

E01-SAA09FT06-030
SHEET 15 OF 16

SAA09FT06-030
OCT 10 1990

S040244
ATTACHMENT
Page 30 of 6

CRITICAL ITEM: Pressure relief controller

Find Number: A124434

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

Failure Category: 2

SAA No.: 09FT06-030

NASA Part No.: None

PHN/Name: H70-1326

Mfr's Part No.: Johnson Controls Inc.
P-5215-8

Drawing/Sheet No.: 79K15271, Sheet 5

Function: Monitors the pressure difference between the canister interior and an atmospheric reference and sends a pressure signal to the pressure modulator.

Critical Failure Mode: Excessive pressure output (FMN 09FT06-030.004)

Cause: Internal part failure .

Failure Effect: Inability to sustain consistent canister pressure due to relief vent being opened excessively. Possible particulate contamination of payload.

ACCEPTANCE RATIONALE:

Design:

- o Materials: Body - aluminum alloy
Diaphragm - synthetic elastomer
Coil housing - aluminum alloy
- o Specifications:

Inlet Pressure (psig)	<u>Rated</u> 30 (max)	<u>Actual</u> 20
Temperature (°F)	-20 to +150	Ambient
- o Outlet signal: 3-15 psig max
- o Differential pressure control: 0.05-1.0 inch of water

Test:

Per File VI OMRSD requirements, operational checks are made at validation test, semiannually, at component replacement, and prior to each critical use as outlined in OMI's E3005, E6401, E6405, and OMI deviations P004-P013.

Inspection:

When testing the pressure relief vent opening and closure, visual inspection would detect a malfunctioning pressure relief controller.

Failure History:

MDAC PRACA data lists one failure. Problem has been addressed in ESR 635, which corrected the installation to eliminate a back pressure on the vent port of the controller. Data on Set 1 from 1981 to present; data on Set 2 from 1984 to present.

Operational Use:

Not applicable.