

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : P/L RETEN & DEPLOY-MPM PYRO FMEA NO P2-5A-J05-1 REV:08/12/88

ASSEMBLY : MPM PEDESTAL MECHANISM			CRIT. FUNC: 12
P/N RI : SEB26100001			CRIT. HDW: 2
P/N VENDOR:	VEHICLE	102	103 104
QUANTITY : 6	EFFECTIVITY:	X	X X
: TWO PER GUILLOTINE	PHASE(S):	PL LO	OO X DO LS

PREPARED BY:	REDUNDANCY SCREEN:	A-N/A	B-N/A	C-PASS
DES R. H. YEE	APPROVED BY:	APPROVED BY (NASA) 9-12-		
REL M. B. MOSKOWITZ	DES <i>R.H. Yee for A. Gordon</i>	SSM <i>PLM Thomas J. ...</i>		
QE E. M. GUTIERREZ	REL <i>[Signature]</i>	REL <i>[Signature]</i> 9-10-88		
	QE <i>CMG [Signature] 8-23-88</i>	QE <i>[Signature]</i> 10-2-88		

ITEM:

NASA STANDARD INITIATOR (NSI), GUILLOTINE TYPE II, MPM JETTISON

FUNCTION:

PROVIDES GAS PRESSURE TO PYRO GUILLOTINE AT EACH OF THREE MPM PEDESTALS TO SEVER WIRE BUNDLE IF MANIPULATOR POSITIONING MECHANISM (MPM) MUST BE JETTISONED. TWO (REDUNDANT) NSI'S ARE INSTALLED IN EACH GUILLOTINE.

FAILURE MODE:

FAILS TO FUNCTION OR LOW OUTPUT

CAUSE(S):

NO OR LOW FIRING CURRENT, EXCESSIVE LOW TEMPERATURE (-420 DEG F), CONTAMINATION OR IMPROPER LOADING OF PYRO MIX, HANDLING DAMAGE

EFFECTS ON:

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

(A) LOSS OF REDUNDANCY.

(B) UPPER MPM REMAINS ATTACHED BY WIRE BUNDLE AFTER DUAL NSI FAILURE. INABILITY TO CLOSE PAYLOAD BAY DOORS IF MPM CANNOT BE JETTISONED. (LOSS OF CAPABILITY TO STOW MPM HAS PREVIOUSLY OCCURRED).

(C,D) POSSIBLE LOSS OF CREW/VEHICLE DUE TO INABILITY TO CLOSE PAYLOAD BAY DOORS.

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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 I - NASA STANDARD INITIATOR (NSI)

(B) GROUND TURNAROUND TEST

OMRSD: GROUND TURNAROUND INCLUDES PIC RESISTANCE GO AND NO-GO (PRE-HOOK-UP), PIC RESISTANCE GO/NO-GO (POST HOOK-UP), POWER-OFF STRAY VOLTAGE, POWER-ON STRAY VOLTAGE, NSI ELECTRICAL VERIFICATION, RMS JETTISON, AND RMS JETTISON RESET/DEADFACE VERIFICATION.

(E) OPERATIONAL USE

POSSIBLE EXTRAVEHICULAR ACTIVITY (EVA) TO MANUALLY SEVER THE UMBILICAL. MULTI-LAYER INSULATION (MLI) BLANKETS ON UPPER PEDESTAL COULD BE UNSNAPPED TO OBTAIN ACCESS TO WIRE BUNDLE. (NOT CURRENTLY DOCUMENTED).