

VOLUME 1 OF 5
DATE: 07-01-99

OMI NO. - S0007VL1
REV. - AT-1

SHUTTLE COUNTDOWN (LPS)

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OMI WRITER: PAM STIELER, 1-4958

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THIS PROCEDURE CONTAINS HAZARDOUS OPERATIONS

VOLUME 1 OF 5
DATE: 07-01-99

OMI NO. - S0007VL1
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UNITED SPACE ALLIANCE

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

PREPARED BY:

SFOC TEST DOCUMENTATION

APPROVED BY:

CONTRACTOR

SFOC SAFETY ENGINEERING

THIS PROCEDURE CONTAINS HAZARDOUS OPERATIONS

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*   DESIGN CENTER CONCURRENCE:    JSC & MSFC    *
*****
```

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SFOC OPR

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REVISION RECORD PAGE

REV-CHANGE	DATE	REASON	PAGES AFFECTED	EFFECTIVITY
AS	10-02-98	127/USK217:	ALL	STS-95&SUBS
		RCN		
		OV13313		
AS-1	11-13-98	128/USK023:	8-13, 39, 60, 73-78,	STS-88&SUBS
		RCN	90, 91, 96, 97, 102,	
		KG02038	103, 106, 143, 146,	
			154, 156, 176, 179,	
			180, 217, 218, 338,	
			339, 341, 342, 345,	
			346, 348, 349, 352,	
			393, 505, 508, 508.1,	
			508.2, 509, 509.1,	
			509.2, 510, 550,	
			550.1, 550.2, 551,	
			583, 621, 626, 632	
AT	04-28-99	129/USK206:	ALL	STS-96&SUBS
AT-1	07-01-99	130/USK217:	9-15, 17, 59, 60, 73,	STS-93&SUBS
			74, 78-82, 82.1, 82.2	
			93, 101, 106	
			106.1, 106.2, 263, 273:	
			273.1, 273.2, 283-290:	
			311, 311.1, 311.2, 320:	
			351, 421, 447, 448, 617:	
			633	

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BACKUP SIGNATURE SHEET

OMI TITLE: SHUTTLE COUNTDOWN (LPS)

SYSTEM	AGENCY CONTRACTOR/NASA	CONTRACTOR	SIGNATURES GOVERNMENT
-----	-----	-----	-----
SUPPORT			

TSMO	SFOC	_____	NA
TIMING/ COUNTDOWN	CSR	_____	NA
RPS	SFOC/NASA	_____	_____
LPS	SFOC/NASA	_____	_____
ETR	PAA/SRO	_____	NA
MEASUREMENTS	SFOC/NASA	_____	_____
PHOTO	BIONETICS	_____	NA
MILA	BFEC/GUSB	_____	NA

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BACKUP SIGNATURE SHEET

OMI TITLE: SHUTTLE COUNTDOWN (LPS)

SYSTEM -----	AGENCY CONTRACTOR/NASA -----	CONTRACTOR -----	SIGNATURES GOVERNMENT -----
PAYLOAD -----			
TEST CONDUCTOR	PGOC	_____	NA
PAYLOAD INTEG ENGR	PGOC /CS-PPD-1	_____	_____
ELECT INTEG	PGOC	_____	_____
SOFTWARE	PGOC	_____	_____
IUS	BA0/6555TH	_____	_____
MIDDECK EXP	CS-EED-1	NA	_____
ULS	ESA	_____	NA

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BACKUP SIGNATURE SHEET

OMI TITLE: SHUTTLE COUNTDOWN (LPS)

SYSTEM	AGENCY CONTRACTOR/NASA	CONTRACTOR	SIGNATURES GOVERNMENT
-----	-----	-----	-----
ORBITER			

NAVAIDS	SFOC/NASA	_____	_____
COMM	SFOC/NASA	_____	_____
INSTR	SFOC/NASA	_____	_____
HGDS	SFOC/NASA	_____	_____
PVD	SFOC/NASA	_____	_____
LAUNCH ACC	SFOC/NASA	_____	_____
EPD&C	SFOC/NASA	_____	_____
DPS	SFOC/NASA	_____	_____
DPSME	SFOC/NASA	_____	_____
QE	SFOC	_____	NA
CARGO/EXP	SFOC/NASA	_____	_____
MPS	SFOC/NASA	_____	_____
APU	SFOC/NASA	_____	_____
HYDRAULICS	SFOC/NASA	_____	_____
SAFETY	SFOC	_____	NA

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BACKUP SIGNATURE SHEET

OMI TITLE: SHUTTLE COUNTDOWN (LPS)

SYSTEM	AGENCY CONTRACTOR/NASA	CONTRACTOR	SIGNATURES GOVERNMENT
-----	-----	-----	-----
ORBITER (CONT)			

PRSD	SFOC/NASA	_____	_____
MECH/STRUC	SFOC/NASA	_____	_____
OMS/RCS	SFOC/NASA	_____	_____
ECLSS	SFOC/NASA	_____	_____
TPE/PEO	SFOC/NASA	_____	_____
VITT	NASA/JSC	NA	_____
TPS	SFOC/NASA	_____	_____
FCS	SFOC/NASA	_____	_____
G&N	SFOC/NASA	_____	_____
FLT CNTLS	SFOC/NASA	_____	_____
ORB SOFTWARE	SFOC/NASA	_____	_____
PYRO	SFOC/NASA	_____	_____
GLS	SFOC/NASA	_____	_____
LO DATA	SFOC/NASA	_____	_____
SSME QE	ROCKETDYNE	_____	NA
TPS QE	SFOC	_____	NA

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BACKUP SIGNATURE SHEET

OMI TITLE: SHUTTLE COUNTDOWN (LPS)

SYSTEM	AGENCY CONTRACTOR/NASA	CONTRACTOR	SIGNATURES GOVERNMENT
-----	-----	-----	-----
EXTERNAL TANK ET/SRB			

TEST COND	SFOC/(ROR)	_____	NA
PROJ ENGR	SFOC	_____	NA
ELECTRICAL (SRB)	SFOC/NASA	_____	_____
INSTR	SFOC/NASA	_____	_____
MECH(ET)	SFOC/NASA	_____	_____
PROPELLANTS/ LO2	SFOC/NASA	_____	_____
PROPELLANTS/ LH2	SFOC/NASA	_____	_____
DPS	SFOC/NASA	_____	_____
HYD	SFOC/NASA	_____	_____
EPDC	SFOC/NASA	_____	_____
MECH (SRB)	SFOC/NASA	_____	_____
SRSS	SFOC/NASA	_____	_____

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DESIGN CENTER CONCURRENCE
BACKUP SIGNATURE SHEET

OMI TITLE: SHUTTLE COUNTDOWN (LPS)			
SYSTEM	AGENCY	SIGNATURES	
-----	CONTRACTOR/NASA	CONTRACTOR*	NASA
	-----	-----	-----
ORBITER	ORBITER ENGR	_____	NA
SSP SYS INTEG	SYSTEM INTEG	_____	NA
SSP KSC INTEG	SPACE SHUTTLE KSC INTEG (ML-SIO)	NA	_____
SSP CARGO INTEG	CARGO INTEG	_____	NA
SSP CARGO INTEG	SPACE SHUTTLE SYS INTEG (MS)	NA	_____

* LSS REVIEWS ARE PER THE LIMITATIONS CONTAINED WITHIN THEIR
RESPECTIVE MEMORANDA OF UNDERSTANDING WITH THE SPC.

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SECTION IV - OPERATION INSTRUCTIONS NA

SECTION V - POST OPERATION INSTRUCTIONS NA

APPENDICES

A THRU Y NA

Z EMERGENCY INSTRUCTIONS 659

OR/OD 20007S	LI	OPERATIONS REQUIREMENTS/OPERATIONS DIRECTIVE - LLS (KSC)
OR/OD 2XX00	LI	OPERATIONS REQUIREMENTS/OPERATIONS DIRECTIVE - LLP (KSC)
D3012	LI	INTER-CENTER END-TO-END COMM CHECK (USA)

1.1.3 SUPPORTING SUBTASKS

-1

SUBTASK NUMBER -----	SUBTASK TITLE/ FUNCTION TO BE PERFORMED -----	CALLING SEQ-STEP -----
M3054	GN2 ENVIR/CAMERA LENS PURGE SYS	01-058
M3176	GN2 ENVIRON/CAM LENS PURGE SYS, PAD B	01-058
Q3018	PRE-LAUNCH, POST-LAUNCH, POST-FRF INSPECTION, ELEVATOR	01-058
M3006	HVAC SYS/PTCR/ECS ROOM, PAD A, C-39 REMOTE	01-065
M3023	PTCR/ECS RM. HVAC SYS, PAD B REMOTE	01-065
M3088	LOW-LEVEL OXYGEN ANALYZER UNITS OPERATION	01-071
M3054	GN2 ENVIR/CAMERA LENS PURGE SYS	01-076
M3176	GN2 ENVIRON/CAM LENS PURGE SYS, PAD B	01-076
M3189.001	SOUND SUPPRESSION LAUNCH COUNTDOWN OPERATIONS	01-077
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M3022	COMPRESSED AIR SYSTEM SPECIAL CHECKOUT INSTRUCTIONS	-1 01-094
M3054	GN2 ENVIR/CAMERA LENS PURGE SYS	01-094
M3067	CABIN AIR(OXYGEN/NITROGEN) DISTRIBUTION SYSTEM BREATHING AIR CABIN AIR FOR TEST SUPPORT WITH TUBE BANK	01-094
M3097	HIGH PURITY GASEOUS OXYGEN SYSTEM MAINTAINING PAD G02 SYSTEM	01-094
M3176	GN2 ENVIRON/CAM LENS PURGE SYS, PAD B	01-094
M3197	HP GN2/GHE/COMP AIR/LPGN2 PREP, FRF MLP GN2 GHE LPGN2 SYSTEM PREPARATION FOR LAUNCH FRF TANKING TEST	01-094
A2700	GROUND SUPPORT COMM SYS VALID VALIDATION OF COUNTDOWN TRANSMITTING SUBSYSTEM TO JSC AND MFSC VALIDATION OF COUNTDOWN TRANSMITTING SUBSYSTEM TO JSC AND MFSC LAUNCH STATUS CLOCKS HOLD TIME REMAINING INTERFACE TEST, ON OIS CHANNEL 178.	01-097 01-097 01-115
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C2000	LCC CCMS OPERATION SUPPORT	01-177
D3008	PURGE/PRESSURIZATION AND LOCKOUT PROCEDURES FOR COMM ENCLOSURES	01-182 01-183

M3184	SOLID ROCKET BOOSTER SIDE FLAME DEFLECTOR	-1 01-211 01-216
M3189.001	SOUND SUPPRESSION LAUNCH COUNTDOWN OPERATIONS J	01-216 01-222 01-225
M3083	MLP COMPOSITE STRUCTURE	01-228
M3190	FIREX AND POTABLE WATER LAUNCH COUNTDOWN OPERATIONS	01-232 01-239
C2000	LCC CCMS OPERATION SUPPORT	01-248
V1047	HATCH SEAL LEAKAGE TESTS	02-017
S9001VL2	SHUTTLE POWER UP/POWER DOWN (LPS)	02-037
V3600	GROUND COOLING SYSTEM OPERATIONS	02-041
S9001VL2	SHUTTLE POWER UP/POWER DOWN (LPS)	02-042
V66-50009	INSTALLATION/REMOVAL AIRLOCK OUT VERTICAL ACCESS SET - CREW MODULE	02-045
