

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: Aft interface and structural lateral load path between Orbiter/ET attach fitting and end fitting.

<u>FMEA ITEM CODE(S)</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY</u>	<u>EFFECTIVITY</u>
4.5.29.1	80911031759-009	Strut Assembly, Diagonal, Upper	1	LWT-54 & Up

REMARKS:

CRITICAL ITEMS LIST (CIL)
CONTINUATION SHEET

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RATIONALE FOR RETENTION

DESIGN:

The strut is machined from a 7050-T74 aluminum alloy forging. Materials selected for these part numbers are in accordance with MMC-ET-SE16 which assures repetitive conformance of composition and properties. Surface integrity is assured by penetrant inspection per STP2501. The strut assembly and attachment hardware are designed to the required ultimate safety factor of 1.4 (ET Stress Report 826-2188).

TEST:

The Strut Assembly, Diagonal, Upper is certified. Reference HCS MMC-ET-TM08-L-S124 (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 80911031776 and STM5168).

Inspect dimensional conformance (drawing 80911031759).

Penetrant inspect part (drawing 80911031759 and STP2501 Type 1 Method A).

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.