
FAILURE MODE EFFECTS ANALYSIS/CRITICAL ITEMS LIST

FMEA NUMBER: EC-MUT-08	ORIGINATOR: JSC	PROJECT: EDFT-04
PART NAME: BASE JOINT ASSY	LRU PART NUMBER: SEG33106880-301,303,305,307	QUANTITY: 1
PART NUMBER: SED39127215-301	LRU PART NAME: MUT	SYSTEM: DTO 671
DRAWING: SEE P/N	SUBSYSTEM: EVA	EFFECTIVITY: STS-76 & Subsequent

CRITICALITY:CRITICAL ITEM? YES NO *SUCCESS PATHS: 3
SUCCESS PATHS REMAINING: 2CRITICALITY 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 MUT base joint assembly allows rotation about two multiple-disk friction clutch joints which enables the MUT base joint assembly to be manipulated by a crewmember to achieve desired configurations for different EVA operations. The two clutched joints on the MUT base joint assembly are capable of 360 degrees of continuous rotation. The base joint assembly attaches to the MMWS using a tapered ball lock latching mechanism. The tapered ball lock latching mechanism uses a toggle latch to actuate the ball detents for either attaching or releasing from the MMWS. Rotation at the interface of the tapered ball lock latching mechanism and MMWS is prevented via a housing that fits over a square boss on the MMWS.

FAILURE MODE: Toggle latch fails to release.**CAUSE:** Contamination, galling, piece part defect.**FAILURE DETECTION:** Visual and tactile.**REMAINING PATHS:** None.**EFFECT/MISSION PHASE:** EVA**CORRECTIVE ACTION:** None.

-FAILURE EFFECTS-**END ITEM:** MUT is no longer operating properly.**INTERFACE:** None.**MISSION:** Partial loss of remaining DTO objectives.**CREW/VEHICLE:** If multiple failures occur, the crew can not separate from structure and ingress the airlock.

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HAZARD INFORMATION:**HAZARD: YES** **NO** **HAZARD ORGANIZATION CODE: N/A****HAZARD NUMBER: N/A**

TIME TO EFFECT: Hours.**TIME TO DETECT: Seconds.****TIME TO CORRECT: Minutes.**

REMARKS:

-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:****DATE: 2/22/96**
