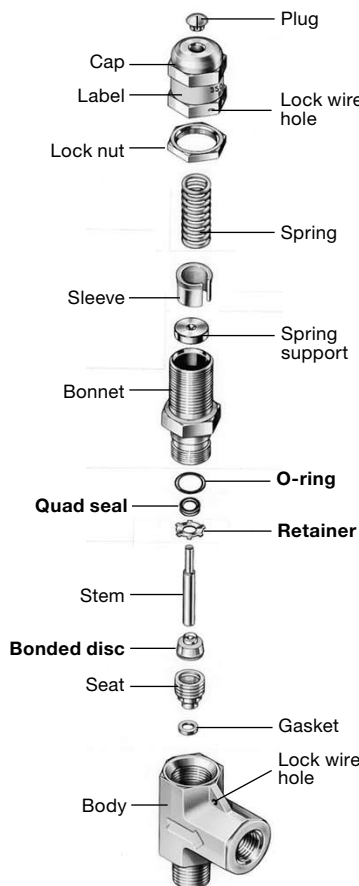




RL3 Series Externally Adjustable Relief Valves Maintenance Instructions

RL3 Series Exploded View



Seal kit contents are in **bold**.
The spring kit contains only a spring.

Tools Required

| Tool | Size | Component |
|----------------------------|----------------------------------|-----------------|
| Open-end wrench | 3/4 in. Thin head (3/16 in. max) | Lock nut |
| | 3/4 in. | Cap |
| | 7/8 in. | Body wrench pad |
| Crow's foot | 3/4 in. Thin head (3/16 in. max) | Lock nut |
| | 3/4 in. | Bonnet |
| Torque wrench, capable of: | 600 in.-lb (67.8 N-m) | Bonnet |
| | 100 in.-lb (11.3 N-m) | Lock nut |
| Pic | n/a | O-rings |

Definition of Symbols



Discard



Lubricate with system compatible lubricant

WARNING
Before removing any installed valve, you must

- depressurize the system
- cycle the valve
- purge the valve

WARNING
Residual material may be left in the valve and system.

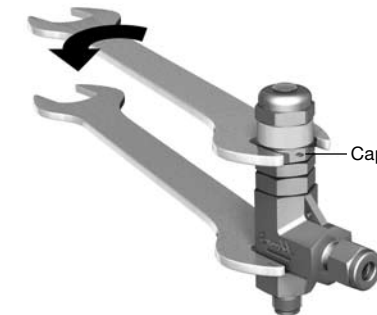
CAUTION
Do not scratch any sealing surfaces while following these instructions. Valve performance could be affected.

Maintenance

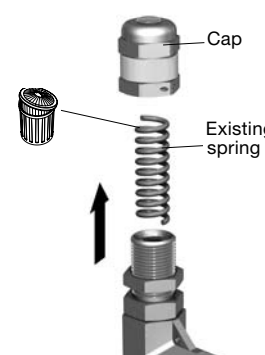
1. Remove the valve from the system.

Spring Replacement Instructions

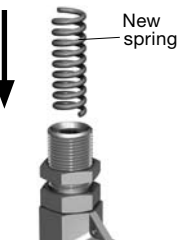
- If replacing the contents of the seal kit only, proceed to step 8.
- Loosen the **cap**.



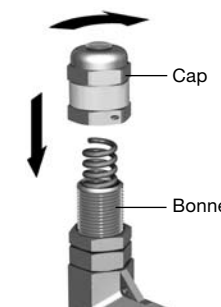
4. Remove the **cap** and the **spring**.



5. Insert the **new spring**.



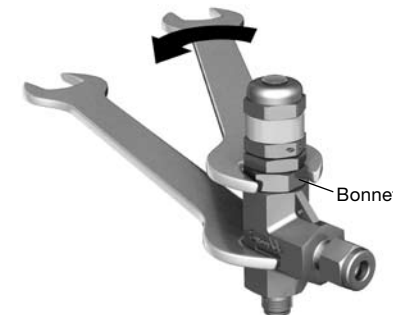
6. Thread the **cap** onto the **bonnet** 9 turns.



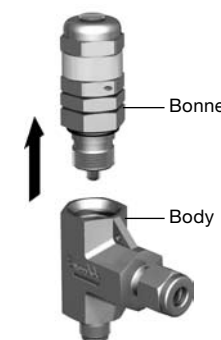
7. If replacing the spring only, proceed to **Adjusting the Set Pressure**.

Seal Kit Replacement Instructions

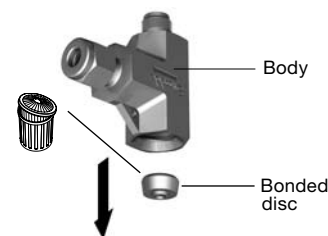
8. Loosen the **bonnet**.



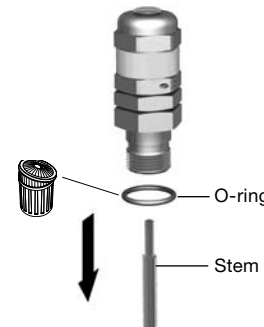
9. Remove the **bonnet** from the **body**.



