

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM :R/RADAR & COM ANT JETT PMEA NO 05-6EI-2002 -1 REV:02/24/88

ASSEMBLY :PANEL A14
P/N RI :ME452-0102-7252
P/N VENDOR:
QUANTITY :1
:ONE
:

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

PREPARED BY: C STRONG
DES T KIMURA
REL J COURSEN
QE

REDUNDANCY SCREEN: A- B- C-
APPROVED BY: APPROVED BY (NASA):
DES 649 P. Brown SSM/James J. Brown
REL T. Kimura, Cl. No. 2-2488 REL SSM/James J. Brown 3-2-88
QE J. Courson, R. M. J. QE J. Courson
A. H. Young SSM/Doc For W. Street

ITEM:
SWITCH, TOGGLE (DPDT) - JETTISON/SAFE, KU-BAND ANTENNA JETTISON

FUNCTION:
EMERGENCY SYSTEM PROVIDES MANUAL CONTROL FOR INITIATING "FIRING" OF PYROTECHNIC INITIATOR CONTROLLERS (PIC'S) FOR JETTISON OF KU-BAND COMMUNICATIONS ANTENNA. THE ANTENNA JETTISON IS USED ONLY WHEN THE ANTENNA CANNOT BE STOWED TO ALLOW CLOSURE OF THE PAYLOAD DOORS.
36V73A14S20

FAILURE MODE:
FAILS OPEN, PREMATURE OPEN, TWO INPUTS SHORT-TO-CASE (GROUND)

CAUSE(S):
PIECE-PART STRUCTURAL FAILURE, CONTAMINATION, VIBRATION, MECHANICAL SHOCK, PROCESSING ANOMALY, THERMAL STRESS (EXCLUDE "THERMAL STRESS" FROM "SHORT-TO-CASE" FAILURE MODE)

EFFECT(S) ON:
(A)SUBSYSTEM (B)INTERFACES (C)MISSION (D)CREW/VEHICLE:
(A,B) LOSS OF REDUNDANT "FIRE" COMMANDS TO ANTENNA JETTISON SYSTEMS. SHORT TO GROUND TRIPS RELATED CIRCUIT BREAKER(S). (WORST CASE) LOSS OF ALL "FIRE" COMMANDS TO JETTISON SYSTEMS.
(C,D) FAILURE TO JETTISON DEPLOYED ANTENNA WOULD PREVENT CLOSURE OF PAYLOAD BAY DOOR PRECLUDING A SAFE VEHICLE RETURN. POSSIBLE LOSS OF CREW/VEHICLE

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

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(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