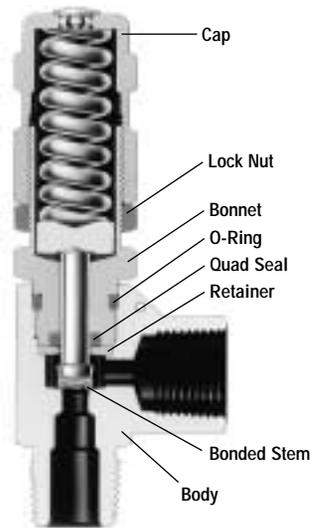


## R4 Series Seal and Stem Replacement Instructions



### Seal and Stem Replacement Instructions

**Contents:**

- 1 quad seal
- 1 O-ring
- 1 bonded stem

### Quad Seal and O-Ring Replacement

1. Remove valve from system.
2. Loosen **cap** to relieve spring pressure.
3. Remove **bonnet** from **body**.
4. Remove **stem** and **retainer** from **bonnet**.
5. Remove **quad seal** from **bonnet**.
6. Make sure all parts are clean before reassembly.
7. Install new **quad seal** into **bonnet**. (Lubricate with system compatible lubricant.)
8. Place **retainer** in **bonnet**, then insert **stem** into **bonnet** through **retainer** and **quad seal**.
9. Remove and replace **bonnet O-ring**. (Lubricate with system compatible lubricant.)
10. Thread **bonnet** into **body** and torque to **400 in.-lb. (45 N-m)**.
11. Adjust desired set pressure as described in steps 7 through 10 in the Spring Installation section on reverse side.
12. Install valve in system. Grip valve on wrench pad during installation.

### Stem and O-Ring Replacement

1. Remove valve from system.
2. Loosen **cap** to relieve spring pressure.
3. Remove **bonnet** from **body**.
4. Remove **stem** from **bonnet**.
5. Make sure all parts are clean before reassembly.
6. Place new **stem** into **bonnet**.
7. Remove and replace bonnet **O-ring**. (Lubricate with system compatible lubricant.)
8. Thread **bonnet** into **body** and torque to **400 in.-lb. (45 N-m)**.
9. Adjust desired set pressure as described in steps 7 through 10 in the Spring Installation section on reverse side.
10. Install valve in system. Grip valve on wrench pad during installation.

### Spring Kit Identification

Spring Kit Ordering Number	Color Code	Nominal Cracking Pressure psig (bar)	Initial Cap Position, number of turns
177-13K-R4-A	Blue	50 to 350 (3.4 to 24.1)	12.5
177-13K-R4-B	Yellow	350 to 750 (24.1 to 51.7)	13.5
177-13K-R4-C	Purple	750 to 1500 (51.7 to 103)	13.5

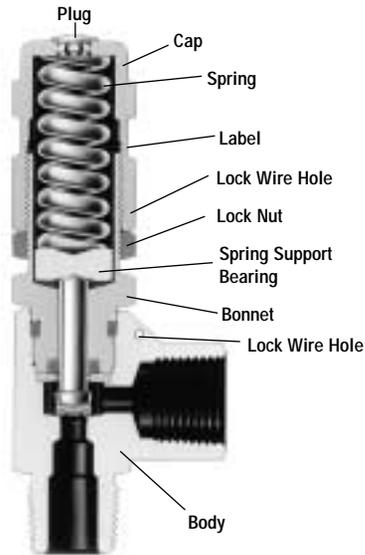


7-03-CP  
MS-CRD-0048  
R3

Swagelok®

www.swagelok.com

## R4 Series Pressure Relief Valve



### Spring Installation

**! Warning:** Relieve system pressure before installing spring.

1. Loosen **lock nut** and remove the **cap** from bonnet.
2. Remove existing **spring** if necessary.
3. Make sure all components are clean.
4. Place **spring support bearing** in valve with bearing side UP.
5. Install proper **spring** for desired set pressure range.
6. Replace existing **label** with new label. Check this label against spring identification table for proper set pressure range.
7. Thread **cap** onto **bonnet** to initial position indicated in Spring Kit Identification Table. Tighten **lock nut** against **cap** and test for set pressure.
8. Relieve system pressure, unthread **cap** as needed, and retest. Repeat procedure as necessary to obtain desired set pressure.
9. Tighten **lock nut** against the **cap** to **100 in.-lb (11 N·m)**.
10. Lock wire the **cap** and **body** together to maintain relief setting.

### Manual Override Conversion

**! Warning:** Relieve system pressure before installing manual override handle.

1. Loosen **lock nut** and remove the **cap** from bonnet.
2. Remove the **plug** from the **cap**.
3. Remove existing **spring** and **spring support bearing**.
4. Place new **bearing** and **thrust washers** over **pull rod**, resting them on the **spring support**.
5. Install **pull rod** into **bonnet**.
6. Place blue "A" **spring** over **pull rod**, resting it on the **thrust washer**.
7. Place the **cap** over **pull rod**, resting it on **bonnet**.
8. Thread **handle** onto **pull rod**. Tighten **set screw** on **handle** to **20 in.-lb. (2.2 N·m)** with a 5/64 in. hex wrench.
9. Engage the **cap** threads.

To adjust the set pressure, refer to steps 7 through 10 in the "Spring Installation" section.

© 1992, 1997, 2003 Swagelok Company

