

**Title:** Component Maintenance Manual  
**Component:** Pressure Control Valve – P/N 21-32-004  
**Revision:** Rev. 3 – Effective: 10 Oct 2024

## Section 1 – General Description

The Pressure Control Valve (PCV) regulates differential pressure between the cabin and ambient atmosphere.

It consists of:

- Housing assembly
- Electric actuator
- Control circuit
- Position feedback sensor

The valve opens and closes automatically based on pressure feedback from cabin pressure transducers.

## Section 2 – Operating Principle

The actuator receives electrical input from the Cabin Pressure Controller (CPC). When the cabin altitude exceeds 8000 ft, the CPC commands the PCV to modulate airflow to maintain target pressure differential ( $\Delta P = 8.2$  psi).

## Section 3 – Maintenance Tasks

| Task No      | Interval | Action                        |
|--------------|----------|-------------------------------|
| CMM-21-32-01 | 1200 FH  | Perform leak test             |
| CMM-21-32-02 | 2400 FH  | Replace actuator seals        |
| CMM-21-32-03 | 4800 FH  | Full overhaul and calibration |

### Procedure Example (CMM-21-32-02):

1. Disconnect wiring harness.
2. Remove valve assembly.

3. Replace seals with approved kit P/N 21-32-004K.
4. Torque fasteners per Spec 20-32-10.
5. Perform bench test before installation.

#### **Section 4 – Testing and Calibration**

Use pneumatic test bench with airflow of 5–10 SCFM.

Measure leak rate — must not exceed 0.1 SCFM at 5 psi.

Calibration data logged via test software CMC-TestBench v2.3.

#### **Section 5 – Illustrated Parts List**

| <b>Item</b> | <b>Part Number</b> | <b>Description</b> | <b>Qty</b> |
|-------------|--------------------|--------------------|------------|
| 1           | 21-32-004A         | Valve Housing      | 1          |
| 2           | 21-32-004B         | Actuator Assembly  | 1          |
| 3           | 21-32-004C         | Feedback Sensor    | 1          |
| 4           | NAS620C4-16        | Bolt               | 4          |
| 5           | NAS1149C0463R      | Washer             | 4          |

#### **Section 6 – Storage and Preservation**

Store in a humidity-controlled environment ( $\leq 50\%$  RH).

Apply preservative oil MIL-PRF-6081 before long-term storage.

#### **End of CMM Extract**

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