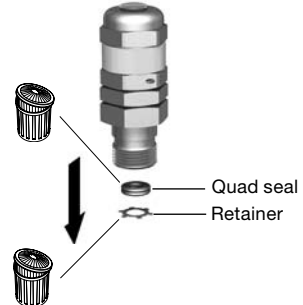
10. Remove the **bonded disc** from the **body**.



11. Remove the **stem** and **O-ring**.

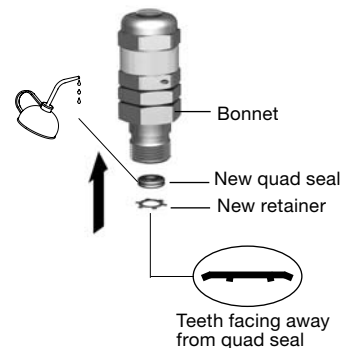


12. Remove the **quad seal** and **retainer**.

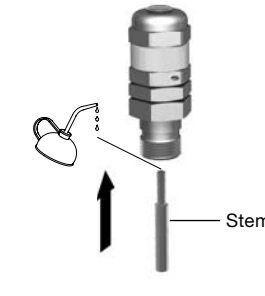


13. Clean all components.

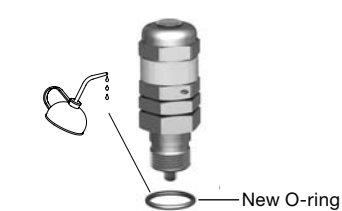
14. Press new **quad seal** and **retainer** into the **bonnet**.



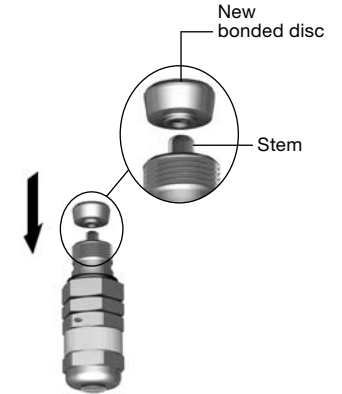
15. Lubricate the tip of the **stem** and insert the stem into the bonnet.



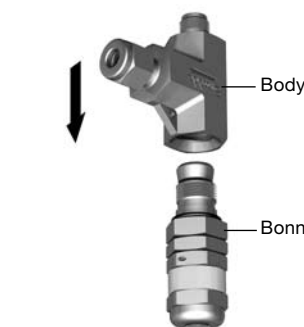
16. Place the new **O-ring** on the bonnet.



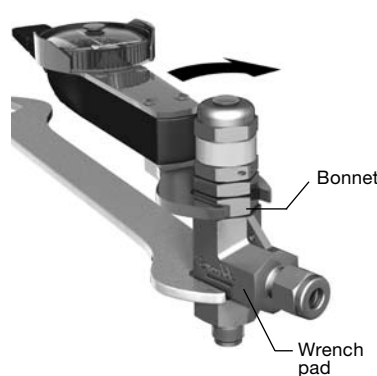
17. Place the **new bonded disc** on the **stem**.



18. Thread the **body** onto the **bonnet**.



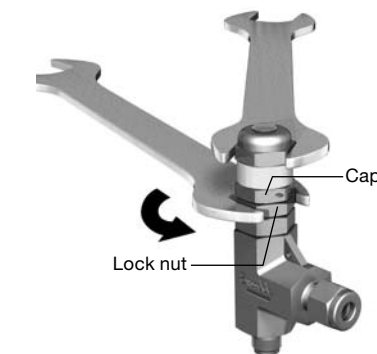
19. Grip the valve on the wrench pad and tighten the **bonnet** to 600 in.-lb (67.8 N-m).



Adjusting the Set Pressure

Note: Adjust the set pressure **before** installing the valve in the system.

1. Tighten the **lock nut** against the **cap**.



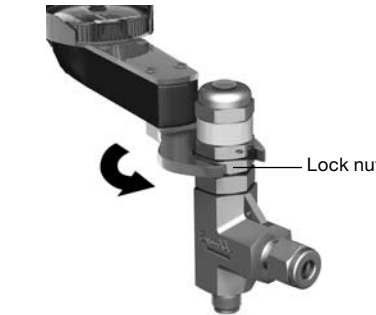
2. Test for set pressure.

3. To adjust set pressure, relieve system pressure and loosen **lock nut**.

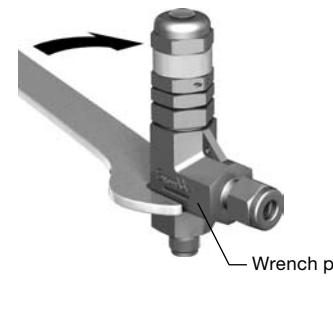
- To **increase** set pressure, turn **cap clockwise**.
- To **decrease** set pressure, turn **cap counterclockwise**.

