

FAILURE MODES EFFECTS ANALYSIS (FMEA) - CIL HARDWARE  
 NUMBER:05-1-FC7248 -X

SUBSYSTEM NAME: GUIDANCE, NAVIGATION, & CONTROL

REVISION: 0 01/09/88

PART DATA

	PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
LRU	:PANEL F2 GLARE SHIELD PANEL	V070-730400
LRU	:PANEL F4 GLARE SHIELD PANEL	V070-730402
SRU	:PUSHBUTTON SWITCH	ME452-0061-4142

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:  
 ROLLYAW AUTO SWITCH, 3PST MOMENTARY "ON" PUSHBUTTON.

REFERENCE DESIGNATORS: 34V73A4S3  
 34V73A2S3

QUANTITY OF LIKE ITEMS: 2  
 TWO

FUNCTION:  
 PROVIDES CAPABILITY TO SELECT THE AUTOMATIC ROLLYAW MODE FUNCTIONS.

## FAILURE MODES EFFECTS ANALYSIS FMEA - CIL FAILURE MODE

NUMBER: 05-1-FC7248-01

REVISION#: 1 01/22/96

SUBSYSTEM NAME: GUIDANCE, NAVIGATION, &amp; CONTROL

LRU: PANEL F2, F4 (GLARE SHIELD PANEL)

ITEM NAME: PUSHBUTTON SWITCH

CRITICALITY OF THIS  
FAILURE MODE: 1R2

## FAILURE MODE:

FAILS CLOSED (FAILS TO TRANSFER OUT OF AUTO MODE).

MISSION PHASE: DO DE-ORBIT

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

## CAUSE:

VIBRATION, SHOCK, CONTAMINATION, PIECE PART STRUCTURAL FAILURE.

CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO

REDUNDANCY SCREEN	A) PASS
	B) PASS
	C) PASS

## PASS/FAIL RATIONALE:

A)

B)

C)

## - FAILURE EFFECTS -

## (A) SUBSYSTEM:

NO EFFECT

## (B) INTERFACING SUBSYSTEM(S):

SAME AS (A)

## (C) MISSION:

FOR FIRST FAILURE (CONSTANT AUTO MODE SELECTION), CREW MUST DEPRESS AND CONTINUALLY HOLD CSS MODE SELECT PUSHBUTTON FOR ALL MISSION PHASES

**FAILURE MODES EFFECTS ANALYSIS (FMEA) - CIL FAILURE MODE  
NUMBER: 05-1-FC7248-01**

BELOW THE MINIMUM AUTO MODE ENGAGE ALTITUDE. SECOND FAILURE SAME AS FIRST (CONTINUOUS CSS MODE SELECT IN EITHER STATION WILL NULLIFY FAILURE EFFECTS).

**(D) CREW, VEHICLE, AND ELEMENT(S):**  
SAME AS (C)

**(E) FUNCTIONAL CRITICALITY EFFECTS:**  
CRITICALITY 1R BECAUSE LOSS OF CSS MODE BELOW THE MINIMUM AUTO MODE ENGAGE ALTITUDE MAY CAUSE LOSS OF CREW/VEHICLE.

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**-DISPOSITION RATIONALE-**

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**(A) DESIGN:**  
SEE APPENDIX A, ITEM NO. 3 - PUSHBUTTON SWITCH

**(B) TEST:**  
SEE APPENDIX A, ITEM NO. 3 - PUSHBUTTON SWITCH

**(C) INSPECTION:**  
SEE APPENDIX A, ITEM NO. 3 - PUSHBUTTON SWITCH

**GROUND TURNAROUND TEST**  
ALL SWITCH FUNCTIONS ARE VERIFIED DURING GROUND TURNAROUND TESTING.

**(D) FAILURE HISTORY:**  
SEE APPENDIX A, ITEM NO. 3 - PUSHBUTTON SWITCH

**(E) OPERATIONAL USE:**  
FOR ALL MISSION PHASES BELOW THE MINIMUM AUTO MODE ENGAGE ALTITUDE, CREW MUST DEPRESS AND CONTINUALLY HOLD THE CSS MODE SELECT PUSHBUTTON. IF THIS FAILURE IS DETECTED WHILE OPS-8 IS AVAILABLE (PRIOR TO DEORBIT BURN), FAILURE CAN BE NULLIFIED BY SOFTWARE DESELECTION FOR ON-ORBIT MISSION PHASES.

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**- APPROVALS -**

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EDITORIALLY APPROVED	: RI	: <u>                    </u>
EDITORIALLY APPROVED	: JSC	: <u>                    </u>
TECHNICAL APPROVAL	: APPROVAL FORM	: 95-CIL-0044RI