

**CRITICAL ITEMS LIST (CIL)**

<b>SYSTEM:</b>	ASI	<b>FUNCTIONAL CRIT:</b>	1
<b>SUBSYSTEM:</b>	Intertank	<b>PHASE(S):</b>	b
<b>REV &amp; DATE:</b>	J, 12-19-97	<b>HAZARD REF:</b>	S.11
<b>DCN &amp; DATE:</b>	002, 2-28-99		
<b>ANALYSTS:</b>	H. Keefe/E. Howell		

**FAILURE MODE:** Structural Failure

**FAILURE EFFECT:** b) Loss of mission and vehicle/crew due to debris source to orbiter.

**TIME TO EFFECT:** Immediate

**FAILURE CAUSE(S):**  
 A: Improper Manufacture of Seal Components  
 B: Failure of Attaching Hardware

**REDUNDANCY SCREENS:** Not Applicable

**FUNCTIONAL DESCRIPTION:** Provides controlled seal area around LO2 feedline.

<u>FMEA ITEM CODE(S)</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY</u>	<u>EFFECTIVITY</u>
4.2.11.1	80911001349-029 -509	LO2 Feedline Fairing Seal	1 1	LWT-54 thru 88, 600 & Up LWT-89 thru 599

**REMARKS:**

CRITICAL ITEMS LIST (CIL)  
CONTINUATION SHEET

SYSTEM: ASI  
SUBSYSTEM: Intertank  
FMEA ITEM CODE(S): 4.2.11.1

REV & DATE: J, 12-19-97  
DCN & DATE:

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RATIONALE FOR RETENTION

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DESIGN:

- A, B: The L02 feedline fairing seal assembly consists of a plastic (Polytetrafluoroethylene) rub strip supported by .090 inch thick aluminum ring segments. Materials selected for this part number are in accordance with MMC-ET-SE16 which assures repetitive conformance of composition and properties. The fairing seal and attach bolts are 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. Tensile installation loads are sufficient to provide screening for major flaws in individual fasteners.

TEST:

The L02 Feedline Fairing Seal is certified. Reference HCS MMC-ET-TM08-L-S013 (LWT-54 thru 88) and HCS MMC-ET-TM08-L-S513 (LWT-89 & Up).

Vendor

- B: Attaching hardware is procured and tested to standard drawings 26L2, 26L3, 25L3, 33L2, and 33L3.

INSPECTION:

Vendor Inspection - Lockheed Martin Surveillance:

- A, B: Verify materials selection and verification controls (MMC-ET-SE16, drawings 80911001349, 80911001345, and 80911001344, standard drawings 33L3, 33L2, 26L3 and 25L3).

MAF Quality Inspection:

- B: Inspect that attaching hardware is free from damage (drawing 80911001349 and STP2014).
- A, B: Verify installation and witness torque of the 80911001344 and 80911001345 seal components (drawing 80911001349).

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.