

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: Forward interface and structural 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>
4.5.42.1	80911009194-002	Strut Bipod - Forward ET/Orbiter Attachment	2	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 are selected 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 strut is designed to the required ultimate safety factor of 1.34 (ET Stress Report 826-2188).

TEST:

The Strut Bipod - Forward ET/Orbiter Attachment is certified. Reference HCS MMC-ET-TM08-L-S133 (LWT-54 thru 88) and HCS MMC-ET-TM08-L-S508 (LWT-89 & Up).

INSPECTION:

Vendor Inspection - Lockheed Martin Surveillance:

Verify materials selection and verification controls (MMC-ET-SE16, STM5168, drawing 80911031693).

Penetrant inspect part (drawing 80911009194 and STP2501 Type 1 Method A).

Inspect dimensional conformance (drawing 80911009194).

Ultrasonic inspect part (80911031693).

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.