEL SUPPORTING THE INTIAL TPS ENGINEERING DEBRIS WALKDOWN, REPORT TO THE BASE OF THE FSS IN 30 MINUTES.	
14-0162	-1D11H30M T-35H30M	NTD 232 OTC 132 STM 111 *SCC NET 105	OTC STM *SCC *PAD APPENDIX K AND NOTIFY NVM (1 HR). PSTM *PSE	PERFORM INITIAL TPS ENGINEERING DEBRIS WALKDOWN PER INTEGRATED OPERATIONS SUPPORT SETUP 2. ADD ANY DISCREPANCIES TO APPENDIX K AND NOTIFY NVM (1 HR).	SU72119

NOTE

DO NOT PERFORM NEXT STEP  
 IF VERIFIED PRIOR TO CTS.

14-0163		GBHE 111 STM	STM CMQC	SUPPORT PRE-OPERATION SETUP - 8 POLE CES ASSEMBLY LIFT TO 195 FT LEVEL COMPLETE.	HESA
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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FCS FIRST STOWAGE COMPLETE

NOTE

DO NOT PERFORM NEXT STEP IF  
FCE STOWAGE COMPLETED EARLIER.

14-0164	-1D11H00M T-35H00M	OOCs 132	OTC	ORBITER PRE-OPERATION SETUP 21 - FLIGHT CREW SYSTEM FIRST STOWAGE COMPLETE.	SU72029
				OOCs	_____
				NOT PERFORMED	_____

REMOVE MIDDECK PLATFORMS (-35H)

NOTE

DO NOT PERFORM NEXT TWO  
STEPS IF PLATFORMS HAVE BEEN  
PREVIOUSLY REMOVED OR IF  
SUPPORTING MVAK OPERATIONS.

PERFORM NEXT STEP FOR OV-102/  
OV-104.

14-0165	-1D11H00M T-35H00M	OTC 132	*PAD	PERFORM A70-0558 MIDDECK PLATFORM REMOVAL PER:	SU72034
				JC V66-90006 - PLATFORM ACCESS SET, A70-0558 PARTIAL MIDDECK, CREW MODULE VERTICAL, REMOVAL (2 HR)	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP FOR OV-103/  
 OV-105.

14-0166	-1D11H00M T-35H00M	OTC 132	*PAD	PERFORM A70-0558 MIDDECK PLATFORM REMOVAL PER:  JC V66-50009 - INSTL/REM AIRLOCK OUT VERTICAL ACCESS SET- CREW MODULE (2 HR)	
				NOT PERFORMED	_____

LAUNCH PAD TOURS  
 -----

NOTE

PERFORM NEXT TWO STEPS IF  
 MVAK OPERATIONS ARE SCHEDULED  
 PRIOR TO PRSD LOAD OPERATONS.  
 TOURS MAY BE PERMITTED ABOVE  
 THE PAD SLOPE AT THE DISCRETION  
 OF THE NTD.

14-0167		NTD NET 110 232 OTC 132	OIC *PAD	MVAK OPERATIONS READY TO COMMENCE. DISCONTINUE ALL TOURS ABOVE PAD SLOPE FOR DURATION OF MVAK OPERATIONS. NTD MAY APPROVE EXCEPTIONS AS DIRECTED BY THE LAUNCH DIRECTOR.	
				NOT PERFORMED	_____

14-0168		NTD NET 110 232 OTC 132	OIC *PAD	MVAK OPERATIONS COMPLETE. TOURS WITH PROPER AUTHORIZATION MAY NOW BE PERMITTED ABOVE PAD SLOPE.	
				NOT PERFORMED	_____

14-0169		*PAD 132	OTC	ORBITER OPERATION SUPPORT SETUP 2 - ORBITER STRUCTURAL PANEL CONFIGURATION FOR TANKING AND LAUNCH, PART A, COMPLETE.	SU72021
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
MET INITIALIZATION -----					
14-0170	-1D11H00M T-35H00M	OTC 132	CEPD CDR	PERFORM ORBITER "MET (MISSION EVENT TIMER) INITIALIZATION AND SWITCH/CIRCUIT BREAKER CONFIGURATION" PER S0007VL4 (SEQ 50) ON CH 151 (15 MIN).	SU72039
14-0171		CEPD 132	OTC	ORBITER MET INITIALIZATION AND SWITCH/CIRCUIT BREAKER CONFIGURATION COMPLETE.	

HGDS FINAL SETUPS  
-----

NOTE

DO NOT PERFORM NEXT STEP IF  
 HGDS SETUPS COMPLETED PRIOR  
 TO S0007.

14-0172	-1D11H00M T-35H00M	OTC 132	CHGD	PERFORM HGDS FINAL SETUPS PER OMI V3540. (4 HRS)	SU72574
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RT OMI LOG NO. \_\_\_\_\_

1. "FINAL ENGINEERING INSPECTION  
(OPERATION 0010)"
2. "PRIME HGDS FINAL CONFIGURATION  
(OPERATION 0020)"
3. "BACKUP HGDS FINAL CONFIGURATION  
(OPERATION 0030)"
4. "HUMS FINAL CONFIGURATION  
(OPERATION 0040)"

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
TPS DEBRIS WALKDOWN COMPLETE -----					
14-0173	-1D10H30M T-34H30M	*PAD 132 OTC 232	OTC NTD	INTEGRATED OPERATION SUPPORT SETUP 2 - INITIAL TPS ENGINEERING DEBRIS WALKDOWN COMPLETE.	SU72119

FLT DECK PLATFORM REMOVAL  
-----

NOTE

FLIGHT DECK PLATFORM REMOVAL  
 FOLLOWS MCDS OTV CAMERA REMOVAL.

DO NOT PERFORM NEXT STEP IF  
 FLIGHT DECK PLATFORMS HAVE  
 PREVIOUSLY BEEN REMOVED.

14-0174	-1D10H30M T-34H30M	OTC 132	*PAD	PERFORM FLIGHT DECK PLATFORM REMOVAL PER:	SU72036
1. JC V66-00019 - PLATFORM ACCESS SET A70-0558 AFT FLIGHT DECK INSTALLATION/REMOVAL (1HR 30 M)					
2. INSTALL SOFT COVERS OVER AFT FLT DECK.					

T: \_\_\_\_\_  
 SS2

NOT PERFORMED \_\_\_\_\_

MTU OSC FREQ CHECKS  
-----

NOTE

MTU MUST BE POWERED UP  
 12 HRS PRIOR TO NEXT STEP.

14-0175	-1D10H15M T-34H15M	OTC 132 232 NTD	CISL NTD JRPS	PERFORM MTU OSC FREQ CHECKS PER S0007VL4 (SEQ 38) ON OIS CH 145 (15 MIN).	SU72042
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0176		CISL	OTC	MTU OSC FREQ CHECKS COMPLETE.  OMRSD V75AP0.030-1R  IMU CHECKPOINT DATA READ -----	
NOTE					
DO NOT PERFORM NEXT STEP IF IMU CHECKPOINT AND I-LOAD DATA VERIFIED BY ANOTHER TOP SINCE MMU LOAD FOR S0007.					
14-0177		OTC	CGNC	PERFORM IMU NO-POWER CHECKPOINT DATA DUMP PER OMI V1123. (25 MIN)	SU72114
		132		RT OMI LOG NO. _____	
NOT PERFORMED _____					
INSTALL OMS FLIGHT PANELS -----					
14-0178	-1D10H00M T-34H00M	*PAD	OTC	OMS TRICKLE PURGE DISCONNECTED. PROCEEDING WITH INSTALLATION OF OMS FLIGHT PANELS (3 HR) PER:	SU72032 SU72086
		132		JC V80-95903 - DOOR 59-03, LH OME ENGINE SERVICE, INSTALLATION	
				JC V80-95904 - DOOR 59-04, RH OME ENGINE SERVICE, INSTALLATION	
14-0179		CPVD	OTC	ECS PREPS FOR AIR/GN2 CHANGEOVER ARE COMPLETE (HAND VLVS CLOSED) (V1122).	SU72104
		132			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ET LO2 LOADING PREPS -----					
14-0180	-1D10H00M T-34H00M	NTD 232 TBC 136	TBC	PERFORM PRE-OPERATION SETUPS OF LO2 SYSTEM PREPS FOR VEHICLE PLOX LOAD PER OMI G3151.	SU72055
LH2 SYSTEM PRE-OP SETUPS -----					
14-0181		TBC 136	PLHY	PERFORM PRE-OPERATION SETUPS PER OMI G3251.  OMRS S00FA0.130-1  IMU CHECKOUT DATA READ COMPLETE -----	SU72058
NOTE					
PERFORM NEXT STEP ONLY WHEN REFERENCED TEST IS PERFORMED ON THIS RUN.					
14-0182		CGNC 132	OTC	IMU CHECKPOINT DATA READ COMPLETE.	SU72114
NOT PERFORMED _____					
MADS/OEX FDM/PCM TEST -----					
14-0183	-1D09H30M T-33H30M	OTC 132	CISL	PERFORM ORBITER MADS/OEX FDM/PCM TEST PER S0007 VL4 (SEQ 38) ON OIS CH 145 (30 MIN).  OMRS V78GA0.010 OMRS V78GA0.030	SU72088

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
MADS/OEX FDM/PCM TEST COMPLETE					
14-0184	-1D09H00M T-33H00M	CISL 132	OTC	ORBITER MADS/OEX FDM/PCM TEST COMPLETE.  OMRSD V78GA0.010 OMRSD V78GA0.030  PRESS CABIN AIR SYSTEM	
14-0185	-1D09H00M T-33H00M	OTC 132	CECL	VERIFY READY TO PRESSURIZE CABIN AIR SYSTEM.	
14-0186		OTC 132	*PAD	VERIFY VALVE A501543 ON C70-1226-3 PNL IS CLOSED.	SU72107
					T:_____
14-0187		OTC 232 NTD STM 111	NTD STM JBPN	VALVE A501543 ON C70-1226-3 IS CLOSED (IN W/R). CONFIGURE CABIN AIR SYSTEM TO PRESSURIZE C70-1226-3 WITH 125-130 PSIG BREATHING AIR FROM C70-1226-2 215 FT LVL O2/N2 SYSTEM PER OPERATION INSTRUCTIONS OF OMI M3067. (1H30M)	PNSA SU72128



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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BREATHING AIR SAMPLE  
 -----

14-0188		OTC 232 NTD STM	NTD STM JBPN	VERIFY BREATHING AIR SAMPLED PER OMI M3067 MEETS SE-S-0073 TABLE 6.3-29 STANDARDS. PROVIDE COPY FOR ECLSS REVIEW.	PNSA
		111			

RECORD ACCEPTABLE SAMPLE:  
 STORAGE BOTTLES  
 PRIMARY NO. \_\_\_\_\_  
 BACKUP NO. \_\_\_\_\_  
 TUBEBANK NO. \_\_\_\_\_  
 SAMPLE NO. \_\_\_\_\_

14-0189		STM 111	JBPN	MAINTAIN B/A TUBE BANK AND B/A SUPPLY PANEL C70-1226-1 IN HP STORAGE AREA OMI M3067. (1 HR)	PNSA
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NOTE

DO NOT PERFORM NEXT STEP IF  
 PLATFORMS PREVIOUSLY REMOVED  
 OR IF SUPPORTING MVAK OPERATIONS.

MIDDECK PLATFORM REMOVAL COMPLETE  
 -----

14-0190	-1D09H00M T-33H00M	*PAD 132	OTC	MIDDECK PLATFORM REMOVAL (JC V66-90006 FOR OV-102 AND OV-104) (JC V66-50009 FOR OV-103 AND OV-105) COMPLETE. READY TO PROCEED WITH FCE STOWAGE.	SU72034
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
FCS STOWAGE POST MD PLTFM RMVL					
-----					

NOTE

DO NOT PERFORM NEXT STEP IF  
FCE STOWAGE COMPLETED EARLIER.

14-0191		OTC	OOC	PERFORM POST MIDDECK PLATFORM REMOVAL STOWAGE OPERATIONS PER OMI V5097.003 (5 HRS) OR IN CASE OF SCRUB TURNAROUND PERFORM PER FCS TPS.	SU72115
		132			

NOT PERFORMED \_\_\_\_\_

FLT DECK PLATFORM REMOVAL COMPLETE

NOTE

DO NOT PERFORM NEXT STEP IF  
PLATFORMS PREVIOUSLY REMOVED.

14-0192		*PAD	OTC	FLIGHT DECK PLATFORM REMOVAL (JC V66-00019) COMPLETE.	SU72036
		132			

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
PRSD ENGINEERING WALKTHRU -----					
14-0193		OTC 132	PRSE	PERFORM PRSD ENGINEERING WALKTHRU FOR CRYO LOAD PER OMI V1040.002 ORBITER OSSU 1 (1 HR). ADD ANY APPLICABLE DISCREPANCIES TO APPENDIX K AND NOTIFY NVM.	SU72083
WASTE MANAGEMENT STATION INSPECTION -----					
14-0194	-1D09H00M T-33H00M	OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 10 - WASTE MANAGEMENT STATION INSPECTION/CLOSEOUT SWITCHLIST (1 HR).	SU72028
WASTE MANAGEMENT STATION INSPECTION ----- COMPLETE -----					
14-0195	-1D08H00M T-32H00M	*PAD 132	OTC	ORBITER OPERATION SUPPORT SETUP 10 - WASTE MANAGEMENT STATION INSPECTION/CLOSEOUT SWITCHLIST COMPLETE.	SU72028

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- GO2 CC LINE PRESSURIZATION COMPLETE -----					
NOTE					
DO NOT PERFORM NEXT FOUR STEPS IF GO2/GH2 CC LINES REMAINED PRESSURIZED FROM PREVIOUS OPERATIONS.					
14-0196		JBPN 111 STM 232 NTD OTC OTC 132	STM NTD OTC CFCP	GO2 CC LINE PRESSURIZATION COMPLETE.	PNSA SU72015 SU72085
NOT PERFORMED _____					
14-0197		NTD 232 *SCC NET 105	STM *SCC *PSE	REQUEST SFOC SAFETY CONCURRENCE TO RELEASE FIRE AND EMS FROM GO2/GH2 BATTERY OPERATIONS.	
NOT PERFORMED _____					
14-0198		*PSE NET 105 *SCC 232	*SCC NTD	YOU HAVE SAFETY CONCURRENCE TO RELEASE FIRE AND EMS FROM GO2/GH2 BATTERY OPERATIONS.	
NOT PERFORMED _____					
14-0199		NTD 232 STM 111 JSTC 114	STM JSTC JFIR	FIRE COMBAT AND EMS RELEASED FROM GO2/GH2 BATTERY OPERATIONS.	FIRE SU72068
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				PRSD ENGINEERING WALKTHRU COMPLETE	
14-0200		PRSE 132	OTC	PRSD ENGINEERING WALKTHRU FOR CRYO LOAD COMPLETE PER V1040.002 ORBITER OPERATION SUPPORT SETUP 1.	SU72083
				PREPS FOR ORBITER/PRSD CRYO ----- SERVICING AND SAMPLING ----- (V1040.002 SEQ _____) -----	
14-0201		OTC 132	CMQC	VERIFY PRE-OPERATION SETUP 16 - PRSD LOADING PREPS COMPLETE.	SU72112
14-0202	-1D08H00M T-32H00M	CFCP 132	OTC	READY TO PROCEED WITH ORBITER/ PRSD CRYO SERVICING AND SAMPLING	
		OTC 232	NTD	PREPS PER V1040.002 SEQ ____.	

OPERATION INSTRUCTIONS

-----  
 SEQ            TIME            CMD    RESP                            DESCRIPTION                            VERIF.  
 -----

14-0203

NTD    \*SCC REQUEST SFOC SAFETY CLEAR ALL  
 232            NONESSENTIAL PERSONNEL FROM  
 \*SCC \*PSE FOLLOWING AREAS FOR PRSD O2/H2  
 NET            SERVICING AND SAMPLING PREPS:  
 105

1.    S72-0699-1 PNL/MLP INTERFACE,  
       75 FT LVL (5 FT)
2.    FSS 155 FT LVL AND CROSSOVER
3.    OMBUU
4.    S72-0686-1 PNL, MLP SIDE 1,  
       (5 FT)
5.    GO2/GH2 STORAGE BATTERIES
6.    NORTH BRIDGE

CLEAR ALL PERSONNEL FROM FOLLOWING  
 AREAS FOR PRSD O2/H2 SERVICING AND  
 SAMPLING PREPS.

1.    GH2 CROSS-COUNTRY LINES (50 FT)
2.    LH2 FLARE STACK
3.    LO2 DUMP BASIN

VERIFY ESSENTIAL PERSONNEL PROPERLY  
 ATTIRED IN CLEAN FLAME RETARDANT  
 NON-STATIC PRODUCING COVERALLS AND  
 NON-SPARKING FOOTWEAR AND REQUEST  
 SAFETY CONCURRENCE TO PROCEED.

ESSENTIAL PERSONNEL  
 -----

	ORB	SFOC	NASA	ET
	---	----	----	--
TECH	2			2
QUAL	1			1
SAFETY		1	1	
SCO	2			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0204		NTD PA		ATTENTION ON PAD _____:  ALL NONESSENTIAL PERSONNEL CLEAR FOLLOWING AREAS FOR PRSD O2/H2 SERVICING AND SAMPLING PREPS:  1. S72-0699-1 PNL/MLP INTERFACE, 75 FT LVL (5 FT) 2. FSS 155 FT LVL AND CROSSOVER 3. OMBUU 4. S72-0686-1 PNL, MLP SIDE 1, (5 FT) 5. GO2/GH2 STORAGE BATTERIES 6. NORTH BRIDGE  ALL PERSONNEL CLEAR FOLLOWING AREAS FOR PRSD O2/H2 SERVICING AND SAMPLING PREPS.  1. GH2 CROSS-COUNTRY LINES (50 FT) 2. LH2 FLARE STACK 3. LO2 DUMP BASIN	
14-0205		STM 111	JBPN	ORBITER PRSD CRYO SERVICING AND SAMPLING PREPS IN WORK (GO2/GH2).	PNSA
14-0206		PLHY 136 TBC 132 OTC	TBC OTC CFCP	ET VENT LINE CONFIGURED TO ACCEPT REACTANT GAS. ET LH2 VENT LINE PURGED WITHIN 48 HOURS PER G6204 OR S1006.	SU72059
14-0207		OTC 132	CHGD	VERIFY SYSTEMS READY TO SUPPORT PRSD LOADING PREPS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
RLDS 6660 CONFIDENCE CHECKS -----					
14-0208		CHGD 132	OTC CFCP	PERFORMING RLDS 6660 CONFIDENCE CHECKS. IGNORE LEAK DETECTOR 29 AND 30 INDICATIONS UNTIL COMPLETION.  _____ GMT	SU72105
14-0209		CHGD 177	PETG	COMPT 43A - AIR PURGE LINE  1. AIR PURGE VALVE A519390 - OPEN (CCW)  2. VERIFY AUDIBLE FLOW.	T: _____
14-0210		CHGD		CURSOR CNTL (SAW01/HWW13) MFC POWER - ON PUMP 1 - ON XMIT CURSOR KEY - PRESS	
14-0211		CHGD		CURSOR CNTL (SAW01/HWW13) MANUAL SELECT SV1 (CAL) SV2 (CAL) N2 Z CURSOR BLOCK XMIT CURSOR KEY - PRESS  CRT RECORD AND VERIFY PRIMARY INDICATIONS  LD29 = _____ PPM 0 +/-4000 LD30 = _____ PPM 0 +/-4000  MFC1 = _____ SLPM 4.0 +/-0.5 MFC3 = _____ SLPM 4.0 +/-0.5	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

LEAK DETECTORS SHOULD BE  
CONDITIONED WITH SPAN GAS  
AT LEAST 3 TIMES PRIOR TO  
DATA RECORDING.

14-0212		CHGD		CURSOR CNTL (SAW01/HWW13) N2 S CURSOR BLOCK XMIT CURSOR KEY - PRESS  CRT RECORD AND VERIFY PRIMARY INDICATIONS  LD29 = _____ PPM BD LD30 = _____ PPM BD  MFC1 = _____ SLPM 4.0 +/-0.5 MFC3 = _____ SLPM 4.0 +/-0.5  SUPPORT MODE XMIT CURSOR KEY - PRESS	
14-0213		CHGD	OTC	RLDS 6660 CABINET CONFIDENCE 132 CFCP CHECKS COMPLETE.	SU72105
				STOP TIME: _____ GMT	
14-0214		OTC	CHGD	PERFORM LH2 AND FCP HLDS/HFDS (HWW20) 132 MONITORING. REPORT OUT OF TOLERANCE CONDITIONS TO JBPN ON OIS CH 122:  HLDS = 10,000 PPM ABOVE BASELINE  HFDS = ALARM ON INDICATION  LD29 = 10,000 PPM ABOVE BASELINE  LD30 = 10,000 PPM ABOVE BASELINE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0215		*PSE NET 105 *SCC 232 NTD OTC 132	*SCC NTD OTC CFCP	<p>ALL NONESSENTIAL PERSONNEL            CLEARED FROM CONTROL AREAS.            PERSONNEL PROPERLY ATTIRED.            YOU HAVE SAFETY CONCURRENCE TO            PROCEED WITH ORBITER/PRSD O2/H2            SERVICING AND SAMPLING PREPS            (V1040.002).</p> <p>ALL PERSONNEL CLEARED FROM:</p> <ol style="list-style-type: none"> <li>GH2 CROSS-COUNTRY LINES (50 FT)</li> <li>LH2 FLARE STACK</li> <li>LO2 DUMP BASIN</li> </ol> <p>ALL NONESSENTIAL PERSONNEL            CLEARED FROM:</p> <ol style="list-style-type: none"> <li>S72-0699-1 PNL/MLP I/F 75 FT LVL (5 FT)</li> <li>FSS 155 FT LVL AND CROSSOVER</li> <li>OMBUU</li> <li>S72-0686-1 PNL (5 FT MLP SIDE 1)</li> <li>GO2/GH2 STORAGE BATTERIES</li> <li>NORTH BRIDGE</li> </ol> <p>WARNING</p> <p>HAZARDOUS STEPS FOLLOW            DUE TO PRESENCE OF GO2/GH2.</p>	SU72082
14-0216		OTC 132	CFCP	<p>BRIEF PERSONNEL ON HAZARDS THAT            WILL BE PRESENT AND APPLICABLE            SEQUENCES OF APPENDIX Z.</p> <p>CABIN AIR SYS - PRESSURIZED</p>	
14-0217	-1D07H30M T-31H30M	JBPN 111 STM 232 NTD OTC 132	STM NTD OTC CECL	<p>B/A C70-1226-2 PANEL PRESSURIZED.</p>	PNSA SU72128
14-0218	-1D07H30M T-31H30M	JBPN 111	STM	<p>SUPPLY PANEL C70-1226-1 AND            B/A TUBE BANK HAVE BEEN MAINTAINED.</p>	PNSA

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				C70-1226-3 O2 SAMPLE -----	
14-0219	-1D07H30M T-31H30M	OTC 132	CECL	PERFORM (IN WHITEROOM) C70-1226-3 PRESSURIZATION AND O2 SAMPLE OF CABIN AIR SYSTEM PER S0007VL4 (SEQ 45 OPTION A) ON OIS CH 143 (30 MIN).	SU72093

NOTE

PERFORM NEXT STEP IF PAYLOAD  
 HAS UNIQUE TEMP REQUIREMENTS.

14-0220			CECL	MAINTAIN RAD INLET TEMP LESS THAN FOLLOWING TEMPERATURES WHEN IN RAD FLOW (EXCURSIONS ABOVE MAXIMUM SPECIFIED VALUE ACCEPTABLE PROVIDING EXCURSIONS DO NOT EXCEED 45 MINUTES IN THREE HOURS.	
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OMRS\_ \_\_\_\_\_ ( \_\_\_\_\_ DEGF)  
 OMRS\_ \_\_\_\_\_ ( \_\_\_\_\_ DEGF)  
 OMRS\_ \_\_\_\_\_ ( \_\_\_\_\_ DEGF)  
 OMRS\_ \_\_\_\_\_ ( \_\_\_\_\_ DEGF)  
 OMRS\_ \_\_\_\_\_ ( \_\_\_\_\_ DEGF)  
 OMRS\_ \_\_\_\_\_ ( \_\_\_\_\_ DEGF)

ECLSS ENGR \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_

ECLSS COOLING RECONFIG

-----  
 TO SUPPORT SWITCHLIST  
 -----

14-0221	-1D07H00M T-31H00M	OTC 132	CECL	PERFORM ORBITER ECLSS COOLING RECONFIGURATION TO SUPPORT ASCENT SWITCHLIST PER S0007VL4 (SEQ 45 OPTION B) ON OIS CH 143 (2 HR).	SU72116
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				OMS FLT PANEL INSTL COMPLETE	
14-0222	-1D07H00M T-31H00M	*PAD 132	OTC	OMS FLIGHT PANEL INSTALLATION COMPLETE. (JC V80-95903 AND JC V80-95904)	SU72086
				OPERATIONS/SAFETY/FACILITY WALKDOWN	
14-0223	-1D07H00M T-31H00M	NTD 232 OTC 132	OTC *PAD	PERFORM INTEGRATED OPERATION SUPPORT SETUP 1 (PART A) - PRSD LOAD SAFETY/FACILITY/FIRE WALKDOWN (1 HR).	SU72118 SU72127
14-0224		NTD 232 OTC 132 *SCC NET 105 STM 111 NET 104 JSTC 114	OTC *PAD *PSE	HAVE WALKDOWN PARTICIPANTS MEET WITH PAD LEADER AT FSS ELEVATORS ON PAD SURFACE IN 30 MINUTES. PARTICIPANTS	FIRE
14-0225		NTD PA		ATTENTION ON PAD ____:  ALL PERSONNEL SUPPORTING SAFETY/FACILITY/FIRE WALKDOWN MEET WITH *PAD AT FSS ELEVATORS ON PAD SURFACE IN 30 MINUTES.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				DPS TO DOWNLIST 42 -----	
14-0226	-1D06H45M T-30H45M	OTC 232 NTD TBC PTC TBC 136 PTC 134	NTD TBC PTC ALL ALL	VERIFY READY FOR TRANSITION TO DOWNLIST FORMAT 42.	SU72090
14-0227		TBC PTC 232 NTD	NTD OTC	READY TO SUPPORT TRANSITION TO DOWNLIST FORMAT 42.	
14-0228		OTC 132	ALL	DPS SWITCHING TO GNC9, DOWNLIST 42	
14-0229		OTC 132	CDPS	CONFIGURE ORBITER DPS TO DL FMT 42.	
14-0230			CDPS	CURSOR CNTL (SAS01 PG-B) FMT 42 XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
14-0231			CDPS	CRT (VAS59 PG-B)  FMT 42 ACTIVE	
14-0232		CDPS 132 OTC 232 NTD TBC PTC TBC 136 PTC 134	OTC NTD TBC PTC ALL ALL	DPS CONFIGURED TO DL FMT 42.	
14-0233		CECL 132	OTC	C70-1226-3 PRESSURIZATION AND O2 SAMPLE OF CABIN AIR SYSTEM COMPLETE.	SU72093

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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MECHANISMS STATUS CHECKS

NOTE

MECH STATUS CHECKS REQUIRE  
D/L 42.

14-0234		OTC	CAFM	PERFORM MECHANISMS STATUS CHECKS. (15 MIN)	SU72095
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14-0235		CAFM	CDR	PANEL MA73C ROW A MCA LOGIC MN A FWD 1 SW - ON MID 1 SW - ON MN B FWD 2 SW - ON MID 1 SW - ON MID 2 SW - ON MN C FWD 3 SW - ON MID 2 SW - ON  ROW B MCA LOGIC MN A AFT 1 SW - ON MID 3 SW - ON MN B AFT 2 SW - ON MID 3 SW - ON MID 4 SW - ON MN C AFT 3 SW - ON MID 4 SW - ON	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0236		CAFM	OTC	VERIFY FORMAT 129/42 OR 166/42 MECHANISMS STATUS CHECKS.	
14-0237		CAFM	CDR	PANEL L4 ROW P AC2 LG SNSR 2 PH A CB - CLOSE AC3 LG SNSR 1 PH A CB - CLOSE	
14-0238		OTC	CAFM	PROCEED WITH STATUS CHECKS. 132	
14-0239			CAFM	CRT (VAK20) PERFORM MECHANISMS STATUS CHECKS.	
14-0240			CAFM	PROGRAM VAK20 USING PROGRAM - STATUS MECH SYSTEMS (ALL OPERATIONAL STATUS UP ARROWS).  IF ANY OPER STAT ARROWS NOT UP - HAVE OTC POLL OTHER USERS OF MCA OP STAT'S FOR ANY ACTIVITY (HARD COPY) XMIT CURSOR FOR MCA SNAPSHOT. VERIFY ALL UP ARROWS.	
14-0241		CAFM	OTC	MECHANISM STATUS CHECKS COMPLETE. 132 FORMAT 129/42 OR 166/42 NO LONGER REQUIRED FOR MECHANISMS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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CONTROLLER AND SWITCH TESTS

NOTE

CONTROLLER AND SWITCH TESTS ARE ONLY REQUIRED ONE TIME PRIOR TO LAUNCH, MAKING REPEAT OF TESTS OPTIONAL FOR A RECYCLE LAUNCH COUNTDOWN. DO NOT PERFORM THESE TESTS IF THEY HAVE BEEN PERFORMED IN PREVIOUS COUNTDOWN UNLESS THERE IS CONCERN OVER ACTIVITY IN THE GENERAL LRU AREA OR CONCERN OVER POSSIBLE TREND DATA OR CONCERN OVER THE TIME ELAPSED SINCE LAST TEST.

THE FOLLOWING ARE INDEPENDENT OPERATIONS AND MAY BE PERFORMED IN ANY ORDER.

DDU 1, 2 AND 3 POWER IS REQUIRED FOR THE CONTROLLER TEST.

DL FORMAT 42 IS REQUIRED FOR BOTH CONTROLLER AND THE RHC PANEL SWITCH TESTS. THE ABORT SWITCH TEST IS INDEPENDENT OF FORMAT (LDB READS).

14-0242	-1D06H30M T-30H30M	OTC 132	COFC	PERFORM CONTROLLER AND SWITCH TESTS PER OMI V1123.	SU72092
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1. CONTROLLER TEST (30 MIN) (CDR).
2. ABORT/RHC PANEL SWITCH TEST (20 MIN) (CDR).

RT OMI LOG NO. \_\_\_\_\_

OMRS S00FA0.940-1R

NOT PERFORMED \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
OI SNAPSHOT -----					
14-0243	-1D06H30M T-30H30M	NTD 232	JRPS	PERFORM OI SNAPSHOT (2 COPIES).	SU72097
CONFIG TUBE BANK -----					
NOTE					
PERFORM NEXT TWO STEPS IF CABIN AIR TUBE BANK BELOW 1100 PSI.					
14-0244	-1D06H30M T-30H30M	STM 111 JSTC NET 104	JSTC GSPS	PROVIDE FULL TUBE BANK B/A TO CABIN AIR BATTERY. REMOVE DEPLETED TUBE BANK.	PN SU72130  QV: _____ QA
NOT PERFORMED _____					
14-0245		STM 111	JBPN	DISCONNECT/CONNECT T/B AT O2/N2 CABIN AIR BATTERY PER OPERATION INSTRUCTIONS OF OMI M3067.	PNSA
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

GPS ACTIVATION, ALMANAC  
COLLECTION AND NAVAIDS ACTIVATION  
AND SELF TEST MAY BE PERFORMED  
IN PARALLEL.

GPS ACTIVATION AND ALMANAC COLLECTION

NOTE

DO NOT PERFORM GPS ACTIVATION  
AND ALMANAC COLLECTION FOR  
OV-102.

14-0246		NTD	OTC	PERFORM GPS ACTIVATION AND	SU72151
		232		ALMANAC COLLECTION (S0007VL4 SEQ 37)	
		OTC	CNSE	ON CH 173.	
		132			

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
PREP FOR NAVAIDS ACT/SELF TEST					
-----					

NOTE

DO NOT PERFORM NEXT EIGHT STEPS  
 IF NAVAIDS SELF TEST WAS ALREADY  
 PERFORMED DURING PRESENT FLOW,  
 UNLESS ENGINEERING EVALUATION  
 SUGGESTS THAT REPERFORMANCE  
 WILL ADD SIGNIFICANT CONFIDENCE  
 IN FLIGHT READINESS.

14-0247		OTC 132	CMQC	VERIFY ORBITER PRE-OPERATION SETUP 23 - TACAN SIGNAL MONITOR SETUP - C&T STATION COMPLETE.	
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NOT PERFORMED \_\_\_\_\_

14-0248	-1D06H30M T-30H30M	NTD 232 STM 111	STM ENDO	VERIFY OPEN LOOP FREQUENCY CLEARANCE FOR FOLLOWING FREQUENCIES FROM T-30 HRS UNTIL T+2 HOURS. (853-2436/5941)	SU72129
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1. MSBLS - 15.460, 15.616 AND 15.568  
GHZ (KU-BAND)
2. RADAR ALTIMETER MC409-0015-0006

NOT PERFORMED \_\_\_\_\_

14-0249		NTD 232 STM 111 GYCC 117	STM GYCC GEMA FTAC	PERFORM FOLLOWING:  1. VERIFY KSC TACAN STATION SUPPORTING AND PERSONNEL ON STATION TO PERFORM TRANSPONDER SWITCHOVER PER OMI Z3D00 (SEQ 7).  2. REPORT WHICH TRANSPONDER CURRENTLY ACTIVE. TRANSPONDER NO. _____ (1 OR 2)  3. SUPPORT NAVAIDS ACTIVATION TEST PER S0007VL4, SEQ 37, ON OIS CH 173. (GEMA - 7-3192)	SU72131  COMM
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NAVAIDS ACTIVATION CLEARING					
14-0250		CNSE	OTC	READY TO PROCEED WITH NAVAIDS	SU72099
		132	*PAD	ACTIVATION/SELF TEST. REQUEST	SU72150
		OTC	NTD	SAFETY CLEAR ALL PERSONNEL	
		232		8 IN. FROM ORBITER NAVAIDS	
		NTD	*SCC	ANTENNA ON RSS 207 FT LEVEL.	
			*SCC	*PSE	
			NET		
			105		
				NOT PERFORMED	_____
				NOTE	
				PERFORM NEXT STEP IF MONITOR REQUIRED IN FRCS ROOM.	
14-0251	-1D06H30M T-30H30M	OTC	*PAD	REQUEST ANTENNA MONITOR REPORT	
		132		ON STATION IN FRCS ROOM TO	
			*PAD	PCST SUPPORT NAVAIDS ACTIVATION.	
				NOT PERFORMED	_____
14-0252	-1D06H30M T-30H00M	NTD		ATTENTION ON PAD ____ :	
		PA		ALL PERSONNEL STAND 8 IN. CLEAR	
				OF ORBITER NAVAIDS ANTENNA ON	
				RSS 207 FT LEVEL.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NAVAIDS ACTIVATION/SELF TEST					
14-0253	-1D06H00M T-30H00M	*PSE NET 105 *SCC 232 NTD	*SCC NTD OTC	SAFETY WARNING SIGNS IN PLACE. ALL PERSONNEL CLEAR OF NAVAIDS ANTENNAS (OR) MONITOR ON STATION. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH NAVAIDS ACTIVATION.	SU72099
NOT PERFORMED					_____
WARNING					
HAZARDOUS OPERATION - NAVAIDS ACTIVATION FOLLOWS. (HAZ DUE TO RF RADIATION FROM NAVAIDS ANTENNAS).					
14-0254	-1D06H00M T-30H00M	OTC 132	CNSE CDPS	PERFORM ACTIVATION/SELF TEST AND DEACTIVATION OF NAVAIDS COMPONENTS PER S0007VL4 (SEQ 37) ON OIS CH 173 (2 HR).	SU72101
NOT PERFORMED					_____
14-0255	-1D06H00M T-30H00M	JRPS 232 NTD	NTD OTC	OI SNAPSHOT COMPLETE.	SU72097

OPERATION INSTRUCTIONS

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SEQ            TIME            CMD    RESP                            DESCRIPTION                            VERIF.  
-----

NOTE

PERFORM NAVAIDS CIRCUIT BREAKER  
CLOSING IF NAVAIDS ACTIVATION AND  
SELFTTEST (IN S0007 VL4) WILL NOT  
BE PERFORMED DURING THIS RUN OF  
S0007.

NAVAIDS CIRCUIT BREAKER CLOSING  
-----

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				NOT PERFORMED	_____
14-0256		CNSE CDR	PANEL O7 TACAN 1 MODE SW - OFF TACAN 2 MODE SW - OFF TACAN 3 MODE SW - OFF		
14-0257		CNSE CDR	PERFORM FOLLOWING:		
			1. IF GOULD TACAN 1 INSTALLED: PANEL L4 ROW P AC1 TACAN 1 PH C CB - CLOSE	NOT PERFORMED	_____
					SS1
			2. IF COLLINS TACAN 1 INSTALLED: PANEL O14 ROW C MNA TACAN 1 CB - CLOSE	NOT PERFORMED	_____
					SS2
			3. IF GOULD TACAN 2 INSTALLED: PANEL L4 ROW P AC2 TACAN 2 PH C CB - CLOSE	NOT PERFORMED	_____
					SS3

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0257 CON'T			4.	IF COLLINS TACAN 2 INSTALLED: PANEL O15 ROW C MNB TACAN 2 CB - CLOSE  NOT PERFORMED	SS4
			5.	IF GOULD TACAN 3 INSTALLED: PANEL L4 ROW P AC3 TACAN 3 PH C CB - CLOSE  NOT PERFORMED	SS5
			6.	IF COLLINS TACAN 3 INSTALLED: PANEL O16 ROW C MNC TACAN 3 CB - CLOSE  NOT PERFORMED	SS6
14-0258		CNSE CDR		PANEL O8 MLS 1,2,3 SW - OFF	
14-0259		CNSE CDR		PANEL O8 RADAR ALTIMETER 1,2 SW - OFF  RADAR ALTIMETER CB -----	
14-0260		CNSE CDR		PANEL O14 ROW E MNA RADAR ALTM 1 CB - CLOSE (GUARDED) PANEL O15 ROW E MNB RADAR ALTM 2 CB - CLOSE (GUARDED)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0261		CNSE	CDR	PANEL O14 ROW E MNA MLS 1 CB - CLOSE (GUARDED) PANEL O15 ROW E MNB MLS 2 CB - CLOSE (GUARDED) PANEL O16 ROW E MNC MLS 3 CB - CLOSE (GUARDED)	
NOTE					
PERFORM NEXT TWO STEPS FOR OV-102.					
14-0262		CNSE	CDR	PANEL O14 ROW D MN A GPS PREAMPL UC CB - OPEN LC CB - OPEN	
					NOT PERFORMED _____
14-0263		CNSE	CDR	PANEL O16 ROW D MN C GPS PREAMPL UC CB - OPEN LC CB - OPEN	
					NOT PERFORMED _____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT TWO STEPS FOR  
OV-103, OV-104 AND OV-105.

14-0264		CNSE CDR	PANEL O14 ROW D MN A GPS PREAMPL UC CB - OPEN LC CB - CLOSE		NOT PERFORMED _____
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14-0265		CNSE CDR	PANEL O16 ROW D MN C PREAMPL UC CB - CLOSE LC CB - OPEN		NOT PERFORMED _____
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NAVAIDS CIRCUIT BREAKER CLOSING COMPLETE  
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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C & T STATION SETUP

NOTE

PERFORM NEXT STEP IF C & T  
STATION NO. 1 (BAY 1&2) IS  
SUPPORTING LAUNCH COUNTDOWN.

14-0266		OTC	RCRT	PERFORM OMI V3528.001, OPERATION	SU72102
		132		SUPPORT SETUPS 12 AND 25, C & T	
				STATION INITIALIZATION (PAD OPTION).	
				REPORT COMPLETION.	

RT OMI LOG NO. \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT STEP IF C & T  
STATION NO. 2 (BAY 3) IS  
SUPPORTING LAUNCH COUNTDOWN.

14-0267		OTC	RCRT	PERFORM OMI V3528.002,	SU72102
		132		OPERATIONS SUPPORT SETUPS 12 AND 25,	
				C & T STATION INITIALIZATION (PAD	
				OPTION). REPORT COMPLETION.	

RT OMI LOG NO. \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
C & T STATION/MILA COMSEC KEYS LOADED					
14-0268	-1D06H00M -30H00M	OTC 232 NTD STM 111 GYCC PTP	NTD STM GYCC JYVJ	VERIFY ORBITER COMPATIBLE COMSEC KEYS HAVE BEEN LOADED PER SUPPORT PRE-OPERATION SETUP 7 - COMMUNICATION SUPPORT IN C&T STATION 1/2, AS SCHEDULED AND MILA COMSEC BOXES.	COMM SU72134
RECORD C&T STATION LOADED:_____					
14-0269		OTC 132	RCRT	PERFORM COMSEC LOAD VERIF PER OMI V3528.001 OR OMI V3528.002. REPORT COMPLETION.	
RT OMI LOG NO._____					
14-0270		STM 111	JBAC	C-2 VERIFY FOLLOWING ARE PRESSURIZED WITH AIR:  FSS ELEV MACH ROOM RSS ELEV AND HOIST MACH ROOM (M3034)	HVAA
14-0271		*PAD 136	TBC	ALL SEQUENCES OF G6304-LOX/LH2 SYSTEMS PURGE VERIFICATION - COMPLETE.	SU72057
CONTROLLER AND SWITCH TEST ----- COMPLETE -----					
NOTE					
PERFORM NEXT STEP ONLY IF REFERENCED TESTS HAVE BEEN PERFORMED ON THIS RUN.					
14-0272	-1D05H40M T-29H40M	COFC 132	OTC	CONTROLLER AND SWITCH TEST COMPLETE.	SU72092
OMRSD S00FA0.940-1R					
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NWS VERIFICATION FOR COUNTDOWN

NOTE

THE NWS TEST IS REQUIRED ONE TIME PRIOR TO LAUNCH, MAKING THE REPEAT OF THE TEST OPTIONAL FOR A RECYCLE LAUNCH COUNTDOWN. DO NOT PERFORM THIS TEST IF IT HAS BEEN PERFORMED IN THE PREVIOUS COUNTDOWN UNLESS THERE IS CONCERN OVER ACTIVITY IN THE GENERAL LRU AREA OR CONCERN OVER POSSIBLE TREND DATA OR CONCERN OVER TIME ELAPSED SINCE LAST TEST.

NEXT STEP REQUIRES DDU2 POWER AND DL FMT 42.

14-0273	-1D05H40M T-29H40M	OTC 132	COFC	PERFORM NWS VERIFICATION FOR COUNTDOWN PER OMI V1123. (25MIN - CDR).	SU72094
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RT OMI LOG NO. \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_

INSPECTION OF MIDDECK COMPLETE

14-0274	-1D05H30M T-29H30M	*PAD 132	OTC	INSPECTION OF CREW MODULE INTERIOR MIDDECK PER ORBITER PRE-OPERATION SETUP 11 COMPLETE.	SU72109
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
GPS ACTIVATION AND ALMANAC COLLECTION					
-----					
COMPLETE					
-----					

NOTE

PERFORM NEXT STEP IF GPS  
 ACTIVATION AND ALMANAC  
 COLLECTION WERE PERFORMED.

14-0275	-1D05H15M T-29H15M	CNSE 132	OTC NTD 232	GPS ACTIVATION AND ALMANAC COLLECTION COMPLETE.	SU72151
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NOT PERFORMED \_\_\_\_\_

NWS VERIFICATION COMPLETE

NOTE

PERFORM NEXT STEP ONLY IF THE  
 REFERENCED TEST HAS BEEN  
 PERFORMED ON THIS RUN.

14-0276	-1D05H15M T-29H15M	COFC 132	OTC	NWS VERIFICATION FOR COUNTDOWN COMPLETE.	SU72094
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
MLP PRESSURIZATION					
NOTE					
DO NOT PERFORM NEXT FOUR STEPS IF MLP PRESSURIZATION REMAINS IN EFFECT FROM PREVIOUS OPERATIONS.					
14-0277	-1D05H00M T-29H00M	NTD PA		ATTENTION ON MLP:  1. MLP WILL BE PRESSURIZED WITH AIR  2. ALL PERSONNEL ENTERING OR EXITING MLP MUST USE AIR LOCK AT SIDE 2, B LEVEL.  3. UTILIZE CAUTION WHEN ENTERING OR EXITING THRU AIR LOCK.  4. PRESSURIZATION OF MLP MAY ACTIVATE MLP FIRE ALARMS. DISREGARD FIRE ALARM BELLS AND BEACONS. IN CASE OF FIRE DIAL 911.	
NOT PERFORMED _____					
14-0278		NTD 232	JFIR	MLP IS BEING PRESSURIZED. IF FIRE ALARM ACTIVATED, PERFORM THREE RESETS BEFORE DISPATCHING RESCUE.	FIRE
NOT PERFORMED _____					
14-0279		NTD 232 OTC 132	OTC	MLP BEING PRESSURIZED. ALL PERSONNEL ENTERING OR EXITING *SCC MLP MUST EXERCISE CAUTION AND *PAD USE B LEVEL, SIDE 2 AIR LOCKS.	
NOT PERFORMED _____					
14-0280		NTD 232 STM 111	STM JBAC	PRESSURIZE MLP WITH AIR PER OMI M3079.	HVAA SU72135
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
OI PCM'S TO GSE CONTROL -----					
14-0281		OTC 132	CISL	PERFORM OI PCM TO GSE CONTROL PER S0007VL4 (SEQ 38) (5 MIN)	SU72091
14-0282		CISL 132	OTC	OI PCM TO GSE CONTROL COMPLETE.  OMRSD V75AP0.010-1R	
NOTE					
PERFORM NEXT STEP IF PRE-OPERATION SETUP 22 WAS PERFORMED.					
14-0283		COOS 132	OTC	ORBITER PRE-OPERATION SETUP 22 - OME GN2 REG OUT ADJUSTMENT COMPLETE.	SU72098
NOT PERFORMED _____					
ECLSS COOLING RECONFIG COMPLETE -----					
14-0284		CECL 132	OTC	ECLSS COOLING RECONFIG TO SUPPORT INGRESS SWITCH LIST (SEQ 45 S0007VL4) COMPLETE.	SU72116
CONFIG AC BUS SENSORS -----					
NOTE					
DO NOT PERFORM NEXT STEP IF AC BUS SENSORS ARE ALREADY IN MONITOR.					
14-0285	-1D04H45M T-28H45M	OTC 132	PLT	PANEL R1 POWER DISTRIBUTION AC BUS SNSR 1 SW - OFF, 1 SEC THEN MONITOR 2 SW - OFF, 1 SEC THEN MONITOR 3 SW - OFF, 1 SEC THEN MONITOR	SU72171
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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PIC RACK CB CONFIGURE

NOTE

PERFORM NEXT FOUR STEPS  
 IF SHUTTLE PIC RESISTANCE  
 TEST IS TO BE PERFORMED.

14-0286		OTC 132	CEPD	PERFORM PIC RACK CB CONFIGURATION.	SU72096
				NOT PERFORMED	_____

14-0287		CEPD 151	QPDS	RACK 6814 (COMPT 7A) 22D170 (LH2 BURN PIC) CB - ON (CLOSED) RACK 6820 22D260 (LR PIC) CB - ON (CLOSED) RACK 6823 22D280 (LH2 BURN PIC) CB - ON (CLOSED) RACK 6815 22D330 (LR PIC) CB - ON (CLOSED)	T:_____
				NOT PERFORMED	_____

14-0288		OTC 132	CEPD	CLEAR ALL PDS TECHNICIANS FROM MLP AND PTCR.	SU72100
				NOT PERFORMED	_____

14-0289		CEPD 132 OTC 232	OTC	PDS TECHS ARE CLEARING MLP AND PTCR.	
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
OPERATIONS/FACILITY WALKDOWN PART B - ----- LC-39 PERIPHERY WALKDOWN -----					
14-0290		NTD 232 OTC 132	OTC *PAD	PERFORM INTEGRATED OPERATION SUPPORT SETUP 1 - OPERATION/ FACILITY WALKDOWN PART B - LC-39 PERIPHERY WALKDOWN.	SU72120 SU72132
14-0291		NTD 232 OTC 132	NPM STM *PAD	HAVE INTEGRATED WALKDOWN PARTICIPANTS MEET WITH *PAD AT FSS ELEVATORS ON PAD SURFACE UNDER DIRECTION OF PAD LEADER IN 30 MINUTES.	FIRE
NASA OPS (NPM) FACILITY OPS PAD LEADER					
NOTE					
DO NOT PERFORM NEXT STEP IF PART A AND B WALKDOWNS WILL BE PERFORMED AT THE SAME TIME.					
14-0292		NTD PA		ATTENTION ON PAD___:  ALL PERSONNEL SUPPORTING LC-39 PERIPHERY WALKDOWN MEET WITH *PAD AT FSS ELEVATORS ON PAD SURFACE IN 30 MINUTES.	
NOT PERFORMED					_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- COMPLETION OF SECOND FCE STOWAGE -----					
NOTE					
DO NOT PERFORM NEXT STEP IF FCE STOWAGE COMPLETED EARLIER.					
14-0293	-1D04H00M T-28H00M	OOCs 132	OTC	STOWAGE AFTER MIDDECK PLATFORM REMOVAL COMPLETE.	SU72115
NOT PERFORMED _____					
GTOE HEADSET DELIVERY AND INSTL -----					
NOTE					
PERFORM NEXT STEP AFTER FLT CREW SYSTEMS HAS INSTALLED CABLES AND HIU'S PER V5097.003.					
14-0294	-1D04H00M T-28H00M	OTC 132	CDR	PERFORM ORBITER OPERATION SUPPORT SETUP 11 - GTOE HEADSET DELIVERY AND INSTALLATION. (30 MIN)	SU72087
MLP PRESSURIZATION COMPLETE -----					
NOTE					
DO NOT PERFORM NEXT THREE STEPS IF MLP PREVIOUSLY PRESSURIZED.					
14-0295	-1D04H00M T-28H00M	JBAC 111 STM 232	STM NTD	MLP PRESSURIZED FOR PRSD CRYO LOAD AND "PRESSURIZED" SIGNS POSTED.	HVAA SU72135
NOT PERFORMED _____					
14-0296		NTD	JFIR	MLP PRESSURIZATION COMPLETE. ACKNOWLEDGE MLP FIRE ALARM ANNUNCIATIONS AS VALID.	FIRE
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0297		NTD PA		ATTENTION ON MLP PAD ____:  MLP PRESSURIZATION COMPLETE. RESPOND TO ALL MLP FIRE ALARM BELLS AND BEACONS.  NOT PERFORMED	
14-0298		NTD 232 LPS	LPS C1MC	VERIFY (AWP05 PGB PAD A OR AWP06 PGB PAD B) HIMS 5982, 5987, 6377 AND 6378 DISPLAYED IN MIXED MODE.  SET UP BADGE BOARD FOR HAZ ----- BADGES (PRSD CRYO LOAD) -----	
NOTE					
NEXT STEP WILL BE SCHEDULED REAL TIME SO THAT THE BADGE BOARD IS SET UP PRIOR TO SHIFT CHANGE.					
14-0299		NTD 232 OTC 132 *PAD NET 110	OTC *PAD *ACM	SET UP BADGE BOARD AT PAD ____ GATE FOR PRSD TANKER PLACEMENT, ECS AIR TO GN2 CHANGEOVER AND ORBITER PRSD LOADING.	SU72111

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0300		*ACM NET 110		FOLLOWING PERSONNEL REQUIRED TO SUPPORT AIR TO GN2 CHANGEOVER AND CRYO LOAD.	

ESSENTIAL PERSONNEL (HAZ BADGE)  
 -----  
 (TANKER PLACEMENT/CRYO LOAD)  
 -----

NOTE

MANLOADED CHANGEOUT CREWS  
 WILL BE STAGED IN SCAPE  
 TRAILERS.

	SFOC	NASA	JBOSC
	----	----	-----
ENGR	2	1	2
TECH	6		4
QC	4		2
SAF	1	1	

ESSENTIAL PERSONNEL (HAZ BADGE)  
 -----  
 (AIR TO GN2 CHANGEOVER)  
 -----

	SFOC	NASA
	----	----
ENGR	1	1
ECS TECH	4	
QC		
SAFETY	1	1

ESSENTIAL PERSONNEL (HAZ BADGE)  
 -----  
 (PTCR/ECS ROOM PRESS.)  
 -----

	GSS	NASA	SFOC
	---	----	-----
SAFETY		1	1
SUPR/ENG	2		
TECH	2		
QUAL	1		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0300				ESSENTIAL PERSONNEL (HAZ BADGE)	
CON'T				(CREW MODULE & WHITE ROOM)	
				SFOC	
				----	
			SCO	2	
			OIC	1	
				NAVAIDS ACT/SELF TEST - COMPLETE	

NOTE

PERFORM NEXT FOUR STEPS IF  
 NAVAIDS SELF TEST WAS PERFORMED.

THE FOLLOWING REQUIREMENTS CAN  
 BE SATISFIED IN S0007VL4 IF  
 THEY HAVE NOT ALREADY BEEN  
 SATISFIED DURING THE OPF FLOW.

14-0301	-1D04H00M T-28H00M	CNSE 132	OTC *PAD	NAVAIDS ACTIVATION/SELF TEST AND DEACTIVATION COMPLETE. CHECK REQUIREMENT(S) PERFORMED IN S0007VL4 AND N/A REQUIREMENT NOT PERFORMED. (SEQ 37 S0007VL4)	SU72101
				OMRSD V74AB0.102-1R (BLANKING AT PAD)	
				OMRSD V74AB0.190-1R____(TAC GROUND I/F CHECK)	
				OMRSD V74AB0.020-1R____(TACAN SELF TEST)	
				OMRSD V74AC0.011-1R____(RALT PWR ON VERIF)	
				OMRSD V74AC0.020-1R____(RALT SELF TEST)	
				OMRSD V74AD0.020-1R____(MLS SELF TEST)	

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
HAZARDOUS OPERATION - NAVAIDS RADIATION COMPLETE.					
14-0302		OTC 232 NTD *SCC *SCC NET 105	NTD *SCC *PSE	NAVAIDS DEACTIVATION COMPLETE. REQUEST SAFETY OPEN RSS 207 FT LEVEL FOR CONTROLLED WORK.	SU72150
				NOT PERFORMED	_____
14-0303		NET 105 *SCC 232 NTD OTC OTC 132	*PSE *SCC NTD *PAD CNSE	RSS 207 FT LEVEL OPEN FOR CONTROLLED WORK.	
				NOT PERFORMED	_____
14-0304		NTD 232 STM 111 GYCC 117	STM GYCC FTAC	TACAN GROUND STATION SUPPORT MAY BE RELEASED AT THIS TIME.	COMM
				NOT PERFORMED	_____
CONFIGURE CCF-39 GN2 PRODUCTION ----- PLANT FOR LPGN2 -----					
14-0305	-1D04H00M T-28H00M	STM 111 JSTC 114	JSTC GSPN	NOTIFY CCF-39 GN2 PRODUCTION PLANT LPGN2 HIGH FLOW RATE WILL BE REQUIRED IN 4 HOURS FOR AIR TO GN2 CHANGEOVER.	PNU SU72133

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CANTILEVER/JIB HOIST REMOVAL					

NOTE

PERFORM NEXT TWO STEPS IF  
 CANTILEVER/JIB HOISTS INSTALLED.

14-0306		JBWC 111 STM NTD 232	STM NTD TBC	INSTALLATION OF SS SPOOL PIECES COMPLETE. CANTILEVER/JIB HOIST MAY BE REMOVED AT THIS TIME.	WSSA
					NOT PERFORMED

14-0307	1D04H00M T-28H00M	TBC 136 *PAD	*PAD PBOL	REMOVE CANTILEVER/JIB HOIST ASSEMBLIES PER OMI B5150.	SU72122
					NOT PERFORMED

NOTE

DO NOT PERFORM NEXT STEP  
 IF PERFORMED BY ANOTHER  
 DOCUMENT.

14-0308		STM NET 104	QBSE	INSTALL SRB HYDRAULIC AND PNEUMATIC DECK PLATES. VACUUM/BRUSH CLEAN DECK WELLS AND SEALS BEFORE SETTING COVER PLATES.	STSA
					T: _____
					NOT PERFORMED

14-0309		PBOL *PAD 136	*PAD TBC	SRB PRE-OPERATION SETUP 3 - QUALITY WALKDOWN COMPLETE.	SU72123
VERIFY FACILITITES PRESSURIZED					

14-0310	-1D04H00M T-28H00M	*SCC 232 NTD	NTD STM	VERIFY MLP, FSS - EMR, RSS - HMR AND EMR ARE PRESSURIZED WITH AIR.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0311		*SCC 232 NTD OTC PPVM 132	NTD	VERIFY PCR PRESSURIZED WITH AIR	
14-0312		STM 232 NTD	NTD	MLP, FSS-EMR, RSS-HMR AND EMR ARE PRESSURIZED WITH AIR. *SCC	
14-0313		OTC 232 NTD	NTD	PCR PRESSURIZED WITH AIR. *SCC	
SECURE PAD SURFACE OIC MONITOR ----- SHACK -----					
14-0314	-1D04H00M T-28H00M	NTD 232 OTC 132	OTC	AT OIC MONITOR SHACK ON PAD SURFACE DISCONNECT POWER PLUG FROM FACILITY POWER AND TAG PLUG 'DO NOT USE'. REPORT COMPLETION.	SU72103
14-0315		NTD 232 STM 111 GYCC 117	STM	LOCKOUT PAD SURFACE OIC MONITOR SHACK ADMIN TELEPHONE IN PTCR RM 203. (PAD A - 861-1151, SW 5; PAD B - 861-1152, SW 9) REPORT COMPLETION.	COMM SU72142
SERVICE PAD AIR COMPRESSORS -----					
14-0316	-1D04H00M T-28H00M	STM 111	JBPN	SERVICE PAD AIR COMPRESSORS PER OMI M3022 (1 HR).	PNSA SU72139
MPS FINAL PREPS COMPLETE -----					
14-0317	-1D04H00M T-28H00M	CMPS 132	OTC	MPS FINAL PREPS PER V9018.001 COMPLETE.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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HOLD TIME REMAINING CLOCK MANAGEMENT

14-0318	-1D04H00M T-28H00M	NTD 232 STM 111	STM JTCR	PROGRAM "HOLD TIME REMAINING CLOCK" (TIMER #5) FOR FOLLOWING TIMES:  1. T-27 HR HOLD _____ HRS _____ MIN _____ SEC 2. T-19 HR HOLD _____ HRS _____ MIN _____ SEC 3. T-11 HR HOLD _____ HRS _____ MIN _____ SEC 4. T-6 HR HOLD _____ HRS _____ MIN _____ SEC	
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NOTE

DATA FOR T-3 HR HOLD WILL BE  
 TWO HRS NOMINAL.

5.	T-3	HR HOLD	_____ HRS _____ MIN _____ SEC	
				NOT PERFORMED _____
				SS5
6.	T-20	MIN HOLD	_____ HRS _____ MIN _____ SEC	
7.	T-9	MIN HOLD	_____ HRS _____ MIN _____ SEC	

CLOCK SHOULD STOP AT ZERO FOR T-27,  
 T-19, T-11, T-6, T-3 HR HOLDS. CLOCK  
 SHOULD CONTINUE PLUS COUNT FOR T-20  
 AND T-9 MIN HOLDS. NTD WILL NOTIFY  
 JTCR ON OIS 178 FOR ADJUSTMENTS FROM  
 T-9 MIN HOLD IF REQUIRED.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0319		NTD 232 STM 111	STM JBEP	IF AFT CLOSED FOR FLIGHT AND IF NOT ALREADY PERFORMED, CONFIGURE PAD ORBITER AFT OXYGEN ANALYZER FOR LAUNCH PER OMI M3088. REPORT COMPLETION.	PWRA
				NOT PERFORMED	
14-0320		NTD 232 STM 111	STM JBEP	PERFORM INSPECTION OF WR/CREW CABIN AND ORBITER AFT ODMS ENCLOSURES. VERIFY ENCLOSURE DOORS SECURELY CLOSED FOR LAUNCH.	PWRA
				OPERATIONS/SAFETY/FACILITY WALKDOWN ----- (PART A) COMPLETE -----	
14-0321	-1D04H00M T-28HOOM	*PAD 132 OTC 232	OTC NTD STM	INTEGRATED OPERATION SUPPORT SETUP 1 (PART A) - PRSD LOAD SAFETY/FACILITY/FIRE WALKDOWN COMPLETE. *SCC	SU72118
14-0322		*PAD 132 OTC 232 NTD NTD NET 105	OTC NTD STM *SCC *PSE	AFT CLOSEOUT COMPLETE. READY TO PROCEED WITH OIC MONITOR SHACK REMOVAL.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				135 FT LEVEL OIC MONITOR SHACK ----- REMOVAL -----	
14-0323		STM 111 GYCC 117	GYCC I/F JY CJ ON	DISCONNECT TELEPHONE AND OIS-D CABLES AT OIC MONITOR SHACK 135 FT LEVEL RSS. CAP FSS END AND STORE CABLES IN MONITOR SHACK. REPORT COMPLETION.	COMM SU72140
14-0324		NTD 232 OTC 132	OTC *PAD POWER	AT OIC MONITOR SHACK OF 130/135 FT LEVEL DISCONNECT PLUG FROM FACILITY AND STOW CABLE INSIDE OIC SHACK. REPORT COMPLETION.	
14-0325	-1D04H00M T-28H00M	STM NET 104	QBSE	REMOVE STRUCTURE TIE-DOWNS FROM OIC MONITOR SHACK 135 FT LEVEL RSS AND CLEAR NONESSENTIAL PERSONNEL 25 FT AROUND OIC MONITOR SHACK AT 135 FT LEVEL RSS AND 50 FT AT PAD SURFACE.  ESSENTIAL PERSONNEL -----  CRANE CREW	STSA
					5

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
PRSD ORB GH2 T-0 REAC PRESSURIZATION					
14-0326		CFCP 132 OTC 232	OTC NTD	READY TO PROCEED WITH ORB GH2 T-0 REAC PRESSURIZATION. REQUEST ALL PERSONNEL CLEAR FROM FOLLOWING AREAS AND SAFETY CONCURRENCE TO PROCEED.  1. LH2 TSM  2. ORB AFT & MIDBODY	SU72113 SU72152
14-0327		NTD 232 *SCC NET 105	*SCC *PSE	REQUEST SFOC SAFETY CLEAR ALL PERSONNEL FROM FOLLOWING AREAS FOR PRSD ORB GH2 T-0 REAC PRESSURIZATION. REQUEST SAFETY CONCURRENCE TO PROCEED.  1. LH2 TSM  2. ORB AFT & MIDBODY	
14-0328		NTD PA		ATTENTION ON PAD____:  ALL PERSONNEL CLEAR LH2 TSM, ORB AFT AND MIDBODY FOR PRSD ORB GH2 T-0 SYSTEM REACTANT PRESSURIZATION.	
14-0329		*PSE NET 105 *SCC 232 NTD OTC	*SCC NTD	ALL PERSONNEL HAVE BEEN CLEARED FROM CONTROL AREA. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH ORB GH2 T-0 SYS REAC PRESSURIZATION.	
WARNING					
NEXT STEP HAZARDOUS DUE TO GH2 FLOW IN ORB PRSD T-0 SYSTEM.					
14-0330		OTC 132	CFCP	ALL PERSONNEL HAVE BEEN CLEARED FROM CONTROL AREA. YOU HAVE SAFETY CONCURRENCE TO PROCEED. PERFORM ORB GH2 T-0 SYS REAC PRESSURIZATION PER V1040.002, SEQ_____.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
GTOE H/S INSTL COMPLETE -----					
14-0331	-1D03H30M T-27H30M	CDR 132	OTC	ORBITER OPERATION SUPPORT SETUP 11 - GTOE HEADSET DELIVERY AND INSTALLATION COMPLETE.	SU72087
NOTE					
IN NEXT THREE STEPS,DOWNLIST FORMAT WILL BE 60 IF REQUIRED FOR PAYLOAD SUPPORT AND 44 FOR ALL OTHERS (REF OPERATIONS SUPPORT SETUP 24).					
14-0332	T-27H30M	NTD 232 OTC 132 TBC 136	OTC TBC LPS ALL ALL	DPS SWITCHING TO G9 REDUNDANT SET DOWNLIST ____ (44 OR 60). DURING RS FORMATION DOWNLIST DATA AND LDB POLLING WILL BE INVALID FOR APPROXIMATELY 10 MINUTES.	SU72084
14-0333		NTD 232 OTC 132	OTC CDPS CDR	FORM G9/RS DL FMT ____ (44 OR 60) PER S0007VL4 (SEQ 49 ITEM 13). (30 MIN)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				DPS IN G9 RS -----	
14-0334		CDPS 132 OTC 232 NTD TBC TBC 136	OTC NTD TBC ALL	TRANSITION TO G9/RS DL FMT ____ (44 OR 60) COMPLETE. (SEQ 49 S0007VL4).  OMRSD V72CA0.050-A	SU72084

NOTE

REFERENCE S0007 VL1 ORBITER  
 OPERATION SUPPORT SETUP 24 FOR  
 DETERMINATION OF LAUNCH FORMAT.

LAUNCH FORMAT ACTIVATION STEPS  
 (IF NOT 129 OR IF NOT ALREADY  
 ACTIVE) ARE AVAILABLE POST TFL  
 LOAD AT T-39H55M AND AT T-11 HR  
 HOLD.

PERFORM NEXT STEP FOR EDO  
 MISSIONS.

14-0335		OTC 132	CDPS	VERIFY LAUNCH OI FORMAT ACTIVE.	
				NOT PERFORMED _____	
				OPERATIONS/FACILITY/WALKDOWN PART B - ----- LC-39 PERIPHERY WALKDOWN COMPLETE -----	

14-0336		*PAD 132 OTC 232	OTC NTD STM *SCC	INTEGRATED OPERATION SUPPORT SETUP 1 (PART B) - OPERATIONS/ FACILITY WALKDOWN COMPLETE.	SU72120 SU72132
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
SET CD CLOCK FOR HOLD -----					
14-0337		NTD 232	CGLS	HOLD CDC AT T-27 HR 00 MIN 00 SEC.	
14-0338			CGLS	HOME CMD KEY - PRESS CDTH -01:0300/00 XMIT CMD KEY - PRESS	
14-0339		CGLS 232	NTD	CDC WILL HOLD AT T-27 HR 00 MIN 00 SEC.	
CLOSE PAYLOAD BAY DOORS COMPLETE -----					
NOTE					
DO NOT PERFORM NEXT STEP IF PAYLOAD BAY DOORS CLOSED FOR FLIGHT.					
14-0340	-1D03H15M T-27H15M	OTC 232	NTD	PAYLOAD BAY DOOR CLOSURE COMPLETE.	
NOT PERFORMED _____					
WINDOW COVER REMOVAL, CLEANING ----- AND INSPECTION COMPLETE -----					
14-0341		*PAD 132	OTC	ORBITER PRE-OPERATION SETUP INSTRUCTION 13 - WINDOW COVER REMOVAL, CLEANING AND INSPECTION COMPLETE.	SU72089
*PAD _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PRIOR TO PERFORMANCE OF  
 NEXT STEP, NTD CONTACT  
 PAYLOAD OPS TO ENSURE THAT  
 PCR PHONES ARE NOT IN USE  
 FOR SUPPORT OF CRITICAL  
 PAYLOAD OPERATIONS.

SECURE TELEPHONES

14-0342	-1D03H15M T-27H15M	NTD 232 STM 111 GYCC 117 PTP	STM	LOCK OUT PAD A/B PCR TELEPHONES PER OMI D3008. REPORT COMPLETION.	COMM SU72141
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QW: \_\_\_\_\_

14-0343		CHGD 136 TBC	TBC	ET PRE-OPERATION SETUP 5 - HWS REMOTE LEAK DETECTOR SYSTEM PRETEST VERIFICATION COMPLETE.	
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HGDS FINAL SETUPS COMPLETE

NOTE

DO NOT PERFORM NEXT STEP  
 IF HGDS SETUPS COMPLETED  
 PRIOR TO S0007.

14-0344		CHGD 132 OTC 232	OTC NTD	HGDS FINAL SETUPS COMPLETE. READY TO SUPPORT PRSD LOADING.	SU72574
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NOT PERFORMED \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
6292 CABINET PURGE INITIATION -----					
14-0345		OTC 132	*PAD RSS	OMBUU ROOF-6292 CABINET	
		*PAD	PETG 1.	GN2 PURGE VALVE A505975 - OPEN (CCW)	
		CHGD		2. VERIFY AUDIBLE PURGE.	T: _____
PRSD CRYO PREPS COMPLETE -----					
14-0346	-1D03H00M T-27H00M	CFCP 132	OTC	ORBITER PRSD CRYO FLOW PREPS ARE COMPLETE. READY TO CLEAR ALL	
		OTC 232	NTD	NONESSENTIAL PERSONNEL FROM PAD FOR LO2/LH2 LOADING OPERATIONS.	
		NTD	STM		
RLDS 6292 ACTIVATION -----					
14-0347	-1D03H00M T-27H00M	CHGD 132	OTC	VERIFY OMBUU CAVITY 750 PSI GHE PURGE ACTIVE.	SU72108
		OTC	CFCP		
14-0348		CHGD		CURSOR CNTL (SAW01/HWW21) MFC POWER - ON PUMP 1 - ON PUMP 3 - ON XMIT CURSOR KEY - PRESS	
NOTE					
PERFORM NEXT TWO STEPS IF PRSD PREPS TO BE SPLIT UP DUE TO OTHER SUPPORT REQUIREMENTS THAT WILL INHIBIT COMPLETION OF PREPS PRIOR TO T-27 HRS AND HOLDING.					
14-0349		CFCP 132	OTC	PRSD SYSTEM IN STABLE CONFIGURATION AT THIS TIME AND	SU72163
		OTC	CHGD	CFCP WILL MONITOR FCSS FIRE AND LEAK DETECTORS.	
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0350		CFCP 132 OTC	OTC CHGD	VERIFY CHGD ON STATION TO SUPPORT COMPLETION OF PRSD PREPS.  NOT PERFORMED	
14-0351		CFCP 132 OTC	OTC CHGD	FC/PRSD CONSOLE WILL MONITOR FCSS FIRE AND LEAK DETECTORS UNTIL PRSD TANKER PLACEMENT.	
14-0352		STM 111	JBPN	ORBITER PRSD CRYO FLOW PREPS COMPLETE. MONITOR GO2/GH2 SYSTEMS FOR DECAY.  LO2 VEHICLE LOAD PRE-OPERATION ----- SETUPS COMPLETE -----	PNSA
14-0353	-1D03H00M T-27H00M	PLOX 136 TBC	TBC NTD	PRE-OPERATION SETUPS OF LO2 SYSTEM PREPS FOR VEHICLE LOAD PER G3151 COMPLETE.  PAD AIR COMPRESSOR SERVICING COMPLETE -----	SU72055
14-0354	-1D03H00M T-27H00M	JBPN 111	STM	PAD AIR COMPRESSORS HAVE BEEN SERVICED.	PNSA SU72139

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
HOLD COUNTDOWN CLOCK					
14-0355	T-27H00M (HOLDING)	NTD PA 232	OTC TBC PTC *MIL STM *SCC LPS	CDC HOLDING AT T-27 HOURS. DURATION OF HOLD WILL BE _____ HOURS _____ MINUTES.	SU72162

NOTE

PERFORM NEXT THREE STEPS  
 AFTER CDC IS HOLDING.

14-0356		NTD 232	CGLS	SET CDC TO START COUNTING AT _____ HR _____ MIN _____ SEC GMT.	
14-0357			CGLS	HOME CMD KEY - PRESS CDTC _____/____.000 HHMM SS XMIT CMD KEY - PRESS	
14-0358		CGLS 232	NTD	CDC WILL START COUNTING AT _____ HR _____ MIN _____ SEC GMT.	

CREW COMPT INTERIOR (FLT DECK)  
 -----  
 INSPECTION AND CLEANING COMPLETE  
 -----

14-0359	T-27H00M (HOLDING)	*PAD 132	OTC	INSPECTION OF CREW MODULE INTERIOR FLIGHT DECK PER ORBITER PRE-OPERATION SETUP 11 COMPLETE.	SU72117
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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INTERCENTER VOICE CHECKS

NOTE

NEXT TWO STEPS REQUIRE ACCESS  
 TO CONTROL ROOM CONSOLES.

PERFORM NEXT TWO STEPS AT 0800 E  
 ON DAY SPECIFIED IN SCHEDULING  
 MESSAGE.

14-0360	T-27H00M (HOLDING)	NTD 232	STM	PERFORM INTER-CENTER END-TO-END VOICE CHECKS PER OMI D3012 FOR	COMM SU72201
		STM	GYCC	FOLLOWING LOCATIONS (8 HOURS):	
		111	*MIL		
		GYCC	GYCJ	1. CCAS (TONE AND VOICE)	
		117		2. MILA	
				3. JSC	
				4. MSFC-HOSC	
				5. DFRC	
				6. TAL SITES (TONE AND VOICE)	
				7. SLF OIS-Q	
				8. GSFC	
14-0361		NTD 232	STM	PERFORM INTER-CENTER END-TO-END VOICE CHECKS PER OMI D3012 FOR	COMM
		STM	GYCC	KSC/ROCC POINT-TO-POINTS. (8 HOURS)	
		111			
		GYCC	JYCJ		
		117			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0362		OTC 132	*PAD	PERFORM INSPECTION OF MLP VALVE SKID AND VERIFY THE FOLLOWING:  1. THREADED RODS HOLDING THE DRESSER COUPLER ON THE LOX MAIN FILL VALVE (A86461), MLP SIDE 1, ARE TIGHT ENOUGH NOT TO BE MOVED BY HAND.  2. LOX REPLENISH VALVE (A86460), MLP SIDE 1, HAS PURGE TUBE DIRECTED AT VALVE STEM.  3. TAPE USED DURING SYSTEM LEAK CHECKS REMOVED FROM ALL FLANGES ON SIDES 1, 2 AND 4.  MLP SUPERVISOR SIG _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
126.65 MHZ WX CKT COMM CHECKS -----					
14-0363		STM 111	GYCC	CALL SLF CONTROL TOWER (7-2100) AND VERIFY 126.65 MHZ WX CIRCUIT IS CLEAR OF TRAFFIC AND AVAILABLE FOR COMM CHECKS. ADVISE SLF TOWER WHEN COMM CHECKS COMPLETE.	COMM
14-0364	T-27H00M (HOLDING)	GYCC 117	GYCJ	PERFORM COMM CHECKS FOR VHF WEATHER RADIO CIRCUIT TO ICOM-B. AT TECH CONTROL PLACE 3W SW33 IN MSN 1/3. ON LOCAL CONTROL PNL RM131 CONS 1707/1709 ACTIVATE I/C-B. PERFORM VOICE TRANSMISSION ON VHF WX CH 9900 AND VERIFY RX ON OIS CH 215. AFTER COMPLETION, DEACTIVATE PNL AND PLACE 3W SW33 IN POSITION 'I'. REPORT COMPLETION.	COMM
14-0365		GYCC 117	GYCJ JYCJ	COMM CHECK VHF WEATHER (2RAC534) AND WX BACK-UP (2RAC1534) CIRCUITS TO FOLLOWING LOCATIONS:  1. GYCJ TO JSC.  2. GYCJ TO SLF CONTROL TOWER.  3. GYCJ TO LCC 1/3 CONSOLES AB8, AA5 AND AA6	COMM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
MOVE TAIR TRAILER TO PAD GATE -----					
14-0366		OTC 232 NTD	NTD STM	PERFORM SUPPORT OPERATION SUPPORT SETUP 1 TO MOVE TAIR TRAILER NO. _____ FROM ____ TO ____. (1 HOUR)	SU72137 HESA
14-0367		STM 232 NTD	NTD OTC	OPERATION SUPPORT SETUP 1 TAIR TRAILER NO. _____ MOVE FROM _____ TO _____ COMPLETE.	
CONFIG CREW COMPARTMENT ----- AND WHITE ROOM -----					
14-0368	T-27H00M (HOLDING)	NTD		VERIFY DIGITAL O2 METER IN WHITE ROOM CONFIGURED FOR VIEWING ON OTV.	SU72175
NOTE					
DO NOT PERFORM NEXT TWO STEPS IF FIXED O2 SYSTEM IN CREW COMPARTMENT IS VERIFIED INSTALLED AND OPERATIONAL.					
14-0369		NTD 232 *SCC NET 105	*SCC *PSE	INSTALL PORTABLE O2 METER IN WHITE ROOM AND VERIFY O2 METER READABLE BY OTC.	NOT PERFORMED _____
14-0370		*PSE NET 105 *SCC 232	*SCC NTD	PORTABLE O2 METER HAS BEEN INSTALLED IN WHITE ROOM AND VERIFIED READABLE BY OTC.	NOT PERFORMED _____
14-0371		OTC 138	JYVR	START VIDEO RECORDING OF OTV CAMERA 005/105. (SEE OTC FIG 4)	COMM SU72199

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0372		OTC 132	OMTO	WHITE ROOM CEILING:  1. VERIFY CHAMBER DAMPER A122818 IN MARKED POSITION.  2. VERIFY ORBITER ECS DAMPER A122817 IS OPEN AND AIR IS FLOWING THRU ECS DUCT INTO CREW COMPARTMENT.	
					T: _____
14-0373		CECL 132	OTC	PARTIAL PRESSURE OF OXYGEN IN CREW COMPARTMENT SATISFACTORY.  FIRE COMBAT/EMS PIC TEST PREPS -----	
				NOTE  PERFORM NEXT STEP IF PIC RESISTANCE TEST WILL BE PERFORMED OR FIRE COMBAT/ EMS NOT ALREADY SUPPORTING.	
14-0374		NTD 232 STM 111 JSTC 114	STM JSTC JFIR	FIRE COMBAT REQUIRED AT FIRE STATION NO. 6 IN 30 MINUTES TO SUPPORT PIC TEST. EMS WILL MAINTAIN IN STATION SUPPORT AT FIRE STATION NO. 2.	FIRE SU72202
				NOT PERFORMED _____  ECS CONTROL STA TRANSFER -----	
14-0375		OTC 132	CPVD	PERFORM "CONTROL STATION TRANSFER PAD TO FIRING ROOM" PER OMI V1122.	SU72179
				ECS CONTROL STATION TRANSFER COMPLETE -----	
14-0376	T-27H00M (HOLDING)	CPVD 132	OTC	ECS CONTROL STATION TRANSFER - PAD TO FIRING ROOM COMPLETE.	SU72179



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
CONFIGURE PNL MA73C FOR VENT DR OPS					
-----					
14-0377				CPVD PFP PNL (VAM09A) STATUS VENT DOOR COMMAND FD'S PFPK-4 - PRESS ONCE VERIFY ALL COMMANDS OFF	
14-0378		OTC	CDR	PANEL O6 STAR TRACKER DOOR CONTROL SYS 1 SW - OFF (VERIFY) SYS 2 SW - OFF (VERIFY) POWER -Y SW - OFF (VERIFY) -Z SW - OFF (VERIFY)	
14-0379		OTC	CDR	PANEL C3 AIR DATA PROBE STOW LEFT SW - INHIBIT (VERIFY) RIGHT SW - INHIBIT (VERIFY) AIR DATA PROBE LEFT SW - STOW (VERIFY) RIGHT SW - STOW (VERIFY)	
14-0380		OTC	CDR	PANEL R13L PL BAY MECH PWR SYS 1 SW - OFF (VERIFY) SYS 2 SW - OFF (VERIFY) PL BAY DOOR SW - STOP (VERIFY) PL BAY DOOR ENABLE/DISABLE SYS 1 SW - DISABLE (VERIFY) SYS 2 SW - DISABLE (VERIFY)	
14-0381		OTC	CDR	PANEL R2 ET UMB DOOR MODE SW - GPC (VERIFY)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0382		OTC	CDR	PANEL MA73C ROW A MCA LOGIC MN A FWD 1 SW - ON (VERIFY) MID 1 SW - ON (VERIFY)  MN B FWD 2 SW - ON (VERIFY) MID 1 SW - ON (VERIFY) MID 2 SW - ON (VERIFY)  MN C FWD 3 SW - ON (VERIFY) MID 2 SW - ON (VERIFY)  ROW B MCA LOGIC MN A AFT 1 SW - ON (VERIFY) MID 3 SW - ON (VERIFY)  MN B AFT 2 SW - ON (VERIFY) MID 3 SW - ON (VERIFY) MID 4 SW - ON (VERIFY)  MN C AFT 3 SW - ON (VERIFY) MID 4 SW - ON (VERIFY)  ROW C MCA POWER AC1 3 PH FWD 1 CB - CLOSE MID 1 CB - CLOSE  MCA POWER AC2 3 PH FWD 2 CB - CLOSE MID 1 CB - CLOSE MID 2 CB - CLOSE  MCA POWER AC3 3 PH FWD 3 CB - CLOSE MID 2 CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0382				ROW D	
CON'T				MCA POWER AC1 3 PH	
				AFT 1 CB - CLOSE	
				MID 3 CB - CLOSE	
				MCA POWER AC2 3 PH	
				AFT 2 CB - CLOSE	
				MID 3 CB - CLOSE	
				MID 4 CB - CLOSE	
				MCA POWER AC3 3 PH	
				AFT 3 CB - CLOSE	
				MID 4 CB - CLOSE	
14-0383		OTC 132	CPVD	PNL MA73C CONFIGURED FOR PRSD LOAD VENT DOOR OPERATIONS.	SU72169
				NOTE	
				DO NOT PERFORM VENT DOOR RECONFIGURATION (CONTINGENCY) IF VENT DOORS IN NORMAL PURGE CONFIGURATION.	
				VENT DOOR RECONFIGURATION (CONTINGENCY)	
				-----	
				NOT PERFORMED	_____
14-0384		CPVD 132	OTC	ORBITER VENT DOORS WILL BE POSITIONED TO NORMAL PURGE	SU72177
		OTC	*PAD	POSITION.	
14-0385	T-27H00M (HOLDING)	CPVD 132	OTC	READY TO POSITION ALL VENT DOORS TO NORMAL PURGE POSITION.	
		OTC 232	NTD		
14-0386		NTD 232	OTC	PROCEED WITH VENT DOOR RECONFIGURATION TO NORMAL PURGE	
		OTC 132	CPVD	POSITION.	
14-0387			CPVD	CURSOR CNTL (VAM09A) COMMAND VENT DOOR/S TO REQUIRED POSITION. VERIFY ALL VENT DOORS IN NORMAL PURGE POSITION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0388		CPVD 132 OTC 232	OTC NTD	ORBITER VENT DOORS POSITIONED TO NORMAL PURGE POSITION.  VENT DOOR RECONFIGURATION (CONTINGENCY) ----- COMPLETE -----  SRB APU BITE TEST AND APU FUEL ----- PUMP BEARING SEAL SOAK -----	SU72177
14-0389		NTD 232 OTC 132	OTC CDPS	VERIFY VEHICLE IS IN REDUNDANT SET.	
14-0390	T-27H00M (HOLDING)	NTD 232 TBC 136	TBC CPWR	VEHICLE IN REDUNDANT SET (DPS). PROCEED WITH SRB POWER UP PER OMI S9001VL1. (OPT A)  RT OMI LOG NO. _____	SU72180
14-0391		CPWR 136 TBC 232 NTD	TBC NTD OTC	SRB POWER ACTIVATION COMPLETE.	SU72180
14-0392		OTC 132	CEPD	PERFORM MEC PREFLT BITE EVALUATION.	
14-0393			CEPD	PERFORM CDS QLDB RETRIEVAL ON FD <MEC1><MEC2>  VERIFY NO MEC FAILURES	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
SRB HPU BITE TEST -----					
14-0394		CBHY 136 TBC 232 NTD *SCC *SCC NET 105	TBC NTD *SCC *PSE	REQUEST SFOC SAFETY ESTABLISH 25 FT RADIUS CLEAR AROUND LEFT AND RIGHT SRB HPU EXHAUST DUCTS FOR SRB HPU BITE TEST. REQUEST CONCURRENCE TO PROCEED.	SU72214
14-0395		NTD PA		ATTENTION ON PAD _____:  SRB HPU BITE TEST WILL BE PERFORMED. ALL PERSONNEL CLEAR 25 FT RADIUS OF LEFT AND RIGHT HPU EXHAUST DUCTS.	
14-0396		*PSE NET 105 *SCC 232	*SCC NTD	CONTROL AREA CLEARED AND YOU HAVE SAFETY CONCURRENCE TO PROCEED.	SU72214
WARNING					
HAZARDOUS STEPS FOLLOW DUE TO SRB HPU BITE TEST.					
14-0397		NTD 232 TBC 136	TBC CBHY	PERFORM SRB HPU BITE TEST AND HPU PUMP BEARING SEAL SOAK PER SRB OPERATION SUPPORT SETUP 3.	SU72182

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
C/W STATUS AND CLEAR MEMORY					
14-0398	T-27H00M (HOLDING)	OTC 132	CISL CDR	PERFORM C/W STATUS AND MEMORY CLEAR ON OIS CH 145. (20 MIN)	SU72173
14-0399		CISL	MS1	PANEL R13U CAUTION/WARNING PARAM STATUS SW - INHIBITED (HOLD) REPORT MATRIX LIGHTS ON:  RECORD IN S0007 VL4 APPENDIX P-3	
14-0400		CISL	MS1	PANEL R13U CAUTION/WARNING PARAM STATUS SW - RELEASE	
14-0401		CISL	MS1	PANEL R13U CAUTION/WARNING MEMORY SW - READ (HOLD) REPORT MATRIX LIGHTS ON:  RECORD IN S0007 VL4 APPENDIX P-5	
14-0402		CISL	MS1	PANEL R13U CAUTION/WARNING MEMORY SW - CLEAR AND RELEASE MEMORY SW - READ (HOLD) REPORT MATRIX LIGHTS ON:  RECORD IN S0007 VL4 APPENDIX P-4	
14-0403		CISL	MS1	PANEL R13U CAUTION/WARNING MEMORY SW - RELEASE	
14-0404		CISL	CDR	PANEL F7 REPORT C/W ANNUNCIATORS ON LITES:  RECORD IN S0007 VL4 APPENDIX P-1	
14-0405		CISL	CDR	PANEL C3 CAUTION/WARNING MODE SW - ACK	
14-0406		CISL 132	OTC	C/W STATUS AND MEMORY CLEAR COMPLETE.	SU72173

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT STEP IF  
 ORBITER POWERED UP AND CONFIGURED  
 FOR REMOTE OPERATIONS.

14-0407		OTC	CISL	IF NOT CONFIGURED, CONFIGURE ACTIVE OI PCM TO GSE CONTROL (SEQ 38). REPORT COMPLETION.	SU72172
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NOT PERFORMED

14-0408		OTC	CDR	EGRESS CREW MODULE/WHITE ROOM *FCM AND PROCEED TO ROADBLOCK A-5 (PAD A) OR A/B-4 (PAD B).	SU72181
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14-0409		CBHY	TBC	SRB HPU BITE TEST COMPLETE. 136  OMRSD B42AP0.050-B-1R OMRSD B42AP0.060-B-1	
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14-0410		CBHY	TBC	SRB HPU FUEL PUMP BEARING SOAK COMPLETE.  OMRSD B42AP0.080-A-1R	
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NOTE

HAZARDOUS STEPS DUE TO  
 SRB BEARING SOAK COMPLETE.

14-0411		TBC	NTD	SRB HPU BITE TEST AND HPU FUEL PUMP BEARING SEAL SOAK PER SRB NTD *SCC OPERATION SUPPORT SETUP 3 COMPLETE. *SCC *PSE REQUEST SFOC SAFETY TO REDUCE CONTROL NET AREA TO INTERIOR PERIMETER OF SOUND 105 SUPPRESSION SYSTEM WATER PIPES.	SU72182
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14-0412		*PSE	*SCC	CONTROL AREA REDUCED TO INTERIOR PERIMETER OF SOUND SUPPRESSION SYSTEM WATER PIPES. NET 105 *SCC NTD 232 NTD TBC	
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SRB HPU BITE TEST AND HPU FUEL  
 -----  
 PUMP BEARING SEAL SOAK COMPLETE  
 -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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CCF LPGN2 PREPS  
 -----

NOTE

DO NOT PERFORM NEXT TWO  
 STEPS IF PREVIOUSLY PERFORMED.

14-0413		STM	JSTC	START CCF INDUSTRIAL LPGN2 PREPS	PNU
		111		PER M3703 FOR AIR TO GN2	SU72204
		JSTC	GSPN	CHANGEOVER. (2 HRS)	
		114			
				NOT PERFORMED	_____

14-0414		STM	JSTC	START HP GHE/GN2 AND LPGN2	PNU
		111		VALVE POSITIONING PER M3704	SU72203
		JSTC	GSPN	FOR AIR TO GN2 CHANGEOVER.	
		114		(2 HRS)	
				NOT PERFORMED	_____

SRB AFT SKIRT GN2 PURGE THERMAL  
 -----  
 CONDITIONING  
 -----

14-0415		CBHY	CRT (BAT04)	RECORD PRESENT TIME AND DATE	
				TIME _____ GMT	
				DATE _____ (MMDDYY)	
				REQUEST ESA TO EXECUTE DATA FILE	
				SRBFB (GRAPHIC PLOTS) WITH A START	
				TIME OF T-27 HRS (REF ONLY PHONE	
				1-2305)	
				FROM GRAPHIC PLOTS DETERMINE LEFT	
				SRB AND RIGHT SRB LOWEST AVERAGE	
				FLEX BEARING TEMPERATURE AND	
				RECORD:	
				LEFT AVG TEMP _____ DEG F BD	
				RIGHT AVG TEMP _____ DEG F BD	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0415 CON'T		CBHY	CRT (BAT04)	SRB AFT SKIRT GN2 PURGE	
				CURSOR CNTL T (BLOCK) XMIT CURSOR KEY - PRESS	
				CRT	
				NOTE DISPLAY OF FLEX BEARING TEMPERATURES AND NOZZLE TO CASE JOINT TEMPERATURES.	
				RECORD FLEX BEARING TEMPERATURES	
				_____ B _____ DEG F BD	
				_____ B _____ DEG F BD	
				_____ B _____ DEG F BD	
				_____ B _____ DEG F BD	
				RECORD NOZZLE CASE JOINT TEMPERATURES	
				_____ N _____ DEG F BD	
				_____ N _____ DEG F BD	
				_____ N _____ DEG F BD	
				CURSOR CNTL T (BLOCK) XMIT CURSOR KEY - PRESS	
				NOTE DISPLAY OF PURGE SCHEMATIC	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF EITHER (LEFT OR RIGHT) OF ABOVE RECORDED FLEX BEARING TEMPERATURES WERE LESS THAN 72 DEG F, OR IF ANY ONE OR MORE OF THE EIGHT FLEX BEARING TEMPERATURES WAS LESS THAN 72 DEG F, OR IF ANY ONE OR MORE OF THE SIX NOZZLE TO CASE JOINT TEMPERATURES WAS LESS THAN 75 DEG F.

14-0416		TBC 136	CBHY	ACTIVATE SRB GN2 AFT SKIRT PURGE PER SRB OPERATION SUPPORT SETUP 5 - SRB AFT SKIRT GN2 PURGE ACTIVATION.	SU72198 SU72213
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NOT PERFORMED

14-0417		NTD 232	CMQC	VERIFY APPENDIX K ITEMS CONSTRAINING PRSD LOAD COMPLETE.	
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14-0418		CMQC 232	NTD	APPENDIX K ITEMS CONSTRAINING PRSD LOAD COMPLETE.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

THE SHUTTLE PIC RESISTANCE  
 TEST AND SRB IGN S&A  
 DEVICE VERIFICATION IS  
 TO BE PERFORMED ONLY AFTER  
 FINAL ORBITER AFT, ET IT AND  
 SRB FWD SKIRT CLOSE-OUTS ARE  
 COMPLETE.

SHUTTLE PIC RESISTANCE TEST AND  
 -----  
 SRB IGN S&A DEVICE VERIFICATION  
 -----

14-0419		NTD 232 PTC STM *SCC *SCC *SEC NET *PSE 105	OTC TBC AREA.	VERIFY READY TO CLEAR ALL PERSONNEL FROM BLAST DANGER AREA.	SEC SU72183 SU72215
14-0420		NTD 232	*SCC *SEC	MOVE ROAD BLOCKS FROM GATE TO PAD ____ BLAST DANGER AREA.	SEC
14-0421		NTD 232 *SCC NET 105	*SCC *SEC *PSE	START CLEARING ALL PERSONNEL FROM PAD _____ AND BLAST DANGER AREA.	SEC
14-0422		NTD PA		ATTENTION ON PAD ____:  ALL PERSONNEL CLEAR PAD _____ BLAST DANGER AREA FOR SRB SSV PIC RESISTANCE CHECKS AND SRB IGN S&A ROTATION VERIFICATION.	
14-0423		NTD 232 *SCC NET 105	*SCC *PSE	ALL PERSONNEL, INCLUDING SECURITY MONITOR AND SECURITY GUARD, PROCEED TO ROADBLOCK A-5 (PAD A) OR A/B-4 (PAD B).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0424		*SEC NET 105	*SCC *PSE	ALL PERSONNEL CLEARED FROM BDA.	SEC
14-0425		NTD 232 *SCC NET 105	*SCC *PSE	VERIFY ALL PERSONNEL CLEAR OF BDA. REQUEST SAFETY CONCURRENCE TO PERFORM PIC RESISTANCE TEST AND SRB IGN S&A ROTATION VERIFICATION.	
14-0426		NTD 232 STM 111 JSTC 114	STM JSTC	VERIFY FIRE COMBAT ON STANDBY AT FIRE STATION NO. 6 AND EMERGENCY MEDICAL ON STANDBY AT FIRE STATION NO. 2 FOR PIC RESISTANCE TEST.	FIRE SU72200
14-0427		*PSE NET 105 *SCC 232 NTD	*SCC NTD OTC TBC	ALL PERSONNEL CLEAR OF BDA. HAVE SAFETY CONCURRENCE TO PERFORM PIC RESISTANCE TEST AND IGN S&A ROTATION VERIFICATION.	YOU SU72183 SU72215

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DOWNLIST FORMAT 42 IS REQUIRED FOR SRB IGN S&A DEVICE VERIFICATION. IF NOT IN FORMAT 42, PERFORM NEXT FOUR STEPS. IF DOWNLIST FORMAT 42 IS NOT AVAILABLE, DO NOT PERFORM SRB IGN S&A DEVICE VERIFICATION.

14-0428		OTC	NTD	VERIFY READY FOR SWITCH TO	SU72164
		232		DOWNLIST FORMAT 42.	
		OTC	ALL		
		132			
		NTD	TBC		
		232	PTC		
		TBC	ALL		
		136			
		PTC	ALL		
		134			

NOT PERFORMED \_\_\_\_\_

14-0429		NTD	OTC	SWITCH TO DOWNLIST FORMAT 42.	
		232			
		OTC	CDPS		
		132			

NOT PERFORMED \_\_\_\_\_

14-0430		CDPS		CURSOR CNTL (SAS01 PGB)	
				FMT 42 (VAS90)	
				XMIT CURSOR KEY - PRESS	
				EXEC CMD KEY - PRESS	
				CRT (VAS59 PGB)	
				VERIFY	
				FMT 42 ACTIVE	

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0431		CDPS 132	OTC	TRANSITION TO DOWNLIST FORMAT 42 COMPLETE.	
		OTC 232	NTD		
		OTC 132	ALL		
		NTD 232	TBC		
		TBC 136	ALL		
NOT PERFORMED					
WARNING					
HAZARDOUS STEPS FOLLOW DUE TO PIC RESISTANCE TEST AND SRB S&A ROTATION.					
ORBITER/GSE PIC RESISTANCE TEST -----					
14-0432		NTD 232	OTC	PROCEED WITH ORBITER/GSE PIC RESISTANCE TEST.	SU72184
14-0433		OTC 132	CEPD	POWER UP GSE PIC RACKS AND PERFORM ORBITER/GSE PIC RESISTANCE TEST PER SEQ 52 ON CH 151.	
PIC RACK SECURING -----					
14-0434		OTC 132	CEPD	CURSOR CNTL (VWC10) GND SYS - OFF XMIT CURSOR KEY - PRESS  CRT (VWC10)  VERIFY GND AND CPA VOLTAGES LL	SU72185
14-0435		CEPD 132	OTC	ORBITER/GSE PIC RESISTANCE TEST COMPLETE AND GROUND PIC RACKS	
		OTC 232	NTD	SECURED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
SRB PIC TEST -----					
14-0436		NTD 232 TBC 136	TBC	PROCEED WITH SRB PIC RESISTANCE TEST PER S0007VL4 (SEQ 48) ON CPWR CH 176. (10 MIN)	SU72186
14-0437		CPWR 136 TBC 232 NTD	TBC	SRB PIC RESISTANCE TEST COMPLETE.	

WARNING

BDA MUST BE CLEARED AND  
 CONTROLLED SWITCHING AND  
 CONTROLLED LPS COMMANDS  
 ARE IN EFFECT THROUGHOUT  
 S&A DEVICE ROTATION.

DO NOT PERFORM S&A DEVICE  
 ROTATION DURING A PHASE I OR  
 PHASE II LIGHTNING ADVISORY.

HAZARDOUS OPERATIONS FOLLOW.  
 BDA CLEAR REMAINS IN EFFECT.

DO NOT ROTATE SRB IGN S&A  
 DEVICE WITH IGNITER HEATER  
 POWER ON.

NOTE

DOWNLIST FORMAT 42 IS  
 REQUIRED FOR SRB IGN S&A  
 DEVICE VERIFICATION.  
 DO NOT PERFORM NEXT THREE  
 STEPS IF FMT 42 UNAVAILABLE.

14-0438		NTD PA	ALL	SRB IGN S&A DEVICE VERIFICATION TEST WILL START MOMENTARILY. CONTROLLED SWITCHING AND CONTROLLED LPS COMMANDING ARE IN EFFECT.	SU72187
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0439		NTD 232 TBC 136	TBC CPWR	PROCEED WITH IGNITION S&A DEVICE VERIFICATION PER S0007VL4 SEQ 61 ON CHANNEL 176.	
				NOT PERFORMED	_____
14-0440		CPWR 136 TBC 232	TBC NTD	S&A DEVICE VERIFICATION COMPLETE.	
				NOT PERFORMED	_____
14-0441		NTD 232 *SCC NET 105 STM 111 JSTC 114	*SCC STM *PSE GATE.	PIC RESISTANCE TEST COMPLETE. MOVE ROADBLOCK FROM PAD ____ BLAST DANGER AREA TO PAD ____ GATE.	SEC SU72190

NOTE

HAZARDOUS STEPS COMPLETE.  
 PIC RESISTANCE TEST  
 COMPLETE. S&A'S IN SAFE  
 POSITION.

PAD PERIMETER CLEAR WILL  
 BE MAINTAINED EXCEPT FOR  
 ESSENTIAL PERSONNEL HAZ  
 BADGED FOR PRSD OPERATIONS.



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0442		*SEC 114 JSTC 111 STM 232 NTD OTC TBC *SCC *SCC NET 105	JSTC STM NTD OTC TBC *SCC *PSE	BLAST DANGER AREA OPENED. PAD PERIMETER CLEAR IN EFFECT	SEC SU72216
SHUTTLE PIC RESISTANCE TEST AND SRB ----- IGN S&A DEVICE VERIFICATION COMPLETE -----					
14-0443		STM 111	*OPS	VERIFY NUMBER OF SRM SEGMENT RAILCARS THAT ARE LOCATED AT THE BEACH SIDING. (PHONE 1-5108)	
NUMBER OF RAILCARS _____  NOTE  PERFORM THE FOLLOWING TWO STEPS ON L-2 DAY IF SRM SEGMENT RAILCARS ARE LOCATED AT BEACH SIDING.					
14-0444		STM 11	JSTC	MOVE _____ SRM SEGMENT RAILCARS FROM BEACH SIDING TO BALLOON SIDING.	SU72254
NOT PERFORMED _____					
14-0445		STM 232	NTD	_____SRM SEGMENT RAILCARS ARE BEING MOVED FROM BEACH SIDING TO BALLOON SIDING.	
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0446		NTD		FOLLOWING PERSONNEL REQUIRED TO SUPPORT AIR TO GN2 CHANGEOVER AND CRYO LOAD.  ESSENTIAL PERSONNEL (HAZ BADGE) ----- (TANKER PLACEMENT/CRYO LOAD) -----	SU72111

NOTE

MANLOADED CHANGEOUT CREWS WILL BE STAGED IN SCAPE TRAILERS.

	SFOC	NASA	JBOSC
	----	----	-----
ENGR	2	1	2
TECH	6		4
QC	4		2
SAF	1	1	

ESSENTIAL PERSONNEL (HAZ BADGE)  
-----  
(AIR TO GN2 CHANGEOVER)  
-----

	SFOC	NASA
	----	----
ENGR	1	1
ECS TECH	4	
QC		
SAFETY	1	1

ESSENTIAL PERSONNEL (HAZ BADGE)  
-----  
(PTCR/ECS ROOM PRESS.)  
-----

	GSS	NASA	SFOC
	---	----	-----
SAFETY		1	1
SUPR/ENG	2		
TECH	2		
QUAL	1		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0446				ESSENTIAL PERSONNEL (HAZ BADGE)	
CON'T				(CREW MODULE & WHITE ROOM)	
				SFOC	
				----	
			SCO	2	
			OIC	1	
				NOTE	
				BLUE COLLAR COVERALLS WILL BE REQUIRED FOR INGRESS IF PRSD TANKER PLACEMENT AND CONNECT IS PERFORMED IN PARALLEL WITH MEC POWER DOWN.	
14-0447		OTC 132	*PAD	READY TO INGRESS CREW MODULE FOR POST PIC TEST SAFING. REQUEST CDR AND OIC REPORT TO WHITE ROOM.	SU72192
14-0448		OTC 232 NTD *SCC *SCC NET 105	NTD *SCC *PSE	REQUEST SAFETY VERIFY O2 LEVELS ACCEPTABLE FOR ORBITER ACCESS.	SU72191
14-0449		NET 105 *SCC 232 NTD OTC	*PSE *SCC	CREW MODULE O2 LEVELS ACCEPTABLE. YOU HAVE SAFETY CONCURRENCE TO ACCESS CREW MODULE.	
14-0450		OTC 132	CDR	INGRESS CREW MODULE.	
14-0451		NTD 232 STM 111 JSTC	STM JSTC	FIRE RESCUE AND EMERGENCY MDICAL SERVICE IN STATION SUPPORT RELEASED FROM PIC RESISTANCE TEST.	SU72200
				JFIR	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- DPS TO DOWNLIST FORMAT 44/60 ----- (POST PIC TEST) -----					
NOTE					
PERFORM NEXT FOUR STEPS IF CURRENTLY IN DL FMT 42.  IN NEXT FOUR STEPS DL FORMAT WILL BE 60 IF REQUIRED FOR PAYLOAD SUPPORT AND 44 FOR ALL OTHERS (REF OPERATIONS SUPPORT SETUP 24).					
14-0452		OTC 232 OTC 132 NTD 232 TBC 136	NTD	VERIFY READY TO SUPPORT FORMAT _____ (44 OR 60).	SU72165
					NOT PERFORMED _____
14-0453		NTD 232 OTC 132	OTC	TRANSITION BACK TO DOWNLIST FORMAT _____ (44 OR 60).	
					NOT PERFORMED _____
14-0454			CDPS	CURSOR CNTL (SAS01 PG B) FMT ____ (44 OR 60) XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT (VAS59 PG B)  VERIFY SELECTED DL FMT ACTIVE	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0455		CDPS 132 OTC 232 NTD	OTC NTD TBC PTC	TRANSITION TO DOWNLIST FORMAT _____ COMPLETE (44 OR 60).	SU72165
				NOT PERFORMED	_____
14-0456		TBC 136	CPWR CBDF	PERFORM SRB POWER DOWN PER OMI S9001VL1.  RT OMI LOG NO. _____	SU72188
14-0457		CPWR 136 TBC 232	TBC NTD	SRB POWER DOWN COMPLETE.	
14-0458		OTC 132	CEPD	PERFORM MEC PREFLT BITE EVALUATION FOR MEC PIC RESISTANCE TEST AND SRB POWER DOWN.	SU72189
14-0459			CEPD	PERFORM CDS QLDB RETRIEVAL ON FD <MEC1> <MEC2> VERIFY NO MEC FAILURES	
14-0460		NTD 232 OTC 132	OTC CEPD	PERFORM MEC POWER DOWN PER OMI S9001VL1.  RT OMI LOG NO. _____	SU72193
14-0461		CEPD 132 OTC 232	OTC NTD	MEC PRE FLIGHT BITE SUCCESSFUL EVALUATION COMPLETE.	
14-0462		CEPD 132 OTC 232	OTC NTD	MEC POWER DOWN COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
HP GHE/GN2/LPGN2 VLV POSITIONING					
-----					
COMPLETE					
-----					

NOTE

DO NOT PERFORM NEXT TWO STEPS  
 IF PREVIOUSLY PERFORMED.

14-0463		GSPN JSTC 114 JSTC STM 111		HP GHE/GN2 AND LPGN2 VLV POSITIONING COMPLETE.	PNU SU72203
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NOT PERFORMED \_\_\_\_\_

14-0464		GSPN JSTC 114 JSTC STM 111		CCF INDUSTRIAL LPGN2 PREPS COMPLETE.	PNU SU72204
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QV: \_\_\_\_\_  
 QA

NOT PERFORMED \_\_\_\_\_

CCF-39 CONFIGURED FOR LPGN2 FLOW

14-0465	T-27HOOM (HOLDING)	GSPN JSTC 114 JSTC STM 111 STM NTD 232		CCF-39 GN2 PRODUCTION PLANT READY TO SUPPORT PRSD LOAD.	PNU SU72176 SU72210
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0466		NTD 232 STM 111 JSTC 114	STM JSTC JFIR	FIRE COMBAT REQUIRED AT FIRE STATION NO. 6 IN 30 MINUTES TO SUPPORT PRSD LOAD. EMERGENCY MEDICAL WILL MAINTAIN ON STANDBY SUPPORT AT FIRE STATION NO. 2.	FIRE SU72205
14-0467	T-27H00M (HOLDING)	NTD PA 232	OTC TBC *MIL STM PTC *SCC LPS	CDC WILL START COUNTING AT T-27 HR IN FIVE MINUTES.	
14-0468	T-27H00M (COUNTING)	NTD 232 PA	ALL	CDC AT T-27 HR AND COUNTING.	

LRD L-2 DAY VERIFICATIONS

NOTE

SOME LANDING SITES MAY NOT BE MANNED DUE TO MISSION REQUIREMENTS.

14-0469	T-27H00M (COUNTING)	LRD LF1		VERIFY NO OPEN ITEMS/CONSTRAINTS IDENTIFIED FOR LAUNCH.	
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SITE	GO	NO/GO	NOT MANNED
BANJUL	_____	_____	_____
BEN GUERIR	_____	_____	_____
ZARAGOZA	_____	_____	_____
MORON	_____	_____	_____
DFRF	_____	_____	_____
WSSH	_____	_____	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT STEP IF DUAL MODE  
COOLING WILL BE REQUIRED THIS  
LAUNCH.

14-0470		OTC	CECL	CONFIGURE FREON LOOPS TO RAD	SU72167
		132		FLOW PER ORBITER OPERATION SUPPORT SETUP 8. REPORT COMPLETION.	

NOT PERFORMED \_\_\_\_\_

CLEAR PAD FOR PRSD LOADING AND  
-----  
AIR TO GN2 CHANGEOVER  
-----

NOTE

DO NOT PERFORM NEXT STEP  
IF PERSONNEL HAVE ALREADY  
CLEARED CM AND WHITE ROOM.

14-0471		OTC	CDR	EGRESS CM AND WHITE ROOM. HAVE	
		132	*FCM	PERSONNEL REPORT TO FALL BACK AREA.	

NOT PERFORMED \_\_\_\_\_

WARNING

HAZARDOUS OPERATIONS - PRSD  
LO2/LH2 LOADING AND AIR TO  
GN2 CHANGEOVER - FOLLOW.

NOTE

PERFORM NEXT STEP IF  
SHUTTLE PIC RESISTANCE  
TEST WAS PERFORMED.

14-0472		OTC	NTD	VERIFY PAD ____ REMAINS CLEARED	
		232		TO PERIMETER FENCE FOR PRSD	
		NTD	*SCC	TANKER PLACEMENT, ECS AIR TO GN2 CHANGEOVER AND ORBITER PRSD LOADING.	

NOT PERFORMED \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT THREE  
 STEPS IF SHUTTLE PIC RESISTANCE  
 TEST WAS PERFORMED.

14-0473	-1D03H00M T-27H00M	NTD 232	OTC TBC	VERIFY READY TO CLEAR ALL NONESSENTIAL PERSONNEL TO STM PERIMETER FENCE FOR PRSD TANKER *SCC PLACEMENT, ECS AIR TO GN2 CHANGEOVER PTC AND ORBITER PRSD LOADING.	
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NOT PERFORMED \_\_\_\_\_

14-0474		NTD 232 NET 105	*SCC *PSE	TURN ON PAD ____, A-5, B-4 AND A/B-11 ROADBLOCK AREA WARNING LIGHTS TO FLASHING AMBER.	
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NOT PERFORMED \_\_\_\_\_

14-0475		NET 105 *SCC 232	*PSE *SCC NTD	PAD ____, A-5, B-4 AND A/B-11 ROADBLOCK AREA WARNING LIGHTS ARE FLASHING AMBER.	
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NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT STEP IF  
 SHUTTLE PIC RESISTANCE  
 TEST WAS PERFORMED.

14-0476		NTD 232 NET 105	*SCC *PSE	REQUEST SFOC SAFETY ALLOW ESSENTIAL PERSONNEL ACCESS TO PAD FOR AIR TO GN2 CHANGEOVER AND PRSD CRYO LOAD. POST SAFETY WARNING SIGN AT ECS DOOR THREE.	
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT TWO STEPS  
 IF SHUTTLE PIC RESISTANCE  
 TEST WAS PERFORMED.

14-0477	-1D03H00M T-27H00M	NTD 232 *SCC NET 105	*SCC *PSE	REQUEST SFOC SAFETY CLEAR NONESSENTIAL PERSONNEL FROM PAD TO PERIMETER FENCE FOR AIR TO GN2 CHANGEOVER AND PRSD CRYO LOAD. POST SAFETY WARNING SIGN AT ECS DOOR THREE.	
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NOT PERFORMED

14-0478	-1D03H00M T-27H00M	NTD PA 232	OTC TBC STM *SCC PTC	ATTENTION ON PAD ____: ALL NONESSENTIAL PERSONNEL CLEAR THE PAD TO PERIMETER FENCE FOR PRSD TANKER PLACEMENT, ECS AIR TO GN2 CHANGEOVER AND PRSD LO2 AND LH2 LOADING OPERATIONS.	
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NOT PERFORMED

PTCR/ECS ROOM PRESSURIZATION PREPS

14-0479		NTD 232 STM 111	STM JBAC	PERFORM PRESSURIZATION PREPS FOR PTCR/ECS ROOM AND PRESSURIZE EAST AND WEST FLAME CELLS PER OMI M3034 CLOSEOUT PERSONNEL MEET SAFETY ON PAD SURFACE TO PERFORM UPPER BLAST DOOR CLOSURE FIRST. SAFETY/CLOSEOUT PERSONNEL SHALL THEN PROCEED TO PTCR/ECS AREA.	HVAA SU72207 SU72208
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14-0480		NTD 232 *SCC NET 105	*SCC *PSE	REQUEST SAFETY MEET WITH CLOSEOUT PERSONNEL ON PAD SURFACE FOR UPPER BLAST DOOR CLOSURE.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
FIRE COMBAT SUPPORT AT FIRE STATION ----- NO. 6/EMS SUPPORT AT FIRE STATION 2 -----					
14-0481	-1D03H00M T-27H00M	NTD 232 STM 111 JSTC 114	STM JSTC JFIR	VERIFY FIRE COMBAT AND EMERGENCY MEDICAL IN STATION.	FIRE SU72197
14-0482		JSTC 111 STM 232 NTD *SCC *SCC NET 105	STM NTD *SCC *PSE	FIRE COMBAT ON STANDBY AT FIRE STATION NO. 6. EMERGENCY MEDICAL SUPPORT ON STANDBY AT FIRE STATION 2.	JSTC
NOTE					
LEAK DETECTOR 6127A7 AND FIRE DETECTOR 6127A8 ARE NOT REQUIRED UNTIL LH2 TANKER CONNECTION.					
14-0483		CHGD 132	OTC CFCP	CHGD WILL MONITOR LH2 AND FCP HLDS/HFDS UNTIL COMPLETION OF PRSD LO2/LH2 CRYO LOAD.	
NOTE					
PERFORM NEXT STEP NO LATER THAN 1.5 HOURS PRIOR TO PRSD CRYO LO2 LOADING.					
14-0484		OTC 132	CHGD	PERFORM HGDS, BUHGDS AND HUMS ACTIVATION.	SU72194

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
TANKER STATUS (PRSD LOADING OPS)					
14-0485		STM 111 JSTC NET 104	JSTC GSPS	VERIFY TANKERS ARE READY TO SUPPORT V1040.002 - PRSD CRYO LOAD. SAFETY CONCURRENCE FOR TANKER PLACEMENT REQUIRED. NTD WILL GIVE GO FOR TANKERS TO PROCEED TO PAD.	PN
14-0486	-1D03H00M T-27H00M	NTD 232 NET 105	*SCC *PSE	POSITION SAFETY SIGNS FOR AIR/ GN2 CHANGEOVER AT AREAS LISTED BELOW AND REPORT COMPLETE. REQUEST SAFETY CONCURRENCE TO PROCEED WITH AIR TO GN2 STANDBY MODE.	SU72212 SU72274

NOTE

PLACE SIGNS CLOSE TO VEHICLE TO ALLOW WORK SPACE ON RSS PLATFORMS IN SUB-STEPS 6 AND 7.

PTCR BLAST DOORS MUST BE CLOSED BY GSS PRIOR TO PERFORMANCE OF SUBSTEP 2.

1. PTCR ECS ROOM DOORS(3)
2. PTCR PAD BLAST DOORS.
3. MLP A, B, ZERO, EAST AND WEST ACCESS PLATFORM STAIRS (SIDE 2 AND 4)
4. LOX AND LH2 TSM'S
5. FRCS ROOM - 193 FT LEVEL
6. \* ORB DOOR 44
7. \* ORB 50-1, 50-2 DOORS ACCESS PLATFORM - CLEAR AFT FUSELAGE
8. PCR ROOM
9. OAA

(\* = UNLESS CLOSED OUT FOR FLIGHT)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
PRSD LO2/LH2 TANKER PLACEMENT					
NOTE					
LH2/LO2 TANKER PLACEMENT MAY BE PERFORMED IN PARALLEL WITH PAD CLEAR/AIR TO GN2 CHANGEOVER AND MEC POWER DOWN OPERATIONS.					
14-0487	1D03H00M T-27H00M	NTD 232 *SCC NET 105	*SCC *PSE	VERIFY SAFETY CONCURRENCE FOR TANKER PLACEMENT ON PAD SURFACE	SU72217
14-0488		NET 105 *SCC 232	*PSE *SCC NTD	YOU HAVE SAFETY CONCURRENCE TO POSITION TANKERS ON PAD SURFACE.	
14-0489		NTD 232 STM 111 JSTC NET 104	STM JSTC GSPS	PERFORM LO2/LH2 TANKER PLACEMENT PER SUPPORT OPERATION SUPPORT SETUP 5 & 6.	PN SU72206 SU72170
14-0490		NTD 232 *SCC NET 105	*SCC *PSE	VERIFY 50 FT CLEAR AREA AROUND LO2/LH2 TANKERS PER SUPPORT OPERATION SUPPORT SETUPS 5 AND 6.	
14-0491		CFCP 132 OTC	OTC *PAD	REQUEST ESSENTIAL PERSONNEL REPORT ON STATION FOR PRSD TANKER PLACEMENT/CRYO LOAD.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ECS FINAL PREPS ----- (HAND VALVES CLOSED) -----					
14-0492		OTC 132	CPVD	PERFORM "PREPS FOR AIR/GN2 CHANGEOVER OPTION B - FINAL PREPS" PER OMI V1122 (HAND VALVES CLOSED). (15 MIN)	SU72166
RT OMI LOG NO. _____					
14-0493	-1D02H30M T-26H30M	CPVD 132	OTC	FINAL PREPS FOR AIR/GN2 CHANGEOVER (HAND VALVE CLOSED)	
		OTC 232	NTD	COMPLETE.	
STANDBY GN2 MODE (HANDVALVES OPEN) -----					
14-0494	-1D02H30M T-26H30M	*PSE NET 105	*SCC	ALL NONESSENTIAL PERSONNEL HAVE BEEN CLEARED TO PAD PERIMETER FENCE. SAFETY SIGNS ARE POSITIONED. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH "STANDBY GN2 MODE (HAND VALVES OPEN)" OPERATION.	SU72168
		*SCC 232	NTD		
14-0495		OTC 132	CPVD	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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WARNING

HAZARDOUS STEPS FOLLOW DUE  
 TO AIR TO GN2 CHANGEOVER -  
 STANDBY MODE.

EACH PERSON ON STATION IN  
 ECS ROOM DURING FLOW  
 OF GN2 WILL HAVE AN ELSA (10 MIN)  
 IN THEIR IMMEDIATE AREA.

14-0496	-1D02H30M T-26H30M	NTD 232	OTC	PROCEED TO ECS GN2 STANDBY MODE BY PERFORMING OMI V1122 AIR-TO-GN2 STANDBY MODE/AIR-TO-GN2 CHANGEOVER OPTION A - STANDBY MODE. (15 MIN)	
		OTC 132	CPVD		

RT OMI LOG NO. \_\_\_\_\_

PTCR/ECS ROOM PRESSURIZATION PREPS

-----  
 COMPLETE  
 -----

14-0497	-1D02H30M T-26H30M	JBAC 111	STM	PTCR/ECS ROOM PRESSURIZATION PREPS COMPLETE.	HVAA SU72207
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EAST AND WEST FLAME CELL CLOSEOUT

-----  
 COMPLETE  
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14-0498		JBAC 111	STM	EAST AND WEST FLAME CELL PRESSURIZATION COMPLETE.	HVAA SU72208
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
LH2/LO2 TANKER PLACEMENT COMPLETE -----					
14-0499		GSPS JSTC 111 STM 232 NTD OTC 132	JSTC STM NTD OTC CFCP	LH2/LO2 TANKER PLACEMENT PER SUPPORT OPERATION SUPPORT SETUP 5 AND 6 COMPLETE.	PN SU72170 SU72206
LH2/LO2 TANKER CONNECTION -----					
14-0500		132 232 NTD	CFCP OTC NTD *SCC	READY TO PROCEED WITH LH2/LO2 TANKER CONNECTION. REQUEST SAFETY CONCURRENCE TO PROCEED.	SU72222
14-0501		NET 105	*SCC *PSE	VERIFY ALL NONESSENTIAL PERSONNEL CLEARED FROM PAD SLOPE AND ABOVE. VERIFY ALL PERSONNEL INVOLVED WITH FLOW OF LO2 AND LH2 WEAR CLEAN FLAME RETARDANT COTTON COVERALLS. UPON INITIATION OF CRYO FLOW, PERSONNEL OPERATING HAND VLVS, MAKING OR BREAKING LINES, WEAR FACESHIELDS, SAFETY APPROVED LEATHER GLOVES, AND NON-POROUS, NON SPARKING LEATHER OR RUBBER FOOTWEAR. VERIFY FLARE STACK WARNING LIGHTS ON.	
14-0502		NET 105 232 NTD OTC 132	*PSE *SCC NTD OTC CFCP	ESSENTIAL PERSONNEL PROPERLY ATTIRED. PAD SLOPE AND ABOVE CLEAR OF ALL NONESSENTIAL PERSONNEL. FLARE STACK WARNING LIGHTS ON. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH TANKER CONNECTION AND INERT PURGE PER V1040.002 SEQ _____.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0503		CFCP 138	JYVO JYVR	POSITION AND START RECORDING OF OTV CAMERAS 008/108 AND 036/136. PAN CAMERA 008/108 TO L02 LP SKID. PAN CAMERA 036/136 TO TANKER I/F.	COMM SU72264
14-0504		CFCP 138	JYVO JYVR	POSITION AND START RECORDING OF OTV CAMERAS 007/107 AND 035/135. PAN CAMERA 007/107 TO LH2 LP SKID AND 035/135 TO TANKER I/F.  STANDBY GN2 MODE - COMPLETE	COMM
14-0505	-1D02H15M T-26H15M	CPVD 132 OTC 232 NTD *SCC *SCC NET 105	OTC NTD	STANDBY GN2 MODE (HAND VALVES OPEN) OPERATIONS COMPLETE PER V1122. ECS ROOM/PVD PERSONNEL CLEARING CONTROL AREA.	SU72168
PTCR/ECS ROOM PRESSURIZATION					
14-0506	-1D02H15M T-26H15M	NTD 232	STM *SCC	PRESSURIZE PTCR/ECS ROOM WITH AIR AND HAVE PTCR/ECS ROOM PERSONNEL CLEAR PAD WHEN COMPLETE.	SU72174 SU72209
NOTE					
PTCR/ECS ROOM WILL BE PRESSURIZED WITH AIR WHEN ECS GROUND LVL DOOR IS CLOSED.					
14-0507		NTD PA		ATTENTION ON PAD _____:  PTCR/ECS ROOM WILL BE PRESSURIZED WITH AIR MOMENTARILY.	
14-0508		STM 111	JBAC	PRESSURIZE PTCR AND ECS ROOM PER OMI M3034.	HVAA
14-0509		JBAC 111 STM 232	STM NTD	PTCR AND ECS ROOM PRESSURIZED WITH AIR PER OMI M3034.	HVAA

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0510		*SCC NET 105	*PSE	VERIFY SAFETY SIGN IS POSTED AT GROUND LEVEL PTCR AND ECS PERSONNEL DOORS PRIOR TO DEPARTING AREA.	
14-0511		*PSE NET 105	*SCC	SAFETY SIGN POSTED AT GROUND LEVEL PTCR AND ECS PERSONNEL DOORS.	
14-0512	-1D02H00M T-26H00M	JSTC 114	GSPN	VERIFY PNEUMATICS OPERATIVE PERSONNEL AT GN2 INDUSTRIAL SUPPLY INTERFACE PER M3703.  PAD CLEAR COMPLETE -----	PNU
14-0513	-1D02H00M T-26H00M	*PSE NET 105 *SCC NTD 232	*SCC	ALL NONESSENTIAL PERSONNEL (INCLUDING ECS/PVD PERSONNEL) HAVE BEEN CLEARED TO PAD PERIMETER FENCE FOR PRSD LOADING AND AIR TO GN2 CHANGEOVER OPERATIONS. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH ECS AIR TO GN2 CHANGEOVER.  AIR TO GN2 CHANGEOVER -----	SU72178
WARNING					
GN2 WILL FLOW INTO ORBITER FWD PAYLOAD BAY, AND AFT FUSELAGE, BREATHING OF NITROGEN GAS FROM ORBITER COMPARTMENT PURGE CAN BE LETHAL.					
14-0514	-1D02H00M T-26H00M	NTD 232 STM 111 JSTC 114	STM JSTC GSPN	SUPPORT AIR TO LPGN2 CHANGEOVER PER OPERATION INSTRUCTIONS OF M3703. GSPN COORDINATE WITH CPVD ON CH 172.	PNU SU72257

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0515	-1D02H00M T-26H00M	NTD 232 OTC 132	OTC CPVD	PERFORM ECS AIR TO GN2 CHANGEOVER PER OMI V1122 SEQUENCE "AIR TO GN2 STANDBY MODE/AIR TO GN2 CHANGEOVER OPTION B - GN2 CHANGEOVER". COORDINATE WITH GSPN ON OIS CH 172.  RT OMI LOG NO. _____	SU72224
14-0516		STM 111	JBEP	AIR TO GN2 CHANGEOVER IN PROGRESS. POSSIBILITY OF LOW LEVEL O2 ALARMS. ADVISE STM IF ALARMS OCCUR.  HGDS CONFIDENCE CHECKS -----	PWR

NOTE

HGDS CONFIDENCE CHECKS SHOULD START NO LATER THAN COMPLETION OF AIR TO GN2 CHANGEOVER.

14-0517	-1D01H30M T-25H30M	OTC 132	CHGD	PERFORM HGDS AND BUHGDS REMOTE AUTOCALS AND CONFIDENCE CHECKS. (30 MIN)  _____ GMT	SU72225
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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14-0518				CHGD HGDS AND BUHGDS CONFIDENCE CHECKS COMPLETE.	
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HGDS

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TEST GAS CYLINDER NO.: \_\_\_\_\_ BD

GAS	CERTIFIED VALUE	ANALYZED VALUE	TOLERANCE
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H2	_____ BD	_____ BD	+/- 60
HE	_____ BD	_____ BD	+/- 60
O2	_____ BD	_____ BD	+/- 60
AR	_____ BD	_____ BD	+/- 15

BUHGDS

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TEST GAS CYLINDER NO.: \_\_\_\_\_ BD

GAS	CERTIFIED VALUE	ANALYZED VALUE	TOLERANCE
-----	-----------------	----------------	-----------

H2	_____ BD	_____ BD	+/- 100
HE	_____ BD	_____ BD	+/- 1000
O2	_____ BD	_____ BD	+/- 100
AR	_____ BD	_____ BD	+/- 30

HUMS

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GN2 TEST GAS CYLINDER NO. \_\_\_\_\_ BD

GAS	CERTIFIED VALUE (CV)	ANALYZED VALUE	TOLERANCE
-----	----------------------	----------------	-----------

H2	_____ BD	_____ CV	+/- 100
HE	_____ BD	_____ CV	+/- 1000
O2	_____ BD	_____ CV	+/- 100
AR	_____ BD	_____ CV	+/- 30

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0519	-1D01H00M T-25H00M	CPVD 132 OTC 232 NTD	OTC CHGD NTD *SCC PTC	ECS AIR TO GN2 CHANGEOVER COMPLETE (V1122). ORBITER BEING PURGED WITH GN2 AT _____ (RECORD TIME).	SU72224

NOTE

PERFORM THE FOLLOWING STEP  
 FOR STS-93.

14-0520		PTC 132 OTC	OTC CPVD CMQC	AFTER CIRCUIT STABILIZES PERFORM ORBITER OPERATION SUPPORT SETUP 15 - PAYLOAD BAY PURGE VERIFICATION. NOTIFY PTC IMMEDIATELY IF PURGE GOES OUT OF SPEC. (STS-93)	
				NOT PERFORMED	_____

NOTE

PERFORM NEXT STEP IF O2 LEVEL  
 IN THE WHITE ROOM IS LESS THAN  
 20 PERCENT AS INDICATED ON W/R  
 O2 METER.

14-0521		CPVD		INCREASE CABIN CIRCUIT FLOW RATE TO 75-80 LBS/MIN.	
				TIME _____	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- OPEN ORBITER VENT DOORS 1 & 2 ----- (CONTINGENCY) -----					
NOTE					
PERFORM NEXT TWO STEPS IF O2 CONCENTRATION IN OAA WHITE ROOM BECOMES LESS THAN 20 PCT AS INDICATED ON W/R O2 METER (OTV CAM 005/105), PERFORM NEXT TWO STEPS TO OPEN LEEWARD VENT DOORS 1&2.					
14-0522	-1D01H00M T-25H00M	CPVD		CURSOR CNTL (VAM31A/VAM09A) VENT DOORS 1&2 (LEEWARD) - OPEN TARGET  CRT (VAM09A)  VERIFY LEEWARD VENT DOOR 1 & 2 ARE OPEN.	SU72227
					NOT PERFORMED
14-0523		CPVD	OTC	ORBITER VENT DOORS 1 AND 2 OPENING COMPLETE.	
		132			
		OTC	NTD		
		232			
		NTD	*SCC		
					NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT TWO STEPS  
 IF VERIFIED PRIOR TO CTS.

14-0524		STM 111	GYCC	VERIFY SUPPORT PRE-OPERATION SETUP 7 - COMMUNICATION SUPPORT COMPLETE.	COMM
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NOT PERFORMED \_\_\_\_\_

14-0525		STM 111 232	CMQC NTD	SUPPORT PRE-OPERATION SETUP 7 - COMMUNICATION SUPPORT COMPLETE.	
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NOT PERFORMED \_\_\_\_\_

LH2 TANKER VENT LINE O2 CHECK  
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14-0526		CFCP 132 OTC 232 NTD *SCC *SCC NET 105	OTC NTD	PERFORM O2 LVL CK OF TANKER VENT LINE. VERIFY CONCENTRATION LESS THAN 1 PCT.	SU72226 SU72275
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14-0527		*PSE NET 105 *SCC 232 NTD OTC OTC 132	*SCC NTD	O2 LVL CHECK COMPLETE AND VERIFIED LESS THAN 1 PCT CONCENTRATION.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
PRSD LH2/LO2 TANKER CONNECTIONS COMPLETE -----					
14-0528		CFCP 132 OTC 232 NTD STM 111	OTC NTD STM JSTC	LH2/LO2 TANKER CONNECTIONS, LEAK CHECKS AND INERT PURGE COMPLETE. READY TO PERFORM LO2 SERVICING.	JSTC SU72222
ORBITER CRYO LO2 SERVICING ----- AND SAMPLING (V1040.002 SEQ ____) -----					
14-0529		JBPN 111 STM 232 NTD OTC 132	STM NTD OTC CFCP	FACILITY GO2 AND GH2 SYSTEMS AND CROSS-COUNTRY LINES PRESSURIZED AND READY TO SUPPORT PRSD SERVICING. (GO2 IN USE FROM T-25 TO T-22:30) (GH2 IN USE FROM T-22:30 TO T-20)	PNSA
14-0530		*SCC 232 NTD OTC 132	NTD OTC CHGD	VERIFY SYSTEMS READY TO SUPPORT PRSD LO2 CRYO LOAD.	
14-0531		OTC 132	CHGD	PERFORM HGDS MONITORING ON ALL ORBITER AREAS (PAYLOAD BAY, MIDBODY AND AFT). REPORT OUT OF TOLERANCE CONDITIONS TO CFCP ON OIS CH 153:  O2 = INCREASE ABOVE BASELINE	
14-0532		OTC 132	CHGD	VERIFY MIDBODY O2 LESS THAN 10,000 PPM	
14-0533	-1D01H00M T-25H00M	NTD 232	*SCC	VERIFY CONCURRENCE TO FLOW LIQUID OXYGEN TO ORBITER PRSD TANKS.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0534		*SCC 232	NTD	SAFETY VERIFIES CONCURRENCE TO PROCEED WITH ORBITER PRSD SERVICING AND SAMPLING. (V1040.002)	
14-0535		NTD 232 OTC 132	OTC CFCP	PROCEED WITH ORBITER LO2 TANK SERVICING AND SAMPLING PER V1040.002, SEQ ____.	SU72228

NOTE

LO2 FLOW WILL BE INITIATED  
 TO OMBUU AND ORBITER TANKS.

14-0536		CFCP 138	JYVO JYVR	POSITION AND START VIDEO RECORDING OF OTV CAMERAS 020/120, 021/121, 022/122 FOR V1040.002. PAN CAMERA 020/120 TO FSS/RSS CROSSOVER FLEXHOSES, 021/121 TO OMBUU CARRIER PLATE/VEHICLE I/F AND 022/122 TO LO2/LH2 HP SKID. (SEE CFCP FIGURE 4)	COMM
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- ECS AFT CIRCUIT HIGH FLOWRATE CHECK -----					
14-0537	-23H30M	OTC 132	CPVD	PERFORM ECS AFT CIRCUIT HIGH FLOW RATE CHECK.	
				1. RECORD AFT FLOW SETPOINT AND TOLERANCE  _____ LBS/MIN	
				2. ADJUST AFT GN2 FLOWRATE TO 110 +/-5 LBS/MIN	
				3. RECORD AFT GN2 FLOWRATE  _____ LBS/MIN BD	
				4. RECORD PLB FLOW SETPOINT AND TOLERANCE:  _____ LBS/MIN BD	
				5. IF NOT ADJUSTED, ADJUST PLB FLOWRATE TO 170 +/- 10 LBS/MIN.	
				NOT PERFORMED	_____ SS5
				6. RECORD PLB FLOWRATE AND I/F PRESSURE.  FLOWRATE_____ LBS/MIN BD  I/F PRESSURE_____ IN. H2O BD  RECORD VALUES IN CONSOLE ENGINEERING LOG.	
				7. ADJUST AFT AND PLB FLOW SETPOINT AND TOLERANCE RECORDED ON SUBSTEPS 1 AND 4 RESPECTIVELY.	
14-0538		CPVD OTC 132		ECS AFT CIRCUIT HIGH FLOW RATE CHECK COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0539	-23H30M	CFCP 132 OTC 232 NTD *SCC *SCC NET 105	OTC NTD *SCC *PSE	LO2 CRYO FLOW COMPLETE AND LO2 TANKER FILL LINE INERTED. REQUEST SAFETY CONCURRENCE TO PERFORM LO2 TANKER DISCONNECT.	
14-0540		NET 105 *SCC 232 NTD OTC STM OTC 132 CFCP STM 111 JSTC 114	*PSE *SCC NTD OTC STM CFCP PRSE JSTC GSPS	YOU HAVE NTD/SFOC SAFETY CONCURRENCE TO PROCEED. PERFORM LO2 TANKER DISCONNECT PER OMI V1040.002 SUPPORT OPERATION SUPPORT SETUP 1.	PN SU72229 SU72265
14-0541	-23H00M	GSPS 114 JSTC 111 STM 232 NTD *SCC *SCC NET 105	JSTC STM NTD *SCC *PSE	LO2 TANKER DISCONNECT COMPLETE. REQUEST SAFETY CONCURRENCE TO REMOVE LO2 TANKER FROM PAD VIA E ROAD AND WEST PERIMETER ROAD. SAFETY VERIFY O2 CONCENTRATION ACCEPTABLE FOR LO2 TANKER REMOVAL.	PN SU72265
14-0542		NET 105 *SCC 232 NTD STM JSTC 111 JSTC 114	*PSE *SCC NTD OTC STM JSTC GSPS	O2 CONCENTRATION ACCEPTABLE FOR LO2 TANKER REMOVAL. YOU HAVE NTD/SAFETY CONCURRENCE TO PROCEED. LO2 TANKER MAY BE REMOVED FROM PAD SURFACE VIA E ROAD AND WEST PERIMETER ROAD.	PN

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0543		*PSE NET 105 *SCC 232 NTD STM 111	*SCC NTD OTC STM JSTC	LO2 TANKER CLEAR OF PAD SURFACE.	JSTC SU72229

NOTE

CFCP WILL PERFORM NEXT FIVE STEPS IF EXCESSIVE DECAY OCCURS IN O2 VENT LINE SAMPLE SYSTEM.

14-0544		CFCP 132 OTC 232 NTD *SCC NET 105	OTC NTD *SCC *PSE	PERFORM FOLLOWING:  1. REQUEST NTD/SFOC SAFETY CONCURRENCE FOR PERSONNEL TO RETURN TO LO2 HIGH PRESSURE SAMPLE PNL ON OMBUU TO CLOSE PRIMARY AND BACKUP SAMPLE HOKE BOTTLE INLET AND OUTLET VALVES TO PREVENT LOSS OF O2 VENT LINE SAMPLES. O2 VENT LINE SAMPLE HOKES WILL NOT BE REMOVED AT THIS TIME. REQUEST SAFETY VERIFY O2 CONTENT ACCEPTABLE ON OMBUU.  2. VERIFY TECHS WEAR BLUE COLLAR COVERALLS, FACESHIELDS AND LEATHER LOOSE FITTING GLOVES.  PERSONNEL REQ'D:  SAFETY GSE TECH QC	1 1 1
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0545		*PSE NET 105 *SCC 232	*SCC NTD	PERSONNEL PROPERLY ATTIRED. 02 CONTENT ACCEPTABLE. YOU HAVE SAFETY CONCURRENCE FOR PERSONNEL TO RETURN TO LO2 SAMPLE PANEL ON OMBUU.	
				NOT PERFORMED	_____
14-0546		OTC 132	CFCP	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	
				NOT PERFORMED	_____
				WARNING	
				NEXT TWO STEPS ARE HAZARDOUS DUE TO HIGH PRESSURE O2 FLOW.	
14-0547		CFCP 132 OTC 232 NTD	OTC NTD *SCC	PERSONNEL REQUESTED TO CLOSE O2 SAMPLE HOKE VALVES ARE NOW LEAVING OMBUU.	
				NOT PERFORMED	_____
14-0548		*PSE NET 105 *SCC 232 NTD OTC OTC 132	*SCC NTD	PERSONNEL REQUIRED TO CLOSE O2 SAMPLE HOKE VALVES HAVE CLEARED TO PERIMETER FENCE.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- INTERCENTER VOICE CHECKS COMPLETE -----					
14-0549	-23H00M	GYCJ 117 GYCC 111 STM 232	GYCC STM NTD	INTER-CENTER END-TO-END VOICE CHECKS PER OMI D3012 TO FOLLOWING LOCATIONS COMPLETE AND COMM CIRCUITS OPERATIONAL: 1. CCAS (TONE AND VOICE) 2. MILA 3. JSC 4. MSFC-HOSC 5. DFRC 6. TAL SITES (TONE AND VOICE) 7. SLF OIS-Q 8. GSFC	COMM SU72201
14-0550		JYCJ 117 GYCC 111 STM 232	GYCC STM NTD	INTER-CENTER END-TO-END VOICE CHECK PER D3012 FOR KSC/ROCC POINT-TO-POINTS COMPLETE AND CIRCUITS OPERATIONAL.	COMM
NOTE					
PERFORM THE FOLLOWING STEP IF SRM SEGMENT RAILCARS WERE RELOCATED FROM BEACH TO BALLOON SIDING.					
14-0551		JSTC 111 STM 111 232	STM *OPS NTD	RELOCATION OF _____ SRM SEGMENT RAILCARS FROM BEACH SIDING TO BALLOON SIDING COMPLETE. (PHONE 1-5108)	SU72254
NOT PERFORMED					_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				PRSD LH2 SERVICING AND ----- SAMPLING (V1040.002 (SEQ _____) -----	
14-0552		OTC 132	CHGD	VERIFY SYSTEMS READY TO SUPPORT PRSD LH2 CRYO LOAD.	
14-0553		OTC 132	CHGD	PERFORM HGDS MONITORING IN ALL ORBITER AREAS (PAYLOAD BAY, MIDBODY AND AFT). REPORT OUT OF TOLERANCE CONDITIONS TO CFCP ON OIS CH 153.  H2 = INCREASE ABOVE BASELINE  O2 = INCREASE ABOVE BASELINE	
14-0554		OTC 132	CHGD	PERFORM LH2 AND FCP HLDS/HFDS MONITORING. REPORT OUT OF TOLERANCE CONDITIONS TO CFCP ON OIS CH 153:  HLDS = 10,000 PPM ABOVE BASELINE  HFDS = ALARM ON INDICATION  6292 RLDS = 30,000 PPM ABOVE BASELINE  LD29 = 10,000 PPM ABOVE BASELINE  LD30 = 10,000 PPM ABOVE BASELINE	
14-0555	-22H30M	CFCP OTC 132	OTC	LO2 SERVICING AND SAMPLING COMPLETE. READY TO PROCEED WITH	SU72228
		OTC NTD 232	NTD	LH2 SERVICING AND SAMPLING. REQUEST NTD/SFOC SAFETY CONCURRENCE	
		NTD *SCC		TO PROCEED.	
14-0556		*SCC NTD 232	NTD	YOU HAVE SAFETY CONCURRENCE TO FLOW LH2 TO ORBITER PRSD TANKS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0557	-22H30M	NTD 232 OTC 132	OTC CFCP	YOU HAVE NTD/SFOC SAFETY CONCURRENCE TO PROCEED. PERFORM PRSD ORBITER LH2 SERVICING AND SAMPLING PER OMI V1040.002 (SEQ ____). NOTIFYNTD OF ANY FIRE OR LEAKS ABOVE 1 PCT.  LH2 TANKER VENT LINE H2 CHECK -----	SU72230
14-0558	-21H00M	CFCP 132 OTC 232 NTD *SCC *PSE NET 105	OTC NTD *SCC *PSE	LH2 CRYO FLOW COMPLETE AND LH2 TANKER FILL LINE INERTED. PERFORM H2 CONCENTRATION VAPOR CHECK ON H2 VENT HOSE USING PORTABLE H2 DETECTOR. VERIFY H2 CONCENTRATION LESS THAN 1 PCT.	SU72231 SU72276
14-0559		*PSE NET 105 *SCC 232	*SCC NTD	H2 VENT CONCENTRATION CHECK COMPLETE. H2 CONCENTRATION LESS THAN 1 PCT. YOU HAVE SAFETY CONCURRENCE TO DISCONNECT LH2 TANKER.  PRSD LH2 TANKER DISCONNECT -----	
14-0560		NTD 232 STM 111 OTC 132 CFCP JSTC 114	STM OTC JSTC PRSE GSPS	PERFORM LH2 TANKER DISCONNECT PER OMI V1040.002 SUPPORT OPERATION SUPPORT SETUP 2.	PN SU72232



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- STATUS HGDS/HLDS/HFDS SENSORS -----					
14-0561	-21H00M	NTD 232 OTC 132	OTC CHGD	STATUS HGDS/HLDS/HFDS SENSORS.	SU72233

NOTE

FOLLOWING STEP WILL TAKE A FINAL BACKGROUND CHECK OF BOTH THE PAYLOAD BAY AND THE MIDBODY. THIS INFORMATION WILL BE USED AS A REFERENCE POINT FOR THE PRSD INTEGRITY CHECK PERFORMED JUST PRIOR TO ET CRYO TANKING LATER DURING S0007. THE FOLLOWING STEP WILL SAMPLE ZERO GAS, MIDBODY, ZERO GAS, PAYLOAD BAY, ZERO GAS FOR A MINIMUM OF 30 DATA POINTS PER SAMPLE SELECTION. (TEST TIME IS APPROXIMATELY 1 HOUR)

14-0562 OTC CHGD PERFORM FINAL PRSD SYSTEM BACKGROUND  
 132 CHECK. RECORD RESULTS AS FOLLOWS:

INITIAL MIDBODY O2: \_\_\_\_\_ PPM

PURGE CIRCUIT 2 R/H: \_\_\_\_\_ %

INITIAL ZERO: H2: \_\_\_\_\_ PPM O2: \_\_\_\_\_ PPM STD DEV: H2: \_\_\_\_\_ O2: \_\_\_\_\_

MIDBODY: H2: \_\_\_\_\_ PPM O2: \_\_\_\_\_ PPM STD DEV: H2: \_\_\_\_\_ O2: \_\_\_\_\_

MIDDLE ZERO: H2: \_\_\_\_\_ PPM O2: \_\_\_\_\_ PPM STD DEV: H2: \_\_\_\_\_ O2: \_\_\_\_\_

PAYLOAD BAY: H2: \_\_\_\_\_ PPM O2: \_\_\_\_\_ PPM STD DEV: H2: \_\_\_\_\_ O2: \_\_\_\_\_

MIDDLE ZERO: H2: \_\_\_\_\_ PPM O2: \_\_\_\_\_ PPM STD DEV: H2: \_\_\_\_\_ O2: \_\_\_\_\_

PRSD: H2: \_\_\_\_\_ PPM O2: \_\_\_\_\_ PPM STD DEV: H2: \_\_\_\_\_ O2: \_\_\_\_\_

FINAL ZERO: H2: \_\_\_\_\_ PPM O2: \_\_\_\_\_ PPM STD DEV: H2: \_\_\_\_\_ O2: \_\_\_\_\_

FINAL MIDBODY O2: \_\_\_\_\_ PPM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0563	-20H30M	GSPS 114 JSTC STM NTD 232 *SCC *SCC NET 105	JSTC STM NTD	LH2 TANKER DISCONNECT COMPLETE. REQUEST SAFETY VERIFY CLEARS ARE DOWN AROUND TANKER AND GIVE CONCURRENCE TO RELEASE TANKER.	PN
14-0564		*PSE NET 105 *SCC 232 NTD STM JSTC 111 GSPS 114	*SCC NTD OTC STM JSTC	CLEARS AROUND TANKER DOWN, YOU HAVE SAFETY CONCURRENCE TO REMOVE LH2 TANKER FROM PAD.	PN SU72267
14-0565		*PSE NET 105 *SCC 232 STM 111	*SCC NTD STM JSTC	LH2 TANKER HAS CLEARED PAD GATE.	JSTC
14-0566	-20H00M	CFCP 132 OTC 232 NTD	OTC NTD *SCC	LH2 PRSD SERVICING AND SAMPLING COMPLETE.	SU72230
14-0567	-20H00M	CHGD 132 OTC 232 NTD	OTC NTD *SCC	HGDS/HLDS/HFDS SENSOR STATUS COMPLETE. NO ANOMALIES NOTED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
PRSD GSE INERT PURGE/SAMPLE ----- BOTTLE ISOLATION -----					
14-0568	-20H00M	CFCP 132 OTC 232 NTD *SCC *SCC NET 105	OTC  NTD  *SCC *PSE	REQUEST SAFETY ESCORT ESSENTIAL PERSONNEL FROM PAD SURFACE TO FSS 155 FT LVL/OMBUU FOR PRSD GSE INERTING/SAMPLE BOTTLE ISOLATION. REMOVE SAFETY CONTROLS ON FSS 155 FT LEVEL AND PERFORM O2/H2 LEVEL CHECKS AT OMBUU. VERIFY PERSONNEL PROPERLY ATTIRED AND ESTABLISH 25 FT CLEAR AROUND OMBUU FOR PRSD GSE INERTING /SAMPLE BOTTLE OPERATION REMOVAL.  ESSENTIAL PERSONNEL (HAZ BADGE) -----  ORB                    SFOC                    NASA ---                    ----                    ----  TECH                    4 QC                      1 SAFETY                                    1                    1	SU72235 SU72277
14-0569		*PSE NET 105 *SCC 232 NTD	*SCC   NTD OTC	FSS 155 FT LEVEL SAFETY CONTROLS REMOVED AND 25 FT OMBUU CONTROL AREA ESTABLISHED. O2/H2 LEVEL CHECKS COMPLETE AND ACCEPTABLE, ESSENTIAL PERSONNEL PROPERLY ATTIRED. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH PRSD GSE INERTING/SAMPLE BOTTLE ISOLATION.	
14-0570		OTC 132	CFCP *PAD	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH GSE INERTING/ SAMPLE BOTTLE ISOLATION. BRIEF PERSONNEL ON HAZARDS AND APPLICABLE SEQUENCES OF APPENDIX Z.	SU72236

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ASSEMBLE ECS SUPPORT PERSONNEL -----					
14-0571		NTD 232 STM 111 OTC 132	STM	ASSEMBLE ECS DOOR TECHS, ROOM CREW, AND SFOC SAMPLING PERSONNEL JBAC AT PAD GATE.	HVAA
14-0572		OTC 232 NTD *SCC *SCC NET 105	NTD	REQUEST SAFETY SUPPORT ESSENTIAL PERSONNEL RETURN TO ECS ROOM FOR GN2 TO AIR CHANGEOVER (CLOSE AND LOCK MANUAL GN2 HAND VALVE).	
14-0573		NTD 232 *SCC 105 STM 111	*SCC	ONCE ECS SUPPORT PERSONNEL ASSEMBLED, STM REPORT TO ECS ROOM. *PSE	
GN2 TO AIR CHANGEOVER SUPPORT PREPS -----					
14-0574	-20H00M	NTD 232 STM 111 JSTC 114	STM	SUPPORT LPGN2 CHANGEOVER TO AIR PER OPERATION INSTRUCTIONS OF M3703 AND OMI V1122. GSPN COORDINATE CHANGEOVER WITH CPVD ON CH 172. (1 HR)	PNU SU72257
14-0575		OTC 132	CHGD	ORBITER WILL BE PURGED WITH AIR MOMENTARILY, TERMINATE HGDS ORBITER MONITORING.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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GN2 TO AIR CHANGEOVER

NOTE

PANELS S72-1107-09 AND  
 S72-1107-10 MAY STILL  
 REQUIRE 150 PSI GN2 TO  
 MLP, TSM, AFT SKIRT

14-0576	-20H00M	OTC 132	CPVD	PERFORM "GN2 TO AIR CHANGEOVER OPTION A ORBITER SUPPORT" PER OMI V1122. COORDINATE CHANGEOVER WITH GSPN ON CH 172 PRIOR TO CHANGEOVER.	
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RT OMI LOG NO \_\_\_\_\_

14-0577		CPVD 132 OTC 232 NTD *SCC *SCC NET 105	OTC	GN2 TO AIR CHANGEOVER (OPTION A) ACCOMPLISHED. ORBITER BEING PURGED WITH AIR AT _____ (RECORD TIME). *PSE	SU72237
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NOTE

PERFORM THE FOLLOWING STEP  
 FOR STS-93.

14-0578		PTC 132 OTC	OTC	AFTER CIRCUIT STABILIZES PERFORM ORBITER OPERATION SUPPORT SETUP 15 - PAYLOAD BAY PURGE VERIFICATION. CMQC	
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NOTIFY PTC IMMEDIATELY IF PURGE  
 GOES OUT OF SPEC. (STS-93)

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ORBITER VENT DOOR CONFIGURATION					
14-0579		OTC 132	CPVD	CONFIGURE VENT DOORS TO ADVERSE WEATHER PURGE CONFIGURATION.	SU72238
14-0580			CPVD	CURSOR CNTL (VAM31A/VAM09A) COMMAND VENT DOORS TO ADVERSE WEATHER PURGE CONFIGURATION	
14-0581		CPVD 132 OTC 232	OTC	VENT DOORS IN ADVERSE WEATHER PURGE CONFIGURATION.	
14-0582			CPVD	IF ADJUSTED TO 75-80 LBS/MIN, REDUCE CABIN CIRCUIT FLOW RATE TO 55-60 LBS/MIN.	
NOT PERFORMED					
NOTE					
HAZARDOUS OPERATIONS FOR PRSD CRYO LOADING ARE COMPLETE.					
14-0583		CPVD 132 OTC 232 NTD *SCC *SCC NET 105	OTC NTD	ECS GN2 TO AIR CHANGEOVER COMPLETE. READY ECS PERSONNEL TO ENTER ECS ROOM TO CLOSE PURGE GN2 ISOLATION VALVES. (V1122)	SU72239
14-0584	-20H00M	NTD 232 STM 111 JSTC 114	STM JSTC GSPN	SECURE LPGN2 SYSTEM PER M3703 RELEASE PERSONNEL AT INDUSTRIAL SUPPLY INTERFACE. RELEASE GN2 PRODUCTION PLANT.	PNU

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
ECS PERSONNEL RETURN TO ECS ROOM -----					
14-0585	-20H00M	OTC 232 NTD *SCC *SCC NET 105	NTD *SCC *PSE	VERIFY O2 CONTENT IN ECS ROOM ACCEPTABLE AND SAFETY SIGNS REMOVED. REQUEST SAFETY CONCURRENCE TO ENTER ECS ROOM.	SU72240
ESSENTIAL PERSONNEL (HAZ BADGE) -----					
				SFOC    NASA    GSS -----	
				SYS ENGR    1                    2 SYS TECH    1                    2 QC            1 SAFETY       1            1	
14-0586		NTD 232 STM 111	STM JBAC	OPEN SOUTH ECS ROOM DOOR AND RESTRAIN IN OPEN POSITION.	HVAA SU72259
14-0587	-20H00M	*PSE NET 105 *SCC 232 NTD OTC STM OTC 132	*SCC NTD	O2 CONTENT OF ECS ROOM ACCEPTABLE, SAFETY SIGNS REMOVED, SAFETY CONCURS WITH ESSENTIAL PERSONNEL RETURNING TO ECS ROOM.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

-----  
 TERMINATION OF ECS HAZARDOUS  
 -----  
 PURGE GN2 OPERATIONS (V1122)  
 -----

NOTE

WHEN ECS PERSONNEL HAVE BEEN  
 CLEARED TO ENTER ECS ROOM,  
 PERFORM FOLLOWING STEP.

14-0588	-20H00M	NTD 232	OTC	PERFORM SEQUENCE "TERMINATION OF ECS HAZARDOUS PURGE GN2 OPERATIONS"	
		OTC 132	CPVD	PER OMI V1122 (CLOSE AND LOCK MANUAL GN2 ISO HAND VALVES).	SU72242

RT OMI LOG NO \_\_\_\_\_

DEPRESS PTCR/ECS ROOM  
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14-0589	-20H00M	STM 111	JBAC	CONTINUE PTCR/ECS ROOM DEPRESSURIZATION. (M3034)	HVAA SU72241 SU72260
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14-0590	-19H30M	CFCP 132	OTC	SAMPLE BOTTLE ISOLATION AND GSE INERT PURGES COMPLETE.	SU72236
		OTC 232	NTD	REQUEST SAFETY ESCORT SFOC SAMPLING PERSONNEL TO OMBUU FOR	
		NTD *SCC		PRSD SAMPLE BOTTLE DISCONNECT AND REMOVAL FROM PAD.	
		NET 105			

ESSENTIAL PERSONNEL (HAZ BADGE)  
 -----

	SFOC	NASA
	----	----

TECH	2	
QC	1	
SAFETY	1	1



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0591		*PSE NET 105 *SCC 232 NTD OTC OTC 132	*SCC NTD OTC CFCP	SAMPLING PERSONNEL PROPERLY ATTIRED AND CLEARS ESTABLISHED AT OMBUU. YOU HAVE NTD/SAFETY CONCURRENCE TO PROCEED TO OMBUU FOR SAMPLE BOTTLE DISCONNECT AND REMOVAL FROM PAD.  GN2 HANDVALVES SECURED	SU72247
14-0592	-19H30M	CPVD 132 OTC 232 NTD *SCC *SCC NET 105	OTC NTD *SCC *PSE	ECS PURGE GN2 ISOLATION VLVS CLOSED AND LOCKED. ECS HAZARDOUS GN2 PURGE OPERATIONS COMPLETE. (V1122)	SU72242
14-0593	-19H30M	NTD 232 *SCC NET 105	*SCC *PSE	REQUEST SFOC SAFETY PERFORM O2 CHECK AND VERIFY O2 LEVELS ACCEPTABLE IN FOLLOWING AREAS:  1. MLP LEVELS A AND B  2. LOX AND LH2 TSM  3. OAA WHITE ROOM  4. CREW MODULE  5. ORBITER AFT COMPT - IF NOT CLOSED FOR FLIGHT  6. PCR  7. ORBITER MID BODY - IF NOT CLOSED FOR FLIGHT  8. FRCS ROOM - 193 FT LEVEL  9. PTCR  10. OMBUU	SU72243 SU72274

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0594		NTD 232 *SCC NET 105	*SCC *PSE	REMOVE SAFETY WARNING SIGNS FROM FOLLOWING AREAS AND REQUEST SAFETY CONCURRENCE TO OPEN AREAS FOR CONTROLLED WORK.  1. MLP ZERO, EAST AND WEST ACCESS PLATFORM STAIRS (SIDE 2 AND 4) 2. FRCS ROOM - 193 FT LEVEL 3.* ORB DOOR 44 4.* ORB 50-1, 50-2 DOORS ACCESS PLATFORM  (* = UNLESS CLOSED OUT FOR FLIGHT)	
14-0595		NET 105 *SCC 232 NTD OTC PTC TBC STM	*PSE *SCC NTD OTC PTC TBC STM	SAFETY VERIFIES 02 LEVELS ACCEPTABLE FOR ENTRY, WARNING SIGNS HAVE BEEN REMOVED AND YOU HAVE CONCURRENCE TO OPEN CONTROL AREAS FOR CONTROLLED WORK IN FOLLOWING AREAS:  1. MLP LEVELS A AND B 2. OAA WHITE ROOM 3. FRCS ROOM - 193 FT LVL 4. PCR 5. PTCR 6. OMBUU	

OPERATION INSTRUCTIONS

-----  
SEQ            TIME            CMD    RESP                            DESCRIPTION                            VERIF.  
-----

WARNING

PRSD TANKS WILL CONTINUE  
VENTING THRU TSM'S, MLP SIDE  
1 (VERANDA) AND FSS 75 FT  
LVL UNTIL FUEL CELL  
ACTIVATION. (T-9H00M)

FOLLOWING AREAS WILL REMAIN  
CONTROLLED. ACCESS WILL BE  
FOR ESSENTIAL PERSONNEL ONLY.  
(FLAME RETARDANT COVERALLS)

1.    MLP SIDE 1 AROUND  
      S70-0686-1 PANEL (5 FT  
      CLEAR AREA)
2.    FSS 75 FT LEVEL.    GH2  
      699-1 PNL (5 FT)

FOLLOWING AREAS WILL REMAIN  
CLEARED:

1.    ORBITER MIDBODY
2.    ORBITER AFT
3.    LOX/LH2 TSM

THE ONLY EXCEPTION IS  
FINAL ORDNANCE AND TSM  
CLOSEOUT FOR LAUNCH.

NOTE

HAZARDOUS STEPS COMPLETE.  
ECS GN2 HAS BEEN TERMINATED.

TRANSFER ECS CONTROL TO PAD  
-----

14-0596	-19H30M	OTC	CPVD	PERFORM "CONTROL STATION	
		132		TRANSFER - FIRING ROOM TO PAD"	SU72244
				PER OMI V1122. REPORT COMPLETION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0597		*PSE NET 105 *SCC 232 NTD	*SCC NTD OTC TBC PTC STM *SEC	YOU HAVE SAFETY CONCURRENCE TO OPEN PAD FOR CONTROLLED WORK.	SEC SU72250

MOVE TAIR TRAILER  
 -----

NOTE

DO NOT PERFORM NEXT STEP  
 UNLESS TAIR TRAILER  
 REQUIRED AT PAD.

14-0598		OTC 232 NTD	NTD STM	PERFORM SUPPORT OPERATION SUPPORT HESA SETUP 1 TO MOVE TAIR TRAILER NO. _____ FROM _____ TO _____. (1 HR)	SU72269
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NOT PERFORMED \_\_\_\_\_

NOTE

PRSD CLOSEOUT OPERATIONS WILL  
 COMMENCE AT THIS TIME.

T-19 HR HOLD ANNOUNCEMENT  
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14-0599		NTD 232	CGLS	HOLD CDC AT T-19 HR 00 MIN 00 SEC.	
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14-0600			CGLS	HOME CMD KEY - PRESS CDTH -1900/00 XMIT CMD KEY - PRESS	
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14-0601		CGLS 232	NTD	CDC WILL HOLD AT T-19 HR 00 M 00 SEC.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
INGRESS CREW COMPT -----					
14-0602		NTD 232 *SCC NET 105	*SCC *PSE	VERIFY CREW MODULE O2 LEVELS ACCEPTABLE FOR ENTRY.	
14-0603		NET 105 *SCC NTD NTD 232	*PSE *SCC	CREW MODULE O2 LEVELS ACCEPTABLE FOR ENTRY.	
14-0604		OTC	OMTO	WHITE ROOM CEILING	
				1. VERIFY ORBITER ECS DAMPER A122817 OPEN AND AIR FLOWING THRU ECS DUCT INTO CREW COMPARTMENT.	
				2. POSITION CHAMBER ECS DAMPER A122818 TO CLOSE POSITION. SECURE WING NUT HAND TIGHT.	
					T: _____
14-0605	-19H30M	OTC 132	CDR	INGRESS CREW COMPT.	SU72245
14-0606		OTC 138	JYVR	STOP VIDEO RECORDING OF OTV CAMERA 005/105.	COMM
14-0607		OTC 132	PLT	PANEL R1 POWER DISTRIBUTION AC BUS SNSR 1 SW - OFF, 1 SEC THEN AUTO TRIP 2 SW - OFF, 1 SEC THEN AUTO TRIP 3 SW - OFF, 1 SEC THEN AUTO TRIP	
14-0608		OTC 132	CDR	PNL C3 CAUTION/WARNING MODE SW - NORMAL	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF DUAL  
 MODE COOLING IS ACTIVE.

