

VOLUME 4 OF 5  
DATE: 07-08-99

OMI NO. - S0007VL4  
REV. - AY

SHUTTLE COUNTDOWN (LPS)

MAT COPY (2)

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OMI WRITER: PAM STIELER, 1-4958

DISTRIBUTION PER ATTACHED DISTRIBUTION LIST

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

UNITED SPACE ALLIANCE

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

PREPARED BY:

\_\_\_\_\_  
SFOC TEST DOCUMENTATION

APPROVED BY:

CONTRACTOR

\_\_\_\_\_  
SFOC SAFETY ENGINEERING

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

```
*****  
*                                                                 *  
*              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 AND MSFC              *  
*****
```

UNITED SPACE ALLIANCE

```
*****  
*                                                                 *  
*              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 AND MSFC          *  
*****
```

PREPARED BY:

\_\_\_\_\_  
SFOC TEST DOCUMENTATION

APPROVED BY:

CONTRACTOR

GOVERNMENT

\_\_\_\_\_  
SFOC TEST CONDUCTOR

\_\_\_\_\_  
PROJECT ENGINEERING

\_\_\_\_\_  
SFOC SAFETY ENGINEERING

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

REVISION RECORD PAGE  
-----

REV-CHANGE	DATE	REASON	PAGES AFFECTED	EFFECTIVITY
AU	: 05-14-98	:134/USK023	: ALL	: ALL
	:	:RCN	:	:
	:	:KG02038	:	:
	:	:KG02042	:	:
AV	: 10-01-98	:135/USK217	: ALL	: ALL
AW	: 11-18-98	:136/USK217	: ALL	: ALL
AX	: 04-29-99	:137/USK023	: ALL	: STS-96&SUBS
AY	: 07-08-99	:138/USK217	: ALL	: STS-93&SUBS

DESIGN CENTER CONCURRENCE  
 BACKUP SIGNATURE SHEET  
 -----

OMI TITLE SHUTTLE COUNTDOWN (LPS)

SYSTEM -----	AGENCY CONTRACTOR/GOVT -----	SIGNATURES	
		CONTRACTOR* -----	GOVT -----
ORBITER	RI LSS (LEVEL III)	_____	NA
ORBITER	JSC LEVEL III	NA	_____
ET	MMC LSS	_____	NA
ET	MSFC LEVEL III	NA	_____
SRB	USBI LSS	_____	NA
SRB	MSFC LEVEL III	NA	_____
SSME	ROCKETDYNE LSS	_____	NA
SSME	MSFC LEVEL III	NA	_____
NSTS CARGO & ENGR INTEG	RI LSS LEVEL II	_____	NA
NSTS INTEG & OPS	CARGO LEVEL II	NA	_____
NSTS ENGR INTEG	JSC LEVEL II	NA	_____

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

VOLUME 4 OF 5  
DATE: 07-08-99

OMI NO. - S0007VL4  
REV. - AY

OMI BACKUP SIGNATURE SHEET  
-----

OMI TITLE: SHUTTLE COUNTDOWN (LPS)

SYSTEM -----	AGENCY	CONTRACTOR -----	SIGNATURES	
	CONTRACTOR/GOVT -----			GOVERNMENT -----
SUPPORT -----				
TSMO	SFOC	_____		NA
RPS	SFOC/NASA	_____	_____	
CCMS	SFOC/NASA	_____	_____	
MILA	BX/GUSB	_____		NA

OMI BACKUP SIGNATURE SHEET  
 -----

OMI TITLE: SHUTTLE COUNTDOWN (LPS)

SYSTEM -----	AGENCY	SIGNATURES	
	CONTRACTOR/GOVT -----	CONTRACTOR -----	GOVERNMENT -----
ORBITER -----			
NAVAIDS	USA/GOVT	_____	_____
COMM	USA/GOVT	_____	_____
INSTR	USA/GOVT	_____	_____
HGDS	USA/GOVT	_____	_____
PVD	USA/GOVT	_____	_____
EPD&C	USA/GOVT	_____	_____
DPS	USA/GOVT	_____	_____
DPSME	USA/GOVT	_____	_____
QE	SFOC	_____	NA
PAYLOAD/EXP	USA/GOVT	_____	_____
MPS	USA/GOVT	_____	_____
SSME	USA/GOVT	_____	_____
SSME	ROCKETDYNE	_____	NA
HYD	USA/GOVT	_____	_____
APU	USA/GOVT	_____	_____
G&N	USA/GOVT	_____	_____
FLT CONT	USA/GOVT	_____	_____



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OMI BACKUP SIGNATURE SHEET  
-----

OMI TITLE: SHUTTLE COUNTDOWN (LPS)

SYSTEM -----	AGENCY	CONTRACTOR -----	SIGNATURES	
	CONTRACTOR/GOVT -----		CONTRACTOR	GOVERNMENT -----
(ORBITER CONTD) -----				
PRSD	USA/GOVT			
MECH/STRUC	USA/GOVT			
PYRO	USA/GOVT			
OMS/RCS	USA/GOVT			
ECLSS	USA/GOVT			
TPE/PEO	USA/GOVT			
VITT	NASA/JSC	NA		
JSC RESIDENT OFFICE	NASA/JSC	NA		
GLS	USA/GOVT			
FCS	USA/GOVT			
JSC MISSION INTEGRATION	BNA/JSC			

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OMI BACKUP SIGNATURE SHEET  
-----

OMI TITLE: SHUTTLE COUNTDOWN (LPS)

SYSTEM -----	AGENCY	CONTRACTOR -----	SIGNATURES	
	CONTRACTOR/GOVT -----			GOVERNMENT -----
ET/SRB -----				
TEST COND	SFOC (ROR)	_____		NA
ELECTRICAL	USA/GOVT	_____	_____	
INSTR	USA/GOVT	_____	_____	
MECH (ET)	USA/GOVT	_____	_____	
STRU	USA/GOVT	_____	_____	
SRSS	USA/GOVT	_____	_____	
PROPELLANTS/LH2	USA/GOVT	_____	_____	
PROPELLANTS/LO2	USA/GOVT	_____	_____	
FLT CNTLS	USA/GOVT	_____	_____	
DPS	USA/GOVT	_____	_____	
HYD	USA/GOVT	_____	_____	
PROJECT ENGR	USA/GOVT	_____	_____	
MECH (SRB)	USA/GOVT	_____	_____	

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DATE: 07-08-99

OMI NO. - S0007VL4  
REV. - AY

OMI BACKUP SIGNATURE SHEET  
-----

OMI TITLE: SHUTTLE COUNTDOWN (LPS)

SYSTEM -----	AGENCY	CONTRACTOR -----	SIGNATURES	
	CONTRACTOR/GOVT -----			GOVERNMENT -----
PAYLOAD				
TEST COND/DIR CONTR/GOVT (ROR)		_____	_____	
SAFETY	CONTR	_____		NA
MIDDECK EXP	CS-EED-1		NA	_____

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SECTION I  
INFORMATION  
-----

1.1 REFERENCED INSTRUCTIONS (SEE VOLUME 1)  
-----

1.1.3 SUPPORTING SUBTASKS

SUBTASK NUMBER -----	SUBTASK TITLE/ FUNCTION TO BE PERFORMED -----	CALLING SEQ-STEP -----
Z3D00	DUAL TACAN BEACON 9946 FLT SUPPORT	37-134
V1123	GN&C COUNTDOWN AND MISSION SUPPORT TESTING (LPS)	43-033 43-045 43-057 43-059 43-065 43-066 43-067
S9001VL1	SHUTTLE POWER UP/POWER DOWN (LPS)	45-013
C2000	LCC CCMS OPERATION SUPPORT	49-131 49-187
V1314	PVD VENT DOOR OPERATIONS (LPS)	56-002 56-007
S6444	SSV ICE AND DEBRIS ASSESSMENT	57-002
S9001VL1	SHUTTLE POWER UP/POWER DOWN (LPS)	66-003
G3255	LH2 SYSTEM SCRUB-TURNAROUND	68-003
T5048	INSTALL AND REMOVE INTERTANK ACCESS KIT	68-005
G3255	LH2 SYSTEM SCRUB-TURNAROUND	68-008
C2000	LCC CCMS OPERATION SUPPORT	70-012
C3041	CCMS OPERATION SUPPORT PATCHING	89-003

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)	45,60
342	LIMITED SPECIAL OR HEAVY EQUIPMENT OPERATOR (T)	90
343	SPECIAL OR HEAVY EQUIPMENT OPERATOR (T)	90
422	AIR/MECHANICAL HOIST OPERATOR (PAD ET VENT LINE) (T)	60



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

VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

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

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

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

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

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
GHEGKRM00.003	140 TON MOBILE CRANE RATED LOAD TEST GFA;C	90-027	_____
GHEGKRM00.009	140 TON OUTRIGGER VERIFICATION GFA;C	90-027	_____
G51FSA000.055-B	LINE HANDLING WINCH (INGERSOL RAND) GOA;C	60-003 (PAD)	_____
G51FSA000.055-D	STATIC LANYARD WEIGHT WINCH GOA;C	60-002 (PAD)	_____
G51FSA000.065-B	LINE HANDLING FIXTURE GOA;C	60-003 (PAD)	_____
G51FSA000.065-E	STATIC LANYARD DROP WEIGHT WINCH CABLE GOA;C	60-002 (PAD)	_____
G61FSA000.055-B	LINE HANDLING WINCH (INGERSOL RAND) GOA;C	60-003 (PAD)	_____
G61FSA000.055-D	STATIC LANYARD WEIGHT WINCH GOA;C	60-002 (PAD)	_____
G61FSA000.065-B	LINE HANDLING FIXTURE GOA;C	60-003 (PAD)	_____
G61FSA000.065-E	STATIC LANYARD DROP WEIGHT WINCH CABLE GOA;C	60-002 (PAD)	_____
P018JC.005	CIU LAUNCH INITIALIZATION PIUS	78-064	_____

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

VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_

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

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

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

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

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
P018JC.010	LAUNCH COUNTDOWN - IUS RQMTS. PAXAF	78-033	_____
		78-046	_____
		78-069	_____
P1424EB.100	MEMS DC POWER INTERFACE TEST PMEMS	53-010 (PARTIAL)	_____
		53-033 (PARTIAL)	_____
P183EB.100	CGBA-ICM DC POWER I/F N/A PCGBA-93	53-049	_____
		53-093	_____
		53-094	_____
		53-096	_____
		53-098	_____
P187EB.100	CCM POWER TEST PCCM	53-069	_____
P314EB.100	DC POWER INTERFACE PPGIM	53-031	_____
P326EB.100	STL-B POWER TEST PSTL-B	53-068	_____
P330JC.040	LAUNCH DAY ACTIVATION OF AXAF CRIT HTRS PAXAF	78-066	_____
S00E00.A00	RECONNECT GSE PWR VAF;C	55-003	_____

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

VEHICLE/ELEMENT NO. ORB \_\_\_\_\_/FLT \_\_\_\_\_ ET \_\_\_\_\_ SRB \_\_\_\_\_ LH \_\_\_\_\_ RH \_\_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

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

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
S00E00.033-A (1 )	VERTICAL TAIL RSI VAF;C	90-016	_____
S00E00.033-B (1 )	RUDDER RSI VAF;C	90-016	_____
S00E00.033-C (1 )	OMS PODS RSI VAF;C	90-016	_____
S00E00.033-D (1 )	AFT RCS MODULE RSI VAF;C	90-016	_____
S00E00.033-E (1 )	AFT HEAT SHIELD RSI VAF;C	90-016	_____
S00E00.033-F (1 )	AFT FUSELAGE RSI VAF;C	90-016	_____
S00E00.033-G (1 )	BODY FLAP RSI VAF;C	90-016	_____
S00E00.033-H (1 )	OUTBOARD AND INBOARD ELEVON RSI VAF;C	90-016	_____
S00E00.033-I (1 )	WING RSI VAF;C	90-016	_____
S00E00.034-A (1 )	TILES - ADJACENT TO PENETRATION VAF;C	90-016	_____
S00E00.034-B (1 )	OMS POD FUEL AND OXIDIZER VAF;C	90-016	_____
S00E00.034-C (1 )	APU EXHAUSTS VAF;C	90-016	_____

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

VEHICLE/ELEMENT NO. ORB \_\_\_\_/FLT \_\_\_\_ ET \_\_\_\_ SRB \_\_\_\_ LH \_\_\_\_ RH \_\_\_\_  
 GROUND HARDWARE PMN/SN \_\_\_\_\_ COMPONENT/SEGMENT \_\_\_\_\_/FLT \_\_\_\_  
 SITE \_\_\_\_\_ TCN \_\_\_\_\_ DATE \_\_\_\_\_

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

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
S00E00.034-D (1 )	FLASH EVAP HI-LOAD VENT DUCT VAF;C	90-016	_____
S00E00.034-E (1 )	MPS LO2 RELIEF VENT VAF;C	90-016	_____
S00E00.034-F (1 )	FLASH EVAP TOPPING VENT DUCT VAF;C	90-016	_____
S00E00.035-A (1 )	RUDDER SPEED BRAKE (R-2): VAF;C	90-016	_____
S00E00.035-B (1 )	THERMAL BARRIER LOCATIONS VAF;C	90-016	_____
S00E00.035-C (1 )	ARCS THRUSTERS VAF;C	90-016	_____
S00E00.650 (1R )	SECURE RCS VAF;C	40-018	_____
S00E00.660	SECURE OMS VAF;C	40-018	_____
S00E00.680 (1R )	FUEL CELLS LOAD SHARE VAF;C	55-006	_____
S00E00.721-B (1 )	FUEL ISOLATION VALVE CYCLE (E) BAF;C	64-015	_____
S00E00.995-A	AFT AND PLB AREAS - POST WTR DELUGE INSP VAF;C	56-004 (PARTIAL)	_____
S00E00.995-C	VENT DOOR WATER REMOVAL POST ABORT VAF;C	56-005	_____

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

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

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
S00E00.995-D	AFT COMPART WATER REMOVAL POST ABORT VAF;C	56-005	_____
S00E00.996	POST SSME ABORT - FIRE DAMAGE INSP VAF;C	90-045	_____
S00FA0.014	LPS VENT DOORS OVERRIDE WORD V02F12-90 V03F18-90 V04F13-90 V05F1-90	65-135	_____
S00FA0.140-A (1 )	ET LO2 ULLAGE PRESS VERIF L02 T67-90 T67-999	38-141	_____
S00FA0.140-B (1 )	ET LH2 ULLAGE PRESS VERIF L02 T67-90 T67-999	38-139	_____
S00FA0.160 (1R )	VFY MPS LH2 & LO2 LEVEL SENSORS T23-999	41-009	_____
S00FA0.301 (1R )	LOAD/VFY FINAL PCM AND PDI FORMATS VAF1-90	49-237	_____
S00FA0.650	VERIFY ET/ORB SEP CAMERA HEATER ON VAF;C	38-148	_____

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

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FB0.230 (1R )	VERIFY ORB/LPS LDB REDUNDANCY L03 V02F22-90 V03F23-90 V04F19-90 V05F12-90	49-383	_____
S00FC0.070 (1R )	PFM HYD SYS CONFIG FOR CRYO LOAD L04 V02F17-90 V03F19-90 V04F13-90 V05F7-90	46-048	_____
S00FC0.071 (1R )	VFY HYD SYS THERM PARAM DUR CRYO LOAD L02 V02F12-90 V03F15-90 V04F13-90 V05F2-90	46-020	_____
S00FC0.072 (1R )	PFM LDG GR SYS FINAL FILL L03 V02F12-90 V03F15-90 V04F13-90 V05F2-90	46-026	_____

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

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

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

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

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

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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S00FF0.161 (1R )	RSRM CHAMBER PRESS XDUCER CALIB SAF1-999	38-154 (VSQ11)	_____
S00FF0.180 (1R )	RSRM CHAMBER PRESS BIAS AND CAL CHECK SAF1-999	38-154 (VSQ11)	_____
S00FG0.085	GPC - MTU CHAN 1 GMT/MET UPDATE VAF1-90	49-418	_____
S00FM0.110 (1R )	SPBK & RUDDER GRAVITY POS VAF1-90	43-073 (SWB02)	_____
S00FM0.175 (1R )	PERFORM HYD SYS APU-POST START VAF1-90	46-054	_____
V43CF0.110-A	LEFT POD TANKS V02F20-90 V03F22-90 V04F17-90 V05F12-90	51-015	_____
V43CF0.110-B	RIGHT POD TANKS V02F20-90 V03F22-90 V04F17-90 V05F12-90	51-006	_____
V45CH0.020 (1R )	L01 PERFORM FUEL CELL CALIBRATION V03F23 PERFORM FUEL CELL CALIBRATION L02 V02F24-90 V03F24-90 V04F20-90 V05F12-90	69-027	_____

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

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

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

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

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
V45CH0.030 (1 )	PERFORM PRSD SYSTEM INTEGRITY CHECK V02F21-90 V03F22-90 V04F18-90 V05F12-90	69-027	_____
V45CH0.040	PERFORM PURGE OF FCP 1, 2 AND 3 V02F21-90 V03F22-90 V04F18-90 V05F12-90	47-015	_____
V46AL0.610 (1R )	L01 APU 1 CONSOLE AUTO BIT CHECK V02FE19;C V04FE16;C V05FE10;C L02 APU 1 CONSOLE AUTO BIT CHECK V02F20-90;C V03F22-90;C V04F17-90;C V05F11-90;C	42-021	_____
V46AL0.620 (1R )	L01 APU 2 CONSOLE AUTO BIT CHECK V02FE19;C V04FE16;C V05FE10;C L02 APU 2 CONSOLE AUTO BIT CHECK V02F20-90;C V03F22-90;C V04F17-90;C V05F11-90;C	42-021	_____



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

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

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

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

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

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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V46AL0.630 (1R )	APU 3 CONSOLE AUTO BIT CHECK L01 V02FE19;C V04FE16;C V05FE10;C APU 3 CONSOLE AUTO BIT CHECK L02 V02F20-90;C V03F22-90;C V04F17-90;C V05F11-90;C	42-021	_____
V46AL0.900 (1R )	CONFIGURE APU SYSTEM HEATERS V02F20-90 V03F22-90 V04F17-90 V05F11-90	42-029	_____
V46AL0.910-A (1R )	PERFORM APU SYSTEM PRESTART VERIF V02F20-90 V03F22-90 V04F17-90 V05F11-90	42-035	_____
V46AL0.910-B (1R )	PERFORM HYD SYS APU-PRESTART V02F20-90 V03F22-90 V04F17-90 V05F11-90	46-050	_____

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

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

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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V46AL0.920 (1R )	ACTIVATE ORBITER APU 1, 2 AND 3 V02F20-90 V03F22-90 V04F17-90 V05F11-90	42-036	_____
V51AF0.245 (1R )	WEIGHT-ON-WHEELS PROXIMITY SWITCHES V02F22-90 V03F23-90 V04F19-90 V05F12-90	43-072	_____
V51AF0.250	REDUNDANT WEIGHT ON WHEELS DETECTOR V02F22-90 V03F23-90 V04F19-90 V05F12-90	43-071	_____
V61AQ0.010 (1R )	2 PSID CABIN INTEGRITY TEST L01 V02F20 V04F17 2 PSID CABIN INTEGRITY TEST L02 V02F21-90 V03F22-90 V04F18-90 V05F12-90	45-130 (VAG29)	_____
V62AE0.010-C (1R )	T-3 DAYS SAMPLE (REF R-2) L06 V02F20 V04F17 V05F11 T-3 DAYS SAMPLE (REF R-2, C-4, C-5) L07 V02F21-90 V03F22-90 V04F18-90 V05F12-90	54-058	_____

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

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

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

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

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

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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V62AM0.020-B (1R )	L03 WASTE WATER TANK LIFTOFF QUANTITY V02F18-90 V03F20-90 V04F14-90 V05F8-90	54-088	_____
V63AD0.071	L01 RAD FLOW CHECK V02F20 V04F17 V05F11 L02 RAD FLOW CHECK V02F21-90;C V03F22-90;C V04F18-90;C V05F12-90;C	45-092 (VAG34)	_____
V72CA0.010-A	PASS DEU ACTIVATION V02F22-90 V03F23-90 V05F12-90	49-129	_____
V72CA0.010-B	BFS DEU ACTIVATION V02F22-90 V03F23-90 V05F12-90	49-198	_____
V72CA0.020 (1R )	PRELAUNCH BFC/ENGAGE VERIFICATION V02F22-90 V03F23-90 V04F19-90 V05F12-90	49-053	_____
V72CA0.030 (1R )	PRELAUNCH BFC/CRT VERIFICATION V02F22-90;C V03F23-90;C V04F19-90;C V05F12-90;C	49-040	_____

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

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

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

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

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

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
V72CA0.050-A	REDUNDANT SET ACTIVATION V02F22-90 V03F23-90 V04F19-90 V05F12-90	49-355	_____
V72CA0.050-B	BFS ACTIVATION V02F22-90 V03F23-90 V04F19-90 V05F12-90	49-149	_____
V72CA0.050-C	BFS DUMP & COMPARE V02F22-90 V03F23-90 V04F19-90 V05F12-90	49-168	_____
V74AB0.020 (1R )	TACAN SELF TEST VAF1-90;C	37-111	_____
V74AB0.102 (1R )	BLANKING AT PAD V02F20-90;C V03F22-90;C V04F17-90;C V05F11-90;C	37-128	_____

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

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

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

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

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
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V74AB0.190 (1R )	TACAN GROUND STATION INTERFACE VAF1-90;C	37-133	_____
V74AC0.011 (1R )	RADAR ALT. POWER ON VERIFICATION VAF1-90;C	37-064	_____
V74AC0.020 (1R )	RADAR ALTIMETER SELF TEST VAF1-90;C	37-096	_____
V74AD0.020 (1R )	MSBLS SELF TEST VAF1-90;C	37-085	_____
V74P00.055	GPS ALMANAC COLLECTION	37-027	_____
	L02 V02FR27;C V03FR25;C V04F;C V05FR13;C		
V74P00.070	GPS LAPTOP COMPUTER INTERFACE	37-035	_____
	L02 V02FR27;C V03FR25;C V04F;C V05FR13;C		
V75AP0.010 (1R )	CONFIGURE OI PCMMU FOR LCD (GND CNTR) V02F22-90 V03F23-90 V04F19-90 V05F12-90	38-066	_____

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

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

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

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

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

OMRS NO./CIL NO	NOMENCLATURE/ EFFECTIVITY	SEQ-STEP (CAP)	QC/ENG VERIF
-----	-----	-----	-----
V75AP0.020	VERIFY OPS & P/L RCDRS CONFIG FOR LCD V02F22-90 V03F23-90 V04F19-90 V05F12-90	38-070	_____
V75AP0.030 (1R )	MTU OSC FREQ VERIFY V02F22-90 V03F23-90 V04F19-90 V05F12-90	38-008	_____
V78GA0.010	VFY MTU OEX/MADS TIMING SIGNALS V02F22-90 V03F23-90 V04F19-90 V05F12-90	38-028	_____
V78GA0.020	CONFIGURE MADS/OEX FOR TERMINAL COUNT V02F22-90 V03F23-90 V04F19-90 V05F12-90	38-096 38-121	_____ _____
V78GA0.030	MADS PCM AND WB DATA STAT CK V02F22-90 V03F23-90 V04F19-90 V05F12-90	38-033 38-053 38-059	_____ _____ _____
V79AZ0.080 (1 )	LAUNCH COUNTDOWN OMS GIMBAL PROFILE V02F22-90 V03F22-90 V04F18-90 V05F12-90	43-016 (VSB48)	_____

SECTION IV

OPERATION INSTRUCTIONS  
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SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-000				COMM AND TRACK -----	
				NOTE	
				NAVAIDS ACTIVATION AND SELF TEST AND GPS ACTIVATION AND ALMANAC COLLECTION MAY BE PERFORMED OUT OF WRITTEN ORDER.	
				DO NOT PERFORM GPS ACTIVATION AND ALMANAC COLLECTION FOR OV-102.	
37-001				GPS ACTIVATION AND ALMANAC COLLECTION -----	
				NOT PERFORMED	_____
				NOTE	
				IF LAPTOP CONNECTION IS REQUIRED FOR GPS ALMANAC COLLECTION, THE FOLLOWING STEPS MAY BE PERFORMED IN PARALLEL OR PRIOR TO LAPTOP CONNECTION.	
37-002		CNSE		CONSOLE KYBD HOME CMD KEY - PRESS VAA40 PERF PGM KEY - PRESS	
37-003		CNSE		PFP VAA40 - PRESS WARM START - PRESS VWN42 - PRESS (NAV OVERVIEW) VWN58 - PRESS (GPS MON)	
				SELECT PAGE B	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-004		CNSE		CONSOLE KYBD HOME CMD KEY - PRESS VSN59 PERF PGM KEY - PRESS  SELECT PAGE B	
NOTE					
A CRT IS REQUIRED FOR THE GPS ACTIVATION.					
37-005		CNSE OTC 132	OTC	CHANGE RESPONSIBLE CONSOLE FOR A CRT TO CONSOLE C2. ALSO DPS CAN EXPECT IO ERRORS DURING GPS ACTIVATION.	
37-006		CDPS		CONSOLE KYBD HOME CMD KEY - PRESS ISSU N72IV10YD #B002 (WHERE Y IS DEU - 1) XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS  HME CMD KEY - PRESS C CO _DEUXG LDBA C2 (WHERE X IS CRT NO.) XMIT CMD KEY - PRESS	
37-007		CDPS OTC 132	OTC	RESPONSIBLE CONSOLE FOR CRT NO.____ NOW ASSIGNED TO C2.	
37-008		CNSE CDR		PANEL A13 VERIFY  GPS ENCRYPT SW NORMAL	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-009		CNSE		CURSOR CNTL (VSN59) GPS POWER UP - 2 XMIT CURSOR KEY - PRESS START TEST XMIT CURSOR KEY - PRESS	
NOTE					
IN NEXT STEP VSN59 PROGRAM WILL PROMPT OPERATOR TO PERFORM THE FOLLOWING:					
A SITE SELECT ON SPEC 104. THE SITE SELECT NEED ONLY BE PERFORMED ON THE INITIAL GPS POWER UP. IF IMUS ARE POWERED ON OR IN OPERATE, BYPASS THE SITE SELECT.					
POWER UP THE PREAMPLIFIERS. SELECT BOTH UPPER AND LOWER AND ONLY PERFORM THE SWITCH CALLED OUT BELOW. ONCE SWITCH SETTINGS ARE COMPLETE THE OPERATOR WILL ACKNOWLEDGE BY SELECTING PFK 1.					
37-010		CNSE		CRT (VSN59) FOLLOW PROGRAM PROMPTS:  BYPASS SITE SELECT IF IMUS ARE ON. ELSE SELECT PFK 1 TO PERFORM SITE SELECT.  SELECT CRT ASSIGNED BY C12  AFTER SITE SELECT IS COMPLETE, RETURN IMUS TO STANDBY.  SELECT BOTH PREAMPS FOR POWER UP.	
37-011		CNSE	CDR	PANEL O14 ROW D MN A GPS PREAMPL UC CB - OPEN LC CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-012		CNSE	CDR	PANEL O16 ROW D MN C GPS PREAMPL UC CB - CLOSE LC CB - OPEN	
37-013		CNSE		CONSOLE KYBD PFK 1 - PRESS	
37-014		CNSE	CDR	PANEL A13 GPS PRE-AMP UC SW - MN C LC SW - MN A	
37-015		CNSE		CONSOLE KYBD PFK 1 - PRESS	

NOTE

IN NEXT STEP THE PROGRAM WILL  
PROMPT OPERATOR TO PERFORM  
THE FOLLOWING:

CALL UP SPEC 55 TO INITIALIZE  
GPS TO GPC I/O.

POWER UP THE GPS.

37-016		CNSE	CRT (VSN59)	FOLLOW PROGRAM PROMPTS:  SELECT PFK 1 TO PERFORM I/O START  SELECT CRT TO CALL SPEC 55.  POWER UP THE GPS.	
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OPERATION INSTRUCTIONS

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

NOTE

PROGRAM WILL MONITOR FOR  
 RECEIVER TO POWER UP AND THEN  
 MODE FORM SELF TEST TO NAV.

37-017		CNSE CDR		PANEL A13 GPS POWER SW - ON	
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37-018		CNSE CRT	(VSN59)	VERIFY NO MESSAGES FOR RPU FAIL OR BAT LOW AND GPS IS IN NAV MODE.	
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NOTE

PERFORM NEXT STEP IF GPS/INS  
 IS TO BE ACTIVATED AT THIS TIME.

37-019		CNSE CDR		PANEL A13 GPS GPS/SIGI POWER SW - ON  VERIFY GPS/SIGI ENCRYPT SW NORMAL	
--------	--	----------	--	--	--

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-020				CNSE CURSOR CNTL (VSN59) TERM NAV TEST XMIT CURSOR KEY - PRESS  PFK 1 - PRESS	
37-021				CNSE CURSOR CNTL (VSN59) TERM 10 I/O XMIT CURSOR KEY - PRESS START TEST XMIT CURSOR KEY - PRESS	
NOTE					
GPS WILL AUTOMATICALLY MODE TO INIT WHEN THE ITEM 10 IS EXECUTED.					
37-022				CNSE CRT (VSN59) VERIFY  GPS IN 2 WAY COMM AND GPS IN INIT MODE	
37-023				CNSE CURSOR CNTL (VSN59) SELF TEST GPS 2 - ITEM 12 XMIT CURSOR KEY - PRESS START TEST XMIT CURSOR KEY - PRESS	
NOTE					
SELF TEST WILL RUN FOR APPROXIMATELY 2 MINUTES.					
37-024				CNSE CRT (VSN59) VERIFY  SELF TEST IS SUCCESSFUL. ALL LOG WORDS ARE ZERO.	
37-025				CNSE CURSOR CNTL (VSN59 PAGE B) NAV GPS 2 - ITEM 18 XMIT CURSOR KEY - PRESS START TEST XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-026				CNSE CRT (VSN59 PAGE B) VERIFY  GPS IN NAV MODE (HDR WD = FFFF)  GPS 2 PWR STAT (NAV BIT) IS ON  NOTE  PERFORM NEXT STEP IF AN ALMANAC WAS NOT DOWNLOADED WITHIN S0007 L-30 DAYS OR ENGINEERING REQUIRES ALMANAC COLLECTION. ALMANAC DOWNLOAD CAN TAKE FROM 10 TO 30 MINUTES DEPENDING ON GPS SATELLITE AVAILABILITY. THE ALMANAC COLLECTION MAY BE PERFORMED OUT OF SEQUENCE.	
37-027				CNSE CRT (VSN59 PAGE B) VERIFY  ALMANAC ON  OMRSD V74P00.055  NOT PERFORMED	
37-028				CNSE CURSOR CNTL (VSN59)  PFK 7 - PRESS - TERMINATE NAV MONITOR	
37-029				CNSE CURSOR CNTL (VSN59) INIT GPS 2 - ITEM 15 XMIT CURSOR KEY - PRESS START TEST XMIT CURSOR KEY - PRESS	
37-030				CNSE CRT (VSN59 PAGE B) VERIFY  RECEIVER IN INIT (HDR WD = EEEE)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-031				CNSE CURSOR CNTL (VSN59) NAV GPS 2 - ITEM 18 XMIT CURSOR KEY - PRESS START TEST XMIT CURSOR KEY - PRESS	
37-032				CNSE CRT (VSN59 PAGE B) VERIFY  GPS IN NAV MODE AND GPS 2 PWR STAT (NAV BIT) IS ON.  VERIFY  CURRENT GPS WEEK AND ALMANAC WEEK AGREE TO WITHIN 1 WEEK.	
				NOTE  PERFORM NEXT THREE STEPS IF THE ENGINEERING PGSC IS TO BE CONNECTED.	
37-033				RNRE PERFORM FOLLOWING:  1. CONNECT PGSC DATA CABLE SED39130096-301 TO PGSC.  2. POWER ON THE PGSC.	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-034				OK TO INSTALL	T:_____
				CNSE OETO MATE PGSC DATA CABLE SED39130096-301 P64 TO AV BAY 3B GPS LAPTOP I/F CONNECTOR J64 LOCATED AT LOWER MA75J DOOR AND LABELED 'LAPTOP MAGR'.	
					T:_____
				NOT PERFORMED	_____
37-035				RNRE PGSC MONITOR GPS SATELITTE TRACKING DATA AND VERIFY TIME IS UPDATING ON PGSC.	
				OMRSD V74P00.070	
				NOT PERFORMED	_____
				NOTE	
				NEXT TWO STEPS MAY BE RUN OUT OF ORDER PER CNSE DISCRETION.	
				PERFORM NEXT TWO STEPS IF THE PGSC WAS CONNECTED PER THIS SEQUENCE AND IT IS NOT REQUIRED TO BE CONNECTED TO THE GPS LAPTOP I/F CONNECTOR.	
37-036				RNRE PERFORM FOLLOWING:	
				1. POWER OFF PGSC.	
				NOT PERFORMED	_____
					SS1
				2. DISCONNECT PGSC DATA CABLE SED39130096-301 FROM PGSC.	
				NOT PERFORMED	_____
					SS2
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-037		CNSE	OETO	DEMATE PGSC DATA CABLE SED39130096-301 P64 FROM AV BAY 3B GPS LAPTOP I/F CONNECTOR J64 LABELLED 'LAPTOP MAGR'.	T: _____  NOT PERFORMED _____
NOTE					
PERFORM NEXT STEP IF GPS/INS WAS ACTIVATED AND IS NOT TO REMAIN POWERED THROUGH T-0.					
37-038		CNSE	CDR	PANEL A13 GPS GPS/SIGI POWER SW - OFF  GMT _____	NOT PERFORMED _____
37-039		CNSE		CONSOLE KYBD (VSN59 PAGE B) PFK 7 KEY (TERMINATE) - PRESS	
37-040		CNSE		CURSOR CNTL (VSN59 PAGE B) GPS POWER DN - 2 XMIT CURSOR KEY - PRESS START TEST XMIT CURSOR KEY - PRESS	
37-041		CNSE		CRT (VSN59 PAGE B) FOLLOW PROGRAM PROMPTS:  1. SELECT PFK 1 TO TERMINATE IO  2. POWER OFF GPS 2	
37-042		CNSE	CDR	PANEL A13 GPS POWER SW - OFF	
37-043		CNSE		CONSOLE KYBD (VSN59 PAGE B) PFK 1 - PRESS	



OPERATION INSTRUCTIONS

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

CAUTION

IN NEXT STEP PROGRAM WILL PROMPT  
YOU TO POWER OFF THE PREAMPS.  
DO NOT POWER OFF PREAMPS IF THE  
GPS/SIGI IS TO REMAIN ON.

37-044		CNSE	CRT	(VSN59 PAGE B) FOLLOW PROGRAM PROMPT FOR PREAMP POWER DOWN.  SELECT PFK 1 TO POWER DOWN OR PFK 2 TO BYPASS	
--------	--	------	-----	---	--

NOTE

PERFORM NEXT TWO STEPS IF  
POWERING OFF THE PREAMPS.

37-045		CNSE	CDR	PANEL A13 GPS PRE-AMP UC SW - OFF LC SW - OFF	
--------	--	------	-----	---	--

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

37-046		CNSE	CONSOLE	KYBD (VSN59 PAGE B) PFK 1 - PRESS	
--------	--	------	---------	--------------------------------------	--

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

CAUTION

FOR S0007 AND S0017 THE PREAMP  
CB'S MUST BE KEPT CLOSED.  
SELECT PFK 2 TO BYPASS.  
PROCEED TO ISSUE RESUME  
TO CRT.

37-047		CNSE	CONSOLE	KYBD (VSN59 PAGE B) PFK 2 - PRESS	
--------	--	------	---------	--------------------------------------	--

37-048		CNSE	CRT	(VSN59 PAGE B) FOLLOW PROGRAM PROMPT TO ISSUE RESUME TO ACTIVE CRT VERIFY RESUME COMPLETE.	
--------	--	------	-----	---	--

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				CRT RETURN TO C12 -----	
37-049				CNSE CURSOR CNTL (VSN59 PAGE B) CRT RETURN XMIT CURSOR KEY - PRESS  C CO _DEUXG LDBA C12 XMIT CMD KEY - PRESS	
37-050		CNSE 132 OTC	OTC  CDPS	C2 CRT RETURNED TO C12. GPS ACTIVITIES ARE COMPLETE.	
				GPS ACTIVATION AND ALMANAC COLLECTION ----- COMPLETE -----	

OPERATION INSTRUCTIONS

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

NOTE

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

37-051

NAVAIDS ACTIVATION  
-----

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

NOTE

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

37-052

CNSE GEMA 173      VERIFY MONITORING PERSONNEL ON  
STATION AT EML, AND AUTOMATED  
MONITORING SYSTEM (AMS) ACTIVATED  
AND RUNNING.

REQUEST MONITORING FOR RFI IN  
TACAN BAND (950 TO 1215 MHZ).

37-053

CNSE HOME CMD KEY - PRESS

CONSOLE KYBD  
VAA40  
PERFORM PGM KEY - PRESS

SELECT APPLICATIONS PAGE-B

SELECT WARM-START

PFFK (VWN99) - PRESS

CRT

VERIFY DISPLAY SKELETON  
(VDN99) TO PAGE-B

OPERATION INSTRUCTIONS

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

NOTE

GPC OPS MODE MUST BE GNC 9  
 IN ORDER TO PROCEED. IN  
 SELF TEST TEST SEQUENCES,  
 OPTIONS ARE AVAILABLE FOR  
 DPS SUPPORT. BLANK SPACES  
 ARE TO BE FILLED IN WITH  
 DATA SUPPLIED BY CDPS FOR  
 THE OPTION USED.

37-054		CNSE OTC 132	OTC CDPS	REQUEST DPS ASSIGN KYBD AND CRT TO BE USED DURING NAVAIDS SENSOR SELF TEST.	
--------	--	-----------------	----------	---	--

37-055			CNSE	RECORD SELECTED KYBD AND CRT  KYBD _____ CRT _____	
--------	--	--	------	--	--

37-056		CDPS CDR	CDR	PANEL C2 CRT _____ MAJ FUNC SW - GNC _____ CRT SEL SW - _____ (L OR R) (1,2 OR 3)	
--------	--	----------	-----	---	--

37-057		CDPS CDR	CDR	____ KYBD SPEC 99 PRO RESUME  TACAN ACTIVATION -----	
--------	--	----------	-----	--	--

37-058		CNSE CDR 173	CDR	PERFORM FOLLOWING:  1. IF GOULD TACAN 1 INSTALLED, PANEL L4 ROW P AC1 TACAN 1 PH C CB - CLOSE	
--------	--	-----------------	-----	---	--

NOT PERFORMED

SS1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-058 CON'T				2. IF COLLINS TACAN 1 INSTALLED, PANEL 014 ROW C MN A TACAN 1 CB - CLOSE	
				NOT PERFORMED	SS2
				3. IF GOULD TACAN 2 INSTALLED, PANEL L4 ROW P AC2 TACAN 2 PH C CB - CLOSE	
				NOT PERFORMED	SS3
				4. IF COLLINS TACAN 2 INSTALLED, PANEL 015 ROW C MN B TACAN 2 CB - CLOSE	
				NOT PERFORMED	SS4
				5. IF GOULD TACAN 3 INSTALLED, PANEL L4 ROW P AC3 TACAN 3 PH C CB - CLOSE	
				NOT PERFORMED	SS5
				6. IF COLLINS TACAN 3 INSTALLED, PANEL 016 ROW C MN C TACAN 3 CB - CLOSE	
				NOT PERFORMED	SS6

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-059		CNSE	PLT	PANEL O7 TACAN 1 ANT SEL SW - LOWER TACAN 2 ANT SEL SW - LOWER TACAN 3 ANT SEL SW - LOWER  TACAN 1 CHANNEL TW'S - 59Y TACAN 2 CHANNEL TW'S - 59Y TACAN 3 CHANNEL TW'S - 59Y  TACAN 1 MODE SW - T/R TACAN 2 MODE SW - T/R TACAN 3 MODE SW - T/R  GMT _____  TACAN 1 MODE SW - GPC TACAN 2 MODE SW - GPC TACAN 3 MODE SW - GPC  GMT _____	
37-060		CNSE	CRT (VWN99)	VERIFY  TACAN 1 SW STAT ON TACAN 2 SW STAT ON TACAN 3 SW STAT ON  TACAN 1 POWER STAT ON TACAN 2 POWER STAT ON TACAN 3 POWER STAT ON	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
RADAR ALTIMETER ACTIVATION					
-----					
37-061		CNSE CDR 173		PANEL O14 ROW E MN A RADAR ALTM 1 CB - CLOSE (GUARDED)	
				PANEL O15 ROW E MN B RADAR ALTM 2 CB - CLOSE (GUARDED)	
37-062		CNSE PLT		PANEL O8 RADAR ALTIMETER 1 SW - ON 2 SW - ON	
				GMT _____	
37-063		CNSE CRT (VWN99)		VERIFY	
				RALT 1 SW STATUS ON RALT 2 SW STATUS ON	
				RALT 1 READY ON RALT 2 READY ON	
NOTE					
PREFORM NEXT STEP IF THE REQUIREMENT HAS NOT ALREADY BEEN SATISFIED DURING THE OPF FLOW.					
37-064				PREVIOUS STEP SATISFIES THE FOLLOWING REQUIREMENT.	
				OMRSD V74AC0.011-1R	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
MSBLS ACTIVATION -----					
37-065		CNSE CDR 173		PANEL O14 ROW E MN A MLS 1 CB - CLOSE (GUARDED)	
37-066		CNSE PLT		PANEL O15 ROW E MN B MLS 2 CB - CLOSE (GUARDED)  PANEL O16 ROW E MN C MLS 3 CB - CLOSE (GUARDED)	
37-067		CNSE PLT		PANEL O8 MLS 1 SW - ON 2 SW - ON 3 SW - ON  GMT _____	
37-068		CNSE CRT (VWN99)		VERIFY  MSBLS 1 SW STAT ON MSBLS 2 SW STAT ON MSBLS 3 SW STAT ON  MSBLS 1 PWR STAT ON MSBLS 2 PWR STAT ON MSBLS 3 PWR STAT ON	
37-069		CNSE CDR		PNL O8 MLS CHANNEL 1 TW - 8 2 TW - 8 3 TW - 8  GMT _____	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-070		CDPS	CDR	___ KYBD I/O RESET EXEC  FAULT SUMM	
37-071			CDR	CRT ___  VERIFY NO MLS, TACAN OR ALT FAULT SUMMARY MESSAGES.	
37-072		CDPS	CDR	___ KYBD SPEC 99 PRO RESUME  NAVAIDS SELF TEST -----	
37-073		CNSE	CDR	___ KYBD SPEC 101 PRO (CALLS SENSOR SELF TEST PAGE)	
37-074		CNSE	CDR	CRT _____  VERIFY SENSOR SELF TEST PAGE IS ACTIVE	
37-075		CNSE		HOME CMD KEY - PRESS CONSOLE KYBD (VAN12) VAN12  PERF PGM KEY - PRESS  SELECT APPLICATIONS PAGE - B (VAN12)	
37-076		CNSE	CRT	(VAN12) TEST MODE X MANUAL  CURSOR CNTL X MANUAL XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-077		CNSE	CRT (VAN12)	SELECT LRU X MLS	
				CURSOR CNTL X MLS XMIT CURSOR KEY - PRESS	
37-078		CNSE	CRT (VAN12)	VERIFY  USE AVAILABLE ENTRIES	
				NOTE  IN NEXT STEP VERIFY NO *'S APPEAR BESIDE ITEMS 1, 2 AND 3.	
37-079		CNSE	CDR CRT_____	VERIFY  MLS 1 STAT BLANK MLS 1 SELF TEST OFF ITEM 1  MLS 2 STAT BLANK MLS 2 SELF TEST OFF ITEM 2  MLS 3 STAT BLANK MLS 3 SELF TEST OFF ITEM 3	

OPERATION INSTRUCTIONS

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

NOTE

CDR TO SELECT ITEM ENTRIES WHEN MSBLS SELF TESTING INITIATED. THE AZ, EL AND RNG DATA WILL BE DISPLAYED AS FOLLOWS.

AZIMUTH - DATA VALID ON FOR FIRST 1.6 SEC MAX, DATA 3 DEG SIGN BIT ALTERNATING +/- EVERY 3.2 SEC

ELEVATION - DATA VALID ON FOR FIRST 1.6 SEC MAX, DATA 6 DEG

RANGE - DATA VALID ON FOR FIRST 0.2 SEC MAX, DATA 15.2 NM

DUE TO A KNOWN/DOCUMENTED FLIGHT SW PROBLEM, MLS SELF TEST MAY FAIL IN AZMIUTH. IF MLS SELF TEST FAILS ON BOARD IN AZIMUTH, MLS SELF TEST MAY BE REPEATED.

37-080

CNSE CDR

\_\_\_\_\_ KYBD

ITEM 1  
EXEC (ENABLES MLS 1)

ITEM 2  
EXEC (ENABLES MLS 2)

ITEM 3  
EXEC (ENABLES MLS 3)

ITEM 13  
EXEC (INITIATES SELF TEST)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-081		CNSE	CDR	CRT _____  VERIFY  ITEM 1* ITEM 2* ITEM 3* ITEM 13* (APPROX 6 SEC)	
37-082		CNSE		CRT (VAN12)  VERIFY  MLS 1 S/T STAT ON MLS 2 S/T STAT ON MLS 3 S/T STAT ON	
37-083		CNSE	CDR	CRT _____  VERIFY  MLS 1 AZIMUTH _____ DEG +/-3+/-0.1 ELEVATION _____ DEG 6+/-0.1  RANGE _____ NM 15.2+/-0.2  MLS 2 AZIMUTH _____ DEG +/-3+/-0.1 ELEVATION _____ DEG 6+/-0.1  RANGE _____ NM 15.2+/-0.2  MLS 3 AZIMUTH _____ DEG +/-3+/-0.1 ELEVATION _____ DEG 6+/-0.1  RANGE _____ NM 15.2+/-0.2	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-084				CNSE VERIFY FROM SPA PRINTER JOB VAN12 UPON TERMINATION OF VAN12 THAT AZIMUTH, ELEVATION AND RANGE DATA ARE WITHIN TOLERANCE.	
				NOTE	
				PERFORM NEXT STEP IF THE REQUIREMENT HAS NOT ALREADY BEEN SATISFIED DURING THE OFF FLOW.	
37-085				PREVIOUS STEP SATISFIES FOLLOWING REQUIREMENT.	
				OMRSD V74AD0.020-1R	
				NOT PERFORMED	_____
37-086		CNSE	CDR _____	KYBD	
				ITEM 15 EXEC (TERMINATE)	
				ITEM 16 EXEC (INHIBIT)	
37-087		CNSE		CRT (VAN12)	
				VERIFY	
				MLS 1 S/T STAT OFF MLS 2 S/T STAT OFF MLS 3 S/T STAT OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-088				CNSE CURSOR CNTL (VAN12) ITEM 15 (TERMINATE)	
37-089				CNSE CRT (VAN12) SELECT TEST MODE X MANUAL	
37-090				CNSE CURSOR CNTL X MANUAL XMIT CURSOR KEY - PRESS	
37-091				CNSE CRT (VAN12) SELECT LRU X RA	
37-092				CNSE CURSOR CNTL X RA XMIT CURSOR KEY - PRESS	
37-093				CNSE CRT (VAN12) USE AVAILABLE ITEM ENTRIES	

NOTE

IN NEXT STEP VERIFY NO \*'S  
 APPEAR BESIDE ITEMS 7 AND 8.

37-094		CNSE	CDR	CRT_____	
				VERIFY	
				RA 1 STAT BLANK	
				RA 1 SELF TEST OFF ITEM 7	
				RA 2 STAT BLANK	
				RA 2 SELF TEST OFF ITEM 8	
37-095		CNSE	CDR	_____KYBD	
				ITEM 7	
				EXEC (ENABLES RA 1)	
				ITEM 8	
				EXEC (ENABLE RA 2)	
				ITEM 13	
				EXEC (INITIATES SELF TEST)	

OPERATION INSTRUCTIONS

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

37-096

CNSE PERFORM FOLLOWING:

1. CRT (VAN12)

RA 1 DATA VALIDITY GO  
RA 2 DATA VALIDITY GO  
RA 1 S/T CMD ON  
RA 2 S/T CMD ON

RA 1 ALTITUDE DATA \_\_\_\_\_ FT  
1000 +/- 100

RA 2 ALTITUDE DATA \_\_\_\_\_ FT  
1000 +/- 100

NOTE

PERFORM NEXT TWO SUBSTEPS  
IF REQUIREMENT HAS NOT  
ALREADY BEEN SATISFIED  
DURING OPF FLOW.

2. CRT (VWN99)

RA 1 LOCK-ON - GO            V74X0172X  
RA 2 LOCK-ON - GO            V74X0182X

NOT PERFORMED \_\_\_\_\_  
SS2

3. PERFORMANCE OF PREVIOUS  
TWO SUBSTEPS SATISFY  
FOLLOWING REQUIREMENT.

OMRSD V74AC0.020-1R

NOT PERFORMED \_\_\_\_\_  
SS3

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-097		CNSE	CDR CRT _____	VERIFY  RA 1 STAT BLANK RA 1 SELF TEST ON ITEM 7* RA 2 STAT BLANK RA 2 SELF TEST ON ITEM 8* TEST START ITEM 13* (APPROX 20 SEC)  RALT 1 HEIGHT _____ FT BD  RALT 2 HEIGHT _____ FT BD	
37-098		CNSE	CDR _____ KYBD	ITEM 15 EXECUTE (TERMINATE)  ITEM 16 EXECUTE (INHIBIT)	
37-099		CNSE	CRT (VAN12)	VERIFY  RA 1 S/T CMD OFF RA 2 S/T CMD OFF	
37-100		CNSE	CURSOR CNTL (VAN12)	ITEM 15 (TERMINATE)	
37-101		CNSE	CRT (VAN12)	SELECT TEST MODE X MANUAL  CURSOR CNTL X MANUAL XMIT CURSOR KEY - PRESS	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-102				CNSE CRT (VAN12) SELECT LRU X TAC  CURSOR CNTL X TAC XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-103			CNSE	CRT (VAN12) USE AVAILABLE ITEM ENTRIES	
37-104			CNSE	VERIFY TACANS HAVE BEEN POWERED FOR MINIMUM OF TEN MINUTES BEFORE PROCEEDING.	
37-105		CNSE	CDR CRT _____ VERIFY	TAC 1 STAT BLANK TAC 1 SELF TEST OFF ITEM 4 TAC 2 STAT BLANK TAC 2 SELF TEST OFF ITEM 5 TAC 3 STAT BLANK TAC 3 SELF TEST OFF ITEM 6	

NOTE

WHEN SELF TEST IS INITIATED  
V74X0070X, V74X0080X, AND  
V74X0090X (TEST STATUS  
MONITOR) EVENTS WILL GO OFF  
AND THEN COME BACK ON TEN  
SECONDS LATER (MAX)

CDR TO SELECT ITEM ENTRIES  
WHEN SELF TEST IS INITIATED  
TEST STAT MON WILL READ  
TEST THEN GO. ITEM 13\* WILL  
APPEAR FOR APPROX 10 SEC,  
THEN DISAPPEAR.

37-106		CNSE	CDR _____	KYBD ITEM 4 EXEC (ENABLES TACAN 1)  ITEM 5 EXEC (ENABLES TACAN 2)  ITEM 6 EXEC (ENABLES TACAN 3)  ITEM 13 EXEC (INITIATES SELF TEST)	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-107		CNSE	CDR	CRT _____  VERIFY ITEM 4* ITEM 5* ITEM 6* ITEM 13* (APPROX 10 SEC)	
37-108		CNSE	CDR	READ TACAN RANGE DISPLAY  TACAN 1 _____NM 0 +0.5/-0  TACAN 2 _____NM 0 +0.5/-0  TACAN 3 _____NM 0 +0.5/-0	
37-109		CNSE	CDR	READ TACAN AZIMUTH DISPLAY  TACAN 1 _____DEG 180 +/- 2.5  TACAN 2 _____DEG 180 +/- 2.5  TACAN 3 _____DEG 180 +/- 2.5	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-110				CNSE CRT (VAN12)	
				TACAN 1 S/T STAT - ON	
				2 S/T STAT - ON	
				3 S/T STAT - ON	
				TACAN 1 RANGE DATA STATUS - BLANK	
				2 RANGE DATA STATUS - BLANK	
				3 RANGE DATA STATUS - BLANK	
				TACAN 1 BEARING DATA STATUS - BLANK	
				2 BEARING DATA STATUS - BLANK	
				3 BEARING DATA STATUS - BLANK	
				TACAN 1 TEST STAT MON - TEST/GO	
				2 TEST STAT MON - TEST/GO	
				3 TEST STAT MON - TEST/GO	
				RECORD	
				TACAN 1 RANGE DATA _____ NM	
				0 +0.5/-0	
				TACAN 2 RANGE DATA _____ NM	
				0 +0.5/-0	
				TACAN 3 RANGE DATA _____ NM	
				0 +0.5/-0	
				TACAN 1 BEARING DATA _____ DEG	
				180+/-2.5	
				TACAN 2 BEARING DATA _____ DEG	
				180+/-2.5	
				TACAN 3 BEARING DATA _____ DEG	
				180+/-2.5	

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF THE  
 REQUIREMENT HAS NOT ALREADY  
 BEEN SATISFIED DURING THE  
 OPF FLOW.

37-111				PERFORMANCE OF PREVIOUS STEP SATISFIES FOLLOWING REQUIREMENT.  OMRSD V74AB0.020-1R	
					NOT PERFORMED _____
37-112		CNSE CDR	_____	KYBD  ITEM 15 EXEC (TERMINATE SELF TEST)  ITEM 16 EXEC (INHIBIT)	
37-113		CNSE CRT	(VAN12)	VERIFY  TACAN 1 S/T STAT OFF 2 S/T STAT OFF 3 S/T STAT OFF	
37-114		CNSE CDR	_____	KYBD  RESUME	
37-115		CNSE CDR	CRT _____	VERIFY  GPC MEMORY	
37-116		CNSE PFP		VAN12 - PRESS TERM VAN12 - PRESS KEY 7 - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-117				CNSE SELECT APPLICATIONS PAGE-B (VWN99)  CRT (VWN99)  RA1 ALTITUDE _____ FT BD RA2 ALTITUDE _____ FT BD	
37-118		CNSE PLT		PANEL O8 RADAR ALTIMETER 1 SW - OFF 2 SW - OFF  GMT _____	
37-119				CNSE CRT (VWN99)  RALT 1 SW STATUS - OFF RALT 2 SW STATUS - OFF	
37-120		CNSE PLT		PANEL O8 MLS 1 SW - OFF 2 SW - OFF 3 SW - OFF  GMT _____	
37-121				CNSE CRT (VWN99)  MSBLS 1 SW STAT OFF MSBLS 2 SW STAT OFF MSBLS 3 SW STAT OFF  MSBLS 1 PWR STAT OFF MSBLS 2 PWR STAT OFF MSBLS 3 PWR STAT OFF	
37-122		CNSE CDR		____ KYBD MSG RESET	

OPERATION INSTRUCTIONS

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

37-123                    CNSE CDR    PANEL O7  
   TACAN 1 ANT SEL SW - AUTO  
   TACAN 2 ANT SEL SW - AUTO  
   TACAN 3 ANT SEL SW - AUTO

NOTE

NOTED REQUIREMENT IS SATISFIED  
BY COMPLETION OF NEXT FOUR STEPS.

OMRS V74AB0.102-1R

37-124                    CNSE CURSOR CNTL (VWN99)  
  
   TACAN 1 ANT SEL UPPER  
   XMIT CURSOR KEY - PRESS  
   EXEC CMD KEY - PRESS  
  
   TACAN 2 ANT SEL UPPER  
   XMIT CURSOR KEY - PRESS  
   EXEC CMD KEY - PRESS  
  
   TACAN 3 ANT SEL UPPER  
   XMIT CURSOR KEY - PRESS  
   EXEC CMD KEY - PRESS

NOTE

NEXT TWO STEPS WILL PERFORM  
THE GOULD TACAN BLANKING TEST.  
ALL TACANS SHOULD BE COMMANDED  
TO AN UNUSED 'X' CHANNEL AND  
MONITORED FOR A MINIMUM OF  
2 MINUTES. SEVERAL 'X'  
CHANNELS MAY NEED TO BE  
COMMANDED TO FIND ONE WITHOUT  
INTERFERENCE.

37-125                    CNSE CURSOR CNTL (VWN99)  
   TACANS 1, 2 AND 3  
   CONTROL WORD ISSUE -

T/R, \_\_\_\_\_ X

OPERATION INSTRUCTIONS

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

NOTE

IF GOULD TACAN(S) ARE INSTALLED,  
WAIT UNTIL THEIR RANGE DATA ARE  
TOGGLING (IN SEARCH) BEFORE  
PERFORMING NEXT STEP.

37-126

CNSE CRT (VWN42)

TACAN 1 AGC \_\_\_\_\_VOLTS NLT 4.5  
TACAN 2 AGC \_\_\_\_\_VOLTS NLT 4.5  
TACAN 3 AGC \_\_\_\_\_VOLTS NLT 4.5

NOTE

PERFORM NEXT STEP IF ONE OR  
MORE COLLINS (NEW) TACAN(S)  
IS INSTALLED. USE THE CHANNEL  
SELECTED DURING THE PREVIOUS  
BLANKING STEP.

37-127

CNSE PERFORM FOLLOWING TO VERIFY BLANKING  
ON COLLINS TACANS.

1. CURSOR CNTL (VWN99)  
COMMAND  
TACAN 2 - \_\_\_X,RCV,S/TOFF  
TACAN 3 - \_\_\_X,RCV,S/TOFF

CRT (VWN99)  
VERIFY

TACAN 1  
MODE RCV/TR T/R V74K1513B1  
TACAN 2  
MODE RCV/TR RCV V74K1613B1  
TACAN 3  
MODE RCV/TR RCV V74L1713B1

ALL COLLINS TACANS HAVE SUPPRESSION  
BIT ON



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-127				2. CURSOR CNTL (VWN99)	
CON'T				COMMAND	
				TACAN 1 - ___X.RCV,S/TOFF	
				TACAN 2 - ___X,T/R,S/TOFF	
				CRT (VWN99)	
				VERIFY	
				TACAN 1	
				MODE RCV/TR	RCV V74K1513B1
				TACAN 2	
				MODE RCV/TR	T/R V74K1613B1
				TACAN 3	
				MODE RCV/TR	RCV V74L1713B1
				ALL COLLINS TACANS HAVE SUPPRESSION	
				BIT ON	
				3. CURSOR CNTL (VWN99)	
				COMMAND	
				TACAN 2 - ___X.RCV,S/TOFF	
				TACAN 3 - ___X,T/R,S/TOFF	
				CRT (VWN99)	
				VERIFY	
				TACAN 1	
				MODE RCV/TR	RCV V74K1513B1
				TACAN 2	
				MODE RCV/TR	RCV V74K1613B1
				TACAN 3	
				MODE RCV/TR	T/R V74L1713B1
				ALL COLLINS TACANS HAVE SUPPRESSION	
				BIT ON	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-127				4. CURSOR CNTL (VWN99) COMMAND TACAN 3 - _____X,,RCV,S/T OFF  CRT VERIFY TACAN 1 MODE RCV/TR RCV V74K1513B1 TACAN 2 MODE RCV/TR RCV V74K1613B1 TACAN 3 MODE RCV/TR RCV V74K1713B1  ALL COLLINS HAVE SUPPRESSION BIT OFF  NOT PERFORMED _____	
37-128				COMPLETION OF PREVIOUS FOUR STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD V74AB0.102-1R	
37-129				CNSE CURSOR CNTL (VWN42) TACAN 1 ANT SEL LOWER XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  TACAN 2 ANT SEL LOWER XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  TACAN 3 ANT SEL LOWER XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
TACAN GROUND INTERFACE TEST					
37-130		CNSE PLT 173		PANEL 07 TACAN 1 MODE SW - T/R TACAN 2 MODE SW - T/R TACAN 3 MODE SW - T/R  GMT _____	
NOTE					
PERFORM APPROPRIATE SUBSTEP(S) IF TACAN 1, 2, OR 3 IS A GOULD TACAN AND WILL NOT LOCK TO GROUND STATION. (THIS WORKAROUND HAS NOT BEEN APPROVED FOR THE COLLINS TACANS.)					
37-131		CNSE CDR		PANEL 07 1. TACAN 1 CHANNEL TW - X THEN BACK TO Y  NOT PERFORMED  2. TACAN 2 CHANNEL TW - X THEN BACK TO Y  NOT PERFORMED  3. TACAN 3 CHANNEL TW - X THEN BACK TO Y  NOT PERFORMED  NOT PERFORMED	_____ SS1    _____ SS2    _____ SS3  _____

OPERATION INSTRUCTIONS

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

NOTE

USE FOLLOWING DATA FOR  
NEXT STEP.

	PAD A	PAD B
	-----	-----
RANGE (NM)	4.96	3.96
BEARING (DEG)	282.39	269.08

37-132

CNSE CRT (VWN99)

TACAN 1 RNG VALID - GO  
TACAN 2 RNG VALID - GO  
TACAN 3 RNG VALID - GO  
TACAN 1 RNG DATA - \_\_\_\_\_ NM +/- 0.2  
TACAN 2 RNG DATA - \_\_\_\_\_ NM +/- 0.2  
TACAN 3 RNG DATA - \_\_\_\_\_ NM +/- 0.2  
TACAN 1 BRNG VALID - GO  
TACAN 2 BRNG VALID - GO  
TACAN 3 BRNG VALID - GO  
TACAN 1 BRNG DATA - \_\_\_\_\_ DEG +/- 2.0  
TACAN 2 BRNG DATA - \_\_\_\_\_ DEG +/- 2.0  
TACAN 3 BRNG DATA - \_\_\_\_\_ DEG +/- 2.0  
TACAN 1 AGC - \_\_\_\_\_ V BD  
TACAN 2 AGC - \_\_\_\_\_ V BD  
TACAN 3 AGC - \_\_\_\_\_ V BD

NOTE

PERFORM NEXT STEP IF THE  
REQUIREMENT HAS NOT ALREADY  
BEEN SATISFIED DURING THE  
OPF FLOW.

37-133

PERFORMANCE OF PREVIOUS STEP  
SATISFIES FOLLOWING REQUIREMENT.

OMRSD V74AB0.190-1R

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
37-134		CNSE 173	FTAC	REQUEST TACAN TRANSPONDER SWITCHOVER PER OMI Z3D00 SEQ 7 - ORBITER NAVAIDS ACTIVATION SUPPORT.	COMM
37-135		FTAC 173	CNSE	TACAN TRANSPONDER SWITCHOVER COMPLETE (7-3319).	COMM
37-136			CNSE	CRT (VWN99)	
				TACAN 1 RNG VALID - GO	
				TACAN 2 RNG VALID - GO	
				TACAN 3 RNG VALID - GO	
				TACAN 1 RNG DATA - _____	NM +/- 0.2
				TACAN 2 RNG DATA - _____	NM +/- 0.2
				TACAN 3 RNG DATA - _____	NM +/- 0.2
				TACAN 1 BRNG VALID - GO	
				TACAN 2 BRNG VALID - GO	
				TACAN 3 BRNG VALID - GO	
				TACAN 1 BRNG DATA - _____	DEG +/- 2.0
				TACAN 2 BRNG DATA - _____	DEG +/- 2.0
				TACAN 3 BRNG DATA - _____	DEG +/- 2.0
				TACAN 1 AGC - _____	V BD
				TACAN 2 AGC - _____	V BD
				TACAN 3 AGC - _____	V BD
37-137		CNSE PLT		PANEL O7 TACAN 1 MODE SW - OFF TACAN 2 MODE SW - OFF TACAN 3 MODE SW - OFF  GMT _____	
37-138		CNSE CRT		VERIFY  TACAN 1 SW OFF TACAN 2 SW OFF TACAN 3 SW OFF	

OPERATION INSTRUCTIONS

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

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NOTE

PERFORM NEXT STEP IF LOGIC  
SWITCHES ARE NOT ON.

37-139		CNSE MS1		PNL MA73C ROW A MCA LOGIC MN C MID 2 SW - ON  ROW B MCA LOGIC MN B MID 4 SW - ON	
--------	--	----------	--	---	--

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

KU-BAND POSITION VERIF  
-----

37-140		CNSE CRT VWN80		VERIFY  KU-BAND DPLY/STOW STOW 1&2 BOOM STOW II ON	
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OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF LOGICS  
 WERE ORIGINALLY OFF.

37-141		CNSE MS1		PNL MA73C ROW A MCA LOGIC MN C MID 2 SW - OFF ROW B MCA LOGIC MN B MID 4 SW - OFF	
					NOT PERFORMED _____
37-142		CNSE PFK-15		PRESS PFP VAA40 - PRESS SET TERM - PRESS EXEC TERM - PRESS KEY 7 - PRESS	
37-143		CNSE GEMA 173		NAVAIDS ACTIVATION COMPLETE AND TACANS POWERED DOWN AT THIS TIME.	
37-144		CNSE OTC 132 OTC		NAVAIDS ACTIVATION AND SELF TEST COMPLETE. USE OF CRT CDPS AND KYBD NO LONGER REQUIRED.	
37-145		OTC NTD 232		NAVAIDS ACTIVATION AND SELF TEST COMPLETE.	
				NAVAIDS ACTIVATION COMPLETE	

VOLUME 4 OF 5  
DATE: 07-08-99

OMI NO. - S0007VL4  
REV. - AY

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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38-000				INSTRUMENTATION	
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NOTE

THE MTU MUST BE POWERED FOR 12 CONTINUOUS HOURS PRIOR TO PERFORMING MTU FREQUENCY READS.

DO NOT PERFORM MTU FREQUENCY READ (T-34H30M) IF MTU FREQUENCY READS WERE PERFORMED PER A PREVIOUS RUN AND IF THE ORBITER HAS REMAINED POWERED SINCE THE LAST FREQUENCY READ.

MTU FREQUENCY READ (T-34H30M)

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

38-001		CISL	JISE	LOCK MTU TEST SET TO OV-_____. CONFIGURE FOR OSC 1. SET SAMPLES TO 100 AND INTERVAL TO 0 PER S9001. RECORD CHANGES IN CHANGE LOG.	
--------	--	------	------	--	--

NOTE

IF MTU OSCILLATOR 1 HAS ALREADY BEEN SELECTED, MARK NEXT STEP "NOT PERFORMED".

NOTED OMRS REQUIREMENT IS SATISFIED BY COMPLETION OF THE FOLLOWING SIX STEPS.

OMRS V75AP0.030

38-002		CISL	CDR	PANEL O6 145 MASTER TIMING UNIT SW - OSC 1	
--------	--	------	-----	---	--

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

OPERATION INSTRUCTIONS

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

NOTE

THE MTU PROGRAM STARTS AT  
100 SAMPLES AND COUNTS DOWN.  
ALLOW A FULL 100 SAMPLES  
BEFORE READING DELTAS.

- |        |           |  |
|--------|-----------|--|
| 38-003 | CISL JISE | AFTER 100 SAMPLES, PERFORM MTU OSC 1<br>FREQUENCY DELTA READ   |
|        |           | <p>RECORD<br/>OSC 1 _____<br/>LESS THAN <math>8 \times 10</math> TO THE MINUS 8</p> <p>GMT _____</p>   |
| 38-004 | CISL CDR  | PANEL O6<br>MASTER TIMING UNIT SW - OSC 2  |
| 38-005 | JISE      | MTU MONITOR KYBD<br>F5 PRESS (EDIT)<br>F4 PRESS (OSC #) VERIFY OSC 2<br>F2 PRESS (OPERATE)<br>RECORD IN CHANGE LOG   |
| 38-006 | CISL JISE | PERFORM MTU OSC 2<br>FREQ DELTA READ   |
|        |           | <p>RECORD<br/>OSC 2 _____<br/>LESS THAN <math>8 \times 10</math> TO THE MINUS 8</p> <p>GMT _____</p>   |
| 38-007 | CISL JISE | COMPUTE DIFFERENCE BETWEEN<br>OSC 1 AND OSC 2.   |
|        |           | $\frac{\quad}{(\text{OSC 1})} - \frac{\quad}{(\text{OSC 2})} = \frac{\quad}{(\text{DELTA FREQ})}$ <p>VERIFY ABSOLUTE VALUE OF DELTA<br/>FREQUENCY IS LESS THAN <math>7 \times 10</math><br/>TO THE MINUS 9</p> |

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-008				COMPLETION OF THE PREVIOUS SIX STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD V75AP0.030-1R	
				NOTE  PERFORM NEXT TWO STEPS IF MTU OSCILLATOR NO. 1 IS DESIRED FOR LAUNCH PER INS ENGINEER.	
38-009		CISL CDR		PANEL O6 MASTER TIMING UNIT SW - OSC 1	
				NOT PERFORMED	_____
38-010			JISE	MTU MONITOR KYBD F5 - PRESS (EDIT) F4 - PRESS (OSC #) VERIFY OSC 1 F2 - PRESS (OPERATE) RECORD IN CHANGE LOG	
				NOT PERFORMED	_____
38-011		CISL CDR		PANEL O6 MASTER TIMING UNIT SW - AUTO	
38-012			JISE	CHANGE MTU TEST SET TO SCAN MODE PER S9001.	
38-013		CISL OTC		MTU FREQ READ COMPLETE. 132	
				MTU FREQUENCY READ (T-34H30M) COMPLETE	-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM MADS FDM/PCM  
 TEST OV-103/OV-104/OV-105  
 (T-33H30M) FOR OV-102.

MADS FDM/PCM TEST OV-103/OV-104/OV-105  
 -----  
 (T-33H30M)  
 -----

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

38-014		CISL	JRPS	PERFORM ORBITER OPERATION SUPPORT 145 SETUP 14 - RPS - MADS ORBITER FDM VERIFICATION TEST. REPORT COMPLETION.	
--------	--	------	------	---	--

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

38-015		CISL	JRPS	START GND MAG TAPE RECORDER AT 15 IPS TO RECORD MADS R/T DATA.	
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38-016		CISL	MS1	PANEL A6L MADS RECORDER POWER SW - OFF PB FWD SW - OFF POWER MN B CB - CLOSE WIDEBAND/ACIP PCM SW - ON STRAIN GAGE SW - ON PCM CMD/ON SW - ON	
--------	--	------	-----	--	--

38-017		CISL	CDR	PANEL C3 MADS MASTER POWER SW - ON	
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38-018		CISL	CRT	(SAQ04/VWQ14)  VERIFY  MADS PCM BITE GOOD FDM BITES GOOD	
--------	--	------	-----	--	--

38-019		CISL	JRPS	START FDM AND PCM STRIP CHART JISE RECORDER AT 5MM/SEC	
--------	--	------	------	---	--

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-020		CISL	MS1	PANEL A6L MADS FDM CONTROL SW - AUTO CALBR (HOLD FOR 2 SEC - RELEASE)	
38-021		CISL	CRT	(SAQ04/VWQ14)  VERIFY  MADS FDM MODE DATA CAL DATA  (WAIT TEN SECONDS, THEN PROCEED)	
38-022		CISL	MS1	PANEL A6L MADS FDM CONTROL SW - AUTO CALBR (HOLD FOR 2 SEC - RELEASE)	
38-023		CISL	CRT	(SAQ04/VWQ14)  VERIFY  MADS FDM MODE DATA CAL DATA	
38-024		CISL	JRPS	VERIFY TWO AUTO CALS RECEIVED ON JISE ALL FDM STRIP CHART RECORDER CHANNELS. STOP FDM STRIP CHART RECORDER.	
NOTE					
NOTED OMRS REQUIREMENT IS SATISFIED BY COMPLETION OF THE FOLLOWING THREE STEPS.					
OMRS V78GA0.010					
38-025		CISL	JRPS	PATCH MADS PCM 1 TO TIME DISPLAY AND VERIFY PRESENCE OF CURRENT GMT AND UPDATING.	T:_____
38-026		CISL	JRPS	PATCH FDM1 MUX 1 CHAN 1 TO TIME JISE DISPLAY AND VERIFY PRESENCE OF CURRENT GMT AND UPDATING.	T:_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-027		CISL	JRPS	PATCH FDM2 MUX 1 CHAN 1 TO TIME JISE DISPLAY AND VERIFY PRESENCE OF CURRENT GMT AND UPDATING.	T:_____
38-028				COMPLETION OF THE PREVIOUS THREE STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD V78GA0.010	
38-029		CISL	JRPS	DISPLAY FDM MUX'S ON SPECTRUM JISE ANALYZER AND TAKE PHOTOS OR PLOT OF EACH COMPOSITE. REPORT COMPLETE.	
NOTE					
NOTED OMRS REQUIREMENT IS SATISFIED BY COMPLETION OF THE FOLLOWING THREE STEPS.  OMRS V78GA0.030					
38-030		CISL	JRPS	PERFORM MADS 64 KB PCM SNAPSHOT JISE IN ENG UNITS (6 COPIES) AND MADS FDM SNAPSHOT PCT (6 COPIES). REPORT COMPLETION.	
38-031		CISL	MS1	PANEL A6L MADS WIDEBAND/ACIP PCM SW - OFF	
38-032		CISL	JRPS	PERFORM MADS 32 KB PCM SNAPSHOT IN ENG UNITS (6 COPIES). REPORT COMPLETION.	
38-033				COMPLETION OF THE PREVIOUS THREE STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD V78GA0.030	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-034		CISL	MS1	PANEL A6L MADS PCM CMD/ON SW - CMD STRAIN GAGE SW - PCM ENA POWER MN B CB - OPEN	
38-035		CISL	CDR	PANEL C3 MADS MASTER POWER SW - OFF	
38-036		CISL	JRPS	RECORDING OF MADS R/T DATA NO LONGER REQUIRED. STOP PCM STRIP CHART RECORDER.  RECORD MAG TAPE NO. _____	
38-037		CISL	OTC 132	MADS FDM/PCM TEST (OV-103/OV-104/OV-105) COMPLETE.  MADS FDM/PCM TEST OV-103/OV-104/OV-105 ----- (T-33H30M) COMPLETE -----	
NOTE					
PERFORM OEX/MADS/FDM/PCM/TEST OV-102 FOR OV-102 ONLY.					
OEX/MADS/FDM/PCM/TEST OV-102 -----					
NOT PERFORMED _____					
38-038		CISL	JRPS 145	PERFORM ORBITER OPERATION SUPPORT SETUP 14 - RPS MADS FDM TEST (ORBITER) - JRPS. REPORT COMPLETION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-039		CISL	CDR	PNL C3 MASTER OEX PWR SW - ON  PNL A7L OEX EQUIP SW - ON	
38-040		CISL	JRPS	START GND MAG TAPE RECORDER AT 15 IPS TO RECORD MADS R/T DATA.	
38-041		CISL		CURSOR CNTL (SAQ04/VWQ14) PCM 1/2 - ON XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  PCM 3/SGSC - ON XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  WB/ACIP - ON XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  SGSC - ON XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
38-042		CISL		CRT (SAQ04/VW14) (MADS DISPLAY)  VERIFY  MADS FDM BITES MUX1 GOOD MUX2 GOOD MUX3 GOOD MUX4 GOOD PCM 1 BITE GOOD PCM 2 BITE GOOD PCM 3 BITE GOOD	
38-043		CISL	JRPS	START STRIP CHART RECORDER AT JISE 5 MM/SEC.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-044		CISL		CURSOR CNTL (VWQ17/VDQ13) OEX/MADS PWR CONTROL FDM AUTO CAL XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT  VERIFY MADS FDM MODE DATA CAL DATA  (DELAY 10 SEC THEN CONTINUE)	
38-045		CISL		CURSOR CNTL (VWQ17/VDQ13) OEX/MADS FDM AUTO CAL XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT  VERIFY MADS FDM MODE DATA CAL DATA  (DELAY 10 SECONDS THEN CONTINUE)	
38-046		CISL	JRPS	VERIFY TWO AUTO CALS RECEIVED JISE ON ALL FDM STRIP CHART CHANNELS. STOP FDM STRIP CHART RECORDER.	

OPERATION INSTRUCTIONS

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

NOTE

NOTED OMRS REQUIREMENT IS SATISFIED BY COMPLETION OF THE FOLLOWING FOUR STEPS.

OMRS V78GA0.010

38-047		CISL	JRPS	PATCH FDM1 MUX 1 CHAN 1 TO TIME JISE DISPLAY AND VERIFY PRESENCE OF CURRENT GMT AND UPDATING.	T:_____
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38-048		CISL	JRPS	PATCH FDM 2 MUX 1 CHAN 1 TO TIME JISE DISPLAY AND VERIFY PRESENCE OF CURRENT GMT AND UPDATING.	T:_____
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38-049		CISL	JRPS	PATCH MADS PCM1 TO TIME DISPLAY AND JISE VERIFY PRESENCE OF CURRENT GMT AND UPDATING.	T:_____
--------	--	------	------	---	---------

38-050		CISL	JRPS	PATCH MADS PCM2 TO TIME DISPLAY AND JISE VERIFY PRESENCE OF CURRENT GMT AND UPDATING.	T:_____
--------	--	------	------	---	---------

38-051				COMPLETION OF THE PREVIOUS FOUR STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD V78GA0.010	
--------	--	--	--	---	--

38-052		CISL	JRPS	DISPLAY FDM MUX'S ON SPECTRUM JISE ANALYZER AND TAKE PHOTOS OF EACH COMPOSITE. REPORT COMPLETION.	
--------	--	------	------	---	--

38-053		CISL	JRPS	PERFORM MADS 64KB PCM SNAPSHOT IN JISE ENG UNITS (6 COPIES) AND MADS FDM SNAPSHOT PCT (6 COPIES). REPORT COMPLETION.  OMRSD V78GA0.030	
--------	--	------	------	--	--

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-054		CISL		CURSOR CNTL (SAQ04/VDQ13) MADS/OEX DISPLAY SCM CMDS XMIT CURSOR KEY - PRESS	
38-055		CISL		CURSOR CNTL (SAQ04/VDQ14) MADS/OEX DISPLAY SCM CMD SEL PCMMU(V78K9741UL XMIT CURSOR KEY - PRESS  SCM DECIMAL CMD SEL ISSUE CMD - 02 (V78K9701UL MADS PCM 1) XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS ISSUE CMD - 01 (V78K9700UL RATE) XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS ISSUE CMD - 01 (V78K9700UL 32 KB) XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  SCM CMD SEL PCMMU (V78K9741UL) XMIT CURSOR KEY - PRESS  SCM DECIMAL CMD SEL ISSUE CMD - 03 (V78K9702UL MADS PCM 2) XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS ISSUE CMD - 01 (V78K9700UL RATE) XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS ISSUE CMD - 01 (V78K9700UL 32 KB) XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT  FD DISPLAY V78K9741UL V78K9701UL V78K9700UL V78K9700UL V78K9741UL V78K9702UL V78K9700UL V78K9700UL	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-056		CISL		CURSOR CNTL (SAQ04/VDQ14) MADS/OEX DISPLAY SCM CMD SEL ENTER XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT  FD DISPLAY VERIFY V78K9735UL FD DISPLAY CLEARED	
38-057		CISL		CURSOR CNTR (SAQ04/VDQ14) MADS/OEX DISPLAY RETURN XMIT CURSOR KEY - PRESS	
38-058		CISL		CRT (SAQ04/VDQ13) MADS/OEX DISPLAY  STATUS VERIFY PCM 1 BITE GOOD PCM 2 BITE GOOD	
38-059		CISL	JRPS	PERFORM MADS 32 KB PCM SNAPSHOT IN JISE ENG UNITS. (6 COPIES) REPORT COMPLETION.  OMRSD V78GA0.030	
38-060		CISL		CURSOR CNTL (SAQ04/VWQ14) PCM 1/2 - OFF XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  PCM 3/SGSC - OFF XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  WB/ACIP - OFF XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  SGSC - OFF XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-061		CISL	JRPS	RECORDING OF MADS R/T DATA NOT LONGER REQUIRED. STOP PCM STRIP CHART RECORDER.  MAG TAPE NO. _____	
38-062		CISL	OTC 132	OEX/MADS FDM/PCM TEST OV-102 COMPLETE.  OEX/MADS/FDM/PCM/TEST OV-102 ----- COMPLETE -----	
NOTE					
DO NOT PERFORM PCM TO GSE CONTROL IF PCM IS TO REMAIN IN PANEL CONTROL.					
PCM TO GSE CONTROL -----					
NOT PERFORMED _____					
NOTE					
OPERATIONS INVOLVING CRIT 1, 1R AND/OR 1S ITEMS ARE CONTAINED IN THE FOLLOWING SEQUENCE/STEPS.					
NOTED OMRS REQUIREMENT IS SATISFIED BY COMPLETION OF THE FOLLOWING THREE STEPS.					
OMRS V75AP0.010					
38-063		CISL		CURSOR CNTL (SAQ04/VWQ11) PCM CONTROL PCMMU 1 - ON XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
38-064		CISL	CDR 145	PANEL C3 OI PCMMU POWER SW - OFF FORMAT SW - GPC	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-065				CISL CRT (SAQ04/VWQ11)  VERIFY  OI DATA VALID (UP ARROW) PCMMU PCML ON RPC'S ACTIVE SW SCAN OFF COMMAND ON FORMAT SW SCAN GPC BITE 1 POWER GOOD 2 MTU GOOD	
38-066				COMPLETION OF THE PREVIOUS THREE STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD V75AP0.010-1R	
38-067		CISL	OTC 132	PCM TO GSE CONTROL COMPLETE.  PCM TO GSE CONTROL COMPLETE -----	

OPERATION INSTRUCTIONS

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

NOTE

DO NOT PERFORM INST RECORDER  
SET UP FOR TERMINAL COUNT  
IF 24 HR HOLD OCCURS AT  
T-6 HRS.

INST RECORDER SET UP FOR TERMINAL  
-----  
COUNT  
-----

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

NOTE

PAYLOAD RECORDER REQUIREMENTS  
AND SWITCH POSITIONS VARY FROM  
FLIGHT TO FLIGHT. CISL WILL  
PROVIDE SWITCH POSITIONS AND  
PERFORM REQUIRED STEPS.

NOTED REQUIREMENT IS SATISFIED  
BY COMPLETION OF NEXT TWO STEPS.

OMRS V75AP0.020

PERFORM NEXT STEP FOR  
RECYCLE OR IF RECORDERS  
POWERED UP.

38-068

CISL CDR PANEL AIR  
OPS RECORDERS  
1 MODE SW - STBY  
2 MODE SW - STBY

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

OPERATION INSTRUCTIONS

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

NOTE

RECORDER INTEGRATED TEST SETUP MUST BE PERFORMED UNDER SAQ06. THE RECORDER SETUP SEQUENCER PROMPTS WILL APPEAR ON THE SEQUENCER PAGE. THE CURSOR TARGETS TO INDICATE "PERFORMED" (PERF) AND "NOT PERFORMED" (NPERF) ARE ALSO ON THE SEQUENCER PAGE. RESPONSE TO SEQUENCER PROMPTS (PERF, NPERF) WILL BE AFTER ACTION TAKEN.

38-069

CISL CURSOR CNTL (SAQ06/VWQ15)  
INTEG TEST SETUP  
OPS 1  
XMIT CURSOR KEY - PRESS  
  
OPS 2  
XMIT CURSOR KEY - PRESS

NOTE

PERFORM NEXT CMD IF P/L  
RCDR IS INSTALLED.

P/L  
XMIT CURSOR KEY - PRESS

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

EXEC SELECTION  
XMIT CURSOR KEY - PRESS  
EXEC CMD KEY - PRESS

38-070

COMPLETION OF PREVIOUS TWO STEPS  
SATISFIES NOTED OMRS REQUIREMENT.

OMRSD V75AP0.020



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

FOLLOWING PROMPTS/INDICATIONS  
WILL APPEAR ON CONSOLE.  
ALL PROMPTS MUST BE PERFORMED  
AND INDICATIONS VERIFIED ON  
THIS STEP. PERFORM AND VERIFY  
P/L RECORDER PROMPTS AND  
INDICATIONS IF REQUIRED.  
RESPONSE TO SEQUENCER PROMPTS  
(PERF, NPERF) WILL BE  
PERFORMED AFTER ACTION TAKEN.

38-071

CISL CRT (SAQ06/VTQ04)

VERIFY

VSQ06 RECORDER SEQUENCER ACTIVE

OPS 1 RCDR INTEG TEST SETUP INITIATED

CISL MSI PNL A1R  
OPS RECORDERS  
1 MODE SW - STBY  
MAINT/LOOP SW - MAN  
PWR 1 SW - ON

OPS 2 RCDR INTEG TEST SETUP INITIATED

CISL MS1 PNL A1R  
OPS RECORDERS  
2 MODE SW - STBY  
MAINT/LOOP SW - MAN  
PWR 2 SW - ON

PL RCDR INTEG TEST SETUP INITIATED

CISL MS1 PNL A1R  
PAYLOAD RECORDER  
FUNCTION SW - MODE SEL  
MODE SW - STOP  
POWER SW - ON

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-071				VERIFY	
CON'T				OPS 1 ERASE COMMAND ISSUED OPS 2 ERASE COMMAND ISSUED P/L ERASE COMMAND ISSUED	
				OPS 1 EOT ON OPS 2 EOT ON P/L EOT ON	
				OPS 1 BOT, REWIND TIME _____ OPS 2 BOT, REWIND TIME _____ P/L BOT, REWIND TIME _____	
				P/L STOP COMMAND ISSUED OPS 1 AND OPS 2 STOP COMMAND ISSUED	
				NOTE	
				PERFORM AND VERIFY FOLLOWING FINAL PROMPT.	
		CISL MS1		PANEL A1R OPS RECORDER 1 MODE SW - RECORD 2 MODE SW - RECORD	
				NOTE	
				PERFORM NEXT STEP IF PAYLOAD RECORDER IS INSTALLED AND PANEL CONTROL TALKBACK IS TO BE GREY PER ASCENT SWITCHLIST.	
38-072				CISL CURSOR CNTL (SAQ04/VWQ15) P/L RECORDER STANDBY XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

CISL ENGR WILL PROVIDE  
APPLICABLE SWITCH POSITIONS  
FOR NEXT STEP.

38-073

CISL CDR PANEL AIR  
PAYLOAD RECORDER  
PANEL CONTROL TB \_\_\_\_\_

FUNCTION SW - \_\_\_\_\_

MODE SW - \_\_\_\_\_

MODE TB \_\_\_\_\_

POWER SW - \_\_\_\_\_

SPEED SW - \_\_\_\_\_

INST RECORDER SET UP FOR TERMINAL

-----  
COUNT COMPLETE  
-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
MADS RCDR SETUP FOR TERMINAL COUNT					
-----					
(OV-103/OV-104/OV-105 ONLY)					
-----					
NOT PERFORMED _____					
38-074		CISL	JRPS	START GROUND MAG TAPE RCDR AT 145 15 IPS.	
38-075		CISL	MS1	PANEL A6L MADS POWER MN B CB - CLOSE WIDEBAND/ACIP PCM SW - CMD PCM CMD/ON SW - CMD	
38-076		CISL	CDR	PANEL C3 MADS MASTER POWER SW - ON	
NOTE					
NEXT STEP REQUIRES THAT MEC 2 POWER BE APPLIED.					
PERFORM NEXT STEP FOR OV-103 ONLY.					
38-077		CISL	CEPD	CURSOR CNTL (VWC14) MEC ET CMDS MEC 2 ET DFI PWR - ON XMIT CURSOR KEY - PRESS	
NOT PERFORMED _____					
38-078		CISL	JRPS	START STRIP CHART RECORDER AT 5 MM/SEC. (REF OSSU 14 - FDM CHART ONLY)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-079		CISL		CURSOR CNTL (SAQ04/VWQ14) MADS PCM PWR - ON XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS WB/ACIP - ON XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
38-080		CISL	JISE	VERIFY RECEPTION OF FDM 1 AND 2, MUXES A-D.	
NOTE					
FOLLOWING STEPS ARE TO BE RUN WITHOUT DELAY IN ORDER TO MINIMIZE MADS RECORDER RUN TIME.					
38-081		CISL	MS1	PANEL A6L MADS RECORDER POWER SW - ON	
38-082		CISL		CRT (SAQ04/VWQ14)  VERIFY  MADS RECORDER BITE GOOD MOTION ON MODE RECD PASS 1	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NOTED OMRS REQUIREMENT IS  
SATISFIED BY COMPLETION  
OF THE FOLLOWING 13 STEPS.

OMRS V78GA0.020

38-083		CISL MS1		PANEL A6L MADS FDM CONTROL SW - MAN CALBR MAN CALBR SW - 0	
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38-084			CISL CRT (SAQ04/VWQ14)	VERIFY MADS FDM MODE CAL (WAIT 10 SEC THEN PROCEED)	
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38-085		CISL MS1		PANEL A6L MADS FDM MAN CALBR SW - 25 (WAIT 5 SEC THEN PROCEED)	
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38-086		CISL MS1		PANEL A6L MADS FDM MAN CALBR SW - 50 (WAIT 5 SEC THEN PROCEED)	
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38-087		CISL MS1		PANEL A6L MADS FDM MAN CALBR SW - 75 (WAIT 5 SEC THEN PROCEED)	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-088		CISL	MS1	PANEL A6L MADS FDM MAN CALBR SW - 100  (WAIT 10 SEC THEN PROCEED)	
38-089		CISL	MS1	PANEL A6L MADS FDM MAN CALBR SW - AC  (WAIT 10 SEC THEN PROCEED)	
38-090		CISL	MS1	PANEL A6L MADS FDM CONTROL SW - DATA	
38-091		CISL		CURSOR CNTL (SAQ04/VWQ14) MADS PCM - OFF XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS WB - OFF XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
38-092		CISL	JRPS	STOP FDM STRIP CHART RECORDER	
38-093		CISL	JISE	VERIFY MANUAL CALS RECEIVED ON JRPS STRIP CHART RECORDER.	
NOTE					
PERFORM NEXT STEP FOR OV-103 ONLY.					
38-094		CISL	CEPD	CURSOR CNTL (VWC14) MEC ET CMDS MEC 2 ET DFI PWR - OFF XMIT CURSOR KEY - PRESS	
NOT PERFORMED					_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-095		CISL	MS1	PANEL A6L MADS STRAIN GAGE SW - PCM ENA WIDEBAND/ACIP PCM SW - CMD PCM CMD/ON SW - CMD RCD MODE SW - SAMPLE FDM CONTROL SW - DATA MANUAL CAL SW - DC 0 ACIP HTR SW - OFF RECORDER POWER SW - PCM/WB ENA PB FWD SW - CMD POWER MN B CB - CLOSE	
38-096				COMPLETION OF THE PREVIOUS 13 STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD V78GA0.020	
38-097		CISL	JRPS	RECORDING OF MADS DATA NO LONGER REQUIRED.  RECORD MAG TAPE NO. _____  MADS RCDR SETUP FOR TERMINAL COUNT ----- (OV-103/OV-104/OV-105 ONLY) COMPLETE -----	
38-098		CISL	OTC 132	OI AND MADS RECORDERS CONFIGURED FOR LCD.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
OEX/MADS RCDR SETUP FOR TERMINAL COUNT ----- (OV-102 ONLY) -----					
				NOT PERFORMED	_____
38-099		CISL	JRPS	START GND MAG TAPE RCDR AT 15 IPS. 145	
				NOTE	
				DO NOT PERFORM NEXT TWO STEPS IF SCM POWERED UP.	
38-100		CISL	CDR	PANEL C3 MASTER OEX POWER SW - ON	
				NOT PERFORMED	_____
38-101		CISL	CDR	PANEL A7L OEX EQUIP POWER SW - ON	
				NOT PERFORMED	_____
38-102		CISL		CURSOR CNTL (SAQ04/VWQ14) PCM 1/2 - ON XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  PCM 3/SGSC - ON XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  WB/ACIP - ON XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  SGSC - ON XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
38-103		CISL	JRPS	START STRIP CHART RECORDERS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-104		CISL	JISE	VERIFY RECEPTION OF FDM 1 AND 2 MUXS A-D	
38-105		CISL		CURSOR CNTL (VWQ17/VDQ13) MADS RECORDER PWR - ON XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  GOTO-BOT XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
38-106		CISL		CRT (VWQ17/VDD13)  VERIFY  OEX RECORDER BITE GOOD MOTION OFF MODE BLANK  NOTE  DURING PERFORMANCE OF NEXT STEP USE PFK4 AND PFK5 TO INCREMENT THE ISSUE CMD FIELD.	
38-107		CISL		CURSOR CNTL (VWQ17/VDQ13) OEX/MADS SRC/TRK XMIT CURSOR KEY - PRESS  SCM DECIMAL CMD SEL ISSUE CMD - 06 (FDM 2-B) XMIT CURSOR KEY - PRESS ISSUE CMD - 02 (TRK 2) XMIT CURSOR KEY - PRESS  ISSUE CMD - 07 (FDM 2-C) XMIT CURSOR KEY - PRESS ISSUE CMD - 04 (TRK 4) XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-107				ISSUE CMD - 01 (FDM 1-A)	
CON'T				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 06 (TRK 6)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 02 (FDM 1-B)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 08 (TRK 8)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 03 (FDM 1-C)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 0A (TRK 10)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 01 (FDM 1-A)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 0B (TRK 11)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 04 (FDM 1-D)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 0C (TRK 12)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 08 (FDM 2-D)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 0D (TRK 13)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 05 (FDM 2-A)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 16 (TRK 22)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 06 (FDM 2-B)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 18 (TRK 24)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 07 (FDM 2-C)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 1A (TRK 26)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 08 (FDM 2-D)	
				XMIT CURSOR KEY - PRESS	
				ISSUE CMD - 1C (TRK 28)	
				XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-108		CISL		CURSOR CNTL (SAQ04/VWQ17) OEX/MADS SCM CMD SEL  ENTER XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  NOTE  FOLLOWING STEPS MUST BE RUN WITHOUT DELAY TO MINIMIZE OEX/MADS RECORDER RUN TIME.	
38-109		CISL		CURSOR CNTL (VWQ17/VDQ13) OEX/MADS OEX RCDR  DIR FWD XMIT CURSOR KEY - PRESS  MODE RCD XMIT CURSOR KEY - PRESS  SPEED 15 XMIT CURSOR KEY - PRESS  NOTE  NOTED REQUIREMENT IS SATISFIED BY COMPLETION OF FOLLOWING 11 STEPS.  OMRS V78GA0.020	
38-110		CISL MS1		PANEL A7L MADS FDM CONTROL SW - MAN CALBR MAN CALBR SW - 0  (WAIT 10 SEC THEN PROCEED)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-111		CISL	MS1	PANEL A7L MADS FDM MAN CALBR SW - 25  (WAIT 5 SEC THEN PROCEED)	
38-112		CISL	MS1	PANEL A7L MADS FDM MAN CALBR SW - 50  (WAIT 5 SEC THEN PROCEED)	
38-113		CISL	MS1	PANEL A7L MADS FDM MAN CALBR SW - 75  (WAIT 5 SEC THEN PROCEED)	
38-114		CISL	MS1	PANEL A7L MADS FDM MAN CALBR SW - 100  (WAIT 10 SEC THEN PROCEED)	
38-115		CISL	MS1	PANEL A7L MADS FDM MAN CALBR SW - AC  (WAIT 10 SEC THEN PROCEED)	
38-116		CISL	MS1	PANEL A7L MADS FDM CONTROL SW - DATA MAN CALBR SW - DC 0	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

THE MARK ISSUE CMD WILL INCREMENT, BEGINNING WITH 01, FOR EACH RUN OF THIS SEQUENCE, PER FLIGHT. CISL WILL PROVIDE THE FILL IN.

- |        |  |  |  |  |  |
|--------|--|--|--|--|--|
| 38-117 |  |  |  | CISL CURSOR CNTL (VWQ17/VDQ14)<br>OEX SYSTEMS CONTROL DISPLAY<br>SPEED<br>XMIT CURSOR KEY - PRESS<br><br>ISSUE CMD - 01<br>XMIT CURSOR KEY - PRESS<br>EXEC CMD KEY - PRESS<br><br>MARK<br>XMIT CURSOR KEY - PRESS<br><br>ISSUE CMD - ____<br>XMIT CURSOR KEY - PRESS<br>EXEC CMD KEY - PRESS<br><br>ENTER<br>XMIT CURSOR KEY - PRESS<br>EXEC CMD KEY - PRESS |  |
| 38-118 |  |  |  | CISL CURSOR CNTL (VWQ17/VDQ13)<br>OEX/MADS<br>SCM CMD SEL<br>ALLSTOP<br>XMIT CURSOR KEY - PRESS<br>EXEC CMD KEY - PRESS<br><br>ENTER<br>XMIT CURSOR KEY - PRESS<br>EXEC CMD KEY - PRESS  |  |
| 38-119 |  |  |  | CISL JRPS STOP FDM STRIP CHART RECORDER.   |  |
| 38-120 |  |  |  | CISL JISE VERIFY MANUAL CALS PRESENT ON<br>JRPS STRIP CHART RECORDER   |  |
| 38-121 |  |  |  | COMPLETION OF PREVIOUS 11 STEPS<br>SATISFIES NOTED REQUIREMENT.<br><br>OMRSD V78GA0.020  |  |

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-122		CISL	JRPS	RECORDING OF MADS DATA NO LONGER REQUIRED.  RECORD MAG TAPE NO. _____  OEX/MADS RCDR SETUP FOR TERMINAL COUNT ----- (OV-102 ONLY) COMPLETE -----	
38-123		CISL	OTC 132	OI AND MADS/OEX RCDR CONFIGURED FOR LCD.  ET OI INSTRUMENTATION CHECKS (T-8H30M) -----	
38-124		TBC	CISL 136	PERFORM ET OI INSTRUMENTATION CHECK CMPS PER INSTRUMENTATION SEQUENCE CMPL (SEQ 38) ON OIS CH 145.  ET ULLAGE TEMP CHECK -----	
38-125		CISL	CRT	(SAQ04/TWO52)  VERIFY LO2 ULLAGE TEMPERATURE WITHIN +/- 50 DEG F OF AMBIENT AND LH2 ULLAGE TEMPERATURE WITHIN +/- 40 DEG F OF AMBIENT.  RECORD VALUES  LO2 ULLAGE TEMP (T41T1755A) _____ DEG F  LH2 ULLAGE TEMP (T41T1705A) _____ DEG F	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ULLAGE PRESSURE CHECKS -----					
38-126				CISL PFP (SAQ04/TWO52) ULLAGE PRESS AND TEMP - PRESS  CRT  VERIFY MPS PWR (OI)  BUS B ON BUS C ON	
38-127				CMPS IF SAE12 NOT ACTIVE  CONSOLE KYBD SAE12 PERF PGM KEY - PRESS	NOT PERFORMED _____
38-128				CMPL IF SAE02 NOT ACTIVE  CONSOLE KYBD SAE02 PERF PGM KEY - PRESS	NOT PERFORMED _____



OPERATION INSTRUCTIONS

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

LH2 ET ULLAGE XDUCER CHECKOUT

NOTE

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

NOTED OMRS REQUIREMENT IS  
SATISFIED BY COMPLETION  
OF THE FOLLOWING TEN STEPS.

OMRS S00FA0.140-B-1

38-129

CISL RECORD CRT INDICATIONS OF ALL THREE  
LH2 ULLAGE PRESSURES

CRT (SAQ04/TWO52)

LH2 ULL PRESS  
NO. 1 (T41P1700C)\_\_\_\_\_PSIA

LH2 ULL PRESS  
NO. 2 (T41P1701C)\_\_\_\_\_PSIA

LH2 ULL PRESS  
NO. 3 (T41P1702C)\_\_\_\_\_PSIA

VERIFY ALL LH2 ULLAGE PRESSURE  
INDICATIONS BETWEEN 16.4 AND 24.4 PSIA  
AND DO NOT EXCEED A SPREAD OF 1.2 PSI.

38-130

CISL CMPS CURSOR CNTL (SAE12)  
ULL PRESS XDUCER 1 - ON

CRT

VERIFY XDUCER 1 CHANGES TO RED 4

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-131				CISL RECORD CRT INDICATIONS OF ALL THREE LH2 ULLAGE PRESSURES  CRT (SAQ04/TWO52)  LH2 ULL PRESS NO. 1 (T41P1700C)_____PSIA  LH2 ULL PRESS NO. 2 (T41P1701C)_____PSIA  LH2 ULL PRESS NO. 3 (T41P1702C)_____PSIA  VERIFY ALL LH2 ULLAGE PRESSURE INDICATIONS BETWEEN 16.4 AND 24.4 PSIA AND DO NOT EXCEED A SPREAD OF 1.2 PSI.	
38-132				CISL CMPS CURSOR CNTL (SAE12) ULL PRESS XDUCER 4 - ON  CRT  VERIFY RED 4 CHANGES TO 1	
38-133				CISL CMPS CURSOR CNTL (SAE12) ULL PRESS XDUCER 2 - ON  CRT  VERIFY XDUCER 2 CHANGES TO RED 4	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-134		CISL		RECORD CRT INDICATIONS OF ALL THREE LH2 ULLAGE PRESSURES  CRT (SAQ04/TWO52)  LH2 ULL PRESS NO. 1 (T41P1700C)_____PSIA  LH2 ULL PRESS NO. 2 (T41P1701C)_____PSIA  LH2 ULL PRESS NO. 3 (T41P1702C)_____PSIA  VERIFY ALL LH2 ULLAGE PRESSURE INDICATIONS BETWEEN 16.4 AND 24.4 PSIA AND DO NOT EXCEED A SPREAD OF 1.2 PSI.	
38-135		CISL	CMPS	CURSOR CNTL (SAE12) ULL PRESS XDUCER 4 - ON  CRT  VERIFY RED 4 CHANGES TO 2	
38-136		CISL	CMPS	CURSOR CNTL (SAE12) ULL PRESS XDUCER 3 - ON  CRT  VERIFY XDUCER 3 CHANGES TO RED 4	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-137				CISL RECORD CRT INDICATIONS OF ALL THREE LH2 ULLAGE PRESSURES  CRT (SAQ04/TWO52)  LH2 ULL PRESS NO. 1 (T41P1700C)_____PSIA  LH2 ULL PRESS NO. 2 (T41P1701C)_____PSIA  LH2 ULL PRESS NO. 3 (T41P1702C)_____PSIA  VERIFY ALL LH2 ULLAGE PRESSURE INDICATIONS BETWEEN 16.4 AND 24.4 PSIA AND DO NOT EXCEED A SPREAD OF 1.2 PSI.	
38-138		CISL	CMPS	CURSOR CNTL (SAE12) ULL PRESS XDUCER 4 - ON  CRT  VERIFY RED 4 CHANGES TO 3	
38-139				COMPLETION OF THE PREVIOUS TEN STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD S00FA0.140-B-1	
38-140		CISL		LH2 ET ULLAGE XDUCER CHECKOUT COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				LO2 ET ULLAGE XDUCER CHECKOUT	
38-141				CISL RECORD CRT INDICATIONS OF ALL THREE LO2 ULLAGE PRESSURES	
				CRT (SAQ04/TWO52)	
				LO2 ULL PRESS NO. 1 (T41P1750C)_____PSIG	
				LO2 ULL PRESS NO. 2 (T41P1751C)_____PSIG	
				LO2 ULL PRESS NO. 3 (T41P1752C)_____PSIG	
				VERIFY ALL LO2 ULLAGE PRESSURE INDICATIONS BETWEEN 1.7 AND 9.7 PSIG AND DO NOT EXCEED A SPREAD OF 0.9 PSI.	
				OMRSD S00FA0.140-A-1	

OPERATION INSTRUCTIONS

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

SRM CASE TEMP EMON ACTIVATION  
-----

NOTE

PERFORM NEXT STEP IF SRB  
EMONS (SWQ03) ARE NOT ACTIVE.

38-142				CISL CONSOLE KYBD (SWQ03 INST BYPASS MGMT) EMON SRB XMIT CURSOR KEY - PRESS	
					NOT PERFORMED _____
38-143		CISL		CRT (SAQ04/SWQ03) (INST BYPASS MANAGEMENT) VERIFY SRB EMON ACTIVE	
38-144		CISL TBC 136		ET OI INSTRUMENTATION CHECKS AND SRM CASE TEMP EMON ACTIVATION COMPLETE.	

OPERATION INSTRUCTIONS

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

-----  
SEP CAMERA HEATER ACTIVATION  
-----

NOTE

DO NOT PERFORM NEXT FIVE STEPS  
IF ET SEP CAMERA NOT INSTALLED  
OR IF HEATER COMMAND WAS ISSUED  
PER A PREVIOUS RUN.

NOTED OMRS REQUIREMENT IS  
SATISFIED BY COMPLETION  
OF THE FOLLOWING THREE STEPS.

OMRS S00FA0.650

38-145

CISL CONSOLE KYBD  
CBTU BT4 V56K9010XL 1  
XMIT CMD KEY - PRESS  
EXEC CMD KEY - PRESS

RECORD HEX RETURN PATTERN

V56K9010XL = \_\_\_\_\_

VERIFY HEX PATTERN CONVERTED TO BINARY  
= XXXX XXX0 XXXX XXXX  
(X = DON'T CARE)

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

38-146

CISL CONSOLE KYBD  
SET V56K9010XL ON  
XMIT CMD KEY - PRESS  
EXEC CMD KEY - PRESS

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-147		CISL		CONSOLE KYBD CBTU BT4 V56K9010XL 1 XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS  CRT RECORD HEX RETURN PATTERN  V56K9010XL = _____  VERIFY HEX PATTERN COVERED TO BINARY = XXXX XXX1 XXXX XXXX (X = DON'T CARE)  NOT PERFORMED _____	
38-148				COMPLETION OF PREVIOUS THREE STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD S00FA0.650  NOT PERFORMED _____	
38-149		CISL	OTC 132	SEP CAMERA HEATER ACTIVATION COMPLETE.  NOT PERFORMED _____	
				NOTE  DO NOT PERFORM NEXT SIX STEPS IF 24 HR HOLD OCCURS AT T-6 HRS.  SRM CHAMBER PRESSURE VERIFICATION ----- (T-1HR 30 MIN) -----	
38-150		TBC	CISL 136	PERFORM SRM CHAMBER PRESSURE VERIFICATION.  NOT PERFORMED _____	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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SRM CHAMBER PRESSURE CHECKOUT/GPC

UPDATE (IF REQ)

NOTE

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

SRB POWER MUST BE APPLIED  
 AT LEAST 30 MINUTES PRIOR  
 TO PERFORMING VERIFICATION.

NEXT FOUR STEPS MUST BE  
 PERFORMED IN A CONCURRENCY  
 OTHER THAN 1.

38-151		CISL		CURS CURSOR CNTL (SWQ02/SDQ02) INST MENU SRB DATA DISPLAY (BWQ01) XMIT CURSOR KEY - PRESS	
					NOT PERFORMED _____

38-152		CISL		CURS CURSOR CNTL (BWQ01) SRB DATA DISPLAY SRB CHAMBER CHECKOUT OPTIONS VSQ11 (INTEGRATED CHECKOUT) XMIT CURSOR KEY - PRESS	
					NOT PERFORMED _____

38-153		CISL		CRT (VSQ11)	
				VERIFY VSQ11:  TEST REQUIREMENTS FOR THIS TEST HAVE BEEN MET ELSE RECORD NOTED EXCEPTIONS AND REASON TO CONTINUE: _____	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-154		CISL		CURSOR CNTL (VSQ11) CONTINUE XMIT CURSOR KEY - PRESS  CRT (VSQ11)  VERIFY (PAGE B)  VDQ11 SRB INTEGRATED CHECKOUT DISPLAY IS DISPLAYED  75PCT CAL CHECK STARTED GMT, AMB PRESS AND AMB TEMP IS DISPLAYED  75 PCT CAL CHECK SEQ STARTS FOR B47P1300C AND DISPLAYS 75 PCT CAL PRESS (729 TO 799 PSI) FOR ON THEN DISPLAYS AMB PRESS (-7 TO 33 PSI) FOR OFF. VERIFY 75 PCT CAL CHECK SEQ CONTINUES FOR B47P1301C THRU B47P1302C  SRB PRESS MDM READ GMT, AMB PRESS AND AMB TEMP IS DISPLAYED  MDM READ STARTS WITH B47P1300C AND RECORDS 10 VALUES, AVG AND CAL BIAS FOR EACH MEASUREMENT (B47P1301C THRU B47P2302C)  GPC READ COMPLETES AND DISPLAYS BIAS AND SLOPE FOR ALL MEASUREMENTS. IF VALUES ARE NOT -10.0 PSIA FOR BIAS OR 200.455 PSIA/VOLT FOR SLOPE THE PROGRAM WILL STOP WITH A MESSAGE OF VALUES NOT STANDARD AND WILL REQUIRE USER INPUT TO CONTINUE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-154				IF GPS UPDATE IS REQUIRED, VERIFY PROGRAM PROCEEDS AND SECOND GPC READ INDICATES UPDATES VALUES AND CHECKOUT COMPLETE WITH MESSAGE "NO ERRORS". RECORD GPC BIAS UPDATE VALUES.	
CON'T					
				B47P1300C_____ B47P2300C_____	
				B47P1301C_____ B47P2301C_____	
				B47P1302C_____ B47P2302C_____	
				NOT PERFORMED	_____
				OMRSD S00FF0.161-1R (VSQ11) OMRSD S00FF0.180-1R (VSQ11)	
				NOT PERFORMED	_____
38-155		CISL	TBC	SRM CHAMBER PRESSURE VERIFICATION COMPLETE.	
		136			
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				OEX RCDR ACTIVATION (L-22 MIN)	
				PRE-LAUNCH CONFIGURATION (OV-102 ONLY)	

NOTE

PERFORM NEXT SIX STEPS IF  
 REQUIRED BY \*FLT. (OV-102 ONLY)

38-156		NTD		*FLT ACTIVATE OEX RECORDER FOR CISL PRE LAUNCH SEQUENCE.	
					NOT PERFORMED
38-157		CISL	JRPS	START GROUND MAG TAPE RECORDERS FOR MADS DATA, START STRIP CHART 2MM/SEC.	
					NOT PERFORMED
38-158				*FLT XMIT DSM 5760 (CONT AT LABEL) CISL XMIT DSM 5704 (LABEL 4) XMIT DSM 5736 (ENTER)	
					NOT PERFORMED
38-159		CISL	CRT	(SAQ04/VWQ17) OEX/MADS VERIFY	
				OEX/MADS RECORDER BITE GOOD	
				PCM BITES 1, 2, 3 GOOD	
				FDM 1 MUX 1, 2, 3, 4 GOOD	
				FDM 2 MUX 1, 2, 3, 4 GOOD (DELAY 2 MINUTES)	
				OEX RECORDER MODE RCD (DELAY 1 MINUTE)	
				MADS AUTOCAL (DELAY 1 MINUTE)	
				OEX RECORDER MOTION OFF	
					NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-160				JRPS VERIFY MADS DATA BEING RECORDED ON MAG TAPE.	
					NOT PERFORMED _____
38-161		CISL	NTD	PRE LAUNCH OEX RECORDER CONFIGURATION COMPLETE.	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				L-15M RECORDER ACTIVATION -----	
				NOTE	
				DO NOT PERFORM OPS 1, 2 P/L RECORDER ACTIVATION (ALL VEHICLE) IF 24 HR HOLD OCCURS AT T-6 HRS.	
				OPS 1,2 P/L RECORDER ACTIVATION ----- (L-15M) (ALL VEHICLE) -----	
				NOT PERFORMED	
38-162				*FLT CISL ACTIVATING OPS 2 RECORDERS	
38-163				*FLT DSM 4415 OPS2 RCD SERIAL A	
38-164				CISL CRT (SAQ04/VWQ15)	
				VERIFY	
				OPS 2 BITE GOOD MODE RCD-A MOTION ON	
38-165				CISL NTD OPS 2 RECORDER ACTIVATED.	
				NOTE	
				IF A PLANNED HOLD IS SCHEDULED AT T-5 MINUTES, DELAY PERFORMING OPS1, PL AND MADS ACTIVATION.	
38-166				*FLT CISL ACTIVATING OPS 1 RECORDERS:	
38-167				*FLT DSM 4355 OPS1 RCD PRL AT 7 1/2 IPS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-168				CISL CRT (SAQ04/VWQ15)  VERIFY  OPS 1 BITE GOOD MODE RCD P MOTION ON  NOTE  DO NOT PERFORM NEXT TWO STEPS IF NOT REQ FOR FLT. *FLT WILL PROVIDE DSM NUMBERS.	
38-169				*FLT CISL ACTIVATING PL RECORDER  DSM _____  DSM _____  NOT PERFORMED _____	
38-170				CISL CRT (SAQ04/VWQ15)  VERIFY  P/L RCDR BITE GOOD MOTION ON  NOT PERFORMED _____  OPS 1,2 P/L RECORDER ACTIVATION ----- (ALL VEHICLE) COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
OEX RCDR ACTIVATION (L-15 MIN) ----- (OV-102 ONLY) -----					
NOTE					
PERFORM NEXT THREE STEPS FOR OV-102 ONLY.					
38-171		CISL	JRPS	START RECORDING MADS DATA ON MAG TAPE.	
				NOT PERFORMED	_____
38-172		*FLT	CISL	ACTIVATING OEX RECORDER	
				NOT PERFORMED	_____
38-173		*FLT	CISL	PERFORM FOLLOWING:	
				1. VERIFY MADS SHELF TEMP LESS THEN 90 DEG F PRIOR TO ACTIVATION.	
				2. GMT _____	
				3. XMIT DSM _____ XMIT DSM _____ XMIT DSM _____	
				4. VERIFY MADS AUTOCAL	
				5. PCM BITES 1, 2, 3 GOOD	
				6. FDM 1 MUX 1, 2, 3, 4 GOOD	
				7. FDM 2 MUX 1, 2, 3, 4 GOOD	
				8. OEX RECORDER BITE GOOD MODE RCD MOTION ON	
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

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

MADS RECORDER ACTIVATION (L-15 MIN)  
-----  
(OV-103/104/105 ONLY)  
-----

NOTE

DO NOT PERFORM NEXT FOUR STEPS  
IF SCRUB OCCURS PRIOR TO MADS  
RECORDER ACTIVATION.

38-174		CISL	JRPS	START RECORDING MADS DATA ON GROUND MAG TAPE, START STRIP CHART 2MM/SEC.	
--------	--	------	------	---	--

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

NOTE

PERFORM NEXT TWO STEPS  
FOR OV 103/104/105 ONLY.

38-175				*FLT PERFORM FOLLOWING:	
--------	--	--	--	-------------------------	--

1. VERIFY MADS SHELF TEMP LESS THAN 90 DEG PRIOR TO ACTIVATION
2. DSM 4618 MADS RCDR PWR ON
3. DSM 4601 MADS WB/ACIP PCM ON
4. DSM 4603 MADS PCM ON  
(WAIT 10 SEC)
5. DSM 4607 MADS CALB ON  
(WAIT 10 SEC)
6. DSM 4608 MADS CALB OFF

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-176				CISL CRT (SAQ04/VWQ14)  VERIFY  MADS PCM 1 BITE GOOD FDM 1 MUX 1-4 GOOD FDM 2 MUX 1-4 GOOD SHELF TEMP NMT 90 DEG F RECORDER BITE GOOD MODE RECD PASS 1 PCT TAPE INCREASING MOTION ON  NOT PERFORMED	_____
38-177				JRPS VERIFY MADS DATA BEING RECORDED ON MAG TAPE.  NOT PERFORMED	_____
38-178				*FLT CISL RECORDERS ACTIVATED. NO PROBLEMS OBSERVED.  NOTE  NOTIFY NTD OF ANY RECORDER ANOMALY PRIOR TO T-5 MIN ONLY.  L-15M RECORDER ACTIVATION COMPLETE	_____

OPERATION INSTRUCTIONS

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

NOTE

PERFORM SCRUB TURNAROUND OPS 2  
 RECORDER DATA DUMP IF OPS 2  
 DATA DUMP REQUIRED BY MCCH.

SCRUB TURNAROUND OPS 2 RECORDER DATA  
 -----  
 DUMP  
 ----

NOT PERFORMED

38-179		CISL	JRPS	CONFIGURE OPS RECORDER T-0 HARDLINE TO MAG TAPE AND DECOM. SETUP DECOM FOR 192 OI DATA AT PB RATE OF 960 KB. CONFIGURE OUTPUT OF DECOM LOCK STATUS TO STRIP CHART RECORDER.	
38-180		CISL	MS1	PANEL A1R OPS RECORDER 2 MODE SW - STBY	
38-181		CISL		CURSOR CNTL (SAQ04/VWQ15) RCDR DISPLAY OPS 2 RCDR - STOP XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	

NOTE

NEXT SIX STEPS MAY BE  
 REPERFORMED AS NECESSARY  
 TO FACILITATE GROUND  
 RECORDER LEVEL SETS.

