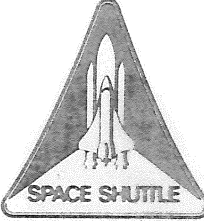


```
*****  
*  
*          SHUTTLE COUNTDOWN (LPS)          *  
*  
*****  
* EFFECTIVITY          CATEGORY: A          *  
*  
*                   HA-VTBAMDSGS          *  
*                   CWZF+ETR              *  
* CENTER:      KSC          SYSTEM: TEST CONDUCTOR *  
* SITE: PAD A & B *  
* VEHICLE:     OV-099 *  
* FLOW: STS-33 *  
*****
```

```
*****  
*  
*   ***PUBLICATION NOTICE***   *  
*  
*   RETAIN THIS UMI FOR FUTURE USE *  
*   UNTIL SUPERSEDED.             *  
*****
```

**THIS DOCUMENT CONTAINS
HAZARDOUS OPERATIONS**

NASA		USAF
National Aeronautics and Space Administration	SPACE SHUTTLE	Department of the Air Force United States of America

Kennedy Space Center/Vandenberg Air Force Base

LOCKHEED SPACE OPERATIONS COMPANY

```
*****  
*  
*          SHUTTLE COUNTDOWN (LPS)          *  
*  
*****  
* EFFECTIVITY          CATEGORY: A          *  
*  
*  
*          CENTER:      KSC          *  
*  
*          SITE: PAD A & B          *  
*  
*          VEHICLE:     OV-099          *  
*  
*          FLOW: STS-33          *  
*****
```

PREPARED BY:

C.R. King

LSOC TEST DOCUMENTATION

APPROVED BY:

CONTRACTOR

Sam J. [Signature]

SPC SAFETY 1-13-86

SEE ENCLOSED ICR FOR FINAL
APPROVAL SIGNATURES

THIS PROCEDURE CONTAINS HAZARDOUS OPERATIONS



INSTRUCTION CHANGE REQUEST

INSTRUCTION CHANGE REQUEST FOR (X) OMI () S/W	(2) ICR NUMBER 52/L50217	(3) SHEET _____ OF _____
--	------------------------------------	--------------------------

(4) OMI/CAP NUMBER S0007VL2	(5) REV/EFFECTIVITY Y / STS-33	(6) THIS ICR DOES () DOES NOT (X) INCREASE HAZARD LEVEL OF OMI.
---------------------------------------	--	---

(7) SYSTEM TEST CONDUCTOR	(8) DOCUMENTS AFFECTED? OMP : YES () NO (X) OMRSD: YES () NO (X)
-------------------------------------	--

(9) OMI/CAP TITLE
SHUTTLE COUNTDOWN (LPS)

(10) PAGE	(11) STEP	(12) CHANGE	(13) REASON
		INCORPORATE:	A. LOCKHEED
		1. AS-RUN PERM DEVS (FROM STS-32)	B. PERM DEVS
			C. SEE BLOCK 12
			D. 12/20/85
		2. REVIEW MEETING REDLINES.	E. IMPROVE OPERATION
			F. TBD BY THE ROR
			G. N/A
			H. N/A
		APPENDIX Z AFFECTED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
		SIGNATURE:	

(14) APPROVAL

CONTRACTOR	DATE	GOVERNMENT	DATE	SAFETY	DATE
Robert Weyrick ^{OTC}	1-9-86	John R. Romano ^{NTD}	1/9/86	Daniel E. B... ^{SPC}	1-9-86
James H. Little ^{TPE}	1/9/86				
A. M. ... ^{SMO}	1-9-86				





REVISION RECORD PAGE

REV-CHANGE	DATE	REASON	PAGES AFFECTED	EFFECTIVITY
T	: 06-26-85	: REV MTG	: ALL	: OV-099/STS-26
	:	: 45/LS0217	:	:
T-1	: 07-16-85	: 46/LS0217	: TUC, 7-10, 45, 46,	: OV-099/STS-26
	:	:	: 69-74, 107, 108, 117,	:
	:	:	: 118, 121-122, 2,	:
	:	:	: 125-128, 137-138, 153:	:
	:	:	: 154, 205, 206, 213,	:
	:	:	: 214, 255-264, 271, 272:	:
	:	:	: 335, 336, 339-340, 343:	:
	:	:	: 344, 357, 358, 377, 378:	:
	:	:	: 409-412, 435, 436,	:
	:	:	: 461-464, 475-476,	:
	:	:	: 489-490, 527-528, 539:	:
	:	:	: 540, 545, 546, 567, 568:	:
	:	:	: 573, 574, 577, 578, 587:	:
	:	:	: 588, 623-626,	:
	:	:	: 649-649, 2, 650, 619,	:
	:	:	: 680, 757, 758	:
U	: 08-09-85	: 47/LS0217	: ALL	: OV-103/STS-27
V	: 09-16-85	: 48/LS0217	: ALL	: OV-104/STS-28
W	: 10-14-85	: 49/LS0217	: ALL	: OV-099/STS-30
X	: 11-11-85	: 50/LS0217	: ALL	: OV-104/STS-31
Y	: 12-05-85	: 51/LS0217	: ALL	: OV-102/STS-32
Z	: 01-11-86	: 52/LS0217	: ALL	: OV-099/STS-33



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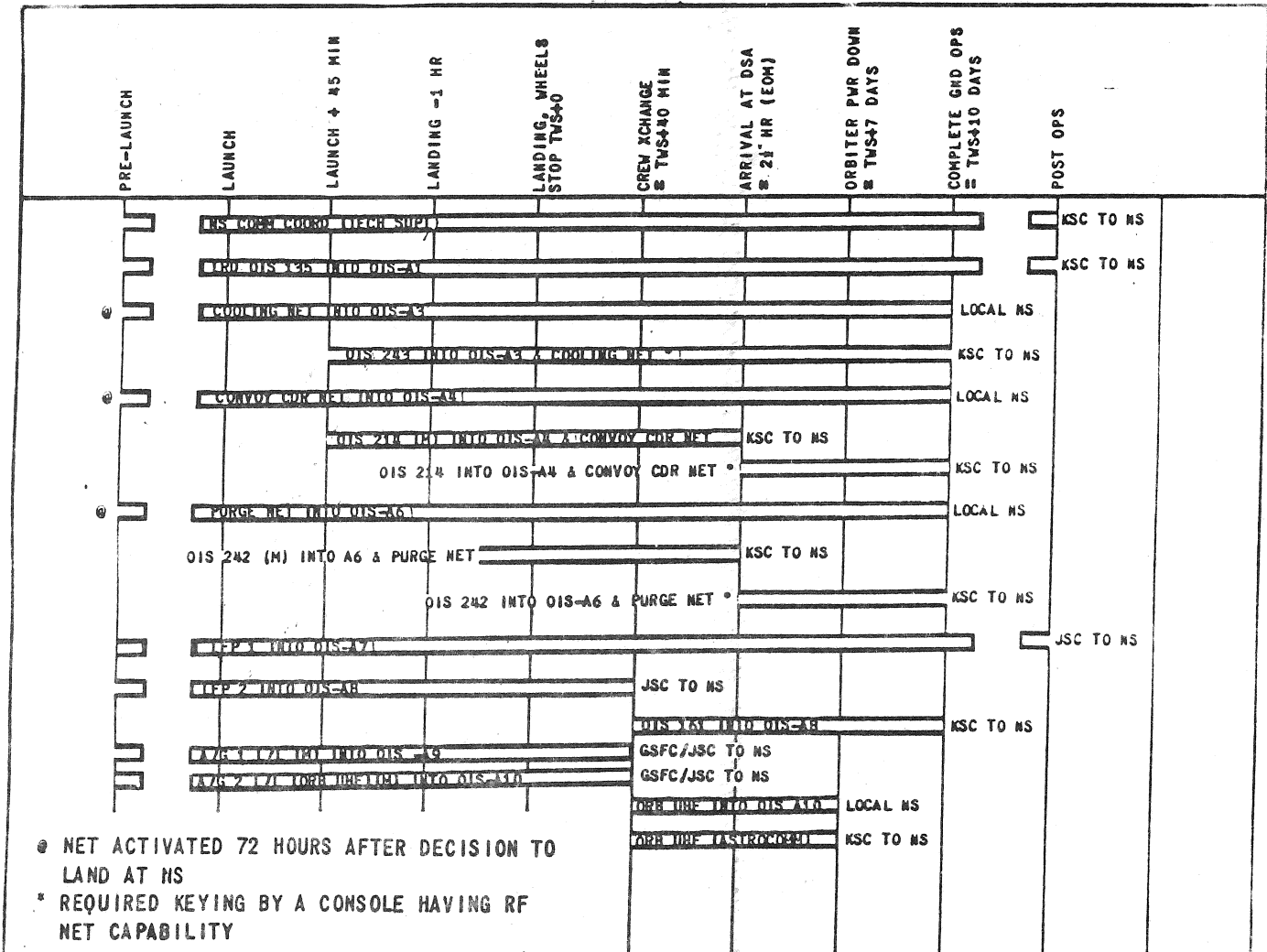


FIGURE 1 - KSC (CX-39) TO NORTHRUP STRIP AND SPECIFIED LOCAL NORTHRUP STRIP COMM REQUIREMENTS (FOR REFERENCE ONLY)

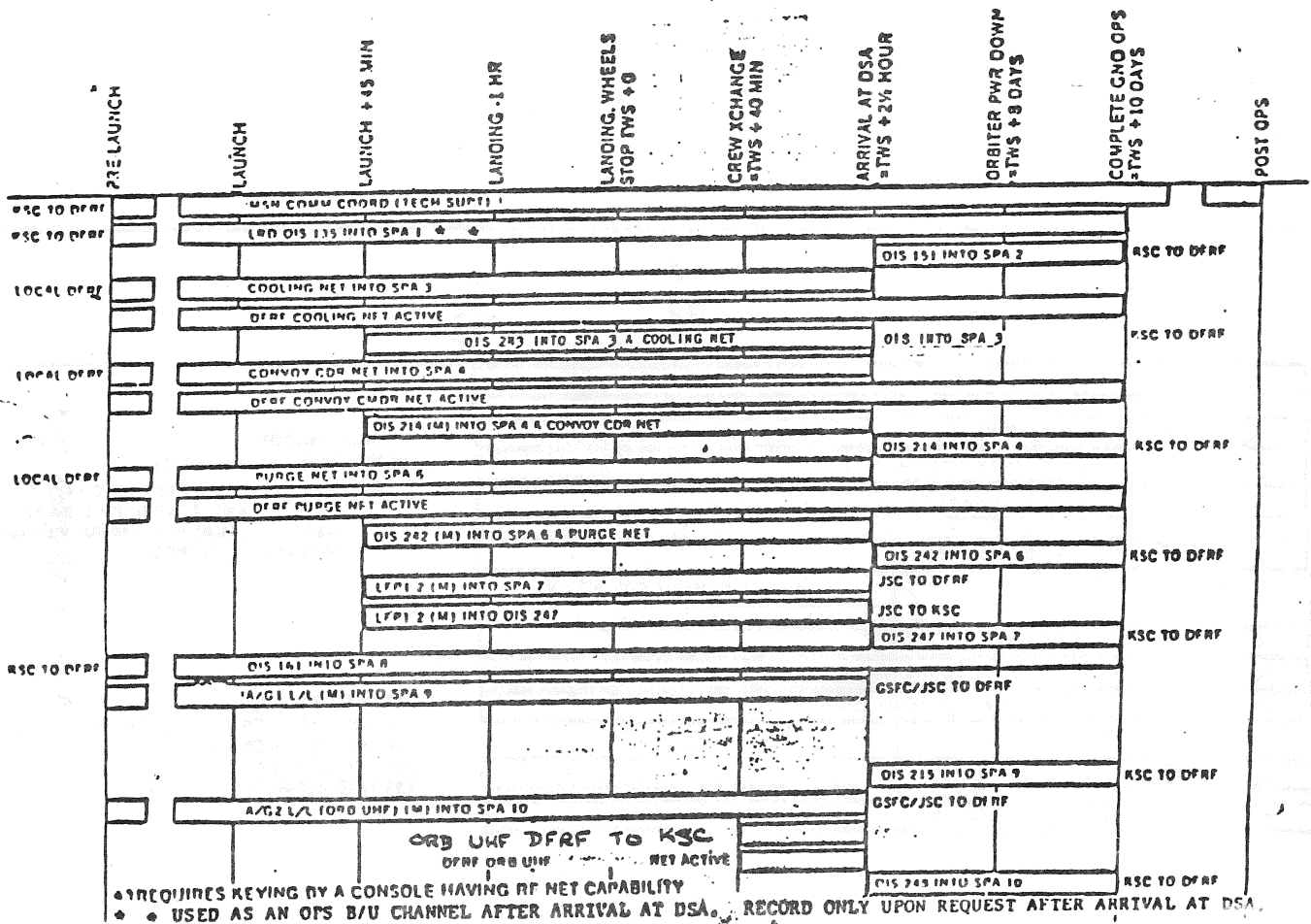


FIGURE 2 - KSC (CX-39) TO DFRF AND SPECIFIED LOCAL DFRF COMM REQUIREMENTS (FOR REFERENCE ONLY)

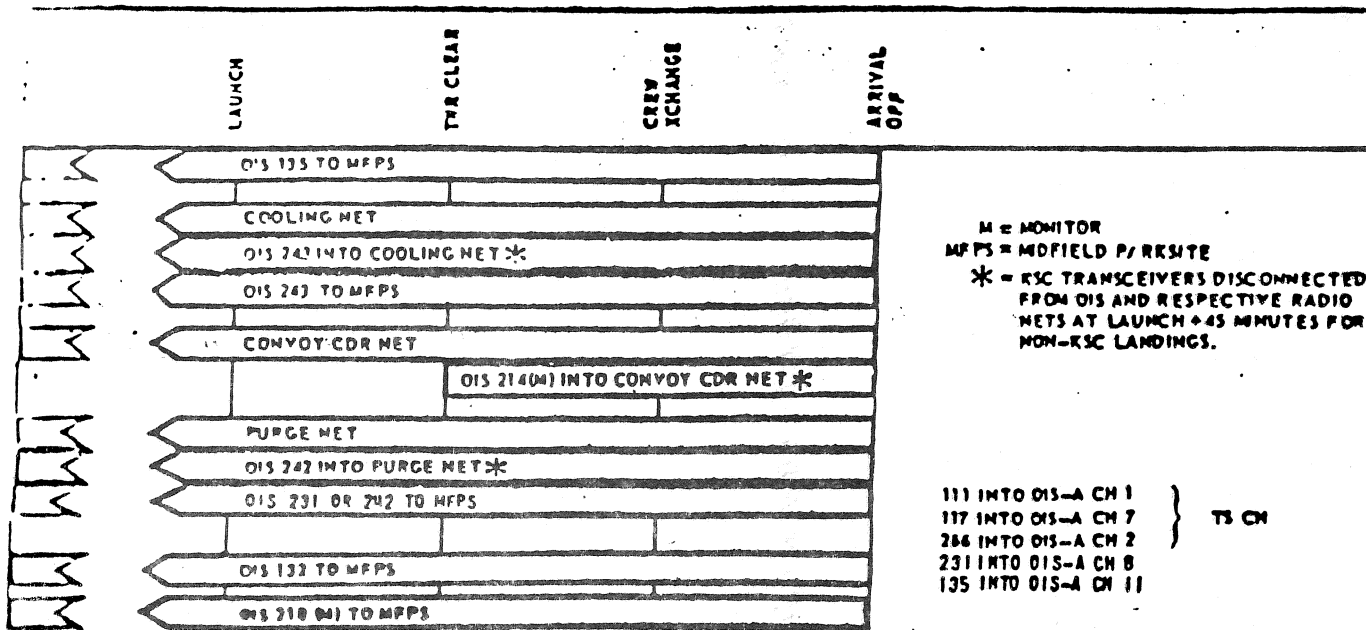


FIGURE 3 - SPECIFIED KSC (CX-39) SLF COMM REQUIREMENTS (FOR REFERENCE ONLY)

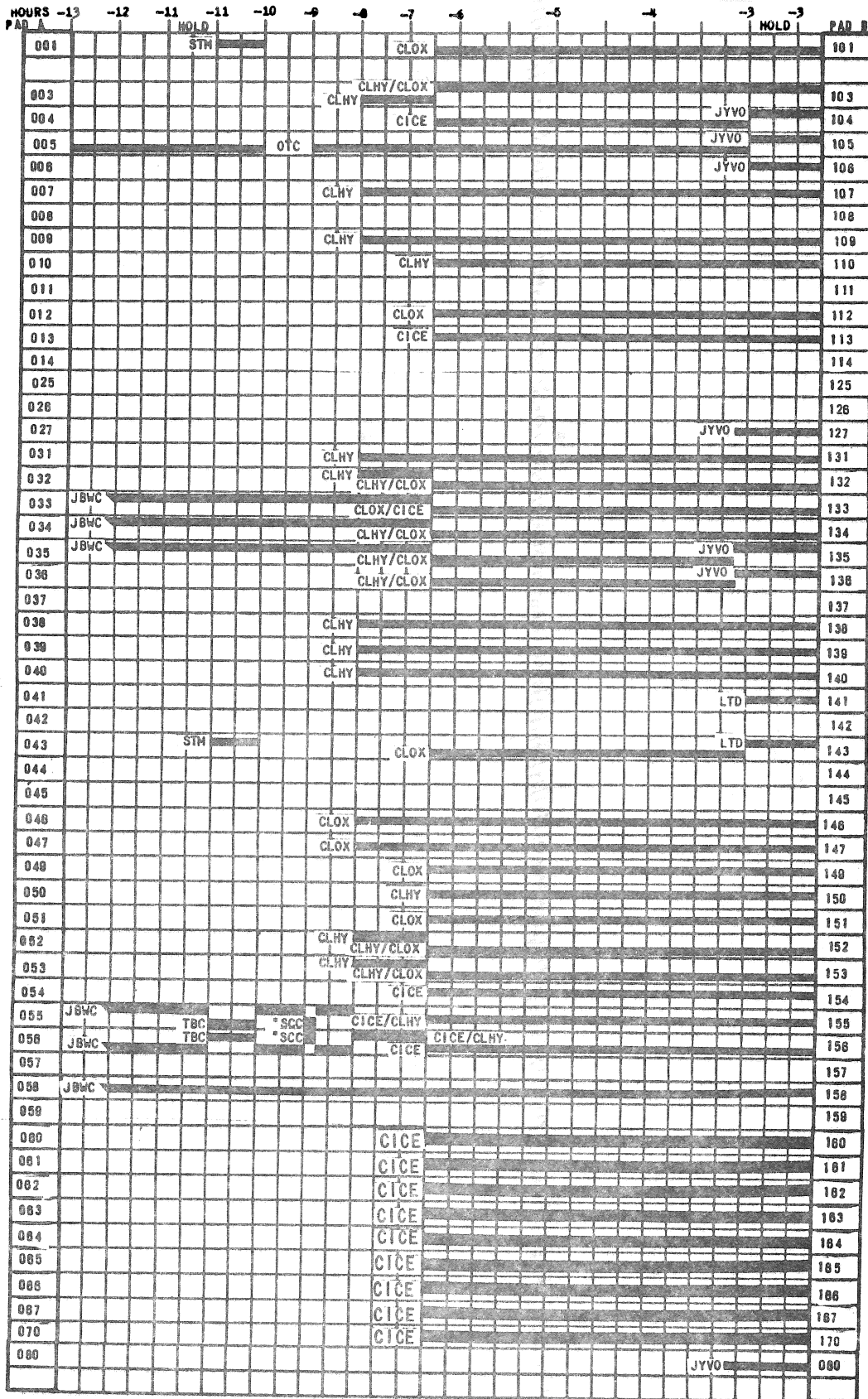


FIGURE 4 - EXCLUSIVE USAGE CAMERA MATRIX (SHEET 2 OF 3)
 (FOR REFERENCE ONLY)

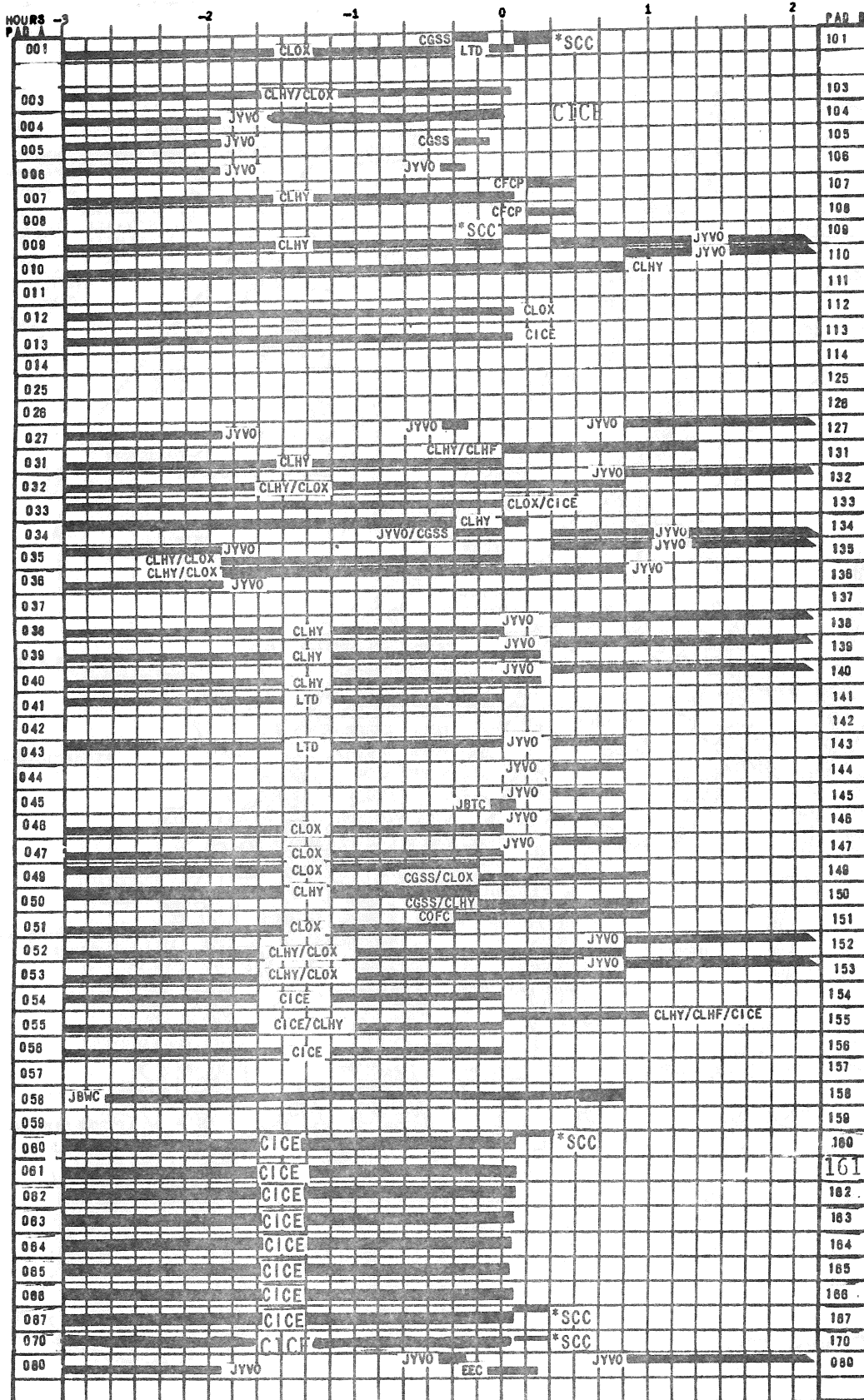


FIGURE 4 - EXCLUSIVE USAGE CAMERA MATRIX (SHEET 3 OF 3)
 (FOR REFERENCE ONLY)

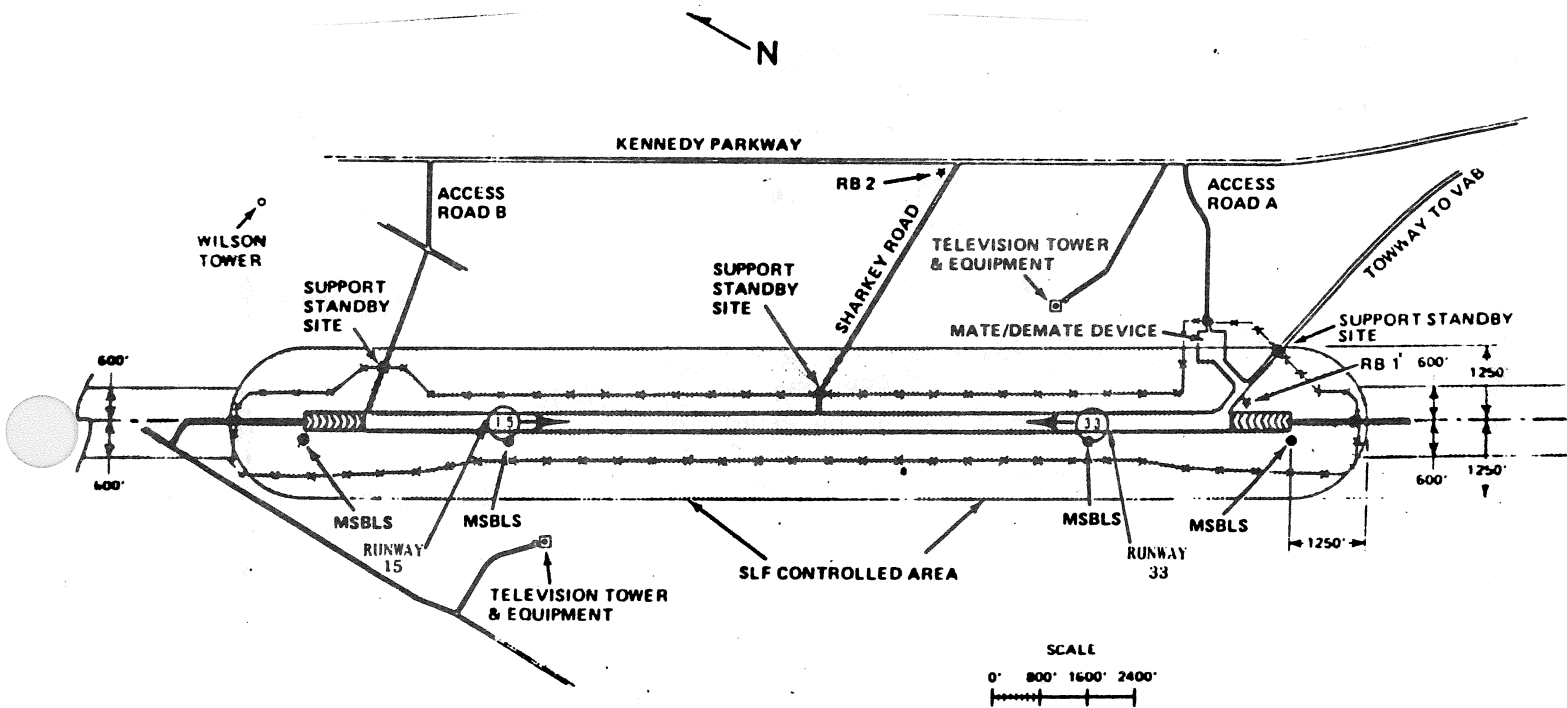


FIGURE 6 - SLF CONTROLLED AREA
(FOR REFERENCE ONLY)

<u>SITE TO MANLOAD</u>	<u>NUMBER OF PERSONNEL - COMPANY - FUNCTION</u>	<u>ACCESS THRU ROADBLOCK</u>
AS R/B	7 - EG&G - Fire	A-11
K7-468/CCF	13 - EG&G - HPG 1 - NASA - HPG 1 - Big 3 - HPG 1 - EG&G - SEC	A-11
UCS-15	2 - LSOC - DTV	A/B-14
UCS-16	2 - TGS - Photo	A/B-18
UCS-5	2 - TGS - Photo	A/B-19
UCS-9	2 - TGS - Photo	A/B-19
UCS-10	2 - TGS - Photo 3 - USCG - Radar	A/B-19
Eagle 4	4 - EG&G - SEC	A/B-19
UCS-6/FCA-2	NOTE: SITE OUTSIDE IMPACT LIMIT LINE; NO. OF PERSONNEL AT SITE VARIES DEPENDING ON REQUIREMENTS.	A/B-17

NOTE: FOLLOWING SITE OUTSIDE LAUNCH IMPACT LIMIT LINE.

N. PAPI Lights	5 - LSOC - Power 2 - NASA - Power	A/B-28
UCS - 3	2 - EG&G - SEC	(R/B A-3 Fallback)
Lower 40-1	2 - LSOC - DTV 2 - TGS - Photo	33 West
U247/L116	2 - TGS - Photo	33 West

NOTE: THE ABOVE IS THE NORMAL MAN-LOADING OF SITES FOR LAUNCH; HOWEVER, MANLOADING OF SITES MAY BE ALTERED IN REALTIME TO MEET SPECIFIC LAUNCH REQUIREMENTS.

FIGURE 7 - LDA MANLOADING
 (FOR REFERENCE ONLY)

CODING

TASK

DESCRIBES OPERATIONS TO BE PERFORMED

ACCESS

DESCRIBES ACCESS CONDITION. CODE IS AS FOLLOWS:

1. PAD CLEAR
2. ONE TYPE TASK ONLY WITHIN THE CONTROLLED AREA
(ORDNANCE, OXIDIZER, ETC.)
3. MULTIPLE HAZARDOUS TASKS WITH THE CONTROLLED AREA
(LOCAL CONTROL)

CONTROL AREA

DEFINE SPECIFIC CONTROLLED AREA. CODE IS AS FOLLOWS:

BDA	BLAST DANGER AREA	RSS	ROTATING SERVICE STRUCTURE
HB	HIGH BAY (OPF OR VAB)	PP	PAD PERIMETER
LDA	LAUNCH DANGER AREA	SA	SERVICE ARM
MLP	MOBILE LAUNCHER PLATFORM	TWK	VAB TOWER
PA	PAD APRON	PCR	PAYLOAD CHANGEOUT ROOM

PERSONNEL REQUIREMENTS

LIST THE NUMBER OF PERSONNEL REQUIRED IN THE APPLICABLE CONTRACTOR/NASA COLUMN.

HAZARDOUS MANLOADING CHART

NOTE

HAZARDOUS MANLOADING CHARTS
PRINTED AND DISTRIBUTED
(TO SPC SAFETY) SEPARATELY.

NOTE

BAR CHART IS PRINTED AND
DISTRIBUTED SEPARATELY.

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

BAR CHART

SECTION I
 INFORMATION

1.8 OMRS REQUIREMENTS SATISFIED BY THIS UMI

VEHICLE NO. ORB ----- FLT -----
 ET -----
 SKB -----

WHEN A SEQ-STEP CONTAINING AN OMRSD REQUIREMENT IS NOT WORKED
 WITHIN THE WORK PACKAGE, QUALITY VERIFICATION IS NOT REQUIRED
 FOR THAT SEQ-STEP IN THIS PARAGRAPH.

OMRS NO. -----	NOMENCLATURE/ EFFECTIVITY -----	SEQ-STEP (CAP) -----
B42AP0.050	APU BITE RESISTANCE TEST B011-090	15-1165 Q:-----
B42AP0.060	APU SPEED CONTROL BITE TEST B011-090	15-1165 Q:-----
B42AP0.080	FUEL PUMP BEARING SOAK B011-090	15-1168 Q:-----
P01000.030	PAYLOAD BAY PRELAUNCH PURGE RQMT PA	15-0325 Q:----- 15-1339 Q:-----
P018EA.090	PCP PANEL CLOSE-OUT CONFIGURATION PIUS	15-0887 Q:----- 15-0888 Q:----- 15-0889 Q:-----
P018FA.030	CIU PANEL PRESET FOR MISSION PIUS	15-0890 Q:----- 15-0891 Q:----- 15-0892 Q:-----
P018FA.150	SSP PRESET FOR MISSION PIUS	15-0885 Q:----- 15-0894 Q:----- 15-0895 Q:-----

P018JB.035	IUS QUIET TIME - ENVIRONMENT PIUS	15-1019	Q:_____
		16-0250	Q:_____
P018JC.010	LAUNCH COUNTDOWN - IUS RQMTS. PIUS	15-0903	Q:_____
		15-0922	Q:_____
		15-0927	Q:_____
		15-0945	Q:_____
		15-1308	Q:_____
		16-0123	Q:_____
		16-0493	Q:_____
		16-1008	Q:_____
S00000.840	VERIFY MADS RECORDER SAMPLING RATE V99F1-90	15-0092	Q:_____
S00E00.040	PREPARE SWITCH CONFIGURATION FOR SCRUB VAF;C	19-006	Q:_____
		19-007	Q:_____
		19-008	Q:_____
S00E00.050	RECONFIG ORB VENTS VAF;C	18-097	Q:_____
S00E00.070	VFY SSME'S SHUTDN IF START CMD ISSUED VAF;C	16-1114	Q:_____
S00E00.120	RE-ESTABLISH LO2 100% REPLENISH VAF;C	28-003	Q:_____
S00E00.150	INITIATE/VERIFY PURGE VAF;C	18-097	Q:_____
S00E00.160	RE-ESTABLISH & VERIFY SSME GN2 PURGE VAF;C	18-097	Q:_____
S00E00.190	RE-ESTABLISH GROUND SUPPLY OF 4K MPS VAF;C	19-035	Q:_____
S00E00.650	SECURE RCS VAF;C	19-008	Q:_____
		19-009	Q:_____
		19-010	Q:_____

S00E00.660	SECURE OMS VAF;C	19-008	Q:-----
		19-010	Q:-----
S00E00.670	PRSD TRANSFER TO EXTERNAL REACTANTS VAF;C	19-077	Q:-----
S00E00.680	FUEL CELLS LOAD SHARE VAF;C	15-1353	Q:-----
		19-085	Q:-----
S00E00.710	VERIFY APU'S ARE SHUTDOWN-IF APU START VAF;C	18-097	Q:-----
S00E00.720	PERFORM SHUTDOWN OF HPU'S-IF START BAF;C	18-097	Q:-----
S00E00.730	VERIFY APU FUEL ISOLATION VALVES ARE VAF;C	18-097	Q:-----
S00E00.750	SRB IGNITER & SRB RSS S&A SAFING BAF;C	18-097 (P)	Q:-----
		18-097 (P)	Q:-----
S00E00.760	PERFORM/VERIFY INHIBIT OF SRB RSS-IF BAF;C	18-097	Q:-----
S00E00.770	PERFORM/VERIFY INHIBIT OF ET RSS-IF VAF;C	18-097	Q:-----
S00E00.780	PERFORM/VERIFY ET RSS S&A DEVICES VAF;C	18-097	Q:-----
S00E00.790	PERFORM INHIBIT OF FWD LCA PIC FIRE VAF;C	18-097	Q:-----
S00E00.800	PERFORM/VERIFY SRM PIC CAP'S AT 0 VDC BAF;C	18-097	Q:-----
S00E00.810	VERIFY ET VENT T-0 UMP PIC CAP'S VAF;C	18-097	Q:-----
S00E00.820	VERIFY L&F T-0 UMP PIC CAP'S AT 0 VDC VAF;C	18-097	Q:-----
S00E00.830	VERIFY SRB HOLDDOWN PIC CAP'S AT 0 VDC BAF;C	18-097	Q:-----
S00E00.840	PERFORM/VERIFY SSME WARMANT FLOW VAF;C	19-096	Q:-----

S00E00.860	EQUALIZE CABIN PRESSURE IF REQUIRED VAF;C	19-074	Q:-----
S00E00.870	RE-ESTABLISH ECLS GCU PUMP AND VAF;C	18-097	Q:-----
S00E00.880	ENTER GNC OPS 9 VAF;C	18-097	Q:-----
S00E00.890	IMU TO GYROCOMPASS MODE VAF;C	18-049	Q:-----
S00E00.900	ENTER GNC OPS 1 MM101 IN INERTIAL MODE VAF;C	18-097	Q:-----
S00E00.915	PERFORM PASS TO BFS ONE SHOT DATA XFER VAF;C	29-024	Q:-----
S00E00.920	VERIFY ONBOARD C/D CLOCK IS STOPPED IN VAF;C	28-002	Q:-----
S00E00.930	PERFORM UNLOCK OF SRB FWD MDM'S BAF;C	18-097	Q:-----
S00E00.950	PERFORM UNLOCK OF SRB AFT MDM'S - BAF;C	18-097	Q:-----
S00E00.970	TERMINATE & VERIFY OPS RECORDING VAF;C	23-002	Q:-----
		28-007	Q:-----
S00E00.980	PERFORM POWER SUPPLY ACTIVATION OF VAF;C	18-097	Q:-----
S00E00.A00	PROVIDE GSE POWER VAF;C	19-080	Q:-----
S00E00.A90	SRB DFI FLT RECORDING INHIBIT BAF;C	18-097	Q:-----
S00E00.B00	PERFORM FDM AUTO CAL TURNOFF BAF;C	18-097	Q:-----
S00E00.B10	TERMINATE/VEFY ORB DFI FLT RECORDING VAF;C	28-007	Q:-----
S00E00.B20	PERFORM SRB DFI POWER DOWN BAF;C	18-097	Q:-----
		28-009	Q:-----
S00E00.B50	PERFORM/VERIFY TURN OFF OF PRE T-0 VAF;C	18-097	Q:-----

S00E00.880	RE-EXTEND & LATCH OAA/CCAA VAF;C	18-097	Q:-----
		28-012	Q:-----
S00FA0.013	NO UP RSLs VENT DOOR OPS VAF1-90	16-0169	Q:-----
S00FA0.015	PIC RESISTANCE TEST (GO MODE) VAF1-90	16-0096	Q:-----
S00FA0.210	VERIFY SSME PRE-CRYO LOADING CONFIG V02F7-90 V03F1-90 V04F1-90 V99F6-90	15-0075	Q:-----
		15-0082	Q:-----
S00FA0.220	PERFORM/VERIFY SSME CONTROLLER PWR UP VAF1-90	15-0075	Q:-----
		15-0082	Q:-----
S00FA0.230	LOAD AND EXECUTE SENSOR C/D AND VAF1-90	15-0075	Q:-----
		15-0082	Q:-----
S00FA0.250	LOAD & VERIFY SSME FLIGHT SOFTWARE VAF1-90	15-0075	Q:-----
		15-0082	Q:-----
		15-0184	Q:-----
S00FA0.260	DUMP AND COMPARE SSME 1, 2, VAF1-90	15-0075	Q:-----
		15-0082	Q:-----
		15-0184	Q:-----
S00FA0.270	PERFORM AND VERIFY ME-1, ME-2 VAF1-90	15-0075	Q:-----
		15-0082	Q:-----
S00FA0.275	PERFORM SSME PURGE SEQUENCE NO. 1 VAF1-90	15-0075	Q:-----
		15-0082	Q:-----
S00FA0.301	LOAD/VPY FINAL PCM AND PDI FORMATS VAF1-90	15-0063	Q:-----
		15-0065	Q:-----
S00FA0.310	ESTABLISH REDUNDANT SET IN 4 GPC'S VAF1-90	15-0223	Q:-----
S00FA0.320	VARIABLE DOWNLIST INITIALIZATION VAF1-90	16-0696	Q:-----

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S00FA0.326	TUMBLE VLV PREP FOR LOADING T03-90	15-0720	Q:-----
S00FA0.360	FUEL CELL CALIBRATION VAF1-90	15-1354	Q:-----
		15-1358	Q:-----
S00FA0.365	AFTER FUEL CELL START VAF1-90	16-0330	Q:-----
S00FA0.370	ENCRYPTOR MISSION KEY LOAD V02F7-90 V99F3-90 V03F1-90 V04F1-90	15-0443	Q:-----
S00FA0.373	VERIFY FM SYSTEM SIGNAL VAF1-90	15-0443	Q:-----
S00FA0.374	PERFORM UHF SIGNAL VERIFICATION VAF1-90	15-0443	Q:-----
S00FA0.400	VERIFY MID FUSELAGE O2 AND H2 VAF1-90	15-1485	Q:-----
S00FA0.410	VERIFY AFT FUSELAGE O2 AND H2 VAF1-90	15-1485	Q:-----
S00FA0.420	VERIFY ORBITER PAYLOAD BAY O2 AND VAF1-90	15-1485	Q:-----
S00FA0.430	VERIFY ET INTERTANK O2 AND H2 VAF1-90	15-1485	Q:-----
S00FA0.450	COMMAND CODING ON DURING COUNTDOWN VAF1-90	15-1280	Q:-----
S00FA0.500	VERIFY MSBLS, TACAN, & RADAR ALTIMETER VAF1-90	15-0149	Q:-----
S00FA0.510	VERIFY STATUS OF RSS VAF1-90	16-0654	Q:-----
S00FB0.010	CONFIGURE COCKPIT SWITCHES PER VAF1-90	15-0443 (PARTIAL)	Q:-----
		15-0635	Q:-----
		15-0636	Q:-----
S00FB0.011	CLOSEOUT AIR SAMPLE VAF1-90	16-0359	Q:-----

S00FB0.012	BFS HEALTH CHECK VAF1-90	15-0763	Q:-----
S00FB0.040	VERIFY ET/ORB SEPARATION CAMERA HEATER VAF1-90	15-0176	Q:-----
S00FB0.050	VERIFY ORBITER FWD/PLB/AFT COMPTS VAF1-90	15-0325	Q:-----
		15-1339	Q:-----
S00FB0.060	CONFIGURE OI FOR LCD VAF1-90	15-0176	Q:-----
		15-0552	Q:-----
S00FB0.081	MPS HELIUM SYSTEM ACTIVATION V03F7-90	15-0126	Q:-----
S00FB0.110	OI PCMMU CONFIGURATION FOR PNL CONTROL VAF1-90	16-0328	Q:-----
S00FB0.140	PERFORM HYDR PRESTART CHECK VAF1-90	15-0542	Q:-----
S00FB0.201	VERIFY MADS BITES-FDM, PCM, RCDR V99F1-90	15-0078	Q:-----
		15-0079	Q:-----
		15-0092	Q:-----
S00FB0.211	VERIFY MTU-MADS TIMING SIGNALS V99F1-90	15-0078	Q:-----
		15-0079	Q:-----
		15-0092	Q:-----
S00FB0.221	MADS PCM AND WB DATA STAT CK V99F1-90	15-0078	Q:-----
		15-0079	Q:-----
		15-0092	Q:-----
S00FB0.230	VERIFY LDB REDUNDANCY INTEGRITY VAF1-90	15-1283	Q:-----
S00FB0.255	VFY ET BIPOD HEATERS PWR ON T18-90	16-0102	Q:-----
S00FB0.260	VERIFY ET INSTRUMENTATION FUR VAF1-90	15-1248	Q:-----
S00FB0.270	PERFORM FLIGHT CONTROL POWER ON VAF1-90	15-0508	Q:-----

S00FB0.281	COMM COMMAND TO LAUNCH CONFIG - MCCH V02F6-90 V99F1-90 V03F1-90	15-1280	Q:-----
S00FB0.285	OMS/ARCS MOTOR VALVE CYCLING VAF1-90	15-0037	Q:-----
S00FC0.030	PERFORM IMU PREFLIGHT CALIB VAF1-90	16-0073	Q:-----
S00FC0.040	PERFORM STARTRACKER SELF TEST VAF1-90	15-0283	Q:-----
S00FC0.050	PERFORM AIR DATA SELF TEST VAF1-90	15-0283	Q:-----
S00FD0.080	MONITOR NOSE CONE GO2 VENT VAF1-90	15-1480	Q:-----
S00FE0.070	PERFORM LH2 FACILITY/ORB VAF1-90	16-0015	Q:-----
S00FE0.111	PERFORM LH2 CHILLDOWN AND FILL TO ECU'S T13-90	16-0041	Q:-----
S00FE0.160	ET LH2 AFT HARDWARE HEATERS "ON" T08-90	16-0049	Q:-----
		16-0076	Q:-----
S00FF0.070	PERFORM MPS HELIUM TANK VAF1-90	16-0416	Q:-----
S00FF0.081	LH2 SLOW FILL TO 98%/TOPPING TO 100% T13-90	16-0101	Q:-----
S00FF0.091	PERFORM LH2 REPLENISH FLOW T13-90	16-0129	Q:-----
S00FF0.095	VERIFY ET BIPOD HEATERS T18-90	16-0104	Q:-----
S00FF0.160	SRM CHAMBER PRESS XDUCER CALIB. SAF8-31	16-0529	Q:-----
		20-019	Q:-----
S00FF0.170	SRB HPU HEATERS SAF9-90	16-0429	Q:-----
S00FF0.180	CHAMBER PRESSURE TRANSDUCER TEST VAF1-90	16-0530	Q:-----
		20-019	Q:-----

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S00FG0.050	PERFORM MCC AIR-TO-GND VOICE CHECK VAF1-90	16-0560	Q:-----
S00FG0.060	VERIFY/ARM RCS DRIVERS VAF1-90	16-0478	Q:-----
		16-0480	Q:-----
S00FG0.070	PERFORM RCS TRICKLE CURRENT TEST VAF1-90	15-0530	Q:-----
S00FG0.090	INITIATE IMU GYROCOMPASS ALIGNMENT VAF1-90	16-0612	Q:-----
S00FG0.130	VERIFY SRB RATE GYRO ACTIVATION VAF1-90	16-0422	Q:-----
S00FG0.140	CONFIGURE COCKPIT SWITCHES PER VAF1-90	16-0477	Q:-----
		16-0478	Q:-----
		16-0480	Q:-----
		16-0487	Q:-----
S00FH0.010	PERFORM OMS GIMBAL PROFILE VAF1-90	16-0053	Q:-----
S00FH0.020	VERIFY OMS ACTUATOR STOW POSITION VAF1-90	16-0053	Q:-----
S00FH0.031	ACTIVATE AND VFY RANGE SAFETY SYS VAF1-90	16-0652	Q:-----
S00FH0.050	VERIFY MADS SYS. ACT. V99F1-90	15-0092	Q:-----
		16-0985	Q:-----
S00FI0.010	PERFORM FIRST STAGE GUIDANCE POLY- VAF1-90	16-1022	Q:-----
S00FJ0.010	PERFORM PASS TO BFS ONE SHOT DATA XFER VAF1-90	16-0791	Q:-----
S00FJ0.020	SRB RGA TORQUE TEST VAF1-90	16-0422	Q:-----
S00FJ0.040	PERFORM OMS ENGINE ACTIVATION VAF1-90	16-0743	Q:-----
S00FJ0.050	PERFORM PURGE OF FCP 1, 2 AND 3 VAF1-90	16-0861	Q:-----

S00FK0.010	VERIFY IMU PREFLIGHT ALIGNMENT COMPLETE VAF1-90	16-0844	Q:-----
S00FK0.020	GPC-MTU CHAN 1 MODE AND COINCINDENCE VAF1-90	14-117	Q:-----
		14-122	Q:-----
		16-0583	Q:-----
S00FK0.030	PERFORM BFS GPC TO RUN VAF1-90	16-0877	Q:-----
S00FK0.050	VERIFY THE FOLLOWING POWER "ON" VAF1-90	16-0925	Q:-----
S00FK0.060	PROVIDE A TIME FOR MCC-H TO TRANSMIT VAF1-90	16-0912	Q:-----
S00FK0.070	PROVIDE THE CAPABILITY FOR A WEATHER VAF1-90	16-0864	Q:-----
S00FK0.080	MPS HE ISO VLV XFER CONTROL TO ORB VAF1-90	16-0922	Q:-----
S00FK0.081	REMOVE MPS HE ISO VLV (MDM) OPEN CMDS VAF1-90	16-0923	Q:-----
S00FK0.090	LOAD REDUNDANT SET VAF1-90	16-0959	Q:-----
		17-001	Q:-----
		29-086	Q:-----
S00FK0.095	VFY CLOSURE OF OMS/RCS XFEED VALVES VAF1-90	16-0928	Q:-----
S00FK0.100	VERIFY SRB HPU RESEVIOR FLUID LEVEL VAF1-90	15-1436	Q:-----
S00FL0.020	VERIFY SRB HPU N2H4/GN2 BOTTLE TEMP. VAF1-90	15-1436	Q:-----
S00FM0.010	INITIATE GROUND LAUNCH SEQUENCER VAF1-90	16-1013	Q:-----
S00FM0.020	GMT, GMTLU AND CDT SYNCHRONIZATION VAF1-90	17-001	Q:-----
S00FM0.030	PERFORM MCC FLIGHT LOAD UPDATE VAF1-90	16-1022	Q:-----
S00FM0.043	PERFORM MPS LU2 REPLENISH TERMINATE T10-90	16-1059	Q:-----

S00FM0.050	VERIFY LO2 INBD FILL VALVE VAF1-90	17-001	Q:-----
S00FM0.060	VERIFY LO2 TSM DRAIN INITIATED VAF1-90	17-001	Q:-----
S00FM0.070	PERFORM FCP PRELAUNCH CONDITIONING VAF1-90	16-0955	Q:-----
		29-102	Q:-----
S00FM0.075	PERFORM PRSD SYSTEM INTEGRITY CHECK VAF1-90	15-1358	Q:-----
S00FM0.090	PERFORM/VERIFY APU/HYDRAULIC SYSTEM VAF1-90	16-0914	Q:-----
		16-1033	Q:-----
		16-1049	Q:-----
S00FM0.110	VFY SPBK & RUDDER GRAVITY POS. VAF1-90	16-0884	Q:-----
		29-049	Q:-----
S00FM0.140	PERFORM & VERIFY OPS-P/L RECORDER ON VAF1-90	16-1038	Q:-----
		17-001	Q:-----
		28-021	Q:-----
S00FM0.170	ACTIVATE ORBITER APU 1, 2 AND 3 VAF1-90	16-1045	Q:-----
S00FM0.180	VERIFY APU GAS GEN CHAMBER PRESS VAF1-90	16-1017	Q:-----
		16-1049	Q:-----
S00FM0.200	VERIFY CONFIGURATION OF IGNITION VAF1-90	17-001	Q:-----
S00FM0.210	ARM SRB AND ET S&A DEVICES SAF7-90	17-001	Q:-----
S00FM0.220	ORB GSE PWR REMOVAL VAF1-90	17-001	Q:-----
S00FM0.250	PERFORM/VERIFY SSME PURGE SEQ NO.4 VAF1-90	17-001	Q:-----
S00FM0.260	PERFORM & VERIFY PRSD TRANSFER TO VAF1-90	17-001	Q:-----
S00FM0.270	PERFORM & VERIFY AEROSURFACE PROFILE VAF1-90	17-001	Q:-----

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S00FM0.280	VFY BODY FLAP & SPBK LAUNCH POS. VAF1-90	17-001	Q:-----
S00FM0.290	VERIFY BODY FLAP COMMAND OUTPUTS VAF1-90	17-001	Q:-----
S00FM0.300	PERFORM/VERIFY MPS GIMBAL PROFILE CHECK V99F9	17-001	Q:-----
S00FM0.310	VERIFY MPS ENGINES TO START VAF1-90	17-001	Q:-----
S00FM0.341	PERFORM/VERIFY LO2 TANK PRE-PRESS T06-90	16-1067	Q:-----
S00FM0.350	PERFORM/VERIFY SSME GN2 PURGE OFF VAF1-90	17-001	Q:-----
S00FM0.400	PERFORM/VERIFY LH2 TANK PRE-PRESS VAF1-90	16-1077	Q:-----
		17-001	Q:-----
S00FM0.420	SRB DFI POWER UP B020-023	15-1392	Q:-----
S00FN0.010	VERIFY SRB MDM CRITICAL COMMANDS VAF1-90	17-001	Q:-----
S00FP0.010	PERFORM SRB DFI RECORDER ON AND VERIFY B007-010,017,025 B033,041	17-001	Q:-----
S00FQ0.011	PERFORM SRB FDM AUTO CAL B017	17-001	Q:-----
S00FQ0.020	VERIFY ET BIPOD HEATERS OFF VAF1-90	17-001	Q:-----
S00FQ0.060	PERFORM SRB FWD MDM LOCKOUT VAF1-90	17-001	Q:-----
S00FR0.010	VERIFY REDUNDANT SET AUTO SEQ START VAF1-90	17-001	Q:-----
S00FR0.020	PERFORM/VERIFY ET AFT HARDWARE VAF1-90	17-001	Q:-----
S00FR0.030	VERIFY SRB HPU N2H4/GN2 BUTTLE PRESS VAF1-90	15-1436	Q:-----
S00FR0.050	VERIFY POSITION OF SRB HPU ISLN VALVES VAF1-90	15-1436	Q:-----

S00FR0.060	VERIFY SRB MPU SECONDARY SPEED CONTROL VAF1-90	15-1436	Q:-----
S00FR0.070	START SRB MPU AND VERIFY SAF7-90	17-001	Q:-----
S00FS0.020	PERFORM GROUND COOLING SHUTDOWN VAF1-90	17-001	Q:-----
S00FS0.030	PERFORM SRB GIMBAL TEST VAF1-90	17-001	Q:-----
S00FS0.060	PERFORM PYRO ARM VAF1-90	17-001	Q:-----
S00FS0.080	ORDNANCE ARMED VERIFICATION VAF1-90	17-001	Q:-----
S00FS0.090	PERFORM SRB AFT MDM LOCKOUT VAF1-90	17-001	Q:-----
S00FT0.010	VFY MPS LO2 ACC RECIRC LN CONDITIONING VAF1-90	17-001	Q:-----
S00FT0.020	REMOVE RSS INHIBIT/RESET VAF1-90	17-001	Q:-----
S00FT0.030	PERFORM MPS LH2 PREVALVE OPEN VAF1-90	17-001	Q:-----
S00FT0.040	PERFORM MPS HE FILL PREP. TERMINATE VAF1-90	17-001	Q:-----
S00FT0.050	PERFORM MPS LH2 RECIRC SYS DEACTIVATE VAF1-90	17-001	Q:-----
S00FT0.060	PERFORM LH2 HI POINT BLEED OFF VAF1-90	17-001	Q:-----
S00FT0.070	POWER DOWN CMD DECODERS VAF1-90	17-001	Q:-----
S00FT0.100	VERIFY LPS GO FOR SSME START VAF1-90	16-1083	Q:-----
		17-001	Q:-----
S00FT0.110	FREE H2 SYS IGNITION VAF1-90	17-001	Q:-----
S00FT0.130	VERIFY SSME START VAF1-90	17-001	Q:-----

S00L00.150	HIGH WIND ET NOSE INSPECTION (KSC) SAF;C	15-1480	Q:-----
S00P00.170	FLIGHT SOFTWARE UPS CONSTRAINTS VAF1-90	14-146	Q:-----
		14-148	Q:-----
S00U00.010	POSTLAUNCH SHUTTLE/PAD AREA INSPECTION VAF1-90	16-1291	Q:-----
S00U00.020	DEBRIS INSPECTION, POST CRYO LOADING V03F2-10 V99F7-9	16-0193	Q:-----
V05AG0.050	PURGE CIRCUIT NO 1 VAF1-90	15-1486	Q:-----
V05AG0.060	PURGE CIRCUIT NO 1 VAF1-90	15-0325	Q:-----
		15-1339	Q:-----
V05AH0.050	PURGE CIRCUIT NO 2 VAF1-90	15-1486	Q:-----
V05AI0.050	PURGE CIRCUIT NO 3 VAF1-90	15-1486	Q:-----
V05AI0.060	PURGE CIRCUIT NO 3 VAF1-90	15-0325	Q:-----
		15-1339	Q:-----
		15-1426	Q:-----
V05AK0.030	CREW MODULE PURGE VAF1-90	16-0171	Q:-----
V05AP0.040	VERIFY COMPARTMENTS/VENTS VAF1-90	15-1485	Q:-----
V43CB0.190	PNEUMATIC SYSTEM LK/FUNCT VAF1,20I20F;C;Z	16-0742	Q:-----
		(PARTIAL)	
V55AG0.030	VERIFY ABORT PUSHBUTTON VAF1-90	15-0219	Q:-----
V61AQ0.010	2 PSID CABIN INTEGRITY TEST VAF1-90	16-0601	Q:-----
		16-0745	Q:-----
V66AA0.021	VERIFY INTEGRITY OF SEAT VAF1,10I10F	16-0223	Q:-----

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V66AH0.030	CREW MODULE INSP- VAF1-90	15-0090	Q:-----
		15-0112	Q:-----
V72AV0.130	BFC PRELAUNCH VERIFICATION VAF1-90	14-083	Q:-----
V76AK0.040	MCA OPERATIONAL STATUS VERIFICATION VAF1-90	15-0199	Q:-----
V79AA0.020	AA/MDM HORIZONTAL TURNAROUND NULL V02F4-90 V03F1-90 V04F1-90 V99F1-90	15-0527	Q:-----
V79AB0.050	AA/HORIZONTAL TURNAROUND SELF TEST V02F4-90 V03F1-90 V04F1-90 V99F1-90	15-0527	Q:-----
V79AE0.110	RGA TURNAROUND NULL/SELF TEST VERIFICATI V02F4-90 V03F1-90 V04F1-90 V99F1-90	15-0527	Q:-----
V79AJ0.005	RMC HARDSTOP BFC DISCRETE VAF1-90	14-083	Q:-----

SECTION IV

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

13-000				CALL TO STATION (-43H) -----	
13-001		NTD 232	LTD	PERFORM SHUTTLE COUNTDOWN CALL TO STATIONS.	
13-002	-1D19H00M T-43H00M	LTD PA		ALL PERSONNEL SUPPORTING OMI S0007, SHUTTLE COUNTDOWN, REPORT ON STATION FOR TEST STATUS CHECK	*BCS
13-003		STM 127 111	LPS JTCR	VERIFY SUPPORT PRE-OPERATION SETUP 2 TMS COMPLETE (A2700 SEQ 12).	31240 RCA-1
13-004	-1D19H00M T-43H00M	LTD 232	STM	VERIFY VOICE RECORDINGS AS SCHEDULED FOR OMI S0007.	36100
NOTE					
IF NASA MISSION, DELETE JSRP FROM NEXT STEP.					
13-005		LTD 232	LPS JRPS JSRP	VERIFY LPS AND JRPS/JSRP READY TO SUPPORT LAUNCH COUNTDOWN.	31240
TCID -----					
REV ----- MOD -----					
OPERATING SYSTEM -----					
13-006	-1D19H00M T-43H00M	LTD 232	OTC TBC CTC STM *SCC	PERFORM OMI S0007 REV ----- CALL TO STATION AND REPORT TEST READINESS STATUS.	
13-007		LTD 232 UTC	UTC *PAD	VERIFY SPC PRE-OPERATION SETUP 1 - INITIAL SPC OPERATIONS/SAFETY FACILITY WALKDOWN COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
13-008	-1019H00M T-43H00M	*PAD OTC 232	UTC LTD	SPC PRE-OPERATION SETUP 1 COMPLETE.	
13-009		*SCC 105	*PSE *SEC JFIR	REPORT TEST READINESS STATUS ON RADIO NET - 105	EGG-420 EGG-430

NOTE

HOLDS - (STOPPING THE
COUNTDOWN CLOCK)
PRIOR TO T-9
MINUTES.

A HOLD MAY BE REQUESTED
BY:

- LTD - LOCKHEED TEST DIRECTOR
- OTC - ORBITER TEST CONDUCTOR
- TBC - TANK/BOOSTER TEST CONDUCTOR
- CTC - CARGO TEST CONDUCTOR
- CTD - NASA CARGO TEST DIRECTOR
- LD - LAUNCH DIRECTOR
- CSPE - SHUTTLE PROJECT
ENGR
- STM - SUPPORT TEST
MANAGER
- *SCC - SAFETY MANAGER
- 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 (LTD) ON
OIS CHNL 232. THE LTD
WILL HOLD THE CLOCK AT
THE MOST ADVANTAGEOUS
TIME.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
13-010				SET COUNTDOWN CLOCK -----	
13-011	-1019H00M T-43H00M	LTD 232	CGLS	SET COUNTDOWN CLOCK TO <i>24</i> DAY, <i>19</i> HOURS, <i>00</i> MINUTES, <i>00</i> SECONDS, AND COMMENCE COUNTING AT <i>1500/0000</i> GMT	
13-012			CGLS	HOME CMD KEY - PRESS CDTS - <i>01:1900/00</i> DD HHHH SS XMIT CMD KEY - PRESS	
13-013			CGLS	HOME CMD KEY - PRESS CDTC <i>1500 / 00 . 000</i> HH MM SS XMIT CMD KEY - PRESS HOLD AVAIL TIMER CONFIG -----	
13-014	-1019H00M T-43H00M	CGLS JTCR 178 7-0675		SETUP THE HOLD AVAILABLE TIMERS TO THE FOLLOWING TIMES: H M S - - -	RCA-1

WINDOW

TIMER #1 *3:10:00* (IMU/WINDOW HOLD
TIME REMAINING)

APU

TIMER #2 *7:00* (APU HOLD TIME
REMAINING)

LOX DB

TIMER #3 *0:03:00* (LOX D/B HOLD TIME
REMAINING)

T-0

TIMER #4 *0:31* (TIME TO T-0)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
13-015		CGLS	JTCK 178 7-0675	VERIFY ALL TIMERS ARE IN REMOTE. VERIFY ALL TIMERS ARE IN THE COUNTING DOWN MODE.	RCA-1
13-016	-1D19H00M T-43H00M COUNTING	CGLS	LTD	THE COUNTDOWN CLOCK IS AT <i>01</i> DAYS, <i>19</i> HOURS, <i>23</i> MINS, <i>23</i> SEC. AND COUNTING	
13-017		CGLS	LTD	THE CDC STARTED AT <i>15:00:00</i> GMT. LAUNCH COUNTDOWN IN PROGRESS -----	
13-018		LTD	PA 232	LAUNCH COUNTDOWN IS NOW IN PROGRESS. ORBITER -----	
13-019	-1D19H00M T-43H00M COUNTING	OTC	132	ANNOTATE VOICE TAPE: DOCUMENT NO. _____ REV _____ TITLE _____ DATE _____ TIME _____ GMT VEHICLE _____ LOCATION _____	
13-020		OTC	CMQC 132	VERIFY ORBITER PRE-OPERATION SETUP 1 - QUALITY SUMMARY SHEET COMPLETE.	Q: _____
13-021		OTC	CMQC	REPORT SHUTTLE CONSTRAINTS STATUS	Q: _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
13-022	-1019H00M T-43H00M COUNTING	OTC 132		ALL ORBITER PERSONNEL SUPPORTING OMI S0007, SHUTTLE COUNTDOWN, REPORT TEST READINESS STATUS	
				CGLS LCC FR GROUND LAUNCH SEQUENCER ENGR	
				CEPD LCC FR ELECTRICAL POWER SYSTEM LEAD REPORTS FOR WPDS, PPDS, CEPE	
				CISL LCC FR ORBITER INSTRUMENTATION SYSTEM LEAD REPORTS FOR (JISE)	
				CECL LCC FR ENVIRONMENTAL CONTROL LEAD REPORTS FOR: PGCU PAD GROUND COOLANT UNIT TECH (S70-0508)	
				CDPS LCC FR ORBITER DATA PROCESSING SYSTEM ENGINEER	
				CODS LCC FR ORBITER DIGITAL SYS ENGR	
				*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)	
13-023	-1019H00M T-43H00M	OTC		CEPD EMERGENCY SHUTDOWNS ARE CONTAINED QPDS IN VOL 4, APPENDIX Z OF THIS OMI CECL AND S9908. ALL PERSONNEL SHALL PGCU BE FAMILIAR WITH THE INSTRUCTIONS PPDS PERTAINING TO THEIR STATION. CDPS	
13-024		OTC	CEPD	VWC12, VWC14 AND VAC38 SHALL NOT BE CALLED FOR REMAINDER OF THIS OMI.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
13-025		UTC 232	LTD	ORBITER READY FOR OMI S0007	
13-026		UTC	CISL	GO TO CH 136 FOR ET CALL TO STATION. CARGO -----	
13-027		UTC 232	LTD	CARGO ELEMENTS READY FOR OMI S0007.	
13-028				CALL TO STATION - EXTERNAL TANK/SRB -----	
13-029	-1D19H00M T-43H00M	TBC 136	CMQC	VERIFY EXTERNAL TANK AND SRB PRE-OPERATION SETUP 1 - QUALITY SUMMARY SHEETS COMPLETE	
13-030		TBC 232	LTD	ET/SRB READY FOR OMI S0007	Q:-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
SUPPORT -----					
13-031	-1019H00M T-43H00M	STM	111	ALL SUPPORT PERSONNEL SUPPORTING OMI S0007 SHUTTLE LAUNCH COUNTDOWN REPORT TEST READINESS STATUS.	
				GYCC COMMUNICATIONS CONTROLLER	34300
				JTCR TIMING COUNTDOWN AND PHOTO CNTRL	RCA-1
				JCFM ESMS MEASUREMENT CONTROLLER	31314
				ENDU ETR CEN SCHED/COORD OFFICE	EX-NTS
				JCTL INTEGR CONSOLE	33310
				JBEP POWER CONSOLE LEAD	3321C
				JBPN PNEUMATICS CONSOLE	3321B
				JBAC HVAC CONSOLE	3321C
				JBFX FIREX/POT. WATER CONSOLE	3322B
				JBWC SOUND SUPPRESSION CONSOLE	3322B
				QBSE MOBILE STRUCTURES ENG	3322C
				JBDY SUPPORT SERV CONT REPORTS FOR:	
				GHBE HEAVY EQUIP	3322D
				VEEE ELEVATOR CONT	33221
				PCMP PAD CRANE CONT	33221
				JSTC EG&G TEST CONDUCTOR,	EG&G-123
				114 REPORTS FOR:	
				JSEP POWER CONSOLE LEAD	EG&G-614
				GSPN PNEUMATICS CONSOLE	EG&G-631
				JSAC HVAC CONSOLE	EG&G-614
				JFIR FIRE CONSOLE	EG&G-420
				PMEH ENV HEALTH TECH	EG&G-520
				*SCB SCAPE SUITING TRAILER	EG&G-632
				JSDY SUPPORT SERV CONT	EG&G-123
				JSQC R&QA CONT	EG&G-315
				WCRG ROADS AND GROUNDS	EG&G-624
				*SEC SECURITY CONSOLE	EG&G-430
13-032		STM	LTD	SUPPORT READY FOR OMI S0007	
		232			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
13-033	-1019H00M T-43H00M	STM 111	JBDY	PROVIDE WEATHER MONITORING FOR THE DURATION OF TEST. TIME:----- FOR NEXT 12 HOURS. 1. WARNINGS TO BE PROVIDED FOR PROBABLE LIGHTNING WITHIN 5 MILES OF PAD-___ LC-39. 2. CLOUD COVER: A. PAD ----- 3. VISIBILITY: A. PAD ----- 4. WINDS (60 FT LEVEL) A. PAD -----(SS)-----(PEAK) ----- (DIRECTION) 5. AMBIENT TEMPERATURE A. PAD----- 6. TEMPERATURE INVERSION 7. HUMIDITY A. PAD ----- 8. RAIN FORECAST A. PAD ----- 9. LIGHTNING FORECAST PAD --- ----- 10. NOTIFY STM OF ANY WEATHER CHANGES WHICH COULD CAUSE CONDITIONS TO EXIST FOR OTHER THAN "NO RAIN" ENVIRONMENTAL CONDITIONS. 11. DEW POINT PAD --- -----	36010
13-034		LTD 232	*SCC	VERIFY PRE-OPERATION SETUP 2 - *SCC (SAFETY) IS COMPLETE.	
13-035		*SCC 232	LTD	PRE-OPERATION SETUP 2 IS COMPLETE. READY TO PROCEED WITH TEST.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
13-036		LTD 232 STM 111	STM JBFX	VERIFY JBFX REPORTING TO LTD ON CHANNEL 232 FOR COMM CHECK AND BRIEFING, MONITOR CHANNEL 232 AND STANDBY TO FLOW FIREX WATER DIRECTED BY LTD PER EMERGENCY INSTRUCTIONS, VOL 4 APPENDIX Z.	3322B
13-037		LTD 232	OTC TBC *SCC STM LPS CTC	VERIFY READY TO PROCEED WITH OPERATIONAL SEQUENCES	
13-038		LTD 232	NTD	ALL PRE-OPERATION SETUPS COMPLETE; ALL CATEGORY I CONSTRAINTS RESOLVED. READY TO PROCEED WITH OPERATIONAL SEQUENCES.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-000				SHUTILE COUNTDOWN CONTROL SEQUENCE (-43H THRU -36H)	
14-001	-1D19H00M T-43H00M	STM 111	JBPN	MAINTAIN FACILITY G02 AND G02 SYSTEMS FOR NORMAL SUPPORT PER PRE-OPERATION SETUP INSTRUCTIONS AND OPERATION INSTRUCTIONS OF OMI M3020 AND OPERATION INSTRUCTIONS OF OMI M3097. (HP2 - WDD02)	3321B 33217
14-002	-1D19H00M T-43H00M	*SCC 232 LTD	LTD STM	VERIFY SLIDEWIRE SYSTEM IS CONFIGURED FOR HAZARDOUS OPERATIONS.	
14-003	-1D19H00M T-43H00M	LTD 232 STM 111	STM JBAC	PRESSURIZE FSS ELEVATOR, RSS ELEVATOR AND HOIST MACHINE ROOMS. VERIFY WHEN COMPLETE (OMI M3027)	3321C 33215
				TERMINATE TOUR BUS ROUTE TO PAD-A	
14-004	-1D19H00M T-43H00M	LTD 105	*SEC	TERMINATE TOUR BUSES ROUTE PAST PAD-___ VIA NORTH BEACH AND PAD-___ ACCESS ROAD.	EG&G-430
14-005		*SEC 105	LTD	TOUR BUS ROUTE TO PAD-___ HAS BEEN TERMINATED.	EG&G-430
14-006	-1D19H00M T-43H00M	LTD 232 *SCC	*SCC *PSE	SET PAD WARNING LIGHTS AT B, E AND F ROADS, HIGH PRESS BATTERY AND PTCR N&S STAIRWELL TO FLASHING AMBER.	
14-007	-1D19H00M T-43H00M	STM 111 GYCC 117	GYCC JYCJ	INHIBIT ADMIN. PAGING TO PAD-A REPORT COMPLETION.	34300 34100

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NEXT STEP MUST BE PERFORMED
 PRIOR TO LOWERING THE SRB ESP.

14-008		TBC 232 LTD STM STM 111	LTD STM QBSE	REMOVE SRB HAUNCH HANDRAILS AND INSTALL MUSHROOM POST HOLE PLUGS. REPORT COMPLETION.	3322C 33226
					NOT PERFORMED

14-009		STM 111	GYCC	VERIFY ALL ROUTINE WORK ON WIRE FRAMES TERMINATED, WARNING LIGHTS ACTIVATED AND EXCEPTION ACCESS PROCEDURE IN EFFECT FOR THE SHUTTLE LAUNCH COUNTDOWN.	34300
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14-010				ORBITER POWER UP (-42H30M)	
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NOTE

SRB OI POWER UP PRIOR TO
 T-9 HOURS WILL BE PER
 CONTINGENCY SEQ 69, S0007
 VOL 4, FOR INSTRUMENTATION
 SCAN ONLY. SRSS VEHICLE
 POWER SHALL NOT BE ACTIVATED
 BEFORE T-50 MINUTES.

14-011	-1D18H30M T-42H30M	OTC		VERIFY ORBITER IN STANDARD POWER CONFIGURATION.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				CONFIGURE NMAJURTEST PSEUDO -----	
14-012			LPS	ISSUE NMAJURTEST PSEUDO TO VALUE OF 0007 HEXADECIMAL (7 DECIMAL) PER OMI C2008/C2015. REPORT COMPLETION.	31240
14-013				MMU COMPARE TAPE CHECK IN -----	
14-014	-1D18H30M T-42H30M	OTC 132	CVFS LPS	PERFORM ORBITER OPERATION SUPPORT *BCS SETUP 7 (MEMORY COMPARE TAPE CHECK IN) REPORT COMPLETION.	
14-015				SPC WALKDOWN -----	
14-016	-1D18H30M T-42H30M	LTD 232 OTC	OTC *PAD	PERFORM SPC OPERATION SUPPORT SETUP 1 (FINAL SPC OPERATIONS/ SAFETY FACILITY WALKDOWN) AND REPORT COMPLETION.	*BCS
14-017		LTD 232 STM 138	OTC TBC STM *SCC JYVU	UTV CAMERA USAGE ASSIGNMENTS FOR COUNTDOWN ARE PER OTV CAMERA USAGE MATRIX, FIG 4 (IN FRONT SECTION OF THIS VOLUME).	34200
				C&T STATION SETUP (V3528) -----	
14-018	-1D18H30M T-42H30M	OTC 132	RCRT	PERFORM OPERATION SUPPORT SETUPS 12 AND 25 OF OMI V3528 C AND T STATION INITIALIZATION (PAD OPTION).	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-019				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.					
IF DOD MISSION CMQC LOCAL VERIFICATION AT C10 REQUIRED. OIS VERIFICATION OF LOCAL SENSE TRANSFER NOT PERMITTED.					
14-020	-1D18H30M T-42H30M	UTC	CEPD	TRANSFER ORBITER MAIN BUS POWER SUPPLIES TO LOCAL SENSE PER JMI S9001. REPORT COMPLETION.	
14-021		CEPD	UTC 132	ORBITER MAIN BUS POWER SUPPLIES TRANSFER TO LOCAL SENSE HAS BEEN COMPLETED.	
14-022	-1D18H30M T-42H30M	JBWC	STM 111	SOUND SUPPRESSION WATER PREPS PER PRE-OPS INSTRUCTION OF OMI M3114 ARE COMPLETE.	3322B 33222
14-023	-1D18H30M T-42H30M	JBFX	STM 111	FIREX AND POTABLE WATER PREPS ARE COMPLETE. (M3092)	3322B 33222

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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ORDNANCE INFO STATUS

WARNING

UTILIZE CAUTION IN PERFORMANCE OF THIS PROCEDURE. ALL VEHICLE ORDNANCE ITEMS ARE INSTALLED AND CONNECTED FOR LAUNCH.

14-024	-1018H30M T-42H30M	*SCC 232	LTD	VERIFY ALL ORDNANCE S&A'S ARE IN A SAFE CONDITION.	
14-025		LTD 232	OTC TBC CTC	VERIFY ORDNANCE IS IN SAFE CONFIGURATION.	
14-026		LTD 232	OTC TBC SKD *SCC STM *SCC *PSE	VEHICLE ORDNANCE IS INSTALLED AND CONNECTED. UTILIZE CAUTION.	
14-027		OTC 132	*PAD	VEHICLE ORDNANCE IS INSTALLED AND CONNECTED. UTILIZE CAUTION.	
14-028	-1018H30M T-42H30M	*SCC 232	LTD	MEC CRITICAL CMDS ARE TO REMAIN DISABLED.	
		LTD 232	OTC		
		OTC 132	CEPD CDPS		

LOX DUMP BASIN CONFIG

14-029	-1018H30M T-42H30M	LTD 232	TBC	VERIFY A253 LOX DUMP BASIN VALVE IS OPEN.	*BCS
		TBC 136	*PAD		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-030				PREP FOR SRB ESP UPS (-42H30M)	
				NOTE	
				DO NOT PERFORM NEXT SEVEN STEPS IF SRB ESP'S ALREADY LOWERED.	
14-031		*SCC 232 LTD UTC 132	LTD OTC CSME	VERIFY ORBITER SSME PURGES OFF.	
				NOT PERFORMED	-----
14-032		TBC	*PAD	IF INSTALLED, REMOVE SRB THERMAL CURTAIN PROTECTIVE COVERS (RAIN CURTAINS) FROM BOTH SRB AFT SKIRTS.	
				NOT PERFORMED	-----
14-033	-1018H30M T-42H30M	*PAD 132 TBC 232	TBC LTD	ESP TRANSPORTER IS IN POSITION TO ACCEPT SRB ESP	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF SRB
 ESP'S ARE TO BE LOWERED
 AT NIGHT.

14-034		LTD 232 STM 111	STM JBEP	PORTABLE LIGHTING WILL BE REQUIRED AT TRANSPORTER FOR SRB ESP LOWERING.	3321A
				NOT PERFORMED	-----
14-035		LTD 232 UTC	UTC *PAD	ESTABLISH LOCAL CONTROL AREA (10 FT.) AT TRANSPORTER FOR LOWERING OF SRB ESP'S TO TRANSPORTER.	
				NOT PERFORMED	-----
14-036		*PAD 136 TBC 232	TBC LTD	LUCAL CONTROL AREA HAS BEEN ESTABLISHED FOR SRB ESP LOWERING TO TRANSPORTER. READY TO LOWER SRB ESP'S.	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-037				LOWER SRB ESP -----	
14-038	-1D18H30M T-42H30M	TBC 136	*PAD	GO TO DIS CHAN 142 AND LOWER SRB ESP'S PER UMI B2036.	*BCS
				NOT PERFORMED	-----
14-039				VERIFY GSE POWER SUPPORT (ET) -----	
14-040	-1D18H30M T-42H30M	TBC 232 LTD 232	LTD OTC	VERIFY/POWER UP 22D100, 23D300 POWER SUPPLIES WITH BACKUP BATTERIES TO SUPPORT UMI G2297. (THRU LAUNCH)	
				NOTE DO NOT PERFORM NEXT STEP IF P/S ALREADY POWERED UP.	
14-041	-1D18H30M T-42H30M	OTC 132	CEPD	POWER UP POWER SUPPLIES 22D100, 23D300, AND THEIR RESPECTIVE BACKUP BATTERIES (THRU LAUNCH) PER UMI S9001. REPORT COMPLETION.	
				NOT PERFORMED	-----
				22D500 POWER SUPPLY POWER UP -----	
				NOTE DO NOT PERFORM NEXT STEP IF POWER SUPPLY IS ALREADY POWERED UP.	
14-042		OTC	CEPD	POWER UP POWER SUPPLY 22D500 AND ENABLE BACKUP BATTERY PER UMI S9001. REPORT COMPLETION.	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-043				PREFLT VOLTS ADJUST -----	
14-044	-1D18H30M T-42H30M	OTC	CEPD	ADJUST PREFLT VOLTAGE TO REDUCE PREFLT TO ESS BUS LOAD	
14-045			CEPD	CRT (VAC28) VERIFY PF1 (1D500) ITCU VOLTAGE ----- DD PF1 (1D500) ITCU CURRENT ----- DD PF2 (1D600) ITCU VOLTAGE ----- DD PF2 (1D600) ITCU CURRENT ----- DD	
			CEPD	CURSOR CNTL (VAC28) USING UP/DOWN ADJUST CURSORS, REDUCE PF1 AND PF2 ITCU VOLTS BETWEEN 28.0 AND 28.5 VDC	
			CEPD	CRT (VAC28) VERIFY ADJUSTED VOLTS AND AMPS PF1 (1D500) ITCU VOLTAGE ----- DD PF1 (1D500) ITCU CURRENT ----- DD PF2 (1D600) ITCU VOLTAGE ----- DD PF2 (1D600) ITCU CURRENT ----- DD	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-046				OMS/RCS C&W RECONFIGURATION (-42H)	

NOTE

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

14-047 -1D18H00M UTC COOS PERFORM OMS/RCS C&W
 T-42H00M 132 RECONFIGURATION.

14-048 COOS PLT PANEL R13
 147 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. PARAM SEL TW'S -120

14-049 COOS UTC OMS/RCS C&W RECONFIG IS
 132 COMPLETE.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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CONFIG. COOLING (-42H)

NOTE

DO NOT PERFORM NEXT STEP
IF ORBITER POWER UP
PREVIOUSLY ACCOMPLISHED AND
ECLSS COOLING CONFIGURATION
CORRECT.

14-050	-1D18H00M T-42H00M	UTC	CECL	PERFORM GSE/ORBITER COOLING ACTIVATION OR RECONFIGURATION PER FOLLOWING TABLE PER OMI S9001 ON CH 143. REPORT COMPLETION.	
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NOT PERFORMED -----

CONFIGURATION TABLE

GCU'S AS REQUIRED
FCL 1 PUMP B (CABIN SW)
FCL 2 PUMP B (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 A (CABIN SW)
IMU FAN A AND C (CABIN SW)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-051				L-3 DAY POTABLE H2O SAMPLE ----- AND TANK A QTY ADJUST (-42H) -----	
14-052	-1018H00M T-42H00M	OTC 132 LTD 232 STM 853-3281/ -4034	CECL STM BIO1	PERFORM ORBITER POTABLE (L-3 DAY) WATER SAMPLES AND TANK A QUANTITY ADJUST PER SEQ 45 (S0007-V4) ON DIS CH 143. REPORT COMPLETION.	BIONETICS *BCS
				WMC FINAL STOWAGE COMPLETE -----	
14-053		*PAD 132	OTC	ORBITER PRE-OPERATION SETUP 20 - (WMC FINAL STOWAGE) IS COMPLETE.	Q:-----
				VERIFY AIR PURGES -----	
14-054	-1018H00M T-42H00M	OTC 132	*PAD PPVM	VERIFY ORBITER FORWARD, PAYLOAD BAY, AND AFT COMPARTMENTS AIR PURGE IS ACTIVATED PER OMI V1122.	
14-055				OBTAIn GTOE HEADSETS AND ----- EQUIPMENT -----	
14-056		OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 13 - (GTOE HEADSET EQUIPMENT DELIVERY) REPORT COMPLETION.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CL RSYS MONITOR ACTIVATION					
14-057		LTD 232	LPS	ACTIVATE SLP50	
14-058	-1D18H00M T-42H00M		LPS	VERIFY ALL REDUNDANT SWITCHES ACTIVE.	31240
14-059			LPS	VERIFY THE NEXT PGM WILL COME UP IN CONCURRENCY 6	31240
14-060			LPS	PERFORM PROGRAM SLPP1 AT MASTER CONSOLE	31240
14-061			LPS	HOME CMD KEY - PRESS SLPP1 PERF PGM KEY - PRESS CRT (SLPP1) SELECT SITE CONSOLE KYBD ----- (KSC A OR KSC B) XMIT RESP KEY - PRESS VERIFY SLPP1 IS ACTIVE TASK 6 CURSOR CNTL - CL RSYS XFER XMIT CUR - PRESS CRT (SLP50) PROGRAM ACTIVE AT MASTER CONSOLE CURSOR BLOCKS SOLID - SYS	31240
14-062		LPS 232 LTD OTC OTC	LTD OTC CTPE	SLP50 ACTIVE	31240

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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14-063				LPS CHECKPOINT RESTART	
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NOTE

DO NOT PERFORM NEXT TWO
 STEPS IF \$FEPCPR ALREADY
 ACTIVE AT MSTR CONSOLE.

14-064	-1D18H00M T-42H00M	LTD 232	LPS	PERFORM CHECKPOINT RESTART AT MASTER CONSOLE.	31240
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NOT PERFORMED

NOTE

NEXT STEP TAKES APPROX.
 20 MINUTES TO COMPLETE.

14-065			LPS	C1MC \$FEPCPR (PG-A)	31240
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SELECT PFK 15 - PRESS
 SELECT PFK 9 - PRESS
 SELECT PFK 11 - PRESS
 SELECT PFK 9 - PRESS
 VERIFY ALL FEP'S ARE BEING
 INITIALIZED

NOT PERFORMED

14-066	-1D18H00M T-42H00M		LPS	\$FEPCPR (PG-A) FOR EACH FEP SELECT PFK4 - PRESS SELECT PFK9 - PRESS	31240
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14-067			LPS	C1MC \$FEPCPR (PG-A) SELECT PFK15 - PRESS SELECT PFK9 - PRESS	31240
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14-068			LPS	C1MC \$FEPCPR - TERM PGM CONSOLE KYBD	31240
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14-069			LPS	C1MC VERIFY ACTIVE PROGRAMS AT MASTER C3MC CONSOLE:	31240
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AA001 (TCB3)
 \$HWMON (TCB4)
 ANP01 (TCB5)
 SLPP1 (TCB6)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-070		LPS	CISE	CONSOLE KYBD \$PRINT V4 CF CANC - PERF PGM \$PRINT V4 CF PCMSS1 - PERF PGM \$PRINT V4 CF PCMSS2 - PERF PGM \$PRINT V4 CF CFPENDS1 - PERF PGM \$PRINT V4 CF OPF128 - PERF PGM \$PRINT V4 CF OIAS1 - PERF PGM \$PRINT V4 CF GPCAS1 - PERF PGM \$PRINT V4 CF UISS2 - PERF PGM \$PRINT V4 CF GPCSS2 - PERF PGM \$PRINT V4 CF MEPL0T - PERF PGM \$PRINT V4 CF RFSW1 - PERF PGM \$PRINT V4 CF RFSW2 - PERF PGM	
14-071		CISE	LPS	COMMAND FILES HAVE BEEN LOADED, CHECKED AND VERIFIED.	
14-072		LPS	C1MC	VERIFY THE FOLLOWING ULSA POWER MONITORS INDICATE ON. DEMON DISPLAY: (220200 ON) G78X0100E (6881) = ON G78X0110E (6882) = ON G78X0140E (6885) = ON	31240
14-073		LPS		VERIFY BIO-MED HEALTH LITE TOGGLING ON MSTR CONSOLE SAFING PANEL.	31240
14-074		LPS		VERIFY ALL REDUNDANT CPU'S NOT IN REDUNDANT SWITCH CONFIGURATION. (TCG,GSE,PDR/SPA,LDB,OI,GPC)	31240

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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 VERIFY P/P - RECORDER

 CONSUMABLES - ADEQUATE

NOTE

IN NEXT STEP, DO NOT DISCARD
 ANY PRINTER PLOTTER OUTPUTS
 FROM TAKE-UP REELS OR BASKETS.

14-075	-1D18H00M T-42H00M	LTD	LPS	VERIFY ADEQUATE SUPPLY OF CONSUMABLES ARE AVAILABLE IN THE CONSOLE PRINTER/PLOTTERS (300 SHEETS), SCRS PRINTER/PLOTTER SUBSYSTEMS, BIO-MED RECORDER AND LINE PRINTERS (1/2 BOX MINIMUM). REPORT CONSOLE BULK SEMI'S ERROR STATUS.	31240
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14-076				ET POWERUP (-42H00M) -----	
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NOTE

DO NOT PERFORM NEXT FOUR
 STEPS IF ET PWR ALREADY UP.

14-077	-1D18H00M T-42H00M	LTD	TBC	PROCEED WITH ET POWER UP PER OMI S9001. NOT PERFORMED	-----
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14-078		TBC	OTC	REQUEST CMPS AND CISL SUPPORT OTC CMPS ET POWER UP ON OIS CH165. 132 NOT PERFORMED	-----
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14-079	-1D18H00M T-42H00M	TBC	CISL	PERFORM ET OI POWER UP PER CMPS OMI S9001 AND INSTRUMENTATION MONITOR PER SEQ 38 (S0007VL4) ON CH 165. NOT PERFORMED	*BCS -----
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14-080	-1D17H40M T-41H40M	CISL	TBC	ET POWER UP COMPLETE. 136 TBC LTD 232 NOT PERFORMED	-----
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-081				BFC TEST (DPS TO FMT 20) -----	
14-082	-1D17H40M T-41H40M	OTC 232	LTD	DPS WILL BE CONFIGURED TO OPS 0. POLLING WILL REMAIN ON BUT ALL FLIGHT CRITICAL STRINGS WILL BE DEASSIGNED FOR ALL GPC'S.	
14-083	-1D17H40M T-41H40M	OTC 132	CDPS	PERFORM ORBITER BACKUP FLT CONTROLLER TEST PER SEQ 49 (S0007-V4). UMRSD V72AV0.130 UMRSD V79AJ0.005	*BCS
14-084				ET SENSE LINE REMOVAL -----	

NOTE

DO NOT PERFORM NEXT TWO
 STEPS IF ET SENSE LINES
 PREVIOUSLY DISCONNECTED AND
 REMOVED.

14-085	-1D17H30M T-41H30M	OTC 232 LTD	LTD TBC	REQUEST ET CONCURRENCE TO DISCONNECT ET SENSE LINES. NOT PERFORMED	-----
14-086	-1D17H30M T-41H30M	LTD 232 OTC 132	OTC *PAD	(SEQ 07) DISCONNECT AND REMOVE ET SENSE LINES PER OMI V9018. NOT PERFORMED	*BCS -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-087				INTERCENTER VOICE CHECKS (-41H30M)	

NOTE

NEXT STEP REQUIRES ACCESS
TO FIRING ROOM CONSOLES.

DO NOT PERFORM NEXT STEP IF
CHECKS PREVIOUSLY PERFORMED.

14-088	-1D17H30M T-41H30M	LTD 232 STM 111 GYCC 117	STM GYCC *MIL GOIS JYCL JYCY	PERFORM INTER-CENTER END-TO-END VOICE CHECKS PER OMI D3012. REPORT COMPLETION. (6 HOURS)	34300 34100 SC-COM MILA *BCS
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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14-089				AIRLUCK CLOSEOUT	
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NOTE

DO NOT PERFORM NEXT STEP
 IF AIRLUCK CLOSED OUT FOR
 FLIGHT PRIOR TO TEST.

14-090	-1D17H30M T-41H30M	OTC	*PAD ASP	PERFORM ORBITER OPERATION SUPPORT SETUP 22 (ORBITER AIRLUCK CLOSEOUT) REPORT COMPLETION. (1H00M)	*BCS
				NOT PERFORMED	-----

14-091	-1D17H00M T-41H00M	*PAD	OTC 132	ORBITER OPERATION SUPPORT SETUP 13 - GTOE HEADSET EQUIPMENT DELIVERY IS COMPLETE. (HEADSETS ARE STORED IN WHITEROOM.)	
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14-092	-1D17H00M T-41H00M	CECL	OTC	ORBITER POTABLE (L-3 DAY) WATER SAMPLES AND TANK A QUANTITY ADJUST COMPLETE.	
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14-093				WASTE TANK QUANTITY ADJ	
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NOTE

ACCESS TO WCS IS REQUIRED TO
 SUPPORT WASTE TANK QUANTITY
 ADJUST (IF WASTE TANK QUANTITY
 ADJUST PERFORMED AS PART OF
 COUNTDOWN).

14-094	-1D17H00M T-41H00M	OTC	CECL	PERFORM WASTE TANK QUANTITY ADJUST PER SEQ 45 (S0007-V4) IF REQUIRED TO ENSURE ENOUGH ULLAGE TO ACCEPT HUM SEP WATER FOR 36 HOURS. REPORT COMPLETION.	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-098				ET WALKDOWN (USSU 4) -----	
14-099	-1D17H00M T-41H00M	TBC 136	*PAD	PERFORM ET OPERATION SUPPORT SETUP 4 - FSS AND MLP WALKDOWN INSPECTION.	*BCS
14-100				ET POWER MONITORING AND HEATER ----- VERIF (-41H) -----	
14-101	-1D17H00M T-41H00M	TBC 136	CPWR	PERFORM ET POWER MONITORING AND HEATER VERIFICATION PER SEQ 05 (S0007 VL4).	*BCS
14-102		CPWR 136	TBC	ET POWER MONITORING AND HEATER VERIFICATION IS COMPLETE. BACKUP FLT CONTROLLER TEST COMPLETE -----	
14-103	-1D16H40M T-40H40M	CDPS 132	OTC	BACKUP FLT CONTROLLER TEST COMPLETE (SEQ 49 S0007-V4). ORBITER ACTIVE IN SINGLE WITH SIMPLEX GPC 1 IN UPS 0 UPS IS READY TO TRANSITION TO G9	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-104				DPS TO FMT 44/G9/SIMPLEX (-40H40M)	
14-105		OTC 232 LTD	LTD TBC	DPS IS SWITCHING TO DOWNLIST 44.	
14-106	-1D16H40M T-40H40M	OTC 132	CDPS LPS	CONFIGURE GPC 1 TO G9/129/44 PER SEQ. 49 (S0007-V4). REPORT COMPLETION.	31240
				DPS TRANSITION COMPLETE	
14-107		CDPS 132 UTC	OTC LTD	TRANSITION TO G9 129/44 COMPLETE. MDM'S FF1, FF2, FF3 ARE UNMASKED.	
14-108				OMS QUANTITY GAGING CHECKS	
NOTE					
NEXT STEP WILL INVOLVE REMOVAL AND RE-INSTL OF L/R OMS GSE SERVICING PANELS 59-1/59-2 IF DATA NUT ACCEPTABLE TO COOS.					
14-109	-1D16H40M T-40H40M	OTC 132	COOS	PERFORM ORBITER OPERATION SUPPORT SETUP 8 - OMS QUANTITY GAGING CHECKS. REPORT COMPLETION.	
14-110	-1D16H30M T-40H30M	COOS 132	OTC	ORBITER OPERATION SUPPORT SETUP 8 - OMS QUANTITY GAGING CHECKS IS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-111				VENT DOOR LOGIC SW. CONFIG. -----	
14-112		OTC	CPVD	POSITION ALL VENT DOORS TO NORMAL PURGE POSITION AND ACTIVATE VENT DOORS 1 & 2 AND 8 & 9 CONTROL LOGIC PER UMI V1122. REPORT COMPLETION.	
14-113		LTD PA 232		ATTEN PAD ---: ALL PERSONNEL STAND CLEAR OF ORBITER VENT DOORS.	
14-114		CPVD 132 UTC 232	OTC LTD	ORBITER VENT DOORS HAVE BEEN POSITIONED TO NORMAL PURGE POSITION AND VENT DOORS 1 & 2 AND 8 & 9 CONTROL LOGIC IS ACTIVE. (OMI V1122)	
14-115		LTD 232	OTC *SCC	ORBITER VENT DOOR MOVEMENT IS COMPLETED.	
14-116				VERIFY GMT UPDATE (DPS) -----	
14-117	-1016H30M T-40H30M	OTC	CDPS	VERIFY THAT GMT UPDATE WAS PERFORMED DURING LAST POWER UP. UMRSD S00FK0.020	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

THE DIS FEP MAY GIVE A
"NO-GO" INDICATION FOR 1-2
SECONDS DURING DELTA CHECK.

14-118		CDPS		CURSOR CNTL (SAS01 PG-B) COMPUTER SYSTEMS XMIT CURSOR KEY - PRESS CURSOR CNTL (SAS01 PG-B) TIME UPDATE PROGRAM XMIT CURSOR KEY - PRESS PFK 2 KEY - PRESS	
14-119		CDPS		CURSOR CNTL (SAS25 PG-B) DETERMINE MET/GMT DELTA (NO UPDATE) XMIT CURSOR KEY - PRESS	
14-120		CDPS		CRT (SAS25 PG-B) VERIFY DELTA = 0 MSEC +/- 500 MSEC	

NOTE

IF DELTA IS NOT
0 MSEC +/- 500 MSEC,
PERFORM THE NEXT
STEP.

14-121		CDPS		CURSOR CNTL (SAS25 PG-B) SELECT ANOTHER OPTION XMIT CURSOR KEY - PRESS CURSOR CNTL (SAS25 PG-B) UPDATE MET XMIT CURSOR KEY - PRESS	
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NOT PERFORMED -----

14-122		CDPS		CURSOR CNTL (SAS25 PG-B) TERMINATE VAS58 XMIT CURSOR KEY - PRESS UMRSD S00FK0.020	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-123				MEC CRITICAL CMD STATUS (DPS) -----	
14-124	-1D16H30M T-40H30M	OTC	CDPS	VERIFY MEC CRITICAL CMDS ARE DISABLED.	
14-125		CDPS	CDR	L KYBD SPEC 100 PRO CRT 1 GTS DISPLAY VERIFY ITEM 26* L KYBD RESUME	
14-126		CDPS	OTC	MEC CRITICAL CMDS ARE DISABLED.	
14-127		OTC 132 OTC 232 LTD 232	CDPS CEPD LTD *SCC TBC	MEC CRITICAL CMDS SHALL REMAIN DISABLED FOR REMAINDER OF TEST	
14-128				LOAD FMT 160 (-40H30M) -----	
14-129	-1D16H30M T-40H30M	OTC	CDPS	LOAD TFL FORMAT 160 HDR PER LPS SEQ. 49 (S0007-V4) AND REPORT WHEN COMPLETE.	31240
14-130		CDPS	OTC	DI FORMAT 160 HAS BEEN LOADED.	
14-131				CONFIG FOR DUAL LDB (-40H15M) -----	
14-132	-1D16H15M T-40H15M	OTC	ALL	MOMENTARY LDB OUTAGE WILL OCCUR.	
14-133		OTC 132	CDPS LPS	CONFIGURE FOR DUAL LDB OPERATION PER SEQ 49 (S0007-V4) AND REPORT COMPLETION.	31240
14-134		CDPS 132	OTC	LDB CONFIGURED FOR DUAL OPERATION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-135				DPS TRANSITION TO G9/PL9/160/44/48 ----- (DUAL OPS MODE) (-40H15M) -----	
14-136		OTC 232 LTD	LTD TBC	DPS WILL BE CONFIGURED TO G9/PL9/160/44/48.	
14-137		OTC 132	CDPS LPS	CONFIGURE DPS TO G9/PL9/160/44/48 31240 PER SEQ. 49 (S0007-V4) TO SUPPORT *BCS MASS MEMORY PATCH/COMPARE. REPORT COMPLETE.	

NOTE

DO NOT PERFORM NEXT STEP
 IF AIRLOCK CLOSED OUT FOR
 FLIGHT PRIOR TO TEST.

14-138	-1D16H00M T-40H00M	*PAD 132 OTC 232	OTC LTD	ORBITER OPERATION SUPPORT SETUP 22 - ORBITER AIRLOCK CLOSEOUT IS COMPLETE.	
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NOT PERFORMED -----

WASTE TANK QUANTITY ADJUST COMPLETE

NOTE

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

14-139	-1D16H00M T-40H00M	CECL 132	OTC	WASTE TANK QUANTITY ADJUST COMPLETE. (SEQ 45 S0007-V4)	
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NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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 WMC CLOSEOUT - COMPLETE

14-140	-1016H00M T-40H00M	*PAD	OTC 132	ORBITER OPERATION SUPPORT SETUP 39 - WMC KSC INSPECTION AND CLOSEOUT COMPLETE.	
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Q:-----

NOT PERFORMED

14-141				WASHDOWN PAD SURFACE AND FLAME ----- TRENCH (-40H) -----	
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NOTE

DO NOT PERFORM NEXT
 STEP IF PAD AND FLAME
 TRENCH ARE CLEAN.

14-142	-1016H00M T-40H00M	LTD	STM	PERFORM WASHDOWN OF PAD SURFACE AND FLAME TRENCH. STM JB DY (COORDINATE WITH JBFX 7-2676) 111 REPORT COMPLETION. (4 HRS) JB DY WBIM 7-4567	36010 *BCS 33216
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				TRANSITION TO G9/PL9 COMPLETE	
14-143	-1D15H45M T-39H45M	CDPS	OTC	TRANSITION TO G9/PL9/160/44/48 COMPLETE. CVFS STARTING MMU OPERATIONS.	*BCS
				NOTE	
				CONSOLE C12 (DPS) CONNECTED TO PL9 LDB. ALL OTHER FIRING ROOM CONSOLES HAVE ACCESS TO THE G9 LDB.	
14-144				MMU DUMP/COMPARE (-39H45M)	
				NOTE	
				PERFORM NEXT STEP IF MMU 1 WILL BE LOADED OR PATCHED.	
14-145	-1D15H45M T-39H45M	OTC 132	CVFS LPS	PATCH MMU 1 PER OMI V1184.	31240
				NOT PERFORMED	-----
14-146		OTC	CVFS LPS	DUMP AND COMPARE MMU 1 PER SEQ 49 (S0007 V-4). REPORT COMPLETION.	*BCS 31240
				OMRSD S00P00.170	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF MMU 2
 WILL BE LOADED OR PATCHED.

14-147		DTC 132	CVFS LPS	PATCH MMU 2 PER UMI V1184.	31240
				NOT PERFORMED	-----

14-148		DTC	CVFS LPS	DUMP AND COMPARE MMU 2 PER SEQ 49 (S0007 V-4). REPORT COMPLETION.	31240
				OMRSD S00P00.170	
				SRB ESP'S ON TRANSPORTER	

NOTE

DO NOT PERFORM NEXT STEP
 IF SRB ESP LOWERED
 PREVIOUSLY.

14-149	-1D15H30M T-39H30M	*PAD 136 TBC 232 LTD	TBC LTD *SCC	SRB ESP LOWERING IS COMPLETE, PER UMI 82036. SRB ESP'S ARE ON TRANSPORTER.	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-150				SECURE PORTABLE UIS UNITS (-39H30M)	

NOTE

PERFORM NEXT TWO STEPS
 WHEN SRB ESP OPS COMPLETE.

14-151	-1D15H30M T-39H30M	LTD 232	STM	REMOVE THE FOUR PORTABLE UIS UNITS, USED IN SUPPORT OF SRB	34300 34100
		STM 111	GYCC	ESP OPERATIONS, FROM ZERO LEVEL OF MLP, INBOARD AND OUTBOARD OF	
		GYCC 117	JYCY	FLAME HOLES. VERIFY COMPLETION. (30 MIN)	

14-152		STM 111	JBPN	REMOVE PURGE FLEXHOSE AT PORTABLE UIS LOCATION ON MLP AFTER LCOM REMOVES UIS BOXES, PER OPERATION INSTRUCTIONS OF UMI M3089 (STA WDG02). REPORT COMPLETION. (30 MIN)	33218 33217
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14-153				ESP TRANSPORTER MOVE TO ORBITER POSITION (-39H30M)	
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NOTE

NEXT THREE STEPS MAY HAVE BEEN COMPLETED PRIOR TO TEST. IF THIS SITUATION EXISTS, MARK NEXT THREE STEPS AS NOT PERFORMED.

14-154	-1D15H30M T-39H30M	STM 111	JBDY	PROVIDE TWO FORK LIFTS AND PERSONNEL TO SUPPORT ENGINE SERVICE PLATFORM TRANSPORTER MOVE TO ORBITER ESP POSITION (Q3207, Q3208). REPORT COMPLETION. (30 MIN.)	33223 *BCS
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NOT PERFORMED

14-155	-1D15H30M T-39H30M	LTD 232	*SCC	ESP TRANSPORTER WILL BE MOVED TO ORBITER POSITION.	
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
14-156	-1D15H30M T-39H30M	LTD 232 OTC	OTC *PAD	CLEAR 25 FT AROUND ESP TRANSPORTER AND MOVE TO ORBITER POSITION PER UMI V2274.	

ESSENTIAL PERSONNEL FOR ESP OPS

	ORB	NASA	LFAC	SPC
ENGR	1	1 (UPT)		
QUAL	.1		1	
TECH	4		5	
SAF		1		1

NOT PERFORMED

14-157

MCDS OTV CAMERA REMOVAL (-39H)

NOTE

IF DOD MISSION, DO NOT
 PERFORM NEXT STEP.
 (CAMERA NOT INSTALLED)

14-158	-1D15H00M T-39H00M	OTC LTD 232 STM 138 JYVO 117	*PAD STM JYVR GYCC	PERFORM MCDS OTV CAMERA REMOVAL FROM ORBITER CREW MODULE PER: JC V33-00012 - MCDS OTV CAMERA/BRACKET AND OIS UNITS REMOVAL	34300 34200 *BCS
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VERIFY COMPLETION. (30 MIN)

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NEXT TWO STEPS MAY HAVE BEEN COMPLETED PRIOR TO TEST. IF THIS SITUATION EXISTS, MARK NEXT TWO STEPS AS NOT PERFORMED.

14-159	-1D14H00M T-38H00M	*PAD 132 OTC 232 LTD	OTC LTD *SCC	ESP TRANSPORTER IN POSITION TO ACCEPT ORBITER ESP.	
NOT PERFORMED					-----

SRB FLAME DEFLECTOR MOVE TO

 LAUNCH POSITION

14-160	-1D14H00M T-38H00M	STM NET JBWC JBDY JBDY	QBSE 104 WEST SIDE FIRST) WIRE ROPES SOUTH OF SRB SIDE GBHE	MOVE SRB FLAME DEFLECTOR INTO LAUNCH POSITION PER M3018 (MOVE WEST SIDE FIRST) MOVE POSTS AND WIRE ROPES SOUTH OF SRB SIDE FLAME DEFLECTORS, AT FLAME TRENCH EDGE. PLACE POSTS AND WIRE ROPES NORTH OF SRB SIDE FLAME DEFLECTORS AT FLAME TRENCH EDGE (4 HRS).	3322C 33226 33223 *BCS
NOT PERFORMED					-----

14-161				DISC OMS TRICKLE PURGE (-37H)	

14-162	-1D13H00M T-37H00M	OTC 132	*PAD	DISCONNECT OMS TRICKLE PURGE PER OMI V9021. REPORT COMPLETION.	*BCS
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

				INSTALL AND FILL PRIMARY H2O	

				TROUGHS (-36H30M)	

NOTE

DO NOT PERFORM NEXT STEP
 IF WORK WAS ACCOMPLISHED
 PRIOR TO THIS TEST.

14-163	-1D12H30M T-36H30M	STM NET	QBSE 104	INSTALL AND FILL SS PRIMARY H2O TROUGHS (WORK EAST SIDE FIRST) (8 HRS). REPORT COMPLETION.	3322C 33226 *BLS
NOT PERFORMED					-----

14-164				PUMP HOLDING PONDS (-36H)	

NOTE

DO NOT PERFORM NEXT STEP
 IF HOLDING PONDS CONTAIN
 LESS THAN SIX INCHES OF
 WATER.

14-165	-1D12H00M T-36H00M	STM 111	JBDY WMSI 7-2337	PUMP (TWO) PAD ___ HOLDING PONDS. REPORT COMPLETION. (8 HRS)	WILTECH *BCS
NOT PERFORMED					-----

NOTE

DO NOT PERFORM NEXT STEP
 IF WORK WAS ACCOMPLISHED
 PRIOR TO THIS TEST.

MLP/PAD SS I/F CONN. (-36H)

14-166	-1D12H00M T-36H00M	STM 111	JBWC	CONNECT MLP/PAD SOUND SUPPRESSION WATER INTERFACE PIPES PER OPERATION INSTRUCTIONS OF OMI M3114 (CONNECT WEST SIDE FIRST) (8 HRS). REPORT COMPLETION OF EACH CONNECTION.	3322B 33222 *BCS
NOT PERFORMED					-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0000				SHUTTLE SYSTEMS ACTIVATION CONTROL SEQUENCE (-35H45M TO -6H05M)	
15-0001	-1D11H45M T-35H45M	CVFS	OTC	MMU DUMP AND COMPARE IS COMPLETE.	
15-0002		OTC 132	CDPS	PERFORM ORBITER OPERATION SUPPORT SETUP 24 - TFL/DFL. REPORT COMPLETION.	
15-0003		OTC	CDPS	PERFORM OPERATION SUPPORT SETUP 36 - GMT DELTA CHECK (S0007 VL1).	
15-0004		CDPS	OTC	OPERATION SUPPORT SETUP 36 - GMT DELTA CHECK IS COMPLETE.	
15-0005				DEU MEMORY DUMP PREPS -----	
15-0006		OTC 132	CDPS LPS	PERFORM DEU MEMORY DUMP PREPS PER SEQ 49 (S0007-V4).	31240
15-0007				DEU 1/2/4 LOAD (-35H30M) -----	
15-0008	-1D11H30M T-35H30M	UTC	CDPS LPS	PERFORM DEU 1, 2 AND 4 LOAD PER SEQ 49 (S0007-V4). (30 MIN)	*BCS 31240
NOTE					
DO NOT PERFORM NEXT STEP IF INTER-CENTER VOICE CHECKS PREVIOUSLY PERFORMED.					
15-0009	-1D11H30M T-35H30M	GYCC 111 STM 232	STM LTD	INTER-CENTER END-TO-END VOICE CHECKS PER OMI D3012 ARE COMPLETE.	34300

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0010				PRELIM GN2 PREPS (-35H30M) -----	
15-0011	-1D11H30M T-35H30M	OTC 132	*PAD PPVM	PERFORM PRELIMINARY GN2 PREPARATIONS (SYSTEM STATUS VERIFICATION SEQUENCE) PER OMI V1122, REPORT COMPLETION. (8 HRS).	
15-0012				DPS IN G9 STANDALONE (-35H) -----	
15-0013		CDPS 132	OTC	DPS WILL BE TRANSITIONING TO G9 129/44	
15-0014	-1D11H20M T-35H20M	CDPS 132 OTC 232 LTD	OTC LTD TBC	PL-9 HAS BEEN TERMINATED. DPS IS IN G9 129/44 AND NORMAL LDB OPERATION HAS BEEN RESUMED.	*BCS
15-0015		LPS	CPDR	VERIFY LDBM SYSTEM CONFIGURED DUAL REJECT.	31240
NOTE					
IF DOD MISSION, DO NOT PERFORM NEXT STEP.					
15-0016	-1D11H20M T-35H20M	OTC	CDPS	PERFORM FINAL DFL FOR FLIGHT PER SEQ 49 (S0007V4). REPORT COMPLETION. (15 MIN).	
NOT PERFORMED -----					
15-0017		OTC	CDPS	IF DOD MISSION, PERFORM ITEM 6.12 APPENDIX Q.	
NOT PERFORMED -----					
15-0018				DEU 1 DUMP AND COMPARE -----	
15-0019	-1D11H00M T-35H00M	OTC 132	COOS LPS	PERFORM DEU 1 - MEMORY DUMP AND COMPARE PER SEQ 49 (S0007-V4). (10 MIN.)	31240 *BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0020		*PAD 132	OTC	ORBITER PRE-OPERATION SETUP 21 - FLIGHT CREW SYSTEM FIRST STOWAGE COMPLETE. REMOVE MIDDECK PLATFORMS (-35H)	

NOTE

DO NOT PERFORM NEXT STEP
 IF CFES IS BEING FLOWN.

15-0021		OTC 132	*PAD	PERFORM A70-0558 MIDDECK PLATFORM REMOVAL PER: JC V65-90006 - PLATFORM ACCESS SET, A70-0558 PARTIAL MIDDECK, CREW MODULE VERTICAL, REMOVAL REPORT COMPLETION. NOT PERFORMED	
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15-0022 MET INITIALIZATION (-35H)

15-0023	-1D11H00M T-35H00M	OTC	CEPD CDR	PERFORM ORBITER MET INITIALIZATION PER SEQ 50 (S0007- V4) ON CHNL 151. REPORT COMPLETION.	*BCS
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15-0024 UMS/RCS AC VALVE CYCLING

15-0025	-1D11H00M T-35H00M	LTD PA		ALL PERSONNEL CLEAR 10 FT AROUND AFT RCS JETS ON THE RSS 107 FT LVL FOR UMS/RCS VALVE CYCLING.	
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15-0026		LTD 232 *SCC 105	*SCC *PSE	VERIFY ALL PERSONNEL CLEARED 10 FT FROM RCS JETS ON RSS 107 FT LVL.	
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15-0027		*PSE 105 *SCC 232	*SCC LTD	ALL PERSONNEL ARE CLEARED 10 FT FROM AFT RCS JETS.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0028		LTD 232 OTC 132	OTC COOS	PERFORM OMS/RCS AC VALVE CYCLING.	

CAUTION

DO NOT OPEN ANY RCS TANK OR XFEED VALVES WITH A DELTA PRESSURE GREATER THAN 25 PSID ACROSS THE VALVE.

NOTE

DO NOT PERFORM NEXT FOUR STEPS IF KOMS X-FEED B VALVES (VWD41-C6, VWD42-C6) ARE OPEN.

15-0029 COOS CURSOR CNTL (VWD42)

1. T1 - CLOSED
2. T2 - CLOSED
3. T3 - CLOSED
4. C4 - CLOSED
5. C1 - UPEN
6. C1 - CLOSED
7. C2 - UPEN
8. C2 - CLOSED
9. T1 - UPEN
10. T2 - UPEN
11. T3 - UPEN

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0030		COOS		CURSQR CNTL (VWD42)	
			1.	T12 - CLOSED	
			2.	T13 - CLOSED	
			3.	T14 - CLOSED	
			4.	C7 - OPEN	
			5.	C7 - CLOSED	
			6.	C8 - OPEN	
			7.	C8 - CLOSED	
			8.	T12 - OPEN	
			9.	T13 - OPEN	
			10.	T14 - OPEN	
			11.	C6 - OPEN	
			12.	C6 - CLOSED	
			13.	C4 - OPEN	

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0031		COOS		CURSOR CNTL (VWD41)	
				1. T1 - CLOSED	
				2. T2 - CLOSED	
				3. T3 - CLOSED	
				4. C4 - CLOSED	
				5. C1 - OPEN	
				6. C1 - CLOSED	
				7. C2 - OPEN	
				8. C2 - CLOSED	
				9. T1 - OPEN	
				10. T2 - OPEN	
				11. T3 - OPEN	

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0032		COOS		CURSOR CNTL (VWD41)	
			1.	T12 - CLOSED	
			2.	T13 - CLOSED	
			3.	T14 - CLOSED	
			4.	C7 - OPEN	
			5.	C7 - CLOSED	
			6.	C8 - OPEN	
			7.	C8 - CLOSED	
			8.	T12 - OPEN	
			9.	T13 - OPEN	
			10.	T14 - OPEN	
			11.	C6 - OPEN	
			12.	C6 - CLOSED	
			13.	C4 - OPEN	

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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CAUTION

DO NOT OPEN ANY RCS TANK OR XFEED VALVES WITH A DELTA PRESSURE GREATER THAN 25 PSID ACROSS THE VALVE.

NOTE

DO NOT PERFORM NEXT FOUR STEPS IF LOMS X-FEED B VALVES (VWD41-C4, VWD42-C4) ARE OPEN.

15-0033

COOS

CURSOR CNTL (VWD42)

1. T1 - CLOSED
2. T2 - CLOSED
3. T3 - CLOSED
4. C6 - CLOSED
5. C1 - OPEN
6. C1 - CLOSED
7. C2 - OPEN
8. C2 - CLOSED
9. T1 - OPEN
10. T2 - OPEN
11. T3 - OPEN

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0034		COUS		CURSOR CNTL (VWD42)	
				1. T12 - CLOSED	
				2. T13 - CLOSED	
				3. T14 - CLOSED	
				4. C7 - OPEN	
				5. C7 - CLOSED	
				6. C8 - OPEN	
				7. C8 - CLOSED	
				8. T12 - OPEN	
				9. T13 - OPEN	
				10. T14 - OPEN	
				11. C4 - OPEN	
				12. C4 - CLOSED	
				13. C6 - OPEN	

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0035		COOS		CURSOR CNTL (VWD41)	
			1.	T1 - CLOSED	
			2.	T2 - CLOSED	
			3.	T3 - CLOSED	
			4.	C6 - CLOSED	
			5.	C1 - OPEN	
			6.	C1 - CLOSED	
			7.	C2 - OPEN	
			8.	C2 - CLOSED	
			9.	T1 - OPEN	
			10.	T2 - OPEN	
			11.	T3 - OPEN	

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0036		COOS		CURSOR CNTL (VWD41)	
				1. T12 - CLOSED	
				2. T13 - CLOSED	
				3. T14 - CLOSED	
				4. C7 - OPEN	
				5. C7 - CLOSED	
				6. C8 - OPEN	
				7. C8 - CLOSED	
				8. T12 - OPEN	
				9. T13 - OPEN	
				10. T14 - OPEN	
				11. C4 - OPEN	
				12. C4 - CLOSED	
				13. C6 - OPEN	
				NOT PERFORMED	-----
15-0037		COOS OTC 132 OTC LTD 232		DMS/RCS AC VALVE CYCLING IS COMPLETE. REQUEST SAFETY PERFORM SNIFF CHECKS FOR MMH AND N2O4. OMRSD S00FB0.285	
15-0038		LTD *SCC 232 *SCC *PSE 105		PERFORM TOXIC VAPOR CHECKS FOR MMH AND N2O4 AROUND THE AFT RCS JETS.	
15-0039		*PSE *SCC 105 *SCC LTD 232		SNIFF CHECKS BELOW TLV. AREA IS OPEN FOR CONTROLLED WORK. N2O4 ----- PPM MMH ----- PPM	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				DEU 1 DUMP AND COMPARE - COMPLETE	
15-0040	-1D10H50M T-34H50M	CODS	OTC	DEU 1 DUMP AND COMPARE IS COMPLETE. (SEQ 49 - S0007-V4).	
15-0041				LOAD BFS IN GPC 5 (-34H50M)	

NOTE

DO NOT LOAD BFS UNTIL
 DEU 1 DUMP COMPLETE.

15-0042	-1D10H50M T-34H50M	UTC 132	CDPS LPS	LOAD AND DUMP BFS PROGRAM IN GPC 5 PER SEQ 49 (S0007 V-4) ON CH 152. REPORT COMPLETION. (30 MIN.)	31240 *BCS
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0043				CLEAR FOR OMS ENGINES COVER AND THROAT PLUG REMOVALS	
15-0044		LTD PA		ATTEN PAD ___: ALL PERSONNEL NOT SUPPORTING OMS ENGINE COVER AND THROAT PLUG REMOVALS CLEAR A 10 FT RADIUS OF ORBITER OMS ENGINES.	
15-0045	-1D10H30M	LTD 232 *SCC	*SCC *PSE	VERIFY NON-ESSENTIAL PERSONNEL ARE CLEARED OF 10 FT. RADIUS FROM OMS ENGINES AND ESSENTIAL PERSONNEL ARE PROPERLY ATTIRED. PERFORM TOXIC VAPOR CHECKS DURING REMOVAL OF OMS ENGINE THROAT PLUGS AND COVERS.	
				ESSENTIAL PERSONNEL ----- (* = OPTIONAL)	
				ORB NASA SPC --- --- ---	
				MECH TECH 3 QUALITY 1 1* ENGR 1* SAFETY 1 1	
15-0046	-1D10H30M T-34H30M	*PSE 105 *SCC 232	*SCC LTD	NONESSENTIAL PERSONNEL ARE CLEARED OF 10 FT RADIUS FROM OMS ENGINES AND ESSENTIAL PERSONNEL ARE PROPERLY ATTIRED. SAFETY VERIFIES CONCURRENCE TO PROCEED WITH OMS ENGINE COVER AND THROAT PLUG REMOVALS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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15-0047				REMOVE OMS ENGINE COVERS AND ----- THROAT PLUGS -----	
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WARNING

HAZARDOUS STEP FOLLOWS DUE TO POSSIBLE PRESENCE OF HYPERGOLS DURING OMS ENGINE THROAT PLUG REMOVAL. THROAT PLUG DESSICANT BAG MAY BE CONTAMINATED. PERSONNEL MUST WEAR RUBBER APRONS, FACESHIELDS AND HYPER CUMPATIBLE GLOVES.

15-0048		LTD	OTC	PERFORM OPERATION SUPPORT SETUP	*BCS
		232	*SCC	31 - OMS ENGINE COVERS AND THROAT	
		OTC	*PAD	PLUGS REMOVAL. SAFETY VERIFY TOXIC	
		132		VAPOR LEVELS ARE ACCEPTABLE.	
		*SCC	*PSE	REPORT COMPLETION.	
		105			

DELIVER LIGHT BANK

15-0049	-1D10H30M T-34H30M	JSTC 114	JSEP	DELIVER LIGHT BANK TO GUARD POST AT A/B 18.	EG&G-611
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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15-0050				FLT DECK PLATFORM REMOVAL	
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NOTE

FLIGHT DECK PLATFORM REMOVAL
 FOLLOWS MCDS OTV CAMERA
 REMOVAL.

DO NOT PERFORM NEXT STEP
 IF CFES IS BEING FLOWN.

