SHUTTLE CRITICAL ITEMS LIST - ORBITER NUMBER: 05-6WE-4001-X

SUBSYSTEM NAME: EPD&C - ATCS:FES

REVISION : Z 89/08/23

		PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
LRU	:	PANEL L1A2	V070-730271
■ SRU	:	SWITCH, ROTARY	ME452-0093-5231

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
SWITCH, ROTARY. HIGH LOAD DUCT AND NOZZLE HEATERS.

REFERENCE DESIGNATORS: 31V73A1A2S41

QUANTITY OF LIKE ITEMS: 1
(ONE)

FUNCTION:
ACTIVATES CONTROLS FOR HIGH LOAD DUCT HEATERS.

SHUTTLE CRITICAL ITEMS LIST - ORBITER NUMBER: 05-6WE-4001-01

REVISION# 1 88/01/01

SUBSYSTEM: EPD&C - ATCS:FES
LRU :PANEL L1A2 CRITICALITY OF THIS
ITEM NAME: FAILURE MODE:1R2

FAILURE MODE:
FAILS OPEN, FAILS CLOSED IN THE "OFF" POSITION, SHORT-TO-CASE (GROUND).

MISSION PHASE:
LO LIFT-OFF
DO DE-ORBIT

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

CAUSE:
PIECE PART STRUCTURAL FAILURE, CONTAMINATION, MECHANICAL SHOCK, VIBRATION, 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:
LOSS OF HIGH LOAD DUCT HEATERS.

(B) INTERFACING SUBSYSTEM(S):
LOSS OF HIGH LOAD EVAPORATOR.

(C) MISSION:
ENTRY REQUIRED AT NEXT PRIMARY LANDING SITE.

(D) CREW, VEHICLE, AND ELEMENT(S):
NO EFFECT.

(E) FUNCTIONAL CRITICALITY EFFECTS:
NEXT ASSOCIATED FAILURE (LOSS OF ONE FREON COOLANT LOOP) CAN CAUSE LOSS OF ALL ORBITER COOLING AND RESULT IN LOSS OF CREW/VEHICLE.

- DISPOSITION RATIONALE -

(A) DESIGN:
REFER TO APPENDIX A, ITEM NO. 2 - ROTARY SWITCH.

(B) TEST:
REFER TO APPENDIX A, ITEM NO. 2 - ROTARY SWITCH.
GROUND TURNAROUND TEST - SWITCH AND FES HEATERS ARE VERIFIED PRIOR TO EACH FLIGHT.

(C) INSPECTION:
REFER TO APPENDIX A, ITEM NO. 2 - ROTARY SWITCH.

(D) FAILURE HISTORY:
REFER TO APPENDIX A, ITEM NO. 2 - ROTARY SWITCH.

(E) OPERATIONAL USE:
FES SECONDARY CONTROLLER WILL BE SELECTED FOR THE TOPPING EVAPORATOR DURING ENTRY. "LOSS OF HI LOAD EVAPORATOR" POWERDOWN WILL BE PERFORMED FOR ENTRY. ENTRY AT NEXT PRIMARY LANDING SITE.

- APPROVALS -

RELIABILITY ENGINEERING	M. HOVE	
DESIGN ENGINEERING	J. BROWN	
QUALITY ENGINEERING	J. COURSEN	
NASA RELIABILITY		
NASA SUBSYSTEM MANAGER		
NASA EPD&C RELIABILITY		
NASA QUALITY ASSURANCE		
NASA EPD&C SUBSYS MGR		Frank Alonso