

CRITICAL ITEMS LIST (CIL)

SYSTEM: ASI  
 SUBSYSTEM: ET Interface Hardware  
 REV & DATE: J, 12-19-97  
 DCN & DATE:  
 ANALYSTS: C. Rush/E. Howell

FUNCTIONAL CRIT: 1  
 PHASE(S): b  
 HAZARD REF: S.11

FAILURE MODE: Structural Failure  
 FAILURE EFFECT: b) Loss of mission and vehicle/crew due to collapse of interface system resulting in fire/explosion.  
 TIME TO EFFECT: Immediate  
 FAILURE CAUSE(S): Improper Manufacture  
 REDUNDANCY SCREENS: Not Applicable  
 FUNCTIONAL DESCRIPTION: Provides structural load path from ET to Orbiter/ET interface.

<u>FMEA ITEM CODE(S)</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY</u>	<u>EFFECTIVITY</u>
4.5.28.1	80911071742-001	Pin, (Vertical Strut, Upper)	2	LWT-54 & Up

REMARKS:

CRITICAL ITEMS LIST (CIL)  
CONTINUATION SHEET

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RATIONALE FOR RETENTION

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DESIGN:

The pin is made from AMS-5663 PPT HT Inconel bar stock and is CAD plated. Materials are selected in accordance with MMC-ET-SE16 which assures repetitive conformance of composition and properties. Surface integrity is assured by penetrant inspection per STP2501. The pin is designed to the required ultimate safety factor of 1.4 (ET Stress Report 826-2188).

TEST:

The Pin, (Vertical Strut, Upper) is certified. Reference HCS MMC-ET-TM08-L-S123 (LWT-54 thru 88) and HCS MMC-ET-TM08-L-S516 (LWT-89 & Up).

INSPECTION:

Vendor Inspection - Lockheed Martin Surveillance:

Verify materials selection and verification controls (MMC-ET-SE16, drawing 80911071742).

Penetrant inspect part (drawing 80911071742 and STP2501 Type 1 Method A).

Verify dimensional conformance (drawing 80911071742).

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.