V66-90006	PLATFORM ACCESS SET, A70-0558 MIDDECK, CREW MODULE VERTICAL, REMOVAL	02-045
V5097.003	CREW SYSTEMS STOWAGE - FLIGHT DECK/MIDDECK	02-046
V66-00009	PLATFORM ACCESS SET, A70-0558 MIDDECK, CM, VERTICAL, INSTALLATION	02-047
V66-50009	INSTALLATION/REMOVAL AIRLOCK OUT VERTICAL ACCESS SET - CREW MODULE	02-047
V3517	LH2 TSM PREPARATION TO SUPPORT INTEGRATED TEST	02-051
V3518	LO2 TSM PREPARATION TO SUPPORT INTEGRATED TEST	02-052
V1122	PAD A/B ECS SUPPORT OPERATIONS (LPS AND LPC)	02-056
V5052	GSE HAZARD PROOFING	02-078

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V1117	COMMUNICATIONS LAUNCH CONFIGURATION CHECKOUT (LPS)	-1 02-082
V33-90011	CREW MODULE WINDOW HARD COVER REMOVAL AND PLUG INSTALLATION	02-083
V33-00005	CREW MODULE SOFT WINDOW COVER INSTALLATION (EXTERIOR)	02-091
V33-00003	CREW MODULE WINDOW HARD COVER INSTALLATION	02-092
V1117	COMMUNICATIONS LAUNCH CONFIGURATION CHECKOUT (LPS)	02-095
V80-05901	DOOR 59-01, LH OMS/RCS PROPELLANT SERVICE REMOVAL	02-101
V80-05902	DOOR 59-02, OMS/RCS RH PROPELLANT SERVICE, REMOVAL	02-102
V80-95901	DOOR 59-01, LH OMS/RCS PROPELLANT SERVICE, INSTALLATION	02-114
V80-95902	DOOR 59-02, OMS/RCS RH PROPELLANT SERVICE, INSTALLATION	02-115
V1117	COMMUNICATIONS LAUNCH CONFIGURATION CHECKOUT (LPS)	02-119
V1040.002	PRSD CRYO LOAD AND FUEL CELL ACTIVATION	02-125
V1040.003	FUEL CELL PRSD LAUNCH HOLD/RECYCLE/SCRUB CONTINGENCY OPERATIONS	
	G02 SAMPLE BOTTLE CONNECTION OMBUU	02-126
	G02 SAMPLE BOTTLE CONNECTION OMBUU	02-126
V33-00012	MCDS OTV CAMERA/BACKET AND OIS UNITS REMOVAL	02-141
V5067	CREW MODULE AND AIRLOCK HATCH OPENING AND CLOSING	
	A	02-143
V66-00019	PLATFORM ACCESS SET A70-0558 AFT FLIGHT DECK INSTALLATION/REMOVAL	02-144

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V66-50009	INSTALLATION/REMOVAL AIRLOCK OUT VERTICAL ACCESS SET - CREW MODULE	-1 02-144
V66-90006	PLATFORM ACCESS SET, A70-0558 MIDDECK, CREW MODULE VERTICAL, REMOVAL	02-144 02-144
V5097.002	CREW SYSTEMS STOWAGE - WASTE MANAGEMENT COMPARTMENT	02-147
V5097.001	CREW SYSTEMS STOWAGE - AIRLOCK	02-151
V5097.003	CREW SYSTEMS STOWAGE - FLIGHT DECK/MIDDECK	02-154
T5401	H2 LEAK DETECTION EQUIPMENT INSTALLATION (LD 54 AND LD 55)	03-011
G6205	LH2 SYSTEM MLP UTILITY SUPPORT OPERATIONS	03-065 03-075
B5306	SRB ORDNANCE CONNECTION AND PAD CLOSEOUT	04-012
V2274	ORBITER/SRB ESP PLATFORM TRANSPORTER OPERATIONS	04-023
Q3208	FORKLIFTS, 2,000 POUNDS TO 30,000 POUNDS	04-041
C2000	LCC CCMS OPERATION SUPPORT	07-014 07-015
C3041	CCMS OPERATION SUPPORT PATCHING	07-016 07-017
C2000	LCC CCMS OPERATION SUPPORT	07-024 07-039
C3041	CCMS OPERATION SUPPORT PATCHING	07-041
V3550	ROUTINE LH2 AND LOX TSM OPERATIONS	08-022

V1045VL10	OMS/RCS GLS ABORT TURNAROUND CONTINGENCY (LPS)	-1 08-190 08-192 08-194 08-196	
V1047	HATCH SEAL LEAKAGE TESTS	08-260 08-261	
V6029.003	OMS/RCS THRUSTER DESICCANT INSPECTION AND REPLACEMENT	08-283	
V66-50008	INSTALLATION/REMOVAL EXTERNAL AIRLOCK PLATFORMS, LADDER - AIRLOCK	08-313	
V66-90005	PLATFORM ACCESS SET A70-0558 AIRLOCK SET CM, VERTICAL, REMOVAL	08-313	
V5067	CREW MODULE AND AIRLOCK HATCH OPENING AND CLOSING	08-318	
V1047	HATCH SEAL LEAKAGE TESTS	08-321	
G3255	LH2 SYSTEM SCRUB-TURNAROUND	09-002 09-021 09-031	

1.2 COMPUTER SYSTEMS -1

DPS
CCMS
SDC
RPS
CCS

|

1.2.1 SYSTEM CONFIGURATION

A. CCMS

GSE LINKS

LINK ----	FEP ---	LOCATION -----	HIMS ----	OCTAL ADDRESS -----	
				PAD A -----	PAD B -----
1/21	GS1A/S	PTCR	5980	022	151
			5982	010	161
			5983	211	166
			5985	013	202
			5986	020	206
			5976	255	205
			6377	165	365
2/22	GS3A/S	PTCR RSS	5984	212	173
			6396	222	275
			6397	023	303
			6398	032	311
			6399	233	316
		FUEL AREA OXID AREA LCC	8020	224	320
			8022	025	325
3/23	GS2A/S	PTCR	5512	167	170
			5981	235	155
			5987	221	213
			5988	230	217
			5989	031	227
			5996	026	246
			5997	034	256
			5977	305	204
			6378	257	357

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OCTAL ADDRESS

LINK ----	FEP ---	LOCATION -----	HIMS ----	MLP ---
4/24	GS1A/S	MLP-7A	6852 6891 6894 6895 6896 6880 6860	201 043 040 241 242 056 276
5/25	GS2A/S	MLP-7A	6893 6898 6861 6691	253 051 312 153
28/29	GS3A/S	MLP-7A	6851 6897 6899 6689	046 250 052 116

VEHICLE DATA:

LINK ----	FEP ---	FREQ ----
OI	OIA/S	128 KBS 192 KBS
	GPCA/S	128 KBS 192 KBS
	VSB	128 KBS 192 KBS
	PLDA/S	128 KBPS 192 KBPS
EIU-1	ME1	60 KBS
EIU-2	ME2	60 KBS
EIU-3	ME3	60 KBS
LDB	LDBA-LDBS LDBD (AS NEEDED)	N/A
UPLINK	UPLK	72 KBS

CONSOLES REQUIRED:

LCC1/LCC3

C1 THRU C12, MSTR, INTG, BKUP, HSP2, BIOMED,
PDR/SPA, LDBM, PP1, PP2

LCC2

3 PERSONNEL ACCOUNTABILITY CONSOLES
10 STS/TPS ICE/FROST DEBRIS SYSTEM CONSOLES
ESA MONITORS/HOT SPARES (AS AVAILABLE)

B. CDS/SDC
RTIF/DRD

C. RPS

-1|

LINK	ELEMENT
128 KBS OI	ORB
64 KBS OI	ORB
60 KBS EIU (3)	SSME
FDM1 (1-4)	ORB
FDM2 (1-4)	ORB
BMU (1-4)	ORB
MADS PCM	ORB
32/64 KB	
KMTS	ME1 60KBS
	ME2 60KBS
	ME3 60KBS
	OI 128/192 KBS
MER (JSC)	CCP 772KBS

D. CCS EQUIPMENT

LINK ----	FEP ---	LOCATION -----	HIMS ----	OCTAL ADDRESS	
				PAD A	PAD B
11	GS1A	PTCR	5990	030	122
		PTCR	5991	231	125
		PTCR	5992	232	130
		CCS	0119	042	
		LCC	0120	243	
		CCF	8249	044	
		CCS	0118	226	
		UAX	7468	041	
		UAX	7469	245	
12	GS2A	C5	8390	254	
		VABR	7498	050	
		VABR	7499	251	
13	GS3A	PTCR	5993	033	133
		PTCR	5994	036	142
		PTCR	5995	237	145
		MLP1, 2, 3	6892	234	066 350

CONSOLES

C1, C2, C3, INTG, MSTR

1.2.2 DATA REQUIREMENTS (REAL TIME)

PER OMI S9002VL16 INTEGRATED DATA REQUIREMENTS

1.2.3 DATA REQUIREMENTS (POST TEST)

PER OMI S9002VL16 INTEGRATED DATA REQUIREMENTS

1.4.9 VEHICLES, GROUND SUPPORT EQUIPMENT AND SPECIAL EQUIPMENT -1|

ITEM	LOCATION	QTY
----	-----	---
RAIN SUITS (CONTINGENCY)	PAD GATE	A/R

ACIDIC DEPOSIT PROTECTION
RUBBERIZED SUITS,
GLOVES, GOGGLES,
AND SURGICAL FACE MASKS

ARMORED VEHICLE	SLIDEWIRE BUNKER	1 EA
ARMORED VEHICLE	A/B-5 RB (PAD A LAUNCH)	2 EA
ARMORED VEHICLE	A/B-4 RB (PAD B LAUNCH)	2 EA

140 TON (MIN) CRANE (LFAC)

1. SCAPE (JBOSC):
 - A. 5 X 5 CAT I SCAPE FOR RED CREW CONTINGENCY IN
MIDFIELD FALLBACK SCAPE TRAILER
 - B. 1 600 LITER LIQUID AIR CARTS AT LC-39 OPERATIONAL
SCAPE AREA
 - C. 2 SCAPE TRAILERS AT OPERATIONAL SCAPE AREA
(PAD-A ONLY)
 - D. 2 CONTROL TRAILERS AT OPERATIONAL SCAPE AREA
(PAD-A ONLY)
 - E. 1 SUIT STORAGE TRAILER AT OPERATIONAL SCAPE AREA
(PAD-A ONLY)
 - F. SCAPE COMPLEX (PAD-B ONLY)
2. ONE INDUSTRIAL FIRST AID KIT IN SLIDEWIRE BUNKER.
(PROVIDED BY NASA BIO/MED/CBSE)
3. AN/TVS-3 20KW XENON SEARCHLIGHTS (39) FOR PHOTO
LIGHTING (SGS) |
4. 69 KW/400 HZ DIESEL GENERATORS (21) FOR XENON
LIGHTS (SGS) |

5. PRIME MOVERS (ESP TRANSPORTER MOVE)
6. ELSA'S (JBOSC) -1|
 1. 18 TO CCF39
 2. 6 TO BLDG J8-2009 RM114 FOR PAD A LAUNCH AND J7-688 RM114 FOR PAD B LAUNCH.
 3. 40 TO PSTM AT COMPLEX J, 40 TO PAD GATE POST LAUNCH
 4. POSITIONED AT PAD (473 PAD A) (474 PAD B)
 5. 130 POSITIONED IN MLP.
 6. 15 TO ASTRONAUT CREW VAN (K6-1996)
 7. 10 TO E/H BLDG L7-1557
 8. 12 IN ENVIRONMENTAL CHAMBER (WHITE ROOM) 195 FT LVL
 9. 25 TO PRESS SITE K7-1205F (SFOC CTVO)
 10. 48 TO CCAS BLDG 1605 |
 11. DELETED |
 12. 10 TO TRM-006 (FOR CSR-4184B PERSONNEL)
 13. 13 TO ECS ROOM (OMI V1122VL1 FOR PAD A/OMI V1122VL2 FOR PAD B)
 14. 12 TO LCC, RM 1P4A
 15. 10 TO WX'B' J6-553
 16. 6 TO RADAR SITE 19.17
 17. 14 TO K7-569 (SFOC PWR) |
 18. 6 TO M5-1494 (S BAND)
 19. 4 TO IFLOT BEACH ROAD
PAD A K8-741
PAD B J8-1821
 20. 15 TO ELSA LOCKERS (FSS 195 FT LVL)
 21. 8 IN SLIDEWIRE BUNKER
 22. 8 IN BUNKER ARMORED VEHICLE
