

CRITICAL ITEMS LIST (CIL)

SYSTEM: Propulsion/Mechanical FUNCTIONAL CRIT: 1
 SUBSYSTEM: Helium Inject PHASE(S): a, b
 REV & DATE: J, 12-19-97 HAZARD REF: P.02, P.06
 DCN & DATE:
 ANALYSTS: J. Attar/H. Claybrook

FAILURE MODE: Leakage
 FAILURE EFFECT: a) Loss of mission and vehicle/crew due to fire/explosion.
 b) Loss of mission and vehicle/crew due to fire/explosion.
 TIME TO EFFECT: Seconds
 FAILURE CAUSE(S): A: Structural Failure
 B: Disengagement of Plug
 REDUNDANCY SCREENS: Not Applicable
 FUNCTIONAL DESCRIPTION: These plugs are used to close the downstream manifold machining holes.

<u>FMEA ITEM CODE(S)</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY</u>	<u>EFFECTIVITY</u>
2.4.21.1	57L7-4J	Manifold Plug	1	LWT-54 & Up

REMARKS:

CRITICAL ITEMS LIST (CIL)
CONTINUATION SHEET

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RATIONALE FOR RETENTION

DESIGN:

- A: The plug is installed in the manifold to prevent the overboard flow of helium. The plug is fabricated from 304 CRES and was selected for usage based on operational experience and its capability to meet ET requirements for class 3 threads and leakage performance. Material selected in accordance with MMC-ET-SE16 and controlled per MMMA Approved Vendor Product Assurance Plan assures conformance of composition, material compatibility and properties. Procurement is governed by material, fabrication, processing, and inspection specification per 57L7 standard. Installation loads are sufficient to provide screening for major flaws.
- B: The plug is installed and torqued as specified on the engineering installation drawing and is lockwired to preclude disengagement.

TEST:

The Manifold Plug is certified. Reference HCS MMC-ET-TM08-L-P015.

Acceptance:

MAF:

- A, B: Perform leakage test (MMC-ET-TM04k).

INSPECTION:

Vendor Inspection - Lockheed Martin Surveillance:

- A: Verify materials selection and verification controls (MMC-ET-SE16 and Standard drawing 57L7).

MAF Quality Inspection:

- B: Verify installation and witness torque (drawing 80921011941).
- A, B: Witness leakage test (MMC-ET-TM04k).

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.