

VOLUME 3 OF 5
DATE: 07-08-99

OMI NO. - S0007VL3
REV. - BF-1

SHUTTLE COUNTDOWN (LPS)

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NOTE

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OMI TECHNICAL CONTACT: ROGER GILLETTE, 1-7437

OMI WRITER: P.STIELER, 1-4958

DISTRIBUTION PER ATTACHED DISTRIBUTION LIST

THIS PROCEDURE CONTAINS HAZARDOUS OPERATIONS

UNITED SPACE ALLIANCE

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

PREPARED BY:

SFOC TEST DOCUMENTATION

APPROVED BY:

CONTRACTOR

SFOC SAFETY

THIS PROCEDURE CONTAINS HAZARDOUS OPERATIONS

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

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*****  
*                                                                 *  
*              SHUTTLE COUNTDOWN (LPS)                          *  
*                                                                 *  
*****  
* EFFECTIVITY              CATEGORY: A                            *  
*                                                                 *  
*                                                                 *  
*              CENTER:    KSC                                     *  
*                                                                 *  
*              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

GOVERNMENT

SFOC OPR

SM

SFOC SAFETY

THIS PROCEDURE CONTAINS HAZARDOUS OPERATIONS

REVISION RECORD PAGE

REV-CHANGE	DATE	REASON	PAGES AFFECTED	EFFECTIVITY
BF	: 05-05-99	:111/USK023	: ALL	:STS-96 & SUBS
BF-1	: 07-08-99	:112/USK217	: TOC,28-44,63,63.1, : 63.2,78,79,92,97, : 107,112,112.1,112.2: : 129,155,190,194,195: : 214,237,295,295.1- : 295.4,299,328,328.1: : 328.2,363,371,373, : 374,384.1,384.2,387: : 387.1,387.2,390, : 401.1-401.4,408,411: : 412,413,417,417.1, : 417.2,418,425,426, : 433,448,457,457.1, : 457.2,473,479,515, : 526,534,561,561.1, : 576.1-576.4,633,634: : 634.1,634.2,685,704: : 704.1,704.2,729	: STS-93 & SUBS

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BACKUP SIGNATURE SHEET

OMI TITLE: SHUTTLE COUNTDOWN (LPS)

SYSTEM -----	AGENCY	CONTRACTOR -----	SIGNATURES	
	CONTRACTOR/NASA -----			GOVERNMENT -----
SUPPORT -----				
TSMO	SFOC	_____		NA
MILA	BFEC/GUSB	_____		NA
RPS	SFOC	_____	_____	
CCMS	SFOC	_____	_____	
MEASUREMENTS	USA/TE-CID-3B	_____	_____	
ETR	PAN AM/SRO	_____		NA
PHOTO	TGS	_____		NA
TIMING/ COUNTDOWN	RCA-1	_____		NA

BACKUP SIGNATURE SHEET

OMI TITLE: SHUTTLE COUNTDOWN (LPS)

SYSTEM -----	AGENCY CONTRACTOR/NASA -----	SIGNATURES	
		CONTRACTOR -----	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	_____	_____
HYDRAULICS	SFOC/NASA	_____	_____
APU	SFOC/NASA	_____	_____
MPS	SFOC/NASA	_____	_____
SSME	ROCKETDYNE	_____	NA
SSME	SFOC/NASA	_____	_____

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BACKUP SIGNATURE SHEET

OMI TITLE: SHUTTLE COUNTDOWN (LPS)

SYSTEM -----	AGENCY CONTRACTOR/NASA -----	SIGNATURES	
		CONTRACTOR -----	GOVERNMENT -----
(ORBITER CONTD) -----			
PRSD	SFOC/NASA	_____	_____
MECH/STRUC	SFOC/NASA	_____	_____
PYRO	SFOC/NASA	_____	_____
OMS/RCS	SFOC/NASA	_____	_____
ECLSS	SFOC/NASA	_____	_____
TPE/PEO	SFOC/NASA	_____	_____
VITT	NASA/JSC	NA	_____
GLS	SFOC/NASA	_____	_____
G&N	SFOC/NASA	_____	_____
FLT CONT	SFOC/NASA	_____	_____
FCS	SFOC/NASA	_____	_____
ORB SOFTWARE	SFOC/NASA	_____	_____
SFOC SAFETY	SFOC	_____	NA
JSC MISSION INTEG	RI-LSS/JSC-TA	_____	_____

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BACKUP SIGNATURE SHEET

OMI TITLE: SHUTTLE COUNTDOWN (LPS)

SYSTEM -----	AGENCY	CONTRACTOR -----	SIGNATURES	
	CONTRACTOR/NASA -----		CONTRACTOR	GOVERNMENT -----
ET/SRB -----				
TEST COND	SFOC (ROR)	_____	NA	
PROJ ENGR	SFOC/NASA	_____		_____
ELECTRICAL	SFOC/NASA	_____		_____
INSTR	SFOC/NASA	_____		_____
MECH	SFOC/NASA	_____		_____
STRU	SFOC/NASA	_____		_____
PROPELLANTS (LOX)	SFOC/NASA	_____		_____
PROPELLANTS (LH2)	SFOC/NASA	_____		_____
FLT CONTLS	SFOC/NASA	_____		_____
SRSS	SFOC/NASA	_____		_____
DPS	SFOC/NASA	_____		_____
HYD	SFOC/NASA	_____		_____
MECH (SRB)	SFOC/NASA	_____		_____

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BACKUP SIGNATURE SHEET

OMI TITLE: SHUTTLE COUNTDOWN (LPS)

SYSTEM -----	AGENCY	CONTRACTOR -----	SIGNATURES	
	CONTRACTOR/NASA -----			GOVERNMENT -----
PAYLOAD -----				
TEST COND	MDS&DS	_____		NA
PAYLOAD INTEG ENGR	MDS&DS/CS-PPD-1	_____	_____	
ELECT ENGR	MDS&DS	_____		NA
SOFTWARE	MDS&DS	_____		NA
MIDDECK EXP	CS-EED-1	NA		_____
IUS	BAO/6555TH	_____	_____	
ULS	ESA	_____		NA

DESIGN CENTER CONCURRENCE
 BACKUP SIGNATURE SHEET

OMI TITLE: SHUTTLE COUNTDOWN (LPS)

SYSTEM -----	AGENCY CONTRACTOR/NASA -----	SIGNATURES	
		CONTRACTOR* -----	GOVT -----
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 SFOC.

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1.5 PERSONNEL REQUIREMENTS

FOLLOWING CRITICAL SKILLS ARE REQUIRED FOR PERFORMANCE
OF INDICATED PORTIONS OF THIS OMI.

CONTROL NO. -----	TITLE -----	SEQUENCE -----
242	TORQUE AND SAFETY WIRING (TQ)	35,36

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
-----	-----	-----	-----

B42AP0.050-B (1R)	L02 APU BITE TEST (POST N2H4 LD TO L-24 HR) B056-999	31-289	_____
B42AP0.060-B (1)	L02 APU FREQ BITE (POST N2H4 LD TO L-24 HR) B056-999	31-289	_____
B42AP0.080-B (1R)	L02 BEARING SOAK (T-9 HR) B056-999	31-293	_____
GLUGGDMF0.004	HUMS GAS ANALYSIS MLP-3 GOTBU	31-348 (MLP-3)	_____
GLVGGDMF0.004	HUMS GAS ANALYSIS MLP-2 GOTBU	31-348 (MLP-2)	_____
GLWGGDMF0.004	HUMS GAS ANALYSIS MLP-1 GOTBU	31-348 (MLP-1)	_____
GRVFEVRA1.005 (1)	PAD A FSS ELEVATOR#1 OPERATIONAL CHECK GFF1-90	31-314	_____
GRVFEVRA2.005 (1)	PAD A FSS ELEVATOR#2 OPERATIONAL CHECK GFF1-90	31-314	_____
GRXFEVRC0.005 (1)	PAD B FSS ELEVATOR#1 OPERATIONAL CHECK GFF1-90	31-314	_____
GRXFEVRD0.005 (1)	PAD B FSS ELEVATOR#2 OPERATIONAL CHECK GFF1-90	31-314	_____
G51FGDMA0.060	HGDS - SYSTEM GAS ANALYSIS GOTBU	31-348 (PAD)	_____
G51FGDMA0.095	B/U HGDS-SYSTEM GAS ANALYSIS GOTBU	31-348 (PAD)	_____

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 _____
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OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
G51FG0000.104	VERIFY VENT SEALS SUPPORT TANKING GOA;C	31-559	_____
G61FGDMA0.060	HGDS - SYSTEM GAS ANALYSIS GOTBU	31-348 (PAD)	_____
G61FGDMA0.095	B/U HGDS-SYSTEM GAS ANALYSIS GOTBU	31-348 (PAD)	_____
G61FG0000.104	VERIFY VENT SEALS SUPPORT TANKING GOA;C	31-559	_____
P018JD.020	REQUIREMENT RECORD IS NOT IN DATA BASE	33-003	_____
P018JB.035-C	QUIET TIME - LAUNCH COUNTDOWN PIUS V04F10	31-070B 31-157A	_____ _____
		32-404C	_____
P018JC.010	LAUNCH COUNTDOWN - IUS RQMTS. PAXAF	31-157A	_____
P018JD.015	HOLDS/RECYCLES (POWER UP) PIUS;C V04FE10;C	33-002	_____
P018JD.020	HOLDS/RECYCLES (POWER DOWN) PIUS;C	33-006	_____
P095PR.895	MODULE COOLING - LAUNCH SCRUB PSHM;C	30-143 (SPACEHA)	_____
P329DB.240	MODULE COOLING - LAUNCH DELAY PLNEUROLAB;C	30-143 (NEUROCA)	_____

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
-----	-----	-----	-----
S00E00.A11	ET BIPOD HEATERS DEACTIVATION L03 TCN57,59-999;C	30-293	_____
S00E00.012 (1)	GH2 REDLINES SAF;C	30-011	_____
S00E00.015 (1)	HGDS REDLINES VAF;C	30-010	_____
S00E00.021	ET TPS MON DURING DETANK TAF;C	30-485	_____
S00E00.031	POST DETANK ET TPS INSPECT TAF;C	31-083	_____
		32-070	_____
S00E00.112 (1)	CONDITIONS FOR LO2 TANK VENTING L04 TCN90-999;C	30-312	_____
S00E00.161 (1)	ACTIVATE SSME GN2 PURGE HEATER POWER L02 V02FR12;C V03FR12;C V04FR8;C V05F;C	30-312	_____
S00E00.230 (1)	MAINTAIN ET LO2 TANK PRESS DURING DRAIN L06 TCN76-999;C	30-312	_____
S00E00.240 (1)	ET LH2 TANK PRESS DURING/AFTER DRAIN L02 TCN76-95;C ET LH2 TANK PRESS DURING/AFTER DRAIN L03 TCN96-999;C	30-427	_____
S00E00.250 (1)	MPS LH2 DETANK VALVE CONFIGURATION VAF;C	30-190	_____

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 _____
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OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
S00E00.272 (1R)	VFY ET LH2 LIQ LVL SNSR DURING DRAIN TAF;C	30-345	_____
S00E00.280 (1)	POST DETANK LH2 VLV CONFIG VAF;C	30-422	_____
S00E00.310 (1)	MPS LO2 DETANK VLV CONFIG VAF;C	30-312	_____
S00E00.332 (1R)	VFY ET LO2 LIQ LVL SNSRS DURING TK DN VAF;C	30-312	_____
S00E00.340 (1)	POST DETANK MPS LO2 VLV CONFIG VAF;C	30-312	_____
S00E00.400 (1)	CLOSE SSME BLEED VLVS POST DETANK VAF;C	32-103	_____
S00E00.430 (1)	VFY ORB/ET LH2 TNK H2 CONCENTRATION VAF;C	32-092	_____
S00E00.490 (1)	VERIFY ET INTERTANK COMPARTMENT TEMP TAF;C	35-152	_____
S00E00.500 (1)	REINSTALL NOSE CONE GO2 VENT HOOD VAF;C	30-345	_____
S00E00.520	REMOVE NOSE CONE GO2 VENT HOOD VAF;C	30-312	_____
S00E00.552 (1)	VERIFY ET NOSE CONE PURGE L03 TCN68-999;C	30-400	_____
		30-312	_____

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
-----	-----	-----	-----
S00E00.620 (1)	OPEN LH2 FDLN RELIEF SOV POST DETANK VAF;C	30-345	_____
S00E00.621	LH2 BOILOFF TIMELINES TAF;C	30-346	_____
		32-079	_____
		35-128	_____
S00E00.630 (1)	OPEN LO2 FDLN RELIEF SOV POST DETANK VAF;C	30-312	_____
S00E00.650 (1R)	SECURE RCS VAF;C	30-100	_____
S00E00.660	SECURE OMS VAF;C	30-105	_____
S00E00.690	SHUTDOWN FUEL CELLS VAF;C	30-487	_____
S00E00.700 (1R)	PRSD TOPOFF VAF;C	36-473	_____
S00E00.721-B (1)	FUEL ISOLATION VALVE CYCLE (E) BAF;C	30-323	_____
S00E00.745	RSRM EXTERNAL INSPECTION BAF;C	35-550	_____
S00E00.755 (1)	NOZZLE BLOWOUT PLUG INSPECTION BAF;C	35-550	_____

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

SITE _____ TCN _____ DATE _____

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OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
S00E00.815	OEX/MADS RCDR ERASE FOR RECYCLE VAF;C	32-010	_____
		35-110	_____
S00E00.850 (1R)	DEACTIVATE HYD CIRCULATION PUMPS VAF;C	29-093	_____
		30-469	_____
S00E00.860 (1)	EQUALIZE CABIN PRESSURE VAF;C	30-157 (VAG29)	_____
S00E00.995-B	WSB STEAM VENT PLUGS INSPECTION VAF;C	35-325	_____
S00E00.995-E	ET UMBILICAL BAGGIES INSPECTION VAF;C	35-489	_____
S00FA0.116 (1)	ET LO2 LOW RANGE ULLAGE PRESS XDCR CK L02 T90-999	31-455	_____
S00FA0.120 (1)	LO2 VENT/RELIEF VLV ACTUATION LINE PGE TAF1-999	31-455	_____
S00FA0.141 (1)	VERIFY ET LO2 LOW RANGE PRESSURES L02 T45,49,51,54-999	31-455	_____

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

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

SITE _____ TCN _____ DATE _____

TOP WAS RUN AS A STANDALONE YES _____ NO _____
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OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
S00FA0.213-A (1)	PERFORM AND VERIFY SSMEC POWER ON L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	32-249	_____
S00FA0.213-B (1)	LOAD CONTROLLER MEMORY L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	32-249	_____
S00FA0.213-C (1)	EXECUTE SENSOR AND SPARK IGNITER C/O L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	32-249	_____
S00FA0.213-D (1)	EXECUTE COMMANDED CONTROLLER CHECKOUT L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	32-249	_____
S00FA0.213-E (1)	EXECUTE PNEU COMPONENT CHECKOUT L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	32-249	_____

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 _____
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OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
S00FA0.213-F (1)	VERIFY SSME FLIGHT ACTIVE L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	32-249	_____
S00FA0.213-G (1)	ISSUE SSME PSN 3 COMMAND (REF. C-6) L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	32-249	_____
S00FA0.213-H (1)	ISSUE SSME CONT RESET CMD L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	32-249	_____
S00FA0.213-I (1)	ISSUE SSME PSN1 COMMAND (REF. R-1) L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	32-249	_____
S00FA0.213-J (1)	VERIFY ACTUATOR COMMAND/POSITION L02 V02F25-90 V03F24-90 V04F21-90 V05F12-90	32-249	_____
S00FA0.225	PERF/VFY INIT LH2 ORB/ET DISC CAV PURG L02 V02F22-90 V03F22-90 V04F18-90 V05F12-90	31-190 31-629	_____ _____

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
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S00FA0.510 (1)	RSS STATUS CHECK L03 B082-999	31-499	_____
S00FA0.600 (1)	RSRM PMBT B025,027-999;C	31-421 32-450	_____ _____
S00FA0.610 (1R)	RSRM SEGMENT JOINT HEATER SYSTEM L01 B042-098 RSRM SEGMENT JOINT HEATER SYSTEM L02 B099-999	31-323	_____
S00FA0.620 (1R)	RSRM IGNITER HEATER SYSTEM L02 B073-098 RSRM IGNITER HEATER SYSTEM L03 B099-999	31-073 31-324 32-433	_____ _____ _____
S00FA0.770	FLT CNTL SRB TVC POWER UP VAF1-90	31-270	_____
S00FA0.810-A	LO2 17-INCH DISC AND LATCH POSITIONING VAF1-90	31-175 32-487	_____ _____
S00FA0.810-B	LH2 17-INCH DISC AND LATCH POSITIONING VAF1-90	32-476	_____
S00FA0.820	VERIFY CREW ESC ROUTE TEMP/H2 SENSORS SAF1-999	31-409	_____

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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
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S00FA0.900	PRELAUNCH WEATHER BRIEFING (L-1 DAY) VAF1-90	30-016	_____
		32-453	_____
S00FA0.960	RSRM IGNITER HEATER SYS CURRENT VERIF B025,027,028 B032-999	31-073	_____
		31-324	_____
		32-433	_____
S00FA0.970	RSRM FLD JNT HEATER SYS CURRENT VERIF B025,027,028 B032-999	31-323	_____
S00FB0.070 (1R)	VFY MPS HE SYS CONFIG VAF1-90	31-629	_____
S00FB0.080 (1R)	MPS HELIUM SYSTEM ACTIVATION VAF1-90	31-629	_____
S00FB0.082 (1R)	L02 SSME REG MONITORING REQUIREMENTS V02F23-90 V03F23-90 V04F20-90 V05F12-90	31-629	_____
S00FB0.083	PNEU REG MONITORING REQUIREMENTS VAF1-90	31-629	_____
S00FB0.090-B (1)	MPS LH2 VLV PRELOADING CONFIGURATION VAF1-90	31-629	_____