14-0609		OTC 132	CECL	CONFIGURE FREON LOOPS TO BYPASS FLOW PER ORBITER OPERATION SUPPORT SETUP 8. REPORT COMPLETION.	
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NOT PERFORMED \_\_\_\_\_

ECLSS GSE COOLING RECONFIGURE  
 -----

14-0610		OTC	CECL	IF S70-1203 IS IN CHILLED WATER, PERFORM:  RECONFIGURE GSE COOLING FROM CHILLED WATER TO REFR MODE PER OMI S9001VL2	SU72253
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NOTE

PERFORM NEXT STEP FOR SPACEHAB  
 FLIGHTS ONLY.

14-0611		CECL		WHEN SPACEHAB POWERED UP, MAINTAIN FCL1 INTERCHANGER INLET TEMP BELOW 50 DEG F. EXCURSIONS ABOVE 50 DEG F ACCEPTABLE PROVIDED EXCURSIONS DO NOT EXCEED 45 MINUTES IN A 3 HOUR PERIOD.	
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OMRSD P095DB.030

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- DOWNLINK FMT CHANGE (OPTIONAL) -----					
NOTE					
PERFORM NEXT FOUR STEPS IF LIFTOFF DOWNLINK IS OTHER THAN 129 AND LIFTOFF FORMAT IS NOT ALREADY ACTIVE.					
14-0612		OTC 232	NTD	LAUNCH DOWNLINK FORMAT ____ WILL BE ACTIVATED.	SU72223 SU72252
			NTD TBC LPS PTC		
				NOT PERFORMED	_____
14-0613		OTC 132	CDPS	ACTIVATE LAUNCH DOWNLINK FORMAT PER OMI V9001VL2 (SPECIAL INSTRUCTIONS).	
				NOT PERFORMED	_____
14-0614				CDPS VERIFY LAUNCH OI FORMAT ACTIVE.	
				NOT PERFORMED	_____
14-0615		CDPS 132	OTC	LAUNCH DOWNLINK FORMAT ____ ACTIVATED.	
			OTC 232		
			NTD PTC		
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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PIC RACK CB RECONFIGURE (OPTIONAL)

NOTE

PERFORM NEXT TWO STEPS  
 IF PIC RACK CBS WERE  
 CLOSED FOR THE T-27HR  
 SHUTTLE PIC RESISTANCE  
 TEST.

14-0616		OTC 132	CEPD	PERFORM PIC RACK CB CONFIGURATION.	SU72246
				NOT PERFORMED	_____

14-0617		CEPD 151	QPDS	RACK 6814 (COMPT 7A) 22D170 (LH2 BURN PIC) CB - OFF (OPEN)	
				RACK 6820 22D260 (LR PIC) CB - OFF (OPEN)	
				RACK 6823 22D280 (LH2 BURN PIC) CB - OFF (OPEN)	
				RACK 6815 22D330 (LR PIC) CB - OFF (OPEN)	

T: \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
GN2 TO AIR CHANGEOVER COMPLETE -----					
14-0618	-19H00M	GSPN 114 JSTC 111 STM 232	JSTC STM NTD	LPGN2 CHANGEOVER TO AIR COMPLETE. SYSTEM IS SECURED. CCF-39 GN2 PRODUCTION PLANT HAS BEEN RELEASED.	PNU SU72261    QV: _____ QA
14-0619		STM 111	JSTC	START PAD PERIMETER BUS SERVICE.	JSTC SU72262
NOTE					
PERFORM NEXT STEP IF PHONE SERVICE IN PCR REQUIRED FOR PAYLOAD OPERATIONS.					
14-0620	-19H00M	NTD 232 STM 111 GYCC 117	STM GYCC JYCJ	RESTORE PAD A/B LOCKED-OUT PCR TELEPHONES TO SERVICE PER OMI D3008. REPORT COMPLETION.	COMM SU72266
NOT PERFORMED _____					
14-0621		OTC 132	*PAD	AT OIC MONITOR SHACK ON PAD SURFACE, REMOVE 'DO NOT USE' TAG AND RESTORE POWER. REPORT COMPLETION.	SU72251
14-0622		NTD 232 STM 111 GYCC 117	STM GYCC JYCJ	ACTIVATE PAD SURFACE OIC MONITOR SHACK ADMIN TELEPHONE IN PTCR RM 203. (PAD A - 861-1151, SW 5; PAD B - 861-1152, SW 9) REPORT COMPLETION.	COMM SU72256 SU72270

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
T-19 HOUR HOLD -----					
14-0623	T-19H00M (HOLDING)	NTD PA 232	OTC TBC PTC *MIL STM *SCC LPS	CDC HOLDING AT T-19 HOURS. DURATION OF HOLD WILL BE _____ HOURS _____ MINUTES.	
NOTE					
PERFORM NEXT THREE STEPS AFTER CDC IS HOLDING.					
14-0624		NTD 232	CGLS	SET CDC TO START COUNTING AT _____ HR _____ MIN _____ SEC GMT.	
14-0625			CGLS	HOME CMD KEY - PRESS  CDTC _____/____.000 HHMM SS XMIT CMD KEY - PRESS	
14-0626		CGLS 232	NTD	CDC WILL START COUNTING AT _____ HR _____ MIN _____ SEC GMT.  LH2 SYSTEM PRE OP SETUPS COMPLETE -----	
14-0627		CLHY 136	TBC	ET PRE-OPERATION SETUP 1 - LH2 QUALITY SUMMARY SHEET PER G3251 COMPLETE.  OMRSD S00FA0.130-1  MPS 4500 PSI GSE ACTIVATION -----	SU72058
14-0628		OTC 132	CMPS	GO TO CHANNEL 168 AND PERFORM MPS 4500 PSI GSE ACTIVATION PER OMI V9018.001.	SU72283

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ET LH2 LOADING PREPS -----					
14-0629		NTD 232 TBC 136	TBC CLHY	PERFORM FOLLOWING SEQUENCES PER OMI G3251.  1. LH2 SYSTEM LPS POWERUP  2. LH2 STORAGE AREA VALVE TORQUING  3. LH2 MLP VALVE TORQUING	SU72295
NOTE					
DO NOT PERFORM NEXT SUBSTEP IF AUTO CYCLING PREVIOUSLY PERFORMED AND NOT REQUIRED.					
				4. AUTO CYCLING AND HARDWIRE TEST	
NOT PERFORMED					
					SS4
				5. PAD MECHANICAL PREPARATIONS FOR LOADING.	
				6. LH2 MLP MECHANICAL PREPARATIONS FOR LOADING.	
				7. FSS MECHANICAL PREPARATIONS FOR LOADING.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0630		CLHY 136 TBC 232 NTD STM 111 JSTC 114	TBC NTD STM JSTC GSPN	VERIFY FACILITY LPGN2 C/C PIPELINE PRESSURE 150 +/-10 PSIG.	PNU
14-0631		GSPN 114 JSTC 111 STM 232 NTD TBC 136	JSTC STM NTD TBC CLHY	FACILITY LPGN2 C/C PIPELINE PRESSURE 150 +/-10 PSIG.	PNU
				LH2 SYS LPS POWER-UP COMPLETE	
14-0632		CLHY 136	TBC	LH2 SYSTEM LPS POWERUP PER G3251 COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
ET LO2 PREPS FOR VEHICLE LOAD					
-----					
14-0633		TBC 136	CLOX	PERFORM FOLLOWING PER OMI G3151:	SU72294
				1. CALL TO STATION	
				2. SYSTEM INITIALIZATION (IF APPLICABLE)	
				3. LPS/POWER PREPARATIONS AND A126/A127 MOTOR RUNS	
				4. MLP PREPARATIONS	
				5. FSS PNEUMATIC PANEL PREPARATIONS	
				6. FINAL MANUAL PREPARATIONS FOR LOADING	
				7. LOX SYSTEM ENGINEERING WALKDOWN	
				OMRS S00FA0.116-1	
				OMRS S00FA0.120-1	
				OMRS S00FA0.141-1	
				OMRS S00FB0.330-1	
				OMRS S00L00.051-B-1	
				PRSD SAMPLE BOTTLE REMOVAL COMPLETE	
-----					
14-0634	-19H00M (HOLDING)	CFCP 132	OTC	PRSD SAMPLE BOTTLE REMOVAL COMPLETE.	SU72247

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
HGDS/HWS SYSTEM SECURING -----					
14-0635		CHGD 132	OTC	RLDS 6292 VERIFIED LESS THAN 10,000 PPM IN OMBUU PLATE CAVITY.	
14-0636			CHGD	CURSOR CNTL (SAW01/HWW21) PUMP 1 - OFF PUMP 3 - OFF MFC POWER - OFF XMIT CURSOR KEY - PRESS	
14-0637		CHGD 132	OTC	RLDS 6292 CABINET SECURED.	
14-0638		CHGD 132	OTC	ALL SYSTEMS SECURED FROM PRSD CRYO LOAD SUPPORT. NO ANOMALIES NOTED.	
14-0639		OTC 132	CHGD	CHGD SUPPPORT NO LONGER REQUIRED.	
GH2/GO2 SAMPLE ANALYSIS -----					
14-0640	-19H00M (HOLDING)	CFCP 132	OTC	NOTIFY WILTECH THAT GH2/GO2 SAMPLES ARE ENROUTE FOR ANALYSIS. NEED BY _____ HRS. (PHONE 1-2255)	SU72248 SU72299
		OTC 232	NTD		
		NTD STM	STM		
		STM WLTK	WLTK	SAMPLE NO. _____ (PRI GH2) SAMPLE NO. _____ (B/U GH2)	
				SAMPLE NO. _____ (PRI GO2) SAMPLE NO. _____ (B/U GO2)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

ET PRE-OPERATION SETUP 3  
 ENSURES H2 SAMPLE LINE INSTL  
 FUNCTIONING PROPERLY AND  
 PERFORMED SUFFICIENTLY  
 PRIOR TO LAUNCH TO ALLOW  
 FOR ADJUSTMENTS.

NEXT STEP IS TO ASSURE  
 LEAK DETECTION SYSTEM FITS  
 PROPERLY AND MAY BE NOT  
 PERFORMED IF ENGINEERING  
 DETERMINES THAT FIT CHECK  
 IS NOT NECESSARY.

14-0641		TBC 136	CMQC	VERIFY ET PRE-OPERATION SETUP 3 - HYDROGEN SNIFFER FIT CHECK COMPLETE.	
					NOT PERFORMED _____

NOTE

DO NOT PERFORM NEXT STEP  
 IF ET 17 IN. HYDROGEN LEAK  
 DETECTORS ALREADY IN PLACE.

14-0642		TBC 136	*PAD	PERFORM HYDROGEN LEAK DETECTOR INSTALLATION AND CHANNELIZATION	SU72344
			*PAD	CTIF PER OMI T5401. CHGD	
					NOT PERFORMED _____

14-0643	-19H00M (HOLDING)	CFCP 138	JYVR	STOP VIDEO RECORDING OF OTV CAMERAS 007/107, 008/108, 020/120, 021/121, 022/122, 035/135, 036/136, FOR OMI V1040.002 (SEE CFCP FIGURE 4).	COMM SU72264
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
PRSD C&W ENABLE -----					
14-0644	-19H00M (HOLDING)	OTC 132	CFCP CDR	PERFORM PRSD C&W ENABLE PER OMI V1040.002 ON OIS CH 153. (30 MIN)	SU72249
14-0645	-19H00M (HOLDING)	CFCP 132	OTC	PRSD C&W ENABLE PER V1040.002 COMPLETE.	
14-0646		OTC 132	CISL	PERFORM C&W GOAL SOFTWARE UPDATE FOR PRSD PARAMETERS PER OMI S9001VL2.	
14-0647	-19H00M (HOLDING)	NTD 232 STM 138	STM JYVO	SUPPORT ICE/FROST INITIAL MAPPING OF ET TPS PER S6444 OTV SETUPS ON OIS CH 222, 223, 224 AND 225. CICE WILL CONTACT JYVO WHEN READY FOR CAMERA MOVEMENTS.	COMM
14-0648	-19H00M (HOLDING)	OTC 232 NTD STM STM JBPN	NTD STM	PRSD CRYO SERVICING COMPLETE. MAINTAIN FACILITY GH2 AND GO2 SYSTEMS FOR NORMAL SUPPORT PER OMI M3020/OMI M3097.	PNSA
NOTE					
DO NOT PERFORM NEXT STEP UNLESS TAIR TRAILER REQUIRED AT PAD.					
14-0649		STM 232 NTD	NTD OTC	TAIR TRAILER MOVE PER OPERATION SUPPORT SETUP 1 COMPLETE.	
NOT PERFORMED					
LH2 GSE VLV TORQUING COMPLETE -----					
14-0650		CLHY 136 TBC 232	TBC NTD	LH2 STORAGE AREA VALVE TORQUING PER G3251 COMPLETE.	
14-0651		CLHY 136 TBC 232	TBC NTD	LH2 MLP VALVE TORQUING PER G3251 COMPLETE.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- LH2 AUTO CYCLING AND HARDWARE TEST -----					
NOTE					
PERFORM NEXT FOUR STEPS IF LH2 AUTO CYCLING AND HARDWARE TEST TO BE PERFORMED.					
14-0652		CLHY 136 TBC 232 NTD PA	TBC NTD	ATTENTION ON PAD ____ : THE ET LH2 VENT DISCONNECT CAVITY PURGE WILL OPERATE MOMENTARILY.	
				NOT PERFORMED	_____
----- LH2 HARDWARE TEST -----					
14-0653		CLHY 136 TBC 232 NTD STM STM 111	TBC NTD STM JBDY	VERIFY WIND SPEED FORECAST AT 60 FT LEVEL OF LAUNCH PAD WEATHER TOWER WILL NOT EXCEED 47 KNOTS FOR NEXT HOUR.	
				NOT PERFORMED	_____
14-0654		JBDY 111 STM 232 NTD TBC TBC 136	STM NTD	FORECASTED WIND SPEED AT 60 FT LEVEL OF LAUNCH PAD WEATHER TOWER IS NOT EXPECTED TO EXCEED 47 KNOTS FOR NEXT HOUR.	
				OMRSD S00L00.051-A-1 NOT PERFORMED	_____
14-0655		CLHY 136 TBC 232 NTD PA	TBC NTD	ATTENTION ON PAD ____ : GHE WILL BE VENTED TO LH2 FLARE STACKS.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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PRSD OFFLOAD OPTION

NOTE

PERFORM NEXT FIVE STEPS ONLY  
 IF PRSD OFF-LOAD IS SCHEDULED.

14-0656		CFCP	OTC	READY TO PERFORM O2 CRYO TANK	SU72305
		OTC	NTD	OFF-LOAD. REQUEST NTD/SFOC	SU72297
		232		SAFETY CONCURRENCE TO PROCEED.	
		NTD	*SCC	LO2 DUMP BASIN AND OMBUU TO REMAIN	
		*SCC	*PSE	CLEAR OF ALL NONESSENTIAL PERSONNEL.	
		NET		VERIFY PERSONNEL PROPERLY ATTIRED	
		105		IN LONG SLEEVE, BLUE COLLAR FLAME	
				RETARDANT COVERALLS, LEATHER	
				GAUNTLET GLOVES AND FACESHIELDS.	

NOT PERFORMED

14-0657		*PSE	*SCC	OMBUU AND O2 DUMP BASIN CONTROL	
		105		AREAS CLEARED OF NONESSENTIAL	
		*SCC	NTD	PERSONNEL. YOU HAVE NTD/SFOC	
		232		SAFETY CONCURRENCE TO PROCEED.	
		NTD	OTC		

NOT PERFORMED

WARNING

HAZARDOUS STEPS FOLLOW DUE  
 TO LO2 OFFLOAD OPERATIONS.

14-0658		OTC	CFCP	PERFORM O2 CRYO TANK OFF-LOAD.	
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0659		CFCP 132 OTC 232	OTC NTD	LO2 OFFLOAD COMPLETE. READY TO PROCEED WITH LO2 SYSTEM SECURING.	
				NOT PERFORMED	_____
14-0660		CFCP 132 OTC 232	OTC NTD	LO2 OFFLOAD AND SECURING COMPLETE. NOT PERFORMED	SU72305 _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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\*\*\*\* START PRSD CLOSEOUT OPERATIONS \*\*\*\*

NOTE

PRSD LOAD AND, IF REQUIRED,  
 OFFLOAD MUST BE COMPLETE  
 PRIOR TO PERFORMANCE OF  
 FOLLOWING 37 STEPS.

OMBUU CLOSEOUT OPERATIONS

NOTE

DO NOT PERFORM NEXT TWO STEPS  
 IF FIRE AND EMS ALREADY  
 RELEASED.

14-0661		NTD	*SCC	REQUEST SFOC SAFETY CONCURRENCE	
		232		TO RELEASE FIRE AND MEDICAL	
		*SCC	*PSE	FROM PRSD SUPPORT.	
		NET			
		105			

NOT PERFORMED \_\_\_\_\_

14-0662		*PSE	*SCC	YOU HAVE SAFETY CONCURRENCE TO	FIRE
		NET		RELEASE FIRE AND EMS FROM PRSD	SU72197
		105		SUPPORT.	
		*SCC	NTD		
		232			
		NTD	STM		
		STM	JSTC		
		111			
		JSTC	JFIR		
		114			

NOT PERFORMED \_\_\_\_\_

14-0663		NTD	*SCC	TURN PAD ____, A/B-5 AND A/B-11	
		232		ROADBLOCK FLASHING AMBER LIGHTS	
		*SCC	*PSE	OFF.	
		NET			
		105			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0664		CFCP 132	OTC	READY TO PROCEED WITH MIDBODY UMBILICAL OPERATIONS.	
		OTC 232	NTD	REQUEST SAFETY CONCURRENCE TO PROCEED (V3538, TASK 03).	
		NTD *SCC	*SCC		
		*SCC NET	*PSE		
		105			
14-0665		*PSE NET	*SCC	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH OMBUU DEMATE PREPS.	
		105			
		*SCC 232	NTD		
		NTD	OTC		
14-0666		NTD 232	*SCC	REQUEST SAFETY OPEN LO2 DUMP BASIN FOR CONTROLLED WORK UPON	SU72297
		*SCC NET	*PSE	COMPLETION OF O2 CHECKS.	
		105			
14-0667		OTC 132	CFCP	PERFORM PRSD PREPS FOR MIDBODY UMBILICAL DEMATE PER OMI V1040.002.	SU72284

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
6292 CABINET PURGE TERMINATION					
-----					
14-0668		CFCP	PUOD	RSS OMBUU ROOF - 6292 CABINET	
				GN2 PURGE VALVE A505975 - CLOSE (CW)	
					T: _____
14-0669		CFCP	OTC	PRSD PREPS FOR OMBUU DEMATE	SU72284
		132		COMPLETE. READY TO SUPPORT	
				MIDBODY UMBILICAL CARRIER PLATE	
				DEMATE AHC FLIGHT CAP INSTALLATION	
				PER V3538 (TASK 03).	
14-0670		OTC	NTD	REQUEST SFOC SAFETY CLEAR	SU72285
		232		NONESSENTIAL PERSONNEL FROM AREA	SU72306
		NTD	*SCC	10 FT RADIUS ADJACENT TO AND	
		*SCC	*PSE	DIRECTLY BELOW MID LEVEL	
		NET		EXTENSIBLE PLATFORM AND VERIFY ALL	
		105		ESSENTIAL PERSONNEL WITHIN A 10 FT	
				RADIUS OF CARRIER PLATE ARE WEARING	
				LONG SLEEVED, BLUE COLLAR FLAME	
				RETARDANT COTTON COVERALLS, LEATHER	
				GLOVES, FACESHIELDS. CLEAR	
				NONESSENTIAL PERSONNEL IN SUPPORT	
				OF MIDBODY UMBILICAL DEMATE PER	
				V3538 (15 MIN.). REQUEST SAFETY	
				CONCURRENCE TO PROCEED.	
ESSENTIAL PERSONNEL (HAZ BADGE)					
-----					
				ORB      SFOC      NASA	
				---      ----      ----	
				ENG/SUPR                      1	
				TECHNICIAN                    4	
				QUALITY                        2	
				SAFETY                                      1                      1	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0671		NTD PA		ATTENTION ON PAD ____:  ALL NONESSENTIAL PERSONNEL CLEAR 10 FT RADIUS OF CARRIER PLATE AND 10 FT RADIUS DIRECTLY BELOW MID-LEVEL EXTENSIBLE PLATFORM IN SUPPORT OF MIDBODY UMBILICAL DEMATE.  ORBITER MIDBODY UMBILICAL DEMATE -----	
14-0672		*PSE *SCC NET 105 *SCC NTD 232 NTD OTC		LOCAL CONTROL AREA ESTABLISHED FOR UMBILICAL DEMATE. PERSONNEL PROPERLY ATTIRED. YOU HAVE SAFETY CONCURRENCE TO PROCEED.	
14-0673		OTC 132	PGSS	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	
WARNING					
NEXT STEP IS HAZARDOUS BECAUSE PERSONNEL COULD BE EXPOSED TO HYDROGEN, OXYGEN, NITROGEN AND/OR HELIUM GAS.					
ACCESS TO AND FROM 50-1 DOOR AREA AND OMBUU MUST BE TERMINATED UNTIL FLIGHT CAPS ARE INSTALLED ON VEHICLE.					
14-0674		OTC 132	PGSS *PAD	PERFORM MIDBODY UMBILICAL DEMATE AND PRSD AHC FLIGHT CAP INSTALLATION PER OMI V3538 ON OIS CH 153.  RT OMI LOG NO. _____	SU72286
14-0675		*PAD 132 OTC 132 232	OTC CFCP NTD	MIDBODY UMBILICAL DEMATE AND PRSD AHC FLIGHT CAP INSTALLATION COMPLETE. READY FOR AHC FLIGHT CAP LEAK CHECKS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0676		NTD 232 *SCC NET 105	*SCC *PSE	ORBITER MIDBODY UMBILICAL DEMATE COMPLETE. REQUEST SAFETY SUPPORT ON OMBUU WITH PORTABLE O2/H2 LEAK DETECTOR FOR PRSD AHC FLIGHT CAP LEAK CHECKS.	

NOTE

HAZARDOUS OPERATION -  
 MIDBODY UMBILICAL DEMATE  
 COMPLETE.

PRSD AHC FLIGHT CAPS LEAK CHECK

(V1040.002 SEQ \_\_\_\_)

14-0677		OTC 132	CFCP	PERFORM LEAK CHECK OF PRSD AHC FLIGHT CAPS PER OMI V1040.002 ON OIS CH 153.	SU72287
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14-0678		CFCP 132 OTC 232 NTD *SCC *SCC NET 105	OTC NTD *SCC *PSE	PRSD FLT CAP LEAK CHECKS COMPLETE. REQUEST CONCURRENCE TO OPEN OMBUU CONTROL AREA.	SU72306
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14-0679		*PSE NET 105 *SCC 232 NTD	*SCC NTD OTC	YOU HAVE SAFETY CONCURRENCE TO OPEN OMBUU CONTROL AREA FOR CONTROLLED WORK.	
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NOTE

HAZARDOUS OPERATIONS - PRSD  
 FLIGHT CAP LEAK CHECK COMPLETE.

14-0680		CFCP 132 OTC 232	OTC NTD	READY FOR CLOSEOUT OF MIDBODY UMBILICAL DOOR 45.	SU72288
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0681		OTC 132	*PAD	PERFORM ORBITER DOOR 45 INSTALLATION, PRE-FLIGHT UMB MID FUSELAGE PER:  JC V80-94500 -DOOR 45, PRE-FLIGHT UMBILICAL PANEL ACCESS, INSTALLATION.	
14-0682		*PAD 132	OTC	ORBITER DOOR 45 INSTALLATION COMPLETE.	
14-0683		OTC	*PAD	START VERIFICATION OF ORBITER DOOR PANEL CONFIGURATION FOR TANKING AND LAUNCH PER ORBITER OPERATION SUPPORT SETUP 2. PART B MUST BE COMPLETE BY T-11H00M.	SU72464
GSE PREPS FOR FUEL CELL ACTIVATION -----					
NOTE					
PERFORM NEXT TWO STEPS UPON COMPLETION OF GO2 RECHARGE OPERATIONS (IF PERFORMED).					
14-0684		NTD 232 OTC 132	OTC CFCP	PERFORM FINAL GSE PREPS FOR FUEL CELL ACTIVATION.	SU72320
					NOT PERFORMED _____
14-0685		CFCP 132	OTC	FINAL GSE PREPS FOR FUEL CELL ACTIVATION COMPLETE. (V1040.002)	
					NOT PERFORMED _____
14-0686		CFCP	OTC	PRSD SAMPLE RESULTS ARE SATISFACTORY.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				OMBUU ROOF EXTENSIBLE PLATFORM ----- RETRACTION/MIDLEVEL EXTENSIBLE ----- PLATFORM RETRACTION -----	
14-0687		OTC 132	*PAD	PERFORM OMBUU SECURING PER OMI V3538. (TASK 5)	SU72322
14-0688		CFCP 132 OTC 232	OTC	OMBUU SECURING COMPLETE.	
14-0689		OTC 132	*PAD	VERIFY READY TO SUPPORT OMBUU PLATFORM RETRACT PER V3538.	
14-0690		OTC 132	*PAD	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE *PAD PMTG SEQUENCES OF APPENDIX Z.	
14-0691		OTC 132	*PAD	RETRACT OMBUU PLATFORMS PER OMI V3529.	
				OMBUU PLATFORM RETRACTION COMPLETE -----	
14-0692		*PAD 132 OTC 232 NTD *SCC *SCC NET 105	OTC	OMBUU PLATFORM RETRACTION PER V3529 COMPLETE.	

\*\*\* END PRSD CLOSEOUT OPERATIONS \*\*\*

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF LH2  
AUTO CYCLING AND HARDWIRE  
TEST PERFORMED.

14-0693		CLHY TBC 136 TBC NTD 232		AUTO CYCLING AND HARDWIRE TEST PER G3251 COMPLETE.	
				NOT PERFORMED	_____
14-0694		*PAD OTC 132		PRE-OPERATION SETUP 14 - OMS QUANTITY GAGING CHECKS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM GO2 RECHARGE OPTION  
 IF GO2 STORAGE PRESSURE 4400  
 PSIG OR BELOW.

GO2 RECHARGE OPTION  
 -----

NOT PERFORMED

14-0695		JBPN	STM	READY TO PROCEED WITH FACILITY	PN
		111		GO2 RECHARGE OPERATIONS PER	PNSA
		STM	NTD	M3097. REQUEST ESSENTIAL	FIRE
		232		PERSONNEL REPORT ON STATION.	SU72350
		STM	JSTC	REQUEST SAFETY CONCURRENCE.	SU72375
		111			
		JSTC	GSPS		
		NET			
		104			
		114	JFIR		

14-0696		NTD	*SCC	REQUEST SFOC SAFETY CLEAR ALL	
		232		NONESSENTIAL PERSONNEL 150 FT RADIUS	
		*SCC	*PSE	FROM GO2 STORAGE BATTERY FOR GO2	
		NET		RECHARGE OPERATIONS. VERIFY	
		105		ESSENTIAL PERSONNEL PROPERLY ATTIRED	
				IN CLEAN FLAME RETARDANT NON-STATIC	
				PRODUCING COVERALLS AND NON-	
				SPARKING FOOTWEAR. VERIFY FIRE	
				SUPPORT ON SITE AND EMERGENCY	
				MEDICAL ON STANDBY. VERIFY	
				SAFETY CONCURRENCE TO PROCEED.	

ESSENTIAL PERSONNEL  
 -----

	SFOC	JBOSC	WILTECH	NASA
FIRE DEPT		3		
ENGINEER	1			1
TECH	3	3		
QUAL	1			
SAFETY	1			
SAMPLING			2	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0697		NTD PA		ATTENTION ON PAD _____:  ALL NONESSENTIAL PERSONNEL CLEAR 150 FT RADIUS FROM GO2 STORAGE BATTERY AREA FOR GO2 RECHARGE OPERATION.	
14-0698		*PSE NET 105 *SCC 232 NTD STM 111 JSTC NET 104	*SCC NTD STM JSTC	ALL NONESSENTIAL PERSONNEL HAVE BEEN CLEARED FROM CONTROL AREA. PERSONNEL ARE PROPERLY ATTIRED. FIRE SUPPORT ON SITE, EMERGENCY MEDICAL ON STANDBY AND COMM CHECK COMPLETE. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH GO2 RECHARGE OPERATION (M3097).	PN PNSA
14-0699		STM 111 JBPBN NET 104	JBPBN GBPN	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	PNSA
WARNING					
HAZARDOUS GAS FLOW OPERATIONS FOLLOW DUE TO PRESENCE OF GO2.					
14-0700		JBPBN NET 104	GBPN	ON PANEL S70-0826-1, CLOSE VALVE A81164. REPORT COMPLETION.	PNSA
14-0701		GBPN NET 104	JBPBN	VALVE A81164 CLOSED.	PNSA
14-0702		JBPBN 111 STM 232 NTD OTC 132	STM NTD OTC	GO2 SUPPLY VALVE A81164 IS CLOSED. GO2 SUPPLY WILL NOT BE AVAILABLE TO PRSD/ECLS SYSTEMS UNTIL GO2 RECHARGE OPERATION COMPLETE (8 HR).	PNSA
14-0703		JBPBN 111	STM	STARTING WITH G02 RECHARGE OPERATIONS PER M3097.	PNSA

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0704		JBPN 111 STM 232	STM NTD	GO2 RECHARGE OPERATIONS SECURED. PROCEEDING WITH SAMPLING OPERATIONS. FIRE/RESCUE SUPPORT MAY BE RELEASED TO IN-STATION SUPPORT DURING SAMPLING AND SAFETY CONTROLS MAY BE REDUCED TO 25 FT AROUND GO2 AREA.	PNSA
14-0705		NTD 232 *SCC *PSE NET 105	*SCC *PSE	GO2 RECHARGE OPERATIONS SECURED FOR FOR SAMPLING. REQUEST SAFETY REDUCE CONTROLS FROM 150 FT TO 25 FT AROUND GO2 BATTERY AND CONCURRENCE TO RELEASE FIRE/RESCUE TO IN-STATION SUPPORT.	
14-0706		*PSE NET 105 *SCC 232 NTD STM STM 111 JSTC JFIR 114	*SCC	FIRE/RESCUE AT GO2 RELEASED TO IN-STATION SUPPORT FOR SAMPLING OPERATIONS (M3097).	FIRE
14-0707		*PSE NET 105 *SCC 232 NTD STM STM 111	*SCC	GO2 AREA CONTROLS REDUCED FROM 150 FT TO 25 FT FOR SAMPLING OPERATIONS.	PNSA
14-0708		JBPN 111 STM 232 NTD OTC 132	STM NTD OTC CFCP	GO2 RECHARGE OPERATIONS COMPLETE. SAMPLE RESULTS PASS GO2 SPECIFICATION SE-S-0073, TABLE 6.3-4 OXYGEN. REQUEST CONCURRENCE TO PROCEED WITH GO2 LINE PRESSURIZATION. REQUEST CFCP ISOLATE S70-0830-1 PNL TO SUPPORT GO2 CC LINE PRESSURIZATION AND LEAK CHECKS.	PNSA
14-0709		CFCP PSOM	PSOM	S70-0830-1 PNL A88560 MV - CLOSE (CW)	

T: \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.																								
14-0710		CFCP 132 OTC STM STM 111 JBPB NET 104	OTC STM JBPB GBPN	GO2 FACILITY ISOLATION VALVES CLOSED.	PNSA																								
14-0711		STM 232 NTD *SCC *SCC NET 105	NTD *SCC *PSE	REQUEST SAFETY CONCURRENCE TO PERFORM GO2 LINE PRESSURIZATION. REQUEST SAFETY CLEAR ALL NONESSENTIAL PERSONNEL FROM 25 FOOT RADIUS FROM GO2 BATTERY. ESTABLISH BARRICADES AND WARNING SIGNS IF REQUIRED. VERIFY PERSONNEL PROPERLY ATTIRED IN FLAME RETARDANT COVERALLS.																									
ESSENTIAL PERSONNEL -----																													
<table border="1"> <thead> <tr> <th></th> <th>GSS</th> <th>NASA</th> <th>SFOC</th> </tr> <tr> <th></th> <th>---</th> <th>----</th> <th>----</th> </tr> </thead> <tbody> <tr> <td>ENGR</td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>TECH</td> <td>2</td> <td></td> <td></td> </tr> <tr> <td>QUALITY</td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>SAFETY</td> <td></td> <td>1</td> <td>1</td> </tr> </tbody> </table>							GSS	NASA	SFOC		---	----	----	ENGR	1			TECH	2			QUALITY	1			SAFETY		1	1
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14-0712		NTD PA		ATTENTION ON PAD _____:  ALL NONESSENTIAL PERSONNEL CLEAR CONTROL AREA 25 FOOT RADIUS AROUND GO2 BATTERY FOR GO2 LINE PRESSURIZATION.																									
14-0713		*PSE NET 105 *SCC 232 NTD	*SCC NTD STM	GO2 BATTERY CLEARED OF NONESSENTIAL PERSONNEL. ESSENTIAL PERSONNEL PROPERLY ATTIRED. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH GO2 LINE PRESSURIZATION. SAFETY VERIFIES FIRE SUPPORT.																									
14-0714		OTC 132	CFCP STM	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.																									





OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0719		*PSE NET 105 *SCC 232 NTD STM JSTC 111 JSTC 114	*SCC NTD STM JSTC	YOU HAVE SAFETY CONCURRENCE TO OPEN CONTROL AREA AROUND GO2 STORAGE BATTERY FOR CONTROLLED WORK. RELEASE FIRE AND EMERGENCY MEDICAL SUPPORT.	FIRE

GO2 RECHARGE OPTION COMPLETE

NOTE

PERFORM GO2 SYSTEM TOP-OFF  
 OPTION UPON REQUEST OF  
 PNEUMATICS ENGINEERING,  
 UTILIZING A COMPRESSED GAS  
 TRAILER AS GO2 SOURCE.

GO2 SYSTEM TOP-OFF OPTION

NOT PERFORMED

14-0720		STM 111 JSTC 114	JSTC GSPS	PROVIDE 6000 PSI GO2 TUBE BANK PAD___ HPG BATTERY.	PN
14-0721		JBPN 111 STM 232	STM NTD	READY TO PROCEED WITH FACILITY GO2 TOP-OFF OPERATIONS PER M3097. REQUEST ESSENTIAL PERSONNEL REPORT ON STATION. REQUEST SAFETY CONCURRENCE.	PNSA

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0722		NTD 232 *SCC NET 105	*SCC *PSE	REQUEST SAFETY CLEAR NONESSENTIAL PERSONNEL FROM 25 FT RADIUS OF GO2 STORAGE BATTERY FOR HAZARDOUS GO2 OPERATIONS. VERIFY ESSENTIAL PERSONNEL WITHIN CONTROLLED AREA WEAR CLEAN, NONSTATIC PRODUCING, FLAME RETARDANT COVERALLS. REQUEST SAFETY CONCURRENCE TO PROCEED.	
ESSENTIAL PERSONNEL -----					
				SFOC	NASA
				----	----
			MECHANIC	3	
			ENGINEER	1	1
			SAFETY	1	1
14-0723		NTD PA		ATTENTION ON PAD____:	
				ALL NONESSENTIAL PERSONNEL CLEAR 25 FT RADIUS FROM GO2 BATTERIES FOR HAZARDOUS GO2 OPERATIONS.	
14-0724		*PSE NET 105 *SCC 232 NTD STM	*SCC NTD	GO2 BATTERY CLEARED OF NONESSENTIAL PERSONNEL. ESSENTIAL PERSONNEL PROPERLY ATTIRED. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH GO2 TOP-OFF.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- WARNING ----- HAZARDOUS OPERATIONS FOLLOW DUE TO HIGH PRESSURE PNEUMATICS AND POSSIBLE OXYGEN RICH ATMOSPHERE. -----					
14-0725		STM 111	JBPN	PERFORM GO2 SYSTEM TOP-OFF PER OMI M3097. BRIEF PERSONNEL OF HAZARDS INVOLVED AND REVIEW APPLICABLE APPENDIX Z EMERGENCY INSTRUCTIONS.	PNSA SU72350
14-0726		JBPN STM 111 STM NTD 232 NTD *SCC *SCC *PSE NET 105	STM NTD	GO2 SYSTEM TOP-OFF OPERATION COMPLETE. REQUEST SAFETY CONCURRENCE TO OPEN CONTROL AREA AROUND GO2 STORAGE BATTERY.	PNSA SU72375
14-0727		*PSE NET 105 *SCC NTD 232 NTD STM STM JBPN 111	*SCC NTD	YOU HAVE SAFETY CONCURRENCE TO OPEN CONTROL AREA AROUND GO2 STORAGE BATTERY FOR CONTROLLED WORK.	PNSA
GO2 SYSTEM TOP-OFF OPTION COMPLETE -----					
14-0728		STM NET 104	QBSE	PICK UP ANY LOOSE ITEMS/DEBRIS FROM SRB HAUNCH AREAS. REMOVE HAUNCH ACCESS LADDERS PER OMI M3083.	STSA

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT STEP  
 IF ACCOMPLISHED BY ANOTHER  
 DOCUMENT.

14-0729		STM	QBSE	PERFORM RSS X-1 DAY CHECKS	STSA
		NET		(M3094). REPORT COMPLETION.	
		104			

NOT PERFORMED

FRCS THRUSTER COVER CONFIGURATION

FOR LAUNCH

WARNING

HAZARDOUS STEPS FOLLOW DUE TO  
 POSSIBLE EXPOSURE TO N2O4 AND  
 MMH. SFOC SAFETY SHALL MONITOR  
 BREATHING ZONES FOR TOXIC LEVELS  
 AND IF TLV IS EXCEEDED, EVACUATE  
 PERSONNEL TO A SAFE AREA.

14-0730		*PAD	OTC	REQUEST SFOC SAFETY CLEAR ALL	SU72290
		132		PERSONNEL 275 LEVEL AND ABOVE	SU72308
		OTC	NTD	(INCLUDING GVA). CLEAR NONESSENTIAL	
		232		PERSONNEL 10 FT RADIUS AROUND	
		NTD	*SCC	FRCS RSS 207 FT LEVEL. VERIFY	
		*SCC	*PSE	ESSENTIAL PERSONNEL PROPERLY	
		NET		ATTIRED IN RUBBER APRON, FACESHIELD	

AND HYPER COMPATIBLE GLOVES.  
 SAFETY PERFORM BREATHING ZONE  
 CHECKS DURING FRCS THRUSTERS  
 COVER REMOVAL. CLEAR WILL BE  
 EXPANDED TO 20 FT RADIUS AND  
 SAR FOR VERNIER THRUSTERS.

ESSENTIAL PERSONNEL

	ORB	NASA	SFOC
ENGR	1	1	
TECH	3		
QUALITY	1	1	
SAFETY		1	1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0731		NTD PA		ATTENTION ON PAD ____:  ALL PERSONNEL CLEAR FSS 275 FT LEVEL AND ABOVE (INCLUDING GVA) AND NONESSENTIAL PERSONNEL CLEAR A 10 FT RADIUS OF FWD RCS FOR THRUSTER COVER REMOVAL.	
14-0732		NTD 232 STM 111 JSTC 114	STM JSTC	VERIFY LIFE SUPPORT ON SITE AND THREE EACH BREATHING AIR LINES WITH MASK AND COMM AT 107/207 FT FOR RCS THRUSTER COVER CONFIG *SCB (ORBITER OPERATION SUPPORT SETUP 23).	LS SU72302
14-0733		OTC 132	*PAD	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE *PAD OMTO SEQUENCES OF APPENDIX Z.	
14-0734		*PSE NET 105 *SCC 232 NTD	*SCC NTD OTC	NONESSENTIAL PERSONNEL HAVE BEEN CLEARED FROM CONTROL AREAS FOR FRCS THRUSTER COVER REMOVALS. ESSENTIAL PERSONNEL PROPERLY ATTIRED IN RUBBER APRONS, FACESHIELD AND HYPER COMPATIBLE GLOVES. SAFETY VERIFIES CONCURRENCE TO PROCEED WITH THRUSTER COVER REMOVALS.	
14-0735		OMTO *PAD 132	*PAD OTC	TASK TEAM LEADER/DESIGNEES CONDUCT HAZARDOUS OPERATIONS AND APPENDIX Z BRIEFINGS.	
					TTL:_____
14-0736		OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 23 PART A - FRCS THRUSTER COVER CONFIGURATION FOR LAUNCH. (1.5 HR)	
14-0737		*PAD 132 OTC 232 NTD *SCC *PSE NET 105	OTC NTD *SCC *PSE	FRCS THRUSTER UTPA REMOVALS COMPLETE PER ORBITER OPERATION SUPPORT SETUP 23. REQUEST SAFETY PERFORM TVC'S AND OPEN CONTROL AREAS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0738		*PSE NET 105 *SCC 232 NTD OTC OTC 132	*SCC NTD OTC *PAD	N2O4 AND MMH TOXIC VAPOR CHECKS COMPLETE AND LEVELS ACCEPTABLE. YOU HAVE SAFETY CONCURRENCE TO OPEN HYPERGOLIC CONTROL AREA FOR CONTROLLED WORK.	SU72308

NOTE

FRCS HAZARDOUS OPERATIONS  
 COMPLETE.

14-0739		*PAD 132	OTC	CONTINUING WITH FRCS RAIN COVER INSTALLATION PER ORBITER OPERATION SUPPORT SETUP 23 PART A.	
14-0740		*PAD 132	OTC	FRCS RAIN COVER INSTALLATION COMPLETE PER ORBITER OPERATION SUPPORT SETUP 23 PART A.	SU72290
14-0741		OTC 232 NTD STM 111 JSTC 114	NTD STM JSTC *SCB	BREATHING AIR LINES NO LONGER REQUIRED IN THE FRCS ROOM (RSS 207 FT) FOR ORBITER OPERATION SUPPORT SETUP 23. SUPPORT RELEASED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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ARCS THRUSTER COVER CONFIGURATION

WARNING

HAZARDOUS STEPS FOLLOW DUE TO POSSIBLE EXPOSURE TO N2O4 AND MMH. SFOC SAFETY SHALL MONITOR BREATHING ZONES FOR TOXIC LEVELS AND IF TLV IS EXCEEDED, EVACUATE PERSONNEL TO A SAFE AREA.

14-0742		*PAD	OTC	REQUEST SFOC SAFETY CLEAR ALL PERSONNEL 275 LEVEL AND ABOVE (INCLUDING GVA). CLEAR NONESSENTIAL PERSONNEL 10 FT RADIUS OF AFT RCS THRUSTERS ON RSS 107 FT LEVEL, *SCC *PSE RSS 107 FT LEVEL AND ENGINE SERVICE PLATFORM. VERIFY ESSENTIAL PERSONNEL PROPERLY ATTIRED IN RUBBER APRON, FACESHIELD AND HYPER COMPATIBLE GLOVES. SAFETY PERFORM BREATHING ZONE CHECKS DURING THRUSTERS UTPA REMOVAL. REQUEST SFOC SAFETY CONCURRENCE TO PROCEED.	SU72309 SU72281
		OTC	NTD		
		NTD			
		*SCC			
		*SCC	*PSE		
		NET			
		105			

ESSENTIAL PERSONNEL

	ORB	NASA	SFOC
ENGR	1	1	
TECH	3		
QUALITY	1	1	
SAFETY		1	1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0743				*PAD BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	
14-0744		NTD PA		ATTENTION ON PAD ____:  ALL NONESSENTIAL PERSONNEL CLEAR 10 FT RADIUS OF AFT RCS THRUSTERS ON RSS 107 FT LEVEL , RSS 120 FT LEVEL, ENGINE SERVICE PLATFORM AND FSS 275 FT LEVEL AND ABOVE (INCLUDING GVA).	
14-0745		*PSE NET 105 *SCC 232 NTD	*SCC NTD OTC	NONESSENTIAL PERSONNEL HAVE BEEN CLEARED FROM CONTROL AREAS FOR ARCS THRUSTER COVER REMOVALS. ESSENTIAL PERSONNEL PROPERLY ATTIRED IN RUBBER APRONS, FACESHIELD AND HYPER COMPATIBLE GLOVES. SAFETY VERIFIES CONCURRENCE TO PROCEED WITH ARCS THRUSTER COVER REMOVALS.	
14-0746		OMTO *PAD 132	*PAD OTC	TASK TEAM LEADER/DESIGNEES CONDUCT HAZARDOUS OPERATIONS AND APPENDIX Z BRIEFINGS.	
TTL: _____					
14-0747		OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 23 PART B -ARCS THRUSTER COVER CONFIGURATION FOR LAUNCH. (2.5 HR)	
14-0748		*PAD 132 OTC 232 NTD *SCC *SCC NET 105	OTC NTD *SCC *PSE	ORBITER ARCS THRUSTER UTPA REMOVAL OPS COMPLETE PER ORBITER OPERATION SUPPORT SETUP 23 PART B. READY FOR TOXIC CHECKS OF ALL AFT THRUSTERS, RSS 107 FT LEVEL, OVERHEAD ON RSS 120 FT LEVEL, 275 FT LEVEL AND ABOVE, AND SSME ESP. REQUEST CONCURRENCE TO OPEN CONTROL AREA FOR CONTROLLED WORK.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0749		*PSE NET 105 *SCC 232 NTD OTC OTC 132	*SCC NTD OTC *PAD	N2O4 AND MMH TOXIC VAPOR CHECKS COMPLETE AND LEVELS ACCEPTABLE. YOU HAVE SAFETY CONCURRENCE TO OPEN HYPERGOLIC CONTROL AREA FOR CONTROLLED WORK.	SU72309

NOTE

ARCS HAZARDOUS OPERATIONS COMPLETE.

14-0750		*PAD 132	OTC	CONTINUING WITH ARCS RAIN COVER INSTALLATION PER ORBITER OPERATION SUPPORT SETUP 23 PART B.	
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14-0751		*PAD 132	OTC	ARCS RAIN COVER INSTALLATION COMPLETE PER ORBITER OPERATION SUPPORT SETUP 23 PART B.	SU72281
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REPOSITION RSS ET ACCESS PLTFMS

NOTE

PERFORM NEXT TWO STEPS IF NOT PREVIOUSLY ACCOMPLISHED BY SCHEDULE/OTHER DOCUMENT.

14-0752		STM 232 NTD TBC TBC 136	NTD TBC CLHY CLOX	VERIFY NO ACTIVE PURGE FROM ET INTERTANK.	
---------	--	--	----------------------------	---	--

NOT PERFORMED

14-0753		NTD 232 STM NET 104	STM QBSE	REPOSITION RSS ET ACCESS PLTFMS TO STOWED POSITION PER OMI M3169. (2 HRS) (TASKS 14,1,2,3)	STSA SU72370
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
RESUME CDC -----					
14-0754	T-19H00M (HOLDING)	NTD PA 232	OTC TBC *MIL STM *SCC LPS PTC	CDC WILL START COUNTING AT T-19 HR IN FIVE MINUTES.	
14-0755	T-19H00M (COUNTING)	NTD 232 PA	ALL	CDC AT T-19 HR AND COUNTING.	
LH2 PAD MECHANICAL PREPS COMPLETE -----					
14-0756		CLHY 136	TBC	PAD MECHANICAL PREPARATIONS FOR LOADING PER G3251 COMPLETE.	
MPS 4500 PSI GSE ACTIVATION COMPLETE -----					
14-0757		CMPS 132	OTC	MPS 4500 PSI GSE ACTIVATION PER V9018.001 COMPLETE.	SU72283
NOTE					
DO NOT PERFORM NEXT FOUR STEPS IF AFT FUSELAGE CLOSED.					
14-0758		CLHY 136	TBC	READY TO ACTIVATE ORBITER/ET DISCONNECT CAVITY PURGE. VERIFY ALL PERSONNEL CLEARED FROM INSIDE OF AFT FUSELAGE AND SAFETY CONCURRENCE TO PROCEED PER G3251.	
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0759		TBC 232 NTD *SCC *PSE NET 105 OTC 132	NTD *SCC *PSE NET 105 OTC 132	REQUEST SFOC SAFETY CLEAR ALL PERSONNEL FROM INSIDE OF AFT FUSELAGE FOR HAZARDOUS ORB/ET PURGE OPERATIONS. (*AAM) AFT ACCESS MONITOR WILL BE STATIONED AT AFT FUSELAGE ENTRANCE POST. SAFETY WARNING SIGNS AT ENTRANCES TO AFT FUSELAGE. REQUEST SFOC SAFETY CONCURRENCE TO PROCEED.	
				NOT PERFORMED	_____
14-0760		NTD PA		ATTENTION ON PAD ____:  ALL PERSONNEL CLEAR AFT FUSELAGE FOR PURGE ACTIVATION.	
				NOT PERFORMED	_____
14-0761		*PSE NET 105 *SCC 232 NTD TBC TBC 136	*PSE *SCC *SCC NTD TBC CLHY	AFT FUSELAGE CLEARED OF ALL PERSONNEL AND YOU HAVE SAFETY CONCURRENCE TO ACTIVATE ORBITER/ET DISCONNECT CAVITY PURGE PER G3251.	
				NOT PERFORMED	_____
				WARNING	
				FOLLOWING OPERATION IS HAZARDOUS DUE TO ACTIVATION OF ORBITER/ET DISCONNECT CAVITY PURGE.	
14-0762		CLHY 136 TBC 232 NTD	TBC NTD OTC	ORBITER/ET DISCONNECT CAVITY PURGE WILL BE INITIATED AT THIS TIME PER OMI G3251.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0763		CECL 132	OTC	GSE COOLING RECONFIGURE FROM CHILLED WATER TO REFER MODE COMPLETE.  LAUNCH PAD TOURS -----	

NOTE

PERFORM NEXT TWO STEPS IF  
 MVAK OPERATIONS ARE SCHEDULED  
 AFTER PRSD LOAD OPERATIONS.  
 TOURS MAY BE PERMITTED ABOVE  
 THE PAD SLOPE AT THE DISCRETION  
 OF THE NTD.

14-0764		NTD NET 110 232 OTC 132	OIC	MVAK OPERATIONS READY TO COMMENCE. DISCONTINUE ALL TOURS ABOVE PAD SLOPE FOR DURATION OF MVAK OPERATIONS. NTD MAY APPROVE EXCEPTIONS AS DIRECTED *PAD BY LAUNCH DIRECTOR.	
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NOT PERFORMED \_\_\_\_\_

14-0765		NTD NET 110 232 OTC 132	OIC	MVAK OPERATIONS COMPLETE. TOURS WITH PROPER AUTHORIZATION MAY NOW BE PERMITTED ABOVE PAD SLOPE. *PAD	
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
ORB/ET DISC CAVITY PURGE COMPLETE					
-----					

NOTE

DO NOT PERFORM NEXT THREE STEPS  
 IF AFT FUSELAGE CLOSED OUT FOR  
 FLIGHT OR NO AFT ACCESS REQUIRED.

14-0766		CLHY 136	TBC	ORBITER/ET DISCONNECT CAVITY PURGE IS TERMINATED. READY TO OPEN AFT FUSELAGE.	
				NOT PERFORMED	-----

14-0767		TBC 232 NTD *SCC *SCC NET 105 OTC	NTD	ORB/ET DISCONNECT CAVITY PURGE HAS BEEN TERMINATED. READY TO OPEN AFT. VERIFY O2 LEVEL ACCEPTABLE FOR PERSONNEL ENTRY. REQUEST SAFETY CONCURRENCE TO OPEN AFT FUSELAGE FOR CONTROLLED WORK. REMOVE SAFETY WARNING SIGNS.	
				NOT PERFORMED	-----

14-0768		*PSE NET 105 *SCC 232 NTD	*SCC	O2 LEVEL IN AFT ACCEPTABLE. YOU HAVE SAFETY CONCURRENCE TO OPEN AFT FUSELAGE FOR CONTROLLED WORK. SAFETY WARNING SIGNS REMOVED.	
			OTC		NOT PERFORMED
				NOT PERFORMED	-----

NOTE

HAZARDOUS STEPS DUE TO  
 ORBITER/ET DISCONNECT CAVITY  
 PURGE ARE COMPLETE.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

-----  
 ACTIVATE/BORESIGHT XENON LIGHTS  
 -----

WARNING

WHEN XENON LIGHTS ARE OPERATING, PERSONNEL MUST AVOID LOOKING DIRECTLY INTO LIGHTS AS EYE DAMAGE MAY RESULT.

NOTE

DO NOT PERFORM NEXT TWO STEPS IF TANKING AND LAUNCH WILL BE DURING DAYLIGHT.

14-0769	-19H00M	STM 232 NTD PA	NTD	ATTENTION ON PAD ____:  XENON LIGHTS WILL BE TURNED ON. AVOID LOOKING INTO LIGHTS. EYE DAMAGE MAY RESULT.	SU72422
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NOT PERFORMED \_\_\_\_\_

NOTE

XENON FLOODLIGHTS WILL NOT BE TURNED ON DURING THE RSS MOVE FROM MATE POSITION UNTIL TRUCK 1 HAS BEEN SECURED IN THE PARK POSITION.

14-0770		STM 111	JSTC	TURN ON XENON LIGHTS AND BORESITE. (1H30M)	SU72417   ELEC
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ESSENTIAL PERSONNEL  
 -----

	SGS	NASA
TECHS	7	
ENGR		1

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

SSME FINAL PREPS  
 -----

NOTE

SSME PREPS INCLUDE  
 LOADING SSME CONTROLLERS  
 AND WILL REQUIRE MOUNTING  
 TAPES ON TWO SPA TAPE DRIVES.  
 (THE OPERATION CAN BE SUPPORTED  
 WITH ONLY ONE DRIVE IF  
 NECESSARY.)

DUE TO MMU CONTENTION, DO  
 NOT PERFORM SSME CONTROLLER  
 LOADS UNTIL TFL LOADS AND IMU  
 CHECK POINT DATA READS COMPLETE.

14-0771	-19H00M	OTC	CCME	GO TO CH 146 AND PERFORM SSME	SU72324
		132	LPS	FINAL PREPS PER OMI V9018.001 JRPS AND OMI V9001VL4. (6 HR)	SU72326

MEC ACTIVATION  
 -----

NOTE

DO NOT PERFORM NEXT FOUR STEPS  
 IF MEC'S ARE POWERED UP.

DO NOT PERFORM NEXT STEP DURING  
 MAIN ENGINE CONTROLLER LOAD.

14-0772	-18H15M	OTC	CEPD	PERFORM MEC POWER UP	SU72312
		132		PER OMI S9001VL1 ON CH 151.	

RT OMI LOG NO. \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_

14-0773			CEPD	TERMINATE OPS CONCURRENCY IN WHICH MEC ACTIVATION WAS PERFORMED, OBTAIN SPA PRINTOUT AND ANALYZE PREFLITE BITE.	
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VERIFY NO MEC FAILURES

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0774		OTC 132	CEPD	PERFORM MEC PREFLT BITE EVALUATION.	
				NOT PERFORMED	_____
14-0775			CEPD	PERFORM CDS QLDB RETRIEVAL ON FD <MEC1> <MEC2>.	
				VERIFY NO MEC FAILURES.	
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ECLSS PLUG SET REMOVAL -----					
14-0776	-18H00M	OTC 132	CECL	PERFORM ORBITER OPERATION SUPPORT SETUP 3 - ECLSS FES, NH3 AND O2/N2 PLUG SETS REMOVAL.	SU72332
ESSENTIAL PERSONNEL -----					
				ORB	NASA
				---	----
				TECH	1
				QUAL	1
OMRS V63AR0.025					
14-0777	-18H00M	OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 23 PART C - RCS PAPER COVER FINAL INSPECTION. (1 HOUR)	SU72315
14-0778		JBPN 111	STM	GH2/GO2 SYSTEMS HAVE BEEN MAINTAINED.	PNSA
INST/MADS/OEX RECORDER CONFIGURE FOR LCD -----					
14-0779	-17H30M	OTC 132 232 NTD	CISL NTD JRPS	PERFORM INST/MADS/OEX RCDR CONFIGURE FOR LCD PER S0007VL4 (SEQ 38). (1 HR)	SU72313
OMRS S00FA0.540 OMRS S00FA0.670					
14-0780		CCME 132 OTC 232 NTD	OTC NTD LPS	SSME LOADS COMPLETE. SPA TAPE DRIVE NO LONGER REQUIRED. PROCEEDING WITH SSME AVIONICS CHECKS.	SU72326 SU72328

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IN ORDER TO PROCEED WITH SSME FINAL PREPS, THE AFT MUST BE CLOSED OUT FOR FLIGHT AND MPS FUNCTIONAL CHECKS COMPLETE PER V9018.001 AND S1287.

ORB LH2 FEED SYSTEM VENTING (REF V9018)

NOTE

DO NOT PERFORM NEXT FOUR STEPS IF RSS IS ROLLED BACK (PARK POSITION) AND LH2 TSM IS CLOSED OUT FOR FLIGHT.

14-0781		CMPS	OTC	LOUD HELIUM VENTING WILL OCCUR FROM MPS LH2 RTLS DUMP PORT.	
	132				
		OTC	NTD	REQUEST SAFETY NOTIFY PERSONNEL WORKING IN LH2 TSM/T-0 CARRIER	
	232				
		NTD	*SCC	PLATE LOUD VENTING WILL OCCUR	
		*SCC	*PSE	MOMENTARILY. REQUEST SAFETY	
		NET		VERIFY NO PERSONNEL IN LINE OF	
	105			LH2 RTLS DUMP PORT EXIT, LOCATED NEAR 50-1 DOOR, AND NOTIFY ALL PERSONNEL IN VICINITY OF DUMP PORT THAT LOUD VENTING WILL OCCUR, REQUEST SAFETY REMAIN ON STATION UNTIL VENTING IS COMPLETE.	

NOT PERFORMED \_\_\_\_\_

14-0782		CMPS	OTC	REQUEST PA ANNOUNCEMENT	
	132				
		OTC	NTD	ATTENTION ON PAD ____:	
	232			HELIUM WILL BE VENTED FROM MPS	
		NTD		RTLS DUMP PORT. FLOW WILL BE	
		PA		AUDIBLE.	

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0783		*PSE NET 105 *SCC 232 NTD OTC OTC 132	*SCC NTD	PERSONNEL HAVE BEEN NOTIFIED AND NO LONGER IN VICINITY OF LH2 RTLS DUMP PORT. YOU HAVE SAFETY CONCURRENCE TO PROCEED.	
				NOT PERFORMED	_____
14-0784		CMPS 132 OTC 232 NTD *SCC *SCC NET 105	OTC NTD *SCC *PSE	HELIUM VENTING FROM LH2 RTLS DUMP PORT NEAR ORBITER 50-1 DOOR COMPLETE. SAFETY MAY BE RELEASED AT THIS TIME.	
				NOT PERFORMED	_____
				WWMS PREPS FOR SWITCHLIST -----	
14-0785		OTC 132	CFCP	PERFORM WWMS PREPS FOR SWITCHLIST PER S0007 VL4 (SEQ 54) ON CH 153. REPORT COMPLETION.	SU72311



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.																
CLEAR FOR OMS ENGINES COVER AND ----- THROAT PLUG REMOVALS -----																					
14-0790	-17H00M	OTC 232 NTD *SCC *PSE NET 105	NTD *SCC *PSE	REQUEST SFOC SAFETY CLEAR ALL NONESSENTIAL PERSONNEL FROM A 10 FT RADIUS OF THE OMS ENGINES. VERIFY ESSENTIAL PERSONNEL ARE PROPERLY ATTIRED IN HEAVY DUTY RUBBER APRONS, FACESHIELDS AND HYPERGOLIC COMPATIBLE GAUNTLET GLOVES. PERFORM TOXIC VAPOR CHECKS DURING REMOVAL OF OMS ENGINE THROAT PLUGS AND COVERS. REQUEST SAFETY CONCURRENCE TO PROCEED.	SU72374																
ESSENTIAL PERSONNEL -----																					
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<table border="0"> <tr> <td>MECH TECH</td> <td>3</td> <td></td> <td></td> </tr> <tr> <td>QUALITY</td> <td>1</td> <td>1</td> <td></td> </tr> <tr> <td>ENGR</td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>SAFETY</td> <td></td> <td>1</td> <td>1</td> </tr> </table>						MECH TECH	3			QUALITY	1	1		ENGR	1			SAFETY		1	1
MECH TECH	3																				
QUALITY	1	1																			
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SAFETY		1	1																		
14-0791		NTD PA		ATTENTION ON PAD ____:  ALL NONESSENTIAL PERSONNEL CLEAR 10 FT RADIUS OF OMS ENGINES FOR OMS ENGINE COVER AND THROAT PLUG REMOVALS.																	
14-0792				TASK TEAM LEADER/REPRESENTATIVE PERFORM SAFETY INSPECTION OF THE LOCAL CONTROL AREA AND EGRESS ROUTE(S) FROM CONTROL AREA. VERIFY NO DISCREPANCIES WHICH AFFECT THE OPERATION AND/OR SAFE EGRESS FROM THE CONTROL AREA.  TASK TEAM LEADER/ REPRESENTATIVE _____  DATE _____																	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0793	-17H00M	*PSE NET 105 *SCC 232 NTD	*SCC NTD OTC	NONESSENTIAL PERSONNEL CLEARED OF 10 FT RADIUS FROM OMS ENGINES AND ESSENTIAL PERSONNEL PROPERLY ATTIRED. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH OMS ENGINE COVER AND THROAT PLUG REMOVALS.	
14-0794		OTC 132 *PAD	*PAD OMTO	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	

WARNING

HAZARDOUS STEPS FOLLOW DUE  
 TO POSSIBLE EXPOSURE TO  
 N2O4 AND MMH.

THROAT PLUG DESSICANT BAG  
 MAY BE CONTAMINATED. SFOC  
 SAFETY SHALL MONITOR  
 OPERATIONS FOR TOXIC LEVELS,  
 AND IF TLV IS EXCEEDED,  
 EVACUATE PERSONNEL TO A  
 SAFE AREA.

REMOVE OMS ENGINE COVERS AND  
 -----  
 THROAT PLUGS  
 -----

14-0795		OTC 232 NTD STM 111 JSTC	NTD STM *SCB	VERIFY HARDLINE BREATHING SUPPORT AVAILABLE ON RSS 107 FT LEVEL FOR OME PLUG REMOVAL.	LS SU72354
14-0796		OTC 132	*PAD	PERFORM OPERATION SUPPORT SETUP 21 - OMS ENGINE COVERS AND THROAT PLUGS REMOVAL. (1 HR)	SU72336

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ORBITER HELIUM ANTI-ICE PURGE ----- VERIFICATION -----  WARNING  GN2 WILL FLOW THRU PURGE LINES IN AFT COMPARTMENT.  NOTE  DO NOT PERFORM NEXT THREE STEPS IF AFT CLOSED FOR FLIGHT.					
14-0797	-17H00M	CLOX 136 TBC 232 NTD OTC OTC 132	TBC NTD OTC *ACM	IF AFT NOT CLEARED, OBTAIN TIME ESTIMATE AS TO WHEN AFT WILL BE CLEARED AND INFORM CLOX.	NOT PERFORMED _____
14-0798		NTD 232 *SCC NET 105	*SCC *PSE	VERIFY ORBITER AFT FUSELAGE CLEARED OF ALL PERSONNEL.	NOT PERFORMED _____
14-0799		*PSE NET 105 *SCC 232 NTD TBC TBC 136	*SCC NTD	AFT FUSELAGE CLEAR OF ALL PERSONNEL.	NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT STEP IF THE LOX ANTI-ICE PURGE TEST IS REQUIRED.

14-0800		CLHY TBC 136		G3251 ET OPERATION SUPPORT SETUP 6 - CONFIGURATION FOR LOX ANTI-ICE PURGE TEST COMPLETE.	
				NOT PERFORMED	_____

ET NOSE CONE GN2 ANTI-ICE PURGE  
 -----  
 SETUP  
 -----

WARNING

FOLLOWING STEPS ARE HAZARDOUS DUE TO ET NOSE CONE PURGE.

NOTE

DO NOT PERFORM NEXT THREE STEPS IF GOX VENT ARM IS RETRACTED.

14-0801		CLOX TBC 136 TBC NTD 232 NTD *SCC *SCC *PSE NET 105		REQUEST SFOC SAFETY CLEAR NOSE CONE AREA OF ALL PERSONNEL. REQUEST SAFETY CONCURRENCE TO PROCEED WITH NOSE CONE PURGE.	SU72310
				NOT PERFORMED	_____

14-0802	-17H00M	NTD PA		ATTENTION ON PAD ____:  ET NOSE CONE PURGE WILL BE INITIATED MOMENTARILY. LOUD GN2 FLOW WILL BE HEARD IN ET NOSE CONE AREA.	
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0803		*PSE NET 105 *SCC 232 NTD TBC 136	*SCC NTD TBC CLOX	NOSE CONE AREA CLEAR OF ALL PERSONNEL AND YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH ET NOSE CONE PURGE.	SU72296
				NOT PERFORMED	_____
				OAA/HCU PREPS	
-----					
14-0804	-17H00M	OTC 132 *PAD	*PAD PHCU	PERFORM HCU PER-OPERATION SETUPS 2 AND 3 PER OMI V2160.	SU72333
14-0805		OTC 132 *PAD	*PAD POAA	PERFORM OAA PRE-OPERATION SETUP 2 PER OMI V2153.	
				GVA PREPS	
-----					
14-0806		TBC 136 *PAD	*PAD PME4	PERFORM GVA PRE-OPERATION SETUPS 2, 3, 4, 5 AND 6 PER OMI G2158.	SU72343
14-0807		CECL 132	OTC	ECLSS FES, NH3 AND O2/N2 PLUG SET REMOVAL COMPLETE.	
				OMRSD V63AR0.025	
				ET/IT PURGE READINESS TEST	
-----					
14-0808		CLHY 136	TBC	VERIFY ET INTERTANK FLIGHT DOOR INSTALLED AND INTERTANK ACCESS ARM RETRACTED.	
14-0809		TBC 136 CLHY	CLHY PLHY	CLEAR OF ALL PERSONNEL FROM EL 207, RSS ACCESS TO RSS AUXILARY PLATFORM. POST SAFETY WARNING SIGNS.	
				166	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0810		PLHY 166 CHLY TBC TBC 232 NTD	CLHY TBC NTD	ALL PERSONNEL CLEAR FROM EL 207, RSS ACCESS TO RSS AUXILIARY PLATFORM. SAFETY WARNING SIGNS POSTED.	
14-0811		CLHY 136	TBC	ET/IT GN2 PURGE WILL BE INITIATED MOMENTARILY.	
14-0812		TBC 232 NTD PA	NTD	ATTENTION ON PAD ____:  ET INTERTANK PURGE WILL BE OPERATED INTERMITTENTLY FOR NEXT HOUR.  RSS ET ACCESS PLATFORMS ----- STOWED -----	
NOTE					
PERFORM NEXT STEP IF NOT PREVIOUSLY ACCOMPLISHED BY SCHEDULE/OTHER DOCUMENT.					
14-0813		QBSE NET 104 STM 232	STM NTD	RSS ET ACCESS PLATFORMS IN STOWED POSITION.	STSA   SU72370
				NOT PERFORMED	_____
14-0814		CCME 132	OTC	SSME AVIONICS CHECKS COMPLETE.	SU72328

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT THREE STEPS IF ESP NOT CLEARED.					
SSME 750 PNEUMATICS ACTIVATION -----					
14-0815	-16H25M	CSME 132 OTC 232 NTD *SCC *SCC *PSE NET 105	OTC NTD	IF NOT CLEARED, REQUEST SFOC SAFETY CLEAR ALL PERSONNEL FROM ESP. ERECT WARNING SIGNS. REQUEST SAFETY CONCURRENCE TO PROCEED WITH SSME PNEUMATIC CHECKOUT.	SU72379
					NOT PERFORMED _____
14-0816		NTD PA		ATTENTION ON PAD ____:  SSME HELIUM SYSTEM WILL BE PRESSURIZED AND SSME PURGES WILL BE ACTIVATED.	
					NOT PERFORMED _____
14-0817		*PSE NET 105 *SCC 232	*SCC NTD	ORBITER ESP CLEARED OF ALL PERSONNEL AND WARNING SIGNS INSTALLED. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH SSME PNEUMATIC CHECKOUT.	
					NOT PERFORMED _____
14-0818		NTD 232 OTC 132	OTC CSME	PERFORM SSME 750 PNEUMATICS ACTIVATION PER OMI V9018.001. (AFT FUSELAGE CLOSED FOR FLIGHT)	
SSME PNEUMATIC CHECKOUT -----					
14-0819	-16H20M	NTD 232 OTC 132	OTC LPS CMPS	PERFORM SSME PNEUMATIC CHECKOUT PER OMI V9018.001. REQUEST LPS SUPPORT CSME ON OIS CH 146. (ESP CLEARED AND AFT FUSELAGE CLOSED FOR FLIGHT) (30 MIN)	SU72329
14-0820		LPS 127	C2MC	PLACE PP1 UNITS 2 THRU 5 ON LINE FOR CMPS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT TWO STEPS  
IF GOX VENT ARM IS RETRACTED.

14-0821		CLOX	TBC	ET NOSE PURGE FLOW COMPLETE.	
		136		REQUEST SAFETY OPEN GOX VENT	
		TBC	NTD	ARM FOR CONTROLLED WORK.	
		232			
		NTD	*SCC		
		*SCC	*PSE		
		NET			
		105			

NOT PERFORMED \_\_\_\_\_

14-0822		*PSE	*SCC	GOX VENT ARM OPEN FOR CONTROLLED WORK.	
		NET			
		105			
		*SCC	NTD		
		232			
		NTD	TBC		
		TBC	CLOX		
		136			

NOT PERFORMED \_\_\_\_\_

NOTE

HAZARDOUS STEPS COMPLETE.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
SRB HPU EXHAUST DUCT PLUGS AND					
-----					
OVERBOARD DRAIN LINE SCRUBBER REMOVALS					
-----					
14-0823		CBHY	TBC	SRB AFT SKIRT GN2 PURGE VERIFIED	
		136		NOT ACTIVE.	
		TBC	NTD		
		232			
		NTD	*SCC		
		*SCC	*PSE		
		NET			
		105			
14-0824		BHT_	TBC	REQUEST SFOC SAFETY CLEAR	SU72381
		136		NONESSENTIAL PERSONNEL ON MLP	
		TBC	NTD	ZERO LEVEL 10 FT RADIUS	
		232		AROUND EACH OF THE SRB TURBINE	
		NTD	*SCC	EXHAUST DUCTS FOR PLUG REMOVAL.	
		*SCC	*PSE	VERIFY PERSONNEL PROPERLY ATTIRED	
		NET		IN FACESHIELDS, RUBBER APRONS	
				AND HYPER COMPATIBLE GLOVES	
				AND CONCURRENCE TO PROCEED.	
ESSENTIAL PERSONNEL					
-----					
SFOC					
-----					
				SRB MECH TECHS	2
				QC	1
				SAFETY	1
				ENGR	1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0825		NTD PA		ATTENTION ON PAD ____:  ALL NONESSENTIAL PERSONNEL CLEAR 10 FOOT RADIUS OF SRB HPU EXHAUST DUCTS FOR SRB EXHAUST PLUG AND OVERBOARD DRAIN LINE SCRUBBER REMOVAL.	
14-0826		*PAD	TTL	TASK TEAM LEADER/REPRESENTATIVE PERFORM SAFETY INSPECTION OF THE LOCAL CONTROL AREA AND EGRESS ROUTE(S) FROM CONTROL AREA. VERIFY NO DISCREPANCIES WHICH AFFECT THE OPERATION AND/OR SAFE EGRESS FROM THE CONTROL AREA.  TASK TEAM LEADER/ REPRESENTATIVE _____  DATE _____	
14-0827		*PSE NET 105 *SCC 232 NTD TBC TBC 136	*SCC NTD TBC BHT_	CONTROL AREA CLEAR ON MLP ZERO LEVEL AROUND SRB HPU TURBINE EXHAUST DUCTS. SAFETY VERIFIES PERSONNEL PROPERLY ATTIRED AND CONCURRENCE TO PROCEED WITH SRB HPU EXHAUST DUCT PLUGS AND OVERBOARD DRAIN LINE SCRUBBER REMOVAL.	
14-0828		TBC	BHT_	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	

OPERATION INSTRUCTIONS

-----  
SEQ            TIME            CMD    RESP                            DESCRIPTION                            VERIF.  
-----

WARNING

HAZARDOUS OPERATION - SRB HPU EXHAUST PLUG AND OVERBOARD DRAIN LINE SCRUBBER REMOVAL FOLLOWS, DUE TO WORK AT UNPROTECTED EDGE OF SRB FLAME HOLES AND POSSIBLE EXPOSURE TO HYDRAZINE VAPORS.

FACESHIELDS, RUBBER APRONS AND HYPERCOMPATIBLE GLOVES REQUIRED. SAFETY HARNESS WITH SECURED LANYARD REQUIRED FOR TECHNICIAN(S) REMOVING PLUGS.

SFOC SAFETY SHALL MONITOR BREATHING ZONE FOR N2H4 TOXIC LEVELS. IF TLV IS EXCEEDED, EVACUATE PERSONNEL TO OUTSIDE BREATHING ZONE AND ONLY REENTER AFTER TLV IS DETERMINED TO BE SATISFACTORY.

DO NOT STAND DIRECTLY BEHIND PLUGS DURING REMOVALS.

14-0829                            BHT\_            PERFORM FOLLOWING:                            SU72341

1. REMOVE TURBINE EXHAUST DUCT PLUG AND OVERBOARD DRAIN LINE SCRUBBERS AND TUBING FROM ALL FOUR SRB HPU TURBINE EXHAUST DUCTS AND OVERBOARD DRAIN LINES.

LEFT SRB TILT  
TIR NO. \_\_\_\_\_ T: \_\_\_\_\_  
SS1

LEFT SRB ROCK  
TIR NO. \_\_\_\_\_ T: \_\_\_\_\_  
SS1

RIGHT SRB TILT  
TIR NO. \_\_\_\_\_ T: \_\_\_\_\_  
SS1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0829				RIGHT SRB ROCK	
CON'T				TIR NO. _____	T: _____ SS1
			2.	RINSE EXHAUST DUCT PLUGS AND OVERBOARD DRAIN LINE SCRUBBERS AND TUBING WITH WATER UNTIL SFOC SAFETY VERIFIES TOXIC VAPOR CHECKS LESS THAN 0.1 PPM HYDRAZINE.	T: _____ SS2
			3.	DOUBLE BAG EXHAUST DUCT PLUGS AND OVERBOARD DRAIN LINE SCRUBBERS AND TUBING INTO ZIPLOCK BAG WITH TAPE.	T: _____ SS3
			4.	PREPARE TWO DECON TAGS (KSC FORM 4-295) AND ATTACH TO BAG(S) AS FOLLOWS, ONE INSIDE WITH COMPONENTS AND ONE OUTSIDE, (TOTAL OF FOUR DECON TAGS REQUIRED) RETURN TO STORAGE.	T: _____ SS4
14-0830		BHT_	TBC	SRB HPU TURBINE EXHAUST DUCT	
		136		PLUGS AND OVERBOARD DRAIN LINE	
		TBC	NTD	SCRUBBERS REMOVAL COMPLETE.	
		232		REQUEST SFOC SAFETY PERFORM O2	
		NTD	*SCC	LEVEL CHECK AND TOXIC VAPOR	
		*SCC	*PSE	CHECK OF SRB HPU TURBINE	
		NET		EXHAUST DUCTS. REQUEST SFOC	
		105		SAFETY CONCURRENCE TO OPEN	
				AREA AROUND SRB HPU TURBINE	
				EXHAUST DUCTS.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0831		*PSE NET 105 *SCC 232 NTD	*SCC   NTD TBC	SAFETY VERIFIES O2 ATMOSPHERE CHECKS AND TOXIC VAPOR CHECKS OF SRB HPU TURBINE EXHAUST DUCTS VICINITY. YOU HAVE SAFETY CONCURRENCE TO OPEN SRB HPU EXHAUST DUCT CONTROL AREA FOR CONTROLLED WORK.	SU72381

NOTE

HAZARDOUS STEPS DUE TO SRB  
HPU EXHAUST DUCT PLUGS AND  
OVERBOARD DRAIN SCRUBBERS  
REMOVAL COMPLETE.

NEXT STEP NOT A CONSTRAINT  
TO RSS ROTATION.

SRB TIR LOG

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14-0832		TBC 136 CMQC	CMQC  PQCG	VERIFY ALL SRB TIR LOG ITEMS CLOSED.	SU72340  TQV:_____
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
SAFETY SHOWER REMOVAL					
14-0833		STM 232 NTD *SCC *SCC NET 105	NTD *SCC *PSE	REQUEST SAFETY CONCURRENCE TO REMOVE SAFETY SHOWERS FROM MLP.	
14-0834		NET 105 *SCC 232 NTD STM	*PSE *SCC NTD	YOU HAVE SAFETY CONCURRENCE TO REMOVE SAFETY SHOWERS FROM MLP.	
14-0835		STM 111 JBDY 104	JBDY GBHE	PROVIDE TRUCKS AND MOBILE CRANE FOR REMOVAL OF SAFETY SHOWERS AND LOOSE EQUIPMENT FROM MLP (Q3205). REPORT COMPLETION.	HESA SU72353
14-0836		STM 111	JBFX JBDY	REMOVE SAFETY SHOWERS AND EYEWASH FOUNTAINS FROM EAST PAD SURFACE AND MLP PER OMI M3190. (4 HRS)	WSSA HESA SU72363

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

UCOM/GSS TECHS MEET AT  
 BASE OF FSS ELEVATOR.

DO NOT PERFORM NEXT THREE  
 STEPS IF EQUIPMENT NOT  
 INSTALLED.

14-0837	-16H00M	TBC 232 NTD STM 111 GYCC 117	NTD STM JYCD	SRB PERSONNEL READY FOR OIS UNIT REMOVAL. UCOM REMOVE TWO PORTABLE OIS UNITS OUTBOARD OF SRB FLAME HOLES ON MLP ZERO LEVEL. INSTALL CAPS ON GOOSENECK CABLE CONNECTORS. (10 MIN) GSS REMOVE PURGE FLEXHOSES.	COMM PNSA
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UCOM

T: \_\_\_\_\_

GSS

T: \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_

14-0838		JYCD 117 GYCC 111 STM 232	GYCC STM NTD	TWO PORTABLE OIS UNITS ON MLP ZERO LEVEL, OUTBOARD OF SRB FLAME HOLES, HAVE BEEN REMOVED. CAPS INSTALLED ON GOOSENECK CABLE CONNECTORS.	COMM
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NOT PERFORMED \_\_\_\_\_

14-0839		JBPN 111	STM	PURGE FLEXHOSE DISCONNECTED FOR REMOVAL OF TWO OIS BOXES ON MLP.	PNSA
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0840		CLHY 136	TBC	ET/IT PURGE READINESS TEST COMPLETE. NOTIFY CLHY IF INTERTANK ENTRY REQUIRED SO INTERTANK PURGE CAN BE SECURED.	
14-0841		CLHY 136 TBC 232 NTD	TBC NTD *SCC	ET INTERTANK PURGE OPERATIONS COMPLETE. WARNING SIGNS REMOVED AND AREA OPEN FOR NORMAL OPERATIONS ON RSS AUXILARY PLATFORM.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				LH2 FSS MECHANICAL PREPS COMPLETE	
14-0842		CLHY 136	TBC	FSS MECHANICAL PREPARATIONS FOR LOADING PER G3251 COMPLETE.	
				OI AND MADS/OEX RCDR CONFIGURE COMPLETE	
14-0843	-16H00M	CISL 132	OTC	OI AND MADS/OEX RCDR SETUPS FOR TERMINAL COUNT COMPLETE.	SU72313
				OMRSD V78GA0.020 OMRSD V75AP0.020	
				NOTE	
				PERFORM NEXT TWO STEPS FOR OV-103.	
				PERFORM NEXT TWO STEPS AFTER COMPLETION OF MADS RECORDER CONFIGURATION FOR LAUNCH.	
14-0844		OTC 132	CEPD	PERFORM MEC PREFLT BITE EVALUATION.	
				NOT PERFORMED	
14-0845			CEPD	PERFORM CDS QLDB RETRIEVAL ON FD <MEC 1><MEC 2>	
				VERIFY NO MEC FAILURES	
				NOT PERFORMED	
				OAA/HCU PREPS COMPLETE	
14-0846		POAA *PAD *PAD 132	*PAD OTC	OAA/HCU PREPS PER PRE-OPERATION SETUP 2 OF V2153 AND PRE-OPERATION SETUPS 2 AND 3 OF V2160 COMPLETE.	SU72333
				GVA PREPS COMPLETE	
14-0847		PME4 *PAD 136 TBC 232	*PAD TBC NTD	GVA PREPS PER PRE-OPERATION SETUPS 2, 3, 4, 5 AND 6 OF G2158 COMPLETE.	SU72343

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- MICROBIAL SAMPLE/CREW MODULE -----					
NOTE					
MATERIALS/EQUIPMENT TO BE SUPPLIED BY KRUG/JSC REPS. SAMPLING PROCEDURES TO BE SUPERVISED AND PERFORMED BY KRUG/JSC REPS.					
14-0848	-16H00M	OTC 132	*PAD	PERFORM F-0 TO F-2 MICROBIAL SAMPLING INSIDE CREW MODULE USING JSC MICROBIAL SAMPLING PROCEDURES, JSC-18633 AS GUIDE. ATTACH COPY OF SAMPLING LOCATIONS(S) FROM PROCEDURES. (2 HR)	SU72282
OMS ENGINE COVERS AND THROAT PLUG ----- REMOVALS COMPLETE -----					
14-0849	-16H00M	*PAD 132 OTC 232 NTD *SCC *PSE NET 105	OTC NTD *SCC *PSE	OMS ENGINE COVERS AND THROAT PLUGS REMOVED. REQUEST SFOC SAFETY PERFORM TOXIC VAPOR CHECKS AND VERIFY TOXIC VAPOR LEVELS ACCEPTABLE. REQUEST SAFETY CONCURRENCE TO OPEN (OMS ENGINE) CONTROL AREA FOR CONTROLLED WORK. PROVIDE TVC READINGS FOR OME THROAT PLUGS.	
14-0850		*PSE NET 105 *SCC 232 NTD OTC OTC 132	*SCC NTD OTC *PAD	TOXIC VAPOR CHECKS ACCEPTABLE. YOU HAVE SAFETY CONCURRENCE TO OPEN OMS ENGINE CONTROL AREA FOR CONTROLLED WORK. TVC READINGS FOR THROAT PLUGS ARE AS FOLLOWS: LOME PLUG _____ PPM N2O4 BD _____ PPM MMH BD ROME PLUG _____ PPM N2O4 BD _____ PPM MMH BD	SU72374

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0851		*PAD 132 OTC 232	OTC NTD	OPERATION SUPPORT SETUP 21 - OMS ENGINE COVERS AND THROAT PLUG REMOVAL COMPLETE.	SU72336
14-0852		OTC 232 NTD STM 111 JSTC 114	NTD STM JSTC *SCB	HARDLINE BREATHING SUPPORT NO LONGER REQUIRED ON RSS 107 FT LEVEL.	SU72354
NOTE					
HAZARDOUS STEPS FOR OMS ENGINE COVER AND THROAT PLUG REMOVALS COMPLETE.					
14-0853		OTC 132 232 NTD STM 111 JBDY NET 105	*PAD NTD STM JBDY 50	REMOVE PIC BOARDS AND RETRACT 107 FT LEVEL DIVING BOARDS PER OMI V3529. (2 HRS) (SPIDER 50)	HESD SU72362
14-0854		OTC 132	*PAD	VERIFY ORBITER ESP CONFIGURED FOR LOWERING.  ACTIVATE HCU -----	
14-0855	-16H00M	OTC 132	CGSS	ACTIVATE HCU AND PRESSURIZE FSS HYDRAULIC SYSTEM PER OMI V2160.  SSME PNEUMATIC CHECKOUT COMPLETE -----	SU72334
14-0856	-15H40M	CSME 132 OTC 232 NTD	OTC NTD *SCC	SSME PNEUMATIC CHECKOUT COMPLETE. PROCEEDING WITH SSME GSE SETUPS. MAINTAIN CONTROLS ON ESP FOR GN2 FLOW.	SU72329 SU72330

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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INSTRUMENTATION MEASUREMENT SUPPORT

NOTE

DO NOT PERFORM NEXT STEP  
 IF ACCOMPLISHED PRIOR TO CALL  
 TO STATIONS.

14-0857	-15H30M	STM 111	JCFM	PROCEED TO PAD MLP. PERFORM FOLLOWING:  1. REMOVE MLP RAIN GAGE FROM ZERO LEVEL OF MLP.  2. REMOVE LCD AND CPT FROM NORTH SITE CWLIS.	SU72356
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NOT PERFORMED

GND SUPPORT COMM SYS VALID (A2700)

14-0858		NTD 232	*MIL	VERIFY MILA READY TO SUPPORT S0007.	SU72368
14-0859		STM 111 GYCC PTP	GYCC	PERFORM VALIDATION OF MULTI-BURST COMM *MIL VIDEO TEST SIGNAL PER OMI A2700. GYVW (1 HR)	
14-0860		NTD 232	*MIL STM	PERFORM LPS/MILA CIRCUIT VALIDATION PER OMI A2700. LPS (1 HR) JRPS	
14-0861			LPS	VERIFY LPS TO MSFC KMTS DATA LINK.	
14-0862			LPS	VERIFY DOWNEY RECEIVING CCP AND PCMMU DATA.	
14-0863			LPS	VERIFY ODRC RECEIVING PCMMU DATA.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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FD MS SEAT/EQUIP INSTL  
 -----

14-0864	-15H30M	OTC 132	*PAD	PERFORM FD MS SEAT AND EQUIPMENT INSTALLATION PER FCS TPS _____.	SU72337
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NOTE

PERFORM NEXT STEP FOR  
 MISSIONS THAT DO NOT  
 REQUIRE LATE ACCESS TO  
 THE SPACELAB OF SPACEHAB  
 USING MVAK.

FD/MD SEAT CABLE ROUTING  
 -----

14-0865		OTC 132	*PAD	PERFORM FD/MD MS SEAT CABLE ROUTING PER FCS TPS _____.	
				NOT PERFORMED	_____

NOTE

HVAC ENGR WILL DETERMINE IF  
 NEXT STEP REQUIRED.

14-0866	-15H15M	STM 111	JBAC	CONFIGURE PAD-____ PTCR HVAC SYSTEM WATER CHILLER(S) WITH WC-1 AND/OR WC-2 ON LINE AND OPERATING DEPENDING ON SYSTEM LOAD, WITH WC-3 IN STANDBY, PER HVAC SUPERVISION/ ENGINEERING DIRECTION AND PER OMI M3006 PAD A/OMI M3023 PAD B.	HVAA
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT STEP  
 IF SYSTEMS HAVE REMAINED  
 CONFIGURED FROM PREVIOUS  
 RUN OF S0007.

SAFETY SHOWER/EYEWASH REMOVAL COMPLETE  
 -----

14-0867	-15H00M	JBFX 111	STM	SAFETY SHOWERS AND EYEWASH FOUNTAINS REMOVAL COMPLETE.	WSSA SU72363
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NOT PERFORMED \_\_\_\_\_

FCMS POWER UP AND DATA RECORDING  
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14-0868		OTC 132	CFCP JRPS JSDC	PERFORM FUEL CELL MEASUREMENT SYSTEM (FCMS) POWER UP AND DATA RECORDING (OPTION A) PER S9001VL2 (SEQ 93) ON OIS CH 153. REPORT COMPLETION. (15 MIN)	SU72433
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FUEL CELL CABIN PREPS  
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NOTE

MASTER ALARMS WILL OCCUR  
 IN NEXT STEP (ADVISE CISL).  
 MASTER ALARMS WILL BE  
 RESET PER V1040.002.

14-0869	-15H00M	OTC 132	CFCP CECL	PERFORM REMOTE FUEL CELL ACTIVATION CABIN PREPS PER OMI V1040.002 ON OIS CH 153.	SU72462
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
OAA PREPS -----					
14-0870	-15H00M	CGSS 132	OTC	FSS HYDRAULIC SYSTEM PRESSURIZED PER V2160.	SU72334
14-0871		OTC 132	CGSS	PERFORM OAA PREPS PER OMI V2153.	SU72335
14-0872		*PAD 132	OTC	ORBITER PRE-OPERATION SETUP 9 - LAUNCH ACCESSORIES SYS PREPS COMPLETE.	
NOTE					
FES DUCT REMOVAL (T-17H) MUST BE COMPLETED PRIOR TO TRIPLE FLIP RETRACTION.					
NEXT TWO STEPS MUST BE COMPLETE PRIOR TO START OF TSM FINAL PREPS FOR EACH RESPECTIVE TRIPLE FLIP.					
14-0873		OTC 232 NTD STM NET 104	NTD STM QBSE	ACCESS NO LONGER REQUIRED, RETRACT RSS TRIPLE FLIPS PER OMI M3094.	STSA SU72359
14-0874		QBSE NET 104 STM 232 NTD	STM OTC *SCC	RSS TRIPLE FLIP PLATFORM RETRACTIONS COMPLETE.	STSA SU72359

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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TSM PRE-ARM PREPS  
 -----

WARNING

DO NOT PERFORM LOX AND LH2  
 TSM FINAL PREPS UNTIL TRIPLE  
 FLIPS RETRACTED TO PRECLUDE  
 DAMAGE TO T-0 CARRIER PLATE;  
 ALSO PRYO'S ARE INSTALLED.

14-0875		OTC	NTD	OBTAIN FIXED O2 READINGS OF LO2 AND LH2 TSM'S FOR PERSONNEL	PWRA SU72316
		NTD	STM	ENTRY REQUEST SAFETY CONCURRENCE	
		STM	JBEP	FOR PERSONNEL ENTRY TO LO2 AND LH2 TSM'S.	
		111			
		JBEP	STM		
		STM	NTD		
		232			
		NTD	*SCC		
		*SCC	*PSE		
		NET			
		105			
14-0876		OTC	NTD	WITH PORTABLE METER, ESTABLISH A GH2 BASELINE READING (LEL SCALE)	
		NTD	*SCC	OUTSIDE LH2 TSM. VERIFY NO INCREASE OF GH2 ABOVE BASELINE INSIDE LH2	
		232			
		*SCC	*PSE	TSM.	
		NET			
		105			
14-0877		*PSE	*SCC	O2 AND H2 READINGS ACCEPTABLE. YOU HAVE CONCURRENCE FOR PERSONNEL ENTRY TO LO2 AND LH2 TSM'S.	
		NET			
		105			
		*SCC	NTD		
		232			
		NTD	OTC		
14-0878		OTC	*PAD	PERFORM LH2 TSM PRE-ARMING PREPS QHSM PER OMI V3517.	
		132			
14-0879		OTC	*PAD	PERFORM LOX TSM PRE-ARMING PREPS QOSM PER OMI V3518.	
		132			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
VERIFY FREQ CLEARANCE					
-----					
14-0880	-15H00M	OTC 232 NTD STM 111	NTD STM ENDO	VERIFY PROTECTED OPEN LOOP FREQUENCY CLEARANCE FOR S-BAND AND UHF THRU NEGATIVE AOA. (ENDO 853-2436/5941)  1. S-BAND PM S-BAND FM UHF 2041.9 MHZ 259.7 MHZ 2106.4 MHZ 2250.0 MHZ 296.8 MHZ 2217.5 MHZ 2287.5 MHZ  FREQUENCY CLEARANCE NO. _____  2. UHF GUARD 243 MHZ FROM _____ HRS THRU _____ HRS _____ DATE.  FREQUENCY CLEARANCE NO. _____	SU72352
GND SUPPORT COMM SYS VALID COMPLETE					
-----					
14-0881		*MIL GYCC 111 STM 232	STM NTD	MULTI BURST VIDEO TEST SIGNAL VALIDATION PER A2700 COMPLETE.	COMM SU72368
14-0882		STM 232	NTD	LPS/MILA CIRCUIT VALIDATION PER A2700 COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
SSME GN2 PURGE CHECKOUT					
14-0883	-14H30M	CSME 132 OTC 232	OTC NTD	SSME GSE SETUPS COMPLETE, REQUEST PERMISSION TO PROCEED WITH SSME GN2 PURGE CHECKOUT PER V9018.001.	SU72330

NOTE

DO NOT PERFORM NEXT THREE  
 STEPS IF ESP ALREADY CLEARED.

14-0884		NTD 232 *SCC NET 105	*SCC	VERIFY ALL PERSONNEL CLEARED FROM ORBITER ESP AND WARNING SIGNS ERECTED. REQUEST SAFETY CONCURRENCE TO PROCEED.	NOT PERFORMED _____
14-0885		NTD PA		ATTENTION ON PAD ____:  ALL PERSONNEL CLEAR ORBITER ESP. SSME GN2 PURGE WILL BE ACTIVATED.	NOT PERFORMED _____
14-0886		*PSE NET 105 *SCC 232	*SCC NTD	ORBITER ESP CLEARED OF ALL PERSONNEL. WARNING SIGNS HAVE BEEN INSTALLED. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH SSME GN2 PURGE CHECKOUT.	NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

WARNING

HAZARDOUS OPERATION -  
 SSME GN2 PURGE CHECKOUT  
 FOLLOWS, (HAZ DUE TO  
 PRESENCE OF GN2).

14-0887	-14H30M	NTD 232 OTC 132	OTC CSME	PROCEED WITH SSME GN2 PURGE CHECKOUT PER OMI V9018.001. (30 MIN)	SU72331
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FUEL CELL ACTIVATION PREPS COMPLETE

14-0888	-14H30M	CFCP CECL 132 OTC	OTC CISL	REMOTE FUEL CELL ACTIVATION CABIN PREPS COMPLETE (V1040.002). REQUEST CISL PERFORM C&W MEMORY READ AND CLEAR.	SU72462
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14-0889		CISL	MS1	PANEL R13U CAUTION/WARNING MEMORY SW - READ (HOLD) REPORT MATRIX LIGHTS ON:	SU72467
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RECORD IN S0007VL4 APPENDIX P-5

VERIFY FOLLOWING MATRIX LIGHTS ON:

062	072	082
092	102	112

OMRS V45CG0.040-A  
 OMRS V45CG0.040-B  
 OMRS V45CG0.040-C

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0890		CISL	MS1	PANEL R13U CAUTION/WARNING MEMORY SW - CLEAR AND RELEASE MEMORY SW - READ HOLD REPORT MATRIX LIGHTS ON:  RECORD IN S0007VL4 APPENDIX P-4  VERIFY FOLLOWING MATRIX LIGHTS ON:  062      072      082 092      102      112  OMRS V45CG0.040-A OMRS V45CG0.040-B OMRS V45CG0.040-C	
14-0891		CISL	MS1	PANEL R13U CAUTION/WARNING MEMORY SW - RELEASE  SSME GN2 PURGE C/O - COMPLETE	
14-0892	-14H00M	CSME	OTC	SSME GN2 PURGE CHECKOUT COMPLETE. (V9018.001). PRINTER PLOTTERS NO 132 LONGER REQUIRED. PLACE PP 1 UNITS OTC LPS LPS C2MC 2 THRU 5 OFFLINE AND REMOVE DATA 127 FOR DATA COORDINATOR PICKUP.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0893		CSME 132 OTC 232	OTC NTD	SSME FINAL PREPS PER V9018.001 COMPLETE.  OMRSD S00FA0.213-A-1 OMRSD S00FA0.213-B-1 OMRSD S00FA0.213-C-1 OMRSD S00FA0.213-D-1 OMRSD S00FA0.213-E-1 OMRSD S00FA0.213-F-1 OMRSD S00FA0.213-G-1 OMRSD S00FA0.213-H-1 OMRSD S00FA0.213-I-1 OMRSD S00FA0.213-J-1	
NOTE					
HAZARDOUS OPERATION (SSME GN2 PURGE) COMPLETE.					
PERFORM NEXT TWO STEPS IF ESP/ECP AREA IS REQUIRED TO BE OPENED.					
14-0894		NTD 232 *SCC NET 105	*SCC *PSE	SSME GN2 PURGE CHECKOUT COMPLETE. VERIFY O2 LEVELS ACCEPTABLE ON ORBITER ESP/ECP. REQUEST SAFETY CONCURRENCE TO OPEN ORBITER ESP/ECP AREA FOR CONTROLLED WORK AND TO REMOVE SIGNS.	SU72331
NOT PERFORMED					
14-0895		*PSE NET 105 *SCC 232	*SCC NTD	O2 LEVELS ARE ACCEPTABLE ON ORBITER ESP/ECP. YOU HAVE SAFETY CONCURRENCE TO OPEN ORBITER ESP/ECP AREA FOR CONTROLLED WORK. SIGNS HAVE BEEN REMOVED.	SU72379
NOT PERFORMED					
14-0896		NTD 232 STM 111	STM JBEP	SPECIAL POWER TECHS (1-0702) REMOVE ODMS REMOTE DIGITAL DISPLAYS AT MLP LH2 AND LO2 TSMS PER OMI M3088. COVERALLS REQUIRED. REPORT COMPLETION.	PWRA SU72355

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT STEP IF PAYLOAD ESA MONITOR CONSOLES REQUIRED EARLY.					
14-0897		NTD 232	LPS	PERFORM SUPPORT OPERATION SUPPORT SETUP 4 - LCC2 PAYLOAD SUPPORT CONFIGURATION. (CONSOLES TO BE ON LINE BY T-11H AND HOLDING)	SU72406
NOT PERFORMED					_____
14-0898		*PAD 132	OTC	ORBITER OPERATION SUPPORT SETUP 2 - ORBITER STRUCTURAL PANEL CONFIGURATION FOR TANKING AND LAUNCH, PART B, COMPLETE.	SU72314
MICROBIAL SAMPLE/CREW MODULE - COMPLETE -----					
14-0899	-14H00M	*PAD 132	OTC	CREW MODULE MICROBIAL SAMPLING (L-2 TO L-0 DAYS) COMPLETE.	
JSC REP _____					
OMRSD V67AA0.030-B					
OAA PREPS COMPLETE -----					
14-0900	-13H00M	CGSS 132	OTC	OAA PREPS PER V2153 COMPLETE. CONSOLE CLOSED OUT.	SU72335

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
GOX VENT ARM PREPS -----					
14-0901	-13H00M	NTD 232 TBC 136	TBC CMEC	PERFORM GOX VENT ARM SYSTEM INITIAL PREPS PER OMI G2158.	SU72348

NOTE

PERFORM GOX VENT HOOD IRONOUT  
 (CONTINGENCY) IF A NEW SEAL  
 HAS BEEN INSTALLED BUT NOT  
 IRONED OUT.

GOX VENT HOOD SEAL IRONOUT  
 -----  
 (CONTINGENCY)  
 -----

NOT PERFORMED

14-0902		TBC 232 NTD STM 111 JSTC 114	NTD STM JSTC GSPN	PERFORM M3703 PREPS TO SUPPORT ET GOX VENT HOOD GN2 PURGE PREPS (G2158). (30 MIN). COORDINATE WITH CMEC, CH 186.	JSTC PNU
14-0903		STM 111	JBPN	VERIFY LPGN2 VALVE A135935 OPEN.	PNSA  T: _____
14-0904		JSTC 111 STM 232 NTD	STM NTD TBC	M3703 PREPS TO SUPPORT ET GOX VENT HOOD GN2 PURGE PREPS (G2158) COMPLETE.	
14-0905		CMEC 136 TBC 232 NTD	TBC NTD *SCC	READY TO PROCEED WITH GOX VENT ARM GN2 PURGE OPERATION. REQUEST CONCURRENCE TO CLEAR.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0906		CMEC	PMEA	FSS 255 FT LEVEL	SU72377
				1. CLEAR GOX VENT ARM OF NONESSENTIAL PERSONNEL. ESSENTIAL PERSONNEL ARE AS FOLLOWS:  PME4, PAD MECH TECH PQC1, PAD QC	
				2. REQUEST SAFETY CONCURRENCE TO INITIATE GN2 PURGE TO GOX VENT HOOD.	
14-0907		CMEC	TBC	REQUEST FOLLOWING PA ANNOUNCEMENT: 136 TBC NTD ATTENTION AT PAD___: 232 NTD GOX VENT ARM HEATED PURGE WILL BE PA ACTIVATED MOMENTARILY. NONESSENTIAL PERSONNEL CLEAR GOX VENT ARM.	
14-0908		CMEA CMEC 136 TBC 232 NTD	CMEC TBC NTD *SCC	NONESSENTIAL PERSONNEL CLEAR OF GOX VENT ARM. REQUEST SAFETY CONCURRENCE TO BEGIN GN2 FLOW.	
14-0909		*SCC 232 NTD TBC 136	NTD TBC CMEC	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH GN2 FLOW TO GOX VENT ARM.	
14-0910		TBC 136	CMEC	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

HAZARDOUS GN2 OPERATIONS  
 COMPLETE.

14-0911		TBC 232 NTD *SCC *PSE NET 105	NTD *SCC *PSE	HAZARDOUS GN2 OPERATIONS COMPLETE. REQUEST SAFETY CONCURRENCE TO OPEN GOX VENT ARM FOR CONTROLLED WORK.	
14-0912		*PSE NET 105 *SCC 232 NTD TBC	*SCC NTD	YOU HAVE SAFETY CONCURRENCE TO OPEN GOX VENT ARM FOR CONTROLLED WORK.	
14-0913		CMEC 136	TBC	GOX VENT HOOD SEAL IRONOUT COMPLETE.  GOX VENT HOOD SEAL IRONOUT ----- (CONTINGENCY) COMPLETE -----  CONFIGURE ELECTRICAL EQUIP -----	
14-0914		STM 111 JSTC 114	JSTC JSEP	VERIFY POWER AT TEL IV AND RADAR 19:14. (FPQ-14)	ELEC SU72365
14-0915		STM 111	JBAC	VERIFY FOLLOWING LISTED BUILDINGS HVAC SYSTEMS OPERATIONAL:  N6-1118 SOUTH REPEATER STATION M7-531 BANANA RIVER REPEATER STATION K7-442 DLTR #2 K7-89 DLTR #3 J8-2204 DLTR #4 (PAD-A) J7-1736 DLTR #5 (PAD-B) J7-986 DLTR #6 (PAD-B) M6-138 CD&SC K6-1193 VABR	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
TSM PRE-ARMING PREPS - COMPLETE					
-----					
14-0916	-13H00M	QOSM 132	OTC	LOX TSM PRE-ARMING PREPS PER V3518 COMPLETE.	
14-0917		QHSM 132	OTC	LH2 TSM PRE-ARMING PREPS PER V3517 COMPLETE.	
14-0918		OTC 232	NTD	LOX AND LH2 TSM PRE-ARMING PREPS COMPLETE.	SU72316

NOTE

NEXT STEP TO BE PERFORMED  
DURING DAYLIGHT HOURS AS  
CLOSE TO FINAL RSS RETRACTION  
AS POSSIBLE. T6446 (SEQ 02)  
MUST BE COMPLETED PRIOR TO  
+Y/-Y OWP RETRACTION.

14-0919		TBC 136	*PAD	PERFORM ET PRE-PROPELLANT LOAD INSPECTION PER OMI T6446.	SU72346
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OMRS T09QAL.030-1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.																		
TSM FINAL PREPS -----																							
WARNING																							
DO NOT PERFORM LOX AND LH2 TSM FINAL PREPS UNTIL TRIPLE FLIPS RETRACTED TO PRECLUDE DAMAGE TO T-0 CARRIER PLATE; ALSO PRYO'S ARE INSTALLED.																							
14-0920	-13H00M	QOSM QHSM 132 OTC 232 NTD *SCC *SCC NET 105	OTC   NTD  *SCC *PSE	READY TO PROCEED WITH TSM FINAL PREPS. REQUEST SFOC SAFETY CLEAR NONESSENTIAL PERSONNEL FROM INTERIOR AND 10 FT RADIUS OF LO2 AND LH2 TSM DOORS FOR FINAL PREPS.  ESSENTIAL PERSONNEL -----	SU72318 SU72380																		
<table border="0"> <thead> <tr> <th></th> <th>SFOC</th> <th>NASA</th> </tr> <tr> <th></th> <th>----</th> <th>----</th> </tr> </thead> <tbody> <tr> <td>ORDNANCE TECH</td> <td>2</td> <td></td> </tr> <tr> <td>ORDNANCE ENGR</td> <td>1</td> <td>1</td> </tr> <tr> <td>QUALITY CONTROL</td> <td>1</td> <td>1</td> </tr> <tr> <td>SAFETY</td> <td>1</td> <td>1</td> </tr> </tbody> </table>							SFOC	NASA		----	----	ORDNANCE TECH	2		ORDNANCE ENGR	1	1	QUALITY CONTROL	1	1	SAFETY	1	1
	SFOC	NASA																					
	----	----																					
ORDNANCE TECH	2																						
ORDNANCE ENGR	1	1																					
QUALITY CONTROL	1	1																					
SAFETY	1	1																					
14-0921	-13H00M	NTD PA		ATTENTION ON MLP____:  ALL NONESSENTIAL PERSONNEL CLEAR INTERIOR OF LH2 AND LO2 TSM'S FOR TSM FINAL PREPS.																			
14-0922	-13H00M	NTD 232 TBC 136	TBC CLHY	VERIFY LOX/LH2 TSM GN2 PURGES NOT ACTIVATED.																			
14-0923		CLHY	CLH2	CRT (GAH51 TRANSFER LINE - MLP PURGES DISPLAY)  VERIFY  PF (A129758 LH2 TSM/TUNNEL PGE) OFF PG (A129756 LH2 EMER TSM PGE) OFF PH (A129760 LO2 TSM/TUNNEL PGE) OFF																			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0924		CLHY 136 TBC 232 NTD *SCC *SCC NET 105	TBC NTD OTC *SCC *PSE	LOX/LH2 TSM GN2 PURGES NOT ACTIVATED.	
14-0925		*PSE NET 105 *SCC 232 NTD	*SCC NTD OTC	INTERIOR AND 10 FT RADIUS OF LH2 AND LO2 TSM DOORS CLEARED OF NONESSENTIAL PERSONNEL. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH LO2 AND LH2 TSM FINAL PREPS.	
14-0926		OTC 132	QOSM QHSM	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	
<p>WARNING</p> <p>HAZARDOUS STEPS FOLLOW          DUE TO ORDNANCE CONNECTION          IN LH2 AND LO2 TSM'S.</p> <p>TSM ORDNANCE IS CONNECTED,          PERSONNEL WORKING IN TSM          AREAS MUST REMAIN CLEAR OF          BONNET, DROPWEIGHT AND          LANYARD.</p>					
14-0927		OTC 132	QOSM	PERFORM LOX TSM FINAL PREPS PER OMI V3518.	
14-0928	-13H00M	OTC 132	QHSM	PERFORM LH2 TSM FINAL PREPS PER OMI V3517.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
FSS ELEV PHONES TO PTP MODE -----					
14-0929	-13H00M	NTD 232 STM 111 GYCC 117 PTP	STM GYCC JYCJ JSOQ	CONFIGURE FSS ELEVATOR TELEPHONES TO PTP MODE AND COMM CHECK WITH CONSOLE AB-6. (TAG PHONES FOR PTP MODE WITH LCC-1/3). (30 MIN.)	COMM SU72364
14-0930	-12H30M	JYCJ 117 GYCC 111 STM 232	JYCJ GYCC STM NTD	FSS ELEVATOR TELEPHONES HAVE BEEN CONFIGURED TO PTP MODE AND COMM CHECKED WITH CONSOLE AB-6. PHONES HAVE BEEN TAGGED FOR PTP MODE WITH LCC-1/3.	COMM SU72364
QV: _____					
ACTIVATE EPD EXCEPTION MONITORING -----					
14-0931	-12H30M	OTC 132	CEPD	ACTIVATE EXCEPTION MONITORING FOR LCC REDLINES.  CEPD CURSOR CNTL (SWC02) LCC EMON - ACT XMIT CURSOR KEY - PRESS	
14-0932	-12H30M	CEPD 132	OTC	EPDC LCC EXCEPTION MONITORING COMPLETE.	
SUPPORT PURGE VERIFICATION -----					
14-0933	-12H15M	STM 111 NET 104	JBPN JBFX VEEE	VERIFY ALL REQUIRED ELECTRICAL ENCLOSURES/FACILITIES ARE UNDER POSITIVE PURGE PER OMI M3054/ OMI M3176/ OMI M3190.	PNSA WSSA CDPD SU72357
14-0934	-12H15M	STM 111 GYCC PTP	GYCC PSOQ	VERIFY OIS PURGE/LOCKOUT AND OTV PRESSURIZATION VERIFICATIONS VALID FOR S0007 PER OMI D3008.	COMM
QV: _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
APU EXHAUST DUCT/WSB STEAM VENT -----					
14-0935		OTC	NTD	REQUEST SFOC SAFETY CLEAR NONESSENTIAL PERSONNEL 275 FT AND ABOVE (TO INCLUDE GVA) AND 10 FT AROUND APU EXHAUST DUCTS FOR PLUG/COVER REMOVAL. VERIFY ESSENTIAL PERSONNEL PROPERLY ATTIRED IN FUEL COMPATIBLE RUBBER APRONS, FUEL COMPATIBLE GLOVES AND SAR (CLASS C). REQUEST SAFETY CONCURRENCE TO PROCEED.	SU72367 SU72378
ESSENTIAL PERSONNEL -----					
				SFOC    NASA	
				-----	
				OMTO            1	
				QC                1	
				SAFETY           1        1	
14-0936		NTD	PA	ATTENTION ON PAD ____:	
ALL NONESSENTIAL PERSONNEL CLEAR 275FT AND ABOVE AND 10 FT RADIUS AROUND APU EXHAUST DUCTS FOR PLUG/COVER REMOVAL.					
14-0937				TASK TEAM LEADER/REPRESENTATIVE PERFORM SAFETY INSPECTION OF THE LOCAL CONTROL AREA AND EGRESS ROUTE(S) FROM CONTROL AREA. VERIFY NO DISCREPANCIES WHICH AFFECT THE OPERATION AND/OR SAFE EGRESS FROM THE CONTROL AREA.	
TASK TEAM LEADER/ REPRESENTATIVE _____					
DATE _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0938		*PSE NET 105 *SCC 232 NTD	*SCC NTD OTC	CONTROL AREA CLEARED OF NONESSENTIAL PERSONNEL AND ESSENTIAL PERSONNEL PROPERLY ATTIRED. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH EXHAUST PLUG/COVER REMOVAL.	

14-0939		OTC 132 *PAD	*PAD OMTO	BRIEF PERSONNEL OF HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	
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WARNING

SOME AMMONIA ODOR MAY BE PRESENT DURING APU PLUG REMOVAL.

14-0940	-12H00M	OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 25 - APU EXHAUST DUCT PRESSURE PLUG/COVER REMOVAL AND WSB STEAM VENT CONFIGURATION.	SU72317
TSM FINAL PREPS COMPLETE -----					

14-0941	-12H00M	QHSM 132	OTC	LH2 TSM FINAL PREPS PER V3517 COMPLETE.	SU72318
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14-0942		QOSM 132	OTC	LOX TSM FINAL PREPS PER V3518 COMPLETE.	
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14-0943	-12H00M	OTC 232 NTD	NTD TBC	VERIFY TSM PURGE SYSTEM NOT ACTIVATED. (PURGE CAPS WILL BE REMOVED AT THIS TIME).	
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14-0944		TBC 136	CLHY	VERIFY LOX/LH2 TSM GN2 PURGES NOT ACTIVATED.	
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14-0945		CLHY	CLH2	CRT (GAH51 TRANSFER LINE - MLP PURGES DISPLAY)	
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VERIFY

PF (A129758 LH2 TSM/TUNNEL PGE) OFF  
 PG (A129756 LH2 EMER TSM PGE) OFF  
 PH (A129760 LO2 TSM/TUNNEL PGE) OFF

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0946		CLHY 136 TBC 232 NTD	TBC NTD OTC *SCC	TSM PURGES NOT ACTIVATED AT AT THIS TIME.	
14-0947	-12H00M	OTC 132	QHSM QOSM	TSM PURGE SYSTEM NOT ACTIVATED, PROCEED WITH TSM CLOSEOUT PER OMI V3517 AND OMI V3518.	SU72319
14-0948		NTD 232 STM 111	STM GYCC	RECONFIGURE ER WX STA CKT 2BPC077 FROM LCC PRE-LAUNCH MONITOR CONSOLE TO LCC-1/3 OSR CONSOLE.	COMM
14-0949		GYCC 117	JYCJ	RECONFIGURE ER WX STA CKT 2BPC077 FROM LCC RM 1P12A PRE-LAUNCH MONITOR CONSOLE TO LCC 1/3 OSR CONSOLE A5 PT TO PT PHONE. VERIFY WHEN CIRCUIT OPERATIONAL. (30 MIN)	COMM
EXTEND GVA -----					
14-0950		CMEC 136 TBC 232 NTD	TBC *PAD NTD *SCC	READY TO EXTEND GOX VENT ARM.	SU72377
14-0951		CMEC	PME4	CLEAR ALL PERSONNEL AND LOOSE EQUIPMENT FROM GOX VENT ARM, HOOD, HOOD ACCESS PLATFORM, ARM LATCHBACK PLATFORM, UPPER AND LOWER HINGE ACCESS PLATFORMS, AND VERIFY NO OBSTRUCTIONS IN ARM SWING PATH.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0952		NTD PA		ATTENTION ON PAD ____:  GOX VENT ARM WILL BE EXTENDED MOMENTARILY. ALL PERSONNEL CLEAR GOX VENT ARM.	
WARNING					
HAZARDOUS OPERATIONS FOLLOW DUE TO GOX VENT ARM EXTEND.					
14-0953		PME4 186 CMEC 136 TBC 232 NTD	CMEC TBC *PAD NTD *SCC	GOX VENT ARM CLEAR OF ALL PERSONNEL AND LOOSE EQUIPMENT. HAZARDOUS GOX VENT ARM EXTEND OPERATIONS COMMENCING.	
14-0954		TBC 136	CMEC	BRIEF PERSONNEL OF HAZARDS PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z EMERGENCY INSTRUCTIONS.	
NOTE					
HAZARDOUS OPERATIONS DUE TO EXTENSION OF GVA COMPLETE.					
14-0955		CMEC 136 TBC 232 NTD	TBC *PAD NTD *SCC	GOX VENT ARM EXTEND COMPLETE. GOX VENT ARM AREAS OPENED FOR CONTROLLED WORK.	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
LOX PREPS FOR LOAD - COMPLETE -----					
14-0956	-12H00M	CLOX 136 TBC 232	TBC NTD	ALL SEQUENCES OF LO2 PREPS COMPLETE PER G3151 EXCEPT ET PREPS FOR LOADING, STORAGE TANK PRESSURIZATION AND SUCTION LINE CHILLDOWN.	SU72294
NOTE					
PERFORM NEXT STEP FOR MISSIONS THAT DO NOT REQUIRE LATE ACCESS TO THE SPACELAB OR SPACEHAB USING MVAK.					
14-0957		*PAD 132	OTC	FD/MD MS SEAT CABLE ROUTING PER V5097.003 COMPLETE.	SU72337
NOT PERFORMED					
14-0958	-11H30M	QHSM 132 OTC 232 NTD	OTC NTD *SCC	LH2 TSM CLOSEOUT PER V3517 AND CAMERA PURGE ACTIVITIES COMPLETE.	SU72319 SU72380
14-0959	-11H30M	QOSM 132 OTC 232 NTD	OTC NTD *SCC	LOX TSM CLOSEOUT PER V3518 AND CAMERA PURGE ACTIVITIES COMPLETE.	
14-0960		NTD 232	STM	TSM AND AFT CLOSEOUT COMPLETE. CONFIGURE ODMs FOR LAUNCH.	
14-0961		STM 111	JBEP	NOTIFY SPECIAL POWER TECHS (1-0702) TO CONFIGURE MLP LH2 AND LO2 TSM ODMs FOR LAUNCH PER OMI M3088. REPORT COMPLETION.	PWRA

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0962		STM 111	JBEP	IF NOT PREVIOUSLY ACCOMPLISHED, NOTIFY SPECIAL POWER TECHS (1-0702) TO CONFIGURE PAD ORBITER AFT ODMS FOR LAUNCH PER OMI M3088. REPORT COMPLETION.	PWRA
				NOT PERFORMED	_____

NOTE

PERFORM NEXT STEP IF ORB  
 ESP LOWERING IS SCHEDULED TO  
 FOLLOW SOUND SUPPRESSION TANK  
 FILL.

14-0963		OTC 232 NTD STM STM 111	NTD STM JBWC	DEACTIVATE SOUND SUPPRESSION TRICKLE FLOW SYSTEM PER OMI M3189.001 (30 MIN.) REPORT COMPLETION.	WSSA SU72411
				NOT PERFORMED	_____

WARNING

DO NOT PERFORM LOWER ORBITER  
 ESP TO TRANSPORTER IF SS  
 TANK/MLP LINE FILL TO 105 FT  
 LEVEL IN WORK (48 INCH SS  
 BYPASS VALVES OPEN).

LOWER ORBITER ESP TO TRANSPORTER  
 -----

NOT PERFORMED \_\_\_\_\_

14-0964		OTC 132	*PAD	VERIFY RSS 107 FT LEVEL DIVING BOARDS RETRACTED AND FLIPS CONFIGURED FOR ORBITER ESP LOWERING.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0965		QESP 132 OTC 232 NTD	OTC NTD *SCC	READY TO PROCEED WITH ORBITER ESP LOWERING OPERATION PER V2270.	

14-0966		OTC 132 QESP	QESP QMTG	CLEAR ALL PERSONNEL FROM ESP AND ALL NONESSENTIAL PERSONNEL FROM INSIDE MLP ESP WINCHES AREA AND 25 FT RADIUS OF PLATFORM TRANSPORTER.	SU72419
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ESSENTIAL PERSONNEL

	SFOC	NASA
ENGR	1	1
TECH	8	
QC	1	
SAFETY	1	1

14-0967	-11H30M	NTD PA			
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ATTENTION ON PAD \_\_\_\_:

ALL PERSONNEL CLEAR ESP FOR ESP  
 OPERATIONS. ALL NONESSENTIAL  
 PERSONNEL CLEAR THE FOLLOWING  
 CONTROL AREAS FOR ESP OPERATIONS:

1. 25 FT RADIUS OF PLATFORM  
TRANSPORTER.
2. INSIDE MLP ESP WINCH AREA.



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
WARNING  HAZARDOUS STEPS FOLLOW DUE TO MOVEMENT OF HEAVY EQUIPMENT.					
14-0968		QMTG QESP 132 OTC 232 NTD	QESP OTC *PAD NTD *SCC	ALL PERSONNEL CLEAR FROM ESP. NONESSENTIAL PERSONNEL CLEAR FROM INSIDE MLP ESP WINCHES AREA AND 25 FT RADIUS OF PLATFORM TRANSPORTER. COMMENCING WITH ORBITER ESP LOWERING OPERATION.	SU72402
14-0969		OTC 132	QESP	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	
14-0970		OTC 132	QESP	VERIFY HANDRAILS OR TEMPORARY ROPES IN PLACE AROUND MAIN ENGINE BLAST HOLE (V2270).	
					T: _____
14-0971	-11H30M	JYCJ 117 GYCC 111 STM 232	GYCC STM NTD	ER WX STA CKT 2BPC077 HAS BEEN RECONFIGURED FROM PRE-LAUNCH MONITOR CONSOLE TO LCC 1/3 OSR CONSOLE A5 AND IS OPERATIONAL.	COMM
14-0972		TBC 232 NTD STM 111	NTD STM JBPN	VERIFY MLP ____ PURGE PANEL S72-1107-08 IN COMPARTMENT 44A INDICATES AS FOLLOWS: 1. 750 +/- 50 PSI ON GAGE A85427 2. 50 +/- 0 PSI ON GAGE A85434 3. 45 +/- 5 PSI ON GAGE A85442	PNSA SU72349



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- CONFIGURE HOLD COUNTDOWN -----					
14-0974	-11H20M	NTD 232	CGLS	HOLD CDC AT T-11 HOURS FOR AN ___ HOUR _____ MINUTE HOLD.	
14-0975	-11H20M		CGLS	HOME CMD KEY - PRESS CDTH -1100/00 XMIT CMD KEY - PRESS	
14-0976	-11H20M	CGLS 232	NTD	CDC WILL HOLD AT T-11 HOURS.	
14-0977	-11H20M	NTD PA 232	OTC TBC PTC SRO STM *FLT *MIL *SCC LPS	CDC WILL HOLD AT T-11 HOURS FOR ___ HOURS _____ MINUTES.	
14-0978	-11H15M	STM 111 GYCC PTP	GYCC PSOQ	UNLOCK DOOR ON MLP I/F TOWER, 3RD LVL AND REMOVE INTEGRITY CONTROL SIGN FROM ACCESS PLATFORM. (15 MIN)	COMM  QV:_____
14-0979	-11H15M	STM NET 104	QBSE	INSTALL BOLTS ON A AND B LEVEL 9099 INTERFACE TOWER DOORS. REPORT COMPLETION. (15 MIN)	STSA SU72338  T:_____

OPERATION INSTRUCTIONS

-----  
SEQ            TIME            CMD    RESP                            DESCRIPTION                            VERIF.  
-----

PAD STRUCTURES CLOSEOUT FOR LAUNCH  
-----

14-0980		STM	QBSE	PERFORM PAD STRUCTURES CLOSEOUT	STSA
		NET		FOR LAUNCH PER OMI M3134/	SU72515
		104		OMI M3083. COMPLETION STEP IN	
				SEQ 15.	

ESSENTIAL PERSONNEL  
-----

	GSS	NASA
	---	----
SUPER	2	1
ENGR	4	
TECH	14	
QA	1	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- APU COVER RMVL AND WSB STEAM VENT ----- CONFIGURATION COMPLETE -----					
NOTE  HAZARDOUS OPERATIONS DUE TO APU EXHAUST DUCT REMOVAL COMPLETE.					
14-0981	-11H00M	*PAD 132	OTC	ORBITER OPERATION SUPPORT SETUP 25 APU EXHAUST DUCT PRESSURE	SU72317
		OTC 232	NTD	PLUG/COVER REMOVAL AND WSB STEAM VENT CONFIGURATION COMPLETE.	
		NTD *SCC	*SCC	REQUEST SAFETY CONCURRENCE TO OPEN 275 FT AND ABOVE AND 20 FT	
		NET 105		CONTROL AREA AROUND APU EXHAUST DUCTS FOR CONTROLLED WORK.	
14-0982		*PSE NET 105	*SCC	YOU HAVE SAFETY CONCURRENCE TO OPEN 275 FT AND ABOVE AND 20 FT CONTROL AREA AROUND APU EXHAUST	SU72378
		*SCC 232	NTD	DUCTS FOR CONTROLLED WORK.	
		NTD	OTC		
14-0983		OTC TBC 232	NTD	ALL BREATHING AIR REQUIREMENTS FOR ORBITER AND SRB COMPLETE. LIFE SUPPORT PERSONNEL RELEASED.	LS
		NTD STM	STM		
		STM 111	JSTC		
		JSTC 114	*SCB		
14-0984		OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 23 PART D - OMS/RCS GSE PRE-LAUNCH SECURING. (3 HRS)	SU72415

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
SRB JOINT HEATER CONFIGURATION CHECKS -----					
14-0985		CPWR		CURSOR CNTL (BDE11) AUTO SEQ - ALL XMIT CURSOR KEY - PRESS  CRT VERIFY ALL PRI HEATERS OPERATING NOMINALLY	
14-0986		CPWR		CURSOR CNTL (BDE11) AUTO SEQ - ALL XMIT CURSOR KEY - PRESS  CRT VERIFY ALL PRI HTR PWR OFF	
14-0987		CPWR		CURSOR CNTL (BDE11) LH IGN SEC SEL XMIT CURSOR KEY - PRESS  CRT VERIFY LH IGN SEC SEL SEC  REPEAT FOR: RH IGN SEC SEL LH FWD SEC SEL RH FWD SEC SEL LH MID SEC SEL RH MID SEC SEL LH AFT SEC SEL RH AFT SEC SEL	
14-0988		CPWR		CURSOR CNTL (BDE11) AUTO SEQ - ALL XMIT CURSOR KEY - PRESS  CRT VERIFY ALL SEC HEATERS OPERATING NOMINALLY	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-0989		CPWR		CURSOR CNTL (BDE11) AUTO SEQ - ALL XMIT CURSOR KEY - PRESS  CRT VERIFY ALL SEC HTR PWR OFF	
14-0990		CPWR		CURSOR CNTL (BDE11) LH IGN SEC SEL XMIT CURSOR KEY - PRESS  CRT VERIFY LH IGN SEC SEL PRI  REPEAT FOR: RH IGN SEC SEL LH FWD SEC SEL RH FWD SEC SEL LH MID SEC SEL RH MID SEC SEL LH AFT SEC SEL RH AFT SEC SEL	
14-0991	-11H00M	PBOL 136	*PAD TBC	SRB T-0 UMBILICAL SEAL GN2 PURGE ACTIVATED.	SU72345
				OMRSD S00FA0.850	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
*** T-11 HOUR HOLD ***					
14-0992	-11H00M (HOLDING)	CGLS 232	NTD	CDC HELD AT ____/___ GMT HHMM SS	
NOTE					
PERFORM NEXT STEP AFTER CDC IS HOLDING.					
14-0993	-11H00M (HOLDING)		CGLS	HOME CMD KEY - PRESS  CDTC ____/__.000 HHMM SS  (GMT OF CDC RESUME)  XMIT CMD KEY - PRESS  ANNOUNCE HOLD -----	
14-0994	-11H00M (HOLDING)	NTD PA 232	OTC TBC *FLT *MIL STM PTC *SCC LPS	CDC HOLDING AT T-11 HOURS. DURATION OF HOLD WILL BE ___ HOURS ___ MINUTES.	SU72386
14-0995	-11H00M (HOLDING)	CGLS 232	NTD	___ HOUR ___ MINUTE HOLD TERMINATES AND CLOCK WILL RESUME AT  ____/___ GMT HHMM SS	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORMANCE OF NEXT TWO STEPS  
 WILL BE SCHEDULED REALTIME  
 BY TEST TEAM.

14-0996		NTD 232	CTC	VERIFY READY TO ACTIVATE OIS-D LAUNCH SUPPORT PERMISSION CONFIGURATION FOR LCC-2.	
14-0997		NTD 232 STM 111 GYCC 117	STM GYCC JYCD	ACTIVATE OIS-D LAUNCH SUPPORT PERMISSION CONFIGURATION FOR LCC-2 (REF KICS). REPORT COMPLETION.	COMM

ORBITER GN&C POWER UP AND SWITCH  
 -----  
 CONFIGURE (L-28H00M)  
 -----

NOTE

FOLLOWING STEP PERFORMS A  
 SYSTEMATIC PANEL BY PANEL  
 SWITCH CONFIGURE OF FOLLOWING  
 GN&C SYSTEMS:

AA, ADTA, ASA, ATVC, BRAKES,  
 CONTROLLERS, NWS, RJD LOGIC,  
 RGA, RMS, STAR TRACKER AND  
 SWITCHES.

FOLLOWING STEP WILL REQUIRE  
 AN I/O RESET. DPS CAN EXPECT  
 I/O ERRORS TO OCCUR FOR ITEMS  
 NOT POWERED UP AT THIS TIME.

14-0998	-11H00M (HOLDING)	OTC 132	COFC CGNC	PERFORM GN&C SYSTEM POWER UP PER OMI V1123. (30 MIN) (CDR) CDPS RT OMI LOG NO _____	SU72393
14-0999		COFC CGNC	OTC	GN&C SYSTEM POWER UP COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1000				COFC CRT (VWB03, PAGE B)	
				VERIFY AEROSURFACE DRIVER CURRENTS	
				LOB/ROB DRVRS      0 +/- 3.25 MA	
				LIB/RIB DRVRS      0 +/- 3.00 MA	
				RUD DRVRS           0 +/- 2.00 MA	
				SPBK DRVRS:	
				SPBK POSN (DEG)    DRV CURR LIMITS (MA)	
				-----	
				1.POSN >= 5.0      -2.0 TO +2.0	
				2.POSN < 5.0 AND DRV >=(-1.33 (POSN)+4.67)	
				POSN >= 3.5      AND DRV <= +2.0	
				3.POSN < 3.5       0.0 TO +2.0	
				DEU 3 TO CONSOLE C11	
				-----	
				NOTE	
				DEU IS REQUIRED FOR THE RCS	
				SINGLE COMMAND TEST ONLY AND	
				IS NOT A PREREQUISITE FOR ANY	
				OTHER GNC/EFC SYSTEM ACTIVATION.	
14-1001		COFC OTC		CHANGE RESPONSIBLE CONSOLE FOR	
		132		DEU 3 TO CONSOLE C11.	
		OTC	CDPS		
14-1002			CDPS	CONSOLE KYBD	
				HOME CMD KEY - PRESS	
				ISSU N72IV102D #B00B	
				XMIT CMD KEY - PRESS	
				EXEC CMD KEY - PRESS	
				HOME CMD KEY - PRESS	
				C CO _DEU3G LDBA C11	
				XMIT CMD KEY - PRESS	
14-1003		CDPS OTC		RESPONSIBLE CONSOLE FOR DEU NO. 3	
		132		NOW ASSIGNED TO C11.	
		OTC	COFC		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

GN&C SYSTEM SELF TESTS (L-27H30M)

NOTE

FOLLOWING ARE INDEPENDENT OPERATIONS AND MAY BE PERFORMED IN PARALLEL, IN ANY ORDER, AND IN CONJUNCTION WITH IMU OR STAR TRACKER OPERATIONS.

DOWNLIST FORMAT 42 NOT REQUIRED FOR COUNTDOWN RJD SINGLE CMD TEST. DO NOT CHANGE TO FORMAT 42 (PER V1123) UNLESS THIS TEST MUST BE USED TO VERIFY RJD DRIVER OUT DISCRETES.

14-1004	OTC	COFC	PERFORM GN&C SYSTEM SELF TESTS	SU72397
	132	CGNC	PER OMI V1123.	

1. ADTA SELF TEST (5 MIN)
2. ORBITER RGA TURNAROUND NULL/SELF TEST (GROUND TEST). (10 MIN)
3. AA TURNAROUND SELF TEST (10 MIN).
4. RCS TRICKLE CURRENT SINGLE CMD TEST (NORMAL JETS ONLY). (15 MIN)

RT OMI LOG NO. \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

-----  
IMU WARM-UP/STANDBY (L-27H30M)  
-----

NOTE

IMU WARM-UP/STANDBY SHALL  
OCCUR NO LATER THAN L-15H20M.

FOLLOWING STEP WILL REQUIRE  
ECL TO ACTIVATE ONE IMU FAN  
TO SUPPORT IMU OPERATIONS FOR  
REMAINDER OF THIS OMI.

IMU AND STAR TRACKER ARE  
INDEPENDENT OPERATIONS AND  
MAY BE PERFORMED IN PARALLEL.

14-1005		OTC	CGNC	PERFORM ORBITER IMU POWER UP/ STANDBY OPERATIONS PER OMI V1123. (30 MIN) (5 MIN W/CDR)	SU72399
---------	--	-----	------	--	---------

RT OMI LOG NO. \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

STAR TRACKER FUNCTIONAL C/O (L-27H30M)

NOTE

THE STAR TRACKER C/O IS REQUIRED ONE TIME PRIOR TO LAUNCH, MAKING THE REPEAT OF THE TEST OPTIONAL FOR A RECYCLE LAUNCH COUNTDOWN. DO NOT PERFORM THIS TEST IF IT HAS BEEN PERFORMED IN THE PREVIOUS COUNTDOWN UNLESS THERE IS CONCERN OVER ACTIVITY IN THE GENERAL LRU AREA OR CONCERN OVER POSSIBLE TREND DATA OR CONCERN OVER TIME ELAPSED SINCE LAST TEST.

FOLLOWING STEP WILL REQUIRE AN I/O RESET. DPS CAN EXPECT I/O ERRORS TO OCCUR FOR ITEMS NOT POWERED UP AT THIS TIME.

STAR TRACKER C/O CAN BE PERFORMED BEFORE OR AFTER BUT NOT IN PARALLEL WITH SWITCHLIST PART OF GNC SYSTEM POWER UP. SWITCH POSITIONS ARE INCOMPATIBLE FOR BOTH OPERATIONS.

14-1006		OTC	CGNC	PERFORM STAR TRACKER FUNCTIONAL	SU72395
		132		CHECKOUT PER OMI V1123.	

1. STAR TRACKER POWER UP  
(20 MIN) (5 MIN W/CDR)
2. STAR TRACKER SELF TEST (5 MIN)
3. STAR TRACKER POWER DOWN  
(5 MIN) (CDR)

RT OMI LOG NO. \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				IMU POWER UP/STANDBY COMPLETE (L-27H00M)	
14-1007		CGNC 132	OTC	IMU POWER UP/STANDBY COMPLETE.	SU72399
				STAR TRACKER CHECKOUT COMPLETE (L-27H00M)	
NOTE					
PERFORM NEXT STEP IF STAR TRACKER CHECKOUT IS PERFORMED THIS RUN.					
14-1008		CGNC 132	OTC	STAR TRACKER CHECKOUT COMPLETE.	SU72395
NOT PERFORMED					
				GN&C SYSTEM SELFTESTS COMPLETE (L-26H50M)	
14-1009		COFC CGNC 132	OTC	GN&C SYSTEM SELFTESTS COMPLETE.	SU72397
				DEU3 RETURN TO C12	
14-1010			COFC	CONSOLE KYBD ISSU N72IV102D 0 XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
				C CO _DEU3G LDBA C12 XMIT CMD KEY - PRESS	
14-1011		COFC 132	OTC	RESPONSIBLE CONSOLE FOR DEU 3 IS CDPS NOW C12.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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REDUNDANT WEIGHT ON WHEELS (RWOW) STATUS

NOTE

NEXT TWO STEPS REQUIRE  
 BRAKE AND ANTISKID POWER.

RWOW DISCRETES ARE NOT  
 AVAILABLE IN DL FMT 60.

PERFORM NEXT STEP IF IN  
 DL FMT 60.

14-1012				COFC APPL PG (VWB37 PG-B) PFK 5 KEY - PRESS (LDB READ)	
					NOT PERFORMED

14-1013				COFC CRT (VWB37 PG-B)	
				BRAKES STATUS AND TEST SELECT	
				LANDING GEAR STATUS	
				VERIFY "RWOW" STATUS = ON/UP ARROW (U)	
				R NO WOW            1U    2U       3U    4U	
				NULL FAIL           1U    2U       3U    4U	
				OMRSD V51AF0.250	
				LANDING GEAR NO WOW STATUS CHECKS	

14-1014				COFC CRT (VWB37 PG B)	
				BRAKE STATUS AND TEST SELECT	
				LANDING GEAR STATUS	
					L            N            R
					-            -            -
				NO WOW 1	ON           ON           ON
				NO WOW 2	ON
				OMRSD V51AF0.245-1R	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
GNC LCC MONITOR ACTIVATION					
NOTE					
PERFORM NEXT STEP AFTER COMPLETION OF GN&C SYSTEM POWER UP, GN&C SYSTEM SELF TESTS AND IMU POWER UP.					
ALLOW ONE TO TWO MINUTES FOR NEXT STEP TO COMPLETE.					
ACTIVATION OF THE GN&C LCC MONITOR SATISFIES THE LISTED REQUIREMENT BY THE ABSENCE OF A LCC GNC-26 FAILURE ANNUNCIATION.					
14-1015				COFC CURSOR CONTROL (SAB20/VSB79 PG B) ACTIVATE LCC MONITOR XMIT CURSOR KEY - PRESS  OMRSD S00FM0.110-1R (SWB02)  ACTIVATE IMU PWR UP LCC EMON -----	
14-1016				CGNC APPL PG A (SAB20/SWB02) PFK13 KEY - PRESS (ACT EMON SETUP)	
14-1017				CGNC CURSOR CONTROL (SAB20/SWB02 PG A) A-IMU PWR UP XMIT CURSOR KEY - PRESS	
14-1018				CGNC APPL PG A (SAB20/SWB02) PFK13 KEY - PRESS (DEACT EMON SETUP)	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
CLEAR GNC LCC DISK FILES -----					
14-1019				COFC APPL PG B (SAB20/SWB02) PFK 3 KEY - PRESS (PARAM ACT/INH PG)	
NOTE					
REPEAT NEXT STEP FOR ALL LCC PARAMETER PAGES TO CLEAR (NON-INVERT) ANY INHIBITED LCC PARAMETER.					
14-1020				COFC CURSOR CNTL (SAB20/SWB02 PG B) (ON ITEMS BELOW) XMIT CURSOR KEY - PRESS	
1. (ON ANY INVERTED PARAMETER)					
2. PAGE AHEAD					
14-1021				COFC APPL PG B (SAB20/SWB02) PFK 5 KEY - PRESS (LCC MONITOR ACTIVITY PG)	
GNC OPS101 PROFILE MON SETUP -----					
14-1022				COFC CURSOR CNTL (SAB19/SWB01 PG-B) COUNTDOWN - DETAIL XMIT CURSOR KEY - PRESS	
14-1023				COFC APPL PAGE (VWB05 PG-B) PFK 8 KEY - PRESS (CLEAR ALL BYPASSES) PFK 15 KEY - PRESS (TERMINATE)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				LG NOWOW EMON SETUP	
14-1024				COFC CONSOLE KYBD I SX FD XMIT CMD KEY - PRESS  A SX FD OFF XMIT CMD KEY - PRESS  REPEAT FOR;  FD ----- V51X0130X1 LMG NO WOW V51X0230X1 RMG NO WOW V51X0330X1 NLG NO WOW NO. 1 V51X0335X1 NLG NO WOW NO. 2  DEFLATE DOCK SEALS AND INSPECT -----	

NOTE

PERFORM TILE INSPECTION  
APPROXIMATELY 8 HOURS PRIOR  
TO RSS MOVE.

14-1025		*PAD OTC	DEFLATE DOCK SEALS PER OMI V1122	SU72392	
		132	"DOCK SEAL INFLATION/DEFLATION,		
		OTC PPVM	OPTION C". REPORT COMPLETION.		
			RT OMI LOG NO. _____		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1026		OTC 132	PQCG	<p>VISUALLY INSPECT PCR SEAL/TPS INTERFACE ORB AREA APPROXIMATELY 1 FOOT INBOARD AND OUTBOARD FROM CENTER LINE (COORDINATE) OF SEAL CONTACT; ACROSS UPPER FORWARD FUSELAGE L/H TO R/H SIDE FROM Z=402.75 AT X=564.5; ACROSS UPPER AFT FUSELAGE L/H TO R/H SIDE FROM Z=402.75 AT X=1323; ALONG MID FUSELAGE L/H AND R/H SIDES FROM X=564.5 TO X=1323 AT Z=402.75. DOCUMENT EVIDENCE OF BROKEN TILES OR APPARENT TILE DEGRADATION. INSPECT FI OML SURFACE AND VISIBLE EDGES FOR CUTS, TEARS, FRAYED AREAS, AND BROKEN QUILTING STITCHES IN EXCESS OF SPECIFICATION ALLOWABLES. INSPECT CERAMIC COATING FOR FLAKING, MISSING COATING AND EVIDENCE OF CONTAMINATION AND/OR DISCOLORATION. INSPECT FOR EVIDENCE OF BLANKET JOINT GAPS OPENING OR OUT OF TOLERANCE STEPS DEVELOPING. REPORT COMPLETE.</p> <p>DOCUMENT EVIDENCE OF UNACCEPTABLE CRACKED COATING, BUTT JOINT SEPARATION, ABNORMAL DISCOLORATION, EMBRITTLEMENT, TEARS, CUTS OR RIPS IN FRSI MATERIAL.</p> <p>UPPER FORWARD FUSELAGE TQWN: ____</p> <p>UPPER AFT FUSELAGE TQWN: ____</p> <p>R/H MID FUSELAGE TQWN: ____</p> <p>L/H MID FUSELAGE TQWN: ____</p>	SU72394

OMRSD V09AH0.090-1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT STEP IF WINDS  
 HIGH ENOUGH TO CAUSE FLAPPING  
 OF DOCK SEALS AND CAUSE  
 DAMAGE TO TPS/TILE.

14-1027		OTC	*PAD	REINFLATE DOCK SEALS PER OMI V1122.	
		132	PPVM	REPORT COMPLETION.	

RT OMI LOG NO. \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_

14-1028		*PAD	OTC	OMS/RCS SECURING COMPLETE PER	SU72415
		132		ORBITER OPERATION SUPPORT SETUP	
				23 PART D.	

14-1029		OTC	*PAD	PERFORM ORBITER OPERATION	SU72389
		132		SUPPORT SETUP 29 - MLP INTERIOR	
		*PAD	QMTG	SECURING. (8 HRS)	

BIRD DETERRENT REMOVAL  
 -----

NOTE

PERFORM NEXT STEP DURING  
 THE BREEDING SEASON (APRIL  
 THROUGH JULY) OR AS DIRECTED  
 BY NTD.

14-1030		NTD	OTC	REMOVE AND STORE DECOY OWLS, TERROR	
		232		EYES BALLONS, MYLAR STREAMERS, AND	
		OTC	*PAD	WATER HOSES. RELOCATE TO LCC TO	
		132		MONITOR OTV CAMERAS FOR ANY BIRD	
		*PAD	ACM	ACTIVITY UNTIL RELEASED BY NTD.	

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT STEP WHEN SSME  
 ESP OPS COMPLETE.

UCOM/GSS TECHS MEET AT BASE  
 OF FSS ELEVATOR.

14-1031		NTD STM		UCOM REMOVE TWO (2) PORTABLE OIS UNITS POSITIONED 30/40 FT	PNSA COMM
		STM GYCC		OUT FROM FSS IN CRAWLERWAY, ONE	
		111 JBPN		UNIT ON EAST PAD SURFACE AND ONE	
		GYCC JYCD		UNIT ON WEST PAD SURFACE. GSS	
		117		REMOVE PURGE FLEXHOSES FROM UNITS.	

UCOM

T: \_\_\_\_\_

GSS

T: \_\_\_\_\_

14-1032		JBPN STM		PURGE FLEXHOSES DISCONNECTED FOR REMOVAL OF TWO OIS BOXES ON EAST/WEST PAD SURFACE.	PNSA
---------	--	----------	--	---	------

14-1033		JYCD GYCC		TWO PORTABLE OIS UNITS ON EAST AND WEST PAD SURFACE	COMM
		GYCC STM		HAVE BEEN REMOVED. CAPS	
		111		INSTALLED ON CABLE CONNECTORS.	
		STM NTD			
		232			

TRANSPORTER TO LAUNCH POSITION

14-1034	-11H00M (HOLDING)	*PAD OTC		ORBITER ESP LOWER TO TRANSPORTER PER V2270 COMPLETE. READY FOR	SU72402 SU72419
		132			
		OTC NTD		ESP TRANSPORTER MOVE TO LAUNCH POSITION.	
		232			
		NTD *SCC			
		STM			
		*SCC *PSE			
		NET			
		105			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1035		NTD	STM	PROVIDE TOW VEHICLES AND	STSA
		232		PERSONNEL TO SUPPORT	HESA
		STM	QBSE	ENGINE SERVICE PLATFORM	
		NET		TRANSPORTER MOVE TO LAUNCH	
		104		POSITION PER OMI V2274 (Q3208)	
		111	JBDY	(M3134).	
		JBDY	GBHE		
		NET			
		104			

WARNING

DO NOT PERFORM ESP TRANSPORTER  
 MOVE IF SS TANK/MLP LINE FILL TO  
 105 FT LEVEL IN WORK (48 INCH  
 SS BYPASS VALVES OPEN).

14-1036 \*PAD PMTG CLEAR ALL NONESSENTIAL PERSONNEL SU72420  
 FROM AREA 25 FT EACH FLAME TRENCH  
 TRACKS.

ESSENTIAL PERSONNEL

	SFOC	GSS	NASA
SYS ENGR	1		1
TECH	4	5	
QC	1	1	
SAFETY	1		1

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1037		NTD PA		ATTENTION ON PAD ____ :  ALL NONESSENTIAL PERSONNEL CLEAR 25 FT FROM EACH SIDE OF FLAME TRENCH TRACKS FOR ESP TRANSPORTER MOVE.  NOT PERFORMED	_____
14-1038		TTL		TASK TEAM LEADER/REPRESENTATIVE PERFORM SAFETY INSPECTION OF THE LOCAL CONTROL AREA AND EGRESS ROUTE(S) FROM CONTROL AREA. VERIFY NO DISCREPANCIES WHICH AFFECT THE OPERATION AND/OR SAFE EGRESS FROM THE CONTROL AREA. (V2274)  TASK TEAM LEADER/ REPRESENTATIVE _____  DATE _____  NOT PERFORMED	_____
				WARNING  HAZARDOUS STEP FOLLOWS DUE TO MOVING OF LARGE HEAVY EQUIPMENT.	
14-1039		PMTG 132 *PAD OTC 232 NTD *SCC	*PAD	25 FT CONTROL AREA SETUP AROUND ESP TRANSPORTER. COMMENCING WITH ESP TRANSPORTER MOVE TO LAUNCH POSITION PER OMI V2274 (Q3208, M3134).	SU72404 SU72409
				NOT PERFORMED	_____
14-1040		OTC 132 *PAD	*PAD	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP ONLY DURING DAYLIGHT HOURS ON L-1 DAY. THE TIME FOR THE COMM CHECK WILL BE COORDINATED WITH LCC VITT (7-4792) TO ENSURE ALL PARTIES WILL BE AVAILABLE TO ACCOMPLISH THE COMM CHECK.

14-1041		GYCC	JYCD	INSTALL PORTABLE OIS-D UNIT WITH SPEAKER ON LCC ROOF. PERFORM COMM CHECK ON OIS-D CHANNEL 6228:	COMM
				1. LCC ROOF COMM CHECK WITH O&C FLT CREW QUARTERS.	
				2. LCC ROOF COMM CHECK WITH CR-1 OR CR-3 OSR CONSOLE A6.	
				3. LCC ROOF COMM CHECK WITH LCC VITT.	

NOTE

PERFORM NEXT STEP ONLY DURING DAYLIGHT HOURS.

14-1042		STM	GYCC	REMOVE PAGING AND AREA WARNING SYSTEM PIVOT SPEAKERS NO. 17 AND GYCC JYCJ NO. 18 ON EAST STAIRWELL AT PAD SURFACE. STORE CABLES IN BOX PROVIDED. (COMPLETION 30 MIN PRIOR TO END OF HOLD)	COMM
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T:\_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- REPLENISH SOUND SUPPRESSION WATER -----					
NOTE					
PERFORM NEXT STEP ONLY IF THIS SEQUENCE IS PERFORMED FOLLOWING A SCRUB TURNAROUND AND SS WATER LEVEL IS LOW.					
14-1043		STM 111	JBWC	TOP OFF ELEVATED SOUND SUPPRESSION WATER TANK PER OMI M3189.001. (SEE JBWC FIG 2) (30 MIN)	WSSA
NOT PERFORMED					
14-1044	-11H00M (HOLDING)	PSOQ PTP GYCC 111	GYCC STM	DOOR ON MLP I/F TOWER, 3RD LEVEL UNLOCKED AND INTEGRITY CONTROL SIGN REMOVED FROM ACCESS PLATFORM.	COMM
14-1045		*PAD 136 TBC 232	TBC NTD	ET PRE-PROPELLANT LOAD INSPECTION REQUIRING +Y/-Y OWP COMPLETE. (T6446 SEQ 03) READY TO RETRACT OWP.	SU72346 SU72383
REPOSITION WX PROTECTION PANEL -----					
14-1046		NTD 232 OTC 132	STM OTC *PAD	READY TO PROCEED WITH +Y OWP RETRACT. ESTABLISH CLEAR AROUND *SCC Y OWP PER OMI M3169 (TASK 05).	SU72421

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1047		STM NET 104	QBSE	CLEAR NONESSENTIAL PERSONNEL FROM 25 FT RADIUS UNDER SIDE 2 +Y CURTAIN WALL ON MLP ZERO LEVEL.	STSA

ESSENTIAL PERSONNEL  
 -----

	ELEMENT	SFOC	NASA
SYS ENGR	3	2	1
SUPV	1	1	
TECH	5	5	
QC	1	1	1
SAFETY	1	1	1

14-1048		STM PA		ATTENTION ON PAD___/MLP ZERO LEVEL.  ALL NONESSENTIAL PERSONNEL CLEAR 25 FT RADIUS FROM UNDER SIDE 2 +Y CURTAIN WALL TRAVEL PATH.	
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14-1049		TTL		TASK TEAM LEADER/REPRESENTATIVE PERFORM SAFETY INSPECTION OF THE LOCAL CONTROL AREA AND EGRESS ROUTE(S) FROM CONTROL AREA. VERIFY NO DISCREPANCIES WHICH AFFECT THE OPERATION AND/OR SAFE EGRESS FROM THE CONTROL AREA.	STSA
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TASK TEAM LEADER/  
 REPRESENTATIVE \_\_\_\_\_

DATE \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1050		QBSE NET 104 STM 232 NTD OTC 132	STM NTD OTC	NONESSENTIAL PERSONNEL CLEARED FROM 25 FT RADIUS UNDER SIDE 2 +Y CURTAIN WALL FOR RETRACT OPERATION. COMMENCING WITH +Y OWP RETRACTION AND +Y GUIDE RAIL PER OMI M3169 (TASK 05). *SCC (45 MIN) *PAD	STSA SU72410

14-1051		STM NET 104	QBSE	BRIEF PERSONNEL ON ALL HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	STSA
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ET/ORB DISC INSTRUMENTATION  
 -----  
 INSTALL VERIFICATION  
 -----

NOTE

DO NOT PERFORM NEXT STEP IF ET 17 IN. HYDROGEN LEAK DETECTOR'S SAMPLE LINES ALREADY IN PLACE.

14-1052		CTIF 136	TBC	HYDROGEN LEAK DETECTOR INSTALLATION AND CHANNELIZATION COMPLETE PER T5401.	SU72344
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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REPOSITION OF -Y WX PROTECTION  
 -----  
 PANELS  
 -----

NOTE

DO NOT PERFORM NEXT STEP IF  
 ET GUIDERAILS STOWED.

14-1053		STM NET 104	QBSE	REPOSITION RSS SIDE 4 -Y ET GUIDERAILS TO STOW POSITION PER OMI M3169.	STSA SU72372
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NOT PERFORMED

14-1054		NTD 232 OTC 132	STM OTC	READY TO PROCEED WITH -Y OWP RETRACT. ESTABLISH CLEAR AROUND *SCC Y OWP PER OMI M3169 (TASK 05). *PAD	SU72421
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14-1055		STM NET 104	QBSE	CLEAR NONESSENTIAL PERSONNEL FROM 25 FT RADIUS UNDER SIDE 4 -Y CURTAIN WALL ON MLP ZERO LEVEL.	STSA
---------	--	-------------------	------	--	------

ESSENTIAL PERSONNEL  
 -----

	ELEMENT	SFOC	NASA
	3	2	1
SYS ENGR	1	1	
SUPV	5	5	
TECH	1	1	1
QC	1	1	1
SAFETY			

14-1056		STM PA		ATTENTION ON PAD____/MLP ZERO LEVEL:  ALL NONESSENTIAL PERSONNEL CLEAR 25 FT RADIUS UNDER SIDE 4 -Y CURTAIN WALL TRAVEL PATH.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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WARNING

HAZARDOUS OPERATIONS FOLLOW  
 DUE TO MOVING HEAVY MACHINERY  
 IN CLOSE PROXIMITY TO VEHICLE  
 AND WORKING AT UNPROTECTED  
 HEIGHTS.

14-1057		QBSE	STM	NONESSENTIAL PERSONNEL CLEARED	STSA	
		NET		FROM 25 FT RADIUS UNDER SIDE 4		
		104		-Y CURTAIN WALL FOR RETRACT		
		STM	NTD	OPERATION. COMMENCING WITH -Y		
		232		OWP RETRACTION.		
		NTD	OTC			
			*SCC			
		OTC	*PAD			
		132				
14-1058		STM	QBSE	BRIEF PERSONNEL ON HAZARDS THAT	STSA	
		NET		WILL BE PRESENT AND APPLICABLE		
		104		SEQUENCES OF APPENDIX Z.		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM SRB OI POWER-UP FOR MEASUREMENT SNAPSHOT IF A SRB OI SNAPSHOT IS REQUIRED TO VERIFY FSM PRESSURE.

SRB OI POWER-UP FOR MEASUREMENT  
 -----  
 SNAPSHOT  
 -----

NOT PERFORMED \_\_\_\_\_

14-1059		TBC 136	CPWR CBDP	PERFORM SRB OI BUS A AND B POWER UP PER S9001VL1, OPTION B.	
				RT OMI LOG NO. _____	

14-1060		CPWR 136 TBC 232	TBC NTD	SRB OI BUS A AND B POWER APPLICATION COMPLETE.	
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14-1061		TBC 136	CBHY	PERFORM MEASUREMENT SNAPSHOT USING BAT04 AND REPORT COMPLETION.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1062		TBC 136	CPWR CBDP	PERFORM SRB OI BUS A AND B POWER DOWN PER S9001VL1.	
				RT OMI LOG NO. _____	
14-1063		CPWR 136 TBC 232 NTD	TBC NTD OTC	SRB OI BUS A AND B POWER DOWN COMPLETE. READY FOR MEC PRE FLT BITE EVALUATION.	
14-1064		OTC 132	CEPD	PERFORM MEC PREFLT BITE EVALUATION.	
14-1065			CEPD	PERFORM CDS QLDB RETRIEVAL ON FD <MEC1><MEC2>	
				VERIFY NO MEC FAILURES	
				SRB OI POWER UP FOR MEASUREMENT	
				----- SNAPSHOT COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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LRD L - 1 DAY VERIFICATIONS

NOTE

SOME LANDING SITES MAY NOT  
 BE MANNED DUE TO MISSION  
 REQUIREMENTS.

14-1066	-11H00M (HOLDING)	LRD LF1		VERIFY NO OPEN ITEMS/CONSTRAINTS IDENTIFIED FOR LAUNCH.	
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SITE	GO	NO/GO	NOT MANNED
BANJUL	_____	_____	_____
BEN GUERIR	_____	_____	_____
ZARAGOZA	_____	_____	_____
MORON	_____	_____	_____
DFRF	_____	_____	_____
WSSH	_____	_____	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
LCC2 CONFIGURATION					
14-1067		NTD 232	CTC	VERIFY READY TO ACTIVATE LCC-2 LPS LAUNCH SUPPORT CONFIGURATION.	
14-1068	-11H00M (HOLDING)	NTD 232	LPS	PERFORM SUPPORT OPERATION SUPPORT SETUP 2 - LCC2 LAUNCH SUPPORT CONFIGURATION - LPS T-11 HOUR BIH TO T+45 MIN (8 HR).	SU72405
NOTE					
PERFORM NEXT STEP IF NOT PREVIOUSLY PERFORMED FOR PAYLOAD SUPPORT.					
14-1069		NTD 232	LPS	PERFORM SUPPORT OPERATION SUPPORT SETUP 4 - LCC2 PAYLOAD SUPPORT CONFIGURATION.	
NOT PERFORMED					
14-1070		LPS 127	JSDC	CONFIGURE PCGOAL FOR LCC2 TO S0007 DATA ONLY.	
14-1071		LPS	JRPS	VERIFY KMTS 505A1 (A1,A2,A3,A7,A8,A9) BIT SYNCs ON MANUAL MODE, SOURCE 1, 60KB RATE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
ESA MONITOR PATCHING -----					
14-1072	-11H00M (HOLDING)	NTD 232	LPS	PERFORM ESA MONITOR PATCHING PER OMI C3041 AND REPORT COMPLETE (1 HR).	
VERIFY FIRING ROOM CONSUMABLES -----					
14-1073	-11H00M (HOLDING)		LPS	VERIFY FIRING ROOM CONSUMABLES.	
NOTE					
PERFORM NEXT STEP ON FIRST SHIFT.					
14-1074		STM 111 GYCC 117	GYCC JYCJ	VERIFY VIP PAGING SYSTEM OPERATIONAL. (1 HR)	COMM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- WX SATELLITE PHOTOS ----- NOTE NEXT STEP PERFORMED 1 HOUR PRIOR TO L-1 DAY WEATHER BRIEFING.					
14-1075		NTD 232 STM 231	STM *WEA	VERIFY THAT THE FULL DISK WEATHER SATELLITE PHOTO HAS BEEN EMAILED TO THE ASTRONAUT CREW QUARTERS (TO THOMAS.W.KWIATKOWSKI1 @JSC.NASA.GOV).	SU72371
ESP TRANSPORTER SECURE FOR ----- LAUNCH - COMPLETE -----					
14-1076	-11H00M (HOLDING)	GBHE JBDY 111	JBDY STM	ESP TRANSPORTER POSITIONED FOR LAUNCH PER V2274.	HESA SU72404 SU72409
14-1077		PMTG 132 *PAD OTC 232 NTD	*PAD OTC NTD STM *SCC	ESP TRANSPORTER MOVE TO LAUNCH POSITION COMPLETE. READY FOR SKYJACK MINI-MANLIFT HOIST FROM ORBITER ESP. ESP CONTROL AREA WILL BE MAINTAINED.	
14-1078		NTD 232 STM 111 JBDY GBHE NET 104	STM JBDY	PROVIDE MOBILE CRANE AND PERSONNEL FOR SKYJACK MINI-MANLIFT HOIST FROM ORBITER ESP. VERIFY 10 FT CONTROL AREA SETUP AROUND ESP TRANSPORTER.	HESA

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1079		TTL		TASK TEAM LEADER/DESIGNATED FLOOR LEADER (DFL) PERFORM SAFETY INSPECTION OF THE LOCAL CONTROL AREA AND EGRESS ROUTE(S) FROM CONTROL AREA. VERIFY NO DISCREPANCIES EXIST WHICH COULD AFFECT THE OPERATION AND/OR SAFE EGRESS FROM THE CONTROL AREA.	HESA
			DATE _____	TTL _____	
			WARNING		
			HAZARDOUS STEP FOLLOWS DUE TO LIFTING OF HEAVY EQUIPMENT.		
14-1080		GBHE NET 104 JBDY STM 111 STM 232 NTD	JBDY STM NTD	10 FT CONTROL AREA SETUP AROUND ESP TRANSPORTER COMMENCING WITH SKYJACK MINI-MANLIFT HOIST FROM ORBITER ESP. WILL LOAD AND TRANSPORT MANLIFTS TO VAB CELL 1. (ROCKETDYNE SSME AREA)	HESA
			*SCC		
14-1081		STM 111 JBDY NET 104	JBDY GBHE	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX A.	HESA
14-1082		GBHE NET 104 JBDY STM 111 STM 232 NTD	JBDY STM NTD	SKYJACK MINI-MANLIFT HOISTING OPERATIONS COMPLETE. ESP CONTROL AREA OPEN FOR CONTROLLED WORK.	HESA SU72420
			*SCC		
14-1083		JYCJ 117 GYCC 111	GYCC STM	VIP PAGING SYSTEM OPERATIONAL.	COMM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				+Y WX PROTECTION PNL RETRACTION ----- COMPLETE -----	
14-1084		QBSE NET 104 STM 232 NTD OTC *SCC OTC 132	STM NTD	+Y WEATHER PROTECTION PANEL AND +Y GUIDE RAIL RETRACTION COMPLETE. CONTROL AREA OPEN FOR CONTROLLED WORK.	STSA SU72410

NOTE

HAZARDOUS OPERATIONS DUE TO  
 +Y WX PROTECTION PANEL  
 RETRACTION COMPLETE.