15-0051	-1D10H30M T-34H30M	OTC	*PAD	PERFORM FD PLATFORM REMOVAL PER:	*BCS
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JC V33-00019 - PLATFORM ACCESS SET
 A70-0558 AFI FLIGHT
 DECK INSTALLATION
 REMOVAL.

INSTALL SOFT COVERS OVER AFT FLT DECK.
 REPORT COMPLETION.

NOT PERFORMED

15-0052				MTU USC FREQ CHECKS (-34H30M)	
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15-0053	-1D10H30M T-34H30M	OTC	C1SL	PERFORM MTU USC FREQ CHECKS	*BCS
		132	LTD	PER SEQ 38 (S0007-V4) ON OIS	
		LTD	JRPS	CH 145. REPORT COMPLETION.	
		232			

BFS GPC LOAD COMPLETE

15-0054	-1D10H20M T-34H20M	CDPS	OTC	BFS GPC LOAD IS COMPLETE. (SEQ 49 S0007-V4).	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0055				DEU 3 DUMP/COMPARE -----	
NOTE					
DO NOT PERFORM NEXT STEP UNTIL BFS GPC LOAD COMPLETE.					
15-0056		OTC	CODS	PERFORM DEU 3 MEMORY DUMP & LPS COMPARE PER SEQ 49 (S0007-V4) AND REPORT COMPLETION.	*BCS
15-0057		LPS 258	JCD2	BFS DUMP AND COMPARE IN PROGRESS. URGE SDC00 TO 50.	31240
NOTE					
IF DUAL SPA IS AVAILABLE FOR THE BFS DUMP AND COMPARE IN ANY FIRING ROOM, PERFORM NEXT STEP.					
THIS IS THE PRIMARY METHOD OF PERFORMING BFS DUMP AND COMPARE. BFS DUMP AND COMPARE (ALTERNATE METHOD) USING CDS PROGRAM CAP140 WILL BE PERFORMED IMMEDIATELY AFTER BFS DUMP IS COMPLETE.					
15-0058		OTC	CVFS	PERFORM BFS DUMP RETRIEVAL AND COMPARE LPS PER SEQ 49 (S0007 VL4).	
NOT PERFORMED -----					
15-0059		OTC	CVFS	PERFORM BFS CAP140 RETRIEVAL AND COMPARE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0060				TFL AND DFL LOAD FOR FLIGHT ----- (-34H20M) -----	

15-0061		OTC 232 LTD CTC LPS	LTD TBC	MOMENTARY LOSS OF OI PCM DOWNLINK/DOWNLIST DATA WILL BE OCCURRING DURING TFL LOADS.	
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NOTE

IF DOD MISSION, DO NOT
 PERFORM NEXT TWO STEPS.

15-0062	-1010H20M T-34H20M	LTD 232	JRPS	SUPPORT CISL ON OIS CH 152 FOR SEQ 49 (S0007 V-4).	31212
					NOT PERFORMED -----

15-0063		OTC	CDPS	PERFORM TFL TEST AND FINAL TELEMETRY CISL LOADS FOR FLIGHT PER SEQ 49 (S0007 V-4) JISE UN CH 152. REPORT COMPLETION. (1 HR) CDR	
					UMRSD S00FA0.301
					NOT PERFORMED -----

NOTE

IF DOD MISSION, PERFORM NEXT
 TWO STEPS.

15-0064		LTD	JSRP	SUPPORT CISL ON OIS CH 145 FOR TFL LOADS.	31212
					NOT PERFORMED -----

15-0065		OTC	CDPS	PERFORM TFL TEST AND FINAL TELEMETRY CISL LOADS FOR FLIGHT PER ITEM 5.12 APPENDIX G. JISE CDR	
					UMRSD S00FA0.301
					NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				SRB FLAME DEFLECTOR POSITIONED ----- FOR LAUNCH -----	

NOTE

NEXT TWO STEPS MAY HAVE BEEN PERFORMED PRIOR TO TEST. IF THIS SITUATION EXISTS, MARK NEXT TWO STEPS AS NOT PERFORMED.

15-0066	-1D10H00M T-34H00M	STM 111	JBEP	PROVIDE HAZARD PROOF LIGHT BANKS FOR MLP/PAD I/F SS WATER.	33210 33212
				NOT PERFORMED	-----
15-0067	-1D10H00M T-34H00M	QBSE NET STM 232	STM 104 LTD	SRB FLAME DEFLECTORS ARE POSITIONED FOR LAUNCH PER M3018.	33220 33223 33226
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0068				INSTALL UMS FLIGHT PANELS (-34H)	
15-0069	-1D10H00M T-34H00M	*PAD 132	OTC	OMS TRICKLE PURGE HAS BEEN DISCONNECTED. PROCEEDING WITH INSTALLATION OF OMS FLIGHT PANELS PER: JC V80-95903 - DOOR 59-03, LH OME ENGINE SERVICE, INSTALLATION JC V80-95904 - DOOR 59-04, RH OME ENGINE SERVICE, INSTALLATION	*BCS
15-0070				L02/LH2 LOADING PREPS (-34H)	
15-0071	-1D10H00M T-34H00M	LTD 232 TBC 136	TBC CLHY	PERFORM THE FOLLOWING IN OMI G3251. 1. ALL PRE-OPS 2. LH2 SYSTEM LPS POWERUP 3. LH2 STORAGE AREA VALVE TORQUING 4. MLP AND FSS VALVE TORQUING NOTE DO NOT PERFORM NEXT SUBSTEP IF AUTO CYCLING PREVIOUSLY PERFORMED. 5. AUTO CYCLING TEST NOT PERFORMED 6. PAD MECHANICAL PREPS FOR LOADING. 7. MLP MECHANICAL PREPS FOR LOADING. 8. FSS MECHANICAL PREPS FOR LOADING.	*BCS

SS5

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0072	-1D10H00M T-34H00M	LTD 232 TBC 136	TBC CLOX	PERFORM PRE-OPERATION SETUPS OF LO2 SYSTEM PREPS FOR VEHICLE LOAD PER OMI G3151.	*BCS
15-0073		TBC 232 LTD STM 111	LTD STM JBEP	RACK IN AND VERIFY CB'S 6B AND 11B, CB'S 2B AND 13B ARE CLOSED AT USS NO. 924 - LOX PUMPS.	33210 33212
15-0074	-1D10H00M T-34H00M	TBC 136	*PAD	PERFORM ALL SEQUENCES OF UMI G6304, LH2/LOX SYSTEMS PURGE VERIFICATION.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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SSME OVERLAY LOAD/FINAL PREPS

NOTE

PERFORM NEXT STEP IF SSMEC
 RESIDENT OR SENSUR OVERLAY
 LOAD REQUIRED.

SSME PREPS INCLUDE LOADING
 SSME CONTROLLERS AND WILL
 REQUIRE USE OF T-0 TAPE
 DRIVE.

15-0075	-1D10H00M T-34H00M	OTC	CSME CCME LPS	GO TO CHAN 146 AND PERFORM SSME FINAL PREPS PER OMI V9018 AND V9001 (V4). REPORT COMPLETE.	
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UMRSD S00FA0.210
 UMRSD S00FA0.220
 UMRSD S00FA0.230
 UMRSD S00FA0.250
 UMRSD S00FA0.260
 UMRSD S00FA0.270
 UMRSD S00FA0.275

NOT PERFORMED

DEU 3 DUMP/COMPARE COMPLETE

15-0076	-1D09H50M T-33H50M	CODS	OTC	DEU 3 DUMP/COMPARE COMPLETE.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0077				MADS ACTIVATION/FDM/PCM TEST	

NOTE

PERFORM NEXT STEP FOR
 UV-099/103/104 ONLY.

15-0078	-1009H30M T-33H30M	OTC	CISL	PERFORM ORBITER MADS ACTIVATION/	31212
		LTD	FDM/PCM TEST PER SEQ 38	31240	
		LTD	LPS (S0007 V-4) ON OIS CH 145.	*BCS	
		232	JRPS REPORT COMPLETION.		

OMRSD S00FB0.201
 OMRSD S00FB0.211
 OMRSD S00FB0.221

NOT PERFORMED -----

NOTE

PERFORM NEXT STEP FOR UV-102
 ONLY.

15-0079	-1009H30M T-33H30M	OTC	CISL	PERFORM ORBITER OEX/MADS	
		LTD	ACTIVATION/FDM/PCM TEST PER SEQ 38		
		LTD	LPS (S0007 VL4) ON OIS CH 145. REPORT		
		232	JRPS COMPLETION.		

OMRSD S00FB0.201
 OMRSD S00FB0.211
 OMRSD S00FB0.221

NOT PERFORMED -----

15-0080	-1009H20M T-33H20M	CDPS	OTC	FLIGHT TELEMETRY LOADS COMPLETE.	
		132		(SEQ 49 S0007-V4).	
		OTC	LTD		
		232			

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0081				MPS/SSME FINAL PREPS (-33H)	

NOTE

PERFORM NEXT STEP IF SSME FINAL PREPS NOT PREVIOUSLY STARTED.

SSME PREPS INCLUDE LOADING SSME CONTROLLERS AND WILL REQUIRE USE OF T-0 TAPE DRIVES.

15-0082	-1D09H00M T-33H00M	OTC 132	CSME CCME CMPS LPS	GO TO CH 146 AND PERFORM SSME FINAL PREPS PER UMI V9018 AND V9001 (4). REPORT COMPLETE.	*BCS 31240
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- OMRSD S00FA0.210
- OMRSD S00FA0.220
- OMRSD S00FA0.230
- OMRSD S00FA0.250
- OMRSD S00FA0.260
- OMRSD S00FA0.270
- OMRSD S00FA0.275

NOT PERFORMED

15-0083		OTC 132	CMPS CMPL	GO TO CHAN 168 AND PERFORM MPS 4500 PSI GSE ACTIVATION PER UMI V9018. REPORT COMPLETE.	
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15-0084		CSME 132 OTC 232 LTD	OTC LTD LPS	REQUEST SCRS PRINTER PLOTTER SS1 UNITS 2 THRU 5, BE PLACED ON-LINE TO SUPPORT SSME TESTING. VERIFY NO DATA BEING RECORDED. REQUEST LPS SUPPORT CSME ON OIS CH 146. REPORT COMPLETION.	31240
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15-0085	-1D09H00M T-33H00M	LPS 127	CPDR	PLACE PRINTER PLOTTER SUB SYS 1, UNITS 2 THRU 5 ON LINE FOR CSME.	31240
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT FOUR
 STEPS IF CFES IS BEING
 FLOWN.

MIDDECK PLATFORM REMOVAL COMPLETE

15-0086		*PAD	OTC	MIDDECK PLATFORM REMOVAL (JC V65-90006) IS COMPLETE. READY TO PROCEED WITH FCE STOWAGE.	
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NOT PERFORMED

FLT DECK PLATFORM REMOVAL - COMPLETE

15-0087		*PAD	OTC	FLIGHT DECK PLATFORM REMOVAL (JC V33-00019) IS COMPLETE.	
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NOT PERFORMED

15-0088		OTC	*PAD	PERFORM OPERATION SUPPORT SETUP 34 - COMSEC ACCESS PANEL REMOVAL. REPORT COMPLETION.	
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NOT PERFORMED

POST MD PLATFORM REMOVAL STOWAGE

15-0089		OTC	*PAD	PERFORM POST MIDDECK PLATFORM REMOVAL STOWAGE OPERATIONS PER V5097 (5 HRS.)	
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				OMS ENGINE COVERS AND THROAT PLUG REMOVALS COMPLETE	

NOTE

PERFORM NEXT STEP IF
 OMS ENGINE THROAT PLUGS
 WERE INSTALLED DUE TO
 LAUNCH ABORT.

15-0093		*PAD LTD 232 *SCC 105	OTC *SCC *PSE	PERFORM TOXIC VAPOR CHECK OF REMOVED OME THROAT PLUGS. RECORD LOME PLUG _____ PPM N2O4 _____ PPM MMH ROME PLUG _____ PPM N2O4 _____ PPM MMH	
					NOT PERFORMED -----

15-0094	-1D08H00M T-32H00M	*PAD 132 UTC 232	OTC LTD	OPERATION SUPPORT SETUP 31 - OMS ENGINE COVERS AND THROAT PLUGS REMOVAL COMPLETE.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

HAZARDOUS STEPS FOR OMS
 ENGINE COVER AND THROAT
 PLUG REMOVALS COMPLETE.

PERFORM NEXT TWO STEPS
 IF OMS THROAT PLUGS
 WERE REMOVED.

15-0095		*PAD	OTC	VERIFY TOXIC VAPOR LEVELS ACCEPTABLE TO OPEN (OMS ENGINE) CONTROL AREA FOR CONTROLLED WORK.	
		132			
		OTC	LTD		
		232			
		LTD	*SCC		
		*SCC	*PSE		
		105			

NOT PERFORMED -----

NOTE

HAZARDOUS STEPS COMPLETE.

15-0096		*PSE	*SCC	TOXIC VAPOR LEVELS ACCEPTABLE. YOU HAVE SAFETY CONCURRENCE TO OPEN OMS	
		105		ENGINE CONTROL AREA FOR CONTROLLED WORK.	
		*SCC	LTD		
		232			
		LTD	OTC		
		OTC	*PAD		

NOT PERFORMED -----

NOTE

PERFORM NEXT STEP FOR
 OV-099/103/104 ONLY.

15-0097		CISL	OTC	MADS PCM RCDR SAMPLE TEST COMPLETE.	
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NOT PERFORMED -----

NOTE

DO NOT PERFORM NEXT STEP
 IF CFES IS BEING FLOWN.

15-0098		*PAD	OTC	ORBITER OPERATION SUPPORT SETUP 34 - COMSEC ACCESS PANEL REMOVAL - COMPLETE.	
		132			

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0099				OMS/RCS GSE CONFIG. (-32H) -----	
15-0100	-1D08H00M T-32H00M	OTC 132	*PAD	VERIFY GSE HAS BEEN CONFIGURED FOR LAUNCH PER V1045 VOL III GSE PRE-LAUNCH PREPARATIONS.	*BCS
15-0101				ORB LH2 FEED SYSTEM VENTING ----- (REF V9018) -----	
15-0102	-1D08H00M T-32H00M	CSME CMPS 132 OTC 232	CMPS OTC LTD	MAKE PA ANNOUNCEMENT - LH2 FEED SYSTEM WILL BE VENTED IN AREA OF LEFT HAND AFT WING.	
NOTE					
DO NOT PERFORM NEXT STEP IF AFT CLOSED FOR FLIGHT.					
15-0103		CMPS 132 OTC	OTC OACM	NOTIFY PERSONNEL THAT THERE WILL BE VENTING NEAR THE 50-1 DJOR. REPORT WHEN NOTIFICATION COMPLETE.	NUT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NEXT TWO STEPS MAY HAVE BEEN PERFORMED PRIOR TO TEST. IF THIS SITUATION EXISTS, MARK AS NOT PERFORMED.

15-0104	-1D08H00M T-32H00M	STM LTD 232 TBC 136	LTD TBC	REQUEST INSTALLATION OF FOUR CANTILEVER HOISTS, TWO AT EACH SRB HOLE, WITH CURRENT PROOFLOAD OF GREATER THAN 1000 POUNDS, *PAD TO SUPPORT SOUND SUPPRESSION OVERPRESSURE SPOOL PIECE INSTALLATION.	
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NOT PERFORMED

15-0105				SS SPOOL PIECE INSTL (-32M)	
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15-0106	-1D08H00M T-32H00M	STM 111	JBWC	INSTALL TWO OUTBOARD AND TWO INBOARD SS SPOOL PIECES UN MLP DECK PER OPERATION INSTRUCTIONS OF UMI M3114(4 HRS).	3322B 33222 *BCS
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0107				PRESS CABIN AIR SYSTEM -----	
15-0108	-1D07H00M T-31H00M	OTC	CECL	VERIFY READY TO PRESSURIZE CABIN AIR SYSTEM.	
15-0109		OTC 232 LTD STM 111	LTD STM JBPN	VALVE A105129 (PAD A) OR VALVE A140323 (PAD B) ON THE C70-1226-3 IS CLOSED (IN W/R). CONFIGURE THE CABIN AIR SYSTEM TO PRESSURIZE THE C70-1226-3 WITH 125 TO 130 PSIG BREATHING AIR FROM THE C70-1226-2 215 FT LVL U2/N2 SYSTEM PER OPERATION INSTRUCTIONS OF OMI M3067 (STA-WDG02). (1H30M)	3321B 33217
				INSPECTION OF MIDDECK COMPLETE -----	
15-0110	-1D07H00M T-31H00M	*PAD 132	OTC	INSPECTION OF CREW MODULE INTERIOR MIDDECK PER ORBITER OPERATION SUPPORT SETUP 10 IS COMPLETE.	
15-0111				CREW COMPARTMENT INSP. (FLT DECK) -----	
15-0112	-1D07H00M T-31H00M	OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT *BCS SETUP 10 - INSPECTION OF CREW MODULE INTERIOR (FOR FLIGHT DECK).	
				OMRSD V66AH0.030	

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
				PRSD CO2 BACKFILL COMPLETE -----	
15-0113	-1D07H00M T-31H00M	CFCP 132	OTC	PRSD VACUUM JACKETED LINE CO2 BACKFILL (UMI V1040, USSU-6) IS COMPLETE.	
15-0114				PREPS FOR ORBITER/PRSD CRYO ----- SERVICING AND SAMPLING ----- (UMI V1040 SEQ _____) -----	
				WARNING HAZARDOUS GAS FLOW OPERATIONS FOLLOW, DUE TO PRESENCE OF G02/GH2.	
15-0115	-1D07H00M T-31H00M	CFCP 132 OTC 232 LTD *SCC *SCC	OTC LTD	READY TO PROCEED WITH ORBITER/ PRSD CRYO SERVICING AND SAMPLING PREPS PER UMI V1040 SEQ ____. REQUEST ESSENTIAL PERSONNEL REPORT ON STATION. REQUEST SAFETY CONCURRENCE.	
15-0116		LTD PA 232 *SCC *SCC 105		ALL NON-ESSENTIAL PERSONNEL CLEAR 10 FT AROUND O2/H2 PNLs ON 75 FT LVL FSS AND 155 FT LVL UMBUU FOR PRSD O2/H2 SERVICING AND SAMPLING.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERSONNEL INVOLVED IN G02 AND
 GH2 OPERATIONS MUST WEAR
 BLUE COLLAR FLAME RETARDANT
 COVERALLS.

ESSENTIAL PERSONNEL

	ORB	SPC	NASA
TECH	2		
QUAL	1		
SAFETY		1	1
SCU	2		

15-0117		STM	JBPN	ORBITER PRSD CRYO SERVICING AND SAMPLING PREPS IN WORK (G02/GH2)	3321b
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15-0118		*PSE	*SCC	ALL NON-ESSENTIAL PERSONNEL HAVE BEEN CLEARED FROM O2/H2 PNLS ON 75 FT LVL FSS AND 155 FT LVL OMBUU. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH ORBITER/PRSD O2/H2 SERVICING AND SAMPLING PREPS (UMI V1040).	
		105			
		*SCC	LTD		
		232			
		LTD	OTC		
		132			
		OTC	CFCP		

UMS FLT PANEL INSTL. COMPLETE

15-0119	-1D07H00M T-31H00M	*PAD	OTC	UMS FLIGHT PANEL INSTALLATION IS COMPLETE. (JC V80-95903 AND JC V80-95904)	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0120				SSME HE PRESS. AND PURGE CHECKOUT	

WARNING

HAZARDOUS OPERATION -
 SSME HE PRESSURIZATION
 AND PURGE CHECKOUT FOLLOW,
 (HAZ DUE TO PRESENCE OF
 HELIUM, AN INERT GAS).
 AFT FUSELAGE MUST BE
 CLOSED OUT FOR FLIGHT.

15-0121	-1D07H00M T-31H00M	CSME 132 OTC 232 LTD	OTC LTD *SCC	REQUEST PERMISSION TO PROCEED WITH SSME HE PRESSURIZATION AND SSME PURGE CHECKOUT PER UMI V9018. AFT FUSELAGE IS CLOSED OUT.	
15-0122		LTD 232 *SCC 105	*SCC *PSE	VERIFY ALL PERSONNEL CLEARED FROM ESP. ERECT SIGNS	
15-0123		*PSE 105 *SCC 232	*SCC LTD	ESP CLEARED OF ALL PERSONNEL AND SIGNS ARE INSTALLED.	
15-0124		*SCC 232	LTD	SAFETY VERIFIES CONCURRENCE TO PROCEED WITH SSME HE PRESSURIZATION AND PURGE CHECKOUT.	
15-0125	-1D07H00M T-31H00M	LTD PA		ATTENTION PAD ___: SSME HELIUM SYSTEM WILL BE PRESSURIZED AND SSME PURGES WILL BE ACTIVATED.	
15-0126	-1D07H00M T-31H00M	LTD 232 OTC 132	OTC CSME	PROCEED WITH SSME HE PRESSURIZATION AND SSME HE PURGE CHECKOUT PER UMI V9018.	*BCS

UMRSD S00FB0.081

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0127				SSME HE PURGE AND PRESSURIZATION ----- C/O COMPLETE - PROCEED W/FLT LOAD -----	
15-0128	-1D06H30M T-30H30M	CSME 132 OTC 232	OTC LTD	SSME HE PURGE CHECKOUT COMPLETE. PROCEEDING WITH SSME FLIGHT LOAD. (OMI V9018)	*BCS
15-0129		LTD 232	*SCC	SSME HELIUM PURGE COMPLETE.	
NOTE					
HAZARDOUS OPERATIONS (SSME HE PURGE) COMPLETE.					
DO NOT PERFORM NEXT TWO STEPS IF ESP IS TO REMAIN CLOSED FOR FURTHER WORK.					
15-0130		LTD 232 *SCC	*SCC *PSE	SSME HE PURGE CHECKOUT AND PRESSURIZATION COMPLETE. VERIFY CONCURRENCE TO OPEN ESP AREA FOR CONTROLLED WORK. REMOVE SIGNS.	
NOT PERFORMED -----					
15-0131	-1D06H30M T-30H30M	*PSE *SEC 232	*SCC LTD	SAFETY WARNING SIGNS REMOVED. SAFETY VERIFIES CONCURRENCE TO OPEN ESP AREA FOR CONTROLLED WORK.	
NOT PERFORMED -----					
15-0132				OI SNAPSHOT (-30H30M) -----	
NOTE					
IF NASA MISSION, DELETE JSRP FROM NEXT STEP.					
IF DOD MISSION, DELETE JRPS FROM NEXT STEP.					
15-0133	-1D06H30M T-30H30M	LTD 232	JRPS JSRP	PERFORM OI SNAPSHOT REPORT COMPLETION.	31212 *BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0134				ACTIVATE TSM CAMERA ENCLOSURE ----- PURGE (-30H30M) -----	
15-0135	-1D06H30M T-30H30M	JTCR 111 STM 232 LTD OTC 132	STM LTD OTC *PAD	TURN ON THE TSM CAMERA ENCLOSURE PURGE PER OMI V3517 (TASK 05) AND OMI V3518 (TASK 05).	RCA-1

CONFIG. TUBE BANK

NOTE

PERFORM NEXT TWO STEPS IF
 O2/N2 TUBE BANK BELOW
 1100 PSI.

15-0136	-1D06H30M T-30H30M	STM JSTC	JSTC GSPS	PROVIDE FULL TUBE BANK O2/N2 TO THE CABIN AIR BATTERY. REMOVE DEPLETED TUBE BANK.	EG&G-631
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Q:-----
 EG&G

NOT PERFORMED

15-0137		STM 111	JBPN	DISCONNECT/CONNECT T/B AT O2/N2 CABIN AIR BATTERY PER OPERATION INSTRUCTIONS OF OMI M3067.	33218 33217
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
USS 927/928 CHECKS -----					
15-0138		STM 111	JBEP	VERIFY SHORING BLOCKS REMOVED AT USS NO.928 (MLP-1)	33210 33212
15-0139		STM 111	JBEP	VERIFY AUTO/MANUAL SWITCH AT USS 927 IN AUTO MODE.	33210 33212
15-0140				PREP FOR NAVAIDS ACT./SELF TEST -----	
NOTE					
IF FRCS ROOM IS CLOSED OFF, DO NOT PERFORM NEXT TWO STEPS.					
15-0141	-1D06H30M T-30H30M	LTD PA		ATTEN PAD ---: ALL PERSONNEL STAND 2 FT CLEAR OF ORBITER NAVAIDS ANTENNA'S AT RSS 207 FT LEVEL (FRCS ROOM).	
NOT PERFORMED -----					
15-0142	-1D06H30M T-30H30M	OTC 132	*PAD	REQUEST ANTENNA MONITOR REPORT ON STATION IN FRCS ROOM TO SUPPORT NAVAIDS ACTIVATION.	*BCS
NOT PERFORMED -----					
15-0143		LTD 232 STM 853-7034	STM	VERIFY OPEN LOOP FREQUENCY CLEARANCE FOR THE FOLLOWING FREQUENCIES FROM T-30 HRS UNTIL T+2 HOURS. MSBLS - 15.460 AND 15.610 GHZ (KU-BAND) RADAR ALTIMETER - 4.3 GHZ (C-BAND)	
15-0144		LTD 232 STM 7-6265	STM FMLS	VERIFY KSC TACAN STATION IS SUPPORTING (7-6265).	34200

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0145		LTD 232 *SCC 105	*SCC *PSE	CLEAR ALL PERSONNEL A MINIMUM OF 2 FT AROUND ORBITER NAVAIDS ANTENNA'S OR VERIFY MONITOR POSTED IN FRCS ROOM.	
15-0146		LTD 232 *SCC	*SCC *PSE	INSTALL SAFETY WARNING SIGNS ACROSS RSS 193 FT ACCESS DOOR (ANTENNA PLATFORM)	
15-0147				NAVAIDS ACTIVATION/SELF TEST -----	

WARNING

HAZARDOUS OPERATION -
 NAVAIDS ACTIVATION FOLLOWS.
 (HAZ DUE TO RF RADIATION
 FROM NAVAIDS ANTENNAS).

15-0148	-1D06H00M T-30H00M	*PSE 105 *SCC 232	*SCC LTD	SAFETY WARNING SIGNS ARE IN PLACE. ALL PERSONNEL ARE CLEAR OF NAVAIDS ANTENNAS (OR) MONITOR IS ON STATION, SAFETY VERIFIES CONCURRENCE TO PROCEED WITH NAVAIDS ACTIVATION.	
15-0149	-1D06H00M T-30H00M	LTD 232 OTC 132	OTC CNSE CDPS	PERFORM ACTIVATION SELF TEST AND DEACTIVATION OF NAVAIDS COMPONENTS PER SEQ 37 (S0007-V4) ON OIS CHNL 173. PERFORM SELF TEST. REPORT COMPLETION.	*BCS

OMRSD S00FA0.500

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0150				CONFIG BIG 3 FOR LPGN2 (-30H)	
15-0151	-1006H00M T-30H00M	STM 111 JSTC 114	JSTC GSPN	NOTIFY BIG-3 LPGN2 HIGH FLOW RATE WILL BE REQUIRED IN 4 HOURS, (B3N-WD800, STA-WDG02).	EG&G-631
15-0152				CCF LPGN2 PREPS (-30H)	

NOTE

DO NOT PERFORM NEXT THREE STEPS IF PREVIOUSLY PERFORMED.

15-0153	-1006H00M T-30H00M	JSTC 114	GSPN	START CCF INDUSTRIAL LPGN2 PREPS PER M3042 (2 HRS) VERIFY COMPLETION (SUN - WDB01).	EG&G-631 *BCS
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NOT PERFORMED

15-0154		STM 111 JSTC 111	JSTC GSPN	START HP GHE/GN2 AND LPGN2 VALVE POSITIONING PER UM1 M3123 (2 HRS). VERIFY COMPLETION.	EG&G-631 EG&G-631-2
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NOT PERFORMED

15-0155		STM 111	QBSE JBAC	VERIFY FOLLOWING ARE PRESSURIZED WITH AIR: FSS ELEV MACH ROOM RSS ELEV AND HOIST MACH ROOM (M3092)	3321C 33215 33226
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				CABIN AIR SYS - PRESSURIZED -----	
15-0156	-1D06H00M T-30H00M	JBPN 111 STM OTC	STM OTC CECL	THE CABIN AIR SYSTEM HAS BEEN PRESSURIZED. (STA-WDGO2)	33218
15-0157				ECLSS O2 SAMPLE (-30H) -----	
15-0158	-1D06H00M T-30H00M	UTC	CECL	PERFORM (IN WHITEROOM) C70-1226-3 *BCS PRESSURIZATION AND BECKMAN O2 SAMPLE OF CABIN AIR SYSTEM PER SEQ. 45 (S0007-V4) ON UIS CH. 143. REPORT COMPLETION.	
15-0159				ECLSS COOLING RECONFIG/FES DUCT ----- COVER REMOVAL (-30H) -----	
15-0160	-1D06H00M T-30H00M	UTC	CECL	PERFORM ORBITER ECLSS COOLING RECONFIGURATION TO SUPPORT INGRESS SWITCHLIST AND FES DUCT COVER REMOVAL PER SEQ 45 (S0007-V4), ON DIS CH 143. REPORT COMPLETION.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				CREW COMPT. INTERIOR (FLI DECK) ----- INSPECTION COMPLETE -----	
15-0161	-1D05H00M T-29H00M	*PAD	OTC 132	INSPECTION OF CREW MODULE INTERIOR FLIGHT DECK PER ORBITER OPERATION SUPPORT SETUP 10 IS COMPLETE.	
15-0162				REMOVE ECLSS O2/N2 VENT PLUG AND ----- NH3 VENT COVER ASSY -----	
NOTE					
PCR ACCESS IS REQUIRED TO PERFORM NEXT STEP.					
15-0163	-1D05H00M T-29H00M	OTC	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 30 - ECLSS ORBITER O2/N2 VENT AND NH3 VENT PLUG REMOVAL. REPORT COMPLETION.	*BCS

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0164				MLP PRESSURIZATION (-29H)	
NOTE					
DO NOT PERFORM NEXT FOUR STEPS IF MLP PRESSURIZATION REMAINS IN EFFECT FROM PREVIOUS OPERATIONS.					
15-0165	-1D05H00M T-29H00M	STM	LTD	VERIFY CONCURRENCE TO PRESSURIZE *SCC MLP WITH AIR.	NOT PERFORMED
15-0166		STM 111 JBAC 104	JBAC	PRESSURIZE MLP FOR PRSD CRYU LOAD. (M3079) (WD108) QBSE REPORT COMPLETION.	*BCS 3321C 33215 33226
NOT PERFORMED					
15-0167		LTD PA		ATTENTION PAD ___: MLP IS BEING PRESSURIZED. ENTER/EXIT MLP THRU AIR LOCK DOOR AT LEVEL B. USE CAUTION WHEN ENTERING/EXITING AIR LOCKS.	NOT PERFORMED
15-0168	-1D05H00M T-29H00M	LTD 232	STM	VERIFY MLP DOORS HAVE "PRESSURIZED" SIGNS POSTED.	NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT STEP
 IF 50-1 AND 50-2 DOORS ARE
 CLOSED FOR FLIGHT.

15-0169	-1D05H00M T-29H00M	OTC	*PAD	INSTALL GSE PROTECTIVE COVERS (PART OF A70-1013) ON 50-1 AND 50-2 DOORS. COVERS SHALL BE ZIPPED CLOSED AND INTEGRITY SEALED.	NOT PERFORMED
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15-0170		OTC	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 25 - ORBITER LOCKOUT VERIFICATION. REPORT COMPLETION.	
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15-0171				CONFIG ORB POWER (-29H)	
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NOTE

DO NOT PERFORM NEXT STEP IF
 AC BUS SENSORS ARE ALREADY
 IN MONITOR.

15-0172	-1D05H00M T-29H00M	OTC	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	NOT PERFORMED
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15-0173		UTC	CEPD	VERIFY POWER SUPPLY CONFIGURATION THEN CLEAR ALL PDS TECHNICIANS FROM MLP AND PAD.	
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15-0174		CEPD 132 OTC 232	OTC LTD	POWER SUPPLY CONFIGURATION IS CORRECT. PDS TECHS ARE CLEARING MLP AND PAD.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0175				UI PCM'S TO GSE CONTROL ----- SEP CAMERA HTRS ACTIVATION -----	
15-0176	-1D05H00M T-29H00M	OTC 132	CISL	PERFORM UI PCM TO GSE CONTROL AND SEP CAMERA HEATER ACTIVATION PER SEQ 38 (S0007-V4). REPORT COMPLETION. OMRSD S00FB0.040 OMRSD S00FB0.060	*BCS
15-0177				SPC WALKDOWN (-29H) -----	
NOTE					
DO NOT PERFORM NEXT TWO STEPS IF WALKDOWN PREVIOUSLY PERFORMED.					
15-0178		LTD PA		ATTEN PAD ___: ALL PERSONNEL SUPPORTING THE SPC FINAL WALKDOWN REPORT TO *PAD AT - ----- (RECORD LOCATION)	
NOT PERFORMED -----					
15-0179	-1D05H00M T-29H00M	LTD 232 OTC	OTC *PAD	PERFORM FINAL SPC WALKDOWN PER SPC OSSU 1 PRIOR TO PAD CLEAR FOR PRSD AND REPORT COMPLETION.	*BCS
NOT PERFORMED -----					
15-0180				ORB. HGDS FINAL SETUPS (-29H) -----	
NOTE					
DO NOT PERFORM NEXT STEP IF HGDS SETUPS COMPLETED PRIOR TO S0007.					
15-0181	-1D05H00M T-29H00M	OTC 132	CHGD	PERFORM ORBITER OPERATION SUPPORT SETUP 4 - HGDS FINAL SETUPS.	*BCS
NOT PERFORMED -----					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0182		CECL	OTC	ECLSS COOLING RECONFIG TO SUPPORT INGRESS SWITCH LIST AND FES DUCT COVER REMOVAL (SEQ 45 S0007-V4) COMPLETE.	
15-0183				SSME FLIGHT LOAD - COMPLETE ----- PROCEED W/SSME FUNC CHECK (-29H) -----	
15-0184	-1D05H00M T-29H00M	CCME UTC 132	OTC LPS	SSME FLIGHT LOAD COMPLETE. PROCEEDING WITH SSME FUNCTIONAL CHECKS PER OMI V9018. USE OF T-0 TAPE DRIVE IS COMPLETED. OMRSD S00FA0.250 OMRSD S00FA0.260	
15-0185				DPS TO DOWNLIST 42 (-29H) -----	
15-0186	-1D05H00M T-29H00M	UTC 232 LTD 232 TBC 136	LTD TBC ALL	VERIFY READY TO TRANSITION TO DOWNLIST FORMAT 42.	
15-0187		UTC	ALL	DPS IS SWITCHING TO GNC9, DOWNLINK 129, DOWNLIST 42	
15-0188	-1D05H00M T-29H00M	UTC 132 LTD	CDPS LPS	CONFIGURE ORBITER DPS TO GN9/129/42 PER SEQ 49 (S0007 V-4) ON OIS CHNL 152.	31240 *BCS
15-0189		CDPS 132 UTC 232 LTD 232 TBC 136	OTC LTD TBC ALL	DPS CONFIGURED TO GN9/129/42 (SEQ 49 S0007-V4)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0190				DDU/MAN FLT CONT PWR/BITE TEST	
15-0191	-1D05H00M T-29H00M	UTC 132	CODS	PERFORM FWD AND AFT DDU/DEDICATED *BCS FLIGHT DISPLAY/MANUAL FLT CONTROL POWER UP, BITE TEST AND INITIALIZATION PER SEQ 49 (S0007-V4). (DEU 2 AND RT KYBD).	
15-0192				MECHANISMS STATUS CHECKS	

NOTE

MECH STATUS CHECKS REQUIRE
 D/L 42.

15-0193 UTC CAFM PERFORM MECHANISMS STATUS CHECKS.
 REPORT COMPLETION.

15-0194 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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0195		CAFM CDR	PANEL L4	AC2 LG SNSR 2 PH A CB - CLUSE	L4A04C059
				AC3 LG SNSR 1 PH A CB - CLOSE	L4A04C062
15-0196		CAFM OTC		VERIFY FORMAT 129/42 FOR MECHANISMS STATUS CHECKS.	
15-0197		OTC	CAFM	PROCEED WITH STATUS CHECKS.	
15-0198		CAFM	ORT (VAK13)	PERFORM MECHANISMS STATUS CHECKS.	
15-0199		CAFM	PROGRAM VAK13	USING PROGRAM - STATUS MECH SYSTEMS (ALL OPERATIONAL STATUS UP ARROWS). IF ANY OPER STAT ARROWS DOWN - HAVE OTC PULL OTHER USERS UP MCA UP STAT'S FOR ANY ACTIVITY (HARD COPY) XMIT CURSOR FOR MCA SNAPSHOT. VERIFY ALL UP ARROWS. UMRSD V76AK0.040	
15-0200		CAFM CDR	PANEL L4	AC2 LG SNSR 2 PH A CB - OPEN	L4A04C059
				AC3 LG SNSR 1 PH A CB - OPEN	L4A04C062
15-0201		CAFM OTC		MECHANISM STATUS CHECKS COMPLETE. FORMAT 129/42 NO LONGER REQUIRED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0202				SSME GN2 PURGE CHECKOUT (-29H)	
				WARNING	
				HAZARDOUS OPERATION - SSME GN2 PURGE CHECKOUT FOLLOWS, (HAZ DUE TO PRESENCE OF GN2). AFT FUSELAGE MUST BE CLEARED OR CLOSED OUT FOR FLIGHT.	
15-0203	-1D05H00M T-29H00M	CSME 132	OTC	REQUEST PERMISSION TO PROCEED WITH SSME GN2 PURGE CHECKOUT. PER OMI V9018 VERIFY AFT FUSELAGE IS CLOSED OUT.	*BCS
15-0204		OTC 232	LTD	READY TO PROCEED WITH SSME GN2 PURGE CHECKOUT. AFT FUSELAGE IS CLOSED OUT.	
15-0205		LTD 232 *SCC 105	*SCC *PSE	VERIFY CONCURRENCE TO PROCEED WITH SSME GN2 PURGE CHECKOUT. AFT FUSELAGE IS CLOSED OUT.	
15-0206		LTD 232 *SCC 105	*SCC *PSE	VERIFY ALL PERSONNEL CLEARED FROM ESP. ERECT SIGNS.	
15-0207		*PSE 105	*SCC	ESP CLEARED OF ALL PERSONNEL. SIGNS HAVE BEEN INSTALLED.	
15-0208		*SCC 232	LTD	SAFETY VERIFIES CONCURRENCE TO PROCEED WITH SSME GN2 PURGE CHECKOUT.	
15-0209		LTD PA		ATTENTION PAD ___: SSME GN2 PURGE WILL BE ACTIVATED.	
15-0210	-1D05H00M T-29H00M	LTD 232 OTC 132	OTC CSME	PROCEED WITH SSME GN2 PURGE PURGE CHECKOUT PER OMI V9018.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0211		LTD *SCC	*SCC	PERFORM OMI V1040 VOL 1 - URB OPERATION SUPPORT SETUP ___ - SAFETY WALKDOWN FOR LO2/LH2 ORBITER CRYO SERVICING AND REPORT WHEN COMPLETE.	
15-0212				REMOVE GSE SEAT COVERS (-29R) -----	
15-0213		OTC 132	*PAD	REMOVE GSE SEAT COVERS AND HEADREST COVERS FROM CDR'S AND PLT'S SEATS. ROUTE THEM TO FORWARD SECTION FOR STORAGE.	*BCS
15-0214	-1D04H45M T-28H45M	CODS 132	OTC	DDU/MANUAL FLT CONTROL POWER/ BITE TEST IS COMPLETE. (SEQ 49 80007-V4)	
15-0215				MANUAL CONTROLS TEST (-28H45M) -----	
15-0216	-1D04H45M T-28H45M	OTC	COFC	PERFORM MANUAL CONTROLS TEST PER OMI V1123 ON UIS CH 171. REPORT COMPLETION.	*BCS
15-0217		CODS	OTC	HUD CHECKOUT COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0218				ABORT SWITCH TEST (-28H15M)	
15-0219	-1D04H15M T-28H15M	OTC 132	CPFC CDR	PERFORM ABORT SWITCH TEST PER OMI V1123 ON DIS CHNL 171, WHEN COMPLETE. OMRSD V55AG0.030	*BCS
15-0220				DPS TO G9/129/44 RS (-28H)	
15-0221	-1D04H00M T-28H00M	LTD 232 TBC 136	OTC TBC ALL	VERIFY READY FOR DPS RECONFIGURATION TO G9/RS/129/44	
15-0222		OTC	ALL	DPS IS SWITCHING TO DOWNLIST 44.	
15-0223	-1D04H00M T-28H00M	LTD 232 OTC 132 LTD	OTC CDPS CDR LPS	FORM G9/RS/129/44 PER SEQ 49 (S0007-V4). REPORT COMPLETION. OMRSD S00FA0.310	31240 *BCS
15-0224				PREP FOR AIR/GN2 CHANGEOVER	
15-0225	-1D04H00M T-28H00M	OTC 132	CPVD	TRANSFER CONTROL OF ECS TO FIRING ROOM PER OMI V1122. REPORT COMPLETION.	
15-0226		OTC	CPVD	PERFORM PREPS FOR AIR/GN2 CHANGEOVER PER OMI V1122. MANUAL GN2 ISOL VLVS ARE TO REMAIN CLOSED. REPORT COMPLETION.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

NAVAIDS ACT/SELF TEST - COMPLETE					

15-0227	-1D04H00M T-28H00M	CNSE 132 OTC 232	OTC LTD	NAVAIDS ACTIVATION/SELF TEST AND DEACTIVATION IS COMPLETE. (SEQ 37 S0007-V4)	
NOTE					
HAZARDOUS OPERATION - NAVAIDS RADIATION COMPLETE.					
15-0228		OTC 132	*PAD	NAVAIDS POWERED DOWN, ANTENNA MONITORS NO LONGER REQUIRED AT TACAN AND MSBLS ANTENNAS.	
15-0229		OTC LTD *SCC	LTD *SCC *PSE	NAVAIDS POWERED DOWN. OPEN ANTENNA AREA FOR CONTROLLED WORK. REMOVE SAFETY WARNING SIGN ON 193 FT. LEVEL.	
15-0230		*PSE 105 *SCC 232	*SCC LTD	SAFETY WARNING SIGN AT RSS 193 FT ANTENNA PLATFORM HAS BEEN REMOVED. SAFETY VERIFIES CONCURRENCE TO OPEN NAVAIDS CONTROL AREA (FRCS ROOM - RSS 207 FT LEVEL) AT THIS TIME.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

HP GHE/GN2/LPGN2 VLV POSITIONING -					

COMPLETE					

15-0231	-1D04H00M T-28H00M	GSPN 114 JSTC STM 111	JSTC	HP GHE/GN2 AND LPGN2 VLV POSITIONING COMPLETED.	EG&G-631
					Q:----- EG&G

NOTE

DO NOT PERFORM NEXT
 TWO STEPS IF PERFORMED
 PRIOR TO TEST.

15-0232	-1D04H00M T-28H00M	JBWC 111 STM LTD 232	STM LTD	INSTALLATION OF SS SPOOL PIECES ON MLP DECK IS COMPLETE. (M3114)	33228 33222
					NOT PERFORMED -----
15-0233	1D04H00M T-28H00M	LTD 232 TBC *PAD 136	TBC	REMOVE CANTILEVER HOISTS AT SRB HOLES.	
					NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				SSME GN2 PURGE C/O - COMPLETE	
15-0234	-1D04H00M T-28H00M	CSME 132 OTC 232	OTC LTD	SSME GN2 PURGE CHECKOUT COMPLETE. (UMI V9018)	
15-0235	-1D04H00M T-28H00M	OTC 132	CSME	TERMINATE SSME PLOTS ASSIGNED TO SCRS SUBSYSTEM 1	
15-0236		LTD 232	LPS	SET SSME PRINTER PLOTTERS OFF LINE (SCRS SUBSYSTEM 1 UNITS 2 THRU 5) AND REMOVE DATA FOR DATA COORDINATOR PICKUP.	31240
NOTE					
HAZARDOUS OPERATION (SSME GN2 PURGE) COMPLETE.					
PERFORM NEXT THREE STEPS IF ESP AREA IS REQUIRED TO BE OPENED.					
15-0237		LTD *SCC	*SCC *PSE	SSME GN2 PURGE CHECKOUT COMPLETE. VERIFY O2 LEVELS ACCEPTABLE ON THE ORBITER ESP AND REMOVE SAFETY SIGNS.	NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0238		LTD 232 *SCC *PSE	*SCC	VERIFY CONCURRENCE TO OPEN ORBITER ESP AREA FOR CONTROLLED WORK AND REMOVE SIGNS.	----- NOT PERFORMED
15-0239	-1004H00M T-28H00M	*PSE 105 *SCC LTD 232	*SCC	O2 LEVELS ACCEPTABLE ON ORBITER ESP - SAFETY VERIFIES CONCURRENCE TO OPEN ORBITER ESP AREA FOR CONTROLLED WORK, SIGNS HAVE BEEN REMOVED.	----- NOT PERFORMED
COMPLETION OF SECOND PCE STORAGE -----					

NOTE

DO NOT PERFORM NEXT STEP
 IF CFES IS BEING FLOWN.

15-0240		*PAD 132	OTC	STOWAGE AFTER MIDDECK PLATFORM REMOVAL IS COMPLETE.	----- NOT PERFORMED
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NOTE

IF DMOS IS INSTALLED, PERFORM
 NEXT STEP.

DO NOT PERFORM NEXT STEP IF
 CFES IS BEING FLOWN ALONG WITH
 DMOS.

COMPLETION OF DMOS EXP. INSTL

15-0241		*PAD 132	OTC	DMOS EXPERIMENT INSTALLATION IS COMPLETE. FUNCTIONAL TEST CAN NOW BE PERFORMED PER SEQ 56 (S0007 V4).	----- NOT PERFORMED
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF PVTOS IS INSTALLED,
 PERFORM NEXT STEP.

COMPLETION OF PVTOS EXP INSTL

15-0242		*PAD 132	OTC	PVTOS EXPERIMENT INSTALLATION IS COMPLETE. FUNCTIONAL TEST CAN NOW BE PERFORMED PER SEQ 63 (S0007-V4).	
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NOT PERFORMED

15-0243				GTUE HEADSET INSTL (-28H)	
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NOTE

PERFORM NEXT STEP AFTER FLT
 CREW SYSTEMS HAS INSTALLED
 CABLES AND HIU'S PER UMI V5097.

15-0244	-1D04H00M T-28H00M	OTC 132	CDR	PERFORM ORBITER OPERATION SUPPORT *BCS SETUP 11 - (GTUE HEADSET INSTALLATION)	
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15-0245	-1D04H00M T-28H00M	*PAD 132	OTC	ORBITER OPERATION SUPPORT SETUP 30 - ECLSS O2/N2 AND NH3 VENT PLUGS REMOVAL IS COMPLETE.	
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15-0246				508 BLAST COVER INSTL (-28H)	
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15-0247	-1D04H00M T-28H00M	OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT *BCS SETUP 27 - (ECLSS S70-0508 BLAST COVER INSTALLATION). REPORT COMPLETION.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0248				VERIFY FACIL. AIR PRESSURE	
15-0249	-1D04H00M T-28H00M	*SCC 232	LTD STM	VERIFY MLP, FSS - EMR, RSS - HMK AND EMR ARE PRESSURIZED WITH AIR.	
15-0250		*SCC 232 LTD OTC OTC PPVM 132	LTD OTC	VERIFY PCR IS PRESSURIZED WITH AIR	
15-0251		OTC 232 LTD	LTD *SCC	PCR IS PRESSURIZED WITH AIR.	
15-0252				SOUND SUPPRESSION I/F UPS	

NOTE

NEXT THREE STEPS MAY HAVE BEEN
 COMPLETED PRIOR TO TEST.
 IF THIS SITUATION EXISTS,
 MARK NEXT THREE STEPS AS NOT
 PERFORMED.

15-0253	-1D04H00M T-28H00M	JBWC 111	STM	SS WATER MLP/PAD I/F 36 IN. LINE CONNECTION COMPLETE.	3322B 33222
				NOT PERFORMED	-----
15-0254	-1D04H00M T-28H00M	STM NET	QBSE 104 JBWC	VERIFY SS WATER MLP/PAD I/F PLATFORMS ARE SECURED FOR LAUNCH PER OPERATION INSTRUCTIONS OF UMI M3114. REPORT COMPLETION.	3322C 33226
				NOT PERFORMED	-----
15-0255	-1D04H00M T-28H00M	STM 111	JBEP	REMOVE LIGHT BANKS FROM MLP/PAD I/F SS WATER SSEM	33210 33212
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- MOVE TAIR TRAILER TO PAD GATE -----					
15-0256		OTC	*PAD	DISCONNECT PAD TAIR TRAILER HALON SYSTEM IN SUPPORT OF TAIR TRAILER MOVE TO PAD GATE. RECONNECT ON ARRIVAL AT PAD GATE.	
15-0257		OTC 232 LTD	LTD STM	PERFORM SUPPORT OPERATION SUPPORT *BCS SETUP 1 TO MOVE TAIR TRAILER FROM PAD --- TO PAD GATE. (1 HOUR)	
15-0258	-1D04H00M T-28H00M	GSPN 114 JSTC 111	JSTC STM	CCF INDUSTRIAL LPGN2 PREPS COMPLETE.	EG&G-631 EG&G-631-2
Q:----- EG&G					
----- SECURE PAD SURFACE SAFETY MONITOR ----- SHACK -----					
15-0259	-1D04H00M T-28H00M	LTD 232 STM 111	STM JBEP	AT SAFETY MONITOR SHACK ON PAD SURFACE, DISCONNECT AND TAG PLUG: "DO NOT USE".	3321A 33212

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0260				SECURE TELEPHONES (-28H)	

NOTE

PERFORM NEXT STEP IF PCR
 TELEPHONES WERE RESTORED
 AFTER PREVIOUS HAZARDOUS
 OPERATION.

15-0261	-1D04H00M T-28H00M	LTD	STM	LUCK OUT PCR TELEPHONES	34100
		232		(PAD A - ANTEROOM EXT 7-6000 AND	34300
		STM	GYCC	PCR EXT 7-7941/7942/7943/7944)	
		111		(PAD B - PCR EXT 7-5407/5408/5409/ 5410). VERIFY OUTSIDE POWER	
		117	JYCJ	SWITCH IS IN "OFF" POSITION. REPORT COMPLETION. (30 MIN.)	

ESSENTIAL PERSONNEL FOR

 PAYLOAD CHANGEOUT ROOM

TELEPHONE LOCKOUT

	LCOM	LRQA
TECH	2	
QUAL		1

NOT PERFORMED -----

Q:-----
 50234

15-0262	-1D04H00M T-28H00M	LTD	STM	OPEN SWITCH IN LCC RM 1P10	EG&G-430
		232		TO SECURITY PHONE IN RSS	
		STM	JSTC	ANTE ROOM; TAG OPEN. REPORT	
		111		WHEN COMPLETE.	
		114	JSTC *SEC		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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15-0263	-1004H00M T-28H00M	*PAD UTC 232	OTC LTD	SPC OPERATION SUPPORT SETUP 1 (FINAL SPC OPERATIONS/SAFETY FACILITY WALKDOWN) IS COMPLETE.	
				NOT PERFORMED	-----
15-0264		UTC	CFCP	PERFORM POWER DOWN AND DISCONNECT OF S34-168 VACUUM PUMP.	
15-0265		CFCP 132	OTC	POWER DOWN AND DISCONNECT OF S34-168 VACUUM PUMP IS COMPLETE.	
				DPS IN G9/129/44 RS -----	
15-0266	-1D03H30M T-27H30M	CDPS 132 UTC 232 LTD TBC TBC 136	OTC LTD	TRANSITION TO G9/RS/129/44 REDUNDANT SET COMPLETE. (SEQ 49 S0007-V4).	
15-0267		OTC 132	CDPS CDDS	PERFORM MDM BSR READS AND ACTIVATE DPS AND MCDS EXCEPTION MONITORING WITH VASE1.	
15-0268	-1D03H30M T-27H30M	CDPS		CURSOR CNTL (SAS01) TO FC MDM BSR READ (VAS93) XMIT CURSOR KEY - PRESS CURSOR CNTL (SAS01) TO COMPUTER SYSTEMS XMIT CURSOR KEY - PRESS CURSOR CNTL (SAS01) TO ACTIVATE DPS EMONS (VASE1) XMIT CURSOR KEY - PRESS PFK 2 KEY - PRESS	
15-0269		CDDS		CURSOR CNTL (SAS01) TO DISPLAY SYSTEMS XMIT CURSOR KEY - PRESS CURSOR CNTL (SAS01) TO ACTIVATE MCDS EMONS (VASE1) XMIT CURSOR KEY - PRESS PFK 2 KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0270				PRSD EGRESS SWITCHLIST (-27H30M)	

NOTE

DO NOT PERFORM NEXT TWO
 STEPS IF SWITCHLIST
 PREVIOUSLY PERFORMED.

15-0271		OTC	CDR PLT	PERFORM EGRESS SWITCHLIST FOR PRSD LOAD PER SEQ 77 (S0007-V4).	
					NOT PERFORMED -----

15-0272		OTC 232	LTD	EGRESS SWITCHLIST FOR PRSD LOAD IS COMPLETE. (SEQ 77, S0007-V4)	
					NOT PERFORMED -----

GTOE H/S INSTL COMPLETE

15-0273	-1D03H30M T-27H30M	CDR 132	OTC	ORBITER OPERATION SUPPORT SETUP 11 - (GTOE HEADSET INSTALLATION) IS COMPLETE.	
					BFS DATA RETRIEVAL (CONTINGENCY) -----

NOTE

DO NOT PERFORM NEXT STEP IF
 BFS DATA RETRIEVAL AND COMPARE
 WAS PERFORMED USING THE BACKUP
 PDR/SPA CONFIGURATIONS.

15-0274	-1D03H20M T-27H30M	OTC	CVFS LPS	PERFORM BFS DUMP RETRIEVAL AND COMPARE PER SEQ 49 (S0007-V4). REPORT COMPLETION.	31240 *BCS
					NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CONFIG CREW COMPARTMENT ----- AND WHITE ROOM -----					
15-0275	-1D03H30M T-27H30M	LTD 232 *SCC *SCC	OTC *SCC *PSE	PORTABLE O2 DETECTOR IS REQUIRED FOR CONTINUOUS MONITORING OF O2 CONTENT IN WHITE ROOM. REQUEST SAFETY INSTALL O2 METER ON TRIPUD FOR OTV CAMERA MONITORING. VERIFY READABLE WITH THE OTC.	
15-0276		JYVO 111 STM 132 UTC	STM OTC *PAD	VERIFY ALL OAA WHITE ROOM FACILITY LIGHTS ARE TURNED ON.	34200
15-0277		*PSE *SCC	*SCC LTD	PORTABLE O2 METER HAS BEEN INSTALLED IN THE WHITE ROOM AND VERIFIED READABLE BY THE OTC.	
15-0278		OTC 138	JYVR	START VIDED RECORDING OF OTV CAMERA 005/105.	34200
15-0279		OTC	*PAD	WHITE ROOM CEILING: 1. CLOSE CHAMBER ECS DAMPER A122818. 2. VERIFY ORBITER ECS DAMPER A122817 IS OPEN AND AIR IS FLOWING THRU ECS DUCT INTO CREW COMPARTMENT.	
15-0280		CECL 132	OTC	PARTIAL PRESSURE OF OXYGEN IN CREW COMPARTMENT IS SATISFACTORY.	
15-0281		LTD 232 STM 111 JSTC 114	STM JSTC JFIR	FIRE/RESCUE IS REQUIRED AT PAD GATE IN 30 MINUTES TO SUPPORT PRSD LOAD. MEDICAL WILL MAINTAIN IN STATION SUPPORT.	EG&G-420

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0282				STAR TRACKER AND AIR DATA SYS C/O - ----- SELFTEST -----	
15-0283	-1D03H30M T-27H30M	OTC 132	CGNC	PERFORM STAR TRACKER POWER UP, *BCS SELFTEST AND POWER DOWN AND AIR DATA POWER UP/SELFTEST PER OMI V1123 ON OIS CH 141. REPORT COMPLETION. OMRSD S00FC0.040 OMRSD S00FC0.050	
NOTE					
DO NOT PERFORM NEXT STEP IF HGDS SETUPS COMPLETED PRIOR TO S0007.					
15-0284		CHGD 132	OTC	ORBITER OPERATION SUPPORT SETUP 4 - HGDS FINAL SETUPS IS COMPLETE. READY TO SUPPORT PRSD LOADING.	
NOT PERFORMED -----					
15-0285		OTC 132	*PAD	VERIFY GSE HAZARD PROOFING, REMOVAL AND LOCKOUT COMPLETE PER ORBITER OPERATION SUPPORT SETUP 25.	
15-0286	-1D03H00M T-27H00M	*PAD 132 OTC 232	OTC LTD *SCC	ORBITER OPERATION SUPPORT SETUP 25 - ORBITER LOCKOUT VERIFICATION COMPLETE.	
15-0287		*PSE *SCC	*SCC LTD	ORBITER OPERATION SUPPORT SETUP --- (OF OMI V1040) - SAFETY WALKDOWN FOR LO2/LH2 ORBITER CRYO SERVICING IS COMPLETE.	
15-0288	-1D03H00M T-27H00M	CFCP OTC	OTC	ORBITER PRSD CRYO FLOW PREPS ARE COMPLETE. READY FOR LO2 AND LH2 LOAD. READY TO CLEAR ALL PERSONNEL FROM PAD.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0289	-1D03H00M T-27H00M	CLOX 136 TBC 232	TBC LTD	PRE-OPERATION SETUPS UP LU2 SYSTEM PREPS FOR VEHICLE LOAD PER OMI G3151 ARE COMPLETE.	
15-0290		*PAD	OTC	ORBITER OPERATION SUPPORT SETUP 27 - ECLSS S70-0508 BLAST COVER INSTALLATION - COMPLETE.	
15-0291				IMU WARM-UP/ACTIVATION (-27H)	

NOTE

IMU WARM-UP/ACTIVATION
 SHALL OCCUR NO LATER
 THAN L-1D06H30M.

15-0292	-1D03H00M T-27H00M	OTC 132	CGNC	PERFORM ORBITER IMU WARM-UP/ STANDBY OPERATIONS PER OMI V1123 ON DIS CH 141. REPORT WHEN COMPLETE.	*BCS
15-0293		CPVD	OTC	ECS FINAL PREPS FOR AIR/GN2 CHANGEOVER ARE COMPLETE (HAND VLVS CLOSED) (OMI V1122).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0294				CLEAR PAD FOR PRSD LOADING AND AIR TO GN2 CHANGEOVER (-27M)	
15-0295		OTC	CDR	EGRESS CM AND WHITE ROOM. HAVE OFCM PERSONNEL REPORT TO FALL BACK AREA.	
WARNING					
HAZARDOUS OPERATIONS - PRSD LO2/LH2 LOADING AND AIR TO GN2 CHANGEOVER - FOLLOW.					
15-0296	-1D03H00M T-27H00M	LTD 232	OTC TBC STM *SCC CTC	VERIFY READY TO CLEAR PAD TO PERIMETER FENCE FOR PRSD LOADING OPERATIONS AND ECS AIR TO GN2 CHANGEOVER.	
15-0297		STM 111	JBPN	ORBITER PRSD CRYO FLOW PREPS COMPLETE. MONITOR GO2/GH2 SYSTEMS FOR DECAY.	3321B
15-0298	-1D03H00M T-27H00M	LTD PA 232	OTC TBC STM *SCC	ATTENTION PAD ___: ALL NONESSENTIAL PERSONNEL CLEAR THE PAD TO PERIMETER FENCE FOR ECS AIR TO GN2 CHANGEOVER AND PRSD LO2 AND LH2 LOADING OPERATIONS.	*BCS
15-0299		LTD *SCC	*SCC *PSE	TURN ON PAD ___, A-5 AND A-11 ROADBLOCK AREA WARNING LIGHTS TO FLASHING AMBER.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0300	-1003H00M T-27H00M	LTD 232 *SCC	*SCC *PSE	CLEAR NONESSENTIAL PERSONNEL FROM PAD FOR PRSD CRYO LOAD. POST SAFETY WARNING SIGN AT ECS DOOR THREE.	

WARNING

EACH PERSON ON STATION IN
 ECS ROOM DURING HIGH FLOW
 OF GN2 WILL HAVE AN AIR PACK
 (30 MIN) WITH SUPPLY VALVE
 TURNED ON IN DEMAND MODE IN
 HIS IMMEDIATE AREA.

- TASK: 1. AIR TO GN2 CHANGEOVER
 2. PTCR/ECS ROOM PRESS.

ACCESS CODE - 2

CONTROL AREA -

1. PAD
2. ECS CONTROL ROOM
3. PTCR

ESSENTIAL PERSONNEL (HAZ BADGE)

(AIR TO GN2 CHANGEOVER)

	ORB	NASA	SPC
ENGR	2	2	
TECH	4		
QC	1		
SAFETY		1	1

ESSENTIAL PERSONNEL (HAZ BADGE)

(PTCR/ECS ROOM PRESS.)

	LFAC	NASA	SPC
SAFETY		1	1
ENG	1		
TECH	2		
QUAL	1		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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15-0301

PTCR CLOSEOUT

15-0302

-1D03H00M
 T-27H00M

STM
 111

JBAC

PERFORM THE FOLLOWING, VERIFY
 COMPLETION. (1 HR)

3321C
 33215

1. CLOSE PTCR PAD SURFACE BLAST DOORS AND INSTALL LFAC SIGNS (M3027).
2. CHAIN AND LOCK OPEN ECS ROOM DOOR LEADING TO PTCR (RM 105). TEMPORARILY BLOCK OPEN SOUTH GROUND LEVEL ACCESS DOOR TO ECS ROOM.
3. CLOSE PTCR GROUND LEVEL BLAST DOORS AND INSTALL LFAC SIGNS (M3027).
4. SECURE PTCR EXHAUST FANS.
5. FECP PERSONNEL WILL STAND BY FOR PRESSURIZATION COMMAND STEP.

ESSENTIAL PERSONNEL FOR PTCR

CLOSEOUT

	LFAC	NASA
ENGR	1	1
QUAL	1	
TECH	2	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0303				FIRE/RESCUE SUPPORT AT GATE, MEDICAL SUPPORT AT FIRE STATION 2	
NOTE					
FIRE/RESCUE/MEDICAL WILL BE SUPPORTING FOR HAZ OPS PER SCHEDULE.					
15-0304	-1D03H00M T-27H00M	LTD 232 STM 111 JSTC 114	*SCC STM JSTC JFIR	VERIFY FIRE/RESCUE, AND MEDICAL ON STATION.	EG&G-420
15-0305		JSTC 111 STM 232 LTD	STM LTD *SCC	FIRE/RESCUE ON STATION AT PAD GATE. MEDICAL SUPPORT ON STANDBY AT FIRE STATION 2	EG&G-420
15-0306		*SCC 226	JFIR	HAVE FIRE/RESCUE PERFORM CUMM CHECK WITH *SCC/LTD ON NET 105 EACH SHIFT (VERIFY LOCATION).	EG&G-420

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0307	-1D03H00M T-27H00M	LTD 232 *SCC	*SCC *PSE	POSITION SAFETY SIGNS FOR AIR/GN2 CHANGEOVER AT AREAS LISTED BELOW AND REPORT COMPLETE.	

NOTE

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

1. PTCK ECS ROOM DOORS(3)
2. PTCK 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.
15-0308				STANDBY GN2 MODE (HANDVALVES OPEN)	
15-0309	-1D02H30M T-26H30M	*PSE 105 *SCC 232	*SCC LTD	ALL NONESSENTIAL PERSONNEL HAVE BEEN CLEARED FROM PAD SURFACE AND ABOVE, MLP AND PTCR. SAFETY SIGNS ARE POSITIONED. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH "STANDBY GN2 MODE (HAND VALVES OPEN)" OPERATION.	
15-0310	-1D02H30M T-26H30M	LTD 232	OTC	PROCEED WITH ECS "STANDBY GN2 MODE (HAND VALVES OPEN)" OPERATION PER OMI V1122.	
15-0311	-1D02H30M T-26H30M	OTC 132	CPVD	CONFIGURE ECS FOR STANDBY MODE WITH HAND VLVS OPEN. REPORT COMPLETE. (OMI V1122).	

WARNING

A POSITIVE VERIFICATION THAT GN2 PURGE IS ACTIVATED MUST PRECEDE PRSD HYDROGEN CRYO TANK LOADING.

STANDBY GN2 MODE - COMPLETE

15-0312	-1D02H15M T-26H15M	CPVD 132 OTC 232 LTD 232 *SCC 105	OTC LTD *SCC *PSE	STANDBY GN2 MODE (HAND VALVES OPEN) OPERATIONS ARE COMPLETE PER OMI V1122. ECS ROOM/PVD PERSONNEL ARE CLEARING THE CONTROL AREA.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0313				PTCR/ECS ROOM PRESSURIZATION	
15-0314	-1D02H15M T-26H15M	LTD 232	STM *SCC	PRESSURIZE PTCR/ECS ROOM WITH AIR AND HAVE PERSONNEL CLEAR THE PAD WHEN COMPLETE.	*BCS
NOTE					
PTCR/ECS ROOM WILL BE PRESSURIZED WITH AIR WHEN ECS GROUND LVL DOOR IS CLOSED.					
15-0315		STM 111	JBAC	CLOSE AND SECURE ECS ROOM GROUND LEVEL PERSONNEL DOOR AFTER SAFETY HAS CLEARED ECS ROOM. PLACE LFAC SIGN ON DOOR. OBTAIN READINGS ON ECS ROOM AND PTCR PRESSURIZATION GAGES. REPORT COMPLETION. UPON COMPLETION OF THIS TASK, CREW WILL FALL BACK TO K6-1045 FOR CONTINGENCY SUPPORT (M3027).	33211 33152
ECS RM ----- IN. OF WATER (0.5 MIN) PTCR ----- IN. OF WATER (0.5 MIN)					
15-0316		*SCC	*PSE	VERIFY SAFETY SIGN IS POSTED AT GROUND LEVEL PTCR AND ECS PERSONNEL DOORS PRIOR TO DEPARTING AREA.	
15-0317	T-26H00M	JSTC 114	GSPN	VERIFY PNEUMATICS OPERATIVE PERSONNEL AT GN2 INDUSTRIAL SUPPLY INTERFACE (OMI M3042) (B3N - WDB00)	EG&G-631

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0318				PAD CLEAR COMPLETE (-26H) -----	
15-0319	-1D02H00M T-26H00M	*PSE 105 *SCC 232	*SCC LTD	ALL PERSONNEL HAVE BEEN CLEARED FROM PAD FOR PRSD LOADING AND AIR TO GN2 CHANGEOVER OPERATIONS. SAFETY VERIFIES CONCURRENCE TO PROCEED WITH ECS AIR TO GN2 CHANGEOVER.	
15-0320		CFCP 138	JYVR	START VIDEO RECORDING OF OTV CAMERAS 007/107, 008/108, 021/121, 022/122 FOR OMI V1040. (SEE CFCP FIGURE 4)	34200
15-0321		GSPN 114 JSTC 111 STM 232	JSTC STM LTD	BIG-3 IS READY TO SUPPORT PRSD LOAD. (B3N-WDB00)	EG&G-631
15-0322				AIR TO GN2 CHANGEOVER (LPS) -----	
WARNING					
GN2 WILL FLOW INTO ORBITER FWD PAYLOAD BAY, AND AFT FUSELAGE, BREATHING OF NITROGEN GAS FROM ORBITER COMPARTMENT PURGE CAN BE LETHAL.					
15-0323	-1D02H00M T-26H00M	LTD 232 STM 111 JSTC 114	STM JSTC GSPN	SUPPORT AIR TO LPGN2 CHANGEOVER PER OPERATION INSTRUCTIONS OF OMI M3042. GSPN COORDINATE WITH CPVD ON CH 172.	EG&G-631
15-0324	-1D02H00M T-26H00M	LTD 232 OTC 132	OTC CPVD	PROCEED WITH ECS AIR TO GN2 CHANGEOVER. REPORT COMPLETION. COORDINATE CHANGEOVER WITH GSPN ON OIS CH 172. (OMI V1122).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0325	-1D01H00M T-25H00M	CPVD 132 OTC 232 LTD	OTC LTD *SCC	ECS AIR TO GN2 CHANGEOVER IS COMPLETE (OMI V1122). OMRSD S00FB0.050 OMRSD P01000.030 OMRSD V05AG0.060 OMRSD V05AI0.060 BFS DUMP/CUMPAR - COMPLETE (CONTINGENCY)	
15-0326		CVFS 132	OTC	BFS DUMP/CUMPAR IS COMPLETE. (SEQ 49 S0007-V4)	NOT PERFORMED
15-0327				OPEN ORBITER VENT DOORS 1 & 2 (CONTINGENCY) (-25H)	
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 TWO STEPS TO OPEN LEEWARD VENT DOORS 1&2.					
15-0328	-1D01H00M T-25H00M	CPVD		CURSOR CNTL (VAM31) VENT DOORS 1&2 (LEEWARD) - OPEN TARGET	NOT PERFORMED
15-0329		CPVD 132 OTC 232 LTD	OTC LTD *SCC	VENT DOOR OPENING IS COMPLETE.	NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0330				ORBITER CYRO LO2 SERVICING ----- AND SAMPLING (OMI V1040 (SEQ ___)) -----	
15-0331		JBPN 111 STM 232 LTD OTC 132	STM LTD OTC CFCP	FACILITY GO2 AND GH2 SYSTEMS AND 3321B CROSS COUNTRY LINES ARE 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)	
15-0332		*SCC 232 LTD OTC 132	LTD OTC CHGD	VERIFY HLDS/HGDS READY TO SUPPORT PRSD LO2 LOADING. MONITOR FOR LO2 LEAK, FIRE DETECTORS AND HGDS. REPORT EXCEPTION TO FOLLOWING OXYGEN CONCENTRATION CRITERIA TO CFCP ON OIS CH 153 AND OTC ON 132. ORBITER MIDBODY INTERIOR - 10,000 PPM INCREASE ABOVE BASELINE.	
15-0333			OTC	CHGD PERFORM BACKUP O2 BASELINE CHECKS	
15-0334			CHGD	CONSOLE (C-9) HARDWIRE SAFING PANEL 1. BYPASS SW - H2 SENSOR 2. SELECT SW - AFT 3. H2 SENSOR IND - ON 4. SAMPLE PUMP SW - UN 5. FLOW OK IND - ON	
15-0335			CHGD	ROOM 2P20 - BACKUP MASS SPECT CONTROL PANEL. 1. AFT SAMPLE SW - PRESS 2. AIR SHUTOFF SW - UN 3. BACKUP SENSOR SW - UN 4. RECORD P/E BACKUP MASS SPECT O2 READING -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0336		CHGD		ROOM 2P20 - BACKUP MASS SPECT CONTROL PANEL 1. BACKUP SENSOR SW - OFF 2. AIR SHUTOFF SW - OFF 3. ON SW - PRESS	
15-0337		CHGD		CONSOLE (C-9) HARDWIRE SAFING PANEL 1. SAMPLE PUMP SW - OFF 2. FLOW LOW IND - ON 3. BYPASS SW - MASS SPECT	
15-0338		CHGD	OTC	BACKUP O2 BASELINE CHECKS COMPLETE.	
15-0339	-1001H00M T-25H00M	LTD 232	*SCC	VERIFY CONCURRENCE TO FLOW LIQUID OXYGEN TO ORBITER PRSD TANKS.	
15-0340		*SCC 232	LTD	SAFETY VERIFIES CONCURRENCE TO PROCEED WITH ORBITER PRSD SERVICING AND SAMPLING. (UMI V1040)	
15-0341		LTD 232	OTC	PROCEED WITH ORBITER LO2 TANK SERVICING AND SAMPLING PER UMI V1040, VOL ____.	*BCS
15-0342	-1001H00M T-25H00M	OTC	CFCP	PERFORM ORBITER LO2 SERVICING AND SAMPLING PER UMI V1040, VOL ___ (SEQ ___).	
NOTE					
LO2 FLOW WILL BE INITIATED TO OMBUU AND ORBITER TANKS.					
15-0343	-22H30M	CRDE 132 OTC 232	OTC LTD	LO2 SERVICING AND SAMPLING IS COMPLETE. (UMI V1040)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF EXCESSIVE DECAY OCCURS
 IN O2 VENT LINE SAMPLE
 SYSTEM, CFCP WILL PERFORM
 FOLLOWING FOUR STEPS.

15-0344		CFCP OTC 132 OTC LTD LTD *SCC 232 *SCC *PSE 105	1.	REQUEST PERSONNEL (TWO) 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.	
			2.	VERIFY TECHS WEAR BLUE COLLAR COVERALLS, FACE SHIELDS AND LEATHER LOOSE FITTING GLOVES.	

NOT PERFORMED -----

15-0345		*PSE *SCC *SCC LTD		YOU HAVE SAFETY CONCURRENCE FOR TWO PERSONS TO RETURN TO LO2 SAMPLE PANEL ON OMBUU.	
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NOT PERFORMED -----

15-0346		CFCP OTC 132 OTC LTD LTD *SCC 232		PERSONNEL REQUESTED TO CLOSE O2 SAMPLE HOKE VALVES ARE NOW LEAVING THE OMBUU.	
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NOT PERFORMED -----

15-0347		*PSE *SCC *SCC LTD LTD OTC OTC CFCP		PERSONNEL REQUESTED TO CLOSE O2 SAMPLE HOKE VALVES HAVE CLEARED TO PERIMETER FENCE.	
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NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0348				PRSD LH2 SERVICING AND ----- SAMPLING (OMI V1040 (SEQ -----)) -----	
15-0349		OTC 132	CHGD	PERFORM HAZARDOUS WARNING SYSTEM MONITORING PER OMI G2297.	*BCS
15-0350	-22H30M	CFCP 132 OTC 232	OTC LTD	READY TO PROCEED WITH LH2 SERVICING AND SAMPLING.	
15-0351		LTD 232 OTC 132	OTC CHGD	SUPPORT PRSD LH2 SERVICING AND SAMPLING PER OMI V1040 ON OIS CH 153	
15-0352		*SCC 232 LTD OTC 132	LTD OTC CHGD	VERIFY HLDS/HGDS READY TO SUPPORT PRSD LH2 LOADING. MONITOR H2 LEAK, FIRE DETECTORS AND HGDS. REPORT EXCEPTIONS TO THE FOLLOWING HYDROGEN CONCENTRATION CRITERIA TO CFCP ON OIS CH 153 AND OTC ON 132.	
				ORBITER EXTERIOR - 10,000 PPM ABOVE BASELINE	
				ORBITER MIDBODY INTERIOR - 200 PPM INCREASE ABOVE BASELINE	
				MIDBODY UMBILICAL - ABOVE 10,000 PPM	
15-0353		OTC 132	CHGD	VERIFY O2 LEVEL IN ORBITER MIDBODY IS LESS THAN 10,000 PPM.	
15-0354		CHGD 132	OTC	O2 LEVEL IN ORBITER MIDBODY IS LESS THAN 10,000 PPM.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0355		*SCC 232	LTD	SAFETY VERIFIES CONCURRENCE TO FLOW LH2 TO ORBITER PRSD TANKS.	
15-0356	-22H30M	LTD 232 OTC 132	OTC CFCP	PERFORM PRSD ORBITER LH2 SERVICING AND SAMPLING PER OMI V1040 (SEG ____). NOTIFY LTD OF ANY FIRE OR LEAK ALARMS.	*BCS
GHE BACKGROUND CHECK -----					

NOTE

THE NEXT SEVEN STEPS ARE PERFORMED DURING PRSD LOADING TO DETERMINE THE AMOUNT OF GHE INTRUSION INTO AFT FUSELAGE FROM THE ORBITER/ET DISCONNECT CAVITY PURGE.

15-0357		LTD TBC 136	TBC OTC CLHY CHGD	PERFORM GHE BACKGROUND CHECK. REPORT COMPLETION.	
15-0358		CLHY	CHGD	REPORT WHEN READY FOR ORBITER/ET PURGE ON.	
15-0359		CHGD	CLHY	READY FOR ORBITER/ET CAVITY PURGE ON. STABILIZED AFT HELIUM CONCENTRATION IS	
----- PPM 80					
15-0360		CLHY		CURSOR CNTL PR - ON (A105972 ORBITER/ET LH2 DISC CARRIER PLT PURGE ON)	

NOTE

PERFORM NEXT STEP WHEN CHGD REPORTS A STABLE HELIUM READING IN THE AFT FUSELAGE.

15-0361		CHGD	CLHY	READY FOR ORBITER/ET PURGE OFF. STABILIZED AFT HELIUM CONCENTRATION IS	
----- PPM 80					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0362		CLHY		CURSOR CNTL PR - OFF (A105972 ORBITER/ET DISC CARRIER PLT PURGE OFF)	
15-0363		CLHY TBC	TBC LTD	GHE BACKGROUND TEST COMPLETE.	
15-0364				GND SUPPORT COMM SYS VALID (A2700)	
15-0365	-22H30M	LTD 232	*MIL	VERIFY MILA READY TO SUPPORT OMI S0007.	
15-0366	-22H30M	STM 111 GYCC 117	GYCC *MIL GYVW	PERFORM A2700, SEQ 04. VERIFY COMPLETION. (1 HR).	34300 34200 BFEC
15-0367	-22H30M	STM 111 127 238	*MIL LPS JRPS	PERFORM A2700 SEQ 05 AND 08. VERIFY COMPLETION. (1 HR).	31212 31240 BFEC *dCS

COMP TIME

SEQ 05 -----

NOTE

DO NOT PERFORM SEQ 08
 IF CKT PREVIOUSLY
 VERIFIED FOR THIS MISSION.

SEQ 08 -----

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT TWO STEPS FOR
 NASA MISSIONS ONLY.

15-0368	-21H00M	OTC	LTD	VERIFY COMPATIBLE COMSEC	34300
		232		KEYS HAVE BEEN LOADED BY LCOM -	34100
		LTD	STM	CRYPTO IN C&T STATION AND MILA	
		STM	GYCC	COMSEC BOXES.	
		111			
		GYCC	JYVJ		
		117			
				NOT PERFORMED	-----

15-0369		OTC	RCRT	PERFORM COMSEC LOAD VERIF PER OMI V3528. REPORT COMPLETION.	
				NOT PERFORMED	-----

NOTE

PERFORM NEXT STEP FOR DOD
 MISSIONS ONLY.

15-0370		OTC	LTD	VERIFY ORBITER COMPATIBLE COMSEC	34300
		232		KEYS HAVE BEEN LOADED BY LCOM -	34100
		LTD	STM	CRYPTO IN MILA, LCC RM 4R10 AND	
		STM	GYCC	MLP COMSEC BOXES.	
		111			
		GYCC	JYVJ		
		117			
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0371				MILA/GSFC/JSC INTERFACE TEST (-21H00M)	

NOTE

MILA WILL SUPPORT JSC WITH DATA AND COMMAND CAPABILITIES THRU LUS.

COMSEC UNIT LOADING MUST BE COMPLETED PRIOR TO PERFORMANCE OF MILA/JSC INTERFACE TEST.

15-0372	-21H00M	LTD 232	*FLT *MIL	CONFIGURE FOR JSC COMMANDING AND CONDUCT MILA/GSFC/JSC INTERFACE TEST.	*BCS
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VERIFY COMM FREQ CLEARANCE

15-0373	-21H00M	OTC 232 LTD 853-7034	LTD STM	VERIFY OPEN LOOP FREQUENCY CLEARANCE FOR S-BAND AND UHF FOR DURATION OF LAUNCH COUNTDOWN.	
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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

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).

15-0374		OTC 232 LTD STM 111 GYCC 117	LTD STM GYCC JYVJ	ADVISE COMSEC CUSTODIAN TO TRANSPORT LOADED KYK-26 UNIT FROM LCC TO ORBITER MIDDECK AT PAD IN SECURE TRANSPORTATION CASE. VERIFY COMPLETION.	34300 34100
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

PRSD LOADING OPS - COMPLETE -----					
15-0375	-20H00M	CFCP 132 OTC 232	OTC LTD	LH2 TANK PRESSURIZATION IS COMPLETE. GN2 TO AIR CHANGEOVER MAY BEGIN.	*BCS
15-0376	-20H00M	OTC 232 LTD	LTD *SCC	PRSD HAZARDOUS LOADING OPERATIONS ARE COMPLETE.	
15-0377				STATUS HGDS AND FIRE SENSURS -----	
15-0378	-20H00M	*SCC 232 LTD OTC CHGD 132	LTD OTC CHGD	STATUS HGDS AND FIRE SENSURS.	
NOTE					
HAZARDOUS OPERATIONS FOR PRSD CRYO LOADING ARE COMPLETE.					
15-0379	-20H00M	CHGD 132 OTC 232 LTD	OTC LTD *SCC	HGDS AND FIRE SENSOR STATUS COMPLETE. NO ANOMALIES NOTED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0380				GN2 TO AIR CHANGEVER (-20H)	
15-0381	-20H00M	LTD STM 111 JSTC 114	STM JSTC GSPN	SUPPORT LPGN2 CHANGEVER TO AIR. PLACE SYSTEM IN STANDBY CONFIGURATION, MANUAL CONTROL. PER OPERATION INSTRUCTIONS OF OMI M3042 AND V1122 GSPN COORDINATE CHANGEVER WITH CPVD ON CH 172. REPORT COMPLETION	EG&G-631

Q: _____
 EG&G

NOTE

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

15-0382	-20H00M	OTC 132	CPVD	PERFORM GN2 TO AIR CHANGEVER PER OMI V1122 ON OIS CHNL 172. COORDINATE CHANGEVER WITH GSPN ON CH 172 PRIOR TO CHANGEVER.	*BCS
15-0383		CPVD 132 OTC 232	OTC LTD	GN2 TO AIR CHANGEVER IS ACCOMPLISHED. ORBITER BEING PURGED WITH AIR AT _____ (RECORD TIME)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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15-0384

POSITION ORBITER VENT DOORS

 (NORMAL PURGE POSITION)

WARNING

HAZARDOUS OPERATION - VENT
 DOOR POSITIONING FOLLOWS.

NOTE

IF ORBITER VENT DOORS 1&2
 WERE PREVIOUSLY POSITIONED
 TO OPEN, PERFORM NEXT THREE
 STEPS.

15-0385

LTD
 PA

ATTEN PAD ---:
 ALL PERSONNEL STAND CLEAR OF
 ORBITER VENT DOORS 1&2. VENT
 DOORS WILL BE POSITIONED TO
 NORMAL PURGE CONFIGURATION.

NOT PERFORMED

15-0386

CPVD

CURSOR CNTL (VAM09)
 VENT DOOR 1&2 (LEEWARD)
 PURGE TARGET - XMIT CURSUR

CRT (VAM09)
 VERIFY VENT DOORS 1&2 BOTH
 SIDES, ARE IN NORMAL PURGE
 CONFIGURATION.

NOT PERFORMED

15-0387

CPVD OTC
 OTC LTD
 LTD *SCC

VENT DOORS 1&2 BOTH SIDES, ARE
 IN NORMAL PURGE CONFIGURATION.

NOT PERFORMED

NOTE

HAZARDOUS OPERATION - VENT
 DOOR POSITIONING COMPLETE.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0388	-20H00M	UTC	*PAD	HAVE ECS ROOM CREW ASSEMBLE AT PAD GATE.	
15-0389		STM	JBAC	ASSEMBLE PERSONNEL AT PAD GATE TO OPEN SOUTH ECS ROOM DOOR.	
15-0390		CPVD	OTC	ECS GN2 TO AIR CHANGEOVER IS COMPLETE. ECS PERSONNEL ARE STANDING BY FOR CLEARANCE TO ENTER THE ECS ROOM TO CLOSE THE PURGE GN2 ISOLATION VLVS. (OMI V1122).	
15-0391	-20H00M	LTD STM 111 JSTC	STM JSTC GSPN	VERIFY/CLOSE CONTROL AIR VALVES A62266 AND A126307. RELEASE PERSONNEL AT INDUSTRIAL SUPPLY INTERFACE.	EG&G-631

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0396	-20H00M	*PSE 105 *SCC 232	*SCC LTD	O2 CONTENT OF ECS ROOM IS ACCEPTABLE, SAFETY CONCURS WITH ESSENTIAL PERSONNEL RETURNING TO ECS ROOM.	
15-0397	-20H00M	LTD 232 UTC 132	UTC *PAD	ESSENTIAL PERSONNEL (ECS ROOM CREW) ARE RETURNING TO ECS ROOM.	
15-0398				CLOSE AND LOCK MANUAL GN2 ISU HAND VALVES (-20H)	
15-0399	-20H00M	LTD 232 UTC 132	UTC CPVD	PROCEED INTO ECS ROOM FOR SECURING GN2 VLVS.	
				TERMINATION OF ECS HAZARDOUS PURGE GN2 OPERATIONS (V1122)	
				NOTE	
				WHEN ECS PERSONNEL HAVE BEEN CLEARED TO ENTER THE ECS ROOM, PERFORM THE FOLLOWING STEP.	
15-0400	-20H00M	UTC	CPVD	PROCEED - PERFORM SEQUENCE "TERMINATION OF ECS HAZARDOUS PURGE GN2 OPERATIONS" PER OMI V1122.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0401				DEPRESS PTCR/ECS ROOM -----	
15-0402	-20H00M	STM 111	JBAC	CONTINUE PICK/ECS ROOM DEPRESSURIZATION. OPEN UPPER AND LOWER PTCR BLAST DOORS. REPORT COMPLETION. (OMI'S M3027, M3079 AND M3134). GN2 HANDVALVES SECURED -----	3321C 33215
15-0403	-19H30M	CPVD 132 OTC 232 LTD *SCC *SCC	OTC LTD	ECS PURGE GN2 ISOLATION VLVS ARE CLOSED AND LOCKED. (OMI V1122)	
15-0404	-19H30M	CPVD OTC LTD *SCC *SCC	OTC LTD *SCC *PSE	PERFORM O2 CHECKS AND SAFETY SIGN REMOVALS PER OMI V1122 FOR SEQ "TERMINATION OF ECS HAZARDOUS PURGE GN2 OPERATIONS". 105	
15-0405	-19H30M	CPVD 132 OTC 232 LTD *SCC *SCC	OTC LTD *SCC *PSE	GN2 TO AIR CHANGE OVER IS COMPLETE AND ECS PURGE GN2 ISO VLV'S ARE CLOSED AND LOCKED. 105	
15-0406	-19H30M	OTC	CPVD	PERFORM "CONTROL STATION TRANSFER - FIRING ROOM TO PAD" PER OMI V1122. REPORT COMPLETION.	

OPERATION INSTRUCTIONS

 SEQ TIME CMD RESP DESCRIPTION VERIF.

15-0407

PRSD SAMPLE BOTTLE REMOVAL

WARNING

PRIOR TO PERSONNEL ENTERING
 WHITE ROOM AND CREW COMPT
 THE O2 LEVEL MUST BE
 CHECKED AS ACCEPTABLE.

15-0408 -19H30M

CFCP OTC REQUEST ESSENTIAL PERSONNEL
 132 RETURN TO THE RSS OMBUU AND
 OTC LTD WR/CREW COMPT FOR SAMPLE BOTTLE
 232 REMOVAL AND TO CREW COMPT FOR
 LTD *SCC PRSD C&W ENABLE.
 *SCC *PSE
 105

15-0409 -19H30M

LTD *SCC VERIFY SAMPLE BOTTLE REMOVAL
 232 PERSONNEL ARE WEARING LONG
 *SCC *PSE SLEEVED, BLUE COLLAR, FLAME
 RETARDANT COTTON COVERALLS,
 LEATHER GAUNTLET TYPE GLOVES,
 FACESHIELDS.

TASK: PRSD SAMPLE BOTTLE
 REMOVAL

ACCESS CODE - 2

CONTROL AREA:

OMBUU (158 FT. LVL RSS)

ESSENTIAL PERSONNEL (HAZ BADGE)

	ORB	SPC	NASA
	---	---	----
TECH	4		
QC	1		
SAFETY		1	1

OPERATION INSTRUCTIONS

SEQ TIME CMD RESP DESCRIPTION VERIF.

15-0410 -19H30M LTD *SCC VERIFY WR/CREW COMPT PERSONNEL
232 ARE WEARING LONG SLEEVED, BLUE
*SCC *PSE COLLAR, FLAME RETARDANT COVERALLS.

TASK: PRSD CAUTION AND WARNING
 ENABLE/COMSEC LOADING

ACCESS CODE - 2

CONTROL AREA:

WHITE ROOM AND ORBITER CREW COMPT.

ESSENTIAL PERSONNEL (HAZ BADGE)

	ORB	SPC	NASA	LFAC
	---	---	----	----
TECH	3			
QC	1			
SAFETY		1	1	
TECH (COMSEC)				1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERTF.
15-0414				INGRESS CREW COMPT. (-19H30M)	
15-0415	-19H30M	OTC	CDR	INGRESS CREW COMPT.	
15-0416		OTC 138	JYVR	STOP VIDEO RECORDING OF OTV CAMERA 005/105.	34200
15-0417		UTC	PLT	PANEL R1 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	
15-0418	-19H30M	OTC	CFCP CDR	PERFORM PRSD C&W ENABLE ON UIS CH 153. REPORT COMPLEIION.	
15-0419				COMSEC UNIT LOAD (-19H30M)	
15-0420		OTC 132	*PAD CCSE	PERFORM COMSEC UNIT LOADING PER UMI S9001 COMM OPTIONS. OIS CUMM CHECK WITH JSC	
15-0421	-19H30M	LTD 232 STM 111 GYCC 117	STM *MIL GYCC GOIS JYCL	PERFORM CUMM CHECKS WITH JSC ON UIS CH 211 (UHF), 212 (A/G 1) AND 213 A/G 2). VERIFY COMPLETION. (1 HR)	34300 MILA SC-CUM 34100

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0422				CLEAR FOR COMM ACTIVATION	
				NOTE	
				ANTENNA MONITOR MAY NEED TO VERIFY S-BAND PM ANTENNA SWITCH POSITION IN FRCS ROOM DURING COMM ACTIVATION.	
15-0423	-19H30M	OTC 132	*PAD	POST ANTENNA MONITOR ON STATION (FRCS ROOM).	
				NOT PERFORMED	-----
				WARNING	
				EITHER ANTENNA MONITOR OR SAFETY ACCESS CONTROL SIGNS ARE REQUIRED DURING COMM ACTIVATION.	
15-0424		OTC 232	LTD	READY TO CLEAR S-BAND AND UHF ANTENNA AREAS. ANTENNA MONITOR IS ON STATION IN THE FRCS ROOM AND PLACE SAFETY BARRIERS AT CONTROLLED AREAS.	
				NOT PERFORMED	-----
15-0425		OTC 232	LTD	READY TO CLEAR S-BAND AND UHF ANTENNA AREAS. PLACE SAFETY ACCESS SIGNS AT CONTROLLED AREA.	
				NOT PERFORMED	-----
15-0426		LTD PA		ATTEN PAD ___: ALL PERSONNEL STAND CLEAR OF ORBITER COMM SYSTEM ANTENNAS.	
15-0427		LTD 232 *SCC	*SCC *PSE	VERIFY SAFETY SIGNS OR ANTENNA MONITOR ON STATION AT 193 FT LEVEL. VERIFY PERSONNEL CLEARED 5 FT FROM S-BAND AND UHF ANTENNA CONTROLLED AREA.	
15-0428		*PSE 105 *SCC 232	*SCC LTD	PERSONNEL CLEARED, MONITORS ON STATION OR SAFETY SIGN IS POSTED. SAFETY VERIFIES CONCURRENCE TO BEGIN RADIATION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				UHF RF QUIETING SYSTEM ----- POWER UP -----	
15-0429		OTC 132	RCRT	PERFORM UHF RF QUIETING SYSTEM POWER UP PER OMI V3528, ON OIS CH 155	
			RCRT	PETG (PETG RM 220). REPORT COMPLETION.	
15-0430		OTC 132	CHGD	HGDS/HLDS/HFDS SUPPORT NO LONGER REQUIRED.	
15-0431				PREPS FOR COMM SYS ACTIVATION -----	
15-0432	-19H15M	RCRT 132	OTC	OPERATION SUPPORT SETUPS 12 AND 25 OF OMI V3528 C AND T STATION INITIALIZATION (PAD OPTION) ARE COMPLETE.	
15-0433		LTD 232	JRPS	1. VERIFY S-BAND FM FRUM C&T (1TVM1008) PATCHED.	31212
				2. SUPPORT COMM ACTIVATION ON OIS CH 214.	
15-0434		LTD 232	JSRP	IF DOD MISSION, VERIFY READY TO SUPPORT COMM ACTIVATION ON OIS CH 214 (OMI V1117).	31212
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0435				VERIFY FLIGHT CONTROL TEAM ----- STATUS AND DATA LINKS -----	
15-0436	-19H00M	LTD 232	*FLT	VERIFY FLIGHT CONTROL TEAM ON STATION.	*BCS
NOTE					
IF DOD MISSION, DO NOT PERFORM NEXT TWO STEPS.					
15-0437		*MIL 127	LPS	VERIFY 128 KB PCMMU DATA ON 1TVM1730 TO MILA	31240
NOT PERFORMED					-----
15-0438	-19H00M	LTD 232	*MIL *FLT	VERIFY HARDLINE DATA TO JSC	
NOT PERFORMED					-----
15-0439	-19H00M	*FLT 232	LTD	OIS COMM CHECK AND MILA/GSFC/JSC INTERFACE TEST COMPLETE.	
		*MIL			
15-0440		LTD 232	*FLT *MIL	VERIFY READY TO SUPPORT COMM ACTIVATION ON OIS CHNL 214. (OMI V1117)	MILA 34300
		STM 111	GYCC		SC-COM 34100
		GYCC 117	GOIS JYCL		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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 CUMSEC UNIT LOAD COMPLETE

15-0441	-19H00M	CCSE 132	OTC	CUMSEC UNIT LOADING PER OMI S9001 COMPLETE.	
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15-0442				ORB COMM SYSTEM ACTIVATION (MCCH) -----	
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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.

15-0443	-19H00M	OTC 132	CCSE	PERFORM COMM SYSTEM ACTIVATION (MCCH) PER OMI V1117 UN UIS CDR CH 214. (FOR DOD MISSION, PERFORM MCCH DOD OPTION)	*BCS
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MS2
 MS1
 UMRSD S00FA0.370
 UMRSD S00FA0.373
 UMRSD S00FA0.374
 UMRSD S00FB0.010 (PARTIAL)

15-0444	-19H00M	CRDE OTC LTD 232 STM 111	OTC LTD STM JBDY	NOTIFY WILTECH THAT GH2 SAMPLES ARE ENROUTE FOR ANALYSIS. NEED BY _____ HRS. PHONE _____ SAMPLE NO. _____ (PRI) SAMPLE NO. _____ (B/U)	WILTECH
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15-0445		CRHE OTC LTD 232 STM 111	OTC LTD STM JBDY	NOTIFY WILTECH THAT G02 SAMPLES ARE ENROUTE FOR PRIORITY ANALYSIS. NEED BY _____ HRS. SAMPLE NO. _____ (PRI) SAMPLE NO. _____ (B/U)	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0446	-19H00M	CFCP 132 OTC 232 LTD *SCC *SCC	OTC LTD *SCC *PSE	PRSD SAMPLE BOTTLE REMOVAL AND FLIGHT POPPET LEAK TEST ARE COMPLETE. HAZARDOUS PRSD AND GN2 OPERATIONS COMPLETE. REQUEST CONCURRENCE TO OPEN PAD FOR CONTROLLED WORK.	
15-0447	-19H00M	CFCP 138	JYVR	STOP VIDEO RECORDING OF OTV CAMERAS 007/107, 008/108, 021/121, 022/122 FOR OMI V1040. (SEE CFCP FIGURE 4)	34200
15-0448				OPEN PAD FOR CONTROLLED WORK (-19H)	

NOTE

DO NOT PERFORM NEXT THREE
 STEPS IF PRSD BOIL-OFF IS
 REQUIRED.

15-0449	-19H00M	LTD 232 *SCC 105	*SCC *PSE	TURN PAD ---, A-5 AND A-11 ROADBLOCK FLASHING AMBER LIGHTS OFF.	
				NOT PERFORMED	-----
15-0450	-19H00M	*PSE 105 *SCC 232 LTD LTD TBC STM CTC	*SCC LTD	SAFETY VERIFIES CONCURRENCE TO OPEN LISTED AREAS OF PAD FOR CONTROLLED WORK. 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. * ORB DOOR 44 6. * ORB 50-1, 50-2 DOORS ACCESS PLATFORM - CLEAR AFT FUSELAGE 7. PCR ROOM 8. OAA	
				(* = UNLESS CLOSED OUT FOR FLIGHT)	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0451		*PSE 105 *SCC 232 LTD 232	*SCC LTD OTC TBC STM CTC	SAFETY VERIFIES CONCURRENCE TO OPEN PAD FOR CONTROLLED WORK EXCEPT FOR FOLLOWING AREAS: 155 FT LEVEL/OMBUU FRCS ROOM (193 FT LEVEL)	
				NOT PERFORMED	-----
				NOTE	
				FOR DOD MISSIONS, DO NOT PERFORM NEXT STEP.	
				FOR NASA MISSION, PERFORM NEXT STEP ONLY IF PRSD BOIL-OFF IS SCHEDULED.	
15-0452		CFCP OTC LTD *SCC	OTC LTD *SCC *PSE	PROCEEDING WITH PRSD BOIL-OFF.	
				NOT PERFORMED	-----
15-0453		OTC 232 LTD	LTD *SCC	VERIFY SPECIAL CLOTHING REQUIREMENTS FOR WHITE ROOM/CREW CMPT PERSONNEL HAVE TERMINATED.	
15-0454		OTC 132	*PAD	SPECIAL CLOTHING REQUIRED BY WHITE ROOM/CREW CMPT PERSONNEL DURING PRSD OPERATIONS HAS TERMINATED.	
15-0455		OTC 132	*PAD	PERSONNEL FOR OMBUU OPERATIONS ARE REQUIRED TO WEAR LONG SLEEVE, BLUE COLLAR FLAME RETARDANT COVERALLS, LEATHER GLOVES AND FACESHIELDS.	
15-0456	-19H00M	LTD 232 STM 111	STM JBPN	PRSD SERVICE COMPLETE. MAINTAIN FACILITY GO2 AND GH2 SYSTEMS FOR NORMAL SUPPORT PER PRE-OPERATION SETUP INSTRUCTIONS AND OPERATION INSTRUCTIONS OF OMI M3020 AND OPERATION INSTRUCTIONS OF OMI M3097, (HP2 - WDD02)	33218 33217

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0457				ET PREPS FOR VEHICLE LOADING ----- CONFIGURE 17 IN. LH2 FIRE DETECTORS -----	
15-0458		OTC	CHGD	CONFIGURE FCSS FD'S FOR LH2 SUPPORT. REPORT COMPLETION.	
15-0459		CHGD		CONSOLE KYBD (VAQ09) +23D1020 BUS CMD OFF XMIT CURSOR	
15-0460		CHGD	PETG	CD6127 155 FT FSS 1. DEMATE 6127W9P1 FROM 6127J9 AND STOW CABLE. 2. MATE 6127WSP1 TO 6127J9	
15-0461		CHGD	PETG	CD6293 OMBUU RSS 1. DEMATE 6293W16P1 FROM 6293J16 AND STOW CABLE. 2. MATE 6293WSP1 TO 6293J16.	
15-0462		CHGD		CONSOLE KYBD (VAQ09) +23D1020 BUS CMD ON XMIT CURSOR GFHX4032E SELF TEST XMIT CURSOR GFHX4042E SELF TEST XMIT CURSOR	
15-0463		CHGD	OTC	LH2 FIRE DETECTOR CONFIGURATION COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				LH2 TSM REMOTE LEAK SENSING ----- RECONFIGURATION -----	
15-0464		CHGD	PETG	6292 CABINET	
				1. DISCONNECT SAMPLE LINE HE-4A FROM CABINET INTERFACE M/F A144981.	
				2. CONNECT 1/2 - IN. TYGON LINE STORED AT BOTTOM OF CABINET TO INTERFACE M/F A144981	
					T:-----
15-0465		CHGD		CURSOR CNTL (VAG09/SAQ04) LD4 PUMP PWR XMIT CURSOR KEY - PRESS	
				CRT VERIFY LD4 PUMP POWER INDICATION ON	
15-0466		CHGD	PETG	6292 CABINET	
				1. CABINET PURGE VALVE - CLOSE (CW)	
				2. OPEN CABINET DOORS AND ALLOW AIR OUT.	
				3. FLOWMETER A144997 - ADJUST TO 50 PCT	
				4. FLOWMETER A144998 - ADJUST TO 50 PCT	
15-0467		CHGD	PETG	6292 CABINET (LD4) M/F A144502	
				1. REMOVE COVERS FROM TWO HYDROGEN LEAK DETECTOR ENCLOSURES.	
				2. TOP ENCLOSURE CONNECT DVM POSITIVE LEAD TO TEST POINT MARKED (+ OUT) AND NEGATIVE LEAD TO TEST POINT MARKED (-) (JUST BELOW +OUT).	
				Z-----	DUE DATE-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0467				3. ZERO THUMBWHEEL - ADJUST VOLTAGE TO 1.00 +/- 0.05 VDC AS INDICATED ON DVM.	
15-0468		CHGD	PETG 6292	CABINET	
				1. DISCONNECT SAMPLE LINE FROM CABINET INTERFACE M/F A144981.	
				2. CONNECT 2 PCT H2 IN N2 SAMPLE GAS CYLINDER TO CABINET INTERFACE M/F A144981.	
				3. MAIN VALVE - OPEN	
				4. REGULATOR - ADJUST UNTIL FLOWMETERS A144997 AND A144998 INDICATE 50 +/- 5 PCT.	T:-----
15-0469		CHGD	PETG 6292	CABINET	
				1. CALCULATED SPAN VOLTS = CONCENTRATION (PCT) + 1 RECORD -----V	
				2. SPAN THUMBWHEEL - ADJUST VOLTAGE TO VALUE OF CALCULATED SPAN VOLTS +/- 0.5 VDC.	T:-----
15-0470		CHGD	PETG 6292	CABINET	
				SAMPLE GAS CYLINDER (2 PCT H2 IN N2)	
				1. MAIN VALVE - CLOSE	
				2. DISCONNECT SAMPLE GAS CYLINDER FROM CABINET INTERFACE A144981.	
				3. CONNECT SAMPLE TYGON TUBING TO CABINET INTERFACE A144981.	T:-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0471		CHGD	PETG	6292 CABINET (LD4) M/F A144502	
				1. DISCONNECT DVM	
				2. REINSTALL TWO COVERS ON LEAK DETECTOR.	
					T:-----
15-0472		CHGD	PETG	MLP (COMPT 43A) 6407 CABINET	
				1. DISCONNECT TYGON SAMPLE LINE FROM SAMPLE LINE LD30.	
				2. COVER TYGON SAMPLE LINE END.	
					T:-----
15-0473		CHGD	PETG	MLP (COMPT 43A) 6407 CABINET	
				VERIFY FLOWMETER A144997 DECAYS TO ZERO.	
					T:-----
15-0474		CHGD	PETG	6292 CABINET	
				1. CLOSE DOOR	
				2. OPEN PURGE VALVE.	
					T:-----
15-0475		CHGD	PETG	MLP (COMPT 43A) 6407 PANEL	
				REINSTALL TYGON SAMPLE LINE LD30 LINE.	
					T:-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0476	-19H00M	LTD 232	TBC	PERFORM LO2 SYSTEM PREPS FOR VEHICLE LOADING. REPORT COMPLETION.	*BCS
15-0477		TBC 136	CLOX	PERFORM THE FOLLOWING PER OMI G3151: 1. ALL OPERATION SUPPORT SETUPS (EXCEPT PRINTER PLOTTERS) 2. FINAL MANUAL PREPARATIONS FOR LOADING 3. ET PREPARATIONS FOR LOADING.	
15-0478				REMOVE MLP PERM H/R (-19H) -----	
15-0479	-19H00M	STM 232 LTD *SCC *SCC	LTD *SCC *PSE	REQUEST APPROVAL TO REMOVE PERMANENT HANDRAILS AND SAFETY SHOWERS FROM MLP. TEMPORARY HANDRAILS WILL BE INSTALLED.	
15-0480		*PSE *SCC 232	*SCC LTD	SAFETY VERIFIES CONCURRENCE TO REMOVE PERMANENT HANDRAILS AND SAFETY SHOWERS.	
15-0481		STM 111 JBDY	JBDY GBHE	PROVIDE TRUCKS AND MOBILE CRANE FOR REMOVAL OF MLP HANDRAILS, SAFETY SHOWERS AND LOOSE EQUIPMENT (Q3205). (8 HRS) REPORT WHEN IN POSITION.	33351 33223
15-0482		LTD 232 STM NET 113 JBDY	STM QBSE 104 JBDY GBHE	REMOVE MLP PERMANENT HANDRAILS. INSTALL TEMPORARY HANDRAILS AROUND MLP SSME/MPS ENGINE WELL, ALL SIDES OF MLP, SOUTH SIDE OF LEFT AND RIGHT SRB FLAME HOLES; 95 FT LEVEL EGRESS ROUTES PER M3134/M3083. (8 HRS) REPORT COMPLETION.	3322C 33226 33223 *BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0483	-19H00M	STM 111	JBFX	REMOVE SAFETY SHOWERS AND EYEWASH FOUNTAINS FROM COOLING TOWER AREA, PAD SURFACE, AND MLP (M3092). CLOSE PAD SURFACE AND FSS POTABLE WATER ISOLATION VALVES. CLOSE FSS RESTROOM ISOLATION VALVES. REPORT COMPLETION.	3322B 33222 33223
NOTE					
PERFORM NEXT TWO STEPS IF PCR TELEPHONES ARE TO BE RESTORED TO SERVICE.					
15-0484		LTD 232 STM 111 GYCC 117	STM GYCC PCSQ JY CJ	LOCKED-OUT TELEPHONES IN PCR ANTE-ROOM AND IN PAYLOAD CHANGEOUT ROOM MAY BE RESTORED TO SERVICE.	34100 34300 50234
NOT PERFORMED -----					
15-0485	-19H00M	PCSQ 117 GYCC 111 STM	GYCC STM LTD	LOCKED-OUT TELEPHONES IN PAYLOAD CHANGEOUT ROOM (PAD A EXTENSIONS 7-7941/7942/7943/7944; PAD B EXTENSIONS 7-5407/5408/5409/5410) HAVE BEEN RESTORED TO SERVICE. OUTSIDE POWER SWITCH IS IN "ON" POSITION.	34300
Q:----- 50234					
NOT PERFORMED -----					
15-0486		LTD 232	*SCC *PSE	REQUEST SPC SAFETY CONCURRENCE TO RELEASE FIRE AND MEDICAL FROM PRSD SUPPORT.	*BCS
15-0487			*PSE *SCC	YOU HAVE SAFETY CONCURRENCE TO RELEASE FIRE AND MEDICAL FROM PRSD SUPPORT.	
15-0488		LTD 232 STM 111 JSTC 114	STM JSTC JFIR	FIRE/RESCUE AND MEDICAL ARE RELEASED FROM PRSD SUPPORT.	EG&G-420

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0489		LTD 232 STM 111	STM JBEP	RESTORE POWER TO SAFETY MONITOR SHACK, PAD SURFACE.	3321A 33212

15-0490
 PREP & CLEAR FOR URBITER MIDBODY

 UMBILICAL CARRIER PLATE DEMATE

NOTE

DO NOT PERFORM NEXT TWO STEPS
 IF PRSD BOIL-OFF IS REQUIRED.

15-0491	-19H00M	CFCP 132 OTC 232 LTD *SCC	OTC LTD *SCC *PSE	READY TO PROCEED WITH MIDBODY UMBILICAL OPERATIONS. VERIFY SAFETY CONCURRENCE TO PROCEED. (OMI V3538, TASK 02)	
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NOT PERFORMED -----

15-0492	-19H00M	OTC 132	CFCP	PERFORM PRSD PREPS FOR MIDBODY UMBILICAL DEMATE PER OMI V1040.	
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NOT PERFORMED -----

BI-FOLD DOOR SECURE AND SAIL REMOVAL

NOTE

PERFORM NEXT STEP IF BI-FOLD
 DOORS ARE EXTENDED.

15-0493	-19H00M	LTD 232 STM NET 104	STM UTC QBSE	RETRACT AND SECURE BI-FOLD DOORS FOR RSS ROTATION PER CAT II WORK AUTHORIZATION. VERIFY WHEN COMPLETE (8 HRS).	3322C 33226
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NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT THREE
 STEPS IF PRSD BOIL-OFF IS
 REQUIRED.

15-0497		CFCP	OTC	PREPS FOR OMBUU DEMATE COMPLETE.	
		132		READY TO DEMATE MIDBODY UMBILICAL	
		OTC	LTD	CARRIER PLATE AND INSTALL POD FLIGHT	
		LTD	*SCC	CAPS PER OMI V3538 (TASK 02). REQUEST	
		*SCC	*PSE	SAFETY CONCURRENCE TO PRUCEED.	

NOT PERFORMED

15-0498	-19H00M	LTD	*SCC	CLEAR AND ROPE OFF LOCAL AREA	
		232		AT OMBUU AND CLEAR NONESSENTIAL	
		*SCC	*PSE	PERSONNEL FROM AREA ((50-FT RADIUS)	
		105		DIRECTLY BELOW MID-LEVEL	
				EXTENSIBLE PLATFORM IN	
				SUPPORT OF MIDBODY UMBILICAL	
				DEMATE PER OMI V3538 (15 MIN.).	

NOT PERFORMED

TASK: ORBITER MIDBODY UMBILICAL
 DEMATE (BADGE BOARD REQ'D)

ACCESS CODE - 2

CONTROL AREA -

1. ACCESS ABOVE LEVEL
OF OMBUU.
2. 50-FT RADIUS DIRECTLY
BELOW EXTENSIBLE
PLATFORM.

OPERATION INSTRUCTIONS

 SEQ TIME CMD RESP DESCRIPTION VERIF.

ESSENTIAL PERSONNEL FOR ORBITER

 MIDBODY UMBILICAL DEMATE

 (HAZ BADGE)

 ORB SPC NASA
 --- --- ----

 ENG/SUPR 1
 TECHNICIAN 4
 QUALITY 2
 SAFETY 1 1

15-0499

LTD *SCC VERIFY ALL PERSONNEL WITHIN A
 232 10 FT. RADIUS OF CARRIER PLATE
 *SCC *PSE ARE WEARING LONG-SLEEVED, BLUE
 COLLAR FLAME RETARDANT COTTON
 COVERALLS, LEATHER GLOVES,
 FACESHIELDS.

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
PREPS FOR RSS MOVE (-19H) -----					
15-0500		LTD	STM TBC	PERFORM PREPS FOR RSS MOVE AND REPORT COMPLETION.	
15-0501		TBC	*PAD	VERIFY SRB FWD ACCESS PLATFORMS RETRACTED.	
15-0502		TBC 136	*PAD	VERIFY RAMPS TO SRB FORWARD COMPARTMENTS ARE CLEAR OF ALL EQUIPMENT, TOOLS, SAFETY NETS, ACCESS STANDS, DEBRIS, AND MOVEABLE PLATFORMS HAVE BEEN RETRACTED FOR RSS MOVE.	
15-0503	-19H00M	STM NET 113	QBSE 104 JBEP JBDY	PERFORM RSS MOVE PRE-OPERATIONS PER OMI A2203 ON OIS CHNL 116. (M3094) (4 HRS).	3322C 33226 3321A 33212
ORB PREPS FOR RSS MOVE (-19H) -----					
15-0505	-19H00M	LTD 232	OTC	PERFORM ORB PREPS FOR RSS MOVE AND REPORT COMPLETION.	*BCS
15-0506		UTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 26 - (RSS PREP TO MOVE VERIFICATION). REPORT COMPLETION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0507				ORBITER FLIGHT CONTROLS ACTIV ----- RGA/AA/ASA/ATVC -----	
15-0508	-19H00M	OTC	COFC CGNC	PROCEED WITH ORBITER FLIGHT CONTROL SYSTEMS ACTIVATION OF RGA'S, AA'S, ASA'S AND ATVC'S PER UMI V1123. REPORT COMPLETION. UMRSD S00FB0.270	*BCS
15-0509	-19H00M	CAFC		VERIFY AERO SURFACE DRIVER CURRENTS AND POSITIONS LOB DRVR (<3.25 MA) V79C3284A1 LIB DRVR (<3.00 MA) V79C3280A1 RIB DRVR (<3.00 MA) V79C3288A1 RUB DRVR (<3.25 MA) V79C3292A1 RUD DRVR (<2 MA) V79C3305A1 RUD POSN 1 (-0.95 TO +0.95 DEG) V57H0150A1 RUD POSN 2 (-0.95 TO +0.95 DEG) V57H0151A1 RUD POSN 3 (-0.95 TO +0.95 DEG) V57H0152A1 RUD POSN 4 (-0.95 TO +0.95 DEG) V57H0153A1 SBK DRVR (<2 MA) V79C3315A1 SBK POSN 1 (+2.45 TO +7.55 DEG) V57H0250A1 SBK POSN 2 (+2.45 TO +7.55 DEG) V57H0251A1 SBK POSN 3 (+2.45 TO +7.55 DEG) V57H0252A1 SBK POSN 4 (+2.45 TO +7.55 DEG) V57H0253A1 AS SBK POSN DECREASES BELOW 5.0 DEG. SBK DRVR CURRENT NEGATIVE LIMIT DECREASES LINEARLY TO 0.0 MA AT SBK POSN OF 3.5 DEG. NO NEGATIVE CURRENT ALLOWED BELOW SBK POSN OF 3.5 DEG.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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15-0510

FUEL CELL CABIN PREPS

NOTE

MASTER ALARMS MAY OCCUR
 IN NEXT STEP (ADVISE CISEL).
 MASTER ALARMS WILL BE
 RESET PER OMI V1040.

15-0511 -18H45M

OTC CFPC PERFORM REMOTE FUEL CELL
 132 CECL ACTIVATION CABIN PREPS PER
 OMI V1040 ON OIS CH 153. REPORT
 COMPLETION.

*BCS

ORBITER MIDBODY UMBILICAL DEMATE

NOTE

DO NOT PERFORM NEXT THREE
 STEPS IF PRSD BOIL-OFF IS
 REQUIRED.

15-0512 -18H45M

*PSE *SCC LOCAL CONTROL AREA ESTABLISHED
 *SCC LTD FOR UMBILICAL DEMATE. YOU HAVE
 232 SAFETY CONCURRENCE TO PROCEED.
 LTD OTC

NOT PERFORMED

15-0513 -18H45M

OTC CECL SUPPORT MIDBODY UMBILICAL CARRIER *BCS
 CROE PLATE DEMATE ON OIS CH 153.

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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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 OMBUJ MUST BE TERMINATED UNTIL FLIGHT CAPS ARE INSTALLED ON VEHICLE.

15-0514	-18H45M	OTC	*PAD	PERFORM MIDBODY UMBILICAL DEMATE AND PRSD/ECLSS POD FLIGHT CAP INSTALLATION PER OMI V3538 ON OIS CH 153. REPORT COMPLETION.	*BCS
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NOT PERFORMED

15-0515	-18H30M	CFCP CECL 132	OTC	REMOTE FUEL CELL ACTIVATION CABIN PREPS ARE COMPLETE. (OMI V1040)	
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15-0516				FC/PRSD PREP FOR CLOSEOUT ----- SWITCHLIST -----	
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15-0517	-18H30M	OTC	CFCP	PERFORM FC/PRSD PREPS FOR CLOSEOUT SWITCH LIST.	*BCS
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15-0518			CFCP	CRT PAGE-B (VAR96) VERIFY PURGE HTR - GPC (INVERTED CYAN) FC1 PURGE - G (INVERTED CYAN) FC2 PURGE - G (INVERTED CYAN) FC3 PURGE - G (INVERTED CYAN) H2O RV - SWA (INVERTED CYAN)	
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15-0519			CFCP	CRT PAGE B (VAR75) VERIFY HTR CTL SNR TRIP TANK 1 A1*A2, B1*B2 - WHITE TANK 2 A1*A2, B1*B2 - WHITE TANK 3 A1*A2, B1*B2 - WHITE TANK 4 A1*A2, B1*B2 - WHITE	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF ANY SENSOR INDICATES
 TRIPPED (INVERT RED),
 PERFORM NEXT STEP.