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 _____
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OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FB0.230 (1R)	L03 VERIFY ORB/LPS LDB REDUNDANCY V02F22-90 V03F23-90 V04F19-90 V05F12-90	31-397	_____
S00FB0.290 (1)	INITIATE ET INTERTANK PURGE T37-999	31-629	_____
S00FB0.330 (1)	L04 INITIATE ET NOSE CONE PURGE & CONTROL T64-999;C	31-455	_____
S00FB0.350 (1)	MONITOR GO2 VENT HOOD VAF1-90	30-484	_____
S00FB0.370	L02 VFY RSS/RCVY BATTERY AMP-HR B082-999	31-627	_____
S00FC0.070 (1R)	L04 PFM HYD SYS CONFIG FOR CRYO LOAD V02F17-90 V03F19-90 V04F13-90 V05F7-90	31-226	_____
S00FC0.072 (1R)	L03 PFM LDG GR SYS FINAL FILL V02F12-90 V03F15-90 V04F13-90 V05F2-90	31-227	_____
S00FC0.090 (1)	INSTL GO2 VENT HOOD & INITIATE PURGE VAF1-90	31-466	_____
S00FE0.020 (1)	ACTIVATE LH2 T-0 UMB PLATE HE PURGE VAF1-90	31-190	_____

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 _____
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OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
S00FE0.040 (1)	ACTIVATE TSM AND TUNNEL PURGES VAF1-90	31-629	_____
S00FE0.050 (1)	VFY ET GUCP LH2 VENT DISC CAVITY PURGE L02 T68-999	31-629	_____
S00L00.030 (1)	ET TANKING WIND VELOCITY LIMIT (KSC) SAF1-999	31-317	_____
S00L00.051-A (1)	LH2 TANK PRESSURE (WIND CONDITION) L02 T43,45,48-51 T54-999	30-425 30-428	_____ _____
		32-087	_____
		32-467	_____
		35-138	_____
S00L00.051-B (1)	L02 TANK PRESSURE (WIND CONDITION) L02 T43,45,48-51 T54-999	31-455	_____
S00L00.080 (1)	ET PROP LOADING LIGHTNING CONSTRAINTS SAF1-999	31-317	_____
S00L00.085	WIND PREDICTION - SRB RETRIEVAL AREA B072-999	31-643	_____
S00U00.030 (1)	PRELAUNCH SHUTTLE/PAD AREA INSPECTION SAF1-999	31-084 32-454	_____ _____
T09QAL.030 (1)	ET TPS INSPECTION ON PAD L04 T57-999	32-590	_____

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
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V05AG0.060-C	GN2 PURGE INITIATION TIME	31-563	_____
L05	V02F22-90		
	V03F23-90		
	V04F19-90		
	V05F12-90		
V05AH0.050-C	GN2 PURGE INITIATION TIME	31-563	_____
L06	V02F22-90		
	V03F23-90		
	V04F19-90		
	V05F12-90		
V05AI0.060-C	PURGE PARAMETERS FOR ET LOADING - GN2	31-563	_____
L04	V02F22-90		
	V03F23-90		
	V04F19-90		
	V05F12-90		
V09AG0.020	WINDOW CLEANING/INSPECTION	34-086	_____
(1)	L03 V02F19-90		
	V03F22-90		
	V04F15-90		
	V05F9-90		
V09AH0.090	RSI - PCR SEAL/INTERFACE	34-084	_____
(1)	L03 V02F21-90		
	V03F22-90		
	V04F18-90		
	V05F12-90		
V30C00.010	PLBD MOISTURE CONDITIONING	31-105	_____
	V02F25-90;C		
	V03F25-90;C	32-585	_____
	V04F21-90;C		
	V05F13-90;C		

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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
-----------------	------------------------------	-------------------	-----------------

V51AG0.075-A	LH NLG TPDMS LONG TERM DECAY RATE	31-607	_____
L04	V02F16-20E20;C V03F18-21E21;C V04F13-17E17;C V05F5-11E11;C		
	LH NLG TPDMS LONG TERM DECAY RATE		
L05	V02F21-90R21;C V03F22-90R22;C V04F18-90R18;C V05F12-90R12;C		
V51AG0.075-B	RH NLG TPDMS LONG TERM DECAY RATE	31-607	_____
L04	V02F16-20E20;C V03F18-21E21;C V04F13-17E17;C V05F5-11E11;C		
	RH NLG TPDMS LONG TERM DECAY RATE		
L05	V02F21-90R21;C V03F22-90R22;C V04F18-90R18;C V05F12-90R12;C		
V51AG0.075-C	LH INBD TPDMS LONG TERM DECAY RATE	31-607	_____
L04	V02F16-20E20;C V03F18-21E21;C V04F13-17E17;C V05F5-11E11;C		
	LH INBD TPDMS LONG TERM DECAY RATE		
L05	V02F21-90R21;C V03F22-90R22;C V04F18-90R18;C V05F12-90R12;C		

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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 QC/ENG (CAP) VERIF

V51AG0.075-D	LH OUTBD TPDMS LONG TERM DECAY RATE	31-607	_____
L04	V02F16-20E20;C V03F18-21E21;C V04F13-17E17;C V05F5-11E11;C		
	LH OUTBD TPDMS LONG TERM DECAY RATE		
L05	V02F21-90R21;C V03F22-90R22;C V04F18-90R18;C V05F12-90R12;C		
V51AG0.075-E	RH INBD TPDMS LONG TERM DECAY RATE	31-607	_____
L04	V02F16-20E20;C V03F18-21E21;C V04F13-17E17;C V05F5-11E11;C		
	RH INBD TPDMS LONG TERM DECAY RATE		
L05	V02F21-90R21;C V03F22-90R22;C V04F18-90R18;C V05F12-90R12;C		
V51AG0.075-F	RH OUTBD TPDMS LONG TERM DECAY RATE	31-607	_____
L04	V02F16-20E20;C V03F18-21E21;C V04F13-17E17;C V05F5-11E11;C		
	RH OUTBD TPDMS LONG TERM DECAY RATE		
L05	V02F21-90R21;C V03F22-90R22;C V04F18-90R18;C V05F12-90R12;C		

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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 _____
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OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
V58AA0.041-J	HYD SYS 1 BOOTSTRAP ACCUM PRESS VAF1-90	35-485	_____
V58AA0.041-K	HYD SYS 2 BOOTSTRAP ACCUM PRESS VAF1-90	35-485	_____
V58AA0.041-L	HYD SYS 3 BOOTSTRAP ACCUM PRESS VAF1-90	35-485	_____
V65BA0.010-B L02	SAMPLING AT F-2 TO F-0 DAYS V02F24 V03F24 V04F20 V05F12	32-400	_____
V67AA0.030-B	SAMPLING AT L-2 TO L-0 DAYS V02F25-90 V03F25-90 V04F21-90 V05F13-90	31-030	_____
V75AP0.010 (1R)	CONFIGURE OI PCMMU FOR LCD (GND CNTR) V02F22-90 V03F23-90 V04F19-90 V05F12-90	30-149	_____

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DATE: 07-08-99

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
RAISE GOX VENT HOOD -----					
29-102	+00H30M	TBC 136	CMEC	TERMINATE GN2 PURGE AND RAISE GOX VENT HOOD PER OMI G2158. CMEC COORDINATE WITH GSPN ON CH 114. REPORT COMPLETION.	SU73040
29-103		CMEC 136	TBC	GN2 PURGE HAS BEEN TERMINATED AND GOX VENT HOOD RAISED PER G2158. GN2 TO AIR CHANGEOVER COMPLETE -----	
29-104	+00H35M	CPVD 132 OTC 232 NTD *SCC *SCC NET 105	OTC	ORBITER "GN2 TO AIR CHANGEOVER," OPTION A ACCOMPLISHED.	SU73003
29-104A		PTC 132 OTC CMQC	OTC	AFTER CIRCUIT STABILIZES, PERFORM ORBITER OPERATION SUPPORT SETUP 15, PAYLOAD BAY PURGE VERIFICATION. NOTIFY PTC IMMEDIATELY IF PURGE GOES OUT OF SPEC. (STS-93)	-1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				MLP O2 MONITOR STATUS	-1
29-105	+00H35M	NTD 232 STM 111	STM JBEP	PERFORM MLP O2 MONITOR STATUS.	PWR SU73021 SU73050
29-106		JBEP 111 STM 232 NTD	STM NTD *SCC	MLP O2 MONITOR STATUS COMPLETE. RECORD OUT OF LIMITS OR TROUBLE INDICATIONS (IF ANY):	PWR

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				VENT DOORS TO PURGE POSITION -----	
29-107		OTC 132	CPVD	RETURN VENT DOORS TO ADVERSE WEATHER PURGE CONFIGURATION.	SU73022
29-108			CPVD	CURSOR CNTL (VAM31/VAM09) RETURN VENT DOORS 1 AND 2 (BOTH SIDES) TO PURGE POSITION. CLOSE VENT DOORS 8 AND 9 R/H	
29-109		CPVD OTC		VENT DOORS IN ADVERSE WEATHER PURGE CONFIGURATION.	
29-110		OTC 132	CPVD	INCREASE CREW MODULE TEMP TO 70 +/- 5 DEG F.	
				DPS LCD SEQ SECURING -----	
				NOTE	
				PERFORM NEXT STEP IF VASJ6 ACTIVE.	
29-111		CDPS	PPF (VASJ6)	TERMINATE - PRESS	NOT PERFORMED _____
				NOTE	
				PERFORM NEXT STEP IF LCC MONITORING ACTIVE.	
29-112		CDPS	CURSOR CNTL (VASP9 PGB)	RETURN TO HOST XMIT CURSOR KEY - PRESS	
				CURSOR CNTL (VASP9 PG B) INHIBIT LCC MONITORING XMIT CURSOR KEY - PRESS	
				NOT PERFORMED _____	
29-113		CDPS	APPL PAGE (VASP9 PG B)	PFK15 KEY - PRESS PFK15 KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT STEP AFTER INITIAL SAFING CREWS HAVE ENTERED PAD.					
29-144	+00H50M	NTD 232	*SEC	DROP BDA ROADBLOCK REQUIREMENTS AT A-3, B-4, A-5, A-6 (PAD A) OR B-3, B-4 (PAD B).	SEC SU73027
29-145		NTD 232 NTD OTC TBC STM *SCC *SCC NET 105	*SEC NTD *PSE	BDA ROADBLOCKS DISABLED. PAD NOW CONTROLLED AT PAD GATE.	SEC
WARNING					
PTCR AND ECS ROOM IS PRESSURIZED - DOOR MUST BE RESTRAINED WHEN OPENING.					
PTCR AND ECS ROOM WILL DEPRESSURIZE WHEN ECS ROOM DOOR IS OPENED.					
29-146	+00H50M	NTD 232 STM 111	STM	OPEN SOUTH ECS ROOM DOOR AND RESTRAIN IN OPEN POSITION.	HVAA
29-147		NTD 232 *SCC NET 105	*SCC *PSE	PERFORM O2 LEVEL CHECK OF PTCR AND ECS CONTROL ROOM.	
29-148		NET 105 *SCC 232	*PSE *SCC NTD	O2 LEVEL CHECKS ACCEPTABLE AND SAFETY CONCURS IN OPENING PTCR/ECS ROOM FOR CONTROLLED WORK.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
GN2 ISO VALVE LOCKOUT					
29-149	+00H50M	NTD	OTC	SECURE ECS ROOM GN2 MANUAL	SU73028
		232	*SCC	ISOLATION VALVES PER OMI V1122	
		OTC	CPVD	SEQ - TERMINATION OF ECS HAZ	
		132		PURGE GN2 OPERATIONS.	
		*SCC	*PSE		
		NET		RT OMI LOG NO. _____	
		105			

LH2 SAFING

29-150		CLHY	TBC	LH2 SAFING CREW AT LH2 STORAGE	SU73046
		136		AREA. READY TO BEGIN LH2 STORAGE	-1
		TBC	NTD	AREA SECURING.	
		232			
		NTD	*SCC		

29-151		TBC	CLHY	ESTABLISH REQUIRED ROADBLOCKS, TURN	
		136		ON AREA HAZARD WARNING LIGHTS TO	
		CLHY	PLHY	FLASHING AMBER AND CLEAR NONESSENTIAL	
		166		PERSONNEL FROM LH2 STORAGE AREA AND	
				ALL PERSONNEL CLEAR LH2 FLARE STACK	
				AREA. PERFORM COMMUNICATIONS CHECK	
				ON NET 105 AND BACKUP NET 205.	

ESSENTIAL PERSONNEL

	SFOC	NASA	JBOSC
SYS ENG	1	1	
TECH	4		
SAFETY ENG	1		
FIRE			1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
29-152		PLHY 166 CLHY 136 TBC 232 NTD	CLHY TBC NTD *SCC	CLEARs ESTABLISHED. BARRIERS AND HAZARDOUS WARNING SIGNS INSTALLED. FIRE ON SITE. READY TO PROCEED WITH LH2 STORAGE AREA SECURING PER OMI G3251 OPERATION SUPPORT SETUP 4 TO EXTINGUISH LH2 FLARE STACK, AND OPERATION SUPPORT SETUP 7 TO SECURE LH2 STORAGE TANK BLOCK VALVES. REQUEST SAFETY CONCURRENCE TO PROCEED WITH LH2 STORAGE AREA SECURING.	-1
29-153		*SCC 232 NTD TBC 136 CLHY 166	NTD TBC CLHY PLHY	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH LH2 STORAGE AREA SECURING.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

LOX SAFING -----					
29-154		PLOX 156 CLOX 136 TBC NTD	CLOX TBC NTD *SCC	LOX SAFING CREW AT LOX STORAGE AREA. PERFORM THE FOLLOWING: 1. CLEAR 150 FT RADUS FROM LOX STORAGE AREA FOR G3155 OPERATIONS. 2. VERIFY FIRE SUPPORT ON-SITE AT LOX STORAGE AREA AND MEDICAL ON STANDBY AT FIRE STATION NO. 2. PLOX PERFORM COMM CHECK WITH FIRE SUPPORT AND *SCC ON RADIO NET 105/205. VERIFY LOX STORAGE AREA WARNING LIGHTS ON AND FLASHING AMBER.	SU73042
29-155		PLOX 156 CLOX 136 TBC 232 NTD	CLOX TBC NTD *SCC	CONTROL AREA ESTABLISHED AND WARNING LIGHTS ON, FLASHING AMBER. FIRE SUPPORT ON SITE AND EMERGENCY MEDICAL ON STANDBY AT FIRE STATION NO. 2. REQUEST SAFETY CONCURRENCE TO PROCEED WITH LOX SYSTEM SAFING.	
29-156		*SCC 232 NTD TBC 136 CLOX 156	NTD TBC CLOX PLOX	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH LOX SYSTEM SAFING PER OMI G3155.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

NOTE					
PERFORM NEXT TWO STEPS IF EXTENDED HOLD GREATER THAN 24 HOURS.					
29-189		OTC 132	*PAD	PERFORM LOCK INSTALLATION ON SIDE HATCH JETTISON "T" HANDLE BOX:	
				1. REMOVE V070-660385-008 PIN/FLAG FROM "T" HANDLE BOX.	
				2. SA-26R-124 COMBINATION LOCK	
				OK TO INSTALL	T: _____ SS2
				INSTALL SA-26R-124 COMBINATION LOCK ON "T" HANDLE BOX.	
				TIR NO. _____	
				3. RETAIN V070-660385-008 PIN/FLAG FOR REINSTALLATION.	T: _____
				NOT PERFORMED	_____
29-190		*PAD 132	OTC	SIDE HATCH "T" HANDLE BOX LOCK INSTALLATION COMPLETE.	SU73002
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

LOX STORAGE AREA SAFING COMPLETE					

NOTE					
HAZARDOUS OPERATIONS COMPLETE.					
29-191		PLOX 156 CLOX 136 TBC 232 NTD	CLOX TBC NTD *SCC	LOX SYSTEM SAFING COMPLETE. STORAGE CONTROL AREA IS OPENED FOR CONTROLLED WORK. "E" ROAD WILL REMAIN CLOSED UNTIL LOX DUMP BASIN BOILOFF COMPLETE. PROCEEDING WITH STORAGE AREA SECURING.	SU73042 SU73043 SU73053 -1
29-192		*PSE NET 105 *SCC 232 NTD STM 111 JSTC 114	*SCC NTD STM JSTC	FIRE COMBAT CREW AT LOX STORAGE AREA MAY BE RELEASED BACK TO PAD A/B GATE TO SUPPORT OPERATIONS. FIRE COMBAT CREW AT LH2 STORAGE AREA TO REMAIN AT LH2 STORAGE AREA FOR CONTINUED SAFING/SECURING OPERATIONS.	FIRE
29-193	+01H15M	JBWC 111 STM 232 NTD *SCC *SCC NET 105	STM NTD *SCC *PSE	PADLOCKS REMOVED, SS HYDRAULIC LOCKING VALVES CLOSED AND PADLOCKS REINSTALLED. SAFING TEAM CLEARING AREA.	WSSA SU73033
29-194		*PSE NET 105 *SCC 232	*SCC NTD	SOUND SUPPRESSION SAFING TEAM HAS CLEARED PAD (TANK NOT DRAINED).	
29-195	+01H20M	CPVD 132	OTC	ECS CONTROL STATION TRANSFER AND HAZARDOUS GN2 PURGE TERMINATION COMPLETE.	SU73031

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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XENON LIGHTS - OFF/GENERATOR REFUEL

NOTE

PERFORM NEXT STEP IF
LIGHTS WERE TURNED ON.

29-209	+01H50M	NTD	STM	PROVIDE PERSONNEL AND TURN OFF	SU73056
		232		PAD XENON LIGHTS AND/OR REFUEL	-1
		STM	JSTC	GENERATORS.	ELEC
		111			

NOT PERFORMED

ESSENTIAL PERSONNEL

	JBOSC	JCI
TECHS	6	1

OPERATION INSTRUCTIONS

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

DESTOW TIME CRITICAL ITEMS

NOTE

PERFORM NEXT STEP IF EXPERIMENTS/
 ITEMS MUST BE CHANGED OUT FOR
 EXTENDED HOLD OPERATIONS.