				-Y WX PROTECTION PNL RETRACTION ----- COMPLETE -----	
14-1085		QBSE NET 104 STM 232 NTD OTC *SCC OTC 132	STM NTD	-Y WEATHER PROTECTION PANEL AND -Y GUIDE RAIL RETRACTION COMPLETE. CONTROL AREA OPEN FOR CONTROLLED WORK.	STSA

NOTE

HAZARDOUS OPERATIONS DUE  
 TO -Y WX PROTECTION  
 PANEL RETRACTION COMPLETE.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

-----  
 CLEAR FOR SS LINES AND TANK FILL  
 -----

NOTE

DO NOT PERFORM NEXT NINE  
 STEPS FOR SCRUB TURNAROUND  
 IF TANK REMAINS FULL.

14-1086		STM	NTD	REQUEST SFOC SAFETY CLEAR	SU72382
		232		FOLLOWING AREAS FOR SS LINE	
		NTD	*SCC	AND TANK FILL:	
			*SCC	*PSE	
		NET		1. FLAME TRENCH	
		105		2. SRB AND SSME ESP'S	

ESSENTIAL PERSONNEL  
 -----

	GSS	SFOC	NASA
	---	----	----
SUPERV/ENGR	2		
SYS TECHS	2		
QA	1		
SAFETY		1	1

NOT PERFORMED \_\_\_\_\_

14-1087		NTD		ATTENTION ON PAD _____:	
		PA		ALL NONESSENTIAL PERSONNEL CLEAR	
				FLAME TRENCH, ORBITER AND SRB ESP'S	
				FOR SOUND SUPPRESSION LINE AND TANK	
				FILL.	

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1088		STM 111	JBWC	CONDUCT ON NET COMM CHECK WITH ALL SOUND SUPPRESSION LINE AND TANK FILL OBSERVERS/OPERATORS PER OMI M3189.001. BRIEF PERSONNEL ON HAZARDS THAT ARE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	WSSA
				NOT PERFORMED	_____
				NOTE	
				MLP ZERO LEVEL MAY REMAIN OPEN FOR ACCESS WHEN SS HYD VALVE LOCKS ARE ON AND OPEN COMMAND LOCKOUT IS ON.	
14-1089		JBWC 111	STM	SOUND SUPPRESSION ON NET BRIEFING COMPLETE.	WSSA
				NOT PERFORMED	_____
14-1090	-11H00M (HOLDING)	NTD 232 STM 111	STM JBWC	VERIFY SS HYD VALVE LOCKS ARE ON, OPEN COMMAND LOCKOUT ISSUED AND GN2 PRESSURE TO CLOSE ACTUATORS.	WSSA
				NOT PERFORMED	_____
14-1091		JBWC 111 STM 232 NTD	STM NTD *SCC	SS VALVE LOCKS ON, OPEN COMMAND LOCKOUT ON AND GN2 PRESSURE TO CLOSED ACTUATORS.	WSSA
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
WARNING					
DO NOT BEGIN SS TANK/MLP LINE FILL IF ESP OR TRANSPORTER OPERATIONS IN PROGRESS AT FLAME HOLES.					
14-1092		*PSE NET 105 *SCC 232	*SCC NTD	CLEARNS HAVE BEEN ESTABLISHED. YOU HAVE SAFETY CONCURRENCE TO BEGIN SOUND SUPPRESSION TANK FILL.	
				NOT PERFORMED	_____
14-1093		NTD 232 STM 111	STM	VERIFY SS CNTL LOGIC OVERRIDES PRE-LO AND POST-LO INDICATORS JBWC OFF.	WSSA
				NOT PERFORMED	_____
14-1094		NTD 232 STM 111	STM	FILL MLP SS LINES AND TANK PER OMI M3189.001. REPLENISH AS REQUIRED TO MAINTAIN WATER LEVEL (2H15M).	WSSA SU72369
				NOT PERFORMED	_____
NOTE					
PERFORM SRB IGNITER HEATER ACTIVATION JUST PRIOR TO L-18H00M IF AMBIENT CONTROL TEMPERATURE IS LESS THAN 55 DEG F, OR FORECAST TO DROP BELOW 55 DEG F BEFORE T-08H00M. IF CONTROL TEMPERATURE DROPS BELOW 55 DEG F THEN THE IGNITER HEATERS ARE TO BE ACTIVATED IMMEDIATELY.					
SRB IGNITER HEATER ACTIVATION -----					
				NOT PERFORMED	_____
14-1095	-11H00M (HOLDING)	NTD 232 TBC 136	TBC CPWR	PERFORM SRB IGNITER HEATER POWER APPLICATION.	SU72469





OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1100		OTC 132 *PAD	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 1 - MPS/SSME MLP PATCH RACK - DISTRIBUTOR PANEL INTEGRITY VERIFICATIONS.	SU72396
14-1101		PQCG *PAD OTC 132	*PAD	ORBITER OPERATIONS SUPPORT SETUP 1 - MPS/SSME MLP PATCH RACK - DISTRIBUTOR PANEL INTEGRITY VERIFICATION COMPLETE.  INITIATE BDA/PAD BUS SERVICE AND TERMINATE POV'S TO PAD	SU72396
14-1102	-11H00M (HOLDING)	NTD 232 STM 111 JSTC 114	STM JSTC	PROVIDE DEDICATED BUS SERVICE FROM LAUNCH PAD TO BDA ROADBLOCK AT _____ ON L-1 DAY. WGSA	SU72432
14-1103		NTD 232	*SEC	TERMINATE P.O.V. TRAVEL TO PAD, AT _____ ON L-1 DAY. (PER DAILY SCHEDULE)	SEC SU72434
14-1104		NTD 232	*SEC	TERMINATE POV TRAVEL TO NON-LAUNCH PAD AT _____ ON L-1 DAY (PER SCHEDULE).	SEC SU72434

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- TERMINATE TOUR BUS ROUTE TO PAD -----					

NOTE

PERFORM NEXT TWO STEPS  
24 HOURS PRIOR TO LAUNCH  
OR AS DIRECTED BY NTD.

14-1105		NTD STM		TERMINATE TOUR BUSES ROUTE	SEC
		232		PAST PAD-___ VIA NORTH BEACH AND	SU72443
		STM JSTC		PAD-___ ACCESS ROAD.	
		111			
		JSTC *SEC			
		114			
14-1106		*SEC JSTC		TOUR BUS ROUTE TO PAD-___	SEC
		114		TERMINATED.	
		JSTC STM			
		111			
		STM NTD			
		232			
14-1107		STM JSTC		VERIFY PARKING LOT IN FRONT OF	RGR
		111		COMPLEX J ROPED OFF FOR RED CREW	SU72412
		JSTC WCRG		PARKING.	
		114			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- MILA/GSFC/JSC INTERFACE TEST -----					
NOTE					
MILA WILL SUPPORT JSC WITH DATA AND COMMAND CAPABILITIES THRU LOS.					
MILA TELEMETRY COMSEC UNIT LOADING MUST BE COMPLETED PRIOR TO PERFORMANCE OF MILA/JSC INTERFACE TEST.					
14-1108	-11H00M (HOLDING)	NTD 232	*FLT *MIL	CONFIGURE FOR JSC COMMANDING AND CONDUCT MILA/GSFC/JSC INTERFACE TEST. (2 HR)	SU72384
OIS COMM CHECK WITH JSC -----					
NOTE					
PERFORM NEXT STEP ONE HOUR AFTER MILA/GSFC/JSC I/F TEST BEGINS.					
14-1109	-11H00M (HOLDING)	NTD 232 STM 111 GYCC 117	STM *MIL GYCC GOIS GYCL	PERFORM COMM CHECKS (TONE/VOICE) WITH JSC ON OIS CH 211 (UHF), 212 (A/G 1) AND 213 (A/G 2). (1 HOUR)	COMM SU72385
MILA/GSFC/JSC I/F TEST COMPLETE -----					
14-1110	-11H00M (HOLDING)	*FLT *MIL 232	NTD	MILA/GSFC/JSC INTERFACE TEST COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
OIS COMM CK WITH JSC COMPLETE -----					
14-1111	-11H00M (HOLDING)	GOIS GYCL 117 GYCC 111 STM 232	GYCC	COMM CHECKS WITH JSC ON OIS CH 211 (UHF), 212 (A/G1) AND 213 (A/G2) COMPLETE.	COMM
14-1112		OTC 132	CMQC	VERIFY ORBITER PRE-OPERATION SETUPS 13, 15 AND 17 COMPLETE.  PREPS FOR COMM SYS ACTIVATION -----	
NOTE					
PERFORM NEXT STEP IF C & T STATION NO. 1 (BAY 1/2) IS SUPPORTING LAUNCH COUNTDOWN.					
14-1113		RCRT 132	OTC	OPERATION SUPPORT SETUP 12 AND 25 OF V3528.001 C & T STATION INITIALIZATION (PAD OPTION) COMPLETE.	SU72388
NOT PERFORMED _____					
NOTE					
PERFORM NEXT STEP IF C & T STATION NO. 2 (BAY 3) IS SUPPORTING LAUNCH COUNTDOWN.					
14-1114		RCRT 132	OTC	OPERATION SUPPORT SETUPS 12 AND 25 OF V3528.002 C & T STATION INITIALIZATION (PAD OPTION) COMPLETE.	
NOT PERFORMED _____					
14-1115		OTC 132	RCRT	VERIFY COMSEC LOAD VERIFICATION PER V3528.001/V3528.002 COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
COMM SWITCHLIST CONFIGURATION -----					
14-1116		OTC 132	CCSE CDR	PERFORM COMM SWITCHLIST CONFIGURATION PER OMI V1117. (1 HR)	SU72398
RT OMI LOG NO. _____					
COMM SWITCH CONFIG COMPLETE -----					
14-1117	-11H00M (HOLDING)	CCSE 132	OTC	COMM SWITCHLIST CONFIGURATION COMPLETE.	
NOTE					
PERFORM NEXT TWO STEPS IF EDO PALLET IS INSTALLED AND EDO TANKS ARE NOT AT FLIGHT PRESSURE.					
14-1118		OTC 132	CFCP	PERFORM EDO TANK HEATER ACTIVATION AND PRESSURIZATION PER OMI V1040.002. (1 HR)	
NOT PERFORMED _____					
14-1119		CFCP 132	OTC	EDO TANK HEATER ACTIVATION AND PRESSURIZATION COMPLETE.	
NOT PERFORMED _____					
L-24 HOUR WEATHER UPDATE - ----- TEMPERATURE PREDICTION -----					
NOTE					
NEXT TWO STEPS TO BE PERFORMED AT APPROXIMATELY L-24 HOURS.					
14-1120		NTD 232 STM 111 JBDY	STM JBDY	REQUEST CURRENT FORECAST FOR (HIGH AND LOW) TEMPERATURES FOR DURATION OF COUNTDOWN.	
JBDY *WEA					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1121		*WEA JBDY 111 STM 232 NTD	JBDY STM NTD	TEMPERATURE PREDICTION (AT LAUNCH PAD) REMAINDER OF LCD. ADVISE ALL SYSTEMS. FORECAST TIME _____ HIGH TEMP _____ DEG F WILL OCCUR AT _____ Z. LOW TEMP _____ DEG F WILL OCCUR AT _____ Z.	
L-1 DAY FLIGHT CREW WX BRIEFING					

NOTE

NEXT STEP TO BE PERFORMED  
 AT \_\_\_\_\_ ON L-1 DAY.  
 WEATHER BRIEFING AUDIO TO  
 BE ON OIS CH 231.

14-1122	-11H00M (HOLDING)	*FLT 232 NTD STM 111 138 GYCC PTP	NTD STM GYCC JYVO GYVW GYVO	IMPLEMENT TELEVISED WEATHER BRIEFING AND DISPLAY TO FOLLOWING LOCATIONS AT _____ ON L-1 DAY. (TIME TO BE PROVIDED BY JSC REP, 7-4792)	COMM SU72323
<ol style="list-style-type: none"> <li>1. FLIGHT CREW QUARTERS, O&amp;C ROOM 3267, MONITORS 2033 &amp; 2034. (CIRCUIT NO.'S 6TVM2080 AND 6TVM2087)</li> <li>2. ER/ROCC FORECAST FACILITY ROOM 146. (CIRCUIT NO.'S EITHER 1TVC2079 OR 1TVC2083)</li> <li>3. LCC 1/3 OSR. (SW1 INPUT 187 TO OUTPUT 383)</li> </ol>					
14-1123		STM 138	JYVO	VERIFY JSC WX BRIEFING FEED ON OTV SWITCHER SOURCE 187.	COMM
14-1124		GYVO GYVW PTP	GYCC	VIDEO FOR WX BRIEFING IN CREW QUARTERS AND TO ER READY.	COMM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1125		JYVO PTP	GYCC	VIDEO FOR WEATHER BRIEFING TO LCC 1/3 OSR READY.	COMM
14-1126		GYCC 111 STM 232 NTD	STM NTD *FLT LD	VIDEO SYSTEM READY FOR FLIGHT CREW WX BRIEFING.	COMM
14-1127		*FLT 232 NTD STM 138 111 GYCC GYCC PTP	NTD STM JYVO GYCC GYVW GYVO	WEATHER BRIEFING COMPLETE. SUPPORT RELEASED.	COMM



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
L-1 DAY LD WX BRIEFING -----					
14-1128	-11H00M (HOLDING)	TBC 136	CTIF	CONDUCT L-1 DAY ET ICING PREDICTIONS BRIEFING WITH LAUNCH DIRECTOR PER OMI S6444 ET PRE-OPERATION SETUP 1.	
OMRSD S00FA0.900					
14-1129		TBC 136	CTIF	PERFORM PRE-LAUNCH WALKDOWN PER OMI S6444 PRE-OPERATION SETUP 2, RECORD DISCREPANCIES IN APPENDIX K.	SU72391
ESSENTIAL PERSONNEL FOR ICE/DEBRIS TEAM PRE-LAUNCH WALKDOWN:					
NASA					
SFOC ET MECH ENGR 1					
NASA-KSC ET ENGR 4*					
USA-ET ENGR 2*					
PAD OPS 1*					
SFOC QC 1*					
LM-LSS 1*					
BNA-LSS 1*					
USBI-LSS 1*					
THIOKOL-LSS 1*					
* OPTIONAL					
OMRS S00U00.030-1					
CONFIG EQUIPMENT (JFIR) -----					
14-1130	-11H00M (HOLDING)	JSTC 114	JFIR	START FINAL WALKDOWN/SURVEY OF RSS, FSS, MLP AND PAD APRON. REMOVE FIRE EXTINGUISHERS. (1 HR)	FIRE
14-1131		JSTC 114	JFIR	PLACE TWO FIRE EXTINGUISHERS IN EACH FSS ELEVATOR. (1 HR)	FIRE SU72360

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- REMOVE ZERO LEVEL FIRE ALARM STATIONS -----					
14-1132	-11H00M (HOLDING)	JSTC 114	JFIR	REMOVE MLP ZERO LEVEL FIRE ALARM PULL STATIONS AND ALARM BELL GONG. (1 HR)	FA SU72361
----- REMOVE OIS UNITS - PAD SURFACE -----					

NOTE

UCOM/GSS TECHS MEET AT  
 BASE OF FSS ELEVATOR.

14-1133	-11H00M (HOLDING)	STM 111 GYCC 117	GYCC JBPN JYCD	UCOM REMOVE FOLLOWING OIS UNITS FROM LAUNCH PAD IN USE. SECURE CABLE ENDS. GSS SECURE DISCONNECTED PURGE LINES IN PLACE WITH BLAST TAPE. (COMPLETE BY -08H00M)	COMM PNSA SU72413
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1. PAD A SURFACE

STA 116-0A LOX TOWER 75 FT LEVEL  
 N.W. CORNER OF STAIRWELL  
 117-73 LH2 TOWER 75 FT LEVEL  
 N.W. CORNER OF STAIRWELL  
 116-73 PNEUMATIC TOWER TOP LEVEL  
 116-45 EAST PAD SLOPE AT PEDESTAL  
 LH2 LINES  
 118-72 EAST SIDE  
 119-69 INDUSTRIAL WATER PLATFORM

UCOM

T: \_\_\_\_\_  
 SS1

GSS

T: \_\_\_\_\_  
 SS1

NOT PERFORMED

\_\_\_\_\_

SS1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1133 CON'T			2.	PAD B SURFACE	
				STA 121-48 LOX TOWER	
				123-09 PNEUMATIC TOWER	
				122-28 LH2 TOWER	
				121-50 EAST PAD SLOPE AT LH2 LINES	
				123-4A EAST SIDE	
				123-48 INDUSTRIAL WATER PLATFORM	
				UCOM	T: _____ SS2
				GSS	T: _____ SS2
				NOT PERFORMED	_____ SS2

ESSENTIAL PERSONNEL

	UCOM	GSS
	----	---
TECH	6	2
QA		1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				REMOVE PORTABLE OIS UNITS - RSS	
				130 FT LEVEL	

NOTE

DO NOT PERFORM NEXT STEP IF PORTABLE OIS UNITS ADJACENT TO AFT FUSELAGE 50-2 AND/OR 50-1 DOOR PREVIOUSLY REMOVED FROM RSS 130 FT LEVEL.

UCOM/GSS TECHS MEET AT BASE OF FSS ELEVATOR.

14-1134	-11H00M (HOLDING)	STM	GYCC	UCOM REMOVE PORTABLE OIS UNITS	COMM
		111	JBPN	ADJACENT TO AFT FUSELAGE 50-2	PNSA
		GYCC	JYCD	AND/OR 50-1 DOOR FROM RSS	SU72303
		117		130 FT LEVEL. (30 MIN)	
				GSS REMOVE PURGE FLEXHOSE	
				ON RSS 130 FT LEVEL.	

UCOM

T: \_\_\_\_\_

GSS

T: \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OIS UNIT REMOVAL STATUS

NOTE

DO NOT PERFORM NEXT TWO  
 STEPS IF OIS UNITS ADJACENT  
 TO AFT FUSELAGE 50-2 AND/OR  
 50-1 DOOR WERE PREVIOUSLY  
 REMOVED FROM RSS 130 FT  
 LEVEL.

14-1135	-11H00M (HOLDING)	JYCD 117	GYCC	PORTABLE OIS UNITS ADJACENT TO AFT FUSELAGE 50-2 AND/OR 50-1 DOORS HAVE BEEN REMOVED FROM RSS 130 FT LEVEL AND DISCONNECTED CABLES REMOVED OR SECURED.	COMM SU72303
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NOT PERFORMED

14-1136		JBPN 111	STM	PURGE FLEXHOSE DISCONNECTED FOR REMOVAL OF OIS UNITS FROM RSS 130 FT LEVEL HAS BEEN REMOVED.	PNSA
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NOT PERFORMED

GOX VENT ARM SYSTEM INITIAL

ACTIVATION COMPLETE

14-1137	-11H00M (HOLDING)	CMEC 136	TBC	GOX VENT ARM SYSTEM INITIAL ACTIVATION PER G2158 COMPLETE.	
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14-1138		TBC 136	*PAD	INSPECT ET TPS AT +Y/-Y GOX VENT SEAL FOOTPRINT PER T6446. *PAD PQCL VERIFY NO VISIBLE DAMAGE PER T6446.	
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14-1139		PQCL *PAD 136	TBC	INSPECTION OF ET TPS AT +Y/-Y GOX VENT SEAL FOOTPRINT COMPLETE PER T6446.	SU72348
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OPERATION INSTRUCTIONS

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SEQ            TIME            CMD    RESP                            DESCRIPTION                            VERIF.  
-----

LAUNCH PAD TOURS  
-----

NOTE

PERFORM NEXT STEP AT L-24 HOURS.  
TOURS MAY BE PERMITTED ABOVE PAD  
SLOPE AFTER THIS TIME AT THE  
DISCRETION OF THE NTD.

14-1140                    NTD    OIC    DISCONTINUE ALL TOURS ABOVE PAD    SU72408  
NET                        SLOPE.    NTD MAY APPROVE EXCEPTIONS  
110                        AS DIRECTED BY LAUNCH DIRECTOR.  
232    OTC  
OTC    \*PAD  
132

CLEAR FOR COMM ACTIVATION  
-----

WARNING

HAZARDOUS STEPS FOLLOW DUE  
TO RF RADIATION.

14-1141                    OTC    CCSE READY TO PROCEED WITH COMM  
132    \*PAD ACTIVATION PER OMI V1117.  
232    NTD  
NTD    \*SCC  
\*SCC   \*PSE  
NET  
105

14-1142                    OTC    NTD    CLEAR ALL PERSONNEL 5 FT FROM            SU72400  
232                        S-BAND AND UHF ANTENNAS.    POST    SU72424  
NTD    \*SCC SAFETY SIGN ON 193 FT LEVEL.  
\*SCC   \*PSE  
NET  
105

14-1143                    NTD                            ATTENTION ON PAD \_\_\_\_:  
PA  
  
ALL PERSONNEL STAND 5 FT CLEAR OF  
ORBITER COMM SYSTEM ANTENNAS FOR  
HAZARDOUS RF RADIATION.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1144		*PSE NET 105 *SCC 232 NTD	*SCC NTD OTC	ALL PERSONNEL CLEARED AND SAFETY SIGN POSTED. YOU HAVE SAFETY CONCURRENCE FOR COMM ACTIVATION.	
				VERIFY FLIGHT CONTROL TEAM ----- STATUS AND DATA LINKS -----	
14-1145	-11H00M (HOLDING)	NTD 232	*FLT	VERIFY FLIGHT CONTROL TEAM ON STATION.	SU72387
14-1146		NTD 232	LPS	VERIFY 128 KB PCMMU DATA ON 6TVM1730/6TVM4647 TO MILA.	
14-1147	-11H00M (HOLDING)	NTD 232	*FLT	VERIFY HARDLINE DATA BEING RECEIVED AT JSC.	
				ORB COMM SYSTEM ACTIVATION (MCCH) -----	
14-1148	-11H00M (HOLDING)	NTD 232 STM 111 GYCC 117	*FLT *MIL STM GYCC GYCL	VERIFY READY TO SUPPORT COMM ACTIVATION ON OIS CH 214. (V1117)	COMM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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WARNING

NEXT STEP HAZARDOUS DUE TO  
 OPEN LOOP RF RADIATION.

NOTE

IF NSP 2 DATA IS NOT BEING  
 POLLED, CCSE WILL REQUEST CDPS  
 TO PERFORM I/O RESET.

14-1149	-11H00M (HOLDING)	NTD 232	OTC LPS	PERFORM COMM SYSTEM ACTIVATION FOR MCCH OPTION PER OMI V1117 JRPS ON OIS CH 214. (1 1/2 HR)	SU72401
		OTC 132	CCSE RCRE	CDR RT OMI LOG NO. _____ PLT MS2 MS1	
14-1150		OTC 132	CCSE	REPORT WHEN ACTIVATION REQUIRING MULTIPLE CREW PERSONNEL COMPLETE.	
14-1151		CCSE 132	OTC	ASTRO COMM - OIS INTERFACE PNL  POWER SW - ON ON LITE ON  ICOM-A SW - ACTIVE ACTIVE LITE ON AND READY LITE ON  ICOM-B SW - ACTIVE ACTIVE LITE ON AND READY LITE ON  A/G 1 SW - ACTIVE ACTIVE LITE ON AND READY LITE ON  A/G 2 SW - ACTIVE ACTIVE LITE ON AND READY LITE ON  UHF SW - MONITOR MONITOR LITE ON AND READY LITE ON	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1152		CCSE 132	OTC	ASTRO COMM - OIS INTERFACE PNL  A/G 1 SW - ACTIVE VERIFY A/G 1 ACTIVE LITE ON  A/G 2 SW - MONITOR VERIFY A/G 2 MONITOR LITE ON  A/A SW - MONITOR VERIFY A/A MONITOR LITE ON  ICOM A SW - OFF VERIFY ICOM A ACTIVE AND MONITOR LITES OFF  ICOM B SW - OFF VERIFY ICOM B ACTIVE AND MONITOR LITES OFF	
14-1153		CCSE 132 OTC 232	OTC NTD	PERFORM A/G VOICE CHECKS WITH ASP (OR SCO) (USING A/G 1, A/G 2, ICOM A, ICOM B AND UHF AUDIO PB'S INDIVIDUALLY ON CONSOLE AB5). VERIFY D/L VOICE ON A/G 1, A/G 2, UHF, ICOM A AND ICOM B.	SU72403
NOTE					
NOTIFICATION IN NEXT STEP WILL ALLOW ACCESS TO BEGIN FCE TIME CRITICAL STOW.					
14-1154		CCSE 132	OTC	COMM ACTIVATION REQUIRING MULTIPLE CREW PERSONNEL COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ORB COMM SYS ACT - COMPLETE					
14-1155	-11H00M (HOLDING)	CCSE 132	OTC	COMM SYSTEM ACTIVATION PER V1117 COMPLETE.	SU72401
		OTC 232	NTD		
IUS OCV CHECKS					
NOTE					
PERFORM NEXT STEP FOR IUS MISSION (STS-93).					
PERFORM NEXT STEP IF REQUIRED PER ICTC DIRECTION APPROXIMATELY 36 HOURS PRIOR TO LAUNCH.					
14-1156		PTC 232	NTD	READY TO PROCEED WITH OCV CHECKS PER S0007VL4 (SEQ 85). CMQC AND CDR SUPPORT WILL BE REQUIRED ON OIS CH 144. REPORT COMPLETION.	
		NTD	OTC		
NOT PERFORMED					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

FOLLOWING OMRS' WILL NOT  
 BE PERFORMED FOR RECYCLE.

OMRSD S00FA0.372-C  
 OMRSD S00FA0.372-E  
 OMRSD S00FA0.372-F

GPS EARLY ACTIVATION

NOTE

PERFORM NEXT FOUR STEPS IF  
 EARLY ACTIVATION IS REQUIRED.  
 (OV-104,103,105 ONLY)

14-1157		CNSE CDR	PANEL O15 ROW C MN B	UTILITY POWER F1/MO13Q/CB - CLOSED	NOT PERFORMED	_____
14-1158		CNSE CDR	PANEL MO13Q	DC UTILITY POWER SW - ON	NOT PERFORMED	_____
14-1159		CNSE CDR	PANEL A13 GPS PREAMPL LC SW - MN A UC SW - MN C		NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF GPS/SIGI  
 EARLY ACTIVATION IS REQUIRED.

14-1160		CNSE	CDR	PANEL A13 GPS GPS/SIGI POWER SW - ON GPS/SIGI ENCRYPT - NORMAL GMT _____	NOT PERFORMED _____
COMM SYS RF RADIATION COMPLETE					

NOTE

DO NOT PERFORM NEXT FOUR  
 STEPS UNTIL COMM  
 ACTIVATION COMPLETE.

14-1161	-11H00M (HOLDING)	OTC 132	CCSE	CRT (VAA19)  VERIFY  PM T/R - RCV ONLY FM OI XMTR - OFF	
14-1162		CCSE 132 OTC 232 NTD *SCC *SCC NET 105	OTC	RF RADIATION HAS TERMINATED. *PAD READY TO REMOVE ANTENNA COUPLERS. AREA OPEN FOR CONTROLLED WORK.	
14-1163		*PSE NET 105 *SCC 232 NTD OTC OTC 132	*SCC	RF RADIATION CONTROL AREA OPEN FOR CONTROLLED WORK.	SU72424

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
HAZARDOUS STEPS FOR COMM SYS RF RADIATION COMPLETE.					
COMM ANTENNA COUPLER REMOVAL -----					
14-1164	-11H00M (HOLDING)	OTC 132	*PAD	REMOVE COMM ANTENNA COUPLERS PER OMI V1117 - COMM ANTENNA COUPLER REMOVAL (TASK 14) (1 HR).	SU72444
RT OMI LOG NO. _____					
COMM ANTENNA COUPLER REMOVAL ----- COMPLETE -----					
14-1165	-11H00M (HOLDING)	*PAD 132	OTC	COMM ANTENNA COUPLER REMOVAL PER V1117 COMPLETE.	
14-1166		OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 4 - GTOE HEADSET EQUIPMENT REMOVAL.	SU72441
14-1167		*PAD 132	OTC	ORBITER OPERATION SUPPORT SETUP 4 - GTOE HEADSET EQUIPMENT REMOVAL COMPLETE.	
14-1168		OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 12 PART A - CREW COMPARTMENT FINAL CLEANING AND INSPECTION. (2 HR)	SU72292

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NEXT STEP SHOULD BE PERFORMED  
AT LEAST TWO HOURS PRIOR TO  
RSS MOVE AND MUST BE VERIFIED  
COMPLETE PRIOR TO ROTATION.

THE FOLLOWING ITEMS ARE NOT  
A CONSTRAINT TO RSS MOVE AND  
WILL BE CLOSED OUT DURING SIDE  
HATCH CABIN AND ENVIRONMENTAL  
CHAMBER CLOSEOUT (S0007V1, OSSU 20).

1. RAIN GUTTER ABOVE HATCH.
2. SIDE HATCH WINDOW COVER.
3. HATCH SEAL PROTECTOR.

14-1169		OTC 132	*PAD	BEGIN EXTERNAL TIRR LOG CLOSEOUT.	SU72465
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QW: \_\_\_\_\_

14-1170		OTC 132	CMQC	REVIEW ORBITER EXTERNAL TIRR LOG FOR ANY OPEN ITEMS AND SRB TIRR CMQC PQCG LOG FOR ANY OPEN FORWARD SKIRT ITEMS. REPORT OPEN ITEMS TO OTC.	
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14-1171		*PAD 132	OTC	ORBITER OPERATION SUPPORT SETUP 12 PART A - CREW COMPARTMENT FINAL CLEANING AND INSPECTION COMPLETE.	SU72292
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
SOFT WINDOW COVER REMOVAL -----					
14-1172	-11H00M (HOLDING)	OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 9 - WINDOW COVER REMOVAL FOR FLIGHT. (2 HR)	SU72450
WINDOW COVER REMOVAL COMPLETE -----					
14-1173		*PAD 132	OTC	ORBITER OPERATION SUPPORT SETUP 9 - WINDOW COVER REMOVAL FOR FLIGHT COMPLETE.	SU72450
NOTE					
PERFORM NEXT TWO STEPS IF DOCK SEALS WERE REINFLATED AFTER TPS INSPECTION DUE TO WINDS.					
DEFLATE DOCK SEALS AND INSPECT -----					
14-1174		*PAD 132 OTC	OTC PPVM	DEFLATE DOCK SEALS PER OMI V1122 "DOCK SEAL INFLATION/DEFLATION, OPTION C". REPORT COMPLETION.	
RT OMI LOG NO. _____					
NOT PERFORMED					_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1175		OTC 132	PQCG	<p>VISUALLY INSPECT PCR SEAL/TPS INTERFACE ORB AREA APPROXIMATELY 1 FOOT INBOARD AND OUTBOARD FROM CENTER LINE (COORDINATE) OF SEAL CONTACT; ACROSS UPPER FORWARD FUSELAGE L/H TO R/H SIDE FROM Z=402.75 AT X=564.5; ACROSS UPPER AFT FUSELAGE L/H TO R/H SIDE FROM Z=402.75 AT X=1323; ALONG MID FUSELAGE L/H AND R/H SIDES FROM X=564.5 TO X=1323 AT Z=402.75. DOCUMENT EVIDENCE OF BROKEN TILES OR APPARENT TILE DEGRADATION. INSPECT FI OML SURFACE AND VISIBLE EDGES FOR CUTS, TEARS, FRAYED AREAS, AND BROKEN QUILTING STITCHES IN EXCESS OF SPECIFICATION ALLOWABLES. INSPECT CERAMIC COATING FOR FLAKING, MISSING COATING AND FOR EVIDENCE OF CONTAMINATION AND/OR DISCOLORATION. INSPECT FOR EVIDENCE OF BLANKET JOINT GAPS OPENING OR OUT OF TOLERANCE STEPS DEVELOPING. REPORT COMPLETE.</p> <p>DOCUMENT EVIDENCE OF UNACCEPTABLE CRACKED COATING, BUTT JOINT SEPARATION, ABNORMAL DISCOLORATION EMBRITTLEMENT, TEARS, CUTS OR RIPS IN FRSI MATERIAL.</p> <p>UPPER FORWARD FUSELAGE TQWN: _____</p> <p>UPPER AFT FUSELAGE TQWN: _____</p> <p>R/H MID FUSELAGE TQWN: _____</p> <p>L/H MID FUSELAGE TQWN: _____</p>	
			OMRSD	V09AH0.090	
				NOT PERFORMED	_____





OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1177 CON'T					
				NOT PERFORMED	
14-1178		PTC 232	NTD	ALL MIDDECK EXPERIMENT IVT'S COMPLETE.	
				NOT PERFORMED	
				NOTE	
				DO NOT PERFORM NEXT STEP FOR SCRUB TURNAROUND IF SYSTEM HAS REMAINED CONFIGURED.	
14-1179		STM 111	JBFX	CONFIGURE PAD WASHDOWN SYSTEM FOR SEQUENCER PANEL ARMING PER OMI M3190.	WSSA SU72496
				NOT PERFORMED	
				NOTE	
				PERFORM NEXT STEP IF EARLY HOOKUP OF VACUUM VENT ASSY REQUIRED TO ALLEVIATE ACCESS PROBLEMS DURING LATE STOW.	
14-1180		OTC 132	CECL	PERFORM VACUUM VENT QD/FLEXHOSE ASSY CONNECT IN WCS PER ORBITER OPERATION SUPPORT SETUP 5.	SU72476
				NOT PERFORMED	
				NOTE	
				NEXT STEP WILL CLEAR ALL FD'S PREVIOUSLY ASSIGNED TO THE SCRS PRINTER PLOTTER SUB-SYSTEMS 1 AND 2.	
14-1181		LPS 127	C1MC C2MC	\$TERM AND \$CLAI PP1 AND PP2 SUBSYSTEMS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
FCE TIME CRITICAL STOWAGE -----					
14-1182	-11H00M (HOLDING)	OTC 132	OOC	PERFORM INSTALLATION OF FCE TIME CRITICAL ITEMS PER OMI V5097.003 OR PER FCS TPS.	SU72477
14-1183	-11H00M (HOLDING)	CTIF 136 TBC 232	TBC NTD	PRE-OPERATION SETUP 2 OF S6444 COMPLETE. DISCREPANCIES RECORDED IN APPENDIX K.  OMRSD S00U00.030-1  ORBITER AIRLOCK CLOSEOUT COMPLETE ----- (MVAK CONTINGENCY) -----	SU72391
NOTE					
PERFORM NEXT FOUR STEPS IF MVAK OPERATIONS SCHEDULED.					
14-1184		NTD 232 OTC 132	OTC *PAD	PERFORM OPERATION SUPPORT SETUP 22 - ORBITER AIRLOCK CLOSEOUT.	
					NOT PERFORMED _____
14-1185		*PAD 132 OTC 232	OTC NTD	OPERATION SUPPORT SETUP 22 - ORBITER AIRLOCK CLOSEOUT COMPLETE.	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP FOR OV-102  
 AND OV-104 ONLY.

14-1186		OTC 132	*PAD	PERFORM A70-0558 MIDDECK PLATFORM REMOVAL PER:  JC V66-90006 - PLATFORM ACCESS SET, A70-0558 PARTIAL MIDDECK, CREW MODULE, VERTICAL, REMOVAL (2 HR)	
				NOT PERFORMED	_____

NOTE

PERFORM NEXT STEP FOR OV-103  
 AND OV-105 ONLY.

14-1187		OTC 132	*PAD	PERFORM Z70-0558 MIDDECK PLATFORM REMOVAL PER:  JC V66-50009 - INSTL/REM AIRLOCK OUT VERTICAL ACCESS SET- CREW MODULE (2 HR)	
				NOT PERFORMED	_____

NOTE

PERFORM NEXT STEP IF  
 REQUIRED AFTER MVAK  
 OPERATIONS AND/OR FCE  
 TIME CRITICAL STOW  
 (REF S0007 BAR CHART).

14-1188		OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 12 PART B - CREW *PAD OMTO MODULE FINAL INSPECTION. OQCO ONQC	SU72562 SU72458
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ORB HYD WALKDOWN -----					
14-1189	-11H00M (HOLDING)	OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 27 - HYDRAULIC PRE-LAUNCH WALKDOWN.	SU72407
14-1190		OTC 132	*PAD CDR	ASCENT SWITCHLIST WILL BEGIN IN APPROXIMATELY 30 MIN. PERFORM ORBITER OPERATION SUPPORT SETUP 16 - REMOVAL AND IDENTIFICATION OF REMOVED SWITCHGUARDS.	SU72460
ECLSS CONFIG FOR ASCENT SWITCHLIST -----					
CAUTION					
IF NH3 CONTROLLER SWITCH (A OR B) IS INADVERTENTLY PLACED IN SEC/ON POSITION, NH3 FLIGHT LOAD WILL BE LOST.					
14-1191	-11H00M (HOLDING)	CECL 132	OTC	PANEL L1 NH3 CONTROLLER	SU72436
		OTC	CDR	A SW - OFF B SW - PRI/GPC	L1A02S042 L1A02S04
				FLASH EVAP CONTROLLER	
				PRI A SW - GPC	L1A02S031
				PRI B SW - OFF	L1A02S032
				SEC	L1A02S033
				GPC/OFF/ON SW - OFF	
NOTE					
PERFORM NEXT STEP IF DUAL MODE COOLING WILL BE REQUIRED THIS LAUNCH.					
14-1192		OTC 132	CECL	CONFIGURE FREON LOOPS TO RAD FLOW PER ORBITER OPERATION SUPPORT SETUP 8. REPORT COMPLETION.	
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

-----  
SEQ            TIME            CMD    RESP                            DESCRIPTION                            VERIF.  
-----

-----  
EDO O2 TANK HTR SNSR CONFIG  
-----

CAUTION

EDO O2 TANK HEATER PRESSURIZATION  
MUST BE COMPLETE PRIOR TO  
PERFORMANCE OF NEXT STEP.

NOTE

PERFORM NEXT STEP FOR EDO  
MISSIONS ONLY.

14-1193

OTC    ASP    PANEL A15  
ROW H  
  PALLET CRYO  
    MNA  
      TANK 6 (TANK 6/10 OV-104)  
      O2 HTR SNSR 1 CB - OPEN  
    MNB  
      TANK 6 (TANK 6/10 OV-104)  
      O2 HTR SNSR 2 CB - OPEN  
ROW I  
  PALLET CRYO  
    MNA  
      TANK 7 (TANK 7/11 OV-104)  
      O2 HTR SNSR 1 CB - OPEN  
    MNB  
      TANK 7 (TANK 7/11 OV-104)  
      O2 HTR SNSR 2 CB - OPEN  
ROW J  
  PALLET CRYO  
    MNA  
      TANK 8 (TANK 8/12 OV-104)  
      O2 HTR SNSR 1 CB - OPEN  
    MNB  
      TANK 8 (TANK 8/12 OV-104)  
      O2 HTR SNSR 2 CB - OPEN  
ROW K  
  PALLET CRYO  
    MNA  
      TANK 9 (TANK 9/13 OV-104)  
      O2 HTR SNSR 1 CB - OPEN  
    MNB  
      TANK 9 (TANK 9/13 OV-104)  
      O2 HTR SNSR 2 CB - OPEN

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
OMS/RCS CONFIG FOR ASCENT SWITCHLIST -----					
14-1194		OTC 132	COOS	PERFORM OMS/RCS SWITCH CONFIGURATION PER S0007VL4 (SEQ 40). (15 MIN)	
14-1195		COOS 132	OTC	OMS/RCS SWITCH CONFIGURATION COMPLETE.	
HYDRAULIC CONFIG FOR ASCENT SWITCHLIST -----					
14-1196	-11H00M (HOLDING)	OTC 132	CHYD CDR	PERFORM HYD SYS CONFIG FOR SWITCHLIST.	
14-1197		CHYD	CDR	PANEL L4 ROW O AC1 BLR HYD BYPASS 1B PH A CB - CLOSE HYD QTY 1 PH B CB - CLOSE BLR HYD BYPASS 3A PH C CB - CLOSE  AC2 BLR HYD BYPASS 1A PH A CB - CLOSE HYD QTY 2 PH B CB - CLOSE BLR HYD BYPASS 2B PH C CB - CLOSE  AC3 BLR HYD BYPASS 2A PH A CB - CLOSE HYD QTY 3 PH B CB - CLOSE BLR HYD BYPASS 3B PH C CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1198		CHYD	PLT	PANEL R2 APU/HYD HYD MAIN PUMP PRESS 1 SW - NORM 2 SW - NORM 3 SW - NORM HYD CIRC PUMP 1 SW - GPC (GUARDED) 2 SW - GPC (GUARDED) 3 SW - GPC (GUARDED) BOILER CNTLR HTR 1 SW - A 2 SW - A 3 SW - A BOILER PWR 1 SW - OFF 2 SW - OFF 3 SW - OFF BOILER N2 SUPPLY 1 SW - OFF 2 SW - OFF 3 SW - OFF	
14-1199		CHYD	PLT	PANEL R4 HYDRAULICS BRAKE HEATER A SW - OFF B SW - OFF C SW - OFF	
14-1200		CHYD	ASP	PANEL A12 HYDRAULIC HEATER RUDDER SPD BK A SW - AUTO B SW - OFF BODY FLAP A SW - AUTO B SW - OFF ELEVON A SW - AUTO B SW - OFF AFT FUSELAGE A SW - AUTO B SW - OFF HYD CIRC PUMP POWER 1 SW - MN A 2 SW - MN B 3 SW - MN C	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1201		CHYD	ASP	PANEL MA73C ROW F AC 1 OPS INST HYD ACTR PH C CB - CLOSE AC 2 OPS INST HYD ACTR PH C CB - CLOSE	
14-1202		CHYD	OTC	HYDRAULIC SYSTEM CONFIGURATION FOR SWITCH LIST COMPLETE.  UNLOCK HATCH JETTISON "T" HANDLE BOX	
14-1203		OTC	*PAD	PERFORM OPERATION SUPPORT SETUP 26 - UNLOCK HATCH JETTISON "T" HANDLE BOX (30 MIN).  IUS CALL TO STATION	SU72438
				NOTE  PERFORM NEXT STEP FOR IUS/AXAF (STS-93).  PERFORM NEXT STEP AT L-23 HOURS.	
14-1204		PTC	NTD	PERFORMING IUS CALL TO STATIONS AND PRE-LAUNCH CONFIGURATION PER	
		NTD	OTC	S0007VL4 (SEQ 78).	
				NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
PRE-ASCENT SWITCHLIST FOR PAYLOADS					
NOTE					
PERFORM THE PRE-ASCENT IUS/ AXAF SWITCHLIST NO LATER THAN L-22 HOURS.					
14-1205		NTD 232	PTC	PERFORM PRE-ASCENT SWITCHLIST FOR PAYLOADS PER S0007VL4 (SEQ 79).	SU72439
				NOT PERFORMED	_____
14-1206		PTC	NTD	PRE-ASCENT SWITCHLIST COMPLETE.	
				NOT PERFORMED	_____
IUS AFD PNL ASP SUPPORT					
NOTE					
PERFORM NEXT STEP FOR IUS/ AXAF (STS-93).					
PERFORM NEXT STEP AT L-21H30M.					
14-1207		PTC 132	OTC	REQUEST ASP SUPPORT ON OIS CH 134 FOR IUS AFD PANEL PRESET FOR MISSION PER S0007VL4 (SEQ 78).	
				NOT PERFORMED	_____
IUS POWER ON PREPS AND POWER UP					
14-1208		NTD	PTC	PERFORM IUS POWER ON PREPS AND POWER IUS ON PER S0007VL4 (SEQ 78).	
PAYLOAD SSP/PRLA CONFIG FOR ASCENT S/L					
14-1209		OTC 132	CPLE	PERFORM SSP/PRLA SWITCH CONFIGURATION PER S0007VL4 (SEQ 58).	
14-1210		CPLE 132	OTC	SSP/PRLA SWITCH CONFIGURATION COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
MECH CONFIG FOR ASCENT SWITCHLIST					
-----					
NOTE					
PERFORM NEXT FIVE STEPS PRIOR TO MCA CONFIGURE.					
14-1211	-11H00M (HOLDING)	OTC 132	CDR	PERFORM MECH SYSTEM CONFIGURATION FOR ASCENT SWITCHLIST.	
14-1212		OTC	CDR	PANEL O6 STAR TRACKER DOOR CONTROL SYS 1 SW - OFF SYS 2 SW - OFF POWER -Y SW - OFF -Z SW - OFF	
14-1213		OTC	CDR	PANEL C3 AIR DATA PROBE STOW LEFT SW - INHIBIT RIGHT SW - INHIBIT AIR DATA PROBE LEFT SW - STOW RIGHT SW - STOW	
14-1214		OTC	CDR	PANEL R13L PL BAY MECH PWR SYS 1 SW - OFF SYS 2 SW - OFF PL BAY DOOR SW - STOP PL BAY DOOR ENABLE/DISABLE SYS 1 SW - DISABLE SYS 2 SW - DISABLE	
14-1215		OTC 132	CDR	PANEL R2 ET UMB DOOR MODE SW - GPC	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1216				ROW D	
CON'T				MCA POWER AC1 3 PH	
				AFT 1 CB - CLOSE	MA73CC004
				MID 3 CB - CLOSE	MA73CC003
				MCA POWER AC2 3 PH	
				AFT 2 CB - CLOSE	MA73CC010
				MID 3 CB - CLOSE	MA73CC008
				MID 4 CB - CLOSE	MA73CC009
				MCA POWER AC3 3 PH	
				AFT 3 CB - CLOSE	MA73CC014
				MID 4 CB - CLOSE	MA73CC013
NOTE					
NEXT STEP MUST BE COMPLETED PRIOR TO PERFORMING ASCENT SWITCHLIST.					
14-1217		*PAD 132	OTC	OPERATION SUPPORT SETUP 26 - UNLOCK HATCH JETTISON "T" HANDLE BOX COMPLETE.	SU72438
NOTE					
PERFORM NEXT STEP IF MVAK OPERATIONS SCHEDULED. (REF S0007 BAR CHART)					
14-1218		OMTO OQCO *PAD 132	*PAD	ORBITER OPERATION SUPPORT SETUP 12 PART B - CREW MODULE FINAL INSPECTION COMPLETE.	
					NOT PERFORMED
14-1219		OOCs 132 OTC 232	OTC	FCE TIME CRITICAL STOWAGE COMPLETE.	SU72477

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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ASCENT SWITCHLIST

NOTE

ALL OTHER SCHEDULED OPERATIONS IN CREW MODULE ARE REQUIRED TO BE COMPLETED PRIOR TO START OF ASCENT SWITCHLIST. ANY EXCEPTIONS MUST BE APPROVED BY NTD.

ASCENT SWITCHLIST (SEQ 76) IS DIVIDED INTO TWO SECTIONS. FIRST SECTION CONTAINS FLIGHT DECK PANELS AND C&W SETUPS. SECOND SECTION CONTAINS MIDDECK AND AFT FLIGHT DECK PANELS, AIRLOCK AND WASTE MANAGEMENT SYSTEM.

FROM INITIATION OF ASCENT SWITCHLIST UNTIL COMPLETION OF FLIGHT CREW INGRESS OPERATIONS, ASP SHALL PERFORM SWITCH/CIRCUIT BREAKER ACTIONS IN CREW COMPARTMENT.

14-1220	-11H00M (HOLDING)	OTC 132	ALL	ALL ORBITER SYSTEMS ENGINEERS IN FIRING ROOM VERIFY READY TO SUPPORT ASCENT SWITCHLIST. REPORT ANY KNOWN CHANGES IN CONFIGURATION.	SU72463
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CCSE _____	CAPU _____
CNSE _____	CHYD _____
CAFM _____	CISL _____
CPLD _____	CEPD _____
CMPS _____	COFC _____
CECL _____	CGNC _____
CFCP _____	CDPS _____
COOS _____	CODS _____
	CCME _____
	CTPE _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF NO KLES/DLES/CLES ON STATION, OTC SHALL NOTIFY PTC OF ANY SWITCH CONFIGURATION CHANGES.

14-1221		OTC 132	PTC	REQUEST KLES/DLES/CLES SUPPORT FOR ASCENT FLIGHT DECK SWITCHLIST.	
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14-1222		OTC 132	ALL	SYSTEMS ENGINEERS MONITOR  1. OIS CH 161 FOR MIDDECK/AFT FLIGHT DECK/AIRLOCK/WMS SWITCHLIST.  2. OIS CH 131 FOR FLIGHT DECK C&W SETUPS SWITCHLIST.  3. ALL ORBITER/OTC TRAFFIC OTHER THAN SWITCHLIST ON OIS CH 132.	
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14-1223		OTC 132	CDR PLT CMQC	STANDBY FOR ASCENT SWITCHLIST. MIDDECK/AFT FLIGHT DECK/AIRLOCK/WMS WILL BE ON OIS CH 161. FLIGHT DECK/C&W SETUPS WILL BE ON OIS CH 131. ASCENT SWITCHLIST WILL BE PERFORMED PER S0007VL4 (SEQ 76).	
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14-1224		OTC 132	ALL	PERFORM ASCENT SWITCHLIST (SEQ 76). ALL SYSTEMS ENGINEERS MONITOR SWITCHLIST CALLOUTS. (2 HRS)	
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NOTE

PERFORM NEXT STEP IF MIDDECK/WMS SWITCHLIST WILL BE DELAYED FOR AN EXTENDED PERIOD TO ACCOMODATE LATE MIDDECK STOWAGE.

14-1225		OTC 132	CTPE	ACTIVATE "ANY CHANGE SWITCH SCAN" MONITOR PROGRAM (STP05). REPORT COMPLETE.	
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
IUS POST POWER UP CHECKOUT COMPLETE					
NOTE					
PERFORM THE NEXT STEP FOR IUS MISSION (STS-93).					
PERFORM NEXT STEP AT L-18:45.					
14-1226		ICTC 134 PTC 232	PTC NTD	IUS CHECKOUT COMPLETE PER S0007VL4 (SEQ 78).	
IUS QUIET TIME REQUEST					
NOTE					
PERFORM THE NEXT STEP FOR IUS MISSION (STS-93).					
PERFORM NEXT STEP AT L-16:35.					
14-1227		ICTC 134 PTC 232 NTD	PTC NTD OTC TBC STM	READY TO PROCEED WITH RIMU CAL AND ALIGN. REQUEST QUIET TIME BE PLACED IN EFFECT IN 15 MINUTES.	
					NOT PERFORMED



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM IUS QUIET TIME  
START NEXT FOUR STEPS FOR  
IUS MISSION (STS-93).

IUS QUIET TIME START  
-----

NOTE

FOLLOWING CRITERIA REQUIRED  
FOR QUIET TIME ACTIVITY:

1. NO HYDRAULICALLY ACTUATED  
AEROSURFACE OR SSME TVC  
MOVEMENT
2. NO SRB NOZZLE MOVEMENT
3. NO MPS 17-INCH DISCONNECT  
VALVE CYCLES
4. NO UNCOORDINATED CABIN  
ACTIVITY
5. NO CHANGES IN PLB PURGE  
(FLOW RATE OR TEMP)
6. NO 3,4,5,6,7 OR 9 VENT  
DOOR OPERATIONS
7. NO SSME FRT OR OTHER  
OPERATIONS RESULTING IN  
SIMULATED SSME PNEUMATIC  
SHUTDOWN.
8. MAX WIND OF 49 KNOTS  
(PEAK VELOCITY IN ANY  
DIRECTION).
9. NO MOBILE CRANE OPERATIONS
10. NO ORBITER WEATHER  
PROTECTION MOVEMENT
11. NO ORBITER CRYOGENIC  
CHILLDOWN

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM THE NEXT STEP AT L-16H20M.					
14-1228	-11H00M (HOLDING)	NTD 232	PTC	PROCEED WITH RIMU CAL AND ALIGN. QUIET TIME IN EFFECT.	
OMRSD P018JB.035-C					
NOT PERFORMED					
NOTE					
DURING RIMU CAL/ALIGN, PTC WILL REQUEST PAYLOAD BAY PURGE, WIND DIRECTION AND VELOCITY DATA EVERY 30 MIN. PTC WILL RECORD THIS DATA IN APPENDIX B (S0007VL4).					
14-1229		PTC 132 OTC	OTC CPVD	PROVIDE TEMPERATURE, FLOWRATE AND HUMIDITY OF PAYLOAD BAY PURGE PER ORBITER OPERATION SUPPORT SETUP 15. PTC WILL REQUEST DATA EVERY 30 MIN DURING RIMU CAL/ALIGN. NOTIFY PTC IMMEDIATELY OF ANY VIOLATIONS.	
NOT PERFORMED					
14-1230		PTC 232 NTD STM 111 JBDY 231	NTD STM JBDY	REQUEST WIND DIRECTION AND VELOCITY READING FROM 60 FT WIND TOWERS. RECORD: *WEA WIND DIRECTION _____ WIND VELOCITY _____	
NOT PERFORMED					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
IUS RIMU CAL AND ALIGN START -----					
NOTE					
PERFORM NEXT STEP AT L-16H15M.					
14-1231	-11H00M (HOLDING)	PTC 134	ICTC	PROCEED WITH RIMU CAL AND ALIGN PER DOP D290-50020-27. QUIET TIME IN EFFECT. REPORT STATUS OF CAL AND ALIGN AS AVAILABLE.	
NOT PERFORMED					_____
FUEL CELL FLOW THRU/PULSE PURGE -----					
NOTE					
MINIMIZE TIME BETWEEN INITIATION OF FUEL CELL REACTANT PURGE AND FUEL CELL START.					
DO NOT PERFORM NEXT TWO STEPS IF FUEL CELLS ARE POWERED UP (SCRUB/RECYCLE).					
14-1232	-11H00M (HOLDING)	NTD 232 OTC 132	OTC STM CFCP	PERFORM FUEL CELL FLOW THRU/PULSE PURGE PER OMI V1040.002 ON OIS CH 153. (1 HR 15 MIN).	SU72446
NOT PERFORMED					_____
14-1233		STM 111	JBPN	MONITOR GO2 AND GH2 SYSTEMS FOR EXCESSIVE SYSTEM DECAY DURING FUEL CELL FLOWTHRU/PULSE PURGE THRU T-0.	PNSA
NOT PERFORMED					_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
VACUUM VENT LINE INERTING					
-----					
14-1234		OTC 132	CECL	INITIATE VACUUM VENT LINE DUCT GN2 INERTING PER ORBITER OPERATION SUPPORT SETUP 5 (S0007VL1). (1 HR)	SU72449
ASCENT SWITCHLIST COMPLETE					
-----					
14-1235	-11H00M (HOLDING)	OTC 232	NTD	ORBITER ASCENT SWITCHLIST COMPLETE. (SEQ 76 S0007VL4).	SU72463

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM THE FOLLOWING STEP IMMEDIATELY AFTER COMPLETION OF C/W SETUPS IN THE ASCENT SWITCHLIST.

14-1236		OTC 132	CISL	PERFORM C/W GOAL SOFTWARE UPDATE FOR ASCENT SWITCHLIST PER OMI S9001VL2. (15 MINUTES)	
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NOTE

PERFORM NEXT TWO STEPS IF DTO 685 (ELECTRONIC KNEEBOARD) IS INSTALLED.

14-1237		OTC	ASP	MIDDECK LOCKER _____ DTO 685 (ELECTRONIC KNEEBOARD) POWER ON EXPERIMENT PER YOUR CHECKLIST	
---------	--	-----	-----	--	--

NOT PERFORMED \_\_\_\_\_

14-1238			ASP	PANEL L12L SSP2 PDIP POWER 1 CB - CLOSED  PDIP DC POWER 1 CABIN P/L - ON	
---------	--	--	-----	---	--

NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT STEP IF FCE LATE STOW NOT COMPLETED PRIOR TO ASCENT SWITCHLIST.

14-1239		NTD 232 OTC 132	OTC	ASCENT SWITCHLIST COMPLETE. CONTINUE WITH FCE LATE STOW. OOCs	
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NOT PERFORMED \_\_\_\_\_

14-1240		OTC 132	CTPE	PERFORM ASCENT SWITCH SCAN PER STP08.	SU72555
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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SWITCHLIST POST OPERATIONS

NOTE

SUPPORT CREW REP WILL INSTALL FOLLOWING AT COMPLETION OF SWITCHLIST:

1. ASCENT CUE CARDS
2. COMBINED WICKET ON PNL O8 AT LH SIDE OF SWITCHES MARKED "FWD RCS HE PRESS A, TANK ISOLATION 1/2, MANIFOLD ISOLATION 1" BY MATING VELCRO AND SNAPS.

14-1241		OTC 132	ASP	UNLOCK AND REMOVE LOCKS FROM RCS DRIVER SWITCHGUARDS ON PANELS O14, O15, AND O16. DO NOT REMOVE SWITCHGUARDS. RETAIN IN WITH SWITCHGUARD SET FOR REINSTALLATION IF LAUNCH SCRUB OCCURS.	SU72554
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14-1242		CTPE 132	OTC	ASCENT SWITCH SCAN COMPLETE.	
---------	--	-------------	-----	------------------------------	--

NOTE

PERFORM NEXT STEP IF "ANY CHANGE SWITCH SCAN" NOT PREVIOUSLY ACTIVATED.

14-1243		OTC 132	CTPE	ACTIVATE "ANY CHANGE SWITCH SCAN" MONITOR PROGRAM (STP05). REPORT COMPLETE.	
---------	--	------------	------	---	--

NOT PERFORMED

NOTE

NEXT STEP WILL BE VERIFIED SHORTLY AFTER COMPLETION OF ASCENT SWITCHLIST.

14-1244		*PAD 132	OTC	ORBITER OPERATION SUPPORT SETUP 16 - SWITCHGUARD IDENTIFICATION COMPLETE.	SU72460
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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FUEL CELL FLOW-THRU PURGE  
 -----  
 - COMPLETE CONTINUE W/PULSE PURGE  
 -----

NOTE

DO NOT PERFORM NEXT FOUR  
 STEPS IF FUEL CELLS ARE  
 POWERED UP (SCRUB/RECYCLE)  
 OR UNTIL ASCENT SWITCHLIST  
 (FD, AFD, MD PORTIONS) IS  
 REPORTED COMPLETE.

14-1245		CFCP	OTC	FUEL CELL FLOW THRU PURGE	SU72540
		132		COMPLETE. CONTINUING WITH FUEL	SU72446
		OTC	CECL	CELL PULSE PURGE. (45 MIN)	
		232	NTD	O2 ECS VALVES WILL BE OPENED TO SUPPORT O2 SEAT SAMPLES.	

NOT PERFORMED \_\_\_\_\_

14-1246		CFCP	ASP	PANEL L2	
		132		ATM PRESS CONTROL	
				O2 SYS 1 SUPPLY SW - OPEN	L2A01S01
				UNTIL O2 SYS 1 SUPPLY TB OP	L2A01DS05
				O2 SYS 2 SUPPLY SW - OPEN	L2A01S02
				UNTIL O2 SYS 2 SUPPLY TB OP	L2A01DS09

NOT PERFORMED \_\_\_\_\_

14-1247		CFCP	OTC	MASTER ALARMS WILL OCCUR FOR FUEL	
		132		CELL REACTANT VLV CLOSURE. REQUEST	
		OTC	ASP	ASP RESET.	
			CISL		

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
SEAT O2 SAMPLES (ECLSS)					
14-1248		OTC 132	CECL ASP	PERFORM ECLSS O2 SAMPLE FOR SUITED CREW INGRESS PER S0007VL4 (SEQ 45 OPTION C) ON OIS CH 143 (30 MIN).	SU72564
NOT PERFORMED					_____
OI SNAPSHOT					
NOTE					
OI SNAPSHOT SHOULD BE PERFORMED AFTER COMPLETION OF ASCENT SWITCHLIST.					
CTPE SHALL CALL DATA COORDINATOR FOR PICKUP AND DELIVERY (OI SNAPSHOTS) TO CISL FOR NEXT STEP.					
14-1249	-11H00M (HOLDING)	NTD 232	JRPS	PERFORM OI SNAPSHOTS (2 COPIES).	SU72545
14-1250		JRPS 232 NTD OTC OTC 132	NTD	OI SNAPSHOT COMPLETE.	
APU BITE TEST					
14-1251	-11H00M (HOLDING)	OTC 132	CAPU	PERFORM APU BITE TEST PER S0007VL4 (SEQ 42). (15 MIN)	SU72547
14-1252		CAPU 132	OTC	APU BITE TEST COMPLETE (SEQ 42, S0007VL4).	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
C/W AND LCC EMON ACTIVATION -----					
14-1253	-11H00M (HOLDING)	OTC 132	CECL	ACTIVATE C/W & LCC EMON FOR YOUR SYSTEM PER SEQ 39 C&W & COOS LCC EMON ACTIVATION. (S0007VL4) CTPE TPE SUPPORT RSYS XFER WITH COOS ON CH 157. REPORT COMPLETION AND NOT PERFORMED STEPS (15 MIN)	SU72552
			CECL	_____	
			CMPS	_____	
			COOS	_____	
GOX VENT HOOD/ET ALIGNMENT -----					
14-1254	-11H00M (HOLDING)	TBC 136	CMEC	PERFORM GOX VENT HOOD/ET ALIGNMENT PER OMI G2158.	SU72466
EQUIPMENT CONFIGURED (JFIR) - COMPLETE -----					
14-1255	-11H00M (HOLDING)	JFIR 114	JSTC	FINAL RSS, FSS, MLP AND PAD APRON WALKDOWN COMPLETE. FIRE	FIRE SU72360
		JSTC 111	STM	EXTINGUISHERS REMOVED. TWO FIRE EXTINGUISHERS PLACED IN EACH	
		STM 232	NTD	ELEVATOR.	
		NTD *SCC	OTC		
14-1256	-11H00M (HOLDING)	JFIR 114	JSTC	MLP ZERO LEVEL FIRE ALARM PULL STATIONS AND ALARM GONG BELL REMOVED.	FIRE SU72361

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
02H30M TO END OF HOLD -----					
14-1257	-11H00M (HOLDING)	STM 111	JBPN	REMOVE BARRICADES FROM AROUND GO2 SUPPLY PANEL AND STORAGE BOTTLES (1 HR).	PNSA  T: _____
14-1258		JBPN 111	STM	BARRICADES REMOVED FROM AROUND GO2 STORAGE BOTTLES AND PANEL.	PNSA
02H20M TO END OF HOLD -----					
CCF-39 GN2 PRODUCTION PLANT -----					
LPGN2 NOTIFICATION -----					
NOTE					
LN2 PUMPS REQUIRED IN 4 HOURS FOR HIGH FLOW RATE AND AIR TO GN2 CHANGEOVER (V1122).					
14-1259	-11H00M (HOLDING)	STM 111 JSTC 114	JSTC GSPN	CCF-39 GN2 PRODUCTION PLANT 4 HOUR NOTIFICATION.	PNU SU72493
14-1260	-11H00M (HOLDING)	STM 111 JSTC 114 NET 104	JSTC GSPN GSPS	PLACE AND CONNECT GN2 RECHARGER(S) AND LN2 TANKERS TO CCF-39 RECHARGER MANIFOLD BY T-6 HRS.	PNU PN
TERMINATE VOICE CHECKS -----					
14-1261	-11H00M (HOLDING)	STM 111 GYCC PTP	GYCC GYCR	DO NOT PERFORM VOICE CHECKS FOR REMAINDER OF LAUNCH COUNTDOWN.	COMM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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REMOVE AREA WARNING KEYS  
 -----  
 AND MICROPHONES  
 -----

NOTE

REMOVE THOSE KEYS AND  
 MICROPHONES FROM CONSOLES  
 NOT MANNED BY A NTD OR CTC.

14-1262	-11H00M (HOLDING)	NTD	STM	REMOVE AREA WARNING KEYS AND MICROPHONES FROM CONSOLES	COMM
		232			
		STM	GYCC	DESIGNATED BY NTD/STM. ATTACH	
		111		INTEGRITY CONTROL STICKERS TO	
		GYCC	JYCJ	KEY HOLES AND TURN KEYS IN TO	
		117	JSOQ	STM. (30 MIN)	

LCC-1 CONSOLE AB-6

NOT PERFORMED \_\_\_\_\_

LCC-2 CONSOLE AA-5

NOT PERFORMED \_\_\_\_\_

LCC-3 CONSOLE AB-6

NOT PERFORMED \_\_\_\_\_

TQV: \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1263	-11H00M (HOLDING)	JYCJ 117 GYCC 111 STM 232	GYCC STM NTD	IF DESIGNATED BY NTD/STM, AREA WARNING KEYS AND MICROPHONES HAVE BEEN REMOVED FROM FOLLOWING CONSOLES AND KEYS TURNED IN TO STM. INTEGRITY CONTROL STICKERS HAVE BEEN ATTACHED TO KEY HOLES	COMM
				LCC-1 CONSOLE AB-6	
				NOT PERFORMED	_____
				LCC-2 CONSOLE AA-5	
				NOT PERFORMED	_____
				LCC-3 CONSOLE AB-6	
				NOT PERFORMED	_____
14-1264		STM 111	JBPN	ON RSS 130 FT LEVEL, CLOSE O2N2 BREATHING AIR SUPPLY VALVE A138340.	PNSA SU72508
					T:_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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BREATHING AIR PANEL REMOVAL

14-1265	-11H00M (HOLDING)	STM 111	JSTC	PERFORM FOLLOWING: (2 HRS)	LS SU72511
		JSTC NET 104	*SCB	1. FASTEN SNAP HALYARDS TO ELSA BOX LATCHES ON RSS AND MLP.	
				2. REMOVE ELSA BOX FROM 135 FT EAST SIDE AND ANY OTHER ELSA BOXES WITHOUT HOLDDOWN CABLES AND ANY LOOSE LIFE SUPPORT EQUIPMENT FROM RSS AND MLP.	
				3. REMOVE ORBITER AFT RESCUE EQUIPMENT FROM RSS SIDE 2 130 FT LEVEL (50-2 ACCESS DOOR) AND REMAINING BREATHING AIRLINES FROM 130 FT LVL (50-1/2), "0" LVL MLP, 107 FT, 120 FT, AND 207 FT LEVELS OF RSS.	
				4. DISCONNECT BREATHING AIR PANEL FROM RSS. AFTER LOWERED TO PAD SURFACE TAKE TO SLIDEWIRE BUNKER AND CONNECT PANEL TO K-BOTTLE MANIFOLD, SET TO 80 PSIG +20/-0 PSIG AND PERFORM A 5 MINUTE PURGE. VERIFY BREATHING AIR MANIFOLD PRESSURIZED TO 1800 LBS MINIMUM.	

NOTE

IF MLP OTV CAMERAS ARE ADJUSTED AFTER FINAL CHECKS, JYVO SHALL NOTIFY STM/JBPN ON OIS CH 111 AND STATUS CAMERA NUMBER(S) AND LOCATION(S).

14-1266		STM 111	JBPN	VERIFY MLP CAMERA FLEXHOSES SECURELY ATTACHED PER OMI M3197.	PNSA SU72487
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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CANTILEVER/JIB HOISTS REMOVAL COMPLETE

NOTE

PERFORM NEXT STEP IF  
 CANTILEVER/JIB HOISTS ARE  
 REMOVED PER B5150.

14-1267		PBOL	*PAD	CANTILEVER/JIB HOISTS REMOVAL COMPLETE.	
			*PAD	TBC	
			136		

NOT PERFORMED

NOTE

PERFORM MPS LH2 FEED AND RECIRC  
 DISCONNECT CONFIGURE FOR LOAD  
 TWO HOURS PRIOR TO END OF HOLD  
 IF ORBITER MPS FEED AND  
 RECIRC DISC VALVES ARE CLOSED.

MPS LH2 FEED AND RECIRC DISCONNECT

CONFIGURE FOR LOAD

NOT PERFORMED

14-1268		TBC	CLHY	PERFORM OMI G3251 OSSU 3 -	SU72457
			136	DEPRESSURIZATION AND	
				RE-PRESSURIZATION OF ET LH2	
				TANK AND MPS FEED AND RECIRC	
				DISCONNECT VALVES OPENING.	

14-1269		CLHY	TBC	VERIFY WIND SPEED FORECAST AT	
			136	60 FT LEVEL OF LAUNCH PAD WEATHER	
		TBC	NTD	TOWER WILL NOT EXCEED 47 KNOTS	
			232	FOR NEXT HOUR.	
			NTD	STM	
			STM	JBDY	
			111		
			JBDY	*WEA	
			231		

OMRSD S00L00.051-A-1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1270	-11H00M (HOLDING)	CLHY 136 TBC 132	TBC OTC	REQUEST CMPS SWITCH TO OIS CH 166 TO SUPPORT G3251 LH2 SYSTEM PREPS FOR VEHICLE LOADING. REPORT TO CLHY.	

NOTE

DO NOT PERFORM NEXT FOUR STEPS IF RSS IS ROLLED BACK (PARK POSITION) AND LH2 TSM CLOSED OUT FOR FLIGHT.

14-1271		CMPS 132 OTC 232 NTD *SCC *SCC NET 105	OTC NTD *SCC *PSE	LOUD HELIUM VENTING WILL OCCUR FROM MPS LH2 RTL'S DUMP PORT. REQUEST SAFETY NOTIFY PERSONNEL WORKING IN LH2 TSM/T-0 CARRIER PLATE LOUD VENTING WILL OCCUR MOMENTARILY. REQUEST SAFETY VERIFY NO PERSONNEL IN LINE OF LH2 RTL'S DUMP PORT EXIT, LOCATED NEAR 50-1 DOOR, AND NOTIFY ALL PERSONNEL IN VICINITY OF DUMP PORT THAT LOUD VENTING WILL OCCUR, REQUEST SAFETY REMAIN ON STATION UNTIL VENTING IS COMPLETE.	SU72522
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NOT PERFORMED \_\_\_\_\_

14-1272		*PSE NET 105 *SCC 232 NTD OTC OTC 132	*SCC NTD	PERSONNEL HAVE BEEN NOTIFIED AND NO LONGER IN VICINITY OF LH2 RTL'S DUMP PORT. YOU HAVE SAFETY CONCURRENCE TO PROCEED.	
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NOT PERFORMED \_\_\_\_\_

14-1273		CMPS 132 OTC 232 NTD PA	OTC NTD	ATTENTION ON PAD ____: HELIUM WILL BE VENTED THROUGH RTL'S DUMP PORT IN AREA OF 50-1 DOOR.	
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1274		CMPS 132 OTC 232 NTD *SCC *SCC NET 105	OTC NTD	HELIUM VENTING FROM LH2 RTLS DUMP PORT NEAR OBITER 50-1 DOOR COMPLETE. SAFETY MAY BE RELEASED AT THIS TIME. *SCC *PSE	
				NOT PERFORMED	_____
14-1275		CLHY 136 TBC 232 NTD PA	TBC NTD	ATTENTION ON PAD ____: ET LH2 TANK WILL BE VENTED TO LH2 FLARE STACKS.  OPEN LH2 17 IN. DISCONNECT -----	
14-1276		CMPS 132 OTC 232 NTD	OTC NTD TBC	REQUEST NO TCS PGM ACTIVE (OTHER THAN MPS) DURING LH2 17 IN. DISC VALVE CYCLE TO OPEN AND LATCH TO LOCK.	
14-1277		NTD 232 OTC 132	OTC CMPS	PROCEED WITH LH2 17 IN. DISC VALVE AND LATCH CYCLING PER OMI G3251.	
14-1278		CMPS 132 OTC 232 NTD	OTC NTD TBC	LH2 17 IN. DISCONNECT IS OPEN AND LATCH IS IN LOCKED POSITION PER G3251. TCS PGM ACTIVITY MAY RESUME.  OMRSD S00FA0.810-B	
14-1279		CLHY 136 TBC 232	TBC NTD	G3251 OPERATION SUPPORT SETUP 3 - DEPRESSURIZATION AND REPRESSURIZATION OF ET LH2 TANK AND MPS FEED AND RECIRC DISCONNECT VALVE OPENING COMPLETE.  MPS LH2 FEED AND RECIRC DISCONNECT ----- CONFIGURE FOR LOAD COMPLETE -----	SU72457



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT 11 STEPS  
 APPROXIMATELY 2 HRS PRIOR  
 TO COMING OUT OF T-11 HR HOLD.

SEAL SRB TUNNEL DRAIN HOLES  
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NOTE

DO NOT PERFORM NEXT FOUR  
 STEPS IF SRB DRAIN HOLES  
 ALREADY SEALED.

DO NOT WORK NEXT FOUR STEPS  
 CONCURRENTLY WITH SRB HPU  
 EXHAUST PLUG AND OVERBOARD  
 DRAIN LINE REMOVAL.

14-1280		NTD 232	TBC	VERIFY AFT SKIRT PURGE NOT FLOWING.	
					NOT PERFORMED _____

14-1281		TBC 232	NTD	REQUEST CONCURRENCE FOR PERSONNEL TO ENTER CONTROL AREA AROUND SRB	
		NTD	*SCC	AFT SKIRTS TO SEAL SRB DRAIN HOLES.	
		*SCC	*PSE	AFT SKIRT PURGE NOT ACTIVE.	
		NET 105			
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1282		*PSE NET 105 *SCC 232 NTD	*SCC   NTD	PERSONNEL ENTERING CONTROL AREA AROUND SRB AFT SKIRTS PROPERLY ATTIRED AND WEARING BODY HARNESSSES. YOU HAVE SAFETY CONCURRENCE TO ENTER CONTROL AREA AND SEAL SRB DRAIN HOLES.	
				NOT PERFORMED	_____
14-1283	-11H00M (HOLDING)	TBC 136	*PAD PBOL	PERFORM SRB OPERATION SUPPORT SETUP 1 - SEAL SRB DRAIN HOLES. (S0007VL1)	SU72474
				NOT PERFORMED	_____
				RLDS 6145 ACTIVATION AND CONFIDENCE ----- CHECKS -----	
14-1284		CHGD 136	TBC CLHY	PERFORMING RLDS 6145 ACTIVATION AND CONFIDENCE CHECKS. IGNORE RLDS 6145 LEAK DETECTOR INDICATIONS UNTIL COMPLETION.	SU72470
				_____ GMT	
14-1285		CHGD 177	PETG	FSS 195 FT LEVEL - 6145 CABINET	
				1. GN2 PURGE VALVE A152873 - OPEN (CCW)	
				2. VERIFY AUDIBLE PURGE	
					T:_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

EMONS MAY OCCUR AT CLHY  
CONSOLE DURING LEAK  
DETECTOR ACTIVATION.

14-1286

CHGD CURSOR CNTL (SAW01/HWW11)  
MFC POWER - ON  
PUMP 1 - ON  
PUMP 3 - ON  
XMIT CURSOR KEY - PRESS

NOTE

ALLOW A 5 MINUTE MINIMUM MFC  
WARMUP PRIOR TO DATA RECORDING.

MANUAL SELECT

SV3 (CAL)  
SV4 (CAL)  
HE Z CURSOR BLOCK  
XMIT CURSOR KEY - PRESS

CRT

VERIFY AND RECORD PRIMARY INDICATIONS

LD24 = \_\_\_\_\_ PPM 0 +/-4000  
LD50 = \_\_\_\_\_ PPM 0 +/-4000  
LD23 = \_\_\_\_\_ PPM 0 +/-6000  
LD25 = \_\_\_\_\_ PPM 0 +/-6000

MFC1 = \_\_\_\_\_ SLPM 4.0 +/-0.5  
MFC3 = \_\_\_\_\_ SLPM 4.0 +/-0.5  
MFC5 = \_\_\_\_\_ SLPM 2.8 +/-0.5  
MFC7 = \_\_\_\_\_ SLPM 2.8 +/-0.5

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

LEAK DETECTORS SHOULD BE  
CONDITIONED WITH SPAN GAS  
AT LEAST THREE TIMES PRIOR  
TO DATA RECORDING.

- |         |  |          |   |  |  |
|---------|--|----------|---|--|--|
| 14-1287 |  | CHGD     | CURSOR CNTL (SAW01/HWW11)<br>HE T CURSOR BLOCK<br>XMIT CURSOR KEY - PRESS   |  |  |
|         |  |          | CRT<br>VERIFY AND RECORD PRIMARY INDICATIONS  |  |  |
|         |  |          | LD23 = _____ PPM BD<br>LD25 = _____ PPM BD  |  |  |
|         |  |          | MFC5 = _____ SLPM (2.8 +/- .5)<br>MFC7 = _____ SLPM (2.8 +/- .5)  |  |  |
|         |  |          | SUPPORT MODE<br>XMIT CURSOR KEY - PRESS   |  |  |
| 14-1288 |  | CHGD TBC | RLDS 6145 ACTIVATION AND CONFIDENCE<br>136 CLHY CHECKS COMPLETE. NO ANOMALIES NOTED.  |  |  |
|         |  |          | _____ GMT   |  |  |
|         |  |          | RLDS 6407 ACTIVATION AND CONFIDENCE<br>-----<br>CHECKS<br>-----   |  |  |
| 14-1289 |  | CHGD TBC | PERFORMING RLDS 6407 ACTIVATION AND<br>136 CHLY CONFIDENCE CHECKS. IGNORE RLDS 6407<br>LEAK DETECTOR INDICATIONS UNTIL<br>COMPLETION. |  |  |
|         |  |          | _____ GMT   |  |  |

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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14-1290		CHGD		CURSOR CNTL (SAW01/HWW12) MFC POWER - ON PUMP 1 - ON PUMP 3 - ON XMIT CURSOR KEY - PRESS	
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NOTE

ALLOW A 5 MINUTE MINIMUM MFC  
WARMUP PRIOR TO DATA RECORDING.

MANUAL SELECT

SV1 (CAL)  
SV2 (CAL)  
SV3 (CAL)  
SV4 (CAL)  
HE Z CURSOR BLOCK  
XMIT CURSOR KEY - PRESS

CRT

VERIFY AND RECORD PRIMARY INDICATIONS

LD28 = \_\_\_\_\_ PPM 0 +/-6000  
LD32 = \_\_\_\_\_ PPM 0 +/-6000  
LD56 = \_\_\_\_\_ PPM 0 +/-6000  
LD57 = \_\_\_\_\_ PPM 0 +/-6000

MFC1 = \_\_\_\_\_ SLPM 2.8 +/-0.5  
MFC3 = \_\_\_\_\_ SLPM 2.8 +/-0.5  
MFC5 = \_\_\_\_\_ SLPM 2.8 +/-0.5  
MFC7 = \_\_\_\_\_ SLPM 2.8 +/-0.5



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1294		CHGD		CURSOR CNTL (SAW01/HWW13) PUMP 3 - ON XMIT CURSOR KEY - PRESS  MANUAL SELECT SV1 (CAL) SV2 (CAL) N2 Z CURSOR BLOCK XMIT CURSOR KEY - PRESS  CRT VERIFY AND RECORD PRIMARY INDICATIONS  LD29 = _____ PPM 0 +/-4000 LD30 = _____ PPM 0 +/-4000 LD54 = _____ PPM 0 +/-4000 LD55 = _____ PPM 0 +/-4000  MFC1 = _____ SLPM 4.0 +/-0.5 MFC3 = _____ SLPM 4.0 +/-0.5 MFC5 = _____ SLPM 4.0 +/-0.5 MFC7 = _____ SLPM 4.0 +/-0.5  NOTE  LEAK DETECTORS SHOULD BE CONDITIONED WITH SPAN GAS AT LEAST THREE TIMES PRIOR TO DATA RECORDING.	
14-1295		CHGD		CURSOR CNTL (SAW01/HWW13) N2 S CURSOR BLOCK XMIT CURSOR KEY - PRESS  CRT VERIFY AND RECORD PRIMARY INDICATIONS  LD29 = _____ PPM BD LD30 = _____ PPM BD  MFC1 = _____ SLPM (4.0 +/-0.5) MFC3 = _____ SLPM (4.0 +/-0.5)  SUPPORT MODE XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

LEAK DETECTORS SHOULD BE  
 CONDITIONED WITH AIRS GAS  
 AT LEAST THREE TIMES PRIOR  
 TO DATA RECORDING.

14-1296		CHGD		CURSOR CNTL (SAW01/HWW13) MANUAL SELECT SV3 (CAL) SV4 (CAL) AIR S CURSOR BLOCK XMIT CURSOR KEY - PRESS  CRT VERIFY AND RECORD PRIMARY INDICATIONS  LD54 = _____ PPM BD LD55 = _____ PPM BD  MFC5 = _____ SLPM (4.0 +/-0.5) MFC7 = _____ SLPM (4.0 +/-0.5)  SUPPORT MODE XMIT CURSOR KEY - PRESS		
14-1297		CHGD 136	TBC CLHY	RLDS 6660 ACTIVATION AND CONFIDENCE CHECKS COMPLETE. NO ANOMALIES NOTED.  _____ GMT  HAZ WARNING MONITOR TRANSFER -----	SU72470	
14-1298		CHGD 166	CLHY	LH2 LEAK AND FIRE DETECTORS READY TO SUPPORT ET LH2 LOADING OPERATIONS.		
14-1299		CLHY	CLH2	CURSOR CNTL (GAH51 LEAK AND FIRE DISPLAY) GAW02 INIT - ON (INITIATES GAW02)		
14-1300		CLHY 136	TBC CHGD	HAZ WARNING MONITOR TRANSFER COMPLETE.		



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- SECURE OIC MONITOR SHACK -----					
14-1301		OTC 132	*PAD	AT OIC MONITOR SHACK ON PAD SURFACE DISCONNECT PLUG FROM FACILITY POWER AND STOW CABLE INSIDE OIC SHACK. REPORT COMPLETION.	SU72366
14-1302	-11H00M (HOLDING)	STM 111 GYCC 117	GYCC JYCJ	PERFORM FOLLOWING:  1. LOCKOUT PAD SURFACE OIC MONITOR SHACK ADMIN TELEPHONE IN PTCR RM 203. (PAD A - 861-1151, SW 5; PAD B - 861-1152, SW 7)  2. DISCONNECT TELEPHONE INTERFACE AT PAD SURFACE OIC MONITOR SHACK AND LEAVE CORD COILED IN SHACK.  3. REPORT COMPLETION.	COMM
14-1303		STM NET 104	GBHE	CLEAR NONESSENTIAL PERSONNEL FROM 25 FT AROUND OIC MONITOR SHACK ON 135 FT LEVEL RSS AND 50 FT AT PAD SURFACE FOR LIFTING OPERATIONS.	
WARNING  MONITOR SHACK REMOVAL IS HAZARDOUS DUE TO LIFTING OPERATION.					
14-1304		GBHE NET 104 STM 232 NTD OTC 132 *SCC NET 105	STM	CLEAR ESTABLISHED FOR OIC MONITOR SHACK LIFT FROM RSS 135 FT LEVEL. COMMENCING NOMITOR SHACK REMOVAL.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1305		GBHE NET 104 STM 232 NTD OTC *SCC OTC 132 *SCC NET 105	STM NTD OTC *SCC *PAD *PSE	MONITOR SHACK REMOVAL FROM 135 FT LEVEL COMPLETE. CLEARS ARE DOWN.	
14-1306		STM NET 104	QBSE	UNBOLT OIC MONITOR SHACK AND TETHER STATION ON PAD SURFACE.	STSA  T: _____
14-1307		STM 111 JBDY NET 104	JBDY GBHE (45 MIN)	REMOVE OIC MONITOR SHACK AND TETHER STATION FROM PAD SURFACE.	HESA

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
ET GOX VENT HOOD PURGE PREPS					
-----					

NOTE

NEXT STEP WILL BE PERFORMED  
 1HR 40 MIN PRIOR TO COMING OUT  
 OF HOLD.

14-1308	-11H00M (HOLDING)	CMEC	TBC	PERFORM M3703 PREPS TO SUPPORT	JSTC
		136		G2158, ET GOX VENT HOOD GN2	PNU
		TBC	NTD	PURGE.	SU72503
		232			
		NTD	STM		
		STM	JSTC		
		111			
14-1309	-11H00M (HOLDING)	JSTC	JSTC	M3703 PREPS TO SUPPORT G2158,	PNU
		JSTC	STM	ET GOX VENT HOOD GN2 PURGE	SU72503
		111		COMPLETE.	
		STM	NTD		
		232			
		NTD	TBC		
		TBC	CMEC		
136					

NOTE

DO NOT PERFORM NEXT STEP FOR  
 SCRUB TURNAROUND IF SYSTEM  
 HAS REMAINED CONFIGURED.

14-1310		JBFX	STM	PAD WASHDOWN SYSTEM CONFIGURATION	WSSA
		111		COMPLETE FOR SEQUENCER PANEL	SU72496
				ARMING PER M3190.	

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
PTCR WATER/WASHDOWN SYSTEMS -----					
CLOSEOUT -----					
NOTE					
DO NOT PERFORM NEXT TWO STEPS IF SYSTEM HAS REMAINED CONFIGURED FROM PREVIOUS RUN OF S0007.					
14-1311	-11H00M (HOLDING)	STM 111	JBFX	PERFORM PTCR ROOM 210 WATER CLOSEOUT PER OMI M3190. (1 HR)	WSSA
NOT PERFORMED _____					
14-1312		STM 111	JBFX	CONFIGURE PTCR AND PAD WASHDOWN SYSTEMS FOR REMOTE OPERATION PER OMI M3190 (1 HR).	WSSA SU72497 SU72481
NOT PERFORMED _____					
14-1313		JBWC 111 STM 232	STM NTD	MLP SS LINE FILL TO 105 FT LEVEL AND 48 INCH BYPASS VALVES CLOSED. ORBITER/SRB ESP AREAS AND FLAME TRENCH MAY BE OPENED FOR CONTROLLED WORK.	WSSA
14-1314		NTD 232 *SCC NET 105	*SCC *PSE	SS TANK FILL TO 105 FT LEVEL COMPLETE. REQUEST SAFETY OPEN ORBITER/SRB ESP AREAS AND FLAME TRENCH FOR CONTROLLED WORK.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1315		*PSE NET 105 *SCC 232 NTD	*SCC NTD OTC STM	ORBITER/SRB ESP AREAS AND FLAME TRENCH OPEN FOR CONTROLLED WORK.  00H50M TO END OF HOLD ----- SOUND SUPPRESSION WATERTANK FILL ----- COMPLETE -----	

NOTE

DO NOT PERFORM NEXT STEP  
 IF SS WATER TANK HAS REMAINED  
 FILLED FROM PREVIOUS RUN OF  
 S0007.

14-1316	-11H00M (HOLDING)	JBWC 111 STM 232	STM NTD	SOUND SUPPRESSION TANK FILL COMPLETE.	WSSA SU72369
NOT PERFORMED _____					
SOUND SUPPRESSION TANK TOP OFF COMPLETE -----					

NOTE

PERFORM NEXT STEP IF SS WATER  
 TANK TOP OFF WAS REQUIRED FOR  
 SCRUB TURNAROUND.

14-1317		JBWC 111	STM	SS ELEVATED TANK TOP OFF COMPLETE.	WSSA
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				ACTIVATE SOUND SUPPRESSION TRICKLE FLOW SYSTEM	

NOTE

PERFORM NEXT STEP IF THE  
 SOUND SUPPRESSION TRICKLE FLOW  
 WAS DEACTIVATED FOR ORBITER  
 ESP LOWERING OR IF THIS  
 SEQUENCE IS PERFORMED FOLLOWING  
 A SCRUB TURNAROUND AND THE SS  
 TRICKLE FLOW SYSTEM WAS SECURED.

14-1318		STM 111	JBWC	ACTIVATE SOUND SUPPRESSION TRICKLE FLOW SYSTEM PER OMI M3189.001. (1 HR)	WSSA SU72414
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NOT PERFORMED

HYDRAULIC WALKDOWN COMPLETE

14-1319	-11H00M (HOLDING)	*PAD 132	OTC	ORBITER OPERATION SUPPORT SETUP 27 - HYDRAULIC PRE-LAUNCH WALKDOWN COMPLETE.	SU72407
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14-1320		STM 232	NTD	PNEUMATICS WILL BE ADJUSTING FACILITY GHE AND GN2 PANELS. PRESSURE	
		NTD	OTC	FLUCTUATIONS WILL OCCUR. THESE	
			TBC	ACTIVITIES WILL LAST APPROX 2 HRS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				00H40M TO END OF HOLD	
				HIGH PRESSURE GAS PANEL OPERATIONAL	
				CHECK	
14-1321	-11H00M (HOLDING)	NTD 232 STM 111	STM JBPN	PERFORM OPERATIONAL CHECK ON THE FOLLOWING SUPPORT PANELS. (2 HRS)	PNSA
				1. 6000/3000 PSIG REG PANEL - H.P. GAS STORAGE BATTERY PER OMI M3011	
				2. GN2 PRIMARY REGULATION PANEL- FSS 175 FT LEVEL PER OMI M3011	
				3. GHE PRIMARY REGULATION PANEL- FSS 175 FT LEVEL PER OMI M3131	
				4. PAD GN2 PURGE PANEL - FSS 175 FT LEVEL PER OMI M3054/ OMI M3176	
				5. MLP GN2 REGULATION PANEL- COMPT 1B PER OMI M3197	
				6. MLP GN2 PURGE PANEL - COMPT 44A PER OMI M3197.	
				7. MLP LPGN2 SUPPLY PER OMI M3197.	
				8. SLIDEWIRE BUNKER EMERGENCY BREATHING AIR SYSTEM PANEL U72-1307. VERIFY PANEL SUPPLY GAGE READS MINIMUM 1800 PSIG.	
				RECORD PRESSURE _____ PSIG	
				PTCR WATER CLOSEOUT COMPLETE	
				NOTE	
				DO NOT PERFORM NEXT STEP IF SYSTEM HAS REMAINED CONFIGURED FROM PREVIOUS RUN OF S0007.	
14-1322	-11H00M (HOLDING)	JBFX 111	STM	WATER SYSTEM PTCR CLOSEOUT COMPLETE.	WSSA SU72497
				NOT PERFORMED _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT FOUR  
 STEPS IF FLAME CELLS REMAIN  
 PRESSURIZED.

14-1323		JBAC	STM	PERSONNEL ON SITE FOR FLAME CELL CLOSEOUT AND PRESSURIZATION. REQUEST SAFETY CLEAR NONESSENTIAL PERSONNEL AT THIS TIME AND MEET HVAC PERSONNEL AT ENTRANCE TO WEST SIDE OF TUNNEL AT PAD A/B.	HVAA
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NOT PERFORMED

14-1324		STM	NTD	REQUEST SFOC SAFETY CLEAR NONESSENTIAL PERSONNEL FROM EAST AND WEST CATACOMBS, EAST-WEST PIPE TUNNEL AND NORTH-SOUTH CABLE TUNNEL FOR CLOSEOUT/PRESSURIZATION OF EAST/WEST FLAME CELLS. INSTALL SAFETY ROPES/SIGNS. REQUEST SAFETY CONCURRENCE TO PROCEED.	
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ESSENTIAL PERSONNEL

	GSS	SFOC	NASA
TECH	2		
ENG	1		
SAFETY		1	1

NOT PERFORMED

14-1325		*PSE	*SCC	ALL NONESSENTIAL PERSONNEL CLEAR OF EAST AND WEST CATACOMBS, EAST/ WEST PIPE TUNNEL AND NORTH/SOUTH CABLE TUNNEL. SAFETY ROPES/SIGNS HAVE BEEN INSTALLED. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH FLAME CELL CLOSEOUT AND PRESSURIZATION.	
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NOT PERFORMED



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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WARNING

FOLLOWING STEP IS HAZARDOUS  
 DUE TO CLOSEOUT/PRESSURIZATION  
 OF EAST AND WEST FLAME CELL.

CLOSEOUT FLAME CELLS/PIPE TUNNEL

NOTE

PERFORM NEXT STEP AS  
 DETERMINED BY TEST TEAM.

14-1326		STM 111	JBAC	PERFORM CLOSEOUT/PRESSURIZATION OF EAST AND WEST FLAME CELL PER OMI M3034.	HVAA
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NOT PERFORMED

ACTIVATE SLIDEWIRE BUNKER TLV

DETECTORS

14-1327	-11H00M (HOLDING)	*SCC NET 105	*PSE	LOCATE PORTABLE O2 CONCENTRATION METER MMH TLV DETECTOR, S70-0547, AND N204 TLV DETECTOR, S70-0548, WITH BATTERY CHARGER CABLES IN SLIDEWIRE BUNKER. PLUG IN BATTERY CHARGERS, TURN ON EQUIPMENT, AND ZERO METERS.	
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14-1328		*PSE NET 105	*SCC	O2 METER, MMH TLV DETECTOR AND N204 TLV DETECTOR LOCATED AND BATTERY CHARGERS HAVE BEEN TURNED ON. METERS HAVE BEEN ZEROED.	
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14-1329		OTC 132	*PAD	PERFORM CREW MODULE EMERGENCY LIGHTING REMOVAL PER  JC V66-90002 - EMERGENCY ALARMS AND LIGHTING, CREW COMPARTMENT, REMOVAL.	
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14-1330		*PAD 132	OTC	CREW MODULE EMERGENCY LIGHTING REMOVAL COMPLETE.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ET LOX VENTING AND OPENING OF ----- PD1 (MPS LO2 17 IN. DISC) -----					
14-1331		TBC 136	CLOX	PERFORM FOLLOWING PER OMI G3151 (OR G3155 IF PERFORMING SCRUB TURNAROUND).	SU72454
1. ET PREPARATIONS FOR LOADING.  2. OPEN MPS LO2 17 IN. FEED DISC VLV (PD1).					
14-1332	-11H00M (HOLDING)	CLOX 136	TBC	VERIFY WIND SPEED FORECAST FOR 60 FT LEVEL AT PAD WEATHER TOWER WILL NOT EXCEED 60 KNOTS FOR NEXT HOUR.	
14-1333		CLOX 136 TBC 132	TBC OTC	REQUEST CMPL SWITCH TO OIS CH 156 TO SUPPORT G3151/G3155 ET PREPS FOR LOADING. REPORT TO CLOX.	
NOTE					
DO NOT PERFORM NEXT THREE STEPS IF GOX VENT ARM RETRACTED.					
14-1334		CLOX 136 TBC	TBC CMEC	ET LOX TANK WILL BE VENTED MOMENTARILY. VERIFY GOX VENT ARM CLEAR OF PERSONNEL.	SU72520
NOT PERFORMED _____					
14-1335		CMEC 136 TBC	TBC CLOX	GOX VENT ARM CLEAR OF PERSONNEL. OK TO VENT ET LOX TANK.	
NOT PERFORMED _____					
14-1336		TBC 232 NTD	NTD *SCC	ET LOX TANK WILL BE VENTED MOMENTARILY. GOX VENT ARM CLEAR OF PERSONNEL.	
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1337		TBC 232 NTD PA	NTD	ATTENTION ON PAD ____:  ET LOX TANK WILL BE VENTED MOMENTARILY. LOUD GN2 VENTING WILL OCCUR IN THE VICINITY OF THE ET NOSECONE.	
14-1338		CMPL 132 OTC 232 NTD	OTC NTD TBC	REQUEST NO TCS PGM ACTIVE (OTHER THAN MPS) DURING LO2 17 INCH DISC VALVE AND LATCH CYCLING. NOTIFY PERSONNEL IN AFT THAT LO2 17 IN. DISC VALVE AND LATCH CYCLING WILL BE AUDIBLE.	
14-1339		NTD 232 OTC 132	OTC CMPL	PROCEED WITH LO2 17 INCH DISC VALVE AND LATCH CYCLING PER OMI G3151.	
14-1340		CMPL 132 OTC 232 NTD	OTC NTD TBC	LOX 17 IN. DISCONNECT IS OPEN AND LATCH IS LOCKED PER G3151. TCS PGM ACTIVITY MAY RESUME.  OMRSD S00FA0.810-A	
NOTE					
DO NOT PERFORM NEXT TWO STEPS IF GOX VENT ARM IS RETRACTED.					
14-1341		CLOX 136 TBC	TBC CMEC	ET LOX TANK VENTING COMPLETE AND ET VENT VALVE CLOSED. OK TO RESUME OPERATIONS ON GOX VENT ARM.	
NOT PERFORMED _____					
14-1342		TBC 232 NTD	NTD *SCC	ET LOX TANK VENTING OPERATIONS COMPLETE. GOX VENT ARM OPEN.	SU72520
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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WARNING

PRIOR TO INITIATING PREPRESS PURGE, DETERMINE WHETHER OR NOT THERE ARE PERSONNEL IN AFT FUSELAGE. IF PERSONNEL ARE IN AFT, PERFORM NEXT TWO STEPS.

14-1343		CLOX TBC 136 TBC NTD 232 NTD OTC OTC *ACM 132		ET LOX TANK WILL BE PRESSURIZED MOMENTARILY. NOTIFY PERSONNEL IN AFT FUSELAGE THAT AUDIBLE GHE FLOW WILL BE HEARD IN LOX PREPRESS LINES.	
				NOT PERFORMED	_____

14-1344		*ACM OTC 132 OTC NTD 232 NTD TBC TBC CLOX 136		PERSONNEL IN AFT FUSELAGE HAVE BEEN NOTIFIED THAT AUDIBLE GHE FLOW WILL BE HEARD IN LOX PREPRESS LINES. YOU HAVE CONCURRENCE TO PROCEED.	
				NOT PERFORMED	_____

NOTE

NEXT STEP MAY BE REPEATED FOR ET LOX TANK PRESSURE MAINTENANCE.

14-1345		CLOX TBC 136 TBC NTD 232 NTD PA		ATTENTION ON PAD _____ :	
				RUN 1 _____ RUN 2 _____	
				RUN 3 _____ RUN 4 _____	
				RUN 5 _____ RUN 6 _____	
				RUN 7 _____ RUN 8 _____	
				RUN 9 _____ RUN 10 _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1346		CLOX 136	TBC	ET PREPARATIONS FOR LOADING AND ALL SEQUENCES OF LO2 PREPS COMPLETE PER G3151 (OR G3155 IF PERFORMING SCRUB TURNAROUND) EXCEPT STORAGE TANK PRESSURIZATION AND SUCTION LINE CHILLDOWN.  LCC2 CONFIGURATION COMPLETE -----	SU72342
14-1347	-11H00M (HOLDING)	LPS 232	NTD	SUPPORT OPERATION SUPPORT SETUP 2 - LCC2 LAUNCH SUPPORT CONFIGURATION - LPS T-11 HOUR BIH TO T+45 MINUTES COMPLETE.	
NOTE					
PERFORM NEXT STEP IF NOT PREVIOUSLY PERFORMED FOR PAYLOAD SUPPORT.					
14-1348		LPS 232	NTD	SUPPORT OPERATION SUPPORT SETUP 4 - LCC2 PAYLOAD SUPPORT CONFIGURATION COMPLETE.  NOT PERFORMED	
14-1349		LPS 127	JSDC	VERIFY PCGOAL TO LCC2 RESTRICTED TO S0007 DATA ONLY.	
14-1350		JYCJ 117 GYCC 111	GYCC STM	SPEAKERS NO. 17 AND NO.18 ON EAST STAIRWELL AT PAD SURFACE HAVE BEEN REMOVED. CABLES HAVE BEEN STORED IN BOX PROVIDED.  00H30M TO END OF HOLD -----	COMM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
GOX VENT HOOD/ET ALIGN COMPLETE -----					
14-1351		CMEC 136	TBC	GOX VENT HOOD/ET ALIGNMENT COMPLETE.	SU72466
LIFE SUPPORT EQUIP - COMPLETE -----					
14-1352		*SCB NET 104 JSTC STM 111	JSTC	THE FOLLOWING IS COMPLETE:  1. SNAP HALYARDS FASTENED TO ELSA BOX LATCHES ON RSS, MLP, AND BOX ON 195 FT LVL FSS.  2. LOOSE LIFE SUPPORT EQUIPMENT AND ELSA BOXES WITHOUT HOLDDOWN CABLES REMOVED FROM RSS AND MLP.  3. ORBITER AFT RESCUE EQUIPMENT REMOVED FROM RSS SIDE 2 130 FT LEVEL (50-2 ACCESS DOOR) AND REMAINING BREATHING AIRLINES FROM 130 FT LVL (50-1/2), "0" LVL MLP, 107 FT, 120 FT, AND 207 FT LEVELS OF RSS HAVE BEEN REMOVED.  4. BREATHING AIR PANEL REMOVED FROM RSS AND TAKEN TO SLIDEWIRE BUNKER, CONNECTED TO K BOTTLE MANIFOLD AND PRESSURIZED.	LS SU72511

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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MONITOR SHACK REMOVAL COMPLETE

NOTE

PERFORM NEXT STEP IF ACCESS  
MONITOR SHACKS WERE RESTORED  
FOLLOWING PREVIOUS HAZARDOUS  
OPERATION.

14-1353		GBHE	JBDY	ACCESS MONITOR SHACKS REMOVED	HESA
		NET		FROM PAD SURFACE AND 130/135 FT	SU72366
		104		LEVEL RSS AND TETHER STATION	
		JBDY	STM	REMOVED FROM PAD SURFACE.	
		111			
		STM	NTD		
		232			
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				START ISSUE OF PREP AND HAZ ----- BADGES -----	
				NOTE	
				NEXT STEP WILL BE SCHEDULED REAL TIME SO THAT THE BADGE BOARD IS SET UP PRIOR TO SHIFT CHANGE.	
14-1354		NTD 232 OTC 132 *PAD *ACM NET 110	OTC	SET UP BADGE BOARD AT PAD ____ GATE FOR FINAL CLOSE OUTS.	SU72475
14-1355		*ACM *PAD NET 110 *PAD OTC 132 OTC NTD 232		BADGE BOARD SET UP AT PAD ____ GATE.	
14-1356	-11H00M (HOLDING)	NTD NET 110	*ACM	START ISSUING HAZARDOUS BADGES AT PAD GATE FOR FOLLOWING TASKS:  1. LH2 FINAL PREPS 2. LO2 FINAL PREPS 3. CREW MODULE AND WHITE ROOM CLOSEOUT 4. FINAL OPERATIONS/SAFETY WALKDOWN 5. PTCR/ECS ROOM PRESSURIZATION 6. REMOVE S/S VALVE LOCKS 7. GVA FINAL ACTIVATION	
14-1357		NTD PA		ALL PERSONNEL SUPPORTING FINAL PAD CLOSEOUT OPERATIONS PICK UP HAZARDOUS BADGES AT PAD GATE. BADGES WILL BE ISSUED PER BY-NAME LIST.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1358		*PAD 136	TBC	PRE-PROPELLANT LOAD INSPECTION PER T6446 COMPLETE.  OMRSD T09QAL.030-1  SEAL SRB TUNNEL DRAIN HOLES COMPLETE	SU72383
14-1359	-11H00M (HOLDING)	PBOL *PAD 136	*PAD TBC	SEALING OF SRB DRAIN HOLES PER SRB OPERATION SUPPORT SETUP 1 COMPLETE.	SU72474
14-1360		TBC 232 NTD STM 111	NTD STM JBDY	REMOVE LIFELINES INSTALLED FOR SRB HPU EXHAUST DUCT PLUGS REMOVAL, SRB ESP LOWERING, AND SEALING OR SRB DRAIN HOLES. REPORT COMPLETION.	HESD

\*\*\*\* RSS MOVE OPERATIONS \*\*\*\*

NOTE

REFER TO S0007 BAR CHART  
 FOR ACTUAL TIMELINE OF  
 ACTIVITIES.

RSS PREPS FOR MOVE TO PARK POSITION

NOTE

THE NEXT EIGHT STEPS WILL  
 BE PERFORMED FIVE HOURS  
 PRIOR TO RSS ROTATION.

14-1361		STM 232 NTD *SCC NET 105	NTD *SCC *PSE	VERIFY FOLLOWING:  1. PERSONNEL AVAILABLE TO CLEAR CONTROL AREA AND ESTABLISH AND MAINTAIN AN ACCESS CONTROL SYSTEM TO HAZARDOUS AREA FOR DURATION OF THIS TEST.  2. SAFETY READY TO SUPPORT AN ENGINEERING PRE-ROTATION WALKDOWN.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1362		*PSE NET 105 *SCC 232 NTD	*SCC NTD STM	SAFETY READY TO SUPPORT ENGINEERING PRE-WALKDOWN AND CLEAR CONTROL AREA.	
14-1363		STM 232 NTD	NTD CMQC *SCC OTC TBC	VERIFY PERSONNEL AVAILABLE AND READY TO SUPPORT A2203.002.	
14-1364		STM 111 JSTC NET 201	JSTC WCRG	REMOVE LODALS FROM PAD SURFACE AND PTCR AREA.	RGR SU72358
14-1365	-11H00M (HOLDING)	NTD 232 OTC 132	STM OTC *PAD	PERFORM PREPS FOR RSS MOVE TO PARK POSITION PER OMI A2203.002. (5 HRS)	SU72484
14-1366		STM NET 104 111	QBSE JSTC JBEP JBDY	PERFORM PREPS FOR RSS MOVE TO PARK POSITION PER OMI A2203.002. (5 HRS) (M3094) (Q3451)	STE JSTC PWRB PWRA PNSA CDPA HESD
14-1367		OTC 132	CCSE	RSS MOVE PREPS ARE COMMENCING, MOMENTARY SIGNAL LOSS MAY OCCUR.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1368		OTC 132	OAFM	PERFORM FOLLOWING:  1. ENGINEERING VERIFY CUMULATIVE AVERAGE RELATIVE HUMIDITY DURING FLOW AND WITHIN PLB INTERSTITIAL AREA DURING TIME RSS HAS BEEN POSITIONED WITH PCR DOCK SEALS INFLATED DOES NOT EXCEED 45 PERCENT AVERAGE.  2. REFERENCE S0007 VL2 FIGURE 11, ENGINEERING REVIEW OPF, VAB, AND PCR DAYS TO VERIFY PLB MOISTURE CONTENT LESS THEN 61 PERCENT SATURATION.  SFOC AIRFRAME ENGINEER _____  (1-7023 OV-102) (1-7019 OV-103) (1-7015 OV-104) (1-7011 OV-105)  OMRSD V30C00.010  ENGINEERING REQUIREMENTS SATISFACTION -----	
14-1369		NTD 232	CMQC	VERIFY ENGINEERING REQUIREMENTS SATISFACTION (PAD FLOW THRU CTS) HAS BEEN SIGNED BY SFOC AND NASA ENGINEERING AND SUBMITTED TO QUALITY PRIOR TO START OF RSS ROTATION.	SU72440
					QV:_____
14-1370	-11H00M (HOLDING)	OTC 132	CMQC PQCG	VERIFY ORBITER EXTERNAL TIR LOG CLOSED LESS ITEMS IDENTIFIED IN ORBITER OPERATION SUPPORT SETUP 20.  1. RAIN GUTTER ABOVE HATCH  2. SIDE HATCH WINDOW COVER  3. HATCH SEAL PROTECTOR	SU72442
					QV:_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1371		NTD 232	CMQC	VERIFY APPENDIX K ITEMS CONSTRAINING RSS ROTATION COMPLETE.	
14-1372		OTC 132	CMQC	VERIFY ORBITER OPERATION SUPPORT SETUP 2, PART A AND B, COMPLETE PRIOR TO RSS ROTATION.	SU72464
14-1373		TBC 136	CMQC	VERIFY ET PRE-OPERATION SETUP 6 - PAD FIRE DETECTOR ALIGNMENT COMPLETE OR NOT PERFORMED.	
SOUND SUPPRESSION TRICKLE FLOW					
-----					
SYSTEM ACTIVATION COMPLETE					
-----					

NOTE

PERFORM NEXT STEP IF SS  
 TRICKLE FLOW SYSTEM ACTIVATION  
 WAS REQUIRED FOLLOWING ORBITER  
 ESP LOWERING OR FOR SCRUB  
 TURNAROUND.

14-1374		JBWC 111	STM	ACTIVATION OF SS TRICKLE FLOW SYSTEM COMPLETE.	WSSA SU72414
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NOT PERFORMED \_\_\_\_\_

NOTE

DO NOT PERFORM NEXT  
 STEP IF PERFORMING SCRUB  
 TURNAROUND AND SYSTEM HAS  
 REMAINED CONFIGURED.

PTCR/PAD WASHDOWN SYSTEMS

-----  
 CLOSEOUT COMPLETE  
 -----

14-1375		JBFX 111 STM 232	STM NTD	PTCR/PAD WASHDOWN SYSTEMS CLOSEOUT COMPLETE.	WSSA SU72481
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
OIS UNIT REMOVAL STATUS					
-----					
14-1376	-11H00M (HOLDING)	JYCD 117 GYCC JBPB 111 STM 232	GYCC STM NTD	ALL LISTED OIS UNITS HAVE BEEN REMOVED FROM PAD SURFACE AND DISCONNECTED CABLES REMOVED OR SECURED. ALL DISCONNECTED OIS BOX PURGE LINES HAVE BEEN REMOVED OR SECURED BY GSS.	COMM PNSA
<p style="margin-left: 40px;">1. PAD A SURFACE</p> <p style="margin-left: 80px;">STA 116-0A LOX TOWER 75 FT LEVEL            N.W. CORNER OF STAIRWELL            117-73 LH2 TOWER 75 FT LEVEL            N.W. CORNER OF STAIRWELL            116-73 PNEUMATIC TOWER TOP LEVEL            116-45 EAST PAD SLOPE AT PEDESTAL            LH2 LINES            118-72 EAST SIDE            119-69 INDUSTRIAL WATER PLATFORM</p> <p style="margin-left: 200px;">NOT PERFORMED</p> <p style="margin-left: 240px;">_____</p> <p style="margin-left: 240px;">SS1</p>					
<p style="margin-left: 40px;">2. PAD B SURFACE</p> <p style="margin-left: 80px;">STA 121-48 LOX TOWER            123-09 PNEUMATIC TOWER            122-28 LH2 TOWER            121-50 EAST PAD SLOPE AT            LH2 LINES            123-4A EAST SIDE            123-48 INDUSTRIAL WATER PLATFORM</p> <p style="margin-left: 200px;">NOT PERFORMED</p> <p style="margin-left: 240px;">_____</p> <p style="margin-left: 240px;">SS2</p>					
14-1377		STM NET 104	GBHE	INSTALL LIFELINES REQUIRED TO SUPPORT MLP HANDRAIL REMOVAL FROM AROUND SRB FLAME HOLES. (SPIDER 50)	HESD

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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RSS PRE-ROTATION WALKDOWN

NOTE

PERFORM NEXT THREE STEPS  
 TWO HOURS PRIOR TO RSS  
 ROTATION.

14-1378		NTD 232	OTC	VERIFY OAA IN FULL EXTENDED POSITION FOR RSS ROTATION.	
14-1379		NTD PA		ATTENTION ON PAD _____:  ALL PERSONNEL SUPPORTING RSS ENGINEERING PRE-ROTATION WALKDOWN REPORT TO PAD SITE MANAGER AT BASE OF FSS IN _____ MINUTES.	
14-1380		STM 232 111 NET 104 NTD 232 *SCC *SCC NET 105	NTD PSTM QBSE OTC TBC *PSE	HAVE WALKDOWN PERSONNEL REPORT TO PAD SITE MANAGER (PSTM) AT BASE OF FSS FOR ENGINEERING PRE-ROTATION WALKDOWN IN _____ MINUTES.	STSA SU72491

NOTE

PERFORM NEXT FIVE STEPS  
 ONE HOUR PRIOR TO RSS MOVE  
 FIRST MOTION.

14-1381	-11H00M (HOLDING)	NTD 232 PA	OTC STM	ATTENTION ON PAD _____:  ALL RSS OBSERVERS SUPPORTING RSS MOVE REPORT IN ON CH 116 IN 30 MINUTES FOR RSS PRE-MOVE BRIEFING AND OBSERVER COMM CHECK.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF NEXT STEP TO BE PERFORMED  
 AT PAD A, J-BOSC SUPPORT NOT  
 REQUIRED.

14-1382		STM	NTD	HAVE ALL RSS ROTATION OBSERVERS	ELEC
		232		REPORT ON STATION ON OIS CH 116	STSA
		111	JSTC	IN 30 MINUTES FOR COMM CHECK AND	WSSA
				JBFX BRIEFING PER OMI A2203.002.	SU72448
		116	QBSE		SU72485
		NTD	OTC		
		232			
		JSTC	JSEP		
		114	JBPN		

14-1383		OTC	*PAD	VERIFY TILE REPAIR TECHS AND	SU72447
		132		ENGINEER ON SITE WITH	
				APPROPRIATE REPAIR MATERIALS	
				FOR TILE REPAIR DURING RSS MOVE.	

WARNING

LOX AND LH2 TSM'S ARE  
 ARMED FOR LAUNCH.  
 PERSONNEL MUST REMAIN  
 CLEAR OF TSM'S LANYARDS  
 CARRIERS OR LINKS.

14-1384		OTC	*PAD	PROVIDE TSM OBSERVERS TO ENSURE	
		132		NON CONTACT WITH TSM (LOX AND	
				LH2) LANYARDS, CARRIERS OR	
				LINKS.	

14-1385		*PAD	OTC	TSM OBSERVERS ON STATION.	
		132			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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RSS MOVE WEATHER BRIEFING

CAUTION

WEATHER CONDITIONS MUST  
 BE CONSIDERED BEFORE  
 MOVING RSS AS SSV WILL BE  
 EXPOSED TO ENVIRONMENT AFTER  
 ROTATION.

14-1386	-11H00M (HOLDING)	NTD 232	STM	REQUEST CURRENT WEATHER AND FORECAST FOR RSS MOVE.	
14-1387		STM 111	JBDY	REQUEST CURRENT WEATHER AND FORECAST FROM CAPE WEATHER IN PREPARATION FOR RSS MOVE.	
14-1388		JBDY 231 111 STM STM 232	*WEA	TIME OF FORECAST: _____ PROBABILITY OF PRECIPITATION: _____ PROBABILITY OF LIGHTNING WITHIN 5 NM: _____	

PROBABILITY OF STEADY-STATE 60 FOOT PAD

WINDS GREATER THAN 40 KNOTS: \_\_\_\_\_

60 FOOT PAD WIND FORECAST:

DIRECTION \_\_\_\_\_ ; SPEED \_\_\_\_\_ ; PEAK \_\_\_\_\_

TEMPERATURE \_\_\_\_\_

CONSTRAINTS:

1. STEADY-STATE WIND GREATER THAN 40 KNOTS
2. LIGHTNING WITHIN 5 NM
3. FORECAST LIGHTNING WITHIN 5 NM > 20%



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				RSS PREPS FOR MOVE TO ----- PARK POSITION COMPLETE -----	
14-1389		*PAD 132 136	OTC  TBC	RSS PREPS FOR MOVE COMPLETE.	
14-1390		QBSE 116 JSTC JBEP JBDY JBPN 111 STM 232	STM      NTD	RSS PREPS FOR MOVE TO PARK POSITION COMPLETE.	STSA JSTC PWR SU72484 PNSA
14-1391		NTD 232	STM	PERFORM CALL TO STATIONS FOR RSS MOVE TO PARK POSITION PER OMI A2203.002.  RSS MOVE CLEAR -----	
WARNING					
SFOC SAFETY SIGNS WILL BE REMOVED ONLY (BY SFOC SAFETY) IF GN2 IS NOT FLOWING AND AIR PURGE IS ON. REMOVAL IS TO GAIN ACCESS FOR THE RSS MOVE.					
SAFETY SIGNS MUST BE INSTALLED ON RSS IF ROTATION TO PARK POSITION OCCURS DURING GN2 FLOW TO THE ORBITER.					
14-1392	-11H00M (HOLDING)	NTD 232	OTC TBC PTC STM	VERIFY READY TO PROCEED WITH RSS MOVE TO PARK POSITION.	SU72445 SU72524

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1393		STM 232 NTD	NTD *SCC	READY TO PROCEED WITH RSS ROTATION. REQUEST CONCURRENCE TO PROCEED.	

14-1394	-11H00M (HOLDING)	STM	QBSE	CLEAR NONESSENTIAL PERSONNEL FROM AREA UNDER AND AROUND RSS AND RSS MOVE PATH FOR RSS ROTATE TO PARK POSITION.	
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ESSENTIAL PERSONNEL

	GSS	ORB	NASA	SFOC
SUPVR/ENG	4	2		2
TECH	37	26		4
QUALITY	1		1	1
SAFETY			1	1
TE-FAC			4	

14-1395	-11H00M (HOLDING)	NTD PA 232		ATTENTION ON PAD ____:  ALL NONESSENTIAL PERSONNEL CLEAR AREAS AROUND AND UNDER ROTATING SERVICE STRUCTURE FOR RSS MOVE. PERSONNEL ACCESS BETWEEN FSS AND RSS WILL BE AT FSS 95 FT/RSS 107 FT CROSSOVER. DO NOT CROSS OVER OR REMOVE SAFETY CHAINS AT OTHER LEVELS.	
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RSS MOVE TO PARK POSITION

14-1396		QBSE 111 STM 232 NTD	STM NTD *SCC	NONESSENTIAL PERSONNEL CLEAR OF AREA UNDER AND AROUND RSS AND RSS MOVE PATH. YOU HAVE SAFETY CONCURRENCE TO ROTATE RSS.	SU72445
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14-1397		*SCC 232 NTD STM	NTD STM QBSE	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH RSS ROTATION.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1398		STM 116	QBSE	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	STSA SU72451
14-1399	-11H00M (HOLDING)	STM 138	JYVR	START VIDEO RECORDING OF OTV CAMERAS 001/101 AND 043/143. (SEE STM FIG 4)	COMM
14-1400		STM 232 111 NTD 232	NTD	REQUEST ALL TESTING IN VICINITY OF RSS BE DEFERRED DURING CRITICAL ROTATION AROUND LAUNCH GYCC VEHICLE (ESPECIALLY TESTING THAT PRODUCES LOUD NOISES IN VICINITY). TBC	COMM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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WARNING

EXTREME CAUTION MUST BE UTILIZED. TSM'S ARE ARMED FOR LAUNCH. CLEANING PERSONNEL MUST REMAIN CLEAR OF DROP WEIGHT LANYARDS. COORDINATE RSS STOP AND START ROTATION WITH QBSE ON CH 116. PERSONNEL SHALL MOVE FROM RSS TO TOP OF TSM'S AND BE TETHERED TO THE RSS WITH SAFETY BELT OR HARNESS SHORT ENOUGH TO PREVENT CONTACT WITH TSM DROPWEIGHT LANYARDS.

HAZARDOUS STEPS FOLLOW DUE TO MOVEMENT OF RSS.

NOTE

RSS ROTATION TO PARK WILL BE INTERRUPTED FOR CLEANING TOP OF TSM'S, REMOVING INERTIAL REELS, AND TPS INSPECTION. CLEANING AND TPS OBSERVERS WILL COMMAND QBSE TO STOP AND START ROTATION ON CH 116 AS RSS CLEARS TSM'S.

14-1401	-11H00M (HOLDING)	NTD 232 STM 116	STM QBSE	SAFETY CLEARS ESTABLISHED. MOVE RSS TO PARK POSITION PER OMI A2203.002 (1 HR)	STSA SU72489 SU72452 SU72453 SU72486
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
RSS MOVE TO PARK COMPLETE					
14-1402	-11H00M (HOLDING)	QBSE 116	STM	RSS MOVE OPERATIONS COMPLETE. (A2203) CONTINUE POST RSS	STSA SU72492
		STM 232	NTD	ROTATION SECURING. (M3094)	SU72452
		NTD	OTC *SCC TBC		

NOTE

HAZARDOUS STEPS DUE TO  
 MOVEMENT OF RSS COMPLETE.

14-1403		STM 116	QBSE	PERFORM POST OPERATION INSPECTION PER OMI A2203.002 AND VERIFY CONCURRENCE TO OPEN CONTROL AREA FOR CONTROLLED WORK.	
				1. SAFETY HANDRAILS AND CHAINS ARE IN PLACE.	
				2. INSPECT RSS AND ASSOC OPERATIONAL AREA TO VERIFY EQUIP AND AREA HAVE BEEN SECURED.	
				3. REMOVE BARRICADES, ROPES AND WARNING SIGNS THAT ARE NOT REQUIRED.	
				4. SAFETY CONCURRENCE TO OPEN RSS ROTATION CONTROL AREA FOR CONTROLLED WORK.	
14-1404		QBSE 116	STM	POST OPERATION INSPECTION COMPLETE. REQUEST SAFETY	SU72524
		STM 232	NTD	CONCURRENCE TO OPEN RSS ROTATION CONTROL AREAS FOR CONTROLLED WORK.	
		NTD	*SCC		
14-1405		*SCC 232	NTD	YOU HAVE SAFETY CONCURRENCE TO OPEN RSS CONTROL AREA FOR CONTROLLED	
		NTD STM	STM	WORK.	
		STM 116	QBSE		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1406		STM 138	JYVR	STOP VIDEO RECORDINGS OF OTV CAMERAS 001/101 AND 043/143.	COMM
NOTE					
PERFORM NEXT STEP IF EQUIPMENT INSTALLED.					
14-1407		STM 111	JBEP JBPN	REMOVE ALL TEMPORARY ELECTRICAL EQUIPMENT, INCLUDING PORTABLE LIGHT BANKS, FROM ZERO LEVEL OF MLP. VERIFY ALL MLP ZERO LEVEL ELECTRICAL OUTLETS HAVE COVERS IN PLACE AND COVERS SECURELY FASTENED. GSS PNEUMATICS REMOVE PURGE FLEXHOSES ON MLP.	PWRA PWRB
GSS					
T: _____					
PNSA					
T: _____					
PWRB					
NOT PERFORMED					
14-1408		STM NET 104	VEEE	SECURE POWER TO RSS ELEVATOR PER OMI Q3018. REPORT COMPLETION.	CDPD
MLP HANDRAIL REMOVAL -----					
14-1409		STM 232 NTD *SCC *PSE NET 105	NTD	REQUEST SAFETY CONCURRENCE TO REMOVE HANDRAILS FROM AROUND MLP FLAME HOLES.	SU72525
14-1410		*SCC 232 NTD TBC TBC 136	NTD TBC CBHY	VERIFY SRB AFT SKIRT GN2 PURGE SECURED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1411		*PSE NET 105 *SCC 232 NTD	*SCC NTD STM	YOU HAVE SAFETY CONCURRENCE TO REMOVE FLAME HOLE HANDRAILS FROM MLP.	
14-1412		NTD 232 PA	OTC TBC STM	ATTENTION ON PAD _____ :  ALL PROTECTIVE BARRIERS ARE BEING REMOVED FROM FLAME HOLES OF MLP. CAUTION SHOULD BE EXERCISED AND ALL PERSONNEL MUST STAND AT LEAST 6 FT CLEAR OF FLAME HOLES AND UNPROTECTED EDGES.	
14-1413		OTC 132	*PAD	VERIFY OIC ON MLP ZERO LEVEL TO COORDINATE MLP ZERO LEVEL ACCESS.	
14-1414		STM 111 JBDY NET 104	JBDY GBHE	PROVIDE TRUCK AND MOBILE CRANE FOR REMOVAL OF MLP HANDRAILS (Q3205).	HESA
14-1415		NTD 232 STM NET 104 111 NET 104	STM QBSE JBDY	PERFORM FOLLOWING:  1. REMOVE HANDRAILS FROM AROUND MLP FLAME HOLES PER OMI M3083. REPORT COMPLETION.  2. LOWER HANDRAILS FROM MLP TO FLATBED ON PAD SURFACE.	SU72513  STSA  HESA  T:_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
DO NOT PERFORM NEXT TWO CONTINGENCY STEPS IF HANDRAILS WERE REMOVED FROM MLP USING MOBILE CRANE.					
14-1416		STM 232 NTD *SCC *PSE NET 105	NTD	UNABLE TO REMOVE HANDRAILS FROM MLP USING MOBILE CRANE. WILL STOW HANDRAILS ON FSS 95 FT LEVEL.	
					NOT PERFORMED _____
14-1417		STM NET 104	QBSE	STOW HANDRAIL ON FSS 95 FT LEVEL PER OMI M3083. REPORT COMPLETION.	STSA  T: _____
					NOT PERFORMED _____
14-1418		STM NET 104	QBSE	PERFORM AREA FOD INSPECTION AND CLEAN UP AROUND REMOVED HANDRAILS PER OMI M3083.	STSA SU72514
14-1419		STM NET 104	GBHE	REMOVE LIFELINES INSTALLED FOR HANDRAIL REMOVAL FOR AROUND MLP FLAME HOLES.	HESD
14-1420		GBHE NET 104	STM	LIFELINES INSTALLED FOR HANDRAIL REMOVAL HAVE BEEN REMOVED.	HESD



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

REMOVE ELSA BOXES FROM FSS  
 95 FT LEVEL AND EAST PAD  
 APRON AFTER MLP SSME FLAME  
 HOLE HANDRAILS REMOVED.

14-1421		STM	JSTC	MLP SSME FLAME HOLE HANDRAIL	LS
		111		REMOVAL COMPLETE.	SU72513
		JSTC	*SCB		SU72517
		NET		1. REMOVE ELSA BOXES ON ALL	
		104		LEVELS OF FSS EXCEPT ONE ELSA	
				BOX ON 195 FT LVL. VERIFY	
				BOX LOCATED ACROSS FROM ELEVATOR	
				DOOR (SECURED TO FLOOR). REMOVE	
				ELSA BOX FROM EAST PAD APRON.	
				2. VERIFY LIFE SUPPORT EQUIPMENT	
				IN FSS WHITE ROOM.	

14-1422		STM	JBEP	NOTIFY SPECIAL POWER TECHS	PWRA
		111		(1-0702) TO CONFIGURE PAD WHITE	SU72498
				ROOM/CREW CABIN ODMs FOR LAUNCH	
				PER OMI M3088. REPORT COMPLETION.	

NOTE

PERFORM NEXT STEP IF MLP  
 LO2 AND LH2 TSM ODMs UNITS  
 WERE REACTIVATED FOR SCRUB  
 TURNAROUND.

14-1423		STM	JBEP	SPECIAL POWER TECHS CONFIGURE	PWRA
		111		MLP___ LH2 AND LO2 TSM ODMs FOR	
				LAUNCH PER OMI M3088. REPORT	
				COMPLETION.	

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
TUBE BANK OPS -----					
14-1424		STM 111	JBPB	DISCONNECT B/A TUBE BANK FROM CABIN AIR SYSTEM. PLACE CABIN AIR BOTTLES ON LINE. (M3067) (1 HR)	PNSA SU72504
14-1425		STM 111 JSTC 114	JSTC GSPS	REMOVE DISCONNECTED B/A TUBE BANK FROM CABIN AIR BATTERY AREA.	PN
HOLDING TANK CONFIG FOR LAUNCH -----					
NOTE					
IN NEXT STEP, IF AVAILABLE CAPACITY IS LESS THAN 400,000 GALLONS, ADVISE FFO.					
14-1426		STM NET 104	QBSE	OBTAIN HOLDING TANK DEPTH MEASUREMENTS (OMI M3175). REPORT DATA.	STSA SU72507
EAST TANK DEPTH _____ IN. BD					
AVAILABLE CAPACITY _____ GAL					
DATE _____ TIME _____					
WEST TANK DEPTH _____ IN. BD					
AVAILABLE CAPACITY _____ GAL					
DATE _____ TIME _____					
14-1427		STM NET 104	QBSE	POSITION EAST AND WEST HOLDING TANK GATES TO PREVENT WATER FROM ENTERING DRAINAGE DITCHES AND PERMIT WATER TO ENTER HOLDING TANKS (OMI M3175). REMOVE HAND CRANKS AND SCREW COVERS. REPORT COMPLETION.	STSA SU72507

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
GOX VENT SYSTEM FINAL ACTIVATION -----					
14-1428		NTD 232 TBC	TBC  CMEC	PERFORM GOX VENT SYSTEM FINAL ACTIVATION FOR LOX LOADING PER OMI G2158	SU72571
GVA HOOD GN2 FLOW -----					
14-1429		CMEC 136 TBC 232 NTD	TBC *PAD NTD	READY TO PROCEED WITH GN2 FLOW TO HOOD PER OMI G2158.	
14-1430		CMEC 186	PMEA	CLEAR ALL NONESSENTIAL PERSONNEL FROM GVA FOR GN2 FLOW TO HOOD.	
ESSENTIAL PERSONNEL -----					
SFOC ----					
PME4 TECH      1 PQC1 QC        1 SAFETY         1					
14-1431		NTD PA		ATTENTION ON PAD ____:  GOX VENT ARM HEATED PURGE WILL BE ACTIVATED MOMENTARILY. NONESSENTIAL PERSONNEL CLEAR GOX VENT ARM.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
WARNING					
HAZARDOUS OPERATIONS FOLLOW DUE TO LARGE VOLUMES OF GN2. DURING GN2 FLOW GOX VENT HOOD ACCESS DOORS AND WINDOW WILL NOT BE OPENED.					
14-1432		PMEA 186 CMEC 136 TBC 232 NTD	CMEC TBC *PAD NTD *SCC	ALL NONESSENTIAL PERSONNEL CLEARED FROM GVA FOR GN2 FLOW TO HOOD. HAZARDOUS GN2 FLOW COMMENCING.	SU72607
14-1433		TBC 136	CMEC	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	
14-1434		GSPN 114 JSTC 111 STM 232 NTD	JSTC STM NTD TBC	INITIATION OF LPGN2 FLOW FOR GOX VENT HOOD PURGE COMPLETE.	PNU
14-1435		STM NET 104	QBSE	VERIFY NORTH PERIMETER ROAD CULVERT VALVE(S) OPEN.	STE

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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TOP-OFF WATER TROUGHS  
 -----

14-1436	-11H00M (HOLDING)	STM NET 104	QBSE	PERFORM WATER TROUGH INSPECTION.  1. INSPECT WATER TROUGHS ON MLP.  2. IF FILL LEVEL OF ONE OR MORE BAGS BELOW REQUIRED FILL LEVEL, PERFORM LEAK INSPECTION TO DETERMINE LOCATION AND EXTENT OF LEAKAGE.  3. REPLACE ANY WATER BAG THAT APPEARS TO HAVE A SIGNIFICANT LEAK PER OMI M3083.  4. TOP OFF ALL WATER TROUGHS.	STSA SU72510
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ESSENTIAL PERSONNEL  
 -----

	NASA	GSS
	----	---
SUPER/ENG	1	2
TECH		4
QUALITY		1

ECS TRANSFER AND ECS PREP FOR  
 -----  
 AIR TO GN2 CHANGEOVER  
 -----

14-1437		OTC 232	NTD	BEGINNING ECS INITIAL PREPS.	SU72544
14-1438		OTC 132	CPVD	PERFORM "CONTROL STATION TRANSFER - PAD TO FIRING ROOM" AND "ECS PREPARATIONS FOR AIR TO GN2 CHANGEOVER; OPTION A - INITIAL PREPS" PER OMI V1122 MANUAL GN2 ISOLATION VALVES TO REMAIN CLOSED AND LOCKED. (1 HR 45 MIN)	

RT OMI LOG NO. \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1439		OTC 132	*PAD	PERFORM POST OPERATION INSTRUCTION 1 - RSS MOVE TO PARK POSITION PER OMI A2203.002.	
14-1440		OTC 132	PPVM	THERMAL CONDITION PCR TO 73-75 DEG F PER OMI V1122 AND SHUT OFF SIDE STREAM FILTER PER OMI V6C68.  REMOVE OIS UNITS - ----- MLP, FSS AND RSS PIVOT -----	

NOTE

PERFORM NEXT TWO STEPS  
 UPON COMPLETION OF TSM  
 CLOSEOUT, RSS RETRACT  
 OPERATIONS, AND SRB DRAIN  
 LINE/PLUG REMOVALS.

UCOM/GSS TECHS MEET AT  
 BASE OF FSS ELEVATOR.

14-1441	-11H00M (HOLDING)	NTD 232	STM	1.	UCOM REMOVE ALL PORTABLE OIS UNITS FROM MLP ZERO LEVEL. INSTALL CAPS ON GOOSENECK CABLE CONNECTORS (30 MIN). GSS REMOVE PURGE FLEXHOSES ON MLP.	COMM PNSA SU72502
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UCOM  
 T: \_\_\_\_\_  
 SS1

GSS  
 T: \_\_\_\_\_  
 SS1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1441 CON'T			2.	UCOM REMOVE FOLLOWING OIS STATIONS FROM LAUNCH PAD IN USE AND SECURE CABLES. GSS SECURE FLEXHOSES ON FSS AND RSS PIVOT UPON REMOVAL OF OIS BOXES.  PAD A:  STA 116-4A FSS 95 FT LEVEL 117-0E FSS 95 FT LEVEL 118-60 FSS 115 FT LEVEL 117-03 FSS 115 FT LEVEL 116-29 FSS 135 FT LEVEL 118-48 FSS 135 FT LEVEL 117-4F RSS PIVOT (PAD A SURFACE)  PAD B:  STA 120-05 FSS 95 FT LEVEL 123-64 FSS 95 FT LEVEL 122-44 FSS 115 FT LEVEL 120-4E FSS 115 FT LEVEL 120-52 FSS 135 FT LEVEL 120-46 FSS 135 FT LEVEL 121-0A RSS PIVOT (PAD B SURFACE)  UCOM T: _____ SS2  GSS T: _____ SS2	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1441 CON'T			3.	UCOM REMOVE FOLLOWING OIS UNITS FROM LAUNCH PAD IN USE AND ENSURE DISCONNECTED CABLES ARE REMOVED OR SECURED TO STRUCTURE WITH BLAST TAPE. GSS SECURE DISCONNECTED PURGE LINES FIRMLY IN PLACE WITH BLAST TAPE. (30 MIN)  RSS 130 FT LEVEL  PAD A STA 119-2A 119-64  PAD B STA 122-2D 121-4C	
					UCOM T: _____ SS3
					GSS T: _____ SS3



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
OIS UNIT REMOVAL STATUS					
14-1442		JYCD	GYCC	OIS UNITS/STATIONS HAVE BEEN	COMM
		117		REMOVED AT LAUNCH PAD IN USE	SU72502
		GYCC	STM	FROM FOLLOWING LOCATIONS	
		111			
		STM	NTD	1. ALL UNITS ON MLP ZERO LEVEL	
		232		HAVE BEEN REMOVED AND CAPS	
				INSTALLED ON GOOSENECK	
				CABLE CONNECTORS.	
				2. PAD A:	
				STA 116-4A FSS 95 FT LEVEL	
				117-0E FSS 95 FT LEVEL	
				118-60 FSS 115 FT LEVEL	
				117-03 FSS 115 FT LEVEL	
				116-29 FSS 135 FT LEVEL	
				118-48 FSS 135 FT LEVEL	
				117-4F RSS PIVOT (PAD A SURFACE)	
				PAD B:	
				STA 120-05 FSS 95 FT LEVEL	
				123-64 FSS 95 FT LEVEL	
				122-44 FSS 115 FT LEVEL	
				120-4E FSS 115 FT LEVEL	
				120-52 FSS 135 FT LEVEL	
				120-46 FSS 135 FT LEVEL	
				121-0A RSS PIVOT (PAD B SURFACE)	
				3. PAD A	
				STA 119-2A	
				119-64	
				PAD B	
				STA 122-2D	
				121-4C	
				STA CABLES HAVE BEEN SECURED	
				OR PLACED IN PULL BOXES	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT STEP  
 UNTIL RSS MOVE COMPLETE.

CLOSE DOORS OF EXPLOSION PROOF PHONES

14-1443	-11H00M (HOLDING)	NTD 232 STM 111 GYCC JY CJ 117	STM GYCC	CLOSE DOORS OF FOLLOWING LISTED EXPLOSION PROOF TELEPHONES ON FSS AND RSS. (45 MIN)	COMM SU72495
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- FSS PAD SURFACE BY ELEVATOR
- FSS 75 FT LEVEL SIDE 3
- FSS 95 FT LEVEL BY ELEVATOR  
(PAD B ONLY)
- FSS 115 FT LEVEL BY ELEVATOR  
(PAD B ONLY)
- FSS 135 FT LEVEL
- FSS 155 FT LEVEL SIDE 2
- FSS 215 FT LEVEL REST ROOM
- FSS 255 FT LEVEL SIDE 4
- RSS 130 FT 7 IN. LEVEL SIDE 4  
(PAD B ONLY)
- RSS 212 FT LEVEL SIDE 3 OUTSIDE  
PCR HOIST ROOM WALL

T: \_\_\_\_\_

14-1444		JBPN 111	STM	PURGE FLEXHOSE HAS BEEN REMOVED FROM PORTABLE OIS LOCATIONS ON MLP AND RSS PIVOT AND SECURED TO STRUCTURE WITH BLAST TAPE ON FSS OIS LOCATIONS.	PNSA
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14-1445		NTD PA		ATTENTION IN THE AREA:  PERSONNEL PARTICIPATING IN FINAL TPS ENGINEERING DEBRIS WALKDOWN REPORT TO BASE OF THE FSS, PAD ____, IN 30 MINUTES.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
FINAL TPS DEBRIS WALKDOWN -----					
14-1446	-11H00M (HOLDING)	NTD 232 OTC 132 STM 111 *SCC NET 105	OTC STM *PAD PSTM *PSE	PERFORM INTEGRATED OPERATION SUPPORT SETUP 3 - FINAL TPS DEBRIS INSPECTION WALKDOWN, REPORT ON STATION AT PAD _____ IN 30 MINUTES.	
NOTE  PERFORM NEXT TWO STEPS IF DEBRIS WALKDOWN SCHEDULED DURING SOUND SUPPRESSION TANK FILL.					
14-1447	-11H00M (HOLDING)	NTD 232	STM	VERIFY SOUND SUPPRESSION LOCKS INSTALLED, GN2 PRESSURE TO CLOSE ACTUATORS AND LOCKOUT COMMAND ON.	
NOT PERFORMED _____					
14-1448		NTD 232 *SCC NET 105	*SCC *PSE	SOUND SUPPRESSION LOCKS INSTALLED, TPS WALKDOWN PERSONNEL MAY ENTER FLAME TRENCH.	
NOT PERFORMED _____					
14-1449		NTD 232 OTC 132	OTC *PAD	YOU HAVE CONCURRENCE TO PROCEED WITH DEBRIS WALKDOWN. PERFORM INTEGRATED OPERATION SUPPORT SETUP 3 - FINAL TPS DEBRIS WALKDOWN. (2 HR)	SU72459



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
PTCR CLOSEOUT -----					
14-1453	-11H00M (HOLDING)	NTD 232 STM 111	STM JBAC	PERFORM PTCR CLOSEOUT PER OMI M3034. (1H45M)  STANDBY IN PTCR RM 102 FOR UPPER AND LOWER BLAST DOOR CLOSURE.	HVAA SU72499
ESSENTIAL PERSONNEL -----					
				GSS    NASA ---    ----	
				SUPR/ ENGR            2     1 QUAL            1 TECH            2	
VERIFY MLP/PAD CAMERAS READY -----					
14-1454		STM 111	JPHO	VERIFY MLP AND PAD CAMERAS INSTALLED AND PHOTO OPTICAL CONTROL SYSTEM (POCS) READY TO SUPPORT.	SU72416
SECURING/PURGE - CAMERA ENCLOSURES -----					
14-1455		STM 111	JTCR	VERIFY MLP AND PAD CAMERA ENCLOSURES SECURED AND PURGED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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ET LOAD SAFETY/FACILITY/FIRE WALKDOWN

NOTE

MLP SIGNS SHALL NOT BE  
 REMOVED UNTIL SAFETY VERIFIES  
 TOTAL PAD CLEAR.

ET LOAD WALKDOWN SHOULD BE  
 PERFORMED DURING DAYLIGHT  
 HOURS FOLLOWING RSS TO PARK.  
 BARCHART SHALL REFLECT  
 SCHEDULED TIME.

14-1456		NTD	*PAD	PERFORM INTEGRATED OPERATION	FIRE
	232	OTC		SUPPORT SETUP 5 - ET LOAD	SU72456
		TBC		SAFETY/FACILITY/FIRE WALKDOWN.	SU72506
		STM		(2 HR). HAVE WALKDOWN PARTICIPANTS	
			*SCC	MEET WITH PAD LEADER AT	
			*PSE	_____ (RECORD LOCATION)	
		NET		IN 30 MINUTES.	
	105				
		OTC	*PAD	PARTICIPANTS	
	132			-----	
		STM	JSTC	GSE OPS	
	111			FACILITY OPS	
		JSTC	JFIR	SFOC SAFETY	
	114			QUALITY CONTROL	
				FIRE INSPECTOR	
				PAD LEADER	
				NASA SAFETY	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.																												
14-1457		NTD PA		ATTENTION ON PAD____.  ALL PERSONNEL SUPPORTING ET LOAD SAFETY/FACILITY/FIRE WALKDOWN MEET WITH PAD LEADER AT _____ (RECORD LOCATION) IN 30 MINUTES.  SAFETY FACILITY/FIRE WALKDOWN -----																													
				<table border="1"> <thead> <tr> <th></th> <th>NASA</th> <th>SFOC</th> <th>JBOSC</th> </tr> </thead> <tbody> <tr> <td>*PAD</td> <td></td> <td>1</td> <td></td> </tr> <tr> <td>SAFETY</td> <td>1</td> <td>1</td> <td></td> </tr> <tr> <td>QUALITY</td> <td></td> <td>1</td> <td></td> </tr> <tr> <td>GSE OPS</td> <td></td> <td>1</td> <td></td> </tr> <tr> <td>PSTM</td> <td></td> <td>1</td> <td></td> </tr> <tr> <td>FIRE INSPECTOR</td> <td></td> <td></td> <td>1</td> </tr> </tbody> </table>		NASA	SFOC	JBOSC	*PAD		1		SAFETY	1	1		QUALITY		1		GSE OPS		1		PSTM		1		FIRE INSPECTOR			1	
	NASA	SFOC	JBOSC																														
*PAD		1																															
SAFETY	1	1																															
QUALITY		1																															
GSE OPS		1																															
PSTM		1																															
FIRE INSPECTOR			1																														
14-1458		NTD 232 *SCC NET 105	*SCC *PSE	PERFORM INTEGRATED OPERATION SUPPORT SETUP 4 - EMERGENCY EGRESS ROUTE WALKDOWN. ADD ANY DISCREPANCIES TO APPENDIX K AND NOTIFY *PAD (1 HR).  INFLATE DOCK SEALS -----	SU72455 SU72506																												
14-1459		*PAD 132 OTC PPVM	OTC	INFLATE DOCK SEALS FOR LAUNCH PER OMI V1122. REPORT COMPLETION.  RT OMI LOG NO. _____	SU72461																												
				**** RSS MOVE OPERATIONS COMPLETE **** -----																													

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM RSS SIDE 4 DOOR SECURING  
 IF RSS SIDE 4 PCR EMERGENCY  
 EGRESS DOORS REQUIRE SECURING.

RSS SIDE 4 DOOR SECURING

NOT PERFORMED

14-1460	-11H00M (HOLDING)	NTD 232 *SCC NET 105	*SCC	REQUEST CONCURRENCE TO BOLT CLOSED, RSS SIDE 4 PCR EMERGENCY EGRESS DOORS.	
14-1461		*SCC 232	NTD	VERIFY NO HAZARDOUS TASKS BEING PERFORMED IN PCR AND PERSONNEL ACCESS TO BE CONTROLLED.	
14-1462		*PSE NET 105 *SCC 232	*SCC NTD	SAFETY VERIFY CONCURRENCE TO CLOSE AND BOLT, RSS SIDE 4 PCR EMERGENCY EGRESS DOORS.	
14-1463		NTD 232 STM NET 104	STM	CLOSE AND BOLT RSS SIDE 4 PCR EMERGENCY EGRESS DOORS (BALANCE) QBSE PER OMI M3134. (1H30M)	STSA SU72488
14-1464		NTD 232	OTC	ALL RSS SIDE 4 PCR EMERGENCY EGRESS DOORS WILL BE BOLTED CLOSED.	
14-1465		NTD 232 OTC 132 *PAD	OTC *PAD PPTS	REMOVE LOCKS FROM PCR EQUIPMENT AIRLOCK DOOR SLIDE BOLTS AND ENGAGE SLIDE BOLTS. (LOCK DOORS) RETAIN SLIDE BOLT LOCKS FOR REINSTALLATION WHEN SLIDE BOLTS ARE DISENGAGED.	

T: \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				RSS SIDE 4 PCR DOORS LOCKED	
14-1466		QBSE NET 104 STM 232	STM NTD	RSS SIDE 4 PCR EMERGENCY EGRESS DOORS CLOSED AND BOLTED.	STSA SU72488
					T: _____
				RSS SIDE 4 DOOR SECURING COMPLETE	
				ROPE/SIGN/TEMP HANDRAIL REMOVAL	
				NOTE	
				PERFORM NEXT SIX STEPS IF TEMP HANDRAILS INSTALLED.	
14-1467		STM 232 NTD *SCC *SCC NET 105	NTD	VERIFY CONCURRENCE TO REMOVE ROPES AND SIGNS FROM AROUND FLAME TRENCH. SAFETY WILL ENSURE ALL PERSONNEL WORKING WITHIN 6 FT OF FLAME TRENCH ARE WEARING SAFETY HARNESS WITH LANYARD SECURED TO PERMANENT STRUCTURE.	
					NOT PERFORMED _____
14-1468		*PSE NET 105 *SCC 232 NTD	*SCC NTD STM	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH ROPE, SIGN REMOVAL.	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1469		NTD PA 232	OTC TBC STM	ATTENTION ON PAD:  ALL PROTECTIVE BARRIERS ARE BEING REMOVED FROM AROUND FLAME TRENCH. CAUTION SHOULD BE EXERCISED AND ALL PERSONNEL MUST STAND AT LEAST 6 FT CLEAR OF FLAME TRENCH UNPROTECTED EDGES.	
				NOT PERFORMED	_____
14-1470		STM NET 104	QBSE	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	STSA
				NOT PERFORMED	_____
				WARNING	
				PERSONNEL WORKING AT UNPROTECTED HEIGHTS (DROP MORE THAN 4 FT) OUTSIDE OF GUARDRAILS/SAFETY CHAINS (WITHIN 6 FT OF AN UNGUARDED EDGE) WILL WEAR SAFETY HARNESS WITH LANYARD SECURED TO AN APPROVED TIE-OFF POINT. SUBSTANTIAL STRUCTURAL MEMBER (NO HAND RAILS) OR A PROPERLY INSTALLED LIFE LINE.	
14-1471		QBSE NET 104	STM	PERSONNEL WORKING AT UNPROTECTED HEIGHTS ARE WEARING SAFETY HARNESS WITH LANYARD PROPERLY SECURED.	STSA
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1472		STM NET 104	QBSE	REMOVE WIRE ROPES AND SIGNS AT FLAME TRENCH NORTH AND TEMPORARY ROPES AND SIGNS FROM AROUND FLAME TRENCH SOUTH. STOW EQUIPMENT IN 9099 TOWER AND BOLT DOOR SECURELY. (2 HRS)	STSA SU72500
				ESSENTIAL PERSONNEL -----	
				GSS ---	
				SUPER/ENG. 2	
				TECH 5	T: _____
				NOT PERFORMED	_____
14-1473		STM NET 104	QBSE	SECURE FSS 95 FT LEVEL TO WEST STAIR TOWER SECURITY GATE WITH CHAIN AND HOOK.	STSA
				TELEPHONE LOCKOUT -----	
				NOTE	
				PERFORM SUBSTEP TWO OF FOLLOWING STEP IF PCR TELEPHONES WERE RESTORED TO SERVICE AFTER PRSD LOAD.	
14-1474		NTD 232 STM 111 GYCC PTP 117	STM GYCC JYQJ JYQJ	PERFORM FOLLOWING:  1. VERIFY PCR TELEPHONES AT PAD A/B ARE LOCKED OUT.  2. LOCKOUT PAD A/B PCR TELEPHONES PER OMI D3008. REPORT COMPLETION.	COMM
				NOT PERFORMED	_____
					SS2

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
EXPLOSION PROOF PHONE DOORS CLOSED					
14-1475	-11H00M (HOLDING)	JYCJ 117 GYCC 111	GYCC STM	DOORS OF EXPLOSION PROOF TELEPHONES ON FSS AND RSS HAVE BEEN CLOSED.	COMM SU72495

SPARE REFRIG UNIT RELOCATION COMPLETE

NOTE

DO NOT PERFORM NEXT STEP  
 IF SPARE REFRIGERATION  
 UNIT NOT PLACED ON PAD  
 FOR CONTINGENCY USE.

PERFORM NEXT STEP FOR  
 PAD A ONLY.

14-1476	-11H00M (HOLDING)	GBHE JBDY 111 STM 232 NTD	JBDY STM NTD OTC	SPARE REFRIGERATION UNIT, FLATBED TRUCK AND FORKLIFT RELOCATED TO HE PARKING AREA (TO REMAIN ON STANDBY UNTIL LAUNCH).	HESA SU72482
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NOT PERFORMED

14-1477		QBSE NET 104	STM	WATER TROUGHS INSPECTED AND TOPPED OFF COMPLETE.  OMRSD S00FA0.870	STSA SU72510
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T: \_\_\_\_\_

NOTE

DO NOT PERFORM NEXT STEP IF  
 PERFORMING SCRUB TURNAROUND  
 AND SYSTEM HAS REMAINED  
 CONFIGURED.

14-1478		STM 111	JBFX	REMOVE MLP SIDE 2 AND SIDE 4 DECK MOUNTED FIREX HOSEREELS AND ORBITER SKIN SPRAY NOZZLE PROTECTION PER OMI M3190.	WSSA SU72505
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- SECURE PAD ELEVATOR NO. 2 -----					
14-1479		STM NET 104	VEEE	SECURE PAD HYDRAULIC ELEVATOR NO. 2 PER OMI Q3018.	CDPD SU72490
ET LOAD SAF/FAC/FIRE WALKDOWN ----- (PART A) COMPLETE -----					
14-1480		*PAD 136 TBC NTD 232 NTD	TBC NTD *SCC	INTEGRATED OPERATION SUPPORT SETUP 5 - ET LOAD SAFETY/ FACILITY/FIRE WALKDOWN (PART A) COMPLETE.	SU72456
TPS DEBRIS WALKDOWN COMPLETE -----					
14-1481		*PAD 132 OTC 232	OTC NTD	INTEGRATED OPERATION SUPPORT SETUP 3 - FINAL TPS DEBRIS WALKDOWN COMPLETE.	SU72459
14-1482		*PSE NET 105 *SCC NTD 232	*SCC	INTEGRATED OPERATION SUPPORT SETUP 4 - EMERGENCY EGRESS ROUTE WALKDOWN COMPLETE.	SU72455
NOTE					
PERFORM NEXT STEP ONLY IF HOSEREELS WERE REMOVED BY THIS SEQUENCE.					
14-1483		JBFX 111	STM	MLP SIDE 2 AND SIDE 4 DECK MOUNTED HOSEREELS HAVE BEEN REMOVED.	WSSA SU72505

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				OPEN SS LOCKING VALVES -----	
14-1484		NTD 232	STM	REMOVE PAD LOCKS AND OPEN HYDRAULIC LOCKING VALVES.	SU72666 WSSA
		STM 111	JBWC	REINSTALL PAD LOCKS PER OMI M3189.001. (15 MIN)	
14-1485		JBWC 111	STM	SS LOCKING VALVES OPEN WITH PADLOCKS INSTALLED.	SU72666 WSSA
		STM 232	NTD		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
TUBE BANK OPS COMPLETE -----					
14-1486		JBPN 111	STM	BREATHING AIR TUBE BANK DISCONNECTED, CABIN AIR BOTTLES ON LINE.	PNSA SU72504
14-1487		GSPS NET 104 JSTC 111 STM 232	JSTC STM NTD	B/A TUBE BANK REMOVED FROM CABIN AIR BATTERY AREA.	PN
LAUNCH PAD TOURS -----					
NOTE					
PERFORM NEXT STEP AT L-15 HOURS. TOURS MAY BE PERMITTED ABOVE PAD SLOPE AFTER THIS TIME AT THE DISCRETION OF THE NTD.					
14-1488		NTD 232 STM 111	*SEC STM JBDY	DISCONTINUE ALL TOURS INTO PAD SLOPE. NTD MAY APPROVE EXCEPTIONS AS DIRECTED BY LAUNCH DIRECTOR.	SU72437
LH2 STORAGE TANK VENT VALVE - OPEN ----- AND FLARE STACK PREPS -----					
NOTE					
PERFORM NEXT STEP A MINIMUM OF FOUR HOURS PRIOR TO PLANNED START OF LH2 LOADING.					
14-1489	-11H00M (HOLDING)	NTD 232 TBC 136	TBC CLHY	PERFORM OPERATION SUPPORT SETUP 1 OF OMI G3251 - LH2 FLARE STACK PREPARATIONS AND A3306 (STORAGE TANK VENT) VALVE OPENING. (30 MIN).	SU72572 SU72518

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1490		CLHY 136 TBC 232 NTD PA	TBC NTD	ATTENTION ON PAD ____ : LH2 VENTING TO FLARE STACKS WILL OCCUR MONENTARILY.	
14-1491	-11H00M (HOLDING)	CLHY 136 TBC 232	TBC NTD	G3251 OPERATION SUPPORT SETUP 1 - LH2 FLARE STACK PREPARATIONS AND A3306 (STORAGE TANK VENT) VALVE OPENING COMPLETE.  LH2 STORAGE TANK VENT VALVE - OPEN ----- AND LH2 FLARE STACK PREPS COMPLETE -----  MPS HELIUM TANK PRESSURIZATION, T-0 ----- GHE PURGE AND ORB/ET DISC CAVITY ----- PURGE ACTIVATION -----	
14-1492		NTD 232 TBC 136	TBC CLHY	PERFORM OPERATION SUPPORT SETUP 6 OF OMI G3251 - MPS HELIUM TANK PRESSURIZATION TO FLIGHT PRESSURE, T-0 UMBILICAL PURGE AND LH2 ORB/ET DISC CAVITY PURGE ACTIVATION. (2HR30MIN)	SU72800
14-1493		CLHY 136 TBC 132 OTC	TBC OTC CMPS	REQUEST CHGD AND CMPS SUPPORT ON CHANNEL 166 FOR AFT GHE BACKGROUND CHECK DURING MPS HELIUM TANK PRESSURIZATION TO FLIGHT PRESSURE, T-0 PURGE AND ORB/ET DISC CAVITY CHGD PURGE ACTIVATION.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-1494		CLHY 136 TBC 132 OTC	TBC OTC OTC CPVD	PERFORM FOLLOWING IN SUPPORT OF GHE BACKGROUND CHECK DURING MPS HELIUM TANK PRESSURIZATION TO FLIGHT PRESSURE, T-0 PURGE AND ORB/ET DISC CAVITY PURGE ACTIVATION.  1. RECORD AFT PURGE (PC3) FLOW SETPOINT AND TOLERANCE.  _____LBS/MIN   BD  2. ADJUST AFT PURGE FLOWRATE TO 110 +/-5 LBS/MIN.  3. RECORD AFT PURGE FLOWRATE:  _____LBS/MIN   BD  4. RECORD PAYLOAD BAY PURGE (PC2) FLOWRATE:  _____LBS/MIN   BD	
14-1495		CMPS 132 OTC 232 NTD PA	OTC NTD	ATTENTION ON PAD____:  MPS HELIUM TANKS WILL BE PRESSURIZED TO FLIGHT PRESSURE MOMENTARILY. FLOW THROUGH THE LH2 TSM WILL BE AUDIBLE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0000				SHUTTLE COUNTDOWN ----- CONTROL SEQUENCE ----- (-11H THRU -6H) -----  VERIFY READY TO RESUME COUNT -----	

NOTE

THIS IS COUNTDOWN  
RE-ENTRY POINT FOR 48 HOUR  
OR LONGER SCRUB/TURNAROUND  
OPERATIONS.

THIS SEQUENCE MAY COMMENCE  
PRIOR TO SEQUENCE 14 COMPLETION  
AT NTD/OTC DISCRETION.

OPERATIONS INVOLVING CRIT 1,  
1R AND/OR 1S ITEMS ARE CONTAINED  
IN THE FOLLOWING SEQUENCE/STEPS.

15-0001		LPS 127	JRPS JSDC JCMC	VERIFY READY TO RESUME COUNT AT T-11 HRS.	
15-0002	-11H00M (HOLDING)	NTD 232	OTC TBC *FLT *MIL STM *SCC LPS PTC	VERIFY READY TO RESUME COUNT AT T-11 HRS. IN ____ MINUTES.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
RESUME COUNT -----					
15-0003	-11H00M COUNTING	NTD 232	CGLS	CDC WILL RESUME AT T-11 HOURS	SU72533 SU72435
15-0004		NTD PA		THE STS-_____ CDC IS AT T-11 HOURS AND COUNTING.	
15-0005		VITT 132 *PAD	*PAD OTC	ORBITER PRE-OPERATION SETUP 18 - MISSION UNIQUE CREW COMPARTMENT CONFIGURATION COMPLETE.	
OPF HYPER EXHAUST FAN VERIFICATION -----					
15-0006		NTD 232 CTC STM STM 111	CTC STM JBAC	VERIFY OPF 1, 2, AND 3 HYPER EXHAUST FANS WILL NOT BE ACTIVATED REMOTELY EXCEPT FOR AN EMERGENCY BEGINNING WITH T-11 (COUNTING) AND CONTINUING THRU T-0 OF S0007.	HVAA
ET LOAD SAF/FAC/FIRE WALKDOWN (PART B) -----					
15-0007		NTD 232 TBC 136	TBC *PAD	PERFORM INTEGRATED OPERATION SUPPORT SETUP 5 - ET LOAD SAFETY/FACILITY/FIRE WALKDOWN (PART B MLP ZERO LEVEL.)	SU72570 SU72585

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- CONFIGURE ELEVATORS -----					
15-0008	-11H00M	STM NET 104	VEEE	CONFIGURE FSS AND RSS ELEVATORS PER OMI Q3018.	CDPD SU72598

ESSENTIAL PERSONNEL  
-----

GSS  
---

SUPER/ENG      1  
TECH            3

NOTE

NEXT STEP MUST BE PERFORMED  
AT LAUNCH PAD TO MEET OMRS  
FILE SIX REQUIREMENTS.

