

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM :EW&I/MPS

FMEA NO 05-7J -2005 -1 REV:03/05/90

ABORT: RTLS, TAL

LOCATION :SEE TABLE 05-7J-2005-1

CRIT.FUNC: 3

P/N RI QUANTITY

CRIT. HDW: 3

1. NBS6GE8-3XX

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):

EW&I SSM

EW&I REL

SSM

REL

QE

PREPARED BY:

APPROVED BY:

DES J PECK

DES

REL T KIMURA TR

REL

QE J COURSEN

QE

ITEM:

CONNECTOR, PLUG, 3 #20 CONTACTS - LH2 MANIFOLD REPRESSURIZATION VALVE CIRCUITS

FUNCTION:

PROVIDES MATE/DEMATE CAPABILITY FOR WIRING WHICH CONTAINS CIRCUITS FOR ENERGIZING THE LH2 MANIFOLD REPRESSURIZATION VALVE OPEN SOLENOID. FOR PLUG REFERENCE DESIGNATORS, SEE TABLE 05-7J-2005-1.

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 LH2 MANIFOLD REPRESSURIZATION VALVE OPEN SOLENOIDS.

(B) INABILITY TO OPEN ONE OF TWO SERIES LH2 MANIFOLD REPRESSURIZATION VALVES. THE LH2 MANIFOLD REPRESSURIZATION SYSTEM FUNCTION IS CONSIDERED NON-MANDATORY FOR NOMINAL, AOA, ATO MISSIONS. NOMINAL POST DUMP RESIDUALS (APPROXIMATELY THREE POUNDS) ARE SUFFICIENT TO CAUSE PROPELLANT SYSTEM RUPTURE IN CASE OF RELIEF SYSTEM FAILURE, REGARDLESS OF REPRESSURIZATION SYSTEM OPERATION.

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

CRITICALITY 1/1 DURING RTLS AND TAL ABORTS. FAILURE RESULTS IN LOSS OF LH2 MANIFOLD REPRESSURIZATION (MANDATORY TO PRECLUDE FLAMMABLE CONCENTRATIONS IN THE LH2 PROPELLANT SYSTEM) CAUSING POSSIBLE FIRE/EXPLOSION HAZARD IN THE LH2 PROPELLANT SYSTEM AND POSSIBLE LOSS OF CREW/VEHICLE.

REFERENCE CIL 05-6J-2065-1

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

V41AAG.100 - LV42/LV43 MDM/SWITCH ELECTRICAL VERIFICATION (EVERY FLIGHT)

DV41AC07.300, 310, 320, 330 - MPS LH2 MANIFOLD REPRESSURIZATION VALVES (30 FLIGHT DATA)

V41BZ0.030 - HELIUM REPRESSURIZATION FLOW PATH TO RECIRCULATION MANIFOLD (EVERY SEVENTH FLIGHT - OR PERFORM AFTER LRU REPLACEMENT)

(E) OPERATIONAL USE

FOR RTLS, NO CREW ACTION CAN BE TAKEN. FOR NOMINAL, ATO, AND AOA ADDITIONAL PROPELLANT VACUUM INERTS MAY BE REQUIRED.

TABLE 05-7J-2005-1

PART NUMBER	PLUG REFERENCE DESIGNATOR	CONNECTOR LOCATION
1. NBS6GES-3XX	50V77W X 1P779 9	ON LH2 MANIFOLD REPRESS VALVE NO. 1
	50V77W X 1P780 9	ON LH2 MANIFOLD REPRESS VALVE NO. 2