

FAILURE MODES AND EFFECTS ANALYSIS

ASSY NOMENCLATURE: RMS IFM D&C KIT
ASSY P/N: 1803310390-100

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	CORRECTIVE ACTION TIME AVAILABLE/ TIME REQUIRED	CRIT. H/F	HAZARDS/REMARKS
				END ITEM	MISSION	CREW/VEHICLE				
CAPTURE/RELEASE SWITCH (S1). QTY. 1, P/N MS90310-271	Provides control to close or open EE snare cables (capture or release payload)	<p>6070 Mode: Fails open, premature open, short to case</p> <p>Cause: <ul style="list-style-type: none"> • structural failure • contamination • mechanical shock • vibration </p>	Orbit	<p>Loss of ability to capture and/or release a payload</p> <p>Worst Case Subsequent failure may result in inability to release a payload</p> <p>Redundant Paths Remaining Backup mode. RMS Jettison</p>		Subsequent failure may result in inability to release a payload	Operator detects payload is not captured or is not released. EE TB's on RMS D&C panel do not change	Release payload using backup release or jettison arm/payload combination Immediate/minutes	3/1R	<p><u>Redundancy Screens:</u> A - Pass B - Pass C - Pass</p>
		<p>6080 Mode: Fails closed, premature close</p> <p>Cause: <ul style="list-style-type: none"> • Structural failure • contamination • mechanical shock • vibration </p>	Orbit	<p>Will have a capture or release command to end effector as soon as dc power is applied to the RMS IFM D & C kit. Cannot change command to end effector</p> <p>Worst Case Uncommanded payload release. Crew action required</p>		Loss of crew or vehicle due to uncommanded payload release allowing payload to contact vehicle	Operator detects payload has been released. EE TB's on RMS D&C panel change	Maneuver arm and Orbiter away from payload immediate/immediate	1/1	<p><u>Redundancy Screens:</u> A - N/A B - N/A C - N/A</p>

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ATTACHMENT
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