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PRINT DATE: 04/20/92

FAILURE MODES EFFECTS ANALYSIS (FMEA) -- CRITICAL HARDWARE

NUMBER: 05-6X-2002-X

SUBSYSTEM NAME: EPO&C - PAYLOAD INTERFACE

REVISION : 2 04/20/92

	PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
■ LRU :	PANEL ML86B	V070-730382
■ SRU :	CIRCUIT BREAKER	MC454-0026-2200

PART DATA

- EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
CIRCUIT BREAKER, 20 AMP - MAR (MID-DECK ACCOMMODATION RACK) DC POWER
- REFERENCE DESIGNATORS: 80V73A130CB95
: 80V73A130CB96
- QUANTITY OF LIKE ITEMS: 2
TWO
- FUNCTION:
PROVIDES CIRCUIT PROTECTION BETWEEN MAIN DC BUS IN THE MAIN DISTRIBUTION CONTROL ASSEMBLY AND MAR PAYLOAD.

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FAILURE MODES EFFECTS ANALYSIS (FMEA) -- CRITICAL FAILURE MODE
NUMBER: 05-6X-2002-01

SUBSYSTEM: EPD&C - PAYLOAD INTERFACE
 LRU :PANEL ML868
 ITEM NAME: CIRCUIT BREAKER

REVISION# 2 04/20/92 R

CRITICALITY OF THIS
 FAILURE MODE:2/2

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

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 I/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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NUMBER: 05-6X-2002-01

- (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. 1 - CIRCUIT BREAKER
- (B) TEST:
REFER TO APPENDIX D, ITEM NO. 1 - CIRCUIT BREAKER

GROUND TURNAROUND TEST
MUP VERIFICATION PERFORMED FIRST FLOW, OMDP, AND CONTINGENT UPON MUP REPLACEMENT (NOT TO EXCEED TEN FLIGHT INTERVALS).
- (C) INSPECTION:
REFER TO APPENDIX D, ITEM NO. 1 - CIRCUIT BREAKER
- (D) FAILURE HISTORY:
REFER TO APPENDIX D, ITEM NO. 1 - CIRCUIT BREAKER
- (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 INTEGRATH. MGR:
 NASA QUALITY ASSURANCE :
 NASA EPO&C SUBSYS MGR :

: ~~TA~~
 : ~~S.M. Anderson~~ 4.21.92
 : ~~W.R. Higgins~~
 : ~~John P. Anderson~~ 5-12-92
 : ~~TJ2/2/2/2/2/2/2/2/2/2~~ 5/12/92
 : ~~ROD~~ ~~Anderson~~ 5/12/92
 : ~~Granville~~ ~~Anderson~~ 5/12/92