

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 break up of out of control vehicle resulting from the loss of one SRB 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: Forward interface and structural load path between ET and SRB.

<u>FMEA ITEM CODE(S)</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY</u>	<u>EFFECTIVITY</u>
4.5.50.1	80913000635-009 -019	Fitting Assembly, Forward SRB, Intertank	1 1	LWT-54 thru 69 LWT-70 & Up
4.5.51.1	80913000635-010 -020	Fitting Assembly, Forward SRB, Intertank	1 1	LWT-54 thru 69 LWT-70 & Up

REMARKS: The fittings are grouped as the failure mode, causes and effects are the same.

CRITICAL ITEMS LIST (CIL)
CONTINUATION SHEET

SYSTEM: ASI
SUBSYSTEM: ET Interface Hardware
FMEA ITEM CODE(S): 4.5.50.1, 4.5.51.1

REV & DATE: J, 12-19-97
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RATIONALE FOR RETENTION

DESIGN:

- A: The fitting is machined from a 7050-T74 aluminum alloy forging. The thrust insert is machined from AMS-5629 PH13-8 MO SOL HT corrosion resistant steel bar. 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 fitting assembly is 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.

TEST:

The Fitting Assy, Forward SRB, Intertank is certified. Reference HCS MMC-ET-TM08-L-S140 (LWT-54 thru 88) and HCS MMC-ET-TM08-L-S502 (LWT-89 & Up).

Vendor:

- B: Attaching fasteners are procured and tested to Standard drawings 26L8 and 33L14.

INSPECTION:

Vendor Inspection - Lockheed Martin Surveillance:

- A, B: Verify materials selection and verification controls (MMC-ET-SE16, STMS168, drawings 80913000506 and 80913000508 and Standard drawings 26L8 and 33L14).
- A, B: Verify fastener installation and witness torque (drawing 80913000510).
- A: Penetrant inspect part (drawing 80913000637 and STP2501 Type 1 Method A and C).
- A: Ultrasonic inspect part (drawing 80913000508).
- A: Inspect by magnetic particle (drawing 80913000506).
- A: Inspect dimensional conformance (drawings 80913000506, 80913000508 and 80913000637).
- B: Inspect that attaching hardware is free from damage (drawing 80913000510 and STP2014).

Launch Site:

- A: Inspect condition of bearing surface (OMRSD File II).

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.