

CRITICAL ITEMS LIST (CIL)  
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SYSTEM: ASI  
 SUBSYSTEM: Nose Cone Assembly  
 REV & DATE: J, 12-19-97  
 DCN & DATE: 004, 6-30-99  
 ANALYSTS: L. Hansen/E. Howell

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.  
 TIME TO EFFECT: Immediate  
 FAILURE CAUSE(S): A: Improper Manufacture  
 B: Failure of Attaching Hardware  
 REDUNDANCY SCREENS: Not Applicable  
 FUNCTIONAL DESCRIPTION: Provides environmental protection for vent/relief duct.

FMEA ITEM CODE(S)	PART_NO.	PART_NAME	QTY	EFFECTIVITY
4.1.3.1	80921021044-023 -034 -052	Nose Cone Louver (LH)	1	LWT-54 thru 80, 82-84
			1	LWT-81, 85 thru 114
			1	LWT-115 & Up
4.1.4.1	80921021044-024 -035 -053	Nose Cone Louver (RH)	1	LWT-54 thru 80, 82-84
			1	LWT-81, 85 thru 114
			1	LWT-115 & Up

REMARKS: The Nose Cone Louvers are made from details of P04700187 and grouped as the failure causes and effects are the same.

CRITICAL ITEMS LIST (CIL)  
CONTINUATION SHEET

SYSTEM: ASI  
SUBSYSTEM: Nose Cone Assembly  
FMEA ITEM CODE(S): 4.1.3.1, 4.1.4.1

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RATIONALE FOR RETENTION

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DESIGN:

- A, B: The stainless steel louver assembly is an investment casting with four blades and a frame. Materials are selected in accordance with MMC-ET-SE16 which assures repetitive conformance of composition and properties. The louver and attachment hardware are designed to the required ultimate safety factor of 1.4 (ET Stress Report 826-2188 and Stress Analysis TR-4-1, Ametek/Calmec, PD4700187).
- B: Attaching hardware is selected from the Approved Standard Parts List (ASPL 826-3500), installed per STP2014 and torqued using values specified on Engineering drawings. Tensile installation loads are sufficient to provide screening for major flaws in individual fasteners.

TEST:

The Nose Cone Louvers are qualified. Reference COQ MMC-ET-TM06-064.

Vendor:

- B: Attaching hardware is procured and tested to Standard drawings 26L23 and 34L1.

INSPECTION:

Vendor Inspection - Lockheed Martin Surveillance:

- A, B: Verify materials selection and verification controls (MMC-ET-SE16, drawing PD4700187, and Standard drawings 26L23 and 34L1).
- A: Inspect dimensions (PD4700187).

MAF Quality Inspection:

- B: Inspect that attaching hardware is free from damage (drawing 80921061009 and STP2014).
- A, B: Verify installation and witness torque (drawing 80921061009).
- B: Verify insert locking feature (drawing 80921061009 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.