

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EPD&C - MAIN PROP. FMEA NO 05-6J -2322 -1 REV:06/16/88
 ABORT: RTLS, TAL.

ASSEMBLY : AFT LCA-2 CRIT. FUNC: 3
 P/N RI : JANTXV1N5551 CRIT. HDW: 3
 P/N VENDOR: VEHICLE 102 103 104
 QUANTITY : 2 EFFECTIVITY: X X X
 : TWO PHASE(S): PL LO X OO DO LS
 :

REDUNDANCY SCREEN: A- B- C-
 PREPARED BY: APPROVED BY: APPROVED BY (NASA);
 DES J BROWN DES [Signature] EPDC SSM [Signature] 6/27/88
 REL F DEFENSOR REL J Kimura 6/27/88 MPS SSM [Signature] 6/27-88
 QE D MASA QE [Signature] 6/27/88 EPDC REL [Signature] 6/27-88
 MPS REL [Signature] 6/27-88

ITEM:
 DIODE, BLOCKING, (3 AMP), LH2 HELIUM MANIFOLD REPRESSURIZATION VALVE SOLENOID (LV42, 43).

FUNCTION:
 ISOLATES MDM OPEN COMMAND FROM MANUAL SWITCH OPEN COMMAND. 55V76A122J1(96), (98).

FAILURE MODE:
 OPEN, FAILS TO CONDUCT.

CAUSE(S):
 STRUCTURAL FAILURE (MECHANICAL STRESS, VIBRATION), ELECTRICAL STRESS, PROCESSING ANOMALY, THERMAL STRESS.

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

- (A) LOSS OF POWER TO ONE OF TWO SERIES LH2 HELIUM MANIFOLD REPRESSURIZATION VALVES (LV42, 43).
- (B) INABILITY TO OPEN ONE OF TWO SERIES LH2 HELIUM MANIFOLD REPRESSURIZATION VALVES. LH2 MANIFOLD REPRESSURIZATION SYSTEM FUNCTION CONSIDERED NON MANDATORY FOR NOMINAL, AOA, ATO MISSIONS.
- (C,D) NO EFFECT - FIRST FAILURE.

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

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DISPOSITION & RATIONALE:

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

(A-D) FOR DISPOSITION AND RATIONALE:

REFER TO APPENDIX F, ITEM NO. 4 - DIODE, AXIAL LEAD.

(B) GROUND TURNAROUND TEST

COMPLETE ELECTRICAL VERIFICATION, V41AAO.100D EVERY FLIGHT.

(E) OPERATIONAL USE

NO CREW ACTION CAN BE TAKEN.