29-210	+01H50M	OTC 132	*PAD	PERFORM DESTOWAGE OF FCE TIME CRITICAL ITEMS PER TPS FCS-_____	SU73007
--------	---------	------------	------	-------------------------------------------------------------------	---------

ESSENTIAL PERSONNEL

	ORB	NASA
ENGR	1	1
QUAL	1	1
TECH	2	

	NASA	BOEING
NASA OPS	2	
NASA PL ENGR	2	
NASA QUALITY	1	
PL TECH		4

NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
29-242		STM 111 JSTC 114	JSTC GSPN	150 PSIG GN2 FOR LO2/LH2 TSM PURGE PANEL NO LONGER REQUIRED. SECURE CONTROL STATION PER OPERATION INSTRUCTIONS OF M3703. RELEASE PNEUMATIC PERSONNEL AT INDUSTRIAL SUPPLY INTERFACE. (30 MIN) RELEASE GN2 PRODUCTION PLANT.	PNU
NOT PERFORMED					
29-243		CLHY 136 TBC 232	TBC NTD	G3251 OPERATION SUPPORT SETUP 4 - LH2 FLARE STACK EXTINGUISH A3306 (STORAGE TANK VENT) VALVE CLOSING, AND SECURING T-0 GHE AND LH2 ORB/ ET CARRIER PLATE PURGES COMPLETE.	SU73048
29-244		PLHY 166 CLHY 136 TBC 232 NTD	CLHY TBC NTD *SCC	HAZARDOUS LH2 OPERATIONS COMPLETE IN LH2 STORAGE AREA. LH2 STORAGE AREA AND EAST PERIMETER ROAD ARE OPEN FOR CONTROLLED WORK.	SU73046 -1
29-245				DELETED	-1
29-246		CLHY 136 TBC 232 NTD STM 111 JSTC 114	TBC NTD *SCC JSTC JFIR	FIRE COMBAT CREW AT LH2 STORAGE MAY BE RELEASED. ONE FIRE COMBAT CREW WILL REMAIN AT FIRE STATION NO. 6 TO SUPPORT CONTINUED SCRUB/ TURNAROUND ACTIVITIES.	FIRE

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

WEATHER UPDATE					

29-247		NTD 232	STM	REQUEST CURRENT WEATHER AND FORECAST FOR ___ HR TURNAROUND.	SU73064
29-248		STM 111	JBDY	REQUEST CURRENT WEATHER AND FORECAST FROM RANGE WX TO INCLUDE SEVERE WEATHER FORECAST THRU TANKING AND LAUNCH WEATHER OUTLOOK.	
29-249		JBDY 231 111 STM 232	*WEA	PERFORM FOLLOWING: 1. TANKING WEATHER OUTLOOK _____(GOOD/BAD/MARGINAL) 2. LAUNCH WEATHER OUTLOOK _____(GOOD/BAD/MARGINAL) 3. CURRENT FORECAST THRU L- 8HR 20 MIN (T-6 HR): A. ELECTRICAL STORMS WITHIN 5 NM _____ (YES/NO) IF YES, TIMING _____ B. PRECIPITATION _____ (LIGHT/MEDIUM/HEAVY) IF ANY PRECIP, TIMING _____ C. HAIL _____ (YES/NO) D. WIND DIRECTION _____ SPEED _____ E. TEMPERATURE RANGE _____ F. RH RANGE _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
30-000	+00H00M			INITIAL SCRUB	

WARNING

THIS SEQUENCE CONTAINS MULTIPLE/PARALLEL HAZARDOUS OPERATIONS. ALL ESSENTIAL PERSONNEL WILL BE BRIEFED ON HAZARDS THAT ARE PRESENT FOR THAT TASK AND APPLICABLE SEQUENCES OF APPENDIX Z. THIS BRIEFING MUST BE REPEATED FOR EACH SHIFT CHANGE.

NOTE

OPERATIONS INVOLVING CRIT 1, 1R AND/OR 1S ITEMS ARE CONTAINED IN THE FOLLOWING SEQUENCE/STEPS.

THIS SEQUENCE INITIATES A SCRUB ANYTIME AFTER ET CRYO TANKING HAS BEEN INITIATED. DO NOT PERFORM THIS SEQUENCE IF COUNTDOWN IS ON HOLD PRIOR TO ET CRYO TANKING.

THIS SEQUENCE MUST BE INITIATED, BUT IS NOT REQUIRED TO BE COMPLETE PRIOR TO ENTERING ANY OF THE FOLLOWING TURNAROUND SEQUENCES:

1. SEQ 31 FOR 24 HR DELAY/SCRUB TURNAROUND
2. SEQ 32 FOR 48 HR OR LONGER SCRUB TURNAROUND
3. SEQ 35 FOR LAUNCH SCRUB AND SECURE

ENTIRE SEQUENCE NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
30-001		NTD 232	OTC TBC PTC STM *SCC LPS	PROCEED WITH INITIAL SCRUB TURNAROUND OPERATIONS.	
30-002		LRD 135 CCN LF1	*DCD ROC EMS STM NCC LSO GOMS *SLF	A SCRUB HAS BEEN DECLARED. RTLS AND ABORT LANDING SITE SUPPORT IS RELEASED. DOD JOLLYS REMAIN ON STATION UNTIL FLIGHT CREW AND CLOSEOUT CREW EGRESS PAD.	

CAUTION

-1

FOR IUS MISSIONS ONLY, PAYLOAD
 PRIMARY POWER MUST REMAIN ON FROM
 IUS POWER ON THROUGH LAUNCH. IF
 PAYLOAD PRIMARY MAIN C IS LOST
 BEFORE L-20 MINUTES, IUS WILL
 POWER DOWN. IUS COUNTDOWN MUST
 BE REPEATED. AFTER L-20 MINUTES,
 IUS WILL SWITCH TO ASE BATTERIES
 AND WILL BE NO-GO FOR LAUNCH.

SHOULD ANY LOSS OF P/L PRI
 MN C OCCUR, NOTIFY PTC
 IMMEDIATELY. DO NOT REAPPLY
 P/L PRIMARY POWER WITHOUT
 NOTIFYING PTC.

NOTE

PERFORM NEXT STEP FOR
 IUS/AXAF (STS-93).

30-002A		PTC 134	ICTC	PROCEED TO SEQ 33 - PAYLOAD SCRUB TURNAROUND AND VERIFY READY TO PERFORM PAYLOAD TURNAROUND OPERATIONS.	-1
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				NOTE	-1
				PERFORM NEXT STEP IF PAYLOAD IS POWERED.	
30-003		PTC 134	CLES DLES KLES	VERIFY READY TO PROCEED WITH PAYLOAD TURNAROUND OPERATIONS.	
				NOT PERFORMED	_____
30-004	+00H00M	NTD 232 STM 111	CGLS STM JCTL	SET CDC TO COUNT ___H ___M AND START CLOCK COUNTING IN PLUS (+) TIME.	SU73080
				NOTE	
				PERFORM NEXT TWO STEPS IF MAINLINE ACTIVE.	
30-005			CGLS VFY	PFPK5 (CUTOFF) - PRESS PFPK5 LIGHT YELLOW	
				NOT PERFORMED	_____
30-006			CGLS VFY	PFPK6 (EXECUTE CUTOFF) - PRESS SAFING IN PROGRESS	
				NOT PERFORMED	_____

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OPERATION INSTRUCTIONS

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
30-086		STM 111	JBAC	SECURE COOLING TOWER SPRAY SYSTEM.	HVAA
				NOT PERFORMED	_____
				NOTE	-1
				DELETED	
30-087				DELETED	-1
30-088				DELETED	-1
				NOTE	
				PERFORM NEXT STEP IF COUNTDOWN PROCEEDED PAST T-20 MINUTES.	
				RECYCLE COMPLETE	

30-089		OTC TBC STM LPS PTC	NTD 232	RECYCLE COMPLETE.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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COCKPIT SECURING

NOTE

FLIGHT CREW WILL PERFORM THIS SECTION PRIOR TO EGRESSING IF TIME PERMITS. ASP WILL FINISH ANY SWITCH ACTIONS POSSIBLE IF FLIGHT CREW EGRESSES BEFORE COMPLETION.

COMPLETION OF THIS SECTION IS NOT A CONSTRAINT TO FLIGHT CREW EGRESS OR LH2 DRAIN BUT MUST BE PERFORMED IN ITS ENTIRETY.

OMS/RCS RECONFIGURATION

30-090		OTC 212	PLT	PERFORM OMS/RCS RECONFIGURATION PER YOUR CHECKLIST.	SU73091
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30-091	+00H15M		PLT	PANEL O8 LEFT OMS TANK ISOLATION A SW - GPC A TB OP B SW - GPC B TB OP LEFT OMS CROSSFEED A SW - GPC A TB CL B SW - GPC B TB ____ ("CLOSED" IF COUNT PASSED T-15M)	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
30-208		LPS	JRPS	RECONFIGURE KMTS 0505A2 (A5,A6) TO OI 128KB H/L.	-1
				NOT PERFORMED	_____
30-209		LPS	JRPS	RECONFIGURE KMTS 0505A1(A7,A8,A9) BIT SYNCs TO SOURCE 1. (MANUAL MODE, SOURCE 1, 60 KB)	
				NOT PERFORMED	_____
				COMM TO LOW POWER	

NOTE

DO NOT PROCEED WITH COMM
 TO LOW POWER AND CCMS
 COMMANDING UNTIL OARE
 POWER DOWN IS COMPLETE.

30-210	+01H05M	CCSE 132 OTC 232 NTD	OTC NTD *FLT	READY TO PROCEED WITH COMM SYSTEM SU73109 CONFIGURE FOR LOW POWER. CCSE TO SUPPORT ON CH 232. STANDBY FOR TRANSFER OF UPLINK CMDS FROM MCCH TO CCMS.	
30-211		NTD 232	LPS	CONFIGURE UPLINK FEP TO MILA WITH CMD AUTHENTICATION ON.	
30-212		LPS	C1MC	I DA UPLK A DA UPLK OV___ CMDA VERIFY RCVS CONNECTIONS.	
30-213		NTD 232	*MIL	PERFORM FOLLOWING: 1. VERIFY: 72 KBPS DATA FROM CCMS 2. CONFIGURE FOR CCMS COMMANDS. 3. ENCRYPT UPLINK. 4. CONFIGURE KSC ASTRO COMM OIS 212 AND 213 TO A/G 1 AND A/G 2.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
30-214		NTD	CCSE	VERIFY NSP FRAME SYNC. CURSOR CONTROL SELECT: 1. PM SYSTEM (VAA12) 2. CMD PROCESSING 3. UPLINK A 4. TERMINATE (CMD PROCESSING) 5. STDN LO _____ GMT VERIFY STDN LO ON NSP FRAME SYNC - ON 6. PWR AMP OPERATE OFF _____ GMT PWR AMP STANDBY OFF _____ GMT VERIFY PWR AMP - OFF PWR AMP STBY - OFF 7. PRE AMP OFF _____ GMT VERIFY PRE AMP OFF	
30-215		NTD	RCRT	RACK 8223A6 REMOVE PATCH FROM WBTS LINE 2 (J19-C&T1 OR J26-C&T2) TO FM OI VIDEO (J237).	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
CRYO DRAIN MUST BE COMPLETE PRIOR TO APU HEATER DEACTIVATION.					
APU HEATER DEACT -----					
30-368	+02H45M	OTC 132	CAPU	PERFORM APU HEATER DEACTIVATION PER SEQ 42 (S0007VL4).	SU73092
30-369			CAPU OTC	APU HEATER DEACTIVATION COMPLETE.	
30-370		STM 111	JCFM	CRYO DRAIN COMPLETE. PERFORM PRINTOUT OF CMDPS MEASUREMENTS.	
PREP FOR GN2 TO AIR CHANGEOVER -----					
30-371		NTD 232 OTC 132	OTC CHGD	VERIFY H2 LESS THAN 10,000 (1%) PPM IN ALL ORBITER AREAS (ET INTERTANK, PAYLOAD BAY, MIDBODY, AND AFT).	SU73096
30-372	+02H45M	CHGD 132 OTC 232 NTD *SCC *SCC NET 105	OTC NTD	H2 CONCENTRATION VERIFIED LESS THAN 1 PCT. VERIFY CLEAR TO PROCEED WITH ECS GN2 PURGE TRANSFER TO AIR FOR ORB.	
30-373		*PSE NET 105 *SCC 232	*SCC NTD	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH ECS GN2 TO AIR CHANGEOVER.	
30-374		OTC 132	CHGD	VERIFY HUMS READY TO SUPPORT ET LH2 BOILOFF.	
PERFORM CONTINUOUS MONITORING IN ORBITER AFT. REPORT OUT OF TOLERANCE CONDITIONS IF H2 EXCEEDS 10,000 PPM (1%) TO CLHY ON OIS CH 166.					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
30-375		CHGD	BUHGD	REMOTE TERMINAL SELECT ET/IT SAMPLE LINE	-1
30-376		CHGD	CURSOR CNTL (SAW01/HWW50)	ET INTK XMIT CURSOR KEY - PRESS CRT VERIFY "ET INTK" INVERTED GREEN	
30-377		CHGD JHGD 177	LCC 3R18 - HUMS CONTROL ROOM	HUMS REMOTE TERMINAL 1. "VEHICLE PAGE" - SELECT 2. SOURCES - SELECT "LINES 1-8" 3. LINE - SELECT "S/L 5" 4. "N2" - SELECT BACKGROUND NOTE PERFORM NEXT STEP IF LD54/55 IS INSTALLED AND ACTIVE.	
30-378		CHGD	CURSOR CNTL (SAW01/HWW13)	SUPPORT MODE LD54/55 PUMP - OFF XMIT CURSOR KEY - PRESS NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				DEACTIVATE ELEVON POSN EMON	
30-388				COFC APPL PG (SAB20/SWB02 PG A) PFK13 (ACT EMON SETUP) KEY - PRESS	
30-389				COFC CURSOR CNTL (SAB20/SWB02 PG A) I - CIRC PUMPS XMIT CURSOR KEY - PRESS	
30-390				COFC APPL PG (SAB20/SWB02 PG A) PFK13 (DE-ACT EMON SETUP) KEY - PRESS	

FUEL CELL DEACTIVATION

NOTE

PERFORM NEXT STEP IF
ESTIMATED HOLD PERIOD IS
GREATER THAN 96 HOURS OR
IF PRSD TANKS REQUIRE
TOP-OFF WITH FUEL CELLS
SHUTDOWN.

OMRS S00E00.690

CECL TO MONITOR HEAT
LOAD IMPACT DURING NEXT
STEP.

MASTER ALARMS WILL OCCUR
DURING FUEL CELL DEACTIVATION.

30-391		OTC	CFCP	PERFORM FUEL CELL REMOVAL FROM	SU73107
	132	CEPD		MAIN BUSES AND FUEL CELL SHUTDOWN	
		CECL		PER OMI S9001VL2/OMI V1040.003 (1 HR).	

RT OMI LOG NO. _____

NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
30-392	+03H00M	CPVD 132 OTC 232 NTD *SCC *SCC NET 105	OTC NTD	ORBITER "GN2 TO AIR CHANGEOVER," OPTION A ACCOMPLISHED.	SU73099
30-392A		PTC 132 OTC CMQC	OTC	AFTER CIRCUIT STABILIZES, PERFORM ORBITER OPERATION SUPPORT SETUP 15, PAYLOAD BAY PURGE VERIFICATION. NOTIFY PTC IMMEDIATELY IF PURGE GOES OUT OF SPEC. (STS-93) MLP O2 MONITOR STATUS -----	-1
30-393	+03H00M	NTD 232 STM 111	STM JBEP	PERFORM MLP O2 MONITOR STATUS. (10 MIN) REPORT COMPLETION.	PWR SU73166
30-394		JBEP 111 STM 232 NTD *SCC	STM NTD	MLP O2 MONITOR STATUS COMPLETE. RECORD OUT OF LIMITS OR TROUBLE INDICATIONS (IF ANY):	PWR

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				VENT DOOR RECONFIGURATION -----	-1
30-395		OTC 132	CPVD	RETURN VENT DOORS TO ADVERSE WEATHER PURGE CONFIGURATION.	SU73108
30-396			CPVD	CURSOR CNTL (VAM31A/VAM09A) RETURN VENT DOORS 1 AND 2 (BOTH SIDES) TO PURGE POSITION. CLOSE VENT DOORS 8 AND 9 R/H	
30-397		CPVD OTC		VENT DOORS IN ADVERSE WEATHER PURGE CONFIGURATION.	
30-398		OTC 132	CPVD	INCREASE CREW MODULE TEMP TO 70 +/- 5 DEG F. RAISE GOX VENT HOOD -----	

NOTE

TERMINATE GN2 PURGE
 MINIMUM OF 60 MINUTES
 AFTER LO2 ECO SENSORS
 INDICATE DRY.

30-399	+03H00M	TBC 136	CMEC	TERMINATE GN2 PURGE AND RAISE GOX VENT HOOD PER OMI G2158. COORDINATE WITH GSPN ON CH 114. REPORT COMPLETION.	SU73144
30-400		CMEC 136 TBC 232	TBC	NTD GN2 PURGE HAS BEEN TERMINATED AND GOX VENT HOOD RAISED PER G2158.	

OMRSD S00E00.520

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

TRACKING OF PERSONNEL
REQUIRING ACCESS FOR NON
STANDARD WORK WILL BE
PERFORMED BY THE NTD AND
ENTERED ON APPENDIX T BY
CMQC. PRIOR TO THE BDA
FINAL CLEAR OPS/SAFETY
WALKDOWN THIS LIST WILL
BE FORWARDED TO THE NPM FOR
IDENTIFICATION OF AREAS
ACCESSED DURING SCRUB
TURNAROUND OPERATIONS.

