

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EPD&C - ATCS/FCL PMEA NO 05-6WD-1001 -2 REV:06/10/88

ASSEMBLY : PANEL L1A2 CRIT. FUNC: 1R
P/N RI : ME452-0102-7105 CRIT. HDW: 2
P/N VENDOR:
QUANTITY : 2 (TWO), VEHICLE 102 103 104
EFFECTIVITY: X X X
: ONE PER LOOP PHASE(S): PL LO OO DO X LS

REDUNDANCY SCREEN: A-PASS B-PASS C-PASS
PREPARED BY: APPROVED BY: APPROVED BY (NASA):
DES J BROWN DES [Signature] SSM [Signature]
REL M HOVE REL [Signature] REL [Signature]
QE J COURSEN QE [Signature] QE [Signature]
REL [Signature] 6/29/88
QE [Signature] 6/29/88
REL [Signature] 6/29/88
QE [Signature] 6/29/88

ITEM:
SWITCH, TOGGLE. FLOW PROPORTIONING MODULE.

FUNCTION:
ACTIVATES THE FLOW PROPORTIONING VALVE TO CONTROL DIVISION OF FREON FLOW TO THE INTERCHANGER AND PAYLOAD HEAT EXCHANGER FOR FREON COOLANT LOOP (FCL) 1 OR 2. 31V73A1A2S21,S22.

FAILURE MODE:
FAILS CLOSED IN THE "PAYLOAD HX" POSITION, POLE-TO-POLE SHORT IN "PAYLOAD HX" POSITION

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

EFFECT(S) ON:
(A) SUBSYSTEM (B) INTERFACES (C) MISSION (D) CREW/VEHICLE
(A) LOSS OF ABILITY TO CONTROL ONE FCL FLOW PROPORTIONING MODULE.
(B) UNABLE TO TRANSFER ONE FCL FLOW PROPORTIONING MODULE TO INTERCHANGER FLOW POSITION.
(C) NO EFFECT
(D) NO EFFECT
(E) FUNCTIONAL CRITICALITY EFFECT - SECOND ASSOCIATED FAILURE (LOSS OF SECOND FCL) CAN CAUSE LOSS OF ORBITER COOLING AND 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

SWITCH AND FLOW PROPORTIONING MODULE ARE VERIFIED PRIOR TO EACH FLIGHT.

(E) OPERATIONAL USE

FOR FIRST FAILURE, NO CREW ACTION REQUIRED.

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