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**FAILURE MODE EFFECTS ANALYSIS/CRITICAL ITEMS LIST**

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FMEA NUMBER: EC-MUT-10	ORIGINATOR: JSC	PROJECT: EDFT-04
PART NAME: HOOK ASSY (SMALL)	LRU PART NUMBER: SEG33106880-301,303,305,307	QUANTITY: 1
PART NUMBER: SED39128377-301	LRU PART NAME: MUT	SYSTEM: DTO 671
DRAWING: SEE P/N	SUBSYSTEM: EVA	EFFECTIVITY: STS-76 & Subsequent

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**CRITICALITY:**CRITICAL ITEM? YES  NO  \*SUCCESS PATHS: 4  
SUCCESS PATHS REMAINING: 3CRITICALITY CATEGORY: 1R/3**REDUNDANCY SCREENS:**

- A - 1.) C/O PRELAUNCH: PASS
- 2.) C/O ON ORBIT: N/A for NSTS
- B - 3.) DETECTION FLIGHT CREW: PASS
- 4.) DETECTION GROUND CREW: N/A for NSTS
- C - 5.) LOSS OF REDUNDANCY FROM SINGLE CAUSE: PASS

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**FUNCTION:** The common small hook used on the MUT is designed to serve as an extra level of redundancy in preventing the crewmember from coming completely loose from the MUT if the tapered ball lock latching mechanism on the MUT base joint assembly were to inadvertently release from the MMWS. The common small hook attaches to the tether point on the MMWS and is sewn to a tether loop on the MUT base joint assembly. The common small hook is single fault tolerant due to the spring loaded lever which keeps the hook closed.

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**FAILURE MODE:** Small tether hook fails to remain closed.

**CAUSE:** Wear or piece part defect.

**FAILURE DETECTION:** Visual

**REMAINING PATHS:** Tether hook is single fault tolerant to opening once closed, and the toggle latch adds another level of redundancy.

**EFFECT/MISSION PHASE:** EVA

**CORRECTIVE ACTION:** Use wrist tether.

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**-FAILURE EFFECTS-**

**END ITEM:** Tether hook fails to function. No effect to MUT functions if tether hook fails to remain closed and toggle latch functions properly, and wrist tether is used.

**INTERFACE:** None.

**MISSION:** Loss of redundancy but no effect on mission for single failure.

**CREW/VEHICLE:** Possible damage to EMU and/or orbiter from loose equipment.

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**HAZARD INFORMATION:**HAZARD: YES \_\_\_\_\_ NO   \*  

HAZARD ORGANIZATION CODE: N/A

HAZARD NUMBER: N/A

TIME TO EFFECT: Seconds.

TIME TO DETECT: Seconds.

TIME TO CORRECT: Immediate.

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**REMARKS:**

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**RETENTION RATIONALE**

(A) DESIGN: N/A

(B) TEST: N/A

(C) INSPECTION: N/A

(D) FAILURE HISTORY: N/A

(E) OPERATIONAL USE: N/A

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PREPARED BY: M.D. Garner

REVISION:

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