15-0520	-18H30M	CFCP		CURSOR CNTL (VAR92) RESET ANY HTR CURRENT TRIP SENSORS INDICATING TRIPPED (INVERT RED).	
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NOT PERFORMED

15-0521	-18H30M	OTC	CDPS	CGNC CHANGE RESPONSIBLE CONSOLE FOR DEU 3 TO CONSOLE C11.	
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15-0522		CDPS	PLT	PANEL C2A2 RIGHT CRT SEL SW - 3	
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15-0523		CDPS	PLT	_____ KYBD RESUME	
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CRT 3
 GPC MEMORY

15-0524		CDPS		CONSOLE KYBD HOME CMD KEY - PRESS ISSU N72IV102D #B000 XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
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HOME CMD KEY - PRESS
 C CO _DEU3G LDBA C11
 XMIT CMD KEY - PRESS

15-0525		CDPS	OTC	RESPONSIBLE CONSOLE CNTL TO USE DEU NO. 3 ASSIGNED TO C11.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0526				RGA AND AA SENSOR SELF TEST	
15-0527	-18H30M	OTC	CGNC	PERFORM RGA AND AA SENSOR SELF TEST PER OMI V1123. REPORT WHEN COMPLETE.	*BCS
				OMRSD V79AE0.110 OMRSD V79AA0.020 OMRSD V79AB0.050	
15-0528				RCS LOGIC ACTIVATION (-18H15M)	
15-0529		OTC	COFC	VERIFY ALL RCS THRUSTER COMMANDS ARE OFF IN MDM'S PER RCS JET FIRING INHIBIT SEQ OF OMI V1123. REPORT COMPLETION.	
		132			
15-0530	-18H15M	OTC	COFC	PERFORM RCS LOGIC POWERUP/SINGLE COMMAND TEST ON NORMAL JETS PER OMI V1123. REPORT COMPLETION.	*BCS
				OMRSD S00FG0.070	
15-0531				HYDRAULIC SYST CONFIG (FOR SW LIST)	
15-0532	-18H15M	OTC	CHYD	POSITION COCKPIT SWITCH AND CB'S.	*BCS
15-0533		CHYD	CDR	PANEL L4 ROW 0 AC1 HYD QTY 1 PHB CB - CLOSE AC2 HYD QTY 2 PHB CB - CLOSE AC3 HYD QTY 3 PHB CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0534		CHYD	PLT	PANEL R2 APU/HYD HYD MAIN PUMP PRESS 1 SW - NORM 2 SW - NORM 3 SW - NORM	
NOTE					
SWITCHGUARD P/N'S: CIRC PUMP 1 (SW 29) G070-700919-001.					
CIRC PUMP 2 (SW 30) CIRC PUMP 3 (SW 31) G070-700904-001.					
15-0535		CHYD	PLT	PANEL R2 REMOVE HYD CIRC PUMP SWITCH GUARDS FROM SW1, 2 AND 3	
15-0536		CHYD	PLT	PANEL R2 APU/HYD HYD CIRC PUMP 1 SW - GPC 2 SW - GPC 3 SW - GPC	
15-0537		CHYD	PLT	PANEL R2 RE-INSTALL HYD CIRC PUMP SWITCHGUARD ON SW1, 2 AND 3	
15-0538		PLT	CHYD	SWITCHGUARDS HAVE BEEN INSTALLED ON HYD CIRC PUMP SWITCHES 1, 2 AND 3	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0539		CHYD	PLT	PANEL R2 APU/HYD BOILER CNTLR PWR/HTR 1 SW - A 2 SW - A 3 SW - A BOILER CNTLR 1 SW - OFF 2 SW - OFF 3 SW - OFF BOILER N2 SUPPLY 1 SW - OFF 2 SW - OFF 3 SW - OFF	
15-0540		CHYD	PLT	PANEL R4 HYDRAULICS BRAKE HEATER A SW - OFF B SW - OFF C SW - OFF LG HYD ISOL VLV 1 SW - GPC 2 SW - GPC 3 SW - GPC LG HYD ISOL VLV INDICATOR 1 TB CL 2 TB CL 3 TB CL MPS/TVC ISOL VLV SYS 1 SW - CENTER SYS 2 SW - CENTER SYS 3 SW - CENTER VERIFY TB AS IS	R4A04S028 R4A04S029 R4A04S030 R4A04S022 R4A04S023 R4A04S024

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0541		CHYD	PLT	PANEL A12	
				HYDRAULIC HEATER	
				RUDDER SPD BK	
				A SW - AUTO	A12A12S17
				B SW - OFF	A12A12S28
				BODY FLAP	
				A SW - AUTO	A12A12S18
				B SW - OFF	A12A12S29
				ELEVON	
				A SW - AUTO	A12A12S21
				B SW - OFF	A12A12S22
				AFT FUSELAGE	
				A SW - AUTO	A12A12S19
				B SW - OFF	A12A12S20
				HYD CIRC PUMP POWER	
				1 SW - MN A	A12A12S25
				2 SW - MN B	A12A12S26
				3 SW - MN C	A12A12S27
15-0542		CHYD	PLT	PANEL MA73C	
				ROW F	
				AC 1	
				OPS INST HYD ACTR	
				PH C CB - CLOSE	
				AC 2	
				OPS INST HYD ACTR	
				PH C CB - CLOSE	
				DMRSD S00FB0.140	
15-0543		CHYD	OTC	HYDRAULIC SYSTEM CONFIGURATION	
		132		FOR SWITCH LIST IS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0544		UTC 132	CUFC	RETURN RESPONSIBLE CONSOLE FOR DEU 3 TO C12. REPORT WHEN COMPLETE.	
15-0545			COFC	CONSOLE KYBD HOME CMD KEY - PRESS ISSU N721V102D 0 XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS HOME CMD KEY - PRESS C CO _DEU3G LDBA C12 XMIT CMD KEY - PRESS	
15-0546				MOVE TAIR TRAILER TO PAD -----	

NOTE

DO NOT PERFORM NEXT TWO
 STEPS UNLESS TAIR TRAILER
 REQUIRED AT PAD.

15-0547	-18H00M	UTC 132	*PAD	DISCONNECT PAD TRAILER HALON SYSTEM IN SUPPORT OF TAIR TRAILER MOVE TO PAD. RECONNECT ON ARRIVAL AT PAD. NOT PERFORMED	-----
15-0548		UTC 232 LTD	LTD STM	PERFORM SUPPORT OPERATION SUPPORT SETUP 1 TO MOVE TAIR TRAILER FROM PAD GATE TO PAD (1 HR). NOT PERFORMED	-----
15-0549				VACUUM CREW MODULE (-18H) -----	
15-0550	-18H00M	UTC	*PAD	PERFORM VACUUMING OF CREW MODULE.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0551				UI/MADS RECORDER SETUP FOR ----- TERMINAL COUNT (-18H) -----	
15-0552	-18H00M	OTC 132 LTD 232	CISL LTD JRPS	PERFORM OI AND MADS RCDR SETUPS FOR TERMINAL COUNT PER SEQ 38 (S0007-V4).	*BCS 31212

UMRSD S00FB0.060

NOTE

DO NOT PERFORM NEXT FOUR STEPS
 IF PRSD BOIL-OFF IS REQUIRED.

15-0553	-18H00M	*PAD 132 OTC 232 OTC 132	OTC LTD CFCP	MIDBODY UMBILICAL DEMATE AND PRSD/ECLSS POD FLIGHT CAP INSTALLATION IS COMPLETE. READY FOR POD FLIGHT CAP LEAK CHECKS.	
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NOT PERFORMED -----

NOTE

HAZARDOUS OPERATION -
 MIDBODY UMBILICAL DEMATE
 COMPLETE.

15-0554	-18H00M	LTD 232 *SCC 105	*SCC *PSE	ORBITER MIDBODY UMBILICAL DEMATE IS COMPLETE. LOCAL CONTROL AREA AT OMBUU MAY BE TERMINATED AT THIS TIME AND AREA OPENED FOR CONTROLLED WORK.	
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NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0555				PRSD POD FLIGHT CAPS LEAK CHECK ----- (UMI V1040 SEQ ----) -----	
15-0556	-18H00M	OTC 132	CFCP	PERFORM LEAK CHECK OF PRSD POD FLIGHT CAPS PER UMI V1040 UN DIS CH 153. REPORT COMPLETION.	*BCS
				NOT PERFORMED	-----
15-0557				LEAK CHECK ECLSS POD FLT CAPS -----	
				NOTE	
				PERFORM NEXT TWO STEPS IF ECLSS POD-252 FLT CAP WAS PREVIOUSLY REMOVED (PER UMI 3538) AND EMERGENCY G02 TANK IS INSTALLED.	
15-0558		CECL	CDR	PANEL L2 ATM PRESS CONTROL O2 EMER SW - OPEN UNTIL O2 EMER 1B UP	
				NOT PERFORMED	-----
15-0559		UTC	CECL	PERFORM LEAK CHECK OF ECLSS POD-252 G02 FLT CAP PER UMI V1040 UN UIS CHAN 153.	
				NOT PERFORMED	-----
15-0560	-17H00M	*PAD 132	OTC	CREW COMPARTMENT VACUUMING IS COMPLETE.	
15-0561	-17H00M	CISL 132	OTC	OI AND MADS RCOR SETUPS FOR TERMINAL COUNT IS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0562				SOUND SUPPRESSION DRY CYCLE CK	
15-0563	-17H00M	STM 111	JBWC	PERFORM FINAL DRY CYCLE CHECK ON SOUND SUPPRESSION 48 INCH VALVES AND MLP VALVE V-31 PER OPERATION INSTRUCTIONS OF OMI M3114/M3152. SS SUL PWR BUS AND VALVE CLOSE CMDS TO REMAIN ON (SKELETON P2A AND SSA). VERIFY COMPLETION.	3322B 33222
15-0564				LS IN FALLBACK AREA (-17H)	
15-0565	-17H00M	*SCB JSTC STM 111	JSTC	LIFE SUPPORT EQUIPMENT IN FALLBACK AREA (OPF) IS OPERATIONAL AND ALL COMMUNICATIONS ARE FUNCTIONAL.	EG&G-632

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PRSD CRYO TANK HEATERS WILL BE PLACED IN AUTO MODE VIA LPS AT COMPLETION OF MIDBODY FLT CAP INSTALLATION, PER OMI V1040. THE HEATERS WILL REMAIN IN AUTO UNTIL AFT COMMAND DECODER PAR SUPPLIES ARE TERMINATED BY GLS AT APPROX T-10 SEC. CABIN SWITCHES ARE TO REMAIN IN THE OFF POSITION (PER CREW CHECKLIST)

DO NOT PERFORM NEXT STEP IF PRSD BOIL-OFF IS REQUIRED.

15-0566 -17H00M

CFCP OTC
 CECL
 132

PRSD/ECLSS FLT CAP INSTALLATION AND LEAK TEST COMPLETE. READY FOR CLOSEOUT OF MIDBODY UMBILICAL DOOR 45 PER:

JC V80-94500 - DOOR 45, PRE-FLIGHT UMBILICAL PANEL ACCESS, INSTALLATION

CFCP WILL CONTINUE WITH FINAL GSE PREPS FOR FUEL CELL ACTIVATION. (OMI V1040 SEQ -----).

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				OAA/HCU PREPS -----	
15-0569	-17H00M	OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 21 - (OAA/HCU PREPS). REPORT COMPLETE.	
15-0570				CLOSEOUT MIDBODY UMBILICAL ----- DOOR 45 (OMI V3511) (-17H) -----	
15-0571		CFCP 132	OTC	PRSD SAMPLE RESULTS ARE SATISFACTORY.	
NOTE					
DU NOT PERFORM NEXT TWO STEPS IF PRSD BOIL-OFF IS REQUIRED.					
15-0572	-17H00M	OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT *BCS SETUP 15 - CLOSEOUT ORBITER DOOR 45.	
				NOT PERFORMED	-----
15-0573	-16H30M	*PAD	OTC	ORBITER OPERATION SUPPORT SETUP - 15 - CLOSEOUT ORBITER DOOR 45 COMPLETE.	
				NOT PERFORMED	-----
NOTE					
DU NOT PERFORM NEXT FOUR STEPS IF PRSD BOIL-OFF IS REQUIRED.					
15-0574		CFCP 132	OTC	CFCP FINAL GSE PREPS FOR FUEL CELL ACTIVATION ARE COMPLETE. (OMI V1040)	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0575				ORBITER PRSD T-0 VALVE LEAK ----- CHECKS (OMI V1040 SEQ ___) -----	
15-0576	-16H00M	CFCP 132 OTC 232 LTD 232 *SCC	OTC LTD *SCC	READY TO PROCEED WITH PRSD T-0 VALVE LEAK CKS. NOTIFY SAFETY THAT PRSD CRYO TANKS WILL CONTINUE, TO VENT THROUGH THE TSM'S, MLP SIDE 1 VERANDA AND FSS 75 FT LEVEL UNTIL FUEL CELL ACTIVATION. VERIFY SAFETY CONCURRENCE TO PROCEED.	
				NOT PERFORMED	-----
15-0577		*PSE *SCC LTD OTC	*SCC LTD OTC CFCP	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH PRSD T-0 VALVE LEAK CHECKS.	
				NOT PERFORMED	-----
15-0578		OTC 132	CFCP	PERFORM PRSD T-0 VALVE LEAK CHECKS ON UIS CH 153 PER OMI V1040, VOL ___ (SEQ ___).	*BCS
				NOT PERFORMED	-----
15-0579	-16H00M	*PAD 132	OTC	ORBITER OPERATION SUPPORT SETUP 21 - OAA/HCU PREPS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
DO NOT PERFORM NEXT FOUR STEPS UNTIL COMM ACTIVATION COMPLETE.					
15-0586	-16H00M	UTC 132	CCSE	CRT (VAA19) VERIFY: PM T/R - RCV ONLY FM OI XMTR - OFF	
15-0587		CCSE 132	OTC	RF RADIATION HAS TERMINATED, READY TO REMOVE ANTENNA COUPLERS.	
NOTE					
HAZARDOUS STEPS FOR CUMM SYS RF RADIATION COMPLETE.					
15-0588	-16H00M	OTC 232	LTD	RF RADIATION COMPLETE. VERIFY CONCURRENCE TO REMOVE SPC SAFETY SIGN FROM 193 FT LEVEL AND/OR	
		LTD *SCC	*SCC	RELEASE MONITOR IN FRCS ROOM.	
15-0589				COMM ANT COUPLER REMOVAL (-16H) -----	
15-0590	-16H00M	OTC 132	*PAD	PERFORM COMM ANTENNA COUPLER REMOVAL PER OMI V1117 TASK ----.	*BCS
15-0591				SECURE RSS PLATFORMS AND APS POD ----- COVERS FOR RSS MOVE -----	
15-0592	-16H00M	OTC	*PAD	SECURE RSS PLATFORMS AND APS POD COVERS FOR RSS MOVE PER OMI V3529.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT TWO STEPS
 IF HAMMERHEAD CRANE ALREADY
 IN LAUNCH CONFIGURATION.

15-0593	-15H30M	STM	JBDY	VERIFY HAMMERHEAD CRANE IN LAUNCH POSITION (330 DEG.) JBDY PCMP (Q3054). VERIFY HATCHWAY TO 295 FT LEVEL IS NOT LOCKED.	3322A 33221
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NOT PERFORMED -----

15-0594	-15H30M	JCFM	STM	REQUEST ACCESS TO HAMMERHEAD CRANE TO CONNECT MEASUREMENT CABLE.	31314
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NOT PERFORMED -----

NOTE

DO NOT PERFORM NEXT SIX STEPS
 IF PRSD BOIL-OFF IS REQUIRED.

15-0595	-15H30M	CFCP	OTC	ORBITER PRSD T-0 VALVE LEAK CHECKS COMPLETE. (OMI V1040)	
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NOT PERFORMED -----

15-0596				UMBUU ROOF EXTENSIBLE PLATFORM ----- RETRACTION/MIDLEVEL EXTENSIBLE ----- PLATFORM RETRACTION -----	
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15-0597	-15H30M	OTC	*PAD	VERIFY READY TO SUPPORT UMBUU PLATFORM RETRACT PER UMI V3538. (OMI V3538 - TASK 04)	
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NOT PERFORMED -----

15-0598	-15H30M	OTC	LTD	READY FOR UMBUU PLATFORM RETRACTION.	
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NOT PERFORMED -----

OPERATION INSTRUCTIONS

 SEQ TIME CMD RESP DESCRIPTION VERIF.

15-0599 LTD *SCC CLEAR ALL NONESSENTIAL PERSONNEL
 232 FROM MID-LEVEL EXTENSIBLE
 *SCC *PSE PLATFORMS AND 50 FT RADIUS
 105 DIRECTLY BELOW MID-LEVEL
 EXTENSIBLE PLATFORM.

NOT PERFORMED -----

ESSENTIAL PERSONNEL

	CONTRACTOR	NASA
	-----	----
SYSTEM ENGR	1 (AS REQ)	1 (AS REQ)
SAFETY	1 (SPC)	1
TECH	2 (GSE)	
QUALITY	2 (GSE)	

15-0600 *PSE *SCC LOCAL CONTROL AREA FOR UMBUJ
 *SCC LTD PLATFORM RETRACTION IS CLEARED
 LTD OTC OF NONESSENTIAL PERSONNEL.

NOT PERFORMED -----

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0604	-15H15M	LTD OTC 132	OTC *PAD	MLP IS BEING PRESSURIZED. ALL PERSONNEL ENTERING OR EXITING MLP MUST EXERCISE CAUTION AND USE B LEVEL, SIDE 2 AIR LOCKS.	
				NOT PERFORMED	-----
15-0605	-15H15M	STM 111 JBAC NET 104	JBAC QBSE	PRESSURIZE MLP WITH AIR (M3079) PLACE SIGNS ON DOORS. REPORT COMPLETION. (1 HR) (SIGNS ARE BOLTED TO DOORS AND WILL REMAIN IN PLACE UNTIL MLP DEPRESSURIZED AFTER LAUNCH RECYCLE.)	*BCS 3322C 3321C 33226 33215
				NOT PERFORMED	-----
15-0606	-15H15M	JSTC 114	GSPN	NOTIFY BIG-3, LPGN2 FLOW RATE REQUIRED IN 2 HOURS IN SUPPORT OF OMI G2153/G2158.	EG&G-631

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0607				SECURE RSS DOORS	
15-0608	-15H15M	LTD 232 *SCC	*SCC *PSE	REQUEST CONCURRENCE TO BOLT CLOSED, RSS SIDE 4 PCR EMERGENCY EGRESS DOORS.	
15-0609		*SCC LTD		VERIFY NO HAZARDOUS TASKS BEING PERFORMED IN PCR AND PERSONNEL ACCESS IS TO BE CONTROLLED.	
15-0610		*PSE *SCC LTD 232	*SCC	SAFETY VERIFIES CONCURRENCE TO CLOSE AND BOLT, RSS SIDE 4 PCR EMERGENCY EGRESS DOORS.	
15-0611	-15H15M	LTD PA 232	OTC STM	ALL RSS SIDE 4 PCR EMERGENCY EGRESS DOORS WILL BE BOLTED CLOSED.	
15-0612	-15H15M	LTD 232 STM NET 104	STM QBSE	CLOSE AND BOLT RSS SIDE 4 PCR EMERGENCY EGRESS DOORS (BALANCE) (M3134). REPORT COMPLETION(1H30M)	3322C 33226

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0613	-15H00M			UAA PREPS (-15H00M) -----	
15-0614	-15H00M	CGSS 132	OTC	FSS HYDRAULIC SYSTEM IS PRESSURIZED. (OMI V2160)	
15-0615	-15H00M	OTC	CGSS	PERFORM UAA SYSTEM PREPS PER OMI V2153	*BLS
NOTE					
DO NOT PERFORM NEXT STEP IF PRSD BOIL-OFF IS REQUIRED.					
15-0616	-15H00M	*PAD 132 LTD 232 *SCC 105	OTC *SCC *PSE	UMBUU PLATFORM RETRACTION COMPLETE. CONTROL AREA CAN BE OPENED FOR CONTROLLED WORK. (OMI V3538)	
NOT PERFORMED -----					
NOTE					
HAZARDOUS OPERATION - UMBUU EXTENSIBLE PLATFORM RETRACT COMPLETE.					
15-0617	-15H00M	*PAD 132	OTC	RSS PLATFORMS AND APS POD COVERS HAVE BEEN SECURED FOR RSS MOVE PER OMI V3529	
COMM ANTENNA COUPLER REMOVAL - ----- COMPLETE -----					
15-0618	-15H00M	*PAD 132	OTC	COMM ANTENNA COUPLER REMOVAL PER OMI V1117 IS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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15-0619				TSM PRE-ARM PREPS (-15H) -----	
15-0620	-15H00M	OTC 132	CECL	VERIFY FES DUCT PLUGS ARE REMOVED FROM THE ORBITER AND ACCESS THRU THE LOX AND LH2 TSM'S IS NO LONGER REQUIRED.	
15-0621		OTC	*PAD	PERFORM LH2 TSM PRE-ARMING PREPS PER OMI V3517.	*BCS
15-0622		OTC	*PAD	PERFORM LOX TSM PRE-ARMING PREPS PER OMI V3518.	*BCS
15-0623				FD MS SEAT/EQUIP INSTL -----	
15-0624	-14H00M	OTC	*PAD	PERFORM FD MS SEAT AND EQUIPMENT INSTALLATION PER OMI V5097.	*BCS
15-0625	-14H00M	*PAD 132	OTC	FD MS SEAT AND EQUIPMENT INSTALLATION PER OMI V5097 IS COMPLETE.	
15-0626				FD/MD SEAT CABLE ROUTING -----	
15-0627		OTC	*PAD	PERFORM FD/MD MS SEAT CABLE ROUTING PER OMI V5097.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0628				MEC 1 AND 2 ACTIVATION -----	
				NOTE IF MEC'S ARE POWERED UP, OMIT NEXT STEP.	
15-0629	-14H00M	OTC 132	CEPD	PERFORM MEC 1 AND 2 POWER UP PER OMI S9001 ON CH 151.	
				NOT PERFORMED	-----
15-0630				PRE INGRESS SWITCHLIST -----	
				NOTE ALL OPERATIONS IN CREW MODULE ARE REQUIRED TO BE COMPLETED PRIOR TO START OF CLOSEOUT SWITCHLIST. MIDDECK AND FLIGHTDECK SWITCHLIST WILL BE PERFORMED IN PARALLEL. SYSTEMS ENGINEERS READINESS FOR PRE-INGRESS SWITCHLIST WILL INCLUDE VERIFICATION OF OMI S3500 (INITIAL CONSOLE CONFIGURATION) ORBITER OPERATION SUPPORT SETUP 12.	
15-0631	-13H30M	OTC 132	ALL	ALL ORBITER SYSTEMS ENGINEERS IN FIRING ROOM VERIFY READY TO SUPPORT THE PREINGRESS SWITCHLIST. REPORT ANY KNOWN CHANGES IN CONFIGURATION.	
				CDR CDPS CPVD CMPS PLT CUFC CECL CSME CUDS CFCP CAPU CISL CGNC CAFM CEPD CCSE CCME CHYD CMQC CNSE CMPL COUS CPLE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0632		OTC 132	CMQC	ORBITER OPERATION SUPPORT SETUP 12 - INITIAL CONFIG LCC FIRING ROOMS IS COMPLETE.	
15-0633		OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 16 - IDENTIFICATION OF REMOVED SWITCHGUARDS.	
15-0634		OTC 132	ALL	ALL SYSTEMS ENGINEERS MONITOR: 1. OIS CH ___ FOR MIDDECK SWITCHLIST. 2. OIS Ch ___ FOR FLIGHT DECK SWITCHLIST. 3. ALL ORBITER/OTC TRAFFIC OTHER THAN SWITCHLIST GO TO OIS CH ____.	
MIDDECK SWITCHLIST -----					
15-0635	-13H30M	OTC	ALL	PERFORM ORBITER MIDDECK PRE-INGRESS SWITCHLIST ON OIS CH ___ PER SEQ. 74 (S0007-V4) OMRSD S00FB0.010	*BCS
FLIGHT DECK SWITCHLIST -----					
15-0636	-13H30M	OTC	ALL	PERFORM ORBITER FLIGHT DECK PRE-INGRESS SWITCHLIST ON OIS CH ___ PER SEQ 74 (S0007-V4). OMRSD S00FB0.010	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0637	-13H30M			CLEAR FOR SS TANK FILL TO 105 FT LEVEL (-13H30M)	

WARNING

CLEAR FLAME TRENCH AND
 ENGINE SERVICE PLATFORM WHEN
 TANK VERTICAL LINE IS FILLED
 ABOVE 48 FT. LEVEL.

SS 42 IN. HYD VLV LOCKS
 INSTALLED AND CONTROL
 ELECTRICAL/GN2 LOCK OUT
 REQUIRED PRIOR TO LINE FILL
 ABOVE 105 FT. LEVEL.

CONTROL ACCESS WITHIN 100
 FT. RADIUS OF SS TANK AND
 100 FT. EACH SIDE OF
 TRANSFER LINES AND VLV
 COMPLEX. MLP ZERO LEVEL
 WILL REMAIN OPEN.

15-0638	-13H30M	LTD PA		ATTENTION PAD ---: ALL PERSONNEL CLEAR FLAME TRENCH AND ESP'S FOR SOUND SUPPRESSION TANK FILL TO THE 105 FT LEVEL.	
15-0639	-13H30M	LTD 232 *SCC	*SCC *PSE	CLEAR FOLLOWING AREAS FOR SOUND SUPPRESSION TANK FILL TO 105 FT LEVEL AND VERIFY WHEN COMPLETE. 1. FLAME TRENCH 2. ESP	*BCS
15-0640	-13H30M	STM 111	JBWC	CONDUCT "ON NET" BRIEFING AND COMM CHECK ALL SOUND SUPPRESSION LINE AND TANK FILL OBSERVERS/ OPERATORS. VERIFY COMPLETION. (M3114/M3152)	3322B

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0641	-13H15M	*PSE *SCC 232	*SCC LTD	FLAME TRENCH AND SRB FLAME HOLES ARE CLEAR OF ALL PERSONNEL.	
15-0642				FILL SS J PIPES (-13H15M)	
15-0643	-13H15M	STM 111	JBWC	FILL MLP/PAD/I/F (J PIPES). REPORT COMPLETION AND SECURE VALVES PER OPERATION INSTRUCTIONS OF OMI M3114/M3152. (1 HOUR) (REF JBWC FIG 4 OTV CAM MATRIX)	33228 33222
				MLP PRESSURIZATION - COMPLETE	
NOTE					
DO NOT PERFORM NEXT STEP IF MLP REMAINED PRESSURIZED AFTER PRSD LOAD.					
15-0644	-13H15M	STM 232	LTD	MLP PRESSURIZATION WITH AIR IS COMPLETE.	
				NOT PERFORMED	-----
				OAA PREPS COMPLETE	
15-0645	-13H00M	CGSS 132	OTC	OAA PREPS COMPLETE. CONSOLE IS CLOSED OUT. (OMI V2153).	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0646				ET GUX VENT SYSTEM COUNTDOWN PREPS	
15-0647	-13H00M	LTD 232 TBC 136 *SCC 105	TBC *SCC CMEC *PSE	PERFORM ET GUX VENT SYSTEM COUNTDOWN PREPS PER UMI G2153/G2158. SAFETY WILL BE NEEDED ON FSS 255 FT LEVEL IN APPROX 1 HOUR.	*BCS
15-0648	-13H00M	STM 111 JSTC 114	JSTC GSPN	VERIFY/PROVIDE LPGN2 (80 LBS/MIN) EG&G-631 SUPPORT FOR GO2 VENT HOOD PURGE MANUAL CONTROL. (COORDINATE BEGINNING AND END OF FLOW WITH CMEC ON OIS CH 186) (STA=WDG02, B3N=WDB00) REPORT COMPLETION (15 MIN.)	
				ORB RSS MOVE PREPS COMPLETE	
15-0649	-13H00M	*PAD 132 OTC 232	OTC LTD	ORBITER OPERATION SUPPORT SETUP 26 - RSS PREP TO MOVE VERIFICATION COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0650				CONFIGURE ELECTRICAL EQUIP. -----	
15-0651	-13H00M	STM 111	JBEP	PERFORM/PROVIDE THE FOLLOWING SUPPORT AND ADVISE COMPLETION: (30 MIN.)	3321A 33211 33212 33213
				1. DISABLE UNDERVOLTAGE PROTECTIVE DEVICES AT USS NO. 928 ABOARD MLP.	
				2. REMOVE ALL TEMPORARY ELECTRICAL EQUIPMENT, INCLUDING PORTABLE LIGHT BANKS, FROM ZERO LEVEL OF MLP EXCEPT UMS PUD LIGHTS.	
				3. VERIFY TWO (2) 15-KW, 120/240-VOLT, 60 HZ GENERATORS AT PAPI SITE.	
15-0652		STM 111 JSTC 114	JSTC JSEP	1. VERIFY POWER AT TEL IV AND RADAR 19:14. 2. VERIFY 115 KW GENERATOR ON SITE AT LES AS BACK UP POWER FOR FIRE STATION NO. 2	EGG-611
				TSM PRE-ARMING PREPS - COMPLETE -----	
15-0653	-13H00M	QOSM 132	OTC	LOX TSM PRE-ARMING PREPS ARE COMPLETE.	
15-0654		QHSM 132	OTC	LH2 TSM PRE-ARMING PREPS ARE COMPLETE.	
15-0655		OTC 232	LTD	LOX AND LH2 TSM PRE-ARMING PREPS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0656				TSM FINAL PREPS	

WARNING

DO NOT PERFORM LUX AND LH2
 TSM FINAL PREPS UNTIL OMS
 STINGER COVERS ARE REMOVED.

15-0657	-13H00M	OTC LTD 232 TBC	LTD TBC CLHY	VERIFY LUX/LH2 TSM GN2 PURGES ARE NOT ACTIVATED.	
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15-0658	-13H00M	QOSM 132 OTC 232 LTD *SCC *SCC	OTC LTD *SCC *PSE	REQUEST SAFETY CONCURRENCE TO PROCEED WITH FINAL ORDNANCE/ TSM PREPS. REMOVE SAFETY SIGNS IF INSTALLED.	
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WARNING

HAZARDOUS STEPS FOLLOW
 DUE TO ORDNANCE CONNECTION
 IN LH2 AND LO2 TSM'S.

15-0659	-13H00M	LTD PA		ATTEN ON MLP: ALL NONESSENTIAL PERSONNEL CLEAR INTERIOR OF LH2 AND LO2 TSM'S FOR TSM FINAL PREPS.	*BCS
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15-0660	-13H00M	LTD 232 *SCC 105	*SCC *PSE	VERIFY NONESSENTIAL PERSONNEL CLEARED FROM INTERIOR OF LH2 AND LO2 TSM'S.	
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ESSENTIAL PERSONNEL:

	ORB	NASA	SPC
ORDNANCE TECH	2		
ORDNANCE ENGR	1	1	
QUALITY CONTROL	1	1	
SAFETY		1	1

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0661		*PSE 105 *SCC 232	*SCC LTD	SAFETY VERIFIES CONCURRENCE TO PROCEED WITH LOX TSM FINAL PREPS.	
15-0662		LTD 232	OTC	PROCEED WITH LOX TSM FINAL PREPS.	
15-0663		OTC	QHSM	PERFORM LOX TSM FINAL PREPS PER OMI V3518.	*BCS
15-0664		QHSM 132 OTC 232 LTD *SCC *SCC	OTC LTD	REQUEST SAFETY CONCURRENCE TO PROCEED WITH LH2 TSM FINAL PREPS.	
15-0665	-13H00M	*PSE *SCC 232	*SCC LTD	SAFETY VERIFIES CONCURRENCE TO PROCEED WITH LH2 TSM FINAL PREPS	
15-0666		LTD 232	OTC	PROCEED WITH LH2 TSM FINAL PREPS.	
WARNING					
TSM ORDNANCE IS CONNECTED, PERSONNEL WORKING IN TSM AREAS MUST REMAIN CLEAR OF BONNET, DROPWEIGHT AND LANYARD.					
15-0667	-13H00M	OTC	QHSM	PERFORM LH2 TSM FINAL PREPS PER OMI V3517.	*BCS
15-0668		LTD	TBC OTC	ACTIVATE EXCEPTION MONITORING ON CONSOLE C4 FOR ET/ORBITER DISCONNECT FIRE DETECTORS. REPORT COMPLETION.	
15-0669		OTC	CFCP	TRANSFER REPSUNSBLE CONSOLE FOR FIRE DETECTORS GFHX4032E AND GFHX4042E FROM CONSOLE C6 TO CONSOLE C4.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

THE NEXT 11 STEPS TRANSFER
FIRE DETECTORS GFHX4032E AND
GFHX4042E FROM CONSOLE C6 TO
CONSOLE C4.

15-0670

CFCP CONSOLE KYBD

1. C_CO_GFHX4032E_C4
XMIT CMD -
EXEC CMD -
2. C_CO_GFHX4042E_C4
XMIT CMD -
EXEC CMD -

15-0671

CFCP OTC FIRE DETECTORS GFHX4032E AND GFHX4042E
UTC TBC HAVE BEEN TRANSFERRED TO CONSOLE C4.
TBC CLHY FIRE DETECTORS ARE POWERED UP AND READY
136 FOR USE.

15-0672

CLHY CONSOLE KYBD

1. A_SX_GFHX4032E_ON
XMIT CMD -
2. S_FD_GFHX4032E
XMIT CMD -

VERIFY RESPONSIBLE CONSOLE IS C4,
EMON NOTIFICATION IS ACTIVE, AND
EXCEPTION STATE IS EQUAL TO ON.

15-0673

CLHY CONSOLE KYBD

1. A_SX_GFHX4042E_ON
XMIT CMD -
2. S_FD_GFHX4042E
XMIT CMD -

VERIFY RESPONSIBLE CONSOLE IS C4,
EMON NOTIFICATION IS ACTIVE, AND
EXCEPTION STATE IS EQUAL TO ON.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0674		CLHY 166	CHGD	PERFORM CONFIDENCE CHECK ON BOTH LH2 ET/ORBITER FIRE DETECTORS. CLHY WILL CONFIRM EMON RESPONSES.	
15-0675			CHGD	CONSOLE KYBD	
				1. VAQ09 PERF PGM -	
				2. CURSOR TO GFHX4032E XMIT - VERIFY FD IS ON	
				3. XMIT - VERIFY FD IS OFF	
15-0676		CHGD 166	CLHY	VERIFY EMON FOR FIRE DETECTOR GFHX4032E.	
15-0677			CHGD	CONSOLE KYBD	
				1. CURSOR TO GFHX4042E XMIT - VERIFY FD IS ON	
				2. XMIT - VERIFY FD IS OFF	
15-0678		CHGD 166	CLHY	VERIFY EMON FOR FIRE DETECTOR GFHX4042E.	
15-0679			CHGD	TERMINATE VAQ09	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
NEXT THREE STEPS TRANSFER HYDROGEN LEAK DETECTOR GFHR4245A FROM CONSOLE C6 TO CONSOLE C4.					
15-0680		CFCP		CONSOLE KYBD C_CO_GFHR4245A_C4 XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
15-0681		CFCP OTC	OTC TBC	LEAK DETECTOR GFJR4245A HAS BEEN TRANSFERRED TO CONSOLE C4. LEAK DETECTOR IS POWERED UP AND READY FOR USE.	
15-0682		CLHY		CONSOLE KYBD 1. A_SX_GFHR4245A_0-5000 XMIT CMD KEY - PRESS 2. S_FD_GFHR4245A XMIT CMD KEY - PRESS CRT VERIFY RESPONSIBLE CONSOLE IS C4, EMON NOTIFICATION IS ACTIVE, AND EXCEPTION LIMITS ARE 0 AND 5000.	
15-0683		CLHY TBC	TBC LTD	CLHY IS NOW MONITORING FIRE DETECTORS LOOKING AT LH2 ORBITER DISCONNECT AND HYDROGEN LEAK DETECTOR SENSING IN LH2 TSM AND WILL NOTIFY TBC ON STATION OF ANY PROBLEMS.	
15-0684				FSS ELV PHONES TO PTP MODE -----	
15-0685	-13H00M	STM 111 GYCC 117	GYCC JYCJ	CONFIGURE FSS ELEVATOR TELEPHONES TO PTP MODE AND COMM CHECK WITH CONSOLE AB-6. VERIFY COMPLETION. (TAG PHONES FOR PTP MODE WITH FR-1/3).(30 MIN.)	34300 34100 *BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0686				SECURE EXPLOSION PROOF PHONES -----	
15-0687	-13H00M	STM 111 GYCC 117	GYCC JYCY	CLOSE AND BOLT DOORS OF EXPLOSION PROOF TELEPHONES ON THE FSS, EXCEPT ON 195 FT LEVEL. VERIFY COMPLETION.(45 MIN.)	34300 34100 *BCS
15-0688	-13H00M	STM 111 JSTC 114	JSTC GSPN	VERIFY LPGN2 SYSTEM IN STANDBY CONFIGURATION, MANUAL CONTROL AND OPERATIVE PERSONNEL AT GN2 IND. INTERFACE PER OPERATION INSTRUCTIONS OF OMI M3042 (STA-WDG02)	EG&G-631
					U:----- EG&G
15-0689				SUPPORT OSSU 6 -----	
15-0690	-12H45M	LTD 232 STM 111	STM LPS JBDY JSTC JBPN	PERFORM SUPPORT OPERATION SUPPORT SETUP 6 - (ET G02 VENT ARM/ HOOD SYS OPS - G2153). REPORT COMPLETION. (30 MIN.)	31240 EG&G-123 3321b *BCS
15-0691	-12H30M	UTC	CEPD	ACTIVATE EXCEPTION MONITORING FOR LCC REDLINES. CEPE CURSOR CNTL (SWC02) LAUNCH COMMIT EMON ACT - XMIT CURSOR KEY - PRESS	
15-0692	-12H30M	CEPD	OTC	EPDC LCC EXCEPTION MONITORING COMPLETE	
15-0693				SUPPORT PURGE VERIFICATION -----	
15-0694	-12H15M	STM 111 JBFX JBDY QBSE 104 JBDY	JBEP JBPN JBFX JBDY QBSE PBSE VEEE	VERIFY ALL REQUIRED ELECTRICAL ENCLOSURES/FACILITIES ARE UNDER POSITIVE PURGE (M3054).	3321A 3321B 3322C 3322A

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0695	-12H15M	STM 111	GYCC	VERIFY OIS PURGE/LOCKOUT AND UTV PRESSURIZATION VERIFICATIONS COMPLETE FOR OMI S0007.	34300
15-0696				FILL SS WATER TANK TO 105 FT LEVEL -----	
15-0697	-12H15M	LTD 232 *SCC	*SCC *PSE	VERIFY CONCURRENCE TO BEGIN SOUND SUPPRESSION WATER TANK FILL TO THE 105 FT LEVEL.	
15-0698	-12H15M	*PSE *SCC 232 LTD	*SCC LTD STM	SAFETY VERIFIES CONCURRENCE TO BEGIN SOUND SUPPRESSION WATER TANK FILL TO THE 105 FT LEVEL.	
15-0699	-12H15M	LTD 232 STM 111	STM JBWC	VERIFY SOUND SUPPRESSION WET TEST IS OFF AND FILL MLP SOUND SUPPRESSION LINES TO THE 105 FT LEVEL PER PRE-OPERATION SETUP INSTRUCTIONS AND OPERATION INSTRUCTIONS OF OMI M3114/M3152 (30 MIN). NOTIFY WHEN COMPLETE. REPLENISH AS REQUIRED TO MAINTAIN NO LESS THAN 95 FT (SKELETONS SSA, P2A, P2A).	3322B 33222 *BCS
15-0700	-12H15M	STM 232	LTD	SUPPORT OPERATION SUPPORT SETUP 6 - (ET G02 VENT ARM/HOOD SYS OPS- G2153) IS COMPLETE.	
15-0701				REMOVE WSB AND APU COVERS -----	

WARNING

SOME AMMONIA ODOR MAY BE
 PRESENT DURING APU PLUG
 REMOVAL. IF ODOR IS
 OFFENSIVE, PERSONNEL SHOULD
 CLEAR IMMEDIATE AREA UNTIL
 ODOR DISSIPATES.

15-0702	-12H00M	OTC	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 28 - APU EXHAUST DUCT PRESSURE PLUG AND WSB COVER REMOVAL.	*BCS
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

PRE-INGRESS SWITCHLIST COMPLETE -----					
15-0703	-12H00M	OTC 232	LTD	ORBITER PREINGRESS SWITCHLIST COMPLETE. (SEQ 74 S0007-V4).	
15-0704		CDPS	ASP	PANEL C2 LEFT CRT SEL SW - 1 L KYBD I/O RESET EXEC	
NOTE					
NEXT STEP WILL BE VERIFIED SHORTLY AFTER COMPLETION OF PRE-INGRESS SWITCHLIST.					
15-0705		*PAD 132	OTC	ORBITER OPERATION SUPPORT SETUP 16 - SWITCHGUARD IDENTIFICATION COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0706				TSM FINAL PREPS COMPLETE	
15-0707	-12H00M	GHSM	OTC	LH2 TSM FINAL PREPS ARE COMPLETE.	
15-0708		GOSM	OTC	LOX TSM FINAL PREPS ARE COMPLETE.	
15-0709	-12H00M	OTC 232 LTD	LTD TBC	VERIFY TSM PURGE SYSTEM IS NOT ACTIVATED. (PURGE CAPS WILL BE REMOVED AT THIS TIME).	
15-0710		TBC 136	CLHY	VERIFY LOX/LH2 TSM GN2 PURGES ARE NOT ACTIVATED.	
15-0711		TBC 232 LTD	LTD OTC *SCC	TSM PURGES ARE NOT ACTIVATED AT THIS TIME.	
15-0712	-12H00M	OTC 132	GHSM GOSM	TSM PURGE SYSTEM IS NOT ACTIVATED PROCEED WITH TSM CLOSEOUT.	
15-0713	-12H00M	*PAD OTC	OTC LTD	SPC OPERATION SUPPORT SETUP 1 - FINAL SPC OPERATIONS/SAFETY FACILITY WALKDOWN COMPLETE.	
15-0714	-12H00M	CLOX 136 TBC 232	TBC LTD	ALL SEQUENCES OF LO2 PREPS ARE COMPLETE PER OMI G3151 EXCEPT CALL TO STATIONS; STORAGE TANK PRESSURIZATION AND SUCTION LINE CHILLDOWN. EXTEND GVA -----	
15-0715		CMEC 136 TBC 232 LTD *SCC *SCC 105	TBC LTD *SCC *PSE	VERIFY CONCURRENCE TO EXTEND GVA.	
15-0716		*PSE 105 *SCC 232 LTD TBC TBC	*SCC LTD TBC CMEC	GVA CLEARED OF ALL PERSONNEL. CONCURRENCE TO EXTEND GVA.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0717		*PAD	OTC	FD/MD MS SEAT CABLE ROUTING PER UMI V5097 COMPLETE.	
15-0718	-11H30M	QHSM 132 OTC 232 LTD	OTC LTD *SCC	LH2 TSM CLOSEOUT IS COMPLETE.	
15-0719	-11H30M	QOSM 132 OTC 232 LTD	OTC LTD *SCC	LOX TSM CLOSEOUT IS COMPLETE.	

NOTE

TUMBLE VALVE RAINSHIELD TO BE INSTALLED NO EARLIER THAN 12 HOURS BEFORE LOX TRANSFER LINE CHILLDOWN.

15-0720		TBC 136	*PAD	PERFORM TUMBLE VALVE DRYOUT AND RAINSHIELD INSTALLATION PER OMI T1403. REPORT COMPLETION. UMRSD S00FA0.326	
15-0721				LOWER ORBITER ESP TO TRANSPORTER -----	
15-0722	-11H30M	OTC 132	*PAD CSME	VERIFY READY TO LOWER ORBITER ESP TO TRANSPORTER.	
15-0723	-11H30M	LTD PA		ATTEN PAD ---: ALL NONESSENTIAL PERSONNEL CLEAR THE FOLLOWING CONTROL AREAS FOR ESP OPERATIONS: 1. ESP 2. 25 FT. RADIUS OF PLATFORM TRANSPORTER. 3. INSIDE MLP ESP WINCH AREA.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
WARNING					
HAZARDOUS STEPS FOLLOW DUE TO LOWERING PLATFORM.					
15-0724		LTD 232 OTC 132	OTC *PAD	CLEAR 25 FT RADIUS OF PLATFORM TRANSPORTER.	
15-0725		LTD *SCC *SCC	*SCC *PSE	1. CLEAR ALL PERSONNEL FROM ESP. 2. CLEAR ALL NONESSENTIAL PERSONNEL FROM INSIDE MLP ESP WINCHES AREA. ESSENTIAL PERSONNEL ----- NASA SYS ENGR (OPT) 1 ORB SYS ENGR (OPT) 1 NASA SAFETY 1 ORB QUALITY CNTL 1 ORB WINCH CNTL OP 1 ORB MECH TECHS 7 SPC SAFETY 1 ----- TOTAL 13	
15-0726		QESP	QCCG	VERIFY HANDRAILS OR TEMPORARY ROPES ARE IN PLACE AROUND MAIN ENGINE BLAST HOLE (V2270).	
15-0727		*PSE 105 *SCC 232	*SCC LTD	AREA CLEAR FOR ORB ESP LOWERING. SAFETY VERIFIES CONCURRENCE TO PROCEED.	
15-0728		LTD	OTC	PROCEED WITH ORB ESP LOWERING.	
15-0729	-11H30M	OTC 132	*PAD	LOWER ORBITER ESP TO TRANSPORTER PER UMI V2270.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0730				WX SATELLITE PHOTOS	
NOTE					
NEXT STEP PERFORMED AT 1030 E ON L-1 DAY					
15-0731		LTD 232 STM 231 853-3484	STM *WEA	VERIFY THAT THE FULL DISK WEATHER SATELLITE PHOTO HAS BEEN PICKED UP BY PAA SECURITY FROM CCAFS FOR DELIVERY TO O&C BUILDING, RM 3277.	
15-0732	-11H20M	LTD	CGLS	HOLD THE CDC AT T-11 HOURS FOR AN ___ HOUR _____ MINUTE HOLD.	
15-0733	-11H20M		CGLS	HOME CMD KEY - PRESS CDTH -1100/00 XMIT CMD KEY - PRESS	
15-0734	-11H20M	CGLS	LTD	CDC WILL HOLD AT T-11 HOURS	
15-0735	-11H20M	LTD PA 232	OTC T&C CTC SRU STM *FLT *MIL *SCC	THE CDC WILL HOLD AT T-11 HOURS FOR ___ HOURS _____ MINUTES.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

TUBE BANK UPS -----					
15-0736		STM 111	JBPN	DISCONNECT TUBE BANK FROM CABIN AIR SYSTEM. PLACE CABIN AIR BOTTLES ON LINE. (M3067)	33218 33217
15-0737		STM 111 JSTC 114	JSTC GSPS	REMOVE B/A TUBE BANK FROM CABIN AIR BATTERY AREA.	EG&G-631
SECURE PAD ELEV NO. 2 -----					
15-0738	-11H15M	STM 111 JBDY	JBDY VEEE	PERFORM FOLLOWING: REPORT COMPLETION (1 HR) 1. REMOVE PAD ELEVATOR NO. 2 HOISTWAY DOOR AT MLP '0' LEVEL. 2. REMOVE ALL SCREEN PANELS AND DOOR ON EAST AND SOUTH SIDE OF HOISTWAY ON MLP (SIDE 2) "0" LEVEL. 3. SECURE ELEVATOR AT PAD LEVEL WITH BOTH CAR GATES OPEN.	3322A 33221 *BCS

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0739	-11H15M	LTD 232	OTC TBC STM	VERIFY HAZARDOUS LOCKOUT HAS BEEN PERFORMED ON ALL NON-HAZARD PROOF EQUIPMENT AT PAD AREA. VERIFY THAT INERT PURGES HAVE BEEN APPLIED TO ALL SPARK PRODUCING DEVICES IN YOUR CONTROL AREA. HAZARDOUS LOCK/PURGE BOX ----- VALIDATION ----- <div style="text-align: right;"> H/L PBV --- --- ORBITER --- --- (USS025) </div>	*BCS
15-0740		OTC 132	*PAD	VERIFY HAZARD LOCKOUT PER ORBITER OPERATION SUPPORT SETUP 25 - COMPLETE.	
15-0741		TBC	*PAD	VERIFY HAZARDOUS EQUIPMENT LOCKOUT COMPLETE PER OMI G6304.	
15-0742		*PAD 136 TBC 232	TBC LTD *SCC	HAZARDOUS EQUIPMENT LOCKOUT COMPLETE PER OMI G6304.	*BCS
15-0743		LTD 232 *SCC	*SCC *PSE	HAZARDOUS LOCKOUT HAS BEEN PERFORMED ON ALL NON-HAZARD PROOF EQUIPMENT AT PAD AREA; INERT PURGES HAVE BEEN APPLIED TO ALL SPARK PRODUCING DEVICES IN CONTROL AREA.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0744				UI SNAPSHOT (-11H15M)	

NOTE

OTC SHALL CALL DATA COORDINATOR FOR PICKUP AND DELIVERY (UI SNAPSHOTS) TO CISL FOR NEXT STEP.

IF NASA MISSION, DELETE JSRP FROM NEXT STEP.

IF DOD MISSION, DELETE JRPS FROM NEXT STEP.

15-0745	-11H15M	LTD 232	JRPS JSRP	PERFORM UI SNAPSHOTS, 6 COPIES, ENGR UNITS. REPORT COMPLETION. (15 MIN)	31212 *BCS
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15-0746	-11H15M	STM 111 GYCC 117	GYCC PCSG	VERIFY DOOR UNLOCKED ON MLP 1/F TOWER, 3RD LVL AND INTEGRITY CONTROL SIGN REMOVED FROM ACCESS PLATFORM. REPORT COMPLETION (15 MIN)	34300
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Q: _____
 50234

15-0747		STM NET 104	QBSE	VERIFY/INSTALL BOLTS ON ALL ACCESS DOORS ON 9099 INTERFACE TOWER. VERIFY COMPLETION.	3322C 33226
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
BFS HEALTH CHECK -----					
15-0748	-11H15M	OTC	CDPS	PERFORM BFS HEALTH CHECK.	*BCS
15-0749		CDPS	CDR	L KYBD FAULT SUMM	
		CDR	CRT 1		
		CDPS		VERIFY NO UNEXPECTED MESSAGES	
15-0750		CDPS	CDR	L KYBD SPEC 99 PRO RESUME	
15-0751		CDPS		CURSOR CNTL (SAS10 PG-B) TO BFS MONITOR XMIT CURSOR KEY - PRESS	
15-0752		CDPS	CDR	PANEL C3 BFC CRT SELECT SW - 3+1 DISPLAY SW - ON	
15-0753		CDPS	CDR	PANEL D6 GENERAL PURPOSE COMPUTER MODE S SW - STBY S TB - RUN	
15-0754		CDPS		APPLICATION PAGE (SA-PAGE) VERIFY 129/44/12 ACTIVE	
15-0755		CDPS	CDR	PANEL C2 LEFT CRT SELECT SW - 3	
15-0756	-11H12M	CDPS	CDR	L KYBD FAULT SUMM	
		CDR	CRT 3		
				READ OFF ANY FAULT SUMMARY MESSAGES	
15-0757		CVES		APPLICATION PAGE (VASB9 PG-B) VERIFY NO UNEXPLAINED GPC, I/O, OR FAULT SUMMARY MESSAGES	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0758		CDPS	CDR	L KYBD SPEC 99 PRO RESUME	
15-0759		CDPS		APPLICATION PAGE (VASB9 PG-B) PFK15 KEY - PRESS	
15-0760		CDPS	CDR	PANEL C3 BFC CRT DISPLAY SW - OFF	
15-0761		CDPS	CDR	PANEL C2 LEFT CRT SELECT SW - 1	
15-0762		CDPS	CDR	PANEL U6 GENERAL PURPOSE COMPUTER MODE S SW - HALT	
15-0763		CDPS	OTC	BFS HEALTH CHECK COMPLETE. OMRSD S00FB0.012	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0764				APU BITE TEST (-11H15M)	
15-0765	-11H15M	UTC	CAPU	PERFORM APU BITE TEST PER SEQ 42 (S0007-V4).	*BCS
15-0766	-11H00M	CAPU 132 UTC 232	OTC LTD	APU BITE TEST IS COMPLETE (SEQ 42, S0007-V4).	
15-0767				C/W AND LCC EMON ACTIVATION (-11H)	
15-0768	-11H00M	UTC 132	CAPU	ACTIVATE C/W & LCC EMON FOR CECL YOUR SYSTEM PER SEQ 39 C&W & CFCP LCC EMON ACTIVATION. (S0007-V4) CHYD TPE SUPPORT RSYS XFER WITH COUS ON CMPS CH 147. COUS REPORT COMPLETION AND NOT PERFORMED COFC STEPS	*BCS
				CAPU -----	
				CECL -----	
				CFCP -----	
				NUT PERFORMED -----	
				CHYD -----	
				CMPS -----	
				COUS -----	
				COFC -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0769				HYD-CRITICAL SW - CHECKS	
15-0770	-11H00M	OTC	CHYD	PERFORM HYD CRITICAL SWITCH CHECKS PER SEQ 46 (S0007-V4). REPORT COMPLETION.	
15-0771		CHYD	UTC	HYD CRITICAL SW CHECKS COMPLETE. (SEQ 46 S0007-V4)	
15-0772		CEPD	ASP	PANEL K1A1 AC BUS SNSR 1 SW - OFF, 1 SEC, AUTO TRIP 2 SW - OFF, 1 SEC, AUTO TRIP 3 SW - OFF, 1 SEC, AUTO TRIP	
15-0773				TRANSPORTER TO LAUNCH POSITION	
15-0774	-11H00M	*PAD	OTC	ORBITER ESP ON TRANSPORTER (OMI V2270)	*BCS
15-0775		STM	QBSE	PROVIDE TWO FORK LIFTS	3322C
		NET	104	AND PERSONNEL TO SUPPORT	33226
		113	JBDY	ENGINE SERVICE PLATFORM	33223
		JBDY	GBHE	TRANSPORTER MOVE TO LAUNCH POSITION PER OMI V2274 (Q3207, Q3208). REPORT COMPLETION	*BCS
15-0776		LTD	PA	ATTEN PAD ___: ALL NONESSENTIAL PERSONNEL CLEAR 25 FT. FROM EACH SIDE OF FLAME TRENCH TRACKS FOR ESP TRANSPORTER MOVE.	
15-0777		LTD	OTC	CLEAR NONESSENTIAL PERSONNEL FROM AREA 25 FT. EACH SIDE OF FLAME TRENCH TRACKS.	
		232			
		OTC	*PAD		
		132			

ESSENTIAL PERSONNEL

	ORB	LFAC	NASA	SPC
SYS ENGR	1 (OPT)		1 (OPT)	
TECH	4	5		
QC	1	1		
SAFETY			1	1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0778		*PAD OTC	OTC LTD	25 FT CONTROL AREA SETUP AROUND ESP TRANSPORTER. READY TO MOVE TO LAUNCH POSITION.	
15-0779		LTD 232	*SCC	ESP TRANSPORTER IS BEING MOVED TO LAUNCH POSITION.	
WARNING					
HAZARDOUS STEP FOLLOWS DUE TO MOVING OF LARGE HEAVY EQUIPMENT.					
15-0780	-11H00M	LTD 232 OTC 132	OTC *PAD	MOVE ESP TRANSPORTER TO LAUNCH POSITION AND SECURE PER UMI V2274. REPORT WHEN COMPLETE.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

APU & WSB COVER REMOVALS COMPLETE -----					
15-0781	-11H00M	*PAD	OTC	ORBITER OPERATION SUPPORT SETUP 28 (APU EXHAUST DUCT PRESSURE PLUG AND HYD WSB STEAM VENT COVER REMOVAL IS COMPLETE.	
15-0782				ORB HYD WALKDOWN (-11H) -----	
15-0783	-11H00M	OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 29 - HYDRAULIC PRE-LAUNCH WALKDOWN.	*BCS
15-0784				REMOVE CM UIS -----	

NOTE

PERFORMANCE OF NEXT FIVE STEPS
 WILL BE SCHEDULED REAL TIME.

15-0785		OTC 132	*PAD	REMOVE UIS UNIT AND ASSOCIATED CABLE FROM ORBITER CREW COMPARTMENT.	
15-0786	-11H00M	OTC 232 LTD 232 STM 111 GYCC 117	LTD STM GYCC JYCC	SUPPORT REMOVAL OF UIS UNIT AND ASSOCIATED CABLE FROM ORB CREW COMPARTMENT. VERIFY COMPLETION. (1 HR)	34300 34100

NOTE

IF DOD MISSION, PERFORM NEXT
 THREE STEPS.

15-0787		OTC 232 LTD STM 111 GYCC 117	LTD STM GYCC JYVG	DEACTIVATE SECURE VOICE COMMUNICATIONS TO UAA WHITE ROOM AT PAD. REPORT COMPLETION.	34300 34100
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NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0788		OTC 132	*PAD	REMOVE SECURE VOICE COMMUNICATIONS UNIT FROM OAA WHITE ROOM.	
				NOT PERFORMED	-----
15-0789		OTC 232 LTD STM 111 GYCC 117	LTD STM JYVG	REQUEST SECURE COMM PERSONNEL REPORT TO OAA WHITE ROOM TO SUPPORT REMOVAL OF SECURE VOICE COMMUNICATIONS UNIT.	34300 34100
				NOT PERFORMED	-----
				SOFT WINDOW COVER REMOVAL	
15-0790	-11H00M	OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 9 - WINDOW COVER REMOVAL FOR FLIGHT. REPORT COMPLETION.	*BCS
15-0791		*SCC	JFIR	VERIFY FIRE RESCUE EQUIPMENT HAS BEEN PLACED AT NW CORNER OF PARKING APRON OF SLF.	
15-0792				*** T-11 HOUR HOLD ***	
15-0793	-11H00M (HOLDING)	CGLS 232	LTD	THE CDC HELD AT --:----/-- GMT DD HHMM SS	*BCS
				NOTE	
				PERFORM NEXT STEP AFTER CDC IS HOLDING.	
15-0794	-11H00M (HOLDING)	CGLS	HOME	CMD KEY - PRESS	
				CDTC ____/____.00 HHMM SS	
				(GMT OF CDC RESUME)	
				XMIT CMD KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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ANNOUNCE HOLD

15-0795	-11H00M (HOLDING)	LTD PA 232	OTC TBC *FLT *MIL SRU STM CTC *SCC	THE CDC IS HOLDING AT 1-11 HOURS THE DURATION OF THE HOLD WILL BE --- HOURS --- MINUTES.	
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15-0796	-11H00M (HOLDING)	CGLS 232	LTD	THE --- HOUR --- MINUTE HOLD TERMINATES AND CLOCK WILL RESUME AT ---:---/--- GMT DD HHMM SS	
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NOTE

PERFORM NEXT STEP IF
 FR-2/CR-4 TO BE CONFIGURED
 FOR LAUNCH SUPPORT.

15-0797		LTD 232	LPS	PERFORM OPERATION SUPPORT SETUP 2 - FR2/CR4 LAUNCH SUPPORT CONFIGURATION - LPS T-11 HOUR BIH TO T+5 HOURS. REPORT COMPLETION.	31240
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NOT PERFORMED

15-0798		STM 111 GYCC 117	GYCC JY CJ	INSTALL TWO ADDITIONAL PORTABLE OIS UNITS IN PRINTER PLUTER AREA OF FR-1 (STA NOS 8-10, 8-11) OR FR-3 (STA NOS 7-8, 7-9).	34300 34100
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0799		LTD 232	STM	IF NOT PREVIOUSLY PERFORMED:	34300 34100
		STM 111	GYCC	1. CONFIGURE LCC UIS-RF BRANCH 17 TO PRIME MISSION. REPORT COMPLETION.	
		GYCC 117	JYCC		
				NOT PERFORMED	----- SS1
				2. CONFIGURE LCC UIS-RF BRANCH 18 TO PRIME MISSION. REPORT COMPLETION.	
				NOT PERFORMED	----- SS2

15-0800

VERIFY ORBITER TIRR LOG ITEMS -

 CLOSED (-11H)

NOTE

NEXT STEP MUST BE VERIFIED
 COMPLETE PRIOR TO RSS MOVE.

THE FOLLOWING ITEMS ARE NOT
 A CONSTRAINT TO RSS MOVE AND
 WILL BE CLOSED OUT DURING SIDE
 MATCH CABIN AND ENVIRONMENTAL
 CHAMBER CLOSEOUT (S0007V1, USSU 20).

1. RAIN GUTTER ABOVE MATCH.
2. SIDE MATCH WINDOW COVER.
3. MATCH SEAL PROTECTOR.

15-0801	-11H00M (HOLDING)	OTC 132	CMQC	VERIFY ALL ORBITER EXTERNAL TIRR LOG ITEMS CLOSED.	*BCS G:-----
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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 PRINTER/PLOTTER OPERATIONS

NOTE

NEXT STEP WILL CLEAR ALL
 MSID'S PREVIOUSLY ASSIGNED
 TO THE SCRS PRINTER PLOTTER
 SUB-SYSTEMS 1 AND 2.

15-0802	-11H00M (HOLDING)	LTD	LPS	PLACE SCRS PRINTER PLOTTERS SUBSYSTEMS 1 AND 2 - OFF LINE AND RE-INITIALIZE. RESERVICE WITH ADEQUATE SUPPLIES FOR TERMINAL COUNT. REPORT COMPLETION.	31240
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15-0803	-11H00M (HOLDING)	LTD	LPS	NOTIFY CDS TO FORCE CURRENT TEST TO ARCHIVE FOR LOGGED COUNTDOWN DATA. CDS TO COMPLETE BY T-07 HRS.	
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15-0804		LPS	C1MC	\$TERM AND \$CLA1 PP1 AND PP2 SUBSYSTEMS.	31240
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15-0805		LTD 232 TBC	TBC LPS CLUX	PERFORM OPERATIONAL SUPPORT SETUP FOR PRINTER PLOTTERS PER UMI G3151.	31240
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15-0806	-11H00M (HOLDING)	LPS	CPDR	PLACE SCRS PRINTER PLOTTER SUB SYS 1, UNITS 1 AND 2 ON LINE FOR CLUX.	31240
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ESP TRANSPORTER SECURE FOR

 LAUNCH - COMPLETE

15-0807	-11H00M (HOLDING)	*PAD 132 OTC 232	OTC LTD	ESP TRANSPORTER IS SECURED FOR LAUNCH (UMI V2274).	
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15-0808		*PAD 136 TBC	TBC CMEC	TUMBLE VALVE DRYOUT AND RAINSHIELD INSTALLATION PER UMI T1403 COMPLETE.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0809				ET TPS INSPECTION	

NOTE

THE EXTERNAL PORTION OF
 OMI T6447 MUST BE PERFORMED
 DURING DAYLIGHT HOURS.

15-0810	-11H00M (HOLDING)	TBC 136	*PAD	PERFORM ET OPERATION SUPPORT SETUP 3 - TPS INSPECTION.	
15-0811	-11H00M (HOLDING)	LTD 232 STM 7-7685	STM	VERIFY LCC/PAD ___ BUS SERVICE IS IN OPERATION, PRIOR TO TERMINATION OF POV TRAVEL TO PAD.	GSA
15-0812		LTD 232	*SEC	TERMINATE P.O.V. TRAVEL TO THE PAD, AT _____ ON L-1 DAY. (PER DAILY SCHEDULE)	EG&G-430
15-0813	-11H00M (HOLDING)	*PAD 132	OTC	ORBITER OPERATION SUPPORT SETUP 29 - HYDRAULIC PRE-LAUNCH WALKDOWN IS COMPLETE.	
15-0814				L-1 DAY WX BRIEFING	

NOTE

NEXT STEP TO BE PERFORMED
 AT 1130E ON L-1 DAY.

15-0815	-11H00M (HOLDING)	LTD 232 STM 138	STM	SUPPORT TELEVISED WEATHER BRIEFING AND DISPLAY TO THE FOLLOWING LOCATIONS AT 1130E ON L-1 DAY. WEATHER BRIEFING AUDIO TO BE ON OIS CH 231.	34300 34200 *BCS
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1. FLIGHT CREW QUARTERS (U&C
ROOM 3267, MONITORS 2033 &
2034).
2. ETR/RCC AND HANGER AU.
3. LCC FR1/3 USR.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0816		STM 232	LTD	VIDEO FOR WX BRIEFING IN CREW QUARTERS IS READY.	
15-0817		LTD 232 STM 138 111	STM JSC JYVD GYVW GYCC	WEATHER BRIEFING COMPLETE. SUPPORT IS RELEASED.	34300 34200
15-0818				DEBRIS INSPECTION -----	
15-0819	-11H00M (HOLDING)	LTD 232	OTC	PROCEED WITH DEBRIS WALKDOWN.	
15-0820	-11H00M (HOLDING)	OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 3 - DEBRIS WALKDOWN.	*BCS
15-0821		*PAD 132 OTC 232	OTC LTD	ORBITER OPERATION SUPPORT SETUP 3 - DEBRIS WALKDOWN IS COMPLETE.	
				GVA HOOD GN2 FLOW -----	
15-0822		CMEC TBC 232 LTD *SCC *SCC 105	TBC LTD *SCC *PSE	CLEAR ALL PERSONNEL FROM GVA FOR GN2 FLOW TO THE HOOD.	
15-0823		*PSE 105 *SCC 232 LTD TBC TBC 136	*SCC LTD TBC CMEC	ALL PERSONNEL CLEARED FROM GVA FOR GN2 FLOW TO THE HOOD. SAFETY CONCURRENCE TO PROCEED WITH GN2 FLOW.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0824				CONFIG EQUIPMENT (JFIR)	
15-0825	-11H00M (HOLDING)	JSTC	JFIR	START FINAL WALKDOWN/SURVEY OF RSS, FSS, MLP AND PAD APRON. REMOVE FIRE EXTINGUISHERS AND SECURE EMERGENCY LOCKER HANDLES. REPORT COMPLETION.	*BCS EG&G-420
15-0826		JSTC	JFIR	PLACE ONE NO. 15 LB CU2 AND ONE 20 LB. DRY CHEMICAL FIRE EXTINGUISHER IN EACH FSS ELEVATOR. REPORT COMPLETION.	
				REMOVE ZERO LEVEL FIRE ALARM STATIONS	
15-0827		JSTC	JFIR	REMOVE MLP ZERO LEVEL FIRE ALARM PULL STATIONS. SECURE PULL STATIONS ON FSS 75 FT, 95 FT AND 115 FT LEVELS AND TAG "OUT OF SERVICE". REPORT COMPLETION.	EG&G-452
NOTE					
IN NEXT STEP, FIRING ROOM TO BE IDENTIFIED BY ISMU FOR SWITCHING.					
HALON SYSTEM TO REMAIN IN MANUAL UNTIL T+01 HR.					
15-0828	-11H00M (HOLDING)	LTD 232 STM 111 JSTC 114	STM *SCC JSTC	PERFORM HALON SUPPRESSION SYSTEMS SWITCHING IN PRIME LCC FIRING ROOM TO MANUAL. REPORT COMPLETION.	EG&G-422

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0829				REMOVE OIS UNITS - PAD SURFACE, ----- FSS AND MLP ZERO LEVEL (-11H) -----	

NOTE

NEXT THREE STEPS PERFORMED
 THREE HOURS 30 MINUTES PRIOR
 TO RESUMING COUNT.

15-0830	-11H00M (HOLDING)	STM 111 GYCC 117	GYCC JYCJ	REMOVE FOLLOWING OIS UNITS AND ENSURE THE DISCONNECTED CABLES ARE SECURED TO THE STRUCTURE WITH BLAST TAPE.	34300 34100
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1. PAD SURFACE
 STA 05-12 EAST PAD SLOPE
 14-04 LOX TOWER 75 FT LEVEL
 N.W. CORNER OF STAIRWELL
 15-02 LH2 TOWER 75 FT LEVEL
 N.W. CORNER OF STAIRWELL
 15-03 PNEUMATIC TOWER TOP LEVEL
2. FSS
 STA 07-23 119 FT LEVEL
3. MLP ZERO LEVEL
 REMOVE ALL OIS UNITS FROM THE MLP
 ZERO LEVEL EXCEPT:
 STA 02-18 LO2 TSM
 01-06 LH2 TSM
 01-18 1/2 CORNER

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0831		STM 111	J6PN	AFTER LCOM REMOVES OIS BOXES SECURE DISCONNECTED PURGE LINES FIRMLY IN PLACE WITH BLAST TAPE PER OPERATION INSTRUCTION OF UMI M3089 (STA - WDG02). REPORT COMPLETION (2 HRS).	33218 33217

TASK: OIS UNITS - REMOVAL

CONTROL AREA

1. PAD
2. LOCAL OPERATION

ESSENTIAL PERSONNEL

	LCOM	LFAC
TECH	6	2
QA		1

REMOVE RSS 130 FT PORTABLE OIS

NOTE

DO NOT PERFORM NEXT STEP
 IF PORTABLE OIS UNITS
 PREVIOUSLY REMOVED FROM
 RSS 130 FT. LEVEL.

15-0832		STM 111 117	GYCC JYCC	REMOVE PORTABLE OIS UNITS FROM RSS 130 FT. LEVEL. VERIFY COMPLETION (30 MIN).	34300 34100
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

THE NEXT EIGHT STEPS ARE PERFORMED TWO HOURS AND 30 MINUTES PRIOR TO RESUMING COUNT.

15-0833	-11H00M (HOLDING)	STM 232 LTD 232 *SCC *PSE	LTD *SCC	VERIFY CONCURRENCE TO REMOVE ROPES AND SIGNS FROM AROUND FLAME TRENCH AND TEMPORARY HANDRAILS FROM MLP.	
15-0834		*PSE *SCC LTD	*SCC LTD STM	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH ROPE, SIGN AND TEMP HANDRAIL REMOVAL.	
15-0835		LTD PA 232	OTC TBC STM	ATTENTION ON PAD: ALL PROTECTIVE BARRIERS ARE BEING REMOVED FROM AROUND FLAME TRENCH AND '0' LEVEL OF MLP. CAUTION SHOULD BE EXERCISED AND ALL PERSONNEL MUST STAND CLEAR OF UNPROTECTED EDGES.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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REMOVE TEMP HANDRAILS

15-0836	-11H00M (HOLDING)	STM NET	QBSE 104	REMOVE TEMPORARY HANDRAILS FROM AROUND MLP AND SSME MPS HOLE, EXCEPT FOR SIDE ONE. REMOVE SIDE ONE AFTER RSS IS CLEAR. (M3092) VERIFY COMPLETION. (1H30M)	3322C 33226
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TASK: MLP TEMP HANDRAIL REMOVAL

CONTROL AREA

1. MLP/SSME FLAME HOLES
2. PAD

ESSENTIAL PERSONNEL

	LFAC
SUPER/ENG	1
TECH	2

OMBUU CLOSEDOUT OPERATIONS

NOTE

FOLLOWING 29 STEPS WILL BE PERFORMED ONLY IF A PRSD BOIL-OFF IS REQUIRED.

PRSD BOIL-OFF MUST BE COMPLETE PRIOR TO PERFORMANCE OF FOLLOWING 34 STEPS.

15-0837	-11H00M (HOLDING)	CFCP 132 UTC 232 LTD *SCC *SCC	UTC LTD	LU2 BOIL-OFF COMPLETE. READY TO PROCEED WITH MIDBODY UMBILICAL OPERATIONS. VERIFY SAFETY CONCURRENCE TO PROCEED (UM1 V3538, TASK 02). *PSE	
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NOT PERFORMED

VOLUME 2 OF 4
DATE: 01-11-86

OMI NO. - S0007VL2
REV. - Z

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0838	-11H00M (HOLDING)	UTC 132	CFCP	PERFORM PRSD PREPS FOR MIDBODY UMBILICAL DEMATE PER OMI V1040.	
				NOT PERFORMED	-----
15-0839		132	CFCP OTC	PREPS FOR OMBUU DEMATE COMPLETE. READY TO DEMATE MIDBODY UMBILICAL CARRIER PLATE AND INSTALL POD FLIGHT CAPS PER OMI V3538 (TASK 02). REQUEST SAFETY CONCURRENCE TO PROCEED.	
				NOT PERFORMED	-----
15-0840	-11H00M (HOLDING)	LTD 232 *SCC 105	*SCC *PSE	CLEAR AND ROPE OFF LOCAL AREA AT OMBUU AND CLEAR NONESSENTIAL PERSONNEL FROM AREA ((50-FT RADIUS) DIRECTLY BELOW MID-LEVEL EXTENSIBLE PLATFORM IN SUPPORT OF MIDBODY UMBILICAL DEMATE PER OMI V3538 (15 MIN.).	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ TIME CMD RESP DESCRIPTION VERIF.

TASK: ORBITER MIDBODY UMBILICAL
DEMATE (BADGE BOARD REQ'D)

ACCESS CODE - 2

CONTROL AREA -

1. ACCESS ABOVE LEVEL
OF OMBUU.

2. 50-FT RADIUS DIRECTLY
BELOW EXTENSIBLE
PLATFORM.

ESSENTIAL PERSONNEL FOR ORBITER

MIDBODY UMBILICAL DEMATE

(HAZ BADGE)

	ORB	SPC	NASA
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ENG/SUPR	1		
TECHNICIAN	4		
QUALITY	2		
SAFETY		1	1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0841		LTD 232 *SCC	*SCC *PSE	VERIFY ALL PERSONNEL WITHIN A 10 FT. RADIUS OF CARRIER PLATE ARE WEARING LONG-SLEEVED, BLUE COLLAR FLAME RETARDANT COTTON COVERALLS, LEATHER GLOVES, FACESHIELDS.	-----
				NOT PERFORMED	-----
				ORBITER MIDBODY UMBILICAL DEMATE	-----
15-0842	-11H00M (HOLDING)	*PSE *SCC 232 LTD	*SCC LTD OTC	LOCAL CONTROL AREA ESTABLISHED FOR UMBILICAL DEMATE. YOU HAVE SAFETY CONCURRENCE TO PROCEED.	-----
				NOT PERFORMED	-----
15-0843	-11H00M (HOLDING)	OTC	CECL	SUPPORT MIDBODY UMBILICAL CARRIER CROE PLATE DEMATE ON OIS CH 153.	-----
				NOT PERFORMED	-----
				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.	
15-0844	-11H00M (HOLDING)	OTC	*PAD	PERFORM MIDBODY UMBILICAL DEMATE AND PRSD/ECLSS POD FLIGHT CAP INSTALLATION PER UMI V3538 ON OIS CH 153. REPORT COMPLETION.	*BCS
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0845	-11H00M (HOLDING)	*PAD 132 OTC 232 OTC 132	OTC LTD	MIDBODY UMBILICAL DEMATE AND PRSD/ECLSS POD FLIGHT CAP INSTALLATION IS COMPLETE. READY FOR POD FLIGHT CAP LEAK CFCP CHECKS.	
				NOT PERFORMED	-----
				NOTE	
				HAZARDOUS OPERATION - MIDBODY UMBILICAL DEMATE COMPLETE.	
15-0846	-11H00M (HOLDING)	LTD 232 *SCC 105	*SCC *PSE	ORBITER MIDBODY UMBILICAL DEMATE IS COMPLETE. LOCAL CONTROL AREA AT OMBUU MAY BE TERMINATED AT THIS TIME AND AREA OPENED FOR CONTROLLED WORK.	
				NOT PERFORMED	-----
15-0847				PRSD POD FLIGHT CAPS LEAK CHECK ----- (UMI V1040 SEQ ----) -----	
15-0848	-11H00M (HOLDING)	OTC 132	CFCP	PERFORM LEAK CHECK OF PRSD POD FLIGHT CAPS PER UMI V1040 ON OIS CH 153. REPORT COMPLETION.	*BCS
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0849				LEAK CHECK ECLSS POD FLT CAPS	

NOTE

PERFORM NEXT TWO STEPS IF ECLSS POD-252 FLT CAP WAS PREVIOUSLY REMOVED (PER UMI 3538) AND EMERGENCY GO2 TANK IS INSTALLED.

15-0850		CECL	CDR	PANEL L2 ATM PRESS CONTROL O2 EMER SW - OPEN UNTIL O2 EMER TB UP	
					NOT PERFORMED

15-0851		OTC	CECL	PERFORM LEAK CHECK OF ECLSS POD-252 GO2 FLT CAP PER UMI V1040 UN OIS CHAN 153.	
					NOT PERFORMED

NOTE

PRSD CRYO TANK HEATERS WILL BE PLACED IN AUTO MODE VIA LPS AT COMPLETION OF MIDBODY FLT CAP INSTALLATION, PER UMI V1040. THE HEATERS WILL REMAIN IN AUTO UNTIL AFT COMMAND DECODER PWR SUPPLIES ARE TERMINATED BY GLS AT APPROX T-10 SEC. CABIN SWITCHES ARE TO REMAIN IN THE OFF POSITION (PER CREW CHECKLIST)

15-0852	-1100M (HOLDING)	CFCP	OTC	PRSD/ECLSS FLT CAP INSTALLATION AND LEAK TEST COMPLETE. READY FOR CLOSEOUT OF MIDBODY UMBILICAL DOOR 45. CFCP WILL CONTINUE WITH FINAL GSE PREPS FOR FUEL CELL ACTIVATION. (OMI V1040 SEQ ---).	
		CECL	132		NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
IF ECLSS FLT CAP LEAK TEST IS COMPLETE, PERFORM NEXT TWO STEPS.					
15-0853		OTC	CDR	PANEL L2 ATM PRESS CONTROL O2 EMER SW - CLOSE UNTIL O2 EMER TB CL	NOT PERFORMED -----
15-0854		OTC	CDR	PANEL 016 ROW D MN C ATM PRESS CONTR O2 EMER CB - OPEN	NOT PERFORMED -----
15-0855	-11H00M (HOLDING)	OTC 132	*PAD	PERFORM ORBITER OPERATION SUPPORT *BCS SETUP 15 - CLOSEOUT ORBITER DOOR 45.	NOT PERFORMED -----
15-0856	-11H00M (HOLDING)	*PAD	OTC	ORBITER OPERATION SUPPORT SETUP - 15 - CLOSEOUT ORBITER DOOR 45 COMPLETE.	NOT PERFORMED -----
15-0857		CFCP 132	OTC	CFCP FINAL GSE PREPS FOR FUEL CELL ACTIVATION ARE COMPLETE. (JMI V1040)	NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0858				ORBITER PRSD T-0 VALVE LEAK ----- CHECKS (OMI V1040 SEQ ___) -----	
15-0859	-11H00M (HOLDING)	CFCP 132 OTC 232 LTD 232 *SCC *PSE	OTC LTD	READY TO PROCEED WITH PRSD T-0 VLV LEAK CKS. VERIFY SAFETY CONCURRENCE TO PROCEED.	
					NOT PERFORMED -----
15-0860		*PSE *SCC *SCC LTD LTD OTC OTC CFCP		YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH PRSD T-0 VALVE LEAK CHECKS.	
					NOT PERFORMED -----
15-0861		OTC 132	CFCP	PERFORM PRSD T-0 VALVE LEAK CHECKS ON OIS CH 153 PER OMI V1040, VOL ___ (SEQ ___).	*BCS
					NOT PERFORMED -----
15-0862	-11H00M (HOLDING)	CFCP 132	OTC	ORBITER PRSD T-0 VALVE LEAK CHECKS COMPLETE. (OMI V1040)	
					NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0863				UMBUU ROOF EXTENSIBLE PLATFORM ----- RETRACTION/MIDLEVEL EXTENSIBLE ----- PLATFORM RETRACTION -----	
15-0864	-11H00M (HOLDING)	OTC 132	*PAD	VERIFY READY TO SUPPORT UMBUU PLATFORM RETRACT PER UMI V3538. (OMI V3538 - TASK 04)	
				NOT PERFORMED	-----
15-0865	-11H00M (HOLDING)	OTC	LTD	READY FOR UMBUU PLATFORM RETRACTION.	
				NOT PERFORMED	-----
15-0866		LTD 232 *SCC 105	*SCC *PSE	CLEAR ALL NONESSENTIAL PERSONNEL FROM MID-LEVEL EXTENSIBLE PLATFORMS AND 50 FT RADIUS DIRECTLY BELOW MID-LEVEL EXTENSIBLE PLATFORM.	
				NOT PERFORMED	-----

ESSENTIAL PERSONNEL

	CONTRACTOR	NASA
SYSTEM ENGR	1 (AS REQ)	1 (AS REQ)
SAFETY	1 (SPC)	1
TECH	2 (GSE)	
QUALITY	2 (GSE)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0867		*PSE *SCC LTD	*SCC LTD OTC	LOCAL CONTROL AREA FOR OMBUU PLATFORM RETRACTION IS CLEARED OF NONESSENTIAL PERSONNEL.	

NOT PERFORMED

WARNING

NEXT STEP IS HAZARDOUS
 BECAUSE OF PERSONNEL
 WORKING AT HEIGHTS ON
 EXTENSIBLE PLATFORM WITHOUT
 GUARD RAILS.

SAFETY HARNESSSES WITH
 LANYARDS REQUIRED AND ALL
 TOOLS MUST BE TETHERED.

ACCESS TO AND FROM 50-1
 DOOR AREA MUST BE TERMINATED
 UNTIL OMBUU PLATFORM
 RETRACTION COMPLETE.

15-0868	-11H00M (HOLDING)	OTC 132	*PAD	RETRACT OMBUU PLATFORMS PER OMI V3538 (TASK 04).	
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NOT PERFORMED

15-0869	-11H00M (HOLDING)	*PAD 132 LTD 232 *SCC 105	OTC *SCC *PSE	OMBUU PLATFORM RETRACTION COMPLETE. CONTROL AREA CAN BE OPENED FOR CONTROLLED WORK. (OMI V3538)	
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NOT PERFORMED

NOTE

HAZARDOUS OPERATION - OMBUU
 EXTENSIBLE PLATFORM RETRACT
 COMPLETE.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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REMOVE PPU FROM MLP

NOTE

NEXT STEP TO BE PERFORMED
IF PPU WAS NOT REMOVED UPON
ARRIVAL AT PAD.

15-0870	-11H00M (HOLDING)	OTC 232 LTD STM STM 111	LTD STM JBDY	REMOVE PPU (S70-0534) FROM ZERO LEVEL MLP (OMI Q5001).	33223
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NOT PERFORMED -----

TASK: PPU REMOVAL FROM MLP

CONTROL AREA

1. MLP SIDE 3
2. PAD

ESSENTIAL PERSONNEL

LFAC

SUPVR/ENG 1
TECH 6

15-0871

INSTALL HOIST MOUNT COVER PLATES

15-0872

TBC 136	*PAD	INSTALL CANTILEVER HOIST MOUNTING COVER PLATES AFTER HANDRAILS ARE REMOVED FROM AROUND SRB HOLES.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0873	-11H00M (HOLDING)	STM NET	QBSE 104	REMOVE WIRE ROPES AND SIGNS AT FLAME TRENCH SOUTH AND TEMPORARY ROPES AND SIGNS FROM AROUND FLAME TRENCH NORTH (M3092). VERIFY COMPLETION. (1H30M)	3322C 33226

TASK: FLAME TRENCH HANDRAIL REMOVAL

CONTROL AREA

1. PAD
2. FLAME TRENCH

ESSENTIAL PERSONNEL

	LFAC
SUPER/ENG.	2
TECH	5

15-0874	-11H00M (HOLDING)	STM 111	JBPN	REMOVE BARRICADES FROM AROUND GU2 SUPPLY PANEL AND STORAGE BOTTLES.	3321B 33217
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NOTE

NEXT TWO STEPS PERFORMED
 2 HR 30 MIN PRIOR TO END
 OF HOLD OR PRIOR TO RSS
 FIRST MOTION.

15-0875		LTD PA		MAKE FOLLOWING ANNOUNCEMENT: "ALL PERSONNEL SUPPORTING RSS WALKDOWN REPORT TO PAD SITE MANAGER AT BASE OF FSS IN 30 MINUTES".	
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15-0876		STM LTD 232 OTC	LTD *SCC OTC *PAD	HAVE WALKDOWN PERSONNEL REPORT TO PAD SITE MANAGER (PSIM) AT THE BASE OF THE FSS FOR AN ENGINEERING/SAFETY WALKDOWN IN 30 MINUTES.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0877				IUS PRE-LAUNCH CONFIGURATION -----	
15-0878	-11H00M (HOLDING) L-18H30M	CTC 232	LTD	PROCEEDING WITH IUS PRE-LAUNCH CONFIGURATION PER DOP 290-50020-1.	
15-0879		CTC 134	ICTC	PROCEED WITH IUS PRE-LAUNCH CONFIGURATION PER DOP 290-50020-1. IUS AFD PANEL PRESET FOR MISSION -----	
15-0880		CTC 132	UTC	REQUEST MS2 SUPPORT ON CH 134 FOR IUS AFD PANEL PRESET FOR MISSION.	
15-0881		CTC 132 UTC	UTC CPL	REQUEST CPL SUPPORT ON CH 144 FOR AUX AND PAYLOAD CABIN POWER BUS ON.	
15-0882		CTC 134	CPL	POWER ON PAYLOAD CABIN AND AUX BUSES.	
15-0883		CPL	PLT	PANEL R1A1 POWER DISTRIBUTION PAYLOAD AUX SW - ON CABIN SW - MN A	R1AS29 R1AS25
15-0884		CPL CTC UTC	CTC UTC	AUX AND PAYLOAD CABIN POWER ON COMPLETE.	
15-0885		CTC	MS2	PANEL L12 (IUS) PAYLOAD TIMING BUFFER CB - CLOSE OMRSD P018FA.150	L12C53
15-0886		CTC	ICTC	PROCEED WITH IUS SWITCH LIST.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0887		ICTC MS2		PANEL L10 (PCP) PANEL POWER PRI CB - CLOSE ALT CB - CLOSE MODE SW - PRIMARY AUTO SHUTDOWN STANDBY MODE PRI SW - ENABLE PRI TB GRAY ALT TB GRAY UMRSD P018EA.090	L10CB1 L10CB2 L10S61 L10S20 L10I20 L10I50
15-0888		ICTC MS2		PANEL L10 (PCP) IUS SUPPORT HEATERS BATTERY PRI TB BP ALT TB BP GUARD PRI TB BP ALT TB BP WBDI PRI TB GRAY ALT TB GRAY AUTO SHUTDOWN STANDBY MODE PRI TB GRAY ALT TB GRAY TILT TABLE ACTUATOR DRIVE ENABLE PRI 1 SW - OFF ALT 2 SW - OFF MOTION PRI 1 TB BP ALT 2 TB BP POSITION PRI 1 TB GRAY ALT 2 TB GRAY PRI DR ACT 1 ENGAGE TB BP ALT DR ACT 2 ENGAGED TB BP	L10I21 L10I51 L10I22 L10I52 L10I23 L10I53 L10I20 L10I50 L10S13 L10S43 L10I14 L10I44 L10I61 L10I71 L10I76 L10I77

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0888				PYRO BUS	
CON'T				PRI TB BP	L10I24
				ALT TB BP	L10I54
				UMBILICALS	
				ENABLE	
				PRI TB BP	L10I18
				ALT TB BP	L10I48
				RELEASE	
				PRI TB BP	L10I19
				ALT TB BP	L10I49
				IUS DEPLOYMENT	
				ENABLE	
				PRI TB BP	L10I25
				ALT TB BP	L10I55
				CMD PATH ENABLED SW -	
				HARDLINE (DOWN)	L10S65
				UMRSD P018EA.090	
15-0889		ICTC MS2		PANEL L10 (PCP)	
				PANEL	
				POWER	
				PRI CB - OPEN	L10CB1
				ALT CB - OPEN	L10CB2
				UMRSD P018EA.090	
15-0890		ICTC MS2		PANEL L11 (CIU)	
				POWER SW - ON	L11S9
				UMRSD P018FA.030	
15-0891		ICTC MS2		PANEL L11 (CIU)	
				MODE SELECTION	
				DOWN LINK	
				S-BAND FM SW - TLM	L11S4
				KU-BAND SW - TLM	L11S5
				PAYLOAD KCDR SW - TLM	L11S3
				PAYLOAD LINK SW -	
				HARDLINE 64 KBPS	L11S12
				CUMMAND SOURCE SEL SW -	
				T-0 UMB (A)	L11S11

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0891				PAYLOAD SELECT SW - 1	L11S10
CON'T				COMMAND SELECT TW-01 (SAFETY STATUS)	
				LIGHTING BRIGHT/VAR SW - BRIGHT LOW/MED SEL SW - MED	L11S2 L11S13
				MDM ERROR UPLINK LITE OFF GPC LITE OFF	
				CMD REJECT LITE OFF	
				UMRSD P018FA.030	
15-0892		ICTC MS2		PANEL L11 (CIU) AUX CONTROL PANEL CLEAR/SECURE SW - CLEAR POWER SW - STANDBY	
				MEMORY ZEROIZED LITE OFF FAULT ALARM CMD LITE OFF FAULT ALARM TLM LITE OFF MODE CLEAR LITE OFF VARIABLE LOAD LITE OFF	
				UMRSD P018FA.030	
15-0893		ICTC MS2		PANEL L12 (IUS) IUS ANT TB PWR CB - CLOSE	L12CB1
15-0894		ICTC MS2		PANEL L12 (IUS) SW PWR CB - OPEN PAYLOAD TIMING BUFFER CB - CLOSE	L12CB2 L12CB3
				IUS RF ANT E/D SW - CENTER IUS RF ANT ENA TB BP IUS RF ANT DSBL TB GRAY	L12S5 L12DS5 L12DS6
				ACT ORD PREARM SW - OFF ACT ORD ARM SW - SAFE ACT ORD ARM TB BP ACT 1 DISENG SW - OFF ACT 2 DISENG SW - OFF	L12S10 L12S3 L12DS3 L12S4 L12S6
				UMRSD P018FA.150	

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0895		ICTC	MS2	PANEL L12 (IUS) IUS ANT TB PWR CB - OPEN OMRSD P018FA.150	L12CB1
15-0896		CTC	CPLE	PERFORM AFD SWITCH CONFIGURATION.	
15-0897		CPLE	MS2	PANEL A6U PAYLOAD RETENTION LOGIC POWER SYS 1 SW - OFF SYS 2 SW - OFF P/L SEL SW - MONITOR PL RETEN LAT 1 - OFF PL RETEN LAT 2 - OFF	A6S46 A6S47 A6S37 A6S36 A6S42
15-0898				IUS RIMU POWER ON -----	
15-0899	-11H00M (HOLDING) L-16H30M	ICTC	CTC 134	READY TO PROCEED WITH RIMU POWER ON PER DUP D290-50020-1.	
15-0900		CTC	OTC 132	VERIFY ORBITER PAYLOAD BAY PURGE IS ON.	
CAUTION					
ORBITER PAYLOAD BAY PURGE MUST REMAIN ON WHILE IUS RIMU IS POWERED ON.					
15-0901		CTC 132 OTC	OTC CEPD	REQUEST CEPD SUPPORT ON UIS CHANNEL 134 TO MONITOR ORBITER MAIN A, B, AND C TOTAL CURRENT. (SUPPORT APPROXIMATELY 10 MINUTES). REPORT TO ICC1.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0902		ICC1 134	CEPD	RECORD TOTAL ORBITER MAIN A, B AND C CURRENT. ----- CURRENT MONITOR THE TOTAL ORBITER MAIN A, B, AND C CURRENT PRIOR TO AND DURING RIMU POWER-UP FOR AN EXPECTED INCREASE OF LESS THAN 60 AMPS. NOTIFY ICC1 IF THE INCREASE EXCEEDS 60 AMPS.	
15-0903		ICC1		RIMU WILL BE POWERED ON MOMENTARILY. UMRSD P018JC.010	
15-0904		ICC1	CEPD	RECORD TOTAL ORBITER MAIN A, B AND C CURRENT. ----- CURRENT	
15-0905		ICTC CTC	CTC CEPD	ORBITER MAIN BUS A, B AND C VOLTAGE AND CURRENT MONITOR NO LONGER REQUIRED. RETURN TO COMMAND CHANNEL.	

OPERATION INSTRUCTIONS

SEQ TIME CMD RESP DESCRIPTION VERIF.

NOTE

NEXT SIX STEPS WILL BE
PERFORMED 2 HOURS AND 20
MINUTES PRIOR TO RESUMING
COUNT.

PREP FOR SS WATER TANK FILL

TU ABOVE 105 FT LEVEL

NOTE

MLP ZERO LEVEL MAY REMAIN
OPEN FOR ACCESS WHEN SS
HYDRAULIC VALVE LOCKS ARE
ON AND SOFTWARE OPEN
COMMAND LOCKOUT IS ON.

15-0906	-11H00M (HOLDING)	LTD 232 STM 111	STM JBWC	VERIFY SS HYDRAULIC VALVE LOCKS ARE ON AND OPEN COMMAND LOCKOUT IS ISSUED PER OPERATION INSTRUCTIONS OF OMI M3114/M3152.	3322B 33222
15-0907	-11H00M (HOLDING)	STM 232 LTD	LTD *SCC	SS HYDRAULIC VALVE LOCKS ARE ON AND OPEN COMMAND LOCKOUT IS ON	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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 CLEAR FOR SS TANK FILL ABOVE

 105 FT

15-0908 -11H00M LTD
 (HOLDING) PA

ATTEN PAD ___:
 ALL NONESSENTIAL PERSONNEL CLEAR
 THE CONTROL AREA FOR SOUND
 SUPPRESSION TANK FILL.

1. 100 FT. RADIUS SS TANK
2. FLAME TRENCH
3. 100 FT. EACH SIDE OF
TRANSFER LINES
4. PERIMETER ROAD AND F ROAD
INTERSECTION

15-0909 -11H00M LTD *SCC
 (HOLDING) 232
 *SCC *PSE
 105

CLEAR ALL NON-ESSENTIAL PERSONNEL
 FROM CONTROL AREA SPECIFIED BELOW
 FOR SOUND SUPPRESSION TANK FILL
 ABOVE 105 FT LEVEL.

TASK: SOUND SUPPRESSION WATER
 TANK FILL ABOVE 105 FT. LEVEL

CONTROL AREA

FLAME TRENCH

ESSENTIAL PERSONNEL

	LFAC	SPC	NASA
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SUPER/ENG	2		
SYS TECHS	2		
QA	1		
SAFETY		1	1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
WARNING					
SOUND SUPPRESSION WATER TANK WILL REMAIN FULL THRU TO APPROX T-0. *SCC MUST BE ADVISED OF ANY ACTIVITY REQUIRING PERSONNEL ACCESS TO FLAME TRENCH.					
15-0910	-11H00M (HOLDING)	*PSE 105 *SCC 232 LTD	*SCC LTD STM	CONTROL AREA HAS BEEN CLEARED OF ALL NONESSENTIAL PERSONNEL. READY FOR SOUND SUPPRESSION TANK FILL ABOVE 105 FT LEVEL.	
FILL SS WATER TANK ABOVE 105 FT LEVEL					
15-0911		STM 111	JBWC JBFX	FILL ELEVATED WATER TANK AND SOUND SUPPRESSION LINES PER OPERATION INSTRUCTIONS OF UMI M3114/M3152 (1H30M). REPORT COMPLETION, REPLENISH AS REQUIRED DUE TO LEAKAGE (SKELETONS SSA, F1A, P2A). (SEE JBWC FIG 4 UTV CAM MATRIX)	3322B 33222 *BCS
15-0912	-11H00M (HOLDING)	*PAD 132	OTC	ORBITER OPERATION SUPPORT SETUP 9 - WINDOW COVER REMOVAL FOR FLIGHT IS COMPLETE.	
15-0913				IUS AVIONICS POWER UP	
NOTE					
ICC1 SHALL VERIFY AT LEAST 45 MINUTES HAS ELAPSED SINCE RIMU POWER ON PRIOR TO PROCEEDING WITH NEXT STEP.					
15-0914	-11H00M (HOLDING) L-15H45M	ICTC	CTC	READY TO PROCEED WITH IUS AVIONICS POWER ON PER DOP D290-50020-1.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0915		CTC 132 OTC	OTC CEPD	REQUEST CEPD SUPPORT ON OIS CHANNEL 134 TO MONITOR ORBITER MAIN A, B, AND C TOTAL CURRENT. (SUPPORT APPROXIMATELY 20 MINUTES). REPORT TO ICC1.	
15-0916		ICC1 134	CEPD	RECORD TOTAL ORBITER MAIN A, B AND C CURRENT. ----- A MONITOR THE TOTAL ORBITER MAIN A, B, AND C CURRENT PRIOR TO AND DURING IUS POWER UP FOR AN EXPECTED INCREASE OF LESS THAN 60 AMPS. NOTIFY ICC1 IF THE INCREASE EXCEEDS 60 AMPS.	
15-0917		CTC	ICTC	PERFORM IUS POWER UP PER DOP D290-50020-1. REPORT COMPLETION.	
15-0918		ICC1		IUS POWER WILL BE APPLIED MOMENTARILY.	
15-0919		ICC1	CEPD	RECORD TOTAL ORBITER MAIN A, B AND C CURRENT. ----- A	
15-0920		ICTC CTC	CTC CEPD	ORBITER MAIN BUS A, B AND C VOLTAGE AND CURRENT MONITOR NO LONGER REQUIRED. RETURN TO COMMAND CHANNEL.	
15-0921		ICTC	MS2	PANEL L11 (CIU) COMMAND VERIFICATION VCC-UCTAL CL	
15-0922		ICTC	CTC	IUS POWER ON COMPLETE. OMRSD P018JC.010	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				T-0 GMT FOR IUS SOFTWARE -----	
15-0923		CTC 232	LTD	REQUEST T-0 GMT FOR IUS SYSTEM SOFTWARE. RECORD T-0 GMT -----	
15-0924		CTC	ICTC	PRESENT T-0 GMT ----- IUS/TDRS S/C DISCRETES -----	
15-0925	-11H00M (HOLDING) L-15H15M	CTC 134	ESTC	STANDBY FOR EXECUTION OF S/C DISCRETE 6.	
15-0926		CTC	ICTC	VERIFY EXECUTION OF S/C DISCRETE 6.	
15-0927		CTC	ESTC	VERIFY IUS/RCS DISCRETE 6 ENABLED (TLM PG 29) OMRSD P018JC.010 ASE BATTERY POWER TRANSFERS -----	
15-0928	-11H00M (HOLDING) L-15H00M	CTC 232 LTD OTC OTC 132	LTD	PROCEEDING WITH IUS POWER TRANSFERS. TOTAL ORBITER MAIN A, B AND C CURRENT WILL FLUCTUATE.	
15-0929		CTC 134	ESTC	MONITOR TDRS FOR CONTINUOUS POWER DURING IUS POWER TRANSFERS.	
15-0930		CTC	ICTC	PROCEED WITH IUS POWER TRANSFERS PER DDP D290-50020-1. REPORT COMPLETION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NEXT TWO STEPS WILL BE PERFORMED TWO HOURS PRIOR TO RESUMING COUNT.

CONFIG VAB AND OPF DIS-RF BRANCHES

15-0931	-11H00M (HOLDING)	LTD	STM	CONFIGURE VAB AND OPF DIS-RF	34300
		232		MISSION "A" OR "C" BRANCHES TO	34100
		STM	GYCC	RECEIVE ONLY EXCEPT AS FOLLOWS:	
		111			
		GYCC	JYCY	1. VAB RM 7E7 AND 7E6	
		117		2. OPF RM 107 AND 210	
				3. SCAPE TRAILERS	
				4. DEACTIVATE ALL UNITS THAT ARE ON THE OPF BRANCHES 5, 9 AND 10, THAT ARE NOT XMIT AND RECEIVE UNITS IN THE ABOVE EXCEPTED AREAS.	

VERIFY COMPLETION. (30 MIN)

SECURE ACCESS MONITOR SHACK

NOTE

PERFORM NEXT STEP IF ACCESS MONITOR SHACK WAS RESTORED, FOLLOWING PREVIOUS HAZARDOUS OPERATION.

15-0932	-11H00M (HOLDING)	STM	JBEP	1. DISCONNECT POWER FROM PAD	3321A
		111	JBDY	SURFACE ACCESS MONITOR	33212
		JBDY	GBHE	SHACK.	*BCS
				2. REMOVE ACCESS MONITOR SHACK FROM PAD SURFACE.	33223
				3. REPORT COMPLETION (45 MIN).	

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT TWO STEPS IF PCR
 TELEPHONES WERE RESTORED
 AFTER PREVIOUS HAZARDOUS
 OPERATION.

15-0933		LTD	STM	LOCK OUT PCR TELEPHONES	34100
		232		(PAD A - ANTEROOM EXT 7-6000	34300
		STM	GYCC	AND PCR EXT 7-7941/7942/7943/	
		111		7944) (PAD B - PCR EXT 7-5407/	
		GYCC	PCSG	5408/5409/5410). VERIFY OUTSIDE	
		117	JYCJ	POWER SWITCH IS IN "OFF" POSITION.	
				REPORT COMPLETION. (30 MIN.)	
					G:----- 50234

NOT PERFORMED -----

15-0934		LTD	STM	VERIFY SECURITY DROP P4312 PCR	EG&G-123
		232		IS DEACTIVATED FROM ROOM 1P10	
		STM	*SCC	PRIOR TO COMMENCING WITH PROPELLANT	
		111	JSTC	FLOW.	
		JSTC	*SEC		
		114			

NOT PERFORMED -----

NOTE

PERFORM NEXT FIVE STEPS
 TWO HOURS PRIOR TO END
 OF HOLD.

15-0935	-11H00M (HOLDING)	STM	QBSE	CLEAN AND LUBRICATE RSS RAILS	3322C
		NET	104	(M3134) (1 HOUR).	33226

15-0936	-11H00M (HOLDING)	STM	JBDY	REMOVE ALL TRASH CONTAINERS FROM	33408
		111		MLP, RSS AND FSS. REPORT	
		JBDY	WBIM	COMPLETION (1 HR).	

ESSENTIAL PERSONNEL

LFAC

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0937	-11H00M (HOLDING)	STM	JSTC	REMOVE LODALS FROM TOP OF PAD JSTC WCRG REPORT COMPLETION (1 HR.) 7-6200	EG&G-624.1

ESSENTIAL PERSONNEL

EG&G-622

DRIVERS/HELPERS 4

15-0938	-11H00M (HOLDING)	STM	JSTC	PERFORM A VERIFICATION OF LIFE 111 SUPPORT EQUIPMENT IN FSS WHITE JSTC *SCB ROOM. REPORT COMPLETION.(30 MIN.)	EG&G-632
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15-0939	-11H00M (HOLDING)	JSTC	*SCB	PERFORM THE FOLLOWING: 114 REPORT COMPLETION (2 HRS)	*BCS EG&G-632
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1. FASTEN SNAP HALLYARDS TO
GAS MASK BOX LATCHES ON
RSS AND MLP.
2. REMOVE ANY GAS MASK BOXES
WITHOUT HOLDOWN CABLES AND
ANY LOOSE LIFE SUPPORT
EQUIPMENT FROM RSS AND MLP.
3. ENGAGE BUNGEE CORD
RESTRAINTS AROUND AIR PACKS
IN WALL CASES ON MLP:

(A) 9 CASES ON MLP-A
(B) 9 CASES ON MLP-B
4. REMOVE GAS MASK BOXES ON
ALL LEVELS OF FSS.

15-0940	-11H00M (HOLDING)	OTC	CPVD	IF ECS CONTROL IS IN LOCAL MODE. PERFORM "CONTROL STATION TRANSFER - PAD TO FIRING ROOM" PER V1122. REPORT COMPLETION.	
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NEXT TWO STEPS PERFORMED
 ONE HOUR PRIOR TO END OF
 HOLD.

15-0941	-11H00M (HOLDING)	STM 111 JSTC 114	JSTC	NOTIFY BIG-3 THAT LPGN2 HIGH FLOW RATE IS REQUIRED WITHIN 4 HOURS (STA-WDB00, STA-WDGO2)	EG&G-631 *BCS
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OBTAIN SUPPORT EQUIP FOR SRB

 HPU OPS

15-0942	-11H00M (HOLDING)	TBC 136	*PAD	PICK UP RUBBER APRONS, FACESHIELDS AND HYPERCOMPATIBLE GLOVES FROM PAD MATERIAL SERVICE CENTER AND TRANSFER TO MLP ZERO LEVEL TO SUPPORT SRB HPU EXHAUST DUCT PLUG REMOVAL.	
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15-0943				OPEN VALVES PD2 & PD3 -----	
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NOTE

PERFORM NEXT STEP TWO
 HOURS PRIOR TO END OF HOLD
 IF ORBITER VALVES PD2 & PD3
 ARE CLOSED.

15-0944		TBC 136 OTC 132	CLHY	PERFORM USSU-4 OF OMI 63251 - DEPRESSURIZATION AND RE-PRESSURIZATION OF ET LH2 TANK TO OPEN PD2 & PD3.	
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NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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IUS SELF CHECKS

NOTE

THE FOLLOWING STEP WILL VERIFY
COMPLETION OF THE FOLLOWING
IUS SELF CHECKS.

1. MEMORY LOAD VERIFICATION
2. ASE BATT CHECKS - IUS
3. ASE BATT CHECKS - S/C
4. MEMORY DUMP
5. COMPUTER MEMORY DUMP
6. RELAY INITIALIZATION
7. TDRS RCS RELAY ENABLED
8. REDUNDANCY MANAGEMENT
CHECKS

15-0945	-11H00M (HOLDING) L-14H00M	ICTC CTC	IUS SELF CHECKS COMPLETE.
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OMRSD P018JC.010

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0946				T-0 GHE PURGE INITIATION	
NOTE					
PERFORM NEXT STEP ONE HOUR PRIOR TO VENTING LH2 STORAGE TANK PER OMI G3251 OR ONE HOUR PRIOR TO MLP CLEAR FOR AIR TO GN2 CHANGEVER (WHICHEVER IS EARLIER).					
15-0947	-11H00M (HOLDING)	LTD 232 TBC 136	TBC CLHY	PERFORM OPS SUPPORT SETUP NO. 3 OF OMI G3251 - T-0 GHE PURGE INITIATION	*BCS
15-0948				HAZ WARNING XFER (G3251)	
15-0949		LTD 232 TBC 136 OTC 132	TBC OTC CLHY CHGD	PERFORM OPERATION SUPPORT SETUP 5 OF OMI G3251, HAZ WARNING MONITOR TRANSFER.	
15-0950		CHGD 132 OTC 136	OTC TBC	HAZ WARNING MONITOR TRANSFER PER G3251 COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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15-0951				CLEAR FOR RSS MOVE	
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WARNING

SPC SAFETY SIGNS WILL BE REMOVED ONLY (BY SPC 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 MATE POSITION OCCURS DURING GN2 FLOW TO THE ORBITER.

NOTE

PERFORM NEXT TWO STEPS ONE HOUR PRIOR TO END OF HOLD OR ONE HOUR PRIOR TO RSS MOVE FIRST MOTION.

15-0952	-11H00M (HOLDING)	LTD PA 232	OTC STM	ATTENTION 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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15-0953		STM LTD 232	LTD OTC	HAVE ALL RSS ROTATION OBSERVERS REPORT ON STATION ON OIS CHANNEL 116 IN 30 MINUTES FOR COMM CHECK AND BRIEFING.	
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SOUND SUPPRESS WATERTANK FILL

 COMPLETE

NOTE

NEXT STEP PERFORMED 50 MINUTES
 PRIOR TO RESUMING COUNT.

15-0954	-11H00M (HOLDING)	JBWC 111 STM 232	STM LTD *SCC	SOUND SUPPRESSION WATERTANK FILL COMPLETE.	3322B
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0955				RSS OBSERVER COMM CHECK AND ON NET BRIEFING (A2203)	

NOTE

PERFORM NEXT TWO STEPS,
 30 MINUTES PRIOR
 TO END OF HOLD OR 30
 MINUTES PRIOR TO RSS
 FIRST MOTION.

15-0956	-11H00M (HOLDING)	STM NET 104	QBSE	CONDUCT "ON NET" BRIEFING AND COMM CHECK ALL RSS OBSERVERS. VERIFY COMPLETION (A2203). (15 MIN)	3322C *BCS
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ESSENTIAL PERSONNEL

	SL-ENG	URB	LFAC	SL-FAC	SO	DE
ENGR	3	2	4	3	1	2
TECH		23	29			
QUAL		1	1		1	
ELEC			4			

TGS SPC NASA

PHOTO 1
 SAFETY 3 1

VOLUME 2 OF 4
DATE: 01-11-86

OMI NO. - S0007VL2
REV. - Z

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
<hr/>					
RSS FINAL MOVE PREPS (A2203)					
15-0957		STM	GYCC	PERFORM RSS MOVE PREPS PER	34300
		111		OMI A2203. REPORT COMPLETION.	34200
		GYCC	JYVD		
		117			
<hr/>					
PAD CLOSEOUT VALVE POSITIONING					
<hr/>					
15-0958	-11H00M (HOLDING)	STM	JBPN	PERFORM PAD CLOSEOUT VALVE	3321B
		111		POSITIONING PER OPERATION	33217
				INSTRUCTIONS OF OMI	
				M3123, VERIFY COMPLETION.	
				(PAN WDB02, SHE WDE02) (1H30M)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0959				START ISSUE OF PREP AND HAZ BADGES (-11H)	

NOTE

THE NEXT STEP WILL BE
 SCHEDULED REAL TIME SO
 THAT BADGE BOARD IS SET
 UP PRIOR TO SHIFT CHANGE.

15-0960	-11H00M (HOLDING)	LTD 232 *SCC 105	*SCC *PSE	START ISSUING HAZARDOUS BADGES AT PAD - A GATE.	
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15-0961	-11H00M (HOLDING)	LTD PA 232		ATTENTION PAD ___: ALL NON-ESSENTIAL PERSONNEL CLEAR AREAS AROUND AND UNDER ROTATING SERVICE STRUCTURE FOR RSS MOVE. PERSONNEL ACCESS BETWEEN THE FSS AND RSS WILL BE AT THE FSS 95 FT./RSS 107 FT. CROSSOVER. DO NOT CROSS OVER OR REMOVE SAFETY CHAINS AT OTHER LEVELS.	
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15-0962	-11H00M (HOLDING)	LTD 232 *SCC 105	*SCC *PSE	VERIFY ALL NONESSENTIAL PERSONNEL HAVE BEEN CLEARED FROM THE AREA UNDER THE RSS AND THE RSS MOVE PATH AND CONTROL AREA IS ESTABLISHED PER UMI M3094.	
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ESSENTIAL PERSONNEL

	SL-ENG	ORB	LFAC	SL-ENG	SO	DE
ENGR	3	2	4	3	1	2
TECH		23	29			
QUAL		1	1		1	
ELEC			4			

TGS	SPC	NASA
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PHUTU	1		
SAFETY	3	1	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

CMD FILE LOAD					

15-0963	-11H00M (HOLDING)	LPS 127	C2MC C4MC	CONSOLE KYBD \$PRINT V4 CF CANC - PRESS PGM \$PRINT V4 CF PCMSS1 - PERF PGM \$PRINT V4 CF PCMSS2 - PERF PGM \$PRINT V4 CF CFPENDS1 - PERF PGM \$PRINT V4 CF UPF128 - PERF PGM \$PRINT V4 CF DIAS1 - PERF PGM \$PRINT V4 CF GPCAS1 - PERF PGM \$PRINT V4 CF UISS2 - PERF PGM \$PRINT V4 CF GPCSS2 - PERF PGM \$PRINT V4 CF MEPLOT - PERF PGM \$PRINT V4 CF RFSW1 - PERF PGM \$PRINT V4 CF RFSW2 - PERF PGM	
15-0964		C2MC C4MC 127	LPS	COMMAND FILES HAVE BEEN LOADED, CHECKED AND VERIFIED.	
NOTE					
PERFORM NEXT STEP IF FR-2/CR-4 TO BE CONFIGURED FOR LAUNCH SUPPORT.					
15-0965		LPS 232	LTD	OPERATION SUPPORT SETUP 2 - FR2/CR4 LAUNCH SUPPORT CONFIGURATION - LPS T-11 HOUR BIH TO T+5 HOURS COMPLETE.	31240
NOT PERFORMED -----					
NOTE					
IF DOD MISSION, PERFORM NEXT STEP.					
15-0966		LTD	LPS	PERFORM OPERATION SUPPORT SETUP 5 - COLOR CHANGE BLACK TO RED FOR CR-4. REPORT COMPLETION.	31240
NOT PERFORMED -----					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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PREPS FOR RTLS CONTINGENCY COMPLETE

NOTE

IF OPF HLDS PREPS ARE TO BE PERFORMED REAL TIME, DO NOT PERFORM NEXT STEP.

15-0967		CHGD OTC	OTC LPS	PRE-OPERATION SETUP 27 - OPF HLDS 31240 PREPS FOR RTLS CONTINGENCY ARE COMPLETE. GS4 FEP RELEASED FROM SUPPORT.	
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NOT PERFORMED

NOTE

RE-ENTRY POINT FOR 48 AND 72 HOUR SCRUB/TURNAROUND OPERATIONS.

VERIFY READY TO RESUME COUNT

15-0968	-11H00M (HOLDING)	LTD 232	OTC TBC *FLT *MIL STM *SCC LPS CTC	VERIFY READY TO RESUME THE COUNT AT T-11 HRS. IN ___ MINUTES.	
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RESUME COUNT

15-0969	-11H00M COUNTING	LTD PA 232	CGLS	THE CDC WILL RESUME AT T-11 HOURS ON MY MARK. 3-2-1 MARK, T-11 HOURS, AND COUNTING.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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 LH2 STORAGE VALVE - OPEN

 AND LH2 BURN POND PREPS

NOTE

PERFORM NEXT STEP A
 MINIMUM OF FOUR HOURS
 PRIOR TO PLANNED START
 OF LH2 LOADING.

IF PERFORMING A SCRUB
 TURNAROUND, OMIT NEXT
 STEP.

15-0970	-11H00M COUNTING	LTD 232 TBC 136	TBC CLHY	PERFORM USSU 1 OF UMI 63251 - LH2 BURN POND PREP AND A3306 (STORAGE TANK VENT) VALVE OPENING, (BURN POND SUPPORTING FUEL CELLS).	
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NOT PERFORMED -----

NOTE

PERFORM NEXT STEP TO
 SUPPORT SCRUB/TURNAROUND
 OPERATIONS.

15-0971		LTD 232 TBC 136	TBC CLHY	PERFORM USSU 2 OF UMI 63255 - A3306 (STORAGE TANK VENT) VALVE OPENING.	
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NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.																								
15-0972				CLEAR FOR SRB HPU EXHAUST PLUG ----- AND VENT DRAIN LINE SCRUBBER REMOVAL ----- (-11H) -----																									
15-0973	-11H00M COUNTING	LTD PA		ATTENTION PAD ---: ALL NON-ESSENTIAL PERSONNEL CLEAR 10 FOOT RADIUS OF SRB HPU EXHAUST DUCTS FOR SRB EXHAUST PLUG AND VENT DRAIN LINE SCRUBBER REMOVAL.																									
15-0974	-11H00M COUNTING	LTD 232 TBC 136 *SCC 105	*SCC TBC BHEA *PSE	CLEAR ALL NONESSENTIAL PERSONNEL 10 FT AROUND EACH OF THE SRB TURBINE EXHAUST DUCTS FOR PLUG REMOVAL. REPORT WHEN COMPLETE.																									
ESSENTIAL PERSONNEL -----																													
<table border="1"> <thead> <tr> <th></th> <th>SRB</th> <th>SPC</th> <th>NASA</th> </tr> <tr> <th></th> <th>---</th> <th>---</th> <th>----</th> </tr> </thead> <tbody> <tr> <td>MECH TECHS</td> <td>2</td> <td></td> <td></td> </tr> <tr> <td>QC</td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>SAFETY</td> <td></td> <td>1</td> <td>1</td> </tr> <tr> <td>ENGR</td> <td>1</td> <td></td> <td></td> </tr> </tbody> </table>							SRB	SPC	NASA		---	---	----	MECH TECHS	2			QC	1			SAFETY		1	1	ENGR	1		
	SRB	SPC	NASA																										
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MECH TECHS	2																												
QC	1																												
SAFETY		1	1																										
ENGR	1																												
15-0975		*PSE 105 *SCC 232	*SCC LTD	CONTROL AREA IS CLEAR AROUND SRB TURBINE EXHAUST DUCTS. SAFETY VERIFIES CONCURRENCE TO PROCEED WITH SRB HPU EXHAUST DUCT PLUGS REMOVAL.																									

OPERATION INSTRUCTIONS

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

 SRB HPU EXHAUST PLUG AND VENT DRAIN

 LINE SCRUBBER REMOVAL

WARNING

HAZARDOUS OPERATION - SRB HPU
 EXHAUST PLUG AND VENT DRAIN
 LINE SCRUBBER REMOVAL FOLLOWS,
 (HAZ DUE TO WORK AT UNPROTECTED
 EDGE OF SRB FLAME HOLES.

15-0976	-11H00M COUNTING	LTD 232	TBC	REMOVE SRB HPU EXHAUST DUCT PLUGS AND VENT DRAIN LINE SCRUBBERS. (SEE TBC FIG 4, FOR OTV SPT).	*BCS
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WARNING

DO NOT STAND IN DIRECT LINE
 OF PLUGS DURING REMOVALS.

15-0977	-11H00M COUNTING	TBC 136	BHEA	REMOVE TURBINE EXHAUST DUCT PLUG, DRAIN LINE PLUG AND VENT DRAIN LINE SCRUBBERS FROM ALL FOUR SRB HPU TURBINE EXHAUST DUCTS AND DRAIN LINES. FACE SHIELDS, RUBBER APRONS AND HYPERCOMPATIBLE GLOVES REQUIRED. SAFETY HARNESS WITH SECURED LANYARD REQUIRED FOR TECHNICIAN(S) REMOVING PLUGS.	
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LEFT SRB TILT	TGN:-----
LEFT SRB ROCK	TGN:-----
RIGHT SRB TILT	TGN:-----
RIGHT SRB ROCK	TGN:-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0978				ET HEATER VERIF AND PWR MONITOR	
15-0979	-11H00M COUNTING	TBC 136	CPWR	PERFORM ET POWER MONITORING AND HEATER VERIFICATION PER SEW 05 (S0007 VL4).	*BCS
15-0980				FUEL CELL FLOW THRU/PULSE PURGE	
NOTE					
FUEL CELL START MUST BE INITIATED WITHIN 3 HOURS FROM START OF FLOW THRU PURGE.					
DO NOT PERFORM NEXT STEP IF FUEL CELLS ARE POWERED UP.					
15-0981	-11H00M COUNTING	LTD 232 UTC 132	OTC STM CFCP	PERFORM FUEL CELL FLOW THRU/PULSE PURGE PER DMI V1040 ON DIS CH 153. REPORT COMPLETION.	*BCS
RECORD TIME _____ (GMT)					
NOT PERFORMED _____					
15-0982		STM 111	JBPN	MONITOR G02 AND GH2 SYSTEMS FOR EXCESSIVE SYSTEM DECAY DURING FUEL CELL FLOWTHRU/PULSE PURGE THRU T-0.	33218
15-0983	-11H00M COUNTING	LTD 232	*SCC UTC TBC CTC STM *SCC	*PSE VERIFY READY TO PROCEED WITH RSS MOVE TO PARK POSITION.	
15-0984		*PSE 105 *SCC 232	*SCC LTD	AREA IS CLEAR FOR RSS MOVE. SAFETY CONCURS WITH RSS MOVE.	
15-0985	-11H00M COUNTING	STM 138	JYVR	START VIDEO RECORDING OF DIV CAMERAS 001/101 AND 043/143 (SEE STM FIG. 4)	34200

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0986				ROTATE RSS TO PARK POSITION	

NOTE

RSS ROTATION TO PARK WILL BE INTERRUPTED FOR CLEANING THE TOP OF TSM'S FOR LAUNCH. CLEANING OBSERVER WILL COMMAND QBSE TO STOP AND START ROTATION ON CH 116 AS RSS CLEARS TSM'S.

15-0987	-11H00M COUNTING L-12H20M	LTD 232 STM NET 104	STM QBSE	MOVE RSS TO THE PARK POSITION PER UMI A2203. REPORT COMPLETION (1 HR).	33220 33226 *BCS
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15-0988				CLEAN TSM'S (EXTERNAL)	
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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.

15-0989	-11H00M COUNTING	LTD 232 STM 111	STM QBSE	REQUEST CLEANING OF TOP OF TSM'S FOR LAUNCH. REPORT COMPLETION.	33226
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0990				ECS PREP FOR AIR TO GN2 ----- CHANGEOVER (-11H) -----	
15-0991	-11H00M COUNTING	DTC 132	CPVD	BEGIN ECS AIR TO GN2 PREPARATIONS PER OMI V1122. MANUAL GN2 ISOLATION VALVES TO REMAIN CLOSED AND LOCKED. REPORT COMPLETION. (1 HR)	*BCS

NOTE

DO NOT PERFORM NEXT STEP
 IF BACKUP BREATHING AIR
 SYSTEM IS ONLINE TO
 COMPRESSED AIR SYSTEM.

15-0992	-11H00M COUNTING	STM 111	JBPN	SERVICE AIR COMPRESSORS PER M3022, M6008. INSTALL METAL RETAINING BAR TO SECURE BUILDING DOORS (1 HOUR). REPORT COMPLETION.	3321B 33217
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NOT PERFORMED -----

ESSENTIAL PERSONNEL

LFAC

TECHS 2
 QA 1

15-0993	-11H00M COUNTING	STM JSTC 114	JSTC GSPN GSPS	PLACE AND CONNECT TWO GN2 RECHARGERS AND ONE LN2 TANKER TO THE CCF-39 GN2 SUPPLY BY T-6 HRS, (3 HRS). GSPN SUPPORT/CONNECT FLEXHOSE TO FIXED SYSTEM PER OPERATION INSTRUCTIONS OF M3123. VERIFY COMPLETION.	EG&G-631
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Q: -----
 EG&G

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-0994	-11H00M COUNTING	STM 111 GYCC 117	GYCC GYCR	DO NOT PERFORM VOICE CHECKS FOR THE REMAINDER OF LAUNCH COUNTDOWN.	34300 34100

NOTE

PERFORM NEXT STEP FOR DOD
 MISSIONS ONLY.

