SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM :R/RADAR & COM ANT JETT FMEA NO 05-6EI-2007 -1 REV:08/15/88

ASSEMBLY :FWD LCA 1 AND 3
P/N RI :MC450-0018-0004
P/N VENDOR:
QUANTITY :4
:FOUR
:

CRIT. FUNC: 1R
CRIT. HDW: 2

VEHICLE	102	103	104
EFFECTIVITY:	X	X	X

PHASE(S): PL LO OO X DO LS

REDUNDANCY SCREEN: A-PASS B-FAIL C-PASS

PREPARED BY:		APPROVED BY:	APPROVED BY (NASA): 9-12-88
DES	C STRONG	DES	SSM
REL 8-5-88	J HARADA	REL 8-19-88	REL 9-10-88
QE	J COURSEN	QE	QE 9-12-88

ITEM:
PYROTECHNIC INITIATOR CONTROLLER (PIC) - JETTISON CIRCUIT, KU-BAND ANTENNA JETTISON

FUNCTION:
WITH PROPER ARM AND FIRE STIMULI, REDUNDANT PIC'S INDIVIDUALLY FIRE NSI-1'S FOR GUILLOTINE AND SEPARATION NUT FOR JETTISON OF THE KU-BAND ANTENNA. 81V76A16PIC(2), 83V76A18PIC(2)

FAILURE MODE:
LOSS OF OUTPUT, OPENS, FAILS TO CONDUCT

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

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

(A) LOSS OF CAPABILITY TO INITIATE ASSOCIATED NSI-1 THROUGH ONE OF TWO PATHS FOR JETTISON OF THE ANTENNA.

(B) LOSS OF REDUNDANCY

(C,D) NO EFFECT UNTIL SECOND FAILURE - LOSS OF REDUNDANT PYRO INITIATOR CONTROLLER. FAILURE TO JETTISON DEPLOYED ANTENNA WOULD PREVENT CLOSURE OF PAYLOAD BAY DOORS PRECLUDING A SAFE VEHICLE RETURN. POSSIBLE LOSS OF CREW/VEHICLE.

FIRST FAILURE IS NOT DETECTABLE IN FLIGHT SINCE THE OPERATIONAL STATUS OF THE PIC IS NOT MONITORED.

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

(A-D) DISPOSITION AND RATIONALE
REFER TO APPENDIX H, ITEM NO. 1 - PYROTECHNIC INITIATOR CONTROLLER

(E) OPERATIONAL USE
NONE.