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PRINT DATE: 09/03/93

**FAILURE MODES EFFECTS ANALYSIS (FMEA) – CRITICAL HARDWARE
NUMBER: 05-6N-2042-X**

SUBSYSTEM NAME: EPD&C - AUXILIARY POWER UNIT

REVISION: 1 08/30/93

	PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
LRU	: PANEL R2	V070-730277
SRU	: SWITCH, TOGGLE	ME452-0102-7301

PART DATA

**EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
SWITCH, TOGGLE, 3 POLE 2 POSITION - AUXILIARY POWER UNIT (APU) AUTO
SHUTODWN INHIBIT CONTROL CIRCUIT**

**REFERENCE DESIGNATORS: 32V73A2S22
32V73A2S60
32V73A2S61**

**QUANTITY OF LIKE ITEMS: 3
THREE**

**FUNCTION:
PROVIDES INHIBIT/ENABLE COMMAND SELECTION FOR APU AUTO SHUTDOWN INHIBIT
CONTROL CIRCUIT**

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EPD&C - AUXILIARY PWR FMEA NO 05-6N -2042 -2 REV:11/21/87

ASSEMBLY : PANEL R2	CRIT. FUNC: 1R
P/N RI : ME452-0102-7301	CRIT. HDW: 3
P/N VENDOR:	VEHICLE 102 103 104
QUANTITY : 3	EFFECTIVITY: X X X
: THREE	PHASE(S): PL X LC X DO DO X LS X
:	

PREPARED BY:	REDUNDANCY SCREEN: A-PASS B-FAIL C-PASS	APPROVED BY (NASA):
DES A BAIZ ^{6,3} DES		SSM
REL T KIMURA REL	<i>[Signature]</i>	REL <i>[Signature]</i>
QE J T COURSEN QE	<i>[Signature]</i>	QE <i>[Signature]</i>

EPD&C 554 *[Signature]*
2042-1-37464

ITEM:

SWITCH, TOGGLE, 3 POLE 2 POSITION - AUXILIARY POWER UNIT (APU) AUTO SHUTDOWN INHIBIT CONTROL CIRCUIT

FUNCTION:

PROVIDES INHIBIT/ENABLE COMMAND SELECTION FOR APU AUTO SHUTDOWN INHIBIT CONTROL CIRCUIT. 32V73A2S22, 960, 961

FAILURE MODE:

FAILS CLOSED (TWO CONTACT SETS), CONTACT-TO-CONTACT AND POLE-TO-POLE SHORT; (PREMATURE TRANSFER TO "INHIBIT" POSITION)

CAUSE(S):

PIECE-PART STRUCTURAL FAILURE, CONTAMINATION, VIBRATION, MECHANICAL SHOCK, PROCESSING ANOMALY

EFFECT(S) ON:

(A) SUBSYSTEM (B) INTERFACES (C) MISSION (D) CREW/VEHICLE (E) FUNCTIONAL CRITICALITY:

(A) NO EFFECT - FIRST FAILURE. SENDS CONTINUOUS APU INHIBIT SIGNAL - LOSS OF APU AUTO SHUTDOWN.

(B,C,D) NO EFFECT - FIRST FAILURE

(E) LOSS OF CREW/VEHICLE AFTER TWO OTHER FAILURES (TWO MECHANICAL FAILURES FOR APU TO FAIL OVERSPEED).

FIRST FAILURE NOT DETECTABLE IN FLIGHT SINCE THE OPERATIONAL STATUS OF THIS SWITCH IS NOT MONITORED.

DISPOSITION & RATIONALE:

(A) DESIGN (B) TEST (C) INSPECTION (D) FAILURE HISTORY (E) OPERATIONAL USE:

(A-D) DISPOSITION AND RATIONALE

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

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EPO&C - AUXILIARY PWR FMEA NO 05-6N -2042 -2 REV:11/21/87

(B) GROUND TURNAROUND TEST

APU 1/2/3 CONTROLLER TEST THROUGH GROUND CONNECTION PERFORMED EVERY FLOW.

(E) OPERATIONAL USE

NONE