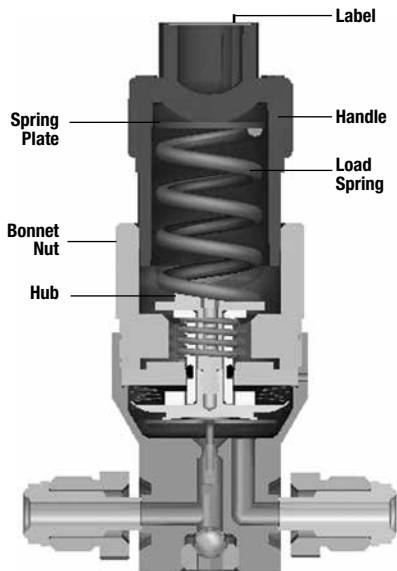


HF Series Manual Regulator Load Spring Installation Instructions

When **replacing** the load spring, start with step 1.

When **installing** the first load spring, start with step 6.

1. Unthread the **handle** from the bonnet nut.
2. Remove the **label** from the top of the handle.
3. Remove the **load spring** from the bonnet nut.
4. Discard the **label** and **load spring**.
5. Proceed to step 7.
6. If the handle is assembled on the regulator, unthread the **handle** from the bonnet nut.
7. Place the new **load spring** over the **hub**.
8. Place the **spring plate** on top of the load spring.
9. Place the new **label** on the top of the handle.
Note: Label color should match spring color.
10. Thread the **handle** into the bonnet nut approximately **two turns**.
11. Connect a **pressure source** to the inlet port and a **pressure measurement device** to the outlet port.
12. Set the **regulator** for the desired outlet pressure.
13. Test the **regulator** for proper function and operation.



HF Series Manual Regulator Spring Kit Ordering Information

Load Spring	Outlet Pressure Range	Ordering Number	Color
A	vacuum to 25 psig (1.7 bar)	177-13K-HF-A	Red
B	5 to 50 psig (0.34 to 3.4 bar)	177-13K-HF-B	White
C	10 to 100 psig (0.68 to 6.8 bar)	177-13K-HF-C	Blue
D	20 to 150 psig (1.3 to 10.3 bar)	177-13K-HF-D	Yellow



WARNING

Do not mix/interchange Swagelok products or components not governed by industrial design standards, including Swagelok tube fitting end connections, with those of other manufacturers.



HF Series Manual Regulator Poppet Replacement Instructions



Before servicing any installed regulator, you must

- depressurize the system
- purge the regulator

For **inline** models, follow steps 1 through 10.

For **surface mount** models, follow steps 1, 2, 5, 6, 7, and 10.

1. Turn **handle** clockwise until it stops.
2. Using a **3/16 in. hex wrench**, unthread the **poppet port plug** from the bottom of the regulator, **Fig. 1**.
3. Remove the **poppet port seal** from the bottom of the regulator and discard, **Fig. 1**.
4. Insert the **Swagelok poppet replacement tool**, **MS-TOOL-HF3**, into the bottom of the regulator and unthread the **poppet**, **Fig. 2**. Discard the old poppet.
5. Place a new **poppet** into the **poppet replacement tool**, **Fig. 2**. The **tang** on the poppet must engage the **slot** in the tool.
6. Thread the **poppet** into the bottom of the regulator. When the **shoulder** on the poppet replacement tool contacts the bottom of the regulator, the poppet is at the proper depth. **Do not overtighten**. Remove the tool, **Fig. 2**.
7. Place a new **poppet port seal** into the bottom of the regulator.
8. Using a **3/16 in. hex wrench**, thread the **poppet port plug** into the regulator and tighten to **40 in. · lb (4.5 N · m)** of torque.
9. Test the **regulator** for proper function and operation.

HF Series Regulator
(Inline model shown)

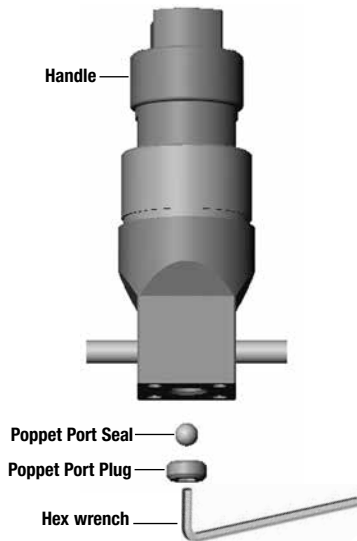


Fig. 1

HF Series Regulator
(Inline model shown)

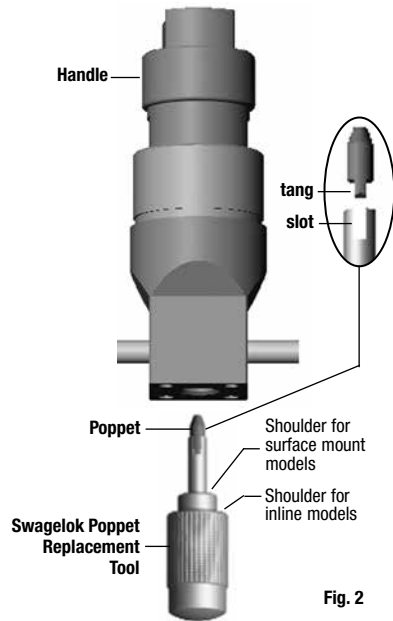


Fig. 2