Pressure-Reducing Regulators
KPR Series Maintenance Instructions

Kit Contents

- Inlet filter (1)
- Poppet spring (1)
- Seat (1)
- Diaphragm (2 for 0 to 250 psig and 0 to 500 psig regulator, 1 for all others)
- Lubricant tube with MSDS (1)
- Poppet damper (1)
- Poppet (1)
- Seat retainer (1)

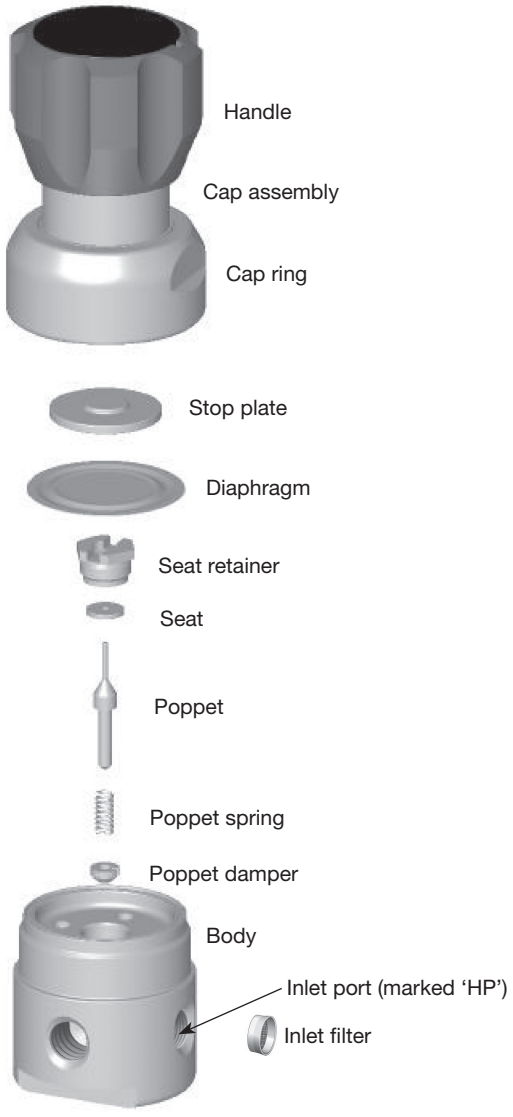
Tool Requirements

- Filter insertion tool
- Filter pick tool
- 12.9 ft·lb (17.5 N·m, 1.8 m·kg) torque wrench
- 166 ft·lb (225 N·m, 23 m·kg) torque wrench
- 5/8 in. socket wrench
- 2 in. wrench

CAUTION
Before servicing any installed regulator, you must depressurize the system and purge the regulator.

Body Disassembly

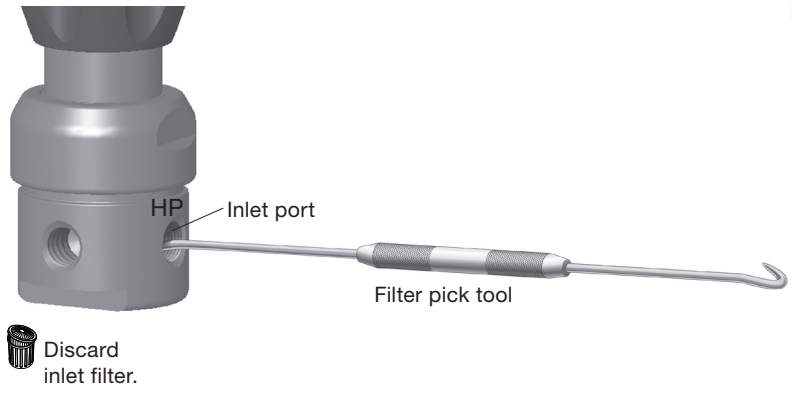
1. Turn handle counterclockwise until it stops in order to release the spring load.
2. Loosen **cap ring** with a 2 in. wrench, using the flats to grip the cap ring. Remove **cap assembly** and **handle** as one piece. In 0 to 500 psig regulator assemblies, the range spring and spring button will fall from the cap when it is lifted. Set aside the range spring and spring button for later use during reassembly.
3. Remove **stop plate** and **diaphragm** from body. It may be necessary to tap the regulator at an angle, by hand, to remove the diaphragm. Set aside stop plate for later use. Discard the diaphragm.
4. Remove **seat retainer** and **seat** (as one piece) using a 5/8 in. socket wrench and discard both components.
5. Pull **poppet, poppet spring,** and **poppet damper** from **body** and discard. If poppet damper remains in the body, invert the body and use the poppet to loosen and remove the poppet damper. Be careful not to scratch the inside of the body.



Filter Disassembly

1. Remove the old **inlet filter** from the **inlet port (marked 'HP')** using the **filter pick tool.** Discard old filter.