30-401		NTD	OTC	NOTIFY THE OIC AT THE PAD GATE 232 THAT ALL PERSONNEL REQUIRING OTC *PAD ENTRY INTO THE PAD PERIMETER 132 REQUIRES APPROVAL FROM THE NTD *PAD ACM ON RADIO NET 110. 110	
30-402		NTD	CMQC	TRACKING OF NON STANDARD WORK WILL COMMENCE AT THIS TIME. UTILIZING APPENDIX T UNTIL INITIATION OF PAD CLEAR FOR TANKING.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
30-436		*SEC 232 NTD *SCC OTC TBC STM PTC *SCC NET 105	NTD	BDA ROADBLOCKS DISABLED. PAD NOW CONTROLLED AT PAD GATE.	SEC

WARNING

PTCR AND ECS ROOM IS
 PRESSURIZED - DOOR MUST
 BE RESTRAINED WHEN
 OPENING.

PTCR AND ECS ROOM WILL
 DEPRESSURIZE WHEN ECS
 ROOM DOOR IS OPENED.

30-437		NTD 232 STM 111	STM	OPEN SOUTH ECS ROOM DOOR AND RESTRAIN IN OPEN POSITION.	HVAA SU73176
30-438		NTD 232 *SCC NET 105	*SCC	PERFORM O2 LEVEL CHECK OF PTCR AND ECS CONTROL ROOM.	
30-439		*PSE NET 105 *SCC 232	*SCC	O2 LEVEL CHECKS ACCEPTABLE AND SAFETY CONCURS IN OPENING PTCR/ECS ROOMS FOR CONTROLLED WORK.	

GN2 ISO VALVE LOCKOUT

30-440	+03H15M	NTD 232 OTC 132 *SCC NET 105	OTC *SCC	SECURE ECS ROOM GN2 MANUAL ISOLATION VALVES PER OMI V1122 "TERMINATION OF ECS HAZ PURGE GN2 OPERATIONS". RT OMI LOG NO. _____	SU73114
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.	
30-441		CLHY 136 TBC 232 NTD	TBC NTD *SCC	LH2 SAFING CREW AT LH2 STORAGE AREA. READY TO BEGIN LH2 STORAGE AREA SECURING.	SU73157 -1	
30-442		TBC 136 CLHY 166	CLHY PLHY	ESTABLISH REQUIRED ROADBLOCKS, TURN ON AREA HAZARD WARNING LIGHTS TO FLASHING AMBER AND CLEAR NONESSENTIAL PERSONNEL FROM LH2 STORAGE AREA AND ALL PERSONNEL CLEAR LH2 FLARE STACK AREA. PERFORM COMMUNICATIONS CHECK ON NET 105 AND BACKUP NET 205.		
ESSENTIAL PERSONNEL						

				SFOC	NASA	JBOSC
				----	----	----
				SYS ENG	1	1
				TECH	4	
				SAFETY ENG	1	
				FIRE		1
30-443		PLHY 166 CLHY 136 TBC 232 NTD	CLHY TBC NTD *SCC	CLEAR ESTABLISHED. BARRIERS AND HAZARDOUS WARNING SIGNS INSTALLED. FIRE ON SITE. REQUEST SAFETY CONCURRENCE TO PROCEED WITH LH2 STORAGE AREA SAFING PER OMI S1018.	-1	
30-444		*SCC 232 NTD TBC 136 CLHY 166	NTD TBC CLHY PLHY	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH LH2 STORAGE AREA SAFING PER OMI S1018.	-1	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
BFS/INSTR SECURING -----					
30-520	+04H20M	CDPS	CDR	PANEL C3 BFC CRT DISPLAY SW - OFF	
				NOTE	-1
30-521				DELETED	-1
30-522				DELETED	-1
NOTE					
BFS GPC WILL REMAIN ACTIVE. PERIODIC AREA 2 FMT 12 DOWNLIST FRAME COUNT ERRORS AND FDA MESSAGES ARE EXPECTED. BFS GPC ERROR "ILLEGAL ENGAGE/ TERM B" WILL OCCUR IN NEXT STEP.					
30-523		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER OUTPUT 5 SW - NORMAL	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
NEXT TWO STEPS REMOVE FLIGHT INSTRUMENT POWER TO REDUCE POSSIBILITY OF INSTRUMENT FOGGING. POWER WILL BE REAPPLIED DURING PRE-INGRESS SWITCH RECONFIG (T-3 HR).					
30-524		CDPS	CDR	PANEL F6 INSTRUMENT POWER SW - OFF	
30-525		CDPS	PLT	PANEL F8 INSTRUMENT POWER SW - OFF	
NOTE					
PERFORM NEXT THREE STEPS IF OPS 2 RECORDER HARDLINE DUMP REQUIRED.					
30-526		OTC	JRPS	SUPPORT CISL ON OIS CH 145. 212	NOT PERFORMED
30-527		OTC	CISL	PERFORM OPS 2 RCDR DATA DUMP PER S0007VL4 (SEQ 38). COMPLETION. 212	NOT PERFORMED
30-528		CISL	OTC	OPS 2 RCDR DATA DUMP COMPLETE (SEQ 38). 212	NOT PERFORMED
30-529		NTD	*SCC	ESTABLISH MLP ZERO LEVEL ACCESS CONTROLS. 232 *SCC *PSE NET 105	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-069		ASP		PANEL L12L SSP2 PDIP POWER 1 CB - CLOSE PDIP DC POWER 1 CABIN P/L - ON NOT PERFORMED	
MPS HE GSE SETPOINT COMPLETE					
31-070	+05H30M	CMPS 132	OTC	MPS HELIUM GSE SET POINT VERIFICATION COMPLETE. MPS NO LONGER REQUIRES ACCESS IN MLP COMPARTMENT 44A. IUS QUIET TIME REQUEST	SU73234 -1
NOTE					
PERFORM THE NEXT FIVE STEPS FOR IUS MISSION (STS-93), IF DIRECTED BY ICTC.					
PERFORM NEXT STEP AT L-16:35.					
31-070A		ICTC 134 PTC 232 NTD	PTC NTD OTC TBC STM	READY TO PROCEED WITH RIMU CAL AND ALIGN. REQUEST QUIET TIME BE PLACED IN EFFECT IN 15 MINUTES. NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				IUS QUIET TIME START	-1

NOTE

FOLLOWING CRITERIA REQUIRED
FOR QUIET TIME ACTIVITY:

1. NO HYDRAULICALLY ACTUATED AEROSURFACE OR SSME TVC MOVEMENT
2. NO SRB NOZZLE MOVEMENT
3. NO MPS 17-INCH DISCONNECT VALVE CYCLES
4. NO UNCOORDINATED CABIN ACTIVITY
5. NO CHANGES IN PLB PURGE (FLOW RATE OR TEMP)
6. NO 3,4,5,6,7 OR 9 VENT DOOR OPERATIONS
7. NO SSME FRT OR OTHER OPERATIONS RESULTING IN SIMULATED SSME PNEUMATIC SHUTDOWN.
8. MAX WIND OF 49 KNOTS (PEAK VELOCITY IN ANY DIRECTION).
9. NO MOBILE CRANE OPERATIONS
10. NO ORBITER WEATHER PROTECTION MOVEMENT
11. NO ORBITER CRYOGENIC CHILLDOWN

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM THE NEXT STEP AT L-16H20M.					
31-070B	-11H00M (HOLDING)	NTD 232	PTC	PROCEED WITH RIMU CAL AND ALIGN. QUIET TIME IN EFFECT.	-1
OMRSD P018JB.035-C					
NOT PERFORMED					
NOTE					
DURING RIMU CAL/ALIGN, PTC WILL REQUEST PAYLOAD BAY PURGE, WIND DIRECTION AND VELOCITY DATA EVERY 30 MIN. PTC WILL RECORD THIS DATA IN APPENDIX B (S0007VL4).					
31-070C		PTC 132 OTC	OTC CPVD	PROVIDE TEMPERATURE, FLOWRATE AND HUMIDITY OF PAYLOAD BAY PURGE PER ORBITER OPERATION SUPPORT SETUP 15. PTC WILL REQUEST DATA EVERY 30 MIN DURING RIMU CAL/ALIGN. NOTIFY PTC IMMEDIATELY OF ANY VIOLATIONS.	
NOT PERFORMED					
31-070D		PTC 232 NTD STM 111 JBDY 231	NTD STM JBDY	REQUEST WIND DIRECTION AND VELOCITY READING FROM 60 FT WIND TOWERS. RECORD: *WEA WIND DIRECTION _____ WIND VELOCITY _____	
NOT PERFORMED					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				IUS RIMU CAL AND ALIGN START	-1
				NOTE	
				PERFORM NEXT STEP AT L-16H15M.	
31-070E	-11H00M (HOLDING)	PTC 134	ICTC	PROCEED WITH RIMU CAL AND ALIGN PER DOP D290-50020-27. QUIET TIME IN EFFECT. REPORT STATUS OF CAL AND ALIGN AS AVAILABLE.	
				NOT PERFORMED	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM SRB IGNITER HEATER
ACTIVATION (L-18) JUST PRIOR
TO L-18H00M IF AMBIENT CONTROL
TEMPERATURE IS LESS THAN
55 DEG F OR FORECAST TO DROP
BELOW 55 DEG F BEFORE T-8H00M.
IF CONTROL TEMPERATURE DROPS
BELOW 55 DEG F, THE IGNITER
HEATERS ARE TO BE ACTIVATED
IMMEDIATELY.

SRB IGNITER HEATER ACTIVATION (L-18H)

NOT PERFORMED

31-071		NTD	TBC	PERFORM SRB IGNITER HEATER POWER APPLICATION.	SU73250
		232			
		TBC	CPWR		
		136			

CAUTION

AT NO TIME ARE IGNITER HEATER
CURRENTS TO EXCEED 4.9 AMPS.

RSRM IGNITER TEMPERATURE SENSORS
SHALL NOT EXCEED +125 DEG F.

31-072		CPWR		CURSOR CNTL (BDE11)	
				AUTO SEQ - IGN	
				XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-079		PLHY 166 CLHY 136 TBC 232 NTD	CLHY TBC NTD *SCC	HAZARDOUS LH2 OPERATIONS COMPLETE IN LH2 STORAGE AREA. LH2 STORAGE AREA AND EAST PERIMETER ROAD ARE OPEN FOR CONTROLLED WORK.	-1
				NOT PERFORMED	
31-080				DELETED	-1
31-081		CLHY 136 TBC 232 NTD STM STM 111 JSTC 114	TBC NTD *SCC JSTC JFIR	FIRE COMBAT CREW AT LH2 STORAGE MAY BE RELEASED. ONE FIRE COMBAT CREW WILL REMAIN AT FIRE STATION NO. 6 TO SUPPORT CONTINUED SCRUB/ TURNAROUND ACTIVITIES.	FIRE
				NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-082		CLHY 136 TBC 232	TBC NTD	LH2 SYSTEM SAFING PER S1018 COMPLETE.	
				NOT PERFORMED	_____

NOTE

FOR 24 HOUR SCRUB TURNAROUND,
ET POST DRAIN WALKDOWN (T+4 HR)
AND ET PRE-LAUNCH WALKDOWN
(L-20 HR) ARE SYNONYMOUS AND
ARE PERFORMED CONCURRENTLY.

31-083		CTIF 136 TBC 232	TBC NTD	ET POST DRAIN WALKDOWN PER S6444 COMPLETE.	
				OMRSD S00E00.031	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-153 CON'T			2.	INSPECT SLIDEWIRE AND EMBARKATION AND LANDING AREAS.	TQV: _____ SS2
			3.	REMOVE WARNING SIGNS IF POSTED.	T: _____ SS3
				NOT PERFORMED	_____
					SS3

ESSENTIAL PERSONNEL

	GSS	NASA
SUPER/ENG	1	1
TECH	3	

WSB STEAM VENT HEATER ACTIVATION

31-154	OTC	CHYD	PERFORM WSB STEAM VENT HEATER	
	132	ASP	ACTIVATION PER S0007 VL4 (SEQ 46 - HYDRAULIC SYSTEM).	

ECS PREP FOR AIR TO GN2

CHANGEOVER

31-155	OTC	CPVD	PERFORM PREPARATIONS FOR AIR TO GNE CHANGEOVER PER OMI V1122.	SU73263
	132		MANUAL GN2 ISOLATION VALVES TO REMAIN CLOSED AND LOCKED. (1 HR)	

RT OMI LOG NO. _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

ACTIVATE XENON LIGHTS					

WARNING

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

NOTE

PERFORM NEXT TWO STEPS IF XENON LIGHTS REQUIRED TO SUPPORT EITHER A NIGHTTIME TANKING OR LAUNCH.

31-156	-10H30M	STM	NTD	ATTENTION ON PAD ____:	SU73285
		232			
		NTD		XENON LIGHTS WILL BE TURNED ON.	
		PA		AVOID LOOKING INTO LIGHTS. EYE DAMAGE MAY RESULT.	

NOT PERFORMED

31-157	-10H30M	STM	JSTC	TURN ON XENON LIGHTS FOR LAUNCH BORESITE NO. 4, AND TOP OFF GEN FUEL TANKS. (30 MIN)	-1 ELEC
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NOT PERFORMED

ESSENTIAL PERSONNEL

	JCI	NASA
	---	----
TECHS	7	
SUPVR.	1	
ENGR		1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				IUS RIMU CAL AND ALIGN COMPLETE	-1
				NOTE	
				PERFORM NEXT STEP FOR IUS MISSION (STS-93), IF DIRECTED BY ICTC.	
				PERFORM NEXT STEP AT L-14H05M.	
31-157A		ICTC	PTC	IUS RIMU CAL AND ALIGN COMPLETE.	
		134		IUS NOW IN GYRO COMPASS MODE.	
		PTC	NTD	QUIET TIME NO LONGER REQUIRED.	
		232			
				OMRSD P018JC.010	
				OMRSD P018JB.035-C	
				NOT PERFORMED	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ET OI INSTRUMENTATION AND ET LEVEL ----- SENSOR CHECKS -----					
31-304	-08H30M	NTD 232	TBC	PERFORM ET OI INSTRUMENTATION CHECKS AND ET LEVEL SENSOR CHECKS.	SU73237
31-305		TBC 132 OTC	OTC	REQUEST CMPS, CMPL AND CISL SUPPORT ON CH 136. CISL CMPS CMPL	
31-306		TBC 136	CISL	PERFORM ET OI INSTRUMENTATION CHECKS CMPS AND SRM CASE TEMP EMON ACTIVATION CMPL ON CH 145 PER SEQ 38 (S0007VL4). (20 MIN)	
LH2 FR CONFIG FOR LOADING -----					
31-307		TBC 136	CLHY	PERFORM FIRING ROOM CONFIGURATION FOR LOADING PER OMI G3251/OMI G3255. VERIFY FIRING ROOM CONSUMABLES -----	-1
31-308	-08H30M		LPS	VERIFY FIRING ROOM CONSUMABLES.	-1
31-309	-08H30M	NTD 232 STM 111 JSTC 114	STM	FIRE SUPPORT REQUIRED ON STATION IN 30 MINUTES AT LO2 FACILITY AND LH2 FACILITY. ON STANDBY AT FIRE STATION 2.	FIRE EMS
31-310	-08H30M	TBC 232 NTD *SCC *PSE NET 105	NTD	SFOC SAFETY REQUIRED ON STATION IN 30 MINUTES AT LH2 FACILITY TO SUPPORT FINAL PREPS PER G3251/G3255.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

NOTE					
PERFORM NEXT STEP IF ELSA BOXES WERE RETURNED TO 95 FT AND 195 FT LEVEL OF FSS.					
31-311		NTD 232 STM 111 JSTC NET 104	STM JSTC	REMOVE ELSA BOXES FROM 95 AND 195 FT LEVELS OF FSS FOR LAUNCH. REPORT COMPLETION. (45 MIN)	
			*SCB		NOT PERFORMED
31-312		NTD 232 STM 111 JSTC	STM JSTC	DELIVER REMAINDER OF PAV'S TO SLIDEWIRE BUNKER NOT REQUIRED BY FLIGHT CREW.	
			*SCB		
31-313	-08H30M	JSTC	WGSA	PROVIDE WRECKER AT PAD GATE. (T-8 HOURS TO T-6 HOURS) VERIFY WHEN ON-SITE. (7-4905)	SU73280

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-333		NTD	*SCC	PERFORM FOLLOWING:	-1
		232	TBC		
		TBC	CLOX 1.	CLEAR NONESSENTIAL PERSONNEL	
		136		150 FT RADIUS FROM STORAGE	
		CLOX	PLOX	AREA FOR G3155 OPERATIONS.	
		156		ESSENTIAL PERSONNEL ARE AS	
				FOLLOWS:	
				PLOX LOX STORAGE AREA, ROVING	
				LOX LEAD ENGR	
				PLO2 LOX STORAGE AREA, LOX	
				SYS ENGR	
				PLO4 LOX STORAGE AREA, LOX	
				TECH	
				PLO5 LOX STORAGE AREA, LOX	
				TECH	
				PLO6 LOX STORAGE AREA, LOX	
				TECH	
				PLO7 LOX STORAGE AREA, LOX	
				TECH	
				*PSE SFOC SAFETY ENGR	
				PNQC NASA QC	
				PNLO NASA ENGR	
			2.	VERIFY FIRE SUPPORT ON-SITE	
				AT PAD AND EMERGENCY MEDICAL	
				ON STANDBY AT FIRE STATION NO.2.	
				PLOX PERFORM COMM CHECK WITH	
				FIRE SUPPORT AND *SCC ON RADIO	
				NET 105/205. VERIFY LOX	
				STORAGE AREA WARNING LIGHTS	
				ON, FLASHING AMBER.	
			3.	COVERALLS, FACESHIELDS, NON	
				SPARKING FOOTWEAR, AND	
				GLOVES REQUIRED FOR MANUAL	
				LOX VALVE OPERATORS. ALL	
				OTHERS REQUIRE COVERALLS.	
31-334		NTD		ATTENTION ON PAD ____:	
		PA			
				ALL NONESSENTIAL PERSONNEL CLEAR	
				150 FOOT RADIUS OF LOX STORAGE AREA	
				FOR HAZARDOUS OPERATIONS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-335		PLOX 156 CLOX 136 TBC 232 NTD *SCC	CLOX TBC NTD *SCC	CONTROL AREA ESTABLISHED AND AREA WARNING LIGHTS ON, FLASHING AMBER. NONESSENTIAL PERSONNEL ARE CLEAR AND ESSENTIAL PERSONNEL ARE PROPERLY ATTIRED. FIRE SUPPORT ON SITE AND EMERGENCY MEDICAL ON STANDBY. REQUEST SAFETY CONCURRENCE TO PROCEED WITH STORAGE TANK PRESSURIZATION.	
31-336		*SCC 232 NTD TBC 136 CLOX 156	NTD TBC CLOX	YOU HAVE SAFETY CONCURRENCE TO PROCEED WITH STORAGE TANK PRESSURIZATION.	
31-337		STM 111	JCFM	START REQUIRED RECORDERS.	

