

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EPD&C - SMK DET/FIRE SUP FMEA NO 05-6VF-2001 -2 REV:01/29/8

ASSEMBLY : PNL 014, 15&16	CRIT. FUNC: 1
P/N RI : MC454-0026-2030	CRIT. HDW: 1
P/N VENDOR:	VEHICLE 102 103 104
QUANTITY : 3	EFFECTIVITY: X X X
: ONE PER AV BAY	PHASE(S): PL LO X OO DO X IS

PREPARED BY:	REDUNDANCY SCREEN: A- B- C-	APPROVED BY (NASA):
DES <i>JTB</i> J BROWN	DES <i>R.V. Burns</i>	SSM <i>R.L. Ratter Jr.</i>
REL <i>gci</i> M HOVE	REL <i>William C. ... 1-30-88</i>	REL <i>R. ... 2/1/88</i>
QE J COURSEN	QE <i>[Signature]</i>	QE <i>[Signature] 2/1/88</i>
		REL <i>Dick D. Woodland 4/1/88</i>

ITEM:  
CIRCUIT BREAKER (3 AMP), FIRE SUPPRESSANT BAY 1,2,3

FUNCTION:  
PROVIDE OVERLOAD PROTECTION FOR THE ARM SWITCH CIRCUIT AND PROVIDES THE ARM POWER TO THE PYROTECHNIC INITIATOR CONTROLLER (PIC) FOR FIRING OF THE FIRE SUPPRESSANT CONTAINER NATIONAL AERONAUTICS AND SPACE ADMINISTRATION STANDARD INITIATOR NSI. 33V73A14 CB9, 33V73A15 CB8, 33V73A16 CB8.

FAILURE MODE:  
FAILS OPEN, FAILS TO CONDUCT, FAILS TO CLOSE

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

EFFECT(S) ON:  
(A) SUBSYSTEM (B) INTERFACES (C) MISSION (D) CREW/VEHICLE  
  
(A) LOSS OF ELECTRICAL POWER TO THE FIRE SUPPRESSION CONTROL IN ONE OF THREE AVIONICS BAYS.  
  
(B) INABILITY TO EXTINGUISH FIRE IN AN ASSOCIATED AVIONICS BAY VIA FLIGHT DECK CONTROL PANEL (PORTABLE EXTINGUISHERS CANNOT BE USED BECAUSE THE CREW IS CONFINED TO THEIR SEATS DURING LAUNCH AND DEORBIT).  
  
(C,D) POSSIBLE LOSS OF CREW/VEHICLE IF COMBUSTION IS SUPPORTED. SINGLE-STRING EMERGENCY SYSTEM FOR 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 D, ITEM NO. 1 - CIRCUIT BREAKER.  
  
(B) GROUND TURNAROUND TEST  
PIC CIRCUIT TESTS PERFORMED PRIOR TO EACH FLIGHT.  
  
(E) OPERATIONAL USE  
POWER DOWN AFFECTED AVIONICS EQUIPMENT.