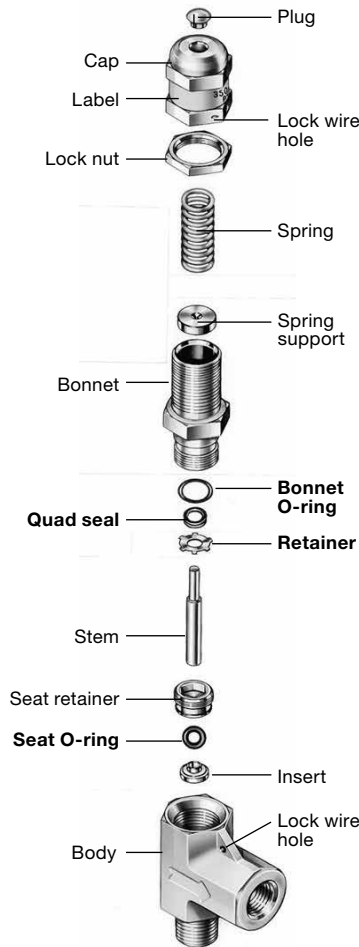




**R3A Series Externally Adjustable Relief Valves**  
**Maintenance Instructions**

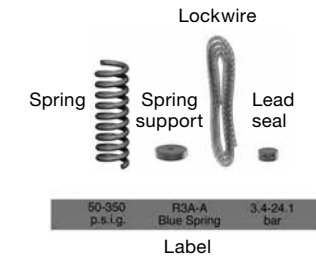
**R3A Series Exploded View**



**Tools Required**

Tool	Size	Part
Open-end wrench	3/4 in. Thin head (3/16 in. max)	Lock nut
	3/4 in.	Cap
Crow's foot	3/4 in. Thin head (3/16 in. max)	Lock nut
	3/4 in.	Cap
Hex bit socket	5/64 in.	Handle set screw
Torque wrench, capable of:	10 in.-lb (1.1 N-m)	Set screw
	100 in.-lb (11.3 N-m)	Lock nut
Pic	n/a	O-rings

**Spring Kit**



- 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.

**Definition of Symbols**



**Spring Kit Identification**

Spring Designator and Color		Set Pressure Range psig (bar)	Initial Cap Position (number of turns)
<b>Spring Kit Basic Ordering Number: 177-R3A-K1-</b>			
A	Blue	50 to 350 (3.4 to 24.1)	9
B	Yellow	350 to 750 (24.1 to 51.7)	8.5
C	Purple	750 to 1500 (51.7 to 103)	9
D	Orange	1500 to 2250 (103 to 155)	6
E	Brown	2250 to 3000 (155 to 206)	6
F	White	3000 to 4000 (206 to 275)	6
G	Red	4000 to 5000 (275 to 344)	6
H	Green	5000 to 6000 (344 to 413)	6

**Spring Installation**

1. Loosen lock nut and cap.
2. Loosen cap.
3. Remove cap.
4. Remove existing spring and support.
5. Make sure all components are clean.
6. Install new spring and support.
7. Install cap.
8. Tighten cap against lock nut.

9. Thread cap to initial position indicated in Spring Kit Identification table.
10. Tighten lock nut against cap.
11. Test for set pressure.
12. To adjust set pressure, relieve system pressure and loosen lock nut.
13. Repeat steps 10 through 12 as necessary to obtain desired set pressure.

**Manual Override Conversion**

**Manual Override Kit**



1. Follow steps 1 through 4 in the Spring Installation section. Springs A, B, or C can be reused in step 3.
2. Remove plug.
3. Install spring and pull rod.

4. Install cap and rest on bonnet.
5. Thread handle onto pull rod.
6. Tighten set screw.
7. Thread cap to initial position indicated in Spring Kit Identification table.
8. To adjust set pressure, see steps 10 through 13 in the Spring Installation section.