NOTE

DO NOT PERFORM NEXT STEP
 IF COUNTDOWN HELD PRIOR
 TO ET CRYO LOADING.

ET LH2 PREPS COMPLETE

31-338		CLHY 136 TBC 232	TBC NTD	FOLLOWING IN G3255 COMPLETE. 1. ALL PRE-OPS 2. LH2 MLP VALVE TORQUING 3. LH2 STORAGE AREA VALVE TORQUING 4. LH2 PAD MECHANICAL PREPARATIONS FOR LOADING. 5. A3306 (STORAGE TANK VENT) VALVE OPENING 6. FIRING ROOM CONFIGURATION FOR LOADING.	SU73206 SU73215
				NOT PERFORMED	_____
31-339		CLHY 136 TBC 232	TBC NTD	READY TO CLEAR CONTROL AREA FOR G3251/G3255 LH2 FINAL PREPS, HAZARDOUS OPERATIONS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				LH2 FINAL PREPS -----	-1
31-340		CLHY 136 TBC 232	TBC NTD	READY TO CLEAR CONTROL AREA FOR G3255 LH2 FINAL PREPS, HAZARDOUS OPERATIONS.	-1
31-341		NTD 232 TBC 136 CLHY 166	TBC CLHY PLHY	PERFORM FOLLOWING: 1. CLEAR NONESSENTIAL PERSONNEL 200 FT RADIUS FROM STORAGE AREA FOR G3255 OPERATIONS. ESSENTIAL PERSONNEL ARE AS FOLLOWS: PLHY LH2 STORAGE AREA, ROVING LH2 LEAD ENG PLH2 LH2 STORAGE AREA, LH2 SYS ENG PLH4 LH2 STORAGE AREA, LH2 TECH PLH5 LH2 STORAGE AREA, LH2 TECH *PSE SFOC SAFETY ENG PNQC PAD, QC (NASA) PNLH PAD, LH2 ENG, (NASA) 2. VERIFY FIRE SUPPORT ON-SITE AND LH2 STORAGE AREA WARNING LIGHTS ON, FLASHING AMBER. 3. COVERALLS, FACESHIELDS, NON SPARKING FOOTWEAR, AND GLOVES REQUIRED FOR MANUAL LH2 VALVE OPERATORS. ALL OTHERS REQUIRE COVERALLS.	-1
31-341A		PLHY 166 CLHY 136 TBC NTD 232	CLHY TBC NTD *SCC	VERIFY EMERGENCY MEDICAL SUPPORT ON STANDBY AT LC-39 FIRE STATION NO. 2 AND CRASH TRUCK-CFR ON SITE AT LH2 STORAGE AREA.	-1
31-341B		NTD PA		ATTENTION ON PAD ____: ALL NONESSENTIAL PERSONNEL CLEAR 200 FT RADIUS OF LH2 STORAGE AREA FOR HAZARDOUS OPERATIONS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-342		PLHY 166 CLHY 136 TBC 232 NTD	CLHY TBC NTD *SCC	CONTROL AREA ESTABLISHED AND WARNING LIGHTS ON, FLASHING AMBER. NONESSENTIAL PERSONNEL CLEAR AND ESSENTIAL PERSONNEL PROPERLY ATTIRED. FIRE SUPPORT ON SITE AND EMERGENCY MEDICAL ON STANDBY.	-1
31-342A		NTD 232 TBC 136	TBC CLHY	PERFORM LH2 FINAL PREPS FOR VEHICLE LOADING PER OMI G3255.	-1

CONFIG CREW COMPARTMENT

 AND WHITE ROOM

NOTE

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

31-343		OTC 132	ASP	PANEL R1 POWER DISTRIBUTION AC BUS SNSR 1 SW - OFF, 1 SEC, MONITOR 2 SW - OFF, 1 SEC, MONITOR 3 SW - OFF, 1 SEC, MONITOR	SU73241
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NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				IUS RIMU CAL AND ALIGN STATUS	-1
				NOTE	
				PERFORM NEXT STEP FOR IUS MISSION (STS-93), IF DIRECTED BY ICTC.	
				PERFORM NEXT STEP AT L-13H35M.	
				IF CONTINGENCY CAL AND ALIGN ON IUS NAV SYSTEMS IS REQUIRED, IT WILL BE INITIATED AT CONCLUSION OF ET LH2/LO2 TANKING.	
31-365A		ICTC	PTC	REPORTING SUCESS/FAIL CRITERIA OF RIMU CAL AND ALIGNMENT.	-1
		PTC	NTD	CONTINGENCY RIMU CAL AND ALIGN WILL/WILL NOT BE REQUIRED.	
				NOT PERFORMED	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
WARNING					
GN2 WILL FLOW INTO ORBITER FWD, PAYLOAD BAY AND AFT PURGE CIRCUITS. BREATHING OF NITROGEN GAS FROM ORBITER COMPARTMENT PURGE CAN BE LETHAL.					
31-375	-07H30M	NTD 232 OTC 132	OTC CPVD	PROCEED WITH ECS AIR-TO-GN2 CHANGEOVER BY CONTINUING V1122 "AIR-TO-GN2 STANDBY MODE/AIR TO GN2 CHANGEOVER" USING OPTION B - GN2 CHANGEOVER). COORDINATE WITH GSPN ON OIS CH 172. RT OMI LOG NO. _____	
31-376		NTD PA		ATTENTION ON PAD____: ORBITER AIR-TO-GN2 PURGE CHANGEOVER WILL BEGIN MOMENTARILY. GN2 PURGE WILL BE APPLIED TO AFT FUSELAGE, PAYLOAD BAY AND FWD PLENUM FUSELAGE.	
31-377		STM 111	JBEP	AIR TO GN2 CHANGEOVER IN PROGRESS. POSSIBILITY OF LOW LEVEL O2 ALARM. ADVISE STM IF ALARMS OCCUR.	PWR
31-378		CPVD 132 OTC 232 NTD	OTC CHGD NTD *SCC	ECS AIR TO GN2 CHANGEOVER (OPTION B) COMPLETE (V1122). ORBITER BEING PURGED WITH GN2 AT _____ (RECORD TIME).	
31-378A		PTC 132 OTC	OTC CPVD CMQC	AFTER CIRCUIT STABILIZES, PERFORM ORBITER OPERATION SUPPORT SETUP 15, PAYLOAD BAY PURGE VERIFICATION. NOTIFY PTC IMMEDIATELY IF PURGE GOES OUT OF SPEC. (STS-93)	-1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-379		LRD 135	BRD	REPORT WX STATUS FOR RETRIEVAL FORCES. WEATHER CONDITIONS ARE: SEA STATE: _____ SEA TEMP: _____ AIR TEMP: _____ WINDS: _____ VISIBILITY: _____	-1

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-380		LRD 135	LD	INITIAL STATUS INDICATES RETRIEVAL FORCES/WX GO FOR LAUNCH. OPEN ORBITER VENT DOORS ----- 1 AND 2 (CONTINGENCY) -----	
NOTE					
IF O2 CONCENTRATION IN OAA WHITE ROOM BECOMES LESS THAN 20 PCT AS INDICATED ON W/R O2 METER (OTV CAM 005/105), PERFORM NEXT THREE STEPS TO OPEN LEEWARD VENT DOORS 1&2.					
31-381	-07H15M	NTD 232 OTC 132	OTC CPVD	O2 CONCENTRATION WITHIN OAA LESS THAN 20 PCT, OPEN ORBITER VENT DOORS 1 AND 2 ON LEEWARD SIDE. REPORT COMPLETION.	
					NOT PERFORMED _____
31-382			CPVD	CURSOR CNTL (VAM31A/VAM09A) VENT DOORS 1&2 (LEEWARD) OPEN TARGET XMIT CURSOR KEY - PRESS	
					NOT PERFORMED _____
31-383		CPVD 132 OTC 232	OTC NTD	LEEWARD VENT DOOR OPENING COMPLETE.	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF O2
 CONCENTRATION IN WHITE ROOM
 STILL LESS THAN 20 PCT AFTER
 CPVD OPENED LEEWARD VENT DOORS.

31-384		OTC 132	*FCM WHITE ROOM	1. EXHAUST FAN SW - ON 2. POSITION REAR SWINGING DOORS IN OPEN POSITION AND SECURE.	
					NOT PERFORMED _____

NOTE

IF PREVIOUS FOUR STEPS DO NOT
 SOLVE LESS THAN 20 PCT O2
 CONCENTRATION PROBLEM,
 PERFORM NEXT FOUR STEPS TO
 OPEN WINDWARD VENT DOORS
 1 AND 2 ONLY IF WIND CONDITION
 IS LESS THAN 18 KTS AND NO RAIN
 EXPECTED. REF OMRS V05AG0.060

31-385		NTD 232	*FLT REQUEST CONCURRENCE TO OPEN WINDWARD VENT DOORS 1 AND 2.		
					NOT PERFORMED _____

31-386		NTD 232 OTC 132	OTC CPVD OPEN WINDWARD VENT DOORS 1 AND 2.		
					NOT PERFORMED _____

31-387			CPVD CURSOR CNTL (VAM31A/VAM09A) VENT DOORS 1 AND 2 (WINDWARD) OPEN TARGET XMIT CURSOR KEY - PRESS		
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-388		CPVD 132 OTC 232	OTC NTD	VENT DOOR OPENING COMPLETE. NOT PERFORMED OPENING OF SS LOCKING VALVES ----- COMPLETE -----	
31-389	-07H15M	JBWC 111 STM 232 NTD	STM NTD *SCC	SS LOCKING VALVES OPEN WITH PADLOCKS INSTALLED. PAYLOAD COMM CHECKS ----- NOTE PERFORM NEXT STEP FOR IUS/AXAF (STS-93).	WSSA -1
31-389A	-07H15M	NTD 232 PTC	PTC ICCL AXTC ICTC	PERFORM A/G1 COMM CHECKS WITH PAYLOAD LAUNCH TEAM ON OIS CH 212. NOT PERFORMED MMT/LD WX BRIEFING FOR ET LOAD -----	
31-390	-07H10M	NTD 232	STM	REQUEST CAPE WX SUPPORT BRIEFING FOR ET LOAD.	SU73251
31-391		NTD 232	*FLT LD	MMT/LD WX BRIEFING WILL OCCUR IN 5 MINUTES IN LCC RM 1R29 OR O&C RM 1144 MBR.	
31-392		NTD 232	STM	VERIFY READY TO SUPPORT MMT/LD TELEVISED WX BRIEFING IN LCC RM 1R29 OR O&C RM 1144 MBR.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-436		CLHY 166	CHGD	VERIFY O2 CONCENTRATION IN MLP LH2 TSM DECREASING.	
31-437		CHGD 177	JHGD	HARDWIRE SAFING PANEL C SIMO VALVE - 2	
				LCC 3R18 HUMS CONTROL ROOM - HUMS REMOTE TERMINAL	
				1. "VEHICLE PAGE" - SELECT	
				2. SOURCES - SELECT "LINES 1-8"	
				3. LINE - SELECT "S/L 8"	
				4. "N2" - SELECT BACKGROUND	
31-438		CHGD 136 TBC	TBC CLHY	O2 CONCENTRATION IN MLP LH2 TSM DECREASING.	
				TIME _____ GMT	
				INCREASE AFT FLOW	

CAUTION

TO PREVENT POSSIBLE OVER
 PRESSURIZATION OF AFT COMP,
 AIR TO GN2 CHANGEOVER MUST
 BE PERFORMED PRIOR TO NEXT
 STEP.

31-439	-06H30M	OTC	CPVD	PERFORM FOLLOWING:	
				1. VERIFY ECS GN2 PURGE TO ORBITER HAS STABILIZED.	
				2. INCREASE CRYO LOAD AFT FLOW RATE TO 110 +/- 5 LB/MIN AND RAISE AFT INTERFACE TEMP TO 105 +/- 10 DEG F PER OMI V1122.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-439A		CGLS		\$PRINT V0 CF DPSMON PERFORM PGM \$PRINT V0 CF DPSRTN PERFORM PGM VERIFY CORRECT LOAD CONTENTS NOTE PERFORM NEXT STEP IF CMD FILE IS PRESENT BUT CONTENTS ARE CORRUPTED.	-1
31-439B		CGLS		\$DELENT V0 CF DPSMON PERFORM PGM \$DELENT V0 CF DPSRTN PERFORM PGM NOT PERFORMED	-1
31-439C		CGLS		\$LIBRARY V0 VT PERFORM PGM VERIFY CF DIRECTORY EXIST NOTE DO NOT PERFORM NEXT FOUR STEPS IF CORRECT LOAD CONTENTS WERE VERIFIED.	
31-439D		CGLS	LPS 127	REQUEST KEYBOARD UTILITIES AT BKUP CONSOLE. NOT PERFORMED NOTE PERFORM NEXT STEP IF DIRECTORY CF DOES NOT EXIST.	-1
31-439E		CGLS		VERIFY 1 APPL CONC AVAILABLE \$BLDLIB V0 CF #900 8 4 0 PERFORM PGM NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-439F		CGLS		CRT 2 POSITION: SIGN ON TO SDC (SDC3) SIGNON - PRESS LOGIN: USERID - SDC XMIT PASSWORD: PASSWORD - SDC XMIT VERIFY: P1AP01 RSHELL> CD/APPS/DAPFILE/FRAS_GLS/CMDFILES SDC XMIT LS - SDC XMIT SHIFT CLEAR - SCD XMIT (CLEAR PAGE) SDC XMIT - PRESS SDC XMIT - PRESS CAT DPSMON - SDC XMIT HARD COPY - PRESS CRT 1 POSITION: \$T PERFORM PGM CRT 2 - XMIT RESP VERIFY CORRECT DATA COPIED PAG - XMIT RESP SAV VO CF DPSMON - XMIT RESP	-1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				CRT 2 POSITION:	-1
				SHIFT CLEAR - SDC XMIT (CLEAR PAGE)	
				SDC XMIT - PRESS	
				SDC XMIT - PRESS	
				CAT DPSRTN - SDC XMIT	
				HARD COPY - PRESS	
				CRT 1 POSITION:	
				CRT 2 - XMIT RESP	
				VERIFY CORRECT DATA COPIED	
				PAG - XMIT RESP	
				SAV VO CF DPSRTN - XMIT RESP	
				EXI - XMIT RESP	
				\$PRINT VO CF DPSMON	
				PERF PGM	
				\$PRINT VO CF DPSRTN	
				PERF PGM	
				PRINTER: VERIFY CORRECT LOAD	
				CONTENTS	
				CRT 2 POSITION	
				EXIT - SDC XMIT	
				CPU ENABLE - PRESS	
31-439G		CGLS	LPS	INHIBIT KEYBOARD UTILITIES AT BKUP	-1
		127		CONSOLE.	
				NOT PERFORMED	
31-439H		CGLS	OTC	C12 RECOVERY PROCEDURE COMPLETE.	-1
		132			

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SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

CONTROL LOGIC INHIBIT -----					
31-440		OTC 132	CGLS	PERFORM PROGRAM SAP92 FOR T-6H REACTIVE CONTROL LOGIC INHIBIT, RCL STATUS, COMMAND ISSUANCE, STATUS DP/DA. (30 MIN)	
31-441			CGLS	VERIFY 1 AVAILABLE CONCURRENCY AND 2 CONSECUTIVE OC TASKS. HOME CMD KEY - PRESS SAP92 PERF PGM KEY - PRESS	
31-442			CGLS	PFP SAP92 - PRESS PFPK1 (STATUS CMD ISSU) - PRESS CRT VERIFY PFPK1 LIGHT YELLOW BEFORE CONTINUING	
31-443			CGLS	PFPK2 (STATUS DP/DA) - PRESS CRT VERIFY PFPK2 LIGHT YELLOW BEFORE CONTINUING	
31-444			CGLS	PFPK3 (T-6H RCL INHB) - PRESS CRT VERIFY PFPK3 LIGHT YELLOW BEFORE CONTINUING	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
SSME PURGING (S1003) -----					
31-462	-06H30M	CLOX 136 TBC 132 OTC	TBC OTC CSME CCME	INITIATE SSME PURGING PER OMI S1003 ON OIS CH 156.	SU73258
31-463		TBC 138	JYVR	STOP VIDEO RECORDINGS OF OTV CAMERAS 007/107,031/131,032/132, 038/138,039/139,040/140,056/156 (G3155 AND G3255). START VIDEO RECORDING OF OTV CAMERAS FOR CRYO LOADING (S1003 AND S1004) (SEE CLHY/CLOX FIGURE 4) LAUNCH CONFIGURATION. CAMERAS: 001/101,034/134,049/149,050/150, 051/151 GVA FINAL ACTIVATION COMPLETE -----	COMM
31-464		CMEC 136	TBC	GOX VENT SYSTEM FINAL ACTIVATION FOR LOX LOADING PER G2158 COMPLETE.	
31-465		TBC 136	CMEC	TERMINATE GAG02 PROGRAM AND TRANSFER GOX VENT ARM SYSTEM MONITORING AND CONTROL TO VAJ14 PROGRAM PER OMI G2158.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-466	-06H30M	CMEC 136	TBC	GAG02 PROGRAM TERMINATED, GOX VENT SYSTEM MONITORING AND CONTROL TRANSFER TO VAJ14 PER G2158 COMPLETE. OMRSD S00FC0.090-1 CL RSYS RECYCLE MONITOR COMPLETE	
				NOTE	-1
				PERFORM NEXT THREE STEPS IF SLP50 ACTIVE DUE TO SCRUB/ LH2 BOIL OFF OPERATIONS.	
31-466A		LPS	C1MC	VERIFY NEXT PROGRAM WILL COME UP IN CONCURRENCY 6.	-1
31-467		LPS	C1MC	PFP (SLP50) PFPK2 KEY - RECYCLE COMPLT - PRESS CRT (SLP50, PAGE A) VERIFY MESSAGE RECYCLE FUNCTION COMPLETE AUTO RESPONSE TO ALL CONSOLE FAILURES RESUMED MANUAL RSYS XFER/SAFING CAPABILITY ACTIVE	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				PSEUDO INIT -----	
				NOTE	-1
				DELETED	
31-470				CGLS VERIFY 1 AVAILABLE CONCURRENCY HOME CMD KEY - PRESS SLPP1 PERF PGM KEY - PRESS CONSOLE KYBD (KSC A OR KSCB) XMIT RESP KEY - PRESS CURSOR CNTL PSEUDO INIT XMIT CURSOR KEY - PRESS POSITION CURSOR TO ALL PSEUDOS XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

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

NOTE

IF PAGE B MSG INDICATES:
"SEE PAGE A FOR OPERATOR
INPUT" PERFORM THE NEXT
TWO STEPS.