38-182		CISL		CURSOR CNTL (SAQ04/VWQ15) RCDR DISPLAY OPS 2 - PB SER XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT  VERIFY  OPS 2 MODE PB-S MOTION ON	
--------	--	------	--	---	--

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-183		CISL	JRPS	SET RECORD LEVELS ON GROUND MAG TAPE. REPORT COMPLETION.	
38-184		CISL		CURSOR CNTL (SAQ04/VWQ15) RCDR DISPLAY OPS 2 - STOP XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT  VERIFY  MODE STBY MOTION OFF	
38-185		CISL		CURSOR CNTL (SAQ04/VWQ05) OPS 2 RCDR COMMAND SELECT DISPLAY SALVO COMMANDS PB SER FWD XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT  VERIFY  OPS 2 MODE PB-S MOTION ON	
NOTE					
ALLOW RECORDER TO RUN TO END OF DATA THEN PROCEED.					
38-186		CISL		CURSOR CNTL (SAQ04/VWQ15) OPS 2 RECORDER - STOP XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT  VERIFY  MODE STBY MOTION OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-187		CISL 132 OTC 232 NTD	JRPS 120 NTD	START GROUND MAG TAPE RECORDER AT 120 IPS. START STRIPCHART RECORDER AT 2 MM/SEC. *MIL	
38-188		CISL		CURSOR CNTL (SAQ04/VWQ15) RECORDER DISPLAY OPS 2 RECORDER - PB SER XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
38-189		CISL	JRPS	VERIFY PLAYBACK RECEIVED FOR OPS RCDR 2 JISE ON GROUND MAG TAPE RCDR. VERIFY DECOM LOCK INDICATOR ON STRIPCHART RECORDER.	
38-190		CISL		CRT (SAQ04/VWQ15) RECORDER DISPLAY VERIFY  OPS 2 RCDR MOTION ON BITE GOOD MODE PB-S	
NOTE					
ALLOW RECORDER TO RUN TO BOT TRACK 1 THEN PROCEED.					
38-191		CISL		CRT (SAQ04/VWQ15) RECORDER DISPLAY VERIFY  MOTION OFF BITE GOOD TRACK 1 BOT ON	
38-192		CISL	JRPS	STOP OPS 2 RECORDER GROUND MAG TAPE AND STRIPCHART RECORDER. ANNOTATE MAG TAPES AND STRIPCHART RECORDS.  MAG TAPE NO. _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
38-193		CISL		CURL CURSOR CNTL (SAQ04/VWQ15) RECORDER DISPLAY OPS 2 RECORDER - STOP XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT (SAQ04/VWQ15) RECORDER DISPLAY VERIFY  OPS 2 RCDR MOTION OFF BITE GOOD MODE STBY	
38-194		CISL	MS1	PANEL A1R OPS RECORDER 2 MODE SW - RECORD	
38-195		CISL	OTC	SCRUB TURNAROUND OPS RCDR 2 DATA DUMP COMPLETE.  SCRUB TURNAROUND OPS 2 RECORDER DATA ----- DUMP COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
39-000				C&W AND LCC EMON ACTIVATION	
NOTE					
DO NOT PERFORM THIS SEQUENCE IF 24 HR HOLD OCCURS AT T-6 HRS.					
ENTIRE SEQUENCE NOT PERFORMED					
39-001		OTC 132		CECL PERFORM EMON ACTIVATION CMPS OF YOUR SYSTEM'S CAUTION COOS AND WARNING PARAMETERS. CTPE REPORT COMPLETION.	
ECLSS EMON FOR C&W					
39-002				CECL CONSOLE KYBD (VAG29 PG-A) PFK4A - PRESS	
CRT (PFK MENU PG-A)					
VERIFY UPDATE "INHIBIT CAUTION & WARNING EMONS"					
CONSOLE KYBD (VAG29 PG-A) PFK5A - PRESS					
CRT (PFK MENU PG-A)					
VERIFY UPDATE "INHIBIT EMON DISCRETES"					
39-003		CECL OTC 132		ECLSS CAUTION AND WARNING EMON ACTIVATION COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
MPS EMON ACTIVATION FOR C&W AND LCC'S					
-----					
39-004		CMPS		CONSOLE KYBD (C-4)	
				A_SX_V41P1153A1_730_788	
				XMIT CMD KEY - PRESS	
				A_SX_V41P1154A1_730_788	
				XMIT CMD KEY - PRESS	
				A_SX_V41P1253A1_730_788	
				XMIT CMD KEY - PRESS	
				A_SX_V41P1254A1_730_788	
				XMIT CMD KEY - PRESS	
				A_SX_V41P1353A1_730_788	
				XMIT CMD KEY - PRESS	
				A_SX_V41P1354A1_730_788	
				XMIT CMD KEY - PRESS	
				A_SX_V41P1433C1_LOW_60	
				XMIT CMD KEY - PRESS	
39-005		CMPL		CONSOLE KYBD (C-3)	
				A_SX_V41P1533C1_LOW_249	
				XMIT CMD KEY - PRESS	
39-006		CMPS	OTC	MPS CAUTION AND WARNING EMON	
		132		ACTIVATION COMPLETE.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				OMS RCS C&W EMON ACTIVATION	
39-007			COOS	CONSOLE C8	
				VERIFY/TERMINATE ALL OMS/RCS PGMS ON C8	
39-008			CTPE	INTEGRATION CONSOLE (RSYS XFER)	
				SAP10 INTG MENU DISPLAY CURSOR CNTL RSYS TRANSFER XMIT CURSOR KEY - PRESS	
				CURSOR CNTL (SAP30 PAGE B) GRP79 OMS/RCS OXID ORB FD'S XMIT CURSOR KEY - PRESS	
				CURSOR CNTL (SAP30 PAGE B) C-7 XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
				AFTER APPROX 2 MINUTES VERIFY GROUPS 79 AND 80 HAVE TRANSFERRED TO C7	
				PFP (SAP10 PAGE B) PFK10 - PRESS (RETURN)	
				CURSOR CNTL (SAP10 PAGE B) TERM CONC XMIT CURSOR KEY - PRESS	
39-009			COOS	CONSOLE C7	
				1. VADL7 PERF PGM	
				2. VERIFY VAD82 UPDATING.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
39-010		COOS		CONSOLE KYBD A SX V42P2116C1 200 312 XMIT CMD KEY - PRESS (LRCS FU TK ULLGE)  A SX V42P3116C1 200 312 XMIT CMD KEY - PRESS (RRCS FU TK ULLGE)  A SX V42P1116C1 200 312 XMIT CMD KEY - PRESS (FRCS FU TK ULLGE)  A SX V43P4321C1 232 288 XMIT CMD KEY - PRESS (LOMS FU TK ULLGE)  A SX V43P5321C1 232 288 XMIT CMD KEY - PRESS (ROMS FU TK ULLGE)	
39-011		COOS		CONSOLE KYBD C7  A SX V42P2115C1 200 312 XMIT CMD KEY - PRESS (LRCS OX TK ULLGE)  A SX V42P3115C1 200 312 XMIT CMD KEY - PRESS (RRCS OX TK ULLGE)  A SX V43P4221C1 232 288 XMIT CMD KEY - PRESS (LOMS OX TK ULLGE)  A SX V43P5221C1 232 288 XMIT CMD KEY - PRESS (ROMS OX TK ULLGE)  A SX V42P1115C1 200 312 XMIT CMD KEY - PRESS (FRCS OX TK ULLGE)	
39-012		COOS	OTC 132	OMS/RCS CAUTION AND WARNING EMON ACTIVATION COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
40-000				OMS/RCS SYSTEM ----- OMS/RCS SWITCH CONFIGURATION -----	

NOTE

FOLLOWING STEPS WILL  
CONFIGURE COCKPIT  
SWITCHES IN PREPARATION  
FOR ASCENT SWITCHLIST.

40-001		OTC	COOS	PERFORM OMS/RCS SWITCH CONFIGURATION	
40-002		COOS	CDR	PANEL F7 OMS PRESS N2/HE TANK SW - HE	
40-003		COOS	CDR	PANEL O7 AFT LEFT RCS HE PRESS A SW - OPEN (GUARDED) B SW - OPEN (GUARDED) A TB OP B TB OP  AFT RIGHT RCS HE PRESS A SW - OPEN (GUARDED) B SW - OPEN (GUARDED) A TB OP B TB OP	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
40-004		COOS	CDR	PANEL O8 FWD RCS HE PRESS A SW - OPEN (GUARDED) B SW - OPEN (GUARDED) A TB OP B TB OP  LEFT OMS HE PRESS/VAPOR ISOL A SW - GPC (GUARDED) B SW - GPC (GUARDED)  RIGHT OMS HE PRESS/VAPOR ISOL A SW - GPC (GUARDED) B SW - GPC (GUARDED)  OMS KIT HE PRESS/VAPOR ISOL A SW - CLOSE B SW - CLOSE TANK ISOLATION A SW - CLOSE B SW - CLOSE A TB BP B TB BP	
40-005		COOS	PLT	PANEL O16 ROW E MN C RCS/OMS PRPLT QTY GAUGE CB - CLOSE	
40-006		COOS	PLT	PANEL O3 RCS/OMS PRESS SW - RCS HE X 10 RCS/OMS PRPLT QTY SW - OMS FUEL	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
40-007		COOS	PS1	PANEL A14 RCS/OMS HEATERS OMS CRSFD LINES A AUTO SW - A AUTO B AUTO SW - B AUTO FWD RCS JET 1 SW - AUTO 2 SW - AUTO 3 SW - AUTO 4 SW - AUTO 5 SW - AUTO AFT RCS JET 1 SW - AUTO 2 SW - AUTO 3 SW - AUTO 4 SW - AUTO 5 SW - AUTO	
40-008		COOS	MS1	PANEL R14 ROW C MN C MANF ISOL L5 CB - CLOSE MANF ISOL R5 CB - CLOSE MANF ISOL F5 CB - CLOSE	
		COOS	OTC	OMS/RCS SWITCH CONFIGURATION COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM OMS/RCS SYS SECURING  
ONLY IF REQUIRED FOR SCRUB/  
TURNAROUND/RECYCLE.

OMS/RCS SYS SECURING  
-----

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

40-009		OTC 132	COOS	PERFORM OMS/RCS SECURE	
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NOTE

PERFORM NEXT TWO STEPS IF  
RECYCLE OCCURS AT T-15 MINUTES  
OR AFTER AND IF CROSSFEED LINES  
ARE TO BE INTERCONNECTED TO LEFT  
OMS PROPELLANT TANKS.

NOTED REQUIREMENTS ARE  
SATISFIED BY COMPLETION OF  
THE NEXT NINE STEPS.

OMRS S00E00.650-1R  
OMRS S00E00.660

40-010			COOS	CURSOR CNTL (VWD42) C4 - OPEN	
--------	--	--	------	----------------------------------	--

OMRS S00E00.660

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
40-011		COOS	C4	CURSOR CNTL (VWD41) - OPEN  OMRS S00E00.660	
					NOT PERFORMED _____
				NOTE	
				PERFORM NEXT TWO STEPS IF IF RECYCLE OCCURS AT T-30M OR AFTER.	
40-012		COOS CDR 147	CDR	PANEL C3 VERIFY OMS ENG LEFT SW - OFF RIGHT SW - OFF  OMRS S00E00.660	
					NOT PERFORMED _____
40-013		COOS	CRT	(VWD73)  VERIFY  LOMS A/P 1 OFF A/P 2 OFF ARM 1 OFF ARM 2 OFF  ROMS A/P 1 OFF A/P 2 OFF ARM 1 OFF ARM 2 OFF  OMRS S00E00.660	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT THREE STEPS  
 IF RECYCLE OCCURS AT T-1H35M  
 OR AFTER.

40-014		COOS MS1		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	
					NOT PERFORMED _____
40-015		COOS CDR		PANEL O14 ROW F LEFT OMS ENG VLV SW - OFF  OMRS S00E00.660	
					NOT PERFORMED _____
40-016		COOS PLT		PANEL O16 ROW F RIGHT OMS ENG VLV SW - OFF  OMRS S00E00.660	
					NOT PERFORMED _____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
40-017			COOS CRT (VWD73)		
				VERIFY	
				OMS	
				ENG VLV OFF	
				ROMS	
				ENG VLV OFF	
40-018				COMPLETION OF THE PREVIOUS NINE STEPS SATISFIES NOTED OMRS REQUIREMENTS.	
				OMRSD S00E00.650-1R	
				OMRSD S00E00.660	
40-019		COOS OTC 132		OMS/RCS SECURE COMPLETE.	
				OMS/RCS SYS SECURING COMPLETE	

VOLUME 4 OF 5  
DATE: 07-08-99

OMI NO. - S0007VL4  
REV. - AY

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
41-000				ET LEVEL SENSOR CHECKS	

NOTE

THIS SEQUENCE MAY BE RUN  
MULTIPLE TIMES TO SUPPORT  
SCRUB TURNAROUND OPERATIONS.  
QC VERIFICATION FOR THIS  
SEQUENCE IS ACCOMPLISHED IN  
DATA SHEET G-1 IN APPENDIX G.

COMPLETION OF THIS SEQUENCE  
SATISFIES NOTED REQUIREMENT.

OMRS S00FA0.160-1R

41-001		TBC 136		CMPS PERFORM ET LEVEL SENSOR CHECKS.	
41-002		CMPS 136	TBC	LEVEL SENSOR CHECKOUT WILL BE PERFORMED CLOX AT THIS TIME. MOMENTARY LOSS OF POWER CLHY TO ET OI LEVEL SENSORS, ULLAGE PRESSURES AND VENT VALVE INDICATORS WILL OCCUR.	
41-003			CMPS	PFP SAE12 ET POINT SENSOR MENU - SELECT PT SENS ELEC C/O - SELECT EXEC - PRESS PFK 7 KEY - PRESS (TWICE)	

NOTE

SUCCESSFUL COMPLETION OR  
ERROR MESSAGES ARE DISPLAYED  
ON SAE12 PAGE A.

41-004			CMPS	CRT (SAE12)	
				VERIFY SUCCESSFUL COMPLETION	

OPERATION INSTRUCTIONS

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

NOTE

FOLLOWING STEP APPLIES MPS  
SIGNAL CONDITIONER POWER  
BUSES INDIVIDUALLY AND  
VERIFIES THAT ONLY PROPER  
SENSORS INDICATE DRY.  
SUCCESSFUL COMPLETION OR  
ERROR MESSAGES ARE DISPLAYED  
ON SAE12 PAGE A.

41-005		CMPS	PFP (SAE12)	ET PT SENS MENU - SELECT PT SENS BUS VERF - SELECT EXECUTE - PRESS PFK 5 KEY - PRESS (TWICE)	
41-006		CMPS	CRT (SAE12)	VERIFY SUCCESSFUL COMPLETION OF PT SENSOR TEST	
41-007		CMPS	CRT (SAE12 PG B)	VERIFY ET OI PWR ON	
41-008		CMPS	TBC	ET LEVEL SENSOR CHECKS COMPLETE.	
			136		
		TBC	CLOX		
			CLHY		
41-009				NOTED REQUIREMENT IS SATISFIED BY COMPLETION OF THIS SEQUENCE.	

OMRSD S00FA0.160-1R

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
42-000				APU SYSTEMS -----	
				NOTE	
				OPERATIONS INVOLVING CRIT 1, 1R AND/OR 1S ITEMS ARE CONTAINED IN THE FOLLOWING SEQUENCE/STEPS.	
42-001				APU 1,2,3 AUTO BITE TEST -----	
				NOTE	
				MASTER ALARMS WILL OCCUR DURING APU AUTO BIT TESTS IF CAUTION AND WARNING PARAMETERS 068, 078, 088, 098, 108, OR 118 ARE ENABLED. IN ADDITION BFS CLASS 3 MESSAGES WILL APPEAR ON CRT 3 IF BFS IS IN STANDBY OR RUN. ALL ALARMS AND MESSAGES MAY BE CLEARED.	
				COMPLETION OF APU 1, 2, AND 3 AUTO BITE TEST SATISFIES NOTED REQUIREMENTS.	
				OMRS V46AL0.610-1R OMRS V46AL0.620-1R OMRS V46AL0.630-1R	
42-002		CAPU	OTC 132	MASTER ALARMS AND BFS MESSAGES MAY OCCUR DURING FOLLOWING SEQUENCE.	
42-003		OTC 132	CISL CTPE	MASTER ALARMS AND BFS MESSAGES MAY OCCUR. CDR TO RESET. CDR	
42-004		CAPU	PLT	PANEL R2 APU/HYD APU CNTLR PWR 1 SW - ON 2 SW - ON 3 SW - ON	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
APU 1 AUTO BITE TEST -----					
42-005				CAPU CRT (VWF49) APU 1	
				VERIFY	
				CONTROLLER POWER SW SC ON	V46S0124E1
				CONTROLLER PWR J1 RPC ON	V76X4001E1
				CONTROLLER PWR J2 RPC ON	V76X4002E1
42-006				CAPU (VWF49) APU 1	
				1. CURSOR CNTL	
				AUTO BITE ON	
				XMIT CURSOR KEY - PRESS	V46K0157NL
				(INITIATES AUTO BITE TEST SEQUENCE)	
				2. ALLOW 20 SEC MINIMUM TO ELAPSE	
				CRT	
				(STATUS MESSAGE WILL APPEAR AT BOTTOM OF CRT PRIOR TO INITIATING HIGH SPEED COMMANDS)	
				3. RECORD TURBINE SHAFT SPEED	
				_____PCT	V46R0135A1
				4. VERIFY TURBINE SHAFT SPEED	
				108 +/-1 PCT.	
				5. ALLOW AUTO BITE SEQUENCER	
				40 SEC MINIMUM PRIOR TO PROCEEDING.	
				(INITIATES HIGH SPEED COMMANDS)	V46K0129NL
					V46K0149NL
				6. VERIFY AUTO BITE COMPLETE	
				ON	V46X0158E1
				7. RECORD TURBINE SHAFT SPEED	
				_____PCT	V46R0135A1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
42-006				8. VERIFY TURBINE SHAFT SPEED 108 +/-1 PCT.	
42-007				CAPU CURSOR CNTL (VWF49) APU 1 AUTO BITE OFF XMIT CURSOR KEY - PRESS (TERMINATES AUTO BITE TEST SEQUENCER)  CRT  VERIFY AUTO BITE COMPLETE OFF  APU 2 AUTO BIT TEST -----	V46X0158E1
42-008				CAPU CRT (VWF49) APU 2  VERIFY  CONTROLLER POWER SW SC ON CONTROLLER PWR J1 RPC ON CONTROLLER PWR J2 RPC ON	V46S0224E1 V76X4004E1 V76X4005E1
42-009				CAPU (VWF49) APU 2  1. CURSOR CNTL AUTO BITE ON XMIT CURSOR KEY - PRESS (INITIATES AUTO BITE TEST SEQUENCE)  2. ALLOW 20 SEC MINIMUM TO ELAPSE  CRT  (STATUS MESSAGE WILL APPEAR AT BOTTOM OF CRT PRIOR TO INITIATING HIGH SPEED COMMANDS)  3. RECORD TURBINE SHAFT SPEED _____ PCT  4. VERIFY TURBINE SHAFT SPEED 108 +/-1 PCT.	V46K0257NL           V46R0235A1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
42-009				5. ALLOW AUTO BITE SEQUENCER 40 SEC MINIMUM PRIOR TO PROCEEDING.	
CON'T				(INITIATES HIGH SPEED COMMANDS)	V46K0229NL V46K0249NL
				6. VERIFY AUTO BITE COMPLETE ON	V46X0258E1
				7. RECORD TURBINE SHAFT SPEED  _____PCT	V46R0235A1
				8. VERIFY TURBINE SHAFT SPEED 108 +/-1 PCT.	
42-010				CAPU CURSOR CNTL (VWF49) APU 2 AUTO BITE OFF XMIT CURSOR KEY - PRESS (TERMINATES AUTO BITE TEST SEQUENCER)	
				CRT	
				VERIFY AUTO BITE COMPLETE OFF	V46X0258E1
				APU 3 AUTO BIT TEST -----	
42-011				CAPU CRT (VWF49) APU 3	
				VERIFY	
				CONTROLLER POWER SW SC ON	V46S0324E1
				CONTROLLER PWR J1 RPC ON	V76X4007E1
				CONTROLLER PWR J2 RPC ON	V76X4008E1



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
42-012				CAPU (VWF49) APU 3	
				1. CURSOR CNTL AUTO BITE ON XMIT CURSOR KEY - PRESS (INITIATES AUTO BITE TEST SEQUENCE)	V46K0357NL
				2. ALLOW 20 SEC MINIMUM TO ELAPSE  CRT  (STATUS MESSAGE WILL APPEAR AT BOTTOM OF CRT PRIOR TO INITIATING HIGH SPEED COMMANDS)	
				3. RECORD TURBINE SHAFT SPEED  _____PCT	V46R0335A1
				4. VERIFY TURBINE SHAFT SPEED 108 +/-1 PCT.	
				5. ALLOW AUTO BITE SEQUENCER 40 SEC MINIMUM PRIOR TO PROCEEDING.  (INITIATES HIGH SPEED COMMANDS)	V46K0329NL V46K0349NL
				6. VERIFY AUTO BITE COMPLETE ON	V46X0358E1
				7. RECORD TURBINE SHAFT SPEED  _____PCT	V46R0335A1
				8. VERIFY TURBINE SHAFT SPEED 108 +/-1 PCT.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
42-013				CAPU CURSOR CNTL (VWF49) APU 3 AUTO BITE OFF XMIT CURSOR KEY - PRESS (TERMINATES AUTO BITE TEST SEQUENCER)  CRT  VERIFY AUTO BITE COMPLETE OFF	V46X0358E1
42-014		CAPU PLT		PANEL R2 APU/HYD APU CNTLR PWR 1 SW - OFF 2 SW - OFF 3 SW - OFF	
42-015				CAPU CRT (VWF49) APU 1  VERIFY  CONTROLLER POWER SW SC OFF CONTROLLER PWR J1 RPC OFF CONTROLLER PWR J2 RPC OFF	V46S0124E1 V76X4001E1 V76X4002E1
42-016				CAPU CRT (VWF49) APU 2  VERIFY  CONTROLLER POWER SW SC OFF CONTROLLER PWR J1 RPC OFF CONTROLLER PWR J2 RPC OFF	V46S0224E1 V76X4004E1 V76X4005E1
42-017				CAPU CRT (VWF49) APU 3  VERIFY  CONTROLLER POWER SW SC OFF CONTROLLER PWR J1 RPC OFF CONTROLLER PWR J2 RPC OFF	V46S0324E1 V76X4007E1 V76X4008E1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
42-018				CAPU APPL PG (VWF49) APU 1	
				PFK10 KEY - PRESS	
				(INITIATES 'COMMAND/BT4 MENU' AND PERFORMS BT4 TEST)	
				CRT (VWF49) APU 1	
				VERIFY	
				HIGH SPEED A OFF	V46K0129NL
				HIGH SPEED B OFF	V46K0149NL
				BITE INITIATE OFF	V46K0157NL
42-019				CAPU CRT (VWF49) APU 2	
				VERIFY	
				HIGH SPEED A OFF	V46K0229NL
				HIGH SPEED B OFF	V46K0249NL
				BITE INITIATE OFF	V46K0257NL
42-020				CAPU CRT (VWF49) APU 3	
				VERIFY	
				HIGH SPEED A OFF	V46K0329NL
				HIGH SPEED B OFF	V46K0349NL
				BITE INITIATE OFF	V46K0357NL
				CONSOLE KYBD	
				PFK11 KEY - PRESS	
				(RETURN TO MAIN DISPLAY)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
42-021				COMPLETION OF THE PREVIOUS APU 1, 2, AND 3 AUTO BITE TESTS SATISFIES NOTED REQUIREMENTS.  OMRSD V46AL0.610-1R OMRSD V46AL0.620-1R OMRSD V46AL0.630-1R	
42-022		CAPU	OTC	APU 1, 2, AND 3 AUTO BITE TEST COMPLETE.	

APU HEATER ACTIVATION  
-----

NOTE

COMPLETION OF APU HEATER  
ACTIVATION SATISFIES NOTED  
REQUIREMENT.

OMRS V46AL0.900-1R

42-023                    OTC    CAPU ACTIVATE APU HEATERS.  
                          132

42-024                    CAPU    CONSOLE KYBD (VWF57)  
                                  PFK10 KEY - PRESS  
                                  (INITIATES 'COMMAND/BT4 MENU' AND  
                                  PERFORMS BT4 TEST)

APU 1  
-----

CURSOR CNTL  
TANK AND LINE HTRS B AUTO ON  
XMIT CURSOR KEY - PRESS

LUBE OIL HTRS A AUTO ON  
XMIT CURSOR KEY - PRESS

GG/FUEL PUMP/FUEL LINE HTRS A AUTO ON  
XMIT CURSOR KEY - PRESS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
42-024				APU 2	
CON'T				-----	
				CURSOR CNTL	
				TANK AND LINE HTRS B AUTO ON	
				XMIT CURSOR KEY - PRESS	
				LUBE OIL HTRS A AUTO ON	
				XMIT CURSOR KEY - PRESS	
				GG/FUEL PUMP/FUEL LINE HTRS A AUTO ON	
				XMIT CURSOR KEY - PRESS	
				APU 3	
				-----	
				CURSOR CNTL	
				TANK AND LINE HTRS B AUTO ON	
				XMIT CURSOR KEY - PRESS	
				LUBE OIL HTRS A AUTO ON	
				XMIT CURSOR KEY - PRESS	
				GG/FUEL PUMP/FUEL LINE HTRS A AUTO ON	
				XMIT CURSOR KEY - PRESS	
42-025				CAPU CRT (VWF57)	
				VERIFY	
				APU-1	
				-----	
				TANK AND LINE HTRS B AUTO ON	V46K0109NL
				LUBE OIL HTRS A AUTO ON	V46K0116NL
				GG/FUEL PUMP/FUEL LINE HTRS A	
				AUTO ON	V46K0118NL
				APU-2	
				-----	
				TANK AND LINE HTRS B AUTO ON	V46K0209NL
				LUBE OIL HTRS A AUTO ON	V46K0216NL
				GG/FUEL PUMP/FUEL LINE HTRS A	
				AUTO ON	V46K0218NL

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
42-025				APU-3	
CON'T				-----	
				TANK AND LINE HTRS B AUTO ON	V46K0309NL
				LUBE OIL HTRS A AUTO ON	V46K0316NL
				GG/FUEL PUMP/FUEL LINE HTRS A	
				AUTO ON	V46K0318NL
42-026				CAPU CRT (VWF57)	
				VERIFY	
				APU-1	
				-----	
				TANK AND LINE HTRS A AUTO OFF	V46K0103NL
				LUBE OIL HTRS B AUTO OFF	V46K0117NL
				GG/FUEL PUMP/FUEL LINE HTRS B	
				AUTO OFF	V46K0119NL
				APU-2	
				-----	
				TANK AND LINE HTRS A AUTO OFF	V46K0203NL
				LUBE OIL HTRS B AUTO OFF	V46K0217NL
				GG/FUEL PUMP/FUEL LINE HTRS B	
				AUTO OFF	V46K0219NL
				APU-3	
				-----	
				TANK AND LINE HTRS A AUTO OFF	V46K0303NL
				LUBE OIL HTRS B AUTO OFF	V46K0317NL
				GG/FUEL PUMP/FUEL LINE HTRS B	
				AUTO OFF	V46K0319NL
42-027				CAPU CRT (VWF48)	
				RECORD	
				APU 1 GAS GEN	
				BED TEMP _____ DEG F	V46T0122A1
				APU 2 GAS GEN	
				BED TEMP _____ DEG F	V46T0222A1
				APU 3 GAS GEN	
				BED TEMP _____ DEG F	V46T0322A1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
42-028				CAPU CRT (VWF48)	
				VERIFY APU TEMPERATURES WITHIN LCC LIMITS. CONTINUE TO MONITOR UNTIL APU START.	
42-029				COMPLETION OF PREVIOUS APU HEATER ACTIVATION SATISFIES NOTED REQUIREMENT.	
				OMRSD V46AL0.900-1R	
42-030		CAPU OTC	132	APU HEATER ACTIVATION COMPLETE.	
				APU SYSTEM SWITCH SCAN	
42-031		OTC		CAPU PERFORM APU SW SCAN	
42-032				CAPU CRT (VWF48)	
				VERIFY	
				GG/PMP/LN HTR A SW SC	
				APU-1 OFF	V46S0118E1
				APU-2 OFF	V46S0218E1
				APU-3 OFF	V46S0318E1
				GG/PMP/LN HTR B SW SC	
				APU-1 OFF	V46S0119E1
				APU-2 OFF	V46S0219E1
				APU-3 OFF	V46S0319E1
				LUBE OIL HTRS A SW SC	
				APU-1 OFF	V46S0116E1
				APU-2 OFF	V46S0216E1
				APU-3 OFF	V46S0316E1
				LUBE OIL HTRS B SW SC	
				APU-1 OFF	V46S0117E1
				APU-2 OFF	V46S0217E1
				APU-3 OFF	V46S0317E1
				TK/LN HTRS A SW SC	
				APU-1 OFF	V46S0106E1
				APU-2 OFF	V46S0206E1
				APU-3 OFF	V46S0306E1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
42-032				TK/LN HTRS B SW SC	
CON'T				APU-1 OFF	V46S0109E1
				APU-2 OFF	V46S0209E1
				APU-3 OFF	V46S0309E1
42-033				CAPU CRT (VWF57)	
				VERIFY	
				CNTRLR PWR	
				APU-1 OFF	V46S0124E1
				APU-2 OFF	V46S0224E1
				APU-3 OFF	V46S0324E1
				FUEL VLVS	
				APU-1 OFF	V46S1114E1
				APU-2 OFF	V46S1214E1
				APU-3 OFF	V46S1314E1
				OPERATE - RUN/COOL	
				APU-1 OFF	V46S0126E1
					V46S0127E1
				APU-2 OFF	V46S0126E1
					V46S0127E1
				APU-3 OFF	V46S0326E1
					V46S0127E1
				SPEED SEL	
				APU-1 NORM	V46S0129E1
				APU-2 NORM	V46S0229E1
				APU-3 NORM	V46S0329E1
				SHUTDOWN	
				APU-1 OFF	V46S1199E1
				APU-2 OFF	V46S1299E1
				APU-2 OFF	V46S1399E1
42-034				CAPU OTC APU SYSTEM SWITCH SCAN COMPLETE.	



OPERATION INSTRUCTIONS

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

APU PRE-START CHECKS  
-----

NOTE

DO NOT PERFORM NEXT STEP  
IF SCRUB ISSUED PRIOR TO  
APU PRE-START.

42-035

CAPU CRT (VWF57)

VERIFY

APU READY

APU 1 ON                    V46X0125E1  
APU 2 ON                    V46X0225E1  
APU 3 ON                    V46X0325E1

CNTLR PWR

APU 1 ON                    V46S0124E1  
APU 2 ON                    V46S0224E1  
APU 3 ON                    V46S0324E1

J1 RPC

APU 1 ON                    V76X4001E1  
APU 2 ON                    V76X4004E1  
APU 3 ON                    V76X4007E1

J2 RPC

APU 1 ON                    V76X4002E1  
APU 2 ON                    V76X4005E1  
APU 3 ON                    V76X4008E1

FUEL VLVS

APU 1 ON                    V46S1114E1  
APU 2 ON                    V46S1214E1  
APU 3 ON                    V46S1314E1

ISO VLVS

1A OP CYAN                 V46X0115E1  
1B OP CYAN                 V46X0134E1  
2A OP CYAN                 V46X0215E1  
2B OP CYAN                 V46X0234E1  
3A OP CYAN                 V46X0315E1  
3B OP CYAN                 V46X0334E1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
42-035				SPEED SEL	
CON'T				APU 1 NORM	V46S0129E1
				APU 2 NORM	V46S0229E1
				APU 3 NORM	V46S0329E1
				SHUTDOWN	
				APU 1 OFF	V46S1199E1
				APU 2 OFF	V46S1299E1
				APU 3 OFF	V46S1399E1
				GAS GEN BED TEMP	
				APU 1 190 DEG F MIN	V46T0122A1
				APU 2 190 DEG F MIN	V46T0222A1
				APU 3 190 DEG F MIN	V46T0322A1
				TURBINE SPEED	
				APU 1 0 PCT	V46R0135A1
				APU 2 0 PCT	V46R0235A1
				APU 3 0 PCT	V46R0335A1
				GG/FUEL PUMP/FUEL LINE HTR A AUTO (PFK10 KEY - PRESS; DISPLAYS COMMAND/BT4 MENU)	
				APU 1 ON	V46K0118NL
				APU 2 ON	V46K0218NL
				APU 3 ON	V46K0318NL
				OMRSD V46AL0.910-A-1R	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

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

APU POST-START CHECKS  
-----

NOTE

DO NOT PERFORM NEXT STEP  
IF SCRUB ISSUED PRIOR TO  
APU START.

42-036

CAPU CRT (VWF57)

VERIFY

OPERATE-RUN

APU 1 ON                      V46S0126E1  
APU 2 ON                      V46S0226E1  
APU 3 ON                      V46S0326E1

OMRSD V46AL0.920-1R

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

NOTE

PERFORM APU COOLDOWN (CONTINGENCY)  
IF REQUIRED FOR RECYCLE AFTER  
APU START.

APU COOLDOWN (CONTINGENCY)  
-----

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

42-037

OTC    CAPU PERFORM APU COOLDOWN.    REPORT  
132                                    COMPLETION.

OPERATION INSTRUCTIONS

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

NOTE

NORMAL RESTART OF APU  
ALLOWED ONLY IF ALL  
PARAMETERS ARE LESS THAN  
THEIR MAXIMUM ALLOWABLE  
LCC RECYCLE LIMIT.

LIMITS DO NOT CONSTRAIN  
RESUMING COUNT AT T-20M.

42-038

CAPU CRT (VWF48)

MONITOR FOLLOWING RECYCLE COOLDOWN  
TEMPERATURES TO FALL WITHIN LCC  
LIMITS:

APU 1

-----

INJ TUBE TEMP-390 DEG F MAX	V46T0174A1
FUEL PUMP DISCHARGE TEMP- 205 DEG F MAX	V46T0112A1
FUEL PUMP HEAT SINK TEMP- 205 DEG F MAX	V46T0192A1
GGVM HEAT SINK TEMP- 180 DEG F MAX	V46T1172A1

APU 2

-----

INJ TUBE TEMP-390 DEG F MAX	V46T0274A1
FUEL PUMP DISCHARGE TEMP- 205 DEG F MAX	V46T0212A1
FUEL PUMP HEAT SINK TEMP- 205 DEG F MAX	V46T0292A1
GGVM HEAT SINK TEMP- 180 DEG F MAX	V46T1272A1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
42-038				APU 3	
CON'T				-----	
				INJ TUBE TEMP-390 DEG F MAX	V46T0374A1
				FUEL PUMP DISCHARGE TEMP-	V46T0312A1
				205 DEG F MAX	
				FUEL PUMP HEAT SINK TEMP-	V46T0392A1
				205 DEG F MAX	
				GGVM HEAT SINK TEMP-	V46T1372A1
				180 DEG F MAX	
42-039				CAPU VERIFY ALL TEMPERATURES TRENDING DOWNWARD TO OR WITHIN LCC RECYCLE LIMITS.	
42-040				CAPU OTC APU RECYCLE COOLDOWN COMPLETE. 132 READY TO RESUME COUNT.	
				APU COOLDOWN (CONTINGENCY) COMPLETE	
				-----	

OPERATION INSTRUCTIONS

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

-----  
 APU HEATER DEACTIVATION (CONTINGENCY)  
 -----

NOTE

NEXT FIVE STEPS MAY BE REQUIRED  
 IF ORBITER RECYCLE AND CRYO  
 OFFLOAD IS TO BE PERFORMED.

42-041		OTC	CAPU	PERFORM APU HEATER DEACTIVATION.	
		132		REPORT COMPLETION.	

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

42-042			CAPU	CONSOLE KYBD (VWF57) PFK10 KEY - PRESS (INITIATES 'COMMAND /BT4 MENU' AND PERFORMS BT4 TEST)	
--------	--	--	------	--	--

APU 1  
 -----

TANK AND LINE HTRS B AUTO OFF  
 XMIT CURSOR KEY - PRESS  
 LUBE OIL HTRS A AUTO OFF  
 XMIT CURSOR KEY - PRESS  
 GG/FUEL PUMP/FUEL LINE HTRS A AUTO OFF  
 XMIT CURSOR KEY - PRESS

APU 2  
 -----

TANK AND LINE HTRS B AUTO OFF  
 XMIT CURSOR KEY - PRESS  
 LUBE OIL HTRS A AUTO OFF  
 XMIT CURSOR KEY - PRESS  
 GG/FUEL PUMP/FUEL LINE HTRS A AUTO OFF  
 XMIT CURSOR KEY - PRESS

APU 3  
 -----

TANK AND LINE HTRS B AUTO OFF  
 XMIT CURSOR KEY - PRESS  
 LUBE OIL HTRS A AUTO OFF  
 XMIT CURSOR KEY - PRESS  
 GG/FUEL PUMP/FUEL LINE HTRS A AUTO OFF  
 XMIT CURSOR KEY - PRESS

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
42-043		CAPU		CRT (VWF57)	
				VERIFY	
				APU-1	
				-----	
				TANK AND LINE HTRS A AUTO OFF	V46K0109NL
				LUBE OIL HTRS A AUTO OFF	V46K0116NL
				GG/FUEL PUMP/FUEL LINE HTRS A	
				AUTO OFF	V46K0118NL
				APU-2	
				-----	
				TANK AND LINE HTRS B AUTO OFF	V46K0209NL
				LUBE OIL HTRS A AUTO OFF	V46K0216NL
				GG/FUEL PUMP/FUEL LINE HTRS A	
				AUTO OFF	V46K0218NL
				APU-3	
				-----	
				TANK AND LINE HTRS B AUTO OFF	V46K0309NL
				LUBE OIL HTRS A AUTO OFF	V46K0316NL
				GG/FUEL PUMP/FUEL LINE HTRS A	
				AUTO OFF	V46K0318NL
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
42-044		CAPU		CRT (VWF57)	
				VERIFY	
				APU-1	
				-----	
				TANK AND LINE HTRS A AUTO OFF	V46K0103NL
				LUBE OIL HTRS B AUTO OFF	V46K0117NL
				GG/FUEL PUMP/FUEL LINE HTRS B	
				AUTO OFF	V46K0119NL
				APU-2	
				-----	
				TANK AND LINE HTRS A AUTO OFF	V46K0203NL
				LUBE OIL HTRS B AUTO OFF	V46K0217NL
				GG/FUEL PUMP/FUEL LINE HTRS B	
				AUTO OFF	V46K0219NL
				APU-3	
				-----	
				TANK AND LINE HTRS A AUTO OFF	V46K0303NL
				LUBE OIL HTRS B AUTO OFF	V46K0317NL
				GG/FUEL PUMP/FUEL LINE HTRS B	
				AUTO OFF	V46K0319NL
				NOT PERFORMED	_____
42-045		CAPU OTC		APU HEATER DEACTIVATION COMPLETE.	
		132			
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

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

43-000				GN&C SYSTEM OPERATIONS	
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NOTE

MULTIPLE OPTIONS ARE CONTAINED WITHIN THIS SEQUENCE. EACH OPTION IS INDEPENDENT AND ARE USED FOR SPECIFIC CONTINGENCIES. ALL UNUSED OPTIONS SHALL REMAIN OPEN UNTIL THE SUCCESSFUL COMPLETION OF LAUNCH COUNTDOWN.

OPTION LIST AND DISCRIPTION

1. OMS GIMBAL PROFILE:

EXECUTES THE OMS GIMBAL PROFILE.

NOMINALLY PERFORMED AT T-7H30M.

REQUIRES: TOTAL TIME = 30 MIN.

2. ORB RGA POWER DOWN:

ORBITER RGA'S ARE POWERED DOWN.

NORMALLY PERFORMED WHEN LAUNCH IS DELAYED MORE THAN 24 HOURS WITH THE REMAINING GN&C SYSTEMS REMAINING ACTIVE WITH LCC MONITORING (SWB02 ACTIVE).

REQUIRES: CDR (5 MIN), TOTAL TIME = 10 MIN

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				<p>3. ORB RGA POWER UP &amp; SELFTEST:</p> <p>ORBITER RGA'S ARE POWERED UP AND SELFTEST IS PERFORMED.</p> <p>NORMALLY PERFORMED WHEN THE RGAS HAVE BEEN POWERED DOWN FOR A LAUNCH DELAY WHERE THE REMAINING GN&amp;C SYSTEMS ARE ACTIVE WITH LCC MONITORING (SWB02 ACTIVE). THIS OPTION SUPPORTS RECYCLE FROM OPTION 2 ABOVE.</p> <p>REQUIRES: CDR (5 MIN), TOTAL TIME = 15 MIN</p>	
				<p>4. RCS LOGIC POWER UP &amp; NORMAL JET SINGLE CMD TEST:</p> <p>RCS LOGIC POWER IS REAPPLIED AND THE NORMAL JET SINGLE COMMAND TEST IS PERFORMED.</p> <p>NORMALLY PERFORMED WHEN LAUNCH IS DELAYED LESS THAN 72 HOURS AND THE REMAINING GN&amp;C SYSTEMS HAVE REMAINED ACTIVE WITH LCC MONITORING (SWB02 ACTIVE).</p> <p>REQUIRES: DEU3, CDR (5 MIN), TOTAL TIME = 15 MIN</p>	
				<p>5. GN&amp;C SYSTEM POWER DOWN:</p> <p>ALL GN&amp;C SYSTEMS ARE POWERED DOWN.</p> <p>NORMALLY PERFORMED WHEN LAUNCH IS DELAYED 72 HOURS OR MORE.</p> <p>REQUIRES: CDR (15 MIN), TOTAL TIME = 15 MIN</p>	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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6. GN&C SYSTEM POWER UP:

ALL GN&C SYSTEMS ARE POWERED UP.

NORMALLY PERFORMED WHEN LAUNCH IS DELAYED 72 HOURS OR MORE AND ALL GN&C SYSTEMS WERE POWERED DOWN. THIS OPTION SUPPORTS RECYCLE FROM OPTION 5 ABOVE.

REQUIRES: CDR (30 MIN), TOTAL TIME = 30 MIN

7. GN&C SYSTEM SELFTESTS:

ADTA, AA AND ORB RGA SELFTESTS WITH THE NORMAL JET SINGLE COMMAND TEST ARE PERFORMED. IMUS ARE POWERED ON AND A STAR TRACKER POWER UP/SELFTEST OPTION IS PROVIDED. LDG NOWOW AND THE BRAKE RWOW ARE RECHECKED. THE LCC MONITOR (SWB02) IS ACTIVATED.

NORMALLY PERFORMED WHEN LAUNCH IS DELAYED 72 HOURS OR MORE AND ALL GN&C SYSTEMS WERE POWERED DOWN. THIS OPTION SUPPORTS RECYCLE FROM OPTION 5 ABOVE.

REQUIRES: DEU3, CDR (15 MIN), TOTAL TIME = 40 MIN

OPERATION INSTRUCTIONS

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

NOTE

PERFORM 1. OMS GIMBAL PROFILE  
IF OMS GIMBAL PROFILE IS  
SCHEDULED.

1. OMS GIMBAL PROFILE

NOT PERFORMED

WARNING

FOLLOWING OPERATION IS  
HAZARDOUS DUE TO OMS  
GIMBALLING.

- |        |  |     |      |   |  |
|--------|--|-----|------|---|--|
| 43-001 |  | OTC | COFC | PERFORM OMS TVC TESTING.  |  |
| 43-002 |  |     | COFC | VERIFY FOLLOWING:<br><br>1. DPS MODE G9/42, 44, OR 60.<br><br>2. OMS ENGINE AREAS CLEAR OF<br>ALL PERSONNEL AND EQUIPMENT<br>WITHIN 3 FT OF OMS ENGINE NOZZLES.<br><br>3. OMS ENGINE COVERS REMOVED.<br><br>DEACTIVATE OMS TVC LCC MONITORING |  |
| 43-003 |  |     | COFC | APPL PG-A (SAB20/SWB02)<br>PFK13 KEY - PRESS (ACT EMON SETUP)   |  |
| 43-004 |  |     | COFC | CURSOR CNTL (SAB20/SWB02 PG-A)<br>I - OMS TVC<br>XMIT CURSOR KEY - PRESS  |  |
| 43-005 |  |     | COFC | APPL PG-B (SAB20/SWB02)<br>PFK13 KEY - PRESS (DEACT EMON SETUP)   |  |

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				INITIATE OMS PROFILE S/W	
43-006		COFC		CURSOR CNTL (SAB19/SWB01) OMS - OPS MAN XMIT CURSOR KEY - PRESS	
43-007		COFC		CURSOR CNTL (SAB19/SWB01) OMS - OVERVIEW XMIT CURSOR KEY - PRESS	
43-008		COFC		CURSOR CNTL (VABM5) GIMBAL PROFILE XMIT CURSOR KEY - PRESS	
43-009		COFC		CRT (VABM5 PG-B) VERIFY MSG:  VABM5-004 OMS SAFE MOVE LIMITS YAW -7.0 TO 7.0 DEG PITCH -5.9 TO 5.9 DEG	
43-010		COFC		APPL PAGE (VABM5 PG B) PFK-1 KEY - PRESS (PERFORM TEST IN CURRENT CONFIGURATION)	
43-011		COFC		CRT (VABM5/VSB48) VERIFY DEU PROMPT	
43-012		COFC		CONSOLE KYBD (VABM5/VSB48) PFKX KEY - PRESS (X = DEU NO.)	
43-013		COFC		CRT (VABM5/VSB48)  VERIFY OMS GIMBAL PROFILE TEST MENU DISPLAYED WITH BOTH PODS ALL ACTUATORS AND ACT SYS 1 PRINTER PLOTTER OPTION HIGHLIGHTED.	

OPERATION INSTRUCTIONS

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

NOTE

IF PRINTER PLOTTER SYS 1  
NOT AVAILABLE, SELECT ONE  
OF FOLLOWING PRINTER PLOTTER  
OPTIONS PER PREVIOUS PRINTER  
PLOTTER SETUP.

43-014

COFC CURSOR CNTL (VABM5/VSB48 PG B)  
PLOT CONTROL

INH P/P  
XMIT CURSOR KEY - PRESS

NOT PERFORMED

ACT SYS 2  
XMIT CURSOR KEY - PRESS

NOT PERFORMED

NOTE

FOLLOWING STEP INITIATES OMS  
ENGINE MOVEMENT. IF THE OMS  
ENGINES ARE NOT AT STOW  
POSITION (DOWN AND OUT), THE  
SOFTWARE WILL RAMP THEM TO  
STOW PRIOR TO BEGINNING  
GIMBAL PROFILE. TEST SEQUENCE  
IS AS FOLLOWS: (LISTED IN  
DEGRESS)

LEFT YAW STBY	-6.01,	6.01
LEFT YAW ACTV	-6.01,	6.01
LEFT PITCH STBY	-5.80,	5.80
LEFT PITCH ACTV	-5.80,	5.80
RIGHT YAW STBY	6.01,	-6.01
RIGHT YAW ACTV	6.01,	-6.01
RIGHT PITCH STBY	-5.80,	5.80
RIGHT PITCH ACTV	-5.80,	5.80

43-015

COFC CURSOR CNTL (VABM5/VSB48)  
START TEST  
XMIT CURSOR KEY - PRESS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
43-016		COFC		APPL PG-B (VABM5/VSB48) VERIFY MSG VSB48-007: RATE CALCULATION SUMMARY TEST COMPLETE  OMRSD V79AZ0.080-1 (VSB48)	
43-017		COFC		CONSOLE KYBD (VABM5/VSB48) PFK 9 KEY - PRESS (RETURN TO TEST MENU)	
43-018		COFC		CONSOLE KYBD (VABM5/VSB48) PFK 7 KEY - PRESS (RESTORE NOMINAL CONFIG AND TERM VSB48)	
43-019		COFC		CURSOR CNTL (VABM5) TERMINATE XMIT CURSOR KEY - PRESS	
43-020		COFC		CRT (VWB27) VERIFY * BY OMS NO-OP	
43-021		COFC		CONSOLE KYBD (VWB27 PG B) PFK 15 KEY - PRESS (TERM VWB27)	
				NOTE	
				HAZARDOUS OPERATIONS DUE TO OMS GIMBALLING COMPLETE.	
43-022				OMS GIMBAL PROFILE COMPLETE.  1. OMS GIMBAL PROFILE COMPLETE	

OPERATION INSTRUCTIONS

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

NOTE

PERFORM 2. ORB RGA POWER  
DOWN IF ORB RGA POWER IS  
TO BE TERMINATED.

2. ORB RGA POWER DOWN  
-----

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

NOTE

LCC MONITOR AND EMON  
FAILURES WILL BE GENERATED  
BY THE NEXT STEP.  
ACKNOWLEDGE AND CLEAR  
FAILURES WHEN OPERATION  
IS COMPLETE.

43-023

COFC CDR    PNL 014  
                  ROW A  
                  RGA 1 SW - OFF  
  
                  PNL 015  
                  ROW A  
                  RGA 2 SW - OFF  
                  RGA 4 SW - OFF  
  
                  PNL 016  
                  ROW A  
                  RGA 3 SW - OFF



OPERATION INSTRUCTIONS

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

LCC PARAMETER INHIBIT  
-----

43-024

COFC APPL PAGE (SAB20/SWB02 PG-B)

PFK3 KEY - PRESS (ACT PARAM INH/ACT PG)

NOTE

REPEAT FOLLOWING TWO STEPS  
AS REQUIRED FOR LISTED  
MEASUREMENTS.

TABLE NO.                  FD  
-----

17	V76X4293E1 - RGA 1 RPC A
17	V76X4295E1 - RGA 4 RPC A
17	V76X4296E1 - RGA 4 RPC C
17	V79X1860X1 - RGA 1 ROLL SMRD
18	V79X1861X1 - RGA 1 PITCH SMRD
18	V79X1862X1 - RGA 1 YAW SMRD
18	V79X1865X1 - RGA 2 ROLL SMRD
18	V79X1866X1 - RGA 2 PITCH SMRD
18	V79X1867X1 - RGA 2 YAW SMRD
18	V79X1870X1 - RGA 3 ROLL SMRD
18	V79X1871X1 - RGA 3 PITCH SMRD
18	V79X1872X1 - RGA 3 YAW SMRD
18	V79X1875X1 - RGA 4 ROLL SMRD
18	V79X1876X1 - RGA 4 PITCH SMRD
18	V79X1877X1 - RGA 4 YAW SMRD

43-025

COFC CURSOR CNTL (SAB20/SWB02 PG-B)  
PAGE AHEAD  
XMIT CURSOR KEY - PRESS

REPEAT UNTIL PAGE = TABLE NO.

43-026

COFC CURSOR CNTL (SAB20/SWB02 PG-B)  
(FD)  
XMIT CURSOR KEY - PRESS  
(INVERT MEASUREMENT)

REPEAT FOR EACH FD LISTED

43-027

COFC APPL PAGE (SAB20/SWB02 PG-B)  
PFK11 KEY - PRESS (CLEAR FAILURES)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
43-028				COFC APPL PAGE (SAB20/SWB02 PG-B) PFK5 KEY - PRESS (RETURN TO ACTIVITY PG)	
43-029				ORB RGA POWER DOWN COMPLETE.  2. ORB RGA POWER DOWN COMPLETE	

OPERATION INSTRUCTIONS

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

NOTE

PERFORM 3. ORB RGA POWER UP & SELFTTEST IF RGA POWER IS NOT APPLIED AND THE FULL GN&C SYSTEM ACTIVATION IS NOT REQUIRED.

3. ORB RGA POWER UP & SELFTTEST

NOT PERFORMED

NOTE

PERFORM NEXT THREE STEPS TO ACTIVATE GOAL EXCEPTION MONITORING TO ALLOW PROPER GOAL SW RESPONSE DURING ORB RGA POWER UP.

43-030		COFC		CURSOR CNTL (SAB19/SWB01 PG B) ORB RGA/AA - OPS MAN XMIT CURSOR KEY - PRESS	
43-031		COFC		CURSOR CNTL (VABM3/VWB25 PG B) RATE GYRO SELECT - POWER DOWN XMIT CURSOR KEY - PRESS	
43-032		COFC		APPL PG (VABM3/VWB12 PG B) PFK 15 KEY - PRESS (TERM VABM3)  ORB RGA PWR UP/SELF TEST -----	
43-033		COFC		PERFORM ORBITER RGA POWERUP/SELF TEST PER OMI V1123. (5 MIN W/CDR) (TOTAL = 15 MIN)  RT OMI LOG NO. _____  LCC PARAMETER RE-ACTIVATE -----	
43-034		COFC		APPL PAGE (SAB20/SWB02 PG-B) PFK3 KEY - PRESS (ACT PARAM INH/ACT PG)	

OPERATION INSTRUCTIONS

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

NOTE

REPEAT FOLLOWING TWO STEPS  
AS REQUIRED FOR LISTED  
MEASUREMENTS.

TABLE NO.	FD
-----	----
17	V76X4293E1 - RGA 1 RPC A
17	V76X4295E1 - RGA 4 RPC A
17	V76X4296E1 - RGA 4 RPC C
17	V79X1860X1 - RGA 1 ROLL SMRD
18	V79X1861X1 - RGA 1 PITCH SMRD
18	V79X1862X1 - RGA 1 YAW SMRD
18	V79X1865X1 - RGA 2 ROLL SMRD
18	V79X1866X1 - RGA 2 PITCH SMRD
18	V79X1867X1 - RGA 2 YAW SMRD
18	V79X1870X1 - RGA 3 ROLL SMRD
18	V79X1871X1 - RGA 3 PITCH SMRD
18	V79X1872X1 - RGA 3 YAW SMRD
18	V79X1875X1 - RGA 4 ROLL SMRD
18	V79X1876X1 - RGA 4 PITCH SMRD
18	V79X1877X1 - RGA 4 YAW SMRD

43-035                    COFC CURSOR CNTL (SAB20/SWB02 PG-B)  
                          PAGE AHEAD  
                          XMIT CURSOR KEY - PRESS  
  
                          REPEAT UNTIL PAGE = TABLE NO.

43-036                    COFC CURSOR CNTL (SAB20/SWB02 PG-B)  
                          (FD)  
                          XMIT CURSOR KEY - PRESS  
                          (CLEAR INVERTED MEAS)  
  
                          REPEAT FOR EACH FD LISTED

43-037                    COFC APPL PAGE (SAB20/SWB02 PG-B)  
                          PFK5 KEY - PRESS (RETURN TO ACTIVITY PG)

43-038                    ORB RGA POWER UP & SELFTEST COMPLETE.  
  
                          3. ORB RGA POWER UP & SELFTEST  
                          -----  
                          COMPLETE  
                          -----

OPERATION INSTRUCTIONS

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

NOTE

PERFORM 4. RCS LOGIC POWER UP  
 & NORMAL JET SINGLE CMD TEST  
 IF RCS LOGIC POWER IS NOT  
 APPLIED UNLESS THE FULL  
 GN&C SYSTEM ACTIVATION IS  
 REQUIRED.

4. RCS LOGIC POWER UP & NORMAL JET  
 -----  
 SINGLE CMD TEST  
 -----

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

NOTE

BFC CRT DISP SW MUST BE  
 OFF PRIOR TO PERFORMING NEXT  
 THREE STEPS.

43-039		COFC OTC		CHANGE RESPONSIBLE CONSOLE FOR 132 DEU 3 TO CONSOLE C11.	
		OTC	CDPS		

43-040			CDPS	CONSOLE KYBD	
				HOME CMD KEY - PRESS	
				ISSU N72IV102D #B00B	
				XMIT CMD KEY - PRESS	
				EXEC CMD KEY - PRESS	
				HOME CMD KEY - PRESS	
				C CO _DEU3G LDBA C11	
				XMIT CMD KEY - PRESS	

43-041		CDPS OTC		RESPONSIBLE CONSOLE CNTL TO USE	
		OTC	COFC	DEU NO. 3 ASSIGNED TO C11.	

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT THREE STEPS  
TO ACTIVATE GOAL EXCEPTION  
MONITORING TO ALLOW THE  
PROPER GOAL SW RESPONSE  
DURING RCS LOGIC POWER UP.

43-042                      COFC CURSOR CNTL (SAB19/SWB01 PG B)  
                                 RCS - OPS MAN  
                                 XMIT CURSOR KEY - PRESS

43-043                      COFC CURSOR CNTL (VABM6/VWB29 PG B)  
                                 POWER DOWN LOGIC  
                                 XMIT CURSOR KEY - PRESS

43-044                      COFC APPL PG (VABM6/VWB29 PG B)  
                                 PFK15 KEY - PRESS (TERM VABM6)

43-045                      COFC PERFORM RCS LOGIC POWER UP AND  
                                 NORMAL JET SINGLE CMD TEST PER  
                                 OMI V1123.  
                                 (5 MIN W/CDR) (TOTAL = 15 MIN)

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

43-046                      COFC CONSOLE KYBD  
                                 C CO \_DEU3G LDBA C12  
                                 XMIT CMD KEY - PRESS  
                                 ISSU N72IV102D 0  
                                 XMIT CMD KEY - PRESS  
                                 EXEC CMD KEY - PRESS

43-047                      COFC OTC DEU3 HAS BEEN RETURNED TO C12.  
                                 OTC CDPS

43-048                      RCS LOGIC POWER UP AND NORMAL JET  
                                 SINGLE CMD TEST COMPLETE

4. RCS LOGIC POWER UP & NORMAL JET

-----  
SINGLE CMD TEST COMPLETE  
-----

OPERATION INSTRUCTIONS

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

NOTE

PERFORM 5. GN&C SYSTEM POWER  
DOWN IF ALL GN&C SYSTEMS  
ARE TO BE POWERED DOWN.

5. GN&C SYSTEM POWER DOWN  
-----

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

GN&C LCC EMON DE-ACTIVATION  
-----

43-049		COFC	APPL PG A (SAB20/SWB02) PFK13 KEY - PRESS (ACT EMON SETUP)		
43-050		COFC	CURSOR CNTL (SAB20/SWB02 PG A) (ON ITEMS BELOW) XMIT CURSOR KEY - PRESS  1. I - IMU PWR UP  2. I - IMU OPERATE  3. I - OMS TVC  4. I - SRB TVC  5. I - RJD DRIVER  6. I - SRB RGA  7. I - CIRC PUMPS  8. I - NON-PREREQUISITE		
43-051		COFC	APPL PG A (SAB20/SWB02) PFK13 KEY - PRESS (DE-ACT EMON SETUP)		
43-052		COFC	APPL PG (SAB20/SWB02 PG B) PFK-15 KEY - PRESS (TERM SAB20)		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
----- SYSTEM MONITOR RE-ACTIVATION -----					
NOTE					
PERFORM NEXT FOUR STEPS TO SUPPORT GNC SYSTEM PWR DOWN. PGM VSB31 WILL NOT RECOGNIZE LRU PWR DOWN WHEN VSB79 NOT ACTIVE (GOAL FEP INTERRUPTS DE-ACTIVATED).					
NEXT FOUR STEPS WILL MANUALLY ACTIVATE SAB20/VSB79.					
43-053		COFC		CONSOLE KYBD SAB20 PERF PGM KEY - PRESS	
43-054		COFC		APPL PG (SAB20 PG A) RESU PGM KEY - PRESS (RESUME FROM STOP)	
43-055		COFC		APPL PG (SAB20 PG A) 1 (LOGICAL CONC NO. 1 INPUT) XMIT RESP KEY - PRESS	
43-056		COFC		CRT (SAB20/VSB79 PG B)  VERIFY VSB79 ACTIVE (IN APPROX 30 SEC)	
43-057		COFC		PERFORM GN&C SYSTEM POWER DOWN CGNC PER OMI V1123. CDR (15 MIN), TOTAL TIME = 15 MIN.  RT OMI LOG NO. _____	
43-058				GN&C SYSTEM POWER DOWN COMPLETE.  5. GN&C SYSTEM POWER DOWN COMPLETE -----	



OPERATION INSTRUCTIONS

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

NOTE

PERFORM 6. GN&C SYSTEM POWER UP IF THE FULL GN&C SYSTEM ACTIVATION IS REQUIRED.

6. GN&C SYSTEM POWER UP

NOT PERFORMED

NOTE

FOLLOWING STEP PERFORMS A SYSTEMATIC PANEL BY PANEL SWITCH CONFIGURE OF FOLLOWING GN&C SYSTEMS:

AA, ADTA, ASA, ATVC, BRAKES, CONTROLLERS, NWS, RJD LOGIC, RGA, RMS, STAR TRACKER AND SWITCHES.

FOLLOWING STEP WILL REQUIRE AN I/O RESET. DPS CAN EXPECT I/O ERRORS TO OCCUR FOR ITEMS NOT POWERED UP AT THIS TIME.

43-059

COFC PERFORM GN&C SYSTEM POWER UP PER CGNC OMI V1123. (30 MIN) (CDR) CDPS

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
43-060				COFC CRT (VWB03, PAGE B)	
				VERIFY AEROSURFACE DRIVER CURRENTS	
				LOB/ROB DRVRS      0 +/- 3.25 MA	
				LIB/RIB DRVRS      0 +/- 3.00 MA	
				RUD DRVRS           0 +/- 2.00 MA	
				SPBK DRVRS:	
				SPBK POSN (DEG)    DRV CURR LIMITS (MA)	
				-----	
				1.POSN >= 5.0      -2.0 TO +2.0	
				2.POSN < 5.0 AND DRV >=(-1.33 (POSN)+4.67)	
				POSN >= 3.5      AND DRV <= +2.0	
				3.POSN < 3.5       0.0 TO +2.0	
43-061				GN&C SYSTEM POWER UP COMPLETE.	
				6. GN&C SYSTEM POWER UP COMPLETE	
				-----	

OPERATION INSTRUCTIONS

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

NOTE

PERFORM 7. GN&C SYSTEM  
SELFTESTS IF THE FULL GN&C  
SYSTEM ACTIVATION IS PERFORMED.

7. GN&C SYSTEM SELFTESTS

NOT PERFORMED

DEU 3 TO CONSOLE C11

NOTE

DEU IS REQUIRED FOR THE RCS  
SINGLE COMMAND TESTS ONLY  
AND IS NOT A PREREQUISITE  
FOR ANY OTHER GNC SYSTEM  
ACTIVATION.

43-062		COFC OTC		CHANGE RESPONSIBLE CONSOLE FOR 132 DEU 3 TO CONSOLE C11.	
		OTC	CDPS		

43-063			CDPS	CONSOLE KYBD	
				HOME CMD KEY - PRESS	
				ISSU N72IV102D #B00B	
				XMIT CMD KEY - PRESS	
				EXEC CMD KEY - PRESS	
				HOME CMD KEY - PRESS	
				C CO _DEU3G LDBA C11	
				XMIT CMD KEY - PRESS	

43-064		CDPS OTC		RESPONSIBLE CONSOLE FOR 132 DEU NO. 3 NOW ASSIGNED TO C11.	
		OTC	COFC		

OPERATION INSTRUCTIONS

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

-----

NOTE

FOLLOWING ARE INDEPENDENT OPERATIONS AND MAY BE PERFORMED IN PARALLEL, IN ANY ORDER, AND IN CONJUNCTION WITH IMU OR STAR TRACKER OPERATIONS.

DOWNLIST FORMAT 42 NOT REQUIRED FOR COUNTDOWN RJD SINGLE CMD TEST. DO NOT CHANGE TO FORMAT 42 (PER V1123) UNLESS THIS TEST MUST BE USED TO VERIFY RJD DRIVER OUT DISCRETES.

43-065

COFC PERFORM GN&C SYSTEM SELF TESTS  
CGNC PER OMI V1123.

1. ADTA SELF TEST (5 MIN)
2. ORBITER RGA TURNAROUND  
NULL/SELF TEST (GROUND TEST).  
(10 MIN)
3. AA TURNAROUND SELF TEST (10 MIN).
4. RCS TRICKLE CURRENT SINGLE CMD  
TEST (NORMAL JETS ONLY). (15 MIN)

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

OPERATION INSTRUCTIONS

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

IMU WARM-UP/STANDBY

NOTE

IMU WARM-UP/STANDBY SHALL  
OCCUR NO LATER THAN L-15H20M.

FOLLOWING STEP WILL REQUIRE  
ECL TO ACTIVATE ONE IMU FAN  
TO SUPPORT IMU OPERATIONS FOR  
REMAINDER OF THIS OMI.

IMU AND STAR TRACKER ARE  
INDEPENDENT OPERATIONS AND  
MAY BE PERFORMED IN PARALLEL.

43-066

CGNC PERFORM ORBITER IMU POWER UP/  
STANDBY OPERATIONS PER OMI V1123.  
(30 MIN) (5 MIN W/CDR)

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

OPERATION INSTRUCTIONS

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

STAR TRACKER FUNCTIONAL C/O

NOTE

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

FOLLOWING STEP WILL REQUIRE AN I/O RESET. DPS CAN EXPECT I/O ERRORS TO OCCUR FOR ITEMS NOT POWERED UP AT THIS TIME.

STAR TRACKER C/O CAN BE PERFORMED BEFORE OR AFTER BUT NOT IN PARALLEL WITH SWITCHLIST PART OF GNC SYSTEM POWER UP. SWITCH POSITIONS ARE INCOMPATIBLE FOR BOTH OPERATIONS.

43-067

CGNC PERFORM STAR TRACKER FUNCTIONAL CHECKOUT PER OMI V1123.

1. STAR TRACKER POWER UP (20 MIN) (5 MIN W/CDR)
2. STAR TRACKER SELF TEST (5 MIN)
3. STAR TRACKER POWER DOWN (5 MIN) (CDR)

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

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				DEU3 RETURN TO C12 -----	
43-068		COFC		CONSOLE KYBD C CO _DEU3G LDBA C12 XMIT CMD KEY - PRESS ISSU N72IV102D 0 XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
43-069		COFC	OTC	RESPONSIBLE CONSOLE FOR DEU 3 IS 132 CDPS NOW C12.  REDUNDANT WEIGHT ON WHEELS (RWOW) STATUS -----	
				NOTE  NEXT TWO STEPS REQUIRE BRAKE AND ANTISKID POWER.  RWOW DISCRETES ARE NOT AVAILABLE IN DL FMT 60. PERFORM NEXT STEP IF IN DL FMT 60.	
43-070		COFC		APPL PG (VWB37 PG-B) PFK 5 KEY - PRESS (LDB READ)  NOT PERFORMED _____	
43-071		COFC		CRT (VWB37 PG-B)  BRAKES STATUS AND TEST SELECT  LANDING GEAR STATUS  VERIFY "RWOW" STATUS = ON/UP ARROW (U)  R NO WOW        1U    2U        3U    4U NULL FAIL       1U    2U        3U    4U  OMRSD V51AF0.250	

OPERATION INSTRUCTIONS

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

LANDING GEAR NO WOW STATUS CHECKS  
-----

43-072

COFC CRT (VWB37 PG B)

BRAKE STATUS AND TEST SELECT  
LANDING GEAR STATUS

	L	N	R
	-	-	-
NO WOW 1	ON	ON	ON
NO WOW 2		ON	

OMRSD V51AF0.245-1R

GNC LCC MONITOR ACTIVATION  
-----

NOTE

PERFORM NEXT STEP AFTER  
COMPLETION OF GN&C SYSTEM  
POWER UP, GN&C SYSTEM  
SELF TESTS AND IMU POWER  
UP.

ALLOW ONE TO TWO MINUTES  
FOR NEXT STEP TO COMPLETE.

ACTIVATION OF THE GN&C LCC  
MONITOR SATISFIES THE LISTED  
REQUIREMENT BY THE ABSENCE  
OF A LCC GNC-26 FAILURE  
ANNUNCIATION.

43-073

COFC CURSOR CONTROL (SAB20/VSB79 PG B)  
ACTIVATE LCC MONITOR  
XMIT CURSOR KEY - PRESS

OMRSD S00FM0.110-1R (SWB02)



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				ACTIVATE IMU PWR UP LCC EMON -----	
43-074		CGNC	APPL PG A (SAB20/SWB02)	PFK13 KEY - PRESS (ACT EMON SETUP)	
43-075		CGNC	CURSOR CONTROL (SAB20/SWB02 PG A)	A-IMU PWR UP XMIT CURSOR KEY - PRESS	
43-076		CGNC	APPL PG A (SAB20/SWB02)	PFK13 KEY - PRESS (DEACT EMON SETUP)	
				CLEAR GNC LCC DISK FILES -----	
43-077		COFC	APPL PG B (SAB20/SWB02)	PFK 3 KEY - PRESS (PARAM ACT/INH PG)	
				NOTE	
				REPEAT NEXT STEP FOR ALL LCC PARAMETER PAGES TO CLEAR (NON-INVERT) ANY INHIBITED LCC PARAMETER.	
43-078		COFC	CURSOR CNTL (SAB20/SWB02 PG B)	(ON ITEMS BELOW) XMIT CURSOR KEY - PRESS	
				1. (ON ANY INVERTED PARAMETER)	
				2. PAGE AHEAD	
43-079		COFC	APPL PG B (SAB20/SWB02)	PFK 5 KEY - PRESS (LCC MONITOR ACTIVITY PG)	
				GNC OPS101 PROFILE MON SETUP -----	
43-080		COFC	CURSOR CNTL (SAB19/SWB01 PG-B)	COUNTDOWN - DETAIL XMIT CURSOR KEY - PRESS	
43-081		COFC	APPL PAGE (VWB05 PG-B)	PFK 8 KEY - PRESS (CLEAR ALL BYPASSES) PFK 15 KEY - PRESS (TERMINATE)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				LG NOWOW EMON SETUP -----	
43-082				COFC CONSOLE KYBD I SX FD XMIT CMD KEY - PRESS  A SX FD OFF XMIT CMD KEY - PRESS  REPEAT FOR;  FD ----- V51X0130X1 LMG NO WOW V51X0230X1 RMG NO WOW V51X0330X1 NLG NO WOW NO. 1 V51X0335X1 NLG NO WOW NO. 2	
43-083				GN&C SYSTEM SELFTESTS COMPLETE.  7. GN&C SYSTEM SELFTESTS COMPLETE -----	
43-084				GN&C SYSTEM OPERATIONS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-000				MPS HELIUM TANK LOAD GSE SET POINT ----- VERIFICATION -----	

NOTE

MPS RATIONALE FOR S72-0685-1 PANEL  
-----  
LEG SET POINTS  
-----

LCC MPS 01 SPECIFIES THE MPS/  
SSME HELIUM TANKS MUST BE  
BETWEEN 4100 AND 4500 PSIA  
FROM T-2M55S TO T-13S. IF  
THESE LIMITS ARE EXCEEDED,  
THE GLS WILL INITIATE A CUTOFF  
WHICH WILL RESULT IN RECYCLE  
TO T-20 MINUTES, AND MOST LIKELY  
A MINIMUM SCRUB OF 24 HOURS.  
IT IS IMPERATIVE TO HAVE  
ACCURATE SET POINTS FOR THE  
S72-0685-1 PANEL PRIMARY AND  
SECONDARY 4500 PSI REGS.

THE SSME HELIUM TANK PRESSURES  
CAN DECREASE AS MUCH AS  
150 PSI DURING THE TRANSITION  
BETWEEN PSN3 AND PSN4.

FILE II OMRS S00FF0.070 PROTECTS  
LCC MPS 01 BY REQUIRING THE  
MPS/SSME HELIUM TANK PRESSURES  
BE MAINTAINED BETWEEN 4270  
AND 4490 PSIA FROM HELIUM TANK  
PRESSURIZATION AT T-11HRS TO  
PSN4 INITIATION AT T-4M. (THERE  
IS NO REQUIREMENT LEVIED FOR THE  
TIME PERIOD BETWEEN T-4M AND  
T-2M55S).

PER OMRS S00FF0.070, GSE REG  
SET POINT DRIFT AFTER MLP CLEAR  
RESULTING IN HELIUM TANK  
PRESSURE EXCURSIONS UP TO  
4550 PSIA ARE ALLOWED, BUT SET  
POINTS ARE PLANNED TO AVOID  
EXCEEDING 4500 PSIA.

OPERATION INSTRUCTIONS

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

NOTE

THE HIGHEST HELIUM TANK PRESSURE CONTROL POINT DURING S72-0685-1 PANEL SET-UP IS LIMITED TO 4450 PSIA TO PROTECT THE UPPER LCC AND OMRS LIMIT OF 4500 PSIA.

IN ORDER TO PROVIDE MAXIMUM REDUNDANCY DURING TERMINAL COUNT, BOTH LEGS MUST BE CONFIGURED TO SUPPLY (BOTH THE PRIMARY AND SECONDARY REG ISOL VALVES OPEN). IN THIS CONFIGURATION, IF THE REG SET POINTS ARE CLOSE TOGETHER, SUPPLY TO THE VEHICLE OSCILLATES BETWEEN LEGS CAUSING UNACCEPTABLE WEAR ON THE LEG ISOLATION CHECKVALVES. THIS LEADS TO PARTICULATE GENERATION AND PREMATURE FAILURE OF THE CV'S. ENGINEERING RECOMMENDS THESE REGS BE SET WITH AN ABSOLUTE MINIMUM DIFFERENTIAL OF 50 PSI BETWEEN SET POINTS.

THERE HAS BEEN AS MUCH AS 120 PSI DIFFERENCE IN INDICATED HELIUM TANK PRESSURES BETWEEN THE FOUR ON-BOARD HELIUM SYSTEMS, DUE MAINLY TO PRESSURE TRANSDUCER BIAS AND PARTIALLY TO SYSTEM OPERATING CHARACTERISTICS. THIS DELTA HAS BEEN DECREASED TO SOME EXTENT THROUGH THE APPLICATION OF CAL CURVES IN THE LPS PROCESSING OF THE ORBITER DATA, BUT SOME DELTA STILL EXISTS. THIS DELTA REDUCES THE FLEXIBILITY IN SETTING THE GSE TO PROTECT THE UPPER AND LOWER LCC LIMITS.

HELIUM LOAD IS MARGINAL FOR WORST CASE RTLs MISSIONS, SO LOADING TOWARDS THE UPPER LIMIT OF THE OVERALL CONTROL BAND IS PREFERABLE.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

TAKING ALL THIS INTO ACCOUNT HAS RESULTED IN THE RECOMMENDED CONTROL BANDS AND OPTIMUM SET POINTS FOR THE S72-0685-1 PANEL PRIMARY AND SECONDARY 4500 REGULATORS. THE CONTROL BANDS AND SET POINTS ARE APPLIED TO THE HIGHEST OF THE FOUR INDICATED MPS/SSME HELIUM TANK PRESSURES AS DIRECTED BY CMPS.

THE CONTROL BAND FOR THE PRIMARY REG IS 4400 TO 4450 PSIA WITH THE OPTIMUM SET POINT AS CLOSE TO 4450 AS IS REASONONABLY OBTAINABLE, WHILE MAINTAINING AT LEAST A 50 PSI DIFFERENTIAL BETWEEN THAT SETTING AND THE SETTING OF THE SECONDARY REG.

THE CONTROL BAND FOR THE SECONDARY REG IS 4325 TO 4375 PSIA WITH THE OPTIMUM SET POINT AS CLOSE TO 4375 AS IS REASONONABLY OBTAINABLE, WHILE MAINTAINING AT LEAST A 50 PSI DIFFERENTIAL BETWEEN THAT SETTING AND THE SETTING OF THE PRIMARY REG.

REFERENCE FLOW CHARTS (1, 2 AND 3) FOR PROPER EXECUTION OF SEQUENCES.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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FIGURE 44-001-INITIAL CONFIGURATION FLOWCHART  
(FOR REFERENCE ONLY)

VOLUME 4 OF 5  
DATE: 07-08-99

OMI NO. - S0007VL4  
REV. - AY

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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FIGURE 44-002 - OPTION 1 PRIMARY AND SECONDARY REGS SUPPORTING  
(FOR REFERENCE ONLY)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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FIGURE 44-003 - OPTIONS 2 AND 3 FLOWCHART  
(FOR REFERENCE ONLY)



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

THE FOLLOWING SEQUENCE PERFORMS  
MPS GSE HELIUM GSE SET POINT  
VERIFICATION DURING SCRUB  
TURNAROUND OPERATIONS.

THIS SEQUENCE MAY BE PERFORMED  
MULTIPLE TIMES.

RECORD DATA AND VERIFICATIONS  
FOR THIS SEQUENCE ON  
DATA SHEET H-1 IN APPENDIX H.

ADJUSTMENT OF GSE REGS, WITH  
ASSOCIATED VENT VALVES OPEN  
AND/OR CLOSED, MAY BE PERFORMED  
AS REQUIRED TO OBTAIN/MAINTAIN  
DESIRED SETPOINTS.

44-001		OTC	CMPS	PERFORM HELIUM GSE SET POINT VERIFICATION ON CH 168.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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CAUTION

IF THE SSME'S ARE IN PSN3,  
THERE WILL BE APPROXIMATELY  
33 SCFM DEMAND FOR EACH ENGINE.  
IF THE GSE SUPPLY MUST BE  
SECURED, THE HELIUM TANKS WILL  
DECAY RAPIDLY, AT APPROXIMATELY  
20 PSI/MIN. DO NOT ALLOW THE  
PRESSURE DELTA TO EXCEED  
400 PSI. A TANK CYCLE WILL  
BE INCURRED ON THE 17.3 CU FT  
TANKS IN THE MIDBODY IF A  
PRESSURE DELTA OF 425 PSI IS  
ATTAINED.

NOTE

THE S72-0685-1 4500 LEGS MAY BE  
IN ONE OF THE FOLLOWING THREE  
NOMINAL CONFIGURATIONS, DEPENDING  
ON REG PERFORMANCE DURING THE  
LAST LOAD/LAUNCH ATTEMPT:

1. BOTH PRIMARY AND SECONDARY  
4500 LEG REG ISOLATION VALVES  
OPEN
2. PRIMARY 4500 LEG REG ISOL  
VALVE OPEN, SECONDARY 4500  
LEG REG ISOL VALVE CLOSED
3. PRIMARY 4500 LEG REG ISOL  
VALVE CLOSED, SECONDARY  
4500 LEG REG ISOL VALVE OPEN.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM OPTION 1 - SET POINT VERIFICATION WITH PRIMARY AND SECONDARY 4500 LEGS BOTH ON LINE IF BOTH THE PRIMARY AND SECONDARY 4500 LEG REG ISOLATION VALVES ARE OPEN. IN THE FOLLOWING STEPS, THE PRIMARY 4500 REG ISOL VALVE WILL BE CLOSED TO VERIFY THE SET POINT OF THE SECONDARY 4500 REG. THE ORBITER INTERCONNECT IN VALVES WILL REMAIN OPEN TO ALLOW THE MPS TANK TO TRACK THE SSME TANKS DURING REG ADJUSTMENT.

OPTION 1 - SET POINT VERIFICATION WITH  
 -----  
 PRIMARY AND SECONDARY 4500 LEGS BOTH  
 -----  
 ON LINE  
 -----

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

44-002

CMPS QMTG VALVES WILL BE CYCLED WITHIN THE S72-0685-1 PANEL. VALVE CYCLING AND CHANGES IN FLOW MAY BE AUDIBLE.

44-003

CMPS CURSOR CNTL (VAE18 PAGE B)  
 A74935 PRIMARY 4400 REG ISOL - CLOSE

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

ALLOW MPS/SSME HELIUM TANK PRESSURES TO REACH SECONDARY REG CONTROL PRESSURE PRIOR TO MAKING ANY ADJUSTMENTS TO THE SECONDARY REG SET POINT. IF PRESSURES DECREASE BELOW 4300 PSIA, BEGIN REG ADJUSTMENT. OPTIMUM SET POINT WILL MAINTAIN THE HIGHEST ORBITER HELIUM TANK PRESSURE AT 4375 PSIA.

50 PSID MINIMUM BETWEEN FINAL SET POINTS IS REQUIRED.

44-004

CMPS CRT (VAE18 PAGE B)  
RECORD INITIAL SECONDARY REG SET POINT (N/A IF REG ADJUSTMENT REQUIRED BEFORE SET POINT ATTAINED):

S72-0685-1 PANEL:  
SECONDARY REG OUT PRESSURE \_\_\_\_\_  
PANEL OUT PRESSURE \_\_\_\_\_

ORBITER HELIUM SUPPLY:  
MPS HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 1 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 2 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 3 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM SECONDARY REG SET  
POINT VERIFICATION UNDER FLOW  
IF INITIAL SECONDARY REG SET  
POINT IS NOT BETWEEN 4325 AND  
4375 PSIA AS INDICATED ON  
THE HIGHEST HELIUM TANK SUPPLY  
PRESSURE OR IF OPTIMIZATION FOR  
CONTROL AT 4375 IS DESIRED.

SECONDARY REG SET POINT VERIFICATION

UNDER FLOW

NOT PERFORMED

NOTE

SECONDARY REG SET POINT MUST BE  
ADJUSTED TO CONTROL THE HIGHEST  
HELIUM TANK SUPPLY PRESSURE  
BETWEEN 4325 AND 4375 PSIA.  
REG ADJUSTMENT TO FINE TUNE REG  
TO OPTIMAL SET POINT OF 4375 PSIA  
FOR THE HIGHEST HELIUM TANK  
SUPPLY PRESSURE IS OPTIONAL.

PERFORM NEXT STEP IF SSME'S ARE  
NOT IN PSN3 AND/OR ADDITIONAL  
FLOW IS DESIRED TO FACILITATE  
SECONDARY REG SET POINT ADJUSTMENT.  
VENT VALVE MAY BE CYCLED OPEN/  
CLOSED AS REQUIRED TO SET REG.

44-005

CMPS QMTG S72-0685-1 PANEL 44A

A74941 VENT VALVE - OPEN 1/2 TO 1  
TURN (CCW) TO OBTAIN AUDIBLE FLOW.  
CLOSE (CW) WHEN ADJUSTMENT IS COMPLETE.

TQW: \_\_\_\_\_

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-006		CMPS	QMTG	S72-0685-1 PANEL 44A ADJUST THE A74946 SECONDARY REG (INCREASE CW, DECREASE CCW) PER CMPS DIRECTION TO OBTAIN THE DESIRED ORBITER HELIUM CONTROL SET POINT. GAGE A74944 MAY BE MONITORED FOR INDICATION OF REG OUT PRESSURE.	

TQW: \_\_\_\_\_

NOTE

THE A74937 SECONDARY 4400 REG  
 ISOL VALVE MAY BE CYCLED CLOSED/  
 OPEN AS REQUIRED TO OPTIMIZE  
 REG SET POINT.

44-007		CMPS		CURSOR CNTL (VAE18 PAGE B) A74937 SECONDARY 4400 REG ISOL - CLOSE/OPEN	
					NOT PERFORMED _____

NOTE

IF ACCEPTABLE REG SET POINT  
 CANNOT BE REACHED WITH PREVIOUS  
 METHOD, PERFORM SECONDARY REG  
 SECURE AND REACTIVATION PER THE  
 NEXT TWO STEPS.

44-008		CMPS		PERFORM SECONDARY REG SECURE AND REACTIVATION PER THIS SEQUENCE.	
					NOT PERFORMED _____

44-009		CMPS		SECONDARY REG SECURE AND REACTIVATION PER THIS SEQUENCE COMPLETE.	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

50 PSID MINIMUM BETWEEN FINAL  
SET POINTS IS REQUIRED.

44-010		CMPS CRT (VAE18 PAGE B)		VERIFY SECONDARY REG SET POINT IS CONTROLLING THE HIGHEST HELIUM TANK PRESSURE BETWEEN 4325 AND 4375 PSIA.	
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44-011		CMPS QMTG S72-0685-1 PANEL 44A		A74941 VENT VALVE - VERIFY FULLY CLOSED (CW)	
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TQW: \_\_\_\_\_

SECONDARY REG SET POINT VERIFICATION

-----  
UNDER FLOW COMPLETE  
-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-012		CMPS	CRT	(VAE18 PAGE B) RECORD SECONDARY REG FINAL SET POINT:  S72-0685-1 PANEL: SECONDARY REG OUT PRESSURE_____ PANEL OUT PRESSURE_____	
				ORBITER HELIUM SUPPLY: MPS HELIUM TANK SUPPLY PRESSURE_____ SSME 1 HELIUM TANK SUPPLY PRESSURE_____ SSME 2 HELIUM TANK SUPPLY PRESSURE_____ SSME 3 HELIUM TANK SUPPLY PRESSURE_____	
				NOTE  IN THE FOLLOWING STEPS THE SECONDARY 4500 REG ISOL VALVE WILL BE CLOSED TO VERIFY THE SET POINT OF THE PRIMARY 4500 REG. THE ORBITER INTERCONNECT IN VALVES WILL REMAIN OPEN TO ALLOW THE MPS TANK TO TRACK THE SSME TANKS DURING REG ADJUSTMENT.	
44-013		CMPS	CURSOR CNTL	(VAE18 PAGE B) A74935 PRIMARY 4400 REG ISOL - OPEN	
44-014		CMPS	CURSOR CNTL	(VAE18 PAGE B) A74937 SECONDARY 4400 REG ISOL - CLOSE	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

ALLOW MPS/SSME HELIUM TANK PRESSURES TO REACH PRIMARY REG CONTROL PRESSURE PRIOR TO MAKING ANY ADJUSTMENTS TO THE PRIMARY REG SET POINT. IF PRESSURES INCREASE ABOVE 4500 PSIA BEGIN REG ADJUSTMENT. OPTIMUM SET POINT WILL MAINTAIN THE HIGHEST ORBITER HELIUM TANK PRESSURE AT 4450 PSIA.

50 PSID MINIMUM BETWEEN FINAL SET POINTS IS REQUIRED.

44-015

CMPS CRT (VAE18 PAGE B)  
RECORD INITIAL PRIMARY REG SET POINT (N/A IF REG ADJUSTMENT REQUIRED BEFORE SET POINT ATTAINED):

S72-0685-1 PANEL:  
PRIMARY REG OUT PRESSURE \_\_\_\_\_  
PANEL OUT PRESSURE \_\_\_\_\_

ORBITER HELIUM SUPPLY:  
MPS HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 1 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 2 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 3 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM PRIMARY REG SET  
POINT VERIFICATION UNDER FLOW  
IF INITIAL PRIMARY REG SET  
POINT IS NOT BETWEEN 4400 AND  
4450 PSIA AS INDICATED ON  
THE HIGHEST HELIUM TANK SUPPLY  
PRESSURE OR IF OPTIMIZATION FOR  
CONTROL AT 4450 IS DESIRED.

PRIMARY REG SET POINT VERIFICATION

UNDER FLOW

NOT PERFORMED

NOTE

PRIMARY REG SET POINT MUST BE  
ADJUSTED TO CONTROL THE HIGHEST  
HELIUM TANK SUPPLY PRESSURE  
BETWEEN 4400 AND 4450 PSIA.  
REG ADJUSTMENT TO FINE TUNE REG  
TO OPTIMAL SET POINT OF 4450 PSIA  
FOR THE HIGHEST HELIUM TANK  
SUPPLY PRESSURE IS OPTIONAL.

PERFORM NEXT STEP IF SSME'S ARE  
NOT IN PSN3 AND/OR ADDITIONAL  
FLOW IS DESIRED TO FACILITATE  
PRIMARY REG SET POINT ADJUSTMENT.  
VENT VALVE MAY BE CYCLED OPEN/  
CLOSED AS REQUIRED TO SET REG.

44-016

CMPS QMTG S72-0685-1 PANEL 44A  
A74931 VENT VALVE - OPEN 1/2 TO 1  
TURN (CCW) TO OBTAIN AUDIBLE FLOW.  
CLOSE (CW) WHEN ADJUSTMENT IS COMPLETE.

TQW: \_\_\_\_\_

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-017		CMPS	QMTG	S72-0685-1 PANEL 44A ADJUST THE A74926 PRIMARY REG (INCREASE CW, DECREASE CCW) PER CMPS DIRECTION TO OBTAIN THE DESIRED ORBITER HELIUM CONTROL SET POINT. GAGE A74928 MAY BE MONITORED FOR INDICATION OF REG OUT PRESSURE.	

TQW: \_\_\_\_\_

NOTE

THE A74935 PRIMARY 4500 REG  
 ISOL VALVE MAY BE CYCLED CLOSED/  
 OPEN AS REQUIRED TO SET REG.

44-018		CMPS		CURSOR CNTL (VAE18 PAGE B) A74935 PRIMARY 4500 REG ISOL - CLOSE/OPEN	
					NOT PERFORMED _____

NOTE

IF ACCEPTABLE REG SET POINT  
 CANNOT BE REACHED WITH PREVIOUS  
 METHOD, PERFORM PRIMARY REG  
 SECURE AND REACTIVATION PER THE  
 NEXT TWO STEPS.

44-019		CMPS		PERFORM PRIMARY REG SECURE AND REACTIVATION PER THIS SEQUENCE.	
					NOT PERFORMED _____

44-020		CMPS		PRIMARY REG SECURE AND REACTIVATION PER THIS SEQUENCE COMPLETE.	
					NOT PERFORMED _____

NOTE

50 PSID MINIMUM BETWEEN FINAL  
 SET POINTS IS REQUIRED.

44-021		CMPS	CRT	(VAE18 PAGE B) VERIFY PRIMARY REG SET POINT IS CONTROLLING THE HIGHEST HELIUM TANK PRESSURE BETWEEN 4400 AND 4450 PSIA.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-022		CMPS	QMTG	S72-0685-1 PANEL 44A A74931 VENT VALVE - VERIFY FULLY CLOSED (CW)	
					TQW:_____
				PRIMARY REG SET POINT VERIFICATION ----- UNDER FLOW COMPLETE -----	
44-023		CMPS	CRT	(VAE18 PAGE B) RECORD PRIMARY REG FINAL SET POINT:  S72-0685-1 PANEL: PRIMARY REG OUT PRESSURE_____ PANEL OUT PRESSURE_____	
				ORBITER HELIUM SUPPLY: MPS HELIUM TANK SUPPLY PRESSURE_____ SSME 1 HELIUM TANK SUPPLY PRESSURE_____ SSME 2 HELIUM TANK SUPPLY PRESSURE_____ SSME 3 HELIUM TANK SUPPLY PRESSURE_____	
				OPTION 1 - SET POINT VERIFICATION WITH ----- PRIMARY AND SECONDARY 4500 LEGS ----- BOTH ON LINE COMPLETE -----	

OPERATION INSTRUCTIONS

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

NOTE

PERFORM OPTION 2 - SET POINT VERIFICATION WITH PRIMARY REG ISOL VALVE CLOSED AND SECONDARY REG ISOLATION VALVE OPEN IF PRIMARY 4500 REG ISOLATION VALVE IS CLOSED AND THE SECONDARY REG ISOLATION VALVE IS OPEN. THIS CONFIGURATION INDICATES THAT THE PRIMARY REG WAS CONTROLLING TO A HIGHER THAN DESIRED SET POINT. IN THE FOLLOWING STEPS, THE PRIMARY LEG WILL REMAIN SECURED WHILE THE SECONDARY LEG IS CHECKED. THE PRIMARY LEG WILL THEN BE RESET. THE ORBITER INTERCONNECT IN VALVES WILL REMAIN OPEN TO ALLOW THE MPS TANK TO TRACK THE SSME TANKS DURING REG ADJUSTMENT.

OPTION 2 - SET POINT VERIFICATION WITH  
 -----  
 PRIMARY REG ISOL VALVE CLOSED AND  
 -----  
 SECONDARY REG ISOLATION VALVE OPEN  
 -----

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

44-024		CMPS	QMTG	VALVES WILL BE CYCLED WITHIN THE S72-0685-1 PANEL. VALVE CYCLING AND CHANGES IN FLOW MAY BE AUDIBLE.	
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44-025		CMPS	CRT (VAE18 PAGE B)	VERIFY A74935 PRIMARY 4400 REG ISOL - VERIFY CLOSED	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

OPTIMUM SET POINT WILL MAINTAIN  
THE HIGHEST ORBITER HELIUM TANK  
PRESSURE AT 4375 PSIA.

50 PSID MINIMUM BETWEEN FINAL SET  
POINTS IS REQUIRED.

44-026

CMPS CRT (VAE18 PAGE B)  
RECORD INITIAL SECONDARY REG  
SET POINT (N/A IF REG  
ADJUSTMENT REQUIRED BEFORE  
SET POINT ATTAINED):

S72-0685-1 PANEL:  
SECONDARY REG OUT PRESSURE \_\_\_\_\_  
PANEL OUT PRESSURE \_\_\_\_\_

ORBITER HELIUM SUPPLY:  
MPS HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 1 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 2 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 3 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM SECONDARY REG SET  
POINT VERIFICATION UNDER FLOW  
IF INITIAL SECONDARY REG SET  
POINT IS NOT BETWEEN 4325 AND  
4375 PSIA AS INDICATED ON  
THE HIGHEST HELIUM TANK SUPPLY  
PRESSURE OR IF OPTIMIZATION FOR  
CONTROL AT 4375 IS DESIRED.

SECONDARY REG SET POINT VERIFICATION

UNDER FLOW

NOT PERFORMED

NOTE

SECONDARY REG SET POINT MUST BE  
ADJUSTED TO CONTROL THE HIGHEST  
HELIUM TANK SUPPLY PRESSURE  
BETWEEN 4325 AND 4375 PSIA.  
REG ADJUSTMENT TO FINE TUNE REG  
TO OPTIMAL SET POINT OF 4375 PSIA  
FOR THE HIGHEST HELIUM TANK  
SUPPLY PRESSURE IS OPTIONAL.

PERFORM NEXT STEP IF SSME'S ARE  
NOT IN PSN3 AND/OR ADDITIONAL  
FLOW IS DESIRED TO FACILITATE  
SECONDARY REG SET POINT ADJUSTMENT.  
VENT VALVE MAY BE CYCLED OPEN/  
CLOSED AS REQUIRED TO SET REG.

44-027

CMPS QMTG S72-0685-1 PANEL 44A  
A74941 VENT VALVE - OPEN 1/2 TO 1  
TURN (CCW) TO OBTAIN AUDIBLE FLOW.  
CLOSE (CW) WHEN ADJUSTMENT IS COMPLETE.

TQW: \_\_\_\_\_

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-028		CMPS	QMTG	S72-0685-1 PANEL 44A ADJUST THE A74946 SECONDARY REG (INCREASE CW, DECREASE CCW) PER CMPS DIRECTION TO OBTAIN THE DESIRED ORBITER HELIUM CONTROL SET POINT. GAGE A74944 MAY BE MONITORED FOR INDICATION OF REG OUT PRESSURE.	

TQW: \_\_\_\_\_

NOTE

THE A74937 SECONDARY 4400 REG  
ISOL VALVE MAY BE CYCLED CLOSED/  
OPEN AS REQUIRED TO OPTIMIZE  
REG SET POINT.

44-029		CMPS		CURSOR CNTL (VAE18 PAGE B) A74937 SECONDARY 4400 REG ISOL - CLOSE/OPEN	NOT PERFORMED _____
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NOTE

IF ACCEPTABLE REG SET POINT  
CANNOT BE REACHED WITH PREVIOUS  
METHOD, PERFORM SECONDARY REG  
SECURE AND REACTIVATION PER THE  
NEXT TWO STEPS. PRIMARY REG  
SUPPLY IS REQUIRED FOR THIS STEP.

44-030		CMPS		PERFORM SECONDARY REG SECURE AND REACTIVATION PER THIS SEQUENCE.	NOT PERFORMED _____
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-031				CMPS SECONDARY REG SECURE AND REACTIVATION PER THIS SEQUENCE COMPLETE.	
					NOT PERFORMED _____

NOTE

50 PSID MINIMUM BETWEEN FINAL  
SET POINTS IS REQUIRED.

44-032				CMPS CRT (VAE18 PAGE B) VERIFY SECONDARY REG SET POINT IS CONTROLLING THE HIGHEST HELIUM TANK PRESSURE BETWEEN 4325 AND 4375 PSIA.	
44-033				CMPS QMTG S72-0685-1 PANEL 44A A74941 VENT VALVE - VERIFY FULLY CLOSED (CW)	

TQW: \_\_\_\_\_

SECONDARY REG SET POINT VERIFICATION  
-----  
UNDER FLOW COMPLETE  
-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-034		CMPS	CRT	(VAE18 PAGE B) RECORD SECONDARY REG FINAL SET POINT:  S72-0685-1 PANEL: SECONDARY REG OUT PRESSURE _____ PANEL OUT PRESSURE _____  ORBITER HELIUM SUPPLY: MPS HELIUM TANK SUPPLY PRESSURE _____ SSME 1 HELIUM TANK SUPPLY PRESSURE _____ SSME 2 HELIUM TANK SUPPLY PRESSURE _____ SSME 3 HELIUM TANK SUPPLY PRESSURE _____	
NOTE					
IN THE FOLLOWING STEPS THE SECONDARY 4500 REG ISOL VALVE WILL BE CLOSED TO VERIFY THE SET POINT OF THE PRIMARY 4500 REG. THE SECONDARY 4500 REG ISOL VALVE MAY BE REOPENED AT ANY TIME IF PROBLEMS ASSOCIATED WITH THE PRIMARY REG SET POINT REQUIRES THE PRIMARY LEG BE SECURED, VENTED AND REACTIVATED PER THIS SEQUENCE. THE ORBITER INTERCONNECT IN VALVES WILL REMAIN OPEN TO ALLOW THE MPS TANK TO TRACK THE SSME TANKS DURING REG ADJUSTMENT.					
44-035		CMPS	QMTG	VALVES WILL BE CYCLED WITHIN THE S72-0685-1 PANEL. VALVE CYCLING AND CHANGES IN FLOW MAY BE AUDIBLE.	
44-036		CMPS	CURSOR	CNTL (VAE18 PAGE B) A74935 PRIMARY 4400 REG ISOL - OPEN A74937 SECONDARY 4400 REG ISOL - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT THREE STEPS IF EXCEEDING THE HELIUM TANK PRESSURE LIMIT IS IMMINENT, IMMEDIATE PRIMARY REG SECURE IS REQUIRED, AND FLOW TO THE VEHICLE THROUGH THE SECONDARY LEG MUST BE REESTABLISHED.

44-037				CMPS CURSOR CNTL (VAE18 PAGE B) A74935 PRIMARY 4500 REG ISOL - CLOSE A74937 SECONDARY 4500 REG ISOL - OPEN	
					NOT PERFORMED _____
44-038				CMPS PERFORM PRIMARY REG SECURE AND REACTIVATION PER THIS SEQUENCE.	
					NOT PERFORMED _____
44-039				CMPS PRIMARY SECURE AND REACTIVATION PER THIS SEQUENCE IS COMPLETE.	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

ALLOW MPS/SSME HELIUM TANK PRESSURES TO REACH PRIMARY REG CONTROL PRESSURE PRIOR TO MAKING ANY ADJUSTMENTS TO THE PRIMARY REG SET POINT. IF TANK PRESSURES INCREASE ABOVE 4500 PSIA BEGIN REG ADJUSTMENT. OPTIMUM SET POINT WILL MAINTAIN THE HIGHEST ORBITER HELIUM TANK PRESSURE AT 4450 PSIA.

50 PSID MINIMUM BETWEEN FINAL SET POINTS IS REQUIRED.

44-040

CMPS CRT (VAE18 PAGE B)  
RECORD INITIAL PRIMARY REG SET POINT (N/A IF REG ADJUSTMENT REQUIRED BEFORE SET POINT ATTAINED):

S72-0685-1 PANEL:  
PRIMARY REG OUT PRESSURE \_\_\_\_\_  
PANEL OUT PRESSURE \_\_\_\_\_

ORBITER HELIUM SUPPLY:  
MPS HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 1 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 2 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 3 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM PRIMARY REG SET  
POINT VERIFICATION UNDER FLOW  
IF INITIAL PRIMARY REG SET  
POINT IS NOT BETWEEN 4400 AND  
4450 PSIA AS INDICATED ON  
THE HIGHEST HELIUM TANK SUPPLY  
PRESSURE OR IF OPTIMIZATION FOR  
CONTROL AT 4450 IS DESIRED.

PRIMARY REG SET POINT VERIFICATION

UNDER FLOW

NOT PERFORMED

NOTE

PRIMARY REG SET POINT MUST BE  
ADJUSTED TO CONTROL THE HIGHEST  
HELIUM TANK SUPPLY PRESSURE  
BETWEEN 4400 AND 4450 PSIA.  
REG ADJUSTMENT TO FINE TUNE REG  
TO OPTIMAL SET POINT OF 4450 PSIA  
FOR THE HIGHEST HELIUM TANK  
SUPPLY PRESSURE IS OPTIONAL.

PERFORM NEXT STEP IF SSME'S ARE  
NOT IN PSN3 AND/OR ADDITIONAL  
FLOW IS DESIRED TO FACILITATE  
PRIMARY REG SET POINT ADJUSTMENT.  
VENT VALVE MAY BE CYCLED OPEN/  
CLOSED AS REQUIRED TO SET REG.

44-041

CMPS QMTG S72-0685-1 PANEL 44A  
A74931 VENT VALVE - OPEN 1/2 TO 1  
TURN (CCW) TO OBTAIN AUDIBLE FLOW.  
CLOSE (CW) WHEN ADJUSTMENT IS COMPLETE.

TQW: \_\_\_\_\_

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-042		CMPS	QMTG	S72-0685-1 PANEL 44A ADJUST THE A74926 PRIMARY REG (INCREASE CW, DECREASE CCW) PER CMPS DIRECTION TO OBTAIN THE DESIRED ORBITER HELIUM CONTROL SET POINT. GAGE A74928 MAY BE MONITORED FOR INDICATION OF REG OUT PRESSURE.	

TQW: \_\_\_\_\_

NOTE

THE A74935 PRIMARY 4500 REG  
ISOL VALVE MAY BE CYCLED CLOSED/  
OPEN AS REQUIRED TO SET REG.

44-043		CMPS		CURSOR CNTL (VAE18 PAGE B) A74935 PRIMARY 4500 REG ISOL - CLOSE/OPEN	
				NOT PERFORMED	_____

NOTE

IF ACCEPTABLE REG SET POINT  
CANNOT BE REACHED WITH PREVIOUS  
METHOD, PERFORM PRIMARY REG  
SECURE AND REACTIVATION PER THE  
NEXT TWO STEPS.

44-044		CMPS		PERFORM PRIMARY REG SECURE AND REACTIVATION PER THIS SEQUENCE.	
				NOT PERFORMED	_____

44-045		CMPS		PRIMARY REG SECURE AND REACTIVATION PER THIS SEQUENCE COMPLETE.	
				NOT PERFORMED	_____

NOTE

50 PSID MINIMUM BETWEEN FINAL  
SET POINTS IS REQUIRED.

44-046		CMPS		CRT (VAE18 PAGE B) VERIFY PRIMARY REG SET POINT IS CONTROLLING THE HIGHEST HELIUM TANK PRESSURE BETWEEN 4400 AND 4450 PSIA.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-047		CMPS	QMTG	S72-0685-1 PANEL 44A A74931 VENT VALVE - VERIFY FULLY CLOSED (CW)	
					TQW: _____
				PRIMARY REG SET POINT VERIFICATION ----- UNDER FLOW COMPLETE -----	
44-048		CMPS	CRT	(VAE18 PAGE B) RECORD PRIMARY REG FINAL SET POINT:  S72-0685-1 PANEL: PRIMARY REG OUT PRESSURE _____ PANEL OUT PRESSURE _____  ORBITER HELIUM SUPPLY: MPS HELIUM TANK SUPPLY PRESSURE _____ SSME 1 HELIUM TANK SUPPLY PRESSURE _____ SSME 2 HELIUM TANK SUPPLY PRESSURE _____ SSME 3 HELIUM TANK SUPPLY PRESSURE _____  OPTION 2 - SET POINT VERIFICATION WITH ----- PRIMARY REG ISOL VALVE CLOSED AND ----- SECONDARY REG ISOLATION VALVE OPEN ----- COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM OPTION 3 - SET POINT VERIFICATION WITH PRIMARY REG ISOL VALVE OPEN AND SECONDARY REG ISOLATION VALVE CLOSED IF PRIMARY 4500 REG ISOLATION VALVE IS OPEN AND SECONDARY REG ISOL VALVE IS CLOSED. THIS CONFIG INDICATES THAT THE SECONDARY REG WAS CONTROLLING TO A HIGHER THAN DESIRED SET POINT. IN THE FOLLOWING STEPS, THE SECONDARY LEG WILL REMAIN SECURED WHILE THE PRIMARY LEG IS CHECKED. THE SECONDARY LEG WILL THEN BE RESET. THE ORBITER INTERCONNECT IN VALVES WILL REMAIN OPEN TO ALLOW THE MPS TANK TO TRACK THE SSME TANKS DURING REG ADJUSTMENT.

OPTION 3 - SET POINT VERIFICATION WITH  
 -----  
 PRIMARY REG ISOL VALVE OPEN AND  
 -----  
 SECONDARY REG ISOLATION VALVE CLOSED  
 -----

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

44-049		CMPS	QMTG	VALVES WILL BE CYCLED WITHIN THE S72-0685-1 PANEL. VALVE CYCLING AND CHANGES IN FLOW MAY BE AUDIBLE.	
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44-050		CMPS	CURSOR CNTL (VAE18 PAGE B) A74937	SECONDARY 4400 REG ISOL - VERIFY CLOSED	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

OPTIMUM PRIMARY 4500 LEG SET  
POINT WILL MAINTAIN THE HIGHEST  
ORBITER HELIUM TANK PRESSURE  
AT 4450 PSIA.

50 PSID MINIMUM BETWEEN FINAL  
SET POINTS IS REQUIRED.

44-051

CMPS CRT (VAE18 PAGE B)  
RECORD INITIAL PRIMARY REG  
SET POINT:

S72-0685-1 PANEL:  
PRIMARY REG OUT PRESSURE \_\_\_\_\_  
PANEL OUT PRESSURE \_\_\_\_\_

ORBITER HELIUM SUPPLY:  
MPS HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 1 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 2 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 3 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM PRIMARY REG SET  
POINT VERIFICATION UNDER FLOW  
IF INITIAL PRIMARY REG SET  
POINT IS NOT BETWEEN 4400 AND  
4450 PSIA AS INDICATED ON  
THE HIGHEST HELIUM TANK SUPPLY  
PRESSURE OR IF OPTIMIZATION FOR  
CONTROL AT 4450 IS DESIRED.

PRIMARY REG SET POINT VERIFICATION

UNDER FLOW

NOT PERFORMED

NOTE

PRIMARY REG SET POINT MUST BE  
ADJUSTED TO CONTROL THE HIGHEST  
HELIUM TANK SUPPLY PRESSURE  
BETWEEN 4400 AND 4450 PSIA.  
REG ADJUSTMENT TO FINE TUNE REG  
TO OPTIMAL SET POINT OF 4450 PSIA  
FOR THE HIGHEST HELIUM TANK  
SUPPLY PRESSURE IS OPTIONAL.

PERFORM NEXT STEP IF SSME'S ARE  
NOT IN PSN3 AND/OR ADDITIONAL  
FLOW IS DESIRED TO FACILITATE  
PRIMARY REG SET POINT ADJUSTMENT.  
VENT VALVE MAY BE CYCLED OPEN/  
CLOSED AS REQUIRED TO SET REG.

44-052

CMPS QMTG S72-0685-1 PANEL 44A  
A74931 VENT VALVE - OPEN 1/2 TO 1  
TURN (CCW) TO OBTAIN AUDIBLE FLOW.  
CLOSE (CW) WHEN ADJUSTMENT IS COMPLETE.

TQW: \_\_\_\_\_

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-053		CMPS	QMTG	S72-0685-1 PANEL 44A ADJUST THE A74926 PRIMARY REG (INCREASE CW, DECREASE CCW) PER CMPS DIRECTION TO OBTAIN THE DESIRED ORBITER HELIUM CONTROL SET POINT. GAGE A74928 MAY BE MONITORED FOR INDICATION OF REG OUT PRESSURE.	

TQW: \_\_\_\_\_

NOTE

THE A74935 PRIMARY 4500 REG  
 ISOL VALVE MAY BE CYCLED CLOSED/  
 OPEN AS REQUIRED TO SET REG.

44-054		CMPS		CURSOR CNTL (VAE18 PAGE B) A74935 PRIMARY 4500 REG ISOL - CLOSE/OPEN	
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NOT PERFORMED \_\_\_\_\_

NOTE

IF ACCEPTABLE REG SET POINT  
 CANNOT BE REACHED WITH PREVIOUS  
 METHOD, PERFORM PRIMARY REG  
 SECURE AND REACTIVATION PER THE  
 NEXT TWO STEPS. SECONDARY LEG  
 SUPPLY REQUIRED FOR THIS STEP.

44-055		CMPS		PERFORM PRIMARY REG SECURE AND REACTIVATION PER THIS SEQUENCE.	
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NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-056		CMPS		PRIMARY REG SECURE AND REACTIVATION PER THIS SEQUENCE COMPLETE.	
				NOT PERFORMED	_____

NOTE

50 PSID BETWEEN FINAL SET  
POINTS IS REQUIRED.

44-057		CMPS		CRT (VAE18 PAGE B) VERIFY PRIMARY REG SET POINT IS CONTROLLING THE HIGHEST HELIUM TANK PRESSURE BETWEEN 4400 AND 4450 PSIA.	
44-058		CMPS	QMTG	S72-0685-1 PANEL 44A A74931 VENT VALVE - VERIFY FULLY CLOSED (CW)	

TQW:\_\_\_\_\_

PRIMARY REG SET POINT VERIFICATION  
-----  
UNDER FLOW COMPLETE  
-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-059		CMPS	CRT	(VAE18 PAGE B) RECORD PRIMARY REG FINAL SET POINT:  S72-0685-1 PANEL: PRIMARY REG OUT PRESSURE _____ PANEL OUT PRESSURE _____  ORBITER HELIUM SUPPLY: MPS HELIUM TANK SUPPLY PRESSURE _____ SSME 1 HELIUM TANK SUPPLY PRESSURE _____ SSME 2 HELIUM TANK SUPPLY PRESSURE _____ SSME 3 HELIUM TANK SUPPLY PRESSURE _____	
NOTE					
IN THE FOLLOWING STEPS, THE PRIMARY 4500 REG ISOL VALVE WILL BE CLOSED TO VERIFY THE SET POINT OF THE SECONDARY 4500 REG. THE PRIMARY 4500 REG ISOL VALVE MAY BE REOPENED AT ANY TIME IF PROBLEMS ASSOCIATED WITH THE SECONDARY REG SET POINT REQUIRES THE SECONDARY LEG BE SECURED, VENTED AND REACTIVATED PER THIS SEQUENCE. THE ORBITER INTERCONNECT IN VALVES WILL REMAIN OPEN TO ALLOW THE MPS TANK TO TRACK THE SSME TANKS DURING REG ADJUSTMENT.					
44-060		CMPS	QMTG	VALVES WILL BE CYCLED WITHIN THE S72-0685-1 PANEL. VALVE CYCLING AND CHANGES IN FLOW MAY BE AUDIBLE.	
44-061		CMPS	CURT	(VAE18 PAGE B) A74937 SECONDARY 4400 REG ISOL -OPEN A74935 PRIMARY 4400 REG ISOL - CLOSE	

OPERATION INSTRUCTIONS

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

PERFORM NEXT THREE STEPS IF  
EXCEEDING THE HELIUM TANK PRESSURE  
LIMIT IS IMMINENT, IMMEDIATE  
SECONDARY REG SECURE IS REQUIRED,  
AND FLOW TO THE VEHICLE THROUGH  
THE PRIMARY LEG MUST BE  
RE-ESTABLISHED.

44-062				CMPS CURSOR CNTL (VAE18 PAGE B) A74937 SECONDARY 4500 REG ISOL - CLOSE A74935 PRIMARY 4500 REG ISOL - OPEN	
				NOT PERFORMED	_____
44-063				CMPS PERFORM SECONDARY REG SECURE AND REACTIVATION PER THIS SEQUENCE.	
				NOT PERFORMED	_____
44-064				CMPS SECONDARY SECURE AND REACTIVATION PER THIS SEQUENCE IS COMPLETE.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

ALLOW MPS/SSME HELIUM TANK PRESSURES TO REACH SECONDARY REG CONTROL PRESSURE PRIOR TO MAKING ANY ADJUSTMENTS TO THE SECONDARY REG SET POINT. IF TANK PRESSURES INCREASE ABOVE 4500 PSIA BEGIN REG ADJUSTMENT. OPTIMUM SET POINT WILL MAINTAIN THE HIGHEST ORBITER HELIUM TANK PRESSURE AT 4375 PSIA.

50 PSID MINIMUM BETWEEN FINAL SET POINTS IS REQUIRED.

44-065

CMPS CRT (VAE18 PAGE B)  
RECORD INITIAL SECONDARY REG SET POINT (N/A IF REG ADJUSTMENT REQUIRED BEFORE SET POINT ATTAINED):

S72-0685-1 PANEL:  
SECONDARY REG OUT PRESSURE \_\_\_\_\_  
PANEL OUT PRESSURE \_\_\_\_\_

ORBITER HELIUM SUPPLY:  
MPS HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 1 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 2 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_  
SSME 3 HELIUM TANK SUPPLY PRESSURE \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM SECONDARY REG SET  
POINT VERIFICATION UNDER FLOW  
IF INITIAL SECONDARY REG SET  
POINT IS NOT BETWEEN 4325 AND  
4375 PSIA AS INDICATED ON  
THE HIGHEST HELIUM TANK SUPPLY  
PRESSURE OR IF OPTIMIZATION FOR  
CONTROL AT 4375 PSIA IS DESIRED.

SECONDARY REG SET POINT VERIFICATION

UNDER FLOW

NOT PERFORMED

NOTE

SECONDARY REG SET POINT MUST BE  
ADJUSTED TO CONTROL THE HIGHEST  
HELIUM TANK SUPPLY PRESSURE  
BETWEEN 4325 AND 4375 PSIA.  
REG ADJUSTMENT TO FINE TUNE REG  
TO OPTIMAL SET POINT OF 4375 PSIA  
FOR THE HIGHEST HELIUM TANK  
SUPPLY PRESSURE IS OPTIONAL.

PERFORM NEXT STEP IF SSME'S ARE  
NOT IN PSN3 AND/OR ADDITIONAL  
FLOW IS DESIRED TO FACILITATE  
SECONDARY REG SET POINT ADJUSTMENT.  
VENT VALVE MAY BE CYCLED OPEN/  
CLOSED AS REQUIRED TO SET REG.

44-066

CMPS QMTG S72-0685-1 PANEL 44A

A74941 VENT VALVE - OPEN 1/2 TO 1  
TURN (CCW) TO OBTAIN AUDIBLE FLOW.  
CLOSE (CW) WHEN ADJUSTMENT IS COMPLETE.

TQW: \_\_\_\_\_

NOT PERFORMED



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-067		CMPS	QMTG	S72-0685-1 PANEL 44A ADJUST THE A74946 SECONDARY REG (INCREASE CW, DECREASE CCW) PER CMPS DIRECTION TO OBTAIN THE DESIRED ORBITER HELIUM CONTROL SET POINT. GAGE A74944 MAY BE MONITORED FOR INDICATION OF REG OUT PRESSURE.	

TQW: \_\_\_\_\_

NOTE

THE A74937 SECONDARY 4400 REG  
ISOL VALVE MAY BE CYCLED CLOSED/  
OPEN AS REQUIRED TO OPTIMIZE  
REG SET POINT.

44-068		CMPS	CURSOR CNTL (VAE18 PAGE B) A74937 SECONDARY 4400 REG ISOL - CLOSE/OPEN	NOT PERFORMED	_____
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NOTE

IF ACCEPTABLE REG SET POINT  
CANNOT BE REACHED WITH PREVIOUS  
METHOD, PERFORM SECONDARY REG  
SECURE AND REACTIVATION PER THE  
NEXT TWO STEPS.

44-069		CMPS	PERFORM SECONDARY REG SECURE AND REACTIVATION PER THIS SEQUENCE.	NOT PERFORMED	_____
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-070		CMPS		SECONDARY REG SECURE AND REACTIVATION PER THIS SEQUENCE COMPLETE.	
				NOT PERFORMED	_____

NOTE

50 PSID BETWEEN FINAL SET  
POINTS IS REQUIRED.

44-071		CMPS		CRT (VAE18 PAGE B) VERIFY SECONDARY REG SET POINT IS CONTROLLING THE HIGHEST HELIUM TANK PRESSURE BETWEEN 4325 AND 4375 PSIA.	
44-072		CMPS	QMTG	S72-0685-1 PANEL 44A A74941 VENT VALVE - VERIFY FULLY CLOSED (CW)	

TQW:\_\_\_\_\_

SECONDARY REG SET POINT VERIFICATION  
-----  
UNDER FLOW COMPLETE  
-----

44-073		CMPS		CRT (VAE18 PAGE B) RECORD SECONDARY REG FINAL SET POINT:  S72-0685-1 PANEL: SECONDARY REG OUT PRESSURE_____ PANEL OUT PRESSURE_____  ORBITER HELIUM SUPPLY: MPS HELIUM TANK SUPPLY PRESSURE_____ SSME 1 HELIUM TANK SUPPLY PRESSURE_____ SSME 2 HELIUM TANK SUPPLY PRESSURE_____ SSME 3 HELIUM TANK SUPPLY PRESSURE_____  OPTION 3 - SET POINT VERIFICATION WITH ----- PRIMARY REG ISOL VALVE OPEN AND ----- SECONDARY REG ISOLATION VALVE CLOSED ----- COMPLETE -----	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF AN ACCEPTABLE 4500 LEG  
SECONDARY REG SET POINT COULD  
NOT BE OBTAINED BY ADJUSTING  
THE REG UNDER FLOW, PERFORM  
SECONDARY REG SECURE AND  
REACTIVATION TO SECURE, VENT  
AND REACTIVATE THE SECONDARY  
LEG.

SECONDARY REG SECURE AND REACTIVATION

NOT PERFORMED

NOTE

THE PRIMARY 4500 LEG MUST BE  
ON LINE TO MAINTAIN THE  
ORBITER MPS/SSME HELIUM TANKS  
WITHIN PRESSURE LIMITS DURING  
SECONDARY REG SECURE AND  
REACTIVATION.

44-074		CMPS	QMTG	THE SECONDARY LEG WILL BE SECURED AND REACTIVATED. FLOW TO THE VEHICLE WILL BE PROVIDED THROUGH THE PRIMARY LEG. VALVE CYCLING AND FLOW CHANGES THROUGH THE PANEL WILL BE AUDIBLE.	
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NOTE

PERFORM THE NEXT TWO STEPS  
IF THE PRIMARY REG ISOLATION  
VALVE IS CLOSED.

44-075		CMPS		VERIFY THE PRIMARY 4500 LEG IS CONFIGURED TO MAINTAIN THE MPS/SSME HELIUM TANK PRESSURES BETWEEN 4270 AND 4490 PSIA.	
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-076		CMPS		CURSOR CNTL (VAE18 PAGE B) A74935 PRIMARY 4500 REG ISOL - OPEN	
				NOT PERFORMED	_____
				NOTE	
				PERFORM THE NEXT STEP IF THE SECONDARY REG ISOLATION VALVE IS OPEN.	
44-077		CMPS		CURSOR CNTL (VAE18 PAGE B) A74937 SECONDARY 4500 REG ISOL - CLOSE	
				NOT PERFORMED	_____
44-078		CMPS	QMTG	S72-0685-1 PANEL CMPT 44A A74950 SECONDARY 4500 INLET VALVE - CLOSE (CW) A74941 SECONDARY 4500 LEG VENT - OPEN (CCW) A74946 SECONDARY 4500 REG - FULL DECREASE (CCW) A74995 SECONDARY 4500 DOME VENT - OPEN(CCW) A74947 SECONDARY 4500 HAND LOADER VENT - OPEN (CCW) A74944 SECONDARY 4500 REG OUT GAGE READS 0 PSIG A74949 SECONDARY 4500 LEG INLET GAGE READS 0 PSIG	
					TQW:_____
44-079		CMPS		CURSOR CNTL (VAE18 PAGE B) A74937 SECONDARY 4500 REG ISOL - OPEN SECONDARY 4500 REG OUT PRESSURE - AMBIENT A74937 SECONDARY 4500 REG ISOL - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-080		CMPS	QMTG	S72-0685-1 PANEL CMPT 44A A74944 SECONDARY 4500 REG OUT GAGE READS 0 PSIG A74941 SECONDARY 4500 LEG VENT - CLOSE (CW) A74995 SECONDARY 4500 DOME VENT - CLOSE(CW) A74947 SECONDARY 4500 HAND LOADER VENT - CLOSE (CW)	TQW:_____
44-081		CMPS	QMTG	S72-0685-1 PANEL CMPT 44A A74950 SECONDARY 4500 INLET VALVE - OPEN (CCW) A74949 SECONDARY 4500 LEG INLET GAGE READS > 5000 PSIG A74941 SECONDARY 4500 LEG VENT - OPEN 1/2 TO 1 TURN (CCW)	TQW:_____
44-082		CMPS	QMTG	A74946 SECONDARY 4500 REG - INCREASE (CW) TO INDICATE 4325 TO 4375 PSIG ON A74944 SECONDARY 4500 REG OUT GAGE. OPTIMUM SET POINT IS 4375 PSIG.	TQW:_____
44-083		CMPS	QMTG	A74941 SECONDARY 4500 LEG VENT - CLOSE (CW)	TQW:_____
44-084		CMPS	CURSOR	CNTL (VAE18 PAGE B) A74937 SECONDARY 4400 REG ISOL - OPEN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-085				CMPS CURSOR CNTL (VAE18 PAGE B) A74935 PRIMARY 4500 REG ISOL - CLOSE	

NOTE

IF SECONDARY REG SET POINT  
IS NOT CONTROLLING THE HIGHEST  
HELIUM TANK PRESSURE BETWEEN  
4325 AND 4375 PSIA, THE PREVIOUS  
11 STEPS MAY BE RE-PERFORMED  
OR SECONDARY REG SET POINT  
ADJUSTMENT UNDER FLOW MAY BE  
RE-ENTERED.

SECONDARY REG SECURE AND REACTIVATION  
-----  
COMPLETE  
-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF AN ACCEPTABLE 4500 LEG  
PRIMARY REG SET POINT COULD  
NOT BE OBTAINED BY ADJUSTING  
THE REG UNDER FLOW, PERFORM  
PRIMARY REG SECURE AND  
REACTIVATION TO SECURE, VENT  
AND REACTIVATE THE PRIMARY  
LEG.