 23. 8 AT FIRE STA 2 (TO BE PLACED IN FSS ELEVATOR BY CLOSEOUT CREW)
 25. 5 TO M6-342 RM 338 (NASA PHOTO COORD)
7. PORTABLE AIR VENTILATORS (JBOSC)
 1. (1 PER FLT CREW +1) TO O&C
 2. (1 PER FLT CREW) TO FS NO. 2
 3. REMAINDER OF PAV'S TO SLIDEWIRE BUNKER
8. ARAP'S W/MANIFOLD ADAPTER HOSES ATTACHED (1 PER FLIGHT CREW MEMBER) POSITIONED IN ARMORED VEHICLE AT SLIDEWIRE BUNKER.
9. PORTABLE OXYGEN RESUSCITATORS TO M6-495, OHF (1)
10. ROPES, STANCHIONS, BARRIERS AND WARNING SIGNS

5. COUNTDOWN CLOCK MANAGEMENT

-1|

THE NTD IS RESPONSIBLE FOR MANAGEMENT OF THE COUNTDOWN CLOCK AND IMPLEMENTATION OF THE ASSOCIATED LAUNCH WINDOW CONSTRAINTS. LAUNCH WINDOW CONSTRAINTS ARE MANAGED BY THE NTD WITH THE AID OF A "CLOCK MANAGEMENT TOOL." THIS LAPTOP TOOL IS RESIDENT AT THE NTD CONSOLE WITH A BACKUP AT THE GLS CONSOLE. THIS TOOL ALLOWS THE NTD TO EFFECTIVELY INTEGRATE ALL LAUNCH CONSTRAINTS, CALCULATE THE LIMITING LAUNCH CONSTRAINT, AND DETERMINE THE LATEST RESUME TIMES FOR EACH GLS HOLD MILESTONE.

THE APPLICABLE LAUNCH WINDOW CONSTRAINTS ARE AS LISTED:

LAUNCH WINDOW - THE LAUNCH WINDOW IS DETERMINED EACH MISSION BY MOD AND COMMUNICATED TO THE NTD VIA THE FLIGHT DIRECTOR. THE INITIAL LAUNCH WINDOW INFORMATION UPDATE IS PROVIDED TO THE NTD VIA THE FLIGHT DIRECTOR AT T-55 MINUTES (L-1 HOUR 30 MINUTES). DETERMINATION WHETHER TO TARGET THE WINDOW OPEN TIME OR THE "PREFERRED" LAUNCH TIME IS MADE BEFORE RESUMING THE COUNT AT T-9 MINUTES (L-37 MINUTES). AFTER THIS DETERMINATION, THE T-9 MINUTE HOLD LENGTH IS ADJUSTED TO SYNCHRONIZE THE CLOCK WITH THE CHOSEN T-0.

LAUNCH WINDOW PANES - THE PERIOD OF TIME AVAILABLE IN THE LAUNCH WINDOW CORRESPONDING TO A FLIGHT DAY 3 RENDEZVOUS CONSTITUTES A SINGLE PANE IN THE WINDOW. IF A FLIGHT DAY 4 RENDEZVOUS IS ACHIEVABLE FOR A PARTICULAR MISSION, WITH WINDOW WILL BE COMPOSED OF A SECOND PANE. FOR A 2 PANE MISSION, THERE MAY BE A PERIOD WITHIN THE LAUNCH WINDOW WHERE THE ON-BOARD PASS AND BFS SOFTWARE MUST BE SYNCHRONIZED TO ACCOMMODATE A FLIGHT DAY 4 RENDEZVOUS INSTEAD OF THE PLANNED FLIGHT DAY 3 RENDEZVOUS. THE PANE SWAP IN THE SOFTWARE IS PROTECTED BY A 10-SECOND CUTOUT IN THE WINDOW KNOWN AS THE PANE SWAP CUTOUT. THE FLIGHT DIRECTOR PASSES THE PANE SWAP TIME TO THE NTD WITH OTHER PERTINENT WINDOW INFORMATION. THE NTD ENSURES THAT A LAUNCH DOES NOT OCCUR DURING THIS TIME PERIOD.

COLLISION AVOIDANCE TIMEFRAMES (COLA) - A LAUNCH -1|
CANNOT OCCUR DURING A PERIOD WHERE THE ORBITAL
TRAJECTORY WILL CARRY THE VEHICLE WITHIN A
SPECIFIED RANGE OF ANOTHER MANNED SPACECRAFT.
A COLA IS CALCULATED BY THE EASTERN RANGE AND PASSED |
TO THE NTD TO PROTECT AGAINST LAUNCHING DURING
SUCH A TIME. THE NTD ENSURES THAT A LAUNCH DOES
NOT OCCUR DURING THESE TIME PERIODS.

LOX DRAINBACK PERFORMANCE HOLD TIME - PERFORMANCE
HOLD TIME AVAILABLE AFTER THE START OF LOX DRAINBACK
IS COMPUTED BY MOD BASED ON THE LSEAT ASSESSMENT
OF PROPELLANT LOAD AND GIVEN TO THE NTD VIA THE
FLIGHT DIRECTOR DURING THE T-9 MINUTE HOLD
(L-37 MINUTES.) THIS TIME MUST BE UPDATED AT
T-4:55 MINUTES IF THE T-9 MINUTE HOLD IS EXTENDED
OR IF THERE ARE ANY HOLDS BETWEEN T-9 AND T-5 MINUTES.

SSME LO2 INLET TEMPERATURE LIMIT (START BOX TEMP LIMIT)
THE HOLD TIME AVAILABLE AFTER START OF LO2 DRAINBACK
AND BEFORE VIOLATION OF THE SSME INLET TEMPERATURE
LIMIT IS PREDICTED IN THE OMRSD WITH THE ACTUAL
CRITERIA DEFINED IN LCC MPS-25 AND CODED IN THE GLS.
THE SPE REPORTS THIS CONSTRAINT VALUE TO THE
NTD IN THE T-20 MINUTE HOLD.

GOX ULLAGE PRESSURE GENERIC CERTIFICATION ANALYSIS-
THE HOLD TIME AVAILABLE AFTER THE START OF LO2
DRAINBACK WILL NOT EXCEED 5.0 MINUTES FOR SLWT ET'S
WITH ANY ORBITER, 6.0 MINUTES FOR LWT ET'S WITH OV-102,
OR 6.7 MINUTES FOR LWT ET'S WITH OV-103, 104 OR 105.
THIS DETERMINATION IS MADE AND RECORDED IN S1003. THE
LOX SYSTEM ENGINEER (CLOX) REPORTS THE CONSTRAINT
VALUE TO THE NTD IN THE T-20 MINUTE HOLD.

FUEL CELLS AND PRSD

14. CFCP, WITH SFOC SAFETY CONCURRENCE, MAY PERFORM FUEL CELL 8 HR OPERATIONAL PURGE AS REQUIRED TO MAINTAIN FUEL CELL PERFORMANCE.

SEQUENCES OR STEPS IN THIS OMI THAT CALL OUT DATA RECORDINGS FOR PRSD O2/H2 TANK SETS NOT INSTALLED IN THE VEHICLE SHALL HAVE N/A RECORDED ON DATA LINE.

15. STEPS WITHIN SCRUB SEQUENCES WILL NOT NECESSARILY BE WORKED IN ORDER. SCRUB BAR CHARTS AND TEST TEAM REALTIME REQUIREMENTS WILL DETERMINE SEQUENCING OF EVENTS. (VOL 3)

IF PRSD DESERVICING, RESERVICING, TOPOFF, AND/OR CATHODE ACTIVATION IS REQUIRED DURING SEQ 32 - 48 HR OR LONGER SCRUB, THEY WILL BE INITIATED BY SEQUENCE 32 THEN RUN BY SEQ 36. PRSD OPTIONS WILL BE RUN IN PARALLEL WITH SEQ 32. (VOL 3)

MISCELLANEOUS

16. FLIGHT CREW MAY PERFORM MCDS KEYBOARD ENTRIES AT THEIR DISCRETION.
17. IF IT BECOMES NECESSARY TO RUN SEQUENCES OR PART OF A SEQUENCE MORE THAN ONCE, QUALITY WILL MAKE A COPY OF THE ORIGINAL, LABEL IT RUN XX AND USE THE COPY FOR BUY OFF PURPOSES.
18. THE PAYLOAD PROCEDURE SUPPLEMENT - STS-XXX PAGES/ SEQUENCES WILL BE REPLACED EACH MISSION, AND CAN BE RE-RUN FOR EACH LAUNCH ATTEMPT.
19. TPS VITT XXXX MISSION UNIQUE CREW COMPARTMENT CONFIGURATION IS TO BE CONSIDERED AS A SUBTASK AND VERIFIED BY THIS OMI. TPS NUMBER WILL BE ASSIGNED EACH FLOW. TPS WILL NOT BE ENTERED ON THE CONSTRAINTS LIST.
20. VERBAL QUICK-LOOK DAMAGE ASSESSMENT REPORTS ARE DUE TO PAD MANAGER FROM EACH NASA/CONTRACTOR LEAD STARTING ONE HOUR AFTER PAD ENTRY.
21. LAUNCH DANGER AREA (LDA) MANLOADING REQUIREMENTS ARE CONTROLLED AND VERIFIED BY THIS OMI. LDA BADGE ISSUANCE AND CHANGES TO FIGURE 7 - LDA MANLOADING CHART WILL BE COORDINATED THROUGH PZ-A3 BY OMI DEVIATION.

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1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP -1

VEHICLE/ELEMENT NO. ORB____/FLT____ ET____ SRB____ LH____ RH____

GROUND HARDWARE PMN/SN _____ COMPONENT/SEGMENT _____/FLT____

SITE _____ TCN _____ DATE _____

TOP WAS RUN AS A STANDALONE YES _____ NO _____

TOP WAS RUN AS A SUBTASK TO TOP _____.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
B08SB0.070-B	AFT SKT F/T DRAIN HOLE INSP AT PAD B011-999	10-003	_____
B42FSC.011	HYDRAZINE TEMPERATURE CONTROL BAF;C	10-085	_____
G51FFH000.004	CHEMICAL SAMPLING-LH2 GOF1-90;C	07-058 (PAD-A)	_____
G51FF0000.015	CHEMICAL SAMPLING-L02 GOF1-90;C	07-052 (PAD-A)	_____
G61FFH000.004	CHEMICAL SAMPLING-LH2 GOF1-90;C	07-058 (PAD-B)	_____
G61FF0000.015	CHEMICAL SAMPLING-L02 GOF1-90;C	07-052 (PAD-B)	_____
P018DB.010	PRELAUNCH PAYLOAD BAY PURGE PAXAF	08-175A 08-175D	_____ _____
P330DB.100	PRELAUNCH GROUND PURGE PAXAF	08-175A (AXAF) 08-175D (AXAF)	_____ _____ _____ _____

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1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP -1

VEHICLE/ELEMENT NO. ORB_____/FLT____ ET____ SRB____ LH____ RH____

GROUND HARDWARE PMN/SN _____ COMPONENT/SEGMENT _____/FLT____

SITE _____ TCN _____ DATE _____

TOP WAS RUN AS A STANDALONE YES _____ NO _____

TOP WAS RUN AS A SUBTASK TO TOP _____.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
S00FA0.560 (1R)	WSB STEAM VENT CONFIG FOR LAUNCH VAF1-90	08-435	_____
S00FA0.776 (1)	L04 RSRM NOZZLE FLEX BEARING TEMP LIMIT B068-999	10-085	_____
S00FA0.777 (1R)	L02 RSRM NOZZLE TO CASE TEMPERATURE LIMIT B062-999	10-085	_____
S00FA0.800 (1)	PRELAUNCH BLOWOUT PLUG INSP B025,027-999	04-012	_____
V00I00.020	ET CRYO TANKING VAF1-90	08-016	_____
V00I00.030	ORB CONFIG FOR LAUNCH VAF1-90	08-018	_____
V05AD0.010-A	SIDE/OVERHEAD OUTER WINDOW VAF1-90	02-086	_____
