

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : IPD&C - INSTRUMENTATION FMEA NO 05-6R -320500-1 REV: 8/16/88

ASSEMBLY : PANEL 017 CRIT. FUNC: 1R
 P/N RI : ME452-0102-7301 CRIT. HDW: 2
 P/N VENDOR: VEHICLE 102 103 104
 QUANTITY : 1 EFFECTIVITY: X X X
 : ONE PHASE(S): PL X LO X OO X DO X LS X
 :

REDUNDANCY SCREEN: A-PASS B-PASS C-PASS
 PREPARED BY: DES W S MCKEE APPROVED BY: DES *[Signature]* APPROVED BY (NASA): SSM *[Signature]*
 REL R GREGORIAN REL *[Signature]* 5-31-89 REL *[Signature]* 4/1/88
 QE E GUTIERREZ QE EMC *[Signature]* 3-29-88 QE *[Signature]* 10/1/88

ITEM:
 SWITCH, TOGGLE, 3P2T

FUNCTION:
 PROVIDES POWER CONTROL FOR:
 (1) DEDICATED SIGNAL CONDITIONERS (DSC) OA1, OA2, OA3
 (2) SIX APU VIBRATION MONITORING SYSTEMS (VMS) THAT PROCESS APU VIBRATION DATA. (REF. MEAS. V46D0180A, 181A, 280A, 281A, 380A, 381A),
 (3) TWO PCL COLDPLATE NETWORK FLOWRATE TRANSDUCERS (REF. MEAS. V63R1105A, 1305A)
 (4) TWO PAYLOAD SEC MAIN CURRENT TRANSDUCERS (REF. MEAS. V76C2811A, 2822A).

REFERENCE DESIGNATOR: 33V73A17S17

FAILURE MODE:
 FAILS OPEN, SHORT TO CASE (GROUND)

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

EFFECT(S) ON:
 (A) SUBSYSTEM (B) INTERFACES (C) MISSION (D) CREW/VEHICLE
 (A) LOSS OF POWER TO:
 (1) THREE DSC'S (OA1, OA2, OA3)
 (2) SIX VMS UNITS (LOSS OF MEASUREMENTS V46D0180A, 181A, 280A, 281A, 380A, 381A).
 (3) TWO PCL COLDPLATE NETWORK FLOWRATE TRANSDUCERS (LOSS OF MEASUREMENTS V63R1105A, 1305A)
 (4) TWO PAYLOAD SEC MAIN CURRENT TRANSDUCERS (LOSS OF MEASUREMENTS V76C2811A, 2822A)
 (B) LOSS OF DATA (UP TO 120 MEASUREMENTS/DSC, 1 MEASUREMENT/VMS, 1 FLOWRATE/TRANSDUCER, 1 CURRENT/TRANSDUCER).

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- (C) POSSIBLE LOSS OF MISSION DUE TO LOSS OF CRITICAL DATA.
- (D) LOSS OF DSC MEASUREMENTS MAY CONCEAL A CRITICAL SUBSYSTEM FAILURE THAT COULD CAUSE 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.
- (B) GROUND TURNAROUND TEST
POWER REDUNDANCY TESTS ON DSC'S ARE PERFORMED DURING GROUND TURNAROUND.
- (E) OPERATIONAL USE
NONE