15-0009		STM NET 104	VEEE	PERFORM THE FOLLOWING:  1. OPERATIONAL CHECK ON FSS ELEVATORS NO. 1 AND NO. 2 IN NORMAL SERVICE CONFIGURATION.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0009 CON'T			2.	OPERATIONAL CHECK ON FSS ELEVATORS 1 AND 2 IN INDEPENDENT MODE TO THE 195 FT LEVEL AND SERVICE LEVEL.	
				PAD A FSS 1 OMRSD GRVFEVRA1.005-1S	TQW:_____
				NOT PERFORMED	_____
				PAD A FSS 2 OMRSD GRVFEVRA2.005-1S	TQW:_____
				NOT PERFORMED	_____
				PAD B FSS 1 OMRSD GRXFEVRC0.005-1S	TQW:_____
				NOT PERFORMED	_____
				PAD B FSS 2 OMRSD GRXFEVRD0.005-1S	TQW:_____
				NOT PERFORMED	_____
			3.	UNLOCK ESCAPE HATCH IN FSS ELEVATORS 1 AND 2.	TQW:_____
			4.	RETURN ELEVATORS TO NORMAL SERVICE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				HYDROGEN FIRE DETECTOR TEST ----- VERIFICATION -----	
15-0010	-11H00M	CHGD 132	OTC CGSS	PERFORMING HYDROGEN FIRE DETECTOR TEST VERIFICATION. CMPL FIRE DETECTORS WILL BE ACTIVATED	SU72468
		OTC 232	NTD	MOMENTARILY EMONS WILL OCCUR ON FIRE DETECTOR FUNCTION DESIGNATORS.	
		NTD TBC	TBC		
		TBC 136	CLHY CLOX		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT STEP FOR EACH  
HYDROGEN FIRE DETECTOR SYSTEM:

HWW14 = PADFD (LH2 HFDS)  
HWW15 = MLPFD (LH2 HFDS)  
HWW16 = EEFDS (EGR HFDS)

15-0011		CHGD		CURSOR CNTL (SAQ06/HWW14/HWW15/HWW16) GROUP SELF TEST XMIT CURSOR KEY - PRESS	
---------	--	------	--	---	--

CRT

VERIFY "ALRM", "CONF", AND "SELF"  
INDICATION ON FOR EACH FIRE DETECTOR  
PRIMARY AND SECONDARY.

CURSOR CNTL  
GROUP COMMAND OFF  
XMIT CURSOR KEY - PRESS

CRT

VERIFY "ALRM" AND "SELF" INDICATION  
OFF FOR EACH FIRE DETECTOR PRIMARY  
AND SECONDARY. REPORT ANY ANOMALIES.

15-0012		CHGD	OTC	HYDROGEN FIRE DETECTOR TEST	
		132	CGSS	VERIFICATION COMPLETE.	
			CMPL		
		OTC	NTD		
		232			
		NTD	TBC		
		TBC	CLHY		
		136	CLOX		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				EEFDS CONFIDENCE INDICATION EMON ----- ACTIVATION -----	
15-0013		CHGD		CURSOR CNTL (SAW01/HWW10) EMON XMIT CURSOR KEY - PRESS AT LEAST TWICE TO SYCHRONIZE PSEUDO  CRT VERIFY "EMON" INVERTED GREEN  HGDS CONFIDENCE CHECKS -----	
15-0014		OTC 132 CHGD 177	CHGD CTMS	PERFORM REMOTE HGDS, BUHGDS AND HUMS AUTO CALS AND CONFIDENCE CHECKS. (3 HRS)	SU72543 SU72473
				BUHGDS MONITOR ACTIVATION -----	
15-0015		CHGD		LCC ROOM 2P15A 9118 DISTRIBUTER (REAR) HGDS B/U SS MODEM SELECT PANEL RECORD FIRING RM, PAD AND FLOW NUMBER.  FR _____  PAD _____  FLOW NO. _____	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0015 CON'T				1. IF SUPPORTING S0007 WITH FR1 TO PAD A, VERIFY SWITCH POSITIONS AS FOLLOWS:  S1, CR1 - PAD A S2, CR3 - OFF S3, CR1 TX - ON  NOT PERFORMED	_____ SS1
				2. IF SUPPORTING S0007 WITH FR1 TO PAD B, VERIFY SWITCH POSITIONS AS FOLLOWS:  S1, CR1 - PAD B S2, CR3 - OFF S3, CR1 TX - ON  NOT PERFORMED	_____ SS2
				3. IF SUPPORTING S0007 WITH FR3 TO PAD A, VERIFY SWITCH POSITIONS AS FOLLOWS:  S1, CR1 - PAD A S2, CR3 - PAD A S3, CR1 TX - OFF  NOT PERFORMED	_____ SS3
				4. IF SUPPORTING S0007 WITH FR3 TO PAD B, VERIFY SWITCH POSITIONS AS FOLLOWS:  S1, CR1 - PAD B S1, CR3 - PAD B S1, CR1 TX - OFF  NOT PERFORMED	_____ SS4

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				LH2 STORAGE TANK VENT VALVE - OPEN ----- AND LH2 FLARE STACK PREPS (SCRUB ----- TURNAROUND -----	

NOTE

PERFORM NEXT TWO STEPS TO  
 SUPPORT SCRUB/TURNAROUND  
 OPERATIONS.

PERFORM NEXT STEP A  
 MINIMUM OF FOUR HOURS  
 PRIOR TO PLANNED START  
 OF LH2 LOADING.

15-0016		NTD 232 TBC 136	TBC CLHY	PERFORM OSSU 2 OF OMI G3255 - A3306 (STORAGE TANK VENT) VALVE OPENING.	NOT PERFORMED	_____
15-0017		CLHY 136 TBC 232 NTD PA	TBC NTD	ATTENTION ON PAD ____: LH2 VENTING TO FLARE STACKS WILL OCCUR MOMENTARILY.	NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0018	-11H00M	STM 111	JPHO	PLACE EMERGENCY CAMERA CONTROL SYSTEM MODE SELECTOR IN MODE II POSITION AND VERIFY.	SU72599

SERVICE AIR COMPRESSORS  
 -----

15-0019		STM 111	JBPN	PERFORM FOLLOWING:	PNSA SU72587
				1. SERVICE AIR COMPRESSORS PER OMI M3022. (1HR) (APPENDIX B)	
				2. IF PORTABLE COMPRESSOR NOT REQUIRED AS BACKUP, RELOCATE PORTABLE AIR COMPRESSOR TO NORTH BAY OF STORAGE BATTERY AND CONNECT TO SYSTEM.	

NOT PERFORMED

SS2

CONFIG ORBITER HYD FOR CRYO LOAD  
 -----

NOTE

HYDRAULIC CIRCULATION PUMPS MUST BE TURNED ON PRIOR TO START OF FUEL CELL ACTIVATION. PUMP LOADS ARE REQUIRED TO PROVIDE ADEQUATE LOADS FOR FUEL CELL PERFORMANCE CALIBRATION.

PERFORM NEXT STEP IF FUEL CELLS ARE DEACTIVATED.

15-0020		OTC 132	CEPD	PERFORM LOCAL SENSE VOLTAGE CONTROL DEACTIVATION PER OMI S9001VL2.	SU72541
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RT OMI LOG NO. \_\_\_\_\_

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0021	-11H00M	OTC 132	CHYD COFC CEPD ASP	CONFIGURE HYDRAULIC SYSTEM FOR SHUTTLE CRYO LOADING/FUEL CELL ACTIVATION, PERFORM LDG FINAL FILL AND ELEVON POSITIONING PER S0007VL4 (SEQ 46). (30 MIN)	
				OMRS S00FC0.070-1R OMRS S00FC0.072-1R	
15-0022	-10H40M	CHYD 132	OTC	HYDRAULIC CIRC PUMPS RUNNING. HYDRAULIC SYSTEM CONFIGURED FOR FUEL CELL ACTIVATION AND SHUTTLE CRYO LOADING. CONTINUING WITH LDG FINAL FILL AND ELEVON POSITIONING.	SU72541
				OMRSD S00FC0.070-1R	
15-0023	-10H30M	CHYD 132	OTC	LDG FINAL FILL AND ELEVON POSITIONING PER S0007VL4 (SEQ 46) COMPLETE.	
				OMRSD S00FC0.072-1R  WSB STEAM VENT HEATER ACTIVATION -----	
15-0024	-10H30M	OTC 132	CHYD ASP	PERFORM WSB STEAM VENT HEATER ACTIVATION PER S0007VL4 (SEQ 46 - HYDRAULIC SYSTEM).	SU72534
				ECLSS O2 SAMPLE FOR CREW INGRESS COMPLETE -----	
NOTE					
DO NOT PERFORM NEXT STEP UNLESS SEAT O2 SAMPLES WERE TAKEN.					
15-0025	-10H30M	CECL 132	OTC	ECLSS O2 SAMPLE FOR CREW INGRESS COMPLETE (SEQ 45 S0007VL4).	

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
STORAGE TANK VENT VALVE OPENING AND ----- LH2 FLARE STACK PREPS (SCRUB ----- TURNAROUND) COMPLETE -----					
NOTE  PERFORM NEXT STEP TO SUPPORT SCRUB TURNAROUND OPERATIONS.					
15-0026	-10H30M	CLHY 136 TBC 232	TBC NTD	G3255 OPERATION SUPPORT SETUP 2 - A3306 (STORAGE TANK VENT) VALVE OPENING COMPLETE.	
					NOT PERFORMED _____
PIC RACK CB CONFIGURE/ ----- 400 HZ PWR ACTIVATION -----					
15-0027	-10H30M	OTC 132	CEPD CMPS	PERFORM PIC RACK CB CONFIGURATION AND 400 HZ POWER ACTIVATION.	SU72548
PIC RACK CB CONFIGURATION -----					
15-0028	-10H30M	CEPD 151	QPDS	RACK 6814 (COMPT 7A) 22D170 (LH2 BURN PIC) CB - ON (CLOSED) RACK 6820 22D260 (LR PIC) CB - ON (CLOSED) RACK 6823 22D280 (LH2 BURN PIC) CB - ON (CLOSED) RACK 6815 22D330 (LR PIC) CB - ON (CLOSED)	

T: \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
400 HZ POWER ACTIVATION					
-----					
15-0029	-10H30M	CEPD	QPDS	C72-0818 (400 HZ GROUND POWER)	
		151			

NOTE

IN RACK 6800 OPERATIONS, CB NOMENCLATURE IS LISTED FOR REFERENCE ONLY. NOMENCLATURE IS NOT VISIBLE WHEN INDICATOR LITES OFF.

RACK 6800 (COMPT 21A)  
4 CB'S - ON (CLOSED)  
(1T110, 1T111, 1T112, 1T113 POWER)

4 CB'S - ON (CLOSED)  
(1T210, 1T211, 1T212, 1T213 POWER)

PANEL P9 (COMPT 21A FAC AC)  
1T100 CB4 - ON (CLOSED)  
1T200 CB10 - ON (CLOSED)

T: \_\_\_\_\_

NOTE

DO NOT PERFORM NEXT STEP FOR MLP 3.

15-0030		CEPD	QPDS	DISC SW P9 (COMPT 9A, LOCATED ON WALL)	
		151		1T100 SW C4 - ON (CLOSED)	
				1T200 SW C10 - ON (CLOSED)	

T: \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP FOR  
MLP 3.

15-0031		CEPD QPDS	RACK 6824 (1T100)		
	151		MODE CONTROL		
			LOCAL/REMOTE SW - REMOTE		
			INPUT CB - ON		
			STANDBY/OPERATE SW - OPERATE		
			RACK 6825 (1T200)		
			MODE CONTROL		
			LOCAL/REMOTE SW - REMOTE		
			INPUT CB - ON		
			STANDBY/OPERATE SW - OPERATE		

T: \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_

15-0032		CEPD CURSOR CNTL (VWC01)			
			1T100 ON/OFF		
			XMIT CURSOR KEY - PRESS		
			CRT (VWC01)		
			VERIFY		
			1T100 ON/OFF IND ON		
			1T100 VOLTS PH A 109-118 VAC		
			1T100 VOLTS PH B 109-118 VAC		
			1T100 VOLTS PH C 109-118 VAC		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0033		CMPS		CONSOLE KYBD SET_GASK0154E_ON XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
				CEPD CRT (VWC01)	
				1T100 BUS IND ON	
15-0034		CEPD		CURSOR CNTL (VWC01) 1T200 ON/OFF XMIT CURSOR KEY - PRESS	
				CRT (VWC01)	
				VERIFY 1T200 ON/OFF IND ON 1T200 BUS IND OFF 1T200 VOLTS PH A 109-118 VAC 1T200 VOLTS PH B 109-118 VAC 1T200 VOLTS PH C 109-118 VAC	
15-0035		CEPD	OTC	PIC RACK CB CONFIGURATION AND 400 HZ SYSTEMS ACTIVATION COMPLETE.	SU72548
		132			
15-0036		OTC	CMPL	SSME WATER PANEL (C3) VERIFY LH2 RECIRC PUMP PRIMARY LIGHT ON.	
		132			
				CLEAR QPDS AND PPDS -----	
15-0037	-10H30M	OTC	CEPD	CLEAR ALL PDS TECHNICIANS FROM MLP AND PAD.	SU72556 SU72604
		132			
15-0038		CEPD	OTC	PDS TECHS CLEARING MLP AND PAD.	
		132			
		OTC	NTD		
		232			



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- ENABLE CONDITION RED STROBE LIGHT -----					
15-0039	-10H30M	NTD 232 STM 111 GYCC 117 PTP	STM GYCC JY CJ PSOQ	PLACE CONDITION RED STROBE LIGHT SWITCH IN PTCR ROOM 205 IN ENABLE (ON) POSITION. ATTACH INTEGRITY CONTROL STICKER TO GYCC JY CJ SWITCH.	COMM
15-0040		JY CJ 117 GYCC 111 STM 232	GYCC STM NTD	CONDITION RED STROBE LIGHT SWITCH IN PTCR ROOM 205 HAS BEEN PLACED IN ENABLE (ON) POSITION AND INTEGRITY CONTROL STICKER HAS BEEN ATTACHED TO SWITCH.	COMM
ESSENTIAL PERSONNEL -----					
				UCOM      UQA -----      ---	
				TECH            2	
				QUAL                    1	
TQV: _____					
ECS PREPS FOR AIR/GN2 CHANGEOVER ----- COMPLETE (HAND VALVE CLOSED) -----					
15-0041	-10H30M	CPVD 132 OTC 232	OTC NTD	ECS INITIAL PREPS FOR AIR/GN2 CHANGEOVER COMPLETE (HAND VALVES CLOSED) (V1122).	SU72544
FINAL PREPS FOR AIR/GN2 CHANGEOVER -----					
15-0042		OTC 132	CPVD	PERFORM OMI V1122 "PREPS FOR AIR/GN2 CHANGEOVER, OPTION B - FINAL PREPS" SEQUENCE (HAND VALVES CLOSED). (30 MIN)	SU72546
RT OMI LOG NO. _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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-----  
 ACTIVATE XENON LIGHTS  
 -----

WARNING

WHEN XENON LIGHTS ARE OPERATING, PERSONNEL MUST AVOID LOOKING DIRECTLY INTO LIGHTS AS EYE DAMAGE MAY RESULT.

NOTE

DO NOT PERFORM NEXT TWO STEPS IF TANKING AND LAUNCH WILL OCCUR DURING DAYLIGHT.

15-0043	-10H30M	STM 232 NTD PA	NTD	ATTENTION ON PAD ____:  XENON LIGHTS WILL BE TURNED ON. AVOID LOOKING INTO LIGHTS. EYE DAMAGE MAY RESULT.	SU72519 SU72509
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NOT PERFORMED \_\_\_\_\_

NOTE

XENON FLOODLIGHTS WILL NOT BE TURNED ON DURING THE RSS MOVE FROM MATE POSITION UNTIL TRUCK 1 HAS BEEN SECURED IN THE PARK POSITION.

15-0044	-10H30M	STM 111	JSTC	TURN ON XENON LIGHTS FOR LAUNCH BORESITE IF REQUIRED. TOP OFF GEN FUEL TANKS. (30 MIN)	SU72516   SU72509   ELEC
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ESSENTIAL PERSONNEL  
 -----

	SGS	BICO	NASA
TECHS	7		
SUPVR.		1	
ENGR			1

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT STEP IF JYVO  
 DETERMINES CAMERA PURGE  
 IS REQUIRED (JYVO CH 138).

15-0045		STM	JBPN	OPEN SUPPLY VALVES AND ADJUST REGULATORS TO SUPPLY CAMERAS 70 AND 71 (PAD A) OR 170 AND 171 (PAD B) WITH 30 TO 50 PSI OF PURGE. RECORD SUPPLY PRESSURE 70/170_____ PSI; 71/171_____ PSI.	PNSA SU72600
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NOT PERFORMED \_\_\_\_\_

PAD CLOSEOUT VALVE POSITIONING

NOTE

NEXT STEP REQUIRES ACCESS  
 TO PAD A, PAD B AND VAB  
 HIGH PRESSURE STORAGE  
 BATTERIES BY PNEUMATICS,  
 QUALITY AND NASA PERSONNEL.

15-0046		STM	JBPN	PERFORM PAD CLOSEOUT VALVE POSITIONING PER OMI M3123.	PNSA SU72662
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ESSENTIAL PERSONNEL

	GSS	NASA
SUPR/ENGR	1	1
QUALITY	1	
PNEU TECH	3	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF  
 SUPPORTING SCRUB TURNAROUND  
 AND HELIUM PURGES ARE  
 REQUIRED TO BE ACTIVATED.

15-0047		TBC 136	CLHY	PERFORM OMI G3255 OPERATION SUPPORT SETUP 11 - ACTIVATION OF HELIUM PURGES AFTER TEMPORARY SECURING.	
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NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT STEP IF SUPPORTING  
 SCRUB TURNAROUND AND HELIUM  
 PURGES WERE INITIATED.

15-0048		CLHY 136 TBC 232	TBC NTD	G3255 OPERATION SUPPORT SETUP 11 - ACTIVATION OF HELIUM PURGES AFTER TEMPORARY SECURING COMPLETE.	
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NOT PERFORMED \_\_\_\_\_

CLEAR FOR STANDBY GN2 MODE  
 -----

15-0049	-10H15M	NTD 232 *SCC NET 105 STM NET 104	*SCC STM *PSE QBSE	REQUEST SFOC SAFETY CLEAR ALL PERSONNEL FROM MLP A AND B LEVELS FOR ECS AIR TO "STANDBY GN2 MODE" (HAND VALVE OPEN) OPERATIONS. GSS TECHS TO ACCOMPANY SAFETY TO D0G ALL MLP DOORS (EXCEPT DOOR 33A) AFTER INSPECTION COMPLETE.	STSA
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15-0050		NTD 232 *SCC NET 105 STM 111	*SCC STM *PSE 1. JBAC 2.	PERFORM FOLLOWING: REQUEST SFOC SAFETY CLEAR ALL PERSONNEL FROM PTCR. GSS TECHS TO ACCOMPANY SAFETY TO CLOSE UPPER AND LOWER PTCR BLAST DOORS AND INSTALL GSS SIGNS PER OMI M3034.	HVAA HVAA
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0050 CON'T			3.	GSS TECHS TO STAND BY FOR PTCR/ECS ROOM PRESSURIZATION COMMAND STEP.	HVAA

ESSENTIAL PERSONNEL TO ECS ROOM  
 -----

WARNING

EACH PERSON ON STATION IN  
 ECS ROOM DURING HIGH FLOW  
 OF GN2 WILL HAVE AN ELSA  
 IN HIS IMMEDIATE AREA.

REQUEST SFOC SAFETY CLEAR  
 NONESSENTIAL PERSONNEL  
 FROM ECS ROOM AND STAND  
 BY FOR GN2 HAND VALVE  
 OPERATIONS.

15-0051	-10H15M	NTD	*SCC	REQUEST ESSENTIAL PERSONNEL	
		232	OTC	REPORT TO PAD ECS ROOM FOR	
		OTC	CPVD	STANDBY GN2 MODE (HAND VALVE	
		132		OPEN). VERIFY ECS PERSONNEL	
		*SCC	*PSE	HAVE 10 MINUTE ELSAS. (45 MIN)	
		NET			
		105			

ESSENTIAL PERSONNEL  
 -----

	SFOC	NASA	GSS
	----	----	---
SYST ENG	1	1	1
SYST QC			1
SYST TECH	4		4
SAFETY	1	1	
SUPV			1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

SAFETY WARNING SIGNS MAY NOT REQUIRE POSTING IF PAD CLEARING FOR LAUNCH IS IN PROGRESS; WITH SFOC SAFETY CONCURRENCE.

15-0052	-10H15M	NTD 232 *SCC NET 105	*SCC *PSE	1. PTCR AND ECS ROOM DOORS (THREE). 2. PTCR SOUTH TUNNEL ENTRANCE. 3. MLP "B" LEVEL AIRLOCK. (SIGN SHALL BE REMOVED UPON FINAL CLEARING FOR LAUNCH). 4. ECS ROOM SOUTH OUTSIDE ENTRANCE. (SAFETY WARNING SIGN SHALL BE POSTED UPON FINAL ECS ROOM CLEARING). 5. ECS ROOM TO PTCR RM 105 ENTRANCE (SIGN POSTED AFTER CLEARING THRU PTCR TO ECS ROOM).	
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NOT PERFORMED \_\_\_\_\_

15-0053		NTD PA		ATTENTION ON PAD ____: ALL PERSONNEL CLEAR MLP INTERIOR AND PTCR FOR ECS AIR TO "STANDBY GN2 MODE (HAND VALVES OPEN)". ALL NONESSENTIAL PERSONNEL CLEAR THE ECS ROOM. RSS POST ROLLBACK SECURING COMPLETE	
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15-0054		QBSE NET 104	STM	RSS POST ROLLBACK SECURING COMPLETE.	STSA
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0055		*PAD 132 OTC 232	OTC NTD	RSS PLATFORMS HAVE BEEN SECURED FOR LAUNCH. MOVE POST OPERATION PER A2203.002 COMPLETE.	
ELEVATOR SECURING STATUS -----					
15-0056	-10H00M	VEEE NET 104	STM	HYDRAULIC ELEVATOR NO. 2 HAS BEEN SECURED PER OMI Q3018.	CDPD SU72490
15-0057	-10H00M	VEEE NET 104	STM	FSS AND RSS ELEVATORS CONFIGURATION PER OMI Q3018 COMPLETE.	CDPD SU72598
15-0058		VEEE NET 104	STM	FUNCTIONAL CHECK OF PAD _____ ELEVATORS COMPLETE PER Q3018.	CDPD  T:_____
15-0059		JBPN 111	STM	AIR COMPRESSORS SERVICED. METAL RETAINING BARS SECURED ON BUILDING DOORS.	PNSA SU72587
15-0060		TBC 136	CMQC	VERIFY SRB PRE-OPERATION SETUP 5 - ER CIRCUIT PATCHING COMPLETE.	SU72575
AIR PACKS TO PAD GATE -----					
15-0061	-10H00M	STM 111 JSTC NET 104	JSTC *SCB	POSITION 16 30 MINUTE AIR PACKS WITH VEHICLE AND TECHNICIAN AT PAD _____ GATE FROM T-9H30M TO T-6H30M. RETURN TO COMPLEX J. (30 MIN)	LS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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WARNING

REINSTALLATION OF SRB ESP  
 OR ACCESS TO SRB AFT SKIRT  
 AREA REQUIRES VERIFICATION  
 THAT AFT SKIRT GN2 PURGE IS  
 TERMINATED.

15-0062		TBC 136	CBHY	ACTIVATE SRB GN2 AFT SKIRT GN2 PURGE PER SRB OPERATION SUPPORT SETUP 5 - SRB AFT SKIRT GN2 PURGE ACTIVATION AS TEMPERATURES REQUIRE.	SU72577 SU72603
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NOT PERFORMED \_\_\_\_\_

NOTE

DO NOT PERFORM NEXT STEP  
 IF SCRUB TURNAROUND PERFORMED  
 AND PAD REMAINED CONTROLLED.

15-0063		STM NET 104	QBSE	PICK UP ANY LOOSE ITEMS/DEBRIS FROM SRB HAUNCH AREAS.	STSA
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T: \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_

FUEL CELL PULSE PURGE COMPLETE  
 -----

NOTE

DO NOT PERFORM NEXT STEP  
 IF FUEL CELLS ARE POWERED  
 UP AND RUNNING (SCRUB/RECYCLE).

15-0064	-10H00M	CFCP 132 OTC 232	OTC NTD	FUEL CELL PULSE PURGE COMPLETE. (V1040.002)	SU72540
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NOT PERFORMED \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM FUEL CELL  
 ACTIVATION IF FUEL CELLS  
 ARE POWERED UP AND RUNNING  
 (SCRUB/RECYCLE).

FUEL CELL ACTIVATION  
 -----

NOT PERFORMED \_\_\_\_\_

NOTE

DO NOT ACTIVATE FUEL CELLS  
 UNTIL HYDRAULIC CIRCULATION  
 PUMPS ARE VERIFIED RUNNING.  
 PUMP LOADS ARE REQUIRED TO  
 PROVIDE ADEQUATE LOADS FOR FUEL  
 CELL PERFORMANCE CALIBRATION.

15-0065		OTC 132	CECL	VERIFY AIRLOCK VACUUM VENT DUCT GN2 INERTING ESTABLISHED FOR 30 MINUTES MINIMUM AND READY TO SUPPORT FUEL CELL ACTIVATION.	
15-0066	-10H00M	NTD 232	OTC	PROCEED WITH FUEL CELL ACTIVATION. (2H30M) REPORT COMPLETION FOR EACH FUEL CELL.	SU72619

FC1\_\_\_\_\_GMT  
 FC2\_\_\_\_\_GMT  
 FC3\_\_\_\_\_GMT

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0067	-10H00M	OTC 132	CEPD	SUPPORT ORBITER FUEL CELL ACTIVATION AND FUEL CELL APPLICATION TO MAIN BUSSES PER OMI S9001VL2 ON OIS CH 151.	

RT OMI LOG NO. \_\_\_\_\_

NOTE

FUEL CELLS MUST BE ACTIVATED  
WITHIN 3 HOURS ELAPSED  
TIME FROM COMPLETION OF  
FC REACTANT PURGE.

CECL MONITOR HEAT LOAD  
IMPACT OF NEXT STEP.

15-0068	-10H00M	OTC 132	CFCP	PERFORM ORBITER FUEL CELL ACTIVATION PER OMI V1040.002 ON OIS CH 153. (2HR) REPORT READY FOR LOAD STATUS TO CEPD.	
15-0069		OTC 132	ASP	FUEL CELL STACK TEMP C & W ALARMS CISL MAY OCCUR DURING FUEL CELL CTPE START.	

FUEL CELL ACTIVATION COMPLETE  
-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- SRGA POWER REDUNDANCY VERIFICATION -----					
15-0070	-10H00M	OTC 132	CEPD CMPS	PERFORM SRGA POWER REDUNDANCY TEST ON OIS CHANNEL 151. REPORT COMPLETION.	SU72567
15-0071		CEPD 132	OTC	REQUEST CONCURRENCE TO REMOVE PREFLIGHT SOURCE ESS BUS 3AB IN SUPPORT OF SRGA POWER REDUNDANCY TEST.	
15-0072		CEPD 151	CMPS	VERIFY MPS LO2 FEED D/V OP RPC B ON.	76X4196E1
15-0073		CEPD		CURSOR CNTL (VWC17) ESSENTIAL BUS SOURCE 3AB PREFLT - OFF XMIT CURSOR KEY - PRESS  CRT (VWC17)  ESS BUS SOURCE 3AB PREFLT IND OFF	
15-0074		CEPD 151	CMPS	VERIFY MPS LO2 FEED D/V OP RPC B ON.  OMRSD S00FA0.630	76X4196E1
15-0075		CEPD		CURSOR CNTL (VWC17) ESSENTIAL BUS SOURCE 3AB PREFLT - ON XMIT CURSOR KEY - PRESS  CRT (VWC17)  ESS BUS SOURCE 3AB PREFLT IND ON	
15-0076		CEPD 132	OTC	SRGA REDUNDANCY TEST COMPLETE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
PTCR CLOSEOUT COMPLETE					
-----					
15-0077	-10H00M	JBAC 111	STM NTD 232	ALL PTCR CLOSEOUT STEPS COMPLETE.	HVAA SU72499

NOTE

HVAC ENGR WILL DETERMINE  
 IF NEXT STEP REQUIRED.

15-0078		STM 111	JBAC	CONFIGURE PAD-___ PTCR HVAC SYSTEM WATER CHILLER(S) WITH WC-1 AND/OR WC-2 ON LINE AND OPERATING DEPENDING ON SYSTEM LOAD, WITH WC-3 IN STANDBY, PER HVAC SUPERVISION/ ENGINEERING DIRECTION, AND PER OMI M3006 PAD A/OMI M3023 PAD B. REPORT FINAL CONFIGURATION.	HVAA
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NOT PERFORMED \_\_\_\_\_

NOTE

HVAC ENGINEER WILL DETERMINE  
 IF CAPACITY AND INTEGRITY OF  
 FACILITY CHILLED WATER SYSTEM  
 WARRANTS PERFORMANCE OF NEXT  
 STEP.

15-0079		STM 111	JBAC	CLOSE RSS MANUAL ISOLATION VALVES. SECURE PUMP P-8 AND/OR P-9.	HVAA T: _____
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NOT PERFORMED \_\_\_\_\_

ET LOAD SAF/FAC/FIRE WALKDOWN

-----  
 (PART B) COMPLETE  
 -----

15-0080		*PAD 136	TBC NTD 232 NTD	INTEGRATED OPERATION SUPPORT SETUP 5 - ET LOAD SAFETY/FACILITY/ FIRE WALKDOWN (PART B) COMPLETE.	SU72570
			*SCC		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				PAD STRUCTURES LAUNCH CLOSEOUT ----- COMPLETE -----	
15-0081		QBSE NET 104	STM	PAD STRUCTURES LAUNCH CLOSEOUT COMPLETE PER M3134/M3083.	STSA SU72515
				MPS HELIUM TANK PRESSURIZATION, T-0 ----- GHE PURGE AND ORB/ET DISC CAVITY ----- PURGE ACTIVATION COMPLETE -----	
NOTE					
DO NOT PERFORM NEXT TWO STEPS IF PERFORMING A SCRUB TURNAROUND.					
15-0082		CLHY 136 TBC 132 OTC	TBC  OTC CPVD	GHE BACKGROUND CHECK COMPLETE. AFT PURGE HIGH FLOW NO LONGER REQUIRED. REQUEST PVD ADJUST AFT PURGE FLOW SETPOINT TO PREVIOUS VALUE.	
NOT PERFORMED _____					
15-0083		CLHY 136 TBC 232	TBC  NTD	G3251 OPERATION SUPPORT SETUP 6 MPS HELIUM TANK PRESSURIZATION TO FLIGHT PRESSURE, T-0 UMBILICAL PURGE, AND LH2 ORB/ET DISC CAVITY PURGE ACTIVATION COMPLETE.  OMRSD S00FA0.225 OMRSD S00FF0.070-1 OMRSD S00FE0.020-1	SU72800
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- FCE TIME CRITICAL STOWAGE COMPLETE -----					
15-0084	-09H30M	OOC	OTC 132	DOSIMETER AND FCE TIME CRITICAL ITEMS INSTALLATION PER V5097.003 COMPLETE OR IN CASE OF SCRUB TURNAROUND INSTALLATION COMPLETE PER FCS TPS.	
NOTE					
SEAT SWITCHES WILL BE ACTIVATED AND VENTILATION FAN POWER WILL BE CYCLED IN NEXT FOUR STEPS. NOTIFY CEPD.					
CDR/PLT SEAT ADJUST -----					
15-0085	-09H30M	ASP	OTC 132	PROCEEDING WITH POSITIONING OF CDR AND PLT SEATS.	SU72560
15-0086		ASP	OTC 132	CDR/PLT SEAT ADJUST COMPLETE.	
15-0087		CFCP	OTC 132	A FUEL CELL HAS BEEN STARTED, READY FOR TERMINATION OF AIRLOCK	
		OTC	CECL	VACUUM VENT DUCT GN2.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
30 MIN AIR PACKS AT PAD GATE -----					
15-0088		*SCB NET 104	JSTC	SIXTEEN 30 MIN AIR PACKS POSITIONED WITH VEHICLE AND TECHNICIAN AT PAD ____ GATE.	LS SU72591
15-0089		*SCB JSTC 111	JSTC STM	FOLLOWING IS COMPLETE:  1. ELSA BOXES REMOVED FROM FSS, EXCEPT FOR BOX ADJACENT ELEVATORS ON 195 FT LEVEL.  2. ELSA BOX REMOVED FROM EAST PAD APRON.  3. LIFE SUPPORT EQUIPMENT IN FSS WHITE ROOM VERIFIED.	LS SU72512 SU72517
PAV DELIVERY TO SLIDEWIRE BUNKER -----					
15-0090		STM 111 JSTC	JSTC *SCB	DELIVER PAV'S NOT REQUIRED BY FLIGHT CREW TO SLIDEWIRE BUNKER (PAV DURATION 14H30M FROM TIME OF DELIVERY).	LS SU72592
MOVE TAIR TRAILER (CONTINGENCY) -----					
NOTE					
PERFORM NEXT STEP IF TAIR TRAILER AT PAD.					
15-0091	-09H30M	OTC 232 NTD	NTD STM	PERFORM SUPPORT OPERATION SUPPORT SETUP 1 TO MOVE TAIR TRAILER NO. _____ FROM _____ TO _____ (LAUNCH LOCATION) (1 HR).	SU72596
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0092		CECL 132 OTC 232	OTC NTD	AIRLOCK VACUUM VENT DUCT GN2 INERTING/DISCONNECT COMPLETE PER ORBITER OPERATION SUPPORT SETUP 5.  GOX VENT SYSTEM FINAL ACTIVATION ----- COMPLETE -----	SU72449
15-0093		CMEC 136 TBC 232	TBC NTD	GOX VENT SYSTEM FINAL ACTIVATION FOR LOX LOADING PER G2158 COMPLETE.	SU72571



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
PAD CLEARING STATUS (MLP/PTCR/ECS ROOM)					
15-0094	-09H30M	*PSE NET 105 *SCC 232 NTD	*SCC NTD OTC	ALL PERSONNEL ARE CLEAR FROM MLP INTERIOR AND PTCR. ALL NONESSENTIAL PERSONNEL HAVE CLEARED ECS ROOM.	SU72556
NOTE					
SAFETY WARNING SIGNS MAY NOT REQUIRE POSTING IF PAD CLEARING FOR LAUNCH IS IN PROGRESS; WITH SFOC SAFETY CONCURRENCE.					
15-0095		*PSE NET 105 *SCC 232	*SCC NTD	SAFETY SIGNS ARE INSTALLED AT: 1. PTCR AND ECS ROOM DOORS (3). 2. PTCR SOUTH TUNNEL ENTRANCE. 3. MLP "B" LEVEL AIRLOCK. (SIGN SHALL BE REMOVED UPON FINAL CLEARING FOR LAUNCH). 4. ECS ROOM SOUTH OUTSIDE ENTRANCE (SAFETY WARNING SIGN SHALL BE POSTED UPON FINAL ECS ROOM CLEARING).	
NOT PERFORMED _____					
15-0096		OTC 232 NTD	NTD *SCC	ALL ORBITER COMPARTMENTS HAVE BEEN CLOSED OUT EXCEPT FOR CREW COMPARTMENT.	
FINAL PREPS FOR AIR/GN2					
----- CHANGEOVER COMPLETE -----					
15-0097		CPVD 132 OTC 232	OTC NTD	FINAL PREPS FOR AIR/GN2 CHANGEOVER (HAND VALVES CLOSED) COMPLETE.	SU72546

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0098		NTD 232 *SCC NET 105	*SCC	VERIFY CONCURRENCE TO PROCEED WITH ECS SYSTEM "STANDBY GN2 MODE (OPTION A) (HAND VALVE OPEN)" OPERATIONS (V1122).	
15-0099		*PSE NET 105 *SCC 232	*SCC NTD	SAFETY CONCURS TO PROCEED WITH "STANDBY GN2 MODE (OPTION A) (HAND VALVE OPEN)" OPERATIONS. ALL NONESSENTIAL PERSONNEL CLEAR AND 10 MINUTE ELSAS AVAILABLE. SAFETY WARNING SIGNS HAVE BEEN INSTALLED, ECS ROOM PERSONNEL HAVE REQUIRED EAR PROTECTION AND CONTINUOUS O2 MONITORING IN EFFECT.  STANDBY GN2 MODE (HAND VALVE OPEN)	
15-0100		OTC 132	CPVD	BRIEF PERSONNEL ON HAZARDS THAT WILL BE PRESENT AND APPLICABLE SEQUENCES OF APPENDIX Z.	
WARNING					
HAZARDOUS OPERATION - AIR TO GN2 STANDBY MODE FOLLOWS. HAZ DUE TO POSSIBLE PRESENCE OF GN2.					
15-0101	-09H30M	NTD 232 STM 111 JSTC 114	OTC STM JSTC	PROCEED WITH ECS "STANDBY GN2 MODE (OPTION A) (HAND VALVE OPEN)" OPERATION. (V1122)	PNU SU72549
15-0102		OTC 132	CPVD	PERFORM OMI V1122 SEQUENCE "AIR TO GN2 STANDBY MODE/AIR TO GN2 CHANGEOVER OPTION A - AIR TO GN2 STANDBY MODE". COORDINATE WITH GSPN ON OIS CH 172.	
RT OMI LOG NO. _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				PAD SURFACE AND ABOVE CLEAR OF ----- NONESSENTIAL PERSONNEL -----	
				NOTE	
				PERFORM NEXT THREE STEPS 45 MINUTES PRIOR TO AIR TO GN2 CHANGEOVER.	
15-0103		NTD 232	OTC TBC STM LPS PTC	VERIFY NONESSENTIAL PERSONNEL CLEAR OF PAD SURFACE AND ABOVE FOR AIR TO GN2 CHANGEOVER. ANY EXCEPTION MUST BE APPROVED BY NTD AND *SCC.  ESSENTIAL PERSONNEL -----  - NVM FINAL WALKDOWN PARTICIPANTS - CREW MODULE/WHITE ROOM PERSONNEL	
15-0104		NTD 232 *SCC NET 105	*SCC *PSE	CLEAR PAD SURFACE AND ABOVE OF ALL NONESSENTIAL PERSONNEL FOR AIR TO GN2 CHANGEOVER. ESTABLISH BARRIER ACROSS "B" ROAD AND POST HAZARD WARNING SIGN.	
15-0105		NTD PA		ATTENTION ON PAD____:  ALL NONESSENTIAL PERSONNEL CLEAR PAD____ PAD SURFACE AND ABOVE FOR AIR TO GN2 CHANGEOVER PREPARTIONS.	
15-0106		*SCC 232	NTD	RELEASE OICS FROM STATIONS AT WHITE ROOM, 195 FT LEVEL, AND BASE OF FSS.	
15-0107		JSTC 114	GSPN	MAINTAIN GHE AND GN2 SYSTEM PRESSURES AT MAXIMUM LEVELS FOR REMAINDER OF COUNTDOWN. NOTIFY CCF-39 GN2 PRODUCTION PLANT TO RAISE MINIMUM PIPELINE PRESSURE TO 6000 PSIG.	PNU

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM TRANSFER CONTROL OF ORBITER FIREX SYSTEM - CCC TO FR FOR INITIAL CONTROL TRANSFER AND TO SUPPORT ANY TURNAROUND THAT HAS TRANSFERRED ORBITER FIREX FROM FIRING ROOM TO CCC.

TRANSFER CONTROL OF ORBITER FIREX  
 -----  
 SYSTEM - CCC TO FR  
 -----

NOT PERFORMED

15-0108	-09H15M	STM 111	JBFX	VERIFY FSS AND MLP FIREX SYSTEM HAS BEEN CONFIGURED TO SUPPORT.	WSSA SU72589
15-0109	-09H15M	STM 232 NTD OTC 132	NTD OTC CMPL	CCC READY TO TRANSFER CONTROL OF ORBITER FIREX TO FR. REQUEST CMPL CONTACT JBFX ON CH 123.	
15-0110		STM 111	JBFX	TRANSFER CONTROL OF ORBITER FIREX WATER SYSTEM TO FR CONTROL. (15 MIN)	WSSA
15-0111		JBFX 123	CMPL	VERIFY READY FOR CONTROL TRANSFER.	WSSA
15-0112			CMPL	CRT (SAE02) SSME WATER SPRAY SYSTEM (PAGE A)  VERIFY NO ARM/OPEN COMMANDS APPLIED	
15-0113		CMPL 123	JBFX	READY FOR TRANSFER OF ORBITER FIREX SYS TO FIRING ROOM.	WSSA
15-0114		JBFX 123	CMPL	STAND BY FOR CONTROL TRANSFER.	WSSA

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

CCC WILL TRANSFER CONTROL OF ORBITER FIREX SYSTEMS TO FIRING ROOM BY PERFORMING NEXT STEP.

15-0115		JBFX		CRT (P2A OR P2B) VERIFY	WSSA
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INDICATOR	STATE
-----	-----

FX CCC ENABLE	ON(GREEN)
FX CCC-ON/FR-OFF	ON(GREEN)
FX FR ENABLE	OFF(YELLOW)
FX FR-ON/CCC-OFF	OFF(YELLOW)

CONSOLE KYBD  
 CURSOR TO "C" OF  
 FX FR ON/CCC - OFF"  
 XMIT CURSOR KEY - PRESS

PFP  
 "PAD A" (NO. 1) OR "PAD B"  
 KEY (NO. 2) - PRESS  
 "TURN ON" KEY (NO. 1) - PRESS

CONSOLE KYBD  
 EXEC CMD KEY - PRESS

CRT (P2A) OR (P2B)  
 VERIFY

INDICATOR	STATE
-----	-----

FX CCC ENABLE	OFF(YELLOW)
FX CCC-ON/FR-OFF	OFF(YELLOW)
FX FR ENABLE	ON(GREEN)
FX FR-ON/CCC-OFF	ON(GREEN)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0116		JBFX 123 JBFX 111	CMPL STM	ORBITER FIREX SYS TRANSFERRED TO FR CONTROL. PROCEED WITH FR VALIDATION.	WSSA
15-0117			CMPL	SSME PAD WATER SAFING PANEL VERIFY "WATER BUS ON" LITE-ON.	
15-0118		CMPL 132 OTC 232	OTC NTD	CONTROL OF ORBITER FIREX SYSTEM NOW AT MPS CONSOLE. TRANSFER OF ORBITER FIREX SYS CCC TO FR COMPLETE.  TRANSFER OF ORBITER FIREX SYSTEM - ----- CCC TO FR COMPLETE -----	

NOTE

PERFORM TRANSFER CONTROL OF  
 SOUND SUPPRESSION SYSTEM -  
 CCC TO FR FOR INITIAL CONTROL  
 TRANSFER AND TO SUPPORT ANY  
 SCRUB TURNAROUND THAT HAS  
 TRANSFERRED CONTROL OF SOUND  
 SUPPRESSION SYSTEM FROM FIRING  
 ROOM TO CCC.

TRANSFER CONTROL OF SOUND SUPPRESSION  
 -----  
 SYSTEM -CCC TO FR  
 -----

NOT PERFORMED

15-0119	-09H15M	STM 111	JBWC	VERIFY SOUND SUPPRESSION WATER SYSTEM HAS BEEN CONFIGURED TO SUPPORT.	WSSA
15-0120	-09H15M	STM 232 NTD OTC 132	NTD OTC CGSS	CCC READY TO TRANSFER CONTROL OF SS WATER TO FR. REQUEST CGSS CONTACT JBWC ON CH 123.	
15-0121		STM 111	JBWC	TRANSFER CONTROL OF SS WATER SYSTEM TO FR CONTROL.	WSSA

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0122		JBWC 123	CGSS	VERIFY READY FOR CONTROL TRANSFER.	WSSA
15-0123			CGSS	CURSOR CNTL (VAJ14) VAJ12 - ON VERIFY	
				1. VERIFY TANK LVL GREATER THAN OR EQUAL TO 258.2 FT	
				2. GN2 PRESS PT 1 GREATER THAN 1200 PSI, LESS THAN 1700 PSI PT 2 GREATER THAN 1200 PSI, LESS THAN 1700 PSI	
					CMD MEAS --- ----
				3. CCC LOCKOUT ON	- - X -
				4. CCC ENABLE CMD OFF	- - X -
				5. CCC ENABLED IND ON	- - X -
				6. FR ENABLED IND OFF	- - - -
				7. SS SOL PWR BUS ON CMD OFF	- - X X
				8. SS SOL PWR BUS OFF CMD OFF	- - - -
				9. SS FR CMD BUS PWR ON CMD OFF	- - - -
				10. PRE L/O VENT VLV OPEN CMD OFF	- - - -
				11. PRE L/O VLVS OPEN CMD IND OFF	- - - -
				12. PRE L/O VLVS CLOSE CMD IND ON	- - X -
				13. POST L/O VENT VLV OPEN CMD OFF	- - - -

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0123 CON'T			14.	POST L/O VLVS OPEN CMD IND	OFF - - -
			15.	POST L/O VLVS OPEN CMD IND	ON - - X -
			16.	VV5,6,7,8,9,10 GRAPHIC BLOCKS - SOLID GREEN	
			17.	PREV25,26,27 AND POST V28,29,30 BLOCKS - SOLID GREEN	
			18.	STATUS ARROW - CYCLING	
15-0124		CGSS JBWC		READY FOR TRANSFER OF SOUND SUPPRESSION CONTROL TO FIRING ROOM.	WSSA
15-0125		JBWC CGSS 123		STAND BY FOR CONTROL TRANSFER.	WSSA

NOTE

CCC WILL TRANSFER CONTROL OF  
 SOUND SUPPRESSION SYSTEM TO  
 FIRING ROOM BY PERFORMING  
 NEXT STEP.

15-0126		JBWC		CRT (P2A OR P2B) VERIFY	WSSA
				INDICATOR	STATE
				-----	-----
				SS CCC ENABLE	ON(GREEN)
				SS CCC-ON/FR-OFF	ON(GREEN)
				SS FR ENABLE	OFF(YELLOW)
				SS FR-ON/CCC-OFF	OFF(YELLOW)
				CONSOLE KYBD CURSOR TO "C" OF "SS FR ON/CCC - OFF" XMIT CURSOR KEY - PRESS	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0126				PFP "PAD A" (NO. 1) OR "PAD B" KEY (NO. 2) - PRESS "TURN ON" KEY (NO. 1) - PRESS  CONSOLE KYBD EXEC CMD KEY - PRESS  CRT (P2A) OR (P2B) VERIFY  INDICATOR                      STATE -----                      -----  SS    CCC ENABLE                OFF(YELLOW) SS    CCC-ON/FR-OFF            OFF(YELLOW) SS    FR ENABLE                ON(GREEN) SS    FR-ON/CCC-OFF            ON(GREEN)	
15-0127		JBWC 123 JBWC 111	CGSS STM	SOUND SUPPRESSION SYS TRANSFERED TO FR CONTROL.    PROCEED WITH FR VERIFICATION.	WSSA
15-0128	-09H15M		CGSS	VERIFY SS CONTROL TRANSFER COMPLETE BY OBSERVING VAJ14 SKELETON STATUS AS FOLLOWS:  CONTROL CCC OFF FR ON	
15-0129		CGSS 132 OTC 232	OTC NTD	TRANSFER OF SS SYS CCC TO FR COMPLETE.	SU72589
TRANSFER CONTROL OF SOUND SUPPRESSION ----- SYSTEM - CCC TO FR COMPLETE -----					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
EMERGENCY EGRESS FLAME DETECTION SYSTEM -----					
INITIATION -----					
15-0130		CGSS		CURSOR CNTL (VAJ14) VAJ15 - ON	SU72550
15-0131		CGSS		CRT (VAJ15)	
VERIFY					
ALL TEMPERATURE DETECTORS LESS THAN 120 DEGREES F.					
ALL FLAME DETECTORS OFF.					
15-0132		CGSS 132 OTC 232	OTC NTD	EMERGENCY EGRESS FLAME DETECTION SYSTEM MONITORING ACTIVATED.	
15-0133		OTC 132	CGSS	MONITOR SOUND SUPPRESSION AND EMERGENCY EGRESS FLAME DETECTION SYSTEM PER ORBITER OPERATION SUPPORT SETUP 18 - SOUND SUPPRESSION/EMERGENCY EGRESS FLAME DETECTION MONITOR.	
PCR PRESSURE VERIFICATION -----					
15-0134	-09H15M	OTC 132	CPVD	VERIFY POSITIVE AIR PRESSURE IN PCR.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
VENT DOOR RECONFIGURATION					
NOTE					
PERFORM NEXT THREE STEPS IF VENT DOORS ARE IN ADVERSE WEATHER PURGE CONFIGURATION.					
15-0135		OTC 132	CPVD	POSITION ORBITER VENT DOORS TO NORMAL PURGE CONFIGURATION.	SU72559
				NOT PERFORMED	_____
15-0136			CPVD	CURSOR CNTL (VAM31A/VAM09A) COMMAND VENT DOORS TO NORMAL PURGE CONFIGURATION.	
				NOT PERFORMED	_____
15-0137		CPVD 132	OTC	ORBITER VENT DOORS IN NORMAL PURGE CONFIGURATION.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CREW COMPARTMENT CHECKS -----					
15-0138	-09H15M	NTD 232 *SCC NET 105	OTC *SCC *PSE	VERIFY CONTINUOUS MONITORING OF O2 IN CABIN. BUDDY SYSTEM REQUIRED. VERIFY FOLLOWING RESPIRATORY EQUIPMENT AVAILABLE FOR USE:  ONE ELSA PER FLIGHT CREW MEMBER  RECORD NO. _____	
15-0139		OTC 132	CECL	VERIFY CONTINUOUS MONITORING OF O2 IN CABIN.	
15-0140		LPS	C1MC	VERIFY (AWP05 PGB PAD A OR AWP06 PGB PAD B) HIMS 5982, 5987, 6377 AND 6378 DISPLAYED IN MIXED MODE.  NON-LAUNCH PAD ECS TO REMOTE -----	
NOTE					
PERFORM NEXT TWO STEPS IF ECS SUPPORTING VEHICLE OR PAYLOAD AT NON-LAUNCH PAD.					
15-0141		OTC 232 NTD	NTD LPS	VERIFY C-6 AND C-10 CONSOLE IN NON-LAUNCH FIRING ROOM CONFIGURED TO SUPPORT ECS CONTROL STATION TRANSFER PAD TO FIRING ROOM.	
					NOT PERFORMED _____
15-0142		NTD 232	OTC	PERFORM NON-LAUNCH PAD ECS CONTROL STATION TRANSFER PAD TO FIRING ROOM. REPORT COMPLETION.	SU72557
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ET TIR LOG -----					
15-0143		TBC 136 CMQC	CMQC PQCG	VERIFY ALL ET TIR LOG ITEMS CLOSED.	SU72339
QV:_____					
SRB CALL TO STATIONS -----					
15-0144	-09H00M	TBC 136	CPWR	VERIFY PROGRAMS BSE03 AND BSE07 INACTIVE AND WILL NOT BE CALLED UP DURING THIS OMI.	SU72579
15-0145		TBC 136	CBRS	VERIFY PROGRAMS SSRB1, SSRB2, SSRB3, AND SSRB5 INACTIVE AND WILL NOT BE CALLED UP DURING THIS OMI.	
SRSS GSE POWER-UP -----					
15-0146		TBC 136	CBRS	PERFORM RANGE SAFETY GSE POWER UP.	SU72581
15-0147			CBRS	CURSOR CNTL (SWRB3) BSR01 - XMIT CURSOR POWER ON SYS A&B A PRIME - XMIT CURSOR	
15-0148			CBRS	CURSOR CNTL (BWR10) HOLDFIRE EMON ACT XMIT CURSOR KEY - PRESS	
15-0149		CBRS 136	TBC	SRSS GSE POWER - UP COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
SRB POWER UP -----					
15-0150		NTD 232 TBC 136	TBC	PERFORM SRB OI BUS A AND B POWER APPLICATION AND MDM INITIALIZATION PER OMI S9001VL1 USING OPTION A ON CH 176.	SU72583
RT OMI LOG NO. _____					
15-0151		OTC 132	CEPD	PERFORM MEC PREFLT BITE EVALUATION.	
15-0152			CEPD	PERFORM CDS QLDB RETRIEVAL ON FD <MEC1><MEC2>  VERIFY NO MEC FAILURES	
NOTE					
PERFORM NEXT STEP IF TAIR TRAILER WAS AT PAD.					
15-0153	-09H00M	GBHE 111 STM 232 NTD	STM	TAIR TRAILER NO. _____ MOVE FROM PAD - _____ TO _____ COMPLETE.	HESA SU72596
NOT PERFORMED _____					
15-0154		NTD 232 STM 111 JSTC 114	STM JSTC	K-9 SPECIALIST PROCEED TO TOP OF PAD AND STANDBY. PERFORM SWEEP OF PAD APRON AFTER RSS/FSS CLEARED OF NONESSENTIAL *SEC PERSONNEL.	SEC SU72558

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				PAD CLOSEOUT VALVE POSITIONING - ----- COMPLETE -----	
15-0155		JBPN 111 STM JSTC JSTC 114	STM JSTC GSPN	PAD CLOSEOUT VALVE POSITIONING COMPLETE.	PNSA PNU SU72600 SU72662
15-0156		QBSE NET 104 STM 232	STM NTD	WIRE ROPES AND SIGNS AT FLAME TRENCH SOUTH AND TEMPORARY ROPES AND SIGNS AROUND FLAME TRENCH NORTH HAVE BEEN REMOVED.	STSA SU72500
					T: _____
				PAV DELIVERY TO SLIDEWIRE BUNKER ----- COMPLETE -----	
15-0157		*SCB JSTC 111 STM 232	JSTC STM NTD	ALL PORTABLE AIR VENTILATORS NOT REQUIRED BY FLIGHT CREW DELIVERED TO PAD SLIDEWIRE BUNKER.	LS
				CLEAR PAD FOR ET LOADING -----	
15-0158		NTD	CMQC	VERIFY ALL APPENDIX K ITEMS HAVE CLEARED.	SU72553
15-0159	-09H00M	NTD 232 STM *SCC *SCC NET 105	OTC TBC STM *SCC *PSE	CLEAR ALL PERSONNEL NOT HAZ BADGED FROM PAD ____ FOR LOX/LH2 LOADING.	SU72608

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0160		NTD NET 110	*ACM	PERFORM COMMUNICATIONS CHECK VIA RADIO NET 110 WITH BADGEBOARD OIC. NON STANDARD HAZ BADGE REQUESTS MUST BE APPROVED BY NTD/SAFETY.	
NOTE					
NEXT THREE STEPS ARE FOR NON-LAUNCH PAD.					
15-0161		NTD 232	STM	VERIFY NON-LAUNCH PAD VALVE RECONFIGURATIONS COMPLETE.	
15-0162		NTD 232	CTC STM	NON-LAUNCH PAD WILL BE CLEARED MOMENTARILY. VERIFY PERSONNEL *SCC COMPLETE WITH ALL OPERATIONS AT NON-LAUNCH PAD.	SU72566 SU72602
15-0163		NTD PA		ATTENTION ON PAD____:  ALL PERSONNEL AT PAD____ CLEAR TO ROADBLOCK A/B-11 FOR LOX/LH2 LOADING.	
15-0164		NTD 232 STM 111 JSTC 114	STM JSTC *SEC	ESTABLISH PAD SCREENING ROADBLOCKS B-3, B-4 (PAD B LAUNCH) OR A-3, A-5, A-6, A/B-4 (PAD A LAUNCH).	SEC SU72590



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0165	-09H00M	NTD PA		ATTENTION ON PAD ____ :	

ALL PERSONNEL NOT MANLOADED WITH  
HAZ BADGE, CLEAR PAD \_\_\_\_ TO  
ROADBLOCK A/B-11 FOR LOX/LH2  
LOADING.

NOTE

NPM PERSONNEL MAY ENTER OTHER  
HAZ BADGE AREAS AS REQUIRED  
FOR SITUATIONAL MANAGEMENT.

ESSENTIAL PERSONNEL

LH2 FINAL PREP CREW (HAZ BADGE)

	SFOC	NASA	JBOSC
ENGR	2	1	
TECH	4		
SAFETY	1	1	
FIRE			4

LO2 FINAL PREP CREW (HAZ BADGE)

	SFOC	NASA	JBOSC
ENGR	2	1	
TECH	4		
SAFETY	1	1	
FIRE			4

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0165				CREW MODULE AND WHITE ROOM	
CON'T				----- CREW (HAZ BADGE) -----	
				ORB    NASA    SFOC	
				---    ----    ----	
				TECH            4	
				QC              1    1	
				ASP             2	
				*PAD            1	
				SAFETY                  1    1	
				BDA FINAL CLEAR OPS/SAFETY WALKDOWN	
				----- (HAZ BADGE) -----	
				NASA    SFOC    JBOSC	
				----    ----    ----	
				NPM                    3	
				SAFETY                1    2	
				SECURITY                            12*	
				DEBRIS ENGR            1	
				PAD TECH                            1	
				MLP TECH                            1	
				* SECURITY PERSONNEL MANLOADED FOR BDA CLEAR OPS ONLY, THEY DO NOT SUPPORT WALKDOWN	
				PTCR/ECS ROOM PRESSURIZATION (HAZ BADGE)	
				-----	
				GSS    NASA    SFOC	
				---    ----    ----	
				SUPR/ ENGR            2    1	
				QUAL            1	
				TECH            2            4	
				SAFETY                  1    1	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0165				GVA FINAL ACTIVATION (HAZ BADGE)	
CON'T					
				SFOC NASA	
				ENGR 2	
				TECH 3	
				SAFETY 1 1	
				REMOVE NON-FLIGHT ITEMS FROM CREW CMPT	
15-0166	-09H00M	OTC 132	*PAD	REMOVE ALL NON-FLIGHT ITEMS (SUCH AS ENSOLITE PADS, DROP LIGHTS, EMERGENCY LIGHTS AND ALARMS) EXCEPT THOSE RECORDED IN TIR SYSTEM (SUCH AS RHC COVERS, AIRLOCK SOFT COVERS, A15 SOFT COVER, MIDDECK FLOOR COVERS AND BUMPER PAD ASSY ON ESCAPE POLE). REPORT COMPLETION.	SU72561
					T:_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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COMM CMD TO LAUNCH CONFIG-MCCH  
 -----

15-0167		CCSE 155	GEMA	VERIFY MONITORING PERSONNEL ON STATION IN FCA VAN AND AT EMC. VERIFY AMS ACTIVATED AND RUNNING. MONITOR FOR RF EMISSIONS NEAR FOLLOWING FREQUENCIES FOR REMAINDER OF COUNTDOWN.	
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- 2041.9 MHZ
- 2106.4 MHZ
- 2217.5 MHZ
- 2250.0 MHZ
- 2287.5 MHZ
- 243.0 MHZ
- 259.7 MHZ
- 279.0 MHZ
- 296.8 MHZ

NOTE

DO NOT BEGIN NEXT STEP  
 UNTIL RSS IS IN PARK  
 POSITION.

15-0168	-09H00M	NTD 232	*FLT	PERFORM COMM CMD TO LAUNCH CONFIG (NASA MCCH OPTION)	SU72568
			JRPS	PER OMI V1117 ON OIS CH 214.	
			LPS	(2 HR)	
			OTC		
		OTC 132	CCSE RCRE	RT OMI LOG NO. _____	

- OMRS S00FA0.372-A
- OMRS S00FA0.372-D
- OMRS S00FA0.372-H
- OMRS S00FA0.372-I
- OMRS S00FB0.281-A-1R
- OMRS S00FB0.281-B-1R
- OMRS S00FB0.281-C-1R
- OMRS S00FB0.281-D-1R

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				IUS RIMU CAL AND ALIGN COMPLETE	
				NOTE	
				PERFORM NEXT STEP FOR IUS MISSION (STS-93).	
				PERFORM NEXT STEP AT L-14H05M.	
15-0169		ICTC PTC 134 PTC NTD 232		IUS RIMU CAL AND ALIGN COMPLETE. IUS NOW IN GYRO COMPASS MODE. QUIET TIME NO LONGER REQUIRED.  OMRSD P018JC.010 OMRSD P018JB.035-C	
				NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				STANDBY GN2 (HAND VALVE OPEN)	
				OPERATIONS COMPLETE	
15-0170	-09H00M	CPVD 132 OTC 232 NTD *SCC *SCC NET 105	OTC NTD *SCC *PSE	STANDBY GN2 MODE (OPTION A) HAND VALVE OPEN OPS COMPLETE. ECS PERSONNEL CLEARING PAD ECS ROOM TO ROADBLOCK A/B-11.	SU72549
15-0171	-09H00M	NTD 232 *SCC NET 105	*SCC *PSE	CLEAR ALL PERSONNEL FROM ECS ROOM. INSTALL SAFETY WARNING SIGNS ACROSS ECS SOUTH DOOR AND PTCR GROUND LEVEL DOOR AFTER DOORS CLOSED AND SECURED.	
15-0172		*PSE NET 105 *SCC 232	*SCC NTD	ALL PERSONNEL CLEAR OF ECS ROOM. YOU HAVE SAFETY CONCURRENCE TO PRESSURIZE PTCR AND ECS ROOM.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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PRESS PTCR/ECS ROOM  
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NOTE

PTCR/ECS ROOM WILL BE  
 PRESSURIZED WITH AIR WHEN  
 ECS GROUND LEVEL DOORS ARE  
 CLOSED.

15-0173	-09H00M	NTD	STM	PRESSURIZE PTCR AND ECS ROOM	HVAA
		232		PER OMI M3034. (30 MIN)	SU72551
		STM	JBAC		SU72593
		111			

ESSENTIAL PERSONNEL (HAZ BADGE)  
 -----

GSS	NASA	SFOC
-----	------	------

SUPR/		
ENGR	2	1
QUAL	1	
TECH	4	
SAFETY		1 1

15-0174		*PSE	*SCC	ALL SAFETY SIGNS INSTALLED AT ECS	
		NET		SOUTH DOOR AT PTCR GOUND LEVEL	
		105		DOOR.	
		*SCC	NTD		
		232			

15-0175		JBAC	STM	PTCR AND ECS ROOM PRESSURIZED.	HVAA
		111			
		STM	NTD		
		232			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CONTINGENCY CREW VERIFICATIONS					
15-0176		STM	JSTC	VERIFY THE FOLLOWING PERSONNEL	JSTC
		111	PSTM	AVAILABLE FOR CONTINGENCY CREW OPERATIONS. AIR-PACK CERTIFICATIONS REQUIRED.	
TIME EFFECTIVITY: T-8H45M TO T-6H AND COUNTING					
		GROUP		SUPERVISORS/ ENGINEERS	TECHS
		-----		-----	-----
		HVAC		1	2 CHVA
		LOW VOLTAGE ELEC		1	1 PWRB
		SPECIAL POWER			1 PWRA
		PNEUMATICS		2	4 PWR
		ELEVATORS		1	2 CDPD
		SS & FX WATER		1	3 CWSS
		FACILITY QUALITY			2 CPNS
		HEAVY EQUIPMENT		1	6 HESA
		FACILITY STRUCTURES		1	3 STE
		J-BOSC 60 HZ POWER		1	2 ELEC
		J-BOSC FIRE ALARMS			2 FA
AIR TO GN2 CHANGEOVER (LPS)					
15-0177		NTD	STM	SUPPORT ORBITER ECS AIR TO GN2	PNU
		232		CHANGEOVER. GSPN CONTACT CPVD	SU72535
		STM	JSTC	ON CH 172 TO COORDINATE CHANGEOVER	
		111		PER OPERATION INSTRUCTIONS OF	
		JSTC	GSPN	M3703.	
		114			
15-0178	-08H30M	OTC	NTD	VERIFY SAFETY CONCURRENCE TO PROCEED	
		232		WITH AIR TO GN2 CHANGEOVER.	
		NTD	*SCC		
		*SCC	*PSE		
		NET			
		105			



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0179		*PSE NET 105 *SCC 232 NTD	*SCC NTD STM OTC TBC PTC	PAD SURFACE AND ABOVE (INCLUDING PTCR AND ECS ROOM) CLEAR OF ALL NONESSENTIAL PERSONNEL. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH AIR TO GN2 CHANGEOVER.	SU72537 SU72609

WARNING

GN2 WILL FLOW INTO ORBITER FWD PAYLOAD BAY AND AFT FUSELAGE. BREATHING OF NITROGEN GAS FROM ORBITER COMPARTMENT PURGE CAN BE LETHAL.

15-0180	-08H30M	OTC 132	CPVD	PROCEED WITH ECS AIR-TO-GN2 CHANGEOVER PER OMI V1122 "AIR-TO-GN2" STANDBY MODE/AIR TO GN2 CHANGEOVER OPTION B - GN2 CHANGEOVER". COORDINATE WITH GSPN ON OIS CH 172. REPORT COMPLETION. (30 MIN)	
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RT OMI LOG NO. \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0181	-08H30M	NTD PA		ATTENTION ON PAD ____:  ORBITER AIR-TO-GN2 PURGE CHANGEOVER WILL BEGIN MOMENTARILY. GN2 PURGE WILL BE APPLIED TO AFT FUSELAGE, PAYLOAD BAY AND FWD PLENUM FUSELAGE.	
15-0182		NTD 232 STM 111	STM JBEP	AIR TO GN2 CHANGEOVER IN PROGRESS. POSSIBILITY OF LOW LEVEL O2 ALARM. ADVISE STM IF ALARMS OCCUR.	PWRA

NOTE

THE MINIMUM TIME FOR GN2  
 PURGE PRIOR TO ET CRYOGENIC  
 LOADING IS 30 MINUTES. VERIFIED  
 BY CPVD LATER IN THIS SEQUENCE.

MID FUS/PLB/AFT PURGE INERTED  
 AND MAINTAINED AT LESS THAN  
 1 PCT O2. VERIFIED BY CHGD  
 LATER IN THIS SEQUENCE AND JUST  
 PRIOR TO ET LOAD IN SEQ 16.

PURGE MOISTURE CONTENT IS LESS  
 THAN 5 GRAINS/LB PRIOR TO  
 ORBITER MPS CHILLDOWN. (ESTIMATE  
 1 1/2 HOURS FROM THE INITIAL  
 START OF ECS GN2 PURGE).  
 VERIFIED BY CPVD IN SEQ 16,  
 PRIOR TO ET LO2/LH2 LOADING.

15-0183		CPVD 132 OTC 232 NTD	OTC CHGD NTD *SCC	ECS AIR TO GN2 CHANGEOVER (OPTION B) COMPLETE (V1122). ORBITER BEING PURGED WITH GN2 AT _____ (RECORD TIME).	SU72535
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				ORBITER PAYLOAD BAY PURGE ----- VERIFICATION -----	
				NOTE  PERFORM THE FOLLOWING STEP FOR STS-93.	
15-0184		PTC 132 OTC	OTC  CPVD	AFTER CIRCUIT STABILIZES PERFORM ORBITER OPERATION SUPPORT SETUP 15 - PAYLOAD BAY PURGE VERIFICATION.	
				NOTIFY PTC IMMEDIATELY IF PURGE GOES OUT OF SPEC. (STS-93)	
				NOT PERFORMED	
15-0185	-08H30M	CPWR 136 TBC 232	TBC  NTD	SRB OI BUS A&B POWER APPLICATION COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
IUS RIMU CAL/ALIGN STATUS					
NOTE					
PERFORM NEXT STEP FOR IUS MISSION (STS-93).					
PERFORM NEXT STEP AT L-13H35M.					
IF CONTINGENCY CAL AND ALIGN ON IUS NAV SYSTEMS IS REQUIRED, IT WILL BE INITIATED AT CONCLUSION OF ET LH2/LO2 TANKING.					
15-0186		ICTC PTC 134		REPORTING SUCCESS/FAIL CRITERIA OF RIMU CAL AND ALIGNMENT.	
		PTC NTD 232		CONTINGENCY RIMU CAL AND ALIGN WILL/WILL NOT BE REQUIRED.	
				NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- SEPARATE MDM POWER SUPPLIES -----					
15-0187		TBC 136	CDPS	SEPARATE MDM POWER SUPPLIES FOR SRB HPU BITE TEST.	
15-0188			CDPS	CURSOR CNTL (SAS01 PGB) DPS XMIT CURSOR KEY - PRESS  CURSOR CNTL (SAS01 PGB) SRB MANUAL TEST SEL XMIT CURSOR KEY - PRESS  PFK2 KEY - PRESS	
15-0189			CDPS	CURSOR CNTL (BSM06 PGB) SEPARATE MDM P/S XMIT CURSOR KEY - PRESS  CRT (BSM06 PGB)  ALL MDM P/S SEP SWITCHES ON	
15-0190			CDPS	PFK2 (BSM06) TERMINATE - PRESS	
15-0191		CDPS 136	TBC	MDM POWER SUPPLIES SEPARATED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				SRB HPU BITE TEST AND HPU FUEL ----- PUMP BEARING SEAL SOAK -----	
15-0192		CBHY 136 TBC 232 NTD *SCC *SCC NET 105	TBC NTD	REQUEST SFOC SAFETY CLEAR ALL PERSONNEL FROM CONTROL AREA 25 FT RADIUS AROUND HPU EXHAUST DUCTS ON MLP ZERO LEVEL AND VERIFY CONCURRENCE TO PROCEED.	SU72584 SU72606
15-0193		NTD PA		ATTENTION ON PAD____:  SRB HPU BITE TEST WILL BE PERFORMED. ALL PERSONNEL CLEAR AREA 25 FT RADIUS OF SRB HPU EXHAUST DUCTS ON MLP ZERO LEVEL.	
15-0194		*PSE NET 105 *SCC 232 NTD	*SCC NTD TBC	HPU EXHAUST DUCT CONTROL AREA CLEARED AND YOU HAVE SAFETY CONCURRENCE TO PROCEED.	
WARNING					
HAZARDOUS STEPS FOLLOW DUE TO SRB HPU BITE TEST.					
15-0195		TBC 136	CBHY	CONTROL AREA CLEARED. PERFORM SRB HPU BITE TEST AND HPU FUEL PUMP BEARING SEAL SOAK PER SRB OPERATION SUPPORT SETUP 4.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ET OI INSTRUMENTATION AND ET LEVEL					
-----					
SENSOR CHECKS					
-----					
15-0196		TBC 132 OTC	OTC CISL CMPS CMPL	REQUEST CMPS, CMPL AND CISL SUPPORT ON CH 136.	SU72576
15-0197		TBC 136	CISL CMPS CMPL	PERFORM ET OI INSTRUMENTATION CHECKS AND PERFORM SRM CASE TEMP EMON ACTIVATION ON CH 145 PER S0007VL4 (SEQ 38). (20 MIN)	
SEP CAMERA HEATERS ACTIVATION					
-----					
NOTE					
PERFORM NEXT TWO STEPS IF SEP CAMERAS INSTALLED.					
15-0198		OTC 132	CISL	PERFORM SEP CAMERA HEATER ACTIVATION PER S0007VL4 (SEQ 38) (5 MIN)	SU72565
					NOT PERFORMED _____
15-0199		CISL 132	OTC	SEP CAMERA HEATER ACTIVATION COMPLETE.	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
LH2 FR CONFIG FOR LOADING (G3251)					

NOTE

DO NOT PERFORM NEXT STEP  
IF SUPPORTING SCRUB  
TURNAROUND.

15-0200		TBC 136	CLHY	PERFORM OMI G3251 OPERATION SUPPORT SETUP 8 - LH2 FIRING ROOM CONFIGURATION FOR LOADING.	NOT PERFORMED _____
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NOTE

PERFORM NEXT STEP IF  
SUPPORTING SCRUB/TURNAROUND.

15-0201		TBC 136	CLHY	PERFORM FIRING ROOM CONFIGURATION FOR LOADING PER OMI G3255.	NOT PERFORMED _____
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15-0202		*PSE NET 105 *SCC 232 NTD OTC TBC STM	*SCC	ALL NON HAZARD BADGE PERSONNEL CLEARED FROM PAD____ FOR LOX/LH2 LOADING OPERATIONS.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				VERIFY FIRING ROOM CONSUMABLES -----	
15-0203	-08H30M		LPS	VERIFY FIRING ROOM CONSUMABLES.	
15-0204	-08H30M	NTD 232 STM 111 JSTC 114	STM JSTC JFIR	FIRE SUPPORT REQUIRED ON STATION IN 30 MINUTES AT LO2 FACILITY AND LH2 FACILITY. STANDBY AT FIRE STATION 2.	FIRE SU72594 EMS ON
				30 MIN NOTICE FOR WRECKER AT PAD ----- GATE ----	
15-0205	-08H30M	JSTC	WGSA	PROVIDE WRECKER AT PAD GATE. (T-8 HOURS TO T-6 HOURS) (7-4905) VERIFY WHEN ON-SITE.	SU72595 SU72663
15-0206		JSTC 114	*SEC	SECURITY REPORT WHEN WRECKER ON SITE AT PAD GATE.	SEC

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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LH2 FR CONFIG FOR LOADING COMPLETE

NOTE

DO NOT PERFORM NEXT STEP IF  
SUPPORTING SCRUB/TURNAROUND.

15-0207		CLHY TBC		G3251 OPERATION SUPPORT SETUP	SU72578
		136		8 - LH2 FIRING ROOM CONFIGURATION	
		TBC NTD		FOR LOADING COMPLETE.	
		232			

NOT PERFORMED

NOTE

PERFORM NEXT STEP IF  
SUPPORTING SCRUB/TURNAROUND.

15-0208		CLHY TBC		FIRING ROOM CONFIGURATION FOR	
		136		LOADING PER G3255 COMPLETE.	
		TBC NTD			
		232			

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- WEATHER UPDATE - ET TANKING PREPS -----					
15-0209	-08H15M	STM 111 JBDY 231	JBDY	REQUEST CURRENT WEATHER INFORMATION FOR LAUNCH PAD. ADVISE AND UPDATE WEATHER ADVISORIES AND WARNINGS AS RECEIVED.	SU72580
15-0210		*WEA 231 JBDY 111 STM 232 NTD TBC 136	JBDY	WEATHER INFORMATION FOR ET TANKING/ DETANKING. 1. FORECAST TIME _____ 2. FORECAST VALID _____ 3. PROBABILITY OF PRECIP _____ 4. PROBABILITY OF LIGHTNING/ELECTRICAL STORMS WITHIN 5 NM OF PAD _____ (0 PCT PRIOR TO START, LESS THAN 20 PCT FOR FIRST HOUR) 5. RELATIVE HUMIDITY _____ 6. WINDS SS/GUSTS _____  DIRECT _____ (NO WINDS > 42 KNOTS AT 60 FT LVL DURING TANKING/DETANKING) 7. TEMPERATURE _____  OMRSD S00L00.030-1 OMRSD S00L00.080-1  ET OI INST CKS COMPLETE -----	
15-0211	-08H10M	CISL 136	TBC	ET OI INSTRUMENTATION CHECKS AND SRM CASE TEMP EMON ACTIVATION COMPLETE.	SU72576

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ET LEVEL SENSOR CKS -----					
15-0212	-08H10M	TBC 136	CMPS	PERFORM ET LEVEL SENSOR CHECKS ON CH 168 PER S0007VL4 (SEQ 41). (10 MIN)	SU72582
15-0213		CMPS 136	TBC	LEVEL SENSOR CHECKOUT WILL BE CLOX PERFORMED AT THIS TIME. MOMENTARY CLHY LOSS OF POWER TO ET OI LEVEL SENSORS, ULLAGE PRESSURES AND VENT VALVE INDICATORS WILL OCCUR.	
15-0214	-08H00M	CMPS 136	TBC	ET LEVEL SENSOR CHECKS COMPLETE. CLOX ET LEVEL SENSOR, ULLAGE PRESSURE CLHY TRANSDUCER AND VENT VALVE POSITION INDICATORS ARE NOW VALID.	
SRB JOINT HEATER ACTIVATION -----					
15-0215	-08H00M	TBC 136	CPWR	PERFORM SRB JOINT HEATER POWER APPLICATION.	SU72643

CAUTION

AT NO TIME ARE RSRM JOINT  
 TEMPS TO EXCEED 123 DEG F  
 OR IGNITER HEATER TEMPS TO  
 EXCEED 125 DEG F.

AT NO TIME ARE JOINT HEATER  
 CURRENTS TO EXCEED 19.5 AMPS  
 OR IGNITER HEATER CURRENTS TO  
 EXCEED 4.9 AMPS.

15-0216 CPWR CURSOR CNTL (BDE11)  
 AUTO SEQ - ALL  
 XMIT CURSOR KEY - PRESS

CRT (BDE11)  
 VERIFY

ALL HTR PWR ON  
 ALL AUTO SEQ ACT

OMRSD S00FA0.610-1R  
 OMRSD S00FA0.970

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
DO NOT PERFORM NEXT STEP IF IGNITER HEATERS WERE POWERED UP AT L-18H00M.					
15-0217				THE PREVIOUS STEP SATISFIES THE FOLLOWING OMRS REQUIREMENTS.  OMRSD S00FA0.620-1R OMRSD S00FA0.960	
				NOT PERFORMED	_____
15-0218		CPWR 136 TBC 232	TBC NTD	SRB FIELD JOINT HEATER POWER APPLICATION COMPLETE.	
15-0219		STM 111	JBWC	SOUND SUPPRESSION WATER TECHS REQUIRED ON SITE IN 30 MINUTES TO REMOVE LOCKS AND OPEN VALVES.	WSSA
15-0220		STM 111 JSTC NET 104	JSTC *SCB	DELIVER 12 LAPS WITH COMM TO FIRE STATION NO. 2.	LS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- VERIFY SUPPORT (FIRE COMBAT/EMS/SAFETY) -----					
15-0221	-08H00M	NTD 232 STM 111 JSTC 114	*SCC STM JSTC JFIR	VERIFY FIRE COMBAT CREWS ON STATION AT LO2 AND LH2 FACILITIES TO SUPPORT LO2/LH2 FINAL PREPS FOR CRYO LOAD. EMERGENCY MEDICAL SERVICES ON STANDBY AT FIRE STATION NO. 2.	FIRE
15-0222		JFIR 114 JSTC 111 STM 232 NTD	JSTC STM NTD *SCC	FIRE SUPPORT ON STATION TO SUPPORT FINAL PREPS FOR CRYO LOAD. EMERGENCY MEDICAL SERVICES ON STANDBY AT FIRE STATION NO. 2. HAVE FIRE AND EMS PERFORM COMM CHECK WITH NTD, *SCC AND *PSE ON RADIO NET 105.	FIRE

LO2 FINAL PREPS  
 -----

NOTE

GVA ALIGNMENT MUST BE COMPLETE  
 AND AREA CLEAR OF PERSONNEL  
 PRIOR TO NEXT STEP.

15-0223	-08H00M	NTD 232 TBC 136	TBC CLOX	PERFORM LOX STORAGE TANK PRESSURIZATION AND SUCTION LINE CHILLDOWN PER OMI G3151 (OR OMI G3155 FOR SCRUB TURNAROUND).	SU72647
15-0224		TBC 138	JYVR	START VIDEO RECORDING OF OTV CAMERAS FOR LOX/LH2 FINAL PREPS (G3151 AND G3251). (SEE CLHY AND CLOX, FIGURE 4)	COMM

CAMERAS:  
 003/103,007/107,009/109,031/131,  
 032/132,038/138,039/139,040/140,  
 046/146,047/147,052/152,053/153,  
 056/156

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0225		CLOX 136 TBC 232	TBC NTD	READY TO CLEAR LOX CONTROL AREA FOR G3151 (OR G3155) HAZARDOUS OPERATIONS - STORAGE TANK PRESSURIZATION.	SU72680
15-0226		NTD 232 TBC 136 CLOX 156	*SCC TBC	PERFORM FOLLOWING:  1. CLEAR NONESSENTIAL PERSONNEL 150 FT RADIUS FROM STORAGE AREA FOR G3151/G3155 OPERATIONS. ESSENTIAL PERSONNEL ARE AS FOLLOWS:  PLOX LOX STORAGE AREA, ROVING LOX LEAD ENGR PLO2 LOX STORAGE AREA, LOX SYS ENGR PLO4 LOX STORAGE AREA, LOX TECH PLO5 LOX STORAGE AREA, LOX TECH PLO6 LOX STORAGE AREA, LOX TECH PLO7 LOX STORAGE AREA, LOX TECH *PSE SFOC SAFETY ENGR PNQC PAD, QC (NASA) PNLO PAD, LOX ENGR, (NASA)  2. VERIFY FIRE SUPPORT ON-SITE AT PAD AND EMERGENCY MEDICAL ON STANDBY AT FIRE STATION 2. PLOX PERFORM COMM CHECK WITH FIRE SUPPORT AND *SCC ON RADIO NET 105/205. VERIFY LOX STORAGE AREA WARNING LIGHTS ON, FLASHING AMBER.  3. COVERALLS, FACESHIELDS, NON SPARKING FOOTWEAR, AND GLOVES REQUIRED FOR MANUAL LOX VALVE OPERATORS. ALL OTHERS REQUIRE COVERALLS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0227		NTD PA		ATTENTION ON PAD____:  ALL NONESSENTIAL PERSONNEL CLEAR 150 FOOT RADIUS OF LOX STORAGE AREA FOR HAZARDOUS OPERATIONS.	
15-0228		PLOX 156 CLOX 136 TBC 232 NTD	CLOX TBC NTD *SCC	CONTROL AREA ESTABLISHED AND WARNING LIGHTS ON, FLASHING AMBER. NONESSENTIAL PERSONNEL ARE CLEAR AND ESSENTIAL PERSONNEL ARE PROPERLY ATTIRED. FIRE SUPPORT ON SITE AND EMERGENCY MEDICAL ON STANDBY. REQUEST SAFETY CONCURRENCE TO PROCEED WITH STORAGE TANK PRESSURIZATION.	
15-0229		*SCC 232 NTD TBC 136 CLOX 156	NTD TBC CLOX PLOX	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH STORAGE TANK PRESSURIZATION.	

ET LH2 PREPS COMPLETE  
 -----

NOTE

DO NOT PERFORM NEXT STEP IF  
 SUPPORTING SCRUB TURNAROUND.

15-0230		CLHY 136 TBC 232	TBC NTD	ET LH2 PREPS PER G3251 COMPLETED.	SU72652
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NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT STEP IF SUPPORTING  
 SCRUB TURNAROUND.

15-0231		CLHY 136 TBC 232	TBC NTD	ET LH2 PREPS PER G3255 COMPLETE.	
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NOT PERFORMED \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
LH2 FINAL PREPS -----					
15-0232		CLHY 136 TBC 232	TBC NTD	READY TO CLEAR CONTROL AREA FOR G3251 (OR G3255) LH2 FINAL PREPS, HAZARDOUS OPERATIONS.	SU72651
15-0233		NTD 232 TBC 136 CLHY 166	TBC	PERFORM FOLLOWING:  1. CLEAR NONESSENTIAL PERSONNEL 200 FT RADIUS FROM STORAGE AREA FOR G3251/G3255 OPERATIONS. ESSENTIAL PERSONNEL ARE AS FOLLOWS:  PLHY LH2 STORAGE AREA, ROVING LH2 LEAD ENG PLH2 LH2 STORAGE AREA, LH2 SYS ENG PLH4 LH2 STORAGE AREA, LH2 TECH PLH5 LH2 STORAGE AREA, LH2 TECH *PSE SFOC SAFETY ENG PNQC PAD, QC (NASA) PNLH PAD, LH2 ENG, (NASA)  2. VERIFY FIRE SUPPORT ON-SITE AND LH2 STORAGE AREA WARNING LIGHTS ON, FLASHING AMBER.  3. COVERALLS, FACESHIELDS, NON SPARKING FOOTWEAR, AND GLOVES REQUIRED FOR MANUAL LH2 VALVE OPERATORS. ALL OTHERS REQUIRE COVERALLS.	SU72681
15-0234		PLHY 166 CLHY 136 TBC NTD NTD 232	CLHY TBC	VERIFY EMERGENCY MEDICAL SUPPORTS ON STANDBY AT LC-39 FIRE STATION NO. 2 AND CRASH TRUCK-CFR ON SITE AT LH2 STORAGE AREA.	
15-0235		NTD PA		ATTENTION ON PAD ____:  ALL NONESSENTIAL PERSONNEL CLEAR 200 FT RADIUS OF LH2 STORAGE AREA FOR HAZARDOUS OPERATIONS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0236		PLHY 166 CLHY 136 TBC 232 NTD	CLHY TBC NTD *SCC	CONTROL AREA ESTABLISHED AND WARNING LIGHTS ON, FLASHING AMBER. NONESSENTIAL PERSONNEL CLEAR AND ESSENTIAL PERSONNEL PROPERLY ATTIRED. FIRE SUPPORT ON SITE AND EMERGENCY MEDICAL ON STAND BY.	

NOTE

DO NOT PERFORM NEXT STEP IF  
 SUPPORTING SCRUB/TURNAROUND.

15-0237		NTD 232 TBC 136	TBC	PERFORM OMI G3251 OPERATION SUPPORT SETUP 14 - LH2 FINAL PREPS FOR LOADING.	
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NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT STEP IF  
 SUPPORTING SCRUB/TURNAROUND.

15-0238		NTD 232 TBC 136	TBC	PERFORM LH2 FINAL PREPS FOR VEHICLE LOADING PER OMI G3255.	
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				CLOSE ALL FRAMES -----	
15-0239	-08H00M	STM 111	GYCC	CLOSE ALL FRAMES.  CONFIG CREW COMPARTMENT ----- AND WHITE ROOM -----	COMM

NOTE

DO NOT PERFORM NEXT STEP  
 IF BUS SENSORS ALREADY  
 IN MONITOR POSITION.

15-0240		OTC 132	ASP	PANEL R1 POWER DISTRIBUTION AC BUS SNSR 1 SW - OFF, 1 SEC, MONITOR 2 SW - OFF, 1 SEC, MONITOR 3 SW - OFF, 1 SEC, MONITOR	SU72637
				NOT PERFORMED	_____

NOTE

PERFORM NEXT TWO STEPS IF  
 THE MINICAMS ARE TO BE USED  
 FOR STRAP-IN.

15-0241		OTC 132	ASP	VERIFY MINICAMS CONNECT TO J4 AND J5 AT OTV INTERFACE IN OAA CEILING.	
				NOT PERFORMED	_____
15-0242		OTC 132 STM 138	STM JYVO	VERIFY ACCEPTABLE VIDEO SIGNAL FROM OAA INTERFACE FROM PAD A/ PAD B. VERIFY VIDEO SIGNAL IS PATCHED TO OTV SWITCHER AS SOURCES 068/168 AND 069/169.	COMM
				NOT PERFORMED	_____

15-0243		NTD 232 STM 111	STM JBEP	VERIFY PAD WHITE ROOM 02 ANALYZER READOUTS NORMAL AT C-2 CONSOLE.	PWRA
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

DO NOT PERFORM NEXT TWO STEPS  
 IF FIXED O2 SYSTEM IN CREW  
 COMPARTMENT IS VERIFIED  
 INSTALLED AND OPERATIONAL.

15-0244	-08H00M	NTD		VERIFY PORTABLE O2 METER IN WHITE ROOM CONFIGURED FOR VIEWING ON OTV.	
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NOT PERFORMED \_\_\_\_\_

15-0245		*PSE NET 105 *SCC 232	*SCC NTD	PORTABLE O2 METER HAS BEEN INSTALLED IN WHITE ROOM AND VERIFIED READABLE BY OTC.	
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NOT PERFORMED \_\_\_\_\_

15-0246		OTC 138	JYVR	START VIDEO RECORDING OF OTV CAMERA 005/105.	COMM SU72664
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15-0247	-08H00M	OTC 132	OMTO	WHITE ROOM CEILING:	
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1. VERIFY ORBITER ECS DAMPER A122817 IS OPEN AND AIR IS FLOWING THRU ECS DUCT INTO CREW COMPARTMENT.
2. VERIFY CHAMBER ECS DAMPER A122818 IN MARKED POSITION.

T: \_\_\_\_\_

15-0248		OTC 132	OMTO	VERIFY ECS EXHAUST LOUVERS OPERATE FREELY BY MANUALLY PUSHING THEM OUTBOARD TO OPEN THEN RELEASING THEM TO CLOSE.	
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T: \_\_\_\_\_

15-0249		OTC 132	CECL	VERIFY PARTIAL PRESSURE OF OXYGEN IN CREW COMPARTMENT SATISFACTORY.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
HGDS CONFIDENCE CHECKS COMPLETE					
-----					
15-0250		CHGD	OTC	HGDS, BUHGDS AND HUMS CONFIDENCE	SU72543
		132		CHECKS COMPLETE.	SU72473

HGDS  
 ----

TEST GAS CYCL NO. \_\_\_\_\_ BD

GAS	CERTIFIED VALUE (CV)	ANALYZED VALUE	TOLERANCE
-----			
H2	_____ BD	_____ CV	+/- 60
HE	_____ BD	_____ CV	+/- 60
O2	_____ BD	_____ CV	+/- 60
AR	_____ BD	_____ CV	+/- 15

BUHGDS  
 -----

TEST GAS CYCL NO. \_\_\_\_\_ BD

GAS	CERTIFIED VALUE (CV)	ANALYZED VALUE	TOLERANCE
-----			
H2	_____ BD	_____ CV	+/- 100
HE	_____ BD	_____ CV	+/- 1000
O2	_____ BD	_____ CV	+/- 100
AR	_____ BD	_____ CV	+/- 30

- OMRSD G51FGDMA0.060
- OMRSD G61FGDMA0.060
- OMRSD G51FGDMA0.095
- OMRSD G61FGDMA0.095
- OMRSD S00FA0.435

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0250		HUMS			
CON'T		----			
		GN2 TEST GAS CYLINDER NO.	_____	BD	
		GAS	CERTIFIED VALUE (CV)	ANALYZED VALUE	TOLERANCE
		---	-----	-----	-----
		H2	_____ BD	_____ CV	+/- 100
		HE	_____ BD	_____ CV	+/- 1000
		O2	_____ BD	_____ CV	+/- 100
		AR	_____ BD	_____ CV	+/- 30
		GHE TEST GAS CYLINDER NO.	_____	BD	
		GAS	CERTIFIED VALUE (CV)	ANALYZED VALUE	TOLERANCE
		---	-----	-----	-----
		H2	_____ BD	_____ CV	+/- 10 PCT
		N2	_____ BD	_____ CV	+/- 10 PCT
		O2	_____ BD	_____ CV	+/- 10 PCT
		AR	_____ BD	_____ CV	+/- 10 PCT
			OMRSD GLWGGDMF0.004 (MLP-1)		
			OMRSD GLVGGDMF0.004 (MLP-2)		
			OMRSD GLUGGDMF0.004 (MLP-3)		
			MLP HALON SYSTEM TO MANUAL		
			-----		
15-0251	-08H00M	JSTC	JFIR	PLACE MLP HALON SYSTEM TO	FIRE
		114		MANUAL FROM 1P10 (REMOTELY).	
				REPORT COMPLETION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
HARD COPY \$HWMON ERRORS -----					
15-0252		LPS 127	C1MC	HARD COPY ALL \$HWMON ERRORS AND HIM STATUS FOR BASELINE REFERENCE.	
CONFIGURE CONSOLES AB-5, AB-6, ----- AB-7 AND AB-8 OIS-D TO ----- MULTI-CHANNEL TRANSMIT -----					
15-0253	-08H00M	STM 111 GYCC 117	GYCC JYCD	CONFIGURE OIS-D COMMUNICATIONS IN PRIME CONTROL ROOM CONSOLES AB-5, AB-6, AB-7 AND AB-8 TO MULTI-CHANNEL TRANSMIT CAPABILITY. (30 MIN)	COMM
15-0254		STM 232	NTD	OIS-D WILL BE CONFIGURED TO MULTI-CHANNEL TRANSMIT MODE ON CONSOLES AB-5, AB-6, AB-7 AND AB-8.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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BDA CLEAR FINAL OPS/SAFETY WALKDOWN

WARNING

ALL PERSONNEL WILL REMAIN  
 FURTHER THAN 6 FT FROM  
 UNPROTECTED EDGES ON MLP  
 ZERO LEVEL.

15-0255	-08H00M	NTD	NPM	PERFORM INTEGRATED OPERATION	SU72641
		NET		SUPPORT SETUP 6 - BDA CLEAR FINAL	
		110		OPS/SAFETY WALKDOWN, INCLUDING REMOVAL	
		232	*SCC	REMOVAL OF SFOC SAFETY SIGNS. (1 HR 30 M)	

NOTE

NPM PERSONNEL MAY ENTER OTHER  
 HAZ BADGE AREAS AS REQUIRED  
 FOR SITUATIONAL MANAGEMENT.

ESSENTIAL PERSONNEL

	NASA	SFOC	JBOSC
DEBRIS ENG	1		
NPM	3		
SAFETY	1	1	
SECURITY			12*
PAD TECH		1	

(\* SECURITY PERSONNEL MANLOADED FOR  
 BDA CLEAR OPS ONLY. THEY DO NOT  
 SUPPORT WALKDOWN)

SAFETY SIGN REMOVAL LIST

1. MLP A&B SIDE 1,2&4 AND ZERO LEVEL
2. PERIMETER ROAD AND F ROAD  
INTERSECTION
3. LOX AND LH2 TSM'S
4. PTCR PAD SURFACE NORTH AND  
SOUTH BLAST DOORS, AND NORTH BRIDGE.
5. FSS 75 FOOT LEVEL



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
WATER CHILLER OPS					
-----					
15-0256	-08H00M	JSTC 114 JSTC 111	JSAC  STM	VERIFY UTILITY ANNEX REFRIGERATION PLANT READY TO SUPPORT PER I3067.	AC SU72597
15-0257	-07H45M	CBHY 136	TBC	SRB HPU BITE TEST AND HPU FUEL PUMP BEARING SEAL SOAK COMPLETE.  OMRSD B42AP0.050-C-1R OMRSD B42AP0.060-C-1 OMRSD B42AP0.080-B-1R	
15-0258		TBC 232 NTD NET 105	NTD *SCC *PSE	SRB HPU BITE TEST AND HPU FUEL PUMP BEARING SEAL SOAK PER SRB OPERATION SUPPORT COMPLETE. REQUEST SFOC SAFETY OPEN CONTROL AREA AROUND HPU EXHAUST DUCTS.	SU72584
15-0259		*PSE NET 105 *SCC 232 NTD TBC	*SCC	HPU EXHAUST DUCT CONTROL AREA OPEN FOR CONTROLLED WORK.	SU72606

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0260		CBHY	CRT (BAT04)	RECORD PRESENT TIME AND DATE	
				TIME _____ GMT	
				DATE _____ (MMDDYY)	
			CRT (BAT04)	SRB AFT SKIRT GN2 PURGE	
			CURT	CURT	
			T (BLOCK)	XMIT CURSOR KEY - PRESS	
			CURT	CURT	
				NOTE DISPLAY OF FLEX BEARING TEMPERATURES AND NOZZLE TO CASE JOINT TEMPERATURES.	
				RECORD FLEX BEARING TEMPERATURES	
				_____ B _____ DEG F BD	
				_____ B _____ DEG F BD	
				_____ B _____ DEG F BD	
				_____ B _____ DEG F BD	
				RECORD NOZZLE CASE JOINT TEMPERATURES	
				_____ N _____ DEG F BD	
				_____ N _____ DEG F BD	
				_____ N _____ DEG F BD	
			CURT	CURT	
			T (BLOCK)	XMIT CURSOR KEY - PRESS	
				NOTE DISPLAY OF PURGE SCHEMATIC	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF ANY ONE  
 OR MORE OF ABOVE SIX NOZZLE  
 TO CASE JOINT TEMPERATURES  
 WAS LESS THAN 78 DEG F.

15-0261		TBC 136	CBHY	ACTIVATE SRB GN2 AFT SKIRT PURGE PER SRB OPERATION SUPPORT SETUP 5 - SRB AFT SKIRT GN2 PURGE ACTIVATION.	
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NOT PERFORMED

SRB TVC POWER UP  
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15-0262		TBC 136	CAFC	PERFORM SRB TVC POWERUP	SU72644
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15-0263		TBC 132 OTC	OTC	TRANSFER MEC RSYS TO C11 TO SUPPORT SRB TVC POWER UP. CEPD	
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15-0264			CEPD	CONSOLE KYBD C CO MEC1 C11 XMIT CMD KEY - PRESS  C CO MEC2 C11 XMIT CMD KEY - PRESS	
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15-0265		CEPD 132 OTC TBC 136	OTC	MEC1 AND MEC2 RSYS TRANSFERRED TO C11. TBC CAFC	
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15-0266			CAFC	CURSOR CNTL (SAB19/SWB01) ATVC - OPS MAN XMIT CURSOR KEY - PRESS	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0267		CAFC		CURSOR CNTL (SAB22/VWB35) SRB TVC PWR UP XMIT CURSOR KEY - PRESS	
15-0268		CAFC		CURSOR CNTL (SAB22/VWB35) START TEST XMIT CURSOR KEY - PRESS	
15-0269		CAFC		CRT (SAB22/VSB31)  VERIFY INITIAL GNC SYSTEMS STATUS	
15-0270		CAFC		APPL PG (SAB22/VSB31) PFK1 KEY - PRESS (CONTINUE)	
15-0271		CAFC		CRT (SAB22/VTB01)  VERIFY FINAL GNC SYSTEM STATUS DISPLAYED	
15-0272		CAFC		APPL PG (SAB22/VTB01) PFK1 KEY - PRESS (PERFORM POST POWER-UP TEST)	
NOTE					
NOTED REQUIREMENT IS SATISFIED BY THE FOLLOWING STEPS ANNOTATED WITH OMRS CODE.					
OMRS S00FA0.770					
15-0273		CAFC		CRT (SAB22/VWB35)  VERIFY SRB TVC POWER UP COMPLETE WITHOUT ANOMALY  OMRS S00FA0.770 (VTB01)	
15-0274		CAFC		APPL PG (SAB22/VWB35) PFK15 KEY - PRESS (TERM SAB22)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				AI MODE 1 WITH SRB -----	
15-0275		CAFC	PFK	PFK (SAB20/SWB02) PFK (SWB02) - PRESS	
15-0276		CAFC	PFK	PFK (SWB02) PFK 4 (ORB/SRB AI MODE 1) - PRESS  OMRS S00FA0.770 (SWB02)	
15-0277				NOTED REQUIREMENT COMPLETE.  OMRSD S00FA0.770	
15-0278		CAFC	CRT	CRT (VWB03 PG-B)  VERIFY ON SRB ACTUATORS THAT DIFFERENCE BETWEEN POSITION AND DRIVER OUTPUT NOT GREATER THAN 0.90 DEG. (1.13 IN.)  ACTIVATE SRB TVC LCC EMON -----	
15-0279		CAFC	APPL	APPL PAGE A (SAB20/SWB02) PFK-13 KEY - PRESS (ACT EMON SETUP)	
15-0280		CAFC	CURSOR	CURSOR CNTL (SAB20/SWB02 PAGE A) A - SRB TVC XMIT CURSOR KEY - PRESS	
15-0281		CAFC	APPL	APPL PAGE A (SAB20/SWB02) PFK-13 KEY - PRESS (DEACT EMON SETUP)	
15-0282		CAFC	CONSOLE	CONSOLE KYBD C CO MEC1 C10 XMIT CMD KEY - PRESS C CO MEC2 C10 XMIT CMD KEY - PRESS	
15-0283		CAFC	TBC	MEC RSYS HAS BEEN REASSIGNED TO 136 C10. TBC OTC 132 OTC CEPD	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0284		CAFC 136 TBC 232	TBC NTD	SRB TVC POWER UP, FUNCTIONAL CHECK AND LCC ACTIVATION COMPLETE.	
NOTE					
OBTAIN PREFLT BITE SPA PRINTOUT FROM CAFC FOR EVALUATION IN NEXT STEP.					
15-0285		OTC 132	CEPD	PERFORM MEC PREFLT BITE EVALUATION.	SU72645
15-0286			CEPD	VERIFY NO MEC FAILURES	
15-0287		NTD 232	*SEC	IDENTIFY GSA VEHICLES AT PAD OPS BUILDING TO BE MOVED FOR LAUNCH. IF DRIVER AND/OR KEYS NOT AVAILABLE, REQUEST WRECKER FOR REMOVAL FROM PAD GATE.	SEC
CONSOLES AB-5, AB-6, AB-7 AND AB-8 ----- OIS-D CONFIGURATION TO MULTI-CHANNEL ----- TRANSMIT - COMPLETE -----					
15-0288		JYCD 117 GYCC 111 STM 232	GYCC STM NTD	CONSOLES AB-5, AB-6, AB-7 AND AB-8 IN PRIME CONTROL ROOM HAVE BEEN CONFIGURED TO MULTI-CHANNEL TRANSMIT CAPABILITY.	COMM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0289		LRD 135	BRD	REPORT WEATHER STATUS FOR RETRIEVAL FORCES.  WEATHER CONDITIONS ARE:  SEA STATE _____  SEA TEMP _____  AIR TEMP _____  WINDS _____  VISIBILITY _____	
15-0290		LRD 135	LD	INITIAL STATUS INDICATES RETRIEVAL FORCES/WEATHER GO FOR LAUNCH.  CHECK GS2A FEP DATA SLOTS -----	
15-0291	-07H30M	TBC 232	NTD	DUMP GS2A FEP AND VERIFY AT LEAST 14 AVAILABLE 100 SAMPLE NTD LPS PER SECOND SLOTS. RETAIN LPS CLSE OUTPUT ON STATION. (COMPARE WITH 127 PREVIOUS DUMP).	
15-0292	-07H30M	LPS 232	NTD	GS2A FEP DUMP COMPLETE. FEP CONTAINS _____ AVAILABLE 100 SAMPLE NTD TBC PER SECOND SLOTS. CTPE TBC CLOX 136 CLHY	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
IF 48 HOUR SCRUB OR LONGER, PERFORM NEXT TWO STEPS AT BKUP CONSOLE.					
15-0293		CGLS		\$PRINT V0 CF DPSMON PERFORM PGM \$PRINT V0 CF DPSRTN PERFORM PGM  VERIFY CORRECT LOAD CONTENTS	
				NOT PERFORMED	_____
NOTE					
PERFORM NEXT STEP IF CMD FILE IS PRESENT BUT CONTENTS ARE CORRUPTED.					
15-0294		CGLS		\$DELETE V0 CF DPSMON PERFORM PGM \$DELETE V0 CF DPSRTN PERFORM PGM	
				NOT PERFORMED	_____
15-0295		CGLS		\$LIBRARY V0 VT PERFORM PGM VERIFY CF DIRECTORY EXIST	
NOTE					
DO NOT PERFORM NEXT FOUR STEPS IF 48 HR SCRUB OR LONGER AND CORRECT LOAD CONTENTS WERE VERIFIED.					
15-0296		CGLS	LPS 127	REQUEST KEYBOARD UTILITIES AT BKUP CONSOLE.	
				NOT PERFORMED	_____
15-0297		CGLS		VERIFY 1 APPL CONC AVAILABLE \$BLDLIB V0 CF #900 8 4 0 PERFORM PGM	
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0298				CGLS CRT 2 POSITION:  SIGN ON TO SDC (SDC3) SIGNON - PRESS LOGIN: USERID - SDC XMIT PASSWORD: PASSWORD - SDC XMIT VERIFY: P1AP01 RSHELL>  CD/APPS/DAPFILE/FRAS_GLS/CMDFILES SDC XMIT LS - SDC XMIT SHIFT CLEAR - SCD XMIT (CLEAR PAGE) SDC XMIT - PRESS SDC XMIT - PRESS CAT DPSMON - SDC XMIT HARD COPY - PRESS  CRT 1 POSITION:  \$T PERFORM PGM CRT 2 - XMIT RESP VERIFY CORRECT DATA COPIED PAG - XMIT RESP SAV VO CF DPSMON - XMIT RESP	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0298				CRT 2 POSITION:	
CON'T				SHIFT CLEAR - SDC XMIT (CLEAR PAGE)	
				SDC XMIT - PRESS	
				SDC XMIT - PRESS	
				CAT DPSRTN - SDC XMIT	
				HARD COPY - PRESS	
				CRT 1 POSITION:	
				CRT 2 - XMIT RESP	
				VERIFY CORRECT DATA COPIED	
				PAG - XMIT RESP	
				SAV VO CF DPSRTN - XMIT RESP	
				EXI - XMIT RESP	
				\$PRINT VO CF DPSMON	
				PERF PGM	
				\$PRINT VO CF DPSRTN	
				PERF PGM	
				PRINTER: VERIFY CORRECT LOAD	
				CONTENTS	
				CRT 2 POSITION	
				EXIT - SDC XMIT	
				CPU ENABLE - PRESS	
15-0299		CGLS LPS		INHIBIT KEYBOARD UTILITIES AT BKUP	
		127		CONSOLE.	
				NOT PERFORMED	
15-0300		CGLS OTC		C12 RECOVERY PROCEDURE COMPLETE.	
		132			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				C&T LAB RSS ANTENNA PATCH ----- VERIFICATION -----	
15-0301		OTC 132	RSRT	PERFORM FUNCTIONAL RF TEST OF RSS RACK 8234 TO SUPPORT RANGE SAFETY OPEN LOOP CHECKOUT. REPORT COMPLETION.  1. RACK 8234 PANEL A7 PATCH/VERIFY THE FOLLOWING:  J 2 - J18 J 3 - J19 J 4 - J20 J 6 - J22 J 7 - J23 J 8 - J24 J10 - J26 J11 - J27 J12 - J28 J15 - J31 J16 - J32 50 OHM LOAD J1 AND J17  2. RACK 8234 PANEL A2 (CIRCUIT BREAKERS)  CB 1 & 2 - ON  3. RACK 8234 PANEL A1 (AUDIO PANEL)  POWER 1 & 2 - ON LINE SELECTOR 1 & 2 - POSITION 1 VOLUME 1 & 2 - 9 O'CLOCK (AS REQUIRED)  4. RACK 8234 PANEL A2 & A3 (VCR RECORDERS)  POWER - ON RECORD LEVEL - POSITION 5 (DETENT) SP/EP - EP CH/AUX - AU T120 OR GREATER BLANK TAPE - INSERT	SU72634

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0301 CON'T				5. RACK 8234 PANEL A8 & A10 (IRD PANELS)  IRD PWR - ON	
				6. RF SIGNAL GENERATOR SETUP (EXTERNAL TEST EQUIPMENT)  FREQUENCY - 416.5 MHZ MODULATION - NONE OUTPUT LEVEL - (-70 DBM)  CAL NO. _____	
				7. RACK 8229 PANEL A7 REMOVE/VERIFY U-LINE J14 TO J15 PATCH.	
				8. CONNECT RF OUTPUT OF SIGNAL GENERATOR TO 8229A7J15	
				9. RACK 8230 PANEL A10 (A11) SWITCH S2 - TRANSMIT SWITCH S3 - OFF	
				10. RACK 8234 RECORD AGC METER READINGS  PANEL A8 IRD AGC _____V (GREATER THAN 2V)  PANEL A10 IRD AGC _____V (GREATER THAN 2V)	
				11. RACK 8229 PANEL A7 DISCONNECT RF OUTPUT OF SIGNAL GENERATOR FROM 8229A7J15.	
				12. PATCH U-LINE BETWEEN J14 AND J15	
				13. PANEL A5 (STRIP CHART RECORDER)  VERIFY PAPER SUPPLIES AND RECORDER OPERATES. SET CLOCK TO IRIG EXT.	

T: \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
RCS MANIFOLD 5 ISOLATION VALVE CLOSURE					
-----					
15-0302		OTC 132	COFC	PERFORM RCS MANIFOLD 5 ISOLATION VALVE CLOSURE. REPORT COMPLETE.	

NOTE

FOLLOWING SWITCHES CONFIGURED  
TO SUPPORT RCS VERNIER SINGLE  
COMMAND TEST.

15-0303	-07H30M	COFC	ASP	PNL R15 (R14) MANIFOLD ISOLATION ROW C MN C L5 CB - CLOSE R5 CB - CLOSE F5 CB - CLOSE  PNL 07 AFT LEFT RCS MANIFOLD ISOLATION 5 SW - CLOSE (HOLD) 5 TB CL 5 SW - GPC (RELEASE)  AFT RIGHT RCS MANIFOLD ISOLATION 5 SW - CLOSE (HOLD) 5 TB CL 5 SW - GPC (RELEASE)  PNL 08 FWD RCS MANIFOLD ISOLATION 5 SW - CLOSE (HOLD) 5 TB CL 5 SW - GPC (RELEASE)	
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OMRS V79GEN.300

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0304		COFC		CONSOLE KYBD DMON FD XMIT CMD KEY - PRESS  CRT (DMON PG) VERIFY FD ON  WHERE:  FD -- V42X1233X1 FWD RCS MANF 5 OX ISO VLV CL V42X1333X1 FWD RCS MANF 5 FU ISO VLV CL  V42X2235X1 L AFT RCS MANF 5 OX ISO VLV CL V42X2335X1 L AFT RCS MANF 5 FU ISO VLV CL  V42X3235X1 R AFT RCS MANF 5 OX ISO VLV CL V42X3335X1 R AFT RCS MANF 5 FU ISO VLV CL  OMRS V79GEN.300  DEU 3 TO CONSOLE C11 -----  NOTE  DEU IS REQUIRED FOR THE RCS SINGLE COMMAND TESTS AND THE OMS GIMBAL PROFILE.	
15-0305		COFC 132 OTC	OTC	CHANGE RESPONSIBLE CONSOLE FOR DEU 3 TO CONSOLE C11.	
15-0306		CDPS		CONSOLE KYBD HOME CMD KEY - PRESS ISSU N72IV102D #B00B XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS  HOME CMD KEY - PRESS C CO _DEU3G LDBA C11 XMIT CMD KEY - PRESS	
15-0307		CDPS 132 OTC	OTC COFC	RESPONSIBLE CONSOLE FOR DEU NO. 3 NOW ASSIGNED TO C11.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
RCS VERNIER SINGLE CMD TEST PREPS -----					
15-0308		COFC		CURSOR CNTL (SAB19/SWB01) RCS - OPS MANAGER XMIT CURSOR KEY - PRESS	
15-0309		COFC		CURSOR CNTL (VABM6/VWB29) SINGLE COMMAND TEST XMIT CURSOR KEY - PRESS	
15-0310		COFC		APPL PG (VABM6/VSB53) PFK 3 - PRESS (DEU NUMBER)	
RCS VERNIER SINGLE CMD TEST -----					

NOTE

A MINIMUM OF 25 FT CLEAR OF PERSONNEL AROUND THE FWD, LEFT AND RIGHT PODS IS REQUIRED FOR THE VERNIER SINGLE CMD TEST. TEST DURATION IS APPROX 50 SEC.

15-0311		COFC	OTC	READY FOR RCS VERNIER SINGLE 132 COMMAND TEST. OTC NTD 232	SU72627
15-0312		NTD	*SCC	VERIFY ALL PERSONNEL CLEAR FROM 232 25 FT RADIUS AROUND FWD, LEFT AND *SCC *PSE RIGHT POD VERNIER THRUSTERS FOR NET RCS SINGLE COMMAND TEST. VERIFY 105 SAFETY CONCURRENCE TO PROCEED.	SU72684
15-0313		*PSE	*SCC	ALL PERSONNEL CLEARED. YOU HAVE NET SAFETY CONCURRENCE TO PROCEED WITH 105 RCS VERNIER SINGLE COMMAND TEST. *SCC NTD 232 NTD OTC OTC COFC 132	

OMRS V79GEN.300

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0314				COFC CURSOR CNTL (VABM6/VSB53) ALL VERNIER THRUSTERS XMIT CURSOR KEY - PRESS	
15-0315				COFC CURSOR CNTL (VABM6/VSB53) END SELECTIONS/PERF PGM XMIT CURSOR KEY - PRESS	
15-0316				COFC APPL PG (VABM6/VSB53) PFK1 KEY - PRESS (CONTINUE - 25 FT CLEAR ESTABLISHED)	
15-0317				COFC RCS VERNIER SINGLE CMD TEST COMPLETE WITHOUT ANOMALY.  OMRSD V79AS0.012-1 (VSB53) (F5L/F5R) OMRSD V79AS0.013-1 (VSB53) (F5L/F5R) OMRSD V79AS0.062-1 (VSB53) (L5D/L5R) OMRSD V79AS0.063-1 (VSB53) (L5D/L5R) OMRSD V79AS0.110-1 (VSB53) (R5R/R5D)	
15-0318		COFC	OTC	RCS VERNIER SINGLE CMD TEST COMPLETE.	
		132			
15-0319		OTC	NTD	RCS VERNIER SINGLE CMD TEST COMPLETE. SAFETY CLEARS NO NTD *SCC LONGER REQUIRED. *SCC *PSE NET 105	
		232			
15-0320				COFC APPL PG (VABM6/VSB53) PFK15 KEY - PRESS (TERM VSB53)	
15-0321				COFC APPL PG (VABM6/VWB29) PFK15 KEY - PRESS (TERM VABM6)	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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RCS MANF 5 ISOLATION VALVE RECONFIGURE

NOTE

THE FOLLOWING SWITCHES ARE  
RECONFIGURED OPEN FOR  
LAUNCH AFTER THE RCS VERNIER  
SINGLE CMD TEST.

15-0322

COFC ASP PNL 07  
AFT LEFT RCS  
MANIFOLD ISOLATION  
5 SW - OPEN  
5 TB OP  
5 SW - GPC (RELEASE)

AFT RIGHT RCS  
MANIFOLD ISOLATION  
5 SW - OPEN  
5 TB OP  
5 SW - GPC (RELEASE)

PNL 08  
FWD RCS  
MANIFOLD ISOLATION  
5 SW - OPEN  
5 TB OP  
5 SW - GPC (RELEASE)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

-----  
 OMS GIMBAL PROFILE  
 -----

NOTE

OMS GIMBAL PROFILE IS ONLY REQUIRED ONE TIME PRIOR TO LAUNCH MAKING THE REPEAT OF THE TEST OPTIONAL FOR A RECYCLE LAUNCH COUNTDOWN. DO NOT PERFORM THIS TEST IF IT HAS BEEN PERFORMED IN THE PREVIOUS COUNTDOWN UNLESS THERE IS CONCERN OVER ACTIVITY IN THE GENERAL LRU AREA OR CONCERN OVER POSSIBLE TREND DATA OR CONCERN OVER THE TIME ELAPSED SINCE THE LAST TEST.

IN ORDER TO AVOID ANY POSSIBLE CONFLICT BETWEEN ONBOARD IMU OPERATIONS AND ONBOARD ECP EXECUTION, DO NOT PERFORM OMS GIMBAL PROFILE DURING IMU ATT DET, PREFLIGHT CAL OR ALIGNMENTS. OMS GIMBAL TEST GENERATES ECP'S WHICH HAVE A HIGHER PRIORITY THAN IMU OPERATIONS IN THE GPCS.

TO ENSURE ALL PERSONNEL AND EQUIPMENT ARE OUT OF THE NOZZLE ENVELOPE, THE ESP'S SHOULD BE LOWERED PRIOR TO OMS GIMBALLING.

15-0323	-07H30M	COFC	OTC	SET PP 1 UNIT 6 ON LINE FOR	SU72625
		132		COFC PER OMI S9002VL16.	
		OTC	NTD	REPORT COMPLETION.	
		232			
		NTD	LPS		
		LPS	C2MC		
		127			
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0324		COFC 132 OTC 232 NTD	OTC NTD *FLT	OMS GIMBAL PROFILE WILL BEGIN IN ____ MINUTES. VERIFY MCC READY FOR OMS GIMBAL PROFILE.	NOT PERFORMED
15-0325		*FLT 232 NTD	NTD OTC	MCC READY FOR OMS GIMBAL PROFILE.	NOT PERFORMED
15-0326		OTC 132	COFC	PERFORM OMS GIMBAL PROFILE PER S0007VL4 (SEQ 43). (30 MIN)	SU72625 SU72679 NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- OPEN ORBITER LEEWARD VENT DOORS ----- 1 AND 2 (CONTINGENCY) -----					
NOTE					
IF O2 CONCENTRATION IN OAA WHITE ROOM BECOMES LESS THAN 20 PCT AS INDICATED ON W/R O2 METER (OTV CAM 005/105), PERFORM NEXT THREE STEPS TO OPEN LEEWARD VENT DOORS 1&2.					
15-0327	-07H15M	NTD 232	OTC	O2 CONCENTRATION WITHIN WHITE ROOM LESS THAN 20 PCT, OPEN	SU72539
		OTC 132	CPVD	ORBITER VENT DOORS 1 AND 2 ON LEEWARD SIDE.	
					NOT PERFORMED _____
15-0328			CPVD	CURSOR CNTL (VAM31A/VAM09A) VENT DOORS 1&2 (LEEWARD) OPEN TARGET XMIT CURSOR	
					NOT PERFORMED _____
15-0329		CPVD 132	OTC	LEEWARD VENT DOOR OPENING COMPLETE.	
		OTC 232	NTD		
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT STEP IF O2  
 CONCENTRATION IN WHITE ROOM  
 STILL LESS THAN 20 PCT AFTER  
 PVD OPENED LEEWARD VENT DOORS.

15-0330

OTC \*FCM WHITE ROOM  
 132

1. EXHAUST FAN SW - ON
2. POSITION REAR SWINGING DOORS  
 IN OPEN POSITION AND SECURE.

NOT PERFORMED \_\_\_\_\_

NOTE

IF PREVIOUS FOUR STEPS DO NOT  
 SOLVE LESS THAN 20 PCT O2  
 CONCENTRATION PROBLEM,  
 PERFORM NEXT FOUR STEPS TO  
 OPEN WINDWARD VENT DOORS  
 1 AND 2 ONLY IF WIND CONDITION  
 IS LESS THAN 18 KTS AND NO RAIN  
 EXPECTED.

REF OMRS V05AG0.060

15-0331

NTD \*FLT WINDWARD VENT DOORS 1 AND 2  
 232 WILL BE OPENED.

NOT PERFORMED \_\_\_\_\_

15-0332

NTD OTC OPEN WINDWARD VENT DOORS 1 AND 2.  
 232  
 OTC CPVD  
 132

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0333		CPVD		CURSOR CNTL (VAM31A/VAM09A) VENT DOORS 1 AND 2 (WINDWARD) OPEN TARGET XMIT CURSOR KEY - PRESS	
				NOT PERFORMED	_____
15-0334		CPVD	OTC	WINDWARD VENT DOOR OPENING	
		132		COMPLETE.	
		OTC	NTD		
		232			
		NTD	*SCC		
				NOT PERFORMED	_____
				DPS LCC MONITOR ACTIVATION/LDB	
				-----	
				REDUNDANCY CHECK	
				-----	
				NOTE	
				LDB SWITCHING WILL OCCUR	
				IN NEXT STEP.	
15-0335	-07H15M	OTC	CDPS	ACTIVATE DPS LCC MONITOR AND	SU72617
		132		PERFORM LDB REDUNDANCY CHECK	
				PER S0007VL4 (SEQ 49, ITEM 14).	
				(5 MIN) REPORT COMPLETION.	
				OMRSD S00FB0.230-1R	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
PAYLOAD COMM CHECKS -----					
15-0336	-07H15M	NTD 232 PTC	PTC ICTC ICCL AXTC	PERFORM A/G-1 COMM CHECKS WITH PAYLOAD LAUNCH TEAM ON OIS CH 212. (STS-93)	
OMS GIMBAL PROFILE COMPLETE -----					
NOTE					
PERFORM NEXT TWO STEPS IF THE REFERENCED TEST WAS PERFORMED ON THIS RUN.					
15-0337	-07H00M	COFC	OTC	OMS GIMBAL PROFILE COMPLETE.	
NOT PERFORMED _____					
15-0338		COFC 132 OTC 232 NTD LPS LPS 127	OTC NTD	SET PP 1 UNIT 6 OFF LINE. REMOVE DATA FOR DATA COORDINATOR.	
NOT PERFORMED _____					
DEU 3 RETURN TO C12 -----					
15-0339		COFC		CONSOLE KYBD ISSU N72IV102D 0 XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
C CO _DEU3G LDBA C12 XMIT CMD KEY - PRESS					
15-0340		COFC 132	OTC CDPS	RESPONSIBLE CONSOLE FOR DEU 3 IS NOW C12.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
ACTIVATE OMS TVC LCC MONITORING					
-----					
15-0341				COFC APPL PG A (SAB20/SWB02) PFK13 KEY - PRESS (ACT EMON SETUP)	
15-0342				COFC CURSOR CNTL (SAB20/SWB02 PG A) A-OMS TVC XMIT CURSOR KEY - PRESS  OMRSD V79AZ0.090-1 (SWB02)	
15-0343				COFC APPL PG A (SAB20/SWB02) PFK13 KEY - PRESS (DE-ACT EMON SETUP)	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				RED CREW ASSEMBLED	
15-0344	-07H00M	NTD 232 OTC 132	OTC *PAD	VERIFY RED CREW ASSEMBLED AND READY TO SUPPORT.	SU72633
15-0345	-06H00M	STM 111 JBDY	JBDY	VERIFY PROTECTIVE CLOTHING MOBILE VAN PARKED AT COMPLEX J. (7-6428)	
15-0346		STM 138	JYVO	CONTROL OF VIDEO SWITCHER 457 DURING CONTINGENCIES WILL BE AT DIRECTION OF NVM/*PAD UNTIL PAD REENTRY.	COMM

EGRESS OPERATIONAL CHECKS

NOTE

NOTED REQUIREMENT SATISFIED  
 BY THE FOLLOWING EIGHT STEPS.

OMRS S00FA0.820

15-0347	-07H00M	NTD 232 OTC 132	OTC CHGD	EMERGENCY EGRESS SYSTEM (SAW01/HWW16) VERIFY EGR HFDS OPERATIONAL CHECKS FOR PRIMARY AND SECONDARY HIMS:	
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ALRM = OFF  
 CONF = ON  
 SELF = OFF

VERIFY EGR EETD OPERATIONAL CHECKS  
 FOR PRIMARY AND SECONDARY HIMS:

AMBIENT +/- 15 DEGREES FARENHEIT

15-0348			CHGD	WHITE ROOM ARRAY - VERIFY 2 OF 3 OPERATIONAL:	
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EGR FD1  
 EGR TD1  
 EGR TD2

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0349		CHGD	OAA ARRAY	- VERIFY 2 OF 4 OPERATIONAL:	
			EGR FD2		
			EGR FD3		
			EGR TD3		
			EGR TD7		
15-0350		CHGD	FSS ARRAY	- VERIFY 3 OF 5 OPERATIONAL:	
			EGR FD7		
			EGR FD11		
			EGR FD12		
			EGR FD13		
			EGR FD14		
15-0351		CHGD	175 FOOT LEVEL ARRAY	- VERIFY 4 OF 6 OPERATIONAL:	
			EGR FD8		
			EGR FD9		
			EGR FD10		
			EGR TD8		
			EGR TD9		
			EGR TD10		
15-0352		CHGD	195 FOOT LEVEL ARRAY	- VERIFY 4 OF 6 OPERATIONAL:	
			EGR FD4		
			EGR FD5		
			EGR FD6		
			EGR TD4		
			EGR TD5		
			EGR TD6		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0353		CHGD	OTC	EMERGENCY EGRESS OPERATIONAL CHECKS COMPLETE. NO ANOMALIES NOTICED.	
15-0354				NOTED REQUIREMENT COMPLETE.  OMRSD S00FA0.820  COMM CMD TO LAUNCH CONFIG COMPLETE	
15-0355	-07H00M	CCSE 132 OTC 232	OTC NTD	COMM CMD TO LAUNCH CONFIG-MCCH COMPLETE (V1117).  OMRSD S00FA0.372-A OMRSD S00FA0.372-D OMRSD S00FA0.372-H OMRSD S00FA0.372-I OMRSD S00FB0.281-A-1R OMRSD S00FB0.281-B-1R OMRSD S00FB0.281-C-1R OMRSD S00FB0.281-D-1R	SU72568

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT STEP AFTER  
COMPLETION OF COMM CMD TO  
LAUNCH CONFIG AND SWITCHLIST.

15-0356	-07H00M	OTC	CCSE CRT (VAA19)
		132	

VERIFY:

PM CONTROL CMD  
ANTENNA SW 2 ON  
PM QUAD SEL ULA  
SWITCH SCAN GPC  
FM HEMI SEL UPPER  
SWITCH SCAN GPC

XPNDR-2 ON  
MODE STDN LOW  
FREQ \_\_\_\_\_ (HIGH OR LOW)  
\_\_\_\_\_ LOOP STRESS (RECORD)  
\_\_\_\_\_ AGC (RECORD)  
\_\_\_\_\_ WATTS (RECORD)

NSP 2 ON  
BIT SYNC LOCKED  
FRM SYNC LOCKED  
BITE GO  
PRE AMP OFF  
PRE AMP HTRS ON  
PWR AMP OFF  
STANDBY -1 OFF, -2 OFF

CRT (VWA40)

VERIFY  
COMSEC ENCRYPT RCV  
COMSEC FRAME SYNC LOCKED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

-----  
 MCCH ABORT ADVISORY CHECK  
 -----

NOTE

DO NOT PERFORM ABORT ADVISORY  
 CHECK WHILE COMM COMMAND TO  
 LAUNCH CONFIG IS IN PROGRESS.

15-0357	-07H00M	NTD 232	OTC	STANDBY FOR ABORT ADVISORY CHECKS ON OIS CH 212.	SU72618
		OTC 132	ASP CISL		
15-0358		NTD 232	*FLT	VERIFY SYSTEM ARMED AND READY TO PERFORM CHECK ON OIS CH 212.	
15-0359	-07H00M	NTD 232	*FLT	PERFORM FLT ABORT ADVISORY CHECKS	

NOTE

NEXT 12 STEPS VERIFY THE  
 MCC FLIGHT DIRECTOR CONSOLE.  
 ASP SHOULD REPORT ABORT LIGHT  
 ON OR OFF REGARDLESS OF LIGHT  
 INTENSITY.

15-0360			*FLT	TRANSMIT DSM 4054 (ABORT A/B ON) VIA FD CONSOLE HARDWARE PBI	
15-0361		ASP		PANEL F6 ABORT INDICATOR LIGHT ON	
15-0362			*FLT	TRANSMIT DSM 4053 (ABORT B OFF)	
15-0363		ASP		PANEL F6 ABORT INDICATOR LIGHT ON	
15-0364			*FLT	TRANSMIT DSM 4051 (ABORT A OFF)	
15-0365		ASP		PANEL F6 ABORT INDICATOR LIGHT OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0366				*FLT TRANSMIT DSM 4054 (ABORT A/B ON) VIA FD CONSOLE SOFTWARE PBI	
15-0367		ASP		PANEL F6 ABORT INDICATOR LIGHT ON	
15-0368				*FLT TRANSMIT DSM 4051 (ABORT A OFF)	
15-0369		ASP		PANEL F6 ABORT INDICATOR LIGHT ON	
15-0370				*FLT TRANSMIT DSM 4053 (ABORT B OFF)	
15-0371		ASP		PANEL F6 ABORT INDICATOR LIGHT OFF	
NOTE					
NEXT FOUR STEPS VERIFY THE MCC FLIGHT DYNAMICS OFFICER CONSOLE. ASP SHOULD REPORT ABORT LIGHT ON OR OFF REGARDLESS OF LIGHT INTENSITY.					
15-0372				*FLT TRANSMIT DSM 4054 (ABORT A/B ON) VIA FDO CONSOLE HARDWARE PBI	
15-0373		ASP		PANEL F6 ABORT INDICATOR LIGHT ON	
15-0374				*FLT TRANSMIT BOTH DSM 4051 (ABORT A OFF) AND DSM 4053 (ABORT B OFF)	
15-0375		ASP		PANEL F6 ABORT INDICATOR LIGHT OFF	
15-0376		*FLT	NTD	ABORT ADVISORY CHECKS COMPLETE.	SU72618
		232			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0377	-07H00M	STM 111 JSTC NET 104	JSTC *SCB	DELIVER 40 ELSA'S AND 16 30 MIN AIR PACKS (LOCATED IN AIR PACK VAN) TO COMPLEX J. (30 MIN)	LS SU72668
				TOP-OFF SS SYS -----	
15-0378		STM 111	JBWC	TOP OFF ELEVATED SOUND SUPPRESSION WATER TANK PER OMI M3189.001.	WSSA SU72671
				GOX HOOD PURGE TO OPERATING ----- PARAMETERS -----	
15-0379	-07H00M	TBC 136	CMEC	PERFORM GOX VENT HOOD PURGE FLOW AND TEMPERATURE RETURN TO OPERATING PARAMETERS PER OMI G2158.	SU72655

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- FINAL LH2 PREPS COMPLETE -----					
NOTE					
DO NOT PERFORM NEXT STEP IF SUPPORTING SCRUB/TURNAROUND.					
15-0380	-07H00M	CLHY 136 TBC 232 NTD	TBC NTD *SCC	G3251 OPERATION SUPPORT SETUP 14 - LH2 FINAL PREPS FOR LOADING COMPLETE. PERSONNEL CLEARING TO FALLBACK AREA. LH2 STORAGE AREA PERIMETER ROAD BARRIERS REMOVED AND WARNING LIGHTS CONFIGURED TO FLASHING RED.	SU72651
NOT PERFORMED _____					
NOTE					
PERFORM NEXT STEP IF SUPPORTING SCRUB/TURNAROUND.					
15-0381	-07H00M	CLHY 136 TBC 232 NTD	TBC NTD *SCC	LH2 FINAL PREPS FOR VEHICLE LOADING PER G3255 COMPLETE. PERSONNEL CLEARING TO FALLBACK AREA. LH2 STORAGE ROAD BARRIERS REMOVED AND WARNING LIGHTS CONFIGURED TO FLASHING RED.	
NOT PERFORMED _____					
15-0382		NTD 232 STM 111 JSTC 114	STM JSTC	LH2 STORAGE AREA FIRE TRUCK RELEASED FALLBACK TO PAD _____ GATE.	FIRE



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
LH2 PRE-CHILLDOWN OPS (S1004)					
15-0383		TBC 136	CLHY	PERFORM LH2 PRE-CHILLDOWN OPERATIONS PER OMI S1004.	SU72654
15-0384		TBC 132 OTC	OTC CMPS	CMPS SUPPORT REQUIRED FOR LH2 PRE-CHILLDOWN OPERATIONS ON OIS CH 166.	
CONFIGURE ICE/FROST MONITORING AREA					
15-0385	-06H45M	TBC 232 NTD STM 138 JYVO	NTD STM JYVO JTV1 JTV2	SUPPORT PRE-OPERATION SETUPS PER S6444 ON CHANNELS 222, 223, 224, 225. CTIF WILL CONTACT JYVO WHEN READY FOR CAMERA MOVEMENT.	COMM SU72656 SU72672
15-0386		TBC 136	CTIF	SET INITIAL CONFIGURATION FOR ICE/FROST MONITORING AND DEBRIS EVALUATION PER OMI S6444.	
15-0387		TBC 136	CTIF	VERIFY PMBT WITHIN RANGE SPECIFIED PER S6444.	
15-0388		CTIF 136	TBC	SRM PMBT WITHIN SPECIFIED RANGE PER S6444.	
OMRSD S00FA0.600-1					
TOP-OFF SS SYS COMPLETE					
15-0389		JBWC 111	STM	SS ELEVATED TANK TOP-OFF COMPLETE.	WSSA SU72671

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
IMU OPERATE -----					
NOTE					
SPEC 104 IS REQUIRED ON CRT 2 FOR IMU OPERATIONS AND WILL BE CALLED BY LPS.					
IMU(S) TO OPERATE SHALL OCCUR NO LATER THAN L-08H20M.					
DURING IMU ATT DET, DO NOT PERFORM DDU CHECKOUT, TCS-S OR ECP'S.					
15-0390		OTC 132	CDPS	CHANGE RESPONSIBLE CONSOLE FOR DEU 2 TO C11	
15-0391			CDPS	CONSOLE KYBD HOME CMD KEY - PRESS ISSU N72IV101D #B00B XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS HOME CMD KEY - PRESS C CO _DEU2G LDBA C11 XMIT CMD KEY - PRESS	
15-0392		CDPS 132	OTC	RESPONSIBLE CONSOLE FOR DEU2 NOW C11.	
15-0393	-06H45M	OTC 132	CGNC	PERFORM IMU OPERATE AND ATTITUDE DETERMINATION PER OMI V1123. (24 MIN)	SU72620
RT OMI LOG NO. _____					
APU HEATER ACTIVATION -----					
15-0394	-06H45M	OTC 132	CAPU	PERFORM APU HEATER ACTIVATION PER S0007VL4 (SEQ 42). (30 MIN)	SU72621
15-0395		OTC 132	CAPU	PERFORM APU SW SCAN PER S0007VL4 (SEQ 42). (30 MIN)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ET/IT GN2 PURGE INITIATED					
15-0396	-06H45M	CLHY 136 TBC 232	TBC CLOX CHGD NTD	ET/IT GN2 PURGE HAS BEEN INITIATED.  _____ GMT	SU72657
ET/IT PURGE STATUS					
NOTE					
NEXT STEP NORMALLY PERFORMED 30 MINUTES AFTER ET/IT PURGE HAS BEEN INITIATED BUT MAY OCCUR EARLIER.					
15-0397		CLHY 136 TBC	TBC CHGD	VERIFY O2 CONCENTRATION IN ET/IT LESS THAN 10,000 PPM O2 AND DECREASING.	
15-0398		CHGD 177	JHGD	LCC 3R18 HUMS CONTROL ROOM - HUMS REMOTE TERMINAL	
<ol style="list-style-type: none"> <li>1. "VEHICLE PAGE" - SELECT</li> <li>2. SOURCES -SELECT "LINES 1-8"</li> <li>3. LINE - SELECT "S/L 1"</li> </ol>					
15-0399		CHGD 136 TBC	TBC CLHY CLOX	O2 CONCENTRATION IN ET/IT LESS THAN 10,000 PPM AND DECREASING.  _____ GMT	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
LH2 AND LO2 TSM GN2 PURGES INITIATED					
15-0400		CLHY 136 TBC	TBC CHGD	LH2 AND LO2 TSM GN2 PURGES HAVE BEEN INITIATED.  _____ GMT	SU72658
LH2 TSM GN2 PURGE STATUS					
15-0401		CLHY 136 TBC	TBC CHGD	VERIFY O2 CONCENTRATION IN MLP LH2 TSM DECREASING.	
15-0402		CHGD 177	JHGD	LCC 3R18 HUMS CONTROL ROOM - HUMS REMOTE TERMINAL  1. "VEHICLE PAGE" - SELECT  2. SOURCES - SELECT "LINES 9-16"  3. LINE - SELECT "S/L 9"	
15-0403		CHGD 136	TBC	O2 CONCENTRATION IN MLP LH2 TSM DECREASING.  _____ GMT	
GOX HOOD PURGE TO OPERATING PARAMETERS COMPLETE					
15-0404	-06H40M	CMEC 136	TBC	GOX VENT HOOD PURGE FLOW RETURNED TO OPERATING PARAMETERS PER OMI G2158.	SU72655

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0405	-06H40M	TBC 136	CMEC	TERMINATE GAG02 PROGRAM AND TRANSFER GOX VENT ARM SYSTEM MONITORING AND CONTROL TO VAJ14 PROGRAM PER OMI G2158.	
15-0406	-06H40M	CMEC 136	TBC	GAG02 PROGRAM TERMINATED AND GOX VENT SYSTEM MONITORING AND CONTROL TRANSFERRED TO VAJ14 PER G2158.  OMRSD S00FC0.090-1  FINAL OPS/SAFETY WALKDOWN COMPLETE	
15-0407	-06H30M	NPM NET 110 NTD 232	NTD   *SCC	BDA CLEAR FINAL OPS/SAFETY WALKDOWN COMPLETE. DISCREPANCIES IDENTIFIED:  _____  _____  _____	
				NPM WILL DOCUMENT ALL DISCREPANCIES IN APPENDIX M (S0007VL4).	
NOTE					
APPLICABLE DISCREPANCIES ARE TO BE DELIVERED TO FR NTD FOR ASSESSMENT BY SSV (SPE) AND/OR SUPPORT (STM/CCC) REPRESENTATIVES.					
15-0408		NTD 232 STM NET 104	STM	BDA CLEAR FINAL OPS/SAFETY WALKDOWN COMPLETE. DISPOSITION OF FOD MUST BE COMPLETED BY START OF T-3HR HOLD.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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SAFETY SIGN REMOVAL STATUS

15-0409		*PSE NET 105 *SCC 232 NTD	*SCC NTD OTC TBC STM PTC	ALL SFOC SAFETY WARNING SIGNS HAVE BEEN REMOVED WITH FOLLOWING EXCEPTIONS: 1. PTCR - SOUTH TUNNEL ENTRANCE 2. ECS DOORS (TWO) 3. PTCR DOOR (GROUND LEVEL) 4. PAD CATACOMB DOORS 5. PAD TUNNEL - EAST AND WEST ENTRANCES	
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INCREASE AFT FLOW (V1122)

CAUTION

TO PREVENT POSSIBLE OVER PRESSURIZATION OF AFT COMPARTMENT, AIR TO GN2 CHANGEOVER MUST BE PERFORMED PRIOR TO NEXT STEP.

15-0410	-06H30M	OTC 132	CPVD	1. VERIFY ECS GN2 PURGE TO ORBITER HAS STABILIZED. 2. INCREASE CRYO LOAD AFT FLOW RATE TO 110 +/- 5 LB/MIN AND RAISE AFT INTERFACE TEMP TO 105 +/-10 DEG F PER OMI V1122.	SU72622
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT STEP FOR PAD A LAUNCH ONLY.					
15-0411		NTD 232 STM 111 JSTC 114	STM JSTC *SEC	UNLOCK AND OPEN PERIMETER GATE TO HELIPAD NO. 8. VERIFY WHEN COMPLETE.	SEC
				NOT PERFORMED	_____
15-0412		STM 111 JSTC 114	GYCC JSTC KSTC	PERFORM PRE-OPERATIONS SETUP INSTRUCTIONS FOR A5204 CREW TRANSFER - CREW SUITING ROOM O&C TO PAD ____.	COMM JSTC SU72670
15-0413		*SCB NET 104 JSTC 111	JSTC STM	12 LAPS WITH COMM DELIVERED TO FIRE STATION NO. 2.	LS
15-0414	-06H30M	*SCB NET 104	JSTC	AIR PACK VAN DEPARTING PAD GATE ENROUTE TO COMPLEX J.	LS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
LOX FINAL PREPS COMPLETE -----					
15-0415		PLOX 156 CLOX 136 TBC 232 NTD	CLOX TBC NTD *SCC	LOX STORAGE AREA FINAL PREPS COMPLETE. ROAD BARRIERS REMOVED AND WARNING LIGHTS ARE FLASHING RED.	
15-0416	-06H30M	CLOX 136 TBC 232	TBC NTD	PERFORM FOLLOWING:  1. LOX SYSTEM FINAL PREPS FOR VEHICLE LOADING PER G3151 (OR G3155 IF PERFORMING SCRUB TURNAROUND) COMPLETE.  2. READY TO INITIATE MPS AND LOX LOADING PRELIMINARIES AND SSME PURGES PER OMI S1003.	SU72647
15-0417	-06H30M		CLOX	COMPLETION OF G3151/G3155 SEQUENCES IN PREVIOUS STEP SATISFIES NOTED OMRS REQUIREMENTS.  OMRSD S00FA0.116-1 OMRSD S00FA0.120-1 OMRSD S00FA0.141-1 OMRSD S00FB0.330-1 OMRSD S00L00.051-B-1	
15-0418		NTD 232 STM 111 JSTC 114	STM JSTC JFIR	LOX STORAGE AREA FIRE TRUCK RELEASED TO FIRE STATION NO. 2.	FIRE



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
LOX LOADING PRELIMINARIES					
15-0419	-06H30M	NTD	TBC	PERFORM LOX AND MPS LOADING	SU72648
		232		PRELIMINARIES PER OMI S1003.	
		TBC	CLOX		
		136			
		CLOX	CMPL		
		156			

NOTE

NOTED OMRS REQUIREMENTS ARE SATISFIED BY COMPLETION OF ET LOX TANKING FROM LOX/ MPS LOADING PRELIMINARIES THROUGH T-10 SECONDS. DETAILS OF LOX TANKING ARE SPECIFIED IN S1003.

- OMRS S00FB0.090-A-1
- OMRS S00FB0.300-1
- OMRS S00FB0.310-1
- OMRS S00FB0.320-1
- OMRS S00FB0.340-1
- OMRS S00FC0.080-1
- OMRS S00FC0.100-1
- OMRS S00FC0.120-1
- OMRS S00FD0.062-1
- OMRS S00FD0.073-1
- OMRS S00FD0.094-1
- OMRS S00FD0.095-1
- OMRS S00FD0.121-A-1R
- OMRS S00FF0.101-1
- OMRS S00FF0.145-1
- OMRS S00FM0.043-1
- OMRS S00FM0.050-1
- OMRS S00FM0.060-1
- OMRS S00FM0.321-1
- OMRS S00FM0.330
- OMRS S00FM0.342-1
- OMRS S00FM0.440-1

15-0420	-06H30M	TBC	OTC	CMPL SUPPORT REQUIRED FOR MPS LOX	
		132		LOADING PRELIMINARIES ON CH 156.	
		OTC	CMPL		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0421		CLOX 136 TBC	TBC CMEC	VERIFY GOX VENT ARM SYSTEM READY TO SUPPORT LOX LOADING. REPORT ANY OUT OF TOLERANCE OR ABNORMAL CONDITION TO CLOX.  JBFX TO 136/JCFM TO 158 MONITOR -----	
15-0422	-06H30M	NTD 232	JBFX	REMAIN ACTIVE ON OIS CHANNEL 232 AND MONITOR CH 136 FROM NOW THRU T-20 MIN. PERFORM COMM CHECK WITH CLOX, CLHY AND TBC ON CH 136. FLOW FIREX WATER IF DIRECTED BY CLOX OR CLHY. REPORT YOUR ACTION ON OIS CH 136 THEN TO NTD ON 232.	WSSA
15-0423		TBC 136	JBFX	PERFORM COMM CHECK ON CH 136. CLOX JBFX RETURN TO CH 232 ACTIVE AND CLHY CH 136 MONITOR THRU T-20 MIN.	WSSA
15-0424		CLOX 136 TBC 232 NTD STM STM 111	TBC NTD STM JCFM	JCFM REQUESTED ON OIS CH 158 TO:  1. SUPPORT CLOX WITH LOX PUMP INSTRUMENTATION RECORDING REQUESTS. (S1003)  2. PERFORM COMM CHECK WITH CLO3.  INITIATE SSME PURGING -----	
15-0425	-06H30M	CLOX 136 TBC 132 OTC	TBC OTC CSME CCME	INITIATE SSME PURGING PER OMI S1003 ON OIS CH 156.	SU72653

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0426		TBC 138	JYVR	STOP VIDEO RECORDINGS OF OTV CAMERAS 007/107,031/131,032/132, 038/138,039/139,040/140,056/156 (G3151 AND G3251).  START VIDEO RECORDING OF OTV CAMERAS FOR CRYO LOADING (OMI S1003 AND S1004) (SEE CLHY/CLOX FIGURE 4) LAUNCH CONFIGURATION.  CAMERAS: 001/101,034/134,049/149,050/150,051/151  PSEUDO INIT -----	COMM
15-0427			CGLS	VERIFY 1 AVAILABLE CONCURRENCY.  HOME CMD KEY - PRESS SLPP1 PERF PGM KEY - PRESS  (KSCA OR KSCB) XMIT RESP KEY - PRESS  CURSOR CNTL PSEUDO INIT XMIT CURSOR KEY - PRESS  POSITION CURSOR TO ALL PSEUDOS XMIT CURSOR KEY - PRESS  NOTE  IF PAGE B MSG INDICATES: "SEE PAGE A FOR OPERATOR INPUT" PERFORM THE NEXT TWO STEPS.	
15-0428			CGLS	CRT VERIFY PAGE A MSG:  (N03IS511E) CRYO SAFING ENABLED IS ON. THIS INDICATES SCRUB/CRYO DRAIN IN PROGRESS.  NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0429		CGLS	CONSOLE KYBD	ENTER "1" IF CRYO SAFING SUPPORT COMPLETED AND SLP50 NOT ACTIVE TO INITIALIZE (N03IS511E) TO OFF.  ENTER "2" TO LEAVE (N03IS511E) UNCHANGED  _____ (1 OR 2) XMIT RESPONSE KEY - PRESS  CRT VERIFY MSG INDICATING PSEUDO STATE  NOT PERFORMED _____	
15-0430		CGLS	VERIFY ALL SELECTED BLOCKS INVERTED AND NO EXCEPTIONS PG-A TERMINATE XMIT CURSOR KEY - PRESS TERMINATE XMIT CURSOR KEY - PRESS		
15-0431		CGLS LPS 127	GLS PSEUDO INIT IS COMPLETE. PLEASE NOTE IN THE LPS LOGS FOR FUTURE SLP50 INITIATION.		



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM FOLLOWING STEP IF  
PGM SA001 NOT AUTOMATICALLY  
INITIALIZED.

15-0434		LPS	C1MC	CRT (SLP50 PAGE A) VERIFY MESSAGE PSEUDO NLHK0706 IS ON, INDICATING SA001 ALREADY ACTIVE, SPECIFY WHETHER TO PROCEED:	
---------	--	-----	------	---	--

- 1 - ACTIVE SA001
- 2 - DO NOT ACT SA001 NOW

CONSOLE KYBD  
1  
XMIT RESP KEY - PRESS

CRT  
VEIFY PGM SA001 ACTIVE

VERIFY MESSAGE  
CRYOGENIC RECOVERY FUNCTION  
WILL BE HANDLED BY SA001.  
CRYO SAFING RESPONSE DISABLED.

NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT 16 STEPS  
AS APPLICABLE IF SLP50  
IS NOT ACTIVE.

15-0435		LPS	C1MC	VERIFY NEXT PGM WILL COME UP IN CONCURRENCY 5.	
---------	--	-----	------	---	--

NOT PERFORMED \_\_\_\_\_

15-0436		LPS	C1MC	PERFORM PROGRAM SLP50 AT MSTR CONSOLE.	
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0437		C1MC	PVO <FD> XMIT CMD KEY - PRESS N03IS510E RECORD VALUE_____		
			N03IS511E RECORD VALUE_____		
			NLHK0706X RECORD VALUE_____		
				NOT PERFORMED	_____
15-0438		C1MC	HOME CMD KEY - PRESS SLP50 - PERF PGM KEY - PRESS		
				NOT PERFORMED	_____
15-0439		C1MC	VERIFY CONCURRENCY 6 AVAILABLE FOR SA001 ACTIVATION.		
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT THREE STEPS IF  
PSEUDO VALUES ARE AS FOLLOWS:

N03IS510E = OFF AND  
N03IS511E = OFF

15-0440

C1MC CRT (SLP50, PAGE A)  
VERIFY ONE ADDITIONAL CONCURRENCY  
AVAILABLE IF OPTION 1 WILL BE  
SELECTED.

SPECIFY CURRENT TEST CONFIGURATION

1 - FOR TERMINAL COUNT

THIS IS THE TIME PERIOD FROM JUST  
PRIOR TO THE START OF CRYO TANKING  
(T-6HR) THRU GLS SECURING.

2 - CRYO DRAIN SUPPORT

THIS IS THE TIME FROM GLS SECURING  
THRU LH2 BOILOFF COMPLETE. LH2  
BOILOFF COMPLETE IS APPROX T+18 HR  
FROM INITIATION OF THE SCRUB.

NOT PERFORMED \_\_\_\_\_

15-0441

C1MC CONSOLE KYBD  
1 - XMIT RESP - PRESS  
VERIFY - TERMINAL COUNT

NOT PERFORMED \_\_\_\_\_

NOTE

DO NOT PERFORM NEXT SEVEN  
STEPS IF NEXT STEP DOES  
NOT OCCUR AUTOMATICALLY.

15-0442

C1MC VERIFY SA001 ACTIVE IN CONC 6.

NOT PERFORMED \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT THREE STEPS IF  
PSEUDO VALUES ARE AS FOLLOWS:

N03IS511E = ON

15-0443

C1MC CRT (SLP50, PAGE A)  
CURRENT PSEUDO FD CONFIGURATION  
INDICATES CRYO DRAIN SUPPORT.  
CONFIRMATION OF CORRECT CONFIGURATION  
REQUESTED. SELECT ONE OF THE FOLLOWING:

1 - FOR TERMINAL COUNT

THIS IS THE TIME PERIOD FROM JUST  
PRIOR TO THE START OF CRYO TANKING  
(T-6HR) THRU GLS SECURING.

2 - CRYO DRAIN SUPPORT

THIS IS THE TIME FROM GLS SECURING  
THRU LH2 BOILOFF COMPLETE. LH2  
BOILOFF COMPLETE IS APPROX T+18 HR  
FROM INITIATION OF THE SCRUB.

NOT PERFORMED \_\_\_\_\_

15-0444

C1MC CONSOLE KYBD  
1 - XMIT RESP - PRESS

NOT PERFORMED \_\_\_\_\_

15-0445

C1MC CRT (PAGE A)  
VERIFY MESSAGE

SELECTED - TERMINAL COUNT

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT THREE STEPS IF  
PSEUDO VALUES ARE AS FOLLOWS:

N03IS510E = ON

15-0446		C1MC	CRT (SLP50, PAGE A)	CURRENT PSEUDO FD CONFIGURATION INDICATES GLS HAS ISSUED THE TERM LOX REPL (T-4/55). CONFIRMATION OF CORRECT CONFIGURATION REQUESTED. SELECT ONE OF THE FOLLOWING:  1 - FOR TERMINAL COUNT  THIS IS THE TIME PERIOD FROM JUST PRIOR TO THE START OF CRYO TANKING (T-6HR) THRU GLS SECURING.  2 - CRYO DRAIN SUPPORT  THIS IS THE TIME FROM GLS SECURING THRU LH2 BOILOFF COMPLETE. LH2 BOILOFF COMPLETE IS APPROX T+18 HR FROM INITIATION OF THE SCRUB.	
				NOT PERFORMED	_____
15-0447		C1MC	CONSOLE KYBD	1 - XMIT RESP - PRESS	
				NOT PERFORMED	_____
15-0448		C1MC	CRT (PAGE A)	VERIFY MESSAGE  SELECTED - TERMINAL COUNT	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT TWO STEPS IF  
PSEUDO VALUES ARE AS FOLLOWS:

NLHK0706X = ON

15-0449		C1MC	CRT (SLP50, PAGE A)	PSEUDO NLHK0706X IS ON, INDICATING SA001 ALREADY ACTIVE. SPECIFY WHETHER TO PROCEED WITH SA001 ACTIVATION.	
				1 - ACTIVATE SA001 REGARDLESS OF THE PSEUDO VALUE	
				2 - DO NOT ACTIVATE SA001 NOW	
				NOT PERFORMED	_____

15-0450		C1MC	CONSOLE KYBD	1 - XMIT RESP KEY - PRESS	
				VERIFY MESSAGE	
				CRYOGENIC RECOVERY FUNCTION WILL BE HANDLED BY SA001.	
				CRYO SAFING RESPONSE DISABLED.	
				PFP	
				VERIFY TASK	
				SA001	
				NOT PERFORMED	_____

15-0451		C1MC	LPS	PROGRAMS ACTIVE AT MSTR:	
				SLP50 (ACTIVE OR INACTIVE)	
				SA001 (ACTIVE OR INACTIVE)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT STEP IF AUTOMATIC RCL RSYS TRANSFER IS ACTIVE.					
15-0452		LPS	CTPE	PERFORM AUTOMATIC RSYS XFER INHIBIT.	
			CTPE	PFP (SAP27)	
				PFPK1 - PRESS (INH AUTO RCL XFER)	
				NOT PERFORMED	
15-0453		LPS	NTD	SLP50 CL RSYS/CONSOLE CRASH PGM	
		232		ACTIVE.	
		NTD	OTC		
			TBC		
		OTC	CTPE		
		132			
		TBC	CLOX		
		136	CLHY		
15-0454		LPS	NTD	SA001 LO2/LH2 CONSOLE MONITOR HAS	
		232		BEEN INITIATED.	
		NTD	OTC		
			TBC		
		OTC	CTPE		
		132			
		TBC	CLOX		
		136	CLHY		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0455			LPS	VERIFY HIM VAN SPARES AND RADIO (NET 102) OPERATION.	
15-0456		LPS 127	C1MC	PERFORM \$FEPCPR DEMAND UPDATE FOR ALL FEPS PER OMI C2000. TERM \$FEPCPR AT COMPLETION OF DEMAND UPDATE.	
15-0457			LPS	VERIFY ALL REDUNDANT SWITCHES ACTIVE.	
15-0458		LPS	CPDR	SWITCH TO ERROR-FREE TAPES FOR CLDB PDR AND LDBM RECORDING.	
				INHIBIT HIM'S -----	
15-0459		LPS		INHIBIT FOLLOWING HIM'S ON GROUND DATA BUS 2/22 FROM POLLING BY GS3A FEP:	
			HIM	PAD A OCTAL	PAD B OCTAL
			---	-----	-----
			6396	222	275
			6397	023	303
			6398	032	311
			6399	233	316
			8020	224	320
			8022	025	325
				FUEL CELL ACTIVATION - COMPLETE -----	
				NOTE	
				DO NOT PERFORM NEXT THREE STEPS IF A RECYCLE OCCURRED AND FUEL CELLS REMAINED ACTIVE.	
15-0460	-06H30M	CFCP 132 OTC 232	OTC NTD	ORBITER FUEL CELL ACTIVATION AND CONFIGURE TO MAIN BUS LOAD SHARING COMPLETE.	SU72619
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
FUEL CELL PERFORMANCE CALIBRATION ----- /PRSD SYSTEM INTEGRITY CHECK -----					
15-0461		OTC 132	CFCP CEPD CHGD	PERFORM FUEL CELL PERFORMANCE CALIBRATION AND SYSTEM INTEGRITY CHECK PER S0007VL4 (SEQ 69). (30 MIN)	SU72615 SU72630
				OMRS V45CH0.020-1R OMRS V45CH0.030-1	
				NOT PERFORMED	_____
15-0462		OTC 132	CECL	MONITOR HEAT LOAD IMPACT DURING FUEL CELL PERFORMANCE CALIBRATION.	
				NOT PERFORMED	_____
SRSS STATUS -----					
15-0463		TBC 136	CBRS	VERIFY RANGE SAFETY SYSTEM STATUS:	SU72649
				SRB: (LEFT AND RIGHT) -----	
				S&A SAFE - ON, ARM - OFF BATTERY A VOLTS - 31.6 VDC MIN. BATTERY B VOLTS - 30.0-35.9 VDC BATTERY CURR A .04 AMP BATTERY CURR B .04 AMP BATTERY TEMP RCYVY 34.6-103.4 INHIBIT A - ON INHIBIT B - ON	
				OMRSD S00FA0.510-1	
				IMU OPERATE/ATT DET COMPLETE -----	
15-0464	-06H21M	CGNC 132	OTC	IMU OPERATE/ATT DET COMPLETE.	SU72620

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				ACTIVATE IMU OPERATE LCC EMON -----	
15-0465				CGNC APPL PG (SAB20/SWB02, PG-A) PFK13 KEY - PRESS(ACT EMON SETUP)	
15-0466				CGNC CURSOR CNTL (SAB20/SWB02, PG-A) A-IMU OPERATE XMIT CURSOR KEY - PRESS	
15-0467				CGNC APPL PG (SAB20/SWB02, PG-A) PFK13 KEY - PRESS(DE-ACT EMON SETUP)  IMU POST OPERATE GYROCOMPASS ALIGN -----	
15-0468	-06H21M	OTC 132	CGNC	PERFORM IMU GYROCOMPASS ALIGN PER OMI V1123. (42 MIN)  RT OMI LOG NO. _____	SU72623
				NOTE  PERFORM NEXT STEP IF DUAL MODE COOLING IS ACTIVE.	
15-0469		OTC 132	CECL	VERIFY FREON COOLANT LOOP RADIATOR INLET TEMPS ACCEPTABLE TO SUPPORT PAD CLEAR OPERATIONS.  NOT PERFORMED _____  REMOVE CREW CMPT OIS -----	
				NOTE  PERFORMANCE OF NEXT TWO STEPS WILL BE SCHEDULED REAL TIME.	
15-0470		OTC 132	ASP	REMOVE OIS UNIT AND ASSOCIATED *FCM CABLE FROM ORBITER CREW COMPARTMENT. (15 MIN)	SU72635
15-0471		OTC 132	*FCM	WHEN DEPARTING PAD, TRANSPORT CREW COMPARTMENT OIS UNITS AND ASSOCIATED CABLES TO COMPLEX J FOR UCOM PICKUP.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
CLEAR WHITE ROOM/CREW CMPT					
-----					
NOTE					
VERIFY ALL CREW COMPARTMENT WORK COMPLETE PRIOR TO CLEARING WHITE ROOM/CREW COMPARTMENT.					
15-0472		OTC 132	CDR	VERIFY READY TO CLEAR WHITE ROOM/CREW COMPARTMENT.	SU72636
15-0473		OTC 232	NTD	READY TO CLEAR WHITE ROOM AND CREW COMPARTMENT.	
15-0474		NTD 232	*FLT PTC TBC	VERIFY NO REQUIREMENTS FOR PERSONNEL SUPPORT FROM CREW MODULE OR WHITE ROOM.	
15-0475		NTD 232	OTC	CLEAR ALL PERSONNEL FROM WHITE ROOM AND CREW COMPARTMENT TO A/B-11 ROADBLOCK.	
15-0476	-06H20M	OTC 132	*FCM CDR ASP	CLEAR ALL PERSONNEL FROM WHITE ROOM AND CREW COMPARTMENT TO A/B-11 ROADBLOCK, EXCHANGE HAZARDOUS BADGES FOR PICTURE BADGES, THEN PROCEED TO FALLBACK AREA AND REPORT TO *PAD. (20 MIN)	
15-0477		OTC 132	*FCM	PICK UP WHITE ROOM BEU'S AND CREW COMPARTMENT OIS UNIT AND ASSOCIATED CABLES AND DELIVER TO COMPLEX J.	
15-0478	-06H20M	*FCM 132 OTC 232	OTC NTD	CREW COMPARTMENT OIS UNIT, ASSOCIATED CABLE AND BEU'S HAVE BEEN REMOVED FROM WHITEROOM.	
15-0479	-06H20M	OTC 232 NTD	NTD *SCC	ALL WHITE ROOM AND CREW COMPARTMENT PERSONNEL CLEARING THRU A/B-11 ROADBLOCK TO FALLBACK AREA AT THIS TIME.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
REDUCE CABIN AIR TEMP -----					
15-0480		OTC 132	CPVD	REDUCE CABIN CONDITIONED AIR TEMPERATURE TO 55 +/- 5 DEG F AT INTERFACE FOR CREW ENTRY. REPORT WHEN COMPLETE.	
RPS INST WORK AROUND SETUP -----					
15-0481		OTC 232	NTD	REQUEST JRPS ON OIS CH 145 TO SUPPORT CISL.	
			NTD	JRPS	
15-0482		OTC 132	CISL	PERFORM OPERATION SUPPORT SETUP 6 - INSTRUMENTATION LCC WORK AROUND	
		CISL 145	JRPS	SETUP. START STRIP CHART ON PCM DATA AND VERIFY DECOM LOCK ON 64 AND 128 KB DATA. (20 MIN)	

T: \_\_\_\_\_

CONSOLE SOFTWARE CONFIGURATION  
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NOTE

THE FOLLOWING CONSOLE PROGRAM ASSIGNMENTS ARE MINIMUM FOR TANKING. THESE ASSIGNMENTS ARE TO ASSIGN CONCURRENCY PRIORITIES.

15-0483	-06H20M	NTD 232	OTC TBC PTC LPS	VERIFY FR CONSOLE SOFTWARE ACTIVATION CONFIGURED PROPERLY FOR T-06 HOURS.	SU72624
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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PAYLOAD PROGRAMS

NOTE

PERFORM ONE OF THREE SUBSTEPS  
 IN NEXT STEP IF PAYLOAD CONSOLE  
 PROGRAMS ARE ACTIVE.