V05AD0.010-B	SIDE HATCH INNER WINDOW CAVITY VAF1-90	08-232	_____
V05AD0.010-C	SIDE HATCH OUTER WINDOW CAVITY VAF1-90	08-232	_____

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1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP -1

VEHICLE/ELEMENT NO. ORB_____/FLT____ ET____ SRB____ LH____ RH____

GROUND HARDWARE PMN/SN _____ COMPONENT/SEGMENT _____/FLT____

SITE _____ TCN _____ DATE _____

TOP WAS RUN AS A STANDALONE YES _____ NO _____

TOP WAS RUN AS A SUBTASK TO TOP _____.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
V09AG0.020 (1)	L03 WINDOW CLEANING/INSPECTION	02-090	_____
	V02F19-90		
	V03F22-90	02-093	_____
	V04F15-90		
	V05F9-90	08-109	_____
V09AH0.100 (1)	L03 RSI - ORB ACCESS ARM INTERFACE INSP	08-273	_____
	V02F21-90		
	V03F22-90		
	V04F18-90		
	V05F12-90		
V33AH0.010	L03 I/E HATCH CLOSE & LATCH FOR FLT-VERT	08-256	_____
	V02F22-90		
	V03F23-90		
	V04F19-90		
	V05F12-90		
V33AH0.110 (1R)	I/E HATCH SEAL LEAK CHECK FOR FLT	08-260	_____
	V02F22-90		
	V03F23-90	08-261	_____
	V04F19-90		
	V05F12-90		
V42BE0.010-A	L02 LEFT POD LAUNCH COVERS	08-372	_____
	LP01F24-25		
	LP03F19-20		
	LP04F16-18		
	LP05F7-8		
	LEFT POD LAUNCH COVERS		
	L03 LP01F26-90		
	LP03F21-90		
	LP04F19-90		
	LP05F9-90		

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1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP -1

VEHICLE/ELEMENT NO. ORB_____/FLT____ ET____ SRB____ LH____ RH____

GROUND HARDWARE PMN/SN _____ COMPONENT/SEGMENT _____/FLT____

SITE _____ TCN _____ DATE _____

TOP WAS RUN AS A STANDALONE YES _____ NO _____

TOP WAS RUN AS A SUBTASK TO TOP _____.

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

V42BE0.010-B	RIGHT POD LAUNCH COVERS	08-372	_____
L02	RP01F22-23		
	RP03F22-23		
	RP04F15-16		
	RP05F7-9		
	RIGHT POD LAUNCH COVERS		
L03	RP01F24-90		
	RP03F24-90		
	RP04F17-90		
	RP05F10-90		
V42BE0.010-C	FRCS LAUNCH COVERS	08-372	_____
L02	FR02F18-19		
	FR03F21-22		
	FR04F15-16		
	FR05F9-11		
	FRCS LAUNCH COVERS		
L03	FR02F20-90		
	FR03F23-90		
	FR04F17-90		
	FR05F12-90		
V63AR0.020	WATER INTRUSION INSPECTION	08-040	_____
	VAF;C		
V63AR0.025	FES PLUGS FINAL REMOVAL	08-034	_____
L01	V02F20		
	V04F17		
	V05F11		
	ATCS PLUGS FINAL REMOVAL		
L02	V02F21-90		
	V03F22-90		
	V04F18-90		
	V05F12-90		

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1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP -1

VEHICLE/ELEMENT NO. ORB_____/FLT____ ET____ SRB____ LH____ RH____

GROUND HARDWARE PMN/SN _____ COMPONENT/SEGMENT _____/FLT____

SITE _____ TCN _____ DATE _____

TOP WAS RUN AS A STANDALONE YES _____ NO _____

TOP WAS RUN AS A SUBTASK TO TOP _____.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
V64AA0.080	AIRLOCK VACUUM VENT DUCT INERTING	08-072	_____
L01	V02FE20;C V04FE17;C V05FE11;C		
L02	AIRLOCK VACUUM VENT DUCT INERTING V02F21-90R21;C V03F22-90R22;C V04F18-90R18;C V05F12-90R12;C		
V66AC0.170	EDO WCS CONSUMABLES INSTALLATION VAF;C	08-120	_____
V67AA0.020-A	FLIGHT DECK CLEANLINESS	08-146	_____
L02	V02F16-90 V03F18-90 V04F13-90 V05F6-90		
V67AA0.020-B	MIDDECK CLEANLINESS	08-157	_____
L02	V02F16-90 V03F18-90 V04F13-90 V05F6-90		
V72CA0.040-A	MMU1 FLT SOFTWARE CONFIG FOR LCD	08-083	_____
	V02F22-90 V03F23-90 V04F19-90 V05F12-90		

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1.8 OMRS REQUIREMENTS SATISFIED BY THIS TOP -1

VEHICLE/ELEMENT NO. ORB____/FLT____ ET____ SRB____ LH____ RH____

GROUND HARDWARE PMN/SN _____ COMPONENT/SEGMENT _____/FLT____

SITE _____ TCN _____ DATE _____

TOP WAS RUN AS A STANDALONE YES _____ NO _____

TOP WAS RUN AS A SUBTASK TO TOP _____.

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
V72CA0.040-B	MMU2 FLT SOFTWARE CONFIG FOR LCD V02F22-90 V03F23-90 V04F19-90 V05F12-90	08-083	_____
V72CA0.045-A	MMU 1 DUMP TRANSMISSION TO JSC/SPF V02F22-90 V03F23-90 V04F19-90 V05F12-90	08-083	_____
V72CA0.045-B	MMU 2 DUMP TRANSMISSION TO JSC/SPF V02F22-90 V03F23-90 V04F19-90 V05F12-90	08-083	_____

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PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
01-027	JSTC 114	JSEP	VERIFY FOLLOWING GENERATORS ARE AVAILABLE, VALIDATED AND READY TO SUPPORT S0007: PROVIDE 1 EA 2.5 KW, 1 PH 120/240 VOLT, 60HZ LIGHT BANK GENERATORS AT THE FOLLOWING LOCATIONS: - ROADBLOCK A/B-23, KENNEDY PKWY AND SHARKEY RD. (WEST) - ROADBLOCK A/B 38, KENNEDY PKWY AND TOW WAY (WEST) PROVIDE GENERATOR WITH LIGHT BANK WITH OPERATOR TO K6-1145 (MFF) FROM L-3 HRS THRU LAUNCH TO SUPPORT TRIAGE VAN. PROVIDE 15 KW, 3 PH, 120/208 VOLT, 60 HZ GENERATOR AT BAIR COVE FOR USCG SECURITY OPERATIONS. USCG WILL COORDINATE DELIVERY AND PICKUP. (T-1 DAY THRU LAUNCH). PROVIDE XENON LIGHTS AT LAUNCH PAD AND BORESITE AS REQUIRED.	ELEC -1

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
01-028	JSTC	GSPN	VERIFY FOLLOWING READY TO SUPPORT:	PNU
	114			
			1. HPGN2 AND HPGHE 4800-5660 SYSTEM, CCF, AND CCF-39 GN2 PRODUCTION PLANT (M3703, M3704, M3036).	
			2. LPGN2 INDUSTRIAL SUPPLY (M3703).	
			3. 28 VDC POWER, CONVERTER COMPRESSOR FACILITY (CCF) (M2023).	
			4. HP GN2/GHE VALVE POSITIONING PER 24 HR VALVE POSITION SEQ OF M3704.	
			5. CCF INDUSTRIAL PREPS (M3703).	
			6. ECS AIR/GN2 SUPPORT (M3703).	
			7. SUPPORT/CONNECT GN2 RECHARGER(S) TO FACILITY PIPING AT CCF INTERFACE. (M3704)	
			8. FALLBACK AREA SUPPORT, CCF. (T-6 HRS) (M3086)	
			9. TWO GHE COMPRESSORS ON 2 HR CALL PRIOR TO AND THROUGH LAUNCH COUNTDOWN. UNITS MUST BE AVAILABLE FOR HELIUM SUPPORT AT CCF WITHIN 2 HRS IF REQUESTED BY TEST CONDUCTOR. WHEN NOTIFIED, POSITION UNITS EAST OF CCF (M3036, Q3052).	

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
01-040	JSTC NET 104	*SCB	VERIFY FOLLOWING ELSA'S (10 MIN) DEPLOYED AND READY TO SUPPORT THROUGH END OF MISSION (EOM). 48 TO CCAS BLDG 1605 L-7 DAYS. 10 DELIVERED TO WX "B", J6-553. 5 TO BLDG 1605 (BIONETICS) T-1 DAY 25 DELIVERED TO PRESS SITE K7-1205F (SFOC CTVO) 6 TO RADAR SITE 19.17. 10 DELIVERED TO TRM-006 SE CORNER FOR CSR TROUBLE CALLS TO CAMERA PADS. 14 DELIVERED TO K7-569 (SFOC SPECIAL POWER) SOUTHEAST SIDE 5 DELIVERED TO M6-342 RM 338 (NASA PHOTO COORD). 15 DELIVERED TO ASTRO-VAN AT K6-1996 (SFOC HEAVY EQUIPMENT)	-1

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
01-041	JSTC NET 104	*SCB	VERIFY FOLLOWING DEPLOYED AND READY TO SUPPORT: - EQUIPMENT/SERVICES TO FIRE STN NO. 2 AT T-06H30M 4 CAT I COMM CABLES 12 LAPS W/COMM (T-6HRS30M) 2 EA LIQUID AIR PACKS (LAPS) TO LIFE SUPPORT AIR PACK VAN, COMPLEX J (T-4H00M). CONTINGENCY FOR CLOSEOUT CREW. - RESERVICE (TOP-OFF) 12 LAPS DELIVERED BY FIRE DEPT TO SLF MIDFIELD LIFE SUPPORT TRAILER BY T-3 HRS. 5 LAPS WITHOUT COMM AND 3 LAPS WITH COMM TO FIRE STATION 2 AT T-4 HRS FOR CLOSEOUT CREW. 16 LAPS WITH COMM TO FIRE STATION 2 AT T-4 HRS FOR FLIGHT CREW RESCUE TEAM. - SLIDEWIRE BUNKER (BUNKER SHELF) - ARAP'S WITH MANIFOLD ADAPTER HOSES ATTACHED. (1 EACH PER FLT CREW MEMBER) - DELIVER (FLIGHT CREW SIZE + 1) PORTABLE AIR VENTILATORS TO O&C CUL-DE-SAC, ASTRONAUT CREW VAN AT L-6 HRS PRIOR TO LAUNCH. - DELIVER (FLIGHT CREW SIZE) PORTABLE AIR VENTILATORS TO FIRE STATION NO. 2 AT L-7 HRS PRIOR TO LAUNCH FOR ASTRONAUT CLOSEOUT CREW. - DELIVER REMAINING PORTABLE AIR VENTILATORS TO PAD SLIDEWIRE BUNKER AT L-11H (T-8H30M).	LS

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
