

CRITICAL ITEMS LIST (CIL)

SYSTEM:	ASI	FUNCTIONAL CRIT:	1
SUBSYSTEM:	Support Hardware	PHASE(S):	b
REV & DATE:	J, 12-19-97	HAZARD REF:	S.11
DCN & DATE:			
ANALYSTS:	H. Keefe/E. Howell		

FAILURE MODE: Structural Failure

FAILURE EFFECT: b) Loss of mission and vehicle/crew due to LH2 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: Provide support for the GH2 pressurization line on the crossbeam.

<u>FMEA ITEM CODE(S)</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY</u>	<u>EFFECTIVITY</u>
4.4.20.1	80911071881-040	Support Assembly (GH2)	1	LWT-54 & Up

REMARKS:

CRITICAL ITEMS LIST (CIL)
CONTINUATION SHEET

SYSTEM: ASI
SUBSYSTEM: Support Hardware
FMEA ITEM CODE(S): 4.4.20.1

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

RATIONALE FOR RETENTION

DESIGN:

- A, B: The Support Assemblies are machined from 7075-T7351 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. The support assembly is designed to the required yield (1.1) and ultimate (1.4) safety factors (ET Stress Report 826-2188).
- B: The blind fasteners attaching hardware is selected from the Approved Standard Parts List (ASPL 826-3500) and installed per STP2021.

TEST:

The Support Assembly (GH2) is certified. Reference HCS MMC-ET-TM08-L-S085 (LWT-54 thru 88) and HCS MMC-ET-TM08-L-S516 (LWT-89 & Up).

Vendor:

- B: Attaching fasteners are procured and tested to standard drawing 26L14.

INSPECTION:

Vendor Inspection - Lockheed Martin Surveillance:

- A, B: Verify materials selection and verification controls (MMC-ET-SE16, drawing 80911071881 and standard drawing 26L14).
- A: Inspect dimensional conformance (drawing 80911071881).
- A: Penetrant inspect part (drawing 80911071881 and STP2501, Type 1, Method A).

MAF Quality Inspection:

- B: Inspect that attaching hardware is free from damage (drawing 80911071880 and STP2021).
- B: Inspect installation of attaching hardware (drawing 80911071880 and STP2021).

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.