

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

FMEA NUMBER: EC-STBD3-01      ORIGINATOR: JSC      PROJECT: EDFT-03

PART NAME: IFR TASK PLATE      LRU/ORU PART NUMBER: SED39126372-301      QUANTITY: 1  
 PART NUMBER: SED39126374-301      LRU/ORU PART NAME: BAY 3 STBD. ASSY.      SYSTEM: GFE  
 LSC CONTROL NO: N/A      DRAWING/REF DESIGNATOR: SEE P/N      SUBSYSTEM: EVA  
 ZONE/LOCATION: STBD 3      EFFECTIVITY/AFFECT STAGE: STS-72

**CRITICALITY:**

CRITICAL ITEM: yes      SUCCESS PATHS: 2  
 CRITICALITY CATEGORY: 1R/2      SUCCESS PATH REMAINING: 1

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

**REDUNDANCY SCREENS:**

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

FUNCTION: IFR task plate contains interfaces for the EMU boot and incorporates the high torque fixture. Loads on this plate will be measured and recorded by the PDAP.

FAILURE MODE CODE: N/A  
 FAILURE MODE: Unable to remove the EMU boot from the plate.  
 CAUSE: Contamination, galling.

REMAINING PATHS: 1 - contingency bolts.      EFFECT/ MISSION PHASE: EVA

CORRECTIVE ACTION: Remove 4 bolts securing heel clip to plate.

**-FAILURE EFFECTS-**

END ITEM/LRU/ORU/ASSEMBLY: EMU boot cannot be removed from the foot restraint.  
 SUBSYSTEM/NEXT ASSEMBLY/INTERFACE: N/A  
 SYSTEM/END ITEM/MISSION: None.  
 CREW/VEHICLE : Possible loss of crew if they are unable to return to airlock.

# FAILURE MODE EFFECTS ANALYSIS/CRITICAL ITEMS LIST

FMEA NUMBER: EC-STBD3-01      ORIGINATOR:      JSC      PROJECT: EDFT-03

PART NAME: IFK TASK PLATE      LRU/ORU PART NUMBER: SED39126372-301      QUANTITY: 1  
 PART NUMBER: SED39126374-301      LRU/ORU PART NAME: BAY 3 STBD. ASSY.      SYSTEM: GFE  
 LSC CONTROL NO: N/A      DRAWING/REF DESIGNATOR: SEE P/N      SUBSYSTEM: EVA  
 ZONE/LOCATION: STBD 3      EFFECTIVITY/AFFECT STAGE: STS-72

## HAZARD INFORMATION:

HAZARD: N/A

HAZARD ORGANIZATION CODE: N/A

HAZARD NUMBER: N/A

TIME TO EFFECT: minutes  
 TIME TO DETECT: seconds  
 TIME TO CORRECT: minutes  
 FAILURE DETECTION/FLIGHT: visual

## REMARKS:

### -RATIONALE FOR ACCEPTABILITY-

(A) DESIGN: The task plate is designed to the requirements specified in JSC-38196, "Certification and Acceptance Requirements Document for the Bay Three Starboard Transition Plate". The task plate is actual reflown equipment that was used on STS-37. For STS-72 EVA removable bolts with standard 7/16" bolt heads on the heel clips have been added.

(B) TEST: Applicable requirements from JSC-38196

Acceptance:

- a) Interface Check with EMU boot done at PDA.
- b) Interface check of 7/16" bolt heads with socket and torque on bolts verified to be less than 25 ft-lb.

(C) INSPECTION:

Fabrication - All task plate components are verified to generally clean individually. The task plate is verified to be visually clean at predelivery acceptance.

Test - Quality Assurance surveillance is required at all test and inspections. Discrepancy reports are written on all noncompliances.

(D) FAILURE HISTORY: None

(E) OPERATIONAL USE:

- 1) Operational Effect - Unable to remove boot from task plate. Crewman not able to return to airlock.
- 2) Crew Action - 2nd crewman must retrieve wrench or power tool to remove effected heel clip on the task plate.
- 3) Crew Training - Crew trained in proper operation of boot plate and use of tools.
- 4) Mission constraint - None.
- 5) In Flight Checkout - Proper function verified during EVA operations.

(F) MAINTAINABILITY: N/A