01-042 CON'T			11. VERIFY BUNKER EQUIPPED WITH FOLLOWING B/A EQUIPMENT: A. 12 HOSES WITH LEH ADAPTERS ON EACH B. 12 ISI BREATHING AIR MASK PLACED ON SHELF 12. VERIFY 3 EA BREATHING AIR LINES WITH OIS-D COMM AND MASKS ON RIGHT AND LEFT SIDES READY FOR FINAL CLOSEOUTS ON 107 FT LVL, 120 FT LVL, 207 FT LVL OF RSS. 2 EA AIR LINES WITH COMM RIGHT AND LEFT ON '0' LEVEL MLP (HPU CLOSEOUTS). 13. REMOVE ELSA BOXES NOT EQUIPPED WITH HOLDDOWN CABLES AND ANY LOOSE EQUIPMENT ON RSS/FSS, MLP AND PAD SURFACES.	
01-043	JSTC NET 104	*SCB	VERIFY PREPARED TO PERFORM/PROVIDE FOLLOWING: 1. PROVIDE 40 ELSA'S TO PSTM AT COMPLEX J T-6 HRS 30 MIN. (AIR PACK VAN) 2. PROVIDE 16, 30 MINUTE AIR PACKS, POSITION WITH VEHICLE AND DRIVER AT PAD ____ GATE T-9 HRS 30 MIN TO T-6 HOURS 30 MINUTES FOR ORB RED CREW AND RETURN TO COMPLEX J. 3. 5X5 CAT I SCAPE AT SLF MIDFIELD PARK SITE SCAPE TRLR FOR RED CREW CONTINGENCY (Q3187,Q2005) (T-6 HRS). 4. PROVIDE 40 ELSA'S TO PAD GATE POST LAUNCH. (AIR PACK VAN)	LS

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
01-044	JSTC 114	JSDY	VERIFY PREPARED TO INSTALL BLAST SHUTTERS ON WINDOWS FACING PAD ON EACH OF FOLLOWING TRAILERS LOCATED IN LOX AND LH2 AREAS: (INSTALL L-4 DAYS, SHUTTERS STORED IN EACH TRAILER) PAD-A LAUNCH: 1. TRLR-714 2. TRLR-434 3. TRLR-707 4. TRLR-435 5. TRLR-427 6. TRLR-428 7. TRLR-021 8. TRLR-025 NOT PERFORMED PAD-B LAUNCH: 1. TRLR-486 2. TRLR-697 3. TRLR-698 4. TRLR-699 NOT PERFORMED	MECH PAD A PAD B
01-045	JSTC 114	JSDY	VERIFY PREPARED TO PERFORM FOLLOWING: 1. VERIFY LOCOMOTIVE/RAIL CREWS HAVE BEEN NOTIFIED THERE WILL BE NO LOCOMOTIVE/RAILCAR MOVEMENT WITHIN LDA FROM T-6 HRS, ___ EST, TO T+1 HR, ___ EST. 2. MOVE SRM SEGMENT RAILCARS FROM BEACH SIDING TO BALLOON SIDING L-2 DAYS, IF REQUIRED. NOT PERFORMED	-1 SS2

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
01-046	JSTC NET 102	GSHE GSUP	VERIFY PREPARED TO PERFORM/PROVIDE FOLLOWING (7-4030/7-1808): 1. PROVIDE FUEL TRUCK AND OPERATOR TO FUEL CRASH/RESCUE VEHICLES AND ARMORED VEHICLES AS REQUESTED BY FIRE SERVICES. PROVIDE FUEL TO FALLBACK VEHICLES AND ALL GENERATORS SUPPORTING S0007. 2. PROVIDE FALLBACK FUEL SUPPORT (T-6 HOURS). 3. SUPPORT FALLBACK SUPPORT (T-6HRS IN SHOP) HEQ MAINT.	HEQ -1 LOG

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PRE-OPERATION SETUP INSTRUCTIONS

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03-033			PRE-OPERATION SETUP 5 - HWS REMOTE LEAK DETECTOR SYSTEM PRETEST VERIFICATIONS	
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NOTE

-1|

THIS PRE-OPERATION SETUP
IS NOT A CONSTRAINT TO
CALL-TO-STATIONS.
COMPLETION IS VERIFIED
IN S0007VL2 (SEQ 14).

THIS PRE-OPERATION SETUP
WILL BE PERFORMED TO VERIFY
VALIDATION OF REMOTE LEAK
DETECTORS IN HELIUM ENVIRONMENT.
THE HUMS WILL BE USED TO GATHER
BASELINE DATA ON VARIOUS
HELIUM PURGES.

EACH GROUP OF CABINETS HAVE
THEIR OWN DEDICATED HELIUM
PURGES; THEREFORE, CABINETS
CAN BE VERIFIED INDEPENDENTLY
REGARDLESS OF ORDER AND IN
PARALLEL WITH EACH OTHER AT
ENGINEER'S DISCRETION.

THIS PRE-OPERATION SETUP WILL
BE NOT PERFORMED AT ENGINEER'S
DIRECTION ONLY.

HWS LSO-SE CONCURRENCE

HWS NASA-SE CONCURRENCE

PRE-OPERATION SETUP 5 NOT PERFORMED

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
03-034	TBC 136	CHGD	PERFORM ET PRE-OPERATION SETUP 5 - HWS REMOTE LEAK DETECTOR SYSTEM PRETEST VERIFICATIONS.	
03-035		JHGD	LCC 3R18 HUMS CONTROL ROOM - HUMS REMOTE TERMINAL START ARCHIVE FILE: "STSXXX_S0007_ET_POSU5" 6145 CABINET VERIFICATION -----	
03-036	CHGD 136 TBC	TBC CLHY CMPS	VERIFY STATUS OF ET GUCP CAVITY HELIUM PURGE (ON/OFF) AND STATUS OF T-0 GHE UMBILICAL PURGE (ON/OFF). OBTAIN CLHY AND CMPS CONCURRENCE TO PROCEED WITH PURGE ACTIVATION.	
NOTE				
DO NOT PERFORM NEXT TWO STEPS IF ET GUCP CAVITY HELIUM PURGE ON.				
03-037	CHGD 136 TBC PA	TBC	ATTENTION ON PAD ____ FSS: ET GUCP CAVITY WILL BE PURGED WITH HELIUM IN ONE MINUTE.	
NOT PERFORMED _____				
NOTE				
WAIT ONE MINUTE MINIMUM.				
03-038	CHGD 177	PETG	AFTER ONE MINUTE MINIMUM: S72-0697-8 PANEL (215 FT LVL FSS) 1. VERIFY 750 PSI HE SUPPLY SHUTOFF VALVE A78376 OPEN. 2. VERIFY GAUGE SHUTOFF VALVE A78377 OPEN. 3. VERIFY 750 PSI HE SUPPLY PRESS GAUGE A78379 INDICATES 750 +/- 50 PSIG.	

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.

6407 CABINET VERIFICATION				

NOTE				
DO NOT PERFORM NEXT THREE STEPS IF TSM T-0 UMBILICAL CAVITY HELIUM PURGE ON.				
03-063	CHGD 136 TBC 232 NTD	TBC NTD OTC	NOTIFY OTC AND NTD LH2 T-0 UMBILICAL GHE PURGE TO BE ACTIVATED.	
			NOT PERFORMED	_____
03-064	TBC PA		ATTENTION ON MLP ____: THE LH2 T-0 HELIUM UMBILICAL CARRIER PURGE IN THE LH2 TSM WILL BE ACTIVATED MOMENTARILY.	
			NOT PERFORMED	_____
03-065	CHGD 177	QMTG	PERFORM LH2 T-0 UMBILICAL PURGE - S72-0685-2 PANEL PER OMI G6205 (SEQ 20) THROUGH PURGE ACTIVATION. REPORT COMPLETION.	-1
				T:_____
			NOT PERFORMED	_____

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
03-065A	CHGD 132 OTC	OTC PPVE CTPE	RECORD THE CURRENT ORBITER VENT DOOR CONFIGURATION: VENT DOOR 8 RIGHT _____ (OPEN, CLOSED, OR PURGE) VENT DOOR 8 LEFT _____ (OPEN, CLOSED, OR PURGE) VENT DOOR 9 RIGHT _____ (OPEN, CLOSED, OR PURGE) VENT DOOR 9 LEFT _____ (OPEN, CLOSED, OR PURGE) RECORD THE CURRENT PURGE RATES: PC2 PURGE RATE _____ BD PC3 PURGE RATE _____ BD RECORD CURRENT AFT CLOSE OUT FLIGHT DOOR CONFIGURATION: AFT 50-1 DOOR _____ (INSTALLED OR NOT) AFT 50-2 DOOR _____ (INSTALLED OR NOT)	-1
03-066	CHGD		CURSOR CNTL (SAW01/HWW12) LD 28/32 PRI PUMP - ON LD 56/57 PRI PUMP - ON MFC POWER - ON SUPPORT MODE XMIT CURSOR KEY - PRESS	

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SEQ	CMD	RESP	DESCRIPTION	VERIF.
03-067	CHGD		CURSOR CNTL (SAW01/HWW12) MANUAL SELECT SV1 - (CAL) SV2 - (CAL) SV3 - (CAL) SV4 - (CAL) XMIT CURSOR KEY - PRESS CRT RECORD AND VERIFY PRIMARY INDICATIONS LD28=_____ PPM 0 +/- 6000 BD LD32=_____ PPM 0 +/- 6000 BD LD56=_____ PPM 0 +/- 6000 BD LD57=_____ PPM 0 +/- 6000 BD MFC1=_____ SLPM 2.8 +/- .5 BD MFC3=_____ SLPM 2.8 +/- .5 BD MFC5=_____ SLPM 2.8 +/- .5 BD MFC7=_____ SLPM 2.8 +/- .5 BD SUPPORT MODE XMIT CURSOR KEY - PRESS	
NOTE				
ALLOW READINGS TO STABILIZE PRIOR TO RECORDING DATA.				

03-068	CHGD		RECORD LEAK DETECTOR INDICATIONS: LD PRIMARY -- ----- 28 _____ PPM BD 32 _____ PPM BD 56 _____ PPM BD 57 _____ PPM BD	
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PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
03-089			PRE-OPERATION SETUP 6 - PAD FIRE DETECTOR ALIGNMENT	

NOTE -1|

THIS PRE-OPERATION SETUP IS NOT A CONSTRAINT TO CALL TO STATIONS. COMPLETION IS VERIFIED IN S0007VL2 (SEQ 14).

DO NOT PERFORM PRE-OPERATION SETUP 6 IF PAD FIRE DETECTOR ALIGNMENT WAS PREVIOUSLY ACCOMPLISHED.

SHOP AIDE SA-059-024-501-001 OR -002 IS USED IN THIS PRE-OPERATION SETUP. THIS SHOP AIDE CONTAINS A LASER DEVICE AND OPTICAL ATTACHMENT; EITHER MAY BE USED FOR FIRE DETECTOR ALIGNMENT.

PRE-OPERATION SETUP 6 NOT PERFORMED

03-090	QHGD	*PAD	INSTALL ACCESS FOR FIRE PROTECTION	HESD
		GBHE	ALIGNMENT AT FOLLOWING PAD LOCATIONS:	
		*PAD		
		TBC		
	136		1. FSS 115 FT LEVEL SOUTHEAST CORNER (FD 44/45)	
	TBC	NTD		
	232		NOT PERFORMED	
	NTD	STM		SS1
	STM	JBDY		
	111		2. FSS 120 FT LEVEL EAST SIDE (FD EGRESS 13)	
	JBDY	GBHE		
			NOT PERFORMED	
				SS2
			3. FSS 215 FT LEVEL NORTHEAST SIDE (FD 30)	
			NOT PERFORMED	
				SS3

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PRE-OPERATION SETUP INSTRUCTIONS

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			NOTE	-1