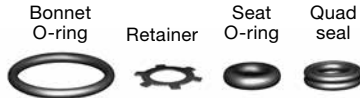


R3A Series Externally Adjustable Relief Valves  
Maintenance Instructions

Tools Required

Tool	Size	Part
Open-end wrench	3/4 in. Thin head (3/16 in. max)	Lock nut
	3/4 in.	Cap, Bonnet nut
	7/8 in.	Body wrench pad
Crow's foot	3/4 in.	Bonnet nut
Hex wrench	5/16 in.	Seat retainer
Hex bit socket	5/16 in.	Seat retainer
Torque wrench, capable of:	250 in.-lb (28.2 N·m)	Seat retainer
	600 in.-lb (67.8 N·m)	Bonnet nut
Pic	n/a	O-rings

Seal Kit



**WARNING**  
Before removing any installed valve, you must

- depressurize system
- cycle valve
- purge 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.

Definition of Symbols



Discard

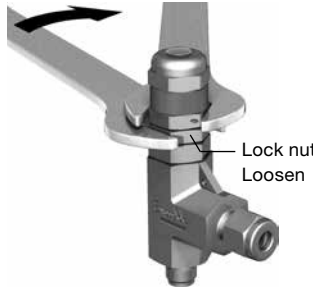


Lubricate  
With system compatible lubricant

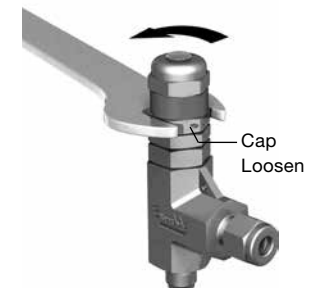
Seal Replacement

1. Remove valve from system.

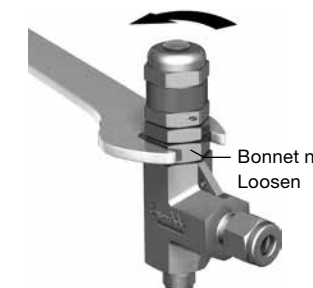
2.



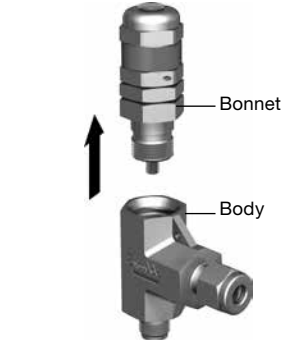
3.



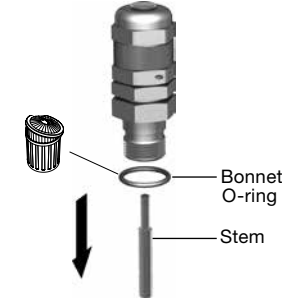
4.



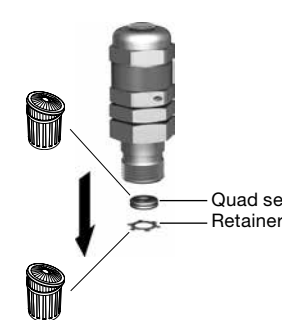
5.



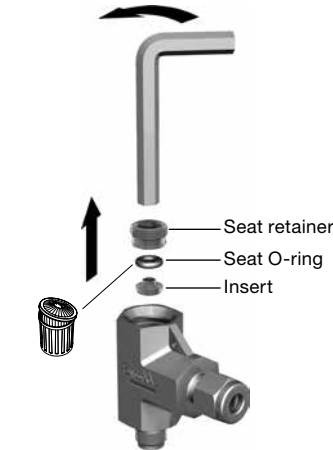
6.



7.

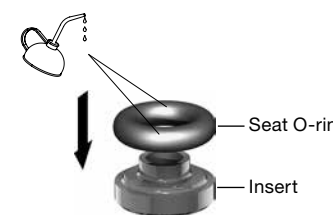


8.

