

FAILURE MODES AND EFFECTS ANALYSIS

ASSY NOMENCLATURE RMS IFM D&C KIT
ASSY P/N 38033103886-304

SYSTEM REMOTE MANIPULATOR SYSTEM
SUBSYSTEM RMS IN-FLIGHT MAINTENANCE D&C KIT

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NAME AND DRAWING	FUNCTION	FAILURE MODE AND CAUSE	MISSION PHASE	FAILURE EFFECT ON			FAILURE DETECTION FLIGHT GROUND	CORRECTIVE ACTION TIME AVAILABLE/ TIME REQUIRED	CRIT. H/F	HAZARDS/REMARKS
				END ITEM	MISSION	CREW/VEHICLE				
SHOULDER BRACE RELEASE SWITCH (S4) (continued)		<p>BB20 Mode: Fails closed</p> <p>Cause: • structural failure • contamination • mechanical shock • vibration</p>	Orbit	<p>Shoulder brace will be released as soon as 115 V ac COAS power is applied</p> <p><u>Worst Case</u> No effect on crew/vehicle or mission</p>		None	Shoulder brace indicator on RMS D&C panel will show that the brace has been released	None	3/3	<p><u>Redundancy Scheme:</u> A - N/A B - N/A C - N/A</p>
FUSE (F1), QTY: 1, P/N GPS- 25A	Protect RMS IFM D&C Kit	<p>BB30 Mode: Fails open</p> <p>Cause: • structural failure • contamination • thermal stress • Resistor R1 or R2 fails short</p>	Orbit	<p>Loss of dc power resulting in loss of RMS IFM D&C kit direct drive, end effector and wiring inhibit functions</p> <p><u>Worst Case</u> Subsequent failure may result in inability to release payload or drive RMS joints</p> <p>Redundant Paths <u>Remaining</u> Backup mode RMS jettison</p>		Subsequent failure may result in inability to release payload or drive RMS joints	Operator detects that arm and EE do not respond to command. EE TB's on RMS D & C panel do not change	Select backup mode or jettison arm or arm/payload combination Immediate/ minutes	3/1R	<p><u>Redundancy Scheme:</u> A - Pass B - Fail C - Pass</p>