

CRITICAL ITEMS LIST (CIL)

SYSTEM: ASI
 SUBSYSTEM: Support Hardware
 REV & DATE: J, 12-19-97
 DCN & DATE:
 ANALYSTS: M. Keefe/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 LH2 tank structural failure or debris source to Orbiter.

TIME TO EFFECT: Immediate

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

REDUNDANCY SCREENS: Not Applicable

FUNCTIONAL DESCRIPTION: Provide support for the GH2 pressurization line on the intertank.

<u>FMEA ITEM CODE(S)</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY</u>	<u>EFFECTIVITY</u>
4.4.12.1	80911021301-001	Sliding Mount Cap	1	LWT-54 & Up

REMARKS:

CRITICAL ITEMS LIST (CIL)
CONTINUATION SHEET

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RATIONALE FOR RETENTION

DESIGN:

- A-C: The Sliding Mount Cap is machined from 7075-T7351 aluminum alloy plate stock and the cushions are 304 CRES Wire mesh. Materials selected for this part number are in accordance with MMC-ET-SE16 which assures repetitive conformance of composition and properties. Acceptable surface finish of machined parts is assured by penetrant inspection per STP2501.
- A: The Sliding Mount Cap is designed to the required yield (1.1) and ultimate (1.4) safety factors (ET Stress Report 826-2188).
- B: The attaching hardware is selected from the Approved Standard Parts List (ASPL 826-3500). The hardware is 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 Sliding Mount Cap is certified. Reference HCS MMC-ET-TM08-L-S077 (LWT-54 thru 88) and HCS MMC-ET-TM08-L-S524 (LWT-89 & Up).

Vendor:

- B: Attaching fasteners are procured and tested to standard drawings 26L2 and 34L2.

INSPECTION:

Vendor Inspection - Lockheed Martin Surveillance:

- A-C: Verify materials selection and verification controls (MMC-ET-SE16 drawing 80911021301 and standard drawings 54L7-2C, 26L2 and 34L2).
- A: Inspect dimensional conformance (drawing 80911021301).
- A: Penetrant inspect part (drawing 80911021301 and STP2501, Type 1, Method A).

MAF Quality Inspection:

- B: Inspect that attaching hardware is free from damage (drawing 80921021009 and STP2014).
- C: Witness installation of 54L7-2C (drawing 80921021009).
- A, B: Verify installation and witness torque (drawing 80921021009 and STP2014).
- B: Verify locking feature (drawing 80921021009 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.