			THE UV FIRE DETECTOR OPTICAL AIMING DEVICE PROVIDES A 6 DEGREE FIELD OF VIEW. THE FIRE DETECTORS BEING AIMED HAVE CONES LIMITING THEIR FIELD OF VIEW TO EITHER 15 DEGREES (FD-30 AND EEFDS FD-13) OR 5 DEGREES (FD-44 AND FD-45).	
			FOLLOWING STEPS WILL CHECK FIRE DETECTOR 44 AND 45 ALIGNMENT AND ADJUST IF REQUIRED.	
03-091		DELETED		-1

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

FD-44 (UPPER DETECTOR) SHOULD
BE AIMED TO ENABLE THE FD'S
FIELD OF VIEW TO COVER THE
UPPER HALF OF THE 17 INCH
ET/ORB DISCONNECT.

03-092	QHGD	FSS 115 FT LEVEL - FD 44		-1
		1. ATTACH SA-059-024-501 FD AIMING DEVICE TO FD.		
		2. SIGHT USING AIMING DEVICE.		
		3. VERIFY EXISTING ALIGNMENT ACCEPTABLE.		
		SFOC SE ACCEPTANCE:_____		

NOTE

PERFORM NEXT STEP IF
EXISTING ALIGNMENT IS
UNACCEPTABLE.

03-093	QHGD PETG	FSS 115 FT LEVEL - FD 44		
		1. LOOSEN BRACKET HARDWARE.		
		2. PERFORM REALIGNMENT PER ENGINEERING DIRECTION.		
		3. TIGHTEN BRACKET HARDWARE WRENCH TIGHT.		
		SFOC SE ACCEPTANCE:_____		

T:_____

NOT PERFORMED _____

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

FD-45 (LOWER DETECTOR) SHOULD
BE AIMED TO ENABLE THE FD'S
FIELD OF VIEW TO COVER THE
LOWER HALF OF THE 17 INCH
ET/ORB DISCONNECT.

03-094	QHGD	FSS 115 FT LEVEL - FD 45		-1
		1. ATTACH SA-059-024-501 FD AIMING DEVICE TO FD.		
		2. SIGHT USING AIMING DEVICE.		
		3. VERIFY EXISTING ALIGNMENT ACCEPTABLE.		
		SFOC SE ACCEPTANCE:_____		

NOTE

PERFORM NEXT STEP IF
EXISTING ALIGNMENT IS
UNACCEPTABLE.

03-095	QHGD PETG	FSS 115 FT LEVEL - FD 45		
		1. LOOSEN BRACKET HARDWARE.		
		2. PERFORM REALIGNMENT PER ENGINEERING DIRECTION.		
		3. TIGHTEN BRACKET HARDWARE WRENCH TIGHT.		
		SFOC SE ACCEPTANCE:_____		

T:_____

NOT PERFORMED _____

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SEQ	CMD	RESP	DESCRIPTION	VERIF.
			NOTE	-1
			DELETED	
03-096		DELETED		-1
			NOTE	-1
			DELETED	
03-097		DELETED		-1

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.

NOTE				
FD EGRESS 13 SHOULD BE AIMED TO ENABLE THE FD'S FIELD OF VIEW TO COVER THE AREA BELOW THE AFT OF THE VEHICLE AND BETWEEN THE BACKSIDE OF ENGINES 2 AND 3 AND THE BODY FLAP.				
03-098	QHGD	FSS 120 FT LEVEL - FD EGRESS 13		-1
		1. ATTACH SA-059-024-501 FD AIMING DEVICE TO FD.		
		2. SIGHT USING AIMING DEVICE.		
		3. VERIFY EXISTING ALIGNMENT ACCEPTABLE.		
		SFOC SE ACCEPTANCE:_____		
NOTE				
PERFORM NEXT STEP IF EXISTING ALIGNMENT IS UNACCEPTABLE.				
03-099	QHGD PETG	FSS 120 FT LEVEL - FD EGRESS 13		
		1. LOOSEN BRACKET HARDWARE.		
		2. PERFORM REALIGNMENT PER ENGINEERING DIRECTION.		
		3. TIGHTEN BRACKET HARDWARE WRENCH TIGHT.		
		SFOC SE ACCEPTANCE:_____		
				T:_____
			NOT PERFORMED	_____
03-100		DELETED		-1

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.

			NOTE	-1
			DELETED	
03-101		DELETED		-1
			NOTE	
			FD-30 SHOULD BE AIMED TO ENABLE THE FD'S FIELD OF VIEW TO COVER BOTH SIDES OF THE ET GUCP VENT LINE.	
03-102	QHGD	FSS 215 FT LEVEL - FD 30		-1
		1. ATTACH SA-059-024-501 FD AIMING DEVICE TO FD.		
		2. SIGHT USING AIMING DEVICE.		
		3. VERIFY EXISTING ALIGNMENT ACCEPTABLE.		
		SFOC SE ACCEPTANCE:_____		

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF
EXISTING ALIGNMENT IS
UNACCEPTABLE.

03-103	QHGD PETG	FSS 215 FT LEVEL - FD 30	1. LOOSEN BRACKET HARDWARE. 2. PERFORM REALIGNMENT PER ENGINEERING DIRECTION. 3. TIGHTEN BRACKET HARDWARE WRENCH TIGHT.	
		SFOC SE ACCEPTANCE: _____		

T: _____

NOT PERFORMED

03-104		DELETED		
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-1|

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
04-056			PRE-OPERATION SETUP 6 - SRB AFT SKIRT GN2 ----- PURGE SKID ACTIVATION -----	
WARNING				
FOLLOWING STEPS HAZARDOUS DUE TO TEMPORARY ACTIVATION OF SRB AFT SKIRT GN2 PURGE.				
NOTE				-1
THIS PRE-OPERATION SETUP IS NOT A CONSTRAINT TO S0007 VL2 CALL TO STATIONS.				
DO NOT START THIS PRE-OPERATION SETUP IF STM REQUIRES ACCESS TO THE AREA FOR SUPPORT PRE-OPERATION SETUPS 9, 10, OR 11, OR PRIMARY WATER BAG INSTALLATION.				
04-057		TBC	VERIFY SRB ESP'S HAVE BEEN LOWERED.	
04-057A	*PAD 111 STM	STM JSTC	VERIFY READY TO PROCEED WITH SRB AFT SKIRT GN2 PURGE SKID ACTIVATION.	-1
04-058	TBC 136 *PAD	*PAD CBHY BHT_	REQUEST SHOP PERSONNEL TO REPORT ON STATION ON MLP TO SUPPORT SRB AFT SKIRT GN2 PURGE SKID ACTIVATION PRE-OPERATION SETUP.	
04-059	QHT_ 136	TBC CBHY	MLP ZERO, COMPARTMENT 7A SHOP PERSONNEL ON STATION READY TO SUPPORT SRB AFT SKIRT GN2 PURGE SKID ACTIVATION.	

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
04-060	CBHY	BHT	VERIFY CLEAR OF ALL PERSONNEL FROM SRB LEFT AND RIGHT AFT SKIRTS AND ON MLP ZERO LEVEL TO INTERIOR PERIMETER OF SOUND SUPPRESSION SYSTEM WATER MAINS.	-1
04-061	TBC 232 NTD PA	NTD	ATTENTION ON PAD _____ MLP 0 LEVEL: SRB LEFT AND RIGHT AFT SKIRTS GN2 PURGES WILL BE INITIATED AND BOTH AFT SKIRTS WILL BE FILLED WITH GASEOUS NITROGEN. LOUD VENTING WILL OCCUR AT LEFT AND RIGHT SRB AFT SKIRTS.	
04-062	BHT CBHY 136 TBC 232 NTD	CBHY TBC NTD *SCC	ALL PERSONNEL CLEAR OF SRB LEFT AND RIGHT SRB AFT SKIRTS AND MLP ZERO LEVEL CONTROL AREAS. REQUEST SAFETY CONCURRENCE TO FLOW GN2 INTO SRB AFT SKIRTS.	

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PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
04-063	NTD 232 TBC 136	TBC CBHY	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH SRB AFT SKIRT GN2 PURGE SKID AND SYSTEM ACTIVATION. SRB AFT SKIRT GN2 PURGE ACTIVATION ----- PART 1 - MLP ELECTRICAL AND VALVING SETUPS -----	
04-064	CBHY QHT_ 187		MLP COMPARTMENT 7A GSE SYSTEM CONFIGURATION SETUP POWER DISTRIBUTION RACK 6673 POSITION ALL CIRCUIT BREAKER TOGGLE SWITCHES - UP (ON)	T:_____
04-065	CBHY QHT_ 187		MLP COMPARTMENT 7A RECORD 28 VOLT DC POWER STATUS RACK 6820 22D200 POWER SUPPLY RECORD_____ (ON OR OFF) RACK 6822 (GN2 PURGE) 22D380 CIRCUIT BREAKER RECORD_____ (ON OR OFF) RACK 6822 (GN2 PURGE) 22D380X CIRCUIT BREAKER RECORD_____ (ON OR OFF)	T:_____

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
05-000			PRE-OPERATION SETUPS - INTEGRATED -----	
05-001			PRE-OPERATION SETUP 1 - SAFETY/FACILITY/ ----- FIRE WALKDOWN -----	
05-002	NTD 232 OTC NET 110	OTC *PAD	PERFORM INTEGRATED PRE-OPERATION SETUP 1 - SAFETY/FACILITY/FIRE WALKDOWN.	
05-003		*PAD	REVIEW PRTL (POTENTIAL RE-OCCURENCE TRACKING LOG) FROM BOTH PADS A AND B FOR APPLICABLE RE-OCCURENCE ITEMS. ITEMS THAT ARE DETERMINED APPLICABLE WILL BE ENTERED ON APPENDIX K.	
05-004		*PAD	DEVELOP DISCREPANCY LIST IN APPENDIX K (S0007VL4).	
05-005	NTD 232 *SCC *SCC NET 105 OTC 132 STM 111 NET 104 JSTC 114	OTC STM *SCC *PSE *PAD JSTC PSTM JFIR	HAVE WALKDOWN PARTICIPANTS MEET WITH *PAD FIRE AT FSS ELEVATORS ON PAD SURFACE IN 30 MINUTES. GSE OPS FACILITY OPS SFOC SAFETY QUALITY CONTROL FIRE INSPECTOR SITE TEST CONDUCTOR (TTL) NASA OPS (NPM) TECHS (2 EA WITH CSR 590 CERTIFICATION)	
05-006	NTD PA		ATTENTION ON PAD____: ALL PERSONNEL SUPPORTING SAFETY/FACILITY/FIRE WALKDOWN MEET WITH *PAD AT FSS ELEVATORS ON PAD SURFACE IN 30 MINUTES.	
05-007		*PAD	VERIFY LISTED PARTICIPANTS PRESENT FOR START OF WALKDOWN AND PERFORM PRE-TASK BRIEFING.	
			TTL	_____

PRE-OPERATION SETUP INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.

NOTE				-1
BUY-OFF (CLOSURE) OF APPENDIX K DISCREPANCY LIST ITEMS IS NOT REQUIRED FOR COMPLETION OF PRE-OPERATION SETUP. THESE ITEMS WILL BE WORKED UP TO INTEGRATED OPERATIONS SUPPORT SETUP 5 AND CLOSURES OF APPENDIX K WILL CONSTRAIN CLOSURE OF OPERATION SUPPORT SETUP 5.				