15-0995	-11H00M COUNTING	STM 111 GYCC 117	GYCC JYVG	DO NOT PERFORM VOICE CHECKS ON SECURE COMM FOR REMAINDER OF LAUNCH COUNTDOWN.	34300 34100
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NOT PERFORMED

15-0996 FCE TIME CRITICAL STOWAGE

15-0997	-11H00M COUNTING	UTC	*PAD	PERFORM INSTALLATION OF DOSIMETER AND FCE TIME CRITICAL ITEMS PER DMI V5097. REPORT COMPLETION.	*BCS
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15-0998	-11H00M COUNTING	STM NET	QBSE 104	REMOVE TEMPORARY HANDRAILS FROM SIDE ONE - MLP AFTER RSS IS CLEAR (M3092). VERIFY COMPLETION (30M).	3322C 33226
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ESSENTIAL PERSONNEL

LFAC

SUPVR/ENG 1
 TECH 2

VOLUME 2 OF 4
DATE: 01-11-86

OMI NO. - S0007VL2
REV. - Z

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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CLOSEOUT EAST AND WEST FLAME CELLS

NOTE

NEXT STEP PERFORMED AFTER
SS FILL TO THE 105 FT LEVEL
COMPLETED.

15-0999	-10H30M	STM	JBAC	VERIFY FLAME CELL DOORS AND FLAME TRENCH VAULT DOOR ARE LATCHED SECURELY. CLOSEOUT AND VERIFY EAST AND WEST FLAME CELLS PRESSURIZED. VERIFY MAN-IN-CELL INDICATORS ARE OFF. REPORT COMPLETION. (M3027)(30 MIN.)	3321C 33215
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NOTE

HVAC ENGR WILL DETERMINE IF
NEXT STEP REQUIRED.

15-1000	-10H30M	STM	JBAC	CONFIGURE PAD-___ PTCR HVAC SYSTEM WATER CHILLERS WITH WC-3 AND EITHER WC-2 OR WC-1 ARE ON LINE AND OPERATING. (WDL01).	33210
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NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1001				ACTIVATE XENON LIGHTS (-10H30M)	

WARNING

WHEN XENON LIGHTS ARE OPERATING, PERSONNEL MUST AVOID LOOKING DIRECTLY INTO LIGHTS AS EYE DAMAGE MAY RESULT.

15-1002	-10H30M	LTD PA			
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ATTEN PAD ---:
XENON LIGHTS WILL BE TURNED ON. AVOID LOOKING INTO LIGHTS. EYE DAMAGE MAY RESULT.

NOTE

XENON FLOODLIGHTS WILL NOT BE TURNED ON DURING THE RSS MOVE FROM MATE POSITION UNTIL TRUCK 1 HAS CLEARED THE WEST SIDE OF FLAME TRENCH.

15-1003	-10H30M				
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STM JPHD 7-4375	TURN ON XENON LIGHTS FOR LAUNCH BORESITE NO. 4, AND TOP OFF GEN. FUEL TANKS. REPORT COMPLETION (30 MIN).
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ETR
*BCS

ESSENTIAL PERSONNEL

	PAA	IGS
TECHS	7	
SUPVR.		1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1004				ACTIVATE UHF QUIETING GEN.	

NOTE

IF XENON FLOODLIGHT NOISE OR RFI IS HEARD IN ORBITER UHF RECEIVER, OR RECEIVER AGC LEVELS INDICATE PRESENCE OF NOISE, ACTIVATE THE UHF QUIETING SIGNAL GENERATOR PER NEXT STEP.

15-1005	-10H30M	CCSE	RCRT	ACTIVATE UHF QUIETING GENERATOR ON 259.680 MHZ AT -5.0 DBM OUTPUT PER OMI V3528. "TRANSMISSION OF UHF RF QUIETING AND ADJUSTMENT" SEQUENCE. RECORD: VAA19 AGC ----- GMT -----	NOT PERFORMED -----
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NOTE

PERFORM NEXT STEP IF NOISE IS EXPERIENCED ON ORBITER UHF AUDIO.

15-1006	-10H30M	CCSE	RCRT	INCREASE GENERATOR LEVEL AS NECESSARY TO ACHIEVE QUIETING PER OMI V3528 "TRANSMISSION OF UHF RF QUIETING AND ADJUSTMENT" SEQUENCE. ASP VERIFY LOSS OF NOISE ON ORBITER UHF AUDIO. RECORD: RCRT GENERATOR OUTPUT ----- CCSE VAA19 AGC ----- GMT -----	NOT PERFORMED -----
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1007				<u>A.E.M. INST/CO</u>	
NOTE					
PERFORM NEXT STEP IF AEM INSTALLED FOR THIS FLIGHT.					
15-1008	-10H30M	OTC	*PAD ASP	PERFORM ANIMAL ENCLOSURE MODULE INST/CO PER SEQ 56 (S0007-V4).	
NOT PERFORMED -----					
15-1009				<u>CELL INCUBATOR EXP. C/O</u>	
NOTE					
PERFORM NEXT STEP IF CELL INCUBATOR ON BOARD THIS FLIGHT.					
15-1010	-10H30M	OTC	*PAD ASP	PERFORM CELL INCUBATOR EXPERIMENT CHECKOUT PER SEQ 55 (S0007-V4)	
NOT PERFORMED -----					
15-1011				<u>FLY ENCLOSURE MODULE EXP. C/O</u>	
NOTE					
PERFORM NEXT STEP IF FEM INSTALLED FOR THIS FLIGHT.					
15-1012	-10H30M	OTC	*PAD ASP	PERFORM FLY ENCLOSURE MODULE (FEM) EXPERIMENT PER SEQ 54 (S0007-V4)	
NOT PERFORMED -----					
15-1013		CPWR	TBC	ET HEATER VENTILATION AND POWER MONITOR PER UMI T1495 COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1014				PLANT GROWTH UNIT (PGU) C/O	

NOTE

PERFORM NEXT STEP IF
PGU ON BOARD THIS FLIGHT.

15-1015		OTC	*PAD	PERFORM PGU EXPERIMENT ASP CHECKOUT PER SEQ 59 (S0007-V4).	
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NOT PERFORMED

15-1016	-10H30M	STM	JSTC	REMOVE 16 30 MINUTE AIR PACKS FROM OPF FB SCAPE TRAILER AND 111 JSTC *SCB POSITION WITH VEHICLE AND TECHNICIAN AT PAD-___ GATE FROM T-9H30M TO T-6 HRS 30 MIN. RETURN TO FB SCAPE TRAILER. VERIFY COMPLETION.	EG&G-632
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1017				IUS QUIET TIME	

NOTE

IF CONTINGENCY CAL AND ALIGN ON IUS NAV SYSTEMS IS REQUIRED, IT WILL BE INITIATED AT CONCLUSION OF ET LH2/LO2 TANKING (L-4H20M, HOLDING).

15-1018	-10H10M L-12H30M	CTC 232	LTD	PROCEEDING WITH RIMU CAL AND ALIGN. REQUEST QUIET TIME BE PLACED IN EFFECT IN 15 MINUTES.	
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NOTE

FOLLOWING CRITERIA REQUIRED FOR QUIET TIME ACTIVITY.

1. NO AEROSURFACE MOVEMENT
2. NO HYDRAULIC PRESSURIZATION OF ORBITER OR SRB'S
3. NO MPS HE PRESSURIZATION
4. MINIMAL CABIN ACTIVITY
5. NO CHANGES IN PURGE
6. NO VENT DOOR OPERATIONS
7. NO ORBITER CRYOGENIC CHILLDOWN
8. MAX WIND OF 49 KNOTS

15-1019	-10H00M L-12H20M	LTD	CTC	PROCEED WITH RIMU CAL AND ALIGN. QUIET TIME IS IN EFFECT.	
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OMRSD P018JB.035

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1024				SRB AFT SKIRT GN2 PURGE ----- ACTIVATION (-10H) -----	
				WARNING HAZARDOUS OPERATION - SRB AFT SKIRT GN2 PURGE ACTIVATION FOLLOWS. IF FLOWING INSIDE AFT SKIRTS (GN2 PROBES INSTALLED) WITH OR WITHOUT FLAME CURTAINS INSTALLED, CLEAR SRB FLAME HOLES AROUND BOTH AFT SKIRTS FOR GN2 PURGE.	
15-1025	-10H00M	CBHY 137 TBC 232 LTD *SCC *PSE	TBC LTD *SCC *PSE	REQUEST SAFETY CONCURRENCE TO ACTIVATE SRB AFT SKIRT GN2 PURGE. VERIFY ALL PERSONNEL ARE CLEARED FROM SRB LH & RH AFT SKIRT.	
15-1026		LTD PA		ATTENTION PAD ---: ALL PERSONNEL CLEAR CONTROL AREA AROUND SRB AFT SKIRTS (LH AND RH) FOR GN2 PURGE.	
15-1027		*PSE 105 *SCC 232 232	*SCC LTD	SAFETY VERIFIES CONCURRENCE TO ACTIVATE SRB AFT SKIRT GN2 PURGE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1028		STM 111	JBPB	VERIFY LPGN2 VALVE A130446 IS OPEN.	33216 33217
15-1029	-10H00M	LTD 232 STM 111 JSTC 114	STM JSTC GSPN	CONFIGURE LPGN2 SYSTEM TO SUPPORT SRB AFT SKIRT GN2 PURGE PER OPERATION INSTRUCTIONS OF OMI M3042, MANUAL LPGN2 CONTROL. (HP2-WDD02) (GSPN COORDINATE BEGINNING AND END OF FLOW WITH CBHY ON CH 187) (1H30M)	EG&G-631

WARNING

RE-INSTALLATION OF SRB ESP
 OR ACCESS TO SRB AFT SKIRT
 AREA, REQUIRES SPC SAFETY
 AND LTD CONCURRENCE PLUS
 U2 AND TOXIC VAPOR CHECKS.

GN2 FLOW TO SRB AFT SKIRTS
 WILL OCCUR IN NEXT STEP

NOTE

DO NOT PERFORM NEXT STEP IF
 SRB AFT SKIRT PURGE SYSTEM
 ALREADY ACTIVE.

15-1030	-10H00M	LTD 232 TBC 136	TBC CBHY	PERFORM SRB AFT SKIRT GN2 PURGE ACTIVATION PER SEQ 72 (S0007- V4). REPORT COMPLETION (COORDINATE WITH GSPN ON CH 187).	*BCS
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NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1031	-10H00M	STM 111 JBDY	JBDY PCMP	REMOVE/STOW AIR HOISTS ON RSS 130 FT. - 107 FT. LEVELS. REPORT COMPLETION. (1 HR.)	3322A 33221
TASK: REMOVE/STOW AIR HOISTS BADGE BOARD REQ'D ----- ACCESS CODE - 3 ----- CONTROL AREA ----- 1. PAD 2. RSS ----- ESSENTIAL PERSONNEL (HAZ BADGE) ----- LFAC ----- 4					
15-1032	-10H00M	QBSE 111 STM 232 LTD	STM LTD OTC *SCC	RSS MOVE OPERATIONS COMPLETE. (OMI A2203)	3322C
15-1033		STM LTD 232 OTC 132	LTD OTC *PAD	VERIFY FORWARD RCS ROOM ROLL-UP DOOR IS DOWN AND LOCKED PER OMI A2203 (RSS IN PARK POSITION).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMO	RESP	DESCRIPTION	VERIF.
15-1034				RSS POST ROLLBACK SECURING (M3134)	

15-1035	-10H00M	STM	QBSE	PERFORM RSS POST ROLLBACK SECURING (30 MIN.) (M3134)	3322C
		NET	104	REPORT COMPLETION.	33226

TASK: RSS ROLLBACK SECURING AND
 OIS UNIT REMOVAL

BADGE BOARD REQ'D

ACCESS CODE - 3

CONTROL AREA

1. PAD
2. LOCAL OPERATION

ESSENTIAL PERSONNEL (HAZ BADGE)

	LFAC	SL-ENG	LCUM	LRQA
SUPER	2	1		
ENGR	6			
TECHS	17		6	
QA	1			2
ELEC TECHS	2			

15-1036	-10H00M	STM	JBEP	REMOVE APS POD PORTABLE LIGHTS. REPORT COMPLETION (30 MIN)	33210
		111			33212

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1037				ACTIVATE PAD LIGHTING (-10H)	

NOTE

PERFORM NEXT STEP IF NIGHT LAUNCH SCHEDULED.

15-1038	-10H00M	STM 111	JBEP	VERIFY/TURN ON ALL PAD SURFACE STRUCTURE AND PERIMETER LIGHTING.	3321C 33212
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NOT PERFORMED

15-1039	-10H00M	STM 138	JYVR	STOP VIDEO RECORDING OF UTV CAMERAL 001/101 AND 043/143 (SEE STM FIG 4)	34200
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REMOVAL - PORTABLE DIS UNITS -

 FROM MLP ZERO LEVEL AND RSS PIVOT

NOTE

PERFORM NEXT THREE STEPS UPON COMPLETION OF TSM CLOSEOUT AND RSS RETRACT OPERATIONS.

15-1040	-10H00M	LTD 232	STM	REMOVE PORTABLE DIS UNITS FROM MLP ZERO LEVEL. VERIFY	34300 34100
		STM 111	GYCC	COMPLETION. (30 MIN.)	*BCS
		GYCC 117	JYCJ	STA 02-18 L02 TSM 01-06 LH2 TSM 01-18 1/2 CORNER	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1041	-10H00M	LTD 232 STM 111 GYCC 117	STM GYCC JY CJ	REMOVE RSS PIVOT OIS STATIONS 13-1 (ON PAD SURFACE) 7-8 (ON 95 FT LEVEL) AND 7-10 (ON 115 FT LEVEL). VERIFY COMPLETION (30 MIN).	34300 34100
15-1042		STM 111	JBP N	REMOVE PURGE FLEXHOSE AT PORTABLE OIS LOCATIONS ON MLP AND RSS PIVOT AFTER LCUM REMOVES OIS BOXES, PER OPERATION INSTRUCTIONS OF OMI M3089 (STA-WDG02). REPORT COMPLETION. (15 MIN.)	33210 33215
NOTE					
IF DOD MISSION, PERFORM NEXT STEP.					
15-1043		LTD 232 STM 111 GYCC 117	STM GYCC JYVG	IF ACTIVE, DEACTIVATE SECURE VOICE COMMUNICATIONS TO PCR. REPORT COMPLETION.	34300 34100
					NOT PERFORMED -----
15-1044		CLHY TBC	TBC LTD	LH2 BURN POND PREPS PER OMI G3251 AND STORAGE TANK VENT VALVE A3306 OPENING COMPLETE.	
					NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				----- BACKUP MASS SPEC CONFIG FOR ----- REMOTE OPERATIONS -----	
15-1045	-10H00M	OTC	CHGD	PERFORM BACKUP MASS SPEC CONFIGURATION FOR REMOTE OPERATIONS.	
15-1046			CHGD	CONSOLE C9 CURSOR CNTL (VAW14) REMOTE RESTART -	
15-1047			CHGD MLP	CUMPT 7A 1. OPEN REAR DOOR RACK 6888 2. OPEN ET SHUTOFF VALVE V-8 (CCW) 3. CLOSE TSM SHUTOFF VALVE V-15 (CW) 4. CLOSE MIDBODY SHUTOFF VALVE V-16 (CW) 5. CLOSE REAR DOOR RACK 6888	
15-1048			CHGD MLP	CUMPT 7A B/U MASS SPEC UNIT 1. ET SAMPLE FLOWRATE 43 +/- 3 2. AFT SAMPLE FLOWRATE 43 +/- 3	
15-1049		UTC	CHGD	VERIFY OAA TEMP SENSORS OPERATIONAL AND READING AMBIENT.	
15-1050	-10H00M		CHGD	B/U MASS SPEC UNIT 1. HYDROGEN RANGE SW - 2 PERCENT 2. OXYGEN RANGE SW - 2 PERCENT 3. HELIUM RANGE SW - 10 PERCENT 4. INLET SELECT SW - REM 5. SPAN GAS FLOW RATE - 33 +/- 3 6. ZERO GAS FLOW RATE - 33 +/- 3	
15-1051		CHGD	UTC	132 BACKUP MASS SPEC CONFIGURATION FOR REMOTE OPERATIONS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1052				PTCR CLOSEOUT (-10H)	
15-1053	-10H00M	STM 111	JBAC	PERFORM THE FOLLOWING, VERIFY COMPLETION. (1 HR)	3321C 33215 *BCS
				1. INSTALL NEW OIL FILTERS IN CHILLERS IF OIL PRESSURE IS BELOW 50 PSI.	
				NOT PERFORMED	SS1
				2. CONFIGURE VALVES FOR OIL FLOW THROUGH BOTH FILTERS.	
				3. OPEN MANUAL MLP/RSS DRAIN ISOLATION VALVES A47295 AND A47296.	
				4. CHAIN AND LOCK OPEN ECS ROOM DOOR LEADING TO PTCR (RM 105). TEMPORARILY BLOCK OPEN SOUTH GROUND LEVEL ACCESS DOOR TO ECS ROOM.	
				5. SECURE PTCR EXHAUST FANS AND INSTALL COVER ON EF-1 AND EF-2. (M3027)	
				6. CLOSE MANUAL RSS CHW SUPPLY AND RETURN LINE VALVES LOCATED AT PAD SURFACE/MLP INTERFACE. SECURE PUMP P-8 AND P-9.	
				7. FECP PERSONNEL WILL STAND BY OUTSIDE SOUTH GROUND LEVEL ACCESS DOOR TO ECS ROOM FOR PRESSURIZATION COMMAND STEP.	

VOLUME 2 OF 4
DATE: 01-11-86

OMI NO. - S0007VL2
REV. - Z

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				TASK: PTCR CLOSEOUT	
				BADGE BOARD REQ'D	

				ACCESS CODE - 3	

				CONTROL AREA	

				1. PAD	
				2. PTCR	
				ESSENTIAL PERSONNEL (HAZ BADGE)	

				LFAC NASA	

				ENGR 1 1	
				QUAL 1	
				TECH 2	
15-1054		CPVD OTC		ECS AIR TO GN2 PREPS PER OMI V1122	
				ARE COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1055				IUS CAL AND ALIGN	
15-1056	-09H55M L-12H15M	CTC 134	ICTC	PROCEED WITH NAV SYSTEM CAL AND ALIGN PER DOP 290-50020-1. REPORT STATUS OF CAL AND ALIGN AS AVAILABLE.	
15-1057		CTC 232	LTD	REQUEST WIND DIRECTION AND VELOCITY READING AT 155 FT LEVEL. RECORD: WIND DIRECTION _____ WIND VELOCITY _____	
15-1058		CTC 132	OTC	REQUEST PAYLOAD BAY PURGE INLET TEMP AND FLOW RATE. REPORT EVERY 30 MINUTES. RECORD: TEMP _____ FLOW RATE _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1059				FUEL CELL FLOW-THRU PURGE ----- - COMPLETE CONTINUE W/PULSE PURGE -----	
NOTE					
DO NOT PERFORM NEXT TWO STEPS IF FUEL CELLS ARE POWERED UP.					
15-1060	-09H45M	CFCP	OTC 132	FUEL CELL FLOW THRU PURGE COMPLETE. CONTINUING WITH FUEL CELL PULSE PURGE. READY FOR ECLSS O2 ACTIVATION AND SEAT SAMPLES.	
NOT PERFORMED -----					
15-1061		CFCP	ASP	PANEL L2 ATM PRESS CONTROL O2 SYS 1 SUPPLY SW - OPEN UNTIL O2 SYS 1 SUPPLY IB - OP O2 SYS 2 SUPPLY SW - OPEN UNTIL O2 SYS 2 SUPPLY IB - OP	L2A01S011 L2A01DS005 L2A01S020 L2A01DS009
NOT PERFORMED -----					
15-1062				SEAT O2 SAMPLES (ECLSS) -----	
15-1063		UTC	CECL	PERFORM ECLSS O2 SAMPLE FOR SUITED CREW INGRESS PER SEQ 45 (S0007 V-4) ON OIS CH 143.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.															
15-1064				RSS CLOSEOUT FOR LAUNCH (M3134) -----																
15-1065	-09H30M	STM NET 104	QBSE	PERFORM RSS CLOSEOUT FOR LAUNCH PER M3134 (2 HOURS). REPORT COMPLETION.	3322C 33226															
				TASK: RSS CLOSEOUT FOR LAUNCH BADGE BOARD REQ'D ----- ACCESS CODE - 2 ----- CONTROL AREA -----																
				LOCAL OPERATION ESSENTIAL PERSONNEL FOR RSS ----- CLOSEOUT (HAZ BADGED) -----																
				<table border="1"> <thead> <tr> <th></th> <th>LFAC</th> <th>SL-ENG</th> </tr> </thead> <tbody> <tr> <td>SUPER</td> <td>2</td> <td>1</td> </tr> <tr> <td>ENGR</td> <td>6</td> <td></td> </tr> <tr> <td>TECH</td> <td>17</td> <td></td> </tr> <tr> <td>QA</td> <td>1</td> <td></td> </tr> </tbody> </table>		LFAC	SL-ENG	SUPER	2	1	ENGR	6		TECH	17		QA	1		
	LFAC	SL-ENG																		
SUPER	2	1																		
ENGR	6																			
TECH	17																			
QA	1																			
15-1066				SECURE RSS FOR LAUNCH (V3529) -----																
15-1067	-09H30M	OTC 132	*PAD	SECURE RSS FOR LAUNCH PER OMI V3529.	*BCS															
				REMOVE WARNING SIGNS (-09H30M) -----																
15-1068	-09H30M	LTD 232 OTC 132	OTC *PAD	WARNING SIGNS WILL BE REMOVED FROM SLIDEWIRE AT THIS TIME.																

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1069	-09H30M	LTD	SIM	REMOVE ALL WARNING SIGNS	3322C
		232	*SCC	FROM SLIDEWIRE EMBARKATION AND	33226
		STM	QBSE	LANDING AREA. REPORT	
		NET		COMPLETION (1H30M) (M3029)	
		104			

TASK: REMOVE SLIDEWIRE
WARNING SIGNS

BADGE BOARD REQ'D

ACCESS CODE - 2

CONTROL AREA

1. BDA
2. LOCAL OPERATION

ESSENTIAL PERSONNEL

(HAZ BADGE)

LFAC NASA

SUPER/ENG 2 1
SYS TECHS 4

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1070	-09H30M	*PAD	OTC	DOSIMETER AND FCE TIME CRITICAL ITEMS INSTALLATION PER OMI V5097 ARE COMPLETE.	
15-1071		OTC	*PAD	REMOVE G070-502009-001 AIRLUCK PROTECTIVE COVER PER: JC V65-90006 - PLATFORM ACCESS SET, A70-0558 PARTIAL MIDDECK, CREW MODULE VERTICAL, REMOVAL REPORT COMPLETION.	
15-1072				MICROBIAL SAMPLE/CREW MODULE	
NOTE					
COMPLETION OF PRE-INGRESS CHECKLIST WILL OCCUR AFTER MICROBIAL SAMPLE OPERATION.					
15-1073	-08H00M	OTC	ASP	PERFORM CREW MODULE MICROBIAL SAMPLE PER CHECKLIST.	*BCS
15-1074				PRE-INGRESS CHECKLIST (-9H30M)	
15-1075	-09H30M	OTC	ASP	PERFORM PRE-INGRESS CHECKLIST.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1076		ASP		PANEL R13 CAUTION/WARNING PARAMETER SELECT TW'S - 004 (CABIN PRESS) LIMIT SET VALUE TW'S - 3.80 LIMIT SW - UPPER FUNC SW - SET, THEN READ STATUS VERIFY 004 = 3.80 LIMIT SET LIMIT SW - LOWER VALUE TW'S - 3.40 FUNC SW - SET, THEN READ STATUS VERIFY 004 = 3.40 PARAMETER SELECT TW - 120 VALUE SELECT TW - 000	
15-1077	-09H30M	STM 232 LTD *SCC	LTD *PSE	VERIFY ALL PERSONNEL ARE CLEAR OF THE PAD EAST AND WEST CATACUMBS, THE EAST-WEST PIPE TUNNEL, AND THE NORTH-SOUTH CABLE TUNNEL. INSTALL SAFETY SIGNS.	
15-1078				MUVE TAIR TRAILER (-09H30M)	

NOTE

PERFORM NEXT TWO STEPS
 IF TAIR TRAILER AT PAD.

15-1079		UTC	*PAD	DISCONNECT TAIR TRAILER HALON SYSTEM IN SUPPORT OF MOVE FROM PAD TO VAB AND RECONNECT ON ARRIVAL AT VAB.	NOT PERFORMED
15-1080		UTC 232 LTD	LTD STM	REQUEST SUPPORT MOVE TAIR TRAILER FROM PAD-___ TO VAB PER SUPPORT OPERATIUN SUPPORT SETUP 1. (1 HR)	*BCS NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1081				CONFIGURE GSE FOR REMOTE OPERATIONS	
15-1082	-09H30M	OTC	CEPD	CONFIGURE GROUND PIC AND 400 HZ SYSTEMS FOR REMOTE OPERATION.	
15-1083	-09H30M	CEPD 151	QPDS	VERIFY/CLOSE RACK 6814 22D170 (LH2 BURN PIC) CB - CLOSE RACK 6820 22D260 (LR PIC) CB - CLOSE RACK 6823 22D280 (LH2 BURN PIC) CB - CLOSE RACK 6815 22D330 (LR PIC) CB - CLOSE	
15-1084	-09H30M	CEPD 151	QPDS	C72-044818 (400 HZ GROUND POWER)	

NOTE

IN RACK 6800 OPERATIONS, THE CB NOMENCLATURE IS LISTED FOR REFERENCE ONLY. THE NOMENCLATURE IS NOT VISIBLE WHEN THE INDICATOR LIGHTS ARE OFF.

RACK 6800
 PANEL A10 VERIFY/CLOSE
 4 CB'S - ON
 (1T110, 1T111, 1T112, 1T113 POWER)

PANEL A7 VERIFY/CLOSE
 4 CB'S - ON
 (1T210, 1T211, 1T212, 1T213 POWER)

PANEL P9 (FAC AC)
 1T100 CB4 - ON
 1T200 CB10 - ON

DISC SW P9 (COMPT 9A, LOCATED ON WALL)
 1T100 SW C4 - ON (CLOSED)
 1T200 SW C10 - ON (CLOSED)

15-1085		CEPD 132	OTC	GROUND PIC AND 400 HZ SYSTEMS CONFIG FOR REMOTE OPERATION - COMPLETE.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				MPS RECIRCULATION PUMP POWER ----- ACTIVATION -----	
15-1086	-09H30M	OTC	CEPD	ACTIVATE MG SETS	
15-1087	-09H30M		CEPD	CURSUR CNTL (VAC08) 1T100 MG ON/OFF	
			CRT	1T100 MG ON/OFF - ON 1T100 VOLTS PH A 109-118 VAC 1T100 VOLTS PH B 109-118 VAC 1T100 VOLTS PH C 109-118 VAC	
15-1088			CEPD	CURSOR CNTL (VAC08) 1T100 MG BUS CRT 1T100 MG BUS - ON	
15-1089	-09H30M		CEPD	CURSOR CONTROL (VAC08) 1T200 MG ON/OFF	
			CRT	1T200 MG ON/OFF - ON 1T200 VOLTS PH A 109-118 VAC 1T200 VOLTS PH B 109-118 VAC 1T200 VOLTS PH C 109-118 VAC 1T200 MG BUS - OFF	
15-1090		CMPS		SSME WATER PANEL (C3) VERIFY LH2 RECIRC PUMP PRIMARY OR SECONDARY POWER ON LIGHT IS ON.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

OMIT NEXT STEP IF PERFORMING
SCRUB TURNAROUND.

15-1091 PTCR WATER CLOSEOUT (-09H30M)

15-1092	-09H30M	STM 111	JBWC	PERFORM PTCR ROOM 210 WATER CLOSEOUT PER UMI M3092/M3177. REPORT COMPLETION.	3322b
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CREW WILL CLEAR PTCR UPON TASK COMPLETION
TO PREVENT AIR TO GN2 SWITCHOVER IMPACT.

TASK: PTCR RM 210
WATER CLOSEOUT

ACCESS CODE - 2

CONTROL AREA

LOCAL OPERATION

ESSENTIAL PERSONNEL (HAZ BADGED)

LFAC

QA 1
TECH 1

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1093	-09H15M	OTC 132	CEPD	VERIFY POWER SUPPLY CONFIGURATION, THEN CLEAR ALL PDS TECHNICIANS FROM MLP AND PAD.	
15-1094	-09H15M	CEPD 132 OTC 232	OTC LTD	POWER SUPPLY CONFIGURATION IS CORRECT. PDS TECHS ARE CLEARING MLP AND PAD.	*BCS
SRB HPU EXHAUST PLUG AND AFT SKIRT ----- GN2 UPS - COMPLETE -----					
NOTE					
HAZARDOUS OPERATIONS - SRB EXHAUST PLUG REMOVAL AND SRB AFT SKIRT GN2 PURGE ACTIVATION ARE COMPLETE.					
15-1095	-09H15M	TBC 232 LTD *SCC *SCC	LTD *SCC *PSE	SRB EXHAUST PLUG REMOVAL AND AFT SKIRT GN2 PURGE ACTIVATION ARE COMPLETE. ZERO LEVEL OF MLP MAY BE OPENED FOR CONTROLLED WORK.	*BCS
15-1096				SEAL SRB TUNNEL DRAIN HOLES -----	
15-1097	-09H15M	TBC 136	*PAD	PERFORM SRB OPERATION SUPPORT SETUP 1 - SEAL SRB DRAIN HOLES. (S0007-V1)	*BCS
15-1098	-09H15M	CMEC 136 TBC 232	TBC LTD	ET GUX VENT SYSTEM COUNTDOWN PREPS PER UMI G2153/G2156 ARE COMPLETE.	
VERIFY MLP/PAD CAMERAS READY -----					
15-1099	-09H15M	STM 111	JPHO	VERIFY MLP AND PAD CAMERAS INSTALLED, ENCLOSURES PURGED, READY TO SUPPORT.	TGS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1100				TRANSFER CONTROL OF SOUND SUPPRESSION AND ORBITER FIREX SYSTEM	
NOTE					
THE NEXT 12 STEPS ARE NOT PERFORMED FOR A SCRUB TURNAROUND.					
15-1101	-09H15M	STM 111	JBWC JBFX	VERIFY FSS AND MLP FIREX AND SOUND SUPPRESSION WATER SYSTEM HAS BEEN CONFIGURED TO SUPPORT.	3322B
				NOT PERFORMED	-----
15-1102	-09H15M	JBWC	JCTL	VERIFY PRINTER PLOTTER 2 IS ON LINE	3322B
				NOT PERFORMED	-----
15-1103	-09H15M	STM 232 LTD OTC 132	LTD OTC CGSS	CCC IS READY TO TRANSFER CONTROL OF THE SS WATER TO FR. REQUEST CGSS CONTACT JBWC ON CHANNEL 123.	
				NOT PERFORMED	-----
15-1104	-09H15M	STM 232	LTD	WE ARE NOW TRANSFERRING CONTROL OF SS WATER TO FR.	*BCS
				NOT PERFORMED	-----
15-1105		STM 111	JBWC	TRANSFER CONTROL OF SS AND ORBITER FIREX WATER SYSTEMS TO FR CONTROL.	3322B
				NOT PERFORMED	-----
15-1106		CGSS 123	JBWC	READY FOR SOUND SUPPRESSION AND ORBITER FIREX SYS TRANSFER TO FR.	3322B
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1107				JBWC TRANSFER CONTROL FROM CC TO FR	3322B
				1. START PRINTER/PLUTTER RECORDER (SKELETON LFA)	
				2. ON SKELETON P2A VERIFY/ACTIVATE SOUND SUPPRESSION SOLENOID POWER BUS - IS ACTIVE (GREEN)	
				3. ON SKELETON SSA VERIFY CLOSE PRE AND POST-LO COMMAND IS ISSUED (GREEN)	
				4. VERIFY SS OPEN COMMAND LOCKOUT ISSUED. (GREEN) (SKELETON SSA)	
				5. TRANSFER CONTROL OF SOUND SUPPRESSION AND URBITER FIREX SYSTEM TO FR BY ACTIVATING VO-ON/IS-OFF COMMAND ON SKELETON P2A.	
				6. VERIFY TRANSFER ACTION IS COMPLETE BY OBSERVING P2A SKELETON STATUS AS FOLLOWS:	
				TS-ON/VO-OFF OFF-YELLOW	
				VO-ON/TS-OFF ON-GREEN	
				TS/CCS ENABLE OFF-YELLOW	
				VO/LPS ENABLE ON-GREEN	
				SS TURNAROUND CTR	
				VO-ON/TS-OFF ON-GREEN	
				TS-ON/VO-OFF OFF-YELLOW	
				7. STOP PRINTER/PLUTTER RECORDER (SKELETON LFA)	
				8. CLEAR ALARMS AS REQ'D.	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1108		JBWC 123 JBWC 111 STM 232 LTD 232	CGSS STM LTD TBC	SOUND SUPPRESSION AND ORBITER FIREX SYS HAS BEEN TRANSFERRED TO FR CONTROL.	3322B
				NOT PERFORMED	-----
15-1109	-09H15M	OTC	CGSS	VERIFY SS CONTROL TRANSFER COMPLETE BY OBSERVING VAJ12 SKELETON STATUS AS FOLLOWS: CONTROL CCC OFF FR ON	
				NOT PERFORMED	-----
15-1110		OTC	CGSS	MONITOR SOUND SUPPRESSION STATUS PER ORBITER OPERATION SUPPORT SETUP 18 - SS MONITOR.	
				NOT PERFORMED	-----
15-1111		OTC	CMPL	VERIFY ORBITER FIREX CONTROL ENABLED	
				NOT PERFORMED	-----
15-1112		CMPL 132 OTC 232	OTC LTD	CONTROL OF ORBITER FIREX SYSTEM IS NOW AT THE MPS CONSOLE.	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				TRANSFER CONTROL OF SOUND SUPPRESSION SYSTEM -CCC TO FR (CONTINGENCY)	

NOTE

THE NEXT 10 STEPS ARE PERFORMED
 FOR SUPPORT OF ANY TURNAROUND
 THAT HAS TRANSFERRED CONTROL
 FROM FIRING ROOM TO CCC.

15-1113	-09H15M	STM 111	JBWC JBFX	VERIFY FSS AND MLP FIREX AND SOUND SUPPRESSION WATER SYSTEM HAS BEEN CONFIGURED TO SUPPORT. (OMI M3114/M3152) (OMI M3111) (OMI M3112/M3170)	3322B
				NOT PERFORMED	-----
15-1114	-09H15M	JBWC	JCTL	VERIFY PRINTER PLOTTER 2 IS ON LINE.	3322B
				NOT PERFORMED	-----
15-1115	-09H15M	STM 232 LTD OTC 132	LTD OTC CGSS	CCC IS READY TO TRANSFER CONTROL OF THE SS WATER TO FR. REQUEST CGSS CONTACT JBWC ON CHANNEL 123.	
				NOT PERFORMED	-----
15-1116	-09H15M	STM 232	LTD	WE ARE NOW TRANSFERRING CONTROL OF SS WATER TO FIRING ROOM.	*BLS
				NOT PERFORMED	-----
15-1117		STM 111	JBWC	TRANSFER CONTROL OF SS WATER SYSTEM TO FR CONTROL.	3322B
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1118		CGSS 123	JBWC	READY FOR SOUND SUPPRESSION SYS TRANSFER TO FR. (M3114)	3322B
				NOT PERFORMED	-----
15-1119			JBWC	TRANSFER CONTROL FROM CCC TO FR	3322B
				1. START PRINTER/PLOTTER RECORDER (SKELETON LFA)	
				2. ON SKELETON P2A VERIFY/ACTIVATE SOUND SUPPRESSION SOLENOID POWER BUS - IS ACTIVE (GREEN)	
				3. ON SKELETON SSA VERIFY CLOSE PRE AND POST-LO COMMAND IS ISSUED (GREEN)	
				4. VERIFY SS OPEN COMMAND LOCKOUT ISSUED. (GREEN) (SKELETON SSA).	
				5. TRANSFER CONTROL OF SOUND SUPPRESSION SYSTEM TO FR ACTIVATING TURNAROUND XFER CONTROL-SS VO-ON/TS-OFF COMMAND ON SKELETON P2A.	
				6. VERIFY TRANSFER ACTION IS COMPLETE BY OBSERVING P2A SKELETON STATUS AS FOLLOWS:	
				TS-ON/VO-OFF OFF-YELLOW	
				VO-ON/TS-OFF ON-GREEN	
				TS/CCS ENABLE OFF-YELLOW	
				VO/LPS ENABLE ON-GREEN	
				SS TURNAROUND CTR	
				VO-ON/TS-OFF ON-GREEN	
				TS-ON/VO-OFF OFF-YELLOW	
				7. STOP PRINTER/PLOTTER RECORDER (SKELETON LFA)	
				8. CLEAR ALARMS AS REQ'D.	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1120		JBWC 123 JBWC 111 STM 232 LTD 232	CGSS STM LTD UTC TBC	SOUND SUPPRESSION SYS HAS BEEN TRANSFERRED TO FR CONTROL.	33228
				NUT PERFORMED	-----
15-1121	-09H15M	OTC	CGSS	VERIFY SS CONTROL TRANSFER COMPLETE BY OBSERVING VAJ12 SKELETON STATUS AS FOLLOWS: CONTROL CCC OFF FR ON SST/A OFF	
15-1122		OTC	CMPL	VERIFY ORBITER FIREX CONTROL ENABLED. NOT PERFORMED	-----
				TRANSFER OF SOUND SUPPRESSION ----- SYSTEM - CCC TO FR (CONTINGENCY) ----- COMPLETE -----	
15-1123		OTC	LTD	TRANSFER OF SS SYS CCC TO FR IS COMPLETE. NOT PERFORMED	-----

VOLUME 2 OF 4
DATE: 01-11-86

OMI NU. - 80007VL2
REV. - 2

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1124				CONFIG. SS VALVES -----	
15-1125	-09H15M	STM 111	JBWC	OPEN SS I/F LINE FILL VALVES PER OPERATION INSTRUCTIONS OF OMI M3114/M3152 (45M). REPORT COMPLETION. TASK: SOUND SUPPRESSION WATER VALVE OPERATION BADGE BOARD REQ'D ----- ACCESS CODE - 2 ----- CONTROL AREA ----- LOCAL OPERATION ESSENTIAL PERSONNEL (HAZ BADGES) ----- LFAC ----- SUPER/ENG 2 SYS TECHS 4 WA 1	33226 33222
15-1126	-09H15M	OTC 132	CPVD LTD	VERIFY POSITIVE AIR FLOW IN PCR.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1127	-09H15M	LTD 232 *SCC 105	UTC *SCC *PSE	VERIFY CONTINUOUS MONITORING OF O2 IN CABIN. BUDDY SYSTEM IS REQUIRED. VERIFY FOLLOWING RESPIRATORY EQUIPMENT IS AVAILABLE FOR USE: 1. THREE EEAPS 2. THREE SURVIVAIR MARK I, 30 MINUTE BREATHING UNITS WITHOUT CUMM.	
15-1128		OTC 132 *SCC	CECL LTD	VERIFY CONTINUOUS MONITORING OF O2 IN CABIN	
15-1129		*PAD 136	TBC	ET OPERATION SUPPORT SETUP 4 - FSS AND MLP WALKDOWN INSPECTION COMPLETE.	
15-1130				LH2 FR CONFIG CHECK (G3251)	
15-1131	-09H15M	TBC 136 TBC 232 LTD	CLHY LTD LPS	PERFORM FIRING ROOM CONFIGURATION FOR LOADING PER OMI G3251 OR OMI G3255 FOR SCRUB TURNAROUND.	31240
15-1132		LPS	CPDR	PLACE SCRS PRINTER PLOTTER SUB SYS 1, UNITS 3 AND 4 ON LINE FOR CLHY.	31240

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1133	-09H15M	LTD	*SCC	REQUEST ESSENTIAL PERSONNEL	
		232	OTC	REPORT TO PAD ECS ROOM FOR	
			STM	STANDBY GN2 MODE (HAND VALVE	
		OTC	CPVD	OPEN). VERIFY ECS PERSONNEL	
		132		HAVE 30 MINUTE AIR PACKS.	
		STM	JBAC		
		111	JSTC		
		*SCC	*PSE		
		105			

WARNING

EACH PERSON ON STATION IN
ECS ROOM DURING HIGH FLOW
OF GN2 WILL HAVE AN AIR
PACK WITH SUPPLY VLV TURNED
ON IN DEMAND MODE IN HIS
IMMEDIATE AREA.

TASK: STANDBY GN2 MODE (HAND
VALVE OPEN) AND MLP/PTCK/ECS
PRESSURIZATION

BADGE BOARD REQ'D

ACCESS CODE - 2

CONTROL AREA

- 1. MLP A AND B LEVELS
2. ECS CONTROL ROOM
3. PTCK

ESSENTIAL PERSONNEL

(HAZ BADGE)

	URB	NASA	SPC	LFAC
SYST ENG	1	1		1
SYST QC	1			1
SYST TECH	2			4
SAFETY		1	1	
SUPV				1

OPERATION INSTRUCTIONS

SEQ TIME CMD RESP DESCRIPTION VERIF.

CLEAR FOR STANDBY GN2 MODE

NOTE

SAFETY WARNING SIGNS MAY NOT REQUIRE POSTING IF PAD CLEARING FOR LAUNCH IS IN PROGRESS; WITH SPC SAFETY CONCURRENCE.

15-1134 -09H15M

LTD *SCC 1.
232
*SCC *PSE
105

1. CLEAR NONESSENTIAL PERSONNEL FROM PTCR AND ECS ROOM AND CLEAR ALL PERSONNEL FROM MLP A AND B LEVELS FOR ECS AIR TO "STANDBY GN2 MODE" (HAND VALVE OPEN) OPERATIONS.

2. POST MONITOR AT MLP "B" LEVEL ENTRANCE

3. SAFETY WARNING SIGN IS NOT REQUIRED WHEN MONITOR IS EMPLOYED. (IF SIGN USED, IT SHALL BE REMOVED UPON FINAL CLEARING FOR LAUNCH).

15-1135

STM JBAC PERFORM FOLLOWING AND VERIFY COMPLETION PER SAFETY DIRECTION.

1. CLOSE BLAST DOORS ON PTCR PAD SURFACE AND INSTALL LFAC SIGNS (OMI M3027).

2. CLOSE BLAST DOORS ON PTCR GROUND LEVEL AND INSTALL LFAC SIGNS (OMI M3027).

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF AN SRB APU HOT FIRE OF ALL FOUR SRB APU'S (LEFT ROCK AND TILT, RIGHT ROCK AND TILT) HAS BEEN PERFORMED DURING THIS FLOW, DO NOT PERFORM SRB CTS, SRB PWR UP, SRSS GSE PWR UP AND SRB TVC PWR UP (NEXT 29 STEPS) UNTIL T-06H30M. SRB APU PUMP BEARING SOAK WILL BE NOT PERFORMED.

15-1140		OTC	CISL	GO TO CH 136 FOR SRB CALL TO STATIONS.	
15-1141				SRB CALL TO STATIONS -----	
15-1142	-09H00M	TBC 136		ALL PERSONNEL SUPPORTING SRB POWER UP, REPORT TEST READINESS STATUS FOR UMI S0007 VOL 2 REV. -----.	*BCS
				CBDP LCC FR SRB DPS ENGR CISL LCC FR SRB INSTR. ENGR CBRS LCC FR SRB RANGE SAFETY ENGR CBHY LCC FR SRB HYD ENGR CPWR LCC FR SRB ELECT ENGR CMQC LCC FR SRB QUALITY CONTROL	
15-1143		TBC	CPWR	VERIFY PROGRAMS BAE01, SAB10 AND BAE02 ARE INACTIVE AND WILL NOT BE CALLED UP DURING THIS UMI.	
15-1144		TBC	CBRS	VERIFY PROGRAMS SARB1, SARB2, SARD2 AND SARS6 ARE INACTIVE AND WILL NOT BE CALLED UP DURING THIS UMI.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1145				SRB POWER UP -----	
WARNING					
ALL S&A DEVICES MUST BE CONTINUOUSLY MONITORED FOR "SAFE" POSITION. ANY CHANGE IN POSITION MUST BE IMMEDIATELY REPORTED TO LTD AND *SCC.					
IF ANY S&A CANNOT BE RETURNED TO SAFE. SRB SHALL BE POWERED DOWN- REF EMERGENCY INSTRUCTIONS (VOL 4) APPENDIX Z FOR S&A SAFING.					
15-1146		LTD	*SCC	VERIFY CONCURRENCE FOR SRB POWER UP.	
15-1147		LTD 232	TBC	PERFORM SRB POWER UP	*BLS
15-1148		TBC 136	CPWR CBDP	PERFORM SRB OI BUS A AND B POWER APPLICATION AND MDM INITIALIZATION PER UMI S9001.	
15-1149		CPWR 136 TBC 232	TBC LTD	SRB OI BUS A&B POWER APPLICATION IS COMPLETE.	
15-1150				SRSS GSE POWER-UP -----	
15-1151		TBC 136	CBRS	PERFORM RANGE SAFETY GSE POWER UP.	*BCS
15-1152			CBRS	CURSOR CNTL (SWRB3) BSK01 - XMIT CURSOR POWER UN SYS A&B A PRIME - XMIT CURSOR	
15-1153		CBRS 136	TBC	SRSS GSE POWER - UP COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1154				SRB TVC POWER UP -----	
15-1155		OTC 132	CAFC	PERFORM SRB TVC POWER UP PER UMI V1123 AND REPORT COMPLETION.	*BCS
15-1156			CAFC	VERIFY ON SRB ACTUATORS THAT THE DIFFERENCE BETWEEN POSITION AND DRIVER OUTPUT IS NOT GREATER THAN 0.90 DEG. (1.13 IN.)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1157				SRB HPU BITE TEST	

NOTE

DO NOT PERFORM NEXT EIGHT STEPS IF SRB HPU BITE TEST HAS BEEN PERFORMED WITHIN 2 WEEKS OF SCHEDULED LAUNCH DATE.

WARNING

IF SRB HPU BITE TEST WAS PERFORMED EARLIER, OR IS TO BE PERFORMED AT THIS TIME, A 25 FT CLEAR AROUND THE HPU EXHAUST DUCTS MUST BE IMPUSED.

15-1158		LTD PA		SRB HPU BITE TEST WILL BE PERFORMED. ALL PERSONNEL CLEAR AREA 25 FT RADIUS OF HPU EXHAUST DUCTS.	*BCS
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NOT PERFORMED

15-1159		LTD 232 *SCC TBC 136	*SCC *PSE CBHY	CLEAR ALL PERSONNEL FROM CONTROL AREA 25 FT RADIUS AROUND HPU EXHAUST DUCTS AND VERIFY CONCURRENCE TO PROCEED.	
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NOT PERFORMED

15-1160		*PSE *SCC 232 CBHY 136	*SCC LTD TBC	CONTROL AREA CLEARED AND YOU HAVE SAFETY CONCURRENCE TO PROCEED.	
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

*SCC WILL MONITOR SRB FLAME HOLES DURING BITE TEST, USING UTV CAMERAS 55A AND 56A.

15-1161		LTD 232 TBC 136	TBC CBHY	PERFORM SRB HPU BITE TEST.	NOT PERFORMED
15-1162			CBHY	CONSOLE KYBD HOME CMD KEY - PRESS BAT04 PERFORM PGM KEY - PRESS SELECT APP PG-B	NOT PERFORMED
15-1163		CBHY 187		CONSOLE KYBD BAT05 PERF PGM KEY - PRESS	NOT PERFORMED
15-1164		CBHY 187		CONSOLE KYBD ALL XMIT RESP KEY - PRESS CRT (BAT05) VERIFY NO ERRORS CONSOLE KYBD TERM XMIT RESP KEY - PRESS	NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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15-1165		CBHY	TBC	SRB HPU BITE TEST COMPLETE.	
		136			
		TBC	LTD		
		232			
		LTD	*SCC		
		*SCC	*PSE		
		105			

NUT PERFORMED -----

OMRSD B42AP0.050
 OMRSD B42AP0.060

15-1166	-09H00M	CBHY		CONSOLE KYBD HOME CMD KEY - PRESS	
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BAT04
 PERF PGM KEY - PRESS
 SELECT APP PG-B

CURSOR CONTROL (BAT04)
 C/D MDE
 XMIT CURSOR - UNTIL LNH

NOTE

IF AN SRB HPU HOT FIRE OF ALL FOUR SRB HPU'S (LEFT ROCK AND TILT, RIGHT ROCK AND TILT) HAS BEEN PERFORMED DURING THIS FLOW, DO NOT PERFORM SRB HPU FUEL PUMP BEARING SOAK (NEXT 51 STEPS)

IF HYDRAZINE HAS PREVIOUSLY BEEN APPLIED TO ALL FOUR SRB HPU FUEL PUMPS, DO NOT PERFORM SRB HPU FUEL PUMP BEARING SOAK (NEXT 51 STEPS).

15-1167				SRB HPU FUEL PUMP BEARING SOAK	
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NUT PERFORMED -----

15-1168	-09H00M	TBC	CBHY	INITIATE SRB HPU BEARING SOAK.	*BCS
		136			

OMRSD B42AP0.080

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1169		CBHY		CONSOLE KYBD BAT05 PERF PGM KEY - PRESS	
15-1170		CBHY		CONSOLE KYBD HOME CMD KEY - PRESS PSTP, BAT05, BAT35, S2639 XMIT CMD KEY - PRESS	
15-1171		CBHY		VERIFY PSTP SET MESSAGE	
15-1172		CBHY		CRT (BAT05) HOME CMD KEY - PRESS ENTER: L-FREQ-A XMIT RESP KEY - PRESS	
15-1173		CBHY		VERIFY BAT35 STOPPED AT PSTP LOCATION.	
15-1174		CBHY		CRT (BAT04) VERIFY LEFT A PRI VLV (CL) SEC VLV (CL)	
15-1175		CBHY		CURSOR CNTL (BAT04) LEFT A ISD VLV - UP	
15-1176		CBHY		WAIT 1 MINUTE MINIMUM.	
15-1177		CBHY		CURSOR CNTL (BAT04) LEFT A ISD VLV - CL	
15-1178		CBHY		CONSOLE KYBD RESUME PGM KEY - PRESS	
15-1179		CBHY		CRT (BAT05) VERIFY COMPLETION OF LEFT A FREQ BITE TEST.	
15-1180		CBHY		CRT (BAT05) VERIFY DISPLAY OF TEST OPTIONS.	
15-1181		CBHY		CONSOLE KYBD HOME CMD KEY - PRESS PSTP, BAT05, BAT35, S3339 XMIT CMD KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1182		CBHY		VERIFY PSTP SET MESSAGE	
15-1183		CBHY		CRT (BAT05) HOME CMD KEY - PRESS ENTER: L-FREQ-B XMIT RESP KEY - PRESS	
15-1184		CBHY		VERIFY BAT35 STOPPED AT PSTP LOCATION	
15-1185		CBHY		CRT (BAT04) VERIFY LEFT B PRI VLV (CL) SEC VLV (CL)	
15-1186		CBHY		CURSQR CNTL (BAT04) LEFT B ISO VLV - UP	
15-1187		CBHY		WAIT 1 MINUTE MINIMUM	
15-1188		CBHY		CURSQR CNTL (BAT04) LEFT B ISO VLV - CL	
15-1189		CBHY		CONSOLE KYBD RESUME PGM KEY - PRESS	
15-1190		CBHY		CRT (BAT05) VERIFY COMPLETION OF LEFT B FREQ BITE TEST.	
15-1191		CBHY		CRT (BAT05) VERIFY DISPLAY OF TEST OPTIONS.	
15-1192		CBHY		CONSOLE KYBD HOME CMD KEY - PRESS PSTP, BAT05, BAT45, S2634 XMIT CMD KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1193		CBHY		VERIFY PSTP SET MESSAGE	
15-1194		CBHY		CRT (BAT05) HOME CMD KEY - PRESS ENTER: R-FREQ-A XMIT RESP KEY - PRESS	
15-1195		CBHY		VERIFY BAT45 STOPPED AT PSTP LOCATION	
15-1196		CBHY		CRT (BAT04) VERIFY RIGHT A PRI VLV (CL) SEC VLV (CL)	
15-1197		CBHY		CURSOR CNTL (BAT04) RIGHT A ISO VLV - UP	
15-1198		CBHY		WAIT 1 MINUTE MINIMUM	
15-1199		CBHY		CURSOR CNTL (BAT04) RIGHT A ISO VLV - CL	
15-1200		CBHY		CONSULE KYBD RESUME PGM KEY - PRESS	
15-1201		CBHY		CRT (BAT05) VERIFY COMPLETION OF RIGHT A FREQ BITE TEST.	
15-1202		CBHY		CRT (BAT05) VERIFY DISPLAY OF TEST OPTIONS.	
15-1203		CBHY		CUNSOLE KYBD HOME CMD KEY - PRESS PSTP, BAT05, BAT45, S3339 XMIT CMD KEY - PRESS	
15-1204		CBHY		VERIFY PSTP SET MESSAGE	
15-1205		CBHY		CRT (BAT05) HOME CMD KEY - PRESS ENTER: R-FREQ-B XMIT RESP KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1206		CBHY		VERIFY BAT45 STOPPED AT PSTP LOCATION	
15-1207		CBHY		CRT (BAT04) VERIFY RIGHT B PRI VLV (CL) SEC VLV (CL)	
15-1208		CBHY		CURSUR CNTL (BAT04) RIGHT B ISU VLV - OP	
15-1209		CBHY		WAIT 1 MINUTE MINIMUM	
15-1210		CBHY		CURSUR CNTL (BAT04) RIGHT B ISU VLV - CL	
15-1211		CBHY		CONSOLE KYBD RESUME PGM KEY - PRESS	
15-1212		CBHY		CRT (BAT05) VERIFY COMPLETION OF RIGHT B FREQ BITE TEST.	
15-1213		CBHY		CRT (BAT05) VERIFY DISPLAY OF TEST OPTIONS.	
15-1214		CBHY		CRT (BAT05) HOME CMD KEY - PRESS ENTER: TERM XMIT RESP KEY - PRESS	
15-1215		CBHY 136 TBC 232	TBC LTD	SRB HPU BEARING SOAK WORK AT C-8 IS COMPLETE.	
NOTE					
PERFORM NEXT TWO STEPS ONLY IF ACCESS TO AFT SKIRTS IS REQUIRED.					
15-1216		LTD 232	*SCC	CONTROLLED AREA MAY BE OPENED AFTER TOXIC VAPOR CHECK.	

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1217		*SCC	*PSE	PERFORM TOXIC VAPOR CHECK OF HPU EXHAUST DUCTS AND VERIFY CONCURRENCE TO OPEN AREA FOR CONTROLLED WORK.	
				NOT PERFORMED	-----
				APU SWITCH SCAN	
15-1218	-09H00M	UTC	CAPU	PERFORM APU SW SCAN	
15-1219			CAPU	CRT (VAF34) GO TO THERMAL SKELETON	
				VERIFY	
				GG/FP HTRS A	
				APU-1 - ON	V46S0118E1
				APU-2 - ON	V46S0119E1
				APU-3 - ON	V46S0218E1
					V46S0219E1
					V46S0318E1
				L/O LN HTRS A	
				APU-1 - ON	V46S0116E1
				APU-2 - ON	V46S0117E1
				APU-3 - ON	V46S0216E1
					V46S0217E1
					V46S0316E1
					V46S0317E1
				FU/H2O HTRS A	
				APU-1 - OFF	V46S0106E1
				APU-2 - OFF	V46S0206E1
				APU-3 - OFF	V46S0306E1
				FU/H2O HTRS B	
				APU-1 - OFF	V46S0109E1
				APU-2 - OFF	V46S0209E1
				APU-3 - OFF	V46S0309E1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1220	-09H00M		CAPU LRT (VAF34)	GO TO CONTROL SKELETON	
			CNTRL PWR		
			APU-1 - OFF		V46S0124E1
			APU-2 - OFF		V46S0224E1
			APU-3 - OFF		V46S0324E1
			FUEL TK VLV		
			APU-1 - CL		V46S0114E1
			APU-2 - CL		V46S0214E1
			APU-3 - CL		V46S0314E1
			APU CONTROL		
			APU-1 - OFF		V46S0126E1
			APU-2 - OFF		V46S0127E1
			APU-3 - OFF		V46S0226E1
					V46S0227E1
					V46S0326E1
					V46S0327E1
			SPEED SEL		
			APU-1 - NML		V46S0129E1
			APU-2 - NML		V46S0229E1
			APU-3 - NML		V46S0329E1
			AUTO SHUTDN		
			APU-1 - ENA		V46S0099E
			APU-2 - ENA		
			APU-3 - ENA		
15-1221		CAPU OTC		APU SWITCH SCAN IS COMPLETE.	
				NOTE	
				DO NOT PERFORM NEXT STEP	
				IF FUEL CELLS ARE POWERED	
				UP AND RUNNING.	
15-1222	-08H55M	CFCP OTC 132		FUEL CELL PULSE PURGE COMPLETE. (UMI V1040)	
				NOT PERFORMED	-----
15-1223	-08H55M	CECL OTC 132		ECLSS O2 SAMPLE FOR CREW INGRESS IS COMPLETE (SEQ 45 S0007 V-4).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1224				CONFIG ORBITER HYD FOR CRYO LOAD	

NOTE

HYDRAULIC CIRCULATION PUMPS
MUST BE TURNED ON PRIOR TO
START OF FUEL CELL ACTIVATION.

15-1225	-08H55M	OTC 132	CHYD CAFC	CONFIGURE HYDRAULIC SYSTEM FOR SHUTTLE CRYO LOADING PER SEQ 46 (S0007 V-4) ON OIS CH 182. REPORT COMPLETION.	*BCS
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15-1226				FUEL CELL ACTIVATION (-8H50M)	
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NOTE

DO NOT PERFORM NEXT TWO
STEPS IF FUEL CELLS ARE
POWERED UP AND RUNNING.

15-1227		LTD 232	OTC	PROCEED WITH FUEL CELL ACTIVATION.	
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1228	-08H50M	UTC	CEPD	SUPPORT ORBITER FUEL CELL ACTIVATION AND FUEL CELL APPLICATION TO MAIN BUSES PER OMI S9001 ON DIS CH 151 EXCEPT DOD THEN SUPPORT ON SECURE VOICE 3.	

NOT PERFORMED -----

NOTE

FUEL CELLS MUST BE ACTIVATED WITHIN 3 HOURS ELAPSED TIME FROM FC FLOW THRU PURGE

IF ORBITER FUEL CELL ACTIVATION IS BEING PERFORMED USING CABIN SWITCHES, MASTER ALARMS WILL OCCUR DURING FUEL CELL ACTIVATION. MASTER ALARMS WILL BE RESET PER OMI V1040.

DO NOT ACTIVATE FUEL CELLS UNTIL HYDRAULIC CIRCULATION PUMPS ARE VERIFIED RUNNING.

15-1229		CHYD 132	UTC	HYDRAULIC CIRCULATION PUMPS ARE RUNNING.	
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NOTE

CECL MONITOR HEAT LOAD IMPACT OF NEXT STEP.

DO NOT PERFORM NEXT STEP IF FUEL CELLS ARE POWERED UP AND RUNNING.

15-1230		UTC 132	CFCP	PERFORM ORBITER FUEL CELL ACTIVATION PER OMI V1040 ON DIS CH 153. REPORT READY FOR LOAD STATUS TO CEPD.	*BCS
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RECORD TIME ----- (GMT)

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1231				REMOVE SPARE 508 UNIT FROM PAD (CONTINGENCY) (-8H35M)	

NOTE

PERFORM NEXT STEP IF SPARE S70-0508 REFRIGERATION UNIT HAS BEEN PLACED ON PAD FOR CONTINGENCY USE.

15-1232	-08H35M	OTC	LTD	LOAD THE SPARE S70-0508 REFRIGERATION UNIT ON A FLATBED TRUCK USING A FORKLIFT.	33223
		232	STM	RELOCATE THE TRUCK WITH THE S70-0508 LOADED AND THE FORKLIFT, TO THE OPF PARKING AREA (TO REMAIN ON STANDBY UNTIL LAUNCH). REPORT COMPLETION (30 MIN)	
		LTD	JBDY		
		STM	GBHE		
		111			
		JBDY			

ESSENTIAL PERSONNEL FOR REFRIG
 UNIT OPS

LFAC

SUPVR 1
 TECH 2

NOT PERFORMED

15-1233	-08H30M	*PSE	*SCC	ALL PERSONNEL ARE CLEAR FROM MLP A AND B LEVELS. ALL NONESSENTIAL PERSONNEL HAVE CLEARED THE PTCR AND ECS ROOM.	
		105	LTD		
		*SCC			
		232	OTC		
		LTD			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1234		*PSE 105 *SCC 232	*SCC	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).	
15-1235		UTC 232 LTD	LTD *SCC	ALL ORBITER COMPARTMENTS HAVE BEEN CLOSED OUT EXCEPT FOR CREW COMPARTMENT.	
15-1236				PREP FOR STANDBY GN2 MODE (-09H)	
15-1237		LTD 232 *SCC	*SCC *PSE	REQUEST CONCURRENCE TO PROCEED WITH ECS SYSTEM "STANDBY GN2 MODE (HAND VALVE OPEN)" OPERATIONS (V1122).	
15-1238		*PSE 105 *SCC 232	*SCC LTD	SAFETY CONCURS TO PROCEED WITH "STANDBY GN2 MODE (HAND VALVE OPEN)" OPERATIONS. ALL NON-ESSENTIAL PERSONNEL ARE CLEAR AND 30 MINUTE AIR PACKS ARE AVAILABLE. SAFETY WARNING SIGNS HAVE BEEN INSTALLED, ECS ROOM PERSONNEL HAVE THE REQUIRED EAR PROTECTION AND CONTINUOUS MONITORING IS IN EFFECT.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

STANDBY GN2 MODE (HAND VALVE OPEN)					

WARNING

HAZARDOUS OPERATION - AIR
TO GN2 STANDBY MODE FOLLOWS.
(HAZ DUE TO PRESENCE OF GN2.)

15-1239		LTD 232 STM 111 JSTC	OTC STM JSTC GSPN	PROCEED WITH ECS "STANDBY GN2 MODE (HAND VALVE OPEN)" OPERATION. (UMI V1122).	EG&G-631
15-1240		OTC 132	CPVD	CONFIGURE ECS FOR STANDBY MODE WITH HAND VALVES OPEN. REPORT COMPLETE. COORDINATE WITH GSPN ON CH 172 PRIOR TO CHANGEDOVER. (UMI V1122).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1241				REMOVE DIS UNITS (PAD SURFACE)	
15-1242	-08H30M	STM 111 GYCC 117	GYCC JYCY	REMOVE DIS STA 15-4 (EAST SIDE) AND 7-3 (WEST SIDE) PAD SURFACE, VERIFY COMPLETION AND REPORT TU FALLBACK AREA (30 MIN.).	34300 34100 *BCS
15-1243		STM 111	JBPN	AFTER LCOM REMOVES DIS BOXES SECURE DISCONNECTED PURGE LINES FIRMLY IN PLACE WITH BLAST TAPE PER OPERATION INSTRUCTIONS OF UMI M3089 (STA - WDGU2). REPORT COMPLETION (1 HR)	3321b 33217

TASK: REMOVE DIS UNITS

BADGE BOARD REQ'D

ACCESS CODE - 2

CONTROL AREA

1. LOCAL OPERATION

ESSENTIAL PERSONNEL

(HAZ BADGES)

	LCOM	LFAC
	UIS	
TECH	6	2
QA		1

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF
BACKUP BREATHING AIR
SYSTEM IS USED FOR
THIS LAUNCH.

15-1244		STM 111	JBPN	SERVICE AIR COMPRESSORS PER OMI'S M3022, M6008. PLACE BACKUP BREATHING AIR TUBE BANK ONLINE. ROTATE COMPRESSOR TIMER TO BEGIN "B" DUTY CYCLE.	33216
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ESSENTIAL PERSONNEL

ENGR 1
TECH 3
QA 1

NOT PERFORMED

15-1245	-08H30M	LTD 232 TBC 136	TBC *PAD	VERIFY SRB PERSONNEL ARE READY TO CLEAR PAD FOR LO2 LOADING	-----
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1246				ET LIQUID SENSOR CHECKS (-08H30M)	
15-1247	-08H30M	LTD 232 OTC 132	TbC OTC CISL	PERFORM ET OI LIQUID LEVEL SENSOR CHECKS AND ULLAGE XDCER C/O PER SEQ 38 (S0007VL4) ON UIS CH 165.	*BCS
15-1248	.	CISL 136	OTC	ET LIQUID LEVEL SENSOR CHECKS PER SEQ 38 (S0007VL4) COMPLETE. OMRSD S00FB0.260	
15-1249		OTC 232	LTD TbC	ET LIQUID LEVEL SENSOR CHECKS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

OMIT NEXT STEP IF PERFORMING
 SCRUB TURNAROUND.

15-1250				FINAL FIREX ORBITER SHIELD NOZZLE ----- ALIGNMENT -----	
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15-1251		STM 111	JBFX	PERFORM FINAL ALIGNMENT CHECK OF THE THREE FIREX ORBITER SHIELD ORBITER/ET UMBILICAL SPRAY NOZZLES PER OMI M3111. POSITION AS REQUIRED.	3322B 33222
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TASK: FIREX WATER ORBITER SHIELD
 NOZZLE ALIGNMENT

BADGE BOARD REQUIRED

ACCESS CODE - 2

CONTROL AREA - LOCAL OPERATION

ESSENTIAL PERSONNEL (HAZ BADGES)

LFAC

SUPER/ENG 1
 SYSTEM TECHS 2

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- VERIFY P/P - RECORDER ----- CONSUMMABLES - ADEQUATE -----					
NOTE					
IN NEXT STEP, DO NOT DISCARD ANY PRINTER PLOTTER OUTPUTS FROM TAKE-UP REELS OR BASKETS.					
15-1252	-08H30M	LTD 232	LPS	VERIFY ADEQUATE SUPPLY OF CONSUMABLES ARE AVAILABLE IN THE CONSOLE PRINTER/PLOTTERS (300 SHEETS), FR-2/CR-4 ESA SCRS PRINTER/PLOTTER SUBSYSTEMS, BIU/MED RECORDER PAPER AND LINE PRINTERS 1/2 BOX MINIMUM. REPORT CONSOLE BULK SEMI'S ERROR STATUS.	31240
15-1253			LPS	C1MT SUPPLY CONSOLES C3 AND C4 C3MT PRINTER PLOTTERS WITH FULL PAPER AND TONER.	31240
15-1254	-08H30M	STM 7-4905	WGSA	PROVIDE WRECKER AT PAD GATE (T-8 HOURS TO T-6 HOURS) VERIFY WHEN ON-SITE	GSA
15-1255		LTD 232 STM 111 JSTC 114	STM JSTC JFIK	FIRE SUPPORT REQUIRED ON STATION IN 30 MINUTES AT LU2 FACILITY. FIRE/RESCUE CREW REQUIRED AT PAD GATE IN 30 MINUTES FOR FINAL PAD CLOSEOUT. MEDICAL ON STANDBY AT FIRE STATION 2.	EG&G-420
15-1256		TBC 232 LTD *SCC	LTD *SCC *PSE	SPC SAFETY REQUIRED ON STATION IN 30 MINUTES AT LU2 FACILITY TO SUPPORT FINAL PREPS PER OMI G3151.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1257				RMV-FSS ELEV LOCK/COVER (-8H15M)	

15-1258	-08H15M	STM	QBSE	1. REMOVE LOCK AND COVER FROM	3322A
		NET	104	FSS ELEVATOR POWER SWITCH.	33221
		113	JBDY	(LOCK AND COVER TO BE	3322C
		JBDY	VEEE	DELIVERED TO SPC SAFETY	*BCS
				AT A-11 ROADBLOCK AT T-30 MIN).	
				2. REMOVE PADS FROM ELEVATOR	
				CARS.	
				3. UNLOCK ALL FSS/RSS ELEVATOR MACH.	
				ROOM DOORS.	
				4. UNLOCK PCR 90 TON HUIST	33226
				MACH ROOM DOOR. REPORT	
				COMPLETION. (1 HR)	

TASK: CONFIGURE ELEVATORS
AND HUIST

BADGE BOARD REQ'D

ACCESS CODE - 2

CONTROL AREA

LOCAL OPERATION

ESSENTIAL PERSONNEL

(HAZ BADGE)

LFAC NASA

SUPER/ENG	1	1
TECH	3	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1259				CONFIG CREW COMPARTMENT AND WHITE ROOM (-8H)	
15-1260		OTC	ASP	PANEL R1A1 AC BUS SNSR 1 SW - OFF, 1 SEC, MONITOR 2 SW - OFF, 1 SEC, MONITOR 3 SW - OFF, 1 SEC, MONITOR	
15-1261	-08H00M	LTD 232 *SCC	OTC *SCC *PSE	PORTABLE O2 DETECTOR IS REQUIRED FOR CONTINUOUS MONITORING OF O2 CONTENT IN WHITE ROOM. REQUEST SAFETY INSTALL O2 METER ON TRIPOD FOR OTV CAMERA MONITORING. VERIFY READABLE WITH THE OTC.	
15-1262		JYVO 111 STM 132 OTC	STM OTC *PAD	VERIFY ALL OAA WHITE ROOM FACILITY LIGHTS ARE TURNED ON.	34200
15-1263		*PSE *SCC	*SCC LTD	PORTABLE O2 METER HAS BEEN INSTALLED IN THE WHITE ROOM AND VERIFIED READABLE BY THE OTC.	
15-1264		OTC 138	JYVR	START VIDED RECORDING OF OTV CAMERA 005/105.	34200
15-1265	-08H00M	OTC	*PAD	WHITE ROOM CEILING: 1. CLOSE CHAMBER ECS DAMPER A122818. 2. VERIFY ORBITER ECS DAMPER A122817 IS OPEN AND AIR IS FLOWING THRU ECS DUCT INTO CREW COMPARTMENT.	
15-1266		OTC	*PAD	VERIFY ECS EXHAUST LOUVERS OPERATE FREELY BY MANUALLY PUSHING THEM OUTBOARD TO OPEN THEN RELEASING THEM TO CLOSE.	
15-1267		CECL 132	OTC	PARTIAL PRESSURE OF OXYGEN IN CREW COMPARTMENT IS SATISFACTORY	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1268				CLEAR PAD FOR ET LOADING (-8H)	
15-1269	-08H00M	LTD 232 *SCC 105	*SCC *PSE *SEC	CLEAR ALL PERSONNEL NOT HAZ BADGED FROM PAD ___ TO ROADBLOCK A-11 FOR LOX/LH2 LOADING.	EG&G-430 *BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1270	-08H00M	LTD		ATTEN PAD ---:	
		PA		ALL PERSONNEL NOT MANLOADED WITH	
		232	*SCC	HAZ BADGE, CLEAR PAD --- TO ROADBLOCK A-11	
		*SCC	*PSE	FOR LOX/LH2 LOADING.	
		105			

TASK:

1. LH2 FINAL PREPS
2. LO2 FINAL PREPS
3. CREW MODULE AND WHITE ROOM CLOSEOUT
4. FINAL PAD INSPECTION
5. REMOVE S/S VALVE LOCKS

(BADGE BOARD REQ'D)

ACCESS CODE - 3

CONTROL AREA

1. BDA

OPERATION INSTRUCTIONS

SEQ TIME CMD RESP DESCRIPTION VERIF.

15-1270
CON'T

ESSENTIAL PERSONNEL

LH2 FINAL PREP CREW (HAZ BADGED)

	ET	NASA	SPC
	--	----	---
ENGR	2**	1*	
TECH	2		
QC	1	1*	
SAFETY		1	1

(* = OPTIONAL) (** = 1 OPTIONAL)

(CONTINUED ON NEXT PAGE)

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
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15-1270
 CON'T

LU2 FINAL PREP CREW (HAZ BADGED)

	ET	NASA	EG&G	SPC
ENGR	2	1*		
TECH	2			
SAFETY		1		1
GC	1	1*		
FIRE			4	

(*=OPTIONAL)

CREW MODULE AND WHITE ROOM

CLUSEOUT CREW (HAZ BADGED)

	ORB	NASA	SPC
SUIT TECH		1	
TECHS	4		
GC	1	1	
ASP		2	
*PAD	1		
SAFETY		1	1

VO/TS FINAL PAD INSPECTION

(HAZ BADGED)

	NASA	SPC	LFAC
VT	2		
TS	2		
SAF	1	1	
SUPR/ TECH			2

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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15-1271				FINAL PAD INSPECTION (-8H)	
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NOTE

MLP SIGNS SHALL NOT BE
 REMOVED UNTIL SAFETY VERIFIES
 TOTAL PAD CLEAR.

15-1272	-08H00M	LTD	*SCC	PERFORM FINAL PAD INSPECTION PER	*BCS
		232	OTC	SPC OPERATION SUPPORT SETUP 1 -	
		*SCC	*PSE	INCLUDING REMOVAL OF SPC SAFETY	
		105		SIGNS, VERIFY COMPLETE. VERIFY	
		OTC	*PAD	WALKDOWN TEAM (SHUTTLE OPERATIONS	
			SUL	LEADER) HAS A NET 110 RADIO. PERFORM	
				CUMM CHECK WITH OTC.	

SAFETY SIGN REMOVAL LIST

1. *MLP A&B SIDE 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

(* = IF INSTALLED)

15-1273		*PSE	*SCC	ALL SPC SAFETY WARNING SIGNS	
		105		HAVE BEEN REMOVED WITH THE	
		*SCC	LTD	FOLLOWING EXCEPTIONS:	
		232			
		LTD	OTC		
			TBC		
			STM	1. PTCR - SOUTH TUNNEL ENTRANCE	
			CTC	2. ECS DOORS (TWO)	
				3. PTCR DOOR (GROUND LEVEL)	
				4. PAD CATACOMB DOORS	
				5. PAD TUNNEL - EAST AND WEST	
				ENTRANCES	

15-1274		LPS	C1MC	HARD COPY ALL SHWMON ERRORS	31240
		127		AND AA001 HIM STATUS FOR	
				BASELINE REFERENCE.	

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1275		JYCC 117	GYCC	ALL OIS UNITS HAVE BEEN REMOVED FROM PAD SURFACE, ZERO LEVEL OF	34300
		GYCC 111	STM	MLP AND FSS EXCEPT AS SPECIFIED AND DISCONNECTED CABLES SECURED	
		STM 232	LTD	TO STRUCTURE WITH BLAST TAPE. DUST AND CABLE CAPS HAVE BEEN SECURED.	

NOTE

DO NOT PERFORM NEXT STEP UNTIL OTHER VEHICLES ARE POWERED DOWN.

15-1276		LTD 232	STM	REMOVE EMERGENCY PAGING MICROPHONES FROM LTD OFFICE	34300
		STM 111	GYCC	CONSOLE AND FROM EACH CONTROL ROOM EXCEPT FROM THE ROOM IN	34100
		GYCC 117	JYCC	USE FOR PRIME CONTROL OF THIS LAUNCH. VERIFY COMPLETION.	

FR-1

NOT PERFORMED

FR-2

NOT PERFORMED

FR-3

NOT PERFORMED

FR-4

NOT PERFORMED

OPERATION INSTRUCTIONS

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

NOTE

IN NEXT STEP, KEYS TO REMAIN
 IN CONTROL ROOMS DESIGNATED
 BY LTD.

15-1277		LTD	STM	REMOVE AREA WARNING KEY FROM	34300
		232		LTD OFFICE CONSOLE AND FROM	34100
		STM	GYCC	CONSOLE AB-7 IN EACH APPLICABLE	
		111		CONTROL ROOM EXCEPT FROM THE	
		GYCC	JY CJ	ROOM IN USE FOR PRIME CONTROL	
		117	PCSQ	OF THIS LAUNCH. ATTACH INTEGRITY	
				CONTROL STICKERS TO KEY HOLES AND	
				TURN KEYS INTO STM. REPORT COMPLETION.	

FR-1

NOT PERFORMED -----

FR-2

NOT PERFORMED -----

FR-3

NOT PERFORMED -----

FR-4

NOT PERFORMED -----

Q: -----
 50234

15-1278		GYCC		CLOSE/CONTROL ALL FRAMES PER	34300
				UMI D3027.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1279				COMM CMD TO LAUNCH CONFIG-MCCH	

NOTE

DO NOT PERFORM NEXT STEP
 IF IN SUPPORT OF A 24 HR
 SCRUB TURNAROUND.

DO NOT PERFORM NEXT STEP
 UNTIL RSS IS IN PARK
 POSITION.

15-1280	-08H00M	LTD 232	*FLT *MIL	PERFORM COMM CMD TO LAUNCH CONFIG (MCCH) PER OMI V1117 JRPS ON DIS CH 214. (FOR DOD MISSION, LPS PERFORM MCCH DOD OPTION)	31212 *BCS
		OTC 132	CCSE RCRE	OMRSD S00FA0.450 OMRSD S00FB0.281	

NOT PERFORMED

15-1281		LTD	JSRP	IF DOD MISSION, VERIFY READY TO SUPPORT COMM CMD TO LAUNCH CONFIG ON DIS CH 214.	
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1282				COMMAND DECODER PWR SUPPLY CHECK	
15-1283	-08H00M	UTC	CDPS	PERFORM COMMAND DECODER POWER SUPPLY CHECK PER SEQ 49 (S0007 V-4). AFTER COMMAND DECODER POWER SUPPLY CHECK IS COMPLETE, ESTABLISH LDB POLLING ON LDB1 UNTIL T-0. OMRSD S00FB0.230	
15-1284		CDPS	UTC	SWITCHING LDB'S TO RUN COMMAND DECODER POWER SUPPLY CHECKS. THIS WILL NOT AFFECT ANY TESTING.	
15-1285		CDPS	UTC	COMMAND DECODER POWER SUPPLY CHECK (SEQ 49) IS COMPLETE. POLLING ON LDB1.	

OPERATION INSTRUCTIONS

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

15-1286				CONFIG ORBITER GROUND COOLING UNITS ----- FOR REMOTE OPERATION -----	
---------	--	--	--	---	--

NOTE

DO NOT PERFORM NEXT STEP
 IF ORBITER COOLING IS IN
 REMOTE OPERATION AND PGCU
 CLEARED TO ROADBLOCK.

15-1287	-08H00M	OTC	CECL	CONFIGURE ORBITER GROUND COOLING UNITS FOR REMOTE OPERATION PER OMI S9001. CLEAR PGCU BACK TO ROAD BLOCK.	*BCS
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NOT PERFORMED -----

15-1288				WEATHER UPDATE -----	
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15-1289		STM 111	JBDY	REQUEST CURRENT WEATHER INFORMATION FOR KSC. HAZARDOUS TEST STARTING AT PAD A. ADVISE AND UPDATE SEVERE WEATHER WARNINGS AS RECEIVED. CURRENT WEATHER IS:	33320
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TIME -----
 FOR NEXT ----- HOURS

WIND DIR: ----- SPEED: -----
 (60 FT. LEVEL, FSS)

TEMP: -----

TEMP INVERSION: -----

FORECAST: -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				VERIFY MLP DOORS - CLOSED	
15-1290	-08H00M	STM NET	QBSE 104	VERIFY/PERFORM ALL MLP DOORS (EXCEPT DOOR 33A) ARE CLOSED AFTER INSPECTION IS COMPLETE.	3322C 33226
				WATER CHILLER OPS	
15-1291	-08H00M	JSTC 114	JSAC	VERIFY SECOND WATER CHILLER AT UTILITY ANNEX IS STABILIZED FOR ON LINE REDUNDANCY. (I3067,WDK10,M3006,WDL08)	EG&G-612-3
				VERIFY SUPPORT (FIRE/RESCUE/MEDICAL/ SAFETY)	
15-1292		LTD 232 STM 111 JSTC 114	*SCC STM JSTC JFIR	VERIFY FIRE/RESCUE CREW AT PAD GATE. MEDICAL ON STANDBY AT FIRE STATION 2.	EG&G-420
15-1293		JFIR JSTC 111 STM 232 LTD	JSTC STM LTD *SCC	FIRE SUPPORT AT LO2 FACILITY AND FIRE/RESCUE CREW AT PAD GATE FOR FINAL PAD CLOSEOUT. MEDICAL ON STANDBY AT FIRE STATION 2.	EG&G-420
15-1294		LTD *SCC	*SCC *PSE	VERIFY SAFETY SUPPORT AT LO2 FACILITY. CONTROL AREA ESTABLISHED, LO2 STORAGE AREA WARNING LIGHTS FLASHING AMBER AND SAFETY CONCURRENCE TO PROCEED WITH FINAL PREPS (UMI G3151).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1295				LO2 FINAL PREPS (-8H) -----	
15-1296	-08H00M	LTD 232 TBC	TBC	PERFORM STATION CALL; STORAGE TANK PRESSURIZATION AND SUCTION CLUX LINE CHILLDOWN PER OMI G3151 (OR OMI G3155 FOR SCRUB TURNAROUND). REPORT COMPLETION.	*BCS
15-1297		TBC 138	JYVR	START VIDEO RECORDING OF DTV CAMERAS FOR LOX/LH2 FINAL PREPS (OMI G3151 AND G3251). (SEE CLHY AND CLOX, FIGURE 4) 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	34200
15-1298		LTD PA		ALL NON-ESSENTIAL PERSONNEL CLEAR LOX STORAGE AREA FOR OMI G3151 OPERATIONS. STANDBY GN2 (HAND VALVE OPEN) ----- OPERATIONS COMPLETE -----	
15-1299	-08H00M	CPVD 132 OTC 232 *SCC	OTC LTD *SCC *PSE	STANDBY GN2 MODE (HAND VALVE OPEN) OPS ARE COMPLETE PER UMI V1122. ECS PERSONNEL CLEARING PAD ECS ROOM FOR FALLBACK ROADBLOCK A-11.	

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1300				PRESS PTCR/ECS ROOM	

NOTE

PTCR/ECS ROOM WILL BE PRESSURIZED WITH AIR WHEN ECS GROUND LEVEL DOORS ARE CLOSED.

15-1301	-08H00M	LTD 232	STM *SCC	PRESSURIZE PTCR/ECS ROOM WITH AIR.	*BCS
15-1302	-08H00M	LTD 232 *SCC 105	*SCC *PSE	VERIFY ALL PERSONNEL CLEAR OF ECS ROOM. INSTALL SAFETY WARNING SIGN ACROSS ECS SOUTH DOOR AND PTCR GROUND LEVEL DOOR. CLEAR ALL NON-ESSENTIAL PERSONNEL TO ROADBLOCK A-11.	

NOTE

IF DOD MISSION, PERFORM NEXT STEP.

15-1303		LTD 232 STM 111 GYCC 117	STM GYCC JYVG	IF ACTIVE, DEACTIVATE SECURE VOICE COMMUNICATIONS TO PTCR. REPORT COMPLETION.	34300 34100
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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15-1304	-08H00M	STM 111	JBAC	CLOSE AND SECURE ECS ROOM GROUND LEVEL PERSONNEL ACCESS DOORS AFTER SAFETY HAS CLEARED THE ECS ROOM. PLACE LFAC SIGNS ON DOORS. OBTAIN READINGS ON ECS ROOM AND PTCR PRESSURIZATION GAGES. REPORT COMPLETION. UPON COMPLETION OF THIS TASK, CREW WILL FALL BACK TO K6-1045 FOR CONTINGENCY SUPPORT. (15 MIN) (M3027)	3321C 33215
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ECS RM ----- IN. OF WATER (0.5 MIN)
 PTCR ----- IN. OF WATER (0.5 MIN)

TASK: PTCR/ECS ROOM PRESSURIZATION

BADGE BOARD REQ'D

ACCESS CODE - 2

CONTROL AREA

1. BDA

ESSENTIAL PERSONNEL (HAZ BADGE)

	LFAC	NASA	SPC
ENGR	1	1	
QUAL	1		
TECH	4		
SAFETY		1	1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1305		LTD	*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 THE LDA.	EG&G-430
15-1306		LTD 232	*SCC	VERIFY SPC SAFETY SUPPORT LH2 FACILITY FOR LH2 FINAL PREPS. LH2 SIGNAL *SCC *PSE LIGHTS ARE POSITIONED TO FLASHING AMBER.	
15-1307				IUS RIMU CAL AND ALIGN COMPLETE -----	
15-1308	-07H40M L-10H00M	ICTC 134 CTC 232	CTC LTD	IUS RIMU CAL AND ALIGN COMPLETE. QUIET TIME NO LONGER REQUIRED.	

UMRSD P018JC.010

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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15-1309				REMOVE SS VALVE LOCKS	
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15-1310		OTC 110	SOL	VERIFY SPC INSPECTION TEAM IS CLEAR OF MLP ZERO LEVEL.	
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NOTE

NEXT THREE STEPS PERFORMED AFTER SPC INSPECTION TEAM CLEARS MLP ZERO LEVEL.

15-1311	-07H30M	STM 232 LTD	LTD	REQUEST APPROVAL TO REMOVE SS VALVE LOCKS AND OPEN HYDRAULIC LOCKING VALVES.	
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15-1312		*SCC	LTD	YOU HAVE SAFETY CONCURRENCE TO REMOVE SS VALVE LOCKS.	
---------	--	------	-----	---	--

15-1313	-07H30M	STM 111	JBWC	REMOVE SS LOCKS AND OPEN HYDRAULIC LOCKING VALVES. REINSTALL LOCKS PER OPERATION INSTRUCTIONS OF OMI M3114. REPORT COMPLETION. (SKELETON SSA). (15 MIN.)	33226 33222 *BLS
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TASK: SOUND SUPPRESSION WATER VALVE OPERATION

BADGE BOARD REQ'D

ACCESS CODE - 2

CONTROL AREA

1. BDA
2. LOCAL OPERATION

ESSENTIAL PERSONNEL (HAZ - BADGED)

	LFAC	NASA
SUPER/ENG	2	1
SYS TECHS	2	
QA	1	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1314				C/M SIDE HATCH TUNNEL REMOVAL	
15-1315		OTC	*PAD	REMOVE ALL NON-FLIGHT ITEMS FROM CREW MODULE EXCEPT THOSE RECORDED IN TIR SYSTEM. REPORT COMPLETION.	
NOTE					
DO NOT PERFORM NEXT STEP IF SIDE HATCH TUNNEL PREVIOUSLY REMOVED.					
15-1316	-07H30M	OTC	*PAD	PERFORM ORBITER OPERATION SUPPORT SETUP 32 - CM SIDE HATCH TUNNEL REMOVAL.	
NOT PERFORMED -----					
15-1317	-07H30M	QBSE NET	STM 104	RSS LAUNCH CLOSEOUT COMPLETE PER UMI M3134.	3322C 33226
15-1318				CHECK GS2A FEP DATA SLOTS	
15-1319	-07H30M	TBC 232 LTD	LTD LPS	DUMP GS2A FEP AND VERIFY AT LEAST 14 AVAILABLE - 100 SAMPLE PER SECOND SLOTS IN GS2A FEP.	31240
15-1320	-07H30M	LPS 232 LTD TBC TBC 136	LTD TBC CLOX CLHY	GS2A FEP DUMP IS COMPLETE. THE FEP CONTAINS (AT LEAST) 14 AVAILABLE - 100 SAMPLE PER SECOND SLOTS IN GS2A FEP.	31240

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1321	-07H30M	CLHY 136 TBC 232	TBC LTD	THE FOLLOWING IN UMI G3251 ARE COMPLETE. 1. ALL PRE-OPS 2. LH2 SYSTEM POWER 3. LH2 STORAGE AREA VALVE TORQUE 4. MLP AND FSS VALVE TURQUING NOTE DO NOT PERFORM NEXT SUBSTEP IF AUTO CYCLING PREVIOUSLY PERFORMED. 5. AUTO CYCLE TEST NOT PERFORMED	----- SS5
15-1322				ET OPS - BURN POND (-7H30M) -----	
15-1323		CLHY	TBC	READY TO PROCEED TO BURN POND FOR LH2 FINAL PREPS.	
15-1324	-07H30M	TBC 232 LTD *SCC *SCC 105	LTD *SCC *PSE	REQUEST PERMISSION TO SEND LH2 PREP CREW FROM LH2 STORAGE AREA TO LH2 BURN POND AND RETURN.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1325		*PSE 105 *SCC 232 LTD 232	*SCC LTD *PSE TBC	SAFETY VERIFIES CONCURRENCE TO PROCEED FROM LH2 STORAGE AREA TO LH2 BURN POND AND RETURN.	
15-1326				GOX HOOD PURGE TO OPERATING ----- PARAMETERS -----	
15-1327		TBC 136	CMEC	RETURN GD2 VENT HOOD GN2 FLOW AND TEMPERATURE TO OPERATING PARAMETERS PER OMI G2153/G2158. REPORT COMPLETION.	*BCS
15-1328				TRANSFER GD2 VENT SYS MONITOR ----- AND CONTROL (-07H30M) -----	
15-1329		TBC 136	CMEC	TERMINATE GAG01/GAG02 PROGRAM AND TRANSFER GD2 VENT SYSTEM MONITORING AND CONTROL TO VAJ14 PROGRAM PER OMI G2153/G2158. REPORT COMPLETION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1330				LH2 FINAL PREPS -----	
15-1331	-07H30M	LTD 232 TBC 136	TBC CLHY	PERFORM LH2 SYSTEM FINAL PREPS FOR VEHICLE LOADING PER G3251. (OMI G3255 IF PERFORMING SCRUB TURNAROUND). LH2 PREP CREW IS CLEARED THRU ROADBLOCK AT GH2 BATTERY TO LH2 BURN POND AND RETURN.	*BCS
15-1332		STM 111 JSTC 114	JSTC GSPN	SUPPORT ORBITER ECS AIR TO GN2 CHANGEOVER. GSPN CONTACT CPVD ON CH172 TO COORDINATE CHANGEOVER PER OPERATION INSTRUCTIONS OF OMI M3042. (SWITCH TO LPGN2 AUTO MODE) (STA W0G02).	EG&G-631 *BCS
15-1333	-07H30M	LTD *SCC 232 LTD 232	*SCC LTD UTC	VERIFY SAFETY CONCURRENCE TO PROCEED WITH AIR TO GN2 CHANGEOVER PER OMI V1122 (LPS).	
15-1334				AIR TO GN2 CHANGEOVER (LPS) -----	
WARNING					
GN2 WILL FLOW INTO ORBITER FWD PAYLOAD BAY AND AFT FUSELAGE. BREATHING OF NITROGEN GAS FROM ORBITER COMPARTMENT PURGE CAN BE LETHAL.					
15-1335	-07H30M	UTC 132	CPVD	PROCEED WITH ECS AIR TO GN2 CHANGEOVER. REPORT COMPLETION. (OMI V1122).	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1336				UTV SETUPS - FR-2 ----- ICE FROST MONITORING AREA -----	
15-1337	-07H30M	LTD 232 STM 138 JYVO	STM JYVO JTV1 JTV2	SUPPORT ICE/FROST MONITORING AREA UTV SETUPS PER UMI 16444 ON CHAN 222	34200
15-1338		LTD 232 TBC 136	TBC CTIF	PERFORM ET OPERATION SUPPORT SETUP 2 - ICE/FROST MONITORING AREA SETUPS FOR UTV SCANNING PER UMI 16444. REPORT COMPLETION.	
15-1339	-07H15M	CPVD 132 OTC 232 LTD	UTC LTD *SCC STM	ECS AIR TO GN2 CHANGEOVER IS COMPLETE. (UMI V1122). TIME: ----- (RECORD)	
				OMRSD V05AG0.060 OMRSD V05AI0.060 OMRSD S00FB0.050 OMRSD P01000.030	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1340				OPEN ORBITER VENT DOORS ----- 1 AND 2 (CONTINGENCY) -----	
				NOTE	
				IF O2 CONCENTRATION IN UAA 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.	
15-1341	-07H15M	UTC 132	CPVD	O2 CONCENTRATION WITHIN UAA IS LESS THAN 20 PCT, OPEN ORBITER VENT DOORS 1 AND 2 ON THE LEEWARD SIDE. REPORT COMPLETION.	
				NOT PERFORMED	-----
15-1342			CPVD	CURSOR CNTL (VAM31/VAM09) VENT DOORS 1&2 (LEEWARD) OPEN TARGET XMIT CURSOR	
				NOT PERFORMED	-----
15-1343		CPVD 132 UTC 232	OTC LTD	VENT DOOR OPENING IS COMPLETE.	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF O2 CONCENTRATION IN WHITE ROOM STILL LESS THAN 20 PCT AFTER PVD OPENED LEeward VENT DOORS, PERFORM NEXT STEP.

15-1344 OTC OVCC WHITE ROOM

1. EXHAUST FAN SW - ON
2. POSITION REAR SWINGING DOORS IN OPEN POSITION AND SECURE.

NOT PERFORMED -----

15-1345 -07H00M CLHY TBC FINAL LH2 PREPS FOR LOADING
 136 PER OMI G3251 (OR OMI G3255
 TBC LTD IF PERFORMING SCRUB TURNAROUND)
 232 COMPLETE AND PERSONNEL ARE CLEARING AREA.

15-1346 LH2 PRE-CHILLDOWN OPS (S1004)

15-1347 -07H00M TBC CLHY PERFORM *BCS
 136 LH2 PRE-CHILLDOWN OPERATIONS
 PER OMI - S1004

15-1348 CLHY TBC NOTIFY CLHY IF LOSS OF ORBITER AFT
 136 FUSELAGE PURGE OR PAYLOAD BAY PURGE
 TBC LTD IS DETECTED DURING LH2 LOADING FROM
 232 T-06H TO T-01M57S.
 LTD OTC
 132
 UTC CPVD
 132

RED CREW ASSEMBLED

15-1349 -07H00M OTC *PAD VERIFY RED CREW ASSEMBLED AND
 132 READY TO SUPPORT.

15-1350 -07H00M *PAD OTC SPC OPERATION SUPPORT SETUP 1 -
 OTC LTD IS VERIFIED COMPLETE. INSPECTION
 232 TEAM CLEARING THE AREA.
 LTD *SCC

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1351	-07H00M	STM 111	JBDY	VERIFY PROTECTIVE CLOTHING MOBILE VAN PARKED AT A-11 JBDY WSAT ROADBLOCK. 7-2393	40320
15-1352	-07H00M	ASP 132 OTC 232	OTC LTD	CREW MODULE MICROBIAL SAMPLE IS COMPLETE.	

FUEL CELL ACTIVATION - COMPLETE

NOTE

FUEL CELL PURGE TO BE
PERFORMED APPROX TWO HRS
AFTER FUEL CELL ACTIVATION.

DO NOT PERFORM NEXT FIVE
STEPS IF FUEL CELLS ARE
POWERED UP AND RUNNING.

15-1353	-07H00M	CFCP 132 OTC 232	OTC LTD	ORBITER FUEL CELL ACTIVATION AND CONFIGURE TO MAIN BUS LOAD SHARING IS COMPLETE.	
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UMRSD S0VE00.680

NOT PERFORMED

15-1354		CFCP		MONITOR FUEL CELL PERFORMANCE USING FOLLOWING CRITERIA: VOLTAGE - 28.25 VOLTS MIN CURRENT - 100-150 AMPS STACK COUL OUT TEMP - 175-212 DEG. F. COND EXIT TEMP - 130-162 DEG. F COOLANT RET TEMP - 40-110 DEG. F COOLANT PRESSURE - 65 +/-10 PSIA O2 FLOW - 1.3-3.5 LB/HR H2 FLOW - 0.15-0.50 LB/HR	
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UMRSD S00FA0.360

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
	-07H00M			FUEL CELL PERFORMANCE CALIBRATION ----- /PRSD SYSTEM INTEGRITY CHECK -----	

NOTE

FUEL CELLS WILL BE ADJUSTED TO A LOAD OF 230-290 AMPS AND MAINTAINED FOR 10 MINUTES TO MONITOR FUEL CELL PERFORMANCE, THEN FUEL CELL LOAD WILL BE ADJUSTED BACK TO 100-290 AMPS.

15-1355	-07H00M	LTD 232 OTC 132	OTC CEPD CFCP	PERFORM FUEL CELL LOAD ADJUSTMENT PER OMI S9001 ON OIS CH 151.	NOT PERFORMED -----
15-1356		OTC	CFCP CEPD	PERFORM FUEL CELL PERFORMANCE CALIBRATION AND SYSTEM INTEGRITY CHECK PER OMI V1040 (SEQ___) OR X_____ (SEQ___). REPORT COMPLETION.	NOT PERFORMED -----
15-1357		CECL		MONITOR HEAT LOAD IMPACT DURING FUEL CELL PERFORMANCE CALIBRATION.	NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1358		CFCP 132 UTC 232	OTC CECL CEPD LTD	FUEL CELL PERFORMANCE CALIBRATION AND PRSD SYSTEM INTEGRITY CHECK IS COMPLETE. OMRSD S00FM0.075 OMRSD S00FA0.360	
				NOT PERFORMED	-----
15-1359				LDG FINAL FILL (-7H)	
15-1360	-07H00M	OTC 132	CHYD	PERFORM LDG FINAL FILL PER SEQUENCE 46 (S0007-V4).	*BCS
15-1361	-07H00M	CCSE 132 UTC 232	OTC LTD	COMM CMD TO LAUNCH CONFIG-MCCH IS COMPLETE. (OMI V1117)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP AFTER
 COMPLETION OF COMM CMD TO
 LAUNCH CONFIG AND SWITCHLIST.

15-1362	-07H00M	UTC 132	CCSE	VAA19 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 ----- 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 ON, -2 ON	
15-1363				MCCH ABORT ADVISORY CHECK (-07H) -----	
15-1364	-07H00M	LTD 232 UTC 212	OTC *MIL ASP	STANDBY FOR ABORT ADVISORY CHECKS	
15-1365	-07H00M	LTD 232	*FLT	VERIFY SYSTEM ARMED AND READY TO PERFORM CHECK UN OIS CH 212.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
IF SECONDARY ORBITER HAS POWERED DOWN, PERFORM NEXT STEP. STEP MAY BE DELAYED UNTIL POWER DOWN OCCURS.					
15-1366	-07H00M	JRPS 111 STM GYCC JYCU 117	STM GYCC	SWITCH OIS BRANCH ___ IN LCC RM 2P17 TO PRIME MISSION UNTIL T+1H. VERIFY BRANCH ___ IN PRIME MISSION.	31212 34300 34100
15-1367		LTD 232	*MIL	VERIFY CONFIGURED TO SUPPORT FLT ABORT ADVISORY CHECKS.	
15-1368	-07H00M	LTD 232	*FLT	PERFORM FLT ABORT ADVISORY CHECKS	*BCS
15-1369			*FLT	TRANSMIT DSM 4050 (ABORT A - ON)	V73K0300U
15-1370		ASP		PANEL F6 ABORT INDICATOR LITE ON	F06A8S01
15-1371			*FLT	TRANSMIT DSM 4051 (ABORT A OFF)	V73K0301U
15-1372		ASP		PANEL F6 ABORT INDICATOR LITE OFF	V06A8S01
15-1373			*FLT	TRANSMIT DSM 4052 (ABORT B ON)	V73K0320U
15-1374		ASP		PANEL F6 ABORT INDICATOR LITE ON	F06A8S01
15-1375			*FLT	TRANSMIT DSM 4053 (ABORT B OFF)	V73K0321U
15-1376		ASP		PANEL F6 ABORT INDICATOR LITE OFF	V06A8S01
15-1377			*FLT	TRANSMIT DSM 4054 (ABORT A/B ON)	V73K0300U V73K0320U
15-1378		ASP		PANEL F6 ABORT INDICATOR LIGHT ON	
15-1379			*FLT	TRANSMIT DSM 4051 (ABORT A OFF)	V73K0301U

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1380		ASP		PANEL F6 ABORT INDICATOR LIGHT ON	F06A8S01
15-1381			*FLT	TRANSMIT DSM 4053 (ABURT B OFF)	V73K0321U
15-1382		ASP		PANEL F6 ABORT INDICATOR LIGHT OFF	
15-1383		*FLT	LTD	ABORT ADVISORY CHECKS COMPLETE.	
		212			
		A/G1			
15-1384		LTD	*FLT	IF DOD MISSION, PERFORM ITEM 9.5, APPENDIX G.	
				NOT PERFORMED	-----
15-1385		CTIF	TBC	ICE/FROST MONITORING AREA ET	
		136		UPS SUPPORT SETUPS COMPLETE.	
		TBC	LTD		
		232			
15-1386	-07H00M	STM	JSTC	DELIVER 40 GAS MASKS TO	EG&G-632
		111		GUARDSHACK AT THE A-11 ROADBLOCK	
		JSTC	*SCB	AFTER 06H30M. REPORT COMPLETION.	
15-1387	-07H00M	STM	JSTC	VERIFY HEAVY EQUIPMENT STAGED	EG&G-622.2
		111		FOR FALLBACK CONFIGURATION HAS	
		JSTC	JSDY	BEEN FUELED.	
		7-5050			
				NOTE	
				DO NOT PERFORM NEXT STEP IF	
				PREVIOUSLY ACCOMPLISHED.	
15-1388	-07H00M	*PAD	OTC	ORBITER OPERATION SUPPORT SETUP	
		132		32 - CM SIDE MATCH TUNNEL	
				REMOVAL IS COMPLETE.	
				NOT PERFORMED	-----
15-1389	-06H45M	CMPS	OTC	MPS PREPS FOR LOADING PER	*BCS
		132		UMI S1003 (LUX) AND UMI S1004 (LH2)	
				ARE COMPLETE. READY TO SUPPORT	
				PROPELLANT LOADING.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1390	-06H45M	CSME 132	UIC	SSME PREPS FOR LOADING PER UMI V9018 ARE COMPLETE. READY TO SUPPORT PROPELLANT LOADING.	
15-1391				SRB RECOVERY SYS CAMERAS -----	

NOTE

IF SRB RECOVERY SYS
 CAMERAS ARE INSTALLED,
 PERFORM NEXT STEP.

15-1392		CISL CPWR	1.	CURSOR CNTL (BAM08) LT/RT DFI (BATT) PWR ON - UN	
			2.	CRT (BAM08) VERIFY DFI BATT CURR LESS THAN 1.0 AMPS DFI BATT VOLT 26.7-39.8 VDC DFI BATT TEMP 34.2-102.8 DEG F	
			3.	CURSOR CNTL (BAM08) TERMINATE PROGRAM	
				UMRSD S00FM0.420	

NOT PERFORMED -----

15-1393				IMU OPR/ATT DET (V1125) -----	
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15-1394		OTC 132	CDPS	CHANGE RESPONSIBLE CONSOLE FOR DEU 2 TO C11	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1395			CDPS	CONSOLE KYBD HOME CMD KEY - PRESS ISSU N721V101D #B000 XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS HOME CMD KEY - PRESS C CO _DEU2G LDBA C11 XMIT CMD KEY - PRESS	
NOTE					
SPEC 104 IS REQUIRED ON CRT 2 FOR IMU OPERATIONS AND WILL BE CALLED BY LPS.					
IMU TO OPERATE SHALL OCCUR NO LATER THAN L-08H05M.					
DURING IMU ATT DET, DO NOT PERFORM DDU CHECKOUT, TCS-S OR ECP'S.					
15-1396	-06H45M	OTC	CGNC	PERFORM IMU OPERATE AND ATTITUDE DETERMINATION PER OMI V1123 ON CH 141. REPORT COMPLETION.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1397				APU HEATER ACTIVATION (-06H45M)	
15-1398	-06H45M	OTC	CAPU	PERFORM APU HEATER ACTIVATION PER SEQ. 42 (S0007 V-4) ON CHNL 182.	*BCS
15-1399	-06H40M	ASP 132	OTC	PRE-INGRESS CHECKLIST IS COMPLETE.	
				PANEL MD42F MIDDECK SPEAKER RECONFIGURATION	
15-1400		UTC	ASP	PANEL MD42F MID DECK SPEAKER AUDIO SPKR PWR SW - OFF	
				BACKUP H2 SENSOR SYSTEM CHECKS	
15-1401	-06H30M	LTD 232	OTC	PERFORM BACKUP H2 SENSOR SYSTEM CHECKS.	
15-1402		OTC 132	CHGD	PERFORM ORBITER AFT FUSELAGE BACKUP H2 SENSOR CHECKOUT. REPORT COMPLETION.	
15-1403			CHGD	U132A1 HARDWIRE SAFING PANEL	
				1. BYPASS SW - H2 SENSOR 2. H2 SENSOR IND - UN 3. SAMPLE PUMP SW - UN 4. LOW FLOW IND - OFF 5. FLOW OK IND - UN 6. RECORD DVM READING: -----V, Z -----	
15-1404			CHGD	O132A1 HARDWIRE SAFING PANEL	
				1. BYPASS SW - MASS SPEC 2. SAMPLE PUMP SW - OFF 3. VERIFY FLOW OK - OFF	
15-1405		CHGD 132	OTC	ORBITER AFT FUSELAGE BACKUP H2 CHECKOUT IS COMPLETE. HGDS READY TO SUPPORT PROPELLANT LOADING.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1406		UTC 232 LTD	LTD *SCC	BACKUP HZ SENSUR SYSTEM CHECKS COMPLETE, HGDS READY TO SUPPORT PROPELLANT LOADING.	
15-1407				ETR OPEN LOOP CMD TEST (-06H30M) -----	
15-1408	-06H30M	SRO 232 LTD	LTD TBC	ETR REQUESTS RANGE SAFETY COMMAND *BCS READINESS CLEARANCE (416.5 MHZ) OPEN LOOP WITH FUNCTIONS FOR 90 MIN. WILL REPORT COMPLETION.	
15-1409				STM - (T-06H30M) FUNCTIONS -----	
15-1410	-06H30M	LTD 232	STM	PERFORM T-06H30M FUNCTIONS.	
15-1411	-06H30M	STM 111	JPHO	PLACE EMERGENCY CAMERA CONTROL SYSTEM MODE SELECTOR IN MODE II POSITION AND VERIFY.	TGS
15-1412		STM 111	GYCC JSTC KSTC JBDY	PERFORM PRE-OPERATIONS SETUP INSTRUCTIONS FOR A5204 CREW TRANSFER - CREW SUITING ROOM O&C TO PAD A.	34300 EG&G 36010
15-1413	-06H30M	STM 232	LTD	T-06H30M FUNCTIONS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1414	-06H30M	TBC 232 LTD 232 OTC 132	LTD OTC	CMPL, CCME, CSME AND CMPS SUPPORT REQUIRED FOR MPS LOX LOADING PRELIMINARIES ON CH 156, CMPL CSME CMPS CCME	
15-1415	-06H30M	CMEC 136 TBC 232	TBC LTD	GO2 VENT HOOD HAS BEEN RETURNED TO OPERATING PARAMETERS PER UMI G2153/G2158.	
15-1416	-06H30M	CMEC 136 TBC 232	TBC LTD	GAG01/GAG02 PROGRAM TERMINATED, GO2 VENT SYSTEM MONITORING AND CONTROL TRANSFER TO VAJ14 COMPLETE.	
15-1417	-06H30M	CLOX 136 TBC 232	TBC LTD	LOX SYSTEMS FINAL PREPS FOR VEHICLE LOADING PER UMI G3151 (OR UMI G3155 IF PERFORMING SCRUB TURNAROUND) ARE COMPLETE AND PERSONNEL ARE CLEARING THE AREA. READY TO INITIATE LOX LOADING PRELIMINARIES AND SSME PURGES PER UMI S1003. PROGRAMS GAL01 AND GAL02 ARE ACTIVE AT C-3.	*BCS
15-1418				LOX/MPS LOAD PRELIMINARIES -----	
15-1419		LTD 232	TBC	PROCEED WITH LOX LOADING PRELIMINARIES (UMI S1003).	
15-1420		TBC 136	CLOX CMPS	PERFORM LOX AND MPS LOADING PRELIMINARIES PER UMI S1003. REPORT COMPLETION.	*BCS
15-1421				SSME PURGING (S1003) (-06H30M) -----	
15-1422	-06H30M	UTC 132	CSME	INITIATE SSME PURGING PER UMI S1003. REPORT COMPLETION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1423		TBC 138	JYVR	STOP VIDEO RECORDINGS OF DIV 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 (UMI'S G3151 AND G3251). START VIDEO RECORDING OF DIV CAMERAS FOR CRYO LOADING (UMI S1003 AND S1004) (SEE CLHY/CLUX FIGURE 4) LAUNCH CONFIGURATION. CAMERAS: 001/101,003/103,009/109,034/134,046/146, 047/147,049/149,050/150,051/151,052/152 053/153	34200
15-1424	-06H30M	LTD 232	LPS	VERIFY SCRS PRINTER/PLOTTERS SUB SYS 1, UNITS 1 THRU 4, ON LINE FOR LO2, LM2.	31240
15-1425				INCREASE AFT FLOW (V1122) -----	
15-1426	-06H30M	OTC 132	CPVD	INCREASE CRYO LOAD AFT FLOW RATE TO 110 +/- 5 LB/MIN. AND RAISE AFT INTERFACE TEMP TO 105 +/- 10 DEG F PER UMI V1122. UMRSD V05A10.060	
15-1427				TOP-OFF SS SYSTEM (-06H30M) -----	
NOTE					
PERFORM NEXT STEP IF SS WATER TANK REQUIRES TOP OFF.					
15-1428	-06H30M	STM 111	JBWC	TOP OFF ELEVATED SOUND SUPPRESSION WATER TANK PER OPERATION INSTRUCTIONS OF UMI M3114 (SKELETON SSA, F1A)	33226
NOT PERFORMED					-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1429				LAUNCH COMMIT CRITERIA VERIF.	
15-1430	-06H30M	LTD 232	OTC TBC CTC STM SRD *MIL LPS	VERIFY REQUIRED LAUNCH COMMIT CRITERIA VALID FOR START OF TANKING AT T-06 HOURS.	*BCS
15-1431	-06H30M	STM 111	JBWC JBFX JBEP	VERIFY REQUIRED LAUNCH COMMIT CRITERIA REQUIREMENTS FOR THE START OF TANKING.	33210 3322B 3322A
15-1432	-06H30M	JSTC 114	JSDY JSEP GSPN JSAC JSQC JFIR *SEC	VERIFY REQUIRED LAUNCH COMMIT CRITERIA VALID FOR START OF TANKING.	EG&G-123 EG&G-614 EG&G-631 EG&G-612 EG&G-315 EG&G-420 EG&G-430
15-1433	-06H30M	STM 111	JSTC GYCC	VERIFY REQUIRED LAUNCH COMMIT CRITERIA VALID FOR START OF TANKING.	EG&G-123 3430G
15-1434	-06H30M	UTC 132	ALL	VERIFY YOUR SYSTEM MEETS LAUNCH COMMIT CRITERIA REQUIREMENTS FOR THE START OF TANKING PHASE AT T-6 HOURS.	
			CEPD -----	CCSE -----	CCME -----
			CECL -----	CNSE -----	CMPL -----
			CISL -----	COFC -----	CUDS -----
			CDPS -----	CGNC -----	CGSS -----
			CHYD -----	CMPS -----	CPLE -----
			CPVD -----	CSME -----	
			CUDS -----	CAPU -----	
			CAFM -----	CFCP -----	
			CAFC -----	CHGD -----	
15-1435		OTC	CISL	SUPPORT TBC ON CH 13b.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1436	-06H30M	TBC 136	ALL	VERIFY YOUR SYSTEM MEETS LAUNCH COMMIT CRITERIA REQUIREMENTS FOR THE START OF TANKING PHASE AT T-06 HOURS. CLOX ----- CLHY ----- CTIF ----- (DETERMINE IF PAD ENTRY IS REQUIRED DURING T-03 HOUR HOLD) CPWR ----- CBDP ----- CBHY ----- CISL ----- CBRS ----- UMRSD S00FK0.100 UMRSD S00FLO.020 UMRSD S00FR0.030 UMRSD S00FR0.050 UMRSD S00FR0.060	
15-1437		CPWR	TBC	REMAINING BATTERY AMP HRS ARE CMQC SUFFICIENT FOR LAUNCH.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
VERIFY ALL CREW COMPARTMENT WORK COMPLETE PRIOR TO CLEARING WHITE ROOM/CREW COMPARTMENT.					
15-1438				CLEAR WHITE ROOM/CREW CMPT -----	
15-1439		*PAD	OTC	READY TO CLEAR WHITE ROOM/CREW COMPARTMENT.	
15-1440	-06H20M	OTC 132	OFCM CDR ASP	CLEAR ALL PERSONNEL FROM WHITE ROOM AND CREW COMPARTMENT TO A-11 ROADBLOCK, EXCHANGE HAZARDOUS BADGES FOR PICTURE BADGES, THEN PROCEED TO FALLBACK AREA AND REPORT TO *PAD.	*BCS
15-1441	-06H20M	OTC 232 LTD	LTD *SCC	ALL WHITE ROOM AND CREW COMPARTMENT PERSONNEL ARE CLEARING THRU A-11 ROADBLOCK TO FALLBACK AREA AT THIS TIME.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1442				REPORT LCC STATUS (-06H20M)	
15-1443	-06H20M	OTC TBC STM CTC SRD *MIL LPS 232	LTD	REPORT LAUNCH COMMIT CRITERIA STATUS.	*BCS
15-1444	-06H20M	LTD 232	CSPE	VERIFY NO LAUNCH COMMIT CRITERIA VIOLATIONS WHICH CONSTRAIN CRYO PROPELLENT LOADING	
15-1445	-06H20M	LTD 232	*FLT	VERIFY GO FOR LO2 AND LH2 TANKING	
15-1446		*PSE 105 *SCC 232 LTD	*SCC LTD TBC	LOX AND LH2 STORAGE AREAS ARE CLEAR OF PERSONNEL	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1447				CONSOLE PROGRAM ASSIGNMENTS	

NOTE

THE FOLLOWING CONSOLE PROGRAM ASSIGNMENTS ARE MINIMUM FOR TANKING. THESE ASSIGNMENTS ARE TO ASSIGN CONCURRENCY PRIORITIES AND ARE THE ONLY PROGRAMS AUTHORIZED FOR OPERATION.

15-1448	-06H20M	LTD 232	UTC TBC CTC	VERIFY FR CONSOLE SOFTWARE ACTIVATION CONFIGURED PROPERLY FOR 1-06 HOURS. REPORT COMPLETION.	
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CARGO PROGRAMS

NOTE

FOR DOD MISSION, DO NOT PERFORM NEXT TWO STEPS.

