

FAILURE MODES AND EFFECTS ANALYSIS

ASSY NOMENCLATURE: RMS I/F M DBC KIT
 ASSY P/N: 3ED33103J04-304

SYSTEM: REMOTE MANIPULATOR SYSTEM
 SUBSYSTEM: RMS IN-FLIGHT MAINTENANCE DBC KIT

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NAME AND DRAWING	FUNCTION	FAILURE MODE AND CAUSE	MISSION PHASE	FAILURE EFFECT ON			FAILURE DETECTION	CORRECTIVE ACTION (TIME AVAILABLE)/ TIME REQUIRED	CRIT. H/F	HAZARDS/REMARKS
				END ITEM	MISSION	CREW/VEHICLE				
DIRECT DRIVE COMMAND SIGNAL CIRCUIT (continued)		6000 Mode: Capacitor C1 fails open Cause: • structural failure • mechanical stress • vibration • electrical stress	Orbit	Loss of noise filtering on direct drive voltage command <u>Worst Case</u> No effect on crew/vehicle or mission		None	Not detectable	None	3/3	<u>Redundancy Screens:</u> A - N/A B - N/A C - N/A
		6010 Mode: Capacitor C1 fails short Cause: • structural failure • mechanical stress • vibration • electrical stress	Orbit	Loss of ability to drive joints <u>Worst Case</u> Subsequent failures may result in inability to drive RMS joints Redundant Paths <u>Remapping</u> Backup mode. RMS Jettison		Subsequent failures may result in inability to drive RMS joints	Operator detects that arm does respond to commands	Select backup mode or jettison arm combination seconds/minutes	W/R	<u>Redundancy Screens:</u> A - Pass B - Pass C - Pass

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 ATTACHMENT
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