

SHUTTLE CRITICAL ITEMS LIST -- ORBITER

SUBSYSTEM : EPD&C - SMK DET/FIRE SUP FMEA NO 05-6VF-2027 -4 REV: 01/29/86

ASSEMBLY : PANEL L1A1	CRIT. FUNC:	1
P/N RI : ME452-0102-7302	CRIT. HDW:	1
P/N VENDOR:	VEHICLE	102 103 104
QUANTITY : 1	EFFECTIVITY:	X X X
: ONE PER VEHICLE.	PHASE(S):	PL X LO X OO X DC X LS X

PREPARED BY:	REDUNDANCY SCREEN:	A-	B-	C-
DES <i>W/B</i>	APPROVED BY:	SSM	APPROVED BY (NASA):	
REL J BROWN	DES <i>R.V. Brown</i>	REL <i>John P. Brown 1-30-86</i>	REL <i>John P. Brown 4/10/86</i>	
QE 9.0	REL M HOVE	QE <i>[Signature]</i>	QE <i>John M. [Signature] 4/10/86</i>	
	QE J COURSEN		REL <i>Emb [Signature] 4/1/86</i>	

ITEM:
SWITCH, TOGGLE, SMOKE DETECTOR SENSOR RESET.

FUNCTION:
PROVIDES A COMMON MANUAL RESET OF ALL SMOKE DETECTOR SENSORS. EACH OF THE THREE POLES SEPARATELY CONNECT A MN-DC-BUS TO THE INDIVIDUAL SENSORS FOR RESET OF REDUNDANT SMOKE DETECTORS WITHIN A GIVEN AREA.
31V73A1A1 S7.

FAILURE MODE:
POLE-TO-POLE SHORT, SHORT-TO-CASE (GROUND)

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

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

(A) A SHORT BETWEEN POLES WILL TIE TWO MAIN BUSES TOGETHER UNTIL CB(S) TRIP. SHORT-TO-GROUND WILL TRIP ASSOCIATED CB(S).

(B) TRIPPING OF ANY TWO CB'S WILL LOSE FOUR SMOKE DETECTORS RESULTING IN THE LOSS OF BOTH DETECTORS IN AT LEAST ONE AVIONICS BAY.

(C) POSSIBLE EARLY MISSION TERMINATION.

(D) LOSS OF EARLY DETECTION OF FIRE/SMOKE IN AVIONICS BAY COULD RESULT IN THE LOSS OF CREW/VEHICLE IN CASE OF FIRE.

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

SMOKE DETECTION CIRCUIT TESTS PERFORMED PRIOR TO EACH FLIGHT.

(E) OPERATIONAL USE

NO CREW ACTION AVAILABLE.