

REV. A

DATE March 25, 1988
(Revised May 11, 1988)

FMEA #: 60-570-0790-02-FL5-01
60-570-0790-02-FL6-01

END ITEM EFFECTIVITY:
X X X
OV102 OV103 OV104

MODEL NO: 570-0790-02

SUBSYSTEM: ECLSS

PART NUMBER:

PART NAME:

REFERENCE DESIGNATION:

ME286-0078

In-line Freon 114
Filter

FL5
FL6

CRITICALITY NUMBER: 2

FUNCTION: To filter the Freon for impurities in the 50
micron range.

CRITICAL FAILURE MODE: Pass contaminants / structural failure.

CAUSE: Material failure.

FAILURE EFFECT ON:

- (A) END ITEM: Possible deterioration of downstream QD due to debris.
- (B) INTERFACING SUBSYSTEM(S): Decrease in performance of GSE operations.
- (C) ORBITER: Downstream flight hardware may be subjected to contamination and possible degradation of cooling performance.
- (D) PERSONNEL: None.

HAZARDS: Exposure of flight hardware to debris.

DATE: March 25, 1983
REV: May 31, 1983

ACCEPTANCE RATIONALE

DESIGN:

Review of assembly documents and Specification Material Document (SMD) ME286-0078 has provided design data points to be complied with for acceptance rationale.

Design data points:

A delta pressure of 400 psig with no breakdown of the single layer, dutch weave wire mesh cloth. All welds are per MIL-W-8611 / MIL-W-8658. Static proof pressure test of 1.5 times normal, burst pressure in excess of 4 times operational pressures encountered. No external leakage at 400 psig N2. Maximum of 50 micron filtration, and not to exceed 9 psig pressure differential across filtration element with any loss of filtration.

TEST:

PRE-OPERATIONAL: Gas sampling of assemblies for debris (level 500 clean) prior to Freon 114 recirculation servicing.

INSPECTION:

PRE-INSTALLATION: Per ME268-0078: Acceptance test: The filter shall be examined to determine conformance to SCO in material, dimensions, construction and identification marking. The filter element weave pattern shall be in accordance with the manufacturer's drawing.

AGE LIFE: Per OMI V3537

The assembly is inspected annually (V6F21) for compliance to the material and assembly specifications.

OPERATION: No operations apply to risk reduction.

DETECTION:

Pre-use and post servicing inspection of filters for possible loss of integrity or signs of wear.

CORRECTION: Isolation and replacement.

FAILURE HISTORY:

Review of the FRACA Data Base has provided no failure history on the ME286-0078 filtering element.