4. Repeat steps 1 through 3 to obtain desired set pressure.

5. Tighten the **lock nut** to 100 in.-lb (11.3 N-m).



6. Install valve in system. Grip valve on **wrench pad** during installation.





RL3 Series Externally Adjustable Relief Valves Manual Override Handle Conversion Instructions



Kit contents



Handle

Pull rod

Definition of Symbols



Discard

Tools Required

| Tool | Size | Component |
|----------------------------|----------------------------------|-----------|
| | | |
| Open-end wrench | 3/4 in. Thin head (3/16 in. max) | Lock nut |
| | 3/4 in. | Cap |
| | | |
| Hex bit socket | 5/64 in. | Set screw |
| | | |
| Torque wrench, capable of: | 10 in.-lb (1.1 N-m) | Set screw |
| | | |
| Pic | n/a | Sleeve |

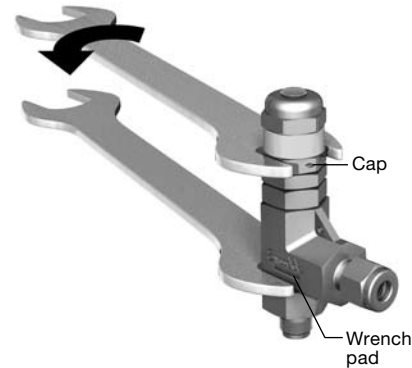
WARNING
Before servicing any installed valve, you must

- depressurize system
- cycle valve
- purge the valve

WARNING
Residual material may be left in the valve and system.

CAUTION
Do not scratch any sealing surfaces while following these instructions. Valve performance could be affected.

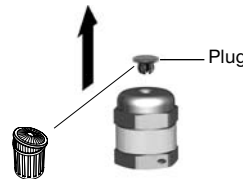
1. Grip the valve on the **wrench pad** and loosen the **cap**.



2. Remove the **cap** and **spring**.



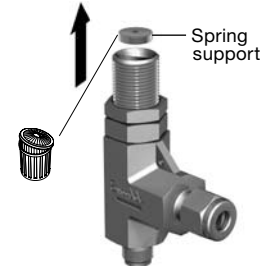
3. Remove the **plug** from the cap.



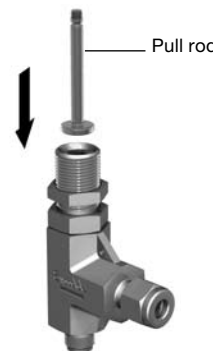
4. Use a pic to remove the **sleeve**.



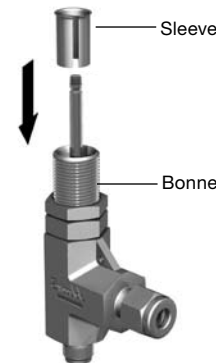
5. Remove the **spring support**.



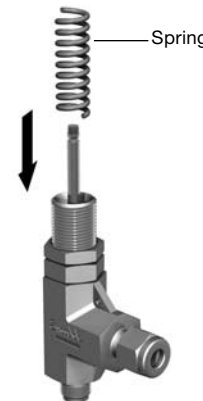
6. Insert the **pull rod**.



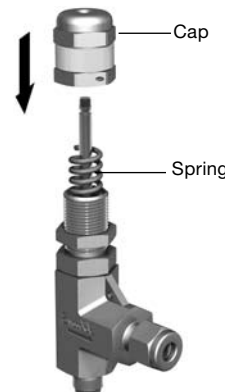
7. Compress the **sleeve** to reinstall it into the **bonnet**.



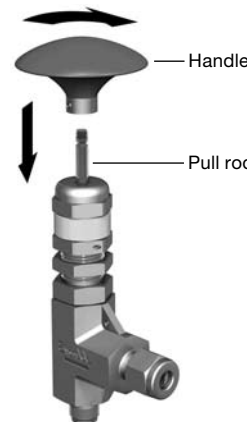
8. Reinstall the **spring**.



9. Rest the **cap** on the **spring**.



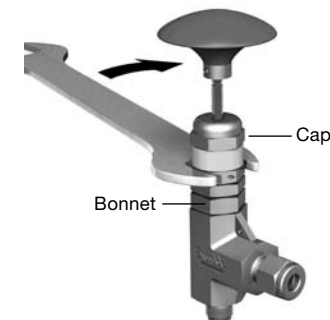
10. Thread the **handle** onto the **pull rod**.



11. Tighten the **set screw** to 10 in.-lb (1.1 N-m).



12. Thread the **cap** onto the **bonnet** 9 full turns.



13. To adjust set pressure, see **Adjusting the Set Pressure**.

WARNING
Swagelok proportional relief valves should never be used as code safety relief valves.

WARNING
Some system applications require relief valves to meet specific safety codes. The system designer and user must determine when such codes apply and whether these relief valves conform to them.

WARNING
Swagelok proportional relief valves are not "Safety Accessories" as defined in the Pressure Equipment Directive 97/23/EC:

Translations available on
www.swagelok.com