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PRINT DATE: 04/20/92

FAILURE MODES EFFECTS ANALYSIS (FMEA) -- CRITICAL HARDWARE

NUMBER: 05-6X-2001-X

SUBSYSTEM NAME: EPD&C - PAYLOAD INTERFACE

REVISION : 2 04/20/92

	PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
■ LRU :	MCCA 2	V070-764220
■ SRU :	FUSE, HIGH CURRENT	ME451-0016-2035

PART DATA

- EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
FUSE, HIGH CURRENT, 35 AMP - MAR (MID-DECK ACCOMMODATION RACK) DC POWER
- REFERENCE DESIGNATORS: 40V76A32F41
: 40V76A32F42
- QUANTITY OF LIKE ITEMS: 2
TWO
- FUNCTION:
PROVIDES OVERLOAD PROTECTION BETWEEN MAIN DC BUS B IN THE MAIN DISTRIBUTION CONTROL ASSEMBLY AND MAR PAYLOAD.

FAILURE MODES EFFECTS ANALYSIS (FMEA) - CRITICAL FAILURE MODE
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SUBSYSTEM: EPD&C - PAYLOAD INTERFACE
LRU :MCCA 2
ITEM NAME: FUSE, HIGH CURRENT

REVISION# 2 04/20/92 R

CRITICALITY OF THIS
FAILURE MODE:2/2

- FAILURE MODE:
FAILS OPEN, FAILS TO CONDUCT

MISSION PHASE:
00 ON-ORBIT

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

- CAUSE:
STRUCTURAL FAILURE, CONTAMINATION, VIBRATION, MECHANICAL SHOCK,
PROCESSING ANOMALY, THERMAL STRESS

- CRITICALITY 1/1 DURING INTACT ABORT ONLY? N

- REDUNDANCY SCREEN A) N/A
■ B) N/A
■ C) N/A

PASS/FAIL RATIONALE:

- A)
- B)
- C)

- FAILURE EFFECTS -

- (A) SUBSYSTEM:
LOSS OF ASSOCIATED DC POWER TO MID-DECK ACCOMMODATION RACK (MAR)
- (B) INTERFACING SUBSYSTEM(S):
UNABLE TO PROVIDE DC POWER TO ASSOCIATED MAR PAYLOAD

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- (C) MISSION:
 POSSIBLE LOSS OF MISSION OBJECTIVES DUE TO LOSS OF DC POWER NECESSARY FOR SPECIFIC PAYLOAD OPERATION/CONTROL.
- (D) CREW, VEHICLE, AND ELEMENT(S):
 FIRST FAILURE - NO EFFECT
- (E) FUNCTIONAL CRITICALITY EFFECTS:

NOTE: FAILURE EFFECTS AND CRITICALITY WILL CHANGE ON FLIGHT-TO-FLIGHT BASIS AND ARE DEPENDENT UPON PAYLOAD AS WELL AS THE METHOD IN WHICH PAYLOAD WIRING IS DESIGNED.

 - DISPOSITION RATIONALE -

- (A) DESIGN:
 REFER TO APPENDIX D, ITEM NO. 3 - FUSE, HIGH CURRENT
- (B) TEST:
 REFER TO APPENDIX D, ITEM NO. 3 - FUSE, HIGH CURRENT

 GROUND TURNAROUND TEST
 MUP VERIFICATION PERFORMED FIRST FLOW, OMDP, AND CONTINGENT UPON MUP REPLACEMENT (NOT TO EXCEED TEN FLIGHTS).
- (C) INSPECTION:
 REFER TO APPENDIX D, ITEM NO. 3 - FUSE, HIGH CURRENT
- (D) FAILURE HISTORY:
 REFER TO APPENDIX D, ITEM NO. 3 - FUSE, HIGH CURRENT
- (E) OPERATIONAL USE:
 MISSION DEPENDENT - OTHER DC OUTLETS MAY BE AVAILABLE

 - APPROVALS -

RELIABILITY ENGINEERING: T. AI
 DESIGN ENGINEERING : T. POCKLINGTON
 QUALITY ENGINEERING : W. R. HIGGINS
 NASA EPO&C RELIABILITY :
 NASA P/L INTEGRATN. MGR:
 NASA QUALITY ASSURANCE :
 NASA EPO&C SUBSYS MGR :

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