

**Failure Modes and Effects Analysis/Critical Items List**

FMEA No:	OSS-PBCA-003	Originator:	J. Cooley/OSS	Project:	
Part Name:	High Strength Bridge Clamp	ORU Part #	SED33107177-301	Quantity:	1
Part #:	SED33107177-301	ORU Part Name:	High Strength Bridge Clamp	System:	EVA
Drawing:	SED33107177	Subsystem:	N/A	Effectivity:	STS-75 and subs

Criticality:

Critical Item?	Yes	No	X
Criticality Category	1R/3		

Redundancy Screens:

- A - Pass
- B - Pass
- C - Pass

**Function:** Provides mounting capability for the PFR/Articulating Socket in the Space Shuttle payload bay.  
**Failure Mode:** Inadvertent release of PFR/Articulating Socket (Launch/Landing).  
**Cause:** Piece part failure, wear, contamination, vibration

**Remaining Paths:** 1. First release pin  
 2. Second release pin  
**Effect/Mission Phase:** Launch/Landing

Note: One safety toggle and the two release pins must fail before inadvertent release.

**Corrective Action:** None

-Failure Effects-

**End Item:** Upon first failure (Safety Toggle): None  
 Upon second failure (First Release Pin): None  
 Upon third failure (Second Release Pin): HSBC in unable to restrain PFR/Articulating Socket  
**Interface:** Release of PFR/Articulating Socket during launch/landing.  
**Mission:** Unable to perform EVA operations from the PFR.  
**Crew/Vehicle:** Significant payload bay damage could occur with loose PFR/Articulating Socket during launch/landing.

Hazard Information:

Hazard:	Yes	No	X
Hazard Organization Code:	N/A		
Hazard Number:	N/A		

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Part #:	SED33107177-301	ORU Part Name:	High Strength Bridge Clamp Assembly	System:	EVA
Drawing:	SED33107177	Subsystem:	N/A	Effectivity:	STS-75 and subs
Time to Effect:	N/A				
Time to Detect:	N/A				
Time to Correct:	N/A				
Failure Detection/Flight:	N/A				

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

Prepared By: G. Hall/OSS      Revision: A      Date: 01/23/96