

E01-SAA09FT06-030
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ATTACHMENT
Page 27 ofCRITICAL ITEM: Solenoid valveFind Number: A124436System: Environmental Control Subsystem
for the Payload Canister, Set 2Failure Category: ISSAA No.: 09FT06-030NASA Part No.: NonePMW/Name: H70-1326Mfr's Circle Seal Corp.
Part No.: SV10532P4PDrawing/
Sheet No.: 79K15271, Sheet 5Function: Remains normally open in vent mode to supply GN2 to open relief vent. Valve closes during smother mode.Critical Failure Mode: Fail open (FMN 09FT06-030.009)Cause: Internal part failureFailure Effect: Loss of smother mode capability. Loss of ability to contain a fire or payload hypergol leak. Possible loss of life or payload.ACCEPTANCE RATIONALE:Design:

- o Materials: Body - type 303 stainless steel Seats - nylatron
Trim - type 303 stainless steel Seals - Buna N
Coil housing - aluminum alloy
- o Specifications: Rated Actual
Pressure (psig) 3000 (max) 20
Temperature (°F) -65 to +165 Ambient
- o Solenoid valve is 3-way, 2-position type for use with GN2, balanced poppet design with bubble tight shutoff, and hermetically sealed.
- o Life expectancy: 6000 cycles

Test:

Per File VI OMRSD requirements, the valve is checked at validation test, prior to each critical use, semiannually, and at component replacement as outlined in OMI E3005 and OMI E6401 and the addition of operations and maintenance instructions deviation sheets P004-P013.

Inspection:

Pressure gauge A124427 in ECS control panel can detect solenoid valve failure. This gauge is calibrated annually.

Failure History:

There is no MDAC PRACA failure history in the critical mode. Data on Set 1 from 1981 to present; data on Set 2 from 1984 to present.

Operational Use:

Systems are secured and personnel are evacuated in accordance with OMI E5506 (vertical) and OMI L5050 (horizontal), Appendix Z.