

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM :R/RADAR & COM ANT JETT FMEA NO 05-6EI-2004 -1 REV:02/24/88

ASSEMBLY :FWD LCA-1 AND 3
 P/N RI :MC477-0261-0002
 P/N VENDOR:
 QUANTITY 12
 :TWO
 :

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

CRIT. FUNC: 1R
 CRIT. HDW: 2

REPAIRED BY:
 ES
 EL
 E

C STRONG
 T KIMURA
 J COURSEN

REDUNDANCY SCREEN: A-PASS B-FAIL C-PASS
 APPROVED BY:
 DES 449 R. Buss
 REL (K. Heber) G. Ann. 3-25-88
 QE R. J. ...

APPROVED BY (NASA):
 SSM [Signature]
 REL [Signature]
 QE [Signature]

ITEM:
 CONTROLLER, HYBRID DRIVER (HDC), TYPE I - FIRE I COMMAND

FUNCTION:
 PROVIDES FIRE I COMMAND TO PYROTECHNIC INITIATOR CONTROLLERS (PIC'S) FOR JETTISON OF ANTENNA. ONE HDC CONTROLS TWO INDIVIDUAL PIC'S FOR GUILLOTINE AND SEPARATION NUT ON ANTENNA. 81V76A16, 83V76A18

FAILURE MODE:
 LOSS OF OUTPUT, FAILS TO CONDUCT, FAILS TO TURN "ON"

CAUSE(S):
 PIECE-PART FAILURE, CONTAMINATION, VIBRATION, MECHANICAL SHOCK, PROCESSING ANOMALY, THERMAL STRESS

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

- (A) LOSS OF FIRE I COMMAND TO ONE OF TWO SETS OF PYROTECHNIC INITIATOR CONTROLLERS (PIC'S)
- (B) LOSS OF REDUNDANCY
- (C,D) NO EFFECT UNTIL SECOND FAILURE. FAILURE TO JETTISON DEPLOYED ANTENNA WOULD PREVENT CLOSURE OF PAYLOAD BAY DOORS PRECLUDING A SAFE VEHICLE RETURN. POSSIBLE LOSS OF CREW/VEHICLE AFTER THE SECOND FAILURE (LOSS OF REDUNDANT JETTISON SYSTEM).

FIRST FAILURE IS NOT DETECTABLE IN FLIGHT SINCE THE HYBRID DRIVER IS NOT MONITORED OR USED UNTIL JETTISON OF THE KU-BAND ANTENNA IS REQUIRED.

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SUBSYSTEM :R/RADAR & COM ANT JETT FMEA NO 09-6EI-2004 -1 REV:02/24/88

DISPOSITION & RATIONALE:

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

(A-D) DISPOSITION AND RATIONALE

REFER TO APPENDIX B, ITEM NO. 1 - HYBRID DRIVER

(B) GROUND TURNAROUND TEST

"KU-BAND ANTENNA JETTISON SYSTEM VERIFICATION" VERIFIES INTEGRITY OF KU-BAND ANTENNA JETTISON ARM AND FIRE CIRCUITS. TESTS ARE PERFORMED PRIOR TO EACH FLIGHT WITH ALL PYROS SAFED WITH NASA STANDARD INITIATOR (NSI) NO-GO SIMULATORS INSTALLED.

(E) OPERATIONAL USE

NONE