FAILURE MODE EFFECTS ANALYSIS/CRITICAL ITEMS LIST

FMEA NUMBER: EDFT-05-STBD7-5   ORIGINATOR: JSC   PROJECT: DTO 671
PART NAME: ORU GRID LATCH ASSY.   LRU PART NUMBER: SED39128554-401   QUANTITY: 1
PART NUMBER: SED39127590-313   LRU PART NAME: BAY 7 STBD INSTALLATION   SYSTEM: EDFT-05
DRAWING: SEE P/N   SUBSYSTEM: N/A   EFFECTIVITY: STS-80

CRITICALITY:

CRITICAL ITEM?   YES _____   NO _X_

CRITICALITY CATEGORY: _1R/3_

REDUNDANCY SCREENS:

A - Pass
B - Pass
C - Pass

FUNCTION: The ORU grid latch assembly is the active CSI mechanism which allows removal and installation of an ORU onto an ORU grid for on-orbit grasp and handling. It incorporates 4 spring loaded pawls activated by a shaft and an over-center mechanism. An inhibit to prevent shaft rotation is also incorporated.

FAILURE MODE: Unable to release hard or soft capture

CAUSE: Contamination, galling, piece part failure

FAILURE DETECTION: Visual

REMAINING PATHS: Three - Contingency bolts on CSI (either of 2 sets of 2 bolts), nominal OTD removal from socket, and EVA bolts on socket.

EFFECT/MISSION PHASE: EVA

CORRECTIVE ACTION: Restow if contingency removal from the OTD/TERA is successful. If not, jettison ORU and OTD/TERA, if necessary

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-FAILURE EFFECTS-

END ITEM: Unable to remove subcarrier from OTD or TERA.

INTERFACE: N/A

MISSION: Possible loss of some DTO objective

CREW/VEHICLE: Unable to close PLB doors and secure PLB for landing if OTD is deployed. Vehicle damage will occur unless ORU and OTD/TERA are jettisoned.

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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

REMARKS:

-RETENTION RATIONALE-

(A) DESIGN:

(B) TEST:

(C) INSPECTION:

(D) FAILURE HISTORY:

(E) OPERATIONAL USE:

PREPARED BY: Murray Epstein   REVISION: DATE: 4/16/96