

FAILURE MODE EFFECTS ANALYSIS/CRITICAL ITEMS LIST**FMEA NUMBER: CSD-TB-36****ORIGINATOR: JSC****PROJECT: EDFT-02****PART NAME: NHTT****LRU/ORU PART NUMBER: SED39127468****QUANTITY: 1****PART NUMBER: SED39127470-301****LRU/ORU PART NAME: ORT****SYSTEM: DTO 671****LSC CONTROL NO: N/A****DRAWING/REF DESIGNATOR: SEE P/N****SUBSYSTEM: EVA****ZONE/LOCATION: CABIN/PLB****EFFECTIVITY/AFFECT STAGE: STS-72 & SUBS****CRITICALITY:****CRITICAL ITEM: Yes****SUCCESS PATHS: 3****CRITICALITY CATEGORY: IR3****SUCCESS PATH REMAINING: 2****REDUNDANCY SCREENS:****A/1. C/O PRELAUNCH: Pass****2. C/O ON ORBIT: N/A for NSTS****B/3. DETECTION FLIGHT CREW: N/A****4. DETECTION GROUND CREW: N/A****C/5. LOSS OF REDUNDANCY FROM SINGLE CAUSE: Pass**

FUNCTION: The ORU Restraint Tether (ORT) is a semi-rigid restraint aid available to EVA crewman to temporarily mount ORU's. The ORT interfaces with a ORU's Tether loop utilizing a push lock tether tool or nested hook tether tool and will be mounted to structure through a EVA change out mechanism. The base plate the ORT mounts to will incorporate EVA contingency bolts on STS-69. The closed coupled configuration ORT is a modified version of the ORT. It is the same as the ORT without the ball stack. the closed loop ORT interfaces at it's base to a load alleviating gimbal. All ORT configurations are designed to restrain a ORU up to 50 lb. mass.

FAILURE MODE CODE: N/A for NSTS**FAILURE MODE: Hook fails to lock.****CAUSE: Contamination, galling, piece part defect.****REMAINING PATHS: Bail spring ; hook is nested.****EFFECT/ MISSION PHASE: EVA****CORRECTIVE ACTION: None required.****-FAILURE EFFECTS-****END ITEM/LRU/ORU/ASSEMBLY:**

If hook is outside of housing and bail spring force is overcome, hook will open.

SUBSYSTEM/NEXT ASSEMBLY/INTERFACE: N/A**SYSTEM/END ITEM/MISSION: Partial loss of DTO objective.**

CREW/VEHICLE : None for single failure, possible loose equipment in PLB if tether hook opens. Loose equipment could impact the EMU or vehicle.

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PART NAME: NHTT	LRU/ORU PART NUMBER: SED39127468	QUANTITY: 1
PART NUMBER: SED39127470-301	LRU/ORU PART NAME: ORT	SYSTEM: DTO 671
LSC CONTROL NO: N/A	DRAWING/REF DESIGNATOR: SEE P/N	SUBSYSTEM: EVA
ZONE/LOCATION: CABIN/PLB	EFFECTIVITY/AFFECT STAGE: STS-72 & SUBS	

HAZARD INFORMATION:

HAZARD: YES: NO:

HAZARD ORGANIZATION CODE: N/A

HAZARD NUMBER: N/A

TIME TO EFFECT: Minutes
 TIME TO DETECT: Seconds
 TIME TO CORRECT: Immediate
 FAILURE DETECTION/FLIGHT: Visual

REMARKS:

-RATIONALE FOR ACCEPTABILITY-

- (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

PREPARED BY: G.Wright

REVISION:

DATE: 5/15/95

WAIVER NUMBER