

CRITICAL ITEMS LIST (CIL)

SYSTEM: ASI FUNCTIONAL CRIT: 1
 SUBSYSTEM: ET Interface Hardware PHASE(S): a, b
 REV & DATE: J, 12-19-97 HAZARD REF: P.07, S.11
 DCN & DATE:
 ANALYSTS: C. Rush/E. Howell

FAILURE MODE: Functional Failure (Bipod fails to rotate before separation)
 FAILURE EFFECT: a,b) Loss of mission and vehicle/crew due to fire/explosion.
 TIME TO EFFECT: Immediate (a), Seconds (b)
 FAILURE CAUSE(S): Spindle Failure
 REDUNDANCY SCREENS: Not Applicable
 FUNCTIONAL DESCRIPTION: Interface and structural load path between ET and Orbiter interface structure.

<u>FMEA ITEM CODE(S)</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY</u>	<u>EFFECTIVITY</u>
4.5.35.2	80911051119-069	Tank Fitting Assembly, Bipod	1	LWT-54 thru 73
	-089	Attachment	1	LWT-74 thru 83
	-099		1	LWT-84 & Up
4.5.36.2	80911051119-070	Tank Fitting Assembly, Bipod	1	LWT-54 thru 73
	-090	Attachment	1	LWT-74 thru 83
	-100		1	LWT-84 & Up

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

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CONTINUATION SHEET

SYSTEM: ASI
SUBSYSTEM: ET Interface Hardware
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REV & DATE: J, 12-19-97
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RATIONALE FOR RETENTION

DESIGN:

The pivot pin, locking pin and drum are made from AMS-5737 A286 COND PPT HT corrosion resistant steel bar. The spring (LWT-54 thru 73) is made from MIL-S-5059 302 Hard #28 corrosion resistant sheet stock. Materials are selected in accordance with MMC-ET-SE16 which assures repetitive conformance of composition and properties. The fitting is designed to the required ultimate safety factor of 1.4 (ET Stress Report 826-2188).

TEST:

The Tank Fitting Assembly, Bipod Attachment is certified. Reference HCS MMC-ET-TM08-L-S177 (LWT-54 thru 88) and HCS MMC-ET-TM08-L-S508 (LWT-89 & Up).

INSPECTION:

Vendor Inspection - Lockheed Martin Surveillance:

Inspect for spindle functional check (drawing 80911051119).

Launch Site:

Verify Bipod spindle rotation during Bipod Strut installation (drawing 80911019109).

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.