

E01-SAA09FT06-030
SHEET 7 OF 16

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S040244
ATTACHMENT
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CRITICAL ITEM: Charcoal filter

Find Number: A147053

System: Environmental Control Subsystem
for the Payload Canister, Set 2

Failure Category: 2

SAA No.: 09FT06-030

NASA Part No.: None

PMN/Name: H70-1326

Mfr's Part No.: American Filter Co.
AF-2000

Drawing/Sheet No.: 79k22317

Function: Filters hydrocarbons from inlet air

Critical Failure Mode: Pass contaminants (FMN 09FT06-030.013)

Cause: Failure of filter media or leakage around gasket

Failure Effect: Possible hydrocarbon contamination of payload

ACCEPTANCE RATIONALE:

Design:

- o Rated capacity of 2000 cfm at 0.35" H₂O. The vendor manual states that the ECU supplies 75 to 150 lbs/min of conditioned air, which is equivalent to 1000 to 2000 cfm at 70½ F.
- o Nonunloading type; conforms to MIL-C-17605.
- o Contains 90 lbs. of activated carbon (45 lbs. per 1000 cfm)
- o Filtered air contains 15 ppm methane maximum (by weight)

Test:

Per File VI OMRSD requirements, the amount of hydrocarbons in the air of the Payload Canister is continuously monitored by the I&CS

Inspection:

The charcoal filter is inspected when installed.

Failure History:

There are no PRACA reports for the charcoal filter on the Canister Transporter, Set 2. On the Canister ECS, Set 1, there is one PRACA report on the charcoal filter: the filter became saturated and the carbon granules were replaced. This problem was detected by the I&CS. Data on Set 1 from 1981 to present; data on Set 2 from 1984 to present.

Operational Use:

When the filter gets saturated, the I&CS detects a rise in the hydrocarbon level in the canister, and the carbon granules are replaced.