PRIMARY REG SECURE AND REACTIVATION

NOT PERFORMED

NOTE

THE SECONDARY 4500 LEG MUST BE  
ON LINE TO MAINTAIN THE  
ORBITER MPS/SSME HELIUM TANKS  
WITHIN PRESSURE LIMITS DURING  
PRIMARY REG SECURE AND  
REACTIVATION.

44-086		CMPS	QMTG	THE PRIMARY LEG WILL BE SECURED AND REACTIVATED. FLOW TO THE VEHICLE WILL BE PROVIDED THROUGH THE SECONDARY LEG. VALVE CYCLING AND FLOW CHANGES THROUGH THE PANEL WILL BE AUDIBLE.	
--------	--	------	------	--	--

NOTE

PERFORM THE NEXT TWO STEPS  
IF THE SECONDARY REG ISOLATION  
VALVE IS CLOSED.

44-087		CMPS		VERIFY THE SECONDARY 4500 LEG IS CONFIGURED TO MAINTAIN THE MPS/SSME HELIUM TANK PRESSURES BETWEEN 4270 AND 4490 PSIA.	
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-088		CMPS		CURSOR CNTL (VAE18 PAGE B) A74937 SECONDARY 4500 REG ISOL - OPEN	
				NOT PERFORMED	_____
				NOTE	
				PERFORM THE NEXT STEP IF THE PRIMARY REG ISOLATION VALVE IS OPEN.	
44-089		CMPS		CURSOR CNTL (VAE18 PAGE B) A74935 PRIMARY 4500 REG ISOL - CLOSE	
				NOT PERFORMED	_____
44-090		CMPS	QMTG	S72-0685-1 PANEL CMPT 44A A74922 PRIMARY 4500 INLET VALVE - CLOSE (CW) A74931 PRIMARY 4500 LEG VENT - OPEN (CCW) A74926 PRIMARY 4500 REG - FULL DECREASE (CCW) A74993 PRIMARY 4500 DOME VENT - OPEN(CCW) A74925 PRIMARY 4500 HAND LOADER VENT - OPEN (CCW) A74928 PRIMARY 4500 REG OUT GAGE READS 0 PSIG A74923 PRIMARY 4500 LEG INLET GAGE READS 0 PSIG	
					TQW:_____
44-091		CMPS		CURSOR CNTL (VAE18 PAGE B) A74935 PRIMARY 4500 REG ISOL - OPEN PRIMARY 4500 REG OUT PRESSURE - AMBIENT A74935 PRIMARY 4500 REG ISOL - CLOSE	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-092		CMPS	QMTG	S72-0685-1 PANEL CMPT 44A A74928 PRIMARY 4500 REG OUT GAGE READS 0 PSIG A74931 PRIMARY 4500 LEG VENT - CLOSE (CW) A74993 PRIAMRY 4500 DOME VENT - CLOSE(CW) A74925 PRIMARY 4500 HAND LOADER VENT - CLOSE (CW)	TQW:_____
44-093		CMPS	QMTG	S72-0685-1 PANEL CMPT 44A A74922 PRIMARY 4500 INLET VALVE - OPEN (CCW) A74923 PRIAMRY 4500 LEG INLET GAGE READS > 5000 PSIG A74931 PRIMARY 4500 LEG VENT - OPEN 1/2 TO 1 TURN (CCW)	TQW:_____
44-094		CMPS	QMTG	A74926 PRIMARY 4500 REG - INCREASE (CW) TO INDICATE 4400 TO 4450 PSIG ON A74928 PRIMARY 4500 REG OUT GAGE. OPTIMUM SET POINT IS 4450 PSIG.	TQW:_____
44-095		CMPS	QMTG	A74931 PRIMARY 4500 LEG VENT - CLOSE (CW)	TQW:_____
44-096		CMPS	CURSOR	CNTL (VAE18 PAGE B) A74935 PRIMARY 4400 REG ISOL - OPEN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-097				CMPS CURSOR CNTL (VAE18 PAGE B) A74937 SECONDARY 4500 REG ISOL - CLOSE	

NOTE

IF PRIMARY REG SET POINT IS NOT CONTROLLING THE HIGHEST HELIUM TANK PRESSURE BETWEEN 4400 AND 4450 PSIA, THE PREVIOUS 11 STEPS MAY BE RE-PERFORMED OR PRIMARY REG SET POINT ADJUSTMENT UNDER FLOW MAY BE RE-ENTERED.

PRIMARY REG SECURE AND REACTIVATION  
-----  
COMPLETE  
-----

NOTE

ESTABLISH THE FINAL S72-0685-1 PANEL CONFIGURATION PER THE NEXT TWO STEPS.

44-098				CMPS CURSOR CNTL (VAE18 PAGE B) IF CLOSED, A74935 PRIMARY 4400 REG ISOL - OPEN NOT PERFORMED (NP)	
				IF CLOSED, A74937 SECONDARY 4400 REG ISOL - OPEN NOT PERFORMED (NP)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
44-099		CMPS	CRT	(VAE18 PAGE B) VERIFY PRIMARY REG IS CONTROLLING BETWEEN 4400 AND 4450 PSIA, SECONDARY SET POINT IS BETWEEN 4325 AND 4375 PSIA, AND THERE IS 50 PSID MINIMUM BETWEEN SET POINT.  RECORD THE FINAL PRIMARY AND SECONDARY SET POINTS VALUES FOR THE HIGHEST ORBITER HELIUM TANK PRESSURE:  (PRIMARY _____) (SECONDARY _____)	
44-100		CMPS	OTC	S72-0685-1 PANEL PRIMARY AND SECONDARY 4500 LEG SET POINT VERIFICATION IS COMPLETE.	

VOLUME 4 OF 5  
DATE: 07-08-99

OMI NO. - S0007VL4  
REV. - AY

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-000				ECLSS SYSTEM -----	
NOTE					
PERFORM OPTIONS AS DIRECTED BY CONTROLLING SEQUENCES.					
OPTION A: C70-1226-3 PRESSURIZATION -----					
AND O2 SAMPLE -----					
				NOT PERFORMED	_____
45-001		OTC 132	CECL OMTO	PERFORM C70-1226-3 PRESSURIZATION AND O2 SAMPLE (0 - 100 PCT METER REQUIRED)	
45-002		CECL	OMTO	C70-1226-3	
				1. A501543 SUPPLY SHUTOFF VLV - OPEN (CCW)	
				2. VERIFY NO AUDIBLE LEAKS	
					T: _____
45-003		CECL	OMTO	C70-1226-3	
				REMOVE KC150C4 CAP ASSEMBLY (TETHERED TO A501551) FROM SAMPLE PORT A501551	
					T: _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-004		CECL	OMTO	C70-1226-3	
				1. A501567 SAMPLE SHUTOFF VALVE - ADJUST TO TAKE O2 SAMPLE FROM PORT A501551	
				2. RECORD _____ PCT 20-25  CAL NO. _____ DUE DATE _____	
				3. A501567 SAMPLE SHUTOFF VALVE - CLOSE (CW)	
				4. A501543 SUPPLY SHUTOFF VALVE - CLOSE (CW)	
					T: _____
45-005				CSR-242	
		CECL	OMTO	C70-1226-3	
				INSTALL KC150C4 CAP ON SAMPLE PORT A501551. TORQUE 135-160 IN. LBS.	
				CAL NO. _____ DUE DATE _____	
					T: _____
45-006		OTC	CECL	VERIFY BREATHING AIR SAMPLE, PROVIDED BY JBPN (S0007VL2), MEETS SE-S-0073 TABLE 6.3-29 STANDARDS.	
				OMRS V61AQ0.010-1	
45-007		CECL	OTC	C70-1226-3 PRESSURIZATION AND O2 SAMPLE COMPLETE.	
		132		OPTION A: C70-1226-3 PRESSURIZATION ----- AND O2 SAMPLE COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
OPTION B: ECLSS RECONFIGURATION TO					
-----					
SUPPORT INGRESS SWITCHLIST					
-----					

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

NOTE

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

45-008		OTC	CECL	PERFORM ECLSS RECONFIGURATION	
		132	CDR	TO SUPPORT INGRESS SWITCH LIST AND	
		CECL	OMTO		
		143	OQCV		
			PMTG		
45-009		CECL	CDR	PANEL L2	
				FLASH EVAP	
				FEEDLINE HTR	
				A SUPPLY SW - 2	L2A01S023
				B SUPPLY SW - 2	L2A01S024
		CECL	CRT	(VAG28 PG B)	
				FDLN HTR A SPLY	
				HA-2 SON ON	V63S1861E1
				FDLN HTR B SPLY	
				HB-2 SON ON	V63S1866E1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-010		CECL	CDR	PANEL L1 FLASH EVAP CONTROLLER SEC SELECT SW - A SPLY	L1A02S045
				HI LOAD EVAP SW - ENABLE	L1A02S034
				CECL CRT (VAG28 PG B)	
				FES CONTROLLER CMDS HI-LD ENABLE SON ON	V63S1620E1
45-011		CECL	CDR	PANEL L1 FIRE SUPPRESSION AV BAY 1 SW - SAFE AV BAY 2 SW - SAFE AV BAY 3 SW - SAFE	L1A01S001 L1A01S002 L1A01S003
NOTE					
PERFORM NEXT STEP IF VAG60 IN AUTO MODE.					
45-012		CECL		CURSOR CNTL (VAG60) AUTO XMIT CURSOR KEY - PRESS  CRT  VERIFY VAG60 IN MANUAL MODE	
					NOT PERFORMED _____
45-013		CECL		RECONFIGURE COOLING TO POST CREW INGRESS CHECKLIST CONFIGURATION USING OMI S9001VL1  FC LOOP 1 -----  PUMP A OFF PUMP B ON (VIA CABIN SW)  FC LOOP 2 -----  PUMP A OFF PUMP B ON (VIA CABIN SW)	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-013				H2O LOOP 2	
CON'T				-----	
				SEC PUMP ON (VIA CABIN SW)	
				BYPASS VALVE ADJUSTED TO AN INTRX FLOW OF 950-1000 LBHR	
				H2O LOOP 1	
				-----	
				BYPASS VALVE ADJUSTED TO AN INTRX FLOW OF 950-1000 LBHR	
				PUMP A OFF	
				NOTE	
				PUMP B WILL BE RUN FOR 2 MINUTES MINIMUM TO VERIFY ITS ABILITY TO SUPPORT COUNTDOWN OPERATIONS.	
				PUMP B ON	
				PUMP B OFF	
				AVIONICS BAY 1	
				-----	
				FAN B ON (VIA CABIN SW)	
				FAN A OFF	
				AVIONICS BAY 2	
				-----	
				FAN A ON (VIA CABIN SW)	
				FAN B OFF	
				AVIONICS BAY 3	
				-----	
				FAN B ON (VIA CABIN SW)	
				FAN A OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-013				IMU	
CON'T				---	
				FAN A OFF	
				NOTE	
				ALLOW FAN C TO RUN INDEPENDENTLY FOR 2 MINUTES MINIMUM PRIOR TO PERFORMING FAN B-ON, TO VERIFY ABILITY TO SUPPORT COUNTDOWN OPERATIONS.	
				FAN B ON (VIA CABIN SW) FAN C OFF	
				CABIN -----	
				FAN A ON (VIA CABIN SW) FAN B OFF	
				HUMIDITY SEP -----	
				SEP A OFF SEP B ON	
45-014		CECL		CURSOR CNTL (VAG60) AUTO XMIT CURSOR KEY - PRESS	
				CRT	
				VERIFY VAG60 IN AUTO MODE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-015		CECL	CDR	PNL L1 CABIN TEMP CNTLR SW - OFF	
CAUTION					
IN NEXT STEP, DO NOT MOVE MOTOR ARM, VALVE ARM MAY BE MOVED TO ALLOW CONNECTION TO MOTOR.					
NOTE					
PERFORM NEXT STEP IF CABIN TEMP CTLR LINKAGE IS NOT CONNECTED TO SECONDARY ACTUATOR.					
45-016		CECL	CDR	PNL MD44F	
1. REMOVE VALVE LINK SV755665-2 CABTVL FROM TEMP CONTROL PRIMARY ACTUATOR BY RELEASING QUICK RELEASE PIN.					
2. CONNECT VALVE LINK SV755665-2 CABTVL TO TEMP CONTROL SECONDARY ACTUATOR UTILIZING QUICK RELEASE PIN.					
45-017		CECL	CDR	PNL L1 CABIN TEMP CNTLR SW - 2	NOT PERFORMED _____

OPERATION INSTRUCTIONS

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

NOTE

IT MAY TAKE UP TO  
9 MINUTES FOR MOTOR TO  
MOVE AND TO RECEIVE LPS  
TALKBACKS.

45-018		CECL		CRT (VAG30, PG-B) CABIN AIR, CT CTR SS1 OFF SS2 ON	
45-019		CECL	CDR	PNL L1 CABIN TEMP SW - WARM (FULL CW)	
45-020		CECL	CDR	PNL MD44F  VERIFY SECONDARY ACTUATOR IN FULL WARM POSITION	
45-021		CECL		CRT (VAG30, PG-B) CT CTR 2 CTS _____ PCT 95 MIN HXF OFF	
45-022		CECL	CDR	PNL L1 CABIN TEMP CNTLR SW - OFF	
45-023		CECL		CRT (VAG30, PG-B) CABIN AIR, CT CTR SS1 OFF S22 OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CAUTION					
IN NEXT STEP, DO NOT MOVE MOTOR ARM, VALVE ARM MAY BE MOVED TO ALLOW CONNECTION TO MOTOR.					
45-024		CECL	CDR	PNL MD44F	
				1. REMOVE VALVE LINK SV755665-2 CABTVL FROM TEMP CONTROL SECONDARY ACTUATOR BY RELEASING QUICK RELEASE PIN.	
				2. CONNECT VALVE LINK SV755665-2 CABTVL TO TEMP CONTROL PRIMARY ACTUATOR UTILIZING QUICK RELEASE PIN.	
45-025		CECL	CDR	PNL L1 CABIN TEMP CNTLR SW - 1	
45-026		CECL		CRT (VAG30, PG-B) CABIN AIR, CT CTR SS1 ON SS2 OFF	
45-027		CECL	CDR	PNL L1 CABIN TEMP SW - COOL (FULL CCW)	
45-028		CECL	CDR	PNL MD44F  VERIFY PRIMARY ACTUATOR IN FULL COOL POSITION.	
45-029		CECL		CRT (VAG30, PG-B) CT CTR 1 CTS _____ PCT 5 MAX HXF ON	
45-030		CECL	CDR	PANEL L1A2 CABIN TEMP CNTRL SW - OFF	L1A2S11

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-031		CECL	CDR	PANEL O1 AIR TEMP SELECT SW - CAB HX OUT H2O PUMP OUT PRESS LOOP SW - LOOP 2  FREON SW - LOOP 1  O2/N2 FLOW SELECT SW - SYS 1 O2  PP02 SENSOR SW - SENSOR A	  01A01S002  01A01S003  01A01S004  01A01S005  01A01S006
45-032		CECL	CDR	PANEL 014 ROW D MN A ATM PRESS CONTROL N2 SUPPLY 1 CB - CLOSE O2/N2 CNTLR 1 CB - CLOSE O2 XOVR 1 CB - CLOSE N2 REG INLET 1 CB - CLOSE	    014A14C018 014A14C019 014A14C020 014A14C021
45-033		CECL	PLT	PANEL O15 ROW D MN B ATM PRESS CONTROL N2 SUPPLY 2 CB - CLOSE O2/N2 CNTLR 2 CB - CLOSE O2 XOVR 2 CB - CLOSE N2 REG INLET 2 CB - CLOSE	    015A15C017 015A15C018 015A15C019 015A15C020
45-034		CECL	PLT	PANEL O16 ROW D MN C ATM PRESS CONTROL O2 EMER CB - CLOSE	   016A16C016

OPERATION INSTRUCTIONS

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

NOTE

MASTER ALARMS MAY OCCUR IN  
 NEXT THREE STEPS DUE TO  
 O2 AND N2 FLOW RATES BEING  
 ABOVE 4.9 PPH MOMENTARILY.  
 RESET MASTER ALARM.

45-035		CECL	CDR	PANEL L2 ATM PRESS CONTROL O2 EMER SW - CLOSE UNTIL O2 EMER TB CL, THEN RELEASE	L2A01S012 L2A01DS008
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CECL CRT (VAG10 PG B)

				VLV 5	V61X2163E1
				PCL	V61X2165E1

45-036		CECL	CDR	PANEL O16 ROW D MN C ATM PRESS CONTROL O2 EMER CB - OPEN	O16A16C016
--------	--	------	-----	--	------------

NOTE

PERFORM NEXT SEVEN STEPS  
 FOR OV-102 ONLY.

45-037		CECL	CDR	PANEL L2 ATM PRESS CONTROL N2 SYS 1 SUPPLY SW - CLOSE UNTIL SUPPLY TB CL THEN RELEASE REG INLET SW - OPEN UNTIL REG INLET TB OP THEN RELEASE O2/N2 CONTROLLER SYS 1 SW - OPEN	
--------	--	------	-----	---	--

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-038		CECL	CDR	PANEL M010W H2O TANK N2 REG INLET SYS 1 VLV - OPEN H2O TANK N2 ISOL SYS 1 VLV - OPEN N2 XOVER VLV - CLOSE	
					NOT PERFORMED _____
45-039		CECL	CDR	PANEL O16 ROW D MN C H2O ALT PRESS CB - CLOSE	
					NOT PERFORMED _____
45-040		CECL	CDR	PANEL L1 H2O ALT PRESS SW - OPEN	
					NOT PERFORMED _____
				NOTE	
				ALLOW SYSTEM TO VENT UNTIL N2 200 PSI SYSTEM PRESSURE TRANSDUCER INDICATES 100 PSIA MAX.	
45-041		CECL	VAG10 (PAGE B)	P4_____PSIA 100 MAX	
					NOT PERFORMED _____
45-042		CECL	CDR	PANEL L1 H2O ALT PRESS SW - CLOSE	
					NOT PERFORMED _____
45-043		CECL	VAG10 (PAGE B)	VERIFY VALVE 14 SOPF	
					NOT PERFORMED _____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-044		CECL	CDR	PANEL L2	
				ATM PRESS CONTROL	
				O2 KOVR	
				SYS 1 SW - OPEN	L2A01S015
				SYS 2 SW - OPEN	L2A01S018
				N2 SYS 1	
				SUPPLY SW - OPEN UNTIL	L2A01S013
				SUPPLY TB - OP THEN REL	L2A01DS006
				REG INLET SW - OPEN UNTIL	L2A01S014
				REG INLET TB - OP THEN REL	L2A01DS007
				N2 SYS 2	
				SUPPLY SW - OPEN UNTIL	L2A01S021
				SUPPLY TB - OP THEN REL	L2A01DS010
				REG INLET SW - OPEN UNTIL	L2A01S022
				REG INLET TB - OP THEN REL	L2A01DS011
				O2/N2 CNTLR VLV	
				SYS 1 SW - OPEN	L2A01S016
				SYS 2 SW - CLOSE	L2A01S019
				PPO2 SNSR/VLV - NORM	L2A01S017

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-045				CECL CRT (VAG10 PAGE B)	
				VLV 7 SOPN	V61S2100E1
				VLV 9 SOPN	V61S2200E1
				VLV 2 POP	V61X2323E1
				VLV 4 POP	V61X2321E1
				VLV 6 POP	V61X2319E1
				VLV 8 POP	V61X2328E1
				SYS 1 VLV SOP ON	V61S2370E1
				S AUTO OFF	V61S2371E1
				VLV 10 POP ON	V61X2372E1
				SYS 2 VLV SOP OFF	V61X2375E1
				S AUTO OFF	V61X2376E1
				VLV 12 PCL	V61X2377E1
				SNSR/VLV SNRM ON	V61X2350E1
				SYS 1 MODE SNRM ON	V61S2140E1
				SYS 2 MODE SNRM ON	V61S2142E1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-046		CECL	CDR	PANEL C5 DIRECT O2 VLV - CLOSE	
				NOTE	
				LEH O2 VLVS WILL REMAIN CLOSED UNTIL SEAT O2 HOSES HAVE BEEN INSTALLED AND O2 SAMPLES PERFORMED.	
45-047		CECL	CDR	PANEL C6 LEH O2 1 VLV - CLOSE LEH O2 2 VLV - CLOSE LEH O2 3 VLV - CLOSE LEH O2 4 VLV - CLOSE	
45-048		CECL	CDR	PANEL C7 LEH O2 SUPPLY SYS 1 VLV - OPEN SYS 2 VLV - OPEN	
45-049		CECL	CDR	PANEL L4 ROW N AC2 FREON FLOW PROP 1 PH A CB - CLOSE	L4A04C042
				AC3 FREON FLOW PROP 2 PH A CB - CLOSE	L4A04C045
				ROW P AC1 RAD CNTLR 1B PH A CB - CLOSE	L4A04C128
				RAD CNTLR 2B PH B CB - CLOSE	L4A04C044
				AC2 RAD CNTLR 1A PH B CB - CLOSE	L4A04C129
				AC3 RAD CNTLR 2A PH B CB - CLOSE	L4A04C047

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-050		CECL	CDR	PANEL O14 ROW C MN A SMOKE DETN L/R FLT DK CB - CLOSE BAY 2A/3B CB - CLOSE FIRE SUPPR BAY 3 CB - CLOSE	   O14A14C007 O14A14C008 O14A14C009
				ROW D MN A FREON RAD CNTLR 1 CB - CLOSE 2 CB - CLOSE	   O14A14C014 O14A14C015
				ATM PRESS CONTROL CABIN VENT CB - CLOSE CABIN VENT ISOL CB - CLOSE	 O14A14C022 O14A14C034
45-051		CECL	PLT	PANEL O15 ROW C MN B SMOKE DETN BAY 1B/3A CB - CLOSE FIRE SUPPR BAY 1 CB - CLOSE	   O15A15C007 O15A15C008
				ROW D MN B FREON RAD CNTLR 1 CB - CLOSE 2 CB - CLOSE	   O15A150014 O15A150015
				NOTE  IN NEXT STEP, MASTER ALARM AND KLAXON MAY OCCUR DUE TO CABIN DP/DT. RESET MASTER ALARM.  ATM PRESS CONTROL CABIN DP/DT CB - CLOSE CABIN RELIEF A CB - CLOSE	      O15A15C016 O15A15C022

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-052		CECL	PLT	PANEL O16 ROW C MN C SMOKE DETN CABIN CB - CLOSE BAY 1A/2B CB - CLOSE FIRE SUPPR BAY 2 CB - CLOSE	O16A16C006 O16A16C007 O16A16C008
				ROW D MN C H2O ALT PRESS CB - CLOSE ATM PRESS CONTROL CABIN RELIEF B CB - CLOSE	O16A16C015 O16A16C017
45-053		CECL	PLT	PANEL O17 ROW C SIGNAL CONDITIONER FREON A SW - AC2 B SW - AC3	
				NOTE  PERFORM NEXT STEP FOR OV-103 AND OV-104 ONLY.  DO NOT PERFORM NEXT STEP FOR SPACEHAB MISSIONS.	
45-054		CECL	CDR	PANEL C3 PAYLOAD SAFING RTG PUMP SW - PRI	
				NOT PERFORMED	_____
45-055		CECL	CDR	PANEL L4 ROW J AC3 SIG CONDR HUM SEP PH A CB - OPEN IMU FAN PH B CB - OPEN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

VERIFICATION OF NEXT STEP  
 MAY TAKE UP TO 45 SECONDS.

45-056		CECL	CRT	(VAG34, PG-B)	
				VERIFY	
				IMU FAN B INVERT RED XXX	
				HUM SEP B INVERT RED XXX	
45-057		CECL	CDR	PANEL L1	
				H2O ALTERNATE PRESS	
				SW - CLOSE	L1A2S028
		CECL	CRT	(VAG10 PG B)	
				VLV 14	
				SOPF	V61S2308E1

NOTE

PERFORM NEXT FOUR STEPS  
 IF CABIN VENT AND RELIEF  
 VALVES POSITION INDICATORS  
 ARE NOT AS SHOWN.

45-058		CECL	CDR	PANEL L2	
				CABIN RELIEF	
				A SW - ENABLE UNTIL	L2A01S001
				A TB ENA, THEN RELEASE	L2A01DS001
		CECL	CRT	(VAG10 PG B)	
				CAB + RV	
				A PEN ON	V61X2131E1
				A PCL OFF	V61X213031

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-059		CECL	CDR	PANEL L2 CABIN RELIEF B SW - ENABLE UNTIL B TB ENA, THEN RELEASE	L2A01S002 L2A01DS002
				CECL CRT (VAG10 PG B)	
				CAB + RV B PEN ON B PCL OFF	V61X2136E1 V61X2135E1
				NOT PERFORMED	_____
45-060		CECL	CDR	PANEL L2 CABIN VENT VENT ISOL SW - CLOSE UNTIL VENT ISOL TB CL, THEN RELEASE	L2A01S003 L2A01DS003
				CECL CRT (VAG10 PG B)	
				CAB ISOL POP OFF PCL ON	V61X2025E1 V61X2005E1
				NOT PERFORMED	_____
45-061		CECL	CDR	PANEL L2 CABIN VENT VENT SW - CLOSE UNTIL VENT TB CL, THEN RELEASE	L2A01S004 L2A01DS004
				CECL CRT (VAG10 PG B)	
				CAB VENT POP OFF PCL ON	V61X2065E1 V61X2045E1
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT NINE STEPS IF DOCKING SYSTEM PANEL (DSP) IS INSTALLED.					
45-062		CECL	CDR	PANEL O13 ROW A ESS 1BC MN A CNTL CB - CLOSE ROW C ESS 2CA MN B CNTL CB - CLOSE	
				NOT PERFORMED	_____
45-063		CECL	CDR	PANEL A6A3 SYS PWR CNTL ESS 1BC SYS 1 CB - CLOSE ESS 2CA SYS 2 CB - CLOSE SYS POWER MN A SW - ON, VERIFY SYS 1 PWR LITE ON MN B SW - ON, VERIFY SYS 2 PWR LITE ON	
				NOT PERFORMED	_____
45-064		CECL	CDR	PANEL A6A3 DEPRESS MN A SYS 1 VENT ISOL CB - CLOSE VENT CB - CLOSE DEPRESS MN B SYS 2 VENT ISOL CB - CLOSE VENT CB - CLOSE	
				NOT PERFORMED	_____
45-065		CECL	CDR	PANEL A6A3 VESTIBULE DEPRESS VALVE SYS 1 VENT ISOL SW - CLOSE UNTIL TB CL VENT SW - CLOSE UNTIL TB CL SYS 2 VENT ISOL SW - CLOSE UNTIL TB CL VENT SW - CLOSE UNTIL TB CL	
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-066		CECL		CRT (VAG32 PAGE B) VERIFY  VESTIBULE ISO VLV A OPEN OFF VESTIBULE ISO VLV A CLOSE ON VESTIBULE VLV A OPEN OFF VESTIBULE VLV A CLOSE ON VESTIBULE ISO VLV B OPEN OFF VESTIBULE ISO VLV B CLOSE ON VESTIBULE VLV B OPEN OFF VESTIBULE VLV B CLOSE ON	V64X0141E1 V64X0142E1 V64X0143E1 V64X0144E1 V64X0145E1 V64X0146E1 V64X0147E1 V64X0148E1
				NOT PERFORMED	_____
45-067		CECL	CDR	PANEL A6A3 DEPRESS MN A SYS 1 VENT ISOL CB - OPEN VENT CB - OPEN DEPRESS MN B SYS 2 VENT ISOL CB - OPEN VENT CB - OPEN	
				NOT PERFORMED	_____
45-068		CECL	CDR	PANEL A6A3 SYSTEM POWER MN A SW - OFF, VERIFY SYS 1 PWR LITE OFF MN B SW - OFF, VERIFY SYS 1 PWR LITE OFF SYS PWR CNTL ESS 1BC SYS 1 CB - OPEN ESS 2CA SYS 2 CB - OPEN	
45-069		CECL	CDR	PANEL O13 ROW A ESS 1BC MN A CNTL CB - OPEN ROW C ESS 2CA MN B CNTL CB - OPEN	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF DOCKING  
SYSTEM PANEL (DSP) IS INSTALLED.

45-070

CECL CDR PANEL A6L OR A7L

DEPRESS MAIN A SYS 1 VENT ISOL CB - OPEN  
DEPRESS MAIN A SYS 1 VENT CB - OPEN  
DEPRESS MAIN B SYS 2 VENT ISOL CB - OPEN  
DEPRESS MAIN B SYS 2 VENT CB - OPEN  
AIRLK/TNL FAN A SW - OFF (OV-104 ONLY)  
AIRLK/TNL FAN B SW - OFF (OV-104 ONLY)  
VESTIBULE DEP VLV SYS 1 VENT ISOL SW -  
(CENTER)  
SYS 1 VENT ISOL TB BP  
VESTIBULE DEP VLV SYS 1 VENT SW - (CENTER)  
SYS 1 VENT TB BP  
VESTIBULE DEP VLV SYS 2 VENT ISOL SW -  
(CENTER)  
SYS 2 VENT ISOL TB BP  
VESTIBULE DEP VLV SYS 2 VENT SW - (CENTER)  
SYS 2 VENT TB BP

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT STEP  
FOR OV-103.

45-071		CECL MS1		PANEL MO51F, CO2 REMOVAL SYSTEM CONTROLLER 1 MN A SW - OFF AC1 SW - CENTER MODE SW - CENTER COMMON INSTR SW - OFF  AC1 PH A CB - OPEN PH B CB - OPEN PH C CB - OPEN CONTROLLER 2 MN C SW - OFF AC3 SW - CENTER MODE SW - CENTER  AC3 PH A CB - OPEN PH B CB - OPEN PH C CB - OPEN	
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NOT PERFORMED \_\_\_\_\_

45-072		CECL MS1		PANEL ML86B ROW B MN A VACUUM VENT ISOL VLV CB - ML86BC067 CLOSE  MN B VACUUM VENT NOZ HTR CB - ML86BC066 CLOSE VACUUM VENT ISOL VLV CB - ML86BC068 CLOSE	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP FOR  
 OV-102 ONLY.

45-073		CECL MS1		PANEL R13U CAUTION/WARNING DP/DT SENSOR SW - CABIN	
					NOT PERFORMED

NOTE

PERFORM NEXT STEP ONLY IF  
 VLV POSITION INDICATOR IS  
 NOT AS SHOWN.

45-074		CECL MS1		PANEL ML31C VACUUM VENT ISOL VLV BUS SEL SW - MN A CONTROL SW-CLOSE (15 SEC MAX) UNTIL ISOL VLV TB - C THEN RELEASE	ML31CS010 ML31CS011 ML31CDS007
				CECL CRT (VAG32 PG B)	
				VAC VT ISO VLV MODE MN A ON	V62S0205E1
				VAC VT ISO VLV MODE MN B OFF	V62S0206E1
				VAC VENT ISOL VLV OPEN OFF	V62X0207E1
				VAC VENT ISOL VLV CLOSE ON	V62X0208E1
					NOT PERFORMED

45-075		CECL MS1		PANEL ML31C VACUUM VENT NOZZLE HTR SW - OFF	ML31CS009
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-076		CECL	MS1	PANEL ML86B ROW B MN A VACUUM VENT ISOL VLV CB - OPEN  MN B VACUUM VENT NOZ HTR CB - OPEN VAC VENT ISOL VLV CB - OPEN	ML86BC067  ML86BC066 ML86BC068
NOTE					
PERFORM NEXT TWO STEPS FOR OV-103 AND OV-105.					
45-077		CECL	MS1	PANEL ML86B ROW C MN A EXTERNAL AIRLOCK HTR LINE STRUC Z 1/2/3 CB - OPEN VEST Z 1/2/3 CB - OPEN MN B EXTERNAL AIRLOCK HTR LINE STRUC Z 1/2/3 CB - OPEN VEST Z 1/2/3 CB - OPEN	
NOT PERFORMED					_____
45-078		CECL	MSI	PANEL M013Q AIRLOCK FAN A SW - OFF AIRLOCK FAN B SW - OFF	
NOT PERFORMED					_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM NEXT STEP  
FOR OV-102.

45-079		CECL CDR		PANEL MA73C ROW G AC1 ARLK TNL FAN A PH A CB - OPEN PH B CB - OPEN PH C CB - OPEN ROW G AC2 ARLK TNL FAN B PH A CB - OPEN PH B CB - OPEN PH C CB - OPEN	
					NOT PERFORMED _____

NOTE

PERFORM NEXT STEP IF ACCESS  
AVAILABLE (OV-103,105).

45-080		CECL MS1		MIDDECK FLOOR FWD OF AIRLOCK EMU O2 ISOL VLV - CLOSE CABIN PURGE VLV - CLOSE CABIN PURGE ISOL VLV - CLOSE	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-081		CECL	MS1	PANEL ML86B ROW D MN A MANNED MANUV UNIT GN2 SUPPLY ISOL VLV A CB - CLOSE  PORT HTR A CB - OPEN  STBD HTR A CB - OPEN  MN B MANNED MANUV UNIT GN2 SUPPLY ISOL VLV B CB - CLOSE  PORT HTR B CB - OPEN  STBD HTR B CB - OPEN  NOTE  DO NOT PERFORM NEXT STEP FOR OV-102.	
45-082		CECL	MS1	PANEL R13L MANNED MANUV UNIT GN2 SUPPLY ISOL VLV A - CLOSE UNTIL TB - CLOSE  ISOL VLV B - CLOSE UNTIL TB - CLOSE  NOT PERFORMED	
45-083		CECL	MS1	PNL ML86B ROW E MN A CO2 SYS1 CNTLR CB - OPEN (OV-102/ 104/105)  MN B CO2 COMMON INSTR CB - OPEN (OV-102/ 104/105)  MN C CO2 SYS2 CNTLR CB - OPEN (OV-102/ 104/105)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-084		CECL	MS1	PANEL ML86B ROW D MN A MANNED MANUV UNIT GN2 SUPPLY ISOL VLV A CB - OPEN MN B MANNED MANUV UNIT GN2 SUPPLY ISOL VLV B CB - OPEN	

NOTE

NEXT FOUR STEPS INITIALIZE  
PROGRAM VAG29 PER LCC REQMTS.

45-085                   CECL INITIALIZE (VAG29)  
  
                          CONSOLE KEYBOARD  
                          HOME CMD KEY - PRESS  
                          VAG29  
                          PERF PGM KEY - PRESS  
                          SELECT APP PG B

45-086                   CECL PFP (VAG34)  
                          WHILE VIEWING PG A  
  
                          PFPK 2 EMON SELECTION - PRESS ONCE  
                          PFK 13 - PRESS ONCE  
                          PFK 12 - PRESS ONCE  
  
                          CRT  
  
                          VERIFY SMOKE DETECTION/FIRE BOTTLE  
                          INFO DISPLAYED ON PG A



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PAYLOAD BAY DOORS MUST BE  
 CLOSED FOR FLIGHT PRIOR TO  
 PERFORMING NEXT 11 STEPS.

FCL1 & 2 FLOW CONTROL VALVES TO  
 -----  
 FULL COLD POSITION  
 -----

45-087

CECL CDR	PANEL L1				
	RAD CONTROLLER				
	BYPASS VALVE				
	MODE				
	1 SW - AUTO				L1A2S35
	2 SW - AUTO				L1A2S36
	CECL CRT (VAG04 PG B)				
	FREON LOOP 1				
	BYP MODE				
	S AUTO ON				V63S1220E1
	S MAN OFF				V63S1221E1
	FREON LOOP 2				
	BYP MODE				
	S AUTO ON				V63S1420E1
	S MAN OFF				V63S1421E1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF  
 VALVE POSITION INDICATORS  
 ARE NOT AS SHOWN.

45-088		CECL	CDR	PANEL L1 FLOW PROP VLV LOOP 1 SW - INTCHGR UNTIL (15 SEC MAX) LOOP 1 TB ICH THEN RELEASE	L1A2S021  L1A2DS001
				FLOW PROP VLV LOOP 2 SW - INTCHGR UNTIL (15 SEC MAX) LOOP 2 TB ICH THEN RELEASE	L1A2S022  L1A2S002

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

45-089		CECL	CDR	PANEL L1 RAD CONTROLLER LOOP 1 SW - AUTO A LOOP 2 SW - AUTO A	L1A2S26 L1A2S27
				CECL CRT (VAG04 PG B)	
				FREON LOOP 1 RAD CNTLR AUTO SA ON SB OFF	V63S1211E1 V63S1212E1
				FREON LOOP 2 RAD CNTLR AUTO SA ON SB OFF	V63S1411E1 V63S1412E1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

ALLOW 90 SECONDS MINIMUM  
 PRIOR TO PROCEEDING.

45-090		CECL	CDR	PANEL L1 VERIFY RAD CONTROLLER BYPASS VLV 1 TB - RAD 2 TB - RAD	L1A2DS003 L1A2DS004
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CECL CRT (VAG04 PG B)

				FREON LOOP 1 BYP VL PRAD ON PBYP OFF	V63X1222E1 V63X1223E1
				FREON LOOP 2 BYP VL PRAD ON PBYP OFF	V63X1422E1 V63X1423E1

NOTE

ALLOW FLOW THROUGH RADIATORS  
 FOR 5 MINUTES MINIMUM.

45-091		CECL		CRT (VAG04 PG B) FREON LOOP 1 RAD OUT TEMP (T7) _____ DEG F 40 MINIMUM	V63T1208A1
				FREON LOOP 2 RAD OUT TEMP (T6) _____ DEG F 40 MINIMUM	V63T1408A1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PAYLOAD BAY DOORS MUST  
 BE CLOSED FOR FLIGHT PRIOR  
 TO WORKING NEXT TWO STEPS.

45-092		CECL		CRT (VAG34 PG B)	
				FREON LOOP 1	
				INTERCHANGER FLOW _____ LB/HR	V63R1100A1
				1950 MIN	
				FREON LOOP 2	
				INTERCHANGER FLOW _____ LB/HR	V63R1300A1
				1950 MIN	
				OMRSD V63AD0.071 (VAG34)	
45-093		CECL	CDR	PANEL L1	
				RAD CONTROLLER	
				BYPASS VALVE	
				MODE	
				1 SW - MAN	L1A2S35
				2 SW - MAN	L1A2S36
				CECL CRT (VAG04 PG B)	
				FREON LOOP 1	
				BYP MODE	
				SAUTO OFF	V63S1220E1
				SMAN ON	V63S1221E1
				FREON LOOP 2	
				BYP MODE	
				SAUTO OFF	V63S1420E1
				SMAN ON	V63S1421E1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-094		CECL	CDR	PANEL L1 RAD CONTROLLER BYPASS VALVE MAN SEL 1 SW - BYPASS UNTIL (3 SECS MAX) 1 TB BYP THEN RELEASE 2 SW - BYPASS UNTIL (3 SECS MAX) 2 TB BYP THEN RELEASE	L1A2S29 L1A2DS003 L1A2S30 L1A2DS004
				CECL CRT (VAG04 PG B)	
				FREON LOOP 1 BYP VL PRAD OFF PBYP ON	V63X1222E1 V63X1223E1
				FREON LOOP 2 BYP VL PRAD OFF PBYP ON	V63X1422E1 V63X1423E1
45-095		CECL	CDR	PANEL L1 RAD CONTROLLER LOOP 1 SW - OFF LOOP 2 SW - OFF OUT TEMP SW - NORM	L1A2S26 L1A2S27 L1A2S25
				CECL CRT (VAG04 PG B)	
				FREON LOOP 1 RAD CNTLR AUTO SA OFF SB OFF	V63S1211E1 V63S1212E1
				FREON LOOP 2 RAD CNTLR AUTO SA OFF SB OFF	V63S1411E1 V63S1412E1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NONE, ONE OR BOTH OF NEXT TWO STEPS AS REQUIRED TO SUPPLY COOLING TO PAYLOAD FOR MISSION DURING LIFT-OFF.

45-096		CECL	CDR	PANEL L1 FLOW PROP VLV LOOP 1 SW - PAYLOAD UNTIL (15 SEC MAX) LOOP 1 TB PLBD THEN RELEASE	NOT PERFORMED
45-097		CECL	CDR	PANEL L1 FLOW PROP VLV LOOP 2 SW - PAYLOAD UNTIL (15 SEC MAX) LOOP 2 TB PLBD THEN RELEASE	NOT PERFORMED
45-098		CECL	OTC 132	ECLSS RECONFIGURATION TO SUPPORT INGRESS SWITCHLIST COMPLETE.  OPTION B: ECLSS RECONFIGURATION TO SUPPORT INGRESS SWITCHLIST COMPLETE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
OPTION C: ECLSS O2 SAMPLE FOR SUITED					
-----					
CREW INGRESS					
-----					
NOT PERFORMED					
45-099		OTC	CECL	PERFORM ECLSS O2 SAMPLE FOR	
		132		SUITED CREW INGRESS (0 - 100 PCT	
		CECL	OCMT	METER REQUIRED)	
		143	QQCV		
			NQCV		
45-100		CECL	CFCP	VERIFY PRSD O2 MANIFOLDS WILL	
				REMAIN PRESSURIZED BY GROUND	
				REACTANTS FOR NEXT 30 MINUTES.	
NOTE					
PRIOR TO PERFORMING THE					
ECLSS O2 SAMPLE FOR SUITED					
CREW INGRESS, ENSURE THAT					
THE PRSD O2 SUPPLY VALVES					
(VAG10 VLV1 AND VLV3 ARE					
OPEN).					
LEH O2 1-8 VALVES WILL BE					
RECONFIGURED FOR FLIGHT BY ASP					
DURING PRE-INGRESS CHECKLIST.					
45-101		CECL	ASP	PANEL C6	
				LEH O2 1 VLV - OPEN	
				LEH O2 2 VLV - OPEN	
45-102		CECL	CDR	PANEL L2	
				ATM PRESS CONTROL	
				O2 XOVR SYS 2 SW - CLOSE	L2A01S018
		CECL	CRT	(VAG10 PG B)	
				VLV 9	
				SOPF	V61S2200E1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-103		CECL	OCMT	CDR SEAT	
				1. CLOSE MV1 ON L070-000153-001 ADAPTER	
				2. IF LES LEAD INSTALLED, CONNECT ADAPTER TO CDR LES LEAD.	
				NOT PERFORMED	SS2
				3. IF LES LEAD NOT INSTALLED, CONNECT ADAPTER DIRECTLY TO PORT.	
				NOT PERFORMED	SS3
				4. CRT (VAG10, PG B)	
				RECORD P1 _____	V45P1140A1
				P3 _____	V61P2102A1
				P17 _____	V64P0202A1
				5. OPEN MV1 ON ADAPTER, PURGE FOR 2 MIN MINIMUM.	
				START _____	
				STOP _____	
				6. CRT (VAG10, PG B)	
				RECORD P1 _____	V45P1140A1
				P3 _____	V61P2102A1
				P17 _____	V64P0202A1
				7. OBTAIN O2 CONCENTRATION USING MV1 TO CONTROL FLOW. O2 ANALYZER	
				CAL NO. _____ DUE DATE _____	
				O2 _____ PCT 95 MIN	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-103				8. DISCONNECT ADAPTER FROM CDR LES LEAD (OR PORT)	
				9. CLOSE MV1	T: _____
45-104		CECL CDR		PANEL L2 ATM PRESS CONTROL O2 XOVER SYS 2 SW - OPEN O2 XOVER SYS 1 SW - CLOSE	L2A01S018 L2A01S015
				CECL CRT (VAG10 PG B)	
				VLV 9 SOPN	V61S2200E1
				VLV 7 SOPF	V61S2100E1
45-105		CECL OMTO		PLT SEAT	
				1. CLOSE MV1 ON L070-000153-001 ADAPTER	
				2. IF LES LEAD INSTALLED, CONNECT ADAPTER TO PLT LES LEAD.	
				NOT PERFORMED	_____
					SS2
				3. IF LES LEAD NOT INSTALLED, CONNECT ADAPTER DIRECTLY TO PORT.	
				NOT PERFORMED	_____
					SS3
				4. CRT (VAG10, PG B)	
				RECORD P7 _____	V45P1145A1
				P9 _____	V61P2202A1
				P17 _____	V64P0202A1
				5. OPEN MV1 ON ADAPTER, PURGE FOR 2 MIN MINIMUM.	
				START _____	
				STOP _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-105				6. CRT (VAG10, PG B)	
CON'T				RECORD P7 _____	V45P1145A1
				P9 _____	V61P2202A1
				P17 _____	V64P0202A1
				7. OBTAIN O2 CONCENTRATION USING MV1 TO CONTROL FLOW. O2 ANALYZER	
				CAL NO. _____ DUE DATE _____	
				O2 _____ PCT 95 MIN	
				8. DISCONNECT ADAPTER FROM PLT LES LEAD (OR PORT)	
				9. CLOSE MV1	
					T: _____
45-106		CECL CDR		PANEL L2 ATM PRESS CONTROL	
				O2 XOVER SYS 2 SW - OPEN	L2A01S018
				O2 XOVER SYS 1 SW - OPEN	L2A01S015
				CECL CRT (VAG10 PG B)	
				VLV 9 SOPN	V61S2200E1
				VLV 7 SOPN	V61S2100E1
				RECORD P1 _____	V45P1140A1
				P3 _____	V61P2102A1
				P7 _____	V45P1145A1
				P9 _____	V61P2202A1
				P17 _____	V64P0202A1
45-107		CECL CDR		PANEL C5 DIRECT O2 VLV - OPEN ( 1 MINUTE MIN)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-108		CECL	CRT	(VAG10 PGB)	
				VERIFY	
				02 SYS 1 900 PSI PRESSURE	V61P2102A1
				(P3) DECREASES	
				02 SYS 2 900 PSI PRESSURE	V61P2202A1
				(P9) DECREASES	
				RECORD P1 _____	V45P1140A1
				P3 _____	V61P2102A1
				P7 _____	V45P1145A1
				P9 _____	V61P2202A1
				P17 _____	V64P0202A1
45-109		CECL	CDR	PANEL C5	
				DIRECT 02 VLV - CLOSE	
				NOTE	
				ENSURE CLOSEOUT CREW RETAINS	
				THE L070-000153-001 SAMPLE	
				ADAPTER FOR POSSIBLE USE DURING	
				CONTINGENCY OPERATIONS/SCRUBS.	
45-110		CECL	OTC	O2 CONCENTRATION SAMPLING COMPLETE	
		132		READY FOR CREW INGRESS	
				OPTION C: ECLSS O2 SAMPLE FOR SUITED	
				-----	
				CREW INGRESS COMPLETE	
				-----	

OPERATION INSTRUCTIONS

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

OPTION D: CREW MODULE PRESSURIZATION  
-----  
AND CABIN 2 PSID LEAK CHECK  
-----

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

NOTE

SFOC QUALITY WILL NOT BE  
PRESENT IF THIS IS BEING  
PERFORMED BY CLOSE OUT CREW.  
IN THIS CASE, RECORD NASA  
QC STAMP NUMBER IN PLACE OF  
SFOC QC.

45-111                    OTC    CECL    PERFORM CREW MODULE PRESSURIZATION  
                          132                    AND CABIN 2 PSID LEAK CHECK.  
                          CECL    OMTO  
                          143    NQCV

NOTE

IF V070-332629-001 CAP IS  
ALREADY REMOVED FROM  
TP 80V61TP38, DO NOT  
PERFORM NEXT STEP.

45-112                    CECL    OMTO    CREW MODULE INGRESS/EGRESS HATCH

1.    DISCONNECT V070-332629-001 CAP  
      FROM 80V61TP38 ON THE CREW  
      MODULE INGRESS/EGRESS HATCH.
2.    DOUBLE BAG AND SEAL

TQV: \_\_\_\_\_

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-113		CECL	OMTO	CREW MODULE INGRESS/EGRESS HATCH	
				OK TO INSTALL	QW: _____ SS1
				1. INSTALL G070-582492-002 PROBE ASSY ON 80V61TP38.	
				2. TIGHTEN HAND TIGHT.	TQW: _____
45-114		CECL	OMTO	C70-1226-3	
				VERIFY/CONFIGURE	
				A501565 GAGE SHUTOFF VLV - OPEN (CCW)	
				A501543 SUPPLY SHUTOFF VLV - CLOSE (CW)	
				A501545 CABIN SHUTOFF VLV - CLOSE (CW)	
				A501552 VENT SHUTOFF VLV - CLOSE (CW)	
				A501549 CABIN VENT VLV - CLOSE (CW)	
				A501567 SAMPLING VLV - CLOSE (CW)	
				A501547 CABIN PRESSURE GAGE - READING 0 +/- 0.5 PSIG	T: _____
45-115		CECL	CRT	(VAG29, PG B)	
				RECORD	
				CABIN PRESS _____ PSIA	V61P2405A1
				AMB	
45-116		CECL	CDR	PANEL 01A1	
				RECORD:	
				CABIN PRESS _____ PSIA BD	01A1M4

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-117		CECL	CRT	(VAG29, PG B)  RECORD  CABIN DP/DT  _____ PSIA/MIN BD	      V61R2401A1
NOTE					
THE FOLLOWING TWO STEPS WILL OCCUR DURING CABIN PRESSURIZATION.					
45-118		CECL	CRT	(VAG29, PG B)  MONITOR V73X1567E1 FOR MASTER ALARM AND ON OCCURANCE RECORD:  CABIN PRESS _____PSIA BD	      V61P2405A1
45-119		CECL	CRT	(VAG29 PG B)  RECORD DURING CABIN PRESSURIZATION OR DEPRESSURIZATION TO VERIFY CHANGE FROM BASELINE READING.  CABIN DP/DT  _____ PSIA/MIN  OMRS V61AR0.010-1R (VAG29)	          V61R2401A

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

TO MAINTAIN CABIN PRESSURE,  
 VALVE A501545, CABIN SHUTOFF  
 VALVE, MAY BE CYCLED.

45-120		CECL	OMTO	C70-1226-3	
				1. A501565 GAGE SHUTOFF VLV - OPEN (CCW)	
				2. RECORD	
				A501547 CABIN PRESSURE GAGE	
				_____ PSIG AMB	
				3. A501543 SUPPLY SHUTOFF VALVE - OPEN (CCW)	
				4. A501545 CABIN SHUTOFF VALVE - OPEN (CCW) UNTIL CABIN PRESSURE ON VAG29 INDICATES AMBIENT PLUS 2.0 + 0.25/- 0.0 PSIA	
				5. A501545 CABIN SHUTOFF VALVE - CLOSE (CW)	

TQW: \_\_\_\_\_

45-121		CECL	CRT	(VAG29, PG B)	
				RECORD	
				CABIN PRESS _____ PSIA	V61P2405A1
				AMB PLUS 2.0 + 0.25/- 0.0	

45-122		CECL	OMTO	C70-1226-3	
				A501547 CABIN PRESSURE GAGE	
				_____ PSIG BD	
					T: _____

45-123		CECL	OMTO	C70-1226-3	
				A501543 SUPPLY SHUTOFF VALVE - CLOSE (CW)	
					T: _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-124		CECL	OMTO	C70-1226-3 A501552 VENT VALVE - OPEN (CCW)	T:_____
45-125		CECL	OMTO	C70-1226-3 WHEN VENTING CEASES, A501552 VENT VALVE - CLOSE (CW)	T:_____

NOTE

PERFORM NEXT TWO SUBSTEPS AS  
 RAPIDLY AS POSSIBLE TO PREVENT  
 VENTING CREW MODULE ANY  
 MORE THAN NECESSARY.

KLAXON AND M/A MAY OCCUR  
 DUE TO HIGH CABIN LEAK  
 RATE IN THIS STEP.

IF THE SEAL IS DISLODGED  
 DURING PROBE REMOVAL, DO  
 NOT REPLACE THE SEAL. INSTALL  
 THE FLIGHT CAP.

45-126		CECL	OMTO	CREW MODULE INGRESS/EGRESS HATCH	
				1. REMOVE G070-582492-002 PROBE ASSEMBLY FROM 80V61TP38.	
				OK TO INSTALL	QW:_____ SS2
				2. INSTALL CAP ASSY V070-332629-001 ON 80V61TP38. TIGHTEN HAND TIGHT AFTER CAP BOTTOMS ON FITTING.	TQW:_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-127		CECL	OMTO	PERFORM FOLLOWING:  1. DOUBLE BAG AND SEAL PROBE ASSY.  2. DEMATE QD'S A501563 AND A501559 FROM ENVIRONMENTAL CHAMBER.  3. SECURE PROBE ASSY AND FLEXLINES FOR LAUNCH BY STOWING IN WHITE ROOM STORAGE BOX.	
					TQW:_____
45-128				CSR-242  CECL OMTO INSTALL SAFETY WIRE (MS20995N40) PER MAO101-301 (REF V070-332502 EO B19).	
					TQV:_____
45-129		CECL	OVCC	NOTIFY *PAD TO CONTINUE SIDE HATCH CLOSEOUT PER ORBITER OPERATION SUPPORT SETUP 20.	
				NOTE  ALLOW FOR STABILIZATION PRIOR TO PERFORMING NEXT STEP.	
45-130		CECL	CRT	(VAG29, PG B)  RECORD  CABIN PRESS _____ PSIA AMB PLUS 2 +/- 0.25  DP/DT _____ PSIA/MIN BASELINE +/- 0.01  OMRSD V61AQ0.010-1R (VAG29)	V61P2405A1    V61R2401A1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
45-131		CECL 132	OTC	CREW MODULE PRESSURIZATION AND INITIAL CABIN 2 PSID LEAK CHECK COMPLETE.  OPTION D: CREW MODULE PRESSURIZATION ----- AND CABIN 2 PSID LEAK CHECK COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
46-000				HYDRAULIC SYSTEM ----- WSB STEAM VENT HEATER ACTIVATION -----	
				NOTE	
				NOTED REQUIREMENT SATISFIED BY STEPS ANNOTATED WITH OMRS CODE.	
				OMRS S00R00.070-1R	
46-001		CHYD	CRT (VWF43)	VERIFY BLR A AC/DC 1-2-3: ON	
				OMRS S00R00.070-1R	
46-002		CHYD	CURSOR CNTL (VWF19)	WSB AC AND DC PWR WSB 1 AC - ON WSB 1 DC - ON WSB 2 AC - ON WSB 2 DC - ON WSB 3 AC - ON WSB 3 DC - ON	
			CRT	VERIFY BT4 HYD COMMAND STATUS WSB PWR CMDS (SIX) ON	
				OMRS S00R00.070-1R	
46-003		CHYD	CDR	PANEL R2 APU/HYD BOILER PWR 1 SW - ON 2 SW - ON 3 SW - ON	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
46-004		CHYD	CRT (VWF43)	VERIFY 1 BLR A AC/DC ON 2 BLR A AC/DC ON 3 BLR A AC/DC ON  1 BLR A CONTRL ON 2 BLR A CONTRL ON 3 BLR A CONTRL ON  OMRS S00R00.070-1R	
46-005		CHYD	MONITOR WSB STEAM VENT TEMPS FOR HEATER CYCLING.		
46-006		CHYD	CRT (VWF19)	VERIFY WSB BY-PASS VLV 1-2-3: BY  OMRS S00R00.070-1R  WSB STEAM VENT HEATER ACTIVATION COMPLETE -----  HYDRAULIC SYSTEM CONFIG FOR CRYO LOAD -----	
46-007		OTC 132	CHYD	CONFIGURE HYDRAULIC SYSTEM FOR SHUTTLE CRYO LOADING.	
46-008		CHYD	CRT (VWF19)	VERIFY  LDG EXTEND ISO VLV CLOSE  OMRS S00R00.070-1R	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
ECP AI MODE 1: MATCH CMDS TO POSN					
46-009		COFC	PFM	(SAB20/SWB02) PFPM (SWB02) - PRESS	
46-010		COFC	PFM	(SWB02) PFPM3 (ORB AI MODE 1) - PRESS	
46-011		COFC	CHYD	FLIGHT CONTROLS READY FOR HYDRAULIC PRESSURIZATION.	
46-012		CHYD	CEPD 151	VERIFY READY TO SUPPORT HYDRAULIC CIRCULATION PUMP ACTIVATION ON OIS CH 171.	
NOTE					
PERFORM NEXT STEP IF FUEL CELLS NOT ACTIVATED.					
46-013		CHYD	DMON	VERIFY	
				MN A AFT VOLT IS 30.5 VDC MAX	V76V3091A1
				MN B AFT VOLT IS 30.5 VDC MAX	V76V3092A1
				MN C AFT VOLT IS 30.5 VDC MAX	V76V3093A1
				OMRS V58GEN.042	
				OMRS S00R00.070-1R	
				NOT PERFORMED	

OPERATION INSTRUCTIONS

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

CAUTION

DELAY 30 SECONDS MINIMUM  
BETWEEN CIRC PUMP STARTS TO  
ALLOW FOR BUS STABILIZATION.

46-014		CHYD		CURSOR CNTL (VWF19) CIRC PUMP PUMP 1 - ON PUMP 2 - ON PUMP 3 - ON  OMRS S00R00.070-1R	
--------	--	------	--	---	--

NOTE

IF MPS TVC ISO VALVES ARE NOT  
OPEN PERFORM NEXT STEP.

46-015		CHYD	PLT	PANEL R4 HYDRAULIC MPS/TVC ISO VLV 1 SW - HOLD OPEN UNTIL OPEN TB (5 SEC MIN) 2 SW - HOLD OPEN UNTIL OPEN TB (5 SEC MIN) 3 SW - HOLD OPEN UNTIL OPEN TB (5 SEC MIN)	
--------	--	------	-----	---	--

NOT PERFORMED

46-016		CHYD	CRT	VERIFY MPS TVC ISOL VLVS 1,2,3 OP IND - ON  OMRS S00R00.070-1R	V58X1136E1 V58X1236E1 V58X1336E1
--------	--	------	-----	---	--

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
46-017			CHYD	CRT (VWF19)	
				VERIFY	
				CIRC PRESS 1: 330 PSIA MIN	
				CIRC PRESS 2: 330 PSIA MIN	
				CIRC PRESS 3: 330 PSIA MIN	
				OMRS S00R00.070-1R	
46-018			CHYD	PFP (VWF19)	
				RSVR/GN2 ACTIVATE - PUSH	
				CIRC/WSB ACTIVATE - PUSH	
				RECORD LCC LIMITS - PUSH	

OPERATION INSTRUCTIONS

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

46-019 CHYD CRT (VFW43)

VERIFY

- 1 CIRC PUMP A INHIB B ON
- 2 CIRC PUMP B INHIB C ON
- 3 CIRC PUMP C INHIB A ON

OMRS S00R00.070-1R

46-020

CHYD MONITOR OMRS  
 PARAMETERS FOR DURATION OF CRYO  
 LOADING

OMRS PARAMETERS	DEGREES F
1 RSVR HYD TEMP	35-100
1 HEAT EXCH IN TEMP	139 MAX
1 HEAT EXCH OUT TEMP	139 MAX
1 ETACT RL LOX TEMP	35 DEG MIN
1 ETACT RL LH2 TEMP	35 DEG MIN
2 RSVR HYD TEMP	35-100
2 HEAT EXCH IN TEMP	139 MAX
2 HEAT EXCH OUT TEMP	139 MAX
2 ETACT RL LOX TEMP	35 DEG MIN
2 ETACT RL LH2 TEMP	35 DEG MIN
3 RSVR HYD TEMP	35-100
3 HEAT EXCH IN TEMP	139 MAX
3 HEAT EXCH OUT TEMP	139 MAX
3 ETACT RL LOX TEMP	35 DEG MIN
3 ETACT RL LH2 TEMP	35 DEG MIN

OMRSD S00FC0.071-1R



OPERATION INSTRUCTIONS

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

LDG SYSTEM FINAL FILL  
-----

NOTE

PERFORM NEXT FOUR STEPS  
TO REPLENISH LDG VOIDS.

46-021

CHYD CRT (VWF19)

RECORD RESERVOIR VOLUMES

SYS 1 \_\_\_\_\_ PCT  
SYS 2 \_\_\_\_\_ PCT  
SYS 3 \_\_\_\_\_ PCT

NOTE

NOTED REQUIREMENT IS SATISFIED  
BY COMPLETION OF THE NEXT THREE  
STEPS.

OMRS S00FC0.072-1R

46-022

CHYD PLT PANEL R4  
HYDRAULICS

BRAKE ISOL VLV

- 1 SW - HOLD OPEN UNTIL OPEN TB  
(5 SEC MIN)
- 2 SW - HOLD OPEN UNTIL OPEN TB  
(5 SEC MIN)
- 3 SW - HOLD OPEN UNTIL OPEN TB  
(5 SEC MIN)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
46-023		CHYD		WAIT 15 MINUTES MINIMUM PRIOR TO PERFORMING NEXT STEP.	
46-024		CHYD		CRT (VWF19)  AFTER 15 MINUTES MINIMUM RECORD RESERVOIR VOLUMES  SYS 1 _____ PCT SYS 2 _____ PCT SYS 3 _____ PCT	
46-025		CHYD	PLT	PANEL R4 HYDRAULICS BRAKE ISOL VLV 1 SW - HOLD CLOSE UNTIL CLOSE TB (5 SEC MIN) 2 SW - HOLD CLOSE UNTIL CLOSE TB (5 SEC MIN) 3 SW - HOLD CLOSE UNTIL CLOSE TB (5 SEC MIN)  OMRS S00R00.070-1R	
46-026				COMPLETION OF THE PREVIOUS THREE STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD S00FC0.072-1R	
46-027				LDG SYSTEM FINAL FILL COMPLETE.	

OPERATION INSTRUCTIONS

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

ELEVON POSITIONING TO NULL

NOTE

PERFORM NEXT TWO STEPS TO INITIALIZE THE C11 SAFE MOVE LIMITS PRIOR TO INITIATING ELEVON POSITIONING. THE C11 SOFTWARE DEFAULT IS 0.0 HIGH AND 0.0 LOW WHICH IF MAINTAINED WILL PREVENT ANY C11 SOFTWARE INITIATED ACTUATOR MOVEMENT.

46-028		COFC		CURSOR CNTL (SAB19/SWB01 PG B) ACTR STATUS XMIT CURSOR KEY - PRESS	
46-029		COFC		APPL PG (SAB19/SWB05 PG B) PFK-15 KEY - PRESS (TERM SWB05)	
46-030		COFC		CURSOR CNTL (SAB19/SWB01) AEROSURFACE - OPS MAN XMIT CURSOR KEY - PRESS	
46-031		COFC		CURSOR CNTL (VABM7/VWB33) MANUAL POSN/CLEARANCE XMIT CURSOR KEY - PRESS	
46-032		COFC		CURSOR CNTL (VABM7/SSB09 PG B)  ACTUATOR SELECT - LOB  POSITION SELECT - +0.5	
46-033		COFC		APPL PG (VABM7/SSB09 PG B) PFK 1 KEY - PRESS (EXECUTE)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
46-034				COFC REPEAT PREVIOUS TWO STEPS FOR:	
				ACTR POSN	
				----	----
				1. LIB +0.3	
				2. RIB +0.3	
				3. ROB +0.5	
46-035				COFC APPL PG (VABM7/SSB09 PG B) PFK 15 KEY - PRESS (TERM SSB09)	
46-036				COFC APPL PG (VABM7/VWB33 PG B) PFK 15 KEY - PRESS (TERM VABM7)	
46-037				ELEVON POSITIONING TO NULL COMPLETE.  ACTIVATE ELEVON POSN/CMD EMONS -----	
46-038				COFC APPL PG A (SAB20/SWB02) PFK 13 KEY - PRESS (ACT EMON SETUP)	
46-039				COFC CURSOR CNTL (SAB20/SWB02) A-CIRC PUMPS XMIT CURSOR KEY - PRESS	
46-040				COFC APPL PG A (SAB20/SWB02) PFK 13 KEY - PRESS (DE-ACT EMON SETUP)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
46-041			CHYD CRT (VWF19)		
				VERIFY	
				WSB STEAM VENT TEMPS 1-2-3:	
				130 DEG F MINIMUM	
46-042		CHYD CDR	PANEL R2		
			APU/HYD		
			BOILER N2 SPLY		
			1 SW - ON		
			2 SW - ON		
			3 SW - ON		
				OMRS S00R00.070-1R	
46-043			CHYD CRT (VWF19)		
				VERIFY	
				1 N2 SUPPLY OFF	OFF
				2 N2 SUPPLY OFF	OFF
				3 N2 SUPPLY OFF	OFF
				OMRS S00R00.070-1R	
46-044			CHYD CRT (VWF19)		
				VERIFY	
				WSB GN2 REG OUT PRESS 1-2-3:	39-44 PSIA
				OMRS S00R00.070-1R	
46-045			CHYD CRT (VWF19)		
				VERIFY	
				WSB 1-2-3 OK INDICATION:	OK (ON)
				OMRS S00R00.070-1R	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
46-046		CHYD	CDR	PANEL R2 APU/HYD BOILER N2 SPLY 1 SW - OFF 2 SW - OFF 3 SW - OFF	
46-047		CHYD	CRT	VWF19 WSB 1,2 & 3 VERIFY 1. N2 SPLY VLVS CLOSED V58S0153E - ON V58S0253E - ON V58S0353E - ON  2. WSB OK - OFF V58X0182E V58X0282E V58X0382E  OMRS S00FC0.070-1R	
46-048				NOTED REQUIREMENT COMPLETE.  OMRSD S00FC0.070-1R	
46-049		CHYD	OTC	HYDRAULIC SYSTEM CONFIGURE FOR CRYO LOAD COMPLETE.	

OPERATION INSTRUCTIONS

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

NOTE

DO NOT PERFORM NEXT SIX  
STEPS IF 24 HR HOLD  
OCCURS AT T-6 HRS.

HYD PRE-APU START CKS  
-----

46-050

CHYD CRT (VAF30)

VERIFY

- 1    DPRSS ENA A ON
- 2    DPRSS ENA B ON
- 3    DPRSS ENA C ON

- 1    DPRSS ENA B ON
- 2    DPRSS ENA C ON
- 3    DPRSS ENA A ON

- 1    PCA PUMP RPC A ON
- 2    PCA PUMP RPC B ON
- 3    PCA PUMP RPC C ON

- 1    PCA PUMP RPC B ON
- 2    PCA PUMP RPC C ON
- 3    PCA PUMP RPC A ON

OMRSD V46AL0.910-B-1R

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

46-051

CHYD PFP (VWF19)

- 1.    APU RUN ACTIVATE - PUSH
- 2.    RECORD LCC LIMITS - PUSH

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

OPERATION INSTRUCTIONS

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

HYD POST APU START CKS

NOTE

PERFORM NEXT THREE STEPS  
IF APU'S WERE STARTED  
DURING TERMINAL COUNTDOWN.

46-052

CHYD CRT (VWF19)

VERIFY

- 1 SUPPLY PRESS B: 500-1000 PSIA
- 2 SUPPLY PRESS B: 500-1000 PSIA
- 3 SUPPLY PRESS B: 500-1000 PSIA

NOT PERFORMED

46-053

CHYD CRT (VWF43)

VERIFY

- 1 DPRSS ENA A OFF
- 2 DPRSS ENA B OFF
- 3 DPRSS ENA C OFF

- 1 DPRSS ENA B OFF
- 2 DPRSS ENA C OFF
- 3 DPRSS ENA A OFF

- 1 PCA PUMP RPC A OFF
- 2 PCA PUMP RPC B OFF
- 3 PCA PUMP RPC C OFF

- 1 PCA PUMP RPC B OFF
- 2 PCA PUMP RPC C OFF
- 3 PCA PUMP RPC A OFF

- 1 CIRC PUMP GPC ENA A OFF
- 1 CIRC PUMP GPC ENA B OFF
- 2 CIRC PUMP GPC ENA B OFF
- 2 CIRC PUMP GPC ENA C OFF
- 3 CIRC PUMP GPC ENA C OFF
- 3 CIRC PUMP GPC ENA A OFF



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
46-053			1	CIRC PUMP A INHIB B ON	
CON'T			2	CIRC PUMP B INHIB C ON	
			3	CIRC PUMP C INHIB A ON	
			1	CIRC PUMP B INHIB A ON	
			2	CIRC PUMP C INHIB B ON	
			3	CIRC PUMP A INHIB C ON	
				NOT PERFORMED	_____
46-054				CHYD CRT (VWF19)	
				VERIFY	
				1-2-3 SUPPLY PRESS B: 2850-3400 PSIA	
				1-2-3 SUPPLY PRESS C: 2800-3400 PSIA	
				OMRSD S00FM0.175-1R	
				NOT PERFORMED	_____
46-055				HYDRAULIC SYSTEM COMPLETE.	
				NOT PERFORMED	_____

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
47-000				FUEL CELL PURGE	
47-001		OTC 132	CFCP	PERFORM FUEL CELL PURGE	

CAUTION

FUEL CELLS MUST RUN ONE (1) HOUR MINIMUM AFTER PURGING PRIOR TO SHUTDOWN, EXCEPT IN AN EMERGENCY.

FUEL CELL PURGING IS A SEQUENTIAL OPERATION. FUEL CELLS MUST NOT BE PURGED IN PARALLEL.

NOTE

THIS SEQUENCE MAY BE PERFORMED ANYTIME AFTER T-2 HOURS. EACH CELL WILL BE PURGED FOR 2 MINUTES MINIMUM.

ADDITIONAL FUEL CELL PURGES MAY BE PERFORMED AS DETERMINED BY SYSTEM ENGINEERING DEPENDENT UPON FUEL CELL PERFORMANCE.

DATA AND VERIFICATIONS FOR MULTIPLE RUNS OF THIS SEQUENCE WILL BE RECORDED IN APPENDIX E DATA SHEET E-1.

NOTED REQUIREMENT IS SATISFIED BY COMPLETION OF FOLLOWING 13 STEPS.

OMRS V45CH0.040

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
47-002				CFCP CURSOR CNTL (VWR05, PG B) FC1 PURGE - OPEN (P INV CYAN)	
47-003				CFCP CRT (VWR05, PG B)  RECORD  FC1 PURGE START TIME _____ GMT  FC1 COOL PSI _____ PSIA 65 +/- 10	V45P0147A1
47-004				CFCP CURSOR CNTL (VWR05, PG B) AFTER 2 MINUTES MIN FC1 PURGE - CLOSED	
47-005				CFCP CRT (VWR05, PG B)  FC1 COOL PSI _____ PSIA 65 +/- 10	V45P0147A1
47-006				CFCP CURSOR CNTL (VWR05, PG B) FC2 PURGE - OPEN (P INV CYAN)	
47-007				CFCP CRT (VWR05, PG B)  RECORD  FC2 PURGE START TIME _____ GMT  FC2 COOL PSI _____ PSIA 65 +/- 10	V45P0247A1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
47-008				CFCP CURSOR CNTL (VWR05, PG B) AFTER 2 MINUTES MIN FC2 PURGE - CLOSED	
47-009				CFCP CRT (VWR05, PG B)  FC2 COOL PSI _____PSIA 65 +/- 10	V45P0247A1
47-010				CFCP CURSOR CNTL (VWR05, PG B) FC3 PURGE - OPEN (P INV CYAN)	
47-011				CFCP CRT (VWR05, PG B)  RECORD  FC3 PURGE START TIME _____GMT  FC3 COOL PSI _____PSIA 65 +/- 10	V45P0347A1
47-012				CFCP CURSOR CNTL (VWR05, PG B) AFTER 2 MINUTES MIN FC3 PURGE - CLOSED	
47-013				CFCP CRT (VWR05, PG B)  FC3 COOL PSI _____PSIA 65 +/- 10	V45P0347A1
47-014		CFCP	OTC	FUEL CELL PURGE IS COMPLETE. 132	
47-015				COMPLETION OF PREVIOUS 13 STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD V45CH0.040	

VOLUME 4 OF 5  
DATE: 07-08-99

OMI NO. - S0007VL4  
REV. - AY

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
48-000				SRB PIC RESISTANCE TEST (GO)	

WARNING

ALL PERSONNEL MUST BE CLEAR OF BDA BEFORE PROCEEDING WITH THE SRB PIC RESISTANCE TEST.

NOTE

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

RECORD DATA AND VERIFICATIONS FOR MULTIPLE RUNS OF THIS SEQUENCE IN APPENDIX I DATA SHEET I-1.

48-001		TBC 136	CPWR	PERFORM SRB GO PIC RESISTANCE TEST ON OIS CHAN 176, REPORT COMPLETION.	
48-002		CPWR 136	TBC	VERIFY ALL PERSONNEL CLEAR OF BDA.	
48-003			CPWR	CURSOR CNTL (SDC01) SRB OPTIONS PIC RESISTANCE XMIT CURSOR KEY - PRESS  CRT  VERIFY  SWC01 TERMINATES AND DISPLAY SKELETON BDE06 DISPLAYED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
48-004		CPWR		CURSOR CNTL (BDE06) GO XMIT CURSOR KEY - PRESS  CRT  VERIFY GO (INVERT CYAN)  CURSOR CNTL TEST ALL XMIT CURSOR KEY - PRESS	
48-005		CPWR		CRT (BSE04, PG-A)  VERIFY  BSE04 CALLS BKE08  VERIFY MESSAGE  SRB - PIC RESISTANCE TEST COMPLETED SUCCESSFULLY.	
48-006		CPWR		CONSOLE KYBD (BDE06) PFK15 KEY - PRESS  CRT  VERIFY  BWE06 TERMINATES SYSTEM MENU RE-DISPLAYED.	
48-007		CPWR	TBC 136	SRB PIC RESISTANCE TEST (GO) COMPLETE	



OPERATION INSTRUCTIONS

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

49-000

DPS SYSTEMS

NOTE

BLANK LINES PROVIDED IN  
 VERIF COLUMN ON THIS PAGE,  
 ARE FOR ENGR USE ONLY.  
 NO DATA OR QUALITY VERIF  
 REQUIRED FOR THESE ITEMS.

INDEX TO SEQ 49

- |     |  |       |
|-----|--|-------|
| 1.  | BACKUP FLT CONTROLLER TEST                       | _____ |
| 2.  | PASS DEU LOADS (OPS 0)                           | _____ |
| 3.  | TRANSITION GPC1 TO G9 SIMPLX                     | _____ |
| 4.  | DEU 1,2 AND 4 MEMORY DUMP AND<br>COMPARE         | _____ |
| 5.  | BFS LOAD - GPC5                                  | _____ |
| 6.  | BFS DUMP, RETRIEVAL AND<br>COMPARE               | _____ |
| 7.  | BFS CAP140 RETRIEVAL OPTION                      | _____ |
| 8.  | BFS RETRIEVAL/COMPARE -<br>LPS OPTION            | _____ |
| 9.  | DEU 3 MEMORY DUMP AND<br>COMPARE                 | _____ |
| 10. | FINAL DFL FOR FLIGHT (PDI)                       | _____ |
| 11. | FINAL PCMMU TELEMETRY LOADS<br>FOR FLIGHT        | _____ |
| 12. | DDU, FLIGHT CNTL, & HUD PWR UP<br>& SELF TEST    | _____ |
| 13. | TRANSITION TO G9 RS                              | _____ |
| 14. | LCC MONITOR ACTIVATION/LDB<br>REDUNDANCY CHECK   | _____ |
| 15. | CONFIGURE FOR IMU MM1 CKPT                       | _____ |
| 16. | CONFIGURE FOR IMU MM2 CKPT                       | _____ |
| 17. | RESTORE ORIGINAL<br>CONFIGURATION AFTER IMU CKPT | _____ |
| 18. | GMT AND MET ADJUST                               | _____ |
| 19. | DPS SECURING                                     | _____ |

OPERATION INSTRUCTIONS

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

NOTE

PERFORM 1. BACKUP FLT CONTROLLER  
 TEST FOR INITIAL LAUNCH ATTEMPT.

1. BACKUP FLT CONTROLLER TEST

NOT PERFORMED

NOTE

NOTED REQUIREMENT IS SATISFIED  
 BY COMPLETION OF THE FOLLOWING  
 52 STEPS.

OMRS V72CA0.020-1R

49-001		OTC 132	CDPS	PERFORM BACKUP FLIGHT CONTROLLER TEST.	
49-002			CDPS	CURSOR CNTL (SAS25 PG B) DED DISPLAYS SYS MONITOR (VWS48) XMIT CURSOR KEY - PRESS	
49-003		CDPS	PLT	PANEL O16 ROW E MN C DDU RIGHT CB - CLOSE	
49-004			CDPS	CRT (VWS48 PG B)  VERIFY  DDU   GOOD   P/SA   P/SB   P/SC 2     ON     OFF    OFF    OFF	
49-005		CDPS	PLT	PANEL O15 ROW E MN B DDU LEFT CB - CLOSE RIGHT CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-006				CDPS CRT (VWS48 PG B)	
				VERIFY	
				DDU GOOD P/SA P/SB P/SC	
				1 ON OFF OFF OFF	
				2 ON OFF OFF OFF	
49-007		CDPS CDR		PANEL O14 ROW E MN A DDU LEFT CB - CLOSE	
49-008		CDPS CDR 152		PANEL F7A5 FLT CNTLR POWER SW - ON	
49-009		CDPS PLT		PANEL F8A8 FLT CNTLR POWER SW - ON	
49-010				CDPS CRT (VWS48, PG B)	
				VERIFY	
				DDU BITE MONITOR	
				DDU GOOD P/SA P/SB P/SC	
				1 ON ON ON ON	
				2 ON ON ON ON	
				APPL PAGE (VWS48 PGB)	
				PFK 15 KEY - PRESS	
49-011		CDPS CDR 152		PANEL C2 LEFT CRT SEL SW - 1 CRT 1 POWER SW - ON MAJ FUNC SW - GNC CRT 2 POWER SW - ON MAJ FUNC SW - GNC CRT 3 POWER SW - ON MAJ FUNC SW - GNC	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-012		CDPS	CDR	PANEL O14 ROW F MMU 1 SW - ON	
49-013		CDPS	CDR	PANEL O15 ROW F MMU 2 SW - ON	
NOTE					
MMU MUST HAVE 34 SECONDS TO WARM UP BEFORE ACCESSING.					
49-014		CDPS		CURSOR CNTL (SAS01 PG B) FC & PL MDM BSR READ XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT (VAS93 PG A)  VERIFY  NO UNEXPLAINED BSR'S	
49-015		CDPS	CDR	PANEL C3 BFC CRT DISPLAY SW - OFF	
NOTE					
PERFORM NEXT STEP IF IN G9 REDUNDANT SET.					
49-016		CDPS	CDR	L KYBD OPS 000 PRO  CRT 1 0001/GPC MEMORY	
NOT PERFORMED _____					
49-017		CDPS	OTC	MASTER ALARM WILL OCCUR 132 CISEL DURING GPC IPL.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-018		CDPS	CDR	PANEL O6 IPL SOURCE SW - MMU 1 GENERAL PURPOSE COMPUTER MODE ___ SW - STBY 1 SW - HALT 2 SW - HALT 3 SW - HALT 4 SW - HALT 5 SW - HALT OUTPUT 1 SW - NORMAL 2 SW - NORMAL 3 SW - NORMAL 4 SW - NORMAL 5 SW - NORMAL POWER 1 SW - ON 2 SW - ON 3 SW - ON 4 SW - ON 5 SW - ON	
49-019		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER INITIAL PROGRAM LOAD 1 PB - PRESS, REL MODE 1 TB IPL THEN BP (WITHIN 2 MIN) 1 SW - STBY 1 TB RUN (WITHIN 2 MIN) 1 SW - RUN	
49-020		CDPS	CDR	L KYBD SPEC 1 PRO CRT1 DPS UTILITY	
49-021		CDPS	CDR	L KYBD ITEM 50 EXEC RESUME	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-022		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER INITIAL PROGRAM LOAD 2 PB - PRESS, REL MODE 2 TB IPL THEN BP (WITHIN 2 MIN) 2 SW - STBY 2 TB RUN (WITHIN 2 MIN) 2 SW - RUN	
49-023		CDPS	CRT	(VAS59 PG B)  VERIFY GPC 2 JOINS CS	
49-024		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER INITIAL PROGRAM LOAD 3 PB - PRESS, REL MODE 3 TB IPL THEN BP (WITHIN 2 MIN) 3 SW - STBY 3 TB RUN (WITHIN 2 MIN) 3 SW - RUN	
49-025		CDPS	CRT	(VAS59 PG B)  VERIFY GPC 3 JOINS CS	
49-026		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER INITIAL PROGRAM LOAD 4 PB - PRESS, REL MODE 4 TB IPL THEN BP (WITHIN 2 MIN) 4 SW - STBY 4 TB RUN (WITHIN 2 MIN) 4 SW - RUN	
49-027		CDPS	CRT	(VAS59 PG B)  VERIFY GPC 4 JOINS CS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-028		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER INITIAL PROGRAM LOAD 5 PB - PRESS, REL MODE 5 TB IPL THEN BP (WITHIN 2 MIN) 5 SW - STBY 5 TB RUN (WITHIN 2 MIN) 5 SW - RUN	
49-029		CDPS	CRT	(VAS59 PG B)  VERIFY GPC 5 JOINS CS	
49-030		CDPS	CDR	PANEL O6 IPL SOURCE SW - OFF	
49-031		CDPS	CURT	CURTOR CNTL (SAS10 PG B) GPC DISCRETES (VWS98) XMIT CURTOR KEY - PRESS	
NOTE					
NOTED REQUIREMENT IS SATISFIED BY COMPLETION OF NEXT EIGHT STEPS.					
OMRS V72CA0.030-1R					
49-032		CDPS	CDR	PANEL C3 BFC CRT SELECT SW - 1+2 DISPLAY SW - ON	
49-033		CDPS	CRT	(VWS98 PG B)  VERIFY	
GPC					
-----					
1 2 3 4 5					
38 0 0 0 0 0 CRT SELECT A					
39 1 1 1 1 1 CRT SELECT B					
49-034		CDPS	CDR	PANEL C3 BFC CRT SELECT SW - 2+3	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-035				CDPS CRT (VWS98 PG B)	
				VERIFY	
				GPC	
				-----	
				1 2 3 4 5	
			38	1 1 1 1 1	CRT SELECT A
			39	0 0 0 0 0	CRT SELECT B
49-036		CDPS CDR		PANEL C3	
				BFC CRT	
				SELECT SW - 3+1	
49-037				CDPS CRT (VWS98 PG B)	
				VERIFY	
				GPC	
				-----	
				1 2 3 4 5	
			38	1 1 1 1 1	CRT SELECT A
			39	1 1 1 1 1	CRT SELECT B
49-038		CDPS CDR		PANEL C3	
				BFC CRT	
				DISPLAY SW - OFF	
49-039				CDPS CRT (VWS98 PG B)	
				VERIFY	
				GPC	
				-----	
				1 2 3 4 5	
			38	0 0 0 0 0	CRT SELECT A
			39	0 0 0 0 0	CRT SELECT B
49-040				COMPLETION OF PREVIOUS EIGHT STEPS	
				SATISFIES NOTED OMRS REQUIREMENT.	
				OMRSD V72CA0.030-1R	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-041		CDPS	CDR	PANEL O6 MDM FLT CRIT FWD FF1 SW - OFF FF2 SW - OFF FF3 SW - OFF	
49-042		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER OUTPUT 5 SW - BACKUP	
49-043		CDPS	CRT	(VWS98 PG B)  VERIFY  GPC ----- 1 2 3 4 5 13 0 0 0 0 1 I/O TERM B 35 0 0 0 0 0 BFC ENGAGE 1 36 0 0 0 0 0 BFC ENGAGE 2 37 0 0 0 0 0 BFC ENGAGE 3	
49-044		CDPS	PLT	RH RHC BFC ENGAGE PB - PRESS, REL	
49-045		CDPS	CRT	(VWS98 PG B)  VERIFY  GPC ----- 1 2 3 4 5 13 1 1 1 1 0 I/O TERM B 35 1 1 1 1 1 BFC ENGAGE 1 36 1 1 1 1 1 BFC ENGAGE 2 37 1 1 1 1 1 BFC ENGAGE 3	
49-046		CDPS	CDR	PANEL F6 BFC SW - DISENGAGE, REL	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-047				CDPS CRT (VWS98 PG B)	
				VERIFY	
				GPC	
				-----	
				1 2 3 4 5	
				13 0 0 0 0 1 I/O TERM B	
				35 0 0 0 0 0 BFC ENGAGE 1	
				36 0 0 0 0 0 BFC ENGAGE 2	
				37 0 0 0 0 0 BFC ENGAGE 3	
49-048		CDPS	CDR	LH RHC	
				BFC ENGAGE PB - PRESS, REL	
49-049				CDPS CRT (VWS98 PG B)	
				VERIFY	
				GPC	
				-----	
				1 2 3 4 5	
				13 1 1 1 1 0 I/O TERM B	
				35 1 1 1 1 1 BFC ENGAGE 1	
				36 1 1 1 1 1 BFC ENGAGE 2	
				37 1 1 1 1 1 BFC ENGAGE 3	
49-050		CDPS	CDR	PANEL O6	
				GENERAL PURPOSE COMPUTER	
				OUTPUT	
				5 SW - NORMAL	
49-051				CDPS CRT (VWS98 PG B)	
				VERIFY	
				GPC	
				-----	
				1 2 3 4 5	
				13 0 0 0 0 0 I/O TERM B	
				35 0 0 0 0 0 BFC ENGAGE 1	
				36 0 0 0 0 0 BFC ENGAGE 2	
				37 0 0 0 0 0 BFC ENGAGE 3	
49-052		CDPS	APPL	PAGE (VWS98 PG B)	
				PFK15 KEY - PRESS (TERMINATE)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-053				COMPLETION OF PREVIOUS 52 STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD V72CA0.020-1R	
49-054		CDPS	CDR	PANEL O6 MDM FLT CRIT FWD FF1 SW - ON FF2 SW - ON FF3 SW - ON	
49-055		CDPS	CDR	L KYBD I/O RESET EXEC	
49-056		CDPS	PLT	PANEL F8A8 FLT CNTLR POWER SW - OFF	
49-057		CDPS	CDR	PANEL F7A5 FLT CNTLR POWER SW - OFF	
49-058		CDPS	PLT	PANEL O16 ROW E MN C DDU RIGHT CB - OPEN	
49-059		CDPS	CDR	PANEL O15 ROW E MN B DDU LEFT CB - OPEN RIGHT CB - OPEN	
49-060		CDPS	CDR	PANEL O14 ROW E MN A DDU LEFT CB - OPEN	
49-061		CDPS	OTC	MASTER ALARMS WILL OCCUR IN 132 CISL NEXT STEP.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-062		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER MODE 5 SW - STBY OUTPUT 5 TB BP	
49-063		CDPS	CDR	PANEL F2 MASTER ALARM PB - PRESS, REL	
49-064		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER MODE 4 SW - STBY OUTPUT 4 TB BP	
49-065		CDPS	CDR	PANEL F2 MASTER ALARM PB - PRESS, REL	
49-066		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER MODE 3 SW - STBY OUTPUT 3 TB BP	
49-067		CDPS	CDR	PANEL F2 MASTER ALARM PB - PRESS, REL	
49-068		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER MODE 2 SW - STBY OUTPUT 2 TB BP	
49-069		CDPS	CDR	PANEL F2 MASTER ALARM PB - PRESS, REL	
49-070		CDPS	CDR	CRT 1 GPC MEMORY	
49-071		CDPS	CDR	L KYBD ITEM 48 EXEC	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-072		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER MODE 2 SW - HALT 3 SW - HALT 4 SW - HALT 5 SW - HALT	
49-073		CDPS	CDR	PANEL O1 VERIFY ALL CAM LIGHTS OUT	
49-074		CDPS	LPS	OIS FEP WILL GO "NO-GO" MOMENTARILY DURING TIME UPDATE OPERATIONS.	
49-075		CDPS		CURSOR CNTL (SAS01 PG B) DPS XMIT CURSOR KEY - PRESS  CURSOR CNTL (SAS01 PG B) TIME UPDATE PROGRAM (VAS58) XMIT CURSOR KEY - PRESS  PFK 2 KEY - PRESS	
49-076		CDPS		CURSOR CNTL (VAS58 PG B) PERFORM TIME SYNC XMIT CURSOR KEY- PRESS  CRT (VAS58) VAS58 WAITING FOR OPTION SELECT DELTA RESULTS 1 = _____MS (RECORD)	

OPERATION INSTRUCTIONS

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

NOTE

IF ABSOLUTE VALUE OF GMT  
DELTA IS BETWEEN 1 AND 14 MS,  
PERFORM NEXT STEP.

49-077

CDPS CURSOR CNTL (VAS58 PG B)  
SELECT ANOTHER OPTION  
XMIT CURSOR KEY - PRESS

CURSOR CNTL (VAS58 PG B)  
ADJUST GMT  
XMIT CURSOR KEY - PRESS

CRT (VAS58)  
VERIFY

VAS58 WAITING FOR OPTION SELECT  
FINAL DELTA RESULTS = 0 +/- 1 MS

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

NOTE

IF ABSOLUTE VALUE OF GMT  
DELTA IS GREATER THAN 14 MS,  
PERFORM NEXT STEP.

49-078

CDPS CURSOR CNTL (VAS58 PG B)  
SELECT ANOTHER OPTION  
XMIT CURSOR KEY - PRESS

CURSOR CNTL (VAS58 PG B)  
INITIAL GMT UPDATE  
XMIT CURSOR KEY - PRESS

CRT (VAS58)  
VERIFY

VAS58 WAITING FOR OPTION SELECT  
FINAL DELTA RESULTS = 0 +/- 1 MS

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-079		CDPS		CURSOR CNTL (VAS58 PG B) SELECT ANOTHER OPTION XMIT CURSOR KEY - PRESS  CURSOR CNTL (VAS58 PG B) DETERMINE MET/GMT DELTA (NO UPDATE) XMIT CURSOR KEY - PRESS  CRT (VAS58) RECORD  DELTA RESULTS = _____ MS (RECORD)	
NOTE					
PERFORM NEXT STEP IF MAGNITUDE OF MET DELTA IS GREATER THAN 40 MS.					
49-080		CDPS		CURSOR CNTL (VAS58 PG B) SELECT ANOTHER OPTION XMIT CURSOR KEY - PRESS  CURSOR CNTL (VAS58 PG B) SET MET = GMT XMIT CURSOR KEY - PRESS  CRT (VAS58) VERIFY  VAS58 WAITING FOR OPTION SELECT FINAL DELTA = 0 +/- 500 MS	
NOT PERFORMED					_____
49-081		CDPS		CURSOR CNTL (VAS58 PG B) TERMINATE VAS58 XMIT CURSOR KEY - PRESS	
49-082		CDPS 132	OTC	BACKUP FLT CONTROLLER TEST COMPLETE. LDB SILENCE NO LONGER REQUIRED.  1. BACKUP FLT CONTROLLER TEST ----- COMPLETE -----	

OPERATION INSTRUCTIONS

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

NOTE

PERFORM 2. PASS DEU LOADS  
(OPS 0) FOR INITIAL LAUNCH  
ATTEMPT.

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

NOTED REQUIREMENT IS SATISFIED  
BY COMPLETION OF 13 OF THE  
NEXT 47 STEPS.

OMRS V72CA0.010-A

2. PASS DEU LOADS (OPS 0)  
-----

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

NOTE

DURING DEU LOAD, EVALUATE  
TRIPPED DEU BITE FLAGS PER  
V9001 VL2 SPECIAL INSTRUCTIONS.

WHEN DEU LOAD IS SELECTED  
"DEU LOAD" WILL APPEAR  
IN THE LOWER LEFT CORNER  
OF THE CRT. IPL COMPLETE  
WILL FLASH FOR LESS THAN  
ONE SECOND FOLLOWED BY A  
"BIG X", THEN GPC MEMORY  
DISPLAY.

49-083		CODS CDR	CRT 1		
				0001/GPC MEMORY	
49-084		CODS CDR	PANEL F7		
				VERIFY CRT 1,2,3 DU AND DEU	
				BITE FLAGS BLACK	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-085		CODS	CDR	PANEL O6 DISPLAY ELECTRONIC UNIT 1 SW - LOAD, RELEASE  OMRS V72CA0.010-A	
49-086		CODS	CDR	CRT 1  VERIFY:DEU LOAD IPL COMPLETE, BIG X FOLLOWED BY GPC MEMORY DISPLAY  OMRS V72CA0.010-A	
49-087		CODS	CDR	PANEL F7 VERIFY CRT 1 DU AND DEU BITE FLAGS BLACK	
49-088		CODS	PLT	CRT 2  0001/GPC MEMORY	
49-089		CODS	CDR	PANEL O6 DISPLAY ELECTRONICS UNIT 2 SW - LOAD, RELEASE  OMRS V72CA0.010-A	
49-090		CODS	PLT	CRT 2  VERIFY:DEU LOAD, IPL COMPLETE, BIG X FOLLOWED BY GPC MEMORY DISPLAY.  OMRS V72CA0.010-A	
49-091		CODS	PLT	PANEL F7 VERIFY CRT 2 DU AND DEU BITE FLAGS BLACK	
49-092		CODS	MS1	PANEL R11 VERIFY CRT 4 DU AND DEU BITE FLAGS BLACK	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-093		CODS	MS1	PANEL R11A2  CRT 4  MAJ FUNC SW - GNC POWER SW - ON	
49-094		CODS	CDR	PANEL C2 LEFT CRT SEL SW - 1	
49-095		CODS	CDR	L KYBD GPC/CRT 03 EXEC  GPC/CRT 14 EXEC	
			MS1	CRT 4  0001/GPC MEMORY	
49-096		CODS	CDR	PANEL O6 DISPLAY ELECTRONICS UNIT 4 SW - LOAD, RELEASE  OMRS V72CA0.010-A	
49-097		CODS	MS1	CRT 4  VERIFY: DEU LOAD, IPL COMPLETE, BIG X FOLLOWED BY GPC MEMORY DISPLAY  OMRS V72CA0.010-A	
49-098		CODS	MS1	PANEL R11 VERIFY CRT 4 DU AND DEU BITE FLAGS BLACK	
49-099		CDPS	CDR	L KYBD MSG RESET	
49-100		CDPS	OTC	PASS DEU LOADS COMPLETE. 132  2. PASS DEU LOADS (OPS 0) COMPLETE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM 3. TRANSITION GPC 1  
 TO G9 SIMPLEX FOR INITIAL  
 LAUNCH ATTEMPT.

3. TRANSITION GPC 1 TO G9 SIMPLEX

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

NOTE

FOLLOWING TWO STEPS WILL  
 SELECT AN ALTERNATE MMU  
 AREA FOR G9 TRANSITION IF  
 MMU1 AREA 1 IS NOT USABLE.

PERFORM THE NEXT TWO STEPS  
 IF ALTERNATE MMU AREA IS  
 REQUIRED TO SUPPORT G9 TRANSITION.

REFERENCE ORBITER SOFTWARE ALERT  
 NOTICE TO DETERMINE USEABLE  
 AREA FOR G9 TRANSITION.

49-101		CDPS CDR	CRT 1 0001/	/GPC MEMORY	
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NOT PERFORMED \_\_\_\_\_

49-102		CDPS CDR	L KYBD ITEM 53 + _____	(AREA NO.) EXEC	
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CRT 1  
 GNC 53 \_\_\_\_\_ (AREA NO.)

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-103		CDPS		CURSOR CNTL (SAS01 PG-B) DPS XMIT CURSOR KEY - PRESS  CURSOR CNTL (SAS01 PG-B) DPS RECONFIGURATION (VAS90) XMIT CURSOR KEY - PRESS  PFK 2 KEY - PRESS	
49-104		CDPS		CURSOR CNTL (VAS90 PG-B) QUICK NBAT MODIFY - GPC1 SMLPX XMIT CURSOR KEY - PRESS  CURSOR CNTL (VAS90 PG-B) MOD NBAT - G9 XMIT CURSOR KEY - PRESS  CURSOR CNTL (VAS90 PG-B) PRIMARY OPS TRANS - GNC 9 XMIT CURSOR KEY - PRESS	
NOTE					
PERFORM NEXT STEP IF FMT 60 IS REQUIRED FOR PAYLOAD SUPPORT (REF OPERATION SUPPORT SETUP 24).					
49-105		CDPS		APPL PAGE (VAS90 PG-B) PFK 7 KEY - PRESS  CURSOR CNTL (VAS90 PG-B) DOWNLIST FORMAT LOAD - FMT 60 XMIT CURSOR KEY - PRESS	
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT TWO STEPS IF  
SRB POWER IS UP.

DO NOT PERFORM NEXT STEP IF  
DPS RECONFIGURATION MENU  
PAGE 2 IS ALREADY ACTIVE.

49-106		CDPS	APPL PAGE (VAS90 PG-B) PFK 7 KEY - PRESS		
				NOT PERFORMED	_____
49-107		CDPS	CURSOR CNTL (VAS90 PG-B) SRB POLL BUS - LDB2 XMIT CURSOR KEY - PRESS		
				NOT PERFORMED	_____
49-108		CDPS	PFP (VAS90) EXECUTE KEY - PRESS		
			APPL PAGE (VAS90 PG-B) FOLLOW PROGRAM PROMPTS		
			CRT (VAS90 PG-B) VERIFY		
			SUCCESSFUL COMPLETION OF JOB		
49-109		CDPS	PFP (VAS90) TERMINATE KEY - PRESS		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-110				CDPS CURSOR CNTL (SAS01 PG B) FC & PL MDM BSR READ XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
49-111				CDPS CRT (VAS93 PG B)  VERIFY NO UNEXPECTED ERRORS	
49-112				CDPS CURSOR CNTL (SAS01 PG B) ACT CYCLIC BSR READ XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT (SA PG) CYC BSR - ACT	
49-113		CDPS 132	OTC	GPC1 IS IN G9 SIMPLEX FMT_____ (44 OR 60) WITH POLLING AND HDA ENABLED.  3. TRANSITION GPC 1 TO G9 SIMPLEX ----- COMPLETE -----	

OPERATION INSTRUCTIONS

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

NOTE

PERFORM 4. DEU 1,2 AND 4 MEMORY DUMP AND COMPARE FOR INITIAL LAUNCH ATTEMPT.

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

4. DEU 1,2 AND 4 MEMORY DUMP AND

-----  
COMPARE  
-----

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

NOTE

THE FOLLOWING STEPS WILL DUMP DEU MEMORY AND PERFORM A BIT-BY-BIT COMPARE OF NON-VARIABLE MEMORY LOCATIONS.

TO SUPPORT DEU DUMPS ONE SIMPLEX GPC IS REQUIRED, AND THE GPC SELECTED MUST HAVE CONTROL OF THE LDB AND DK BUSES. THE GPC MUST BE IN OPS GNC9. A MAXIMUM OF 3 DEUS MAY PARTICIPATE IN THE COMMON SET.

RECORD COMPARE TAPE NUMBER (FROM S0007-V1 OPERATION SUPPORT SETUP 7) TO BE USED FOR THIS TEST IN BLANK SPACES PROVIDED IN NEXT STEP.

49-114

CODS LPS OBTAIN DEU MEMORY DUMP COMPARE  
152 TAPE CTU \_\_\_\_\_ FROM  
STORAGE AND MOUNT ON LOGICAL  
TAPE UNIT T-1. REPORT COMPLETION.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-115		CODS 152 LPS 127	LPS CPDR	RESTRICT SOFTWARE ACTIVITIES AT PDR/SPA DURING DUMP AND \$OCF ACTIVITY (I.E., NO INTP/INRC OR \$PSAR).	
49-116		CODS		CURSOR CNTL (SAS01 PG B) DPS XMIT CURSOR KEY - PRESS	
49-117		CODS		CURSOR CNTL (SAS01 PG B) DEU DUMP AND COMPARE (VAS44) XMIT CURSOR KEY - PRESS PFK2 KEY - PRESS	
49-118		CODS		CURSOR CNTL (VAS44 PG B) DEU 1 COMPARE DUMP XMIT CURSOR KEY - PRESS  CRT (VAS44 PG B) FOLLOW PROGRAM PROMPTS  OMRS V72CA0.010-A	
49-119		CODS		CRT (VAS44 PG B) VERIFY MSG: "DEU 1 SUCCESSFUL"  RECORD  DUMP START TIME _____  DUMP END TIME _____  OMRS V72CA0.010-A	
49-120		CODS		CONSOLE KYBD (VAS44 PG B) PFK3 KEY - PRESS	
49-121		CODS		CURSOR CNTL (VAS44 PG B) DEU 2 COMPARE DUMP XMIT CURSOR KEY - PRESS  CRT (VAS44 PG B) FOLLOW PROGRAM PROMPTS  OMRS V72CA0.010-A	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-122				CODS CRT (VAS44 PG B)  VERIFY MSG: "DEU 2 SUCCESSFUL"  RECORD:  DUMP START TIME _____  DUMP STOP TIME _____  OMRS V72CA0.010-A	
49-123				CODS CONSOLE KYBD (VAS44 PG B) PFK3 KEY - PRESS	
49-124				CODS CURSOR CNTL (VAS44 PG B) DEU 4 COMPARE DUMP XMIT CURSOR KEY - PRESS  CRT (VAS44 PG B) FOLLOW PROGRAM PROMPTS  OMRS V72CA0.010-A	
49-125				CODS CRT (VAS44 PG B)  VERIFY MSG: "DEU 4 SUCCESSFUL"  RECORD:  DUMP START TIME _____  DUMP STOP TIME _____  OMRS V72CA0.010-A	
NOTE					
DO NOT RETURN COMPARE TAPE TO STORAGE AT THIS TIME.					
49-126				CODS CONSOLE KYBD (VAS44, PG B) PFK 15 KEY - PRESS (TERMINATE) PFK 1 KEY - PRESS (CONTINUE)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-127		CODS 152	CDR	L KYBD GPC/CRT 04 EXEC  GPC/CRT 13 EXEC	
49-128		CODS	CDR	PANEL R11  CRT 4  POWER SW - OFF MAJ FUNC SW - SM  OMRS V72CA0.010-A	
49-129				COMPLETION OF 13 OF THE PREVIOUS 47 STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD V72CA0.010-A	
49-130		CODS 132	OTC	DEU 1,2 AND 4 MEMORY DUMP AND COMPARE COMPLETE.  4. DEU 1,2 AND 4 MEMORY DUMP AND ----- COMPARE COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM 5. BFS LOAD - GPC5  
FOR INITIAL LAUNCH ATTEMPT.

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

5. BFS LOAD - GPC5  
-----

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

NOTE

NEXT STEP MAY BE WORKED  
IN PARALLEL WITH BFS IPL.

49-131		CVFS LPS		PERFORM BFS DOWNLIST DUMP PREPS	
		152		PER OMI C2000. REPORT WHEN READY	
				FOR START OF BFS DUMP.	
49-132		CDPS OTC		MASTER ALARM WILL OCCUR	
		132	CISL	DURING BFS IPL.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NOTED REQUIREMENT IS SATISFIED  
BY COMPLETION OF NEXT 16 STEPS.

OMRS V72CA0.050-B

49-133		CDPS	CDR	PANEL O6 IPL SOURCE SW - MMU 1  GENERAL PURPOSE COMPUTER MODE 5 SW - HALT OUTPUT 5 SW - NORMAL POWER 5 SW - OFF, THEN ON  GENERAL PURPOSE COMPUTER INITIAL PROGRAM LOAD 5 PB - PRESS, REL MODE 5 TB IPL THEN BP (WITHIN 2 MIN)	
49-134		CDPS	CDR	PANEL C2 LEFT CRT SEL SW - 3  CRT 3 MAJ FUNC SW - GNC	
49-135		CDPS	CDR	PANEL C3 BFC CRT SELECT SW - 3+1 DISPLAY SW - ON	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NOTED REQUIREMENT IS SATISFIED  
 BY COMPLETION OF TWO OF THE  
 NEXT 59 STEPS.

OMRS V72CA0.010-B

49-136		CDPS	CDR	PANEL O6 DISPLAY ELECTRONICS UNIT 3 SW - LOAD, REL  GENERAL PURPOSE COMPUTER MODE 5 SW - STBY  OMRS V72CA0.010-B	
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49-137		CDPS	CDR	CRT 3  IPL MENU (1) (WITHIN TWO MIN) VERIFY MESSAGES STILL IN LIST = 2	
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NOTE

IF DEU BITE FLAG TRIPS DURING  
 DEU LOAD, EVALUATE CONDITION  
 PER V9001VL2 SPECIAL  
 INSTRUCTIONS.

49-138		CDPS	CDR	PANEL F7 VERIFY CRT 3 DU AND DEU BITE FLAGS BLACK	
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49-139		CDPS	CDR	L KYBD (BFS) MSG RESET (PRESS TWICE)	
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49-140		CDPS	CDR	L KYBD (BFS) ITEM 2 (BFS1) EXEC	
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49-141		CDPS	CDR	CRT 3  BSL LOADED MSG ON MSG LINE (WITHIN 2 MIN)	
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49-142		CDPS	CDR	L KYBD (BFS) MSG RESET	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DUE TO BSL MECHANIZATION,  
 COMPUTED CHECKSUM ERRORS  
 MAY OCCUR DURING BFS LOAD  
 (BFS CHECKSUM ERROR, IMU  
 CHKPT CHECKSUM ERR, TFL  
 FORMAT COMPUTED CHECKSUM  
 ERROR-REF USER NOTE  
 B06546A).

IF BFS CHECKSUM ERROR, IMU  
 CHKPT CHECKSUM ERR, OR TFL  
 FORMAT COMPUTED CHECKSUM  
 ERROR MESSAGE APPEARS ON  
 CRT MSG LINE, PERFORM NEXT  
 STEP FOR EACH OCCURENCE.

49-143		CDPS	CDR	L KYBD (BFS) MSG RESET	NOT PERFORMED
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49-144		CDPS	CDR	CRT 3  VERIFY MSG: (WITHIN 3 MINUTES)  KSC RR.VV.P.II.MM LOADED_SET MMU SEL SW TO OFF  WHERE:  RR = RELEASE NUMBER VV = VERSION NUMBER P = PATCH SET NUMBER II = I LOAD SET NUMBER MM = MASS MEMORY AREA NUMBER	
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49-145		CDPS	CDR	CRT 3 VERIFY MESSAGES STILL IN LIST = 1	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-146		CDPS	CDR	PANEL O6  IPL SOURCE SW - OFF  NOTE  BFS GPC ERROR "ILLEGAL ENGAGE/TERM B" WILL OCCUR IN NEXT STEP.	
49-147		CDPS	CDR	L KYBD MSG RESET  CRT 3  BFS MEMORY	
49-148		CDPS		APPLICATIONS PAGE (SA) DL FMT 12 ACTIVE	
49-149				COMPLETION OF PREVIOUS 16 STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD V72CA0.050-B	
49-150		CDPS		CONSOLE KYBD ISSU N72IV067D #1001 XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
49-151		CVFS		CURSOR CNTL (SAS10 PG B) BFS MONITOR (VASB9) XMIT CURSOR KEY - PRESS	
49-152		CVFS	CDR	L KYBD (BFS) FAULT SUMM  CDR CRT 3 READ AND REPORT ANY FSP MESSAGES	
49-153		CVFS		APPLICATION PAGE (VASB9 PG B) VERIFY NO UNEXPLAINED GPC, I/O, OR FAULT SUMMARY MESSAGES.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-154		CVFS	CDR	L KYBD (BFS) SPEC 99 PRO RESUME  CRT 3  BFS MEMORY	
NOTE					
ERROR MESSAGE WILL OCCUR IN NEXT STEP IF EMON NOTIFICATION FOR MSID'S IS ALREADY ACTIVE.					
49-155		CDPS		CONSOLE KYBD A SX V98J2258C1,ANY XMIT CMD KEY - PRESS (BFS I/O ERROR COUNT)  A SX V98J2299C1,ANY XMIT CMD KEY - PRESS (BFS GPC ERROR COUNT)  5. BFS LOAD - GPC5 COMPLETE	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM 6. BFS DUMP, RETRIEVAL AND COMPARE FOR INITIAL LAUNCH ATTEMPT.

6. BFS DUMP, RETRIEVAL AND COMPARE

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

NOTE

LPS IS REQUIRED TO REPORT FRAME COUNT OR TAPE ERRORS TO CVFS DURING DUMP. ANY ERROR ENCOUNTERED MAY REQUIRE RESTART OF DUMP.

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

NOTED REQUIREMENT IS SATISFIED BY COMPLETION OF NEXT 12 STEPS.

OMRS V72CA0.050-C

49-156		CVFS LPS		MONITOR SYSTEM MESSAGE PAGE FOR "GPCA OR GPCS FORMAT 90 FRAME COUNT ERROR" DURING BFS DUMP AND REPORT ANY OCCURENCE.	
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49-157		CVFS CDR		L KYBD (BFS)	
				ITEM 21 + 0	EXEC
				ITEM 22 + 262144	EXEC
				ITEM 24	EXEC (START DUMP)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-158		CVFS	CMQC	RECORD DUMP START TIME LPS ____:____/____ DDD HHMM SS	
49-159		CVFS	CDR	CRT 3  NO. OF WORDS DECREMENTING	
49-160		CVFS	CDR	(AFTER APPROX 7 MIN.)  CRT 3  NUMBER OF WORDS = BLANK	
49-161		CVFS	CMQC	RECORD DUMP STOP TIME LPS ____:____/____ DDD HHMM SS	
49-162		CVFS	LPS	VERIFY NO GPCA OR GPCS FORMAT 90 FRAME COUNT ERRORS WERE RECIEVED.	
NOTE					
IF AN ERROR WAS DETECTED IN GPCA OR GPCS FRAME COUNTS REPEAT PREVIOUS SEVEN STEPS.					
49-163		CVFS		PERFORM BFS DUMP RETRIEVAL AND COMPARE (USING DAP 140 SDC PROGRAM) (SEQ 49, ITEM 7) ON CH 152. (15 MIN)	
49-164		CVFS		VERIFY DAP 140 RUNS TO COMPLETION WITH EXPECTED MISCOMPARES.	
49-165		CDPS	CDR	PANEL C3 BFC CRT DISPLAY SW - OFF	
49-166		CDPS	CDR	CRT 3  GPC MEMORY DISP	
49-167		CDPS	CDR	PANEL C2 LEFT CRT SEL SW - 1	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

BFS WILL REMAIN ACTIVE  
THROUGH LAUNCH. PERIODIC  
AREA 2 FMT 12 DOWNLIST FRAME  
COUNT ERRORS AND FDA  
MESSAGES ARE EXPECTED.

49-168				COMPLETION OF PREVIOUS 12 STEPS SATISFIES NOTED OMRS REQUIREMENTS.	
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OMRSD V72CA0.050-C

49-169		CVFS OTC		BFS DUMP AND COMPARE COMPLETE. MISCOMPARES ARE AS EXPECTED.	
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6. BFS DUMP, RETRIEVAL AND COMPARE  
-----  
COMPLETE  
-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE					
PERFORM 7. BFS DAP-140 RETRIEVAL FOR INITIAL LAUNCH ATTEMPT.					
7. BFS DAP-140 RETRIEVAL OPTION					
-----					
NOT PERFORMED					
NOTE					
PERFORM NEXT 16 STEPS IF DAP140 BFS DUMP AND COMPARE OPTION IS USED.					
49-170		CVFS	CONSOLE KYBD	CDS ENABLE KEY - PRESS	
			CRT		
			VERIFY		
			ASSIGNED TO CDS LINE	1 OR 2	
				NOT PERFORMED	_____
49-171		CVFS	CONSOLE KYBD	SDC	
				NOT PERFORMED	_____
49-172		CVFS	CONSOLE KYBD	SIGN-ON KEY - PRESS	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-173		CVFS	CRT	VERIFY RSHELL>	NOT PERFORMED
49-174		CVFS	CONSOLE KYBD	DAP CDS XMIT KEY - PRESS	NOT PERFORMED
NOTE					
IN NEXT STEP, SEQUENCE IS: BFSDC TCID FEP; START TIME (HHMMSS) STOP TIME (HHMMSS) DATE (MMDDYY); STS NO.,FILENAME NO.					
49-175		CVFS	CONSOLE KYBD	BFSDC _____GPCA;  _____; _____;-FL STS ____/____.____.	
				CDS XMIT KEY - PRESS	
49-176		CVFS	CRT	VERIFY BFS VERIFICATION COMPLETED MESSAGE	NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT TWO STEPS IF MISCOMPARES ENCOUNTERED.					
49-177		CVFS	CRT	VERIFY DO YOU WANT TO DISPLAY MISCOMPARES? Y OR N	NOT PERFORMED
49-178		CVFS	CONSOLE KYBD	Y CDS XMIT KEY - PRESS  CRT VERIFY VALUE RECEIVED AND VALUE EXPECTED ARE DISPLAYED WITH THE GPC ABSOLUTE ADDRESS.	NOT PERFORMED
NOTE					
PERFORM THE FOLLOWING FOUR STEPS TO PRINT MISCOMPARES IF DESIRED.					
49-179		CVFS	CRT	VERIFY DO YOU WANT TO PRINT MISCOMPARES? Y OR N	NOT PERFORMED
49-180		CVFS	CONSOLE KYBD	Y CDS XMIT KEY - PRESS	NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-181		CVFS	CRT	VERIFY ENTER PRINTER NAME	
				NOT PERFORMED	
				NOTE	
				IN THE FOLLOWING STEP, ENTER DESIRED LAN PRINTER NAME FOR MISCOMPARE PRINTOUT.	
49-182		CVFS	CONSOLE KYBD (PRINTER NAME) CDS XMIT KEY - PRESS		
			CRT VERIFY PRINTING FOR THE BFS DUMP AND COMPARE IS COMPLETE		
				NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-183		CVFS	CRT	VERIFY TPAP SDC TERMINATED RSHELL>	
49-184		CVFS	CONSOLE KYBD	EXIT CDS XMIT KEY - PRESS	
49-185		CVFS	CPU ENABLE KEY - PRESS		
49-186		CVFS	CONSOLE KYBD	CPU ENABLE KEY - PRESS	
				NOT PERFORMED	
				7. BFS DAP-140 RETRIEVAL OPTION	
				----- COMPLETE -----	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM 8. BFS DUMP RETRIEVAL  
 AND COMPARE VIA LPS IF BFS  
 DUMP AND COMPARE USING LPS  
 RETRIEVAL METHOD DESIRED.

8. BFS DUMP RETRIEVAL AND COMPARE  
 -----  
 VIA LPS  
 -----

NOT PERFORMED

49-187		CVFS LPS		PERFORM BFS DOWNLIST DUMP RETRIEVAL AND COMPARE PER OMI C2000.	
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49-188				CLSE VERIFY BFS COMPARE COMPLETES WITH SUCCESSFUL OUTPUT OF NUMBER OF MISCOMPARES. DELIVER PRINTOUT TO CVFS ENGINEER AT CONSOLE C-12.	
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49-189				CPDR REMOVE BFS COMPARE TAPE FROM TAPE UNIT. REMOVE BFS PROCESSED TAPE FROM TAPE T1. DELIVER BFS COMPARE TAPE AND PROCESSED TAPE TO LPS TAPE LOCKER. BFS DUMP AND COMPARE NOW COMPLETE.	
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49-190				CVFS VERIFY DUMP AND COMPARE LISTING.  8. BFS DUMP RETRIEVAL AND COMPARE ----- VIA LPS COMPLETE -----	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM 9. DEU 3 MEMORY DUMP  
 AND COMPARE FOR INITIAL  
 LAUNCH ATTEMPT.

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

9. DEU 3 MEMORY DUMP & COMPARE

NOT PERFORMED

49-191		CODS LPS 152 LPS CPDR 127		RESTRICT SOFTWARE ACTIVITIES AT PDR/SPA DURING DUMP AND \$OCF ACTIVITY (I.E., NO INTP/INRC OR \$PSAR).	
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49-192		CODS DPS		CURSOR CNTL (SAS01 PG B) XMIT CURSOR KEY - PRESS	
				CURSOR CNTL (SAS01 PG B) DEU DUMP AND COMPARE (VAS44) XMIT CURSOR KEY - PRESS PFK 2 KEY - PRESS	

49-193		CODS		CURSOR CNTL (VAS44 PG B) DEU 3 COMPARE DUMP XMIT CURSOR KEY - PRESS	
				CRT (VAS44 PG B) FOLLOW PROGRAM PROMPTS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-194				CODS CRT (VAS44 PG B)  VERIFY MSG: "DEU 3 SUCCESSFUL"  RECORD:  DUMP START TIME _____  DUMP END TIME _____  OMRS V72CA0.010-B  NOTE  RECORD COMPARE TAPE NUMBER (FROM S0007-V1 OSSU7) TO BE USED FOR THIS TEST IN BLANK SPACE PROVIDED IN NEXT STEP.	
49-195		CODS	LPS	REMOVE DEU MEMORY COMPARE TAPE CTU _____ FROM TAPE UNIT AND RETURN TO STORAGE. REPORT COMPLETION.	
49-196		CODS		CONSOLE KYBD (VAS44, PG B) PFK 15 KEY - PRESS (TERMINATE) PFK 1 KEY - PRESS (CONTINUE)	
49-197		CODS	OTC	DEU 3 MEMORY DUMP AND COMPARE COMPLETE. 132	
49-198				COMPLETION OF TWO OF THE PREVIOUS 59 STEPS SATISFIES NOTED OMRS REQUIREMENTS.  OMRSD V72CA0.010-B  9. DEU 3 MEMORY DUMP & COMPARE ----- COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

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

PERFORM 10. FINAL DFL FOR  
FLIGHT (PDI) FOR INITIAL  
LAUNCH ATTEMPT IF PDI  
FORMATS ARE REQUIRED.  
OBTAIN FORMATS AND INPUTS  
FROM S0007VL1 OSSU 24.

10. FINAL DFL FOR FLIGHT (PDI)

NOT PERFORMED

NOTE

NOTED REQUIREMENTS ARE  
SATISFIED BY COMPLETION OF  
NEXT 38 STEPS.

OMRS S00FA0.301-1R

49-199				CDPS CURSOR CNTL (SAS01 PG B) DPS XMIT CURSOR KEY - PRESS  CURSOR CNTL (SAS01 PG B) DPS RECONFIGURATION (VAS90) XMIT CURSOR KEY - PRESS  PFK 2 KEY - PRESS	
49-200				CDPS APPL PAGE (VAS90 PG B) PFK 9 KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

REPEAT NEXT TWO STEPS FOR EACH  
DECOM (1-4) REQUIRED TO BE  
LOADED (REF OPERATION SUPPORT  
SETUP 24).

49-201		CDPS	CNTL	(VAS90 PG B) SELECT ELEMENT - DECOM____ XMIT CURSOR KEY - PRESS	
				CURSOR CNTL (VAS90 PG B) SELECT INPUT - PL SRC____ XMIT CURSOR KEY - PRESS	

NOTE

PERFORM NEXT STEP IF FORMAT  
LOAD REQUIRED.

49-202		CDPS	CNTL	(VAS90 PG B) SELECT FORMAT - ____ XMIT CURSOR KEY - PRESS	
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NOT PERFORMED \_\_\_\_\_

49-203		CDPS		RECORD SELECTIONS BELOW. RECORD 'NA' IN BLANKS FOR NOT PERFORMED OPTIONS.		
		DECOM 1	FMT	____	INPUT	____
		DECOM 2	FMT	____	INPUT	____
		DECOM 3	FMT	____	INPUT	____
		DECOM 4	FMT	____	INPUT	____

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF FPM  
LOAD REQUIRED.

