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PRINT DATE: 09/08/97

FAILURE MODES EFFECTS ANALYSIS (FMEA) - CIL HARDWARE
NUMBER: 05-2A-21949 -X

SUBSYSTEM NAME: COMM & TRACK: AUDIO

REVISION: 1 5/26/94

PART DATA

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

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
 SWITCH, A/G 1 AND A/G 2 (UHF) TOGGLE SWITCH, AIR-TO-GROUND CHANNELS (A/G 1 AND A/G 2) FOR THE UHF COMMUNICATION LINK, DPDT, ON-OFF.

REFERENCE DESIGNATORS: 36V73A1A3S31
 36V73A1A3S32

QUANTITY OF LIKE ITEMS: 2
 TWO, A/G1 AND A/G2

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/G 1 OR A/G 2 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 (A/G 1 OR A/G 2) SIMULTANEOUSLY THROUGH THE RIGHT AUDIO TERMINAL UNIT (ATU) AND THE MISSION SPECIALIST ATU.

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FAILURE MODES EFFECTS ANALYSIS FMEA - CIL FAILURE MODE

NUMBER: 05-2A-21949-02

SUBSYSTEM NAME: COMM & TRACK: AUDIO
 LRU: PANEL ATA3
 ITEM NAME: SWITCH, TOGGLE

REVISION#: 2 09/08/97

CRITICALITY OF THIS
 FAILURE MODE: 2/2

FAILURE MODE:
 SHORT-TO-CASE (GROUND)

MISSION PHASE: LO LIFT-OFF
 OD 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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IN ADDITION TO THE LOSS OF SWITCH A/G 1 (S31) OR SWITCH A/G 2 (S32) (UHF) DUE TO A SHORT-TO-CASE (GROUND), THE LOSS OF THE A/A (UHF) TOGGLE SWITCH (S33) AND A/G2 (S32) AND A/G1 (S31) 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. Kemura 9/8/97</u>
EDITORIALLY APPROVED	: JSC	: <u>W. Anderson 10/6/97</u>
TECHNICAL APPROVAL	: VIA APPROVAL FORM	: 96-CIL-017/05-2A