

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EPD&C - ELECT. PWR GENER/FMEA NO 05-6MA-2032 -1 REV:01/03/90

ASSEMBLY : PANEL R12A1			CRIT. FUNC: 2
P/N RI : ME452-0102-7306			CRIT. HDW: 2
P/N VENDOR:	VEHICLE	102	103 104
QUANTITY : 1	EFFECTIVITY:	X	X X
: ONE	PHASE(S):	FL LO	OO X DO LS

	REDUNDANCY SCREEN:	A-N/A	B-N/A	C-N/A
PREPARED BY:	APPROVED BY:	APPROVED BY (NASA):		
DES A BAIZ	DES <i>[Signature]</i>	SSM <i>[Signature]</i>		
REL T KIMURA	REL <i>[Signature]</i> 14-90	REL <i>[Signature]</i>		
QE J COURSEN	QE <i>[Signature]</i>	QE <i>[Signature]</i>		
		EPDC SSM <i>[Signature]</i>		
		EPDC REL <i>[Signature]</i>		

ITEM:
SWITCH, TOGGLE, 3 POLE, 3 POSITION - FUEL CELL PURGE LINE HEATERS

FUNCTION:
PROVIDES THE CREW WITH THE CAPABILITY TO INITIATE AUTOMATIC PURGE LINE HEATING IN CONJUNCTION WITH SWITCH S1 BY SWITCHING TO "GPC" POSITION. PERFORM MANUAL HEATING BY SWITCHING TO THE "ON" POSITION OR SHUT OFF IN THE "OFF" POSITION. 32V73A12A1S2

FAILURE MODE:
FAILS OPEN

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

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

(A,B) LOSS OF ABILITY TO POWER ANY FUEL CELL POWER PLANT (FCP) PURGE HEATERS. LOSS OF GPC AND MANUAL PURGE HEATER PRECLUDES FURTHER FCP PURGING AND WILL RESULT IN FCP OUTPUT SLOW DEGRADATION.

(C) NO IMMEDIATE EFFECT AFTER LOSS OF PURGE HEATERS. POSSIBLE EARLY MISSION TERMINATION DUE TO FCP OUTPUT DEGRADATION.

(D) NO EFFECT

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

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

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM :EPD&C - ELECT. PWR GENERFMEA NO 05-6MA-2032 -1 REV:01/03/90

(B) TEST

GROUND TURNAROUND TEST - SWITCH OPERATION IS VERIFIED EVERY FIFTH TURNAROUND AND DURING IN-FLIGHT PURGE.

(E) OPERATIONAL USE

CREW MAY REDUCE PCP LOADS TO EXTEND PCP LIFETIME IF NECESSARY TO SUPPORT ENTRY AFTER FAILURE.