15-1449	-06H20M	CTC	DLES	VERIFY PROGRAMS (ACTIVE IN C1) RW0017 (ORB PARAMETERS) UW0004 (IUS/TDRS PWR DISPLAY DRIVER) FW0004 (S/C DATA DISPLAY DRIVER)	
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NOT PERFORMED

15-1450		CTC 232	LTD	FR C1 CONSOLE SOFTWARE CONFIGURED.	
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NOT PERFORMED

URBITER PROGRAMS

15-1451	-06H20M	UTC 132	CMPL	VERIFY PROGRAM SAE02 ACTIVE IN C3	
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15-1452		UTC 132	CSME	VERIFY PROGRAM VAE38 ACTIVE IN C3	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1453		OTC 132	CMPS	VERIFY PROGRAMS VAE18 ACTIVE IN C4 SAE12 ACTIVE IN C4	
15-1454		OTC 132	CCSE	VERIFY PROGRAMS CNSE VWA-40 ACTIVE IN C2	
15-1455		OTC 132	CPVD	VERIFY PROGRAMS VAM01 ACTIVE IN C6 VAM31 ACTIVE IN C6	
15-1456		OTC 132	CECL	VERIFY PROGRAMS VAG34 ACTIVE IN C5 VAG28 ACTIVE IN C5 VAG29 ACTIVE IN C5	
15-1457		OTC 132	CFCP	VERIFY PROGRAMS VAR75 ACTIVE IN C6 VAR96 ACTIVE IN C6 VAH07 ACTIVE IN C6	
15-1458		OTC	CGSS	VERIFY PROGRAM VAJ02 ACTIVE IN C7 VAJ14 ACTIVE IN C7	
15-1459		OTC 132	CAFM	VERIFY PROGRAM VAK13 ACTIVE IN C2	
15-1460	-06H20M	OTC 132	COUS	VERIFY PROGRAMS VADK6 ACTIVE IN C7 VADK1 ACTIVE IN C7 VADL6 ACTIVE IN C7 VAD90 ACTIVE IN C7	
15-1461		OTC 132	CHYD	VERIFY PROGRAMS VAF33 ACTIVE IN C8 VAF30 ACTIVE IN C8	
15-1462		OTC 132	CAPU	VERIFY PROGRAMS VAF13 ACTIVE IN C8 VAF34 ACTIVE IN C8	
15-1463		OTC 132	CISL	VERIFY PROGRAMS SAQ04 ACTIVE IN C9 VAG29 ACTIVE IN C9	
15-1464	-06H20M	OTC 132	CHGD	VERIFY PROGRAM VAQ14 ACTIVE IN C9	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1465		OTC 132	CEPD	VERIFY PROGRAMS SWC02 ACTIVE IN C10 VAC28 ACTIVE IN C10 VAC33 ACTIVE IN C10	
15-1466		OTC 132	CDPS	VERIFY PROGRAMS SAS01 ACTIVE IN C12 SAS07 ACTIVE IN C12 VAS59 ACTIVE IN C12 VAS97 ACTIVE IN C12	
15-1467	-06H20M	OTC 132	CCME	VERIFY PROGRAM VAE74 ACTIVE IN C12	
15-1468		OTC 132	CGLS	VERIFY PROGRAM SEP50 ACTIVE IN B/U	
15-1469		OTC 132	CGLS	VERIFY PROGRAMS VAC54 ACTIVE IN INTG. VAG34 ACTIVE IN INTG. VAQ36 ACTIVE IN INTG. VAQ29 ACTIVE IN INTG.	
15-1470	-06H20M	OTC 232	LTD	FR CONSOLE SOFTWARE ACTIVATION IS CONFIGURED FOR T-06 HOURS. SRB/ET PROGRAMS -----	
15-1471	-06H20M	TBC 136	CLUX	VERIFY PROGRAMS GAL01 ACTIVE IN C3 GAL02 ACTIVE IN C3	
15-1472		TBC 136	CLHY	VERIFY PROGRAMS GAH01 ACTIVE IN C4 GAH02 ACTIVE IN C4 GAW02 ACTIVE IN C4	
15-1473		TBC 136	CISL	VERIFY PROGRAMS TWU52 ACTIVE IN C9	
15-1474		TBC 136	TPE	VERIFY PROGRAMS TAU52 ACTIVE IN B/U GAW01 ACTIVE IN B/U GEL51 ACTIVE IN B/U GEM51 ACTIVE IN B/U BAI00 ACTIVE IN B/U	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1475		TBC 136	CBRS	VERIFY PROGRAMS SARB4 ACTIVE IN C5 SWRB1 ACTIVE IN C5	
15-1476	-06H20M	TBC 136	CBHY	VERIFY PROGRAM BAT04 ACTIVE IN C8	
15-1477		TBC 136	CPWR	VERIFY PROGRAM BWE08 ACTIVE IN C10 TW498 ACTIVE IN C10	
15-1478	-06H20M	LTD 232	LPS	VERIFY PROGRAMS ACTIVE IN MSTR: AA001 (TCB3) \$HWMON (TCB4) AWP01 (TCB5) SLPP1 (TCB6)	31240
15-1479	-06H20M	TBC 136	ALL	EMERGENCY SHUTDOWN SHALL BE ACCOMPLISHED PER S1003 AND S1004. ALL PERSONNEL VERIFY YOU HAVE A COPY OF EMERGENCY PROCEDURE ON STATION, THAT YOU HAVE READ THE SECTION PERTAINING TO THE EQUIPMENT YOU ARE RESPONSIBLE FOR, AND THAT YOU UNDERSTAND. VERIFY THAT YOU ARE READY TO SUPPORT LUX/LH2 LOADING. CETP CLOX CLHY	
				CMEC CISL CPWR	
15-1480		TBC 136	CMEC	MONITOR THE GOX VENT SEALS THROUGHOUT LOADING FOR ICE FORMATION AND GOX VAPOR LEAK. IF A CONTINUOUS STEADY STREAM VAPOR LEAK OR SEAL FRETTING IS DETECTED, PERFORM EMERGENCY GO2 VENT HOOD RAISE PER UMI G2153/G2158. UMRSD S00L00.150 UMRSD S00FD0.080	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1481				START CLEARING - LDA	
15-1482	-06H20M	LTD 232 *SCC 105	*SCC *SEC *PSE	START CLEARING LAUNCH DANGER AREA OF ALL NON ESSENTIAL PERSONNEL FOR LAUNCH. ESTABLISH ROAD BLOCKS AT A-10 AND A-11 CONTROL POINTS. REPORT COMPLETION.	EG&G-430 *BCS
NOTE					
PERSONNEL MAY REMAIN IN THE CCF AND NDTL FACILITIES UNTIL L-03H00M. SECURITY WILL VERIFY LDA CLEAR AT 1-00H25M.					
15-1483		LTD 232	*SCC	LDA CLEARING IS IN EFFECT BY SECURITY.	
15-1484	-06H15M	LTD	LPS	VERIFY LDBM SUBSYSTEM IN DUAL BUS - REJECT	31240

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				VERIFY ECS/HGDS STATUS -----	
15-1485	-06H15M	OTC 132	CHGD	VERIFY OXYGEN INDICATION IS LESS THAN 10,000 PPM AND DECREASING IN FOLLOWING AREAS ET INTERTANK ORBITER PAYLOAD BAY ORBITER LOWER MID-BODY ORBITER AFT FUSELAGE UMRSD V05AP0.040 UMRSD S00FA0.400 UMRSD S00FA0.410 UMRSD S00FA0.420 UMRSD S00FA0.430	
15-1486		OTC	CPVD	VERIFY ECS SYSTEM HAS BEEN ON GN2 FOR 30 MINUTES, MINIMUM, PRIOR TO T-6 HOURS. UMRSD V05AG0.050 UMRSD V05AH0.050 UMRSD V05AI0.050	
15-1487				VERIFY APU/RCS HTRS -----	
15-1488	-06H10M	OTC 132	CAPU	VERIFY APU HEATERS ARE ON FOR ALL THREE (3) APU'S 1. GAS GEN/FUEL HTR - A 2. LUBE OIL LINE HTR - A 3. TANK AND LINE HTR - A * B	
15-1489		OTC	COUS	VERIFY AFT OMS/RCS HEATERS ARE ON.	
15-1490	-06H10M	OTC 132	CHGD	VERIFY HGDS MONITORING FOR HYDROGEN.	
15-1491		*SCC 226 JSTC 114	JSTC JFIR	FIRE/RESCUE FALLBACK TO A-11 ROADBLOCK.	EG&G-420

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1492		*PAD UTC 232 LTD	OTC LTD *SCC	ALL WHITE ROOM AND CREW COMPARTMENT PERSONNEL HAVE CLEARED BDA.	
15-1493	-06H10M	LTD 232 *SCC 105	*SCC *PSE	VERIFY SAFETY IS READY TO SUPPORT CRYO LOADING.	
15-1494		*PSE *SCC	*SCC LTD	ALL PERSONNEL HAVE CLEARED THE PAD AREA. YOU HAVE SAFETY CONCURRENCE TO SOUND THE EMERGENCY EVACUATION WARBLER. SAFETY WILL WAIT FOR FIVE MINUTES AFTER WARBLER HAS SOUNDED, BEFORE DEPARTING PAD GATE.	
15-1495			LTD	SOUND EMERGENCY EVACUATION WARBLER FOR 30 SECONDS.	
15-1496		LTD 232 *SCC 105	*SCC *PSE	CONFIGURE B ROAD SAFETY WARNING LIGHT TO RED. CONFIGURE WARNING LIGHTS AT A-5 AND A-11 ROADBLOCKS TO RED WHEN EVACUATING PAD.	
15-1497		*SCC 232	LTD	PAD ___ IS CLEAR OF ALL PERSONNEL. CHILLDOWN MAY COMMENCE AT THIS TIME.	
15-1498				VERIFY SAFING PANEL CONFIG -----	
15-1499		LTD 232 TBC 136	OTC TBC CBHY	VERIFY ALL CONSOLES READY FOR THE LDB SAFING SEQ'S TO BE ENABLED.	
15-1500	-06H10M	OTC 132	CPVD CAPU CEPD COFC CGLS CMPS CMPL	VERIFY YOUR LDB SAFING PANEL IS CONFIGURED FOR ACTIVATION.	
15-1501	-06H10M	LTD 232	LPS	AT LDBA AND LDBS FEPS - PRESS RESET SWITCH ON VEHICLE SAFING INTERRUPT PANEL VERIFY LITES 0-31 ARE OFF.	31240

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF ANY LIGHTS ARE ON, PERFORM
 NEXT FOUR STEPS.

15-1502		LPS 232 LTD UTC	LTD OTC CDPS	VERIFY NO TCS SEQUENCES ARE RUNNING.	31240
				NOT PERFORMED	-----

15-1503			CDPS	CRT (VAS59, PG-B) VERIFY TCS STATUS INACTIVE.	
				NOT PERFORMED	-----

15-1504		LPS	LTD	THE LDB FEP WILL BE MOMENTARILY INHIBITED TO RESET SAFING LITES. REQUEST PERMISSION TO PROCEED.	31240
				NOT PERFORMED	-----

NOTE

LDB I/O ERRORS WILL OCCUR IF
 NEXT STEP IS PERFORMED.

15-1505	-06H10M	LPS	C1MC	CONSOLE KYBD	31240
				I RS LDBA - XMIT CMD I DA LDBA - XMIT CMD/EXEC CMD A DA LDBA - XMIT CMD/EXEC CMD A RS LDBA - XMIT CMD	
				AT LDBA AND LDBS FEPS - PRESS RESET SWITCH ON VEHICLE SAFING INTERRUPT PANEL VERIFY LITES 0-31 ARE OFF	
				NOT PERFORMED	-----

15-1506		LPS LTD 232	LTD OTC	LDB SAFING RESET COMPLETE.	31240
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15-1507		LPS	C1SE C3SE	VERIFY ALL PDM'S SET TO READ POSITION.	31240
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1508				LDB-FEP SAFING LOAD -----	
15-1509	-06H05M	OTC	CGLS	PERFORM LDB SAFING LOAD	
				NOTE	
				FEP X60 = LDB-A FEP X61 = LDB-B	
15-1510			CGLS	DC PG (\$SYS) CURSOR CNTL LDBA LDBA FEP REF. DES. <u>066 0A1</u> LDB CMD ENABLE SWITCH SHOULD BE IN <u>LDBA</u> POSITION FOR THIS TEST.	
15-1511			CGLS LTD 232	LDB CMD ENABLE WILL GO TO ENABLE ON MY MARK 5-4-3-2-1 MARK LDB SAFING SWITCHES ARE ACTIVE.	
15-1512			CGLS	SLP01, <u>KSCB</u> (KSCA OR KSCB), ^{CENT} OFF PERF PGM KEY - PRESS VERIFY SLP01 ACTIVE SELECT APP PG 8 FOR SLP01 VERIFY INTEGRATED MENU	
15-1513			CGLS	CURSOR CONTROL HARDWARE SAFING XMIT CURSOR - PRESS CRT LDB-FEP SAFING SEQ	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
15-1514	-06H05M	CGLS		LOAD ALL SAFING SEQUENCES CURSOR CNTL ALL XMIT CURSOR KEY - PRESS CRT CURSOR BLOCK SOLID GREEN FOR ALL SELECTIONS MADE CURSOR CNTL TERMINATE - XMIT CURSOR - PRESS SLP01 - TERMINATE	
15-1515		CGLS		DC PG (\$SYS) CURSOR CNTL LDBA VERIFY GREEN ARROWS FOR ALL SEQ SELECTED SAFING LOAD COMPLETE -----	
15-1516		CGLS	OTC	LDB-FEP SAFING LOAD COMPLETE.	
		132			
		OTC	LTD		
		232			
NOTE					
IF A CHANGE OCCURS RESULTING IN A SWITCH OF ACTIVE LDB FEPS, LPS MUST NOTIFY CGLS TO RECONFIGURE SAFING PANEL.					
15-1517	-06H05M	LTD	TBC	LDB SAFING SEQUENCES LOADED AND	
		232	CTC	ALL SAFING SWITCHES ARE ACTIVE.	
		TBC	CBHY		
		136			
15-1518		OTC	ALL	LDB SAFING SEQUENCE LOADED AND SAFING SWITCHES ARE ACTIVE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
DISABLE PAD UIS -----					
15-1519	-06H05M	LTD 232 STM 111 GYCC 117	STM GYCC JYCJ	PAD CLEARED - DISABLE PAD UIS. VERIFY WHEN COMPLETE (5 MIN).	34300 34100 *BCS
BDA CLEAR - COMPLETE -----					
15-1520	-06H05M	*SEC LTD LTD *SCC *SCC *PSE	LTD *SCC *PSE	LDA IS BEING CONTROLLED - PAD BLAST DANGER AREA CLEAR UP ALL PERSONNEL. ROAD BLOCKS ARE ESTABLISHED AT A-10 AND A-11 AND SIGNAL LIGHTS ARE FLASHING RED. TASK: ET LOX AND LH2 LOADING ACCESS CODE - 1 ----- CONTROL AREA ----- 1. BDA 2. LDA ESSENTIAL PERSONNEL ----- NONE - 0	EG&G-430
15-1521		*SCC LTD	LTD	SAFETY HAS VERIFIED ALL PERSONNEL CLEARED BDA.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0000				SHUTTLE FINAL COUNTDOWN CONTROL SEQUENCE (-06H THRU +02H)	
NOTE					
RE-ENTRY POINT FOR 24 HOUR SCRUB/TURNAROUND OPERATIONS.					
16-0001				WEATHER UPDATE	
16-0002	-06H00M	STM 111	JBDY	REQUEST CURRENT WEATHER INFORMATION FOR KSC. HAZARDOUS TEST STARTING AT PAD A. ADVISE AND UPDATE SEVERE WEATHER WARNINGS AS RECEIVED. CURRENT WEATHER IS:	33320
TIME _____ FOR NEXT _____ HOURS WIND DIR: _____ SPEED: _____ (60 FT. LEVEL, FSS) TEMP: _____ TEMP INVERSION: _____ FORECAST: _____ _____					
16-0003		CLOX 136 TBC 232	TBC LTD	LOX AND MPS LOX LOADING PRELIMINARIES COMPLETE. READY FOR LOX LOADING.	
LH2 PRECHILLDOWN OPS - COMPLETE					
16-0004	-06H00M	CLHY 136 TBC 232	TBC LTD	LH2 PRECHILLDOWN OPERATIONS PER UMI S1004 ARE COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0005		TBC 232	LTD	EXTERNAL TANK READY FOR LO2/LH2 LOADING.	
16-0006	-06H00M	UTC 132	CHGD	MONITOR HGDS. REPORT ANY H2 OR O2 INDICATIONS ON COMMAND CHANNEL 132.	
16-0007				READY FOR ET LO2/LH2 LOADING (-06H)	
16-0008		UTC 232	LTD	ORBITER READY FOR LO2/LH2 LOADING.	
16-0009		LTD 232	NTD	ORBITER AND ET READY FOR LO2/LH2 LOADING.	
16-0010		NTD	LTD	PROCEED WITH LO2/LH2 LOADING.	

NOTE

PA ANNOUNCEMENT IN NEXT STEP TO BE LOCAL FOR FIRING ROOM ONLY.

16-0011		LTD PA		ATTENTION ALL CONTROL ROOM PERSONNEL, REMAIN SEATED, NO SMOKING RULE NOW IN EFFECT THRU T+1R.	
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NOTE

PAN, TILT AND FOCUS CONTROL OF QTV CAMERA 053/135 MAY BE OBTAINED FROM CVM2 ON CH 224 AND QTV CAMERA 055/155 FROM CVM3 ON CH 225.

16-0012	-06H00M	LTD 232 TBC 136	TBC CLOX CLHY	PROCEED WITH LOX LOAD TO REPLENISH PER OMI S1003 ON UIS CH 156 AND LH2 LOAD TO REPLENISH PER OMI S1004 ON UIS CH 166. REPORT COMPLETION OF SIGNIFICANT MILESTONES.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0013				LOX/XFER LINE CHILLDOWN (-06H) -----	
16-0014	-06H00M	CLUX	TBC	INITIATING LOX TRANSFER LINE CHILLDOWN. LH2 CHILLDOWN -----	*BCS
16-0015	-06H00M	CLHY	TBC	INITIATING LH2 CHILLDOWN UMRSD S00FE0.070	*BCS
16-0016		TBC 232	LTD	INITIATING LUX AND LH2 TRANSFER LINE CHILLDOWN.	
16-0017				CONTROL LOGIC INHIBIT (-06H) -----	
16-0018	-06H00M	OTC 132	CGLS	PERFORM PROGRAM STX05 FOR 1-6 HR REACTIVE CONTROL LOGIC INHIBIT.	
16-0019	-06H00M		CGLS	VERIFY 1 AVAILABLE CONCURRENCY AND 2 CONSECUTIVE OC PAGES. 1. HOME CMD KEY - PRESS 2. ENTER "STX05" 3. PERF PGM KEY - PRESS 4. PFPK THAT CORRESPONDS TO STX05 - PRESS 5. PFPK1 - PRESS 6. RETRIEVE HARDCOPY FROM CONSOLE PRINTER PLOTTER AND REVIEW WITH CTPE (VERIFY ALL C.L. IS ACTIVE (EXCEPT MMC) 7. AFTER REVIEW - PROVIDE JC WITH HARDCOPY	
16-0020	-06H00M	CGLS 132	OTC	COMPLETED IMPLEMENTATION OF STX05.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0021				FC REAC VALVE CONTROL LOGIC ACT	
16-0022		UTC	CFCP	PERFORM FUEL CELL REACTANT VALVE CONTROL LOGIC ACTIVATION	
16-0023			CFCP	CURSOR CNTL (VAR96 PG-A) ACTIVATE VCH01-(INVERT GREEN) VCH02-(INVERT GREEN) VCH03-(INVERT GREEN)	
16-0024		CFCP	UTC	FUEL CELL REACTANT VALVE CONTROL LOGIC ACTIVATION COMPLETE.	
16-0025		LPS	PMPA	VERIFY HIM VAN SPARES AND TRUCK RADIO (NET 102) OPERATION.	31240
16-0026		LTD 232	LPS	PERFORM DEMAND UPDATE ON \$FEPCPR FOR ALL FEPS. TERMINATE \$FEPCPR AT COMPLETION OF DEMAND UPDATE.	

NOTE

OMIT NEXT STEP IF HVAC ENGR DETERMINES SECOND CHILLER NOT REQUIRED.

16-0027	-06H00M	JSAC 114 JSTC 111	JSTC STM	SECOND WATER CHILLER AT UTILITY ANNEX IS RUNNING/STABILIZED UN-LINE FOR REDUNDANCY.	EG&G-612
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NOT PERFORMED

NOTE

IN NEXT STEP, FIRING ROOM TO BE IDENTIFIED BY ISMU FOR SWITCHING.

HALON SYSTEM TO REMAIN IN MANUAL UNTIL T+01 HR.

16-0028	-06H00M (HOLDING)	LTD 232 STM 111 JSTC 114	STM *SCC JSTC JFIR	PERFORM HALON SUPPRESSION SYSTEMS SWITCHING IN BACKUP LCC FIRING ROOM TO MANUAL. REPORT COMPLETION.	EG&G-422
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OPERATION INSTRUCTIONS

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SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0029				SUPPORT FALLBACK CONFIG (USSU 3)	
16-0030	-06H00M	STM 111	PSTM GYCC SRD JSTC JCFM	PERFORM SUPPORT OPERATION SUPPORT SETUP 3 - FALLBACK CONFIGURATION	34300 ETR EG&G-123 31314 31240 40320 *BCS
		127 JSTC 114 NET 104	LPS GSPN JSWC GSME *SCB GSPS		

16-0031

FUEL CELL PURGE

NOTE

WAIT 2 HOURS MINIMUM FROM
 FUEL CELL ACTIVATION PRIOR
 TO PERFORMING NEXT STEP.

IF FUEL CELLS HAVE BEEN
 RUNNING AND 8 HOUR
 OPERATIONAL PURGES ARE
 BEING PERFORMED PER
 V1040 VOL 2, DO NOT PERFORM
 NEXT TWO STEPS.

16-0032 -06H00M

OTC CFCP PERFORM FUEL CELL PURGE ON UIS *BCS
 132 CH 153 PER OMI V1040. REPORT
 COMPLETION.

RECORD START TIME _____ GMT
 (2 HR MINIMUM AFTER FC ACT)

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0033		CFCP 132 OTC 232	OTC LTD	FUEL CELL PURGE IS COMPLETE.	
				NOT PERFORMED	-----
				NOTE	
				IF DOD MISSION, DO NOT PERFORM NEXT THREE STEPS.	
16-0034	-06H00M	LTD 232	STM	REQUEST JCFM TO PERFORM CMDPS PRINTOUT.	
				NOT PERFORMED	-----
16-0035		STM 111	JCFM	PERFORM CMDPS PRINTOUT.	31314
				NOT PERFORMED	-----
16-0036		JCFM 111 STM 232	STM LTD	CMDPS PRINTOUT COMPLETE.	31314
					W:----- 50234
				NOT PERFORMED	-----
16-0037	-06H00M	STM 111	JCFM	START REQUIRED EMS RECORDERS	31314
16-0038				OMS PROP TANK REPRESS -----	
				NOTE	
				THE NEXT TWO STEPS PERFORMED AT COOS DISCRETION IF OMS PROP TANK REPRESS REQUIRED.	
16-0039	-06H00M	OTC	COOS	PERFORM OMS PROP TANK REPRESS PER SEQ 51 (S0007-V4). REPORT COMPLETION.	
				NOT PERFORMED	-----
16-0040		COOS OTC		OMS PROP TK REPRESS COMPLETE.	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
LH2 FAST FILL (S1004)					
16-0050	-05H20M	CLHY 136 TBC 232	TBC LTD	SLOW FILL TO 2 PCT COMPLETE BEGINNING FAST FILL TO 98 PCT.	*BCS
16-0051		UMS GIMBAL PROFILE (-05H20M)			
16-0052	-05H20M	COFC 132 OTC 232 LTD	OTC LTD LPS	SET SCRS PRINTER PLOTTERS SUB SYS 1, UNIT 6 ON LINE (GNC)	31240
NOT PERFORMED					
NOTE					
DO NOT PERFORM UMS GIMBAL PROFILE WHILE IMU PRE-FLIGHT CAL IS IN PROGRESS.					
16-0053	-05H20M	OTC	COFC	PERFORM UMS GIMBAL PROFILE PER SEW 43 (S0007-V4) ON DIS CHAN 171. REPORT COMPLETION.	*BCS
UMRSD 300FH0.010 UMRSD 300FH0.020					
NOT PERFORMED					
16-0054		OTC	COFC	TERMINATE PLOTS ASSIGNED TO SCRS SUB SYS 1, UNIT 6.	
NOT PERFORMED					
16-0055		COFC 132 OTC 232 LTD	OTC LTD LPS	SET SCRS PRINTER PLOTTERS SUBSYSTEM 1, UNIT 6 - OFF LINE. REMOVE DATA FOR DATA COORDINATOR PICK UP.	31240
NOT PERFORMED					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

LOX FAST FILL (S1003) -----					
16-0056	-05H15M	CLOX 136	TBC	LOX SLOW FILL IS COMPLETE. TRANSITIONING TO LO2 FAST FILL.	*BCS
16-0057	-05H10M	CLOX 136 TBC 232 LTD	TBC LTD	NOW IN FAST FILL TO 98 PCT.	

LO2 AFT HTR ACTIVATION -----					
16-0058	-05H05M	CPWR 156	CLOX	PFP (TW495) AFT HTR FWR - PRESS LO2 HTR UN - PRESS	

CRT (TD490) VERIFY MAIN AC1 RELAY CLOSED MAIN AC2 RELAY CLOSED AFT LO2 RELAYS CLOSED LOX FDLN BRKT CURRENT 1.38 - 2.02 A LOX EL INBD CURRENT 1.38 - 2.02 A LOX EL OUTBD CURRENT 1.38 - 2.02 A					
16-0059	-05H00M	TBC 136	CBHY	CONFIGURE BAT04 FOR LAUNCH COUNTDOWN.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
DO NOT PERFORM NEXT STEP IF BAT04 ACTIVE.					
16-0060		CBHY		CONSOLE KYBD HOME CMD KEY - PRESS BAT04 PERF PGM KEY - PRESS	
				NOT PERFORMED	-----
16-0061		CBHY		CRT (BAT04) NOTE DISPLAY FILLED	
16-0062		CBHY		CURS CURSOR CNTL (BAT04) C/D MDE XMIT CURSOR UNTIL - LNH	
16-0063				ETR OPEN LOOP CHECKS (-05H) -----	
16-0064		OTC 132	RCRE	SUPPORT ETR OPEN LOOP CHECKS ON UIS CHNL 175.	
16-0065	-05H00M	LTD 232	SRQ	PERFORM ETR OPEN LOOP CHECK WITH OPF AND XMITR SITE PER ETR DMI A2811 ON UIS CH 175. KSC PERSONNEL READY TO SUPPORT.	ETR *BCS
16-0066		LPS	CPDR	SWITCH TO ERROR-FREE TAPES FOR PDR AND LDBM RECORDING.	31240

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

MILA/GSFC/JSC I/F TEST (CONTINGENCY)					

NOTE

NEXT STEP PERFORMED ONLY
 IN SUPPORT OF A 24 HOUR
 SCRUB TURNAROUND OPERATION.

16-0067		LTD		*FLT CONFIGURE FOR JSC COMMANDING AND *MIL CONDUCT MILA/GSFC/JSC INTERFACE TEST.	
				NOT PERFORMED	-----
16-0068				ETR OPEN LOOP CHECK COMPLETE	

16-0069	-04H50M	SRU	LTD	ETR "OPEN LOOP CHECK" COMPLETE.	*BCS
16-0070				SRSS FLT CODE DEVICE AVAIL	

16-0071	-04H30M	LTD	TBC	SRSS FLT CODE DEVICE IS	
		232		AVAILABLE FROM NASA SECURITY	
		TBC	CBRS	IN ROOM 4R10/LCC (FOR	
		136		INSTALLATION IN UPF T-3H30M).	
16-0072				IMU PRE-FLIGHT CAL	

NOTE

IMU PRE-FLIGHT CAL SHALL
 BE PERFORMED AT L-06H50M.

UNTIL COMPLETION OF
 PRE-FLIGHT CAL DO NOT
 PERFORM ANY DDU CHECKOUT,
 TCS-S OR ECP'S.

16-0073	-04H30M (L-6H50M)	OTC	CGNC	PERFORM IMU PRE-FLIGHT CALIBRATION PER OMI V1123. REPORT WHEN COMPLETE.	*BCS
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UMRSD S00FC0.030

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0074		CPWR 166	CLHY	MPS LH2 SAFING PANEL NO. 1 AFT HTR SW - ON	
16-0075		CPWR		PPF (TW495) AFT HTR PWR - PRESS LH2 HTR ON - PRESS CRT (TD490) VERIFY MAIN AC1 RELAY - CLOSED MAIN AC2 RELAY - CLOSED AFT LH2 RELAY - CLOSED LH2 INBD CURRENT 0.19-0.31A LH2 OUTBD CURRENT 0.19-0.31A	
16-0076	-04H10M	CPWR 136	TBC	ET LH2 AFT STRUT HEATERS ARE ACTIVATED UMRSD S0UFE0.160	
16-0077				CLEAR SLF -----	
16-0078	-04H00M	LTD 232 *SCC 105	*SCC *SEC	COMMENCE CLEARING UP SLF (SEE FIG 6,). REPORT COMPLETION.	EG&G-430

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0079				BACKUP H2 SENSOR SYSTEM CHECKS ----- FOR 60 PCT LEVEL (LUX) -----	
16-0080	-04H00M	CLUX TBC LTD	TBC LTD OTC	LOX AT 60 PCT LEVEL.	
16-0081		OTC 132	CHGD	VERIFY ORBITER AFT FUSELAGE/ET BACKUP H2 SENSOR. REPORT COMPLETION.	
16-0082			CHGD	0132A1 HARDWIRE SAFING PANEL 1. BYPASS SW - H2 SENSOR 2. SELECT SW - AFT 3. H2 SENSOR IND - UN 4. SAMPLE PUMP SW - UN 5. LOW FLOW IND - OFF 6. FLOW OK IND - ON 7. RECORD DVM READING: AFT ----- V, Z ----- 8. SELECT SW - ET 9. RECORD DVM READING: ET ----- V	
16-0083			CHGD	0132A1 HARDWIRE SAFING PANEL 1. BYPASS SW - MASS SPEC 2. SELECT SW - AFT 3. SAMPLE PUMP SW - OFF 4. VERIFY FLOW OK - OFF	
16-0084		CHGD 132	OTC	ORBITER AFT FUSELAGE/ET BACKUP H2 SENSOR HAS BEEN VERIFIED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0085				MILA ANTENNA ALIGN (-04H)	
16-0086	-04H00M	LTD 232 UTC 132	*FLT *MIL CCSE RCRT	PERFORM MILA ANTENNA ALIGNMENT ON DIS CH 232. REPORT COMPLETION.	*BCS

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 COMMAND
 WILL BE SENT VIA GNC MAJOR
 FUNCTION.

16-0087		LTD 232	*MIL	REPORT RF OUTPUT ----- WATTS	
16-0088		LTD 232	*FLT	TRANSMIT DSM 4740 (XPNDR FREQ. LOW)	V74K3111U
		CCSE	VAA19	VERIFY XPNDR FREQ - LOW	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
IF DOD MISSION, PERFORM NEXT STEP.					
16-0090		LPS 127	JSRP	VERIFY LOCK TO CMD VERIFY AND D/L DATA.	31212
				NOT PERFORMED	-----
16-0091		LTD 232	*FLT	TRANSMIT DSM 4725 (PREAMP HEATERS OFF)	V74K3075U
			CCSE	VAA19 VERIFY PREAMP HIRS 1 - OFF 2 - OFF	
16-0092		LTD 232	*MIL	XPNDR SWITCH TO LOW FREQ COMPLETE. PROCEED WITH PRIMARY ANTENNA ALIGN. REPORT COMPLETION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0093				ORBITER PIC TESTS (-04H) -----	
16-0094	-04H00M	LTD	UTC	PROCEED WITH ORBITER/GSE PIC RESISTANCE TEST.	
16-0095		OTC	CEPD	POWER UP GSE PIC RACKS AND PERFORM ORBITER/GSE PIC RESISTANCE TEST PER SEQ 52 ON CHNL 151. REPORT COMPLETION.	*BCS
16-0096		CEPD 132 OTC 232	OTC LTD	ORBITER/GSE PIC RESISTANCE TEST COMPLETE. GSE PIC RACKS WILL REMAIN POWERED UP.	
				OMRSD S00FA0.015	
16-0097				SRB PIC TEST -----	
16-0098	-04H00M	LTD	TBC	PROCEED WITH SRB/ET PIC RESISTANCE TEST.	
16-0099		TBC 136	CPWR	PERFORM SRB/ET PIC RESISTANCE TEST PER SEQ 48 ON CHNL 185. REPORT WHEN COMPLETE.	*BCS
16-0100		CPWR 136 TBC 232	TBC LTD	SRB PIC RESISTANCE TEST COMPLETE.	
				START LH2 TOPPING (S1004) -----	
16-0101	-03H45M	CLHY 136 TBC 232	TBC LTD	LH2 FAST FILL TO 98 PCT COMPLETE. STARTING LH2 TOPPING.	*BCS
				OMRSD S00FF0.081	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0102		TBC 136	CPWR	LH2 98 PCT SENSOR WET AT 6MI TIME ----- APPLY POWER TO ET BIPOD HEATERS DMRSD S00FB0.255	
16-0103			CPWR	PFP (TW495) BIFUD HTR PWR - PRESS BIPODS ON - PRESS	
16-0104			CPWR	CRT (TD490) VERIFY LEFT PWR ON LEFT HTR ON RIGHT PWR ON RIGHT HTR ON LEFT MON 1 0.8-1.2 AMPS LEFT MON 2 0.8-1.2 AMPS RIGHT MON 1 0.8-1.2 AMPS RIGHT MON 2 0.8-1.2 AMPS DMRSD S00FF0.095	
16-0105			CPWR TBC	BIPOD HTRS ARE ACTIVATED	
16-0106				ASSEMBLE CLOSEOUT CREW (-03H45M) -----	

NOTE

UTC WILL VERIFY LU2 LOAD AT 90 PCT. WHEN ASSEMBLED AT A11 ROADBLOCK CLOSEOUT CREW LEADER (OVCC) WILL PERFORM NET 105 COMM CHECK WITH UTC.

CLOSEOUT CREW WILL CARRY SPARE PORTABLE RADIO AND PORTABLE O2 DETECTOR FOR CONTINUOUS MONITORING OF O2 IN WHITE ROOM.

16-0107	-03H45M	UTC	*PAD	ASSEMBLE CLOSEOUT CREW AT A-11 ROADBLOCK AND PREPARE FOR PAD RE-ENTRY. VERIFY OVCC HAS SWITCH GUARD KEY. (FOR DOD MISSION, OVCC MUST ALSO HAVE KEY FOR PANEL A7U SWITCHGUARDS).	
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OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
				MILA SWITCH TO SECONDARY ANT	
16-0108	-03H30M	*MIL 232	LTD	PRIMARY ANTENNA ALIGN COMPLETE S-BAND WILL BE MOMENTARILY INTERRUPTED WHILE SWITCHING ANTENNAS.	
16-0109		LTD	*MIL	PROCEED WITH ANTENNA SWITCHING OBTAIN VALID 2-WAY LOCK.	
16-0110		*MIL	LTD	ANTENNA SWITCH COMPLETE 2-WAY LOCK OBTAINED	
16-0111		LTD	CCSE	VAA19 VERIFY NSP FRAME SYNC - LOCKED	
16-0112	-03H30M	LTD 232	*MIL	PROCEED WITH ANTENNA ALIGN REPORT COMPLETION	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0113				SRSS FLIGHT CODE INSERTION	
16-0114		LTD 232 UTC 132 TBC 136	UTC TBC RCRE CBRS	LOAD SRSS FLIGHT CODE IN UPF GROUND STATION PER OMI 55018. REPORT COMPLETION.	*BCS
16-0115				M-113 OPS (-03H30M)	
16-0116	-03H30M	LTD *SCC 226 JSTC 114	*SCC JSTC JFIK *SEC	PROVIDE 7 MAN CREW TO MAN M-113 AT A-5 ROADBLOCK AND STANDBY TO SUPPORT CLOSEOUT CREW INGRESS INTO PAD. VERIFY WHEN CREW AT A-11 AND READY TO PROCEED TO A-5 ROADBLOCK.	EG&G-420
TASK: M-113 SUPPORT OF CLOSEOUT CREW					
BADGE BOARD REQ'D					
ACCESS CODE - 2					
CONTROL AREA					
1. LDA					
ESSENTIAL PERSONNEL					
				FIRE/ RESCUE	SUPVR
				-----	-----
				EG&G 7	1*
* OPTIONAL					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0117	-03H30M	LTD 232	*SCC	REQUEST SAFETY CONCURRENCE TO CLEAR FIRE/RESCUE CREW TO A-5 ROADBLOCK FOR CLOSEOUT CREW INGRESS INTO PAD.	
16-0118	-03H30M	*SCC 226	JFIR *SEC	CLEAR FIRE/RESCUE CREW TO A-5 ROADBLOCK FOR CLOSEOUT CREW INGRESS INTO PAD.	EG&G-420 *BCS
16-0119		LTD	LPS	VERIFY ALL REDUNDANT SWITCHES ARE ACTIVE	31240
16-0120				IOUS POWER SWITCHING AND TVC CHECKS -----	
16-0121	-03H20M L-5H40M	CTC 232 LTD OTC 132	LID OTC CEPD	PROCEEDING WITH IUS POWER SWITCHING AND THRUST VECTOR CONTROL CHECKS. TOTAL ORBITER MAIN A, B AND C CURRENT WILL FLUCTUATE.	
16-0122		CTC 134	ESTC	MONITORING TDRS FOR CONTINUOUS POWER DURING IUS SWITCHING.	
16-0123		CTC	ICIC	PROCEED WITH POWER SWITCHING AND TVC DRDP CHECKS PER DUP D290-50020-1. REPORT COMPLETION. UMKSD P018JC.010 ACTIVATE PAD UIS -----	
16-0124		LTD 232 STM 111 GYCC 117	STM GYCC JYCC	ACTIVATE PAD - A UIS FOR FLIGHT CREW BOARDING AND ICE FRUST EVALUATION TEAM. REPORT COMPLETION (5 MIN).	34500 34100
16-0125	-03H15M	LTD 232 *SCC 105	*SCC *HT__NET	PERFORM M-113 COMM CHECK ON 105 WITH LTD	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESF	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF ENVIRONMENTAL CONDITIONS WILL CAUSE ICE/FROST BUILDUP GREATER THAN LAUNCH COMMIT CRITERIA.

16-0126		LTD 232 TBC 136	TBC CTIF	ICE/DEBRIS INSPECTION TEAM REPORT TO ROADBLOCK A-11.	
					NOT PERFORMED -----

16-0127		OVCC 105 UTC 232	UTC LTD	CLOSEOUT CREW IS ASSEMBLED AT A-11 ROAD BLOCK READY FOR PAD ENTRY.	
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16-0128		LTD 232 STM 138	STM JYVO JYVR	PROVIDE VIDEO TRACKING AND RECORDING DURING INGRESS OF CLOSEOUT CREW TO PAD USING UTV CAMERAS 036/136, 027/127, 035/135, 006/106, 005/105 (SEE JYVO FIG 4)	34200
				START LH2 REPLENISH -----	

16-0129	-03H15M	CLHY 136 TBC 232 LTD STM 111	TBC LTD STM JCFM	LH2 TOPPING COMPLETE. BEGINNING REPLENISH.	*BCS
				UMRSD S00FF0.091	

16-0130	-03H12M	*SCC 232	LTD	M-113 COMM CHECK ON NET 105 COMPLETED.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ANNOUNCE HOLD -----					
16-0131	-03H10M	LTD PA 232	OTC TBC CTC *FLT *MIL SRU STM *SCC	THE CDC WILL HOLD AT T-03H00M	
CDC HOLD PREP -----					
16-0132	-03H10M	LTD	CGLS	SET THE CDC TO HOLD AT T-03H00M	
16-0133			CGLS	HUME CMD KEY - PRESS CDTH - 0300/00 XMIT CMD KEY - PRESS	
16-0134		CGLS LTD		CDC IS SET TO HOLD AT T-03H00M LH2 IN STABLE REPLENISH -----	
16-0135	-03H05M	CLHY 136 TBC 232	TBC LTD	LH2 NOW IN STABLE REPLENISH MODE.	*BCS
NOTE					
PERFORM NEXT TWO STEPS WHEN LOX/LH2 FILL AT 100 PCT FOR NON-DUD MISSIONS ONLY.					
16-0136		STM 111	JCFM	PERFORM CMDPS PRINTOUT.	31314
NOT PERFORMED -----					
16-0137		JCFM 111	STM	CMDPS PRINTOUT COMPLETE.	31314
Q: ----- 50234					
NOT PERFORMED -----					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- ETR OPEN LOOP CMD TEST -----					
16-0138	-03H05M	SRU 232	LTD	REQUEST ETR CLEARANCE ON 416.5 MHZ FOR CMD AUTO CARRIER SYSTEM CHECKS. (30 MINUTE DURATION) WILL REPORT COMPLETION.	
16-0139	-03H00M		VIII	IF DDD MISSION, PERFORM ITEM 3.14, APPENDIX Q.	
NOT PERFORMED					-----
16-0140	-03H00M	*MIL 232	LTD	MILA ANTENNA ALIGN COMPLETE. READY FOR XPNDR SWITCH TO HIGH FREQUENCY	
16-0141				XPNDR SWITCH TO HIGH FREQ. (-03M) -----	
16-0142		LTD 232 UTC 132	UTC	REQUEST CCSE AND RCRT ON UIS CHAN 232 FOR XPNDR SWITCH TO HIGH FREQ.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0143	-03H00M	LTD 232	*FLT	TRANSMIT DSM 4741 (XPNDR FREQ - HIGH)	V74K3112U
			CCSE	VAA19 VERIFY XPNDR FREQ - HIGH	
16-0144		LTD 232	*MIL	ACQUIRE 2-WAY LOCK ON S-BAND HIGH FREQ (MODE 2SS CODING) AT LEVEL RECORDED AT START OF ANTENNA ALIGN (ANTENNA POSITIONED FOR LAUNCH) RECORD ----- WATTS.	
			CCSE	VAA19 NSP FRAME SYNC - LOCKED	
16-0145			RCRT	LOCK RECEIVERS TO HIGH FREQUENCY MILA UPLINK AND ORBITER DOWNLINK AS FOLLOWS:	
			1.	8216 PANEL A7 CHANNEL SW - 2 LOOP STATUS PM LITE - LOCKED	
				PANEL A9 CHANNEL SW - 4 LOOP STATUS LITE - LOCKED	
				NOTE	
				PERFORM NEXT SUBSTEP FOR NASA MISSION ONLY.	
			2.	8217 PANELS A4 AND A7 FRAME SYNC LOCK LITES - ON	
				NUT PERFORMED	

 SS2

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
IF DOD MISSION, PERFORM NEXT STEP.					
16-0146		LPS 127	JSRP	VERIFY LOCK ON CMD VERIFY AND D/L 31212 DATA.	
				NOT PERFORMED	-----
16-0147		LTD 232	*FLT	TRANSMIT DSM 4726 (PREAMP HEATERS ON)	V74K3074U
			CCSE	VAA19 VERIFY PREAMP HTRS 1 - ON 2 - ON	
16-0148		LTD 232	*FLT	MILA ANTENNA ALIGNMENT IS COMPLETE.	
			RCRT		
			CCSE		
16-0149		OTC	CCSE	VERIFY THE FOLLOWING EMUNS ARE ACTIVE	
				C EL V74E4081A1,72,125	
				A SX V74E4081A1 (XPNDR 2 AGC)	
				A SX V74X4730E1 (GCIL PS1)	
				A SX V74X4731E1 (GCIL PS2)	
				A SX V74X5052E1 (GCIL ACTIVE)	
				A SX V74X5177E1 (NSP2 FRAME SYNC)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF NASA MISSION, DELETE JSRP
 IN NEXT STEP.

IF DOD MISSION, DELETE JRPS
 IN NEXT STEP.

16-0150	-03H00M	LTD 232	JRPS JSRP	VERIFY RECORDING MILA S-BAND PM-2 192KB RF DATA.	31212
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LU2 IN STABLE REPLENISH

16-0151	-03H00M	CLOX 136	TBC	LU2 NOW IN STABLE REPLENISH MODE.	*BCS
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LO2/LH2 STABILIZED

16-0152	-03H00M	TBC 232	LTD	LO2 AND LH2 TANKING IN STABLE REPLENISH MODE.	
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NOTE

PERFORM NEXT STEP AFTER LU2
 AND LH2 IN STABLE REPLENISH.

16-0153		LTD 232	LPS	PERFORM DEMAND UPDATE ON \$FPCPR FOR ALL FEPS. TERMINATE \$FPCPR AT COMPLETION OF DEMAND UPDATE.	
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CONTROLLED SWITCHING IN EFFECT

16-0154	-03H00M	LTD 232	*SCC UTC TBC CTC STM	LU2 AND LH2 TANKING IN STABILIZED REPLENISH MODE. CONTROLLED SWITCHING IS IN EFFECT	
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16-0155				RESET ORBITER VENT DOOR CMDS (-03H) -----	
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16-0156	-03H00M	UTC	CPVD	RESET ORBITER VENT DOOR COMMUNDS = OFF	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0157		CPVD	1.	CURSOR CONTROL (VAM31) EXP ORB VENTS - XMIT CURSOR	
			2.	VERIFY VDM10 (VENT DOOR DISPLAY)	
			3.	PFPK (VAM31) - PRESS	
			4.	VERIFY VENT DOOR MENU DISPLAYED	
			5.	PFPK1 - PRESS (VENT CMD RESET)	
			6.	VERIFY (AFTER APPROX 30 SEC. DELAY) THAT VDM10 (VENT DOOR DISPLAY) ARROW IS UPDATING	
			7.	PFPK7 - PRESS	
16-0158		CPVD OTC		ORBITER VENT DOOR COMMANDS ARE RESET - OFF	

OPERATION INSTRUCTIONS

SEQ TIME CMD RESP DESCRIPTION VERIF.

VENT DOOR OVERRIDE VERIFICATION

16-0159 -03H00M DTC CPVD PERFORM VENT DOOR OVERRIDE OPERATION.

NOTE

FOR NON SPACELAB FLIGHTS
DL=44.

FOR SPACELAB FLIGHTS
DL=60.

16-0160 CPVD DTC VERIFY GPC'S ARE IN 69/129/___.

16-0161 CPVD RECORD VENT DOOR INDICATORS TO BE
MASKED

16-0162 CPVD CURSOR CNTL (VAM31/VDM01)
EXPD URB VENT - TARGET
XMIT CURSOR
VERIFY DISPLAY - VDM10
(VENT DRS)

16-0163 CPVD PFP

1. PFPK (X) (VAM31) - PRESS
 VERIFY VENT DOOR MENU DISPLAY
2. PFPK 5 (VENT DOOR OVERRIDE) - PRESS
 VERIFY DISPLAY (PG A) - VDM06 (VENT
 DOOR OVERRIDE)

16-0164 CPVD CONSOLE KYBD (WORD 1)
INSERT 1(S) FOR VENT DOOR EVENTS TO
BE MASKED (OVERRIDE)

OBTAIN HARD COPY OF CRT

16-0165 CPVD CONSOLE KYBD
XMIT CMD KEY - PRESS
PFK 10 KEY - PRESS

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0166		CPVD		CONSOLE KYBD (WORD 2) INSERT 1(S) FOR VENT DOOR EVENTS TO BE MASKED (OVERRIDE) OBTAIN HARD COPY OF CRT.	
16-0167		CPVD		CONSOLE KYBD XMIT CMD KEY - PRESS PFK 9 KEY - PRESS	
16-0168		CPVD		RECORD DMON <99J8836C1-____ AND OBTAIN HARD COPY OF CRT.	
16-0169		CPVD	UTC 132	VENT DOOR OVERRIDE COMPLETE. OMRSD 300FA0.013	
16-0170				REDUCE CABIN AIR TEMP (-03H) -----	
16-0171	-03H00M	UTC	CPVD	REDUCE CABIN CONDITIONED AIR TEMPERATURE TO 50 +/- 5 DEG F AT INTERFACE FOR CREW ENTRY. REPORT WHEN COMPLETE. OMRSD V05AK0.030	
NOTE					
NEXT STEP WILL BE PERFORMED AFTER SUCCESSFUL COMPLETION OF IMU PREFLIGHT CALIBRATION.					
16-0172		CGNC	UTC	RESTORE MASS MEMORIES TO ORIGINAL	
		UTC	CDPS	CONFIGURATION PER SEQ 49 (S0007-V4) REPORT COMPLETION. (SUPPORTS V1123)	

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0173				MDM DISCRETE READ CHECK (-03H) -----	
16-0174	-03H00M	UTC 132	CDPS	PERFORM BITE TEST 4 ON C/D, FLIGHT CRITICAL AND PAYLOAD MDMS TO STATUS DISCRETE OUTPUTS	*BCS
16-0175	-03H00M		CDPS	CURSOR CNTL (SAS01) TO COMPUTER SYSTEMS XMIT CURSOR KEY - PRESS CURSOR CNTL (SAS01) TO MDM DISCRETE OUTPUT CHK (VAS94) XMIT CURSOR KEY - PRESS PFK 2 KEY - PRESS CURSOR CNTL (SAS25) TO ALL MDM'S XMIT CURSOR KEY - PRESS REPEAT UNTIL 7 COPIES OF B14 DATA ARE OBTAINED.	
NOTE					
UPON RECEIPT OF DECODE COMPLETE MESSAGE, PERFORM NEXT STEP.					
16-0176	-03H00M		CDPS	CURSOR CNTL (SAS25) TO TERMINATE XMIT CURSOR KEY - PRESS	
16-0177			CDPS	CIPE BITE TEST 4 ON C/D, FLI CRITICAL AND PYLD MDMS IS COMPLETE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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16-0178				CTPE CONTACT DATA COORDINATOR AND ARRANGE FOR PRINTER OUTPUT OF BT4 TO BE DISTRIBUTED TO ALL SYSTEMS AS FOLLOWS C2 - 1 COPY FOR CAFM AND CCSE TO REVIEW C3/4 - 1 COPY FOR CMPS TO REVIEW C5/6 - 1 COPY FOR PVD, ECL AND FCP TO REVIEW C7/8 - 1 COPY FOR COUS, CHYD AND CAPU TO REVIEW C9/10 - 1 COPY FOR CISL, CEPD AND CPLE TO REVIEW C11/12 - 1 COPY FOR CUFC, CGNC, CDPS AND CCME TO REVIEW INTG - 1 COPY FOR TPE TO REVIEW	
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16-0179		OTC 132	ALL	ALL SYSTEMS LISTED BELOW ARE TO REVIEW THE MDM DISCRETE OUTPUT LISTING DELIVERED TO THEM. A VERBAL OK ON THE MDM DISCRETE CONFIGURATION MUST BE RECEIVED FROM EACH SYSTEM BY END OF HOLD AT T-3 HOURS.	
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- | | |
|------------|------------|
| CAPU ----- | CISL ----- |
| CHYD ----- | CEPD ----- |
| CCME ----- | CCSE ----- |
| CMPS ----- | CGNC ----- |
| CPVD ----- | COUS ----- |
| CECL ----- | CPLE ----- |
| CDPS ----- | CUFC ----- |
| CAFM ----- | |
| CFCP ----- | |

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0180				CRT COUNTDOWN TIMER SETUP (-03H)	

NOTE

IF DOD MISSION, DO NOT
 PERFORM NEXT FIVE STEPS.

16-0181	-03H00M	UTC 132		CDPS SETUP ONBOARD COUNTDOWN TIMER.	NOT PERFORMED
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16-0182				CDPS CONSOLE KYBD DEUE DEST GN&C 1 LDBA XMIT CMD KEY - PRESS	NOT PERFORMED
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16-0183				CDPS CONSOLE KYBD DEUE SPEC 2 PRO XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	NOT PERFORMED
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NOTE

ANTICIPATED GMT OF LIFTOFF
 WILL BE ENTERED IN NEXT STEP.

16-0184				CDPS 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	NOT PERFORMED
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16-0185		UTC 132		CRT COUNTDOWN TIMER SETUP IS COMPLETE.	NOT PERFORMED
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16-0186		UTC		CDPS IF DOD MISSION, PERFORM ITEM 1.6, APPENDIX G.	NOT PERFORMED
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0187				***T-3H00M HOLD*** -----	
16-0188	-03H00M (HOLDING)	LTD PA 232		THE CDC IS HOLDING AT 1-03H00M	
NOTE					
PERFORM NEXT STEP AFTER CDC IS HOLDING.					
IF DOD MISSION, DO NOT PERFORM NEXT STEP.					
16-0189	-03H00M (HOLDING)			CGLS HOME CMD KEY - PRESS CDTC ____/____.000 HHMM SS XMIT CMD KEY - PRESS	
					NOT PERFORMED -----
16-0190	-03H00M (HOLDING)	LTD		CGLS IF DOD MISSION, PERFORM ITEM 6.2, APPENDIX Q.	
					NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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16-0191				ICE/DEBRIS INSPECTION	
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NOTE

NEXT TWO STEPS MAY NOT BE PERFORMED, BASED ON DECISION BY LTD, REAL TIME.

16-0192	-03H00M (HOLDING)	LTD 232 *SCC 105 226	*SCC *SEC *PSE JFIR	ICE INSPECTION TEAM MAY BE CLEARED THRU ROADBLOCKS TO PAD AT THIS TIME. FIRE/RESCUE TO HOLD AT A-5 ROADBLOCK.	EG&G-430 EG&G-420
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NOT PERFORMED

16-0193		LTD 232 TBC	TBC *SCC STM CTIF	PERFORM ICE/DEBRIS INSPECTION PER SEQ 57 (S0007 V-4)	*BCS
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NOT PERFORMED

OMRSD S00000.020

TASK: ICE INSPECTION

BADGE BOARD REQUIRED

ACCESS CODE - 2

CONTROL AREA

1. LDA

ESSENTIAL PERSONNEL (HAZ BADGE)

NASA MSFC JSC SPC URB EI VAFB EG&G

ENGR	1	1	1	1	1	1	1
SAF	1			1			
FIRE							4

16-0194

CLOSEOUT CREW TO PAD

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0195	-03H00M (HOLDING)	LTD 232	*SCC	REQUEST SAFETY CONCURRENCE TO CLEAR CLOSEOUT CREW INTO PAD.	
16-0196		*SCC 105	*SEC *PSE	CLEAR CLOSEOUT CREW THRU ROADBLOCK A-11 TO PAD FOR CLOSEOUT OPS.	EG&G-430
<p>TASK: CLOSEOUT CREW PAD - UPS</p> <p>BADGE BOARD REQ'D</p> <p>-----</p> <p>ACCESS CODE - 2</p> <p>-----</p> <p>CONTROL AREA</p> <p>-----</p> <p>1. LDA</p> <p>ESSENTIAL PERSONNEL (HAZ BADGE)</p> <p>-----</p> <p>CLOSEOUT CREW VEHICLES (TWO EACH)</p> <p>-----</p> <p>CLOSEOUT CREW LEADER (1) ASTRONAUT (1) SUIT TECH (1) NASA QUALITY CONTROL (1) URK MECH TECH (2)</p>					
16-0197	-03H00M (HOLDING)	*SCC LTD 232 LTD	LTD UTC	CLOSEOUT CREW AND VEHICLES ARE CLEAR TO PROCEED TO LAUNCH PAD.	*BCS
16-0198		UTC 105	OVCC	PROCEED TO LAUNCHPAD AND REPORT IN ON NET 105.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0199	-03H00M (HOLDING)	OVCC 105	OTC	CLOSEOUT CREW APPROACHING ELEVATOR. REQUEST PERMISSION TO PROCEED TO WHITE ROOM. CLOSEOUT CREW TO WHITE ROOM	*BCS
16-0200		OVCC 105	OTC	PROCEED TO WHITE ROOM. PERFORM O2 CONCENTRATION CHECK PRIOR TO WHITE ROOM ENTRY. REPORT IN ON OIS CHAN 132.	
NOTE					
IF EXHAUST FAN IS ON AND REAR SWINGING DOORS OPEN TO WHITE ROOM, PERFORM NEXT STEP.					
16-0201		OVCC 132	OTC	WHITE ROOM 1. EXHAUST FAN SW - OFF 2. CLOSE REAR SWINGING DOORS NOT PERFORMED	-----
16-0202		OVCC 132	OTC	CLOSEOUT CREW READY TO ENTER ORBITER.	
16-0203		CECL 132	OTC	PARTIAL PRESSURE OF OXYGEN IN CREW COMPARTMENT IS SATISFACTORY.	
16-0204		OVCC 132	OTC	PERFORM O2 LEVEL CHECK PRIOR TO CABIN ENTRY	
16-0205		OVCC 132 OTC 232	OTC LTD	O2 LEVEL CHECK IN CABIN/WHITE ROOM IS ACCEPTABLE FOR CREW INGRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0206		LTD 232 UTC 132	OTC	PROCEED WITH INGRESS OF CREW COMPARTMENT	
16-0207		OVCC 132	OTC	ASP AND NST ARE ENTERING CREW MODULE AT THIS TIME	
16-0208	-03H00M (HOLDING)	LTD 232 STM 138	STM JYVO JYVR	STOP VIDEO TRACK AND RECORDING OF CLOSEOUT CREW. (SEE JYVO FIG. 4)	34200
CONFIG. COMM -----					
16-0209	-03H00M (HOLDING)		ASP	PANEL A11 DON COMM HEADSET PREVIOUSLY CONNECTED TO MHA NEAR PANEL A11	
			ASP	MS COMM CCU PWR SW - UN	
			ASP	PANEL M042F SPKR PWR SW - OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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 CONFIG. COMM (CONTINGENCY)

NOTE

NEXT 10 STEPS PERFORMED
 ONLY IN SUPPORT OF A 24 HOUR
 SCRUB TURNAROUND OPERATION.

16-0210	-03H00M (HOLDING)	UTC	CCSE	PROCEED WITH CONFIG OF COMM *MIL (CONTINGENCY).	NOT PERFORMED -----
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16-0211	-03H00M (HOLDING)	CCSE	*MIL	CONFIGURE FOR S-BAND AND UHF ASTRO COMM.	NOT PERFORMED -----
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NOTE

FOLLOWING PBI'S WHICH ARE
 ALREADY ON WILL HAVE TO BE
 CYCLED TO OFF THEN BACK
 TO ON.

16-0212	-03H00M (HOLDING)	CCSE	UTC	ASTRO COMM OIS INTERFACE PANEL	
				1. POWER KEY SW - ON	
				2. UMB A ACTIVE - ON	
				3. UMB B ACTIVE - ON	
				4. A/G 1 ACTIVE - ON	
				5. A/G 2 ACTIVE - ON	
				6. UHF MONITOR - ON	
				7. VERIFY ABOVE LITES ARE ON	
				8. VERIFY NASA LITE ON (FR3)	
					NOT PERFORMED -----

16-0213	-03H00M (HOLDING)	CCSE		PERFORM TWO-WAY COMM CHECKS WITH ASP ON OIS CH:	
				214 (ICOM A)	
				215 (ICOM B)	
				212 (A/G 1)	
				213 (A/G 2)	
				VERIFY ASP VOICE ON CH 211.	
					NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0214	-03H00M (HOLDING)	CCSE	UTC	PERFORM TWO WAY COMM CHECK WITH ASP ON UHF, USING AUDIO PUSHBUTTON.	
				NOT PERFORMED	-----
16-0215	-03H00M (HOLDING)	CCSE	UTC	ASTRO COMM OIS INTERFACE PANEL	
				1. ACTIVE A/G 2 - OFF 2. ACTIVE UMB A - OFF 3. ACTIVE UMB B - OFF 4. VERIFY ABOVE LITES - OFF	
				NOT PERFORMED	-----
16-0216			UTC	PERFORM VOICE CHECKS WITH ASP ON AB4 AUDIO - (A/G 1, A/G 2, UMB A & UMB B UHF)	
				NOT PERFORMED	-----
16-0217		CCSE	*FLT	PERFORM TWO-WAY COMM CHECK WITH ASP ON A/G 1, A/G 2, AND UHF.	
				NOT PERFORMED	-----
				NOTE	
				IF DOD MISSION, PERFORM NEXT STEP.	
16-0218		CCSE	LTD	1. PERFORM OIS/DVCS SWITCHOVER (USSU 2) TO CONFIGURE FOR SECURE COMM CHECK.	
				2. PERFORM DVCS/OIS SWITCHOVER (DSSU 3) TO CONFIGURE FOR NON-SECURE COMM CHECK.	
				NOT PERFORMED	-----
16-0219		CCSE	UTC	CONFIG. COMM (CONTINGENCY) IS	
		UTC	LTD	COMPLETE.	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				ASP CUMM CHECK -----	
16-0220	-03H00M (HOLDING)	ASP 212	UTC	PERFORM CUMM CHECK WITH UTC ON A/G 1 (OIS CH 212) VERIFY UHF BACKGROUND NOISE IS ACCEPTABLE	
16-0221				CONFIG AND INSPECT CM FOR INGRESS -----	
16-0222	-03H00M (HOLDING)	UTC 212	ASP	CONFIGURE AND INSPECT CREW MODULE. REPORT WHEN READY FOR CREW INGRESS.	
16-0223			ASP	PERFORM INSPECTION OF SEATS FOR TEARS, ABRASIONS OR OTHER ABNORMALITIES AND PREPARE SEATS FOR CREW INGRESS. REMOVE FROM CREW MODULE ANY ITEMS NOT REQUIRED FOR CREW INGRESS AND CREW MODULE CLOSEOUT. OMRSD V66AA0.021	
16-0224				POT./SUPPLY WATER QTY ADJ. -----	
16-0225	-03H00M (HOLDING)	UTC ASP	CECL	PERFORM POT/SUPPLY WATER SYSTEM QUANTITY ADJUST PER SEQ 45 UMTG (S0007-V4) ON OIS CH 143.	*BCS
16-0226			CECL UTC	POT/SUPPLY WATER SYSTEM QUANTITY ADJUST IS COMPLETE.	
16-0227			UTC ASP	PANEL ML26C (VERIFY OR POSITION) SUPPLY H2O TK A SUPPLY VALVE - CLOSE (DWN) TK VENT - VENT (DWN)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0228				H2O CONTROLLER PRE-ACTIVATION	
16-0229	-03H00M (HOLDING)	OTC 132	ASP	PERFORM H2O CONTROLLER PRE-ACTIVATION.	
16-0230		OTC	ASP	PANEL R2 APU/HYD BOILER CNTRL 1 SW - ON 2 SW - ON 3 SW - ON	
16-0231		ASP OTC 132	UTC	H2O CONTROLLER PRE-ACTIVATION. CHYD COMPLETE.	
16-0232			CHYD	CRT (VAF30) VERIFY BLR A AC/DC 1 - ON 2 - ON 3 - ON BLR A CNTRL 1 - ON 2 - ON 3 - ON	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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16-0233				WX SATELLITE PHOTO	
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NOTE

PERFORM NEXT STEP 1 HOUR
 PRIOR TO SCHEDULED WEATHER
 BRIEFING.

16-0234	-03H00M (HOLDING)	LTD 232	STM	VERIFY THAT THE FULL DISC WEATHER SATELLITE PHOTO HAS BEEN PICKED UP BY PAA SECURITY FROM CCAFS FOR DELIVERY TO O&C BUILDING (ROOM 3277)	
		STM 231	*WEA		
		853-3484			

16-0235		STM 111	GYCC	VERIFY 1 RADIO TECH AND 2 DIS TECHS ON STATION AT CONVOY	34300 34100
		GYCC 117	JYCC	COMMANDER VEH. AT SLF MIDFIELD PARK SITE TO SUPPORT LRD/NCC RADIO COMM VOICE CHECKS.	

16-0236	-03H00M (HOLDING)	LTD 232	SRU	IDENTIFY ANY COLLISION AVOIDANCE (COLA'S) TIMES FOR THIS LAUNCH WINDOW OR LAUNCH PERIOD.	
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COLA 1 _____Z TO _____Z

COLA 2 _____Z TO _____Z

COLA _____

ECP AI MODE 1: MATCH CMDS TO POSN.

NOTE

PERFORM NEXT STEP AFTER THE
 IMU PRE-FLIGHT CAL IS
 COMPLETE AND BEFORE THE IMU
 PRE-FLIGHT CONTINGENCY CAL
 STARTS.

16-0237		COFC		PFP (SAB64) PFPK3 - PRESS (AI MODES) PFPK3 - PRESS (AI MODE 1) WHEN AI MODE 1 COMPLETE PFPK6 - PRESS (RETURN)	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0238				IMU PRE-FLIGHT CAL (CONTINGENCY)	

NOTE

SPEC 104 IS NORMALLY
REQUIRED ON CRT 2 FOR
IMU OPS 9 OPERATIONS
AND WILL BE CALLED BY
LPS TO INITIATE NEXT STEP.

PERFORM NEXT STEP IF
REQUIRED FROM DATA
REVIEW OF INITIAL IMU
PRE-FLIGHT CALIBRATION.

16-0239	-03H00M (HOLDING)	OTC	CGNC	PERFORM IMU PRE-FLIGHT CALIBRATION PER OMI V1123 UN OIS CH 141. REPORT WHEN COMPLETE. NOT PERFORMED	*BCS -----
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0240				PAICH COMM TO JSC -----	
16-0241	-03H00M (HOLDING)	STM 111 GYCC 117	GYCC GYCJ	PAICH 2IC0534 (126.65 MHZ WX BRIEFING CIRCUIT) TRANSMIT/ RECEIVE TO JSC ON GDA58840. REPORT COMPLETION.	34300 34100
16-0242				GO FOR FLIGHT CREW WAKE-UP -----	
NOTE					
IF DOD MISSION, DO NOT PERFORM NEXT STEP.					
16-0243	-03H00M (HOLDING)	VITT	NTD	VERIFY GO FOR CREW WAKE-UP 7-3903/3901 7-7512/2503	
NOT PERFORMED -----					
16-0244		NTD 232	LTD	CREW WAKE UP STARTING	
16-0245	-03H00M (HOLDING)	LTD *SCC	*SCC POSS	COMMENCE CLEARING ALL PERSONNEL FROM PAD B AT THIS TIME (L-04H30M)	
16-0246	-03H00M (HOLDING)	POSS *SCC	*SCC LTD *SEC	ALL PERSONNEL ARE CLEAR OF PAD B.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0247				IUS RIMU CAL AND ALIGN (CONTINGENCY)	

NOTE

DO NOT PERFORM NEXT SIX STEPS
 IF PRIMARY RIMU CAL AND ALIGN
 (COMPLETED AT T-07H40M) WAS
 ACCEPTABLE FOR LAUNCH.

16-0248	-03H00M (HOLDING) L-04H35M	CTC 232	LTD	VERIFY LH2/LO2 LOADING COMPLETE.	
					NOT PERFORMED -----

16-0249		CTC	LTD	PROCEEDING 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 AEROSURFACE MOVEMENT
2. NO HYDRAULIC PRESSURIZATION
OF ORBITER OR SRB'S
3. NO MPS HE PRESSURIZATION
4. MINIMAL CABIN ACTIVITY
5. NO CHARGES IN PURGE
6. NO VENT DOOR OPERATIONS
7. MAX WIND OF 49 KNOTS

16-0250	-3H00M (HOLDING) L-4H25M	LTD	CTC	PROCEED WITH IUS RIMU CAL AND ALIGN. QUIET TIME IS IN EFFECT.	
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UMRSD P018JB.035

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0251	-3H00M (HOLDING) L-4H20M	CTC 134	ICTC	PROCEED WITH RIMU CAL AND ALIGN PER DUP D290-50020-1. REPORT STATUS OF CAL AND ALIGN AS AVAILABLE.	
					NOT PERFORMED -----
16-0252		CTC 232	LTD	REQUEST WIND DIRECTION AND VELOCITY READING AT 155 FT LEVEL. RECORD: WIND DIRECTION ----- WIND VELOCITY -----	
					NOT PERFORMED -----
16-0253		CTC 132	OTC	REQUEST PAYLOAD BAY PURGE INLET TEMP AND FLOW RATE. RECORD: TEMP ----- FLOW RATE -----	
					NOT PERFORMED -----
					T-0 GMT VERIF FOR IUS SOFTWARE -----
16-0254	-03H00M (HOLDING) L-04H20M	CTC 232	LTD	REQUEST T-0 GMT FOR IUS SYSTEM SOFTWARE. RECORD: T-0 GMT -----	
16-0255		CTC 134 ICTC	ICTC ICC1	RECORD PRESENT T-0 GMT -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0256				LRD COMM CHECKS	
16-0257	-03H00M (HOLDING)	LRD UHF	*FLT *MIL NCC	PERFORM UHF/OMNI VOICE CHECKS ON 259.7 MHZ.	
16-0258	-03H00M (HOLDING)	LRD 135 STM 111 GYCC 117	STM GYCC JY CJ	VERIFY KSC TRANSMITTERS/RECEIVERS FOR CONVOY CDR, PURGE AND COOLING NETS OPERATIONAL.	34300 34100

NOTE

OIS PATCH-1 IS RESERVED FOR
 CONVOY COMMANDER NET COMM CHECK
 UNTIL RELEASED BY LRD.
 COMMUNICATION BETWEEN *FLT AND
 LTD ON OIS CH 232 WILL BE
 INTERRUPTED FOR THE DURATION
 OF THIS CHECK.

16-0259		LRD 135 STM 111 GYCC 117	STM GYCC GYCJ	DEACTIVATE OIS PATCH-1. ACTIVATE KSC CONVOY CDR NET TO LONGLINE GP59273.	34300 34100
16-0260		STM 135	LRD	LONGLINE RECONFIGURATION COMPLETE. READY TO SUPPORT VOICE CHECKS.	
16-0261		LRD CCN	*FLT NCC	PERFORM KSC CONVOY COMMANDER NET COMMUNICATIONS CHECK ON LONGLINE GP59273.	
16-0262		LRD 135 STM 111 GYCC 117	STM GYCC GYCJ	COMM CHECK COMPLETE. RETURN LONGLINE GP59273 TO NORMAL CONFIGURATION.	34300 34100

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NEXT STEP NOT REQUIRED IF
 NORMAL COMMUNICATIONS MONITORED
 ON CIRCUIT.

16-0263		GYCC 117	GUIS	MAKE NON-INTERFERENCE VOICE CHECK TO JSC ON OIS PATCH-1 TO VERIFY COMM, IF REQUIRED.	34300 SC-COM-2
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NOT PERFORMED

16-0264				SWITCH OIS CMD CHAN. (ORBITER)	
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16-0265	-03H00M (HOLDING)	LTD 232	OTC	ALL ORBITER TEST TEAM PERSONNEL SWITCH TO CMD CHN 212 ACTIVE.	
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16-0266				SLF SUPPORT VERIFICATION	
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16-0267	-03H00M (HOLDING)	STM 111	GYCC JCTL JSTC JTCR JPHO JCFM CBSE FMLS ENDO 127	PERFORM SUPPORT OPERATIONS SUPPORT SETUP 4 - SLF SUPPORT VERIFICATION.	34300 33210 EG&G-123 RCA-1 TGS 31314 MD 34200 PAN AM 31240
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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16-0268		UTC 132	ALL	ALL ORBITER PERSONNEL SWITCH TO COMMAND CHAN 212 AND STANDBY FOR COMM CHECK. CONTINUE TO SIDETONE CH 132 FOR DURATION OF COUNT.	
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ORBITER OIS COMM CHECK

16-0269	-03H00M (HOLDING)	UTC 212	OTC	PERFORM COMM CHECK ON OIS CHAN 212.	
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CCSE	-----	CPVD	-----
CNSE	-----	CEPD	-----
CAPU	-----	CGNC	-----
CMPL	-----	COFC	-----
CMPS	-----	CAFC	-----
CSME	-----	CCME	-----
CECL	-----	CODS	-----
CGSS	-----	CDPS	-----
CAFM	-----	CVFS	-----
CFCP	-----	CGLS	-----
CHGD	-----	CTPE	-----
COOS	-----	CMQC	-----
CHYD	-----	*PAD	-----
CISL	-----	UVCC	-----
CPLE	-----	SPE	-----

READY TO RESUME COUNT

NOTE

IF DOD MISSION, DO NOT
 PERFORM NEXT STEP.

16-0270	L-3H25M	LTD 232		ATTEN ALL PERSONNEL, THE CDC WILL RESUME COUNTING AT T-03 HOURS IN 5 MINUTES.	
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NOT PERFORMED -----

OPERATION INSTRUCTIONS

 SEQ TIME CMD RESP DESCRIPTION VERIF.

RESUME COUNT

NOTE

IF DOD MISSION, DO NOT
 PERFORM NEXT STEP.

16-0271	-03H00M (HOLDING)	CGLS 232	LTD	HOLD WILL TERMINATE AND THE CDC WILL START COUNTING AT 11/17/00 GMT HH MM SS 12/18/00	
					NOT PERFORMED
16-0272	-03H00M (HOLDING)	LTD	CGLS	START CDC AT 1-3H00M ON MY MARK 3-2-1 MARK.	
16-0273	-03H00M COUNTING	LTD PA 232		T-03H00M AND COUNTING.	
16-0274				TELEVISED WEATHER BRIEFING -----	
16-0275	-03H00M	LTD 232 STM 138	STM JSC GYVW JYVO	SUPPORT THE TELEVISED WEATHER DISPLAY TO THE FOLLOWING LOCATIONS. WEATHER BRIEFING AUDIO TO BE ON OIS CH 231.	34200 *BCS
				1. FLIGHT CREW QUARTERS (O&C ROOM 3267, MONITORS 2033 AND 2034).	
				2. ETR/RCC AND HANGER AD	
				3. LCC FR1/3 OSR.	
16-0276		STM	LTD	VIDEO FOR WX BRIEFING IN CREW QUARTERS IS READY.	
16-0277		LTD 232 STM 138 111	STM JSC JYVO GYVW GYCC	WEATHER BRIEFING COMPLETE. SUPPORT IS RELEASED.	34300 34200

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				ICE/DEBRIS INSP - COMPLETE	
16-0278		PICE	LTD 232	ICE/DEBRIS INSPECTION COMPLETE; LEAVING PAD. (SEG 57 S0007-V4)	
16-0279	-03H00M COUNTING	LTD	*SCC 232 *SCC *PSE 105 JFIR	VERIFY ICE/DEBRIS INSPECTION TEAM EG&G-420 AND ICE/DEBRIS FIRE ESCORTS BACK TO ROADBLOCK A-11.	

TEMP CNTL LINKAGE REMOVAL

NOTE

DO NOT PERFORM NEXT STEP IF
 THIS TASK WAS ACCOMPLISHED
 DURING PERFORMANCE OF SWITCH
 LIST.

16-0280		UTC	ASP	PANEL MD44F (UNDER FLOOR)	
				CABIN TEMP CNTL - FULL COOL (PINNED - LINKAGE REMOVED FOR STOWAGE IN R3 PLT'S FWD FDF CONTAINER)	
				NOT PERFORMED	-----

NOTE

IF T-20 COMPARE TAPE IS
 CLASSIFIED, HANDLE PER SPI
 13-1501.

16-0281		CVFS	LPS 127	MOUNT T-20 MIN COMPARE TAPE CTP _____ ON TAPE UNIT LOGICAL T-0 AND SET TO 1600 BPI. VERIFY TAPE DRIVE HEADS ARE CLEAN. REPORT COMPLETION.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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LIQH CANNISTER INSTL

16-0282	-02H45M	OVCC OTC	OTC CECL	READY TO INSTALL LIQH CANNISTERS.	
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CAUTION

DURING LIQH CANNISTER
 INSTALLATION, CABIN FAN
 MUST NOT BE SHUTDOWN FOR
 MORE THAN FIVE MINUTES.

NOTE

MONITOR FOR CABIN FAN DELTA
 P MASTER ALARM.

16-0283		OTC	ASP	PANEL L1 CABIN FAN B SW - OFF	
			OTC	RECORD TIME: -----	
			ASP	PANEL F2 RESET MASTER ALARM	
			CECL	START WATCH STOP KEY - PRESS	
16-0284		OTC	OVCC	INSTALL LIQH CANNISTER. REPORT WHEN COMPLETE.	
16-0285		OVCC OTC	OTC CECL	LIQH CANNISTER IS INSTALLED, READY TO ACTIVATE CABIN FAN B.	
16-0286		OTC	ASP	PANEL L1 CABIN FAN B SW - ON	
			OTC	RECORD TIME: -----	
			CECL	START WATCH STOP KEY - PRESS	
				WATCH RESET DISCON KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0287				LRD COMM AND STATUS CHECKS	
16-0288	-02H40M	LRD 135 LF1 LF2	DIO LSO GOM WASC DGM *DCD BRD	COMMUNICATIONS CHECKS	
16-0289		LRD LF1	GOM WASC DGM	REPORT ON STATUS OF LANDING SITES:	

NOTE

LANDING SITES AND LANDING AIDS STATUS TO BE UPDATED ONCE EVERY EIGHT HOURS DURING THE MISSION.

1. WEATHER CONDITIONS
2. LANDING CONSTRAINTS AND RUNWAY STATUS
3. CONVOY AND GSE STATUS
4. VERIFY LANDING SITES PRE-OPERATIONS ARE ON SCHEDULE TO SUPPORT LIFT-OFF TIME

16-0290	-02H40M	LRD 135	STM	VERIFY SLF OPERATION SUPPORT SETUP 4 COMPLETE.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0291				SWITCH STBY-FEP'S TO RF	
16-0292		OTC 232	LTD	VERIFY MILA ANTENNA ALIGNMENT IS COMPLETE.	
16-0293	-02H30M	OTC	CGLS	SWITCH THE STANDBY FEP'S TO RF	
16-0294		CGLS 127	LPS	VERIFY V&DA IS CONFIGURED TO SUPPLY 192K BIT RF DATA TO SOURCE 2 OF OIA/S, GPCA/S AND DECOM PROCESSOR	31240
16-0295		CGLS 127	LPS	VERIFY RF SIGNAL PRESENT AT GPCA/S, OIA/S AND BIO-MED FEP SCOPES.	31240
16-0296		CGLS		CONSOLE KYBD SLP01,, _____ (KSCA OR KSCB) PERFORM PGM KEY - PRESS VFY INTG MENU PFPK7 - PRESS PFPK6 (GLS CONTROL) - PRESS VFY GLS ML/MS DISPLAY (SDP01)	
<p style="text-align: right;"> <i>Site Center</i> <i>KSCA ON</i> <i>KSCB OFF</i> <i>VPS</i> <i>→ SLP01,, _____</i> <i>SLP03</i> <i>SLP1</i> <i>SLP2</i> <i>USED BY TPE</i> <i>NOT BY GLS</i> </p>					
16-0297		CGLS		CURSOR CNTL APP PG-B (SLP01) SELECT RF SWITCH XMIT CURSOR KEY - PRESS	
<p style="text-align: right;"> <i>MPAY/LOAD/D</i> <i>= no center</i> <i>= 1 center</i> <i>= 2 center</i> </p>					
16-0298		CGLS		APP PG A VERIFY PCMS OPERATIONS	
16-0299		CGLS 127	LPS	AWP01 PG-B VERIFY OIS, GPCS ARE ON SOURCE 2 HI RATE VOICE YES AND DATA IS VALID	31240
16-0300		CGLS		CRT SELECT TERMINATE - XMIT CURSOR VFY INTG MENU CRT SELECT TERMINATE - XMIT CURSOR VFY SLP01 INACTIVE	
16-0301		CGLS	OTC	STANDBY FEP'S SWITCH TO RF IS COMPLETE.	
16-0302		LPS 238	JRPS	START NSF LOCK STATUS STRIP CHART.	31212

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- DOWNLINK FMT CHANGE -----					
NOTE					
IF LIFTOFF DOWNLINK IS OTHER THAN 129, PERFORM NEXT THREE STEPS.					
IF DOD MISSION, PERFORM NEXT THREE STEPS ONLY AT CTC DIRECTION.					
16-0303		CTC LTD	LTD OTC	REQUEST DOWNLINK CHANGE TO SOFT FORMAT	NOT PERFORMED -----
16-0304		LTD	TBC LPS	DOWNLINK FORMAT WILL CHANGE	NOT PERFORMED -----
16-0305	-02H30M	OTC CDPS	CDPS ASP	L KYBD SPEC 62 PRO ITEM 2 EXEC RESUME	NOT PERFORMED -----
16-0306		CTC	DLES	PROCEED WITH PAYLOAD CONSOLE SOFTWARE CONFIGURATION PER SEQ 82 (S0007-V4) PAYLOAD CONSOLE S/W CONFIGURATION.	NOT PERFORMED -----
16-0307				FLIGHT CREW DEPART ----- O & C BUILDING TO PAD -----	
16-0308	-02H30M	VITT	NTD	VERIFY READY FOR FLIGHT CREW TO DEPART O&C BUILDING TO PAD. (7-3903/3901, 7-7512/2503)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0309	-02H30M	*AVN NET 105 NTD LTD LTD 232 OTC 212	NTD	ASTRO VAN DEPARTING O & C WITH FLIGHT CREW.	
16-0310	-02H30M	LTD 232 STM 138	STM JYVO JYVR	FLT CREW IS DEPARTING U&C ENROUTE TO LAUNCH PAD, VIDEO TRACK AND RECORD THRU INGRESS PER DMI A5204 USING OTV CAMERAS/ INPUTS 1TVM2112,TV-5,080,027/127, 036/136,035/135,006/106,004/104,005/105 (SEE JYVO FIG 4).	34200 *BCS
16-0311				CONFIG OIS (O&C) -----	
16-0312	-02H30M	LTD 232 STM 111 GYCC 117	STM GYCC GYCJ	CONFIGURE THE O&C OIS-RF MISSION "A" OR "C" (EXCEPT BRANCH SIX AND BRANCHES SPECIFIED IN MISSION TEST SUPPORT DOCUMENT) TO RECEIVE ONLY FROM LC-39. REPORT COMPLETION.	34300 34100

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0313				SRB MDM CD VERIF. -----	
16-0314	-02H30M	LTD 232 TBC 136	TBC CBDP	PERFORM SRB MDM COUNTDOWN VERIFICATION.	*BCS
16-0315			CBDP	CURSOR CNTL (SAS05/SDS04) SYSTEM SELECT SRB XMIT CURSOR KEY - PRESS CURSOR CNTL (SAS05/SDS07) SRB MANUAL TEST SEL XMIT CURSOR KEY - PRESS CURSOR CNTL (BSM06/BDM08) COUNTDOWN TEST XMIT CURSOR KEY - PRESS	
16-0316			CBDP	CRT VERIFY ALL ENTRIES TO TEST STATUS DISPLAY 'OK' GREEN	
16-0317			CBDP	PFP (BSM06) PFP TERMINATE KEY - PRESS	
16-0318		CBDP 136 TBC 232	TBC LTD	SRB MDM COUNTDOWN VERIFICATION COMPLETE.	
16-0319				ETR OPEN LOOP CMD TEST -----	
16-0320	-02H25M	SRO	LTD	REQUEST ETR CLEARANCE FOR CMD AUTO CARRIER SYSTEM CHECKS. (30 MINUTE DURATION) WILL REPORT COMPLETION.	SRO
16-0321				ACID DEPOSITION WX BRIEFING -----	
16-0322	-02H25M	STM 163 226	CBSE	VERIFY READY FOR ACID DEPOSITION *SCC WEATHER BRIEFING.	
16-0323	-02H25M	STM 231	ECC	PERFORM ACID DEPOSITION WX BRIEFING.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				TOP-OFF SS SYS -----	
				NOTE	
				PERFORM NEXT STEP IF SS WATER TANK REQUIRES TOP - OFF.	
16-0324	-02H25M	STM 111	JBWC	TOP OFF ELEVATED SOUND SUPPRESSION WATER TANK PER OPERATION INSTRUCTIONS OF OMI M3114 (SKELETON SSA, F1A)	3322B
				NOT PERFORMED	-----
16-0325				PRE-INGRESS SWITCH RECONFIG -----	
16-0326	-02H25M	ASP	OTC	READY TO PROCEED WITH PRE-INGRESS SWITCH RECONFIG.	
16-0327		OTC	ASP	PERFORM PRE-INGRESS SWITCH RECONFIGURATION	
16-0328			ASP	PANEL C3 UI PCMMU: PWR SW-1 CAUTION/WARNING MODE SW - NORM	
			ASP	PANEL A14 RCS/OMS HEATERS FWD RCS JET 1 SW - OFF 2 SW - OFF 3 SW - OFF 4 SW - OFF AFT RCS JET 1 SW - OFF 2 SW - OFF 3 SW - OFF 4 SW - OFF	
				OMRSD S00F80.110	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.	
16-0329	-02H25M	ASP		PANEL R1 POWER DISTRIBUTION ESS BUS SOURCE FC1 SW - ON FC2 SW - ON FC3 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	
				NOTE		
				IF DOD MISSION, DO NOT PERFORM NEXT STEP.		
16-0330		OTC	ASP	PANEL F9 SELECT, READ AND REPORT FC VOLTS AND AMPS: FC1 _____ VDC _____ AMPS (DD) FC2 _____ VDC _____ AMPS (DD) FC3 _____ VDC _____ AMPS (DD) OMRSD S00FA0.365		
					NOT PERFORMED -----	
16-0331		OTC	ASP	IF DOD MISSION, PERFORM ITEM 13.8 APPENDIX Q.		
					NOT PERFORMED -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				KSC CONVOY OPS -----	
16-0332	-02H20M	NCC CCN	LRD	KSC CONVOY IS READY FOR RTLS LANDING. PRE-OPERATION PREPARATIONS ARE VERIFIED.	
16-0333		LRD CCN	NCC	COMMUNICATIONS CHECK.	
16-0334		LTD	*FLT	IF DOD MISSION, PERFORM ITEM 6.6, APPENDIX Q.	
				NOT PERFORMED	-----
16-0335				SLF TV TOWER CHECKS -----	
16-0336	-02H20M	STM	JPHO	VERIFY CAMERAMEN ARE ON SLF TV TOWERS.	TGS
16-0337	-02H20M	STM	*MIL	VERIFY POINTING DATA FOR APPLICABLE PAD IS BEING TRANSMITTED TO SLF TV TOWERS 1 AND 2 AS SPECIFIED BELOW:	MILA
				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.)	
16-0338		STM 111		SOUTH TWR (TOWER 1) GIVE FOL DATA: READOUT POINTING DATA AZIMUTH ----- DEG ELEVATION ----- DEG	
16-0339		STM 111		NORTH TWR (TOWER 2) GIVE FOL DATA: READOUT POINTING DATA AZIMUTH ----- DEG ELEVATION ----- DEG	
16-0340		STM 232	LTD	SLF TV TOWER CHECKS ARE COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0341				NAVAIDS ACTIVATION (-02H15M)	

16-0342	-02H15M	STM 232 LTD 232 OTC 132	LTD OTC CNSE	TACAN STATION AT KSC IS SUPPORTING.	
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NOTE

IF DOD MISSION, DO NOT
 PERFORM NEXT STEP.

16-0343		LTD OTC OTC	*FLT 1. OTC CNSE	1. PROVIDE TACAN TW SETTING FOR TAL SITE _____ (RECORD). REPORT TW SETTING TO CNSE.	
			2.	2. PROVIDE MSBLS TW SETTING FOR RTLS SITE _____ (RECORD). REPORT TW SETTING TO CNSE.	

NOT PERFORMED -----

NOTE

IF DOD MISSION, PERFORM
 NEXT STEP.

16-0344		OTC *FLT OTC	*FLT OTC CNSE	PROVIDE TACAN AND MSBLS TW SETTINGS FOR TAL.	
				USE ROW _____ ITEM _____	
				ROW _____ ITEM _____	

NOT PERFORMED -----

WARNING

NEXT STEP IS HAZARDOUS DUE
 TO RF RADIATION.

16-0345	-02H15M	LTD 232 OTC 132	OTC CNSE	PERFORM NAVAIDS ACTIVATION ON CH 212.	*BCS
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0346			CNSE 1.	HOME CMD KEY - PRESS	
			2.	CONSOLE KYBD VAN22, STOP	
			3.	PERF PGM KEY - PRESS	
			4.	SELECT APPL PG-B (VAN22)	
			5.	RES PGM KEY - PRESS	
16-0347		CNSE ASP		PANEL 07 TACAN 1 MODE SW - T/R CHANNEL TW - 059Y TACAN 2 MODE SW - T/R CHANNEL TW - 059Y TACAN 3 MODE SW - T/R CHANNEL TW - 059Y	
				NOTE DELAY ACTIVATION AT THIS POINT FOR LOCK UP TO TACAN GROUND STATION.	
16-0348		CNSE ASP		PANEL 07 TACAN 1 ANT SEL SW - AUTO TACAN 2 ANT SEL SW - AUTO TACAN 3 ANT SEL SW - AUTO	
16-0349		CNSE		CRT (VAN22) TACAN 1 SW STAT - ON TACAN 2 SW STAT - ON TACAN 3 SW STAT - ON TACAN 1 POWER STAT - GO TACAN 2 POWER STAT - GO TACAN 3 POWER STAT - GO	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0350	-02H15M	CNSE	ASP	PANEL 07 TACAN 1 MODE SW - GPC TACAN 2 MODE SW - GPC TACAN 3 MODE SW - GPC	

NOTE

TAL SITE MAY CHANGE FROM ONE MISSION TO THE NEXT. ENTER CORRECT TW SETTINGS FOR THIS MISSION BELOW, AND POSITION TACAN CH TW'S TO THE SETTINGS RECORDED.

IF DOD MISSION, DO NOT PERFORM NEXT STEP.

16-0351		CNSE	ASP	PANEL 07 TACAN 1 CHANNEL TW - ----- TACAN 2 CHANNEL TW - ----- TACAN 3 CHANNEL TW - ----- NOT PERFORMED	-----
16-0352		CNSE		IF DOD MISSION, PERFORM ITEM 8.5, APPENDIX Q. NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF DOD MISSION, DO NOT
 PERFORM NEXT STEP.

16-0353		CNSE	ASP	PANEL 08 MLS CHANNEL 1 TW ----- 2 TW ----- 3 TW -----	
					NOT PERFORMED -----

16-0354				IF DOD MISSION, PERFORM ITEM 8.17, PER APPENDIX Q.	
					NOT PERFORMED -----

16-0355		CNSE	ASP	PANEL 08 RADAR ALTIMETER 1 SW - ON 2 SW - ON GMT -----	
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16-0356		CNSE	CRT (VAN22)	RA 1 RALT SW STATUS - UN RA 2 RALT SW STATUS - UN RA 1 RALT READY - ON RA 2 RALT READY - ON RECORD RALT 1 ALT ----- BD RALT 2 ALT ----- BD	
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16-0357		CNSE	OTC	NAVAIDS ACTIVATION COMPLETE.	
		OTC	LTD		

16-0358				AIR SAMPLE - CREW MODULE -----	
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16-0359	-02H15M	ASP		PERFORM CLOSEOUT AIR SAMPLE OF CREW MODULE. OMRSD S00FB0.011	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0360	-02H15M	ASP	OTC	PRE-INGRESS SWITCH RECONFIG IS COMPLETE.	
16-0361				OI PCM TO PANEL CONTROL -----	
16-0362	-02H15M	UTC	CISL	CONFIGURE OI PCM TO PANEL CONTROL	*BCS
16-0363			CISL	CRT (VAQ36) PCMMU SEL SW SCAN - 1 CURSOR CNTL (VAQ36) PCM CNTL ENABLE - XMIT CURSOR PCM 1 OFF - XMIT CURSOR	
16-0364			CISL OTC	OI PCM TO PANEL CONTROL - COMPLETE	
NOTE					
IF DOD PLB SECURITY COVERS INSTALLED IN W9/W10, REMOVE PER NEXT THREE STEPS.					
16-0365	-02H10M	OTC	ASP	OBTAIN COMBINATION FOR COVERS FROM CLOSEOUT CREW MECH TECH AND UNLOCK LOCKS.	
NOT PERFORMED -----					
16-0366			OTC ASP	LIFT HASPS AND LOOSEN THUMB SCREWS ON COVERS (L070-000278-002, L070-000278-003). REMOVE COVERS FROM WINDOWS.	
NOT PERFORMED -----					
16-0367			OTC ASP	RELEASE SECURITY COVERS AND LOCKS TO MECH TECH AND KEEP FOR FUTURE USE.	
NOT PERFORMED -----					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

FIRE/RESCUE AT A-5 ROADBLOCK -----					
16-0368	-02H10M	*SCC 226	JFIR	VERIFY FIRE/RESCUE (M113) PERSONNEL STANDING BY AT A-5 ROADBLOCK FOR FLIGHT CREW RESCUE.	EG&G-420
16-0369		*SCC 226	JFIR WMED	VERIFY BRAVO MEDICAL ON SITE AT MULTI-FUNCTIONAL FACILITY FOR FLIGHT CREW RESCUE.	EG&G-420
16-0370				CLEAR ASTRO VAN THRU ROADBLOCK A-11 -----	
16-0371	-02H10M	NTD 232	*SCC LTD	VERIFY NO CONSTRAINTS TO CLEARING ASTROVAN THRU PAD GATE TO BASE OF FSS AND SECURITY ESCORT TO PAD MAIN GATE.	
16-0372	-02H10M	*SCC 226	*SEC	CLEAR SECURITY ESCORT WITH ASTROVAN THRU A-11 ROADBLOCK TO PAD.	EG&G-430

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

ESSENTIAL PERSONNEL					

(XX = AS REQ'D TO SUPPORT MISSION)					
PERSONNEL IN ASTRONAUT VAN					

				JSC LFAC SEC	
				--- --- ---	
				PRIME XX	
				CREW	
				SUIT TECH 1	
				DRIVER 1	
				ESCORT 1 NASA	
					1 EG&G
PERSONNEL IN SECURITY					

ESCORT VEHICLE					

				EG&G	

				DRIVER & ESCORT 2	
16-0373		NTD	*AVN	FLIGHT CREW IS CLEARED THRU A-11	EG&G-430
		105		ROADBLOCK TO BASE OF FSS WITH	
				ESCORT VEHICLE TO GATE.	
16-0374		*SEC	*SCC	ASTRO VAN HAS PASSED THRU A-11	EG&G-430
		*SCC	LTD	ROADBLOCK.	
		232			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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WARNING

PERSONNEL ENROUTE TO
FORWARD OBSERVER SITES
MUST NOT PENETRATE BLAST
DANGER AREA.

NOTE

PERSONNEL WITHIN LDA UPON
ARRIVAL AT THEIR
ASSIGNED LOCATION, WILL
REPORT ON OIS OR RADIO NET
TO THEIR RESPECTIVE LEAD
(LTD, SRD, STM, BEK1) FOR
COMM CHECK. LEAD PERSONNEL
WILL THEN VERIFY TO LTD
THE STATUS OF THEIR
RESPONSIBLE PERSONNEL.
FOR ROAD BLOCK LOCATION
REF FIG - 5

FOR PERSONNEL LOCATIONS/
MAXIMUM MANLOADING, SEE FIG 7.

GAS MASKS WILL BE
AVAILABLE FOR PICKUP AT
LIFE SUPPORT FALLBACK
TRAILER AT OPF.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0379				LAUNCH COMMIT CRITERIA VERIF.	
16-0380	-02H05M	LTD 232	OTC TBC CTC STM *FLT *MIL SRO LPS	VERIFY NO VIOLATION OF LAUNCH COMMIT CRITERIA	
16-0381	-02H05M	OTC	ALL	VERIFY YOUR SYSTEM MEETS LAUNCH COMMIT CRITERIA REQUIREMENTS FOR CREW BOARDING PHASE AT T-2H05M.	
				CEPD --- CCSE --- CECL --- CNSE --- CISL --- COFC --- CDPS --- CGNC --- CHYD --- CMPS --- CPVD --- CSME --- COOS --- CAPU --- CAFM --- CFCP --- CPLE --- CHGD --- CCME --- CAFC --- CMPL --- CODS --- CGSS ---	
16-0382		OTC	CISL	SUPPORT TBC ON CH 136.	
16-0383	-02H05M	TBC 136	ALL	VERIFY YOUR SYSTEM MEETS LAUNCH COMMIT CRITERIA REQUIREMENTS	
				CTIF ----- CPWR ----- CLOX ----- CBHY ----- CLHY ----- CBRS ----- CISL ----- CBDP -----	
16-0384	-02H05M	STM 111	JBWC JBFX JBEP	VERIFY REQUIRED LAUNCH COMMIT CRITERIA VALID.	3321C 3322B 3322A

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0385		JSTC 114	JSDY JSEP JSAC JSQC GSPN JFIR *SEC	VERIFY REQUIRED LAUNCH COMMIT CRITERIA VALID.	EG&G-315 EG&G-123 EG&G-611 EG&G-612 EG&G-631 EG&G-420 EG&G-430

16-0386	-02H05M	STM 111	JSTC GYCC	VERIFY REQUIRED LAUNCH COMMIT CRITERIA VALID.	EG&G-123 34300
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REPORT LCC STATUS

16-0387		OTC TBC STM LPS *FLT *MIL SRO CSPE CTC 232	LTD	REPORT LAUNCH COMMIT CRITERIA STATUS	
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VERIFY P/P CONSUMABLES - ADEQUATE

NOTE

IN NEXT STEP, DO NOT DISCARD
 ANY PRINTER/PLOTTER OUTPUTS
 FROM TAKE-UP REELS OR BASKETS.

DUE TO HIGH CONSOLE ACTIVITY
 DURING TANKING, CONSOLES C3
 AND C4 WILL NOT BE VERIFIED.

16-0388	-02H05M	LTD 232	LPS	VERIFY ADEQUATE SUPPLY OF CONSUMABLES ARE AVAILABLE IN THE CONSOLE PRINTER/PLOTTERS (300 SHEETS), FR-2/CR-4 ESA SCRS PRINTER PLOTTERS, BIU-MED RECORDER AND LINE PRINTERS (1/2 BOX MINIMUM). REPORT CONSOLE BULK SEMI'S ERROR STATUS.	31240
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

PERSONNEL WITHIN LAUNCH IMPACT					

AREA ON STATION					

16-0389	-02H05M	JPHO JSTC JYVO 111 STM 232	STM LTD	ALL SUPPORT PERSONNEL REQUIRED WITHIN LAUNCH IMPACT AREA ARE ON STATION.	34200 EG&G-123
CREW COMPT READY FOR INGRESS					

16-0390	-02H05M	ASP	OTC	CREW COMPARTMENT READY FOR CREW INGRESS. SUIT TECH AND MECH TECH GOING DOWN TO PAD LEVEL TO INTERFACE WITH FLIGHT CREW.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM CLEAR C/W
 MEMORY (NEXT SEVEN STEPS)
 FOR DOD MISSIONS.

CLEAR C/W MEMORY

NOT PERFORMED -----

16-0391	-02H05M	OTC	ASP	CLEAR C/W MEMORY.	
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ASP	PNL C2
	RT CRT SEL - 3
	RT KYBD - FAULT SUMM
	CRT 3 - GNC FAULT SUMM
	RT KYBD - SPEC 99 PRO
	RESUME

16-0392		OTC	ASP	PANEL R13	
			CISL	C/W	
				PARAMETER STATUS SW - INHIBITED,	
				HOLD. RECORD MATRIX LIGHTS ON:	

16-0393		OTC	ASP	PARAMETER STATUS SW - RELEASE	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0394		OTC	ASP	MEMORY SW - READ, HOLD RECORD MATRIX LIGHTS ON:	

16-0395		OTC	ASP	MEMORY SW - CLEAR, RELEASE MEMORY SW - READ, HOLD RECORD MATRIX LIGHTS ON:	

16-0396		OTC	ASP	MEMORY SW - RELEASE	
16-0397		ASP	OTC	C/W MEMORY CLEAR COMPLETE.	
16-0398		OTC	ASP	FOR DOD MISSIONS, PERFORM CISL ITEM 4.9, APPENDIX Q.	
				NOT PERFORMED	-----
				ASTROVAN AT PAD	-----
16-0399	-02H05M	*AVN 105 NTD 232	NTD OTC LTD	ASTROVAN IS AT PAD SURFACE. ESCORT VEHICLE RETURNING TO A-11 ROADBLOCK.	
			*SCC		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
FLIGHT CREW AT FSS -----					
16-0400		NST -2		(NASA SUIT TECH) WILL ARRIVE AT FSS ELEVATOR/PAD LEVEL WITH FLIGHT CREW WITH FOLLOWING ITEMS: 1. ASCENT CHECK LIST/TETHERS (THREE) 2. ASCENT FLIP CARD BOOKS/BACKINGS/TETHERS (TWO) 3. ASCENT ADI CUE CARDS (TWO) 4. KNEEBOARDS (FOR EACH CREW MEMBER)	
16-0401		FLT NST -1		FLIGHT CREW AND NST-1 PROCEED TO FSS 195 FT LEVEL.	
16-0402		UTC	LTD	REQUEST CONCURRENCE TO PROCEED WITH CREW INGRESS.	
16-0403	-02H05M	LTD 232 UTC	UTC OVCC	PROCEED WITH CREW INGRESS OPERATIONS WHEN CREW ARRIVES.	
16-0404				GLS INITIALIZATION (-02H) -----	
16-0405	-02H00M	UTC	CGLS	PERFORM GLS INITIALIZATION PER SEQ 61 (S0007 V-4). REPORT COMPLETION.	*BCS
16-0406		CGLS	UTC	FEP DUAL INTERRUPT NOTIFICATION WILL BE ACTIVATED MOMENTARILY.	
16-0407				RETRIEVAL AREA - STATUS CHECK -----	
16-0408	-02H00M	LRD 135	BRD	REPORT STATUS IN RETRIEVAL AREA: 1. SHIPS ON STATION 2. RANGE CLEAR OF OTHER VESSELS 3. WEATHER STATUS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0409	-02H00M	LRD 135	SRD	RANGE IS CLEAR (OR NOT CLEAR) OF VESSELS OTHER THAN THE REQUIRED RETRIEVAL SHIPS.	

NOTE

DO NOT PERFORM NEXT STEP IF VALVE POSITION MONITORING TO BE SET UP VIA SSME GOAL PROGRAM.

16-0410	-02H00M	OTC 232 LTD	LTD LPS	PERFORM ORBITER OPERATION SUPPORT 31240 SETUP 38 - LPS VALVE POSITION MONITORING. REPORT COMPLETION.	
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NOT PERFORMED

16-0411				MPS HELIUM TANK PRESSURIZATION	
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16-0412	-02H00M	OTC	CMPS	PROCEED WITH PRESSURIZATION OF MPS HELIUM BOTTLES.	
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16-0413			CMPS	CRT (VAE18) PANEL INLET PRESS >5000 PRIM REG OUT - 4400 TO 4500	
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16-0414			CMPS	CURSOR CNTL (VAE18) 1. CURSOR PRIM REG SUV - OPEN 2. CURSOR 2000 XOVER - CLOSED	
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16-0415			CMPS	CRT (VAE18) MONITOR AND VERIFY HE BOTTLES STABILIZE AT 4400 - 4500 PSIA.	
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16-0416		CMPS	OTC	MPS HELIUM PRESSURIZATION COMPLETE.	
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OMRSD 500FF0.070

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0417				UAA ACCUMULATOR FORCED CHARGE -----	
16-0418	-02H00M	OTC	CGSS	PERFORM UAA ACCUMULATOR FORCED CHARGE	
16-0419	-02H00M		CGSS	PF (VAJ02) PFK-3 VAJ07 UAA ACCUM - PRESS PFK-5 UAA ACCUM EXECUTE - PRESS VERIFY UAA ACCUM TOP AND BOTTOM LITES ON, THEN OFF.	
16-0420		CGSS	OTC	UAA ACCUMULATOR FORCED CHARGE COMPLETE.	
16-0421				SRB RGA POWERUP AND TORQUE TEST(-02H) -----	
16-0422	-02H00M	OTC 132	CAFC	POWER UP SRB RGS'S AND PERFORM TORQUE TEST PER OMI V1123. REPORT COMPLETION. UMRSD S00FJ0.020 UMRSD S00FG0.130	*BCS
16-0423			CAFC	PF (VSB79, PG-A) PFK12 - PRESS (CONTINGENCY OPS ON) CRT (VSB79, PG-A) VERIFY VSB79 CONTINGENCY OPERATIONS PAGE	
16-0424			CAFC	PF (VSB79, PG-A) PFK2 - PRESS (INCREMENT LINE) REPEAT UNTIL "19.SRBRGA" SHOWS INVERT.	
16-0425			CAFC	PF (VSB79, PG-A) PFK12 - PRESS (CONTINGENCY OPS OFF) CRT (VSB79, PG-A) VERIFY PAGE A CLEARS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0426				SRB HPU GAS GEN. HTR ON (-02H)	

NOTE

PROGRAM STX05 MUST BE
ACTIVATED PRIOR TO NEXT
STEP (REF T-2H05M).

16-0427	-02H00M	LTD 232 TBC 136	TBC CBHY	TURN ON SRB HPU GAS GEN HEATERS REPORT COMPLETION.	*BCS
16-0428	-02H00M		CBHY	CURSOR CNTL (BAT04) VEHICLE GAS GENERATOR AUT -	
16-0429	-02H00M	TBC 136	CBHY	DURING REMAINDER OF COUNT UNTIL T-1 MIN CBHY IS TO MONITOR AND ADJUST ALL GG TEMPS AT 190 TO 249 DEG F BY ON/OFF HTR CMD 1 AND/OR 2 (CURSOR CNTL).	

UMRSD S00FF0.170

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0430				SRB AFT SKIRT GN2 PURGE (-02H)	
NOTE					
DO NOT PERFORM NEXT THREE STEPS IF ALL SRB FSM TEMPERATURES (LEFT A, LEFT B - RIGHT A, RIGHT B) ARE GREATER THAN 45 DEG F.					
16-0431		LTD 232	TBC	PERFORM SRB AFT SKIRT GN2 PURGE.	
				NOT PERFORMED	-----
16-0432	-02H00M	TBC 137	CBHY	INITIATE SRB AFT SKIRT GN2 PURGE FOR LEFT AND RIGHT SRB.	*BCS
				NOT PERFORMED	-----
16-0433	-02H00M		CBHY	CURSOR CNTL (BAT04) SRB AFT SKIRT GN2 PURGE	
				DC PWR PRI - ON SEC - ON	
				PRI - OPN SEC - OPN HTR CMD - ON	
				CRT (BAT04) SRB AFT SKIRT GN2 PURGE	
				PURGE (ON)	
				NOT PERFORMED	-----
16-0434				CLOSE VAB HIGH BAY AND TRANSFER ----- AISLE DOORS -----	
16-0435	-02H00M	STM 111	JBDY	CLOSE ALL VAB HIGH BAY AND TRANSFER AISLE DOORS (Q3011, Q3016), REPORT COMPLETION.	33221

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0436				FIRST MOTION (SIM) SIGNAL TEST	
16-0437	-02H00M	STM 111	SRD	VERIFY READY TO RECEIVE FIRST MOTION (SIMULATED) SIGNAL AT T-01H55M BY THE COUNTDOWN CLOCK.	
16-0438	-02H00M	STM 232 LTD	LTD *FLT	FIRST MOTION (SIMULATED) SIGNAL WILL BE SENT OVER THE JSC COUNTDOWN SYSTEM T-1H55M BY THE COUNTDOWN CLOCK.	
16-0439		STM 111	JTCR	VERIFY FIRST MOTION SYSTEM IS CONFIGURED TO RECEIVE PAD --- FIRST MOTION SIGNAL.	
16-0440		STM 111	JTCR	SEND AND DISTRIBUTE SIMULATED FIRST MOTION SIGNAL AT T-1H55M BY THE CLOCK.	RCA-1
16-0441	-01H55M		JTCR	(SIMULATED) FIRST MOTION SIGNAL - EXECUTE	RCA-1
16-0442	-01H55M	STM 111 STM 232 LTD	SRD LTD *FLT	VERIFY (SIMULATED) FIRST MOTION SIGNAL RECEIVED BY ALL STATIONS REQUIRED. REQUEST PERMISSION TO REMOVE (SIMULATED) SIGNAL AND RECONFIGURE TO PAD.	ETR
16-0443		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.	RCA-1
16-0444		STM 232	LTD	FIRST MOTION (SIM) SIGNAL TEST IS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
LRD CHECKS -----					
16-0445	-01H55M	LRD 135	*ECC	REPORT STATUS OF HELICOPTERS.	
16-0446		LRD	*ECC	PERFORM COMM CHECK WITH LTD ON OIS CHAN 232.	
ASTROVAN - DEPART PAD -----					
16-0447		*AVN 105 NTD 232	NTD LTD *SCC	ASTROVAN HAS CLEARED PAD SURFACE, PROCEEDING TO A-11 ROADBLOCK.	
16-0448				FLT CREW INGRESS (-01H55M) -----	
16-0449	-01H55M	UVCC 212	OTC	FLIGHT CREW HAS ARRIVED AT THE ORBITER, CREW INGRESS IN WORK AT THIS TIME.	*BCS
16-0450	-01H55M	OTC 212	ALL	FLIGHT CREW INGRESS IS PROCEEDING AT THIS TIME. MONITOR CONSOLE DISPLAYS.	
16-0451				FLT FLIGHT CREW ENTER ENVIRONMENTAL CREW CHAMBER AND PERFORM THE FOLLOWING:	
				1. REMOVE PROTECTIVE BOOTIES.	
				2. CONNECT AND ADJUST HARNESS ASSEMBLIES (EACH CREW MEMBER).	
16-0452		ASP NST -1		ENTER ORBITER WITH CHECKLISTS, CUE CARDS, KNEEBOARDS AND AND PROCEED TO FLIGHT DECK WITH ASP.	
16-0453	-01H55M	LTD 232 STM 138	STM JYVO JYVR	TERMINATE FLIGHT CREW TRACKING AND VIDEO RECORDING. OTV CAMERAS AND VIDEO RECORDERS ARE RELEASED TO PREVIOUSLY ASSIGNED USAGE. POSITION OTV CAMERA 005/105 TO MONITOR CREW HATCH. (SEE JYVO FIG. 4)	34200

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT SIX STEPS IF
 ALTERNATE THROTTLE PROFILE
 REQUIRED.

16-0454		*FLT LTD LTD 232	LTD OTC	PERFORM ALTERNATE THROTTLE PROFILE SELECTION STEPS.	
					NOT PERFORMED
16-0455		132	OTC LPS	LOAD/DUMP BFS PROGRAM IN GPC-5 FROM MMU 1 AREA 3 PER SEQ 49 (S0007 VL4) ON OIS CH 152. REPORT COMPLETION.	
					NOT PERFORMED
16-0456			OTC LPS	PERFORM BFS DUMP RETRIEVAL AND COMPARE PER SEQ 49 (S0007 VL4). REPORT COMPLETION.	31240
					NOT PERFORMED
16-0457		132	OTC LPS	ENTER PASS ALTERNATE THROTTLE PROFILE AREA 3 POINTER PATCH PER SEQ 49 (S0007 VL4) REPORT COMPLETION.	
					NOT PERFORMED
16-0458		132	CVFC OTC	PASS ALTERNATE THROTTLE PROFILE AREA 3 POINTER PATCH IS INSTALLED (PASS ALTERNATE THROTTLE PROFILE AREA 3 POWER PATCH OPTION - COMPLETE).	
					NOT PERFORMED
16-0459			LPS	JCD2 BFS DUMP AND COMPARE IN PROGRESS. URGE SDC00 TO 50.	
					NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				CDR/PLT SEAT AIDED INGRESS -----	
16-0460	-01H55M	CDR PLT		INGRESS SEAT, CDR THEN PLT	
16-0461		CDR PLT		RHC - REMOVE COVERS	
16-0462		CDR PLT		CONNECT L.E.H. COMM TO H.I.U	
16-0463		CDR		PANEL L5 LEFT COMM POWER SW - ON (UP)	
16-0464		PLT		PANEL R6 RIGHT COMM POWER SW - ON (UP)	
16-0465		CDR PLT		PANEL 05 AND 09 AUDIO VOX SENS TW'S (TWO) - ADJUST AS REQ'D.	
16-0466		CDR LTD PLT OTC LTD		READY TO PERFORM COMM CHECKS (CDR AND PLT INDIVIDUALLY WITH OTC AND LTD).	

OPERATION INSTRUCTIONS

SEQ TIME CMD RESP DESCRIPTION VERIF.

NOTE

PERFORM SEQUENTIALLY THE
NEXT FIVE STEPS. CDR
FIRST, THEN PLT.

16-0467	-01H50M	CDR PLT	HELMET O2 LEADS - CONNECT TO PEAP; ATTACH LOCKING CLIP
16-0468		CDR PLT	SHOULDER HARNESS/LAP BELT - 1. CONNECT AND LOCK FITTINGS. 2. VERIFY PROPER ROUTING OF HELMET O2 HOSES AND COMM LEAD.
16-0469		CDR PLT	1. REMOVE VISOR PROTECTOR 2. CLOSE VISOR 3. CHECK O2 FLOW 4. VERIFY NO LEAKS 5. PERFORM COMM CHECK 6. OPEN VISOR
16-0470	-01H50M	CDR PLT	VERIFY 1. SEAT HEIGHT/FORE AND AFT ADJUSTED 2. RUDDER PEDALS ADJUSTED 3. RHC ADJUSTED 4. PITCH KNOB TIGHT
16-0471		ASP	INSTALL ASCENT CUE CARDS AND CHECKLISTS. ATTACH TETHERS.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				VERIFY RCS THRUSTER CMDS - OFF	
16-0472	-01H50M	COFC	OTC	ALL RCS THRUSTER FIRE COMMANDS ARE OFF IN MDMS (PER RCS JET FIRING INHIBIT SEQUENCE OF UMI V1123).	
16-0473				POST INGRESS SW RECONFIGURATION	
WARNING					
COFC MUST VERIFY ALL RCS THRUSTER FIRE COMMANDS ARE OFF IN MDMS PRIOR TO THE ASP POSITIONING THE RJD DRIVER SWITCHES.					
16-0474	-01H45M	COFC	OTC	PROCEED WITH POST INGRESS SW. RECONFIGURE.	
16-0475	-01H45M	OTC	ASP	PERFORM POST INGRESS SWITCH RECONFIGURATION.	
16-0476			ASP	REMOVE GUARDS AND POSITION RCS DRIVER SWITCHES.	
16-0477			ASP	PANEL 014 ROW F RJDA 1A DRIVER SW - UN RJDA 2A DRIVER SW - UN RJDF 1B DRIVER SW - UN L OMS ENG VLV SW - ON OMRSD S00FG0.140	
16-0478			ASP	PANEL 015 ROW F RJDA 1B DRIVER SW - UN RJDF 1A DRIVER SW - UN OMRSD S00FG0.060 OMRSD S00FG0.140	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT TWO
 STEPS UNTIL AFTER L-02H00M
 (DOD MISSIONS).

16-0484		LTD	*FLT 1. OTC	PROVIDE TACAN TW SETTING FOR TAL SITE.	
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RECORD _____

NOT PERFORMED

16-0485		OTC	CNSE	REPORT TAL SITE TACAN TW SETTING TO CNSE.	
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NOT PERFORMED

NOTE

PERFORM NEXT STEP IF
 TAL SITE CHANGED AS A RESULT
 OF TAL WX BRIEFING.

16-0486		CNSE	CDR	PANEL 07 TACAN 1 TW CH - _____ TACAN 2 TW CH - _____ TACAN 3 TW CH - _____	
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NOT PERFORMED

16-0487		ASP	OTC	POST INGRESS SWITCH RECONFIGURATION COMPLETE.	
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OMRSD S00FG0.140

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0488				CAUTION AND WARNING VOLUME ADJUST	

NOTE

CREW WILL ADJUST COMM VOLUME AS
 REQUIRED FOR SATISFACTORY COMM/
 MASTER ALARM LEVEL.

IF PREVIOUSLY PERFORMED
 (SCRUB/TURNAROUND RUN), OMIT
 NEXT THREE STEPS.

16-0489	-01H45M	ASP OTC	OTC	C&W ALARM VOLUME WILL BE ADJUSTED CISEL MASTER ALARM WILL BE INTENTIONALLY CHYD TRIPPED (PARAM 099).	
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ASP PANEL R13U
 CAUTION/WARNING
 PARAM SEL T/W'S - 099
 PARAM SW - INHIBIT, REL
 PARAM SW - ENABLE, REL
 VERIFY C&W MASTER ALARM

NOT PERFORMED

16-0490			CDR	PANEL F2 MASTER ALARM PB - PRESS, REL	
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ASP PANEL R13U
 CAUTION/WARNING
 PARAMETER SELECT TW'S - 120

NOT PERFORMED

16-0491		ASP	OTC	C/W VOLUME ADJUST IS COMPLETE.	
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0492				IUS RIMU CAL AND ALIGN COMPLETE ----- (CONTINGENCY) -----	

NOTE

PERFORM NEXT STEP IF CONTINGENCY
CAL AND ALIGN AT L-04H20M WAS
INITIATED.

16-0493	-01H40M L-02H00M	ICTC 134 CTC 232	CTC LTD	IUS RIMU CAL AND ALIGN COMPLETE. QUIET TIME NO LONGER REQUIRED.	
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OMRSD P018JC.010

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

SLF NAVAIDS ACTIVATION					

16-0494	-01H40M	CSTM 111 7-4961	FMLS	1. START MSBLS POWER UP. 2. VERIFY TACAN OPERATIONAL.	34200
16-0495	-01H35M	OTC	COFC	PERFORM VERNIER DRIVER OUTPUT READ.	
16-0496			COFC	CONSOLE KYBD S FD V79X2643XL XMIT CMD VERIFY R5R DRIVER - OFF	
16-0497			COFC	CONSOLE KYBD S FD V79X2644XL XMIT CMD VERIFY R5D DRIVER - OFF	
16-0498	-01H35M	COOS		CRT (VWD73) VERIFY LOMS ENG VLV ON ROMS ENG VLV ON	V43S4575E1 V43S5575E1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				MS1 INGRESS -----	
16-0499		ASP		ADJUST HEAD REST TO PROPER HEIGHT.	
16-0500		MS1		ENTER ORBITER AND PROCEED TO FLIGHT DECK.	
16-0501		MS1		INGRESS SEAT	
16-0502		MS1		PERFORM FOLLOWING:	
				1. PANEL A11 MS COMM CCU PWR SW - OFF	
				2. COMM - CONNECT LEH COMM TO HIU.	
				3. PANEL A11 MS COMM CCU PWR SW - ON	
				4. LEH O2 LEAD TO PEAP; ATTACH LOCKING CLIP.	
16-0503		MS1		PANEL R10	
				AUD VOX SENS - ADJUST AS REQ'D.	
16-0504		MS1	OTC LTD	READY TO PERFORM COMM CHECK WITH OTC AND LTD.	
16-0505		MS1		ATTACH SHOULDER HARNESS AND LAP BELT AND SNUG DOWN.	
16-0506		MS1		VERIFY PROPER ROUTING OF LEH O2 HOSE AND COMM CABLE.	
16-0507		MS1		REMOVE VISOR PROTECTOR, CLOSE VISOR AND CHECK O2 FLOW, VERIFY NO LEAKS, THEN OPEN VISOR.	
16-0508		ASP		REMOVE AND PASS OUT THE MS2 SEAT PROTECTIVE COVER.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				MS2 INGRESS	
16-0509				REPEAT MS1 INGRESS FOR MS2.	
				NOTE	
				PERFORM NEXT STEP IF SPACELAB POWERED FOR ASCENT.	
16-0510		ASP		PANEL L12 RFSCB PWR SW - OFF RFSCB CB - OPEN (OUT)	
				NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PS1 INGRESS PERFORMED ONLY
 IF UNBOARD THIS FLIGHT.

PS1 INGRESS

NOT PERFORMED

16-0511		PS1		ENTER MID DECK.	
16-0512		PS1		INGRESS SEAT	
16-0513		PS1		PERFORM FOLLOWING:	
				1. COMM PANEL M039M MIDDECK COMM CCU POWER SW - OFF	
				2. CONNECT LEH COMM TO HIU.	
				3. PANEL M039M MIDDECK COMM CCU POWER SW - ON	
				4. CONNECT LEH O2 LEAD TO PEAP. ATTACH LOCKING CLIP.	
				5. PANEL M042F (OV-099/103/104) PANEL M058F (OV-102) AUD VOX SENS - ADJ AS REQ'D	
16-0514		PS1	OTC LTD	READY TO PERFORM COMM CHECK WITH OTC AND LTD.	
16-0515		PS1		ATTACH SHOULDER HARNESS AND LAP BELT AND SNUG DOWN.	
16-0516		PS1		VERIFY PROPER ROUTING OF LEH O2 HOSE AND COMM CABLE.	
16-0517		PS1		VERIFY VISUAL PROTECTOR. CLOSE VISOR AND CHECK O2 FLOW, VERIFY NO LEAKS. PERFORM COMM CHECK, THEN OPEN VISOR.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0518				REPEAT PS1 INGRESS FOR:	
				NOTE	
				PERFORM INGRESS FOR APPLICABLE CREW MEMBERS.	
			1.	PS2 NOT PERFORMED	-----
			2.	PS3 NOT PERFORMED	-----
				NOTE	
				MS3 INGRESS PERFORMED ONLY IF ONBOARD THIS FLIGHT.	
				MS3 INGRESS	

				NOT PERFORMED	-----
16-0519		MS3		ENTER MID DECK	
16-0520		MS3		INGRESS SEAT	
16-0521		MS3 ASP	1.	PANEL A15 PS COMM CCU PWR SW - OFF	
			2.	CONNECT LEH COMM TO HIU	
			3.	PANEL A15 PS COMM CCU PWR SW - ON	
			4.	CONNECT LEH O2 LEAD TO PEAP. ATTACH LOCKING CLIP.	
			5.	PANEL L9 VOX SENS SW - ADJ AS REQUIRED	
16-0522		MS3	OTC LTD	READY TO PERFORM COMM CHECK WITH OTC AND LTD.	
16-0523		MS3		ATTACH SHOULDER HARNESS AND LAP BELT AND SNUG DOWN.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0524			MS3	VERIFY PROPER ROUTING OF LEM O2 HOSE AND COMM CABLE.	
16-0525			MS3	VERIFY VISUAL PROTECTOR. CLOSE VISOR AND CHECK O2 FLOW, VERIFY NO LEAKS. PERFORM COMM CHECK, THEN OPEN VISOR.	
16-0526				SRM CHAMBER PRESSURE CAL AND ----- GPC UPDATE (-01H30M) -----	
16-0527		OTC	CISL	SUPPORT SRB CHAMBER PRESSURE CHECKS ON CH 136.	
16-0528	-01H30M	LTD 232	TBC	PERFORM SRM CHAMBER PRESSURE TRANSDUCER CALIBRATION AND GPC UPDATE PER SEQ 38 (S007VL4).	*BCS
16-0529	-01H30M	TBC 136	CISL	PERFORM SRM CHAMBER PRESSURE TRANSDUCER CALIBRATION AND GPC UPDATE PER SEQ 38 (S0007VL4) ON OIS CHNL 175. OMRSD S00FF0.160	
16-0530		TBC 136	CISL	PERFORM SRB OI CHAMBER PRESSURE SIM CHECKS PER SEQ 38 (S0007VL4). OMRSD S00FF0.180	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.	
----- VERIFY ASTROVAN POSITION -----						
16-0531		*AVN	NTD	ASTROVAN AND SECURITY ESCORT HAVE 105 CLEARED BACK TO A-11 ROADBLOCK.		
16-0532		LTD	*SCC	VERIFY ASTROVAN AND SECURITY ESCORT HAVE *SCC *SEC CLEARED BACK TO A-11 ROADBLOCK. 226		
16-0533		*SEC	*SCC	FLT CREW VAN AND SECURITY ESCORT *SCC LTD VEHICLE HAVE CLEARED BACK TO LTD NTD A-11 ROADBLOCK.	EG&G-430	
16-0534		BIO-MED CONSOLE SETUP (-01H30M) -----				

NOTE

NEXT TWO STEPS PERFORMED
 ONLY WHEN BIOMED DATA
 AVAILABLE.

