

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EPD&C - SMK DET/FIRE SUPPMEA NO 05-6VF-2026 -4 REV:01/29/88

ASSEMBLY : PANEL L1A1 CRIT. FUNC: 1
 P/N RI : ME452-0102-7151 CRIT. HDW: 1
 P/N VENDOR: VEHICLE 102 103 104
 QUANTITY : 3 EFFECTIVITY: X X X
 : ONE PER EACH BAY PHASE(S): PL LO X OO DO X LS
 : THREE PER VEHICLE

REDUNDANCY SCREEN: A- B- C-
 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]*

ITEM:
 SWITCH, TOGGLE, FIRE SUPPRESSION ARM AV BAY 1,2,3

FUNCTION:
 PROVIDE POWER TO "ARM" THE PYROTECHNIC INITIATOR CONTROLLER (PIC) AND
 POWER TO THE "AGENT DISCH" SWITCH. 31V73A1A1 S1, S2, S3.

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

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

EFFECT(S) ON:
 (A) SUBSYSTEM (B) INTERFACES (C) MISSION (D) CREW/VEHICLE
 (A) LOSS OF BUILT-IN FIRE SUPPRESSION CAPABILITY IN ONE BAY. INABILITY
 TO ARM PIC TO DISCHARGE SUPPRESSANT.
 (B) INABILITY TO EXTINGUISH FIRE IN THE ASSOCIATED AVIONICS BAY AND
 FLIGHT DECK CONTROL PANEL. (PORTABLE EXTINGUISHERS CANNOT BE USE
 BECAUSE THE CREW IS CONFINED TO THEIR SEATS DURING LAUNCH AND DEORBIT).
 (C,D) POSSIBLE LOSS OF CREW AND VEHICLE IF COMBUSTION IS SUPPORTED
 SINGLE-STRING EMERGENCY SYSTEM DURING LAUNCH AND DEORBIT.

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
 PIC CIRCUIT TESTS PERFORMED PRIOR TO EACH FLIGHT.

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(E) OPERATIONAL USE

POWER DOWN AFFECTED AVIONICS EQUIPMENT.