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PRINT DATE: 06/01/94

FAILURE MODES EFFECTS ANALYSIS (FMEA) - CRITICAL HARDWARE

NUMBER: 05-2B-22101 -X

SUBSYSTEM NAME: COMM & TRACK: ULTRA HIGH FREQ COMM (UHF)

REVISION: 1 5/25/94

	PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
LRU	: PANEL 06	V070-730389
SRU	: UHF MODE SELECT ROTARY SWITCH	ME452-0093-5027 (OV102)
SRU	: UHF MODE SELECT ROTARY SWITCH	ME452-0093-5227 (OV103, OV104, OV105)

PART DATA

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:

UHF MODE SELECT ROTARY SWITCH, 5P5T

REFERENCE DESIGNATORS: 33V73A6S6

QUANTITY OF LIKE ITEMS: 1

ONE

FUNCTION:

ACTIVATES UHF TRANSCIVER & SELECTS OPERATING MODE BY PROVIDING CLOSURE TO COMMON OF ONE OF FOUR CONTROL LINES.

FAILURE MODES EFFECTS ANALYSIS (FMEA) - CRITICAL FAILURE MODE
 NUMBER: 05-2B-22101 - 01

REVISION# 1 5/25/94

SUBSYSTEM NAME: COMM & TRACK: ULTRA HIGH FREQ COMM (UHF)
 LRU: PANEL 06
 ITEM NAME: UHF MODE SELECT ROTARY SWITCH
 CRITICALITY OF THIS FAILURE MODE: 2 2

FAILURE MODE:
 OPEN SWITCH CONTACT

MISSION PHASE:
 PL PRELAUNCH
 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:
 MECHANICAL FAILURE, VIBRATION, SHOCK, CONTAMINATION.

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:

(1) 2/2 EVA - LOSS OF MISSION IF EVA IS REQUIRED - UNABLE TO ACTIVATE UHF TRANSCEIVER.

(2) 1R/3 OTHER MISSION PHASES - UNABLE TO ACTIVATE UHF TRANSCEIVER.

(B) INTERFACING SUBSYSTEM(S):

(1) 2/2 EVA - LOSS OF MISSION IF EVA IS REQUIRED - UNABLE TO ACTIVATE UHF TRANSCEIVER.

(2) 1R/3 OTHER MISSION PHASES - UNABLE TO ACTIVATE UHF TRANSCEIVER.

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(C) MISSION:

(1) 2/2 EVA - LOSS OF MISSION IF EVA IS REQUIRED - LOSS OF MISSION DUE TO LOSS OF EVA COMM AND TRANSMISSION TO THE EMU'S - WORST CASE - EVA MUST BE TERMINATED.

(2) 1R/3 OTHER MISSION PHASES - NO EFFECT.

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

(1) 2/2 EVA - LOSS OF MISSION IF EVA IS REQUIRED - NO EFFECT.

(2) 1R/3 OTHER MISSION PHASES - NO EFFECT DUE TO FIRST FAILURE.

(E) FUNCTIONAL CRITICALITY EFFECTS:

(1) 2/2 EVA - LOSS OF MISSION IF EVA IS REQUIRED.

2) 1R/3 OTHER MISSION PHASES - AFTER THREE FAILURES (THIS SWITCH AND 2 S-BAND), POSSIBLE LOSS OF CREW/VEHICLE DUE TO LOSS OF STATE VECTOR UPDATE.

-DISPOSITION RATIONALE-

(A) DESIGN:

REFER TO APPENDIX A, ITEM # 2, ROTARY SWITCH

(B) TEST:

REFER TO APPENDIX A, ITEM # 2, ROTARY SWITCH

GROUND TURNAROUND TEST - ANY TURNAROUND CHECKOUT TESTING IS ACCOMPLISHED IN ACCORDANCE WITH OMRSD.

(C) INSPECTION:

REFER TO APPENDIX A, ITEM # 2, ROTARY SWITCH

(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 DATABASE.

(E) OPERATIONAL USE:

NO CREW ACTION AVAILABLE.

- APPROVALS -

PAE MANAGER : K. L. PRESTON
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 DESIGN ENGINEERING : H. D. HADDAD
 NASA SSMA :
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