

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EPD&C - SMK DET/FIRE SUP FMEA NO 05-6VF-2073 -1 REV:03/08/88

ASSEMBLY : FLCA - 1,2,3
 P/N RI : RWR80S10R2BR
 P/N VENDOR:
 QUANTITY : 6
 : SIX (TWO IN PARALLEL)
 : PER LCA 1,2,3

VEHICLE	102	103	104
EFFECTIVITY:	X	X	X
PHASE(S):	PL X LO	OO	DO LS

CRIT. FUNC: 1R
 CRIT. HDW: 3

PREPARED BY: *JWB* J BROWN
 DES J BROWN
 REL M HOVE
 QE J COURSEN

REDUNDANCY SCREEN: A-FAIL B-N/A C-PASS

APPROVED BY: *R.V. Burns*
 DES *R.V. Burns*
 REL *M. Hoove*
 QE *J. Coursen*

APPROVED BY (NASA):
 SSM *H. ...*
 REL *J. ...*
 QE *J. ...*

EPD&C SSM APPROVED FOR MC 5/88
EPD&C REL JWB 3/2/88

ITEM:

RESISTOR, CURRENT LIMITING (5.11 EQUIVALENT OHM), FIRE SUPPRESSANT 'ARM' COMMAND PRE-FLIGHT

FUNCTION:

PROVIDES CURRENT LIMITING FOR PRE-FLIGHT REMOTE ARMING COMMAND TO THE FIRE SUPPRESSION PYROTECHNIC INITIATOR CONTROLLER (PIC).
 81V76A16 R, 82V76A17 R, 83V76A18 R.

FAILURE MODE:

OPEN

CAUSE(S):

STRUCTURAL FAILURE, ELECTRICAL STRESS, THERMAL STRESS, PROCESSING ANOMALY

EFFECT(S) ON:

(A) SUBSYSTEM (B) INTERFACES (C) MISSION (D) CREW/VEHICLE

(A,B) LOSS OF ONE REDUNDANT GROUND COMMAND 'ARM' PIC FOR SUPPRESSANT RELEASE INTO THE ASSOCIATED AVIONICS BAY.

(C,D) NO EFFECT, FIRST FAILURE.

(E) FUNCTIONAL CRITICALITY EFFECT - POSSIBLE LOSS OF CREW/VEHICLE BASE UPON THE FOLLOWING SCENARIO:

- (1) LOSS OF REDUNDANT RESISTOR
- (2) LOSS OF ONBOARD COMMAND

LOSS OF ALL 'ARM' COMMANDS WILL RESULT IN LOSS OF THE CAPABILITY TO DISCHARGE FIRE SUPPRESSANT IN THE ASSOCIATED AVIONICS BAY.

SCREEN A FAILS BECAUSE LOSS OF ONE PARALLEL RESISTOR CANNOT BE DETECTED.

SCREEN B IS "N/A" BECAUSE GROUND "ARM" CIRCUIT IS IN STANDBY.

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DISPOSITION & RATIONALE:

(A) DESIGN (B) TEST (C) INSPECTION (D) FAILURE HISTORY (E) OPERATIONAL USE

(A-D) DISPOSITION AND RATIONALE

REFER TO APPENDIX E, ITEM NO. 3 - RESISTOR, WIRE WOUND.

(B) GROUND TURNAROUND TEST

PIC CIRCUIT TESTS PERFORMED PRIOR TO EACH FLIGHT.

(E) OPERATIONAL USE

CREW SHOULD USE ONBOARD ARM AND FIRE COMMANDS TO ACTIVATE FI
SUPPRESSANT FOR THE ASSOCIATED AVIONICS BAY.