
FAILURE MODE EFFECTS ANALYSIS/CRITICAL ITEMS LIST

FMEA NUMBER: EC-MUT-07	ORIGINATOR: JSC	PROJECT: EDFT-04
PART NAME: ECOM ASSY	LRU PART NUMBER: SEG33106880- 301,303,305,307	QUANTITY: 1
PART NUMBER: SEG33107096-301	LRU PART NAME: MLT	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: N/A
 - 2.) C/O ON ORBIT: N/A
 - B - 3.) DETECTION FLIGHT CREW: N/A
 - 4.) DETECTION GROUND CREW: N/A
 - C - 5.) LOSS OF REDUNDANCY FROM SINGLE CAUSE: N/A
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FUNCTION: The ECOM assembly which is used on the end effectors, serves as an interface for attaching compatible end effectors to the ECOM socket located on the MUT base assembly. The ECOM assembly uses two independent spring loaded balls to attach itself to the ECOM socket. Operation of the ECOM assembly requires the crewmember to pull back on the locking collar and rotate to either the locked or release positions which are visually indicated by black on black and a black on white alignment marks, respectively.

FAILURE MODE: ECOM assembly fails to release.**CAUSE:** Contamination, galling, piece part defect.**FAILURE DETECTION:** Visual.**REMAINING PATHS:** End effector.**EFFECT/MISSION PHASE:** EVA/landing.**CORRECTIVE ACTION:** Continue using as assembled or safely stow for deorbit and landing.

-FAILURE EFFECTS-**END ITEM:** MUT fails to function properly.**INTERFACE:** None.**MISSION:** Unable to change end effector.**CREW/VEHICLE:** If multiple failures occur, possible damage to vehicle could occur at landing. Handrails are not designed to withstand landing loads with the MUT assembly attached. If an additional failure at the toggle latch or equipment tether were to occur, the crew can not separate from the MUT to 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
 - (F) MAINTAINABILITY: N/A
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PREPARED BY: M.D. Garner

REVISION:

DATE: 2/22/96