31-471		CGLS	CRT	VERIFY PAGE A MSG: (N03IS511E) CRYO SAFING ENABLED IS ON. THIS INDICATES SCRUB/CRYO DRAIN IN PROGRESS.	
				NOT PERFORMED	_____

31-472		CGLS	CONSOLE KYBD (SLPP1 PAGE A)	ENTER "1" IF CRYO SAFING SUPPORT COMPLETED AND SLP50 NOT ACTIVE TO INITIALIZE (N03IS511E) TO OFF. ENTER "2" TO LEAVE (N03IS511E) UNCHANGED _____ (1 OR 2) XMIT RESPONSE KEY - PRESS CRT VERIFY MSG INDICATING PSEUDO STATE	
				NOT PERFORMED	_____

31-473		CGLS	CRT	VERIFY ALL SELECTED BLOCKS INVERTED AND NO EXCEPTIONS PG-A TERMINATE XMIT CURSOR KEY - PRESS TERMINATE XMIT CURSOR KEY - PRESS	-1
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-474		CGLS 127	LPS	GLS PSEUDO INIT COMPLETE. PLEASE NOTE IN LPS LOGS FOR FUTURE SLP50 INITIATION.	
				NOTE	-1
				PERFORM NEXT 17 STEPS IF SLP50 NOT ACTIVE.	
31-475		NTD 232	LPS	ACTIVATE SLP50/SAO01.	-1
				NOT PERFORMED	
31-476				DELETED	-1
31-477				DELETED	-1
31-478		LPS	C1MC	VERIFY NEXT PGM WILL COME UP IN CONCURRENCY 5.	
				NOT PERFORMED	
31-479		LPS	C1MC	PERFORM PROGRAM SLP50 AT MSTR CONSOLE.	
				NOT PERFORMED	
31-480			C1MC	PVO <FD> XMIT CMD KEY - PRESS N03IS510E RECORD VALUE_____	
				N03IS511E RECORD VALUE_____	
				NLHK0706X RECORD VALUE_____	
				NOT PERFORMED	
31-481			C1MC	HOME CMD KEY - PRESS SLP50 - PERF PGM KEY - PRESS	
				NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-482		C1MC		VERIFY CONCURRENCY 6 AVAILABLE FOR SA001 ACTIVATION.	
				NOT PERFORMED	_____
				NOTE	
				PERFORM NEXT THREE STEPS IF PSEUDO VALUES ARE AS FOLLOWS:	
				N03IS510E = OFF AND N03IS511E = OFF	
31-483		C1MC		CRT (SLP50, PAGE A) VERIFY ONE ADDITIONAL CONCURRENCY AVAILABLE IF OPTION 1 WILL BE SELECTED.	
				SPECIFY CURRENT TEST CONFIGURATION	
				1 - FOR TERMINAL COUNT	
				THIS IS THE TIME PERIOD FROM JUST PRIOR TO THE START OF CRYO TANKING (T-6HR) THRU GLS SECURING.	
				2 - CRYO DRAIN SUPPORT	
				THIS IS THE TIME FROM GLS SECURING THRU LH2 BOILOFF COMPLETE. LH2 BOILOFF COMPLETE IS APPROX T+18 HR FROM INITIATION OF THE SCRUB.	
				NOT PERFORMED	_____
31-484		C1MC		CONSOLE KYBD 1 - XMIT RESP - PRESS VERIFY - TERMINAL COUNT	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT TWO STEPS IF PSEUDO VALUES ARE AS FOLLOWS:					
NLHK0706X = ON					
31-492		C1MC	CRT	(SLP50, PAGE A) PSEUDO NLHK0706X IS ON, INDICATING SA001 ALREADY ACTIVE. SPECIFY WHETHER TO PROCEED WITH SA001 ACTIVATION. 1 - ACTIVATE AS001 REGARDLESS OF THE PSEUDO VALUE 2 - DO NOT ACTIVATE SA001 NOW	
					NOT PERFORMED _____
31-493		C1MC	CONSOLE	KYBD 1 - XMIT RESP KEY - PRESS VERIFY MESSAGE CRYOGENIC RECOVERY FUNCTION WILL BE HANDLED BY SA001. CRYO SAFING RESPONSE DISABLED. PFP VERIFY TASK SA001	
					NOT PERFORMED _____
31-494		C1MC	LPS	PROGRAMS ACTIVE AT MSTR: SLP50 (ACTIVE OR INACTIVE) SA001 (ACTIVE OR INACTIVE)	-1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				NOTE	-1
				DO NOT PERFORM NEXT TWO STEPS IF AUTOMATIC RSYS XFER IS ALREADY INHIBITED.	
31-494A		LPS 127	CTPE	PERFORM AUTOMATIC RSYS TRANSFER INHIBIT.	-1
				NOT PERFORMED	_____
31-494B			CTPE	PSP (SAP27) PFPK1 - PRESS (INH AUTO RCL XFER)	-1
				NOT PERFORMED	_____

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SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

NOTE					
				DELETED	-1
31-495		LPS	NTD	SLP50 CL RSYS/CONSOLE CRASH PGM	-1
		232		ACTIVE.	
		NTD	OTC		
			TBC		
		OTC	CTPE		
		132			
		TBC	CLOX		
		136	CLHY		
31-496		LPS	NTD	SA001 LO2/LH2 CONSOLE MONITOR HAS	-1
		232		BEEN INITIATED.	
		NTD	OTC		
			TBC		
		OTC	CTPE		
		132			
		TBC	CLOX		
		136	CLHY		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-541		TBC 136	CPWR	VERIFY PROGRAMS BWE08 ACTIVE IN C10 BWE11 ACTIVE IN C10	
31-542		TBC 232	NTD	FR CONSOLE SOFTWARE ACTIVATION IS CONFIGURED FOR T-06 HRS.	
PAYLOAD PROGRAMS -----					

NOTE

PERFORM ONE OF THE NEXT
 THREE SUBSTEPS IF PAYLOAD
 IS POWERED UP.

31-543	-06H20M	PTC	CLES	VERIFY C-1 CONSOLE PROGRAMS ACTIVE	-1
			GLS		
			DLES 1.	FOR SPACEHAB (POWERED)	
				RS0002	
				RW0017	
				PAH001	
				PAH001A	
				PAH002	
				PAHLCCD	
				NOT PERFORMED	
					SS1
			2.	FOR IUS	-1
				RW0017	
				UW0002	
				UW0003	
				UW0004	
				UW0005	
				RA0003	
				NOT PERFORMED	
					SS2
			3.	FOR OTHER PAYLOADS	
				RW0017	
				RA0001	
				RA0003	
				RA0002	
				EA0013	
				NOT PERFORMED	
					SS3

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-544		PTC 232	NTD	FR C1 CONSOLE SOFTWARE CONFIGURED. MASTER CONSOLE PROGRAMS -----	-1
31-545		NTD 232	LPS	VERIFY PROGRAMS ACTIVE IN MSTR: \$HWMON (TCB1) AA008/AWP02 (TCB2) AA009/AWP01 (TCB4) SLP50 (TCB5) SA001 (TCB6) FAULT SUMM PAGE CLEAR -----	
31-546		OTC 132	CDPS	PERFORM FAULT SUMMARY PAGE REVIEW AND CLEAR.	
31-547			CDPS	CURSOR CNTL (SAS01 PG-B) FAULT SUMMARY PAGE DISPLAY (VASE2) XMIT CURSOR KEY - PRESS CRT (SAS01 PG-B) VERIFY NO UNEXPLAINED FAULT MESSAGES APPL PAGE (SAS01 PG-B) PFK 2 KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

PAYLOAD LAUNCH COMMIT CRITERIA					

31-573		PTC 134	ALL	VERIFY YOUR SYSTEM MEETS LAUNCH COMMIT CRITERIA FOR START OF TANKING.	-1
FOR SPACEHAB (DLES MAKES COPIES OF SPACEHAB DISPLAYS TO FILE WITH E59XX) DLES _____ *STC _____					
FOR IUS DLES _____ AXTC _____ ICTC _____					
FOR OTHERS DLES _____					
31-574		TBC 136	ALL	VERIFY YOUR SYSTEM MEETS LAUNCH COMMIT CRITERIA REQUIREMENTS FOR START OF TANKING PHASE AT T-06 HOURS.	
CLOX _____ CLHY _____ CMEC _____ CPWR _____ CBHY _____ CISL _____ CBRS _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

REPORT LCC STATUS -----					
31-575	-06H20M	OTC TBC PTC SRO *MIL LPS STM 232	NTD	NO LAUNCH COMMIT CRITERIA VIOLATIONS FOR CRYO TANKING.	
31-576		232	NTD CSPE	VERIFY NO LAUNCH COMMIT CRITERIA VIOLATIONS WHICH CONSTRAIN CRYO PROPELLENT LOADING.	
31-577		232	NTD LD	VERIFY GO FOR LO2 AND LH2 TANKING.	
VERIFY SAFING PANEL CONFIG -----					SU73268
31-578			CGLS	HOME CMD KEY - PRESS \$SYS PERFORM PGM KEY - PRESS LDBA XMIT CURSOR KEY - PRESS DETERMINE IF ALL THE FOLLOWING SAFING SEQUENCES: 0,2-14,16,18, 20-24 ARE LOADED/NOT LOADED. (GREEN UP ARROW = LOADED)	
31-579			NTD	LDB SAFING SEQUENCES LOADED/NOT LOADED.	
NOTE					
PERFORM NEXT TWO STEPS REGARDLESS OF SAFING SEQ LOADED/NOT LOADED.					
31-580		127	CGLS LPS	REPORT CURRENT LDB FEP CONFIGURATION. FEP_____ =LDB-A SWITCH POS FEP_____ =LDB-B	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
LH2 PRECHILLDOWN OPS - COMPLETE					
31-629	-06H00M	CLHY 136 TBC 232	TBC NTD	ET LH2 PRE-CHILLDOWN OPERATIONS PER S1004 COMPLETE. READY TO PROCEED WITH FACILITY/ ORBITER CHILLDOWN AND LH2 FLOW. REQUEST SFOC SAFETY CONCURRENCE TO PROCEED WITH CHILLDOWN AND LH2 FLOW.	SU73208
OMRSD S00FB0.090-B-1 OMRSD S00FB0.290-1 OMRSD S00FB0.080-1R OMRSD S00FB0.070-1R OMRSD S00FE0.040-1 OMRSD S00FE0.050-1 OMRSD S00FA0.225 OMRSD S00FB0.082-1R OMRSD S00FB0.083					

NOTE

THE NEXT SEVEN STEPS WILL
 PERFORM A BT4 SNAPSHOT FOR
 THE MPS SYSTEM ONLY. LOX/
 MPS LOADING PRELIMINARIES
 AND LH2 PRECHILL OPS MUST
 BE COMPLETE PRIOR TO
 PERFORMING A BT4 SNAPSHOT.

DO NOT PERFORM NEXT SEVEN STEPS
 IF MPS REVIEWED THE BT4
 SNAPSHOT AT T-6 HR AND 20 MIN.

BT4 SNAPSHOT MAY BE PERFORMED
 DURING ORB/SRB/ET PIC
 RESISTANCE TEST PROVIDED SRB
 IGNITION S&A DEVICE VERIFICATION
 WILL NOT BE PERFORMED.

31-630		NTD 232 OTC 132	OTC CDPS	PERFORM BT4 SNAPSHOT ON ALL DPS MDM'S.	
--------	--	--------------------------	-------------	----------------------------------------	--

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
31-631		CDPS		CURSOR CNTL (SAS01 PG B) DPS XMIT CURSOR KEY - PRESS	
				CURSOR CNTL (SAS01 PG B) MDM DISCRETE OUTPUT CHECK (VAS94) XMIT CURSOR KEY - PRESS	
				PFK 2 - PRESS	
				NOT PERFORMED	_____
31-632		CDPS		CURSOR CNTL (VAS94 PG B) T-3 HR SNAPSHOT XMIT CURSOR KEY - PRESS	
				NOT PERFORMED	_____
				NOTE	
				PERFORM NEXT STEP UPON RECEIPT OF ORIGINAL COPY AND COPY 1.	
31-633		CDPS		CONSOLE KYBD (VAS94) PFK 15 KEY - PRESS	-1
				NOT PERFORMED	_____
31-634		CDPS OTC 132 OTC NTD 232		T-6 HR SNAPSHOT PRIOR TO TANKING FOR MPS COMPLETE. READY FOR CMPS REVIEW.	
				NOT PERFORMED	_____
31-635		CTPE		BT4 TO BE DISTRIBUTED TO FOLLOWING SYSTEMS AS FOLLOWS:	
				C3/4 - 1 COPY FOR CMPS INTG - 1 COPY FOR TPE	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
32-006		NTD 232 STM 111 GYCC PTP	STM *FLT GYCC GYVW GYVO	WX BRIEFING COMPLETE. *FLT RELEASED.	SUPPORT COMM
				NOT PERFORMED	
				NOTE	
				PPVM MAY PERFORM NEXT STEP IF CPVD NOT ON STATION.	
32-006A		PTC 132 OTC	OTC CPVD CMQC	AFTER CIRCUIT STABILIZES, ORBITER OPERATION SUPPORT PAYLOAD BAY PURGE VERIFICATION. NOTIFY PTC IMMEDIATELY IF PURGE GOES OUT OF SPEC. (STS-93)	-1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				OMS/RCS HTR DEACT	-1
32-007	+05H00M	COOS 132	CDR	PANEL A14 RCS/OMS HEATERS OMS CRSFD LINES A AUTO SW - OFF B AUTO SW - OFF FWD RCS JET 1 SW - OFF 2 SW - OFF 3 SW - OFF 4 SW - OFF 5 SW - OFF AFT RCS JET 1 SW - OFF 2 SW - OFF 3 SW - OFF 4 SW - OFF 5 SW - OFF	SU73303
32-008		OTC 132	*PAD CDR	INSTALL SWITCHGUARDS PER S0007VL4 (SEQ 80).	NOT PERFORMED

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
32-009		OTC 132	*PAD CDR	SAFE SIDE HATCH JETTISON SYSTEM: 1. REMOVE V070-660385-008 SAFETY PIN/FLAG FROM 'T' HANDLE BOX. 2. INSTALL SA-26R-124 COMBINATION LOCK/PLACARD ON 'T' HANDLE BOX. 3. BAG, TAG AND RETAIN V070-660385-008 PIN FOR NEXT LAUNCH ATTEMPT.	
					T: _____
				NOT PERFORMED	_____
				OEX/MADS RECORDER ERASE (CONTINGENCY)	

				NOTE	
				PERFORM NEXT TWO STEPS ONLY IF PCT OF TAPE USED IS GREATER THAN 50 PCT.	
32-010		OTC 132	CISL	PERFORM "OEX/MADS RECORDER ERASE AND VERIFICATION" PER V1179. REPORT COMPLETION. (APPROX 8 HRS) OV-102 - OMI V1179.004 OV-103 - OMI V1179.008 OV-104 - OMI V1179.012 OV-105 - OMI V1179.016 OMRSD S00E00.815	SU73307
				NOT PERFORMED	_____
32-011		OTC 132	*PAD	GO TO CH 145 TO LINE UP SUPPORT FOR CISL IN LOCKER REMOVAL AND MRAM (OV-102) OR DAM (OV-103/OV-104/OV-105) INSTALLATION PER V1179.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
32-064		*SCC 232 NTD TBC 136	NTD TBC CLHY	YOU HAVE SAFETY CONCURRENCE TO OPEN LH2 CONTROL AREA AT PAD___ FOR CONTROLLED WORK EXCEPT LH2 TSM, ORBITER AFT COMPARTMENT, LH2 FLARE STACKS, ET INTERTANK, MLP SIDE 1, 50 FT OF CROSS COUNTRY VENT LINE, LH2 DISCONNECT TOWER, ET VENT LINE, ECS BRIDGE, AND NORTH BRIDGE.	
32-065		PLHY 166 CLHY 136 TBC 232 NTD	CLHY TBC NTD *SCC	HAZARDOUS LH2 OPERATIONS COMPLETE IN LH2 STORAGE AREA. LH2 STORAGE AREA AND EAST PERIMETER ROAD ARE OPEN FOR CONTROLLED WORK.	-1
32-066				DELETED	-1
32-067		CLHY 136 TBC 232 NTD STM STM 111 JSTC 114	TBC NTD *SCC JSTC JFIR	FIRE COMBAT CREW AT LH2 STORAGE MAY BE RELEASED. ONE FIRE COMBAT CREW WILL REMAIN AT FIRE STATION NO. 6 TO SUPPORT CONTINUED SCRUB/ TURNAROUND ACTIVITIES.	
32-068		CLHY 136 TBC 232 NTD	TBC NTD OTC STM	LH2 SYSTEM SAFING PER S1018 COMPLETE.	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
32-069		STM 138	JYVO JYVR	TERMINATE VIDEO TRACKING AND RECORDING OF LH2 SAFING TEAM.	COMM
32-070		CTIF 136 TBC 232	TBC NTD	ET POST DRAIN WALKDOWN PER S6444 COMPLETE. OMRSD S00E00.031	SU73314

