

**FAILURE MODES EFFECTS ANALYSIS (FMEA) – GIL HARDWARE
NUMBER: 05-6-2262 -X**

SUBSYSTEM NAME: ELECTRICAL POWER DISTRIBUTION & CONTROL
REVISION: 0 05/03/88

PART DATA

PART NAME	PART NUMBER
VENDOR NAME	VENDOR NUMBER
LRU : PANEL R2	V070-730277
SRU : FUSE	ME451-0009-1021

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
FUSE, CARTRIDGE TYPE, 5 AMP - CONTROL BUS POWER AB, BC, CA, 1, 2 AND 3

REFERENCE DESIGNATORS: 32V73A2F83
32V73A2F84
32V73A2F85
32V73A2F86
32V73A2F87
32V73A2F88
32V73A2F89
32V73A2F90
32V73A2F91

QUANTITY OF LIKE ITEMS: 9
NINE, ONE/EACH CONT BUS AB, BC, CA - 1, 2 & 3

FUNCTION:
PROVIDES CIRCUIT OVERLOAD PROTECTION FOR CONTROL BUS FEEDERS FROM
PANEL R2 TO EACH OF NINE CONTROL BUSES ON ASSOCIATED PANELS.

FAILURE MODES EFFECTS ANALYSIS FMEA – CIL FAILURE MODE

NUMBER: 05-6-2262- 01

REVISION#: 1 07/26/99

SUBSYSTEM NAME: ELECTRICAL POWER DISTRIBUTION & CONTROL

LRU: PANEL R2

CRITICALITY OF THIS

ITEM NAME: FUSE

FAILURE MODE: 1R3

FAILURE MODE:

FAILS OPEN, FAILS TO CONDUCT

MISSION PHASE:

PL	PRE-LAUNCH
LO	LIFT-OFF
OO	ON-ORBIT
DO	DE-ORBIT
LS	LANDING/SAFING

VEHICLE/PAYLOAD/KIT EFFECTIVITY:	102	COLUMBIA
	103	DISCOVERY
	104	ATLANTIS
	105	ENDEAVOUR

CAUSE:

THERMAL STRESS, VIBRATION, MECHANICAL SHOCK, CONTAMINATION, STRUCTURAL FAILURE, PROCESSING ANOMALY

CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO

REDUNDANCY SCREEN	A) PASS
	B) FAIL
	C) PASS

PASS/FAIL RATIONALE:

A)

B)

FAILS "B" SCREEN BECAUSE THIRD SOURCE TO A CONTROL BUS IS NOT MONITORED.

C)

- FAILURE EFFECTS -**(A) SUBSYSTEM:**

LOSS OF ONE OF THREE POWER SOURCES TO ONE CONTROL BUS

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(B) INTERFACING SUBSYSTEM(S):

FIRST FAILURE - NO EFFECT. EACH CONTROL BUS IS POWERED FROM THREE MAIN DC BUS SOURCES.

(C) MISSION:

FIRST FAILURE - NO EFFECT

(D) CREW, VEHICLE, AND ELEMENT(S):

FIRST FAILURE - NO EFFECT

(E) FUNCTIONAL CRITICALITY EFFECTS:

POSSIBLE LOSS OF CREW/VEHICLE AFTER TWO ADDITIONAL FAILURES (AN RPC ON THE SAME CONTROL BUS AND A SHORT TO GROUND ON THE ASSOCIATED CONTROL BUS WHICH CAUSES LOSS OF THAT CONTROL BUS AND TRIPS THE REMAINING RPC ON THE FIRST CONTROL BUS) DUE TO LOSS OF POWER TO TWO OR MORE CONTROL BUSES NECESSARY FOR THE OPERATION OF CRITICAL LOADS.

-DISPOSITION RATIONALE-

(A) DESIGN:

REFER TO APPENDIX D, ITEM NO. 2 - FUSE, AXIAL LEAD/CARTRIDGE TYPE

(B) TEST:

REFER TO APPENDIX D, ITEM NO. 2 - FUSE, AXIAL LEAD/CARTRIDGE TYPE

GROUND TURNAROUND TEST

ANY TURNAROUND CHECKOUT TESTING IS ACCOMPLISHED IN ACCORDANCE WITH OMRSD.

(C) INSPECTION:

REFER TO APPENDIX D, ITEM NO. 2 - FUSE, AXIAL LEAD/CARTRIDGE TYPE

(D) FAILURE HISTORY:

CURRENT DATA ON TEST FAILURES, FLIGHT FAILURES, UNEXPLAINED ANOMALIES, AND OTHER FAILURES EXPERIENCED DURING GROUND PROCESSING ACTIVITY CAN BE FOUND IN THE PRACA DATA BASE.

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(E) OPERATIONAL USE:
NONE

- APPROVALS -

EDITORIALLY APPROVED	: BNA	: <u>J. Kamara 7-26-99</u>
TECHNICAL APPROVAL	: VIA APPROVAL FORM	: 96-CIL-025_05-6