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 LO2 tank structural failure or debris source to Orbiter

TIME TO EFFECT: Immediate

FAILURE CAUSE(S): Improper Manufacture

REDUNDANCY SCREENS: Not Applicable

FUNCTIONAL DESCRIPTION: Provide support for the GO2 pressurization line and the LO2 cable tray on the intertank.

FMEA ITEM CODE(S)	PART NO.	PART NAME	QTY	EFFECTIVITY
4.4.44.1	80913010032-020	Support Fitting Assy	1	LWT-54 & Up
4.4.45.1	80913010032-029	Support Fitting Assy	1	LWT-54 & Up

REMARKS: The fittings are grouped as the failure modes, causes and effects are the same.

SYSTEM:	ASI	REV & DATE:	J, 12-19-97
SUBSYSTEM:	Support Hardware	DCN & DATE:	
FMEA ITEM CODE(S):	4.4.44.1, 4.4.45.1		

RATIONALE FOR RETENTION

DESIGN:

The Fitting is machined from 7075-T7351 aluminum alloy plate stock. Materials selected for these part numbers 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 Fitting Assembly is designed to the required yield (1.1) and ultimate (1.4) safety factors (ET Stress Report 826-2188).

TEST:

The Support Fitting Assembly (Intertank) is certified. Reference HCS MMC-ET-TM08-L-S097 (LWT-54 thru 88) and HCS MMC-ET-TM08-L-S505 (LWT-89 & Up).

INSPECTION:

Vendor Inspection - Lockheed Martin Surveillance:

Verify materials selection and verification controls (MMC-ET-SE16 and drawing 80913010032).

Inspect dimensional conformance (drawing 80913010032).

Penetrant inspect part (drawing 80913010032 and STP2501, Type 1, Method A).

MAF Quality Inspection:

Verify installation (drawing 80911141204).

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.