15-0484	-06H20M	PTC 134	CLES GLES DLES	VERIFY C-1 CONSOLE PROGRAMS ACTIVE	
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- FOR SPACEHAB (POWERED)

PAH001  
 RS0002  
 RW0017  
 PAH001A  
 PAH002  
 PAHLCCD

NOT PERFORMED

SS1

- FOR OTHER PAYLOADS

RW0017  
 RA0003  
 RS0002  
 EA0013

NOT PERFORMED

SS2

- FOR IUS

RW0017  
 UW0002  
 UW0003  
 UW0004  
 RA0003  
 UW0005

NOT PERFORMED

SS3

15-0485		PTC 232	NTD	FR C1 CONSOLE SOFTWARE CONFIGURED.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
ORBITER PROGRAMS					
-----					
15-0486		OTC 132	CCSE CNSE	VERIFY PROGRAMS VWA40 ACTIVE IN C2	
15-0487		OTC 132	CPLE	VERIFY PROGRAM OVERVIEW 2 ACTIVE AT C5	
15-0488		OTC 132	CAFM	VERIFY PROGRAM VAK20 ACTIVE IN C5 VAK21 ACTIVE IN C5	
15-0489		OTC 132	CMPL	VERIFY PROGRAM SAE02 ACTIVE IN C3	
15-0490		OTC 132	CSME	VERIFY PROGRAM VAE38A ACTIVE IN C3	
15-0491		OTC 132	CMPS	VERIFY PROGRAMS VAE18 ACTIVE IN C4 SAE12 ACTIVE IN C4	
15-0492		OTC 132	CECL	VERIFY PROGRAMS VAG34 ACTIVE IN C5 VAG28 ACTIVE IN C5 VAG29 ACTIVE IN C5 VAG60 ACTIVE IN C5 (AUTO)	
15-0493		OTC 132	CPVD	VERIFY PROGRAMS VAM01A ACTIVE IN C6 VAM31A ACTIVE IN C6	
15-0494		OTC 132	CFCP	VERIFY PROGRAMS VWR05 ACTIVE IN C6 VWR70 ACTIVE IN C6 VWR04 ACTIVE IN C6 VWR06 ACTIVE IN C6 (EDO MISSIONS ONLY)	
15-0495		OTC 132	CGSS	VERIFY PROGRAM VAJ02 ACTIVE IN C7 VAJ14 ACTIVE IN C7	
15-0496		OTC 132	COOS	VERIFY PROGRAMS VADL7 ACTIVE IN C7 VADL8 ACTIVE IN C7 VADL9 ACTIVE IN C7 VADL0 ACTIVE IN C7	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0497		OTC 132	CHYD	VERIFY PROGRAMS VWF19 ACTIVE IN C8 VAF43 ACTIVE IN C8	
15-0498		OTC 132	CAPU	VERIFY PROGRAMS VWF48 ACTIVE IN C8 VWF57 ACTIVE IN C8	
15-0499		OTC 132	CISL	VERIFY PROGRAMS SAQ04 ACTIVE IN C9 VAQ29 ACTIVE IN C9	
15-0500	-06H20M	OTC 132	CHGD	VERIFY PROGRAM SAW01/HWW50 ACTIVE IN C9	
15-0501		OTC 132	CEPD	VERIFY PROGRAMS SWC02 ACTIVE IN C10 VWC17 ACTIVE IN C10 VWC10 ACTIVE IN C10	
15-0502		OTC 132	COFC	VERIFY PROGRAMS SAB19 ACTIVE IN C11 SAB20 ACTIVE IN C11 SAB21 ACTIVE IN C11 VABM1 ACTIVE IN C11	
15-0503		OTC 132	CDPS	VERIFY PROGRAMS SAS01 ACTIVE IN C12 VASP9 ACTIVE IN C12 VAS59 ACTIVE IN C12 VAS97 ACTIVE IN C12	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0504		OTC 132	CCME	VERIFY PROGRAM VWE01 ACTIVE IN C12	
15-0505		OTC 132	CTPE	VERIFY PROGRAMS SAP10 ACTIVE IN INTG. SAP27 ACTIVE IN INTG. SAP29 ACTIVE IN INTG. SAP28 ACTIVE IN INTG.	
15-0506		OTC 132	TPE	VERIFY PROGRAMS SEP03 ACTIVE IN B/U SEP03 ACTIVE IN B/U SEP03 ACTIVE IN B/U SEP03 ACTIVE IN B/U	
15-0507		OTC 232	NTD	FR CONSOLE SOFTWARE ACTIVATION CONFIGURED FOR T-06 HOURS.  SRB/ET PROGRAMS -----	
15-0508		TBC 136	CLOX	VERIFY PROGRAMS GAL01 ACTIVE IN C3 GAL02 ACTIVE IN C3	
15-0509		TBC 136	CLHY	VERIFY PROGRAMS GAH01 ACTIVE IN C4 GAH02 ACTIVE IN C4 GAW02 ACTIVE IN C4	
15-0510		TBC 136	CBRS	VERIFY PROGRAMS SARB4 ACTIVE IN C2 SWRB2 ACTIVE IN C2	
15-0511		TBC 136	CBHY	VERIFY PROGRAM BAT04 ACTIVE IN C8	
15-0512		TBC 136	CPWR	VERIFY PROGRAMS BWE08 ACTIVE IN C10 BWE11 ACTIVE IN C10	
15-0513		TBC 232	NTD	FR CONSOLE SOFTWARE ACTIVATION CONFIGURED FOR T-06 HRS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
MASTER CONSOLE PROGRAMS -----					
15-0514		LPS 232	NTD	PROGRAMS ACTIVE IN MSTR: \$HWMON (TCB1) AA008/AWP02 (TCB2) AA009/AWP01 (TCB4) SLP50 (TCB5) SA001 (TCB6)	
FAULT SUMM PAGE CLEAR -----					
15-0515		OTC 132	CDPS	PERFORM FAULT SUMMARY PAGE REVIEW AND CLEAR.	
15-0516			CDPS	CURSOR CNTL (SAS01 PG-B) FAULT SUMMARY PAGE DISPLAY (VASE2) XMIT CURSOR KEY - PRESS  CRT (SAS01 PG-B) VERIFY NO UNEXPLAINED FAULT MESSAGES  APPL PAGE (SAS01 PG-B) PFK 2 KEY - PRESS	
15-0517			CDPS	CONSOLE KYBD DEUE DEST,GN,1,LDBA XMIT CMD KEY - PRESS  DEUE SPEC 99 PRO XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS  CRT (VAS59 PG-B) DEU 1 DISP ID = 990	
15-0518			CDPS	CONSOLE KYBD DEUE RESUME XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

BT4 SNAPSHOT MAY BE PERFORMED DURING ORB/SRB/ET PIC RESISTANCE TEST PROVIDED SRB IGNITION S&A DEVICE VERIFICATION WILL NOT BE PERFORMED.

15-0519	-06H20M	NTD 232 OTC 132	OTC CDPS	PERFORM BT4 SNAPSHOT ON ALL DPS MDM'S.	SU72631
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15-0520			CDPS	CURSOR CNTL (SAS01 PG B) DPS XMIT CURSOR KEY - PRESS  MDM DISCRETE OUTPUT CHECK (VAS94) XMIT CURSOR KEY - PRESS  PFK 2 KEY - PRESS	
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15-0521			CDPS	CURSOR CNTL (VAS94 PG B) T-3HR SNAPSHOT XMIT CURSOR KEY - PRESS	
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NOTE

PERFORM NEXT STEP UPON RECEIPT OF ORIGINAL COPY.

15-0522			CDPS	PFK (VAS94) PFK 15 KEY - PRESS	
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15-0523			CDPS	RETRIEVE BT4 ORIGINAL COPY FROM CONSOLE PRINTER. ANNOTATE PAGE NUMBERS ON COPY AND DELIVER TO DEV RUNNER.	
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15-0524		CDPS 132 OTC 232	OTC NTD	T-6 HR SNAPSHOT PRIOR TO TANKING COMPLETE.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0525		OTC PA		(PA LCC ONLY) T-6 HR BT4 SNAPSHOT COMPLETE. ALL SYSTEMS PLEASE REVIEW. VERBAL OK MUST BE RECEIVED PRIOR TO TANKING.	
15-0526				CTPE BT4 TO BE DISTRIBUTED TO ALL SYSTEMS AS FOLLOWS:  C2 - 2 COPIES FOR CCSE & CNSE C3/4 - 1 COPY FOR CMPS (IF LOADING PRELIMINARIES WERE COMPLETE) C5/6 - 5 COPIES FOR CPVD, CECL, CFCP, CAFM & CPLE C7/8 - 3 COPIES FOR COOS, CHYD AND CAPU C9/10 - 2 COPIES FOR CISL AND CEPD C11/12 - 4 COPIES FOR COFC, CGNC, CDPS AND CCME INTG - 1 COPY FOR TPE  DEV RUNNER WILL PRODUCE COPIES AND DISTRIBUTE.	
15-0527		OTC 132	ALL	ALL SYSTEMS LISTED BELOW TO REVIEW MDM DISCRETE OUTPUT. VERBAL OK MUST BE RECEIVED BEFORE START OF TANKING.	SU72631
				CCSE____ CAPU____ CAFM____ CISL____ CPLE____ CEPD____ CECL____ CGNC____ CPVD____ COFC____ CFCP____ CCME____ COOS____ CDPS____ CHYD____ CMPS____(N/A IF LOADING PRELIMINARIES STILL I/W)	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
MONITOR GOX VENT SEALS					
15-0528		TBC 136	CMEC	MONITOR GOX VENT SEALS THROUGHOUT LOADING FOR ICE FORMATION AND GOX VAPOR LEAK PER S6444. IF A CONTINUOUS STEADY STREAM VAPOR LEAK OR SEAL FRETTING IS DETECTED, PERFORM EMERGENCY GOX VENT HOOD RAISE PER OMI G2158.	
OMRS S00FB0.350-1 OMRSD G51FG0000.104 OMRSD G61FG0000.104					
START CLEARING - LDA					
15-0529	-06H20M	NTD 232 STM 111 JSTC 114	STM JSTC	START CLEARING LAUNCH DANGER AREA OF ALL NONESSENTIAL PERSONNEL FOR LAUNCH. ESTABLISH ROAD BLOCKS AT A/B-10 *SEC AND A/B-11 CONTROL POINTS.	SEC SU72638 SU72661 SU72685
NOTE					
PERSONNEL MAY REMAIN IN THE CCF AND NDTL FACILITIES UNTIL L-03H00M. SECURITY WILL VERIFY LDA CLEAR AT T-00H25M.					
15-0530		NTD 232	*SEC	LDA CLEARING IN EFFECT BY SECURITY.	SU72665
15-0531		NTD 232 LPS 127	LPS CLDB	VERIFY LDBM SUBSYSTEM IN DUAL BUS - REJECT	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- VERIFY ECS STATUS -----					
15-0532		OTC 132	CPVD	VERIFY ECS SYSTEM ON GN2 FOR 30 MINUTES, MINIMUM, PRIOR TO T-6 HOURS.	
OMRS S00FB0.050 OMRSD V05AG0.060-C OMRSD V05AH0.050-C OMRSD V05AI0.060-C					
15-0533	-06H20M	OTC 132	CHGD	VERIFY OXYGEN INDICATION LESS THAN 10,000 PPM AND DECREASING IN THE FOLLOWING AREAS:	
ORBITER PAYLOAD BAY ORBITER MID-BODY ORBITER AFT  VERIFY SAFING PANEL CONFIG -----					
15-0534			CGLS	HOME CMD KEY - PRESS \$SYS PERF PGM KEY - PRESS LDBA XMIT CURSOR KEY - PRESS  DETERMINE IF ALL OF THE FOLLOWING SAFING SEQUENCES: 0,2-14,16,18,20-24 ARE LOADED/NOT LOADED. (GREEN UP ARROW = LOADED)	
15-0535		CGLS NTD 232		LDB SAFING SEQUENCES ARE LOADED/ NOT LOADED.	
NOTE  PERFORM NEXT FOUR STEPS IF LDB SAFING SEQUENCES ARE NOT LOADED.					
15-0536		NTD 232	OTC TBC	VERIFY ALL CONSOLES READY FOR LDB SAFING SEQUENCES TO BE LOADED.	

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0537	-06H20M	OTC 132	CPVD CAPU CEPD COFC CGLS CMPS CMPL	VERIFY YOUR LDB SAFING PANEL CONFIGURED FOR SAFING SEQUENCE LOAD.	
				NOT PERFORMED	_____
15-0538		TBC 136	CBHY CLHY	VERIFY YOUR LDB SAFING PANEL CONFIGURED FOR SAFING SEQUENCE LOAD.	
				NOT PERFORMED	_____
15-0539		OTC TBC 232	NTD	READY TO SUPPORT SAFING SEQUENCE LOAD.	
				NOT PERFORMED	_____
15-0540	-06H20M	NTD 232	LPS	AT LDBA AND LDBS FEPS - PRESS RESET SWITCH ON VEHICLE SAFING INTERRUPT PANEL. VERIFY LIGHTS 0-31 OFF.	
				NOTE	
				PERFORM NEXT FOUR STEPS IF ANY LIGHTS REMAIN ON.	
15-0541		LPS 232 NTD OTC OTC 132	NTD	VERIFY NO TCS SEQUENCES RUNNING.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0542			CDPS	CRT (VAS59, PG-B) VERIFY TCS STATUS INACTIVE.	
				NOT PERFORMED	_____
15-0543		LPS 232	NTD	LDB FEP WILL BE MOMENTARILY INHIBITED TO RESET SAFING LIGHTS. REQUEST PERMISSION TO PROCEED.	
				NOT PERFORMED	_____
NOTE					
LDB I/O ERRORS WILL OCCUR IF NEXT STEP IS PERFORMED.					
15-0544	-06H20M	LPS	C1MC	CONSOLE KYBD	
				I DA LDBA - XMIT CMD/EXEC CMD A DA LDBA - XMIT CMD/EXEC CMD	
				AT LDBA AND LDBS FEPS - PRESS RESET SWITCH ON VEHICLE SAFING INTERRUPT PANEL VERIFY LIGHTS 0-31 ARE OFF	
				NOT PERFORMED	_____
15-0545		LPS 232	NTD	LDB SAFING RESET COMPLETE.	
			OTC		
			TBC		
15-0546		LPS 127	C1SE	VERIFY ALL PDM'S SET TO READ POSITION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM LDB-FEP  
 SAFING LOAD IF LDB HARDWIRE  
 SAFING SEQUENCES ALREADY  
 LOADED AND CMD ENABLE  
 SW IS ENABLED.

LDB-FEP SAFING LOAD

NOT PERFORMED \_\_\_\_\_

NOTE

DO NOT PERFORM NEXT 10 STEPS  
 IF LDB HARDWIRE SAFING  
 SEQUENCES ALREADY LOADED BUT  
 COMMAND ENABLE IS REQUIRED.

15-0547	-06H15M	OTC 132	CGLS	PERFORM LDB SAFING LOAD. (15 MIN)	SU72626
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NOT PERFORMED \_\_\_\_\_

15-0548		CGLS 127	LPS	REPORT CURRENT LDB FEP CONFIGURATION.	
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FEP \_\_\_\_\_=LDB-A SWITCH POS.

FEP \_\_\_\_\_=LDB-B

NOT PERFORMED \_\_\_\_\_

15-0549		CGLS	OC PG (\$SYS)	CURSOR CNTL LDBA LDBA FEP REF. DES. _____ LDB CMD ENABLE SWITCH SHOULD BE IN _____ POSITION FOR THIS TEST.	
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NOT PERFORMED \_\_\_\_\_

15-0550		CGLS 232	NTD	LDB CMD ENABLE WILL GO TO ENABLE ON MY MARK	
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5-4-3-2-1 MARK

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
IF ANY LIGHTS ARE FOUND ON IN NEXT STEP, DO NOT PROCEED WITHOUT NTD/SPE CONCURRENCE.					
15-0551		LPS 127	C1SE	VERIFY LIGHTS 0-31 OFF AT LDB FEP SAFING INTERRUPT PANELS AND NO UNEXPECTED SYSTEM MESSAGES AT MSTR CONSOLE.	
				NOT PERFORMED	_____
15-0552		LPS 232 NTD	NTD CGLS	HAVE INTG CONSOLE PLACE LDB CMD ENABLE SWITCH IN CENTER POSITION (OFF).	
				NOT PERFORMED	_____
15-0553			CGLS	SLPP1 PERF PGM KEY - PRESS (KSCA OR KSCB) XMIT RESP KEY - PRESS VERIFY SLPP1 ACTIVE SELECT APP PG B FOR SLPP1  VERIFY INTEGRATED MENU	
				NOT PERFORMED	_____
15-0554			CGLS	CURSOR CNTL HARDWIRE SAFING XMIT CURSOR - PRESS  CRT  LDB-FEP SAFING SEQ	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

THE FOLLOWING SAFING SEQUENCES  
SHALL BE LOADED.

- O COMMAND LS HOLD/RECYCLE
- ALL HYDRAULICS SAFING SEQUENCES (2,3)
- ALL MPS LOX SAFING SEQUENCES (4,5,6,7)
- ALL MPS LH2 SAFING SEQUENCES (8,9,10,11,12,13)
- 14 FUEL CELL 1 OFF
- 16 FUEL CELL 2 OFF
- 18 FUEL CELL 3 OFF
- ALL ORBITER VENT DOORS SAFING SEQUENCES (20,21,22)
- ALL MPS LOX SAFING SEQUENCES (CONT) (23,24)

15-0555

CGLS CURSOR CNTL  
SELECT ALL SEQ'S  
XMIT CURSOR KEY - PRESS

PFP  
SLPP1 KEY - PRESS  
PFP (SLPP1)  
PFPK1 (EXECUTE) - PRESS

CRT

VERIFY

CURSOR BLOCK SOLID  
GREEN FOR ALL SELECTIONS MADE

CURSOR CNTL  
TERMINATE  
XMIT CURSOR KEY - PRESS  
TERMINATE  
XMIT CURSOR KEY - PRESS  
VFY SLPP1 INACTIVE

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0556				CGLS OC PG (\$SYS) CURSOR CNTL LDBA VERIFY GREEN ARROWS FOR ALL SEQ SELECTED HARDCOPY KEY - PRESS  NOT PERFORMED _____  CAUTION  NEXT STEP WILL ENABLE ALL LDB SAFING SWITCHES.  NOTE  SWITCH POSITION IN FOLLOWING STEP IS THE ACTIVE LDB FEP.	
15-0557				CGLS ON INTEGRATION SAFING PANEL CMD ENABLE SW - _____(LDB-A OR LDB-B)  NOTE  IF A CHANGE OCCURS RESULTING IN A SWITCH OF ACTIVE LDB FEPS, LPS MUST NOTIFY CGLS OF NEW ACTIVE FEP AND NEW SWITCH POSITION.	
15-0558		CGLS	OTC	LDB-FEP SAFING SEQUENCES LOADED	SU72626
		132		AND ALL SAFING SWITCHES ENABLED.	
		OTC	NTD		
		232			
		132	ALL		
		NTD	TBC		
		232	PTC		
		TBC	ALL		
		136			
		PTC	ALL		
		134			
				LDB-FEP SAFING LOAD COMPLETE	
				-----	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CONTROL LOGIC INHIBIT -----					
15-0559		OTC 132	CGLS	PERFORM PROGRAM SAP92 FOR T-6H REACTIVE CONTROL LOGIC INHIBIT, RCL STATUS, COMMAND ISSUANCE, STATUS DP/DA. (30 MIN)	SU72640
15-0560			CGLS	VERIFY 1 AVAILABLE CONCURRENCY AND 2 CONSECUTIVE OC TASKS.  HOME CMD KEY - PRESS SAP92 PERF PGM KEY - PRESS	
15-0561			CGLS	PFP SAP92 - PRESS PFPK1 (STATUS CMD ISSU) - PRESS VERIFY BOTH PFPK LIGHTS ARE LIT, THEN CONTINUE	
15-0562			CGLS	PFPK2 (STATUS DP/DA) - PRESS VERIFY BOTH PFPK LIGHTS ARE LIT, THEN CONTINUE	
15-0563			CGLS	PFPK3 (T-6H RCL INHB) - PRESS VERIFY BOTH PFPK LIGHTS ARE LIT, THEN CONTINUE	
15-0564			CGLS	PFPK4 (T-6H RCL STATUS) - PRESS VERIFY BOTH PFPK LIGHTS ARE LIT, THEN CONTINUE	
NOTE  PRESS FORM FEED ON PRINTER TO ENSURE ALL OUTPUT IS RECEIVED.  RETRIEVE OUTPUT FROM CONSOLE PRINTER AND REVIEW FOR PROPER CONFIGURATION.					
15-0565			CGLS	TERMINATE SAP92 PFK15 - PRESS	
15-0566		CGLS 132	OTC	COMPLETED IMPLEMENTATION OF SAP92.	SU72640

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
RSS/RCVY BATT AMP-HR VERIFICATION					
15-0567		TBC 136	CPWR	PERFORM RSS/RCVY BATTERY AMP-HOUR VERIFICATION.	SU72646
15-0568			CPWR	CONSOLE KYBD CDS ENABLE KEY - PRESS	
15-0569			CPWR	CONSOLE KYBD (HI-TRAX) CDS SIGN ON KEY - PRESS	
15-0570			CPWR	CONSOLE KYBD CDS BREAK KEY - PRESS ATHIS_(TCID)# CDS XMIT KEY - PRESS	
15-0571			CPWR	CRT  VERIFY AMP-HRS REMAINING EXCEEDS AMP-HRS REQUIRED FOR LAUNCH (AHRL) FOR ALL BATTERIES.	
15-0572			CPWR TBC	RSS/RCVY BATTERY AMP/HOUR VERIFICATION COMPLETE.  OMRSD S00FB0.370	
15-0573	T-6H15M		CAPU OTC 132	APU HTR ACTIVATION COMPLETE.	
15-0574	T-6H15M		CAPU OTC 132	APU SYSTEM SWITCH SCAN COMPLETE.	SU72621

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
VERIFY APU/RCS HTRS ON -----					
15-0575	-06H15M	OTC 132	CAPU	VERIFY APU HEATERS ON FROM GROUND COMMAND FOR ALL THREE (3) APU'S	
1. GAS GEN/FUEL HTR - A					
2. LUBE OIL LINE HTR - A					
3. TANK AND LINE HTR - B					
15-0576		OTC 132	COOS	CRT (VWD73) VERIFY HEATERS ON.	
CROSSFEED HEATERS					
A AUTO					
B AUTO					
AFT RCS JETS					
1 AUTO					
2 AUTO					
3 AUTO					
4 AUTO					
5 AUTO					
FWD RCS JETS					
1 AUTO					
2 AUTO					
3 AUTO					
4 AUTO					
5 AUTO					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
FIRE CREW FALLBACK -----					
15-0577	-06H10M	*SCC 232 NTD STM STM 111 JSTC 114	NTD STM JSTC JFIR	FIRE COMBAT CREW FALLBACK TO A/B-4 ROADBLOCK (PAD B LAUNCH), A-5 ROADBLOCK (PAD A LAUNCH).	FIRE SU72667
15-0578		*PSE 105 *SCC 232	*SCC NTD	ALL PERSONNEL HAVE CLEARED PAD AREA. YOU HAVE SAFETY CONCURRENCE TO SOUND EMERGENCY EVACUATION WARBLER. SAFETY WILL WAIT FOR FIVE MINUTES AFTER WARBLER HAS SOUNDED, BEFORE DEPARTING PAD GATE.	
15-0579			NTD	SOUND EMERGENCY EVACUATION WARBLER FOR 30 SECONDS.	
15-0580		NTD 232 *SCC NET 105	*SCC *PSE	CONFIGURE B ROAD SAFETY WARNING LIGHT TO RED. CONFIGURE WARNING LIGHTS AT A/B-5 AND A/B-11 ROADBLOCKS TO RED WHEN EVACUATING PAD. OBSERVE STROBE LIGHT ATOP RSS TO VERIFY FUNCTIONING.	
15-0581		*PSE NET 105 *SCC 232	*SCC NTD	RSS STROBE LIGHT FUNCTIONING.	
CONFIGURE FOR MMT/LD WX BRIEFING -----					
15-0582	-06H10M	NTD 232 STM 231	STM *WEA	REQUEST RANGE WX SUPPORT BRIEFING FOR ET LOAD.	
15-0583		NTD 232	*FLT LD	MMT/LD WX BRIEFING WILL OCCUR IN 10 MINUTES IN LCC RM 1R29 OR O&C RM 1144 MBR.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0584	-06H10M	NTD 232	STM	VERIFY WHEN READY TO SUPPORT MMT/LD TELEVISED WX BRIEFING IN LCC RM 1R29 OR O&C RM 1144 MBR.	SU72677

NOTE

VIDEO FOR WX BRIEFING  
 AVAILABLE VIA REMOTE KEY  
 PAD SELECTION AS FOLLOWS:

1. SOURCE 187-JSC MMT/LD  
WX BRIEFING
2. SOURCE 176-CCFF WEATHER TV
3. SOURCE 099-CCFF WEATHER VISION.

PERFORM NEXT TWO STEPS IF WX  
 BRIEFING IS IN LCC RM 1R29.

15-0585		STM 138	JYVO	VERIFY JSC WX BRIEFING FEED ON OTV SWITCHER SOURCE 187 AND READY FOR DISPLAY IN LCC RM 1R29.	COMM
---------	--	------------	------	--	------

NOT PERFORMED \_\_\_\_\_

15-0586		JYVO 138	STM	JSC WX BRIEFING FEED IS ON SOURCE 187. VIDEO FOR MMT/LD	COMM
		STM 232	NTD	WEATHER BRIEFING IN LCC RM 1R29 READY.	

NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT TWO STEPS IF  
 WX BRIEFING IS IN O&C MBR.

15-0587		STM 111	GYCC	VERIFY JSC WX BRIEFING FEED ON 6TVM2274 AND READY FOR	COMM
		GYCC PTP	GYVO GYVW	DISPLAY IN O&C MBR.	

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0588		GYVO GYVW PTP GYCC 111 STM 232	GYCC STM NTD	VIDEO FOR MMT/LD WEATHER BRIEFING IN O&C MBR READY.	COMM SU72677
				NOT PERFORMED	
				HOLD COUNTDOWN CLOCK	
15-0589	-06H05M	NTD 232	CGLS	HOLD CDC AT T-6 HR 00 MIN 00 SEC.	
15-0590			CGLS	HOME CMD KEY - PRESS CDTH - 0600/00 XMIT CMD KEY - PRESS  DISABLE PAD OIS	
15-0591	-06H05M	NTD 232 STM 111 GYCC 117	STM GYCC JYCD	PAD CLEARED - DISABLE PAD OIS-D. (5 MIN)	COMM SU72674
15-0592		JYCD 117 GYCC 111 STM 212	GYCC STM NTD	OIS-D DEACTIVATED TO PAD.	COMM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- FUEL CELL PERFORMANCE CAL COMPLETE -----					
NOTE					
DO NOT PERFORM NEXT STEP IF A RECYCLE OCCURRED AND FUEL CELLS REMAINED ACTIVE.					
15-0593		CFCP 132	OTC CECL	FUEL CELL PERFORMANCE CALIBRATION AND PRSD SYSTEM	SU72615 SU72630
			CEPD CHGD	INTEGRITY CHECK COMPLETE.	
				OMRSD V45CH0.020-1R OMRSD V45CH0.030-1	
NOT PERFORMED _____					
LOX/MPS LOADING PRELIMINARIES ----- COMPLETE -----					
15-0594	-06H00M	CLOX 136 TBC 232 NTD	TBC NTD OTC	SSME PURGE SEQUENCE 3 INITIATED. LOX ET AND MPS LOX LOADING PRELIMINARIES COMPLETE. READY FOR LOX LOADING.	SU72650
				LH2 PRECHILLDOWN OPS - COMPLETE -----	
15-0595	-06H00M	CLHY 136 TBC 232 NTD	TBC NTD OTC	ET LH2 PRE-CHILLDOWN OPERATIONS PER S1004 COMPLETE. READY TO PROCEED WITH FACILITY ORBITER CHILLDOWN AND LH2 FLOW.	SU72654
				OMRSD S00FB0.090-B-1 OMRSD S00FB0.290-1 OMRSD S00FB0.080-1R OMRSD S00FB0.070-1R OMRSD S00FB0.082-1R OMRSD S00FB0.083 OMRSD S00FE0.040-1 OMRSD S00FE0.050-1 OMRSD S00FA0.225	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

THE NEXT SEVEN STEPS WILL PERFORM A BT4 SNAPSHOT FOR THE MPS SYSTEM ONLY. LOX/ MPS LOADING PRELIMINARIES AND LH2 PRECHILL OPS MUST BE COMPLETE PRIOR TO PERFORMING A BT4 SNAPSHOT.

DO NOT PERFORM NEXT SEVEN STEPS IF MPS REVIEWED THE BT4 SNAPSHOT AT T-6 HR AND 20 MIN.

BT4 SNAPSHOT MAY BE PERFORMED DURING ORB/SRB/ET PIC RESISTANCE TEST PROVIDED SRB IGNITION S&A DEVICE VERIFICATION WILL NOT BE PERFORMED.

15-0596		NTD 232 OTC 132	OTC CDPS	PERFORM BT4 SNAPSHOT ON ALL DPS MDM'S.	SU72632
---------	--	--------------------------	-------------	--	---------

NOT PERFORMED \_\_\_\_\_

15-0597			CDPS	CURSOR CNTL (SAS01 PG B) DPS XMIT CURSOR KEY - PRESS	
				CURSOR CNTL (SAS01 PG B) MDM DISCRETE OUTPUT CHECK (VAS94) XMIT CURSOR KEY - PRESS	

NOT PERFORMED \_\_\_\_\_

15-0598			CDPS	CURSOR CNTL (VAS94 PG B) T-3 HR SNAPSHOT XMIT CURSOR KEY - PRESS	
---------	--	--	------	--	--

NOT PERFORMED \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT STEP UPON RECEIPT OF ORIGINAL COPY AND COPY 1.					
15-0599		CDPS	PFK (VAS94)	PFK 15 KEY - PRESS	
				NOT PERFORMED	_____
15-0600		CDPS OTC 132 OTC NTD 232		T-6 HR SNAPSHOT PRIOR TO TANKING FOR MPS COMPLETE. READY FOR CMPS REVIEW.	
				NOT PERFORMED	_____
15-0601		CTPE		BT4 TO BE DISTRIBUTED TO FOLLOWING SYSTEMS AS FOLLOWS:  C3/4 - 1 COPY FOR CMPS INTG - 1 COPY FOR TPE	
				NOT PERFORMED	_____
15-0602		OTC 132	CMPS	MPS REVIEW MDM DISCRETE OUTPUT. VERBAL OK MUST BE RECEIVED PRIOR TO START OF TANKING.	SU72632
				CMPS _____	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

-----  
SEQ            TIME            CMD    RESP                            DESCRIPTION                            VERIF.  
-----

BDA CLEAR - COMPLETE PAD A  
-----

NOTE

PERFORM NEXT STEP IF  
LAUNCHING FROM PAD A.

15-0603    -06H00M    \*SEC NTD    ROADBLOCK A-5 CLEAR OF ALL PAD A    SEC  
232                            BDA PERSONNEL. ROADBLOCKS  
NTD    \*SCC    ESTABLISHED AT A-3, B-4, A-5,  
\*SCC    \*PAC    A-6, A/B-10, A/B-11 AND A/B-15  
NET    \*PSC    WITH SIGNAL LIGHTS ON FLASHING RED.  
105                            FLASHING RED.

NOT PERFORMED                            \_\_\_\_\_

ESSENTIAL PERSONNEL  
-----

NONE - 0

BDA CLEAR - COMPLETE PAD B  
-----

NOTE

PERFORM NEXT STEP IF  
LAUNCHING FROM PAD B.

15-0604    -06H00M    \*SEC NTD    ROADBLOCK B-4 CLEAR OF ALL PAD B    SEC  
232                            BDA PERSONNEL. ROADBLOCKS            SU72641  
NTD    \*SCC    ESTABLISHED AT B-3, B-4 (BDA),  
\*SCC    \*PAC    A/B-10, A/B-11 AND A/B-15.  
NET    \*PSC  
105

NOT PERFORMED                            \_\_\_\_\_

ESSENTIAL PERSONNEL  
-----

NONE - 0

BDA CLEAR COMPLETE  
-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM ORBITER, SRB PIC RESISTANCE TEST AND SRB IGN S&A DEVICE VERIFICATION - CONTINGENCY IF THE T-27 HR PIC TEST WAS NOT PERFORMED OR IF ORBITER AFT SRB FWD SKIRT WERE ACCESSED AFTER THE T-27HR PIC TEST.

THE SRB IGN S&A PORTION OF THE TEST WILL BE PERFORMED IF SRB FWD SKIRT WAS ACCESSED AFTER THE T-27 HR PIC CHECK.

ORBITER, SRB PIC RESISTANCE TEST  
 -----  
 AND SRB IGN S&A DEVICE VERIFICATION -  
 -----  
 CONTINGENCY  
 -----

NOT PERFORMED \_\_\_\_\_

15-0605		*PSE	*SCC	ALL PERSONNEL CLEAR OF BDA. YOU SU72683	
		NET		HAVE SAFETY CONCURRENCE TO PERFORM	
		105		PIC RESISTANCE TEST AND SRB IGN S&A	
		*SCC	NTD	ROTATION VERIFICATION.	
		232			
		NTD	OTC		
			TBC		

WARNING

HAZARDOUS STEPS FOLLOW DUE TO PIC RESISTANCE TESTS AND SRB IGN S&A ROTATION. ALL PERSONNEL MUST BE CLEAR OF BDA BEFORE PROCEEDING.

ORBITER PIC RESISTANCE TEST  
 -----

15-0606		NTD	OTC	PROCEED WITH ORBITER/GSE PIC	SU72629
		232		RESISTANCE TEST.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0607		OTC 132	CEPD	ALL PERSONNEL CLEAR OF BDA. POWER UP GSE PIC RACKS AND PERFORM ORBITER/GSE PIC RESISTANCE TEST PER S0007 VL4 (SEQ 52) ON OIS CH 151.  PIC RACK POWER DOWN -----	
15-0608		OTC 132	CEPD	CURSOR CNTL (VWC10) GRD SYS - OFF XMIT CURSOR KEY - PRESS  CRT (VWC10)  VERIFY GND AND CPA VOLTAGES ARE LL	
15-0609		CEPD 132 OTC 232	OTC	ORBITER/GSE PIC RESISTANCE TEST COMPLETE.	
15-0610		OTC 132	CEPD	PERFORM MEC PREFLT BITE EVALUATION.	
15-0611			CEPD	PERFORM CDS QLDB RETRIEVAL ON FD <MEC1><MEC2>  VERIFY NO MEC FAILURES  SRB PIC TEST -----	
15-0612		NTD 232	TBC	PROCEED WITH SRB PIC RESISTANCE TEST PER S0007 VL4 (SEQ 48). (10 MIN)	
15-0613		TBC 136	CPWR	ALL PERSONNEL CLEAR OF BDA. PERFORM SRB PIC RESISTANCE TEST PER S0007 VL4 (SEQ 48) ON OIS CH 176.	
15-0614		CPWR 136 TBC 232 NTD	TBC OTC	SRB PIC RESISTANCE TEST COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

DOWNLIST FORMAT 42 IS REQUIRED FOR SRB IGN S&A DEVICE VERIFICATION. COORDINATE FORMAT CHANGE WITH CGNC SO AS NOT TO IMPACT IMU CALIBRATION. IF FORMAT 42 CONFLICTS WITH IMU'S, DO NOT PERFORM SRB IGN S&A DEVICE VERIFICATION.

PERFORM NEXT SEVEN STEPS TO SUPPORT SRB IGN S&A DEVICE VERIFICATION ONLY.

15-0615		OTC 232 132	NTD ALL	VERIFY READY FOR SWITCH TO DOWNLIST FORMAT 42 TO SUPPORT SRB S&A DEVICE VERIFICATION. CGNC	
		NTD 232 TBC	TBC ALL		
		136			NOT PERFORMED
15-0616		NTD 232 OTC	OTC CDPS	SWITCH TO DOWNLIST FORMAT 42.	
		132			NOT PERFORMED
15-0617			CDPS	CURSOR CNTL (SAS01 PGB) FMT 42 (VAS90) XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
				CRT (VAS59 PGB) FMT 42 ACTIVE	
					NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0618		CDPS 132 OTC 232 132 NTD 232 TBC 136	OTC NTD ALL TBC ALL	TRANSITION TO DOWNLIST FORMAT 42 COMPLETE.	
				NOT PERFORMED	_____
				WARNING	
				BDA WILL BE CLEARED. CONTROLLED SWITCHING AND CONTROLLED LPS COMMANDS ARE IN EFFECT THROUGHOUT S&A DEVICE VERIFICATION.	
				DO NOT PERFORM THIS TEST DURING A PHASE I OR II LIGHTNING ADVISORY.	
				HAZARDOUS OPERATIONS FOLLOW. BDA CLEAR REMAINS IN EFFECT.	
15-0619		NTD PA	ALL	SRB IGN S&A DEVICE VERIFICATION TEST WILL START MOMENTARILY. CONTROLLED SWITCHING AND CONTROLLED LPS COMMANDING IN EFFECT.	
				NOT PERFORMED	_____
15-0620		NTD 232 TBC 136	TBC	PROCEED WITH SRB IGNITION S&A DEVICE VERIFICATION PER S0007 VL4 (SEQ 61) CPWR ON CH 176.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0621		CPWR 136 TBC 232 NTD	TBC NTD OTC	SRB S&A DEVICE VERIFICATION COMPLETE.	SU72629
				NOT PERFORMED	
				ORBITER, SRB PIC RESISTANCE TEST AND SRB IGN S&A DEVICE VERIFICATION - CONTINGENCY COMPLETE	
				MEC PRE-FLIGHT BITE	
15-0622		OTC 132	CEPD	CHECK MEC PRE-FLIGHT BITE.	
15-0623			CEPD	CURSOR CNTL (MEC/PIC AUTO TEST MENU) LAUNCH PREFLT BITE XMIT CURSOR KEY - PRESS	
15-0624			CEPD	PPF (VSC24) CONTINUE - PRESS  CRT (VSC24)  PORT 1 SUCCESSFUL PORT 3 SUCCESSFUL HARDCOPY	
15-0625			CEPD	PPF (VSC24) TERMINATE - PRESS	
15-0626			CEPD	VERIFY NO MEC FAILURES.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- ACTIVATE LCC MONITORING SOFTWARE -----					
15-0627	-06H00M	TBC 136	CPWR	ACTIVATE LCC MONITORING SOFTWARE.	
15-0628			CPWR	CURSOR CNTL (BDE08) LCC XMIT CURSOR KEY - PRESS  CRT  VERIFY LCC GREEN	
15-0629			CPWR	PFP (BWE11) PFPK3 KEY - PRESS  LED 3 VERIFY LCC MONITOR ACT  ACTIVATE AUTO ET OPS -----	
15-0630			CPWR	PFP (BWE08) PFPK3 KEY - PRESS  LED 3 VERIFY AUTO ET OPS ACT	
15-0631			CPWR	ET/SRB HEATER SAFING PANEL ET HEATERS BIPOD - ON	
15-0632		CPWR TBC 136		LCC MONITORING SOFTWARE ACTIVATION COMPLETE.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				DPS TO DOWNLIST FORMAT 44/60 ----- (POST S&A DEVICE TEST) -----	
				NOTE	
				PERFORM NEXT FOUR STEPS TO RECONFIGURE TO FLIGHT FORMAT IF REQUIRED.	
				IN NEXT FOUR STEPS DL FORMAT WILL BE 60 FOR ASCENT POWERED SPACEHAB MISSIONS AND 44 FOR ALL OTHERS.	
15-0633		OTC 232 132 NTD 232 TBC 136	NTD	VERIFY READY TO SUPPORT FORMAT _____ (44 OR 60).	
				NOT PERFORMED	_____
15-0634		NTD 232 OTC 132	OTC	TRANSITION BACK TO DOWNLIST FORMAT _____ (44 OR 60).	
				NOT PERFORMED	_____
15-0635			CDPS	CURSOR CNTL (SAS01 PGB) FMT_____ (44 OR 60) XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
				CRT (VAS59 PGB) SELECTED DL FMT ACTIVE	
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0640		JSTC 114	JSEP GSPN JSAC JFIR *SEC	VERIFY REQUIRED LAUNCH COMMIT CRITERIA VALID FOR START OF TANKING.	JSTC ELEC PNU AC FIRE SEC
15-0641		*SCB JSTC STM 111 STM 232	JSTC STM NTD	AIR PACK VAN LOCATED AT CPX J RED CREW PARKING LOT.	LS

NOTE

IF THE OXID AND FUEL OMS  
 PROPELLANT TANKS EXCEED THE  
 LCC LIMIT (15 PSID MAX) PRIOR  
 TO OMS PROPELLANT TANK REPRESS,  
 IT IS NOT A CONSTRAINT TO LCC  
 VERIFICATION FOR COOS. OMS  
 REPRESS WILL OCCUR AFTER PAD  
 CLEAR FOR CRYO TANKING AND  
 VALUES ARE EXPECTED TO MEET  
 CRITERIA.

15-0642		OTC 132	ALL	VERIFY YOUR SYSTEM MEETS LAUNCH COMMIT CRITERIA REQUIREMENTS FOR START OF TANKING PHASE AT T-6 HOURS.	
				CCSE _____	CPVD _____
				CNSE _____	CFCP _____
				CAFM _____	CGSS _____
				CPLD _____	COOS _____
				CMPL _____	CAPU _____
				CMPS _____	CHYD _____
				CSME _____	CHGD _____
				CECL _____	CISL _____
					CEPD _____
					COFC _____
					CAFC _____
					CGNC _____
					CCME _____
					CODS _____
					CDPS _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0643		PTC 134	ALL	VERIFY YOUR SYSTEM MEETS LAUNCH COMMIT CRITERIA FOR START OF TANKING.  FOR SPACEHAB: DLES _____ *STC _____  FOR IUS: DLES _____ AXTC _____ ICTC _____  FOR OTHER: DLES _____	
15-0644		TBC 136	ALL	VERIFY YOUR SYSTEM MEETS LAUNCH COMMIT CRITERIA REQUIREMENTS FOR START OF TANKING PHASE AT T-6 HOURS.  CLOX _____ CLHY _____ CMEC _____ CPWR _____ CBHY _____ CISL _____ CBRS _____  REPORT LCC STATUS -----	
15-0645	-06H00M	OTC TBC PTC STM *MIL LPS 232	NTD	NO LAUNCH COMMIT CRITERIA VIOLATIONS FOR CRYO TANKING.	
15-0646		NTD 232	CSPE	VERIFY NO LAUNCH COMMIT CRITERIA VIOLATIONS WHICH CONSTRAIN CRYO PROPELLENT LOADING.	
15-0647	-06H00M	NTD 232	LD	VERIFY GO FOR LO2 AND LH2 TANKING.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
T-6 HR COUNTDOWN HOLD					
15-0648	-06H00M (HOLDING)	NTD PA 232	OTC TBC *MIL STM PTC *SCC LPS *FLT	CDC HOLDING AT T-6 HOURS. DURATION OF HOLD WILL BE _____ HOURS _____ MINUTES.	
15-0649		STM 111	*MIL	PERFORM COMMUNICATION CHECK WITH TPE ON OIS CH 161.	
NOTE					
PERFORM NEXT STEP AFTER CDC IS HOLDING.					
15-0650		NTD 232	CGLS	SET CDC TO START COUNTING AT _____ HR _____ MIN _____ SEC GMT.	
15-0651			CGLS	HOME CMD KEY - PRESS CDTC_____/____.000 HHMM SS XMIT CMD KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				TPDMS MONITOR COMPLETE	
15-0652		OTC 132	CAFM	OBTAIN TIRE PRESSURE REPORT BY THE FOLLOWING PROCEDURE:	
				NOTE	
				REFERENCE DAP 138 INSTRUCTIONS.	
				TELNET SESSION COMMANDS ARE CASE SENSITIVE.	
				1. LOGON TO TELNET SESSION VIA DAP TERMINAL.	
				2. TO INVOKE TIME AND CYCLE PROGRAM ENTER:  RSHELL> (RVSI TAC) LOWER CASE ENTER PASSWORD	
				3. AUTOMATED TIME AND CYCLE WINDOW SELECT TIRES -- > LEAK RATE CALCULATIONS	
				4. TIRE HISTORY REPORT WINDOW ENTER MISSION: _____ (STS NO.) TIRE: _____ ('ALL' FOR 6 LOCAT) (LEAVE S/N BLANK IF 'ALL')  SELECT: COMMIT	
				5. LEAK RATE TRENDING REPORT WINDOW SELECT: CALCULATE, THEN SELECT: PRINT	
				6. PRINT DIALOG WINDOW ENTER: PRINTER ID (LCC1PTR OR LCC3PTR) SELECT: PRINT	
				7. CLOSE WINDOWS, AUTOMATED TIME AND CYCLE WINDOW SELECT: QUIT ENTER: RSHELL>EXIT TO END SESSION.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- FUEL CELL OPERATIONAL PURGE -----					
NOTE					
DO NOT PERFORM NEXT TWO STEPS IF RECYCLE OCCURED AND FUEL CELLS REMAINED ACTIVE.					
PERFORM FOLLOWING STEP APPROXIMATELY TWO HOURS AFTER FUEL CELL 2 IS PLACED ON MAIN BUS.					
15-0653	-06H00M (HOLDING)	OTC 132	CFCP	PERFORM FUEL CELL TWO HOUR OPERATIONAL PURGE ON OIS CH 153 PER OMI V1040.002. (15 MIN)	SU72616
					NOT PERFORMED _____
15-0654		CFCP 132 OTC 232	OTC	FUEL CELL TWO HOUR OPERATIONAL PURGE COMPLETE.	
					NOT PERFORMED _____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
RESUME CDC -----					
15-0655	-06H00M (HOLDING)	NTD PA 232	OTC TBC *MIL STM PTC *SCC LPS	CDC WILL START COUNTING AT T-6 HR IN FIVE MINUTES.	
15-0656	-06H00M (COUNTING)	NTD 232 PA	ALL	THE STS-____ CDC IS AT T-6 HR AND COUNTING.	
15-0657		NTD 232 STM 138 111 GYCC PTP	STM JSC JYVO GYVW GYVO	WX BRIEFING COMPLETE. SUPPORT RELEASED.	COMM
15-0658		NTD 232 STM 111 JBDY 231	STM JBDY *WEA	REQUEST FORECAST OF STEADY STATE SURFACE WIND SPEED IN SRB RETRIEVAL AREA AT TIME OF LAUNCH.	
15-0659		*WEA 231 JBDY 111 STM 232 NTD	JBDY STM NTD LD	TIME OF FORECAST:_____ PREDICTED WINDS:_____ GUSTING TO:_____ DIRECTION:_____ DEG	
OMRSD S00L00.085					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0000				SHUTTLE FINAL COUNTDOWN CONTROL SEQUENCE (-06H THRU T-0)	

NOTE

THIS IS ALSO COUNTDOWN  
 RE-ENTRY POINT FOR  
 24 HOUR SCRUB/TURNAROUND  
 OPERATIONS.

THIS SEQUENCE MAY COMMENCE PRIOR  
 TO SEQUENCE 15 COMPLETION AT  
 NTD/OTC DISCRETION.

OPERATIONS INVOLVING CRIT 1,  
 1R AND/OR 1S ITEMS ARE CONTAINED  
 IN THE FOLLOWING SEQUENCE/STEPS.

16-0001	-06H00M	CTIF 136	TBC	SET INITIAL CONFIG FOR ICE/FROST MONITORING AND DEBRIS PER S6444 COMPLETE.	
16-0002		TBC 136	CTIF	PERFORM ET TPS ICE/FROST AND DEBRIS EVALUATION PER OMI S6444 ON CHANNELS 222,223,224 & 225.  OMRS S00FB0.005-1 OMRS S00FB0.360-1	
16-0003		CTIF 138	JYVO	SUPPORT OTV CAMERAS FOR ET TPS ICE/FROST INSPECTION PER S6444 ON CHANNELS 222,223,224 & 225 (SEE CICE FIGURE 4).	COMM
16-0004		TBC 232	NTD	EXTERNAL TANK READY FOR LO2/LH2 LOADING.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- DISABLE EXTERNAL PAGING TO CONTROL ROOMS -----					
16-0005		NTD 232 STM 111 GYCC 117	STM GYCC JY CJ	DISABLE EXTERNAL PAGING TO ACTIVE AND BACKUP CONTROL ROOMS FOR S0007 (05 MIN).	COMM
HGDS H2 AND O2 STATUS -----					
16-0006	-06H00M	OTC 132	CHGD	VERIFY NO INCREASE ABOVE BASELINE FOR H2 AND O2 CONCENTRATION PRIOR TO START OF LO2/LH2 LOADING IN FOLLOWING VEHICLE COMPARTMENTS:  ORBITER PAYLOAD BAY ORBITER MID-BODY ORBITER AFT FUSELAGE  HGDS MONITORING -----	
16-0007	-06H00M	OTC 132	CHGD	MONITOR HGDS FOR REMAINDER OF COUNTDOWN IN ALL VEHICLE COMPARTMENT AREAS. REPORT ANY H2 OR O2 INDICATIONS ON COMMAND CHANNEL 132. SAMPLE EACH VEHICLE AREA AT LEAST EVERY 30 MINUTES. SAMPLE SPAN, TEST AND ZERO REFERENCE GASES AT LEAST ONCE EVERY HOUR. IF H2 ZERO GAS BACKGROUND EXCEEDS +/- 60 PPM, PERFORM REMOTE AUTO CALIBRATION.  OMRSD S00FA0.435	
16-0008		JY CJ 117 GYCC 111 STM 232	GYCC STM NTD	EXTERNAL PAGING HAS BEEN DISABLED TO ACTIVE AND BACKUP CONTROL ROOMS FOR S0007.	COMM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
VERIFY ECS STATUS -----					
16-0009		OTC 132	CPVD	VERIFY ORBITER GN2 PURGE MOISTURE CONTENT LESS THAN 5 GRAINS/LB PRIOR TO ORBITER MPS CHILLDOWN AND RECORD:	
GN2 PURGE MOISTURE_____GRAINS/LB (5 MAX)					
OMRSD S00FB0.050-1					
READY FOR ET LO2/LH2 LOADING -----					
16-0010		OTC 232 NTD STM 111	NTD	ORBITER READY FOR LO2/LH2 LOADING.	
ET LO2/LH2 LOADING -----					
NOTE					
LOX LOADING MAY START PRIOR TO LH2 LOADING AS LONG AS LH2 IS IN SLOW FILL WHEN LOX REACHES 40 PCT OF THE PROJECTED LOAD. IF NOT, LOX LOADING MUST STOP UNTIL LH2 IS IN SLOW FILL.					
LH2 LOADING MAY BE DONE PRIOR TO THE START OF LOX LOADING.					
16-0011	-06H00M	NTD 232 TBC 136	TBC	PROCEED WITH ET LOX LOAD TO REPLENISH PER OMI S1003 ON OIS CH CLOX 156. REPORT COMPLETION OF SIGNIFICANT MILESTONES.	
16-0012		NTD 232 TBC 136	TBC	CONTROL AREA CLEARED AND YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH CLHY S1004 FACILITY/ORBITER CHILLDOWN.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
LOX XFER LINE CHILLDOWN (S1003) -----					
16-0013	-06H00M	CLOX 136 TBC 232	TBC NTD	INITIATING LOX TRANSFER LINE CHILLDOWN.	SU72693
LH2 CHILLDOWN -----					
16-0014		CLHY 136 TBC 232 NTD OTC 132	TBC NTD OTC CPVD	NOTIFY CLHY IF LOSS OF ORBITER AFT FUSELAGE PURGE OR PAYLOAD BAY PURGE DETECTED DURING LH2 LOADING FROM T-06H TO T-01M57S.	SU72703
16-0015	-06H00M	CLHY 136 TBC 232 136	TBC NTD CHGD	INITIATING LH2 FACILITY/ORBITER CHILLDOWN.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- SUPPORT FALLBACK CONFIG (OSSU 3) -----					
16-0016	-06H00M	STM	PSTM	PERFORM SUPPORT OPERATION	COMM
		111	GYCC	SUPPORT SETUP 3 - FALLBACK	JSTC
			JSTC	CONFIGURATION - SUPPORT RED	PNU
			JCFM	CREW T-6 HRS THRU T-0.	WW
		127	LPS		HEQ
		JSTC	GSPN		LS
		114	JSWC		PN
		NET	GSHE		ELEC
		104	*SCB		AC
			GSPS		FA
			JSEP		EH
			JSAC		SU72752
			GSFA		LOG
			PMEH		
			GSUP		
16-0017	-06H00M	STM	JYVR	START VIDEO RECORDING AS FOLLOWS:	COMM
		138			
				1. M-II RECORDERS	
				CAMERA 001/101,009/109,	
				054/154,055/155,056/156,	
				060/160,061/161,063/163	
				2. S-VHS/VHS RECORDERS	
				CAMERA 003/103,011/111,	
				019/119, 030/130, 072/172,	
				STI-RSS ROOF, STI-C/S2	
				(ENGINEERING ANALYSIS)	
16-0018	-06H00M	NTD	STM	REQUEST JCFM TO PERFORM CMDPS	
		232		PRINTOUT.	
		STM	JCFM		
		111			
16-0019		JCFM	STM	CMDPS PRINTOUT COMPLETE.	
		111		REQUIRED RECORDERS RUNNING.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0022				CRT (BAT04)	
CON'T				NOTE DISPLAY OF NOZZLE TO CASE JOINT TEMPERATURES	
				RECORD NOZZLE TO CASE JOINT TEMPERATURES	
				_____ N _____ 75 - 115 DEG F	
				_____ N _____ 75 - 115 DEG F	
				_____ N _____ 75 - 115 DEG F	
				OMRSD S00FA0.777-1R	
				CURSOR CNTL (BAT04)	
				SRB AFT SKIRT GN2 PURGE	
				T (BLOCK)	
				XMIT CURSOR KEY - PRESS	
				NOTE DISPLAY OF PURGE SCHEMATIC	
				NOTE	
				NOTIFY TBC AND GSPN WHEN GN2 FLOW IS TO BE INITIATED.	
16-0023	-06H00M	TBC 136	CBHY	PERFORM SRB OPERATION SUPPORT SETUP 5 - SRB AFT SKIRT GN2 PURGE ACTIVATION AS TEMPERATURES REQUIRE.	
				NOT PERFORMED	_____
				GN2 RECHARGERS/LN2 TANKER - COMPLETE	
16-0024	-06H00M	GSPN 114 JSTC 111	JSTC STM	GN2 RECHARGER(S) AND LN2 TANKERS PLACED AND CONNECTED TO CCF-39 RECHARGE MANIFOLD.	PNU
					QV: _____ QA
16-0025	-06H00M	NTD 232 STM 111	STM JFIR	PAD RESCUE TEAM STANDING BY IN FIRE STATION NO. 2.	SU72676 FIRE



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
LH2 TO SLOW FILL (S1004) -----					
16-0026	-05H50M	CLHY 136 TBC 232 NTD STM 111	TBC NTD STM JCFM	LH2 FACILITY/ORBITER CHILLDOWN COMPLETE. INITIATING ET LH2 SLOW FILL TO 5 PCT SENSOR WET.	SU72705
ORBITER MPS CHILLDOWN (S1003) -----					
16-0027	-05H50M	CLOX 136 TBC 232	TBC NTD	LO2 TRANSFER LINE CHILLDOWN COMPLETE. STARTING ORBITER MPS CHILLDOWN.	SU72693 SU72695
IMU PREFLIGHT CALIBRATION -----					
16-0028	-05H25M	OTC	CGNC	TAKE IMUS TO TERM/IDLE PER IMU GYROCOMPASS ALIGNMENT SEQUENCE OF OMI V1123. REPORT COMPLETION. (3 MIN)	SU72713 SU72715
RT OMI LOG NO. _____					
16-0029	-05H22M	OTC	CGNC	PERFORM IMU PREFLIGHT CALIBRATION PER OMI V1123 (2H45M).	SU72717
RT OMI LOG NO. _____					
LOX SLOW FILL (S1003) -----					
16-0030	-05H20M	CLOX 136 TBC 232 NTD STM 111	TBC NTD STM JCFM	ORBITER MPS CHILLDOWN COMPLETE. BEGINNING SLOW FILL. LO2 SLOW FILL START	SU72695 SU72697
GMT _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0031	-05H15M	CLHY 136	TBC	ET LH2 ECO SENSORS WET AT GMT_____.	SU72709
				LOX FAST FILL (S1003) -----	
16-0032	-05H10M	CLOX 136	TBC	LOX TRANSITION TO FAST FILL COMPLETE. NOW IN FAST FILL	SU72697
		TBC 232	NTD	TO 98 PCT.	SU72698
		NTD	*SCC		
			STM		
16-0033		STM 111	JCFM	REQUEST JCFM TO PERFORM 5 MINUTE MAGNETIC TAPE SAMPLE RUN.	
16-0034		JCFM 111	STM	5 MINUTE MAGNETIC TAPE SAMPLE RUN COMPLETE.	
				LH2 FAST FILL (S1004) -----	
16-0035	-05H00M	CLHY 136	TBC	ET LH2 SLOW FILL TO 5 PCT COMPLETE.	SU72705
		TBC 232	NTD		
		NTD	STM		
		STM 111	JCFM		
				OMRSD S00FE0.100-1 OMRSD S00FE0.111-1 OMRSD S00FD0.121-B-1R	
16-0036		CLHY 136	TBC	ET LH2 5 PCT SENSOR WET. INITIATING ET LH FAST FILL TO	SU72707
		TBC 136	CISL	98 PCT.	
		TBC 232	NTD	GMT_____	
		NTD	STM		
		STM 111	JCFM		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
MPS LH2 RECIRC PUMP ACTIVATION ----- (S1004) -----					

NOTE

LH2 RECIRC WILL NORMALLY BE  
ACTIVATED 15 MINUTES AFTER  
LH2 TRANSITIONS INTO FAST  
FILL. TIMES MAY VARY IF  
LH2 FAST FILL IS INTERRUPTED  
OR DELAYED.

16-0037	-05H00M	CMPS 132	OTC	LH2 RECIRC PUMPS WILL BE ACTIVATED MOMENTARILY.	
16-0038		OTC 132	CHGD	MONITOR AFT COMPARTMENT AND ET I/T (AUTO SEQUENCE) DURING RECIRC PUMP OPERATIONS FOR SIGNIFICANT CHANGES IN H2 CONCENTRATION.	

NOTE

PERFORM NEXT STEP PRIOR TO  
RECIRC PUMP ACTIVATION.

16-0039		OTC 132	CEPD	CURSOR CNTL (VWC01) AC S/R HI XMIT CURSOR KEY - PRESS  CRT (VWC01)  1T100/200 VOLT SAMPLE RATE CHANGED TO 100/SEC	
16-0040	-05H00M	TBC 136	CBHY	CONFIGURE BAT04 FOR LAUNCH COUNTDOWN.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0041		CBHY	CRT (BAT04)	VEHICLE LEFT/RGHT ACTUATOR POSITN	
			VERIFY		
			LEFT A	-.3 TO -.8 INCHES	B58H1150C1
			LEFT B	-.3 TO -.8 INCHES	B58H1151C1
			RGHT A	-.3 TO -.8 INCHES	B58H2150C1
			RGHT B	-.3 TO -.8 INCHES	B58H2151C1
16-0042		CBHY	CURSOR CNTL (BAT04)	C/D MDE XMIT CURSOR UNTIL - LNH	
			LAPS DELIVERY	-----	
16-0043	-04H50M	STM	JSTC	DELIVER FOLLOWING AT T-4 HRS	LS
		111		IN SEQUENCE:	SU72754
		JSTC	*SCB		
		NET		1. DELIVER 19 LAPS W/COMM AND 5 LAPS WITHOUT COMM TO FIRE STA NO. 2 BY T-4 HRS.	
		104		2. DELIVER 1 EA PORTABLE AIR VENTILATOR PER FLIGHT CREW MEMBER TO FIRE STATION NO. 2 FOR ASTRONAUT CLOSEOUT CREW.	
				3. DELIVER 2 EA LAPS TO AIR PACK VAN CX-J (CLOSEOUT CREW SPARES).	
				4. DELIVER 1 EA PORTABLE AIR VENTILATOR PER FLIGHT CREW MEMBER PLUS ONE TO O&C CUL-DE-SAC, ASTRONAUT CREW VAN AT T-4 HRS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				MPS LH2 RECIRC PUMP ACTIVATION ----- COMPLETE -----	
16-0044	-04H40M	CMPS 132	OTC	LH2 RECIRC PUMP ACTIVATION COMPLETE.  PASS PRE-FLT RCS QTY U/L -----	
NOTE					
DO NOT PERFORM NEXT TWO STEPS IF SCRUB TURNAROUND WAS PERFORMED AND RCS QUANTITY CORRECTION UPLINK NOT REQUIRED.					
16-0045		NTD 232	*FLT	PERFORM PASS PREFLIGHT RCS QTY CORRECTION UPLINK.  NOT PERFORMED	_____
16-0046		*FLT 232 NTD OTC OTC 132	NTD OTC CVFS	PASS PREFLIGHT RCS QTY CORRECTION UPLINK COMPLETE.  NOT PERFORMED	_____
MILA ANTENNA ALIGN -----					
16-0047	-04H30M	NTD 232 OTC 132	*FLT *MIL OTC CCSE RCRT	1. PERFORM MILA ANTENNA ALIGNMENT ON OIS CH 232. (1 HR) 2. MILA SELECT HARDLINE TM FOR TRANSMISSION TO MCC-H.	SU72718

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

A/G VOICE LINKS AND U/L  
 CMDS WILL BE INTERRUPTED  
 DURING MILA ANTENNA ALIGN,  
 FREQUENCY AND ANTENNA  
 SWITCHING UNTIL MILA  
 OBTAINS 2-WAY LOCK.  
 IF FALSE LOCK OCCURS, MILA  
 WILL REMOVE U/L  
 MODULATION, REACQUIRE  
 CARRIER LOCK AND RE-APPLY  
 MODULATION. MCC COMAND  
 WILL BE SENT VIA GNC MAJOR  
 FUNCTION.

16-0048		NTD 232	*MIL REPORT RF OUTPUT _____ WATTS		
16-0049		NTD 232	*FLT TRANSMIT DSM _____ (XPNDR FREQ HIGH DSM 4741 OR XPNDR FREQ LOW DSM 4740)		V74K3111
16-0050		CCSE	VAA19 VERIFY XPNDR FREQ - _____ (HIGH OR LOW)		

NOTE

MILA RF OUTPUT LEVEL  
 MAY BE ADJUSTED TO ENABLE  
 C&T STATION TO LOCK ON U/L  
 SIGNAL FROM MILA.

IF MONITOR RECEIVER DOES NOT  
 LOCK TO UPLINK SIGNAL FROM  
 MILA, ACQUISITION SWITCH ON  
 MONITOR RECEIVER MAY BE TAKEN  
 TO MANUAL AS REQUIRED.

16-0051	-04H30M	NTD 232	*MIL ACQUIRE 2-WAY LOCK ON S-BAND _____ (HIGH OR LOW) FREQ (MODE 25K CODING) SET RF OUTPUT FOR C&T LOCK. RECORD MILA RF OUTPUT _____ (BD)		
16-0052		CCSE	CRT (VAA19) VERIFY  NSP FRAME SYNC LOCKED		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0053				RCRT LOCK RECEIVERS TO HIGH OR LOW FREQUENCY MILA UPLINK AND ORBITER DOWNLINK AS FOLLOWS:  1. 8216 PANEL A7 CHANNEL SW - __ (2=HIGH, 1=LOW) LOOP STATUS PM LITE - LOCKED  PANEL A9 CHANNEL SW - __ (4=HIGH, 3=LOW) LOOP STATUS LITE - LOCKED  2. 8217 PANELS A4 AND A7 FRAME SYNC LOCKED LITES - ON	
					T:_____
16-0054		NTD 232	*FLT	TRANSMIT DSM 4750 (PWR AMP STBY 1 - ON)	
16-0055			CCSE	VAA19 VERIFY PWR AMP STBY 1 ON	
16-0056		NTD	*MIL	XPNDR FREQ SWITCH COMPLETE.  MILA SWITCH TO SECONDARY ANT -----	
16-0057	-04H00M	*MIL 232	NTD	SECONDARY ANTENNA ALIGN COMPLETE. S-BAND WILL BE MOMENTARILY INTERRUPTED WHILE SWITCHING ANTENNAS.	
16-0058		NTD 232	*MIL	PROCEED WITH ANTENNA SWITCHING. OBTAIN VALID 2-WAY LOCK.	
16-0059		*MIL 232	NTD	ANTENNA SWITCH COMPLETE; 2-WAY LOCK OBTAINED.	
16-0060		NTD 232	CCSE	VAA19 VERIFY NSP FRAME SYNC - LOCKED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0061	-04H00M	NTD 232	*MIL	PROCEED WITH ANTENNA ALIGN.	
LAPS DELIVERY COMPLETE -----					
16-0062	-04H00M	*SCB NET 104 JSTC 111	JSTC STM	LAPS DELIVERED AS FOLLOWS:  1. (5) LAPS W/O COMM AND (3) LAPS W/COMM TO FIRE STA NO. 2 FOR CLOSEOUT CREW.  2. (16) LAPS W/COMM TO FIRE STA NO. 2 FOR FLIGHT CREW RESCUE TEAM.  3. (2) LAPS TO AIR PACK VAN AT COMPLEX J.	LS SU72754
ACTIVATE RADIO NETS -----					
NOTE					
STM PERFORM NEXT THREE STEPS BY COUNT CLOCK AT T-4 HOURS.					
16-0063	-04H00M	STM 111 GYCC 117	GYCC GYCJ	VERIFY COMM CONFIGURED FOR CONVOY COMMANDER, PURGE AND COOLING NETS AT KSC.	COMM
NOTE					
PERFORM NEXT STEP IF DFRF OR WSSH IS DESIGNATED ALTERNATE LANDING SITE.					
16-0064		LRD 135 STM 111 GYCC 117	STM GYCC GYCJ	ACTIVATE ALTERNATE LANDING SITE CONVOY COMMANDER NET TO _____ (DFRF/WSSH). REPORT COMPLETION.	COMM
NOT PERFORMED					_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0065		STM 111 GYCC 117	GYCC FOR CONVOY CMDR, GYCJ NETS OPERATIONAL.	VERIFY KSC TRANSMITTERS/RECEIVERS PURGE AND COOLING NETS OPERATIONAL.	COMM

NOTE

THE LIST OF PERSONNEL IN THE  
 LDA AT T-0 SHOULD INCLUDE THE  
 NAMES OF INDIVIDUALS, THEIR  
 LOCATION, FUNCTION AND  
 ORGANIZATION. ANY DEVIATION  
 TO THE APPROVED LDA ACCESS  
 LIST MUST BE APPROVED BY NTD  
 WITH SAFETY CONCURRENCE.

16-0066	-04H00M	NTD 232 STM 111 GYCC JPHO GYCC PTP	STM SRO JSTC GYCC	PROVIDE LISTING OF PERSONNEL WHO WILL REMAIN IN LDA THROUGH T-0 TO NTD. REPORT COMPLETE.	COMM
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16-0067		STM 111	GBHE AND SUPERVISOR.	PROVIDE NAMES OF ASTROVAN DRIVER AND SUPERVISOR.	HESA
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VERIFY WEATHER AIRCRAFT COMM TO JSC  
 -----

16-0068		STM 111 GYCC 117	GYCC TO JSC USING OIS-D AND RADIO GYCJ AT CDSC.	COMM CHECK 2RAC534 AND 2RAC1534 REPORT COMPLETION.	COMM
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
MPS LH2 ET ULLAGE PRESSURE					
-----					
TRANSDUCER NUMBER 4 VERIF					
-----					

NOTE

THIS TEST WILL NORMALLY BE PERFORMED AT APPROX T-4HRS WHEN LH2 TRANSITIONS INTO REDUCED FAST FILL. TIMES MAY VARY IF LH2 FAST FILL IS INTERRUPTED OR DELAYED.

16-0069		CMPS 132	OTC	NOTIFY BOOSTER CONSOLE THROUGH *FLT SPARE LH2 ET ULLAGE PRESSURE	SU72699
		OTC 232	NTD	TRANSDUCER WILL BE SWITCHED INTO NUMBER 3 ET OI POSITION.	
		NTD	TBC		
			*FLT		
16-0070		*FLT 232	NTD	BOOSTER CONSOLE NOTIFIED. PROCEED WITH LH2 ULLAGE PRESSURE TRANSDUCER	
		NTD	OTC	SWITCH OUT.	
		OTC 132	CMPS		
16-0071		CMPS 132	OTC	NOTIFY BOOSTER CONSOLE THROUGH *FLT LH2 ET ULLAGE PRESSURE TRANSDUCER	
		OTC 232	NTD	NUMBER 3 WILL BE SWITCHED BACK INTO NUMBER 3 ET OI POSITION	
		NTD	*FLT	(NORMAL POSITION).	
16-0072		*FLT 232	NTD	BOOSTER CONSOLE NOTIFIED. PROCEED WITH LH2 ULLAGE PRESSURE TRANSDUCER	
		NTD	OTC	SWITCHOUT.	
		OTC 132	CMPS		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0073	-03H45M	CLHY 136 TBC 232 NTD STM STM 111	TBC NTD STM JCFM	ET LH2 FAST FILL TO 98 PCT COMPLETE. INITIATING ET LH2 TOPPING TO 100 PCT. (S1004)	SU72707 SU72710
				OMRSD S00FF0.011-1 OMRSD S00FF0.081-1 OMRSD S00FF0.030-1 OMRSD S00FF0.190-1	
16-0074		CLHY 136 TBC	TBC CPWR	ET LH2 98 PCT SENSORS WET AT TIME _____ GMT.	
16-0075		CLHY 136 TBC 232	TBC NTD	LH2 IN TOPPING AND ET LH2 TANK VENTED AND VENT VALVE CYCLING TERMINATED. READY FOR ORBITER AND SRB PIC RESISTANCE TESTS.	SU72712
				BIPOD HEATER ACTIVATION -----	
16-0076		CPWR		CRT (BDE08)  VERIFY MESSAGE <JTOY> TIMER FOR TURNING ON BIPOD HTRS HAS STARTED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

NEXT STEP WILL OCCUR  
 APPROXIMATELY 4 MINUTES  
 AFTER PRECEDING STEP.

16-0077		CPWR		CRT (BDE08)  VERIFY MESSAGE <JTOY> POWER UP OF THE BIPOD HEATERS IS IN WORK.	
16-0078		CPWR		CRT (BDE08) VERIFY  ET HEATERS LEFT BIPOD 0.8-1.2 A RIGHT BIPOD 0.8-1.2 A  OMRSD S00FF0.095	
16-0079		CPWR	TBC 136	BIPOD HTRS ARE ACTIVATED  PIC RESISTANCE TESTS -----	SU72701

NOTE

NOTED REQUIREMENT IS SATISFIED  
 BY THE FOLLOWING STEPS.

OMRS S00FA0.015-1

16-0080		NTD	OTC 232	PROCEED WITH ORBITER/GSE PIC RESISTANCE TEST.	
16-0081		OTC	CEPD 132	POWER UP GSE PIC RACKS AND PERFORM ORBITER/GSE PIC RESISTANCE TEST PER SEQ 52 ON CH 151. REPORT COMPLETION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0082		CEPD 132 OTC 232	OTC NTD	ORBITER/GSE PIC RESISTANCE TEST COMPLETE. GSE PIC RACKS WILL REMAIN POWERED UP.	
16-0083		OTC 132	CEPD	PERFORM MEC PREFLT BITE EVALUATION.	
16-0084			CEPD	CURSOR CNTL (VWC10) MEC BITE PREFLT XMIT CURSOR KEY - PRESS  CRT (SA PAGE) VERIFY NO MEC FAILURES	
16-0085			CEPD	PERFORM CDS QLDB RETRIEVAL ON FD <MEC1><MEC2>  VERIFY NO MEC FAILURES  SRB PIC RESISTANCE TEST -----	
16-0086		NTD 232 TBC 136	TBC CPWR	PROCEED WITH SRB PIC RESISTANCE TEST PER S0007VL4 (SEQ 48) ON CH 176. (15 MIN)	
16-0087		CPWR 136 TBC 232	TBC NTD	SRB PIC RESISTANCE TEST COMPLETE.	SU72712
16-0088				NOTED REQUIREMENT COMPLETE.  OMRSD S00FA0.015-1	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- ASSEMBLE FINAL INSPECTION TEAM AND ----- CLOSEOUT CREW -----					
16-0089		NTD 232 TBC 136	CICE TBC CTIF	ASSEMBLE AND BRIEF FINAL INSPECTION TEAM FOR PAD ENTRY. PROCEED TO COMPLEX J AND REPORT WHEN READY.	
16-0090		NTD 232	OTC	ASSEMBLE CLOSEOUT CREW AT COMPLEX J.	SU72720 SU72736
NOTE  OTC WILL VERIFY LO2 LOAD AT 90 PCT. WHEN ASSEMBLED AT COMPLEX J CLOSEOUT CREW LEADER (OVCC) WILL PERFORM NET 105 COMM CHECK WITH OTC.  CLOSEOUT CREW WILL CARRY SPARE PORTABLE RADIO AND PORTABLE O2 DETECTOR FOR CONTINUOUS MONITORING OF O2 IN WHITE ROOM.					
16-0091		NTD 232	JFIR	ASSEMBLE PAD RESCUE TEAM AT A/B-11.	FIRE
16-0092	-03H45M	OTC 132	*PAD	ASSEMBLE CLOSEOUT CREW AT COMPLEX J AND PREPARE FOR PAD RE-ENTRY. VERIFY ASP HAS SWITCH GUARD KEY. NOTIFY CLOSEOUT CREW TO PICKUP 6 LAPS FOR WHITE ROOM AND 8 ELSA'S FOR FSS ELEVATOR AT FIRE STATION NO. 2.	
16-0093	-03H45M	NTD 232	*SCC	GO TO OIS CH 221 AND DETERMINE PREFERRED TRIAGE SITE FOR FINAL INSPECTION TEAM AND CLOSEOUT CREW USE. REPORT SITE_____.	
16-0094	-03H40M	SRO 232	NTD	RANGE REQUESTS RANGE SAFETY COMMAND READINESS CLEARANCE (APPROX 90 MIN). WILL REPORT COMPLETION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

WARNING

PERSONNEL ENROUTE TO FORWARD  
OBSERVER SITES MUST NOT PENETRATE  
BLAST DANGER AREA.

NOTE

UPON ARRIVAL AT THEIR ASSIGNED  
LOCATION, PERSONNEL WITHIN LDA  
WILL REPORT ON OIS OR RADIO NET  
TO THEIR RESPECTIVE LEAD (NTD,  
SRO, STM, BEK1) FOR COMM CHECK.  
LEAD PERSONNEL WILL THEN VERIFY  
TO NTD THE STATUS OF THEIR  
RESPONSIBLE PERSONNEL. FOR ROAD  
BLOCK LOCATION (SEE FIGURE 5).

FOR PERSONNEL LOCATIONS/MAXIMUM  
MANLOADING, SEE FIGURE 7.

BEU'S WILL BE AVAILABLE FOR  
PICKUP AT LIFE SUPPORT SCAPE  
FACILITY BEHIND F/S NO. 2.

16-0095	-03H40M	NTD	STM	HAVE PERSONNEL REPORT TO	COMM
		232	*SEC	ASSIGNED FWD OBSERVER SITES.	SEC
		STM	JPHO	BRIEF PERSONNEL THAT THEY SHALL	
		111	GYCC	NOT PENETRATE BDA WHILE ENROUTE	
				JSTC TO SITES (INFO JSTC).	
			GYCC	WYVS	
			PTP		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
XPNDR SWITCH TO LAUNCH FREQ -----					
16-0096	-03H30M	*MIL 232	NTD	MILA ANTENNA ALIGN COMPLETE. READY FOR XPNDR SWITCH TO LAUNCH FREQUENCY.	
16-0097		NTD 232 OTC 132	OTC	REQUEST CCSE AND RCRT ON OIS CH 232 FOR XPNDR SWITCH TO CCSE LAUNCH FREQUENCY. RCRT	
16-0098		NTD 232	*FLT	TRANSMIT DSM _____ (XPNDR FREQ - LOW DSM 4740 OR XPNDR FREQ HIGH DSM 4741)	V74K3112
16-0099			CCSE	VAA19 VERIFY XPNDR FREQ - _____ (LOW OR HIGH)	
16-0100		NTD 232	*MIL	ACQUIRE 2-WAY LOCK ON S-BAND _____ (HIGH OR LOW) FREQ (MODE 25S CODING) AT LEVEL RECORDED AT START OF ANTENNA ALIGN (ANTENNA POSITIONED FOR LAUNCH) RECORD _____ WATTS.	
16-0101			CCSE	VAA19 NSP FRAME SYNC - LOCKED	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0102				RCRT LOCK RECEIVERS TO HIGH OR LOW FREQUENCY MILA UPLINK AND ORBITER DOWNLINK AS FOLLOWS:  1. 8216 PANEL A7 CHANNEL SW - __ (1=LOW, 2=HIGH) LOOP STATUS PM LITE - LOCKED  PANEL A9 CHANNEL SW - __ (3=LOW, 4=HIGH) LOOP STATUS LITE - LOCKED  2. 8217 PANELS A4 AND A7 FRAME SYNC LOCK LITES - ON	
					T:_____
16-0103		NTD 232	*FLT	TRANSMIT DSM 4752 (PWR AMP STBY 2 - ON)	
16-0104			CCSE	VAA19 VERIFY PWR AMP STBY 2 ON	
16-0105		NTD 232	*MIL	SELECT RF 192 KB DATA TO MCC-H.	
16-0106		NTD 232	*FLT	VERIFY PROCESSING 192 KBS RF DOWNLINK TELEMETRY AND VOICE.	
16-0107	-03H30M	NTD 232	JRPS	VERIFY LOCK ON MILA CMD VERIFY AND MILA 192 KB D/L DATA. VERIFY RECORDING MILA S-BAND PM-1 AND PM-2 192KB RF DATA.	
16-0108		NTD 232	*FLT *MIL RCRT CCSE OTC	MILA ANTENNA ALIGNMENT COMPLETE.	SU72718

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0109		OTC 132	CCSE	ACTIVATE COUNTDOWN EMONS  PROGRAMMABLE FUNCTION PANEL VWA40 PFPK - PRESS  VERIFY EMONS DISPLAYED  EMONS PFPK - PRESS ACT CNT-DN EMON PFPK - PRESS  CRT (VWA40 PG B) VERIFY MSG CNT-DN EMON ACTIVATED  PROGRAMMABLE FUNCTION PANEL EXIT EMON OPTIONS PFPK - PRESS PFPK7 - PRESS	
16-0110			CCSE	CURSOR CNTL (VWA40) F/S MONITOR XMIT CURSOR KEY - PRESS  CRT VERIFY F/S MONITOR INVERT	
16-0111	-03H30M	NTD 232	*FLT *MIL	PERFORM PDL STATION I/F CHECKS (LOSS OF UHF TO THE VEHICLE WILL OCCUR.)	
16-0112		*MIL 232 NTD 232	NTD *FLT CCSE	PDL STATION I/F CHECKS COMPLETE.	
16-0113		CCSE 232 NTD	NTD *GC *FLT *MIL	VERIFY ALL INTER-CENTER AND SUPPORT SITE COMMUNICATION NETWORK INTERFACE CHECKS ARE COMPLETE, VALIDATED AND CONFIGURED TO SUPPORT LAUNCH COUNTDOWN. IMMEDIATELY REPORT ANY NETWORK DISRUPTION TO NTD OR CCSE UPON DETECTION.	

OPERATION INSTRUCTIONS

-----  
SEQ            TIME            CMD    RESP                            DESCRIPTION                            VERIF.  
-----

ARMORED VEHICLE OPS  
-----

16-0114    -03H30M    NTD    JFIR    DISPATCH PAD RESCUE CREW            FIRE  
232    \*SEC    TO MAN ARMORED VEHICLE AT A/B-5    SU72723  
R/B (FOR PAD A LAUNCH) OR A/B-4  
R/B (FOR PAD B LAUNCH) AND STANDBY  
TO SUPPORT FINAL INSPECTION TEAM  
AND CLOSEOUT CREW INGRESS INTO  
PAD. VERIFY WHEN CREW AT APPROPRIATE  
ROADBLOCK FOR M113 COMM CHECKS.

ESSENTIAL PERSONNEL  
-----

FIRE/RESCUE VEHICLES (3)

FIRE/RESCUE  
-----

JBOSC            14

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
ACTIVATE PAD OIS					
-----					
16-0115		NTD 232 STM 111 GYCC 117	STM GYCC JYCD	ACTIVATE PAD OIS-D FOR FLIGHT CREW BOARDING AND FINAL INSPECTION TEAM (5 MIN).	COMM SU72755
16-0116	-03H25M	JYCD 117 GYCC 111 STM 232	GYCC STM NTD	OIS-D ACTIVATED TO PAD.	COMM

IUS RIMU CAL AND ALIGN (CONTINGENCY)

-----

NOTE

DO NOT PERFORM NEXT STEP  
IF PRIMARY RIMU CAL AND ALIGN  
(COMPLETED AT L-13H35M) WAS  
ACCEPTABLE FOR LAUNCH.

CONTINGENCY RIMU CAL AND  
ALIGN WILL TAKE 2 HOURS  
10 MINUTES TO PERFORM AND  
AN ADDITIONAL 30 MINUTES  
TO EVALUATE ACCEPTABLE FOR  
LAUNCH.

PERFORM NEXT STEP 15 MINUTES  
PRIOR TO LOX/LH2 STABLE  
REPLENISH.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0117	-03H20M	ICTC 134 PTC 232 NTD	PTC NTD OTC TBC STM	READY TO PROCEED WITH RIMU CAL AND ALIGN. REQUEST QUIET TIME BE PLACED IN EFFECT IN 15 MINUTES.	

NOT PERFORMED

NOTE

FOLLOWING CRITERIA REQUIRED FOR QUIET TIME ACTIVITY:

1. NO HYDRAULICALLY ACTUATED AEROSURFACE OR SSME TVC MOVEMENT
2. NO SRB NOZZLE MOVEMENT
3. NO MPS 17-INCH DISCONNECT VALVE CYCLES
4. NO UNCOORDINATED CABIN ACTIVITY
5. NO CHANGES IN PLB PURGE (FLOW RATE OR TEMP)
6. NO 3,4,5,6,7 OR 9 VENT DOOR OPERATIONS
7. NO SSME FRT OR OTHER OPERATIONS RESULTING IN SIMULATED SSME PNEUMATIC SHUTDOWN.
8. MAX WIND OF 49 KNOTS (PEAK VELOCITY IN ANY DIRECTION).
9. NO MOBILE CRANE OPERATIONS
10. NO ORBITER WEATHER PROTECTION MOVEMENT
11. NO ORBITER CRYOGENIC CHILLDOWN

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

DO NOT PERFORM NEXT FOUR STEPS IF PRIMARY RIMU CAL AND ALIGN (COMPLETE AT L-13H35M) WAS ACCEPTABLE FOR LAUNCH.

PERFORM THE NEXT STEP AFTER LOX/LH2 STABLE REPLENISH.

16-0118		NTD 232	PTC	PROCEED WITH RIMU CAL AND ALIGN. QUIET TIME IN EFFECT.	
				OMRSD P018JB.035-C NOT PERFORMED	

NOTE

DURING RIMU CAL/ALIGN, PTC WILL REQUEST PAYLOAD BAY PURGE, WIND DIRECTION AND VELOCITY DATA EVERY 30 MIN. PTC WILL RECORD THIS DATA IN APPENDIX B (S0007VL4).

16-0119		PTC 132 OTC	OTC CPVD	PROVIDE TEMPERATURE, FLOWRATE AND HUMIDITY OF PAYLOAD BAY PURGE PER ORBITER OPERATION SUPPORT SETUP 15. PTC WILL REQUEST DATA EVERY 30 MIN DURING RIMU CAL/ALIGN. NOTIFY PTC IMMEDIATELY OF ANY VIOLATIONS.	
				NOT PERFORMED	

16-0120		PTC 232 NTD STM 111 JBDY 231	NTD STM JBDY	REQUEST WIND DIRECTION AND VELOCITY READING FROM 60 FT WIND TOWERS. RECORD: *WEA WIND DIRECTION _____ WIND VELOCITY _____	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
IUS RIMU CAL AND ALIGN START -----					
16-0121		PTC 134	ICTC	PROCEED WITH RIMU CAL AND ALIGN PER DOP D290-50020-27. QUIET TIME IN EFFECT. REPORT STATUS OF CAL AND ALIGN AS AVAILABLE.	
ARMORED VEHICLE COMM CHECK -----					
16-0122	-03H15M	NTD NET 105	*HT1	PERFORM ARMORED VEHICLE COMM CHECK ON NET 105 WITH NTD.	FIRE SU72724
16-0123		*HT1 NET 105	NTD	ARMORED VEHICLE COMM CHECK ON NET 105 COMPLETED.	FIRE
FINAL INSPECTION TEAM AND CLOSEOUT -----					
CREW AT COMPLEX J -----					
16-0124	-03H15M	OVCC NET 105 OTC 232	OTC NTD	CLOSEOUT CREW ASSEMBLED AT COMPLEX J. READY FOR PAD ENTRY.	SU72720
16-0125	-03H15M	*FIT NET 105	NTD	FINAL INSPECTION TEAM AT COMPLEX J AND READY FOR PAD ENTRY.	SU72721
16-0126	-03H10M	CLOX 136 TBC 232	TBC NTD	LOX FAST FILL COMPLETE. NOW IN TOPPING TO 100 PERCENT LEVEL.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ANNOUNCE HOLD -----					
16-0127	-03H10M	NTD PA 232	ALL	CDC WILL HOLD AT T-03H00M.	
CDC HOLD PREP -----					
16-0128	-03H10M	NTD 232	CGLS	SET CDC TO HOLD AT T-03H00M.	
16-0129			CGLS	HOME CMD KEY - PRESS CDTH - 0300/00 XMIT CMD KEY - PRESS	
16-0130		CGLS 232	NTD	CDC SET TO HOLD AT T-03H00M.	
START LH2 REPLENISH (S1004) -----					
16-0131	-03H05M	CLHY 136 TBC 232 NTD STM JCFM 111	TBC NTD	ET LH2 TOPPING TO 100 PCT COMPLETE. INITIATING REPLENISH OPERATIONS.	SU72710
OMRSD S00FF0.082-1					
LOX IN STABLE REPLENISH -----					
16-0132	-03H05M	CLOX 136 TBC 232 NTD STM LPS JCFM 111	TBC NTD	LOX IN STABLE REPLENISH.	SU72700



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
LH2 IN STABLE REPLENISH (S1004)					
16-0133	-03H05M	CLHY 136 TBC 232 NTD STM 111	TBC NTD STM JCFM	LH2 IN STABLE REPLENISH MODE.       OMRSD S00FF0.091-1	SU72702 SU72799
NOTE					
PERFORM NEXT STEP AFTER LOX AND LH2 IN STABLE REPLENISH.					
16-0134		LPS 127	C1MC	PERFORM \$FEPCPR, DEMAND UPDATE FOR ALL FEPS PER OMI C2000. TERMINATE \$FEPCPR AT COMPLETION OF DEMAND UPDATE.  CONTROLLED SWITCHING IN EFFECT	
16-0135	-03H00M	NTD 232	*SCC OTC TBC PTC STM	LO2 AND LH2 TANKING IN STABILIZED REPLENISH MODE. CONTROLLED SWITCHING IN EFFECT	
16-0136		JCFM 111	STM	CMDPS PRINTOUT COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
VARIABLE ASCENT PARAMETER U/L LOAD					
-----					
16-0137		NTD 232	*FLT	PROCEED WITH TRANSMISSION OF VARIABLE ASCENT PARAMETERS.	
				RESET ORBITER VENT DOOR CMDS	
-----					
16-0138	-03H00M	OTC 132	CPVD	RESET ORBITER VENT DOOR COMMANDS - OFF	
16-0139			CPVD	PERFORM FOLLOWING:	
				1. PRESS PFPK-7 VERIFY VAM01A AND VAM31A (ACTIVE)	
				2. PRESS PFPK-X NEXT TO VAM31A ONCE VERIFY PFP6 INDICATES "VENT DOOR"	
				3. PRESS PFPK-6 VERIFY PFP1 INDICATES "VENT CMD RESET"	
				4. PRESS PFPK-1 "VENT CMD RESET" ONCE CRT VERIFY MESSAGE "VENT CMD RESET" INDICATED	
				5. CRT VERIFY (AFTER APPROX 30 SEC. DELAY) MESSAGE "VENT CMD RESET COMPLETE"	
				6. PFPK7 - PRESS	
16-0140		CPVD 132	OTC	ORBITER VENT DOOR COMMANDS RESET - OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- MDM DISCRETE READ CHECK -----					
NOTE					
NOTED REQUIREMENT IS SATISFIED BY THE FOLLOWING STEPS.					
OMRS S00FE0.190-1R					
16-0141	-03H00M	OTC 132	CDPS	PERFORM T-3 HR BT4 SNAPSHOT ON C/D FLIGHT CRITICAL AND PAYLOAD MDMS TO STATUS DISCRETE OUTPUTS	SU72727
16-0142	-03H00M		CDPS	CURSOR CNTL (SAS01 PGB) DPS XMIT CURSOR KEY - PRESS  MDM DISCRETE OUTPUT CHK (VAS94) XMIT CURSOR KEY - PRESS  PFK 2 KEY - PRESS	
16-0143			CDPS	CURSOR CNTL (VAS94 PGB) T-3HR SNAPSHOT XMIT CURSOR KEY - PRESS	
NOTE					
PERFORM NEXT STEP UPON RECEIPT OF ORIGINAL COPY.					
16-0144	-03H00M		CDPS	CONSOLE KYBD PFK-15 KEY - PRESS	
16-0145			CDPS	RETRIEVE BT4 ORIGINAL COPY WITH T-3HR MISCOMPARES FROM CONSOLE PRINTER. ANNOTATE PAGE NUMBERS ON COPY AND DELIVER TO DEV RUNNER.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0146		CDPS 132 OTC	OTC CTPE	T-3HR SNAPSHOT ON C/D, FLT CRITICAL AND PYLD MDMS COMPLETE.	
16-0147			CTPE	BT4 TO BE DISTRIBUTED TO ALL SYSTEMS AS FOLLOWS  C2 - 1 COPY FOR CNSE AND CCSE TO REVIEW C3/4 - 1 COPY FOR CMPS TO REVIEW C5/6 - 1 COPY FOR CPVD, CECL, CFCP, CPLE, CAFM TO REVIEW C7/8 - 1 COPY FOR COOS, CHYD AND CAPU TO REVIEW C9/10 - 1 COPY FOR CISL AND CEPD TO REVIEW C11/12 - 1 COPY FOR COFC, CGNC, CDPS AND CCME TO REVIEW INTG - 1 COPY FOR TPE TO REVIEW  DEV RUNNER WILL PRODUCE 6 COPIES AND DISTRIBUTE.	
16-0148		OTC 132	ALL	ALL SYSTEMS LISTED BELOW TO REVIEW MDM DISCRETE OUTPUTS AND MISCOMPARES IN LISTING DELIVERED TO THEM. ALL MISCOMPARES MUST BE EVALUATED AND EXPLAINED. VERBAL OK ON MDM DISCRETE CONFIGURATION MUST BE RECEIVED FROM EACH SYSTEM BY END OF HOLD AT T-3 HOURS. TPE WILL ATTACH T-3 HOUR MISCOMPARE TO THIS OMI.  CPLE _____ CAPU _____ CCSE _____ CISL _____ CAFM _____ CEPD _____ CMPS _____ CGNC _____ CECL _____ COFC _____ CPVD _____ CCME _____ CFCP _____ CDPS _____ COOS _____ CHYD _____	SU72727
16-0149				NOTED REQUIREMENT COMPLETE.  OMRSD S00FE0.190-1R (VAS94)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
CRT COUNTDOWN TIMER SETUP -----					
16-0150	-03H00M	OTC 132	CDPS	SETUP ONBOARD COUNTDOWN TIMER.	SU72726
16-0151			CDPS	CONSOLE KYBD DEUE DEST GNC 1 LDBA XMIT CMD KEY - PRESS DEUE SPEC 2 PRO XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS  CRT (VAS59 PG B) DEU 1 DISP ID 0020	
NOTE					
ANTICIPATED GMT OF LIFTOFF WILL BE ENTERED IN NEXT STEP.					
16-0152			CDPS	CONSOLE KYBD DEUE ITEM 17 +__ +__ +__ EXEC HH MM SS XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS  DEUE RESUME XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
16-0153		CDPS OTC 132	OTC	CRT COUNTDOWN TIMER SETUP COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
PAVS DELIVERY COMPLETE -----					
16-0154	-03H00M	*SCB NET 104 JSTC STM 111	JSTC	1 EA PORTABLE AIR VENTILATOR PER FLIGHT CREW MEMBER PLUS ONE DELIVERED TO O&C CUL-DE-SAC, ASTRONAUT CREW VAN.  1 EA PORTABLE AIR VENTILATOR PER FLIGHT CREW MEMBER DELIVERED TO FIRE STATION NO. 2 FOR ASTRONAUT CLOSEOUT CREW.  ***T-3H00M HOLD*** -----	LS SU72747
16-0155	-03H00M (HOLDING)	NTD PA 232		CDC HOLDING AT T-03H00M.	
16-0156		LPS	C2MC	STRIP, LABEL PLOTS, AND INSTALL NEW TAKE UP ROLLS ON ALL PP1 AND PP2 UNITS.	
NOTE  PERFORM NEXT STEP AFTER CDC IS HOLDING.					
16-0157	-03H00M (HOLDING)		CGLS	HOME CMD KEY - PRESS CDTC ____/__.000 HHMM SS XMIT CMD KEY - PRESS	
16-0158	-03H00M (HOLDING)	*PAC 232	NTD	*PAC FULLY MANNED. READY TO SUPPORT PAD ENTRY/FLIGHT CREW INGRESS.	SU72732

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF FOD  
 DOCUMENTED IN APPENDIX M.

16-0159		PSTM 111 STM 232 SPE	STM NTD NTD	FOD DOCUMENTED IN APPENDIX M HAS BEEN DISPOSITIONED AND IS NOT A CONSTRAINT TO LAUNCH.	
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NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT STEP IF SRBTS  
 INSTALLED FOR THIS FLIGHT  
 AND LAUNCH IS FROM PAD A.

16-0160		SRO 232 NTD	NTD *SEC	FCA VAN DEPARTING FOR UCS 15 TO SUPPORT SRBTS CHECKOUT.	
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NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT STEP IF SRBTS  
 INSTALLED FOR THIS FLIGHT  
 AND LAUNCH IS FROM PAD B.

16-0161		SRO 232 NTD	NTD *SEC	FCA VAN AT GATE 6-T ENROUTE TO UCS-4 TO SUPPORT SRBTS CHECKOUT. REQUEST SECURITY ALLOW FCA VAN ACCESS THROUGH GATES 6T AND 6.	
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				FIRING ROOM CONFIGURATION FOR PAD	
				ENTRY	
16-0162	-03H00M (HOLDING)	NTD 232	OTC TBC STM PTC	IMPLEMENT AND VERIFY FOLLOWING CONFIGURATIONS DURING TOTAL TIME PERSONNEL INSIDE BDA: 1. NO LPS TEST PROGRAM AUTHORIZED EXCEPT THOSE REQUIRED TO MONITOR AND MAINTAIN VEHICLE AND GSE IN SAFE CONFIGURATION. 2. CONTROL SWITCHING IN EFFECT. 3. PICS AND S&A DEVICES NOT ARMED. 4. VEHICLE AND GSE HAZ GAS DETECTION SYSTEM OPERATING AND INDICATING SAFE CONDITION. 5. ADVISE NTD OF ANY HAZARDOUS GAS DETECTION SYS UNSAFE INDICATIONS.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0163	-03H00M (HOLDING)	NTD 232 *SCC NET 105	*SCC *PSE	REQUEST SAFETY CONCURRENCE TO CLEAR CLOSEOUT CREW, FINAL INSPECTION TEAM AND M113 BUNKER CREW INTO PAD. VERIFY CREWS DRESSED IN NON-STATIC PRODUCING, FLAME RETARDANT COVERALLS AND HAVE BREATHING AIR AVAILABLE.	

ESSENTIAL PERSONNEL IN CLOSEOUT CREW  
-----

- CLOSEOUT CREW LEADER (1)
- ASP (2)\*
- SUIT TECH (1)
- NASA QUALITY CONTROL (1)
- ORB MECH TECHS (2)

\*SECOND ASP WILL GO TO PAD TO  
ASSIST WITH CREW COMPARTMENT  
ACTIVITIES IF:

1. CREW COMPARTMENT WAS UNABLE  
TO BE CONFIGURED FOR FLIGHT  
CREW ARRIVAL PRIOR TO CLEARING  
FOR ET LOAD

AND

2. THERE IS NOT SUFFICIENT TIME  
AVAILABLE AFTER ET LOAD FOR  
ONE ASP TO COMPLETE CONFIGURATION  
PRIOR TO CREW INGRESS. SECOND  
ASP WILL ACCOMPANY CLOSEOUT CREW  
TO PAD AND WILL DEPART PAD IN  
ASTROVAN WHEN FLIGHT CREW  
ARRIVES.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0163				CLOSEOUT CREW VEHICLES - 2	
CON'T				----- ESSENTIAL PERSONNEL FOR FINAL ----- INSPECTION ----- (SSV,FSS,MLP) ET NASA SFOC -- -- -- ENGR                  1    4    2 SAF                   1          1 FINAL INSPECTION TEAM VEHICLES - 2 ----- ESSENTIAL PERSONNEL AT BUNKER ----- PAD RESCUE (3) PAD RESCUE VEHICLES - 1 -----	

NOTE

PERFORM NEXT TWO STEPS IF  
 SECOND ASP REQUIRED AT PAD  
 FOR CREW COMPARTMENT  
 CONFIGURATION.

16-0164		VIT	NTD	REQUEST CONCURRENCE FOR SECOND ASP 232 TO ACCOMPANY CLOSEOUT CREW TO PAD NTD *SCC TO SUPPORT CREW COMPARTMENT *SCC *PSE CONFIGURATION. NET 105	NOT PERFORMED
16-0165		*PSE	*SCC	YOU HAVE SAFETY CONCURRENCE FOR NET SECOND ASP TO ACCOMPANY CLOSEOUT 105 CREW TO PAD. *SCC NTD 232 NTD VIT	NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0166	-03H00M (HOLDING)	*PSE NET 105 *SCC 232	*SCC NTD	CLOSEOUT CREW AND FINAL INSPECTION TEAM PROPERLY ATTIRED AND CLEAR TO PROCEED WITH PAD RESCUE MEMBERS TO LAUNCH PAD.	
16-0167		NTD 232	*SEC	CLEAR CLOSEOUT CREW AND FINAL INSPECTION TEAM THROUGH ROADBLOCK A/B-11 FOR INGRESS TO PAD.	SEC
16-0168		NTD 232 STM 138	STM JYVO	PROVIDE VIDEO TRACKING AND RECORDING OF CLOSEOUT CREW, AND FINAL INSPECTION TEAM FROM A/B-11 ROADBLOCK TO PAD (SEE JYVO FIGURE 4), AND ARMORED VEHICLE BUNKER CREW FROM A/B-5 (PAD A) A/B-4 (PAB B).	COMM
16-0169		STM 138	JYVR	START VIDEO RECORDING OF OTV CAMERA 073/173 (SEE STM FIGURE 4).	COMM
16-0170		NTD 232 OTC NET 105	OTC OVCC	PROCEED TO LAUNCH PAD FOR CLOSEOUT OPERATIONS AND REPORT IN ON OIS CH 132. VERIFY AUTHORIZED PERSONNEL HAVE COMBINATION FOR WINDOW COVER REMOVAL (IF INSTALLED).	

WARNING

ALL FINAL INSPECTION TEAM PERSONNEL WILL REMAIN FURTHER THAN 6 FEET FROM UNPROTECTED EDGES ON MLP ZERO LEVEL.

16-0171		NTD NET 105	*FIT	PERFORM FINAL INSPECTION PER S0007VL4 (SEQ 57) AND OMI S6444.  OMRS S00U00.020-A-1 OMRS S00U00.020-C-1 OMRS S00U00.020-D-1	SU72729
16-0172		NTD 232	*PAC	FINAL INSPECTION TEAM AND CLOSEOUT CREW RELEASED AND PROCEEDING TO PAD.	SU72748

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0173		NTD 232 JFIR NET 105	*SEC JFIR *PRL	SEND PAD RESCUE PERSONNEL TO ARMORED VEHICLE AT SLIDEWIRE BUNKER FOR CLOSEOUT CREW AND FINAL INSPECTION TEAM ENTRY. RESCUE CREW TO REMAIN IN BUNKER UNTIL CLOSEOUT CREW EGRESSES PAD.	FIRE SEC SU72756
16-0174	-03H00M (HOLDING)	OVCC NET 105 OTC 232	OTC NTD	CLOSEOUT CREW APPROACHING ELEVATOR. REQUEST PERMISSION TO PROCEED TO WHITE ROOM.	SU72725
16-0175		NTD 232 STM 111	STM JBEP	VERIFY O2 CONCENTRATION IN WHITE ROOM ACCEPTABLE FOR CREW INGRESS.	PWRA

CLOSEOUT CREW TO WHITE ROOM  
 -----

NOTE

PERFORM NEXT TWO STEPS IF  
 FIXED O2 METER IN WHITE ROOM  
 CAN VERIFY O2 CONCENTRATION  
 ACCEPTABLE.

16-0176		JBEP 111 STM 232	STM NTD	O2 CONCENTRATION ACCEPTABLE IN WHITE ROOM.	PWRA
				NOT PERFORMED	_____
16-0177		NTD 232 OTC NET 105	OTC OVCC	OVCC REPORT TO WHITE ROOM AND REPORT IN ON OIS CH 132.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT TWO STEPS IF  
 O2 CONCENTRATION CANNOT BE  
 VERIFIED ACCEPTABLE BY FIXED  
 O2 METER IN WHITE ROOM.

16-0178		JBEP 111 STM 232	STM NTD	O2 CONCENTRATION IN WHITE ROOM CANNOT BE VERIFIED ACCEPTABLE BY FIXED O2 MONITORING SYSTEM.	PWRA
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NOT PERFORMED

16-0179		NTD 232 OTC NET 105	OTC OVCC	HAVE OVCC PROCEED TO WHITE ROOM AND PERFORM O2 CONCENTRATION CHECK PRIOR TO WHITE ROOM ENTRY. REPORT IN ON OIS CH 132.	
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NOT PERFORMED

OPEN ORBITER LEEWARD VENT DOORS  
 -----  
 1 AND 2 (CONTINGENCY)  
 -----

NOTE

IF O2 CONCENTRATION IN  
 OAA WHITE ROOM BECOMES  
 LESS THAN 20 PCT AS  
 INDICATED ON W/R O2 METER  
 (OTV CAM 005/105), PERFORM  
 NEXT THREE STEPS TO OPEN  
 LEEWARD VENT DOORS 1&2.

16-0180	-07H15M	NTD 232 OTC 132	OTC CPVD	O2 CONCENTRATION WITHIN WHITE ROOM LESS THAN 20 PCT, OPEN ORBITER VENT DOORS 1 AND 2 ON LEEWARD SIDE.	SU72539
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NOT PERFORMED

16-0181			CPVD	CURSOR CNTL (VAM31A/VAM09A) VENT DOORS 1&2 (LEEWARD) OPEN TARGET XMIT CURSOR	
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0182		CPVD 132 OTC 232	OTC NTD	LEEWARD VENT DOOR OPENING COMPLETE.  NOT PERFORMED	_____
NOTE					
PERFORM NEXT STEP IF O2 CONCENTRATION IN WHITE ROOM STILL LESS THAN 20 PCT AFTER PVD OPENED LEEWARD VENT DOORS.					
16-0183		OTC 132	*FCM WHITE ROOM	1. EXHAUST FAN SW - ON  2. POSITION REAR SWINGING DOORS IN OPEN POSITION AND SECURE.  NOT PERFORMED	_____
NOTE					
IF PREVIOUS FOUR STEPS DO NOT SOLVE LESS THAN 20 PCT O2 CONCENTRATION PROBLEM, PERFORM NEXT FOUR STEPS TO OPEN WINDWARD VENT DOORS 1 AND 2 ONLY IF WIND CONDITION IS LESS THAN 18 KTS AND NO RAIN EXPECTED.  REF OMRS V05AG0.060					
16-0184		NTD 232	*FLT WINDWARD VENT DOORS 1 AND 2 WILL BE OPENED.	NOT PERFORMED	_____
16-0185		NTD 232 OTC 132	OTC CPVD	OPEN WINDWARD VENT DOORS 1 AND 2.  NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0186		CPVD		CURSOR CNTL (VAM31A/VAM09A) VENT DOORS 1 AND 2 (WINDWARD) OPEN TARGET XMIT CURSOR KEY - PRESS	
				NOT PERFORMED	_____
16-0187		CPVD 132 OTC 232 NTD	OTC NTD *SCC	WINDWARD VENT DOOR OPENING COMPLETE.	
				NOT PERFORMED	_____
				NOTE	
				PERFORM NEXT TWO STEPS IF WHITE ROOM O2 INDICATIONS LESS THAN 19.5 PCT.	
16-0188		NTD 232 OTC 132	OTC *SCC	PERFORM INTERIOR O2 LEVEL CHECKS PRIOR TO WHITE ROOM/CREW MODULE ENTRY.	
				NOT PERFORMED	_____
16-0189		OVCC 132 OTC 232 NTD	OTC NTD *SCC	O2 LEVEL CHECK IN WHITE ROOM/CREW MODULE ACCEPTABLE. VERIFY SAFETY CONCURRENCE FOR PERSONNEL ENTRY.	
				NOT PERFORMED	_____
				NOTE	
				PERFORM NEXT STEP IF EXHAUST FAN IS ON AND REAR SWINGING DOORS OPEN TO WHITE ROOM.	
16-0190		OTC 132	OVCC	WHITE ROOM	
				1. EXHAUST FAN SW - OFF	
				2. CLOSE REAR SWINGING DOORS	
					T: _____
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0191		OVCC 132	OTC	CLOSEOUT CREW READY TO ENTER ORBITER.	
16-0192		CECL 132	OTC	PARTIAL PRESSURE OF OXYGEN IN CREW COMPARTMENT SATISFACTORY.	
16-0193		OTC 132	OVCC	PERFORM O2 LEVEL CHECK PRIOR TO CABIN ENTRY.	
16-0194		OVCC 132 OTC 232	OTC NTD	O2 LEVEL CHECK IN CABIN/WHITE ROOM ACCEPTABLE FOR CREW INGRESS.	SU72725

WARNING

DUE TO GN2 BUILDUP AROUND ORBITER HATCH, PERSONNEL SHALL NOT LINGER IN HATCH OPENING.

16-0195		NTD 232 OTC 132	OTC OVCC	PROCEED WITH INGRESS OF CREW COMPARTMENT. PROVIDE TWO UNWRAPPED ELSA'S FOR ASP AND NST.	
16-0196		OVCC 132	OTC	ASP AND NST ENTERING CREW MODULE AT THIS TIME.	SU72728
16-0197	-03H00M (HOLDING)	NTD 232 STM 138	STM JYVO JYVR	STOP VIDEO TRACK AND RECORDING OF CLOSEOUT CREW (SEE JYVO FIG 4).	COMM

WX SATELLITE PHOTO

NOTE

PERFORM NEXT STEP 1 HOUR PRIOR TO SCHEDULED WEATHER BRIEFING.

16-0198	-03H00M (HOLDING)	NTD 232 STM 231	STM *WEA	VERIFY FULL DISC WEATHER SATELLITE PHOTO HAS BEEN EMAILED TO ASTRONAUT CREW QUARTERS (THOMAS.W.KWIATKOWSKI1@JSC.NASA.GOV).	SU72753
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
GO FOR FLIGHT CREW WAKE-UP -----					
16-0199	-03H00M (HOLDING)	VIT	NTD	VERIFY GO FOR CREW WAKE-UP. 7-3901 (RECORDED PHONE) (FR1) 7-3903 (RECORDED PHONE) (FR3)	
16-0200		VIT	NTD	VERIFY CREW EGRESS SYSTEM SATISFACTORY.	
16-0201		NTD 232	OTC	CREW WAKE UP STARTING.	
CONFIG COMM -----					
16-0202	-03H00M (HOLDING)		ASP	PANEL A15 DON COMM HEADSET PREVIOUSLY CONNECTED.	
			ASP	PANEL MO42F MIDDECK SPEAKER AUDIO SPKR PWR SW - OFF	
			ASP	PS COMM CCU PWR SW - ON	
CONFIG COMM (CONTINGENCY) -----					
NOTE					
PERFORM NEXT SEVEN STEPS ONLY IN SUPPORT OF A 24 HOUR SCRUB TURNAROUND OPERATION.					
16-0203	-03H00M (HOLDING)	OTC 132 NTD 232	CCSE *MIL	PROCEED WITH CONFIG OF COMM ON OIS CH 214 (CONTINGENCY).	NOT PERFORMED _____
16-0204	-03H00M (HOLDING)	CCSE	*MIL	CONFIGURE FOR S-BAND AND UHF ASTRO COMM.	NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ASTRO COMM PANEL ACTIVATION					
NOTE					
FOLLOWING PBI'S WHICH ARE ALREADY ON WILL HAVE TO BE CYCLED TO OFF THEN BACK TO ON.					
16-0205	-03H00M (HOLDING)	CCSE	OTC 132	ASTRO COMM OIS INTERFACE PANEL	
				1. PWR SW - ON	
				2. ICOM-A SW - ACTIVE	
				3. ICOM-B SW - ACTIVE	
				4. A/G 1 SW - ACTIVE	
				5. A/G 2 SW - ACTIVE	
				6. UHF SW - ACTIVE	
				7. VERIFY ABOVE ACTIVE LITES ARE ON	
NOT PERFORMED _____					
16-0206	-03H00M (HOLDING)	CCSE		PERFORM TWO-WAY COMM CHECKS WITH ASP ON:	
				OIS 214 (ICOM A)	
				OIS 215 (ICOM B)	
				212 (A/G 1)	
				213 (A/G 2)	
				OIS 6311 (FR1-A/A) OR	
				6331 (FR3-A/A)	
NOT PERFORMED _____					
16-0207		OTC		PERFORM VOICE CHECKS WITH ASP ON AB4 AUDIO - (A/G 1, A/G 2, UMB A & UMB B)	
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0208	-03H00M (HOLDING)	CCSE 132	OTC	ASTRO COMM OIS INTERFACE PANEL	
				1. ICOM-A SW - OFF 2. ICOM-B SW - OFF 3. VERIFY ABOVE ACTIVE LITES OFF 4. A/G 2 SW - MONITOR 5. VERIFY MONITOR A/G 2 LITE ON	
				NOT PERFORMED	_____
16-0209		CCSE 132	OTC	CONFIG COMM (CONTINGENCY) COMPLETE.	
		OTC 232	NTD		
				NOT PERFORMED	_____
				CONFIG COMM (CONTINGENCY) COMPLETE	
				-----	
				ASP COMM CHECK	
				-----	
16-0210	-03H00M (HOLDING)	ASP 212	OTC	PERFORM COMM CHECK WITH OTC ON A/G 1 (OIS CH 212), A/G 2 (OIS 6313/6333) AND A/A (OIS 6311/6331).	SU72739
				SIMO A/G A/A DELAY ADJUSTMENT	
				-----	
16-0211			OTC ASP	STANDBY TO PERFORM SIMO A/G-1, A/G-2 AND A/A VOICE CHECKS FOR DELAY ADJUSTMENTS.	
16-0212		OTC 232	NTD	READY FOR SIMO A/G-1, A/G-2 AND A/A VOICE CHECKS FOR DELAY ADJUSTMENTS. USE LONG TEST *FLT COUNT. DURING COUNT HOUSTON ASP COMM TECH WILL ADJUST DELAY BETWEEN A/G AND A/A PER ASP DIRECTION. REPEAT AS REQUIRED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0213				*FLT RECORD INSERTED DELAY  U/L _____  D/L _____	
16-0214		NTD 232	OTC ASP	SIMO A/G, A/A DELAY ADJUSTMENT COMPLETE.  ER HOLDFIRE TEST -----	
16-0215		NTD 232 TBC 136	SRO TBC CBRS	PERFORM RANGE SAFETY SYSTEM HOLDFIRE CHECKS ON OIS CH 175.	SU72704
16-0216			CBRS	SRSS HOLDFIRE PANEL S1 - LAUNCH PROCEED S2 - OFF  CBRS SRSS HOLDFIRE PANEL UPPER/LOWER LAUNCH PROCEED - GREEN UPPER/LOWER HOLD - OFF UPPER/LOWER AFETR HOLD - OFF	
16-0217		CBRS	SFCO	SFCO PANEL PROCEED/HOLD SW - HOLD	
16-0218		CBRS	SFCO FCO SRO CBRS	VERIFY HOLD INDICATION	
16-0219		CBRS	SFCO	SFCO PANEL PROCEED/HOLD SW - PROCEED	
16-0220		CBRS	SFCO FCO SRO CBRS	VERIFY PROCEED INDICATION	
16-0221		CBRS	FCO	FCO PANEL PROCEED/HOLD SW - HOLD	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0222		CBRS	SFCO FCO SRO CBRS	VERIFY HOLD INDICATION	
16-0223		CBRS	FCO	FCO PANEL PROCEED/HOLD SW - PROCEED	
16-0224		CBRS	SFCO FCO SRO CBRS	VERIFY PROCEED INDICATION	
16-0225		CBRS	SRO	SRO PANEL PROCEED/HOLD SW - HOLD	
16-0226		CBRS	SFCO FCO SRO CBRS	VERIFY HOLD INDICATION	
16-0227		CBRS	SRO	SRO PANEL PROCEED/HOLD SW - PROCEED	
16-0228		CBRS	SFCO FCO SRO CBRS	VERIFY PROCEED INDICATION	
16-0229		CBRS		SRSS HOLDFIRE PANEL PROCEED/HOLD SW - HOLD	
16-0230		CBRS	SFCO FCO SRO CBRS	VERIFY HOLD INDICATION	
16-0231		CBRS		SRSS HOLDFIRE PANEL PROCEED/HOLD SW - PROCEED	
16-0232		CBRS	SFCO FCO SRO CBRS	VERIFY PROCEED INDICATION	
16-0233		CBRS		SRSS HOLDFIRE PANEL S2 - BYPASS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0234		CBRS 175 SRO 232	SRO NTD	RANGE SAFETY HOLDFIRE CHECKS COMPLETE.  FCO ABORT ADVISORY CHECKS -----	SU72704
16-0235		NTD 232 OTC 132	OTC *FLT ASP CISL	STANDBY FOR FCO ABORT ADVISORY CHECKS ON OIS CH 212.	SU72740
16-0236		NTD 232	*FLT SRO	VERIFY SYSTEM ARMED AND READY TO PERFORM CHECK ON OIS CH 212.	
16-0237		NTD 232	SRO	PERFORM FCO ABORT ADVISORY CHECKS.	

NOTE

FOLLOWING STEPS VERIFY THE  
 ROCC FLIGHT CONTROL CONSOLE.  
 ASP WILL REPORT ABORT LIGHT  
 ON OR OFF REGARDLESS OF LIGHT  
 INTENSITY.

16-0238		FCO		TRANSMIT DSM 4054 (ABORT A/B ON) VIA FCO CONSOLE LEFT HARDWARE PBI.	
16-0239		ASP		PANEL F6 ABORT INDICATOR LIGHT ON	
16-0240		FLT		TRANSMIT BOTH DSM 4051 (ABORT A OFF) AND DSM 4053 (ABORT B OFF).	
16-0241		ASP		PANEL F6 ABORT INDICATOR LIGHT OFF	
16-0242		FLT		TRANSMIT DSM 4054 (ABORT A/B ON) VIA FCO CONSOLE RIGHT HARDWARE PBI.	
16-0243		ASP		PANEL F6 ABORT INDICATOR LIGHT ON	
16-0244		FLT		TRANSMIT BOTH DSM 4051 (ABORT A OFF) AND DSM 4053 (ABORT B OFF).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0245			ASP	PANEL F6 ABORT INDICATOR LIGHT OFF	
16-0246		SRO 232	NTD *FLT	FCO ABORT ADVISORY CHECKS COMPLETE.  SWITCH OIS CMD CH (ORBITER) -----	SU72740
16-0247	-03H00M (HOLDING)	NTD 232	OTC	ALL ORBITER TEST TEAM PERSONNEL SWITCH TO CMD CH 212 ACTIVE.	
16-0248		OTC 132	ALL	ALL ORBITER PERSONNEL SWITCH TO COMMAND CH 212 AND STANDBY FOR COMM CHECK. CONTINUE TO SIDETONE CH 132 FOR DURATION OF COUNT.  ORBITER OIS COMM CHECK -----	SU72735
16-0249	-03H00M (HOLDING)		OTC 212	PERFORM COMM CHECK ON OIS CH 212.  CPLE _____      CEPD _____ CCSE _____      CGNC _____ CNSE _____      COFC _____ CAFM _____      CCME _____ CMPL _____      CODS _____ CMPS _____      CDPS _____ CSME _____      CVFS _____ CECL _____      CGLS _____ CPVD _____      CTPE _____ CFCP _____      CMQC _____ CGSS _____      OVCC _____ COOS _____ CHYD _____ CAPU _____ CHGD _____ CISL _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT STEP IF PAYLOAD HAS ACTIVE LCC.					
PAYLOAD COMM CHECKS -----					
16-0250		NTD 232 PTC	PTC ICCL ICTC AXTC	PERFORM A/G-1 COMM CHECKS WITH PAYLOAD LAUNCH TEAM ON OIS CH 212.	
				NOT PERFORMED	_____
T-0 GMT VERIFICATION FOR IUS -----					
NOTE					
PERFORM THE NEXT TWO STEPS FOR IUS MISSION (STS-93).					
16-0251	-03H00M (HOLDING)	PTC 232	NTD	REQUEST T-0 GMT FOR IUS SYSTEM.	
				RECORD:	
				T-0 GMT _____	
				NOT PERFORMED	_____
16-0252		PTC 134	ICTC	RECORD PRESENT T-0 GMT _____.	
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
CONFIG AND INSPECT CM FOR INGRESS					
-----					
16-0253	-03H00M (HOLDING)	OTC 212	ASP NST	CONFIGURE AND INSPECT CREW MODULE. REPORT WHEN READY FOR CREW INGRESS.	SU72730
16-0254			ASP NST	INSPECT AND PREPARE SEATS FOR FLIGHT CREW INGRESS. REMOVE FROM CREW MODULE ANY ITEMS NOT REQUIRED FOR CREW INGRESS AND CREW MODULE CLOSEOUT.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF DUAL  
MODE COOLING IF ACTIVE.

16-0255		OTC 212	CECL	CONFIGURE FREON LOOPS TO BYPASS FLOW PER ORBITER OPERATION SUPPORT SETUP 8. REPORT COMPLETION.	SU72734
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NOT PERFORMED \_\_\_\_\_

FUEL CELL WATER LINE VERIF  
-----

16-0256			CFCP CRT (VWR05)	VERIFY  WATER TANK QUANTITY INCREASE CONSISTENT WITH CALCULATED FUEL CELL WATER PRODUCTION (+/- 10 PCT OF CALCULATED DELTA QUANTITY).	
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OMRSD V62AG0.050-1R (VWR05)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
POT/SUPPLY WATER QTY ADJ					
-----					
NOTE					
PERFORM NEXT TWO STEPS IF REQUIRED TO ENSURE TARGETED LIFTOFF TK-A QUANTITY WILL BE MET PER OMRS TABLE V62AE0.030.					
16-0257	-03H00M (HOLDING)	OTC 212	CFCP ASP	PERFORM POT/SUPPLY WATER TK-A DRAIN PER S0007VL4 (SEQ 54 OMTO OPTION D) ON OIS CH 153.	SU72731
					NOT PERFORMED _____
16-0258		CFCP	OTC	POT/SUPPLY WATER TK-A DRAIN COMPLETE.	
					NOT PERFORMED _____
16-0259		OTC 212	CFCP	VERIFY CORRECT ULLAGE TO ACCEPT FUEL CELL WATER FROM T-0 THRU END OF LAUNCH WINDOW TO MEET LIFT-OFF POTABLE H2O TANK QUANTITIES PER OMRS TABLE V62AE0.030 FOR THIS MISSION.	SU72731
OMRSD V62AG0.010-D-1R					
16-0260		CFCP	ASP	PANEL ML26C (VERIFY OR POSITION) SUPPLY H2O TK A SUPPLY VALVE - CLOSE (DWN) TK VENT - VENT (DWN)	
IMU PREFLIGHT CALIBRATION COMPLETE					
-----					
16-0261	-03H00M (HOLDING)	CGNC 212	OTC	IMU PREFLIGHT CALIBRATION COMPLETE.	SU72717

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

FOLLOWING STEP WILL TAKE A FINAL BACKGROUND CHECK OF BOTH THE PAYLOAD BAY AND THE MIDBODY. THE FOLLOWING STEP WILL SAMPLE ZERO GAS, MIDBODY, ZERO GAS, PAYLOAD BAY, ZERO GAS FOR A MINIMUM OF 30 DATA POINTS PER SAMPLE SELECTION. (TEST TIME IS APPROXIMATELY 1 HOUR)

16-0262		OTC	CHGD	PERFORM FINAL PRSD SYSTEM BACKGROUND	
		132		CHECK. RECORD RESULTS AS FOLLOWS:	

INITIAL MIDBODY O2: \_\_\_\_\_ PPM

PURGE CIRCUIT 2 R/H: \_\_\_\_\_ %

INITIAL ZERO: H2: \_\_\_\_\_ PPM O2: \_\_\_\_\_ PPM STD DEV: H2: \_\_\_\_\_ O2: \_\_\_\_\_

MIDBODY: H2: \_\_\_\_\_ PPM O2: \_\_\_\_\_ PPM STD DEV: H2: \_\_\_\_\_ O2: \_\_\_\_\_

MIDDLE ZERO: H2: \_\_\_\_\_ PPM O2: \_\_\_\_\_ PPM STD DEV: H2: \_\_\_\_\_ O2: \_\_\_\_\_

PAYLOAD BAY: H2: \_\_\_\_\_ PPM O2: \_\_\_\_\_ PPM STD DEV: H2: \_\_\_\_\_ O2: \_\_\_\_\_

MIDDLE ZERO: H2: \_\_\_\_\_ PPM O2: \_\_\_\_\_ PPM STD DEV: H2: \_\_\_\_\_ O2: \_\_\_\_\_

PRSD TEST: H2: \_\_\_\_\_ PPM O2: \_\_\_\_\_ PPM STD DEV: H2: \_\_\_\_\_ O2: \_\_\_\_\_

FINAL ZERO: H2: \_\_\_\_\_ PPM O2: \_\_\_\_\_ PPM STD DEV: H2: \_\_\_\_\_ O2: \_\_\_\_\_

FINAL MIDBODY O2: \_\_\_\_\_ PPM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				INITIATE IMU ATT DET AND PFA	
				AUTO SEQUENCE	

NOTE

NEXT TWO STEPS WILL INITIATE AN AUTO SEQUENCE START FOR THE FOLLOWING;

IMU PPOS AT T-2H04M  
 IMU ATT DET AT T-1H57M  
 IMU PFA AT T-1H47M

PFK 14B (VABM1/VWB19) WILL DE-ACTIVATE AUTO SEQUENCE.

PFK 14B IS AVAILABLE ANYTIME AFTER AUTO SEQUENCE IS ACTIVATED.

THESE STEPS SHALL BE PERFORMED ANY TIME AFTER PREFLIGHT CAL, BUT PRIOR TO T-2H06M

16-0263		CGNC APPL PAGE (VABM1/VWB19 PG A)		PFK 4 KEY - PRESS (DISK FILES SECT 4)	
				PFK 8 KEY - PRESS (CLEAR DISK FILE SECTOR)	
				PRK 9 KEY - PRESS (INHIBIT WRITE/CLEAR PAGE)	
16-0264		CGNC CURSOR CNTL (VABM1/VWB19 PG B)		ATT DET/PFA AUTO SEQ	
				XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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ECP AI MODE 1: MATCH CMDS TO POSN  
-----

NOTE

PERFORM NEXT 11 STEPS AFTER  
IMU PREFLIGHT CAL IS COMPLETE  
AND BEFORE IMU PREFLIGHT  
CONTINGENCY CAL OR GYROCOMPASS  
ALIGN IS STARTED.

16-0265		COFC PFP (SAB20/SWB02)		PFPK (SWB02) - PRESS	
16-0266		COFC PFP (SWB02)		PFPK4 (ORB/SRB AI MODE 1) - PRESS	
				OMRSD S00FE0.210	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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SET NWS CMDS TO 0 DEG  
-----

NOTE

FOLLOWING STEP SETS NWS1 AND  
NWS2 CMDS TO 0 DEG (-0.44 VOLTS).  
ANY SUBSEQUENT AI MODE 1 WITH  
SRB WILL RESET CMDS BACK TO  
1 DEG (0 VOLTS).

16-0267

COFC CONSOLE KYBD  
GPCC RFG  
XMIT CMD KEY - PRESS

CURSOR CNTL (RFG ECP)  
SLOPE VALUE: 2  
XMIT CURSOR KEY - PRESS

CURSOR CNTL  
ACT/RGA ID: 0  
XMIT CURSOR KEY - PRESS

CURSOR CNTL  
FINAL VALUE: -44 CNTS \*  
XMIT CURSOR KEY - PRESS

PFK-1 KEY - PRESS (EXECUTE RFG)

\*NULL=-44 CNTS =-0.44 VDC = 0 DEG

NOTE

PERFORM NEXT SEVEN STEPS IF  
MPS TVC ACTUATOR 2P OR 3P  
COMMAND IS GREATER THAN  
+8.0 DEG.

16-0268

COFC CURSOR CNTL (SAB19/SWB01 PG B)  
ATVC - OPS MAN  
XMIT CURSOR KEY - PRESS

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0269		COFC		CURSOR CNTL (SAB22/VWB35 PG B) MANUAL POSITIONING XMIT CURSOR KEY - PRESS  NOT PERFORMED	_____
16-0270		COFC		CURSOR CNTL (SAB22/SSB09 PGB) ECP MODE SELECT - RFG XMIT CURSOR KEY - PRESS  NOT PERFORMED	_____
16-0271		COFC		APPL PG B (SAB22/SSB09)  CURSOR CNTL ME 2P - ACT SELECT XMIT CURSOR KEY - PRESS  CONSOLE KYBD ENTER 6.0 (BANK TELLER MODE)  PFK1 - PRESS (START RFG)  NOT PERFORMED	_____
16-0272		COFC		APPL PG (SAB22/SSB09)  CURSOR CNTL ME 3P - ACT SELECT XMIT CURSOR KEY - PRESS  CONSOLE KYBD ENTER 6.0 (BANK TELLER MODE)  PFK1 - PRESS (START RFG)  NOT PERFORMED	_____
16-0273		COFC		CURSOR CNTL (SAB22/SSB09 PG B) ECP MODE SELECT - TERMINATE XMIT CURSOR KEY - PRESS  NOT PERFORMED	_____
16-0274		COFC		APPL PG (SAB22/VWB35 PG B) PFK15 KEY - PRESS (TERM SAB22)  NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF MAIN  
ENGINE 1 YAW DRIFT FROM  
OPS 101 TRANSITION POSITION  
OF +0.2 DEG APPROACHS A  
DELTA OF 2.0 DEG.

16-0275

COFC CONSOLE KYBD (M.E. 1 YAW)  
APPLY V58K1168CL 0.2  
XMIT CMD KEY - PRESS  
EXEC CMD KEY - PRESS

REPEAT FOR: V58K1169CL  
V58K1170CL  
V58K1171CL

NOT PERFORMED \_\_\_\_\_

IMU PREFLIGHT CAL (CONTINGENCY)  
-----

NOTE

PERFORM NEXT STEP IF INITIAL  
IMU PREFLIGHT CALIBRATION FAILED.

16-0276

-03H00M  
(HOLDING)

OTC  
212

CGNC PERFORM IMU PREFLIGHT  
CALIBRATION PER OMI V1123.  
(2 HR 45 MIN).

SU72714

RT OMI LOG NO. \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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-----  
 IMU POST CAL GYROCOMPASS ALIGN  
 -----

NOTE

PERFORM NEXT STEP IF INITIAL  
 IMU PREFLIGHT CALIBRATION  
 PASSED.

16-0277	-03H00M (HOLDING)	OTC 212	CGNC	PERFORM IMU GYROCOMPASS ALIGN PER OMI V1123 (42 MIN).	SU72716
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RT OMI LOG NO. \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_

16-0278		TBC 212 OTC	OTC RCRE	REQUEST SFOC QUALITY TO SUPPORT SRSS FLIGHT CODE INSERTION.	
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NOTE

PERFORM NEXT STEP IF SRBTS  
 INSTALLED FOR THIS FLIGHT.

16-0279	-03H00M (HOLDING)	SRO 232	NTD	FCA VAN ON STATION.	
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NOT PERFORMED \_\_\_\_\_

ER OPEN LOOP CHECKS  
 -----

16-0280		NTD 232 OTC 132	OTC RCRT	SUPPORT ER OPEN LOOP CHECKS ON OIS CH 175 AND PERFORM FOLLOWING PREPS.	SU72706
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RCRT RACK 8234

PANEL A2 (VCR) - RECORD

PANEL A3 (VCR) - RECORD

PANEL A5 (STRIP CHART) - START

(STRIPCHART CAN BE STOPPED AFTER  
 ER CHECKS, VCR'S REMAIN IN RECORD)

T: \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0281	-03H00M (HOLDING)	NTD 232	SRO	PERFORM ER OPEN LOOP CHECK WITH OPF AND XMTR SITE PER ER A2811 ON OIS CH 175. KSC PERSONNEL READY TO SUPPORT.  ER OPEN LOOP CHECK COMPLETE -----	
16-0282	-03H00M (HOLDING)	SRO 232	NTD	ER "OPEN LOOP CHECK" COMPLETE.	

NOTE

PERFORM NEXT STEP IF TMBU  
 REQUIRED.

BFS TMBU TAG-UP  
 -----

16-0283		NTD 232 OTC 212	*FLT OTC	JSC/DPS PERFORM BFS UPLINK TAG-UP WITH KSC/VFS ON OIS CH 152. CVFS	NOT PERFORMED _____
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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SRSS FLIGHT CODE INSERTION

NOTE

SFOC AND NASA QC NEEDED AT  
C AND T LAB FOR CODE LOAD.

DO NOT PERFORM NEXT STEP  
PRIOR TO ER OPEN LOOP CHECKS.

16-0284		NTD	TBC	LOAD SRSS FLIGHT CODE IN OPF	SU72708
		232		GROUND STATION PER OMI S5018.	
		TBC	CBRS		
		136	RCRE		

JIMSPHERE RELEASE

NOTE

ANY PROBLEMS OCCURING WITH  
4 HR 15 MIN JIMSPHERE, THE  
2 HR JIMSPHERE, OR THE  
70 MIN JIMSPHERE, WILL  
IMMEDIATELY BE REPORTED TO  
THE NTD BY THE SRO. ALL  
NOMINAL BALLOON RELEASES AND  
DATA TRANSFERS TO JSC WILL BE  
COORDINATED BETWEEN HOUSTON  
WINDS AND CAPE WINDS.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- FLIGHT CREW WEATHER BRIEFING -----					
16-0285	-03H00M (HOLDING)	*FLT 232 NTD STM 111 138 GYCC PTP	NTD STM GYCC JYVO GYVW GYVO	IMPLEMENT TELEVISED WEATHER BRIEFING AND DISPLAY TO FOLLOWING LOCATIONS. WEATHER BRIEFING AUDIO TO BE ON OIS CH 231.  1. FLIGHT CREW QUARTERS, O&C ROOM 3267, MONITORS 2033 AND 2034. (CIRCUIT NO.'S 6TVM2080 AND 6TVM2087)  2. ER/ROCC FORECAST FACILITY, ROOM 146. (CIRCUIT NO.'S EITHER 1TVC2079 OR 1TVC2083)  3. LCC 1/3 OSR. (SW 1 INPUT 187 TO OUTPUT 383)	COMM SU72737 SU72738
16-0286		STM 138	JYVO	VERIFY JSC WX BRIEFING FEED ON OTV SWITCHER SOURCE 187.	COMM
16-0287		GYVO GYVW PTP	GYCC	VIDEO FOR WX BRIEFING IN CREW QUARTERS AND TO ER READY.	COMM
16-0288		JYVO PTP	GYCC	VIDEO FOR WEATHER BRIEFING TO LCC 1/3 OSR READY.	COMM
16-0289		GYCC 111 STM 232 NTD	STM NTD *FLT LD	VIDEO SYSTEM READY FOR FLIGHT CREW WX BRIEFING ON OIS CH 231.	COMM
16-0290		*FLT 232 NTD STM 138 111 GYCC GYCC PTP	NTD STM JYVO	WEATHER BRIEFING COMPLETE. SUPPORT RELEASED.	COMM SU72737

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0291		*WEA 231 LRD 232 NTD	LRD NTD LD	FORECAST FOR TIME OF LAUNCH AT SRB RETRIVAL AREA: PREDICTED WINDS:_____ KNOTS GUSTING TO:_____ KNOTS DIRECTION:_____ DEG OMRSD S00L00.085 L1OH CANNISTER INSTL -----	
16-0292	-03H00M (HOLDING)	OVCC 212 OTC	OTC CECL	READY TO INSTALL L1OH CANNISTERS OR L1OH CANNISTER AND CHARCOAL ODOR FILTER (FOR EDO MISSIONS).	SU72741
NOTE					
PERFORM NEXT STEP IF VAG60 ACTIVE.					
16-0293		OTC	CECL CTPE	CRT (VAG60) TERMINATE PROGRAM	
NOT PERFORMED _____					
CAUTION					
DURING L1OH CANNISTER INSTALLATION, CABIN FAN MUST NOT BE SHUTDOWN FOR MORE THAN FIVE MINUTES. (REF OMRS V61AL0.010)					
16-0294		OTC 212	ASP	PANEL L1 CABIN FAN A SW - OFF	
OTC RECORD TIME: _____					
ASP PANEL F2 RESET MASTER ALARM					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

WHEN ONE LIOH CANISTER AND ONE CHARCOAL ODOR FILTER IS MANIFESTED, PLACE LIOH CAN IN SLOT A AND ODOR FILTER IN SLOT B (FOR EDO MISSIONS).

- |         |  |      |      |  |  |
|---------|--|------|------|--|--|
| 16-0295 |  | OTC  | OVCC | INSTALL TWO LIOH CANISTERS OR LIOH CANISTER AND CHARCOAL ODOR FILTER. VERIFY PANEL DOOR SECURELY LOCKED. REPORT WHEN COMPLETE. |  |
| 16-0296 |  | OTC  | OVCC | LIOH CANISTERS INSTALLED,  |  |
|         |  | 212  | OTC  | READY TO ACTIVATE CABIN FAN A.   |  |
|         |  | OTC  | CECL |  |  |
| 16-0297 |  | OTC  | ASP  | PANEL L1   |  |
|         |  | 212  |      | CABIN FAN  |  |
|         |  |      |      | A SW - ON  |  |
|         |  | OTC  |      | RECORD TIME: _____   |  |
| 16-0298 |  | CECL |      | USING PCGOAL, VERIFY CABIN FAN DELTA PRESS INCREASED (FROM PREVIOUS FAN ON BASELINE) AFTER LIOH CANISTER INSTALLATION.         |  |
|         |  |      |      | AIR SAMPLE - CREW MODULE   |  |
|         |  |      |      | -----  |  |
| 16-0299 |  | ASP  |      | PERFORM CLOSEOUT AIR SAMPLE OF CREW MODULE.  |  |
|         |  |      |      | OMRSD S00FB0.011   |  |

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
PRE-INGRESS SWITCH RECONFIG					
16-0300	-03H00M (HOLDING)	ASP 212	OTC	READY TO PROCEED WITH PRE-INGRESS SWITCH RECONFIG.	SU72742
16-0301		OTC 212	CISL	PCMMU SWITCH WILL BE CHANGED TO 1. PCMMU BITE BITS 5, 12, 13 AND POSSIBLY 8 AND 11 MAY SHOW FAILED DUE TO BFS AUTO LOAD OF TFL 102 TO 64KB FORMATTER.	
16-0302		OTC 212	ASP	PANEL C3 OI PCMMU PWR SW-1	
16-0303		OTC	ASP	PANEL F6 INSTRUMENT POWER SW - FLT/MPS	
16-0304		OTC	ASP	PANEL F8 INSTRUMENT POWER SW - ON	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
PCM GSE CONTROL REMOVAL -----					
16-0305		OTC 212	CISL	REMOVE GSE CONTROL FROM PCM.	
16-0306			CISL	CRT (SAQ04/VWQ11)  VERIFY PCMMU SW SCAN 1  CURSOR CNTL (SAQ04/VWQ11) PCM CONTROL COMMAND - OFF XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT (SAQ04/VWQ11)  VERIFY PCMMU COMMAND OFF BITE 1 POWER GOOD 2 MTU GOOD OI DATA VALID  OMRSD V75AP0.040-1R	
16-0307		CISL OTC 212		PCM GSE CONTROL REMOVAL COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0308	-03H00M (HOLDING)	OTC 212	ASP	PANEL R1 POWER DISTRIBUTION ESS BUS SOURCE FC 1 SW - ON FC 2 SW - ON FC 3 SW - ON  AC BUS SNSR (THREE) - OFF, 1 SEC THEN AUTO TRIP  VERIFY FC TB'S  FUEL CELL READY FOR LOAD 1 TB GRAY 2 TB GRAY 3 TB GRAY  FUEL CELL COOLANT PUMP DELTA P 1 TB GRAY 2 TB GRAY 3 TB GRAY	R1A02DS011 R1A02DS012 R1A02DS013  R1A02DS014 R1A02DS015 R1A02DS016
16-0309		OTC 212	CEPD	CRT (SWC02/VWC17) ESS 1BC SRC 1 GREEN 2CA SRC 2 GREEN 3AB SRC 3 GREEN  CRT (VWC16) AC BUS SENSOR AC 1 AUTO AC 2 AUTO AC 3 AUTO	
16-0310		OTC 212	ASP	PANEL R2 APU FU TK VLV ENA 1A CB - CLOSED 1B CB - CLOSED 2A CB - CLOSED 2B CB - CLOSED 3A CB - CLOSED 3B CB - CLOSED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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CAUTION

AFTER COMPLETION OF NEXT  
STEP, DO NOT LEAVE SELECT  
SW IN FUEL CELL 1, 2 OR 3  
POSITION.

NOTE

IN NEXT STEP PANEL F9 METER  
INDICATIONS WILL BE BETWEEN  
LIMITS CALCULATED FROM CRT  
READINGS +/- INDICATED  
TOLERANCE.

16-0311		OTC	CEPD	CRT (SWCO2/VWC17)	
		212		READ FC VOLTAGE AND CURRENT.	
				RECORD BELOW.	

ASP PANEL F9  
SELECT, READ AND REPORT  
FC VOLTAGE AND CURRENT.  
RECORD BELOW.

PNL F9	CRT
-----	---

FC 1		
V	_____	+/- 2.25 VDC
A	_____	+/- 75 ADC

FC 2		
V	_____	+/- 2.25 VDC
A	_____	+/- 75 ADC

FC 3		
V	_____	+/- 2.25 VDC
A	_____	+/- 75 ADC

OMRSD S00FA0.365-1R

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0312		OTC 212	ASP	PANEL R1 POWER DISTRIBUTION ESS BUS SOURCE FC 1 SW - OFF FC 2 SW - OFF FC 3 SW - OFF  AC BUS SENSOR 1 SW - OFF (1 SEC) THEN MONITOR 2 SW - OFF (1 SEC) THEN MONITOR 3 SW - OFF (1 SEC) THEN MONITOR	
16-0313		OTC	CEPD	CRT (SWC02/VWC17) ESS 1BC SRC 1 RED 2CA SRC 2 RED 3AB SRC 3 RED  CRT (VWC16) AC BUS SENSOR AC 1 MON AC 2 MON AC 3 MON	
16-0314		OTC 212	ASP	PANEL O13 ROW A ESS 1BC MN A CONTR CB - CLOSE  ROW C ESS 2CA MN B CONTR CB - CLOSE  ROW E ESS 3AB MN C CONTR CB - CLOSE	
16-0315		OTC	ASP	PANEL O14 ROW B MN A MN C CONTR CB - CLOSE	
16-0316		OTC	ASP	PANEL O15 ROW B MN B MN A CONTR CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0317		OTC 212	ASP	PANEL O16 ROW B MN C MN B CONTR CB - CLOSE  ECLSS FCL 1 AND 2 PAYLOAD FLOW ----- POSITION VERIFICATION -----	

NOTE

PERFORM NEXT STEP FOR  
 SPACEHAB MISSIONS ONLY.

16-0318		OTC 132 CECL ASP	CECL	RECORD POSITION OF FLOW PROPORTIONING VALVES:  1. PANEL L1A2 FLOW PROP LOOP 1 - TB-_____ FLOW PROP LOOP 2 - TB-_____	SU72743
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NOTE

PERFORM NEXT SUBSTEP FOR LOOP  
 WITH TALKBACK ON PL.

- PANEL L1A2  
 FLOW PROP VLV LOOP-SW-INTCHGR  
 UNTIL (15 SEC MAX)  
 FLOW PROP LOOP \_\_\_\_ TB-ICH  
 RECORD GMT \_\_\_\_\_  
 VERIFY LESS THAN L-6HRS. (SPACEHAB)  
 VERIFY LESS THAN L-3HRS. (NEUROLAB)

NOT PERFORMED

\_\_\_\_\_  
 SS2

OMRSD P095PR.893

NOT PERFORMED

\_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DURING FOLLOWING VERIFICATION,  
MASTER ALARMS WILL OCCUR.  
ASP WILL RESET AS REQUIRED.

16-0319		CECL ASP		PANEL L1A2 FLOW PROP VLV LOOP 1 SW - PAYLOAD HX UNTIL (15 SEC MAX) FLOW PROP LOOP 1 TB PL	
16-0320		CECL		CRT (VAG34 PG-B) VERIFY  FC LOOP 1 VALVE POSN PAYLD FCL1 FLOWRATE MEET LCC REQUIREMENTS.	
16-0321		CECL ASP		PANEL L1A2 FLOW PROP VLV LOOP 1 SW - INTCHGR UNTIL (15 SEC MAX) FLOW PROP LOOP 1 TB ICH	
16-0322		CECL		CRT (VAG34 PG-B) VERIFY  FC LOOP 1 VALVE POSN INTCH FCL1 FLOWRATE MEET LCC REQUIREMENTS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0323		CECL	ASP	PANEL L1A2 FLOW PROP VLV LOOP 2 SW - PAYLOAD HX UNTIL (15 SEC MAX) FLOW PROP LOOP 2 TB PL	
16-0324		CECL		CRT (VAG34 PG-B) VERIFY  FC LOOP 2 VALVE POSN PAYLD FCL1 FLOWRATE MEET LCC REQUIREMENTS.	
16-0325		CECL	ASP	PANEL L1A2 FLOW PROP VLV LOOP 2 SW - INTCHGR UNTIL (15 SEC MAX) FLOW PROP LOOP 2 TB ICH	
16-0326		CECL		CRT (VAG34 PG-B) VERIFY  FC LOOP 2 VALVE POSN INTCH FCL1 FLOWRATE MEET LCC REQUIREMENTS.	SU72743
16-0327		OTC 132	CECL	VERIFY ECLSS CONFIGURED FOR H2O LOOP 1A/2 CB OPENING.	
16-0328		OTC 132	ASP	PANEL L4 ROW F AC1 H2O LOOP PUMP 1A/2 PH A CB - OPEN PH B CB - OPEN PH C CB - OPEN  SRSS FLIGHT CODE LOAD INSERTION ----- COMPLETE -----	
16-0329		CBRS 136	TBC	SRSS FLIGHT CODE LOAD INSERTION COMPLETE PER S5018.	SU72708

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0330		SRO 232	NTD	FCA VAN READY TO SUPPORT SRBTS CHECKOUT.  SRBTS POWER ON -----	
NOTE					
PERFORM NEXT STEP 30 MINUTES PRIOR TO END OF HOLD.					
16-0331		NTD 232 TBC 136	TBC	POWER UP SRB TRACKING SYSTEM.	SU72711
16-0332			CBRS	CURSOR CNTL (SWRB2) LH BEACON INH ON - ON RH BEACON INH ON - ON LH DFI POWER ON - ON RH DFI POWER ON - ON	
16-0333			CBRS	CRT (SWRB2)  LH AND RH TRACKING BEACON VOLT 26 TO 32 V LH AND RH TRACKING BEACON CURR LESS THAN 0.5 AMP LH AND RH TRACKING BEACON TEMP 34.6 TO 103.4 DEG F	
16-0334			CBRS	CRT (SWRB2) RECORD  LH TRACKING BEACON CURR _____ AMPS RH TRACKING BEACON CURR _____ AMPS	
16-0335			CBRS	CURSOR CNTL (SWRB2) LH AND RH BEACON INH OFF - OFF	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0336			CBRS	CRT (SWRB2)  LH AND RH TRACKING BEACON VOLT 26 TO 32 LH AND RH TRACKING BEACON TEMP 34.6 TO 103.4 DEG F  LH AND RH TRACKING BEACON CURR HAS INCREASED 0.48 +/- 0.20 AMPS FROM PREPOWER ON VALUE.  RECORD LH CURR _____ AMPS RH CURR _____ AMPS	
16-0337			CBRS	ALLOW 3 MINUTE WARM UP PRIOR TO RANGE INTERROGATION.	
16-0338		CBRS 136 TBC 232 NTD	TBC NTD SRO	SRBTS POWER UP COMPLETE. READY FOR ER FCA VAN CHECKOUT OF SRBTS. CBRS REQUEST SRO SUPPORT ON OIS CH 175.	
16-0339		SRO 175	CBRS	LH SRBTS INTERROGATION HAS STARTED AND VEHICLE RESPONDING.	
16-0340			CBRS	CRT (SWRB2) VERIFY  LH TRACKING SYSTEM CURR LESS THAN 1.2 AMP	
16-0341		SRO	CBRS	LH SRBTS TESTING COMPLETE. RH SRBTS INTERROGATION HAS STARTED AND VEHICLE RESPONDING.	
16-0342			CBRS	CRT (SWRB2) VERIFY  RH TRACKING SYSTEM CURR LESS THAN 1.2 AMP	
16-0343		SRO	CBRS	RH SRBTS TESTING COMPLETE. FAXING DATA TO FIRING ROOM 1/3 AT 861-0471/ 861-0472.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0344				CBRS RECORD BEACON DATA	
					LH DATA RH DATA
				VAN/RADAR USED	_____
				VAN LOCATION	_____
				POWER OUTPUT (XX)	_____
				SENSITIVITY (XX)	_____
				ANT POL	_____
				PULSE UPPER (X)	_____
				LOWER (X)	_____
				PULSE CODE (XX)	_____
				DELAY (XX)	_____
				JITTER	_____
				RECOVERY TIME (XX)	_____
				PULSE WIDTH (XX)	_____
				HIGH 1000 PRF INTERR FREQ (X)	_____
				HIGH 1000 PRF TRANS FREQ (X)	_____
				LOW 160 PRF INTERR FREQ (X)	_____
				LOW 160 PRF TRANS FREQ (X)	_____
				TIME	_____
				COMPATIBILITY	_____
16-0345		CBRS SRO 175		C-BAND BEACON TEST DATA SATISFACTORY, FCA VAN SUPPORT CAN BE RELEASED. ER NOW HAS CONTROL OF SRB TRACKING BEACONS THRU LAUNCH.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0346		SRO 175 CBRS 136 TBC 232	CBRS TBC NTD	SRBTS FCA CHECKS COMPLETE.  OMRSD S00FE0.240-1	
16-0347		SRO 232 NTD	NTD *SEC	IF PAD A LAUNCH, FCA VAN READY TO EXIT UCS15. HAVE SECURITY ALLOW ACCESS THROUGH ROADBLOCK A/B-13	SEC
				NOT PERFORMED	_____
16-0348		SRO 232 NTD	NTD *SEC	IF PAD B LAUNCH, FCA VAN READY TO EXIT UCS 4. HAVE SECURITY ALLOW ACCESS THROUGH GATES 6 AND 6T.	SEC
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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SLF NAVAIDS ACTIVATION

NOTE

SWITCHING OF THE TACAN GROUND STATION TRANSPONDER WILL RESULT IN MOMENTARY SIGNAL DROPOUT. THE TACAN GROUND STATION OPERATOR IS TO NOTIFY CNSE ON OIS CH 173 IF SWITCHING OCCURS OR BECOMES NECESSARY.

REDUNDANT TACAN TRANSPONDER CAPABILITY IS MANDATORY FOR ENTRY. THIS REQUIREMENT CAN BE SATISFIED BY ONE GROUND STATION WITH DUAL STRING (DS) TRANSPONDERS OR BY TWO GROUND STATIONS WITH SINGLE STRING (SS) TRANSPONDER CAPABILITY.

16-0349		NTD	STM	VERIFY TACAN STATUS AT KSC.	COMM
		232			SU72745
		STM	GYCC		SU72757
		111			
		GYCC	FTAC		
		117			
16-0350	-03H00M (HOLDING)	FTAC	GYCC	PERFORM FOLLOWING:	
		117			
		GYCC	STM	1. TACAN STATION AT KSC _____	COMM
		111		(IS/IS NOT) SUPPORTING.	
		STM	NTD		
		232		2. TRANSPONDER STATUS:	
		NTD	OTC		
		OTC	CNSE	_____ (DS/SS/NONE)	
		212			
16-0351		LRD	*DCD	VERIFY TACAN AT PAFB SUPPORTING.	
		135			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0352		*DCD	LRD	TACAN STATION AT PAFB_____	
		135		(IS/IS NOT) SUPPORTING. TRANSPONDER	
		LRD	NTD	STATUS IS SINGLE STRING.	
		232			
		NTD	OTC		
		OTC	CNSE		
		212			

WARNING

NEXT STEP IS HAZARDOUS DUE  
 TO RF RADIATION.

16-0353	-03H00M (HOLDING)	NTD	OTC	REQUIRED TACAN STATIONS READY TO SUPPORT NAVAIDS ACTIVATION.	
		232			
		OTC	CNSE	PERFORM NAVAIDS ACTIVATION ON CH 212.	
		212			

16-0354

CNSE HOME CMD KEY - PRESS  
 CONSOLE KYBD  
 VAA40  
 PERF PGM KEY - PRESS

SELECT APPL PG-B  
 VAA40

PFPK VAA40 - PRESS

SELECT WARM START

SELECT VWN42

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0355		CNSE	ASP	PANEL O7 TACAN 1 MODE SW - GPC CHANNEL TW - 059Y ANT SEL SW - AUTO  TACAN 2 MODE SW - GPC CHANNEL TW - 059Y ANT SEL SW - AUTO  TACAN 3 MODE SW - GPC CHANNEL TW - 059Y ANT SEL SW - AUTO  GMT _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0356				CNSE CURSOR CNTL (VWN42)	
				1. TACAN 1 CONTROL WORD ISSUE XMIT CURSOR KEY - PRESS FOLLOW SOFTWARE DIRECTIONS TO SELECT Y MODE, TR AND CHANNEL 59, SELF TEST OFF EXEC CMD KEY - PRESS PFK1 - PRESS  ANTENNA CMD - LOWER	
				2. TACAN 2 CONTROL WORD ISSUE XMIT CURSOR KEY - PRESS FOLLOW SOFTWARE DIRECTIONS TO SELECT Y MODE, TR AND CHANNEL 59, SELF TEST OFF EXEC CMD KEY - PRESS PFK1 - PRESS  ANTENNA CMD - LOWER	
				3. TACAN 3 CONTROL WORD ISSUE XMIT CURSOR KEY - PRESS FOLLOW SOFTWARE DIRECTIONS TO SELECT Y MODE, TR AND CHANNEL 59, SELF TEST OFF EXEC CMD KEY - PRESS PFK1 - PRESS  ANTENNA CMD - LOWER	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0357			CNSE CRT (VWN42)	TACAN 1 SW STAT ON TACAN 2 SW STAT ON TACAN 3 SW STAT ON  TACAN 1 POWER STAT ON TACAN 2 POWER STAT ON TACAN 3 POWER STAT ON	
16-0358		CNSE ASP	PANEL 08 MLS CHANNEL	1 TW - 6 2 TW - 6 3 TW - 6	
16-0359		CNSE ASP	PANEL 08 RADAR ALTIMETER	1 SW - ON 2 SW - ON  GMT _____	
16-0360			CNSE CRT (VWN42)	RA 1 RALT SW STATUS - ON RA 2 RALT SW STATUS - ON  RA 1 RALT READY - ON RA 2 RALT READY - ON  RECORD RALT 1 ALT _____ BD  RALT 2 ALT _____ BD	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0361		CNSE	ASP	PANEL 07	

NOTE

IF TACAN 1, 2 OR 3 WILL NOT  
 LOCK TO GROUND STATION,  
 PERFORM APPROPRIATE SUBSTEP.

1. TACAN 1  
 MODE SW - OFF  
 MODE SW - T/R  
 MODE SW - GPC

NOT PERFORMED

SS1

2. TACAN 2  
 MODE SW - OFF  
 MODE SW - T/R  
 MODE SW - GPC

NOT PERFORMED

SS2

3. TACAN 3  
 MODE SW - OFF  
 MODE SW - T/R  
 MODE SW - GPC

NOT PERFORMED

SS3

ENTIRE STEP NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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16-0362 CNSE CURSOR CNTL (VWN42)

NOTE

PERFORM APPROPRIATE SUBSTEP  
IF TACAN 1, 2 OR 3 MODE SW  
WAS CYCLED.

1. TACAN 1 CONTROL WORD ISSUE  
XMIT CURSOR KEY - PRESS  
FOLLOW SOFTWARE DIRECTIONS TO  
SELECT Y MODE, TR AND CHANNEL 59,  
SELF TEST OFF  
EXEC CMD KEY - PRESS  
PFK1 - PRESS  
ANTENNA CMD - LOWER

NOT PERFORMED

SS1

2. TACAN 2 CONTROL WORD ISSUE  
XMIT CURSOR KEY - PRESS  
FOLLOW SOFTWARE DIRECTIONS TO  
SELECT Y MODE, TR AND CHANNEL 59,  
SELF TEST OFF  
EXEC CMD KEY - PRESS  
PFK1 - PRESS  
ANTENNA CMD - LOWER

NOT PERFORMED

SS2

3. TACAN 3 CONTROL WORD ISSUE  
SMIT CURSOR KEY - PRESS  
FOLLOW SOFTWARE DIRECTIONS TO  
SELECT Y MODE, TR AND CHANNEL 59,  
SELF TEST OFF  
EXEC CMD KEY - PRESS  
PFK1 - PRESS  
ANTENNA CMD - LOWER

NOT PERFORMED

SS3

ENTIRE STEP NOT PERFORMED

OPERATION INSTRUCTIONS

-----  
SEQ            TIME            CMD    RESP                            DESCRIPTION                            VERIF.  
-----

16-0363                            CNSE CRT (VWN42)

VERIFY

TACAN 1 RNG VALID GO  
TACAN 2 RNG VALID GO  
TACAN 3 RNG VALID GO  
TACAN 1 BRNG VALID GO  
TACAN 2 BRNG VALID GO  
TACAN 3 BRNG VALID GO

NOTE

PERFORM NEXT STEP ONLY IF  
TACAN THUMBWHEELS TO BE SET  
TO CHANNEL OTHER THAN 059Y.

16-0364                            CNSE ASP    PANEL 07

TACAN 1  
CHANNEL TW - \_\_\_\_\_  
TACAN 2  
CHANNEL TW - \_\_\_\_\_  
TACAN 3  
CHANNEL TW - \_\_\_\_\_

NOT PERFORMED                            \_\_\_\_\_

NOTE

PERFORM GPS ACTIVATION FOR  
FLIGHT ONLY FOR VEHICLES  
OV103, OV104, AND OV105.

GPS ACTIVATION FOR FLIGHT  
-----

NOT PERFORMED                            \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0365		CNSE		CONSOLE KYBD (VSN59 PAGE-B) VSN59 PERF PROGRAM KEY - PRESS  SELECT PAGE B	
				NOTE  DEU IS REQUIRED FOR THE GPS ACTIVATION.	
16-0366		CNSE	OTC	CHANGE RESPONSIBLE CONSOLE FOR 132 A CRT TO CONSOLE C2. DPS CAN OTC CDPS ALSO EXPECT IO ERRORS DURING GPS POWER UP.	
16-0367		CDPS		CONSOLE KYBD HOME CMD KEY - PRESS ISSU N72IV10YD #B002 (WHERE Y = DEU - 1) XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS  HOME CMD KEY - PRESS C CO _DEUXG LDBA C2 XMIT CMD KEY - PRESS	
16-0368		CDPS	OTC	RESPONSIBLE CONSOLE FOR DEU 132 NO.____ NOW ASSIGNED TO C2. OTC CNSE	
				NOTE  DO NOT PERFORM NEXT STEP IF GPS PREAMPS ARE ALREADY POWERED ON.	
16-0369		CNSE	ASP	PANEL A13 GPS PRE-AMP UC SW - MN C LC SW - MN A	
				NOT PERFORMED	_____
16-0370		CNSE	ASP	PANEL A13 VERIFY GPS ENCRYPT SW NORMAL	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0371		CNSE		CURSOR CNTL (VSN59) GPS POWER UP - 2 XMIT CURSOR KEY - PRESS START TEST XMIT CURSOR KEY - PRESS	

16-0372		CNSE		CRT (VSN59) FOLLOW PROGRAM PROMPTS: 1. BYPASS SITE SELECT. SELECT PFK 2 2. BYPASS PREAMP POWER UP. SELECT PFK 4 3. PERFORM I/O START. SELECT PFK 1. 4. SELECT CRT FOR SPEC 55. 5. GPS POWER UP	
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NOTE

PROGRAM WILL MONITOR FOR RECEIVER TO POWER UP AND THEN MODE FROM SELF TEST TO NAV. MODING WILL TAKE APPROXIMATELY 30 SECONDS TO COMPLETE.

16-0373		CNSE	ASP	PANEL A13 GPS POWER SW - ON	
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16-0374		CNSE		CRT (VSN59 PAGE B) VERIFY NO MESSAGES FOR RPU FAIL OR BAT LOW AND GPS IS IN NAV MODE. (HDR WD = XFFFF)	
---------	--	------	--	--	--

16-0375		CNSE		CONSOLE KYBD (VSN59 PAGE B) PFK 7 - PRESS (TERMINATE)	
---------	--	------	--	--	--

NOTE

GPS WILL AUTOMATICALLY MODE TO INIT WHEN THE ITEM 10 IS EXECUTED.