ANY DISCREPANCY NOTED BY ANY OF THE WALKDOWN PARTICIPANTS WILL BE RECORDED IN APPENDIX K, UNLESS DISCREPANCY IS IDENTIFIED AS BEING RESOLVED BY SCHEDULED WORK SUPPORTING S0007 PREPARATIONS FOR LAUNCH.				
05-008	*PAD	ALL	ALL DISCREPANCIES WILL BE RECORDED IN BUY COPY OF APPENDIX K. (S0007VL4).	
05-009	*PAD	ALL	INSPECT AND VERIFY FOR EACH AREA OF WALKDOWN THAT:	
			1. COMBUSTIBLE MATERIALS HAVE BEEN REMOVED FROM AREA.	
			2. NO SPARK/FLAME PRODUCING EQUIPMENT IN AREA.	
			3. FLEXHOSES, CABLES, LINES, ETC PROPERLY SECURED.	
			4. SAFETY SHOWERS AND EYE WASH FOUNTAINS OPERATIONAL.	
			5. WORK AREAS AND TRAFFIC ROUTES FREE OF HAZARDS/CLUTTER.	
			6. ALL LOOSE ITEMS AND DEBRIS (FOD) SECURED OR REMOVED.	
			7. CONSTRUCTION CONTRACTOR EQUIPMENT SECURED OR REMOVED.	

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DATE: 07-01-99

OMI NO. - S0007VL1
REV. - AT-1

OPERATION SUPPORT SETUP INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
08-005				PQCG MLP COMPARTMENT 44B	
				PERFORM INTEGRITY VERIFICATION INSPECTION OF FOLLOWING ELECTRICAL PANEL:	
				6771 (A.C. POWER PANEL)	QW:_____
08-006				DELETED	-1
08-007				PQCG *PAD ORBITER OPERATION SUPPORT SETUP 1 - *PAD OTC MPS/SSME MLP PATCH RACK - DISTRIBUTER 132 CMQC PANEL INTEGRITY VERIFICATIONS COMPLETE.	QV:_____

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REV. - AT-1

OPERATION SUPPORT SETUP INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

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OPERATION SUPPORT SETUP INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF
EDO WCS IS INSTALLED.

08-122		OTC 132	MS3	PANEL WCS (COMMODE AREA) WCS AIR DIVERTER VALVE - CAN RETEST/TEST SW - CENTER URINE DIVERTER VALVE - FAN SEP 1 VACUUM VENT VALVE - CLOSED	
--------	--	------------	-----	--	--

USER PANEL
URINAL SEL SW - OFF
WCS PWR SEL (2 SWITCHES) - OFF
COMPACT PB - AS IS
FAN POWER - AUTO (CENTER)

VERIFY ALL LIGHTS OFF

NOT PERFORMED

NOTE -1|

DELETED

|

08-123

DELETED

-1|

WASTE MANAGEMENT STATION SWITCHLIST

COMPLETE

OPERATION SUPPORT SETUP INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

08-124		*PAD	OQCV	PERFORM FLIGHT CLOSEOUT INSPECTION OF WMS PER FOLLOWING:	
				1. VERIFY NON-FLIGHT ITEMS EITHER REMOVED OR RECORDED IN TIR SYSTEM.	
				INSPECT WHERE ACCESSIBLE WITHOUT DISCONNECTING OR NULLIFYING PRIOR INSPECTION ACCEPTANCE, EXCLUDES PRIOR CLOSEOUT AND VERIFY:	
				2. ELECTRICAL AND MECHANICAL CONNECTORS PROTECTED WITH CAPS OR COVERS NOT CONNECTED.	
				3. SERVICING TEST PORTS CAPPED WHEN NOT REQUIRED TO FUNCTION FOR SCHEDULED TEST.	
				4. HATCHES AND ACCESS PANELS IN PLACE AND SECURED WHEN NOT REQUIRED FOR SCHEDULE TEST.	
				5. ELECTRICAL WIRES, CABLES AND HARNESSE FREE OF NICKS, CUTS, SCUFFS, COATING DENTS, BLISTERS, GROSS DISCOLORATION, SHARP BENDS, SECURE SPOT TIES AND CABLE CLAMPS, AND ENSURE ADEQUATE CLEARANCE FROM BRACKETS, FAIRINGS, AND LIGHTENING HOLES.	
				6. ELECTRICAL COMPONENTS INSULATION FREE OF CUTS, RIPS OR TEARS.	
				7. ELECTRICAL GROUNDING STRAPS/BRAIDS NOT FRAYED OR DAMAGED.	
				8. FLEXHOSES SECURE AND NO BROKEN OR FRAYED STRANDS, FLAT SPOTS OR KINKS.	
				9. STRUTS/SUPPORTS FREE OF DINGS, DENTS, GOUGES OR SCRATCHES.	
				10. SWITCHES, ROTATING KNOBS AND CIRCUIT BREAKERS FREE OF DAMAGE AND ATTACHING HARDWARE NOT LOOSE OR MISSING.	

OPERATION SUPPORT SETUP INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
08-175				OPERATION SUPPORT SETUP 15 - PAYLOAD ----- BAY PURGE VERIFICATION (IUS) ----- NOTE PERFORM NEXT FOUR STEPS FOR IUS/AXAF (STS-93). THE NEXT STEP WILL BE PERFORMED WHEN VEHICLE IS BEING PURGED WITH AIR. STEP MAY BE PERFORMED BY EITHER CPVD OR PPVM. IF CPVD NOT ON STATION, CALL PPVM.	
08-175A		PTC 132 OTC	OTC CPVD PPVM	1. VERIFY ORBITER PAYLOAD BAY PURGE IS ON AND WITHIN FOLLOWING SPECS: FLOW RATE: 218.5-241.5 LBS/MIN INTERFACE TEMP: 65.5 - 70.5 DEG F HUMIDITY: AIR - EQUAL TO OR LESS THAN 29 GRAINS H2O/LB OMRSD P018DB.010 OMRSD P330DB.100 (AXAF) 2. IF READINGS PROVIDED BY PPVM	-1 TQW: _____ NOT PERFORMED _____ SS2 NOT PERFORMED _____

OPERATION SUPPORT SETUP INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					-1
THE NEXT THREE STEPS WILL BE PERFORMED WHEN VEHICLE IS BEING PURGED WITH GN2.					
NOTED REQUIREMENT SATISFIED BY COMPLETION OF NEXT STEPS.					
OMRS P018DB.010 OMRS P330DB.100 (AXAF)					
08-175B		PTC 132 OTC	OTC CPVD	VERIFY ORBITER PAYLOAD BAY PURGE IS ON AND WITHIN FOLLOWING SPECS: FLOW RATE: 218.5-241.5 LBS/MIN INTERFACE TEMP: 65.5-70.5 DEG F	-1
NOT PERFORMED					
08-175C		OTC 232 NTD STM 111 JSTC 114	NTD STM JSTC GSPN	VERIFY HUMIDITY EQUAL TO OR LESS THAN 1 GRAIN H2O/LB.	PNU -1
NOT PERFORMED					
08-175D		NOTED REQUIREMENTS COMPLETE.			-1
OMRSD P018DB.010 OMRSD P330DB.100 (AXAF)					
NOT PERFORMED					
08-175E		CPVD 132 OTC	OTC PTC CMQC	ORBITER OPERATION SUPPORT SETUP 15 - PAYLOAD BAY PURGE VERIFICATION COMPLETE.	-1
CPVD					

OPERATION SUPPORT SETUP INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
10-071				OPERATION SUPPORT SETUP 5 - SRB AFT ----- SKIRT GN2 PURGE ACTIVATION -----	
NOTE					
RECORD VERIFICATIONS IN TABLE 1 OF THIS OPERATION SUPPORT SETUP.					
DO NOT PERFORM THIS OPERATION SUPPORT SETUP IF FLEX BEARING PURGE NOT REQUIRED.					
OPERATION SUPPORT SETUP 5 NOT PERFORMED					_____
10-072		CBHY TBC 136 TBC NTD 232 NTD *SCC		READY TO PROCEED WITH SRB AFT SKIRT GN2 PURGE ACTIVATION. REQUEST CONCURRENCE TO CLEAR.	
10-073		CBHY BHT_		CLEAR ALL PERSONNEL FROM SRB AFT SKIRT AREA TO INTERIOR OF SOUND SUPPRESSION PIPES, INSTALL ROPES AND HAZARDOUS WARNING SIGNS FOR SRB AFT SKIRT GN2 PURGE ACTIVATION.	
10-074		NTD PA		ATTENTION ON MLP ZERO LEVEL: ALL PERSONNEL CLEAR SRB AFT SKIRTS FOR GN2 PURGE ACTIVATION.	
10-075				TASK TEAM LEADER/DESIGNATED FLOOR LEADER (DFL) PERFORM SAFETY INSPECTION OF THE LOCAL CONTROL AREA AND EGRESS ROUTE(S) FROM CONTROL AREA. VERIFY NO DISCREPANCIES WHICH AFFECT THE OPERATION AND/OR SAFE EGRESS FROM CONTROL AREA.	
10-076		BHT_ CBHY CBHY TBC 136 TBC NTD 232 NTD *SCC		CONTROLS ESTABLISHED ON SRB AFT SKIRTS AND ALL PERSONNEL CLEAR, ROPES AND HAZARDOUS WARNING SIGNS POSTED. REQUEST SAFETY CONCURRENCE TO ACTIVATE SRB AFT SKIRT GN2 PURGE.	-1
					T:_____

OPERATION SUPPORT SETUP INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
10-077		*SCC 232 NTD TBC 136 CBHY	NTD TBC CBHY BHT_	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH SRB AFT SKIRT GN2 PURGE.	

WARNING

GN2 FLOW TO SRB AFT SKIRTS
WILL BE ACTIVATED. ALL
PERSONNEL MUST REMAIN CLEAR
OF AFT SKIRTS DURING FLOW.

10-078		TBC 136	CBHY	ACTIVATE SRB AFT SKIRT GN2 PURGE.	
--------	--	------------	------	-----------------------------------	--

10-079		GBHY 114	GSPN	SRB AFT SKIRT GN2 FLOW WILL COMMENCE MOMENTARILY.	
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10-080		CBHY		CONSOLE KYBD HOME CMD KEY - PRESS BAT04 PERF PGM KEY	
--------	--	------	--	---	--

10-081		CBHY		CURSOR CNTL (BAT04) SRB AFT SKIRT GN2 PURGE DC PWR PRI - ON SEC - ON	
--------	--	------	--	--	--

10-082		CBHY		CURSOR CNTL (BAT04) SRB AFT SKIRT GN2 PURGE (VALVING) (MAIN) PRI - OP SEC - OP HEATER (ARROWS) ADJUST SET POINT TO 70 +/-5 HEATER CMD - ON	
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OPERATION SUPPORT SETUP INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
11-028				OPERATION SUPPORT SETUP 3 - FINAL ----- TPS ENGINEERING DEBRIS WALKDOWN -----	
				NOTE	
				PERFORM FINAL WALKDOWN AFTER RSS ROTATION, 'O' LEVEL HAND RAILS REMOVED, TSM CLEANING COMPLETE AND ESP'S REMOVED.	
