FAILURE MODES EFFECTS ANALYSIS (FMEA) -- CRITICAL HARDWARE
NUMBER: 05-6EE-2003-X

SUBSYSTEM NAME: EPD&C - ADP DEPLOY & RTR (02-4E)
REVISION : 3 0E :1/90

		PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
LRU	:	PANEL C3A1	V070-730281
SRU	:	SWITCH, TOGGLE	ME452-0102-7201

PART DATA

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
SWITCH, TOGGLE - LEFT AND RIGHT AIR DATA PROBE (ADP) STOW "ENABLE/INHIBIT" CIRCUIT

REFERENCE DESIGNATORS: 35V73A3A1S19
: 35V73A3A1S20

QUANTITY OF LIKE ITEMS: 2
TWO

FUNCTION:
PROVIDES ENABLE/INHIBIT CONTROL OF ONE OF THE TWO SERIES 3-PHASE POWER STOW RELAYS FOR EACH OF THE LEFT AND RIGHT ADP.

SUBSYSTEM :EPD&C - ADP DEPLOY & HTR FMEA NO 05-6EE-2003 -3 REV:05/11/90

ASSEMBLY :PANEL C3A1
P/N RI :ME452-0102-7201
P/N VENDOR:
QUANTITY :2
:TWO
:

CRIT. FUNC: 1R
CRIT. HDW: 2

VEHICLE EFFECTIVITY:	102	103	104
PHASE(S): PL	X	X	X
	LO	OO	OO X LS X

REDUNDANCY SCREEN: A-PASS B-PASS C-PASS

PREPARED BY:
DES J KRAGER
REL T KIMURA
QE E GUTIERREZ

APPROVED BY:
DES
REL
QE

APPROVED BY (NASA):
SSM
REL
QE

EPDC SIE
EPDC Sim

ITEM:
SWITCH, TOGGLE - LEFT AND RIGHT AIR DATA PROBE (ADP) STOW "ENABLE/INHIBIT" CIRCUIT

FUNCTION:
PROVIDES ENABLE/INHIBIT CONTROL OF ONE OF THE TWO SERIES 3-PHASE POWER STOW RELAYS FOR EACH OF THE LEFT AND RIGHT ADP. 35V73A3A1S19, S20

FAILURE MODE:
SHORT-TO-CASE (GROUND)

CAUSE(S):
PIECE PART STRUCTURAL FAILURE, CONTAMINATION, VIBRATION, MECHANICAL SHOCK, PROCESSING ANOMALY

EFFECT(S) ON:
(A)SUBSYSTEM (B)INTERFACES (C)MISSION (D)CREW/VEHICLE (E)FUNCTIONAL CRITICALITY EFFECT:

(A) FAIL SHORT TO GROUND OF ENABLE SWITCH CAN OPEN TWO ASSOCIATED UPSTREAM FUSES AND LOSE POWER TO CONTROL TWO MOTORS ON THE AFFECTED SIDE.

(B) FIRST FAILURE - LOSS OF ABILITY TO DEPLOY (OR STOW) ONE OF THE TWO ADP'S.

(C) FIRST FAILURE - NO EFFECT

(D) NO EFFECT - FIRST FAILURE. SAFE DESCENT CAN BE ACCOMPLISHED WITH ONE ADP.

(E) POSSIBLE LOSS OF CREW/ VEHICLE AFTER ONE OTHER FAILURE (LOSS OF REDUNDANT ADP) DUE TO LOSS OF CAPABILITY TO OBTAIN AIR PRESSURE DATA FOR SAFE DESCENT.

SUBSYSTEM :EPD&C - ADP DEPLOY & HTR FMEA NO 05-6EE-2003 -3 REV:05/11/90

DISPOSITION & RATIONALE:
(A) DESIGN (B) TEST (C) INSPECTION (D) FAILURE HISTORY (E) OPERATIONAL USE

(A-D) FOR DISPOSITION AND RATIONALE
REFER TO APPENDIX A, ITEM NO. 1- TOGGLE SWITCH

(B) TEST
GROUND TURNAROUND TEST -

DEPLOY RH AND LH ADP - DUAL MOTOR, TESTS DEPLOY OF RIGHT HAND AND LEFT HAND ADP'S AND OPERATING TIMES.

ABOVE DUAL MOTOR TESTS ARE PERFORMED BY INFLIGHT CHECKOUT OR AFTER LRU REPLACEMENT.

DEPLOY RH AND LH ADP - SINGLE MOTOR, TESTS DEPLOY OF RIGHT HAND AND LEFT HAND ADP AND OPERATING TIMES.

STOW RH AND LH ADP - SINGLE MOTOR, TESTS STOW OF RIGHT AND LEFT HAND ADP'S AND OPERATING TIMES.

ABOVE SINGLE MOTOR TESTS ARE PERFORMED ~~PRIOR~~ PRIOR TO FLIGHT OR AFTER LRU REPLACEMENT.

(E) OPERATIONAL USE
IF ALL AIR DATA IS LOST CREW MUST MAINTAIN PITCH ATTITUDE WITHIN THAT LIMITS DISPLAYED ON CRT (REQUIRES MULTIPLE FAILURES).