16-0376		CNSE		CURSOR CNTL (VSN59) ITEM 10 I/O XMIT CURSOR KEY - PRESS START TEST XMIT CURSOR KEY - PRESS	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0377				CNSE CRT (VSN59 PAGE B)  VERIFY GPS IN INIT MODE. (HDR WD = XEEEE)	
16-0378				CNSE CURSOR CNTL (VSN59) NAV GPS 2 - ITEM 18 XMIT CURSOR KEY - PRESS START TEST XMIT CURSOR KEY - PRESS	
16-0379				CNSE CRT (VSN59 PAGE B)  VERIFY GPS IN NAV MODE (HDR WD = XFFFF)	
16-0380				CNSE CURSOR CNTL (VSN59) PFK 7 - PRESS (TERMINATE)	
16-0381				CNSE CURSOR CNTL (VSN59 PAGE B) SPEC RESUME XMIT CURSOR KEY - PRESS START TEST XMIT CURSOR KEY - PRESS	
16-0382				CNSE CRT (VSN59 PAGE B) RESUME VERIFIED  CRT RETURN TO C12 -----	
16-0383				CNSE CURSOR CNTL (VSN59 PAGE B) CRT RETURN ..... XMIT CURSOR KEY - PRESS C CO _DEUXG LDBA C12 XMIT CMD KEY - PRESS	
16-0384				CNSE CURSOR CNTL (VSN59 PAGE B) NAV MONITOR XMIT CURSOR KEY - PRESS START TEST XMIT CURSOR KEY - PRESS	
16-0385				CNSE CRT (VSN59 PAGE B) VERIFY NAVIGATION MONITOR ACTIVE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0386		CNSE 132 OTC	OTC CDPS	CRT HAS BEEN RETURNED TO C12.	
NOTE					
DO NOT PERFORM NEXT STEP IF GPS/INS ALREADY POWERED.					
16-0387		CNSE ASP	PANEL A13 GPS	GPS/SIGI POWER SW - ON GPS/SIGI ENCRYPT - NORMAL GMT _____	NOT PERFORMED _____
GPS ACTIVATION FOR FLIGHT COMPLETE					
16-0388		CNSE 212 OTC 232	OTC NTD	NAVAIDS ACTIVATION COMPLETE.	SU72745

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT FIVE STEPS IF  
PRLA PAYLOAD SELECT SWITCH  
IS TO BE REPOSITIONED FOR  
FLIGHT.

DO NOT PERFORM NEXT FIVE  
STEPS FOR STS-93.

16-0389		OTC	CPLE	PERFORM PRLA STATUS VERIFICATION	
		212	ASP	AND CONFIGURE PRLA PAYLOAD SELECT SWITCH FOR FLIGHT.	

NOT PERFORMED

16-0390			CPLE	CRT (SAT01/VWT33) VERIFY PRLA SYSTEM MEETS LCC REQUIREMENTS.	
---------	--	--	------	---	--

PNL A6U  
PAYLOAD SELECT  
SW POS - MON

LATCH/RELEASE

SWITCH 1 - OFF  
SWITCH 2 - OFF  
SWITCH 3 - OFF  
SWITCH 4 - OFF  
SWITCH 5 - OFF

LOGIC POWER

SYS 1 SW - OFF  
SYS 2 SW - OFF

LATCH STATUS

SEL 2

LATCH 3

SYS 1 - LAT (INVERT)  
SYS 2 - LAT (INVERT)

LATCH 4

SYS 1 - LAT (INVERT)  
SYS 2 - LAT (INVERT)

LATCH 5

SYS 1 - LAT (INVERT)  
SYS 2 - LAT (INVERT)

NOT PERFORMED



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0391		CPLE	ASP	PANEL A6U PAYLOAD RETENTION PAYLOAD SELECT SW - 1  PAYLOAD RETENTION LATCHES 1 TB BP 2 TB BP 3 TB BP 4 TB BP 5 TB BP  READY TO LATCH 1 TB BP 2 TB BP 3 TB BP 4 TB BP 5 TB BP	
					NOT PERFORMED
16-0392		CPLE	CRT (VAA40)	VERIFY  RETENTION LATCH STATUS PAYLOAD SEL SW POS 1  SEL 1 LATCH 1 SYS 1 - (BLANK) SYS 2 - (BLANK)  LATCH 2 SYS 1 - (BLANK) SYS 2 - (BLANK)	
					NOT PERFORMED
16-0393		CPLE	OTC ASP	PRLA SYSTEM STATUS VERIFICATION AND SWITCH CONFIGURATION FOR FLIGHT COMPLETE.	
					NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CLEAR C/W MEMORY -----					
16-0394		OTC 212	ASP CISL	PANEL R13U C/W PARAMETER STATUS SW - INHIBITED, HOLD. RECORD MATRIX LIGHTS ON. RECORD IN APPENDIX P-3 VOL 4.	SU72746
16-0395		OTC	ASP	PARAMETER STATUS SW - RELEASE	
16-0396		OTC	ASP	MEMORY SW - READ, HOLD RECORD MATRIX LIGHTS ON. RECORD IN APPENDIX P-5 VOL 4.	
16-0397		OTC	ASP	MEMORY SW - RELEASE	
16-0398		OTC	ASP	MEMORY SW - CLEAR, RELEASE MEMORY SW - READ, HOLD RECORD MATRIX LIGHTS ON. RECORD IN APPENDIX P-4 VOL 4.	
16-0399		OTC 212	CMQC	ABSENCE OF PARAMETERS 062, 072, 082, 092, 102, 112 IN PRECEDING STEP SATISFIES NOTED OMRS REQUIREMENTS.  OMRSD V45CG0.040-A OMRSD V45CG0.040-B OMRSD V45CG0.040-C	
16-0400		OTC	ASP	MEMORY SW - RELEASE	
16-0401		OTC 212	ASP	PANEL F7 REPORT ANNUNCIATOR ON LITES. RECORD IN APPENDIX P-1 VOL 4.	SU72746
NOTE					
PERFORM NEXT TWO STEPS IF PPOV OR MINI CAMERA INSTALLED.					
16-0402		OTC 212	ASP	PANEL R14 ROW D MNC TV CABIN CB - CLOSE NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0403		OTC 212	ASP	PANEL R12A2 STORAGE CONTAINER VERIFY TEAC RECORDER PWR ON MODE REC NOT PERFORMED	
16-0404		OTC	CGSS	START ONE HCU PUMP PER OMI V2160. LRD COMM CHECKS -----	SU72719
NOTE					
PERFORM COMM CHECKS IMMEDIATELY FOLLOWING LAUNCH DIRECTOR WX BRIEFING.					
16-0405	-03H00M (HOLDING)	LRD LF1	LSO	KSC READY TO CONFIGURE FOR CONVOY COMM CHECKS.	
16-0406		LRD 135 STM 111	STM GYCC	VERIFY READY FOR CONVOY COMM CHECKS ON UHF 259.7 MHZ, CONVOY COMMANDER AND COOLING NETS.	COMM
16-0407		GYCC NET 107	GYRM	VERIFY TECHNICIAN ON STANDBY AT CONVOY COMMANDER VEHICLE TO SUPPORT COMM CHECKS.	COMM
16-0408		GYCC COMM COORD NET	*VCE *VCT	CONFIGURE UHF, CONVOY COMMANDER AND COOLING NETS FOR CONVOY COMM CHECKS.	COMM
16-0409		GYCC COMM COORD NET *VCE *GC *GC *MIL	*VCE	REQUEST MILA CONFIGURE UHF 259.7 MHZ ANTENNA TO SUPPORT KSC CONVOY COMM CHECKS. VERIFY COMPLETION.	COMM
16-0410		GYCC 111 STM 135	STM LRD	READY TO SUPPORT LRD COMM CHECKS.	COMM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0411		LRD 232 NTD	NTD OTC	READY FOR CONVOY COMM CHECKS. REQUEST CONCURRENCE FOR NIB COMM CHECKS ON ORBITER UHF 259.7 MHZ.	
16-0412		LRD LF1	LSO	READY TO PERFORM CONVOY COMM CHECKS ON UHF WITH HOUSTON COMM TECH (*VCT) AND ON CONVOY COMMANDER AND COOLING NETS WITH HOUSTON VOICE (*VCE).	
16-0413		LRD UHF	*VCT NCC	PERFORM UHF/OMNI VOICE CHECKS ON 259.7 MHZ.	
16-0414		LRD CCN	*VCE NCC	PERFORM KSC CONVOY COMMANDER AND AND COOLING NET COMM CHECKS.	
16-0415		LRD LF1 LRD 135 STM	LSO STM GYCC	CONVOY RADIO CHECKS ON UHF, CONVOY COMMANDER AND COOLING NETS WITH JSC ARE COMPLETE.	COMM
16-0416		GYCC COMM COORD NET *VCE	*VCE *GC	KSC CONVOY COMM CHECKS COMPLETE. MILA UHF 259.7 MHZ ANTENNA MAY BE RECONFIGURED TO LAUNCH SUPPORT. REPORT COMPLETION.	COMM
16-0417		GYCC 111 STM	STM LRD	MILA UHF 259.7 MHZ ANTENNA HAS BEEN RECONFIGURED TO LAUNCH SUPPORT.	COMM
16-0418		LRD (ALS CCN)	NCC	COMM CHECK ON ALTERNATE LANDING SITE CONVOY COMMANDER NET.	

NOTE

PERFORM NEXT STEP IF ALTERNATE  
 LANDING SITE CONVOY COMMANDER  
 NET ACTIVATED TO \_\_\_\_\_ (DFRF  
 OR WSSH).

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
READY TO RESUME COUNT -----					
16-0419		NTD 232		ATTENTION ALL PERSONNEL, THE CDC WILL RESUME COUNTING AT T-03 HRS IN 5 MINUTES.	
RESUME COUNT -----					
16-0420	-03H00M (HOLDING)	CGLS 232	NTD	HOLD WILL TERMINATE AND CDC WILL START COUNTING AT ___/___/___ GMT HH MM SS	
16-0421	-03H00M COUNTING	NTD PA 232		T-03H00M AND COUNTING.	
ER OPEN LOOP CMD TEST -----					
16-0422		SRO 232	NTD	REQUEST SRO CLEARANCE (416.5 MHZ OPEN LOOP) FOR CMD AUTO CARRIER SYSTEM CHECKS (30 MINUTE DURATION).	SU72797

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				TIMER CONFIGURATION -----	
				TIMER NO. 1 WINDOW REMAINING -----	
16-0423		CGLS 178	JTCR	SETUP WINDOW REMAINING TIMER NO. 1 TO FOLLOWING TIME: (PHONE 1-2290)	
				H M S - - -	
				NOTE	
				TIMER NO. 1 IS SET TO THE VALUE OF THE WINDOW.	
				TIMER NO. 1 __:__:__ (WINDOW REMAINING)	
16-0424			JTCR	FOR TIMER NO. 1, AT THE T-9 MIN. HOLDING POINT:	
				ACTIVE OVRD SWITCH - ON COUNTHOLD SWITCH - OFF	
				WHEN TIMER NO. 5 DECREMENTS TO ZERO:	
				ACTIVATE COUNTHOLD SWITCH - AUTO	
				NOTE	
				TIMER NO. 1 SHOULD DECREMENT WHEN HOLDS OCCUR FROM THIS POINT TO COMPLETION OF WINDOW.	
				TIMER NO. 2 LOX DRAIN BACK ELAPSED -----	
				HOLD TIME -----	
16-0425		CGLS 178	JTCR	SET LOX DRAIN BACK HOLD TIMER NO. 2 TO +0:00.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

TIMER NO. 2 COUNTS AT ANY  
HOLD AFTER T-5 MINS. AND  
COUNTING.

16-0426		CGLS	JTCR	VERIFY TIMER NO. 2 IN REMOTE AND 178 IN COUNTING UP MODE.	
---------	--	------	------	--	--

TIMER NO. 5 HOLD TIME REMAINING  
-----

16-0427		CGLS	JTCR	VERIFY HOLD TIME REMAINING (TIMER NO. 5) SET TO FOLLOWING TIMES:	
---------	--	------	------	--	--

NOTE

THE TIMES ARE TO REFLECT  
THE PLANNED HOLD DURATION.  
AFTER T-9 MIN PLANNED HOLD  
EXPIRES, TIMER NO. 5 WILL  
ACCUMULATE TIME AT ANY  
ADDITIONAL HOLD.

T-20 MIN. HOLD \_\_\_:\_\_\_:\_\_\_ (HOLD TIME  
REMAINING)

T-9 MIN. HOLD \_\_\_:\_\_\_:\_\_\_ (HOLD TIME  
REMAINING)

16-0428		CGLS	HOME CMD KEY - PRESS CONSOLE KYBD A CM TMDS XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
---------	--	------	---	--

16-0429		CGLS	HOME CMD KEY - PRESS CONSOLE KYBD A CM GCDKTIM2E XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- FINAL INSPECTION - COMPLETE -----					
16-0430		*FIT 232 NTD OTC 212 NTD NET 105	NTD OTC OVCC *PRL	FINAL INSPECTION COMPLETE. TEAM LEAVING PAD (SEQ 57 S0007VL4 AND S6444). OMRSD S00U00.020-A-1 OMRSD S00U00.020-C-1 OMRSD S00U00.020-D-1	SU72748
16-0431	-03H00M	NTD 232 STM 138	STM JYVO JYVR	PROVIDE VIDEO TRACKING AND RECORDING OF FINAL INSPECTION TEAM FROM PAD TO ROADBLOCK A/B-11 (SEE JYVO FIG 4).	COMM
16-0432		NTD 232 *SCC NET 105	*SCC *PSE	VERIFY FINAL INSPECTION TEAM BACK TO ROADBLOCK A/B-11.	
16-0433		*PSE NET 105 *SCC 232	*SCC NTD *PAC	FINAL INSPECTION TEAM AT ROADBLOCK A/B-11.	
16-0434		NTD 232 STM 138	STM JYVO JYVR	STOP VIDEO TRACK AND RECORDING OF FINAL INSPECTION TEAM.	COMM





OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- SRB RGA POWERUP AND TORQUE TEST -----					
16-0436	-03H00M	TBC 136	CAFC	PERFORM SRB RGA POWER UP AND TORQUE TEST.	SU72802
16-0437			CAFC	CURSOR CNTL (SAB19/SWB01) SRB RGA - OPS MAN XMIT CURSOR KEY - PRESS	
16-0438			CAFC	CURSOR CNTL (BAF05/BWF01) SRGA POWER UP WITH TQ ALL SRGA'S XMIT CURSOR KEY - PRESS	
16-0439			CAFC	CURSOR CNTL (BAF05/BWF01) START TEST XMIT CURSOR KEY - PRESS	
NOTE					
SRGA TORQUE TEST IS DELAYED APPROXIMATELY 5 MIN. FROM TIME LAST SRGA IS TURNED ON.					
16-0440			CAFC	CRT (BAF05/BWF01) VERIFY ALL SRB RGA'S POWERED UP WITHOUT ERROR.  OMRSD S00FF0.215-1R	
16-0441			CAFC	CRT (BAF05/BWF01) VERIFY  SRB RGA TORQUE TEST COMPLETE WITHOUT ERROR.  OMRSD S00FF0.230-1R OMRSD S00000.643-1R	
16-0442			CAFC	APPL PAGE (BAF05/BWF01) PFK 15 KEY - PRESS (TERM BAF05)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
ACTIVATE SRB RGA LCC EMON -----					
16-0443		CAFC		APPL PAGE A (SAB20/SWB02) PFK-13 KEY - PRESS (ACT EMON SETUP)	
16-0444		CAFC		CURSOR CNTL (SAB20/SWB02 PAGE A) A - SRB RGA XMIT CURSOR KEY - PRESS	
16-0445		CAFC		APPL PAGE A (SAB20/SWB02) PFK-13 KEY - PRESS (DEACT EMON SETUP)	
16-0446		CAFC	TBC	SRB RGA POWERUP, TORQUE TEST AND LCC 136 ACTIVATION COMPLETE.	
CREW INGRESS WEATHER UPDATE -----					
16-0447	-02H55M	STM	JBDY	111 VERIFY NO ELECTRICAL STORM 111 WITHIN 5 NM OF LAUNCH PAD. JBDY *WEA 231	SU72773
16-0448		JBDY	STM	111 ELECTRICAL STORM WITHIN 5 NM OF 111 LAUNCH PAD. STM NTD 232 _____(YES/NO)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- FLIGHT CREW DEPART O&C BUILDING TO PAD -----					
16-0449	-02H55M	VIT 232	NTD	VERIFY READY FOR FLIGHT CREW TO DEPART O&C BUILDING TO PAD. (7-3903/3901 RECORDED PHONE)	SU72775
16-0450	-02H55M	*AVN NET 105 NTD 232 OTC 212	NTD	ASTRO VAN DEPARTING O & C WITH FLIGHT CREW.  *PAC *SCC OVCC	SEC SU72777
16-0451	-02H55M	NTD 232 STM 138	STM	FLT CREW DEPARTING O&C ENROUTE TO LAUNCH PAD, VIDEO TRACK AND RECORD THRU INGRESS (SEE JYVO FIGURE 4).	COMM
16-0452		NTD 232 212 136	ALL	FLT CREW DEPARTING O&C ENROUTE TO THE LAUNCH PAD, ALL CONSOLE OPERATORS MONITOR YOUR SYSTEM'S PERFORMANCE AND NOTIFY THE NTD IMMEDIATELY OF ANY PROBLEMS AND/OR TRENDS THAT COULD AFFECT FLIGHT CREW OR CLOSEOUT CREW SAFETY.	
16-0453		STM 111	JPHO	FLIGHT CREW DEPARTING O&C ENROUTE TO PAD. STAND BY TO PHOTOGRAPH FLIGHT CREW UPON ARRIVAL AT WHITE ROOM.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.	
MILA AZMITH/ELEVATION READOUT						
16-0454	-02H55M	STM 111	JPHO	VERIFY READY TO PROCEED WITH MILA AZMITH/ELEVATION READOUT.		
16-0455	-02H55M	STM 111	*MIL	VERIFY POINTING DATA FOR APPLICABLE PAD BEING TRANSMITTED TO SLF TV TOWERS 1 AND 2 AS SPECIFIED BELOW:		
			PAD	TV TOWER	AZIMUTH	ELEV.
			---	-----	-----	-----
			A	1(SOUTH)	89 DEG.	1 DEG.
				2(NORTH)	99 DEG.	1 DEG.
			B	1(SOUTH)	69.5 DEG.	1 DEG.
				2(NORTH)	85.5 DEG.	1 DEG.
				(ALL READINGS +/- 2 DEG.)		
16-0456		STM 111	JPHO	SOUTH TWR (TOWER 1) GIVE FOL DATA: READOUT POINTING DATA AZIMUTH _____ DEG ELEVATION _____ DEG		
16-0457		STM 111	JPHO	NORTH TWR (TOWER 2) GIVE FOL DATA: READOUT POINTING DATA AZIMUTH _____ DEG ELEVATION _____ DEG		
16-0458		STM 111	*MIL	VERIFY READOUTS.		
16-0459		STM 232	NTD	MILA AZMITH/ELEVATION READOUT COMPLETE.		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
COLA IDENTIFICATION -----					
16-0460		NTD 232	SRO	IDENTIFY ANY COLLISION AVOIDANCE (COLA'S) TIMES FOR THIS LAUNCH WINDOW OR LAUNCH PERIOD.  COLA 1 _____ Z TO _____ Z  COLA 2 _____ Z TO _____ Z  COLA 3 _____ Z TO _____ Z	SU72804
16-0461		JSTC 111 STM 232 NTD	WMED STM NTD *SCC	MEDICAL PERSONNEL ON SITE AT MULTI-FUNCTIONAL FACILITY FOR FLIGHT CREW/GROUND SUPPORT PERSONNEL MEDICAL CARE.	MED
CLEAR ASTRO VAN THRU ROADBLOCK A/B-11 -----					
16-0462	-02H45M	NTD 232	*SCC	VERIFY NO CONSTRAINTS TO CLEARING ASTROVAN THRU A/B-11 ROADBLOCK TO BASE OF FSS AND SECURITY ESCORT TO PAD MAIN GATE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0463	-02H45M	NTD 232	*SEC	CLEAR SECURITY ESCORT WITH ASTROVAN THRU A/B-11 ROADBLOCK TO PAD.  ESSENTIAL PERSONNEL IN ASTRO VAN -----  (XX = AS REQ'D TO SUPPORT MISSION)  JSC    GSS    SEC ---    ---    ---  PRIME    XX CREW  SUIT TECH    1  DRIVER    1  ESCORT    2 NASA 2 J-BOSC  ESSENTIAL PERSONNEL IN SECURITY ----- ESCORT VEHICLE -----  J-BOSC -----  DRIVER & ESCORT    2	SEC
16-0464		NTD NET 105	*AVN	FLIGHT CREW IS CLEARED THRU A/B-11 ROADBLOCK TO BASE OF FSS WITH ESCORT VEHICLE TO GATE.	SEC
16-0465		*SEC 232 NTD OTC *PAC OTC 212	NTD *SCC *PAC OVCC	ASTRO VAN HAS PASSED THRU A/B-11 ROADBLOCK.	SEC

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

FINAL INSPECTION REPORT

NOTE

CICE WILL REPORT ANY OMRS VIOLATIONS, IPR CONDITIONS OR DETRIMENTAL ENVIRONMENTAL CONDITIONS ON CMD CHANNEL.

16-0466	-02H45M	CICE	NTD 232	NOTIFY LAUNCH DIRECTOR AND LAUNCH MANAGERS THAT FINAL INSPECTION TEAM READY TO GIVE ICE/DEBRIS REPORT.	
16-0467		CICE	NTD 232	DETAILED ENGINEERING REPORT OF FINAL INSPECTION WILL NOW BE GIVEN ON CHANNEL 245.	

NOTE

PERFORM NEXT STEP IF SS WATER TANK REQUIRED TOP-OFF.

TOP-OFF SS SYS COMPLETE

16-0468	-02H45M	JBWC	STM 111	SS ELEVATED TANK TOP-OFF COMPLETE.	WSSA
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NOT PERFORMED \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

LAUNCH COMMIT CRITERIA VERIF

NOTE

THIS VERIFICATION INCLUDES:

- A REVIEW OF ALL VALID SYSTEM PARAMETERS FOR FAILURES/ UNFAVORABLE TRENDS.
- A REVIEW OF ALL SYSTEM LOGS AND OPEN PAPER TO VERIFY NO CONSTRAINTS.
- A VERIFICATION OF ALL SYSTEM OMRS.

16-0469	-02H45M	NTD 232	OTC TBC PTC STM *FLT *MIL SRO LPS CSPE	VERIFY NO VIOLATION OF LAUNCH COMMIT CRITERIA.	SU72806
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PAYLOAD LAUNCH COMMIT CRITERIA

16-0470	-02H45M	PTC 134	ALL	VERIFY YOUR SYSTEM MEETS LAUNCH COMMIT CRITERIA.	
---------	---------	------------	-----	--	--

FOR SPACEHAB:

DLES \_\_\_\_\_  
\*STC \_\_\_\_\_

FOR IUS:

DLES \_\_\_\_\_  
AXTC \_\_\_\_\_  
ICTC \_\_\_\_\_

FOR OTHER:

DLES \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
ORBITER LAUNCH COMMIT CRITERIA					
-----					
16-0471	-02H45M	OTC 212	ALL	VERIFY YOUR SYSTEM MEETS LAUNCH COMMIT CRITERIA REQUIREMENTS FOR CREW BOARDING PHASE AT T-2H30M.	
				CPLE _____	CHYD _____
				CCSE _____	CAPU _____
				CNSE _____	CHGD _____
				CAFM _____	CISL _____
				CMPS _____	CEPD _____
				CMPL _____	CAFC _____
				CSME _____	COFC _____
				CECL _____	CGNC _____
				CPVD _____	CDPS _____
				CFCP _____	CODS _____
				CGSS _____	CCME _____
				COOS _____	
ET/SRB LAUNCH COMMIT CRITERIA					
-----					
16-0472	-02H45M	TBC 136	ALL	VERIFY YOUR SYSTEM MEETS LAUNCH COMMIT CRITERIA REQUIREMENTS	
				CLOX _____	CPWR _____
				CLHY _____	CBHY _____
				CISL _____	CBRS _____
					CMEC _____
16-0473		CEPD		CURSOR CNTL (VWC10) GRD SYS S/R HI XMIT CURSOR KEY - PRESS  CRT (VWC10)  VERIFY PIC SAMPLE RATES CHANGED TO 100/SEC	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
SUPPORT LAUNCH COMMIT CRITERIA					
-----					
16-0474	-02H45M	STM	JSTC	VERIFY REQUIRED LAUNCH COMMIT	JSTC
		111	JBFX	CRITERIA VALID.	WSSA
			GYCC		COMM
		NET	QBSE		STSA
		104			
		GYCC	GOIS		
		117			
16-0475		JSTC	JSEP	VERIFY REQUIRED LAUNCH COMMIT	ELEC
		114	JSAC	CRITERIA VALID.	AC
			GSPN		PNU
			JFIR		FIRE
			*SEC		SEC
REPORT LCC STATUS					
-----					
16-0476	-02H40M	OTC	NTD	NO LAUNCH COMMIT CRITERIA	
		TBC		VIOLATIONS.	
		STM			
		LPS			
		*FLT			
		*MIL			
		SRO			
		CSPE			
		PTC			
		232			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
PERSONNEL WITHIN LAUNCH IMPACT ----- AREA ON STATION -----					
16-0477		STM 111 JSTC JSTC GYCC PTP	JPHO JSTC JFIR GSPN WYVS	VERIFY SUPPORT PERSONNEL ON STATION WITHIN LAUNCH IMPACT GYCC AREA.	FIRE PNU COMM
16-0478	-02H40M	JPHO JSTC GYCC 111 STM 232	STM NTD	ALL SUPPORT PERSONNEL REQUIRED WITHIN LAUNCH IMPACT AREA ARE ON STATION.	COMM JSTC
LANDING AIDS ACTIVATION ----- NOTE  PERFORM NEXT TWO STEPS AT L-5 HOURS.					
16-0479		NTD 232 STM 111 GYCC 117	STM GYCC FMLS	START MSBLS POWER UP PER OMI Z3111.	COMM
16-0480		LRD 135 STM 111	STM JBEP	ACTIVATE PAPI, BALL/BAR, AND STROBE LIGHTING SYSTEMS.	
CREW COMPT READY FOR INGRESS -----					
16-0481	-02H40M	ASP 212	OTC	CREW COMPARTMENT READY FOR CREW INGRESS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				SWITCH STBY-FEP'S TO RF -----	
16-0482		OTC 232	NTD	VERIFY MILA ANTENNA ALIGNMENT COMPLETE.	
16-0483	-02H30M	OTC	CGLS	SWITCH STANDBY FEP'S TO RF.	SU72808
16-0484			LPS	VERIFY PCM FEP BIT SYNC'S IN PGM MODE.	
16-0485		CGLS 127	LPS	VERIFY RF SIGNAL PRESENT AT GPCA/S, OIA/S, AND PLDA/S FEPS SCOPES.	
16-0486			CGLS	VERIFY 1 OC TASK AVAILABLE FOR \$PCMS OPERATIONS.	
16-0487			CGLS	CONSOLE KYBD SLPP1 PERFORM PGM KEY - PRESS (KSCA OR KSCB) XMIT RESP VFY INTG MENU PFPK7 - PRESS PFPK6 (GLS CONTROL) - PRESS VFY GLS ML/MS DISPLAY (SDP01)	
16-0488			CGLS	CURSOR CNTL APP PG-B (SLPP1) RF SWITCH SELECT XMIT CURSOR KEY - PRESS	
16-0489			CGLS	APP PG A VERIFY PCMS OPERATIONS	
16-0490		CGLS 127	LPS	AWP01 PG-B VERIFY OIS, GPCS ARE ON SOURCE 2 HI RATE VOICE YES AND DATA IS VALID	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0491		CGLS		CURSOR CNTL TERMINATE XMIT CURSOR KEY - PRESS  CRT  VFY INTG MENU  CURSOR CNTL TERMINATE XMIT CURSOR KEY - PRESS  CRT  VFY SLPP1 INACTIVE	
16-0492		CGLS	OTC 212	STANDBY FEP'S SWITCH TO RF. COMPLETE.	
16-0493		LPS	JRPS	CONFIGURE 192 KB JSC OD DATA (SKR) TO KMTS B SYSTEM.	
16-0494		LPS	JRPS	VERIFY KMTS 0505A2 (A5, KMTS B LINK) READING 192 KB AND LOCKED ON SIGNAL.	
16-0495		LPS	C1SE	CONFIGURE VSB TO SOURCE 2, 192KB DATA PER OMI C2000 AND VERIFY SUCCESSFUL OPERATION. RETURN TO SOURCE 1 WHEN COMPLETE.	
16-0496		LPS	C1MC 127	CONFIGURE PLDS FEP, IF SUPPORTING, TO SOURCE 2, 192KB DATA VIA AWP01 AND VERIFY SUCCESSFUL OPERATION.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0497		LPS		VERIFY RPS P/B CONFIGURED TO SUPPLY 60KB R.F. DATA TO SOURCE 2 OF ME 1/2/3 AND SIGNAL PRESENT ON ME FEPS SCOPES.  PDL PLAYBACK TO MSFC -----	

NOTE

PERFORM NEXT TWO STEPS IF  
 REQUIRED BY MSFC.

16-0498		LPS	JRPS	CONFIGURE KMTS 0505A1 (A7,A8,A9) BIT SYNC TO SOURCE 2 FOR PDL CHECKOUT (SOURCE 2, MANUAL MODE, 60 KB).  NOT PERFORMED _____	
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16-0499		LPS	JRPS	PDL CHECKOUT COMPLETE. CONFIGURE KMTS 0505A1 (A7,A8,A9) BIT SYNC TO SOURCE 1 (SOURCE 1, MANUAL MODE, 60 KB).  NOT PERFORMED _____	
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NOTE

PERFORM NEXT STEP FOR MISSIONS  
 THAT REQUIRE TEHM PDI DATA FLOW  
 DURING ASCENT.

16-0500		PTC	DSWF	CONFIGURE RTP FOR 192 KB DATA AND 134 ZLPS VERIFY SUCCESSFUL TRANSITION.  NOT PERFORMED _____	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT TWO STEPS FOR IUS MISSION (STS-93).					
PAYLOAD ASCENT TELEMETRY LOCKUP -----					
16-0501	-02H30M	PTC 134	DSWF	VERIFY IUS ASCENT TELEMETRY STILL LOCKED UP.	
					NOT PERFORMED
NOTE					
PERFORM NEXT STEP IF IUS ASCENT TELEMETRY IS NOT LOCKED UP.					
16-0502		PTC 134	DSWF	PERFORM IUS ASCENT TELEMETRY LOCKUP PER S0007VL4 (SEQ 81). REPORT COMPLETION.	
					NOT PERFORMED



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CONTROL LOGIC INHIBIT					
16-0503		OTC 212	CGLS	PERFORM PROGRAM SAP92 FOR T-2H30M REACTIVE CONTROL LOGIC INHIBIT, RCL STATUS, COMMAND ISSUANCE, STATUS DP/DA. (30 MIN)	SU72810
16-0504			CGLS	VERIFY 1 AVAILABLE CONCURRENCY AND 2 CONSECUTIVE OC TASKS.  HOME CMD KEY - PRESS SAP92 PERF PGM KEY - PRESS	
16-0505			CGLS	PF SAP92 - PRESS PFPK1 (STATUS CMD ISSU) - PRESS	
16-0506			CGLS	PFPK2 (STATUS DP/DA) - PRESS	
16-0507			CGLS	PFPK5 (T-2H5M RCL INHB) - PRESS	
16-0508			CGLS	PFPK6 (T-2H5M RCL STATUS) - PRESS	
NOTE					
PRESS FORM FEED ON PRINTER TO ENSURE ALL OUTPUT IS RECEIVED.					
RETRIEVE OUTPUT FROM CONSOLE PRINTER AND REVIEW FOR PROPER CONFIGURATION.					
16-0509			CGLS	TERMINATE SAP92 PFK15 - PRESS	
16-0510		CGLS 212 OTC 232	OTC	COMPLETED IMPLEMENTATION OF SAP92.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				ER OPEN LOOP CMD TEST COMPLETE	
16-0511		SRO 232	NTD	COMMAND AUTO CARRIER SYSTEM CHECKS COMPLETE.	
				ET LIQUID LEVEL SENSOR CHECKS	
				DURING REPLENISH	
NOTE					
LOX AND LH2 MUST BOTH BE IN STABLE REPLENISH BEFORE LIQUID LEVEL SENSOR CHECK CAN BE RUN.					
16-0512	-02H30M	NTD 232 OTC 212 TBC 136	OTC TBC CMPS CLOX CLHY	PERFORM ET LIQUID LEVEL SENSOR CHECKS DURING REPLENISH PER OMI S1004 (15 MIN).	SU72812

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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SRB MDM CD VERIF

NOTE

DO NOT PROCEED WITH SRB MDM  
 CD VERIF UNTIL AFTER RESUMING  
 THE COUNT AT T-3H00M.

NOTED REQUIREMENTS SATISFIED  
 BY THE FOLLOWING STEPS.

OMRS S00FE0.185-1R  
 OMRS S00FE0.225-A-1R  
 OMRS S00FE0.225-B-1R  
 OMRS S00FE0.230-A-1R  
 OMRS S00FE0.230-B-1R

16-0513	-02H30M	NTD 232 TBC 136	TBC CBDP	PERFORM SRB MDM COUNTDOWN VERIFICATION. (15 MIN)	SU72814
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NOTE

SRB MDM I/O ERRORS CAN  
 OCCUR DURING MDM P/S  
 SEPARATION.

16-0514			CBDP	CURSOR CNTL (SAS05 PG B) DPS XMIT CURSOR KEY - PRESS	
---------	--	--	------	--	--

CURSOR CNTL (SAS05 PG B)  
 SRB MANUAL TEST SEL  
 XMIT CURSOR KEY - PRESS

PFK2 KEY - PRESS

16-0515			CBDP	CURSOR CNTL (BSM06 PG B) COUNTDOWN TEST XMIT CURSOR KEY - PRESS	
---------	--	--	------	---	--

CRT (BSM06 PG B)

VERIFY ALL ENTRIES TO TEST  
 STATUS DISPLAY 'OK' GREEN

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0516				CBDP PFP (BSM06) PFPK6 KEY - PRESS (SYSTEM STATUS)  CRT (BSM06 PG B)  ALL MDM P/S SEP SWITCHES - ON	
16-0517				CBDP PFP (BSM06) PFPK1 KEY - PRESS (TERMINATE)	
16-0518		CBDP 136 TBC 232	TBC NTD	SRB MDM COUNTDOWN VERIFICATION COMPLETE.	
16-0519				NOTED REQUIREMENTS COMPLETE.  OMRSD S00FE0.185-1R OMRSD S00FE0.225-A-1R OMRSD S00FE0.225-B-1R OMRSD S00FE0.230-A-1R OMRSD S00FE0.230-B-1R  ASTROVAN AT PAD -----	
16-0520	-02H30M	*AVN NET 105 NTD 232	NTD OTC *SCC *PAC	ASTROVAN AT PAD SURFACE. ESCORT VEHICLE RETURNING TO A/B-11 ROADBLOCK.  FLIGHT CREW AT FSS -----	SEC SU72777
16-0521				FLT FLIGHT CREW AND SUIT TECH CREW PROCEED TO FSS 195 FT LEVEL. NST	
16-0522		OTC 232	NTD	REQUEST CONCURRENCE TO PROCEED WITH CREW INGRESS.	SU72779
16-0523	-02H30M	NTD 232 OTC 212	OTC OVCC	PROCEED WITH CREW INGRESS OPERATIONS WHEN CREW ARRIVES.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ACID DEPOSITION WX BRIEFING -----					
16-0524	-02H25M	STM 163 221	CBSE  *SCC	VERIFY READY FOR ACID DEPOSITION WEATHER BRIEFING ON OIS CH 131.	SU72815
16-0525		STM 131	EEC	PERFORM ACID DEPOSITION WEATHER BRIEFING.	
ASTROVAN - DEPART PAD -----					
16-0526	-02H25M	*AVN NET 105 NTD 232	NTD  *SCC STM	ASTROVAN CLEARED PAD SURFACE, PROCEEDING TO A/B-11 ROADBLOCK.	SEC
FLT CREW INGRESS -----					
16-0527	-02H25M	OVCC 212	OTC	FLIGHT CREW HAS ARRIVED AT ORBITER, CREW INGRESS IN WORK AT THIS TIME.	SU72781
16-0528		OTC 212	ALL	FLIGHT CREW INGRESS PROCEEDING AT THIS TIME. MONITOR CONSOLE DISPLAYS.	
16-0529		NTD 232 STM 138	STM  JYVO JYVR	TERMINATE VIDEO TRACKING AND RECORDING OF FLIGHT CREW. OTV CAMERAS AND VIDEO RECORDERS RELEASED TO PREVIOUSLY ASSIGNED USAGE. OTV CAMERA 005/105 TO MONITOR CREW HATCH. (SEE JYVO FIGURE 4).	COMM

OPERATION INSTRUCTIONS

-----  
SEQ            TIME            CMD    RESP                            DESCRIPTION                            VERIF.  
-----

CDR/PLT SEAT AIDED INGRESS  
-----

NOTE

DURING INGRESS SUIT FANS WILL  
BE POWERED UP, COMM SWITCHES  
ON L5 AND R6 WILL BE TURNED ON,  
SEATS WILL BE ADJUSTED AND COMM  
CHECKS WILL BE PERFORMED WITH  
OTC, NTD, AND \*FLT.

16-0530    -02H25M                    OTC    RECORD INGRESS TIME:

CDR \_\_\_\_\_ GMT

PLT \_\_\_\_\_ GMT

IMU PREFLIGHT CAL CONTINGENCY COMPLETE  
-----

NOTE

PERFORM NEXT STEP IF IMU  
PREFLIGHT CAL CONTINGENCY  
WAS REQUIRED.

16-0531    -02H25M            CGNC OTC    IMU PREFLIGHT CAL CONTINGENCY COMPLETE.  
132

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
IMU'S TO TERM IDLE					
-----					
NOTE					
PERFORM NEXT STEP IF IMU IN GC ALIGN 1.					
16-0532	-02H25M	OTC 212	CGNC	TAKE IMUS TO TERM/IDLE PER IMU GYROCOMPASS ALIGNMENT SEQUENCE OF OMI V1123. REPORT COMPLETION. (3 MIN)	SU72816
RT OMI LOG NO. _____					
NOT PERFORMED _____					
IUS RIMU CAL ALIGN COMPLETE					
-----					
(CONTINGENCY)					
-----					
NOTE					
PERFORM NEXT STEP FOR IUS MISSION (STS-93).					
PERFORM NEXT STEP IF CONTINGENCY CAL AND ALIGN WAS INITIATED.					
16-0533	-02H20M	ICTC 134 PTC 232	PTC NTD	IUS RIMU CAL AND ALIGN COMPLETE. IUS IS NOW IN GYRO COMPASS MODE. QUIET TIME NO LONGER REQUIRED.	
OMRS P018JC.010					
OMRS P018JB.035-C					
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				IRAMS ACTIVATION FOR IMU GYROCOMPASS ----- ALIGN -----	
16-0534	-02H20M	OTC 212	CGNC	PERFORM IRAMS PAPAS INVOCATION.	SU72817
16-0535			CGNC	CONSOLE KYBD CDS ENABLE KEY - PRESS (SIGN ON TO HI-TRX SUPPORTING CURRENT TEST) TXKA (WHERE A = Q OR R) SIGN ON KEY - PRESS	
16-0536			CGNC	CONSOLE KYBD BREAK KEY - PRESS ?(IRM)# CDS XMIT KEY - PRESS BREAK KEY - PRESS ?PAPAS (TCID) DLA001 (STSXXY);HHMSS# (CURRENT GMT TIME) (WHERE STSXXY IS PARAMETER FILE NAME FROM IMU DATA BOOK)	
16-0537			CGNC	CONSOLE KYBD ?Y# CDS XMIT KEY - PRESS	
16-0538			CGNC	CRT (IRAMS)	
				VERIFY MESSAGE: BEGINNING DATA RETRIEVAL	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

IRAMS RESULTS SHOULD BE  
MONITORED AT THE FOLLOWING  
POINTS:

1. AT END OF GA POS 2
2. AT END OF EACH MEASUREMENT  
PERIOD OF GYROCOMPASS  
ALIGN-1 (GA-1)

USE THE FOLLOWING STEPS  
TO VIEW IRAMS DATA:

CDS ENABLE KEY - PRESS  
TXKA (WHERE A = Q OR R  
SUPPORTING IRAMS)  
SIGN ON KEY - PRESS  
BREAK KEY - PRESS  
?(IRM)#  
CDS XMIT KEY - PRESS

IRAMS SCREEN WILL APPEAR  
AFTER A BRIEF DELAY. PERFORM  
NEXT STEP TO SIGN OFF IRAMS.  
IRAMS CAN ONLY BE TERMINATED  
BY KEYBOARD ENTRY OF "PAPAK"  
WHEN SIGNED ONTO HI-TRX UNDER  
LOGICAL ID "IRM".

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0539		CGNC		CONSOLE KYBD CPU ENABLE KEY - PRESS  GMT AND MET DELTA ADJUST	

NOTE

THE FOLLOWING IMU AND GMT  
 DELTA ADJUST OPERATIONS  
 ARE TIME AND SEQUENCE  
 CRITICAL. IMU'S MUST BE  
 IN TERM/IDLE FOR GMT/MET  
 ADJUST.

IF IUS RIMU CONTINGENCY  
 ALIGN IS IN PROGRESS,  
 WAIT UNTIL COMPLETE PRIOR  
 TO PROCEEDING WITH GMT/MET  
 DELTA ADJUST (IUS MISSIONS  
 ONLY).

16-0540		CGNC	OTC	READY FOR GMT DELTA ADJUST.	SU72818
			212		
16-0541	-02H20M	OTC	NTD	PROCEEDING WITH ORBITER GMT AND MET DELTA ADJUST.	
			232		
			NTD	PTC	
			PTC	ICTC	
			134		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

OIS FEP MAY GIVE A "NO-GO"  
 INDICATION FOR 1-2 SECS  
 DURING DELTA ADJUST.

GMT ADJUST MUST NOT BE  
 DONE WHILE IMU PRE-FLIGHT  
 CAL, ATT DET OR PRE-FLIGHT  
 ALIGN ARE IN WORK. IMUS  
 MUST BE IN TERM/IDLE FOR  
 GMT ADJUST.

16-0542	-02H20M	OTC 212	CDPS CISL	PERFORM GMT AND MET ADJUSTMENT PER S0007VL4 (SEQ 49) ITEM 18 ON CH 152. (10 MIN)	
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OMRS S00FG0.085

VERIFY ASTROVAN POSITION  
 -----

16-0543	-02H15M	*AVN NET 105 NTD 232	NTD *SCC	ASTROVAN AND SECURITY ESCORT HAVE CLEARED BACK TO A/B-11 ROADBLOCK.	SEC
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ET LIQUID LEVEL SENSOR CHECKS COMPLETE  
 -----

16-0544	-02H15M	CMPS 212 OTC 232 NTD TBC TBC 136	OTC NTD	ET LIQUID LEVEL SENSOR CHECKS DURING REPLENISH COMPLETE PER S1004.	SU72812
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OMRSD S00FF0.204-1R

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

MIDDECK FLIGHT CREW SEAT  
AIDED INGRESS PROCEEDS IN  
PARALLEL WITH POST INGRESS  
SW RECONFIGURATION.

POST INGRESS SW RECONFIGURATION

WARNING

NEXT TWO STEPS MUST BE  
COMPLETE BEFORE PROCEEDING  
WITH RJD DRIVER SWITCH  
ACTIVATION.

NOTE

NOTED REQUIREMENT IS SATISFIED  
BY THE FOLLOWING STEPS ANNOTATED  
WITH OMRS CODE.

OMRS S00FF0.235-1R

RCS CMD STATUS TEST

16-0545	-02H15M	COFC	PPF (SAB20) PPFK1 - PRESS (RCS CMD TEST)		
16-0546		COFC	CRT (SWB02 PG-B) VERIFY RJD CMD STATUS TEST SUCCESSFUL  OMRS V79GEN.400 OMRS S00FF0.235-1R (VTB09)		
16-0547	-02H10M	COFC 212	OTC	PROCEED WITH POST INGRESS SWITCH RECONFIGURATION.	
16-0548	-02H10M	OTC	ASP	PERFORM POST INGRESS SWITCH RECONFIGURATION AND SWITCH GUARD REMOVAL PER YOUR CHECKLIST.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0549		ASP	PANEL O14 ROW F RJDA 1A L2/R2 MANF DRIVER SW - ON RJDA 2A L4/R4 MANF DRIVER SW - ON RJDF 1B F1 MANF DRIVER SW - ON  L OMS ENG VLV SW - ON		
16-0550		ASP	PANEL O15 ROW F RJDA 1B L1/R1 MANF DRIVER SW - ON RJDF 1A F2 MANF DRIVER SW - ON  NOTE  RJD MANF L5/F5/R5 DRIVER SWITCH TO "ON" WILL BE PERFORMED "ON-ORBIT"		
16-0551		ASP	REMOVE RJD MANF L5/F5/R5 DRIVER SWITCH GUARD.		
16-0552		ASP	PANEL O16 ROW F RJDA 2B L3/R3 MANF DRIVER SW - ON RJDA 2A F3 MANF DRIVER SW - ON RJDF 2B F4 MANF DRIVER SW - ON  R OMS ENG VALVE SW - ON		
16-0553		ASP	PANEL O6 GPC 5 OUTPUT SW - BACKUP		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0554		ASP	PANEL A7U	REMOVE TV CAMERA POWER AND TV CONTROL POWER SWITCH GUARDS (KEY REQUIRED)	
16-0555	-02H10M	ASP 212 OTC	OTC	POST INGRESS SWITCH RECONFIGURATION COMPLETE. CAUTION AND WARNING ALARM VOLUME WILL BE ADJUSTED, MASTER ALARM WILL BE INTENTIONALLY TRIPPED. (PARAM 099)	
CAUTION AND WARNING VOLUME ADJUST					

NOTE

CREW WILL ADJUST COMM VOLUME AS  
 REQUIRED FOR SATISFACTORY COMM/  
 MASTER ALARM LEVEL.

DO NOT PERFORM NEXT FOUR STEPS  
 FOR SCRUB/TURNAROUND RUN.

16-0556		ASP	PANEL R13U	CAUTION/WARNING PARAM SEL T/W'S - 099 PARAM SW - INHIBIT, REL PARAM SW - ENABLE, REL VERIFY C&W MASTER ALARM	SU72783
NOT PERFORMED					
16-0557		FLT	HIU	CREW ADJUST COMM VOLUME AS REQUIRED FOR SATISFACTORY COMM/MASTER ALARM LEVEL.	
NOT PERFORMED					
16-0558		CDR	PANEL F2	MASTER ALARM PB - PRESS, REL VERIFY MASTER ALARM LIGHT - OFF	
		ASP	PANEL R13U	CAUTION/WARNING PARAMETER SELECT TW'S - 120	
NOT PERFORMED					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0559		ASP 212 OTC	OTC CISL	C/W VOLUME ADJUST COMPLETE.  NOT PERFORMED	
				ACTIVATE RJD DRIVER LCC EMON	
16-0560				COFC APPL PG A (SAB20/SWB02) PFK13 KEY - PRESS(ACT EMON SETUP)	
16-0561				COFC CURSOR CONTROL (SAB20/SWB02 PG A) A-RJD DRIVER XMIT CURSOR KEY - PRESS  OMRS S00FF0.235-1R (SWB02)	
16-0562				NOTED REQUIREMENT COMPLETE.  OMRSD S00FF0.235-1R	
16-0563				COFC APPL PG A (SAB20/SWB02) PFK13 KEY - PRESS(DE-ACT EMON SETUP)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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PS/MS SEAT AIDED INGRESS

CAUTION

PRIOR TO CONNECTING HELMET  
COMM LEAD TO HIU, COMM CCU  
POWER TO MO39M OR A11 NEEDS  
TO BE VERIFIED OFF.

NOTE

DURING CREW INGRESS, SUIT FANS  
WILL BE POWERED UP AND COMM  
CHECKS WILL BE PERFORMED WITH  
OTC, NTD AND \*FLT.

16-0564

OTC

RECORD INGRESS TIME ONLY FOR  
APPLICABLE CREW MEMBERS.

PS1 \_\_\_\_\_ GMT

PS2 \_\_\_\_\_ GMT

PS3 \_\_\_\_\_ GMT

MS1 \_\_\_\_\_ GMT

MS2 \_\_\_\_\_ GMT

MS3 \_\_\_\_\_ GMT

MS4 \_\_\_\_\_ GMT



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
GMT AND MET DELTA ADJUST COMPLETE -----					
16-0565	-02H10M	CDPS 212 OTC	OTC  PTC	GMT DELTA WAS _____ MS. GMT ADJUSTMENT _____ WAS/WAS NOT PERFORMED  MET DELTA WAS _____ MS. MET ADJUSTMENT _____ WAS/WAS NOT PERFORMED.  GMT AND MET ADJUST COMPLETE. READY FOR IMU PLATFORM POSITIONING.  OMRSD S00FG0.085	SU72818
NOTE					
PERFORM NEXT STEP FOR IUS MISSION (STS-93).					
16-0566		PTC 134	ICTC	ORBITER GMT AND MET DELTA ADJUST COMPLETE. GMT ADJUST WAS/WAS NOT PERFORMED.	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				IMU PLATFORM POSITIONING FOR ----- GYROCOMPASS ALIGN -----	
16-0567	-02H04M	CGNC	CRT	(VABM1/VSB78 PG B) VERIFY	SU72820
				PLATFORM POSITIONING IN PROGRESS GLS INITIALIZATION -----	
16-0568	-02H00M	OTC	CGLS	PERFORM GLS INITIALIZATION PER 212 SEQ 62 (S0007VL4) ON OIS CH 162.	SU72821
16-0569		CGLS	OTC	FEP DUAL INTERRUPT NOTIFICATION WILL BE ACTIVATED MOMENTARILY AND MAY CAUSE REANNUNCIATION OF ERROR MESSAGES AT SYSTEMS CONSOLES FOR INTERRUPT MONITORED PARAMETERS CURRENTLY OUT OF GLS LIMITS.	
16-0570		CGLS		CURSOR CNTL (SAP10) TERM XMIT CURSOR KEY - PRESS SYS TERM (LEAVING SW SCAN ACT) XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS CRT VERIFY SAP10 AND SAP27 TERMINATE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
RETRIEVAL AREA - STATUS CHECK					
16-0571	-02H00M	LRD 135	BRD	REPORT STATUS IN RETRIEVAL AREA:  1. SHIPS ON STATION 2. SRB IMPACT AREA CLEAR OF OTHER VESSELS 3. WEATHER STATUS  WEATHER STATUS IN RETRIEVAL AREA IS AS FOLLOWS:  SEA STATE _____  SEA TEMP _____  AIR TEMP _____  WINDS _____  VISIBILITY _____	
16-0572	-02H00M	LRD 135	SRO	SRB IMPACT AREA CLEAR (OR NOT CLEAR) OF VESSELS OTHER THAN REQUIRED RETRIEVAL SHIPS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
RTLS RUNWAY -----					
16-0573	-02H00M	LSO	LRD	IN EVENT OF RTLS LANDING WILL	JSTC
		LF1		BE ON RUNWAY _____ (15 OR 33).	SLF
		LRD	STM		FIRE
		135	SLF	AOA SITE SELECTION IS _____.	SEC
			ROC	(KSC, DFRC, WSSH)	
			*SCC		
			EMS		
		STM	JSTC		
		111	GYCC		
		JSTC	FSTC		
		114	FSAM		
			JFIR		
			*SEC		
16-0574		LRD	NCC	IN EVENT OF RTLS ABORT, LANDING	
		CCN		WILL BE ON RUNWAY _____ (15 OR 33).	
				AOA SITE SELECTION IS _____.	
				(KSC, DFRC, WSSH)	
16-0575		OTC	AOTC	CONFIGURE OISD FOR PURGE	SU72788
				NET (9033) AND PERFORM COMM	
				CHECK WITH OPS AT SLF.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
OAA ACCUMULATOR FORCED CHARGE -----					
16-0576	-02H00M	OTC 212	CGSS	PERFORM OAA ACCUMULATOR FORCED CHARGE.	SU72822
16-0577	-02H00M		CGSS	PFP (VAJ02) PFPK-3 VAJ07 OAA ACCUM - PRESS PFPK-5 OAA ACCUM EXECUTE - PRESS VERIFY OAA ACCUM TOP AND BOTTOM LITES ON, THEN OFF.	
16-0578		CGSS OTC		OAA ACCUMULATOR FORCED CHARGE COMPLETE.	
SRB HPU GAS GENERATOR HEATER ON -----					
16-0579	-02H00M	TBC 136	CBHY	TURN ON SRB HPU GAS GEN HEATERS.	SU72823
16-0580	-02H00M		CBHY	CURSOR CNTL VEHICLE GAS GENRTR - AUT	
16-0581	-02H00M		CBHY	CRT (BAT04)  VEHICLE GAS GENRTR P TEMP VERIFY ALL FOUR GAS GENERATOR BED TEMPERATURES ARE INCREASING. (MINIMUM OF 2.0 DEG F/MINUTE AVERAGE RISE IN ONE HOUR)  OMRSD S00FF0.170	
16-0582		CBHY TBC 136 TBC NTD 232		SRB HPU GAS GEN HEATERS ON	
16-0583	-02H00M	TBC 136	CBHY	DURING REMAINDER OF COUNT UNTIL T-1 MIN, CBHY TO MONITOR AND ADJUST ALL GAS GENRTR TEMP(S) AT 190 TO 248 DEG F BY ON/OFF HTR CMD 1 (CURSOR CNTL) AND/OR ON/OFF HTR CMD 2 (CURSOR CNTL) AND/OR HIGH/LOW SOFTWARE LIMIT ADJUSTMENTS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- CLOSE VAB HIGH BAY AND TRANSFER ----- AISLE DOORS -----					
16-0584	-02H00M	STM 111	JCTL	CLOSE ALL VAB HIGH BAY AND TRANSFER AISLE DOORS (Q3011, JCTL VCMP Q3016). (1 HR)	CDPA
16-0585		OTC 212	CBSE	IF DATA AVAILABLE, VERIFY RECEPTION OF BIO-MED DATA.	V67V0100 V67V0200
NOT PERFORMED _____					
16-0586	-02H00M	OTC 212	RSRT	LOAD NEW TAPES FOR RANGE SAFETY MONITOR STATION RACK 8234 TO SUPPORT TERMINAL COUNTDOWN. ENSURE VCR'S ARE SET TO RECORD.	
T: _____					
SRM CHAMBER PRESSURE VERIFICATION -----					
16-0587		TBC 136	CISL	PERFORM SRM CHAMBER PRESSURE VERIFICATION PER S0007VL4 (SEQ 38) ON OIS CH 145. (35 MIN)	SU72819
FIRST MOTION (SIM) SIGNAL TEST -----					
16-0588	-02H00M	STM 111	SRO	VERIFY READY TO RECEIVE FIRST MOTION (SIMULATED) SIGNAL AT T-01H55M BY COUNTDOWN CLOCK.	SU72824
16-0589	-02H00M	STM 232	NTD	FIRST MOTION (SIMULATED) SIGNAL WILL BE SENT OVER JSC COUNTDOWN NTD *FLT SYSTEM T-01H55M BY COUNTDOWN CLOCK.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

LAUNCH POLYNOMIAL UPLINKS  
 CAN BE PERFORMED DURING  
 IMU ATT DET AND PREFLT  
 ALIGNMENT. DOWNLIST  
 DUMPS CAN BE PERFORMED  
 DURING ATT DET AND PREFLT  
 ALIGNMENT DURING NONCRITICAL  
 PERIODS WHEN LOSS OF DOWNLIST  
 CAN BE TOLERATED.

IMU ATT DET

16-0590	-01H57M			CGNC CRT (VABM1/VSB35 PG B) VERIFY IMU ATT DET IN PROGRESS	SU72825
16-0591		STM 111	JTCR	VERIFY FIRST MOTION SYSTEM CONFIGURED TO RECEIVE PAD ____ FIRST MOTION SIGNAL.	
16-0592		STM 111	JTCR	SEND AND DISTRIBUTE SIMULATED FIRST MOTION SIGNAL AT T-01H55M BY THE CLOCK.	
16-0593	-01H55M			JTCR (SIMULATED) FIRST MOTION SIGNAL - EXECUTE	
16-0594	-01H55M	STM 111 STM 232 NTD	SRO NTD	VERIFY (SIMULATED) FIRST MOTION SIGNAL RECEIVED BY ALL STATIONS REQUIRED. REQUEST PERMISSION TO REMOVE (SIMULATED) SIGNAL AND *FLT RECONFIGURE TO PAD.	
16-0595		STM 111	JTCR	RELEASE (SIMULATED) FIRST MOTION SIGNAL AND RECONFIGURE FIRST MOTION DISTRIBUTION SYSTEM TO RELAY SIGNAL FROM THE PAD. PERFORM MASTER RESET ON JSC COUNTDOWN CONVERTER.	
16-0596		STM 232	NTD	FIRST MOTION (SIM) SIGNAL TEST COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
SLF NAVAID STATUS -----					
16-0597		STM 111 GYCC FMLS 117 FTAC	GYCC	VERIFY MSBLS/TACAN READY TO SUPPORT.	COMM
16-0598		JBEP 111	STM	PAPI, BALL/BAR, AND STROBE LIGHTING SYSTEMS OPERATIONAL AND READY TO SUPPORT.	PWRA
16-0599	-01H55M	*SLF 135 LRD LF1	LRD LSO	PERFORM FOLLOWING:  1. KSC AND/OR PAFB TACAN OPERATIONAL AND READY TO SUPPORT LAUNCH.  2. KSC MSBLS OPERATING AND READY TO SUPPORT LAUNCH.	
LANDING AIDS STATUS -----					
16-0600		STM 135 LRD CCN LRD LF1	LRD NCC LSO	MSBLS, TACAN (KSC), PAPI, BALL/BAR AND STROBES ACTIVATED AND READY TO SUPPORT.	
LRD CHECKS -----					
16-0601	-01H55M	LRD 135 ROC	EMS *DCD	VERIFY YOU ARE READY TO SUPPORT RTLS RESCUE/MEDICAL OPERATIONS.  S0028 CTS_____	
PREDEPLOY BRIEFING_____					
CONVOY DEPLOY_____					
TRIAGE SITE HELIPAD_____					
RTLS RUNWAY_____					
16-0602	-01H50M	NTD 232	SRO	PERFORM ER SRSS VERIFICATION TEST.	SU72826



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
IMU GYROCOMPASS ALIGNMENT					
-----					
NOTE					
DO NOT PROCEED WITH IMU GYROCOMPASS ALIGNMENT UNTIL DPS GMT/MET DELTA ADJUST IS COMPLETE. THIS MAY OCCUR OUT OF THE NOMINAL TIMELINE DUE TO AN IUS RIMU ALIGNMENT.					
16-0603	-01H50M	NTD 232	*FLT OTC	VERIFY READY FOR IMU PRE-FLIGHT ALIGN.	SU72827
16-0604	-01H47M	OTC	CGNC	CRT (VABM1/VSB35 PG B) VERIFY IMU GYROCOMPASS ALIGN IN PROGRESS	
FUEL CELL PURGE -----					
16-0605	-01H40M	OTC 212	CFCP	PERFORM FUEL CELL PURGE PER S0007VL4 (SEQ 47) ON OIS CH 153. REPORT COMPLETION.	SU72828
OMRS V45CH0.040					
16-0606		CFCP 212	OTC	FUEL CELL PURGE COMPLETE. OMRSD V45CH0.040	
16-0607	-01H35M	COOS		CRT (VWD73) VERIFY LOMS ENG VLV ON ROMS ENG VLV ON	V43S4575E1 V43S5575E1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CREW MODULE CLOSEOUT OPS					
16-0608	-01H35M	OTC 212	ALL	VERIFY ALL SYSTEMS READY FOR CREW MODULE CLOSEOUT.	SU72785
16-0609	-01H35M	OTC 212	ASP	CLOSE OUT CREW MODULE FOR FLIGHT PER YOUR CHECKLIST. INSPECT CM FOR ANY NON FLIGHT ITEMS. REMOVE AND REPORT ADDITIONAL ITEMS FOUND.	
				1. RCS DRIVER AND OMS ENGINE SWITCHGUARDS	
				2. SWITCHGUARD LOCKS	
				3. SWITCHGUARD KEYS	
				4. VISOR PROTECTORS (1 PER CREW MEMBER)	
				5. FLIGHT DATA FILE STOWAGE BAGS (1 PER CREW MEMBER)	
				6. NST CHECKLIST (1)	
				7. NST PERSONAL EQUIPMENT TRANSFER BAG (1)	
				8. ASP BOOK	
				9. ASP EQUIPMENT TRANSFER BAG (1)	
				10. HUD COVERS (G070-011260-001 1 SET (2 COVERS)	
				11. RHC COVERS (LH AND RH) (2)	
				12. RMS RHC COVER (IF INSTALLED)	
				13. FLT DECK PROTECTIVE FLOORING	
				14. EMERGENCY EGRESS BREATHING DEVICE (EEBD) (2)	
				15. WMC AV BAY 3B PROTECTIVE COVERS (4) (EXCEPT 5 FOR OV-104)	
				16. BUMPER PAD ASSY (ON ESCAPE POLE MAGAZINE)	
				17. AIRLOCK EXTERIOR PROTECTIVE PADS (OV-102 ONLY)	
				18. AIRLOCK HATCH PROTECTIVE COVER (G070-502009-001) (OV-102 ONLY)	
				19. CCTV MONITOR COVER (G070-011312- 004) OR FOAM PAD	
				20. W9 AND W10 STAND-ON COVERS	
				21. A11 PROTECTIVE COVERS (EXCEPT OV-103)	
				22. A15 PROTECTIVE COVERS	
				23. AV BAY 3B GPS PANEL PROTECTIVE COVER (SA-096-086-101) AND LEG SUPPORT PANEL G070- 502030-001 (OV103 AND 105 ONLY)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0609				NOTE	
CON'T				ITEMS 24 AND 28 ARE NOT INSTALLED ON OV-102.	
				24. G076-500301-001 LOCKER BRACKET ASSYS (2)	
				25. G076-500304-001 LOCKER BEAM ASSY (LONG)	
				26. G076-500300-001 MIDDECK PANEL ASSY	
				27. G076-500300-002 MIDDECK PANEL ASSY	
				28. G076-500308-001 LADDER SUPPORT LEG ASSYS (2)	
					TNW: _____
16-0610		ASP 212	OTC	CM/MD INSPECTION COMPLETE. ALL NON FLIGHT ITEMS HAVE BEEN REMOVED.	
16-0611		OTC 212	ASP	VERIFY ASCENT CAMERA CONFIGURATION AND SETUP COMPLETE.	
				LCC ASTRO COMM CHECK -----	
16-0612	-01H35M	OTC A/G1	CDR	VERIFY EACH MEMBER OF FLT CREW READY TO PROCEED WITH ASTRO COMM CHECKS.	SU72786
16-0613		OTC 212	ALL	ANY CONVERSATION ON OIS CH 212 DURING ASTRO COMM CHECK WILL BE HEARD BY CREW. CHANNEL SHOULD REMAIN SILENT EXCEPT FOR EMERGENCY CALLS.	
16-0614		OTC 212	FLT CREW	DURING ASTRO COMM CHECKS ADJUST APPROPRIATE VOLUME CONTROL (A/G-1, A/G 2, ICOM A, ICOM B, A/A) FOR COMFORT. DO NOT CHANGE AUDIO PANEL SW CONFIGURATION.	
16-0615		OTC 212		PERFORM 2-WAY COMM CHECK WITH EACH MEMBER OF FLT CREW ON A/G 1 (OIS CH 212).	
16-0616			OTC	ASTRO COMM-OIS INTERFACE PNL A/G 2 SW - ACTIVE VERIFY A/G 2 ACTIVE LITE ON	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0617		OTC 213		PERFORM 2-WAY COMM CHECK WITH EACH MEMBER OF FLT CREW ON A/G 2 (OIS CH 213).	
16-0618			OTC	ASTRO COMM-OIS INTERFACE PNL A/G 2 SW - MONITOR VERIFY A/G 2 MONITOR LITE ON ICOM-A SW - ACTIVE VERIFY ICOM-A ACTIVE LITE ON	
16-0619		OTC 214		PERFORM 2-WAY COMM CHECK WITH EACH MEMBER OF FLT CREW ON ICOM A (OIS CH 214).	
16-0620			OTC	ASTRO COMM-OIS INTERFACE PNL ICOM-A SW - OFF VERIFY ICOM-A ACTIVE LITE OFF ICOM-B SW - ACTIVE VERIFY ICOM-B ACTIVE LITE ON	
16-0621		OTC 215		PERFORM 2-WAY COMM CHECK WITH EACH MEMBER OF FLT CREW ON ICOM B (OIS CH 215).	
16-0622			OTC	ASTRO COMM-OIS INTERFACE PNL ICOM-B SW - OFF VERIFY ICOM-B ACTIVE LITE OFF UHF SW - ACTIVE VERIFY UHF ACTIVE LITE ON	
16-0623		OTC		PERFORM 2-WAY COMM CHECK WITH EACH MEMBER OF FLT CREW ON A/A (OIS 6311-FR1 OR 6331-FR3).	
16-0624		OTC		ASTRO COMM OIS INTERFACE PANEL UHF SW - MONITOR VERIFY UHF MONITOR LITE ON	
16-0625	-01H30M	OTC 212 OTC 232	CDR NTD	ASTRO COMM CHECKS COMPLETE. ALL PERSONNEL STANDBY FOR AIR TO GROUND VOICE CHECKS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
MCC A/G VOICE CHECKS					
16-0626	-01H30M	NTD 232	*FLT	CONDUCT A/G VOICE CHECKS.	SU72787
16-0627			*FLT CDR A/G1 PLT	CONFIGURE FOR A/G 1 VOICE CHECK.	
16-0628			CDR PLT	PANEL O5 LEFT AUDIO A/G 2 SW - OFF A/A SW - OFF  PANEL O9 RIGHT AUDIO A/G 2 SW - OFF A/A SW - OFF	
16-0629			*FLT A/G1	PERFORM 2-WAY COMM CHECK WITH CDR, PLT ON A/G 1.	
16-0630			*FLT CDR A/G1 PLT	CONFIGURE FOR A/G 2 VOICE CHECK.	
16-0631			CDR PLT	PANEL O5 LEFT AUDIO A/G 2 SW - T/R 1 SW - OFF  PANEL O9 RIGHT AUDIO A/G 2 SW - T/R 1 SW - OFF	
16-0632			*FLT A/G2	PERFORM 2-WAY COMM CHECK WITH CDR, PLT ON A/G 2.	
16-0633			*FLT CDR A/G2 PLT	CONFIGURE FOR A/A VOICE CHECK.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0634		CDR PLT	PANEL O5 LEFT AUDIO	A/A SW - T/R A/G 2 SW - OFF	
			PANEL O9 RIGHT AUDIO	A/A SW - T/R A/G 2 SW - OFF	
16-0635		*FLT UHF		PERFORM 2-WAY COMM CHECK WITH CDR, PLT ON A/A.	
16-0636		*FLT UHF	FLT CREW	CONFIGURE FOR SIMO VOICE CHECK. (LAUNCH CONFIG)	
16-0637		CDR PLT	PANEL O5 LEFT AUDIO	A/G 1 SW - T/R 2 SW - T/R	
			PANEL O9 RIGHT AUDIO	A/G 1 SW - T/R 2 SW - T/R	
16-0638		*FLT UHF A/G1 A/G2		PERFORM 2-WAY COMM CHECK WITH EACH MEMBER OF FLT CREW ON A/G AND A/A SIMO. VERIFY D/L VOICE ON A/G 1, A/G 2 AND UHF.	
				OMRSD S00FG0.050-1R	
16-0639		*FLT 212	NTD	A/G VOICE CHECKS COMPLETE.	
16-0640		NTD 232 OTC	OTC ALL	ASTRO COMM VOICE CHECKS COMPLETE. OIS CH 212 IS AVAILABLE FOR NORMAL USE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
RE-BOOT SPA/CLEAR SPOOLER -----					
16-0641		LPS NTD PA	NTD OTC TBC PTC	SPA WILL BE RE-BOOTED TO CLEAR SPOOLER. SPA WILL BE OUT OF OPERATION FOR APPROX 3 MINUTES.	
16-0642		LPS	CPDR	PERFORM SPOOLER CLEAR OPERATION.	
16-0643		LPS 232 NTD	NTD PTC	REQUEST CONCURRENCE FROM PAYLOAD TEST CONDUCTOR TO INHIBIT HIM 6880 AT L-15M. RECORD CONCURRENCE/ NON-CONCURRENCE _____.	
CONTROLLABILITY LIGHT TEST -----					
16-0644	-01H30M	NTD 232	SRO *FLT	PERFORM CONTROLLABILITY LIGHT TEST.	SU72829
16-0645		SRO 232	NTD	CONTROLLABILITY LIGHT TEST COMPLETED SATISFACTORILY.	
CLEAR SLF -----					
16-0646	-01H30M	LRD 135	*SEC	COMMENCE CLEARING OF SLF (SEE FIG 6,) (1 HR).	SEC SU72830
16-0647	-01H30M	*SEC 135	LRD	SLF CLEAR OF NONESSENTIAL PERSONNEL.	SEC

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				ASP/NST1 - EGRESS FROM CREW ----- MODULE -----	
				NOTE	
				NEXT THREE STEPS WILL TERMINATE COMM BETWEEN ASP AND CONTROL ROOM, POWER UP MIDDECK CAMERAS (IF INSTALLED) AND POWER DOWN FUEL CELL MEASUREMENT SYSTEM (FCMS).	
16-0648		ASP	PANEL A15 PS COMM CCU PWR SW - OFF	DISCONNECT COMM CABLE FROM PANEL A15	
16-0649		OTC ASP	PANEL MO58F TV PWR SW - ON	NOT PERFORMED	
16-0650		ASP	PANEL ML86B ROW D MN A PYRO JETT SYS A FC PCM CB - OPEN		SU72838
16-0651	-01H25M	OTC ASP	EGRESS CREW MODULE. VERIFY 212 NST1 READY FOR HATCH CLOSURE. OVCC		
16-0652		OTC NTD	READY FOR HATCH CLOSURE. 232		



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0653		CISL 136	TBC	SRM CHAMBER PRESSURE VERIFICATION (SEQ 38) COMPLETE.  SPA SPOOLER CLEAR IS COMPLETE	SU72819
16-0654		LPS NTD 232 PA	NTD OTC TBC PTC	SPA SPOOLER CLEAR COMPLETE. SPA IS AVAILABLE FOR NORMAL RETRIEVAL OPERATIONS.  KSC CONVOY PREP	
16-0655	-01H20M	NCC CCN	LRD	KSC CONVOY READY TO PROCEED WITH LANDING/CONVOY OPERATIONS (S0028).	
16-0656		LRD CCN	NCC	RTL5 RESCUE/MEDICAL OPERATIONS READY TO SUPPORT LANDING. SECURITY CLEARED SLF OF ALL NONESSENTIAL PERSONNEL.	
16-0657		NCC CCN LRD 135  STM NET 104	LRD  ROC EMS STM FSTM	VERIFY LANDING PERSONNEL WILL BE ON SITE IN 30 MINUTES TO SUPPORT PRE-DEPLOYMENT BRIEFING.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM G9 LAUNCH POLYNOMIAL/  
 TARGET UPDATE IF LAUNCH  
 POLYNOMIAL UPDATE OR LAUNCH  
 TARGET LOADS ARE REQUIRED.

G9 LAUNCH POLYNOMIAL/TARGET UPDATE  
 -----

NOT PERFORMED \_\_\_\_\_

NOTE

LAUNCH POLYNOMIAL UPDATES CAN  
 BE PERFORMED ANY TIME PRIOR  
 TO BFS ONE SHOT TRANSFER.

16-0658	-01H20M	*FLT	NTD	LAUNCH POLYNOMIAL OR TARGET UPDATE REQUIRED.	SU72831
16-0659		NTD	*FLT 232	CONFIGURE FOR TWO STAGE COMMAND MANUAL EXECUTE.	
16-0660		*FLT	NTD NTD CVFS 232	VERIFY READY TO RECEIVE UPLINK.	
16-0661			CVFS	CURSOR CNTL (SAS10 PGB) FSW DISPLAY SELECT MENU (SDS13) XMIT CURSOR KEY - PRESS	
16-0662			CVFS	CURSOR CNTL (SAS10 PGB) UPLINK MONITOR (VWS14) XMIT CURSOR KEY - PRESS	
16-0663		*FLT	NTD CVFS	STARTING ADDRESS FOR DOWNLIST DUMP:  GMT L/O: _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT THREE STEPS IF  
 LAUNCH POLYNOMIAL UPLINK  
 IS REQUIRED.

NOTED REQUIREMENT IS SATISFIED  
 BY THE FOLLOWING STEPS.

OMRS S00FF0.250-A

16-0664		NTD 232	*FLT	PERFORM AND VERIFY LAUNCH POLYNOMIAL UPLINK.	
				NOT PERFORMED	_____
16-0665		*FLT CVFS	NTD	LAUNCH POLYNOMIAL UPLINK COMPLETE.	
				NOT PERFORMED	_____
16-0666				NOTED REQUIREMENT COMPLETE.	
				OMRSD S00FF0.250-A	
				NOT PERFORMED	_____

NOTE

PERFORM NEXT TWO STEPS  
 IF LAUNCH DESIGNED TO  
 ESTABLISH RENDEZVOUS  
 CONDITIONS.

16-0667		NTD	*FLT	PROCEED WITH TRANSMISSION OF LAUNCH TARGET COMMANDS.	
				NOT PERFORMED	_____
16-0668		*FLT	NTD	LAUNCH TARGET UPLINK COMPLETE.	
				NOT PERFORMED	_____
16-0669		NTD 232	*FLT	RECONFIGURE FOR TWO STAGE COMMAND AUTO COMPARE AND EXECUTE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF PERFORMING LAUNCH  
 POLYNOMIAL UPDATE, NOTED  
 REQUIREMENT IS SATISFIED BY  
 COMPLETION OF FOLLOWING STEPS.

OMRS S00FF0.250-B

IF PERFORMING LAUNCH TARGETING  
 UPDATE, NOTED REQUIREMENT IS  
 SATISFIED BY COMPLETION OF  
 FOLLOWING STEPS.

JSC REQUEST NO. J3877

16-0670		NTD 232	*FLT	D/L DUMP TO BEGIN MOMENTARILY. VERIFY READY TO RECEIVE DUMP DATA.	
16-0671		CVFS 232 NTD	NTD OTC	A MOMENTARY LOSS OF DOWNLIST WILL OCCUR. VERIFY READY FOR DOWNLIST LOSS.	
			TBC PTC LPS		

NOTE

IF IMU ATT DET OR PREFLT  
 ALIGNMENT IS IN PROGRESS,  
 PERFORM NEXT STEP TO GET  
 GNC CONCURRENCE PRIOR TO  
 INITIATING GPC DOWNLIST  
 DUMP.

16-0672		CVFS 232 NTD OTC 132	NTD OTC CGNC	VERIFY READY FOR GPC DOWNLIST DUMP. DOWNLIST DATA WILL BE LOST FOR 2 TO 3 SECONDS.	
					NOT PERFORMED
16-0673		NTD 232	CVFS	PROCEED WITH GPC DOWNLIST DUMP.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0674		CVFS		CONSOLE KYBD VWS14 (UPLINK MONITOR) GUIDANCE POLYNOMIAL OR LAUNCH TARGETING XMIT CURSOR KEY - PRESS	
16-0675		CVFS		APPLICATION PAGE (VWS14 PGB) PFK 7 KEY - PRESS (DOWNLIST DUMP)	
16-0676		CVFS		FOLLOW PROGRAM PROMPTS START ADDRESS IS _____.	
16-0677		CVFS	NTD	DOWNLIST DUMP COMPLETE.	
16-0678		NTD	*FLT	VERIFY DOWNLIST DUMP DATA RECEIVED.	

NOTE

PERFORM NEXT TWO STEPS AND  
 REPERFORM PREVIOUS THREE  
 STEPS IF ADDITIONAL DOWNLIST  
 DUMPS ARE REQUIRED OR IF  
 I-LOAD DATA NOT RECEIVED  
 AND VERIFIED AT JSC.

16-0679		*FLT	NTD	READY TO RECEIVE DOWNLIST DUMP.	NOT PERFORMED _____
16-0680		CVFS		PFP (VWS14) PFPK5 KEY - PRESS (DOWNLIST DUMP)	NOT PERFORMED _____
16-0681		*FLT	NTD	MCCH I-LOAD OR TARGET LOAD	
		NTD	CVFS	VERIFICATION COMPLETE.	
				232	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0682				PERFORM FOLLOWING:	
				1. IF A LAUNCH POLYNOMIAL UPLINK WAS PERFORMED, NOTED REQUIREMENT COMPLETE.	
				OMRSD S00FF0.250-B	
				NOT PERFORMED	SS1
				2. IF A LAUNCH TARGET UPLINK WAS WAS PERFORMED, NOTED JSC REQUIREMENT COMPLETE.	
				JSC REQUEST NO. J3877	
				NOT PERFORMED	SS2
16-0683				CVFS PFP (VWS14) PFPK2 - PRESS (RETURN)	
16-0684				CVFS APPLICATION PAGE (VWS14 PGB) PFK15 KEY - PRESS (TERMINATE)	
16-0685				CVFS APPLICATION PAGE (SAS10 PGB) PFK 2 KEY - PRESS	SU72831
				G9 LAUNCH POLYNOMIAL/TARGET UPDATE ----- COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0686	-01H20M	NTD 232 STM 111 JSTC 114	*SEC STM JSTC GSPN	PERFORM FINAL CCF SWEEP AND SECURE ROADBLOCK A/B-10 AND REPORT COMPLETION.	SEC PNU SU72796 SU72832

NOTE

PERFORM NEXT THREE STEPS  
 IF LEEWARD VENT DOORS 1  
 AND 2 NOT OPEN.

16-0687		OTC 212	CPVD	OPEN ORBITER VENT DOORS 1 AND 2 ON LEEWARD SIDE.	
				NOT PERFORMED	_____

16-0688			CPVD	CURSOR CNTL (VAM31A/VAM09A) VENT DOORS 1 AND 2 (LEEWARD) OPEN TARGET XMIT CURSOR KEY - PRESS	
				NOT PERFORMED	_____

16-0689			CPVD OTC	LEEWARD VENT DOOR OPENING COMPLETE.	
				NOT PERFORMED	_____

HATCH CLOSURE

16-0690	-01H20M	OTC 212	OVCC	CLOSE/LATCH INGRESS/EGRESS HATCH FOR FLIGHT PER ORBITER OPERATION SUPPORT SETUP 20. (10 MIN)	SU72789
				ER CMD CARRIER TEST	

16-0691	-01H20M	NTD 232	SRO	PERFORM ER OPEN LOOP AUTOMATIC COMMAND CARRIER CONTROL VALIDATION TESTS.	SU72833
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ER HOLD FIRE CHECKS -----					
NOTE					
PERFORM NEXT STEP AT L-02H00M (STS-93).					
16-0692	-01H10M	NTD 232	SRO	PERFORM ER HOLD FIRE INDICATION CHECKS PER A2811. REPORT COMPLETION.	SU72834
OMRSD P018JC.010					
FINAL COLA UPDATE -----					
16-0693	-01H10M	NTD 232	SRO	PROVIDE FINAL COLA UPDATE LAUNCH.	SU72835
COLA 1 _____ Z TO _____ Z					
COLA 2 _____ Z TO _____ Z					
COLA 3 _____ Z TO _____ Z					
HATCH - CLOSED -----					
16-0694	-01H10M	OVCC OTC 212 232 NTD NET 105	OTC	HATCH CLOSED AND LATCHED FOR CECL FLIGHT. (ORB OSSU 20)	SU72789
16-0695		OTC 212	CMQC	VERIFY ORBITER OPERATION SUPPORT SETUP 2, PART C, COMPLETE (ORB STRUCTURAL CONFIGURATION FOR LAUNCH).	SU72791
OMRS V00I00.030					



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CABIN LEAK CHECK -----					
16-0696	-01H10M	OTC 212	CDR CECL	STANDBY TO PERFORM CABIN LEAK CHECK. MASTER ALARM AND LIGHT WILL COME ON AS A FUNCTION OF HIGH CABIN PRESSURE (CDR SHOULD NOTIFY CECL OF CABIN PRESSURE MASTER ALARM) CABIN KLAXON/ MASTER ALARM WILL ALSO SOUND DUE TO HIGH CABIN DECAY RATE (DURING CAP INSTALLATION) RESET MASTER ALARMS.	SU72790
16-0697		OTC	CDR	PANEL L2A1 CABIN VENT VENT ISOL SW - OPEN UNTIL VENT ISOL TB OP VENT TB CL	L2A1S3 L2A1DS3 L2A1DS4
16-0698			CECL	CRT (VAG29 PG B)  VERIFY  CAB VENT - PCL ISOL - POP	V61X2045E1
NOTE					
DURING ORB CABIN LEAK CHK, MASTER ALARM AND LIGHT WILL COME ON AS A FUNCTION OF HIGH CABIN PRESSURE (CDR SHOULD NOTIFY CECL OF CABIN PRESSURE MASTER ALARM) CABIN KLAXON/ MASTER ALARM WILL ALSO SOUND DUE TO HIGH CABIN DECAY RATE (DURING CAP INSTALLATION) RESET MASTER ALARMS. MASTER ALARMS MAY ALSO OCCUR IF EITHER PP02 SENSOR A OR B GOES ABOVE 3.6 PSIA. CECL WILL VERIFY CAUSE OF MASTER ALARMS.					
16-0699		OTC 212	CECL OMTO	PERFORM CREW MODULE PRESSURIZATION AND INITIAL CABIN 2 PSID LEAK CHECK PER S0007VL4 (SEQ 45 OPTION D) ON OIS CH 143.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DURING ORB CABIN LEAK  
 CHECK CABIN AIR SUPPLY  
 PANEL C70-1226-2 AT  
 215 FT LVL WILL SHOW  
 PRESSURE DROP FOR  
 APPROXIMATELY 10 MIN.

16-0700		OTC 232 NTD STM 111	NTD CREW MODULE O2N2 PRESSURIZATION AND INITIAL CABIN LEAK CHECK WILL BEGIN JBPN AT THIS TIME.		PNSA
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IMU GYROCOMPASS ALIGNMENT COMPLETE  
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16-0701	-01H05M	CGNC 212 OTC 232	OTC IMU GYROCOMPASS ALIGNMENT COMPLETE. IMU'S IN ALIGNMENT MAINTENANCE MODE.		SU72827
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OMRSD V71AD0.050-1R

GLS INITIALIZATION COMPLETE  
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16-0702	-01H00M	CGLS 212	OTC GLS INITIALIZATION COMPLETE.		SU72821
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16-0703		LPS	C1MC PERFORM \$FEPCPR, DEMAND UPDATE ON OIA, GPCA AND PLDA FEPS. TERM \$FEPCPR AT COMPLETION OF DEMAND UPDATE.		
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16-0704		LPS	C2MC VERIFY MNT TECH ON STATION TO SUPPORT PP1 AND PP2 THRU TERMINAL COUNT.		
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0705	-01H00M	NTD 232 *SCC NET 105	*SCC *PSE	VERIFY EOD PERSONNEL ON SITE AT A/B-11 ROADBLOCK.	
16-0706		NET 105 *SCC 232	*PSE *SCC NTD	EOD PERSONNEL ON SITE AT A/B-11 ROADBLOCK.	
16-0707	-01H00M	STM 111 JSTC 114	PSTM JSTC JFIR	SUPPORT PERSONNEL FOR POST LAUNCH INSPECTION/SAFING WILL ASSEMBLE AT COMPLEX J BY T-30 MIN. (30 MIN)	JSTC COMM WSSA JFIR
OIS SUPPORT CREW -----					
16-0708		GYCC 117	JYCJ	DISPATCH 2 OIS TECHS TO CX-J FOR POST LAUNCH SUPPORT. (ALL TECHNICIANS MUST HAVE CURRENT RED CREW CERTIFICATION.)	COMM
HAZARDOUS FALLOUT ANNOUNCEMENT -----					
16-0709		GYCC 117	GYCJ JYCJ	PROVIDE "HAZARDOUS FALLOUT" ANNOUNCEMENT TO ALL AREAS ON "ALL AREA" PAGING SYSTEM.	COMM
16-0710		GYCJ JYCJ 117	GYCC	"HAZARDOUS FALLOUT" ANNOUNCEMENT COMPLETE.	COMM
16-0711	-01H00M	LSO LF1	LRD	RTLS LANDING WILL BE ON RUNWAY _____. (15 OR 33)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP AT DISCRETION  
 OF LRD BASED ON PREDICTED RTLS  
 RUNWAY.

16-0712	-01H00M	LRD 135	BRD	DEPLOY SRB RECOVERY SHIPS TO 33 POSITION.	
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NOT PERFORMED \_\_\_\_\_

16-0713	-01H00M	LRD 231	*WEA	REQUEST 8 HOUR WEATHER FORECAST FOR SLF.	
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TIME \_\_\_\_\_

PCT PRECIP \_\_\_\_\_

PCT LIGHTNING \_\_\_\_\_

WINDS \_\_\_\_\_ KTS DIR \_\_\_\_\_

NOTE

PERFORM NEXT STEP IF WEATHER  
 FORECAST INDICATES POTENTIAL  
 RAIN EXPOSURE OR IF PREFERRED  
 FOR NEXT FLOW PROCESSING.

16-0714		NCC CCN LRD LF1	LRD LSO	POSITION SSME'S IN RAIN DRAIN POST LANDING.	
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NOT PERFORMED \_\_\_\_\_

16-0715		VCMP JCTL 111 STM 232	JCTL NTD	ALL VAB HIGHBAY AND TRANSFER AISLE DOORS CLOSED.	CDPA
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0716		NCC CCN	LRD	REPORT SURFACE WIND DIRECTION, WIND VELOCITY AND DEW POINT.  _____ DEGREES  _____ KNOTS  _____ DEW POINT F	
NOTE					
ALL TIME CALLOUTS IN THIS OMI WILL BE IN MINUTES AND SECONDS FROM THIS POINT ON IN THE PROCEDURE.					
FLIGHT CREW FUNCTIONS WILL BE INITIATED BY CALL FROM OTC TO CREW. FLIGHT CREW WILL REPORT COMPLETION OF FUNCTION.					
S-BAND SYS HI PWR/FM ACTIVATION -----					
NOTE					
OIS/GPCS/PLDS FEPS MAY GO NO GO DURING HI PWR/FM ACTIVATION.					
16-0717		NTD 232 OTC 212	OTC	SUPPORT S-BAND TO HIGH POWER ON CH 232.	SU72801
16-0718	-55M00S	NTD 232	*FLT *MIL	PERFORM S-BAND SYSTEM TO HIGH POWER/FM ACTIVATION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0719		NTD 232	*FLT	TRANSMIT DSM 4724 (PREAMP 2 ON).	V74K3073
			CCSE	VWA40 VERIFY PREAMP-2 ON	V74X4777E
16-0720		NTD 232	*FLT	TRANSMIT DSM 4756 (S-BAND PWR AMPL OPR-2 ON).	V74K3065
			CCSE	VWA40 VERIFY PWR AMP-2 ON	V74X4785
NOTE					
S-BAND PA 2 WILL NOT OUTPUT UNTIL STDN HIGH MODE IS COMMANDED.					
16-0721		NTD 232	*FLT	TRANSMIT DSM 4734 (S-BAND MODE - STDN HIGH).	V74K3102
			CCSE	VWA40 VERIFY: XPNDR MODE - STDN HI PWR AMP _____ WATTS (100W NOMINAL)	V74X4788E V74E4513A

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0722			CCSE	VWA40 VERIFY: FRAME SYNC LOCKED  AGC _____ (BD)  SPE _____ (BD)	
16-0723		NTD	*FLT	TRANSMIT DSM 4780 (S-BAND FM SYSTEM-POWER 1 - ON).	V74K3145U
			CCSE	VWA40 VERIFY: OI XMTR-1 ON  _____ WATTS (RECORD) FM SP SRCE-ME DATA	V74X6120  V74X4801E
16-0724		NTD	*MIL	VERIFY FM CARRIER + ME MODULATION	
16-0725		NTD	RCRT	PERFORM FOLLOWING:  1. 8232 A4 (NB OI RCVR) CARRIER IND LITE ON  2. 8223 A6 (PATCH PNL) PATCH S-BAND FM OI VIDEO 1 (J237) TO WBTS LINE 2 (J19-C&T NO. 1 OR J26-C&T NO. 2)	

T: \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				S-BAND HIGH POWER/FM ACTIVATION - ----- COMPLETE -----	
16-0726		CCSE 232	NTD	S-BAND SYSTEM TO HIGH POWER/FM ACTIVATION COMPLETE. FEP RF *FLT SOURCE VERIFICATION CAN BE *MIL PERFORMED. RCRT OTC	
				RF FEP SOURCE VERIFICATION -----	
16-0727		NTD 232	JRPS	VERIFY RF MAIN ENGINE DATA, FROM MILA, BEING RECORDED ON MAG TAPE RECORDER AND CONFIGURED TO FR FEED. VERIFY FRAME SYNC LOCK ON MAIN ENGINE 60 KBS DATA.	SU72803
				NOTE  DURING RF FEP SOURCE VERIFICATION, MAIN ENGINE, DATA WILL BE MOMENTARILY INVALID, WITH ASSOCIATED FEPS IN NO GO. ME MODULATION MUST HAVE BEEN APPLIED TO S-BAND FM SIG BY *FLT/CCSE BEFORE PROCEEDING WITH NEXT STEP.	
16-0728	-55M00S	NTD 232	OTC	PERFORM RF FEP SOURCE LPS VERIFICATION ON CH 128 JRPS PER S0007VL4 (SEQ 70). OTC CCME REPORT COMPLETION. 212	
16-0729		LPS	JRPS	CONFIGURE 505A1 (A7, A8, A9) BIT SYNCs TO SOURCE 2 MANUAL MODE, SOURCE 2, 60KB.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0730		LPS		AT LOCAL RCVS, CONFIGURE GPCS, OIS AND PLDS FEPS TO JSC OD DATA ON SOURCE 2 (6TVM4096/1TVM4097/6TVM4648) AND VERIFY GOOD LOCK. RETURN TO MILA DATA (6TVM1726/6TVM4649) UPON COMPLETION OF GOOD JSC OD DATA CHECKOUT.	

NOTE

PERFORM NEXT THREE STEPS FOR VARIABLE WINDOW MISSIONS REQUIRING L-1H30M WINDOW UPDATE.

16-0731		*FLT NTD 232		LAUNCH WINDOW INFORMATION UPDATE:	
		NTD	CGLS	WINDOW OPENS _____ GMT	
			SRO		
		LRD		PREFERRED LAUNCH _____ GMT	
				WINDOW CLOSE _____ GMT	
				LAUNCH T-0 AT PREFERRED LAUNCH TIME:	
				PREFERRED PANE 1 CLOSE _____ GMT	
				PREFERRED PANE 2 OPEN _____ GMT	
				PREFERRED LOX DRAINBACK ___ MIN ___ SEC	
				LAUNCH T-0 AT WINDOW OPEN TIME:	
				WINDOW OPEN PANE 1 CLOSE _____ GMT	
				WINDOW OPEN PANE 2 OPEN _____ GMT	
				WINDOW OPEN LOX DRAINBACK ___ MIN ___ SEC	

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0732		LRD 135	SCO	PREFERRED LAUNCH TIME IS _____ GMT. UPDATE PREFERRED RETRIEVAL SHIP COORDINATES.	
				NOT PERFORMED	_____
16-0733		SCO 135	LRD	UPDATED PREFERRED RETRIEVAL SHIP COORDINATES ARE AS FOLLOWS:  RH SRB _____  LH SRB _____	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ACID DEPOSITION ----- WEATHER BRIEFING -----					
NOTE					
DO NOT PERFORM NEXT TWO STEPS IF WEATHER CONDITIONS HAVE NOT CHANGED SINCE LAST BRIEFING.					
16-0734	-50M00S	STM 163 221	CBSE	VERIFY READY FOR ACID DEPOSITION WEATHER BRIEFING ON OIS CH 131. *SCC	NOT PERFORMED _____
16-0735	-50M00S	STM 131	EEC	PERFORM ACID DEPOSITION WX BRIEFING.	NOT PERFORMED _____
16-0736	-50M00S	SRO 232	NTD	ER SRSS VERIFICATION COMPLETE.	
ER CARRIER OFF -----					
16-0737	-50M00S	SRO 232	NTD	ER COMPLETE WITH OPEN LOOP AUTOMATIC COMMAND CARRIER CONTROL VALIDATION TEST, ER CARRIER OFF.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
TERMINAL COUNT SRSS CLOSED					
-----					
LOOP TEST					
-----					

NOTE

ER CARRIER MUST BE OFF  
 PRIOR TO PERFORMING TERMINAL  
 COUNT CLOSED LOOP TEST.

16-0738	-50M00S	TBC 232 NTD	NTD LPS	REQUEST LPS AND FCA ON OIS CH 175 TO SUPPORT CBRS.	SU72805
16-0739		NTD 232	SRO RSR	VERIFY READY TO SUPPORT TERMINAL COUNT CLOSED LOOP TEST.	
16-0740		NTD 232 TBC 136	TBC CBRS	PERFORM TERMINAL COUNT SRSS CLOSED LOOP TEST (SSRB4).	
16-0741		CBRS 175	RSRT	RANGE SAFETY REMOTE TECH SUPPORT REQUIRED THRU SRB SEPARATION. RSRT WILL SUPPORT AS FOLLOWS AND REPORT ANY VIOLATION TO CBRS ON CH 175.	

1. MONITOR RANGE SAFETY RF SIGNAL STRENGTH ON RACK 8234. SIGNAL SHOULD BE .2V +/- .1V DURING RANGE SAFETY TERMINAL COUNT CLOSED LOOP TEST. WHEN RANGE CARRIER APPLIED LEVEL SHOULD BE GREATER THAN 2.1V AND REMAIN CONSTANT TILL T-0. AFTER LIFTOFF SIGNAL LEVEL WILL VARY WITH VEHICLE TRACKING.
2. MONITOR RANGE SAFETY RACK 8234 TO ENSURE ARM AND FIRE LIGHTS OFF THRU SRB SEPARATION.
3. MONITOR RANGE SAFETY AUDIO AND REPORT ANY TYPE OF MODULATION.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0741 CON'T				4. VERIFY VCR'S AND STRIP CHARTS OPERATIONAL THRU SRB SEPARATION.	
				5. RACK 8234 PANEL A5 (STRIPCHART) - START	
					T:_____
16-0742		CBRS FCA		REQUEST SUPPORT THRU T-0 FOR MONITORING RANGE SAFETY CARRIER FREQUENCY. REPORT ANY ANOMALOUS SIGNALS OR MODULATION TO CBRS ON OIS CH 175.	
16-0743		CBRS LPS 175 LPS C2MC 127		PLACE P/P2, UNITS 1 AND 2 ON LINE PER OMI S9002VL16.	
16-0744		CBRS LPS 175 LPS NTD 232		SPA SUPPORT REQUIRED FOR RANGE SAFETY RETRIEVAL.	
16-0745		CBRS TBC 136 TBC NTD 232 NTD PA		ATTENTION IN FR-____:  ALL CONSOLE OPERATORS ARE REQUESTED TO REFRAIN FROM CALLING UP SPA RETRIEVALS UNTIL RANGE SAFETY CHECKS ARE REPORTED COMPLETE.	
16-0746		CBRS LPS 175 LPS CPDR 127		REQUEST THREE TCB'S AVAILABLE IN SPA TO SUPPORT TERMINAL COUNT CLOSED LOOP TEST.	
16-0747			CBRS	CURSOR CNTL (SWRB2) ACTIVATE PRINTER/PLOTTERS - XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0748		LPS 127	CLDB	PERFORM TAPE SWITCH AT LDBM IF NORMAL TAPE SWITCH HAS NOT OCCURRED WITHIN LAST 5 MINUTES.  NOT PERFORMED	_____
16-0749		LPS 127	CLDB	CONFIGURE LDBM SUBSYSTEM TO RECORD IN DUAL ACCEPT MODE. REPORT COMPLETION.	
16-0750		CBRS		CRT (SWRB2) VERIFY MAJOR TEST PSEUDO S0007	
16-0751		CBRS		CURSOR CNTL (SWRB3) SSRB4 XMIT CURSOR KEY - PRESS SPA ON XMIT CURSOR KEY - PRESS	
16-0752		CBRS	CBP1	VERIFY RECEPTION OF ARM COMMANDS. (SHOULD BE 4 PULSES)	
16-0753		CBRS	CBP1	VERIFY RECEPTION OF FIRE COMMANDS. (SHOULD BE 4 PULSES)  SRSS DATA RETRIEVAL -----	
NOTE					
DO NOT PERFORM NEXT STEP IF ARM AND FIRE COMMANDS ARE VERIFIED ON PRINTER PLOTTERS.					
16-0754		CBRS 175 LPS 127	LPS CLDB	PERFORM SRSS DATA RETRIEVAL ON LDBM SYSTEM FOR TIME DURATION PROVIDED BY CBRS. REPORT COMPLETION.  ARM START _____ FIRE STOP _____	_____
NOT PERFORMED					
16-0755		LPS 127	CLDB	CONFIGURE LDBM TO RECORD IN DUAL REJECT MODE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ER CARRIER ON -----					
CAUTION					
DO NOT BRING UP ER RANGE SAFETY CARRIER UNTIL REQUESTED BY CBRS.					
NOTE					
NEXT TWO STEPS ARE TO BE PERFORMED NO LATER THAN T-30M00S.					
16-0756	-45M00S	CBRS 136 TBC 232 NTD	TBC NTD SRO	REQUEST ER BRING UP RANGE SAFETY CARRIER.	SU72807
16-0757		SRO 232 NTD TBC TBC 136	NTD TBC CBRS	ER CARRIER SUPPORTING.	
16-0758			CBRS	CURSOR CNTL (SSRB4) RANGE CARRIER ON - XMIT CURSOR KEY - PRESS	
16-0759		CBRS 136	TBC	TERMINAL COUNT CLOSED LOOP RANGE SAFETY TEST COMPLETE. S&A DEVICES IN SAFE POSITION.  OMRSD S00FH0.031-1	
16-0760		TBC 232 NTD	NTD *SCC	SRSS CLOSED LOOP TEST COMPLETE. S&A DEVICES IN SAFE POSITION.	
16-0761		CBRS 175 LPS 232	LPS NTD	SPA SUPPORT FOR SRSS TEST NO LONGER REQUIRED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0762		NTD PA		ATTENTION IN FR____:  SPA NOW AVAILABLE FOR NORMAL RETRIEVAL OPS.	
NOTE					
PERFORM NEXT EIGHT STEPS AFTER JSD OD DATA CHECKOUT COMPLETE.					
OIS, GPCS AND PLDS FEP TABLE RELOAD					
16-0763		NTD 232	LPS	INHIBIT DATA PROCESSING ON OIS, GPCS AND PLDS FEPS. RELOAD WITH \$FEPCPR TABLES. REPORT COMPLETION.	
16-0764		LPS	C1MC	I-RS OIA I-RS GPCA I-RS PLDA	
16-0765		LPS	C1MC	I-DA OIS I-DA GPCS I-DA PLDS	
16-0766		LPS	C1MC	\$FLAI OIS, GPCS AND PLDS WITH CHECK POINTED TABLES. (\$FLAI, XXXX, CKPT)	
16-0767		LPS	C1MC	VIA AWP01, FORCE OIS, GPCS AND PLDS FEPS TO SOURCE 2, 192 KB DATA.	
16-0768		LPS	C1MC	A-DA OIS A-DA GPCS A-DA PLDS	
16-0769		LPS	C1MC	A-RS OIA A-RS GPCA A-RS PLDA	
16-0770		LPS 232	NTD	DATA PROCESSING HAS RESUMED. OIS, GPCS AND PLDS FEPS RELOADED WITH CHECK POINTED TABLES AND RETURNED TO RF SOURCE.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0771		LPS	JRPS	DISCONNECT PAD HARD LINE DATA FROM MER CIRCUIT AND CONNECT 192 KB JSC OD DATA (SKR) (6TVM4096/97/6TVM4648).	
16-0772		LPS	JRPS	VERIFY KMTS 0505A2 (A6) BIT SYNC INDICATING 192KB AND LOCKED ON SIGNAL.  GLS MAINLINE ACTIVATION -----	
16-0773	-45M00S	OTC 212	CGLS	PERFORM GLS MAINLINE ACTIVATION. REPORT WHEN COMPLETE.	SU72809
16-0774			CGLS	CONSOLE KYBD SELECT APP PG 3B - PRESS  CRT MS/ML DISPLAY	
16-0775			CGLS	CURSOR CNTL INITIATE MAINLINE XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF REQUIRED  
 TO SELECT GLS PRESEQUENCER  
 BYPASSES (AS APPLICABLE) FROM  
 FOLLOWING LIST.

16-0776

CGLS SELECT APP PG 4B  
 CRT  
 SELECT GLS FUNCTIONS TO BYPASS  
 CONSOLE KYBD (SGPO2)  
 XMIT CURSOR KEY - PRESS

FUNCTION	BYPASS
-----	-----
VENT DOOR 4/7 OVERRIDE	_____
BRS LIMIT CHANGE	_____
ONE SHOT DATA TRANSFER	_____
T-20 MIN AUTO HOLD	_____
OPS TRANSITION	_____
SEND GMTLO	_____
GPC DUMP AND COMPARE	_____
SLPA0, SLPA1 PERFORMS	_____
RF SWITCH SELECT	_____
SINGLE SHOT VERIFY	_____
T-9 MIN AUTO HOLD	_____
BYPASS ALL	_____

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0777		CGLS		CONSOLE KYBD (SGPO2) PFFPK7 - PRESS PFFPK4 - (SGPO2) - PRESS PFFPK2 (PROCEED) - PRESS  CRT (SPGO2)  GLS MAINLINE ACTIVE MESSAGE	
16-0778		CGLS		PFFPK7 - PRESS VERIFY - SGPO2 ACTIVE IN TASK 4	
16-0779		CGLS	OTC	GLS MAINLINE ACTIVATION COMPLETE. 212  INITIAL CABIN LEAK CHECK COMPLETE -----	
16-0780	-45M00S	CECL	OTC	CREW MODULE PRESSURIZATION AND 212 INITIAL CABIN INTEGRITY CHECK COMPLETE, PROCEED WITH CABIN VENT REDUNDANCY CONFIGURATION.	SU72790
16-0781		OTC	NTD	CREW MODULE PRESSURIZATION 232 AND INITIAL CABIN INTEGRITY NTD STM CHECK COMPLETE. CABIN STM JBPN AIR SUPPLY PANEL C70-1226-2 111 (215 FT LVL) SHOULD SHOW NORMAL READINGS AT THIS TIME.	PNSA

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- CABIN VENT REDUNDANCY CONFIGURATION -----					
NOTE					
THE NEXT STEP MAY OCCUR EARLIER OR LATER AT CECL DIRECTION.					
16-0782	-45M00S	OTC 212	CDR	PERFORM CABIN VENT REDUNDANCY CONFIGURATION.	SU72792
16-0783			CDR	PANEL L2A1	
				1. VENT ISOL SW - CLOSE UNTIL VENT ISOL TB CL	L2A1S3  L2A1DS3
				2. VENT SW - OPEN UNTIL VENT TB OP	L2A1S4  L2A1DS4
16-0784		CDR OTC	OTC	CABIN VENT REDUNDANCY CONFIGURATION CECL COMPLETE.	
DPS LCD SEQ ACTIVATION -----					
16-0785	-45M00S	OTC 212	CDPS	PERFORM DPS LAUNCH COUNTDOWN SEQUENCE ACTIVATION.	SU72811
16-0786			CDPS	CURSOR CNTL (SAS01 PG B) DPS INIT DISPLAY (SAS01) XMIT CURSOR KEY - PRESS	
				CURSOR CNTL (SAS01 PG B) TERMINATE OPS MGR 5 (SAS25) XMIT CURSOR KEY - PRESS PFK2 KEY - PRESS	
16-0787			CDPS	CONSOLE KYBD VASJ6 PERF PGM KEY - PRESS	
16-0788			CDPS	CRT (VASJ6 PG B)	
				VERIFY ALL FC AND PL BSR'S ARE ZERO.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.																
16-0789		CDPS		APPL PAGE (VASJ6 PG B) PFK1 - PRESS (BSR READ CONTINUE) PFK1 - PRESS (NO NBAT UPDATE)  CRT (VASJ6 PG B)  VERIFY MSG "WAITING FOR GO FOR ONESHOT"																	
16-0790		CDPS	OTC	DPS LAUNCH COUNTDOWN SEQUENCE ACTIVATION COMPLETE.  GLS PRE-SEQUENCING START -----																	
16-0791	-40M00S	CGLS		PFPK7 - PRESS VERIFY SGPR2 ACTIVE IN TASK 5  TRIAGE SITE DETERMINATION -----																	
16-0792	-40M00S	NTD	CBSE 232	DETERMINE PREFERRED TRIAGE SITE FOR REMAINDER OF LAUNCH PERIOD AND REPORT DETERMINATION.  <table border="1"> <thead> <tr> <th>SITE</th> <th>LOCATION</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>A/B-5 ROADBLOCK</td> </tr> <tr> <td>8</td> <td>B-4 ROADBLOCK</td> </tr> <tr> <td>3</td> <td>PAD A PARKING LOT</td> </tr> <tr> <td>4</td> <td>PAD B PARKING LOT</td> </tr> <tr> <td>9</td> <td>NW OF PAD B</td> </tr> <tr> <td>5</td> <td>BEACH ROAD NORTH OF PAD B</td> </tr> <tr> <td>6</td> <td>BEACH ROAD SOUTH OF PAD A</td> </tr> </tbody> </table> FINAL CABIN LEAK CHECK-COMplete -----	SITE	LOCATION	2	A/B-5 ROADBLOCK	8	B-4 ROADBLOCK	3	PAD A PARKING LOT	4	PAD B PARKING LOT	9	NW OF PAD B	5	BEACH ROAD NORTH OF PAD B	6	BEACH ROAD SOUTH OF PAD A	
SITE	LOCATION																				
2	A/B-5 ROADBLOCK																				
8	B-4 ROADBLOCK																				
3	PAD A PARKING LOT																				
4	PAD B PARKING LOT																				
9	NW OF PAD B																				
5	BEACH ROAD NORTH OF PAD B																				
6	BEACH ROAD SOUTH OF PAD A																				
16-0793	-40M00S	CECL	OTC 212	CABIN VENT REDUNDANCY CHECK AND FINAL CABIN INTEGRITY CHECK COMPLETE.																	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CABIN VENT -----					
16-0794		OTC 212	CECL CRT PG B (VAG29) RECORD DP/DT _____ PSI/MIN. (BD +/- 0.01)		

NOTE

HIGH OXYGEN AND ARGON CONCENTRATION WILL BE RECORDED IN MIDBODY, PAYLOAD BAY, AND AFT ONCE CABIN IS VENTED. IT TAKES APPROXIMATELY 30 MINUTES FOR OXYGEN AND ARGON CONCENTRATIONS TO RETURN TO BASELINE VALUES PREVIOUS TO CABIN VENTING. DURING THIS TIME HGDS INTERPRETATION OF DATA FOR MEASURING TRENDS WILL BE USED TO VERIFY SYSTEM INTEGRITY.

16-0795	-40M00S	CECL 212 OTC 232	OTC CHGD NTD	READY FOR CABIN VENT, AIR WILL BE VENTING INTO ORBITER PAYLOAD BAY AND AFT.	SU72793
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NOTE

KLAXON AND M/A MAY OCCUR IN NEXT STEP DUE TO HIGH CABIN DECAY RATE. RESET MASTER ALARM.

16-0796	-40M00S	OTC	CDR	OPEN CABIN VENT ISOL VALVE.	
16-0797			CDR	PANEL L2A1	
				VENT ISOL SW - OPEN UNTIL VENT ISOL TB OP	L2A1S3 L2A1DS3

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0798		CECL		CRT PAGE B (VAG29) CABIN VENT - POP ISOL - POP	V61X2005E1
16-0799		CDR		PANEL O1 VERIFY CABIN PRESS DECREASING	
16-0800		CDR	OTC	CABIN VENT OPEN	
16-0801		OTC 212	CECL	STANDBY TO GIVE PRO WORDS "CLOSE CABIN VENTS" ON CH 212 IF DECREASE IN PPO2 BELOW BASELINE OBSERVED ON CRT PG-B (VAG29).	

NOTE

PERFORM NEXT TWO STEPS IF  
 CABIN VENT BEGAN AFTER L-35  
 MINUTES.

16-0802		OTC 212	CHGD	PROVIDE ESTIMATE FOR AFT O2 VALUE TO BE LESS THAN 500 PPM. (5 MIN)	
				NOT PERFORMED	_____

16-0803		CHGD 212 OTC 232	OTC NTD	ESTIMATE AFT O2 VALUE WILL BE LESS THAN 500 PPM IN ____ MINUTES.	
				NOT PERFORMED	_____

NOTE

PERFORM NEXT STEP IF ESTIMATE  
 FOR AFT O2 PPM AT 500 PPM IS  
 AFTER L-17 MINUTES.

16-0804		NTD 232	OTC	PERFORM SEQ 27, LATE CABIN VENT CONTINGENCY.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				LAUNCH DIRECTOR/FLIGHT DIRECTOR	
				LAUNCH/RTLS WEATHER BRIEFING	
16-0805	-40M00S	NTD 232 STM 231	STM *WEA	REQUEST RANGE WX ON OIS CH 231 TO SUPPORT WX BRIEFING.	SU72738
16-0806		*FLT 232	NTD	LAUNCH DIRECTOR/FLIGHT DIRECTOR LAUNCH/RTLS WEATHER BRIEFING COMPLETE. THERE (ARE/ARE NO) LAUNCH/RTLS WEATHER CONSTRAINTS.	

NOTE

ANY DEVIATION FROM THE LIST  
 OF PERSONNEL PROVIDED TO NTD  
 AT T-4 HOURS MUST BE REPORTED  
 ALONG WITH AN EXPLANATION FOR  
 THE CHANGE. INCREASES TO  
 APPROVED LDA ACCESS LIST MUST  
 BE APPROVED BY NTD WITH SAFETY  
 CONCURRENCE.

16-0807		NTD 232 STM 111 GYCC PTP JSTC	STM SRO JSTC JPHO WYVS JFIR *SEC GSPN	VERIFY NUMBER AND LOCATION OF PERSONNEL WITHIN LDA THROUGH T-0 AS REPORTED AT T-4 HOURS.	COMM
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
VENT DOOR 4 & 7 OVERRIDE OPERATION					
16-0808	-38M00S	CGLS	CRT (SGPR2 PG B)	VENT DOOR 4/7 OVERRIDE	
16-0809		CGLS	CRT (PG A)		

NOTE

PERFORM ONE OF NEXT TWO  
SUBSTEPS.

1. FOR INITIAL LAUNCH ATTEMPT:  
VERIFY INITIAL VALUE OF  
V99J8836C1 - #0000 0000

NOT PERFORMED

SS1

2. FOR SUBSEQUENT LAUNCH ATTEMPTS:  
V99J8836C1 - #000F 0000  
IF PREVIOUS ATTEMPT HAS BEEN  
MADE.

NOT PERFORMED

SS2

3. VERIFY VALUE SENT TO  
SSV - #000F 0000

4. VERIFY VALUE FROM SSV - #000F 0000

OMRSD S00FA0.014

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
WHITEROOM CLOSEOUT -----					
16-0810	-35M00S	OTC 212	OVCC	CLOSEOUT WHITE ROOM PER ORBITER OPERATION SUPPORT SETUP 20, VERIFY CHAMBER ECS AIR DAMPER OPEN AND ORBITER ECS AIR DAMPER CLOSED	SU72795
PASS/BFS TRANSFER PREP -----					

NOTE

NOTED REQUIREMENT IS SATISFIED  
BY COMPLETION OF THE FOLLOWING  
FIVE STEPS.

OMRS V72CA0.060-A

16-0811	-32M00S	OTC 212	CDR	PERFORM PASS/BFS TRANSFER PREP.	SU72813
16-0812			CDR	PANEL C2 LEFT CRT SEL SW - 3 L KYBD RESUME  CRT 3 GPC MEMORY	
16-0813			CDR	PANEL O6 GENERAL PURPOSE COMPUTER MODE 5 SW - STBY 5 TB RUN  PANEL C3 BFC CRT DISPLAY SW - ON SELECT SW - 3+1  CRT 3 (BFS) BFS MEMORY	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0814		CDR	L KYBD ITEM 25 EXEC  CRT 3 25*		
		CDR	PANEL C2 L CRT SEL SW - 1		
16-0815		CDR 212	OTC	PASS/BFS TRANSFER PREP COMPLETE.	
16-0816				COMPLETION OF PREVIOUS FIVE STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD V72CA0.060-A	
16-0817		NTD 232	*SEC	REPORT WHEN ALL NONESSENTIAL PERSONNEL HAVE CLEARED LAUNCH DANGER AREA.	SEC

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT STEP ONE HOUR  
 PRIOR TO T-0 IF SRB RETRIEVAL  
 SHIPS HAVE BEEN DEPLOYED AND  
 ARE IN THE RETRIEVAL AREA.

16-0818	-30M00S	BRD	LRD	OBSERVED RETRIEVAL AREA WEATHER	
		135		CONDITIONS ARE AS FOLLOWS:	
		LRD	*WEA	(REFERENCE ONLY)	
		231			

SS WINDS \_\_\_\_\_ KNOTS

PEAK WINDS \_\_\_\_\_ KNOTS

DIRECTION \_\_\_\_\_ DEG

SEA STATE \_\_\_\_\_

AIR TEMP \_\_\_\_\_ DEG F

BAROMETER \_\_\_\_\_ IN HG

VISIBILITY \_\_\_\_\_ MI

OTHER WEATHER CONDITIONS \_\_\_\_\_

NOT PERFORMED \_\_\_\_\_

16-0819		*WEA	LRD	FORECAST FOR TIME OF LAUNCH AT	
		231		SRB RETRIEVAL AREA:	
		LRD	NTD		
		232		PREDICTED WINDS: _____ KNOTS	
		NTD	LD		

GUSTING TO: \_\_\_\_\_ KNOTS

WIND DIRECTION: \_\_\_\_\_ DEG

OMRSD S00L00.085

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				OMS GN2 PRESS -----	
16-0820	-30M00S	OTC 212	CDR	PERFORM OMS GN2 PRESS.	SU72772
16-0821	-30M00S		CDR	PANEL C3 OMS ENG LEFT SW - ARM/PRESS RIGHT SW - ARM/PRESS	C3A01S001 C3A01S002
16-0822		CDR	OTC	OMS GN2 PRESS COMPLETE.	
16-0823			COOS	CRT (VWD72/VWD73)	
				VERIFY	
				LOMS ENG VLV ON	
				ROMS ENG VLV ON	
				LOME ARM/PR1 A/P	
				LOME ARM/PR2 A/P	
				ROME ARM/PR1 A/P	
				ROME ARM/PR2 A/P	
				LOME ARM VALVE (1AL) OPEN	
				ROME ARM VALVE (1AR) OPEN	
				PURGE VALVES (LP1,LP2) CLOSED	
				PURGE VALVES (RP1,RP2) CLOSED	
				LEFT OMS ENG REG OUT PRESS	
				330-375 PSIA	V43P4549C1
				RIGHT OMS ENG REG OUT PRESS	
				330-375 PSIA	V43P5549C1
				VERIFY NO UNEXPLAINED DOWNSTREAM PRESSURE CHANGE	
				LOME BI-PROP VLV 1 POSN < 5%	
				LOME BI-PROP VLV 2 POSN < 5%	
				ROME BI-PROP VLV 1 POSN < 5%	
				ROME BI-PROP VLV 2 POSN < 5%	
				OMRSD V43CF0.120 (VWD72/VWD73)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
WSB GN2 SUPPLY ACTIVATION -----					
16-0824		OTC 212	PLT	PERFORM WSB GN2 SUPPLY ACTIVATION.	SU72774
16-0825			PLT	PANEL R2 APU/HYD BOILER N2 SUPPLY 1 SW - ON 2 SW - ON 3 SW - ON	
16-0826			PLT OTC	WSB GN2 SUPPLY ACTIVATION COMPLETE.	
16-0827			CHYD	CRT (VWF19) VERIFY  WSB GN2 REG OUT PRESS 1-2-3: 39-44 PSIA  CRT (VWF43) VERIFY  N2 SUPPLY OFF 1-2-3: OFF  OMRSD S00FJ0.015  GNC SCRS PRINTER/PLOTTER SETUP -----	
16-0828	-30M00S	OTC 212 LPS 127	COFC	PLACE PP 2 UNITS 3 AND 4 ON LINE AND PERFORM SETUPS PER C2MC OMI S9002VL16 (GNC SECTION). PLACE OFF LINE WHEN COMPLETE.	
16-0829			COFC	APPL PG (SWB02 PG A) PFK 12 KEY - PRESS (ACTIVATE P/P SETUP)	
16-0830			COFC	CURSOR CNTL (SWB02 PG A) (ON ITEMS BELOW) XMIT CURSOR KEY - PRESS  1. A-MPS ENG POSN - SUB SYS = 2, ODV = 3  2. A-ELVN POSN, BF POSN, RUD POSN SUB SYS = 2, ODV = 4	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0831				COFC APPL PG (SWB02 PG A) PFK 12 KEY - PRESS (DE-ACTIVATE P/P SETUP)	
16-0832		COFC 212	OTC	GNC SCRS PRINTER/PLOTTER SETUP COMPLETE.	
				ASSEMBLE POST LAUNCH ----- INSPECTION/SAFING TEAMS -----	
16-0833	-30M00S	NTD PA		POST LAUNCH INSPECTION/SAFING TEAMS REPORT TO ASSEMBLY AREA AT COMPLEX J.	CDPD SU72776
16-0834	-30M00S	OTC 212	*PAD	NOTIFY POST LAUNCH INSPECTION/ SAFING PERSONNEL TO ASSEMBLE AT COMPLEX J.	
16-0835	-30M00S	PSTM JSTC 111	STM	ALL SUPPORT PERSONNEL REQUIRED FOR POST LAUNCH SAFING/INSPECTION ASSEMBLED AT COMPLEX J.	JSTC STSA
16-0836	-30M00S	STM NET 104	VEEE	DELIVER FSS ELEVATOR LOCK AND COVER TO PAD SAFETY AT COMPLEX J. (5 MIN)	CDPD  T: _____
				MEC PRE-FLIGHT BITE -----	
16-0837	-29M00S	OTC 212	CEPD	CHECK MEC PRE-FLT BITE.	
16-0838				CEPD CURSOR CNTL (MEC/PIC AUTO TEST MENU) LAUNCH PREFLT BITE XMIT CURSOR KEY - PRESS	
16-0839			CEPD	PFP (VSC24) CONTINUE - PRESS  CRT (VSC24) PORT 1 SUCCESSFUL PORT 3 SUCCESSFUL	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0840		CEPD	CRT (VSC24)	PREFLIGHT BITE MEC-1 AND MEC-2 (MEC ONLY)  IF WORD 4 BITS 13 AND 17 = 0, VERIFY WORD 2 BITS 9,11-18,23,24 = 0 AND WORD 4 BIT 18-22 = 0  IF WORD 5 BITS 13 AND 17 = 0, VERIFY WORD 3 BITS 9,11-18,23,24 = 0 AND WORD 5 BIT 18-22 = 0  IF WORD 4 AND 5 BITS 13 AND 17 = 1 A CRITICAL CMD HAS BEEN ISSUED TO THE MEC THEN WORD 2 BIT 9 AND BITS 11-24 = DONT CARE AND WORD 3 BIT 9 AND BITS 11-24 = DONT CARE AND WORD 4 BIT 13 AND 18-22 = DONT CARE AND WORD 5 BIT 13 AND 18-22 = DONT CARE	
				NOTE  MAKE HARDCOPY BEFORE NEXT TERMINATING STEP CLEARS SCREEN.	
16-0841		CEPD	PPF (VSC24)	TERMINATE - PRESS	
				NOTE  MASS SPEC AUTO CALS WILL ALWAYS START AT L-49M00S FOR LONG AND SHORT LAUNCH WINDOWS. FOR SHORT LAUNCH WINDOWS, AUTO CALS WILL START AT THE BEGINNING OF THE T-9M00S HOLD.	
				HGDS, BUHGDS AND HUMS AUTO CALS -----	
16-0842	-29M00S L-49M00S	CHGD	PERFORM	HGDS, BUHGDS AND HUMS JHGD AUTO CALS AND CONFIDENCE CHECKS.	SU72852



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
GLS LIMIT CHANGE COMPLETE					
-----					
16-0843	-26M00S	CGLS 212	OTC	GLS LIMIT CHANGE AND DUAL NOTIFICATION FOR BRS COMPLETE (AUTO).	
16-0844		NTD 232	*SEC	SECURE ROADBLOCKS A/B-4, A-5, A-3, A-6 (FOR PAD A LAUNCH) OR B-3, B-4 (FOR PAD B LAUNCH) AND GO HARDDOWN ON A/B-11 AND A/B-15.	SEC
16-0845	-25M00S	*SEC 232	NTD	NONESSENTIAL PERSONNEL CLEAR OF LDA AND CCF.	SEC SU72832
		NTD	*SCC		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				SIMO A/G VOICE CHECK & ASCENT CREW ----- DATA UPDATE -----	
16-0846	-25M00S	OTC 212	CDR	STANDBY TO PERFORM SIMO A/G VOICE CHECK.	
16-0847	-25M00S	NTD 232	*FLT	PERFORM SIMO VOICE CHECKS AND ASCENT CREW DATA UPDATE.	
16-0848			*FLT ALL	SIMO A/G VOICE CHECKS AND ASCENT CREW DATA UPDATE COMPLETE.	
16-0849			*FLT CDR PLT	READING OUT RTLS AND TAL ALT SETTING AND RUNWAY.  PASS - BFS TRANSFER (DEU EQUIV.) -----	
16-0850	-22M00S		CGLS	CRT (PG 5A)  ONESHOT DATA XFER COMM SENT TO DPS	
16-0851			CDPS	CRT (VASJ6 PG-B)  VERIFY ONE-SHOT COMPLETE MILESTONE IN INVERT GREEN VERIFY MSG: WAITING FOR GO TO TRANSITION  OMRSD V72CA0.060-B	
16-0852			CGLS	CRT  VERIFY ONESHOT XFER COMPLETE  ANNOUNCE T-20 MINUTE HOLD -----	
16-0853	-22M00S	NTD PA 212 232		THE CDC WILL HOLD AT T-20 MIN.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				RECORD CABIN PRESS -----	
16-0854	-22M00S	CECL 212	OTC	CABIN VENT COMPLETE. READY FOR CABIN PRESS READING.	
16-0855		OTC	CDR	PANEL 01A1 REPORT CABIN PRESS _____ PSIA BD	01A1M4
16-0856		CECL		CRT (VAG29 PAGE B)  RECORD  CABIN PRESS _____ 15.2 PSIA MAX V61P2405A1  OMRS V61AQ0.010-1 (VAG29)	
16-0857		OTC 212	CDR	CRT 3 ESTABLISH BFS SM SYSTEM SUMMARY 1 DISPLAY. REPORT CABIN PRESSURE _____ PSIA BD	
			CDR	PANEL C2 LEFT CRT SELECT SW - 3	
				CRT 3 MAJ FUNCT SW - SM	
			CDR	LEFT KYBD (BFS) SYS SUMM	
				CRT 3 BFS SM SYS SUMM 1	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0858		OTC 212	CDR	CRT 3 RESTORE GNC BFS OPS DISPLAY. (BFS MEMORY DISPLAY IF PRE-OPS 1, BFS LAUNCH TRAJ1 DISPLAY IF POST OPS 1)	
			CDR	LEFT KYBD (BFS) RESUME	
			CDR	PANEL C2 CRT3 MAJ FUNC SW - GNC  LEFT CRT SELECT SW - 1	
			CDR	CRT 3 BFS MEMORY (IF OPS 0) LAUNCH TRAJ (IF OPS 1)  CLOSE VENT VALVES -----	

NOTE

VENT VALVE CLOSING MAY OCCUR  
 EARLIER OR LATER AT CECL  
 DIRECTION.

16-0859		OTC 212	CDR	CLOSE CABIN VENT VALVES.	SU72794
16-0860			CDR	PANEL L2A1 CABIN VENT VENT ISOL SW - CLOSE UNTIL VENT ISOL TB CL VENT SW - CLOSE UNTIL VENT TB CL	L2A1S3 L2A1DS3 L2A1S4 L2A1DS4
16-0861			CECL	CRT (VAG29 PAGE A)  VERIFY CAB VT AND CAB VT ISOL DISCRETES ARE DISPLAYED CLOSED	
16-0862		CDR 212	OTC	VENT VALVES CLOSED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CLEAR CLOSEOUT CREW FROM PAD					
16-0863	-20M00S	OVCC 212	OTC	WHITE ROOM SECURED PER ORBITER OPERATION SUPPORT SETUP 20. ALL PERSONNEL CLEARING BACK TO ROAD BLOCK. FLIGHT CREW RESCUE	SU72778 SU72795
		OTC 232	NTD	*SCC LOCKER EQUIPMENT REPLACED AND *PAC LOCKER SECURED (LATCHED AND PINNED). SLIDEWIRE BASKETS IN POSITION. ALL CLOSEOUT CREW TOOLS ACCOUNTED FOR.	
16-0864	-20M00S	NTD 232	OTC	PERFORM CLEARING OF CLOSEOUT CREW FROM FSS.	SU72784
		OTC 212	OVCC	1. POSITION FSS ELEVATORS AT PAD SURFACE LEVEL.  2. REMOVE ELEVATOR ELSA'S  3. DEPRESS BOTH RED BUTTONS ON PANEL BETWEEN ELEVATORS.  4. VERIFY ALL ELEVATOR DOORS OPEN.	
16-0865	-20M00S	NTD 232	JFIR	CLOSEOUT CREW DEPARTING PAD. HT__ AFTER VERIFYING SLIDEWIRE BASKET DECELERATION NETS IN PLACE YOU ARE CLEARED TO LEAVE PAD AND RETURN TO A/B-4 (PAD B) A-5 (PAD A). ENG A/B-4 (PAD B), ENG A-5 (PADA) PROCEED WITH CLOSEOUT CREW TO ROADBLOCK A/B-11.	FIRE SU72780 SU72782
		JFIR NET	*HT3 *ENG		
16-0866	-20M00S	NTD 232	STM	PROVIDE VIDEO TRACKING AND RECORDING OF 3 BUNKER CREW PERSONNEL TO ROADBLOCK A/B-4 (PAD B) A-5 (PAD A) AND CLOSEOUT CREW PAD TO ROADBLOCK A/B-11. (SEE JYVO FIG 4)	COMM
		STM 138	JYVO JYVR		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				CONFIG ORBITER VENT DOORS 1 AND ----- 2 TO NORMAL PURGE POSITION -----	
16-0867	-20M00S	OTC 212	CPVD	ENVIRONMENTAL CHAMBER CLEARED OF PERSONNEL, RECONFIGURE VENT DOORS 1&2 TO PURGE POSITION. (5 MIN)	
16-0868			CPVD	CURSOR CNTL (VAM09A) VENT DR 1&2 PURGE TARGET- XMIT CURSOR KEY - PRESS  CRT (VAM09A)  VERIFY ALL VENT DOORS ARE IN NORMAL PURGE CONFIGURATION AND V99J8836C1 IS 000F0000.	
16-0869		CPVD 212 OTC 232	OTC NTD	ALL VENT DOORS IN NORMAL PURGE CONFIGURATION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
***T-20 MINUTE HOLD***					
16-0870	-20M00S (HOLDING)	NTD PA 232 212 136		THE CDC IS HOLDING AT T-20 MIN.	
16-0871				CGLS CONSOLE KYBD (SAP28 PG B) PFK15 - PRESS TERM PG TERM CONC XMIT CURSOR KEY - PRESS  VERIFY SAP28 INACTIVE	
16-0872		NTD 232	SPE	REPORT HOLD TIME CONSTRAINTS.  _____MIN _____SEC	
16-0873		NTD 232	CLOX	REPORT GO2 ULLAGE PRESSURE GENERIC CERTIFICATION HOLD TIME.  _____MIN _____SEC	
16-0874		NTD 232	*FLT	REPORT LOX DRAINBACK PERFORMANCE HOLD TIME.  _____MIN _____SEC	
NOTE					
PERFORM NEXT STEP IF REQUIRED BY *FLT.					
16-0875		NTD 232	*FLT	PROCEED WITH TRANSMISSION OF REMAINING ASCENT VARIABLE PARAMETERS.	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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GLS SOFTWARE REQUIREMENTS

NOTE

THE FOLLOWING OMRS REQUIREMENTS WILL BE AUTOMATICALLY PERFORMED BY GLS SOFTWARE IN THE LAST 20 MINUTES OF LAUNCH COUNTDOWN. ALL LISTED REQUIREMENTS WILL BE MET BY T-ZERO. (REF KLO-82-0071 APPX A).

GLS EVENTS ARE NOT ANNUNCIATED DURING FINAL COUNT UNLESS SPECIFIED IN OMI.

GLS S/W MAY BE MASKED AS REQUIRED TO SUPPORT LAUNCH. DETAILS OF GLS MASKS AND BYPASSES ARE SPECIFIED AS DATA SHEETS IN SEQ 62 S0007VL4.

16-0876

CGLS VERIFY GLS S/W CONFIGURED TO PERFORM OMRS FUNCTIONS REFERENCED BELOW.

MINUS TIME	NOMENCLATURE	OMRS
-09M00S & CNTG	INITIATE TERM COUNT	S00FM0.020-1
-05M00S	ARM SRB S & A DEVICES	S00FM0.210-1R
-04M30S	SSME MFV HTRS OFF	S00FM0.040
-04M00S	SSME PURGE SEQ 4	S00FM0.250-1



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	-----	-----	-----	-----	-----
MINUS TIME		NOMENCLATURE			OMRS
-----		-----			-----
-03M55S		AEROSURFACE	PROFILE		S00FM0.270-1
-03M30S		MPS GIMBAL	PROFILE CK		S00FM0.300-1R
-03M20S		VFY BODY	FLAP DISCRETES		S00FM0.290-1R
-03M03S		VFY SSMES	IN START POSN		S00FM0.310-1
-03M03S		VFY BODY	FLAP POSNS		S00FM0.280-1
-02M55S		TERM SSME	GN2 PURGE		S00FM0.350-1
-02M50S		TERM GOX	VENT HOOD PURGE		S00FM0.360
-02M50S		RETRACT	GOX VENT HOOD		S00FM0.370-1
-00M55S		LOCK SRB	MDM LL1/LR1		S00FN0.040-1R
-00M50S		GSE POWER	REMOVAL		S00FN0.840
-00M50S		DEACT SRB	JOINT HTRS		S00FN0.825
-00M48S		CLOSE LH2/LO2	OTBD		S00FP0.050-1
		FILL	VLVS		
-00M40S		GSE POWER	RMVL VERIF		S00FP0.060-1
-00M40S		ET BIPOD	HTRS OFF		S00FP0.030-1
-00M31S		RSLs	AUTO SEQ START		S00FR0.010
-00M30S		SRB HPU	GAS GEN BED HEATERS		S00FF0.170
-00M28S		START SRB	HPU'S		S00FR0.070-1
-00M21S		SRB	GIMBAL TEST		S00FS0.030-1
-00M16S		VFY HDP, TSM & ET	VAS		
		ORDNANCE	ARMED		S00FS0.080-1R
-00M16S		ACTIVATE	SS WATER		S00FT0.120
-00M16S		VFY	SPEEDBRAKE LAUNCH POSN		S00FM0.280-1
-00M13S		LOCKOUT	AFT SRB MDMS		S00FS0.090-1R
-00M12S		TERM	MPS HE FILL		S00FT0.040-1
-00M10S		ACTIVATE	H2 BURN PYROS		S00FT0.110
-00M10S		REMOVE	SRSS INHIBITS		S00FT0.020-1R
-00M10S		PWR	DOWN MDMS LA1/LF1/LM1		V72CA0.070
-00M10S		ISSUE	GO FOR SSME START		S00FT0.100
-00M08S		DEACTIVATE	MPS LH2 RECIRC		
		SYS & CLOSE	RECIRC		
		VALVES			S00FT0.050-1
-00M08S		SHUTDOWN	GCU'S		S00FS0.020

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				OMRSD S00FF0.170	(SGPW2)
				OMRSD S00FM0.020-1	(SLP07)
				OMRSD S00FM0.210-1	(SGPT2)
				OMRSD S00FM0.040	(SGPT2)
				OMRSD S00FM0.250-1	(SGPT2)
				OMRSD S00FM0.270-1	(SSPS1)
				OMRSD S00FM0.300-1R	(SSPS1)
				OMRSD S00FM0.310-1	(SGPU2)
				OMRSD S00FM0.280-1	(SGPU2)
				OMRSD S00FM0.290-1R	(SGPU2)
				OMRSD S00FM0.350-1	(SGPU2)
				OMRSD S00FM0.360	(SLPJ0)
				OMRSD S00FM0.370-1	(SLPJ0)
				OMRSD S00FN0.040-1R	(SGPW2)
				OMRSD S00FN0.825	(SGPW2)
				OMRSD S00FN0.840-1	(SGPW2)
				OMRSD S00FP0.050-1	(SGPW2)
				OMRSD S00FP0.060-1	(SGPW2)
				OMRSD S00FP0.030-1	(SGPW2)
				OMRSD S00FR0.010	(SGPW2)
				OMRSD S00FR0.070-1	(SGPW2)
				OMRSD S00FS0.030-1	(SSPS1)
				OMRSD S00FS0.080-1R	(SLP26)
				OMRSD S00FS0.090-1R	(SLP26)
				OMRSD S00FT0.040-1	(SLP26)
				OMRSD S00FT0.020-1R	(SLP26)
				OMRSD S00FT0.120	(SLP26)
				OMRSD S00FT0.110	(SLP26)
				OMRSD V72CA0.070	(SLP26)
				OMRSD S00FT0.100	(SLP26)
				OMRSD S00FT0.050-1	(SLP26)
				OMRSD S00FS0.020	(SLP26)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				SET CDC START TIME -----	
16-0877	-20M00S (HOLDING)	CGLS 232	NTD	CDC TO START AT:____/____ HHMM SS	
16-0878		NCC CCN	LRD	CONVOY PREPARING TO MOVE TO DEPLOYMENT LOCATION.	
16-0879		OTC 212	JRPS	VERIFY MTU TEST SET IS DELAY 0 AND LOCK ON LAUNCH VEHICLE.	
				MTU MONITOR KYBD F3 - PRESS (NEXT MTU) UNTIL LAUNCH VEHICLE IS HIGHLIGHTED F2 - PRESS VERIFY LOCKED ON LAUNCH VEHICLE RECORD IN CHANGE LOG	
				CONSOLE PROGRAM ASSIGNMENTS -----	
16-0880	-20M00S (HOLDING)	NTD 232	OTC TBC PTC LPS	VERIFY FR CONSOLE SOFTWARE CONFIGURED PROPERLY FOR T-20 MIN. ONLY PROGRAMS LISTED MAY BE ACTIVE.	SU72843
				ORBITER PROGRAMS -----	
16-0881		OTC 212	ALL	ALL ORBITER SYSTEMS VERIFY PROGRAM SOFTWARE. REPORT ONLY IF ANY DISCREPANCIES.	
16-0882			CSME	VERIFY PROGRAM VAE38A ACTIVE IN C3	
16-0883			CMPL	VERIFY PROGRAM SAE02 ACTIVE IN C3	
16-0884			CMPS	VERIFY PROGRAMS VAE18 ACTIVE IN C4 SAE12 ACTIVE II C4	
16-0885			CCSE	VERIFY PROGRAMS VWA40 ACTIVE IN C2	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0886			CNSE	VERIFY PROGRAMS VAA40 ACTIVE IN C2 VAA41 ACTIVE IN C2	
16-0887			CPLE	VERIFY PC GOAL PROGRAM OVERVIEW 2 ACTIVE AT C5	
16-0888			CPVD	VERIFY PROGRAMS VAM01A ACTIVE IN C6 VAM31A ACTIVE IN C6	
16-0889			CECL	VERIFY PROGRAMS VAG34 ACTIVE IN C5 VAG28 ACTIVE IN C5 VAG29 ACTIVE IN C5	
16-0890			CFCP	VERIFY PROGRAMS VWR05 ACTIVE IN C6 VWR70 ACTIVE IN C6 VWR04 ACTIVE IN C6 VWR06 ACTIVE IN C6 (EDO MISSIONS ONLY)	
16-0891			CGSS	VERIFY PROGRAMS VAJ02 ACTIVE IN C7 VAJ14 ACTIVE IN C7	
16-0892			CAFM	VERIFY PROGRAM VAK20 ACTIVE IN C5 VAK21 ACTIVE IN C5	
16-0893			COOS	VERIFY PROGRAMS VADL7 ACTIVE IN C7 VADL8 ACTIVE IN C7 VADL9 ACTIVE IN C7 VADL0 ACTIVE IN C7	
16-0894			CHYD	VERIFY PROGRAMS VWF19 ACTIVE IN C8 VWF43 ACTIVE IN C8	
16-0895			CAPU	VERIFY PROGRAMS VWF48 ACTIVE IN C8 VWF57 ACTIVE IN C8	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0896		CISL	VERIFY PROGRAMS	SAQ04 ACTIVE IN C9 VAQ29 ACTIVE IN C9	
16-0897		CHGD	VERIFY PROGRAMS	SAW01/HWW50 ACTIVE IN C9	
16-0898		CEPD	VERIFY PROGRAMS	SWC02 ACTIVE IN C10 VWC17 ACTIVE IN C10 VWC10 ACTIVE IN C10	
16-0899		COFC	VERIFY PROGRAMS	SAB19 ACTIVE IN C11 SAB20 ACTIVE IN C11 SAB21 ACTIVE IN C11 VABM1 ACTIVE IN C11	
16-0900		CDPS	VERIFY PROGRAMS	SAS01 ACTIVE IN C12 VASP9 ACTIVE IN C12 VAS59 ACTIVE IN C12 VASJ6 ACTIVE IN C12 VASB9 ACTIVE IN C12	
16-0901		CCME	VERIFY PROGRAM	VWE01A ACTIVE IN C12	

NOTE

TERM ALL OC TASKS AND  
 GLS LOOKUPS AT INTG BEFORE  
 CDC IS RESUMED.

VERIFY ONE OF FOLLOWING TWO  
 GROUPS OF PROGRAMS BASED ON  
 EDO/SPACEHAB MISSION  
 REQUIREMENTS.

16-0902		CGLS	VERIFY PROGRAMS	SLP03 ACTIVE IN INTG SLP02 ACTIVE IN INTG SLP01 ACTIVE IN INTG SGPO2 ACTIVE IN INTG SGPR2 ACTIVE IN INTG	NOT PERFORMED
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0903		CGLS		VERIFY PROGRAMS SLP81 ACTIVE IN INTG SLP02 ACTIVE IN INTG SLP01 ACTIVE IN INTG SGPO2 ACTIVE IN INTG SGPR2 ACTIVE IN INTG NOT PERFORMED	_____
16-0904		CTPE		VERIFY 2 AVAILABLE CONCURRENCE IN B/U  VERIFY PROGRAMS SLPBO ACTIVE IN B/U SLPCO ACTIVE IN B/U SEP03 ACTIVE IN B/U SEP03 ACTIVE IN B/U  LPS PROGRAMS -----	
16-0905		LPS		VERIFY PROGRAMS ACTIVE IN MSTR: \$HWM0N (TCB1) AA008/AWP02 (TCB2) AA009/AWP01 (TCB4) SLP50 (TCB5) SA001 (TCB6)  SRB/ET PROGRAMS -----	
16-0906		TBC	ALL	ALL SRB/ET SYSTEMS VERIFY PROGRAM SOFTWARE. REPORT ONLY IF ANY DISCREPANCIES.	
16-0907	-20M00S (HOLDING)	CLOX		VERIFY FOLLOWING:  1. PROGRAMS GAL01 ACTIVE IN C3 GAL02 ACTIVE IN C3  2. SSL03 ACTIVE IN LOX REPLENISH CONTROL LOOP READY TO RECEIVE GLS INTERRUPTS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0908				CLHY VERIFY FOLLOWING:	
				1. PROGRAMS	
				GAH01 ACTIVE IN C4	
				GAH02 ACTIVE IN C4	
				GAW02 ACTIVE IN C4	
				2. SSH03 ACTIVE (LH2	
				S/W CONFIGURE TO ACCEPT	
				GLS INTERRUPT)	
16-0909	-20M00S (HOLDING)			CBRS VERIFY PROGRAMS	
				SARB4 ACTIVE IN C2	
				SWRB2 ACTIVE IN C2	
16-0910				CBHY VERIFY PROGRAM	
				BAT04 ACTIVE IN C8	
16-0911				CPWR VERIFY PROGRAM	
				BWE08 ACTIVE IN C10	
				BWE11 ACTIVE IN C10	
16-0912		TBC		CMEC VERIFY READY TO PICK UP AT T-20 MIN.	
16-0913		CLOX	TBC	JCFM NO LONGER REQUIRED ON OIS	
		136		CH 158 FOR LOX PUMP INSTRUMENTATION	
		TBC	NTD	RECORDING. SUPPORT RELEASED.	
		232			
		NTD	STM		
		STM	JCFM		
		111			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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PAYLOAD PROGRAMS

NOTE

PERFORM ONE OF THE NEXT THREE  
 SUBSTEPS IF PAYLOAD CONSOLE  
 PROGRAMS ARE ACTIVE.

16-0914	-20M00S (HOLDING)	PTC	CLES GLES DLES	VERIFY C-1 CONSOLE PROGRAMS ACTIVE	
				1. FOR SPACEHAB (POWERED)	
				RS0002	
				RW0017	
				PAH001	
				PAH001A	
				PAH002	
				PAHLCCD	
				NOT PERFORMED	SS1
				2. FOR OTHER PAYLOADS	
				RW0017	
				RA0003	
				RS0002	
				EA0013	
				NOT PERFORMED	SS2
				3. FOR IUS	
				RW0017	
				UW0002	
				UW0003	
				UW0004	
				RA0003	
				UW0005	
				PW0004	
				NOT PERFORMED	SS3



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0915		PTC 232	NTD	FR C1 CONSOLE SOFTWARE CONFIGURED.	
16-0916	-20M00S (HOLDING)		CDPS	VERIFY TWO CONSECUTIVE OC TASK CONCURRENCIES AVAILABLE TO PERFORM GPC DUMP.  EXTEND HOLD TIME (CONTINGENCY)	

NOTE

PERFORM NEXT THREE STEPS  
 IF HOLD MUST BE EXTENDED.

16-0917		NTD 232	CGLS	CANCEL PENDING.	NOT PERFORMED
16-0918		NTD PA 232		HOLD WILL BE EXTENDED.	NOT PERFORMED
16-0919		CGLS		SELECT APP PG 3B CURSOR CNTL SELECT - CANCEL PENDING CDC REQUESTS - PRESS	NOT PERFORMED
16-0920		STM 111	JCTL	VERIFY PRINTER PLOTTERS 1, 2 AND 3 ON LINE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				REQUEST SILENCE ON NET 105 -----	
16-0921	-20M00S (HOLDING)	NTD 232	*SCC	REQUEST SILENCE BE MAINTAINED ON RADIO NET 105 FROM -5 MINUTES UNTIL +4 MIN 23 SEC. LRD WILL NOTIFY *SCC AT THAT TIME IF NET 105 REQUIRED FOR RTLS.  DECOMS ON RF SOURCE -----	
16-0922		NTD	JRPS	VERIFY DECOMS ON RF SOURCE.  T-20 MINUTE RECYCLE ENTRY POINT -----	SU72845
NOTE					
COUNTDOWN WILL RESUME AT THIS POINT IF A T-20 MINUTE RECYCLE OCCURS.					
16-0923	-20M00S (HOLDING)	NTD 232 136 PA		ALL TEST TEAM PERSONNEL SWITCH TO CH 212 ACTIVE THRU T-0. ALL PERSONNEL NOT ACTIVE IN TEST SWITCH TO CH 217. (MONITOR ONLY CH 212)	SU72847
16-0924	-20M00S (HOLDING)	NTD 212	FCO	COMMUNICATIONS VERIFICATION CHECK OIS CH 212.	
16-0925		NTD 212	CHGD CGSS JBFX JHGD	VERIFY ACTIVE CH 212 AND MONITOR CH 232 FOR REMAINDER OF COUNT.	WSSA SU72849

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT FOUR STEPS IF PAYLOAD SIGNAL PROCESSOR (PSP) IS POWERED UP. POWERING DOWN PSP IS REQUIRED TO BE PERFORMED IN GNC9.					
16-0926		OTC 212	CDR CDPS	PSP WILL BE POWERED DOWN. WILL OCCUR.	ALERT
				NOT PERFORMED	_____
16-0927		NTD 232 OTC 212	OTC *FLT PTC CCSE	SUPPORT PSP DEACTIVATION ON CH 232.	
				NOT PERFORMED	_____
16-0928		NTD 232	*FLT CCSE	TRANSMIT DSM 4801 (P/L SYSTEM OFF)	
			VAA06 VERIFY PSP OFF PL INTER OFF		
				NOT PERFORMED	_____
16-0929		CCSE 232 NTD	NTD *FLT	PSP DEACTIVATION COMPLETE.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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LRD FINAL STATUS CHECKS

NOTE

SOME LANDING SITES MAY NOT  
 BE MANNED DUE TO MISSION  
 REQUIREMENTS.

16-0930	-20M00S (HOLDING)	LRD LF1	LSO	READY FOR LANDING SITE VERIFICATION. ALL LANDING SITES VERIFY GO FOR LAUNCH.	
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SITE	GO	NO/GO	N/P
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BANJUL	_____	_____	_____
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BEN GUERIR	_____	_____	_____
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ZARAGOZA	_____	_____	_____
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MORON	_____	_____	_____
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WSSH	_____	_____	_____
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DFRF	_____	_____	_____
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16-0931		LRD 135 STM 111 GYCC 117	STM GYCC FMLS	VERIFY SUPPORT SYSTEMS AT KSC SHUTTLE LANDING FACILITY READY FOR LAUNCH.	COMM
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16-0932		EMS 135 LRD 135	LRD ROC	PRELAUNCH TRIAGE SITE IS HELIPAD_____.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

LANDING SITES AND LANDING AIDS STATUS TO BE UPDATED ONCE EVERY 24 HOURS DURING THE MISSION.

WEATHER CONDITIONS

LANDING CONSTRAINTS AND RUNWAY STATUS.

CONVOY AND GSE STATUS

VERIFY LANDING SITES PRE-OPERATIONS ARE ON SCHEDULE TO SUPPORT LIFT-OFF TIME.

16-0933		LRD 135	BRD	VERIFY BOOSTER RETRIEVAL FORCES ON STATION AND READY FOR LAUNCH AND GIVE STATUS OF SRB IMPACT AREA.	
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16-0934		LRD 135	SCO	BOOSTER RETRIEVAL FORCES READY FOR LAUNCH AND SRB IMPACT AREA CLEAR (OR NOT CLEAR) OF NONESSENTIAL VESSELS.	
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NOTE

PERFORM NEXT STEP AT THE T-20 MINUTE HOLD IF SRB RETRIEVAL SHIPS HAVE BEEN DEPLOYED AND ARE IN THE RETRIEVAL AREA OR THERE IS NO CHANGE IN WEATHER.

16-0935		*WEA 231	LRD	FORECAST FOR TIME OF LAUNCH AT SRB RETRIEVAL AREA:	
		LRD 232	NTD	PREDICTED WINDS: _____ KNOTS	
		NTD LD		GUSTING TO: _____ KNOTS	
				WIND DIRECTION: _____ DEG	
				OMRSD S00L00.085	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0936	-20M00S (HOLDING)		NTD	CONDUCT BRIEFING ON OIS CH 212 AND 232.  T-20 MIN BRIEFING ----- (TO BE PERFORMED 5 MIN PRIOR TO END OF HOLD OR AS REQUIRED FOR SHORT WINDOW MISSIONS)	SU72851
16-0937		NTD 212 232		PERFORM FOLLOWING:  1. THE LAUNCH WINDOW  OPENS AT _____ GMT  CLOSES AT _____ GMT  THE PERIOD OF LAUNCH OPPORTUNITY:  BEGINS AT _____ GMT  ENDS _____ GMT  THE TARGET LAUNCH TIME WILL BE FINALIZED DURING T-9M HOLD.  A SECOND LAUNCH ATTEMPT IS/IS NOT POSSIBLE IF A RECYCLE OCCURS  2. THERE ARE/ARE NO COLLISON AVOIDANCE (COLA) TIMEFRAMES WITHIN THE LAUNCH WINDOW.  COLA 1 START _____ GMT  END _____ GMT  COLA 2 START _____ GMT  END _____ GMT	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0937 CON'T				3. IF LAUNCH CANNOT BE ACCOMPLISHED WITHIN THE LAUNCH WINDOW (OR IF THE FOLLOWING TIME IS EXCEEDED) CUTOFF WILL BE CALLED.  CONSTRAINT _____ HOLD TIME _____ LOX DRAINBACK HOLD TIME OF _____ AND IS BASED ON ENGINE (PERFORMANCE/ STARTBOX)	
				CONSTRAINT      START TIME      HOLD TIME _____      _____      _____  LOX DRAINBACK      T-4M55S      _____	
				4. PLT - AT T-5 MINUTES PERFORM APU START UPON COMMAND OF OTC ONLY.  5. CDR - THE PAD EGRESS SYSTEM IS/IS NOT IN NOMINAL CONFIGURATION  THE EVACUATION HELIPAD IS _____.	
				6. CONTROL ROOM LAUNCH TEAM - DISABLE TELEPHONE RINGERS AT THIS TIME.  7. CONTROL ROOM ACCESS WILL BE RESTRICTED AFTER RESUMING THE COUNT AT T-20 MIN, UNTIL AFTER LAUNCH OR FLIGHT CREW EGRESS.	
				8. ALL PERSONNEL NOT ACTIVE IN TERMINAL COUNT WILL MONITOR OIS CHANNEL 217.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0937 CON'T				<p>9. AFTER T-20 MINUTES, ALL PROBLEMS OR TRENDS THAT REQUIRE A CDC HOLD WILL BE REPORTED TO THE NTD ON CHANNEL 212 TOGETHER WITH RECOMMENDATION. AFTER T-5 MIN., ANY HOLD, MANUAL OR GLS, SHOULD BE ACCOMPANIED BY A DESCRIPTION OF THE PROBLEM AND A RECOMMENDATION. THE COUNTDOWN CLOCK WILL CONTINUE UNTIL T-31 SEC UNLESS THE RECOMMENDATION TO HOLD AT THE NEXT MILESTONE IS NECESSARY.</p> <p>10. AT T-9 MINUTES WHEN A "GO" IS GIVEN, IT INDICATES THAT THE REPORTING ELEMENT IS FREE OF PROBLEMS WHICH COULD PREVENT A SUCCESSFUL LAUNCH. IF A HOLD COMMAND IS REQUESTED AND ISSUED BETWEEN T-9 MINUTES AND T-31 SECONDS, THE COUNTDOWN CLOCK WILL BE RESTARTED UPON SUCCESSFUL RESOLUTION OF THE PROBLEM WITHOUT A "GO" SURVEY MADE OF ALL ELEMENTS. AFTER T-31 SECONDS, ONLY CUTOFF IS AVAILABLE AND WILL RESULT IN A RECYCLE TO T-20 MINUTES. FOR A CUTOFF, PROWORDS "CGLS GIVE CUTOFF" WILL BE USED.</p> <p>11. FOR IUS MISSIONS:</p> <p>IF CLOCK HOLDS AT T-5M00S, ICC1 TAKES ACTION ONLY UPON DIRECTION OF THE NTD.</p> <p>A. IF HOLD IS 30 SEC DURATION OR LESS, NO ACTION REQUIRED.</p> <p>B. IF HOLD IS GREATER THAN 30 SEC, THE NTD WILL DIRECT ICC1 TO ISSUE A REFRESH. THIS DIRECTION WILL BE GIVEN WHEN ANTICIPATED RETURN TO COUNT IS WITHIN 4M00S. UPON SUCCESSFUL UPLINK OF REFRESH, ICC1 SHALL REPORT "REFRESH COMPLETE AND IUS GO"</p>	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0937 CON'T				C. IF COMMAND FOR ISSUE OF REFRESH IS GIVEN AND COUNTDOWN DOES NOT RESUME WITHIN 4 MIN, THE NTD WILL DIRECT AN ADDITIONAL REFRESH WHEN COUNTDOWN IS ANTICIPATED TO RESUME WITHIN 4M00S.  IF HOLDS OCCUR AFTER T-5 MINS. AND COUNTING, IUS WILL NOT BE CONSIDERED IN RESUMING THE COUNT.	
				12. THE GLS MILESTONES ARE:  T-9M00S GLS SEQ START T-7M30S OAA RETRACT T-5M00S APU START T-4M00S PURGE SEQ 4 T-2M55S LOX PRESSURIZATION T-1M57S LH2 TERM REPLENISH T-31S LPS GO FOR GPC AUTO SEQ	
				13. SPE - ANY COMMENTS FOR CREW.	
				T-20 MIN BRIEFING COMPLETE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NEXT SIX STEPS MAY BE PERFORMED ANYTIME DURING T-20 MIN HOLD AND ARE INDEPENDENT OPERATIONS WHERE THE RM SBTC CHECK (LDB READS) MUST BE COMPLETE PRIOR TO OPS 101 TRANSITION.

RETURN DEU 2 TO C12

- |         |  |      |     |   |  |
|---------|--|------|-----|---|--|
| 16-0938 |  | CGNC |     | CURSOR CNTL (VABM1/VSB90 PG B)<br>DEU RETURN<br>XMIT CURSOR KEY - PRESS<br>DEU 2<br>XMIT CURSOR KEY - PRESS<br><br>C CO _DEU2G LDBA C12<br>XMIT CMD KEY - PRESS |  |
| 16-0939 |  | CGNC | OTC | RESPONSIBLE CONSOLE FOR DEU2<br>212 CDPS NOW C12.   |  |
|         |  |      |     | ACTIVATE PROFILE MONITOR  |  |
| 16-0940 |  | COFC |     | CURSOR CONTROL (SAB19/SWB01)<br>COUNTDOWN - DETAIL<br>EXEC CMD KEY - PRESS  |  |
| 16-0941 |  | COFC |     | APPL PG B (SAB21/VWB05)<br>PFK1 KEY - PRESS (START)   |  |

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				RH SBTC CHECK - LDB READ	
				NOTE	
				THE NEXT TWO STEPS SATISFY LCC GNC-04.	
16-0942				COFC PFP (SAB20/SWB02) PFPK2 - PRESS (SBTC BITE TEST 4)	
16-0943				COFC CRT (SAB20/SWB02 PG B) RH SBTC STATUS SUCCESSFUL	
16-0944	-20M00S (HOLDING)	NTD PA 212		ATTENTION ALL PERSONNEL, THE CDC WILL RESUME AT _____ GMT.	
16-0945				CGLS VERIFY 2 CONCURRENCIES AVAILABLE IN BACKUP CONSOLE FOR MAINLINE INTERRUPT ACTIVATION.	
16-0946		OTC		CGSS START SECOND HCU PUMP PER OMI V2160.	
				TAPE SWITCH PDR SUB-SYS	
16-0947	-20M00S (HOLDING)	LPS 127	CPDR	PERFORM TAPE SWITCH AT PDR SUBSYSTEM IF A NORMAL TAPE SWITCH HAS NOT OCCURRED WITHIN PREVIOUS 5 MINUTES.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0948				CMQC SUPPORT:	
				1. FUEL CELL PRELAUNCH CONDITIONING (OIS CH 151 AT T-13M)	
				2. RECORDER ACTIVATION (SEQ 38) (OIS CH 145 AT T-9M HOLD)	
				3. APU PRE-START AND POST-START CHECKS (SEQ 42) (OIS CH 182 AT T-6M15S)	
				RESUME COUNT	

NOTE

CGLS WILL MONITOR LPS AND  
 GPC COUNTDOWN TIME. IF A  
 DELTA OF GREATER THAN 2  
 SEC DEVELOPS, CGLS WILL  
 NOTIFY NTD AND CDPS.

16-0949	-20M00S (HOLDING)	CGLS 212		CDC WILL START ON MY MARK 3-2-1 MARK	
16-0950	-20M00S (COUNTING)	NTD PA		T-20 MINUTES AND COUNTING _____ GMT	SU72855

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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ACTIVATE VHF WX CIRCUIT

NOTE

FLIGHT CREW WEATHER BRIEFING  
 WILL BE PATCHED INTO ICOM-B  
 ONLY AT REQUEST OF \*FLT.

16-0951	-20M00S COUNTING	*FLT NTD 212		PERFORM FOLLOWING:	
		NTD STM	1.	WEATHER BRIEFING REQUESTED	COMM
		STM GYCC		BY *FLT.	SU72859
		111			
		GYCC GOIS		YES_____ NO_____	
		117 GYCJ	2.	ACTIVATE 2RAC534 (VHF WEATHER 126.65 MHZ RADIO CIRCUIT) TO ICOM-B FOR FLIGHT CREW WEATHER BRIEFING. VERIFY COMPLETION.	

NOT PERFORMED

SS2

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
	-20M00S COUNTING			OPS TRANSITION -----	
				NOTE	
				ELEVONS WILL MOVE TO LAUNCH POSITION AFTER OPS 101 TRANSITION.	
				IF BODY FLAP POSITION IS NOT WITHIN +/- 1.5 DEGREES OF COMMANDED POSITION (0 DEGREES) UPON ENTRY TO OPS 101, A BODY FLAP FAIL INDICATION WILL BE DISPLAYED TO CREW. UPON HYDRAULIC PRESSURIZATION BODY FLAP WILL BE AUTOMATICALLY DRIVEN BY FLIGHT SOFTWARE BACK WITHIN +/- 0.7 DEGREES OF COMMANDED POSITION AND FAIL INDICATION WILL BE AUTOMATICALLY RESET.	
16-0952	-20M00S COUNTING		CDPS CRT (VASJ6)	(VERIFY MESSAGES AS THEY APPEAR:)	
				"OPS TRANSITION IN PROGRESS"	
				"PASS IN 101, ACTIVE DOWNLIST FMT 21"	
				"TAKE BFS TO OPS 101"	
16-0953		CDPS OTC 212		PASS OPS TRANSITION COMPLETE. DPS READY FOR BFS TRANSITION TO OPS 101.	SU72861
				OMRSD S00FK0.025-A-1R	
				BFS TO OPS 1 -----	
16-0954	-18M30S	OTC 212	CDR	CLEAR PASS FAULT SUMM (SPEC 99 PRO) AND TAKE BFS TO OPS 1 PER YOUR CHECKLIST.	SU72863
16-0955			CDR	PANEL O6 GPC MODE SW - RUN GPC MODE 5 TB RUN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0956		CDR 212	OTC	BFS OPS 1 TRANSITION COMPLETE.	
16-0957	-18M00S		CGLS	VERIFY SLP AO AND SLP A1 ACTIVE IN BACKUP CONSOLE.	
16-0958			CGLS	VERIFY DOWNLISTED GMTLO TBO <V90W8380C1> IS +/- 2 SEC OF PLANNED LIFTOFF TIME.  OMRSD S00E00.960-1  T-20 MIN GPC DUMP -----	

NOTE

DUMP WILL REQUIRE  
 APPROX 10 MINUTES.

