CRITICAL ITEMS LIST (CIL)

SYSTEM:	ASI	FUNCTIONAL CRIT:	1
SUBSYSTEM:	ET Interface Hardware	PHASE(S):	b
REV & DATE:	J, 12-19-97	HAZARD REF:	S.11
DCN & DATE:			
ANALYSTS:	C. Rush/E. Howell		

FAILURE MODE: Structural Failure

FAILURE EFFECT: b) Loss of mission and vehicle/crew due to fire/explosion or debris source to Orbiter.

TIME TO EFFECT: Immediate

FAILURE CAUSE(S): A: Improper Manufacture
B: Failure of Attaching Hardware

REDUNDANCY SCREENS: Not Applicable

FUNCTIONAL DESCRIPTION: LH2 feedline support bracket.

FMEA ITEM CODE(S)	PART NO.	PART NAME	QTY	EFFECTIVITY
4.5.9.1	80911071746-001	Bracket, Aft Crossbeam	1	LWT-54 & Up

REMARKS:

SYSTEM:	ASI	REV & DATE:	J, 12-19-97
SUBSYSTEM:	ET Interface Hardware	DCN & DATE:	
FMEA ITEM CODE(S):	4.5.9.1		

RATIONALE FOR RETENTION

DESIGN:

A, B: The bracket is machined from a 7050-T74 aluminum alloy die forging. Materials selected for this part number are in accordance with MMC-ET-SE16 which assures repetitive conformance of composition and properties. Part integrity is assured by ultrasonic inspection per MIL-I-8950 and by penetrant inspection per STP2501. The bracket and attachment hardware are designed to the required ultimate safety factor of 1.4 (ET Stress Report 826-2188).

B: Attaching hardware is selected from the Approved Standard Parts List (ASPL 826-3500), installed per STP2014 and torqued using values specified on Engineering drawings. Tensile installation loads are sufficient to provide screening for major flaws in individual fasteners.

TEST:

The Bracket, Aft Crossbeam is certified. Reference HCS MMC-ET-TM08-L-S107 (LWT-54 thru 88) and HCS MMC-ET-TM08-L-S516 (LWT-89 & Up).

Vendor:

B: Attaching fasteners are procured and tested to standard drawings 26L2, 26L3, 33L1 and 33L2.

INSPECTION:

Vendor Inspection - Lockheed Martin Surveillance:

A, B: Verify materials selection and verification controls (MMC-ET-SE16, STM5168, drawing 80911071726 and standard drawings 26L2, 33L2, 26L3, 33L1).

A: Inspect dimensional conformance (drawing 80911071746).

A: Penetrant inspect part (drawing 80911071746 and STP2501 Type 1 Method A).

A: Ultrasonic inspect (80911071726).

MAF Quality Inspection:

A, B: Verify fastener installation and witness torque (drawing 80911071790).

B: Inspect that attaching hardware is free from damage (drawing 80911071790 and STP2014).

FAILURE HISTORY:

Current data on test failures, unexplained anomalies and other failures experienced during ground processing activity can be found in the PRACA data base.