11-029		NTD	OTC	PERFORM TPS ENGINEERING	
		232	STM	DEBRIS WALKDOWN PER INTEGRATED	
				*SCC OPERATION SUPPORT SETUP 3 UNDER	
		OTC	*PAD	DIRECTION OF NASA TPS ENGINEER.	
		132			
		STM	PSTM		
		NET			
		104			
		*SCC	*PSE		
		NET			
		105			
11-030		TTL		PERFORM FOLLOWING:	-1
			1.	VERIFY FOLLOWING PERSONNEL PRESENT FOR WALKDOWN:	
				SFOC TPS ENGR	
				NASA TPS ENGR	
				SFOC TECH OPS	
				SFOC QUALITY	
				SFOC SAFETY	
				PSTM	
				NASA FINAL INSP TEAM REP (OPT)	
				TTL	
					SS1
			2.	OBTAIN A COPY OF CURRENT APPENDIX K (S0007VL4) WALKDOWN DISCREPANCY LIST FROM PAD LEADER.	

OPERATION SUPPORT SETUP INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

11-030				3. INSPECT FOLLOWING AREAS FOR DEBRIS.	
CON'T				A. MLP ZERO LEVEL	
				1. PERIMETER DECKING/GUTTERS	
				2. LH2/LOX TSM EXTERIOR	
				3. LEFT/RIGHT SRB FLAME HOLES, SS PIPING, AND UNDER BLAST SHIELDS	
				4. SSME FLAME HOLE AND UNDER BLAST SHIELDS	
				B. PAD SURFACE	
				C. NORTH AND SOUTH FLAME TRENCH	
				TTL	_____
11-031				ANY NOTED DEBRIS WILL BE PICKED UP BY TECH OPS OR ADDED TO APPENDIX K AND REPORTED TO *PAD	
				TTL	_____
11-032				FINAL TPS ENGINEERING DEBRIS WALKDOWN COMPLETE. ALL DISCREPANCIES HAVE BEEN DOCUMENTED IN S0007VL4 APPENDIX K.	
				SFOC TPS ENGR_____	
				SFOC TECH OPS_____	
				NASA SYS ENGR_____	
				SFOC SAFETY_____	
				SFOC QUALITY_____	
				PSTM_____	
				TTL	_____

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SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

TAB CHOATE	K. GRANT
SA21	USH-440X
BOEING - ROCKETDYNE DIVI	UNITED SPACE ALLIANCE
MARSHALL SPACE FLIGHT CE	600 GEMINI
BLDG 4202, RM 405	HOUSTON, TX 77058
HUNTSVILLE, AL 35812	JERRY L. GREENWOOD
TONY IPPOLITO	3731
MILA	MICHOUD ASSY FACILITY
NEAL E. VANSYOC	LOCKHEED MARTIN
F224	P.O. BOX 29304
JAMES B. PARKS	NEW ORLEANS, LA 70189
PK-J-B	ALEX RODRIGUEZ.....3
PHIL LINTEREUR.....2	ZK-86
F264	DEBBIE HAHN
PETE WILSON	NN-M2
ZK-07	MEGAN MISCHKOT
JAMES REED	N/A
EY-C	MICHOUD ASSEMBLY FACILIT
ROBERT L. WRIGHT	P.O. BOX 29300
CSR-4222B	NEW ORLEANS, LA 70189
WHIT BARTLETT	DEPT 4250
PK-D2	JILL JAHNKOW.....2
FERDINAND JONES	FA-99
AC-58	BOEING NORTH AMERICAN
BOEING NORTH AMERICAN	MISSION SUPPORT ROOM
6633 CANOGA AVE	12214 LAKEWOOD BLVD
CANOGA PARK, CA 91304	DOWNEY, CA 90241
SUSAN FRAHM	JOANNE CREECH
BOC-005	BOC-022
CALVIN J. CULBERTSON.....2	CHRIS WEAVER.....6
FC-51	PZ-L
CCAS, FL 32899	
LISA A. MALONE	
PA-MSB	
BRUCE D. BOUTON	
8A-44	
BOEING DEFENSE & SPACE G	
P.O. BOX 3999	
SEATTLE, WA 98124-2499	

TOTAL QTY: 271

FOR CHANGES TO THIS DISTRIBUTION LIST, CONTACT:

MARY	M. HESTER	, USK-187, (407) 861-3301 EXT
ELIZABETH	C. KLOS	, USK-187, (407) 861-3430 EXT

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SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

AFQA/LGQAB/P. MCDANIEL	NN-M1
BA/FC-50/W. BRAGG.....2	NN-M2
BA/FC-51/ELS DATA FILES	NN-M3
BA/FC-51/J. HAGOOD.....2	THIO-LSS/BRIAN ST. AUBIN
BA/FC-51/J. LEWIS.....2	USBI-LSS/LIBRARY
BA/FC-51/N. BIHR.....3	USK-078/CCC, C-1 PNEU
BNA SPACEHAB/NANCY CRABTREE.....2	USK-078/CCC, C-1 WATER
SPACEHAB, INC	USK-078/CCC, C-2 HVAC
620 MAGELLAN RD	USK-078/CCC, C-3 POWER
CAPE CANAVERAL, FL 32920	USK-078/CCC, INTEGRATION
C07A/J. LECHER	USK-225/JODI SILLS
JSC, TX 77058	USK-391/SAFETY OPS (PAD B)
EI-C-C/NSF CONSOLE	USK-550/VITT OFFICE.....2
EI-C-D/NASA VAB SAFETY	ZA03/DAVID BARNES
EI-C-F/NASA OPF SAFETY	BOEING NORTH AMERICAN
ESMC-SEO/CAMPBELL	555 DISCOVERY DRIVE
LLOYD MUSTIN SSM	HUNTSVILLE, AL 35806
MAIL STOP AE26	3 SLS/DOOT/CAPT. G. FENTRESS
BOEING NORTH AMERICAN	3 SLS/MA/B. STRACENER....2
SPACE SYSTEMS DIV.	AIR-FORCE CCAFS
P.O. BOX 7009	N/A
DOWNEY, CA 90241-7009	45 RANS/DOOB
MS-E68/R. BAKES	(CCAFS)
THIOKOL CORP.	PHILLIPS PARKWAY/10400
P.O. BOX 707	PATRICK AFB, FL 32925
BRIGHAM CITY, UT 84302-0707	AUTO-SUPPORT REQUIREMENTS-SYS
MS3/LIBRARY	USK-068
JSC, TX 77058	CCC LIBRARY.....3
MV2/D. STAMPER	USK-093
JSC, TX 77058	MISSION SUPPORT
MV3/KENNETH BROWN	SGS-347
JSC, TX 77058	EG&G PROTECTIVESYSTEMS
NASA/JSC.....2	BOC-326
C/O TRANSPORTATION OFFICE	PAD ELECTRICAL-SHOP
BUILDING 420	USK-175
HOUSTON, TX 77058	SECTION NASACOMM/RFSYSTEMS
ATTN: DA82/MARY C. THOMAS	PK-F3
BLDG 30M, ROOM 235	NASA-FLT ELECTR-SYS-SECT
NN-L/PAYLOAD ENGINEERING	PK-F

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SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

FLT-CREW EQUIP	PAD-B SWING-ARMS-SHOP
USK-264	USK-425
FLOW DIRECTOR-OFFICE	TECHNICAL DOC-CTR.....50
PH-B2	USK-038
SECTION NASAECCLSSSYSTEM	TSMO SITE-MGRS
PK-G5	USK-299
BOEING P/L-TEST-CONDUCTOR.....3	TSMO OMD
F214	USK-075
GUIDANCE-AND NAVIGATION	USA INSTRUMENTATION.....2
USK-195	USK-194
GEL LCC-RM-3R18	VITT OFFICE
USK-542	F204
LCC HAZ-GAS	O&C BLDG
USK-542	SWING ARMS-ENG'G
ORB MECHANISM	USK-290
PK-H5	ET MECHANICAL-ENG
NASA QA-FR1	USK-251
USK-268	ET LH2PAD-A
OTC ORBTESTCONDUCTOR.....4	USK-174
USK-023	ET LH2PAD-B
SPC PAD-SAFETY	USK-390
USK-257	ET-LOX PAD-A
TEST-OPS PAD-A	USK-173
USK-307	MEQ ORB-MECHANISMS-ENG
TEST-OPS PAD-B	USK-408
USK-389	OMS/RCS ENG-PADA
BRANCH INSTRUM.&P/LSYS.....2	USK-484
PK-F3	OMS/RCS ENG-PADB
PNEUMATICS ENGINEERING	USK-347
USK-043	CENTRL WRK-PKG-BLD
OFFICE NASAFIRE/RESCUE	USK-409
IM-SPS-A	COMM CONTROL.....2
PAD SWING-ARMS-SHOP	USK-145
USK-398	TSMO PAD-A
SFOC SAFETY-CONSOLE	USK-076
USK-399	TSMO PAD-B
SUPV-SAFETY RELIABILITY-ENGR	USK-404
USK-291	TSMO SUPV-STM.....3
	USK-299

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SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

FRANK A. DEBERNARDO	TODD M. GRACOM
USK-116	USK-195
NEAL R. GRIFFITH	PAUL R. GRATSCH....2
USK-112	USK-195
DON GARCEAU	SECUR/041399 VEVERA
USK-109	USK-229
THOMAS E. JACOBS.....2	CHARLES J. HANNAS
USK-107	USK-192
JIM TOWNSEND	EARL D. COOLEY
USK-108	USK-269

SHOE SHOEMAKER		BOB DOUGERT.....2
USK-144		USK-356
PAT CHAPPELL		DEAN T. TYRE
USK-074		USK-421
DENNIS E. LOHAUS		STEVE VELLIGAN
USK-069		USK-213
HAL L. SNOW		RANDY DUNCAN
USK-171		USK-196
RICHARD H. MURRAY.....2		DON GREEN.....2
USK-414		USK-043
ROBERT RODRIGUEZ		PEGGY S. HATTAWAY
USK-198		USK-246
TOM WELLS.....2		GARY A. WOODS
USK-420		USK-281
MARTIN L. CARLSON		ANN M. MICKLOS
USK-420		USK-443
JUDY HOOPER.....3		TERM/SECUR POSTON
USK-247		USK-598
STEVE GODFREY		PAUL E. BRANDT
USK-241		USK-111
BILL NUTTER.....5		OZZIE FISH.....2
USK-214		USK-314
JANIENE L. PAPE		DONALD L. CROUSE II
USK-284		USK-254
PAUL L. QUANDT		ANDY BUNDY
USK-356		PK-E3
CHARLES E. SWEENEY		DAVID R. SCHECHTER
USK-424		PZ-C

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SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

JIMBO BOLTON	OLAN J. BERTRAND
USBI-LSS	CA4
BILL CLEVER II	HOUSTON, TX 77058
SK	KEN FORD.....2
KATHLEEN A. CONWAY	USK-637
USK-669	RICHARD MIZELL
TERRI L. HERST	PK-F6
PK-D	LARRY E. WILSON
ED MANGO	USK-412
PK-D2	ERVIN G. WALKER
SCOTT CHANDLER	JCI-VITC-2
PK-E4	ANGELO PACE
MICHAEL GARSKE	USK-682
DF24	RANDY DAVIES
JSC, TX 77058	CSR-3200
AL DIAZ	CAPE CANAVERAL AFS, FL 32899
PK-F	RONALD W. WETMORE
BOB BEIL	MMC-15
PK-G3	HAROLD E. REED
ANDY DIBBERN	JJ-3-B
PK-G6	CHUCK GIVENS

PETE CHITKO
PK-H6
GREG KATNIK
PK-H7
JORGE E. RIVERA
PK-H7
PHIL WEBER
PK-H6
PAT MARKEY
PK-J
JOHN W. DOYLE
USK-714
RENEE HART
USK-669
BOBBY E. ORR
USK-607

BOC-342
RAYMOND G. PREECE
ZK-07
RAY W. NUSS
EV4
JOHNSON SPACE CENTER
HOUSTON, TX 77058
ROBERT B. LUECKING
ZK-86
MATTHEW J. HOFMANN
ROC-LSS
JIM ALLAMON
ZK-21
CANDICE F. NORMAN....2
BOC-349
TOM HILL
ASC/ERD-FL