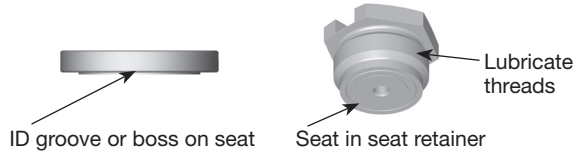
NOTICE
Be careful not to scratch the sides of the inlet port. Leakage could result.



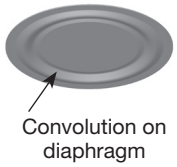
Body Reassembly

Note: Ensure the regulator body and all parts are clean and free of damage.

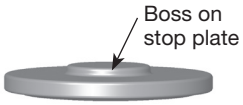
1. Place the new **seat** into the new **seat retainer** with the ID groove or boss pointing away from the seat retainer. Apply a very light coat of provided lubricant to the seat retainer threads.



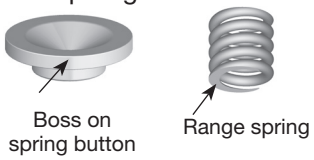
2. Slip the new **poppet spring** and new **poppet damper** onto the thicker end of the new **poppet**. Fit the flat face of the poppet damper against the poppet spring.
3. Invert the seat retainer/seat assembly and place the thinner end of the poppet in the center of the plastic seat.
4. Keeping the poppet/seat retainer assembly inverted, invert the **body** and thread the new **seat retainer** into the body. Tighten to 12.9 ft·lb (17.5 N·m, 1.8 m·kg) torque with a 5/8 in. socket on the torque wrench.
5. Install the new **diaphragm** into the **body** with the large convolution facing down into the body. For 0 to 250 psig and 0 to 500 psig regulators, which use two diaphragms, both diaphragms have the same orientation.



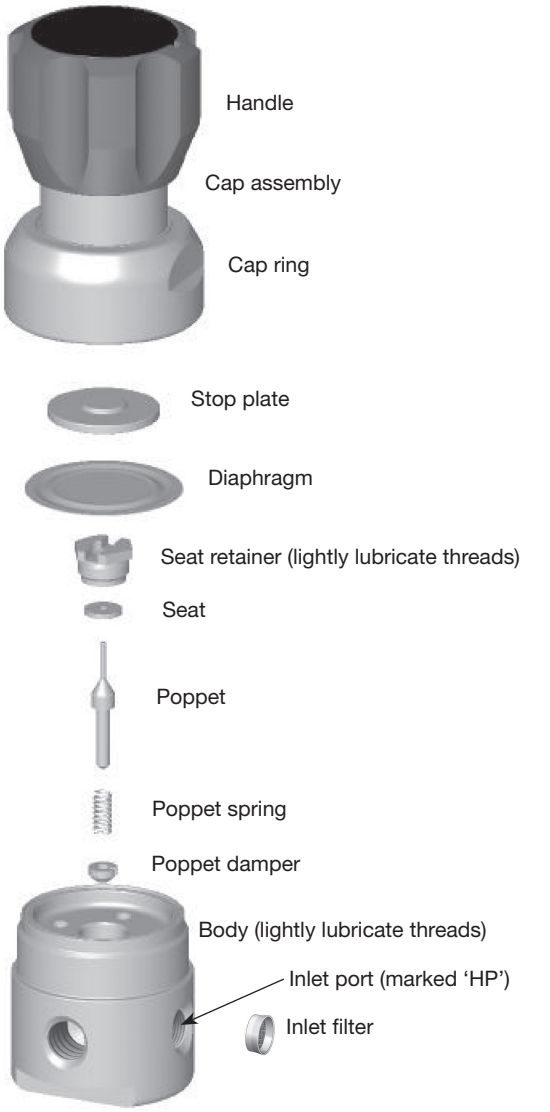
6. Install the **stop plate** onto the new **diaphragm** with the boss on the stop plate facing up, away from the diaphragm.



7. For 0 to 500 psig regulators, place the spring button into the cap assembly with the boss facing away from the handle, coned side up. Place the range spring into the cap.



8. Lightly lubricate the **body** threads and place the **cap assembly** on the **body**.
9. Thread the **cap ring** onto the **body**. Tighten cap ring to 166 ft.·lb (225 N·m, 23 m·kg) torque with a 2 in. wrench adapter on the torque wrench using the flats to grip the cap ring.
10. Test the regulator for proper operation.

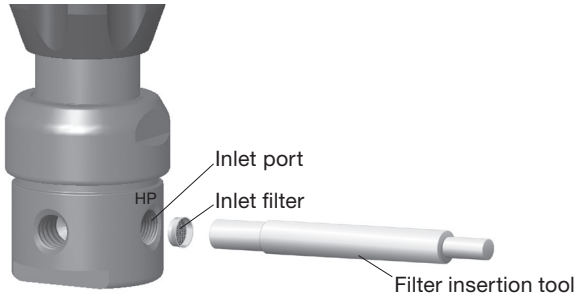


Filter Reassembly

1. Insert the new **inlet filter** in the **inlet port (marked 'HP')** using the **filter insertion tool**.

NOTICE

Do not insert the inlet filter with a sharp tool. Damage to the filter could result.



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