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PRINT DATE: 07/07/94

**FAILURE MODES EFFECTS ANALYSIS (FMEA) - NONCRITICAL HARDWARE
NUMBER: 05-2B-22104 -X**

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

REVISION: 1 5/28/94

	PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
LRU	: PANEL 06	V070-730389
SRU	: SWITCH, TOGGLE	ME452-0102-7201

PART DATA

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
SWITCH, POWER AMP ON/OFF TOGGLE SWITCH, 2 POT

REFERENCE DESIGNATORS: 36V73A6510

QUANTITY OF LIKE ITEMS: 1
ONE

FUNCTION:
ENABLES UHF 10 WATT PA IN SIMPLEX MODE.

FAILURE MODES EFFECTS ANALYSIS (FMEA) - NONCRITICAL FAILURE MODE
 NUMBER: 05-2B-22104 - 03

REVISION# 1 5/28/94

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

LRU: PANEL D6

ITEM NAME: SWITCH, TOGGLE

CRITICALITY OF THIS

FAILURE MODE: 1R3

FAILURE MODE:

FAILS TO TRANSFER, WORST CASE PA OFF (STUCK IN LOW POWER).

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) PASS
 B) PASS
 C) PASS

PASS/FAIL RATIONALE:

A)

B)

C)

- FAILURE EFFECTS -

(A) SUBSYSTEM:

(1) 3/3 EVA - NO EFFECT.

(2) 1R/3 OTHER MISSION PHASES - POWER AMP BYPASSED IN ALL MODES: RF OUTPUT LIMITED TO 0.25 WATT.

(B) INTERFACING SUBSYSTEM(S):

(1) 3/3 EVA - NO EFFECT.

(2) 1R/3 OTHER MISSION PHASES - POWER AMP BYPASSED IN ALL MODES: RF OUTPUT LIMITED TO 0.25 WATT.

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(C) MISSION:

(1) 3/3 EVA - NO EFFECT.

(2) 1R/3 OTHER MISSION PHASES - AIR/GROUND: RANGE TO GROUND STATION LIMITED, WORST CASE IS LOSS OF UHF DOWNLINK VOICE.

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

(1) 3/3 EVA - NO EFFECT.

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

(E) FUNCTIONAL CRITICALITY EFFECTS:

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 # 1, TOGGLE SWITCH

(B) TEST:

REFER TO APPENDIX A, ITEM # 1, TOGGLE SWITCH

GROUND TURNAROUND TEST

ANY TURNAROUND CHECKOUT TESTING IS ACCOMPLISHED IN ACCORDANCE WITH OMRSD.

(C) INSPECTION:

REFER TO APPENDIX A, ITEM # 1, TOGGLE 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:

LOW POWER RECEPTION MAY BE POSSIBLE BY VEHICLE ORIENTATION.

- APPROVALS -

PAE MANAGER : K. L. PRESTON
PRODUCT ASSURANCE ENGR : T. R. CLARK
DESIGN ENGINEERING : H. D. HADDAD
NASA SSMA :
NASA SUBSYSTEM MANAGER :

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