

RH3 & RH4 Relief Valve

Maintenance Instructions

Spring Kit Contents

Spring	Spring Support
Lock-wire	Lead Seal
Label	

Seal Kit Contents

Quad Seal	O-Ring
Disc	Retainer (RH3 Only)

Manual Override Kit Contents

Handle	Pull Rod

WARNING
If the valve is disconnected from a system, it must be depressurized, cycled, and purged.

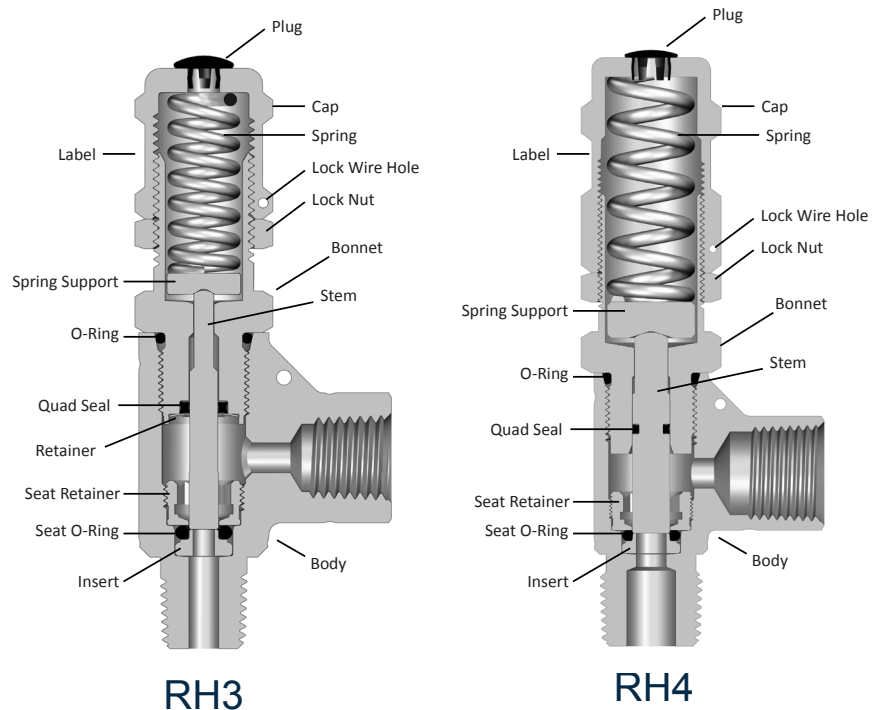
CAUTION
Care should be taken to not scratch or damage sealing surfaces.

Spring Kit Instructions

1. Remove valve from system.
2. Loosen **lock nut** and remove **cap** from **bonnet**.
3. Remove the **spring** and discard.
4. Insert the new **spring**.
5. Thread the **cap** onto the **bonnet**. (See chart)
6. If replacing the spring only, proceed to **Adjusting the Set Pressure**.

Seal Kit Instructions

1. Remove valve from system.
2. Loosen **bonnet**.
3. Remove **bonnet** from **body**.
4. Remove **stem** and **O-Ring** from **bonnet**. Discard **O-Ring**.

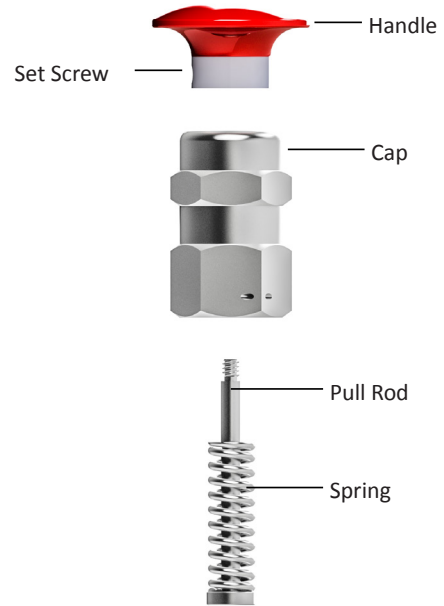


5. **RH3 Only:** Remove **retainer** and discard.
6. Remove **quad seal** and discard.
7. Remove **seat retainer** with hex wrench. (**RH3 - 5/16" / RH4 - 7/16"**).
8. Remove **seat O-Ring** and **insert**. Discard **seat O-Ring**.
9. Make sure all parts are clean before reassembly.
10. Install new **seat O-Ring** onto **insert**. (Lubricate with system compatible lubricant). Insert assembly into **body**.
11. Install **seat retainer** into **body** and tighten to **250 in.·lb (28.2 N·m)**.
12. Install new **quad seal** (lubricate with system compatible lubricant).
13. **RH3 Only:** Install new **retainer** (teeth of retainer must face away from quad seal).
14. Install new **O-Ring** onto **bonnet**. (Lubricate with system compatible lubricant).
15. Lubricate tip of **stem** and insert into **bonnet**.
16. Thread **bonnet** into **body** and tighten to **600 in.·lb (67.8 N·m)**.
17. Proceed to **Adjusting the Set Pressure**.

Manual Override Conversion

- ⚠ Use With:**
- RH3 - A, B and C Springs only.
 - RH4 - A Spring only.

1. Remove valve from system.
2. Loosen **lock nut** and remove **cap** from **bonnet**.
3. Remove **plug** from **cap** and discard.
4. Remove **spring** from **bonnet**.
5. Remove **spring support** and discard.
6. Install **pull rod** into **bonnet**.
7. Place **spring** over **pull rod**.
8. Place **cap** over **pull rod**, resting it on **bonnet**.
9. Screw **handle** onto **pull rod**. Tighten set screw on **handle** to **10 in.·lb (1.1 N·m)** with 5/64 in. hex bit.
10. Thread the **cap** onto the **bonnet**. (See chart)
11. Proceed to **Adjusting the Set Pressure**.



Adjusting the Set Pressure

NOTE: Adjust the set pressure before installing the valve in a system

1. Tighten **lock nut** against the **cap**.
2. Test set pressure.
3. Adjustment of set pressure:
 - Relieve system pressure and loosen **lock nut**.
 - Turn **cap** clockwise to increase set pressure.
 - Turn **cap** counterclockwise to decrease set pressure.
4. Repeat steps 1 through 3 until desired pressure is obtained.
5. With backup wrench on **cap**, tighten **lock nut** to **100 in.·lb (11.3 N·m)**.
6. Install valve in system.

Spring Designator and Color		Set Pressure Range psig (bar)	Initial Cap Position (number of turns)
RH3			
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
RH4			
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