

**FAILURE MODES EFFECTS ANALYSIS (FMEA) - CIL HARDWARE**  
**NUMBER: 05-6BA-2115 -X**

**SUBSYSTEM NAME: EPD&C - LANDING GEAR CONTROL**  
**REVISION: 4 11/16/97**

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**PART DATA**

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	<b>PART NAME</b>	<b>PART NUMBER</b>
	<b>VENDOR NAME</b>	<b>VENDOR NUMBER</b>
LRU	:PANEL FGA5 (PRE-MEDS)	V070-730257
LRU	:PANEL FBA5 (PRE-MEDS)	V070-730265
LRU	:PANEL F6A3 (MEDS)	V070-730734
LRU	:PANEL F8A3 (MEDS)	V070-730736
SRU	:SWITCH, PUSHBUTTON	ME452-0061-7145

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**EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:**  
SWITCH, PUSHBUTTON, LANDING GEAR DOWN, 4P2P (MOMENTARY), ILLUMINATED

**REFERENCE DESIGNATORS:** 34V73A6A5S2 (PRE-MEDS)  
34V73A8A5S2 (PRE-MEDS)  
34V73A6A3S7 (MEDS CONFIGURATION)  
34V73A8A3S7 (MEDS CONFIGURATION)

**QUANTITY OF LIKE ITEMS: 2**  
TWO

**FUNCTION:**  
PROVIDES REDUNDANT MANUAL "ON" CONTROL OF 28VDC FROM CONTROL BUS TO LATCHING RELAYS FOR LANDING GEAR DOWN CIRCUIT. ACTUATION SWITCH LIGHT COMES ON WHEN PUSHED. TWO IDENTICAL SWITCHES PROVIDE REDUNDANT CONTROL BUS POWER TO COMMON LOAD.

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

NUMBER: 05-6BA-2115-01

REVISION#: 5 11/16/97

**SUBSYSTEM NAME:** EPD&C - LANDING GEAR CONTROL

LRU: PANEL F6A5, F8A5 (PRE-MEDS), F6A3, F8A3 (MEDS)

**CRITICALITY OF THIS****ITEM NAME:** SWITCH, PUSHBUTTON**FAILURE MODE:** 1R2**FAILURE MODE:**

FAILS OPEN (TWO OR MORE POLES)

**MISSION PHASE:** DO DE-ORBIT

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

**CAUSE:**

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

CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO

<b>REDUNDANCY SCREEN</b>	A) PASS
	B) PASS
	C) PASS

**PASS/FAIL RATIONALE:**

A)

B)

C)

**- FAILURE EFFECTS -****(A) SUBSYSTEM:**

FIRST FAILURE - LOSS OF REDUNDANT LANDING GEAR DOWN SWITCH. LOSS OF CAPABILITY TO APPLY POWER TO RELAYS SET COIL.

**(B) INTERFACING SUBSYSTEM(S):**

FIRST FAILURE - NO EFFECT

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**(C) MISSION:**  
FIRST FAILURE - NO EFFECT

**(D) CREW, VEHICLE, AND ELEMENT(S):**  
FIRST FAILURE - NO EFFECT. SECOND FAILURE (REDUNDANT LANDING GEAR DOWN SWITCH) - POSSIBLE LOSS OF CREW/VEHICLE DUE TO LOSS OF ELECTRICAL CONTROL POWER TO DEPLOY LANDING GEAR.

**(E) FUNCTIONAL CRITICALITY EFFECTS:**

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**-DISPOSITION RATIONALE-**

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

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

**GROUND TURNAROUND TEST**  
ANY TURNAROUND CHECKOUT TESTING IS ACCOMPLISHED IN ACCORDANCE WITH OMRSD.

**(C) INSPECTION:**  
REFER TO APPENDIX A, ITEM NO. 3 - PUSHBUTTON 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 PRACA DATABASE.

**(E) OPERATIONAL USE:**  
NONE

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- APPROVALS -

SS&PAE MANAGER	: P. STENGER-NGUYEN	<i>P. Stenger-Nguyen</i> 12/18/97
SS&PAE	: T. AI	<i>T. Ai</i> 11/17/97
DESIGN ENGINEERING	: T. D. NGUYEN	<i>T. D. Nguyen</i> 12-15-97
MEDS SYSTEM	: M. B. WARNER	<i>M. B. Warner</i> 12/11/97
MEDS HARDWARE	: R. SITAPARA	<i>Ramona Sitapara</i> 12/18/97
JSC MOD	:	<i>[Signature]</i> 4/10/98