

CRITICAL ITEMS LIST (CIL)

SYSTEM: ASI
 SUBSYSTEM: Propulsion
 REV & DATE: J, 12-19-97
 DCN & DATE:
 ANALYSTS: C. Rush/E. Howell

FUNCTIONAL CRIT: 1
 PHASE(S): b
 HAZARD REF: 5.11

FAILURE MODE: Structural Failure
 FAILURE EFFECT: b) Loss of mission and vehicle/crew due to fire/explosion.
 TIME TO EFFECT: Immediate
 FAILURE CAUSE(S): Failure of Attaching Hardware
 REDUNDANCY SCREENS: Not Applicable
 FUNCTIONAL DESCRIPTION: Transports liquid hydrogen to the Orbiter umbilical.

<u>FMEA ITEM CODE(S)</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY</u>	<u>EFFECTIVITY</u>
4.6.3.1	80921011009-010 -509	Propellant Feed Installation (LH2)	1 1	LWT-54 thru 88 LWT-89 & Up

REMARKS:

CRITICAL ITEMS LIST (CIL)
CONTINUATION SHEET

SYSTEM: ASI
SUBSYSTEM: Propulsion
FMEA ITEM CODE(S): 4.6.3.1

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RATIONALE FOR RETENTION

DESIGN:

Materials selected for this part number are in accordance with MMC-ET-SE16 which assures repetitive conformance of composition and properties. 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. (ET Stress Report 826-2188).

TEST:

The Propellant Feed Installation (LW2) is certified. Reference NCS MMC-ET-TM08-L-5171 (LWT-54 thru 88) and NCS MMC-ET-TM08-L-5520 (LWT-89 & Up).

Vendor:

Attaching fasteners are procured and tested to Standard drawings 26L2.

INSPECTION:

Vendor Inspection-Lockheed Martin Surveillance:

Verify materials selection and verification controls (MMC-ET-SE16, and Standard Drawings 26L2).

MAF Quality Inspection:

Inspect that attaching hardware is free from damage (drawing 80921011009 and STP2014).

Verify installation and witness torque (drawing 80921011009 and STP2014).

Inspect lockwire installation (drawing 80921011009 and STP2013).

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.