

FAILURE MODES EFFECTS ANALYSIS (FMEA) - CIL HARDWARE  
 NUMBER: 05-5-B31-1 -X

SUBSYSTEM NAME: DATA PROCESSING SYSTEM (DPS)

REVISION: 2

04/09/96

PART DATA

	PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
LRU	: PANEL F6A5 (PRE-MEDS)	V070-730257
LRU	: PANEL F6 (MEDS)	V070-730733
SRU	: SWITCH, TOGGLE	ME452-0102-7302

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:  
 SWITCH, BACKUP FLIGHT SYSTEM (BFS) DISENGAGE TOGGLE, 3P2P MOMENTARY

REFERENCE DESIGNATORS: 34V73A8A558 (PRE-MEDS)  
 34V73A851 (MEDS CONFIGURATION)

QUANTITY OF LIKE ITEMS: 1  
 ONE

FUNCTION:  
 PROVIDES HARDWARE CAPABILITY FOR RESETTNG THE BACKUP FLIGHT  
 CONTROLLER (BFC) OUTPUT DISCRETES (ENGAGE DISCRETES, I/O TERM B).

## FAILURE MODES EFFECTS ANALYSIS FMEA - CIL FAILURE MODE

NUMBER: 05-5-B31-1-01

REVISION#: 2 04/17/96

SUBSYSTEM NAME: DATA PROCESSING SYSTEM (DPS)

LRU: PANEL F6A5 (PRE-MEDS), F6 (MEDS)

ITEM NAME: SWITCH, TOGGLE

CRITICALITY OF THIS  
FAILURE MODE: 1R2

## FAILURE MODE:

FAILS CLOSED, CONTINUES TO CONDUCT

## MISSION PHASE:

LO LIFT-OFF  
DO DE-ORBIT

VEHICLE/PAYLOAD/KIT EFFECTIVITY:	102	COLUMBIA
	103	DISCOVERY
	104	ATLANTIS
	105	ENDEAVOUR

## CAUSE:

VIBRATION, SHOCK INTERNAL PART FAILURE.

CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO

## REDUNDANCY SCREEN

A) PASS  
B) FAIL  
C) PASS

## PASS/FAIL RATIONALE:

A)

B)

FAILS SCREEN B BECAUSE DISENGAGE SWITCH DISCRETE OUTPUTS ARE NOT  
DOWNLISTED NOR VISIBLE TO THE CREW.

C)

## - FAILURE EFFECTS -

## (A) SUBSYSTEM:

BFS (PRE-ENGAGE) - LOSS OF BFS ENGAGE CAPABILITY.

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(B) INTERFACING SUBSYSTEM(S):

BFS (PRE-ENGAGE) - LOSS OF BFS ENGAGE CAPABILITY.

(C) MISSION:

NO EFFECT.

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

NO EFFECT FIRST FAILURE.

(E) FUNCTIONAL CRITICALITY EFFECTS:

CRITICALITY 1R2 FOR THE FOLLOWING REASON:

FAILURE OF THIS SWITCH COUPLED WITH A GENERIC HARDWARE/SOFTWARE ERROR IN THE PRIMARY SYSTEM LEADS TO INABILITY TO CONTROL THE VEHICLE AND RESULTS IN LOSS OF CREW/VEHICLE.

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-DISPOSITION RATIONALE-

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(A) DESIGN:

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

(B) TEST:

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

GROUND TURNAROUND TEST: ALL TURNAROUND CHECKOUT TESTING IS ACCOMPLISHED IN ACCORDANCE WITH OMRSD.

(C) INSPECTION:

REFER TO APPENDIX A, ITEM NO. 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 FRACA DATABASE

(E) OPERATIONAL USE:

NONE.

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- APPROVALS -

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