

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EPD&C - ARPCS FMEA NO 05-6UC-600 -1 REV: 03/21/88

ASSEMBLY : P/NLS 015 & 016 CRIT. FUNC: 1R
 P/N RI : MC454-0026-2030 CRIT. HDW: 2
 P/N VENDOR: VEHICLE 102 103 104
 QUANTITY : 2 (TWO), EFFECTIVITY: X X X
 : ONE PER VALVE PHASE(S): FL LO X OO X DO X LS
 :

REDUNDANCY SCREEN: A-PASS B-PASS C-PASS
 PREPARED BY: APPROVED BY: APPROVED BY (NASA):
 DES *J BROWN* DES *[Signature]* SSM *[Signature]*
 REL M HOVE REL *[Signature]* REL *[Signature]*
 QE J COURSEN QED *[Signature]* QE *[Signature]*
 EPD&C REL *[Signature]*
 EPAC SSM vs *[Signature]*

ITEM:
 CIRCUIT BREAKER, 3 AMPS. 33V73A15CB22, 33V73A16CB17

FUNCTION:
 PROVIDES CONTROL OF MAIN DC BUS POWER AND OVERLOAD PROTECTION TO CIRCUIT FOR CABIN POSITIVE PRESSURE RELIEF ISOLATION VALVE.

FAILURE MODE:
 FAILS OPEN, FAILS TO CONDUCT, FAILS TO CLOSE.

CAUSE(S):
 STRUCTURAL FAILURE, CONTAMINATION, MECHANICAL SHOCK, VIBRATION, THERMAL STRESS, PROCESSING ANOMALY

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

(A) LOSS OF POWER TO MOTOR DRIVEN VALVE FOR ISOLATION OF POSITIVE CABIN PRESSURE RELIEF VALVE (A OR B).

(B) LOSS OF ABILITY TO ISOLATE POSITIVE CABIN PRESSURE RELIEF VALVE (A OR B).

(C) ABORT DECISION REQUIRED AFTER FIRST FAILURE.

(D) FIRST FAILURE - NO EFFECT.

(E) WITH A CABIN RELIEF ISOLATION VALVE IN THE OPEN POSITION, AN ASSOCIATED RELIEF VALVE FAILURE IN THE OPEN POSITION WOULD RESULT IN A LOSS OF CABIN PRESSURE AND POSSIBLE LOSS OF CREW/VEHICLE.

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DISPOSITION & RATIONALE:

(A) DESIGN (B) TEST (C) INSPECTION (D) FAILURE HISTORY (E) OPERATIONAL USE

(A, B, C, D) DISPOSITION AND RATIONALE

REFER TO APPENDIX D ITEM NO. 1 - CIRCUIT BREAKER.

(B) GROUND TURNAROUND TEST

OPERATION OF THE CABIN PRESSURE RELIEF ISOLATION VALVE IS CHECKED PRIOR TO EVERY FLIGHT.

(E) OPERATIONAL USE

-CREW RESPONSE

-WITH MISSION CONTROL APPROVAL, ATTEMPT TO RESET CIRCUIT BREAKER AND CYCLE SWITCH TO "ENABLE".

-TRAINING

-NONE

-OPERATIONAL CONSIDERATION

-REAL TIME DATA SYSTEM ALLOWS FOR GROUND MONITORING.

-FAILURE IS UNDETECTABLE UNLESS CHANGE IN TALKBACK IS RECOGNIZED

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