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
WARNING					
HAZARDOUS OPERATIONS CONTINUE DUE TO GH2 IN ET LH2 TANK.					
32-088		CLHY 136	TBC	ATTENTION ON PAD___:	
		TBC 232	NTD	GASEOUS HYDROGEN WILL BE VENTED TO FLARE STACK INTERMITTENTLY FOR NEXT 1-1/2 HOURS THROUGH ET VENT VALVE, LH2 TSM, MLP SIDE 1 AND 4 AND LH2 VENT LINES. ALL PERSONNEL REMAIN CLEAR OF LH2 FLARE STACK AREA.	
32-089		CLHY 132	CMPS	ATTENTION ON PAD___:	
		CMPS 132	OTC	HYDROGEN GAS WILL BE VENTED THROUGH THE RTLS DUMP VALVES IN ONE MINUTE. VENTING WILL BE ON ORBITER LEFT SIDE, ABOVE AFT PORTION OF WING.	
32-090		CLHY 136	TBC	ET LH2 TANK PURGE COMPLETE.	SU73318
		TBC 232	NTD		
32-091				DELETED	-1
32-091A		CLHY 136	TBC	REQUEST SFOC SAFETY PROCEED TO MLP SIDE 1 FOR VERIFYING LESS THAN 1 PCT GH2 IN ET LH2 TANK.	-1
		TBC 232	NTD		
		NTD	*SCC		
32-091B		*SCC 232	NTD	YOU HAVE SAFETY CONCURRENCE TO PROCEED TO MLP SIDE 1 FOR VERIFYING LESS THAN 1 PCT GH2 IN ET LH2 TANK.	-1
		NTD TBC 136	TBC CLHY		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
32-092		*PSE NET 105 *SCC 232 NTD TBC TBC 136	*SCC	LESS THAN 1 PCT GH2 VERIFIED IN ET LH2 TANK, HAZARDOUS OPERATIONS ARE COMPLETE. OMRSD S00E00.430-1	
NOTE					
HAZARDOUS OPERATIONS COMPLETE.					
32-093		CLHY 136 TBC	TBC	ET LH2 TANK AND ASSOCIATED VENT LINES VERIFIED TO BE LESS THAN 1 PCT GH2. TERMINATE AFT MONITORING.	
NOTE					
PERFORM NEXT STEP PER CLHY DIRECTION. IF TEMPORARY SECURING OF LH2 FLARE STACKS NOT REQUIRED, DO NOT PERFORM FOLLOWING STEP.					
32-094		CLHY 136 TBC 232	TBC NTD	LH2 FLARE STACKS WILL BE TEMPORARILY SECURED AT THIS TIME.	SU73322
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
32-198					
CON'T					
			2.	CLEAR NONESSENTIAL PERSONNEL FROM LOX STORAGE AREA. ESSENTIAL PERSONNEL ARE AS FOLLOWS: PLOX LOX STORAGE AREA, LOX ENGINEER PLO4 LOX STORAGE AREA, LOX TECH PLO5 LOX STORAGE AREA, LOX TECH PLO6 LOX STORAGE AREA, LOX TECH PLO7 LOX STORAGE AREA, LOX TECH *PSE LOX STORAGE AREA, SFOC SAFETY KSC SAFETY KSC FIRE SERVICES PERSONNEL PNLO NASA LOX ENGR (OPTIONAL) PNQC NASA QC SUPPORT TANKER DRIVERS (1 PER TANKER) VERIFY ESSENTIAL PERSONNEL ARE WEARING SF APPROVED COVERALLS AND NON-SPARKING FOOT WEAR AND HAVE FACESHIELDS AND CHARKATE LEATHER GLOVES AVAILABLE FOR USE.	
			3.	SET LOX STORAGE AREA WARNING LIGHTS TO FLASHING AMBER.	
			4.	ESTABLISH ROADBLOCKS AT FLASHING AMBER WARNING LIGHTS ON SOUTHWEST SIDE OF PAD PERIMETER ROAD AND IN FRONT OF LOX SUPPORT BUILDING.	
			5.	REQUEST SFOC SAFETY CONCURRENCE TO PROCEED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
32-224		OMTO	1307	BULKHEAD ACCUMULATOR DUMP VALVES	
				1. REMOVE LOCKWIRE FROM HANDLE OF EACH VALVE. DO NOT CUT WIRE THROUGH RETAINING SCREW.	
				2. SYS 1 (50V58MV1) - SLOWLY OPEN	
				3. SYS 2 (50V58MV2) - SLOWLY OPEN	
				4. SYS 3 (50V58MV3) - SLOWLY OPEN	
				5. RECORD	
				DATE _____ TIME _____ (GMT)	
					T: _____
				NOT PERFORMED	_____

NOTE

DELAY 2 MINUTES MINIMUM
FOR PRESSURE TO STABILIZE
PRIOR TO PROCEEDING.

32-225		OMTO	1307	BULKHEAD ACCUMULATOR DUMP VALVES	
				1. SYS 1 (50V58MV1) - CLOSE	
				2. SYS 2 (50V58MV2) - CLOSE	
				3. SYS 3 (50V58MV3) - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
32-225 CON'T			4.	IF NOT LOCKWIRED, TORQUE HANDLE RETAINING SCREW TO 8-10 IN. LBS. LOCKWIRE ACCUMULATOR DUMP VALVE HANDLE RETAINING SCREW TO VALVE BODY USING MS20995N20 LOCKWIRE PER MA0101-301. CAL NO. _____	-1
				50V58MV1 T: _____	
				NOT PERFORMED _____	
				50V58MV2 T: _____	
				NOT PERFORMED _____	
				50V58MV3 T: _____	
				NOT PERFORMED _____	
			5.	USING MS20995N32 LOCKWIRE, SECURE DUMP VALVE HANDLE FROM .060-.070 IN. DIA HOLE FOR LOCKWIRE IN VALVE HANDLE TO VALVE OUTLET (DUMP) TUBE ASSY. 50V58MV1 T: _____	
				50V58MV2 T: _____	
				50V58MV3 T: _____	
				NOT PERFORMED _____	
				OMRS V58AA0.041-J OMRS V58AA0.041-K OMRS V58AA0.041-L	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

HAZARDOUS OPERATION (SSME
GNE PURGE) COMPLETE.

PERFORM NEXT STEP IF
ESP/ECP AREA IS REQUIRED
TO BE OPENED.

32-250		NTD	*SCC	SSME GN2 PURGE CHECKOUT COMPLETE.	
		232		VERIFY O2 LEVELS ACCEPTABLE ON	
		*SCC	*PSE	ORBITER ESP/ECP. REQUEST SAFETY	
		NET		CONCURRENCE TO OPEN ORBITER	
		105		ESP/ECP AREA FOR CONTROLLED WORK	
				AND TO REMOVE SIGNS.	

NOT PERFORMED _____

SSME FINAL PREPS COMPLETE

GND SUPPORT COMM SYS VALID(-20H)

NOTE

DO NOT PERFORM NEXT TWO
STEPS IF SYSTEM CURRENTLY
IN LAUNCH CONFIGURATION.

32-251		STM	GYCC	PERFORM VALIDATION OF	COMM
		111	*MIL	MULTI-BURST VIDEO TEST SIGNAL	SU73351
		GYCC	GYVW	PER OMI A2700 ON OIS CH 268.	
		PTP		(1 HR)	

NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
32-252		NTD 232	*MIL STM	PERFORM LPS/MILA CIRCUIT VALIDATION PER OMI A2700. (1 HR)	
			LPS JRPS		
				NOT PERFORMED	
32-252A			JRPS	IF NOT CONFIGURED, CONFIGURE KMTS 0505A2 (A4, A5, A6) TO OI 128KB H/L DATA.	-1
32-253			LPS	VERIFY LPS CONFIGURED TO SUPPLY MSFC KMTS, MER AND DOWNEY PCMMU DATA LINK. VERIFY RECEIPT OF DATA.	-1
32-254		LPS	JRPS	VERIFY LCC__ CONFIGURED TO SUPPLY DOWNEY CCP DATA.	-1
32-255			LPS	VERIFY MER AND DOWNEY RECEIVING PCMMU DATA.	
				VERIFY COMM/NAV FREQ CLEARANCE -----	
32-256		NTD 232 STM	STM ENDO	VERIFY OPEN LOOP FREQUENCY CLEARANCE FOR S-BAND AND UHF FOR DURATION OF LAUNCH COUNTDOWN. (853-2436) 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	SU73804
32-257		NTD 232 STM	STM ENDO	VERIFY OPEN LOOP FREQ CLEAR FOR FOLLOWING FREQUENCIES UNTIL T+2H. (853-2436) 1. MSBLS 15.460, 15.616 AND 15.568 GHZ (KU-BAND) 2. RA MC409-0015-0006: RADAR ALTIMETER FREQUENCY CLEARANCE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

PAYLOADS SSP/PRLA SWITCH CONFIG					

FOR ASCENT SWITCHLIST					

32-359	-13H30M	OTC 132	CPLE	PERFORM SSP/PRLA SWITCH CONFIGURATION PER SEQ 58 (S0007VL4). (10 MIN)	
32-360		CPLE OTC		SSP/PRLA SWITCH CONFIGURATION COMPLETE.	-1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				IUS CALL TO STATION	-1

				NOTE	
				PERFORM NEXT SIX STEPS FOR IUS/AXAF (STS-93), IF IUS IS POWERED DOWN.	
				PERFORM NEXT STEP AT L-23 HOURS.	
32-360A		PTC 232	NTD	PERFORMING IUS CALL TO STATIONS AND PRE-LAUNCH CONFIGURATION PER S0007VL4 (SEQ 78).	
				NTD OTC	
				NOT PERFORMED	_____
				PRE-ASCENT SWITCHLIST FOR PAYLOADS	

				NOTE	
				PERFORM THE PRE-ASCENT IUS/ AXAF SWITCHLIST NO LATER THAN L-22 HOURS.	
32-360B		NTD 232	PTC	PERFORM PRE-ASCENT SWITCHLIST FOR PAYLOADS PER S0007VL4 (SEQ 79).	-1
				NOT PERFORMED	_____
32-360C		PTC	NTD	PRE-ASCENT SWITCHLIST COMPLETE.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
IUS AFD PNL ASP SUPPORT -----					
NOTE					
PERFORM NEXT STEP AT L-21H30M.					
32-360D		PTC 132	OTC	REQUEST ASP SUPPORT ON OIS CH 134 FOR IUS AFD PANEL PRESET FOR MISSION PER S0007VL4 (SEQ 78).	
NOT PERFORMED					
IUS POWER ON PREPS AND POWER UP -----					
32-360E		NTD	PTC	PERFORM IUS POWER ON PREPS AND POWER IUS ON PER S0007VL4 (SEQ 78).	
NOTE					
PERFORM NEXT STEP AT L-18H45M.					
32-360F		ICTC 134 PTC 232	PTC NTD	IUS CHECKOUT COMPLETE PER S0007VL4 (SEQ 78).	-1
PAYLOAD CONFIG FOR ASCENT SWITCHLIST -----					
NOTE					
PERFORM NEXT TWO STEPS FOR STS-93.					
32-361		NTD 232	PTC	PERFORM PAYLOAD CONFIGURATION FOR ASCENT SWITCHLIST PER S0007VL4 (SEQ 79).	
NOT PERFORMED					
32-362		PTC 232 NTD	NTD OTC	PAYLOAD CONFIGURATION FOR ASCENT SWITCHLIST PER S0007VL4 (SEQ 79) COMPLETE.	
NOT PERFORMED					

OPERATION INSTRUCTIONS

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

HYDRAULIC SYS CONFIG FOR ASCENT

SWITCHLIST

NOTE

DO NOT PROCEED WITH HYDRAULIC
SYSTEM CONFIGURE UNTIL FLIGHT
CONTROL ACTIVATION IS COMPLETE.

32-363		OTC	CHYD	PERFORM HYD SYS CONFIG FOR	
		132	ASP	SWITCHLIST.	

32-364		CHYD	CDR	PANEL L4	
				ROW O	
				AC1	
				HYD QTY 1	
				PHB CB - CLOSE	
				AC2	
				HYD QTY 2	
				PHB CB - CLOSE	
				AC3	
				HYD QTY 3	
				PHB CB - CLOSE	

32-365		CHYD	PLT	PANEL R2	
				APU/HYD	
				HYD MAIN PUMP PRESS	
				1 SW - NORM	
				2 SW - NORM	
				3 SW - NORM	
				HYD CIRC PUMPS	
				1 SW - GPC (GUARDED)	
				2 SW - GPC (GUARDED)	
				3 SW - GPC (GUARDED)	
				BOILER CNTLR/HTR	
				1 SW - A	
				2 SW - A	
				3 SW - A	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				IUS POST POWER UP CHECKOUT COMPLETE	-1
				NOTE	
				PERFORM NEXT STEP FOR IUS MISSION 9STS-93).	
				PERFORM NEXT STEP AT L-18H40M.	
32-404A		ICTC 134 PTC 232	PTC NTD	IUS CHECKOUT COMPLETE PER S0007VL4. (SEQ 78).	
				IUS QUIET TIME REQUEST	-1
				NOTE	
				PERFORM THE NEXT FIVE STEPS FOR IUS MISSION (STS-93), IF DIRECTED BY ICTC.	
				PERFORM NEXT STEP AT L-16:35.	
32-404B		ICTC 134 PTC 232 NTD	PTC NTD OTC TBC STM	READY TO PROCEED WITH RIMU CAL AND ALIGN. REQUEST QUIET TIME BE PLACED IN EFFECT IN 15 MINUTES.	
				NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				IUS QUIET TIME START	-1
				NOTE	
				FOLLOWING CRITERIA REQUIRED FOR QUIET TIME ACTIVITY:	
				1. NO HYDRAULICALLY ACTUATED AEROSURFACE OR SSME TVC MOVEMENT	
				2. NO SRB NOZZLE MOVEMENT	
				3. NO MPS 17-INCH DISCONNECT VALVE CYCLES	
				4. NO UNCOORDINATED CABIN ACTIVITY	
				5. NO CHANGES IN PLB PURGE (FLOW RATE OR TEMP)	
				6. NO 3,4,5,6,7 OR 9 VENT DOOR OPERATIONS	
				7. NO SSME FRT OR OTHER OPERATIONS RESULTING IN SIMULATED SSME PNEUMATIC SHUTDOWN.	
				8. MAX WIND OF 49 KNOTS (PEAK VELOCITY IN ANY DIRECTION).	
				9. NO MOBILE CRANE OPERATIONS	
				10. NO ORBITER WEATHER PROTECTION MOVEMENT	
				11. NO ORBITER CRYOGENIC CHILLDOWN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM THE NEXT STEP AT L-16H20M.					
32-404C		NTD 232	PTC	PROCEED WITH RIMU CAL AND ALIGN. QUIET TIME IN EFFECT.	-1
OMRSD P018JB.035-C					
NOT PERFORMED					
NOTE					
DURING RIMU CAL/ALIGN, PTC WILL REQUEST PAYLOAD BAY PURGE, WIND DIRECTION AND VELOCITY DATA EVERY 30 MIN. PTC WILL RECORD THIS DATA IN APPENDIX B (S0007VL4).					
32-404D		PTC 132 OTC	OTC CPVD	PROVIDE TEMPERATURE, FLOWRATE AND HUMIDITY OF PAYLOAD BAY PURGE PER ORBITER OPERATION SUPPORT SETUP 15. PTC WILL REQUEST DATA EVERY 30 MIN DURING RIMU CAL/ALIGN. NOTIFY PTC IMMEDIATELY OF ANY VIOLATIONS.	
NOT PERFORMED					
32-404E		PTC 232 NTD STM 111 JBDY 231	NTD STM JBDY	REQUEST WIND DIRECTION AND VELOCITY READING FROM 60 FT WIND TOWERS. RECORD: *WEA WIND DIRECTION _____ WIND VELOCITY _____	
NOT PERFORMED					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				IUS RIMU CAL AND ALIGN START	-1
				NOTE	
				PERFORM NEXT STEP AT L-16H15M.	
32-404F		PTC 134	ICTC	PROCEED WITH RIMU CAL AND ALIGN PER DOP D290-50020-27. QUIET TIME IN EFFECT. REPORT STATUS OF CAL AND ALIGN AS AVAILABLE.	
				NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
33-000				PAYLOAD SCRUB (24,48 AND 72 HOUR)	-1
NOTE					
PERFORM THIS SEQUENCE FOR IUS MISSIONS ONLY (STS-93).					
ENTIRE SEQUENCE NOT PERFORMED					
CAUTION					
FOR IUS MISSIONS ONLY, PAYLOAD PRIMARY POWER MUST REMAIN ON FROM IUS POWER ON THROUGH LAUNCH. IF PAYLOAD PRIMARY MAIN C IS LOST BEFORE L-20 MINUTES, IUS WILL POWER DOWN. IUS COUNTDOWN MUST BE REPEATED. AFTER L-20 MINUTES, IUS WILL SWITCH TO ASE BATTERIES AND WILL BE NO-GO FOR LAUNCH.					
SHOULD ANY LOSS OF P/L PRIMARY POWER OCCUR, NOTIFY PTC IMMEDIATELY. DO NOT REAPPLY P/L PRIMARY POWER WITHOUT NOTIFYING PTC.					
33-001		PTC 232	NTD	VERIFY ORBITER PAYLOAD BAY PURGE ON AND WITHIN SPECIFICATIONS	
			NTD	OTC PER ORBITER OPERATION SUPPORT SETUP 15.	
NOTIFY PTC IMMEDIATELY IF PURGE GOES OUT OF SPEC.					
NOTE					
PERFORM NEXT STEP FOR SCRUB TURNAROUNDS REQUIRING IUS TO REMAIN POWERED ON.					
33-002		PTC	ICTC	PERFORM IUS RECYCLE PER D290-50020-27.	
OMRSD P018JD.015					
NOT PERFORMED					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT 11 STEPS FOR SCRUB TURNAROUNDS REQUIRING IUS TO POWER DOWN.					
33-003		PTC	ICTC	PERFORM IUS SCRUB AND POWER DOWN PER D290-50020-27. REPORT COMPLETON..	-1
				OMRSD PO18JD.020 NOT PERFORMED	
33-004		PTC	OTC	REQUEST MS2 ON CH 134.	-1
		132		NOT PERFORMED	
33-005		PTC	ICTC	VERIFY READY TO PROCEED WITH	
		134	AXTC	IUS/AXAF CRITICAL HEATER POWER OFF.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
33-006		ICTC	ASP	PANEL L10 (PCP)	-1
				PANEL MODE SW - PRIMARY	L10S61
				POWER	
				PRI CB - CLOSE	L10CB1
				ALT CB - CLOSE	L10CB2
				IUS SUPPORT	
				HEATERS	
				CRITICAL	
				PRI SW - OFF	L10S22
				PRI TB BP	L10I22
				ALT TB BP	L10I52
				POWER	
				PRI CB - OPEN	L10CB1
				ALT CB - OPEN	L10CB2
				OMRSD P018JD.020	
				NOT PERFORMED	_____
33-007		ICTC	PTC	IUS/AXAF CRITICAL HEATER POWER	-1
				AXAF OFF COMPLETE.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
33-008		ICTC 134	MS2	PANEL L11 CIU POWER SW - OFF NOT PERFORMED	-1
33-009		PTC	MS2	PANEL L12 IUS PAYLOAD TIMING BUFFER CB - OPEN NOT PERFORMED	
33-010		PTC 132 OTC	OTC CPLE	POWER OFF PAYLOAD CABIN AND AUX BUSSES. NOT PERFORMED	
33-011		CPLE	PLT	PANEL R1A1 POWER DISTRIBUTION PAYLOAD AUX SW - OFF CABIN SW - OFF NOT PERFORMED	-1
33-012		CPLE 132 OTC	OTC PTC	PAYLOAD CABIN AND AUX BUSSES ARE POWERED OFF. NOT PERFORMED	-1
33-013		PTC 134	ICTC	IUS TEST TEAM RELEASED FROM SUPPORT. NOT PERFORMED	-1
33-014		PTC 232 NTD	NTD OTC	PAYLOAD SCRUB COMPLETE. READY TO RESUME TURNAROUND OPERATIONS.	-1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
35-000				LAUNCH SCRUB AND SECURE	