16-0535	-01H30M	CBSE	LPS	BIO-MED CONSOLE SETUP IN 127 PROGRESS. BIO-MED HEALTH COUNTER DATA WILL BE MOMENTARILY INVALID AT MASTER CONSOLE.	31240
					NOT PERFORMED -----
16-0536		OTC	CBSE	VERIFY RECEPTION OF BIO-MED 212 DATA.	V67V0100A V67V0200A
					NOT PERFORMED -----
16-0537	-01H30M	LPS	C1MC	VERIFY V&DA CONFIGURED TO SUPPLY 60KB R.F. DATA TO SOURCE 2 OF ME 1/2/3.	31240
16-0538		LPS	CPDR	VERIFY MNT TECH ON STATION TO SUPPORT SCRS THRU TERMINAL COUNT.	31240

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0539				CREW MODULE CLOSEOUT UPS	
16-0540	-01H30M	OTC	ALL	VERIFY ALL SYSTEMS READY FOR CREW MODULE CLOSEOUT.	
16-0541	-01H30M	OTC	ASP	CLOSE OUT CREW MODULE FOR FLIGHT	*BCS
16-0542		ASP		REMOVE THE FOLLOWING ITEMS FROM OVCC THE CREW MODULE:	
				1. NST PERSONAL EQUIPMENT TRANSFER BAG (1)	
				2. LEH VISOR PROTECTORS (5)	
				3. RHC COVERS (2)	
				4. NST CHECKLIST (1)	
				5. INSPECTION MIRROR (1)	
				6. PENLIGHT (1)	
				7. MID DECK FLOOR COVERS (3)	
				8. PANEL MA73C COVER (1)	
				9. RCS DRIVER AND OMS ENGINE SWITCH GUARDS (4)	
				10. FLIGHT DATA FILE PLASTIC BAGS	
				11. FLIGHT DECK PROTECTIVE FLOORING	
				12. MS2 SEAT PROTECTIVE COVER	
				13. HUD PROTECTIVE COVERS	
				14. O2 METER ON MIDDECK (1)	
				15. O2 METER ON FLT DECK (1)	
				16. TV CAMERA POWER & TV POWER CONTROL SWITCHGUARDS (2) (FOR DOD MISSION ONLY)	
				17. PAYLOAD BAY WINDOW COVERS (FOR DOD MISSION ONLY)	
16-0543	-01H30M	ASP		INSPECT MID DECK FOR NON FLIGHT ITEMS. REPORT ANY ITEMS AND REMOVE THEM FROM THE CREW MODULE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0544				ETR CMD CARRIER TEST (-01H30M)	
16-0545	-01H30M	LTD 232	SRO	PERFORM ETR OPEN LOOP AUTOMATIC COMMAND CARRIER CONTROL VALIDATION TESTS. REPORT COMPLETION.	*BCS
				LANDING SITE SUPPORT STATUS	
16-0546	-01H30M	LSD LF1	LRD	REPORT KSC LANDING SITE SUPPORT STATUS.	
16-0547				ASTRO COMM CHECK	
16-0548	-01H30M	OTC A/G1	CDR	EACH MEMBER OF FLT CREW READY TO PROCEED WITH ASTRO COMM CHECKS.	*BCS
16-0549	-01H30M	OTC 212	FLT CREW	DURING ASTRO COMM CHECKS ADJUST APPROPRIATE VOLUME CONTROL (A/G 2, ICOM A, ICOM B, A/A) FOR COMFORT.	
16-0550			OTC	ASTRO COMM-OIS INTERFACE PNL A/G 2 ACTIVE - ON VERIFY A/G 2 ACTIVE LITE ON	
16-0551			OTC 213	PERFORM 2-WAY COMM CHECK WITH EACH MEMBER OF FLT CREW ON A/G 2 (OIS CH 213).	
16-0552	-01H30M		OTC	ASTRO COMM-OIS INTERFACE PNL A/G 2 ACTIVE - OFF VERIFY A/G 2 ACTIVE LITE OFF UMB A ACTIVE - ON VERIFY UMB A ACTIVE LITE ON	
16-0553			OTC 214	PERFORM 2-WAY COMM CHECK WITH EACH MEMBER OF FLT CREW ON ICOM A (OIS CH 214).	
16-0554			OTC	ASTRO COMM-OIS INTERFACE PNL UMB A ACTIVE - OFF VERIFY UMB A ACTIVE LITE OFF UMB B ACTIVE - ON VERIFY UMB B ACTIVE LITE ON	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0555		OTC 215		PERFORM 2-WAY COMM CHECK WITH EACH MEMBER OF FLT CREW ON ICOM B (OIS CH 215).	
16-0556		OTC		ASTRO COMM-OIS INTERFACE PNL UMB B ACTIVE - OFF VERIFY UMB B ACTIVE LITE OFF UHF MONITOR - ON VERIFY UHF MONITOR LITE ON UHF ACTIVE - ON AND HOLD WHEN TALKING ON OIS CH 211. RELEASE TO HEAR CREW REPLY.	
16-0557		OTC 211		PERFORM 2-WAY COMM CHECK WITH EACH MEMBER OF FLT CREW ON A/A (OIS CH 211).	
16-0558		OTC	CDR	ASTRO COMM CHECKS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0559				A/G VOICE CHECKS (-01H30M)	
16-0560	-01H30M	OTC	*FLT	CONDUCT A/G VOICE CHECKS OMRSD S00FG0.050	*BCS
16-0561		*FLT A/G1	CDR PLT	CONFIGURE FOR A/G 1 VOICE CHECK CDR PANEL 05 PLT LEFT AUDIO A/G 2 SW - OFF A/A SW - OFF PANEL 09 RIGHT AUDIO A/G 2 SW - OFF A/A SW - OFF	
16-0562		*FLT A/G1		PERFORM 2-WAY COMM CHECK WITH CDR, PLT ON A/G 1.	
16-0563		*FLT A/G1	CDR PLT	CONFIGURE FOR A/G 2 VOICE CHECK CDR PANEL 05 PLT LEFT AUDIO A/G 1 SW - OFF 2 SW - T/R PANEL 09 RIGHT AUDIO A/G 1 SW - OFF 2 SW - T/R	
16-0564		*FLT A/G2		PERFORM 2-WAY COMM CHECK WITH CDR, PLT ON A/G 2	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0565		*FLT A/G2	CDR PLT	CONFIGURE FOR A/A VOICE CHECK PANEL 05 LEFT AUDIO A/G 2 SW - OFF A/A SW - T/R PANEL 09 RIGHT AUDIO A/G 2 SW - OFF A/A SW - T/R	
16-0566		*FLT UHF		PERFORM 2-WAY COMM CHECK WITH CDR, PLT ON A/A	
16-0567		*FLT UHF	FLT CREW	CONFIGURE FOR SIMD VOICE CHECK (LAUNCH CONFIG) CDR PANEL 05 PLT LEFT AUDIO A/G 1 SW - T/R 2 SW - T/R PANEL 09 RIGHT AUDIO A/G 1 SW - T/R 2 SW - T/R	
16-0568		*FLT UHF A/G1		PERFORM 2-WAY COMM CHECK WITH EACH MEMBER OF FLT CREW ON A/G AND A/A SIMD. VERIFY D/L VOICE ON A/G 1, A/G2 AND UHF.	
16-0569		*FLT 212	ALL	A/G VOICE CHECKS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0570				ASP/NST1 - EGRESS FROM CREW ----- MODULE -----	
16-0571	-01H25M	ASP	(ASP AND NST1)	EGRESS CREW MODULE. VERIFY READY FOR HATCH CLOSURE. ASP SHALL EGRESS CREW MODULE WITH A KIT CONTAINING THE FOLLOWING ITEMS: 1. FLASHLIGHT 2. SCREWDRIVER 3. 5/32 ALLEN HEAD TOOL 4. ASP CHECKLIST 5. FLIGHT TYPE - TAPE 6. SPARE GTOE HEADSET, HIU CABLE ASSY. 7. POCKET KNIFE 8. PLIERS 9. JEWELER'S SCREWDRIVER	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0572				DISCONNECT COMM (ASP)	
16-0573		ASP		DISCONNECT COMM AT PS STATION	
				NOTE	
				MS1 AND MS2 COMM WILL BE TEMPORARILY DISABLED.	
				NEXT STEP WILL TERMINATE COMM BETWEEN ASP AND FIRING ROOM. ASP WILL ADVISE OTC BEFORE PROCEEDING.	
16-0574		ASP		PANEL A11 MS COMM	
				1. CCU PWR SW - OFF	
				2. DISCONNECT COMM CABLE FROM MHA NEAR PANEL A11	
16-0575		ASP		REMOVE HIU, CABLE AND HEADSET FROM CREW MODULE. RETAIN IN EVENT OF SCRUB RECYCLE. (ITEMS TO BE SENT TO BUNDED STORAGE AREA AFTER LAUNCH)	
16-0576		ASP		PANEL A11 MS COMM CCU PWR SW - UN	
16-0577		ASP		GROUND CREW AND CLOSEOUT CREW	
		OVCC		EGRESS WHITE ROOM WITH ALL ITEMS REMOVED FROM CREW MODULE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				<u>KSC CONVOY PREP</u>	
16-0578	-01H20M	NCC CCN	LRD	KSC CONVOY READY TO PROCEED WITH LANDING/CONVOY OPERATIONS (S0028)	
16-0579				<u>HATCH CLOSURE (-01H20M)</u>	
16-0580	-01H20M	OTC	OVCC	CLOSE OUT CREW COMPARTMENT HATCH *BCS FOR FLIGHT PER ORBITER OPERATION SUPPORT SETUP 20. REPORT COMPLETION.	

NOTE

THE FOLLOWING IMU AND GMT
 DELTA ADJUST OPERATIONS
 ARE TIME AND SEQUENCE
 CRITICAL.

IMU PRE-FLIGHT CAL-COMplete

16-0581	-01H15M	CGNC OTC	OTC CDPS	IMU PRE-FLIGHT CALIBRATION COMPLETE. READY TO PROCEED WITH IMU ATT-DET AT T-1H10M AFTER GMT DELTA ADJUSTMENT IS COMPLETED BY DPS.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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16-0582				GMT DELTA ADJUST	
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NOTE

THE 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.

16-0583	-01H15M	OTC	CDPS	PERFORM GMT ADJUSTMENT PER SEQ 49 (S0007-V4) ON CH 152. REPORT COMPLETION.	*BCS
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OMRSD S00FK0.020

16-0584			CDPS OTC	GMT DELTA ADJUSTMENT WILL BE _____MS.	
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16-0585	-01H15M	CTC	LTD	SATCOM COMMAND TO LAUNCH CONFIGURATION IS COMPLETE. PAYLOAD SYSTEM POWER DOWN IS COMPLETE. CARGO HAS TERMINATED ALL LDR TRAFFIC.	
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GMT DELTA ADJUST COMPLETE

16-0586			CDPS OTC	GMT ADJUST IS COMPLETE. READY FOR IMU ATT DET/PRE-FLIGHT ALIGN.	
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16-0587				IMU ATT DET.	
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16-0588	-01H10M	OTC	CGNC	PERFORM IMU ATT DET PORTION OF IMU PRE-FLIGHT ALIGN SEQ. PER OMI V1123 ON OIS CH 141. REPORT WHEN COMPLETE.	*BCS
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0589				ETR HOLD FIRE CHECKS -----	
16-0590	-01H10M	LTD 232	SR0	PERFORM ETR HOLD FIRE INDICATION CHECKS PER OMI A-2811. REPORT COMPLETION.	*BCS
16-0591	-01H10M	LTD 232	SR0	PROVIDE FINAL COLA UPDATE LAUNCH. COLA 1 -----Z TO -----Z COLA 2 -----Z TO -----Z COLA 3 -----Z TO -----Z HATCH - CLOSED -----	
16-0592	-01H10M	OVCC OTC	OTC CECL	HATCH IS CLOSED. (ORB OSSU 20)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0593				CONFIG ORBITER VENT DOORS 1 AND ----- 2 TO NORMAL PURGE POSITION ----- (CONTINGENCY) -----	
NOTE					
PERFORM NEXT THREE STEPS IF ORBITER VENT DOORS 1 AND 2 WERE PREVIOUSLY POSITIONED TO OPEN,					
16-0594	-01H10M	OTC 132	CPVD	HATCH IS CLOSED, RECONFIGURE VENT DOORS 1&2 TO PURGE POSITION. (REPORT COMPLETION)	
					NOT PERFORMED -----
16-0595	-01H10M		CPVD	CURSOR CNTL (VAM09) LEEWARD VENT DR 1&2 PURGE TARGET- XMIT CURSOR KEY - PRESS	
VERIFY ALL VENT DOORS ARE IN NORMAL PURGE CONFIGURATION.					
					NOT PERFORMED -----
16-0596	-01H10M	CPVD OTC OTC LTD 232		ALL VENT DOORS ARE IN NORMAL PURGE CONFIGURATION.	
					NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0597				CABIN LEAK CHECK (-01H10M)	
16-0598	-01H10M	OTC	CDR	STANDBY TO PERFORM CABIN LEAK CHECK	
16-0599		OTC	CDR	PANEL L2A1 CABIN VENT VENT ISOL SW - OPEN VENT ISOL TB - OPEN VENT TB - CLOSED	L2A1S3 L2A1DS3 L2A1DS4
16-0600		CECL		CRT PAGE 8 (VAG29) VERIFY CAB VT ISOL CL - OFF	V61X2005E1

NOTE

DURING ORB CABIN LEAK CHK, MASTER ALARM AND LIGHT WILL COME ON AS A FUNCTION OF HIGH CABIN PRESSURE (APPROX 16.7 PSIA ON PNL 01) CABIN KLAXON/MASTER ALARM WILL ALSO SOUND DUE TO HIGH CABIN DECAY RATE (DURING CAP INSTALLATION) RESET MASTER ALARMS. CECL WILL VERIFY CAUSE OF MASTER ALARMS.

16-0601		OTC	CECL	PERFORM CREW MODULE OMTO PRESSURIZATION AND INITIAL CABIN 2 PSID LEAK CHECK PER SEQ 45 (S0007-V4) ON OIS CH 143. REPORT COMPLETION. OMRSD V61A00.010	*BCS
16-0602		CECL	OTC	READY FOR CABIN PRESSURE READING.	
16-0603		OTC	CDR	PANEL 01A1 CABIN PRESS _____ PSIA (RECORD) BD	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0604				PREPS FOR WEATHER BRIEFING	
16-0605	-01H10M	LRD 135 LRD CCN	OIO NCC	STANDBY TO MONITOR WEATHER BRIEFING ON OIS CH 231.	
16-0606	-01H10M	LTD 232 STM 138	STM GYVW	CONFIGURE RCA AMERICUM VIDEO FEED 34200 TO 1TVC2077 WEATHERVISION FOR WX BRIEFING. REPORT COMPLETION.	
				SLF NAVAIDS SUPPORTING	
16-0607	-01H10M	CSTM 111 7-4961	FMLS	VERIFY MSBLS/TACAN READY TO SUPPORT.	34200
				COMM CHECK	
16-0608	-01H10M	*WEA 231 LSO FSAM	*WAC LRD	COMMUNICATIONS CHECK OIS CHANNEL 231 AND PT/PT COMM TO *CS1 AT PAFB UPS BLDG.	EG&G-122
16-0609				MINUTE WX BRIEFING	
16-0610	-01H05M	LTD 231	*WEA	PROCEED WITH WEATHER BRIEFING TO WEATHER AIRCRAFT PILOT. (BRIEFING TO BE ON OIS CH 231 TO KSC AND MCC-H, AND PT/PT TO PAFB. VIDEO ON CAPE WEATHER CIRCUIT 1TVC2077).	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0611				IMU PRE-FLT ALIGN (V1123)	

NOTE

TOTAL TIME AFTER IMU
 PREFLIGHT ALIGN COMPLETE
 AND PRIOR TO TRANSITION
 TO OPS 101 SHALL NOT
 EXCEED 10 MINUTES. IF
 TOTAL TIME WILL EXCEED
 10 MINUTES, PREFLIGHT
 ALIGN MUST BE PERFORMED.

16-0612	-01H01M	OTC	CGNC	PERFORM IMU PRE-FLIGHT ALIGN PER OMI V1123 ON CH 141. REPORT WHEN COMPLETE.	*BCS
				OMRSD S00FG0.090	

NOTE

IF DOD MISSION, PERFORM NEXT
 TWO STEPS.

PERFORM NEXT TWO STEPS AT
 _____E ONE HOUR PRIOR TO START
 OF LAUNCH PERIOD.

PERFORMANCE OF NEXT TWO STEPS
 WILL ENABLE PAO MISSION
 COMMENTARY MICROPHONE IN
 FIRING ROOM CONSOLE AA1.

16-0613	-01H00M	LTD	STM	OPERATE (PRIMARY) PAO MISSION	34300
		232		COMMENTARY CONTROL SWITCH (LCC	34100
		STM	GYCC	RM 4R10) FROM DOD (OFF) MODE TO	
		111		NASA (ON) MODE. VERIFY COMPLETION.	
		GYCC	JYVG		
		117			
				NOT PERFORMED	-----

16-0614	-01H00M	LTD	STM	REMOVE TERMINATION (ACTIVATE) PAO	34300
		232		(SECONDARY) MISSION COMMENTARY	34100
		STM	GYCC	CIRCUIT IN LCC RM 1P1. VERIFY	
		111		COMPLETION.	
		GYCC	JYCJ		
		117			
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0615				ENABLE CDS AUTO SWITCHOVER	

NOTE

UPON COMPLETION OF NEXT STEP, CDS PRIMARY SYSTEM WILL BE RESERVED FOR LAUNCH SUPPORT AND APPROVED RELATED ACTIVITY. ALL DEVELOPMENT WORK WILL BE ACCOMPLISHED UTILIZING CDS SECONDARY SYSTEM. IN THE EVENT OF A PRIMARY SYSTEM FAILURE, WHILE CDS AUTO SWITCHOVER ENABLED, THE PRIMARY SYSTEM, INCLUDING TDRK SUPPORT, WILL SWITCHOVER TO THE SECONDARY SYSTEM OF THE SET. WHEN A SWITCHOVER OCCURS, SECONDARY SYSTEM USERS ARE DENIED ACCESS UNTIL THE FAILED SYSTEM IS RESTORED.

16-0616	-01H00M	LTD	LPS	ENABLE CDS AUTO-SWITCHOVER	31240
		232		REPORT COMPLETION.	31221
		LPS	JCDS		
258					
16-0617		LTD	LPS	IF NOT DOD MISSION, IMPLEMENT	31240
		232		RESTRICTED PERMISSION TABLES.	31221
		LPS	JCDS	REPORT COMPLETION.	
258					

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF NASA MISSION, PERFORM
NEXT STEP.

16-0618		LTD PA	ALL	CDS SWITCHOVER HAS BEEN ENABLED AND RESTRICTED TABLES IMPLEMENTED.	
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NOT PERFORMED

NOTE

IF DOD MISSION, PERFORM
NEXT STEP.

16-0619		LTD PA	ALL	SCDS SWITCHOVER HAS BEEN ENABLED	
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NOT PERFORMED

16-0620				SLF OPERATIONS	
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16-0621	-01H00M	LTD 232 *SCC 105	*SCC FOSS	VERIFY SECURITY/FIRE/RESCUE/ MEDICAL AND USCO PERSONNEL AND EQUIPMENT AT SLF, READY TO SUPPORT LAUNCH.	
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16-0622		FOSS 105 *SCC 232	*SCC LTD	FIRE RESCUE, SECURITY PERSONNEL ARE ON STATION AT THE SLF.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0623				ETR FINAL OPEN LOOP CMD NETWORK ----- VERIF CHECK -----	
16-0624	-01H00M	LTD 232	SRU	PERFORM ETR FINAL OPEN LOOP COMMAND NETWORK VERIFICATION CHECK.	*BCS
16-0625	-01H00M	STM 226 *SCC 105	*SCC *PSE	VERIFY EUD PERSONNEL ARE ON SITE AT A-11 ROADBLOCK	
16-0626		*PSE 105 *SCC 226	*SCC STM	EUD PERSONNEL ARE ON SITE AT A-11 ROADBLOCK.	
16-0627	-01H00M	STM 111	PSTM JSTC	SUPPORT PERSONNEL FOR THE POST LAUNCH INSPECTION/SAFING WILL ASSEMBLE AT ROADBLOCK A-11 BY T-30 MIN. REPORT WHEN ON STATION.	36010 EG&G-123
16-0628		LTD 232 STM 138	STM GYVM	WX BRIEFING IS COMPLETE. RECONFIGURE RCA AMERICOM FEED TO 1TVM2112. REPORT COMPLETION.	34200

NOTE

DO NOT PERFORM NEXT
 STEP UNLESS ADVERSE WEATHER
 PREDICTED PRIOR TO ORBITER
 TOW INTO OPF BAY.

16-0629		NCC LRD 135	LRD *FLT	LOCAL CONDITIONS DICTATE THAT SSME RAIN DRAIN BE PERFORMED POST LANDING. (OMI S0028)	NOT PERFORMED -----
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OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0630				TACAN STATUS -----	
16-0631	-01H00M	LACB 135	LRD	KSC AND PAFB TACAN AND KSC MSBLS STATUS: (AFTER WX AIRCRAFT LANDS) TACAN ----- 1. RECEIVING SIGNAL FROM BOTH 2. ID TONES ARE ON, ON BOTH MSBLS ----- 1. MSBLS STATUS -----	
16-0632		LRD LF1	LSO	KSC AND PAFB TACAN AND KSC MSBLS STATUS. CLOSE WATER VALVES FSS 215 FT LVL -----	
16-0633	-01H00M	OTC	OVCC	CLOSE WATER VALVES PV224, PV225, AND PV233 ON WEST WALL OF REST ROOM ON 215 FT LEVEL, AND PV226 AT SINK. SECURE DOOR IN OPEN POSITION. REPORT COMPLETION.	
16-0634		OTC 111	STM	WATER VALVES ON 215 FT LEVEL CONFIGURED FOR LAUNCH.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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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.

16-0635				ETR SRSS VERIF TEST (-55M) -----	
16-0636	-55M00S	LTD 232	SRO	PERFORM ETR SRSS VERIFICATION TEST. REPORT COMPLETION	*BCS
16-0637				H2O BOILER PRE-ACTIVATION (-50M) -----	
16-0638	-50M00S	OTC	PLT	PERFORM H2O BOILER PRE-ACTIVATION.	
16-0639	-50M00S		PLT	PANEL R2 APU/HYD BOILER N2 SUPPLY 1 SW - ON 2 SW - ON 3 SW - ON	
16-0640		PLT	OTC	H2O BOILER PRE-ACTIVATION COMPLETE.	
16-0641			CHYD	CRT (VAF30) VERIFY: N2 SUPPLY VL 1-2-3 OFF - OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0642				ACID DEPOSITION ----- WEATHER BRIEFING -----	
NOTE					
NEXT TWO STEPS NOT PERFORMED IF WEATHER CONDITIONS HAVE NOT CHANGED SINCE LAST BRIEFING.					
16-0643	-50M00S	STM 163	CBSE *SCC	VERIFY READY FOR ACID DEPOSITION WEATHER BRIEFING. NOT PERFORMED	-----
16-0644	-50M00S	STM 231	EEC	PERFORM ACID DEPOSITION WX BRIEFING. NOT PERFORMED	-----
GND PIC RATE CHANGE -----					
16-0645	-50M00S		CEPD	CURSOR CONTROL (VAC33) PIC VOLTS RATE = HI XMIT CURSOR KEY - PRESS CRT (VAC33) RATE CHANGE COMPLETE ETR CARRIER OFF -----	
16-0646	-50M00S	SRO 232	LTD	ETR IS COMPLETE WITH ALL COMMAND TEST, ETR CARRIER OFF	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0647				PREPS FOR TERMINAL COUNT SRSS ----- CLOSED LOOP TEST (-50M) -----	
16-0648	-50M00S	TBC 232 LTD	LTD LPS	REQUEST LPS ON UIS CH 175 TO SUPPORT CBRS	31240
16-0649		OTC	RCRE	START MAG TAPE AND STRIP CHARTS FOR SRSS TERMINAL COUNT TEST	
16-0650		OTC LTD	LTD TBC	MAG TAPE AND STRIP CHARTS HAVE BEEN STARTED FOR SRSS TERMINAL COUNT TEST.	
16-0651		LTD 232	SRU RSR	VERIFY READY TO SUPPORT TERMINAL COUNT CLOSED LOOP TEST	ETR
16-0652		LTD 232	TBC	VERIFY READY TO SUPPORT TERMINAL COUNT CLOSED LOOP TEST	
				UMRSD S00FH0.031	

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0653				TERMINAL COUNT SRSS CLOSED ----- LOOP TEST (-45M) -----	
16-0654	-45M00S	LTD 232 TBC 136	TBC CBRS	PERFORM TERMINAL COUNT SRSS CLOSED LOOP TEST (SSRB4) OMRSD S00FA0.510	*BCS
16-0655		CBRS 175	LPS	PLACE SCRS PRINTER PLOTTERS SUBSYSTEM 2, UNITS 1 AND 2 ON-LINE AND CONFIGURE LDBM FOR SRSS RETRIEVAL.	31240
16-0656		LTD PA		ATTENTION IN FR-___: THE SPA IS REQUIRED FOR RANGE SAFETY RETRIEVAL. ALL CONSOLE OPERATORS ARE REQUESTED TO REFRAIN FROM CALLING UP SPA RETRIEVALS UNTIL RANGE SAFETY CHECKS ARE REPORTED COMPLETE.	
16-0657		CBRS 175	LPS	REQUEST THREE TCB'S AVAILABLE IN SPA TO SUPPORT TERMINAL COUNT CLOSED LOOP TEST.	
16-0658		CBRS		CURSOR CNTL (SWRB2) ACTIVATE PRINTER/PLOTTERS - XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT STEP IF
 NORMAL TAPE SWITCH HAS OCCURRED
 WITHIN THE LAST 5 MINUTES.

16-0659		LPS	CLDB	PERFORM TAPE SWITCH AT LDBM.	31240
				NOT PERFORMED	-----
16-0660		LPS	CLDB	CONFIGURE LDBM TO RECORD LDB 1 AND 2 IN ACCEPT MODE. REPORT COMPLETION.	31240
				VERIFY LDBM IN DUAL ACCEPT	
16-0661		CBRS		CURSUR CNTL (SWRB3) SSRB4 - XMIT CURSUR SPA ON - XMIT CURSUR	
16-0662		CBRS	CBP1	VERIFY RECEPTION OF ARM COMMANDS. (SHOULD BE 4 PULSES)	
16-0663		CBRS	CBP1	VERIFY RECEPTION OF FIRE COMMANDS. (SHOULD BE 4 PULSES)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

SRSS DATA RETRIEVAL					

NOTE					
DO NOT PERFORM NEXT THREE STEPS IF ARM AND FIRE COMMANDS ARE VERIFIED ON PRINTER PLOTTERS.					
16-0664		CBRS 175	LPS	CONFIGURE LDBM SYS TO PERFORM SRSS DATA RETRIEVAL FOR TIME DURATION PROVIDED BY CBRS. REPORT COMPLETION.	31240
				ARM START ----- FIRE STOP -----	
				NOT PERFORMED	-----
16-0665		LPS	CLDB	AT LDBM, TERMINATE RECORDING AND PERFORM SRSS DATA RETRIEVAL FOR ABOVE TIMES LISTED.	31240
				NOT PERFORMED	-----
16-0666			CLDB	AT COMPLETION OF RETRIEVAL, CONFIGURE LDBM TO RECORD LDB BUS 1 AND 2 IN REJECT MODE.	31240
				NOT PERFORMED	-----
16-0667			CLDB	VERIFY/CONFIGURE LDBM RECORDING BUS 1 AND 2 IN REJECT MODE.	31240

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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 ETR CARRIER ON

NOTE

NEXT TWO STEPS ARE TO BE
 PERFORMED NO LATER THAN
 T-30M00S.

16-0668	-45M00S	CBRS 137 TBC 232 LTD	TBC LTD SR0	REQUEST ETR BRING UP RANGE SAFETY CARRIER.	*BCS ETR
16-0669		SR0 232 LTD TBC 136	LTD TBC CBRS	ETR CARRIER IS SUPPORTING.	ETR
16-0670			CBRS	CURSOR CNTL (SSRB4) RANGE CARRIER ON - XMIT CURSOR KEY - PRESS	
16-0671		CBRS 136	TBC	TERMINAL COUNT CLOSED LOOP RANGE SAFETY TEST COMPLETE.	
16-0672		TBC 232 LTD	LTD *SCC	SRSS CLOSED LOOP TEST COMPLETE. S&A DEVICES IN SAFE POSITION	
16-0673		CBRS	LPS	SPA SUPPORT FOR SRSS TEST NO LONGER REQUIRED.	31240

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- INITIAL CABIN LEAK CHECK COMPLETE -----					
16-0674		CECL 212	OTC	FSS BREATHING AIR SYSTEM IS NO LONGER REQUIRED.	
		OTC LTD 232 STM 111	LTD STM JBPN		
16-0675		CECL	OTC	CREW MODULE PRESSURIZATION AND INITIAL CABIN 2 PSID LEAK CHECK IS COMPLETE, PROCEED WITH CABIN VENT REDUNDANCY CHECK.	
16-0676				CABIN VENT REDUNDANCY CHECK -----	
NOTE					
THE NEXT STEP MAY OCCUR EARLIER OR LATER AT CECL DIRECTION.					
16-0677	-45M00S	OTC 212	CDR	PERFORM CABIN VENT REDUNDANCY CHECK.	
16-0678			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
16-0679		CDR	OTC CECL	CABIN VENT REDUNDANCY CHECK COMPLETE.	

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0680				S-BAND SYS HI PWR/FM ACTIV -----	
16-0681		LTD 232	OTC	SUPPORT S-BAND TO HIGH POWER ON CH 232.	
		OTC 212	CCSE RCRE		
16-0682	-45M00S	LTD 232	*FLT	PERFORM S-BAND SYSTEM TO HIGH *MIL POWER/FM ACTIVATION	GUSB
16-0683			*FLT	TRANSMIT DSM 4724 (PREAMP 2 ON)	V74K3073U
			CCSE	VAA19 VERIFY PREAMP-2 ON	V74X4777E
16-0684			*FLT	TRANSMIT DSM 4756 (S-BAND PWR AMPL OPR-2 ON)	V74K3065U
			CCSE	VAA19 VERIFY PWR AMP-2 ON	V74X4785E
NOTE					
S-BAND PA 2 WILL NOT OUTPUT UNTIL STDN HIGH MODE IS COMMANDED.					
16-0685			*FLT	TRANSMIT DSM 4734 (S-BAND MODE - STDN HIGH)	V74K3102U
			CCSE	VAA19 VERIFY: XPNDR MODE - STDN HI PWR AMP ----- WATTS (100W MIN.)	V74X4788E V74E4513A
16-0686		LTD 232	*MIL	ADJUST U/L CARRIER POWER FOR 10KW OR -10 DBM AT THE PREAMP (WHICHEVER IS LESS)	GUSB
			CCSE	VAA19 VERIFY: FRAME SYNC LOCKED	
				AGC ----- (BD)	
				SPE ----- (BD)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0687		LTD	*FLT	TRANSMIT DSM 4780 (S-BAND FM SYSTEM-POWER 1 - ON)	V74K3145U
		CCSE	VAA19	VERIFY: OI XMTR-1 ON	V74X6120E
				-----WATTS (RECORD) FM SP SRCE-ME DATA	V74X4801E
16-0688		LTD	*MIL	VERIFY FM CARRIER + ME MODULATION	
		RCRE	1.	8232 A3 (WB OI RCVR) CARRIER IND LITE UN	
			2.	8223 A6 (PATCH PNL) PATCH S-BAND FM OI VIDEO 1 (J237) TO WBTS LINE 2 (J19)	
				S-BAND HIGH POWER/FM ACTIVATION - ----- COMPLETE -----	
16-0689		CCSE LTD		S-BAND SYSTEM TO HIGH POWER/FM	31212
		LTD	*FLT	ACTIVATION COMPLETE. FEP RF	31240
		232	JRPS	SOURCE VERIFICATION CAN BE *MIL PERFORMED. RCRE OTC LPS	
16-0690		LTD	JRPS	1. VERIFY RF DATA BEING	31212
		232		RECORDED ON MAG TAPE RECORDER.	
			2.	CONFIGURE S-BAND FM FROM MILA (1TVM 1729) TO FR FEED. VERIFY FRM SYNC LOCK UN MAIN ENGINE 60 KBS DATA.	
16-0691		LTD	JRPS	PERFORM R.F. SIGNAL LEVEL CHECKS	31212
		232	LPS	FOR ME1, 2, 3 FEP'S ON OIS CH 228 (1.4 VPP, +/- 0.2V).	31240

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0692				FEP RF SOURCE VERIFICATION (-45M)	

NOTE

DURING FEP RF 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.

16-0693		LTD	OTC	PERFORM RF FEP SOURCE	31240
		232	LPS	VERIFICATION ON CH 228	31212
			JRPS	PER SEQ 68 (S0007-V4). REPORT	*BCS
		UTC	CCME	COMPLETION.	

LAUNCH TARGET UPLINK LOADING

NOTE

NEXT STEP REQUIRED IF LAUNCH DESIGNED TO ESTABLISH RENDEZVOUS CONDITIONS.

IF DOD MISSION, DO NOT PERFORM NEXT STEP.

16-0694	-45M00S	LTD	*FLT	PROCEED WITH TRANSMISSION OF LAUNCH TARGET COMMANDS.	NOT PERFORMED	-----
16-0695		LTD	*FLT	IF DOD MISSION, PERFORM ITEM 6.11, APPENDIX W.	NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				VARIABLE ASCENT PARAMETER U/L LOAD	
16-0696		LTD	*FLT	PROCEED WITH TRANSMISSION OF VARIABLE ASCENT PARAMETERS.	
				OMKSD S00FA0.320	
16-0697				GLS MAINLINE ACTIVATION (-45M)	
16-0698	-45M00S	OTC	CGLS	PERFORM GLS MAINLINE ACTIVATION REPORT WHEN COMPLETE.	
16-0699			CGLS	CONSOLE KYBD SELECT APP PG 3B - PRESS CRT MS/ML DISPLAY	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0700		CGLS		CURSOR CONTROL INITIATE MAINLINE XMIT CURSOR KEY - PRESS	
NOTE					
PERFORM NEXT STEP IF REQUIRED TO SELECT GLS PRESEQUENCER BYPASSES (AS APPLICABLE) FROM FOLLOWING LIST.					
16-0701		CGLS		SELECT APP PG 48 CRT SELECT GLS FUNCTIONS TO BYPASS CONSOLE KYBD (SGP02) XMIT CURSOR KEY - PRESS	
				FUNCTION	BYPASS
				-----	-----
				BRS-TRS LIMIT CHANGE	-----
				ONE SHOT DATA TRANSFER	-----
				T-20 MIN AUTO HOLD	-----
				OPS TRANSITION	-----
				IMU HOLD AVAIL TIMER ACT	-----
				SEND GMTLO	-----
				GPC DUMP AND COMPARE	-----
				SLPAD, SLPA1 PERFORMS	-----
				ACTIVATE BHYD GAS BED TEMP CONTROL LOGIC FD'S	-----
				RF SWITCH SELECT	-----
				SINGLE SHOT VERIFY	-----
				T-9 MIN AUTO HOLD	-----
				BYPASS ALL	-----
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0702		CGLS		CONSOLE KYBD (SGP02) PFPK7 - PRESS PFPK4 - (SGP02) - PRESS PFPK2 (PROCEED) - PRESS CRT (SPG02) GLS MAINLINE ACTIVE MESSAGE	
16-0703		CGLS		PFPK7 - PRESS VERIFY - SGP02 ACTIVE IN TASK 4	
16-0704		CGLS	OTC	GLS MAINLINE ACTIVATION COMPLETE.	
16-0705				MDM DISCRETE OUTPUT CHECK -----	
16-0706		CDPS		CURSOR CNTL (SAS01) COMPUTER SYSTEM XMIT CURSOR KEY - PRESS CURSOR CNTL (SAS01) MDM DISCRETE OUTPUT CK (VAS94) XMIT CURSOR KEY - PRESS PFP PFK2 KEY - PRESS CURSOR CNTL (SAS25) ALL MDM'S XMIT CURSOR KEY - PRESS	
NOTE					
UPON RECEIPT OF "DECODE COMPLETE" MESSAGE, PERFORM NEXT STEP.					
16-0707		CDPS		CURSOR CNTL (SAS25) TERMINATE XMIT CURSOR KEY - PRESS	
16-0708				SRB/MDM BSR READ CHECKS -----	
16-0709	-45M00S	TBC 136	CBDP	PERFORM SRB/MDM BSR READ CHECKS.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0710	-45M00S			CBDP CURSOR CNTL (SAS01 PG-B) TO SRB XMIT CURSOR KEY - PRESS CURSOR CNTL (SAS01 PG-B) TO READ BSR PORT 1 AND 2 XMIT CURSOR KEY - PRESS	
16-0711		CBDP 136 TBC 212	TBC OTC	BSR READ COMPLETE	
16-0712				DPS LCD SEQ PROG. -----	
NOTE					
DO NOT PERFORM NEXT STEP UNTIL BSR READ COMPLETE.					
16-0713	-44M00S	OTC	CDPS	CALL DPS LAUNCH COUNTDOWN SEQUENCE PROGRAM VASJ6	
16-0714			CDPS	CONSOLE KYBD VASJ6 PERF PGM KEY - PRESS	
16-0715			CDPS	VERIFY ALL FC AND PL BSR'S ARE ACCEPTABLE (VASJ6)	
16-0716			CDPS	CONSOLE KYBD (VASJ6) PFK1 - PRESS (BSR READS GOOD CONTINUE) PFK1 - PRESS (NO NBAT UPDATE) CONSOLE CRT (VASJ6) VERIFY MSG: WAITING FOR BFS DOWNLIST ACTIVE GLS PRE-SEQUENCING START -----	
16-0717	-40M00S		CGLS	PFPK7 - PRESS VERIFY SGPR2 ACTIVE IN TASK 5	
16-0718	-40M00S	CGLS	OTC	GLS PRE-SEQUENCING HAS STARTED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0719				WHITEROOM CLOSEOUT (-40M)	
16-0720	-40M00S	OTC	OVCC	CLOSEOUT WHITE ROOM PER ORBITER OPERATION SUPPORT SETUP 20, VERIFY ORBITER ECS AIR DAMPER IS CLOSED AND CHAMBER ECS AIR DAMPER IS OPEN. REPORT COMPLETION.	*BCS
				STANDBY FOR CABIN VENT	
16-0721	-35M00S	OTC	CECL CDR	STANDBY TO PERFORM CABIN VENT AT T-30 MINUTES.	
16-0722				SLF OPERATIONS	
16-0723	-35M00S	LTD 232	*SCC FOSS 105 FOSS *SEC	VERIFY SHUTTLE LANDING FACILITY HAS BEEN CLEARED AND BEING CONTROLLED FOR RTLS. FOR CONTROLLED AREA REF FIG. 6.	EG&G-430
16-0724		*SEC 105 FOSS *SCC *SCC LTD 232	FOSS	SLF HAS BEEN CLEARED AND IS BEING CONTROLLED FOR RTLS.	EG&G-430

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0725				LRD STATUS CHECKS (-35M) -----	
16-0726	-35M00S	LRD LF1	GOM WASC DGM	VERIFY LANDING SITES PREPARED FOR LAUNCH	
16-0727	-35M00S	LRD 135 STM	STM FSTM	VERIFY SUPPORT SYSTEMS AT KSC SHUTTLE LANDING FACILITY ARE READY FOR LAUNCH.	
NOTE					
DO NOT PERFORM NEXT STEP IF PREVIOUSLY ACCOMPLISHED.					
16-0728	-35M00S	LRD 135	BRD	VERIFY BOOSTER RETRIEVAL FORCES ON STATION AND READY FOR LAUNCH	

NOT PERFORMED					
16-0729				PASS/BFS TRANSFER PREP -----	
16-0730	-32M00S	OTC	CDR	PERFORM PASS/BFS TRANSFER PREP	
16-0731			CDR	PANEL C2 LEFT CRT SEL SW - 3 L KYBD RESUME	
				CRT 3 GPC MEMORY	
16-0732			CDR	PANEL U6 GENERAL PURPOSE COMPUTER MODE S SW - STBY S 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.
16-0733		CDR	L KYBD	ITEM 25 EXEC	
			CRT 3	25*	
		CDR	PANEL C2	L CRT SEL SW - 1	
16-0734		CDR	OTC	PASS/BFS TRANSFER PREP COMPLETE.	
16-0735		CDPS	CONSOLE CRT (VASJ6)	VERIFY BFS ACTIVE MILESTONE IS INVERT CYAN	
16-0736		CDPS	CURSOR CNTL (SAS10 PG-B)	TO BFS MONITOR XMIT CURSOR KEY - PRESS	
16-0737	-30M00S	LPS LTD PA	LTD	SPA WILL BE RE-BOOTED TO CLEAR THE SPOOLER. THIS OPERATION WILL REQUIRE APPROX 2 MINUTES.	31240
16-0738		LPS	CPDR	PERFORM \$SPTASW TO TC J 1600 AFTER SPA RETURNED TO OPERATIONAL SUPPORT.	31240

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0739				OMS GN2 PRESS (-30M) -----	
16-0740	-30M00S	OTC	CDR	PERFORM OMS GN2 PRESS	
16-0741	-30M00S		CDR	PANEL C3 OMS ENG LEFT SW - ARM/PRESS RIGHT SW - ARM/PRESS	C3A01S001 C3A01S002
16-0742			COOS	CRT (VWD72) VERIFY S1 ARM/PR A/P S2 ARM/PR 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 314-391 PSIA RIGHT OMS ENG REG OUT PRESS 314-391 PSIA OMRSD V43CB0.190 (PARTIAL)	
16-0743			CDR OTC	OMS GN2 PRESS COMPLETE. OMRSD S00FJ0.040	
16-0744	-30M00S	OTC	COFC LPS	SETUP SCRS PRINTER/PLOTTERS PER UMI S9002 VOL16 (GNC SECTION) LEAVE OFF LINE REPORT WHEN COMPLETE (P/P2 UNITS 3 AND 4). FINAL CABIN LEAK CHECK - COMPLETE -----	31240
16-0745	-30M00S	CECL	OTC	CREW MODULE PRESSURIZATION, CABIN VENT REDUNDANCY CHECK, AND FINAL CABIN 2 PSID LEAK CHECK IS COMPLETE. OMRSD V61AQ0.010	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0746				CABIN VENT -----	
16-0747		UTC	CECL	CRT PG B (VAG29) RECORD DP/DT _____ PSI/MIN. (BD +/- 0.01)	
16-0748	-30M00S	CECL UTC	OTC CHGD	READY FOR CABIN VENT, AIR WILL BE VENTING INTO THE ORBITER PAYLOAD BAY.	
NOTE					
KLAXON AND M/A MAY OCCUR IN NEXT STEP DUE TO HIGH CABIN DECAY RATE. RESET MASTER ALARM.					
16-0749	-30M00S	UTC	CDR	OPEN CABIN VENT ISOL VALVE	
16-0750			CDR	PANEL L2A1 VENT ISOL SW - OPEN UNTIL VENT ISOL TB OP	L2A1S3 L2A1DS3
16-0751			CECL	CRT PAGE B (VAG29) CABIN VENT ISOL VALVE - UP	V61X2005E1
16-0752			CDR	PANEL 01 VERIFY CABIN PRESS DECREASING	
16-0753			CDR	UTC CABIN VENT OPEN	
16-0754			UTC	CECL STANDBY TO GIVE PRO WORDS "CLOSE CABIN VENTS" ON CH212 IF A DECREASE IN PPO2 BELOW BASELINE IS OBSERVED ON CRT PG-B (VAG29).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0755				CONFIG COMM NETS (-30M) -----	
16-0756	-30M00S	STM 212	OTC	RADIO NET 105 WILL BE DISABLED AND PURGE NET ACTIVATED TO FR-1/3 CONSOLE AB-3, BUTTON 6, AT THIS TIME.	
16-0757	-30M00S	STM 111 GYCC 117	GYCC JYCC	DISABLE RADIO NET 105 TO FR1/3, CONSOLE AB-3, BTN 6 AND ACTIVATE PURGE NET (2RAM033) T/R TO AB-3 BTN 6. REPORT COMPLETION AND STANDBY FOR TEST COUNT FROM UTC.	34300 34100
16-0758	-30M00S	STM	OTC	PURGE NET IS NOW ACTIVE ON AB-3, BTN 6. REQUEST A BRIEF TEST COUNT ORIGINATING FROM AB-3, BTN 6.	
16-0759		UTC	CPS	COMMUNICAITONS CHECK ON PURGE NET.	
16-0760				ASSEMBLE POST LAUNCH ----- INSPECTION/SAFING TEAMS (-30M) -----	
16-0761	-30M00S	LTD PA		POST LAUNCH INSPECTION/SAFING TEAMS REPORT TO ASSEMBLY AREA AT ROADBLOCK A-11.	*BCS
16-0762	-30M00S	OTC 212	*PAD	NOTIFY POST LAUNCH INSPECTION/ SAFING PERSONNEL TO ASSEMBLE AT ROADBLOCK A-11.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0763	-30M00S	PSTM JSTC 111	STM	ALL SUPPORT PERSONNEL REQUIRED FOR POST LAUNCH SAFING/INSPECTION ARE ASSEMBLED AT A-11.	33320 EG&G-123
16-0764	-30M00S	STM 111 JBDY	JBDY VEEE	DELIVER FSS ELEVATOR LOCK AND COVER TO PAD SAFETY AT ROADBLOCK A-11. REPORT COMPLETION.	3322A 33221

NOTE

PERFORM NEXT STEP FOR
 OV-102/099/103 ONLY.

16-0765
 CISL CONSOLE KYBD
 SET V76K9103BL - ON
 XMIT CMD KEY - PRESS
 EXEC CMD KEY - PRESS
 NOT PERFORMED -----

MEC PRE-FLIGHT BITE (-29M)

16-0766
 CISL OTC READY FOR MEC PRE-FLIGHT BITE
 CEPD CHECK.

16-0767 -29M00S OTC CEPD CHECK MEC PRE-FLT BITE

OPERATION INSTRUCTIONS

 SEQ TIME CMD RESP DESCRIPTION VERIF.

16-0768 -29M00S

CEPD CURSOR CNTL (VAC33)

PRE FLT BITE

VERIFY WORDS 12 THRU 17 ARE
 ALL ZERO'S ON MEC 1 AND MEC 2.

VERIFY THE FOLLOWING BIT PATTERN:

MEC 1	1'S	0'S
WDS	BITS	BITS
-----	-----	-----
2&3		10
4&5		14,15,16
6&7		9,11,13,15, 17,19

9		18,19,22,
---	--	-----------

10&11	10,11,19 20,21,22	9,12,13, 14,15,16 17,18,23 24
-------	----------------------	--

MEC 2	1'S	0'S
WDS	BITS	BITS
-----	-----	-----
2&3		10
4&5		14,15,16
6&7		9,11,13,15, 17,19

9		18,19,22,
---	--	-----------

10&11	10,11,19 20,21,22	9,12,13, 14,15,16 17,23,24
-------	----------------------	----------------------------------

IF ET DFI	MEC 2	
MADS PWR	WDS	
OFF	-----	
	10&11	BIT 18 ZERU'S

IF ET DFI	MEC 2	
MADS PWR	WDS	
ON	-----	
	10&11	BIT 18 ONE'S

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				GLS LIMIT CHANGE COMPLETE -----	
16-0769	-26M00S	CGLS	OTC	GLS LIMIT CHANGE AND DUAL NOTIFICATION FOR BRS/TRS COMPLETE (AUTO)	
16-0770				POWER UP GSE PIC RACKS (-20M) -----	
NOTE					
DO NOT PERFORM NEXT THREE STEPS IF GSE PIC RACKS ARE ALREADY POWERED UP.					
16-0771	-26M00S	OTC	CEPD	POWER UP GSE PIC RACKS NOT PERFORMED	-----
16-0772			CEPD	CURTAIN CONTROL (VAC33) GND SYS - ON CRT (VAC33) GND AND CPA POWER FOR H2 BRN AND LAUNCH REL. VOLTAGES ARE GREATER THAN 26 VDC NOT PERFORMED	-----
16-0773	-25M00S	CEPD	OTC	GSE PIC RACKS ARE POWERED UP NOT PERFORMED	-----
16-0774		LTD	*SCC	REPORT WHEN ALL NON-ESSENTIAL PERSONNEL HAVE CLEARED LAUNCH DANGER AREA. LAUNCH DIRECTOR/FLIGHT DIRECTOR ----- RTLS WEATHER BRIEFING -----	
16-0775	-25M00S	LTD	LD 232	GO TO DIS CH 231 FOR RTLS WX *FLT BRIEFING.	
16-0776		LTD	STM	REQUEST CAPE WX ON DIS CH 231 TO SUPPORT WX BRIEFING.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERTF.
16-0777				CLEAR CLOSEOUT CREW FROM PAD	
16-0778		OVCC OTC	OTC CGSS	ALL DRAG-ON LINES HAVE BEEN REMOVED FROM UAA TRUSSWAY.	
16-0779		*SCC LTD LTD OTC	LTD 232 OTC OVCC	VERIFY FLIGHT CREW RESCUE LOCKER EQUIPMENT HAS BEEN REPLACED AND LOCKER SECURED (LATCHED AND PINNED).	
16-0780	-25M00S	LTD 232 OTC	OTC OVCC	PERFORM CLEARING OF CLOSEOUT CREW FROM THE FSS. POSITION FSS ELEVATORS AT PAD SURFACE LEVEL DOORS CLOSED POSITION AND PWR SWITCH IN THE 'OFF' POSITION (RED BUTTON DEPRESSED)	*BCS
16-0781	-25M00S	LTD 232 STM 138	STM JYVO	PROVIDE VIDED TRACKING OF THE CLOSEOUT CREW-PAD TO ROADBLOCK A11, USING CAMERAS 006/106, 027/127 AND 080. (SEE JYVO FIG. 4)	34200
				WHITE ROOM SECURED	
16-0782	-25M00S	OVCC OTC LTD	OTC LTD *SCC JFIR	WHITE ROOM SECURED PER ORBITER OPERATION SUPPORT SETUP 20. ALL PERSONNEL CLEARING BACK TO ROAD BLOCK. FLIGHT CREW RESCUE LOCKER EQUIPMENT REPLACED AND LOCKER SECURED (LATCHED AND PINNED).	*BCS EG&G-420
16-0783		*PSE *SCC 232	*SCC LTD	CLOSEOUT CREW IS AT ROADBLOCK A-11.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0784				SIMO A/G VOICE CHECK (-25M) -----	
16-0785	-25M00S	OTC	CDR	STANDBY TO PERFORM SIMO A/G VOICE CHECK	
16-0786	-25M00S	LTD 232	*FLT	PERFORM SIMO VOICE CHECKS AND RTLS/ALTIMETER SETTING UPDATE	
16-0787			*FLT ALL	SIMO A/G VOICE CHECKS COMPLETE.	
16-0788			*FLT CDR PLT LTD	READING OUT RTLS AND TAL ALT SETTING AND RUNWAY.	
16-0789				PASS - BFS TRANSFER (DEU EQUIV.) -----	
16-0790	-25M00S	CDPS	CRT	(VASJ6) WAITING FOR GO FOR ONE SHOT	
NOTE					
PASS-BFS TRANSFER STEPS ARE TIME CRITICAL.					
16-0791	-22M00S	OTC	CDR	CRT 3 (BFS MEMORY DISPL) ITEM 25 (NO*)	
		CDPS		CONSOLE KYBD (VASJ6) PFK1 - PRESS (VERIFY ONE-SHOT COMPLETE)	
				OMRSD S00FJ0.010	

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
ANNOUNCE T-20 MINUTE HOLD -----					
16-0792	-22M00S	LTD PA 212 232		THE CDC WILL HOLD AT T-20 MIN.	
RECORD CABIN PRESS -----					
16-0793	-21M00S	OTC	CDR	PANEL 01A1 REPORT CABIN PRESS ----- PSIA (BD)	01A1M4
16-0794		CECL		CRT PAGE B (VAG29) RECORD CABIN PRESS ----- PSIA (15.2 PSIA MAX)	V61P2405A1
CLOSE VENT VALVES -----					
NOTE					
VENT VALVE CLOSING MAY OCCUR EARLIER OR LATER AT CECL DIRECTION.					
16-0795	-21M00S	OTC	CDR	CLOSE CABIN VENT VALVES	
16-0796			CDR	PANEL L2A1 CABIN VENT VENT ISOL SW - CLOSE VENT ISOL TB - CL VENT SW - CLOSE VENT TB - CL	L2A1S3 L2A1DS3 L2A1S4 L2A1DS4
16-0797			CECL	CRT PAGE A (VAG29) VERIFY CAB VT AND CAB VT ISOL DISCRETES ARE DISPLAYED	
16-0798			CDR	OTC	VENT VALVES CLOSED

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0799				***T-20 MINUTE HOLD***	
16-0800	-20M00S (HOLDING)	LTD PA 232 212		THE CDC IS HOLDING AT T-20 MIN	
16-0801		LTD	SPE	REPORT LOX DRAINBACK START AND HOLD TIMES.	
16-0802		SPE	LTD	LOX DRAINBACK: START TIME: _____ HOLD TIME: _____	
16-0803		CGLS		VERIFY 2 CONCURRENCIES AVAILABLE IN BACKUP CONSOLE FOR MAINLINE INTERRUPT ACTIVATION	

NOTE

IF VASJ6 DETECTS A GPC I-FAIL
 DURING OPS TRANSITION, THE
 FOLLOWING WILL OCCUR:

A DOWNLIST DUMP WILL BE
 INITIATED AUTOMATICALLY
 (NO DOWNLIST DATA FOR 90
 SEC)

LDB TRAFFIC WILL BE INHIBITED
 UNTIL OPS IS RECONFIGURED
 TO GNC9.

TOTAL TIME AFTER TRANSITION
 TO OPS 101 SHALL NOT EXCEED 120
 MINUTES. IF TOTAL TIME IN OPS
 101 WILL EXCEED 120 MINUTES,
 A TRANSITION TO GNC 9 IS
 REQUIRED AND PREFLIGHT
 ALIGN WILL BE REPERFORMED.

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
				SET CDC START TIME -----	
16-0804	-20M00S (HOLDING)	LTD	CGLS	SET CDC TO START AT ___:___/___ DD HHMM SS	
				STATUS CHECK -----	
16-0805		LRD 135	LACB	VERIFY RTLS RUNWAY 15 OR 33.	
16-0806	-20M00S (HOLDING)	LRD LF1 STM 111 JTBC NET JSTC	LSO STM JTBC FSTM FTBC 104 FSTC	IN THE EVENT OF RTLS LANDING WILL BE ON RUNWAY _____ (15 OR 33).	
16-0807	-20M00S (HOLDING)	LRD CCN	NCC	IN THE EVENT OF RTLS ABORT, LANDING WILL BE ON RUNWAY _____ (15 OR 33).	
16-0808		LRD LP1	LSO	LANDING SITES READY FOR LAUNCH	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0809				CONSOLE PROGRAM ASSIGNMENTS -----	
16-0810	-20M00S (HOLDING)	LTD 232	OTC TBC CTC	VERIFY FR CONSOLE SOFTWARE ACTIVATION CONFIGURED PROPERLY FOR T-20 MIN ONLY PROGRAMS LISTED MAY BE ACTIVE.	
				ORBITER PROGRAMS -----	
16-0811			OTC	CSME VERIFY PROGRAM VAE38 ACTIVE IN C3	
16-0812	-20M00S (HOLDING)		UTC	CMPL VERIFY PROGRAM SAE02 ACTIVE IN C3	
16-0813			OTC	CMPS VERIFY PROGRAMS VAE18 ACTIVE IN C4 SAE12 ACTIVE II C4	
16-0814			OTC	CCSE VERIFY PROGRAMS CNSE VWA40 ACTIVE IN C2	
16-0815			UTC	CPVD VERIFY PROGRAMS VAM01 ACTIVE IN C6 VAM31 ACTIVE IN C6	
16-0816			OTC	CECL VERIFY PROGRAMS VAG34 ACTIVE IN C5 VAG28 ACTIVE IN C5 VAG29 ACTIVE IN C5	
16-0817			OTC	CFCP VERIFY PROGRAMS VAR75 ACTIVE IN C6 VAR96 ACTIVE IN C6 VAH07 ACTIVE IN C6	
16-0818			OTC	CGSS VERIFY PROGRAMS VAJ02 ACTIVE IN C7 VAJ14 ACTIVE IN C7	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0819		OTC	CAFM	VERIFY PROGRAM VAK13 ACTIVE IN C2	
16-0820	-20M00S (HOLDING)	OTC	COOS	VERIFY PROGRAMS VADK6 ACTIVE IN C7 VADK1 ACTIVE IN C7 VADL6 ACTIVE IN C7 VAD90 ACTIVE IN C7	
16-0821		OTC	CHYD	VERIFY PROGRAMS VAF33 ACTIVE IN C8 VAF30 ACTIVE IN C8	
16-0822		OTC	CAPU	VERIFY PROGRAMS VAF13 ACTIVE IN C8 VAF34 ACTIVE IN C8	
16-0823		OTC	CISL	VERIFY PROGRAMS SAQ04 ACTIVE IN C9 VAQ29 ACTIVE IN C9	
16-0824		OTC	CHGD	VERIFY PROGRAMS VAQ14 ACTIVE IN C9	
16-0825		OTC	CEPD	VERIFY PROGRAMS SWC02 ACTIVE IN C10 VAC28 ACTIVE IN C10 VAC33 ACTIVE IN C10	
16-0826	-20M00S (HOLDING)	OTC	CDPS	VERIFY PROGRAMS SAS01 ACTIVE IN C12 SAS07 ACTIVE IN C12 VAS59 ACTIVE IN C12 VASJ6 ACTIVE IN C12 VASB9 ACTIVE IN C12	
16-0827	-20M00S (HOLDING)	OTC	CCME	VERIFY PROGRAM VAE74 ACTIVE IN C12	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

TERM ALL DC TASKS AND
 GLS LOOKUPS AT INTG BEFORE
 CDC IS RESUMED.

16-0828		OTC	CGLS	VERIFY PROGRAMS	
				SLP01 ACTIVE IN INTG	
				SLP02 ACTIVE IN INTG	
				SLP03 ACTIVE IN INTG	
				SGPR2 ACTIVE IN INTG	
				SGP02 ACTIVE IN INTG	

2 AVAILABLE CONCURRENCE IN B/U

				SLP80 ACTIVE IN B/U	
				SLPC0 ACTIVE IN B/U	
				BA100 ACTIVE IN B/U	
				SEPT1 ACTIVE IN B/U	

SRB/ET PROGRAMS

16-0829	-20M00S (HOLDING)	TBC 136	CLOX	VERIFY PROGRAMS	
				GAL01 ACTIVE IN C3	
				GAL02 ACTIVE IN C3	
16-0830		TBC 136	CLHY	VERIFY PROGRAMS	
				GAH01 ACTIVE IN C4	
				GAH02 ACTIVE IN C4	
				GAH02 ACTIVE IN C4	
16-0831		TBC 136	CTPE	VERIFY PROGRAM	
				SEPT1 ACTIVE IN B/U	
				BA100 ACTIVE IN B/U	
16-0832	-20M00S (HOLDING)	TBC 136	CBRS	VERIFY PROGRAMS	
				SARB4 ACTIVE IN C5	
				SWRB1 ACTIVE IN C5	
16-0833		TBC 136	CBHY	VERIFY PROGRAM	
				BAT04 ACTIVE IN C8	

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP ONLY IF
 SRB DFI INSTALLED ON LH OR
 RH SRB'S.

16-0834		TBC	CISL	VERIFY PROGRAM BAM00 ACTIVE IN C9	
				NOT PERFORMED	-----
16-0835		TBC 136	CPWR	VERIFY PROGRAM BAE04 ACTIVE IN C10 TW498 ACTIVE IN C10	
16-0836		TBC	ALL	ALL SBR/ET PERSONNEL SWITCH TO DIS CH 212 FOR T-20 BRIEFING.	
16-0837		LTD	LPS	VERIFY PROGRAMS ACTIVE IN MSTR: AA001 (TCB3) SHWMUN (TCB4) AWP01 (TCB5) SLPP1 (TCB6)	31240
				CARGO PROGRAMS -----	
16-0838		CTC	DLES	PROCEED WITH P/L CONSOLE SOFTWARE RECONFIGURATION PER SEQ 82 (S0007 VL4).	
16-0839	-20M00S (HOLDING)	CTC 134	DLES	VERIFY FOLLOWING PROGRAMS (ACTIVE IN C1) RW0017 (ORB PARAMETERS) UW0004 (IUS/TDRS PWR DISPLAY DRIVER) PW0004 (S/C DATA DISPLAY DRIVER)	
16-0840		CTC 232	LTD	FR C1 CONSOLE SOFTWARE IS CONFIGURED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

VERIFY PSP - OFF -----					
16-0841		UTC	CCSE	VERIFY THE PSP IS NOT POWERED UP AT THIS TIME.	V74X4890E1 V74X4891E1
16-0842	-20M00S (HOLDING)	UTC	CDPS	VERIFY TWO CONSECUTIVE UC TASK CONCURRENCIES AVAILABLE TO PERFORM GPC DUMP.	
16-0843	-20M00S (HOLDING)	UTC	ALL	AFTER TRANSITION TO OPS 101, DISCONTINUE ALL LDB PMU READS FOR THE REMAINDER OF THE COUNTDOWN.	
IMU PRE-FLIGHT ALIGN COMPLETE -----					

NOTE

IMU PRE-FLIGHT ALIGN MAY RECEIVE G/C PAIR FAILURE INDICATIONS WHICH MAY FALSELY INDICATE IMU HARDWARE PROBLEMS. ENGINEERING ANALYSIS WILL BE CONDUCTED TO PROPERLY EVALUATE THE DATA AND TO DETERMINE IF THE FAILURE INDICATIONS ARE REAL OR FALSE.

16-0844	-20M00S (HOLDING)	CGNC	UTC	IMU PRE-FLIGHT ALIGNMENT IS COMPLETE. READY FOR TRANSITION TO OPS 1.	
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OMRSD S00FK0.010

16-0845		CGNC		CONSOLE KYBD ISSU N72IV101D #0 XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS C CO _DEU2G LDBA C12 XMIT CMD KEY - PRESS	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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EXTEND HOLD TIME (CONTINGENCY)

NOTE

IF HOLD MUST BE EXTENDED
PERFORM NEXT STEP

16-0846		CGLS		SELECT APP PG 3B CURSOR CNTL SELECT - CANCEL PENDING CDC REQUESTS - PRESS NOT PERFORMED	-----
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REQUEST RADIO SILENCE

16-0847	-20M00S (HOLDING)	LTD 232	*SCC	REQUEST RADIO 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 IS REQUIRED FOR RTLS.	
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DECOM TO RF SOURCE

NOTE

IF NASA MISSION DELETE
JSRP IN NEXT STEP.

16-0848		LTD	JRPS JSRP	SWITCH DECOMS TO RF SOURCE.	31212
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0849				T-20 MINUTE RECYCLE ENTRY POINT	

NOTE

COUNTDOWN WILL RESUME AT THIS POINT IF A T-20 MINUTE RECYCLE OCCURS.

16-0850	-20M00S (HOLDING)	LTD		CONDUCT BRIEFING ON DIS CH 212 AND 232.	
				START LPS SSME RECORDING	
16-0851	-20M00S (HOLDING)	OTC 232 LTD 232	LTD LPS	START "SSME" PRINTER PLOTTERS. FOLLOWING OPS TRANSITION TO 101, VERIFY DATA ON ALL CHANNELS. (P/P 1 UNITS 5,6; P/P 2 UNITS 5,6)	31240

NOTE

ALL PERSONNEL HAVING RESPONSIBILITIES FOR OBSERVING AND REPORTING LCC VIOLATIONS OR TRENDS WILL IMMEDIATELY REPORT THESE CONDITIONS THROUGHOUT THE TERMINAL PORTION OF COUNTDOWN. PRIOR TO T-9 MINUTES, ALL ANOMALIES, TRENDS AND/OR VIOLATIONS OF THE LCC WILL BE IDENTIFIED THROUGH NORMAL REPORTING CHANNELS TO THE ELEMENT TEST CONDUCTOR ALONG WITH RECOMMENDATIONS. ANY TREND THAT COULD EXTEND THE HOLD AT T-9 MINUTES MUST BE IMMEDIATELY REPORTED TO ALLOW TEST TEAM NOTIFICATION AT THE START OF THE T-9 MINUTE HOLD. FLIGHT CREW MEMBERS MAY REQUEST A HOLD ON CHANNEL 212 AT ANY TIME.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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AFTER T-9 MINUTES, ALL PROBLEMS OR TRENDS THAT REQUIRE A CDC HOLD WILL BE REPORTED TO THE LTD ON CHANNEL 212 TOGETHER WITH RECOMMENDATION, AND THE CLOCK WILL BE HELD AT THE NEXT GLS MILESTONE AFTER AFTER VALIDITY OF THE REQUEST IS DETERMINED.

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
T-10S	LPS GO FOR ENGINE START

AT T-9 MINUTES WHEN A "GO" IS GIVEN, THIS 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 IF TIME PERMITS.

OPERATION INSTRUCTIONS

SEQ TIME CMD RESP DESCRIPTION VERIF.

A "CUT OFF" MAY BE REQUESTED AT ANY TIME AFTER T-31 SECONDS AND COUNTING, BY THE REQUESTING STATION GIVING ON THE COMMAND CHANNEL THE PROWORDS "CGLS GIVE CUT OFF". UPON EXECUTION OF CUT OFF, GLS WILL THEN "SAFE" THOSE FUNCTIONS PERFORMED BY GLS MUST BE MANUALLY "SAFED" BY SYSTEMS CONSOLE. INSTRUCTIONS FOR "SAFING/ RECYCLE" ARE INCLUDED IN THIS OMI (VOL 2).

THE LAUNCH WINDOW FOR STS _____ IS _____ MINUTES, THEREFORE A SECOND ATTEMPT (IS/IS NOT) POSSIBLE IF A RECYCLE IS REQUIRED.

AT T-5 MINUTES PLT WILL PERFORM APU START UPON COMMAND OF THE OTC.

IF THE FOLLOWING TIMES ARE EXCEEDED THE LTD WILL REQUEST "GLS GIVE CUTOFF" APU HOLD TIME OF _____ MIN. LOX DRAIN BACK HOLD TIME OF _____ MIN. LAUNCH WINDOW OF _____ MIN.

ALL PERSONNEL NOT ACTIVE IN TERMINAL COUNT WILL MONITOR 217.

INGRESS/EGRESS OF FIRING ROOM #1 WILL NOT BE ALLOWED AFTER RESUMING THE COUNT AT T-20 MINUTES THRU TOWER CLEAR.

ALL PERSONNEL BEAR IN MIND THAT CRITICAL POST-LAUNCH OPERATIONS WILL BE IN PROGRESS AFTER A SUCCESSFUL LAUNCH, SO KEEP FIRING ROOM ACTIVITIES AND NOISE TO A MINIMUM.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				READY TO RESUME COUNT	
16-0852		*FLT LTD 232	LTD OTC	BFS LAUNCH TARGET UPDATES (ARE/ARE NOT) REQUIRED PRIOR TO BFS MODING TO OPS 1.	
				NOTE	
				IF DOD MISSION, DO NOT PERFORM NEXT STEP.	
16-0853		LTD	CTC	VERIFY NO CONSTRAINTS TO PROCEEDING.	
				NOT PERFORMED	-----
16-0854		*FLT LTD OTC		IF DOD MISSION, PERFORM ITEM 3.3, APPENDIX Q.	
				NOT PERFORMED	-----
16-0855	-20M00S (HOLDING)	LTD 232 212		ATTENTION ALL PERSONNEL, THE CDC WILL RESUME IN _____ MINUTES.	
				TAPE SWITCH PDR SUB-SYS	
				NOTE	
				IF A NORMAL TAPE SWITCH HAS OCCURED WITHIN THE PREVIOUS 5 MINUTES, DO NOT PERFORM NEXT STEP.	
16-0856	-20M00S (HOLDING)	CPDR		PERFORM TAPE SWITCH AT PDR SUBSYSTEM. PDR INFOTON KYBD #INRC,T(X) RTN KEY - PRESS	31240
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

EXECUTION OF COUNTDOWN FROM T-20 MIN TO T-0 RESULTS IN COMPLETION OF LISTED ITEMS BY THE GROUND LAUNCH SEQUENCER (GLS); PROPELLANT LOADING SOFTWARE (CRYO); REDUNDANT SET LAUNCH SYSTEM (RSLs). REFERENCE TABLE 1 IN SEQ 17 OF THIS VOLUME FOR TIMES AND FUNCTIONS.

CGLS WILL MONITOR LPS AND GPC COUNTDOWN TIME. IF A DELTA OF GREATER THAN 2 SEC DEVELOPS, CGLS WILL NOTIFY OTC AND CDPS.

16-0857	-20M00S (HOLDING)	TBC 136	CBHY	CURSOR CNTL (BAT04) GAS GENRTR MAN -	
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RESUME COUNT

16-0858	-20M00S (HOLDING)	LTD 232 212		THE CDC WILL START ON MY MARK 3-2-1 MARK	
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16-0859		LTD PA		T-20 MINUTES AND COUNTING ----- GMT	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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16-0860				FUEL CELL PURGE (-20M)	
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NOTE

PRSD CRYO TANK HEATERS MAY
 CYCLE ON AT ANY TIME UNTIL
 AFT COMMAND DECODER PWR.
 SUPPLIES ARE TERMINATED
 BY GLS AT T-10 SECONDS.

16-0861	-20M00S COUNTING	OTC	CFCP	PERFORM FUEL CELL PURGE PER SEQ 47 (S0007-V4) ON OIS CH 153. REPORT COMPLETION.	*BCS
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OMRSD S00FJ0.050

NOTE

IF NASA MISSION DELETE
 JSRP FROM NEXT STEP.

IF DOD MISSION DELETE
 JRPS IN NEXT STEP.

16-0862		LTD 232	JRPS JSRP	START GNC BRUSH RECORDERS AND EVENT RECORDER. (OMI S9002)	31212
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16-0863				ACTIVATE VHF WX CIRCUIT	
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NOTE

NEXT STEP PERFORMED IF
 REQUESTED BY *FLT.

16-0864	-20M00S COUNTING	*FLT LTD 232	LTD	ACTIVATE 21CC534 (VHF WEATHER 126.65 MHZ RADIO CIRCUIT)	34300 34100
		LTD STM 232	STM	TO ICOM-B FOR FLIGHT CREW WEATHER BRIEFING. VERIFY	
		STM GYCC 111	GYCC	COMPLETION.	
		GYCC JYCJ 117	JYCJ		

OMRSD S00FK0.070

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0865	-20M00S COUNTING			OPS TRANSITION -----	

NOTE

ELEVONS WILL MOVE TO LAUNCH
POSITION AFTER OPS 101
TRANSITION.

SOFTWARE CONDITIONS MAY
RESULT IN A BODY FLAP FAIL
INDICATION TO THE CREW WHEN
THE OPS 101 TRANSITION IS
PERFORMED. UPON HYDRAULIC
PRESSURIZATION THE CONDITION
WILL BE CORRECTED AND THE
FAIL INDICATION WILL BE
AUTOMATICALLY RESET.

16-0866 -20M00S
COUNTING

CDPS CRT (VASJ6)
(VERIFY MESSAGES AS THEY APPEAR:)

OPS TRANSITION IN PROGRESS

PASS IN 101, ACTIVE DOWNLIST

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF "PROCEED WITH BFS STEPS" MESSAGE APPEARS ON VASJ6 WITHIN TWO MINUTES, THEN DO NOT PERFORM THE NEXT FIVE STEPS.

IF ANY OF THE FOLLOWING TWO CRITERIA IS MET THEN STOP THE COUNT AT THIS TIME.

A. ALTERNATE THROTTLE IS REQUIRED AND VASJ6 INDICATES MMU 1 TAPE RELATED ERRORS.

B. VASJ6 INDICATES MMU 1 NON-TAPE RELATED ERRORS.

IF ALTERNATE THROTTLE IS NOT REQUIRED AND VASJ6 INDICATES MMU 1 TAPE RELATED ERRORS, THEN PERFORM NEXT FIVE STEPS.

16-0867

CDPS OTC WE HAVE ENCOUNTERED MMU 1 TAPE RELATED ERRORS DURING THE OPS 101 TRANSITION. THIS IS AN LCC VIOLATION, PAGE 6.9.3-9.

WE ARE TRANSITIONING BACK TO G9 AND PROCEEDING WITH MMU 1 RECOVERY.

NOT PERFORMED

16-0868

OTC CDPS PROCEED WITH MMU 1 RECOVERY.

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0869		CDPS		APPLICATIONS PAGE (VASJ6 PG-B) PFK 2 KEY - PRESS FOLLOW PROGRAM PROMPTS FOR MMU 1 RECOVERY.	
				NOT PERFORMED	-----
16-0870		CDPS	OTC	MMU 1 RECOVERY COMPLETE. OPS TRANSITION IN PROGRESS.	
				NOT PERFORMED	-----
NOTE					
IF VASJ6 INDICATES AN MMU 1 ERROR AFTER RECOVERY INITIATION, THEN STOP THE COUNT AT THIS TIME.					
16-0871		CDPS		APPLICATIONS PAGE (VASJ6 PG-B) PASS IN 101, ACTIVE DOWNLIST.	
				NOT PERFORMED	-----
16-0872		CDPS	OTC	PASS OPS TRANSITION COMPLETE.	
16-0873		CDPS	OTC	DPS READY FOR BFS TO OPS 101 TRANSITION.	
16-0874		PLT		CRT 2 LAUNCH TRAJ	
		CDR		CRT 1 FAULT SUMM	
16-0875		CDR		CRT 1 VERIFY NO UNEXPECTED ERRORS L KYBD SPEC 99 PRO	
16-0876	-19M00S	OTC	CDR	TAKE BFS TO OPS 1 PER YOUR CHECKLIST. BFS TO OPS 1 -----	
16-0877		CDR	OTC	BFS OPS 1 TRANSITION COMPLETE OMRSD S00FK0.030	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0878				T-20 MIN. GPC DUMP -----	
16-0879	-17M00S			CODS NO HARD COPIES TO BE TAKEN CCME AT C12 DURING G-MEM DUMP CBDP CDPS	
16-0880				NOTE DUMP WILL REQUIRE APPROX 7 MINUTES.	
16-0881		CDPS		CRT (VASJ6) T-20 MINUTE DUMP IN PROGRESS	
16-0882				OMS ACTIVE POWER-OFF VERIF -----	
16-0883		CUFC		CRT (VAB73) VERIFY OMS L-BLANK R-BLANK	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0884	-17M00S	CAFC		VERIFY AERO SURFACE DRIVER CURRENTS AND POSITIONS	
				LOB DRVR (< 3.25 MA)	V79C3284A1
				L1B DRVR (< 3.00 MA)	V79C3280A1
				R1B DRVR (< 3.00 MA)	V79C3288A1
				ROB DRVR (< 3.25 MA)	V79C3292A1
				RUD DRVR (< 2.00 MA)	V79C3505A1
				SBK DRVR (< 2.00 MA)*	V79C3315A1
				RUD POSN 1 (-0.95 TO +0.95 DEG)	V57H0150A1
				RUD POSN 2 (-0.95 TO +0.95 DEG)	V57H0151A1
				RUD POSN 3 (-0.95 TO +0.95 DEG)	V57H0152A1
				RUD POSN 4 (-0.95 TO +0.95 DEG)	V57H0153A1
				SBK POSN 1 (+2.45 TO +7.55 DEG)	V57H0250A1
				SBK POSN 2 (+2.45 TO +7.55 DEG)	V57H0251A1
				SBK POSN 3 (+2.45 TO +7.55 DEG)	V57H0252A1
				SBK POSN 4 (+2.45 TO +7.55 DEG)	V57H0253A1
				*AS SBK POSN DECREASES BELOW 5.0 DEG., SBK DRVR CURRENT NEGATIVE LIMIT DECREASES LINEARLY TO 0.0 MA AT SBK POSN OF 3.5 DEG. NO NEGATIVE CURRENT ALLOWED BELOW SBK POSN OF 3.5 DEG.	
				OMRSD S00FM0.110	
16-0885		CAFC		VERIFY ON SRB ACTUATORS THAT THE DIFFERENCE BETWEEN POSITION AND DRIVER OUTPUT IS NOT GREATER THAN 0.90 DEG. (1.13 IN.)	
16-0886		CAFC		VERIFY ON MPS TVC ACTUATORS THAT THE DIFFERENCE BETWEEN POSITION AND DRIVER OUTPUT IS NOT GREATER THAN 2.0 DEGRESS.	
16-0887		CAFC		AEROSURFACES AND ATVC READY FOR HYDRAULIC PRESSURIZATION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0888				HORIZ SIT CONFIG -----	
16-0889	-17M00S	OTC	PLT	CONFIGURE THE PASS AND BFS HORIZONTAL SITUATION DISPLAYS	
16-0890			PLT	PANEL C2 R CRT SEL SW - 3	
16-0891			PLT	RIGHT KYBD SPEC 50 PRO CRT 3 HORIZONTAL SIT DISPLAY (BFS)	
16-0892			PLT	RT CRT SEL SW - 2 RIGHT KYBD SPEC 50 PRO CRT 2 HORIZONTAL SIT DISPLAY (PASS)	
16-0893			PLT	VERIFY VALUES CORRECTLY UPDATED ON CRT 2 (PASS) AND ON CRT 3 (BFS)	

NOTE

PERFORM NEXT FOUR STEPS IF
 ALTERNATE TAL SITE SELECTION
 IS REQUIRED.

16-0894 *FLT OTC PERFORM ALTERNATE TAL SITE SELECTION
 212 FOR TAL SITE ----- (1-5).

NOT PERFORMED -----

16-0895 OTC PLT RIGHT KYBD
 (INPUTS PASS HORIZ SIT CRT 2)
 ITEM 40 + --- (1-5)
 EXEC

CRT 2
 VERIFY
 40 TAL SITE --- (1-5)

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0896		OTC	PLT	PANEL C2 RIGHT CRT SEL SW - 3 RIGHT KYBD (INPUTS BFS HORIZ SIT CRT 3) ITEM 40 + ___ (1-5) EXEC CRT 3 VERIFY 40 TAL SITE ___ (1-5)	
					NOT PERFORMED
16-0897		OTC	PLT	PANEL C2 RIGHT CRT SEL SW - 2	
					NOT PERFORMED
16-0898			PLT	RIGHT KYBD (INPUTS PASS HOR SIT CRT 2) ITEM 29 (ADTA TO G&C - INH) EXEC ITEM 35 (TACAN DELTA) EXEC	
16-0899			PLT	VERIFY CRT 2 G & N OVHD 6 NEP 7 AIM NOM 8 VERIFY ASTERISK NEXT TO THE FOLLOWING ITEMS ITEM 20 (TACAN INH) ITEM 22 (DRAG H AUT) ITEM 26 (ADTA H INH)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0900	-17M00S	PLT		PANEL C2 RIGHT CRT SEL SW - 3 VERIFY ON CRT 3 G & N OVHD 6 NEP 7 AIM NOM 8 VERIFY ASTERISK NEXT TO THE FOLLOWING ITEMS ITEM 20 (TACAN INHIBIT) ITEM 22 (DRAG H - AUT) ITEM 26 (ADTA H - INH) ITEM 28 (ADTA TO G&C - AUTO) PANEL C2 RIGHT KYBD SPEC 51 PRO EXEC CRT 3 BFS OVERRIDE RIGHT KYBD ITEM 29 EXEC CRT 3 VERIFY ENA ICNCT RIGHT KYBD SYS SUMM SYS SUMM CRT 3 GNC SYS SUMM 2 (BFS)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0901		PLT		PANEL C2 RIGHT CRT SEL SW - 2 RIGHT KYBD SPEC 51 PRO CRT 2 OVERRIDE RIGHT KYBD ITEM 29 EXEC VERIFY ENA ICNCT RIGHT KYBD RESUME CRT 2 LAUNCH TRAJ (PASS) RIGHT KYBD SYS SUMM CRT 2 GNC SYS SUMM 1 VERIFY NO DOWN ARROWS FF, FA MDMS	
16-0902		CDR		L KYBD RESUME CRT 1 LAUNCH TRAJ	
16-0903		PLT	OTC	HORIZONTAL SITUATION/OVERRIDE CONFIGURATION COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0904				VERIFY SRM CHAMBER PRESS. ----- COEFFICIENT - LOADED -----	
16-0905		OTC	CISL	SUPPORT TBC ON CH 136.	
16-0906	-17M00S	TBC 136	CISL	VERIFY SRM CHAMBER PRESS COEFFICIENT IS SUCCESSFULLY LOADED IN OPS 1 PER SEQ 38 (S0007VL4) OPS CHANGE BIAS CHECKS (AFTER T-20 MIN). REPORT COMPLETION. READY FOR BFS UPLINK -----	
16-0907	-16M00S		CDPS	CRT (VASB9 PG-8) BFS TRACKING PASS FC STRG 1-4 CYAN CDPS ACTIVATE LCC MONITOR (VASB9) CONSOLE KYBD PFK2 KEY - PRESS	
16-0908			CGNC	BFS AS-1 = ON	V98X3511X1
16-0909			CDPS	CRT (VASB9 PG-8) NSP STAT GOOD	
16-0910		CDPS OTC	OTC LTD	READY FOR BFS UPLINK	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0911				BFS PRE-FLT U/L LOADING -----	
NOTE					
BFS LOAD'S WILL UPDATE RCS QTY GAUGING, APU QTY VALUES, PLUS OTHERS AS NEEDED BASED ON REAL TIME DATA EVALUATION.					
16-0912	-16M00S	LTD 232	*FLT	PERFORM BFS PREFLIGHT UPLINK LOADING. REPORT COMPLETION	*BCS
OMRSD S00FK0.060					
16-0913				VERIFY WSB QTY -----	
16-0914			CHYD	CRT (VAF33) VERIFY: WSB 1 - 2 - 3 BACKUP QTY = 95 PCT MIN.	
RECORD WSB QTY (BFS DERIVED)					
----- WSB NO. 1 (95-100 PCT) V9801970C1					
----- WSB NO. 2 (95-100 PCT) V9801971C1					
----- WSB NO. 3 (95-100 PCT) V9801972C1					
OMRSD S00FM0.090					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0915				RTLS RUNWAY VERIF.	
16-0916		LRD 135	LACB	VERIFY FINAL RTLS RUNWAY SELECTION 15 OR 33	
16-0917	-16M00S	LRD LF1 LRD 1 LRD 135 STM 111 JSTC	LSU NCC	IN THE EVENT OF RTLS ABORT LANDING WILL BE ON RUNWAY (15 OR 33)	33320 EG&G-123
				TRANSMISSION OF CHAIN AND ANT. MANAGEMENT LOADS TO BFS COMPLETE	
16-0918	-15M00S	*FLT LTD 232	LTD OTC	TRANSMISSION OF CHAIN LOADS AND ANTENNA MANAGEMENT LOADS TO BFS ARE COMPLETE.	
16-0919				MPS HE RECONFIGURATION	
16-0920		OTC	PLT	PERFORM MPS HE RECONFIGURATION	*BCS
16-0921			PLT MPS	PANEL R2 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 ISOLATION SW - OPEN	
16-0922		PLT	OTC	MPS HE RECONFIG COMPLETE.	
				OMRSD S00FK0.080	

OPERATION INSTRUCTIONS

SEQ TIME CMD RESP DESCRIPTION VERIF.

MPS CMD REMOVAL

NOTE

PERFORM NEXT STEP IF
FLIGHT SOFTWARE NOT
CONFIGURED TO REMOVE
COMMANDS (REF IN NEXT
STEP).

16-0923 -15M00S

CMPS CURSOR CNTL (VAE18)
ENG 1,2,3 HE REG ISOL B - CLOSE
MPS REG ISOL 1,2 - CLOSE

VERIFY ENG 1,2,3 REG
ISOL A&B AND MPS REG
ISOL 1,2 OPEN POWER ON,
IS ON.

NOT PERFORMED -----

OMRSD S00FK0.081

16-0924 -15M00S

CMPS CRT (SAE12)
VERIFY READY FOR LAUNCH IS DISPLAYED

16-0925 -15M00S

CMPL CRT (SAE02)
VERIFY READY FOR LAUNCH IS DISPLAYED

OMRSD S00FK0.050

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0926				CONFIGURE OMS/RCS CROSSFEED VALVES ----- FOR FLIGHT (-15M) -----	
16-0927	-15M00S	OTC	COOS	CONFIGURE OMS/RCS CROSSFEED FOR FLIGHT.	
NOTE					
DO NOT PERFORM NEXT STEP IF ALL CROSSFEEDS ARE CLOSED.					
16-0928			COOS	CURSOR CNTL (VWD42) C4 - CLOSE CRT VERIFY OMS KFD VALVE CLOSED	
			COOS	CURSOR CNTL (VWD41) C4 - CLOSE CRT VERIFY OMS XFD VALVE CLOSED	
				OMRSD S00FK0.095	NOT PERFORMED -----
16-0929		COOS OTC		OMS/RCS CROSSFEED VALVES CONFIGURED FOR FLIGHT	
16-0930		COOS	VADK6	SWITCH SCAN VERIFY SWITCH POSITIONS FOR LAUNCH	
16-0931		COOS	VAD90	VERIFY VALVES CONFIGURED FOR FLIGHT	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0932				RCS QUANTITY CHECK (-15M)	

NOTE

IF DOD MISSION, DO NOT
 PERFORM NEXT STEP.

16-0933	-15M00S	OTC	PLT	REPORT RCS QUANTITIES, F, L, R FUEL AND OXIDIZER (GNC SYS SUMM 2)	
				OXIDIZER	FUEL
				FORWARD	-----
				LEFT	-----
				RIGHT	-----
					NOT PERFORMED -----

16-0934		OTC		IF DOD MISSION, PERFORM ITEM 7.7, APPENDIX G.	
					NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0935				CONFIGURE OMS INTERCONNECT ENABLE -----	
16-0936		OTC	PLT	CONFIGURE OMS INTERCONNECT ENABLE.	
16-0937			PLT	PANEL C2 CRT 2 MAJ FUNC SW - GNC 2 RIGHT CRT SEL SW - 2	
16-0938			PLT	RIGHT KYBD SPEC 51 PRO CRT 2 GNC 51 OVERRIDE RIGHT KYBD ITEM 29 EXEC CRT 2 VERIFY ENA I'CNCT RIGHT KYBD SYS SUMM CRT 2 GNC SYS SUMM 1	
16-0939			PLT	PANEL C2 CRT 3 MAJ FUNC SW - SM CRT 3 RT CRT SEL SW - 3 RIGHT KYBD SYS SUMM SYS SUMM CRT 3 BFS, SM SYS SUMM 2	
16-0940		PLT	OTC	OMS INTERCONNECT ENABLE CONFIGURED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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16-0941				SRB AFT SKIRT GN2 PURGE	
16-0942	-15M00S	LTD 232	TBC	INITIATE SRB AFT SKIRT GN2 PURGE	
16-0943	-15M00S	TBC 136	CBHY	INITIATE SRB AFT SKIRT GN2 PURGE FOR BOTH LEFT AND RIGHT SRB'S.	

NOTE

DO NOT PERFORM NEXT STEP IF
 SRB GN2 PURGE ALREADY ON.

16-0944			CBHY	CURSOR CNTL (BAT04) SRB AFT SKIRT GN2 PURGE	
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DC PWR
 PRI - ON
 SEC - ON

PRI - OPN
 SEC - OPN
 HTR CMD - UN

CRT (BAT04)
 SRB AFT SKIRT GN2 PURGE

PURGE (ON)

NOT PERFORMED

CONFIG BAT04 FOR LCD

16-0945	-15M00S		CBHY	CONFIGURE BAT04 FOR LAUNCH COUNTDOWN.	
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16-0946			CBHY	CURSOR CNTL (BAT04) C/D MDE XMIT CURSOR UNTIL - LNH	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0947				LAUNCH AREA CLEAR VERIF. (-15M)	
16-0948		*SCC	LTD	ALL NONESSENTIAL PERSONNEL HAVE CLEARED LAUNCH DANGER AREA EXCEPT THOSE PERSONNEL LOCATED BY SPECIFIC LIST AT FORWARD OBSERVER SITES.	
16-0949	-15M00S	LTD 232 STM 138	STM JYVO	TERMINATE VIDEO TRACKING OF CLOSEOUT CREW (SEE JYVO FIG. 4)	34200
16-0950	-15M00S	LTD 232	SRD	KSC AREA IS CLEAR FOR LAUNCH.	*BCS ETR
				DEACTIVATE PAD OIS	
16-0951	-15M00S	LTD 232 STM 111 GYCC 117	STM GYCC JYCC	DE-ACTIVATE PAD OIS. VERIFY COMPLETION.	34300 34100 *BCS
16-0952				FUEL CELL PURGE COMPLETE ADJ FUEL CELL LOADS	
16-0953		CFCP 212	OTC CEPD	FUEL CELL PURGE IS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF DOD MISSION, DO NOT
PERFORM NEXT STEP.

16-0954		LTD 232	JRPS	START BMU BRUSH RECORDERS. (OMI S9002)	31212 NOT PERFORMED
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NOTE

ECL MONITOR HEAT LOAD
IMPACT IN NEXT STEP.

THE FOLLOWING FUEL CELL
THERMAL CONDITIONING
SHOULD BE STARTED
IMMEDIATELY AFTER FUEL
CELL PURGE COMPLETION
AND MUST BE COMPLETE BY
13.5 MINUTES PRIOR TO
LAUNCH.

16-0955		CEPD CFCP CECL		ADJUST FUEL CELL LOADS TO BETWEEN 250 AND 290 AMPS PER OMI S9001 ON OIS CH 151.	*BCS
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MONITOR FUEL CELL
PERFORMANCE USING FOLLOWING
CRITERIA:

VOLTAGE	28.25 VOLTS MIN
CURRENT	250-290 AMPS
STACK COOL OUT	
TEMP	175-240 DEG F
COND EXIT TEMP	130-162 DEG F
COOLANT RET	
TEMP	40-140 DEG F
COOLANT	
PRESSURE	65 +/- 10 PSIA
O2 FLOW	4.0-8.0 LB/HR
H2 FLOW	0.5-1.0 LB/HR

OMRSD S00FM0.070

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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ANNOUNCE HOLD TIME

NOTE

THE EXACT HOLD POINT
(T-TIME) WILL BE DETERMINED
BY LOX TERMINATE REPLENISH.

16-0956	-12M00S	LTD		THE CDC WILL HOLD AT T-___ MINUTES.	
		232			
		212			
		PA			

NOTE

THE FOLLOWING PENDING SET IS
PERFORMED BY GLS, BY THE CLUCK.

16-0957	-12M00S	LTD	LPS	AWP01 PG-B	
		232		VERIFY SOURCE 2 HI RATE, VOICE	31240
				YES PENDING IN GPCA, OIA,	
				AND SOURCE 2 IS PENDING IN ME1,	
				ME2, ME3 FEPS	

VERIFY CONTINGENCY SUPPORT OPS

READY FOR LAUNCH

16-0958	-12M00S	LRD	*ECC	VERIFY CONTINGENCY SUPPORT	
		135		OPERATIONS READY FOR LAUNCH.	
				EMERGENCY AIRCRAFT AND	
				PERSONNEL ON STATION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				T-20 MIN. GPC DUMP - COMPLETE	
16-0959	-12M00S	CVFS		VERIFY CONSOLE PRINTER/PLOTTER MISCOMPARES ARE AS EXPECTED FOR T-20 MIN DUMP	
				DMRSD S00FK0.090	
				NOTE	
				IF EXPECTED MISCOMPARES OCCUR PERFORM NEXT STEP.	
16-0960		CDPS		CONSOLE KYBD (VASJ6) PFK 3 KEY - PRESS	
				NOT PERFORMED	-----
				NOTE	
				IF UNEXPECTED MISCOMPARES OCCUR, PERFORM NEXT STEP.	
16-0961		CDPS		CONSOLE KYBD (VASJ6) PFK2 KEY - PRESS	
				NOT PERFORMED	-----
				NOTE	
				GMEM READS WILL BE PERFORMED BY CGNC EVERY TWO-THREE MINUTES FROM COMPLETION OF THE T-20 MINUTE GPC DUMP TO T-9 MINUTES AND COUNTING.	
16-0962		CDPS OTC		T-20 MIN GPC DUMP COMPLETE	
		212			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0963				PVD/ECS PLB FLOW REDUCTION	
WARNING					
IF DOD MISSION, DO NOT PERFORM NEXT THREE STEPS.					
NOTE					
PERFORM NEXT THREE STEPS IF PLB PURGE FLOWRATE GREATER THAN 180 LB./MIN.					
16-0964	-11M30S	OTC	CPVD	REDUCE PLB PURGE FLOWRATE FOR LAUNCH	NOT PERFORMED
16-0965			CPVD	CURSOR CONTROL (VAM31/VDM01)	
1. EXPD FLOW - XMIT CURSOR					
2. F (PLB) - XMIT CURSOR					
3. ADJUST PLB FLOW RATE TO 180 LB/MIN. USING PFK KEYS					
4. F (PLB) - EXEC CMD					
5. EXPD FLOW - DISARM CMD					
6. VERIFY PLB FLOW RATE STABILIZES AT 180+/-10 LB/MIN.					
NOT PERFORMED					
16-0966			CPVD	OPERATE VENT DOOR 6 L/H AND R/H CLOSED. REPORT COMPLETION.	NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0967		OTC	CPVD	IF DOD MISSION, PERFORM ITEM 11.10 APPENDIX U.	
				NOT PERFORMED	-----
				NOTE	
				PERFORM NEXT STEP AFTER T-20 MIN GPC DUMP IS COMPLETE AND VASJ6 GOAL PGM IS TERMINATED.	
16-0968	-11M00S	OTC	CCME	PERFORM SSME VALVE MONITURING PROGRAM (VSE04).	
				BSR READ -----	
16-0969	-10M00S		CCME	READ EIU BSR'S VAE90 LDB READ XMIT CURSOR	
16-0970		CCME		VERIFY PSE AND IE TEMPS ARE WITHIN LCC LIMITS.	
				NOTE	
				IF BU OR MSTR CONSOLE AND VAE90 IS NOT LOADED PERFORM NEXT STEP.	
16-0971		CCME		READ EIU BSR'S CBTU BT4 EIU XMIT CMD EXEC CMD (X = 1,2,3 FOR EIU 1,2,3)	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0972	-10M00S	STM 111	JBAC	MONITOR MLP CHWR LINE PRESSURE DURING AND JUST AFTER LIFTOFF.	3321C
				1. CLOSE MLP/PCR CHW BLOCKING VALVES (WDL06) JUST AFTER LIFTOFF.	
				2. OPEN CHW AUTO DRAIN VALVES (M3006, WDL06) FROM C-2 CONSOLE IF THERE IS A RAPID DECREASE IN PRESSURE.	
				NOT PERFORMED	-----
				3. SECURE REDUNDANT CHILLER (M3006, WDL01, WDL02) IF NOT REQUIRED.	
				NOT PERFORMED	-----
16-0973				***T-9 MINUTE HOLD***	
16-0974	-09M00S (HOLDING)	LTD PA 232 212		T-9 MINUTES AND HOLDING	
				NOTE	
				IN THE EVENT HOLD MUST BE IMMEDIATELY EXTENDED, PERFORM NEXT TWO STEPS.	
16-0975	09M00S (HOLDING)	LTD 232 212		THE HOLD WILL BE EXTENDED.	
				NOT PERFORMED	-----
16-0976	-09M00S (HOLDING)		CGLS	SELECT APP PG 38 CURSOR CNTL SELECT CANCEL PENDING CDC REQUESTS	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0977				UIS COMMAND CHAN FINAL ----- SWITCHOVER FOR TERMINAL COUNT -----	
16-0978	-09M00S (HOLDING)	LTD 232		ALL TEST TEAM PERSONNEL SWITCH TO CH 212 ACTIVE THRU T-0. ALL PERSONNEL NOT ACTIVE IN THE TEST SWITCH TO CH 217. (MONITOR ONLY CH 212)	
16-0979	-09M00S (HOLDING)	LTD 212	RSD	COMMUNICATIONS VERIFICATION CHECK UIS CH 212.	
16-0980	-09M00S (HOLDING)	LTD 232	CHGD	PERFORM COMM CHECK ON UIS CH 232. 3322B CGSS VERIFY COMM CHECK ACCEPTABLE. JBFX	
16-0981		LTD 232	CGSS CHGD	COMM CHECK COMPLETE. RETURN TO ACTIVE CHANNEL 212 AND MONITOR JBFX CH 232 FOR REMAINDER OF COUNT.	3322B
16-0982				RTLS UPDATE (-09M) -----	
16-0983	-09M00S (HOLDING)	*FLT LTD 212 STM 111 JSTC	CDR PLT LTD STM JSTC FSTM FSTC	READING OUT RTLS ALT SETTING AND RUNWAY.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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16-0984				*FLT COMMANDS	
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NOTE

PERFORM NEXT TWO STEPS
 IF MADS INSTALLED.

DO NOT PERFORM NEXT THREE
 STEPS UNTIL 1 MINUTE PRIOR
 TO PICKUP OF COUNT.

16-0985	-09M00S (HOLDING)	LTD 212	*FLT	TRANSMIT MADS ACTIVATION MRTC COMMAND	NOT PERFORMED
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DMRSD S00FH0.050

16-0986		CISL OTC	OTC	VERIFY RECORDING MADS DATA ON JKPS MAG TAPE.	31212
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16-0987		CISL *FLT	1.	VERIFY MADS PCM AND FDM FDM 1, MUX 1,2,3,4 (ALL) FDM2, MUX 1,2,3,4 (OV-099/103) BITE - GOOD	
			2.	VERIFY FDM MODE - DATA - CAL - DATA	
			3.	VERIFY MADS RCDR: BITE - GOOD (OV-099/103/104) MOTION - ON MODE - RCD TRACK - PAS 1 PCT TAPE - INCREASING	

16-0988		LTD 212	*FLT	IF DOD MISSION, PERFORM ITEM 4.15, APPENDIX W.	NOT PERFORMED
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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CARGO HOLD FIRE ENABLE

NOTE

PERFORM NEXT STEP AT OPTION
 OF ITD.

16-0989	-09M00S (HOLDING) L-15M00S	LTC 212 CTC 134	CTC ITD	PERFORM HOLD FIRE SYSTEM ENABLE PER OMI A2811.	
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NOT PERFORMED

16-0990

LAUNCH STATUS CHECK

16-0991	-09M00S (HOLDING)	NTD 212 232	OTC TBC CTC LPS *FLT *MIL STM *SCC CSPE CDR PLT LRD SRU LTD LD	VERIFY READY TO RESUME THE COUNT AND GO FOR LAUNCH	*BCS
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16-0992		NTD	LTD	PROCEED WITH THE COUNTDOWN.	
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16-0993	-09M00S (HOLDING)	LTD PA 212		THE GROUND LAUNCH SEQUENCER AND CDC WILL START AT T-9 MINUTES	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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 TAPE SWITCH PDR SUB-SYS

NOTE

DO NOT PERFORM NEXT STEP
 IF A NORMAL TAPE SWITCH HAS
 OCCURED WITHIN THE PREVIOUS
 5 MINUTES.

16-0994	-09M00S (HOLDING)	CPDR		PERFORM TAPE SWITCH AT PDR SUBSYSTEM. PDR INFOTON KYBD #INRC,T(X) RTN KEY - PRESS	31240
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NOT PERFORMED -----

16-0995		LTD	LPS	INHIBIT HIM 6880	31240
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START VIDEO RECORDING

NOTE

PERFORM NEXT FOUR STEPS
 ONE MINUTE PRIOR TO PICKUP
 OF COUNT.

16-0996		LTD	STM	START VIDEO RECORDINGS OF UTV 232 CAMERAS 041/141, 043/143 STM JYVR (SEE LTD FIGURE 4). 138	34200
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16-0997	-09M00S (HOLDING)	JYVO	GYVW	RECONFIGURE CDSC 25X25 SWITCHER. 138 VERIFY COMPLETION.	34200
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OUTPUT NO.

SELECT TO INPUT NO.

8 (C2083-ETR AE/AD) 7 (M2038-TV-1)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-0998	-09M00S (HOLDING)	JYVS 138	JYVO	CONTACT EEC PERSONNEL AT 853-9976 FOR INITIAL POSITIONING OF VAB ROOF OTV CAMERA 080. COVERAGE WILL BE THE FORMATION AND DEVELOPMENT OF THE IGNITION CLOUD THAT FORMS NORTHEAST OF THE PAD. EEC PERSONNEL WILL OBSERVE OTV CAMERA 080 ON RCC VIDEO PROJECTION SYSTEM CHANNEL (POSITION) NO. 14. TRANSMIT VIDEO TO THE CDSC VIA 1TVM2038 (IVCC NO. 1 OUTPUT 462).	34200

16-0999	-09M00S (HOLDING)	JYVO 138	JYVR	START VIDEO RECORDING OF OTV CAMERA 080 (SEE EEC FIGURE 4). RTLS RUNWAY VERIF.	34200
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NOTE

OMIT NEXT STEP IF
 RUNWAY DESIGNATION HAS NOT
 CHANGED FROM CALL AT L-26
 MINUTES.

16-1000	-09M00S (HOLDING) (L-10M)	LRD LF1 LRD 1 LRD STM STM 111 JSTC	LSO NCC	IN THE EVENT OF AN RTLS ABORT LANDING WILL BE ON RUNWAY (15 OR 33).	-----
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NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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FIREX PUMP TO OP PRESS

NOTE

PERFORM NEXT TWO STEPS ONE
 MINUTE PRIOR TO START OF
 COUNTDOWN CLOCK.

16-1001	-09M00S (HOLDING)	STM 111	JBFX	BRING UP FIREX PUMP P-2 TO OPERATIONAL PRESSURE WITH P-1 BACKUP. VERIFY COMPLETION. (SKELETON LFA, F1A).	3322B 3322Z *BCS
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16-1002		JBFX 113	JCTL	VERIFY PRINTER/PLOTTERS ARE LOADED AND ON LINE.	3322B
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16-1003				RESUME COUNT -----	
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16-1004	-09M00S (HOLDING) L-12M00S	CTC 212	LTD	VERIFY GO TO RESUME COUNT AT T-9 MINUTES.	
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NOTE

TERM ALL UC TASKS AND GLS
 LOOKUPS AT INTG BEFORE
 CDC IS RESUMED.

16-1005	-09M00S (HOLDING)	LTD 232 212		THE COUNT CLOCK WILL PICK UP IN 3 MINUTES	
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16-1006	-09M00S (HOLDING)	LTD 232 212		THE COUNT CLOCK WILL PICK UP IN 2 MINUTES	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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16-1007				IUS FINAL LAUNCH CONFIGURATION	
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NOTE

THE FOLLOWING STEP WILL VERIFY COMPLETION OF THE FOLLOWING IUS ACTIVITIES.

1. TT&C CONFIGURED
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

16-1008	-09M00S (HOLDING) L-11M00S	ICTC 134 CTC 212	CTC LTD	IUS FINAL LAUNCH CONFIGURATION ESTABLISHED.	
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OMRSD P018JC.010

16-1009	-09M00S (HOLDING)	LTD 232 212		THE COUNT CLOCK WILL PICK UP IN 1 MINUTE.	
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CARGO HOLD FIRE ENABLE COMPLETE

NOTE

PERFORM NEXT STEP IF CARGO HOLD FIRE WAS ENABLED.

16-1010	-09M00S (HOLDING) L-09M45S	ITD 134 CTC 212	CTC LTD	HOLD FIRE SYSTEM IS ENABLED.	
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1011		LTD PA 212		T-9 MINUTES AND COUNTING	
16-1012				GLS AUTO SEQ START -----	
16-1013	-09M00S COUNTING	CGLS		GLS AUTO SEQUENCE HAS BEEN INITIATED. UMRSD S00FM0.010	*BCS
16-1014				DEACTIVATE VHF WX CIRCUIT -----	

NOTE

PERFORM NEXT STEP IF
 CIRCUIT ACTIVATED PER *FLT
 REQUEST.

16-1015	-09M00S COUNTING	LTD 212 STM 111 GYCC 117	STM GYCC	DEACTIVATE 2ICCS34 (VHF WEATHER 126.65 MHZ RADIO CIRCUIT) FROM ICOM-B.	34100 34300
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NOT PERFORMED -----

16-1016		STM 212 LTD	LTD	2ICCS34 (VHF WEATHER 126.65 MHZ RADIO CIRCUIT IS NOT ACTIVE *FLT TO ICOM B.	
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NOTE

IF NASA MISSION DELETE
 JSRP FROM NEXT STEP.

IF DOD MISSION DELETE
 JRPS FROM NEXT STEP.

16-1017	-09M00S COUNTING	OTC	JRPS JSRP	START APU BRUSH RECORDERS.	31212
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UMRSD S00FM0.180

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1018		OTC	LPS	PLACE ALL FIRING ROOM SCRS PRINTER/PLUTTERS - ON LINE.	31240
NOTE					
IF APPROVED FOR DOD MISSION, PERFORM NEXT TWO STEPS.					
16-1019	-08M58S	STM 138	JYVD	ACTIVATE CDC DISPLAY TO OTV SYSTEM.	34200
					NOT PERFORMED -----
16-1020	-08M58S	STM 111	JTCR	ACTIVATE CDC DISPLAY TO KSC PRESS SITE.	RCA-1
					NOT PERFORMED -----
16-1021				STORED PROGRAM PRE-LAUNCH COMMANDS -----	
NOTE					
IF HOLD IN EXCESS OF FIVE MINUTES OCCURS AFTER TRANSMITTAL OF BFS SPC LOAD, *FLT WILL TRANSMIT SPC BUFFER CLEAR AND NEW BFS SPC LOAD BASED ON UPDATED LIFTUFF TIME.					
16-1022	-08M00S	OTC	*FLT	PROCEED WITH TRANSMISSION OF STORED PROGRAM COMMANDS (BFS SPC LOAD 12101). OMRSD S00FM0.030 OMRSD S00FI0.010	*BCS
16-1023	-08M00S		*FLT	TRANSMIT STORED PROGRAM PRE-LAUNCH COMMANDS (BFS SPC LOAD 12101).	
16-1024	-08M00S		*FLT	VERIFY 2-STAGE BUFFER AUTO COMPARE AND EXECUTE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1025				AC SNSR TO MONITOR -----	
16-1026	-08M00S	OTC	PLT	SET AC BUS SENSORS TO MONITOR	*BCS
16-1027			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 JAA RETRACT -----	
16-1028	-07M30S	CGLS 212		ORBITER ACCESS ARM RETRACT (AUTO)	
NOTE					
IF NASA MISSION, DELETE JSRP IN NEXT STEP.					
IF DOD MISSION DELETE JRPS IN NEXT STEP.					
16-1029	-06M00S	OTC	JRPS JSRP	START HYDRAULIC BRUSH RECORDER.	31212

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1030				APU PRE-START -----	
16-1031	-06M00S	OTC 212	PLT	PERFORM APU PRE-START	*BCS
16-1032	-06M00S		PLT	PANEL R4 (VERIFY) HYD LG RET/CIRC VLV SW - CLOSE	
				PANEL R2 APU/HYD BOILER N2 SUPPLY (VERIFY) 1 SW - ON 2 SW - ON 3 SW - ON BOILER CNTLR (VERIFY) 1 SW - ON 2 SW - ON 3 SW - ON BOILER CNTLR PWR/HTR (VERIFY) 1 SW - A 2 SW - A 3 SW - A APU FUEL PUMP/VLV COOL (VERIFY) A SW - OFF B SW - OFF 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 SW - ENABLE (VERIFY)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1032				APU SPEED SELECT (VERIFY)	
CON'T				1 SW - NORM	
				2 SW - NORM	
				3 SW - NORM	
				APU CONTROL (VERIFY)	
				1 SW - OFF	
				2 SW - OFF	
				3 SW - OFF	
				APU FUEL TK VLV	
				1 SW - OPEN	
				2 SW - OPEN	
				3 SW - OPEN	
				VERIFY TB'S (3) - GRAY	
16-1033		PLT 212	OTC	APU'S CONFIGURED FOR START	
				UMRSD S00FM0.090	
16-1034				PRE-APU START CHECK (-6M)	

16-1035			CHYD	PERFROM HYD/APU PRE-APU START CHECK PER SEQ 46 (S0007-V4).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1036				FLT RECORDERS ON -----	
16-1037	-05M30S	OTC 212	*FLT	TRANSMIT DSM 1500 (RECORDER MRTC COMMANDS).	
16-1038			*FLT	VERIFY RECORDERS RUNNING CISL OPS 1, OPS 2, MOTION - ON OMRSD S00FM0.140	
NOTE					
IF DOD MISSION, DO NOT PERFORM NEXT STEP.					
16-1039	-05M00S	*SCC 138	JYVD	SWITCH 1TVC400 TO MONITOR 034 (FR-1) OR 194 (FR-3) (CONTINUE INPUT TO MONITOR UNTIL T+10 MIN.)	34200
					NOT PERFORMED -----
16-1040				GO FOR APU START -----	
16-1041	-05M00S	CGLS 212	OTC	GO FOR APU START	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1046		PLT		PANFL R2 APU/HYD HYD CIRC PUMP 1 SW - OFF 2 SW - OFF 3 SW - OFF PANEL F7 (VERIFY) HYD PRESS LITE OFF	
16-1047		PLT 212	OTC	APU START COMPLETE.	
16-1048				POST APU START CHECK (-5M) -----	
16-1049		CHYD		PERFORM HYD/APU POST APU START CHECK PER SEQ 46 (S0007-V4) OMRSD S00FM0.090 OMRSD S00FM0.180	
16-1050				HTR RECONFIG -----	
16-1051	-05M00S	OTC 212	CDR	RECONFIGURE HEATERS	*BCS
16-1052	-05M00S		CDR	PANEL L2A1 FLASH EVAP FEEDLINE HTR A SUPPLY SW - OFF B SUPPLY SW - OFF	L2A1S23 L2A1S24
16-1053		CECL		CRT PAGE A (VAG28) FDLN HTR A SPLY HA-2 SON - OFF FDLN HTR B SPLY HB-2 SON - OFF	V63S1860E1 V63S1865E1
16-1054		CDR	OTC	HEATER RECONFIGURATION COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1055			CDR	PANEL C5 LEFT CRT SEL SW - 3 LT KYBD SYS SUMM BFS CRT 3 SM SYS SUMM 1	
16-1056	-05M00S	*SCC NET 105	ALL	MAINTAIN RADIO SILENCE ON NET 105. CONTACT *SCC CONSOLE ON NET 102- MONITOR BOTH 105 AND 102 NETS.	
16-1057	-05M00S		JCFM	START ESMS RECORDERS	31314
16-1058				TERM LOX REPLENISH -----	
16-1059	-04M55S		CGLS	TERMINATE LOX REPLENISH UMRSD S00FM0.043 SSME PURGE SEQUENCE - 4 -----	
16-1060	-04M00S		CGLS 212	SSME PURGE SEQUENCE 4 (AUTU) CLOSE VISORS -----	
16-1061	-04M00S		OTC	FLIGHT CREW CLOSE VISORS	
16-1062	-04M00S		JPHO	START CAMERA SEQ. AT T-3 MINUTES	
16-1063		CCME 161	CEPP	IF VSE04 REPORTS "NO GO" FOR ANY SSME VALVE, VERIFY VALVE MOVEMENT IN THE CLOSE DIRECTION VIA LPS P/P'S.	
				NOT PERFORMED	-----
16-1064			CCME	VERIFY SSME VALVE MOVEMENT IN THE CLOSE DIRECTION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF CCME AND CEPP CAN NOT
 VERIFY SSME VALVE MOVEMENT
 IN THE CLOSE DIRECTION: CCME
 WILL REQUEST HOLD AT T-02M55S
 AND PERFORM NEXT STEP FOR
 AFFECTED ENGINES.

16-1065

SSME VALVE SHIFT RETRY OPTION

- CSME 1. PURGE SEQUENCE 3 - ISSUE
- CCME 2. INITIATE PURGE SEQUENCE 3 VALVE
 POSITION AVERAGING (VSE04).
- CCME 3. PURGE SEQUENCE 3 VALVE POSITION
 AVERAGING COMPLETE.
- CSME 4. PURGE SEQUENCE 4 - ISSUE
- CCME 5. VERIFY SSME VALVE MOVEMENT IN
 THE CLOSED DIRECTION (VSE04).
- CCME LTD 6. SSME VALVE CYCLING IS COMPLETE.
 READY TO PICK UP THE COUNT.

NOT PERFORMED

16-1066 -03M00S

CCME AT COMPLETION OF SSME HYD VALVE
 POSITION MONITORING, TERMINATE VSE04.

LO2 PRESSURIZATION

16-1067 -02M55S

CGLS ET LO2 PRESSURIZATION (AUTO)
 212
 OMRSD S00FM0.341

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1068				CLEAR CAUTION AND WARNING MEMORY	
16-1069	-02M30S	OTC 212	PLT	CLEAR CAUTION AND WARNING MEMORY VERIFY NO UNEXPECTED ERRORS	
16-1070			PLT	PANEL C2 CRT 3 MAJ FUNC SW - GNC R KYBD (BFS) FAULT SUMM R KYBD (BFS) SPEC 99 PRU (CLEAR FSP) RESUME SYS SUMM CRT 3 GNC SYS SUMM 1 (BFS)	
16-1071	-02M30S		PLT	PANEL C2A2 R CRT SEL SW - 2 R KYBD FAULT SUMM R KYBD SPEC 99 PRU (CLEAR FSP) RESUME CRT 2 GNC SYS SUMM 1 PANEL C2 R CRT SEL SW - 3	
16-1072	-02M30S		PLT	PANEL C3 CAUTION/WARNING MEMORY SW - CLEAR	
16-1073	-02M30S	PLT 212	OTC	CAUTION AND WARNING CLEAR COMPLETE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

CONFIG LDBM SUB-SYS -----					
16-1074	-02M00S	LPS 127	CLDB	CONFIGURE LDBM SUBSYSTEMS DUAL BUS - ACCEPT	31240
16-1075		LPS		\$SYST STATUS: LDBA ACTIVE BUS -----	31240
16-1076	-02M00S		JBWC	START PRINTER PLOTTERS SKELETON LFA, TO REMAIN DISPLAYED THRU T-0 (P/P'S MAY BE SECURED FOR RECYCLES OR EXTENDED HOLES).	3322B
LH2 TANK PRESSURIZATION -----					
16-1077	-01M57S	CGLS 212		ET LH2 PRESSURIZATION (AUTO) OMRSD S00FM0.400 ORB VENT DOOR SEQ START -----	
16-1078	-00M38S		CPVD	ORBITER VENT DOORS LAUNCH CONFIGURATION SEQUENCING START	
16-1079				ARM CUTOFF -----	
16-1080	-00M37S		CGLS	PFPK SLP01 - PRESS PFPK CUTOFF - PRESS VERIFY CUTOFF ARMED GLS GO FOR AUTO SEQ START -----	
16-1081	-00M31S	CGLS 212		GLS GO FOR AUTO SEQ START (AUTO)	*BCS
16-1082	-00M10S	LTD 212		T-10	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				GLS GO FOR M.E. START	
16-1083	-00M10S	CGLS 212		GLS GO FOR MAIN ENGINE START OMRSD S00FT0.100	
16-1084			JFIR	PLACE MLP HALON SYSTEM TO MANUAL	
16-1085	-00M09S	LTD 212	T-9		
16-1086	-00M08S	LTD 212	T-8		
NOTE					
PERFORM NEXT STEP IF THERE HAVE BEEN TAPE OR RECORDING ERRORS SINCE T-01 HOUR.					
16-1087	-00M08S		CPDR	INHIBIT BULK DISC RECORDING PDR INFOTON KYBD #TMRC,D RTN KEY - PRESS	31240
				NOT PERFORMED	-----
16-1088	-00M07S	LTD 212	T-7		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

MAIN ENGINE START					

16-1089	-00M06.6S	PLT	PANEL F7	MPS PRESS PC (3) INCREASING TO >90 PCT	*BCS
NOTE					
IF PC IS LESS THAN 90 PCT AT 4.60 SEC AFTER START CMD OR ANY MAIN ENG STATUS LITE AMBER PRIOR TO SR8 IGNITION, SEQUENTIAL SHUTDOWN OCCURS.					
16-1090	-00M06.60S -00M06.48S -00M06.36S	CSME	MAIN ENGINE 3 START CMD (AUTO) MAIN ENGINE 2 START CMD (AUTO) MAIN ENGINE 1 START CMD (AUTO)		
16-1091	-00M06S	LTD 212	T-6		
16-1092	-00M05S	LTD 212	T-5		
16-1093	-00M04S	LTD 212	T-4		
16-1094	-00M03S	LTD 212	T-3		
16-1095	-00M02S	LTD 212	T-2		
16-1096	-00M01S	LTD 212	T-1		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

SRB IGNITION/LIFTOFF					

16-1097	00M00S	LTD 212	T-0		
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.					
16-1098	+00M01S	LTD 212	T+1		
16-1099	+00M02S	LTD 212	T+2		
16-1100	+00M03S	LTD 212	T+3		
16-1101	+00M04S	LTD 212	T+4		
16-1102	+00M05S	LTD 212	T+5		
NOTE					
PERFORM NEXT STEP IF DISK RECORDING INHIBITED.					
16-1103	+00M05S		CPDR	ACTIVATE BULK DISC RECORDING. PDR INFOTON KYBD #INRC,D RTN KEY-PRESS	31240
					NOT PERFORMED
16-1104	+00M06S	LTD 212	T+6		
16-1105	+00M07S	LTD 212	T+7		
16-1106	+00M07S	LTD 212 131	TOWER CLEAR		*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1108 CON'T	3.	OTC	CGLS	VERIFY SRB IGNITION/SEP URDNANCE SAFED. (PIC CAP VOLTS 0 +/- 1.5 V)	
	4.	OTC	MS1	(IF SRB IGNITION NOT SAFE) PANEL O17 MEC 1 SW - OFF 2 SW - OFF	NOT PERFORMED -----
	5.	CGLS		ENGINE STATUS: E1: ----- E2: ----- E3: ----- (NOMINAL IS POST SHUTDOWN OR PURGE SEQ 3)	
				NOTE IF ENGINE(S) CANNOT BE SHUTDOWN OR ENGINE SHUTDOWN STATUS IS NOT SATISFACTORY, CSME HAS THE OPTION TO PERFORM EITHER OF THE FOLLOWING TWO SUBSTEPS.	
	6.	CSME OTC		HAVE PLT PERFORM ENGINE CONTROLLER SHUTDOWN.	
		OTC	PLT	PANEL R2 MPS ENGINE PWR CTR AC1 SW - OFF CTR AC2 SW - OFF	
				DELAY 2 SECONDS LEFT AC2 SW - OFF LEFT AC3 SW - OFF RIGHT AC3 SW - OFF RIGHT AC1 SW - OFF	NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1108 CON'T	7.	CSME		PERFORM NECESSARY EMERGENCY SAFING/ VALVE RECONFIG AS REQ'D.	
				NOT PERFORMED	-----
	8.	CSME 212	OTC	ALL ENGINES SHUTDOWN. HYDRAULICS NO LONGER REQ'D.	
	9.		CMPS	START LH2 TOPPING LINE DRAIN (S1004)	
	10.		CGLS	GLS - GO FOR APU SHUTDOWN	
	11.		OTC PLT	PERFORM APU SHUTDOWN	
	12.		PLT OTC	APU SHUTDOWN COMPLETE.	
	13.		CGLS	FIRE DETECTOR STATUS (TRIPPED/NOT TRIPPED): NO. ---	
				35 (LH2 TSM) ----- 36 (LT AFT) ----- 37 (RT AFT) ----- 38 (HT SHIELD) ----- 39 (HT SHIELD) -----	
	14.		CGLS	GLS SAFING COMPLETE. READY FOR TRANSITION TO G9.	
	15.		CDPS	CURSOR CNTL (SAS01 PG-B) RSLs HOLD/ABORT DD (VAS61) XMIT CURSOR KEY - PRESS FOLLOW PROMPTS AND REPORT CAUSE OF ABORT TO OTC.	
	16.	LTD 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.
16-1108 CON'T	17.	LTD	CHGD	REPORT LEAK DETECTION STATUS: CLHY (REPORT ANY MAJOR LEAKS)	
	18.	LTD	CGSS	VERIFY OAA EXTENDED AND LOCKED.	
	19.	LTD	ALL	AN RSLs ABORT HAS OCCURRED. PRELIMINARY SAFING IS COMPLETE. ALL SYSTEMS STANDBY FOR THE POST ABORT SAFETY CHECKS PAGE -----.	

