

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

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

PART DATA

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

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
SWITCH, WIRELESS VIDEO SYSTEM (WVS) TRANSCEIVER HEATER S57,TOGGLE

REFERENCE DESIGNATORS: 36V73A71-S57

QUANTITY OF LIKE ITEMS: 1

FUNCTION:
CONTROLS RPC 40,43 IN MPCA3 POWERS THE WIRELESS VIDEO SYSTEM
TRANSCEIVER HEATER AND S BAND ANTENNAS FROM MAIN BUS C. THE SWITCH USES
CONTROL BUS BC1.

REFERENCE DOCUMENTS: ECN 105-25016B DATED 2/25/99

FAILURE MODES EFFECTS ANALYSIS FMEA -- NON-CIL FAILURE MODE

NUMBER: 05-6PK-20300A-02

REVISION#: 0 05/31/00

SUBSYSTEM NAME: EPD&C-COMMUNICATION & TRACKING:CLOSED CIRCUIT TV

LRU: PANEL A7A1

CRITICALITY OF THIS

ITEM NAME: SWITCH,TOGGLE

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 TOGGLING 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, S BAND ANTENNA POWER, AND CONTROL BUS BC1..

(B) INTERFACING SUBSYSTEM(S):

POSSIBLE LOSS OF CRITICAL COMMANDS TO ANY SUBSYSTEM USING BUS BC1.

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(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 S57 SHORTS TO CASE
- (2) RESISTOR R1 SHORTS END-TO-END RESULTING IN POSSIBLE LOSS OF 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 S57 SHORTING TO GROUND MAY CAUSE LOSS OF CREW/VEHICLE.

- APPROVALS -

S & R ENGINEERING
DESIGN ENGINEERING

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

: *KER* Chandra Putcha
 : *G.J. Schwartz* 6-6-00