49-204				CDPS CURSOR CNTL (VAS90 PG B) SELECT ELEMENT - FPM XMIT CURSOR KEY - PRESS  CURSOR CNTL (VAS90 PG B) SELECT FORMAT - _____ XMIT CURSOR KEY - PRESS  NOT PERFORMED      _____	
49-205				CDPS PFP (VAS90) EXECUTE KEY - PRESS  CRT (VAS90 PG B) "SUCCESSFUL COMPLETION OF JOB" (GREEN)	
49-206				CDPS PFP (VAS90) TERMINATE KEY - PRESS	
49-207		CDPS OTC		FINAL PDI/DFL FOR FLIGHT COMPLETE. 132  10. FINAL DFL FOR FLIGHT (PDI) ----- COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

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

PERFORM 11. FINAL PCMMU TELEMETRY  
 LOADS FOR FLIGHT FOR INITIAL  
 LAUNCH ATTEMPT.

IN FINAL PCMMU TELEMETRY LOADS  
 FOR FLIGHT, OBTAIN FORMATS  
 FROM S0007 VL1 OPERATION SUPPORT  
 SETUP 24.

PMU/DL I/O CYCLE WRAP OR  
 CYCLIC OVERRUN GPC ERROR MAY  
 OCCUR DURING PCMMU FORMAT  
 LOAD.

11. FINAL PCMMU TELEMETRY LOADS  
 -----  
 FOR FLIGHT  
 -----

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

49-208		CISL JRPS 145		PERFORM ORBITER OPERATION SUPPORT SETUP 13 - RPS TFL SETUP - JRPS  VERIFY RECORDING OI 64KB DATA ON MAG TAPE & START DECOM LOCK STRIP CHART AND MDM CHART AT 2 MM/SEC.	
49-209		CDPS CDR		PANEL C3 OI PCMMU FORMAT SW - FIXED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

ERRONEOUS BFS FDA MESSAGES  
 MAY BE ANNUNCIATED AT PCMMU  
 SWITCHOVER.

PERFORM NEXT STEP IF  
 PCM PWR IN 1.

49-210		CISL CDR	PANEL C3 OI PCMMU PWR SW - 2		
				NOT PERFORMED	_____
49-211			CISL CRT (SAQ04/SWQ01)  PCMMU PCM 2 ON FORMAT 129 FIXED BITE 1-14 GOOD MDM WRAP (ALL) GOOD MTU GMT ADVANCING		
49-212		CISL CDPS	PERFORM TFL TO PCM2 FMT _____ HDR, FMT _____ LDR USING PRIME SOFTWARE		
49-213		CDPS CDR	PANEL C2A2 LEFT CRT SEL SW - 1		



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-214		CDPS	CDR	L KYBD SPEC 62 PRO	
49-215		CDPS	CDR	CRT 1  PCMMU/PL COMM DISPLAY	
49-216		CDPS	CDR	L KYBD ITEM 3 + _____ (HIGH DATA RATE) EXEC ITEM 4 EXEC	
49-217		CDPS	CDR	CRT 1  LOAD 4 CPLT (WITHIN TWO MINUTES)	
49-218		CDPS	CDR	L KYBD ITEM 3 + _____ (LOW DATA RATE) EXEC ITEM 4 EXEC	
			CDR	CRT 1  LOAD 4 CPLT (WITHIN TWO MINUTES)	
NOTE					
IF AN ON-ORBIT FORMAT WAS LOADED, DOWNLIST DATA WILL BE INVALID AND FRAME COUNT ERRORS WILL OCCUR FOR DURATION OF TIME OI FORMAT IS ACTIVE.					
49-219		CDPS	CDR	PANEL C3 OI PCMMU FORMAT SW - PROGRAM	
49-220		CDPS	CRT	(VAS59 PG B)  VERIFY OI DATA CYAN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NEXT STEP WILL SHOW PCMMU  
BITE BITS 11,12 AND 15 FAIL  
OR TOGGLING IF PAYLOAD  
IS POWERED DOWN.

49-221 CISL CRT (SAQ04/SWQ01)

PCMMU  
PCM 2 ON  
FORMAT \_\_\_\_\_ PROG  
BITE  
1-14 GOOD  
MDM  
WRAP (ALL) GOOD  
MTU  
GMT ADVANCING

49-222 CISL JISE VERIFY DECOM LOCK ON OI PCM 2

FMT LDR \_\_\_\_\_  
MDM WRAPS DYNAMIC  
GMT ADVANCING

NOTE

ERRONEOUS BFS FDA MESSAGES  
MAY BE ANNUNCIATED AT PCMMU  
SWITCHOVER.

49-223 CISL CDR PANEL C3  
OI PCMMU  
FORMAT SW - FIXED  
PWR SW - 1

49-224 CISL CRT (SAQ04/SWQ01)

PCMMU  
PCM 1 ON  
FORMAT 129 FIXED  
BITE  
1-14 GOOD  
MDM  
WRAP (ALL) GOOD  
MTU  
GMT ADVANCING

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF MTU CH A,B,C TOGGLING,  
 REPEAT NEXT STEP UNTIL  
 STABILIZED.

49-225		CISL	CDR	PANEL C3 OI PCMMU PWR SW - OFF, THEN - 1 NOT PERFORMED	_____
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49-226		CDPS	CDR	L KYBD ITEM 3 + _____ (HIGH DATA RATE) EXEC ITEM 4 EXEC  CDR CRT 1  LOAD 4 CPLT (WITHIN TWO MINUTES)	
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49-227		CDPS	CDR	L KYBD ITEM 3 + _____ (LOW DATA RATE) EXEC ITEM 4 EXEC  CDR CRT 1  LOAD 4 CPLT (WITHIN TWO MINUTES)	
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NOTE

IF AN ON-ORBIT FORMAT WAS  
 LOADED, DOWNLIST DATA WILL  
 BE INVALID AND FRAME COUNT  
 ERRORS WILL OCCUR FOR  
 DURATION OF TIME OI FORMAT  
 IS ACTIVE.

49-228		CDPS	CDR	PANEL C3 OI PCMMU FORMAT SW - GPC	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-229		CDPS	CDR	L KYBD ITEM 2 EXEC  CDPS CRT (VAS59 PG B)  VERIFY OI DATA CYAN	
49-230		CDPS	CISL	PASS TFL FMT _____ + _____ LOAD COMPLETE  NOTE  NEXT STEP WILL SHOW PCMMU BITE BITS 11, 12 AND 15 FAIL OR TOGGLING IF PAYLOAD IS POWERED DOWN.	
49-231		CISL	CRT	(SAQ04/SWQ01)  PCMMU PCM 1 ON FORMAT _____ PROG BITE 1-14 GOOD MDM WRAP (ALL) GOOD MTU GMT ADVANCING	
49-232		CISL	JISE	VERIFY DECOM LOCK ON OI PCM 1 FMT LDR _____ MDM WRAPS DYNAMIC GMT ADVANCING	
49-233		CISL	JRPS	STOP STRIP CHARTS. CONTINUE MAG TAPE RECORDING OF OI 64 KBS DATA THRU T-0.	
49-234		CDPS	CDR	L KYBD ITEM 1 EXEC RESUME  CDPS CRT (VAS59 PG B)  VERIFY 129 CYAN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-235				CISL CRT (SAQ04/SWQ01)  PCMMU PCM 1 ON FORMAT 129 FIXED BITE 1-14 GOOD MDM WRAP (ALL) GOOD MTU GMT ADVANCING	
49-236		CDPS	OTC	FINAL TELEMETRY LOADS FOR FLIGHT COMPLETE.	
49-237				COMPLETION OF PREVIOUS 38 STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD S00FA0.301-1R  11. FINAL PCMMU TELEMETRY LOADS ----- FOR FLIGHT COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM 12. DDU, FLIGHT CNTL,  
 AND HUD POWER UP AND SELFTEST  
 FOR INITIAL AND SUBSEQUENT  
 LAUNCH ATTEMPTS.

12. DDU, FLIGHT CNTL, & HUD  
 -----  
 PWR UP & SELFTEST  
 -----

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

49-238		CDPS CDR		PANEL F6 DATA BUS SW - 3 AIR DATA SW - NAV ADI ATTITUDE SW - REF ERROR SW - MED RATE SW - MED HSI SELECT MODE SW - ENTRY SOURCE TACAN/NAV/MLS SW - NAV 1/2/3 SW - 1	
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49-239		CDPS CDR		PANEL F7 RADAR ALTM SW - 1	
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49-240		CDPS PLT		PANEL F8 DATA BUS SW - 4 AIR DATA SW - NAV ADI ATTITUDE SW - REF ERROR SW - MED RATE SW - MED HSI SELECT MODE SW - ENTRY SOURCE TACAN/NAV/MLS SW - NAV 1/2/3 SW - 2 RDR ALTM SW - 2	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-241		CDPS	MS1	PANEL A6U DATA BUS SW - 1 ADI ATTITUDE SW - INRTL ERROR SW - MED RATE SW - MED	
49-242		CODS		CURSOR CNTL (SAS25 PG B) DED DISPLAYS SYS MONITOR (VWS48) XMIT CURSOR KEY - PRESS	
NOTE					
INSTR PWR SW MAY BE IN FLT/MPS AND INSTR L/CTR CB MAY BE CLOSED DUE TO MPS AFT CONFIDENCE TESTING (V9018.001).					
49-243		CODS	CDR	PANEL F6 INSTRUMENT POWER SW - OFF  ADI OFF FLAG EXTENDED  AMI ALPHA OFF FLAG EXTENDED AMI ACCEL OFF FLAG EXTENDED AMI M/VEL OFF FLAG EXTENDED AMI EAS OFF FLAG EXTENDED  AVVI ALT ACCEL OFF FLAG EXTENDED AVVI ALT RATE OFF FLAG EXTENDED AVVI ALT OFF FLAG EXTENDED AVVI ALT RDR OFF FLAG EXTENDED  HSI OFF FLAG EXTENDED HSI BRG FLAG EXTENDED HSI GS FLAG EXTENDED HSI CDI FLAG EXTENDED	
49-244		CODS	CDR	PANEL F7 SPI OFF FLAG EXTENDED	
49-245		CODS	CDR	PANEL O14 ROW E MN A DDU LEFT CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.		
49-246		CODS	CRT	(VWS48 PG B)			
			DDU	GOOD	P/SA	P/SB	P/SC
			1	ON	OFF	OFF	OFF
49-247		CODS	PLT	PANEL O15 ROW E MN B DDU LEFT CB - CLOSE			
49-248		CODS	CRT	(VWS48 PG B)			
			DDU	GOOD	P/SA	P/SB	P/SC
			1	ON	OFF	OFF	OFF
49-249		CODS	CDR	PANEL O14 ROW E MN A INST L/CTR CB - CLOSE			
49-250		CODS	CDR	PANEL F6 INSTRUMENT POWER SW - FLT/MPS			
49-251		CODS	CDR	PANEL F7 FLT CNTLR POWER SW - ON			

NOTE

P/S A, B AND C GOOD  
 INDICATIONS SHOULD BE  
 IGNORED FOR 3.0 SEC AFTER  
 FLT CNTLR POWER SW ON.

49-252		CODS	CRT	(VWS48 PG B)			
			DDU	GOOD	P/SA	P/SB	P/SC
			1	ON	ON	ON	ON



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-253		CODS	PLT	PANEL F8 INSTRUMENT POWER SW - OFF  ADI OFF FLAG EXTENDED  AMI ALPHA OFF FLAG EXTENDED AMI ACCEL OFF FLAG EXTENDED AMI M/VEL OFF FLAG EXTENDED AMI EAS OFF FLAG EXTENDED  AVVI ALT ACCEL OFF FLAG EXTENDED AVVI ALT RATE OFF FLAG EXTENDED AVVI ALT OFF FLAG EXTENDED AVVI ALT RDR OFF FLAG EXTENDED  HSI OFF FLAG EXTENDED HSI BRG FLAG EXTENDED HSI GS FLAG EXTENDED HSI CDI FLAG EXTENDED	
49-254		CODS	PLT	PANEL O15 ROW E MN B DDU RIGHT CB - CLOSE	
49-255		CODS	CRT	(VWS48 PG B)  DDU      GOOD      P/SA      P/SB      P/SC 2        ON        OFF        OFF        OFF	
49-256		CODS	PLT	PANEL O16 ROW E MN C DDU RIGHT CB - CLOSE	
49-257		CODS	CRT	(VWS48 PG B)  DDU      GOOD      P/SA      P/SB      P/SC 2        ON        OFF        OFF        OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-258		CODS	PLT	PANEL O15 ROW E MN B INST RIGHT CB - CLOSE	
49-259		CODS	PLT	PANEL F8 INSTRUMENT POWER SW - ON	
49-260		CODS	PLT	PANEL F8 FLT CNTLR POWER SW - ON	
NOTE					
P/S A, B, AND C, GOOD INDICATIONS SHOULD BE IGNORED FOR 3.0 SEC AFTER FLT CNTLR POWER SW ON.					
49-261		CODS	CRT	(VWS48 PG B)	
			DDU	GOOD	P/SA
			2	ON	ON
					P/SB
					ON
					P/SC
					ON
49-262		CODS	MS1	AFT ADI ADI OFF FLAG EXTENDED	
49-263		CODS	PLT	PANEL O16 ROW E MN C DDU AFT CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.		
49-264		CODS	CRT	(VWS48 PG B)			
			DDU	GOOD	P/SA	P/SB	P/SC
			3	ON	OFF	OFF	OFF
49-265		CODS	CDR	PANEL O14 ROW E MN A DDU AFT CB - CLOSE			
49-266		CODS	CRT	(VWS48 PG B)			
			DDU	GOOD	P/SA	P/SB	P/SC
			3	ON	OFF	OFF	OFF
49-267		CODS	MS1	PANEL A6U FLT CNTLR POWER SW - ON			
NOTE							
P/S A, B, AND C GOOD INDICATIONS SHOULD BE IGNORED FOR 3.0 SEC AFTER FLT CNTLR POWER SW ON.							
49-268		CODS	CRT	(VWS48 PG B)			
			DDU	GOOD	P/SA	P/SB	P/SC
			3	ON	ON	ON	ON

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

EXECUTION OF DYNAMIC DRIVE WHILE OTHER I/O PROCESSES ARE ENABLED (SUCH AS SRB I/O, HDA OR LDB) MAY CAUSE DOWNLIST CYCLE WRAPS AND RESULTANT GPC ERRORS TO OCCUR. PROBLEM RESULTS FROM DATA WRITES TO SPI, WHICH ARE DONE AT A HIGHER PRIORITY THAN DOWNLIST PROCESSING. SPI WRITES, COUPLED WITH HDA, LDB AND SRB I/O ARE ENOUGH ACTIVITY TO PREVENT DOWNLIST FROM COMPLETING, RESULTING IN DOWNLIST CYCLE WRAPS AND MOMENTARY LOSS OF DOWNLIST.

49-269		CDPS	OTC	HDA WILL BE DISABLED FOR APPROXIMATELY 10 MIN FOR DURATION OF DEDICATED DISPLAYS DYNAMIC DRIVE TEST.	
49-270		CODS	CDR	PANEL C2 LEFT CRT SEL SW - 1  CRT 1  MAJ FUNCT SW - GNC	
49-271		CODS	CDR	L KYBD SPEC 100 PRO  CRT 1  GTS DISPLAY DED DISP FWD 18*	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-272		CODS	CDR	L KYBD ITEM 2 EXEC  CRT 1  HDA CONTROL INH 2*  L KYBD ITEM 24 EXEC  CRT 1  DED DISP DRIVE 24 *	
49-273		CODS		RECORD START TIME OF DYNAMIC DRIVE  TIME _____GMT	
49-274		CODS	CDR	PANEL F6 ADI OFF FLAG OUT OF VIEW  AMI ALPHA OFF FLAG OUT OF VIEW AMI ACCEL OFF FLAG OUT OF VIEW AMI M/VEL OFF FLAG OUT OF VIEW AMI EAS OFF FLAG OUT OF VIEW  AVVI ALT ACCEL OFF FLAG OUT OF VIEW AVVI ALT RATE OFF FLAG OUT OF VIEW AVVI ALT OFF FLAG OUT OF VIEW AVVI ALT RDR OFF FLAG OUT OF VIEW  HSI OFF FLAG OUT OF VIEW HSI BRG FLAG OUT OF VIEW HSI GS FLAG OUT OF VIEW HSI CDI FLAG OUT OF VIEW HSI PRI MILES NOT BARBERPOLE HSI SEC MILES NOT BARBERPOLE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-275		CODS	CDR	PANEL F7 SPI OFF FLAG OUT OF VIEW	
49-276		CODS	PLT	PANEL F8 ADI OFF FLAG OUT OF VIEW  AMI ALPHA OFF FLAG OUT OF VIEW AMI ACCEL OFF FLAG OUT OF VIEW AMI M/VEL OFF FLAG OUT OF VIEW AMI EAS OFF FLAG OUT OF VIEW  AVVI ALT ACCEL OFF FLAG OUT OF VIEW AVVI ALT RATE OFF FLAG OUT OF VIEW AVVI ALT OFF FLAG OUT OF VIEW AVVI ALT RDR OFF FLAG OUT OF VIEW  HSI OFF FLAG OUT OF VIEW HSI BRG FLAG OUT OF VIEW HSI GS FLAG OUT OF VIEW HSI CDI FLAG OUT OF VIEW HSI PRI MILES NOT BARBERPOLE HSI SEC MILES NOT BARBERPOLE	
49-277		CODS	MS1	AFT ADI ADI OFF FLAG OUT OF VIEW	
NOTE					
WAIT UNTIL DYNAMIC DRIVE HAS BEEN ACTIVE FOR AT LEAST FIVE MINUTES BEFORE PROCEEDING.					
49-278		CODS	CDR	PANEL F6  ADI BALL, NEEDLES, POINTERS MOVING SMOOTHLY AMI METERS MOVING SMOOTHLY AVVI METERS MOVING SMOOTHLY HSI POINTERS MOVING SMOOTHLY	
49-279		CODS	CDR	PANEL F7 SPI POINTERS MOVING SMOOTHLY	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-280		CODS	PLT	PANEL F8 ADI BALL, NEEDLES, POINTERS MOVING SMOOTHLY AMI METERS MOVING SMOOTHLY AVVI METERS MOVING SMOOTHLY HSI POINTERS MOVING SMOOTHLY	
49-281		CODS	MS1	AFT ADI ADI BALL, NEEDLES, POINTERS MOVING SMOOTHLY	
49-282		CODS	CDR	L KYBD ITEM 23 EXEC  CRT 1  DED DISP OFF 23*	
49-283		CODS	CDR	L KYBD ITEM 1 EXEC  CRT 1  HDA CONTROL ENA1*	
49-284		CODS		RECORD STOP TIME OF DYNAMIC DRIVE  TIME _____ GMT	
49-285		CODS	OTC	HDA HAS BEEN ENABLED.	
49-286		CODS	CDR	L KYBD ITEM 21 EXEC  CRT 1  DED DISP LOW 21*	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

FOLLOWING STEPS CALL UP DDC  
ECP TO INITIALIZE DEDICATED  
DISPLAY READINGS TO ZERO  
(AMI ACCEL TO 32.2 FPS2)

- |        |  |      |   |  |  |
|--------|--|------|---|--|--|
| 49-287 |  | CODS | CONSOLE KYBD<br>GPCC DDC<br>XMIT CMD KEY - PRESS  |  |  |
|        |  |      | CRT (\$GM)  |  |  |
|        |  |      | DEDICATED DISPLAY CHECKOUT ECP  |  |  |
| 49-288 |  | CODS | CURSOR CNTL (\$GM)<br>POSITION CURSOR OVER DW40 VEHICLE ACCEL<br>PARAMETER DEFAULT VALUE OF 0 |  |  |
| 49-289 |  | CODS | CONSOLE KYBD (\$GM)<br>32.2<br>XMIT CURSOR KEY - PRESS  |  |  |
|        |  |      | CRT (\$GM)  |  |  |
|        |  |      | "PARAMETER ACCEPTED"  |  |  |
| 49-290 |  | CODS | CONSOLE KYBD (\$GM)<br>PFK-1 KEY - PRESS (EXECUTE)  |  |  |
|        |  |      | CRT (\$GM)  |  |  |
|        |  |      | "REQUEST SUCCESSFULLY COMPLETED"  |  |  |



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

FOLLOWING FOUR STEPS ARE INTENDED TO VERIFY DDC COMMAND RECEIPT AND ARE NOT INTENDED TO CHECK DISPLAY TOLERANCES. INSTRUMENT READINGS ARE APPROXIMATE.

49-291		CODS	CDR	PANEL F6 AMI ALPHA 0 DEG AMI ACCEL 32.2 FPS2 (APPROX) AMI M/VEL 0 MACH AMI EAS 0 KT	
49-292		CODS	CDR	PANEL F6 AVVI ALT ACCEL 0 FPS2 AVVI ALT RATE 0 FPS AVVI ALT 0 FT AVVI ALT RDR 0 FT	
49-293		CODS	PLT	PANEL F8 AMI ALPHA 0 DEG AMI ACCEL 32.2 FPS2 AMI M/VEL 0 MACH AMI EAS 0 KT	
49-294		CODS	PLT	PANEL F8 AVVI ALT ACCEL 0 FPS2 AVVI ALT RATE 0 FPS AVVI ALT 0 FT AVVI ALT RDR 0 FT	
49-295		CODS	CDR	L KYBD ITEM 23 EXEC  CRT 1  DED DISP OFF 23*	
49-296		CODS	CDR	L KYBD RESUME	
49-297		CODS		APPL PAGE (VWS48 PG B) PFK 15 KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NEXT TWO STEPS REMOVE FLIGHT  
INSTRUMENT POWER TO REDUCE  
INCIDENCE OF INSTRUMENT FOGGING.  
POWER WILL BE REAPPLIED DURING  
PRE-ENGRESS SWITCH RECONFIG  
(T-3HR).

49-298		CDPS	CDR	PANEL F6 INSTRUMENT POWER SW - OFF	
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49-299		CDPS	PLT	PANEL F8 INSTRUMENT POWER SW - OFF	
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HUD NO. 1 (LEFT) POWER UP & SELF TEST

CAUTION

PDU SHALL BE OPERATED AT  
MINIMUM ALLOWABLE BRIGHTNESS  
SETTING. ALL GLASS SURFACES  
ARE OPTICALLY COATED AND  
MUST NOT BE TOUCHED.

49-300		CODS	CDR	PANEL F3 HUD (LEFT) POWER SW - OFF	
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49-301		CODS	CDR	PANEL F6 HUD (LEFT) DIM/BRT SW - DIM (CCW) MODE SW - NORM BRT SW - MAN DAY	
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49-302		CODS	CDR	PANEL F3 HUD (LEFT) POWER SW - ON	
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49-303		CODS	CDR	PANEL F6 HUD (LEFT) DIM/BRT SW - ADJUST TO MIN BRIGHTNESS FOR ADEQUATE VISIBILITY PDU (LEFT) VERIFY BIG X (WITHIN TWO MIN)	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-304				CODS CRT (SA-PAGE)  HUD PWR/BITE STAT CDR ON	

NOTE

TEST PATTERN DISPLAYED ON PDU IS DYNAMIC AND RUNS FOR APPROX 5 SECONDS UPON INITIATION OF TEST MODE. TEST MODE IS ENTERED BY PLACING MODE SWITCH ON PANEL F6A9 IN TEST POSITION. IN ORDER TO PERFORM ENTIRE TEST, MODE SELECT SWITCH MUST REMAIN IN TEST POSITION UNTIL TERMINATION INDICATOR "COMPLETE" APPEARS ON PDU. TEST MAY BE REPEATED AS NECESSARY BY PLACING MODE SWITCH ON PANEL F6A9 TO NORMAL THEN TEST POSITIONS.

COMPLETED TEST WILL DISPLAY TEST PATTERN SYMBOLS (I.E. CIRCLE INSIDE OF DIAMOND) IN ALL FOUR QUADRANTS, AND WORD "COMPLETE" WILL BE PRESENT. CIRCLES MAY NOT CLOSE COMPLETELY, AND DIAMOND LINE SEGMENTS MAY NOT MEET OR CROSS AT CORNERS. PORTIONS OF THE SMALL SYMBOL (U/R QUADRANT) MAY BE MISSING. THIS IS ACCEPTABLE AS LONG AS SOME PORTION OF THE SMALL SYMBOL IS VISIBLE.

49-305		CODS CDR	PANEL F6 HUD (LEFT) MODE SW - TEST PDU (LEFT) VERIFY TEST PATTERN DYNAMIC WITH DISPLAY SYMBOLOGY MOVING IN CONTINUOUS FASHION UNTIL "COMPLETE" APPEARS, AT WHICH TIME DISPLAY BECOMES STATIC.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-306		CODS	CDR	PANEL F6 HUD (LEFT) MODE SW - NORM PDU (LEFT) VERIFY BIG X	
49-307		CODS	CDR	PANEL F6 HUD (LEFT) DIM/BRT SW - ROTATE FROM DIM (CCW) TO BRT (CW) AND VERIFY PDU DISPLAY INTENSITY VARIES ACCORDINGLY	
49-308		CODS	CDR	PANEL F6 HUD (LEFT) BRIGHT SW - AUTO DIM/BRT SW - ADJUST TO MIN BRIGHTNESS WITH PDU DISPLAY STILL VISIBLE	
49-309		CODS	CDR	LEFT PDU  DIRECT LIGHT FROM FLASHLIGHT OR LIGHT STICK INTO AMBIENT LIGHT DETECTOR (MOUNTED ON TOP OF PDU, FORWARD OF COMBINER) AND VERIFY PDU DISPLAY INTENSITY INCREASES.  HUD NO. 1 POWER DOWN -----	
49-310		CODS	CDR	PANEL F6 HUD (LEFT) DIM/BRT SW - MID RANGE MODE SW - NORM BRT SW - MAN/DAY	
49-311		CODS	CDR	PANEL F3 HUD (LEFT) POWER SW - OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
HUD NO. 2 (RIGHT) POWER UP & SELF TEST					
-----					
CAUTION					
PDU SHALL BE OPERATED AT MINIMUM ALLOWABLE BRIGHTNESS SETTING. ALL GLASS SURFACES ARE OPTICALLY COATED AND MUST NOT BE TOUCHED.					
49-312		CODS	PLT	PANEL F3 HUD (RIGHT) POWER SW - OFF	
49-313		CODS	PLT	PANEL F8 HUD (RIGHT) DIM/BRT SW - DIM (CCW) MODE SW - NORM BRT SW - MAN DAY	
49-314		CODS	PLT	PANEL F3 HUD (RIGHT) POWER SW - ON	
49-315		CODS	PLT	PANEL F8 HUD (RIGHT) DIM/BRT SW - (ADJUST TO MIN BRIGHTNESS FOR ADEQUATE VISIBILITY) PDU (RIGHT) VERIFY BIG X (WITHIN TWO MIN)	
49-316		CODS	CRT	(SA-PAGE)  HUD PWR/BITE STAT PLT ON	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

TEST PATTERN DISPLAYED ON PDU IS DYNAMIC AND RUNS FOR APPROX 5 SECONDS UPON INITIATION OF TEST MODE. TEST MODE IS ENTERED BY PLACING MODE SWITCH ON PANEL F8A9 IN TEST POSITION. IN ORDER TO PERFORM ENTIRE TEST, MODE SELECT SWITCH MUST REMAIN IN TEST POSITION UNTIL TERMINATION INDICATOR "COMPLETE" APPEARS ON PDU. TEST MAY BE REPEATED AS NECESSARY BY PLACING MODE SWITCH ON PANEL F8A9 TO NORMAL THEN TEST POSITIONS.

COMPLETED TEST WILL DISPLAY TEST PATTERN SYMBOLS (I.E. CIRCLE INSIDE OF DIAMOND) IN ALL FOUR QUADRANTS, AND WORD "COMPLETE" WILL BE PRESENT. CIRCLES MAY NOT CLOSE COMPLETELY, AND DIAMOND LINE SEGMENTS MAY NOT MEET OR CROSS AT CORNERS. PORTIONS OF THE SMALL SYMBOL (U/R QUADRANT) MAY BE MISSING. THIS IS ACCEPTABLE AS LONG AS SOME PORTION OF THE SMALL SYMBOL IS VISIBLE.

49-317

CODS CDR PANEL F8  
HUD (RIGHT)  
MODE SW - TEST  
PDU (RIGHT)  
VERIFY TEST PATTERN  
DYNAMIC WITH DISPLAY SYMBOLOGY  
MOVING IN CONTINUOUS FASHION  
UNTIL "COMPLETE" APPEARS AT  
WHICH TIME DISPLAY BECOMES  
STATIC.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-318		CODS	CDR	PANEL F8 HUD (RIGHT) MODE SW - NORM PDU (RIGHT) VERIFY BIG X	
49-319		CODS	PLT	PANEL F8 HUD (RIGHT) DIM/BRT SW - ROTATE FROM DIM (CCW) TO BRT (CW) AND VERIFY PDU DISPLAY INTENSITY VARIES ACCORDINGLY	
49-320		CODS	PLT	PANEL F8 HUD (RIGHT) BRIGHT SW - AUTO DIM/BRT SW - ADJUST TO MIN BRIGHTNESS WITH PDU DISPLAY STILL VISIBLE	
49-321		CODS	PLT	RIGHT PDU  DIRECT LIGHT FROM FLASHLIGHT OR LIGHT STICK INTO AMBIENT LIGHT DETECTOR (MOUNTED ON TOP OF PDU, FORWARD OF COMBINER) AND VERIFY PDU DISPLAY INTENSITY INCREASES.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				HUD NO. 2 POWER DOWN -----	
49-322		CODS	PLT	PANEL F8 HUD (RIGHT) DIM/BRT SW - MID RANGE MODE SW - NORM BRT SW - MAN/DAY	
49-323		CODS	PLT	PANEL F3 HUD (RIGHT) POWER SW - OFF	
49-324		CODS	OTC 132	DDU, FLIGHT CNTL, AND HUD POWER UP AND SELF TEST COMPLETE.  12. DDU, FLIGHT CNTL, & HUD ----- PWR UP & SELFTEST COMPLETE -----	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM 13. TRANSITION TO G9 RS  
 FOR INITIAL LAUNCH ATTEMPT.

13. TRANSITION TO G9 RS

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

NOTE

PERFORM NEXT NINE STEPS IF  
 DDU3 IS POWERED ON.

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

49-325		CDPS		CURSOR CNTL (SAS25 PG B) DED DISPLAYS SYS MONITOR (VWS48) XMIT CURSOR KEY - PRESS				
					NOT PERFORMED _____			
49-326		CODS MS1		PANEL A6U FLT CNTLR POWER SW - OFF				
					NOT PERFORMED _____			
49-327		CODS CRT (VWS48 PG B)						
			DDU	GOOD	P/SA	P/SB	P/SC	
			3	ON	OFF	OFF	OFF	
								NOT PERFORMED _____
49-328		CODS PLT		PANEL O16 ROW E MN C DDU AFT CB - OPEN				
								NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.		
49-329			CODS CRT	(VWS48 PG B)			
			DDU	GOOD	P/SA	P/SB	P/SC
			3	ON	OFF	OFF	OFF
					NOT PERFORMED		
49-330		CODS CDR		PANEL O14			
				ROW E			
				MN A			
			DDU				
				AFT CB - OPEN			
					NOT PERFORMED		
49-331			CODS CRT	(VWS48 PG B)			
			DDU	GOOD	P/SA	P/SB	P/SC
			3	OFF	OFF	OFF	OFF
					NOT PERFORMED		
49-332		CODS MS1		AFT ADI			
				ADI OFF FLAG EXTENDED			
					NOT PERFORMED		
49-333			CDPS APPL	PAGE (VWS48 PG B)			
				PFK 15 KEY - PRESS			
					NOT PERFORMED		
49-334		CDPS OTC		MASTER ALARM WILL OCCUR			
		132	CISL	DURING GPC IPL.			
				NOTE			
				NOTED REQUIREMENT IS			
				SATISFIED BY FOLLOWING			
				STEPS.			
				OMRS V72CA0.050-A			
49-335			CDPS CRT	(VAS59 PG B)			
				TCS STATUS INACTIVE			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-336		CDPS	CDR	PANEL C2A2 LEFT CRT SEL SW - 1	
49-337		CDPS	CDR	PANEL C2A2  CRT 1 MAJ FUNC SW - GNC  CRT 2 MAJ FUNC SW - GNC  CRT 3 MAJ FUNC SW - GNC	
49-338		CDPS	CDR	PANEL O6 IPL SOURCE SW - MMU1	
49-339		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER MODE 1 SW - STBY 1 TB BP 1 SW - HALT  2 SW - HALT 3 SW - HALT 4 SW - HALT  OUTPUT 1 SW - NORMAL 2 SW - NORMAL 3 SW - NORMAL 4 SW - NORMAL  POWER 1 SW - ON (VERIFY) 2 SW - OFF, THEN ON 3 SW - OFF, THEN ON 4 SW - OFF, THEN ON	
49-340		CDPS	CDR	PANEL C3 BFC CRT DISPLAY SW - OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-341		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER INITIAL PROGRAM LOAD 1 PB - PRESS, REL MODE 1 TB IPL THEN BP (WITHIN 2 MIN) 1 SW - STBY 1 TB RUN (WITHIN 2 MIN) 1 SW - RUN OUTPUT 1 TB GRAY	
49-342		CDPS	CRT	(VAS59 PG B)  DL FMT 20 ACTIVE GPC 1 TIME SOURCE A1	
49-343		CDPS	CRT	(VAS97 PG B)  VERIFY GPC ERROR (PMU TIME INVALID) DID NOT OCCUR WHEN GPC 1 WAS BROUGHT TO RUN.	
49-344		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER INITIAL PROGRAM LOAD 2 PB - PRESS, REL MODE 2 TB IPL THEN BP (WITHIN 2 MIN) 2 SW - STBY 2 TB RUN (WITHIN 2 MIN) 2 SW - RUN OUTPUT 2 TB GRAY	
49-345		CDPS	CRT	(VAS59 PG B)  VERIFY GPC2 JOINS CS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-346		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER INITIAL PROGRAM LOAD 3 PB - PRESS, REL MODE 3 TB IPL THEN BP (WITHIN 2 MIN) 3 SW - STBY 3 TB RUN (WITHIN 2 MIN) 3 SW - RUN OUTPUT 3 TB GRAY	
49-347				CDPS CRT (VAS59 PG B)  VERIFY GPC 3 JOINS CS	
49-348		CDPS	CDR	PANEL O6 GENERAL PURPOSE COMPUTER INITIAL PROGRAM LOAD 4 PB - PRESS, REL MODE 4 TB IPL THEN BP (WITHIN 2 MIN) 4 SW - STBY 4 TB RUN (WITHIN 2 MIN) 4 SW - RUN OUTPUT 4 TB GRAY	
49-349				CDPS CRT (VAS59 PG B)  VERIFY GPC 4 JOINS CS	
49-350		CDPS	CDR	PANEL O6 IPL SOURCE SW - OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-351		CDPS	CDR	CRT 1 9011/ /GPC MEMORY	
NOTE					
PERFORM NEXT STEP IF ORBITER SOFTWARE ALERT NOTICE INDICATES A TAPE ANOMALY PRESENT ON MMU1 OR MMU2 AREA 1 G1, G3, OR G9.					
IF MMU 1 AND MMU 2 AREA 2 G1, G3 AND G9 CONTAIN NO TAPE ANOMALIES, SELECT AREA 2. ELSE SELECT AREA 3.					
49-352		CDPS	CDR	LEFT KYBD ITEM 53+___ (AREA NO.) EXEC  CRT 1 GNC 53 ___ (AREA NO.)	
					NOT PERFORMED _____
49-353		CDPS	CDR	L KYBD MSG RESET OPS 901 PRO  CRT 1  9011/GPC MEMORY	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-354				CDPS CRT (VAS59 PG B)  VERIFY GPC'S 1,2,3,4 IN RS AND FORMAT 44 ACTIVE.	
49-355				NOTED REQUIREMENT COMPLETE.  OMRSD V72CA0.050-A	
49-356		CDPS	CDR	L KYBD MSG RESET SPEC 100 PRO  CRT 1  GTS DISPLAY	
49-357		CDPS	CDR	L KYBD ITEM 14 EXEC	
NOTE					
PERFORM NEXT STEP IF FORMAT 60 IS REQUIRED FOR PAYLOAD SUPPORT (REF OPERATIONS SUPPORT SETUP 24).					
49-358		CDPS	CDR	L KYBD ITEM 12 + 60 EXEC  ITEM 13 EXEC  CDPS CRT (VAS59 PG B)  VERIFY GPC'S 1,2,3,4 IN RS GNC9 AND FMT 60 ACTIVE	
NOT PERFORMED _____					
49-359		CDPS	CDR	L KYBD RESUME	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-360		CDPS	CDR	L KYBD SPEC 2 PRO  CRT 1  TIME DISPLAY	
49-361		CDPS	CDR	L KYBD ITEM 2 EXEC  CRT 1  MET 2*	
49-362		CDPS	CDR	L KYBD RESUME  CRT 1  9011 GPC MEMORY	
49-363		CDPS	CDR	L KYBD ITEM 48 EXEC	
49-364		CDPS		CURSOR CNTL (SAS01 PG B) ACT CYCLIC BSR READ XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
49-365		CDPS		CRT (SA PG)  CYC BSR - ACT	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT THREE STEPS  
 IF SRB'S POWERED UP (RESTARTS  
 SRB POLLING).

49-366		CDPS	CURSOR CNTL (SAS01 PG B) DPS XMIT CURSOR KEY - PRESS		
			CURSOR CNTL (SAS01 PG B) SRB READ PORT 1 & 2 XMIT CURSOR KEY - PRESS		
			PFK2 KEY - PRESS	NOT PERFORMED	_____
49-367		CDPS	CRT (BSM06 PG A)		
			NO UNEXPLAINED BSR'S RECORDED "BSM06 TERMINATED"		
				NOT PERFORMED	_____
49-368		CDPS	CURSOR CNTL (SAS01 PG B) SRB DPS OVERVIEW (BKM01) XMIT CURSOR KEY - PRESS		
			CRT (SAS01 PG B)		
			SRB POLLING UP SRB PROM BYP OK		
			PFK 2 KEY - PRESS	NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-369		CDPS		CONSOLE KYBD ISSU N72IV063D #1001 XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS  REPEAT FOR FOLLOWING:  N72IV064D N72IV065D N72IV066D	
49-370		CDPS	OTC 132	GPC'S 1,2,3,4 IN G9 RS,  DOWNLIST FMT _____ (44 OR 60)  13. TRANSITION TO G9 RS COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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14. LCC MONITOR ACTIVATION/LDB  
-----  
REDUNDANCY CHECK  
-----

NOTE

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

PERFORM NEXT STEP IF CYCLIC  
BSR READ IS ACTIVE.

49-371		CDPS		CURSOR CNTL (SAS01 PG B) INH CYCLIC BSR READ XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT (SA PAGE) CYC BSR - INH	
					NOT PERFORMED _____

49-372		CDPS		CURSOR CNTL (SAS01 PG B) DPS XMIT CURSOR KEY - PRESS  CURSOR CNTL (SAS01 PG B) ACTIVATE DPS EMONS XMIT CURSOR KEY - PRESS  CRT (SA PAGE) DPS EMONS ACTIVATED (WITHIN 5 MIN)	
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49-373		CDPS		CURSOR CNTL (SAS01 PG B) MDM BSR READ PROGRAM (VAS93) XMIT CURSOR KEY - PRESS  PFK 2 KEY - PRESS	
--------	--	------	--	--	--

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-374		CDPS		APPL PAGE (VAS93 PG B) PFK 4 KEY - PRESS  CRT (VAS93 PG B) NO UNEXPLAINED BSR'S  NOTE  NOTED REQUIREMENT IS SATISFIED BY THE COMPLETION OF FOLLOWING EIGHT STEPS.  OMRS S00FB0.230-1R	
49-375		CDPS		CRT (SAS05 SA-PG) VERIFY LH & RH SRB POWER IS UP.	
49-376		CDPS		CURSOR CNTL (VAS93 PG B) PORT _____ (ACTIVE LDB NO.) XMIT CURSOR KEY - PRESS  APPL PAGE (VAS93 PG B) PFK 5 KEY - PRESS  CRT (VAS93 PG B) NO UNEXPLAINED BSR'S	
49-377		CDPS		CONSOLE KYBD GPCC LDBC XMIT CMD KEY - PRESS  NOTE  IN NEXT STEP, SWITCH TO INACTIVE LDB.	
49-378		CDPS		CURSOR CNTL (\$GM) POLL GSE ON LDB NO. _____ XMIT CURSOR KEY - PRESS  PFK 1 KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-379		CDPS		CURSOR CNTL (VAS93 PG B) PORT _____ (ACTIVE LDB NO.) XMIT CURSOR KEY - PRESS  APPL PAGE (VAS93 PG B) PFK 5 KEY - PRESS  CRT (VAS93 PG B) NO UNEXPLAINED BSR'S	
49-380		CDPS		APPL PAGE (VAS93 PG B) PFK 15 KEY - PRESS	
NOTE					
PERFORM NEXT TWO STEPS IF CURRENTLY POLLING ON LDB2.					
LDB POLLING IS TO REMAIN ON LDB1 FOR REMAINDER OF COUNTDOWN.					
49-381		CDPS		CONSOLE KYBD GPCC LDBC XMIT CMD KEY - PRESS NOT PERFORMED	_____
49-382		CDPS		CURSOR CNTL (\$GM) POLL GSE ON LDB NO. 1 XMIT CURSOR KEY - PRESS  PFK 1 KEY - PRESS NOT PERFORMED	_____
49-383				COMPLETION OF THE PREVIOUS EIGHT STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD S00FB0.230-1R	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IMU BYPASS WILL BE  
ANNUNCIATED DURING LCC  
MONITOR ACTIVATION IF  
IMU'S ARE NOT IN OPERATE.

BFS I/O TERM B WILL BE  
ANNUNCIATED IF BFS IS  
ACTIVE AND OUTPUT SWITCH  
IS IN NORMAL.

49-384		CDPS		CURSOR CNTL (SAS01, PG B) DPS INIT DISPLAY (SAS01) XMIT CURSOR KEY - PRESS	
				CURSOR CNTL (SAS01, PG B) TERMINATE OPS MGR 1 (SAS07) XMIT CURSOR KEY - PRESS	
				CONSOLE KYBD (SAS01 PG B) PFK 2 KEY - PRESS	

49-385		CDPS		CONSOLE KYBD VASP9 PERF PGM KEY - PRESS	
				CRT (VASP9, PG B) LCC MONITOR HOST PROGRAM	

NOTE

IN NEXT STEP, FILL IN BLANK  
WITH CONCURRENCY NUMBER  
(1-6) CCME S/W IS RUNNING IN.

49-386		CDPS		CURSOR CNTL (VASP9, PG B) ERROR NOTIF TO: _____A, _____B XMIT CURSOR KEY - PRESS	
				CRT (VASP9, PG B) PAGE _____A, _____B INHIBITED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-387		CDPS		CURSOR CNTL (VASP9, PG B) ACTIVATE LCC MONITORING XMIT CURSOR KEY - PRESS  CONSOLE KYBD (VASP9, PG B) PFK 1 KEY - PRESS	
				NOTE  ERROR MESSAGE WILL OCCUR IN NEXT STEP IF EMON NOTIFICATION FOR MSID'S ALREADY ACTIVE.	
49-388		CDPS		CONSOLE KYBD A SX V73X3050X1,OFF XMIT CMD KEY - PRESS  A SX V73X3051X1,OFF XMIT CMD KEY - PRESS	
49-389		CDPS	OTC	DPS LCC MONITOR ACTIVATION AND LDB REDUNDANCY CHECK COMPLETE.  14. LCC MONITOR ACTIVATION/LDB ----- REDUNDANCY CHECK -----	

OPERATION INSTRUCTIONS

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

NOTE

PERFORM 15. CONFIGURE FOR IMU  
MM1 CHECKPOINT IF MMU MUST BE  
CONFIGURED TO SUPPORT V1123.

15. CONFIGURE FOR IMU MM1

-----  
CHECKPOINT  
-----

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

49-390		CDPS CRT (VAS59 PG B)			
		MMU 1 ON			

49-391		CDPS CONSOLE KYBD			
		DEUE KEY - PRESS			
		DEST GN 1 LDBA			
		XMIT CMD KEY - PRESS			
		DEUE KEY - PRESS			
		SPEC 1 PRO			
		XMIT CMD KEY - PRESS			
		EXEC CMD KEY - PRESS			

49-392		CDPS CRT (VAS59 PG B)			
		DEU 1 DISP 0010			

49-393		CDPS CONSOLE KYBD			
		DEUE KEY - PRESS			
		ITEM 1 EXEC			
		XMIT CMD KEY - PRESS			
		EXEC CMD KEY - PRESS			
		DEUE KEY - PRESS			
		RESUME			
		XMIT CMD KEY - PRESS			
		EXEC CMD KEY - PRESS			

49-394		CDPS CGNC CONFIGURED FOR MM1 CHECKPOINT.			
		152			

15. CONFIGURE FOR IMU MM1

-----  
CHECKPOINT COMPLETE  
-----



OPERATION INSTRUCTIONS

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

NOTE

PERFORM 16. CONFIGURE FOR IMU  
MM2 CHECKPOINT IF MMU MUST  
BE CONFIGURED TO SUPPORT V1123.

16. CONFIGURE FOR IMU MM2

-----  
CHECKPOINT  
-----

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

49-395		CDPS CRT (VAS59 PG B)			
		MMU 2 ON			

49-396		CDPS CONSOLE KYBD			
		DEUE KEY - PRESS			
		DEST GN 1 LDBA			
		XMIT CMD KEY - PRESS			
		DEUE KEY - PRESS			
		SPEC 1 PRO			
		XMIT CMD KEY - PRESS			
		EXEC CMD KEY - PRESS			

49-397		CDPS CRT (VAS59 PG B)			
		DEU 1 DISP 0010			

49-398		CDPS CONSOLE KYBD			
		DEUE KEY - PRESS			
		ITEM 2 EXEC			
		XMIT CMD KEY - PRESS			
		EXEC CMD KEY - PRESS			
		DEUE KEY - PRESS			
		RESUME			
		XMIT CMD KEY - PRESS			
		EXEC CMD KEY - PRESS			

49-399		CDPS CGNC CONFIGURED FOR MM2 CHECKPOINT.			
		152			

16. CONFIGURE FOR IMU MM2

-----  
CHECKPOINT COMPLETE  
-----

OPERATION INSTRUCTIONS

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

NOTE

PERFORM 17. RESTORE ORIGINAL  
CONFIGURATION AFTER IMU CKPT  
IF MMU CONFIGURATION WAS  
CHANGED TO SUPPORT V1123.

17. RESTORE ORIGINAL CONFIGURATION  
-----  
AFTER IMU CKPT  
-----

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

49-400

CDPS CONSOLE KYBD  
DEUE KEY - PRESS  
DEST GN 1 LDBA  
XMIT CMD KEY - PRESS  
  
DEUE KEY - PRESS  
SPEC 1 PRO  
XMIT CMD KEY - PRESS  
EXEC CMD KEY - PRESS

49-401

CDPS CRT (VAS59 PG B)  
  
DEU 1 DISP 0010

49-402

CDPS CONSOLE KYBD  
DEUE KEY - PRESS  
ITEM 1 EXEC  
XMIT CMD KEY - PRESS  
EXEC CMD KEY - PRESS  
  
DEUE KEY - PRESS  
RESUME  
XMIT CMD KEY - PRESS  
EXEC CMD KEY - PRESS

49-403

CDPS CGNC ORIGINAL MMU CONFIGURATION RESTORED.  
152

17. RESTORE ORIGINAL CONFIGURATION  
-----  
AFTER IMU CKPT  
-----

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM 18. GMT AND MET  
 ADJUST IF COUNT SCRUBBED PRIOR  
 TO T-01H20M.

IF LPS TIME SOURCE CHANGES  
 FROM INTERNAL TCG CLOCK TO  
 EXTERNAL CLOCK, GMT DELTA  
 CHECK MUST BE REPERFORMED.

18. GMT AND MET ADJUST

NOT PERFORMED

NOTE

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

NOTED REQUIREMENT IS SATISFIED  
 BY THE COMPLETION OF FOLLOWING  
 15 STEPS.

OMRS S00FG0.085

49-404		CDPS		CONSOLE KYBD HOME CMD KEY - PRESS \$SYS PERF PGM KEY - PRESS  VERIFY TCG 1 OR 2 ACTIVE	
49-405		CDPS		CURSOR CNTL (\$SYS) TERMINATE XMIT CURSOR KEY - PRESS	
49-406		CDPS		CRT (VAS59, PG B) VERIFY RS TIME SOURCE = A1 VERIFY OIS FEP ACTIVE	
49-407		CDPS		CURSOR CNTL (SAS01 PG B) DPS XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
49-408		CDPS		CURSOR CNTL (SAS01 PG B) TIME UPDATE PROGRAM XMIT CURSOR KEY - PRESS  PFK2 KEY - PRESS	
49-409		CDPS		CURSOR CNTL (VAS58 PG B) DETERMINE LPS/GMT DELTA (NO UPDATE) XMIT CURSOR KEY - PRESS  CRT (VAS58 PG B) LPS/GMT DELTA IS ____ MILLISECONDS.	
NOTE					
IF DELTA IS 0 MS, DO NOT PERFORM NEXT TWO STEPS.					
49-410		CDPS		CURSOR CNTL (VAS58 PG B) SELECT ANOTHER OPTION XMIT CURSOR KEY - PRESS  CURSOR CNTL (VAS58 PG B) ADJUST GMT XMIT CURSOR KEY - PRESS	
					NOT PERFORMED _____
49-411		CDPS		CRT (VAS58 PG B)  VERIFY GMT ADJUST COMPLETE DELTA = 0 MS +/-1 MS VERIFY TIME SOURCE = A1	
					NOT PERFORMED _____
49-412		CDPS		CURSOR CNTL (VAS58 PG B) SELECT ANOTHER OPTION XMIT CURSOR KEY - PRESS	
49-413		CDPS		CURSOR CNTL (VAS58 PG B) DETERMINE MET/GMT DELTA (NO UPDATE) XMIT CURSOR KEY - PRESS  CRT (VAS58 PG B) MET/GMT DELTA IS ____ MILLISECONDS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

IF ABSOLUTE VALUE OF  
 MET/GMT DELTA IS GREATER  
 THAN 500 MS, PERFORM NEXT  
 TWO STEPS.

49-414		CDPS		CURSOR CNTL (VAS58 PG B) SELECT ANOTHER OPTION XMIT CURSOR KEY - PRESS	
				CURSOR CNTL (VAS58 PG B) SET MET = GMT XMIT CURSOR KEY - PRESS	
				NOT PERFORMED	_____
49-415		CDPS		CRT (VAS58 PG B)	
				MET UPDATE COMPLETE. ABSOLUTE VALUE OF DELTA IS LESS THAN 500 MS.	
				NOT PERFORMED	_____
49-416		CDPS		CURSOR CNTL (VAS58 PG B) TERMINATE VAS58 XMIT CURSOR KEY - PRESS	
49-417		CDPS	OTC	MTU/GMT ADJUSTMENT AND MET/GMT 212 ADJUSTMENT ARE COMPLETE.	
49-418				COMPLETION OF PREVIOUS 15 STEPS SATISFIES NOTED OMRS REQUIREMENT.	
				OMRSD S00FG0.085	
				18. GMT AND MET ADJUST COMPLETE	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM 19. DPS SECURING  
(SCRUB) FOR EXTENDED  
SCRUB/TURNAROUND.

19. DPS SECURING (SCRUB)  
-----

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

49-419				CDPS CURSOR CNTL (SAS01 PAGE B) DPS XMIT CURSOR KEY - PRESS  CURSOR CNTL (SAS01 PAGE B) DPS RECONFIGURATION (VAS90) XMIT CURSOR KEY - PRESS  PFK 2 - PRESS	
49-420				CDPS CURSOR CNTL (VAS90 PAGE B) QUICK NBAT MOD - GPC___ SMPLX (GPC1-4) XMIT CURSOR KEY - PRESS  CURSOR CNTL (VAS90 PAGE B) MOD NBAT - G9 XMIT CURSOR KEY - PRESS  CRT (VAS90 PAGE B)  VERIFY G9 NBAT ASSIGNED FOR SIMPLEX GPC (GREEN)	
49-421				CDPS CURSOR CNTL (VAS90 PAGE B) PRIMARY OPS TRANS - GNC9 XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF DOWNLIST  
FORMAT CHANGE REQUIRED TO  
SUPPORT VEHICLE OPERATIONS.

FORMAT TO SELECT IN NEXT  
STEP WILL BE PROVIDED BY OTC.

49-422		CDPS	APPL	PAGE (VAS90 PAGE B) PFK 7 - PRESS	
				CURSOR CNTL (VAS90 PAGE B) DOWNLIST FORMAT LOAD - FMT____ XMIT CURSOR KEY - PRESS	
				NOT PERFORMED	_____

NOTE

PERFORM NEXT STEP IF  
OI FORMAT 129 REQUIRED  
AND NOT CURRENTLY  
ACTIVE.

49-423		CDPS	APPL	PAGE (VAS90 PAGE B) PFK 8 - PRESS	
				CURSOR CNTL (VAS90 PAGE B) ACTIVATE FIXED 129 XMIT CURSOR KEY - PRESS	
				NOT PERFORMED	_____

49-424		CDPS	PFK	(VAS90) EXECUTE KEY - PRESS	
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49-425		CDPS	CRT	(VAS90 PAGE B) FOLLOW PROGRAM PROMPTS UNTIL 'SUCCESSFUL COMPLETION OF JOB' MESSAGE RECEIVED.	
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49-426		CDPS	PFK	(VAS90 PAGE B) TERMINATE KEY - PRESS	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF  
CYCLIC BSR READS ARE TO  
BE ACTIVATED.

49-427				CDPS CURSOR CNTL (SAS01 PG B) ACT CYCLIC BSR READ (VSSD4) XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  CRT (SA PAGE) CYC BSR - ACT	NOT PERFORMED _____
49-428		CDPS OTC 132		DPS CONFIGURED TO G9 SIMPLEX, FORMAT ____/____.  19. DPS SECURING (SCRUB) COMPLETE	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
50-000				MET INITIALIZATION AND SWITCH/ ----- CIRCUIT BREAKER CONFIGURATION -----	
NOTE					
DO NOT PERFORM THIS SEQUENCE FOR 24, 48, OR 72 HOUR TURNAROUND.					
ENTIRE SEQUENCE NOT PERFORMED _____					
50-001		OTC 132	CEPD CDR	PERFORM ORBITER MET INITIALIZATION AND SWITCH/CIRCUIT BREAKER CONFIGURATION. REPORT COMPLETION.	
MET INITIALIZATION -----					
50-002		CEPD 151	CDR	PANEL O14 ROW B MN A MISSION TIMER FWD CB - CLOSE EVENT TIMER AFT CB - CLOSE	
50-003		CEPD PLT		PANEL O15 ROW B MN B MISSION TIMER AFT CB - CLOSE EVENT TIMER FWD CB - CLOSE	
50-004		CEPD CDR		PANEL L4 ROW Q AC2 LIGHTING NUMERIC OS PH C CB - CLOSE	
ROW R AC1 NUMERIC FWD PH B CB - CLOSE					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
50-005		CEPD	PLT	PANEL O8 LIGHTING PANEL NUMERIC SW - (MIDWAY BETWEEN OFF AND BRIGHT)	
50-006		CEPD	MS1	PANEL A6U ORBIT STATION LIGHTING NUMERIC SW - (MIDWAY BETWEEN OFF AND BRIGHT)  AFT MISSION TIMER -----	
50-007		CEPD	MS1	PANEL A4 MISSION TIMER SW - GMT VERIFY MISSION TIMER NUMERICS ILLUMINATED AND TIME ADVANCING. VERIFY FAULT INDICATOR LT OFF	
50-008		CEPD	MS1	PANEL A4 MISSION TIMER SW - TEST (HOLD) VERIFY ALL EIGHTS ARE DISPLAYED. VERIFY FAULT INDICATOR LT ON	
50-009		CEPD	MS1	PANEL A4 MISSION TIMER SW - RELEASE VERIFY MISSION TIMER NUMERICS ILLUMINATED AND TIME ADVANCING (MET). VERIFY FAULT INDICATOR LT OFF  AFT EVENT TIMER -----	
50-010		CEPD	MS1	PANEL A4 VERIFY EVENT TIMER NUMERICS ILLUMINATED VERIFY FAULT INDICATOR LT OFF	
50-011		CEPD	MS1	PANEL A6U EVENT TIMER MODE SW - TEST (HOLD)	
50-012		CEPD	MS1	PANEL A4 VERIFY EVENT TIMER DISPLAYS ALL 8'S VERIFY FAULT INDICATOR LT ON	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
50-013		CEPD	MS1	PANEL A6U EVENT TIMER MODE SW - UP	
50-014		CEPD	MS1	PANEL A4 VERIFY EVENT TIMER NUMERICS ILLUMINATED VERIFY FAULT INDICATOR LT OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
FORWARD MISSION TIMER					
-----					
50-015		CEPD	PLT	PANEL O3 MISSION TIMER SW - GMT VERIFY MISSION TIMER NUMERICS ILLUMINATED AND TIME ADVANCING. VERIFY FAULT INDICATOR LT OFF	
50-016		CEPD	PLT	PANEL O3 MISSION TIMER SW - TEST (HOLD) VERIFY ALL EIGHTS ARE DISPLAYED. VERIFY FAULT INDICATOR LT ON	
50-017		CEPD	PLT	PANEL O3 MISSION TIMER SW - RELEASE VERIFY MISSION TIMER NUMERICS ILLUMINATED AND TIME ADVANCING. VERIFY FAULT INDICATOR LT OFF	
FORWARD EVENT TIMER					
-----					
50-018		CEPD	PLT	PANEL F7 VERIFY EVENT TIMER NUMERICS ILLUMINATED. VERIFY FAULT INDICATOR LT OFF	
50-019		CEPD	PLT	PANEL C2 TIMER SET TW'S - 0900 TIMER SW - SET (MOM) EVENT TIMER MODE SW - TEST (HOLD)	
50-020		CEPD	PLT	PANEL F7 VERIFY EVENT TIMER DISPLAYS ALL 8'S VERIFY FAULT INDICATOR LT ON	
50-021		CEPD	PLT	PANEL C2 EVENT TIMER MODE SW - RELEASE	
50-022		CEPD	PLT	PANEL F7 VERIFY EVENT TIMER INDICATES 0900 VERIFY FAULT INDICATOR LT OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
SWITCH/CIRCUIT BREAKER CONFIGURATION					
-----					
50-023		CEPD	CDR	PANEL L4 ROW Q AC1 LIGHTING INST OS PH C CB - OPEN AC2 LIGHTING NUMERIC OS PH C CB - OPEN AC3 LIGHTING COAS PH A CB - OPEN PANEL MS PH B CB - OPEN OS PH C CB - OPEN ROW R AC1 INST R PH A CB - CLOSE AC2 INST OVHD PH B CB - CLOSE AC3 INST L/CTR PH B CB - CLOSE	
50-024		CEPD	CDR	PANEL O14 ROW C MN A FLOOD LEFT CNSL CB - CLOSE	
50-025		CEPD	PLT	PANEL O15 ROW C MN B FLOOD RIGHT CNSL CB - CLOSE LEFT CTR CB - CLOSE ROW E MN B DRAG CHUTE SYS 2 CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
50-026		CEPD	PLT	PANEL O16 ROW C MN C FLOOD RIGHT CTR CB - CLOSE ROW E MN C DRAG CHUTE SYS 1 CB - CLOSE	
50-027		CEPD	PLT	PANEL O8 LIGHTING PANEL NUMERIC SW - BRT	
50-028		CEPD	PLT	PANEL C3 SRB SEPARATION MAN/AUTO SW - AUTO ET SEPARATION MAN/AUTO SW - AUTO	
50-029		CEPD	PLT	PANEL F9 DC VOLT/AMP SW - MAIN VOLTS A	
50-030		CEPD	MS1	PANEL A6U ORBIT STATION LIGHTING NUMERIC SW - OFF ANNUNCIATOR BUS SELECT SW - OFF	
50-031		CEPD	MS1	PANEL R15 ROW B MN A CONTROL BUS BC1/2/3 CB - CLOSE MN B CONTROL BUS CA1/2/3 CB - CLOSE MN C CONTROL BUS AB1/2/3 CB - CLOSE  ROW E MN A PS FLOOD CB - CLOSE MN C MS FLOOD CB - CLOSE  ROW F ESS 1BC FLOOD LEFT GLRSHLD CB - CLOSE ESS 2CA FLOOD RIGHT GLRSHLD CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
50-032		CEPD	MS1	PANEL ML86B	
				ROW E	
				MN A	
				FLOOD TUNNEL ADAPTER 2 CB - OPEN	
				MN B	
				FLOOD TUNNEL ADAPTER 3 CB - OPEN	
				MN C	
				FLOOD TUNNEL ADAPTER 4 CB - OPEN	
				ROW F	
				MN A	
				FLOODS	
				MIDDECK 1/8 CB - CLOSE	
				WMC/MO13Q CB - OPEN	
				AIRLOCK 1 CB - OPEN	
				MN B	
				FLOODS	
				MIDDECK 2/6 CB - CLOSE	
				BUNK 2/4 CB - OPEN	
				MIDDECK 10 CB - CLOSE (OV-103, 105)	
				PHS CB - OPEN (OV-102, 104)	
				AIRLOCK 3 CB - OPEN	
				MN C	
				FLOODS	
				MIDDECK	
				5/7 CB - CLOSE	
				3/4/MO13Q CB - CLOSE	
				BUNK 1/3 CB - OPEN	
				AIRLOCK 4 CB - OPEN	
				ROW G	
				ESS 1BC	
				FLOOD	
				AIRLOCK 2 CB - OPEN	
				TUNNEL ADAPTER 1 CB - OPEN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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UTILITY OUTLET CONFIGURATION

NOTE

OBTAIN SWITCH AND CIRCUIT  
BREAKER POSITIONS FOR  
FOLLOWING STEPS FROM VITT  
OFFICE (861-9224).

50-033		CEPD	CDR	PANEL MO30F DC UTILITY POWER MN C SW - _____  PANEL MO52J DC UTILITY POWER MN A SW - OFF AC UTILITY POWER AC 1 SW - _____  PANEL MO13Q DC UTILITY POWER MN B SW - _____ AC UTILITY POWER AC 3 SW - _____	
50-034		CEPD	CDR	PANEL F1 DC UTILITY POWER MN B SW - _____ AC UTILITY POWER AC 1 SW - _____  PANEL O19 DC UTILITY POWER MN A SW - OFF  PANEL A11 DC UTILITY POWER MN C SW - OFF  PANEL A15 DC UTILITY POWER MN C SW - OFF AC UTILITY POWER AC 3 SW - _____	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
50-035		CEPD	CDR	PANEL L4 ROW B UTILITY POWER F1/MO52J AC 1 CB - _____  A15/MO13Q AC 3 CB - _____  PANEL O14 ROW C MN A UTILITY POWER O19/MO52J CB - CLOSE  PANEL O15 ROW C MN B UTILITY POWER F1/MO13Q CB - _____  PANEL O16 ROW C MN C UTILITY POWER A11/A15/MO30F CB - CLOSE  SEAT POWER CONFIGURATION -----	
50-036		CEPD	PLT	PLT SEAT (LOWER LEFT SIDE) SEAT BUS SEL SW - AC3 (DN)	
50-037		CEPD	CDR	CDR SEAT (LOWER LEFT SIDE) SEAT BUS SEL SW - AC2 (UP)	
50-038		CEPD	OTC 132	MET INITIALIZATION AND SWITCH CONFIGURATION COMPLETE.	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
51-000				OMS PROP TK REPRESS	

NOTE

THIS SEQUENCE APPLIES ONLY AFTER PAD IS CLEARED FOR CRYO LOADING. THIS SEQUENCE MAY BE PERFORMED PERIODICALLY DURING THIS TIME SPAN BY COOS.

PROPELLANT AND HELIUM TANK PRESSURES MAY VARY DUE TO TEMPERATURE CHANGES. PROPELLANT TANK PRESSURES MAY DECREASE DUE TO HELIUM ABSORPTION. OMS TANK REPRESS ENSURES OXID AND FUEL TANK PRESSURES MEET LCC REQUIREMENTS.

51-001 COOS CRT (VWD42)

RECORD

LOMS OXID TANK ULLAGE PRESS

\_\_\_\_\_ PSIA BD

ROMS OXID TANK ULLAGE PRESS

\_\_\_\_\_ PSIA BD

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
51-002		COOS	CRT (VWD41)	RECORD  LOMS FUEL TANK ULLAGE PRESS  _____ PSIA BD  ROMS FUEL TANK ULLAGE PRESS  _____ PSIA BD  CAUTION  IF AN OMS FUEL TANK PRESSURE IS ALREADY ABOVE 281 PSIA DUE TO TEMPERATURE INCREASE, BUT THE FOLLOWING PROPELLANT TANK PRESSURE TOP OFF STEPS ARE REQUIRED TO BRING AN OMS OXIDIZER TANK PRESSURE BACK TO REGULATOR LOCK UP PRESSURE, VERIFY OMS FUEL TANK PRESSURE REMAINS STABLE.  OMS TANK PRESSURES (FUEL OR OXID) SHOULD NOT EXCEED 288 PSIA.	
51-003		COOS	VERIFY	FORMAT 129 OR 166/44 OR 42 OR 60 ACTIVE.	
51-004		COOS	CONSOLE	KYBD TCSS, VFD07 XMIT CMD KEY - PRESS  VERIFY SUCCESSFUL LOAD (ROMS)	

OPERATION INSTRUCTIONS

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

ROMS OXID/FUEL PROP TK REPRESS  
-----

CAUTION

FOLLOWING STEP OPENS ROMS  
A-LEG VAPOR ISOLATION VALVE.  
IF ROMS OXID TANK PRESSURE  
EXCEEDS 281 PSIA, IMMEDIATELY  
CLOSE ROMS VAPOR ISOL VLV V5  
(VWD42).

51-005

COOS CURSOR CNTL (VWD42)  
V5 - OPEN, MONITOR ROMS OXID  
TK PRESS. IF ROMS OXID TK  
PRESS EXCEEDS 281 PSIA,  
IMMEDIATELY CLOSE V5.

CRT

RECORD ROMS OXID TK PRESS

\_\_\_\_\_ PSIA    BD

CAUTION

ROMS OXID/FUEL TANK PRESS  
TO ROMS REG LOCKUP PRESS  
FOLLOWS. IF ROMS FUEL OR  
OXID TANK ULLAGE PRESSURES  
EXCEED 281 PSIA, IMMEDIATELY  
CLOSE ROMS GHE TK ISOL VLV  
(VWD42 H7).

IF OMS FUEL TANK PRESSURE  
ALREADY ABOVE 281 PSIA DUE  
TO TEMPERATURE INCREASE,  
VERIFY FUEL TANK PRESSURE  
REMAINS STABLE, ELSE IMMEDIATELY  
CLOSE H7.

51-006

COOS CURSOR CNTL (VWD42)  
H7 - OPEN MONITOR ROMS FUEL/OXID  
TK PRESS FOR REG LOCKUP PRESS AT  
281 PSIA MAX. IF ROMS FUEL/OXID TK  
PRESS EXCEED 281 PSIA, IMMEDIATELY  
CLOSE VALVE H7.

OMRSD V43CF0.110-B

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
51-007		COOS	CRT (VWD41/2)	VERIFY OX AND FUEL ULLAGE PRESSURES STABLE	
51-008		COOS	CURSOR CNTL (VWD42)	H7 - CLOSED V5 - CLOSED	
51-009		COOS	CONSOLE KYBD	CANC, VFD07 XMIT CMD KEY - PRESS	
51-010		COOS	RECORD ROMS FUEL, OXID AND GHE TANK DATA:	CRT (VWD41) RECORD ROMS FUEL TK PRESS AND TEMP PRESS _____ PSIA BD TEMP _____ DEG F BD CRT (VWD42) RECORD ROMS OXID TK PRESS AND TEMP PRESS _____ PSIA BD TEMP _____ DEG F BD	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
51-011		COOS	CRT (VWD42)	RECORD ROMS GHE TK PRESS AND TEMP  PRESS _____ PSIA BD  TEMP _____ DEG F BD	
51-012		COOS	CRT (VWD41/2)	VERIFY OXIDIZER AND FUEL PROPELLANT TANK PRESSURE DIFFERENTIALS NOT MORE THAN 15 PSID.  OMRS V43CF0.110-B	
51-013		COOS	CONSOLE KYBD TCSS, VFD07 XMIT CMD KEY - PRESS	VERIFY SUCCESSFUL LOAD (LOMS)	

OPERATION INSTRUCTIONS

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

LOMS OXID/FUEL PROP TK REPRESS  
-----

CAUTION

FOLLOWING STEP OPENS LOMS  
A-LEG VAPOR ISOLATION VALVE.  
IF LOMS OXID TANK PRESSURE  
EXCEEDS 281 PSIA, IMMEDIATELY  
CLOSE LOMS VAPOR ISOL VLV V1  
(VWD42).

51-014

COOS CURSOR CNTL (VWD42)  
V1 - OPEN, MONITOR LOMS OXID  
TK PRESS. IF LOMS OXID TK  
PRESS EXCEEDS 281 PSIA,  
IMMEDIATELY CLOSE V1.

CRT

RECORD LOMS OXID TK PRESS

\_\_\_\_\_ PSIA    BD

CAUTION

LOMS/OXID FUEL TANK PRESS TO  
REG LOCKUP PRESS FOLLOWS.  
IF LOMS FUEL OR OXID TANK  
ULLAGE PRESSURES EXCEED 281  
PSIA, IMMEDIATELY CLOSE LOMS  
GHE TK ISOL VLV (VWD42 H3).

IF OMS FUEL TANK PRESSURE  
ALREADY ABOVE 281 PSIA DUE  
TO TEMPERATURE INCREASE,  
VERIFY FUEL TANK PRESSURE  
REMAINS STABLE, ELSE  
IMMEDIATELY CLOSE H3.

51-015

COOS CURSOR CNTL (VWD42)  
H3 - OPEN, MONITOR LOMS FUEL AND  
OXID TK PRESS FOR REG LOCKUP PRESS  
AT 281 PSIA MAX. IF LOMS FUEL/OXID  
TK PRESS EXCEED 281 PSIA,  
IMMEDIATELY CLOSE VALVE H3.

OMRSD V43CF0.110-A



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
51-016		COOS	CRT (VWD41/2)	VERIFY OX AND FUEL ULLAGE PRESSURES STABLE.	
51-017		COOS	CURSOR CNTL (VWD42)	H3 - CLOSED V1 - CLOSED	
51-018		COOS	CONSOLE KYBD	CANC, VFD07 XMIT CMD KEY - PRESS	
51-019		COOS	RECORD LOMS OXID AND FUEL PROP TANK DATA	CRT (VWD41)	
			RECORD	LOMS FUEL TK PRESS AND TEMP	
			PRESS _____ PSIA	BD	
			TEMP _____ DEG F	BD	
			CRT (VWD42)		
			RECORD	LOMS OXID TK PRESS AND TEMP	
			PRESS _____ PSIA	BD	
			TEMP _____ DEG F	BD	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
51-020		COOS	CRT	(VWD42)  RECORD  LOMS GHE TANK PRESS AND TEMP  PRESS _____ PSIA    BD  TEMP _____ DEG F    BD	
51-021		COOS	CRT	(VWD41/2)  VERIFY OXIDIZER AND FUEL PROPELLANT TANK PRESSURE DIFFERENTIALS NOT MORE THAN 15 PSID.  OMRS V43CF0.110-A	
51-022		COOS	OTC	OMS PROP TK REPRESS COMPLETE. 132	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
52-000				ORBITER/GSE PIC RESISTANCE TEST ----- ORBITER MEC AND LCA RESISTANCE TESTS -----	
WARNING					
ALL PERSONNEL MUST BE CLEAR OF BDA BEFORE PROCEEDING WITH THE ORBITER/GSE PIC RESISTANCE TEST.					
NOTE					
RECORD DATA AND VERIFICATIONS FOR MULTIPLE RUNS OF THIS SEQUENCE IN APPENDIX O DATA SHEET O-1.					
52-001		OTC 132	CEPD	PERFORM PIC RESISTANCE TEST. REPORT COMPLETION.	
52-002		CEPD	OTC	VERIFY ALL PERSONNEL CLEAR OF BDA.	
52-003			CEPD	CURSOR CNTL (VWC10) MEC CYCL ENBL - ON XMIT CURSOR KEY - PRESS	
52-004			CEPD	CURSOR CNTL (VWC10) MEC R/T - ON XMIT CURSOR KEY - PRESS	
52-005			CEPD	CURSOR CNTL (VWC10) LCA R/T - ON XMIT CURSOR KEY - PRESS	

OPERATION INSTRUCTIONS

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

52-006                            CEPD CRT (VWC10)

VERIFY RESISTANCE TEST  
 INDICATIONS (G=ON, N=OFF)

MEC	LEFT HAND		RIGHT HAND	
	SYS A	SYS B	SYS A	SYS B
---	---	---	---	---
	R	R	R	R
UMB D-1	G	G	G	G
UMB D-2	G	G	G	G
UMB D-3	G	G	G	G
AFT SEP	G	G	G	G

LCA	LCA-1	LCA-2	LCA-3
	---	---	---
	R	R	R
NLG EXT B/A	-	G	G
LMG EXT B/A	-	G	G
RMG EXT B/A	-	G	G
NLG THR 2/1	-	G	G
FEX 3/1/2	G	G	G
FWD SEP A/B	G	G	-
KU NUT A/B	G	-	G
KU GLT A/B	G	-	G

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
52-007		CEPD		CURSOR CNTL (VWC10) LCA R/T - OFF XMIT CURSOR KEY - PRESS	
52-008		CEPD		CURSOR CNTL (VWC10) MEC R/T - OFF XMIT CURSOR KEY - PRESS	
NOTE					
DELAY 10 SECONDS MINIMUM PRIOR TO PERFORMING NEXT STEP.					
52-009		CEPD		AFTER 10 SECONDS MINIMUM:  CURSOR CNTL (VWC10) MEC CYCL ENBL - OFF XMIT CURSOR KEY - PRESS	
NOTE					
PERFORM NEXT THREE STEPS IF ONLY RMS SHOULDER ORDNANCE IS INSTALLED.					
RMS RESISTANCE TEST -----					
52-010		CEPD		CURSOR CNTL (VWC10) RMS R/T - ON XMIT CURSOR KEY - PRESS  CRT (VWC10)  RMS R/T IND ON	
NOT PERFORMED (NP)					

OPERATION INSTRUCTIONS

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

52-011                    CEPD CRT (VWC10)

VERIFY RESISTANCE TEST INDICATIONS  
(G=ON, N=OFF)

PORT RMS	BLT		GLT	
	SYS A	SYS B	SYS A	SYS B
	R	R	R	R
FWD	N	N	N	N
MID	N	N	N	N
AFT	N	N	N	N
SHLD	G	G	G	G

NOT PERFORMED (NP)

52-012                    CEPD CURSOR CNTL (VWC10)

RMS R/T - OFF  
XMIT CURSOR KEY - PRESS

CRT (VWC10)

RMS R/T IND OFF

NOT PERFORMED (NP)

NOTE

PERFORM NEXT THREE STEPS  
WHEN ALL RMS ORDNANCE IS  
INSTALLED.

52-013                    CEPD CURSOR CNTL (VWC10)

RMS R/T - ON  
XMIT CURSOR KEY - PRESS

CRT (VWC10)

RMS R/T IND ON

NOT PERFORMED (NP)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.																														
52-014		CEPD	CRT (VWC10)	VERIFY RESISTANCE TEST IND (G=ON, N=-OFF)  <table border="1"> <thead> <tr> <th>PORT RMS</th> <th colspan="2">BLT</th> <th colspan="2">GLT</th> </tr> <tr> <th></th> <th>SYS A</th> <th>SYS B</th> <th>SYS A</th> <th>SYS B</th> </tr> </thead> <tbody> <tr> <td>FWD</td> <td>G</td> <td>G</td> <td>G</td> <td>G</td> </tr> <tr> <td>MID</td> <td>G</td> <td>G</td> <td>G</td> <td>G</td> </tr> <tr> <td>AFT</td> <td>G</td> <td>G</td> <td>G</td> <td>G</td> </tr> <tr> <td>SHLD</td> <td>G</td> <td>G</td> <td>G</td> <td>G</td> </tr> </tbody> </table>	PORT RMS	BLT		GLT			SYS A	SYS B	SYS A	SYS B	FWD	G	G	G	G	MID	G	G	G	G	AFT	G	G	G	G	SHLD	G	G	G	G	
PORT RMS	BLT		GLT																																
	SYS A	SYS B	SYS A	SYS B																															
FWD	G	G	G	G																															
MID	G	G	G	G																															
AFT	G	G	G	G																															
SHLD	G	G	G	G																															
				NOT PERFORMED	(NP)																														
52-015		CEPD	CURT (VWC10)	CURSOR CNTL (VWC10) RMS R/T - OFF XMIT CURSOR KEY - PRESS  CRT (VWC10) RMS R/T IND OFF																															
				NOT PERFORMED	(NP)																														
				GSE GO PIC RESISTANCE TEST																															
52-016		CEPD	CURT (VWC10)	CURSOR CNTL (VWC10) GRD SYS - ON XMIT CURSOR KEY - PRESS  CRT (VWC10)  H2 AND LR GND PWR AND CPA PWR VOLTAGES GREATER THAN 26 VDC FOR SYS A & B																															

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
52-017		CEPD	CRT	(VWC10)	
				GRD T-0 RESET IND RESET	
				GRD STATUS SW IND OFF	
52-018		CEPD	CURSOR CNTL	(VWC10)	
				GND R/T - ON	
				XMIT CURSOR KEY - PRESS	
52-019		CEPD	CRT	(VWC10)	
				VERIFY RESISTANCE TEST	
				INDICATIONS (G=ON, N=OFF)	
				LEFT HAND	RIGHT HAND
				SYS A SYS B	SYS A SYS B
				-----	-----
				R R	R R
				H2 BURN	
				ENG 1	G - - G
				ENG 2/3	G G G G
				LAUNCH REL	
				HDP 5/1	G G G G
				HDP 6/2	G G G G
				HDP 7/3	G G G G
				HDP 8/4	G G G G
				ETVAS	- - G G
				H/O TSM	G G G G
				LANYARD	- - G G
52-020		CEPD	CURSOR CNTL	(VWC10)	
				GND R/T - OFF	
				XMIT CURSOR KEY - PRESS	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
DRAG CHUTE RESISTANCE TEST					
-----					
52-021		CEPD		CONSOLE KYBD (VWC10) DRAG CHUTE R/T CMD - ON XMIT CMD KEY - PRESS	
				CRT (VWC10) DRAG CHUTE R/T IND ON	
				DRAG CHUTE    SYS-1    SYS-2 -----        -----	
				DPLY            G            G	
				JETT            G            G	
52-022		CEPD		CONSOLE KYBD (VWC10) DRAG CHUTE R/T CMD - OFF XMIT CMD KEY - PRESS	
				CRT (VWC10) DRAG CHUTE R/T IND OFF	
				DRAG CHUTE    SYS-1    SYS-2 -----        -----	
				DPLY            N            N	
				JETT            N            N	
52-023		CEPD OTC 132		ORBITER/GSE GO PIC RESISTANCE TEST COMPLETE.	

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SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
53-000				MIDDECK EXPERIMENT POWER SWITCH ----- OVERS AND INTERFACE VERIFICATION ----- TESTS -----	
				NOTE  DO NOT PERFORM THE FOLLOWING IVT IF MEMS IS CURRENTLY INSTALLED AND POWERED FROM A PREVIOUS LAUNCH ATTEMPT.  MEMS EXPERIMENT INTERFACE VERIFICATION ----- TEST -----  NOT PERFORMED	
53-001		PTC	OTC	REQUEST CDR AND CMQC SUPPORT ON OIS CH 174 FOR MEMS IVT.	
53-002		PTC	XMLE	PERFORM MEMS EXPERIMENT IVT ON OIS CH 174.	
				NOTE  IN THE FOLLOWING STEPS, XME1 AND XME2 ARE NASA/PGOC ENGINEERS.  PGIM AND MEMS ARE POWERED BY AN ORBITER 'Y' CABLE.	
53-003		XMLE	XME1	PANEL ML85E 174 VERIFY ORBITER POWER CABLE P/N SED39122456- 303 LABELED "PGIM/MEMS DC Y PWR CBL" CONNECTED TO DC POWER RECEPTABLE J23.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
53-004		PTC	CDR	PANEL ML86B ROW E MN B MAR 2 CB - CLOSED (IN)	
				NOTE	
				PERFORM THE FOLLOWING STEP IF MEMS POWER SWITCH S1 IS ON.	
53-005		XML E	XME1	MEMS POWER SW S1 - OFF (DOWN)	
				RECORD TIME: _____	
				NOT PERFORMED	_____
				NOTE	
				PERFORM THE FOLLOWING STEP IF MEMS IS NOT CURRENTLY CONNECTED TO ORBITER POWER CABLE.	
53-006		XML E	XME1	MEMS MF71M	
				OK TO INSTALL	T: _____
				CONNECT END OF DC "Y" POWER CABLE, S/N SEC 39122456-303, LABELED "MEMS/MF71M" TO MEMS CONNECTOR J1.	
					TNV: _____
				NOT PERFORMED	_____
53-007		XML E	XME1	TEMPORARILY INSTALL GSE PROTECTIVE CAP ONTO UNUSED END OF DC 'Y' POWER CABLE, P/N SED39122456-303, LABELED "PGIM/MF14H".	
53-008		PTC	CDR	MUP PANEL (ML85E) CB 5 - CLOSED (IN) SW 5 - ON	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
53-009		XML E	XME 1	MEMS SET POWER SW S1 - ON (UP)  RECORD TIME: _____	
53-010		XML E	XME 1	MEMS VERIFY POWER SW S1 - ON (IN) POWER ON LED - ILLUMINATED FAN - RUNNING (AUDIBLE, OR AIR FLOW DETECTED AT INLET/OUTLET)  OMRSD P1424EB.100 PARTIAL	
53-011		XML E	XME 1	MEMS POWER SW S1 - OFF (DOWN)  RECORD TIME: _____  NOT PERFORMED	_____
53-012		PTC	CDR	MUP PANEL ML85E SW 5 - OFF CB 5 - OPEN (OUT)	
53-013		XML E	XME 1	REMOVE GSE PROTECTIVE CAP FROM UNUSED END OF DC 'Y' POWER CABLE, P/N SED39122456-303, LABELED "PGIM/MF14H".	
53-014		XML E	PTC	MEMS EXPERIMENT IVT IS COMPLETE.	
53-015		PTC	OTC	MEMS EXPERIMENT IVT IS COMPLETE. CDR AND CMQC SUPPORT IS RELEASED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
DO NOT PERFORM THE FOLLOWING IVT IF PGIM AND MEMS CURRENTLY INSTALLED AND POWERED FROM A PREVIOUS LAUNCH ATTEMPT.					
PGIM/MEMS POWER SWITCH OVER AND ----- INTERFACE VERIFICATION TEST -----					
NOT PERFORMED					
53-016		PTC	OTC	REQUEST CDR AND CMQC SUPPORT ON OIS CH 174 FOR PGIM/MEMS IVT.	
53-017		PTC	XML	PERFORM PGIM/MEMS EXPERIMENT SWITCHOVER TO ORBITER POWER AND IVT ON OIS CH 174.	
NOTE					
IN THE FOLLOWING STEPS, XME1 AND XME2 ARE NASA/PGOC ENGINEERS.					
PGIM AND MEMS ARE POWERED BY AN ORBITER 'Y' CABLE.					
53-018		XML	XME1	PANEL ML85E 174 VERIFY ORBITER POWER CABLE P/N SED39122456- 303 LABELED "PGIM/MEMS DC Y PWR CBL" CONNECTED TO DC POWER RECEPTABLE J23.	
53-019		PTC	CDR	PANEL ML86B ROW E MN B MAR 2 CB - CLOSED (IN)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM THE FOLLOWING STEP IF MEMS POWER SWITCH S1 IS ON.					
53-020		XML E	XME1	MEMS POWER SW S1 - OFF (DOWN)	
				RECORD TIME: _____	
				NOT PERFORMED	_____
CAUTION					
POWER INTERRUPT TO PGIM MUST NOT EXCEED 15 MINUTES.					
PGIM POWER SWITCH MUST REMAIN ON AT ALL TIMES.					
53-021		PTC	CDR	MUP PANEL ML85E SW 5 - OFF CB 5 - OPEN (OUT)	
53-022		XML E		RECORD TIME PREVIOUS STEP IS PERFORMED (LOCAL):  _____	
NOTE					
PERFORM FOLLOWING THREE STEPS IF PGIM IS ON GSE BATTERY POWER.					
53-023		XML E	XME2	PCB SET RUN/TEST SW - OFF (CENTER) RECORD PGIM POWER DOWN TIME:  _____	
				RECORD BATTERY RUN TIME:  _____	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
THE PGIM DOOR MAY BE OPENED AND CLOSED IF REQUIRED TO PERFORM THE FOLLOWING TWO STEPS.					
53-024		XML	XME1	OPEN PGIM DOOR TO ACCESS CONNECTOR.	
				NOT PERFORMED	_____
53-025		XML	XME1	DISCONNECT POWER CONTROL BOX CABLE (P/N 82K00092-6) CONNECTOR P2 FROM PGIM CONNECTOR J1.	
					TNV: _____
				NOT PERFORMED	_____
53-026		XML	XME1	PGIM MF14H	
				OK TO INSTALL	T: _____
				CONNECT END OF DC 'Y' POWER CABLE, P/N SED39122456-303, LABELED "PGIM/MF14H" TO PGIM CONNECTOR J1.	
					TNV: _____
				NOT PERFORMED	_____
53-027		XML	XME1	CLOSE PGIM DOOR AFTER ACCESSING CONNECTOR AND VERIFY LATCHES ARE FULLY ENGAGED.	
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM THE FOLLOWING STEP IF MEMS IS NOT CURRENTLY CONNECTED TO ORBITER POWER CABLE.					
53-028		XML E	XME1	MEMS MF71M	
				OK TO INSTALL	T: _____
				CONNECT END OF DC "Y" POWER CABLE, S/N SED39122456-303, LABELED "MEMS/MF71M" TO MEMS CONNECTOR J1.	
					TNV: _____
				NOT PERFORMED	_____
53-029		PTC	CDR	MUP PANEL ML85E CB 5 - CLOSED (IN) SW 5 - ON	
53-030		XML E		RECORD TIME PREVIOUS STEP IS PERFORMED (LOCAL):  _____	
53-031		XML E	XME1	PGIM VERIFY POWER SWITCH - ON (IN) LAMP OPER SWITCH TO "ON" WARNIG DISPLAY TO "ENABLE" POWER LED - ILLUMINATED (GREEN) FLUOROSCENT LIGHT MODULE - ILLUM TEMP WARNING - NOT ILLUMINATED RECORD FAULT - NOT ILLUMINATED  OMRSD P314EB.100  RECORD TIME WITHOUT POWER _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
53-032		XML E	XME1	MEMS SET POWER SW S1 - ON (UP)  RECORD TIME: _____	
53-033		XML E	XME1	MEMS VERIFY POWER SW S1 - ON (IN) POWER ON LED - ILLUMINATED FAN - RUNNING (AUDIBLE, OR AIR FLOW DETECTED AT INLET/OUTLET)  OMRSD P1424EB.100 PARTIAL	
53-034		XML E	PTC	PGIM/MEMS POWER SWITCH OVER AND IVT IS COMPLETE.	
53-035		PTC	OTC	PGIM/MEMS POWER SWITCH OVER AND IVT IS COMPLETE. CDR AND CMQC SUPPORT RELEASED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
DO NOT PERFORM THE FOLLOWING IVT IF CGBA NIH-B IS CURRENTLY INSTALLED AND POWERED FROM A PREVIOUS LAUNCH ATTEMPT.					
CBGA - NIH-B POWER SWITCH OVER AND ----- INTERFACE VERIFICATION TESTS ----- NOT PERFORMED					
53-036		PTC	OTC	REQUEST CDR AND CMQC SUPPORT ON OIS CH 174 FOR CGBA - NIH-B IVT.	
53-037		PTC	XML E	PERFORM CGBA - NIH-B SWITCH OVER TO ORBITER POWER AND IVT TEST ON OIS CH 174.	
NOTE					
IN THE FOLLOWING STEPS, XME1 AND XME2 ARE NASA/PGOC ENGINEERS.					
53-038		XML E	XME1 174	PANEL ML85E VERIFY ORBITER POWER CABLE P/N 10108-10082-04 CONNECTOR LABELED "CGBA NIH-B DC PWR CBL" CONNECTED TO DC POWER RECEPTACLE J12.	
53-039		PTC	CDR	PANEL ML86B ROW E MN B MAR 2 CB - CLOSED (IN)	
53-040		PTC	CDR	PANEL ML85E SW 2 - OFF CB 2 - OPEN (OUT)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CAUTION					
CGBA NIH-B CANNOT REMAIN WITHOUT POWER FOR MORE THAN 15 MINUTES.					
53-041		XML	XME1	CGBA NIH-B MF57C	
				1. REPORT PRE-POWER DOWN TEMP	
				2. PRESS "MENU"	
				3. PRESS "7" TO HALT	
				4. PRESS "ENTER"	
				5. PRESS "1" TO HALT SYSTEM	
				6. PRESS "ENTER"	
				7. WAIT APPROXIMATELY 1 MINUTE UNTIL MESSAGE "OK TO POWER DOWN" APPEARS	
				8. POWER CB - OPEN (OUT)	
				9. RECORD TIME POWER CB OPEN - _____	
				10. EXCP4 DC12 - OFF	
				11. EXCP5 DC2 - OFF	
53-042		XML	XME2	POWER CONTROL BOX FOR CGBA NIH-B MF57C RUN/TEST SW - OFF (CENTER) RECORD BATTERY RUN TIME: _____	
53-043		XML	XME1	CGBA NIH-B MF57C DISCONNECT POWER CONTROL BOX CABLE, P/N 82K00092-6, CONNECTOR P2 FROM CGBA NIH-B CONNECTOR.	TNV: _____
53-044		XML	XME1	CGBA NIH-B MF57C OK TO INSTALL CONNECT ORBITER POWER CABLE P/N 10108-10082-04 CONNECTOR LABELED "CGBA (NIH-B) DC PWR CBL" TO CGBA - NIH-B CONNECTOR J1.	T: _____  TNV: _____
53-045		PTC	CDR	PANEL ML85E CB 2 - CLOSED (IN) SW 2 - ON	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
53-046		XML E	XME1	CGBA - NIH-B (MF57C) EXCP4 DC12 - ON "POWER" CB - CLOSED (IN) RECORD TIME "POWER" CB - CLOSED  RECORD CGBA NIH-B TIME WITHOUT POWER	
53-047		XML E	XME1	CGBA NIH-B VERIFY MAIN POWER CB - CLOSED (IN) DISPLAY - ON LED POWER INDICATOR - ILLUMINATED HEATER LED (2) - ILLUMINATED/ CYCLING ILLUMINATED  OMRS P183EB.100	
NOTE					
PERFORM THE FOLLOWING STEP APPROXIMATELY 1 MINUTE AFTER THE CGBA MODULE "POWER" CB IS CLOSED.					
IN THE FOLLOWING STEP, "XX.X" REPRESENTS WHATEVER TEMPERATURE NUMBER IS DISPLAYED ON THE LCD.					
53-048		XML E	XME1	CGBA NIH-B VERIFY LCD READS THE FOLLOWING: MET = 000/00:00 TEMP XX.XC SET TEMP: 24.0 DEG C GMT: XXX/XX:XX	
53-049		XML E	XME1	CGBA - NIH-B RECORD FROM LCD TO ONE DECIMAL PLACE: "TEMP" READING: _____ DEG C BD  OMRSD P183EB.100	
53-050		XML E	PTC	CGBA NIH-B POWER SWITCH OVER AND IVT ARE COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
53-051		PTC	OTC	CGBA NIH-B POWER SWITCH OVER AND IVT ARE COMPLETE. CDR AND CMQC SUPPORT RELEASED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
DO NOT PERFORM THE FOLLOWING IVT IF STL-B AND CCM-C CURRENTLY INSTALLED AND POWERED FROM A PREVIOUS LAUNCH ATTEMPT.					
STL-B/CCM-C POWER SWITCH OVER AND ----- INTERFACE VERIFICATION TESTS -----					
NOT PERFORMED					
53-052		PTC	OTC	REQUEST CDR AND CMQC SUPPORT ON OIS CH 174 FOR STL-B/CCM-C IVT.	
53-053		PTC	XML	PERFORM STL-B/CCM-C EXPERIMENT SWITCH-OVER TO ORBITER POWER AND IVT TEST ON OIS CH 174.	
NOTE					
IN THE FOLLOWING STEPS, XME1 AND XME2 ARE NASA/PGOC ENGINEERS.					
STL-B AND CCM-C ARE POWERED BY AN ORBITER "Y" CABLE.					
53-054		XML	XME1	PANEL ML85E 174 VERIFY ORBITER POWER CABLE P/N SED39122456-303 CONNECTOR LABELED "STL-B/CCM-C DC PWR CBL" CONNECTED TO DC POWER RECEPTACLE J22.	
53-055		PTC	CDR	PANEL ML86B ROW E MN B MAR 2 CB - CLOSED (IN)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CAUTION					
STL-B AND CCM-C CANNOT REMAIN WITHOUT POWER FOR MORE THAN 15 MINUTES.					
53-056		XML E	XME 1	STL-B PANEL MF43F POWER SWITCH - OFF RECORD TIME: _____	
53-057		XML E	XME 1	CCM-C PANEL MF71K POWER SWITCH - OFF RECORD TIME: _____	
53-058		PTC	CDR	MUP PANEL ML85E SW 4 - OFF CB 4 - OPEN (OUT)	
NOTE					
PERFORM FOLLOWING THREE STEPS IF STL-B MF43E IS ON GSE BATTERY POWER.					
53-059		XML E	XME 1	PCB STL-B SET RUN/TEST SW - OFF (CENTER) RECORD BATTERY RUN TIME: _____	
					NOT PERFORMED _____
53-060		XML E	XME 1	STL-B MF43E DISCONNECT POWER CONTROL BOX CABLE (P/N 82K00092-6) CONNECTOR P2 FROM STL-B CONNECTOR J1.	
					TNV: _____
					NOT PERFORMED _____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
53-061		XML	XME1	STL-B MF43E  OK TO INSTALL  CONNECT END OF DC 'Y' POWER CABLE, P/N SED39122456-303, LABELED "STL-B/MF43E" TO STL-B CONNECTOR J1.	T: _____     TNV: _____
				NOT PERFORMED	_____
				NOTE  PERFORM FOLLOWING THREE STEPS IF CCM-C MF71K IS ON GSE BATTERY POWER.	
53-062		XML	XME1	PCB CCM-C SET RUN/TEST SW - OFF (CENTER) RECORD BATTERY RUN TIME: _____	
				NOT PERFORMED	_____
53-063		XML	XME1	CCM-C MF71K DISCONNECT POWER CONTROL BOX CABLE (P/N 82K00092-6) CONNECTOR P2 FROM CCM-C CONNECTOR J1.	TNV: _____
				NOT PERFORMED	_____
53-064		XML	XME1	CCM-C MF71K  OK TO INSTALL  CONNECT END OF DC 'Y' POWER CABLE, P/N SED39122456-303, LABELED "CCM-C/MF71K" TO CCM-C CONNECTOR J1.	T: _____     TNV: _____
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
53-065		PTC	CDR	MUP PANEL ML85E CB 4 - CLOSED (IN) SW 4 - ON	
53-066		XMLE	XME1	STL-B MF43E SET POWER SW - ON RECORD TIME: _____ RECORD STL-B TIME WITHOUT POWER _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
53-067		XML E	XME 1	CCM-C MF71K SET POWER SW - ON RECORD TIME: _____ RECORD CCM-C TIME WITHOUT POWER _____  NOTE  STL-B AND CCM-C LCD'S WILL DISPLAY A SERIES OF STATUS MESSAGES WHEN POWERED ON.	
53-068		XML E	XME 1	STL-B MF43E VERIFY POWER SW - ON LCD CHARACTER DISPLAY ACTIVE BUS POWER INDICATOR - ILLUMINATED (GREEN) BLOWN FUSE INDICATOR - NOT ILLUMINATED (RED)  OMRSD P326EB.100	
53-069		XML E	XME 1	CCM-C MF71K VERIFY POWER SW - ON LCD CHARACTER DISPLAY ACTIVE BUS POWER INDICATOR - ILLUMINATED (GREEN) BLOWN FUSE INDICATOR - NOT ILLUMINATED (RED)  OMRSD P187EB.100	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM THE FOLLOWING FIVE STEPS AS OFTEN AS REQUIRED WHEN STL-B OR CCM-C BLOWN FUSE INDICATOR IS ILLUMINATED RED.					
53-070		XML E	XME1	RECORD EXPERIMENT FOR FUSE REPLACEMENT. EXP STL-B OR CCM-C _____	NOT PERFORMED _____
53-071		XML E	XME1	SET POWER SWITCH - OFF RECORD TIME: _____	NOT PERFORMED _____
53-072		XML E	XME1	REMOVE BLOWN FUSE. INSTALL NEW FUSE.	NOT PERFORMED _____
53-073		XML E	XME1	SET POWER SWITCH - ON RECORD TIME POWER ON: _____ RECORD TIME WITHOUT POWER: _____	NOT PERFORMED _____
53-074		XML E	XME1	VERIFY POWER SW - ON LCD CHARACTER DISPLAY ACTIVE BUS POWER INDICATOR - ILLUMINATED (GREEN) BLOWN FUSE INDICATOR - NOT ILLUMINATED (RED)	NOT PERFORMED _____
53-075		XML E	PTC	STL-B/CCM-C POWER SWITCH-OVER AND IVT IS COMPLETE.	
53-076		PTC	OTC	STL-B/CCM-C POWER SWITCH-OVER AND IVT IS COMPLETE. CDR AND CMQC SUPPORT RELEASED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

DO NOT PERFORM THE FOLLOWING  
 IVT IF CGBA LADYBUG/TISSUE  
 CURRENTLY INSTALLED AND POWERED  
 FROM A PREVIOUS LAUNCH ATTEMPT.

CGBA - LADYBUG/TISSUE POWER SWITCH  
 -----  
 OVER AND INTERFACE VERIFICATION TESTS  
 -----

NOT PERFORMED

53-077		PTC	OTC	REQUEST CDR AND CMQC SUPPORT ON 132 OIS CH 174 FOR CGBA - LADYBUG/TISSUE IVT.	
53-078		PTC	XMLE	PERFORM CGBA - LADYBUG/TISSUE SWITCH OVER TO ORBITER POWER AND IVT TEST ON OIS CH 174.	

NOTE

IN THE FOLLOWING STEPS,  
 XME1 AND XME2 ARE NASA/PGOC  
 ENGINEERS.

53-079		XMLE	XME1	PANEL MO13Q 174 VERIFY ORBITER POWER CABLE P/N SED39122456-303 CONNECTOR LABELED "CGBA DC Y PWR CBL" CONNECTED TO DC POWER RECEPTACLE J1.	
53-080		PTC	CDR	PANEL O15 ROW C MN B UTILITY POWER F1/MO13Q CB 9 - CLOSED (IN)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
CAUTION					
CGBA LADYBUG/TISSUE MODULES CANNOT REMAIN WITHOUT POWER FOR MORE THAN 15 MINUTES.					
53-081		XML E	XME1	CGBA LADYBUG MODULE	
				1. REPORT PRE-POWER DOWN TEMP _____	
				2. PRESS "MENU"	
				3. PRESS "7" TO HALT	
				4. PRESS "ENTER"	
				5. PRESS "1" TO HALT SYSTEM	
				6. PRESS "ENTER"	
				7. WAIT APPROXIMATELY 1 MINUTE UNTIL MESSAGE "OK TO POWER DOWN" APPEARS	
				8. POWER CB - OPEN (OUT)	
				9. RECORD TIME POWER CB OPEN - _____	
				10. EXCP4 DC12 - OFF	
				11. EXCP5 DC2 - OFF	
53-082		XML E	XME1	CGBA TISSUE MODULE	
				1. REPORT PRE-POWER DOWN TEMP _____	
				2. PRESS "MENU"	
				3. PRESS "7" TO HALT	
				4. PRESS "ENTER"	
				5. PRESS "1" TO HALT SYSTEM	
				6. PRESS "ENTER"	
				7. WAIT APPROXIMATELY 1 MINUTE UNTIL MESSAGE "OK TO POWER DOWN" APPEARS	
				8. POWER CB - OPEN (OUT)	
				9. RECORD TIME POWER CB OPEN - _____	
				10. EXCP4 DC12 - OFF	
				11. EXCP5 DC2 - OFF	
53-083		PTC	CDR	PANEL MO13Q DC UTILITY POWER SW11 - OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM FOLLOWING THREE STEPS IF CGBA LADYBUG IS ON GSE BATTERY POWER.					
53-084		XML E	XME 1	POWER CONTROL BOX FOR CGBA - LADYBUG MODULE RUN/TEST SW - OFF (CENTER) RECORD CGBA-LADYBUG BATTERY RUN TIME: _____	
				NOT PERFORMED	_____
53-085		XML E	XME 1	CGBA LADYBUG MODULE DISCONNECT POWER CONTROL BOX CABLE (P/N 82K00092-6) CONNECTOR P2 FROM CGBA -LADYBUG CONNECTOR.	
					TNV: _____
				NOT PERFORMED	_____
53-086		XML E	XME 1	CGBA LADYBUG MODULE OK TO INSTALL CONNECT ORBITER POWER CABLE P/N SED39122456-303 CONNECTOR LABELED "CGBA-LADYBUG PWR IN/MF71G" TO CGBA-LADYBUG MODULE CONNECTOR J1.	
					T: _____
					TNV: _____
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM FOLLOWING THREE STEPS IF CGBA TISSUE MODULE IS ON GSE BATTERY POWER.					
53-087		XML E	XME1	POWER CONTROL BOX FOR CGBA - TISSUE MODULE RUN/TEST SW - OFF (CENTER) RECORD CGBA-TISSUE MODULE BATTERY RUN TIME: _____	
				NOT PERFORMED	_____
53-088		XML E	XME1	CGBA TISSUE MODULE DISCONNECT POWER CONTROL BOX CABLE (P/N 82K00092-6) CONNECTOR P2 FROM CGBA -TISSUE MODULE CONNECTOR J1.	
					TNV: _____
				NOT PERFORMED	_____
53-089		XML E	XME1	CGBA TISSUE MODULE OK TO INSTALL CONNECT ORBITER POWER CABLE P/N SED39122456-303 CONNECTOR LABELED "CGBA-TISSUE PWR IN/MF71E" TO CGBA-TISSUE MODULE CONNECTOR J1.	
					T: _____
					TNV: _____
				NOT PERFORMED	_____
53-090		PTC	CDR	PANEL MO13Q DC UTILITY POWER SW11 - ON	
53-091		XML E	XME1	CGBA - LADYBUG MODULE EXCP4 DC12 - ON POWER CB - CLOSED (IN) RECORD TIME POWER CB CLOSED - _____ RECORD CGBA - LADYBUG MODULE TIME WITHOUT POWER _____	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
53-092		XML E	XME1	CGBA - TISSUE MODULE EXCP4 DC12 - ON POWER CB - CLOSED (IN) RECORD TIME POWER CB CLOSED - _____ RECORD CGBA - TISSUE MODULE TIME WITHOUT POWER _____	
53-093		XML E	XME1	CGBA-LADYBUG MODULE VERIFY MAIN POWER CB - CLOSED (IN) DISPLAY - ON HEATER CONTROL (UPPER CB) - CLOSED (IN) HEATER CONTROL (LOWER CB) - CLOSED (IN) LED POWER INDICATOR - ILLUMINATED HEATER LED (2) - ILLUMINATED/CYCLING ILLUMINATED  OMRSD P183EB.100	
53-094		XML E	XME1	CGBA-TISSUE MODULE VERIFY MAIN POWER CB - CLOSED (IN) DISPLAY - ON HEATER CONTROL (UPPER CB) - CLOSED (IN) HEATER CONTROL (LOWER CB) - CLOSED (IN) LED POWER INDICATOR - ILLUMINATED HEATER LED (2) - ILLUMINATED/CYCLING ILLUMINATED  OMRSD P183EB.100	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM THE FOLLOWING  
STEP APPROXIMATELY 1 MINUTE  
AFTER THE CGBA LADYBUG MODULE  
"POWER" CB IS CLOSED.

IN THE FOLLOWING STEP, "XX.X"  
REPRESENTS WHATEVER TEMPERATURE  
NUMBER IS DISPLAYED ON THE  
LCD.

53-095		XML E	XME1	CGBA LADYBUG MODULE VERIFY LCD READS THE FOLLOWING: MET = 000/00:00 TEMP XX.XC SET TEMP: 24.0 DEG C GMT: XXX/XX:XX	
53-096		XML E	XME1	CGBA - LADYBUG MODULE RECORD FROM LCD TO ONE DECIMAL PLACE: "TEMP" READING: _____ DEG C BD  OMRSD P183EB.100	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM THE FOLLOWING STEP APPROXIMATELY 1 MINUTE AFTER THE CGBA TISSUE MODULE "POWER" CB IS CLOSED.					
IN THE FOLLOWING STEP, "XX.X" REPRESENTS WHATEVER TEMPERATURE NUMBER IS DISPLAYED ON THE LCD.					
53-097		XMLE	XME1	CGBA TISSUE MODULE VERIFY LCD READS THE FOLLOWING: MET = 000/00:00 TEMP XX.XC SET TEMP: 24.0 DEG C GMT: XXX/XX:XX	
53-098		XMLE	XME1	CGBA - TISSUE MODULE RECORD FROM LCD TO ONE DECIMAL PLACE: "TEMP" READING: _____ DEG C BD  OMRSD P183EB.100	
53-099		XMLE	PTC	CGBA - LADYBUG/TISSUE POWER SWITCH OVER AND IVT ARE COMPLETE.	
53-100		PTC	OTC	CGBA - LADYBUG/TISSUE POWER SWITCH OVER AND IVT ARE COMPLETE. CDR AND CMQC SUPPORT RELEASED.	

VOLUME 4 OF 5  
DATE: 07-08-99

OMI NO. - S0007VL4  
REV. - AY

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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54-000 FCP SYSTEM

NOTE

PERFORM OPTIONS AS DIRECTED  
BY CONTROLLING SEQUENCES.

OPTION A - WWMS PREPS FOR SWITCHLIST

NOT PERFORMED

54-001		CFCP MS1		PANEL ML86B ROW A MN A SUPPLY H2O TK A INLET CB - CLOSE ML86BC001 TK B OUTLET CB - CLOSE ML86BC002 WASTE H2O DUMP VLV/NOZ HTR/CB - CLOSE H2O LINE HTR A CB - OPEN ML86BC004 MN B SUPPLY H2O TK B INLET CB - CLOSE ML86BC005 TK C OUTLET CB - CLOSE ML86BC006 DUMP ISOL CB - CLOSE ML86BC008 B SUPPLY ISOL VLV CB - ML86BC009 CLOSE H2O LINE HTR B CB - OPEN ML86BC010 MN C SUPPLY H2O TK A OUTLET CB - CLOSE ML86BC011 TK C INLET CB - CLOSE ML86BC012 DUMP VLV/NOZ HTR CB - ML86BC064 CLOSE XOVR VLV CB - CLOSE ML86BC014 GALLEY SUPPLY CB - CLOSE ML86BC015 ROW B MN A WASTE H2O TK 1 VLV CB - ML86BC016 CLOSE SPLY H2O TK D OUTLET CB - ML86BC003 CLOSE WASTE H2O DUMP ISOL CB - ML86BC017 CLOSE	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-001				MN B WASTE H2O TK 1 DRAIN CB - ML86BC023 CLOSE SPLY H2O TK D INLET CB - ML86BC007 CLOSE	
NOTE					
PERFORM NEXT STEP IF VLV POSITION INDICATOR IS NOT AS SHOWN.					
54-002		CFCP MS1		PANEL R11 SUPPLY H2O TK A INLET SW - OPEN (15 SEC MAX) UNTIL TK A INLET TB OP, THEN RELEASE	R12A2S003 R12A2DS001
NOT PERFORMED _____					
54-003				CFCP CRT (VAG12 PG B)  LV1 POP ON	V62X0403E1
NOTE					
PERFORM NEXT STEP IF VLV POSITION INDICATOR IS NOT AS SHOWN.					
54-004		CFCP MS1		PANEL R11 SUPPLY H2O TK A OUTLET SW - CLOSE (15 SEC MAX) UNTIL TK A OUTLET TB CL, THEN RELEASE	R12AS004 R12A2DS002
NOT PERFORMED _____					
54-005				CFCP CRT (VAG12 PG B)  LV2 POP OFF	V62X0407E1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-006		CFCP	MS1	PANEL R11 SUPPLY H2O DUMP ISOL VLV SW - CLOSE(15 SEC MAX) UNTIL DUMP ISOL VLV TB CL, THEN REL	R12A2S006 R12A2DS00
				NOT PERFORMED	_____
54-007				CFCP CRT (VAG12 PG B)  LV11 POP OFF	V62X0455E1
54-008		CFCP	MS1	PANEL R11 SUPPLY H2O DUMP VLV ENABLE/NOZ HTR SW - ON	R12A2S017
				NOTE  PERFORM NEXT STEP IF VLV POSITION INDICATOR IS NOT AS SHOWN.	
54-009		CFCP	MS1	PANEL R11 SUPPLY H2O DUMP VLV SW - CLOSE, (15 SEC MAX) UNTIL DUMP VLV TB CL, THEN RELEASE	R12A2S007 412A2DS005
				NOT PERFORMED	_____
54-010				CFCP CRT (VAG12 PG B)  LV10 POP OFF	V62X0465E1
54-011		CFCP	MS1	PANEL R11 SUPPLY H2O DUMP VLV ENAB/NOZ HTR SW - OFF DUMP VLV TB BP	R12A2S017 R12A2DS005

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF VLV  
 POSITION INDICATORS ARE  
 NOT AS SHOWN.

54-012		CFCP MS1	PANEL R11 SUPPLY H2O	TK B INLET SW - OPEN, (15 SEC MAX) UNTIL TK B INLET TB OP, THEN RELEASE	R12A2S009 R12A2DS006
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NOT PERFORMED \_\_\_\_\_

54-013			CFCP CRT (VAG12 PG B)	LV3 POP ON	V62X0423E1
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NOTE

PERFORM NEXT STEP IF VLV  
 POSITION INDICATORS ARE  
 NOT AS SHOWN.

54-014		CFCP MS1	PANEL R11 SUPPLY H2O	TK B OUTLET SW - OPEN, (15 SEC MAX) UNTIL TK B OUTLET TB OP, THEN RELEASE	R12A2S010 R12A2DS007
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NOT PERFORMED \_\_\_\_\_

54-015			CFCP CRT (VAG12 PG B)	LV4 POP ON	V62X0427E1
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF VLV  
 POSITION INDICATORS ARE  
 NOT AS SHOWN.

54-016		CFCP MS1	PANEL R11 SUPPLY H2O	CROSSOVER VLV SW - CLOSE, (15 SEC MAX) UNTIL CROSSOVER VLV TB CL, THEN REL	R12A2S005 R12A2DS003
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NOT PERFORMED \_\_\_\_\_

54-017			CFCP CRT (VAG12 PG B)		
			LV13 POP OFF		V6X1005E1

NOTE

PERFORM NEXT STEP IF VLV  
 POSITION INDICATORS ARE  
 NOT AS SHOWN.

54-018		CFCP MS1	PANEL R11 SUPPLY H2O	GAL SPLY VLV SW - CLOSE,(15 SEC MAX) UNTIL GALLEY SPLY VLV TB CL, THEN REL	R12A2S011 R12A20S008
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NOT PERFORMED \_\_\_\_\_

54-019			CFCP CRT (VAG12 PG B)		
			LV9 POP OFF		V62X1105E1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF VLV  
 POSITION INDICATORS ARE  
 NOT AS SHOWN.

54-020		CFCP MS1	PANEL R11 SUPPLY H2O	TK C INLET SW - OPEN, (15 SEC MAX) UNTIL TK C INLET TB OP, THEN RELEASE	R12A2S014 R12A2DS009
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NOT PERFORMED \_\_\_\_\_

54-021			CFCP CRT (VAG12 PG B)	LV5 POP ON	V62X0572E1
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NOTE

PERFORM NEXT STEP IF VLV  
 POSITION INDICATORS ARE  
 NOT AS SHOWN.

54-022		CFCP MS1	PANEL R11 SUPPLY H2O	TK C OUTLET SW - OPEN, (15 SEC MAX) UNTIL TK C OUTLET TB OP THEN RELEASE	R12A2S015 R12A2DS010
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NOT PERFORMED \_\_\_\_\_

54-023			CFCP CRT (VAG12 PG B)	LV6 POP ON	V62X0568E1
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OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF VALVE  
POSITION NOT AS SHOWN.

54-024                    CFCP MS1    PANEL R11  
   SUPPLY H2O  
   B SPLY ISOL VLV SW - OPEN      R12A2S016  
   (15 SEC MAX) UNTIL B SPLY      R12A2DS011  
   ISOL VLV TB OP, THEN RELEASE

NOT PERFORMED      \_\_\_\_\_

54-025                    CFCP CRT (VAG12 PG B)  
  
   LV12  
   POP ON                              V62X0203E1

NOTE

PERFORM NEXT STEP ONLY IF  
VLV POSITION INDICATORS  
ARE NOT AS SHOWN.

54-026                    CFCP MS1    PANEL ML31C  
   WASTE H2O  
   TK 1 DR VLV SW - CLOSE (15      ML31CS001  
   SEC MAX) UNTIL TK 1 DRAIN      ML31CDS001  
   VLV TB CL, THEN REL

NOT PERFORMED      \_\_\_\_\_

54-027                    CFCP CRT (VAG31 PG B)  
  
   TK 1 DRAIN                              V62X0566E1  
   POP OFF

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP ONLY IF  
 VLV POSITION INDICATORS  
 ARE NOT AS SHOWN.

54-028		CFCP	MS1	PANEL ML31C WASTE H2O TK 1 VLV SW - OPEN (15 SEC MAX) UNTIL TK 1 VLV TB OP, THEN RELEASE	ML31CS002 ML31CDS002
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NOT PERFORMED \_\_\_\_\_

54-029				CFCP CRT (VAG31 PG B)  TK 1 VLV POP ON	V62X0570E1
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NOTE

PERFORM NEXT STEP ONLY IF  
 VALVE POSITION INDICATOR IS  
 NOT AS SHOWN.

54-030		CFCP	MS1	PANEL ML31C WASTE H2O DUMP ISOL VLV SW - CLOSE (15 SEC MAX) UNTIL DUMP ISOL VLV TB CL, THEN REL	ML31CS003 ML31CDS003
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NOT PERFORMED \_\_\_\_\_

54-031				CFCP CRT (VAG31 PG B)  DUMP ISOL POP OFF	V62X0533E
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54-032		CFCP	MS1	PANEL ML31C WASTE H2O DUMP VLV ENABLE/NOZ HTR SW - ON	ML31CS008
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP ONLY IF  
 VALVE POSITION INDICATOR IS  
 NOT AS SHOWN.

54-033		CFCP	MS1	PANEL ML31C WASTE H2O DUMP VLV SW - CLOSE (15 SEC MAX) UNTIL DUMP VLV TB CL, THEN RELEASE	ML31CS004 ML31CDS004
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NOT PERFORMED \_\_\_\_\_

54-034				CFCP CRT (VAG31 PG B)  DUMP VLV POP OFF	V62X0538E1
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54-035		CFCP	MS1	PANEL ML31C WASTE H2O DUMP VLV ENAB/NOZ HTR SW - OFF DUMP VLV TB BP	ML31CS008
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NOTE

PERFORM NEXT STEP ONLY IF  
 VALVE POSITION INDICATORS  
 ARE NOT AS SHOWN.

54-036		CFCP	MS1	PANEL ML31C SUPPLY H2O TK D INLET SW - OPEN (15 SEC MAX) UNTIL TK D INLET TB OP, THEN RELEASE	ML31CS006
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NOT PERFORMED \_\_\_\_\_

54-037				CFCP CRT (VAG12 PG B)  LV7 POP ON	V62X0571E1
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP ONLY IF  
 VALVE POSITION INDICATORS  
 ARE NOT AS SHOWN.

54-038		CFCP MS1		PANEL ML31C SUPPLY H2O TK D OUTLET SW - OPEN (15 SEC MAX) UNTIL TK D OUTLET TB OP, THEN REL	ML31CS007 ML31CDS006
				NOT PERFORMED	_____
54-039			CFCP CRT (VAG12 PG B)	LV8 POP ON	V62X0567E1
54-040		CFCP MS1		PANEL ML86B ROW A MN A WASTE H2O DUMP VLV/NOZ HTR CB - OPEN	ML86BC065
				MN B SUPPLLY H2O DUMP ISOL CB - OPEN	ML86BC008
				MN C SUPPLY H2O DUMP VLV/NOZ HTR CB - OPEN GALLEY SUPPLY CB - OPEN	ML86BC064 ML86BC015
			ROW B	MN A WASTE H2O DUMP ISOL CB - OPEN WCS CNTLR CB - OPEN GALLEY OVEN CB - OPEN	ML86BC017 ML86BC01 ML86BC024
				MN B WASTE H2O TK1 DRAIN CB - OPEN WCS CNTLR CB - OPEN GALLEY H2O HTR CB - OPEN	ML86BC023 ML86BC022 ML86BC024

OPERATION INSTRUCTIONS

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

NOTE

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

54-041		CFCP MS1	PANEL ML86B ROW C MN A EXTERNAL AIRLOCK HTR LINE ZONE 1 CB - OPEN ZONE 2 CB - OPEN MN B EXTERNAL AIRLOCK HTR LINE ZONE 1 CB - OPEN ZONE 2 CB - OPEN H2O S/O VALVE CB - CLOSE MN C EXTERNAL AIRLOCK HTR LINE ZONE 1 CB - OPEN ZONE 2 CB - OPEN		
					NOT PERFORMED _____
54-042		CFCP MS1	PANEL M013Q AIRLOCK H2O S/O VLV SW - CENTER TB - OPEN		
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-043		CFCP	MS1	PANEL MA73C ROW E AC1 WCS FAN SEP 1 PH A CB - OPEN PH B CB - OPEN PH C CB - OPEN  AC2 WCS FAN SEP 2 PH A CB - OPEN PH B CB - OPEN PH C CB - OPEN  ROW G AC 3 GALLEY FAN PH A CB - OPEN PH B CB - OPEN PH C CB - OPEN	    MA73CC047 MA73CC048 MA73CC049  MA73CC050 MA73CC051 MA73CC052    MA73CC026 MA73CC027 MA73CC028
54-044		CFCP	MS1	PNL ML86B ROW E MN A EMU 2 H2O SUPPLY CB - OPEN WASTE CB - OPEN  MN C EMU 1 H2O SUPPLY CB - OPEN WASTE CB - OPEN  OPTION A - WWMS PREPS FOR SWITCHLIST ----- COMPLETE -----	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
OPTION B: ORBITER POTABLE (L-3 DAY)					
-----					
WATER SAMPLES AND TANK A QUANTITY					
-----					
ADJUST					
-----					
NOT PERFORMED					_____

NOTE

REPEAT NEXT 30 STEPS AS  
 REQUIRED TO SUPPORT S0007VL2  
 AND VL3 CONTINGENCIES. RECORD  
 DATA AND VERIFICATION OF  
 PERFORMANCE OF THESE STEPS IN  
 APPENDIX F DATA SHEET F-2.