WARNING

THIS SEQUENCE CONTAINS MULTIPLE/PARALLEL HAZARDOUS OPERATIONS. ALL ESSENTIAL PERSONNEL WILL BE BRIEFED ON HAZARDS THAT ARE PRESENT FOR THAT TASK AND APPLICABLE SEQUENCES OF APPENDIX Z. THIS BRIEFING MUST BE REPEATED FOR EACH SHIFT CHANGE.

CAUTION

-1

FOR IUS MISSIONS ONLY, PAYLOAD PRIMARY POWER MUST REMAIN ON FROM IUS POWER ON THROUGH LAUNCH. IF PAYLOAD PRIMARY MAIN C IS LOST BEFORE L-20 MINUTES, IUS WILL POWER DOWN. IUS COUNTDOWN MUST BE REPEATED. AFTER L-20 MINUTES, IUS WILL SWITCH TO ASE BATTERIES AND WILL BE NO-GO FOR LAUNCH.

SHOULD ANY LOSS OF P/L PRI MN C OCCUR, NOTIFY PTC IMMEDIATELY. DO NOT REAPPLY P/L PRI POWER WITHOUT NOTIFYING PTC.

NOTE

OPERATIONS INVOLVING CRIT 1, 1R AND/OR 1S ITEMS ARE CONTAINED IN THE FOLLOWING SEQUENCE/STEPS.

SEQ 30 INITIAL SCRUB TURNAROUND NEED NOT BE COMPLETED BEFORE PERFORMING THIS SEQ.

THIS IS A CONTINGENCY SEQUENCE AND WILL BE PERFORMED IF LAUNCH SCRUB AND SECURE REQUIRED.

ENTIRE SEQUENCE NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.												
35-001	+04H30M	NTD 232 STM 138	OTC TBC JYVO	OTV CAMERA USAGE ASSIGNMENTS FOR THIS SEQUENCE ARE PER EXCLUSIVE USAGE CAMERA MATRIX FIG 4 (IN FRONT SECTION OF THIS VOLUME)	COMM												
35-002		NTD 232 STM 111 GYCC PTP 117	STM GYCC PSOQ JYCJ	PLACE CONDITION RED STROBE LIGHT SWITCH IN PTCR ROOM 205 IN DISABLE(OFF) POSITON AND ATTACH INTEGRITY CONTROL STICKER TO SWITCH. (30 MIN)	COMM SU73524												
ESSENTIAL PERSONNEL																	

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	UCOM	UQA															
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TECH	1																
QUALITY		1															
TQV:_____																	
35-003		JYCJ 117 GYCC 111 STM 232	GYCC STM NTD	CONDITION RED STROBE LIGHT SWITCH IN PTCR ROOM 205 HAS BEEN PLACED IN DISABLE (OFF) POSITION AND INTEGRITY CONTROL STICKER HAS BEEN ATTACHED TO SWITCH.	COMM												
NOTE																	
<p>PERFORM NEXT TWO STEPS IF ACCESS REQUIRED DURING SCRUB TURNAROUND.</p>																	
<p>LCC UNDER FLOOR LOCK C/O -----</p>																	
35-004		NTD 232 STM 111 JSTC 114	STM JSTC *SEC	CHANGE FIRING ROOM UNDERFLOOR AREA AND LCC ROOM 2R14 CABLE TUNNEL ACCESS CONTROL LOCKS. REMOVE SECURITY LOCKS AND INSTALL LOACS LOCK ON FIRING ROOM UNDER FLOOR AREA AND COMM LOCK ON LCC/2R14 CABLE TUNNEL.	SEC												

NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
35-063		CCSE	CDR	PANEL R12A2 (STOWAGE CONTAINER) OPEN LATCH TEAC RECORDER MODE SW - REV	
				NOT PERFORMED	_____
				NOTE	
				PAUSE HERE UNTIL TAPE COMPLETELY REWINDS.	
35-064		CSSE	CDR	PANEL O19 TV TV PWR SW - OFF	
				NOT PERFORMED	_____
35-065		CSSE	CDR	PANEL R12A2 (STOWAGE CONTAINER) TEAC RECORDER MODE SW - REC CLOSE LATCH	
				NOT PERFORMED	_____
				GN&C SYSTEM POWER DOWN -----	
				NOTE	
				DO NOT PROCEED WITH FLIGHT CONTROL POWER DOWN (PART OF GN&C SYSTEM POWER DOWN) UNTIL THE HYDRAULIC SYSTEM SECURING IS COMPLETE.	
35-066		OTC 132	COFC CGNC	PERFORM GN&C SYSTEM POWER DOWN PER S0007VL4 (SEQ 43). REPORT COMPLETION REQUIRES: CDR (15 MIN) TOTAL TIME = 15 MIN	SU73510
				DDU SECURING -----	
35-067		OTC 132	CODS	POWERDOWN DDU'S, FLIGHT CONTROLLERS, AND INSTRUMENT POWER (IF APPLICABLE) PER OMI V9001VL3.	
				RT OMI LOG NO. _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ECLSS SAFING -----					
35-068		OTC 132	CECL CDR	PERFORM ECLSS SAFING PER S0007VL4 SU73511 (SEQ 66) ON CH 143.	
LH2 STORAGE AREA SECURING - COMPLETE -----					
35-069	+06H00M	CLHY 136 TBC 232 NTD	TBC NTD *SCC	LH2 STORAGE AREA VERIFIED LESS THAN 1 PCT GH2. REQUEST SFOC SAFETY CONCURRENCE TO REMOVE PERIMETER ROADBLOCK AND TO OPEN LH2 SYSTEM AT PAD_____ FOR CONTROLLED WORK EXCEPT FOR FOLLOWING AREAS:	SU73512 -1
<ol style="list-style-type: none"> 1. LO2/LH2 TSM 2. ORBITER AFT COMPARTMENT 3. LH2 FLARE STACKS 4. ET INTERTANK 5. MLP SIDE 1 6. 50 FT OF CROSS COUNTRY VENT LINE 7. LH2 DISCONNECT TOWER 8. LH2 ET VENT LINE 9. ECS BRIDGE 10. NORTH BRIDGE 11. LOX TSM 					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
35-069A		NTD 232 *SCC NET 105	*SCC *PSE	INSTALL SAFETY SIGNS AT LH2 DISCONNECT TOWER AT PAD SURFACE STAIRS. VERIFY/INSTALL SAFETY WARNING SIGNS AT LO2/LH2 TSMS.	-1
35-069B		NET 105 *SCC 232	*PSE *SCC NTD	SAFETY SIGNS INSTALLED AT LH2 DISCONNECT TOWER AT PAD SURFACE STAIRS AND AT LO2/LH2 TSMS.	-1
35-069C		232 NTD TBC 136	*SCC NTD TBC CLHY	YOU HAVE SAFETY CONCURRENCE TO OPEN LH2 CONTROL AREA AT PAD___ FOR CONTROLLED WORK EXCEPT LH2 TSM, ORBITER AFT COMPARTMENT, LH2 FLARE STACKS, ET INTERTANK, MLP SIDE 1, 50 FT OF CROSS COUNTRY VENT LINE, LH2 DISCONNECT TOWER, ET VENT LINE, ECS BRIDGE, AND NORTH BRIDGE.	-1

VOLUME 3 OF 5
DATE: 07-08-99

OMI NO. - S0007VL3
REV. - BF-1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
35-157	+22H30M	NTD 232 STM 111 JSTC 114	STM JSTC JSEP	NOTIFY FPL LAUNCH CLOSED LOOP CONFIGURATION MAY RETURN TO SINGLE FEED (OPEN LOOP).	ELEC SU73591
HGDS MASS SPEC SECURING -----					
35-158		CLHY 136 TBC	TBC CHGD	HGDS MONITORING MAY BE TERMINATED. PERFORM BUHGDS OR HUMS MASS SPEC SECURING.	SU73561
35-159			CHGD	BUHGDS REMOTE TERMINAL 1. MANUAL - NONE BUHGDS SAFING PANEL - A 2. ON/STANDBY SWITCH - TOGGLE FOR STANDBY INDICATION	-1
35-160			CHGD	LCC 3R18 HUMS CONTROL ROOM - HUMS REMOTE TERMINAL 1. "VEHICLE PAGE" - SELECT 2. SOURCES - SELECT "LINES 1-8" 3. VERIFY NO VALVES SELECTED 4. "SETUP PAGE" - SELECT 5. MODE - SELECT "STBY" 6. "MEAS PAGE" - SELECT 7. VERIFY NO VALVES SELECTED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
35-160 CON'T				8. VERIFY MODE "STBY" 9. TERMINATE LAST ACRCHIVE FILE	
35-161		CHGD 136	TBC	MASS SPEC SECURING COMPLETE. RLDS 6145 SECURING -----	
35-162		TBC 136	CLHY CHGD	PERFORM RLDS 6145 SECURING.	
35-163			CHGD	CURSOR CNTL (SAW01/HWW11) LD 23/25 PUMP - OFF LD 24/50 PUMP - OFF MFC POWER - OFF XMIT CURSOR KEY - PRESS	
35-164		CHGD 177	PETG	FSS 195 FT LEVEL - 6145 CABINET GN2 PURGE VALVE A152873 - CLOSE (CW)	T:_____
35-165		CHGD 136	TBC CLHY	RLDS 6145 SECURING COMPLETE. RLDS 6407/6660 SECURING -----	
NOTE					
PERFORM NEXT FOUR STEPS IF GSE SECURING WAS PERFORMED.					
35-166		TBC 136	CHGD CLHY	PERFORM RLDS 6407/6660 SECURING.	NOT PERFORMED _____
35-167			CHGD	CURSOR CNTL (SAW01/HWW12) LD 28/32 PUMP - OFF LD 56/57 PUMP - OFF MFC POWER - OFF XMIT CURSOR KEY - PRESS	NOT PERFORMED _____

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S0007VL3

SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

CHRIS WEAVER.....7

PZ-L

RTW/MONICA COLEY

USK-275

TOTAL QTY: 283

FOR CHANGES TO THIS DISTRIBUTION LIST, CONTACT:

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

DATE: 1999-07-08 12.01.55

S0007VL3

SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

AFQA/LGQAB/P. MCDANIEL	NN-L/PAYLOAD ENGINEERING
BA/FC-50/W. BRAGG.....2	NN-M1
BA/FC-51/ELS DATA FILES	NN-M2
BA/FC-51/J. HAGOOD.....2	NN-M3
BA/FC-51/J. LEWIS.....2	THIO-LSS/BRIAN ST. AUBIN
BA/FC-51/N. BIHR.....3	USBI-LSS/LIBRARY
BNA SPACEHAB/NANCY CRABTREE.....2	USK-078/CCC, C-1 PNEU
SPACEHAB, INC	USK-078/CCC, C-1 WATER
620 MAGELLAN RD	USK-078/CCC, C-2 HVAC
CAPE CANAVERAL, FL 32920	USK-078/CCC, C-3 POWER
C07A/J. LECHER	USK-078/CCC, INTEGRATION
JSC, TX 77058	USK-225/JODI SILLS
EI-C-C/NSF CONSOLE	USK-391/SAFETY OPS (PAD B)
EI-C-C/PAC 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
 BRIGHAM CITY, UT 84302-0707
 MS3/LIBRARY
 JSC, TX 77058
 MV2/D. STAMPER
 JSC, TX 77058
 MV3/KENNETH BROWN
 JSC, TX 77058
 NASA/JSC.....2
 C/O TRANSPORTATION OFFICE
 BUILDING 420
 HOUSTON, TX 77058
 ATTN: DA82/MARY C. THOMAS
 BLDG 30M, ROOM 235

PATRICK AFB, FL 32925
 CCC LIBRARY.....3
 USK-093
 MISSION SUPPORT
 SGS-347
 EG&G PROTECTIVESYSTEMS
 BOC-326
 PAD ELECTRICAL-SHOP
 USK-175
 SECTION NASACOMM/RFSYSTEMS
 PK-F3
 NASA-FLT ELECTR-SYS-SECT
 PK-F

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SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

FLOW DIRECTOR-OFFICE	TSMO SITE-MGRS
PH-B2	USK-299
SECTION NASAECLESSSYSTEM	TSMO OMD
PK-G5	USK-075
BOEING P/L-TEST-CONDUCTOR.....3	USA INSTRUMENTATION.....2
F214	USK-194
GUIDANCE-AND NAVIGATION	USA LAUNCH-OPERATIONS...2
USK-195	USK-C09
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 ORBTSTCONDUCTOR.....4	USK-174
USK-023	ET LH2PAD-B
SPC PAD-SAFETY.....3	USK-390
USK-257	ET-LOX PAD-A
TEST-OPS PAD-A	USK-173
USK-307	ET-LOX PAD-B
TEST-OPS PAD-B	USK-316
USK-389	MEQ ORB-MECHANISMS-ENG
BRANCH INSTRUM.&P/LSYS.....2	USK-408
PK-F3	OMS/RCS ENG-PADA
PNEUMATICS ENGINEERING	USK-484
USK-043	OMS/RCS ENG-PADB
OFFICE NASAFIRE/RESCUE	USK-347
IM-SPS-A	CENTRL WRK-PKG-BLD
PAD SWING-ARMS-SHOP	USK-409
USK-398	COMM CONTROL.....2
SFOC SAFETY-CONSOLE	USK-145
USK-399	TSMO PAD-A
SUPV-SAFETY RELIABILITY-ENGR	USK-076

USK-291
TECHNICAL DOCUMENTATION-CENTER.....50
USK-038

TSMO PAD-B
USK-404
TSMO SUPV-STM.....3
USK-299

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S0007VL3

SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

ROBERT T. ROOK II	PAUL L. QUANDT
USK-356	USK-356
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	EARL D. COOLEY
USK-107	USK-269
JIM TOWNSEND	ERIC D. HENRY
USK-108	USK-225
SHOE SHOEMAKER	BOB DOUGERT.....2
USK-144	USK-356
PAT CHAPPELL	DEAN T. TYRE
USK-074	USK-421
DENNIS E. LOHAUS	E HALL III.....2
USK-069	USK-420
RICHARD H. MURRAY.....2	STEVE VELLIGAN
USK-414	USK-213
ROBERT RODRIGUEZ	RANDY DUNCAN.....2
USK-198	USK-196
ED DICRISTINA	ROBERTO E. GALINANES
USK-305	USK-353
TERM/SECUR WELLMAN	DON GREEN.....2
USK-346	USK-043
TOM WELLS.....2	RTW/SECUR R. HOEFER
USK-420	USK-453
MARTIN L. CARLSON	PEGGY S. HATTAWAY
USK-420	USK-246
JUDY HOOPER.....3	GARY A. WOODS
USK-247	USK-281
STEVE GODFREY	ANN M. MICKLOS
USK-241	USK-443
BILL NUTTER.....5	062599/HRMS POSTON
USK-214	USK-598
JANIENE L. PAPE	PAUL E. BRANDT
USK-284	USK-111

DATE: 1999-07-08 12.01.55

S0007VL3

SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

OZZIE FISH.....2	RENEE HART
USK-314	USK-669
ANDY BUNDY	DONALD G. SIMMONS
PK-E3	USK-647
DAVID R. SCHECHTER	BOBBY E. ORR
PZ-C	USK-607
JIMBO BOLTON	OLAN J. BERTRAND
USBI-LSS	CA4
BILL CLEVER II	HOUSTON, TX 77058
SK	KEN FORD
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
STEVE SWICHKOW	CAPE CANAVERAL AFS, FL 32899
PK-F6	RONALD W. WETMORE
AL DIAZ	MMC-15
PK-F	HAROLD E. REED
BOB BEIL	JJ-3-B
PK-G3	CHUCK GIVENS
ANDY DIBBERN	BOC-342
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