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PRINT DATE: 09/01/93

**FAILURE MODES EFFECTS ANALYSIS (FMEA) - CRITICAL HARDWARE
NUMBER: 05-6N-2047-X**

SUBSYSTEM NAME: EPD&C - AUXILIARY POWER UNIT

REVISION: 1 08/30/93

	PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
LRU	: PANEL A12	V070-730365
SRU	: TOGGLE SWITCH	ME452-0102-7309

PART DATA

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
SWITCH, TOGGLE 3 POLE 3 POSITION - AUXILIARY POWER UNIT (APU) HEATERS, LUBE
OIL LINE 1, 2, AND 3 POWER CIRCUITS

REFERENCE DESIGNATORS: 36V73A12S4
36V73A12S5
36V73A12S6

QUANTITY OF LIKE ITEMS: 3
THREE (1 PER APU)

FUNCTION:
PROVIDES ON/OFF MANUAL CONTROL FOR APU LUBE OIL LINE HEATERS A OR B.

**FAILURE MODES EFFECTS ANALYSIS (FMEA) - CRITICAL FAILURE MODE
NUMBER: 05-6N-2047-01**

REVISION# 1 08/30/93

SUBSYSTEM NAME: EPD&C - AUXILIARY POWER UNIT
LRU: PANEL A12
ITEM NAME: SWITCH, TOGGLE

CRITICALITY OF THIS
FAILURE MODE: 2/2

FAILURE MODE:
FAILS OPEN, SHORT-TO-CASE (GROUND)

MISSION PHASE:
OO ON-ORBIT

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

CAUSE:
PIECE PART STRUCTURAL FAILURE, CONTAMINATION, VIBRATION, MECHANICAL
SHOCK, PROCESSING ANOMALY

CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO

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

PASS/FAIL RATIONALE:
A)
B)
C)

- FAILURE EFFECTS -

(A) SUBSYSTEM:
LOSS OF ABILITY TO PROVIDE POWER AND CONTROL TO ENERGIZE LUBE OIL LINE
HEATERS.

(B) INTERFACING SUBSYSTEM(S):
LOSS OF LUBE OIL LINE HEATERS

(C) MISSION:
ABORT DECISION REQUIRED

(D) CREW, VEHICLE, AND ELEMENT(S):
NO EFFECT - FIRST FAILURE

STEP 4 ~~FUNCTIONAL CONSEQUENCE EFFECTS~~

**FAILURE MODES EFFECTS ANALYSIS (FMEA) - CRITICAL FAILURE MODE
NUMBER: 05-6N-2047-01**

-DISPOSITION RATIONALE-

(A) DESIGN:

REFER TO APPENDIX A, ITEM NO. 1 - TOGGLE SWITCH

(B) TEST:

REFER TO APPENDIX A, ITEM NO. 1 - TOGGLE SWITCH

GROUND TURNAROUND TEST

APU 1/2/3 HEATER TEST BY COCKPIT COMMAND PERFORMED IN FLIGHT EVERY FLOW OR AFTER CIG RETEST.

(C) INSPECTION:

REFER TO APPENDIX A, ITEM NO. 1 - TOGGLE SWITCH

(D) FAILURE HISTORY:

REFER TO APPENDIX A, ITEM NO. 1 - TOGGLE SWITCH

(E) OPERATIONAL USE:

PERFORM ON-ORBIT THERMAL CONDITIONING TO MAINTAIN LUBE OIL TEMPERATURE.

- APPROVALS -

EDITORIALLY APPROVED
EDITORIALLY APPROVED
TECHNICAL APPROVAL

: RI
: JSC
: VIA CR

James 9/1/93
[Signature] 9/8/93
: 550270L