54-045		OTC	CFCP	PERFORM ORBITER POTABLE (L-3 DAY)	
		132	OCMT	WATER SAMPLES AND TANK A QUANTITY	
			OQCO	ADJUST ON OIS CH 153.	
			CDR		
			NQCV		
54-046		CECL	CDR	PANEL O14	
				ROW D	
				MN A	
				ATM PRESS CONTROL	
				N2 SUPPLY 1 CB - CLOSE	O14A1CB18
				N2 REG INLET 1 CB - CLOSE	O14A1CB21

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

FOLLOWING STEP MAY CAUSE  
 M/A DUE TO GN2 FLOWRATE  
 EXCEEDING 4.9 PPH MOMENTARILY.  
 RESET MASTER ALARM.

DUE TO A PROBLEM WITH OV-102,  
 WHEN THE N2 SYS 1 SUPPLY VLV IS  
 OPENED, THE SUPPLY VLV MAY  
 INDICATE XNN IN THE SOFTWARE  
 AND THE CDR MAY SEE A BP  
 TALKBACK, THE VALVE IS OPEN.  
 THIS PROBLEM IS DOCUMENTED  
 ON DEFERRED PR ECL-2-A0103.

54-047		CECL	CDR	PANEL L2 ATM PRESS CONTROL N2 SYS 1 SUPPLY SW - OPEN SUPPLY TB - OP REG INLET SW - OPEN REG INLET TB - OP	L2A01S013 L2A01DS006 L2A01S014 L2A01DS007
54-048		CECL	CRT	(VAG10 PG B)  VLV 2 POP  VLV 4 POP	V61X2323E1 V61X2416E1  V61X2321E1 V61X2415E1
54-049		CFCP	CRT	(VAG12 PG B)  SUPPLY H2O TK A QTY RECORD (_____) PCT BD	V62Q0410A1
54-050		CFCP	CDR	PANEL ML26C SUPPLY H2O TK VENT VLV - PRESS (UP) TK A SUPPLY VLV - OPEN (UP)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-051		CECL	CDR	PANEL M010W H2O TK N2 REG INLET SYS 1 VLV - OPEN H2O TK N2 ISOL SYS 1 VLV - OPEN	
54-052		CFCP	CDR	PANEL ML86B ROW A MN A SUPPLY H2O TK A INLET CB - CLOSE ROW A MN C SUPPLY H2O GALLEY SUPPLY CB - CLOSE	ML86BC001       ML86BC015
54-053		CFCP	CDR	PANEL R11 SUPPLY H2O GALLEY SPLY VLV - OPEN	
54-054		CFCP	CRT	(VAG12 PG B)  SUPPLY H2O TK A INLET LV1 POP - ON  GALLEY SUPPLY VLV LV9 POP - ON  SYS 1 N2/H2O TNK PRESS (P2307) RECORD (_____)PSIG BD  POTABLE H2O TK A QTY RECORD (_____) PCT BD	V62X0403E1       V62X1105E1   V61P2307A1      V62Q0410A1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-055		CFCP	CDR	PANEL ML86B ROW B MN A GALLEY OVEN CB - CLOSE	
54-056		CFCP	OMTO	ORBITER GALLEY  DC POWER OVEN/RHS - ON	

(T)

54-057 CFCP OMTO ORBITER GALLEY:

1. PULL BACK SLIDE ASSEMBLY AT REHYDRATION STATION AS FAR AWAY FROM NEEDLE AS POSSIBLE.
2. USING STERILE TECHNIQUE, CONNECT SHUTTLE SAMPLE LINE (SSL) (BIONETICS SUPPLIED) TO GALLEY NEEDLE.
3. TURN VOLUME SELECTOR KNOB TO 8.0 OUNCES.
4. MANUALLY DEPRESS AND HOLD THE "SENSOR LEVER" LOCATED NEXT TO NEEDLE INSIDE PLEXIGLASS RING.
5. DEPRESS "COLD" BUTTON TO INITIATE WATER FLOW.

CAUTION

IF WATER FLOW EVER REQUIRES TO BE STOPPED, RELEASE "SENSOR LEVER".

NOTE

BUTTON WILL REMAIN LIT WHILE WATER FLOWS AND WILL FLASH ON/OFF WHEN CYCLE IS COMPLETE.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-057				6. RELEASE "SENSOR LEVER" AFTER "COLD" LIGHT FLASHES.	
CON'T				7. REPEAT SUBSTEPS 4,5 AND 6 IF ADDITIONAL WATER IS REQUIRED.	
				8. FLOW APPROX 1000 ML. INTO WASTE CONTAINER.	(T)

54-058

CFCP OMT0 ORBITER GALLEY:

1. DISCONNECT SSL FROM GALLEY NEEDLE. DISCARD DRAINED WATER.
2. CONNECT NEW SSL TO WATER DISPENSER NEEDLE USING STERILE TECHNIQUE.
3. MANUALLY DEPRESS AND HOLD THE "SENSOR LEVER" LOCATED NEXT TO NEEDLE INSIDE PLEXIGLASS RING.
4. DEPRESS "COLD" BUTTON TO INITIATE WATER FLOW.

NOTE

BUTTON WILL REMAIN LIT WHILE WATER FLOWS AND WILL FLASH ON/OFF WHEN CYCLE IS COMPLETE.

5. RELEASE "SENSOR LEVER" AFTER "COLD" LIGHT FLASHES.
6. REPEAT SUBSTEPS 3,4 AND 5 IF ADDITIONAL WATER IS REQUIRED.
7. OBTAIN WATER SAMPLES FOR MICROBIAL, CHEMICAL, PH, CONDUCTIVITY DISSOLVED GAS, AND IODINE ANALYSIS IN THAT ORDER.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-058				8. DISCONNECT SSL FROM GALLEY NEEDLE. DISCARD EXCESS WATER.	
CON'T				9. ORBITER GALLEY: DC POWER OVEN/RHS - OFF	
				OMRSD V62AE0.010-C-1R	(T)
54-059		CFCP	CDR	PANEL ML86B ROW B MN A GALLEY OVEN CB - OPEN	
				NOTE	
				WHEN CONNECTING TO GALLEY I/F QD'S CLEAN MATING QD'S WITH 70 PCT AQUEOUS ETHYL ALCOHOL STERILE COTTON PADS. ALLOW ALCOHOL TO EVAPORATE PRIOR TO MAKING CONNECTION.	
				PERFORM THE NEXT THREE STEPS IF POTABLE/SUPPLY WATER SYSTEM QUANTITY ADJUST IS TO BE PERFORMED USING POTABLE WATER SAMPLING APPARATUS.	
				SAMPLE VALVE MAY BE OPENED/ CLOSED AS REQUIRED IN NEXT STEP TO ACCOMPLISH DRAIN OPERATION.	
				FINAL TANK A QUANTITY SHALL BE DETERMINED BY FC/PRSD ENGINEERING.	
54-060		CFCP	OMTO	REMOVE CAP AND CONNECT SAMPLING ADAPTER TO TP4.	(T)
				NOT PERFORMED	(NP)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-061		CFCP	OMTO	SAMPLING APPARATUS	
				1. RECORD START TIME (_____)GMT	BD
				2. SAMPLE VALVE - OPEN (CCW)	
				3. VERIFY WATER FLOW AT DRAIN LINE END	
				4. SAMPLE VALVE - CLOSE (CW) WHEN TANK A QUANTITY INDICATOR INDICATES DESIRED QUANTITY	
				5. RECORD STOP TIME (_____)GMT	BD
					(T)
				NOT PERFORMED	(NP)
54-062		CFCP	OMTO	PERFORM FOLLOWING:	
				1. DISCONNECT POTABLE WATER SAMPLING APPARATUS FROM TP4.	
				2. INSPECT SEALING SURFACE FOR DAMAGE AND VERIFY NO VISIBLE LEAKAGE DETECTED IN 15 MINUTES.	
				OMRS V62GEN.100	
				OK TO INSTALL	(QW) SS3
				3. INSTALL CAP ON TP4.	
					(TQW)
				NOT PERFORMED	(NP)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-063				CFCP CRT (VAG12 PG B)	
			1.	RECORD	
				TK A QTY (_____) PCT BD	V62Q0410A1
			2.	RETRIEVE DRAIN PLOT OF TANK A USING START AND STOP TIMES. PLOT SHOULD CONSIST OF TANK A QUANTITY (V62Q0410A1), SUPPLY - H2O STORAGE INLET PRESSURE (V62P0430A1), AND SYS 1 N2/H2O TANK PRESS (V61P2307A1).	
			3.	REVIEW DRAIN PLOT OF TANK A. LOOK FOR FLOW RATE DECREASE WITHOUT A CORRESPONDING CHANGE IN DELTA PRESSURE ACROSS THE BELLOWS (INCLUDING BELLOWS SPRING FORCE), WHICH COULD INDICATE A STICKY BELLOWS AND SHOULD BE EVALUATED.	
				OMRS V62AG0.010-D	
54-064				CFCP OMTO ROUTE SAMPLES AND SAMPLING APPARATUS FROM ORBITER.	
					(T)



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NEXT STEP WILL REMAIN OPEN UNTIL BIONETICS DELIVERS SAMPLE REPORT(S). ENGINEERING WILL SIGN NEXT STEP TO INDICATE THAT RESULTS HAVE BEEN REVIEWED. SAMPLE RESULTS ARE NOT REQUIRED FOR LAUNCH.

54-065		CFCP		ANALYZE SAMPLES PER REQUIREMENTS OF SE-S-0073 TABLE 6.4.6 FOR REFERENCE ONLY. (L-3 DAY SAMPLE)  QUALITY SHALL ATTACH A COPY OF SAMPLE REPORT NO. (_____) TO THIS OMI.  OMRS V62AE0.010-C	
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NOTE

NEXT SEVEN STEPS WILL PERFORM DRAIN OF POTABLE WATER DUMP LINE. PERFORM FOR INITIAL L-3 DAY SAMPLE ONLY.

54-066		CFCP CDR		PANEL ML86B MN B, SUP H2O DUMP ISOL CB - CLOSE MN C, SUP H2O DUMP VLV NOZ HTR CB - CLOSE  <div style="text-align: right;">NOT PERFORMED (NP)</div>	
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54-067		CFCP CDR		PANEL R11 DUMP ISOL VLV SW - CLOSE (15 SEC MAX) UNTIL DUMP ISOL VLV TB CL  <div style="text-align: right;">NOT PERFORMED (NP)</div>	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-068		CFCP	CDR	PNL R11 DUMP VLV ENABLE/NOZZLE HTR SW - ON DUMP VLV SW - OPEN (15 SEC MAX), UNTIL DUMP VLV TB - OP	NOT PERFORMED (NP)
54-069		CFCP	VAG12	VERIFY ALL POTABLE H2O TANK QTYS ARE STABLE.	NOT PERFORMED (NP)
54-070		CFCP	OMTO	WCS COMPARTMENT - CONTINGENCY X-TIE	
				1. REMOVE CAP FROM POTABLE X-TIE PORT. RETAIN CAP FOR REINSTALLATION.	
					OK TO INSTALL (T)
					SS2
				NOTE	
				A VERY SMALL AMOUNT OF WATER MAY LEAK OUT DURING QD MATE OPERATION IN FOLLOWING SUBSTEP. BE PREPARED TO CATCH/WIPE UP ANY WATER THAT MAY SPILL.	
				2. CONNECT QD P/N MC276-0020-2192 (OR -2152, -3102) TO POTABLE X-TIE QD. DO NOT USE QD ON G070-683291-003 ASSY.	
				3. VERIFY QD END OPEN TO ATMOSPHERE. WIPE ANY WATER PRESENT WITH LINT FREE WIPE.	
				4. WAIT 5 MINUTES MINIMUM BEFORE CONTINUING.	
					(T)
					NOT PERFORMED (NP)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-071		CFCP	CDR	PANEL R11 DUMP VLV SW - CLOSE (15 SEC MAX) UNTIL DUMP VLV TB CL DUMP VLV ENABLE/NOZ HTR SW - OFF	NOT PERFORMED (NP)
54-072		CFCP	OMTO	WCS COMPARTMENT - CONTINGENCY X-TIE PANEL	
				1. DISCONNECT QD MC276-0020-2192 (OR -2152, -3102) FROM POTABLE X-TIE QD.	
				2. INSPECT SEALING SURFACE FOR DAMAGE.	(TQW) SS2
				OK TO INSTALL	(QW) SS3
				3. CONNECT CAP ASSY TO POTABLE X-TIE QD.	(TQW) SS3
				4. BAG & SEAL GSE QD. ROUTE TO STOCK.	(T)
				NOT PERFORMED	(NP)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-073		CFCP 132	OTC	ORBITER POTABLE (L-3 DAY) WATER SAMPLES AND TANK A QUANTITY ADJUST ARE COMPLETE.  OPTION B: ORBITER POTABLE (L-3 DAY) ----- WATER SAMPLES AND TANK A QUANTITY ----- ADJUST COMPLETE -----	

OPERATION INSTRUCTIONS

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

OPTION C: WASTE TANK QUANTITY ADJUST  
-----

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

NOTE

FOLLOWING 16 STEPS ARE  
REQUIRED TO MEET TARGETED  
LIFT-OFF QUANTITY FOR THIS  
MISSION. (REF OMRS V62AM0.020)

54-074		OTC	CFCP	PERFORM WASTE TANK QUANTITY	
		132		ADJUST ON OIS CH 153.	
		CFCP	OCMT		
		153	OQCV		
			OMTO		
54-075		CDR		PANEL ML86B	
				ROW A	
				MN A	
				WASTE H2O DUMP VLV/NOZ HTR CB - CLOSE	
				ROW B	
				MN A	
				WASTE H2O DUMP ISOL CB - CLOSE	
				WASTE H2O TK1 VLV CB - CLOSE	
54-076		CFCP	OMTO	PNL ML31C	
				WASTE H2O	
				DUMP ISO VLV - CLOSE (15 SEC MAX)	
				UNTIL TB CL	
				TK1 VLV SW - OPEN (15 SEC MAX) UNTIL	
				TK1 VLV TB OP, THEN RELEASE	

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

OPERATION INSTRUCTIONS

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

NOTE

NOTED REQUIREMENT IS SATISFIED  
BY COMPLETION OF NEXT 12 STEPS.

OMRS V62AM0.020-B-1R

54-077		CFCP	PMTG	PERFORM FOLLOWING: OMTO		
				1. ROUTE DRAIN G070-683291-003 HOSE ASSY INTO CREW MODULE.		
				2. PLACE LOOSE END FLEXHOSE TO FACILITY DRAIN OR WASTE CONTAINER.		T: _____
54-078		CFCP	OMTO	CONTINGENCY H2O X-TIE PANEL DISCONNECT CONTINGENCY QD CAP FROM MC276-0020-1101 WASTE QD.		T: _____
54-079		CFCP	OMTO	G070-683291-003 HOSE ASSY		
				OK TO INSTALL		T: _____
				CONNECT G070-683291-003 DRAIN HOSE ASSY (S0989MD9) TO CONTINGENCY X-TIE WASTE QD.		T: _____
54-080		CFCP	CRT	(VAG31 PG B)		
				RECORD		
				WASTE TANK QTY _____		V62Q0540A1
				_____ PCT    BD		
				START TIME _____ GMT		BD

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

NEXT STEP WILL INITIATE FLOW.

54-081		CFCP	OMTO	PNL ML31C WASTE H2O DUMP ISO VLV - OPEN (15 SEC MAX) UNTIL TB - OP	
--------	--	------	------	---	--

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

NOTE

WASTE H2O DUMP ISO VLV MAY  
BE OPEN/CLOSED AS REQUIRED  
IN NEXT STEP TO ACCOMPLISH  
DRAIN OPERATION.

FINAL WASTE TANK QUANTITY  
SHALL BE 7.5 +/- 1 PCT.

54-082		CFCP	OMTO	DRAIN HOSE ASSY G070-683291-003  VERIFY WATER FLOW AT DRAIN LINE END.	
--------	--	------	------	--	--

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

OPERATION INSTRUCTIONS

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

CAUTION

DO NOT ALLOW WASTE TANK  
BELLOWS TO REACH STOPS.

NOTE

PERFORM NEXT TWO STEPS WHEN  
WASTE TANK QUANTITY INDICATES  
DESIRED QUANTITY (7.5+/-1 PCT  
NOMINAL)

54-083

CFCP OMT0 PANEL ML31C  
WASTE H2O  
DUMP ISOL VLV - CLOSE (15 SEC MAX)  
UNTIL DUMP ISOL TB - CL

RECORD STOP TIME \_\_\_\_\_ GMT

VERIFY END OF FLEXHOSE OPEN TO  
ATMOSPHERE TO PREVENT SIPHONING  
DRAIN WATER BACK THROUGH VEHICLE.

PANEL ML31C  
WASTE H2O  
DUMP VLV ENABLE/NOZ HR SW - ON  
DUMP VLV - OPEN (15 SEC MAX)  
UNTIL DUMP VLV TB - OP

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

NOTE

WAIT AT LEAST FIVE MINUTES.

54-084

CFCP OMT0 AFTER FIVE MINUTES MINIMUM:

PANEL ML31C  
WASTE H2O  
DUMP VLV - CLOSE (15 SEC MAX)  
UNTIL DUMP VLV TB - CL

DUMP VLV ENABLE/NOZ HTR SW - OFF

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



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-085				CFCP CRT (VAG29 PG B)	
			1.	RECORD	
				WASTE TANK	V62Q0540A1
				QTY _____ PCT 7.5+/-1 NOMINAL	
				WASTE LIQUID	
				PRESSURE _____ 8-22 PSIG	V62P0500A1
			2.	RETRIEVE DRAIN PLOT OF WASTE TANK USING START AND STOP TIMES. PLOT SHOULD CONSIST OF WASTE TANK QUANTITY V62Q0540A1), WASTE LIQUID PRESSURE (V62P0500A1), AND SYS 1 N2/H2O TANK PRESS (V61P2307A1).	
			3.	REVIEW DRAIN PLOT OF WASTE TANK. LOOK FOR FLOW RATE DECREASE WITHOUT A CORRESPONDING CHANGE IN DELTA PRESSURE ACROSS THE BELLOWS (INCLUDING BELLOWS SPRING FORCE), WHICH COULD INDICATE A STICKY BELLOWS AND SHOULD BE EVALUATED.	
				OMRS V62AMO.020-B	
				OMRS V62GEN.100	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-086		CFCP	OMTO	PERFORM FOLLOWING:	
				1. DISCONNECT G070-683291-003 DRAIN HOSE ASSY (S0989MD9) FROM CONTINGENCY X-TIE WASTE QD.	
				2. INSPECT SEALING SURFACES FOR DAMAGE AND VERIFY NO VISIBLE LEAKAGE DETECTED.	
				OK TO INSTALL	QW: _____ SS3
				3. CONNECT QD CAP ON MC276-0020-1101 TO WASTE QD	TQW: _____ SS3
54-087		CFCP	OMTO	REMOVE G070-683291-003 DRAIN HOSE ASSY FROM ORBITER.	T: _____
54-088				COMPLETION OF PREVIOUS 12 STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD V62AM0.020-B-1R	
				NOTE	
				PERFORM NEXT TWO STEPS IF N2 SYS 1 SUPPLY AND REG INLET VALVES WERE OPENED FOR L-3 DAY WATER SAMPLES.	
54-089		CECL	CDR	PANEL L2 ATM PRESS CONTROL N2 SYS 1 SUPPLY SW - CLOSE SUPPLY TB CL REG INLET SW - CLOSE REG INLET TB CL	NOT PERFORMED _____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-090		CECL	CRT	(VAG10, PG-B)	
			VLV 2		V61X2323E1
			PCL		V61X2416E1
			VLV 4		V61X2321E1
			PCL		V61X2415E1

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

54-091 CFCP OTC WASTE TANK QUANTITY ADJUST COMPLETE.  
132

NOTE

FOLLOWING WILL CLEAN AND TEAR  
DOWN WASTE DRAIN ASSY (MAY  
BE LOCATED IN FORWARD SHOP  
AREA). NEXT FIVE STEPS MAY  
BE WORKED OUT OF SEQUENCE.

54-092 OMTO ROUTE WASTE DRAIN ASSY (BUILD-UP  
IN POSU OF S0007 VL1) TO WILTECH  
FOR CLEANING (MAO-110-301, LEVEL  
300) AND RETURN FOR TEAR DOWN.

CDR NO. \_\_\_\_\_

FLOW THRU CLEANING ONLY. (PUT PRIORITY  
ON CDR FOR RETURN WITHIN 2-3 DAYS)

ANNOTATE CDR WITH FOLLOWING: "WASTE  
DRAIN ASSEMBLY IS USED TO DRAIN  
SANITATION FLUID FROM ORBITER  
WASTE TANK."

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

OPERATION INSTRUCTIONS

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

NOTE

PERFORM FOLLOWING STEPS  
AFTER WASTE DRAIN ASSY  
RETURNS FROM CLEANING.

54-093		OMTO		REMOVE G070-683291-003 QD ASSY (S0989MD9) FROM FLEXHOSE S0989FH1 (FROM G070-683291-004 ASSY).	T:_____
--------	--	------	--	---	---------

54-094		OMTO		INSTALL CAP ONTO G070-683291-003 QD ASSY. DOUBLE BAG AND SEAL.	T:_____
--------	--	------	--	--	---------

54-095		OMTO		INSTALL RETAINED ELBOW, FITTINGS, QD AND REF DES TAG ON G070-683291-004 FLEXHOSE. TORQUE TO 450-505 IN. LBS.  CAL NO. _____ DUE DATE _____	T:_____
--------	--	------	--	--	---------

54-096		OMTO		ROUTE G070-683291-003 AND -004 ASSY'S TO STOCK.	T:_____
--------	--	------	--	---	---------

OPTION C: WASTE TANK QUANTITY ADJUST  
-----  
COMPLETE  
-----

OPERATION INSTRUCTIONS

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

OPTION D: POT/SUPPLY WATER TK-A DRAIN

NOT PERFORMED

NOTE

THIS POT/SUPPLY WATER TK-A DRAIN IS A CONTINGENCY ONLY AND IS TO BE PERFORMED TO ENSURE PROPER ULLAGE TO MEET TARGETED LIFT-OFF QUANTITY FOR THIS MISSION. (REF OMRS V62AG0.010-D)

NEXT 17 STEPS SHOULD BE REPEATED AS REQUIRED TO SUPPORT S0007VL2 AND VL3 CONTINGENCIES. RECORD DATA AND VERIFICATION OF PERFORMANCE OF THESE STEPS IN APPENDIX F DATA SHEET F-1.

SFOC QUALITY WILL NOT BE PRESENT IF THIS IS BEING PERFORMED BY CLOSE OUT CREW. IN THIS CASE, RECORD NASA QC STAMP NUMBER IN PLACE OF SFOC QC.

54-097		OTC	CFCP	PERFORM POT/SUPPLY WATER TK-A DRAIN	
		132		ON OIS CH 153.	
		CFCP	OMTO		
			NQCV		
			LQCV		

54-098		CFCP	OMTO	PNL ML26C	
				SUPPLY H2O	
				TK VENT VLV - PRESS (UP)	
				TK A SUPPLY VLV - OPEN (UP)	

(T)

54-099		CFCP	CDR	PANEL ML86B	
				ROW A	
				MNC	
				SUPPLY H2O	
				GALLEY SUPPLY CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-100		CFCP	CDR	PANEL R11 SUPPLY H2O GAL SPLY VLV SW - OPEN (15 SEC MAX) UNTIL GALLEY SPLY TB OPEN, THEN RELEASE.	
54-101		CFCP	CRT (VAG12 PG B)	SUPPLY H2O TK A INLET LV1 POP ON	V62X0403E1
				GALLEY SUPPLY VLV LV 9 POP ON	V62X1105E1
54-102		CFCP	CRT (VAG12 PG B)	RECORD  TK A QTY _____ PCT	BD V62Q0410A1
NOTE					
WHEN CONNECTING TO GALLEY I/F QD'S, CLEAN MATING QD'S WITH 70 PCT AQUEOUS ETHYL ALCOHOL STERILE COTTON PADS. ALLOW ALCOHOL TO EVAPORATE PRIOR TO CONNECTING.					
54-103		CFCP	OMTO	L070-000101-003 POTABLE WATER DRAIN APPARATUS	
OK TO INSTALL (T)					
REMOVE CAP AND CONNECT L070-000101-003 POTABLE WATER DRAIN APPARATUS TO GALLEY TP4.					
(T)					

OPERATION INSTRUCTIONS

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

NOTE

FINAL TANK A QUANTITY SHALL BE DETERMINED BY FC/PRSD ENGINEERING. DO NOT ALLOW TANK A BELLOWS TO REACH STOPS. MONITOR VAG12 (P0430) DURING TANK DRAIN. IF DECREASE IN PRESSURE NOTED TERMINATE DRAIN.

54-104 CFCP OMT0 PLACE END OF DRAIN ASSEMBLY INTO WASTE CONTAINER.

(T)

54-105 CFCP OMT0 L070-000101-003

1. RECORD START TIME \_\_\_\_\_GMT (BD)
2. MV-1 - OPEN TO BEGIN DRAIN. WHEN TANK A QUANTITY REACHES DESIRED QUANTITY (PER CFCP DIRECTION) - CLOSE MV-1.
3. RECORD STOP TIME \_\_\_\_\_GMT (BD)

(TQW)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-106		CFCP	OMTO	GALLEY	
				1. DISCONNECT L070-000101-003 POTABLE WATER SAMPLING APPARATUS FROM TP4.	
				2. INSPECT SEALING SURFACE FOR DAMAGE AND VERIFY NO VISIBLE LEAKAGE IN 15 MINUTES.	
				OMRS V62GEN.100	
				OK TO INSTALL	(QW)
				3. INSTALL CAP ON TP4.	
					(TQW)
54-107		CFCP	CRT	(VAG12, PAGE-B)	
				1. RECORD	
				TK A QTY _____ PCT	V62Q0410A1
				BD	
				2. RETRIEVE DRAIN PLOT OF TANK A USING START AND STOP TIMES. PLOT SHOULD CONSIST OF TANK A QUANTITY (V62Q0410A1), SUPPLY - H2O STROAGE INLET PRESSURE (V62P0430A1), AND SYS 1 N2/H2O TANK PRESS (V61P2307A1).	
				3. REVIEW DRAIN PLOT OF TANK A. LOOK FOR FLOW RATE DECREASE WITHOUT A CORRESPONDING CHANGE IN DELTA PRESSURE ACROSS THE BELLOWS (INCLUDING BELLOWS SPRING FORCE), WHICH COULD INDICATE A STICKY BELLOWS AND SHOULD BE EVALUATED.	
				OMRS V62AG0.010-D	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
54-108		CFCP	OMTO	ROUTE DRAIN EQUIPMENT FROM CREW MODULE.	(T)
54-109		CFCP	ASP	PANEL R11 SUPPLY H2O GAL SPLY VLV SW - CLOSE (15 SEC MAX HOLD) UNTIL GALLEY SPLY VLV TB CLOSE, THEN RELEASE	
54-110		CFCP	ASP	PANEL ML86B ROW A MN C SUPPLY H2O GALLEY SUPPLY CB - OPEN	
NOTE					
PERFORM NEXT TWO STEPS IF THIS IS LAST DRAIN TO SUPPORT TARGETED LIFT OFF QUANTITY.					
54-111		CFCP	CDR	PANEL ML26C SUPPLY H2O TK A SUPPLY VLV - CLOSE (DWN) TK VENT VLV - VENT (DWN)	NOT PERFORMED (NP)
54-112		CFCP		VERIFY TKA CALCULATED IODINE LEVEL LESS THAN 6 PPM PRIOR TO LAUNCH BASED ON FUEL CELL WATER AT 3 PPM.  OMRS V62AE0.010-C	NOT PERFORMED (NP)
54-113		CFCP	OTC 132	POT/SUPPLY WATER TK-A DRAIN COMPLETE.  OPTION D: POT/SUPPLY WATER TK-A DRAIN ----- COMPLETE -----	

VOLUME 4 OF 5  
DATE: 07-08-99

OMI NO. - S0007VL4  
REV. - AY

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
55-000				EPDC/FUEL CELL GROUND POWER CONNECT ----- AND FC LOAD SHARE ADJUST -----	

NOTE

THIS IS A CONTINGENCY SEQUENCE.  
PERFORM ONLY IF CALLED OUT BY  
THE RECYCLE SEQUENCE.

ENTIRE SEQUENCE NOT PERFORMED \_\_\_\_\_

RE-ESTABLISH GSE POWER  
-----

NOTE

IF GROUND POWER IS CONNECTED,  
PROCEED DIRECTLY TO THE FUEL  
CELL LOAD SHARING ADJUST STEPS.

OPERATION INSTRUCTIONS

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

POWER SUPPLY RESTART  
-----

NOTE

NOTED OMRS REQUIREMENT IS  
SATISFIED BY COMPLETION OF  
NEXT TWO STEPS.

OMRS S00E00.A00

55-001

CEPD IF PWR SUPPLIES ARE OFF, START  
1D100, 1D200 AND 1D300 PWR  
SUPPLIES AND ADJUST VOLTAGE  
TO 29-30 VDC AS FOLLOWS:

CEPD RECORD POWER SUPPLIES TO BE  
STARTED:

1D100 (MN A) \_\_\_\_\_

1D200 (MN B) \_\_\_\_\_

1D300 (MN C) \_\_\_\_\_

CEPD CRT (VWC17)  
MN X GND PWR M/SW IND OFF

CEPD CRT (VWC15)  
1DX00 ITCU-PRI AND SEC CMD INDS OFF

CEPD CURSOR CNTL (VWC15)

1DX00 ITCU RES BYPASS - OFF

1DX00 PS - START  
VERIFY START IND ON

1DX00 VOLT ADJUST - UP/DN (AS REQ)

1DX00 PS OUTPUT - ON  
VERIFY OUTPUT ON

1DX00 ITCU RES BYPASS - ON  
VERIFY ITCU RES BYPASS IND ON

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

OPERATION INSTRUCTIONS

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

GROUND POWER CONNECTION  
-----

55-002

CEPD IF 1D100, 1D200 AND 1D300 SUPPLIES  
ARE ON, CONTINUE WITH GSE MN BUS PWR  
APPLICATION AND F/C LOAD SHARING  
ADJUST.

CURSOR CNTL (VWC17)

ADJUST MN A ITCU VOLTAGE TO  
EQUAL AFT PCA VOLTAGE (+0.5/-0.0).

MN A ITCU CONTACT - ON  
XMIT CURSOR KEY - PRESS

VERIFY MN A ITCU CONTACT IND ON

MN A GND PWR M/SW - ON  
XMIT CURSOR KEY - PRESS

VERIFY MN A GND PWR M/SW IND ON

ADJUST MN B ITCU VOLTAGE TO  
EQUAL AFT PCA VOLTAGE (+0.5/-0.0).

MN B ITCU CONTACT - ON  
XMIT CURSOR KEY - PRESS

VERIFY MN B ITCU CONTACT IND ON

MN B GND PWR M/SW - ON  
XMIT CURSOR KEY - PRESS

VERIFY MN B GND PWR M/SW IND ON

ADJUST MN C ITCU VOLTAGE TO  
EQUAL AFT PCA VOLTAGE (+0.5/-0.0).

MN C ITCU CONTACT - ON  
XMIT CURSOR KEY - ON

VERIFY MN C ITCU CONTACT IND ON

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
55-002				MN C GND PWR M/SW - ON XMIT CURSOR KEY - PRESS	
				VERIFY MN C GND PWR M/SW IND ON	
				NOT PERFORMED	_____
55-003				COMPLETION OF PREVIOUS TWO STEPS SATISFIES NOTED OMRS REQUIREMENT.	
				OMRSD S00E00.A00	
				NOT PERFORMED	_____
				FUEL CELL LOAD SHARING ADJUST	

NOTE

CECL MONITOR HEAD LOAD IMPACT  
 OF THE NEXT STEP.

55-004		CEPD 153	CFCP	READY TO PERFORM LOAD SHARING ADJUST.	
55-005				CEPD ADJUST FUEL CELL LOADS TO BETWEEN CFCP 100 AND 175 AMPS. (150 AMPS NOMINAL)	
55-006				CFCP MONITOR FUEL CELL PERFORMANCE USING V-1 CURVE REFERENCE OMRS FILE III, V45CH0.010-1 CURRENT 100-175 AMPS.	
				OMRSD S00E00.680-1R	
55-007				CEPD CFCP LOAD SHARE ADJUST COMPLETE.	
55-008				CFCP CURSOR CNTL (VWR04, PG-B) ACTIVATE CONTROL LOGIC FOR FUEL CELLS 1, 2 AND 3.	
				VERIFY VCH01 - INVERT GREEN VCH02 - INVERT GREEN VCH03 - INVERT GREEN	
55-009		CEPD CFCP	OTC	GROUND POWER CONNECT AND FC LOAD SHARE ADJUST COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
56-000				POST ABORT WATER INTRUSION INSPECTION	
NOTE					
THIS IS A CONTINGENCY SEQUENCE. PERFORM ONLY IF AN ON PAD ENGINE ABORT OCCURS.					
ENTIRE SEQUENCE NOT PERFORMED					
56-001		CPVD		RECORD POSITION OF VENT DOORS 8 AND 9 BOTH SIDES.	
				L/H VENT DOORS 8 AND 9 _____	
				R/H VENT DOORS 8 AND 9 _____	
NOTE					
PERFORM NEXT STEP IF VENT DOORS 8 AND 9 ARE NOT OPEN ON BOTH SIDES.					
56-002		CPVD		OPEN VENT DOORS 8 AND 9 BOTH SIDES PER OMI V1314 SEQ, ROUTINE VENT DOOR OPERATIONS, CONTROL AND MONITORING (PAD).	
				RT OMI SEQ _____	
NOT PERFORMED					
56-003		CPVD OTC OTC NTD		VENT DOORS CONFIGURED FOR WATER INTRUSION INSPECTION.	

OPERATION INSTRUCTIONS

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

-----

NOTE

WATER INTRUSION INSPECTION SHALL BE PERFORMED AREA BY AREA WITH DISCREPANCIES NOTED IN FOLLOWING TABLE. DAMAGE CAUSED BY WATER SPRAY OR AREAS CONTAMINATED BY WATER SPRAY INTRUSION SHALL ALSO BE DOCUMENTED ON A PR/DR.

56-004

NTD OTC INSPECT EXTERNAL AND INTERNAL AFT OTC \*PAD FUSELAGE, ET UMBILICAL AREA, AND \*PAD OMTO VENT DOORS 8 AND 9 PLENUMS FOR WATER CONTAMINATION. RECORD AND MAP AREAS CONTAMINATED WITH WATER IN TABLE 1-1 (ADDITIONAL SHEETS MAY BE COPIED AND ATTACHED IF REQUIRED). REPORT RESULTS TO NTD.

TABLE 1-1 WATER INTRUSION INSPECTION  
 -----

AREA ----	RESULTS -----	TQWN ----

OMRSD S00E00.995-A (PARTIAL)



OPERATION INSTRUCTIONS

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

NOTE

IF WATER IS DETECTED, THE FOLLOWING STEP WILL REMOVE THE WATER FROM THE AFFECTED AREAS. RECORD THE QUANTITY OF WATER WHICH HAS ACCUMULATED IN EACH AREA.

56-005      \*PAD OMT0 USING SHOP VACUUM AND TYGON TUBING AND/OR RYMPLE CLOTH, REMOVE WATER FROM CONTAMINATED AREAS AS NOTED IN PREVIOUS STEP. RECORD QUANTITY OF WATER REMOVED IN TABLE 1-2 AND UPDATE THE VEHICLE SPILL LOG. (AS APPLICABLE) ADDITIONAL SHEETS MAY BE COPIED AND ATTACHED IF REQUIRED.

TABLE 1-2 WATER REMOVAL

AREA -----	QUANTITY REMOVED -----	TQWN -----

OMRSD S00E00.995-C  
 OMRSD S00E00.995-D

OPERATION INSTRUCTIONS

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

56-006				*PAD OMTO IF PRESENT, REMOVE TRACES OF RESIDUE/ STAINING LEFT BY WATER WITH RYMPLE CLOTH AND/OR LINE FREE WIPES WETTED WITH A SOLUTION OF 1.0 PCT LOC IN DEIONIZED WATER.	
--------	--	--	--	---	--

TQWN:\_\_\_\_\_

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

NOTE

PERFORM NEXT STEP IF VENT  
DOORS 8 AND 9 WERE OPENED  
EARLIER IN THIS SEQUENCE.

56-007				CPVD REPOSITION VENT DOORS 8 AND 9 TO POSITION RECORDED EARLIER IN THIS SEQUENCE PER OMI V1314 SEQ, ROUTINE VENT DOOR OPERATIONS, CONTROL AND MONITORING (PAD).	
--------	--	--	--	---	--

RT OMI SEQ\_\_\_\_\_

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

56-008				*PAD OTC POST ABORT WATER INTRUSION INSPECTION OTC NTD COMPLETE.	
--------	--	--	--	---	--

OPERATION INSTRUCTIONS

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

57-000				FINAL INSPECTION	
--------	--	--	--	------------------	--

NOTE

DO NOT PERFORM THIS SEQUENCE  
IF LAUNCH SCRUBBED PRIOR TO  
TANKING.

ENTIRE SEQUENCE NOT PERFORMED

WARNING

SOUND SUPPRESSION WATER IS  
PRESENT ON MLP 0 LEVEL AND  
GUARD RAILS ARE REMOVED,  
FINAL INSPECTION TEAM MUST  
EXERCISE EXTREME CAUTION  
WHILE ON MLP 0 LEVEL.  
UNDER NO CIRCUMSTANCE WILL  
SOUND SUPPRESSION WATER  
SYSTEM BE ACTIVATED WHILE  
PERSONNEL ARE ON MLP 0  
LEVEL. CONTROLLED SWITCHING  
WILL BE IN EFFECT WHILE  
ICE INSPECTION TEAM IS ON  
STRUCTURE. ACCESS ABOVE  
135 FT FSS LIMITED TO 14  
PERSONNEL MAXIMUM.

NOTE

STAY TIMES AND INSPECTION  
POINTS ARE PER S6444.

FINAL INSPECTION TEAM TO BE  
DRESSED IN NONSTATIC  
PRODUCING, FLAME RETARDANT  
COVERALLS AND HAVE ELSA'S  
AVAILABLE. VEHICLES SHALL  
BE EQUIPPED WITH SPARK  
ARRESTORS.

57-001		*FIT	NTD	FINAL INSPECTION TEAM IS AT	
		NET		COMPLEX J AND READY FOR PAD	
		105		ENTRY.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
57-002		NTD	*FIT	PERFORM FINAL INSPECTION PER	
		NET		SEQ 57 (S0007 VL4) AND OMI S6444.	
		105		PROCEED TO LAUNCH PAD AND REPORT	
		232	*SCC	IN ON OIS CH 232.	
			*PAC		
			*SCC	*PSE	
		NET			
		105			

NOTE

JYVO/JYVR, \*SCC, \*PAC SHALL FOLLOW PROGRESS OF FINAL INSPECTION TEAM VIA OTV CAMERAS NOTED IN EACH STEP.

57-003		NTD	STM	TRACK AND VIDEO RECORD FINAL	COMM
		232		INSPECTION TEAM AT PAD USING	
		STM	JYVO	FOLLOWING OTV CAMERAS IN SEQUENCE:	
		138	JYVR		
				PAD A - 056,055,054,004,006,003,001	
				PAD B - 156,155,154,104,106,103,101	

57-004		*FIT	NTD	FINAL TEAM ON ZERO LEVEL MLP	
		232		(CAMERAS 054/154,055/155,056/156).	

57-005		*FIT	NTD	CONDITION OF SRB SOUND SUPPRESSION	
		232		WATER TROUGHS IS _____	
				(LCC VIOLATIONS).	

NOTE

NEXT FIVE STEPS WILL PROVIDE COORDINATION BETWEEN FINAL INSPECTION TEAM, NTD, AND CHGD IN SECURING SPECIAL 17 IN. DISC SAMPLE LINES. DO NOT PERFORM NEXT FIVE STEPS IF SAMPLE LINES NOT IN PLACE OR IN USE.

57-006		*FIT	NTD	REQUEST ET/ORBITER MONITORING	
		232		INSTRUMENTATION PUMP SECURED PRIOR TO	
				SAMPLE LINE REMOVAL FROM 17 IN.	
				DISC AREA OR DISCONNECT AT LH2 TSM.	

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
57-007		NTD 232 OTC 132	OTC CHGD CLHY	SECURE ET/ORBITER MONITORING INSTRUMENTATION PUMP AND REPORT COMPLETION.	NOT PERFORMED
57-008		CHGD 166	CLHY	LD54/LD55 PUMP SECURING WILL BEGIN MOMENTARILY.	NOT PERFORMED
57-009			CHGD	CURSOR CNTL (SAW01/HWW13) LD54/55 PUMP - OFF XMIT CURSOR KEY - PRESS	NOT PERFORMED
57-010		NTD 232	*FIT	PROCEED WITH 17 IN. DISC SAMPLE LINE REMOVAL.	NOT PERFORMED
57-011		*FIT 232	NTD	FINAL INSPECTION TEAM PROCEEDING TO 255 FT LEVEL.	
57-012		*FIT 232	NTD	FINAL INSPECTION TEAM ON 255 FT LEVEL (CAMERA 001/101).	
57-013		*FIT 232	NTD	FINAL INSPECTION TEAM PROCEEDING TO 215 FT LEVEL (ET ACCESS ARM AND RSS).	
57-014		*FIT 232	NTD	FINAL INSPECTION TEAM ON CREW ON 215 FT LEVEL (ET ACCESS ARM AND RSS) (CAMERA 004/104, 003/103).	
57-015		*FIT 232	NTD	FINAL INSPECTION TEAM CREW PROCEEDING TO 195 FT LEVEL (OAA).	
57-016		*FIT 232	NTD	FINAL INSPECTION TEAM ON 195 FT LEVEL (OAA) (CAMERA 004/104). REPORT ON ENVIRONMENTAL CONDITIONS THAT WOULD AFFECT FLIGHT CREW INGRESS.	
57-017		*FIT	NTD	FINAL INSPECTION TEAM PROCEEDING TO 135 FT LEVEL.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
57-018		*FIT 232	NTD	FINAL INSPECTION TEAM ON 135 FT LEVEL (CAMERA 056/156).	
57-019		*FIT 232	NTD	FINAL INSPECTION TEAM PROCEEDING TO ZERO LEVEL MLP.	
57-020		*FIT 232	NTD	FINAL INSPECTION TEAM ON ZERO LEVEL MLP (CAMERAS 054/154,055/155, 056/156).	
57-021		*FIT 232 STM 138	NTD	ET/ORB FINAL INSPECTION COMPLETE. FINAL INSPECTION CICE TEAM DEPARTING PAD.	COMM
57-022		*PSE 105 *SCC 232	*SCC NTD	FINAL INSPECTION TEAM CLEAR OF PAD GATE.	
57-023		NTD 232 *SCC NET 105	*SCC	VERIFY FINAL INSPECTION TEAM AT ROADBLOCK A/B-11.	
57-024		*PSE *SCC		FINAL INSPECTION TEAM AT ROADBLOCK A/B-11.	
57-025		NTD 232 STM 138	STM JYVO JYVR	TERMINATE VIDEO TRACKING AND RECORDING OF FINAL INSPECTION TEAM.	COMM
57-026		*FIT 232 NTD	NTD *SCC	FINAL INSPECTION COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
58-000				P/L SSP/PRLA SWITCH CONFIGURATION	
58-001		CPLE	ASP	PANEL L12 STANDARD SWITCH PANEL (UPPER) IUS VERIFY FOLLOWING SWITCH GUARD CONFIGURATION: ACT ORD ARM SW AND ACT 1 DISENG SW - DOUBLE GUARD ACT 2 DISENG SW AND S7 SW - DOUBLE GUARD S9 SW AND ACT ORD PREARM SW - DOUBLE GUARD	
58-002		CPLE	ASP	PANEL L12 STANDARD SWITCH PANEL (LOWER) AXAF VERIFY FOLLOWING SWITCH GUARD CONFIGURATION: S3 SW AND RF A-SIDE PWR SW - DOUBLE GUARD RF A-SIDE RESET SW - SINGLE GUARD S15 SW AND RF B-SIDE PWR SW - DOUBLE GUARD RF B-SIDE RESET SW - SINGLE GUARD	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
58-003		CPL	ASP	PANEL L12 PAYLOAD DATA INTERFACE PANEL KU BAND RATE SW - OFF DC POWER 1 SW - OFF DC POWER 2 SW - OFF	
58-004		CPL	ASP	PANEL A6U PAYLOAD RETENTION LOGIC POWER SYS 1 SW - OFF SYS 2 SW - OFF  PAYLOAD SELECT SW - 1  PAYLOAD RETENTION LATCHES 1 SW - OFF (CENTER) 1 TB LAT 2 SW - OFF (CENTER) 2 TB LAT 3 SW - OFF (CENTER) 3 TB LAT 4 SW - OFF (CENTER) 4 TB BP 5 SW - OFF (CENTER) 5 TB BP  READY TO LATCH 1 TB GRAY 2 TB GRAY 3 TB GRAY 4 TB BP 5 TB BP	



OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF A8U  
 INSTALLED.

58-005

CPLM MSS

PANEL A8U

- RMS
- BRAKES SW - ON
- SAFING SW - AUTO
- MODE
- SEL SW - TEST
- AUTO SEQ SW - CENTER
- MASTER ALARM PB - OFF
- RATE
- MIN TB OFF
- HOLD TB OFF
- END EFFECTOR
- MODE SW - OFF
- MAN CONTR SW - CENTER
- PARAMETER
- SELECT SW - PORT/TEMP/LED/ABE/ID
- BACKUP CONTROL
- JOINT SW - SHOULDER YAW
- PAYLOAD RELEASE SW - OFF
- DIRECT DRIVE SW - CENTER
- LIGHTING
- ANNUN/NUM
- BRT/VAR SW - VAR
- SEL SW - LOW
- PANEL/INST SW - OFF
- JOINT
- SELECT SW - CRIT TEMP
- SINGLE/DIRECT
- DRIVE SW - CENTER
- SHOULDER BRACE RELEASE SW - CENTER

NOT PERFORMED

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF RMS RHC  
 INSTALLED. FOLLOWING SWITCH  
 LOCATED ON RMS ROTATIONAL  
 HAND CONTROLLER, TO RIGHT OF  
 PANEL A8U.

58-006		CPLE	MSS	RMS RHC RATE SW - VERNIER	
--------	--	------	-----	---------------------------	--

NOT PERFORMED

NOTE

PERFORM NEXT STEP IF  
 PANEL A8L INSTALLED AND  
 IVHM NOT INSTALLED.

58-007		CPLE	MSS	PANEL A8L	
--------	--	------	-----	-----------	--

STARBOARD RMS  
 DEPLOY/STOW SW - OFF  
 HEATER A SW - OFF  
 HEATER B SW - OFF  
 RETENTION LATCHES  
 REL/LAT SW - OFF  
 RMS SELECT SW - OFF  
 RMS POWER SW - OFF  
 PORT RMS  
 DEPLOY/STOW SW - OFF  
 HEATER A SW - OFF  
 HEATER B SW - OFF  
 RETENTION LATCHES  
 REL/LAT SW - OFF

NOT PERFORMED

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF  
 PANEL A8L INSTALLED AND  
 IVHM INSTALLED.

58-008		CPL	MSS	PANEL A8L STARBOARD RMS DEPLOY/STOW SW - OFF RETENTION LATCHES REL/LAT SW - OFF RMS SELECT SW - OFF RMS POWER SW - OFF PORT RMS DEPLOY/STOW SW - OFF HEATER A SW - OFF HEATER B SW - OFF RETENTION LATCHES REL/LAT SW - OFF	NOT PERFORMED
--------	--	-----	-----	---	---------------

NOTE

PERFORM NEXT STEP IF NON  
 FUNCTIONAL COMPUTER INTERFACE  
 PANEL IS INSTALLED.

58-009		CPL	ASP	PANEL R12 COMPUTER INTERFACE PANEL  NON FUNCTIONAL SW - OFF (DOWN) NON FUNCTIONAL SW - OFF (DOWN)	NOT PERFORMED
--------	--	-----	-----	---	---------------

NOTE

PERFORM NEXT STEP IF FUNCTIONAL  
 CIP IS INSTALLED.

58-010		CPL	ASP	PANEL R12 COMPUTER INTERFACE PANEL DC POWER 1 SW - OFF DC POWER 2 SW - OFF	NOT PERFORMED
--------	--	-----	-----	---	---------------

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF OSVS  
PANEL INSTALLED.

58-011                    CPLE ASP    PANEL R12  
   OSVS POWER CB - OPEN  
   OSVS POWER SW - OFF

NOT PERFORMED

NOTE

PERFORM NEXT STEP IF DTO 685  
(ELECTRONIC KNEEBOARD) IS  
INSTALLED, CABIN POWER IS OFF,  
AND AFTER PGOB AND CPLE  
PORTIONS OF SSP SWITCHLIST  
ARE COMPLETE.

58-012                    CPLE ASP    PANEL R1  
   POWER DISTRIBUTION  
   PAYLOAD  
   CABIN SW - MN B

NOT PERFORMED

58-013                    CPLE OTC    SSP/PRLA SWITCH CONFIGURATION  
   COMPLETE.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
59-000				EPDC POST LAUNCH SECURING	

NOTE

DO NOT PERFORM THIS SEQUENCE  
 IF LAUNCH ABORT OCCURS.

ENTIRE SEQUENCE NOT PERFORMED

POST LAUNCH GRD PIC R/T

59-001		CEPD		CURSOR CNTL (VWC10) GND R/T - ON XMIT CURSOR KEY - PRESS	
--------	--	------	--	--	--

59-002		CEPD		CRT (VWC10)  VERIFY RESISTANCE TEST INDICATIONS	
--------	--	------	--	--	--

RECORD ANY "G" INDICATIONS IN THE  
 "GROUND PIC TEST COMPLETE" (S0007VL2)

	LEFT HAND		RIGHT HAND	
	SYS A	SYS B	SYS A	SYS B
H2 BURN	R	R	R	R
ENG 1	N	-	-	N
ENG 2/3	N	N	N	N
LAUNCH REL				
ETVAS	-	-	N	N
H/O TSM	N	N	N	N
LANYARD	-	-	N	N

59-003		CEPD		CURSOR CNTL (VWC10) GND R/T - OFF XMIT CURSOR KEY - PRESS	
--------	--	------	--	---	--

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
59-004		CEPD		CURSOR CNTL (VWC10) GRD T-0 RESET XMIT CURSOR KEY - PRESS  CRT (VWC10)  GRD T-0 RESET IND RESET GRD SW STATUS IND OFF	
59-005		CEPD		CURSOR CNTL (VWC10) GND SYS - OFF XMIT CURSOR KEY - PRESS  CRT (VWC10)  ALL H2 AND LR BURN CPA AND GRD PWR INDICATIONS OFF AND ALL CPA VOLTAGES LL  ORBITER GROUND POWER SYSTEM POWER DOWN -----	
59-006		CEPD		CURSOR CNTL (VWC16) BUS CONTROL SINGLE PF 1 - OFF XMIT CURSOR KEY - PRESS  CRT (VWC16) REQUESTED OPERATION COMPLETE	
59-007		CEPD		CURSOR CNTL (VWC16) BUS CONTROL SINGLE PF 2 - OFF XMIT CURSOR KEY - PRESS  CRT (VWC16) REQUESTED OPERATION COMPLETE  1D100 POWER DOWN -----	
59-008		CEPD		CURSOR CNTL (VWC01) MLP 1D100 PS D XMIT CURSOR KEY - PRESS  CRT (VWC01) REQUESTED OPERATION COMPLETE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				1D200 POWER DOWN -----	
59-009		CEPD		CURSOR CNTL (VWC01) MLP 1D200 PS D XMIT CURSOR KEY - PRESS  CRT (VWC01) REQUESTED OPERATION COMPLETE	
				1D300 POWER DOWN -----	
59-010		CEPD		CURSOR CNTL (VWC01) MLP 1D300 PS D XMIT CURSOR KEY - PRESS  CRT (VWC01) REQUESTED OPERATION COMPLETE	
				1D500 POWER DOWN -----	
59-011		CEPD		CURSOR CNTL (VWC01) MLP 1D500 PS D XMIT CURSOR KEY - PRESS  CRT (VWC01) 1D500 PS VOLT/ITCU VOLT/CURRENT FAILED	
				NOTE  DUE TO BACKUP BATTERY, ITCU VOLTAGE WILL NOT GO TO LOWER LIMIT.	
59-012		CEPD		CURSOR CNTL (VWC01) CONTINUE TO THE PROGRAM TERMINATION STEP XMIT CURSOR KEY - PRESS  CRT (VWC01) REQUESTED OPERATION COMPLETE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				1D600 POWER DOWN -----	
59-013		CEPD		CURSOR CNTL (VWC01) MLP 1D600 PS D XMIT CURSOR KEY - PRESS  CRT (VWC01) 1D600 PS VOLT/ITCU VOLT/CURRENT FAILED	
				NOTE  DUE TO BACKUP BATTERY, ITCU VOLTAGE WILL NOT GO TO LOWER LIMIT.	
59-014		CEPD		CURSOR CNTL (VWC01) CONTINUE TO THE PROGRAM TERMINATION STEP XMIT CURSOR KEY - PRESS  CRT (VWC01) REQUESTED OPERATION COMPLETE  SSME HEATERS POWER DOWN -----	
59-015		CEPD		CURSOR CNTL (VWC01) 1D700 PS DN XMIT CURSOR KEY - PRESS  CRT (VWC01) REQUESTED OPERATION COMPLETE	
59-016		CEPD		CURSOR CNTL (VWC01) 1D800 PS DN XMIT CURSOR KEY - PRESS  CRT (VWC01) REQUESTED OPERATION COMPLETE	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				1T100 POWER DOWN -----	
59-017		CEPD		CURSOR CNTL (VWC01) 1T100 ON/OFF XMIT CURSOR KEY - PRESS  CRT (VWC01) 1T100 ON/OFF IND OFF  1T200 POWER DOWN -----	
59-018		CEPD		CURSOR CNTL (VWC01) 1T200 ON/OFF XMIT CURSOR KEY - PRESS  CRT (VWC01) 1T200 ON/OFF IND OFF	
59-019		CEPD		CURSOR CNTL (SWC02) LAUNCH COMMIT EMON - INH XMIT CURSOR KEY - PRESS  CRT (SWC02) SYSTEM EXCEPTION MONITORING IS INHIBITED	
59-020		CEPD	OTC	POST LAUNCH SECURING COMPLETE. 132	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
60-000				ET GH2 VENT RETRACT SYSTEM ----- RECONFIG (CONTINGENCY) -----	
NOTE					
PERFORM THIS SEQUENCE ONLY IF AN EXTENDED TURNAROUND IS PERFORMED AND IF ET GH2 VENT RETRACT SYSTEM RECONFIGURATION REQUIRED.					
ENTIRE SEQUENCE NOT PERFORMED					
60-001		TBC	*PAD	PERFORM ET GH2 VENT SYSTEM *PAD PME4 RECONFIGURATION. REPORT COMPLETE.	

OPERATION INSTRUCTIONS

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

60-002

CSR-242

PME4 STATIC LANYARD SYSTEM

1. OPEN T-0 LOCK ENCLOSURE DOORS.  
RETAIN BOLTS.
2. VERIFY DROP WEIGHT WINCH AND  
WINCH CABLE HAVE CURRENT  
PERIODIC LOAD TEST TAG  
ATTACHED INDICATING 1000 LB  
MIN FOR WINCH AND CABLE.  
  
OMRSD G51FSA000.055-D (PAD A)  
OMRSD G51FSA000.065-E (PAD A)  
OMRSD G61FSA000.055-D (PAD B)  
OMRSD G61FSA000.065-E (PAD B)
3. DROPWEIGHT WINCH CONTROLS:
  - A. VERIFY OILER A502489 IS  
NOT LESS THAN 1/2 FULL.  
IF LOW FILL WITH MIL-L-2104,  
10 WT OIL.
  - B. AIR SUPPLY VLV A502486 -  
OPEN
  - C. REGULATOR A502488 - ADJ TO  
80 +/- 10 PSIG AS INDICATED  
ON GAGE.
4. USING PENDANT CONTROL A502490,  
LOWER THE WINCH CABLE AND  
ATTACH TO DROPWEIGHT LIFTING  
LUG AND REMOVE SLACK.
5. INSTALL T-0 LOCK FORK ASSY  
COCKING TOOLS WITH "REMOVE  
BEFORE FLIGHT" STREAMERS (2 PLACES).
6. USING PENDANT CONTROL A502490,  
RAISE DROPWEIGHT AS FAR AS  
POSSIBLE WITHOUT CONTACTING  
T-0 LOCK GUIDE TUBE.
7. AIR SUPPLY VALVE A502486 -  
CLOSED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
60-002				8. CLOSE AND SECURE T-0 LOCK ENCLOSURE DOORS.	
CON'T					

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

WARNING

SAFETY HARNESS WITH LANYARD ATTACHED TO SAFETY APPROVED TIE-OFF, SHALL BE WORN BY PERSONNEL REQUIRING ACCESS TO EXTENDABLE PLATFORM. ALL TOOLS AND EQUIPMENT MUST BE TETHERED.

60-003

CSR-242

PME4 LINE HANDLING FIXTURE SLING

1. VERIFY WINCH AND SLING ASSY HAVE CURRENT PERIODIC LOAD TEST TAG ATTACHED INDICATING 1000 LB MIN FOR WINCH AND SLING ASSY.

OMRSD G51FSA000.055-B (PAD A)  
OMRSD G51FSA000.065-B (PAD A)  
OMRSD G61FSA000.055-B (PAD B)  
OMRSD G61FSA000.065-B (PAD B)

2. AIR SUPPLY A105657 VALVE - OPEN
3. A105654 REGULATOR - ADJUST PRESSURE TO 80 +/- 10 PSIG AS INDICATED ON REG GAGE.
4. HOIST CONTROL A105655 VALVE - DOWN AND LOWER HOIST UNTIL HOIST CABLE IS SLACK.
5. REMOVE QUICK RELEASE PINS SECURING SLING LEGS TO STOW BRACKETS ON LIGHT POST.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
60-003				6. HOIST CONTROL A105655 PENDANT VALVE - DOWN AND LOWER SLING UNTIL SLING LEGS CAN BE CONNECTED TO VENT LINE BRIDLE GIMBAL.	
CON'T				7. STOPPING SHORT OF MAKING CONTACT WITH STATIC LANYARD CABLE, PARTIALLY EXTEND EXTENDABLE PLATFORM BY REMOVING QUICK RELEASE PIN FROM HANDWHEEL AND SLOWLY ROTATING HANDWHEEL CLOCKWISE. SECURE HANDWHEEL WITH QUICK RELEASE PIN.	
				8. CONNECT TWO LEGS OF SLING ASSEMBLY TO LUGS ON BRIDLE GIMBAL USING QUICK RELEASE PIN PROVIDED.	
				9. HOIST CONTROL A105655 PENDANT VALVE - UP AND RAISE SLING UNTIL TAUT.	
				10. AIR SUPPLY A105657 VALVE - CLOSE	
					T: _____

WARNING

SAFETY HARNESS WITH LANYARD ATTACHED TO SAFETY APPROVED TIE-OFF, SHALL BE WORN BY PERSONNEL REQUIRING ACCESS TO EXTENDABLE PLATFORM. ALL TOOLS AND EQUIPMENT MUST BE TETHERED.

60-004				PME5 ACCESS ARM SUPPORT STRUCTURE 186 FT LEVEL	
				INSTALL SAFETY CHAINS AT OPEN END OF PLATFORM IN VENT ARM DROP PATH.	
					T: _____

OPERATION INSTRUCTIONS

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

60-005 PME4 EXTENDABLE PLATFORM

1. REMOVE QUICK RELEASE PIN SECURING EXTENDABLE PLATFORM HANDWHEEL IN STOWED POSITION.

CAUTION

MONITOR CLEARANCE BETWEEN EXTENDABLE PLATFORM AND STATIC LANYARD ASSY WHEN EXTENDING PLATFORM IN FOLLOWING SUBSTEP.

2. EXTEND EXTENDABLE PLATFORM TO FULLY EXTENDED POSITION BY ROTATING HANDWHEEL CLOCKWISE.
3. SECURE HANDWHEEL AT EXTENDED POSITION USING QUICK RELEASE PIN.
4. RAISE EXTENDABLE PLATFORM TELESCOPING HANDRAIL AND SECURE IN PLACE USING QUICK RELEASE PINS PROVIDED.
5. ATTACH EXTENDABLE PLATFORM SAFETY CHAINS TO TELESCOPING HANDRAIL EYEBOLTS.
6. INSTALL AND SECURE CARGO NET.

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

60-006 PME4 EXTENDABLE PLATFORM

1. REMOVE QUICK RELEASE PINS AND EXTEND ADJUSTABLE PLATFORM FOR MINIMUM 5 IN. CLEARANCE BETWEEN ET AND PLATFORM.
2. INSTALL AND SECURE CARGO NET.

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

OPERATION INSTRUCTIONS

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

60-007                    PME4 STATIC LANYARD SYSTEM

1.    DISCONNECT TWO WIRE ROPE ASSY'S OF STATIC LANYARD ASSY FROM GUCP SECONDARY RETRACT PULLOFF ARMS. STOW ATTACHING HARDWARE IN ENDS OF WIRE ROPE ASSY'S.
  
2.    SECURE LOOSE ENDS OF TWO WIRE ROPE ASSY'S TO FORWARD FLEXHOSE SUPPORT IN A MANNER THAT WILL ALLOW LOAD TO BE ON CHAINS, NOT WIRE ROPES.

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

NOTE

HAZARDOUS OPERATIONS COMPLETE.

60-008

CSR-422

PME4 ACCESS ARM LINE HANDLING FIXTURE

1.    AIR SUPPLY A105657 VALVE - OPEN
  
2.    A105654 REGULATOR - ADJUST PRESSURE TO 80 +/- 10 PSIG AS INDICATED ON REGULATOR GAGE.
  
3.    HOIST CONTROL A105655 PENDANT VALVE - DOWN AND LOWER HOIST UNTIL HOIST CABLE IS SLACK. (APPROXIMATELY 2 INCHES)
  
4.    AIR SUPPLY A105657 VALVE - CLOSE
  
5.    SECURE VENT LINE TO ET/IT ARM STRUCTURE WITH CLOTH CHOKER AND SHACKLE (1000 LB MIN).

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

60-009

PME4 \*PAD ET GH2 VENT RETRACT SYSTEM  
\*PAD TBC RECONFIGURATION COMPLETE.



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
61-000				SRB IGNITION S&A DEVICE ----- VERIFICATION (CONTINGENCY) -----	

NOTE

PERFORM THIS SEQUENCE ONLY IF  
CONTINGENCY S&A VERIFICATION  
IS REQUIRED.

ENTIRE SEQUENCE NOT PERFORMED \_\_\_\_\_

WARNING

BDA WILL BE CLEARED.  
CONTROLLED SWITCHING AND  
CONTROLLED LPS COMMANDS  
ARE IN EFFECT THROUGHOUT  
THIS SEQUENCE.

DO NOT PERFORM THIS SEQUENCE  
DURING A PHASE I OR II LIGHTNING  
ADVISORY.

HAZARDOUS OPERATIONS FOLLOW.  
BDA CLEAR REMAINS IN EFFECT.

NOTE

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

61-001		TBC 136	CPWR	PERFORM SRB IGNITION S&A DEVICE VERIFICATION.	
61-002		CPWR 132	OTC	VERIFY ALL PERSONNEL CLEAR OF BDA.	

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF IGN  
HEATER POWER IS ON.

61-003		CPWR		CURSOR CNTL (BDE11) LH IGN HTR AUTO SEQ - INH RH IGN HTR AUTO SEQ - INH LH IGN HTR PWR - OFF RH IGN HTR PWR - OFF  CRT  VERIFY LH/RH IGN HTR CURRENT <0.5 AMPAC	
				NOT PERFORMED	_____
61-004		CPWR		CRT (BDE11)  VERIFY LH/RH IGN HEATER POWER OFF	
61-005		CPWR		CURSOR CNTL (SDC01) SRB OPTIONS IGN SAFE/ARM XMIT CURSOR KEY - PRESS  CRT VERIFY SWC01 TERMINATES AND DISPLAY SKELETON BDE07 DISPLAYED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
61-006		CPWR		CURSOR CNTL (BDE07) TEST 1 CYCLE XMIT CURSOR KEY - PRESS  CRT VERIFY TEST LEFT & RIGHT (GREEN)	
61-007		CPWR		CRT (BSE06, PAGE A) VERIFY BSE06 CALLS BKE07  VERIFY MESSAGES LH S&A DEVICE ROTATED 1 CYCLE RH S&A DEVICE ROTATED 1 CYCLE BKE07 - TERMINATED SUCCESSFULLY SRB - IGNITION S&A TEST COMPLETED SUCCESSFULLY	
61-008		CPWR		RECORD COMPLETION  GMT_____	
61-009		CPWR		APPL PAGE (BDE07) PFK 15 KEY - PRESS  CRT VERIFY BWE07 TERMINATES SYSTEM MENU IS REDISPLAYED	
NOTE					
IF SRB IGN HEATER POWER WAS REMOVED FOR S&A ROTATION, REAPPLY POWER PER NEXT STEP.					
61-010		CPWR		CURSOR CNTL (BDE11) LH IGN HTR POWER - ON RH IGN HTR POWER - ON LH IGN HTR AUTO SEQ - ACT RH IGN HTR AUTO SEQ - ACT  NOT PERFORMED _____	
61-011		CPWR	TBC 136	SRB LH/RH IGNITION S&A ROTATION COMPLETE AND IGNITION S&A DEVICES ARE IN SAFE POSITION.	

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SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
62-000				GLS SYSTEMS -----	

NOTE

A LIST OF GLS MASKS AND BYPASSES TO SUPPORT TEST OBJECTIVES TOGETHER WITH A SIGNATURE PAGE, WILL BE PROVIDED BY CGLS. THIS LIST WILL CONTAIN EACH KICK-OFF STEP IN THIS SEQUENCE, REFERENCING THIS LIST ALONG WITH CORRESPONDING INPUTS FOR THAT STEP.

GLS FUNCTIONAL INITIALIZATION AND  
-----  
 LCC ACTIVATION  
 -----

62-001		OTC 212	CGLS	PERFORM GLS FUNCTIONAL INITIALIZATION ON CH ____. REPORT COMPLETION.	
62-002			CGLS TPE	PROVIDE TWO CONC AT BACKUP AND FIVE CONC AT INTG.	
62-003			CGLS PFP	VERIFY APPL TASKS 1 THRU 5 INACTIVE KEY 7 - PRESS VERIFY ALL OC TASKS - INACTIVE	
62-004			CGLS	CONSOLE KYBD SELECT APP PG 1B HOME CMD KEY - PRESS SLP03 PERF PGM KEY - PRESS	
62-005			CGLS CRT (SLP03)	SELECT SITE  CONSOLE KYBD ____ (KSCA OR KSCB) XMIT RESP KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
62-006		CGLS		CONSOLE KYBD PFP PFPK7 - PRESS	
62-007		CGLS		CONSOLE KYBD PFP PNL (SLP03) PFPK1 - PRESS VERIFY INTEGRATED PFP DISPLAY	
62-008		CGLS		PFP KEY 7 - PRESS  PFP PNL VERIFY TASK SLP03-1 SLP02-2 SLP01-3  PSEUDO INITIALIZATION -----	
62-009		CGLS		CONSOLE KYBD SELECT APP PG 1B CRT  VERIFY INTG MENU	
62-010		CGLS		CONSOLE KYBD SELECT - PSEUDO INIT XMIT CURSOR KEY - PRESS	
NOTE					
PERFORM ONE OF NEXT THREE STEPS IF REQUIRED BASED ON WHETHER DISK FILES WERE ALREADY LOADED AT BKUP.					
62-011		CGLS		POSITION CURSOR TO ALL PSEUDOS AND DISK FILES XMIT CURSOR KEY - PRESS	
				NOT PERFORMED	_____
62-012		CGLS		POSITION CURSOR TO ALL DISK FILES XMIT CURSOR KEY - PRESS	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
62-013		CGLS		POSITION CURSOR TO ALL PSEUDOS XMIT CURSOR KEY - PRESS	
				NOT PERFORMED	_____
NOTE					
IF PAGE B MSG INDICATES: "SEE PAGE A FOR OPERATOR INPUT" PERFORM THE NEXT TWO STEPS.					
62-014		CGLS	CRT	VERIFY PAGE A MSG:  (N03IS511E) CRYO SAFING ENABLED IS ON. THIS INDICATES SCRUB/CRYO DRAIN IN PROGRESS.	
				NOT PERFORMED	_____
62-015		CGLS		CONSOLE KYBD (SLP02 PAGE A)  ENTER "1" IF CRYO SAFING SUPPORT COMPLETED AND SLP50 NOT ACTIVE TO INITIALIZE (N03IS511E) TO OFF.  ENTER "2" TO LEAVE (N03IS511E) UNCHANGED  _____ (1 OR 2) XMIT RESPONSE KEY - PRESS  CRT VERIFY MSG INDICATING PSEUDO STATE	
				NOT PERFORMED	_____
62-016		CGLS		VERIFY - PSEUDO HOUSEKEEPING COMPLETE. (PGA) VERIFY - NO EXCEPTIONS PG-A TERMINATE XMIT CURSOR KEY - PRESS  GLS SITE PSEUDO MODS -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
62-017				CGLS VERIFY EACH OF THE FOLLOWING PSEUDO'S IN THE INDICATED STATES	
				PSEUDO STATE DESCRIPTION	
				-----	
				N03IS080E ON TEST LOCATION PAD	
				1. IF VEHICLE AT PAD A	
				NTBISKPADA ON TCID BUILD IN SPT FOR KPADA	
				NTBISKPADB OFF TCID BUILD IN SPT FOR KPADB	
				NOT PERFORMED	_____
					SS1
				2. IF VEHICLE AT PAD B	
				NTBISKPADA OFF TCID BUILD IN SPT FOR KPADA	
				NTBISKPADB ON TCID BUILD IN SPT FOR KPADB	
				NOT PERFORMED	_____
					SS2



OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF A  
PSEUDO IN PREVIOUS STEP  
IS NOT IN THE INDICATED  
STATE.

62-018		CGLS	HOME CMD KEY - PRESS CONSOLE KYBD	SET _____ (PSEUDO AND STATE) XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS VERIFY SUCCESSFUL	NOT PERFORMED _____
--------	--	------	--------------------------------------	---	---------------------

SYSTEM BYPASS  
-----

62-019		CGLS	CONSOLE KYBD SELECT APP PG 1B	CRT VERIFY INTG MENU	
--------	--	------	----------------------------------	-------------------------	--

62-020		CGLS	CONSOLE KYBD	SELECT - SYSTEM BYPASS XMIT CURSOR KEY - PRESS CRT VERIFY SYSTEM BYPASS DISPLAY	
--------	--	------	--------------	--	--

OPERATION INSTRUCTIONS

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

NOTE

FOR NEXT STEP REFERENCE LIST,  
GLS SYSTEM BYPASSES, FOR  
REQUIREMENTS.

PERFORM NEXT STEP IF SYSTEM  
BYPASSES REQUIRED FOR THIS  
FLOW.

62-021

CGLS CRT

CURSOR CNTL \_\_\_\_\_ (SYS)  
XMIT CURSOR KEY - PRESS

SYSTEM	BYPASS
-----	-----
APU	_____
ARMS	_____
BELE	_____
BHYD	_____
BINST	_____
BRS	_____
BPYRO	_____
PL INTG	_____
COMM	_____
DPS	_____
ECLSS	_____
ECS	_____
EPDC	_____
FCP	_____
GNS	_____
GOX	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
62-021					
CON'T					
			HYD	_____	
			HYFUEL	_____	
			HYOXID	_____	
			INST	_____	
			INTG	_____	
			LH2	_____	
			LOX	_____	
			MECH	_____	
			MPS	_____	
			NAVAID	_____	
			FCL	_____	
			PVD	_____	
			SSME	_____	
			TINST	_____	
			WATER	_____	
				NOT PERFORMED	_____
62-022		CGLS	CONSOLE KYBD		
			HARD COPY KEY - PRESS		
62-023		CGLS	CONSOLE KYBD		
			SELECT - TERMINATE		
			XMIT CURSOR - PRESS		
			CRT		
			VERIFY		
			BYPASS SELECTION		
			PROCESS TERMINATING		

OPERATION INSTRUCTIONS

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

GLS FUNCTIONAL CHANGES

NOTE

CONSOLE REBOOT OR DISK  
RE-INITIALIZATION WILL  
PROBABLY DESTROY THIS  
DATA. IN EVENT THIS  
HAPPENS VERIFY DATA IS  
LOST, AND IF SO IT SHOULD  
BE RE-ENTERED.

62-024		CGLS		SELECT APP PG 2B PFPK2 (SLP02) - PRESS VERIFY INTG MENU	
62-025		CGLS		CURSOR CNTL ML FUNC CHNGS- XMIT CURSOR KEY - PRESS	
62-026		CGLS		PFP SELECT - ML BYPASS FILE PFPK1 - PRESS VERIFY MAINLINE BYPASS DISPLAY	

NOTE

PERFORM NEXT THREE STEPS  
IF BYPASS FILE UPDATE IS  
REQUIRED.

62-027		CGLS		PFP (ADD) PFPK5 - PRESS	NOT PERFORMED
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

TO BYPASS GLS MAINLINE  
FUNCTION LINE ITEM USE  
GLSDD TO DETERMINE SEQ  
NUMBER. REFERENCE ATTACHED  
LIST, GLS MAINLINE BYPASSES  
FOR REQUIRED INPUTS.

REPEAT NEXT STEP FOR EACH  
SEQUENCE TO BE MAINLINE  
BYPASSED.

62-028		CGLS	HOME	CMD KEY - PRESS CONSOLE KYBD _____ (SEQ NUMBER) XMIT RESP KEY - PRESS	NOT PERFORMED _____
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NOTE

PERFORM NEXT STEP ONLY  
AFTER ALL REQUIRED ENTRIES  
HAVE BEEN COMPLETED.

62-029		CGLS	HOME	CMD KEY - PRESS CONSOLE KYBD -9999 XMIT RESP KEY - PRESS	NOT PERFORMED _____
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NOTE

A FUNCTIONAL LINE ITEM  
ENTERED INTO BYPASS FILE  
MAY NOT BE ENTERED INTO  
ANY OTHER FILE.

62-030		CGLS	PFP	(ML ANALOG FILE) PFPK2 - PRESS VERIFY MAINLINE ANALOG FILE DISPLAY	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT FIVE STEPS  
IF MAINLINE ANALOG FILE  
UPDATE IS REQUIRED.

62-031		CGLS	PFP	PFPK5 (ADD) - PRESS	NOT PERFORMED _____
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NOTE

TO VERIFY OR COMMAND AN  
ANALOG USING LIMITS THAT  
ARE DIFFERENT THAN LIMITS  
IN GLSDD, PERFORM FOLLOWING  
FOUR STEPS. REFERENCE  
ATTACHED LIST, GLS ML ANALOG  
DISK FILE FOR REQUIRED INPUTS.

REPEAT NEXT THREE STEPS FOR  
EACH ANALOG LIMIT CHANGE RECORD.

62-032		CGLS	HOME CMD KEY - PRESS	CONSOLE KYBD _____(SEQ NUMBER)	XMIT RESP KEY - PRESS	NOT PERFORMED _____
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62-033		CGLS	HOME CMD KEY - PRESS	CONSOLE KYBD _____(NEW HIGH LIMIT)	XMIT RESP KEY - PRESS	NOT PERFORMED _____
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62-034		CGLS	HOME CMD KEY - PRESS	CONSOLE KYBD _____(NEW LOW LIMIT)	XMIT RESP KEY - PRESS	NOT PERFORMED _____
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP ONLY AFTER  
ALL REQUIRED ENTRIES HAVE  
BEEN COMPLETED.

62-035		CGLS	HOME CMD KEY - PRESS CONSOLE KYBD -9999 XMIT RESP KEY - PRESS		NOT PERFORMED _____
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62-036		CGLS	PFP PRSEQ ANALOG FILE - PRESS VERIFY PRESEQUENCER ANALOG FILE DISPLAY		
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NOTE

TO VERIFY OR COMMAND A  
PRESEQUENCE ANALOG MEASUREMENT  
WITH DIFFERENT LIMITS THAN  
THOSE IN THE GLSDD, PERFORM  
THE NEXT FIVE STEPS. REFERENCE  
ATTACHED LIST, GLS PRESEQUENCE  
ANALOG FILE FOR REQUIRED INPUTS.

62-037		CGLS	PFPK5 (ADD) - PRESS		NOT PERFORMED _____
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NOTE

REPEAT NEXT THREE STEPS FOR  
EACH PRESEQUENCE ANALOG  
CHANGE RECORD.

62-038		CGLS	HOME CMD KEY - PRESS CONSOLE KYBD _____ (SEQ NUMBER) XMIT RESP KEY - PRESS		NOT PERFORMED _____
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
62-039		CGLS	HOME CMD KEY - PRESS	_____ (NEW HIGH LIMIT)	
			XMIT RESP KEY - PRESS		
				NOT PERFORMED	_____
62-040		CGLS	HOME CMD KEY - PRESS	CONSOLE KYBD	
				_____ (NEW LOW LIMIT)	
			XMIT RESP KEY - PRESS		
				NOT PERFORMED	_____
				NOTE	
				PERFORM NEXT STEP ONLY AFTER ALL REQUIRED ENTRIES HAVE BEEN COMPLETED.	
62-041		CGLS	HOME CMD KEY - PRESS	CONSOLE KYBD	
				-9999	
			XMIT RESP KEY - PRESS		
				NOT PERFORMED	_____
				NOTE	
				TO DELETE AN ITEM THAT HAS BEEN UPDATED INTO ANY DISK FILE, PERFORM FOLLOWING TWO STEPS. REFERENCE ATTACHED LIST, DELETES, FOR REQUIRED DISK FILE AND CORRESPONDING INPUTS.	
62-042		CGLS	PFP	PFPK6 (DELETE) - PRESS	
				NOT PERFORMED	_____
62-043		CGLS	HOME CMD KEY- PRESS	CONSOLE KYBD	
				_____ (SEQ NUMBER)	
			XMIT RESP KEY - PRESS		
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
62-044		CGLS		CURSOR CNTL TERMINATE XMIT CURSOR - PRESS  CRT  INTG MENU  LIMIT CHANGE -----	
62-045		CGLS		SELECT APP PG 2B VERIFY INTEGRATED MENU	
62-046		CGLS		PFP PFPK2 (SLP02) - PRESS	
62-047		CGLS		PFP PFPK4 (LCC CONTROL) - PRESS  CRT  LCC C AND D (SDP08)	
62-048		CGLS		CURSOR CNTL GLS LIMIT CHG XMIT CURSOR KEY - PRESS  CRT  GLS DUAL INTERRUPT NOTIFICATION	
62-049		CGLS		CURSOR CNTL CONSOLE BACKUP XMIT CURSOR - PRESS  CRT  BACKUP BLOCK SOLID	
62-050		CGLS		CURSOR CNTL ACTIVATE DUAL NOTIFICATION XMIT CURSOR - PRESS  CRT  ACTIVE SOLID BLOCK	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
LCC INTERRUPT PROCESSORS					
-----					
62-051		CGLS		VERIFY TWO CONCURRENCIES ARE AVAILABLE IN BACKUP CONSOLE	
62-052		CGLS		PFPK2 - PRESS (TERM LIMIT CHANGE) VERIFY LCC C AND D	
62-053		CGLS		CURSOR CNTL ACT LIP 1 XMIT CURSOR - PRESS	
62-054				CURSOR CNTL ACT LIP 2 XMIT CURSOR - PRESS	
62-055		CGLS		VERIFY SLPBO AND SLPCO ACTIVE IN BACKUP CONSOLE	
62-056		CGLS		PFPK2 - PRESS (LIMIT CHANGE) VERIFY GLS LIMIT CHNG	
62-057		CGLS		CRT  SELECT XFER TO GLS FOR ALL	
62-058		CGLS		CURSOR CNTL XMIT CURSOR - PRESS	
62-059		CGLS		CRT  VERIFY DISPLAY SHOWS  ALL SELECTED SYSTEMS LIMITS XFERED TO GLS EXCEPT BRS	
62-060		CGLS		PFPK1 INTG MENU - PRESS CRT  VERIFY INTEGRATED MENU	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF EDO OR  
SPACEHAB LCC'S WILL NOT BE  
MONITORED THIS TEST.

62-061

CGLS HOME CMD KEY - PRESS  
PVO NPAYLOADID  
XMIT CMD KEY - PRESS

VERIFY PAYLOADID IS 0 (NO PLD  
MONITORED)

NOT PERFORMED

NOTE

PERFORM "GLS STANDALONE  
CVFY ACTIVATION" IF EDO  
OR SPACEHAB LCC'S ARE  
APPLICABLE.

GLS STANDALONE CVFY ACTIVATION  
-----

NOT PERFORMED

62-062

CGLS SELECT - APP PG-1B  
VERIFY INTG MENU (SLP03)  
SELECT - TERMINATE  
XMIT CURSOR KEY - PRESS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP FOR  
SPACEHAB.

62-063		CGLS	HOME CMD KEY - PRESS	PVO NPAYLOADID - XMIT CMD	
				VERIFY PAYLOADID IS 5 (SPACEHAB)	
				NOT PERFORMED	_____

NOTE

PERFROM NEXT STEP FOR  
SPACELAB/SPACEHAB ONLY.

62-064		CGLS	HOME CMD KEY - PRESS	S FD V98X2621X1 - XMIT CMD	
				VERIFY PROC HALT STAT 1 - BCE 10 ENABLED IS OFF	
				NOT PERFORMED	_____

62-065		CGLS	HOME CMD KEY - PRESS	SLP81	
				PERF PGM KEY - PRESS	

62-066		CGLS	CONSOLE KYBD	PFP PNL	
				PFPK7 - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
62-067		CGLS		CONSOLE KYBD PFP (SLP81) PFPK1 - PRESS VERIFY TOP LEVEL PFP DISPLAY	
				NOTE  PERFORM NEXT STEP FOR EDO MISSION ONLY.	
62-068		CGLS		PFP (FCP INHIBITED) PFPK1 - PRESS VFY PFPK1 LED FCP ACTIVE	
				NOT PERFORMED	_____
				NOTE  ONLY ONE OF FOLLOWING PFPK LEDS WILL APPEAR BASED ON NPAYLOADID	
62-069		CGLS		PFP (SLAB INHIBITED) PFPK2 - PRESS  VERIFY PFPK2 LED, SPACELAB ACTIVE	
				NOT PERFORMED	_____
62-070		CGLS		PFP (SHAB INHIBITED) PFPK2 - PRESS  VERIFY PFPK2 LED, SPACEHAB ACTIVE	
				NOT PERFORMED	_____
62-071		CGLS		PFP (SELECTION CMPLT) PFPK5 - PRESS	
62-072		CGLS		PFP (CONFIGURATION) PFPK1 - PRESS PFP (PSEUDO INIT) PFPK1 - PRESS VFY PSEUDO INIT LED DISPLAY	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
62-073		CGLS	PF	PF (ALL PSEUDOS) PFK2 - PRESS VERIFY ALL PSEUDOS ARE INITIALIZED (PG-1A)	
				NOTE  PERFORM NEXT STEP IF CGLS DESIRES COPY OF PSEUDO FD'S CURRENT VALUE. PRINTER/ PLOTTER MUST BE ONLINE AND FUNCTIONAL.	
62-074		CGLS	PF	PF (PSEUDOS TO PP) PFK4 - PRESS VERIFY PSEUDOS WRITING TO CONSOLE P/P	
				NOT PERFORMED	_____
62-075		CGLS	PF	PF (CONFIG LEDS) PFK6 - PRESS VERIFY CONFIG LEDS DISPLAY	
62-076		CGLS	PF	PF (RSYS TRANSFER) PFK2 - PRESS	
62-077		CGLS	CRT	(SLP81) PG-1A SELECT RSYS CONSOLE _____ (1=INTG, 2=BKUP, 3=MSTR, 4=IGNORE) XMIT RESPONSE KEY - PRESS VERIFY RSYS XFER CMPLT TO CONSOLE SPECIFIED FOR SELECTED SYSTEMS, PG-1A.	
62-078		CGLS	PF	PF (LIMIT CHG SELECT) PFK3 - PRESS	
				NOTE  IF SLAB LCC REQUIRED, VERIFY AV FAN SPEED REQUIREMENT WITH C1 CONSOLE. PERFORM ONE OF NEXT TWO STEPS.	
62-079		CGLS	PF	PF (AV FAN - LOW) PFK1 - PRESS	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
62-080		CGLS	PF	PFP (AV FAN-HIGH) PFPK2 - PRESS  NOT PERFORMED	_____
		CGLS		VERIFY LIMIT CHANGE COMPLETE, PG-1A.	
				NOTE	
				PERFORM NEXT STEP PER GLS MASK AND BYPASS LIST.	
62-081		CGLS	HOME	CMD KEY - PRESS CONSOLE KEYBOARD  C GL _____ FD                  LO          HI	
				XMIT CMD KEY - PRESS  NOT PERFORMED	_____
62-082		CGLS	PF	PFP (ACTIVATE CVFY) PFPK4 - PRESS VERIFY ACTIVATION COMPLETE, PG-1A.	
62-083		CGLS	PF	PFP (OPS LEDS) PFPK5 - PRESS VERIFY OPS LEDS DISPLAY  NOTE	
				PERFORM NEXT STEP IF VL FAILURES WERE NOT REPORTED.	
62-084		CGLS	PF	PFP (LOOKUP SELECT) PFPK1 - PRESS VERIFY 25 LOOKUP DISPLAY (SDP81)  NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

FOR THE NEXT TWO STEPS, IF  
STANDALONE CVFY FD'S ARE  
REQUIRED TO BE MASKED/RESET,  
REFERENCE ATTACHED LIST  
PROVIDED BY CGLS AT RUN TIME.

REPEAT THE NEXT THREE STEPS  
TO MASK OR RESET ALL REQUIRED  
FD'S.

62-085		CGLS	CURSOR CONTROL	M - PAGE/ROW_____	
			XMIT CURSOR KEY - PRESS		
			VERIFY "M" ADJACENT TO FD SELECTED		
				NOT PERFORMED	_____
62-086		CGLS	CURSOR CONTROL	R - PAGE/ROW_____	
			XMIT CURSOR KEY - PRESS		
			VERIFY BLANK ADJACENT TO FD SELECTED		
				NOT PERFORMED	_____
62-087		CGLS	PFP (ADVANCE PG)	PFPK1 - PRESS	
				NOT PERFORMED	_____
62-088		CGLS	HARDCOPY KEY - PRESS		
62-089		CGLS	PFP (OPS LEDS)	PFPK6 - PRESS	
			VERIFY 25 LOOKUP DISPLAY CLEARS		
			GLS STANDALONE CVFY ACTIVATION		
			-----		
			COMPLETE		
			-----		



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
SINGLE SHOT VERIFICATION					
-----					
62-090		CGLS	CRT	INTG MENU CURSOR CNTL SINGLE SHOT VFY XMIT CURSOR - PRESS CRT SINGLE SHOT VFY SELECTION	
62-091		CGLS	CURSOR CNTL	XMIT CURSOR KEY - PRESS EACH ITEM ML INT - CRT VERIFY INVERTED CURSOR BLOCK	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF REQUIRED  
TO CHANGE VERIFY SELECTION.

62-092		CGLS	CURSOR CNTL	XMIT CURSOR - PRESS	
			CRT		
			CURSOR BLOCK OPEN		
				NOT PERFORMED	_____

62-093		CGLS	CURSOR CNTL	SELECTION END	
			XMIT CURSOR - PRESS		
			CRT		
			PRE-SEQ VFY	SELECTION	

NOTE

NOMENCLATURE DISPLAYED  
INVERTED DENOTES SYSTEM  
BYPASSED OR VERIFY OPTION  
NOT SELECTED.

TO MASK AN FD PERFORM  
FOLLOWING STEP. REFERENCE  
ATTACHED LIST, GLS SINGLE  
SHOT MASKS FOR REQUIRED  
INPUTS.

62-094		CGLS	CURSOR CNTL	MASK FD _____	
			XMIT CURSOR - PRESS		
			CRT		
			CURSOR BLOCK INVERT	YELLOW (M)	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

TO RESET AN FD PERFORM FOLLOWING STEP. REFERENCE ATTACHED LIST, GLS SINGLE SHOTS RESETS FOR REQUIRED INPUTS. FD'S WHICH HAVE BEEN BYPASSED BY SYSTEM MAY NOT BE RESET INDIVIDUALLY.

62-095		CGLS		CURSOR CNTL RESET FD _____ XMIT CURSOR - PRESS  CRT  CURSOR BLOCK OPEN CYAN		
						NOT PERFORMED _____

62-096		CGLS		WHEN MASK/RESET SELECTIONS ARE COMPLETE BEGIN VFY'S PFPK4 - PRESS VERIFY TITLE SINGLE SHOT VERIFY FAILURES		
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62-097		CGLS		IF PAGE FULL PFK15 - PRESS VERIFY NEXT PAGE FAILURES		
						NOT PERFORMED _____

62-098		CGLS		WHEN VERIFIES COMPLETE VERIFY MESSAGE VERIFY CYCLE COMPLETE		
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM ONE OF NEXT TWO  
 STEPS IF A VERIFY FAILURE  
 OCCURS.

62-099		CGLS	PFPK1	(TERM VFY'S) - PRESS	
				NOT PERFORMED	_____

62-100		CGLS	PFPK2	(RESTART VFY'S) - PRESS	
				NOT PERFORMED	_____

62-101		CGLS	PFPK1	- SYSTEM MENU - PRESS VERIFY INTEGRATED PFP PANEL	
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NOTE

FOR MAINLINE INTERRUPT  
 FD'S TO BE MASKED OR RESET,  
 REFERENCE ATTACHED LIST, GLS  
 MAINLINE MASKS OR GLS ML  
 MASK-RESETS FOR REQUIRED  
 INPUTS.

IF MASKS OR RESETS ARE  
 REQUIRED, PERFORM FOLLOWING  
 FOUR STEPS.

REPEAT NEXT STEP FOR EACH  
 MAINLINE TABLE CONTAINING  
 AN FD TO BE MASKED.

62-102		CGLS	PFPK5	- PRESS (VIEW INTERRUPT) VERIFY VIEW INTERRUPT SKELETON (SDPC2) CURSOR CONTROL TABLE _____ (TABLE NUMBER) XMIT CURSOR KEY - PRESS VERIFY DISPLAY PG 2B	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

REPEAT NEXT STEP FOR EACH  
 MAINLINE CVFY FD TO BE  
 MASKED.

62-103		CGLS		CURSOR CONTROL MASK _____(FD) XMIT CURSOR KEY - PRESS VERIFY FD SHOWS "M" ADJACENT TO FD SELECTED	NOT PERFORMED	_____
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NOTE

REPEAT NEXT STEP FOR EACH  
 FD TO BE RESET.

62-104		CGLS		CURSOR CONTROL RESET _____(FD) XMIT CURSOR KEY - PRESS VERIFY BLANK NEXT TO EACH FD RESET	NOT PERFORMED	_____
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NOTE

REPEAT NEXT STEP FOR EACH  
 NEW MAINLINE TABLE.

62-105		CGLS		PFPK2 (ADVANCE) - PRESS VERIFY NEXT TABLE PG 2B REPEAT UNTIL NEXT DESIRED TABLE DISPLAYED.	NOT PERFORMED	_____
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT TWO STEPS IF  
 REQUIRED TO CHANGE GOAL LIMITS  
 FOR DISCRETE MIP MEASUREMENTS.

REPEAT NEXT TWO STEPS FOR  
 EACH DISCRETE FD REQUIRING A  
 LIMIT CHANGE. A LIST OF  
 DISCRETE FD'S REQUIRING LIMIT  
 CHANGE AND CORRESPONDING  
 STATES WILL BE PROVIDED WITH  
 THE GLS MASK AND BYPASS LIST.

DISCRETES MEASUREMENTS

62-106		CGLS		HOME CMD KEY - PRESS CONSOLE KYBD I GX _____ (FD) XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS VERIFY SUCCESSFUL	NOT PERFORMED	_____
62-107		CGLS		HOME CMD KEY - PRESS CONSOLE KYBD C GL _____ (FD) _____ (STATE) XMIT CMD KEY - PRESS VERIFY SUCCESSFUL	NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF REQUIRED TO CHANGE GOAL LIMITS FOR ANALOG MIP MEASUREMENTS. REPEAT NEXT STEP FOR EACH ANALOG FD REQUIRING A LIMIT CHANGE. A LIST OF ANALOG FD'S REQUIRING LIMIT CHANGE AND CORRESPONDING VALUES WILL BE PROVIDED WITH THE GLS MASK AND BYPASS LIST.

ANALOG MEASUREMENTS

62-108

CGLS HOME CMD KEY - PRESS

CONSOLE KYBD  
C GL \_\_\_\_\_(FD) \_\_\_\_\_(LO) \_\_\_\_\_(HI)  
XMIT CMD KEY - PRESS

VERIFY SUCCESSFUL  
NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT STEP IF REQUIRED TO CHANGE GOAL LIMITS FOR DIGITAL PATTERN MIP MEASUREMENT. REPEAT NEXT STEP FOR EACH DIG PATTERN FD REQUIRING A LIMIT CHANGE. A LIST OF DIG PATTERN FD'S REQUIRING LIMIT CHANGE AND CORRESPONDING VALUES WILL BE PROVIDED WITH THE GLS MASK BYPASS LIST.

DIGITAL PATTERN MEASUREMENTS

62-109

CGLS HOME CMD KEY - PRESS

CONSOLE KYBD  
C GL \_\_\_\_\_(FD) \_\_\_\_\_(EQ/NE/ANY) \_\_\_\_\_(VALUE)  
XMIT CMD KEY - PRESS

VERIFY SUCCESSFUL  
NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

FOR LCC INTERRUPT FD'S TO BE MASKED OR RESET, REFERENCE ATTACHED LIST, GLS LCC MASKS OR GLS LCC MASK-RESETS, FOR REQUIRED INPUTS.

IF MASKS OR RESETS ARE REQUIRED, PERFORM FOLLOWING SIX STEPS.

62-110				CGLS PFPK5 - PRESS (LCC SELECTIONS) VERIFY LCC SELECTIONS (SDPB2) PG 2B	NOT PERFORMED _____
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NOTE

REPEAT NEXT STEP FOR ALL REQUIRED LCC FD'S TO BE MASKED IN THIS TABLE.

62-111				CGLS CURSOR CONTROL TABLE _____ (TABLE NO. UPPER/ LOWER) XMIT CURSOR KEY - PRESS VERIFY SELECTED TABLE PG 2B	NOT PERFORMED _____
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

REPEAT NEXT STEP FOR ALL  
REQ'D LCC FD'S TO BE  
RESET IN THIS TABLE.

62-112		CGLS		CURSOR CONTROL MASK _____ (FD) XMIT CURSOR KEY - PRESS VERIFY "M" ADJACENT TO FD'S SELECTED	NOT PERFORMED _____
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NOTE

REPEAT NEXT STEP FOR ALL  
REQUIRED LCC FD'S TO BE  
RESET IN THIS TABLE.

62-113		CGLS		CURSOR CONTROL RESET _____ (FD) XMIT CURSOR KEY - PRESS VERIFY BLANK ADJACENT TO FD'S SELECTED.	NOT PERFORMED _____
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NOTE

REPEAT NEXT STEP FOR EACH  
NEW LCC TABLE AS REQUIRED.

62-114		CGLS		PFPK2 (ADVANCE) - PRESS VERIFY NEXT TABLE DISPLAYED TO PG 2B REPEAT UNTIL NEXT DESIRED TABLE IS DISPLAYED.	NOT PERFORMED _____
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
62-115		CGLS	PFPK1	(INTG MENU) - PRESS VERIFY INTEGRATED MENU	
				NOT PERFORMED	_____
				NOTE	
				PERFORM NEXT TWO STEPS IF REQUIRED TO CHANGE GOAL LIMITS FOR DISCRETE LIP MEASUREMENTS.	
				REPEAT NEXT TWO STEPS FOR EACH DISCRETE FD REQUIRING A LIMIT CHANGE. A LIST OF DISCRETE FD'S REQUIRING LIMIT CHANGE AND CORRESPONDING STATES WILL BE PROVIDED WITH THE GLS MASK AND BYPASS LIST.	
				DISCRETE MEASUREMENTS	
				-----	
62-116		CGLS	HOME	CMD KEY - PRESS CONSOLE KYBD I GX ____ (FD) XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS VERIFY SUCCESSFUL	
				NOT PERFORMED	_____
62-117		CGLS	HOME	CMD KEY - PRESS CONSOLE KYBD A GX ____ (FD) ____ (STATE) XMIT CMD KEY - PRESS VERIFY SUCCESSFUL	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT TWO STEPS IF  
 REQUIRED TO CHANGE GOAL  
 LIMITS FOR ANALOG LIP  
 MEASUREMENTS. NEXT TWO  
 STEPS WILL BE REPEATED FOR  
 EACH ANALOG FD REQUIRING  
 A LIMIT CHANGE. A LIST  
 OF ANALOG FD'S REQUIRING  
 LIMIT CHANGE AND CORRESPONDING  
 VALUES WILL BE PROVIDED WITH  
 THE GLS MASK AND BYPASS LIST.

ANALOG MEASUREMENTS

62-118		CGLS	HOME	CMD KEY - PRESS CONSOLE KYBD C GL ____ (FD) ____ (LO) ____ (HI) XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS VERIFY SUCCESSFUL	NOT PERFORMED	_____
62-119		CGLS	HOME	CMD KEY - PRESS  CONSOLE KYBD A GX ____ (FD) XMIT CMD KEY - PRESS  VERIFY SUCCESSFUL	NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF REQUIRED TO CHANGE GOAL LIMITS FOR DIGITAL PATTERN LIP MEASUREMENTS. REPEAT NEXT STEP FOR EACH DIG PATTERN FD REQUIRING A LIMIT CHANGE. A LIST OF DIG PATTERN FD'S REQUIRING LIMITS CHANGE AND CORRESPONDING VALUES WILL BE PROVIDED WITH THE GLS MASK AND BYPASS LIST.

DIGITAL PATTERN MEASUREMENTS

62-120		CGLS	HOME CMD KEY - PRESS CONSOLE KYBD A GX ____ (FD) ____ (EQ/NE/ANY) ____ (VALUE) XMIT CMD KEY - PRESS VERIFY SUCCESSFUL		
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NOT PERFORMED \_\_\_\_\_

NOTE

WHEN LIP CMD PROCESSOR LIMIT CHANGES ARE COMPLETE MAKE A CHECK OF LCC FAILURES FOR CMD PROCESSOR LIMIT CHANGED MEASUREMENTS.

62-121		CGLS	TO TERMINATE PFPK1 - PRESS VERIFY INTG MENU		
--------	--	------	---	--	--

CLOCK CONTROL

62-122		CGLS	SELECT APP PG-3B PFPK-7 PRESS PFPK-3 (SLP01) PRESS PFPK-6 (GLS CONTROL) PRESS		
--------	--	------	--	--	--

62-123		CGLS	CURSOR CNTL SELECT CDC CONTROL XMIT CURSOR KEY - PRESS		
--------	--	------	--	--	--

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
62-124		CGLS		CURSOR CONTROL SELECT SET HOLD AVAILABLE XMIT CURSOR KEY - PRESS ____/____ HHMM/SS XMIT RESP KEY - PRESS	
62-125		CGLS		VFY HOLD AVAILABLE SET	
62-126		CGLS		CURSOR CONTROL SELECT TERM LOX REPL TIME XMIT CURSOR KEY - PRESS	
62-127		CGLS		CONSOLE KYBD -____/____ XMIT RESP KEY - PRESS	
62-128		CGLS		CURSOR CONTROL SELECT RETURN TO MS/ML DISPLAY XMIT CURSOR KEY - PRESS	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
63-000				RESERVED	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
64-000				SRB HPU N2H4 MANIFOLD REFILL AND BEARING SEAL SOAK	

NOTE

PERFORM THIS SEQUENCE ONLY  
IF ANY SRB HPU'S STARTED IN  
S0007.

ENTIRE SEQUENCE NOT PERFORMED

NOTE

DO NOT REMOVE SRB OI  
POWER UNTIL SRB HPU  
N2H4 MANIFOLD REFILL  
IS COMPLETE.

DURING FUEL ISO VLV CYCLING  
GAS GENERATOR BED TEMPERATURES  
SHALL BE MONITORED FOR ANY  
RISE IN TEMPERATURE. (SHALL  
NOT INCREASE MORE THAN 20  
DEGREES)

NOTED OMRS REQUIREMENTS  
SATISFIED BY COMPLETION  
OF NEXT 15 STEPS.

OMRS S00E00.721-B-1

64-001		TBC 136	CBHY	PERFORM N2H4 MANIFOLD REFILL AND BEARING SOAK AND REPORT COMPLETION. (30 MIN)	
--------	--	------------	------	---	--

OPERATION INSTRUCTIONS

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

NOTE

WAIT UNTIL SRB HPU COOLDOWN  
SATISFIES THE FOLLOWING STEP  
PRIOR TO PROCEEDING.

64-002

CBHY CRT (BAT04)  
VEHICLE  
GAS GENRTR  
P TEMP

VERIFY  
LEFT A (LESS THAN 220 DEG F)  
LEFT B (LESS THAN 220 DEG F)  
RGHT A (LESS THAN 220 DEG F)  
RGHT B (LESS THAN 220 DEG F)

64-003

CBHY CURSOR CNTL (BAT04)  
VEHICLE  
UPDT (BLOCK)  
XMIT CURSOR KEY - PRESS

CRT  
NOTE CRT SCREEN UPDATE

64-004

CBHY CRT (BAT04)  
VEHICLE  
GAS GENRTR  
P TEMP

1. RECORD: P TEMP (STARTING)

LEFT A  
(ROCK) \_\_\_\_\_ BD

LEFT B  
(TILT) \_\_\_\_\_ BD

RGHT A  
(ROCK) \_\_\_\_\_ BD

RGHT B  
(TILT) \_\_\_\_\_ BD

2. VERIFY ALL OF ABOVE TEMPERATURES  
LESS THAN 220 DEG F.

OPERATION INSTRUCTIONS

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

NOTE

NEXT STEP IS CRT DATA  
VERIFICATION ONLY.

64-005		CBHY	CRT (BAT04)	VEHICLE FUEL SUPPLY MODULE SEC VLV	
			VERIFY	LEFT A (CL) GREEN LEFT B (CL) GREEN RGHT A (CL) GREEN RGHT B (CL) GREEN	
64-006		CBHY	RECORD FUEL ISO VALVE CYCLING START TIME:		
			TIME _____	GMT	
			DATE _____		
64-007		CBHY	CURSOR CNTL (BAT04)	VEHICLE FUEL SUPPLY MODULE ISO VLV LEFT A - OP WAIT 10 SEC MINIMUM THEN LEFT A - CL	
64-008		CBHY	CURSOR CNTL (BAT04)	VEHICLE FUEL SUPPLY MODULE ISO VLV LEFT B - OP WAIT 10 SEC MINIMUM THEN LEFT B - CL	
64-009		CBHY	CURSOR CNTL (BAT04)	VEHICLE FUEL SUPPLY MODULE ISO VLV RGHT A - OP WAIT 10 SEC MINIMUM THEN RGHT A - CL	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
64-010		CBHY		CURSOR CNTL (BAT04) VEHICLE FUEL SUPPLY MODULE ISO VLV RGHT B - OP WAIT 10 SEC MINIMUM THEN RGHT B - CL	
64-011		CBHY		CRT (BAT04) VEHICLE GAS GENRTR P TEMP  1. RECORD: P TEMP (ENDING)  LEFT A (ROCK) _____ BD  LEFT B (TILT) _____ BD  RGHT A (ROCK) _____ BD  RGHT B (TILT) _____ BD  2. VERIFY ENDING TEMPERATURES DID NOT INCREASE MORE THAN 20 DEGREES FROM STARTING TEMPERATURES FOR LEFT ROCK, LEFT TILT, RIGHT ROCK, RIGHT TILT.	
64-012		CBHY		RECORD FUEL ISO VALVE CYCLING END TIME.  TIME _____ GMT  DATE _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
64-013				CBHY PERFORM FOLLOWING:  1. USING HI-TRAX LIST CHANGE (LC) FUNCTION, VERIFY STATE OF ISO VLV CHANGED FROM "OFF" TO "ON" TO "OFF" FOR FOLLOWING FD'S:  B46X1851X1 - LEFT A ISO VLV OPEN IND B46X1852X1 - LEFT B ISO VLV OPEN IND B46X2851X1 - RGHT A ISO VLV OPEN IND B46X2852X1 - RGHT B ISO VLV OPEN IND  2. ATTACH HARD COPY OF HI-TRAX DATA.	
64-014		CBHY	TBC	SRB HPU N2H4 MANIFOLD REFILL AND BEARING SEAL SOAK COMPLETE.	
64-015		CBHY		COMPLETION OF PREVIOUS 15 STEPS SATISFIES NOTED OMRS REQUIREMENT.  OMRSD S00E00.721-B-1  SRB HPU N2H4 MANIFOLD REFILL ----- AND BEARING SEAL SOAK COMPLETE -----	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
65-000				GLS RECYCLE TO T-20 MINUTES	

NOTE

A LIST OF GLS MASKS AND BYPASSES TO SUPPORT TEST OBJECTIVES, TOGETHER WITH A SIGNATURE PAGE, WILL BE PROVIDED BY CGLS. THIS LIST WILL CONTAIN EACH KICK-OFF STEP IN THIS SEQUENCE REFERENCING THIS LIST, ALONG WITH THE CORRESPONDING INPUTS FOR THAT STEP.

DO NOT PERFORM NEXT THREE STEPS IF CUTOFF AND SAFING HAVE ALREADY BEEN ISSUED.

ENTIRE SEQUENCE NOT PERFORMED

65-001				CGLS PFPK7 - PRESS PFPK3 (SLP01) - PRESS PFPK5 (CUTOFF) - PRESS PFPK6 (CUTOFF EXECUTE) - PRESS	
				NOT PERFORMED	

65-002				CGLS APP 3B GLS SAFING SEQUENCES	
				HARDCOPY WHEN COMPLETE.	
				NOT PERFORMED	

65-003				CGLS APP 3A SYSTEMS STATUS CHECKS	
				HARD COPY KEY - PRESS	
				NOT PERFORMED	

OPERATION INSTRUCTIONS

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

-----  
 MAINLINE TERMINATION  
 -----

NOTE

IF CUTOFF HAS BEEN ISSUED,  
 PERFORM NEXT THREE  
 STEPS AS REQUIRED TO  
 TERMINATE SAFING.

65-004		CGLS	APP 3B	PFPK7 - PRESS PFPK3 (SLP01) - PRESS PFPK4 (TERMINATE SAFING) - PRESS PFPK6 (EXECUTE TERM) - PRESS	
				NOT PERFORMED	_____

65-005		CGLS	CONSOLE KYBD	SGPR2 TERM PGM KEY - PRESS	
				NOT PERFORMED	_____

65-006		CGLS	VERIFY SGPO2, SGPR2,	ARE INACTIVE	
				NOT PERFORMED	_____

MIP AND LIP DEACTIVATION  
 -----

65-007		CGLS	APP 2B	PFPK7 - PRESS PFPK2 (SLP02) - PRESS	
--------	--	------	--------	--	--

65-008		CGLS	PFP (LCC CONTROL)	PFPK4 - PRESS VERIFY LCC C&D	
--------	--	------	-------------------	---------------------------------	--



OPERATION INSTRUCTIONS

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

NOTE

DO NOT PERFORM NEXT STEP  
IF MIPS HAVE TERMED DUE  
TO BREAKOUT OR AN RSLs ABORT  
HAS OCCURRED.

65-009

CGLS CURSOR CNTL  
TERM MIP1  
XMIT CURSOR KEY - PRESS  
  
TERM MIP2  
XMIT CURSOR KEY - PRESS  
  
VERIFY SLPAP AND SLPAL  
INACTIVE IN BACK-UP CONSOLE

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

NOTE

DO NOT PERFORM NEXT STEP  
IF LIPS HAVE TERMED DUE  
TO BREAKOUT.

65-010

CGLS CURSOR CNTRL  
TERM LIP 1  
XMIT CURSOR KEY - PRESS  
  
TERM LIP 2  
XMIT CURSOR KEY - PRESS  
  
VERIFY SLPBO AND SLPKO  
INACTIVE IN BACK-UP CONSOLE

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

PSEUDO REINIT  
-----

NOTE

PRIOR TO PSEUDO REINIT, MAKE  
ALL NECESSARY HARDCOPIES.

65-011

CGLS APP 2B  
PFPK1 (INTG MENU) - PRESS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
65-012		CGLS		CURSOR CNTL PSEUDO INIT XMIT CURSOR KEY - PRESS	
				NOTE  DO NOT ALTER DISK FILES UNLESS NEW REQUIREMENTS ARE IDENTIFIED BY USA-TPE AND NASA-SPE.  ALL PSEUDOS XMIT CURSOR KEY - PRESS	
				NOTE  IF PAGE B MSG INDICATES: "SEE PAGE A FOR OPERATOR INPUT" PERFORM THE NEXT TWO STEPS.	
65-013		CGLS		CRT VERIFY PAGE A MSG:  (N03IS511E) CRYO SAFING ENABLED IS ON. THIS INDICATES SCRUB/CRYO DRAIN IN PROGRESS.	
				NOT PERFORMED	_____
65-014		CGLS		CONSOLE KYBD (SLP02 PAGE A)  ENTER "1" IF CRYO SAFING SUPPORT COMPLETED AND SLP50 NOT ACTIVE TO INITIALIZE (N03IS511E) TO OFF.  ENTER "2" TO LEAVE (N03IS511E) UNCHANGED  _____ (1 OR 2) XMIT RESPONSE KEY - PRESS  CRT VERIFY MSG INDICATING PSEUDO STATE	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
65-015				CGLS VERIFY ALL PSEUDOS BOX'S INVERT	
65-016				CGLS PFPK6 (TERM PGM) - PRESS	
NOTE					
PERFORM NEXT TWO STEPS IN THE EVENT THAT A NEW T-0 IS NOT KNOWN.					
65-017				CGLS VERIFY CCM FLAGS ARE INHIBITED.	
NOT PERFORMED _____					
65-018		OTC 132		CGLS DO NOT PERFORM REMAINING STEPS OF GLS RECYCLE TO T-20M.	
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

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

NOTE

PERFORM THE NEXT TWO STEPS  
IF SLP50 IS ACTIVE DUE TO  
SCRUB/LH2 BOIL OFF OPERATIONS.

65-019

C1MC PFP (SLP50)  
PFP2 - 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 \_\_\_\_\_

NOTE

PERFORM FOLLOWING STEP IF  
PGM SA001 NOT AUTOMATICALLY  
INITIALIZED.

65-020

C1MC CRT (SLP50 PAGE A)  
VERIFY MESSAGE:  
PSEUDO NLHK0706 IS ON, INDICATING  
SA001 ALREADY ACTIVE, SPECIFY  
WHETHER TO PROCEED....  
1 - ACTIVATE SA001  
2 - DO NOT ACT SA001 NOW  
  
CONSOLE KYBD  
1  
XMIT RESPONSE KEY - PRESS  
  
VERIFY PGM SA001 ACTIVE  
  
CRT  
VERIFY MSG:  
CRYOGENIC RECOVERY FUNCTION  
WILL BE HANDLED BY SA001.  
CRYO SAFING RESPONSE DISABLED.

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

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT FIVE STEPS  
IF ATTEMPTING A NEW T-0  
FOR CURRENT DAY.

TIMER CONFIGURATION  
-----

TIMER NO. 1 WINDOW REMAINING  
-----

65-021		CGLS	JTCR	SETUP WINDOW REMAINING TIMER NO. 1 TO FOLLOWING TIME:	
--------	--	------	------	--	--

TIMER NO. 1 \_\_:\_\_:\_\_ (WINDOW REMAINING)

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

65-022			JTCR	FOR TIMER NO. 1, AT THE T-9 MIN. HOLDING POINT:	
--------	--	--	------	--	--

ACTIVE OVRD SWITCH - ON  
COUNTHOLD SWITCH - OFF

WHEN TIMER NO. 5 DECREMENTS TO ZERO:

ACTIVATE COUNTHOLD SWITCH - AUTO

NOTE

TIMER NO. 1 SHOULD DECREMENT  
WHEN HOLDS OCCUR FROM THIS  
POINT TO COMPLETION OF WINDOW.

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				TIMER NO. 2 LOX DRAIN BACK ELAPSED ----- HOLD TIME -----	
65-023		CGLS 178	JTCR	SET LOX DRAIN BACK HOLD TIMER NO. 2 TO +0:00.  NOT PERFORMED	_____
				NOTE  TIMER NO. 2 COUNTS AT ANY HOLD AFTER T-5 MINS. AND COUNTING.	
65-024		CGLS 178	JTCR	VERIFY TIMER NO. 2 IN REMOTE AND IN COUNTING UP MODE.  NOT PERFORMED	_____
				TIMER NO. 5 HOLD TIME REMAINING -----	
65-025		CGLS 178	JTCR	VERIFY HOLD TIME REMAINING (TIMER NO. 5) SET TO FOLLOWING TIMES:  NOTE  THE TIMES ARE TO REFLECT THE PLANNED HOLD DURATION. AFTER T-9 MIN PLANNED HOLD EXPIRES, TIMER NO. 5 WILL ACCUMULATE TIME AT ANY ADDITIONAL HOLD.  T-20 MIN. HOLD ____:____:____ (HOLD TIME REMAINING)  T-9 MIN. HOLD ____:____:____ (HOLD TIME REMAINING)	_____
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
REINIT GLS MS/ML DISPLAY					
65-026		CGLS	PFFPK7 - PRESS PFFPK3 (SLP01) - PRESS PFFPK6 (GLS CONTROL) - PRESS	VERIFY MS/ML DISPLAY	
65-027		CGLS	CURSOR CNTL CDC CONTROL XMIT CURSOR KEY - PRESS	VERIFY CDC CONTROL DISPLAY	
65-028		CGLS	CURSOR CNTL SET CDT XMIT CURSOR KEY - PRESS CONSOLE KYBD -00:0020/00 XMIT RESP KEY - PRESS VERIFY CDC SET TO -00:0020/00 AND HOLDING		
65-029		CGLS	CURSOR CNTL HOLD AVAILABLE XMIT CURSOR KEY - PRESS CONSOLE KYBD _:____/____ DD HHMM SS XMIT RESP KEY - PRESS VERIFY HOLD AVAILABLE SET		
65-030		CGLS	CURSOR CNTL RETURN TO MS/ML DISPLAY XMIT CURSOR KEY - PRESS	VERIFY MS/ML DISPLAY	

OPERATION INSTRUCTIONS

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

SYSTEM BYPASS RESET  
 -----

65-031				CGLS APP 2B CURSOR CNTL SYSTEM BYPASS XMIT CURSOR KEY - PRESS	
--------	--	--	--	--	--

NOTE

FOR NEXT STEP REFERENCE LIST,  
 GLS SYSTEM BYPASSES, FOR  
 REQUIREMENTS.

PERFORM NEXT STEP IF SYSTEM  
 BYPASSES REQUIRED FOR THIS  
 FLOW.

65-032				CGLS CRT  CURSOR CNTL _____ (SYS) XMIT CURSOR KEY - PRESS	
--------	--	--	--	--	--

SYSTEM	BYPASS
-----	-----

APU	_____
ARMS	_____
BELE	_____
BHYD	_____
BINST	_____
BRS	_____
BPYRO	_____
PL INTG	_____
COMM	_____
DPS	_____
ECLSS	_____
ECS	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
65-032					
CON'T			EPDC	_____	
			FCP	_____	
			GNS	_____	
			GOX	_____	
			HYD	_____	
			HYFUEL	_____	
			HYOXID	_____	
			INST	_____	
			INTG	_____	
			LH2	_____	
			LOX	_____	
			MECH	_____	
			MPS	_____	
			NAVAID	_____	
			FCL	_____	
			PVD	_____	
			SSME	_____	
			TINST	_____	
			WATER	_____	
				NOT PERFORMED	_____
65-033			CGLS	CONSOLE KYBD	
				HARD COPY KEY - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
65-034		CGLS	APP 2B	CURSOR CNTL TERMINATE XMIT CURSOR KEY - PRESS	
				VERIFY BYPASS SELECTION PROCESS TERMINATING	
				GLS FUNCTIONAL CHANGES -----	
				NOTE	
				CONSOLE REBOOT OR DISK RE-INITIALIZATION WILL PROBABLY DESTROY THIS DATA. IN EVENT THIS HAPPENS VERIFY DATA IS LOST, AND IF SO IT SHOULD BE RE-ENTERED.	
65-035		CGLS	CURSOR CNTL	ML FUNC CHNGS XMIT CURSOR KEY - PRESS	
65-036		CGLS	PFP	SELECT - ML BYPASS FILE PFPK1 - PRESS VERIFY MAINLINE BYPASS DISPLAY	
				NOTE	
				PERFORM NEXT THREE STEPS IF BYPASS FILE UPDATE IS REQUIRED.	
65-037		CGLS	PFP (ADD)	PFPK5 - PRESS	NOT PERFORMED _____

OPERATION INSTRUCTIONS

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

NOTE

TO BYPASS GLS MAINLINE  
 FUNCTION LINE ITEM USE  
 GLSDD TO DETERMINE SEQ  
 NUMBER. REFERENCE ATTACHED  
 LIST, GLS MAINLINE BYPASSES  
 FOR REQUIRED INPUTS.

65-038		CGLS	HOME CMD KEY - PRESS CONSOLE KYBD _____ (SEQ NUMBER) XMIT RESP KEY - PRESS		
				NOT PERFORMED	_____

65-039		CGLS	HOME CMD KEY - PRESS CONSOLE KYBD -9999 XMIT RESP KEY - PRESS		
				NOT PERFORMED	_____

NOTE

A FUNCTIONAL LINE ITEM  
 ENTERED INTO BYPASS FILE  
 MAY NOT BE ENTERED INTO  
 ANY OTHER FILE.

65-040		CGLS	PFP PFPK2 (ML ALALOG FILE) - PRESS VERIFY ANALOG FILE DISPLAY		
--------	--	------	---	--	--

NOTE

PERFORM NEXT FOUR STEPS  
 IF MAINLINE ANALOG FILE  
 UPDATE IS REQUIRED.

65-041		CGLS	PFP (ADD) PFPK5 (ADD) - PRESS		
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

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

NOTE

TO VERIFY OR COMMAND AN ANALOG USING LIMITS THAT ARE DIFFERENT THAN LIMITS IN GLSDD, PERFORM FOLLOWING FOUR STEPS. REFERENCE ATTACHED LIST, GLS ML ANALOG DISK FILE FOR REQUIRED INPUTS.