16-0959		CDPS		CRT (VASJ6 PG B)	SU72865
				T-20 MINUTE DUMP IN PROGRESS  FLIGHT CONTROLS READY VERIFICATION -----	
16-0960	-17M00S		COFC	CRT (VWB05 PG B)	SU72867
				ELEVON, RUD & SPBK DRVR CURRENTS ARE GO MPS TVC DRVR CURRENTS ARE GO SRB TVC DRVR CURRENTS ARE GO  OMRS V79GEN.100	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ALTERNATE TAL SITE SELECTION ----- (CONTINGENCY) -----					
NOTE  PERFORM NEXT STEP IF ALTERNATE TAL SITE SELECTION REQUIRED.					
16-0961		*FLT	PLT	PERFORM ALTERNATE TAL SITE SELECTION FOR TAL SITE _____ (1-5) DURING HORIZ SIT CONFIG.	SU72869
				NOT PERFORMED	_____
HORIZ SIT CONFIG -----					
16-0962	-17M00S	OTC 212	PLT	CONFIGURE PASS AND BFS HORIZONTAL SITUATION DISPLAYS PER YOUR CHECKLIST.	SU72871
16-0963		PLT	OTC	HORIZONTAL SITUATION CONFIGURATION COMPLETE.  CONTINGENCY ABORT YAW STEER (PASS) -----	
16-0964		OTC 212	CDR	CONFIG CONTINGENCY ABORT YAW STEER PER YOUR CHECKLIST.	SU72873
16-0965		CDR	OTC	CONTINGENCY ABORT YAW STEER CONFIGURATION COMPLETE.  READY FOR BFS UPLINK -----	
16-0966	-16M00S		CVFS	CRT (VASB9, PAGE B)  BFS TRACKING PASS FC STRG 1-4 CYAN NSP STAT GOOD  OMRSD S00FK0.030-1R	
16-0967		CVFS 232	NTD	READY FOR BFS UPLINK.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
BFS PRE-FLT U/L LOADING -----					
NOTE					
BFS LOAD'S WILL UPDATE TMBU'S, TDRS STATE VECTOR AND LAUNCH TARGET LOADS AS REQUIRED.					
16-0968	-16M00S	NTD	*FLT	PERFORM BFS PREFLIGHT UPLINK LOADING.	SU72875
16-0969		*FLT NTD		BFS PREFLIGHT UPLINK LOAD CVFS COMPLETE.	
VERIFY WSB QTY -----					
16-0970		CHYD	CRT	(VWF19)	SU72877
VERIFY					
WSB 1-2-3 BACKUP QTY (BFS DERIVED) 82-88 PCT FOR 118 POUND WATER LOAD 95-100 PCT FOR 140 POUND WATER LOAD					
WSB NO. 1 V98Q1970C1/V72Q6040V1 WSB NO. 2 V98Q1971C1/V72Q6042V1 WSB NO. 3 V98Q1972C1/V72Q6044V1					
MPS HE RECONFIGURATION -----					
16-0971		OTC 212	PLT	PERFORM MPS HE RECONFIGURATION.	SU72879
16-0972			PLT	PANEL R2 MPS HE ISOLATION A LEFT SW - OPEN CTR SW - OPEN RIGHT SW - OPEN HE ISOLATION B LEFT SW - OPEN CTR SW - OPEN RIGHT SW - OPEN HE ISOL SW - OPEN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0973		PLT	OTC	MPS HE RECONFIG COMPLETE.	
16-0974	-15M00S		CMPS	CRT (VAE18 PGB)	
				VERIFY	
				FOLLOWING OPEN POWERS ARE ON, SWITCH SCANS INDICATE OPEN:	
				ENG 1,2,3 REG ISOL A&B MPS REG ISOL 1 AND 2	
				OMRSD S00FK0.080-1	
16-0975	-15M00S		CMPS	CRT (SAE12)	
				VERIFY "ORB VLV PWRS OK" DISPLAYED	
				OMRSD S00FK0.050-B-1R	
16-0976	-15M00S		CMPL	CRT (SAE02)	
				VERIFY "ORB VLV PWR ON CHECKS OK" DISPLAYED	
				OMRSD S00FK0.050-A-1R	
16-0977		JSTC 114	*SEC	SECURITY ROVING BEACH PATROL - RESPOND TO ASSIGNED BUNKER AREAS AT THIS TIME.	SEC
				CONFIGURE OMS/RCS CROSSFEED VALVES ----- FOR FLIGHT -----	
NOTE					
				PERFORM OMS/RCS XFEED VALVE CONFIGURATION PER CDC.	
16-0978	-15M00S	OTC 212	COOS	CONFIGURE OMS/RCS CROSSFEED FOR FLIGHT.	SU72881

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
DO NOT PERFORM NEXT TWO STEPS IF ALL CROSSFEEDS ARE CLOSED.					
16-0979		COOS		CURSOR CNTL (VWD42) C4 - CLOSE	
				CRT VERIFY OMS XFD VALVE CLOSED	
				NOT PERFORMED	_____
16-0980		COOS		CURSOR CNTL (VWD41) C4 - CLOSE	
				CRT VERIFY OMS XFD VALVE CLOSED	
				NOT PERFORMED	_____
16-0981		COOS		VWD73 SWITCH SCAN VERIFY SWITCH POSITIONS FOR LAUNCH	
16-0982		COOS		VADL7 VERIFY VALVES CONFIGURED FOR FLIGHT	
16-0983		COOS	OTC	OMS/RCS CROSSFEED VALVES CONFIGURED FOR FLIGHT.	
		212		OMRSD V42BF0.130 OMRSD V43CF0.130	
				SRB AFT SKIRT GN2 PURGE HIGH FLOW ----- ACTIVATION -----	
16-0984	-15M00S	TBC	CBHY	INITIATE SRB AFT SKIRT GN2 HIGH FLOW RATE PURGE FOR BOTH LEFT AND RIGHT SRB'S.	SU72883
		136			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT STEP  
IF SRB AFT SKIRT GN2 PURGE  
ALREADY FLOWING AT A MINIMUM  
OF 90 PSI FLOWING PRESSURE.

16-0985

CBHY CURSOR CNTL (BAT04)  
SRB AFT SKIRT GN2 PURGE  
DC PWR  
PRI - ON  
SEC - ON

CURSOR CNTL (BAT04)  
SRB AFT SKIRT GN2 PURGE  
(VALVING)  
(MAIN)  
PRI-OP  
SEC-OP

CRT  
SRB AFT SKIRT GN2 PURGE  
(TEMPERATURE/PRESSURE)  
PRG  
ON

CURSOR CNTL (BAT04)  
SRB AFT SKIRT GN2 PURGE  
(HEATER)  
(ARROWS)  
ADJUST SET POINT TO 70 +/- 5

CURSOR CNTL (BAT04)  
SRB AFT SKIRT GN2 PURGE  
(HEATER)  
CMD - ON

CURSOR CNTL (BAT04)  
SRB AFT SKIRT GN2 PURGE  
(HEATER)  
(ARROWS)  
ADJUST SET POINT TO 95 +/- 5

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
EITHER PRESSURE MEASUREMENT (PRIMARY OR ALTERNATE) MAY SATISFY SPECIFICATION.					
16-0986		CBHY		CRT (BAT04)	
				SRB AFT SKIRT GN2 PURGE (TEMPERATURE/PRESSURE) PSI 90 (MINIMUM)	
				OMRSD S00FM0.430-1	
16-0987		CBHY TBC 136		SRB AFT SKIRT GN2 HIGH FLOW ACTIVATION COMPLETE.	
				SRB AFT SKIRT GN2 PURGE HIGH FLOW ----- ACTIVATION COMPLETE -----	
				CONFIG BAT04 FOR LCD -----	
16-0988	-15M00S	CBHY		CONFIGURE BAT04 FOR LAUNCH COUNTDOWN.	
16-0989		CBHY		CURSOR CNTL (BAT04) C/D MDE (BLOCK) XMIT CURSOR UNTIL - LNH	
				LAUNCH AREA CLEAR VERIF (-15M) -----	
16-0990		*PSE *SCC NET 105 *SCC NTD 212 *PAC		CLOSEOUT CREW AT ROADBLOCK A/B-11.	SU72784
16-0991		*SCC NTD		ALL NONESSENTIAL PERSONNEL HAVE CLEARED LAUNCH DANGER AREA EXCEPT THOSE PERSONNEL LOCATED BY SPECIFIC LIST AT FORWARD OBSERVER SITES.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0992	-15M00S	NTD 212	STM	TERMINATE VIDEO TRACKING OF CLOSEOUT CREW AND DEACTIVATE PAD OIS-D.	COMM SU72887
		STM	JYVO		
		138	JYVR		
		STM	GYCC		
		111			
		GYCC	JYCD		
		117			

16-0993	-15M00S	NTD 212	SRO	KSC AREA CLEAR FOR LAUNCH.	SU72885
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16-0994	-13M00S		JRPS	START BMU STRIP CHART RECORDERS. (OMI S9002VL16)	
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FUEL CELL PRELAUNCH CONDITIONING  
 -----

NOTE

ECL MONITOR HEAT LOAD IMPACT  
 IN NEXT STEP.

FCP CONDITIONING LOADS MUST  
 BE APPLIED FOR 10 MINUTES  
 MINIMUM IMMEDIATELY PRECEDING  
 APU START.

16-0995		OTC	CEPD	ADJUST FUEL CELL LOADS TO CFCP BETWEEN 250 AND 290 AMPS.	SU72889
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

INDIVIDUAL FUEL CELL CURRENTS ARE ALLOWED TO BE LESS THAN 250 AMPS EACH, ASSUMING THE TOTAL VEHICLE POWER IS NOT LESS THAN 23 KW.

STEADY STATE OPERATION OUTSIDE SPECIFIED TEMPERATURE LIMITS MAY BE ACCEPTABLE PROVIDED FCP INLET AND OUTLET KOH CONCENTRATIONS REMAIN WITHIN 24-48 PCT. ANY VIOLATION OF SPECIFIED TEMPERATURE LIMITS REQUIRES DESIGN ENGINEERING ASSESSMENT.

16-0996

CFCP

MONITOR FUEL CELL PERFORMANCE USING FOLLOWING CRITERIA:

VOLTAGE 28.325 VOLTS MIN  
(REF FIG V45CH0.010-1)  
CURRENT 250-290 AMPS  
TOTAL FC POWER 23 KW MIN  
STACK COOL OUT  
TEMP REF FIG V45CH0.010-2  
COND EXIT TEMP 140-160 DEG F  
COOLANT RET  
TEMP 40-140 DEG F  
COOLANT  
PRESSURE 65 +/- 10 PSIA  
STACK COOL IN  
TEMP 176-191 DEG F

OMRSD V45CH0.050

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ANNOUNCE HOLD TIME -----					
16-0997	-12M00S	NTD 212 PA		CDC WILL HOLD AT T-9 MINUTES.	
NOTE					
FOLLOWING STEP IS TIME CRITICAL AND MUST BE INITIATED PRIOR TO L-22 MIN.					
OEX RECORDER ACTIVATION -----					
(PRE-LAUNCH CONFIG) (OV-102 ONLY) -----					
NOTE					
PERFORM NEXT TWO STEPS IF REQUIRED BY *FLT (OV-102 ONLY).					
16-0998		NTD	*FLT	ACTIVATE OEX RECORDER FOR CISL PRE-LAUNCH SEQUENCE. JRPS (SEQ 38 S0007VL4).	SU72891
NOT PERFORMED _____					
16-0999		CISL NTD		PRE-LAUNCH MADS AND OEX RECORDER CONFIGURATION COMPLETE.	
NOT PERFORMED _____					
PENDING SET VERIFICATION -----					
NOTE					
FOLLOWING PENDING SET IS PERFORMED BY GLS, BY THE CLOCK.					
16-1000	-12M00S	LPS	AWP01	PG-B VERIFY SOURCE 2 HI RATE, VOICE YES PENDING IN GPCA, OIA, AND SOURCE 2 IS PENDING IN ME1, ME2, ME3 FEPS	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1001			LPS	SET SOURCE 2 HIGH RATE VOICE YES (192 KB) PENDING IN PLDA FEP.  VERIFY CONTINGENCY SUPPORT OPS ----- READY FOR LAUNCH -----	
16-1002	-12M00S	LRD 135	*DCD ROC EMS	VERIFY CONTINGENCY SUPPORT OPERATIONS READY FOR LAUNCH. EMERGENCY AIRCRAFT AND PERSONNEL ON STATION.	SU72893
16-1003		LRD CCN LRD LFP1	NCC LSC	CONTINGENCY SUPPORT ON STATION. READY FOR RTLS.  BSR READ -----	SU72899
16-1004	-10M00S		CCME	READ EIU BSR'S VWE01 PFP READ EIU GPC BSR - PRESS  NOTE  PERFORM NEXT STEP IF BU OR MSTR CONSOLE AND VWE01 IS NOT LOADED.	
16-1005			CCME	READ EIU BSR'S CBTU RBSR EIUX XMIT CMD EXEC CMD (X = 1,2,3 FOR EIU 1,2,3)  NOT PERFORMED	
16-1006	-10M00S	STM 111	JBAC	MONITOR MLP CHWR LINE PRESSURE DURING AND JUST AFTER LIFTOFF.	HVAA SU72895

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1007	-10M00S	JYCD 117 GYCC 111 STM 212	GYCC STM NTD	OIS-D DEACTIVATED TO PAD.	COMM SU72887
16-1008		OTC 212	ALL	DISCONTINUE ALL NON-MANDATORY LDB TRAFFIC FOR REMAINDER OF COUNT.  SINGLE SHOT VERIFY -----	
16-1009	-09M30S		CGLS	(SELECT APPL PG 6B)  CRT VERIFY SINGLE SHOT FAILURES DISPLAY	SU72897
NOTE					
PERFORM NEXT TWO STEPS IF ERRORS OCCUR.					
16-1010			CGLS	APPL PAGE 6B HARD COPY KEY - PRESS PFK15 KEY - PRESS  REPEAT PREVIOUS STEP UNTIL MSG 'VERIFY CYCLE COMPLETE' APPEARS ON PG-6B	
					NOT PERFORMED _____
16-1011			CGLS	PPF TERM VFY'S - PRESS  CRT VERIFY INTEGRATED MENU	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
***T-9 MINUTE HOLD***					
16-1012	-09M00S (HOLDING)	NTD PA 212		T-9 MINUTES AND HOLDING	
T-20 MIN GPC DUMP - COMPLETE					
16-1013	-09M00S (HOLDING)	CVFS 212 NTD OTC	NTD	T-20 MIN GPC DUMP COMPLETE.  OMRSD S00FK0.025-B-1R	SU72865
NOTE					
PERFORM NEXT STEP IF EXPECTED MISCOMPARES OCCUR.					
16-1014				CDPS CONSOLE KYBD (VASJ6 PG B) PFK 3 KEY - PRESS	
NOT PERFORMED _____					
NOTE					
PERFORM NEXT STEP IF UNEXPECTED MISCOMPARES OCCUR.					
16-1015				CDPS CONSOLE KYBD (VASJ6 PG B) PFK-2 KEY - PRESS	
NOT PERFORMED _____					
16-1016				CDPS CURSOR CNTL (SAS01 PG-B) DPS INIT DISPLAY XMIT CURSOR KEY - PRESS	
CURSOR CNTL (SAS01 PG-B) ACTIVATE OPS MGR 5 (SAS25) XMIT CURSOR KEY - PRESS					
PFK2 KEY - PRESS					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM FINAL LAUNCH WINDOW DETERMINATION AT L-39M FOR RENDEZVOUS MISSION WITH SHORT DURATION WINDOW.

FINAL LAUNCH WINDOW DETERMINATION

NOT PERFORMED

16-1017	-09M00S (HOLDING)	NTD 212	*FLT	READY FOR WINDOW DETERMINATION DISCUSSION WITH LD ON OIS 231.	SU72901
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16-1018	-09M00S (HOLDING)	LD 231	NTD *FLT	LAUNCH TIME OPENING WILL BE _____ (WINDOW OPEN OR PREFERRED LAUNCH TIME)	
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16-1019		NTD 212	*FLT	PROVIDE UPDATE TO LOX DRAINBACK HOLD TIME AND LAUNCH/RTLIS WEATHER CONSTRAINTS.	
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LOX DRAINBACK HOLD TIME (PERFORMANCE)

\_\_\_\_\_ MIN \_\_\_\_\_ SEC

16-1020	-09M00S (HOLDING) L-37M00S	NTD 212	OTC TBC PTC *MIL STM *SCC SPE LRD SRO CDR	FINAL LAUNCH WINDOW OPENING WILL BE _____ GMT (WINDOW OPEN OR PREFERRED LAUNCH TIME) AND WILL CLOSE AT _____ GMT. THERE (IS/IS NOT) A LAUNCH WINDOW CUTOUT: CUTOUT BEGINS: _____ GMT CUTOUT ENDS: _____ GMT DURING THE CUTOUT PERIOD, LAUNCH WILL NOT BE ATTEMPTED.	
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LOX DRAINBACK HOLD TIME IS \_\_\_ M \_\_\_ S AND BASED ON ENGINE (STARTBOX/ PERFORMANCE/GO2 CERTIFICATION.)

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1021		NTD 212	CGLS	SET CDC TO RESUME AT ____:____/____ DD:HHMM/SS UPDATE HOLD TIME REMAINING CLOCK.	
				NOT PERFORMED	

NOTE

PERFORM NEXT STEP IF PREFERRED  
LAUNCH TIME SELECTED.

16-1022		LRD 135	BRD	PREFERRED LAUNCH TIME SELECTED. UPDATED SHIP COORDINATES ARE:  RH SRB _____  LH SRB _____  DEPLOY RETRIEVAL SHIPS TO NEW COORDINATES AND REPORT COMPLETION.	SU72901
				NOT PERFORMED	
				FINAL LAUNCH WINDOW DETERMINATION ----- COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
G1 LAUNCH TARGET UPLINK LOADING					
-----					
NOTE					
PERFORM NEXT THREE STEPS IF PASS LAUNCH TARGET UPLINK LOADING IS REQUIRED.					
16-1023		*FLT	NTD	G1 LAUNCH TARGET UPLINK LOADING IS REQUIRED.	
				NOT PERFORMED	_____
16-1024		NTD	*FLT	PERFORM PASS TARGET UPLINK LOADING.	
				NOT PERFORMED	_____
16-1025		*FLT	NTD	PASS TARGET UPLINK LOADING COMPLETE. CVFS	
				NOT PERFORMED	_____
G1 LAUNCH POLYNOMIAL UPDATE					
-----					
NOTE					
PERFORM NEXT TWO STEPS IF LAUNCH POLYNOMIAL UPDATE IS REQUIRED.					
16-1026		*FLT	NTD	G1 LAUNCH POLYNOMIAL UPDATE REQUIRED AND IMU RM CAPABILITY WILL SUPPORT.	
				NOT PERFORMED	_____
16-1027		NTD	*FLT	PERFORM LAUNCH POLYNOMIAL UPDATE CVFS PER SEQ 117 (S0007VL5).	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- BFS G1 LAUNCH TARGET UPLINK LOADING -----					
NOTE					
PERFORM NEXT TWO STEPS IF A BFS LAUNCH TARGET UPLINK IS REQUIRED TO SUPPORT RENDEZVOUS.					
16-1028		NTD	*FLT	PROCEED WITH TRANSMISSION OF BFS LAUNCH TARGET UPDATE.	
				NOT PERFORMED	_____
16-1029		*FLT	NTD	BFS LAUNCH TARGET UPDATE COMPLETE. CVFS	
				NOT PERFORMED	_____
16-1030		OTC 212	PLT	CLEAR CAUTION AND WARNING MEMORY AND VERIFY NO UNEXPECTED ERRORS.	
16-1031			PLT	PANEL C3 CAUTION/WARNING MEMORY SW - CLEAR	
16-1032		PLT 212	OTC	CAUTION AND WARNING MEMORY CLEAR COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
EXTEND HOLD -----					
NOTE					
PERFORM NEXT FOUR STEPS IN EVENT HOLD MUST BE EXTENDED.					
16-1033	-09M00S (HOLDING)	NTD 212	CGLS	HOLD WILL BE EXTENDED. CANCEL PENDING.	_____
				NOT PERFORMED	_____
16-1034		NTD PA 212		THE HOLD WILL BE EXTENDED.	_____
				NOT PERFORMED	_____
16-1035	-09M00S (HOLDING)		CGLS	SELECT APP PG 3B CURSOR CNTL SELECT CANCEL PENDING CDC REQUESTS	_____
				NOT PERFORMED	_____
16-1036			JRPS	STOP DISPLAY STRIP CHART RECORDERS. RESUME AT PICK UP OF COUNT.	_____
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1037	-09M00S (HOLDING)	LPS	JSDC JCMC JRPS	VERIFY READY TO RESUME COUNT AND GO FOR LAUNCH.	

NOTE

PERFORM NEXT STEP IF  
 \*FLT DETERMINES RTL'S ALT  
 SETTING/ASCENT DATA OR  
 RUNWAY REQUIRES UPDATING.

ASCENT DATA CREW UPDATE (-09M)

16-1038	-09M00S (HOLDING)	*FLT NTD 212	CDR PLT OTC STM	READING OUT RTL'S ALT SETTING/ASCENT DATA AND RUNWAY.	
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NOT PERFORMED

IUS ASE BATTERIES ON-LINE

NOTE

PERFORM NEXT STEP FOR  
 IUS MISSION AT L-20M  
 (STS-93).

16-1039	-09M00S (HOLDING) -L20M00S	ICTC 134	PTC	COMMANDING ASE BATTERIES ON-LINE PER DOP D290-50020-27. WILL REMAIN ON THROUGH LAUNCH.	
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OMRSD P018JC.010

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
IUS HOLD FIRE ENABLE -----					
NOTE					
PERFORM NEXT STEP FOR IUS MISSION (STS-93).					
16-1040	-09M00S (HOLDING)	NTD 212	PTC	PERFORM HOLD FIRE ENABLE BY CLOCK AT L-15M00S.	
	L-18M00S	PTC 134	ICTC		
NOT PERFORMED _____					
PVD/ECS PLB FLOW REDUCTION -----					
16-1041	-09M00S (HOLDING)		CPVD	CONSOLE KYBD	SU72903
	L-17M00S			IF PLB PURGE FLOWRATE GREATER THAN 180 LB/MIN, ADJUST PLB FLOW RATE TO 170 LB/MIN PER APPENDIX B OF V1122 - ECS CONTINGENCY ADJUSTMENTS/OPERATIONS.	
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1042				CPVD VERIFY VENT DOOR 6 L/H AND R/H CLOSED.	
16-1043				CPVD VERIFY PLB FLOW RATE STABILIZES AT 180 LB/MIN, MAXIMUM.	
				OMRSD V05AH0.050-D	
16-1044		CPVD OTC		PLB PURGE FLOWRATE SET FOR LAUNCH.	

NOTE

PAYLOAD TEST CONDUCTORS  
 CONCURRENCE WILL BE  
 OBTAINED AT T-1H30M.

16-1045	-09M00S (HOLDING) L-15M00S	LPS		WITH PAYLOAD TEST CONDUCTORS CONCURRENCE INHIBIT FOLLOWING HIM ON GDB 4A/24A GS1A FEP.	
			HIM	PAD A OCTAL	PAD B OCTAL
			---	-----	-----
			6880	056	056

NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT STEP IF PPOV OR  
 MINI CAMERA IS INSTALLED.

16-1046		OTC MS2		PANEL O19 TV TV PWR SW - ON	SU72905
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF DTO  
 685 (ELETRONIC KNEEBOARD)  
 IS INSTALLED.

16-1047		OTC	MS1	TURN ON PDA.	
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NOT PERFORMED

L-15M RECORDER ACTIVATION

16-1048		NTD 212	CISL JRPS	PERFORM L-15M RECORDER ACTIVATION (OIS CH 145 PER S0007VL4, SEQ 38 *FLT AT L-15M00S).	SU72907
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16-1049		CISL 212	NTD	OPS 2 RECORDER ACTIVATED.	
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IUS HOLD FIRE ENABLE

NOTE

PERFORM NEXT STEP FOR  
 IUS MISSION (STS-93).

16-1050	-09M00S (HOLDING) L-15M00S	ICTC 175	ICC1	PERFORM HOLD FIRE SYSTEM ENABLE PER A2811 ON OIS CH 175.	
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
LAUNCH STATUS CHECK -----					
16-1051	-09M00S (HOLDING)	NTD 212	OTC TBC PTC LPS *FLT *MIL STM *SCC SPE LRD SRO CDR	VERIFY READY TO RESUME COUNT AND GO FOR LAUNCH	SU72909
16-1052		NTD	LD	LAUNCH TEAM READY TO PROCEED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				SPACE SHUTTLE OPERATIONS MANAGER ----- LAUNCH READINESS CHECK -----	
16-1053		*OM SSPO	MMT	VERIFY READY TO RESUME COUNT AND GO FOR LAUNCH:  SPACE SHUTTLE VEHICLE ENGINEERING SSME ROCKETDYNE RSRM THIOKOL SRB ET LOCKHEED MARTIN MICHOU D SPACE SYSTEMS LAUNCH AND LANDING KSC SPACE STATION AND SHUTTLE PAYLOADS FCOD MISSION OPS FLIGHT MANAGER PROGRAM INTEGRATION UNITED SPACE ALLIANCE SSP DEPUTY PROGRAM MANAGER MSFC PROJECTS PROGRAM MGR SR AND QA DDMS	
16-1054		LD 212		VERIFY ENGINEERING DIRECTOR'S TEAM (FR2/ESA) HAS NO CONSTRAINT TO LAUNCH.	
16-1055		LD	SF	VERIFY KSC DIRECTOR OF SAFETY AND MISSION ASSURANCE HAS NO CONSTRAINT TO LAUNCH.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1056		LD 212	PL	VERIFY PAYLOAD PROCESSING DIRECTOR HAS NO CONSTRAINT TO LAUNCH.	
16-1057		LD	*WEA	VERIFY CAPE WEATHER FORECAST MEETS LAUNCH WEATHER CRITERIA.	
16-1058		LD	*OM	VERIFY NSTS OPERATION MANAGER'S CONCURRENCE TO PROCEED WITH LAUNCH.	
16-1059		LD	NTD	PROCEED WITH COUNTDOWN.  COUNTDOWN RE-ENTRY POINT FOR ----- INTEGRATION CONSOLE FAILURE ----- BETWEEN T-9 MIN AND T-5 MIN -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CLOCK START IN 4 MINUTES -----					
16-1060	-09M00S (HOLDING) L-13M00S	NTD 212	ALL	THE COUNTDOWN CLOCK WILL START IN 4 MINUTES.	
TAPE SWITCH PDR SUB-SYS -----					
16-1061	-09M00S (HOLDING) L-13M00S	LPS 127	CPDR	PERFORM TAPE SWITCH AT PDR SUBSYSTEM IF A NORMAL TAPE SWITCH HAS NOT OCCURED WITHIN PREVIOUS 5 MINUTES.	
NOT PERFORMED					_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF  
 RUNWAY DESIGNATION FOR  
 RTLs OR THE AOA SITE SELECTION  
 HAS CHANGED FROM INITIAL CALL.

16-1062	-09M00S (HOLDING) L-13M00S	LSO LF1 LRD CCN LRD 135 STM 111 JSTC 114	LRD NCC STM SLF JSTC FSTM GYCC FSTC FSAM JFIR *SEC	IN EVENT OF RTLs ABORT, LANDING WILL BE ON RUNWAY _____ (15 OR 33). AOA SITE SELECTION IS _____. (KSC, DFRC, WSSH)	JSTC SLF FIRE SEC
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NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM THE NEXT STEP IF  
 KSC IS THE PRIME AOA  
 SITE.

16-1063		LRD 135	SRO	KSC IS THE PRIME AOA SITE. MAINTAIN AIRSPACE CONTROLS UNTIL THE NEGATIVE AOA CALL.	
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NOT PERFORMED \_\_\_\_\_

HGDS, BUHGDS AND HUMS AUTO CALS COMPLETE  
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16-1064		CHGD 212	OTC	HGDS, BUHGDS AND HUMS AUTO CALS AND CONFIDENCE CHECKS COMPLETE. NO ANOMALIES NOTED.	SU72852
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16-1065			CGLS	TERM ALL OC TASKS AND GLS LOOKUPS AT INTG BEFORE CDC IS RESUMED.	
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16-1066			CGLS	TAKE PRINTER OFF LINE. (FOR INTG CONSOLE)	
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16-1067			CGLS	TAKE PRINTER OFF LINE. (FOR BKUP CONSOLE)	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CLOCK START IN 3 MINUTES					
16-1068	-09M00S (HOLDING)	NTD 212	ALL	COUNT CLOCK WILL PICK UP IN 3 MINUTES. MARK.	

NOTE

SRO/SCM WILL BE PERFORMING  
HOLDFIRE SYSTEM ENABLE ON  
CH 175. IT IS CRITICAL THAT  
SRO KNOWS THAT CDC WILL BE  
PICKED UP IN 2 MINUTES.

FOR IUS MISSIONS:  
AT APPROXIMATELY L-11  
MINUTES, IUS NAVIGATION  
SYSTEM IS COMMANDED TO  
NAV FLIGHT MODE AND FLIGHT  
READY COMMAND IS ISSUED.  
FLIGHT READY COMMAND WILL  
ESTABLISH IUS CONFIGURATION  
FOR LAUNCH.

16-1069	-09M00S (HOLDING) L-11M00S	NTD 212		COUNTDOWN CLOCK WILL START IN 2 MINUTES. 3,2,1 MARK.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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FIREX PUMP TO OP PRESS

NOTE

PERFORM NEXT STEP ONE  
MINUTE PRIOR TO START OF  
COUNTDOWN CLOCK. IF HOLD  
IS EXTENDED, NEXT STEP WILL  
BE PERFORMED AT PICKUP OF  
COUNTDOWN.

16-1070	-09M00S (HOLDING)	STM 111	JBFX	BRING UP LAUNCH PAD FIREX PUMP P-1 TO OPERATIONAL PRESSURE WITH NON-LAUNCH PAD PUMP P-1 AS BACKUP.	WSSA SU72842
16-1071	-09M00S (HOLDING)	JBFX 111	STM	FIREX PUMP P-1 HAS STARTED.	WSSA

OPERATION INSTRUCTIONS

-----  
SEQ            TIME            CMD    RESP                            DESCRIPTION                            VERIF.  
-----

-----  
START VIDEO RECORDING  
-----

NOTE

PERFORM NEXT TWO STEPS  
1 MINUTE PRIOR TO PICKUP  
OF COUNT.

16-1072	-09M00S (HOLDING)	JYVS 138	JYVO	CONTACT EEC PERSONNEL AT 853-8279/8242 FOR INITIAL POSITIONING OF VAB ROOF OTV CAMERA 080. TRANSMIT VIDEO TO CDSC VIA 6TVM4100 (SW 1 OUTPUT 382).	COMM
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NOTE

COVERAGE WILL BE FORMATION  
AND DEVELOPMENT OF  
IGNITION CLOUD THAT FORMS  
NORTHEAST OF PAD. EEC  
PERSONNEL WILL OBSERVE OTV  
CAMERA 080 IN ROCC.  
PAYLOAD COMM WILL EXTEND  
CIRCUIT TO ROCC.

16-1073	-09M00S (HOLDING)	JYVO 138	JYVR	START VIDEO RECORDING OF OTV CAMERA 080. (SEE EEC FIGURE 4)	COMM
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CLOCK START IN 1 MINUTE -----					
16-1074	-09M00S (HOLDING) L-10M00S	NTD 212		THE COUNTDOWN CLOCK WILL START IN 1 MINUTE. MARK.	
IGNITER HEATER POWER REMOVAL -----					
16-1075	-09M00S (HOLDING) L-10M00S	TBC 136	CPWR	PERFORM SRB IGNITER HEATER POWER REMOVAL.	SU72844
16-1076			CPWR	CURSOR CNTL (BDE11) AUTO SEQ - IGN XMIT CURSOR KEY - PRESS  CRT  VERIFY  LH/RH IGN HTR CURRENT <0.5 AMPAC  OMRSD S00FA0.980	
16-1077		CPWR 136	TBC	IGNITER HEATER POWER REMOVAL COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
IUS FINAL LAUNCH CONFIGURATION					
NOTE					
NEXT STEP WILL VERIFY COMPLETION OF FOLLOWING IUS ACTIVITIES (L-10 MIN):					
1. REM HEATERS ACTIVE					
2. SCU RELAY DRIVER CHECKS					
3. ASE BATTs ON-LINE					
4. NAV SYSTEM TO NAV FLIGHT MODE					
5. FLIGHT READY COMMAND ISSUED					
6. POWER SWITCHING INHIBITED					
PERFORM NEXT STEP FOR IUS MISSION (STS-93).					
16-1078	-09M00S (HOLDING) L-10M00S	ICTC	PTC 134	IUS FINAL LAUNCH CONFIGURATION ESTABLISHED. IUS FINAL LAUNCH CONFIGURATION COMPLETE.	
				OMRSD P018JC.010	
					NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				IUS HOLD FIRE ENABLE COMPLETE	
				NOTE	
				PERFORM NEXT STEP FOR IUS MISSION (STS-93).	
16-1079	-09M00S (HOLDING) L-9M45S	ICTC 212	NTD	HOLD FIRE SYSTEM ENABLED, IUS FINAL LAUNCH CONFIGURATION COMPLETE.  OMRSD P018JC.010	
				NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- COUNTDOWN CLOCK START -----					
16-1080	-09M00S (COUNTING)	NTD PA 212		T-9 MINUTES AND COUNTING	SU72846
16-1081		GYCC 117	GYCJ	ACTIVATE LANDING FIELD, WX OBSERVER AND AIRCRAFT ORBITER CIRCUITS TO TAL SITES SUPPORTING THIS MISSION. VERIFY COMPLETION.	COMM
16-1082		GYCC COMM COORD	*VCE	LANDING FIELD, WX OBSERVER AND AIRCRAFT ORBITER CIRCUITS ACTIVATED TO TAL SITES SUPPORTING THIS MISSION.	COMM

NOTE

PERFORM NEXT STEP IF EXTENDED  
 HOLD REQUIRED BETWEEN T-9 MIN  
 AND T-5 MIN.

16-1083		NTD		PERFORM HOLD OPTION NO. 1 (SEQ 28) FOR EXTENDED HOLD BETWEEN T-9 MIN AND T-5 MIN (PRIOR TO APU START).	
---------	--	-----	--	--	--

NOT PERFORMED \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
GLS AUTO SEQ START -----					
16-1084	-09M00S COUNTING	CGLS		GLS AUTO SEQUENCE INITIATED.	SU72848
16-1085	-09M00S	STM 138	JYVR	START VIDEO RECORDING AS FOLLOWS:	COMM
1. M-II RECORDERS  CAMERA 041/141, 048/148, 051/151 070/170, 071/171, TV-2, TV-4A/B, TV-5, TV-7A/B TV-11, TV-13, TV-21 A/B					
2. S-VHS/VHS RECORDERS  CAMERA 043/143, 049/149, 050/150 (ENGINEERING ANALYSIS)					
DEACTIVATE VHF WX CIRCUIT -----					
NOTE					
PERFORM NEXT TWO STEPS IF CIRCUIT ACTIVATED PER *FLT REQUEST.					
16-1086	-09M00S COUNTING	NTD 212 STM 111 GYCC 117	STM	DEACTIVATE 2RAC534 (VHF WEATHER 126.65 MHZ RADIO CIRCUIT) FROM ICOM-B.	COMM SU72850
NOT PERFORMED _____					
16-1087		STM 212 NTD	NTD	2RAC534 (VHF WEATHER 126.65 MHZ RADIO CIRCUIT) NOT ACTIVE *FLT TO ICOM B.	
NOT PERFORMED _____					
16-1088		LPS 127	C2MC	PLACE ALL PP1 AND PP2 UNITS ON LINE.	SU72854

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- STORED PROGRAM PRE-LAUNCH COMMANDS -----					
NOTE					
IF HOLD OCCURS AFTER TRANSMITTAL OF BFS SPC LOAD, *FLT WILL TRANSMIT SPC BUFFER CLEAR AND NEW BFS SPC LOAD BASED ON UPDATED LIFTOFF TIME IF REQUIRED.					
16-1089	-08M00S			*FLT TRANSMIT STORED PROGRAM PRE-LAUNCH COMMANDS (BFS SPC LOAD).	SU72856
16-1090	-08M00S			*FLT VERIFY 2-STAGE BUFFER AUTO COMPARE AND EXECUTE.	
FUEL CELL/ESSENTIAL BUS SOURCE ON -----					
16-1091	-08M00S	OTC	PLT	CONFIGURE FUEL CELL/ESSENTIAL BUS SOURCE SWITCHES.	SU72857
16-1092			PLT	PANEL R1 POWER DISTRIBUTION ESS BUS SOURCE FC 1 SW - ON FC 2 SW - ON FC 3 SW - ON  OAA RETRACT -----	
16-1093	-07M30S	CGLS 212		ORBITER ACCESS ARM RETRACT (AUTO).	SU72858
16-1094	-06M20S	OTC	JRPS	START APU STRIP CHART RECORDERS.	SU72862

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
APU PRE-START					
CAUTION					
DURING THE PERIOD OF ENERGIZATION OF FUEL TANK ISOLATION VALVES, CAPU IS TO CONTINUOUSLY MONITOR VALVE TEMPERATURES. APU FUEL TANK ISOLATION VALVE TEMPERATURES SHALL NOT EXCEED 220 DEG F.					
16-1095	-06M15S	OTC 212	PLT	PERFORM APU PRE-START.	SU72864
16-1096	-06M15S		PLT	PANEL R2 APU/HYD BOILER N2 SUPPLY (VERIFY) 1 SW ON 2 SW ON 3 SW ON BOILER PWR (VERIFY) 1 SW ON 2 SW ON 3 SW ON BOILER CNTLR/HTR (VERIFY) 1 SW A 2 SW A 3 SW A APU CNTLR PWR 1 SW - ON 2 SW - ON 3 SW - ON HYD CIRC PUMP (VERIFY) 1 SW GPC 2 SW GPC 3 SW GPC HYD MAIN PUMP PRESS 1 SW - LOW 2 SW - LOW 3 SW - LOW APU AUTO SHUT DOWN (VERIFY) 1 SW ENABLE 2 SW ENABLE 3 SW ENABLE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1096				APU SPEED SELECT (VERIFY)	
CON'T				1 SW NORM	
				2 SW NORM	
				3 SW NORM	
				APU OPERATE (VERIFY)	
				1 SW OFF	
				2 SW OFF	
				3 SW OFF	
				APU FU TK VLV ENA (VERIFY)	
				1A CB - CLOSE	
				1B CB - CLOSE	
				2A CB - CLOSE	
				2B CB - CLOSE	
				3A CB - CLOSE	
				3B CB - CLOSE	
				APU FUEL TK VLV	
				1 SW - OPEN	
				2 SW - OPEN	
				3 SW - OPEN	
				VERIFY READY TO START TB'S (3) - GRAY	
16-1097		PLT	OTC	APU'S CONFIGURED FOR START.	
		212			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
HYD PRE-APU START CHECKS (-6M)					
16-1098			CHYD	PERFORM HYD PRE-APU START CHECKS PER S0007VL4 (SEQ 46).	
16-1099			CAPU	PERFORM APU PRE-START CHECK PER S0007VL4 (SEQ 42).	SU72866
GO FOR APU START					
16-1100	-05M00S	CGLS 212	OTC	GO FOR APU START.	SU72870
APU START					

NOTE

CECL MONITOR FOR HEAT  
 LOAD IMPACT IN NEXT STEP.

16-1101	-05M00S	OTC 212	PLT	PERFORM APU START.	SU72872
16-1102	-05M00S		PLT	PANEL R2 (VERIFY) APU/HYD READY TO START 1 TB GRAY 2 TB GRAY 3 TB GRAY APU OPERATE 1 SW START/RUN 2 SW START/RUN 3 SW START/RUN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1103		PLT		PANEL F8 (VERIFY) HYD PRESS 1,2,3 IND LO GREEN  PANEL R2 (VERIFY) APU/HYD READY TO START 1 TB BP 2 TB BP 3 TB BP HYD MAIN PUMP PRESS 1 SW NORM 2 SW NORM 3 SW NORM  PANEL F8 (VERIFY) HYDRAULIC PRESSURE 1,2,3 IND HI GREEN	
16-1104		PLT		PANEL R2 APU/HYD HYD CIRC PUMP 1 SW - OFF 2 SW - OFF 3 SW - OFF  PANEL F7 (VERIFY) HYD PRESS LITE OFF	
16-1105		PLT 212	OTC	APU START COMPLETE.  HYD POST APU START CHECKS (-5M) -----	
16-1106		CHYD		PERFORM HYD POST APU START CHECKS PER S0007VL4 (SEQ 46)  OMRSD S00FM0.175-1R	
16-1107		CAPU		PERFORM APU POST START CHECK PER S0007VL4 (SEQ 42).	SU72874

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				HTR RECONFIG -----	
16-1108	-05M00S	OTC 212	CDR	RECONFIGURE HEATERS	SU72876
16-1109	-05M00S		CDR	PANEL L2A1 FLASH EVAP FEEDLINE HTR A SUPPLY SW - OFF B SUPPLY SW - OFF	L2A1S23 L2A1S24
16-1110			CDR	PANEL L1 HI LOAD DUCT HTR SW - A/B (OV-102)	
16-1111			CECL	CRT PAGE A (VAG29) FES FL HTR A/B - FF/FF	
16-1112			CDR OTC	HEATER RECONFIGURATION COMPLETE.	
16-1113			CDR	PANEL C2 LEFT CRT SEL SW - 3 LT KYBD SYS SUMM  BFS CRT 3 SM SYS SUMM 1	
16-1114	-05M00S	*SCC NET 105	ALL	MAINTAIN SILENCE ON NET 105 UNTIL NEGATIVE RTLS VERIFIED.	SU72878
16-1115		STM 111	JBAC	ACTIVATE COOLING TOWER SPRAY SYSTEM.	HVAA
16-1116	-05M00S		JCFM	START PMS RECORDERS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
SRB JOINT HEATER ALARM INHIBIT -----					
16-1117	-05M00S	CPWR	PFPP (BWE11)	PFPPK 5 KEY - PRESS	
			LED 5	VERIFY	
			ALARM INH		
AUTO ET OPS DEACTIVATION -----					
16-1118		CPWR	PFPP (BWE08)	PFPPK 3 KEY - PRESS	
			LED 3		
			CRT	VERIFY	
			AUTO ET OPS INH		
TERM LOX REPLENISH -----					
16-1119	-04M55S	CGLS	TERMINATE LOX REPLENISH.		SU72880

NOTE

IF HOLD IS PENDING AFTER  
 LOX TERM REPLENISH TIME OF  
 T-5M AND LOX DID NOT TERMINATE  
 REPLENISH, PERFORM NEXT STEP  
 55 SECS (FOR HOLD AT T-4M),  
 2M00S (FOR HOLD AT T-2M55S) OR  
 4M24S (FOR HOLD AT T-31 SEC)  
 BEFORE RESUMING FROM THE HOLD  
 SO THAT LOX TERM REPLENISH  
 OCCURS AT PROPER L-TIME.

16-1120		CGLS	PFPP (SLP01)	PFPPK3 (CONTINGENCY LEDS) - PRESS	
				PFPPK1 (TERM LOX REPL) - PRESS	
				PFPPK6 (EXEC TERM LOX REPL) - PRESS	

NOT PERFORMED \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1121				CSME CRT (VAE38) VERIFY E-1, E-2 AND E-3 MFV CURRENT INDICATES 0.  OMRSD S00FM0.040	
				NOTE  PERFORM NEXT TWO STEPS IF THE T-9 MIN HOLD WAS EXTENDED OR THE COUNTDOWN CLOCK WAS HELD AFTER T-9 MIN.	
16-1122		NTD 212	*FLT	PROVIDE UPDATE TO LOX DRAINBACK HOLD TIME (PERFORMANCE)  _____ MIN _____ SEC NOT PERFORMED	
16-1123		NTD 212	ALL	HOLD TIME REMAINING IS:  _____ MIN _____ SEC NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				SSME PURGE SEQUENCE - 4 -----	
16-1124	-04M00S	CGLS 212		SSME PURGE SEQUENCE 4 (AUTO)	SU72882
				LO2 PRESSURIZATION -----	
16-1125	-02M55S	CGLS 212		ET LO2 PRESSURIZATION (AUTO).	SU72892
				SSME GN2 PURGE TERMINATION -----	
16-1126				CSME CRT (VAE38) VERIFY GN2 PURGE TERMINATES  OMRSD S00FM0.350-1	
16-1127				CSME CRT (VAE38A) VERIFY GN2 HEATER PANEL OUTLET TEMP AMBIENT (LESS THEN 90 DEG F) FOR PRECEDING 2.5 HOURS MINIMUM.  OMRSD S00FD0.095-B	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				CLEAR CAUTION AND WARNING MEMORY	
16-1128	-02M30S	OTC 212	PLT	CLEAR CAUTION AND WARNING MEMORY VERIFY NO UNEXPECTED ERRORS	SU72896
16-1129			PLT	PANEL C2 CRT 3 MAJ FUNC SW - GNC  R KYBD (BFS) FAULT SUMM  R KYBD (BFS) SPEC 99  PRO (CLEAR FSP)  RESUME SYS SUMM  CRT 3 GNC SYS SUMM 1 (BFS)	
16-1130	-02M30S		PLT	PANEL C2A2 R CRT SEL SW - 2  R KYBD FAULT SUMM  R KYBD  SPEC 99 PRO (CLEAR FSP)  RESUME  CRT 2 GNC SYS SUMM 1  PANEL C2 R CRT SEL SW - 3	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1131	-02M30S		PLT	PANEL C3 CAUTION/WARNING MEMORY SW - CLEAR	
16-1132	-02M30S	PLT	OTC 212	CAUTION AND WARNING CLEAR COMPLETE.  CLOSE VISORS -----	
16-1133	-02M00S	OTC	FLT	CLOSE AND LOCK YOUR VISORS AND CREW INITIATE O2 FLOW.  CONFIG LDBM SUB-SYS -----	SU72898
16-1134	-02M00S		CLDB	CONFIGURE LDBM SUBSYSTEM DUAL BUS - ACCEPT	
16-1135	-02M00S		JBWC	VERIFY AUTO START OF PRINTER PLOTTERS. SKELETON LFA/LFB TO REMAIN DISPLAYED THRU T-0. (P/P'S MAY BE SECURED FOR RECYCLES OR EXTENDED HOLDS)  LH2 TANK PRESSURIZATION -----	WSSA
16-1136	-01M57S	CGLS	212	ET LH2 PRESSURIZATION (AUTO).  OMRSD S00FM0.400-1 (SSH03) OMRSD S00FM0.380-1 (SSH03) OMRSD S00FM0.390 (SSH03) OMRSD S00FM0.450-1 (SSH03)	SU72900
16-1137	-01M30S		NTD 212	ONE MINUTE 30 SECONDS.	
16-1138	-01M00S		NTD 212	ONE MINUTE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
GLS GO FOR AUTO SEQ START					
-----					
NOTE					
FROM THIS TIME UNTIL LAUNCH OR ABORT APPENDIX M (SRB TIME /CYCLE DATA SHEET) DATA WILL BE AFFECTED.					
16-1139	-00M31S	CGLS		GLS GO FOR AUTO SEQ START (AUTO). SU72904	
		212			
ARM CUTOFF					
-----					
16-1140	-00M31S	CGLS		PFPK SLP01 - PRESS PFPK CUTOFF - PRESS VERIFY CUTOFF ARMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
ORBITER VENT DOOR SEQ START -----					
16-1141	-00M28S	CPVD		ORBITER VENT DOORS LAUNCH CONFIGURATION SEQUENCING START.	
16-1142	-00M25S	NTD	212	TWENTY FIVE	
16-1143	-00M20S	NTD	212	TWENTY	
16-1144	-00M15S	NTD	212	FIFTEEN	
16-1145	-00M10S	NTD	212	TEN	
GLS GO FOR M.E. START -----					
16-1146	-00M10S	CGLS 212		GLS GO FOR MAIN ENGINE START.	

NOTE

PERFORM NEXT STEP ONLY IF  
 DISK RECORDING ERRORS ARE  
 OCCURRING AT THIS TIME.

16-1147	-00M08S	CPDR		INHIBIT BULK DISC RECORDING PDR INFOTON KYBD #TMRC,D RTN KEY - PRESS	NOT PERFORMED
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
MAIN ENGINE START -----					
NOTE					
IF PC IS LESS THAN 90 PCT AT 4.60 SEC AFTER START CMD OR ANY MAIN ENG STATUS LITE AMBER PRIOR TO SRB IGNITION, SEQUENTIAL SHUTDOWN OCCURS.					
16-1148	-00M06.60S	CSME		MAIN ENGINE 3 START CMD (AUTO)	SU72908
	-00M06.48S			MAIN ENGINE 2 START CMD (AUTO)	
	-00M06.36S			MAIN ENGINE 1 START CMD (AUTO)	
16-1149	-00M06S	PLT		PANEL F7 MPS PRESS PC (3) INCREASING TO >90 PCT	
SRB IGNITION/LIFTOFF -----					
16-1150	00M00S	NTD 212		T-0 SRB IGNITION.	SU72910
NOTE					
AT UMBILICAL DISCONNECT THE FIRING ROOM WILL BE AUTO-SWITCHED TO RF DATA - A MOMENTARY DATA LOSS MAY OCCUR. THE LDBA AND LDBS FEP WILL GO TO NO GO MODE.					
DESELECT KSC U/L -----					
NOTE					
PERFORM NEXT STEP AT SRB IGNITION.					
16-1151				*MIL DESELECT KSC UPLINK ON ASTRO COMM UHF, A/G1, A/G2.	
16-1152		NTD 212		TEST TEAM MONITOR A/G COMM ON OIS CH 217/218 AND REMAIN ACTIVE ON CH 212.	

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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FIGURE 16-01 - ABORT FLOW CHART (FOR REFERENCE ONLY)



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM RSLs ABORT SAFING  
 ANYTIME AFTER SSME 3 START  
 COMMAND IS ISSUED (T-6.6 SEC)  
 BY THE RSLs AND A RSLs ABORT  
 OCCURS.

16-1153

RSLs ABORT SAFING  
 -----

NOT PERFORMED \_\_\_\_\_

NOTE

RSLs ABORT CRITERIA:

- (A) CUTOFF AFTER ENGINE START SEQUENCE INITIATED, AND PRIOR TO SRB IGNITION.
- (B) PASS GPC'S IN MM 101
- (C) LDB INTEGRITY/POLLING MAINTAINED
- (D) BFS NOT ENGAGED (BUT MAY HAVE MODED TO 102)

16-1154

NTD PERFORM RSLs ABORT SAFING OPERATIONS AS FOLLOWS:

1. CGLS NTD CUTOFF

THE RSLs ABORT FLAG IS ON

GLS SAFING (IN PROGRESS/NOT RUNNING)

NOTE

PERFORM NEXT SUBSTEP IF  
 INVALID DATA/CMD PATH FAILURE  
 IS DETECTED.

2. CGLS NTD (PASS)/(BFS)/(OI) INVALID (LDB DOWN)

NOT PERFORMED \_\_\_\_\_

SS2

3. CGLS NTD BFS \_\_\_\_\_ PASS \_\_\_\_\_ LDB \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1154 CON'T	4.	SPE	NTD	PERFORM RSLs ABORT. GLS SAFING _____ (IN PROGRESS/NOT RUNNING)	
NOTE					
PERFORM NEXT THREE SUBSTEPS IF THE GLS IS NOT RUNNING AND VEHICLE HAS NOT LIFTED OFF.					
	5.	SPE	CGLS	FORCE SAFING TO CONTINUE.	
				NOT PERFORMED	_____ SS5
	6.		CGLS	PFPK5 RS ABORT PFPK6 RS ABORT EXEC	
				NOT PERFORMED	_____ SS6
	7.	CGLS	NTD	GLS SAFING IS IN PROGRESS.	
				NOT PERFORMED	_____ SS7

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1154 CON'T				LPS DATA PATH CHECKLIST -----	

NOTE

PERFORM NEXT THREE SUBSTEPS  
 FOR A SUSPECTED COMMAND/DATA  
 PATH INTEGRITY FAILURE.

8.		NTD	LPS	REPORT FEP DATA VALIDITY  OI____ GPC____ LDB____ GS(1,2,3)____	NOT PERFORMED  _____ SS8
9.		NTD	CDPS	REPORT GPC DOWNLIST/LDB STATUS.  NOT PERFORMED	_____ SS9
10.		NTD	CISL	REPORT PCMMU/OI STATUS.  NOT PERFORMED	_____ SS10

NOTE

PERFORM NEXT SUBSTEP AS SOON  
 AS POSSIBLE AFTER AN RSL'S  
 ABORT HAS BEEN DECLARED.

11.		JBFX	1.	TERMINATE MLP SIDE 1 LAUNCH COOLING SPRAY.	WSSA
			2.	TERMINATE FSS LAUNCH COOLING SPRAYS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1154 CON'T				NOTE  PERFORM NEXT THREE SUBSTEPS IF GLS SAFING IS NOT IN PROGRESS.	
12.		NTD 212	CGSS	EXTEND OAA.  NOT PERFORMED	<u>SS12</u>
13.		NTD 212	CECL	ESTABLISH ORBITER COOLING FLOW.  NOT PERFORMED	<u>SS13</u>
14.		NTD	CEPD	POWER DOWN GROUND PIC RACKS.  NOT PERFORMED	<u>SS14</u>
15.		NTD	CDR	PERFORM BFS SAFING  CDR PANEL O6 GENERAL PURPOSE COMPUTER MODE 5 SW - HALT	
16.		CGLS NTD		ENGINE STATUS:  E1: _____  E2: _____  E3: _____  (NOMINAL IS POST SHUTDOWN/STANDBY)	
				NOTE  GO TO SS23 IF ALL THREE ENGINES ARE IN POST SHUTDOWN STANDBY.	
17.		CGLS NTD		HOLDING FOR ENGINE STATUS.  NOT PERFORMED	<u>SS17</u>



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1154				SSME COMMAND PATH FAILURE	
CON'T					

NOTE

PERFORM NEXT FOUR SUBSTEPS  
 FOR MAIN ENGINE COMMAND PATH  
 FAILURE.

CONDITIONS FOR COMMAND PATH  
 FAILURE:

ENGINE PHASE - MAINSTAGE

OTV - ENGINE RUNNING

OR

EIU PRI AND SEC PORT - BYPASSED

OTV - ENGINE RUNNING

19. CSME NTD THERE HAS BEEN AN SSME COMMAND  
 CCME PATH FAILURE, HAVE PLT PERFORM  
 NTD PLT (E-1 CENTER, E-2 LEFT OR E-3 RIGHT)  
 ENGINE CONTROLLER SHUTDOWN.

- A. CENTER ENGINE 1 POWERDOWN  
 PANEL R2  
 MPS  
 ENGINE PWR  
 CTR AC1 SW - OFF  
 CTR AC2 SW - OFF

NOT PERFORMED

SSA

DELAY 2 SECONDS

- B. LEFT ENGINE 2 POWERDOWN  
 PANEL R2  
 MPS  
 ENGINE PWR  
 LEFT AC2 SW - OFF  
 LEFT AC3 SW - OFF

NOT PERFORMED

SSB

DELAY 2 SECONDS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1154 CON'T			C.	RIGHT ENGINE 3 POWERDOWN PANEL R2 MPS ENGINE PWR RIGHT AC3 SW - OFF RIGHT AC1 SW - OFF	
				NOT PERFORMED	SSC
				NOT PERFORMED	SS19
20.		CSME NTD 212		ALL ENGINES SHUT DOWN. HYDRAULICS NO LONGER REQUIRED.	
				NOT PERFORMED	SS20
21.		NTD	CGLS	ALL ENGINES SHUTDOWN, GLS CONTINUE SAFING.	
				NOT PERFORMED	SS21
22.			CGLS	PFPK5 (FORCE ENG SAFING) - PRESS	
				NOT PERFORMED	SS22
23.		CGLS NTD		SRB IGNITION/SEP PIC'S SAFED/CHARGED (NOT SAFED). (PIC CAP VOLTS 0 +/- 1.5 V)	
				NOTE	
				PERFORM NEXT TWO SUBSTEPS IF SRB IGNITION PICS ARE CHARGED (NOT SAFED).	
24.		NTD	MS1	PERFORM SRB SAFING PANEL O17 ROW D MEC 1 SW - OFF 2 SW - OFF	
				NOT PERFORMED	SS24

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1154 CON'T	25.	MS1	NTD	MEC POWER DOWN COMPLETE.	
				NOT PERFORMED	SS25
	26.	CGLS	NTD	GLS - GO FOR APU SHUTDOWN.	
	27.	NTD	PLT	PERFORM APU SHUTDOWN	
	28.	PLT	NTD	APU SHUTDOWN COMPLETE.	
	29.	LPS		VERIFY GS (1,2,3) FEP DATA VALIDITY.	

(SIM) SSME HEAT SHIELD WATER ACTIVATION

NOTE

GLS INITIATES SSME H/S FIREX  
 WATER DURING PRIMARY POST  
 ABORT SAFING. NEXT STEP IS  
 PERFORMED TO BACK UP GLS AND  
 READY THE SYSTEM FOR VALVE  
 CLOSURE.

30.		CMPL	PPF (SAE02)		
				1. SAE02 - PRESS	
				2. SSME HEAT SHIELD - PRESS	
				3. SSME HS OPEN - PRESS	
				4. VERIFY BOTH SSME HS OPEN PPFK LIGHTS ON	
				OMRSD S00E00.137-1	
31.		JBFX	NTD	ALL LAUNCH COOLING SPRAYS TERMINATED.	WSSA



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1154 CON'T	32.	NTD	CMPL	VERIFY LO2 BLEED PATH WAS CLOX ESTABLISHED (WITHIN 2 MIN OF ENGINE SHUTDOWN) OR LOX DRAIN WAS INITIATED (WITHIN 9 MIN).  OMRSD S00E00.B90-1	
	33.		CMPS	START LH2 TOPPING LINE DRAIN PER OMI S1004 POST IGNITION SAFING.  OMRSD S00E00.B95-1	
	34.	NTD	CMPL	FIRE DETECTOR STATUS (TRIPPED/NOT TRIPPED):  NO. ---  44 PRI (LH2 DISC) _____ 44 SEC (LH2 DISC) _____ 45 PRI (LH2 DISC) _____ 45 SEC (LH2 DISC) _____	
	35.	CGLS NTD	CMPL	FIRE DETECTOR STATUS (TRIPPED/NOT TRIPPED):  NO. ---  35 PRI (LH2 TSM) _____ 35 SEC (LH2 TSM) _____ 36 PRI (LT AFT) _____ 36 SEC (LT AFT) _____ 37 PRI (RT AFT) _____ 37 SEC (RT AFT) _____ 38 PRI (HT SHIELD) _____ 38 SEC (HT SHIELD) _____ 39 PRI (HT SHIELD) _____ 39 SEC (HT SHIELD) _____	
	36.	NTD 212	CMPL	REPORT WATER DELUGE STATUS:  HEAT SHIELD _____ (ON/OFF)  SKIN _____ (ON/OFF)  T-0 _____ (ON/OFF)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1154 CON'T	37.	CGLS	NTD	GLS PRIMARY SAFING COMPLETE. FOR TRANSITION TO G9.	READY
	38.		CDPS	CURSOR CNTL (SAS01 PG-B) RSLs HOLD/ABORT DD (VAS61) XMIT CURSOR KEY - PRESS PFK-5 KEY - PRESS	
	39.		CHGD	CONTINUE MONITORING AFT FUSELAGE UNTIL LO2/LH2 DRAIN COMPLETE.	
	40.	NTD	CLHY	REPORT LEAK DETECTION STATUS: (REPORT ANY MAJOR LEAKS)	
	41.	CPRP	NTD	CRITICAL MPS SAFING COMPLETE. LH2 ET TANK VENTED TO AMBIENT PER S1004.  MPS LH2 TOPPING LINE DRAIN IS COMPLETE.  MPS LO2 BLEED PATH HAS BEEN ESTABLISHED OR LOX DRAIN INITIATED.  OMRSD S00E00.B90-1 OMRSD S00E00.B95-1 OMRSD S00E00.130-1	
	42.	NTD	CGSS	VERIFY OAA EXTENDED AND LOCKED. REPORT STATUS OF EMERGENCY EGRESS TEMPERATURE AND FLAME DETECTORS.	
	43.	CMPL	NTD	MPS/SSME PARAMETERS INDICATE THAT NO PROPELLANT LEAKAGE/FIRE EXISTS. REQUEST CONCURRENCE TO TERMINATE SSME HEAT SHIELD FIREX WATER FLOW.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1154 CON'T	44.		CMPL	PPF (SAE02)	
				1. SSME HS CLOSED - PRESS	
				2. VERIFY ALL PFPK LITES OFF.	
	45.	CMPL	NTD	POST ABORT SSME HEAT SHIELD FIREX WATER FLOW HAS BEEN TERMINATED.	
	46.	NTD	ALL	AN RSLs ABORT HAS OCCURRED. PRELIMINARY SAFING IS COMPLETE. ALL SYSTEMS STANDBY FOR POST ABORT SAFETY CHECKS PAGE ____.	
				RSLs ABORT SAFING COMPLETE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM BFS ENGAGE ABORT SAFING  
IF A GLS GO FOR SSME START HAS  
BEEN INITIATED (T-10 SEC)  
AND A BFS ENGAGE OCCURS.

16-1155

BFS ENGAGE ABORT SAFING  
-----

NOT PERFORMED \_\_\_\_\_

NOTE

BFS ENGAGE ABORT CRITERIA:

- (A) PASS GPC'S IN S/W HALT
- (B) TSM'S REMAIN CONNECTED
- (C) GPC/LDB POLLING HAS TERMINATED
- (D) BFS MAY HAVE MODED TO MM102

WARNING

IF IN MM102, THE BFS MAY  
INITIATE SRB SEPARATION IF  
ONE OF THE FOLLOWING FLIGHT  
INITIATED ACTIONS DOES NOT  
OCCUR PRIOR TO T-0 PLUS  
100 SECONDS.

- A. MEC 1 AND 2 POWER OFF
- B. BFS GPC HALTED OR DISENGAGED

16-1156

NTD PERFORM BFS ENGAGE ABORT SAFING  
OPERATIONS AS FOLLOWS:

1. CGLS NTD CUTOFF

BFS ENGAGED INDICATION.

BFS IN \_\_\_\_\_, PASS AND LDB INVALID.

GLS SAFING NOT RUNNING.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1156 CON'T	2.	SPE	NTD	PERFORM BFS ENGAGE ABORT. GLS SAFING PASS DOWNLIST DATA AND LDB COMMANDING ARE NOT AVAILABLE.	
	3.	SPE	CGLS	FORCE SAFING START	
	4.		CGLS	PFPK5 RS ABORT SAFING PFPK6 EXEC RS ABORT SFNG	
	5.	CGLS	NTD	GLS SAFING IS IN PROGRESS	
	6.	NTD	MS1	PERFORM SRB SAFING  MS1 PANEL O17 ROW D MEC 1 SW - OFF 2 SW - OFF	
				NOTE  PERFORM NEXT SUBSTEP AS SOON AS POSSIBLE AFTER A BFS ENGAGE ABORT HAS BEEN DECLARED.	
	7.		JBFX 1.	TERMINATE MLP SIDE 1 LAUNCH COOLING SPRAY.	WSSA
			2.	TERMINATE FSS LAUNCH COOLING SPRAYS.	
				NOTE  PERFORM NEXT THREE SUBSTEPS IF GLS SAFING IS NOT IN PROGRESS.	
	8.	NTD	CGSS	EXTEND OAA. 212	NOT PERFORMED  SS8
	9.	NTD	CECL	ESTABLISH ORBITER COOLING FLOW. 212	NOT PERFORMED  SS9

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1156 CON'T	10.	NTD	CEPD	POWER DOWN GROUND PIC RACKS.	
				NOT PERFORMED	SS10

NOTE

PERFORM NEXT SUBSTEP IF  
 BFS MODE IS 102.

11.		NTD	CDR	PANEL C3 MAIN ENGINE SHUTDOWN	
				CTR PB - PRESS, RELEASE (DELAY 2 SECONDS)	
				LEFT PB - PRESS, RELEASE (DELAY 2 SECONDS)	
				RIGHT PB - PRESS, RELEASE	
				VERIFY THREE ENGINE STATUS LITES RED	
				NOT PERFORMED	SS11

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1156				SSME COMMAND PATH FAILURE	
CON'T					

NOTE

PERFORM NEXT SUBSTEP IF  
 BFS MODE IS 101 OR ANY  
 ENGINE IS RUNNING.

CONDITIONS FOR COMMAND PATH  
 FAILURE:  
 ENGINE PHASE - MAINSTAGE  
 OTV - ENGINE RUNNING  
 OR  
 EIU BFS PRI AND SEC PORT - BYPASSED  
 OTV - ENGINE RUNNING

12. CSME NTD THERE HAS BEEN AN SSME COMMAND PATH  
 CCME FAILURE, HAVE PLT PERFORM (E-1 CENTER,  
 NTD PLT E-2 LEFT OR E-3 RIGHT) ENGINE  
 CONTROLLER SHUTDOWN.

- A. CENTER ENGINE 1 POWERDOWN:  
 PANEL R2  
 MPS  
 ENGINE PWR  
 CTR AC1 SW - OFF  
 CTR AC2 SW - OFF

NOT PERFORMED

SSA

DELAY 2 SECONDS

- B. LEFT ENGINE 2 POWERDOWN:  
 PANEL R2  
 MPS  
 ENGINE PWR  
 LEFT AC2 SW - OFF  
 LEFT AC3 SW - OFF

NOT PERFORMED

SSB

DELAY 2 SECONDS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1156 CON'T			C.	RIGHT ENGINE 3 POWERDOWN: PANEL R2 MPS ENGINE PWR RIGHT AC3 SW - OFF RIGHT AC1 SW - OFF	
				NOT PERFORMED	SSC
				NOT PERFORMED	SS12
13.		CSME	NTD	ALL SSME'S ARE SHUTDOWN. HYDRAULICS ARE NO LONGER REQUIRED.	
14.		NTD	CGLS	PFPK5 FORCE ENG SAFING	
15.		CGLS	NTD	GLS IS GO FOR APU SHUTDOWN.	
16.		NTD	PLT	PERFORM APU SHUTDOWN.	
17.		PLT	NTD	APU SHUTDOWN COMPLETE.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1156				SSME HEAT SHIELD WATER ACTIVATION	
CON'T					

NOTE

GLS INITIATES SSME H/S FIREX  
WATER DURING PRIMARY POST  
ABORT SAFING. NEXT STEP IS  
PERFORMED TO BACK UP GLS AND  
READY THE SYSTEM FOR VALVE  
CLOSURE.

18. CMPL PFP (SAE02)

1. SAE02 - PRESS
2. SSME HEAT SHIELD - PRESS
3. SSME HS OPEN - PRESS
4. VERIFY BOTH SSME HS OPEN  
PFPK LIGHTS ON

OMRSD S00E00.137

19. JBFX NTD ALL LAUNCH COOLING SPRAYS WSSA  
HAVE BEEN TERMINATED.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1156 CON'T				GPC/LDB RECOVERY -----	
20.		NTD	CDPS	PERFORM GPC/LDB RECOVERY.	
		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER MODE 5 SW - HALT 4 SW - HALT 3 SW - HALT 2 SW - HALT 1 SW - HALT  PANEL F6 BFC SW - DISENGAGE, REL  PANEL O6 IPL SOURCE SW - MMU 1 GENERAL PURPOSE COMPUTER POWER 1 SW - OFF 2 SW - OFF 3 SW - OFF 4 SW - OFF 5 SW - OFF 1 SW - ON  PANEL C3 BFC CRT DISPLAY SW - OFF  PANEL O6 GENERAL PURPOSE COMPUTER INITIAL PROGRAM LOAD 1 PB - PRESS, REL MODE 1 TB IPL THEN BP (WITHIN 2 MIN) 1 SW - STBY 1 TB RUN (WITHIN 2 MIN) 1 SW - RUN IPL SOURCE SW - OFF OUTPUT 1 TB GRAY	
21.		CGLS	NTD	GLS GROUND SYSTEMS SAFING COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.	
16-1156 CON'T	22.	NTD	CDPS	CONTINUE WITH LDB RECOVERY.		
		CDPS	CDR	L KYBD SPEC 1 PRO ITEM 50 EXEC (ENABLES POLLING) RESUME ITEM 1+9 EXEC ITEM 3+0+0+0 EXEC ITEM 8+1+1+1 EXEC ITEM 17+1+1+1 EXEC OPS 901 PRO		
	23.	CDPS	NTD	GPC 1 IN G9 AND LDB POLLING ENABLED.  LPS DATA PATH CHECKLIST -----		
	24.	NTD	LPS	REPORT FEP DATA VALIDITY  OI____ GPC____ LDB____ GS(1,2,3)____		
	25.	NTD	CDPS	REPORT GPC/LDB STATUS.		
	26.	NTD	CISL	REPORT PCMMU/OI STATUS.		
NOTE						
GLS SAFING WILL BE REPEATED AFTER POLLING ESTABLISHED TO COMPLETE SAFING OF VEH SYSTEMS.						
	27.	SPE	CGLS	REPEAT GLS SAFING.  CGLS PFPK1 REPEAT SAFING PFPK6 EXECUTE SAFING		
	28.	CGLS	NTD	GLS SAFING IS IN PROGRESS.		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1156 CON'T				NOTE	
				PERFORM NEXT SUBSTEP IF GLS HANGS AT ENGINE STATUS.	
29.				CGLS PFPK5 FORCE ENG SAFING	
				NOT PERFORMED	SS28
30.		NTD	CMPL	INITIATE LOX DRAIN. CLOX OMRSD S00E00.B90-1	
31.			CMPS	START LH2 TOPPING LINE DRAIN PER OMI S1004 POST IGNITION SAFING. OMRS S00E00.B95-1	
32.		NTD	CMPL	MPS FIRE DETECTOR STATUS: (TRIPPED/NOT TRIPPED)  NO. ---	
				44 PRI (LH2 DISC) _____ 44 SEC (LH2 DISC) _____ 45 PRI (LH2 DISC) _____ 45 SEC (LH2 DISC) _____	
33.		CGLS NTD	CMPL	MPS FIRE DETECTOR STATUS: (TRIPPED/NOT TRIPPED)  NO. ---	
				35 PRI (LH2 TSM) _____ 35 SEC (LH2 TSM) _____ 36 PRI (LT AFT) _____ 36 SEC (LT AFT) _____ 37 PRI (RT AFT) _____ 37 SEC (RT AFT) _____ 38 PRI (HT SHIELD) _____ 38 SEC (HT SHIELD) _____ 39 PRI (HT SHIELD) _____ 39 SEC (HT SHIELD) _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1156 CON'T	34.	CMPL	NTD	REPORT WATER DELUGE STATUS:  HEAT SHIELD _____ (ON/OFF)  SKIN _____ (ON/OFF)  T-0 _____ (ON/OFF)	
	35.	CGLS	NTD	GLS PRIMARY SAFING COMPLETE. (SECOND PASS)	
	36.	NTD	CLHY	LEAK DETECTOR AND FIRE DETECTOR STATUS: (REPORT ANY MAJOR LEAKS DETECTED)	
	37.	CHGD		CONTINUE MONITORING AFT FUSELAGE UNTIL LO2/LH2 DRAIN COMPLETE.  OMRS S00FA0.435	
	38.	CPRP	NTD	CRITICAL MPS SAFING COMPLETE. LH2 ET TANK VENTED TO AMBIENT PER S1004.  MPS LH2 TOPPING LINE DRAIN IS COMPLETE.  LOX DRAIN INITIATED.  OMRSD S00E00.B90-1 OMRSD S00E00.B95-1 OMRSD S00E00.130-1	
	39.	NTD	CGSS	VERIFY OAA EXTEND AND LOCKED. REPORT STATUS OF EMERGENCY EGRESS TEMPERATURE AND FLAME DETECTORS.	
	40.	CMPL	NTD	MPS/SSME PARIMETERS INDICATE THAT NO PROPELLANT LEAKAGE/FIRE EXISTS. REQUEST CONCURRENCE TO TERMINATE SSME HEAT SHIELD FIREX WATER FLOW.	
	41.	CMPL	PPF (SAE02)	1. SSME HS CLOSED - PRESS 2. VERIFY ALL PFPK LITES OFF.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1156 CON'T	42.	CMPL	NTD	POST ABORT SSME HEAT SHIELD FIRES WATER FLOW HAS BEEN TERMINATED.	
	43.	NTD	ALL	A BFS ENGAGED ABORT HAS OCCURRED. PRELIMINARY SAFING COMPLETE. ALL SYSTEMS STANDBY FOR POST ABORT SAFETY CHECKS PAGE _____.  BFS ENGAGED ABORT SAFING COMPLETE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
LPS/RSLs HOLD					
-----					
NOTE					
THIS SECTION PERFORMED ONLY IF LPS/RSLs HOLD OCCURS.					
NOT PERFORMED _____					
16-1157		NTD		PERFORM LPS/RSLs HOLD SAFING OPERATIONS AS FOLLOWS:	
NOTE					
IF GLS SAFING IS NOT IN PROGRESS PERFORM CUTOFF.					
1.		NTD	CGLS	PFPK5 (CUTOFF) - PRESS VFY PFPK5 LIGHT YELLOW	
NOT PERFORMED _____					
SS1					
2.			CGLS	PFPK6 (EXECUTE CUTOFF) - PRESS VFY SAFING IN PROGRESS	
NOT PERFORMED _____					
SS2					
3.		CGLS		CUTOFF  LPS/RSLs HOLD HAS OCCURRED. GLS SAFING (IN PROGRESS/NOT RUNNING)	
NOTE					
PERFORM NEXT SUBSTEP IF INVALID DATA/CMD PATH FAILURE IS DETECTED.					
4.		CGLS		(PASS)/(BFS)/(OI) INVALID (LDB DOWN)	
NOT PERFORMED _____					
SS4					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1157 CON'T	5.	CGLS		BFS_____ PASS_____ LDB_____	
	6.	SPE	NTD	WE HAVE AN LPS/RSLS HOLD GLS SAFING_____ (IN PROGRESS/ NOT RUNNING)	

NOTE

GO TO SEQ 18 IF GLS SAFING  
IS IN PROGRESS.

PERFORM NEXT THREE SUBSTEPS  
IF GLS IS NOT RUNNING.

7.		SPE	CGLS	FORCE SAFING TO CONTINUE.	
				NOT PERFORMED	SS7

8.		CGLS		PFPK3 RS HOLD PFPK6 RS ABORT EXEC	
				NOT PERFORMED	SS8

9.		CGLS	NTD	GLS SAFING IS IN PROGRESS.	
				NOT PERFORMED	SS9

LPS DATA PATH CHECKLIST

NOTE

PERFORM NEXT THREE SUBSTEPS  
FOR A SUSPECTED COMMAND/DATA  
PATH INTEGRITY FAILURE.

10.		NTD	LPS	REPORT FEP DATA VALIDITY	
				OI____ GPC____ LDB____ GS(1,2,3)____	
				NOT PERFORMED	SS10



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1157 CON'T	11.	NTD	CDPS	REPORT GPC DOWNLIST/LDB STATUS.  NOT PERFORMED	<u>SS11</u>
	12.	NTD	CISL	REPORT PCMMU/OI STATUS.  NOT PERFORMED	<u>SS12</u>
NOTE					
PERFORM NEXT THREE SUBSTEPS IS GLS SAFING IS NOT IN PROGRESS.					
	13.	NTD	CGSS	EXTEND OAA.  NOT PERFORMED	<u>SS13</u>
	14.	NTD	CECL	ESTABLISH ORBITER COOLING FLOW.  NOT PERFORMED	<u>SS14</u>
	15.	NTD	CEPD	POWER DOWN GROUND PIC RACKS.  NOT PERFORMED	<u>SS15</u>
16-1158		NTD 212	ALL	PERFORM SEQUENCE 18.  LPS/RSLs HOLD COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM POST ABORT SAFETY CHECKS FOLLOWING THE ABORT SAFING FOR:

1. RSLs ABORT
2. BFS ENGAGE ABORT

16-1159

POST ABORT SAFETY CHECKS  
 -----

NOT PERFORMED

16-1160

NTD PERFORM POST ABORT SAFETY CHECKS.

- |     |     |      |   |
|-----|-----|------|---|
| 1.  | NTD | CISL | VERIFY ORBITER OI PCM DATA VALID.   |
| 2.  | NTD | CDPS | VERIFY ORBITER DOWNLIST DATA VALID.<br>VERIFY LDB POLLING ACTIVE.                                 |
| 3.  | NTD | CCME | VERIFY ENGINE DATA VALID AND ENGINE COMMAND PATHS GOOD.   |
| 4.  | NTD | CSME | VERIFY ALL ENGINE PRESSURES AND TEMPERATURES APPEAR NORMAL.                                       |
| 5.  | NTD | CSME | VERIFY NO ENGINE LEAK INDICATIONS.  |
| 6.  | NTD | CMPL | VERIFY NO INDICATION OF FIRE ON FD 36, 37, 38, 39 AT AFT ORBITER AREA.                            |
| 7.  | NTD | CMPL | VERIFY LOX BLEED PATH ESTABLISHED OR S1003 APPENDIX Z "LOSS OF BLEED FLOW" (OXYGEN 67) INITIATED. |
| 8.  | NTD | CLHY | VERIFY NO UNEXPECTED FIRE DETECTORS TRIPPED.  |
| 9.  | NTD | CLHY | VERIFY NO SIGNIFICANT LEAKS ON MLP. CROSS-COUNTRY LINES, TSM, STORAGE AREA OR ET VENT SYSTEM.     |
| 10. | NTD | CLHY | VERIFY LH2 TANK PRESSURE STABLE.  |

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1160 CON'T	11.	NTD	CLOX	VERIFY OTV INDICATES NO FIRE OR LEAKS ON CROSS-COUNTRY LINES, STORAGE AREA, MLP OR TSM.	
	12.	NTD	CLOX	VERIFY ET LOX TANK PRESSURE STABLE.	
	13.	NTD	CPVD	VERIFY GN2 PURGE INTERFACE PRESSURES ARE NOMINAL AND VENT DOORS IN NORMAL PURGE CONFIGURATION.	
	14.	NTD	CHGD	VERIFY NO INDICATION OF HYDROGEN LEAKS IN AFT FUSELAGE.	
	15.	NTD	CHGD	VERIFY NO INDICATION OF OXYGEN LEAKS IN AFT FUSELAGE.	
	16.	NTD	CGSS	VERIFY NO INDICATIONS OF FIRE ON CREW ESCAPE ROUTE.	
	17.	NTD	CAPU	VERIFY APU'S ARE SHUTDOWN AND NO LEAKAGE INDICATIONS.	
	18.	NTD	CBHY	VERIFY HPU'S ARE SHUTDOWN AND NO LEAKAGE INDICATIONS. HPU RUN TIME NOT TO EXCEED 160 SEC.	
	19.	NTD	CPWR	VERIFY SRB IGNITION S&A'S SAFE.	
	20.	NTD	CEPD	IF CUTOFF OCCURED VERIFY GROUND PIC RACK POWERED DOWN.	
	21.	NTD	COOS	VERIFY ALL OX/FUEL TANK PRESSURES AND TEMPS STABLE.	
	22.	NTD	CBRS	VERIFY RANGE SAFETY INHIBITS ON.	
	23.	NTD	ALL	ABORT SAFETY CHECKS COMPLETE. PROCEED TO "RECYCLE - CONTROL SEQUENCE" (SEQ 18).	
				POST ABORT SAFETY CHECKS COMPLETE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0000				POST LAUNCH SECURING/RTLS CONTINGENCY	

NOTE

DO NOT PERFORM THIS SEQUENCE  
 IF ABORT/RECYCLE OCCURS THAT  
 RESULTS IN A 24 HOUR OR LONGER  
 TURNAROUND.

ENTIRE SEQUENCE NOT PERFORMED

NOTE

PERFORM NEXT STEP IF DISK  
 RECORDING INHIBITED.

17-0001	+00M05S			CPDR ACTIVATE BULK DISC RECORDING. PDR INFOTON KYBD #INRC,D RTN KEY-PRESS	NOT PERFORMED
---------	---------	--	--	---	---------------

NOTE

PERFORM SUBSTEPS 2 AND 3 AT  
 HVAC ENGR DISCRETION.

17-0002				JBAC PERFORM FOLLOWING:	
				1. CLOSE MLP/PCR CHW BLOCKING VALVES JUST AFTER LIFTOFF.	HVAA
				2. OPEN CHW AUTO DRAIN VALVES FROM C-2 CONSOLE.	
					NOT PERFORMED
					SS2

				3. SECURE REDUNDANT CHILLER IF NOT REQUIRED.	
					NOT PERFORMED
					SS3

17-0003	+00M07S			JBPN CLOSE FACILITY GH2 LINE VALVE A3721 (C-1 CONSOLE CMD.) (M3020)	PNSA SU72969
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0004		CHGD		CURSOR CNTL (SAW01/HWW50) POST LAUNCH SECURING XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT VERIFY HGDS IN REMOTE SHUTDOWN	SU72928
17-0005		CHGD		BUHGDS REMOTE TERMINAL 1. MANUAL - 0  2. PROGRAM ZERO GAS - OFF  BUHGDS SAFING PANEL - A  3. ON/STBY SWITCH - TOGGLE FOR STANDBY INDICATION  BUHGDS SAFING PANEL - C  4. METER SELECT A - ZERO DVM	
NOTE					
THE NEXT STEP REQUIRES 2 OC TCB'S FOR EXECUTION. THE STEP IS ARMED (YELLOW) AFTER GLS VERIFIES UMBILICAL DISCONNECT.					
17-0006	+00M20S	LPS		CONSOLE KYBD CURSOR CNTL (AWP01 PG-B) TO I DA LDBA & UPLK TARGET - XMIT CURSOR KEY - PRESS	
17-0007	+00M30S	LPS		ACTIVATE REDUNDANT SWITCH ON GPCA, PLDA AND OIA FEPS.	SU72930
17-0008		LPS		AT LOCAL RCVS DISCONNECT PAD HARD LINE DATA FROM SOURCE 1 OF FEPS AND CONNECT JSC OD DATA (6TVM4096/1TVM4097/6TVM4648).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0009		JRPS		DISCONNECT PAD HARDLINE DATA FROM KMTS A (PRIMARY) AND CONNECT 192KB JSC OD DATA (SKR) (6TVM4096/97/6TVM4648) SWITCH KMTS A 0505A1 (A1,A2,A3) TO SOURCE 2.C MANUAL MODE, SOURCE 2, 60KB.	
17-0010		LPS		VERIFY JSC OD SIGNAL PRESENCE ON OIA/S, GPCA/S, PLDA/S FEP SCOPES, SOURCE 1.	
17-0011	+00M30S	CLDB		TERMINATE RECORDING ON LDBM SUBSYSTEMS.	
NOTE					
PERFORM NEXT FOUR STEPS IN EVENT OF AN RTLS.					
17-0012		LSO LF1	LRD	RTLS HAS BEEN CALLED. STANDBY FOR ORBITER LANDING AT KSC.	SU72927
NOT PERFORMED _____					
17-0013		LRD 212		ATTENTION ALL PERSONNEL AN RTLS HAS BEEN CALLED AND THE ORBITER IS RETURNING FOR A LANDING AT KSC.	
NOT PERFORMED _____					
17-0014		LRD CCN 135 SRO NET 205	NCC *DCD *MIL *SLF *SCC	THIS IS AN RTLS ABORT. PREPARE FOR AN ORBITER LANDING AT KSC ON RUNWAY _____ (15 OR 33).	
NOT PERFORMED _____					
17-0015		*SCC NET 205	ALL	MAINTAIN RADIO SILENCE ON NET 205. CONTACT *SCC ON NET 105. MONITOR BOTH 105 AND 205 NETS.	
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				CCC SS AND FIREX TRANSFER ----- VERIFICATION -----	
17-0016	+00M44S	JBWC		VERIFY TRANSFER ACTION COMPLETE CRT (P2A OR P2B)	WSSA SU72972
				VERIFY	
				INDICATOR                      STATE -----                      -----	
				SS CCC ENABLE                      ON (GREEN)	
				SS CCC - ON/FR - OFF              ON (GREEN)	
				SS FR ENABLE                      OFF (YELLOW)	
				SS FR - ON/CCC - OFF              OFF (YELLOW)	
17-0017	+00M45S	JBWC		STOP PRINTER PLOTTERS	WSSA
				CURSOR CNTL (LFA OR LFB) CURSOR TO 'C' OF 'PLOT CONTROL' XMIT CURSOR KEY - PRESS	
				PFP 'PAD A' (NO.1) OR 'PAD B' (NO.2) KEY - PRESS 'TURN ON' KEY (NO.1) - PRESS	
				CONSOLE KYBD EXEC CMD KEY - PRESS	
				CRT (LFA OR LFB)	
				VERIFY PLOT CONTROL OFF	
17-0018		JBFX		RECORD LAUNCH PAD WIND SPEED AND DIRECTION USING OTV SWITCHER INPUT SOURCE 189.	WSSA
				SPEED _____	
				DIRECTION _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
LAUNCH PAD WASHDOWNS					
17-0019	+01M00S			JBFX PERFORM LAUNCH PAD WASHDOWN ACCORDING TO FOLLOWING SEQUENCE OF WATER FLOWS PER OMI M3190:	WSSA SU72973

NOTE

SEQUENTIAL ORDER AND  
 RUN TIMES FOR FOLLOWING  
 SUBSTEPS ARE NOMINAL AND  
 MAY BE ADJUSTED AS NECESSARY  
 BY TEST TEAM TO MEET  
 OPERATIONAL/AREA ACCESS  
 CONSIDERATIONS.

ONE PAD STRUCTURAL CYCLE  
 (ALL SEQUENCES OF AUTOMATIC  
 WASHDOWN SYSTEM) REQUIRES  
 12 MINUTES AT PAD A/9 MINUTES  
 AT PAD B.

DO NOT PERFORM ANY WASHDOWN  
 WATER FLOW THAT HAS BEEN  
 DETERMINED TO CAUSE AN  
 ENVIRONMENTAL IMPACT.  
 WINDSPEED AND DIRECTION,  
 RAINFALL PRIOR TO LAUNCH AND  
 GROUND WATER SATURATION WILL  
 BE CONSIDERED. (REF FIGURE 10)

1. PAD STRUCTURE (NORMALLY  
 SIX CYCLES)
2. LH2 STORAGE FACILITY (ONE  
 FIVE MINUTE RUN)

NOT PERFORMED

SS2

3. GH2 STORAGE FACILITY  
 (ONE FIVE MINUTE RUN)

NOT PERFORMED

SS3



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0020		LPS		SWITCH GPCA, OIA AND PLDA FEPS TO SOURCE 1, 192 KB JSC OD DATA VIA PROGRAM AWP01.	SU72932
17-0021		LPS	CLSE	SWITCH VSB TO SOURCE 1 192 KB JSC OD DATA.  SECURE HCU PUMPS -----	
17-0022	+01M00S	CGSS		CURSOR CNTL (VAJ14) HCU PUMP 1 - OFF PUMP 2 - OFF  UPLINK CARRIER HANDOVER -----	SU72934

NOTE

MOMENTARY LOSS OF DOWNLIST/  
 DOWNLINK DATA WILL OCCUR  
 DURING MILA TO PDL  
 SWITCHOVER.

17-0023	+01M20S			*MIL HANDOVER UPLINK CARRIER TO PDL.	SU72936
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NOTE

PERFORM NEXT STEP IF PDL  
 DATA AVAILABLE.

17-0024				*MIL SWITCH FM ME DATA (6TVM1729/6TVM4650) INPUT TO LCC FROM MILA DATA TO PDL DATA. (AFTER MILA VERIFICATION OF VALID PDL DATA)	
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

AFTER NIGHT LAUNCHES, BROKEN STADIUM HALOGEN LAMP LENSES CAUSE FALSE FIRE DETECTOR INDICATIONS. PERFORM NEXT TWO STEPS AT TEST TEAM DIRECTION.

17-0025		CLHY	TBC	NUMEROUS FIRE INDICATIONS	COMM
		136		OCCURRING AT PAD. HAVE STADIUM	
		TBC	NTD	LIGHTS SECURED TEMPORARILY.	
		232		REPORT COMPLETION.	
		NTD	STM		
		STM	JYVO		
		138			

NOT PERFORMED \_\_\_\_\_

17-0026		CLHY	TBC	ERRONEOUS FIRE INDICATIONS NOTED. COMM	
		136		STADIUM LIGHTS MAY BE REACTIVATED.	
		TBC	NTD	REPORT WHEN COMPLETE.	
		232			
		NTD	STM		
		STM	JYVO		
		138			

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0027		STM 111 JSTC 114	JSTC JFIR	REPORT ALL FIRE ALARMS AND SMOKE FIRE ALARMS RECEIVED ON 1P10 PANEL, LCC. REPORT COMPLETION.	SU72938
17-0028		JFIR 114 JSTC 111 STM NTD 232 *SCC NET 105	JSTC STM	FOLLOWING FIRE ALARMS WERE ACTIVATED BY LAUNCH: ALARM NO. LOCATION ----- *SCC _____ *PSE _____ NET _____	FA
SECURE GN2 PURGE SYS -----					
17-0029		OTC 212	CPVD	PERFORM "GN2 TO AIR CHANGE OVER- OPTION B - POST LAUNCH OPERATIONS" PER OMI V1122. COORDINATE WITH GSPN ON CH 172, MAINTAIN PURGE TO PCR WITH SOUTH BLOWER (RELEASE GSPN WHEN COMPLETE).	SU72974 SU72941 SU72951
RT OMI LOG NO. _____					
17-0030		STM 111 JSTC 114	JSTC GSPN	GSPN COORDINATE CHANGEOVER WITH CPVD ON CH 172.	PNU SU72975
17-0031		STM 111	JTCR	REPORT ACTUAL FIRST MOTION TIME (TSM RELEASE).	
_____ (RECORD GMT)					
_____ (DAY/MO/YR)					
NOTE					
MOMENTARY LOSS OF DOWNLIST/ DOWNLINK DATA WILL OCCUR DURING PDL TO MILA SWITCHOVER.					
17-0032	+02M30S		*MIL	RECEIVE UPLINK CARRIER HANDOVER FROM PDL.	SU72942

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0033	+03M00S		JYVO	STOP VIDEO RECORDINGS OF OTV	COMM
			JYVR	CAMERAS 003/103,005/105,034/134, 046/146,047/147,049/149,050/150, 051/151,052/152, 053/153 (LAUNCH CONFIGURATION).	SU72976
17-0034	+03M00S		JYVR	STOP VIDEO RECORDING AS FOLLOWS:	COMM
			1.	M-II RECORDERS	
				CAMERA 001/101, 009/109, 041/141, 048/148, 051/151, 054/154, 055/155, 056/156, 060/160, 061/161, 063/163, 070/170, 071/171, TV-2, TV-4A/B, TV-5, TV-7A/B, TV-11, TV-13, TV-21A/B	
			2.	S-VHS/VHS RECORDERS	
				CAMERA 003/103, 011/111, 019/119, 030/130, 043/143, 049/149, 050/150, 072/172, STI-RSS ROOF, STI-C/S2	
				(ENGINEERING ANALYSIS)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OTV SCAN - PAD/LAUNCH AREA

NOTE

OTV SCANS WILL TAKE  
 APPROXIMATELY 16 MINUTES  
 TO COMPLETE.

17-0035	+03M00S		JYVO PROVIDE DEDICATED OTV SUPPORT JYVR FOR *SCC OTV SCAN ASSESSMENT ON OIS CH 221 AS FOLLOWS.		COMM
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VIEW	CAMERA
1. OVERVIEW OF PAD AREA FROM NORTH TO EAST TO SOUTHWEST	001/101
2. OVERVIEW OF PAD AREA FROM SOUTHWEST TO WEST TO NORTH.	071/171
3. PAD SURFACE, WEST SIDE	067/167
4. PAD SURFACE, EAST SIDE	060/160
5. MLP, SIDE 1	070/170
6. FSS AND RSS	060/160
7. MLP, ZERO LEVEL	009/109

SWITCH ABOVE CAMERAS TO  
 MONITORS 023 AND 042 (FR-1)  
 OR 183 AND 202 (FR-3).  
 VIDEO RECORD INPUTS.

17-0036	+03M00S		*SCC PERFORM OTV SCAN ASSESSMENT OF JBFX PAD/LAUNCH AREAS AND REPORT JYVO ANOMALIES TO NTD ON OIS CH 232. JBFX WILL INITIATE FIREX WATER IF REQUESTED BY NTD ON OIS CH 232 AND REPORT ACTION TO NTD. (SEE *SCC FIGURE 4) (CALL CTVO CONTROL ROOM (7-7810/7811) TO REQUEST PAN/TILT/ZOOM OF CTVO TV CAMERA TV-7A/B).		WSSA COMM SU72946
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17-0037	+03M00S		CLOX PERFORM OTV SCAN ASSESSMENT OF CLHY PAD/LAUNCH AREAS ON OIS CH 138 JYVO AND REPORT ANOMALIES TO NTD.		COMM
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0038	+04M00S	CBRS 136 TBC 135 LRD	TBC LRD BRD	SRB SRSS S AND A DEVICES IN SAFE POSITION.  SRB AFT SKIRT GN2 PURGE TERMINATION	SU72947
17-0039		TBC 136	CBHY	TERMINATE SRB AFT SKIRT GN2 PURGE. CBHY COORDINATE WITH GSPN ON OIS CH 114.	SU72953
17-0040			CBHY	CURSOR CNTL (BAT04) SRB AFT SKIRT PURGE  (HEATER) CMD - OF  (VALVING) (MAIN) PRI - CL SEC - CL  (VALVING) LOW PRI - CL SEC - CL DC PWR PRI - OF SEC - OF	
17-0041		CBHY 136 TBC 232 NTD	TBC NTD *SCC	SRB AFT SKIRT GN2 PURGE HAS BEEN TERMINATED.	

NOTE

DO NOT PERFORM NEXT THREE STEPS IF RTLS HAS BEEN DECLARED OR IF KSC IS DESIGNATED AOA LANDING SITE, UNTIL AOA OPTION HAS EXPIRED.

17-0042	+04M30S	LSO LF1	LRD	NEGATIVE RTLS.	
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0043	+04M30S	LRD	NTD	RTLS NO LONGER AN OPTION.	JSTC
		212	SRO	PERSONNEL RELEASED TO SUPPORT	COMM
		NTD	*SCC	PAD SAFING/INSPECTION OPERATIONS.	SLF
		212	STM		ELEC
		*SCC	*PSE		SU72948
		NET			SU72925
		105			
		STM	FSTM		
		111	JSTC		
			GYCC		
		JSTC	FSTC		
		114	JSEP		

NOT PERFORMED

17-0044		LRD	NCC	RELEASE FROM RTLS/LANDING SUPPORT.	
		CCN	*DCD	RECYCLE TO THREE HOUR READINESS	
		135	ROC	STATUS. (S0028)	
			EMS		
			*SLF		

NOT PERFORMED

NOTE

PRIOR TO PERFORMING NEXT STEP,  
 CHECK WITH SLF CONTROL TOWER  
 AND DETERMINE IF MSBLS SUPPORT  
 TO CONTINUE FOR SHUTTLE  
 TRAINING AIRCRAFT (STA).

17-0045		LRD	STM	KSC SLF NAVAIDS RELEASED FROM	COMM
		135		S0007 PLUS COUNT SUPPORT.	
		STM	GYCC	SUPPORT KSC LANDING OPPORTUNITIES	
		111		PER S0028 AND MISSION UNIQUE ORBIT	
		GYCC	FTAC	OPPORTUNITIES SCHEDULE. (MSBLS TO	
		117	FMLS	REMAIN POWERED UP IF REQUIRED BY	
				STA OR KSC IS PRIME AOA.)	

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0046		*SCC NET 105	*PSE	EOD PERSONNEL MAY BE RELEASED AT THIS TIME.	
NOTE					
DO NOT PERFORM NEXT STEP IF RTLS HAS BEEN DECLARED.					
17-0047		*SCC NET 205	ALL	RADIO NET 205 NO LONGER REQUIRED FOR RTLS.	
					NOT PERFORMED
17-0048		NTD 232	CBSE	CBSE PERSONNEL MAY BE RELEASED AT THIS TIME.	
17-0049		*SCC 232 NTD	NTD STM	SRM ACID CLOUD FORMATION _____ (WILL/WILL NOT) AFFECT LC-39 FACILITIES.	SU72949
NOTE					
PERFORM NEXT STEP AFTER ORBITER LANDING PER S0028 IF RTLS HAS BEEN DECLARED OR IF KSC IS DESIGNATED AOA LANDING SITE.					
17-0050		STM 111 GYCC 117	GYCC GYCJ	UNPATCH 2RAC534 (126.65 MHZ WX BRIEFING) TO JSC ON NASCOM 2000 CIRCUIT 3JKV63008.	COMM
					NOT PERFORMED
17-0051		NTD 212 PA	ALL	ALL TEST TEAM PERSONNEL RETURN TO YOUR NORMAL COMMAND AND OPERATING CHANNELS. JBFX CONTINUE TO MONITOR CH 232.	WSSA
17-0052		STM 111	JBAC	SECURE COOLING TOWER SPRAY SYSTEM.	HVAA



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0053	+05M00S	CLOX 136	TBC	LOX POST LAUNCH OPERATIONS PER S1003 COMPLETE. PROCEEDING WITH LOX SYSTEM SAFING PER OMI G3153.	
17-0054		CLOX 136 TBC 232	TBC NTD	OTV SCAN OF LOX STORAGE AREA, CROSS COUNTRY LINES, MLP AND FSS COMPLETE. REPORT STATUS.	
LOX TANKING OMRS BUY-OFF TABLE -----					
17-0055		CLOX		COMPLETION OF ET LOX TANKING FROM LOX/MPS PRELIMINARIES THROUGH T-10 SECONDS SATISFIES THE NOTED OMRS REQUIREMENTS. DETAILS OF LOX TANKING ARE SPECIFIED IN OMI S1003.	
				OMRSD S00FB0.090-A-1 OMRSD S00FB0.300-1 OMRSD S00FB0.310-1 OMRSD S00FB0.320-1 OMRSD S00FB0.340-1 OMRSD S00FC0.080-1 OMRSD S00FC0.100-1 OMRSD S00FC0.120-1 OMRSD S00FD0.062-1 OMRSD S00FD0.073-1 OMRSD S00FD0.094-1 OMRSD S00FD0.095-A OMRSD S00FD0.121-A-1R OMRSD S00FF0.101-1 OMRSD S00FF0.145-1 OMRSD S00FM0.043-1 OMRSD S00FM0.050-1 OMRSD S00FM0.060-1 OMRSD S00FM0.321-1 OMRSD S00FM0.330 OMRSD S00FM0.342-1 OMRSD S00FM0.440-1	
17-0056		CLOX 136 TBC	TBC CPWR	VERIFY 22D100, 23D100 AND BACKUP BATTERY POWER SUPPLIES ARE SUPPORTING.	
17-0057	+05M00S	NTD 232	OTC TBC	BRIEF INSPECTION AND SAFING TEAMS ON HAZARDS THAT WILL BE PRESENT STM AND APPLICABLE SEQUENCES OF *SCC APPENDIX Z.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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WARNING

ALL PERSONNEL IN THE POST LAUNCH INSPECTION AND SAFING TEAMS SHALL WEAR THE FOLLOWING ACIDIC DEPOSIT PROTECTION GEAR AND SHALL NOT REMOVE WITHOUT THE CONCURRENCE OF SFOC SAFETY:

1. COVERALLS (BLUE COLLAR/ FLAME RETARDANT)
2. HARDHATS
3. A BREATHING ESCAPE UNIT (BEU) PACK SHALL BE CARRIED BY EACH MEMBER OF THE INSPECTION TEAM. BEU'S WILL BE WORN AS DIRECTED BY ENV HEALTH/SFOC SAFETY.
4. BEU'S SHALL BE WORN BY THE SAFING/SECURING TEAMS IF HYDROCHLORIC GAS IS DETECTED. IF AN AREA IS CONTAMINATED WITH HCL ONLY WORK REQUIRED TO SAFE AND SECURE AN AREA WILL BE PERFORMED.
5. RAINSUITS ARE AVAILABLE AT PAD GATE AND SHALL BE WORN IF REQUIRED FOR PAD ENTRY BY SFOC SAFETY.

17-0058

NTD \*SCC VERIFY INSPECTION AND SAFING WSSA  
232 OTC TEAMS READY TO PROCEED TO BDA  
TBC ROADBLOCK.  
STM  
\*SCC \*PSE  
NET  
105

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0058 CON'T				SAFETY INSPECTION TEAM ----- (PLACARDS ONLY) -----	
			SF (*PSE) 6	SFOC SAFETY 2 AT PAD GATE 4 INSP TEAM	
			SF (NASA) 3	NASA SAF	
			JBOSC 7	SECURITY 3 PAD GATE 4 BDA ROADBLOCKS	
			VT 1	SITE MANAGER (AT PAD GATE)	
			GSS 2	ELEC ENGR/TECH	
			JBOSC 7	ENVIRONMENTAL HEALTH (2 AT PAD GATE, 5 INSP TEAM)	
			ET 2	LO2/LH2	
			GSS 3	2 ENG/MECH(GO2/GH2&WATER)	
			GSS 3	2 ENG/MECH(PNEU&WATER)	
			JBOSC 9	FIRE/COMBAT (AT PAD GATE)	
			ORB 1	PAD OPS ENGR (GSE) BLDG J8-2009 (PAD A ONLY) J7-0688 (PAD B ONLY)	
			ORB 2	ENGR/TECH	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0058				INSPECTION TEAMS	
CON'T					

NOTE

INSPECTION TEAMS SHALL BE FORMED INTO 4 GROUPS AS INDICATED BELOW.

TEAM

----

- 1 - EAST PERIMETER
  - 1 (SFOC-SF)
  - 1 (EH)
  - 1 (ET LH2)
  - 2 (GSS)
  - 1 (FAC WATER)

TEAM

----

- 2 - WEST PERIMETER
  - 1 (SFOC-SF)
  - 1 (EH)

TEAM

----

- 3 - WEST PAD SURFACE/FSS
  - 1 (SFOC-SF)
  - 1 (FAC ELECT ENG)
  - 1 (EH)
  - 2 (GSS)
  - 1 (ORB)
  - 1 (FAC WATER)

TEAM

----

- 4 - EAST PAD SURFACE/RSS
  - 1 (SFOC-SF)
  - 2 (EH)
  - 1 (ORB)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.	
17-0058				SAFING TEAM		
CON'T				-----		
			ET (4+3)	7	LO2(INCLUDES 1 - *PSE)	
			ET (7+6)	13	LH2(INCLUDES 3 - *PSE)	
			GSS	4	GH2/GO2	
			SFOC-SF	1	GH2/GO2	
			GSS	1	GH2/GO2	
			EH	1	PTCR DEPRESS	
			GSS	3	PTCR DEPRESS	
			ORB	1	PTCR DEPRESS(ECS GN2 VALVES	
			SFOC-SF	1	PTCR DEPRESS	
			GSS	1	PTCR/MLP DEPRESS	
			GSS	8	MLP DEPRESS (FLOOR PNL	
					REPLACEMENT)	
			SFOC-SF	1	MLP DEPRESS	
			EH	1	MLP DEPRESS	
			GSS	1*	SITE MANAGER	
			GSS	2*	MOBILE SUPPLY (RAINSUITS,	
					ETC) (*REMAIN OUTSIDE PAD	
					GATE)	
			JBOSC	1*	L/S VAN (ELSA'S)	
					(*REMAIN OUTSIDE PAD	
					GATE)	
			ET	7	ORDNANCE REMOVAL	
			ORB	10	ORDNANCE REMOVAL	
			GSS	16	HANDRAIL INSTALLATION	
			GSS	5	(H/E) HANDRAIL TRANSPORT	
					AND INSTALLATION	
			GSS	1	HANDRAIL INSTALLATION	
			GSS		SLIDEWIRE SECURE (INCLUDED	
					IN MLP DEPRESS)	
			GSS	3	SPECIAL POWER TECHS AND	
					ENGR TO RESET MLP ODMS	
			GSS	2	LOW VOLTAGE ELECTRICIAN	
					AND ENGR FOR ELECTRICAL	
					SYSTEM SAFING	
			JBOSC	2	RESET/SECURE PTCR/MLP	
					FIRE ALARMS	
			JBOSC	3	PAD GATE CONTINGENCY (SEC)	
			JBOSC	4	ELECTRICAL SYSTEM SAFING	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0058			JBOSC	2	HCL MONITORS
CON'T			GSS	4	ELEV
			GSS	1	ELEV
			SFOC	1	(PSHL) GSE TECH
				1	(PSHD) GSE TECH
				1	(PSOM) GSE TECH
				1	(PSOD) GSE TECH

DEBRIS INSPECTION TEAM

SFOC SAF	1
NASA KSC	3
NASA MSFC	1*
NASA JSC	1*
ORB	1*
SRB	1*
ET	2*
SFOC	2

(\* = OPTIONAL)

NOTE

DO NOT PERFORM NEXT STEP IF  
 TAL LANDING DECLARED.

17-0059	+08M00S	LRD	*DCD	BRAVO ALERT AIRCRAFT SUPPORTING RRT	
		135		DEPLOYMENT TO TAL SITE NO LONGER	
				REQUIRED.	
					NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF TAL  
 LANDING DECLARED.

17-0060		LRD 135	*DCD	REQUEST BRAVO ALERT AIRCRAFT FOR RRT DEPLOYMENT TO _____ (TAL SITE).	
				NOT PERFORMED	_____

17-0061	+08M00S	CGLS		CONSOLE KYBD HOME CMD KEY - PRESS	
				SET NUPONORBIT ON XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	

17-0062		CGLS		CONSOLE KYBD HOME CMD KEY - PRESS	
				SET N03IS080E OFF XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	

17-0063	+08M00S	GYCC 117	GYCJ	REMOVE UMBILICAL A AND B PATCH TO THE PAD. VERIFY COMPLETION.	COMM SU72970
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NOTE

DO NOT PERFORM NEXT TWO STEPS  
 IF:

1. RTLS HAS BEEN ANNOUNCED

OR

2. KSC IS DESIGNATED PRIME  
AOA SITE.

17-0064		LRD CCN	NCC	VERIFY READY FOR LOSS OF COMM ON CONVOY COMMANDER, PURGE AND COOLING NETS.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0065	+10M00S	LRD 135 STM 111 GYCC 117	STM GYCC GYCJ	DISABLE KSC TRANSMITTERS AND RECEIVERS ON CONVOY COMMANDER, PURGE AND COOLING NETS.	COMM

NOT PERFORMED \_\_\_\_\_

LANDING COMM CIRCUITS TO DFRC/WSSH  
 -----

NOTE

DO NOT PERFORM NEXT SEVEN STEPS  
 IF RTLS OCCURRED OR A DECISION  
 HAS BEEN ANNOUNCED FOR A TAL.

PERFORM NEXT STEP IF:

1. ALTERNATE LANDING SITE  
 CONVOY COMMANDER NET IS  
 ACTIVATED, AND
2. EITHER DFRC OR WSSH IS  
 DESIGNATED PRIME AOA  
 LANDING SITE FOR THIS  
 MISSION.

17-0066		LRD 135 STM 111 GYCC 117	STM GYCC GYCJ	RECONFIGURE ALTERNATE LANDING SITE CONVOY COMMANDER NET FROM _____ (DFRC/WSSH) TO KSC.	COMM
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NOT PERFORMED \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT THREE STEPS  
 IF DFRC IS DESIGNATED PRIME  
 AOA LANDING SITE FOR THIS  
 MISSION.

17-0067	+10M00S	LRD 135	STM	ACTIVATE FOLLOWING:	COMM
		STM 111	GYCC	1. DFRC SPA 3/COOLING NET T/R TO KSC COOLING NET.	
		GYCC 117	GYCJ	2. DFRC SPA 4/CONVOY COMMANDER NET. T/R TO KSC CONVOY COMMANDER NET.	
				3. DFRC SPA 6/PURGE NET T/R TO KSC PURGE NET.	

VERIFY FOLLOWING:

1. DFRC SPA 1 T/R TO OIS CH 135
2. DFRC SPA 8 T/R TO OIS CH 161

NOT PERFORMED \_\_\_\_\_

17-0068		GYCC 117	GYCJ	PERFORM VOICE CHECKS ON OIS CHANNELS AND RADIO NETS, CONFIGURED FOR DFRC LANDING.	COMM
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NOT PERFORMED \_\_\_\_\_

17-0069		GYCJ 117	GYCC	COMM CIRCUITS CONFIGURED AND VOICE CHECKED FOR DFRC LANDING.	COMM
		GYCC 111	STM		
		STM 135	LRD		

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT THREE STEPS IF  
 WSSH IS DESIGNATED PRIME AOA  
 LANDING SITE FOR THIS MISSION.

17-0070	+10M00S	LRD 135 STM 111 GYCC 117	STM GYCC	ACTIVATE WSSH OIS-A4 CONVOY COMMANDER NET T/R TO KSC CONVOY COMMANDER NET.	COMM
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NOT PERFORMED \_\_\_\_\_

17-0071		GYCC 117	GYCJ	PERFORM VOICE CHECKS ON COMM CIRCUITS, CONFIGURED FOR WSSH LANDING.	COMM
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NOT PERFORMED \_\_\_\_\_

17-0072		GYCJ 117 GYCC 111 STM 135	GYCC STM LRD	COMM CIRCUITS CONFIGURED AND VOICE CHECKED FOR WSSH LANDING.	COMM
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
*SCC WILL DETERMINE IF ACID CLOUD IS PROJECTED TO IMPACT NON-LAUNCH PAD.					
17-0073		NTD 232 *SCC NET 105	*SCC	ASSESS IF SRM ACID CLOUD IS PROJECTED TO IMPACT NON-LAUNCH *PSE PAD.	SU72924
17-0074		*SCC NTD 232	NTD	SRM ACID CLOUD _____ (IS/ IS NOT) PROJECTED TO IMPACT NON-LAUNCH PAD.	SU72961
INSP & SAFING TEAMS TO PAD GATE -----					
17-0075	+10M00S	NTD 232	*SEC	ALLOW INSPECTION AND SAFING TEAM CONVOY TO PROCEED THRU LDA ROADBLOCK AB-11.	SEC
17-0076		NTD 232 STM 111 JSTC 114	STM JSTC JFIR	SEND TWO FIRE COMBAT TEAMS FROM AB-11 TO LAUNCH PAD ____ GATE WITH SAFETY ESCORTED CONVOY. ESTABLISH BASE JUST INSIDE PAD GATE AND PERFORM COMM CHECK WITH NTD AND *PSE ON NET 105. STANDBY TO SUPPORT PAD ENTRY OPERATIONS.	FIRE

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
OPTION 1 -----					
NOTE					
PERFORM NEXT FOUR STEPS IF SRM ACID CLOUD IS NOT PROJECTED TO IMPACT NON-LAUNCH PAD.					
17-0077	+10M00S	NTD 232	OTC TBC	INSPECTION AND SAFING TEAMS PROCEED TO LAUNCH PAD BDA	SU72926 SU72929
				STM ROADBLOCK A-5 (PAD A) OR A/B-4 *SCC (PAD-B) WITH SAFETY ESCORTED *SCC *PSE CONVOY. SFOC SAFETY AND NET ENVIRONMENTAL HEALTH PROCEED TO 105 PAD GATE AND PERFORM ACID AND HYPER TVC'S.	
				NOT PERFORMED	_____
17-0078		*PSE NET 105 *SCC 232	*SCC	PAD GATE ACID AND HYPER TVC'S COMPLETE AND IS: _____ _____	SU72931
				NOT PERFORMED	_____
17-0079		NTD 232	*SCC *SEC	INSPECTION AND SAFING TEAMS PROCEED TO PAD GATE AND PREPARE *SCC *PSE FOR PAD SECURING.	SEC SU72933
		NET 105			
				NOT PERFORMED	_____
17-0080		*PSE NET 105 *SCC 232	*SCC	INSPECTION AND SAFING TEAMS ON SITE AT PAD GATE. _____	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPTION 2

NOTE

PERFORM NEXT SEVEN STEPS IF SRM  
 ACID CLOUD IS PROJECTED TO  
 IMPACT NON-LAUNCH PAD.

INSPECTION AND SAFING TEAM  
 CONVOY WILL INCLUDE SAFETY AND  
 SECURITY VEHICLES TO SUPPORT  
 ENVIRONMENTAL ASSESSMENT AT  
 THE NON-LAUNCH PAD. THESE  
 VEHICLES WILL SPLIT FROM THE  
 CONVOY AT THE A-5 ROADBLOCK  
 AND PROCEED TO THE NON-LAUNCH  
 PAD. SFOC SAFETY AND  
 ENVIRONMENTAL HEALTH WILL  
 PERFORM TVC'S AT BOTH THE  
 LAUNCH AND NON-LAUNCH PADS IN  
 PARALLEL.

17-0081	+10M00S	NTD	OTC	INSPECTION AND SAFING TEAMS	SU72963
		232	TBC	PROCEED TO LAUNCH PAD BDA	SU72965
			STM	ROADBLOCK A-5 (PAD A) OR A/B-4	SU72960
				*SCC (PAD B) WITH SAFETY ESCORTED	
		*SCC	*PSE	CONVOY. SFOC SAFETY AND	
		NET		ENVIRONMENTAL HEALTH WILL	
		105		PROCEED TO PAD A AND B GATES	
				AND PERFORM ACID AND HYPER TVC'S.	

NOT PERFORMED

17-0082		*PSE	*SCC	LAUNCH PAD GATE ACID AND HYPER TVC'S	
		NET		COMPLETE AND IS: _____	
		105			
		*SCC	NTD	_____	
		232			

NOT PERFORMED

17-0083		NTD	*SCC	INSPECTION AND SAFING TEAMS	SEC
		232	*SEC	PROCEED TO PAD GATE AND PREPARE	
		*SCC	*PSE	FOR PAD SECURING.	
		NET			
		105			

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0084		*PSE NET 105 *SCC 232 NTD	*SCC NTD *SEC	INSPECTION AND SAFING TEAMS ON SITE AT PAD GATE.  NOT PERFORMED	SEC SU72966  _____
17-0085			JBFX	RECORD NON-LAUNCH PAD WIND SPEED AND DIRECTIONS USING OTV SWITCHER INPUT SOURCE 189.  SPEED _____  DIRECTION _____  NOT PERFORMED	WSSA     _____
NOTE					
DO NOT PERFORM ANY WASHDOWN WATER FLOW THAT HAS BEEN DETERMINED TO CAUSE AN ENVIRONMENTAL IMPACT. WINDSPEED AND DIRECTION, RAINFALL PRIOR TO LAUNCH AND GROUND WATER SATURATION WILL BE CONSIDERED. (REF FIGURE 10)					
17-0086		NTD 232 STM 111 JSTC 114	STM	PROCEED WITH FOLLOWING NON LAUNCH PAD STORAGE AREA WASHDOWNS PER OMI M3190.  1. LH2 AREA  2. GH2 AREA  NOT PERFORMED  NOT PERFORMED  NOT PERFORMED	FIRE WSSA SU72962     SS1  SS2  _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0087		*PSE NET 105 *SCC 232	*SCC NTD	NON-LAUNCH PAD ACID AND HYPER TVC'S ARE COMPLETE AND IS: _____	SU72967 SU72965
				NOT PERFORMED	_____
17-0088		*SCC 232 NTD STM 111 JSTC 114	NTD STM JSTC	RELEASE PAD RESCUE (ARMORED VEHICLE) TEAM AT A-5 OR A/B-4 R/B AFTER INSPECTION AND SAFING TEAM HAS PASSED APPROPRIATE R/B.	FIRE SU72977
				NOTE	
				DO NOT PERFORM NEXT STEP IF RTLS DECLARED.	
17-0089	+10M30S	LPS 127	CPDR	FORCE PDR TAPE SWITCH AT PDR INFOTON #INRC T(X) RTN KEY - PRESS	
				NOT PERFORMED	_____
17-0090		LPS	CPDR	PERFORM \$\$\$POOL RESET ASSIGN RP.	
17-0091	+15M00S	SRO 232	NTD	POST LAUNCH INDICATES NO APPARENT LAUNCH IMPACT LIMIT LINE ANOMALIES.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
FLIGHT CONTROL P/P DEACTIVATION -----					
17-0092	+15M00S			COFC APPL PG (SWB01 PG A) PFK 12 KEY - PRESS (ACT P/P SETUP)	
17-0093				COFC CURSOR CNTL (SWB01 PG A) (ON ITEMS BELOW) XMIT CURSOR KEY - PRESS  1. I-ENG POSN - SUB SYS=2, ODV=3  2. I-AERO POSN - SUB SYS=2, ODV=4	
17-0094				COFC APPL PG (SWB01 PG A) PFK 12 KEY - PRESS (DE-ACT P/P SETUP)	
17-0095		COFC OTC 132 OTC LPS LPS C2MC 127		P/P DEACTIVATION COMPLETE. READY FOR REMOVAL FOR DATA COORDINATOR PICKUP. (PP2 UNITS 3 AND 4)	
GNC/EFC LCD EMON DEACTIVATION -----					
17-0096				COFC APPL PG (SWB01 PG A) PFK 13 KEY PRESS (ACT EMON SETUP)	
17-0097				COFC CURSOR CNTL (SWB01 PG A) (ON ITEMS BELOW) XMIT CURSOR KEY - PRESS  1. I - IMU PWR UP 2. I - IMU OPERATE 3. I - OMS TVC 4. I - SRB TVC 5. I - RJD DRIVER 6. I - SRB RGA 7. I - CIRC PUMPS 8. I - NON PREREQUISITE	
17-0098				COFC APPL PG (SWB01 PG A) PFK 13 KEY - PRESS (DE-ACT EMON SETUP)	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0099		CLHY 136 TBC 232	TBC NTD	OTV SCAN OF LH2 STORAGE AREA, CROSS COUNTRY LINES, MLP AND FSS COMPLETE. REPORT STATUS.	
17-0100	+19M00S	*SCC 232 *SCC NET 105	NTD	OTV SCAN OF PAD AND LAUNCH AREAS VERIFIED COMPLETE. REPORT STATUS.	
17-0101	+19M00S	NTD 232 STM 138 111	STM JYVO JYVR JBFX	OTV SCAN OF PAD AND LAUNCH AREAS COMPLETE. STOP VIDEO RECORDING OF INPUTS TO OTV MONITORS 023 AND 042 (LCC-1) OR 183 AND 202 (LCC-3).	COMM WSSA
17-0102			JCFM	STOP PMS RECORDERS EXCEPT FOR METEOROLOGICAL DATA RECORDER. RECORD MET DATA TILL T+30 MINUTES.	
				ACTIVATE PAD OIS -----	
17-0103		STM 111 GYCC 117	GYCC JYCD	ACTIVATE OIS-D TO PAD_____.	COMM SU72978
17-0104		GYCC 111 STM 232	STM NTD	PAD _____ OIS-D ACTIVATED.	COMM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT STEP FOR IUS MISSION (STS-93).					
IUS GSE SECURING					
-----					
17-0105		PTC 134	ICTC	PERFORM POST LAUNCH SECURING PER DOP D290-50020-27. REPORT COMPLETION.	
NOT PERFORMED					
PAYLOAD CONSOLE SOFTWARE TERMINATION					
-----					
NOTE					
PERFORM NEXT THREE STEPS IF PAYLOAD CONSOLE SOFTWARE TERMINATION IS REQUIRED.					
17-0106		PTC 144	DLES	TERMINATE GOAL PROGRAMS THAT WERE REQUIRED TO SUPPORT TESTING.	
NOT PERFORMED					
17-0107		DLES	DCOI C1	CONSOLE	
TERMINATE ALL DMONS					
NOT PERFORMED					
17-0108		DLES	DCOI	PAYLOAD CONSOLE SOFTWARE TERMINATION COMPLETE.	
NOT PERFORMED					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

BDA ROADBLOCKS SHALL BE ESTABLISHED AFTER COMPLETION OF ACID AND HYPER TVC'S AT APPLICABLE PAD(S).

ESTABLISH BDA ROADBLOCKS

17-0109		NTD 232	*SEC	ESTABLISH BDA ROADBLOCKS A-1, B-1, A-3, A/B-4, A-5, A-6 (PAD A LAUNCH)/A-1, B-1, B-3, A/B-4, (PAD B LAUNCH). DROP ROADBLOCKS A/B-11 AND A/B-15 WHEN BDA ROADBLOCKS ESTABLISHED. OPEN AREAS OUTSIDE BDA FOR NORMAL WORK.	SEC SU72935 SU72981 SU72966
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17-0110		NTD 232	STM	PERSONNEL SUPPORTING SUPPORT OPERATION SUPPORT SETUP 3 - FALLBACK CONFIGURATION - SUPPORT RED CREW ARE RELEASED.	
		JSTC 111	JSEP		ELEC
			JSAC		AC
			GSPN		PNU
			GSPS		PN
			GSFA		FA
			JSWC		WW
			*SCB		LS
			*SEC		SEC
			WCRG		RGR
		GYCC 117	JYCJ		COMM
		PTP	JYVO		

EPDC POST LAUNCH SECURING

17-0111		OTC 132	CEPD	PERFORM POST LAUNCH SECURING PER S0007VL4 (SEQ 59).	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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GROUND PIC TEST RESULTS

NOTE

NEXT STEP VERIFIES  
THE FOLLOWING:

T-0 COMMAND IS RESET

ALL GROUND PIC CAP  
VOLTAGES ARE LESS THAN  
1.5 VDC.

GROUND PIC RACKS ARE  
POWERED DOWN.

LISTS RESULTS OF  
RESISTANCE TESTS  
(GO INDICATIONS).

17-0112		CEPD OTC		GROUND PIC RESISTANCE TEST	SU72937
		132		(VL4 SEQ 59) FOR ETVAS, TSM	SU72954
		OTC NTD		AND H2 BURN VERIFIED COMPLETE	
		232		AND RESULTS ARE AS FOLLOWS	
		NTD *SCC		(RECORD ANY RESISTANCE TEST "G"	
		TBC		INDICATIONS FROM SEQ 59):	

17-0113		CEPD OTC		POST LAUNCH SECURING (SEQ 59 -	SU72955
		132		GROUND POWER SHUTDOWN) COMPLETE.	
		OTC NTD			
		232			
		NTD *SCC			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				ENABLE EXTERNAL PAGING TO CONTROL ----- ROOMS -----	
17-0114	+20M00S	NTD 232 STM 111 GYCC 117	STM GYCC JYCJ	ENABLE EXTERNAL PAGING TO ACTIVE AND BACKUP CONTROL ROOMS FOR S0007. REPORT COMPLETION.	COMM
				VERIFY PERSONNEL STATUS -----	
17-0115		*SEC 232	NTD	BDA ROADBLOCKS ESTABLISHED. LDA ROADBLOCKS DROPPED. AREAS OUTSIDE BDA OPEN FOR CONTROLLED WORK.	SU72982 SU72983 SU72980
17-0116	+22M00S	*SCC 232 NTD STM 111 GYCC GYCC PTP	NTD STM JPHO JSTC WYVF	VERIFY STATUS OF ALL PERSONNEL LOCATED WITHIN IMPACT LIMIT LINES/LAUNCH DANGER AREA.	JSTC COMM SU72939
17-0117		JPHO 111 STM 232	STM NTD	PHOTO PERSONNEL WITHIN LAUNCH DANGER AREA ARE ALL SAFE.	
17-0118		JSTC 111 STM 232	STM NTD	ALL J-BOSC PERSONNEL WITHIN LAUNCH DANGER AREA ARE SAFE.	JSTC
17-0119		WYVF PTP GYCC 111 STM 232	GYCC STM NTD	TELEVISION CAMERA OPERATORS WITHIN LAUNCH DANGER AREA ARE SAFE.	COMM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0120	+22M00S	NTD 232	*SCC	ALL PERSONNEL LOCATED WITHIN IMPACT LIMIT LINES/LAUNCH DANGER AREA ARE SAFE.	
17-0121		NTD 232	SRO	SRO MAY BE RELEASED AT THIS TIME.	

STATUS SENSOR SYSTEMS  
 -----

17-0122	+22M00S	*SCC 232	NTD	STATUS LH2 LEAK AND FIRE SENSORS. (MPS) (GH2 FACILITY).	SU72940
		NTD	OTC		
			STM		
			TBC		
17-0123		STM 111	JBPN	STATUS GH2 FACILITY LEAK AND FIRE SENSORS. (SKELETON H2A FOR PAD A, H2B FOR PAD B)	PNSA
17-0124		OTC	CMPS	REPORT STATUS OF LH2 LEAK AND FIRE DETECTORS.	
17-0125		TBC 136	CLHY	REPORT STATUS OF LH2 LEAK AND FIRE DETECTORS (LH2).	

NOTE

NUMEROUS FIRE INDICATIONS  
 FOLLOWING A LAUNCH WITH  
 STADIUM LIGHTS ON COULD  
 BE RESULT OF BROKEN UV  
 FILTERS. THIS CAN BE  
 VERIFIED BY STM CYCLING  
 THE STADIUM LIGHTS OFF,  
 THEN ON.

17-0126		JBPN 111	STM	GH2 FACILITY LEAK AND FIRE DETECTORS SHOW NO PROBLEM (OR STATE ACTUAL STATUS).	PNSA
		STM 232	NTD		
17-0127	+22M00S	OTC 232	NTD	MPS LEAK AND FIRE DETECTORS SHOW NO PROBLEM (OR ACTUAL STATUS).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0128		CLHY 136 TBC 232	TBC NTD	LH2 LEAK AND FIRE DETECTORS SHOW NO PROBLEM (OR ACTUAL STATUS).	
17-0129		NTD 232 *SCC NET 105	*SCC *PSE	LEAK AND FIRE DETECTOR STATUS CHECKS COMPLETE - NO ANOMALIES NOTED (OR ACTUAL STATUS).	
POWER DOWN ASTRO COMM -----					
17-0130	+23M00S		OTC	ASTRO COMM - OIS PANEL  1. ALL SWITCHES-OFF  2. POWER SW-OFF  OAA/HCU FIRING ROOM SECURING -----	
17-0131		CGSS 132	OTC	ORB OPERATION SUPPORT SETUP 18 - SOUND SUPPRESSION/EMERGENCY EGRESS FLAME DETECTION MONITOR COMPLETE.	
17-0132		OTC 132	CGSS	PERFORM OAA AND HCU FIRING ROOM SECURING PER OMI V2153 AND OMI V2160.	
17-0133		CGSS 132	OTC	OAA AND HCU FIRING ROOM SECURING COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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ET MECHANICAL SECURING

CAUTION

LOSS OF 28 VDC POWER (23D100  
BUS) WILL CAUSE GVA TO UNLATCH  
AND EXTEND.

NOTE

PROGRAMS WILL BE REPERFORMED  
AND GVA POST LAUNCH SECURING  
ACCOMPLISHED PER S2005.

17-0134		TBC 136	CMEC	PERFORM POST LAUNCH PROGRAM TERMINATION PER OMI G2158.	SU72956
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17-0135		CMEC 136	TBC	POST LAUNCH PROGRAM TERMINATION COMPLETE.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
RANGE SAFETY TEST CODE LOAD					
-----					
17-0136	+25M00S	TBC 136	CBRS	PERFORM RANGE SAFETY TEST CODE LOAD PER OMI S5018.	SU72957
17-0137		TBC 136	CBRS	PERFORM SRSS MLP GSE POWER DOWN.	SU72958
17-0138			CBRS	CURSOR CNTL (SWRB3) BSR01 - XMIT CURSOR POWER OFF SYSTEM A&B - XMIT CURSOR	
17-0139			CBRS	CURSOR CNTL (BWR10) HOLDFIRE EMON INH XMIT CURSOR KEY - PRESS	
17-0140			CBRS	CURSOR CNTL (SWRB3) BSR01 XMIT CURSOR KEY - PRESS POWER ON SYS A&B A PRIME XMIT CURSOR KEY - PRESS	
17-0141			CBRS	CURSOR CNTL (SWRB3) BSR01 XMIT CURSOR KEY PRESS POWER OFF SYSTEM A&B XMIT CURSOR KEY - PRESS	
17-0142			CBRS	CURSOR CNTL (SWRB2) DCDR IND I XMIT CURSOR KEY - PRESS AGC VOLT I XMIT CURSOR KEY - PRESS	
17-0143			CBRS	CURSOR CNTL (SWRB1) EMON INH XMIT CURSOR KEY - PRESS	
17-0144		CBRS TBC 136	CBRS	SRSS GSE POWER DOWN COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0145		CTIF 136	TBC	GO2 VENT HOOD AND ET TPS ICE/FROST AND DEBRIS MONITORING COMPLETE (S6444).  OMRSD S00FB0.005-1 OMRSD S00FB0.350-1 OMRSD S00FB0.360-1  LO2/LH2 TRANSFER LINE PURGE - ----- INITIATED -----	
17-0146	+25M00S	CLOX 136	TBC	LOX TRANSFER LINE PURGE HAS BEEN INITIATED.	
17-0147		CLHY 136	TBC	LH2 TRANSFER LINE PURGE HAS BEEN INITIATED.	
17-0148		TBC 232 NTD *SCC *SCC *PSE NET 105	NTD	LOX AND LH2 TRANSFER LINE PURGES HAVE BEEN INITIATED.  GN2 TO AIR CHANGEOVER COMPLETE -----	SU72952
17-0149		CPVD 132 OTC 232 NTD *SCC *SCC *PSE NET 105	OTC NTD	GN2 TO AIR CHANGEOVER OPTION B - POST LAUNCH OPERATIONS COMPLETE. AWAITING ECS PERSONNEL TO ENTER ECS ROOM.	SU72943

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- VERIFY READY FOR PAD INSPECTION -----					
17-0150	+25M00S	*PSE NET 105 *SCC 232	*SCC	INSPECTION AND SAFING TEAMS AT PAD GATE.	SU72933
17-0151	+25M00S	NTD 232 STM 138	STM JYVO JYVR	START VIDEO TRACKING AND VIDEO RECORD SAFETY INSPECTION WALKDOWN TEAM. POSITION OTV CAMERAS IN SEQUENCE, TO TRACK EAST SIDE INSPECTION TEAM. POSITION OTV CAMERAS IN SEQUENCE, TO TRACK WEST SIDE INSPECTION TEAM.	COMM
17-0152	+25M00S	*SCC 232	NTD	VERIFY FOLLOWING ITEMS BEFORE PROCEEDING WITH INSPECTION	SU72992
				1. OTV SCAN OF PAD AREAS COMPLETE.  (REF STEP NO. _____)	
				2. GROUND PIC RESISTANCE TEST COMPLETED AND GND PIC RACKS POWERED DOWN.  (REF STEP NO. _____)	
				3. FIRE/LK DETECTOR STATUS CKS COMPLETE.  (REF STEP NO. _____)	
				4. LO2 RESIDUAL PURGING AND 30 MINUTE LH2 XFER LINE PURGES - INITIATED.  (REF STEP NO. _____)	
				5. GN2 TO AIR CHANGEOVER COMPLETE.  (REF STEP NO. _____)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0153		NTD 232 *SCC NET 105	*SCC *PSE	THE FIVE ITEMS LISTED IN PREVIOUS STEP HAVE BEEN COMPLETED. PROCEED WITH PAD INSPECTION.  LAUNCH PAD LH2/GH2 WASHDOWN ----- OPERATIONS COMPLETE -----	
				NOTE	
				PERFORM NEXT STEP IF LAUNCH PAD WASHDOWNS WERE REQUIRED.	
17-0154		JBFX STM 111 STM 232 NTD *SCC *SCC 221	STM NTD *SCC *PSE	LAUNCH PAD LH2/GH2 STORAGE AREAS WASHDOWN FLOWS COMPLETE.	WSSA SU72A42
				NOT PERFORMED	_____
17-0155		NTD 232	LPS	INHIBIT PROCESSING FOR FDS V67V0100A1 AND V67V0200A1, AND KEEP THEM INHIBITED FOR DURATION OF MISSION. (I PR V67V0_00A1)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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PAD INSPECTION TEAM FUNCTIONS

NOTE

SAFING TEAMS WILL REMAIN AT PAD GATE UNTIL PERIMETER INSPECTION TEAM HAS COMPLETED THEIR INSPECTION. LOX AND LH2 STORAGE AREA FIRE AND SECURITY SUPPORT REMAIN AT PAD GATE UNTIL PERIMETER INITIAL INSPECTION IS COMPLETE, AND THEN PROCEED TO APPLICABLE STORAGE FACILITY BEHIND THE SAFING TEAM.

17-0156	+25M00S	NTD	*SCC	PERFORM PAD PERIMETER AND	SU72993
		232		SURFACE INSPECTION TEAM	SU72998
		*SCC	*PSE	FUNCTIONS AS SPECIFIED BELOW:	SU72A04
		NET			
		105			

1. PERIMETER ROAD AREAS
  - A. DIVIDE INSPECTION TEAM INTO 2 GROUPS.
  - B. INSPECT EAST AND WEST SIDES IN PARALLEL.
2. EAST SIDE FACILITIES
  - A. HYPER OXIDIZER STORAGE AREA (TOXIC VAPOR CHECKS)
  - B. HI PRESSURE STORAGE AREA (GO2 CHECKS AND SECURING OF FIREX VALVE V-64).
  - C. LH2 STORAGE AREA (EXPLOSIVE LEAK CHECKS)
  - D. GH2 STORAGE AREA (EXPLOSIVE LEAK CHECKS)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0156 CON'T				3. WEST SIDE FACILITIES  A. HYPER FUEL STORAGE AREA (TOXIC VAPOR CHECKS)  B. LO2 STORAGE AREA (O2 VISUAL LEAK CHECKS)  C. ELECTRICAL SUB-STATION (VISUAL INSPECTION)  D. PAD TUNNEL AREA (VERIFY/HANG SIGN)  E. PTCR/ECS ROOM/BOX CAR CITY  4. PAD SURFACE AREAS  A. EAST AND WEST SIDES OF FLAME TRENCH  B. MLP SIDE 1 INSPECTION (INSPECTION WILL BE PERFORMED FROM PAD SURFACE) VISUAL.  C. POST ROPES/SIGNS TO CLOSE OFF "E" ROAD NORTH OF PAD SURFACE	
17-0157	+25M00S	TBC 136	CPWR	PERFORM ET HTR SECURING.	SU72959
17-0158			CPWR	PFP (TW495) ET HTR MOD PWR - PRESS HEATER MOD OFF - PRESS  CRT (TD490)  VERIFY  HTR PRI DC MODULE OFF HTR SEC DC MODULE OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0159	+25M00S			CPWR CONSOLE KYBD (TW495) PFK 15 KEY - PRESS	
				NOTE	
				PERFORM NEXT STEP ONLY IF LED 3 READS "AUTO ET OPS ACT".	
17-0160				CPWR PFP (BWE08) PFFPK3 KEY - PRESS	
				VERIFY LED 3 - AUTO ET OPS INH	
				NOT PERFORMED	_____
17-0161	+25M00S			CPWR CONSOLE KYBD (BWE08) PFK 15 KEY - PRESS	
17-0162	+25M00S			CPWR CONSOLE KYBD (BWE11) PFK 15 KEY - PRESS	
				NOTE	
				PERFORM NEXT STEP IF BWE11 DID NOT TERMINATE IN PREVIOUS STEP DUE TO HTRS BEING ACTIVE.	
17-0163				CPWR CONSOLE KYBD (BWE11) PFK 15 KEY - PRESS	
				NOT PERFORMED	_____
17-0164		CPWR TBC		ET HTR SECURING COMPLETE.	
		136			
17-0165		CBRS TBC		RANGE SAFETY TEST CODE LOAD PER	
		136		S5018 COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0166		CGLS	CURSOR CNTL PSEUDO INIT XMIT CURSOR ALL PSEUDOS AND DISK FILES XMIT CURSOR		
				NOTE  IF PAGE B MSG INDICATES: "SEE PAGE A FOR OPERATOR INPUT" PERFORM THE NEXT TWO STEPS.	
17-0167		CGLS	CRT VERIFY PAGE A MSG:  (N03IS511E) CRYO SAFING ENABLED IS ON. THIS INDICATES SCRUB/CRYO DRAIN IN PROGRESS.		
				NOT PERFORMED	_____
17-0168		CGLS	CONSOLE KYBD (SLP02 PAGE A)  ENTER "1" IF CRYO SAFING SUPPORT COMPLETED AND SLP50 NOT ACTIVE TO INITIALIZE (N03IS511E) TO OFF.  ENTER "2" TO LEAVE (N03IS511E) UNCHANGED  ____ (1 OR 2) XMIT RESPONSE KEY - PRESS  CRT VERIFY MSG INDICATING PSEUDO STATE		
				NOT PERFORMED	_____
17-0169		CGLS	VFY ALL BLOCKS CYAN TERMINATE XMIT CURSOR		



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT STEP IF SA001 IS ACTIVE.					
17-0170		CGLS LPS 127	PFP (SA001)	PFPK6 KEY - PRESS (TERMINATE SA001) PFPK5 KEY - PRESS (TERMINATE EXECUTE)	
			CRT	VERIFY PROGRAM SA001 HAS TERMINATED NOT PERFORMED	
17-0171		CGLS LPS	PFP (SLP50)	PFPK1 KEY - PRESS (TERMINATE) PFPK6 KEY - PRESS (EXEC TERM PROGRAM)	
				VERIFY PROGRAM SLP50 HAS TERMINATED	
17-0172		CGLS	INTERGRATION SAFING PANEL	ENABLE SW - OFF	
17-0173		CGLS	TERM GLS SOFTWARE.		
			SSME GSE SECURING	-----	
17-0174		CSME	CURSOR CNTL (VAE38A PG-B)	MFV HTR DISPLAY ALL HTR OFF - ISSUE VERIFY ALL CMDS REMOVED	SU72944

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0175		CSME		CURSOR CNTL (VAE38A PG-B) GN2 DISPLAY PRI VENT OPEN CMD - OFF SEC VENT OPEN CMD - OFF CONT VALVE PRI CLOSE CMD - OFF CONT VALVE SEC CLOSE CMD - OFF PRI REG OUT CLOSE CMD - OFF SEC REG OUT CLOSE CMD - OFF VERIFY STABLE PRESSURE CONT VALVE PRI CLOSE CMD - ON VERIFY GN2 OUTLET PRESSURE DOES NOT INDICATE EXCESSIVE LEAKAGE THROUGH T-0 QD PORT PRI CONT VALVE - OPEN CMD OFF AC PRI CMD - OFF DECREMENT SEC HTR CMD TO MINIMUM	
17-0176		CSME		PPF (VAE38) PPF6 (TERMINATE) KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				MPS S72-0685-1 SAFING (LPS)	
17-0177		CMPS		CURSOR CNTL (VAE18)	SU72945
				1. A74935/A74937 PRIMARY/SECONDARY REG SOV OPEN CMD OVERRIDES - OFF	
				2. VERIFY A74937/A74937 PRIMARY/ SECONDARY REG SOV'S REMAIN CLOSED.	
				3. A74936 PRIMARY/SECONDARY GHE SOV CLOSE COMMANDS - OFF	
				4. VERIFY A74936 GHE SOV OPENS.	
				5. VERIFY 4500 PANEL OUT PRESSURE INDICATES AMBIENT.	
				6. A74989/A75026 PRIMARY/SECONDARY LINE VENT OPEN COMMANDS - OFF	
				7. VERIFY A74989/A75026 PRIMARY/ SECONDARY LINE VENTS CLOSE	
				8. VERIFY A74933/A74939 PRIMARY/ SECONDARY REG VENTS ARE CLOSED.	
17-0178		CMPS		CONSOLE KYBD (C4) VAE35 PERF PGM KEY - PRESS	
				2 XMIT RESP KEY - PRESS	
				CRT	
				VERIFY VAE35 TERMINATES WITH NO ERROR MESSAGE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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WIRE FRAME ACCESS CONFIGURATION

17-0179 +30M00S

GYCC PERFORM FOLLOWING:

1. IF RTLS, TAL OR AOA HAS NOT COMM BEEN ANNOUNCED, WIRE FRAMES LISTED BELOW ARE TO BE CHANGED FROM "CLOSED ACCESS" TO "CONTROLLED ACCESS" FOR DURATION OF ORBITAL FLIGHT.

- A. USB (MILA)
- B. BRRS
- C. CDSC - FRAMES 1, 40 AND WT
- D. LACB - FRAMES 66 AND 74
- E. VABR
- F. TEL 4
- G. SO REP

LCC FRAMES MAY BE OPENED FOR NORMAL WORK.

NOT PERFORMED

SS1

2. IF RTLS OR AOA TO KSC HAS BEEN ANNOUNCED, WIRE FRAMES LISTED BELOW ARE TO REMAIN IN "CLOSED ACCESS" MODE.

- A. USB (MILA)
- B. BRRS
- C. CDSC - FRAMES 1, 40 AND WT
- D. LACB - FRAMES 66 AND 74
- E. VABR
- F. TEL 4
- G. SO REP
- H. LCC

NOT PERFORMED

SS2

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0179 CON'T				3. IF TAL OR AOA TO DFRC OR WSSH HAS BEEN ANNOUNCED, WIRE FRAMES LISTED BELOW ARE TO REMAIN IN "CLOSED ACCESS" MODE.  A. USB (MILA)  B. BRRS  C. CDSC - FRAMES 1, 40 AND WT  D. VABR  E. LCC  ALL OTHER FRAMES MAY BE OPENED FOR NORMAL WORK.	

NOT PERFORMED

SS3

NOTE

PERFORM NEXT STEP BASED ON  
 SRM ACID CLOUD FORMATION  
 AND WX CONDITIONS.

17-0180	+35M00S	*PSE	*SCC	VAB HIGH BAY AND TRANSFER AISLE	CDPA
		NET		DOORS RELEASED TO NORMAL WEATHER	SU72A00
		105		CONFIGURATION.	SU72A44
		*SCC	NTD		
		232			
		NTD	STM		
		STM	JCTL		
		111			
		JCTL	VCMP		

LCC UNDER FLOOR LOCK C/O

17-0181		NTD	STM	CHANGE FIRING ROOM UNDERFLOOR	SEC
		232		AREA AND LCC ROOM 2R14 CABLE	
		STM	JSTC	TUNNEL ACCESS CONTROL LOCKS.	
		111		REMOVE SECURITY LOCKS AND INSTALL	
		JSTC	*SEC	LOACS LOCK ON FIRING ROOM UNDER	
		114		FLOOR AREA AND COMM LOCK ON	
				LCC/2R14 CABLE TUNNEL.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0182		*SEC 114 JSTC STM STM	JSTC STM GYCC	FIRING ROOM UNDERFLOOR AREA AND LCC/2R14 CABLE TUNNEL SECURITY LOCKS HAVE BEEN REMOVED. LOACS LOCK INSTALLED ON FIRING ROOM UNDERFLOOR AREA AND ACCESS IS NOW UNDER LOACS CONTROL. COMM LOCK INSTALLED ON LCC/2R14 CABLE TUNNEL AND ACCESS IS NOW UNDER COMMUNICATIONS CONTROL.	SEC COMM
17-0183	+40M00S	EEC 138	JYVR	STOP VIDEO RECORDING OF OTV CAMERA 080. (SEE EEC FIG. 4).	COMM
17-0184		*PSE NET 105 *SCC 232	*SCC NTD	EAST/WEST PAD SURFACE INSPECTION COMPLETE.  150 PSIG GN2 SECURE	
-----					
NOTE					
PERFORM NEXT STEP IF TSM GN2 PURGES HAVE BEEN SECURED PER OMI S1004.					
17-0185	+45M00S	CLHY 136 TBC 232 NTD	TBC NTD STM	150 PSIG GN2 FOR LH2/LO2 TSM PURGE PANEL NO LONGER REQUIRED.	
NOT PERFORMED					
17-0186	+45M00S	STM 111 JSTC 114	JSTC GSPN	150 PSIG GN2 FOR LO2/LH2 TSM PURGE PANEL NO LONGER REQUIRED. SECURE CONTROL STATION PER OPERATION INSTRUCTIONS OF M3703. RELEASE PNEUMATIC PERSONNEL AT INDUSTRIAL SUPPLY INTERFACE. (30 MIN) RELEASE GN2 PRODUCTION PLANT.	PNU SU72A25 SU72A45
17-0187		CLHY 136 TBC	TBC CHGD	CHGD SUPPORT NO LONGER REQUIRED. PERFORM SYSTEMS SECURING.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF  
 KSC IS THE AOA SITE  
 SELECTION.

17-0188		LSO	LRD	AOA LANDING SUPPORT IS RELEASED.	
		LFP		AIRSPACE CONTROLS ARE NO	
		LRD	NCC	LONGER REQUIRED.	
		CCN	SRO		
		LRD	STM		
			ROC		
			EMS		
			SLF		
		STM	FSTM		
		111	JSTC		
		JSTC	FSTC		
		114	JFIR		
			*SEC		

NOT PERFORMED

HAZ GAS SYSTEMS SECURING

17-0189		CHGD		CURSOR CNTL (SAW01/HWW13) PUMP 1/2 - OFF MFC POWER - OFF XMIT CURSOR KEY - PRESS	SU72A09
17-0190		CHGD	CTMS	SECURE HYDROGEN UMBILICAL MASS SPEC (HUMS). REPORT COMPLETION.	
17-0191		CHGD	TBC	HAZ GAS SYSTEMS SECURING COMPLETE.	
			136		
			TBC	OTC	
			132		
17-0192		LPS	JSDC	RESTORE PCGOAL TO NORMAL CONFIGURATION IN LCC2.	
			127		
17-0193		LPS	JRPS	CONFIGURE KMTS 0505A1 (A1,A2,A3, A7,A8,A9) BIT SYNCs TO SOURCE 1. (MANUAL MODE, SOURCE 1, 60 KB)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0194		NTD 232	LPS	RELEASE LCC2 FROM S0007 SUPPORT AND RECONFIGURE FOR NORMAL SUPPORT. PERFORM POST OPERATION INSTRUCTION 1. CONTINUE POST LAUNCH DATA RETRIEVAL PER S9002, V16.	
17-0195		NTD 232 LPS 127	LPS C2MC	PLACE PP1 AND PP2 PLOTTERS OFF LINE AND REMOVE DATA FOR DATA COORDINATOR PICKUP.	
17-0196		NTD 232	LPS	REINITIALIZE PP2 SUBSYSTEM.	
17-0197		LPS	C1MC	\$TERM AND \$CLAI PP2 SUBSYSTEM.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0198	+55M00S	OTC 132	CFCP	PERFORM PRSD T-0 SYSTEM INERTING PER OMI V1040.002 ON OIS CH 153.  LOX FARM INSPECTION COMPLETE -----	SU72A11
17-0199		*PSE NET 105 *SCC 232 NTD TBC TBC 136	*SCC NTD	WEST PAD PERIMETER INSPECTION OF FUEL FARM AND LO2 STORAGE AREA COMPLETE. READY TO SUPPORT LOX SAFING CREW ENTRY. WEST PAD PERIMETER INSPECTION CONTINUES.  LOX SAFING TEAM TO PAD -----	SU72994
17-0200		CLOX 136 TBC 232 NTD *SCC *SCC NET 105	TBC NTD *SCC *PSE	LOX SYSTEM READY FOR STORAGE AREA SAFING TEAMS TO BE CLEARED INTO LOX AREA. LOX SAFING CREW IS PROPERLY ATTIRED WITH CLEAN NON-STATIC PRODUCING FLAME-RETARDANT COVERALLS, NON-POROUS FOOTWEAR AND SF-APPROVED LEATHER GLOVES. SAFING CREW CONSISTS OF:  PLOX      PLO2 PLO4      PLO5 PLO6      *PSE PLO7      PNLO	SU72A28
17-0201		*SCC 232 NTD TBC TBC 136	NTD TBC CLOX	PAD CLEAR FOR LOX SAFING CREW ENTRY. SAFING CREW PERSONNEL PROPERLY ATTIRED. YOU HAVE SAFETY CONCURRENCE TO PROCEED.	
17-0202	+55M00S	NTD 232 STM 111 JSTC	STM JSTC	FIRE CREW PROCEED TO LO2 STORAGE AREA FOR SAFING OPERATIONS. JFIR	FIRE SU72A46

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0203	+55M00S	NTD 232 STM 138	TBC STM JYVO JYVR	POSITION OTV CAMERAS IN SEQUENCE, TO TRACK LO2 SAFING CREW DURING PAD SAFING AND LO2 SECURING CREW DURING PAD SECURING, START VIDEO RECORDING.	COMM
17-0204		CLOX 136 TBC 232 NTD	TBC NTD *SCC	LOX SAFING CREW AT LOX STORAGE AREA. CONTROL AREAS HAVE BEEN ESTABLISHED. REQUEST SAFETY CONCURRENCE TO PROCEED WITH LOX SYSTEM SAFING.	
17-0205		*SCC 232 NTD TBC 136	NTD TBC CLOX	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH LOX SYSTEM SAFING.	SU72A22 SU72A55
PAD STRUCTURE WASHDOWNS COMPLETE -----					
17-0206		JBFX 111 STM 232 NTD *SCC *SCC 221	STM NTD *SCC *PSE	LAUNCH PAD STRUCTURE AUTOMATIC WASHDOWN SYSTEM FLOWS COMPLETE.	WSSA SU72A13

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NON-LAUNCH PAD WASHDOWNS COMPLETE					

NOTE

PERFORM NEXT STEP IF NON-LAUNCH  
 PAD WASHDOWNS WERE REQUIRED.

17-0207		JBFX STM		NON-LAUNCH PAD STORAGE AREA	WSSA
		111		WASHDOWNS COMPLETE.	
		STM NTD			
		232			
				NOT PERFORMED	_____

NOTE

DO NOT PERFORM NEXT STEP UNTIL  
 ALL WASHDOWN WATER FLOWS ARE  
 COMPLETE.

17-0208	+55M00S	STM	JBFX	STOP PUMP P-1.	WSSA
		111			SU72A47
				NOT PERFORMED	_____

17-0209		STM	JBWC	PERFORM POST LAUNCH DRY CYCLES	WSSA
		111		OF SOUND SUPPRESSION VALVE	
				COMPLEX AND MLP VALVES PER	
				OMI M3189.001.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0210	+55M00S	NTD 232 *SCC NET 105	*SCC *PSE	PERFORM ON PAD INSPECTION TEAM FUNCTIONS AS SPECIFIED BELOW:	SU72A15
			1.	FSS/RSS AREAS	
			A.	DIVIDE INSPECTION TEAM INTO 2 GROUPS.	
			B.	INSPECT FSS AND RSS IN PARALLEL.	
			2.	RSS	
			A.	ALL LEVELS RSS (VISUAL INSPECTION)	
			B.	MLP ZERO LEVEL (VISUAL INSPECTION)	
			C.	ELEVATOR MACHINE ROOM (207 FT LEVEL) (TOXIC VAPOR/O2 CHECKS)	
			D.	PAYLOAD CHANGEOUT ROOM (TOXIC VAPOR/O2 CHECKS) (OR POST SIGNS AT ANTE ROOM AND AIRLOCK DOORS)	
			E.	90 TON HOIST ROOM (TOXIC VAPOR/O2 CHECKS)	
			F.	RSS 95 FT CROSSOVER FLEXHOSES (TOXIC VAPOR CK)	
			G.	107 FT FUEL/OXID SKIDS (TOXIC VAPOR CHECKS)	
			H.	207 FT FUEL/OXID SKIDS (TOXIC VAPOR CHECKS)	
			3.	FSS	
			A.	ALL LEVELS OF FSS (VISUAL INSPECTION)	
			B.	FSS ELEVATOR MACHINE ROOM (TOXIC VAPOR/O2 CHECKS)	
			C.	HYPER SCRUBBERS (75 FT LVL) (TOXIC VAPOR CHECKS)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0211		*PSE NET 105 *SCC 232	*SCC	FSS ELEVATOR CONTROL COVER AND LOCK INSTALLED.	
17-0212		OTC	CECL	VERIFY S70-1203 SYSTEM AND REFR UNITS POWERED DOWN OR IDENTIFY SUPPORT REQUIRED TO POWER THEM DOWN.	
17-0213		*PSE NET 105	*SCC JFIR	TWO MAN SLIDEWIRE BUNKER CREW PROCEEDING TO BUNKER FOR SYSTEMS SAFING ON M113.	FIRE SU72A48
				START ELEV INSP/REPAIR -----	
17-0214	+55M00S	*PSE NET 105 *SCC 232 NTD STM STM NET 104	*SCC NTD	PERFORM ELEVATOR INSPECTION/ REPAIR AND ACTIVATION PER OMI Q3018. (TASK COMPLETION WILL OCCUR IN S2005).	CDPD SU72A49

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0215	+55M00S	*PSE NET 105 *SCC 232	*SCC NTD	MLP SIDE ONE VISUAL INSPECTION FROM PAD SURFACE COMPLETE.	
17-0216	+01H00M	CLHY 136 TBC 232	TBC NTD	POST LAUNCH OPERATIONS COMPLETE PER S1004. READY TO PERFORM INITIAL LH2 SYSTEM SAFING PER G3254.	SU72A29
LH2/OXIDIZER FARM INSPECTION ----- COMPLETE -----					
17-0217		*PSE NET 105 *SCC NTD 232	*SCC NTD TBC	EAST PAD PERIMETER INSPECTION OF HYPER OXIDIZER FARM AND LH2 STORAGE AREA COMPLETE. READY FOR SAFING CREW ENTRY TO LH2 STORAGE AND FLARESTACK AREA. EAST PAD PERIMETER INSPECTION CONTINUES.	SU72A05
17-0218		CLHY 136 TBC 232	TBC NTD	LH2 SYSTEM READY FOR STORAGE AREA AND FLARE STACK SAFING TEAMS TO BE CLEARED INTO LH2 AREA. REQUEST SFOC REQUEST SAFETY CONCURRENCE FOR LH2 SAFING TEAMS TO ENTER PAD. VERIFY ALL PERSONNEL ATTIRED IN FLAME RETARDANT BLUE COLLAR COVERALLS AND NON POROUS NON SPARKING SHOES.	SU72A28
SAFING CREW CONSISTS OF:					
		PLHY	QLHY		
		PLH4	PLH5		
		PLH6	PLH7		
		QLH4	PNLH		
		PQC4	QQC4		
		*PSE			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0219	+01H00M	*PSE NET 105 *SCC 232 NTD TBC TBC 136	*SCC NTD	PERSONNEL PROPERLY ATTIIRED. YOU HAVE SFOC SAFETY CONCURRENCE FOR SAFING TEAM TO ENTER LH2 STORAGE AREA AND FLARE STACK AREA.	
17-0220		NTD 232 STM 111 JSTC	STM JSTC	FIRE CREW PROCEED TO LH2 AREA FOR SAFING OPERATIONS.	FIRE SU72A46
17-0221	+01H00M	NTD 232 STM 138	TBC STM JYVO JYVR	POSITION OTV CAMERAS IN SEQUENCE TO TRACK LH2 SAFING CREW DURING PAD SAFING AND LH2 SECURING CREW DURING PAD SECURING, START VIDEO RECORDING.	COMM
17-0222		NTD 232 *SCC NET 105	*SCC *PSE	ESTABLISH 200 FT CONTROL AREAS AT GH2 AND LH2 STORAGE FACILITIES.	
17-0223		*PSE NET 105 *SCC 232 TBC 136 CLHY	*SCC NTD TBC	SAFETY HAS ESTABLISHED A 200 FT CONTROL AREA AT GH2 AND LH2 STORAGE FACILITIES. YOU HAVE CONCURRENCE TO PROCEED WITH INITIAL LH2 SYSTEM SAFING PER OMI G3254.	SU72A31 SU72A56

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT TWO STEPS IF:

1. KSC IS DESIGNATED AOA AND
2. AOA OPTION TO KSC HAS EXPIRED AND
3. EITHER DFRC OR WSSH IS DESIGNATED EOM SITE.

17-0224	+01H00M	LRD	STM	DISABLE KSC TRANSMITTERS AND	COMM
		135		RECEIVERS ON CONVOY COMMANDER,	
		STM	GYCC	PURGE AND COOLING NETS.	
		111			
		GYCC	GYCJ		
		117			

NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT STEP IF ALTERNATE LANDING SITE CONVOY COMMANDER NET ACTIVATED.

17-0225		LRD	STM	DEACTIVATE ALTERNATE LANDING SITE COMM	
		135		CONVOY COMMANDER NET FROM _____	
		STM	GYCC	(DFRC/WSSH).	
		111			
		GYCC	GYCJ		
		117			

NOT PERFORMED \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT THREE STEPS  
 FOR SCHEDULED EOM AT DFRC.

17-0226	+01H00M	LRD 135	STM	PERFORM FOLLOWING:	
		STM 111	GYCC	1. IF COMM CIRCUITS WERE	COMM
		GYCC 117	GYCJ	PATCHED TO WSSH AS PRIME AOA LANDING SITE FOR THIS MISSION	
				UNPATCH KSC CONVOY COMMANDER FROM WSSH.	

NOT PERFORMED

SS1

2. ACTIVATE DFRC SPA 3/COOLING  
NET T/R TO KSC COOLING NET.
3. ACTIVATE DFRC SPA 4/CONVOY  
COMMANDER NET T/R TO KSC  
CONVOY COMMANDER NET.
4. ACTIVATE DFRC SPA 6/PURGE  
NET T/R TO KSC PURGE NET.
5. VERIFY DFRC SPA 1 T/R TO  
OIS CH 135.
6. VERIFY DFRC SPA 8 T/R TO  
OIS CH 161.

NOT PERFORMED

17-0227		GYCC 117	GYCJ	PERFORM VOICE CHECKS ON OIS CHANNELS AND RADIO NETS, CONFIGURED FOR DFRC LANDING.	COMM
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NOT PERFORMED

17-0228		GYCJ 117	GYCC	COMM CIRCUITS CONFIGURED AND VOICE CHECKED FOR DFRC LANDING.	COMM
		GYCC 111	STM		
		STM 135	LRD		

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT THREE STEPS FOR SCHEDULED EOM AT WSSH.

17-0229	+01H00M	LRD 135	STM	PERFORM FOLLOWING:	
		STM 111	GYCC	1. IF COMM CIRCUITS WERE	COMM
		GYCC 117	GYCJ	PATCHED TO DFRC AS PRIME AOA LANDING SITE FOR THIS MISSION, UNPATCH KSC CONVOY COMMANDER NET FROM DFRC.	

