

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EPD&C - MAN ARM S&RL JETT FMEA NO 05-6ID-2031 -1 REV:08/17/88

ASSEMBLY	: PANEL A14			CRIT. FUNC:	1
P/N RI	: ME452-0102-7254			CRIT. HDW:	1
P/N VENDOR:		VEHICLE	102	103	104
QUANTITY	: 1	EFFECTIVITY:	X	X	X
	: ONE	PHASE(S):	PL	LO	OO X DO LS
	:				

PREPARED BY:		REDUNDANCY SCREEN:	A- <del>N/A</del>	B- <del>N/A</del>	C- <del>N/A</del>
DES	C STRONG	APPROVED BY:	APPROVED BY (NASA): 9-12-88		
REL	T KIMURA	DES	SSM <u>Paul Thomas J. Evans</u>		
QE	J COURSEN	REL	REL <u>John A. ... 9-12-88</u>		
		QE	QE <u>...</u> 9-12-88		

*EPD&C Item 7.1.1.1 for 05-6ID-2031*  
*Full FMEA to be completed 9/15/88*

ITEM:  
 SWITCH, TOGGLE, HERMETIC SEAL, 2 POLE 3 POSITION, CENTER OFF (SAFE) -  
 PORT RMS ARM COMMAND, JETTISON/GUILLOTINE

FUNCTION:  
 EMERGENCY SYSTEM - PROVIDES THE CREW WITH THE MANUAL CAPABILITY TO  
 INITIATE ARMING OF PYRO GUILLOTINE AND JETTISON FUNCTIONS FOR THE PORT  
 RMS SYSTEMS A AND B. THE SWITCH IS LEVER-LOCKED IN THE CENTER (SAFE)  
 POSITION. RMS JETTISON IS USED ONLY IN THE EVENT THAT THE RMS CANNOT BE  
 SAFELY SECURED AND RETURNED TO THE STOWED POSITION. 36V73A14S28

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

CAUSE(S):  
 PIECE PART STRUCTURAL FAILURE, CONTAMINATION, VIBRATION, MECHANICAL  
 SHOCK, PROCESSING ANOMALY

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

(A) LOSS OF ELECTRICAL CONTROL TO THE ASSOCIATED RMS JETTISON FUNCTIONS.

(B) SINGLE CONTACT FAILURE OF THIS SWITCH OPEN WOULD DISABLE THE  
 REDUNDANT SYSTEMS' GUILLOTINE OR RETRACTOR FUNCTIONS. THE REMAINING  
 SYSTEM WILL COMPLETE THE FUNCTION.

(C,D) FOLLOWING A PRIMARY MPM/STOW SYSTEM FAILURE, A SUBSEQUENT MULTIPLE  
 POLE SWITCH FAILURE "OPEN" PREVENTS PIC ARMING. MPM CANNOT BE  
 JETTISONED; PLB DOORS CANNOT BE CLOSED FOR ENTRY, PROBABLE LOSS OF  
 CREW/VEHICLE RESULTS.

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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 A, ITEM NO. 1 - TOGGLE SWITCH

(B) GROUND TURNAROUND TEST

"RMS JETTISON VERIFICATION", VERIFIES THAT THE PYRO INITIATOR CONTROLLER (PIC) ARM, FIRE, AND SWITCH SCAN CIRCUITS ARE OPERATIONAL. TESTS ARE PERFORMED FOR ALL FLIGHTS WHEN THE RMS IS FLOWN AND WITH ALL PYROS SAFED AND NSI NO-GO SIMULATORS INSTALLED.

(E) OPERATIONAL USE

NONE