65-042		CGLS	HOME CMD KEY - PRESS CONSOLE KYBD _____ (SEQ NUMBER) XMIT RESP KEY - PRESS		
				NOT PERFORMED	_____
65-043		CGLS	HOME CMD KEY - PRESS CONSOLE KYBD _____ (NEW HIGH LIMIT) XMIT RESP KEY - PRESS		
				NOT PERFORMED	_____
65-044		CGLS	HOME CMD KEY - PRESS CONSOLE KYBD _____ (NEW LOW LIMIT) XMIT RESP KEY - PRESS		
				NOT PERFORMED	_____
65-045		CGLS	HOME CMD KEY - PRESS CONSOLE KYBD -9999 XMIT RESP KEY - PRESS		
				NOT PERFORMED	_____
65-046		CGLS	PFPF (PRSEQ ANALOG FILE) PFPK3 - PRESS VERIFY PRESEQUENCER ANALOG FILE DISPLAY		

OPERATION INSTRUCTIONS

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

NOTE

TO COMMAND A PRESEQUENCE ANALOG MEASUREMENT WITH DIFFERENT LIMITS THAN THOSE IN THE GLSDD, PERFORM THE NEXT FIVE STEPS. REFERENCE ATTACHED LIST, GLS PRESEQUENCE ANALOG FILE FOR REQUIRED INPUTS.

65-047		CGLS	PFPK5 (ADD)	- PRESS	
				NOT PERFORMED	_____
65-048		CGLS	HOME CMD KEY -	PRESS	
			CONSOLE KYBD		
			_____ (SEQ NUMBER)		
			XMIT RESP KEY -	PRESS	
				NOT PERFORMED	_____
65-049		CGLS	HOME CMD KEY -	PRESS	
			_____ (NEW HIGH LIMIT)		
			XMIT RESP KEY -	PRESS	
				NOT PERFORMED	_____
65-050		CGLS	HOME CMD KEY -	PRESS	
			CONSOLE KYBD		
			_____ (NEW LOW LIMIT)		
			XMIT RESP KEY -	PRESS	
				NOT PERFORMED	_____
65-051		CGLS	HOME CMD KEY -	PRESS	
			CONSOLE KYBD		
			-9999		
			XMIT RESP KEY -	PRESS	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

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

NOTE

TO DELETE AN ITEM THAT HAS BEEN UPDATED INTO ANY DISK FILE, PERFORM FOLLOWING TWO STEPS. REFERENCE ATTACHED LIST, DELETES, FOR REQUIRED DISK FILE AND CORRESPONDING INPUTS.

65-052		CGLS	PFP (DELETE) PFPK6 - PRESS		NOT PERFORMED
65-053		CGLS	HOME CMD KEY - PRESS CONSOLE KYBD _____(SEQ NUMBER) XMIT RESP KEY - PRESS		NOT PERFORMED
65-054		CGLS	CURSOR CNTL TERMINATE XMIT CURSOR KEY - PRESS  CRT  INTG MENU		
65-055		CGLS	VERIFY THE FOLLOWING PSEUDOS ARE IN THE DESIRED RECYCLE CONFIGURATION.  N03IS080E = ON (LOC TEST-PAD) N03IS003E = OFF (LCC HOLD)		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
65-056		CGLS		CONSOLE KYBD IF PSEUDOS NOT IN CONFIG AS INDICATED IN PREVIOUS STEP, SET OR ISSUE ABOVE PSEUDOS AS REQUIRED FOR CORRECT INDICATION.  XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS  NOT PERFORMED	
DUAL INTERRUPT NOTIFICATION -----					
65-057		CGLS		APP2B PFPK7 - PRESS PFPK2 - PRESS	
65-058		CGLS		PFP (LCC CONTROL) PFPK4 - PRESS  CRT  LCC C AND D	
65-059		CGLS		CURSOR CNTL GLS LIMIT CHANGE XMIT CURSOR KEY - PRESS  CRT DUAL INTERRUPT NOTIFICATION GLS	
65-060		CGLS		CURSOR CNTL BACKUP XMIT CURSOR KEY - PRESS  VERIFY BACKUP BLOCK SOLID	
65-061		CGLS	OTC 212	FEP DUAL INTERRUPT NOTIFICATION WILL BE ACTIVATED MOMENTARILY AND MAY CAUSE REANNUNCIATION OF ERROR MESSAGES AT SYSTEMS CONSOLES FOR INTERRUPT MONITORED PARAMETERS CURRENTLY OUT OF GLS LIMITS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
CCM ACTIVATION					
-----					
65-062		CGLS	APP 2B CNTL ACTIVATE XMIT CURSOR KEY - PRESS		
VERIFY ACTIVE SOLID BLOCK					
65-063		CGLS	VERIFY 2 CONCURRENCIES ARE AVAILABLE IN BACKUP CONSOLE		
65-064		CGLS	PFPK2 (TERM LIMIT CHG) - PRESS VERIFY LCC C AND D		
65-065		CGLS	CURSOR CNTL ACT LIP 1 XMIT CURSOR KEY - PRESS		
65-066			CURSOR CNTL ACT LIP 2 XMIT CURSOR KEY - PRESS		
65-067		CGLS	VERIFY SLPBO AND SLPCO ACTIVE IN BACKUP CONSOLE		
65-068		CGLS	PFPK2 (LIMIT CHANGE) - PRESS VERIFY GLS LIMIT CHNG		
65-069		CGLS	CRT  SELECT XFER TO GLS FOR ALL XMIT CURSOR KEY - PRESS		



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
65-070		CGLS		VERIFY LIM CHANGE COMPLETE FOR ALL SYSTEMS EXCEPT BRS  CRT SELECT  BRS - XMIT CURSOR  VERIFY LIMIT CHANGE TO GLS FOR BRS COMPLETE	
65-071		CGLS	CRT	VERIFY DISPLAY SHOWS ALL SELECTED SYSTEMS LIMITS XFERED TO GLS	
65-072		CGLS	PFPK1	(INTG MENU) - PRESS  CRT  VERIFY INTEGRATED MENU  NOTE  PERFORM GLS STANDALONE CVFY ACTIVATION OF EDO OR SPACEHAB LCC'S ARE APPLICABLE.  GLS STANDALONE CVFY ACTIVATION -----  NOT PERFORMED	
65-073		CGLS		HOME CMD KEY - PRESS S FD V98X2621X1 - XMIT CMD  VERIFY PROC HALT STAT 1-BCE ENABLED OFF	
65-074		CGLS		HOME CMD KEY - PRESS SLP81 PERF PGM KEY - PRESS	
65-075		CGLS	PFP PNL	PFPK7 - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
65-076		CGLS	PFP (SLP81)	PFFPK1 - PRESS VERIFY TOP LEVEL PFP DISPLAY	
				NOTE PERFORM NEXT STEP FOR EDO MISSION ONLY.	
65-077		CGLS	PFP (FCP INHIBITED)	PFFPK1 - PRESS VERIFY PFFPK1 LED, FCP ACTIVE	
				NOT PERFORMED	_____
				NOTE ONLY ONE OF FOLLOWING PFFPK LEDES WILL APPEAR BASED ON PAYLOAD.	
65-078		CGLS	PFP (SLAB INHIBITED)	PFFPK2 - PRESS VERIFY PFFPK2 LED, SPACELAB ACTIVE	
				NOT PERFORMED	_____
65-079		CGLS	PFP (SHAB INHIBITED)	PFFPK - PRESS VERIFY PFFPK LED, SPACEHAB ACTIVE	
				NOT PERFORMED	_____
65-080		CGLS	PFP (SELECTION CMPLT)	PFFPK5 - PRESS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
65-081		CGLS	PFK1	PFK1 (CONFIGURATION) PFK1 - PRESS PFK1 (PSEUDO INITS) PFK1 - PRESS VERIFY PSEUDO INIT LED DISPLAY	
NOTE					
PERFORM ONE OF FOLLOWING THREE STEPS.					
65-082		CGLS	PFK1	PFK1 (FAIL/VL) PFK1 - PRESS VERIFY FAIL PSEUDO INIT COMPLETE (PG-1A)	
NOT PERFORMED _____					
65-083		CGLS	PFK2	PFK2 (ALL PSEUDOS) PFK2 - PRESS VERIFY VL PSEUDO INIT COMPLETE (PG-1A)	
NOT PERFORMED _____					
65-084		CGLS	PFK3	PFK3 (MASK) PFK3 - PRESS VERIFY MASK PSEUDO INIT COMPLETE (PG-1A)	
NOT PERFORMED _____					
NOTE					
PERFORM NEXT STEP IF CGLS DESIRES COPY OF PSEUDO FD'S CURRENT VALUE. PRINTER/ PLOTTER MUST BE ONLINE AND FUNCTIONAL.					
65-085		CGLS	PFK4	PFK4 (PSEUDOS TO PP) PFK4 - PRESS VERIFY PSEUDOS WRITING TO CONSOLE P/P	
NOT PERFORMED _____					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
65-086		CGLS	PFP (CONFIG LEDS) PFPK6 - PRESS	VERIFY CONFIG LEDS DISPLAY	
65-087		CGLS	PFP (RSYS TRANSFER) PFPK2 - PRESS		
65-088		CGLS	CRT (SLP81) PG-1A SELECT RSYS CONSOLE _____(1=INTG, 2=BKUP, 3=MSTR, 4=IGNORE) XMIT RESPONSE KEY - PRESS VERIFY RSYS XFER CMPLT TO CONSOLE SPECIFIED, PG-1A.		
65-089		CGLS	PFP (LIMIT CHG SELECT) PFPK3 - PRESS	VERIFY LIMIT CHANGE COMPLETE, PG-1A.	
NOTE					
PERFORM NEXT STEP PER GLS MASK AND BYPASS LIST.					
65-090		CGLS	HOME CMD KEY - PRESS CONSOLE KEYBOARD		
		C	GL _____	FD                      LO                      HI	
				XMIT CMD KEY - PRESS	
				NOT PERFORMED	_____
65-091		CGLS	PFP (ACTIVATE CVFY) PFPK4 - PRESS	VERIFY ACTIVATION COMPLETE, PG-1A.	
65-092		CGLS	PFP (OPS LEDS) PFPK5 - PRESS	VERIFY OPS LEDS DISPLAY	
65-093		CGLS	PFP (LOOKUP SELECT) PFPK1 - PRESS	VERIFY 25 LOOKUP DISPLAY (SDP81)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

FOR NEXT TWO STEPS, IF  
STANDALONE CVFY FD'S  
ARE REQUIRED TO BE MASKED/  
RESET, REFERENCE ATTACHED  
LIST PROVIDED BY CGLS AT  
RUN TIME.

REPEAT NEXT THREE STEPS  
FOR ALL REQUIRED FD'S TO  
BE RESET OR MASKED.

65-094		CGLS		CURSOR CONTROL M - PAGE/ROW _____ XMIT CURSOR KEY - PRESS VERIFY "M" ADJACENT TO FD SELECTED	
					NOT PERFORMED _____

65-095		CGLS		CURSOR CONTROL R - PAGE/ROW _____ XMIT CURSOR KEY - PRESS VERIFY BLANK ADJACENT TO FD SELECTED	
					NOT PERFORMED _____

65-096		CGLS		PF1 PF1 (ADVANCE PF) - PRESS	
					NOT PERFORMED _____

65-097		CGLS		HARDCOPY KEY - PRESS	
--------	--	------	--	----------------------	--

65-098		CGLS		PF6 PF6 (OPS LEDS) - PRESS VERIFY 25 LOOKUP DISPLAY CLEARS	
				GLS STANDALONE CVFY ACTIVATION ----- COMPLETE -----	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
SINGLE SHOT VERIFICATION					
-----					
65-099		CGLS	CRT	INTG MENU  CURSOR CNTL SINGLE SHOT VFY XMIT CURSOR KEY - PRESS  CRT  SINGLE SHOT VFY SELECTION	
65-100		CGLS	CURT	CURT CURSOR CNTL (SELECT AS REQD) XMIT CURSOR KEY - PRESS EACH ITEM ML INT -  CRT  VERIFY  INVERTED CURSOR BLOCK	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP TO  
CHANGE VERIFY SELECTION.

65-101		CGLS	CURSOR CNTL	XMIT CURSOR KEY - PRESS	
			CRT		
			CURSOR BLOCK OPEN		
				NOT PERFORMED	_____

65-102		CGLS	CURSOR CNTL	SELECTION END	
			XMIT CURSOR KEY - PRESS		
			CRT		
			PRE-SEQ VFY	SELECTION	

NOTE

NOMENCLATURE DISPLAYED  
INVERT YELLOW DENOTES SYSTEMS  
BYPASSED OR VERIFY OPTION  
NOT SELECTED.

TO MASK AN FD PERFORM NEXT  
STEP. REFERENCE ATTACHED  
LIST, GLS SINGLE SHOT MASKS  
FOR REQUIRED INPUTS.

65-103		CGLS	CURSOR CNTL	MASK FD _____	
			XMIT CURSOR KEY - PRESS		
			CRT		
			CURSOR BLOCK INVERT	YELLOW (M)	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

TO RESET AN FD PERFORM  
 FOLLOWING STEP. REFERENCE  
 ATTACHED LIST, GLS SINGLE SHOT  
 RESETS FOR REQUIRED INPUTS.  
 FD'S WHICH HAVE BEEN BYPASSED  
 BY SYSTEM MAY NOT BE RESET  
 INDIVIDUALLY.

65-104		CGLS		CURSOR CNTL RESET FD _____ XMIT CURSOR KEY - PRESS  CRT  CURSOR BLOCK OPEN CYAN	NOT PERFORMED	_____
65-105		CGLS		WHEN MASK/RESET SELECTIONS ARE COMPLETE BEGIN VERIFIES PFPK4 - PRESS VERIFY TITLE SINGLE SHOT VERIFY FAILURES		
65-106		CGLS		IF PAGE FULL PFK15 - PRESS VERIFY NEXT PAGE FAILURES		
65-107		CGLS		WHEN VERIFIES COMPLETE VERIFY MESSAGE VERIFY CYCLE COMPLETE		



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM ONE OF NEXT TWO  
STEPS IF A VERIFY FAILURE  
OCCURS.

65-108		CGLS	PFPK1	(TERM VFY'S) - PRESS	
				NOT PERFORMED	_____
65-109		CGLS	PFPK2	(RESTART VFY'S) - PRESS	
				NOT PERFORMED	_____
65-110		CGLS		TO TERMINATE PFPK1 - PRESS VERIFY INTG MENU	

NOTE

FOR MAINLINE INTERRUPT  
FD'S TO BE MASKED OR RESET,  
REFERENCE ATTACHED LIST, GLS  
MAINLINE MASKS OR GLS ML  
MASK-RESETS FOR REQUIRED  
INPUTS.

PERFORM NEXT FOUR STEPS  
IF MASKS OR RESETS ARE  
REQUIRED.

65-111		CGLS	PFPK5	(VIEW INTERRUPT) - PRESS VERIFY VIEW INTERRUPT SKELETON (SDPC3) CURSOR CONTROL TABLE _____(TABLE NUMBER) XMIT CURSOR KEY - PRESS VERIFY DISPLAY PG 2B	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

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

NOTE

REPEAT NEXT STEP FOR EACH  
MAINLINE CVFY FD TO BE  
MASKED.

65-112

CGLS CURSOR CONTROL  
MASK \_\_\_\_\_(FD)  
XMIT CURSOR KEY - PRESS

CRT

VERIFY FD SHOW "M"  
ADJACENT TO FD  
SELECTED

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

NOTE

REPEAT NEXT STEP FOR EACH  
FD TO BE RESET.

65-113

CGLS CURSOR CONTROL  
RESET \_\_\_\_\_(FD)  
XMIT CURSOR KEY - PRESS

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

65-114

CGLS PFPK2 (ADVANCE) - PRESS  
VERIFY NEXT TABLE PG 2B  
REPEAT UNTIL NEXT DESIRED  
TABLE DISPLAYED.

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT TWO STEPS  
TO CHANGE GOAL LIMITS FOR  
DESCRETE MIP MEASUREMENTS.

REPEAT NEXT TWO STEPS FOR  
EACH DISCRETE FD REQUIRING  
A LIMIT CHANGE. A LIST OF  
DISCRETE FD'S REQUIRING  
LIMIT CHANGE AND CORRESPONDING  
STATES WILL BE PROVIDED WITH  
THE GLS MASK AND BYPASS LIST.

DISCRETES MEASUREMENTS

65-115

CGLS HOME CMD KEY - PRESS  
CONSOLE KYBD  
I GX \_\_\_\_\_ (FD)  
XMIT CMD KEY - PRESS  
EXEC CMD KEY - PRESS  
VERIFY SUCCESSFUL

NOT PERFORMED

65-116

CGLS HOME CMD KEY - PRESS  
CONSOLE KYBD  
C GL \_\_\_\_\_ (FD) \_\_\_\_\_ (STATE)  
XMIT CMD KEY - PRESS  
VERIFY SUCCESSFUL

NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF REQUIRED  
TO CHANGE GOAL LIMITS FOR  
ANALOG MIP MEASUREMENTS.  
REPEAT NEXT STEP FOR EACH  
ANALOG FD REQUIRING A LIMIT  
CHANGE. A LIST OF ANALOG FD'S  
REQUIRING LIMIT CHANGE AND  
CORRESPONDING VALUES WILL BE  
PROVIDED WITH THE GLS MASK  
AND BYPASS LIST.

ANALOG MEASUREMENTS

65-117

CGLS HOME CMD KEY - PRESS

CONSOLE KYBD

C GL \_\_\_\_ (FD) \_\_\_\_ (LO) \_\_\_\_ (HI)

XMIT CMD KEY - PRESS

VERIFY SUCCESSFUL

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF REQUIRED TO CHANGE GOAL LIMITS FOR DIGITAL PATTERN MIP MEASUREMENT. REPEAT NEXT STEP FOR EACH DIG PATTERN FD REQUIRING A LIMIT CHANGE. A LIST OF DIG PATTERN FD'S REQUIRING LIMIT CHANGE AND CORRESPONDING VALUES WILL BE PROVIDED WITH THE GLS MASK BYPASS LIST.

DIGITAL PATTERN MEASUREMENTS

65-118

CGLS HOME CMD KEY - PRESS  
CONSOLE KYBD  
C GL \_\_\_\_ (FD) \_\_\_\_ (EQ/NE/ANY) \_\_\_\_ (VALUE)  
XMIT CMD KEY - PRESS  
VERIFY SUCCESSFUL

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

NOTE

FOR LCC INTERRUPT FD'S TO BE MASKED OR RESET, REFERENCE ATTACHED LIST, GLS LCC MASKS OR GLS LCC MASK-RESETS, FOR REQUIRED INPUTS.

PERFORM NEXT FIVE STEPS IF MASKS OR RESETS ARE REQUIRED.

65-119

CGLS PFPK5 (LCC SELECTIONS) - PRESS  
VERIFY LCC SELECTIONS (SDPB2)  
CURSOR CONTROL  
TABLE \_\_\_\_ (TABLE NO. UPPER/  
LOWER)  
XMIT CURSOR KEY - PRESS  
VERIFY SELECTED TABLE PG 2B

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

REPEAT NEXT STEP FOR ALL  
REQUIRED LCC FD'S TO BE  
MASKED IN THIS TABLE.

65-120		CGLS		CURSOR CONTROL MASK _____(FD) XMIT CURSOR KEY - PRESS  CRT  VERIFY FD SHOW "M" ADJACENT TO FD	NOT PERFORMED
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NOTE

REPEAT NEXT STEP FOR ALL  
REQUIRED LCC FD'S TO BE  
RESET IN THIS TABLE.

65-121		CGLS		CURSOR CONTROL RESET _____(FD) XMIT CURSOR KEY - PRESS	NOT PERFORMED
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65-122		CGLS		PFPK2 (ADVANCE) - PRESS VERIFY NEXT TABLE DISPLAYED TO PG 2B REPEAT UNTIL NEXT DESIRED TABLE IS DISPLAYED.	NOT PERFORMED
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65-123		CGLS		PFPK1 (INTG MENU) - PRESS VERIFY INTEGRATED MENU	NOT PERFORMED
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT TWO STEPS  
TO CHANGE GOAL LIMITS FOR  
DISCRETE LCC MEASUREMENTS.

REPEAT NEXT TWO STEPS FOR  
EACH DISCRETE FD REQUIRING  
A LIMIT CHANGE. A LIST OF  
DISCRETE FD'S REQUIRING  
LIMIT CHANGE AND CORRESPONDING  
STATES WILL BE PROVIDED WITH  
THE GLS MASK AND BYPASS LIST.

DISCRETES MEASUREMENTS

65-124

CGLS HOME CMD KEY - PRESS  
CONSOLE KYBD  
I GX \_\_\_\_\_ (FD)  
XMIT CMD KEY - PRESS  
EXEC CMD KEY - PRESS  
VERIFY SUCCESSFUL

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

65-125

CGLS HOME CMD KEY - PRESS  
CONSOLE KYBD  
A GX \_\_\_\_\_ (FD) \_\_\_\_\_ (STATE)  
XMIT CMD KEY - PRESS  
VERIFY SUCCESSFUL

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT TWO STEPS IF  
REQUIRED TO CHANGE GOAL  
LIMITS FOR ANALOG LCC  
MEASUREMENTS. REPEAT NEXT  
TWO STEPS FOR EACH ANALOG  
FD REQUIRING A LIMIT CHANGE.  
A LIST OF ANALOG FD'S REQUIRING  
LIMIT CHANGE AND CORRESPONDING  
VALUES WILL BE PROVIDED WITH  
THE GLS MASK AND BYPASS LIST.

ANALOG MEASUREMENTS

65-126		CGLS	HOME CMD KEY - PRESS		
			CONSOLE KYBD		
			C GL ____ (FD) ____ (LO) ____ (HI)		
			XMIT CMD KEY - PRESS		
			VERIFY SUCCESSFUL		
				NOT PERFORMED	_____
65-127		CGLS	HOME CMD KEY - PRESS		
			CONSOLE KYBD		
			A GX ____ (FD)		
			XMIT CMD KEY - PRESS		
			VERIFY SUCCESSFUL		
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF REQUIRED TO CHANGE GOAL LIMITS FOR DIGITAL PATTERN LCC MEASUREMENTS. REPEAT NEXT STEP FOR EACH DIG PATTERN FD REQUIRING A LIMIT CHANGE. A LIST OF DIG PATTERN FD'S REQUIRING LIMITS CHANGE AND CORRESPONDING VALUES WILL BE PROVIDED WITH THE GLS MASK AND BYPASS LIST.

DIGITAL PATTERN MEASUREMENTS

65-128		CGLS	HOME CMD KEY - PRESS CONSOLE KYBD A GX ____ (FD) ____ (EQ/NE/ANY) ____ (VALUE) XMIT CMD KEY - PRESS VERIFY SUCCESSFUL		
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NOT PERFORMED \_\_\_\_\_

NOTE

WHEN LCC CMD PROCESSOR LIMIT CHANGES ARE COMPLETE MAKE A CHECK OF LCC FAILURES FOR CMD PROCESSOR LIMIT CHANGED MEASUREMENTS.

GLS MAINLINE ACTIVATION

65-129		CGLS	CONSOLE KYBD SELECT APP PG 3B - PRESS  CRT  MS/ML DISPLAY		
65-130		CGLS	CURSOR CONTROL INITIATE MAINLINE XMIT CURSOR KEY - PRESS		

OPERATION INSTRUCTIONS

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

NOTE

SELECT GLS PRESEQUENCER  
 BYPASSES AS APPLICABLE  
 FROM FOLLOWING LIST AND  
 PERFORM NEXT STEP.

65-131

CGLS SELECT APP PG 4B

CRT

SELECT GLS FUNCTIONS TO BYPASS

CONSOLE KYBD (SGPO2)  
 XMIT CURSOR KEY - PRESS

FUNCTION	BYPASS
VENT DOOR 4/7 OVERRIDE	_____
BRS LIMIT CHANGE	_____
ONE SHOT DATA TRANSFER	_____
T-20 MIN AUTO HOLD	_____
OPS TRANSITION	_____
SEND GMTLO	_____
GPC DUMP AND COMPARE	_____
SLPAO, SLPA1 PERFORMS	_____
RF SWITCH SELECT	_____
SINGLE SHOT VERIFY	_____
T-9 MIN AUTO HOLD	_____
BYPASS ALL	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
65-132		CGLS		CONSOLE KYBD (SGPO2) PFPK7 - PRESS PFPK4 (SGPO2) - PRESS PFPK2 (PROCEED) - PRESS  CRT (SGPO2)  GLS MAINLINE ACTIVE MESSAGE	
65-133		CGLS		APP 4A  CRT  GLS MAINLINE ACTIVE VERIFY RSLs DOES NOT START COUNTING  VENT DOOR 4 & 7 OVERRIDE OPERATION -----	
65-134		CGLS		CRT (SGPR2 PG B) VENT DOOW 4/7 OVERRIDE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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65-135				CGLS CRT (PG A)	
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NOTE

PERFORM ONE OF NEXT TWO  
 SUBSTEPS.

1. FOR INITIAL LAUNCH ATTEMPT:  
 VERIFY INITIAL VALUE OF  
 V99J8836C1 - #0000 0000

NOT PERFORMED

SS1

2. FOR SUBSEQUENT LAUNCH ATTEMPTS:  
 V99J8836C1 - #000F 0000  
 IF PREVIOUS ATTEMPT HAS BEEN  
 MADE.

NOT PERFORMED

SS2

3. VERIFY VALUE SENT TO  
 SSV - #000F 0000

4. VERIFY VALUE FROM  
 SSV - #000F 0000

OMRSD S00FA0.014

65-136				CGLS PFPK7 - PRESS VERIFY SGPO2, SGPR2 ACTIVE. VERIFY STATUS IS T-20 MIN AND HOLDING	
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NOTE

PERFORM NEXT STEP IF  
 AUTOMATIC RESUME IN  
 10 MIN IS NOT DESIRED.

65-137				CGLS APP 3B CURSOR CNTL CANCEL PENDING CDC REQUESTS XMIT CURSOR KEY - PRESS VFY SUCCESSFUL	
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NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
65-138				CGLS VERIFY FOLLOWING PSEUDO IS IN DESIRED RECYCLE CONFIGURATION.  N03IS331D = X0001 (RSS HOLD)	
65-139				CGLS CONSOLE KYBD IF PSEUDO NOT IN CONFIGURATION AS INDICATED IN PREVIOUS STEP, ISSUE THE PSEUDO TO CORRECT INDICATION.  ISSU N03IS331D X0001 XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
				NOT PERFORMED	
65-140		CGLS 212	OTC	GLS RECYCLE TO T-20 MINUTES IS COMPLETE.	

VOLUME 4 OF 5  
DATE: 07-08-99

OMI NO. - S0007VL4  
REV. - AY

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
66-000				ECLSS SAFING SCRUB/TURNAROUND OPS ----- CONTINGENCY -----	

NOTE

THIS IS A CONTINGENCY SEQ.  
 PERFORM THIS SEQUENCE TO  
 SUPPORT EXTENDED SCRUB/  
 TURNAROUND.

ENTIRE SEQUENCE NOT PERFORMED \_\_\_\_\_

66-001		OTC 132	CECL CDR	PERF ECLSS ARPCS SAFING ON CH 143. CFCP OMTO	
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66-002		CECL 143	CDR	PERFORM SWITCH POSITIONS LISTED BELOW AND INSTALL SWITCH GUARDS.	
--------	--	-------------	-----	---	--

PANEL L1	GUARD P/N
-----	-----

FLASH EVAP CONTROLLER	
PR1 A SW - OFF	G070-700930-001
PR1 B SW - OFF	(ONE GUARD/TWO SWITCHES)

FLASH EVAP CONTROLLER	
SEC MODE SW - OFF	G070-700919-001

NH3 CONTROLLER	
A SW - OFF	G070-700921-001
B SW - OFF	G070-700921-001

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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ECLSS GSE COOLING RECONFIGURE

NOTE

PERFORM NEXT STEP AT  
 CECL DISCRETION.

66-003		OTC 132	CECL	PERFORM GSE COOLING RECONFIGURE FROM REFR TO CHILLED WATER MODE (REMOTE WITH B/U UNIT DOWN) PER OMI S9001VL1 ON CH 143. REPORT COMPLETION.	
					NOT PERFORMED

66-004			CECL	CFCP PERFORM ARPCS O2 SUPPLY VLV 1 AND 2 CLOSURE.	
--------	--	--	------	---	--

NOTE

PERFORM NEXT TWO STEPS IF  
 VLV POSITION INDICATORS  
 ARE NOT AS SHOWN.

66-005			CFCP	CDR PANEL L2 ATM PRESS CONTROL	
				O2 SYS 1 SUPPLY SW - CLOSE UNTIL	L2A1S11
				O2 SYS 1 SUPPLY TB CL	L2A1DS5
				O2 SYS 2 SUPPLY SW - CLOSE UNTIL	L2A1S20
				O2 SYS 2 SUPPLY TB CL	L2A1DS9
					NOT PERFORMED

66-006			CECL	CRT (VAG10, PG B)	
				VERIFY	
				1. PRSD O2 ECS PRIM SUP VLV (VLV 1) PCL	V45X1080E1
				2. PRSD O2 ECS SEC VLV (VLV 3) PCL	V45X1083E1
					NOT PERFORMED



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
66-007		CECL	CDR	PANEL L2 ATM PRESS CONTROL O2 OXVR SYS 1 - OPEN SYS 2 - OPEN	
66-008		CECL	CDR	PANEL C5  IF VAG10 (P17) GREATER THAN 100 PSIA, DIRECT O2 VALVE - OPEN UNTIL VAG10 (P17) AIRLOCK O2 PRESS IS 50 TO 100 PSIA, THEN CLOSE	NOT PERFORMED
66-009		CECL	CDR	PANEL L2 ATM PRESS CONTROL O2 KOVR SYS 1 - CLOSE SYS 2 - CLOSE	
66-010		CFCP	CECL	ARPCS O2 SUPPLY VLV 1 AND 2 CLOSURE IS COMPLETE.	
66-011		CECL	CDR	PANEL L2A1 ATM PRESS CONTROL N2 SYS 1 SUPPLY SW - CLOSE UNTIL SUPPLY TB CL REG INLET SW - CLOSE UNTIL REG INLET TB CL N2 SYS 2 SUPPLY SW - CLOSE UNTIL SUPPLY TB CL REG INLET SW - CLOSE UNTIL REG INLET TB CL	L2A1S13 L2A1S14 L2A1S7 L2A1A21 L2A1DS10 L2A1S22 L2A1DS11

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
66-012		CECL	CDR	PANEL O16 ROW D MN C ATM PRESS CONTR O2 EMER CB - CLOSE	
66-013		CECL	CRT	(VAG10, PG B)  VERIFY  O2 EMER (VLV 5) PCL	
66-014		CECL	CDR	PANEL O16 ROW D MN C ATM PRESS CONTR O2 EMER CB - OPEN	
66-015		CECL	CDR	PANEL C7 LEH O2 SUPPLY SYS 1 VLV - CLOSE SYS 2 VLV - CLOSE	
66-016		CECL	CDR	PANEL L4 ROW J AC3 SIG CONDR HUM SEP PH A CB - CLOSE IMU FAN PH B CB - CLOSE	
66-017		CECL	PLT	PANEL C6 LEH O2 1 VLV - CLOSE LEH O2 2 VLV - CLOSE LEH O2 3 VLV - CLOSE LEH O2 4 VLV - CLOSE	
66-018		CECL	CDR	PANEL O14 ROW C SMOKE DETN L/R FLT DK CB - OPEN BAY 2A/3B CB - OPEN	O14A14C007 O14A14C008

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
66-019		CECL	PLT	PANEL O15 ROW C MN B SMOKE DETN BAY 1B/3A CB - OPEN	015A15C007
66-020		CECL	PLT	PANEL O16 ROW C MN C SMOKE DETN CABIN CB - OPEN BAY 1A/2B CB - OPEN	016A16C006 016A16C007

CAUTION

IN NEXT STEP, DO NOT MOVE  
 MOTOR ARM. VALVE ARM MAY  
 BE MOVED TO ALLOW CONNECTION  
 TO MOTOR.

NOTE

VALVE LINK WILL HAVE BEEN  
 STOWED FOR FLIGHT IN R3 PLT'S  
 FWD FDF CONTAINER.

DO NOT PERFORM NEXT STEP IF  
 ACCESS TO PANEL MD44F IS  
 RESTRICTED BY TREADMILL OR  
 OTHER EQUIPMENT.

66-021		CECL	OMTO	PANEL MD44F SV755665-2 VALVE LINK CAB TVL	
--------	--	------	------	--	--

OK TO INSTALL T: \_\_\_\_\_

CONNECT SV755665-2 VALVE LINK CAB  
 TVL TO TEMP CONTROL PRI ACTUATOR  
 AND TO TEMP CONTROL VALVE ARM  
 UTILIZING QUICK RELEASE PINS (2)  
 PROVIDED.

(FOLLOW ORIENTATION INSTRUCTIONS  
 PRINTED ON THE VALVE LINK)

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

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

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
66-022		CECL	OTC	ECLSS SAFING COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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67-000				FC/PRSD SYSTEM SAFING ----- (CONTINGENCY) -----	
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NOTE

THIS IS A CONTINGENCY SEQUENCE. PERFORM ONLY FOR EXTENDED SCRUB/TURNAROUND.

ENTIRE SEQUENCE NOT PERFORMED

CAUTION

VERIFY FUEL CELLS HAVE BEEN DEACTIVATED.

NOTE

CRYO CNTLR AND QTY CB'S WILL REMAIN CLOSED UNTIL COMPLETION OF PRSD DETANK.

67-001		CFCP PLT 153		PANEL R12 FUEL CELL PURGE HEATER SW - OFF H2O RELIEF HTR SW - OFF H2O LINE HTR SW - OFF PURGE VALVES 1 SW - CLOSE 2 SW - CLOSE 3 SW - CLOSE	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
67-002		CFCP		VERIFY FUEL CELLS POWERED DOWN PRIOR TO CONTINUING.	
67-003		CFCP	CDR	PANEL L4 ROW C AC1 FUEL CELL 1 PUMPS PH A CB - OPEN PH B CB - OPEN PH C CB - OPEN AC2 FUEL CELL 2 PUMPS PH A CB - OPEN PH B CB - OPEN PH C CB - OPEN AC3 FUEL CELL 3 PUMPS PH A CB - OPEN PH B CB - OPEN PH C CB - OPEN	L4A04C065 L4A04C066 L4A04C067  L4A04C068 L4A04C069 L4A04C070  L4A04C071 L4A04C072 L4A04C073
67-004		CFCP	CDR	PANEL O14 ROW A FC 1 CNTLR SW - OFF	O14A14S012
67-005		CFCP	CDR	PANEL O15 ROW A FC 2 CNTLR SW - OFF	O15A15S011
67-006		CFCP	CDR	PANEL O16 ROW A FC 3 CNTLR SW - OFF	O16A16S012
67-007		CFCP		CRT (VWR05, PG B)  VERIFY  FC1 ECU PWR - OFF FC2 ECU PWR - OFF FC3 ECU PWR - OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

FOLLOWING STEP RECONFIGURES  
TK HTR SWITCHES TO OFF. TANK  
HTRS WILL REMAIN IN AUTO VIA  
LPS UNTIL PRIOR TO DETANK  
OPERATIONS.

67-008		CFCP	CDR	PANEL R1 CRYO H2 TK1 HEATERS A SW - OFF H2 TK2 HEATERS A SW - OFF O2 TK1 HEATERS A SW - OFF O2 TK2 HEATERS A SW - OFF	
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NOTE

FUEL CELL AND PRSD SWITCH  
GUARDS ARE INSTALLED IN  
SEQ 80 (S0007 VL4).

67-009		CFCP	OTC	FC/PRSD SYSTEM SAFING AND SWITCHGUARD INSTALLATION (CONTINGENCY) COMPLETE.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
68-000				ET/IT ENTRY -----	
NOTE					
ET/IT ENTRY IS A CONTINGENCY SEQUENCE.					
ENTIRE SEQUENCE NOT PERFORMED					
68-001		CLHY 136 TBC 232	TBC NTD	LH2 RESIDUAL BOIL OFF COMPLETE. READY TO PROCEED WITH LH2/MPS PURGE AND INERTING AFTER BOIL OFF PER G3255.	
NOT PERFORMED					
68-002		CLHY 136	TBC	LH2/MPS PURGE AND INERTING AFTER BOIL OFF COMPLETE.	
NOT PERFORMED					
68-003		TBC 136	CLHY	PROCEED WITH ET OPERATION SUPPORT SETUP 5 PER OMI G3255 - TEMPORARY SECURING OF ET INTERTANK PURGE SUPPLY PRESS.	
NOT PERFORMED					
68-004		CLHY 136	TBC	ET OPERATION SUPPORT SETUP 5 - TEMPORARY SECURING OF ET INTERTANK PURGE SUPPLY PER G3255 COMPLETE.	
NOT PERFORMED					
68-005		TBC 136	*PAD	PERFORM PURGE AND CHECK ET I/T ENVIRONMENT - PAD PER OMI T5048. REPORT COMPLETION.	
NOT PERFORMED					
68-006		TBC 232 NTD *SCC *SCC NET 105	NTD *SCC *PSE	PERFORM O2 LEVEL CHECK OF ET I/T AREA. VERIFY O2 LEVELS ACCEPTABLE AND SAFETY CONCURRENCE FOR ET I/T ENTRY.	
NOT PERFORMED					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
68-007		*PSE NET 105 *SCC 232 NTD	*SCC   NTD	O2 LEVEL IN ET I/T IS ACCEPTABLE. YOU HAVE SAFETY CONCURRENCE TO OPEN ET/IT FOR CONTROLLED WORK.	
				NOT PERFORMED	_____
				NOTE	
				PERFORM NEXT TWO STEPS WHEN INTERTANK CLOSEOUT COMPLETE.	
68-008		TBC 136	CLHY	ET INTERTANK CLOSEOUT COMPLETE AND RECONFIGURED FOR CRYO LOADING. PERFORM ET OPERATION SUPPORT SETUP 6 - ACTIVATING ET INTERTANK PURGE SUPPLY FROM TEMPORARY SECURING PER OMI G3255.	
				NOT PERFORMED	_____
68-009		CLHY 136	TBC	ET OPERATION SUPPORT SETUP 6 - ACTIVATING ET INTERTANK PURGE SUPPLY FROM TEMPORARY SECURING IS COMPLETE.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
69-000				FUEL CELL PERFORMANCE CALIBRATION AND PRSD SYSTEM INTEGRITY CHECK	

NOTE

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

FOLLOWING SEQUENCE WILL  
 COORDINATE AND RECORD REAL  
 TIME DATA BY HGDS DURING  
 PRSD INTEGRITY CHECK.  
 HGDS ENGINEERING WILL PERFORM  
 TREND AND/OR STATISTICAL  
 ANALYSIS OF THE DATA GATHERED  
 BY THE FOLLOWING SEQUENCE  
 AND REPORT RESULTS TO PRSD  
 ENGINEERING.

DO NOT PERFORM THIS SEQUENCE  
 IF A RECYCLE OCCURRED AND  
 FUEL CELLS REMAINED ACTIVE.

ENTIRE SEQUENCE NOT PERFORMED \_\_\_\_\_

69-001		OTC 132		CFCP PERFORM FUEL CELL PERFORMANCE CEPD CALIBRATION AND PRSD INTEGRITY CHGD CHECK.	
69-002				CHGD VERIFY OXYGEN CONCENTRATION WITHIN ORBITER MIDBODY AND PAYLOAD BAY (FOR EDO PALLET ONLY) LESS THAN 500 PPM.	
69-003		CHGD 172	CPVD	VERIFY PAYLOAD BAY ABSOLUTE HUMIDITY (FD NECQIM78A) LESS THAN 5 GRAINS/LB OF DRY AIR.	
				RECORD ABSOLUTE HUMIDITY _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
69-004		CHGD		CURSOR CNTL (SAW01/HWW50) AUTO CAL XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  RECORD AUTO CAL START TIME  _____ GMT	
NOTE					
AUTO CAL WILL TERMINATE IN APPROXIMATELY 6 TO 20 MINUTES.					
69-005		CHGD		VERIFY AUTO CAL ACCEPTABLE AND SYSTEM READY TO SUPPORT FURTHER TESTING.	
69-006		CHGD		CURSOR CNTL (SAW01/HWW50) ZERO GAS XMIT CURSOR KEY - PRESS  RECORD START TIME _____ GMT  REPEAT UNTIL ACCEPTABLE RESULTS OBTAINED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

FUEL CELLS WILL BE ADJUSTED TO A LOAD OF 230-290 AMPS AND MAINTAINED FOR A MINIMUM OF 10 MINUTES TO MONITOR FUEL CELL PERFORMANCE. DURING THIS TIME THE PRSD SYSTEM INTEGRITY CHECK WILL BE PERFORMED IN PARALLEL AFTER THE FUEL CELLS HAVE BEEN BROUGHT TO THE HIGH LOADS AND THERMALLY STABILIZED.

DURING FUEL CELL PERFORMANCE CALIBRATION AND PRSD SYSTEM INTEGRITY CHECKS INDIVIDUAL FUEL CELL CURRENTS ARE ALLOWED TO BE LESS THAN 230 AMPS EACH IF THE TOTAL FUEL CELL POWER IS NOT LESS THAN 21 KW AND TOTAL VEHICLE POWER HAS BEEN APPLIED TO THE FUEL CELLS. INDIVIDUAL FUEL CELL CURRENTS MAY EXCEED 290 AMPS FOR THIS CONDITION.

NOTED REQUIREMENTS ARE SATISFIED BY COMPLETION OF NEXT 20 STEPS.

OMRS V45CH0.020-1R  
OMRS V45CH0.030-1

CFCP TO MONITOR FUEL CELL SUBSTACK DELTA VOLTAGES DURING PERFORMANCE OF TEST. MAXIMUM ALLOWABLE CHANGE SHALL NOT EXCEED 28 MV ABSOLUTE.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
69-007		CFCP		CRT (VWR05) RECORD FUEL CELL 1,2,3 STK1,2,3 DV (150 MV MAX)	
				FC1    FC2    FC3	
				---    ---    ---	
				STK 1 DV    ___    ___    ___	
				STK 2 DV    ___    ___    ___	
				STK 3 DV    ___    ___    ___	
				OBTAIN PC GOAL FCMS HARDCOPY OF EACH FUEL CELL DISPLAY (IF AVAILABLE).	
69-008		CFCP	CEPD	PERFORM FUEL CELL LOAD ADJUSTMENT 153 TO 230-290 AMPS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

STEADY STATE OPERATION OUTSIDE SPECIFIED TEMPERATURE LIMITS IS ACCEPTABLE PROVIDED FCP INLET AND OUTLET ELECTROLYTE CONCENTRATIONS REMAIN WITHIN 24-48 PCT (REF V1040.002 FIG 5). ANY VIOLATION OF SPECIFIED TEMPERATURE LIMITS REQUIRES DESIGN ENGINEERING ASSESSMENT.

69-009

CFCP

CRT (VWR05, PG-B)

MONITOR FUEL CELL PERFORMANCE FOR 10 MINUTES MIN USING FOLLOWING CRITERIA:

VOLTAGE - 27.5-32.5 VOLTS  
(REF V1040.002 FIG 6)

CURRENT - 230-290 AMPS  
OR NLT 21 KW TOTAL FC PWR

STACK COOL OUT TEMP  
(REF V1040.002 FIG 7)

STACK COOL IN TEMP - 176-191 DEG F

COND EXIT TEMP - 140-160 DEG F

COOLANT RET TEMP - 40-140 DEG F

COOLANT PRESSURE - 65 +/-10 PSIA

SUBSTACK DELTA V - NMT 28 MV CHANGE  
ABSOLUTE

START TIME \_\_\_\_\_GMT

OPERATION INSTRUCTIONS

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

NOTE

REMAIN ON ZERO GAS A MINIMUM  
OF 5 MINUTES PRIOR TO PERFORMING  
FOLLOWING STEP.

69-010		CHGD		CURSOR CNTL (SAW01/HWW50) MIDBODY XMIT CURSOR KEY - PRESS	
				RECORD START TIME _____ GMT	

NOTE

WAIT ONE MINUTE MINIMUM  
BEFORE PERFORMING NEXT STEP.

69-011		CHGD	CFCP	READY FOR PRSD INTEGRITY CHECK. 153	
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69-012		CFCP		CURSOR CNTL (VWR05, PG-B) V15 - CLOSED V45 - CLOSED	
--------	--	------	--	---	--

69-013		CFCP	CHGD	PRSD INTEGRITY CHECK HAS BEEN 153 INITIATED.	
--------	--	------	------	---	--

START TIME \_\_\_\_\_ GMT



OPERATION INSTRUCTIONS

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

NOTE

PRSD WILL REMAIN ON INTERNAL REACTANTS FOR 5 MINUTES MINIMUM FOR NON-EDO MISSIONS AND 15 MINUTES MINIMUM FOR EDO MISSIONS.

PERFORM NEXT TWO STEPS FOR NON-EDO MISSIONS.

69-014		CFCP		CURSOR CNTL (VWR05, PG-B) AFTER 5 MINUTES MINIMUM V15 - OPEN V45 - OPEN	NOT PERFORMED _____
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69-015		CFCP	CHGD 153	PRSD INTEGRITY CHECK HAS BEEN TERMINATED.  STOP TIME _____ GMT	NOT PERFORMED _____
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NOTE

PERFORM FOLLOWING STEP 5 MINUTES AFTER INITIATION OF PRSD INTEGRITY CHECK.

69-016		CHGD		CURSOR CNTL (SAW01/HWW50) ZERO GAS XMIT CURSOR KEY - PRESS  RECORD START TIME _____ GMT  REMAIN ON ZERO GAS A MINIMUM OF FIVE MINUTES BEFORE PROCEEDING.	
--------	--	------	--	--	--

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT FOUR STEPS FOR  
EDO MISSIONS.

69-017		CHGD		CURSOR CNTL (SAW01/HWW50) PAYLOAD BAY XMIT CURSOR KEY - PRESS  RECORD START TIME _____ GMT  REMAIN ON PAYLOAD BAY A MINIMUM OF FIVE MINUTES BEFORE PROCEEDING.	
				NOT PERFORMED	_____
69-018		CFCP		CURSOR CNTL (VWR05, PG-B) V15 - OPEN V45 - OPEN	
				NOT PERFORMED	_____
69-019		CFCP	CHGD	PRSD INTEGRITY CHECK HAS BEEN 153 TERMINATED.  STOP TIME _____ GMT	
				NOT PERFORMED	_____
69-020		CHGD		CURSOR CNTL (SAW01/HWW50) ZERO GAS XMIT CURSOR KEY - PRESS  RECORD START TIME _____ GMT  REMAIN ON ZERO GAS A MINIMUM OF FIVE MINUTES BEFORE PROCEEDING.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
69-021				CHGD RESUME NORMAL MONITORING	
				RECORD START TIME _____ GMT	
69-022		CFCP		CRT (VWR05, PG-B)	
				AFTER 10 MINUTES FROM PERFORMANCE CAL START, VERIFY FUEL CELL PERFORMANCE MEETS FOLLOWING CRITERIA:	
				VOLTAGE - 27.5-32.5 VOLTS (REF V1040.002 FIGURE 6)	
				CURRENT - 230-290 AMPS OR NLT 21 KW TOTAL FC PWR	
				STACK COOL OUT TEMP (REF V1040.002 FIGURE 7)	
				STACK COOL IN TEMP - 176-191 DEG F	
				COND EXIT TEMP - 140-160 DEG F	
				COOLANT RET TEMP - 40-140 DEG F	
				COOLANT PRESSURE - 65 +/-10 PSIA	
				RECORD FUEL CELL 1,2,3 STK1,2,3 DV (150 MV MAX)	
				FC1    FC2    FC3 ---    ---    ---	
				STK 1 DV    _____	
				STK 2 DV    _____	
				STK 3 DV    _____	
				OBTAIN PC GOAL FCMS HARDCOPY OF EACH FUEL CELL DISPLAY (IF AVAILABLE).	
				RECORD TIME _____ GMT	
69-023		CFCP	CEPD	PERFORM FUEL CELL LOAD ADJUSTMENT TO 100-175 AMPS.	
		153			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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69-024		CFCP		<p>CRT (VWR05, PG-B)</p> <p>MONITOR FUEL CELL PERFORMANCE USING STEADY-STATE PARAMETERS:</p> <p>VOLTAGE - 27.5-32.5 VOLTS (REF V1040.002 FIGURE 6)</p> <p>CURRENT - 100-175 AMPS</p> <p>STACK OUT TEMP - (REF V1040.002 FIG 7)</p> <p>STACK COOL IN TEMP - 176-191 DEG F</p> <p>COND EXIT TEMP - 140-160 DEG F</p> <p>COOL RTN TEMP - 40-140 DEG F</p> <p>COOLANT RETURN TEMPERATURE SHALL NOT EXCEED 110 DEG F FOR ELECTRICAL LOADS OF 4KW OR LESS PER FCP.</p> <p>MONITOR FUEL CELL SUBSTACK DELTA VOLTAGES FOR 1 HOUR BEGINNING 10 MINUTES AFTER COMPLETION OF LOAD ADJUSTMENT TO 100-175 AMPS. VERIFY NO CHANGE GREATER THEN 10 MV ABSOLUTE.</p> <p>RECORD START TIME            GMT_____</p> <p>RECORD FUEL CELL 1,2,3 STK1,2,3 DV (150 MV MAX)</p>	
--------	--	------	--	--	--

	FC1	FC2	FC3
	---	---	---
STK 1 DV	___	___	___
STK 2 DV	___	___	___
STK 3 DV	___	___	___

OBTAIN PC GOAL FCMS HARDCOPY OF EACH FUEL CELL DISPLAY (IF AVAILABLE).

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.																				
				RECORD STOP TIME GMT _____																					
				RECORD FUEL CELL 1,2,3 STK1,2,3 DV (150 MV MAX)																					
				<table border="1"> <thead> <tr> <th></th> <th>FC1</th> <th>FC2</th> <th>FC3</th> </tr> </thead> <tbody> <tr> <td></td> <td>---</td> <td>---</td> <td>---</td> </tr> <tr> <td>STK 1 DV</td> <td>---</td> <td>---</td> <td>---</td> </tr> <tr> <td>STK 2 DV</td> <td>---</td> <td>---</td> <td>---</td> </tr> <tr> <td>STK 3 DV</td> <td>---</td> <td>---</td> <td>---</td> </tr> </tbody> </table>		FC1	FC2	FC3		---	---	---	STK 1 DV	---	---	---	STK 2 DV	---	---	---	STK 3 DV	---	---	---	
	FC1	FC2	FC3																						
	---	---	---																						
STK 1 DV	---	---	---																						
STK 2 DV	---	---	---																						
STK 3 DV	---	---	---																						
				OBTAIN PC GOAL FCMS HARDCOPY OF EACH FUEL CELL DISPLAY (IF AVAILABLE).																					
69-025		CHGD		PERFORM DATA REVIEW OF PRSD INTEGRITY CHECK AND RECORD RESULTS.																					
69-026		CHGD	CFCP 153	VERIFIED NO INDICATION OF "INCREASE ABOVE BACKGROUND" FOR HYDROGEN AND OXYGEN IN MIDBODY AND PAYLOAD BAY (APPLICABLE FOR EDO PALLEY ONLY).																					
69-027				COMPLETION OF PREVIOUS 20 STEPS SATISFIES NOTED OMRS REQUIREMENTS.  OMRSD V45CH0.020-1R OMRSD V45CH0.030-1																					
69-028		CFCP	OTC	FUEL CELL PERFORMANCE CALIBRATION AND PRSD SYSTEM INTEGRITY CHECKS ARE COMPLETE.																					

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SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
70-000				FEP RF SOURCE VERIF	
<p>NOTE</p> <p>DO NOT PERFORM THIS SEQUENCE IF 24 HR HOLD OCCURS AT T-6 HRS.</p> <p>ENTIRE SEQUENCE NOT PERFORMED</p>					
70-001		LPS		JRPS ADJUST ME 1, 2, 3 RF SIGNALS FROM C1SE MILA AS REQUIRED FOR FIRING ROOM TO OBTAIN 3.5 V PP +/-0.5 V.	
70-002		LPS		C1SE VERIFY ME 1/2/3 BIT SYNC'S IN PROGRAM MODE.	
70-003		LPS		C1MC VERIFY AWP01 ACTIVE AND T-55M WINDOW NOT INVERTED.	
<p>NOTE</p> <p>FOLLOWING PROGRAM REQUIRES 2 OC AND 1 APPLICATION TCB FOR EXECUTION.</p>					
70-004		LPS 128		C1MC CURSOR CNTL (AWP01 PG B) SOURCE 2 TARGET XMIT CURSOR KEY - PRESS	
70-005		LPS		C1SE VERIFY ME 1/2/3 BIT SYNC'S INDICATE SOURCE 2 DATA PROCESSING.	
		LPS		C1MC VERIFY SOURCE 2, GO MODE, NO ERROR CONDITIONS EXISTS FOR ME 1/2/3.	
70-006		LPS		CCME VERIFY DATA VALID ON ME 1/2/3 RF DATA.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
70-007		LPS	C1MC	CURSOR CNTL (AWP01 PG B) SOURCE 1 TARGET XMIT CURSOR KEY - PRESS	
70-008		LPS	C1SE	VERIFY ME 1/2/3 BIT SYNC'S INDICATE SOURCE 1 DATA PROCESSING	
		LPS	C1MC	VERIFY SOURCE 1, GO MODE, NO ERROR CONDITIONS EXIST FOR ME 1/2/3.	
70-009		LPS	CCME	VERIFY DATA VALID ON ME 1/2/3 HARDLINE DATA	
70-010		LPS	C1MC	CURSOR CNTL (AWP01 PG B) LOCKOUT TARGET XMIT CURSOR KEY - PRESS	
70-011		LPS	CCME	RELEASED TO COMMAND CHANNEL. JRPS	
70-012		LPS	C1SE	PLACE VSB ON RF SOURCE 2 192KB PER OMI C2000. VERIFY DATA VALID.	
70-013		LPS	CBSE	BIO MED DATA NOW ON RF SOURCE, 163 VERIFY DATA VALID.	
70-014		LPS	NTD	FEP RF SOURCE VERIFICATION 232 COMPLETE.	



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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
71-000				RESERVED	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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72-000

ET BIPOD HEATER VERIFICATION

NOTE

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

DO NOT PERFORM THIS SEQUENCE  
FOR 24, 48 OR 72 HR TURNAROUND.

DO NOT PERFORM NEXT TWO  
STEPS IF PTCR IS ALREADY  
CLOSED OUT FOR LAUNCH (T-10 HRS).

ENTIRE SEQUENCE NOT PERFORMED \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
72-001		CPWR *PAD 151	*PAD PTCR PPW4 IF OPEN	RM 210  5174A2 PNL REG PWR SW - CLOSE 5174A3 PNL REG PWR SW - CLOSE	T: _____  NOT PERFORMED _____
72-002		CPWR *PAD 151	*PAD PTCR PPW4 1. PTCR RM 210	IF THE 5174A2 REG PWR LAMP IS NOT ILLUMINATED  ILC PNL CB 40 - CLOSE	T: _____ SS1  NOT PERFORMED _____ SS1
			2. PTCR RM 204 (PAD A) PTCR RM 203 (PAD B)	IF THE 5174A3 (RM 210) REG PWR LAMP IS NOT ILLUMINATED  ELC PNL CB 2 - CLOSE	T: _____ SS2  NOT PERFORMED _____ SS2

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
72-003		CPWR		CURSOR CNTL (SDC01)  ET OPTIONS ET HTR OVIEW -  CRT (TD490)  VERIFY  23D100 PWR ON	
72-004		CPWR		IF HTR PRI DC MODULE NOT ON  PFP (TW495) ET HTR MOD PWR - PRESS HTR MOD ON - PRESS  CRT (PAGE B) VERIFY HTR PRI DC MODULE ON HTR SEC DC MODULE ON	
					NOT PERFORMED _____
72-005		CPWR		CRT (TD490)  VERIFY BIPOD HEATERS LEFT PWR OFF LEFT HTR OFF RIGHT PWR OFF RIGHT HTR OFF ALT PWR OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
72-006		CPWR	PPW4	PTCR RM 210	
				5174A4 SWITCHING AND CONTROL UNIT	
				1. REMOVE "DO NOT OPERATE" TAGS AND CLOSE THE FOLLOWING SWITCHES	
				SW S1	
				SW S2	
				2. VERIFY	
				ENABLE LITE DS1 ON	
				ENABLE LITE DS2 ON	

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
72-007		CPWR		CRT (TD490)  VERIFY AND RECORD:  T-41 HRS  V1 _____ 85-91 (LONG HTR)  V2 _____ 85-91 (LONG HTR) 122-128 (SHORT HTR)	
72-008		CPWR		ET/SRB HEATER SAFING PANEL ET HEATERS  BIPOD - ON	
72-009		CPWR		CURSOR CNTL (TW495) ET HTR CHECKOUT - XMIT CURSOR KEY - PRESS  CONTINUE XMIT CURSOR KEY - PRESS  CRT (TS495 PG A)  VERIFY  TS495 RUNS TO COMPLETION WITH NO ERRORS DISPLAYED	
72-010		CPWR		ET/SRB HEATER SAFING PANEL ET HEATERS  BIPOD - OFF	
72-011		CPWR	TBC 136 TBC NTD 232	ET/BIPOD HEATER VERIFICATION HAS BEEN COMPLETED.	

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DATE: 07-08-99

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

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73-000				RESERVED	

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OPERATION INSTRUCTIONS

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OPERATION INSTRUCTIONS

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74-000				RESERVED	

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OPERATION INSTRUCTIONS

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OPERATION INSTRUCTIONS

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75-000				RESERVED	

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OPERATION INSTRUCTIONS

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-000				SHUTTLE ASCENT SWITCHLIST	
76-001				SECTION 1 - (FLIGHT DECK/C&W SETUPS)	
76-002		OTC	ALL	<p>PURPOSE OF THIS SEQUENCE IS TO VERIFY FLIGHT DECK AND MIDDECK SWITCHES ARE CONFIGURED FOR LAUNCH.</p> <p>SWITCHES LEFT IN OTHER THAN ASCENT POSITION (REF JSC ASCENT CHECKLIST) BY THIS SEQUENCE MUST HAVE PREDEFINED STEPS IN S0007 TO POSITION THEM TO ASCENT POSITION, PRIOR TO T-0.</p> <p>ALL SWITCHES OTHER THAN PUSHBUTTON/ANALOG SWITCHES OR THOSE ASSOCIATED WITH COCKPIT LIGHTING, BIOMED OR PNL MA73C LT AND RT SEAT 3PH CB'S, PNL F9 METER SWITCHES SHOULD ALREADY BE IN SWITCHLIST SPECIFIED POSITION AT TIME IT IS PERFORMED. SYSTEM ENGINEERING PERSONNEL MUST BE PREPARED TO EXPLAIN ANY DIFFERENCES FOUND AND WILL BE REQUIRED TO GIVE A "GO" PRIOR TO SWITCH BEING REPOSITIONED. ANY SWITCHES REPOSITIONED, OTHER THAN THOSE EXEMPTED ABOVE, MUST BE DOCUMENTED IN APPENDIX L.</p> <p>ANY COCKPIT TROUBLESHOOTING ACTIVITY SUBSEQUENT TO THIS SWITCHLIST MUST RETURN SWITCHES TO THEIR POSITION PRIOR TO TROUBLESHOOTING.</p> <p>SWITCHLIST WILL BE DIVIDED INTO TWO SECTIONS AND MAY BE PERFORMED IN PARALLEL WITH EACH SECTION PERFORMED BY AN OTC AND ASP. SECTION ONE CONSISTS OF FLIGHT DECK PANELS AND C&amp;W SETUPS.</p>	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-002				SECTION TWO CONSISTS OF MIDDECK AND AFT FLIGHT DECK PANELS, AIRLOCK AND WASTE MANAGEMENT STATION.	

MIDDECK SWITCHLIST MAY BE PERFORMED PRIOR TO AFT FLIGHT DECK SWITCHLIST.

ALL VEHICLES HAVE DIFFERENT THUMBWHEEL/PUSHBUTTON CONFIGURATIONS. THE GENERIC TERM PUSHBUTTON (PB) WILL BE USED REGARDLESS OF CONFIGURATION.

NOTE

CREW COMPARTMENT LIGHTING SWITCHES MAY BE FOUND IN A DIFFERENT POSITION THAN THAT PUBLISHED TO FACILITATE CREWMAN'S VISIBILITY OF PANELS.

LIST OF EXCEPTIONS FOR  
SWITCHGUARD REMOVALS

1. PANEL O14 (1 MULTI-SW GUARD)  
RCS DRIVER SW'S  
L OMS ENG VLV SW  
(WILL BE REMOVED AT FLT CREW INGRESS)
2. PANEL O15 (1 MULTI-SW GUARD)  
RCS DRIVER SW'S  
(WILL BE REMOVED AT FLT CREW INGRESS)
3. PANEL O16 (1 MULTI-SW GUARD)  
RCS DRIVER SW'S  
R OMS ENG VLV SW  
(WILL BE REMOVED AT FLT CREW INGRESS)
4. CREW PREFERENCE SW GUARDS



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

THE FOLLOWING CREW  
PREFERENCE AND PAYLOAD SWITCH  
GUARD MATRICES WILL BE COMPLETED  
BY A MEMBER OF VITT (861-9224).

CREW PREFERENCE SWITCHGUARDS

-----  
(MISSION UNIQUE)  
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PANEL      SW/CB  
-----      -----

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OPERATION INSTRUCTIONS

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

FLIGHT DECK SWITCHLIST  
-----  
(SECTION 1)  
-----

CAUTION

DO NOT REPOSITION ANY SWITCH  
WITHOUT OBTAINING FIRING ROOM  
CONCURRENCE.

\*\*\*\*\*  
\*      PANEL L5 (CDR)      \*  
\*\*\*\*\*

76-003                    OTC    ASP    PANEL L5  
LEFT COMM POWER SW - OFF

\*\*\*\*\*  
\*      L SIDE OVHD FLOOD      \*  
\*\*\*\*\*

NOTE

THE FOLLOWING IS A STAND  
ALONE FLORESCENT LIGHT  
UNDER PANEL O5 ADJACENT  
TO PANEL L5.

76-004                    OTC    ASP    L SIDE OVHD FLOOD - BRT

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL L4 (CDR) * *****	
76-005		OTC	ASP	PANEL L4 ROW B UTILITY POWER F1/MO52J AC1 CB - OPEN  A15/MO13Q AC3 CB - OPEN  ROW C AC1 FUEL CELL 1 PUMPS PH A CB - CLOSE PH B CB - CLOSE PH C CB - CLOSE  AC2 FUEL CELL 2 PUMPS PH A CB - CLOSE PH B CB - CLOSE PH C CB - CLOSE  AC3 FUEL CELL 3 PUMPS PH A CB - CLOSE PH B CB - CLOSE PH C CB - CLOSE  ROW D AC1 CTR ENGINE PH A CB - CLOSE PH B CB - CLOSE PH C CB - CLOSE  AC2 CTR ENGINE PH A CB - CLOSE PH B CB - CLOSE PH C CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-005				AC3	
CON'T				RIGHT ENGINE	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				ROW E	
				AC1	
				RIGHT ENGINE	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC2	
				LEFT ENGINE	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC3	
				LEFT ENGINE	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				ROW F	
				AC1	
				H2O LOOP PUMP	
				1A/2	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC2	
				H2O LOOP PUMP	
				1B	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC3	
				H2O LOOP PUMP	
				2	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-005				ROW G	
CON'T				AC1	
				AV BAY 1	
				FAN A	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC2	
				AV BAY 1	
				FAN B	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC3	
				AV BAY 3	
				FAN A	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				ROW H	
				AC1	
				AV BAY 3	
				FAN B	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC2	
				AV BAY 2	
				FAN A	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC3	
				AV BAY 2	
				FAN B	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-005				ROW I	
CON'T				AC1	
				IMU FAN A	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC2	
				IMU FAN B	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC3	
				IMU FAN C	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				ROW J	
				AC1	
				HUMIDITY SEPARATOR	
				A	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC2	
				HUMIDITY SEPARATOR	
				B	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC3	
				SIG CONDR	
				HUM SEP	
				PH A CB - OPEN	
				IMU FAN	
				PH B CB - OPEN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-005				ROW K	
CON'T				AC1	
				H2O CNTLR 2	
				PH A CB - CLOSE	
				CABIN AIR S/C	
				PH B CB - CLOSE	
				AC2	
				CABIN FAN	
				B	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC3	
				CABIN FAN	
				A	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				ROW L	
				AC1	
				CABIN T CNTLR 2	
				PH A CB - CLOSE	
				AV BAY 2 S/C	
				PH B CB - CLOSE	
				AC2	
				CABIN T CNTLR 1	
				PH A CB - CLOSE	
				AV BAY 3 S/C	
				PH B CB - CLOSE	
				AC3	
				H2O CNTLR 1	
				PH A CB - CLOSE	
				AV BAY 1 S/C	
				PH B CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-005				ROW M	
CON'T				AC1	
				FREON LOOP 1	
				PUMP A	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC2	
				FREON LOOP 1	
				PUMP B	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC3	
				FREON LOOP 2	
				PUMP A	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				ROW N	
				AC1	
				FREON LOOP 2	
				PUMP B	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC2	
				FREON FLOW PROP 1	
				PH A CB - CLOSE	
				FREON SIG CONDR	
				PH B CB - CLOSE	
				AC3	
				FREON FLOW PROP 2	
				PH A CB - CLOSE	
				FREON SIG CONDR	
				PH B CB - CLOSE	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-005				ROW 0	
CON'T				AC1	
				BLR HYD BYPASS 1B	
				PH A CB - CLOSE	
				HYD QTY 1	
				PH B CB - CLOSE	
				BLR HYD BYPASS 3A	
				PH C CB - CLOSE	
				AC2	
				BLR HYD BYPASS 1A	
				PH A CB - CLOSE	
				HYD QTY 2	
				PH B CB - CLOSE	
				BLR HYD BYPASS 2B	
				PH C CB - CLOSE	
				AC3	
				BLR HYD BYPASS 2A	
				PH A CB - CLOSE	
				HYD QTY 3	
				PH B CB - CLOSE	
				BLR HYD BYPASS 3B	
				PH C CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-005				ROW P	
CON'T				AC1	
				RAD CNTLR 1B	
				PH A CB - CLOSE	
				RAD CNTLR 2B	
				PH B CB - CLOSE	
				NOTE	
				IF GOULD TACAN 1 INSTALLED, NEXT CB - CLOSE; IF COLLINS TACAN 1 INSTALLED, NEXT CB - OPEN.	
				TACAN 1 PH C CB - _____	
				AC2	
				LG SNSR 2	
				PH A CB - CLOSE	
				RAD CNTLR 1A	
				PH B CB - CLOSE	
				NOTE	
				IF GOULD TACAN 2 INSTALLED, NEXT CB - CLOSE; IF COLLINS TACAN 2 INSTALLED, NEXT CB - OPEN.	
				TACAN 2 PH C CB - _____	
				AC3	
				LG SNSR 1	
				PH A CB - CLOSE	
				RAD CNTLR 2A	
				PH B CB - CLOSE	
				NOTE	
				IF GOULD TACAN 3 INSTALLED, NEXT CB - CLOSE; IF COLLINS TACAN 3 INSTALLED, NEXT CB - OPEN.	
				TACAN 3 PH C CB - _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-005				ROW Q	
CON'T				AC1	
				LIGHTING	
				PANEL	
				L/CTR	
				PH A CB - CLOSE	
				L OVHD	
				PH B CB - CLOSE	
				INST OS	
				PH C CB - OPEN	
				AC2	
				LIGHTING	
				PANEL	
				R OVHD	
				PH A CB - CLOSE	
				RIGHT	
				PH B CB - CLOSE	
				NUMERIC OS	
				PH C CB - OPEN	
				AC3	
				LIGHTING	
				COAS	
				PH A CB - OPEN	
				PANEL	
				MS	
				PH B CB - OPEN	
				OS	
				PH C CB - OPEN	
				ROW R	
				AC1	
				INST R	
				PH A CB - CLOSE	
				NUMERIC FWD	
				PH B CB - CLOSE	
				AC2	
				INST OVHD	
				PH B CB - CLOSE	
				AC3	
				INST L/CTR	
				PH B CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
***** * PANEL L1 (CDR) * *****					
76-006		OTC	ASP	PANEL L1 HUMIDITY SEP A SW - OFF B SW - ON  CABIN TEMP SW - FULL COOL CABIN TEMP CNTRL SW - OFF  CABIN FAN A SW - ON B SW - OFF  IMU FAN A SW - OFF B SW - ON C SW - OFF  H2O PUMP LOOP 1 GPC/OFF/ON SW - OFF A/B SW - B  LOOP 2 GPC/OFF/ON SW - ON  H2O LOOP 1 BYPASS MAN SW - (CENTER) MODE SW - MAN  H2O LOOP 2 BYPASS MAN SW - (CENTER) MODE SW - MAN  AV BAY 1 FAN A SW - OFF B SW - ON  AV BAY 2 FAN A SW - ON B SW - OFF  AV BAY 3 FAN A SW - OFF B SW - ON	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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76-006  
CON'T

NOTE

IF PAYLOAD IS POWERED UP  
AND REQUIRES COOLING, FREON  
LOOP TB WILL BE IN PAYLOAD  
POSITION. EITHER LOOP MAY  
BE USED, OR BOTH.

FLOW PROP VLV

LOOP 1 SW - CENTER  
LOOP 1 TB \_\_\_\_

FLOW PROP VLV

LOOP 2 SW - CENTER  
LOOP 2 TB - \_\_\_\_

FREON PUMP

LOOP 1 SW - B  
LOOP 2 SW - B

RAD CONTROLLER

OUT TEMP SW - NORM  
LOOP 1 SW - OFF  
LOOP 2 SW - OFF

H2O ALTERNATE PRESS SW - CLOSE

RAD BYPASS VALVE

MAN SEL  
1 SW - (CENTER)  
2 SW - (CENTER)

1 TB BYP  
2 TB BYP

RAD BYPASS VALVE

MODE  
1 SW - MAN  
2 SW - MAN

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-006				NH3 CONTROLLER	
CON'T				A SW - OFF	
				B SW - PRI/GPC	
				FLASH EVAP CONTROLLER	
				PRI A SW - OFF	
				PRI B SW - GPC	
				SEC	
				A SPLY/B SPLY SW - A SPLY	
				GPC/OFF/ON SW - OFF	
				HI LOAD EVAP SW - ENABLE	
				NOTE	
				VERIFY FOLLOWING FOUR SWITCH POSITIONS IF SWITCHLIST IS BEING PERFORMED PRIOR TO FES PLUG REMOVAL. (REF OPERATIONS SUPPORT SETUP 3)	
				TOPPING EVAPORATOR HEATER	
				NOZZLE	
				L SW - OFF	
				R SW - OFF	
				DUCT SW - OFF	
				HI LOAD DUCT HTR SW - OFF	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

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

76-006  
CON'T

NOTE

VERIFY FOLLOWING FOUR SWITCH  
POSITIONS IF SWITCHLIST IS  
BEING PERFORMED AFTER FES PLUG  
REMOVAL. (REF OPERATIONS  
SUPPORT SETUP 3)

TOPPING EVAPORATOR HEATER

NOZZLE

L SW - A AUTO  
R SW - A AUTO

DUCT SW - A

HI LOAD DUCT HTR SW - A

NOT PERFORMED

FIRE SUPPRESSION

AV BAY 1 SW - SAFE  
AV BAY 2 SW - SAFE  
AV BAY 3 SW - SAFE

AV BAY 1 AGENT DISCH PB  
- AS IS  
AV BAY 2 AGENT DISCH PB  
- AS IS  
AV BAY 3 AGENT DISCH PB  
- AS IS

AV BAY 1 AGENT DISCH LITE OFF  
AV BAY 2 AGENT DISCH LITE OFF  
AV BAY 3 AGENT DISCH LITE OFF

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-006				SMOKE DETECTION (ALL LITES OFF)	
CON'T				A	
				CABIN LITE OFF	
				L FLT DECK LITE OFF	
				AV BAY 1 LITE OFF	
				AV BAY 2 LITE OFF	
				AV BAY 3 LITE OFF	
				B	
				PAYLOAD LITE OFF	
				R FLT DECK LITE OFF	
				AV BAY 1 LITE OFF	
				AV BAY 2 LITE OFF	
				AV BAY 3 LITE OFF	
				SENSOR RESET SW - (DOWN)	
				CIRCUIT TEST SW - OFF	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL L2 (CDR) * *****	
76-007		OTC	ASP	PANEL L2 CABIN RELIEF A SW - (CENTER) B SW - (CENTER)  A TB ENA B TB ENA  CABIN VENT VENT ISOL SW - (CENTER) VENT SW - (CENTER)  VENT ISOL TB CL VENT TB CL  FLASH EVAP FEEDLINE HTR A SUPPLY SW - 2 B SUPPLY SW - 2  ANTISKID SW - ON  NOSE WHEEL STEERING SW - 1  BODY FLAP SW - AUTO/OFF SBTC HANDLE - FULL FWD ENTRY MODE SW - AUTO  TRIM ROLL SW - (CENTER) PITCH SW - (CENTER)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-007				ATM PRESS CONTROL	
CON'T				O2 SYS 1 SUPPLY SW - (CENTER)	
				O2 SYS 2 SUPPLY SW - (CENTER)	
				NOTE	
				IF FUEL CELL FLOW THRU PURGE COMPLETE PERFORM FOLLOWING SUBSTEP.	
				ATM PRESS CONTROL	
				O2 SYS 1 SUPPLY TB OP	
				O2 SYS 2 SUPPLY TB OP	
				NOT PERFORMED	_____
				NOTE	
				IF FUEL CELL FLOW THRU PURGE NOT COMPLETED PERFORM FOLLOWING SUBSTEP.	
				ATM PRESS CONTROL	
				O2 SYS 1 SUPPLY TB CL	
				O2 SYS 2 SUPPLY TB CL	
				NOT PERFORMED	_____
				ATM PRESS CONTROL	
				O2 EMER SW - (CENTER)	
				O2 EMER TB BP	
				O2 XOVR	
				SYS 1 SW - OPEN	
				SYS 2 SW - OPEN	
				N2 SYS 1	
				SUPPLY SW - (CENTER)	
				REG INLET SW - (CENTER)	
				SUPPLY TB OP	
				REG INLET TB OP	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-007				N2 SYS 2	
CON'T				SUPPLY SW - (CENTER)	
				REG INLET SW - (CENTER)	
				SUPPLY TB OP	
				REG INLET TB OP	
				YAW TRIM SW - (CENTER)	
				O2/N2 CNTLR VLV	
				SYS 1 SW - OPEN	
				SYS 2 SW - CLOSE	
				PPO2 SNSR/VLV SW - NORM	
				*****	
				* CDR SEAT *	
				*****	
76-008		OTC	ASP	CDR SEAT (LOWER LEFT SIDE)	
				SEAT BUSS SELECT SW - AC2 (UP)	
				HORIZ CONTR - (CENTER)	
				VERT CONTR - (CENTER)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL F1 (CDR) * *****	
76-009		OTC	ASP	PANEL F1 DC UTILITY POWER SW - OFF  AC UTILITY POWER SW - OFF  ***** * PANEL F2 (CDR) * *****	
76-010		OTC	ASP	PANEL F2 (ALL LIGHTS OFF)  BFC LITE OFF  BODY FLAP AUTO LITE OFF MAN LITE OFF  SPD BK/THROT AUTO LITE OFF MAN LITE OFF  PITCH CSS LITE OFF AUTO LITE OFF  ROLL/YAW CSS LITE OFF AUTO LITE OFF  MASTER ALARM LITE OFF  DRAG CHUTE ARM PB LITE OFF DRAG CHUTE DPY PB LITE OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * HUD LEFT (CDR) *	
76-011		OTC	ASP	MODE SW - NORM DIM/BRT SW - MID RANGE BRIGHT SW - AS REQUIRED  ***** * PANEL F3 (CDR) *	
76-012		OTC	ASP	PANEL F3 DRAG CHUTE JETT PB LITE OFF HUD (LEFT) POWER SW - OFF TRIM (LEFT) RHC/PANEL SW - INHIBIT PANEL SW - ON  NWS FAIL LITE OFF  ANTISKID FAIL LITE OFF  DRAG CHUTE ARM PB LITE OFF DRAG CHUTE DPY PB LITE OFF  TRIM (RIGHT) RHC/PANEL SW - INHIBIT PANEL SW - ON HUD (RIGHT) POWER SW - OFF  ***** * HUD RIGHT (PLT) *	
76-013		OTC	ASP	MODE SW - NORM DIM/BRT SW - MID RANGE BRIGHT SW - AS REQUIRED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL F4 (PLT) * *****	
76-014		OTC	ASP	PANEL F4 (ALL LITES OFF)  DRAG CHUTE JETT PB LITE OFF MASTER ALARM LITE OFF  PITCH AUTO LITE OFF CSS LITE OFF  ROLL/YAW AUTO LITE OFF CSS LITE OFF  SPD BK/THROT AUTO LITE OFF MAN LITE OFF  BODY FLAP AUTO LITE OFF MAN LITE OFF  BFC LITE OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL F6 (CDR) * *****	
76-015		OTC	ASP	PANEL F6 INSTRUMENT POWER SW - OFF  DATA BUS SW - 3  ATT REF PB - AS IS  AIR DATA SW - NAV  ADI ATTITUDE SW - REF ERROR SW - MED RATE SW - MED  LANDING GEAR LEFT TB UP NOSE TB UP RIGHT TB UP ARM PB - AS IS DN PB - AS IS ARM LITE OFF DN LITE OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-015				BFC SW - (DOWN)	
CON'T				HSI SELECT	
				MODE SW - ENTRY	
				SOURCE	
				TACAN/NAV/MLS SW - NAV	
				1/2/3 SW - 1	
				ABORT MODE SW - OFF	
				ABORT LITE OFF	
				RCS COMMAND (ALL LITES OFF)	
				ROLL L LITE OFF	
				ROLL R LITE OFF	
				PITCH U LITE OFF	
				PITCH D LITE OFF	
				YAW L LITE OFF	
				YAW R LITE OFF	
				RANGE SAFE ARM LITE OFF	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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\* PANEL F7 (CDR) \*  
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76-016

C/W MATRIX INDICATOR  
LITES OFF EXCEPT:

1. HYD PRESS LITE ON
2. FUEL CELL STACK TEMP LITE ON  
(IF FUEL CELLS NOT  
ACTIVATED)
3. FUEL CELL PUMP LITE ON  
(IF FUEL CELLS NOT  
ACTIVATED)
4. MPS LITE ON  
(IF HELIUM REGULATOR OUT  
PRESS IS OUT OF C&W LIMITS)

CRT 1  
BRT SW - (FULL BRIGHT THEN AS REQUIRED)  
DU TB BLACK  
DEU TB BLACK

CRT 2  
BRT SW - (FULL BRIGHT THEN AS REQUIRED)  
DU TB BLACK  
DEU TB BLACK

CRT 3  
BRT SW - (FULL BRIGHT THEN AS REQUIRED)  
DU TB BLACK  
DEU TB BLACK

PANEL F7  
FLT CNTLR PWR SW - ON  
RADAR ALTM SW - 1

OMS PRESS  
N2/HE TANK SW - HE

SM ALERT LITE OFF

MAIN ENGINE STATUS LITES OFF

MPS PRESS  
HELIUM SW - TANK

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL F8 (PLT) * *****	
76-017		OTC	ASP	PANEL F8 INSTRUMENT POWER SW - OFF  DATA BUS SW - 4  ATT REF PB - AS IS  AIR DATA SW - NAV  ADI ATTITUDE SW - REF ERROR SW - MED RATE SW - MED  LANDING GEAR ARM PB - AS IS DN PB - AS IS ARM LITE OFF DN LITE OFF  LEFT TB UP NOSE TB UP RIGHT TB UP  HSI SELECT MODE SW - ENTRY SOURCE TACAN/NAV/MLS SW - NAV 1/2/3 SW - 2  FLT CNTRLR PWR SW - ON  RADAR ALTM SW - 2  APU FUEL/H2O QTY SW - FUEL 1/2/3 SW - 1	

OPERATION INSTRUCTIONS

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SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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 \*           PANEL F9 (PLT)           \*  
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76-018		OTC	ASP	PANEL F9 AC VOLTS SW - AS REQD  DC VOLT/AMP SW - SIGNAL STRENGTH MAIN VOLTS A	
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 \*           PANEL R1 (PLT)           \*  
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76-019		OTC	ASP	PANEL R1 POWER DISTRIBUTION CONTROL BUS PWR MN A SW - (DOWN) MN B SW - (DOWN) MN C SW - (DOWN)  ESS BUS SOURCE MN B/C SW - ON MN C/A SW - ON MN A/B SW - ON  FC1 SW - OFF FC2 SW - OFF FC3 SW - OFF  FC/MAIN BUS A SW - (CENTER) B SW - (CENTER) C SW - (CENTER)	
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NOTE

IF FUEL CELLS ARE ACTIVATED,  
 FOLLOWING THREE TB'S WILL BE ON.

A TB OFF  
 B TB OFF  
 C TB OFF

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-019				MN BUS TIE	
CON'T				A SW - (CENTER)	
				B SW - (CENTER)	
				C SW - (CENTER)	
				A TB OFF	
				B TB OFF	
				C TB OFF	

NOTE

VITT/CPLD WILL PROVIDE  
SWITCH POSITIONS AND  
TALKBACK INDICATIONS.

OTC ASP PANEL R1

POWER DISTRIBUTION

PAYLOAD

- CABIN SW - \_\_\_\_\_
- PRI MN B SW - (CENTER)
- PRI MN B TB \_\_\_\_\_
- PRI FC3 SW - (CENTER)
- PRI FC3 TB \_\_\_\_\_
- PRI MN C SW - (CENTER)
- PRI MN C TB \_\_\_\_\_
- AUX SW - \_\_\_\_\_
- AFT MN B SW - \_\_\_\_\_
- AFT MN C SW - \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-019		OTC	ASP	PANEL R1	
CON'T				POWER DISTRIBUTION	
				INV POWER	
				1 SW - (CENTER)	
				2 SW - (CENTER)	
				3 SW - (CENTER)	
				1 TB ON	
				2 TB ON	
				3 TB ON	
				INV/AC BUS	
				1 SW - (CENTER)	
				2 SW - (CENTER)	
				3 SW - (CENTER)	
				1 TB ON	
				2 TB ON	
				3 TB ON	
				AC CONTR	
				AC1	
				PH A CB - OPEN	
				PH B CB - OPEN	
				PH C CB - OPEN	
				AC2	
				PH A CB - OPEN	
				PH B CB - OPEN	
				PH C CB - OPEN	
				AC3	
				PH A CB - OPEN	
				PH B CB - OPEN	
				PH C CB - OPEN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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76-019  
CON'T

NOTE

DO NOT PERFORM NEXT THREE  
SWITCH SETTINGS IF SWITCHES  
ARE ALREADY IN MONITOR  
POSITION.

AC BUS SNSR

- 1 SW - OFF (1 SEC)  
THEN MONITOR
- 2 SW - OFF (1 SEC)  
THEN MONITOR
- 3 SW - OFF (1 SEC)  
THEN MONITOR

NOT PERFORMED

CRYO

O2 MANIFOLD VLV

- TANK 1 SW - (CENTER)
- TANK 2 SW - (CENTER)

- TANK 1 TB OP
- TANK 2 TB OP

O2 TK 1 HEATERS

- A SW - AUTO
- B SW - OFF
- RESET/TEST SW - (CENTER)

O2 TK 2 HEATERS

- A SW - AUTO
- B SW - OFF
- RESET/TEST SW - (CENTER)

O2 TK 3 HEATERS

- A SW - OFF
- B SW - OFF
- RESET/TEST SW - (CENTER)

OPERATION INSTRUCTIONS

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

76-019  
CON'T

CRYO

FUEL CELL 1 REAC SW - (CENTER)  
FUEL CELL 3 REAC SW - (CENTER)  
FUEL CELL 2 REAC SW - (CENTER)

FUEL CELL 1 REAC O2 TB OP  
FUEL CELL 1 REAC H2 TB OP  
FUEL CELL 3 REAC O2 TB OP  
FUEL CELL 3 REAC H2 TB OP  
FUEL CELL 2 REAC O2 TB OP  
FUEL CELL 2 REAC H2 TB OP

FUEL CELL

1 SW - (CENTER)  
2 SW - (CENTER)  
3 SW - (CENTER)

NOTE

IF FUEL CELLS HAVE BEEN  
ACTIVATED, FOLLOWING SIX  
TB'S WILL BE GRAY.

FUEL CELL

READY FOR LOAD  
1 TB BP  
2 TB BP  
3 TB BP

COOLANT PUMP DELTA P

1 TB BP  
2 TB BP  
3 TB BP

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-019				CRYO	
CON'T				H2 MANIFOLD VLV	
				TANK 1 SW - (CENTER)	
				TANK 2 SW - (CENTER)	
				TANK 1 TB OP	
				TANK 2 TB OP	
				H2 TK 1 HEATERS	
				A SW - AUTO	
				B SW - OFF	
				H2 TK 2 HEATERS	
				A SW - AUTO	
				B SW - OFF	
				H2 TK 3 HEATERS	
				A SW - OFF	
				B SW - OFF	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL R2 (PLT) * *****	
76-020		OTC	ASP	PANEL R2 MPS PRPLT DUMP SEQUENCE SW - GPC BACKUP LH2 VLV SW - GPC  ENGINE POWER LEFT AC2 SW - ON CTR AC1 SW - ON RIGHT AC3 SW - ON LEFT AC3 SW - ON CTR AC2 SW - ON RIGHT AC1 SW - ON  HE ISOLATION A LEFT SW - GPC CTR SW - GPC RIGHT SW - GPC  HE ISOLATION B LEFT SW - GPC CTR SW - GPC RIGHT SW - GPC  PNEUMATICS L ENG HE XOVR SW - GPC HE ISOL SW - GPC  LH2 ULLAGE PRESS SW - AUTO  HE INTERCONNECT LEFT SW - GPC CTR SW - GPC RIGHT SW - GPC	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-020				APU/HYD	
CON'T				READY TO START	
				1 TB BP	
				2 TB BP	
				3 TB BP	
				APU OPERATE	
				1 SW - OFF	
				2 SW - OFF	
				3 SW - OFF	
				APU SPEED SELECT	
				1 SW - NORM	
				2 SW - NORM	
				3 SW - NORM	
				HYD MAIN PUMP PRESS	
				1 SW - NORM	
				2 SW - NORM	
				3 SW - NORM	
				APU FU TK VLV ENA	
				1A CB - OPEN	
				1B CB - OPEN	
				2A CB - OPEN	
				2B CB - OPEN	
				3A CB - OPEN	
				3B CB - OPEN	
				HYD CIRC PUMPS	
				1 SW - GPC	
				2 SW - GPC	
				3 SW - GPC	
				APU CNTLR PWR	
				1 SW - OFF	
				2 SW - OFF	
				3 SW - OFF	
				APU FUEL TK VLV	
				1 SW - CLOSE	
				2 SW - CLOSE	
				3 SW - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-020				APU AUTO SHUT DOWN SW	
CON'T				1 SW - ENABLE	
				2 SW - ENABLE	
				3 SW - ENABLE	
				BOILER CNTLR/HTR	
				1 SW - A	
				2 SW - A	
				3 SW - A	
				BOILER PWR	
				1 SW - OFF	
				2 SW - OFF	
				3 SW - OFF	
				BOILER N2 SUPPLY	
				1 SW - OFF	
				2 SW - OFF	
				3 SW - OFF	
				ET UMBILICAL DOOR	
				MODE SW - GPC	
				CENTERLINE LATCH SW - GND	
				CENTERLINE LATCH TB BP	
				LEFT	
				DOOR SW - OFF	
				DOOR TB OP	
				LATCH SW - OFF	
				LATCH TB REL	
				RIGHT	
				DOOR SW - OFF	
				DOOR TB OP	
				LATCH SW - OFF	
				LATCH TB REL	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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\*\*\*\*\*  
\* PANEL R4 (PLT) \*  
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76-021 OTC ASP PANEL R4

HYDRAULICS

BRAKE HEATER

A SW - OFF

B SW - OFF

C SW - OFF

BRAKE ISOL VLV

1 SW - GPC

1 TB CL

2 SW - GPC

2 TB CL

3 SW - GPC

3 TB CL

MPS/TVC ISOL VLV

SYS 1 SW - (CENTER)

SYS 2 SW - (CENTER)

SYS 3 SW - (CENTER)

SYS 1 TB AS IS

SYS 2 TB AS IS

SYS 3 TB AS IS

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-021				MAIN PROPULSION SYSTEM	
CON'T				ENGINE CNTLR HTR LEFT SW - OFF CTR SW - OFF RIGHT SW - OFF	
				MANF PRESS LO2 SW - GPC LH2 SW - GPC	
				PROPELLANT FILL/DRAIN LO2 OUTBD SW - GND INBD SW - GND LH2 OUTBD SW - GND INBD SW - GND	
				H2 PRESS LINE VENT SW - GND	
				LO2 PREVALVE LEFT SW - GPC CTR SW - GPC RIGHT SW - GPC	
				LH2 PREVALVE LEFT SW - GPC CTR SW - GPC RIGHT SW - GPC	
				LG EXTEND ISO VALVE SW - GPC LG EXTEND ISO VALVE TB CLOSE	
				FEEDLINE RLF ISOL LO2 SW - GPC LH2 SW - GPC	
				LG/NWS HYD SYS SW - AUTO 1/2	
				***** * PANEL R6 (PLT) * *****	
76-022		OTC	ASP	PANEL R6 RIGHT COMM POWER SW - OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * R SIDE OVHD FLOOD * *****	
				NOTE  THE FOLLOWING IS A STAND ALONE FLORESCENT LIGHT UNDER PANEL 09.	
76-023		OTC	ASP	RIGHT SIDE OVERHEAD FLOOD - BRT	
				***** * PANEL C2 (CDR) * *****	
76-024		OTC	ASP	PANEL C2 CRT 1 POWER SW - ON MAJ FUNC SW - GNC  CRT 3 POWER SW - ON MAJ FUNC SW - GNC  CRT 2 POWER SW - ON MAJ FUNC SW - GNC  LEFT CRT SEL SW AS IS  RIGHT CRT SEL SW AS IS  EVENT TIMER MODE SW - DOWN CONTROL SW - (CENTER)  TIMER SET PB'S - 0900  TIMER SW - (CENTER)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL C3 (CDR) * *****	
76-025		OTC	ASP	PANEL C3 OMS ENG LEFT SW - OFF RIGHT SW - OFF  BFC CRT DISPLAY SW - OFF SELECT SW - 3 + 1  FCS CHANNEL 1 SW - AUTO 2 SW - AUTO 3 SW - AUTO 4 SW - AUTO  BODY FLAP SW - AUTO/OFF  AIR DATA PROBE STOW LEFT SW - INHIBIT RIGHT SW - INHIBIT  MAIN ENGINE (OV-102 ONLY) VIB SHUT DN SW - INHIBIT  MAIN ENGINE LIMIT SHUT DN SW - AUTO  MAIN ENGINE SHUTDOWN LEFT LITE - OFF CTR LITE - OFF RIGHT LITE - OFF  ROLL TRIM SW - (CENTER)  PITCH TRIM SW - (CENTER)  SBTC HANDLE - FULL FWD	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-025				ORBITAL DAP (ALL LITES OFF)	
CON'T				SELECT	
				A LITE OFF	
				B LITE OFF	
				CONTROL	
				AUTO LITE OFF	
				INTRL LITE OFF	
				LVLH LITE OFF	
				FREE LITE OFF	
				MANUAL MODE (ALL LITES OFF)	
				TRANSLATION	
				X	
				SPARE (BLANK PBI)	
				LITE OFF	
				NORM LITE OFF	
				PULSE LITE OFF	
				Y	
				LOW Z LITE OFF	
				NORM LITE OFF	
				PULSE LITE OFF	
				Z	
				HIGH Z LITE OFF	
				NORM LITE OFF	
				PULSE LITE OFF	
				ROTATION	
				ROLL	
				PRI LITE OFF	
				DISC RATE LITE OFF	
				PULSE LITE OFF	
				PITCH	
				ALT LITE OFF	
				DISC RATE LITE OFF	
				PULSE LITE OFF	
				YAW	
				VERN LITE OFF	
				DISC RATE LITE OFF	
				PULSE LITE OFF	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-025				SRB SEPARATION	
CON'T				MAN/AUTO SW - AUTO	
				SEP LITE - OFF	
				ET SEPARATION	
				MAN/AUTO SW - AUTO	
				SEP LITE - OFF	
				YAW TRIM SW - (CENTER)	
				AUDIO CENTER SW - 1	
				OI PCMMU	
				PWR SW - OFF	
				FORMAT SW - GPC	
				S-BAND PM	
				CONTROL SW - CMD	
				NOTE	
				WHEN SWITCHING S-BAND PM	
				ANTENNA SELECTOR SWITCH,	
				PAUSE A MINIMUM OF 2 SEC	
				IN EACH POSITION.	
				ANTENNA SW - GPC	
				AIR DATA PROBE	
				LEFT SW - STOW	
				RIGHT SW - STOW	
				FUEL CELL REACT VLV	
				1 SW - DOWN	
				2 SW - DOWN	
				3 SW - DOWN	
				1 CB - OPEN	
				2 CB - OPEN	
				3 CB - OPEN	
				UPLINK SW - ENABLE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-025				MASTER OEX POWER SW - ON (OV-102)	
CON'T				MASTER MADS POWER SW - ON (OV-103/104/105)	
				CAUTION/WARNING	
				MEMORY SW - (CENTER)	
				MODE SW - NORM	
				NOTE	
				PERFORM NEXT SIX SWITCH SETTINGS FOR OV-102/103/105 ONLY. NON-SPACEHAB MISSIONS.	
				PAYLOAD SAFING	
				1 SW - SAFE (OV-102/105)	
				RTG PUMP - PRI (OV-103 ONLY)	
				2 SW - SAFE	
				3 SW - SAFE	
				4 SW - SAFE	
				5 SW - SAFE	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

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

76-025  
CON'T

NOTE

PERFORM NEXT FIVE SWITCH  
SETTINGS FOR OV-104 (NON  
SPACEHAB) ONLY.

RTG PUMP SW - PRI  
RTG SHORT  
PRI

ENA/DSBL SW - DSBL  
SHORT/OFF SW - OFF

SEC  
ENA/DSBL SW - DSBL  
SHORT/OFF SW - OFF

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

NOTE

PERFORM NEXT FIVE SWITCH  
SETTINGS FOR SPACEHAB  
MISSIONS.

SPACEHAB FIRE SUPPR  
MCP

ARM SW - SAFE (DOWN)  
DISCH SW - NO-OP (DOWN)

FSCU  
ARM SW - SAFE (DOWN)  
DISCH SW - NO-OP (DOWN)  
H2O LN HTRS SW - OFF (DOWN)

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

EMERGENCY LIGHTING SW - OFF/ON

\*\*\*\*\*  
\*            PANEL C5 (PLT)            \*  
\*\*\*\*\*

76-026

OTC    ASP    PANEL C5

DIRECT O2 VALVE - CLOSED (AFT)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PLT SEAT *	
76-027		OTC	ASP	PLT SEAT (LOWER LEFT) SEAT BUSS SELECT SW - AC3 (DOWN) HORIZ CONTR - (CENTER) VERT CONTR - (CENTER)	
				***** * PANEL C6 (PLT) *	
				NOTE	
				LEH O2 1-4 VALVES WILL BE CONFIGURED FOR FLIGHT BY ASP DURING PRE-INGRESS CHECKLIST.	
76-028		OTC	ASP	PANEL C6 LEH O2 1 VLV - CLOSE LEH O2 2 VLV - CLOSE LEH O2 3 VLV - CLOSE LEH O2 4 VLV - CLOSE	
				***** * PANEL C7 (PLT) *	
76-029		OTC	ASP	PANEL C7 LEH O2 SUPPLY SYS 1 VLV - OPEN SYS 2 VLV - OPEN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL 01 (CDR) * *****	
76-030		OTC	ASP	PANEL 01  COAS SW - OFF GPC STATUS (MATRIX) LITES OFF  AIR TEMP SW - CAB HX OUT  H2O PUMP OUT PRESS SW - LOOP 2  FREON SW - LOOP 1  O2/N2 FLOW SW - SYS1 02  PPO2 SW - SNSR A  ***** * PANEL 02 (CDR) * *****	
76-031		OTC	ASP	PANEL 02 CRYO O2 HTR ASSY TEMP SW - TK1 1  O2/H2 SW - TK 1  FUEL CELL STACK TEMP SW - 1  ***** * PANEL 03 (PLT) * *****	
76-032		OTC	ASP	PANEL 03 RCS/OMS PRESS SW - RCS HE X10  RCS/OMS PRPLT QTY SW - OMS FUEL  MISSION TIME SW - MET	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL O5 (CDR) * *****	
76-033		OTC	ASP	PANEL O5 LEFT AUDIO TACAN ID ON/OFF SW - OFF 1/2/3 SW - 1  VOX SENS SW - AS IS  A/G 1 SW - T/R 2 SW - T/R  A/A SW - T/R  ICOM A SW - T/R B SW - T/R  POWER SW - AUD/TONE CONTROL - NORM  XMIT/ICOM MODE SW - AS IS  VOLUME A/G 1 PB - AS IS 2 PB - AS IS  A/A PB - AS IS  ICOM A PB - AS IS B PB - AS IS TACAN PB - 5  PAGE SW - (DOWN)	

OPERATION INSTRUCTIONS

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

\*\*\*\*\*  
\*      PANEL O6 (CDR)      \*  
\*\*\*\*\*

NOTE

PANEL AND INSTRUMENT SWITCHES  
(FOUR) WILL BE "1/4 BRT" FOR  
NIGHT LAUNCH.

76-034

OTC    ASP    PANEL O6  
LIGHTING  
PANEL  
LEFT/CENTER SW - OFF  
LEFT OVERHEAD SW - OFF  
  
INSTRUMENT  
LEFT/CENTER SW - OFF  
OVERHEAD SW - AS REQ'D  
  
LEFT GLARESHIELD FLOOD  
BRIGHT/VAR/OFF SW - VAR  
DIM/BRT SW - AS REQ'D  
  
LEFT SEAT/CTR CNSL FLOOD  
SEAT/OFF/CTR CNSL SW - OFF  
DIM/BRT SW - BRIGHT  
  
STAR TRACKER  
DOOR CONTROL  
SYS 1 SW - OFF  
SYS 2 SW - OFF

NOTE

STAR TRACKER DOOR TB MAY  
BE BP IF MCA LOGIC IS NOT  
ON.

DOOR POSITION  
-Y TB CL  
-Z TB CL

POWER  
-Y SW - OFF  
-Z SW - OFF

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-034				UHF	
CON'T				XMIT FREQ SW - 259.7 (OV-102/104)	
				SPLX/EVA XMIT FREQ SW - 259.7/414.2 (OV-103/105)	
				SPLX PWR AMPL SW - ON (OV-102/104)	
				SPLX/EVA PWR AMPL SW - ON (OV-103/105)	
				SQUELCH SW - ON (OV-102/104)	
				SPLX SQUELCH SW - ON (OV-103/105)	
				EVA STRING SW - 1 (OV-103/105)	
				ENCRYPT SW - OFF (OV-103/105)	
				UHF MODE SW - SPLX	
				ANNUNCIATOR	
				LAMP TEST SW - (CENTER)	
				BUS SELECT	
				ACA 1 SW - MN A	
				ACA 2/3 SW - MN B	
				INTENSITY	
				BRIGHT/VAR SW - BRIGHT	
				LOW/MED SW - MED	
				MASTER TIMING UNIT SW - AUTO	
				MDM	
				PL 1 SW - ON	
				PL 2 SW - ON	
				PL 3 SW - OFF	
				DISPLAY ELECTRONICS UNIT	
				1 SW - (DOWN)	
				2 SW - (DOWN)	
				3 SW - (DOWN)	
				4 SW - (DOWN)	
				MDM	
				FLT CRIT AFT	
				FA1 SW - ON	
				FA2 SW - ON	
				FA3 SW - ON	
				FA4 SW - ON	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-034				FLT CRIT FWD	
CON'T				FF1 SW - ON	
				FF2 SW - ON	
				FF3 SW - ON	
				FF4 SW - ON	
				GENERAL PURPOSE COMPUTER	
				POWER	
				1 SW - ON	
				2 SW - ON	
				3 SW - ON	
				4 SW - ON	
				5 SW - ON	
				OUTPUT	
				1 SW - NORMAL	
				2 SW - NORMAL	
				3 SW - NORMAL	
				4 SW - NORMAL	
				5 SW - NORMAL	
				1 TB GRAY	
				2 TB GRAY	
				3 TB GRAY	
				4 TB GRAY	
				5 TB BP	
				INITIAL PROGRAM LOAD	
				1 PB - AS IS	
				2 PB - AS IS	
				3 PB - AS IS	
				4 PB - AS IS	
				5 PB - AS IS	
				IPL SOURCE SW - OFF	
				MODE	
				1 SW - RUN	
				2 SW - RUN	
				3 SW - RUN	
				4 SW - RUN	
				5 SW - STBY	
				1 TB RUN	
				2 TB RUN	
				3 TB RUN	
				4 TB RUN	
				5 TB RUN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
*****					
* PANEL 07 (PLT) *					
*****					
76-035		OTC	ASP	PANEL 07	
TACAN 1					
MODE SW - OFF					
ANT SEL SW - AS IS					
CHANNEL PB'S - AS IS					
TACAN 2					
MODE SW - OFF					
ANT SEL SW - AS IS					
CHANNEL PB'S - AS IS					
TACAN 3					
MODE SW - OFF					
ANT SEL SW - AS IS					
CHANNEL PB'S - AS IS					
AFT LEFT RCS					
HE PRESS					
A SW - OPEN					
B SW - OPEN					
A TB OP					
B TB OP					
TANK ISOLATION					
1/2 SW - GPC					
1/2 TB OP					
3/4/5					
A SW - GPC					
B SW - GPC					
A TB OP					
B TB OP					

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-035				MANIFOLD ISOLATION	
CON'T				1 SW - GPC	
				2 SW - GPC	
				3 SW - GPC	
				4 SW - GPC	
				5 SW - GPC	
				1 TB OP	
				2 TB OP	
				3 TB OP	
				4 TB OP	
				5 TB OP	
				LEFT RCS CROSSFEED	
				1/2 SW - GPC	
				3/4/5 SW - GPC	
				1/2 TB CL	
				3/4/5 TB CL	
				MASTER RCS CROSSFEED SW - OFF	
				AFT RIGHT RCS	
				HE PRESS	
				A SW - OPEN	
				B SW - OPEN	
				A TB OP	
				B TB OP	
				TANK ISOLATION	
				1/2 SW - GPC	
				1/2 TB OP	
				3/4/5	
				A SW - GPC	
				B SW - GPC	
				A TB OP	
				B TB OP	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-035				MANIFOLD ISOLATION	
CON'T				1 SW - GPC	
				2 SW - GPC	
				3 SW - GPC	
				4 SW - GPC	
				5 SW - GPC	
				1 TB OP	
				2 TB OP	
				3 TB OP	
				4 TB OP	
				5 TB OP	
				RIGHT RCS CROSSFEED	
				1/2 SW - GPC	
				3/4/5 SW - GPC	
				1/2 TB CL	
				3/4/5 TB CL	

OPERATION INSTRUCTIONS

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

\*\*\*\*\*  
\* PANEL O8 (PLT) \*  
\*\*\*\*\*

76-036                    OTC   ASP   PANEL O8  
   RADAR ALTIMETER  
   1 SW - OFF  
   2 SW - OFF

MLS  
1 SW - OFF  
2 SW - OFF  
3 SW - OFF

CHANNEL  
1 TW - AS IS  
2 TW - AS IS  
3 TW - AS IS

RIGHT SEAT/CTR CNSL FLOOD  
SEAT/OFF/CTR SW - OFF  
DIM/BRT SW - BRT

NOTE

PANEL AND INSTRUMENT SWITCHES  
(FOUR) WILL BE "1/4 BRT" FOR  
NIGHT LAUNCH.

LIGHTING

PANEL  
RIGHT SW - OFF  
RIGHT OVERHEAD SW - OFF  
RIGHT INSTRUMENT SW - OFF  
NUMERIC SW - BRT

RIGHT GLARESHIELD FLOOD  
BRIGHT/VAR/OFF SW - VAR  
DIM/BRT SW - AS REQ'D

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-036				OMS KIT	
CON'T				HE PRESS/VAPOR ISOL	
				A SW - CLOSE	
				B SW - CLOSE	
				TANK ISOLATION	
				A SW - CLOSE	
				B SW - CLOSE	
				A TB BP	
				B TB BP	
				LEFT OMS	
				HE PRESS/VAPOR ISOL	
				A SW - GPC	
				B SW - GPC	
				TANK ISOLATION	
				A SW - GPC	
				B SW - GPC	
				A TB OP	
				B TB OP	
				LEFT OMS CROSSFEED	
				A SW - GPC	
				B SW - GPC	
				A TB CL	
				B TB OP	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-036				RIGHT OMS	
CON'T				HE PRESS/VAPOR ISOL	
				A SW - GPC	
				B SW - GPC	
				TANK ISOLATION	
				A SW - GPC	
				B SW - GPC	
				A TB OP	
				B TB OP	
				RIGHT OMS CROSSFEED	
				A SW - GPC	
				B SW - GPC	
				A TB CL	
				B TB CL	
				FWD RCS	
				HE PRESS	
				A SW - OPEN	
				B SW - OPEN	
				A TB OP	
				B TB OP	
				TANK ISOLATION	
				1/2 SW - GPC	
				3/4/5 SW - GPC	
				1/2 TB OP	
				3/4/5 TB OP	
				MANIFOLD ISOLATION	
				1 SW - GPC	
				2 SW - GPC	
				3 SW - GPC	
				4 SW - GPC	
				5 SW - GPC	
				1 TB OP	
				2 TB OP	
				3 TB OP	
				4 TB OP	
				5 TB OP	
				ANNUNCIATOR LAMP TEST SW - (CENTER)	

OPERATION INSTRUCTIONS

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

\*\*\*\*\*  
\*        PANEL O9 (PLT)        \*  
\*\*\*\*\*

76-037                    OTC    ASP    PANEL O9

RIGHT AUDIO

POWER SW - AUD/TONE

A/G

1 SW - T/R

2 SW - T/R

A/A SW - T/R

ICOM

A SW - T/R

B SW - T/R

VOX SENS SW - AS REQD

TACAN ID

ON/OFF SW - OFF

1/2/3 SW - AS REQD

PAGE SW - DOWN

VOLUME

A/G

1 TW - AS IS

2 TW - AS IS

A/A TW - AS IS

ICOM

A TW - AS IS

B TW - AS IS

TACAN PB - 5

XMIT/ICOM MODE SW - AS IS

CONTROL SW - NORM



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
*****					
* PANEL 013 (CDR) *					
*****					
76-038		OTC	ASP	PANEL 013	
				ROW A	
				ESS 1BC	
				C/W A CB - CLOSE	
				MN A CONTR CB - OPEN	
				AC1 SNSR CB - CLOSE	
				MTU A CB - CLOSE	
				ROW B	
				ESS 1BC	
				CRYO CNTRLR	
				O2 TK2 CB - CLOSE	
				H2 TK2 CB - CLOSE	
				CRYO QTY	
				O2 TK2 CB - CLOSE	
				H2 TK2 CB - CLOSE	
				ROW C	
				ESS 2CA	
				C/W B CB - CLOSE	
				MN B CONTR CB - OPEN	
				AC 2 SENSR CB - CLOSE	
				MTU B CB - CLOSE	
				ROW D	
				ESS 2CA	
				CRYO CNTRLR	
				O2 TK1 CB - CLOSE	
				H2 TK1 CB - CLOSE	
				CRYO QTY	
				O2 TK1 CB - CLOSE	
				H2 TK1 CB - CLOSE	
				ROW E	
				ESS 3AB	
				MN C CONTR CB - OPEN	
				AC3 SNSR CB - CLOSE	
				GPC STATUS CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL 014 (CDR) * *****	
76-039		OTC	ASP	PANEL 014	
				ROW A BRAKES MN A SW - ON RGA 1 SW - ON IMU 1 SW - ON FC 1 CNTLR SW - ON	
				ROW B MN A OPERATIONAL INST SIG CONDR OF 1/4 A CB - CLOSE OM 1/2 A CB - CLOSE	
				MDM OF 1/2 A CB - CLOSE OF 3/4 A CB - CLOSE	
				H2O BYP LOOP 1 SNSR CB - CLOSE TIRE PRESS CB - CLOSE	
				MN C CONTR CB - OPEN	
				MISSION TIMER FWD CB - CLOSE	
				EVENT TIMER AFT CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-039				ROW C	
CON'T				MN A	

NOTE

IF COLLINS TACAN 1 INSTALLED,  
NEXT CB - CLOSE; IF GOULD TACAN 1  
INSTALLED, NEXT CB - OPEN.

TACAN 1 CB - \_\_\_\_\_

CRYO O2 HTR TK 1 SNSR 1  
CB - CLOSE

SMOKE DETN  
L/R FLT DK CB - CLOSE  
BAY 2A/3B CB - CLOSE

FIRE SUPPR BAY 3 CB - CLOSE

UTILITY POWER O19/MO52J CB - CLOSE

FLOOD LEFT CNSL CB - CLOSE

ANNUN FWD ACA 1 CB - CLOSE

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-039				ROW D	
CON'T				MN A	
				FREON	
				RAD CNTLR	
				1 CB - CLOSE	
				2 CB - CLOSE	
				NOTE	
				PERFORM NEXT GPS SWITCH VERIFICATION FOR OV102 ONLY.	
				GPS	
				PRE AMPL	
				UC CB - OPEN	
				LC CB - OPEN	
				NOT PERFORMED	_____
				NOTE	
				PERFORM NEXT GPS SWITCH VERIFICATION FOR OV103/104/ 105 ONLY.	
				GPS	
				PRE AMPL	
				UC CB - OPEN	
				LC CB - CLOSE	
				NOT PERFORMED	_____
				ATM PRESS CONTROL	
				N2 SUPPLY 1 CB - CLOSE	
				O2/N2 CNTLR 1 CB - CLOSE	
				O2 XOVR 1 CB - CLOSE	
				N2 REG INLET 1 CB - CLOSE	
				CABIN VENT CB - CLOSE	
				CABIN VENT ISOL CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-039				ROW E	
CON'T				MN A	
				RADAR ALTM 1 CB - CLOSE	
				MLS 1 CB - CLOSE	
				ADTA 1 CB - CLOSE	
				STAR TRKR -Z CB - CLOSE	
				ACCEL 1 CB - CLOSE	
				DDU	
				LEFT CB - CLOSE	
				AFT CB - OPEN	
				INST L/CTR CB - CLOSE	
				NOSE WHEEL STEERING CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-039				ROW F	
CON'T				MMU 1 SW - ON	
				RJDA 1A	
				L2/R2 MANF	
				LOGIC SW - ON	
				DRIVER SW - OFF	
				(GUARDED - LOCKED)	
				(SW GUARD REMOVED AT FLT CREW INGRESS)	
				RJDA 2A	
				L4/R4 MANF	
				LOGIC SW - ON	
				DRIVER SW - OFF	
				(GUARDED - LOCKED)	
				(SW GUARD REMOVED AT FLT CREW INGRESS)	
				RJDF 1B	
				F1 MANF	
				LOGIC SW - ON	
				DRIVER SW - OFF	
				(GUARDED - LOCKED)	
				(SW GUARD REMOVED AT FLT CREW INGRESS)	
				L OMS ENG VLV SW - OFF	
				(GUARDED) (SW GUARD REMOVED	
				AT FLT CREW INGRESS)	
				ASA 1 SW - ON	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL 015 (PLT) * *****	
76-040		OTC	ASP	PANEL 015 ROW A BRAKES MN B SW - ON  RGA 2 SW - ON 4 SW - ON  IMU 2 SW - ON  FC2 CNTLR SW - ON  ROW B MN B OPERATIONAL INST SIG CONDR OM 3 A CB - CLOSE OF 1/4 B CB - CLOSE OF 2/3 A CB - CLOSE OM 1/2 B CB - CLOSE  MDM OF 1/2 B CB - CLOSE  H2O BYP LOOP 2 SNSR CB - CLOSE  TIRE PRESS CB - CLOSE  MN A CONTR CB - OPEN  MISSION TIMER AFT CB - CLOSE  EVENT TIMER FWD CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-040				ROW C	
CON'T				MN B	

NOTE

IF COLLINS TACAN 2 INSTALLED,  
NEXT CB - CLOSE; IF GOULD TACAN 2  
INSTALLED, NEXT CB - OPEN.

TACAN 2 CB - \_\_\_\_\_

CRYO O2 HTR TK2 SNSR 2 CB - CLOSE

SMOKE DETN  
BAY 1B/3A CB - CLOSE

FIRE SUPPR BAY 1 CB - CLOSE

UTILITY PWR F1/MO13Q CB - CLOSED

FLOOD  
RIGHT CNSL CB - CLOSE  
LEFT CTR CB - CLOSE

ANNUNCIATOR  
FWD  
ACA 1 CB - CLOSE  
ACA 2/3 CB - CLOSE  
  
AFT ACA 4/5 CB - CLOSE



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-040				ROW D	
CON'T				MN B	
				FREON	
				RAD CNTLR	
				1 CB - CLOSE	
				2 CB - CLOSE	
				NOSE WHEEL STEERING CB - CLOSE	
				ATM PRESS CONTROL	
				PP02C CABIN DP/DT CB - CLOSE	
				N2 SUPPLY 2 CB - CLOSE	
				O2/N2 CNTLR 2 CB - CLOSE	
				O2 XOVR 2 CB - CLOSE	
				N2 REG INLET 2 CB - CLOSE	
				CABIN RELIEF A CB - CLOSE	
				ROW E	
				MN B	
				RADAR ALTM 2 CB - CLOSE	
				MLS 2 CB - CLOSE	
				ADTA 2 CB - CLOSE	
				STAR TRKR -Y CB - CLOSE	
				ACCEL 2 CB - CLOSE	
				DDU	
				LEFT CB - CLOSE	
				RIGHT CB - CLOSE	
				INST RIGHT CB - CLOSE	
				DRAG CHUTE SYS 2 CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-040				ROW F	
CON'T				MMU 2 SW - ON	
				RJDA 1B	
				L1/L5/R1 MANF	
				LOGIC SW - ON	
				L1/R1 MANF	
				DRIVER SW - OFF	
				(GUARDED - LOCKED)	
				(SW GUARD REMOVED AT FLT CREW INGRESS)	
				RJDF 1A	
				F2 MANF	
				LOGIC SW - ON	
				DRIVER SW - OFF	
				(GUARDED - LOCKED)	
				(SW GUARD REMOVED AT FLT CREW INGRESS)	
				ASA 2 SW - ON	
				ACCEL 4 SW - ON	

OPERATION INSTRUCTIONS

-----  
SEQ      TIME      CMD    RESP      DESCRIPTION      VERIF.  
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\*\*\*\*\*  
\*      PANEL 016 (PLT)      \*  
\*\*\*\*\*

76-041

OTC    ASP

PANEL 016

ROW A

BRAKES MN C SW - ON

RG 3 SW - ON

IMU 3 SW - ON

FC3 CNTLR SW - ON

ROW B

MN C

OPERATIONAL INST

SIG CONDR

OM 3 B CB - CLOSE

OF 2/3 B CB - CLOSE

MDM OF 3/4 B CB - CLOSE

MN B CONTR CB - OPEN

AUX TIMING BUFFER CB - CLOSE

ROW C

MN C

NOTE

IF COLLINS TACAN 3 INSTALLED,  
NEXT CB - CLOSE; IF GOULD TACAN 3  
INSTALLED, NEXT CB - OPEN.

TACAN 3 CB - \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-041				CRYO O2 HTR	
CON'T				TK1 SNSR 2 CB - CLOSE	
				TK2 SNSR 1 CB - CLOSE	
				SMOKE DETN	
				CABIN CB - CLOSE	
				BAY 1A/2B CB - CLOSE	
				FIRE SUPPR BAY 2 CB - CLOSE	
				UTILITY POWER A11/A15/MO30F	
				CB - CLOSE	
				FLOOD RIGHT CTR CB - CLOSE	
				ANNUNCIATOR	
				FWD ACA 2/3 CB - CLOSE	
				AFT ACA 4/5 CB - CLOSE	

ROW D  
 MN C

NOTE

PERFORM NEXT GPS SWITCH  
 VERIFICATION FOR OV-102.

GPS

PRE AMPL  
 UC CB - OPEN  
 LC CB - OPEN  
 NOT PERFORMED \_\_\_\_\_

NOTE

PERFORM NEXT GPS SWITCH  
 SETTING FOR OV-103/104/  
 105 ONLY.

GPS

PRE AMPL  
 UC CB - CLOSE  
 LC CB - OPEN  
 NOT PERFORMED \_\_\_\_\_

H2O ALT PRESS CB - CLOSE

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-041				ATM PRESS CONTR	
CON'T				O2 EMER CB - OPEN	
				CABIN RELIEF B CB - CLOSE	
				ROW E	
				MN C	
				MLS 3 CB - CLOSE	
				ADTA	
				3 CB - CLOSE	
				4 CB - CLOSE	
				DDU	
				RIGHT CB - CLOSE	
				AFT CB - OPEN	
				RCS/OMS PRPLT QTY	
				GAUGE CB - CLOSE	
				DRAG CHUTE SYS 1 CB - CLOSE	
				ROW F	
				RJDA 2B	
				L3/R3/R5 MANF	
				LOGIC SW - ON	
				L3/R3 MANF	
				DRIVER SW - OFF	
				(GUARDED - LOCKED)	
				(SW GUARD REMOVED AT FLT CREW INGRESS)	
				RJDF 2A	
				F3 MANF	
				LOGIC SW - ON	
				DRIVER SW - OFF	
				(GUARDED - LOCKED)	
				(SW GUARD REMOVED AT FLT CREW INGRESS)	
				RJDF 2B	
				F4/F5 MANF	
				LOGIC SW - ON	
				F4 MANF	
				DRIVER SW - OFF	
				(GUARDED - LOCKED)	
				(SW GUARD REMOVED AT FLT CREW INGRESS)	
				R OMS ENG VLV SW - OFF	
				(GUARDED)	
				(SW GUARD REMOVED AT FLT CREW INGRESS)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-041				ASA	
CON'T				3 SW - ON	
				4 SW - ON	
				ACCEL 3 SW - ON	
				RJD MANF	
				L5/F5/R5	
				DRIVER SW - OFF	
				(GUARDED - LOCKED)	
				(SW GUARD REMOVED AT FLT CREW INGRESS)	
				*****	
				* PANEL 017 (PLT) *	
				*****	
76-042		OTC	ASP	PANEL 017	
				ROW A	
				ATVC	
				1 SW - ON	
				2 SW - ON	
				3 SW - ON	
				4 SW - ON	
				ROW B	
				EIU	
				L-C SW - ON	
				C-R SW - ON	
				R-L SW - ON	
				ROW C	
				SIGNAL CONDITIONER	
				FREON	
				A SW - AC2	
				B SW - AC3	
				OL 1/2 SW - ON	
				OR 1/2 SW - ON	
				ROW D	
				SIG CONDR OA 1/2/3 SW - ON	
				MDM OA 1/2/3 SW - ON	
				MEC	
				1 SW - ON	
				2 SW - ON	

OPERATION INSTRUCTIONS

SEQ      TIME      CMD    RESP      DESCRIPTION      VERIF.  
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\*\*\*\*\*  
\*        PANEL 019 (CDR)        \*  
\*\*\*\*\*

76-043            OTC    ASP    PANEL 019  
  TV PWR SW - OFF  
  
  DC UTILITY POWER MN A SW - OFF  
  
  COAS PWR SW - OFF  
  
  \*\*\*FLIGHT DECK SWITCHLIST\*\*\*  
  COMPLETE

CAUTION AND WARNING SETUPS  
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\*\*\*\*\*  
\*        PANEL 013 (CDR)        \*  
\*\*\*\*\*

NOTE

THE FOLLOWING STEPS CYCLE  
POWER TO THE C/W IN ORDER  
TO RESET THE MEMORY TO THE  
PROM VALUES. THEN SET  
PARAMETER LAUNCH LIMITS.

