

CRITICAL ITEMS LIST (CIL)

SYSTEM: ASI
 SUBSYSTEM: Intertank
 REV & DATE: K, 6-29-01
 DCN & DATE: 001, 2-7-02
 ANALYSTS: R. Axelsen/H. Claybrook

FUNCTIONAL CRIT: 1
 PHASE(S): b
 HAZARD REF: S.11

FAILURE MODE: Structural Failure

FAILURE EFFECT: b) Loss of mission and vehicle/crew due to debris source to orbiter(See Remarks).

TIME TO EFFECT: Immediate

FAILURE CAUSE(S):
 A: Improper Manufacture
 B: Failure of Attaching Hardware

REDUNDANCY SCREENS: Not Applicable

FUNCTIONAL DESCRIPTION: The antenna radiates signals from the ET Camera System to ground.

<u>FMEA ITEM CODE(S)</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY</u>	<u>EFFECTIVITY</u>
4.2.14.1	80931017070-019	Antenna	2	ET-115

REMARKS: Crit 1 failure effects apply to Antenna A only. Antenna B is outside critical debris zone.

CRITICAL ITEMS LIST (CIL)
CONTINUATION SHEET

SYSTEM: ASI REV & DATE: K, 6-29-01
SUBSYSTEM: Intertank DCN & DATE: 001, 2-7-02
FMEA ITEM CODE(S): 4.2.14.1

RATIONALE FOR RETENTION

DESIGN:

- A, B: The Antenna is made from 303 Stainless Steel. Materials selected for this part number are in accordance with MMC-ET-SE16 which assures repetitive conformance of composition and properties. The antenna, ground plane and attaching hardware are designed to the required yield (1.1) and ultimate (1.4) safety factors (ET Stress Report 826-2188).
- B: Attaching hardware is selected from the Approved Standard Parts List (ASPL 826-3500) and installed per STP2014 and STP2020. Attaching hardware is torqued using values specified on Engineering drawings. Tensile installation loads are sufficient to provide screening for major flaws in individual fasteners.

TEST:

The ET Camera Antenna is certified. Reference COQ MMC-ET-TM06-127.

Vendor

- B: Attaching hardware is procured and tested to standard drawings 26L10, 33L1 and NAS1219.

INSPECTION:

Vendor Inspection - Lockheed Martin Surveillance:

- A, B: Verify materials selection and verification controls (MMC-ET-SE16, drawings 80931017070, NAS1219 and standard drawings 26L10 and 33L1).

MAF Quality Inspection:

- A, B: Verify materials selection and verification controls (MMC-ET-SE16 and drawing 80911017066).

Launch Site Inspection:

- B: Inspect that attaching hardware is free from damage (drawings 80911017061 and 80931017073, STP2014 and STP2020).
- A, B: Verify installation of ground plane (drawing 80931017073 and STP2020).
- A, B: Verify installation and witness torque (drawing 80931017073 and STP2014).

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.