*
* END RSLs ABORT SAFING *
*

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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16-1109

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*****  
*  
*   BFS ENGAGED ABORT   *  
*  
*****
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NOTE

THIS SECTION PERFORMED ONLY
IF BFS ENGAGED ABORT OCCURS.

NOT PERFORMED -----

NOTE

BFS ENGAGED ABORT CRITERIA:

- (A) PASS GPC'S IN S/W HALT
- (B) TSM'S REMAIN CONNECTED

WARNING

IF BFS GPC NOT TAKEN TO HALT
OR DISENGAGED BEFORE T+100
SECS, SRB SEPARATION COULD
OCCUR.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1110			OTC	PERFORM BFS ENGAGED ABURT SAFING OPERATIONS AS FULLOWS:	
1.		CDPS		BFS ENGAGE HAS OCCURRED. LDB POLLING TERMINATED.	
2.		OTC	MS1	PANEL 017 ROW D MEC 1 SW - OFF 2 SW - OFF	
3.		LTD 232	CGSS	PERFORM EMERGENCY HARDWIRE OAA EXTEND.	
4.		OTC	CDR	PANEL C3 MAIN ENGINE SHUTDOWN - A. CENTER ENG PB - PRESS, RELEASE (DELAY 2 SECONDS) B. LEFT ENG PB - PRESS, RELEASE C. RIGHT ENG PB - PRESS, RELEASE D. VERIFY THREE RED ENGINE STATUS LITES	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1110				NOTE	
CON'T				IF ENGINE STATUS LITES DO NOT ALL INDICATE RED, PERFORM THE NEXT SUBSTEP.	
5.		OTC	PLT	PANEL R2 MPS ENGINE PWR CTR AC1 SW - OFF CTR AC2 SW - OFF DELAY 2 SECONDS LEFT AC2 SW - OFF LEFT AC3 SW - OFF RIGHT AC3 SW - OFF RIGHT AC1 SW - OFF	
				NOT PERFORMED	----- SS5
6.		CSME 212	OTC	ALL ENGINES SHUTDOWN. HYDRAULICS NO LONGER REQ'D.	
7.			CMPS	START LH2 TOPPING LINE DRAIN (S1004)	
8.		OTC	PLT	PERFORM APU SHUTDOWN	
9.		PLT	OTC	APU SHUTDOWN COMPLETE.	
10.		CGSS 232	LTD	OAA EXTENDED AND LOCKED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1110				GPC/LDB RECOVERY	
CON'T				-----	
11.		OTC	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 DISENGAGE SW - DISENGAGE, RELEASE PANEL O6 GENERAL PURPOSE COMPUTER POWER 1 SW - OFF 2 SW - OFF 3 SW - OFF 4 SW - OFF 5 SW - OFF 1 SW - ON IPL SOURCE SW - MMU 1 PANEL C3 BFC CRT DISPLAY SW - OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1110				PANEL 06	
CON'T				GENERAL PURPOSE COMPUTER	
				INITIAL PROGRAM LOAD	
				1 PB - PRESS, REL	
				MODE	
				1 TB - IPL THEN BP	
				1 SW - STBY	
				1 TB - RUN	
				1 SW - RUN	
				IPL SOURCE SW - OFF	
				OUTPUT	
				1 TB - GRAY	
				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	
12.		OTC	CDPS	VERIFY GPC 1 IN G9 AND LDB	
				POLLING ENABLED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1110 CON'T	13.	OTC	CGLS	SEND CUTOFF.	
	14.	CGLS		CUTOFF SENT, GLS SAFING IN PROGRESS. BFS=_____, PASS=_____, LDB=_____	
	15.	CGLS	OTC	SRB IGNITION/SEP ORDNANCE SAFE (PIC CAP VOLTS 0 +/- 1.5V)	
	16.	CGLS		MPS FIRE DETECTOR STATUS: (TRIPPED/NOT TRIPPED) NO. ---	
				35 (LH2 TSM) _____ 36 (LT AFT) _____ 37 (RT AFT) _____ 38 (HT SHIELD) _____ 39 (HT SHIELD) _____	
	17.	CGLS	OTC	GLS SAFING COMPLETE.	
	18.	LTD	CMPL	REPORT WATER DELUGE STATUS: HEAT SHIELD _____ (ON/OFF) SKIN _____ (ON/OFF) T-0 _____ (ON/OFF)	
	19.	LTD	CHGD CLHY	LEAK DETECTOR AND FIRE DETECTOR STATUS: (REPORT ANY MAJOR LEAKS DETECTED)	
	20.	LTD	ALL	A BFS ENGAGED ABORT HAS OCCURRED. PRELIMINARY SAFING IS COMPLETE. ALL SYSTEMS STANDBY FOR THE POST ABORT SAFETY CHECKS PAGE _____	
				***** * * END BFS ENGAGED ABORT SAFING * * *****	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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16-1111				***** * SRB HOLDFIRE ABORT * * *****	
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NOTE

THIS SECTION PERFORMED ONLY
 IF SRB HOLDFIRE OCCURS.

NOT PERFORMED -----

NOTE

SRB HOLDFIRE ABORT CRITERIA:

- (A) PASS MODED TO MM102,
 POLLING TERMINATED
- (B) BFS NOT ENGAGED
- (C) SSME'S RUNNING
- (D) RSLs ABORT DID NOT OCCUR
- (E) TSM'S REMAIN CONNECTED TO VEHICLE

WARNING

IF GPC'S ARE NOT TAKEN TO
 STANDBY OR MEC'S POWERED OFF
 BEFORE T+100 SECONDS, SRB
 SEPARATION COULD OCCUR.

16-1112		OTC		PERFORM SRB HOLDFIRE ABORT SAFING OPERATIONS AS FOLLOWS:	
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1. SPE 212 WE HAVE AN SRB HOLDFIRE ABORT.
 PASS IN MM102. SAFING NOT IN PROGRESS.
2. OTC MS1 PANEL U17
 ROW D
 MEC
 1 SW - OFF
 2 SW - OFF
3. LTD 232 CGSS PERFORM EMERGENCY OAA EXTEND
 (HARDWARE).

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1112 CON'T	4.	OTC	CDR	PANEL C3 MAIN ENGINE SHUTDOWN - A. CENTER ENG PB - PRESS, RELEASE (DELAY 2 SECONDS) B. LEFT ENG PB - PRESS, RELEASE C. RIGHT ENG PB - PRESS, RELEASE D. VERIFY 3 RED ENGINE STATUS LITES	
NOTE					
IF ENGINE SHUTDOWN STATUS IS NOT SATISFACTORY, PERFORM THE FOLLOWING STEP.					
5.		OTC	PLT	PANEL R2 MPS ENGINE PWR CTR AC1 SW - OFF CTR AC2 SW - OFF DELAY 2 SECONDS LEFT AC2 SW - OFF LEFT AC3 SW - OFF RIGHT AC3 SW - OFF RIGHT AC1 SW - OFF	
					NOT PERFORMED -----
6.		OTC	CSME	VERIFY ALL ENGINES SHUTDOWN.	
7.			CMPS	START LH2 TOPPING LINE DRAIN (S1004)	
8.		OTC	PLT	PERFORM APU SHUTDOWN.	
9.		PLT	OTC	APU SHUTDOWN COMPLETE.	
10.		CGSS	LTD	OAA EXTENDED AND LOCKED. 232	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1112 CON'T				GPC/LDB RECOVERY -----	
11.		OTC	CDR	PANEL D6 GENERAL PURPOSE COMPUTER MODE 5 SW - HALT 4 SW - STBY 3 SW - STBY 2 SW - STBY 1 SW - STBY, WAIT 2 SECONDS, BACK TO RUN PANEL C2 LEFT CRT SEL SW - 1 CRT 1 MAJ FUNC SW - GNC PANEL C3 BFC CRT DISP SW - OFF VERIFY GPC MEMORY UN ALL CRTS L KYBD 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 VERIFY GPC MEMORY DISPLAY (9011) L KYBD SPEC 100 PRO ITEM 14 EXEC (ENABLES POLLING) RESUME	
12.		OTC	CDPS	VERIFY GPC 1 IN G9 AND POLLING ENABLED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1112 CON'T	13.	OTC	CGLS	SEND CUTOFF	
	14.	CGLS		CUTOFF SENT, GLS SAFING IN PROGRESS. BFS=_____, PASS=_____, LDB=_____	
	15.	CGLS	OTC	SRB IGNITION/SEP ORDNANCE SAFE (PIC CAP VOLTS 0 +/- 1.5V)	
	16.	CGLS		MPS FIRE DETECTOR STATUS: (TRIPPED/NOT TRIPPED) NO. ---	
				35 (LH2 TSM) _____ 36 (LT AFT) _____ 37 (RT AFT) _____ 38 (HT SHIELD) _____ 39 (HT SHIELD) _____	
	17.	CGLS	OTC	GLS SAFING COMPLETE.	
	18.	LTD	CMPL	WATER DELUGE STATUS: 1. HEAT SHIELD _____ (ON/OFF) 2. SKIN _____ (ON/OFF) 3. T-0 _____ (ON/OFF)	
	19.	LTD	CHGD CLHY	LEAK AND FIRE DETECTION STATUS: (REPORT ANY MAJOR LEAKS DETECTED)	
	20.	LTD		ALL AN SRB HOLDFIRE ABORT HAS OCCURED. PRELIMINARY SAFING IS COMPLETE. ALL SYSTEMS STANDBY FOR THE POST ABORT SAFETY CHECKS PAGE _____ ***** * * END SRB HOLDFIRE ABORT SAFING * * *****	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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16-1113				***** * POST ABORT SAFETY CHECKS * ***** NOT PERFORMED	-----
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NOTE

THIS SECTION WILL BE PERFORMED IF ONE OF THE THREE PRECEDING ABORTS OCCURRED (RSLS, BFS ENGAGED, OR HOLDFIRE).

THIS SECTION WILL ALSO BE PERFORMED ANYTIME A CUT-OFF OCCURS AFTER APU START.

16-1114		LTD		PERFORM POST ABORT SAFETY CHECKS.	
	1.	LTD	CISL	VERIFY ORBITER OI PCM DATA VALID.	
	2.	LTD	CDPS	VERIFY ORBITER DOWNLIST DATA VALID. VERIFY LDB POLLING ACTIVE.	
	3.	LTD	CSME	VERIFY ALL ENGINES SHUTDOWN AND ALL ENGINE PRESSURES AND TEMPERATURES WITHIN TOLERANCE.	
	4.	LTD	CSME	VERIFY NO ENGINE LEAK INDICATIONS.	
	5.	LTD	CMPL	VERIFY NO INDICATION OF FIRE AT AFT ORBITER AREA ON FIRE DETECTORS 36, 37, 38, 39.	
				QMRSD S00E00.070	
	6.	LTD	CLHY	VERIFY NO UNEXPECTED FIRE DETECTORS TRIPPED.	
				VERIFY NO SIGNIFICANT LEAKS ON MLP, CROSS COUNTRY LINES, TSM, STORAGE AREA OR ET VENT SYSTEM.	
				VERIFY LH2 TANK PRESSURE IS STABLE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1114 CON'T	7.	LTD	CLOX	VERIFY OTV INDICATES NO FIRE OR LEAKS ON CROSS COUNTRY LINES, STORAGE AREA, MLP OR TSM. VERIFY ET LOX TANK PRESSURE IS STABLE.	
	8.	LTD	CHGD	VERIFY NO INDICATION OF HYDROGEN OR OXYGEN LEAKS IN AFT FUSELAGE OR TAIL SERVICE MAST. VERIFY NO INDICATIONS OF FIRE ON CREW ESCAPE ROUTE.	
	9.	LTD	CAPU	VERIFY APU'S ARE SHUTDOWN AND NO LEAKAGE INDICATIONS.	
	10.	LTD	CBHY	VERIFY HPU'S ARE SHUTDOWN AND NO LEAKAGE INDICATIONS.	
	11.	LTD	CEPD	VERIFY IGNITION S&A'S SAFE VERIFY GROUND PIC RACK POWERED DOWN.	
	12.	LTD	COOS	VERIFY ALL OX/FUEL TANK PRESSURES AND TEMPS ARE STABLE.	
	13.	LTD	RSR	POST ABORT SAFETY CHECKS COMPLETE. FIRE AND LEAK DETECTOR STATUS IS SATISFACTORY. VERIFY CONCURRENCE TO PROCEED WITH SRB S&A SAFING.	
	14.	LTD	ALL	START RECYCLE TO T-20 MINUTES PER RECYCLE CONTROL SEQUENCE (18).	

* END POST ABORT SAFETY CHECKS *

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1115	+00M07S		JBPN	CLOSE FACILITY GH2 LINE VALVE A3721 (C-1 CONSOLE CMD.) (M3020) (HP1 - WDD1)	3321B
16-1116				DESELECT KSC U/L -----	

NOTE

PERFORM NEXT STEP AT LAUNCH
TOWER CLEAR.

16-1117	+00M07S		*MIL	DESELECT KSC UPLINK ON ASTRO COMM UHF, A/G1, A/G2	
16-1118		LTD 212		TEST TEAM MONITOR A/G COMM ON OIS CHANNELS 217/218 AND REMAIN ACTIVE ON 212	

NOTE

THE NEXT STEP REQUIRES
2 DC TASK FOR EXECUTION. THE
STEP IS ARMED (YELLOW) AFTER
GLS VERIFIES UMBILICAL DISCONNECT.

16-1119	+00M20S		LPS	CONSOLE KYBD CURSOR CNTL (AWP01 PG-8) TO I DA LDBA & UPLK TARGET - XMIT CURSOR KEY - PRESS	31240
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1120				SWITCH DATA SOURCE	
NOTE					
MOMENTARY LOSS OF DOWNLIST DOWNLINK DATA WILL OCCUR DURING SWITCH.					
1TVM1726 CONFIGURED TO SOURCE 2.					
16-1121	+00M30S			*MIL SWITCH 192 KB (ITVM1726) INPUT TO LCC FROM MILA DATA TO PDL DATA	
16-1122		*MIL 127	LPS	VERIFY LCC PROCESSING PDL 192 KBIT DATA.	31240
NOTE					
PERFORM NEXT STEP IF PDL 192KBIT DATA CANNOT BE VERIFIED.					
16-1123		LPS 127	*MIL	SWITCH 192 KB (ITVM1726) INPUT TO LCC FROM PDL DATA TO MILA DATA.	31240
NOT PERFORMED -----					
16-1124	+00M30S		LPS	ACTIVATE REDUNDANT SWITCH ON GPCA, AND OIA FEPS.	31240
NOTE					
DURING ASCENT TRAJECTORY, PLUME MAY INTERFERE WITH ME DATA FLOW, RESULTING IN INTERMITTANT LOS.					
16-1125	+00M30S	GYCC 117	JYCJ GYCJ	INTERFACE SLF CONVOY CDR NET (MON ONLY) INTO UIS CH 214. DISABLE RECEIVE FROM JSC ON CH 214. (PERFORM BY COUNTCLOCK) REPORT COMPLETION.	34300 34100

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF RTLS OR EOM OCCURS, CONVOY
 COMMANDER, COOLING AND PURGE
 NETS ARE TO BE TAKEN DOWN
 TO JSC AT CREW EXCHANGE
 (APPROXIMATELY 40 MINS
 AFTER WHEELS STOP).

PERFORM NEXT THREE STEPS IN
 THE EVENT OF AN RTLS.

16-1126		LRD PA		ATTENTION ALL PERSONNEL AN RTLS HAS BEEN CALLED AND THE ORBITER IS RETURNING FOR A LANDING AT KSC. ALL PERSONNEL MAN YOUR STATIONS.	
				NOT PERFORMED	-----

16-1127		LRD LF1 135 STM	NCC *DCD *MIL STM	THIS IS AN RTLS ABORT. PREPARE FOR AN ORBITER LANDING AT KSC ON RUNWAY (15 OR 33).	
				NOT PERFORMED	-----

16-1128		STM 111 GYCC 117	GYCC GYCJ	PATCH CONVOY COMMANDER PURGE AND COOLING NETS (ALL TRANSMIT AND RECEIVE) TO JSC ON LONG LINES GP59273, GP59274 AND GDA58760 RESPECTIVELY.	34300
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				CCC SS AND FIREX TRANSFER ----- VERIFICATION -----	
16-1129	+00M44S	JBWC		VERIFY TRANSFER ACTION IS COMPLETE BY OBSERVING P2A SKELETON STATUS AS FOLLOWS THEN CLEAR ALARMS: TS - ON/VO OFF ON-GREEN VO/ON/TS OFF OFF-YELLOW TS/CCS ENABLE ON-GREEN VO/LPS ENABLE OFF-YELLOW VO/LPS BUS PWR OFF-YELLOW VO/LPS CMD BUS OFF-YELLOW SS TURNAROUND CIR TS-ON/VO-OFF OFF-YELLOW VO-ON/TS-OFF OFF-YELLOW	3322B
16-1130	+00M45S	JBWC		STOP PRINTER PLOTTERS. (SKL LFA)	3322B
				NOTE MOMENTARY LOSS OF DOWNLIST/ DOWNLINK DATA WILL OCCUR DURING MILA TO PDL SWITCHOVER.	
16-1131	+00M45S			*MIL HANDOVER UPLINK CARRIER TO PDL.	BFEC

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1132	+01M00S	JBFX		PERFORM PAD WASHDOWN ACCORDING TO 3322B THE FOLLOWING SEQUENCE OF WATER FLOWS:	

NOTE

THE SEQUENTIAL ORDER AND RUN TIMES FOR THE FOLLOWING SUBSTEPS ARE NOMINAL AND MAY BE ADJUSTED AS NECESSARY BY THE TEST TEAM TO MEET OPERATIONAL/AREA ACCESS CONSIDERATIONS.

1. ONE CYCLE (ALL SEQUENCES) OF AUTOMATIC WASHDOWN SYSTEM (CLOSE ANY SYSTEM VALVES LEFT OPEN FOLLOWING AUTOMATIC SHUTDOWN). - 9 MINUTES
2. LH2 STORAGE FACILITY - 5 MINUTES
3. REPEAT SUBSTEP 1 ABOVE - 9 MINUTES
4. LH2 STORAGE FACILITY - 5 MINUTES
5. GH2 STORAGE FACILITY - 5 MINUTES

SECURE HCU PUMPS

16-1133	+01M00S	CGSS		CURSOR CNTL (VAJ14) HCU PUMP 1 - OFF PUMP 2 - OFF	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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16-1134 *SCC JFIR REPORT ALL FIRE ALARMS RECEIVED
ON IP10 PANEL, LCC.

C-PANEL HEAT SENSOR LIST

(D/C = DRY CHEMICAL)

1. AZIM ALIGN (BUILDING BETWEEN CRAWLER TRACKS ON SLOPE)
2. HIGH PRESSURE GAS FACILITY
3. LH2 STORAGE FACILITY
4. OXIDIZER FARM AREA
5. REMOTE AIR (AIR HANDLING UNIT-BLDG, SOUTH/WEST SIDE OF SLOPE)
6. LOX STORAGE FACILITY
7. HYPERGOL FUEL FARM
8. PTCR FLOOR 1
9. PTCR FLOOR 2
10. PTCR - ECS
11. APRON (4 BELLS & PULL STATIONS)
12. OUTSIDE PTCR
13. COMMON (PANEL IN PTCR-1ST FLOOR WILL IDENTIFY PROBLEM)
14. FSS 0' -215' LEVELS
15. FSS 235' -295' LEVELS
16. RSS - PAD A
17. PTCR - RM 103 D/C
19. PTCR BOX CARS
20. GATE OPERATIONS BLDG
61. MLP - PAD ___-ALL ZONE (PANEL IN MLP-2A WILL IDENTIFY PROBLEM)
62. MLP - PAD ___-COMPT 43A & 43B D/C
63. MLP - PAD ___-COMPT 16B D/C
64. MLP - PAD ___-COMPT 2B D/C

A-PANEL EARLY WARNING - (SMOKE
DETECTORS)

1. MLP - COMM TUNNEL & ML INTERFACE TOWER
2. PTCR - 1ST FLOOR & CABLE TUNNEL
3. PTCR - 2ND FLOOR
4. PTCR - ROOM 208 HALON
63. MLP - ALL ZONES (PANEL IN PTCR WILL IDENTIFY PROBLEM)
64. MLP - COMPT 7 - 10A & 21A

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- SECURE GN2 PURGE SYS -----					
16-1135	+02M00S	OTC 212	CPVD	SECURE ORBITER GN2 PURGE PER OMI V1122 ON OIS CH 172 POST LAUNCH SECURING SEQUENCE. COORDINATE WITH GSPN ON CH 172, MAINTAIN PURGE TO PCR WITH SOUTH BLOWER (RELEASE GSPN WHEN COMPLETE)	
16-1136	+02M00S	STM 111 JSTC 114 OTC 212	JSTC GSPN CPVD	SUPPORT LPGN2 SECURING. PLACE IN MANUAL SUPPORT LOW FLOW PURGES (M3042) GSPN COORDINATE CHANGEVER WITH CPVD ON CH 172. RETURN BIG-3 LPGN2 SUPPORT TO LOW FLOW RATE. (30 MINUTES) (STA - WDG02)	EG&G-631
16-1137		STM 111	JTCR	REPORT ACTUAL FIRST MOTION TIME (TSM RELEASE).	RCA-1
----- (RECORD GMT) ----- (DAY/MO/YR)					
16-1138				LANDING OPS SWITCH TO OIS ----- CHAN 135 IN EVENT OF RTLS -----	
NOTE					
NEXT STEP PERFORMED IF ORBITER WILL RTLS.					
16-1139	+02M00S	LTD 212	ALL	ALL PERSONNEL STANDING BY FOR LANDING OPERATIONS SWITCH TO CHAN 135.	
					NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF NASA MISSION, DELETE JSRP IN NEXT STEP.

16-1140		OTC	JRPS	MAG TAPE RECORDING OF JSRP HARDLINE DATA FROM PAD ___ AND RF DATA FROM C&T STATION NO LONGER REQUIRED. STOP ORBITER BMU AND OI 64KB LOCK STATUS BRUSH RECORDERS.	31212
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16-1141	+02M00S	LPS		TERMINATE RECORDING ON LDBM SUBSYSTEMS.	31240
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NOTE

MOMENTARY LOSS OF DOWNLIST/ DOWNLINK DATA WILL OCCUR DURING PDL TO MILA SWITCHCOVER.

16-1142	+02M30S	*MIL		RECEIVE UPLINK CARRIER HANDOVER FROM PDL.	BFEC
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NOTE

NEXT STEP RE-ASSIGNS SOURCE 1 INPUTS FROM PAD HL TO MILA DATA. (1TVM 4096/97)

16-1143	+03M00S	LPS		CONFIGURE VSWI TO SUPPORT CHANGE FROM PAD HL TO MILA DATA (MILA-128KB).	31240
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16-1144	+03M00S	STM 138	JYVO	STOP VIDEO RECORDINGS OF DTG JYVR CAMERAS 080, 003/103, 005/105, 009/109, 034/134, 041/141, 043/143, 046/146, 047/147, 049/149, 050/150, 051/151, 052/152, 053/153 (LAUNCH CONFIGURATION).	34200
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.																
16-1145				OTV SCAN - PAD/LAUNCH AREA																	
16-1146	+03M00S	LTD 232 STM 138	STM JYVO JYVR	PROVIDE DEDICATED OTV SUPPORT FOR *SCC OTV SCAN ASSESSMENT ON OIS CHAN 226 AS FOLLOWS.	34200																
				<table border="0"> <thead> <tr> <th>VIEW</th> <th>CAMERA</th> </tr> </thead> <tbody> <tr> <td>1. OVERVIEW OF PAD AREA FROM NORTH TO EAST TO SOUTHWEST.</td> <td>001/101</td> </tr> <tr> <td>2. OVERVIEW OF PAD AREA FROM SOUTHWEST TO WEST TO NORTH.</td> <td>067/167</td> </tr> <tr> <td>3. PAD SURFACE, WEST SIDE</td> <td>067/167</td> </tr> <tr> <td>4. PAD SURFACE, EAST SIDE</td> <td>060/160</td> </tr> <tr> <td>5. MLP, SIDE 1</td> <td>070/170</td> </tr> <tr> <td>6. FSS AND RSS</td> <td>060/160</td> </tr> <tr> <td>7. MLP, ZERO LEVEL</td> <td>009/109</td> </tr> </tbody> </table> <p>SWITCH ABOVE CAMERAS TO MONITORS 023 AND 042 (FR-1) OR 183 AND 202 (FR-3). VIDEO RECORD INPUTS.</p>	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.	067/167	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	
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5. MLP, SIDE 1	070/170																				
6. FSS AND RSS	060/160																				
7. MLP, ZERO LEVEL	009/109																				
16-1147		LTD 232 STM 138	STM JYVO JYVR	START RECORDING CAMERAS 063/163, 070/170 TV-7 AND TV-16 (1TVM2070) FOR FIRE SURVEILLANCE.	34200																
16-1148	+03M00S	LTD	*SCC	PERFORM OTV SCAN ASSESMENT OF CLHY PAD/LAUNCH AREAS AND REPORT CLOX ANOMALIES. JBFX WILL INITIATE FIREX WATER IF REQUIRED AND REPORT ACTION TO LTD. (SEE *SCC FIGURE 4) (CALL PAD CONTROL ROOM (7-7810/7811) TO REQUEST PAN/TILT/ZOOM OF PAD TV CAMERA 7).	33226																

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1149				TERMINATE SRB GN2 PURGE	
16-1150	+04M00S	TBC	CBHY	TERMINATE SRB GN2 PURGE. CURSOR CNTL (BAT04) CMD (HEATER)-OFF PR1-CLS SEC-CLS	
16-1151				RTLS OPTION ENDS (+04M23S)	

NOTE

IF RTLS OCCURRED, OMIT NEXT TWO STEPS.

16-1152	+04M23S	LRD 1	NCC	RTLS IS NO LONGER AN OPTION. PERFORM SAFING/INSPECTION	EG&G-123 34300
		LRD 212	LTD	GROUPING. ALL PERSONNEL SWITCH TO OIS CH 232.	
		LTD	*SCC STM		
		STM 111	FSTM JSTC GYCC		
				NOT PERFORMED	-----
16-1153		LRD 1	NCC	RELEASE FROM RTLS/LANDING SUPPORT. RECYCLE TO THREE HOUR READINESS STATUS. (S0028)	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
NEXT TWO STEPS PERFORMED ONLY IF ORBITER WILL RTLS.					
16-1154		LRD 1	NCC	RTLS ABORT CALLED. STAND BY FOR ORBITER LANDING. (S0028)	
				NOT PERFORMED	-----
16-1155	+04M23S	LTD 232	*SCC	RADIO NET 105 REQUIRED FOR RTLS. ALL PAD SECURING PERSONNEL SWITCH *SCC ALL TO RADIO NET 102.	
				NOT PERFORMED	-----
16-1156		*SCC 105	*PSE	EOD PERSONNEL MAY BE RELEASED AT THIS TIME.	
16-1157		*SCC 232 LTD	LTD	EOD PERSONNEL HAVE BEEN RELEASED.	
			OTC TBC STM		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1158		*SCC NET 105	ALL	RADIO NET 105 IS NO LONGER REQUIRED FOR RTLS.	
16-1159		STM 111 GYCC	GYCC JY CJ	DISABLE PURGE NET (2 RAM033) TO FR1/3, CONSOLE AB-3, BTN 6 AND ACTIVATE RADIO NET 105 T/R TO AB-3 BTN 6. REPORT COMPLETION AND STAND BY FOR TEST COUNT FROM OTC.	34300 34100
16-1160		STM	OTC	RADIO NET 105 IS NOW ACTIVE ON AB-3, BTN 6. REQUEST A BRIEF TEST COUNT ORIGINATING FROM AB-3, BTN 6.	
ACTIVATE OIS-RF BRANCHES -----					
16-1161	+04M23S	GYCC 117	JY CJ GYCJ	REACTIVATE XMIT OF VAB AND OPF OIS-RF MISSION "A" OR "C" BRANCHES. REACTIVATE ALL UNITS THAT ARE ON OPF BRANCHES 5, 9 AND 10. REACTIVATE O&C OIS RF MISSION BRANCHES TO LC-39. (PERFORM BY COUNTCLOCK) REPORT COMPLETION (30 MIN).	34300 34100
NOTE IF RTLS OCCURS, NEXT STEP WILL BE PERFORMED AFTER ORBITER LANDING.					
16-1162		STM 111 GYCC 117	GYCC GYCJ	UNPATCH 2ICCS34 (126.65 MHZ WX BRIEFING) TO JSC ON GDA 58840.	34300 34100
NOT PERFORMED					-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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WARNING

ALL PERSONNEL IN THE POST LAUNCH INSPECTION/SAFING CREWS WEAR THE FOLLOWING ACIDIC DEPOSIT PROTECTION GEAR AND SHALL NOT REMOVE WITHOUT THE CONCURRENCE OF SPC SAFETY:

1. COVERALLS (BLUE COLLAR/ FLAME RETARDANT)
2. HARDHATS
3. ROCKET PROPELLANT CANNISTER GAS MASK SHALL BE CARRIED BY EACH MEMBER OF THE INSPECTION TEAM. THE G/M WILL BE WORN AS DIRECTED BY ENV. HEALTH/SPC SAFETY.
4. TYPE N (ORGANIC) CANNISTER GAS MASK SHALL BE WORN BY THE SAFING/SECURING TEAMS IF HYDROCLORIC GAS IS DETECTED. ONLY WORK REQUIRED TO SAFE AND SECURE AN AREA WILL BE PERFORMED THAT IS CONTAMINATED WITH HCL.
5. RAINSUITS ARE AVAILABLE AT PAD GATE AND SHALL BE WORN IF REQUIRED FOR PAD ENTRY BY SPC SAFETY.

16-1163 +04M30S

*SCC *PSE VERIFY INSPECTION AND SAFING
105 TEAMS READY TO PROCEED TO PAD GATE

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

ET PERSONNEL IN THE INSPECTION TEAM SHOULD HAVE INFRARED DETECTORS (IF AVAILABLE) AND O2/H2 DETECTORS PRIOR TO ENTERING PAD. SAFETY INSPECTION TEAMS NUMBERED AS 1,2,3 AND 4.

SAFETY INSPECTION TEAM

(PLACARDS ONLY)

SF (*PSE)	6	SPC SAFETY 2 AT PAD GATE 4 INSP TEAM
SF (NASA)	3	(NASA SAF-OPT)
EG&G	6	SECURITY 3 PAD GATE 3 BDA ROADBLOCKS
VT	1	SITE MANAGER (AT PAD GATE)
SL (PSTM)	2	SUPPORT TEST MGR
EG&G	6	ENVIRONMENTAL HEALTH (1 AT PAD GATE, 5 INSP TEAM)
ET	2	LO2/LH2
LFAC	2	2 ENG/MECH(GO2/GH2)
LFAC	2	2 ENG/MECH(PNEU/WATER)
EG&G	9	FIRE/RESCUE (AT PAD GATE)
ORB	1	PAD OPS ENGR (GSE) BLDG JB-2009
ORB	2	ENGR/TECH

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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INSPECTION TEAMS

NOTE

INSPECTION TEAMS SHALL BE FORMED INTO 4 GROUPS AS INDICATED BELOW.

TEAM

- 1 - EAST PERIMETER
 - 1 (SPC-SF)
 - 1 (EH)
 - 1 (ET)
 - 2 (LFAC)

TEAM

- 2 - WEST PERIMETER
 - 1 (SPC-SF)
 - 1 (EH)
 - 1 (ET)

TEAM

- 3 - WEST PAD SURFACE/FSS
 - 1 (SPC-SF)
 - 1 (PSTM)
 - 1 (EH)
 - 2 (LFAC)
 - 1 (ORB)

TEAM

- 4 - EAST PAD SURFACE/RSS
 - 1 (SPC-SF)
 - 2 (EH)
 - 1 (ORB)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
SAFING TEAM					

		ET (5+3)	8	LD2(INCLUDES 1 - *PSE)	
		ET (5+5)	10	LH2(INCLUDES 2 - *PSE)	
		LFAC	4	GH2/GU2	
		SPC-SF	1	GH2/GU2	
		SL	1	GH2/GU2	
		LFAC	3	PTCR DEPRESS	
		ORB	1	PTCR DEPRESS (ECS GN2 VALVES)	
		SPC-SF	1	PTCR DEPRESS	
		SL	1	PTCR/MLP DEPRESS	
		LFAC	8	MLP DEPRESS (FLOOR PNL REPLACEMENT)	
		SPC-SF	1	MLP DEPRESS	
		LFAC	1*	SITE MANAGER	
		LFAC	2*	MOBILE SUPPLY (RAINSUITS, ETC) (*REMAIN OUTSIDE PAD GATE)	
		EG&G	1*	SL VAN (GAS MASKS) (*REMAIN OUTSIDE PAD GATE)	
		ET	7	ORDNANCE REMOVAL	
		ORB	10	ORDNANCE REMOVAL	
		LFAC	16	HANDRAIL INSTALLATION	
		LFAC	5	(H/E) HANDRAIL TRANSPORT AND INSTALLATION	
		SL	1	HANDRAIL INSTALLATION	
		LFAC		SLIDEWIRE SECURE (INCLUDED IN MLP DEPRESS)	
		EG&G	3	PAD GATE CONTINGENCY (SEC)	
		EG&G	4	ELECTRICAL SYSTEM SAFING	
		EG&G	2	HCL MONITORS	
		LFAC	4	ELEV	
		SL	1	ELEV	
		LSUC	1	(PSHL) GSE TECH	
			1	(PSHD) GSE TECH	
			1	(PSUM) GSE TECH	
			1	(PSUD) GSE TECH	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

FIRE/RESCUE TEAM WILL
 ESTABLISH BASE JUST INSIDE
 PAD GATE.

16-1167		LTD 232 *SCC	*SCC *SEC *PSE	ESTABLISH ROADBLOCKS A-1 (PAD GATE) AND A-3, A-5, A-6. DROP ROADBLOCKS A-10, A-11 AND A-15 WHEN BDA ROADBLOCKS ESTABLISHED. OPEN AREAS OUTSIDE BDA FOR NORMAL WORK.	EG&G-430
16-1168		*SCC 232 LTD STM STM 111 JSTC 114	LTD STM JSTC JFIR	RELEASE FIRE RESCUE (M113) TEAM AT A-5 ROADBLOCK AFTER POSTLAUNCH TEAM HAS PASSED ROADBLOCK A-5.	EG&G-420
16-1169	+05M00S	CLOX 136 TBC 212	TBC LTD	LUX POST LAUNCH OPERATIONS PER OMI S1003 COMPLETE. READY TO PROCEED WITH LO2 SYSTEM SAFING AFTER LAUNCH PER OMI G3153	
16-1170			JCFM	STOP - ESMS RECORDER	31314
16-1171	+05M00S	CBRS	TBC	SRB LH/RH SRSS S AND A'S ARE IN SAFE POSITION	
16-1172		TBC 135	LRD BRD	SRSS S AND A DEVICES ARE IN SAFE POSITION.	

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT EIGHT
 STEPS IF RTLS DECLARED.

16-1173		LPS 163	CBSE	DECOM PROCESSOR WILL BE SWITCHED TO SOURCE 1, _____KB. BIOMED DATA WILL BE INVALID DURING SWITCH.	31240
				NOT PERFORMED	-----

16-1174		LPS 228	C1SE	PERFORM BIO-MED DECOM SWITCH TO SOURCE 1, _____KB. REPORT COMPLETION.	31240
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NOTE

64KB = 0.640X10 TO THE FIFTH
 96KB = 0.920X10 TO THE FIFTH
 128KB = 1.280X10 TO THE FIFTH
 192KB = 1.920X10 TO THE FIFTH

C1SE CONFIGURE PCM BIT SYNC:
 SOURCE = 1
 BIT RATE THUMBWHEEL =
 _____X10 TO THE FIFTH (PER NOTE)

C1SE CONFIGURE PCM FORMAT
 SYNCHRONIZER:
 FORMAT THUMBWHEEL = 0
 INITIATE BUTTON = PRESS

C1SE CONFIGURE DECOM PROCESSOR:
 FORMAT THUMBWHEEL = 0
 VERIFY ADDRESS
 THUMBWHEEL = 1164
 VERIFY DATA LED'S ARE
 INCREMENTING

NOT PERFORMED -----

16-1175	+05M45S		*MIL	SWITCH _____KB INPUT TO LCC FROM MILA DATA TO BERMUDA DATA	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1176				HERMUDA DATA ACQUISITION	
16-1177	+05M45S	LPS		AWP01 PG-B VERIFY DIS/GPCS DATA VALID ON SOURCE 1 (BERMUDA _____KB) (1TVM4096/97)	31240
				NOT PERFORMED	-----
16-1178		LPS		VERIFY FEP REDUNDANT SWITCHES ACTIVE.	31240
				NOT PERFORMED	-----
				NOTE	
				MOMENTARY LOSS OF DOWNLINK AND DOWNLIST DATA WILL OCCUR DURING MILA TO BERMUDA SWITCH.	
16-1179	+06M00S	*MIL		REMOVE 192 KB (1TVM1726) INPUT TO LCC	
				NOT PERFORMED	-----
16-1180		LPS		AWP01 PG-B VERIFY OIA/S AND GPCA/S REDUNDANT SWITCH OCCURRED	31240
				NOT PERFORMED	-----
16-1181		*MIL 127	LPS	VERIFY LCC PROCESSING BERMUDA _____KB DATA S1. (1TVM4096/97)	31240
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1182				POST LAUNCH GROUND PIC RESISTANCE TEST	
16-1183		OTC	CEPD	PERFORM POST LAUNCH GROUND PIC RESISTANCE TEST PER SEQ 58 (S0007-V4) AND POWER DOWN GROUND PIC SYS. REPORT COMPLETE.	*BCS
16-1184		OTC	CEPD	PERFORM ORBITER GROUND POWER SYSTEM POWER DOWN. REPORT COMPLETION.	
				GROUND PIC TEST COMPLETE	

NOTE

NEXT TWO STEPS VERIFY 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).

16-1185		CEPD	OTC	GROUND PIC RESISTANCE TEST FOR ET VAS, TSM, HDP, AND H2 BURN, VERIFIED COMPLETE AND RESULTS ARE AS FOLLOWS. (RECORD ANY RESISTANCE TEST GO INDICATIONS FROM SEQ 58).	
		132			
		OTC	LTD		
		232			
		LTD	*SCC		
16-1186		CEPD	OTC	POST LAUNCH GRND PIC RESISTANCE AND PIC RACK PWR DOWN COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				ORBITER GROUND POWER SYSTEM ----- POWER DOWN -----	
16-1187		CEPD		CURSOR CNTL (VAC26) BUS CONTROL PF1 - OFF BUS CONTROL PF2 - OFF VERIFY (CRT) PF 1 AND 2 POWER DOWN IS COMPLETE	
16-1188		CEPD		POWER DOWN POWER SUPPLIES PER OMI S9001. 1D100 1D200 1D300 1D500 1D600 1D700 1D800 1T100 1T200	
16-1189		CEPD		CURSOR CNTL (SWC02) LAUNCH COMMIT EMON - INHIBIT XMIT CURSOR KEY - PRESS CRT (SWC02) SYSTEM EXCEPTION MONITORING IS INHIBITED	
16-1190		CEPD	OTC	ORBITER GROUND POWER SYSTEM POWER DOWN IS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT TWO
 STEPS IF RTLS IS DECLARED.

16-1191	+07M00S	CPDR		FORCE PDR TAPE SWITCH AT PDR INFOTON #INRC T (X) RTN KEY - PRESS	31240 NOT PERFORMED
16-1192		LPS		ACTIVATE REDUNDANT SWITCH FOR DIA AND GPCA	31240 NOT PERFORMED
16-1193				VERIFY PERSONNEL STATUS	
16-1194	+07M00S	*SCC LTD		VERIFY STATUS OF ALL PERSONNEL LOCATED WITHIN IMPACT LIMIT LINES/LAUNCH DANGER AREA.	TGS 34200 EG&G-123
		LTD STM			
		STM JPHO			
		111 JSTC			
		138 JYVO			
16-1195		JPHO STM		PHOTO PERSONNEL WITHIN THE LAUNCH DANGER AREA ARE ALL SAFE.	TGS
		111			
		STM LTD			
		232			
16-1196		JSTC STM		ALL EG&G PERSONNEL WITHIN THE LAUNCH DANGER AREA ARE SAFE.	EG&G-123
		111			
		STM LTD			
		232			
16-1197		JYVO STM		TELEVISION CAMERA OPERATORS WITHIN LAUNCH DANGER AREA ARE SAFE.	34200
		111			
		STM LTD			
16-1198	+07M00S	LTD *SCC		ALL PERSONNEL LOCATED WITHIN THE IMPACT LIMIT LINES/LAUNCH DANGER AREA ARE SAFE.	
		232			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1199				STATUS SENSOR SYSTEMS -----	
16-1200	+07M00S	*SCC 232 LTD	LTD	STATUS LH2 LEAK AND FIRE SENSORS (PRSD/MPS) (GH2 FACIL)	
			OTC STM TBC		
16-1201		UTC	CMPS	STATUS MPS AND PRSD H2 LEAK AND CHGD FIRE DETECTORS.	
16-1202		CMPS	UTC	MPS LEAK AND FIRE DETECTORS SHOW NO PROBLEM (OR ACTUAL STATUS).	
16-1203		STM 111	JBPN	STATUS GH2 FACILITY LEAK AND FIRE SENSORS.	33218
16-1204		JBPN STM	STM LTD	GH2 FACILITY LEAK AND FIRE DETECTORS SHOW NO PROBLEM (OR ACTUAL STATUS).	33218
16-1205	+07M00S	UTC 232 LTD	LTD *SCC	MPS/PRSD LEAK AND FIRE DETECTORS SHOW NO PROBLEM (OR ACTUAL STATUS).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1206		CLHY TBC	TBC LTD	ET LH2 LEAK AND FIRE DETECTORS SHOW NO PROBLEM (OR ACTUAL STATUS).	
16-1207		LTD 232 *SCC 105	*SCC *PSE	STATUS CHECKS COMPLETE - NO ANOMALIES NOTED.	
16-1208		OTC	CHGD	HGDS SUPPORT IS NO LONGER REQUIRED.	
16-1209		CHGD		CURSOR CNTL REMOTE SHUTDOWN XMIT CURSOR KEY - PRESS CRT VERIFY REMOTE SHUTDOWN INVERTED GREEN	
NOTE					
AT MILA LOS, MAIN ENGINE FEPS WILL GO NO-GO.					
POWER DOWN ASTRO COMM -----					
16-1210	+08M00S	OTC		ASTRO COMM - DIS PANEL 1. ALL ACTIVE SWITCHES-OFF 2. POWER KEY SW-OFF LAUNCH ACCESSORIES SAFING -----	
16-1211		CGSS 132	OTC	ORB OPERATION SUPPORT SETUP 18 - SS MONITOR COMPLETE.	
16-1212		OTC 132	CGSS	SECURE OAA AND HCU FIRING ROOM MONITORING PER OMI'S V2153 AND V2160.	
16-1213		CGSS	OTC	OAA AND HCU MONITORING COMPLETE. FIRING ROOM SECURING COMPLETE.	
16-1214		TBC	CMEC	PERFORM POST LAUNCH FIRING ROOM SAFING PER G2153.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1215		CMEC	TBC	POST LAUNCH FIRING ROOM SAFING COMPLETE.	
NOTE					
IF DOD MISSION, PERFORM NEXT STEP AT MECC PLUS 200 SECONDS.					
16-1216		LPS		TERMINATE HOSC FEP FROM SUPPORT AFTER AWP01 VERIFICATION OF HOSC I, DA.	31240
NOT PERFORMED -----					
NOTE					
IF NASA MISSION DELETE JSRP FROM NEXT STEP.					
16-1217	+10M00S	*MIL 127	LPS JRPS JSRP	AT BERMUDA LOS, CONFIG FOR TDRSS DATA TO LCC ON LINE 11VM1726 SOURCE 2. (MISSION SUPPORT)	31240 31212
16-1218	+10M00S	LTD 212 PA	STM *SCC DTC TBC LPS JBFX	REQUIRED PERSONNEL RETURN TO UIS CHAN 232 FOR POST LAUNCH OPERATIONS.	31240
16-1219	+10M00S	LTD	LD	READY FOR LAUNCH DEBRIEFING.	
16-1220	+10M00S	TBC 136		REPORT READINESS TO SUPPORT POST LAUNCH OPS	
CLOX LCC FR LEAD LOX SYSTEM ENGINEER					
CLHY LCC FR LEAD LH2 SYSTEM ENGINEER/TC					
CPWR LCC FR LEAD POWER SYSTEM ENGR.					
CMQC LCC FR LEAD QUALITY ASSURANCE					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1221				LO2/LH2 TRANSFER LINE PURGE - ----- INITIATED -----	
16-1222		TBC 136	CLOX	VERIFY LOX TRANSFER LINE PURGE HAS BEEN INITIATED.	
16-1223		TBC 136	CLHY	VERIFY LH2 TRANSFER LINE PURGE INITIATED.	
16-1224		TBC 232 LTD *SCC *SCC 105	LTD	LOX AND LH2 TRANSFER LINE PURGE HAVE BEEN INITIATED.	
16-1225	+10M00S	UTC		ALL ORBITER PERSONNEL SUPPORTING POST LAUNCH OPERATIONS REPORT TEST READINESS STATUS.	
			CPVD	LCC FR ORBITER PURGE, VENT AND DRAIN ENGINEER REPORTS FOR PPVE - PAD PURGE, VENT ELECTRICAL TECH PPVM - PAD PURGE, VENT MECHANICAL TECH PPVD - PAD PURGE, VENT ENGR	
			CEPD	LCC FR ORBITER ELECTRICAL POWER AND DISTRIB ENGR	
			CFCP	LCC FR ORBITER FUEL CELL POWER ENGR	
			CGLS	LCC FR GROUND LAUNCH SEQUENCER ENGINEER	
			CMQC	LCC FR QUALITY CONTROL (SYSTEM ENGINEER COVERAGE) REPORTS FOR PQCG - PAD QUALITY CONTROL GENERAL	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1226	+10M00S	SRO 232 LTD	LTD BEK1	POST LAUNCH INDICATES NO APPARENT LAUNCH IMPACT LIMIT LINE ANOMALIES. IMPACT LIMIT *SCC LINE FORWARD OBSERVERS GROUP *SEC MAY BE RELEASED VIA PRE-ARRANGED ROUTES.	

NOTE

IF NASA MISSION DELETE
 JSRP IN NEXT STEP.

16-1227	+10M00S		JRPS	AFTER LOS, STOP DISPLAY JSRP RECORDERS.	31212
16-1228	+10M00S	TBC 136	CPWR	PERFORM ET HTR SECURING.	
16-1229			CPWR	PEP (TW495) ET HTR MOD PWR - PRESS HEATER MOD OFF - PRESS CRT (TD490) VERIFY HTR PRI DC MODULE OFF HTR SEC DC MODULE OFF	
16-1230		CPNR 136	TBC	ET HTR SECURING COMPLETE.	
16-1231	+10M00S		CPWR	TERMINATE TW498.	

NOTE

PERFORM NEXT STEP AT
 DISCRETION OF NASA TEST
 DIRECTOR FOR DOD MISSION
 ONLY.

16-1232	+15M00S	STM 111 GYCC 117	GYCC JYVJ	CONFIGURE SECURE VOICE COMMUNICATIONS SYSTEM FOR POST LAUNCH SUPPORT. REPORT COMPLETION.	34300 34100
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NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1233			CGLS	CURSOR CNTL PSEUDO INIT XMIT CURSOR ALL PSEUDOS AND DISK FILES XMIT CURSOR CFY ALL BLOCKS CYAN TERMINATE XMIT CURSOR	
16-1234	+15M00S	GYCC 117	JYCC	REMOVE UMBILICAL A AND B PATCH TO THE PAD. VERIFY COMPLETION	34300 34100
16-1235		TBC 136	CBRS	PERFORM SRSS MLP GSE POWER DOWN.	
16-1236			CBRS	CURSOR CNTL (SWRH3) BSR01 - XMIT CURSOR POWER OFF SYSTEM A&B - XMIT CURSOR	
16-1237		CBRS 136	TBC	SRSS GSE POWER DOWN IS COMPLETE. ORBITER PRSD LH2/LO2 DEWAR DUMP -----	
16-1238	+15M00S	OTC 232 LTD TBC	LTD TBC CLHY CLOX	ORBITER REQUESTS CONCURRENCE TO DUMP PRSD GSE LH2 DEWAR TO H2 BURN POND AND LO2 DEWAR TO LUX DUMP BASIN.	
16-1239		CLUX 136 TBC 232	TBC LTD	OK TO PROCEED WITH ORBITER PRSD LO2 DEWAR DUMPING.	
16-1240	+15M00S	CLHY TBC	TBC LTD	ET LH2 VENT LINE IS CONFIGURED TO SUPPORT LH2 FUEL CELL DUMP. NOTIFY CLHY WHEN FUEL CELL DUMP IS COMPLETE.	
16-1241	+15M00S	LTD 232	*SCC	VERIFY CONCURRENCE FOR LH2 AND LO2 PRSD DEWAR DUMPS.	
16-1242		*SCC	LTD	YOU HAVE SAFETY CONCURRENCE FOR LH2 AND LO2 PRSD DEWAR DUMPS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1243	+15M00S	LTD	OTC	PROCEED WITH PRSD DEWAR DUMPS. PRSD LH2 DEWAR DUMP -----	
16-1244	+15M00S	OTC	CFCP	PERFORM PRSD LH2 DEWAR DUMP AND INERTING PER OMI V1040 ON OIS CHAN 153.	
16-1245		CFCP 138	JYVR	START VIDEO RECORDING OF OTV CAMERAS 007/107,008/108 (REF CFCP FIG 4)	34200
16-1246				PRSD LO2 DEWAR DUMP -----	
16-1247	+15M00S	OTC 132	CFCP	PERFORM PRSD LO2 DEWAR DUMP AND INERTING PER OMI V1040 ON OIS CH 153.	
16-1248		CLOX CLHY JBFX 232	LTD	OTV SCAN OF PAD AND LAUNCH COMPLETE. REPORT STATUS. OTV SCAN COMPLETE -----	
16-1249	+20M00S	*SCC 232 *SCC 105	LTD	OTV SCAN OF PAD AND LAUNCH AREAS VERIFIED COMPLETE. REPORT STATUS. *PSE	
16-1250	+20M00S	LTD 232 STM 138	STM	OTV SCAN OF PAD AND LAUNCH AREAS COMPLETE. STOP VIDEO RECORDING OF INPUTS TO OTV MONITORS 023 AND 042 (FR-1) OR 183 AND 202 (FR-3).	34200
16-1251	+20M00S	LTD 232 STM 138	STM	FIRE SURVEILLANCE SCAN COMPLETE. STOP VIDEO RECORDING OF CAMERAS 063/163,070/170, TV7 AND TV-16 (1TVM2070) JYVR	34200

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				SSME GSE SECURING -----	
16-1252		CSME		CURSOR CNTL (VAE38 PG-B) MFV HTR DISPLAY ALL HTR OFF - ISSUE VERIFY TB GN2 DISPLAY PRI VENT OPEN CMD - OFF SEC VENT OPEN CMD - OFF PRI CONT VALVE CLOSE CMD - OFF SEC CONT VALVE CLOSE CMD - OFF PRI CONT VALVE - CLOSE VERIFY GN2 OUTLET PRESSURE DOES NOT INDICATE EXCESSIVE LEAKAGE THROUGH T-0 QD PORT PRI CONT VALVE - OPEN AC PRI CMD - OFF	
16-1253		CSME		PFP (VAE38) PFP6 (TERMINATE) KEY - PRESS MPS S72-0685-1 SAFING (LPS) -----	
16-1254		CMPS		CURSOR CNTL (VAE18) 1. PRIMARY REG SOV - CLOSE 2. SECONDARY REG SOV - CLOSE 3. PRIMARY AND SECONDARY HE SOV CLOSE CMD'S OFF - VERIFY HE SOV - OPENS 4. VERIFY 4500 PANEL OUT INDICATES 0 PSIG. 5. PRIMARY LINE VENT - CLOSE 6. SECONDARY LINE VENT - CLOSE	
16-1255		CMPS		CONSOLE KYBD (C4) VAE35 - PERFORM PGM KEY - PRESS ENTER 2 - XMIT RESP KEY - PRESS VERIFY VAE35 TERMINATES WITH NO ERROR MESSAGE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1256				VERIFY READY FOR PAD INSPECTION	
16-1257	+20M00S	*PSE 105 *SCC 232	*SCC LTD	INSPECTION AND SAFING TEAMS AT PAD GATE	
16-1258	+20M00S	STM 138	JYVO JYVR	START VIDEO TRACKING AND VIDEO RECORD SAFETY INSPECTION WALKDOWN TEAM. POSITION OTV CAMERAS 009/109,043/143,044/144, 038/138,039/139,040/140, IN SEQUENCE TO TRACK EAST SIDE INSPECTION TEAM. POSITION OTV CAMERAS 034/134,035/135,036/136, 045/145,046/146,047/147, IN SEQUENCE, TO TRACK WEST SIDE INSPECTION TEAM.	34200
16-1259	+20M00S	*SCC 232	LTD	VERIFY THE FOLLOWING ITEMS HAVE BEEN COMPLETED BEFORE PROCEEDING WITH INSPECTION. 1. PIC RESISTANCE TEST COMPLETED AND SYSTEM POWERED DOWN. 2. OTV SCAN OF PAD AREAS 3. LO2 RESIDUAL PURGING AND 30 MINUTE LH2 XFER LINE PURGE - INITIATED 4. FIRE/LK DETECTOR STATUS CKS	
16-1260		LTD 232 *SCC	*SCC NOL *PSE	THE FOUR ITEMS LISTED IN PREVIOUS STEP HAVE BEEN COMPLETED. PROCEED WITH PAD INSPECTION. ACTIVATE PAD OIS-RF SYS	
16-1261	+20M00S	GYCC 117	JYCJ	ACTIVATE OIS-RF SYS TO PAD	34100
16-1262		GYCC 111 STM 232	STM LTD	PAD OIS HAS BEEN ACTIVATED.	34300

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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PAD INSPECTION TEAM FUNCTIONS

NOTE

SAFING TEAM WILL REMAIN AT PAD GATE UNTIL PERIMETER INSPECTION TEAM HAS COMPLETED THEIR INSPECTION. LOX AND LH2 STORAGE AREA FIRE/MEDICAL AND SECURITY SUPPORT REMAIN AT PAD GATE UNTIL PERIMETER INITIAL INSPECTION IS COMPLETE, AND THEN PROCEED TO APPLICABLE STORAGE FACILITY BEHIND THE SAFING TEAM.

16-1263 +20M00S

LTD *PAD PERFORM PAD PERIMETER INSPECTION
232 *SCC TEAM FUNCTIONS AS SPECIFIED
*SCC *PSE BELOW:
105

*BCS

PERIMETER ROAD AREAS

- A. DIVIDE INSPECTION TEAM INTO 2 GROUPS.
- B. INSPECT EAST AND WEST SIDES IN PARALLEL.

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.
WEST SIDE FACILITIES					
				A. HYPER FUEL STORAGE AREA (TOXIC VAPOR CHECKS)	
				B. LO2 STORAGE AREA (O2 LEAK CHECKS)	
				C. ELECTRICAL SUB-STATION (VISUAL INSPECTION)	
				D. PAD TUNNNEL AREA (VERIFY/HANG SIGN)	
16-1264	+25M00S	CFCP 132 OTC 232	OTC LTD	LO2 AND LH2 DEWAR DUMP IS COMPLETE. INERT PURGES HAVE BEEN INITIATED.	
16-1265	+25M00S	EEC 138	JYVR	STOP VIDEO RECORDING OF UTV CAMERA 080. (SEE EEC FIG. 4).	34200
PAD STRUCTURE WASHDOWN OPERATIONS					
COMPLETE					
16-1266	+25M00S	JBFX 111 STM 232 LTD *SCC *SCC 226	STM LTD	PAD STRUCTURE AUTOMATIC WASHDOWN SYSTEM FLOWS COMPLETE.	3322B

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1267				150 PSIG GN2 SECURE	
NOTE					
PERFORM NEXT STEP IF TSM GN2 PURGES HAVE BEEN SECURED PER OMI S1004.					
16-1268	+30M00S	CLHY 136 TBC 232 LTD	TBC LTD STM	150 PSIG GN2 FOR LH2/LO2 TSM PURGE PANEL IS NO LONGER REQUIRED	
16-1269	+30M002	STM 111 JSTC 114	JSTC GSPN	150 PSIG GN2 FOR LO2/LH2 TSM PURGE PANEL NO LONGER REQUIRED. SECURE/CLOSE LPGN2 VALVE A62262 AND A126306. SECURE CONTROL STATION PER OPERATION INSTRUCTIONS OF OMI M3042. RELEASE PNEUMATIC PERSONNEL AT INDUSTRIAL SUPPLY INTERFACE. REPORT COMPLETION.	EG&G-631
16-1270	+30M00S	JSTC 114	JSAC	SECURE REDUNDANT CHILLER AT UTILITY ANNEX (I3067, WDK10). REPORT WHEN COMPLETE.	EG&G-612
NOTE					
IF NASA MISSIONS PERFORM NEXT TWO STEPS.					
16-1271	+30M00S	LTD 232 LPS 258	LPS JCDS	DISABLE CDS AUTO SWITCHOVER AND RESTORE STANDARD PERMISSION TABLES. REPORT COMPLETION.	31240 31221

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1272	+30M00S	LPS 232 LTD PA	LTD	CDS AUTO SWITCHOVER HAS BEEN DISABLED AND STANDARD PERMISSION TABLES RESTORED.	31240
				NOT PERFORMED	-----
				NOTE	
				IF DOD MISSION PERFORM NEXT TWO STEPS.	
16-1273		LTD 232 LPS 258	LPS SCDS	DISABLE SCDS AUTO SWITCHOVER.	31240
				NOT PERFORMED	-----
16-1274		LPS 232 LTD PA	LTD	SCDS AUTO SWITCHOVER HAS BEEN DISABLED.	31240
				NOT PERFORMED	-----
16-1275		LTD	LPS	RELEASE FR2/CR-4 FROM S0007 SUPPORT AND RECONFIGURE FOR NORMAL SUPPORT. CONTINUE POST LAUNCH DATA RETRIEVAL TO T+5 HRS PER S9002, V16.	31240
16-1276		LTD	LPS	VERIFY SCRS PRINTER/PLOTTERS SUB SYS 1 UNIT 1 THRU 4 REMAIN ON LINE, PLACE REMAINING PLOTTERS OFF LINE.	31240
16-1277		LTD	LPS	REINITIALIZE PP2 SUBSYSTEM AND PLACE ONLINE FOR KU BAND SELF TEST.	31240
16-1278		LPS	C1MC	\$TERM AND \$CLAI PP2 SUBSYSTEM.	31240
				NOTE	
				IF T-20 COMPARE TAPE IS CLASSIFIED, HANDLE PER SPI-13-1501.	
16-1279		CVFS 127	LPS	REMOVE T-20 COMPARE TAPE FROM TAPE DRIVE AND RETURN TO STORAGE.	-----

Q:-----

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- RANGE SAFETY TEST CODE LOAD -----					
16-1280	+30M00S	LTD 232 TBC 136 UTC 132	TBC ^c CORS RCRE	PERFORM RANGE SAFETY TEST CODE LOAD PER OMI S5018. REPORT COMPLETION.	
16-1281		UTC 132	RCRE	PERFORM C&T INTERIM POWER DOWN PER OMI V3528. REPORT COMPLETION.	
16-1282		CCSE 155	RCRT	PERFORM UHF QUIETING SYSTEM POWER DOWN PER OMI V3528. REPORT COMPLETION.	
16-1283			CGLS	TERM GLS SOFTWARE	
----- PAD LH2/GH2 WASHDOWN OPERATIONS ----- COMPLETE -----					
16-1284	+35M00S	JBFX 111 STM 232 LTD *SCC *SCC 226	STM LTD	PAD LH2 AND GH2 STORAGE AREAS WASHDOWN FLOWS ARE COMPLETE.	3322B
16-1285	+35M00S	STM 111	JBFX	STOP P-2 PUMP, (SKEL-F1A) (PERFORM FOLLOWING THE SECURING OF VALVE V-64.)	3322B
----- LO2/LH2 DEWAR DUMP - COMPLETE -----					
16-1286	+40M00S	CFCP 132 UTC 232 LTD 232 *SCC TBC 136	UTC LTD	LO2 AND LH2 DEWAR DUMP AND INERT PURGE COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT THREE STEPS IF
 SRM ACID CLOUD IMPACTED
 NON-LAUNCH PAD. (CONTACT
 EEC AT 853-9976 FOR ACID
 CLOUD INFORMATION).

PAD ___ LO2 AND LH2 STORAGE TANK
 WASHDOWN

16-1287	+40M00S	LTD 232 *SCC	*SCC	CLEAR PERSONNEL OF PAD ___ STORAGE AREAS FOR FIREX WATER FLOW. VERIFY WHEN COMPLETE.	NOT PERFORMED	-----
16-1288		LTD PA		ATTENTION PAD ___: ALL PERSONNEL CLEAR LO2 AND LH2 STORAGE AREAS FOR FIREX WATER FLOW.	NOT PERFORMED	-----
16-1289		LTD 232 STM 111	STM	PROCEED WITH PAD ___ LO2 AND LH2 STORAGE AREA WASHDOWN. REPORT JBFX COMPLETION.	NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1290		CFCP 138	JYVR	STOP VIDEO RECORDING OF OTV CAMERAS 007/107 AND 008/108.	34200
16-1291	+40M00S	LTD 232 *SCC 105	*SCC *PSE	PERFORM ON PAD INSPECTION TEAM FUNCTIONS AS SPECIFIED BELOW:	

1. 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

2. FSS/RSS AREAS

- A. DIVIDE INSPECTION TEAM
INTO 2 GROUPS
- B. INSPECT FSS AND RSS IN
PARALLEL

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1291			3.	RSS	
CON'T				---	
			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)	
			4.	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)	

OMRSD S00U00.010

16-1292

*PSE *SCC FSS ELEVATOR CONTROL COVER
105 AND LOCK IS INSTALLED.
*SCC LTD
232

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1293	+40M00S	*PSE 105 *SCC 232	*SCC LTD	WEST PAD PERIMETER INSPECTION COMPLETE. SENDING SAFING CREW TO PTCR AND LO2 STORAGE AREA FOR PTCR DEPRESS SNIFF CHECKS AND LOCKING OF ECS GN2 VALVES.	
16-1294		OTC	CECL	VERIFY -0508 UNITS ARE POWERED DOWN OR SUPPORT IS REQUIRED TO POWER THEM DOWN. LOX SAFING TEAM TO PAD	
16-1295		*PSE 105 SCC LTD	*SCC LTD TBC	LOX SAFING TEAM PROCEEDING FROM PAD GATE TO LO2 STORAGE AREA FOR SAFING. (LOCAL CONTROL AREA WILL BE ESTABLISHED AT LO2 STORAGE AREA).	
16-1296	+40M00S	*PSE	*SCC	FIRE CREW IS PROCEEDING TO LO2 STORAGE AREA FOR SAFING OPERATIONS.	EGG-420
16-1297	+45M00S	*PSE *SCC LTD	*SCC LTD TBC	SAFETY HAS ESTABLISHED CONTROL AREA AT LO2 STORAGE AREA 150 FT RADIUS.	
16-1298	+40M00S	LTD 232 STM 111	STM JBAC	1. DEPRESSURIZE PTCR/ECS ROOMS BY OPENING ECS ROOM DOOR AND RESTRAINING IN OPEN POSITION.*BCS 2. REMOVE PTCR EXHAUST FAN 1 AND 2 BLAST COVERS. 3. CLOSE RSS/MLP AUTO DRAIN VALVES FROM C-2 CONSOLE IF PREVIOUSLY OPENED.	
				NOT PERFORMED	----- SS3
16-1299		*PSE 105 *SCC 232 LTD STM 111	*SCC LTD STM JBAC	PTCR/ECS ROOM DOOR HAS BEEN OPENED, O2 SNIFF CHECK GOOD.	3321C 33215

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

XFER/SECURE ECS (V1122)					

16-1300	+40M00S	LTD 232	OTC	SECURE THE ECS ROOM GN2 MANUAL ISOLATION VALVES PER OMI V1122 (POST LAUNCH SECURING SEQ).	VT *BCS
		OTC 132	CPVD	REPORT COMPLETION THEN CLEAR ALL PERSONNEL FROM ECS ROOM.	
16-1301	+40M00S	*PSE 105	*SCC	MLP SIDE ONE VISUAL INSPECTION FROM PAD SURFACE COMPLETE	
		*SCC 232	LTD		
16-1302	+45M00S	CLHY 136	TBC	POST LAUNCH OPERATIONS COMPLETE PER OMI S1004. READY TO PERFORM SYSTEM CONFIGURATION CHECK AND INITIAL SYSTEM PURGING PER OMI G3254. XFER LINE CHILLDOWN VALVE (A3309) AND XFER LINE VALVE (A3301) ARE CLOSED.	
		TBC 232	LTD		
16-1303		TBC 136	CLHY	PERFORM SYS CONFIG CHECK AND INITIAL SYSTEM PURGING PER OMI G3254. REPORT COMPLETION.	
				MLP ZERO LEVEL INSPECTION ----- COMPLETE -----	
16-1304	+45M00S	*PSE 105	*SCC	MLP ZERO LEVEL INSPECTION COMPLETE.	
		*SCC 232	LTD		
16-1305	+45M00S	CLOX 136	TBC	LOX SAFING CREW IS AT THE STORAGE AREA, READY TO BEGIN LOX SYSTEM SAFING PER OMI G3153.	
		TBC 232	LTD		
16-1306	+45M00S	LTD 232	TBC	PROCEED WITH FACILITY SAFING PER OMI'S G-3153 AND G-3254.	
		TBC 136	CLHY CLOX		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1307				POST LAUNCH T-0 INERTING	
16-1308	+45M00S	OTC 132	CFCP	PERFORM POST LAUNCH T-0 SYSTEM INERTING PER OMI V1040 ON OIS CH 153. REPORT COMPLETION.	
16-1309	+45M00S	GYCC 117	JYCJ	ACTIVATE ADMIN. PAGING TO PAD. REPORT COMPLETION.	34300 34100
16-1310	+45M00S	STM 111 GYCC 117	GYCC PCSQ JYCJ	PICKUP AREA WARNING KEYS FROM STM IN PRIME CONTROL ROOM AND INSTALL ONE IN EACH APPLICABLE LTD CONSOLE AREA WARNING PANEL. ATTACH INTEGRITY CONTROL STICKERS TO SECURE KEY IN KEY HOLE. REPORT COMPLETION.	34300 34100
					Q: 50234
16-1311		LTD 232 STM 111 GYCC 117	STM GYCC JYCJ	REINSTALL EMERGENCY PAGING MICROPHONES IN FIRING ROOMS THAT WERE REMOVED FOR LAUNCH COUNTDOWN.	34300 34100

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1312				LANDING COMM CIRCUITS TO JSC	
16-1313	+45M00S	LRD STM 111 GYCC 117	STM GYCC GYCJ JYCJ	<ol style="list-style-type: none"> 1. DISABLE KSC TRANSMITTERS AND RECEIVERS ON CONVOY COMMANDER, PURGE AND COOLING NETS. 2. PATCH LANDING FIELD 1 OR 2 (MONITOR INTO OIS CH 247) 3. ACTIVATE COOLING NET (T/R) TO JSC ON LONGLINE GDA58766, CONVOY COMMANDER (T/R) TO JSC ON LONGLINE GP59273 AND PURGE NET (T/R) TO JSC ON LONGLINE GP59274. 4. VERIFY COOLING NET IS I/F T/R TO OIS CH 243 AND CONVOY COMMANDER NET IS I/F TX ONLY TO CH 214. 5. RECONFIGURE PURGE NET TO TX ONLY, TO CH 242. 6. VERIFY OIS CH 161 AND CH 135 T/R TO JSC. 	34300 34100
16-1314		GYCC 111 STM 135	STM LRD	KSC COMM CIRCUITS HAVE BEEN CONFIGURED TO JSC.	34300

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

WHEN A DECISION TO LAND ORBITER IS MADE, IT WILL BE RELAYED FROM MCC-H TO LANDING SITE AND LRD. THIS NOTIFICATION WILL BEGIN LANDING SITE PREPARATIONS FOR AN ORBITER LANDING UTILIZING APPROPRIATE CONVOY OPERATIONS OMI'S.

16-1315

LANDING SITE OMI'S

KSC

S0028 - EOM
S9915 - FLT CREW EMER EGRESS/ESCAPE

EAFB

S0026 - EOM
S0042 - SLS
S9914 - FLT CREW EMER EGRESS/ESCAPE

WHITE SANDS

S0027 - EOM
S0034 - AOA/ELS
S9924 - FLT CREW EMER EGRESS/ESCAPE

ELS

S0029 - POST LANDING OPERATIONS

TAL/DAKAR

S0039 - POST LANDING OPERATIONS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERTF.
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NOTE

IF DECISION IS TO LAND ORBITER,
 DO NOT PERFORM NEXT STEP.

16-1316	+50M00S	LTD	LPS	CDS TERM COUNTDOWN TEST AND LEAVE CURRENT DATA ON-LINE. NOTIFY ESA WHEN COMPLETE.	
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NOT PERFORMED -----

PERIMETER INSPECTION COMPLETE

16-1317	+50M00S	CLHY 136 TBC 232	TBC LTD	INITIAL SYSTEM PURGING COMPLETE PER DMI G3254.	
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16-1318	+50M00S	*PSE 105 *SCC 232	*SCC LTD	EAST PAD PERIMETER INSPECTION COMPLETE.	
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16-1319	+50M00S	STM 138	JYVR JYVO	TERMINATE VIDEO TRACKING AND RECORDING OF SAFETY PERIMETER INSPECTION TEAM.	34200
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16-1320	+50M00S	LTD 232 STM 138	TBC STM JYVO JYVR	POSITION OTV CAMERAS 080,027/127,038/138, 039/139, 040/140,034/134,035/135,052/152, 053/153,032/132,010/110,009/109 IN SEQUENCE TO TRACK LH2 SAFING CREWS DURING PAD SAFING AND SECURING, START VIDEO RECORDING.	34200
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16-1321	+50M00S	LTD 232 STM 138	TBC STM JYVO JYVR	POSITION OTV CAMERAS 080,027/127, 34200 036/136,046/146,047/147 IN SEQUENCE TO TRACK LO2 SAFING CREW DURING PAD SAFING SECURING, START VIDEO RECORDING.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1322		*PSE *SCC 232	*SCC LTD	02 AND/OR TOXIC VAPOR CHECKS COMPLETE FOR: <ol style="list-style-type: none"> 1. RSS 95 FT CROSSOVER FLEXHOSES 2. RSS 107 FT HYPER SKIDS 3. PAYLOAD CHANGEDOUT ROOM 4. 207 FT HYPER SKIDS 5. 207 FT LEVEL ELEV MACH RM 6. 207 FT LEVEL 90 TON HUIST RM 7. FSS SCRUBBERS 8. FSS ELEV MACH ROOM 9. HYPERGOLIC FUEL FARM 10. HYPERGOLIC OXIDIZER FARM 11. PAD CATACOMBS (EAST AND WEST) 	----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----
16-1323	+55M00S	GSPN 114 JSTC 111 STM 232	JSTC STM LTD	LPGN2 SECURING IS COMPLETED. BIG-3 HIGH FLOW LPGN2 SUPPORT HAS BEEN TERMINATED.	EGRG-631
				SAFING TEAMS ON PAD -----	
16-1324	+55M00S	*PSE 105 *SCC 232 LTD	*SCC LTD STM TBC	SAFING TEAMS PROCEEDING FROM PAD GATE TO LH2, GO2 AND GH2 AREAS FOR SAFING. (LOCAL CONTROL AREAS WILL BE ESTABLISHED AT LH2, GO2 AND GH2 FACILITY.	
16-1325				ALLOW C/T TO PROCEED THRU A-5 ROADBLOCK TO POSITION C/T OUTSIDE PAD --- GATE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1326		TBC 136	CLHY	SAFING TEAM IS CLEARED INTO LH2 STORAGE AREA.	
16-1327		*PSE 226 *SCC 232	*SCC LTD TBC	SAFETY HAS ESTABLISHED CONTROL AREAS AT LH2 AND GH2 STORAGE FACILITIES, 200 FT RADIUS OF LH2 AND GH2.	
16-1328	+55M00S	*PSE 226	*SCC	FIRE CREW IS PROCEEDING TO LH2 AREA FOR SAFING OPERATIONS.	EG&G-420
16-1329				DEPRESS AND SAFE - MLP -----	
16-1330	+55M00S	*PSE 105 *SCC 232 LTD	*SCC LTD STM	MLP SAFING TEAM PROCEEDING TO DEPRESS AND SAFE MLP MLP O2 LEVEL - OK -----	
16-1331	+55M00S	JBAC 111 STM 232 LTD *SCC *SCC 105	STM LTD	O2 ANALYZERS INDICATE ACCEPTABLE O2 LEVELS IN MLP.	3321C
16-1332		*PSE 105 *SCC 232	*SCC LTD	STARTING MLP INTERIOR O2 AND TOXIC VAPOR CHECKS.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1333				GO2/GH2 CROSS COUNTRY LINE SECURING	
				NOTE	
				DURING THE GH2 CROSS COUNTRY LINE SECURING, CHRE WILL OPEN VLV A77 AND A69 (VAR43) TO PROVIDE BACKFLOW PURGE INTO GH2 CROSS COUNTRY LINE. THESE VALVES TO BE OPENED AND CLOSED PER SL POST OPERATION INSTRUCTION 1 - GH2/GO2 CROSS COUNTRY LINE SECURING AND INERTING (V1040 V3).	
16-1334		*PSE *SCC LTD	*SCC LTD OTC STM	READY TO START GO2/GH2 C.C. LINES SECURING.	
16-1335		OTC 132	CRHE	GO TO DIS CHANNEL 122 AND SUPPORT JBPN FOR GH2/GO2 CROSS COUNTRY LINE SAFING.	
16-1336	+01H00M	OTC 232 LTD	LTD STM	READY TO SUPPORT JBPN ON CHANNEL 122 FOR GH2 CROSS COUNTRY LINE INERTING AND SECURING.	*BCS
16-1337		LTD 232 STM 111	STM JBPN	PERFORM GH2 CROSS COUNTRY LINE SECURING PER POST OPERATION INSTRUCTIONS OF OMI M3020 AND WDD02. VERIFY COMPLETION.	33218 33217 *BCS
16-1338	+01H00M	LTD 232 STM 111	STM JBPN	PERFORM DEPRESSURIZE GO2 DISTRIBUTION AND ISOLATE STORAGE BATTERY PER OPERATION INSTRUCTIONS OF OMI M3097. VERIFY COMPLETION.	33218 33217
16-1339	+01H00M	CLHY 136 TBC 232	TBC LTD	LH2 SAFING CREW IS AT THE STORAGE AREA READY TO BEGIN INITIAL SYSTEM SAFING PER OMI G3254.	

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 DATE: 01-11-86

OMI NO. - S0007VL2
 REV. - Z

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1340	+01H00M	LTD 232 STM 111 JSTC 114	STM *SCC JSTC JFIR	PERFORM HALON SUPPRESSION SYSTEMS SWITCHING TO SCHEDULED OPERATIONAL MODE IN PRIME AND BACKUP FIRING ROOMS. REPORT COMPLETION.	
DEBRIS INSPECTION TEAM OPS					
16-1341	+01H00M	*PSE 105 *SCC 232	*SCC LTD	DEBRIS INSPECTION STARTING INSPECTION OF PAD AREA, PERIMETER TO APRON ONLY. EXCLUDING THE FOLLOWING LISTED AREAS:	
<ol style="list-style-type: none"> 1. LO2 FACILITIES 2. LH2 FACILITIES 3. GU2 FACILITIES 4. GH2 FACILITIES 					
16-1342	+01H00M	*PSE 105 *SCC 232	*SCC LTD	ECS/PTCR O2 CHECKS COMPLETE AND ECS GN2 VALVES LOCKED. READY TO OPEN UPPER AND LOWER PTCR DOORS.	
16-1343	+01H00M	JRPS 111 STM GYCC 117	STM GYCC JYCC	SWITCH BRANCH ____, IN LCC RM 2P17, BACK TO MISSION IN SUPPORT OF SECONDARY ORBITER.	31212 34300 34100
16-1344	+01H00M	CPVD 132 OTC 232	OTC LTD	ECS RM GN2 VALVES CLOSED AND LOCKED. READY TO TRANSFER ECS TO LOCAL CONTROL.	
16-1345	+01H00M	OTC 132	CPVD	TRANSFER CONTROL OF ECS FROM LPS TO LOCAL (ECS RM) AND SECURE NON-ACTIVE SYSTEMS (CABIN) PER OMI V1122 (POST-LAUNCH OPS SEQ).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NEXT TWO STEPS WILL BE PERFORMED IF CRAWLER TRANSPORTER IS TO MOVE TO PAD GATE AT THIS TIME.

16-1346	+01H00M	LTD 232 STM NET 104	STM GBCT	MOVE CT FROM MSS PARKSITE TO CT PARKSITE AT PAD GATE. REPORT COMPLETION.	3322C 33226
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ESSENTIAL PERSONNEL FOR CT MOVE TO

 PAD GATE

LFAC

SUPVR 2
 ENGR 5
 TECH 15

NOT PERFORMED -----

16-1347	+01H00M	STM	*SCC	CRAWLER MOVING FROM MSS PARKSITE TO PARKSITE OUTSIDE PAD GATE. REQUEST CT BE ALLOWED TO PROCEED TO PAD GATE WITHOUT STOP AT A-5 ROADBLOCK.	
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NOT PERFORMED -----

16-1348	+01H00M	STM 111	JBDY	VAB HIGH BAY AND TRANSFER AISLE DOORS ARE RELEASED TO NORMAL WEATHER CONFIGURATION.	33221
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1349	+01H00M	LTD	STM	COMPLETE PTCR/ECS ROOM	3321C
		232		DEPRESSURIZATION BY OPENING PTCR	33215
		STM	JBAC	UPPER AND LOWER BLAST DOOR AND	
		111		STARTING EXHAUST FANS 1 AND 2.	

NOTE

PERFORM NEXT TWO STEPS IF
 KU BAND SELF TEST WILL BE
 PERFORMED THIS MISSION.

16-1350		CNSE	OTC	PLACE P/P 2, UNITS 1,2,3 ONLINE	
		OTC	LTD	FOR RECORDING OF KU BAND SELF TEST	
		LTD	LPS	DATA.	

NOT PERFORMED -----

16-1351		CNSE		VAN60 (CRT)	
				CURSOR TO PLUTTER	
				XMIT CURSOR	
				VERIFY PLOTTER INVERTS GREEN	
				SELECT PAGE A (VANGO)	
				CURSOR TO PLOT	
				XMIT CURSOR UNTIL DATA A, B AND C	
				CONFIGURED PER PREVIOUS STEP	
				CURSOR TO ACTIVE	
				XMIT CURSOR FOR DATA A, B AND C	

NOT PERFORMED -----

NOTE

TIME COLUMN WILL REFLECT
 HOURS AND MINUTES FROM THIS
 POINT ON IN PROCEDURE

16-1352	+01H15M	*PSE	*SCC	MLP INTERIOR AND SNIFF CHECK	
		105		COMPLETE.	
		*SCC	LTD		
		232			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1353	+01H15M	STM NET 104	QBSE	INSPECT AND REPLACE FLOOR PANELS IN MLP A AND B LEVELS.	33226 *BCS
ESSENTIAL PERSONNEL ----- FOR MLP FLOOR REPLACEMENT -----					

LFAC

SUPVR 1
 MECH 3

NOTE

MLP DEPRESS CREW TO CHECK
 WITH STRUCTURES CREW FOR MLP
 FLOOR PANEL INSPECTION STATUS.

16-1354	+01H15M	CLOX 136 TBC 232	TBC LTD	RESIDUAL LOX PURGING AFTER LAUNCH USING LPS IS COMPLETE PER OMI G3153. CONTINUING WITH LOX SYSTEM SAFING.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1355	+01H20M	LTD	STM	PERFORM FOLLOWING AND VERIFY	
		232	*SCC	COMPLETION:	
		STM	QBSE		
		NET	104	1. DEPRESSURIZE MLP PER M3079	3321C
		111	JBAC	AND REMOVE LFAC SIGNS	3321S 3322C
				2. SECURE SF-5 AND/UR SF-5R FAN	33226 *BCS
				3. IF AUTO CHW DRAIN WAS ACCOMPLISHED, CLOSE MLP ISOLATION VALVES AND REFILL CHW SUPPLY LINE.	
				NOT PERFORMED	----- SS4
				4. OPEN MLP/RSS BLOCKING VALVES (IF CLOSED).	
				NOT PERFORMED	----- SS5
				5. IF AUTO CHW DRAIN WAS ACCOMPLISHED, REFILL MLP WITH CHILLED WATER.	
				NOT PERFORMED	----- SS6
				6. WALK MLP DOWN AND REPORT DAMAGE/LEAKAGE TO JBAC.	
				7. INSPECT RSS/FSS FOR CHW PIPING AND FCU DAMAGE/LEAKAGE. REPORT TO JBAC.	
				8. OPEN RSS MANUAL ISOLATION VALVES AND START BOOSTER PUMP P-8 OR P-9.	
				9. LOWER PRIME AND VENTILATION AIR DUCTS BLAST SHIELDS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				LH2 TRANSFER LINE SHUTOFF VLVS ----- CLOSED -----	
16-1356	+01H20M	PLHY 166 CLHY 136 TBC 232 LTD *SCC *SCC	CLHY TBC LTD *SCC *PSE	LH2 INITIAL SYSTEM SAFING IS COMPLETE AND A3401 TRANSFER LINE SHUT-OFF VALVE IS CLOSED.	
16-1357	+01H20M	*PSE 105 *SCC 232	*SCC LTD	FSS & RSS INITIAL AND IOXIC INSPECTION IS COMPLETE. SAFETY SIGNS HAVE BEEN INSTALLED LH2 SAFING PERSONNEL MAY NOW PROCEED TO MLP SIDE 1 TO VERIFY LESS THAN 1 PCT HYDROGEN (AFTER MLP SIDE 1, H2<1 PCT CKS ARE COMPLETE).	
16-1358	+01H50M	*SCC 105	*PSE	VERIFY THAT GH2 IS LESS THAN 1 PCT AT MLP SIDE 1 LH2 VALVE SKID SENSE PORT.	
16-1359	+01H20M	*PSE 105 *SCC 232 LTD	*SCC LTD TBC	ET LH2 SAFING PERSONNEL NOW PROCEEDING FROM PAD GATE TO MLP SIDE ONE TO VERIFY LESS THAN 1 PCT HYDROGEN.	
16-1360	+01H20M	TBC 136	CLHY	MLP TEAM CLEARED TO MLP SIDE ONE.	
16-1361		CPVD 132	OTC	TRANSFER OF ECS RM TO LOCAL CONTROL COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1362	+01H25M	STM 111 NET 104 JBDY	JBDY QBSE GBHE	1. INSTALL CABLE AND POSTS AT FWD END OF FLAME TRENCH. 2. MOVE FLATBED TRUCK WITH 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. 3. PROVIDE NECESSARY ROPES AND STANCHIONS TO ESTABLISH CONTROL AREAS AS DIRECTED BY SAFETY.	33226
NOT PERFORMED					----- SS3
16-1363	+01H25M	JBAC 111 STM 232 LTD *SCC *SCC 105	STM LTD	PTCR/ECS RM DEPRESS COMPLETE UPPER AND LOWER BLAST DOORS OPEN	3321C 33215
16-1364				POST LAUNCH H2 AND O2 SYSTEM ----- SECURE AND POWER DOWN -----	
16-1365	+01H40M	CFCP 132	OTC	POST LAUNCH T-0 SYSTEM INERTING IS COMPLETE.	
16-1366	+01H40M	OTC 132	CFCP	PERFORM POST LAUNCH H2 AND O2 SYSTEM SECURE AND POWER DOWN PER OMI V1040 ON OIS CH 153. REPORT COMPLETION.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- INITIAL LO2 SAFING - COMPLETE -----					
16-1367	+01H45M	CLOX 136 *PSE 105 *SCC 232	TBC *SCC LTD	LO2 STORAGE AREA SAFING COMPLETE. STORAGE AREA CONTROL AREA MAY BE DROPPED AT THIS TIME. "E" ROAD WILL REMAIN CLOSED UNTIL LOX DUMP BASIN BUILOFF IS COMPLETE.	
16-1368	+01H50M	*PSE 105 *SCC 232	*SCC LTD	GH2 LESS THAN 1 PCT AT MLP SIDE 1 LH2 VALVE SKID SENSE PORT. YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH MLP HANDRAIL LIFT AND INSTALLATION.	
16-1369	+01H50M	*PSE 105 *SCC 232	*SCC LTD	SECURING MLP ZERO LEVEL. ACCESS NOW RESTRICTED TO PERSONNEL WHO ARE INSTALLING HANDRAILS, REMOVING SPENT ORDNANCE, OR REMOVING FILM	*BCS
16-1370	+01H50M	*PSE 105 *SCC 232	*SCC LTD	MLP ZERO LEVEL IS SECURED.	
16-1371	+01H50M	LTD 232 TBC 136	TBC CLHY	ET LH2 AND ETVAS ORDNANCE SAFING TEAMS PROCEED TO THE PSS 195 FT LEVEL	
16-1372	+01H50M	LTD STM 111 NET JBDY	STM JBDY QBSE 104 GBHE	1. INSTALL HANDRAILS IN FOLLOWING ORDER. A. MLP FLAME HOLE (PERMANENT) B. MLP PERIMETER (PERMANENT) C. ROLLING BEAM PLATFORM 2. INSTALL LADDERS TO PROVIDE ACCESS TO LEFT AND RIGHT SRB AFT SKIRT GN2 PURGE NEAR HDP NO. 2 AND HDP NO.6	3322C 33226

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1373	+02H00M	LTD 232 STM 111	STM JPHD JTCR	TECHNICOLOR AND RCA PERSONNEL CLEAR TO RETRIEVE LAUNCH FILM, VERIFY COMPLETE.	
16-1374	+02H00M	JBAC 113 STM 232 LTD *SCC *SCC 105	STM LTD *SCC *PSE	MLP HAS BEEN DEPRESSURIZED.	3321C 33215
HYDROGEN LESS THAN 1 PCT AT FSS ----- 195 FT, 155 FT AND 115 FT LVLS -----					
16-1375	+02H10M	*PSE 105 *SCC 232 LTD	*SCC LTD TBC	GH2 LESS THAN 1 PCT AT FSS 195 FT H2 VENT LINE SENSE PORT, 155 FT CENTAUR VENT LINE AND 115 FT CENTAUR FILL AND DRAIN AND VENT LINES.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- SECURE SLIDEWIRE SYSTEM -----					
16-1376	+02H10M	*PSE 105 *SCC 232 LTD	*SCC LTD STM	SLIDEWIRE SAFING TEAM PROCEEDING TO SECURE SLIDEWIRE SYSTEM	*BCS
NOTE					
PERFORM NEXT TWO STEPS ONLY IF SUCCEEDING LAUNCH SCHEDULE ALLOWS SUFFICIENT TIME.					
16-1377	+02H10M	STM 232 LTD *SCC 226	LTD *SCC *PSE	REQUEST APPROVAL TO TRAVERSE THE SLIDEWIRE BASKETS TO THE LANDING AREA	
NOT PERFORMED -----					
16-1378	+02H10M	STM NET 104	QBSE *SCC	TRAVERSE SLIDEWIRE BASKETS PER M3029. REPLACE ROPE BARRICADES AT ACCESS TO LANDING AREA	3322C 33226
NOT PERFORMED -----					
16-1379	+02H10M	STM NET 104	QBSE	SECURE THE SLIDEWIRE AT FSS 195 FT LEVEL WITH SAFETY CHAINS PER OMI M3029. REPLACE ROPE BARRICADES AT ACCESS TO LANDING AREA.	3322C 33226
16-1380	+02H10M	TBC 132 OTC	OTC CEPD	VERIFY SEQ 58 (S0007 V4) HAS BEEN COMPLETED AND ETVAS PIC CAP VOLTAGES WERE LESS THAN 1.5 VOLTS.	*BCS
16-1381	+02H10M	CEPD 132 OTC 232 LTD *SCC *SCC 105	OTC LTD	SEQ 58 IS COMPLETE, ETVAS PIC CAP VOLTAGES WERE LESS THAN 1.5 VOLTS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1382	+02H10M	*PSE 105 *SCC 232 LTD	*SCC LTD TBC	SAFETY VERIFIES CONCURRENCE TO PROCEED WITH ETVAS ORDNANCE REMOVAL PER OMI T5448.	*BCS
16-1383	+02H10M	TBC 136	TOPS	PERFORM FIRE LINE DISCONNECTION AND EXPENDED PYRO SEPARATOR ASSY REMOVAL PER OMI T5448 UN CH. 176.	
16-1384				508 GCU/FREON SYSTEM SECURING -----	
16-1385	+02H10M	UTC	*PAD	IN MLP COMPARTMENT 43A, CLOSE THE FOLLOWING FREON VALVES: SUPPLY A87743 RETURN A87744 START ELEV INSP/REPAIR -----	
16-1386	+02H10M	*PSE 105 *SCC 232 LTD STM STM 111	*SCC LTD	START ELEVATOR INSPECTION/REPAIR AND ACTIVATION. (TASK COMPLETION WILL OCCUR IN OMI S2005). (Q3015)	3322A 33221

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				PROVIDE FLOATS	
				NOTE	
				NEXT STEP SHALL NOT BE PERFORMED IF BURN IGNITERS ARE VERIFIED EXPENDED BY SPC SAFETY AND ORDNANCE ENGR.	
				THE REMOVAL MAY BE DOWN-GRADED TO NON-HAZARDOUS FOR BURN IGNITERS ONLY, AND REMOVED WHEN SSME ESP IS IN PLACE.	
16-1387	+02H20M	STM 111 JBDY	JBDY VEEE	PROVIDE FOUR FLOATS AT H2 BURN IGNITERS (MOUNTED ON SIDES OF TSM'S) ON MLP "U" DECK LEVEL. (FLOATS TO BE REMOVED AFTER IGNITERS ARE REMOVED).	33225
				NOT PERFORMED	-----
16-1388				TSM SECURING AND EXPENDED ----- ORDNANCE REMOVAL -----	
16-1389	+02H20M	UTC	CEPD	VERIFY MLP GSE PIC RACKS POWERED DOWN AND SECURE TO SUPPORT TSM SECURING AND EXPENDED ORDNANCE REMOVAL.	
16-1390		LTD 232	*SCC	VERIFY EXPENDED ORDNANCE WILL BE STORED IN SHOP TRAILER NO. 394 UNTIL PICKED UP BY ORDNANCE HANDLERS.	
16-1391		*SCC LTD 232 STM	LTD STM GORD	SCHEDULE ORDNANCE HANDLERS AT PAD FOR REMOVAL OF EXPENDED ORDNANCE. REPORT WHEN ORDNANCE IS STORED.	
		7-0575		RECORD DATE _____	TIME _____
		7-0576		SCHEDULED FOR PICKUP.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1392	+02H20M	CEPD 132 OTC 232 LTD *SCC *SCC 105	OTC LTD	MLP GSE PIC RACKS SECURE. READY FOR TSM SECURING AND EXPENDED ORDNANCE REMOVAL.	

WARNING

THE FOLLOWING STEPS ARE HAZARDOUS DUE TO PRESENCE OF PYROS AND POSSIBLE LACK OF OXYGEN IN TSMS.

PERSONNEL REMOVING PYRO FIRING CABLES SHALL WEAR PERSONNEL GROUNDING DEVICES.

16-1393		OTC 232 LTD TBC	LTD TBC CLHY	VERIFY LOX/LH2 TSM PURGES OFF	
16-1394		TBC 232 LTD 232 *SCC *SCC 105	LTD	LOX/LH2 TSM PURGES ARE OFF.	
16-1395	+02H20M	OTC	*PAD	OPEN LH2 AND LU2 TSM DOORS AND ENTER TSM'S (AFTER O2 CONTENT IS CHECKED) PER V3517 AND V3518 DO NOT ENTER UNTIL FOLLOWING STEP VERIFIED.	*BCS
16-1396		LTD 232 *SCC 105	*SCC *PSE	VERIFY O2 AND FREON CONTENT INSIDE LH2 TSM AND O2 CONTENT IN THE LO2 TSM IS ACCEPTABLE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1397		*PSE 105 *SCC 232 LTD OTC *PAD 132	*SCC LTD	LH2 AND LO2 TSM'S AREA READY FOR ENTRY. U2 AND TOXIC VAPOR CHECKS OF TSM'S COMPLETE.	
16-1398		LTD 232 *SCC 105	*SCC *PSE	VERIFY CONCURRENCE FOR CONTROLLED ACCESS TO REMOVE EXPENDED ORDNANCE. TSM PURGE IS OFF	
16-1399		*PSE *SCC LTD	*SCC LTD OTC	YOU HAVE SAFETY CONCURRENCE FOR CONTROLLED ACCESS TO TSM'S.	

WARNING

IF LIVE PYROS ENCOUNTERED DURING REMOVAL OPERATION, NOTIFY LTD TO PROVIDE ORDNANCE TRANSPORTATION.

16-1400	+02H20M	OTC	QDSM QHSM *PAD	REMOVE THE FOLLOWING ORDNANCE PER OMI V5027. DELIVER EXPENDED/REMOVED ORDNANCE TO PAD HOLDING AREA.	*BCS
				LOX TSM: DROPWEIGHT BOLT BONNET THRUSTER H2 IGNITER (3)	
				LH2 TSM: DROPWEIGHT BOLT BONNET THRUSTER H2 IGNITER (3)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT STEP IF
 ALL PYROS EXPENDED.

16-1401		*SCC 232 LTD STM 232 STM GORD 7-0575 7-0576	LTD	PROVIDE ORDNANCE TRANSPORTATION CREW AT PAD SURFACE TO TRANSPORT LIVE PYROS TO OSF. REPORT WHEN ORDNANCE STORED.	
				NOT PERFORMED	-----
16-1402		*PAD 132 OTC 232 *PSE *SCC 105	OTC LTD	TSM EXPENDED ORDNANCE REMOVAL IS COMPLETE. READY TO PROCEED WITH TSM SECURING.	
16-1403	+02H40M	LTD 232 OTC 132	OTC QOSM QHSM	PROCEED WITH TSM SECURING, AND CLEANING OF W.D.'S PER UMI V3517 AND V3518.	*BCS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				DROP ROADBLOCKS A-3, A-5, A-6	
16-1404	+02H20M	*SCC	LTD	AFTER ALL SAFING TEAMS HAVE *PSE ENTERED PAD, DROP ROADBLOCKS *SEC A-3,A-5,A-6. ACCESS TO PAD AND CLOTHING REQUIREMENTS WILL BE CONTROLLED BY PAD SITE MANAGER AND SPC SAFETY.	
				PERMANENT HANDRAIL INSTALLATION	
16-1405	+02H20M	*PSE 105 *SCC 232	*SCC LTD	HANDRAIL INSTALLATION IS IN WORK AROUND MLP ZERO LEVEL EXHAUST HOLES AND TO BE COMPLETED IN S2005.	
16-1406		LTD 232 *SCC 105	*SCC *PSE	ITEMS LISTED BELOW MUST BE VERIFIED COMPLETE BEFORE OPENING PAD FOR CONTROLLED WORK.	
				1. INITIAL PAD INSPECTION COMPLETE. (REF SEQ NO. _____)	----
				2. MLP SIDE 1 - HYDROGEN LESS THAN 1 PCT (REF SEQ NO. _____)	----
				3. CENTAUR HIGH POINT VENT LINE (FSS 155 FT LVL) AND CENTAUR FILL AND DRAIN AND VENT LINES (FSS 115 FT LVL) HYDROGEN LESS THAN 1 PCT. (REF SEQ NO. ____)	
				4. LH2 BLOCK VALVES - CLOSED (REF SEQ NO. _____)	----
				5. PTCR/MLP SNIFFED (REF SEQ NO. _____)	----
				6. ECS GN2 ISO VALVE CLOSED AND LOCKED (REF SEQ NO. _____)	----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
16-1406 CON'T				7. MLP ZERO LEVEL - ACCESS CONTROLS ESTABLISHED (IF HANDRAIL INSTALLATION, ORDNANCE REMOVAL OPERATIONS ARE COMPLETE, ACCESS CONTROLS ARE NOT REQUIRED) (REF SEQ NO. -----)	----
				8. L02/LH2/GH2 FACILITIES - INITIAL SAFING COMPLETE OR CONTROL AREAS ESTABLISHED (REF SEQ NO. -----)	----
DEBRIS INSP TEAM OPS (MLP) -----					
16-1407	+02H20M	LTD 232 *SCC 105	*SCC *PSE	DEBRIS INSPECTION TEAM MAY START INSPECTION OF MLP SURFACE AREA (95 FT LEVEL).	
16-1408	+03H00M	*PSE 105 *SCC 232	*SCC LTD	ITEMS LISTED IN PREVIOUS STEP HAVE BEEN COMPLETED. READY TO OPEN PAD FOR CONTROLLED WORK	*BCS
DECONFIG NMAJORTEST PSEUDO -----					
16-1409		OTC	LPS	ISSUE NMAJORTEST PSEUDO TO VALUE 31240 0000 HEXADECIMAL (0 DECIMAL) PER OMI C2008/C2015. REPORT COMPLETION.	
16-1410		LTD	LPS	ACTIVATE HIM 6880.	31240
16-1411		CARGO POST LAUNCH SECURING -----			
16-1412	+03H00M	CTC 134	DLES	PERFORM PAYLOAD CONSOLE SOFTWARE TERMINATION. REPORT COMPLETION.	
16-1413		CTC 232 LTD	LTD *SCC	VERIFY PTCR OPEN FOR CONTROLLED WORK.	
16-1414		CTC 134	ICTC	PERFORM POST LAUNCH SECURING PER DOP D290-50020-1. REPORT COMPLETION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- CONTINUE POST LAUNCH OPS -----					
16-1415	+03H00M	LTD 232	UTC TBC STM *SCC LPS JRPS	POST LAUNCH ENTRY PORTION OF S0007 COMPLETE, CONTINUE WITH POST LAUNCH SECURING PER UMI S2005.	*BCS
16-1416		LTD 232 *SCC	*SCC *SEC *PSE	OPEN PAD --- GATE FOR CONTROLLED WORK.	EG&G-430
16-1417		LTD PA		ATTENTION ALL PERSONNEL SUPPORTING POST LAUNCH SECURING, REPORT TO YOUR SUPERVISOR FOR UMI S2005 CALL TO STATION.	
16-1418	+03H00M	TBC 136	CLOX CLHY CMEC	PROCEED WITH POST LAUNCH SECURING PER UMI S2005.	
16-1419	+03H00M	LTD 232	STM	TOUR BUSES MAY RESUME OPERATION.	
16-1420	+03H00M	LTD 232 STM 111	STM JBFX	JBFX IS RELEASED FROM MONITORING OIS CH 232.	3322B

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT RELEASE FIRE,
 MEDICAL, ENVIRONMENTAL
 HEALTH AND SECURITY, SAFETY
 SUPPORT, REQ'D FOR OMI
 S2005 POST LAUNCH SECURING.

16-1421	+03H00M	STM	JSTC	POST LAUNCH ENTRY PORTION OF	EG&G-123
		111	JTCR	S0007 COMPLETE. SUPPORT POST	RCA-1
			JCFM	LAUNCH (OMI S2005) OR RETURN TO	31314
			JCMC	NORMAL SUPPORT.	31236
			JCTL		33310
			JBEP		3321A
			JBPM		3321B
			JBAC		3321C
			JBFX		3322B
			JBWC		3322C
			JBQC		
			JBDY		
	QBSE				

16-1422		JSTC	JSEP	POST LAUNCH ENTRY PORTION OF	EG&G-315
		114	GSPN	S0007 COMPLETE. SUPPORT POST	EG&G-123.2
		NET	JSAC	LAUNCH (OMI S2005) OR RETURN TO	EG&G-611
		104	JSDY	NORMAL SUPPORT.	EG&G-612
			JSQC		EG&G-510
			WCRG		EG&G-631
			*SCB		EG&G-622
			*SEC		EG&G-430
			JFIR		EG&G-420

16-1423	+03H00M	STM	GYCC	TERMINATE VOICE RECORDING FOR	34300
		111		OMI S0007. TEST COMPLETE,	34100
		GYCC	GYCR	SUPPORT POST LAUNCH	34200
		117	JYCJ	OPERATIONS (OMI S2005)	SC-COM
			JYVO		
			GOIS		
			JYCL		
	GYCB				

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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17-000

TABLE OF SOFTWARE FUNCTIONS

 (T-20 MINUTES THRU T-0)

NOTE

DATA CONTAINED IN THIS SEQUENCE IS FOR INFORMATION ONLY AND TO ENABLE STRIPOUT FOR OMRSD REQUIREMENTS MET BY AUTOMATED SOFTWARE FUNCTIONS. NO ACTUAL WORK STEPS ARE INCLUDED IN THIS SEQUENCE.

TABLE OF GLS FUNCTIONS

MINUS TIME	NOMENCLATURE	OMRSD	
20M00S 18M45S	OPS TRANSITION TO MM101 INITIATE TERM COUNT	S00FK0.090 S00FM0.020	GLS/DPS GLS
TERM LO2 REPLEN	CMD LO2 INBD VLV CLOSED	S00FM0.050	GLS-CRYO
07M26S	RETRACT OAA		GLS
TERM LO2 REPLEN	VFY LO2 TSM DRAIN INIT.	S00FM0.060	CRYO
05M03S 05M00S	VFY RC DK START ARM SRB/ET S&A DEVICES	S00FM0.140 S00FM0.200 S00FM0.210	GLS GLS GLS
04M30S 04M00S 03M55S	MFV HTRS OFF SSME PURGE SEQ 4 AEROSURFACE SLEW TEST	S00FM0.XXX S00FM0.250 S00FM0.270	GLS GLS GLS
03M30S 03M25S	XFER TO INT. PWR MPS GIMBAL PROFILE CHECK	S00FM0.220 S00FM0.300	GLS GLS
03M10S	MPS ENG TO START PUS.	S00FM0.310	GLS

OPERATION INSTRUCTIONS

 SEQ TIME CMD RESP DESCRIPTION VERIF.

TABLE OF GLS FUNCTIONS

MINUS TIME -----	NOMENCLATURE -----	OMRSD -----	
02M55S	LO2 TK PREPRESS	S00FM0.340	GLS-CRYD
02M55S	TERM SSME GN2 PURGE	S00FM0.350	GLS
02M50S	RETRACT GOX ARM		
02M35S	FC/PRSD XFER TO INTERN. REAC		
02M30S	VFY BODY FLAP OUTPUT	S00FM0.290	GLS
02M20S	XFER TO INTERN PRSD REACTANTS	S00FM0.260	GLS
01M57S	LH2 TK PREPRESS	S00FM0.400	GLS-CRYD
00M50S	VFY SRB MDM CRIT CMD	S00FN0.010	GLS
00M48S	SRB FLT RCDR ON (IF DFI INSTALLED)	S00FP0.010	GLS
00M48S	CL LO2/LH2 OBD FILL VLVS	S00FS0.010	GLS
00M40S	SRB FDM AUTO CAL (IF DFI INSTALLED)	S00FQ0.010	GLS
00M40S	ET BIPOD HTRS OFF	S00FQ0.020	GLS
00M40S	ET AFT HARDWARE HTRS OFF	S00FR0.020	GLS
00M40S	SRB FWD MDM LK-OUT	S00FQ0.060	GLS
00M38S	VENT DOORS TO LAUNCH CONFIG		RSLs
00M38S	VFY GOX ARM RETRACT		GLS
00M31S	REDUN SET AUTO SEQ	S00FR0.010	GLS

OPERATION INSTRUCTIONS

 SEQ TIME CMD RESP DESCRIPTION VERIF.

 TABLE OF GLS FUNCTIONS

MINUS TIME -----	NOMENCLATURE -----	UMKSD -----	
00M28S	SRB HPU START	S00FR0.070	GLS
00M21S	SRB GIMBAL PROFILE CK	S00FS0.030	GLS
00M18S	BDY FLAP/SPBK LAUNCH POSITION	S00FM0.280	RSLs
00M18S	ARM SRB ING, TSM, HDP ORD.	S00FS0.060	RSLs
00M16S	PRE T-0 S/S ON		GLS
00M16S	VFY ORD-ARMED	S00FS0.080	GLS/RSLs
00M13S	SRB AFT MDM LK-OUT	S00FS0.090	GLS
00M12.5S	VFY MPS LO2 RECIRC LINE COND.	S00FT0.010	RSLs
00M12S	MPS HE FILL TERM	S00FT0.040	GLS
00M11S	SRS INHIBIT REMVD	S00FT0.020	GLS
00M10S	FREE H2 SYS IGN.	S00FT0.110	GLS
00M10S	FWD CMD DECOD. OFF	S00FT0.070	GLS
00M10S	LPS GO FOR SSME START	S00FT0.100	GLS
00M9.5S	MPS LH2 PRE-VLV OP	S00FT0.030	RSLs
00M9.4S	CLOSE MPS LO2 OBD BLEED VLV		RSLs
00M08S	MPS LH2 RECIRC SYS DEACTIVATE	S00FT0.050	GLS
00M08S	PERF GND COOLING SHUTDOWN	S00FS0.020	GLS
00M08S	LH2 HI POINT BLEED VLV CLSD	S00FT0.060	GLS
00M06.6S	SSME START	S00FT0.130	RSLs
00M02S	90 PCT THRUST - ALL ENGINES		RSLs
00M00S	SRB HOLD DOWN REL		RSLs
00M00S	SRB IGNITION		RSLs
00M00S	LATCHBACK OAA; GUX ARM		GLS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
17-001				THE FOLLOWING OMRSD REQUIREMENTS WERE MET BY AUTOMATED SOFTWARE, (GROUND AND ONBOARD ORBITER).	
		OMRSD		S00FK0.090	
		OMRSD		S00FM0.020	
		OMRSD		S00FM0.050	
		OMRSD		S00FM0.060	
		OMRSD		S00FM0.140	
		OMRSD		S00FM0.200	
		OMRSD		S00FM0.210	
		OMRSD		S00FM0.250	
		OMRSD		S00FM0.270	
		OMRSD		S00FM0.220	
		OMRSD		S00FM0.300	
		OMRSD		S00FM0.310	
		OMRSD		S00FM0.350	
		OMRSD		S00FM0.290	
		OMRSD		S00FM0.260	
		OMRSD		S00FM0.400	
		OMRSD		S00FN0.010	
		OMRSD		S00FP0.010	
		OMRSD		S00FQ0.011	
		OMRSD		S00FQ0.020	
		OMRSD		S00FR0.020	
		OMRSD		S00FQ0.060	
		OMRSD		S00FR0.010	
		OMRSD		S00FR0.070	
		OMRSD		S00FS0.030	
		OMRSD		S00FM0.280	
		OMRSD		S00FS0.060	
		OMRSD		S00FS0.080	
		OMRSD		S00FS0.090	
		OMRSD		S00FT0.010	
		OMRSD		S00FT0.040	
		OMRSD		S00FT0.020	
		OMRSD		S00FT0.110	
		OMRSD		S00FT0.070	
		OMRSD		S00FT0.100	
		OMRSD		S00FT0.030	
		OMRSD		S00FT0.050	
		OMRSD		S00FS0.020	
		OMRSD		S00FT0.060	
		OMRSD		S00FT0.130	

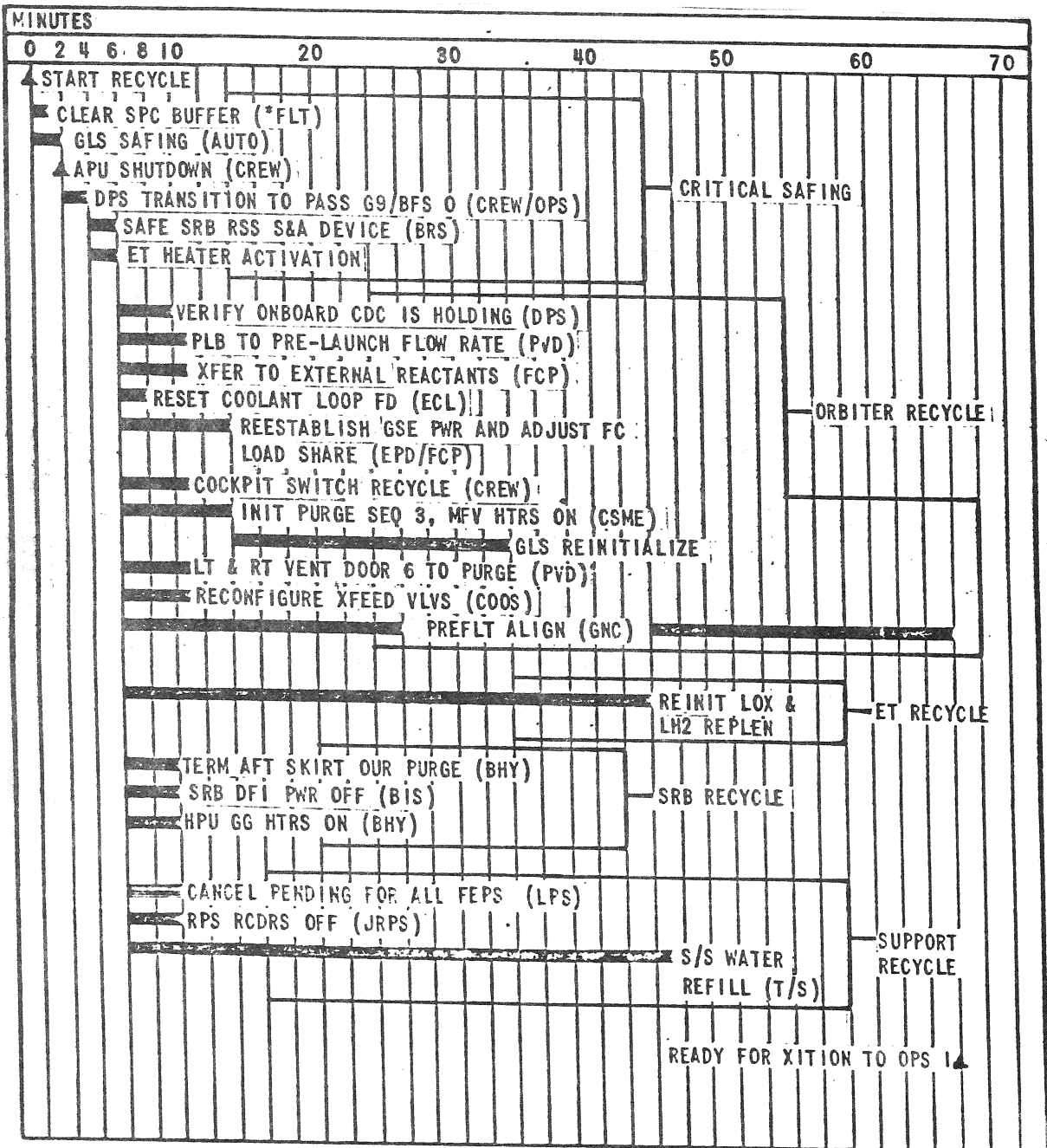


FIGURE 8 - RECYCLE CONTROL SEQUENCE
 (FOR REFERENCE ONLY)

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----	------	-----	------	-------------	--------

18-000				RECYCLE CONTROL SEQUENCE	
--------	--	--	--	--------------------------	--

NOTE

THIS IS A CONTINGENCY SEQUENCE
AND WILL BE UTILIZED 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

NON-CRITICAL RECYCLE ACTIONS
WILL NOT BE PERFORMED UNTIL
FOLLOWING CRITICAL OPERATIONS
ARE COMPLETE:

1. BFS SPC BUFFER CLEAR
2. ENGINE SHUTDOWN
3. GLS SAFING
4. APU SHUTDOWN
5. ECL HTR ACTIVATION
6. PAYLOAD SAFING (IF REQ'D)
7. G1 TO G9 TRANSITION
8. S&A'S TO SAFING
9. ET HEATER ACTIVATION

BFS SPC BUFFER CLEAR

NOTE

PERFORM NEXT STEP IF BFS
SPC LOAD HAS OCCURRED AND
GPC-5 MODE SW NOT IN HALT.

18-001		LTD	*FLT CLEAR THE BFS SPC BUFFER		
--------	--	-----	-------------------------------	--	--

NOT PERFORMED -----

OPERATION INSTRUCTIONS

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

GLS SAFING

NOTE

GLS SAFING WILL AUTOMATICALLY BE INITIATED AT CUTOFF. SPECIFIC OPERATIONS ARE DEPENDENT UPON CUTOFF TIME AND ARE DELINEATED IN S9005.

18-002

CGLS LTD GLS SAFING HAS STARTED. (MONITOR FOR ERRORS). (PG-4B)

SAFING COMMANDS

SAFING COMMANDS

SAFING VERIFICATIONS

STOP GROUND/VEHICLE CLOCKS
 CMD DECODERS PWR ON
 UNLOCK SRB FWD MDMS
 SAFE SRB IGN S/A
 TERM LOX PREPRESS
 TERM LH2 PREPRESS
 GCU COOLING RECONFIG
 H2 BURN FIRE CMDS OFF
 INHIBIT SRB/ET RSS
 UNLOCK SRB AFT MDMS
 SHUTDOWN SRB HPU'S
 OPEN LO2 OVBD BL VLV'S
 SRB DFI RCDRS STOP
 SRB DFI FDM AUTO
 CAL-OFF
 H2 BURN ARM CMDS OFF
 START MPS GN2 PURGE
 INITIATE PURGE SEQ 3
 (ONLY BEFORE SSME IGN)
 SAFE ET - RSS S&A
 MFV HTRS ON
 OAA EMERG EXTEND
 MPS/SSME SAFING
 (ONLY AFTER SSME IGN)

GO FOR APU SHUTDOWN
 MPS FIRE DETECTORS ON
 VENT DOOR CONTROL
 VENT 4,7 CLOSED
 VENT 3 CLOSED
 VENT 6 AT PURGE 1
 CLOSE VENT 5
 VENTS 1,2 PURGE
 VENTS 8,9 PURGE
 SRB DFI OFF
 FWD LCA FIRE INHIBIT
 COMM INTERRUPT FOR
 GOX VENT ARM SENT TO
 CMEC
 VENT DOOR CMDS OFF

CMD DECODERS ON
 RSS INHIBIT
 SRB HPU RECONFIGURE
 URBITER VENT DOORS
 ET RSS SAFE
 SRB IGN S AND A SAFE
 SRB IGN VOLTAGE LOW
 MPS OVERBOARD BLEED
 VLV OPEN
 MPS POGO VLV CLOSED
 SSME GN2 PURGE
 (OXIDIZER
 DOME/HPOTP INT SEAL)
 URDNANCE ARM
 VOLTAGE

OPERATION INSTRUCTIONS

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

 APU SHUTDOWN

NOTE

IF APU'S ARE OPERATING,
 PERFORM NEXT SIX STEPS.

18-003		CGLS	OTC	GLS GO FOR APU SHUTDOWN NOT PERFORMED	-----
--------	--	------	-----	--	-------

18-004		OTC	PLT	PERFORM APU SHUTDOWN. NOT PERFORMED	-----
--------	--	-----	-----	--	-------

NOTE

MASTER ALARMS MAY OCCUR
 IN NEXT STEP.

