

E01-SAA09FT06-030  
SHEET 14 OF 16SAA09FT06-030  
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ATTACHMENT  
Page 29 of**CRITICAL ITEM:** Solenoid valve**Find Number:** A124429**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.:** Circle Seal Corp.  
SV10532P4P**Drawing/Sheet No.:** 79K15271, Sheet 5**Function:** In normally closed mode, blocks flow of GN2 to the (normally open) return vents. During smother and vent modes, the valve opens, allowing the closing of the return vents.**Critical Failure Mode:** Fail open (FMN 09FT06-030.008)**Cause:** Internal part failure**Failure Effect:** Return air vents will close, causing loss of temperature/humidity control. Possible damage to 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:**

	<u>Rated</u>	<u>Actual</u>
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 ONI E3005 and ONI 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:**

Actions to be taken will be addressed as a contingency plan for each mission.