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PRINT DATE: 09/09/97

FAILURE MODES EFFECTS ANALYSIS (FMEA) - CIL HARDWARE

NUMBER: 05-2A-21948 -X

SUBSYSTEM NAME: COMM & TRACK: AUDIO

REVISION: 1

5/26/94

PART DATA

	PART NAME	PART NUMBER
	VENDOR NAME	VENDOR NUMBER
ASSY	: PANEL A1A3	V070-730347
LRU	: SWITCH, TOGGLE	ME452-0102-7201

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:

SWITCH, A/A (UHF) TOGGLE SWITCH, AIR-TO-AIR CHANNEL FOR THE UHF COMMUNICATIONS LINK, DPDT, ON-OFF.

REFERENCE DESIGNATORS: 36V73A1A3833

QUANTITY OF LIKE ITEMS: 1

ONE SWITCH-TWO REDUNDANT CONTACTS

FUNCTION:

D AND C MANUAL CONFIGURATION OF THE AUDIO DISTRIBUTION SYSTEM (ADS) VIA THE RIGHT AUDIO TERMINAL UNIT (ATU) OR THE MS ATU. SELECTS THE AUDIO DISTRIBUTION SYSTEM A/A CHANNEL FOR TRANSMISSION AND RECEPTION OF VOICE WITH THE UHF TRANSCEIVER. (NOTE: THE UHF TRANSCEIVER MUST BE KEYED FOR TRANSMISSION. KEYING IS ENABLED AT EACH AUDIO STATION BY THE A/A SWITCH IN THE T/R POSITION.) REDUNDANCY IS PROVIDED INTERNALLY BY TWO (2) REDUNDANT CONTACTS THAT COMMAND THE SELECTION SIMULTANEOUSLY THROUGH THE RIGHT ATU AND THE MISSION SPECIALIST ATU.

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FAILURE MODES EFFECTS ANALYSIS FMEA - CIL FAILURE MODE

NUMBER: 05-2A-21948-02

REVISION#: 2 09/08/97

SUBSYSTEM NAME: COMM & TRACK: AUDIO

LRU: PANEL A1A3

ITEM NAME: SWITCH, TOGGLE

CRITICALITY OF THIS

FAILURE MODE: 2/2

FAILURE MODE:

SHORT-TO-CASE (GROUND)

MISSION PHASE: IC LIFT-OFF
 OO ON-ORBIT
 DO DE-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 CAPABILITY TO SELECT ANY UHF AUDIO CHANNEL (LOSS OF UHF).

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**FAILURE MODES EFFECTS ANALYSIS (FMEA) -- CIL FAILURE MODE
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IN ADDITION TO THE LOSS OF THE A/A (UHF) TOGGLE SWITCH (S33) DUE TO A SHORT-TO-CASE (GROUND), LOSS OF SWITCHES A/G 1 (S31) AND A/G 2 (S32) (UHF) WILL ALSO OCCUR SINCE ALL THREE SWITCHES SHARE A COMMON LINE.

(B) INTERFACING SUBSYSTEM(S):
LOSS OF CAPABILITY TO SELECT ANY UHF AUDIO CHANNEL (LOSS OF UHF).

(C) MISSION:
LOSS OF MISSION IF EVA IS REQUIRED.

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

-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:
THERE IS NO CREW ACTION AVAILABLE.

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- APPROVALS -

EDITORIALLY APPROVED	: BNA	: <u>J. Kamura 9/8/97</u>
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