18-005		PLT		PANEL R2 APU/HYD APU AUTO SHUTDOWN - ENABLE APU CONTROL 1 SW - OFF 2 SW - OFF 3 SW - OFF APU FUEL TANK VLV 1 SW - CLOSE 2 SW - CLOSE 3 SW - CLOSE APU CONTROL POWER (VERIFY) 1 SW - ON 2 SW - ON 3 SW - ON NOT PERFORMED	-----
--------	--	-----	--	---	-------

18-006		CAPU	CRT	VAF34 VERIFY APU READY APU 1/2/3 - ON TURBINE SPEED APU 1/2/3 - L.T. 5 PCT ISO VLVS 1A/2A/3A - CB CYAN 1B/2B/3B - CB CYAN APU AUTO SHUTDOWN - ENABLE NOT PERFORMED	-----
--------	--	------	-----	--	-------

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
18-007		PLT OTC	OTC LTD	APU SHUTDOWN COMPLETE. NOT PERFORMED	-----
18-008				CAPU RECORD APU RUN TIME: CAPU ----- (RECORD TIME) (END APU SHUTDOWN) NOT PERFORMED	-----
				ECL HTR RECONFIGURATION -----	
				NOTE DO NOT PERFORM NEXT THREE STEPS UNLESS COUNTDOWN PROCEEDED PAST T-5 MIN.	
18-009		OTC	CDR	RECONFIGURE HEATERS. NOT PERFORMED	-----
18-010			CDR	PANEL L2 FLASH EVAPR FEEDLINE HTR A SUPPLY SW - 2 B SUPPLY SW - 2 NOT PERFORMED	-----
18-011		CDR OTC	OTC LTD	HTR RECONFIGURATION COMPLETE. NOT PERFORMED	-----
18-012		OTC	LPS	PLACE P/P 1 UNITS 5 AND 6 AND 31240 P/P 2 UNITS 5 AND 6 (VALVE POSITION MONITORING PLOTS) OFFLINE AND RESERVICE WITH ADEQUATE CONSUMABLES.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				VERIFY READY FOR G9 TRANSITION -----	
18-013		CGLS OTC	UTC LTD	GLS SAFING COMPLETE. READY FOR G9 TRANSITION.	
18-014		*FLT	LTD	BFS SPC BUFFER CLEAR. READY FOR G9 TRANSITION.	
18-015		LTD	CMPL CLOX	VERIFY CONFIGURED FOR G9 TO G1 GPC OPS TRANSITION. G1 TO G9 TRANSITION -----	
18-016		LTD UTC	OTC CDPS	PERFORM PASS TRANSITION TO GNC9	
18-017			CDPS	DEACTIVATE LCC MONITORS APPLICATIONS PAGE (VASb9 PG-B) PFK 2 KEY - PRESS FLT CNTL PWR - OFF -----	
18-018			CDPS CDR	PANEL F7 FLT CNTLR PWR SW - OFF	
18-019			CDPS PLT	PANEL F8 FLT CNTLR PWR SW - OFF	
18-020			CDPS PLT	PANEL O6 GENERAL PURPOSE COMPUTER MODE 5 SW - STBY	
NOTE					
DO NOT PERFORM NEXT STEP IF VASJ6 ACTIVE.					
18-021			CDPS	CONSOLE KYBD HOME CMD KEY - PRESS VASJ6 PERF PGM KEY - PRESS	

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
18-022		CDPS		PFP PANEL PFPK (VASJ6) KEY - PRESS PFPK 4 KEY - PRESS	
18-023		CDPS		CRT (VASJ6 PG-8) FOLLOW COUNTDOWN RECYCLE PROMPTS	
18-024		CDPS		CONSOLE CRT (VAS59) VERIFY BFS IN OPS 000 AND PASS CMDS PL BUSSES AND CRTS 1 AND 2.	
18-025		CDPS		CONSOLE CRT (VASJ6 PG-8) VERIFY: BSR READ DISPLAY DL FORMAT 44 ACTIVE	
NOTE					
IF SPACELAB INSTALLED PERFORM NEXT THREE STEPS.					
18-026		CDPS	CDR	PANEL C2 LEFT CRT SEL SW - 1	
18-027		CDPS	CDR	L KYBD SPEC 100 PRO ITEM 12 + 60 EXEC ITEM 13 EXEC RESUME	NOT PERFORMED -----
18-028		CDPS		CONSOLE CRT (VAS59) VERIFY DL FORMAT GOES CYAN	NOT PERFORMED -----
18-029		CDPS	OTC	DPS IS CONFIGURED TO GNC9 DL FORMAT ----. BFS IS IN OPS 0 STBY.	
18-030		OTC	LTD 212 TBC	GPC IN PASS G9/BFS/UPS 0	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ET HEATER ACTIVATION -----					
NOTE NEXT THREE STEPS ARE TO BE PERFORMED WITHIN 5 MINUTES OF HOLD/ABORT IF HEATERS HAVE BEEN TERMINATED.					
18-031		TBC	CPWR	REACTIVATE BI-POD AND AFT STRUT HEATERS.	NOT PERFORMED -----
18-032			CPWR	PFP (TW495) BIPOD HTR PWR - PRESS BIPODS ON - PRESS AFT HTR PWR - PRESS AFT LH2 HTR ON - PRESS AFT HTR PWR - PRESS AFT LO2 HTR ON - PRESS CRT (TD490) VERIFY BIPOD HTR CURRENTS 0.8 - 1.2 A LH2 AFT HTR CURRENTS 0.19 - 0.31 A LO2 AFT HTR CURRENTS 1.38 - 2.02 A	NOT PERFORMED -----
18-033		CPWR	TBC	ET HEATERS HAVE BEEN ACTIVATED.	NOT PERFORMED -----
		TBC	LTD		
18-034		LTD	TBC	PERFORM ET T-20 MIN RECYCLE PER SEQ 21.	-----
18-035		LTD	*FLT	PERFORM ITEM 2.2, APPENDIX Q FOR DOD MISSION.	NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT TWO STEPS IF MECS WERE TURNED OFF DURING ONE OF THE ABORT SEQUENCES.					
18-036		OTC	PLT	PANEL 017 ROW D MEC 1 SW - ON 2 SW - ON	NOT PERFORMED -----
18-037		LTD TBC	TBC CPWR	APPLY SRB POWER PER OMI S9001.	NOT PERFORMED -----
S&A SAFING -----					
WARNING					
THE NEXT THREE STEPS ARE TO BE PERFORMED IF COUNT PASSED T-5M.					
18-038		LTD OTC	OTC	PERFORM SRB RSS S&A SAFING (POST G9 CGLS RECYCLE).	NOT PERFORMED -----
18-039		OTC	CDPS	DEU EQUIVALENTS AND MEC CRITICAL CEPD CMD'S WILL BE ISSUED MOMENTARILY.	NOT PERFORMED -----
18-040		CGLS OTC	OTC LTD	SRB RSS S&A'S ARE SAFED AND MEC CRITICAL CMD'S ARE DISABLED.	NOT PERFORMED -----

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF CFES IS FLOWN.

18-041		OTC	PS1	REACTIVATE CFES PER YOUR CHECKLIST.	
--------	--	-----	-----	-------------------------------------	--

NOT PERFORMED

 INCR PLB FLOW RATE

WARNING

IF DOD MISSION, DO NOT PERFORM NEXT THREE STEPS.

NOTE

PERFORM NEXT THREE STEPS ONLY AT OTC REQUEST.

18-042		OTC	CPVD	INCREASE PLB FLOW RATE. REPORT COMPLETION.	
--------	--	-----	------	--	--

NOT PERFORMED

18-043			CPVD	CURSOR CNTL (VAM31) INCREASE PLB FLOW RATE TO:	
--------	--	--	------	---	--

230 LBS/MIN. +/- 10 LBS/MIN.

NOT PERFORMED

18-044		CPVD	OTC	PLB FLOW RATE HAS BEEN INCREASED TO 230 LBS/MIN.	
--------	--	------	-----	--	--

NOT PERFORMED

18-045		OTC	CPVD	IF DOD MISSION, PERFORM ITEM 11.15, APPENDIX Q.	
--------	--	-----	------	--	--

NOT PERFORMED

18-046		OTC	CGSS	VERIFY OAA IS EXTENDED, LOCKED AND CONFIGURED FOR RETRACT.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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CRITICAL SAFING COMPLETE

18-047		OTC	LTD	CRITICAL SAFING COMPLETE.	
18-048		NTD	LTD TBC	PERFORM LOX STABLE REPLENISH OR STABLE DRAIN PER ET RECYCLE SEQUENCE. A SECOND LAUNCH ATTEMPT (WILL/WILL NOT) _____ BE ATTEMPTED.	

NOTE

IF PREFLIGHT ALIGN WILL BE PERFORMED, PROCEED WITH ATT DET AT 56 MIN PRIOR TO OPS 101 TRANSITION. BEGIN PREFLIGHT ALIGN AT 51 MIN PRIOR TO OPS 101) TRANSITION.

IF PREFLIGHT ALIGN WILL BE PERFORMED, PERFORM NEXT STEP.

18-049		LTD	OTC	PERFORM IMU PREFLIGHT ALIGN PER	
		OTC	CGNC	UMI V1123. REPORT COMPLETION.	

OPS 101 TIME _____ GMT
 ATT DET (OPS 101-56M) _____ GMT
 PFA (OPS 101-51M) _____ GMT

OMRSD S00E00.890

NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ELEMENT RECYCLE					
18-050		LTD 212	ALL	ALL TEST TEAM PERSONNEL RETURN TO YOUR NORMAL COMMAND CHANNEL. ORBITER PERSONNEL REMAIN ON OIS CH 212.	
18-051		LTD	OTC	PERFORM RECYCLE TO T-20 MIN	
			TBC	STATUS PER FOLLOWING SEQUENCES:	
			STM	REPORT COMPLETION.	
			LPS		
			JRPS	ORBITER.....SEQ 19	
			*FLT	SRB.....SEQ 20	
				ET.....SEQ 21	
				SUPPORT.....SEQ 22	
				MCC-H.....SEQ 23	
				CARGO.....SEQ 24	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

THE CREW EGRESS OPERATIONS
MAY CONTINUE IN PARALLEL WITH
RECYCLE TO T-20 MIN. CONFIGURATION.

PERFORM THIS SECTION FOR
EXPEDITED CREW EGRESS.

CREW EGRESS OPERATIONS

NOT PERFORMED

18-052

TBC LTD
212

1. LOX IN STABLE DRAIN OR STABLE REPLENISH (SPECIFY).
2. LH2 IN TERMINAL COUNT SAFING (TCS)
3. ET RECYCLE TO T-20 MINUTE CONFIG IS COMPLETE.

NOTE

FLIGHT CREW EGRESS MAY BE
EFFECTED AT THIS TIME.
CRITICAL CRITERIA FOR CLOSEOUT
PERSONNEL AND ASTRO VAN
RE-ENTRY TO PAD IS LISTED BELOW.

1. GLS SAFING COMPLETED
2. SSME'S SAFED
3. OAA EXTENDED
4. LEAK AND FIRE DETECTOR STATUS SATISFACTORY
5. LOX IN STABLE DRAIN/REPLENISH (SPECIFY)
6. LH2 IN TERMINAL COUNT SAFING (TCS)
7. ET AND SRB RSS S&A'S SAFED
8. SRB IGNITION S&A DEVICE SAFED.

FLIGHT CREW MAY CONTINUE
SUPPORTING RECYCLE OPERATIONS
UNTIL CLOSEOUT PERSONNEL HAVE
HATCH OPEN. ASP MAY CONTINUE
RECYCLE SUPPORT AT DISCRETION OF
THE LTD.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
18-053		STM 138	JYVO JYVR	PROVIDE VIDEO TRACKING AND RECORDING OF CLOSEOUT CREW PERSONNEL UNTIL CREW EGRESS USING OTV CAMERAS 080, 036/136, 027/127, 035/135, 006/106, 005/105. (SEE JYVO FIG 4 OTV CAMERA MATRIX).	34200
18-054		LTD 232 *SCC 105	*SCC *PSE JFIR	SHUTTLE SYSTEM IS SAFED FOR FLIGHT CREW EGRESS, CLEAR CLOSEOUT CREW VEHICLE THRU ROADBLOCK A11. FIRE WILL STANDBY AT A-5 ROADBLOCK UNTIL ALL PERSONNEL LEAVE PAD.	EG&G-420
18-055		LTD 232	OTC	SEND CLOSEOUT CREW TO PAD FOR CREW EGRESS.	
18-056		LTD 232 STM 111 GYCC 117	STM GYCC JYCJ	ACTIVATE OIS-RF TO PAD _____. REPORT COMPLETION.	
18-057		OTC 105	OVCC	PROCEED TO PAD FOR FLIGHT CREW EGRESS OPERATIONS. PORTABLE O2 METER IS REQUIRED TO CHECK O2 CONTENT IN WHITE ROOM.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
18-058		*PSE	*SCC	CLOSEOUT CREW HAS BEEN CLEARED	
		*SCC	LTD	THROUGH ROADBLOCK A-5 TO PAD FOR	
		LTD	OTC	CREW EGRESS.	
		232			

TASK: CLOSEOUT CREW OPS

ACCESS CODE - 2

CONTROL AREA -

1. BDA

ESSENTIAL PERSONNEL IN CLOSEOUT
CREW VEHICLES (FOR CREW EGRESS)

	ORB	NASA
CLOSEOUT CREW LEADER	1	
ASTRONAUT		1
NASA GC		1
MECH TECH	2	
SUIT TECH		1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
18-059		OVCC 212	OTC	O2 CONTENT OF WHITEROOM IS ACCEPTABLE.	
NOTE					
IF O2 CONCENTRATION IN OAA WHITE ROOM OR CREW MODULE IS LESS THAN 20 PCT AS INDICATED ON W/R O2 METER, PERFORM NEXT THREE STEPS TO OPEN LEEWARD VENT DOORS 1 & 2.					
18-060			OTC CPVD	OPEN ORBITER VENT DOORS 1&2 ON LEEWARD SIDE, REPORT COMPLETION.	
NOT PERFORMED -----					
18-061			CPVD	CURSOR CNTL (VAM31/VAM09) VENT DOOR 1&2 (LEEWARD) OPEN TARGET XMIT CURSOR	
NOT PERFORMED -----					
18-062			CPVD OTC	VENT DOOR OPENING COMPLETE.	
NOT PERFORMED -----					
18-063		OVCC 212	OTC	CONFIGURE WHITE ROOM FOR ORBITER EGRESS PER ORBITER OPERATION SUPPORT SETUP 19 - (INGRESS AND SWITCH OPERATIONS MAY BE PERFORMED BY ASP). REPORT ON CH 212.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

VERIFY CABIN VENTING PER
ECLSS RECYCLE COMPLETE
BEFORE PROCEEDING WITH
HATCH OPENING.

18-064		OVCC	UTC	READY TO OPEN CREW HATCH.	
		212			
		OTC	CDR	STANDBY FOR HATCH OPENING.	
		212			
		OTC	OVCC	OPEN CREW MODULE HATCH AND INSTALL AIR DUCT IN CREW MODULE PER URB OPERATION SUPPORT SETUP 33 AND CHECK CABIN O2 CONTENT.	
		232			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.															
18-065		LTD 232 *SCC	*SCC *SEC *PSE	CLEAR ASTRO VAN - CREW VAN THROUGH ROADBLOCK A-5. TASK: ASTRO VAN - CREW VAN ENTRY ACCESS CODE - 2 ----- CONTROL AREA - ----- 1. BDA ESSENTIAL PERSONNEL IN CREW ----- TRANSFER VAN FOR CREW EGRESS -----	EG&G-430															
				<table border="0"> <thead> <tr> <th></th> <th>NASA</th> <th>OTHER</th> </tr> <tr> <th></th> <th>----</th> <th>-----</th> </tr> </thead> <tbody> <tr> <td>SUIT TECH</td> <td>1</td> <td></td> </tr> <tr> <td>VAN DRIVER</td> <td></td> <td>1</td> </tr> <tr> <td>SECURITY</td> <td>1</td> <td>1 (EG&G)</td> </tr> </tbody> </table>		NASA	OTHER		----	-----	SUIT TECH	1		VAN DRIVER		1	SECURITY	1	1 (EG&G)	
	NASA	OTHER																		
	----	-----																		
SUIT TECH	1																			
VAN DRIVER		1																		
SECURITY	1	1 (EG&G)																		
18-066		NTD 105	*AVN	ASTROVAN IS CLEARED THRU A-5 ROADBLOCK TO PAD SURFACE FOR FLIGHT CREW EGRESS.	EG&G-430															
18-067		OVCC 212 OTC 232	OTC LTD	CABIN O2 CONTENT IS ACCEPTABLE. READY TO PROCEED WITH CREW EGRESS.																
18-068		LTD 232 OTC 212	OTC OVCC	EGRESS FLIGHT CREW.																

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
18-069		STM 138	JYVO JYVR	PROVIDE VIDEO TRACK AND RECORDING 34200 PER UMI A5204 DURING FLIGHT CREW EGRESS AND RETURN TO O&C, USING OTV CAMERAS/INPUT 005/105,004/104, 006/106,035/135,036/136,027/127,080 TV-5,1TVM2112 (SEE JYVO FIG 4, OTV CAM MATRIX).	
18-070		OTC 212	CDR	VERIFY READY FOR FLIGHT CREW EGRESS: PANEL L5 COMM PWR SW - OFF PANEL R6 COMM PWR SW - OFF PANEL A11 MS COMM CCU PWR SW - OFF PANEL A15 PS COMM CCU PWR SW - OFF PANEL M039M MIDDECK COMM CCU PWR SW - OFF DISCONNECT: SHOULDER HARNESS/LAP STRAP U2 HOSES COMM CABLES BIOMED (IF REQUIRED)	

NOTE

PERFORM NEXT STEP IF ASP WILL BE INGRESSING CABIN AND USING COMM HEADSET.

18-071		ASP	PANEL -----		
			1. --- COMM CCU PWR SW - OFF		
			2. CONNECT COMM CABLE WITH HEADSET TO APPLICABLE COMM (CCU) OUTLET		
			3. --- COMM CCU PWR SW - ON		

NOT PERFORMED -----

OPERATION INSTRUCTIONS

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

NOTE

SUIT TECH AND MECHANICAL TECH WILL ESCORT FLIGHT CREW IN ELEVATOR DOWN TO THE ASTRO VAN.

18-072		OVCC 212 UTC LTD 232	OTC LTD *SCC	FLIGHT CREW HAS EGRESSED ORBITER CREW COMPARTMENT AND PREPARING TO LEAVE WHITE ROOM.	
18-073		*AVN 105 NTD 232	NTD LTD *SCC	ASTROVAN AND FLIGHT CREW ARE DEPARTING PAD SURFACE.	
18-074		UTC 212	ASP	THIS STEP WILL TERMINATE ASTRO COMM (WITH ASP). PERFORM ONLY IF (ASP) USING COMM HEADSET. PANEL ----- --- COMM CCU PWR SW - OFF DOFF COMM HEADSET AND LEAVE IN PLACE NOT PERFORMED -----	
18-075		OVCC 212 UTC LTD 232	OTC LTD *SCC	ORBITER AND WHITE ROOM SECURING IS COMPLETE FOR DETANKING. READY TO CLEAR BACK TO ROADBLOCK.	
18-076		LTD 232 UTC 212	OTC OVCC	CLEAR ALL PERSONNEL TO ROADBLOCK A-5. REPORT WHEN PERSONNEL AT A-5 ROADBLOCK.	
18-077		STM 138	JYVO	PROVIDE VIDEO TRACKING OF THE 34200 CLOSEOUT CREW - PAD TO ROADBLOCK A-5 UTV CAMERAS 005/105,006/106,035/135,027/127,036/136. (SEE JYVO FIG 4 UTV CAMERA MATRIX).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
18-078		LTD 232 *SCC 105	*SCC *PSE	ALL PERSONNEL ARE CLEARING BACK TO ROADBLOCK A-5. REPORT WHEN FLIGHT CREW VAN PERSONNEL AND CLOSEOUT CREW HAVE CLEARED ROADBLOCK A-5.	
18-079		*PSE *SCC 232	*SCC LTD	ASTRO VAN HAS CLEARED THRU ROADBLOCK A-5 ENROUTE TO O&C.	
18-080		OVCC 105 OTC 232	OTC LTD	CLOSEOUT CREW IS BACK AT ROADBLOCK A-5.	
18-081		*PSE 105	*SCC	ALL PERSONNEL ARE AT ROADBLOCK A-5.	
18-082		STM 138	JYVO JYVR	TERMINATE VIDEO TRACKING OF CLOSEOUT CREW AND FLIGHT CREW TRACKING/RECORDING. (SEE JYVO FIGURE 4 OTV CAMERA MATRIX). CREW EGRESS COMPLETE	34200
18-083		LTD 232	OTC TBC STM LPS JRPS *FLT CTC	VERIFY RECYCLE IS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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SCRUB DECISION POINT

NOTE

DO NOT PERFORM NEXT
STEP IF DECISION TO
SCRUB HAS BEEN ANNOUNCED.

18-084

LTD	OTC	NEW T-ZERO WILL BE	GMT.
232	TBC	COUNTDOWN CLOCKS WILL PICK UP AT	
	LPS	T-20 MINUTES AND COUNTING AT	
	SPE	GMT.	
	STM		
	*SCC		
	CMD		
	*FLT		
	CTC		
	CDR		
	PLT		
	SRU		
	LRD		
	*MIL		
	LD		

NUT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
18-085		NTD LTD 232	LTD OTC TBC LPS SPE STM *SCC CMD *FLT CTC CDR PLT SRO LRD *MIL LD	IF SCRUB DECISION HAS BEEN ANNOUNCED, PROCEED TO SEQ 30 (S0007 VL3).	
				NOT PERFORMED	-----
				NOTE	
				IF COUNT WILL NOT BE RESUMED AT T-20 MIN (DUE TO SCRUB), MARK NEXT 12 STEPS NOT PERFORMED.	
				PREPS TO RESUME AT T-20 MINUTES	

				FLT CNTLR PWR - ON	

18-086		OTC	CDR	PANEL F7 FLT CNTLR PWR SW - ON	
				NOT PERFORMED	-----
18-087		OTC	PLT	PANEL F8 FLT CNTLR PWR SW - ON	
				NOT PERFORMED	-----
18-088		LTD	OTC TBC	REPORT STATUS OF LAUNCH POLYNOMIAL AND SRM CHAMBER PRESSURE CALIBRATION UPDATES.	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF REQUIRED THE PASS/BFS ONE-SHOT DATA TRANSFER SHOULD BE STARTED APPROXIMATELY 12 MINUTES PRIOR TO OPS 101 TRANSITION.

A BFS ONE SHOT DATA TRANSFER MUST BE PERFORMED ONLY IN THE EVENT OF:

A LAUNCH POLYNOMIAL UPDATE.

A SRM CHAMBER PRESSURE CALIBRATION UPDATE.

AN IMU PREFLIGHT CALIBRATION.

IF NONE OF THE ABOVE CRITERIA ARE MET, DO NOT PERFORM THE "PASS/BFS ONE SHOT DATA TRANSFER" (NEXT 6 STEPS).

PASS/BFS ONE SHOT DATA TRANSFER

18-089	L-42M	UTC	CDPS CDR	PERFORM PASS/BFS ONE SHOT DATA TRANSFER.	NOT PERFORMED	-----
18-090			CDPS CDR	PANEL C2 LEFT CRT SEL SW - 3 L KYBD RESUME CRT 3 BFS GPC MEMORY	NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
18-091		CDPS	CDR	L KYBD ITEM 25 EXEC CRT 3 25* CDR PANEL C2 L CRT SEL SW - 1	NOT PERFORMED -----
18-092		CDPS		CONSOLE PFP (VASJ6) PFPK1 - PRESS (ONE-SHOT SELECT) NOT PERFORMED	-----
18-093		CDPS	CDR	CRT 3 (BFS MEMORY DISPL) ITEM 25 (VERIFY NO*) NOT PERFORMED	-----
18-094		CDPS		CONSOLE KYBD (VASJ6) PFK1 - PRESS (VERIFY ONE SHOT COMP) NOT PERFORMED PREFLIGHT ALIGN - COMPLETE -----	-----
18-095		CGNC	OTC	IMU PREFLIGHT ALIGN COMPLETE. READY FOR OPS TRANSITION. OPS TRANSITION MUST OCCUR WITHIN 10 MINUTES. NOT PERFORMED	-----
18-096		CGNC		CONSOLE KYBD ISSU N72IV101D #0 XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS C CO _DEU2G LDBA C12 XMIT CMD - PRESS NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
18-097				COMPLETION OF THIS SEQUENCE SATISFIES THE LISTED REQUIREMENTS BELOW.	
		UMRSD		S00E00.930	
		UMRSD		S00E00.750 (P)	
		UMRSD		S00E00.760	
		UMRSD		S00E00.770	
		UMRSD		S00E00.950	
		UMRSD		S00E00.720	
		UMRSD		S00E00.A90	
		UMRSD		S00E00.800	
		UMRSD		S00E00.780	
		UMRSD		S00E00.050	
		UMRSD		S00E00.150	
		UMRSD		S00E00.160	
		UMRSD		S00E00.800	
		UMRSD		S00E00.810	
		UMRSD		S00E00.820	
		UMRSD		S00E00.830	
		UMRSD		S00E00.980	
		UMRSD		S00E00.820	
		UMRSD		S00E00.870	
		UMRSD		S00E00.790	
		UMRSD		S00E00.850	
		UMRSD		S00E00.880	
		UMRSD		S00E00.710	
		UMRSD		S00E00.730	
		UMRSD		S00E00.880	
		UMRSD		S00E00.750 (P)	
		UMRSD		S00E00.900	
				NOT PERFORMED	-----

NOTE

RETURN TO OMI CONTROL
SEQUENCE AT T-20 MIN
RECYCLE ENTRY POINT.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
19-000				*** ORBITER RECYCLE ***	

NOTE

THIS IS A CONTINGENCY SEQUENCE
AND WILL BE UTILIZED ONLY IF
RECYCLE IS REQUIRED.

ENTIRE SEQUENCE NOT PERFORMED

19-001		OTC		COUS PERFORM SUBSYSTEM RECYCLE CDPS OPERATIONS. REPORT COMPLETION. CEPD CFCP CECL CGLS CSME CMPL CMPS CHYD CAPU CISL CGNC	
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OPERATION INSTRUCTIONS

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

NOTE

IF FLIGHT CREW EGRESS IS TO BE PERFORMED, PROCEED TO NEXT SECTION FOR COCKPIT SERVICING PRIOR TO EGRESS.

IF FLIGHT CREW EGRESS IS NOT TO BE PERFORMED, RETURN TO SEQ 18 (STEP _____), T-20 MIN. PREPS.

RECONFIGURE CABIN

- | | | | | | |
|--------|--|-----|------|--|--|
| 19-002 | | OTC | CREW | OPEN LEH VISORS | |
| 19-003 | | OTC | ALL | COCKPIT WILL BE CONFIGURED TO T-20 MIN CONFIGURATION AT THIS TIME. | |
| 19-004 | | UTC | PLT | PANEL R1
AC BUS SENSOR SYS (THREE) - OFF,
DELAY 1 SEC, AUTOTRIP
PANEL R2

1. APU CNTLR PWR (THREE) - OFF
2. HYD MAIN PUMP PRESS (THREE) - NORM | |

NOTE

IF RECYCLE PERFORMED DUE TO ENGINE ABORT OR RELATED SSME PROPELLANT VALVE FAILURE, DO NOT SET HYD CIRC PUMP SWITCHES TO "GPC" OR "ON" IN NEXT SUBSTEP.

3. HYD CIRC PUMP (THREE) - GPC

NOT PERFORMED

SS3

OPERATION INSTRUCTIONS

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

NOTE

PERFORM THIS SECTION "COCKPIT
SECURING FOR EGRESS", ONLY
FOR SCRUB OPERATIONS.

COCKPIT SECURING FOR EGRESS

NOT PERFORMED

THIS SECTION CONTAINS
COCKPIT SWITCH ACTIONS
THAT ARE TO BE PERFORMED
PRIOR TO CLEARING CABIN
FOR LH2 DRAIN OPERATIONS.

THE FLIGHT CREW WILL
PERFORM THIS SECTION PRIOR
TO EGRESSING IF TIME PERMITS.
ASP WILL FINISH ANY SWITCH
ACTIONS IF FLIGHT CREW EGRESSES
BEFORE COMPLETION.

THESE SWITCH ACTIONS ARE
NOT A CONSTRAINT TO FLIGHT
CREW EGRESS, NOMINAL OR
CONTINGENCY.

19-005

OTC LTD PROCEEDING WITH COCKPIT SECURING
FOR EGRESS.

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.

OMS/RCS ISOLATION VLVS - GPC					

19-006		OTC 212	PLT	PANEL 08 LEFT OMS TANK ISOLATION A SW - GPC A TB OP B SW - GPC B TB OP LEFT OMS CROSSFEED A SW - GPC TB CL B SW - GPC TB -- RIGHT OMS TANK ISOLATION A SW - GPC A TB OP B SW - GPC B TB -- RIGHT OMS CROSSFEED A SW - GPC A TB CL B SW - GPC B TB CL	

VOLUME 2 OF 4
DATE: 01-11-86

OMI NO. - S0007VL2
REV. - Z

OPERATION INSTRUCTIONS

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

FWD RCS

HE PRESS

A SW - GPC
A TB OP
B SW - GPC
B TB OP

TANK ISOLATION

1/2 SW - GPC
1/2 TB OP
3/4/5 SW - GPC
3/4/5 TB OP

MANIFOLD ISOLATION

1 SW - GPC
1 TB OP
2 SW - GPC
2 TB OP
3 SW - GPC
3 TB OP
4 SW - GPC
4 TB OP
5 SW - GPC
5 TB OP

OMRSD S00E00.040

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
19-007		OTC 212	PLT	PANEL 07 AFT LEFT RCS HE PRESS A SW - GPC A TB OP B SW - GPC B TB OP MANIFOLD ISOLATION 1 SW - GPC 1 TB OP 2 SW - GPC 2 TB OP 3 SW - GPC 3 TB OP 4 SW - GPC 4 TB OP 5 SW - GPC 5 TB OP AFT RIGHT RCS HE PRESS A SW - GPC A TB OP B SW - GPC B TB OP MANIFOLD ISOLATION 1 SW - GPC 1 TB OP 2 SW - GPC 2 TB OP 3 SW - GPC 3 TB OP 4 SW - GPC 4 TB OP 5 SW - GPC 5 TB OP	

OMRSD S00E00.040

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

RCS JET DRIVER AND OME SAFING					

19-008		OTC	PLT	PANEL 014 ROW F	
				RJDA 1A L2/R2 MANF DRIVER SW - OFF LOGIC SW - OFF	
				RJDA 2A L4/R4 MANF DRIVER SW - OFF LOGIC SW - OFF	
				RJDF 1B F1 MANF DRIVER SW - OFF LOGIC SW - OFF	
				LEFT OMS ENG VLV SW - OFF	
				OMRSD S00E00.040	
				OMRSD S00E00.650	
				OMRSD S00E00.660	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
19-009		OTC	PLT	PANEL 015 ROW F RJDA 1B L1/R1 MANF DRIVER SW - OFF L1/L5/R1 MANF LOGIC SW - OFF RJDF 1A F2 MANF DRIVER SW - OFF LOGIC SW - OFF OMRSD S00E00.650	
19-010		OTC	PLT	PANEL 016 ROW F RJDA 2B L3/R3 MANF DRIVER SW - OFF L3/R3/R5 MANF LOGIC SW - OFF RJDF 2A F3 MANF DRIVER SW - OFF LOGIC SW - OFF RJDF 2B F4 MANF DRIVER SW - OFF F4/F5 MANF LOGIC SW - OFF RJD MANF L5/F5/R5 DRIVER SW - OFF (VERIFY) RIGHT OMS ENG VLV SW - OFF OMRSD S00E00.650 OMRSD S00E00.660	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
19-010				OMS ENGINE SAFING	
CON'T				-----	
19-011		OTC	CDR	PANEL C3 OMS ENGINE LEFT SW - OFF RIGHT SW - OFF	
19-012		OTC	PLT	PANEL R1 POWER DISTRIBUTION ESS BUS SOURCE FC 1 SW - OFF FC 2 SW - OFF FC 3 SW - OFF AC BUS SNSR 1 SW - OFF, 1 SEC THEN MONITOR 2 SW - OFF, 1 SEC THEN MONITOR 3 SW - OFF, 1 SEC THEN MONITOR	
19-013		OTC	CISL	SET ACTIVE PCM REMOTE ENABLE ON.	
19-014			CISL	CURSOR CNTL (VAQ36) PCM CONTROL ENABLE - XMIT CURSOR PCM___ ON - XMIT CURSOR	
19-015		CISL	OTC	READY FOR PCM SWITCH OFF	
19-016		OTC	CDR	PANEL C3 OI PCMMU PWR SW - OFF	
19-017			CISL	VERIFY VALID O.I.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NAVAIDS DEACTIVATION					
19-018		OTC	CDR	PANEL 07 TACAN 1 MODE SW - OFF TACAN 2 MODE SW - OFF TACAN 3 MODE SW - OFF	
19-019		OTC	CDR	PANEL 08 RADAR ALTIMETER 1 SW - OFF 2 SW - OFF	
19-020		OTC	LTD	COCKPIT SECURING FOR EGRESS COMPLETE.	

NOTE

RETURN TO SEQ 18
(STEP _____) FOR
FLIGHT CREW EGRESS
OPERATIONS.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				GNC RECYCLE -----	
				IMU PREFLIGHT ALIGN -----	
19-021		CGNC		PERFORM IMU ALIGN PREPS. DO NOT START IMU PRE-FLIGHT ALIGN UNTIL DIRECTED	
19-022		CDPS		CONSOLE KYBD ISSU N72IV101D #B000 XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS C CO _DEU2G LDBA C11 XMIT CMD KEY - PRESS	
19-023		CGNC		CURSUR CNTL (VWB19 PG-B) TERM IDLE (ITEM 27) SMIT CURSOR KEY - PRESS CURSUR CNTL (VWB19 PG-B) START XMIT CURSOR KEY - PRESS	
19-024		CGNC		CRT (VSB35 PG-B) VERIFY MSG PROMPT VSB35 - 006 DEPRESS PFK2 TO ISSUE SPEC 104 TO CRT 2	
19-025		CGNC		APPL PAGE (VSB35 PG-B) PFK2 KEY - PRESS (CRT 2)	
19-026		CGNC		CRT (VSB35 PG-A OR VWB19 PG-B) VERIFY IMUS IN TERM IDLE ECP AI MODE 1: MATCH CMDS TO POSN -----	
19-027		COFC		PFP (SAB64) PFPK3 - PRESS (AI MODES) - PRESS (AI MODE 1) WHEN AI MODE 1 COMPLETE: PFPK6 - PRESS (RETURN)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT FOUR STEPS TO
RERUN PRE-FLIGHT ALIGNMENT.

19-028		CGNC		CURSOR CNTL (VWB19 PG-B) MM READ (ITEM 29) XMIT CURSOR KEY - PRESS CURSOR CNTL (VWB19 PG-B) START XMIT CURSOR KEY - PRESS NOT PERFORMED	-----
19-029		CGNC		CRT (VSB35 PG-B) VERIFY MSG PROMPT VSB35 - 024 MM READ SEQUENCE REQUESTED NOT PERFORMED	-----
19-030		CGNC		APPL PAGE (VSB35 PG-B) PFK1 KEY - PRESS (CONTINUE) NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NEXT TWO STEPS NOT PERFORMED
IF CUTOFF OCCURRED PRIOR
TO T-00M13S.

19-035

CMPS CURSOR CNTL (VAE18)

1. PRIMARY LINE VENT - CLOSE
2. SECONDARY LINE VENT - CLOSE
3. HE SOV PRIMARY AND SECONDARY
CLOSE CMDS - OFF
VERIFY
HE SOV OPENS
4. VERIFY PNL OUT INDICATES
4400 +/- 50 PSI

UMRSD S00E00.190

NOT PERFORMED

19-036

CMPS OTC MPS HELIUM TANK FILL TO FLIGHT
PRESSURE HAS BEEN INITIATED

NOT PERFORMED

NOTE

NEXT STEP NOT PERFORMED
IF CUTOFF OCCURRED PRIOR
TO POGO VLVS BEING COMMANDED
OPEN OR AFTER PRE-VLVS HAVE
BEEN CLOSED.

19-037

CMPL CURSOR CNTL (SAE02)

1. POGO VLV NO. 1 (PV20) - CLOSE
2. POGO VLV NO. 2 (PV21) - CLOSE
3. VERIFY LOX OVERBOARD
VALVE PV19 - OPEN

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ TIME CMD RESP DESCRIPTION VERIF.

NOTE

DO NOT PERFORM THE NEXT
STEP UNLESS SSME IGNITION
HAS OCCURRED.

19-038

CMPS CURSOR CNTL (VAE18)

1. PRIMARY REG SOV - CLOSE
2. SECONDARY REG SOV - CLOSE
3. PRIMARY AND SECONDARY HE
SOV CLOSE CMDS - OFF
VERIFY HE SOV - OPEN
4. VERIFY PNL OUT IND 0 PSI
5. PRIMARY LINE VENT - CLOSE
6. SECONDARY LINE VENT - CLOSE
7. 2000 X-OVER VLV - OPEN
8. VERIFY PNL OUT INDICATES
1900 +/- 100 PSI
NOT PERFORMED

19-039

CMPS

CURSOR CNTL (VAE18)
ENG 1, 2, 3 HE REG ISOL B - OPEN
MPS REG ISOL 1 & 2 - OPEN
VERIFY ENG 1, 2, 3 HE ISOL
A&B CMD SEND IND - ON
VERIFY MPS REG B ISOL 1 & 2
CMD SEND IND - ON

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
19-040		CMPS	OTC	READY FOR MPS HELIUM SYSTEM COCKPIT SWITCH RECONFIGURING	
19-041		OTC	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 HE ISOL SW - GPC	
19-042		CMPS	(VAE18)	VERIFY 1. ENG 1, ENG 2 AND ENG 3 REG ISO B OPA, OPB AND OPEN PWR - ON 2. ENG 1, ENG 2 AND ENG 3 REG ISO A OPEN PWR - ON 3. MPS REG ISO VLV 1 AND 2 OPEN PWR - ON	
19-043		CMPS CMPL CSME	OTC	RECYCLE TO T-20 MIN CONFIGURATION COMPLETE.	

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
				OMS/RCS RECYCLE	
19-044		COOS		PERFORM OMS/RCS RECONFIGURATION	
				NOTE	
				PERFORM NEXT TWO STEPS IF RECYCLE OCCURS AFTER T-15 MINUTES AND IF XFD LINES ARE TO BE INTERCONNECTED TO LEFT OMS PROP TANK. (RCS 100 PCT LOAD ONLY).	
19-045		COOS		CURSOR CNTL (VWD42)	
				C4 - OPEN	
				NOT PERFORMED	-----
19-046		COOS		CURSOR CNTL (VWD41)	
				C4 - OPEN	
				NOT PERFORMED	-----
				NOTE	
				PERFORM NEXT TWO STEPS IF RECYCLE OCCURS AFTER T-15 MINUTES AND IF XFD LINES ARE TO BE INTERCONNECTED TO RIGHT OMS PROP TANK. (RCS 100 PCT LOAD ONLY).	
19-047		COOS		CURSOR CNTL (VWD42)	
				C6 - OPEN	
				NOT PERFORMED	-----
19-048		COOS		CURSOR CNTL (VWD41)	
				C6 - OPEN	
				NOT PERFORMED	-----
19-049		COOS	OTC	OMS/RCS RECONFIGURATION IS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				SOUND SUPPRESSION SYSTEM RECYCLE ----- (CGSS) -----	
19-050		OTC	CGSS	PERFORM SOUND SUPPRESSION SYSTEM RECYCLE.	
				NOTE	
				IF COUNT WENT PAST 60 SECONDS BUT NOT 28 SECONDS, PERFORM NEXT FIVE STEPS.	
19-051		CGSS	OTC	VERIFY ORBITER FIREX SPRAYS CMPL DISARMED.	
				NOT PERFORMED	-----
19-052		CGSS		CURSOR CNTL (VAJ14) VAJ12 - ON	
				NOT PERFORMED	-----
				NOTE	
				DO NOT PERFORM NEXT STEP IF "BUS ON CMD" IS OFF.	
19-053		CGSS		CURSOR CNTL (VAJ12) B4 - VO/LPS POWER BUS ON CMD OFF	
				NOT PERFORMED	-----
				NOTE	
				DO NOT PERFORM NEXT STEP FOR PAD B.	
19-054		CGSS		CURSOR CNTL (VAJ12)	
				1. B5 - VO/LPS POWER BUS OFF CMD ON	
				2. B5 - VO/LPS POWER BUS OFF CMD OFF	
				NOT PERFORMED	-----
19-055		CGSS	OTC	SOUND SUPPRESSION SYSTEM RECYCLE COMPLETE.	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF COUNT WENT PAST 28 SECONDS,
PERFORM NEXT FOUR STEPS.

19-056		CGSS	OTC	VERIFY ORBITER FIREX SPRAYS CMPL DISARMED.	NOT PERFORMED -----
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NOTE

DO NOT PERFORM NEXT TWO STEPS
FOR PAD B.

19-057		CGSS		CURSUR CNTL (VAJ14) VAJ12 - ON	NOT PERFORMED -----
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19-058		CGSS		CURSUR CNTL (VAJ12) B5 - VO/LPS POWER BUS OFF CMD ON B5 - VO/LPS POWER BUS OFF CMD OFF	NOT PERFORMED -----
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19-059		OTC	CGSS	SUPPORT SOUND SUPPRESSION SYSTEM RECYCLE ON CH 123.	NOT PERFORMED -----
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GLS RECYCLE

NOTE

VERIFY GCS, LO2/LH2
OVERPRESSURE MONITORING IS
NO LONGER REQUIRED BEFORE
INITIATING GLS RECYCLE.

19-060		CGLS		RECYCLE GLS TO T-20 MIN CONFIGURATION PER SEQ 64.	
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19-061		CGLS	OTC	GLS RECYCLE TO T-20 MIN CONFIGURATION COMPLETE.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				DPS RECYCLE -----	
19-062		CDPS	CRT (VAS59 PG-B) LA1 ON LF1 ON		
				NOTE PERFORM NEXT STEP TO CLEAR COMMAND DECODER BSR'S AFTER POWER REAPPLIED (LDB SWITCHING WILL OCCUR) AFTER READS LEAVE LDB POLLING ON BUS 1.	
19-063		CDPS	CURSOR CNTL (SAS01) TO COMPUTER SYSTEMS XMIT CURSOR KEY - PRESS CURSOR CNTL (SAS01) TO MDM BSR READ PROGRAM (VAS93) XMIT CURSOR KEY - PRESS PFK 2 KEY - PRESS CURSOR CNTL (SAS24) TO PORT 1 XMIT CURSOR KEY - PRESS PFK 6 KEY - PRESS		
19-064		CDPS	HOME CMD KEY - PRESS GPCC LDBC XMIT CMD KEY - PRESS CURSOR CNTL (\$GM) TO POLL GSE ON LDB # 2 XMIT CURSOR KEY - PRESS PFK 1 KEY - PRESS CURSOR CNTL (SAS24) TO PORT 2 XMIT CURSOR KEY - PRESS PFK 6 KEY - PRESS PFK 15 KEY - PRESS		

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
19-065		CDPS		HOME CMD KEY - PRESS GPCC LDBC XMIT CMD KEY - PRESS CURSOR CNTL (\$GM) TO POLL GSE ON LDB # 1 XMIT CURSOR KEY - PRESS PFK 1 KEY - PRESS NOTE DO NOT PERFORM NEXT STEP IF VASJ6 ACTIVE.	
19-066		CDPS		CONSOLE KYBD VASJ6 PERF PGM KEY - PRESS VERIFY BSR DISPLAY AS EXPECTED NOT PERFORMED	-----
19-067		CDPS		CONSOLE (VASJ6) PFK1 - PRESS (CONTINUE) PFK1 - PRESS (NOMINAL NBAT)	
19-068		CDPS		CRT (VASJ6) WAITING FOR GO FOR ONE SHOT	
19-069		CDPS		DEACTIVATE LCC MONITORS APPLICATIONS PAGE (VAS89 PG-8) PFK 2 KEY - PRESS	
19-070		CDPS	OTC	RECONFIGURE TO T-20 MINUTE CONFIGURATION COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ECLSS RECYCLE					
19-071		CECL		CONSOLE KYBD SET V61K2711YL OFF XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
NOTE					
MASTER ALARM AND KLAXON MAY OCCUR DUE TO CABIN VENTING (IF SO, IDENTIFY AND RESET).					
IF CABIN PRESSURE IS ABOVE AMBIENT PERFORM NEXT THREE STEPS.					
19-072		CECL	CDR	PANEL L2A1 CABIN VENT VENT ISOL SW - OPEN VENT ISOL TB - OP VENT SW - OPEN VENT TB - OP	L2A1S3 L2A1DS3 L2A1S4 L2A1DS4
NOT PERFORMED					-----
19-073		CECL		CRT PG-B (VAG29) CABIN PRESS ----- PSIA (AMBIENT)	V61P2405A1
NOT PERFORMED					-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
19-074		CECL	CDR	PANEL L2A1 CABIN VENT VENT ISOL SW - CLOSE VENT ISOL TB - CL VENT SW - CLOSE VENT TB - CL	L2A1S3 L2A1DS3 L2A1S4 L2A1DS4
				OMRSD S00E00.860	
				NOT PERFORMED	-----
				NOTE	
				PERFORM NEXT STEP FOR SCRUB ONLY.	
19-075		CECL	CDR	PANEL ML26C SUPPLY H2O TKA VENT VLV - PRESS (UP) TKA SUPPLY VLF - OPEN (UP)	
				NOT PERFORMED	-----
				NOTE	
				IF BACKUP UNIT (S70-0508) IS NOT REQUIRED AT THIS TIME, PERFORM NEXT STEP TO POWER IT DOWN.	
19-076		CECL		PERFORM OMI S9001 TO POWER DOWN THE S70-0508 BACKUP UNIT.	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				EPDC RECYCLE -----	
				ORBITER POWER SYSTEM -----	
				NOTE	
				NEXT STEP WILL BE PERFORMED ONLY IF FUEL CELLS HAVE BEEN TRANSFERRED TO INTERNAL REACTANTS (T-02M358) AND HOLD IS SUFFICIENT TO REQUIRE TRANSFER TO EXTERNAL REACTANTS.	
19-077				CFCP TRANSFER TO EXTERNAL REACTANTS PER OMI V1040 ON OIS CH 153.	
				OMRSD S00E00.670	
					NOT PERFORMED -----
19-078				CEPD RE-ESTABLISH GSE POWER	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

(VAC28) IF MNA, MNB AND MNC ITCU CONTACTS AND GRD PWR M/SW ARE ON, PROCEED DIRECTLY TO THE FUEL CELL LOAD SHARING ADJUST STEPS.

IF GSE POWER SUPPLY VOLTAGES ARE NOT BETWEEN 29 AND 32 VDC, ADJUST VOLTAGE AS FOLLOWS (IN NEXT STEP) AND PROCEED DIRECTLY TO THE GROUND POWER CONNECTION STEPS.

19-079

CEPD CURSOR CNTL (VAC28)
VOLT ADJUST UP/DN (AS REQ'D)
XMIT CURSOR KEY - PRESS

CRT
VERIFY PS VOLTAGE IS 29-32 VDC

RECORD PWR SUPPLIES ADJUSTED

MNA -----

MNB -----

MNC -----

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				POWER SUPPLY RESTART -----	
19-080		CEPD		IF PWR SUPPLIES ARE OFF, START MNA, MNB, AND MNC PWR SUPPLIES AND ADJUST VOLTAGE TO 29-32 VDC MAX AS FOLLOWS:	
		CEPD		RECORD POWER SUPPLIES TO BE STARTED:	
				MNA -----	
				MNB -----	
				MNC -----	
				OMRSD S00E00.A00	
		CEPD		(VAC28) GND PWR M/SW - OFF	
		CEPD		(VAC23) ITCU PRI AND SEC CMD'S - OFF	
		CEPD		CURSOR CNTL (VAC23)	
				1. ITCU RES BYPASS - OFF	
				2. PS - START VERIFY START IND UN	
				3. VOLT ADJUST - UP/ON (AS REQ)	
				4. PS OUTPUT - ON VERIFY OUTPUT ON	
				5. ITCU RES BYPASS - ON VERIFY ITCU RES BYPASS IND UN	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ TIME CMD RESP DESCRIPTION VERIF.

GROUND POWER CONNECTION

19-081

CEPD IF MNA, B AND C SUPPLIES ARE ON AND P.S. VOLTAGE IS NOMINAL, CONTINUE WITH GSE MN BUS PWR APPLICATION AND F/C LOAD SHARING ADJUST. ADJUST ITCU BUS VOLTAGE TO EQUAL AFT PCA VOLTAGE (+0.5/-0.0) PRIOR TO PERFORMING THE FOLLOWING SUBSTEPS.

CURSOR CONTROL (VAC28)

1. ITCU CONTACT MNA - ON
 XMIT CURSOR KEY - PRESS
2. ITCU CONTACT MNB - ON
 XMIT CURSOR KEY - PRESS
3. ITCU CONTACT MNC - ON
 XMIT CURSOR KEY - PRESS
4. VERIFY ITCU CONTACT
 MNA, B AND C - ON
5. GRD PWR M/SW MNA - ON
 XMIT CURSOR KEY - PRESS
6. GRD PWR M/SW MNB - ON
 XMIT CURSOR KEY - PRESS
7. GRD PWR M/SW MNC - ON
 XMIT CURSOR KEY - PRESS
8. VERIFY GRD PWR M/SW
 MNA, B AND C - ON

NOT PERFORMED -----

OPERATION INSTRUCTIONS

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

PRSD CRYO HEATER ACTIVATION

NOTE

IF FUEL CELLS ARE ACTIVE
AND CRYO HEATERS DEACTIVATED,
PERFORM THE FOLLOWING TWO
STEPS.

19-082

CFCP CRT PAGE-8 CURSOR CNIL (VAR75)

1. CURSOR TO LH2 TK1 HTR CNIL
AB ON BLK
2. XMIT CURSOR KEY - PRESS
TWICE
3. VERIFY AB AUTO-CNIL - ON
(INVERT WHITE)
4. CURSOR TO LH2 TK2 HTR CNIL
AB ON BLK
5. XMIT CURSOR KEY - PRESS
TWICE
6. VERIFY AB AUTO-CNIL - ON
(INVERT WHITE)
7. CURSOR TO LH2 TK3 HTR CNIL
AB ON BLK
8. XMIT CURSOR KEY - PRESS
TWICE
9. VERIFY AB AUTO-CNIL - ON
(INVERT WHITE)

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
19-083		CFCP	CRT	PAGE-B CURSOR CNTL (VAR75)	
				1. CURSOR TO L02 TK1 HTR CNTL AB ON BLK	
				2. XMIT CURSOR KEY - PRESS TWICE	
				3. VERIFY AB AUTO-CNTL - ON (INVERT WHITE)	
				4. CURSOR TO L02 TK2 HTR CNTL AB ON BLK	
				5. XMIT CURSOR KEY - PRESS	
				6. VERIFY AB AUTO-CNTL - ON (INVERT WHITE)	
				7. CURSOR TO L02 TK3 HTR CNTL AB UN BLK	
				8. XMIT CURSOR KEY - PRESS	
				9. VERIFY AB AUTO-CNTL - ON (INVERT WHITE)	

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
19-084		CFCP	OTC	FUEL CELL CRYO HEATER READY FOR LOAD SHARE. FUEL CELL LOAD SHARING ADJUST	

NOTE

NEXT STEP WILL BE PERFORMED ONLY IF FUEL CELLS HAVE BEEN INCREASED TO 250-290 AMPS FOR THERMAL CONDITIONING OR IF GROUND POWER HAD BEEN DISCONNECTED.

CECL MONITOR HEAT LOAD IMPACT OF THE NEXT STEP.

19-085

CEPD ADJUST FUEL CELL LOADS TO CFCP BETWEEN 100 AND 290 AMPS PER CECL OMI S9001 ON DIS CH 151.

CFCP MONITOR FUEL CELL PERFORMANCE USING FOLLOWING CRITERIA:
DURING LOAD TRANSITION/ELECTRICAL LOADS EXCEEDING 290 AMPS CAN CAUSE VOLTAGE LESS THAN 28.25, BUT THE VOLTAGE SHALL BE EQUAL TO OR GREATER THAN V-1 CURVE REFERENCE UMRSD FILE I1I, VOL 5 FIGS V45AK0.010-1, V45AK0.010-2, AND V45AK0.010-3
COOLANT RET 40-140 DEG. F
TEMP
COOLANT PRESSURE 65 +/- 10 PSIA
O2 FLOW 1.3-8.0 LB/HR
H2 FLOW 0.15-1.00 LB/HR

UMRSD S00E00.680

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ TIME CMD RESP DESCRIPTION VERIF.

NOTE

DO NOT PERFORM THE EPD GROUND
PIC RECYCLE UNLESS THE H2 BURN
PICS HAVE BEEN ARMED.

GROUND PIC RECYCLE

NOT PERFORMED -----

19-086

CEPD CURSOR CNTL (VAC33)
GND SYS - ON
XMIT CURSOR KEY - PRESS

CRT (VAC33)
VERIFY:
GND AND CPA VOLTAGES FOR H2 BURN
AND LAUNCH RELEASE SYSTEMS ARE
GREATER THAN 26 VDC.

19-087

CEPD CRT (VAC33)
VERIFY:
ALL SRB IGN, TSM, HDP AND ETVAS
PIC CAP VOLTS LESS THAN
1.5 VDC.

19-088

CEPD CURSOR CNTL (VAC33)
GRD T-0 - RESET
XMIT CURSOR KEY - PRESS

CRT (VAC33)
GRD T-0 RESET - RESET
GRD SW STATUS - OFF

19-089

CEPD CURSOR CNTL (VAC33)
GND R/T - ON
XMIT CURSOR KEY - PRESS

CRT (VAC33)
VERIFY:
LAUNCH RELEASE AND H2 BURN SYS A
AND SYS B
R/T CMD IND ON

OPERATION INSTRUCTIONS

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

NOTE

* = ON = NOT FIRED
 - = OFF = FIRED

19-090

CEPD CRT (VAC33)
 RECORD RESISTANCE TEST
 INDICATIONS

H2 BURN

	LEFT HAND	RIGHT HAND	
	SYSA	SYSB	SYSA SYSB

ENG 1	----	N/A	N/A	----
ENG 2/3	----	----	----	----

LAUNCH REL

HDP 5/1	----	----	----	----
HDP 6/2	----	----	----	----
HDP 7/3	----	----	----	----
HDP 8/4	----	----	----	----

ET VAS	N/A	N/A	----	----
H/O TSM	----	----	----	----

19-091

CEPD CURSOR CNTL (VAC33)
 GND R/T - OFF
 XMIT CURSOR KEY - PRESS

CRT (VAC33)
 LAUNCH RELEASE AND H2 BURN SYS A
 AND SYS B
 R/T CMD IND OFF
 ALL SYS A AND SYS B PIC STATUS
 R/T IND OFF

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
19-092		CEPD	OTC	GROUND PIC RESISTANCE CHECK IS COMPLETE. H2 BURN AND LAUNCH RELEASE PYROS INDICATE _____ (FIRED/NOT FIRED) END OF GROUND PIC RECYCLE -----	

NOTE

IF H2 BURN PYROS FIRED AND/OR SSME START HAS OCCURRED, CONTINUE RECYCLING TO T-20M THEN SCRUB PER SEQ ____.

PERFORM NEXT THREE STEPS ONLY IF A SCRUB TURNAROUND OPTION HAS BEEN SELECTED.

19-093		CEPD		CURSOR CNTL (VAC33) GRD SYS - OFF XMIT CURSOR KEY - PRESS CRT (VAC33) VERIFY: GRD SYS - OFF NOT PERFORMED -----	
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19-094		CEPD		CURSOR CNTL (VAC33) PIC VOLTS RATE - LOW XMIT CURSOR KEY - PRESS CRT (VAC33) VERIFY RATE CHANGE COMPLETE NOT PERFORMED -----	
--------	--	------	--	--	--

19-095		CEPD		CURSOR CNTL (SWC02) LAUNCH COMMIT EMON - I XMIT CURSOR RET - PRESS CRT (SWC02) VERIFY EMON INHIBITED NOT PERFORMED -----	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

HYDRAULIC RECYCLE -----					
19-096		CHYD	CRT (VAF33)	VERIFY HYD CIRC PUMPS 1,2 AND 3 RESTARTED.	
				VERIFY WSB 1,2,3 - OK	
				OMRSD S00E00.840	
NOTE					
PERFORM NEXT STEP ONLY IF MAIN DEPRESS ENABLES ARE ON.					
19-097		CHYD	CURSUR CNTL (VAF33)	PUMP DEPRESS SOLENOIDS - OFF	
				NOT PERFORMED	-----
19-098		CHYD OTC CFCP CEPD CECL		RECYCLE TO T-20 MINUTE COMPLETE.	
APU RECYCLE -----					
19-099		CAPU		PERFORM APU COOLDOWN PER SEQ 42. REPORT WHEN COMPLETE.	
				NOT PERFORMED	-----
19-100		CAPU OTC		APU COOLDOWN COMPLETE. APU RECONFIGURE TO T-20 MINUTE CONFIGURATION COMPLETE.	
				NOT PERFORMED	-----
ORBITER RECYCLE COMPLETE -----					
19-101		OTC LTD		ORBITER RECYCLE TO T-20 MINUTE CONFIGURATION COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
20-000				***SRB RECYCLE***	

NOTE

THIS IS A CONTINGENCY SEQUENCE
AND WILL BE UTILIZED ONLY IF
RECYCLE IS REQUIRED.

ENTIRE SEQUENCE NOT PERFORMED

20-001		LTD 232	TBC	PERFORM SRB T-20 MINUTE RECYCLE ON OIS CH 137.	
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20-002		CPWR 136	TBC	CRT (BWE08) ALL PIC VOLTS 0 +/- 1.5 VDC LH/RM IGN S&A - SAFE	
--------	--	-------------	-----	--	--

NOTE

IF SRB GENERATOR BED
TEMPERATURE IS BELOW
190 DEG F, PERFORM THE
FOLLOWING STEP.

20-003		TBC 136	CBHY	PERFORM SRB HPU GAS GENERATOR HEATER POWER ON. REPORT COMPLETION.	
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CBHY CURSOR CNTL (BAT04)
GAS GENRTR
AUT -

NOT PERFORMED

OPERATION INSTRUCTIONS

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

NOTE

THE NEXT TWO STEPS
WILL BE PERFORMED ONLY IF
REWIND OF THE LH SRB TAPE
RECORDER IS NEEDED.

20-004		CISL		CURSOR CNTL (BAM08) LT T/R INH ON - ON LT DFI (BATT) PWR ON - ON CRT (BAM08) VERIFY LT DFI BITE INDICATIONS GREEN	NOT PERFORMED
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20-005		CISL		CURSOR CNTL (BAM01) LH MDM REV ON - DELAY FOR TIME DETERMINED BY CBIS LH MDM REV OFF - LH MDM INH ON -	NOT PERFORMED
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OPERATION INSTRUCTIONS

SEQ TIME CMD RESP DESCRIPTION VERIF.

NOTE

THE NEXT TWO STEPS
WILL BE PERFORMED ONLY IF
REWIND OF THE RH SRB TAPE
RECORDER IS NEEDED.

20-006

CISL CURSOR CNTL (BAM08)
RT T/R INH ON - UN
RT DFI (BATT) PWR ON - ON

CRT (BAM08)
VERIFY
RT DFI BITE INDICATIONS GREEN

NOT PERFORMED -----

20-007

CISL CURSOR CNTL (BAM01)

RH MDM REV ON -

DELAY FOR TIME
DETERMINED BY CBIS

RH MDM REV OFF -

RH MDM INH ON -

NOT PERFORMED -----

NOTE

PERFORM NEXT STEP IF
DFI BATTERY POWER IS UN FOR
APPLICABLE (LH AND/OR RH) SRB.

20-008

CISL CURSOR CNTL (BAM08)
LT DFI (BATT) PWR OFF - OFF
RT DFI (BATT) PWR OFF - OFF

LT/RT DFI BITE INDICATIONS OFF
LT/RT DFI BATT CURR LESS THAN 0.5 AMPS

NOT PERFORMED -----

20-009

CISL TBC SRB DFI RECYCLE IS COMPLETE.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
20-010		CPWR	TBC	VERIFY REMAINING BATTERY AMP HRS ARE ADEQUATE FOR LAUNCH.	
20-011		TBC	CBDP	PERFORM SRB MDM RECYCLE.	
20-012		CBDP		CURSOR CNTL (SAS05/SDS04) SYSTEM SELECT SRB - CURSOR CNTL (SAS05/SDS07) SRB MANUAL TEST SEL - CURSOR CNTL (BSM06/BDM08) BSR READ PORT 1&2 -	
20-013		CBDP	PFP	(BTM76) PFP CONTINUE KEY - PRESS	
20-014		CBDP		CURSOR CNTL (BSM06 SYSTEM STATUS) LOCK STATUS TEST - (BSM06/BDM08) VERIFY ALL MDMS UNLOCKED	
20-015		CBDP	PFK-5	- PRESS	
20-016		CBDP	PFP	(BSM06) PFP TERMINATE KEY - PRESS	
20-017		CBDP	TBC	SRB MDM RECYCLE COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF SRB AFT SKIRT GN2 PURGE
IS NOT ON, OMIT THE
NEXT STEP.

20-018

TBC CBHY TERMINATE SRB AFT SKIRT GN2
PURGE. REPORT COMPLETION

CBHY CURSOR CNTL (BAT04)
CMD (HEATER) - OF
PRI - CLS
SEC - CLS

NOT PERFORMED

NOTE

IF TWO HOUR PRIOR TO
LAUNCH REQUIREMENT WILL
BE VIOLATED, PERFORM NEW
SRM CHAMBER PRESSURE
CALIBRATION.

20-019

TBC CISL PERFORM SRM CHAMBER PRESSURE
136 TRANSDUCER CALIBRATION AND
GPC UPDATE PER OMI B1011 ON
DIS CH 175.

OMRSD S00FF0.180
OMRSD S00FF0.160

NOT PERFORMED

20-020

TBC LTD SRM CHAMBER PRESSURE CALIBRATION
LTD OTC UPDATE WAS/WAS NOT PERFORMED.
OTC CDPS

SRB RECYCLE COMPLETE

20-021

TBC LTD SRB RECYCLE TO T-20 MINUTES
COMPLETE.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
21-000				**ET RECYCLE** -----	
NOTE					
THIS IS A CONTINGENCY SEQUENCE AND WILL BE UTILIZED ONLY IF RECYCLE IS REQUIRED.					
ENTIRE SEQUENCE NOT PERFORMED					
21-001		TBC 136	CLOX	IF REPLENISH TERMINATED, VERIFY TERMINAL COUNT SAFING COMPLETE.	-----
NOT PERFORMED					
21-002		TBC	CLHY	IF REPLENISH TERMINATED, VERIFY TERMINAL COUNT SAFING COMPLETE.	-----
NOT PERFORMED					
NOTE					
PERFORM THE NEXT TWO STEPS IF PERFORMING RECYCLE PRIOR TO ENGINE START.					
21-003		TBC	CLOX	REESTABLISH TOPPING/REPLENISH TO LUX FLIGHT MASS PER S1003. REPORT WHEN AUTO REPLENISH ACTIVE.	-----
NOT PERFORMED					
21-004		TBC	CLHY	REESTABLISH TOPPING/REPLENISH TO LH2 FLIGHT MASS PER S1004. REPORT COMPLETION.	-----
NOT PERFORMED					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
22-000				***SUPPORT RECYCLE***	
				NOTE	
				THIS IS A CONTINGENCY SEQUENCE AND WILL BE UTILIZED ONLY IF RECYCLE IS REQUIRED.	
				ENTIRE SEQUENCE NOT PERFORMED	-----
				NOTE	
				IF LAUNCH RECYCLE OCCURS BEFORE T-00M08S DO NOT PERFORM NEXT STEP.	
22-001		CPDR		ACTIVATE BULK DISC RECORDING. PDR INFOTON KYBD #INRC,D RTN KEY - PRESS	31240
				NOT PERFORMED	-----
22-002		STM	JPHO	STOP INTEGRATED PHOTO SEQUENCER	
22-003		STM	JCFM	STOP FACILITY INSTR ESMS RECORDERS	
				NOTE	
				IF DOD MISSION, PERFORM NEXT STEP IF RECYCLE OCCURRED AFTER T-08M58S.	
22-004		STM 138	JYVO	INHIBIT SHUTTLE LAUNCH COUNTDOWN DISPLAYS VIA OTV SYSTEM.	34200
				NOT PERFORMED	-----
22-005			JRPS	STOP ALL DISPLAY RECORDERS	31212
22-006		EEC 138	JYVR	STOP VIDEO RECORDING OF OTV CAMERA 080.	34200
22-007			LPS	PLACE SCRS PRINTER/PLOTTER SYS 1, UNITS 5 AND 6 AND SYS 2, UNITS 5 AND 6 OFF LINE.	31240

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
22-008		LPS		CONFIGURE LDBM SUBSYSTEM RECORDING LDB BUS 1 AND BUS 2 IN REJECT MODE. VERIFY LDBM RECORDING IN DUAL-REJECT.	31240
22-009		LPS		CANCEL PENDING FOR ALL FEPS.	31240
22-010		LPS		CONSOLE KYBD CURSOR CNTL (AWP01 PG-B) TO T-20M RECYCLE TARGET XMIT CURSOR KEY - PRESS LPS VERIFY FEP PENDING CANCELLED FOR FOLLOWING FEPS: GPCA OIA ME1 ME2 ME3	31240

NOTE

PERFORM NEXT STEP AFTER CDT
ON CRT DISPLAY HOLDING AT
T-20 MINUTE.

22-011		LPS		CONSOLE KYBD CURSOR CNTL (AWP01 PG-B) TO RESUME TARGET XMIT CURSOR KEY - PRESS	31240
--------	--	-----	--	---	-------

NOTE

IF LAUNCH RECYCLE OCCURS
BEFORE T-09M00S, DO NOT
PERFORM NEXT STEP.

22-012		LPS		ACTIVATE HIM 6880	31240
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NOT PERFORMED -----

OPERATION INSTRUCTIONS

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

NOTE

IF NASA MISSION DELETE
 JSRP IN NEXT STEP.

22-013		LPS	STM	RECYCLE TO T-20 MINUTE	31240
		JRPS		CONFIGURATION COMPLETE.	31212
		JSRP			
		111			

NOTE

NEXT SEVEN STEPS ARE REQUIRED
 ONLY IF COUNT WENT PAST
 T-28 SECONDS.

SOUND SUPPRESSION TURNAROUND

 OPERATION

22-014		STM	JBWC	VERIFY TRANSFER IS COMPLETE BY	3322B
		111		OBSERVING P2A SKELETON STATUS	
				AS FOLLOWS THEN CLEAR ALARMS:	

TS-ON/VO-OFF	OFF-YELLOW
VO-ON/TS-OFF	ON-GREEN
TS/CCS ENABLE	OFF-YELLOW
VO/LPS ENABLE	ON-GREEN
SS TURNAROUND	
TS-ON/VO-OFF	ON-GREEN
VO-ON/TS-OFF	OFF-YELLOW

NOT PERFORMED -----

22-015		JBWC	STM	CCC NOW HAS CONTROL OF SS	3322B
		111		SYSTEM. CLOSE COMMAND WILL	
				BE ISSUED PER FOLLOWING STEP.	

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
22-016		JBWC		ISSUE CLOSE "ALL-LO" COMMAND TO FOLLOWING VALVES ON SKELETON SSA AND VERIFY CLOSED DISCRETE IND ON YELLOW. (M3114). V-25 PRE-LO V-26 PRE-LO V-27 PRE-LO V-28 PRE-LO V-29 PRE-LO V-30 PRE-LO	3322B
				NOT PERFORMED	-----
22-017		JBWC		CLOSE/SECURE (VERIFY) THE FOLLOWING VALVES AND PUMP. 1. SKELETON F2A (M3112) V-32 FSS 75 FT LEVEL V-33 FSS 155 FT LEVEL V-35 FSS 195 FT LEVEL V-65 FSS 255 FT LEVEL (CTR ALL VALVES MAY BE USED) 2. SKELETON F3A (M3111) V-18 MLP FX 3. SKELETON SSA (M3114) V-31 MLP SS 4. SKELETON F1A (M3032) STOP (VERIFY) PUMP P-2.	3322B
				NOT PERFORMED	-----
22-018		JBWC		VERIFY SS OPEN COMMAND LOCKOUT HAS BEEN ISSUED (M3114) (SKELTON SSA) AND IS ON (GREEN).	3322B
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

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

NOTE

DO NOT PERFORM NEXT STEP
 IF C/O OCCURRED PRIOR
 TO T-16 SECONDS (PRIOR
 TO PRE L/O VALVES OPEN)

22-019		LTD	STM	REFILL SS WATER TANK PER OMI	3322B
		STM	JBWC	M3114 (1 HR, 30 MIN.)	
		111		(SKELETONS F1A, SSA, WD1)	
				NOT PERFORMED	-----

NOTE

TRANSFER CONTROL OF SOUND
 SUPPRESSION SYSTEM FROM CCC
 TO FR IF COUNT TO RESUME OR
 24 HOUR SCRUB TURNAROUND
 DECIDED.

TRANSFER CONTROL OF SOUND

 SUPPRESSION SYSTEM - CCC TO FR

NOT PERFORMED

22-020		STM	JBWC	VERIFY FSS AND MLP FIREX AND	3322B
		112	JBFX	SOUND SUPPRESSION WATER SYSTEM	
				HAS BEEN CONFIGURED TO SUPPORT	
				(M3114) (M3111) (M3112)	
22-021		JBWC	JCTL	VERIFY PRINTER PLOTTER 2 IS	3322B
		123		ON LINE.	
22-022		STM	LTD	CCC IS READY TO TRANSFER CONTROL	
		LTD	OTC	OF THE SS WATER TO FR. REQUEST	
		OTC	CGSS	CGSS CONTACT JBWC ON CHANNEL 123.	
22-023		STM	LTD	WE ARE NOW TRANSFERRING CONTROL	TS
				OF SS WATER TO FR.	
22-024		CGSS	JBWC	READY FOR SOUND SUPPRESSION	
		123		SYS TRANSFER TO FR.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
22-025			JBWC	TRANSFER CONTROL FROM CCC TO FR	33228
			1.	START PRINTER/PLOTTER RECORDER (SKELETON LFA) (M3114)	
			2.	ON SKELETON P2A VERIFY/ACTIVATE SOUND SUPPRESSION SOLENOID POWER BUS - IS ACTIVE (GREEN) (M3114)	
			3.	ON SKELETON SSA VERIFY/ISSUE CLOSE PRE AND POST-LO COMMAND ISSUED - (GREEN) (M3114)	
			4.	VERIFY SS OPEN COMMAND LOCKOUT ON. (GREEN) (SKELETON SSA) (M3114)	
			5.	TRANSFER CONTROL OF SOUND SUPPRESSION SYSTEM BY ACTIVATING TURNAROUND XFER CONTROL - SS VO-ON/TS-OFF COMMAND ON SKELETON P2A. (M3114)	
			6.	VERIFY TRANSFER ACTION IS COMPLETE BY OBSERVING P2A SKELETON STATUS AS FOLLOWS: TS-ON/VO-OFF OFF-YELLOW VO-ON/TS-OFF ON-GREEN TS/CCS ENABLE OFF-YELLOW VO/LPS ENABLE ON-GREEN SS TURNAROUND CTR VO-ON/TS-OFF ON-GREEN TS-ON/VO-OFF OFF-YELLOW (M3114)	
			7.	STOP PRINTER/PLOTTER RECORDER (SKELETON LFA) (M3114)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
22-026		JBWC 123 JBWC 111 STM 232 LTD 232	CGSS STM LTD UTC TBC TBC	SOUND SUPPRESSION CONTROL HAS BEEN TRANSFERRED TO FIRING ROOM.	3322B
22-027			CGSS	VERIFY SS CONTROL TRANSFER COMPLETE BY OBSERVING VAJ12 SKELETON STATUS AS FOLLOWS. CONTROL CCC OFF FR ON SST/A OFF VERIFY GWDXP108E OFF GWDXP123E ON GWDXP124E OFF	
22-028		OTC	CMPL	VERIFY ORBITER FIREX CONTROL ENABLED. NOTE PERFORM NEXT STEP IF CUTOFF OCCURRED AFTER T-16 SECONDS AND SS TANK REFILL REQUIRED.	
22-029		JBWC 111 STM 232 LTD	STM LTD OTC	SOUND SUPPRESSION ELEVATED TANK REFILL OPERATION COMPLETE.	3322b
				NOT PERFORMED	-----
22-030		CGSS	OTC	SOUND SUPPRESSION RECYCLE OPERATION COMPLETE SUPPORT RECYCLE COMPLETE -----	
22-031		STM	LTD	SUPPORT RECYCLE TO T-20 MINUTE CONFIGURATION COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
23-000				*** MCCH RECYCLE ***	

NOTE

THIS IS A CONTINGENCY SEQUENCE
 AND WILL BE UTILIZED ONLY IF
 RECYCLE IS REQUIRED.

IF DOD MISSION, DO NOT PERFORM
 NEXT 13 STEPS.

ENTIRE SEQUENCE NOT PERFORMED

23-001

*FLT XMIT BFS SPC BUFFER CLEAR
 (1000010)

NOT PERFORMED

NOTE

NEXT STEP WILL BE PERFORMED
 IF RECORDERS ARE RUNNING
 (AFTER T-5M30S).

23-002

*FLT STOP OI/MADS RECORDERS

*FLT XMIT DSM 4351
 (OPS 1 STOP)

V75K6152U

XMIT DSM 4451
 (OPS 2 STOP)

V75K6252U

XMIT DSM 4551
 (PL RCDR STOP)

XMIT DSM 4600
 (MADS SYSTEM OFF)

XMIT DSM 2000
 (ACIP OFF)

UMRSD S00E00.970

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
23-003		CISL		VERIFY TAPE MOTION OFF ON ALL OI/RCDRS.	
				NOT PERFORMED	-----
				RECORDER ERASE, AND/OR ----- REPOSITION FOR RECYCLE -----	
				NOTE	
				PERFORMANCE OF NEXT 10 STEPS IS CONTINGENT UPON UNUSED TAPE REMAINING.	
23-004		*FLT LTD LTD OTC OTC CISL		RECORDERS WILL BE RECONFIGURED.	
				NOT PERFORMED	-----
23-005		*FLT		TRANSMIT DSM 4341 (OPS 1 ERASE) (ERASE TIME 12 - 16 MIN)	
		CISL CRT		VERIFY OPS 1 ERASE COMPLETE	
		*FLT		TRANSMIT DSM 4351 (OPS 1 STOP)	
				NOT PERFORMED	-----
23-006		*FLT		TRANSMIT DSM 4453 (OPS 2 Pb SER REV)	
		CISL CRT		VERIFY OPS 2 AT BOT TK1	
				NOT PERFORMED	-----
23-007		*FLT		TRANSMIT DSM 4451 (OPS 2 STOP)	
				NOT PERFORMED	-----

VOLUME 2 OF 4
DATE: 01-11-86

OMI NO. - S0007VL2
REV. - Z

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
24-000				RESERVED	

VOLUME 2 OF 4
DATE: 01-11-86

OMI NO. - S0007VL2
REV. - Z

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
25-000				RESERVED	

VOLUME 2 OF 4
DATE: 01-11-86

UMI NO. - S0007VL2
REV. - Z

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
26-000				RESERVED	

VOLUME 2 OF 4
DATE: 01-11-86

UMI NO. - S0007VL2
REV. - Z

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
27-000				RESERVED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
28-000				HOLD OPTION NO. 1 - UNPLANNED LONG ----- HOLD PRIOR TO APU START -----	
NOTE					
THIS IS A CONTINGENCY SEQUENCE AND WILL BE PERFORMED IF REQ'D BY TEST CONDUCTOR/DIRECTOR. THIS HOLD OPTION IS UTILIZED BETWEEN T-9 MINUTES AND COUNTING AND T-5 MINUTES PRIOR TO APU START, ENABLING FULL UTILIZATION OF IMU HOLD TIME.					
ENTIRE SEQUENCE NOT PERFORMED -----					
28-001		LTD	OTC TBC SPE STM LPS *SCC *FLT CTC CDR PLT SRO LRD *MIL LD	T-5 MINUTES AND HOLDING. CONFIGURE FOR LONG DURATION HOLD AT THIS POINT.	
28-002		CGLS		VERIFY ONBOARD CDC IS STOPPED IN RESPONSE TO HOLD FLAG	V90W8389C1
DMRSD S00E00.920					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
28-003		TBC	CLOX	MAINTAIN/REESTABLISH REPLENISH AND LOX FLIGHT MASS PER S1003. UMRSD S00E00.120 *FLT COMMANDS -----	

28-004		OTC	*FLT	BFS SPC BUFFER CLEAR (1000010)	
--------	--	-----	------	-----------------------------------	--

NOTE

PERFORM NEXT THREE STEPS
 IF FLT HAS TRANSMITTED
 THE T-5M30S MULTIPLE REAL
 TIME COMMANDS.

DO NOT PERFORM NEXT STEP
 FOR DOD MISSIONS.

28-005		OTC	*FLT 1.	STOP OI RECORDERS	
			*FLT 2.	XMIT DSM 4351 (OPS 1 STOP)	V75K6152U
			3.	XMIT DSM 4451 (OPS 2 STOP)	V75K6352U
			4.	XMIT DSM 4551 (PL RCDR STOP)	
			5.	XMIT DSM 4600 (MADS SYS - OFF)	
			6.	FOR DV-099 ONLY XMIT DSM 2000 (ACIP OFF)	

NOT PERFORMED -----
 SS6

NOT PERFORMED -----

28-006		OTC	*FLT	FOR DOD MISSIONS, PERFORM ITEM 6.7, APPENDIX Q.	
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NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
28-007		CISL		VERIFY TAPE MOTION OFF ON OPS 1,2, P/L AND MADS RCDRS. OMRSD S00E00.970 OMRSD S00E00.B10 NOT PERFORMED	-----
				SRB DFI PWR DOWN -----	
				NOTE IF HOLD WILL BE LONGER THAN 10 MINUTES, PERFORM NEXT TWO STEPS FOR APPLICABLE LH AND/OR RH SRB.	
28-008		TBC	CISL	POWER DOWN SRB DFI. REPORT COMPLETION. NOT PERFORMED	-----
28-009		CISL		CURSUS CNTL (BAM08) LT DFI (BATT) PWR OFF - OFF RT DFI (BATT) PWR OFF - OFF CRT (BAM08) VERIFY LT/RT DFI BITE INDICATIONS OFF LT/RT DFI BATT CURR LESS THAN 0.5 AMPS OMRSD S00E00.B20 NOT PERFORMED	-----
				EXTEND OAA -----	
28-010		OTC	CGSS	EXTEND THE OAA	
28-011			CGSS	PPF (VAJ02) PPPK-1 VAJ04 CRIT EXT - PRESS PPPK-5 CRIT EXT EXECUTE - PRESS	
28-012		CGSS	OTC	OAA IS EXTENDED AND LOCKED UMRSD S00E00.B80	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
28-013		CGSS	PFP (VAJ02)	PFPK-6 - PRESS PFPK-3 VAJ07 OAA ACCUM - PRESS PFPK-5 OAA ACCUM EXEC - PRESS	
28-014		CISL	OTC	RECORDER SHUTDOWN COMPLETE.	
28-015		CLOX	TBC	LOX AT FLIGHT MASS.	
NOTE					
DELAY AT THIS POINT UNTIL READY TO RESUME COUNTDOWN.					
28-016		LTD	OTC	CONFIGURE TO RESUME COUNTDOWN	
		TBC		AT _____ GMT.	
		STM			
		*FLT			
		CTC			
		*MIL			
		LPS			
NOTE					
IF HOLD IS PENDING AT LOX TERM REPLENISH TIME OF ____/____, PERFORM THE NEXT STEP ____/____ BEFORE RESUMING FROM THE HOLD SO THAT LOX TERM REPLENISH OCCURS AT PROPER L-TIME. TIME TO BE SUPPLIED BY CLUX.					
28-017		CGLS	SLP01	PFPK PANEL	
				PFPK4 (TERM LOX REPL) - PRESS	
				PFPK6 (EXEC TERM LOX REPL) - PRESS	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

 SEQ TIME CMD RESP DESCRIPTION VERIF.

NOTE

THE NEXT FOUR STEPS WILL BE PERFORMED APPROX. 1 MINUTE PRIOR TO PICKING UP THE COUNT AT T-5 MINUTES.

STORED PROGRAM COMMANDS

28-018 OTC *FLT TRANSMIT STORED PROGRAM PRE-LAUNCH
 212 COMMANDS (BFS SPC LOAD 12101)

28-019 *FLT VERIFY 2 - STAGE BUFFER AUTO
 COMPARE AND EXECUTE.

NOTE

IF HOLD IN EXCESS OF 5 MINUTES OCCURS AFTER TRANSMITTAL OF BFS SPC LOAD 12101, *FLT WILL TRANSMIT SPC BUFFER CLEAR AND NEW BFS SPC LOAD 12101 BASED ON UPDATED LIFTOFF TIME.

28-020 OTC *FLT TRANSMIT DSM 1500 (RECORDER MRTC
 COMMANDS)
 GMT -----

	DSM	CMD NAME
	---	-----
1.	4355	OPS 1 - RCD PRL LAUNCH
2.	4415	OPS 2 - RCD SERIAL 192
3.	4527	P/L - SPEED 2
4.	4518	P/L RCD PRL
5.	2001	ACIP PWR - UN
6.	4601	MADS WB/ACIP - ON
7.	4603	MADS PCM - ON

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
28-021		*FLT	CISL	VERIFY RECORDERS RUNNING OPS 1, OPS 2, P/L MOTION - ON MADS FDM BITE GOOD MADS PCM BITE - GOOD MADS RCDR MOTION - ON QMRSD S00FM0.140	
28-022		OTC	CGSS	RETRACT ORBITER ACCESS ARM. OAA RETRACT -----	
28-023			CGSS	PFP (VAJ02) PFPK-1 VAJ05 OAA EXT/RET - PRESS PFPK-5 OAA EXT/RET EXECUTE - PRESS VERIFY OAA RETRACTED PFPK-6 OTHER OPTIONS - PRESS (TWICE) PFPK-3 VAJ07 OAA ACCUM - PRESS PFPK-5 OAA ACCUM EXECUTE - PRESS	
28-024		CGSS	OTC	OAA RETRACTED AND RECONFIGURED FOR EXTEND. SRB DFI POWER UP -----	
28-025		TBC	CISL	IF POWERED DOWN, POWER UP SRB DFI FOR APPLICABLE (LH AND/OR RH) SIDE. COUNTDOWN IS BEING RESUMED MOMENTARILY. REPORT COMPLETION. NOT PERFORMED -----	
28-026			CISL	CURSOR CNTL (BAM08) LT DFI (BATT) PWR ON - ON RT DFI (BATT) PWR ON - ON CRT (BAM08) VERIFY LT/RT DFI BITE INDICATIONS ON NOT PERFORMED -----	
28-027		TBC	CLOX	VERIFY AT LOX FLIGHT MASS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
28-028		OTC TBC TBC	LTD	CONFIGURED TO RESUME COUNTDOWN	
28-029		LTD 212	OTC TBC CTC TBC LPS SPE CDR PLT SRG LRD STM CMD *SCC *MIL *FLT LD	VERIFY READY TO RESUME COUNT IN ---- MINUTES	

NOTE

RETURN TO CONTROL SEQUENCE
AT T-(MINUTE) POINT OF
DEPARTURE.

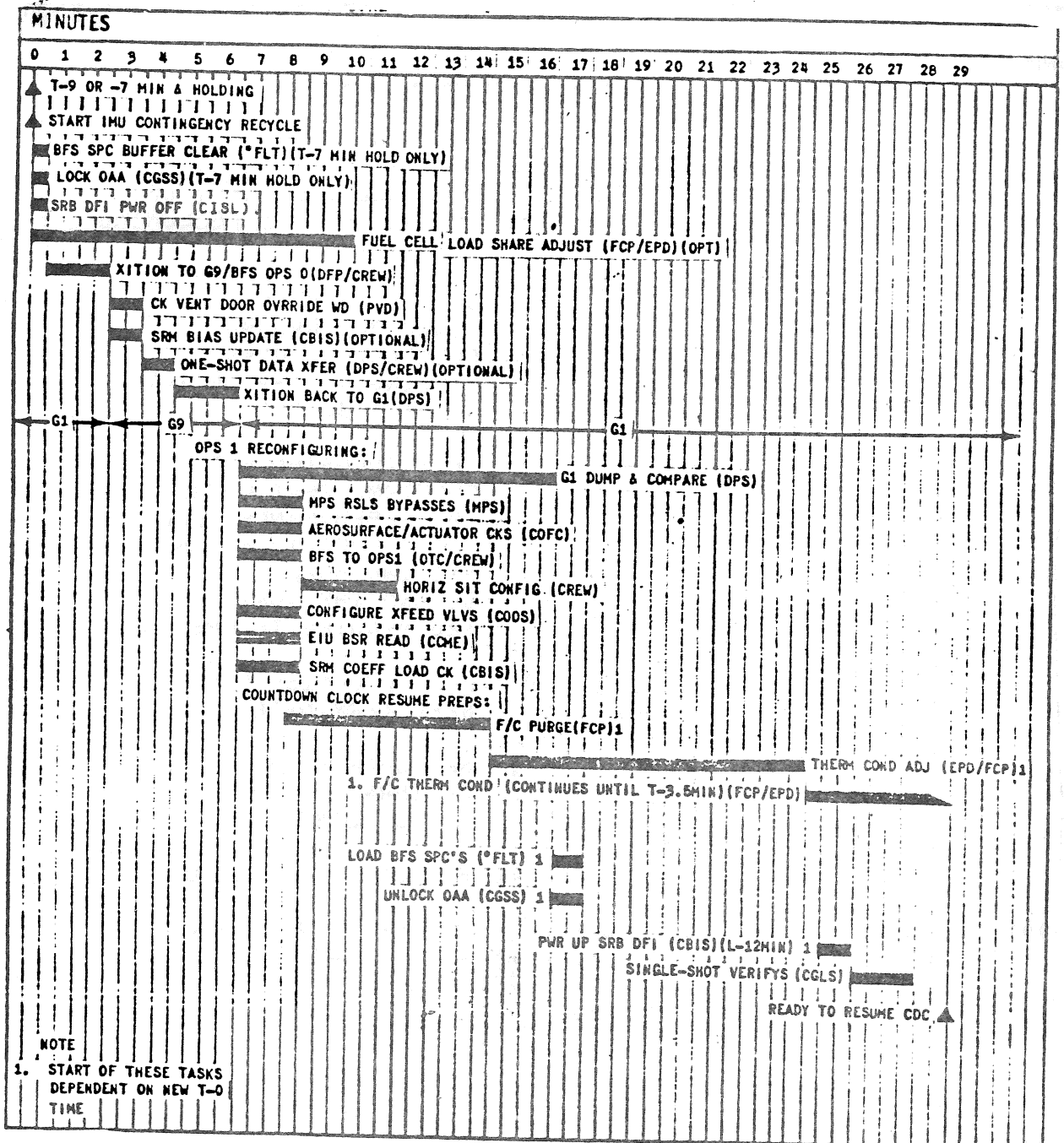


FIGURE 9 - IMU CONTINGENCY RECYCLE
 (FOR REFERENCE ONLY)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
29-000				IMU CONTINGENCY RECYCLE	

NOTE

THIS RECYCLE WILL ONLY BE USED IF ALL OF THE FOLLOWING CONDITIONS ARE MET:

1. SHUTTLE SYSTEMS, ON BOARD AND GROUND COUNTDOWN CLOCKS HOLDING AT T-9 OR T-7 MINUTES 30 SEC.
2. *FLT (HOUSTON FLT) CONFIRMS THAT CURRENT IMU PERFORMANCE ALLOWS AN ATTEMPT TO EXTEND THE IMU HOLD TIME BEYOND THE NOMINAL 120 MINUTES IN OPS 101.
3. LOX REPLENISH HAS NOT BEEN TERMINATED.
4. SRM CHAM PRESS COEFF CALIBRATION CHECKED WITHIN LAST HOUR.

ENTIRE SEQUENCE NOT PERFORMED -----

29-001 *FLT LTD CURRENT IMU PERFORMANCE WILL ALLOW AN ATTEMPT AT IMU HOLD TIME EXTENSION.

OPERATION INSTRUCTIONS

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

NOTE

PERFORM THE NEXT TWO STEPS
 IF CDC IS HOLDING AT T-7
 MINUTES 30 SEC.

29-002		LTD	*FLT	TRANSMIT SPC BUFFER CLEAR (1000010)	NOT PERFORMED
29-003		TBC	CISL	POWER DOWN SRB DFI. REPORT COMPLETION. CISL CURSOR CNTL (BAM08) LT DFI (BATT) PWR OFF - OFF RT DFI (BATT) PWR OFF - OFF CRT VERIFY LT/RT DFI BITE INDICATIONS OFF LT/RT DFI BATT CURR LESS THAN 0.5 AMPS	-----
29-004		TBC	CLOX	DPS IS TRANSITIONING TO G9 AND CLHY BACK TO 101. ET PRESSURE READOUTS MAY BE AFFECTED.	
29-005		LTD	OTC	VERIFY READY FOR GPC OPS MODE TBC TRANSITION TO G9 129/44.	
29-006		TBC	LTD	SRB AND ET READY	
29-007		OTC	LTD	ORBITER READY	
29-008		LTD	OTC	PROCEED WITH TRANSITION TO G9	
		OTC	CDPS		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				DPS RECYCLE TO G9	

NOTE

DO NOT PERFORM NEXT STEP
IF VASJ6 ACTIVE.

29-009 CDPS HOME CMD KEY - PRESS
VASJ6
PERF PGM KEY - PRESS
NOT PERFORMED -----

29-010 CDPS PFP PANEL
PFPK (VASJ6) KEY - PRESS
PFPK 4 KEY - PRESS
FOLLOW COUNTDOWN
RECYCLE PROMPTS.

29-011 CDPS CONSOLE CRT (VAS59)
VERIFY BFS IN OPS 000 AND PASS
CMDS PL BUSSES AND CRTS 1 AND 2.

29-012 CDPS CRT (VASJ6 PG-B)
VERIFY BSR READ DISPLAY
VERIFY DL FORMAT 44 ACTIVE

29-013 CDPS OTC DPS IS CONFIGURED TO GNC 9 DL
FORMAT ---. BFS IS IN OPS 0 STBY.

NOTE

THE NEXT STEP WILL BE
PERFORMED IF THE VENT DOOR
OVERRIDE WORD HAD BEEN
PREVIOUSLY SET DURING
COUNTDOWN.

29-014 PVD CHECK VENT DOOR OVERRIDE STATUS
WORD FOR PROPER BIT PATTERN.
IF REQUIRED, SET OVERRIDE WORD
PER SEQ 62 S0007, VOL. 4.

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
29-015				CDPS VERIFY ALL FC AND PL BSR'S ARE ACCEPTABLE (VASJ6)	
29-016				CDPS CONSOLE KYBD (VASJ6) PFK1 - PRESS (BSR READS GOOD CONTINUE) PFK1 - PRESS (NO NBAT UPDATE)	
29-017				CDPS CRT (VASJ6) WAITING FOR GO FOR ONE-SHOT	

NOTE

PERFORM THE NEXT TWO
 STEPS IF SRM CHAMBER PRESS
 BIAS UPDATE IS REQUIRED TO
 SUPPORT NEW T-0 TIME.

29-018		TBC	CISL	PERFORM SRB CHAMBER PRESSURE TRANSDUCER GPC UPDATE PER OMI B1011 ON OIS CH 175.	
				NOT PERFORMED	-----
29-019		CISL TBC LTD OTC	TBC LTD OTC CDPS	SRM CHAMBER PRESSURE TRANSDUCER GPC UPDATE IS COMPLETE, READY FOR ONE-SHOT DATA TRANSFER.	
				NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				ONE-SHOT DATA TRANSFER -----	
29-020		CDPS	CDR	PANEL C2 LEFT CRT SEL SW - 3 L KYBD RESUME CRT 3 BFS GPC MEMORY NOT PERFORMED	-----
29-021		CDPS	CDR	L KYBD ITEM 25 EXEC CRT 3 25* NOT PERFORMED	-----
29-022		CDPS	CDR	PANEL C2 LEFT CRT SEL SW - 1 NOT PERFORMED	-----
29-023		CDPS		CONSOLE PFP (VASJ6) PFPK1 - PRESS (ONE SHOT SELECT) NOT PERFORMED	-----
29-024		CDPS	CDR	CRT 3 (BFS MEMORY DISPL) ITEM 25 (VERIFY NO*) NOT PERFORMED UMRSD S00E00.915	-----
29-025		CDPS		CONSOLE KYBD (VASJ6) PFPK1 - PRESS (VERIFY ONE-SHOT COMPLETE). NOT PERFORMED	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
G9 OPERATIONS CMPLT					
29-026		CPVD	OTC	READY FOR OPS 1 TRANSITION	
29-027		LTD	OTC	VERIFY READY FOR TRANSITION	
			TBC	BACK TO OPS 1 FORMAT 21 DOWNLIST	
29-028		LTD	OTC	PERFORM TRANSITION OF PASS GPC'S	
		OTC	CDPS	BACK TO OPS 101	

NOTE

SOFTWARE CONDITIONS MAY RESULT IN A BODY FLAP FAIL INDICATION TO THE CREW WHEN THE OPS 101 TRANSITION IS PERFORMED. UPON HYDRAULIC PRESSURIZATION THE CONDITION WILL BE CORRECTED AND THE FAIL INDICATION WILL BE AUTOMATICALLY RESET.

OPS 1 LOAD (DEU EQUIV)

29-029		CDPS		CONSOLE PFP (VASJ6) PFPK3 - PRESS (OPS 101 SELECT)	
29-030		CDPS		CRT (VASJ6) VERIFY MESSAGES AS THEY APPEAR	
				OPS TRANSITION IN PROGRESS	
				PASS IN 101, ACTIVE DOWNLIST	
				BFS GPC CAN BE TAKEN TO 101	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF "PROCEED WITH BFS STEPS"
MESSAGE APPEARS ON VASJ6 WITHIN
TWO MINUTES, THEN DO NOT
PERFORM THE NEXT FIVE STEPS.

IF ANY OF THE FOLLOWING TWO
CRITERIA IS MET THEN STOP THE
COUNT AT THIS TIME.

A. ALTERNATE THROTTLE IS
REQUIRED AND VASJ6
INDICATES MMU 1 TAPE
RELATED ERRORS.

B. VASJ6 INDICATES MMU 1
NON-TAPE RELATED ERRORS.

IF ALTERNATE THROTTLE IS NOT
REQUIRED AND VASJ6 INDICATES
MMU 1 TAPE RELATED ERRORS,
THEN PERFORM NEXT FIVE STEPS.

29-031		CDPS	OTC	WE HAVE ENCOUNTERED MMU 1 TAPE RELATED ERRORS DURING THE OPS 101 TRANSITION. THIS IS AN LCC VIOLATION, PAGE 6.9.3-9.	
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WE ARE TRANSITIONING BACK TO
G9 AND PROCEEDING WITH MMU 1
RECOVERY.

NOT PERFORMED -----

29-032		OTC	CDPS	PROCEED WITH MMU 1 RECOVERY.	
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NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
29-033		CDPS		APPLICATIONS PAGE (VASJ6 PG-B) PFK 2 KEY - PRESS FOLLOW PROGRAM PROMPTS FOR MMU 1 RECOVERY.	
				NOT PERFORMED	-----
29-034		CDPS	DTC	MMU 1 RECOVERY COMPLETE. UPS TRANSITION IN PROGRESS.	
				NOT PERFORMED	-----
				NOTE	
				IF VASJ6 INDICATES AN MMU 1 ERROR AFTER RECOVERY INITIATION, THEN STOP THE COUNT AT THIS TIME.	
29-035		CDPS		APPLICATIONS PAGE (VASJ6 PG-B) PASS IN 101, ACTIVE DOWNLIST.	
				NOT PERFORMED	-----
29-036		CDPS	PLT	CRT 2 - VERIFY LAUNCH TRAJ	
29-037		CDPS	CDR	CRT 1 FAULT SUMM DISPLAY	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
29-038		CDPS	CDR	CRT 1 VERIFY NO UNEXPECTED ERRORS L KYBD SPEC 99 - PRO	
29-039		CDPS OTC	OTC LTD	OPS TRANSITION COMPLETE ***OPS 1 RECONFIGURING*** -----	
29-040		LTD	OTC TBC	PERFORM G9 TO G1 RECONFIGURATION STEPS.	
29-041		OTC	CDPS	PERFORM G1 DUMP AND COMPARE	
29-042		CDPS	COBS	NO HARD COPIES TO BE TAKEN CCME AT C12 DURING G-MEM DUMP CBDP	
29-043		CDPS		CONSOLE CRT (VASJ6) VERIFY WAITING ON GO FOR T-20 MINUTE DUMP. CONSOLE PFP (VASJ6) PFPK5 - PRESS (T-20M D AND C SELECT)	
NOTE					
DUMP WILL REQUIRE APPROXIMATELY 7 MINUTES.					
29-044		CDPS	CRT	(VASJ6) T-20 MINUTE DUMP IN PROGRESS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
29-047		CMPL	CRT (SAE02)	SELECT DISCRETES PAGE VERIFY THE FOLLOWING SOLENOID POWER IS APPLIED:	
				V41X1508E OPEN POWER LO2 OUTBOARD FILL AND DRAIN	
				V41X1506E OPEN POWER LO2 INBOARD FILL AND DRAIN	
				V41X1133E OPEN POWER LO2 PREVALVE E-1	
				V41X1233E OPEN POWER LO2 PREVALVE E-2	
				V41X1333E OPEN POWER LO2 PREVALVE E-3	
				V41X1807E OPEN POWER LO2 FEED DISCONNECT	
29-048		COFC	CRT (VAB73)	VERIFY OMS L-BLANK R-BLANK	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
29-049		CAFC		VERIFY AERO SURFACE DRIVER CURRENTS AND POSITIONS.	
				LOB DRVR (<3.25 MA)	V79C3284A1
				LIB DRVR (<3.00 MA)	V79C3280A1
				RIB DRVR (<3.00 MA)	V79C3288A1
				ROB DRVR (<3.25 MA)	V79C3292A1
				RUD DRVR (<2.00 MA)	V79C3405A1
				SBK DRVR (<2.00 MA)*	V79C3315A1
				RUD POSN 1 (-0.95 TO +0.95 DEG)	V57H0150A1
				RUD POSN 2 (-0.95 TO +0.95 DEG)	V57H0151A1
				RUD POSN 3 (-0.95 TO +0.95 DEG)	V57H0152A1
				RUD POSN 4 (-0.95 TO +0.95 DEG)	V57H0153A1
				SBK POSN 1 (+2.45 TO +7.55 DEG)	V57H0250A1
				SBK POSN 2 (+2.45 TO +7.55 DEG)	V57H0251A1
				SBK POSN 3 (+2.45 TO +7.55 DEG)	V57H0252A1
				SBK POSN 4 (+2.45 TO +7.55 DEG)	V57H0253A1
				*AS SBK POSN DECREASES BELOW 5.0 DEGREES, SBK DRVR CURRENT NEGATIVE LIMIT DECREASES LINEARLY TO 0.0 MA AT SBK POSN OF 3.5 DEGREES. NO NEGATIVE CURRENT ALLOWED BELOW SBK POSN OF 3.5 DEGREES.	
				OMRSD S00FM0.110	
29-050		CAFC		VERIFY ON MPS ACTUATORS DIFFERENCE BETWEEN POSITION AND DRIVER OUTPUT IS NOT GREATER THAN 2.0 DEGREES.	
29-051		CAFC		VERIFY ON SRB ACTUATORS THAT THE DIFFERENCE BETWEEN POSITION AND DRIVER OUTPUT IS NOT GREATER THAN 0.90 DEGREES (1.13 IN.)	
29-052		CAFC	OTC	AEROSURFACES AND ATVC READY FOR HYDRAULIC PRESSURIZATION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				BFS TO OPS 1 -----	
29-053		OTC	CDR PLT	PERFORM MANUAL TRANSITION OF BFS TO 101.	
			CDR	PANEL C2 LEFT CRT SEL SW - 3	
				L KYBD FAULT SUMM	
				CRT 3 VERIFY NO UNEXPECTED ERRORS	
			CDR	L KYBD SPEC 99 PRO RESUME	
			CDR	PANEL 06 GENERAL PURPOSE COMPUTER MODE 5 SW - RUN 5 TB RUN	
			CDR	L KYBD (BFS) OPS 101 PRO (ASCENT)	
				CRT 3 (BFS) LAUNCH TRAJ	
				L KYBD FAULT SUMM	
				CRT 3 VERIFY NO UNEXPECTED ERRORS	
				L KYBD SPEC 99 PRO RESUME LEFT CRT SEL SW - 1	
29-054		CDR	OTC	BFS OPS 1 TRANSITION COMPLETE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
29-055			CDPS	CRT (VASB9 PG-B) BFS TRACKING PASS FC STRG 1-4 CYAN	
29-056			CDPS	ACTIVATE LCC MONITOR APPLICATIONS PAGE (VASB9 PG-B) PFK 2 KEY - PRESS	
29-057			CGNC	BFS AS-1 = ON HORIZONTAL SIT CONFIGURATION -----	
29-058		OTC	PLT	CONFIGURE THE PASS AND BFS HORIZONTAL SITUATION DISPLAYS.	
29-059			PLT	PANEL C2 RIGHT CRT SEL SW - 3	
29-060			PLT	R KYBD SPEC 50 PRO CRT 3 HORIZONTAL SIT DISPLAY (BFS)	
29-061			PLT	RIGHT CRT SEL SW - 2 R KYBD SPEC 50 PRO CRT 2 HORIZONTAL SIT DISPLAY (PASS)	
NOTE					
PERFORM NEXT FOUR STEPS IF ALTERNATE TAL SITE SELECTION IS REQUIRED.					
29-062		*FLT 212	OTC	PERFORM ALTERNATE TAL SITE SELECTION FOR TAL SITE ----- (1-5).	
NOT PERFORMED					-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
29-063		OTC	PLT	RIGHT KYBD (INPUTS PASS HORIZ SIT CRT 2) ITEM 40 + ___ (1-5) EXEC CRT 2 VERIFY 40 TAL SITE ___ (1-5)	NOT PERFORMED -----
29-064		OTC	PLT	PANEL C2 RIGHT CRT SEL SW - 3 RIGHT KYBD (INPUTS BFS HORIZ SIT CRT 3) ITEM 40 + ___ (1-5) EXEC CRT 3 VERIFY 40 TAL SITE ___ (1-5)	NOT PERFORMED -----
29-065		OTC	PLT	PANEL C2 RIGHT CRT SEL SW - 2	NOT PERFORMED -----
29-066		PLT	R	KYBD ITEM 9+ ----- (ALTM SET AS RECEIVED FROM MCC-H) EXEC ITEM 2 EXEC	
29-067		PLT		VERIFY ITEM 3* (RUNWAY 15) AS RECEIVED FROM MCC -----	NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
29-068		PLT	ITEM 4 EXEC (RUNWAY 33 AS RECEIVED FROM MCC-H) PANEL 08 MLS CH TW (THREE) - 6 NOT PERFORMED		-----
29-069		PLT		VERIFY VALUES CORRECTLY UPDATED ON CRT 2 (PASS) AND ON CRT 3 (BFS)	
29-070		PLT	R KYBD (INPUTS PASS HORIZONTAL SIT CRT 2) ITEM 29 (ADTA TO G&C - INH) EXEC ITEM 35 (TACAN DELTA) EXEC		
29-071		PLT	CRT 2 VERIFY G&N OVHD 6 NEP 7 AIM NUM 8 VERIFY ASTERISK NEXT TO THE FOLLOWING ITEMS. ITEM 20 (TACAN INH) ITEM 22 (DRAG H AUT) ITEM 26 (ADTA H INH)		
29-072		PLT	PANEL C2 RIGHT CRT SEL SW - 3 CRT 3 VERIFY: G&N OVHD 6 NEP 7 AIM NOM 8 VERIFY ASTERISK NEXT TO THE FOLLOWING ITEMS. ITEM 20 (TACAN INHIBIT) ITEM 22 (DRAG H - AUT) ITEM 26 (ADTA H - INH) ITEM 28 (ADTA TO G&C - AUTU)		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
29-073			PLT	PANEL C2 R KYBD SYS SUMM SYS SUMM CRT 3 GNC SYS SUMM 2 (BFS)	
29-074			PLT	RIGHT CRT SEL SW - 2 R KYBD RESUME CRT 2 LAUNCH TRAJ (PASS) R KYBD SYS SUMM CRT 2 GNC SYS SUMM 1 VERIFY NO DOWN ARROWS FF, FA MDMS	
29-075		CDR		L KYBD RESUME CRT 1 LAUNCH TRAJ	
29-076			PLT	OTC HORIZONTAL SITUATION CONFIGURATION COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				CONFIGURE OMS/RCS CROSSFEED VALVES FOR FLIGHT	
29-077		OTC	COOS	VERIFY OMS/RCS CROSSFEED FUEL AND OXIDIZER VALVES ARE CONFIGURED FOR FLIGHT.	
29-078			COOS	VERIFY ALL OMS AND RCS XFEED VALVES CLOSED (VWD42)	
29-079			COOS	VERIFY ALL OMS AND RCS XFEED VALVES CLOSED (VWD41)	
29-080		COOS	OTC	OMS/RCS CROSSFEED VALVES CONFIGURED FOR FLIGHT	
29-081			COOS	CRT (VADK1/VADL1) VERIFY SWITCH POSITIONS FOR LAUNCH	
29-082			COOS	VAD90 VERIFY VALVES CONFIGURED FOR FLIGHT	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF DOD MISSION, DO NOT
 PERFORM NEXT STEP.

29-083		OTC	PLT	REPORT RCS QUANTITIES, F, L, R, FUEL AND OXIDIZER (GNC SYS SUMM 2)	
				OXIDIZER	FUEL
				F -----	F -----
				L -----	L -----
				R -----	R -----
					NOT PERFORMED -----
29-084		OTC		IF DOD MISSION, PERFORM ITEM 7.7, APPENDIX Q.	
					NOT PERFORMED -----
29-085		OTC	PLT	CONFIGURE CRT 3 PANEL C2 CRT 3 MAJ FUNC SW - SM RIGHT CRT SEL SW - 3	
				R KYBD SYS SUMM SYS SUMM	
				CRT 3 BFS, SM SYS SUMM 2	
29-086		CVFS		VERIFY CONSOLE PRINTER/PLOTTER MISCOMPARES ARE AS EXPECTED FOR T-20 MINUTE DUMP.	
				OMRSD S00FK0.090	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF EXPECTED MISCOMPARES OCCUR,
PERFORM NEXT STEP.

29-087

CDPS CONSOLE KYBD (VASJ6 PG-8)
PFK3 KEY - PRESS

NOT PERFORMED

NOTE

IF UNEXPECTED MISCOMPARES
OCCUR, PERFORM NEXT STEP.

29-088

CDPS CONSOLE KYBD (VASJ6 PG-8)
PFK2 KEY - PRESS

NOT PERFORMED

29-089

CDPS DTC T-20 MINUTE GPC DUMP COMPLETE
212

29-090

CCME READ EIU BSR'S VAB74 PFPK2
SELECT PERFORM LDB READ
TRANSMIT CURSOR
VERIFY CONTROLLER TEMPS WITHIN
LCC LIMITS:
PSE 125 DEG F
IE 91 DEG F
(IF 60KB LINK UP)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

THE FOLLOWING F/C LOAD SHARE WILL BE PERFORMED ONLY IF HOLD IS EXPECTED TO BE ONE OF LONG DURATION.

THE F/C LOAD SHARE ADJUST MAY BE PERFORMED IN PARALLEL WITH THE OPS TRANSITION ACTIVITIES.

CECL WILL MONITOR HEAT LOAD IMPACT OF NEXT STEP.

29-091		OTC		CEPD ADJUST FUEL CELL LOADS TO BETWEEN CFCP 100 AND 290 AMPS PER OMI S9001 CECL ON OIS CH 151.	
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29-092				CFCP MONITOR FUEL CELL PERFORMANCE USING FOLLOWING CRITERIA:	
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DURING LOAD TRANSITION, ELECTRICAL LOADS EXCEEDING 290 AMPS CAN CAUSE VOLTAGE LESS THAN 28.25, BUT THE VOLTAGE SHALL BE EQUAL TO OR GREATER THAN V-1 CURVE REFERENCE OMRS FILE III, VOL 5 FIGS V45AK0.010-1, V45AK0.010-2 AND V45AK0.010-3.

COOLANT RET TEMP	40-140 DEG F
COOLANT PRESSURE	65 +/- 10 PSIA
O2 FLOW	1.3-8.0 LB/HR
H2 FLOW	0.15-1.0 LB/HR

NOT PERFORMED -----

29-093		OTC		CISL SUPPORT TBC ON CH 136.	
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29-094		TBC 136		CISL VERIFY SRM CHAMBER PRESSURE COEFFICIENT IS SUCCESSFULLY LOADED IN OPS 1 PER SEQ 38 (S0007VL4) OPS CHANGE BIAS CHECKS (AFTER T-20 MINUTES). REPORT COMPLETION.	
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29-095		CAFC		PFP (BAF03) ACTIVATE EMON - PRESS	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
29-096		CDPS CFCP CEPD COFC CGNC CMPS COOS CCME CPVD	OTC	RECYCLE OPERATION COMPLETE PENDING NEW T-0	
29-097		CISL	TBC	SRM CHAMBER PRESS COEFFICIENT LOAD CHECK IS COMPLETE. RECYCLE OPERATIONS COMPLETE PENDING NEW T-0	
29-098		OTC TBC *FLT	LTD	RECYCLE OPERATIONS COMPLETE PENDING NEW T-0 TIME.	
29-099		LTD *FLT *MIL	OTC	THE NEW T-0 TIME IS _____ GMT TBC THE COUNTDOWN CLOCK WILL RESUME CDR AT T-_____ (9 OR 7) MINUTES AND PLT COUNTING AT _____ GMT	
NOTE					
THE FOLLOWING STEPS ARE L-TIME DEPENDENT AND WILL BE STARTED ONLY AFTER NEW T-0 TIME HAS BEEN ESTABLISHED.					
THE FOLLOWING FUEL CELL PURGE MUST BE PERFORMED 30 MINUTES PRIOR TO LAUNCH.					
29-100		OTC	CFCP	PERFORM FUEL CELL PURGE PER SEQ 47 (S0007 V4) ON OIS CH 153.	
29-101		CFCP 212	OTC	FUEL CELL PURGE IS COMPLETE	

OPERATION INSTRUCTIONS

SEG	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

ECL MONITOR HEAT LOAD
IMPACT IN NEXT STEP.

IF THE FUEL CELL LOADS WERE
LOWERED BELOW 250 AMPS THEN
THE FOLLOWING FUEL CELL
THERMAL CONDITIONING
ADJUST SHOULD BE STARTED
IMMEDIATELY AFTER FUEL
CELL PURGE COMPLETION AND
MUST BE COMPLETE BY 13.5
MINUTES PRIOR TO LAUNCH.

29-102		OTC	CEPD	AFTER FUEL CELL PURGE IS COMPLETE,	
			CFCP	ADJUST FUEL CELL LOADS TO BETWEEN 250 AMPS AND 290 AMPS PER OMI S9001 ON OIS CH 151.	

CFCP MONITOR FUEL CELL PERFORMANCE
USING FOLLOWING CRITERIA:

VOLTAGE	28.25 VOLTS MINUTE
CURRENT	250-290 AMPS
STACK COOL OUT TEMP	175-240 DEG F
COND EXIT TEMP	130-162 DEG F
COOLANT RET TEMP	40-140 DEG F
COOLANT PRESS	65 +/- 10 PSIA
O2 FLOW	4.0-8.0 LB/HR
H2 FLOW	0.5-1.0 LB/HR

OMRSD S00FM0.070

NOT PERFORMED -----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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STORED PROGRAM COMMANDS

NOTE

PERFORM THE NEXT TWO STEPS
 IF CDC IS TO RESUME
 AT T-7 MINUTES 30 SEC.

29-103

OTC *FLT TRANSMIT STORED PROGRAM PRE-LAUNCH
 212 COMMANDS (BFS SPC LOAD 12101)

	DSM	MDM	CMD NAME	EXECUTION TIME
1.	---	---	-----	-----
2.	---	---	-----	-----
3.	---	---	-----	-----
4.	---	---	-----	-----
5.	---	---	-----	-----
6.	---	---	-----	-----
7.	---	---	-----	-----
8.	---	---	-----	-----

NOT PERFORMED

29-104

*FLT VERIFY 2 - STAGE BUFFER AUTO
 COMPARE AND EXECUTE.

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				SRB DFI POWER UP	
29-105		TBC 137	CBIS	POWER UP SRB DFI FOR TERMINAL COUNT AT L-12 MINUTES.	
				NOT PERFORMED	-----
29-106		CPWR		CONSOLE KYBD SET_B78K5000XL_ON XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
				CONSOLE KYBD SET_B78K6000XL_ON XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
				CONSOLE KYBD SET_B78K5000XL_OFF XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
				CONSOLE KYBD SET_B78K6000XL_OFF XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
				CRT (BWE08) VERIFY LH/RH DFI BATT CURRENT 0.2 - 19.0 A LH/RH DFI BATT VOLTAGE 26.7 - 39.8 V LH/RH DFI BATT TEMP 34.2 - 102.8 DEG F	
				NOT PERFORMED	-----
29-107		CBIS 137	TBC	SRB DFI POWER UP FOR TERMINAL COUNT IS COMPLETE.	
				NOT PERFORMED	-----
				SINGLE SHOT VERIFICATION	
29-108		OTC	CGLS	PERFORM SINGLE SHOT VERIFICATIONS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
29-109		CGLS	CRT	INTG MENU	
				CURSOR CNTL	
				SINGLE SHOT VFY	
				TRANSMIT CURSOR - PRESS	
				PFFK4 - PRESS	
				VERIFY TITLE	
				SINGLE SHOT VERIFY FAILURES	
29-110		CGLS	IF PAGE FULL	PFF15 - PRESS	
				VERIFY NEXT PAGE FAILURES	
				NOT PERFORMED	-----
29-111		CGLS	WHEN VERIFIES COMPLETE	VERIFY MESSAGE	
				VERIFY CYCLE COMPLETE	
29-112		CGLS	PFFK1 - PRESS (TERM VFY'S)	NOT PERFORMED	-----
29-113		CGLS	PFFK2 - PRESS (RESTART VFY'S)	NOT PERFORMED	-----
29-114		CGLS	PFFK1 - SYS MENU - PRESS		

NOTE

WHEN COUNTDOWN CLOCK RESUMES,
 RETURN TO T-9 (OR T-7)
 POINT IN OMI CONTROL
 SEQUENCE.

VOLUME 2 OF 4
DATE: 01-11-86

DMI NO. - S0007VL2
REV. - Z

OPERATION INSTRUCTIONS

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

NOTE

EMERGENCY INSTRUCTIONS
APPENDIX Z, ARE LOCATED
IN VOL 4.

VOLUME 2 OF 4
DATE: 01-11-86

OMI NO. - S0007VL2
REV. - Z

END OF OMI
VOL 2

S0007V2 SHUTTLE COUNTDOWN (LPS)
DISTRIBUTION C - FINAL

NKC/T. BROWN	SE-WSD-11/K. COLLEY	
* HMC AERUSPACE	SE-WSD-11/I. VELLEZ	
* MILPOIRT 3545	SE-WSD-11/W. BEEKER	
* P.O. BOX 29304	SE-WSD-12/J. FRALLEY	
* NEW ORLEANS, LA 70189	SE-WSD-21/C.G. STEVENSON	2
PA-PIB/H. MARRIS	SE-WSD-22/G. RUBINSWA	
PA-PIB/R. YOUNG	SE-WSD-22/J. TATUM	
* RI CURP, ROCKEYRE DIV	SE-WSD-22/W. LUTZ	
* 6633 CAUGA AVE	SE-WSD-27/H. DE LAKUSA	
* CANOGA PK, CA 91304	SE-REU/O. SIMON	
SAB4/R. SOCKWELL	SE-REU/M. WEDDING	
* MFC, AL, 35812	SE-REU-A/C. FAIREY	
SK-LUS/W. CLEVIR	SE-REU-A/J. L. BULLION	
SPAF/MAJ. MEKS	SE-REU-A/L. ELLIS	
SE-ETD-11/B. BAKER	SE-REU-A/H. SILLIPU	
SE-ETD-11/R. DENNIS	SK-GAL-2/W. JONES	
SE-ETD-12/J. BIZZELL	SK-GAL-3/W. POTOS	
SE-ETD-12/T. IPPOLITO	SO-A/ASTRO OFFICE	
SE-ETD-13/B. GLASER	LSO-038/TECH DATA (REINHART)	5
SE-ETD-21/M. KRAUS	LSO-120/OPS CENTK	
SE-ETD-21/M. GUIDRY	LSO-142/SAFETY OPS (ROBBINS)	
SE-ETD-21/T. M. ALLEN	LSO-170/M/P GSE OPS (JINGMA)	
SE-ETD-21/W. KRAUS	LSO-170/W/LP OPS (CRUTE)	
SE-ETD-23/G. THOMPSON	LSO-171/PAD-A OPS (AOLF)	
SE-ETD-23/K. SUMNER	LSO-171/PAD-A ECS (BKUMN)	
SE-ETD-23/M. CZABAN	LSO-171/PAD-A GSE (PLEASANT)	2
SE-FSSO/D. SCOVILLE	LSO-172/SITE COORD (BYRU)	
SE-FSSO/H. WILEY	LSO-187/VAB PROCCSS PLANIN	2
SE-FSSO-11/J. NEILSON	LSO-194/ORB INST (FHDON)	3
SE-FSSO-12A/C. MC CASKEY	LSO-195/ORB CUM & TRK (CCSE)	
SE-FSSO-12C/K. KLEIN	LSO-195/ORB CUM & TRK (CNSE)	
SE-FSSO-12B/R. PIERCE	LSO-195/ORB ENG SFTY (GURS)	
SE-FSSO-12/D. BIER	LSO-195/ORB CUM/TRK KEMPTON	2
SE-FSSO-12/R. HIRD	LSO-196/ORB EPD/C (HARRIS)	
SE-FSSO-21/J. FOX	LSO-198/ORB DMS/KCS (HEINRI)	3
SE-FSSO-21/W. MOWLIN	LSO-198/ORB ECLSS (HUSSO)	3
SE-FSSO-22/R. SEIFFER	LSO-198/ORB PRSD (KUSSO)	
SE-FSSO-23/PKATT-PETTY-SIMPR	LSO-202/DPF VEH UPS (LE VAU)	
SE-GDS-21/J. TADICH	LSO-204/DPF SHOPS/LABS (SUM)	
SE-GDS-22/V. ELENTRI	LSO-206/DMD DEV (MULLEN)	
SE-GDS-23/R. REGISTER	LSO-207/PKUD & TSI (LIKON)	2
SE-GDS/F. PENOVICH	LSO-213/ORB S/P (HAIFIELD)	
SE-WSD-1/K. COLLEY	LSO-213/ORB SDFINARE LLEVAN	
SE-WSD-11/C. MCCREARY	LSO-214/ORB DIGITAL (EDWARD)	5

S0007V2 SHUTTLE COUNTDOWN (LPS)
DISTRIBUTION C - FINAL

LSO-215/ORB GUKC (EKI)	2
LSO-217/STS TST OPS (SULLIV)	4
LSO-225/CARGO ELECT (GORENF)	2
LSO-229/INTEG OPS (HAZELTON)	2
LSO-233/LCC ESA	2
LSO-239/ORB MECHANISMS (ISE)	2
LSO-241/ORB LAUNCH ACCES (G)	3
LSO-242/ORB TPS ENGR (MILLI)	
LSO-254/DPF C&T TECH (PCRT)	
LSO-257/SAFETY OPS (PAD)	
LSO-264/FLT CREW SYS (SCHAT)	
LSO-281/DPF C&T ENGR (RCME)	2
LSO-292/SPC SAFETY (NEAL)	2
LSO-298/STRUCTURES (GRIGGS)	2
LSO-308/ORB HYD/APU (DOUGER)	3
LSO-312/DPF (KLOTZ)	2
LSO-319/J. HAMILTON	
LSO-346/PAD-B ECS (LOVELACE)	2
LSO-346/PAD B HYPER (SPIVEY)	
LSO-398/PAD A COORD (CHEERS)	
LSOC-VLS/C. BREYER	
LSOC-VLS/S. KERASOTIS	
* DEPT 6213, BLDG M7100C	
* VAFB, CA, 93437	
ROC-11/SME OPS (HAMPTON)	2
* ZK-03/MSR	
* (HOCKWELL COMM SERV)	
* (MSR D041/FA99)	
ZK-07/W. HEINK	
ZK-21/R. BUCINA	
ZK-22/A. MARTIN	
ZK-25/RI TECH DATA (PATIE)	
* BOXCAR 495	
ZK-36/A. GUNDE	
ZK-42/T. WYNN (F.H. OC)	2
ZK-66/J. PRUITT	
ZK-68/F. ENGEL	
ZK-68/K. MC DONALD	
TOTAL =	505