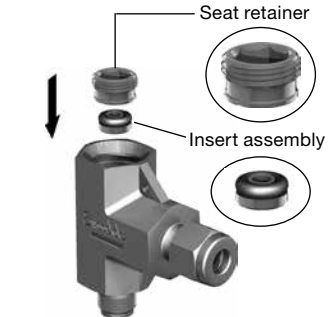


9. Make sure all components are clean.

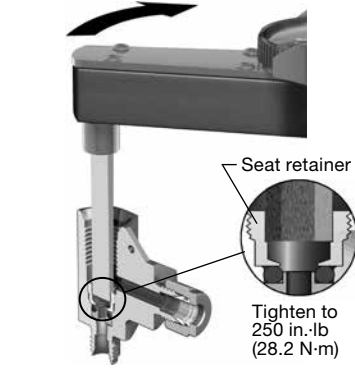
10.



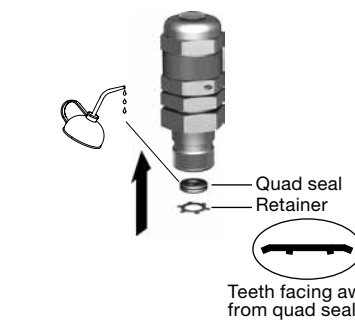
11.



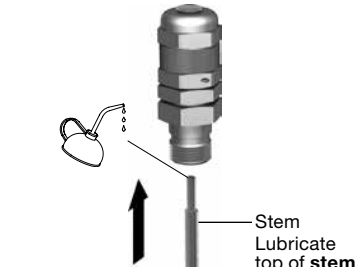
12.



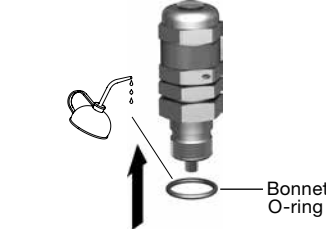
13.



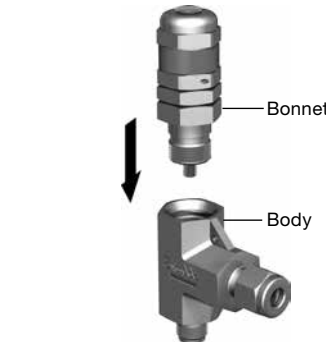
14.



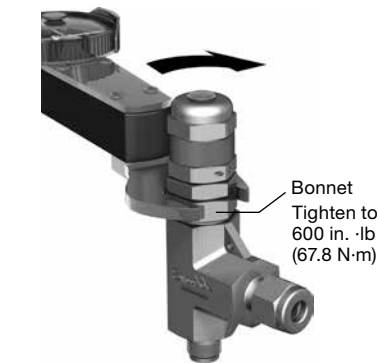
15.



16.

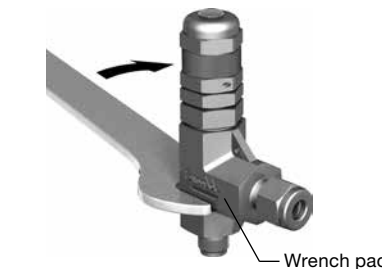


17.

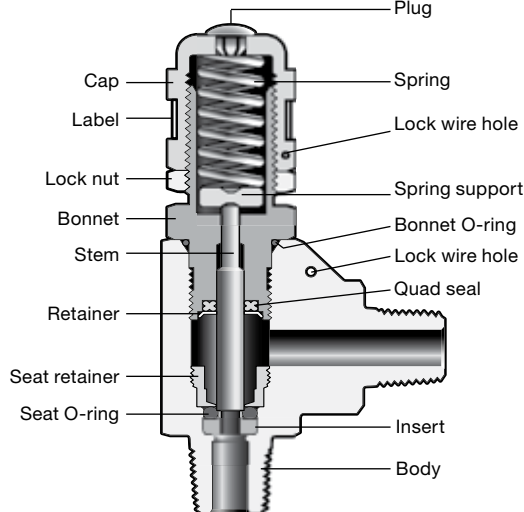


18. To adjust set pressure, see steps 10 through 13 in the Spring Installation section.

19. Install valve in system. Grip valve on wrench pad during installation.



R3A Series Cutaway



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



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.



Swagelok proportional relief valves are not "Safety Accessories" as defined in the Pressure Equipment Directive 2014/68/EU: