

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM :EW&I/MPS

FMEA NO 05-7J -2006 -1 REV:03/05/90
 ABORT: RTLS, TAL

LOCATION :SEE TABLE 05-7J-2006-1

CRIT.FUNC: 3

P/N RI QUANTITY

CRIT. HDW: 3

1. NBS6GES-3XX 2

VEHICLE	102	103	104	105
EFFECTIVITY	X	X	X	X

PHASE(S): PL LO X OO DO LS

REDUNDANCY SCREEN: A- N/A B- N/A C- N/A

APPROVED BY (NASA):

PREPARED BY:

APPROVED BY:

DES	J	PECK	DES	<i>[Signature]</i>	3/5/90
REL	T	KIMURA	REL	<i>[Signature]</i>	3-6-90
QE	J	COURSEN	QE	<i>[Signature]</i>	3-13-90

EW&I SSM	<i>[Signature]</i>	4/17/90
EW&I REL	<i>[Signature]</i>	2/17/90
SSM	<i>[Signature]</i>	4/27/90
REL	<i>[Signature]</i>	4/22/90
QE	<i>[Signature]</i>	26 MAR 90

ITEM:

CONNECTOR, PLUG, 3 #20 CONTACTS - HELIUM SUPPLY BLOW DOWN VALVE

FUNCTION:

PROVIDES MATE/DEMATE CAPABILITY FOR WIRING WHICH CONTAINS CIRCUITS FOR ENERGIZING THE HELIUM SUPPLY BLOWDOWN VALVE OPEN SOLENOID. FOR PLUG REFERENCE DESIGNATORS, SEE TABLE 05-7J-2006-1.

FAILURE MODE:

INADVERTENT DEMATING

CAUSE(S):

PIECE PART FAILURE, CONTAMINATION, VIBRATION, MECHANICAL SHOCK, PROCESSING ANOMALY

EFFECT(S) ON:

(A)SUBSYSTEM (B)INTERFACES (C)MISSION (D)CREW/VEHICLE (E)FUNCTIONAL CRITICALITY EFFECT:

(A) LOSS OF ABILITY TO ENERGIZE ONE OF TWO SERIES HELIUM SUPPLY BLOWDOWN VALVE OPEN SOLENOIDS.

(B) INABILITY TO OPEN ONE OF TWO SERIES HELIUM SUPPLY BLOWDOWN VALVES.

(C,D) NO EFFECT - FIRST FAILURE FOR NORMAL MISSION.

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CRITICALITY 1/1 DURING RTLS/TAL ABORTS. FAILURE OF EITHER SERIES REDUNDANT VALVE TO OPEN RESULTS IN NO PURGE OF OMS PODS, LH2 DISCONNECT CAVITY AND AFT COMPARTMENT, CREATING A FIRE/EXPLOSION HAZARD. DURING ABORT ENTRIES, HYDROGEN RICH GASES TRAPPED IN THE WAKE WILL BE INGESTED INTO THE AFT COMPARTMENT THROUGH THE VENT DOORS AND EXCEED FLAMMABLE LIMITS DURING A PORTION OF THE ENTRY. POSSIBLE LOSS OF CREW/VEHICLE FOR RTLS/TAL ABORT.

REFERENCE CIL 05-6J-2050-1

DISPOSITION & RATIONALE:

(A) DESIGN (B) TEST (C) INSPECTION (D) FAILURE HISTORY (E) OPERATIONAL USE:

(A,B,C,D) DISPOSITION AND RATIONALE

REFER TO APPENDIX K, ITEM NO. 2 - TYPE NBS CONNECTOR, CIRCULAR, MINIATURE

(B) TEST

GROUND TURNAROUND TEST

DV41AAO.080 - LV26/27 MDM VERIFICATION - RE-ENTRY (IN FLIGHT DATA)

V41BGO.090 - PR4 MPS PNEUMATIC REGULATOR FUNCTIONAL TEST (PERFORM IF REGULATOR OSCILLATION IS IRREGULAR OR VIOLATION OF V41GEN.010)

V41BZO.070 - HELIUM BLOWDOWN SYSTEM FLOW (EVERY TENTH FLIGHT - OR PERFORM AFTER LRU REPLACEMENT EXCEPT LINE TO PURGE VENT AND DRAIN)

DV41BZO.070 - HELIUM RE-ENTRY PURGE VERIFICATION (IN FLIGHT DATA)

(E) OPERATIONAL USE

NO CREW ACTION CAN BE TAKEN

TABLE 05-7J-2006-1

PART NUMBER	PLUG REFERENCE DESIGNATOR	CONNECTOR LOCATION
1. NBS6GE8-3XX	50V77W90P777	ON HELIUM BLOWDOWN VALVE NO. 1 SOLENOID
	50V77W90P778	ON HELIUM BLOWDOWN VALVE NO. 2 SOLENOID