

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EPD&C - ATCS/FES FMEA NO 05-6WE-1008 -2 REV:06/10/8

ASSEMBLY : PANEL L1A2 CRIT. FUNC: 1R
P/N RI : ME452-0102-7201 CRIT. HDW: 2
P/N VENDOR: VEHICLE 102 103 104
QUANTITY : 1 (ONE) EFFECTIVITY: X X X
: PHASE(S): PL LO X OO DO X LS
:

REDUNDANCY SCREEN: A-PASS B-PASS C-PASS
PREPARED BY: DES J BROWN APPROVED BY: APPROVED BY (NASA):
REL M HOVE DES [Signature] SSM [Signature]
QE J COURSEN REL [Signature] 6-10-88 REL [Signature] 6/21/88
[Signature] 6-21-88 QE [Signature] 6/21/88
[Signature] 6/21/88
EPDC SSM [Signature] 6/21/88

ITEM:
SWITCH, TOGGLE. HIGHLOAD EVAPORATOR, FLASH EVAPORATOR SYSTEM
CONTROLLER.

FUNCTION:
ACTIVATES THE HIGHLOAD EVAPORATOR DURING ASCENT AND ENTRY.
J1V71A1A2S34.

FAILURE MODE:
FAILS CLOSED IN THE "OFF" POSITION, SHORT TO CASE (GROUND)

CAUSE(S):
CONTAMINATION, PIECE PART STRUCTURAL FAILURE, MECHANICAL SHOCK,
VIBRATION, PROCESSING ANOMALY

EFFECT(S) ON:
(A) SUBSYSTEM (B) INTERFACES (C) MISSION (D) CREW/VEHICLE
(A) LOSS OF HIGH LOAD EVAPORATOR.
(B) MAXIMUM FLASH EVAPORATOR SYSTEM COOLING OF THE FREON COOLANT LOOP IS
LOST.
(C) ABORT DECISION (NEXT PRIMARY LANDING SITE) IF FAILURE OCCURS DURING
THE ASCENT PHASE.
(D) NO EFFECT -
(E) FUNCTIONAL CRITICALITY EFFECT - NEXT ASSOCIATED FAILURE (E.G. LOSS OF
ONE FREON LOOP) CAN CAUSE LOSS OF ORBITER COOLING WHICH CAN RESULT IN
LOSS OF CREW/VEHICLE.

DISPOSITION & RATIONALE:
(A) DESIGN (B) TEST (C) INSPECTION (D) FAILURE HISTORY (E) OPERATIONAL USE
(A-D) DISPOSITION AND RATIONALE
REFER TO APPENDIX A, ITEM NO. 1 - TOGGLE SWITCH.

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(B) GROUND TURNAROUND TEST

HI LOAD ENABLE IS VERIFIED PRIOR TO EVERY FLIGHT.

(E) OPERATIONAL USE

FES SECONDARY CONTROLLER WILL BE SELECTED WITH THE TOPPING EVAPORATOR AN
"LOSS OF HI LOAD EVAP" POWERDOWN WILL BE PERFORMED FOR ENTRY. ENTRY A
NEXT PRIMARY LANDING SITE.