

FAILURE MODE EFFECTS ANALYSIS/CRITICAL ITEMS LIST

FMEA NUMBER: CSD-TB-25 **ORIGINATOR:** JSC **PROJECT:** GFE Orbiter
PART NAME: TAPERED PIN **LRU/ORU PART NUMBER:** SED39127455-301 **QUANTITY:** 1
PART NUMBER: SDD39125580-001 **LRU/ORU PART NAME:** BRT **SYSTEM:** DTO 671
LSC CONTROL NO: N/A **DRAWING/REF DESIGNATOR:** SEE P/N **SUBSYSTEM:** EVA EXP.
ZONE/LOCATION: PLB **EFFECTIVITY/AFFECT STAGE:** STS-69&SUBS

CRITICALITY:

CRITICAL ITEM? NO
CRITICALITY CATEGORY: 1R/3

SUCCESS PATHS: 3
SUCCESS PATH REMAINING: 2

END ITEM NAME: N/A
END ITEM FUNCTIONAL: N/A
END ITEM CAPABILITY: N/A
END ITEM FAILURE TOLERANCE: N/A

REDUNDANCY SCREENS:

1. C/O PRELAUNCH: Pass
2. C/O ON ORBIT: N/A
3. DETECTION FLIGHT CREW: Pass
4. DETECTION GROUND CREW: N/A
5. LOSS OF REDUNDANCY FROM SINGLE CAUSE: Pass
6. ON-ORBIT RESTORABILITY: N/A

FUNCTION: The Body Restraint Tether provides a means for the EVA crewmember to semi-rigidly restrain themselves at a worksite. The BRT incorporates a feature which allows it to be attached to the modified mini workstation base plate. The end effector of the BRT incorporated jaws which are able to be secured to a dog bone handrail.

FAILURE MODE CODE: N/A
FAILURE MODE: Unable to release tapered pin from MMWS.
CAUSE: Contamination, wear, piece part defect

REMAINING PATHS: End effector on BRT **EFFECT/MISSION PHASE:** EVA
 and MMWS base plate.

CORRECTIVE ACTION: Disconnect BRT at end effector or disconnect base plate.

-FAILURE EFFECTS-

END ITEM/LRU/ORU/ASSEMBLY: a) Unable to release crewmember restraint during EVA if end effector also fails and handrail can not be removed. b) unable to stow BRT in locker.

SUBSYSTEM/NEXT ASSEMBLY/INTERFACE: N/A

SYSTEM/END ITEM/MISSION: Partial loss of DTO objective.

CREW/VEHICLE : None for 1st or 2nd failure. Loss of crewmember if they unable to free themselves from tether or structure.

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HAZARD INFORMATION:

HAZARD: YES ___ NO x

HAZARD ORGANIZATION CODE: N/A

HAZARD NUMBER: N/A

TIME TO EFFECT: Hours

TIME TO DETECT: Seconds

TIME TO CORRECT: Minutes

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: 04/15/95

WAIVER NUMBER