76-044            OTC    ASP    PANEL 013  
  ROW C  
  ESS 2 CA  
  C/W B CB - OPEN  
  ROW A  
  ESS 1BC  
  C/W A CB - OPEN

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

C/W MASTER ALARM WILL OCCUR  
 IN FOLLOWING STEP. ADVISE CISL.

76-045		OTC	ASP	PANEL O13 ROW C ESS 2 CA C/W B CB - CLOSE ROW A ESS 1BC C/W A CB - CLOSE	
--------	--	-----	-----	--	--

76-046		OTC	ASP	MASTER ALARM PB - PRESS/RELEASE VERIFY MASTER ALARM LITE OFF  ***** * PANEL R13U (MS1) * *****	
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NOTE

NEXT STEP WILL SET THE  
UPPER C&W LIMITS.

76-047		OTC	ASP	PANEL R13 CAUTION/WARNING PARA SEL PB'S - 007 (OMS TK P OX-L) LIMIT SET VALUE PB'S - 3.60 (OV-102/103/104) - 3.70 (OV-105) LIMIT SW - UPPER FUNC SW - SET/THEN READ VERIFY 007 = 3.60 (OV-102/103/104) = 3.70 (OV-105)  PARAM SEL PB'S - 017 (OMS TK P FU-L) LIMIT SET FUNC SW - SET/THEN READ VERIFY 017 = 3.60  PARAM SEL PB'S - 037 (OMS TK P OX-R) LIMIT SET FUNC SW - SET/THEN READ VERIFY 037 = 3.60	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-047				PARAM SEL PB'S - 047 (OMS TK P FU-R)	
CON'T				LIMIT SET FUNC SW - SET/THEN READ VERIFY 047 = 3.60	
				(PERFORM PARAM 039 FOR 103,104,105 ONLY)	
				PARAM SEL PB'S - 039 (MPS E1A REG OUT PRESS)	
				LIMIT SET VALUE PB'S - 4.10 (104,105) 4.00 (103)	
				FUNC SW - SET/THEN READ VERIFY 039 = 4.10 (104,105) 4.00 (103)	
				NOT PERFORMED	_____
				(PERFORM PARAM 049 FOR 102,103,105 ONLY)	
				PARAM SEL PB'S - 049 (MPS E2A REG OUT PRESS)	
				LIMIT SET VALUE PB'S - 4.00 (103) 4.10 (102,105)	
				FUNC SW - SET/THEN READ VERIFY 049 = 4.10 (102,105) 4.00 (103)	
				NOT PERFORMED	_____
				(PERFORM PARAM 059 FOR 104/105 ONLY)	
				PARAM SEL PB'S - 059 (MPS E3A REG OUT PRESS)	
				LIMIT SET VALUE PB'S - 4.10 (104) 4.00 (105)	
				FUNC SW - SET/THEN READ VERIFY 059 = 4.10 (104) 4.00 (105)	
				NOT PERFORMED	_____
				PARAM SEL PB'S - 074 (CABIN FAN DELTA P)	
				LIMIT SET VALUE PB'S - 4.25 FUNC SW - SET/THEN READ VERIFY 074 = 4.25	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-047				PARAM SEL PB'S - 079 (LH2 MANF PRESS) LIMIT SET VALUE PB'S - 3.25 FUNCT SW - SET/THEN READ VERIFY 079 = 3.25	
				PARAM SEL PB'S - 107 (FREON LOOP 1 EVAP OUT T) LIMIT SET VALUE PB'S - 4.30 FUNC SW - SET THEN/READ VERIFY 107 = 4.30	
				PARAM SEL PB'S - 117 (FREON LOOP 2 EVAP OUT T) LIMIT SET FUNC SW - SET/THEN READ VERIFY 117 = 4.30	
				PARAM SEL PB'S - 004 (CABIN PRESS) LIMIT SET VALUE PB'S - 3.85 (102,103,105) - 3.90 (104) FUNC SW - SET/THEN READ VERIFY 004 - 3.85 (102,103,105) - 3.90 (104)	
				NOTE  NEXT STEP WILL SET THE LOWER C&W LIMITS.	
76-048		OTC	ASP	PANEL R13 CAUTION/WARNING LIMIT SW - LOWER  LIMIT SET VALUE PB'S - 3.45 FUNC SW - SET/THEN READ VERIFY 004 = 3.45	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-048				(PERFORM PARAM 039 FOR 103,104,105 ONLY)	
CON'T				PARAM SEL PB'S - 039	
				(MPS E1A REG OUT PRESS)	
				LIMIT SET	
				VALUE PB'S - 3.45 (104,105)	
				3.35 (103)	
				FUNC SW - SET/THEN READ	
				VERIFY 039 = 3.45 (104,105)	
				3.35 (103)	
				NOT PERFORMED	_____
				(PERFORM PARAM 049 FOR 102,103,105 ONLY)	
				PARAM SEL PB'S - 049	
				(MPS E2A REG OUT PRESS)	
				LIMIT SET	
				VALUE PB'S - 3.45 (102,105)	
				3.35 (103)	
				FUNC SW - SET/THEN READ	
				VERIFY 049 = 3.45 (102,105)	
				3.35 (103)	
				NOT PERFORMED	_____
				(PERFORM PARAM 059 FOR 105 ONLY)	
				PARAM SEL PB'S - 059	
				(MPS HE REG BA PRESS)	
				LIMIT SET	
				VALUE PB'S - 3.35 (105)	
				FUNC SW - SET/THEN READ	
				VERIFY 059 = 3.35 (105)	
				NOT PERFORMED	_____
				PARAM SEL PB'S - 074	
				(CABIN FAN DELTA P)	
				LIMIT SET	
				VALUE PB'S - 2.65	
				FUNC SW - SET/THEN READ	
				VERIFY 074 = 2.65	
				PARAM SEL PB'S - 106	
				(FREON FLOW 1)	
				LIMIT SET	
				VALUE PB'S - 0.80	
				FUNC SW - SET/THEN READ	
				VERIFY 106 = 0.80	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-048				PARAM SEL PB'S - 116 (FREON FLOW 2) LIMIT SET FUNC SW - SET/THEN READ VERIFY 116 = 0.80	
76-049		OTC	ASP	PANEL R13U CAUTION/WARNING (OMS KIT OX TK ULLAGE) PARAM SELECT PB'S - 077 PARAM SW - INHIBIT, REL PARAM STATUS SW - INHIBITED, HOLD VERIFY STATUS LT 077 - ON PARAM STATUS SW - CENTER  (OMS KIT FU TK ULLAGE) PARAM SELECT PB'S - 087 PARAM SW - INHIBIT, REL PARAM STATUS SW - INHIBITED, HOLD VERIFY STATUS LT 087 - ON PARAM STATUS SW - CENTER  (APU 1 EGT 1) PARAM SELECT PB'S - 008 PARAM SW - INHIB, REL PARAM STATUS SW - INHIBITED, HOLD VERIFY STATUS LT 008 - ON PARAM STATUS SW - CENTER  (APU 2 EGT 1) PARAM SELECT PB'S - 018 PARAM SW - INHIBIT, REL PARAM STATUS SW - INHIBITED, HOLD VERIFY STATUS LT 018 - ON PARAM STATUS SW - CENTER  (APU 3 EGT 1) PARAM SELECT PB'S - 028 PARAM SW - INHIBIT, REL PARAM STATUS SW - INHIBITED, HOLD VERIFY STATUS LT 028 - ON PARAM STATUS SW - CENTER	

OPERATION INSTRUCTIONS

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

NOTE

DO NOT PERFORM NEXT STEP IF  
OV-103, OV-104 OR OV-105 TANK  
SET FIVE INSTALLED.

THIS STEP IS ALWAYS PERFORMED  
FOR OV-102.

76-050

OTC    ASP

PANEL R13U

CAUTION/WARNING

(CRYO O2 TK5 HTR CNTL PR)  
PARAM SELECT PB'S - 040  
PARAM SW - INHIBIT, REL  
PARAM STATUS SW - INHIBITED,  
HOLD  
VERIFY STATUS LT 040 - ON  
PARAM STATUS SW - CENTER

CRYO O2 HTR TK5 HTR 1 T)  
PARAM SELECT PB'S - 081  
PARAM SW - INHIBIT, REL  
PARAM STATUS SW - INHIBITED,  
HOLD  
VERIFY STATUS LT 081 - ON  
PARAM STATUS SW - CENTER

(CRYO H2 TK 5 HTR CNTL PR)  
PARAM SELECT PB'S - 090  
PARAM SW - INHIBIT, REL  
PARAM STATUS SW - INHIBITED,  
HOLD  
VERIFY STATUS LT 090 - ON  
PARAM STATUS SW - CENTER

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

OPERATION INSTRUCTIONS

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

NOTE

DO NOT PERFORM NEXT STEP  
IF TANK SET FOUR INSTALLED.

76-051

OTC ASP

PANEL R13U

CAUTION/WARNING

(CRYO O2 P TK4/5)

PARAM SELECT PB'S - 030

PARAM SW - INHIBIT, REL

PARAM STATUS SW - INHIBITED,  
HOLD

VERIFY STATUS LT 030 - ON

PARAM STATUS SW - CENTER

(CRYO O2 HTR1 TK4)

PARAM SELECT PB'S - 061

PARAM SW - INHIBIT, REL

PARAM STATUS SW - INHIBITED,  
HOLD

VERIFY STATUS LT 061 - ON

PARAM STATUS SW - CENTER

(CRYO O2 HTR2 TK4)

PARAM SELECT PB'S - 071

PARAM SW - INHIBIT, REL

PARAM STATUS SW - INHIBITED,  
HOLD

VERIFY STATUS LT 071 - ON

PARAM STATUS SW - CENTER

(CRYO H2 P TK4/5)

PARAM SELECT PB'S - 080

PARAM SW - INHIBIT, REL

PARAM STATUS SW - INHIBITED,  
HOLD

VERIFY STATUS LT 080 - ON

PARAM STATUS SW - CENTER

NOT PERFORMED

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT THREE STEPS  
FOR SPACEHAB MISSIONS.

76-052

OTC ASP

PANEL R13U  
CAUTION/WARNING

PARAM SELECT PB'S - 055 (CABIN FAN DP)  
LIMIT SET SW - UPPER  
VALUE TW - 4.85  
LIMIT SET FUNC SW - SET/THEN READ  
VERIFY 055 = 4.85  
PARAM SW - INHIBIT, REL

PARAM SELECT PB'S - 065 (PPO2 #1)  
VALUE TW - 2.30  
LIMIT SET FUNC SW - SET/THEN READ  
VERIFY 065 = 2.30  
PARAM SW - INHIBIT, REL

PARAM SELECT PB'S - 075 (PPCO2 #1)  
VALUE TW - 3.80  
LIMIT SET FUNC SW - SET/THEN READ  
VERIFY 075 = 3.80  
PARAM SW - INHIBIT, REL

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-052				NOTE	
CON'T				VITT WILL PROVIDE PARAM SW POSITION FOR PARAM SELECT PB'S - 85 (ARS FAN DP)	
				PARAM SELECT PB'S - 085 (ARS FAN DP) VALUE TW - 4.85 LIMIT SET FUNC SW - SET/THEN READ VERIFY 085 = 4.85 PARAM SW - _____, REL	
				PARAM SELECT PB'S - 095 (CABIN TOTAL PRESSURE) VALUE TW - 1.55 LIMIT SET FUNC SW - SET/THEN READ VERIFY 095 = 1.55 PARAM SW - INHIBIT, REL	
				PARAM SEL SW - 097 (PL CAUTION) PARAM SW - ENABLE, REL	
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP FOR  
POWERED DOWN SPACEHAB MISSIONS.

76-053		OTC	ASP	PARAM STATUS - INHIBIT, HOLD VERIFY PARAM 097 LIGHTS OFF  PARAM STATUS SW - RELEASE	
					NOT PERFORMED _____

NOTE

PERFORM NEXT STEP FOR  
POWERED SPACELAB MISSIONS  
ONLY.

76-054		OTC	ASP	PANEL R13U CAUTION/WARNING PARAM STATUS SW - INHIBIT, HOLD VERIFY PARAMS 095 AND 097 LIGHTS OFF PARAM STATUS SW - RELEASE	
					NOT PERFORMED _____

76-055		OTC	ASP	PANEL R13U CAUTION/WARNING PARAM STATUS SW - TRIPPED,HOLD  REPORT ALL MATRIX LITES ON RECORD IN S0007VL4 APPENDIX P-4 VERIFY LITES  099 ON 109 ON 119 ON  PARAM STATUS SW - RELEASE	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-056		OTC	ASP	PANEL R13U CAUTION/WARNING MEMORY SW - READ,HOLD  REPORT ALL MATRIS LITES ON RECORD IN S0007VL4 APPENDIX P-5 VERIFY LITES  099 - ON 109 - ON 119 - ON  MEMORY SW - CLEAR, RELEASE PARAM SEL TW'S - 120 LIMIT SET VALUE TW'S - 0.00	
76-057		OTC	ASP	PANEL R13U CAUTION/WARNING PARAM STATUS SW - INHIBITED, HOLD  REPORT ALL MATRIX LITES ON RECORD IN S0007VL4 APPENDIX P-3  PARAM STATUS SW - RELEASE	
76-058		OTC	ASP	PANEL F7 REPORT ALL ANNUNCIATOR LIGHTS ON RECORD IN S0007VL4 APPENDIX P-1  *** C&W SETUPS COMPLETE ***	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-059				SECTION 2 - (AFT FLT DECK/MIDDECK/ ----- AIRLOCK/WMS -----	
76-060		OTC	ALL	<p>PURPOSE OF THIS SEQUENCE IS TO VERIFY FLIGHT DECK AND MIDDECK SWITCHES ARE CONFIGURED FOR LAUNCH.</p> <p>SWITCHES LEFT IN OTHER THAN ASCENT POSITION (REF JSC ASCENT CHECKLIST) BY THIS SEQUENCE MUST HAVE PREDEFINED STEPS IN S0007 TO POSITION THEM TO ASCENT POSITION, PRIOR TO T-0.</p> <p>ALL SWITCHES (OTHER THAN PUSHBUTTON/ ANALOG SWITCHES OR THOSE ASSOCIATED WITH COCKPIT LIGHTING, BIOMED OR PNL MA73C LT AND RT SEAT 3PH CB'S) SHOULD ALREADY BE IN SWITCHLIST SPECIFIED POSITION AT TIME IT IS PERFORMED. SYSTEM ENGINEERING PERSONNEL MUST BE PREPARED TO EXPLAIN ANY DIFFERENCES FOUND AND WILL BE REQUIRED TO GIVE A "GO" PRIOR TO SWITCH BEING REPOSITIONED. ANY SWITCHES REPOSITIONED, OTHER THAN THOSE EXEMPTED ABOVE, MUST BE DOCUMENTED IN APPENDIX L.</p> <p>ALL VEHICLES HAVE DIFFERENT THUMBWHEEL/PUSHBUTTON CONFIGURATIONS. THE GENERIC TERM PUSHBUTTON (PB) WILL BE USED REGARDLESS OF CONFIGURATION.</p> <p>ANY COCKPIT TROUBLESHOOTING ACTIVITY SUBSEQUENT TO THIS SWITCHLIST MUST RETURN SWITCHES TO THEIR POSITION PRIOR TO TROUBLESHOOTING.</p>	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-060				SWITCHLIST WILL BE DIVIDED INTO TWO SECTIONS AND MAY BE PERFORMED IN PARALLEL WITH EACH SECTION PERFORMED BY AN OTC AND ASP. SECTION ONE CONSISTS OF FLIGHT DECK PANELS AND C&W SETUPS. SECTION TWO CONSISTS OF MIDDECK AND AFT FLIGHT DECK PANELS, AIRLOCK AND WASTE MANAGEMENT STATION.	
CON'T				MIDDECK SWITCHLIST MAY BE PERFORMED PRIOR TO AFT FLIGHT DECK SWITCHLIST.	

NOTE

CREW COMPARTMENT LIGHTING SWITCHES MAY BE FOUND IN A DIFFERENT POSITION THAN THAT PUBLISHED TO FACILITATE CREWMAN'S VISIBILITY OF PANELS.

LIST OF EXCEPTIONS FOR

SWITCHGUARD REMOVALS

1. PAYLOAD SW GUARDS
2. CREW PREFERENCE SW GUARDS.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

THE FOLLOWING CREW  
PREFERENCE AND PAYLOAD SWITCH  
GUARD MATRICES WILL BE COMPLETED  
BY A MEMBER OF VITT (861-9224).

CREW PREFERENCE SWITCHGUARDS

(MISSION UNIQUE)

PANEL	SW/CB
-------	-------

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

OPERATION INSTRUCTIONS

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

PAYLOAD SWITCHGUARDS MISSION UNIQUE

PANEL	SW/CB
-------	-------

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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AFT FLIGHT DECK SWITCHLIST

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*****
*   PANEL R12 (MS1)   *
*****
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NOTE

PERFORM NEXT STEP IF  
 PHRR VTR INSTALLED.

76-061		OTC	ASP	PANEL R12L PHRR FAULT LT - OFF HEAT LIGHT - OFF RCDR PWR CB - OPEN	NOT PERFORMED
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NOTE

PERFORM NEXT STEP IF  
 COMPUTER INTERFACE PANEL  
 IS INSTALLED ON PANEL R12.

76-062		OTC	ASP	PANEL R12 COMPUTER INTERFACE PANEL  NONFUNCTIONAL SW - OFF NONFUNCTIONAL SW - OFF VERIFY ALL CAPS INSTALLED	NOT PERFORMED
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NOTE

PERFORM NEXT STEP IF OSVS IS  
 INSTALLED ON PANEL R12.

76-063		OTC	ASP	PANEL R12 OSVS POWER CB - OPEN OSVS POWER SW - OFF (DOWN)	NOT PERFORMED
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF 8MM  
VIDEO TAPE RECORDER (VTR)  
INSTALLED IN PANEL R12  
STOWAGE CONTAINER.

76-064		OTC	ASP	PANEL R12 OPEN STOWAGE CONTAINER VTR	
--------	--	-----	-----	--	--

VTR POWER SW - ON  
EMK REC SW - UP  
MODE SW - REC (TAPED)  
CHECK VTR TAPE INSTALLED  
PULL OPEN/LOCK KNOB - LOCK  
CLOSE STOWAGE CONTAINER

NOT PERFORMED

\*\*\*\*\*  
\* PANEL R11U (MS1) \*  
\*\*\*\*\*

76-065		OTC	ASP	PANEL R11U	
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FUEL CELL  
GPC PURGE SEQ SW - (DOWN)  
  
GPC PURGE SEQ ON TB BP  
  
PURGE HEATER SW - GPC  
  
PURGE VALVES  
1 SW - GPC  
2 SW - GPC  
3 SW - GPC

STARTUP HEATER  
1 SW - ENABLE  
2 SW - ENABLE  
3 SW - ENABLE

H2O LINE HTR SW - A AUTO

H2O RELIEF HTR SW - A AUTO



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL R11L (MS1) * *****	
76-066		OTC	ASP	PANEL R11L ENCRYPTOR SW - NORM  MS AUDIO CONTROL SW - NORM  CRT 4 POWER SW - OFF MAJ FUNC SW - SM  SUPPLY H2O TK A INLET SW - (CENTER) TB OP TK A OUTLET SW - (CENTER) TB CL DUMP ISOL VLV SW - (CENTER) TB BP DUMP VLV SW - (CENTER) TB BP DUMP VLV ENABLE/NOZ HTR SW - OFF  TK B INLET SW - (CENTER) TB OPEN TK B OUTLET SW - (CENTER) TB OP  CROSSOVER VLV SW - (CENTER) TB CL  GALLEY SPLY VLV SW - (CENTER) TB BP  OR  (IF H2O DRAIN IN PROGRESS) GALLEY SPLY VLV SW - OPEN TB OPEN  TK C INLET SW - (CENTER) TB OP TK C OUTLET SW - (CENTER) TB OP  B SPLY ISOL VLV SW - (CENTER) TB OP	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL R10 (MS1) * *****	
76-067		OTC	ASP	PANEL R10	
				MISSION STATION AUDIO POWER SW - AUD/TONE	
				A/G 1 SW - T/R 2 SW - T/R	
				A/A SW - T/R	
				ICOM A SW - T/R B SW - T/R	
				VOX SENS SW - AS IS	
				PAGE SW - (DOWN)	
				VOLUME A/G 1 PB - AS IS 2 PB - AS IS A/A PB - AS IS	
				ICOM A PB - AS IS B PB - AS IS	
				XMIT/ICOM MODE SW - AS IS	
				MS LIGHTING PANEL SW - OFF FLOOD ON/OFF SW - OFF (FOR NITE LAUNCH) - ON (FOR DAY LAUNCH) DIM/BRT SW - BRT	
				BIOMED CHANNEL 1 SW - MIDDECK CTR CHANNEL 2 SW - MIDDECK R	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL R13U (MS1) * *****	
76-068		OTC	ASP	PANEL R13U CAUTION/WARNING TONE VOLUME A ADJUST SCREW - AS IS B ADJUST SCREW - AS IS  PARAM STATUS SW - (CENTER)  NOTE  PERFORM NEXT SW SETTING FOR OV-102 ONLY.  DP/DT SENSOR SW - CABIN  NOT PERFORMED _____  MEMORY SW - (CENTER) LAMP TEST SW - (CENTER) PARAM SEL PB'S - 120  LIMIT SET VALUE PB'S - 000 LIMIT SW - LOWER FUNC SW - (CENTER)  PARAM SW - (CENTER)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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				***** * PANEL R13L (MS1) * *****	
76-069		OTC	ASP	PANEL R13L PL BAY DOOR SYS 1 SW - DISABLE SYS 2 SW - DISABLE  PL BAY MECH PWR SYS 1 SW - OFF SYS 2 SW - OFF  PL BAY DOOR SW - STOP TB AS IS	

NOTE

RADIATOR TB WILL INDICATE  
 BP IF AFT MCA LOGIC IS NOT  
 ON.

RADIATOR

LATCH CONTROL  
 SYS A SW - OFF  
 SYS B SW - OFF  
 STBD TB LAT  
 PORT TB LAT

RADIATOR CONTROL  
 SYS A SW - OFF  
 SYS B SW - OFF  
 STBD TB STO  
 PORT TB STO

KU ANTENNA

DIRECT STOW SW - OFF

DEPLOY/GND/STOW SW - GND  
 TB - STO

MANNED MANEUVER UNIT

GN2 SPLY ISOL VLV  
 A SW - (CTR)  
 A TB BP  
 B SW - (CTR)  
 B TB BP

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL A1U (MS1) * *****	
76-070		OTC	ASP	PANEL A1U SIGNAL STRENGTH SW - S-BAND PM  SLEW AZIMUTH SW - (CENTER) ELEV SW - (CENTER) RATE SW - SLOW  KU BAND SCAN WARN TB BP TRACK TB BP SEARCH TB BP  CONTROL SW - CMD  KU BAND SW - MAN SLEW KU BAND SEARCH SW - (DOWN)  POWER SW - OFF MODE SW - RDR PASSIVE RADAR OUTPUT SW - HI  KU SIG PROC HI DATA RATE SW - TV LOW DATA RATE SW - OPS RCDR TAGS SW - CLEAR	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.	
***** * PANEL ALL (MS1) * *****						
76-071		OTC	ASP	PANEL ALL S-BAND PAYLOAD CONTROL SW - COMMAND  ANT POLAR SW - L CIRC  XMTR PWR SW - LOW  CHANNEL SELECT INTRG 1 TW'S - 910 INTRG 2 TW'S - 910  FREQ SWEEP SW - OFF MOD SW - OFF  POWER SYSTEM SW - OFF SELECT SW - PSP  PSP CMD OUTPUT SW - PL UMB PL DATA INTLVR POWER SW - ON		

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-071				S-BAND PM	
CON'T				ANT SW ELEC SW - 1	
				PRE AMPL SW - 1	
				PWR AMPL	
				STANDBY SW - 1	
				OPERATE SW - 1	
				MODE SW - STDN HI	
				XPNDR SW - 1	
				NETWORK SIG PROC	
				DATA RATE	
				XMIT SW - HIGH	
				RCV SW - HIGH	
				UPLINK DATA SW - S-BD	
				CODING	
				XMIT SW - OFF	
				RCV SW - ON	
				POWER SW - 1	
				ENCRYPTION	
				PWR SW - ON	
				MODE SW - SELECT	
				SELECT SW - RCV	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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\*\*\*\*\*  
 \* PANEL A1R (MS1) \*  
 \*\*\*\*\*

76-072		OTC	ASP	PANEL A1R OPS RECORDERS 1 PANEL CONTROL TB BP 2 PANEL CONTROL TB BP 1 MODE TB BP 2 MODE TB BP  ANOMALY SEQ SW - OFF TB BP  1 MODE SW - RECORD 2 MODE SW - RECORD  1 MAINT/MAN/2 MAINT SW - MAN  POWER 1 SW - ON 2 SW - ON  S-BAND FM CONTROL SW - COMMAND ANT SW - GPC POWER SW - 1 DATA SOURCE SW - ME	
--------	--	-----	-----	--	--

NOTE

VITT/INSTRUMENTATION WILL  
 PROVIDE SWITCH POSITIONS.

PAYLOAD RECORDER  
 PANEL CONTROL TB \_\_\_\_\_  
  
 FUNCTION SW - \_\_\_\_\_  
  
 MODE SW - \_\_\_\_\_  
 MODE TB \_\_\_\_\_  
  
 POWER SW - \_\_\_\_\_  
  
 SPEED SW - \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-072				AUDIO CENTER	
CON'T				VOICE RECORD SELECT	
				CHANNEL 1 SW - ICOM A	
				CHANNEL 2 SW - ICOM B	
				DOCKING RING (7 SW'S OFF)	
				TONE SW - OFF	
				PAGE SW - OFF	
				A/G	
				1 SW - OFF	
				2 SW - OFF	
				A/A SW - OFF	
				ICOM	
				A SW - OFF	
				B SW - OFF	
				SPACELAB (7 SW'S OFF)	
				TONE SW - OFF	
				PAGE SW - OFF	
				A/G	
				1 SW - OFF	
				2 SW - OFF	
				A/A SW - OFF	
				ICOM	
				A SW - OFF	
				B SW - OFF	
				UHF	
				A/G	
				1 SW - OFF	
				2 SW - OFF	
				A/A SW - T/R (OV-102/104/105)	
				A/A SW - OFF (OV-103)	
				PL BAY OUTLETS	
				ICOM	
				A SW - OFF	
				B SW - OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL A6U (MS1) * *****	
76-073		OTC	ASP	PANEL A6U SENSE SW - (-)X FLT CNTLR POWER SW - OFF ATT REF PB - AS IS DATA BUS SW - 1 ADI ATTITUDE SW - INRTL ERROR SW - MED RATE SW - MED ORBITAL DAP (ALL LITES OFF) SELECT A LITE OFF B LITE OFF CONTROL AUTO LITE OFF INRTL LITE OFF LVLH LITE OFF FREE LITE OFF MANUAL MODE (ALL LITES OFF) TRANSLATION X SPARE (BLANK PBI) LITE OFF NORM LITE OFF PULSE LITE OFF Y LOW Z LITE OFF NORM LITE OFF PULSE LITE OFF Z HIGH Z LITE OFF NORM LITE OFF PULSE LITE OFF ROTATION ROLL PRI LITE OFF DISC RATE LITE OFF PULSE LITE OFF PITCH ALT LITE OFF DISC RATE LITE OFF PULSE LITE OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-073				YAW	
CON'T				VERN LITE OFF	
				DISC RATE LITE OFF	
				PULSE LITE OFF	
				ORBIT STATION LIGHTING	
				FLOOD	
				ON/OFF SW - ON	
				DIM/BRT SW - BRT	
				PANEL SW - OFF	
				INSTRUMENT SW - OFF	
				NUMERIC SW - OFF	
				ANNUNCIATOR	
				BUS SELECT SW - OFF	
				LAMP TEST SW - (CENTER)	
				INTENSITY	
				BRIGHT/VAR SW - VAR	
				LOW/MED SW - MED	
				PAYLOAD RETENTION	
				LOGIC POWER	
				SYS 1 SW - OFF	
				SYS 2 SW - OFF	
				PAYLOAD SELECT SW - 1	
				PAYLOAD RETENTION LATCHES	
				READY TO LATCH	
				1 TB GRAY	
				2 TB GRAY	
				3 TB GRAY	
				4 TB BP	
				5 TB BP	
				LATCH SWITCHES	
				1 SW - OFF (CENTER)	
				1 TB LAT	
				2 SW - OFF (CENTER)	
				2 TB LAT	
				3 SW - OFF (CENTER)	
				3 TB LAT	
				4 SW - OFF (CENTER)	
				4 TB BP	
				5 SW - OFF (CENTER)	
				5 TB BP	

OPERATION INSTRUCTIONS

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

76-073  
CON'T

EVENT TIMER  
SET PB'S - AS REQD  
MODE SW - UP  
CONTROL SW - (CENTER)  
TIMER SW - (CENTER)

\*\*\*\*\*  
\*      PANEL A6L (MS1)      \*  
\*\*\*\*\*

NOTE

PERFORM NEXT STEP FOR  
OV-103/104/105 ONLY.

76-074

OTC    ASP

PANEL A6L  
MADS  
POWER MN B CB - CLOSE  
  
RECORDER  
POWER SW - PCM/WB ENA  
PB FWD SW - CMD  
  
STRAIN GAGE SW - PCM ENA  
WIDEBAND/ACIP PCM SW - CMD  
  
PCM  
CMD/ON SW - CMD  
RCD MODE SW - SAMPLE  
  
FDM  
CONTROL SW - DATA  
MAN CALBR SW - DC 0  
  
ACIP HTR SW - OFF

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

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF EPS  
IS INSTALLED.

76-075		OTC	ASP	PANEL A6 EPS EPS PWR SW - OFF TB BP 5 UNLATCHED SWITCHES - DOWN	
					NOT PERFORMED _____

NOTE

PERFORM NEXT STEP IF ERPCL  
INSTALLED.

76-076		OTC	ASP	PANEL A6L (ERPCL) DC PWR - OFF CHAN SEL - A XMTR SWP - OFF TB MODE - NORM TB SOURCE - TEMP HTR ENA - DSBL RCVD PWR LVL TB'S (SIX) BP	
					NOT PERFORMED _____

OPERATION INSTRUCTIONS

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

\*\*\*\*\*  
\*    PANEL A6L (DOCKING SYSTEM    \*  
\*                    POWER PANEL - DSP)    \*  
\*\*\*\*\*

NOTE

PERFORM NEXT STEP IF DOCKING  
SYSTEM PANEL A6L OR A7L (DSP)  
IS INSTALLED.

76-077

OTC    ASP    PANEL A6L  
DOCKING SYSTEM POWER  
ESS 1BC  
    SYS PWR CNTL SYS 1 CB - OPEN  
    DEPRESS SYS 1 VENT ISOL CB - OPEN  
MAIN A  
    DEPRESS SYS 1 VENT CB - OPEN  
DOCK LIGHT  
    TRUSS FWD CB - OPEN  
    VEST PORT CB - OPEN  
ESS 2CA  
    SYS PWR CNTL SYS 2 CB - OPEN  
    DEPRESS SYS 2 VENT ISOL CB - OPEN  
MAIN B  
    DEPRESS SYS 2 VENT CB - OPEN  
DOCK LIGHT  
    TRUSS AFT CB - OPEN  
    VEST STBD CB - OPEN  
MAIN A  
    LOGIC 3 CB - OPEN  
    LOGIC 1 CB - OPEN  
MAIN B  
    LOGIC 1 CB - OPEN  
    LOGIC 2 CB - OPEN  
MAIN C  
    LOGIC 2 CB - OPEN  
    LOGIC 3 CB - OPEN

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-077				PMA 2/3 GRP 1 HOOKS	
CON'T				SYS A OPEN CB - OPEN	
				SYS A CLOSE CB - OPEN	
				SYS B OPEN CB - OPEN	
				SYS B CLOSE CB - OPEN	
				PMA 2/3 GRP 2 HOOKS	
				SYS A OPEN CB - OPEN	
				SYS A CLOSE CB - OPEN	
				SYS B OPEN CB - OPEN	
				SYS B CLOSE CB - OPEN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-077		OTC	ASP	PANEL A6L	
CON'T				DOCKING SYSTEM POWER	
				SYSTEM POWER SYS 1 SW - (CENTER)	
				TB OFF	
				SYSTEM POWER SYS 2 SW - (CENTER)	
				TB OFF	
				PYRO PWR	
				MN A SW - OFF	
				MN C SW - OFF	
				PMA 2/3 HOOKS GROUP	
				SYS A SW - (CENTER)	
				TB BP	
				SYS B SW - (CENTER)	
				TB BP	
				VESTIBULE DEPRESS VALVE	
				SYS 1 VENT ISOL SW - (CENTER)	
				TB BP	
				VENT SW - (CENTER)	
				TB BP	
				SYS 2 VENT ISOL SW - (CENTER)	
				TB BP	
				VENT SW - (CENTER)	
				TB BP	
				PSU POWER	
				MN A SW - OFF	
				MN B SW - OFF	
				LIGHTS TRUSS	
				FWD SW - OFF	
				AFT SW - OFF	
				VESTIBULE	
				PORT SW - OFF	
				STBD SW - OFF	

NOT PERFORMED

\*\*\*\*\*  
 \* PANEL A2 (PS1) \*  
 \*\*\*\*\*

76-078		OTC	ASP	PANEL A2	
				DIGI-DIS SELECT SW - EL/AZ	
				X-PNTR SCALE SW - X10	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL A7U (MS1) * *****	
76-079		OTC	ASP	PANEL A7U MASTER ALARM LITE OFF  PAYLOAD BAY FLOOD AFT STBD SW - OFF PORT SW - OFF  MID STBD SW - OFF PORT SW - OFF  FWD STBD SW - OFF PORT SW - OFF  DOCKING SW - OFF  FWD BHD SW - OFF  RMS SPOTLIGHT STBD SW - OFF PORT SW - OFF  RMS CAMERA STBD SW - ELBOW PORT SW - ELBOW  AFT RHC - AS REQD	

OPERATION INSTRUCTIONS

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

76-079  
CON'T

NOTE

PARENTHESES LETTER(S)/  
WORDS PRECEDING SWITCHES  
INDICATES DECAL NOMENCLATURE.

TV

TV POWER

CONTROL SW - CMD  
CONTROL UNIT SW - OFF

CAMERA POWER

BAY

- (A) FWD SW - (CENTER)
- (B) KEEL/EVA SW - (CENTER)
- (C) AFT SW - (CENTER)

- (A) FWD TB OFF
- (B) KEEL/EVA TB OFF
- (C) AFT TB OFF

RMS

- (D) STBD SW - (CENTER)
- (RMS) PORT SW - (CENTER)

- (D) STBD TB OFF
- (RMS) PORT TB OFF

TV

DOWNLINK SW - ENABLE  
SYNC SW - NORMAL

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-079				VIDEO INPUT (ALL LITES OFF)	
CON'T				(A) FWD BAY LITE OFF	
				(B) KEEL/EVA LITE OFF	
				(C) AFT BAY LITE OFF	
				(D) RMS STBD LITE OFF	
				(RMS) RMS PORT LITE OFF	
				FLT DECK LITE OFF	
				MID DECK LITE OFF	
				PL 1 LITE OFF	
				PL 2 LITE OFF	
				VTR PLAY LITE OFF	
				MUX 1 LITE OFF	
				MUX 2 LITE OFF	
				TEST LITE OFF	
				VIDEO OUTPUT (ALL LITES OFF)	
				MON 1 LITE OFF	
				DOWNLINK LITE OFF	
				MON 2 LITE OFF	
				PAYLOAD LITE OFF	
				MUX 1 L LITE OFF	
				MUX 1 R LITE OFF	
				MUX 2 L LITE OFF	
				MUX 2 R LITE OFF	

OPERATION INSTRUCTIONS

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

76-079  
CON'T

CAMERA COMMAND  
PAN/TILT SW - LOW RATE  
FOCUS SW - (CENTER)  
ZOOM SW - (CENTER)  
IRIS SW - (CENTER)  
TILT SW - (CENTER)  
PAN SW - (CENTER)

NOTE

NEXT SIX LITES/PB'S HAVE  
A BLACK DECAL COVERING  
THE NOMENCLATURE FOR OV-103.

ALC (ALL LITES OFF)  
PEAK PB - OFF  
NORM PB - OFF  
AVG PB - OFF  
GAMMA (THREE LITES OFF)  
WHITE STRCH LITE - OFF  
NORM LITE - OFF  
BLACK STRCH LITE - OFF

OPERATION INSTRUCTIONS

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

\*\*\*\*\*  
\*      PANEL A7L (MSI)      \*  
\*\*\*\*\*

NOTE

PERFORM NEXT STEP FOR  
OV-102 ONLY.

76-080

OTC    ASP    PANEL A7L  
ACIP HTR SW - OFF  
OEX EQUIP SW - ON

SILTS

HEATER SW - OFF  
CAMERA AC3 PHA CB - OPEN  
PWR SW - OFF

MADS FDM

CONTROLS SW - DATA  
MAN CALBR SW - 0

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

OPERATION INSTRUCTIONS

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

\*\*\*\*\*  
\*    PANEL A8 OR A7 (APDS CONTROL    \*  
\*                    PANEL) (MS1)                    \*  
\*\*\*\*\*

NOTE

PERFORM NEXT STEP IF APDS  
CONTROL PANEL IS INSTALLED.

76-081

OTC    ASP    PANEL \_\_\_\_\_  
CNTL PNL PWR A SW - OFF  
CNTL PNL PWR B SW - OFF  
CNTL PNL PWR C SW - OFF  
HTRS/DCU PWR H1 SW - OFF  
HTRS/DCU PWR H2/DCU SW - OFF  
HTRS/DCU PWR H3/DCU SW - OFF  
APDS PWR ADS SW - OFF  
APDS PWR BDS SW - OFF  
APDS PWR CDS SW - OFF  
STATUS LITES (ALL 36 LITES OFF)  
PYROS AP SW - OFF  
PYROS BP SW - OFF  
PYROS CP SW - OFF  
PYRO PROTECT/CKT OFF LITES (2) - OFF  
APDS CONTROL COMMANDS (ALL 8 LITES OFF)

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

\*\*\*\*\*  
\*    PANEL A4R (PS1)    \*  
\*\*\*\*\*

76-082

OTC    ASP    PANEL A4R  
MISSION TIMER SW - MET

OPERATION INSTRUCTIONS

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

\*\*\*\*\*  
\*            PANEL A8U (MS1)        \*  
\*\*\*\*\*

NOTE

PERFORM NEXT STEP IF  
PANEL A8U (RMS) INSTALLED.

76-083

OTC    ASP

PANEL A8U  
RMS

BRAKES SW - ON  
TB OFF

MODE MATRIX LITES OFF (12)

SAFING SW - AUTO  
TB BP

MODE

SEL SW - TEST  
AUTO SEQ SW - (CENTER)  
LITES (2) - OFF

SOFTWARE STOP TB GRAY

CAUTION WARNING

TONE VOL AS AS IS  
RMS C/W LITES OFF

MASTER ALARM LITE - OFF

RATE

MIN TB OFF  
HOLD TB OFF  
SCALE TB GRAY

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-083				END EFFECTOR	
CON'T				MODE SW - OFF	
				MAN CONTR SW - (CENTER)	
				TB BP (SIX)	
				BACKUP CONTROL	
				JOINT SW - SHOULDER YAW	
				PAYLOAD RELEASE SW - OFF	
				DIRECT DRIVE SW - (CENTER)	
				PARAMETER	
				SELECT SW - PORT TEMP LED/ABE/ID	
				LIGHTING	
				ANNUN/NUM	
				BRT/VAR SW - VAR	
				SEL SW - LOW	
				PANEL/INST	
				SW - OFF	
				JOINT	
				SEL SW - CRIT TEMP	
				SINGLE/DIRECT	
				DRIVE SW - (CENTER)	
				SHOULDER BRACE RELEASE SW - (CENTER)	
				TB BP	
					NOT PERFORMED _____



OPERATION INSTRUCTIONS

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

\*\*\*\*\*  
\* PANEL A8L (MS1) \*  
\*\*\*\*\*

NOTE

PERFORM NEXT STEP IF  
PANEL A8L (RMS) INSTALLED.

76-084

OTC ASP PANEL A8L  
STARBOARD RMS  
DEPLOY/STOW SW - OFF  
TB BP

IVHM RHN/HTR PWR SW - (UP) (OV-103) |  
HEATER (OV-102/104/105)  
A SW - OFF  
IVHM PWR SW - (UP) (OV-103) |  
HEATER (OV-102/104/105)  
B SW - OFF

RETENTION LATCHES  
REL/LAT SW - OFF

TB BP

READY FOR LATCH  
AFT TB BP  
MID TB BP  
FWD TB BP

RMS SELECT SW - OFF  
RMS POWER SW - OFF

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-084		OTC	ASP	PORT RMS	
CON'T				DEPLOY/STOW SW - OFF TB STO (BP IF NO MPM INSTALLED)	
				HEATER A SW - OFF HEATER B SW - OFF	
				RETENTION LATCHES REL/LAT SW - OFF TB LAT (BP IF MPM'S NOT INSTALLED)	
				READY FOR LATCH AFT TB GRAY(BP IF PORT RMS NOT INSTLD) MID TB GRAY(BP IF PORT RMS NOT INSTLD) FWD TB GRAY(BP IF PORT RMS NOT INSTLD)	
				NOT PERFORMED	_____
				***** * RMS RHC (MS1) * *****	
				NOTE	
				FOLLOWING SWITCH'S LOCATED ON RMS RHC, LOCATED TO RIGHT OF PANEL A8U.	
				PERFORM NEXT STEP IF RMS RHC IS INSTALLED.	
76-085		OTC	ASP	RMS RHC	
				RATE SW - VERNIER	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL A3U (PS1) * *****	
76-086		OTC	ASP	PANEL A3U (TV MON 1) POWER LITE OFF POWER SW - OFF SELECT PB - AS IS FUNCTION - (CENTER) CONTRAST SW - (CENTER) BRIGHTNESS SW - (CENTER) COLOR - AS IS TINT - AS IS	
				***** * PANEL A3L (PS1) * *****	
76-087		OTC	ASP	PANEL A3L (TV MON 2) POWER LITE OFF POWER SW - OFF SELECT PB - AS IS FUNCTION - (CENTER) CONTRAST SW - (CENTER) BRIGHTNESS SW - (CENTER) COLOR - AS IS TINT - AS IS	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL L9 (PS1) * *****	
76-088		OTC	ASP	PANEL L9 PS FLOOD ON/OFF SW-OFF (FOR NIGHT LAUNCH) -ON (FOR DAY LAUNCH) DIM/BRT SW - BRT  PAYLOAD STATION AUDIO POWER SW - AUD/TONE A/G 1 SW - T/R 2 SW - T/R A/A SW - T/R ICOM A SW - T/R B SW - T/R VOX SENS SW - AS REQD PAGE SW - DOWN VOLUME A/G 1 TW - AS IS 2 TW - AS IS A/A TW - AS IS ICOM A TW - AS IS B TW - AS IS XMIT/ICOM MODE SW - AS REQD	

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT FIVE STEPS  
FOR STS-93 ONLY.

76-089

OTC    ASP

PANEL L10  
IUS POWER CONTROL  
  
VERIFY ALL TB'S BP  
  
ASE BATTERIES  
  PRI SW - (CENTER)  
  ALT SW - (CENTER)  
ORBITER  
  S/C CONV PWR  
    PRI SW - (CENTER)  
    ALT SW - (CENTER)  
S/C BATTERY  
  PRI SW - (CENTER)  
  ALT SW - (CENTER)  
BUS A BATTERIES  
  PRI SW - (CENTER)  
  ALT SW - (CENTER)  
BUS B BATTERIES  
  PRI SW - (CENTER)  
  ALT SW - (CENTER)  
PANEL MODE SW - PRIMARY  
POWER  
  PRI CB - OPEN  
  ALT CB - OPEN  
IUS CONV PWR  
  PRI SW - (CENTER)  
  ALT SW - (CENTER)  
S/C SUPPORT  
  S/C REG PWR  
    PRI SW - (CENTER)  
    ALT SW - (CENTER)  
  S/C POWER  
    PRI SW - (CENTER)  
    ALT SW - (CENTER)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-089				IUS SUPPORT	
CON'T				A FEED	
				PRI SW - (CENTER)	
				ALT SW - (CENTER)	
				B FEED	
				PRI SW - (CENTER)	
				ALT SW - (CENTER)	
				MATRIX STATUS	
				TEST	
				PRI SW - (CENTER)	
				ALT SW - (CENTER)	
				IUS SUPPORT	
				HEATERS	
				BATTERY	
				PRI SW - (CENTER)	
				ALT SW - (CENTER)	
				CRITICAL	
				PRI SW - (CENTER)	
				ALT SW - (CENTER)	
				WBDI	
				PRI SW - (CENTER)	
				ALT SW - (CENTER)	
				IUS POWER	
				PRI SW - (CENTER)	
				ALT SW - (CENTER)	
				NORM BUS POWER	
				PRI SW - (CENTER)	
				ALT SW - (CENTER)	
				IUS SUPPORT	
				AUTO SHUTDOWN STANDBY MODE	
				PRI SW - (CENTER)	
				ALT SW - (CENTER)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-089				TILT TABLE ACTUATOR	
CON'T				DRIVE ENABLE	
				PRI 1 SW - OFF	
				ALT 2 SW - OFF	
				MOTION	
				PRI 1 SW - (CENTER)	
				ALT 2 SW - (CENTER)	
				ALT DR	
				ACT 1 DISENGAGE SW - OFF	
				CMD PATH ENABLED - HARDLINE (DOWN)	
				PYRO BUS	
				PRI SW - (CENTER)	
				ALT SW - (CENTER)	
				UMBILICALS	
				PRI ENABLE SW - (CENTER)	
				ALT ENABLE SW - (CENTER)	
				PRI RELEASE SW - OFF	
				ALT RELEASE SW - OFF	
				IUS DEPLOYMENT	
				PRI ENABLE SW - (CENTER)	
				ALT ENABLE SW - (CENTER)	
				PRI DEPLOY SW - OFF	
				ALT DEPLOY SW - OFF	
				POWER KILL SW - OFF	
				NOT PERFORMED	
76-090		OTC	ASP	PANEL L11U	
				COMMUNICATION INTERFACE UNIT	
				AUX CONTROLS	
				VERIFY ALL LIGHTS - OFF	
				POWER SW - STANDBY	
				MODE SW - CLEAR	
				NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-091		OTC	ASP	PANEL L11L COMMUNICATION INTERFACE UNIT  VERIFY ALL LIGHTS - OFF  POWER SW - ON LIGHTING BRIGHT/VAR SW - VAR ROTARY SW - AS IS  MODE SELECTIONS DOWNLINK S-BAND FM SW - TLM KU BAND SW - TLM PAYLOAD RCDR SW - TLM PAYLOAD LINK SW - HARDLINE 64 KBPS COMMAND SOURCE SW - T-0 UMB (A) PAYLOAD SELECT SW - 1  COMMAND VERIFICATION CMD WORD - 30000 VCC OCTAL - CL SELECT TW - 01	
					NOT PERFORMED



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL L12 (MS1) * *****	
76-092		OTC	ASP	PANEL L12U IUS	
				VERIFY ALL TB'S BP	
				S1 SW - (CENTER) S2 SW - (CENTER) ACT ORD ARM SW - SAFE ACT 1 DISENG - OFF IUS RF ANT E/D - (CENTER) ACT 2 DISENG - OFF S7 SW - DOWN	
				S13 SW - (CENTER) S14 SW - (CENTER) S15 SW - DOWN S16 SW - DOWN S17 SW - (CENTER) S18 SW - DOWN S19 SW - DOWN	
				SW PWR CB - OPEN IUS ANT TB PWR CB - OPEN S8 SW - DOWN S9 SW - (CENTER) ACT ORD PREARM SW - OFF S11 SW - DOWN S12 SW - (CENTER)	
				CB 4 CB - OPEN P/L TIMING BUFFER CB - CLOSED S20 SW - DOWN S21 SW - (CENTER) S22 SW - DOWN S23 SW - DOWN S24 SW - (CENTER)	
					NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-093		OTC	ASP	PANEL L12L AXAF VERIFY ALL TB'S BP  A-SIDE XMTR RLY SW - (CENTER) PWR AMP RLY SW - (CENTER) S3 SW - DOWN RF A-SIDE PWR SW - OFF S5 SW - (CENTER) S6 SW - DOWN S7 SW - DOWN  B-SIDE XMTR RLY SW - (CENTER) PWR AMP RLY SW - (CENTER) S15 SW - DOWN RF B-SIDE PWR SW - OFF S17 SW - (CENTER) S18 SW - DOWN S19 SW - DOWN  RF A-SIDE SW PWR CB - OPEN PDIP PWR 1 CB - OPEN S8 SW - DOWN RF A-SIDE RESET SW - (CENTER) S10 SW - DOWN S11 SW - DOWN S12 SW - (CENTER)  RF B-SIDE SW PWR CB - OPEN PDIP PWR 2/KUBAND RLY CB - OPEN S20 SW - DOWN RF B-SIDE RESET SW - (CENTER) S22 SW - DOWN S23 SW - DOWN S24 SW - (CENTER)	
				NOT PERFORMED	

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF PAYLOAD  
DATA INTERFACE PANEL (PDIP)  
IS INSTALLED AT PANEL L12.

76-094                    OTC    ASP    PANEL L12L  
PAYLOAD DATA INTERFACE PANEL  
KU BAND RATE SW - OFF (CENTER)  
DC POWER 1 SW - OFF  
DC POWER 2 SW - OFF  
  
NOT PERFORMED      \_\_\_\_\_

NOTE

PERFORM NEXT STEP IF COMPUTER  
INTERFACE PANEL (CIP) IS  
INSTALLED ON PANEL L12.

76-095                    OTC    ASP    PANEL L12  
COMPUTER INTERFACE PANEL  
DC POWER 1 SW - OFF (DOWN)  
DC POWER 2 SW - OFF (DOWN)  
VERIFY ALL CAPS INSTALLED  
  
NOT PERFORMED      \_\_\_\_\_

NOTE

PERFORM NEXT STEP IF OSVS  
IS INSTALLED ON PANEL L12.

76-096                    OTC    ASP    PANEL L12  
OSVS POWER CB - OPEN  
OSVS POWER SW - OFF (DOWN)  
  
NOT PERFORMED      \_\_\_\_\_

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF COMPUTER  
INTERFACE PANEL (CIP) IS  
INSTALLED ON PANEL L11U.

76-097		OTC	ASP	PANEL L11U COMPUTER INTERFACE PANEL NONFUNCTIONAL SW - OFF NONFUNCTIONAL SW - OFF VERIFY ALL CAPS INSTALLED	
				NOT PERFORMED	_____

NOTE

PERFORM NEXT STEP IF 8MM  
VIDEO TAPE RECORDER INSTALLED IN  
PANEL L10U STOWAGE CONTAINER.

76-098		OTC	ASP	PANEL L10U OPEN STOWAGE CONTAINER VTR VTR POWER SW - ON EMK REC SW - UP MODE SW - REC (TAPED) CHECK VTR TAPE INSTALLED PULL OPEN/LOCK KNOB - LOCK CLOSE STOWAGE CONTAINER	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF 8MM  
VIDEO TAPE RECORDER (VTR)  
INSTALLED IN PANEL L10L  
STOWAGE CONTAINER.

76-099

OTC    ASP    PANEL L10L  
OPEN STOWAGE CONTAINER  
VTR  
VTR POWER SW - ON  
EMK REC SW - UP  
MODE SW - REC (TAPED)  
CHECK VTR TAPE INSTALLED  
PULL OPEN/LOCK KNOB - LOCK  
CLOSE STOWAGE CONTAINER

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

OPERATION INSTRUCTIONS

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

\*\*\*\*\*  
\* PANEL L10 (MS1) \*  
\*\*\*\*\*

NOTE

PERFORM NEXT STEP IF SPACEHAB  
PANEL IS INSTALLED AT L10L  
AND SPACEHAB IS POWERED DOWN.

76-100

OTC ASP PANEL L10L (SSP3)

SPACEHAB

S1 SW - (CENTER)  
S2 SW - (CENTER)  
S3 SW - DOWN  
S4 SW - DOWN  
S5 SW - (CENTER)  
S6 SW - DOWN  
S7 SW - DOWN  
CB 2 - OPEN  
PDIP PWR 2/KUBAND RLY CB 1 - OPEN  
S8 SW - DOWN  
S9 SW - (CENTER)  
S10 SW - DOWN  
S11 SW - DOWN  
ORBITER H2O LN HTR SW - (CENTER)

FIRE SUPPR FSCU

ARM/SAFE SW - (CENTER)  
DISCH SW - (CENTER)  
(DOUBLE SWITCHGUARD REMAINS INSTALLED)

CAB DEPRESS VLV

ARM/SAFE SW - SAFE  
OPEN/CLOSE SW - CLOSE  
(DOUBLE SWITCHGUARD REMAINS INSTALLED)

SMOKE SENSOR RESET/TEST SW - (CENTER)

A SW - INHB  
B SW - INHB  
(DOUBLE SWITCHGUARD REMAINS INSTALLED)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-100				SW PWR CB - OPEN	
CON'T				ORBITER H2O LN HTR PWR CB - OPEN	
				MAIN PWR SW - NO-OP	
				(DOUBLE SWITCHGUARD REMAINS INSTALLED)	
				SS DC BUS SW - (CENTER)	
				ORB SEC DC BUS SW - OFF	
				INVERTER SW - NO-OP	
				EXP DC BUS SW - (CENTER)	
				VERIFY ALL TB'S BP	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
***** *                    PANEL L15                    * *****					
NOTE  PERFORM NEXT STEP IF IMAX PANEL INSTALLED.					
76-101		OTC	ASP	PANEL L15 IMAX CAMERA POWER POWER SW - OFF CIRCUIT BREAKER SW - OFF	NOT PERFORMED _____
***** *                    PANEL A15                    * *****					
76-102		OTC	ASP	PANEL A15  PS COMM CCU POWER SW - OFF DC UTILITY POWER MN C SW - OFF AC UTILITY POWER AC 3 SW - OFF	



OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP  
FOR OV-103/104/105 ONLY.

76-103                    OTC    ASP    PANEL A15

ROW A  
CRYO TANK 5 HEATERS

O2

A SW - OFF  
B SW - OFF  
RESET/TEST SW - CTR

H2

A SW - OFF  
B SW - OFF

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

NOTE

PERFORM NEXT STEP  
FOR OV-102/104/105 ONLY.

76-104                    OTC    ASP    ROW B  
PPCA CONT PWR

1/3 ESS 1 BC CB - OPEN  
2/4 ESS 2 CA CB - OPEN

PALLET POWER

ROW C

MNA PPCA - 1/3 SW - CENTER  
TB    OFF

MNB PPCA - 2/4 SW - CENTER  
TB    OFF

PALLET HEATERS

A SW - OFF  
B SW - OFF

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-104				ROW D	
CON'T				PALLET CRYO TANK 6 HEATERS (TANK 6/10 - OV-104)	
				O2	
				A SW - OFF	
				B SW - OFF	
				RESET/TEST SW - CTR	
				H2	
				A SW - OFF	
				B SW - OFF	
				ROW E	
				PALLET CRYO TANK 7 HEATERS (TANK 7/11 - OV-104)	
				O2	
				A SW - OFF	
				B SW - OFF	
				RESET/TEST SW - CTR	
				H2	
				A SW - OFF	
				B SW - OFF	
				ROW F	
				PALLET CRYO TANK 8 HEATERS (TANK 8/12 - OV-104)	
				O2	
				A SW - OFF	
				B SW - OFF	
				RESET/TEST SW - CTR	
				H2	
				A SW - OFF	
				B SW - OFF	
				ROW G	
				PALLET CRYO TANK 9 HEATERS (TANK 9/13 - OV-104)	
				O2	
				A SW - OFF	
				B SW - OFF	
				RESET/TEST SW - CTR	
				H2	
				A SW - OFF	
				B SW - OFF	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-104				ROW H	
CON'T					

NOTE

DO NOT PERFORM NEXT FOUR CB  
SETTINGS IF EDO PALLET INSTALLED.

PALLET CRYO

ESS 1 BC

TANK 6 (TANK 6/10 OV-104)

CNTRLR

O2 CB - OPEN

H2 CB - OPEN

QTY (TANK 6 OV-104)

O2 CB - OPEN

H2 CB - OPEN

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

NOTE

PERFORM NEXT FOUR CB SETTINGS  
IF EDO PALLET INSTALLED.

PALLET CRYO

ESS 1 BC

TANK 6 (TANK 6/10 OV-104)

CNTRLR

O2 CB - CLOSED

H2 CB - CLOSED

QTY (TANK 6 OV-104)

O2 CB - CLOSED

H2 CB - CLOSED

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

OPERATION INSTRUCTIONS

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

76-104  
CON'T

CAUTION

EDO O2 TANK HEATER PRESSURIZATION  
MUST BE COMPLETE PRIOR TO  
PERFORMANCE OF NEXT TWO CB  
SETTINGS.

MN A

TANK 6 (TANK 6/10 OV-104)  
O2 HTR  
SNSR 1 CB - OPEN

MN B

TANK 6 (TANK 6/10 OV-104)  
O2 HTR  
SNSR 2 CB - OPEN

ROW I

NOTE

PERFORM NEXT FOUR CB SETTINGS  
IF EDO PALLET NOT INSTALLED.

PALLET CRYO

ESS 1 BC  
TANK 7 (TANK 7/11 OV-104)  
CNTLR  
O2 CB - OPEN  
H2 CB - OPEN  
QTY (TANK 7 OV-104)  
O2 CB - OPEN  
H2 CB - OPEN

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

OPERATION INSTRUCTIONS

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

76-104  
CON'T

NOTE

PERFORM NEXT FOUR CB SETTINGS  
IF EDO PALLET INSTALLED.

PALLET CRYO

ESS 1 BC

TANK 7 (TANK 7/11 OV-104)

CNTLR

O2 CB - CLOSED

H2 CB - CLOSED

QTY (TANK 7 OV-104)

O2 CB - CLOSED

H2 CB - CLOSED

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

CAUTION

EDO O2 TANK HEATER PRESSURIZATION  
MUST BE COMPLETE PRIOR TO  
PERFORMANCE OF NEXT TWO CB  
SETTINGS.

MN A

TANK 7 (TANK 7/11 OV-104)

O2 HTR

SNSR 1 CB - OPEN

MN B

TANK 7 (TANK 7/11 OV-104)

O2 HTR

SNSR 2 CB - OPEN

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-104				ROW J	
CON'T					

NOTE

PERFORM NEXT FOUR CB SETTINGS  
IF EDO PALLET NOT INSTALLED.

PALLET CRYO

ESS 2 CA

TANK 8 (TANK 8/12 OV-104)

CNTLR

O2 CB - OPEN

H2 CB - OPEN

QTY (TANK 8 OV-104)

O2 CB - OPEN

H2 CB - OPEN

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

NOTE

PERFORM NEXT FOUR CB SETTINGS  
IF EDO PALLET INSTALLED.

PALLET CRYO

ESS 2 CA

TANK 8 (TANK 8/12 OV-104)

CNTLR

O2 CB - CLOSED

H2 CB - CLOSED

QTY (TANK 8 OV-104)

O2 CB - CLOSED

H2 CB - CLOSED

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

OPERATION INSTRUCTIONS

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

76-104  
CON'T

CAUTION

EDO O2 TANK HEATER PRESSURIZATION  
MUST BE COMPLETE PRIOR TO  
PERFORMANCE OF NEXT TWO CB  
SETTINGS.

MN A

TANK 8 (TANK 8/12 OV-104)  
O2 HTR  
SNSR 1 CB - OPEN

MN B

TANK 8 (TANK 8/12 OV-104)  
O2 HTR  
SNSR 2 CB - OPEN

ROW K

NOTE

PERFORM NEXT FOUR CB SETTINGS  
IF EDO PALLET NOT INSTALLED.

PALLET CRYO

ESS 2 CA  
TANK 9 (TANK 9/13 OV-104)  
CNTLR  
O2 CB - OPEN  
H2 CB - OPEN  
QTY (TANK 9 OV-104)  
O2 CB - OPEN  
H2 CB - OPEN

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

OPERATION INSTRUCTIONS

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

76-104  
CON'T

NOTE

PERFORM NEXT FOUR CB SETTINGS  
IF EDO PALLET INSTALLED.

PALLET CRYO

ESS 2 CA

TANK 9 (TANK 9/13 OV-104)

CNTLR

O2 CB - CLOSED

H2 CB - CLOSED

QTY (TANK 9 OV-104)

O2 CB - CLOSED

H2 CB - CLOSED

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

CAUTION

EDO O2 TANK HEATER PRESSURIZATION  
MUST BE COMPLETE PRIOR TO  
PERFORMANCE OF NEXT TWO CB  
SETTINGS.

MN A

TANK 9 (TANK 9/13 OV-104)

O2 HTR

SNSR 1 CB - OPEN

MN B

TANK 9 (TANK 9/13 OV-104)

O2 HTR

SNSR 2 CB - OPEN

ENTIRE STEP NOT PERFORMED \_\_\_\_\_



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL A14 (PS1) * *****	
76-105		OTC	ASP	PANEL A14 RCS/OMS HEATERS FWD RCS SW - OFF  LEFT POD A AUTO SW - OFF B AUTO SW - OFF RIGHT POD A AUTO SW - OFF B AUTO SW - OFF  OMS KIT SW - OFF  CRSFD LINES A AUTO SW - A AUTO B AUTO SW - B AUTO  FWD RCS JET 1 SW - AUTO 2 SW - AUTO 3 SW - AUTO 4 SW - AUTO 5 SW - AUTO  AFT RCS JET 1 SW - AUTO 2 SW - AUTO 3 SW - AUTO 4 SW - AUTO 5 SW - AUTO  PYRO (ALL 13 SW'S SAFE) KU ANT ARM SW - SAFE JETT SW - SAFE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-105				STARBOARD RMS	
CON'T				ARM SW - SAFE	
				SHLDR SW - SAFE	
				LATCHES	
				FWD SW - SAFE	
				MID SW - SAFE	
				AFT SW - SAFE	
				PORT RMS	
				ARM SW - SAFE	
				SHLDR SW - SAFE	
				LATCHES	
				FWD SW - SAFE	
				MID SW - SAFE	
				AFT SW - SAFE	
				RMS LATCHES SW - SAFE	
				*****	
				* PANEL A13 (MS1) *	
				*****	
				NOTE	
				PERFORM NEXT STEP FOR OV-103/104/ 105 ONLY IF SIGI AND/OR GPS/INS WAS NOT ACTIVATED EARLY.	
76-106		OTC	ASP	PANEL A13	
				GPS	
				PRE AMPL	
				UC SW - OFF	
				LC SW - OFF	
				POWER SW - OFF	
				GPS/SIGI POWER SW - OFF	
				ENCRYPT SW - NORMAL	
				GSP/SIGI ENCRYPT SW - NORMAL	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP FOR OV-103/104/  
105 ONLY IF GPS/INS AND/OR SIGI  
WAS ACTIVATED.

76-107

OTC	ASP	PANEL A13	GPS	PRE AMPL	
				UC SW - MN C	
				LC SW - MN A	
				POWER SW - OFF	
				GPS/SIGI POWER SW - ON	
				ENCRYPT SW - NORMAL	
				GPS/SIGI ENCRYPT SW - NORMAL	

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

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP FOR  
OV-102 ONLY.

76-108

OTC ASP PANEL A13

OS AUDIO

POWER SW - OFF

A/G

1 SW - T/R

2 SW - T/R

A/A SW - T/R

ICOM

A SW - OFF

B SW - OFF

VOX SENS SW - AS IS

PAGE SW - DOWN

VOLUME

A/G

1 PB - AS IS

2 PB - AS IS

A/A PB - AS IS

ICOM

A PB - AS IS

B PB - AS IS

XMIT/ICOM MODE SW - AS IS

NOT PERFORMED

76-109

OTC ASP PANEL A13

OS AUDIO

MASTER SPEAKER VOL SW - AS IS

SPEAKER PWR SW - OFF

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
***** * PANEL A12 (MS1) * *****					
76-110		OTC	ASP	PANEL A12 APU HEATER GAS GEN/FUEL PUMP 1 SW - OFF 2 SW - OFF 3 SW - OFF LUBE OIL LINE 1 SW - OFF 2 SW - OFF 3 SW - OFF TANK/FUEL LINE/H2O SYS 1A SW - OFF 1B SW - OFF 2A SW - OFF 2B SW - OFF 3A SW - OFF 3B SW - OFF LG ARM/DN RESET SW - (DOWN) FC3 STRUCT RTN SW - (CENTER) TB ON HYDRAULIC HEATER RUDDER SPD BK A SW - AUTO B SW - OFF BODY FLAP A SW - AUTO B SW - OFF ELEVON A SW - AUTO B SW - OFF AFT FUSELAGE A SW - AUTO B SW - OFF HYD CIRC PUMP POWER 1 SW - MN A 2 SW - MN B 3 SW - MN C	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
*****					
* PANEL A11 (MS1) *					
*****					
76-111		OTC	ASP	PANEL A11	

NOTE

PERFORM NEXT SEVEN SWITCH  
SETTINGS FOR OV-103/OV-104  
ONLY.

ROW A  
CRYO TANK 4 HEATERS  
O2  
A SW - OFF  
B SW - OFF  
RESET/TEST SW - CENTER  
H2  
A SW - OFF  
B SW - OFF  
MS COMM CCU PWR SW - OFF  
DC UTILITY POWER MN C SW - OFF

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

NOTE

PERFORM NEXT EIGHT SWITCH  
SETTINGS FOR OV-102.

CRYO TANK 4/5 HEATERS  
O2  
TK 4 SW - OFF  
TK 5 SW - OFF  
TK 4/5 RESET SW - CENTER  
H2  
TK 4/5 A SW - OFF  
TK 4/5 B SW - OFF  
MS COMM CCU PWR SW - OFF  
OS COMM CCU PWR SW - OFF  
DC UTILITY PWR MN C SW - OFF

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

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP  
FOR OV-105 ONLY.

76-112

OTC MS1 PANEL A11

ROW A

CRYO TANK 4 HEATERS

O2

A SW - OFF

B SW - OFF

RESET/TEST SW - CENTER

H2

A SW - OFF

B SW - OFF

ROW B

PALLET CRYO TANK 10 HEATERS

O2

A SW - OFF

B SW - OFF

RESET/TEST SW - CTR

H2

A SW - OFF

B SW - OFF

ROW C

PALLET CRYO TANK 11 HEATERS

O2

A SW - OFF

B SW - OFF

RESET/TEST SW - CTR

H2

A SW - OFF

B SW - OFF

ROW D

PALLET CRYO TANK 12 HEATERS

O2

A SW - OFF

B SW - OFF

RESET/TEST SW - CTR

H2

A SW - OFF

B SW - OFF

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-112				ROW E	
CON'T				PALLET CRYO TANK 13 HEATERS	
				O2	
				A SW - OFF	
				B SW - OFF	
				RESET/TEST SW - CTR	
				H2	
				A SW - OFF	
				B SW - OFF	
				ROW F	
				PALLET CRYO	
				ESS 1 BC	
				CRYO CNTRLR	
				O2 TK 10 CB - OPEN	
				H2 TK 10 CB - OPEN	
				CRYO QTY	
				O2 TK 10 CB - OPEN	
				H2 TK 10 CB - OPEN	
				MNA TK 10	
				O2 HTR SNSR 1 CB - OPEN	
				MNB TK 10	
				O2 HTR SNSR 2 CB - OPEN	
				ROW G	
				PALLET CRYO	
				ESS 1BC	
				CRYO CNTRLR	
				O2 TK 11 CB - OPEN	
				H2 TK 11 CB - OPEN	
				CRYO QTY	
				O2 TK 11 CB - OPEN	
				H2 TK 11 CB - OPEN	
				MNA TK 11	
				O2 HTR SNSR 1 CB - OPEN	
				MNB TK 11	
				O2 HTR SNSR 2 CB - OPEN	



OPERATION INSTRUCTIONS

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

76-112  
CON'T

ROW H  
PALLET CRYO  
ESS 3AB

CRYO CNTLR  
O2 TK 12 CB - OPEN  
H2 TK 12 CB - OPEN

CRYO QTY  
O2 TK 12 CB - OPEN  
H2 TK 12 CB - OPEN

MNA TK 12  
O2 HTR SNSR 1 CB - OPEN

MNB TK 12  
O2 HTR SNSR 2 CB - OPEN

ROW I  
PALLET CRYO  
ESS 3AB

CRYO CNTLR  
O2 TK 13 CB - OPEN  
H2 TK 13 CB - OPEN

CRYO QTY  
O2 TK 13 CB - OPEN  
H2 TK 13 CB - OPEN

MNA TK 13  
O2 HTR SNSR 1 CB - OPEN

MNB TK 13  
O2 HTR SNSR 2 CB - OPEN

MS COMM CCU PWR SW - OFF  
DC UTILITY PWR MNC SW - OFF

PALLET HEATERS  
C SW - OFF  
D SW - OFF

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

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP FOR OV-104.

76-113

OTC	ASP	PNL	A11		
		CRYO TANK SELECT	6/10	O2 SW - CENTER	
		CRYO TANK SELECT	6/10	H2 SW - CENTER	
		CRYO TANK SELECT	7/11	O2 SW - CENTER	
		CRYO TANK SELECT	7/11	H2 SW - CENTER	
		CRYO TANK SELECT	8/12	O2 SW - CENTER	
		CRYO TANK SELECT	8/12	H2 SW - CENTER	
		CRYO TANK SELECT	9/13	O2 SW - CENTER	
		CRYO TANK SELECT	9/13	H2 SW - CENTER	

PALLET CRYO

ESS 1BC

TANK 10 QTY  
O2 CB - OPEN  
TANK 10 QTY  
H2 CB - OPEN  
TANK 11 QTY  
O2 CB - OPEN  
TANK 11 QTY  
H2 CB - OPEN

ESS 3AB

TANK 12 QTY  
O2 CB - OPEN  
TANK 12 QTY  
H2 CB - OPEN  
TANK 13 QTY  
O2 CB - OPEN  
TANK 13 QTY  
H2 CB - OPEN

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
*****					
* PANEL R14 (MS1) *					
*****					
76-114		OTC	ASP	PANEL R14 ROW A MN A AUDIO MS CB - CLOSE (OV-103/104/105)  AUDIO MS/OS CB - CLOSE (OV-102) AUDIO AIRLOCK 1 BACKUP CB - CLOSE (OV-102) MN B AUDIO MIDDECK SPKR (OV103/104/105) SPKR/CCU (OV102) CB - CLOSE  MN C AUDIO AUD CTR 2 CB - CLOSE PS/AIRLOCK CB - CLOSE  ACIP HTR CB - OPEN (OV-102)	
ROW B					
MN A UHF CB - CLOSE GCILC CB - CLOSE CONTROL BUS BC1/2/3 CB - CLOSE					
NOTE					
IF EDO PALLET FLOWN, NEXT CB - CLOSE; IF EDO PALLET NOT FLOWN, NEXT CB - OPEN.					
PALLET DSC 1A/2B CB - _____ (OV-102/104 /105)					
PALLET DSC 3A CB - OPEN (OV-104/105)					
MN B CONTROL BUS CA1/2/3 CB - CLOSE					

OPERATION INSTRUCTIONS

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

76-114  
CON'T

NOTE

IF EDO PALLET FLOWN, NEXT  
CB - CLOSE; IF EDO PALLET NOT  
FLOWN, NEXT CB - OPEN.

PALLET DSC 1B CB - \_\_\_\_\_ (OV-102/104/105)  
PALLET DSC 4B CB - OPEN (OV-104/105)

MN C

UHF CB - CLOSE  
GCILC CB - CLOSE  
CONTROL BUS AB1/2/3  
CB - CLOSE

NOTE

IF EDO PALLET FLOWN, NEXT  
CB - CLOSE; IF EDO PALLET NOT  
FLOWN, NEXT CB - OPEN.

PALLET DSC 2A CB - \_\_\_\_\_ (OV-102/104/105)  
PALLET DSC 3B/4A CB - OPEN (OV-104/105)

ROW C

MN A

UHF EVA CB - OPEN (OV-103/105)

MN B

KU (OV-103/104/105)  
KU A (OV-102)  
ELEC CB - OPEN  
ANT HTR CB - OPEN  
CABLE HTR CB - OPEN

MN C

KU SIG PROC CB - OPEN  
UHF EVA CB - OPEN (OV-103/105)  
MANF ISOL L5 CB - CLOSE  
MANF ISOL R5 CB - CLOSE  
MANF ISOL F5 CB - CLOSE

OPERATION INSTRUCTIONS

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

76-114  
CON'T

NOTE

PARENTHESES LETTER(S)  
PRECEDING CB'S INDICATE  
DECAL NOMENCLATURE.

ROW D

MN A

TV

(C) AFT BAY

CAMR/PAN-TILT CB-OPEN

CAMR HTR CB - OPEN

PAN-TILT HTR CB - OPEN

CONTR UNIT CB - OPEN

MON 1 CB - OPEN

MN B

TV

(A) FWD BAY

CAMR/PAN-TILT CB - OPEN

CAMR HTR CB - OPEN

PAN-TILT HTR CB - OPEN

CONTR UNIT CB - OPEN

MON 2 CB - OPEN

CCTV ADU CB - OPEN

MN C

TV

(B) KEEL EVA

CAMR/PAN-TILT CB -

OPEN

CAMR HTR CB - OPEN

PAN-TILT HTR CB - OPEN

CABIN CB - CLOSE

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-114				ROW E	
CON'T				MN A	
				PS FLOOD CB - CLOSE	
				(D) STBD RMS TV	
				CAMR/PAN-TILT CB-OPEN	
				CAMR HTR CB - OPEN	
				PAN-TILT HTR CB - OPEN	
				MN B	
				OS FLOOD CB - CLOSE	
				(RMS) PORT RMS TV	
				CAMR/PAN-TILT CB - OPEN	
				CAMR HTR CB - OPEN	
				PAN-TILT HTR CB - OPEN	
				MN C	
				MS FLOOD CB - CLOSE	
				ROW F	
				ESS 1BC	
				FLOOD LEFT GLRSHLD CB-CLOSE	
				AUDIO LEFT CB - CLOSE	
				LDG GEAR ARM/DN RESET CB - OPEN	
				ESS 2CA	
				FLOOD RIGHT GLRSHLD CB - CLOSE	
				AUDIO	
				RIGHT CB - CLOSE	
				AUD CTR 1 CB - CLOSE	
				*** AFT FLIGHT DECK SWITCHLIST ***	
				COMPLETE	

OPERATION INSTRUCTIONS

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

MIDDECK SWITCHLIST  
-----

\*\*\*\*\*  
\*    PANEL ML86B (MS1)    \*  
\*\*\*\*\*

76-115

OTC    ASP

PANEL ML86B

ROW A

MN A

  SUPPLY H2O

    TK A INLET CB - CLOSE

    TK B OUTLET CB - CLOSE

  WASTE H2O DUMP VLV/NOZ

    HTR CB - OPEN

    H2O LINE HTR A CB - OPEN

MN B

  SUPPLY H2O

    TK B INLET CB - CLOSE

    TK C OUTLET CB - CLOSE

    DUMP ISOL CB - OPEN

    B SPLY ISOL VLV CB - CLOSE

  H2O LINE HTR B CB - OPEN

MN C

  SUPPLY H2O

    TK A OUTLET CB - CLOSE

    TK C INLET CB - CLOSE

    DUMP VLV/NOZ HTR CB - OPEN

    XOVR VLV CB - CLOSE

  GALLEY SUPPLY CB - OPEN

    OR

    CLOSED (H2O DRAIN

    IN PROGRESS)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-115				ROW B	
CON'T				MN A	
				WASTE H2O TK 1 VALVE CB - CLOSE	
				SUPPLY H2O TK D OUTLET CB - CLOSE	
				WASTE H2O DUMP ISOL CB - OPEN	
				VACUUM VENT ISOL VLV CB - OPEN	
				WCS CNTLR CB - OPEN	
				GALLEY OVEN CB - OPEN	
				MN B	
				WASTE H2O TK 1 DRAIN CB - OPEN	
				SUPPLY H2O TK D INLET CB - CLOSE	
				VACUUM VENT	
				NOZ HTR CB - OPEN	
				ISOL VLV CB - OPEN	
				WCS CNTLR CB - OPEN	
				GALLEY H2O HTR CB - OPEN	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-115				ROW C (OV-103/105 ONLY)	
CON'T				MN A	
				EXTERNAL AIRLOCK HTR	
				LINE	
				ZONE 1 CB - OPEN	
				ZONE 2 CB - OPEN	
				STRUC Z1/2/3 CB - OPEN	
				VEST Z1/2/3 CB - OPEN	
				MN B	
				EXTERNAL AIRLOCK HTR	
				LINE	
				ZONE 1 CB - OPEN	
				ZONE 2 CB - OPEN	
				H2O S/O VALVE CB - CLOSE	
				STRUC Z1/2/3 CB - OPEN	
				VEST Z1/2/3 CB - OPEN	
				MN C	
				EXTERNAL AIRLOCK HTR	
				LINE	
				ZONE 1 CB - OPEN	
				ZONE 2 CB - OPEN	
				ROW D	
				MN A	
				PYRO JETT SYS A	
				KU ANT CB - OPEN	
				FC PCM - CLOSED	
				MAN MANUV UNIT	
				GN2 SPLY ISOL VLV A CB - OPEN	
				PORT HTR A CB - OPEN	
				STBD HTR A CB - OPEN	
				ROW D	
				MN B	
				PYRO JETT SYS A	
				PORT RMS CB - OPEN	
				MAN MANUV UNIT	
				GN2 SPLY ISOL VLV B CB - OPEN	
				PORT HTR B CB - OPEN	
				STBD HTR B CB - OPEN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-115				ROW D	
CON'T				MN C	
				PYRO JETT SYS B	
				KU ANT CB - OPEN	
				PORT RMS CB - OPEN	
				STBD RMS - OPEN	
				ROW E	
				MN A	
				EMU 2 H2O	
				SUPPLY CB - OPEN	
				WASTE CB - OPEN	
				CO2 SYS 1 CNTLR CB - OPEN	
				(102/104/105)	
				FLOOD TUNNEL ADAPTER 2	
				CB - OPEN	
				NOTE	
				VITT/PAYLOADS WILL PROVIDE	
				MAR 1 CB AND MAR 2 CB	
				POSITIONS.	
				MN B	
				MAR 1 CB - _____	
				MAR 2 CB - _____	
				SEAT	
				LEFT CB - CLOSE	
				RIGHT CB - CLOSE	
				CO2 COMMON INSTR CB - OPEN	
				(102/104/105)	
				FLOOD TUNNEL ADAPTER 3	
				CB - OPEN	
				MN C	
				EMU 1 H2O	
				SUPPLY CB - OPEN	
				WASTE CB - OPEN	
				SEAT	
				LEFT CB - CLOSE	
				RIGHT CB - CLOSE	
				CO2 SYS 2 CNTLR - OPEN	
				(102/104/105)	
				FLOOD TUNNEL ADAPTER 4	
				CB - OPEN	

OPERATION INSTRUCTIONS

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

76-115  
CON'T

ROW F  
MN A  
FLOODS  
MIDDECK 1/8 CB - CLOSE  
WMC/MO13Q CB - OPEN  
AIRLOCK 1 CB - OPEN  
MIDDECK 9 CB - CLOSE (103/105)

CRYO O2 HTR TK3 SNSR 1  
CB - CLOSE

NOTE

PERFORM FOR OV-103/104/105  
ONLY. IF TANK SET 5 INSTALLED,  
CB - CLOSE; IF NOT INSTALLED,  
NEXT CB - OPEN.

CRYO O2 HTR TK5 SNSR 1 CB - \_\_\_\_\_

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

MN B  
FLOODS  
MIDDECK 2/6 CB - CLOSE  
BUNK 2/4 CB - OPEN  
MIDDECK 10 CB - CLOSE (103/105)  
PHS CB - OPEN (102/104)  
AIRLOCK 3 CB - OPEN

CRYO O2 HTR  
TK 3 SNSR 2 CB - CLOSE

NOTE

IF TANK SET 4 (4/5 ON OV-102)  
INSTALLED, CB - CLOSE ; IF  
NOT INSTALLED, CB - OPEN.

CRYO O2 HTR  
TK4 (4/5 ON OV-102) SNSR 1 - \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-115				MN C	
CON'T				FLOODS	
				MIDDECK	
				5/7 CB - CLOSE	
				3/4/MO13Q CB - CLOSE	
				BUNK 1/3 CB - OPEN	
				AIRLOCK 4 CB - OPEN	
				NOTE	
				PERFORM FOR OV-103/104/105	
				ONLY. IF TANK SET 5 INSTALLED,	
				CB - CLOSE; IF NOT INSTALLED,	
				NEXT CB - OPEN.	
				CRYO O2 HTR TK5	
				SNSR 2 CB - _____	
				NOT PERFORMED	_____
				NOTE	
				IF TANK SET 4 (4/5 ON OV-102)	
				INSTALLED, CB - CLOSE ; IF	
				NOT INSTALLED, CB - OPEN.	
				CRYO O2 HTR	
				TK4 (4/5 ON OV-102) SNSR 2 - _____	

OPERATION INSTRUCTIONS

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

76-115  
CON'T

ROW G  
ESS 1BC  
FLOOD  
AIRLOCK 2 CB - OPEN  
TUNNEL ADAPTER 1 CB - OPEN

NOTE

IF TANK SET 4 INSTALLED,  
NEXT FOUR CB'S - CLOSE ; IF  
NOT INSTALLED, NEXT FOUR  
CB'S - OPEN.

CRYO CNTLR  
O2 TK4 (4/5 ON OV-102) CB - \_\_\_\_\_  
H2 TK4 (4/5 ON OV-102) CB - \_\_\_\_\_

CRYO QTY  
O2 TK4 CB - \_\_\_\_\_  
H2 TK4 CB - \_\_\_\_\_

NOTE

IF TANK SET 5 INSTALLED, NEXT  
FOUR CB'S - CLOSE; IF  
NOT INSTALLED, NEXT FOUR  
CB'S OPEN.

ESS 2 CA  
(NEXT TWO CB'S OV-103/104/105 ONLY)

CRYO CNTLR  
O2 TK5 CB - \_\_\_\_\_  
H2 TK5 CB - \_\_\_\_\_

CRYO QTY  
O2 TK5 CB - \_\_\_\_\_  
H2 TK5 CB - \_\_\_\_\_

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-115				ESS 3AB	
CON'T				CRYO CNTLR	
				O2 TK 3 CB - CLOSE	
				H2 TK 3 CB - CLOSE	
				CRYO QTY	
				O2 TK 3 CB - CLOSE	
				H2 TK 3 CB - CLOSE	
				*****	
				* ML85E (MS1) *	
				*****	

NOTE

VITT/PAYLOADS WILL PROVIDE  
FOLLOWING SWITCH AND CB  
POSITIONS.

76-116		OTC	ASP	AC	
				S1 SW - _____	
				CB1 - _____	
				DC 10 AMP MN B	
				S2 SW - _____	
				CB2 - _____	
				S3 SW - _____	
				CB3 - _____	
				S4 SW - _____	
				CB4 - _____	
				S5 SW - _____	
				CB5 - _____	
				PUMPS	
				S6 SW - _____	
				PUMP 2 CB7 - _____	
				PUMP 1 CB6 - _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * GALLEY (MS1) * *****	
76-117		OTC	ASP	GALLEY WATER VOL - AS IS WATER PB LITES (2) - OFF OVEN FAN - OFF REHYD STA LEVER - CLOSED AND LATCHED TEST PORT 4 QD OUTLET CAP INSTLD OR TEST PORT 4 QD CONNECTED TO DRAIN HOSE (IF H2O DRAIN IN PROGRESS) A5J105 QD OUTLET CAP INSTLD AUX PORT QD OUTLET - CAP INSTALLED WATER HEATER SWITCHES (2) - OFF OVEN/RHS SW - OFF MV2 VLV - (AS IS) OVEN DOOR - CLOSED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL M013Q (MS1) * *****	
76-118		OTC	ASP	PANEL M013Q MID DECK FLOODS 3 SW - OFF 6 SW - ON 1 SW - OFF 4 SW - ON 7 SW - OFF 2 SW - OFF 5 SW - OFF 8 SW - ON 9 SW - OFF (OV103/105) 10 SW - OFF (OV-103/105)  AIRLOCK H2O S/O VALVE SW - (CENTER) (OV-103/105)  TB OPEN (OV-103/105)  AIRLOCK FAN A SW - OFF (OV-103/105) AIRLOCK FAN B SW - OFF (OV-103/105)  M013Q LTG SW - OFF AIRLOCK 2 SW - OFF/ON TUNNEL ADAPTER 1 SW - OFF/ON  DC UTILITY POWER MNB SW - ON  AC UTILITY POWER SW - OFF	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
*****					
* PANEL ML31C (MS1) *					
*****					
76-119		OTC	ASP	PANEL ML31C WASTE H2O TK 1 DRAIN VLV SW - (CENTER) TB BP TK 1 VLV SW - (CENTER) TB OP  DUMP ISOL VLV SW - (CENTER) TB BP DUMP VLV SW - (CENTER) TB BP DUMP VLV ENABLE/NOZ HTR SW - OFF  SUPPLY H2O TK D INLET SW - (CENTER) TB OP TK D OUTLET SW - (CENTER) TB OP  VACUUM VENT ISOL VLV BUS SELECT SW - MN A CONTROL SW - (CENTER) TB BP NOZ HTR SW - OFF	
*****					
* PANEL ML26C (MS1) *					
*****					
76-120		OTC	ASP	PANEL ML26C SUPPLY H2O GN2 TK A SUPPLY VLV - OPEN (UP) TK VENT VLV - PRESS (UP)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL ML18F (MS1) * *****	
76-121		OTC	ASP	PANEL ML18F EMERGENCY LIGHTING SW - ON/OFF  WASTE MANAGEMENT COMPARTMENT FLOOD SW - OFF  ***** * PANEL ML30N (MS1) * *****	
76-122		OTC	ASP	PANEL ML30N (NOT LABELED) CABIN NEG PRESS RELIEF VLV CAPS (2) - INSTALLED/SEATED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL MA73C (MS1) * *****	
76-123		OTC	ASP	PANEL MA73C ROW A MCA LOGIC MN A FWD 1 SW - ON MID 1 SW - ON  MN B FWD 2 SW - ON MID 1 SW - ON MID 2 SW - ON  MN C FWD 3 SW - ON MID 2 SW - ON  ROW B MCA LOGIC MN A AFT 1 SW - ON MID 3 SW - ON  MN B AFT 2 SW - ON MID 3 SW - ON MID 4 SW - ON  MN C AFT 3 SW - ON MID 4 SW - ON  ROW C MCA POWER AC1 3 PH FWD 1 CB - CLOSE MID 1 CB - CLOSE  MCA POWER AC2 3 PH FWD 2 CB - CLOSE MID 1 CB - CLOSE MID 2 CB - CLOSE	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-123				MCA POWER AC3 3 PH	
CON'T				FWD 3 CB - CLOSE	
				MID 2 CB - CLOSE	
				ROW D	
				MCA POWER AC1 3 PH	
				AFT 1 CB - CLOSE	
				MID 3 CB - CLOSE	
				MCA POWER AC2 3 PH	
				AFT 2 CB - CLOSE	
				MID 3 CB - CLOSE	
				MID 4 CB - CLOSE	
				MCA POWER AC3 3 PH	
				AFT 3 CB - CLOSE	
				MID 4 CB - CLOSE	
				ROW E	
				AC1	
				WCS FAN SEP 1	
				PH A CB - OPEN	
				PH B CB - OPEN	
				PH C CB - OPEN	
				AC2	
				WCS FAN SEP 2	
				PH A CB - OPEN	
				PH B CB - OPEN	
				PH C CB - OPEN	
				PAYLOAD 3 PH CB - OPEN	
				AC3	
				PAYLOAD 3 PH CB - OPEN	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-123				ROW F	
CON'T				AC1	
				RMS PRIMARY PH A CB - OPEN	
				MAR 3 PH CB - OPEN	
				OPS INST HYD ACTR	
				PH C CB - CLOSE	
				AC2	
				RMS BACKUP PH A CB - OPEN	
				L SEAT 3 PH CB - CLOSE	
				OPS INST HYD ACTR PH C CB - CLOSE	
				AC3	
				L SEAT 3 PH CB - CLOSE	
				ROW G	
				NOTE	
				PERFORM NEXT SEVEN SWITCH	
				CONFIGURATIONS ON	
				OV-102 ONLY.	
				AC1	
				OMS KIT VLV	
				PH A CB - OPEN	
				PH B CB - OPEN	
				PH C CB - OPEN	
				OMS KIT VLV LOGIC SW - OFF	
				AC2	
				OMS KIT VLV	
				PH A CB - OPEN	
				PH B CB - OPEN	
				PH C CB - OPEN	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

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

76-123  
CON'T

NOTE

PERFORM NEXT SEVEN SWITCH  
CONFIGURATIONS ON OV-103/104/  
105 ONLY.

AC1

ARLK TNL FAN A  
PH A CB - OPEN  
PH B CB - OPEN  
PH C CB - OPEN

UNLABELED SW - DOWN

AC2

ARLK TNL FAN B  
PH A CB - OPEN  
PH B CB - OPEN  
PH C CB - OPEN

NOT PERFORMED

RIGHT SEAT 3 PH CB - CLOSE

AC3

GALLEY FAN  
PH A CB - OPEN  
PH B CB - OPEN  
PH C CB - OPEN

RIGHT SEAT 3 PH CB - CLOSE

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-123				ROW H	
CON'T				AC1	
				FWD RCS VLV	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC2	
				FWD RCS VLV	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AC3	
				FWD RCS VLV	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				ROW I	
				AC1	
				AFT POD VLV GP1	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AFT POD VLV LOGIC GP	
				1/3 SW - ON	
				AC2	
				AFT POD VLV GP2	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AFT POD VLV LOGIC GP	
				1/2 SW - ON	
				AC3	
				AFT POD VLV GP3	
				PH A CB - CLOSE	
				PH B CB - CLOSE	
				PH C CB - CLOSE	
				AFT POD VLV LOGIC GP	
				2/3 SW - ON	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL MO30F (MS1) * *****	
76-124		OTC	ASP	PANEL MO30F DC UTILITY POWER SW - OFF	
				***** * PANEL MO32M (MS1) * *****	
				NOTE	
				LEH O2 5-6 VALVES WILL BE CONFIGURED FOR FLIGHT BY ASP DURING PRE-INGRESS CHECKLIST.	
76-125		OTC	ASP	PANEL MO32M LEH O2 5 VLV - CLOSE LEH O2 6 VLV - CLOSE	
				***** * PANEL MO39M (MS1) * *****	
76-126		OTC	ASP	PANEL MO39M MID DECK COMM CCU PWR SW - OFF	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL MO42F (MS1) * *****	
76-127		OTC	ASP	PANEL MO42F	
				MID DECK SPEAKER AUDIO (OV-103/104/105) MID DECK AUDIO/AIRLOCK 2 BACKUP (OV-102) POWER SW - AUD/TONE	
				A/G 1 SW - T/R 2 SW - T/R	
				A/A SW - T/R	
				ICOM A SW - T/R B SW - T/R	
				VOX SENS SW - AS IS	
				MASTER SPEAKER VOLUME SW - AS REQD	
				PAGE SW - DOWN	
				VOLUME A/G 1 PB - AS IS 2 PB - AS IS A/A PB - AS IS	
				ICOM A PB - AS IS B PB - AS IS	
				XMIT/ICOM MODE SW - AS IS	
				TONES SW - ACCU/BYPASS	
				SPKR PWR SW - SPKR	
				GPC MEMORY DUMP SW - OFF	
				BYPASS TONE VOL ADJUST SCREW - AS IS	

OPERATION INSTRUCTIONS

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

NOTE

DO NOT PERFORM NEXT STEP  
FOR OV-103.

\*\*\*\*\*  
\*            PANEL MO51F            \*  
\*\*\*\*\*

76-128

OTC    ASP    PANEL MO51F  
                  CNTRLR 1 OPER LTS (2) - OFF  
                  CNTRLR 2 OPER LTS (2) - OFF  
                  MNA SW - OFF  
                  AC1 SW - CTR  
                  MODE SW - CTR  
  
                  COMMON INSTR SW - OFF  
  
                  MNC SW - OFF  
                  AC3 SW - CTR  
                  MODE SW - CTR  
  
                  AC1 PH A CB - OPEN  
                  AC1 PH B CB - OPEN  
                  AC1 PH C CB - OPEN  
                  AC3 PH A CB - OPEN  
                  AC3 PH B CB - OPEN  
                  AC3 PH C CB - OPEN

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

OPERATION INSTRUCTIONS

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

\*\*\*\*\*  
\*      PANEL MO58F (MS1)      \*  
\*\*\*\*\*

76-129                    OTC    ASP    PANEL MO58F

SLEEP STA TONES OUTLET - CAP INSTALLED  
TV POWER SW - OFF  
TV OUTLET - CAP INSTALLED OR  
CABLE MATED

NOTE

PERFORM NEXT STEP FOR  
OV-102 ONLY.

76-130                    OTC    ASP    PANEL MO58F

AIRLOCK 1 BACKUP  
POWER SW - OFF

A/G  
1 SW - T/R  
2 SW - RCV

A/A SW - T/R

ICOM  
A SW - T/R  
B SW - T/R

VOX SENS SW - AS IS

PAGE SW - DOWN

VOLUME  
A/G  
1 TW - AS IS  
2 TW - AS IS  
A/A TW - AS IS

ICOM  
A TW - AS IS  
B TW - AS IS

XMIT/ICOM MODE SW - AS IS

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				***** * PANEL MO52J (MS1) * *****	
76-131		OTC	ASP	PANEL MO52J  DC UTILITY POWER SW - OFF  AC UTILITY POWER SW - OFF MASTER ALARM LITE OFF  ***** * PANEL MO62M (MS1) * *****	
76-132		OTC	ASP	PANEL M062M MIDDECK BIOMED - ALL THREE CAPS INSTALLED  ***** * PANEL MO69M (MS1) * *****	
NOTE					
LEH O2 7-8 VALVES WILL BE CONFIGURED BY ASP DURING PRE-INGRESS CHECKLIST.					
76-133		OTC	ASP	PANEL MO69M  LEH O2 7 VLV - CLOSE LEH O2 8 VLV - CLOSE  ***** * PANEL MD44F (MS1) * *****	
76-134		OTC	ASP	PANEL MD44F (UNDER FLOOR) CABIN TEMP CONTROL VALVE - FULL COOL PRIMARY ACTUATOR - PINNED TO TEMP CONTROLLER SECONDARY ACTUATOR - FULL HEAT POSITION	

OPERATION INSTRUCTIONS

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

\*\*\*\*\*  
 \* MIDDECK FLOOR \*  
 \*\*\*\*\*

EXTERNAL AIRLOCK  
 -----

NOTE

VELCRO ATTACHED DEBRIS/CLOSEOUT  
 NETTING MAY BE REPOSITIONED TO  
 FACILITATE NEXT STEP.

PERFORM NEXT STEP IF ACCESS  
 AVAILABLE (OV-103/105).

76-135		OTC	ASP	EMU O2 ISOL VLV - CLOSE CABIN PURGE VLV - CLOSE CABIN PURGE ISOL VLV - CLOSE	
--------	--	-----	-----	--	--

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

MIDDECK EXPERIMENT SWITCHLIST  
 -----

NOTE

PERFORM NEXT STEP IF TEPC  
 (TISSUE EQUIVALENT PROPORTIONAL  
 COUNTER) IS INSTALLED.

76-136		OTC	ASP	TEPC SWITCHBOX NEAR MA16D TEPC SWITCHBOX SW 1 - OFF PWR LITE - OFF	
--------	--	-----	-----	---	--

NOTE

PERFORM THE FOLLOWING EIGHT  
 STEPS FOR STS-93 ONLY.

76-137		OTC	ASP	PANEL MF14H PGIM POWER CB - ON POWER LT - ON ALL OTHER LIGHTS - OFF	
--------	--	-----	-----	---	--

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

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-138		OTC	ASP	PANEL MF43E STL-B PWR SW - ON PWR LT - ON PULSE PB - AS IS L1 SW - OFF L2 SW - OFF ALL OTHER LIGHTS - OFF  NOT PERFORMED	
76-139		OTC	ASP	PANEL MF43H GOSAMR POWER 1 SW - OFF POWER 2 SW - OFF POWER 3 SW - OFF POWER 4 SW - OFF POWER 5 SW - OFF ALL LIGHTS - OFF  NOT PERFORMED	
NOTE					
FOR CGBA EXPERIMENTS, PTC WILL PROVIDE SET TEMP VALUES.					
76-140		OTC	ASP	PANEL MF57C CGBA NIH-B MAIN POWER CB - CLOSED MAIN POWER LT - ON DISPLAY TEMP - _____ (WITHIN 2 DEG OF SET TEMP)  SET TEMP - _____  NOT PERFORMED	
76-141		OTC	ASP	PANEL MF71E CGBA TISSUE MAIN POWER CB - CLOSED MAIN LT - ON DISPLAY TEMP - _____ (WITHIN 2 DEG OF SET TEMP)  SET TEMP - _____  NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
76-142		OTC	ASP	PANEL MF71G CGBA LADYBUG MAIN POWER CB - CLOSED MAIN LT - ON DISPLAY TEMP - _____ (WITHIN 2 DEG OF SET TEMP)  SET TEMP - _____	
				NOT PERFORMED	_____
76-143		OTC	ASP	PANEL MF71K CCM-C PWR SW - ON PWR LT - ON PULSE PB - AS IS ALL OTHER LIGHTS - OFF	
				NOT PERFORMED	_____
76-144		OTC	ASP	PANEL MF71M MEMS S1 POWER SW - ON POWER LT - ON S2 SW - GROUND OPERATING STATUS LT - OFF	
				NOT PERFORMED	_____
MIDDECK EXPERIMENT SWITCHLIST COMPLETE					

OPERATION INSTRUCTIONS

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

WASTE MANAGEMENT STATION SWITCHLIST

\*\*\*\*\*  
 \* PANEL WCS \*  
 \*\*\*\*\*

76-145		OTC	ASP	PANEL WCS (COMMODE AREA) AUTO INHIBIT/AUTO SW - AUTO COMMODE CONTROL HANDLE - DOWN/OFF (UP IF VAC VENT INERT I/W) MODE SW - AUTO (COMMODE/MANUAL/EMU IF VAC VENT INERT I/W) VACUUM VALVE SW - CLOSE (OPEN IF VAC VENT INERT I/W) SEP 1 BYPASS SW - OFF SEP 2 BYPASS SW - OFF FAN SEP SW - OFF HOSE BLOCK - SEP 1 COMPACTOR ANGLE = 0-33 DEGREES (0-10 PCT)	
--------	--	-----	-----	--	--

NOTE

PERFORM NEXT STEP IF  
 UMS INSTALLED.

76-146		OTC	ASP	PANEL WCS UMS/WCS SW -WCS UMS JUMPER PLUG - INSTALLED ON UMS INTERFACE NOT PERFORMED	
--------	--	-----	-----	--	--

WASTE MANAGEMENT STATION SWITCHLIST

COMPLETE



OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP FOR AT LEAST ONE OF THE TWO EQUALIZATION VALVES. IF STOWAGE INTERFERES WITH VERIFICATION OF BOTH VALVES, LIFT THE STOWAGE BAG OUT OF THE WAY TO VERIFY VALVE POSITIONS.

DO NOT PERFORM NEXT STEP (AT ASP DISCRETION) IF PREVIOUSLY VERIFIED DURING V1103.02.

\*\*\*\*\*  
 \* PANEL AIRLOCK \*  
 \*\*\*\*\*

76-147		OTC	ASP	MIDDECK/AIRLOCK (INNER HATCH A/FORWARD HATCH B) EQUALIZATION VALVES (2)	
				1. REMOVE EQUALIZATION VALVE CAPS (TWO EACH) AND VISUALLY INSPECT CAP SEALS AND MATCHING SURFACES TO VERIFY THERE ARE NO NICKS, CRACKS, ABRASIONS AND/OR WEAR. VERIFY VENT HOLE PATH OPEN.	
				2. EQUALIZATION VALVES (2) - NORM (OPEN)	
				3. INSTALL CAPS UNTIL THEY CONTACT THE SEALING SURFACES, THEN 1/2 TO 3/4 TURNS BEYOND.	

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

OPERATION INSTRUCTIONS

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

\*\*\*\*\*  
\*            PANEL MO10W            \*  
\*\*\*\*\*

NOTE

NEXT STEP MAY NOT BE  
PERFORMED FOR 24 HR SCRUB  
TURNAROUND. VITT WILL  
SUPPLY INFORMATION.

76-148

OTC    ASP    PANEL MO10W  
14.7 PSI CABIN REG INLET  
  SYS 1 VLV - CLOSE  
  SYS 2 VLV - CLOSE  
  
SYS 1 PP02 CONTR SW - NORM  
SYS 2 PP02 CONTR SW - NORM  
  
O2 REG INLET  
  SYS 1 VLV - CLOSE  
  SYS 2 VLV - CLOSE  
  
H2O TK N2 REG INLET  
  SYS 1 VLV - OPEN  
  SYS 2 VLV - OPEN  
  
PAYLOAD N2 SUPPLY  
  SYS 1 VLV - CLOSE  
  SYS 2 VLV - CLOSE  
  
O2 EMER VLV - CLOSE  
N2 XOVER VLV - CLOSE  
  
H2O TK N2 ISOL  
  SYS 1 VLV - OPEN  
  SYS 2 VLV - OPEN  
  
PAYLOAD O2  
  SYS 1 VLV - CLOSE  
  SYS 2 VLV - CLOSE

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

MIDDECK SWITCHLIST COMPLETE  
-----

VOLUME 4 OF 5  
DATE: 07-08-99

OMI NO. - S0007VL4  
REV. - AY

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
77-000				RESERVED	

VOLUME 4 OF 5  
DATE: 07-08-99

OMI NO. - S0007VL4  
REV. - AY

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
78-000				IUS PRE-POWER ON CHECKS, POWER UP AND CHECKOUT  NOTE  PERFORM THIS SEQUENCE FOR IUS/AXAF (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 PRI MN C OCCUR, NOTIFY PTC IMMEDIATELY. DO NOT REAPPLY P/L PRI POWER WITHOUT NOTIFYING PTC.  NOTE  PAYLOAD CTS AND C1 CONSOLE (PAYLOAD) INITIALIZATION SHOULD BE COMPLETED PRIOR TO START OF IUS/SPACECRAFT SUPPORT AT L-22H00M.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
78-001		PTC DLES 134	DLES DCOI	PERFORM CONSOLE SOFTWARE INITIALIZATION PER FOLLOWING:  1. CONSOLE KYBD  2. HOME CMD KEY - PRESS  3. RA0003 PERF PGM KEY - PRESS (START RA0003)  4. PFP (MENU) LED2 INDICATES RA0003  5. SELECT APPLICATION PAGE - 1 (RA0003)  6. CRT (RA0003) RA0003 OVERALL DISPLAY MENU UD0001	
78-002		DLES PTC	DCOI	SOFTWARE INITIALIZATION COMPLETE.  IUS PAYLOAD CALL TO STATIONS -----	
78-003		PTC 134	ALL	PAYLOAD PERSONNEL PARTICIPATING IN S0007 LAUNCH COUNTDOWN REPORT ON STATION CHANNEL 134 FOR TEST STATUS CHECKS.	
78-004		PTC	ALL	CURRENT PROCEDURE REVISION STATUS IS AS FOLLOWS:  S0007  VOL 1 (PRE-OPERATIONS) REV _____ VOL 2 (OPERATIONS) REV _____ VOL 3 (RECYCLE OPS) REV _____ VOL 4 (SYSTEM SEQ'S) REV _____ VOL 5 (LCC'S/EMERGENCY) REV _____  CURRENT DEVIATION PACKAGE IS _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
78-005		PTC		REPORT TEST READINESS STATUS  DLES ELECTRICAL SYSTEM LEAD ENGR (PGOC) DPIE VERIFY C-1 CONSOLE IS OPERATIONAL AND TEAM IS READY TO SUPPORT OPERATIONS.  DCQM CONTROL ROOM QUALITY MONITOR (PGOC)	
78-006		PTC		VERIFY NO CONSTRAINTS TO PROCEEDING AND REPORT TEST READINESS:  AXTC - AXAF TEST CONDUCTOR (TRW) ICTC - IUS TEST CONDUCTOR (BOEING)	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
78-007		PTC	ALL	ALL TEST TEAM PERSONNEL STAND BY FOR PRETEST BRIEFING.  1. MAIN TEST OBJECTIVES/SCHEDULE  2. WADS/REVISIONS/DEVIATIONS  3. CONSTRAINTS  4. HAZARDS  5. TEST DISCIPLINE	
78-008		PTC	ALL	EMERGENCY SHUTDOWNS ARE CONTAINED IN VOLUME 5 OF THIS OMI. ALL PERSONNEL SHALL BE FAMILIAR WITH THE INSTRUCTIONS PERTAINING THEIR STATION.	
78-009		PTC	ALL	ALL PERSONNEL ACTIVELY SUPPORTING S0007 STAY ON CH 134 AND UTILIZE OIS CH 144 FOR OFF-LINE INFORMATION/COORDINATION. ALL CAUTIONS AND WARNINGS SHALL BE READ OVER THE NET PRIOR TO EXECUTION.	
78-010		PTC	ALL	FOR ALL STEPS WITH A DEVIATION INITIATED AGAINST IT, THE DEVIATION SHALL BE IDENTIFIED AND READ OVER THE NET PRIOR TO PERFORMANCE.	
78-011		PTC 232	NTD	CALL TO STATIONS COMPLETE. READY TO SUPPORT LAUNCH COUNTDOWN.  IUS PRE-LAUNCH CONFIGURATION -----	
NOTE					
PERFORM NEXT STEP AT L-22H00M.					
78-012		PTC 134 ICTC	ICTC ICC1	PROCEED WITH IUS PRE-LAUNCH CONFIGURATION PER DOP D290-50020-27. REPORT WHEN COMPLETE.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
FOLLOWING ACTIVITIES WILL START UPON COMPLETION OF PAYLOAD PRE-ASCENT SWITCHLIST AT L-21H30M. RIMU POWER ON MAY BE PERFORMED IN PARALLEL.					
DO NOT PERFORM AUX AND P/L CABIN BUS POWER UP (NEXT THREE STEPS) IF AUX AND P/L CABIN BUSES ALREADY ACTIVATED.					
AUX AND P/L CABIN BUS POWER UP -----					
NOT PERFORMED					
78-013		PTC 132 OTC	OTC  CPLE	REQUEST AUX AND PAYLOAD CABIN POWER BUS ON.	
78-014		CPLE	ASP	PANEL R1 POWER DISTRIBUTION PAYLOAD AUX SW - ON CABIN SW - MN A	R1AS29 R1AS25
78-015		CPLE 132 OTC	OTC  PTC	AUX AND PAYLOAD CABIN POWER ON.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				IUS AFD PANEL PRESET FOR MISSION	
78-016		PTC	OTC	REQUEST ASP SUPPORT ON CH 134 FOR IUS AFD PANEL PRESET FOR MISSION.	
78-017		PTC	ASP	PANEL L12U SSP1A PL TIMING BUFFER CB - CLOSE	L12UCB3
78-018		PTC	ICTC	PROCEED WITH IUS SWITCH LIST.	
78-019		ICTC	ASP	PANEL L10 (PCP) POWER PRI CB - CLOSE ALT CB - CLOSE	L10CB1 L10CB2
				VERIFY PANEL MODE SW PRIMARY	L10S61
78-020		ICTC	ASP	PANEL L10 (PCP) VERIFY: IUS SUPPORT HEATERS BATTERY PRI TB BP ALT TB BP CRITICAL PRI TB BP ALT TB BP WBDI PRI TB BP ALT TB BP AUTO SHUTDOWN STANDBY MODE PRI TB GRAY ALT TB GRAY TILT TABLE ACTUATOR DRIVE ENABLE PRI 1 SW - OFF ALT 2 SW - OFF MOTION PRI 1 TB BP ALT 2 TB BP POSITION PRI 1 TB GRAY ALT 2 TB GRAY	L10I21 L10I51 L10I22 L10I52 L10I23 L10I53 L10I20 L10I50 L10S13 L10S43 L10I14 L10I44 L10I61 L10I71

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
78-020				PRI DR	
CON'T				ACT 1 ENGAGE TB BP	L10I76
				ALT DR	
				ACT 2 ENGAGED TB BP	L10I77
				PYRO BUS	
				PRI TB BP	L10I24
				ALT TB BP	L10I54
				UMBILICALS	
				ENABLE	
				PRI TB BP	L10I18
				ALT TB BP	L10I48
				RELEASE	
				PRI TB BP	L10I19
				ALT TB BP	L10I49
				IUS DEPLOYMENT	
				ENABLE	
				PRI TB BP	L10I25
				ALT TB BP	L10I55
				CMD PATH ENABLED SW -	
				HARDLINE (DOWN)	L10S65

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
78-021		ICTC	ASP	PANEL L10 (PCP) POWER PRI CB - OPEN ALT CB - OPEN	L10CB1 L10CB2
CAUTION					
AFD COOLING MUST BE MAINTAINED AT ALL TIMES WHILE CIU IS POWERED ON.					
78-022		PTC 132 OTC	OTC CECL	VERIFY ORBITER AFD COOLING (OR FORCED AIR COOLING) ON.	
NOTE					
IF MDM ERROR LITES ARE NOTED DURING CIU AND MDM POWER UP AND/OR INITIAL MDM/CIU DATA TRANSFER, ASP MAY RESET THEM BY PRESSING GENERATION CLEAR.					
78-023		ICTC 134	ASP	PANEL L11L (CIU) POWER SW - ON	L11LS9

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT STEP IF CIU MDM ERROR LITES AND/OR CMD REJECT LITE ARE ON.					
78-024		ICTC	ASP	PANEL L11L (CIU) COMMAND SOURCE SEL - PANEL COMMAND GENERATION CLEAR PB - PRESS VERIFY ERROR LITES OFF COMMAND SOURCE SEL - T-0 UMB (A)	L11LS6
NOT PERFORMED					
78-025		ICTC	ASP	PANEL L11L (CIU) VERIFY: MODE SELECTION DOWN LINK S-BAND FM SW - TLM KU-BAND SW - TLM PAYLOAD RCDR SW - TLM  PAYLOAD LINK SW - HARDLINE 64 KBPS  COMMAND SOURCE SEL- T-0 UMB (A)  PAYLOAD SELECT SW - 1  COMMAND SELECT TW-01 (SAFETY STATUS)  LIGHTING BRIGHT/VAR SW - VAR LOW/MED SW - AS REQUIRED  MDM ERROR UPLINK LITE OFF GPC LITE OFF  CMD REJECT LITE OFF	L11LS4 L11LS5 L11LS3  L11LS12  L11LS11  L11LS10  L11LS1  L11LS2 L11LS13

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
78-026		ICTC	ASP	PANEL L11U (CIU) VERIFY: AUX CONTROL PANEL CLEAR/SECURE SW - CLEAR POWER SW - STANDBY  MEMORY ZEROIZED LITE OFF FAULT ALARM CMD LITE OFF FAULT ALARM TLM LITE OFF MODE CLEAR LITE OFF	
78-027		ICTC	ASP	PANEL L12U (IUS) IUS IUS ANT TB PWR CB - CLOSE	L12UCB1
78-028		ICTC	ASP	PANEL L12U (IUS) VERIFY: SW PWR CB - OPEN  IUS RF ANT E/D SW - CENTER IUS RF ANT ENA TB BP IUS RF ANT DSBL TB GRAY  ACT ORD PREARM SW - OFF (GUARDED) ACT ORD ARM SW - SAFE (GUARDED) ACT ORD ARM TB BP ACT 1 DISENG SW - OFF (GUARDED) ACT 2 DISENG SW - OFF (GUARDED)	L12UCB2   L12US5 L12UDS5 L12UDS6  L12US10 L12US3 L12UDS3 L12US4 L12US6
78-029		ICTC	ASP	PANEL L12U (IUS) IUS IUS ANT TB PWR CB - OPEN  IUS AFD PANEL PRESET COMPLETE	L12UCB1

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
IUS RIMU POWER ON					
-----					
NOTE					
PERFORM NEXT SIX STEPS AT L-21H20M.					
78-030		ICTC 134	PTC	READY TO PROCEED WITH RIMU POWER ON PER DOP D290-50020-27.	
78-031		PTC 132	OTC	REQUEST ORBITER QUIET BUSSING (NO MAIN BUS SWITCHING) PLACED INTO OTC CEPD EFFECT.	
78-032		ICC1 DLES 134	DLES DCOI	REPORT ORBITER GROUND POWER BUS CURRENTS FROM DMON STATUS.	
				MAIN A CURRENT _____ (BD) MAIN B CURRENT _____ (BD) MAIN C CURRENT _____ (BD) MAIN C VOLTAGE _____ 28 +/- 4 VOLTS TOTAL _____ AMPS (BD)	
				MONITOR THE TOTAL ORBITER MAIN A, B AND C CURRENT PRIOR TO AND DURING RIMU POWER-UP FOR AN EXPECTED INCREASE OF LESS THAN 50 AMPS. NOTIFY ICC1 IF INCREASE EXCEEDS 50 AMPS.	
78-033		ICC1		RIMU WILL BE POWERED ON MOMENTARILY.  RECORD RIMU POWER ON TIME _____ GMT.  OMRSD P018JC.010	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
78-034		IC11 DLES	DLES DCOI	REPORT ORBITER GROUND POWER BUS CURRENTS FROM DMON STATUS.  MAIN A CURRENT _____ (BD) MAIN B CURRENT _____ (BD) MAIN C CURRENT _____ (BD) MAIN C VOLTAGE _____ 28 +/- 4 VOLTS  TOTAL _____ AMPS (BD)  DELTA CURRENT _____ AMPS (BD)	
78-035		PTC 132	OTC	ORBITER QUIET BUSSING MAY BE TERMINATED AT THIS TIME.  IUS RIMU POWER ON COMPLETE -----  IUS AVIONICS POWER UP -----	
NOTE					
IC11 SHALL VERIFY AT LEAST 45 MINUTES HAS ELAPSED SINCE RIMU POWER ON PRIOR TO AVIONICS POWER UP.  PERFORM NEXT STEP AT L-20H30M.					
78-036		ICTC 134	PTC	READY TO PROCEED WITH IUS AVIONICS POWER ON PER DOP D290-50020-27.	
78-037		PTC 132 OTC	OTC CEPD	REQUEST ORBITER QUIET BUSSING (NO MAIN BUS SWITCHING) PLACED INTO EFFECT.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
78-038		IC11	DLES	REPORT ORBITER GROUND POWER BUS DLES DCOI CURRENTS FROM DMON STATUS. 134	
				MAIN A CURRENT _____ (BD) MAIN B CURRENT _____ (BD) MAIN C CURRENT _____ (BD) MAIN C VOLTAGE _____ 28 +/-4 VOLTS  TOTAL _____ AMPS (BD)  MONITOR THE TOTAL ORBITER MAIN A, B, AND C CURRENT PRIOR TO AND DURING IUS POWER UP FOR AN EXPECTED INCREASE OF LESS THAN 50 AMPS. NOTIFY IC11 IF INCREASE EXCEEDS 50 AMPS.	
78-039		IC11		IUS AVIONICS POWER WILL BE APPLIED MOMENTARILY.	
78-040		IC11	DLES	REPORT ORBITER GROUND POWER BUS DLES DCOI CURRENTS FROM DMON STATUS.	
				MAIN A CURRENT _____ (BD) MAIN B CURRENT _____ (BD) MAIN C CURRENT _____ (BD) MAIN C VOLTAGE _____ 28 +/- 4 VOLTS  TOTAL _____ AMPS (BD)  DELTA CURRENT _____ AMPS (BD)	
78-041		PTC	OTC	ORBITER QUIET BUSSING MAY BE 132 TERMINATED AT THIS TIME.	
78-042		ICTC	ASP	PANEL L11L (CIU) 134 COMMAND VERIFICATION VCC OCTAL CL	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT TWO STEPS IF AN IUS WITH DUAL-STRING TT&C IS BEING LAUNCHED.					
FOLLOWING OPTIONAL STEP MUST BE COORDINATED WITH ICC1 SO AS NOT TO INTERFERE WITH COS INITIATED UPLINK COMMANDS.					
78-043		ICTC ASP		PANEL L11L COMMUNICATIONS INTERFACE UNIT	
				PAYLOAD SELECT SW - 2 (WAIT 10 SECONDS)	L11LS10
				PAYLOAD SELECT SW - 1	L11LS10
				NOT PERFORMED	_____
78-044		ICTC ICC1		CRT (PG64)	
				VERIFY	
				RCVR SGNL PRESENT A IS 1 RCVR SGNL PRESENT B IS 0	
				NOT PERFORMED	_____
78-045		ICTC ASP		PANEL L11L (CIU) COMMAND VERIFICATION VCC OCTAL CL SELECT TW - 01 (SAFETY STATUS) GENERATION CLEAR PB - PRESS, REL ENTER PB - PRESS, REL COMMAND VERIFICATION CMD WORD - 30000 (FNL VALUE)	
78-046		ICTC PTC		IUS POWER ON COMPLETE.  OMRSD P018JC.010	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				T-0 GMT FOR IUS -----	
78-047		PTC 232	NTD	REQUEST T-0 GMT FOR IUS SYSTEM.  RECORD  T-0 GMT _____	
78-048		PTC 134	ICTC	PRESENT T-0 GMT _____.	
				IUS ASCENT TFL VERIFICATION -----	
78-049		PTC 232 NTD	NTD OTC	READY TO PERFORM IUS ASCENT TELEMETRY LOCK UP PER SEQ 81 VL4.	
78-050		PTC 232 NTD OTC 132	NTD OTC CDPS	IUS TELEMETRY LOCKUP COMPLETE. LDB COMMAND CAPABILITY FOR DEU EQUIVALENTS NO LONGER REQUIRED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
CIU LAUNCH INITIALIZATION					
-----					
78-051		PTC 232	NTD	PROCEEDING WITH CIU LAUNCH INITIALIZATION. LDB USAGE REQUIRED FOR THIS SEQUENCE.	
NOTE					
NEXT STEP MUST BE COORDINATED WITH ICC1 SO AS NOT TO INTERFERE WITH COS INITIATED UPLINK COMMANDS.					
78-052		ICTC 134	ASP	PNL L11 - CIU MODE SELECTION PAYLOAD SELECT SW - 4 COMMAND SOURCE SEL - MDM	L11S10 L11S11
78-053		PTC	ICTC	VERIFY IUS READY FOR MDM/CIU/IUS UPLINK INITIALIZATION.	
78-054		DSWF		CURSOR CNTL (UW0004) REPEAT XMIT CURSOR KEY - PRESS SSI 2 LDBA XMIT CURSOR KEY - PRESS SCU A - CMD XMIT CURSOR KEY - PRESS SEND CMDS XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
78-055		DSWF		VERIFY "CNT" IS INCREMENTING.  DCOI RECORD GMT _____	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
WAIT FOR "CNT" TO INDICATE 50 BEFORE PROCEEDING WITH NEXT STEP.					
78-056		DSWF		CURSOR CNTL (UW0004) TERM CMDS XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS RECORD COUNT _____  DCOI RECORD GMT _____	
NOTE					
NEXT STEP WILL BE PERFORMED IF MDM ERROR UPLINK INDICATOR IS ILLUMINATED.					
78-057		ICTC	ASP	PNL L11-CIU COMMAND SOURCE SEL - PANEL COMMAND GENERATION CLEAR PB - PRESS, REL  VERIFY ERROR LIGHTS OFF COMMAND SOURCE SEL - MDM  NOT PERFORMED _____	
NOTE					
NEXT STEP WILL RECONFIGURE CIU FOR S-BAND UPLINK CMDS TO IUS.					
78-058		ICTC	ASP	PNL L11-CIU MODE SELECTION PAYLOAD SELECT SW - 1	L11S10
78-059		PTC	ICTC	VERIFY READY FOR 20W AMP OFF B COMMANDS.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
78-060		DSWF		CURSOR CNTL (UW0004) SINGLE XMIT CURSOR KEY - PRESS SCU A - CMD XMIT CURSOR KEY - PRESS SEND CMDS XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS  SCU A - EXEC XMIT CURSOR KEY - PRESS SEND CMDS XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS	
78-061		ICTC	ASP	VERIFY MDM ERROR UPLINK INDICATOR NOT ILLUMINATED.	
78-062		ICTC	ICCI	VERIFY 20W AMP OFF B CMD (SCU A) AND 20W AMP OFF B EXEC (SCU A) COMMANDS SUCCESSFULLY RECEIVED BY IUS VIA IUS COMMAND REPLICA.  TYPE: PGE 86/D ENTER - PRESS  16889X            E9776X                            U74M0029D  X=0 IUS A SIDE X=1 IUS B SIDE  NOTE  NEXT STEP WILL DECONFIGURE CIU FROM S-BAND UPLINK MODE.	
78-063		ICTC	ASP	PNL L11 - CIU MODE SELECTION COMMAND SOURCE SEL-T-0 UMB(A) L11S11	
78-064		PTC	NTD	CIU LAUNCH INITIALIZATION COMPLETE. 232 OMRSD P018JC.005	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
-----					
AXAF CRITICAL HEATERS ON -----					
78-065		PTC 134	ICTC AXTC	VERIFY READY TO PROCEED WITH IUS/AXAF CRITICAL HEATER POWER ON.	
78-066		ICTC	ASP	PANEL L10 (PCP) PANEL MODE SW - PRIMARY POWER PRI CB - CLOSE ALT CB - CLOSE IUS SUPPORT HEATERS CRITICAL PRI SW - ON PRI TB GRAY ALT TB GRAY POWER PRI CB - OPEN ALT CB - OPEN	L10S61   L10CB1 L10CB2    L10S22 L10I22 L10I52  L10CB1 L10CB2
OMRSD P330JC.040					
78-067		ICTC PTC AXTC	PTC	IUS/AXAF CRITICAL HEATER POWER ON COMPLETE.	
IUS POWER TRANSFER AND TVC CHECKS -----					
NOTE					
PERFORM NEXT THREE STEPS AT L19H00M.					
78-068		PTC 232 NTD OTC OTC 132	NTD OTC CEPD	PROCEEDING WITH IUS POWER TRANSFER AND TVC CHECKS. TOTAL ORBITER MAIN A, B, AND C CURRENT WILL FLUCTUATE. ASP REQUIRED TO STANDBY ON CH 134 FOR DURATION OF POWER TRANSFERS (10 MINUTES) TO PERFORM PNL L10 SWITCH THROWS PER SEQ 87, IF REQUIRED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
78-069		PTC	ICTC	PROCEED WITH IUS POWER TRANSFER AND TVC CHECKS PER DOP D290-50020-27. REPORT COMPLETION.  OMRSD P018JC.010  NOTE  PERFORM NEXT STEP AT L18H45M.	
78-070		ICTC 134 PTC 232	PTC NTD	IUS CHECKOUT COMPLETE (SEQ 78, VL4).	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
79-000				PRE-ASCENT SWITCH LISTS -----	
79-001		NTD 232	PTC	PERFORM PRE-ASCENT SWITCHLISTS.	
NOTE					
ASP, SCO, OR CDR MAY BE USED TO PERFORM THE PRE-ASCENT SWITCH LIST.					
79-002		PTC 132	OTC	REQUEST _____ SUPPORT ON OIS CHANNEL 134 AND PERFORM PRE-ASCENT SWITCH LIST.	
79-003		PTC 134	CLES DLES GLES SLES	PERFORM PRE-ASCENT SWITCH LIST. REPORT COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT TWO STEPS FOR  
 SPACEHAB MISSIONS.

