

**FAILURE MODES EFFECTS ANALYSIS (FMEA) -- NON-GIL HARDWARE
NUMBER: 05-6WD-4030 -X**

SUBSYSTEM NAME: EPD&C - ATCS/FCL

REVISION: 0 12/02/97

PART DATA

	PART NAME	PART NUMBER
	VENDOR NAME	VENDOR NUMBER
LRU	: PANEL L2A1	V070-730273
SRU	.TOGGLE SWITCH,2P,DT,M	ME454-0102-7705

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:

TOGGLE SWITCH (2P,2T,M), FREON LOOP BYPASS VALVE CONTROL SUBSYSTEM.

REFERENCE DESIGNATORS: S27
S28

QUANTITY OF LIKE ITEMS: 2
TWO

FUNCTION:

S27 AND S28 PROVIDE MANUAL OVERRIDES TO THE AUTOMATIC SWITCHING
FUNCTION.

S27 PROVIDES AC POWER TO REDUNDANT ISOLATION VALVE MOTORS PORT SIDE.
S28 PROVIDES AC POWER TO REDUNDANT ISOLATION VALVE MOTORS STARBOARD
SIDE.

FAILURE MODES EFFECTS ANALYSIS FMEA - NON-CIL FAILURE MODE

NUMBER: 05-6WD-4030-01

REVISION#: 0 12/02/97

SUBSYSTEM NAME: EPD&C - ATCS/FCL

LRU: PANEL L2A1

CRITICALITY OF THIS

ITEM NAME: TOGGLE SWITCH, 2 POLE, 2 THROW, MOMENTARY FAILURE MODE: 1R3

FAILURE MODE:

FAILS OPEN, PREMATURE OPEN

MISSION PHASE:LO LIFT-OFF
OO ON-ORBIT**VEHICLE/PAYLOAD/KIT EFFECTIVITY:**102 COLUMBIA
103 DISCOVERY
104 ATLANTIS
105 ENDEAVOUR**CAUSE:**PIECE PART STRUCTURAL FAILURE, CONTAMINATION, VIBRATION, MECHANICAL SHOCK,
PROCESSING ANOMALY, THERMAL STRESS.CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO

REDUNDANCY SCREENA) PASS
B) N/A
C) PASS**PASS/FAIL RATIONALE:**

A)

B)

NSTS 22206 PARAGRAPH 3.4.4.A.2 STATES: CB'S, SWITCHES, RELIEF VALVES, ETC.
CONSIDERED STANDBY REDUNDANT THEREFORE SCREEN B IS N/A.C)

- FAILURE EFFECTS -

(A) SUBSYSTEM:

NONE FIRST FAILURE.

FAILURE MODES EFFECTS ANALYSIS (FMEA) -- NON-CIL FAILURE MODE

NUMBER: 05-6WD-4030-01

(B) INTERFACING SUBSYSTEM(S):
NONE FIRST FAILURE.

(C) MISSION:
NONE FIRST FAILURE.

(D) CREW, VEHICLE, AND ELEMENT(S):
POSSIBLE LOSS OF MISSION AFTER 2 FAILURES: S27 (OR S28) FAILS OPEN, AND (2) EXTERNAL LEAK ASSOCIATED RADIATOR ARRAY.

(E) FUNCTIONAL CRITICALITY EFFECTS:
PROBABLE LOSS OF MISSION AFTER 2 FAILURES: (1) S27 (OR S28) FAILS OPEN, AND (2) EXTERNAL LEAK IN ASSOCIATED RADIATOR ARRAY. POSSIBLE LOSS OF CREW/VEHICLE AFTER 3 FAILURES: (1) S27 (OR S28) FAILS OPEN, AND (2) EXTERNAL LEAK IN ASSOCIATED RADIATOR ARRAY, AND (3) LOSS OF REDUNDANT COOLANT LOOP CAUSING TOTAL LOSS OF VEHICLE COOLING..

- APPROVALS -

SS & PAE MANAGER	:	D. F. MIKULA
SS & PAE ENGINEER	:	K. E. RYAN
EPD&C ATC	:	D. SOVEREIGN
BNA SSM	:	R. L. PHAN
JSC MOD	:	
JSL RDE	:	

USA/orbit

<i>D.F. Mikula</i>	_____
<i>EEher TD</i>	_____
<i>D. Sovereign</i>	_____
<i>R. Phan</i>	_____
<i>M. Charkwal</i>	_____

Nanette Corke 11-24-98

Suzanne Linte
Q. M. H. 1/19/99