

**FAILURE MODES EFFECTS ANALYSIS (FMEA) -- CIL HARDWARE
NUMBER: 05-6BA-2117 -X**

SUBSYSTEM NAME: EPD&C - LANDING GEAR CONTROL

REVISION: 4 11/18/93

PART DATA

| | PART NAME VENDOR NAME | PART NUMBER VENDOR NUMBER |
|-----|----------------------------------|--------------------------------------|
| LRU | :PANEL F6A5 (PRE-MEDS) | V070-730257 |
| LRU | :PANEL F8A5M(PRE-MEDS) | V070-730266 |
| LRU | :PANEL F6A3 (MEDS) | V070-730734 |
| LRU | :PANEL F8A3 (MEDS) | V070-730736 |
| SRU | :SWITCH,PUSHBUTTON | ME452-0061-7146 |

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:

SWITCH, PUSHBUTTON, LANDING GEAR ARM, 4P2P (MOM), ILLUMINATED

REFERENCE DESIGNATORS: 34V73A6A5S1 (PRE-MEDS)
34V73A8A5S1 (PRE-MEDS)
34V73A6A3S6 (MEDS CONFIGURATION)
34V73A8A3S6 (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 ARM CIRCUIT ACTUATION AND STATUS MONITORING. TWO IDENTICAL SWITCHES PROVIDE REDUNDANT CONTROL BUS POWER TO COMMON LOAD.

FAILURE MODES EFFECTS ANALYSIS FMEA - CIL FAILURE MODE

NUMBER: 05-6BA-2117-01

REVISION#: 6 07/01/99

SUBSYSTEM NAME: EPD&C - LANDING GEAR CONTROL

LRU: PANEL F6A5, F8A5 (PRE-MEDS), F6A3, F8F3 (MEDS)

CRITICALITY OF THIS

ITEM NAME: SWITCH,PUSHBUTTON

FAILURE MODE: 1R2

FAILURE MODE:

FAILS OPEN (THREE OR MORE POLES)

MISSION PHASE: DO DE-ORBIT

VEHICLE/PAYLOAD/KIT EFFECTIVITY:

| | |
|-----|-----------|
| 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

REDUNDANCY SCREEN

| |
|---------|
| A) PASS |
| B) PASS |
| C) PASS |

PASS/FAIL RATIONALE:

A)

B)

C)

- FAILURE EFFECTS -

(A) SUBSYSTEM:

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

(B) INTERFACING SUBSYSTEM(S):

FIRST FAILURE - NO EFFECT

(C) MISSION:
FIRST FAILURE - NO EFFECT

(D) CREW, VEHICLE, AND ELEMENT(S):
FIRST FAILURE - NO EFFECT. REDUNDANT SWITCH PROVIDED. PILOT ALERTED.
SECOND FAILURE (FAILURE OF REMAINING SWITCH) - POSSIBLE LOSS OF CREW/
VEHICLE BECAUSE LANDING GEAR FAILS TO DEPLOY DUE TO LOSS OF ELECTRICAL
CONTROL/POWER TO LANDING GEAR ARM CIRCUITS.

(E) FUNCTIONAL CRITICALITY EFFECTS:

-DISPOSITION RATIONALE-

(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 DATA BASE.

(E) OPERATIONAL USE:
NONE

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- APPROVALS -

EDITORIALLY APPROVED
TECHNICAL APPROVAL

: BNA
: VIA APPROVAL FORM

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