79-004		DLES	MS2	PANEL L10LR - STANDARD SWITCH PANEL SSP-3 (SPACEHAB)	
				ORBITER H2O LINE	
				HTR PWR CB - OPEN (OUT)	L12LRCB3
				SW PWR CB - OPEN (OUT)	L12LRCB4
				FIRE SUPPR FSCU	
				ARM/SAFE SW -(CENTER)	L12LRS13
				DISCH SW - (CENTER)	L12LRS14
				CAB DEPRESS VLV	
				ARM/SAFE SW - SAFE (DOWN)	L12LRS15
				OPEN/CLOSE SW - CLOSE (DOWN)	L12LRS16
				SMOKE SENSOR	
				RESET/TEST SW - (CENTER)	L12LRS17
				A SW - INHB (DOWN)	L12LRS18
				B SW - INHB (DOWN)	L12LRS19
				MAIN PWR SW - NO-OP (DOWN)	L12LRS20
				SS DC BUS SW - (CENTER)	L12LRS21
				ORB SEC DC BUS SW - OFF (DOWN)	L12LRS22
				INVERTER SW - NO-OP (DOWN)	L12LRS23
				EXP DC BUS SW - (CENTER)	L12LRS24
				VERIFY ALL TALKBACKS BP	
				NOT PERFORMED	_____

79-005		DLES	MS2	C3A5 PANEL SPACEHAB FIRE SUPPR MCP	
				ARM SW - SAFE (DOWN)	
				DISCH SW - NO-OP (DOWN)	
				FSCU	
				ARM SW - SAFE (DOWN)	
				DISCH SW - NO-OP (DOWN)	
				H2O LN HTRS SW - OFF (DOWN)	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP IF  
PCP INSTALLED. (STS-93)

79-006	T-11H00M (HOLDING)	ICTC MS2		PANEL L10 IUS POWER CONTROL PANEL ASE BATTERIES PRI SW - (CENTER) PRI TB BP ALT SW - (CENTER) ALT TB BP ORBITER S/C CONV PWR PRI SW - (CENTER) PRI TB BP ALT SW - (CENTER) ALT TB BP IUS S/C BATTERY PRI SW - (CENTER) PRI TB BP ALT SW - (CENTER) ALT TB BP	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
79-006				IUS BUS A BATTERIES	-1
CON'T				PRI SW - (CENTER)	
				PRI TB BP	
				ALT SW - (CENTER)	
				ALT TB BP	
				IUS BUS B BATTERIES	
				PRI SW - (CENTER)	
				PRI TB BP	
				ALT SW - (CENTER)	
				ALT TB BP	
				PANEL	
				MODE SW - PRIMARY	
				POWER PRI CB - OPEN	
				ALT CB - OPEN	
				PANEL	
				MATRIX STATUS	
				PRI TB BP	
				ALT TB BP	
				TEST	
				PRI SW - (CENTER)	
				ALT SW - (CENTER)	
				IUS CONV PWR	
				PRI SW - (CENTER)	
				PRI TP BP	
				ALT SW - (CENTER)	
				ALT TB BP	
				S/C SUPPORT	
				S/C REG PWR	
				PRI SW - (CENTER)	
				PRI TB BP	
				ALT SW - (CENTER)	
				ALT TB BP	
				S/C POWER	
				PRI SW - (CENTER)	
				PRI TB BP	
				ALT SW - (CENTER)	
				ALT TB BP	
				IUS SUPPORT	
				A FEED	
				PRI SW - (CENTER)	
				PRI TB BP	
				ALT SW - (CENTER)	
				ALT TB BP	
				B FEED	
				PRI SW - (CENTER)	
				PRI TB BP	
				ALT SW - (CENTER)	
				ALT TB BP	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
79-006				IUS SUPPORT	
CON'T				IUS POWER	
				PRI SW - (CENTER)	
				PRI TB BP	
				ALT SW - (CENTER)	
				ALT TB BP	
				NORM BUS PWR	
				PRI SW - (CENTER)	
				PRI TB BP	
				ALT SW - (CENTER)	
				ALT TB BP	
				AUTO SHUTDOWN STANDBY MODE	
				PRI SW - (CENTER)	
				PRI TB BP	
				ALT SW - (CENTER)	
				ALT TB BP	
				HEATERS	
				BATTERY	
				PRI SW - (CENTER)	
				PRI TB BP	
				ALT SW - (CENTER)	
				ALT TB BP	
				CRITICAL	
				PRI SW - (CENTER)	
				PRI TB BP	
				ALT SW - (CENTER)	
				ALT TB BP	
				WBDI	
				PRI SW - (CENTER)	
				PRI TB BP	
				ALT SW - (CENTER)	
				ALT TB BP	
				TILT TABLE ACTUATOR	
				DRIVE ENABLE	
				PRI 1 SW - OFF	
				ALT 2 SW - OFF	
				MOTION	
				PRI 1 SW - (CENTER)	
				ALT 2 SW - (CENTER)	
				PRI 1 TB BP	
				ALT 2 TB BP	
				POSITION	
				PRI 1 TB BP	
				ALT 2 TB BP	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
79-006				PRI DR	
CON'T				ACT 1 ENGAGED TB BP	
				ALT DR	
				ACT 2 ENGAGED TB BP	
				ACT 1 DISENGAGE SW - OFF	
				CMD PATH ENABLED SW - HARDLINE (DOWN)	
				PYRO BUS	
				PRI SW - (CENTER)	
				PRI TB BP	
				ALT SW - (CENTER)	
				ALT TB BP	
				UMBILICALS	
				ENABLE	
				PRI SW - (CENTER)	
				PRI TB BP	
				ALT SW - (CENTER)	
				ALT TB BP	
				UMBILICALS RELEASE	
				PRI SW - OFF	
				PRI TB BP	
				ALT SW - OFF	
				ALT TB BP	
				IUS DEPLOYMENT	
				ENABLE	
				PRI SW - (CENTER)	
				PRI TB BP	
				ALT SW - (CENTER)	
				ALT TB BP	
				DEPLOY	
				PRI SW - OFF	
				ALT SW - OFF	
				POWER KILL SW - OFF	
				NOT PERFORMED	

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT TWO STEPS  
IF CIU INSTALLED. (STS-93)

79-007		ICTC MS2		PANEL L11U COMMUNICATION INTERFACE UNIT AUXILARY CONTROLS CLEAR/SECURE SW - CLEAR MODE LITE - OFF POWER SW - STANDBY MEMORY ZEROIZED LITE OFF FAULT ALARM CMD LITE OFF TLM LITE OFF VARIABLE LOAD PB - (AS IS)	
					NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
79-008		ICTC	MS2	PANEL L11L COMMUNICATION INTERFACE UNIT (STS-93) POWER SW - OFF (FOR IUS POWERED DOWN) POWER SW - ON (FOR IUS POWERED UP) LIGHTING BRIGHT/VAR SW - VAR LOW/MED SEL - (AS IS) MDM ERROR UPLINK LITE OFF GPC LITE OFF MODE SELECTION DOWNLINK S-BAND FM SW - TLM KU-BAND SW - TLM PAYLOAD RCDR SW - TLM PAYLOAD LINK SW - HARDLINE 64 Kbps COMMAND SOURCE SW - T-0 UMB (A) PAYLOAD SELECT SW - 1 COMMAND SELECT TW'S - 01 COMMAND REJECT LITE OFF COMMAND GENERATION CLEAR PB-AS IS ENTER PB-AS IS SEND PB-AS IS VCC OCTAL - AS IS CMD WORD - AS IS	
					NOT PERFORMED



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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NOTE

PERFORM NEXT STEP IF IUS  
SSP INSTALLED (STS-93).

79-009

ICTC MS2 PANEL L12U  
IUS

VERIFY ALL TB'S BP

- S1 SW - (CENTER)
- S2 SW - (CENTER)
- ACT ORD ARM SW - SAFE
- ACT 1 DISENG - OFF
- IUS RF ANT E/D - (CENTER)
- ACT 2 DISENG - OFF
- S7 SW - DOWN
  
- S13 SW - (CENTER)
- S14 SW - (CENTER)
- S15 SW - DOWN
- S16 SW - DOWN
- S17 SW - (CENTER)
- S18 SW - DOWN
- S19 SW - DOWN

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
79-009				SW PWR CB - OPEN	
CON'T				IUS ANT TB PWR CB - OPEN	
				S8 SW - DOWN	
				S9 SW - (CENTER)	
				ACT ORD PREARM SW - OFF	
				S11 SW - DOWN	
				S12 SW - (CENTER)	
				CB 4 CB - OPEN	
				P/L TIMING BUFFER CB - OPEN (FOR IUS POWER OFF)	
				P/L TIMING BUFFER CB - CLOSED (FOR IUS POWER ON)	
				S20 SW - DOWN	
				S21 SW - (CENTER)	
				S22 SW - DOWN	
				S23 SW - DOWN	
				S24 SW - (CENTER)	
				NOT PERFORMED	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
79-010		DLES MS2		PANEL L12L AXAF VERIFY ALL TB'S BP  A-SIDE XMTR RLY SW - (CENTER) PWR AMP RLY SW - (CENTER) S3 SW - DOWN RF A-SIDE PWR SW - OFF S5 SW - (CENTER) S6 SW - DOWN S7 SW - DOWN  B-SIDE XMTR RLY SW - (CENTER) PWR AMP RLY SW - (CENTER) S15 SW - DOWN RF B-SIDE PWR SW - OFF S17 SW - (CENTER) S18 SW - DOWN S19 SW - DOWN  RF A-SIDE SW PWR CB - OPEN PDIP PWR 1 CB - OPEN S8 SW - DOWN RF A-SIDE RESET SW - (CENTER) S10 SW - DOWN S11 SW - DOWN S12 SW - (CENTER)  RF B-SIDE SW PWR CB - OPEN PDIP PWR 2/KUBAND RLY CB - OPEN S20 SW - DOWN RF B-SIDE RESET SW - (CENTER) S22 SW - DOWN S23 SW - DOWN S24 SW - (CENTER)	
					NOT PERFORMED
79-011		CLES PTC		PRE-ASCENT SWITCHLIST COMPLETE.	
		DLES			
		GLS			
		134			

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
79-012		PTC		(ASP, SCO OR CDR) - SUPPORT RELEASED FROM PAYLOAD PRE-ASCENT SWITCHLIST SUPPORT. RETURN TO COMMAND CHANNEL.	
79-013		PTC 232	NTD	PRE-ASCENT SWITCHLIST FOR PAYLOADS COMPLETE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
80-000				SWITCHGUARD INSTALLATION/VERIF	

NOTE

THE INTENT OF THIS SEQUENCE IS TO INSTALL OR VERIFY INSTALLED, GUARDS ON ORBITER SWITCHES AND CIRCUIT BREAKERS. SOME GUARDS MAY BE ON FROM PREVIOUS TESTING OR SCRUB OPERATIONS. PERFORM THIS SEQUENCE TO BE PERFORMED AT OTC OPTION TO SUPPORT CONTINGENCY OPERATIONS. (IE: SCRUB-POST TEST SECURE).

ENTIRE SEQUENCE NOT PERFORMED: \_\_\_\_\_

NOTE

IF CREW PREFERENCE SNAP RING IS INSTALLED, USE EITHER/OR A G070-700406-001/G070-700919-001. BOTH ARE ACCEPTABLE SUBSTITUTES.

80-001		OTC	CDR	INSTALL OR VERIFY INSTALLED,	
		132	PLT	SWITCH AND CIRCUIT BREAKER	
			MS1	GUARDS AS FOLLOWS.	

80-002 PANEL L4

ROW P

1. CB GUARD P/N G070-700406-001 ON TACAN 1 PHC CB.
2. CB GUARD P/N G070-700406-001 ON TACAN 2 PHC CB.
3. CB GUARD P/N G070-700406-001 ON TACAN 3 PH C CB.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
80-003				PANEL L1	
				1. SWITCHGUARD G070-700930-001 ON FLASH EVAP CONTROLLER PRI A, PRI B SWITCH.	
				2. SWITCHGUARD G070-700919-001 ON FLASH EVAP CONTROLLER SEC SWITCH.	
				3. SWITCHGUARD G070-700921-001 ON NH3 CONTROLLER A SWITCH.	
				4. SWITCHGUARD G070-700921-001 ON NH3 CONTROLLER B SWITCH.	
80-004				PANEL C3	
				1. SWITCHGUARD G070-700418-001 ON OMS ENG ARM/PRESS LEFT, RIGHT SWITCHES.	
				2. SWITCHGUARD G070-700927-001 ON AIR DATA PROBE LEFT, RIGHT SWITCHES.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
80-005				PANEL O7	
				1. SWITCHGUARD G070-700919-001 ON AFT LEFT RCS - HE PRESS A SWITCH.	
				2. SWITCHGUARD G070-700919-001 ON AFT LEFT RCS - HE PRESS B SWITCH.	
				3. SWITCHGUARD G070-700919-001 ON AFT RGHT RCS - HE PRESS A SWITCH.	
				4. SWITCHGUARD G070-700919-001 ON AFT RIGHT RCS - HE PRESS B SWITCH.	
				5. SWITCHGUARD G070-700919-001 ON AFT LEFT RCS - TANK ISOL 1/2 SWITCH.	
				6. SWITCHGUARD G070-700930-001 ON AFT LEFT RCS - TANK ISOL 3/4/5 A AND B SWITCHES.	
				7. SWITCHGUARD G070-700919-001 ON AFT RIGHT RCS - TANK ISOL 1/2 SWITCH.	
				8. SWITCHGUARD G070-700930-001 ON AFT RIGHT RCS - TANK ISOL 3/4/5 A AND B SWITCHES.	
				9. MULTIPLE SWITCHGUARD G070-700935-001 ON AFT LEFT RCS - MANIFOLD ISOL 1, 2, 3, 4, 5 SWITCHES.	
				10. MULTIPLE SWITCHGUARD G070-700935-001 ON AFT RIGHT RCS - MANIFOLD ISOL 1, 2, 3, 4, 5 SWITCHES.	
				11. SWITCHGUARD G070-700919-001 ON AFT LEFT RCS - CROSSFEED 1/2 SWITCH.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
80-005				12. SWITCHGUARD G070-700919-001 ON AFT LEFT RCS - CROSSFEED 3/4/5 SWITCH.	
CON'T				13. SWITCHGUARD G070-700919-001 ON AFT RIGHT RCS - CROSSFEED 1/2 SWITCH.	
				14. SWITCHGUARD G070-700919-001 ON AFT RIGHT RCS - CROSSFEED 3/4/5 SWITCH.	
80-006				PANEL O8	
				1. SWITCHGUARD G070-700930-001 ON OMS KIT - HE PRESS/VAPOR ISOL A AND B SWITCHES.	
				2. SWITCHGUARD G070-700930-001 ON LEFT OMS - HE PRESS/VAPOR ISOL A AND B SWITCHES.	
				3. SWITCHGUARD G070-700930-001 ON RIGHT OMS - HE PRESS/VAPOR ISOL A AND B SWITCHES.	
				4. SWITCHGUARD G070-700930-001 ON OMS KIT - TANK ISOL A AND B SWITCHES.	
				5. SWITCHGUARD G070-700930-001 ON LEFT OMS - TANK ISOL A AND B SWITCHES.	
				6. SWITCHGUARD G070-700930-001 ON RIGHT OMS - TANK ISOL A AND B SWITCHES.	
				7. SWITCHGUARD G070-700930-001 ON LEFT OMS - CROSSFEED A AND B SWITCHES.	
				8. SWITCHGUARD G070-700930-001 ON RIGHT OMS - CROSSFEED A AND B SWITCHES.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
80-006				9. SWITCHGUARD G070-700919-001 ON FWD RCS - HE PRESS A SWITCH.	
CON'T				10. SWITCHGUARD G070-700919-001 ON FWD RCS - HE PRESS B SWITCH.	
				11. SWITCHGUARD G070-700919-001 ON FWD RCS - TANK ISOL 1/2 SWITCH.	
				12. SWITCHGUARD G070-700919-001 ON FWD RCS - TANK ISOL 3/4/5 SWITCH.	
				13. MULTIPLE SWITCHGUARD G070-700935-001 ON FWD RCS - MANIFOLD ISOL 1, 2, 3, 4, 5 SWITCHES.	
80-007				PANEL O14	

NOTE

PERFORM NEXT CB GUARD  
INSTALLATION ON OV-102/104/105  
ONLY.

ROW C

CB GUARD G070-700406-001  
ON TACAN 1 CB

NOT PERFORMED

MNA

INSTALL G070-700406-001  
SWITCHGUARD ON CRYO O2 HTR  
TK 1 SNSR 1 CB

ROW E

1. CB GUARD G070-700406-001  
ON RADAR ALTM 1 CB.
2. CB GUARD G070-700406-001  
ON MLS 1 CB.

OPERATION INSTRUCTIONS

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

80-007  
CON'T

ROW F  
  
MULTIPLE SWITCHGUARD  
G070-700923-001 ON RJDA 1A,  
2A, RJDF1B DRIVERS AND L OMS  
ENG VLV SWITCHES. (LOCK  
AND KEY)

80-008

PANEL O15

NOTE

PERFORM NEXT CB GUARD  
INSTALLATION ON OV-105/  
102/104 ONLY.

ROW C

CB GUARD G070-700406-001  
ON TACAN 2 CB

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

MNB

CRYO 02 HTR  
INSTALL G070-700406-001  
SWITCHGUARD ON CRYO 02 HTR  
TK 2 SNSR 2 CB.

ROW E

1.    CB GUARD G070-700406-001  
      ON RADAR ALTM 2 CB.
2.    CB GUARD G070-700406-001  
      ON MLS 2.

ROW F

MULTIPLE SWITCHGUARD  
G070-924-001 ON RJDA 1B  
DRIVER AND RJDB 1A DRIVER  
SWITCHES. (LOCK AND KEY)

OPERATION INSTRUCTIONS

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

80-009

PANEL O16

NOTE

PERFORM NEXT CB GUARD  
INSTALLATION ON OV-102/104/105  
ONLY.

ROW C

CB GUARD G070-700406-001  
ON TACAN 3 CB

NOT PERFORMED

MNC

CRYO 02 HTR

1. INSTALL G070-700406-001  
SWITCHGUARD ON CRYO 02 HTR  
TK 1 SNSR 2 CB.
2. INSTALL G070-700406-001  
SWITCHGUARD ON CRYO 02 HTR  
TK 2 SNSR 1 CB.

ROW E

CB GUARD G070-700406-001  
ON MLS 3 CB.

ROW F

1. MULTIPLE SWITCHGUARD  
G070-700925-001 ON RJDA 2B,  
RJDF 2A AND RJDF 2B  
SWITCHES. (LOCK AND KEY)
2. SWITCHGUARD G070-700919-001  
ON R OMS ENG VLV SWITCH.
3. SWITCHGUARD G070-700934-002  
ON RJD MANIFOLD SWITCH.  
(LOCK AND KEY)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
80-010				PANEL R1 ESS BUS SOURCE	
				1. CB GUARD G070-700412-001 (OV-102) OR G070-700919-001 (OV-103/104/105) ON FC1 SW	
				2. CB GUARD G070-700412-001 (OV-102) OR G070-700919-001 (OV-103/104/105) ON FC2 SW	
				3. CB GUARD G070-700412-001 (OV-102) OR G070-700919-001 (OV-103/104/105) ON FC3 SW	
80-011		CFCP PLT		PANEL R1	

NOTE

USE SWITCHGUARD G070-700919-001  
FOR ORBITER OV-103/OV-104/OV-105  
OR G070-700412-001 FOR ORBITER  
OV-102 FOR THE FOLLOWING  
12 SUBSTEPS.

VERIFY FOLLOWING SWITCHES OFF THEN:

1. INSTALL SWITCHGUARD ON O2  
TK 1 HEATERS A SW.
2. INSTALL SWITCHGUARD ON O2  
TK 1 HEATERS B SW.
3. INSTALL SWITCHGUARD ON O2  
TK 2 HEATERS A SW.
4. INSTALL SWITCHGUARD ON O2  
TK 2 HEATERS B SW.
5. INSTALL SWITCHGUARD ON O2  
TK 3 HEATERS A SW.
6. INSTALL SWITCHGUARD ON O2  
TK 3 HEATERS B SW.
7. INSTALL SWITCHGUARD ON H2  
TK 1 HEATERS A SW.

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
80-011				8. INSTALL SWITCHGUARD ON H2 TK 1 HEATERS B SW.	
CON'T				9. INSTALL SWITCHGUARD ON H2 TK 2 HEATERS A SW.	
				10. INSTALL SWITCHGUARD ON H2 TK 2 HEATERS B SW.	
				11. INSTALL SWITCHGUARD ON H2 TK 3 HEATERS A SW.	
				12. INSTALL SWITCHGUARD ON H2 TK 3 HEATERS B SW.	
80-012				PANEL R2	
				1. SWITCHGUARD G070-700903-001 ON APU OPERATE SWITCHES.	
				2. SWITCHGUARD G070-700919-001 ON HYD CIRC PUMP 1 SWITCH.	
				3. SWITCHGUARD G070-700904-001 ON HYD CIRC PUMP 2, 3 SWITCHES.	
				4. SWITCHGUARD G070-700920-001 ON APU 1 FUEL TK VLV SWITCH.	
				5. SWITCHGUARD G070-700905-001 ON APU 2, 3 FUEL TK VLV SWITCHES.	
				6. SWITCHGUARD G070-700920-001 ON ET UMBILICAL DOOR MODE SWITCH.	
80-013				PANEL R4	
				SWITCHGUARD G070-700922-001 ON LG HYD ISOL VLV 1, 2, 3 SWITCHES.	
80-014				PANEL A1R	
				SWITCHGUARD G070-700919-001 ON S-BAND FM POWER SWITCH.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
80-015				PANEL ALL	
				1. SWITCHGUARD G070-700919-001 ON S-BAND PM XPNDR SWITCH.	
				2. SWITCHGUARD G070-700919-001 ON S-BAND PAYLOAD POWER SYSTEM SWITCH.	
80-016				PANEL A7	
				1. SWITCHGUARD G070-700919-001 ON PAYLOAD BAY FLOOD AFT STBD SWITCH.	
				2. SWITCHGUARD G070-700919-001 ON PAYLOAD BAY FLOOD AFT PORT SWITCH.	
				3. SWITCHGUARD G070-700919-001 ON PAYLOAD BAY FLOOD MID STBD SWITCH.	
				4. SWITCHGUARD G070-700919-001 ON PAYLOAD BAY FLOOD MID PORT SWITCH.	
				5. SWITCHGUARD G070-700919-001 ON PAYLOAD BAY FLOOD FWD STBD SWITCH.	
				6. SWITCHGUARD G070-700919-001 ON PAYLOAD BAY FLOOD FWD PORT SWITCH.	
				7. SWITCHGUARD G070-700919-001 ON PAYLOAD BAY FLOOD DOCKING SWITCH.	
				8. SWITCHGUARD G070-700919-001 ON PAYLOAD BAY FLOOD FWD BHD SWITCH.	

OPERATION INSTRUCTIONS

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

NOTE

PERFORM NEXT STEP FOR  
OV-103/104/105 ONLY.

80-017

CFCP PS1    PANEL A11

1.    SWITCHGUARD G070-700926-001 ON  
      O2 CRYO TANK 4 HEATERS A, B  
      SWITCHES.
2.    SWITCHGUARD G070-700926-001 ON  
      H2 CRYO TANK 4 HEATERS A, B  
      SWITCHES.

NOT PERFORMED      \_\_\_\_\_

NOTE

PERFORM NEXT STEP FOR  
OV-102 ONLY.

80-018

CFCP PS1    PANEL A11

1.    SWITCHGUARD G070-700420-001  
      ON O2 CRYO TANK 4 AND 5 HTRS  
      SWITCHES.
2.    SWITCHGUARD G070-700420-001  
      ON H2 CRYO TANK 4/5 HTRS A,  
      B SWITCHES.

NOT PERFORMED      \_\_\_\_\_

NOTE

PERFORM NEXT STEP FOR  
OV-103/104/105 ONLY.

80-019

CFCP PS1    PNL A15

1.    SWITCHGUARD G070-700926-001 ON  
      O2 CRYO TK5 HTRS A, B SWITCHES.
2.    SWITCHGUARD G070-700926-001 ON  
      H2 CRYO TK5 HTRS A, B SWITCHES.

NOT PERFORMED      \_\_\_\_\_

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
80-020				PANEL ML86B	
				ROW D	
				G070-700919-001 CB GUARD ON MNA PYRO JETT SYS A KU ANT CB	
				G070-700919-001 CB GUARD ON MNB PYRO JETT SYS A PORT RMS CB	
				G070-700919-001 CB GUARD ON MNC PYRO JETT SYS B KU ANT CB	
				G070-700919-001 CB GUARD ON MNC PYRO JETT SYS B PORT RMS CB	
				ROW F	
				MNA	
				INSTALL G070-700406-001 SWITCHGUARD ON CRYO O2 HTR TK3 SNSR 1 CB.	
				NOTE	
				PERFORM NEXT SWITCHGUARD ONLY IF TK5 INSTALLED (OV-103/104/105 ONLY).	
				INSTALL G070-700406-001 SWITCHGUARD ON CRYO O2 HTR TK5 SNSR 1 CB.	
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
80-020				MNB	
CON'T				CRYO 02 HTR	
				INSTALL G070-700406-001 SWITCHGUARD ON CRYO 02 HTR TK3 SNSR 2 CB.	
				INSTALL G070-700406-001 SWITCHGUARD ON CRYO 02 HTR TK 4 SNSR 1 CB.	
				MNC	
				CRYO 02 HTR	
				INSTALL G070-700406-001 SWITCHGUARD ON CRYO 02 HTR TK 4 SNSR 2 CB.	
				NOTE	
				PERFORM NEXT SWITCHGUARD ONLY IF TK5 INSTALLED (OV-103/104/105 ONLY).	
				INSTALL G070-700406-001 SWITCHGUARD ON CRYO 02 HTR TK5 SNSR 2 CB.	
				NOT PERFORMED	_____
80-021		CDR PLT MS1 132	OTC	SWITCHGUARD INSTALLATION/VERIF COMPLETE.	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
81-000				IUS ASCENT TELEMETRY LOCKUP	
				-----	
				NOTE	
				DO NOT PERFORM IUS ASCENT TELEMETRY LOCKUP IF IUS TELEMETRY LOCK HAS ALREADY BEEN ACQUIRED OR IF IUS NOT ON THIS MISSION.	
				ENTIRE SEQUENCE NOT PERFORMED	(NP)
				NOTE	
				NEXT 19 STEPS MAY BE PERFORMED MULTIPLE TIMES. RECORD DATA AND VERIFICATIONS IN APPENDIX R.	
81-001		PTC 232 NTD	NTD  OTC	VERIFY READY TO SUPPORT IUS ASCENT TELEMETRY LOCK UP.	
81-002		PTC 134	DSWF	VERIFY VALID IUS TELEMETRY THROUGH PDI	
				CRT (RW0017)	
				IUS	
				---	
				DECOM	2
				SOURCE	5
				FORMAT	14
				BIT AC	YES
				BIT LK	YES
				AD LK	YES
				FRM LK	___ RECORD

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
IN PREVIOUS STEP, IF "FRM LK" FOR FORMAT 14 IS "NO", PERFORM FOLLOWING 14 STEPS.					
81-003		PTC 232 NTD	NTD  OTC	CONFIGURE ORBITER AS FOLLOWS: REPORT COMPLETION.  1. DPS CONFIGURED TO G9/166/44 OR 60 WITH PL BUSSES AND LAUNCH DATA BUS ASSIGNED.  2. PDI/PCMMU FLIGHT LOADS COMPLETE.  3. CRT 2 WITH RIGHT KEYBOARD ASSIGNED TO G9 GPC  4. DEU 2 RSYS ASSIGNED TO C-1 TO ALLOW LDB DEU EQUIVALENTS.	
					NOT PERFORMED (NP)
81-004		CDPS ASP		PANEL C2 R CRT SEL SW - 2	
					NOT PERFORMED (NP)
81-005		CDPS ASP		RIGHT KYBD SPEC 62 PRO CRT 2 PCMMU/PL COMM	
					NOT PERFORMED (NP)
81-006		CDPS		CONSOLE KYBD C CO _DEU2G LDBA C1 XMIT CMD KEY - PRESS  CONSOLE KYBD ISSU N72IV101D #B001 XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
					NOT PERFORMED (NP)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
81-007		OTC 132 PTC 134	PTC DSWF	ORBITER CONFIGURED AS FOLLOWS:  1. DPS CONFIGURED TO G9/166/44 OR 60 WITH PL BUSSES AND LAUNCH DATA BUS ASSIGNED.  2. PDI/PCMMU FLIGHT LOADS COMPLETE.  3. CRT 2 WITH RIGHT KEYBOARD ASSIGNED TO G9 GPC.  4. DEU 2 RSYS ASSIGNED TO C-1 TO ALLOW LDB DEU EQUIVALENTS.	
					NOT PERFORMED (NP)
81-008		PTC	DSWF	PROCEED WITH IUS ASCENT TFL LOCKUP.	
					NOT PERFORMED (NP)
81-009			DSWF	CONSOLE KYBD (UW0007) HOME KEY - PRESS PERF PGM KEY - PRESS	
					NOT PERFORMED (NP)
81-010			DSWF	CONSOLE KYBD (UW0007 PAGE B) SELECT FOLLOWING VIA CURSOR CONTROL PAD DEU - 2 MF - GNC DECOM - 2	
					NOT PERFORMED (NP)
				NOTE	
				IN NEXT STEP, XMIT CMD ON THE MARK.	
81-011			DSWF	CONSOLE CRT (UW0007 PAGE B) CURSOR TO REPETITIVE COMMAND EXECUTION XMIT CURSOR KEY - PRESS EXEC CMD KEY - PRESS DCOI RECORD GMT _____	
					NOT PERFORMED (NP)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
THERE WILL BE A DELAY BEFORE NEXT STEP CAN BE VERIFIED.					
81-012		DSWF		CONSOLE CRT (UW0007 PAGE B) VERIFY FOLLOWING MESSAGE  MASTER FRAME LOCK HAS BEEN ACHIEVED FOR DECOM2.  DCOI _____ (RECORD GMT)	
					NOT PERFORMED (NP)
81-013		DSWF		CONSOLE CRT (UW0007 PAGE B) REPORT COMMAND COUNTER.  RECORD: _____ REPETITIVE COMMAND COUNTER.	
					NOT PERFORMED (NP)
81-014		DSWF		VERIFY VALID IUS ASCENT TELEMETRY THROUGH PDI.	
				IUS ---	
				CRT (RW00017)	
				DECOM 2	
				SOURCE 5	
				FORMAT 14	
				BIT AC YES	
				BIT LK YES	
				WD LK YES	
				FRAME LK YES	
					NOT PERFORMED (NP)

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
81-015		DSWF	MS1	RIGHT KYBD RESUME	
					NOT PERFORMED (NP)
81-016		DSWF		CONSOLE KYBD C CO _DEU2G LDBA C12 XMIT CMD KEY - PRESS	
				CONSOLE KYBD ISSU N72IV101D #0000 XMIT CMD KEY - PRESS EXEC CMD KEY - PRESS	
					NOT PERFORMED (NP)
81-017		DSWF		VERIFY VALID IUS TELEMETRY THROUGH PAYLOAD FEP	
				CRT (RW0017) PLD 14 (UPA)	
				NOTE	
				IN EVENT OF IUS TELEMETRY LOCKUP LOSS DSWF WILL NOTIFY PTC. PTC WILL COORDINATE WITH NTD NEXT AVAILABLE OPPORTUNITY FOR REESTABLISHING IUS ASCENT TELEMETRY LOCKUP. (SEQ 81 S0007VL4).	
81-018		DSWF	PTC	IUS ASCENT TELEMETRY LOCKUP COMPLETE.	
81-019		PTC	NTD	IUS TELEMETRY LOCKUP COMPLETE.	
		232		LDB COMMAND CAPABILITY FOR DEU	
		NTD	OTC	EQUIVALENTS NO LONGER REQUIRED.	
		232			
		OTC	CDPS		
		132			

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SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
82-000				RESERVED	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
83-000				RESERVED	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
84-000				RESERVED	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
85-000				E0008 OCV CHECKS -----	
				NOTE	
				THIS SEQUENCE MAY BE PERFORMED MULTIPLE TIMES. RECORD DATA AND VERIFICATION IN APPENDIX N.	
				PERFORM THIS SEQUENCE FOR IUS/AXAF (STS-93).	
				ENTIRE SEQUENCE NOT PERFORMED	
				CAUTION	
				SHOULD ANY LOSS OF P/L PRI MN C OCCUR, NOTIFY PTC IMMEDIATELY. DO NOT REAPPLY P/L PRI POWER WITHOUT NOTIFYING PTC.	
				CALL TO STATIONS -----	
85-001		PTC 232	NTD	READY TO PERFORM E0008 OCV CHECKS.	
85-002		NTD PA		ALL PERSONNEL PARTICIPATING IN S0007VL4 SEQ 85, E0008 OCV CHECKS REPORT ON STATION FOR TEST STATUS CHECKS.	
85-003		NTD 232	STM	VERIFY VOICE RECORDING FOR E0008 (S0007VL4 SEQ 85) AS SCHEDULED.	
85-004		NTD 232 *SCC NET 105	*SCC *PSE	VERIFY SAFETY READINESS TO SUPPORT S0007VL4 SEQ 85, E0008 OCV CHECKS.	
85-005		NTD 232	OTC STM	PERFORM S0007VL4 SEQ 85 CALL TO STATION.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				ORBITER -----	
85-006		OTC 132		ANNOTATE VOICE TAPE DOCUMENT: S0007VL4 TITLE: SHUTTLE COUNTDOWN (LPS)  SEQ 85: E0008 OCV CHECKS DATE _____  TIME _____ GMT  VEHICLE: OV-____ LOCATION: LAUNCH COMPLEX 39, PAD ____	
85-007		CVFS 132	OTC	FLIGHT SOFTWARE RELEASE IS VERSION _____.	
85-008		OTC 132	CMQC	REPORT CONSTRAINT STATUS.	(QV)
85-009		OTC	ALL	VERIFY YOUR COPY OF S0007VL4 IS REV ____.  LATEST DEV PKG NO. _____	
85-010		OTC		VERIFY ORBITER IN STANDARD POWER UP CONFIGURATION PER S9001.	
85-011		OTC 132	CTPE	REPORT TEST READINESS STATUS. CDR LCC FR ORBITER TEST PROJECT ENGR CPLE COMMANDER (ORBITER LEFT SEAT) CPEP LCC FR PAYLOAD ELEC ENGR (OPTIONAL) PAYLOAD PROJECT ENGR (SFOC)	
85-012		OTC 232	NTD	ORBITER READY FOR S0007VL4 SEQ 85.	



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				TEST SUPPORT -----	
85-013		STM 111		ALL SUPPORT PERSONNEL SUPPORTING S0007VL4 SEQ 85 REPORT TEST READINESS STATUS.	
				GYCC COMMUNICATION CONTROLLER	COMM
				JCFM LCC PMS MEASUREMENTS CONTROLLER	
				JBDY LCC SUPPORT SERVICES CONTROLLER	
				JBEP LCC POWER CONSOLE OPERATOR	PWR
				PPHO PHOTO SUPPORT	
				CALL TO STATIONS COMPLETE -----	
85-014		NTD 232	OTC PTC STM	PROCEED WITH S0007VL4 SEQ 85.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				PAYLOAD CALL TO STATION (E0008, ----- OCV CHECKS) -----	
85-015		NTD 232	PTC	PERFORM PAYLOAD CALL TO STATIONS FOR E0008 TASK 01, OCV CHECKS.	
85-016		OTC 232	NTD	ORBITER CONFIGURED AND READY TO SUPPORT PAYLOAD TESTING.	
85-017		PTC 132	OTC	REQUEST MS2 SUPPORT ON OIS CHANNEL 144.	
85-018		PTC 232	NTD	RECORD TCID NO. _____	
		NTD 232	LPS	REV _____ MOD _____	
				RECORD OPERATING SYSTEM  SOFTWARE NO. _____	
85-019		PTC 232	NTD	CALL TO STATION COMPLETE. READY TO PROCEED WITH E0008, TASK 01.	
85-020		NTD 232	PTC	PROCEED WITH E0008, TASK 01.	

NOTE

NEXT STEP MAY BE PERFORMED  
 BY EITHER CPVD OR PPVM.  
 IF CPVD NOT ON STATION CALL  
 PPVM (7-5427 PAD B OR  
 7-5594 PAD A).

85-021		PTC 132	OTC	VERIFY PLB PURGE ON AND WITHIN SPECS SPECIFIED IN ORBITER OPERATION SUPPORT SETUP 15, (S0007 VL1).  NOTIFY PTC IMMEDIATELY IF PURGE GOES OUT OF SPEC.	
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				E0008 TASK 01 OCV CHECKS -----	
				IUS RIMU POWER ON AND COS -----	
				INITIALIZATION (AFTER IUS FLIGHT ----- BATTERY CONNECTION) -----	
85-022		PTC 232	NTD	READY TO PROCEED WITH IUS RIMU POWER ON FOR OCV CHECKS.	
85-023		PTC 232 NTD OTC OTC CEPD 132	NTD OTC	REQUEST NO MAIN BUS SWITCHING (LOAD CHANGING) FOR APPROXIMATELY 10 MINUTES ON ORBITER MAIN BUSES A, B AND C.	
85-024		PTC 232 NTD OTC OTC CEPD 132	NTD OTC	RESTRICTION ON ORBITER MAIN BUSES A, B AND C (LOAD CHANGING) NO LONGER REQUIRED. CEPD SUPPORT RELEASED.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
IUS AND ASE POWERUP (AFTER FLIGHT ----- BATTERY CONNECTION) -----					
NOTE  DO NOT PERFORM NEXT FOUR STEPS IF P/L CABIN BUS AND AUX BUS ALREADY ACTIVATED.					
85-025		PTC 132 OTC	OTC  CPLE	POWER ON PAYLOAD CABIN (BUS A) AND AUX BUSES.	
				NOT PERFORMED	_____
85-026		CPLE	PLT	PANEL R1 POWER DISTRIBUTION PAYLOAD CABIN SW - MN A AUX SW - ON	R1A1S25 R1A1S29
				NOT PERFORMED	_____
85-027		CPLE		CRT (SAT01/VWT31)  VERIFY  SW STATUS CABIN MN A - ON AUX RPC'S AUX MN A - ON AUX MN B - ON	
				NOT PERFORMED	_____
85-028		CPLE 132 OTC	OTC  PTC	AUX AND PAYLOAD CABIN (BUS A) POWER ON COMPLETE.	
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT STEP IF P/L TIMING BUFFER CB IS OPEN.					
85-029		PTC 132	OTC	VERIFY READY FOR PNL L12 P/L TIMING BUFFER CB TO BE CLOSED.	
NOT PERFORMED					
CAUTION					
AFD COOLING MUST BE MAINTAINED WHILE THE CIU IS POWERED ON.					
85-030		PTC 132	OTC	VERIFY AFD PANEL ECS SYSTEM IS POWERED ON.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
IUS AVIONICS POWER UP -----					
85-031		PTC 232 NTD OTC CEPD 132	NTD OTC	REQUEST NO MAIN BUS SWITCHING (LOAD CHANGING) FOR APPROXIMATELY 15 MINUTES ON ORBITER MAIN BUSES A, B AND C.	
85-032		PTC 232 NTD OTC CEPD 132	NTD OTC	QUIET BUSING ON ORBITER MAIN BUSES A, B AND C NO LONGER REQUIRED. CEPD SUPPORT RELEASED.	
85-033		PTC 232	NTD	IUS POWER ON COMPLETE. READY TO PERFORM OCV CHECKS	
85-034		PTC 232	NTD	PROCEEDING WITH IUS BATTERY OCV CHECKS.	
85-035		PTC 232	NTD	IUS BATTERY OCV CHECKS COMPLETE.	
IUS POWER DOWN -----					
85-036		PTC 232	NTD	PROCEEDING WITH IUS POWER DOWN.	
NOTE					
PERFORM NEXT STEP IF P/L TIMING BUFFER IS NOT REQUIRED FOR OTHER PAYLOAD TESTING.					
85-037		PTC 132 OTC	OTC CPLE	VERIFY READY FOR PNL L12 P/L TIMING BUFFER CB TO BE OPENED.	NOT PERFORMED
85-038		PTC 132	OTC	ORBITER AFD PANEL COOLING IS RELEASED FROM SUPPORT.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
P/L CABIN MN A AND P/L AUX BUSES					
-----					
POWER DOWN					
-----					
NOTE					
DO NOT PERFORM NEXT FOUR STEPS IF PAYLOAD CABIN MN A, PAYLOAD AUX BUSES AND SUPPORT ARE REQUIRED FOR FURTHER PAYLOAD TESTING.					
85-039		PTC 132 OTC 132	OTC CPL	POWER DOWN CABIN MN A AND PAYLOAD AUX BUSES.	
					NOT PERFORMED
85-040		CPL	PLT	PANEL R1 POWER DISTRIBUTION PAYLOAD CABIN SW - OFF AUX SW - OFF	R1A1S25 R1A1S29
					NOT PERFORMED
85-041		CPL		CRT (SAT01/VWT31) VERIFY SW STATUS CABIN MN A - OFF AUX RPC'S AUX MN A - OFF AUX MN B - OFF	
					NOT PERFORMED
85-042		CPL 132 OTC 132	OTC PTC	PAYLOAD CABIN MN A AND PAYLOAD AUX BUSES ARE POWERED DOWN.	
					NOT PERFORMED

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
85-043		PTC 232	NTD	PAYLOAD POWERDOWN COMPLETE. TERMINATE VOICE RECORDINGS FOR E0008 TASK 01, OCV CHECKS. TEST COMPLETE, SUPPORT IS RELEASED.	
NOTE					
PERFORM NEXT STEP IF ADDITIONAL PAYLOAD TESTING WILL NOT FOLLOW IMMEDIATELY.					
85-044		NTD 232	STM	TERMINATE VOICE RECORDING FOR E0008.	COMM
		STM 111	GYCC		
		GYCC 117	GYCR		
NOT PERFORMED					



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86-000				RESERVED	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
87-000				CONTINGENCY IUS PROCEDURE  NOTE  THE FOLLOWING PROCEDURE WILL BE VERIFIED OR PERFORMED FOR COS FAILURE RECOVERY DURING BATTERY TRANSFERS. ORBITER POWER MUST BE AVAILABLE ON THE P/L BUS.  PERFORM THIS SEQUENCE FOR IUS/ AXAF (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 MAIN C OCCUR, NOTIFY PTC IMMEDIATELY. DO NOT REAPPLY P/L PRIMARY POWER WITHOUT NOTIFYING PTC.  IUS BATTERY TO ASE (ORBITER POWER)  TRANSFER	
87-001		PTC	OTC	REQUEST ASP SUPPORT (OR MS2) ON CH 134. 132	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
87-002		ICTC 134	ASP	PANEL L10 IUS POWER CONTROL PANEL	
				IF NOT CONFIGURED, CONFIGURE PANEL	
				POWER	
				PRI CB - CLOSED (IN)	L10CB1
				ALT CB - CLOSED (IN)	L10CB2
				POWER SOURCE	
				IUS CONVERTER PWR	
				PRI SW - ON	L10S1
				PRI TB GRAY	L10I1
				ALT TB GRAY	L10I31
				IUS SUPPORT	
				A FEED	
				PRI SW - ON	L10S10
				PRI TB GRAY	L10I10
				ALT TB GRAY	L10I40
				B FEED	
				PRI SW - ON	L10S12
				PRI TB GRAY	L10I12
				ALT TB GRAY	L10I42

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
87-002				BUS A BATTERIES	
CON'T				PRI SW - STAGE I & II OFF	L1039
				ALT SW - STAGE I & II OFF	L10S39
				PRI TB BP	L10I9
				ALT TB BP	L10I39
				BUS B BATTERIES	
				PRI SW - STAGE I & II OFF	L10S11
				ALT SW - STAGE I & II OFF	L10S41
				PRI TB BP	L10I11
				ALT TB BP	L10I41
				POWER SOURCE	
				ASE BATTERIES	
				PRI SW - OFF	L10S3
				ALT SW - OFF	L10S33
				PRI TB BP	L10I11
				ALT TB BP	L10I41
87-003		ICTC ASP		PANEL L10	
				IUS POWER CONTROL PANEL	
				PANEL	
				POWER	
				PRI CB - OPEN (OUT)	L10CB1
				ALT CB - OPEN (OUT)	L10CB2
87-004		ICTC PTC		CONTINGENCY IUS BATTERY-TO-ASE	
		PTC DCQM		(ORB PWR) TRANSFER COMPLETE.	

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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
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OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
88-000				CONTINGENCY PROCEDURE FOR IUS ----- RECONFIGURATION DUE TO LOSS OF ----- ORBITER POWER -----  ENTIRE SEQUENCE NOT PERFORMED  CAUTION  SHOULD ANY LOSS OF P/L PRI MN C OCCUR, NOTIFY PTC IMMEDIATELY. DO NOT REAPPLY P/L PRI POWER WITHOUT NOTIFYING PTC.  NOTE  FOLLOWING SEQUENCE MUST BE PERFORMED PRIOR TO P/L PRIMARY MAIN C BEING REAPPLIED.  THE FOLLOWING CONTINGENCY PROCEDURE TO REMOVE IUS FROM THE ORBITER BUS CAN BE PERFORMED AT THE COS IF THE COS IS ON-LINE (PREFERRED METHOD) OR AT THE AFD (PCP) IF ASP SUPPORT IS AVAILABLE. ICTC WILL DECIDE WHICH METHOD TO USE.	

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
				COS COMMANDING -----	
				NOTE	
				PERFORM NEXT STEP IF THE COS IS ON-LINE TO SUPPORT PAYLOAD RECONFIGURATION.	
88-001		ICTC ICC1		COS CRT/KYBD TYPE = 189/D ENTER - PRESS TYPE = 10 ENTER - PRESS TYPE = 26 ENTER - PRESS TYPE = 28 ENTER - PRESS CRT (PG 189) 9A IUS CONV PWR ON           OFF 25A IUS CONV A FEED ON       OFF 27A IUS CONV B FEED ON       OFF	
				NOT PERFORMED	_____



OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
AFD PANEL COMMANDING					
-----					
NOTE					
PERFORM NEXT THREE STEPS IF THE COS IS NOT ON-LINE.					
88-002		ICTC	ASP	NOTE THE POSITION OF THE FOLLOWING 2 CIRCUIT BREAKERS.	
				PANEL L10	
				IUS POWER CONTROL	
				POWER	
				PRI CB - _____	L10CB1
				ALT CB - _____	L10CB2
				NOT PERFORMED	_____
88-003		ICTC	ASP	PANEL L10	
				IUS POWER CONTROL	
				POWER	
				PRI CB - CLOSE	L10CB1
				ALT CB - CLOSE	L10CB2
				POWER SOURCE	
				IUS CONV PWR	
				PRI SW - OFF	L10S1
				PRI TB BP	L10I1
				ALT TB BP	L10I31
				IUS SUPPORT	
				A FEED	
				PRI SW - OFF	L10S10
				PRI TB BP	L10I10
				ALT TB BP	L10I40
				B FEED	
				PRI SW - OFF	L10S12
				PRI TB BP	L10I12
				ALT TB BP	L10I42
				NOT PERFORMED	_____

OPERATION INSTRUCTIONS

SEQ	TIME	CMD	RESP	DESCRIPTION	VERIF.
NOTE					
PERFORM NEXT STEP IF IN PREVIOUS STEP THE CIRCUIT BREAKERS WERE NOTED TO BE OPEN.					
88-004		ICTC ASP		PANEL L10 IUS POWER CONTROL POWER PRI CB - OPEN ALT CB - OPEN	L10CB1 L10CB2
				NOT PERFORMED	_____
88-005		ICTC OTC		IUS RECONFIGURATION COMPLETE.	

SECTION V

POST OPERATION INSTRUCTIONS  
 -----

SEQ	CMD	RESP	DESCRIPTION	VERIF.
-----				
89-000			POST OPERATION INSTRUCTIONS - SUPPORT -----	
89-001			POST OPERATION INSTRUCTION 1 - CDBFR RECONFIGURATION -----	
89-002	NTD 232	LPS	PERFORM SUPPORT POST OPERATION INSTRUCTION 1 - CDBFR RECONFIGURATION.	
NOTE				
PERFORM NEXT TWO STEPS IF LCC2 IS SUPPORTING LCC1/3.				
89-003	LPS 127	C2MT	CONFIGURE FOLLOWING CPU'S TO LCC2 CDBFR PER OMI C3041.  233,223,235	
NOT PERFORMED _____				
89-004	LPS 232	NTD CMQC	SUPPORT POST OPERATION INSTRUCTION 1 - CDBFR RECONFIGURATION COMPLETE.  LPS	_____

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POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
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POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-000			POST OPERATION INSTRUCTIONS - ORBITER	
90-001			POST OPERATION INSTRUCTION 1 - THERMAL PROTECTION SYSTEM INSPECTION (OQCV - TPS)	

NOTE

PERFORM THIS POST OPERATION  
INSTRUCTION IF AN ON PAD  
ENGINE ABORT OCCURS AND/OR  
FIREX SYSTEM IS ACTIVATED.

POST OPERATION INSTRUCTION 1 NOT PERFORMED \_\_\_\_\_

NOTE

NOTED REQUIREMENTS SATISFIED  
BY COMPLETION OF THIS POST  
OPERATION INSTRUCTION.

- OMRS S00E00.033-A-1
- OMRS S00E00.033-B-1
- OMRS S00E00.033-C-1
- OMRS S00E00.033-D-1
- OMRS S00E00.033-E-1
- OMRS S00E00.033-F-1
- OMRS S00E00.033-G-1
- OMRS S00E00.033-H-1
- OMRS S00E00.033-I-1
- OMRS S00E00.034-A-1
- OMRS S00E00.034-B-1
- OMRS S00E00.034-C-1
- OMRS S00E00.034-D-1
- OMRS S00E00.034-E-1
- OMRS S00E00.034-F-1
- OMRS S00E00.035-A-1
- OMRS S00E00.035-B-1
- OMRS S00E00.035-C-1

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-002			VERIFY FOLLOWING PERSONNEL ON STATION OR HAVE BEEN NOTIFIED OF UPCOMING INSPECTION:  SFOC/NASA TPS QUALITY INSPECTION TEAM SFOC/NASA TPS ENGINEERING TEAM	QV: _____

NOTE

RSI THAT IS AFT OF THE 1307 BULKHEAD IS TO BE INSPECTED PER THIS OMI.

INSPECT EACH AREA TO FOLLOWING CRITERIA AND TYPE (MACRO/CONTAMINATION) OF INSPECTION NOTED.

ALL STEPS MAY BE WORKED OUT-OF-SEQUENCE IN SUPPORT OF THIS INSPECTION.

A MACRO INSPECTION IS A WALKAROUND INSPECTION FROM THREE TO FIVE FEET. INSPECTION DISTANCES MAY BE INCREASED TO ACCOMODATE ORBITER CONFIGURATION AT PAD. BINOCULARS MAY BE USED; WHERE ACCESS IS LIMITED.

UTILIZE ML0601-0002 IN CONJUNCTION WITH FOLLOWING CRITERIA IN SUPPORT OF INSPECTION.

POST OPERATION INSTRUCTIONS

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

90-003

CRITERIA

MACRO

1. TILE (HRSI/LRSI):

DOCUMENT UNACCEPTABLE CHIPS, GOUGES, CRACKED, CRUSHED OR MISSING TILE, OR HAVING MISSING COATING WITH SILICA SHOWING ON HRSI/LRSI TILE. NO LOOSE TILES AS IDENTIFIED BY HIGHLIGHTING (VISUAL CHECK AT LOW INCIDENCE VIEW ANGLE) FOR EVIDENCE OF EXCESSIVE STEP. NO DAMAGE TO REPAIRS.

2. FIB:

DOCUMENT UNACCEPTABLE OML SURFACE AND VISIBLE EDGES FOR CUTS, TEARS, FRAYED AREAS AND BROKEN QUILTING, STITCHES IN EXCESS OF SPEC ALLOWANCES. INSPECT FOR EVIDENCE OF BLANKET JOINT GAPS OPENING AND EVIDENCE OF OUT-OF-TOLERANCE STEPS DEVELOPING. NO MISSING OR FLAKING COATING, CONTAMINATION AND/OR DISCOLORATION.

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-003 CON'T			3. FRSI: -----  DOCUMENT UNACCEPTABLE CRACKED COATING, BUTT JOINT SEPARATION, ABNORMAL DISCOLORATION, EMBRITTLEMENT, TEARS, CUTS OR RIPS.	
			4. SILICA PLUG: -----  DOCUMENT UNACCEPTABLE RECESSION/PROTRUSION FROM OML. NO CRACKS/CHIPS.	
			5. FRSI PLUG: -----  DOCUMENT UNACCEPTABLE PROTRUSION ABOVE OML, PLUG SHRINKAGE, MISSING PLUG (CAVITY), CHAR AT OML, OR DISCOLORATION.	
			6. PILLOW GAP FILLERS AND THERMAL ----- BARRIERS: -----  DOCUMENT UNACCEPTABLE OPEN HOLES, TEARS OR BREAKS OF PILLOW GAP FILLERS OR THERMAL BARRIERS. MINOR SURFACE ABRASION OR BROKEN THREADS IS ACCEPTABLE. NO MISSING GAP FILLERS OR THERMAL BARRIERS OR BUTT JOINT SEPARATION. DOCUMENT LOOSE OR DEBONDED GAP FILLERS OR THERMAL BARRIERS AS EVIDENT BY ABNORMAL PROTRUSION. NO EXCESSIVE RECESSION, PROTRUSION OR MISSING AND/OR OVERTEMP COATING. NO EVIDENCE OF THERMAL BARRIER CRUSHING.	
			7. THERMAL BARRIER RTV COATING -----  DOCUMENT COLOR CHANGE FROM BLACK TO DULL GRAY.	
			8. RCC: -----  DOCUMENT EVIDENCE OF RCC BURN THROUGH/ COATING CHIPS.	



POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-003				
CON'T				
			9. AREAS NOTED "CONTAMINATION" WILL BE INSPECTED FOR POSSIBLE HYDRAULIC OIL SPILL OR OTHER CONTAMINATION.	
			10. RSI SURFACES: -----  DOCUMENT EVIDENCE OF CONTAMINATION (I.E. HYDRAULIC OIL SPILL, ETC)	
			11. RUDDER SPEED BRAKE PERIMETER ----- BARRIER SEAL: -----  DOCUMENT EVIDENCE OF CRACKS, BREAKS OR UNACCEPTABLE BENDS IN THE INCONEL SPRING SEAL.	
			12. CONICAL SEAL: -----  DOCUMENT EVIDENCE OF CHIPS, CRACKS, OR GOUGES IN CONICAL SEAL.	
			13. RTV ---  DOCUMENT UNACCEPTABLE RTV BUBBLING OR CHARRING.	

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-004			WING, LH LOWER	
			1. LOWER WING, AFT OF X0 = 1307 (MACRO)	QWN:____ SS1
			2. LOWER INBOARD ELEVON (MACRO)	QWN:____ SS2
			3. LOWER OUTBOARD ELEVON (MACRO)	QWN:____ SS3
			4. ELEVON SPLIT SIDEWALLS (MACRO)	QWN:____ SS4
			5. INBOARD/ELEVON TRAILING EDGE AND ENDS (MACRO)	QWN:____ SS5
			6. OUTBOARD ELEVON TRAILING EDGE AND ENDS (MACRO)	QWN:____ SS6
			7. RCC PANELS, NUMBER 20, 21, 22 AND ASSOCIATED T-SEALS. (MACRO) (REF VC70-000004; 69-13, 69-14, 69-15)	QWN:____ SS7

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-005			WING, RH LOWER	
			1. LOWER WING AFT OF X0 = 1307 (MACRO)	QWN:____ SS1
			2. LOWER INBOARD ELEVON (MACRO)	QWN:____ SS2
			3. LOWER OUTBOARD ELEVON (MACRO)	QWN:____ SS3
			4. INBOARD/ELEVON TRAILING EDGE AND ENDS (MACRO)	QWN:____ SS4
			5. OUTBOARD/ELEVON TRAILING EDGE AND ENDS (MACRO)	QWN:____ SS5
			6. ELEVON SPLIT SIDEWALLS (MACRO)	QWN:____ SS6
			7. RCC PANELS NUMBER 20, 21, 22 AND ASSOCIATED T-SEALS. (MACRO) (REF VC70-000004; 69-28, 69-29, 69-30.)	QWN:____ SS7

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-006			WING, RH UPPER	
			1. UPPER WING AFT OF XO=1307 (MACRO)	QWN:____ SS1
			2. UPPER INBOARD ELEVON (MACRO)	QWN:____ SS2
			3. UPPER OUTBOARD ELEVON (MACRO)	QWN:____ SS3
90-007			WING, LH UPPER	
			1. UPPER WING AFT OF XO=1307 (MACRO)	QWN:____ SS1
			2. UPPER INBOARD ELEVON (MACRO)	QWN:____ SS2
			3. UPPER OUTBOARD ELEVON (MACRO)	QWN:____ SS3

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-008			AFT FUSELAGE, LOWER	
			1. LOWER SURFACE (MACRO)	QWN:____ SS1
			2. LOWER BODY FLAP (MACRO)	QWN:____ SS2
			3. LH BODY FLAP END PLATE (MACRO)	QWN:____ SS3
			4. BODY FLAP TRAILING EDGE AND ENDS (MACRO)	QWN:____ SS4
			5. RH BODY FLAP END PLATE (MACRO)	QWN:____ SS5
			6. RSI ADJACENT TO PENETRATION BODY FLAP TRAILING EDGE DRAIN HOLES (CONTAMINATION)	QWN:____ SS6
			7. RSI ADJACENT TO FLASH EVAPORATOR HI-LOAD VENT DUCT (LOWER AFT FUSELAGE LH SIDE ONLY) (CONTAMINATION)	QWN:____ SS7

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-008			8. RSI ADJACENT TO FLASH EVAPORATOR TOPPING VENT DUCT (LOWER AFT FUSELAGE LH SIDE) (CONTAMINATION)	QWN:____ SS8
CON'T			9. RSI ADJACENT TO FLASH EVAPORATOR TOPPING VENT DUCT (LOWER AFT FUSELAGE RH SIDE) (CONTAMINATION)	QWN:____ SS9
			10. RSI ADJACENT TO MPS LO2 RELIEF VENT (LOWER AFT FUSELAGE RH SIDE) (CONTAMINATION)	QWN:____ SS10
90-009			AFT FUSELAGE, UPPER	
			1. BODY FLAP (MACRO)	QWN:____ SS1
			2. BASE HEAT SHIELD (MACRO)	QWN:____ SS2
90-010			AFT FUSELAGE, RH UPPER SIDEWALL (MACRO)	QWN:____
90-011			AFT FUSELAGE, LH UPPER SIDEWALL (MACRO)	QWN:____

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-012			RH VERTICAL TAIL	
			1. VERTICAL STABILIZER (MACRO)	QWN:____ SS1
			2. RUDDER RSI (MACRO)	QWN:____ SS2
			3. LEADING EDGE (MACRO)	QWN:____ SS3
			4. RUDDER TRAILING EDGE AND ENDS (MACRO)	QWN:____ SS4
			5. FIN TRAILING EDGE AND ENDS (MACRO)	QWN:____ SS5
			6. VERTICAL STABILIZER/AFT FUSELAGE INTERFACE THERMAL BARRIER (MACRO)	QWN:____ SS6
			7. SPEED BRAKE (MACRO)	QWN:____ SS7
			8. RUDDER SPEED BRAKE SPLIT LINE THERMAL BARRIER (MACRO)	QWN:____ SS6

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-012			NOTE	
CON'T			PERFORM THE FOLLOWING SUBSTEP IF SPEED BRAKE IS OPEN.	
			9. RUDDER SPEED BRAKE CONICAL SEAL (MACRO)	
				QWN: _____ SS9
			NOT PERFORMED	_____
				SS9
90-013			LH VERTICAL TAIL	
			1. VERTICAL STABILIZER (MACRO)	
				QWN: _____ SS1
			2. RUDDER RSI (MACRO)	
				QWN: _____ SS2
			3. LEADING EDGE (MACRO)	
				QWN: _____ SS3
			4. RUDDER TRAILING EDGE AND ENDS (MACRO)	
				QWN: _____ SS4
			5. FIN TRAILING EDGE AND ENDS (MACRO)	
				QWN: _____ SS5
			6. VERTICAL STABILIZER/AFT FUSELAGE INTERFACE THERMAL BARRIER (MACRO)	
				QWN: _____ SS6
			7. SPEED BRAKE (MACRO)	
				QWN: _____ SS7



POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-013 CON'T			8. RUDDER SPEED BRAKE SPLIT LINE THERMAL BARRIER (MACRO)	QWN: _____ SS8

NOTE

PERFORM THE FOLLOWING TWO  
SUBSTEPS IF SPEED BRAKE IS  
OPEN.

			9. RUDDER SPEED BRAKE PERIMETER BARRIER SEAL (MACRO)	QWN: _____ SS9
			NOT PERFORMED	_____ SS9

			10. RUDDER SPEED BRAKE CONICAL SEAL (MACRO)	QWN: _____ SS10
			NOT PERFORMED	_____ SS10

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-014			OMS, RH	
			1. POD (MACRO)	QWN:____ SS1
			2. RSI ADJACENT TO APU EXHAUST (CONTAMINATION)	QWN:____ SS2
			3. RSI ADJACENT TO OMS POD FUEL AND OXIDIZER RELIEF PORTS (CONTAMINATION)	QWN:____ SS3
			4. RH OMS RCS RSI (MACRO)	QWN:____ SS4
			5. RH OMS RCS THRUSTER INTERFACING TILES AND THERMAL BARRIER (MACRO)	QWN:____ SS5
			6. RH OMS POD, AFT FUSELAGE INTERFACE (MACRO)	QWN:____ SS6
			7. RH OMS POD TO BASE HEAT SHIELD THERMAL BARRIER (MACRO)	QWN:____ SS7

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-015			OMS, LH	
			1. POD (MACRO)	QWN:____ SS1
			2. RSI ADJACENT TO APU EXHAUSTS (CONTAMINATION)	QWN:____ SS2
			3. RSI ADJACENT TO OMS POD FUEL AND OXIDIZER RELIEF PORTS (CONTAMINATION)	QWN:____ SS3
			4. LH OMS RCS RSI (MACRO)	QWN:____ SS4
			5. LH OMS RCS THRUSTER INTERFACING TILES AND THERMAL BARRIERS (MACRO)	QWN:____ SS5
			6. LH OMS POD, AFT FUSELAGE INTERFACE (MACRO)	QWN:____ SS6
			7. LH OMS POD TO BASE HEAT SHIELD THERMAL BARRIER (MACRO)	QWN:____ SS7

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-016			COMPLETION OF THIS POST OPERATION INSTRUCTION SATISFIES NOTED REQUIREMENTS.  OMRSD S00E00.033-A-1 OMRSD S00E00.033-B-1 OMRSD S00E00.033-C-1 OMRSD S00E00.033-D-1 OMRSD S00E00.033-E-1 OMRSD S00E00.033-F-1 OMRSD S00E00.033-G-1 OMRSD S00E00.033-H-1 OMRSD S00E00.033-I-1 OMRSD S00E00.034-A-1 OMRSD S00E00.034-B-1 OMRSD S00E00.034-C-1 OMRSD S00E00.034-D-1 OMRSD S00E00.034-E-1 OMRSD S00E00.034-F-1 OMRSD S00E00.035-A-1 OMRSD S00E00.035-B-1 OMRSD S00E00.035-C-1	
90-017			ORBITER POST OPERATION INSTRUCTION 1 - THERMAL PROTECTION SYSTEM INSPECTION COMPLETE.	

QV: \_\_\_\_\_

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-018			POST OPERATION INSTRUCTION 2 - ----- ENGINEERING INSPECTION/ADDITIONAL ----- MICRO INSPECTION -----	

NOTE

PERFORM THIS POST OPERATION  
INSTRUCTION IF AN ON PAD  
ENGINE ABORT OCCURS AND/OR  
FIREX SYSTEM IS ACTIVATED.

POST OPERATION INSTRUCTION 2 NOT PERFORMED \_\_\_\_\_

90-019                    VERIFY FOLLOWING PERSONNEL ON  
STATION OR NOTIFIED OF UPCOMING  
INSPECTION AND ARE AVAILABLE AT  
REGULAR WORK STATION:

USA/GOVT TPS ENGINEERING TEAM

90-020                    CRITERIA

TPS ENGINEERING SHALL PERFORM  
WALKDOWN INSPECTION OF ORBITER TO  
DETERMINE IF AREAS IN ADDITION TO THOSE  
CALLED FOR IN POST OPERATION INSTRUCTION 1 -  
THERMAL PROTECTION SYSTEM INSPECTION (OQCV) -  
TPS REQUIRE ADDITIONAL INSPECTION BY QUALITY  
INSPECTION TEAM. INSPECTION SHALL BE  
PERFORMED AREA-BY-AREA. REQUESTS FOR  
ADDITIONAL INSPECTION SHALL BE RETURNED  
TO QUALITY INSPECTION TEAM FOR PROCESSING.

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-021			VERIFICATION  1. ENGINEERING INSPECTION COMPLETE:  ENGR SUPERVISOR OR LEAD VEHICLE ENGR _____  2. ADDITIONAL MICRO INSPECTIONS  ENGR SUPERVISOR OR LEAD VEHICLE ENGR _____  STAMP REQ'D _____ NOT REQ'D _____	
			NOTE  PERFORM NEXT TWO STEPS IF ADDITIONAL MICRO INSPECTIONS REQUIRED.	
90-022			VERIFY ALL ADDITIONAL MICRO INSPECTIONS REQUESTED BY ENGINEERING COMPLETE.	TPS _____  NOT PERFORMED _____
90-023			ADDITIONAL MICRO INSPECTIONS NOT REQUIRED.  ENGR SUPERVISOR _____ OR  LEAD VEHICLE ENGR _____	NOT PERFORMED _____
90-024			ORBITER POST OPERATION 2 - ENGINEERING INSPECTION/ADDITIONAL MICRO INSPECTION COMPLETE.	TPS _____

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-025			POST OPERATION INSTRUCTION 3 - POLE CES ASSY LOWERING FROM 195 FT LEVEL	

NOTE

PERFORM THIS POST OPERATION INSTRUCTION IF REQUIRED BY FCE ENGINEERING FOR AS EXTENDED SCRUB.

POST OPERATION INSTRUCTION 3 NOT PERFORMED

90-026	NTD 232 *SCC *SCC NET 105 STM 111 JBDY NET 104	STM *SCC *PSE	PERFORM POST OPERATION INSTRUCTION 3 - POLE CES ASSEMBLY LOWERING FROM 195 FT LEVEL.	HESA
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NOTE

PERFORM ONLY ONE OF THE NEXT FOUR SUBSTEPS.

90-027			VERIFY MOBILE CRANE OR AERIAL WORK PLATFORM RATED LOAD TEST CURRENT.	HESA
			1. 170 FT CONDOR (K60-1016/HE907-241)	
			NOT PERFORMED	SS1
			2. 250 TON LINK BELT MOBILE CRANE (H72-1390/HE202-017)	
			NOT PERFORMED	SS2

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-027 CON'T			3. 65 TON P&H MOBILE CRANE (K61-2781/HE2022-036)	
			NOT PERFORMED	SS3
			4. 140 TON MANITOWOC CRANE (K60-0382/HE202-011)	
			OMRSD GHEGKRM00.003 OMRSD GHEGKRM00.009	
			NOT PERFORMED	SS4
				T: _____

90-028 REQUEST SAFETY CLEAR ALL NONESSENTIAL PERSONNEL WITHIN 50 FT RADIUS LIFT AREA ON PAD SURFACE (SOUTHWEST SIDE) AND 10 FT AREA ON 195 FT LEVEL OF FSS.

ESSENTIAL PERSONNEL

	SFOC	NASA
QC	1	
SAFETY	1	1
ENGINEER	1	1
OPERATOR	1	
LEAD CRANE OPS	1	
SUPV	1	
RIGGERS	2	

90-029 REQUEST NTD MAKE FOLLOWING PA:

ATTENTION ON PAD: \_\_\_\_\_

ALL NONESSENTIAL PERSONNEL CLEAR WITHIN 50 FT RADIUS OF LIFT ON PAD SURFACE AND 10 FT AREA ON 195 FT LEVEL OF FSS FOR ESCAPE POLE HANDLING CART LIFT.



POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-030			CSR-342 CSR-343  LOCATE MOBILE CRANE OR AERIAL WORK PLATFORM HESA TO CLEARED AREA.	T: _____
90-031			REMOVE TIEDOWNS SECURING PCES/CART ON RIGHT SIDE OF ET VENT ARM, OR AT ANY OTHER TEMP STORAGE LOCATION, AND MOVE PCES/CART TO WEST SIDE OF FSS ON 195 FT LEVEL FROM WHERE IT WILL BE LOWERED TO PAD SURFACE.	T: _____
90-032			SAFETY VERIFY ALL NONESSENTIAL PERSONNEL HAVE BEEN CLEARED FROM 50 FT RADIUS ON PAD SURFACE (SOUTHWEST SIDE) AND 10 FT AREA ON 195 FT LEVEL OF FSS. SAFETY CONCURRENCE TO PROCEED WITH LIFTING OPERATION. NOTIFY NTD/*SCC THAT HAZARDOUS OPERATIONS ARE COMMENCING.	S: _____
90-033			MOVE DIRECTOR, CRANE SUPERVISOR, OR ENGINEER IN CHARGE - BRIEF PERSONNEL ON OPERATIONAL HAZARDS THAT WILL BE PRESENT AND EMERGENCY STEPS.	HESA
WARNING				
NEXT FOUR STEPS ARE HAZARDOUS DUE TO LOWERING OF FLIGHT APPROVED HARDWARE FROM 195 FT LEVEL DOWN TO PAD SURFACE.				
90-034			ATTACH (4 EA) SHACKLES (500 LBS SWL MIN) TO SUPPORT LEGS ON SED38110336-301 POLE HANDLING CART.	HESA  T: _____
90-035			RIG POLE HANDLING CART FOR LIFTING BY MOBILE CRANE OR AERIAL WORK PLATFORM.	HESA  T: _____

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-036			<p>CSR-342            CSR-343</p> <p>USING MOBILE CRANE OR AERIAL WORK PLATFORM AND MANUAL GUIDANCE, LOWER POLE AND HANDLING CART FROM 195 FT LEVEL DOWN TO PAD SURFACE. (REF Q3205/Q3514)</p>	<p>HESA</p> <p>T: _____</p>
90-037			REMOVE LIFTING SLING FROM CART.	<p>HESA</p> <p>T: _____</p>
<p>NOTE</p> <p>HAZARDOUS STEPS COMPLETE.</p>				
90-038			SFOC SAFETY VERIFY CONCURRENCE TO OPEN CONTROL AREAS FOR CONTROLLED WORK. NOTIFY NTD/*SCC THAT HAZARDOUS OPERATIONS COMPLETE.	<p>S: _____</p>
90-039			TRANSPORT PCES/CART TO FLIGHT KITS AREA IN VAB.	<p>T: _____</p>
90-040			PCES/CART LOWERING COMPLETE. ALL SUPPORT PERSONNEL ARE RELEASED.	
90-041	GBHE NET 104 JBDY 111 STM 232	JBDY STM PSTM NTD	POST OPERATION INSTRUCTION 3 - POLE CES ASSEMBLY LOWERING FROM 195 FT LEVEL COMPLETE.	<p>HESA</p>

POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-042			POST OPERATION INSTRUCTION 4 - VEHICLE FIRE DAMAGE INSPECTION POST ABORT	

NOTE

PERFORM THIS POST OPERATION  
INSTRUCTION IF AN ON PAD  
ENGINE ABORT OCCURS.

POST OPERATION INSTRUCTION 4 NOT PERFORMED

90-043	OTC	*PAD	VERIFY FOLLOWING PERSONNEL ON STATION OR NOTIFIED OF UPCOMING INSPECTION AND ARE AVAILABLE AT REGULAR WORK STATION:  *PAD LEADER AFT/GSE SHOP	
90-044			PERFORM WALKDOWN OF VEHICLE EXTERNAL AREAS PAYING PARTICULAR ATTENTION TO VEHICLE AFT AND T-0 UMBILICALS. LOOK FOR ANY POSSIBLE FIRE DAMAGE CAUSED BY THE ABORT.	
90-045			VERIFICATION  PAD LEADER _____  OMRSD S00E00.996	
90-046			ORBITER POST OPERATION INSTRUCTION 4 - VEHICLE FIRE DAMAGE INSPECTION POST ABORT COMPLETE.	

TPS \_\_\_\_\_

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SEQ	CMD	RESP	DESCRIPTION	VERIF.
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POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
90-047			POST OPERATION INSTRUCTION 5 - EQUIPMENT ----- RETURN -----	
90-048	*PAD	OMTO	TURN IN SWITCHGUARDS AND CIRCUIT BREAKER GUARDS TO LOGISTICS TO BE STAGED FOR LANDING.	
90-049	*PAD	OMTO	RETURN ALL MERL ITEMS TO MERL KITTING AREA.	
90-050	OMTO	*PAD	ORBITER POST OPERATION INSTRUCTION 5 - EQUIPMENT RETURN COMPLETE.	

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POST OPERATION INSTRUCTIONS

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91-000			POST OPERATION INSTRUCTIONS - ET	
91-001			POST OPERATION INSTRUCTION 1 - RESERVED	

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SEQ	CMD	RESP	DESCRIPTION	VERIF.
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POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
92-000			POST OPERATION INSTRUCTIONS - SRB	
92-001			POST OPERATION INSTRUCTION 1 - RESERVED	

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POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
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93-000			RESERVED	

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SEQ	CMD	RESP	DESCRIPTION	VERIF.
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94-000			RESERVED	

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POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
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95-000			RESERVED	

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SEQ	CMD	RESP	DESCRIPTION	VERIF.
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96-000			RESERVED	

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SEQ	CMD	RESP	DESCRIPTION	VERIF.
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97-000			RESERVED	

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POST OPERATION INSTRUCTIONS

SEQ	CMD	RESP	DESCRIPTION	VERIF.
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APPENDIX B

DATA SHEET B-1 - PAYLOAD BAY PURGE I/F TEMP AND FLOW RATE

NOTE

PERFORM ONLY AT REQUEST OF PTC.

FLOW RATE: \_\_\_\_\_

TEMP: \_\_\_\_\_

HUMIDITY: AIR - EQUAL TO OR LESS THAN 29 GRAINS H2O/LB

GN2 - EQUAL TO OR LESS THAN 1 GRAIN H2O/LB

NOTIFY PTC IMMEDIATELY IF PURGE GOES OUT OF SPEC.

DATE	TIME (GMT)	I/F TEMP	FLOW RATE	HUMIDITY
-----	-----	-----	-----	-----
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

APPENDIX B

DATA SHEET B-2 - WIND DIRECTION AND VELOCITY

NOTE

PERFORM ONLY AT REQUEST OF PTC.

DATE ----	TIME(GMT) -----	WIND VELOCITY -----	WIND DIRECTION -----
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
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_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

APPENDIX E

DATA SHEET E-1 - FUEL CELL PURGE RUNS

	NOT PERFORMED								
	RUN 1	RUN 2	RUN 3	RUN 4	RUN 5	RUN 6	RUN 7	RUN 8	RUN 9
STEP 47-003	---	---	---	---	---	---	---	---	---
1.	---	---	---	---	---	---	---	---	---
2.	---	---	---	---	---	---	---	---	---
STEP 47-005	---	---	---	---	---	---	---	---	---
STEP 47-007	---	---	---	---	---	---	---	---	---
1.	---	---	---	---	---	---	---	---	---
2.	---	---	---	---	---	---	---	---	---
STEP 47-009	---	---	---	---	---	---	---	---	---
STEP 47-011	---	---	---	---	---	---	---	---	---
1.	---	---	---	---	---	---	---	---	---
2.	---	---	---	---	---	---	---	---	---
STEP 47-013	---	---	---	---	---	---	---	---	---
STEP 47-015	---	---	---	---	---	---	---	---	---

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APPENDIX E

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APPENDIX F

DATA SHEET F-1 - POT/SUPPLY WATER TK-A DRAIN

STEP	RUN DATE -	RUN DATE -	RUN DATE -	RUN DATE -	RUN DATE -	RUN DATE -	RUN DATE -
----	-----	-----	-----	-----	-----	-----	-----
54-098	T:_____	T:_____	T:_____	T:_____	T:_____	T:_____	T:_____
54-102							
TK-A QTY	_____	_____	_____	_____	_____	_____	_____
54-103							
OK TO							
INSTALL	T:_____	T:_____	T:_____	T:_____	T:_____	T:_____	T:_____
	T:_____	T:_____	T:_____	T:_____	T:_____	T:_____	T:_____
54-104	T:_____	T:_____	T:_____	T:_____	T:_____	T:_____	T:_____
54-105							
SS1 START							
TIME (GMT)	_____	_____	_____	_____	_____	_____	_____
SS3 STOP							
TIME (GMT)	_____	_____	_____	_____	_____	_____	_____
	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____
54-106							
OK TO							
INSTALL	QW:_____	QW:_____	QW:_____	QW:_____	QW:_____	QW:_____	QW:_____
	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____
54-107							
TK-A QTY	_____	_____	_____	_____	_____	_____	_____
54-108	T:_____	T:_____	T:_____	T:_____	T:_____	T:_____	T:_____
54-109	_____	_____	_____	_____	_____	_____	_____
54-110	_____	_____	_____	_____	_____	_____	_____
54-111							
NOT PERF	_____	_____	_____	_____	_____	_____	_____
54-112							
NOT PERF	_____	_____	_____	_____	_____	_____	_____

APPENDIX F

DATA SHEET F-2 - ORBITER POTABLE (L-3 DAYS) WATER SAMPLES AND TANK A  
QUANTITY ADJUST

STEP	RUN ___ DATE -	RUN ___ DATE -	RUN ___ DATE -	RUN ___ DATE -	RUN ___ DATE -	RUN ___ DATE -	RUN ___ DATE -
----	-----	-----	-----	-----	-----	-----	-----
54-045	_____	_____	_____	_____	_____	_____	_____
54-046	_____	_____	_____	_____	_____	_____	_____
54-047	_____	_____	_____	_____	_____	_____	_____
54-048	_____	_____	_____	_____	_____	_____	_____
54-049	_____	_____	_____	_____	_____	_____	_____
54-050	_____	_____	_____	_____	_____	_____	_____
54-051	_____	_____	_____	_____	_____	_____	_____
54-052	_____	_____	_____	_____	_____	_____	_____
54-053	_____	_____	_____	_____	_____	_____	_____
54-054	_____	_____	_____	_____	_____	_____	_____
PSIG	_____	_____	_____	_____	_____	_____	_____
PCT	_____	_____	_____	_____	_____	_____	_____
54-055	_____	_____	_____	_____	_____	_____	_____
54-056	_____	_____	_____	_____	_____	_____	_____
T:	_____	_____	_____	_____	_____	_____	_____
54-057	_____	_____	_____	_____	_____	_____	_____
T:	_____	_____	_____	_____	_____	_____	_____

APPENDIX F

STEP	RUN DATE -	RUN DATE -	RUN DATE -	RUN DATE -	RUN DATE -	RUN DATE -	RUN DATE -
54-058							
T:							
54-059							
54-060							
T:							
NOT PERF							
54-061							
SS1							
GMT							
SS5							
GMT							
T:							
NOT PERF							
54-062							
SS3							
OK TO							
INSTALL							
QW:							
TQW:							
NOT PERF							
54-063							
PCT							
54-064							
T:							
54-065							
NO.							

APPENDIX F

STEP	RUN DATE -	RUN DATE -	RUN DATE -	RUN DATE -	RUN DATE -	RUN DATE -	RUN DATE -
-----	-----	-----	-----	-----	-----	-----	-----
54-066	_____	_____	_____	_____	_____	_____	_____
NOT PERF	_____	_____	_____	_____	_____	_____	_____
54-067	_____	_____	_____	_____	_____	_____	_____
NOT PERF	_____	_____	_____	_____	_____	_____	_____
54-068	_____	_____	_____	_____	_____	_____	_____
NOT PERF	_____	_____	_____	_____	_____	_____	_____
54-069	_____	_____	_____	_____	_____	_____	_____
NOT PERF	_____	_____	_____	_____	_____	_____	_____
54-070							
SS2							
OK TO							
INSTALL							
T:	_____	_____	_____	_____	_____	_____	_____
T:	_____	_____	_____	_____	_____	_____	_____
NOT PERF	_____	_____	_____	_____	_____	_____	_____
54-071	_____	_____	_____	_____	_____	_____	_____
NOT PERF	_____	_____	_____	_____	_____	_____	_____
54-072	_____	_____	_____	_____	_____	_____	_____
SS2							
TQW:	_____	_____	_____	_____	_____	_____	_____
SS3							
OK TO							
INSTALL							
QW:	_____	_____	_____	_____	_____	_____	_____
TQW:	_____	_____	_____	_____	_____	_____	_____
T:	_____	_____	_____	_____	_____	_____	_____
NOT PERF	_____	_____	_____	_____	_____	_____	_____
54-073	_____	_____	_____	_____	_____	_____	_____

APPENDIX G

DATA SHEET G-1 - QUALITY VERIF SHEET ET LEVEL SENSOR  
 CAL CHECKS (SEQ 41)

NOTE

THIS DATA SHEET PROVIDES QC  
 VERIFICATION RECORD FOR  
 PERFORMANCE OF ET LEVEL  
 SENSOR CAL CHECKS PER SEQ 41.  
 THIS SEQUENCE WILL BE RUN  
 AT T-08H10M FOR ALL CRYO  
 LOAD OPERATIONS.

STEP	CMD	RESP	RUN 1	RUN 2	RUN 3	RUN 4
41-001	TBC	CMPS	_____	_____	_____	_____
41-002	CMPS	TBC CLOX CLHY	_____	_____	_____	_____
41-003		CMPS	_____	_____	_____	_____
41-004		CMPS	_____	_____	_____	_____
41-005		CMPS	_____	_____	_____	_____
41-006		CMPS	_____	_____	_____	_____
41-007		CMPS	_____	_____	_____	_____
41-008	CMPS TBC	TBC CLOX CLHY	_____	_____	_____	_____
41-009		OMRS VERIF	_____	_____	_____	_____

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APPENDIX G

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APPENDIX H

DATA SHEET H-1 - DATA AND VERIF SHEET MPS HELIUM TK LOADING/  
 GSE SET POINT VERIF (SEQ 44)

NOTE

THIS DATA SHEET PROVIDES  
 VERIFICATION RECORD FOR  
 PERFORMANCE OF MPS HELIUM  
 TANK LOADING GSE SET POINT  
 VERIFICATION PER SEQ 44  
 DURING SCRUB TURNAROUND  
 OPERATIONS.

STEP	RUN 1	RUN 2	RUN 3	RUN 4	RUN 5
44-000					
OPTION 1 - SET POINT VERIFICATION WITH PRIMARY AND SECONDARY					
-----					
4500 LEGS BOTH ON LINE					
-----					
NOT PERFORMED	_____	_____	_____	_____	_____
44-004	INITIAL SECONDARY REG SET POINT				
SEC R/O	_____	_____	_____	_____	_____
PANEL OUT	_____	_____	_____	_____	_____
MPS	_____	_____	_____	_____	_____
SSME 1	_____	_____	_____	_____	_____
SSME 2	_____	_____	_____	_____	_____
SSME 3	_____	_____	_____	_____	_____
SECONDARY REG SET POINT VERIFICATION UNDER FLOW					
-----					
NOT PERFORMED	_____	_____	_____	_____	_____
44-005	NOT PERFORMED				
	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____
44-006	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____

APPENDIX H

44-007  
NOT PERFORMED \_\_\_\_\_

44-008  
NOT PERFORMED \_\_\_\_\_

44-009  
NOT PERFORMED \_\_\_\_\_

44-011  
TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_

SECONDARY REG SET POINT VERIFICATION UNDER FLOW COMPLETE  
-----

44-012 SECONDARY REG FINAL SET POINT

SEC R/O \_\_\_\_\_

PANEL OUT \_\_\_\_\_

MPS \_\_\_\_\_

SSME 1 \_\_\_\_\_

SSME 2 \_\_\_\_\_

SSME 3 \_\_\_\_\_

44-015 INITIAL PRIMARY REG SET POINT

PRI R/O \_\_\_\_\_

PANEL OUT \_\_\_\_\_

MPS \_\_\_\_\_

SSME 1 \_\_\_\_\_

SSME 2 \_\_\_\_\_

SSME 3 \_\_\_\_\_

PRIMARY REG SET POINT VERIFICATION UNDER FLOW  
-----

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

44-016  
NOT PERFORMED \_\_\_\_\_

TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_



APPENDIX H

44-017 TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_

44-018  
NOT PERFORMED \_\_\_\_\_

44-019  
NOT PERFORMED \_\_\_\_\_

44-020  
NOT PERFORMED \_\_\_\_\_

44-022 TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_

PRIMARY REG SET POINT VERIFICATION UNDER FLOW COMPLETE

-----

44-023 PRIMARY REG FINAL SET POINT

PRI R/O \_\_\_\_\_

PANEL OUT \_\_\_\_\_

MPS \_\_\_\_\_

SSME 1 \_\_\_\_\_

SSME 2 \_\_\_\_\_

SSME 3 \_\_\_\_\_

OPTION 1 - SET POINT VERIFICATION WITH PRIMARY AND SECONDARY

-----

4500 LEGS BOTH ON LINE COMPLETE

-----

APPENDIX H

OPTION 2 - SET POINT VERIFICATION WITH PRIMARY REG ISO VALVE

-----  
CLOSED AND SECONDARY REG ISO VALVE OPEN  
-----

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

44-026 INITIAL SECONDARY REG SET POINT

SEC R/O \_\_\_\_\_

PANEL OUT \_\_\_\_\_

MPS \_\_\_\_\_

SSME 1 \_\_\_\_\_

SSME 2 \_\_\_\_\_

SSME 3 \_\_\_\_\_

SECONDARY REG SET POINT VERIFICATION UNDER FLOW

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

44-027

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

TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_

44-028

TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_

44-029

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

44-030

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

44-031

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

44-033

TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_

SECONDARY REG SET POINT VERIFICATION UNDER FLOW COMPLETE

APPENDIX H

44-034 SECONDARY REG FINAL SET POINT

SEC R/O \_\_\_\_\_

PANEL OUT \_\_\_\_\_

MPS \_\_\_\_\_

SSME 1 \_\_\_\_\_

SSME 2 \_\_\_\_\_

SSME 3 \_\_\_\_\_

44-037  
NOT PERFORMED \_\_\_\_\_

44-038  
NOT PERFORMED \_\_\_\_\_

44-039  
NOT PERFORMED \_\_\_\_\_

44-040 INITIAL PRIMARY REG SET POINT

PRI R/O \_\_\_\_\_

PANEL OUT \_\_\_\_\_

MPS \_\_\_\_\_

SSME 1 \_\_\_\_\_

SSME 2 \_\_\_\_\_

SSME 3 \_\_\_\_\_

PRIMARY REG SET POINT VERIFICATION UNDER FLOW  
-----

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

44-041  
NOT PERFORMED \_\_\_\_\_

TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_

APPENDIX H

44-042	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____
44-043	_____	_____	_____	_____	_____
NOT PERFORMED					
44-044	_____	_____	_____	_____	_____
NOT PERFORMED					
44-045	_____	_____	_____	_____	_____
NOT PERFORMED					
44-047	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____

PRIMARY REG SET POINT VERIFICATION UNDER FLOW COMPLETE  
-----

44-048	PRIMARY REG FINAL SET POINT				
PRI R/O	_____	_____	_____	_____	_____
PANEL OUT	_____	_____	_____	_____	_____
MPS	_____	_____	_____	_____	_____
SSME 1	_____	_____	_____	_____	_____
SSME 2	_____	_____	_____	_____	_____
SSME 3	_____	_____	_____	_____	_____

OPTION 2 - SET POINT VERIFICATION WITH PRIMARY REG ISO VALVE  
-----  
CLOSED AND SECONDARY REG ISO VALVE OPEN COMPLETE  
-----

APPENDIX H

OPTION 3 - SET POINT VERIFICATION WITH PRIMARY REG ISO VALVE

-----  
OPEN AND SECONDARY REG ISO VALVE CLOSED  
-----

NOT PERFORMED	_____	_____	_____	_____	_____
44-051	INITIAL PRIMARY REG SET POINT				
PRI R/O	_____	_____	_____	_____	_____
PANEL OUT	_____	_____	_____	_____	_____
MPS	_____	_____	_____	_____	_____
SSME 1	_____	_____	_____	_____	_____
SSME 2	_____	_____	_____	_____	_____
SSME 3	_____	_____	_____	_____	_____

PRIMARY REG SET POINT VERIFICATION UNDER FLOW

NOT PERFORMED	_____	_____	_____	_____	_____
44-052	NOT PERFORMED				
	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____
44-053	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____
44-054	NOT PERFORMED				
44-055	NOT PERFORMED				
44-056	NOT PERFORMED				
44-058	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____

PRIMARY REG SET POINT VERIFICATION UNDER FLOW COMPLETE

APPENDIX H

44-059 PRIMARY REG FINAL SET POINT

PRI R/O \_\_\_\_\_

PANEL OUT \_\_\_\_\_

MPS \_\_\_\_\_

SSME 1 \_\_\_\_\_

SSME 2 \_\_\_\_\_

SSME 3 \_\_\_\_\_

44-062  
NOT PERFORMED \_\_\_\_\_

44-063  
NOT PERFORMED \_\_\_\_\_

44-064  
NOT PERFORMED \_\_\_\_\_

44-065 INITIAL SECONDARY REG SET POINT

SEC R/O \_\_\_\_\_

PANEL OUT \_\_\_\_\_

MPS \_\_\_\_\_

SSME 1 \_\_\_\_\_

SSME 2 \_\_\_\_\_

SSME 3 \_\_\_\_\_

SECONDARY REG SET POINT VERIFICATION UNDER FLOW

-----

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

44-066  
NOT PERFORMED \_\_\_\_\_

TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_

APPENDIX H

44-067	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____
44-068	_____	_____	_____	_____	_____
NOT PERFORMED					
44-069	_____	_____	_____	_____	_____
NOT PERFORMED					
44-070	_____	_____	_____	_____	_____
NOT PERFORMED					
44-072	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____

SECONDARY REG SET POINT VERIFICATION UNDER FLOW COMPLETE  
-----

44-073	SECONDARY REG FINAL SET POINT				
SEC R/O	_____	_____	_____	_____	_____
PANEL OUT	_____	_____	_____	_____	_____
MPS	_____	_____	_____	_____	_____
SSME 1	_____	_____	_____	_____	_____
SSME 2	_____	_____	_____	_____	_____
SSME 3	_____	_____	_____	_____	_____

OPTION 3 - SET POINT VERIFICATION WITH PRIMARY REG ISO VALVE OPEN  
-----  
AND SECONDARY REG ISO VALVE CLOSED COMPLETE  
-----

APPENDIX H

SECONDARY REG SECURE AND REACTIVATION

-----

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

44-075  
NOT PERFORMED \_\_\_\_\_

44-076  
NOT PERFORMED \_\_\_\_\_

44-077  
NOT PERFORMED \_\_\_\_\_

44-078  
TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_

44-080  
TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_

44-081  
TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_

44-082  
TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_

44-083  
TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_ TQW:\_\_\_\_\_

SECONDARY REG SECURE AND REACTIVATION COMPLETE

-----



APPENDIX H

PRIMARY REG SECURE AND REACTIVATION

NOT PERFORMED	_____	_____	_____	_____	_____
44-087					
NOT PERFORMED	_____	_____	_____	_____	_____
44-088					
NOT PERFORMED	_____	_____	_____	_____	_____
44-089					
NOT PERFORMED	_____	_____	_____	_____	_____
44-090					
	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____
44-092					
	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____
44-093					
	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____
44-094					
	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____
44-095					
	TQW:_____	TQW:_____	TQW:_____	TQW:_____	TQW:_____

PRIMARY REG SECURE AND REACTIVATION COMPLETE

44-098					
A74935 CLSD					
NOT PERFORMED	_____	_____	_____	_____	_____
A74937 CLSD					
NOT PERFORMED	_____	_____	_____	_____	_____
44-099					
PRIMARY	_____	_____	_____	_____	_____
SECONDARY	_____	_____	_____	_____	_____

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APPENDIX I

DATA SHEET I-1 - SRB PIC RESISTANCE TEST (GO)

STEP	RUN ____ DATE -	RUN ____ DATE -	RUN ____ DATE -	RUN ____ DATE -
----	-----	-----	-----	-----
48-001	_____	_____	_____	_____
48-002	_____	_____	_____	_____
48-003	_____	_____	_____	_____
48-004	_____	_____	_____	_____
48-005	_____	_____	_____	_____
48-006	_____	_____	_____	_____
48-007	_____	_____	_____	_____

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APPENDIX J

RESERVED  
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APPENDIX J

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APPENDIX K

WALKDOWN DISCREPANCY LIST  
-----

NOTE

THIS LIST IS CREATED BY  
INTEGRATED PRE-OPERATION  
SETUP 1 AND OTHER  
PRE-OPERATION SETUP AND  
OPERATION SUPPORT SETUP  
WALKDOWNS.

ADDITIONAL PAGES MAY BE ADDED  
TO APPENDIX K BY MAKING COPIES  
OF NEXT PAGE AND ADDING THEM  
TO THIS BOOK.

ALL ITEMS CHECKED TEMPORARY  
WILL BE RECORDED IN THE  
APPLICABLE PDTL (POTENTIAL  
DISCREPANCY TRACKING LOG)  
FOR EVALUATION ON FUTURE  
INTEGRATED WALKDOWNS.  
THESE TYPE DISCREPANCIES  
ARE EITHER A TEMPORARY  
RESOLUTION OR ARE ACCEPTABLE  
FOR ONE LAUNCH.

DO NOT PERFORM THIS APPENDIX  
IF VEHICLE IS IN A SCRUB  
TURNAROUND AND WALKDOWNS  
HAVE NOT BEEN SCHEDULED.

APPENDIX K  
NOT PERFORMED \_\_\_\_\_

1. LOCATION:
2. ORIGINATOR:
3. RESPONSIBLE ORGANIZATION WILL CLEAR DISCREPANCY.
4. VALID CONSTRAINTS: PRSD LOAD; RSS ROTATION; ET LOAD.
5. CLEARED BY - NAME (SIGNATURE OR STAMP); DATE; TIME, AND IDENTIFIED AS PERMANENT OR TEMPORARY.

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APPENDIX L

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APPENDIX M

DATA SHEET M - 1

FOD IDENTIFIED IN FINAL OPS/SAFETY WALKDOWN AND  
-----  
FINAL INSPECTION AT T-3HRS  
-----

NOTE

PERFORM APPENDIX M ONLY IF FOD IDENTIFIED.

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

NOTE

BY DEFINITION, DISCREPANCIES IDENTIFIED  
ARE NOT A CONSTRAINT TO LAUNCH.

MULTIPLE COPIES OF APPENDIX M MAY BE USED.  
IDENTIFY EACH DISCREPANCY ON A SEPARATE PAGE.

LOCATION OF FOD MAY BE IDENTIFIED USING  
FIGURE M-1, ON REVERSE OF THIS FORM.

SECTION 1 (TO BE COMPLETED BY WALKDOWN/INSPECTION PERSONNEL)  
-----

DISCREPANCY: \_\_\_\_\_  
\_\_\_\_\_

LOCATION: \_\_\_\_\_  
\_\_\_\_\_

ADDITIONAL AREAS SEARCHED: \_\_\_\_\_

POSSIBLE SYSTEMS/SOURCES: \_\_\_\_\_  
\_\_\_\_\_

ADDITIONAL REMARKS: \_\_\_\_\_

IDENTIFIED BY: \_\_\_\_\_

SECTION 2 (TO BE COMPLETED BY RESPONSIBLE SYSTEM ENGINEER)  
-----

ACCEPTANCE RATIONALE: \_\_\_\_\_  
\_\_\_\_\_

DISPOSITIONED BY: \_\_\_\_\_

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APPENDIX M

FIGURE M-1 - MLP ZERO LEVEL  
(FOR REFERENCE ONLY)



APPENDIX N

DATA SHEET AND VERIFICATION RECORD  
 FOR SEQ 85 - ORBITER CALL TO STATIONS  
 FOR E0008 TASK 01 OCV CHECKS

	RUN ____ DATE -	RUN ____ DATE -	RUN ____ DATE -	RUN ____ DATE -	RUN ____ DATE -	RUN ____ DATE -
STEP	_____	_____	_____	_____	_____	_____
----	-----	-----	-----	-----	-----	-----
85-001	_____	_____	_____	_____	_____	_____
85-002	_____	_____	_____	_____	_____	_____
85-003	_____	_____	_____	_____	_____	_____
85-004	_____	_____	_____	_____	_____	_____
85-005	_____	_____	_____	_____	_____	_____
85-006	_____	_____	_____	_____	_____	_____
DATE	_____	_____	_____	_____	_____	_____
TIME (GMT)	_____	_____	_____	_____	_____	_____
VEH: OV-	_____	_____	_____	_____	_____	_____
PAD	_____	_____	_____	_____	_____	_____
85-007	_____	_____	_____	_____	_____	_____
FSW REL.	_____	_____	_____	_____	_____	_____
85-008	QV:_____	QV:_____	QV:_____	QV:_____	QV:_____	QV:_____
85-009	REV _____	_____	_____	_____	_____	_____
DEV PKG	_____	_____	_____	_____	_____	_____
85-010	_____	_____	_____	_____	_____	_____
85-011	_____	_____	_____	_____	_____	_____

APPENDIX N

DATA SHEET AND VERIFICATION RECORD  
 FOR SEQ 85 - ORBITER CALL TO STATIONS  
 FOR E0008 TASK 01 OCV CHECKS

	RUN ___ DATE -	RUN ___ DATE -	RUN ___ DATE -	RUN ___ DATE -	RUN ___ DATE -	RUN ___ DATE -
STEP						
85-012						
85-013						
85-014						
85-015						
85-016						
85-017						
85-018						
TCID NO.						
REV						
MOD						
SW NO.						
85-019						
85-020						
85-021						

APPENDIX N

DATA SHEET AND VERIFICATION RECORD  
 FOR SEQ 85 - ORBITER CALL TO STATIONS  
 FOR E0008 TASK 01 OCV CHECKS

STEP	RUN DATE -	RUN DATE -	RUN DATE -	RUN DATE -	RUN DATE -	RUN DATE -
----	-----	-----	-----	-----	-----	-----
85-022	_____	_____	_____	_____	_____	_____
85-023	_____	_____	_____	_____	_____	_____
85-024	_____	_____	_____	_____	_____	_____
85-025 NOT PERFORMED	_____	_____	_____	_____	_____	_____
85-026 NOT PERFORMED	_____	_____	_____	_____	_____	_____
85-027 NOT PERFORMED	_____	_____	_____	_____	_____	_____
85-028 NOT PERFORMED	_____	_____	_____	_____	_____	_____
85-029 NOT PERFORMED	_____	_____	_____	_____	_____	_____
85-030	_____	_____	_____	_____	_____	_____
85-031	_____	_____	_____	_____	_____	_____
85-032	_____	_____	_____	_____	_____	_____
85-033	_____	_____	_____	_____	_____	_____
85-034	_____	_____	_____	_____	_____	_____
85-035	_____	_____	_____	_____	_____	_____
85-036	_____	_____	_____	_____	_____	_____

APPENDIX N

DATA SHEET AND VERIFICATION RECORD  
FOR SEQ 85 - ORBITER CALL TO STATIONS  
FOR E0008 TASK 01 OCV CHECKS  
-----

85-037 NOT PERFORMED	_____	_____	_____	_____	_____	_____
85-038	_____	_____	_____	_____	_____	_____
85-039 NOT PERFORMED	_____	_____	_____	_____	_____	_____
85-040 NOT PERFORMED	_____	_____	_____	_____	_____	_____
85-041 NOT PERFORMED	_____	_____	_____	_____	_____	_____
85-042 NOT PERFORMED	_____	_____	_____	_____	_____	_____
85-043	_____	_____	_____	_____	_____	_____
85-044 NOT PERFORMED	_____	_____	_____	_____	_____	_____

APPENDIX O

DATA SHEET O-1 - ORBITER/GSE PIC RESISTANCE TEST

STEP	RUN ____ DATE -	RUN ____ DATE -	RUN ____ DATE -	RUN ____ DATE -
-----	-----	-----	-----	-----
52-001	_____	_____	_____	_____
52-002	_____	_____	_____	_____
52-003	_____	_____	_____	_____
52-004	_____	_____	_____	_____
52-005	_____	_____	_____	_____
52-006	_____	_____	_____	_____
52-007	_____	_____	_____	_____
52-008	_____	_____	_____	_____
52-009	_____	_____	_____	_____
52-010	_____	_____	_____	_____
NOT PERFORMED	_____	_____	_____	_____
52-011	_____	_____	_____	_____
NOT PERFORMED	_____	_____	_____	_____
52-012	_____	_____	_____	_____
NOT PERFORMED	_____	_____	_____	_____
52-013	_____	_____	_____	_____
NOT PERFORMED	_____	_____	_____	_____
52-014	_____	_____	_____	_____
NOT PERFORMED	_____	_____	_____	_____

APPENDIX O

STEP	RUN ____ DATE -	RUN ____ DATE -	RUN ____ DATE -	RUN ____ DATE -
----	-----	-----	-----	-----
52-015	_____	_____	_____	_____
NOT PERFORMED	_____	_____	_____	_____
52-016	_____	_____	_____	_____
52-017	_____	_____	_____	_____
52-018	_____	_____	_____	_____
52-019	_____	_____	_____	_____
52-020	_____	_____	_____	_____
52-021	_____	_____	_____	_____
52-022	_____	_____	_____	_____
52-023	_____	_____	_____	_____

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APPENDIX P

C/W LOG SHEET

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APPENDIX P

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APPENDIX R

DATA SHEET AND QC VERIFICATION RECORD  
 FOR SEQ 81 - IUS ASCENT TELEMETRY LOCKUP  
 FOR S0007

	RUN ____ DATE -	RUN ____ DATE -	RUN ____ DATE -	RUN ____ DATE -	RUN ____ DATE -	RUN ____ DATE -
STEP	_____	_____	_____	_____	_____	_____
-----	-----	-----	-----	-----	-----	-----
ENTIRE SEQ NOT PERFORMED	_____	_____	_____	_____	_____	_____
81-001	_____	_____	_____	_____	_____	_____
81-002	_____	_____	_____	_____	_____	_____
RECORD	_____	_____	_____	_____	_____	_____
81-003 NOT PERFORMED	_____	_____	_____	_____	_____	_____
81-004 NOT PERFORMED	_____	_____	_____	_____	_____	_____
81-005 NOT PERFORMED	_____	_____	_____	_____	_____	_____
81-006 NOT PERFORMED	_____	_____	_____	_____	_____	_____
81-007 NOT PERFORMED	_____	_____	_____	_____	_____	_____
81-008 NOT PERFORMED	_____	_____	_____	_____	_____	_____
81-009 NOT PERFORMED	_____	_____	_____	_____	_____	_____
81-010	_____	_____	_____	_____	_____	_____
DEU NO.	_____	_____	_____	_____	_____	_____
NOT PERFORMED	_____	_____	_____	_____	_____	_____

APPENDIX R

DATA SHEET AND QC VERIFICATION RECORD  
FOR SEQ 81 - IUS ASCENT TELEMETRY LOCKUP  
FOR S0007

-----

81-011 GMT	_____	_____	_____	_____	_____	_____
NOT PERFORMED	_____	_____	_____	_____	_____	_____
81-012 GMT	_____	_____	_____	_____	_____	_____
NOT PERFORMED	_____	_____	_____	_____	_____	_____
81-013 REP CMD COUNT	_____	_____	_____	_____	_____	_____
NOT PERFORMED	_____	_____	_____	_____	_____	_____
81-014 NOT PERFORMED	_____	_____	_____	_____	_____	_____
81-015 NOT PERFORMED	_____	_____	_____	_____	_____	_____
81-016 NOT PERFORMED	_____	_____	_____	_____	_____	_____
81-017	_____	_____	_____	_____	_____	_____
81-018	_____	_____	_____	_____	_____	_____
81-019	_____	_____	_____	_____	_____	_____

APPENDIX T

SCRUB TURNAROUND RE-ENTRY TRACKING LIST

NOTE

THIS LIST WILL BE GENERATED BY THE NTD AND MAINTAINED BY CMQC TO TRACK NON-STANDARD WORK BEING PERFORMED DURING LAUNCH SCRUB TURNAROUND OPERATION. THIS LIST WILL BE FORWARDED TO THE NPM FOR THE BDA FINAL CLEAR OPS/SAFETY WALKDOWN.

ITEM NO.	WAD	WORK AREA	ORGANIZATION
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

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APPENDIX T

SCRUB TURNAROUND RE-ENTRY TRACKING LIST  
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NOTE

EMERGENCY INSTRUCTIONS,  
APPENDIX Z IS LOCATED IN  
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S0007VL4

SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

PHIL LINTEREUR.....3	JERRY L. GREENWOOD
F264	3731
PETE WILSON	MICHOUD ASSY FACILITY
ZK-07	LOCKHEED MARTIN
JAMES REED	P.O. BOX 29304
EY-C	NEW ORLEANS, LA 70189
ROBERT L. WRIGHT	ALEX RODRIGUEZ.....3
CSR-4222B	ZK-86
WHIT BARTLETT	DEBBIE HAHN
PK-D2	NN-M2
FERDINAND JONES	MEGAN MISCHKOT
AC-58	N/A
BOEING NORTH AMERICAN	MICHOUD ASSEMBLY FACILIT
6633 CANOGA AVE	P.O. BOX 29300
CANOGA PARK, CA 91304	NEW ORLEANS, LA 70189
LANCE S. BORDEN	DEPT 4250
ZC-01	JILL JAHNKOW.....2
ROCKWELL INTL CORP	FA-99
555 GEMINI AVE	BOEING NORTH AMERICAN
HOUSTON, TX 77058	MISSION SUPPORT ROOM
CALVIN J. CULBERTSON.....2	12214 LAKEWOOD BLVD
FC-51	DOWNEY, CA 90241
CCAS, FL 32899	CHRIS WEAVER.....6
LISA A. MALONE	PZ-L
PA-MSB	
BRUCE D. BOUTON	
8A-44	
BOEING DEFENSE & SPACE G	
P.O. BOX 3999	
SEATTLE, WA 98124-2499	
K. GRANT	
USH-440X	
UNITED SPACE ALLIANCE	
600 GEMINI	
HOUSTON, TX 77058	

TOTAL QTY: 264

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

1

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SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

AFQA/LGQAB/P. MCDANIEL	NASA/JSC.....2
BA/FC-50/W. BRAGG.....2	C/O TRANSPORTATION OFFICE
BA/FC-51/ELS DATA FILES	BUILDING 420
BA/FC-51/J. HAGOOD.....2	HOUSTON, TX 77058
BA/FC-51/J. LEWIS.....2	ATTN: DA82/MARY C. THOMAS
BA/FC-51/N. BIHR.....3	BLDG 30M, ROOM 235
BNA SPACEHAB/NANCY CRABTREE.....2	NN-L/PAYLOAD ENGINEERING
SPACEHAB, INC	NN-M1
620 MAGELLAN RD	NN-M2
CAPE CANAVERAL, FL 32920	NN-M3
C07A/J. LECHER	THIO-LSS/BRIAN ST. AUBIN
JSC, TX 77058	USBI-LSS/LIBRARY
DM43/RILEY K. ALLISON	USK-078/CCC, C-1 PNEU
JSC, TX 77058	USK-078/CCC, C-1 WATER
EI-C-C/NSF CONSOLE	USK-078/CCC, C-3 POWER
EI-C-D/NASA VAB SAFETY	USK-078/CCC, INTEGRATION
EI-C-F/NASA OPF SAFETY	USK-225/JODI SILLS
ESMC-SEO/CAMPBELL	USK-391/SAFETY OPS (PAD B)
LLOYD MUSTIN SSM	USK-550/VITT OFFICE.....2
MAIL STOP AE26	ZA03/DAVID BARNES
BOEING NORTH AMERICAN	BOEING NORTH AMERICAN
SPACE SYSTEMS DIV.	555 DISCOVERY DRIVE
P.O. BOX 7009	HUNTSVILLE, AL 35806
DOWNEY, CA 90241-7009	3 SLS/DOOT/CAPT. G. FENTRESS
MS-E68/R. BAKES	3 SLS/MA/B. STRACENER....2
THIOKOL CORP.	AIR-FORCE CCAFS
P.O. BOX 707	N/A
BRIGHAM CITY, UT 84302-0707	45 RANS/DOOB
MS3/LIBRARY	(CCAFS)
JSC, TX 77058	PHILLIPS PARKWAY/10400
MV2/D. STAMPER	PATRICK AFB, FL 32925
JSC, TX 77058	CCC LIBRARY.....3
MV3/KENNETH BROWN	USK-093
JSC, TX 77058	MISSION SUPPORT
	SGS-347
	EG&G PROTECTIVESYSTEMS
	BOC-326
	PAD ELECTRICAL-SHOP
	USK-175

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SHUTTLE COUNTDOWN (LPS)

DISTRIBUTION F - FINAL

SECTION NASACOMM/RFSYSTEMS	TECHNICAL DOC-CTR.....50
PK-F3	USK-038
NASA-FLT ELECTR-SYS-SECT	TSMO SITE-MGRS
PK-F	USK-299
FLOW DIRECTOR-OFFICE	TSMO OMD

PH-B2  
SECTION NASAECLESSSYSTEM  
PK-G5  
BOEING P/L-TEST-CONDUCTOR.....3  
F214  
GUIDANCE-AND NAVIGATION  
USK-195  
GEL LCC-RM-3R18  
USK-542  
KSC-ELECTRO MAGNETIC-ANALYSIS  
VC-A  
ORB MECHANISM  
PK-H5  
NASA QA-FR1  
USK-268  
OTC ORBTSTCONDUCTOR.....4  
USK-023  
SPC PAD-SAFETY  
USK-257  
TEST-OPS PAD-A  
USK-307  
TEST-OPS PAD-B  
USK-389  
BRANCH INSTRUM.&P/LSYS.....2  
PK-F3  
PNEUMATICS ENGINEERING  
USK-043  
PAD SWING-ARMS-SHOP  
USK-398  
SFOC SAFETY-CONSOLE  
USK-399  
SUPV-SAFETY RELIABILITY-ENGR  
USK-291

USK-075  
USA INSTRUMENTATION....2  
USK-194  
VITT OFFICE  
F204  
O&C BLDG  
SWING ARMS-ENG'G  
USK-290  
ET MECHANICAL-ENG  
USK-251  
ET LH2PAD-A  
USK-174  
ET LH2PAD-B  
USK-390  
ET-LOX PAD-A  
USK-173  
MEQ ORB-MECHANISMS-ENG  
USK-408  
OMS/RCS ENG-PADA  
USK-484  
OMS/RCS ENG-PADB  
USK-347  
CENTRL WRK-PKG-BLD  
USK-409  
COMM CONTROL.....2  
USK-145  
TSMO PAD-A  
USK-076  
TSMO PAD-B  
USK-404  
TSMO SUPV-STM.....3  
USK-299  
ROBERT T. ROOK II  
USK-356

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DISTRIBUTION F - FINAL

FRANK A. DEBERNARDO.....3  
USK-116  
NEAL R. GRIFFITH  
USK-112  
DON GARCEAU  
USK-109  
THOMAS E. JACOBS.....2  
USK-107  
JIM TOWNSEND  
USK-108  
SHOE SHOEMAKER  
USK-144  
PAT CHAPPELL  
USK-074  
DENNIS E. LOHAUS

PAUL R. GRATSCH.....2  
USK-195  
CHARLES J. HANNAS  
USK-192  
EARL D. COOLEY  
USK-269  
ERIC D. HENRY  
USK-225  
BOB DOUGERT.....2  
USK-356  
DEAN T. TYRE  
USK-421  
STEVE VELLIGAN  
USK-214  
RANDY DUNCAN.....2

USK-069		USK-196
RICHARD H. MURRAY.....2		PEGGY S. HATTAWAY
USK-414		USK-246
ROBERT RODRIGUEZ		GARY A. WOODS
USK-198		USK-281
CONNIE VONDRELL		PAUL E. BRANDT
USK-192		USK-111
TOM WELLS.....2		OZZIE FISH
USK-420		USK-314
MARTIN L. CARLSON		ANDY BUNDY
USK-420		PK-E3
JUDY HOOPER.....3		DAVID R. SCHECHTER
USK-247		PZ-C
STEVE GODFREY		JIMBO BOLTON
USK-241		USBI-LSS
BILL NUTTER.....5		BILL CLEVER II
USK-214		SK
JANIENE L. PAPE		KATHLEEN A. CONWAY
USK-284		USK-669
PAUL L. QUANDT		TERRI L. HERST
USK-356		PK-D
TODD M. GRACOM		ED MANGO
USK-195		PK-D2

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DISTRIBUTION F - FINAL

SCOTT CHANDLER.....2	ANGELO PACE
PK-E4	USK-682
MICHAEL GARSKE	RANDY DAVIES
DF24	CSR-3200
JSC, TX 77058	CAPE CANAVERAL AFS, FL 32899
STEVE SWICKOW	RONALD W. WETMORE
PK-F6	MMC-15
AL DIAZ	HAROLD E. REED
PK-F	JJ-3-B
BOB BEIL	CHUCK GIVENS
PK-G3	BOC-342
ANDY DIBBERN	RAYMOND G. PREECE
PK-G6	ZK-07
PETE CHITKO	RAY W. NUSS
PK-H6	EV4
GREG KATNIK	JOHNSON SPACE CENTER
PK-H7	HOUSTON, TX 77058
JORGE E. RIVERA	ROBERT B. LUECKING
PK-H7	ZK-86
PHIL WEBER	MATTHEW J. HOFMANN
PK-H6	ROC-LSS
PAT MARKEY	JIM ALLAMON
PK-J	ZK-21
RENEE HART	CANDICE F. NORMAN.....2
USK-669	BOC-349
DONALD G. SIMMONS	TOM HILL

USK-647  
BOBBY E. ORR  
USK-607  
OLAN J. BERTRAND  
CA4  
HOUSTON, TX 77058  
KEN FORD  
USK-637  
RICHARD MIZELL  
PK-F6  
ERVIN G. WALKER  
JCI-VITC-2

ASC/ERD-FL  
TAB CHOATE  
SA21  
BOEING - ROCKETDYNE DIVI  
MARSHALL SPACE FLIGHT CE  
BLDG 4202, RM 405  
HUNTSVILLE, AL 35812  
TONY IPPOLITO  
MILA  
NEAL E. VANSCYOC  
F224  
JAMES B. PARKS  
PK-J-B