

CRITICAL ITEMS LIST (CIL)

SYSTEM: ASI
 SUBSYSTEM: Support Hardware
 REV & DATE: J, 12-19-97
 DCN & DATE:
 ANALYSTS: H. 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 LO2 tank structural failure 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: Provides support for the G02 pressurization line sliding mounts on the intertank support assemblies.

| <u>FMEA ITEM CODE(S)</u> | <u>PART NO.</u> | <u>PART NAME</u> | <u>QTY</u> | <u>EFFECTIVITY</u> |
|--------------------------|-----------------|------------------------------|------------|--------------------|
| 4.4.11.1 | 80913010032-019 | Fitting Assembly (Intertank) | 4 | LWT-54 & Up |

REMARKS:

CRITICAL ITEMS LIST (CIL)
CONTINUATION SHEET

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RATIONALE FOR RETENTION

DESIGN:

- A, B: The Fitting is machined from 2219-T87 aluminum alloy plate stock. 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 Fitting Assembly 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 Fitting Assembly (Intertank) is certified. Reference HCS MMC-ET-TM08-L-S076 (LWT-54 thru 88) and HCS MMC-ET-TM08-L-S505 (LWT-89 & Up).

Vendor:

- B: Attaching fasteners are procured and tested to standard drawings 26L4 and 33L1.

INSPECTION:

Vendor Inspection - Lockheed Martin Surveillance:

- A, B: Verify materials selection and verification controls (MMC-ET-SE16, drawing 80913010032 and standard drawings 26L4 and 33L1).
- A: Inspect dimensional conformance (drawing 80913010032).
- A: Penetrant inspect part (drawing 80913010032 and STP2501, Type 1, Method A).
- B: Inspect that attaching hardware is free from damage (drawing 80913010032 and STP2014).
- A, B: Verify installation and witness torque (drawing 80913010032 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.