

**FAILURE MODES EFFECTS ANALYSIS (FMEA) -- NON-CIL HARDWARE  
NUMBER:05-6PK-20300B -X**

**SUBSYSTEM NAME:** EPD&C-COMMUNICATION & TRACKING:CLOSED CIRCUIT TV  
**REVISION:** 0 05/31/00

**PART DATA**

---

	<b>PART NAME VENDOR NAME</b>	<b>PART NUMBER VENDOR NUMBER</b>
LRU	:PANEL A7A1	V070-730356
SRU	:SWITCH,TOGGLE	ME452-0102-7601

---

**EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:**  
SWITCH TOGGLE S58 TO CONTROL POWER TO TRANSCEIVER

**REFERENCE DESIGNATORS:** 36V73A71-S58

**QUANTITY OF LIKE ITEMS:** 1

**FUNCTION:**  
CONTROLS POWER TO RPC 35 IN MPCA3 WHICH POWERS THE WIRELESS VIDEO SYSTEM TRANSCEIVERS

**REFERENCE DOCUMENTS:** ECN 105-25016B DATED 3/25/99

**FAILURE MODES EFFECTS ANALYSIS FMEA -- NON-CIL FAILURE MODE**  
**NUMBER: 05-6PK-20300B-02**

**REVISION#:** 0 05/31/00  
**SUBSYSTEM NAME:** EPD&C-COMMUNICATION & TRACKING:CLOSED CIRCUIT TV  
**LRU:** PANEL A7A1  
**ITEM NAME:** SWITCH,TOGGLE  
**CRITICALITY OF THIS FAILURE MODE:** 1R3

---

**FAILURE MODE:**  
SHORT-TO-CASE(GROUND)

**MISSION PHASE:** 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:**  
PIECE PART STRUCTURAL FAILURE, CONTAMINATION, VIBRATION, MECHANICAL SHOCK,PROCESSING ANAMOLY

**CRITICALITY 1/1 DURING INTACT ABORT ONLY?** NO

---

**REDUNDANCY SCREEN** A) PASS  
B) PASS  
C) PASS

**PASS/FAIL RATIONALE:**

**A)**  
FAILURE MODE DETECTABLE BY TOGGING THE SWITCH TO DETERMINE IF TRANSCEIVER IS POWERED OFF/ON

**B)**  
OCCURRENCE OF THIS FAILURE MODE IS DETECTABLE IN A FLIGHT SINCE THE SHORT WOULD RESULT IN LOSS OF CONTROL BUS BC1.

**C)**

---

**- FAILURE EFFECTS -**

---

**(A) SUBSYSTEM:**  
LOSS OF TRANSCEIVER POWER AND POSSIBLE LOSS OF CONTROL BUS BC1.

**(B) INTERFACING SUBSYSTEM(S):**  
POSSIBLE LOSS OF CONTROL SIGNALS TO ANY SUBSYSTEMS USING BUS BC1.

**FAILURE MODES EFFECTS ANALYSIS (FMEA) -- NON-CIL FAILURE MODE  
NUMBER: 05-6PK-20300B-02**

**(C) MISSION:**

POSSIBLE LOSS OF MISSION AFTER THREE FAILURES SEE (D) FOR SCENARIO.

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

POSSIBLE LOSS OF CREW/VEHICLE AFTER THREE FAILURES:

- (1) TOGGLE SWITCH S58 SHORTS-TO-CASE (GROUND)
- (2) CURRENT LIMITING RESISTOR R2 SHORTS END-TO-END RESULTING IN POSSIBLE DAMAGE TO CONTROL BUS BC1. ALL CRITICAL FUNCTIONS ON BUS BC1 HAVE BACKUP.
- (3) LOSS OF NEXT CONTROL BUS MAY CAUSE LOSS OF CREW/VEHICLE.

**(E) FUNCTIONAL CRITICALITY EFFECTS:**

TOGGLE SWITCH S58 SHORTING TO GROUND MAY CAUSE LOSS OF CREW/VEHICLE.

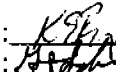
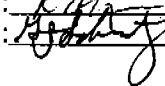
---

**- APPROVALS -**

---

S & R ENGINEERING  
DESIGN ENGINEERING

:K.E. RYAN/C.S. PUTCHA  
:G.J. SCHWARTZ

:  Chandana Putcha  
:  6-6-00