NOT PERFORMED \_\_\_\_\_  
 SS1

2. ACTIVATE WSSH OIS-A4 CONVOY COMMANDER NET T/R TO KSC CONVOY COMMANDER NET.

NOT PERFORMED \_\_\_\_\_

17-0230		GYCC 117	GYCJ	PERFORM VOICE CHECKS ON COMM CIRCUITS CONFIGURED FOR WSSH LANDING.	COMM
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NOT PERFORMED \_\_\_\_\_

17-0231		GYCJ 117	GYCC	COMM CIRCUITS CONFIGURED AND VOICE CHECKED FOR WSSH LANDING.	COMM
		GYCC 111	STM		
		STM 135	LRD		

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- COMM SYS RECONFIG FOR KSC LANDING -----					
NOTE					
DO NOT PERFORM NEXT THREE STEPS IF AOA OR ELS TO DFRC OR WSSH HAS OCCURRED.					
PERFORM NEXT THREE STEPS IF KSC IS SCHEDULED EOM OR AN AOA/ELS TO KSC HAS BEEN ANNOUNCED.					
17-0232	+01H00M	LRD 135 STM 111 GYCC 117	STM GYCC GYCJ	CONFIGURE COMM FOR KSC LANDING: REMOVE PURGE NET, CONVOY COMMANDER NET AND COOLING NET PATCHES FROM DFRC AND CONVOY CMDR NET PATCH FROM WSSH IF PREVIOUSLY ESTABLISHED.	COMM
					NOT PERFORMED _____
17-0233		LRD 135 STM 111 GYCC 117	STM GYCC GYCJ	VERIFY CONVOY CMDR, COOLING AND PURGE NETS T/R CONFIGURED TO KSC.	COMM
					NOT PERFORMED _____
17-0234		GYCC 111 STM 135	STM LRD	COMM CIRCUITS CONFIGURED FOR KSC LANDING.	COMM
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT STEP WHEN AOA TO KSC NOT AN OPTION OR WINDOW HAS CLOSED.					
17-0235	+01H00M	LRD 135 STM 111 GYCC 117	STM GYCC FTAC FMLS	KSC SLF NAVAIDS RELEASED FROM S0007 PLUS COUNT SUPPORT. SUPPORT KSC LANDING OPPORTUNITIES PER MISSION UNIQUE ORBIT OPPORTUNITIES SCHEDULE.	COMM
MLP ZERO LEVEL INSPECTION COMPLETE -----					
17-0236	+01H00M	*PSE NET 105 *SCC 232	*SCC NTD	MLP ZERO LEVEL INSPECTION COMPLETE. MLP ZERO LEVEL SECURED. ACCESS NOW RESTRICTED TO DEBRIS INSPECTION TEAM AND PERSONNEL INSTALLING HANDRAILS.	SU72A19 SU72A57
DEBRIS INSPECTION TEAM OPS (MLP) -----					
17-0237		NTD 232 *SCC NET 105	*SCC *PSE	DEBRIS INSPECTION TEAM MAY START INSPECTION OF MLP SURFACE AREA (95 FT LEVEL).  (4 DEBRIS INSPECTION ENGINEERS)	SU72A17
ACTIVATE ADMIN PAGING -----					
17-0238	+01H00M	NTD 232 STM 111 GYCC 117	STM GYCC JY CJ	ACTIVATE ADMIN PAGING TO PAD. REPORT COMPLETION.	COMM SU72A50
RECONFIGURE ER WX STA CKT -----					
17-0239		NTD 232 STM 111	STM GYCC	RECONFIGURE ER WX STA CKT 2BPC077 FROM LCC 1/3 OSR CONSOLE A5 TO LCC PRE-LAUNCH MONITOR CONSOLE.	COMM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0240		GYCC 117	JY CJ	RECONFIGURE ER WX STA CKT 2BPC077 FROM LCC 1/3 OSR CONSOLE A5 PT TO PT PHONE TO LCC RM 1P12A PRE-LAUNCH MONITOR CONSOLE. VERIFY WHEN CIRCUIT OPERATIONAL.	COMM
17-0241		STM 138	JY VO	STOP VIDEO RECORDING OF OTV CAMERA 073/173.  SWITCH COUNT CLOCK SOURCE -----	COMM
17-0242	+01H00M	NTD 232 STM 111	STM JTCR	SWITCH FROM LPS COUNT TO LOCAL GENERATOR NO. 1.	
17-0243	+01H00M	STM 111 GYCC 117 PTP	GYCC JY CJ JY CJ JY CJ JY CJ	IF PREVIOUSLY REMOVED, PICK UP AREA WARNING KEYS FROM STM IN PRIME CONTROL ROOM AND INSTALL ONE MICROPHONE AND ONE KEY IN EACH CONSOLE AREA WARNING PANEL DESIGNATED BY NTD/STM. ATTACH INTEGRITY CONTROL STICKERS TO SECURE KEY IN KEY HOLE. (30 MIN)  LCC-1 CONSOLE AB-6 NOT PERFORMED _____  LCC-2 CONSOLE AA-5 NOT PERFORMED _____  LCC-3 CONSOLE AB-6 NOT PERFORMED _____  NOT PERFORMED _____	COMM
17-0244		STM 111 GYCC 117	GYCC JY CD	CONFIGURE OIS-D COMMUNICATIONS IN PRIME CONTROL ROOM CONSOLES AB-5, AB-6, AB-7 AND AB-8 TO SINGLE CHANNEL TRANSMIT CAPABILITY. (30 MIN)	COMM

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0245	+01H05M	*PSE NET 105 *SCC 232 NTD OTC STM	*SCC NTD	WEST PAD PERIMETER INSPECTION COMPLETE AND INSPECTION TEAM HAS RETURNED TO PAD GATE. SENDING SAFING CREW TO PTCR FOR TOXIC VAPOR CHECKS AND LOCKING OF ECS GN2 VAVLES.	SU72995
PERIMETER INSPECTION COMPLETE					
17-0246	+01H05M	*PSE NET 105 *SCC 232 NTD TBC OTC STM	*SCC NTD	EAST PAD PERIMETER INSPECTION COMPLETE.	SU72A04
17-0247	+01H10M	STM 138	JYVR JYVO	TERMINATE VIDEO TRACKING AND RECORDING OF SAFETY PERIMETER INSPECTION TEAM.	COMM
17-0248		*PSE NET 105 *SCC 232	*SCC NTD	O2 AND/OR TOXIC VAPOR CHECKS COMPLETE FOR FOLLOWING AREAS AND AREA IS EITHER: C = CONTROLLED O = OPEN FOR CONTROLLED WORK	
				1. RSS 95 FT CROSSOVER FLEXHOSES	_____
				2. RSS 107 FT HYPER SKIDS	_____
				3. PAYLOAD CHANGEOUT ROOM	_____
				4. 207 FT HYPER SKIDS	_____
				5. 207 FT LEVEL ELEV MACH RM	_____
				6. 207 FT LEVEL 90 TON HOIST RM	_____
				7. FSS SCRUBBERS	_____
				8. FSS ELEV MACH ROOM	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0248 CON'T				9. HYPERGOLIC FUEL FARM	_____
				10. HYPERGOLIC OXIDIZER FARM	_____
				11. PAD CATACOMBS (EAST AND WEST)	_____
17-0249	+01H10M	GSPN 114 JSTC 111 STM 232	JSTC STM NTD	LPGN2 SECURING COMPLETED. CCF-39 GN2 PRODUCTION PLANT HIGH FLOW LPGN2 SUPPORT TERMINATED.  PRSD T-0 SYSTEM INERTING COMPLETE	PNU SU72A51
17-0250		CFCP 132 OTC 232 NTD *SCC *SCC NET 105	OTC NTD TBC *SCC *PSE	PRSD T-0 SYSTEM INERTING PER V1040.002 COMPLETE.	
17-0251		STM 111	JBPN	PERFORM POST LAUNCH INSPECTION OF AIR COMPRESSORS PER OMI M3022 REPORT COMPLETION. (1HR) (APPENDIX C)	PNSA
NOTE					
PERFORM NEXT STEP IF CAMERA PURGE WAS ACTIVATED.					
17-0252		STM 111	JBPN	CLOSE PURGE SUPPLY VALVES TO CAMERAS 070 AND 071 (PAD A) OR 170 AND 171 (PAD B). RECORD SUPPLY PRESSURES  070/170 _____ PSI BD  071/171 _____ PSI BD	PNSA
					NOT PERFORMED _____





OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				SOUND SUPPRESSION DRY CYCLE ----- OPS COMPLETE -----	
17-0257		JBWC 111	STM	POST LAUNCH DRY CYCLES OF SOUND SUPPRESSION VALVES COMPLETE.  SECURE ECS (V1122) -----	WSSA
17-0258	+01H20M	NTD 232 OTC 132 *SCC NET 105	OTC *SCC CPVD 132 *PSE	SECURE THE ECS GN2 MANUAL ISOLATION VALVES PER OMI V1122 "TERMINATION OF ECS HAZ PURGE GN2 OPERATION."  RT OMI LOG NO. _____	SU72997
17-0259	+01H30M	*PSE NET 105 *SCC 232	*SCC NTD	ECS GN2 HAND VALVES LOCKED. CONTINUING WITH UPPER AND LOWER PTCR 02 CHECKS.	
17-0260	+01H30M	CPVD 132 OTC 232 NTD *SCC *SCC NET 105	OTC NTD *SCC *PSE	ECS RM GN2 VALVES CLOSED AND LOCKED. READY TO CONTINUE WITH CONTROL STATION TRANSFER TO PAD.	SU72997
17-0261	+01H30M	NTD 232 STM 111	STM JBAC	COMPLETE PTCR/ECS ROOM DEPRESSURIZATION AND REMOVE PTCR EXHAUST FANS 1 AND 2 BLAST COVERS PER OMI M3034.	HVAA SU72A01
17-0262	+01H30M	OTC 132	CPVD	PERFORM CONTROL STATION TRANSFER PER OMI V1122.  RT OMI LOG NO. _____	SU72A02

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
MLP O2 LEVEL - OK -----					
17-0263	+01H30M	JBEP 111 STM 232 NTD *SCC *SCC NET 105	STM NTD	O2 ANALYZERS INDICATE ACCEPTABLE O2 LEVELS IN MLP. RECORD ANY MLP COMPARTMENTS INDICATING LOW O2 LEVELS OR TROUBLE MODE: _____ _____ _____	PWR SU72A03
17-0264		NTD 232	ALL	IF LOW O2 CONDITIONS RECORDED REQUIRING MLP RE-ENTRY, PROCEED TO S0007VL5 SEQ 120.	
NOT PERFORMED _____					
WARNING					
NO ACCESS INTO MLP ALLOWED UNTIL GN2 HAND VALVE CLOSED AND LOCKED.					
17-0265	+01H30M	NTD 232 *SCC NET 105	*SCC	PROCEED WITH MLP INTERIOR O2 AND TOXIC VAPOR CHECKS. *PSE	SU72A06
17-0266	+01H30M	STM 111 NET 104 JBDY NET 104	JBDY	HAVE STRUCTURES PERSONNEL AND HEAVY EQUIPMENT REPORT TO PAD GATE FOR PAD/MLP HANDRAIL OPERATIONS. GBHE	STSA HESA SU72A33
17-0267	+01H30M	CLOX 136 TBC 232	TBC NTD	RESIDUAL LOX PURGING AFTER LAUNCH COMPLETE PER G3153. CONTINUING WITH LOX SYSTEM SAFING.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0268	+01H30M	JY CJ 117 GY CC 111 STM 232	GY CC STM NTD	ER WX STA CKT 2BPC077 RECONFIGURED FROM LCC 1/3 OSR CONSOLE A5 TO PRE-LAUNCH MONITOR CONSOLE AND IS OPERATIONAL.	COMM
17-0269		JY CD 117 GY CC 111 STM 232	GY CC STM NTD	CONSOLES AB-5, AB-6, AB-7 AND AB-8 IN PRIME CONTROL ROOM HAVE BEEN CONFIGURED TO SINGLE CHANNEL TRANSMIT CAPABILITY.	COMM
17-0270	+01H30M	JY CJ 117 GY CC 111 STM 232	GY CC STM NTD	IF PREVIOUSLY REMOVED, AREA WARNING KEYS AND MICROPHONES HAVE BEEN INSTALLED IN AREA WARNING PANELS AND KEYS SECURED IN KEY HOLES WITH INTEGRITY CONTROL STICKER IN FOLLOWING CONSOLES:  LCC-1 CONSOLE AB-6 NOT PERFORMED  LCC-2 CONSOLE AA-5 NOT PERFORMED  LCC-3 CONSOLE AB-6 NOT PERFORMED  NOT PERFORMED	COMM
17-0271	+01H30M	*PSE NET 105 *SCC 232	*SCC NTD	UPPER AND LOWER PTCR 02 CHECKS COMPLETE.	SU72999
				DROP ROADBLOCKS -----	
17-0272	+01H30M	*PSE NET 105 *SCC 232	*SCC NTD	ALL SAFING TEAMS HAVE ENTERED PAD, DROP BDA ROADBLOCKS. ACCESS TO PAD AND CLOTHING REQUIREMENTS WILL BE CONTROLLED BY PAD SITE MANAGER AND SFOC SAFETY.	SU72A07

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0273		NTD 232 STM 111	*SEC STM JSTC	DROP ROADBLOCKS A-3, A-5, A/B-4, A-6 (PAD A LAUNCH), A/B-4, B-3 (PAD B LAUNCH).	SEC
17-0274		NTD 232 NTD 232 STM *SCC *PSE NET 105 STM 111 OTC 132	*SEC NTD OTC TBC *SCC *PSE	ROADBLOCKS A-3, A-5, A/B-4, A-6 (PAD A LAUNCH), A/B-4, B-3 (PAD B LAUNCH) DROPPED. BDA CLEARS REDUCED TO PAD ___ GATE.	SEC

NOTE

PERFORM THE FOLLOWING TWO  
 STEP IF SRM SEGMENT RAILCARS  
 WERE MOVED FROM BEACH SIDING  
 TO BALLOON SIDING.

17-0275		STM 111	JSTC	MOVE _____SRM SEGMENT RAILCARS FROM BALLOON SIDING TO BEACH SIDING.	NOT PERFORMED _____
17-0276		STM 111 STM 232	JSTC STM NTD *OPS	_____SRM SEGMENT RAILCARS RELOCATED FROM BALLOON SIDING TO BEACH SIDING. (PHONE 1-5108)	NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				LH2 TRANSFER LINE SHUTOFF BLOCK	
				-----	
				VLV CLOSED	
				-----	
17-0277	+01H35M	PLHY	CLHY	LH2 INITIAL SYSTEM SAFING	SU72A31
		166		COMPLETE AND A3401 TRANSFER LINE	SU72A33
		CLHY	TBC	SHUT-OFF BLOCK VALVE CLOSED.	
		136			
		TBC	NTD		
		232			
		NTD	*SCC		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
LH2 MLP SAFING -----					
17-0278		CLHY 136 TBC 232 NTD	TBC NTD *SCC	MLP PURGE INITIATED. REQUEST SAFETY CONCURRENCE FOR SAFING TEAMS TO PROCEED FROM LH2 SHOP TO MLP SIDE 1 AND FROM LH2 STORAGE AREA TO LH2 FLARESTACKS.	SU72A35
17-0279	+01H35M	*SCC 232 NTD TBC 136 CLHY	NTD TBC CLHY PLHY	YOU HAVE SFOC SAFETY CONCURRENCE FOR MLP TEAM TO PROCEED TO MLP SIDE ONE AND FLARE STACK TEAM TO PROCEED TO LH2 FLARE STACKS. USE ACCESS LADDER ON EITHER SIDE OF MLP PEDESTAL.	
17-0280		TBC 136	CLHY	PERFORM LH2 MLP SAFING.	
FSS & RSS INITIAL INSPECTION COMPLETE -----					
17-0281	+01H35M	*PSE NET 105 *SCC 232 NTD	*SCC NTD OTC STM	FSS & RSS INITIAL AND TOXIC INSPECTION COMPLETE. SAFETY SIGNS INSTALLED.	SU72A15

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
GO2/GH2 CROSS-COUNTRY LINE SECURING					
-----					
17-0282		CFCP 132 OTC 232 NTD *SCC *SCC NET 105	OTC NTD	READY TO START GO2/GH2 CROSS COUNTRY LINE SECURING. REQUEST SAFETY CONCURRENCE TO PROCEED.	SU72A63
17-0283		*PSE NET 105 *SCC 232 NTD	*SCC NTD OTC	CONTROL AREA REMAINS CLEAR. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH GO2/GH2 CROSS COUNTRY LINE SECURING.	
17-0284		OTC 132	CFCP	CLOSE PRSD GO2 PANEL ISOLATION VALVE (830-1 PNL ON 75 FT LVL) TO SUPPORT JBPN FOR GO2/GH2 CROSS-COUNTRY LINE SECURING PER V1040.002.	
17-0285	+01H15M	CFCP 132 OTC 232 NTD STM STM 111	OTC NTD STM JBPN	PRSD GO2 PANEL ISOLATION VALVE CLOSED. CFCP READY TO SUPPORT JBPN FOR GO2/GH2 CROSS-COUNTRY LINE SECURING ON OIS CH 122.	PNSA
17-0286		NTD 232 STM 111	STM JBPN	PERFORM GO2 CROSS-COUNTRY LINE SECURING PER POST OPERATION INSTRUCTIONS OF OMI M3097.	PNSA SU72A52
17-0287	+01H15M	NTD 232 STM 111	STM JBPN	PERFORM GH2 DISTRIBUTION SYSTEM SECURING PER POST OPERATION INSTRUCTIONS OF OMI M3020.	PNSA
17-0288	+01H15M		NTD	CONTACT PAO (7-7819) TO ALLOW FILM RETRIEVAL PERSONNEL TO PROCEED TO BDA ROADBLOCK. STAND BY AT BDA ROADBLOCK FOR ACCESS TO PAD PERIMETER CAMERA SITES. (15 MIN)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0289	+01H40M	STM	JBDY	PERFORM FOLLOWING:	
		111			
		NET	QBSE 1.	INSTALL CABLE AND POSTS AT	STSA
		104		FWD END OF FLAME TRENCH.	
		JBDY	GBHE	(M3134)	
		NET			
		104			
					T: _____
					SS1
			2.	INSPECT AND REPLACE FLOOR	STSA
				PANELS IN MLP, A AND B LEVELS.	
					T: _____
					SS2
			3.	MOVE FLATBED TRUCK WITH	HESA
				HANDRAILS AND MOBILE CRANE	
				FROM PAD GATE TO PAD SURFACE	
				EAST SIDE AND PREPARE FOR	
				LIFTING OPERATIONS. DO NOT LIFT	
				HANDRAILS OVER CRYO LINES UNTIL	
				GH2 IS VERIFIED LESS THAN 1 PCT	
				AT MLP SIDE 1.	
					T: _____
					SS3
			4.	POSITION MONITOR SHACKS ON	HESA
				135 FT LEVEL RSS AND PAD	
				SURFACE AND POSITION TETHER	
				STATION ON PAD SURFACE.	
					T: _____
					SS4



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0289 CON'T				5. INSTALL STRUCTURE TIE-DOWNS ON ACCESS MONITOR SHACK 135 FT LEVEL RSS AND SECURE GUARD SHACK AND TETHER STATION ON PAD SURFACE. REPORT COMPLETION.	STSA
					T: _____ SS5
17-0290		CPVD 132 OTC 232 NTD STM STM 111	OTC NTD	TRANSFER OF ECS ROOM TO LOCAL CONTROL COMPLETE. SUPPORT FOR V1122 NO LONGER REQUIRED.	HVAA SU72A02
17-0291		CPVD 172	PPVM	PERFORM POST LAUNCH SECURING (LOCAL) INCLUDING SEQ "MAIN BLOWER CHANGEOVER OPERATIONS" AND SEQ "DOCK SEAL/INSPECTION ECS SYSTEM RELATIVE HUMIDITY SENSOR CALIBRATION, REMOVAL AND INSTALLATION" PER OMI V1122. (COMPLETION VERIFICATION NOT REQUIRED).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- DEBRIS INSPECTION TEAM OPS ----- (PAD PERIMETER) -----					
17-0292	+01H45M	NTD 232 *SCC NET 105	*SCC *PSE	DEBRIS INSPECTION TEAM MAY BE CLEARED THRU PAD GATE AT THIS TIME TO PERFORM POST-LAUNCH PAD DEBRIS INSPECTION. THIS INSPECTION WILL BE CONDUCTED FROM PAD PERIMETER TO APRON ONLY, EXCLUDING FOLLOWING LISTED AREAS:  1. LO2 FACILITIES 2. LH2 FACILITIES 3. GO2 FACILITIES 4. GH2 FACILITIES	
17-0293		NTD 232 *SCC NET 105	*ICE TBC *SCC *PSE	PERFORM DEBRIS INSPECTION OF PAD AREA, PERIMETER TO APRON ONLY, PER OMI S6444. EXCLUDE FOLLOWING LISTED AREAS:  1. LO2 FACILITIES 2. LH2 FACILITIES 3. GO2 FACILITIES 4. GH2 FACILITIES  OMRSD S00U00.010-1  PTCR/ECS ROOM DEPRESS COMPLETE -----	SU72A10
17-0294	+01H50M	JBAC 111 STM 232 NTD *SCC *SCC NET 105	STM NTD *SCC *PSE	PTCR/ECS RM DEPRESS COMPLETE. UPPER AND LOWER BLAST DOORS OPEN.  -----	HVAA

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
INITIAL LO2 SAFING - COMPLETE -----					
17-0295		CLOX 136 TBC 232 NTD	TBC NTD *SCC	LOX SYSTEM SAFING COMPLETE. REQUEST SAFETY CONCURRENCE TO OPEN LOX STORAGE AREA CONTROL AREA FOR CONTROLLED WORK.	SU72A24
17-0296		*SCC 232 NTD TBC TBC 136	NTD TBC CLOX	YOU HAVE SAFETY CONCURRENCE TO OPEN LOX STORAGE AREA CONTROL AREA FOR CONTROLLED WORK. "E" ROAD WILL REMAIN CLOSED UNTIL LOX DUMP BASIN BOILOFF IS COMPLETE.	
17-0297		CLOX 136 TBC 232 NTD	TBC NTD *SCC	LOX STORAGE IS OPEN FOR CONTROLLED WORK. "E" ROAD WILL REMAIN CLOSED UNTIL LOX DUMP BASIN BOILOFF IS COMPLETE. PROCEEDING WITH LOX AREA SECURING.	
17-0298		NTD 232 STM 111 JSTC 114	STM JSTC JFIR	FIRE COMBAT CREW AT LOX STORAGE AREA MAY BE RELEASED BACK TO FIRE STATION NO. 6 TO SUPPORT CONTINUED PAD POST LAUNCH SAFING/ SECURING OPERATIONS. FIRE COMBAT CREW AT LH2 STORAGE AREA TO REMAIN AT LH2 STORAGE AREA FOR CONTINUED POST LAUNCH SECURING OPERATIONS PER S2005.	FIRE
INITIAL MLP LH2 SAFING COMPLETE -----					
17-0299		CLHY 136 TBC 232 NTD	TBC NTD *SCC	MLP SAFING COMPLETE. LESS THAN 1 PCT GH2 VERIFIED ON MLP SIDE 1.	SU72A12 SU72A35

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0300		CLHY 136 TBC 232 NTD	TBC NTD *SCC	VERIFY CONCURRENCE FOR ET LH2 SAFING PERSONNEL TO PROCEED TO FSS TO PERFORM FSS SECURING ON 195 AND 203 FT LEVELS.	SU72A36
17-0301	+02H00M	*SCC 232 NTD TBC 136 CLHY	NTD TBC CLHY PLHY	ET LH2 SAFING PERSONNEL MAY PROCEED TO FSS AND PERFORM FSS SAFING AND SECURING ON 195 AND 203 FT LEVELS.	

NOTE

VERIFICATION OF LESS THAN  
 1 PERCENT GH2 ON MLP SIDE 1  
 MUST BE COMPLETE PRIOR TO  
 HANDRAIL LIFTING OPS.

17-0302	+02H00M	STM 232 NTD *SCC *SCC NET 105	NTD *SCC *PSE	VERIFY CONCURRENCE TO PERFORM SSME FLAME HOLE HANDRAIL LIFT AND INSTALLATION. SAFETY WILL ENSURE ALL PERSONNEL WORKING WITHIN 6 FT OF MLP FLAME DUCTS ARE WEARING SAFETY HARNESS/BELT WITH LANYARD SECURED TO APPROVED TIE OFF POINT.	
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NOTE

HANDRAIL INSTALLATION CONTINUES  
 IN WORK AND WILL BE COMPLETED  
 IN S2005.

17-0303	+02H00M	*PSE NET 105 *SCC 232	*SCC NTD	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH SSME FLAME HOLE HANDRAIL LIFT AND INSTALLATION.	SU72A14 SU72A59
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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WARNING

NEXT STEP IS HAZARDOUS DUE TO PERSONNEL WORKING AT HEIGHTS WITHIN 6 FT OF UNPROTECTED EDGES. PERSONNEL WILL WEAR SAFETY HARNESS WITH LANYARD ATTACHED TO APPROVED TIE OFF POINT.

17-0304	+02H00M	NTD 232	STM	PERFORM FOLLOWING:	
		STM 111	JB DY	1. INSTALL MLP HANDRAILS PER OMI M3083.	STSA
		NET 104	QBSE	2. INSTALL LADDERS TO PROVIDE ACCESS TO LEFT AND RIGHT SRB AFT SKIRT GN2 PURGE NEAR HDP NO. 2 AND HDP NO. 6.	

T: \_\_\_\_\_

NOTE

FOR ANY MLP COMPARTMENTS IN WHICH ODMs CANNOT BE RESET AND MADE FUNCTIONAL, S0007 SAFING/SECURING OPERATIONS ONLY MAY RESUME IN AFFECTED COMPARTMENTS PROVIDED PORTABLE O2 MONITOR IS USED AND SAFETY CONCURS.

17-0305	+02H00M	*PSE NET 105	*SCC	INITAL SAFETY MLP INTERIOR SWEEP AND TOXIC VAPOR CHECKS COMPLETE. READY FOR SPECIAL POWERS	PWRA SU72A06 SU72A43
		*SCC 232	NTD	GROUP TO RESET O2 ANALYZERS REQUIRING RESET AS LISTED BELOW:	
		NTD STM 111	STM JBEP	_____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0306		STM 111	JBEP	PERFORM POST LAUNCH INSPECTION PER OMI M3088 AND RESET ANY MLP O2 ANALYZERS REQUIRING RESET AND SILENCE O2 ALARMS. LIST COMPARTMENTS WHERE O2 ANALYZER RESET UNATTAINABLE. REPORT COMPLETION.	PWRA SU72A16

NOTE

PERFORM NEXT STEP ONLY IF  
 THERE WERE COMPARTMENTS  
 WHERE O2 ANALYZER RESET  
 UNATTAINABLE.

17-0307		NTD 232 *SCC NET 105	SCC	INSTALL PORTABLE O2 MONITOR(S) WHILE RESET UNATTAINABLE. *PSE	
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NOT PERFORMED

17-0308	+02H20M	*PSE NET 105 *SCC 232 NTD TBC OTC STM TBC 136	*SCC	MLP INTERIOR O2 AND TOXIC VAPOR CHECKS COMPLETED. OXYGEN MONITORING SYSTEM OPERATIONAL. MLP OPEN FOR S0007 SECURING OPERATIONS ONLY.	
17-0309	+02H20M	NTD 232	JFIR	MLP IS BEING DEPRESSURIZED. IF FIRE ALARM IS ACTIVATED PERFORM THREE RESETS BEFORE DISPATCHING FIRE RESCUE.	FIRE SU72A18

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0310		NTD 232 STM 111	STM *SCC JBAC	PERFORM FOLLOWING AND VERIFY COMPLETION:  1. DEPRESSURIZE MLP PER OMI M3079 AND REMOVE GSS SIGNS.  2. DEPRESSURIZE FSS EMR, RSS HMR, AND EMR PER OMI M3079 AND REMOVE GSS SIGNS.  3. OPEN MLP/RSS BLOCKING VALVES (IF CLOSED).  NOT PERFORMED	HVAA          SS3
				4. IF AUTO CHILLED WATER DRAIN WAS ACCOMPLISHED, REFILL CHILLED WATER SYSTEM PER OMI M3079.  NOT PERFORMED	         SS4
				5. INSPECT RSS/FSS FOR CHW PIPING AND AHU DAMAGE/LEAKAGE. REPORT TO JBAC.  NOTE  PERFORM NEXT SUBSTEP IF VALVES PREVIOUSLY CLOSED.	
				6. OPEN RSS MANUAL ISOLATION VALVES.  NOT PERFORMED	         SS6
				NOTE  PERFORM NEXT SUBSTEP IF BLOCKING VALVES WERE CLOSED AT LAUNCH.	
				7. START BOOSTER PUMP P-8 OR P-9.  NOT PERFORMED	         SS7





OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0315		OTC 232 NTD STM STM 111	NTD STM JBPN	FSS BREATHING AIR SYSTEM NO LONGER REQUIRED.  HYDROGEN LESS THAN 1 PCT AT FSS ----- 203 FT AND 155 FT LVLS -----	PNSA
17-0316	+02H30M	CLHY 136 TBC 232 NTD	TBC NTD *SCC	LESS THAN 1 PCT GH2 VERIFIED IN ET LH2 VENT LINE (FSS 195 FT). SUPPORT MAY BE RELEASED FROM FSS 195 FT LEVEL.  LH2 STORAGE AREA SAFING AND SECURING -----	SU72A37
17-0317		CLHY 136 TBC 232 NTD	TBC NTD *SCC	LH2 FLARE STACK SUPPORT FOR FSS SAFING AND SECURING NO LONGER REQUIRED. FLARE STACK AREA CLEARED. REQUEST CONCURRENCE TO PERFORM LH2 STORAGE AREA SAFING AND SECURING PER G3254.	SU72A38 SU72A39
17-0318		*SCC 232 NTD TBC TBC 136	NTD TBC CLHY	FLARE STACK AREA CLEARED. PERFORM LH2 STORAGE AREA SAFING AND SECURING PER OMI G3254.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

LOX SECURING MAY BE PERFORMED  
 IN PARALLEL WITH ETVAS ORDNANCE  
 OPS.

17-0319		CLOX TBC 136 TBC NTD 232 NTD *SCC *SCC *PSE NET 105		VERIFY FSS 215 FT LEVEL OPENED FOR LOX SECURING CREW ENTRY. SECURING CREW CONSISTS OF:  PLOX PAD LEAD LOX ENGR PLO4 PAD LOX TECH PLO5 PAD LOX TECH *PSE SFOC SAFETY ENGR PNLO PAD LOX ENGR (NASA)	SU72A30
17-0320		*PSE *SCC NET 105 *SCC NTD 232 NTD TBC TBC CLOX 136		FSS 215 FT LEVEL OPENED FOR LOX SECURING CREW ENTRY. YOU HAVE SAFETY CONCURRENCE TO PROCEED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0321		TBC 232 NTD *SCC *PSE NET 105	NTD *SCC *PSE	REQUEST SAFETY CONCURRENCE FOR ETVAS ORDNANCE SAFING AND T-0 LOCK ORDNANCE SAFING TEAMS TO PROCEED TO FSS TO PERFORM FSS SECURING AND ORDNANCE REMOVAL ON FSS 135 AND 203 FT LEVELS.	
17-0322		TBC 232 NTD *SCC *PSE NET 105	NTD *SCC *PSE	REQUEST SAFETY ESTABLISH 25 FT CLEAR FOR ETVAS ORDNANCE AND T-0 LOCK ORDNANCE REMOVAL PER T5448.	
17-0323		*PSE NET 105 *SCC 232 NTD TBC	*SCC NTD	SAFETY VERIFIES 25 FT CONTROLS ESTABLISHED AND CONCURRENCE TO PROCEED WITH ETVAS ORDNANCE AND T-0 LOCK ORDNANCE REMOVAL PER OMI T5448.	
17-0324	+02H30M	TBC 136	*PAD	PERFORM FIRE LINE DISCONNECTIONS AND EXPENDED PYRO SEPARATOR ASSYS REMOVAL PER OMI T5448 ON CH 186.	SU72A32
17-0325	+02H30M	CLHY 136 TBC 232 NTD PA	TBC NTD	ATTENTION ON PAD___: LH2 VAPORIZERS WILL BE VENTED TO LH2 FACILITY FLARE STACK FOR ONE HOUR. ALL PERSONNEL REMAIN CLEAR OF 150 FT RADIUS AROUND LH2 FLARE STACK BASE.	
17-0326	+02H45M	JBPN STM 232 NTD *SCC *PSE NET 105	STM NTD OTC *SCC *PSE	GO2/GH2 CROSS COUNTRY LINE SECURING PER M3020/M3097 COMPLETE.	PNSA SU72A52

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				PRSD FCSS SYSTEM SECURE AND ----- POWER DOWN -----	
17-0327		NTD 232 OTC 132	OTC CFCP	PERFORM PRSD FCSS SECURE AND POWER DOWN PER OMI V1040.002.	SU72A08
17-0328			PGCU	FSS 75 FT LEVEL CLOSE GCU ISOLATION VALVES A87806 AND A87809.	
					T:_____
17-0329	+02H55M	JBAC 111 STM 232 NTD NET 105	STM NTD OTC TBC *SCC *PSE	MLP DEPRESSURIZED.	HVAA SU72A18
17-0330		NTD 232	JFIR	MLP DEPRESSURIZATION COMPLETE. ACKNOWLEDGE MLP FIRE ALARM ANNUNCIATIONS AS VALID.	FIRE
17-0331		NTD PA		ATTENTION ON MLP PAD _____  MLP DEPRESSURIZATION COMPLETE. RESPOND TO ALL MLP FIRE ALARM BELLS AND BEACONS.	
17-0332		NTD 232 STM 111 JSTC 114	STM JSTC JFIR	AFTER VERIFYING WITH ALARM TECHS THAT MLP HALON IN MANUAL OVERRIDE MODE, PLACE HALON IN MANUAL LCC (1P10). RECONFIGURE MLP HALON REMOTE (AUTO/MANUAL) SWITCH TO NORMAL POSITION. MLP HALON TO REMAIN IN MANUAL MODE.	FIRE

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0333		CFCP 132 OTC 232	OTC NTD	PRSD FCSS SECURE AND POWER DOWN COMPLETE.	SU72A08
17-0334		*SCC 232	NTD	<p>VERIFY ITEMS LISTED BELOW COMPLETE BEFORE OPENING PAD FOR CONTROLLED WORK. IF ALL SUBSTEPS NOT COMPLETE, PORTIONS OF PAD CAN BE OPENED ONLY WITH NTD AND *SCC CONCURRENCE.</p> <ol style="list-style-type: none"> <li>1. LH2/LO2 AREA CONTROLLED(____/____)</li> <li>2. MLP 0-LEVEL CONTROLS ESTABLISHED (____)</li> <li>3. WEST/EAST INITIAL PAD INSPECTION COMPLETE(____/____)</li> <li>4. ECS/PTCR UPPER AND LOWER O2/TVC CHECK(____/____)</li> <li>5. ECS GN2 MANUAL VALVES CLOSED AND LOCKED(____)</li> <li>6. LH2 BLOCK VALVES CLOSED(____)</li> <li>7. FSS/RSS INITIAL PAD INSPECTION COMPLETE(____)</li> <li>8. MLP SIDE 1 LESS THAN 1 PCT GH2 (____)</li> <li>9. MLP INTERIOR O2/TVC CHECK(____)</li> <li>10. 155 FT/203 FT FACILITY/ET VENT LINES LESS THAN ONE PCT GH2(____)</li> </ol>	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-0335	+03H15M	NTD 232	*SCC OTC TBC STM PTC	ITEMS LISTED IN PREVIOUS STEP HAVE BEEN COMPLETED OR AREAS STILL CLASSIFIED AS HAZARDOUS VERIFIED CONTROLLED. LIST CONTROLLED AREAS: _____	
		*SCC NET 105	*PSE	_____	
				VERIFY READY TO OPEN PAD FOR CONTROLLED WORK.	
				PAD OPEN FOR CONTROLLED WORK	
17-0336		NET 105	*PSE *SCC	PAD ____ OPEN FOR CONTROLLED WORK.	SU72A20 SU72A61
		*SCC 232	NTD		
17-0337		NTD 232	*SEC	OPEN PAD ____ GATE FOR CONTROLLED WORK. REPORT COMPLETION.	SEC
17-0338		NTD 232	OTC TBC STM PTC	PAD ____ OPEN FOR CONTROLLED WORK. VERIFY READY TO PROCEED WITH S2005 POST LAUNCH SECURING.	COMM
		STM 111	JSTC GYCC		
		*SCC NET 105	*PSE		
17-0339		NTD PA		ATTENTION IN THE AREA:  PERSONNEL SUPPORTING PAD ____ OPERATIONS, REPORT TO YOUR SUPERVISOR FOR WORK ASSIGNMENTS.	
17-0340		JSTC NET 104	*SCB	LIFE SUPPORT AIRPACK TRUCK RELEASED. PICK UP PAVS AT SLIDEWIRE BUNKER PRIOR TO RETURNING TO SHOP.	LS
17-0341	+03H30M	STM 111	JBPN	CONFIGURE HPGN2 AND HPGHE STORAGE PNSA FACILITIES PAD A/B AND VAB ISOLATION/BYPASS VALVES TO NORMAL CONFIGURATION PER M3123. (2 HR)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
DECONFIG NMAJORTEST PSEUDO					
17-0342		LPS		ISSUE NMAJORTEST PSEUDO TO VALUE 0000 HEXADECIMAL (0 DECIMAL).	
ACTIVATE HIM'S					
17-0343		NTD 232	LPS	ACTIVATE FOLLOWING HIM'S ON GROUND DATA BUS 2/22 FOR POLLING BY GS3A FEP:	
			HIM	PAD A OCTAL	PAD B OCTAL
			---	-----	-----
			6396	222	275
			6397	023	303
			6398	032	311
			6399	233	316
			8020	224	320
			8022	025	325
17-0344		LPS		IF INHIBITED AT L-15M, ACTIVATE FOLLOWING HIM ON GROUND DATA BUS 4A/24A FOR POLLING BY GS1A FEP:	
			HIM	PAD A OCTAL	PAD B OCTAL
			---	-----	-----
			6880	056	056
NOT PERFORMED					
17-0345		CLHY 136 TBC 232 NTD	TBC	FSS SAFING AND SECURING PER G3254 COMPLETE.	SU72A36
			*SCC		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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-----  
 CONTINUE POST LAUNCH OPS  
 -----

NOTE

POST LAUNCH SECURING PER S2005  
 MAY COMMENCE PRIOR TO COMPLETION  
 OF POST LAUNCH ENTRY PORTION  
 OF S0007 BY PERSONNEL ALREADY  
 INSIDE PAD GATE, REMAINDER OF  
 S2005 WILL COMMENCE PER NEXT  
 STEP.

17-0346	+03H30M	NTD 232 STM 111 JSTC 114	STM JSTC *SEC	TOUR BUSES MAY RESUME PAD TOUR ROUTE.	SEC
17-0347	+03H30M	NTD 232 STM 111	STM JBFX	JBFX RELEASED FROM MONITORING OIS CH 232.	WSSA
17-0348		OTC 232 NTD	NTD STM	PERFORM SUPPORT OPERATION SUPPORT SETUP 1 TO MOVE TAIR TRAILER NO. _____ FROM _____ TO _____. (1 HR)	
17-0349	+03H30M	NTD 232	CTC OTC TBC STM *SCC LPS	POST LAUNCH PORTION OF S0007 COMPLETE, CONTINUE WITH POST LAUNCH SECURING PER OMI S2005. CTC RESUMES DIRECTION OF TEST TEAM AT CONCLUSION OF CURRENT SHIFT.	STSA SU72A34
17-0350	+03H30M	TBC 136	CLOX CLHY CMEC	CONTINUE WITH POST LAUNCH SECURING PER OMI'S G3254, G3153 AND S2005.	
17-0351		JSTC	JFIR	(1P10) RETURN LCC BYPASS (S0007) TO NORMAL CONFIGURATION.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT RELEASE FIRE, EMERGENCY  
 MEDICAL, ENVIRONMENTAL HEALTH  
 AND SECURITY, SAFETY SUPPORT;  
 REQ'D FOR OMI S2005 POST  
 LAUNCH SECURING.

17-0352	+03H30M	STM	JSTC	POST LAUNCH ENTRY PORTION OF	JSTC
		111	JTCR	S0007 COMPLETE. SUPPORT POST	PWRA
			JCFM	LAUNCH (S2005) OR RETURN TO	PNSA
			JCTL	NORMAL SUPPORT.	HVAA
			JBEP		WSSA
			JBPN		STSA
			JBAC		
			JBFX		
			JBWC		
			JBDY		
		NET	QBSE		
			104		
17-0353		JSTC	JSEP	POST LAUNCH ENTRY PORTION OF	ELEC
		114	GSPN	S0007 COMPLETE. SUPPORT POST	PNU
		NET	JSAC	LAUNCH SECURING (S2005) OR	AC
		104	JSDY	RETURN TO NORMAL SUPPORT.	MECH
			JSQC		QA
			WCRG		RGR
			*SCB		LS
			*SEC		SEC
			JFIR		FIRE
			GSHE		HEQ
			PMEH		EH
			GSUP		LOG
17-0354	+03H30M	STM	GYCC	TERMINATE VOICE RECORDING FOR	COMM
		111		S0007. TEST COMPLETE,	
		GYCC	GYCR	SUPPORT POST LAUNCH SECURING	
		117	JYCJ	(S2005).	
			JYVO		
			GYCJ		
			JYCD		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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FIGURE IS PRINTED AND  
DISTRIBUTED SEPARATELY

FIGURE 8 - RECYCLE CONTROL SEQUENCE  
(FOR REFERENCE ONLY)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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FIGURE 8 - RECYCLE CONTROL SEQUENCE  
(FOR REFERENCE ONLY)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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18-0000

RECYCLE CONTROL SEQUENCE

NOTE

OPERATIONS INVOLVING CRIT 1,  
1R AND/OR 1S ITEMS ARE CONTAINED  
IN THE FOLLOWING SEQUENCE/STEPS.

THIS IS A CONTINGENCY SEQUENCE.  
PERFORM ONLY IF RECYCLE IS  
REQUIRED.

ENTIRE SEQUENCE NOT PERFORMED

RECYCLE TO T-20 MIN FROM HOLD

OR CUT OFF BETWEEN T-20 MIN (OPS 101

TRANSITION) AND T-ZERO (SRB IGNITION)

NOTE

FOLLOWING CRITICAL RECYCLE  
OPERATIONS MUST BE COMPLETE  
PRIOR TO PERFORMING NON-CRITICAL  
RECYCLE ACTIONS.

1. GLS SAFING
2. MCC-H RECYCLE
3. APU SHUTDOWN
4. ECL HTR RECONFIG
5. CUTOFF SAFING SWITCHLIST
6. OAA EXTEND AND LOCK
7. PAYLOAD SAFING (IF REQUIRED)
8. G1 TO G9 TRANSITION
9. POST CUTOFF SAFETY CHECKS
10. S&A SAFING
11. PCMMU TO REMOTE
12. RECONFIG CABIN AND MPS/HYD SWITCHES
13. SCRUB/RECYCLE DECISION
14. ET DRAIN/RECOVERY DECISION

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
GLS SAFING -----					
NOTE					
PERFORM NEXT TWO STEPS IF GLS SAFING IS NOT IN PROGRESS.					
18-0001		NTD 212	CGLS	PFPK5 (CUTOFF) - PRESS VFY PFPK5 LIGHT YELLOW	
				NOT PERFORMED	_____
18-0002			CGLS	PFPK6 (EXECUTE CUTOFF) - PRESS VFY SAFING IN PROGRESS	
				NOT PERFORMED	_____
NOTE					
GLS SAFING WILL AUTOMATICALLY BE INITIATED AT CUTOFF. SPECIFIC OPERATIONS ARE DEPENDENT UPON CUTOFF TIME AND ARE DELINEATED AT THE END OF THIS SEQUENCE.					
18-0003		CGLS NTD		GLS SAFING HAS STARTED. (MONITOR FOR ERRORS) (PG-3B)	
NOTE					
PERFORM NEXT STEP IF HIM 6880 REQUIRED FOR PAYLOAD OPERATIONS.					
18-0004			LPS	A HI 056 GS1A SCAN.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
MCC-H RECYCLE -----					
NOTE					
PERFORM NEXT STEP ONLY IF COUNT PASSED T-9 MINUTES.					
18-0005				*FLT PERFORM MCC-H RECYCLE PER SEQ 23.	
				NOT PERFORMED	_____
NOTE					
PERFORM APU SHUTDOWN IF APU'S ARE OPERATING.					
APU SHUTDOWN -----					
				NOT PERFORMED	_____
18-0006		CGLS	OTC	GLS GO FOR APU SHUTDOWN. 212	
18-0007		OTC	PLT	PERFORM APU SHUTDOWN. 212	
18-0008		PLT		PANEL R2 APU/HYD APU OPERATE 1 SW - OFF 2 SW - OFF 3 SW - OFF	
18-0009		PLT	CRT	SYS SUMM 2 APU 1 SPEED < 5 PCT APU 2 SPEED < 5 PCT APU 3 SPEED < 5 PCT	
18-0010		PLT		PANEL R2 APU/HYD APU FUEL TANK VLV 1 SW - CLOSE 2 SW - CLOSE 3 SW - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
18-0011		PLT	PANEL R2 APU/HYD	APU CNTRL PWR 1 SW - OFF 2 SW - OFF 3 SW - OFF	
18-0012		PLT	PANEL R2 APU/HYD	HYD MAIN PUMP PRESS 1 SW - NORM 2 SW - NORM 3 SW - NORM	
CAUTION					
APU SHUTDOWN TO CIRC PUMP START ELAPSED TIME SHALL NOT EXCEED 15 MINUTES.					
18-0013		PLT	PANEL R2 APU/HYD	HYD CIRC PUMP 1 SW - GPC 2 SW - GPC 3 SW - GPC	
18-0014		CHYD	CRT (VWF19)	VERIFY  HYD CIRC PUMPS 1-2-3 RESTARTED HYD CIRC PRESS 1-2-3 100-600 PSIA ME PR LN TEMP 1-2-3 60 DEG F (MIN)  CRT (VAF30)  VERIFY  1 CIRC AUTO A ON 2 CIRC AUTO B ON 3 CIRC AUTO C ON  OMRSD S00E00.840-1R	
18-0015		PLT 212 OTC	OTC NTD	APU SHUTDOWN COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF APU  
 HEATER GROUND COMMANDS  
 WERE REMOVED. (T-10 SEC)

18-0016		OTC 212	CAPU	PERFORM APU HEATER ACTIVATION PER SEQ 42 (S0007VL4).	
---------	--	------------	------	---	--

NOT PERFORMED \_\_\_\_\_

18-0017			CAPU	CRT (VWF57)	
---------	--	--	------	-------------	--

VERIFY

APU READY

APU 1 - OFF V46X0125E1

APU 2 - OFF V46X0225E1

APU 3 - OFF V46X0325E1

APU OPERATE

APU 1 - OFF V46S0126E1

V46S1127E1

APU 2 - OFF V46S0226E1

V46S1227E1

APU 3 - OFF V46S0326E1

V46S1327E1

ISO VLVS

1A/2A/3A - CB CYAN V46X0115E1

1B/2B/3B - CB CYAN V46X0134E1

V46X0215E1

V46X0234E1

V46X0315E1

V46X0334E1

TURBINE SPEED

APU 1 - 0 PCT V46R0135A1

APU 2 - 0 PCT V46R0235A1

APU 3 - 0 PCT V46R0335A1

CNTRLR PWR

APU 1 - OFF V46S0124E1

APU 2 - OFF V46S0224E1

APU 3 - OFF V46S0324E1

18-0018			CAPU	RECORD APU RUN TIME:	
---------	--	--	------	----------------------	--

CAPU \_\_\_\_\_ (RECORD TIME)  
 (END APU SHUTDOWN)

APU SHUTDOWN COMPLETE  
 -----



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT THREE STEPS  
 IF APU PRE-START ONLY WAS  
 PERFORMED.

PERFORM NEXT STEP IF APU  
 FUEL TANK ISOLATION VALVES  
 WERE OPENED.

18-0019		OTC 212	PLT	PANEL R2 APU/HYD APU FUEL TANK VALVE 1 SW - CLOSE 2 SW - CLOSE 3 SW - CLOSE	
					NOT PERFORMED _____

18-0020		OTC 212	PLT	PANEL R2 APU/HYD APU CNTRL PWR 1 SW - OFF 2 SW - OFF 3 SW - OFF	
					NOT PERFORMED _____

18-0021		OTC 212	PLT	PANEL R2 APU/HYD HYD MAIN PUMP PRESS 1 SW - NORM 2 SW - NORM 3 SW - NORM	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ECL HTR RECONFIGURATION					
NOTE					
PERFORM NEXT THREE STEPS IF COUNTDOWN PROCEEDED PAST T-5 MIN.					
18-0022		OTC 212	CDR	RECONFIGURE HEATERS.	NOT PERFORMED _____
18-0023			CDR	PANEL L2 FLASH EVAPR FEEDLINE HTR A SUPPLY SW - 2 B SUPPLY SW - 2	NOT PERFORMED _____
18-0024		CDR 212 OTC	OTC NTD	HTR RECONFIGURATION COMPLETE.	NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CUTOFF SAFING SWITCHLIST -----					
18-0025		OTC 212	CDR	PANEL F7 FLT CNTLR PWR SW - OFF	
18-0026		OTC	PLT	PANEL R1 POWER DISTRIBUTION ESS BUS SOURCE FC 1 SW - OFF FC 2 SW - OFF FC 3 SW - OFF	
18-0027		OTC	PLT	PANEL F8 FLT CNTLR PWR SW - OFF	
18-0028		OTC	CGSS	VERIFY OAA IS EXTENDED, LOCKED AND CONFIGURED FOR RETRACT.  PCMMU TO REMOTE -----	
18-0029		OTC 212	CGLS	GLS CONFIRMS VALID OI AND PCMMU ACTIVE. PROCEED WITH PCMMU POWER SWITCH OFF.	
NOTE					
DO NOT PERFORM NEXT STEP IF GLS CANNOT VERIFY VALID OI OR ACTIVE PCMMU IN PREVIOUS STEP.					
18-0030		OTC 212	CDR	PANEL C3 OI PCMMU POWER SW - OFF	NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

DO NOT PERFORM G1 TO G9  
 TRANSITION IF PASS ALREADY  
 IN G9.

G1 TO G9 TRANSITION  
 -----

NOT PERFORMED

18-0031		CGLS 212 OTC	OTC NTD	GLS PRIMARY SAFING COMPLETE. G9 TRANSITION.	READY FOR
18-0032		*FLT	NTD	BFS SPC BUFFER CLEAR. FOR G9 TRANSITION.	READY
18-0033		NTD	CMPL CLOX CLHY	VERIFY CONFIGURED FOR G1 TO G9 GPC OPS TRANSITION.	

CAUTION

IF LOX EMERGENCY DRAIN IS  
 IN PROGRESS, G1 TO G9  
 TRANSITION MAY NOT OCCUR  
 UNTIL CLOX SELECTS DRAIN  
 USING LOW RANGE XDCRS PER  
 S1003.

18-0034		NTD 212 OTC	OTC CDPS	PERFORM PASS TRANSITION TO GNC9.	
18-0035			CDPS	CURSOR CNTL (VASP9, PG-B) RETURN TO HOST XMIT CURSOR KEY - PRESS  CURSOR CNTL (VASP9, PG-B) INHIBIT LCC MONITORING XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

IF BFS IS IN OPS 101 OR RUN  
MODE AND CREW IS UNAVAILABLE  
TO SUPPORT TRANSITION, SECURE  
BFS USING, "REMOTE BFS  
DEACTIVATION" OPTION IN  
S0007VL5 PRIOR TO G9 RECYCLE.

DO NOT PERFORM NEXT TWO  
STEPS IF VASJ6 ACTIVE.

18-0036

CDPS CURSOR CNTL (SAS01 PG B)  
DPS INIT DISPLAY (SAS01)  
XMIT CURSOR KEY - PRESS

CURSOR CNTL (SAS01 PG B)  
TERMINATE OPS MGR 5 (SAS25)  
XMIT CURSOR KEY - PRESS  
PFK 2 KEY - PRESS

NOT PERFORMED \_\_\_\_\_

18-0037

CDPS CONSOLE KYBD  
VASJ6  
PERF PGM KEY - PRESS

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

G9 RECYCLE IS PERFORMED BY SEQUENCER VASJ6. IF BFS IS ACTIVE IN OPS 101, VASJ6 WILL FIRST PROMPT CDR TO PERFORM A BFS RECYCLE TO OPS 0 STANDBY.

ONCE BFS RECYCLE IS COMPLETE, PROGRAM WILL TRANSITION PASS TO G9 VIA DEU EQUIVALENT. PASS G9 TRANSITION TAKES APPROXIMATELY 90 SECONDS.

NOTED REQUIREMENTS ARE SATISFIED BY COMPLETION OF FOLLOWING THREE STEPS.

OMRS S00E00.880-A-1R  
OMRS S00E00.880-B-1R

18-0038			CDPS PFP (VASJ6)	COUNTDOWN RECYCLE - PRESS	
18-0039			CDPS CRT (VASJ6 PG-B)	FOLLOW COUNTDOWN RECYCLE PROMPTS	
18-0040			CDPS CONSOLE CRT (VASJ6 PG-B)	VERIFY MSG: RECYCLE COMPLETE	
18-0041				COMPLETION OF PREVIOUS THREE STEPS SATISFIES NOTED REQUIREMENTS.	
				OMRSD S00E00.880-A-1R OMRSD S00E00.880-B-1R	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
18-0042		CDPS	OTC	DPS IS CONFIGURED TO GNC9 DL FORMAT ____.	
18-0043		OTC 212	NTD TBC	DPS IN G9.  G1 TO G9 TRANSITION COMPLETE -----	
18-0044		NTD 212	CHGD	VERIFY ET INTERTANK O2 CONCENTRATION LESS THAN 10,000 PPM.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM POST CUTOFF SAFETY CHECKS IF PREVIOUSLY PERFORMED FOR AN ABORT.

PERFORM POST CUTOFF SAFETY CHECKS ANYTIME A CUT-OFF OCCURS AFTER APU START.

POST CUTOFF SAFETY CHECKS

NOT PERFORMED

18-0045

- NTD PERFORM POST CUTOFF SAFETY CHECKS.
- 1. NTD CISL VERIFY ORBITER OI PCM DATA VALID.
- 2. NTD CDPS VERIFY ORBITER DOWNLIST DATA VALID. VERIFY LDB POLLING ACTIVE.
- 3. NTD CCME VERIFY ENGINE DATA VALID. VERIFY ENGINE COMMAND PATHS GOOD.
- 4. NTD CSME VERIFY ALL ENGINE PRESSURES AND TEMPERATURES APPEAR NORMAL.
- 5. NTD CSME VERIFY NO ENGINE LEAK INDICATIONS.
- 6. NTD CMPL VERIFY NO INDICATION OF FIRE AT AFT ORBITER (AREA ON FD 36, 37, 38, 39)
- 7. NTD CMPL VERIFY LOX BLEED PATH ESTABLISHED OR LOX DRAIN INITIATED PER S1003.
- 8. NTD CLHY VERIFY NO UNEXPECTED FIRE DETECTORS TRIPPED.
- 9. NTD CLHY VERIFY NO SIGNIFICANT LEAKS ON MLP, CROSS-COUNTRY LINES, TSM, STORAGE AREA OR ET VENT SYSTEM.
- 10. NTD CLHY VERIFY ET LH2 TANK PRESSURE STABLE.



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
18-0045 CON'T	11.	NTD	CLOX	VERIFY OTV INDICATES NO FIRE OR LEAKS ON CROSS-COUNTRY LINES, STORAGE AREA, MLP OR TSM.	
	12.	NTD	CLOX	VERIFY ET LOX TANK PRESSURE STABLE.	
	13.	NTD	CPVD	VERIFY GN2 PURGE INTERFACE PRESSURES ARE NOMINAL AND VENT DOORS IN NORMAL PURGE CONFIGURATION.	
	14.	NTD	CHGD	VERIFY NO INDICATION OF HYDROGEN LEAKS IN AFT FUSELAGE.	
	15.	NTD	CHGD	VERIFY NO INDICATION OF OXYGEN LEAKS IN AFT FUSELAGE.	
	16.	NTD	CGSS	VERIFY NO INDICATIONS OF FIRE ON CREW ESCAPE ROUTE.	
	17.	NTD	CAPU	VERIFY APU'S ARE SHUTDOWN AND NO LEAKAGE INDICATIONS.	
	18.	NTD	CBHY	VERIFY HPU'S ARE SHUTDOWN AND NO LEAKAGE INDICATIONS.	
	19.	NTD	CPWR	VERIFY SRB IGNITION S&A'S SAFE.	
	20.	NTD	CEPD	IF CUTOFF OCCURED AFTER T-21 SEC, VERIFY GROUND PIC RACK POWERED DOWN.	
	21.	NTD	COOS	VERIFY ALL OX/FUEL TANK PRESSURES AND TEMPS STABLE.	
	22.	NTD	CBRS	VERIFY RANGE SAFETY INHIBITS ON.	
	23.	NTD		POST CUTOFF SAFETY CHECKS COMPLETE.  POST CUTOFF SAFETY CHECKS COMPLETE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM S&A POST CUTOFF  
SAFETY CONTINGENCY IF  
MECS WERE POWERED DOWN  
DURING ABORT SEQUENCE.

S&A POST CUTOFF SAFETY CONTINGENCY  
-----

NOT PERFORMED \_\_\_\_\_

18-0046		OTC	MS1	PERFORM MEC POWER UP PER OMI S9001VL1.	
		212	CEPD	REPORT COMPLETION.	

RT OMI LOG NO. \_\_\_\_\_

18-0047		NTD	TBC	PERFORM SRB OI POWER UP PER	
		212		OMI S9001VL1. REPORT COMPLETION.	
		TBC	CPWR		
		136		RT OMI LOG NO. _____	

18-0048		NTD	CPWR	REPORT POSITION OF IGN S&A	
		212			

RH SRB IGN S&A: SAFE/ARM  
LH SRB IGN S&A: SAFE/ARM

S&A POST CUTOFF SAFETY CONTINGENCY  
-----

COMPLETE  
-----

OPERATION INSTRUCTIONS

-----  
SEQ            TIME            CMD    RESP                            DESCRIPTION                            VERIF.  
-----

NOTE

PERFORM SRB IGN S&A SAFING  
IF SRB IGN S&A'S ARE ARMED.

SRB IGN S&A SAFING  
-----

NOT PERFORMED

18-0049		NTD	CPWR	PERFORM IGNITION S&A SAFING. 212	
18-0050		CPWR		CURSOR CNTL (SDC01) SRB OPTION IGN SAF/ARM XMIT CURSOR KEY - PRESS  CRT VERIFY SWC01 TERMINATED AND BDE07 IS DISPLAYED.	
18-0051		CPWR		CURSOR CNTL (BDE07) SAFE LEFT AND RIGHT XMIT CURSOR KEY - PRESS  CRT VERIFY BSE06 GPC FORMAT OR VALIDITY FREQ ERROR	
18-0052		CPWR		PFP (BSE06) CONTINUE - PRESS	
18-0053		CPWR		CONSOLE KYBD (BWE07) PFK15 - PRESS  CRT VERIFY BWE07 TERMINATES AND SDC01 IS DISPLAYED.	
18-0054		CPWR	NTD	IGNITION S&A SAFING COMPLETE.  SRB IGN S&A SAFING COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
RSS S&A SAFING -----					
WARNING					
PERFORM NEXT SIX STEPS IF COUNT PASSED T-5M.					
18-0055		NTD 212	RSR	POST CUTOFF SAFETY CHECKS COMPLETE. FIRE AND LEAK DETECTOR STATUS SATISFACTORY. REQUEST CONCURRENCE TO PROCEED WITH SRB S&A SAFING.	
				NOT PERFORMED	_____
18-0056		NTD	OTC	PERFORM SRB RSS S&A SAFING (POST G9 RECYCLE).	
				NOT PERFORMED	_____
18-0057		OTC	CPWR	VERIFY IGNITION S&A'S SAFE.	
				NOT PERFORMED	_____
18-0058		OTC	CDPS	DEU EQUIVALENTS AND MEC CRITICAL CEPD CMD'S WILL BE ISSUED MOMENTARILY.	
				NOT PERFORMED	_____
18-0059		OTC	CGLS	PERFORM SRB RSS S&A SAFING (POST G9 RECYCLE).	
				NOT PERFORMED	_____
18-0060		CGLS OTC 212	OTC NTD	SRB RSS S&A'S SAFED AND MEC CRITICAL CMD'S DISABLED.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF FUEL  
 CELL LOADS HAVE BEEN  
 ADJUSTED TO HIGH RANGE.

18-0061		OTC 212	CEPD CFCP	PERFORM GROUND POWER CONNECT AND FC LOAD SHARE ADJUST PER SEQ 55 (S0007VL4). REPORT COMPLETION.	
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OMRSD S00E00.A00

NOT PERFORMED

NOTE

PERFORM NEXT STEP IF COUNT  
 PASSED T-2 MIN.

18-0062		OTC	CREW	OPEN LEH VISORS.	
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NOT PERFORMED

18-0063		OTC 212	PLT	PERFORM MPS HELIUM RECONFIGURATION PER YOUR CHECKLIST	
---------	--	------------	-----	--	--

PLT PANEL R2  
 MPS  
 HE ISOLATION A  
 LEFT SW - GPC  
 CTR SW - GPC  
 RIGHT SW - GPC  
 HE ISOLATION B  
 LEFT SW - GPC  
 CTR SW - GPC  
 RIGHT SW - GPC  
 PNEUMATICS  
 HE ISOL SW - GPC

18-0064		PLT OTC	MPS	HELIUM RECONFIGURATION COMPLETE.	
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CRITICAL SAFING COMPLETE  
 -----

18-0065		OTC 212	NTD	CRITICAL SAFING COMPLETE.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
18-0066		OTC 212	CEPD	PERFORM MEC PREFLIGHT BITE EVALUATION.	
18-0067			CEPD	PERFORM CDS QLDB RETRIEVAL ON FD <MEC1> <MEC2>. VERIFY NO MEC FAILURES.  ET BIPOD HEATER ACTIVATION -----	
NOTE					
PERFORM NEXT THREE STEPS AS SOON AS PRACTICAL AFTER HOLD/ABORT IF HEATERS HAVE BEEN TERMINATED.					
18-0068			TBC	CPWR REACTIVATE BI-POD HEATERS.	
				NOT PERFORMED	_____
18-0069			CPWR	PFP (TW495) BIPOD HTR PWR - PRESS BIPODS ON - PRESS  CRT (TD490)  VERIFY  BIPOD HTR CURRENTS 0.8 - 1.2 A  OMRSD S00E00.991	
				NOT PERFORMED	_____
18-0070			CPWR TBC TBC NTD 212	ET HEATERS HAVE BEEN ACTIVATED.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF  
 AUTO ET OPS IS INHIBITED.

18-0071		CPWR	PFP (BWE08)	PFPK3 KEY - PRESS	
			CRT		
			VERIFY		
			LED 3 - AUTO ET OPS ACT		
				NOT PERFORMED	_____
			SCRUB DECISION POINT		

NOTE

PERFORM NEXT TWO STEPS  
 IF SUBSEQUENT TERMINAL  
 COUNTDOWN RUN WILL BE  
 PERFORMED.

18-0072		NTD	OTC	NEW T-ZERO WILL BE _____ GMT	
	212	TBC		COUNTDOWN CLOCKS WILL PICK UP AT	
		LPS		T-20 MINUTES AND COUNTING AT	
		SPE		_____ GMT.	
		STM			
		*SCC			
		*FLT			
		PTC			
		CDR			
		SRO			
		LRD			
		*MIL			
		LD			
				NOT PERFORMED	_____

18-0073		LRD	*DCD	NEW T-ZERO WILL BE _____ GMT.	
	135	ROC		COUNTDOWN CLOCK WILL PICK UP AT	
	CCN	EMS		T-20 MINUTES AND COUNTING AT	
	LF1	NCC		_____ GMT.	
		LSO			
		GOMS			
		*SLF			
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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ELEMENT RECYCLE

NOTE

IF SCRUB DECISION HAS BEEN MADE, NTD MAY ELECT TO PROCEED WITH SEQ 30 TO INITIATE LOX DRAIN PRIOR TO COMPLETION OF STEPS IN SEQ 18.

18-0074		NTD	OTC	PERFORM RECYCLE TO T-20 MIN	
		212	TBC	STATUS PER FOLLOWING SEQUENCES:	
			STM		
			LPS		
			JRPS	ORBITER.....SEQ 19	
			PTC	SRB.....SEQ 20	
				ET.....SEQ 21	
				SUPPORT.....SEQ 22	
				PAYLOAD.....SEQ 24	

ALL TEST TEAM PERSONNEL RETURN TO YOUR NORMAL COMMAND CHANNEL. ORBITER PERSONNEL REMAIN ON OIS CH 212. NTD TO OIS CH 232.

NOTE

PERFORM ONE OF FOLLOWING TWO STEPS IF SUBSEQUENT TERMINAL COUNTDOWN RUNS WILL BE PERFORMED (NO SCRUB DECLARED).

PERFORM NEXT STEP IF CDC WAS STOPPED AT T-01M57S OR EARLIER.

18-0075		NTD	TBC	RE-ESTABLISH ET LOX REPLENISH	
		232		AND VERIFY LH2 IN REPLENISH.	
		TBC	CLOX		
		136	CLHY		

NOT PERFORMED \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT STEP IF CDC  
 WAS STOPPED AFTER T-01M57S.

18-0076		NTD 232 TBC 136	TBC	RE-ESTABLISH ET LOX REPLENISH AND PERFORM LH2 RECOVERY TO CLOX TOPPING/REPLENISH. CLHY	
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NOT PERFORMED

18-0077		OTC 232	NTD	ORBITER RECYCLE (SEQ 19) COMPLETE.	
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18-0078		TBC 232	NTD	SRB AND ET RECYCLE (SEQ 20 AND 21) COMPLETE.	
---------	--	------------	-----	---	--

18-0079		STM 232	NTD	SUPPORT RECYCLE (SEQ 22) COMPLETE.	
---------	--	------------	-----	------------------------------------	--

18-0080		PTC 232	NTD	PAYLOAD RECYCLE (SEQ 24) COMPLETE.	
---------	--	------------	-----	------------------------------------	--

18-0081		NTD 232 LPS SPE STM *SCC *FLT PTC CDR SRO LRD *MIL LD	OTC	IF SCRUB DECISION HAS BEEN ANNOUNCED, PROCEED TO SEQ 30 (S0007 VL3).	
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

DO NOT PERFORM PREPS TO  
RESUME AT T-20 MINUTES IF  
DECISION TO SCRUB HAS BEEN  
ANNOUNCED.

PREPS TO RESUME AT T-20 MINUTES

-----  
NOT PERFORMED

IMU PREFLIGHT ALIGN RERUN DECISION

NOTE

CGNC IS BACKUP TO JSC/MER  
FOR IMU PERFORMANCE.

18-0082

NTD	*FLT	VERIFY IF IMU PERFORMANCE REQUIRES
232	OTC	PREFLIGHT ALIGN OR IMU'S CAN
	CGNC	REMAIN IN GC ALIGN 1 OR INERTIAL.

NOTE

PERFORM IMU PREFLIGHT ALIGN  
RERUN IF PREFLIGHT ALIGN  
REQUIRED.

IMU PREFLIGHT ALIGN RERUN

-----  
NOT PERFORMED

IMU PREFLIGHT ALIGN PREPS

18-0083

NTD	OTC	PERFORM IMU ALIGN PREPS.
232		DO NOT START IMU PREFLIGHT
OTC	CGNC	ALIGN UNTIL DIRECTED.
212		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
18-0084				CGNC CURSOR CNTL (VABM1/VWB19 PG-B) TERM IDLE (ITEM 27) XMIT CURSOR KEY - PRESS  START XMIT CURSOR KEY - PRESS	
18-0085				CGNC CRT (VSB35 PG-B) DEPRESS PFK2 TO ISSUE SPEC 104 TO CRT 2	
18-0086				CGNC APPL PAGE (VSB35 PG-B) PFK2 KEY - PRESS (CRT 2)	
18-0087				CGNC CRT (VSB35 PG-A OR VWB19 PG-B)  VERIFY IMUS IN TERM IDLE  IMU PREFLIGHT ALIGN -----	
18-0088		NTD 232 OTC 212	OTC	PERFORM IMU PREFLIGHT ALIGN. NEW T-0 WILL BE _____ GMT. CGNC (75 MIN MINIMUM)	

NOTE

PROCEED WITH ATT DET AT 45 MIN  
PRIOR TO OPS 101 TRANSITION.  
BEGIN PREFLIGHT ALIGN AT  
40 MIN PRIOR TO OPS 101  
TRANSITION.

18-0089				CGNC PROCEED WITH IMU PREFLIGHT ALIGNMENT PER OMI V1123. REPORT COMPLETION.  ATT DET (T-0 - 75M) _____ GMT  PFA (T-0 - 70M) _____ GMT  RT OMI LOG NO. _____  OMRSD S00E00.890-1R	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				IMU PREFLIGHT ALIGN RERUN COMPLETE	
				RECYCLE COMPLETE	
18-0090		NTD 232	LPS JRPS PTC	VERIFY RECYCLE COMPLETE.	
				FLT CNTLR PWR - ON	
18-0091		OTC 212	CDR	PANEL F7 FLT CNTLR PWR SW - ON	
18-0092		OTC	PLT	PANEL F8 FLT CNTLR PWR SW - ON	
				PCMMU TO PANEL CONTROL	
18-0093		OTC 212	CISL	PCMMU SWITCH WILL BE CHANGED TO 1. PCMMU BITE BITS 5, 12, 13 AND POSSIBLY 8 AND 11 MAY SHOW FAILED DUE TO BFS AUTO LOAD OF TFL 102 TO 64KB FORMATTER.	
18-0094		OTC	CDR	PANEL C3 OI PCMMU POWER SW - 1	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.	
18-0095		OTC 212	CISL	CRT (SAQ04/VWQ11)  VERIFY  PCMMU SW SCAN 1  CURSOR CNTL (SAQ04/VWQ11) PCM CONTROL COMMAND - OFF XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT (SAQ04/VWQ11)  VERIFY  PCMMU COMMAND OFF BITE 1 POWER GOOD 2 MTU GOOD OI DATA VALID  OMRSD V75AP0.040-1R		
18-0096		NTD 232 OTC 212	OTC	REPORT STATUS OF LAUNCH POLYNOMIAL UPDATES.		
			CVFS			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

A BFS ONE SHOT DATA TRANSFER  
 MUST BE PERFORMED ONLY IN  
 THE EVENT OF:

1. A LAUNCH POLYNOMIAL UPDATE.
2. A SRM CHAMBER PRESSURE  
 CALIBRATION UPDATE.
3. AN IMU PREFLIGHT CALIBRATION.
4. A RELOAD OF BFS GPC

IF NONE OF THE ABOVE CRITERIA  
 ARE MET, DO NOT PERFORM  
 PASS/BFS ONE SHOT DATA TRANSFER.

PASS/BFS ONE-SHOT DATA  
 TRANSFER SHOULD BE STARTED  
 APPROXIMATELY 12 MINUTES  
 PRIOR TO OPS 101 TRANSITION.

PASS/BFS ONE SHOT DATA TRANSFER  
 -----

NOT PERFORMED

NOTE

NOTED REQUIREMENT IS  
 SATISFIED BY COMPLETION  
 OF FOLLOWING FOUR STEPS.

OMRS S00E00.915-1R

18-0097	L-42M	OTC 212	CDR	PERFORM PASS/BFS TRANSFER PREPS PER YOUR CHECKLIST.	
18-0098			CDPS	CRT (VASJ6 PG-B) ONE SHOT ENABLED - INVERT GREEN	
18-0099			CDPS	PFP (VASJ6) PFPK1 - PRESS (ONE-SHOT SELECT)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
18-0100			CDPS	CRT (VASJ6 PG B) ONE-SHOT COMPLETE MILESTONE IN INVERT GREEN	
18-0101				COMPLETION OF PREVIOUS FOUR STEPS SATISFIES NOTED REQUIREMENT.  OMRSD S00E00.915-1R  PASS/BFS ONE SHOT DATA TRANSFER ----- COMPLETE -----	

NOTE

RETURN TO OMI CONTROL  
SEQUENCE AT T-20 MIN  
RECYCLE ENTRY POINT.

PREPS TO RESUME AT T-20 MINUTES COMPLETE  
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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19-0000				ORBITER RECYCLE	
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NOTE

THIS IS A CONTINGENCY SEQUENCE.  
PERFORM ONLY IF RECYCLE IS  
REQUIRED.

ENTIRE SEQUENCE NOT PERFORMED

ORBITER RECYCLE CONTROL

SECTION 1

NOTE

THIS SECTION CONTAINS TEST  
CONDUCTOR CONTROL STEPS FOR  
ORBITER SUBSYSTEMS RECYCLE TO  
T-20 MIN CONFIGURATION  
(SECTION 2).

19-0001		OTC 212	ALL	ALL ORBITER PERSONNEL PERFORM SUBSYSTEM RECYCLE OPERATIONS PER SEQ 19, SECTION 2.	
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19-0002		OTC CMPL	CMPS	SUPPORT LO2/LH2 RECYCLES PER OMI S1003/OMI S1004 AND REPORT COMPLETION.	
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19-0003		OTC	CHGD	MONITOR HGDS FOR RECYCLE OPERATIONS. REPORT ANY H2 OR O2 INDICATIONS ON COMMAND CHANNEL 212. SAMPLE EACH VEHICLE AREA AT LEAST EVERY 30 MINUTES. SAMPLE SPAN, TEST AND ZERO REFERENCE GASES AT LEAST ONCE EVERY HOUR. IF H2 ZERO GAS BACKGROUND EXCEEDS +/- 60 PPM, PERFORM REMOTE AUTO CALIBRATION.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
19-0004		CGSS	OTC	SOUND SUPPRESSION RECYCLE TO T-20 MIN CONFIGURATION COMPLETE.	
19-0005		COFC	OTC	FLIGHT CONTROL RECYCLE TO T-20 MIN CONFIGURATION COMPLETE.	
19-0006		CSME	OTC	RECYCLE TO T-20 MIN CONFIGURATION COMPLETE.	
19-0007		CMPS	OTC	RECYCLE PER S1004 COMPLETE.	
19-0008		CMPL	OTC	RECYCLE PER S1003 COMPLETE.	
19-0009		COOS	OTC	RECYCLE TO T-20 MIN CONFIGURATION COMPLETE.	
19-0010		CDPS	OTC	RECYCLE TO T-20 MIN CONFIGURATION COMPLETE.	

NOTE

PERFORM NEXT STEP IF REQUIRED  
TO SUPPORT PAYLOAD REQUIREMENTS.

19-0011		CPVD	OTC	PLB FLOWRATE INCREASED. RECYCLE TO T-20 MIN CONFIGURATION COMPLETE.	
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF CUTOFF  
 OCCURRED AFTER APU START  
 (T-5 MIN).

19-0012		CAPU OTC		APU COOLDOWN COMPLETE. RECYCLE TO T-20 MIN CONFIGURATION COMPLETE.	
				OMRSD S00E00.710-1R	

NOT PERFORMED

19-0013		CECL OTC		RECYCLE TO T-20 MIN CONFIGURATION COMPLETE.	
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NOTE

PERFORM NEXT STEP ONLY IF  
 FUEL CELLS HAVE BEEN  
 TRANSFERRED TO INTERNAL  
 REACTANTS (T-02M35S) AND HOLD  
 IS SUFFICIENT TO REQUIRE  
 TRANSFER TO EXTERNAL REACTANTS.

19-0014		CFCP OTC		TRANSFER TO EXTERNAL REACTANTS COMPLETE.	
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NOT PERFORMED

19-0015		CFCP OTC		RECYCLE TO T-20 MIN CONFIGURATION COMPLETE.	
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19-0016		CEPD OTC		RECYCLE TO T-20 MIN CONFIGURATION COMPLETE.	
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19-0017		CGLS OTC		RECYCLE TO T-20 MIN CONFIGURATION COMPLETE.	
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19-0018		OTC 232	NTD	ORBITER RECYCLE TO T-20 MIN CONFIGURATION COMPLETE.	
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NOTE

RETURN TO RECYCLE CONTROL  
 SEQUENCE 18.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				ORBITER SUBSYSTEM RECYCLE ----- SECTION 2 ----- FLIGHT CONTROL RECYCLE ----- ECP AI MODE 1: MATCH CMDS TO POSN -----	
19-0019		COFC	PFP (SAB20/SWB02) PFPK (SWB02) KEY - PRESS		
19-0020		COFC	PFP (SWB02) PFPK4 (ORB/SRB AI MODE 1) - PRESS  OMRSD S00E00.894-1R		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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SET NWS CMDS TO 0 DEG

NOTE

FOLLOWING STEP SETS NWS1 AND  
NWS2 CMDS TO 0 DEG (-0.44 VOLTS).  
ANY SUBSEQUENT AI MODE 1 WITH  
SRB WILL RESET CMDS BACK TO  
1 DEG (0 VOLTS).

19-0021

COFC CONSOLE KYBD

GPCC RFG

XMIT CMD KEY - PRESS

CURSOR CNTL (RFG ECP)

SLOPE VALUE: 2

XMIT CURSOR KEY - PRESS

CURSOR CNTL

ACT/RGA ID: 0

XMIT CURSOR KEY - PRESS

CURSOR CNTL

FINAL VALUE: -44 CNTS \*

XMIT CURSOR KEY - PRESS

PFK-1 KEY - PRESS (EXECUTE RFG)

\*NULL = -44 CNTS = -0.44 VDC = 0 DEG

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
DEACTIVATE PROFILE MONITOR -----					
19-0022				COFC APPL PG B (SAB21/VWB05) PFK6 KEY - PRESS (ACTIVATE BYPASS PG) PFK8 KEY - PRESS (CLEAR ALL BYPASSES) PFK15 KEY - PRESS (TERMINATE)	
19-0023		COFC OTC		FLIGHT CONTROL RECYCLE TO T-20 MINUTE CONFIGURATION COMPLETE.  SSME RECYCLE -----	
NOTE					
SSME GN2 PURGE WILL REMAIN ACTIVE FOR 12 HOURS MINIMUM. PURGE WILL BE SECURED PER V9018.					
19-0024				CSME CURSOR CNTL (VAE38) GN2 DISPLAY  1. PRIMARY & SECONDARY CONTROL OVERRIDES - OFF  2. PRIMARY & SECONDARY VENT OVERRIDES - OFF	
19-0025				CSME (VAE38) VERIFY GN2 PURGE PRESSURE 573-690 PSIG.  OMRSD S00E00.160-1	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT STEP IF SSME  
IGNITION OCCURRED OR IF  
SCRUB/DETANK IS REQUIRED.

19-0026

CSME CURSOR CNTL (VAE38 - GN2)  
SCR 1 HEATER PWR - ON

VERIFY PNL OUT PRI TEMP STABLE  
AT 130 +/- 10 DEG F.

RECORD GMT \_\_\_\_\_

OMRSD S00E00.161-1

NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT STEP IF  
COUNTDOWN PROCEEDED PAST  
T-4 MIN AND IF SUBSEQUENT  
TERMINAL COUNTDOWN RUNS  
WILL BE PERFORMED (NO SCRUB  
DECLARED).

19-0027

CSME PERFORM CONTINGENCY PROCEDURE SSMEC  
CCME RE-INITIALIZATION OF ENGINE READY  
MONITORING PER S0007VL5 (SEQ 105).

NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT TWO STEPS AFTER  
GLS HAS RESET THE COUNTDOWN  
CLOCK BACT TO T-20 MIN.

19-0028

CCME PFPK (VWE01A)  
TERMINATE - PRESS

19-0029

CCME CURSOR CNTL (SAS13)  
VWE01A  
XMIT CURSOR KEY - PRESS

19-0030

CSME OTC RECYCLE TO T-20 MIN CONFIGURATION  
COMPLETE.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
OMS/RCS RECYCLE -----					
19-0031		OTC	COOS	PERFORM OMS/RCS RECONFIGURATION.	
NOTE					
PERFORM NEXT TWO STEPS IF RECYCLE OCCURS AFTER T-15 MINUTES.					
19-0032		COOS	C4	CURSOR CNTL (VWD42) - OPEN (L OX XFEED) XMIT CURSOR KEY - PRESS	
OMRS S00E00.660					
NOT PERFORMED _____					
19-0033		COOS	C4	CURSOR CNTL (VWD41) - OPEN (L FU XFEED) XMIT CURSOR KEY - PRESS	
OMRS S00E00.660					
NOT PERFORMED _____					
19-0034		COOS	OTC	OMS/RCS RECONFIGURATION COMPLETE.	
OMRSD S00E00.660					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				SOUND SUPPRESSION SYSTEM RECYCLE ----- (CGSS) -----	
19-0035		OTC	CGSS	PERFORM SOUND SUPPRESSION SYSTEM RECYCLE.	
				NOTE PERFORM NEXT STEP IF SS FR CMD BUS IS ON.	
19-0036			CGSS	CURSOR CNTL (VAJ14) CMD BUS XMIT CURSOR KEY - PRESS (TWICE) OMRSD S00E00.B40-1	
				NOT PERFORMED	_____
				NOTE PERFORM NEXT STEP IF COUNT WENT PAST 28 SECONDS.	
19-0037		OTC	CGSS	SUPPORT SOUND SUPPRESSION SYSTEM RECYCLE (SEQ 22) ON CH 123.	
				NOT PERFORMED	_____
19-0038		CGSS	OTC	SOUND SUPPRESSION SYSTEM RECYCLE COMPLETE.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
INCR PLB FLOWRATE -----					
NOTE					
PERFORM NEXT THREE STEPS TO SUPPORT PAYLOAD/EDO REQUIREMENTS.					
19-0039		OTC	CPVD	INCREASE PLB FLOWRATE. REPORT COMPLETION.	
				NOT PERFORMED	_____
19-0040			CPVD	CURSOR CNTL (VAM31A) INCREASE PLB FLOWRATE TO: PREVIOUS PLB PURGE FLOWRATE REQ. RECORD FLOWRATE: _____ LBS/MIN	
				NOT PERFORMED	_____
19-0041		CPVD	OTC	PLB FLOWRATE INCREASED.	
		212			
		OTC	NTD		
		232			
		NTD	PTC		
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

GLS RECYCLE  
 -----

NOTE

PERFORM NEXT TWO STEPS ONLY  
 IF A SECOND LAUNCH ATTEMPT  
 IS MADE THE SAME DAY.

19-0042		OTC	CGLS	RECYCLE GLS TO T-20 MIN CONFIGURATION PER SEQ 65.	NOT PERFORMED _____
19-0043		CGLS	OTC	GLS RECYCLE TO T-20 MIN CONFIGURATION COMPLETE.	NOT PERFORMED _____
19-0044		CGLS		VERIFY GLS S/W EXECUTED SAFING COMMANDS/ VERIFICATIONS AS LISTED BELOW. POST- TEST DATA RETRIEVALS MAY BE UTILIZED TO DETERMINE NOT-PERFORMS FOR CUTOFF TIME, SITE, OR EVENT DEPENDENT ACTIONS.	

GLS SAFING ACTION	OMRS NO.	NP OPT REQD
-----	-----	----
1. STOP GROUND/VEHICLE CLOCKS	S00E00.940	
2. CMD DECODERS PWR ON	S00E00.980-1R	NP _____
3. UNLOCK SRB FWD MDMS	S00E00.930-1R	NP _____
4. SAFE SRB IGN S/A	S00E00.750-1	NP _____
5. TERM LO2 PREPRESS	S00E00.460	NP _____
6. GCU COOLING RECONFIG	S00E00.870-1R	NP _____
7. DISARM H2 BURN SYS	S00E00.B70	NP _____
8. INHIBIT SRB RSS	S00E00.760-1R	NP _____
9. UNLOCK SRB AFT MDMS	S00E00.950-1R	NP _____
10. SRB APU TURBINE OVERSPEED S/D C.L.	S00E00.720	NP _____
11. HPU SHUTDOWN SEQ	S00E00.721-A-1	NP _____
12. CLOSE LO2 POGO VALVES	S00E00.B85	NP _____
13. OPEN LO2 OVBD BLEED VLVS	S00E00.B90-1	NP _____
14. OPEN LO2 OVBD BLEED VLVS	S00E00.B85	NP _____
15. START MPS GN2 PURGE	S00E00.160-1	NP _____
16. INITIATE PURGE SEQ. 3	S00E00.150-1R	NP _____
17. MFV HTRS ON	S00E00.305	NP _____
18. SAFE SRB RSS S AND A	S00E00.751-1	NP _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
19.				S00E00.800-1R	NP_____
20.				S00E00.B80	NP_____
21.				S00E00.070-1	NP_____
22.				S00E00.B90-1	NP_____
23.				S00E00.B90-1	NP_____
24.				S00E00.205-1	NP_____
25.				S00E00.B60-1	NP_____
26.				S00E00.050	NP_____
27.				S00E00.790-1R	NP_____
28.				S00E00.B50-1	NP_____
29.				S00E00.810-1R	NP_____
30.				S00E00.820-1R	NP_____
31.				S00E00.830-1R	NP_____

- OMRSD S00E00.940-1 (SLPG2)
- OMRSD S00E00.980-1R (SLPG2)
- OMRSD S00E00.930-1R (SLPG2)
- OMRSD S00E00.750-1 (SLPG2)
- OMRSD S00E00.460 (SLPG2)
- OMRSD S00E00.870-1R (SLPG2)
- OMRSD S00E00.B70 (SLPG2)
- OMRSD S00E00.760-1R (SLPG2)
- OMRSD S00E00.950-1R (SLPG2)
- OMRSD S00E00.720 (SLPG2)
- OMRSD S00E00.721-A-1 (SLPG2,SLPA1)
- OMRSD S00E00.B85 (SLPG2)
- OMRSD S00E00.B90-1 (SLPG2)
- OMRSD S00E00.160-1 (SLPG2)
- OMRSD S00E00.150-1R (SLPG2)
- OMRSD S00E00.305 (SLPG2)
- OMRSD S00E00.751-1 (SLPG2)
- OMRSD S00E00.800-1R (SLPG2)
- OMRSD S00E00.B80 (SLPG2)
- OMRSD S00E00.070-1 (SLPG2)
- OMRSD S00E00.205-1 (SLPG2)
- OMRSD S00E00.B60-1 (SLPG2)
- OMRSD S00E00.050 (SLPG2)
- OMRSD S00E00.790-1R (SLPG2)
- OMRSD S00E00.B50-1 (SLPG2)
- OMRSD S00E00.810-1R (SLPG2)
- OMRSD S00E00.820-1R (SLPG2)
- OMRSD S00E00.830-1R (SLPG2)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
DPS RECYCLE -----					
NOTE					
LDB SWITCHING WILL OCCUR DURING CMD DECODER BSR READ.					
19-0045		CDPS		CRT (VAS59 PG B) LA1 ON LF1 ON LM1 ON (EDO MISSIONS ONLY)	
19-0046		CDPS		CURSOR CNTL (SAS01 PG B) DPS XMIT CURSOR KEY - PRESS  CURSOR CNTL (SAS01 PG B) MDM BSR READ PROGRAM (VAS93) XMIT CURSOR KEY - PRESS  PFK 2 KEY - PRESS	
NOTE					
POWER TRANSIENT BIT (BSR=X8000) MAY BE SET IN BSR IF COUNT WENT PAST T-10 SEC.					
19-0047		CDPS		CURSOR CNTL (VAS93 PG B) PORT 1 XMIT CURSOR KEY - PRESS  PFK 5 KEY - PRESS (FOLLOW PROGRAM PROMPTS)	
19-0048		CDPS		HOME CMD KEY - PRESS GPCC LDBC XMIT CMD KEY - PRESS  CURSOR CNTL (\$GM) POLL GSE ON LDB # 2 XMIT CURSOR KEY - PRESS  PFK 1 KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
19-0049		CDPS		CURSOR CNTL (VAS93 PG B) PORT 2 XMIT CURSOR KEY - PRESS  PFK 5 KEY - PRESS (FOLLOW PROGRAM PROMPTS)	
19-0050		CDPS		APPL PAGE (VAS93, PG-B) PFK 15 KEY - PRESS	
19-0051		CDPS		HOME CMD KEY - PRESS GPCC LDBC XMIT CMD KEY - PRESS  CURSOR CNTL (\$GM) POLL GSE ON LDB # 1 XMIT CURSOR KEY - PRESS  PFK 1 KEY - PRESS	
19-0052		CDPS		CRT (VAS59 PGB)  POLLING ACTIVE ON LDB1  NOTE  DO NOT PERFORM NEXT STEP IF SCRUB DECLARED.	
19-0053		CDPS		CURSOR CNTL (VASP9, PG-B) ACTIVATE LCC MONITORING XMIT CURSOR KEY - PRESS  PFK1 KEY - PRESS  NOT PERFORMED	
19-0054		CDPS		CONSOLE KYBD (VASJ6 PG B) PFK1 - PRESS (RECYCLE CPLT CONTINUE) PFK1 - PRESS (BSR CONTINUE) PFK1 - PRESS (NBAT CONTINUE)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
19-0055		CDPS		CONSOLE KYBD HOME CMD KEY - PRESS ISSU N72IV101D #B00B XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS HOME CMD KEY - PRESS C CO _DEU2G LDBA C11 XMIT CMD KEY - PRESS	
19-0056		CDPS	OTC	RECONFIGURE TO T-20 MINUTE CONFIGURATION COMPLETE.  ECLSS RECYCLE -----	
19-0057		CECL		CONSOLE KYBD SET V61K2711YL OFF XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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EPDC RECYCLE  
-----

NOTE

DO NOT PERFORM GROUND PIC  
RACK POWER UP UNLESS GLS  
POWERED PIC RACKS DOWN (AFTER  
T-21 SEC) AND ANOTHER LAUNCH  
ATTEMPT WILL BE MADE.

GROUND PIC RACK POWER UP  
-----

NOT PERFORMED \_\_\_\_\_

19-0058

CEPD CURSOR CNTL (VWC10)  
GND SYS - ON  
XMIT CURSOR KEY - PRESS

CRT (VWC10)

VERIFY

GND AND CPA VOLTAGES FOR H2 BURN  
AND LAUNCH RELEASE SYSTEMS ARE  
GREATER THAN 26 VDC.

19-0059

CEPD CRT (VWC10)

VERIFY

ALL SRB IGN, TSM, HDP LANYARD AND  
ETVAS PIC CAP VOLTS LESS THAN  
1.5 VDC.

GROUND PIC RACK POWER UP COMPLETE  
-----

19-0060

CEPD OTC RECYCLE TO T-20 MIN CONFIGURATION  
COMPLETE.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
FC/PRSD RECYCLE -----					
NOTE					
PERFORM NEXT TWO STEPS ONLY IF FUEL CELLS HAVE BEEN TRANSFERRED TO INTERNAL REACTANTS (T-02M35S) AND HOLD IS SUFFICIENT TO REQUIRE TRANSFER TO EXTERNAL REACTANTS.					
19-0061				CFCP TRANSFER TO EXTERNAL REACTANTS PER OMI V1040.003 ON OIS CH 153.	
				NOT PERFORMED	_____
19-0062				CFCP OTC TRANSFER TO EXTERNAL REACTANTS COMPLETE.	
				OMRSD S00E00.670	
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM PRSD CRYO HEATER  
ACTIVATION IF CUTOFF  
OCCURRED AFTER T-10 SECONDS.

PRSD CRYO HEATER ACTIVATION  
-----

NOT PERFORMED \_\_\_\_\_

NOTE

FOLLOWING STEPS REINITIATE  
TANK HTR LPS AUTO COMMANDS  
BY CYCLING OFF (TO RESET  
AUTO COMMAND PSEUDOS) THEN  
TO AUTO (ISSUING AUTO  
COMMANDS).

19-0063

CFCP CURSOR CNTL (VWR70, PG-B)

LH2 TK1 HTR CNTL

AB OFF BLK

XMIT CURSOR KEY - PRESS

EXEC CMD KEY - PRESS

CRT

VERIFY AUTO CYAN

CURSOR CNTL

AB AUT BLK

XMIT CURSOR KEY - PRESS

EXEC CMD KEY - PRESS

CRT

VERIFY AUT INV CYAN

CURSRR CNTL

LH2 TK2 HTR CNTL

AB OFF BLK

XMIT CURSOR KEY - PRESS

EXEC CMD KEY - PRESS

CRT

VERIFY AUTO CYAN

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
19-0063				CURSOR CNTL AB AUT BLK XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
CON'T				CRT VERIFY AUT INV CYAN	
NOTE					
PERFORM NEXT STEP ONLY IF TK3 INSTALLED.					
19-0064				CFCP CURSOR CNTL (VWR70, PG-B) LH2 TK3 HTR CNTL AB OFF BLK XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
				CRT VERIFY AUTO CYAN	
				CURSOR CNTL AB AUT BLK XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
				CRT VERIFY AUT INV CYAN	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP ONLY  
IF TK4 INSTALLED.

19-0065		CFCP		CURSOR CNTL (VWR70, PG-B) LH2 TK4 HTR CNTL AB OFF BLK XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
---------	--	------	--	--	--

CRT  
VERIFY AUTO CYAN

CURSOR CNTL  
AB AUT BLK  
XMIT CURSOR KEY - PRESS  
EXEC CMD KEY - PRESS

CRT  
VERIFY AUT INV CYAN

NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT STEP ONLY IF  
TK5 INSTALLED (EXCEPT OV-102).

19-0066		CFCP		CURSOR CNTL (VWR70, PG-B) LH2 TK5 HTR CNTL AB OFF BLK XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
---------	--	------	--	--	--

CRT  
VERIFY AUTO CYAN

CURSOR CNTL  
AB AUT BLK  
XMIT CURSOR KEY - PRESS  
EXEC CMD KEY - PRESS

CRT  
VERIFY AUT INV CYAN

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.	
19-0067		CFCP		CURSOR CNTL (VWR70, PG-B) LO2 TK1 HTR CNTL AB OFF BLK XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT VERIFY AUTO CYAN  CURSOR CNTL AB AUT BLK XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT VERIFY AUT INV CYAN  CURSOR CNTL LO2 TK2 HTR CNTL AB OFF BLK XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT VERIFY AUTO CYAN  CURSOR CNTL AB AUT BLK XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT VERIFY AUT INV CYAN		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP ONLY  
IF TK3 INSTALLED.

19-0068

CFCP CURSOR CNTL (VWR70, PG-B)

LO2 TK3 HTR CNTL

AB OFF BLK

XMIT CURSOR KEY - PRESS

EXEC CMD KEY - PRESS

CRT

VERIFY AUTO CYAN

CURSOR CNTL

AB AUT BLK

XMIT CURSOR KEY - PRESS

EXEC CMD KEY - PRESS

CRT

VERIFY AUT INV CYAN

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP ONLY  
IF TK4 INSTALLED.

IN NEXT STEP, "B" WILL NOT  
BE DISPLAYED FOR OV-102 FIVE  
TANK CONFIGURATION.

19-0069

CFCP CURSOR CNTL (VWR70, PG-B)  
LO2 TK4 HTR CNTL  
AB OFF BLK  
XMIT CURSOR KEY - PRESS  
EXEC CMD KEY - PRESS

CRT  
VERIFY AUTO CYAN

CURSOR CNTL  
AB AUT BLK  
XMIT CURSOR KEY - PRESS  
EXEC CMD KEY - PRESS

CRT  
VERIFY AUT INV CYAN

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT STEP ONLY  
IF TK5 INSTALLED.

IN NEXT STEP, "B" WILL NOT  
BE DISPLAYED FOR OV-102 FIVE  
TANK CONFIGURATION.

19-0070

CFCP CURSOR CNTL (VWR70, PG-B)  
LO2 TK5 HTR CNTL  
AB AUT BLK  
XMIT CURSOR KEY - PRESS  
EXEC CMD KEY - PRESS

CRT  
VERIFY AUTO CYAN

CURSOR CNTL  
AB AUT BLK  
XMIT CURSOR KEY - PRESS  
EXEC CMD KEY - PRESS

CRT  
VERIFY AUT INV CYAN

NOT PERFORMED

NOTE

PERFORM NEXT THREE STEPS  
TO REINITIATE TANK VAC-ION  
CMDS.

19-0071

CFCP CRT (VWR70, PG-B)

VERIFY TRANSFER TO EXTERNAL  
REACTANTS COMPLETE AND ALL TANK  
HTR EVENTS ARE OFF.

NOT PERFORMED

19-0072

CFCP CONSOLE KYBD

VARAI  
PERFORM PROGRAM KEY - PRESS  
VERIFY TANK HTR MONITOR PGM ACTIVE

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
NEXT STEP TERMINATES VARAI WITH BOTH HTR CONTROL LOGIC AND EMON NOTIFICATION INHIBITED.					
19-0073		CFCP		CONSOLE KYBD (VARAI) PFK1 KEY - PRESS 3 TIMES	
				NOT PERFORMED	_____
PRSD CRYO HEATER ACTIVATION COMPLETE -----					
19-0074		CFCP	OTC	RECYCLE TO T-20 MINUTES COMPLETE.  APU RECYCLE -----	
NOTE					
PERFORM NEXT TWO STEPS IF CUTOFF OCCURED AFTER APU START (T-5 MIN).					
19-0075		CAPU		PERFORM APU COOLDOWN PER S0007VL4 (SEQ 42). REPORT WHEN COMPLETE.	
				NOT PERFORMED	_____
19-0076		CAPU	OTC	APU COOLDOWN COMPLETE. APU RECONFIGURE TO T-20 MINUTE CONFIGURATION COMPLETE.	
				NOT PERFORMED	_____
ORBITER RECYCLE COMPLETE -----					
19-0077		OTC	NTD 232	ORBITER RECYCLE TO T-20 MINUTE CONFIGURATION COMPLETE.	



VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
20-0000				SRB RECYCLE	

NOTE

OPERATIONS INVOLVING CRIT 1,  
1R AND/OR 1S ITEMS ARE CONTAINED  
IN THE FOLLOWING SEQUENCE/STEPS.

THIS IS A CONTINGENCY SEQUENCE.  
PERFORM ONLY IF RECYCLE IS  
REQUIRED.

ENTIRE SEQUENCE NOT PERFORMED

20-0001           NTD   TBC   PERFORM SRB T-20 MINUTE RECYCLE  
                  232           ON OIS CH 136.

20-0002           CPWR   TBC   CRT (BWE08)  
                  136                   ALL PIC VOLTS 0 +/- 1.5 VDC  
                                  LH/RH IGN S&A SAFE

20-0003           CPWR   CURSOR CNTL (BWE01)  
                                  EMON OPTIONS  
                                  XMIT CURSOR KEY - PRESS

20-0004           CPWR   CURSOR CNTL (BKE03)  
                                  A ALL EMONS  
                                  XMIT CURSOR KEY - PRESS  
  
                  CRT  
                  VERIFY ALL EMONS ARE ACTIVE

20-0005           CPWR   PFP (BKE03)  
                                  PFK15 KEY - PRESS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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CAUTION

RSRM IGNITER TEMPERATURE  
 SENSORS SHALL NOT EXCEED  
 125 DEG F.

RSRM SEGMENT JOINT TEMPERATURE  
 SHALL NOT EXCEED 123 DEG F.

NOTE

PERFORM NEXT FOUR STEPS  
 ONLY IF SRB JOINT HEATERS  
 HAVE BEEN TURNED OFF.

DO NOT PERFORM NEXT FOUR  
 STEPS IF LAUNCH SCRUBBED  
 FOR 24 HOURS OR MORE.

20-0006		TBC		CPWR REACTIVATE SRB FIELD JOINT AND IGNITER HEATERS.	
					NOT PERFORMED _____
20-0007				CPWR CURSOR CNTL (BDE11) AUTO SEQUENCING - ALL XMIT CURSOR KEY - PRESS	
					NOT PERFORMED _____
20-0008				CPWR CRT (BDE11)  VERIFY  ALL HTR PWR INDICATIONS ON ALL AUTO SEQ ACT NO FAILURE MESSAGES DISPLAYED  OMRSD S00E00.740 OMRSD S00E00.742 OMRSD S00FA0.960 OMRSD S00FA0.970	
					NOT PERFORMED _____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
SRB DPS RECYCLE -----					
20-0016		TBC	CBDP	PERFORM SRB MDM RECYCLE.	
		136			

NOTE

LL1 AND LR1 ACTIVE PORT  
BSR WILL = X3000 IF COUNT  
WENT BELOW T - 55 SEC.  
LL2 AND LR2 ACTIVE PORT  
BSR WILL = X3000 IF COUNT  
WENT BELOW T-13 SEC.

IF GLS RECYCLE RESULTS IN  
UNLOCK CMD ISSUED TO AN EMDM  
THAT WAS NOT LOCKED, THE  
ACTIVE PORT BSR WILL = X1000.

20-0017			CBDP	CURSOR CNTL (SAS05 PG B) DPS XMIT CURSOR KEY - PRESS	
				CURSOR CNTL (SAS05 PG B) SRB MANUAL TEST SEL XMIT CURSOR KEY - PRESS	
				PFK2 KEY - PRESS	
20-0018			CBDP	CURSOR CNTL (BSM06 PG B) BSR READ PORT 1&2 XMIT CURSOR KEY - PRESS	
				CRT (BSM06 PG B) VERIFY BSR'S NOMINAL	
20-0019			CBDP	PFP (BSM06) PFPK5 (CONTINUE) - PRESS	
20-0020			CBDP	CURSOR CNTL (BSM06 PG B) LOCK STATUS TEST XMIT CURSOR KEY - PRESS	
				VERIFY ALL MDMS UNLOCKED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
20-0021				CBDP APPL PAGE (BSM06 PG-B) PFK-5 - PRESS	
20-0022				CBDP PFP (BSM06) PFPK1 (TERMINATE) - PRESS	
20-0023		CBDP TBC 136		SRB MDM RECYCLE COMPLETE.	
NOTE					
PERFORM NEXT STEP IF SRB AFT SKIRT GN2 PURGE IS ON AND THERMAL CONDITIONING IS NOT REQUIRED.					
20-0024		TBC 136	CBHY	TERMINATE SRB AFT SKIRT GN2 PURGE. REPORT COMPLETION.	
			CBHY	CURSOR CNTL (BAT04) SRB AFT SKIRT GN2 PURGE (HEATER) CMD - OF (VALVING) (MAIN) PRI - CL SEC - CL LOW PRI - CL SEC - CL DC PWR PRI - OF SEC - OF	
				CRT (BAT04)  SRB AFT SKIRT GN2 PURGE PURGE OFF	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT TWO STEPS IF  
THERMAL CONDITIONING IS  
REQUIRED.

20-0025		TBC	CBHY	CONFIGURE SRB AFT SKIRT GN2 PURGE TO LOW FLOW RATE. REPORT COMPLETION.	
---------	--	-----	------	--	--

NOT PERFORMED \_\_\_\_\_

20-0026			CBHY	CURSOR CNTL (BAT04) SRB AFT SKIRT GN2 PURGE (VALVING) (LOW) PRI - OP SEC - OP (MAIN) PRI - CL SEC - CL (HEATER) CMD - ON	
---------	--	--	------	--	--

CRT  
SRB AFT SKIRT GN2 PURGE  
(TEMPERATURE/PRESSURE)  
PRG  
ON

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM SRB APU N2H4 MANIFOLD REFILL AND BEARING SOAK IF ANY SRB APU HOTFIRE OCCURRED IN S0007, AND IF SAME DAY LAUNCH RECYCLE TO T-20 MINUTES IS IN WORK.

SRB APU N2H4 MANIFOLD REFILL AND  
-----  
BEARING SOAK  
-----

NOT PERFORMED \_\_\_\_\_

NOTE

DO NOT REMOVE SRB OI POWER UNTIL SRB APU N2H4 MANIFOLD REFILL IS COMPLETE.

DURING FIV CYCLES GAS GENERATOR BED TEMPERATURES SHALL BE MONITORED FOR ANY RISE IN TEMPERATURE. (SHALL NOT INCREASE MORE THAN 20 DEGREES)

NOTED OMRS REQUIREMENTS SATISFIED BY COMPLETION OF NEXT 11 STEPS.

OMRS S00E00.721-B

20-0027		TBC	CBHY	PERFORM N2H4 MANIFOLD REFILL AND BEARING SOAK.	
---------	--	-----	------	--	--

20-0028		TBC	CBHY	CRT (BAT04)	
---------	--	-----	------	-------------	--

136

VERIFY

VEHICLE  
GAS GENRTR  
TEMP

LEFT A (LESS THAN 220 DEG F)  
LEFT B (LESS THAN 220 DEG F)  
RIGHT A (LESS THAN 220 DEG F)  
RIGHT B (LESS THAN 220 DEG F)



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
20-0029		CBHY	CRT (BAT04)	READ AND RECORD (STARTING TEMPERATURES)	
				VEHICLE GAS GENRTR TEMP	
				RECORD:	
				LEFT A _____ BD (ROCK)	
				LEFT B _____ BD (TILT)	
				RIGHT A _____ BD (ROCK)	
				RIGHT B _____ BD (TILT)	
20-0030		CBHY	CURSOR CNTL (BAT04)	VEHICLE UPDT (BLOCK) XMIT CURSOR KEY - PRESS	
				NOTE DISCRETE DATA UPDATE	
20-0031		CBHY	CRT (BAT04)	VEHICLE FUEL SUPPLY MODULE	
				SEC VLV LEFT A (CL) GREEN	
				CURSOR CNTL ISO VLV LEFT A - OP WAIT 10 SEC MINIMUM THEN LEFT A - CL	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
20-0032			CBHY CRT (BAT04)	VEHICLE FUEL SUPPLY MODULE	
				SEC VLV LEFT B (CL) GREEN	
				CURSOR CNTL ISO VLV LEFT B - OP WAIT 10 SEC MINIMUM, THEN LEFT B - CL	
20-0033			CBHY CRT (BAT04)	VEHICLE FUEL SUPPLY MODULE	
				SEC VLV RIGHT A (CL) GREEN	
				CURSOR CNTL ISO VLV RIGHT A - OP WAIT 10 SEC MINIMUM, THEN RIGHT A - CL	
20-0034			CBHY CRT (BAT04)	VEHICLE FUEL SUPPLY MODULE	
				SEC VLV RIGHT B (CL) GREEN	
				CURSOR CNTL ISO VLV RIGHT B - OP WAIT 10 SEC MINIMUM, THEN RIGHT B - CL	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
20-0035		CBHY	CRT (BAT04)	READ AND RECORD (ENDING TEMPERATURES)  VEHICLE GAS GENRTR TEMP  RECORD:  LEFT A _____ BD (ROCK)  LEFT B _____ BD (TILT)  RIGHT A _____ BD (ROCK)  RIGHT B _____ BD (TILT)	
20-0036		CBHY	VERIFY	VERIFY ENDING TEMPERATURES DID NOT INCREASE MORE THAN 20 DEGREES FROM STARTING TEMPERATURES FOR LEFT ROCK, LEFT TILT, RIGHT ROCK, RIGHT TILT.	
20-0037		CBHY	TBC	N2H4 MANIFOLD REFILL AND BEARING SOAK COMPLETE.	
20-0038				COMPLETION OF PREVIOUS 11 STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD S00E00.721-B-1	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT THREE STEPS  
 IF ANY SRB APU HOTFIRE  
 OCCURRED IN S0007 AND IF  
 SAME DAY LAUNCH RECYCLE  
 TO T-20 MINUTES IS IN WORK.

20-0039		TBC 136	CBHY	PERFORM SRB HPU GAS GENERATOR HEATER POWER ON.	
---------	--	------------	------	---	--

NOT PERFORMED \_\_\_\_\_

20-0040			CBHY	CURSOR CNTL (BAT04) VEHICLE GAS GENRTR AUT (BLOCK) XMIT CURSOR KEY - PRESS	
---------	--	--	------	--	--

NOT PERFORMED \_\_\_\_\_

20-0041		CBHY 111	TBC	SRB HPU GAS GENERATOR HEATER POWER ON.	
---------	--	-------------	-----	---	--

NOT PERFORMED \_\_\_\_\_

SRB APU N2H4 MANIFOLD REFILL  
 -----  
 AND BEARING SOAK COMPLETE  
 -----

SRB RECYCLE COMPLETE  
 -----

20-0042		TBC	NTD	SRB RECYCLE TO T-20 MINUTES COMPLETE.	
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VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
21-0000				ET RECYCLE -----	
NOTE					
THIS IS A CONTINGENCY SEQUENCE. PERFORM ONLY IF RECYCLE IS REQUIRED.					
ENTIRE SEQUENCE NOT PERFORMED _____					
21-0001		CLHY CLHF		MONITOR GH2 LEAKAGE IN FOLLOWING PLACES (GAW02):	
				LD23 - ET GND UMB CAR PL, LESS THAN 44,000 PPM	GLHR7047A
				LD25 - ET GND UMB CAR PL, LESS THAN 44,000 PPM	GLHR7049A
				LD28 - T-0 UMB LH2 TSM, LESS THAN 44,000 PPM	GLHR7057A
				LD32 - T-0 UMB LH2 TSM, LESS THAN 44,000 PPM	GLHR7067A
				LD56 - LH2 FILL IN PRG BOX, LESS THAN 44,000 PPM	GLHR7078A
				LD57 - LH2 FILL IN PRG BOX, LESS THAN 44,000 PPM	GLHR7079A
				LD29 - LH2 TSM, BOTTOM, LESS THAN 10,000 PPM	GLHR7058A
				LD30 - LH2 TSM, TOP, LESS THAN 10,000 PPM	GLHR7059A
OMRSD S00E00.012-1					
21-0002		TBC 136		CMEC IF NOT EXTENDED, EXTEND GVA AND CONFIGURE TO SUPPORT PER OMI G2158. REPORT COMPLETE.	
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT FOUR STEPS IF  
 SUBSEQUENT TERMINAL COUNTDOWN  
 RUNS WILL BE PERFORMED (NO  
 SCRUB DECLARED).

21-0003		CLHY TBC		RECOVERY FROM TERMINAL COUNT TO REPLENISH COMPLETE.  OMRSD S00E00.490-1 OMRSD S00E00.540-1	
				NOT PERFORMED	_____
21-0004		CLHY TBC 136		LH2 AT FLIGHT LEVEL.	
				NOT PERFORMED	_____
21-0005		CLOX TBC		LOX AT FLIGHT LEVEL PER S1003.	
				NOT PERFORMED	_____
21-0006		TBC 212	NTD	ET LOX AND LH2 AT FLIGHT LEVEL. ET READY TO RESUME COUNT AT T-20 MIN. ET RECYCLE COMPLETE.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF A  
SCRUB HAS BEEN DECLARED (NO  
SUBSEQUENT TERMINAL COUNTDOWN  
RUNS WILL BE PERFORMED).

LOX TANKING OMRS BUY-OFF TABLE

21-0007

CLOX COMPLETION OF ET LOX TANKING FROM  
LOX/MPS PRELIMINARIES THROUGH T-10  
SECONDS SATISFIES THE NOTED OMRS  
REQUIREMENTS. DETAILS OF LOX  
TANKING ARE SPECIFIED IN S1003.

- OMRSD S00FB0.090-A-1
- OMRSD S00FB0.300-1
- OMRSD S00FB0.310-1
- OMRSD S00FB0.320-1
- OMRSD S00FB0.340-1
- OMRSD S00FC0.080-1
- OMRSD S00FC0.100-1
- OMRSD S00FC0.120-1
- OMRSD S00FD0.062-1
- OMRSD S00FD0.073-1
- OMRSD S00FD0.094-1
- OMRSD S00FD0.095-A
- OMRSD S00FD0.121-A-1R
- OMRSD S00FF0.101-1
- OMRSD S00FF0.145-1
- OMRSD S00FM0.043-1
- OMRSD S00FM0.050-1
- OMRSD S00FM0.060-1
- OMRSD S00FM0.321-1
- OMRSD S00FM0.330
- OMRSD S00FM0.342-1
- OMRSD S00FM0.440-1

NOT PERFORMED \_\_\_\_\_



VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
22-0000				SUPPORT RECYCLE	

NOTE

THIS IS A CONTINGENCY SEQUENCE.  
 PERFORM ONLY IF RECYCLE IS  
 REQUIRED.

ENTIRE SEQUENCE NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT TWO STEPS IF  
 LAUNCH COOLING SPRAYS ARE  
 ACTIVATED.

22-0001		STM 111	JBFX	SECURE FIREX WATER LAUNCH COOLING SPRAYS OF FSS AND MLP.	WSSA
---------	--	------------	------	---	------

NOT PERFORMED \_\_\_\_\_

22-0002		JBFX 111 STM 212	STM NTD	ALL FIREX WATER LAUNCH COOLING SPRAYS SECURED.	WSSA
---------	--	---------------------------	------------	---	------

NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT TWO STEPS  
 IF FIREX PUMP(S) RUNNING.

22-0003		NTD 232 STM 111	STM JBFX	STOP P1 FIREX PUMP(S).	WSSA
---------	--	--------------------------	-------------	------------------------	------

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
22-0004		JBFX 111 STM 232	STM NTD	ALL FIREX PUMPS HAVE STOPPED.  NOT PERFORMED	WSSA  _____
NOTE					
PERFORM NEXT STEP IF COUNT WENT PAST T-5 MIN.					
22-0005		STM 111	JBAC	SECURE COOLING TOWER SPRAY SYSTEM.  NOT PERFORMED	HVAA  _____
NOTE					
DO NOT PERFORM NEXT STEP IF LAUNCH RECYCLE OCCURS BEFORE T-00M08S.					
22-0006				CPDR ACTIVATE BULK DISC RECORDING. PDR INFOTON KYBD #INRC,D RTN KEY - PRESS  NOT PERFORMED	     _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM FIRST SUBSTEP IF RECORDERS WERE STARTED.					
22-0007		STM	JCFM	PERFORM FOLLOWING:	
		111			
			1.	STOP FACILITY INSTR PMS RECORDERS.	
				NOT PERFORMED	SS1
NOTE					
PERFORM SUBSTEP 2 IF SUBSEQUENT TERMINAL COUNTDOWN RUNS WILL BE PERFORMED. (NO SCRUB DECLARED).					
			2.	RELOAD FACILITY INSTR PMS RECORDERS.	
				NOT PERFORMED	SS2
22-0008			JRPS	STOP ALL DISPLAY RECORDERS.	
22-0009		EEC	JYVR	STOP VIDEO RECORDING OF OTV CAMERA 080.	COMM
		138			
22-0010		LPS	CLDB	CONFIGURE LDBM SUBSYSTEM RECORDING LDB BUS 1 AND BUS 2 IN REJECT MODE.	
				VERIFY LDBM RECORDING IN DUAL-REJECT.	
22-0011			LPS	CANCEL PENDING FOR ALL FEPS.	
22-0012		LPS	C1MC	CONSOLE KYBD CURSOR CNTL (AWP01 PG-B) TO T-20M RECYCLE TARGET XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
22-0013		LPS		VERIFY FEP PENDING CANCELLED FOR FOLLOWING FEPS: GPCA OIA ME1 ME2 ME3	
22-0014		LPS	C1MC	AWP01 PG B CANCEL SOURCE 2, 192KB, HIGH RATE VOICE YES PENDING IN PLDA FEP	
NOTE					
PERFORM NEXT STEP AFTER CDT ON CRT DISPLAY HOLDING AT T-20 MINUTE.					
22-0015		LPS		CONSOLE KYBD CURSOR CNTL (AWP01 PG-B) TO RESUME TARGET XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
22-0016			LPS	IF INHIBITED AT L-15M, ACTIVATE FOLLOWING HIM ON GROUND DATA BUS 4A/24A FOR POLLING BY GS1A FEP:	
				6880            056            056	
				NOT PERFORMED	_____
22-0017		JRPS 127 LPS 111	LPS STM	RECYCLE TO T-20 MINUTE CONFIGURATION COMPLETE.	
				SOUND SUPPRESSION SYSTEM ----- RECONFIGURATION OPERATIONS -----	
				NOTE	
				PERFORM NEXT TWO STEPS IF SOUND SUPPRESSION CONTROL WAS TRANSFERRED FROM FR TO CCC.	
22-0018		STM 111	JBWC	VERIFY SS CONTROL TRANSFER - FR TO CCC - COMPLETE AS FOLLOWS:	WSSA
				CRT (P2A OR P2B)	
				VERIFY SS CCC ENABLE ON (GREEN) SS CCC - ON/FR - OFF ON (GREEN) SS FR ENABLE OFF (YELLOW) SS FR - ON/CCC - OFF OFF (YELLOW)	
				NOT PERFORMED	_____
22-0019		JBWC 111	STM	CCC HAS SS SYSTEM CONTROL.	WSSA
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT TWO  
 STEPS IF SS ELEVATED TANK  
 HAS DRAINED OR IF NO CMDS  
 WERE ISSUED.

22-0020		STM	JBWC	RECONFIGURE SOUND SUPPRESSION SYSTEM PER OMI M3189.001.	WSSA
---------	--	-----	------	--	------

NOT PERFORMED \_\_\_\_\_

22-0021		JBWC	STM	SOUND SUPPRESSION RECONFIGURATION COMPLETE.	WSSA
---------	--	------	-----	--	------

NOT PERFORMED \_\_\_\_\_

NOTE

DO NOT PERFORM NEXT STEP  
 IF C/O OCCURRED PRIOR  
 TO T-16 SECONDS (PRIOR  
 TO PRE L/O VALVES OPEN)  
 OR IF A 24 HR OR LONGER  
 SCRUB/TURNAROUND IS TO  
 FOLLOW.

22-0022		NTD	STM	VERIFY SS OPEN COMMAND LOCKOUT ON. REFILL SS WATER TANK	WSSA
		STM	JBWC	PER OMI M3189.001 (1 HR 30 MIN).	
				111	

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM TRANSFER CONTROL OF  
 SOUND SUPPRESSION SYSTEM -  
 CCC TO FR IF SOUND SUPPRESSION  
 CONTROL WAS TRANSFERED TO THE  
 CCC AND IS TO BE RETURNED TO  
 THE FIRING ROOM. CONTROL  
 TRANSFER MAY BE PERFORMED  
 IN CONJUNCTION WITH  
 ELEVATED TANK FILL.

TRANSFER CONTROL OF SOUND SUPPRESSION  
 -----  
 SYSTEM -CCC TO FR  
 -----

NOT PERFORMED

22-0023		STM 111	JBWC	VERIFY SOUND SUPPRESSION WATER SYSTEM HAS BEEN CONFIGURED TO SUPPORT.	WSSA
22-0024		STM 232 NTD OTC 132	NTD OTC CGSS	CCC READY TO TRANSFER CONTROL OF SS WATER TO FR. REQUEST CGSS CONTACT JBWC ON CH 123.	
22-0025		STM 111	JBWC	TRANSFER CONTROL OF SS WATER SYSTEM TO FR CONTROL.	WSSA
22-0026		JBWC 123	CGSS	VERIFY READY FOR CONTROL TRANSFER.	WSSA



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
22-0027				CGSS CURSOR CNTL (VAJ14) VAJ12 - ON VERIFY	
				1. VERIFY TANK LVL GREATER THAN OR EQUAL TO 258.2 FT	
				2. GN2 PRESS PT 1 GREATER THAN 1200 PSI, LESS THAN 1700 PSI PT 2 GREATER THAN 1200 PSI, LESS THAN 1700 PSI	
					CMD MEAS --- ----
				3. CCC LOCKOUT ON	- - X -
				4. CCC ENABLE CMD OFF	- - X -
				5. CCC ENABLED IND ON	- - X -
				6. FR ENABLED IND OFF	- - - -
				7. SS SOL PWR BUS ON CMD OFF	- - X X
				8. SS SOL PWR BUS OFF CMD OFF	- - - -
				9. SS FR CMD BUS PWR ON CMD OFF	- - - -
				10. PRE L/O VENT VLV OPEN CMD OFF	- - - -
				11. PRE L/O VLVS OPEN CMD IND OFF	- - - -
				12. PRE L/O VLVS CLOSE CMD IND ON	- - X -
				13. POST L/O VENT VLV OPEN CMD OFF	- - - -
				14. POST L/O VLVS OPEN CMD IND OFF	- - - -

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
22-0027 CON'T			15.	POST L/O VLVS OPEN CMD IND	ON - - X -
			16.	VV5,6,7,8,9,10 GRAPHIC BLOCKS - SOLID GREEN	
			17.	PREV25,26,27 AND POST V28,29,30 BLOCKS - SOLID GREEN	
			18.	STATUS ARROW - CYCLING	

22-0028		CGSS JBWC		READY FOR TRANSFER OF SOUND SUPPRESSION CONTROL TO FIRING ROOM.	WSSA
22-0029		JBWC CGSS 123		STAND BY FOR CONTROL TRANSFER.	WSSA

NOTE

CCC WILL TRANSFER CONTROL OF  
 SOUND SUPPRESSION SYSTEM TO  
 FIRING ROOM BY PERFORMING  
 NEXT STEP.

22-0030		JBWC		CRT (P2A OR P2B) VERIFY	WSSA
				INDICATOR	STATE
				-----	-----
				SS CCC ENABLE	ON(GREEN)
				SS CCC-ON/FR-OFF	ON(GREEN)
				SS FR ENABLE	OFF(YELLOW)
				SS FR-ON/CCC-OFF	OFF(YELLOW)
				CURSOR CONTL	
				CURSOR TO "C" OF	
				"SS FR ON/CCC - OFF"	
				XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
22-0030				PFP "PAD A" (NO. 1) OR "PAD B" KEY (NO. 2) - PRESS  "TURN ON" KEY (NO. 1) - PRESS  CONSOLE KYBD EXEC CMD KEY - PRESS  CRT (P2A) OR (P2B) VERIFY  INDICATOR                      STATE -----                              -----  SS    CCC ENABLE                      OFF (YELLOW) SS    CCC-ON/FR-OFF                      OFF (YELLOW) SS    FR ENABLE                              ON (GREEN) SS    FR-ON/CCC-OFF                      ON (GREEN)	
22-0031		JBWC 123 JBWC STM 111	CGSS	SOUND SUPPRESSION SYS TRANSFERED TO FR CONTROL. PROCEED WITH FR VERIFICATION.	WSSA
22-0032			CGSS	VERIFY SS CONTROL TRANSFER COMPLETE BY OBSERVING VAJ14 SKELETON STATUS AS FOLLOWS:  CONTROL CCC OFF FR ON	
22-0033		CGLS 132 OTC NTD 232	OTC	TRANSFER OF SS SYS CCC TO FR COMPLETE.  TRANSFER OF SOUND SUPPRESSION ----- SYSTEM - CCC TO FR COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
SUPPORT RECYCLE COMPLETE					
-----					
22-0034		STM	NTD	SUPPORT RECYCLE TO T-20 MINUTE	
		232		CONFIGURATION COMPLETE.	

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
23-0000				MCCH RECYCLE	

NOTE

THIS IS A CONTINGENCY SEQUENCE.  
PERFORM ONLY IF RECYCLE IS  
REQUIRED AND COUNTDOWN HAS  
PROGRESSED PAST T-9 MINUTES.

ENTIRE SEQUENCE NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT STEP IF BFS  
SPC LOAD HAS OCCURRED AND  
GPC-5 MODE SWITCH NOT IN  
HALT.

23-0001				*FLT XMIT BFS SPC BUFFER CLEAR (1000010)	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM REMAINDER OF SEQUENCE  
IF RECORDERS ARE RUNNING  
(AFTER T-09M00S).

STOP OEX/MADS RECORDERS  
-----

NOTE

THIS STEP MAY BE PERFORMED  
IN PARALLEL WITH THOSE FOR  
PAYLOAD, OPS1 AND OPS2  
RECORDERS RECYCLE STEPS.

PERFORM NEXT SUBSTEP FOR  
OV-103, OV-104 AND OV-105  
ONLY.

23-0002

\*FL PERFORM FOLLOWING:

1. XMIT DSM 4618  
(MADS RCDR PWR ON)  
XMIT DSM 4600  
(MADS SYSTEM OFF)  
VERIFY TAPE MOTION STOPPED  
XMIT DSM 4619  
(MADS RCDR PWR OFF)

NOT PERFORMED

SS1

NOTE

PERFORM NEXT SUBSTEP FOR  
OV-102 ONLY.

2. XMIT DSM 5766  
(SCM ALL STOP)

XMIT DSM 5736  
(SCM ENTER)

NOT PERFORMED

SS2

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
23-0003		CISL	CRT (SAQ04)	VERIFY TAPE MOTION OFF ON MADS/OEX RECORDER.  OMRSD S00E00.811	NOT PERFORMED
23-0004		CISL	JRPS	MADS REALTIME RECORDING NO LONGER REQUIRED.  OI RECORDER RECYCLE TO T-20 MINUTES	NOT PERFORMED

NOTE

PERFORM NEXT NINE STEPS IF THIS SEQUENCE IS BEING EXECUTED IN SUPPORT OF A RECYCLE TO T-20 MINUTES.

23-0005		*FLT		PERFORM FOLLOWING:  1. TRANSMIT DSM 4351 (OPS 1 STOP)  2. TRANSMIT DSM 4451 (OPS 2 STOP)	NOT PERFORMED
23-0006		CISL	CRT (SAQ04/SWQ01)	VERIFY OPS 1 MOTION OFF OPS 2 MOTION OFF  OMRSD S00E00.970	NOT PERFORMED
23-0007		*FLT		TRANSMIT DSM 4341 (OPS 1 ERASE) (ERASE TIME 12-16 MIN)	NOT PERFORMED



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PAYLOAD RECORDER OPERATIONS FOR A RECYCLE TO T-20 MINUTES TURNAROUND ARE MISSION DEPENDENT. RECORDING MAY BE REQUIRED DURING THE RECYCLE.					
23-0008			*FLT	TRANSMIT DSM 4551 (PL RECORDER STOP)	
				NOT PERFORMED	_____
23-0009			CISL	CRT (SAQ04/SWQ01) VERIFY PL RECORDER MOTION OFF  OMRSD S00E00.975	
				NOT PERFORMED	_____
23-0010			*FLT	CISL VERIFY OPS 1 ERASE COMPLETE.	
				NOT PERFORMED	_____
23-0011			*FLT	TRANSMIT DSM 4351 (OPS 1 STOP)	
				NOT PERFORMED	_____
23-0012			*FLT	CISL RECORDER RECYCLE TO T-20 MINUTES COMPLETE.	
				NOT PERFORMED	_____
				MCCH RECYCLE COMPLETE -----	
23-0013			*FLT	NTD MCCH RECYCLE TO T-20 MINUTES COMPLETE.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM PAYLOAD RECORDER  
DATA PLAYBACK IF PAYLOAD  
RECORDER IS PRESENT AND  
THERE IS A REQUIREMENT TO  
DUMP DATA FROM THE PAYLOAD  
RECORDER FOLLOWING A SCRUB.

PAYLOAD RECORDER DATA PLAYBACK  
MAY BE PERFORMED IN PARALLEL  
WITH THOSE FOR MADS AND OPS 1.

PAYLOAD RECORDER DATA PLAYBACK  
-----

NOT PERFORMED \_\_\_\_\_

- |         |  |      |      |   |  |
|---------|--|------|------|---|--|
| 23-0014 |  | *FLT | CISL | PAYLOAD RECORDER SCRUB PLAYBACK WILL BE PERFORMED ON CHANNEL 155.   |  |
| 23-0015 |  | *FLT | *MIL | CONFIGURE TO RECEIVE PAYLOAD RECORDER PLAYBACK FROM _____ (PAYLOAD OR EXPERIMENT) AND REPORT COMPLETION.  |  |
| 23-0016 |  | *FLT | JRPS | CONFIGURE TO RECEIVE PAYLOAD RECORDER PLAYBACK ON RF LINE 6TVM1729 OR 6TVM4650 AND HARDLINE. SET UP DECOM FOR _____ (PAYLOAD OR EXPERIMENT) DATA AT _____KB. REPORT COMPLETION. |  |
| 23-0017 |  | *FLT | CCSE | VERIFY READY FOR TERMINATION OF FM  |  |
|         |  | *MIL |      | TRANSMISSION OF MAIN ENGINE DATA.   |  |
| 23-0018 |  | *FLT |      | PERFORM FOLLOWING:  |  |
|         |  |      |      | 1. TRANSMIT DSM 4786<br>(FM SOURCE - PL RECORDER)   |  |
|         |  |      |      | 2. TRANSMIT DSM 4551<br>(PAYLOAD RCDR STOP)   |  |
| 23-0019 |  |      | CISL | CRT (SAQ04/SWQ01)<br>VERIFY PL RCDR MOTION OFF  |  |

OMRSD S00E00.975

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

THE NEXT FIVE STEPS MAY BE REPERFORMED AS NECESSARY TO FACILITATE AN ACCEPTABLE PAYLOAD RECORDER PLAYBACK.

- 23-0020 \*FLT \*MIL START GROUND RECORDERS. STANDBY FOR PAYLOAD RECORDER DATA FOR \_\_\_\_\_ (PAYLOAD OR EXPERIMENT). MONITOR DATA QUALITY FOR DROPOUTS.
- 23-0021 \*FLT JRPS START GROUND RECORDERS FOR PAYLOAD RECORDER PLAYBACK ON RF AND HARDLINE.
- 23-0022 \*FLT TRANSMIT DSM 45XX (PAYLOAD RCDR TRACK SELECT) (XX = TRACK DESIRED)  
  
TRANSMIT DSM 4529 (PL RCDR SPEED 4 SELECT)  
  
TRANSMIT DSM 4517 (PL RECORDER RCDR PLAYBACK SERIAL)
- 23-0023 \*FLT ADVISE MILA OF ANY EXPECTED MODULATION DROPOUTS (I.E. TRACK CHANGES).

NOTE

WAIT FOR BOT, MOTION OFF BEFORE PROCEEDING.

- 23-0024 \*FLT TRANSMIT DSM 4551 (PL RCDR - STOP)
- 23-0025 \*FLT \*MIL END OF PL RECORDER DATA PLAYBACK. JRPS STOP RECORDERS.
- 23-0026 \*FLT \*MIL REPORT OVERALL DUMP QUALITY.
- 23-0027 \*FLT BASED ON MILA QUALITY REPORT DETERMINE IF A REDUMP OF DATA WILL BE REQUIRED.
- 23-0028 \*FLT CISL PL RECORDER DUMP ACCEPTABLE. PROCEED WITH ERASE.
- 23-0029 \*FLT \*MIL HOUSTON DFE WILL ARRANGE FOR PLAYBACK OF DATA TO MCCH.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF PLAYBACK  
OF OPS 2 RECORDER WILL NOT BE  
PERFORMED.

23-0030

\*FLT TRANSMIT DSM4785  
(FM SOURCE - MAIN ENGINE)

23-0031

\*FLT CISL PAYLOAD RECORDER DUMP IS COMPLETE.  
CCSE  
\*MIL  
JRPS

PAYLOAD RECORDER DATA PLAYBACK  
-----  
COMPLETE  
-----

NOTE

PERFORMANCE OF OPS RECORDER  
SCRUB PLABACK IS CONTINGENT  
UPON OPS 2 RECORDER ACTIVATION.

DO NOT PROCEED WITH OPS 2  
RECORDER SCRUB PLAYBACK UNTIL  
AFTER LAST CREW MEMBER  
LEAVES COMM. THESE STEPS MAY  
BE PERFORMED IN PARALLEL  
WITH THOSE FOR MADS AND OPS 1.

OPS 2 RECORDER SCRUB PLAYBACK  
-----

NOT PERFORMED \_\_\_\_\_

23-0032

\*FLT CISL OPS 2 RECORDER SCRUB PLAYBACK WILL  
BE PERFORMED ON CHANNEL \_\_\_\_.

23-0033

\*FLT \*MIL CONFIGURE TO RECEIVE 960 REVERSE  
DUMP AND REPORT COMPLETION.

23-0034

\*FLT JRPS CONFIGURE TO RECEIVE OPS 2 RECORDER  
PLAYBACK ON RF AND HARDLINE. REPORT  
COMPLETION.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
23-0035		*FLT	CCSE	VERIFY READY FOR TERMINATION OF FM TRANSMISSION OF MAIN ENGINE DATA. (MAY HAVE BEEN PREVIOUSLY TERMINATED DUE TO PL RECORDER DUMP.)	
23-0036		*FLT		PERFORM FOLLOWING:  1. TRANSMIT DSM 4784 (FM SOURCE - OPS RECORDER)  *FLT 2. TRANSMIT DSM 4451 (OPS 2 RCDR STOP)  3. VERIFY OPS 2 RCDR MOTION - STOP	
NOTE					
THE NEXT FIVE STEPS MAY BE REPERFORMED AS NECESSARY TO FACILITATE AN ACCEPTABLE OPS 2 RECORDER PLAYBACK.					
23-0037		*FLT	*MIL	START GROUND RECORDERS. STANDBY FOR OPS 2 RECORDER PLAYBACK. CONFIRM LOCK ON 960 REVERSE DATA AND MONITOR DATA QUALITY FOR DROPOUTS.	
23-0038		*FLT	JRPS	START RECORDERS FOR OPS 2 RECORDER PLAYBACK ON RF AND HARDLINE.	
23-0039		*FLT		TRANSMIT DSM 44XX (OPS 2 RCDR TRACK SELECT) (XX = TRACK DESIRED)  TRANSMIT DSM 4427 (OPS 2 RCDR SPEED SELECT 120 IPS)  TRANSMIT DSM 4417 (OPS 2 RCDR PLAYBACK SERIAL)	
23-0040		*FLT		ADVISE MILA OF ANY EXPECTED MODULATION DROPOUTS (I.E. TRACK CHANGES)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

WAIT FOR BOT, TRACK 1, MOTION  
OFF BEFORE PROCEEDING.

23-0041				*FLT TRANSMIT DSM 4451 (OPS RCDR - STOP)	
23-0042				*FLT JRPS END OF OPS 2 RECORDER DATA PLAYBACK. STOP RECORDERS.	
23-0043				*FLT BASED ON MILA QUALITY REPORT DETERMINE IF REDUMP OF DATA WILL BE REQUIRED.	
23-0044				*FLT CISL OPS 2 RECORDER DUMP ACCEPTABLE. PROCEED WITH ERASE.	
23-0045				*FLT TRANSMIT DSM4785 (FM SOURCE - MAIN ENGINE)	
23-0046				*FLT CISL OPS 2 RECORDER DUMP IS COMPLETE. CCSE *MIL JRPS  MCCH RECYCLE COMPLETE -----	
23-0047				*FLT NTD MCCH RECYCLE COMPLETE.	

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
24-000				PAYLOAD IUS RECYCLE -----  NOTE  PERFORM NEXT FIVE STEPS FOR IUS MISSION (STS-93).  PERFORM NEXT FIVE STEPS IF IUS HAS PROGRESSED PAST L-11 MIN. MARK (NAV FLIGHT CMD ISSUED) AND IF LAUNCH HOLD WILL LAST MORE THAN 60 MINUTES PAST INITIAL T-0 TIME.  IUS RECYCLE TO T-20 MIN. TAKES APPROXIMATELY 20 MIN.	
24-001		PTC 134	ICTC	PERFORM IUS RECYCLE TO T-20 MIN. PER DOP D290-50020-27.  NOT PERFORMED	_____
24-002		PTC 212	NTD	REQUEST NEW T-0 GMT.  T-0 = _____ GMT  NOT PERFORMED	_____
24-003		PTC 134	ICTC	NEW T-0 IS _____ GMT.  NOT PERFORMED	_____
24-004		ICTC 134	PTC	IUS RECYCLE COMPLETE. READY TO RESUME COUNT AT T-20 MINUTES.  OMRS P018JD.015  NOT PERFORMED	_____
24-005		PTC 212	NTD	IUS READY TO RESUME COUNT AT T-20 MINUTES.  NOT PERFORMED	_____



VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
25-000				RESERVED	

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
26-000				RESERVED	

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
27-000				LATE CABIN VENT CONTINGENCY OPTION	
NOTE					
PERFORM THIS SEQUENCE ONLY IF ESTIMATE FOR COMPLETION OF CABIN VENTING IS LATER THAN L-17 MINUTES.					
ENTIRE SEQUENCE NOT PERFORMED					
27-001		NTD 232 OTC 212	OTC CPVD	IF PURGE FLOW RATE ABOVE 180 LB/MIN, DELAY FLOW REDUCTION UNTIL HAZ GAS READING ACCEPTABLE.	
27-002		NTD 232	CGLS	HOLD AT T-9 MINUTES WILL BE EXTENDED IF EITHER OF THE FOLLOWING CONDITIONS EXIST:  1. FOR PLB PURGE RATE OF 170 LBS/MIN AND ESTIMATE OF L-TIME LESS THAN 11 MINUTES.  2. FOR PLB PURGE RATE OF 230 LBS/MIN AND ESTIMATE OF L-TIME LESS THAN 14 MINUTES.	
27-003		NTD 232 OTC 212	OTC CHGD	VERIFY AFT O2 LESS THAN 500 PPM AND MIDBODY/PAYLOAD PAY O2 DECREASING.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

PVD/ECS PLB FLOW REDUCTION

NOTE

PERFORM NEXT STEP AFTER  
NOTIFICATION OF ACCEPTABLE  
O2 LIMITS.

27-004		NTD	OTC	IF PLB PURGE FLOW RATE GREATER THAN	
		232		180 LB/MIN, ADJUST PLB FLOW RATE	
		OTC	CPVD	PER SHUTTLE FINAL COUNTDOWN CONTROL	
		212		SEQUENCE (-06H THRU T-0) (SEQ 16).	

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
28-000				HOLD OPTION NO. 1 - UNPLANNED LONG ----- DURATION BETWEEN T-9 MIN AND T-5 MIN -----	
NOTE					
THIS IS A CONTINGENCY SEQUENCE. PERFORM IF REQ'D BETWEEN T-9 MIN (GLS AUTO SEQ INITIALIZATION) AND T-5 MIN (PRIOR TO APU START)					
ENTIRE SEQUENCE NOT PERFORMED _____					
28-001		NTD 232	ALL	T-__ MINUTES AND HOLDING. CONFIGURE FOR LONG DURATION HOLD AT THIS POINT.	
28-002			CGLS	VERIFY ONBOARD CDC STOPPED IN RESPONSE TO HOLD FLAG.	V90W8380C1
OMRSD S00E00.920-1					



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				EXTEND OAA -----	
				NOTE	
				PERFORM NEXT FIVE STEPS IF OAA EXTENSION WILL BE PERFORMED.	
28-003		NTD	CGSS	EXTEND OAA.	
				NOT PERFORMED	_____
28-004			CGSS	PFP (VAJ02) PFPK-1 VAJ04 CRIT EXT - PRESS PFPK-5 CRIT EXT EXECUTE - PRESS	
				NOT PERFORMED	_____
28-005		CGSS	NTD	OAA EXTENDED AND LOCKED.	
				NOT PERFORMED	_____
28-006			CGSS	PFP (VAJ02) PFPK-6 - PRESS PFPK-3 VAJ07 OAA ACCUM - PRESS PFPK-5 OAA ACCUM EXEC - PRESS	
				NOT PERFORMED	_____
28-007			CGSS	CONSOLE KYBD  SET GGOR1101E OFF (WHITE RM O2 PUMP) XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

CLOSE ISO VALVES  
-----

NOTE

PERFORM NEXT STEP TO CLOSE  
APU ISO VALVES.

28-008		OTC	PLT	PNL R2 APU FUEL TK VLV 1 SW - CLOSE 2 SW - CLOSE 3 SW - CLOSE	
					NOT PERFORMED _____

\*FLT COMMANDS  
-----

NOTE

PERFORM NEXT STEP TO CLEAR  
BFS SPC BUFFER.

28-009		NTD	*FLT	BFS SPC BUFFER CLEAR (1000010)	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT FOUR STEPS  
 IF FLT HAS TRANSMITTED  
 THE T-09M00S MULTIPLE REAL  
 TIME COMMANDS.

28-010		NTD	*FLT STOP	OI/MADS RECORDERS	
			1.	XMIT DSM 4351 (OPS 1 STOP)	V75K6152U
				XMIT DSM 4451 (OPS 2 STOP)	V75K6352U
			2.	XMIT DSM 4551 (IF RAN) (PL RCDR STOP)	
			3.	XMIT DSM 4618 (MADS RCDR PWR ON)	
			4.	XMIT DSM 4600 (MADS SYS - OFF) VERIFY TAPE MOTION STOPPED	
			5.	XMIT DSM 4619 (MADS RCDR PWR OFF)	

NOTE

PERFORM NEXT SUBSTEP ONLY IF  
 ACIP ACTIVE THIS FLOW.

6. FOR OV-102 ONLY  
 XMIT DSM \_\_\_\_\_  
 (ACIP OFF)

NOT PERFORMED \_\_\_\_\_  
 SS6

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
28-011				CISL VERIFY TAPE MOTION OFF ON ALL RECORDERS.  CRT (SAQ04/SWQ01)  OPS 1 MOTION OFF OPS 2 MOTION OFF MADS/OEX MOTION OFF  OMRSD S00E00.811 OMRSD S00E00.970  <div style="text-align: right;">NOT PERFORMED</div>	_____
28-012				CISL VERIFY TAPE MOTION OFF ON RCDR.  CRT (SAQ04/SWQ01) P/L MOTION OFF  OMRSD S00E00.975  <div style="text-align: right;">NOT PERFORMED</div>	_____
28-013				CISL NTD RECORDER SHUTDOWN COMPLETE.  <div style="text-align: right;">NOT PERFORMED</div>	_____
NOTE					
PERFORM NEXT STEP IF PPOV CAMERA IS INSTALLED AND IS TO BE POWERED DOWN DURING HOLD.					
28-014		OTC	MS2	PANEL 019 TV TV POWER SW - OFF  <div style="text-align: right;">NOT PERFORMED</div>	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

IGNITER HEATER ACTIVATION

CAUTION

RSRM IGNITER TEMPERATURE  
SHALL NOT EXCEED 125 DEG F.

NOTE

PERFORM NEXT STEP IF  
DETERMINED BY CPWR, NTD AND  
LAUNCH DIRECTOR TO MAINTAIN  
IGN HTR CONTROL SETTINGS AT  
100 +/- 1 DEG F FOR START OF  
T-5 MINUTE COUNT.

28-015

CPWR CURSOR CNTL (BDE11)  
LH IGN HTR PWR - ON  
RH IGN HTR PWR - ON

LH IGN AUTO SEQ - ACT  
RH IGN AUTO SEQ - ACT

OMRSD S00E00.742  
OMRSD S00FA0.620-1R

NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

DELAY AT THIS POINT UNTIL  
READY TO RESUME COUNTDOWN.

IF HOLDING DUE TO INTEGRATION  
CONSOLE FAILURE, RETURN TO  
COUNTDOWN RE-ENTRY POINT  
IN T-9 MIN HOLD.

IF SCRUB OR RECYCLE IS  
CALLED WHILE HOLDING AT  
T-5 MIN, DO NOT PERFORM  
CONFIGURE TO RESUME  
COUNTDOWN.

CONFIGURE TO RESUME COUNTDOWN  
-----

NOT PERFORMED \_\_\_\_\_

28-016		NTD 212	CGLS	SET CDC TO START COUNTING AT _____ GMT.	
28-017		NTD 212	OTC TBC	CONFIGURE TO RESUME COUNTDOWN AT _____ GMT.	
			STM		
			*FLT		
			PTC		
			*MIL		
			LPS		
			SRO		

CONFIGURE TO RESUME COUNTDOWN  
-----

COMPLETE  
-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CLOCK START IN 5 MINUTES -----					
28-018	-05M00S (HOLDING) L-10M00S	NTD 212 232	ALL	COUNTDOWN CLOCK WILL START IN 5 MINUTES.	
OAA RETRACT -----					
28-019	-05M00S (HOLDING) L-10M00S	NTD	CGSS	RETRACT ORBITER ACCESS ARM.	
28-020			CGSS	PFJ (VAJ02) PFJK-1 VAJ05 OAA EXT/RET - PRESS PFJK-5 OAA EXT/RET EXECUTE - PRESS  VERIFY OAA RETRACTED  PFJK-6 OTHER OPTIONS - PRESS (TWICE) PFJK-3 VAJ07 OAA ACCUM - PRESS PFJK-5 OAA ACCUM EXECUTE - PRESS	
28-021			CGSS	CURSOR CNTL (VAJ14) VAJ10 - SELECT B12 - RESET PRI EXT PILOTV B14 - RESET SEC EXT PILOTV PFK15 - PRESS	
28-022			CGSS	CONSOLE KYBD SET GGOR1101E ON (WHITE RM O2 PUMP) XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
28-023			CGSS NTD	OAA RETRACTED AND RECONFIGURED FOR EXTEND.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CLOCK START IN 4 MINUTES -----					
28-024	-05M00S (HOLDING) L-09M00S	NTD 212 232	ALL	COUNTDOWN CLOCK WILL START IN 4 MINUTES.	
RECORDER ACTIVATION -----					
28-025	-05M00S (HOLDING) L-09M00S	NTD 212	*FLT CISL JRPS	ACTIVATE RECORDERS PER S0007VL4 (SEQ 38).	
28-026		CISL 212	NTD	OPS 2 RECORDER ACTIVATED.	
IGNITER HEATER DEACTIVATION -----					
NOTE					
HEATERS MUST BE DEACTIVATED PRIOR TO RESUMING COUNTDOWN AT T-5 MINUTES. DO NOT PERFORM NEXT STEP IF HEATERS ALREADY DEACTIVATED.					
28-027			CPWR	CURSOR CNTL (BDE11)	
LH IGN HTR AUTO SEQ - INH RH IGN HTR AUTO SEQ - INH					
LH IGN HTR PWR - OFF RH IGN HTR PWR - OFF					
OMRSD S00FA0.980					
NOT PERFORMED _____					



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

NOTE

PERFORM NEXT STEP IF PPOV  
 CAMERA IS INSTALLED AND  
 WAS POWERED DOWN DURING  
 HOLD.

28-028		OTC	MS2	PANEL O19 TV TV POWER SW - ON	NOT PERFORMED
--------	--	-----	-----	-------------------------------------	---------------

CLOCK START IN 3 MINUTES

28-029	-05M00S (HOLDING) L-08M00S	NTD 212 232	ALL	COUNTDOWN CLOCK WILL START IN 3 MINUTES.	
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CLOCK START IN 2 MINUTES

28-030	-05M00S (HOLDING) L-07M00S	NTD 212 232	ALL	COUNTDOWN CLOCK WILL START IN 2 MINUTES.	
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CLOCK START IN 1 MINUTE

28-031	-05M00S (HOLDING) L-06M00S	NTD 212 232	ALL	COUNTDOWN CLOCK WILL START IN 1 MINUTE.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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STORED PROGRAM COMMANDS

NOTE

IF HOLD OCCURS AFTER TRANSMITTAL OF BFS SPC LOAD, \*FLT WILL TRANSMIT SPC BUFFER CLEAR AND NEW BFS SPC LOAD BASED ON UPDATED LIFTOFF TIME, IF REQUIRED.

28-032	-05M00S (HOLDING)	NTD 212	*FLT	TRANSMIT STORED PROGRAM PRE-LAUNCH COMMANDS (BFS SPC LOAD).	
--------	----------------------	------------	------	---	--

NOT PERFORMED

28-033			*FLT	VERIFY 2 - STAGE BUFFER AUTO COMPARE AND EXECUTE.	
--------	--	--	------	---	--

NOT PERFORMED

OPEN ISO VALVES

NOTE

PERFORM NEXT STEP TO OPEN APU ISO VALVES.

28-034	-05M00S (HOLDING) L-06M00S	OTC	PLT	PNL R2 APU FUEL TK VLV 1 SW - OPEN 2 SW - OPEN 3 SW - OPEN	
--------	----------------------------------	-----	-----	--	--

NOT PERFORMED

28-035		NTD 212 232		THE CDC WILL START ON MY MARK. 3-2-1 MARK	
--------	--	-------------------	--	--	--

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
28-036	-05M00S COUNTING	NTD 212 PA		T-5 MINUTES AND COUNTING.	

NOTE

RETURN TO CONTROL SEQUENCE 16  
AT T-5 MIN POINT OF  
DEPARTURE.

APPENDIX Z

EMERGENCY INSTRUCTIONS

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SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

EMERGENCY INSTRUCTIONS  
APPENDIX Z, ARE LOCATED  
IN VOL 5.

VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

EMERGENCY INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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VOLUME 2 OF 5  
DATE: 07-07-99

OMI NO. - S0007VL2  
REV. - CR

END OF OMI

DATE: 1999-07-07 14.10.21

S0007VL2

SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

DANE E. BISHOP.....2	JERRY L. GREENWOOD
FF-D4-B	3731
PETE WILSON	MICHOUD ASSY FACILITY
ZK-07	LOCKHEED MARTIN
JAMES REED	P.O. BOX 29304
EY-C	NEW ORLEANS, LA 70189
ROBERT L. WRIGHT	ALEX RODRIGUEZ.....3
CSR-4222B	ZK-86
STEVE HAUSS	GARY S. KANE
F656	USB-SYS
WHIT BARTLETT	DEBBIE HAHN
PK-D2	NN-M2
FERDINAND JONES	MEGAN MISCHKOT
AC-58	N/A
BOEING NORTH AMERICAN	MICHOUD ASSEMBLY FACILIT
6633 CANOGA AVE	P.O. BOX 29300
CANOGA PARK, CA 91304	NEW ORLEANS, LA 70189
SUSAN FRAHM	DEPT 4250
BOC-005	JAMES C. LAROCQUE
CALVIN J. CULBERTSON.....2	F270
FC-51	JILL JAHNKOW.....2
CCAS, FL 32899	FA-99
LISA A. MALONE	BOEING NORTH AMERICAN
PA-MSB	MISSION SUPPORT ROOM
BRUCE D. BOUTON	12214 LAKEWOOD BLVD
8A-44	DOWNEY, CA 90241
BOEING DEFENSE & SPACE G	CARLTON HALL
P.O. BOX 3999	DYN-2
SEATTLE, WA 98124-2499	JOANNE CREECH
RODNEY OLSON.....2	BOC-022
F204	PATTI SKIPPER.....8
BOB CHURNELL	NN-H2
F260	CHRIS WEAVER.....10
K. GRANT	PZ-L
USH-440X	RTW/MONICA COLEY
UNITED SPACE ALLIANCE	USK-275
600 GEMINI	
HOUSTON, TX 77058	

TOTAL QTY: 358

FOR CHANGES TO THIS DISTRIBUTION LIST, CONTACT:

MARY	M. HESTER	, USK-187, (407) 861-3301 EXT
ELIZABETH	C. KLOS	, USK-187, (407) 861-3430 EXT

DATE: 1999-07-07 14.10.21

S0007VL2

SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

AFQA/LGQAB/P. MCDANIEL	MV2/D. STAMPER
BA/FC-50/W. BRAGG.....2	JSC, TX 77058
BA/FC-51/ELS DATA FILES	MV3/KENNETH BROWN
BA/FC-51/J. HAGOOD.....2	JSC, TX 77058
BA/FC-51/J. LEWIS.....2	NASA/JSC.....9
BA/FC-51/N. BIHR.....3	C/O TRANSPORTATION OFFICE
BNA SPACEHAB/NANCY CRABTREE.....2	BUILDING 420
SPACEHAB, INC	HOUSTON, TX 77058
620 MAGELLAN RD	ATTN: DA82/MARY C. THOMAS
CAPE CANAVERAL, FL 32920	BLDG 30M, ROOM 235
C07A/J. LECHER	NN-L/PAYLOAD ENGINEERING
JSC, TX 77058	NN-M1
DM43/RILEY K. ALLISON	NN-M2
JSC, TX 77058	NN-M3
EC-B/DAVID SPACEK	T-916/V. BUKAUSKAS
EI-C-C/NSF CONSOLE	THIO-LSS/BRIAN ST. AUBIN
EI-C-C/NSF LC39 PROCEDURES	USBI-LSS/LIBRARY
EI-C-C/PAC CONSOLE	USK-078/CCC, C-1 PNEU
EI-C-D/NASA VAB SAFETY	USK-078/CCC, C-1 WATER
EI-C-F/NASA OPF SAFETY	USK-078/CCC, C-2 HVAC
EP2/LIBRARY	USK-078/CCC, C-3 POWER
JSC, TX 77058	USK-078/CCC, INTEGRATION
ESMC-SEO/CAMPBELL	USK-391/SAFETY OPS (PAD B)
EV212/D. FAVORS	USK-550/VITT OFFICE.....2
JSC, TX 77058	ZA03/DAVID BARNES.....2
LLOYD MUSTIN SSM	BOEING NORTH AMERICAN
MAIL STOP AE26	555 DISCOVERY DRIVE
BOEING NORTH AMERICAN	HUNTSVILLE, AL 35806
SPACE SYSTEMS DIV.	3 SLS/DOOT/CAPT. G. FENTRESS
P.O. BOX 7009	3 SLS/MA/B. STRACENER....2
DOWNEY, CA 90241-7009	45 SPACE WING/SESL/PAFB
MS-E68/R. BAKES	AIR-FORCE CCAFS
THIOKOL CORP.	N/A
P.O. BOX 707	45 RANS/DOOB
BRIGHAM CITY, UT 84302-0707	(CCAFS)
MS3/LIBRARY	PHILLIPS PARKWAY/10400
JSC, TX 77058	PATRICK AFB, FL 32925
MT3	CCC LIBRARY.....3
JSC, TX 77058	USK-093



DATE: 1999-07-07 14.10.21

S0007VL2

SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

MISSION SUPPORT	BRANCH INSTRUM.&P/LSYS.....2
SGS-347	PK-F3
EG&G PROTECTIVESYSTEMS	PNEUMATICS ENGINEERING
BOC-326	USK-043
PAD ELECTRICAL-SHOP	OFFICE NASAFIRE/RESCUE
USK-175	IM-SPS-A
SECTION NASACOMM/RFSYSTEMS	PAD SWING-ARMS-SHOP
PK-F3	USK-398
NASA-FLT ELECTR-SYS-SECT.....2	SFOC SAFETY-CONSOLE
PK-F	USK-399
FLOW DIRECTOR-OFFICE	SUPV-SAFETY RELIABILITY-ENGR
PH-B2	USK-291
SECTION NASAELSSSYSTEM	PAD-B SWING-ARMS-SHOP
PK-G5	USK-425
BOEING P/L-TEST-CONDUCTOR.....6	SRS-SSC OPERATIONS-SAFTEY
F214	MU6110
GUIDANCE-AND NAVIGATION	TECHNICAL DOC CTR.....50
USK-195	USK-038
GEL LCC-RM-3R18	TSMO SITE-MGRS
USK-542	USK-299
KSC-ELECTRO MAGNETIC-ANALYSIS	TSMO OMD
VC-A	USK-075
LCC HAZ-GAS	USA INSTRUMENTATION.....2
USK-542	USK-194
LAUNCH DIRECTOR.....2	USA LAUNCH-OPERATIONS...2
PH	USK-C09
ORB MECHANISM	VITT OFFICE
PK-H5	F204
NASA QA-FR1.....3	O&C BLDG
USK-268	SWING ARMS-ENG'G
OTC ORBTESTCONDUCTOR.....4	USK-290
USK-023	ET MECHANICAL-ENG
SPC PAD-SAFETY.....3	USK-251
USK-257	ET LH2PAD-A.....2
TEST-OPS PAD-A	USK-174
USK-307	ET LH2PAD-B
TEST-OPS PAD-B	USK-390
USK-389	ET-LOX PAD-A
	USK-173

DATE: 1999-07-07 14.10.21

S0007VL2

SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

ET-LOX PAD-B	HAL L. SNOW
USK-316	USK-171
MEQ ORB-MECHANISMS-ENG	RICHARD H. MURRAY.....2
USK-408	USK-414
OMS/RCS ENG-PADA	ROBERT RODRIGUEZ
USK-484	USK-198
OMS/RCS ENG-PADB	ADMIN J. LAGIOS
USK-347	USK-248
CENTRL WRK-PKG-BLD	ED DICRISTINA
USK-409	USK-305
COMM CONTROL.....2	CONNIE VONDRELL
USK-145	USK-192
TSMO PAD-A	TOM WELLS.....2
USK-076	USK-420
TSMO PAD-B	MARTIN L. CARLSON
USK-404	USK-420
TSMO SUPV-STM.....3	JUDY HOOPER.....3
USK-299	USK-247
ROBERT T. ROOK II.....2	STEVE GODFREY.....2
USK-356	USK-241
FRANK A. DEBERNARDO.....3	BILL NUTTER.....5
USK-116	USK-214
NEAL R. GRIFFITH	JANIENE L. PAPE
USK-112	USK-284
DON GARCEAU	PAUL L. QUANDT
USK-109	USK-356
THOMAS E. JACOBS.....2	CHARLES E. SWEENEY
USK-107	USK-424
JIM TOWNSEND	TODD M. GRACOM
USK-108	USK-195
SHOE SHOEMAKER	PAUL R. GRATSCH.....2
USK-144	USK-195
PAT CHAPPELL	SECUR/041399 VEVERA
USK-074	USK-229
DENNIS E. LOHAUS	CHARLES J. HANNAS
USK-069	USK-192
LAURA M. WHITE	EARL D. COOLEY
USK-372	USK-269

DATE: 1999-07-07 14.10.21

S0007VL2

SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

MARK A. HUET		BRUCE BAKER	
USK-246		PK-F3	
ERIC D. HENRY		JIMBO BOLTON	
USK-225		USBI-LSS	
BOB DOUGERT.....2		BILL CLEVER II	
USK-356		SK	
DEAN T. TYRE		KATHLEEN A. CONWAY	
USK-421		USK-669	
E HALL III.....2		TERRI L. HERST	
USK-420		PK-D	
STEVE VELLIGAN		ED MANGO	
USK-213		PK-D2	
RANDY DUNCAN.....2		SCOTT CHANDLER	
USK-196		PK-E4	
ROBERTO E. GALINANES		MICHAEL GARSKE	
USK-353		DF24	
DON GREEN.....2		JSC, TX 77058	
USK-043		STEVE SWICKKOW	
RTW/SECUR R. HOEFER		PK-F6	
USK-453		AL DIAZ	
PEGGY S. HATTAWAY		PK-F	
USK-246		BOB BEIL	
GARY A. WOODS		PK-G3	
USK-281		ANDY DIBBERN	
ANN M. MICKLOS		PK-G6	
USK-443		PETE CHITKO	
062599/HRMS POSTON		PK-H6	
USK-598		GREG KATNIK	
PAUL E. BRANDT		PK-H7	
USK-111		JORGE E. RIVERA	
OZZIE FISH.....2		PK-H7	
USK-314		PHIL WEBER	
DONALD L. CROUSE II		PK-H6	
USK-254		PAT MARKEY	
ANDY BUNDY		PK-J	
PK-E3		RENEE HART	
DAVID R. SCHECHTER		USK-669	
PZ-C		DONALD G. SIMMONS...3	
		USK-647	

DATE: 1999-07-07 14.10.21

S0007VL2

SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

BILL H. HAASE	RAY W. NUSS
FF-R	EV4
BOBBY E. ORR.....3	JOHNSON SPACE CENTER
USK-607	HOUSTON, TX 77058
OLAN J. BERTRAND	STEPHEN E. HOLMES
CA4	ZK-36
HOUSTON, TX 77058	ROBERT B. LUECKING
KEN FORD	ZK-86
USK-637	MATTHEW J. HOFMANN
RICHARD MIZELL	ROC-LSS
PK-F6	JIM ALLAMON
LARRY E. WILSON	ZK-21
USK-412	CANDICE F. NORMAN.....2
ERVIN G. WALKER	BOC-349
JCI-VITC-2	JOYCE M. ROZEWSKI
ANGELO PACE	FA-24
USK-682	TOM HILL
ANKER M. RASMUSSEN	ASC/ERD-FL
USK-705	TAB CHOATE
**NO SITE ADDRESS ON FILE**	SA21
RANDY DAVIES	BOEING - ROCKETDYNE DIVI
CSR-3200	MARSHALL SPACE FLIGHT CE
CAPE CANAVERAL AFS, FL 32899	BLDG 4202, RM 405
RONALD W. WETMORE	HUNTSVILLE, AL 35812
MMC-15	AL SOFGE
HAROLD E. REED	EC
JJ-3-B	TONY IPPOLITO
JEFF LEVITT	MILA
F256	NEAL E. VANSCYOC
CHUCK GIVENS	F224
BOC-342	JAMES B. PARKS
EDWARD D. PRISELAC	PK-J-B
ROCC	GARY A. HUBER.....5
45WS/DOR	BD-C
CCAS, FL 32920	PHIL LINTEREUR.....3
RAYMOND G. PREECE	F264
ZK-07	CECIL G. BOGGS JR
	BOC-323

