

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EPD&C - FWD-RCS

FMEA NO 05-6KF-2017 -1

REV: 11/03/87

ASSEMBLY : PANEL 016
 P/N RI : ME451-0018-0100
 P/N VENDOR:
 QUANTITY : 2
 : TWO
 :

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

CRIT. FUNC: 2

CRIT. HEW: 2

PREPARED BY:
 DES D SOVEREIGN
 REL J BEEKMAN
 QE

REDUNDANCY SCREEN: A- B- C-
 APPROVED BY:
 DES J. S. Burns
 REL John J. ... 11-16-87
 QE ...
 APPROVED BY (NASM):
 SSM ...
 REL ...
 QE ...

ITEM:

FUSE (1 AMP) - REACTION JET DRIVER MANIFOLD L5/F5/R5.

FUNCTION:

CONDUCTS CIRCUIT CURRENT AND PROVIDES OVER CURRENT PROTECTION FOR THE REACTION JET DRIVER (RJD) MANIFOLD L5/F5/R5 CONTROL CIRCUITRY. 33V73A16F14, F15.

FAILURE MODE:

OPEN, INADVERTENTLY OPENS

CAUSE(S):

CONTAMINATION, CHEMICALLY DEGRADED MATERIAL, STRUCTURAL FAILURE

EFFECT(S) ON:

(A) SUBSYSTEM (B) INTERFACES (C) MISSION (D) CREW/VEHICLE

(A) LOSS OF FUNCTION.

(B) LOSS OF INTERFACE FUNCTION - LOSS OF RJD MANIFOLD L5/F5/R5 DRIVER COMMAND INPUT (WHICH RESULTS IN DRIVER POWER LOSS TO ALL VERNIER DRIVERS).

(C) POSSIBLE MISSION MODIFICATION OR EARLY MISSION TERMINATION DUE TO LOSS OF VERNIER THRUSTERS. NO OTHER REDUNDANT VERNIER THRUSTERS ARE AVAILABLE TO COMPLETE THE REQUIRED FUNCTIONS. PRIMARY THRUSTER USAGE WILL RESULT IN HIGHER PROPELLANT CONSUMPTION RATE RESULTING IN EARLY MISSION TERMINATION.

(D) NO EFFECT.

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DISPOSITION & RATIONALE:

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

(A-D) FOR DISPOSITION AND RATIONALE REFER TO APPENDIX D; ITEM NO. 4 - FUSE, PLUG-IN TYPE.

(B) GROUND TURNAROUND TEST

COMPONENT CHECKED OUT EVERY FLIGHT DURING GROUND TURNAROUND VIA THE GUIDANCE, NAVIGATION, AND CONTROL (GN&C) ORBITER MAINTENANCE REQUIREMENTS AND SPECIFICATIONS DOCUMENT (OMRSD) REQUIREMENTS FOR CHECKING THE PRIMARY AND VERNIER REACTION JET DRIVER POWER. THE TESTING CONSISTS OF CYCLING THRUSTER REACTION JET DRIVER LOGIC AND DRIVER SWITCHES WHILE MONITORING VEHICLE INSTRUMENTATION TO DETERMINE IF COMPONENTS HAVE FAILED.

(E) OPERATIONAL USE

PRIMARY THRUSTERS CAN BE USED FOR THE VERNIER FUNCTION. SOME MISSION OBJECTIVES MAY NOT BE MET DUE TO HIGHER PROPELLANT CONSUMPTION RATE ON PRIMARY THRUSTERS. MICROGRAVITY EXPERIMENTS WILL BE DISRUPTED DUE TO HIGHER ACCELERATION RATE OF PRIMARY THRUSTERS.