KHF Series Regulators
Maintenance Instructions

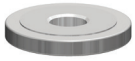
Kit Contents


Diaphragm


Poppet spring


Poppet


Poppet seal and spring


Seat


Seat retainer


Spring retainer


Poppet seal retainer


Lubricant
MS-LT-WL8

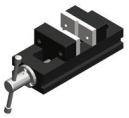
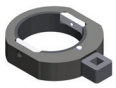

Inlet Filter

Symbols


Discard

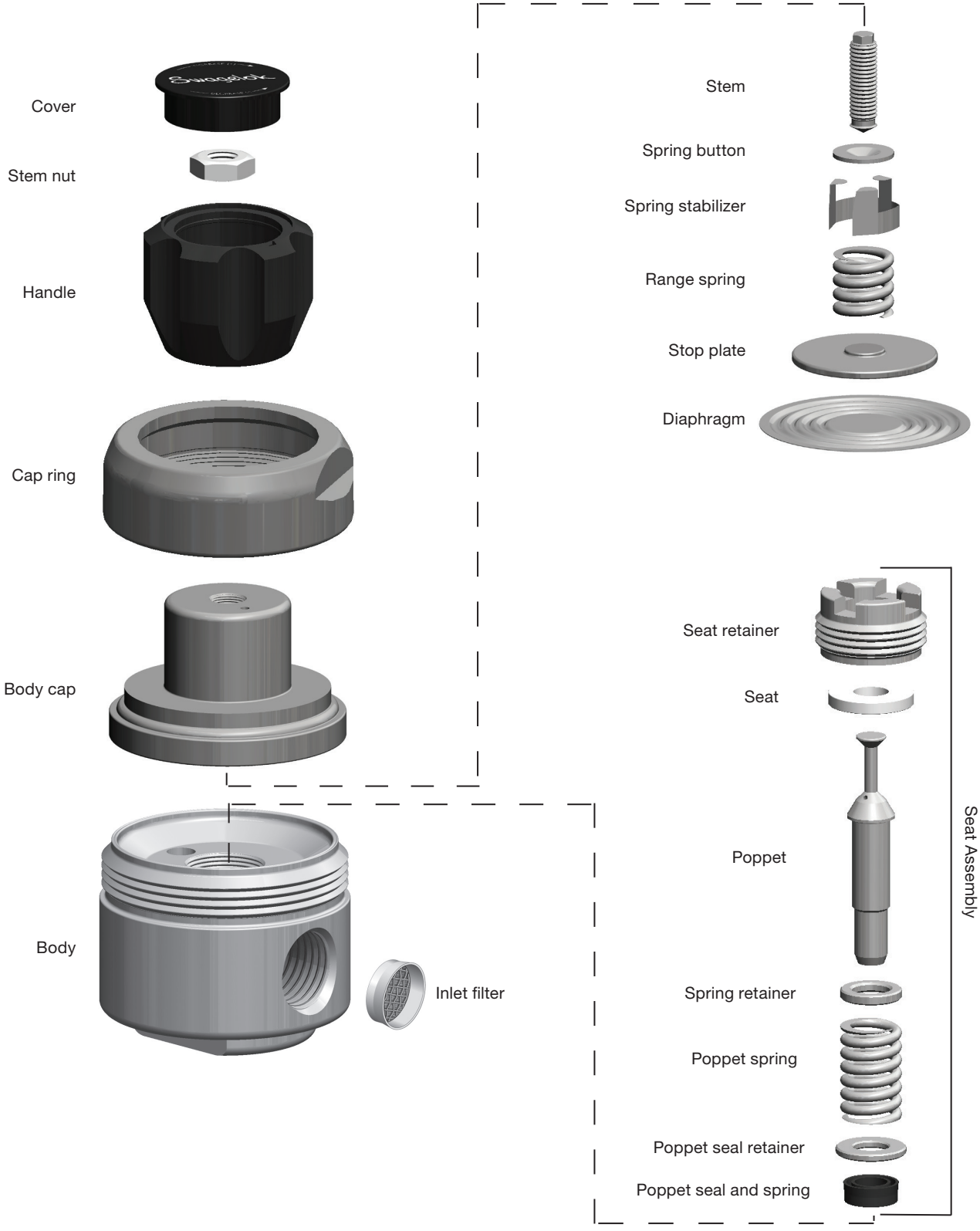

Lightly lubricate

Tools Required

Tool	Size	Component
Vise 	-	Body
Socket 	11/16 in. or 17 mm	Antitamper nut
Crow's Foot 	3/4 in. or 19 mm	Seat retainer spanner
Open-ended wrench 	3/4 in. or 19 mm	Seat retainer spanner
Torque wrench 	Capable of 273 ft·lb (370 N·m, 37,8 m·kg)	Cap ring spanner
Swagelok Tools Available		
Large cap ring spanner 	2 7/8 in. or 73 mm	Cap ring
Seat retainer spanner 	-	Seat retainer
Poppet seal insertion tool 	-	Poppet seal and spring
Seal extraction tool 	–	Poppet seal and spring
Filter insertion tool 	-	Inlet filter
Filter pick tool 	-	Inlet filter

Note: See *Pressure Regulators*, MS-02-230, for tool ordering information.

Exploded View



Note: Plated steel spring buttons shown.
Assemblies with the 316 SS spring buttons do not include the spring stabilizer.

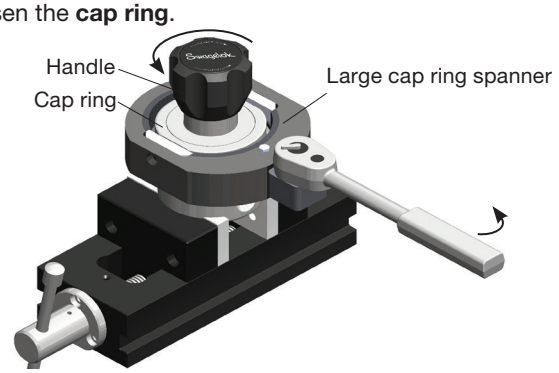
⚠WARNING

Before removing a regulator from the system for service, you must

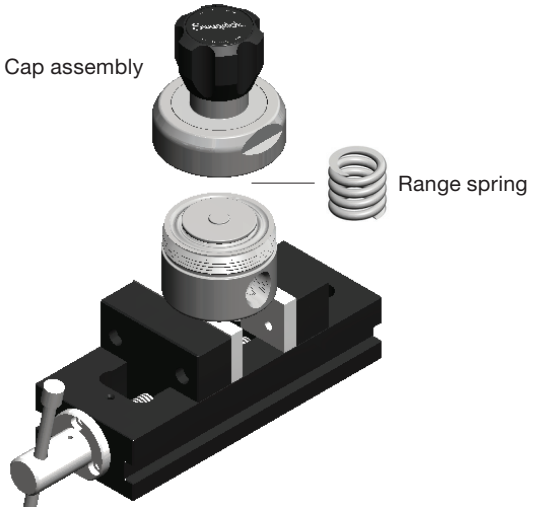
- **depressurize system**
- **purge the system to remove any residual system media left in the regulator**.

Disassembly

1. Place the regulator in a vise.
2. Turn the **handle** counterclockwise until it stops.
   Note: If using an antitamper nut, remove it from the body. Then turn the stem counterclockwise until it stops.
3. Loosen the **cap ring**.



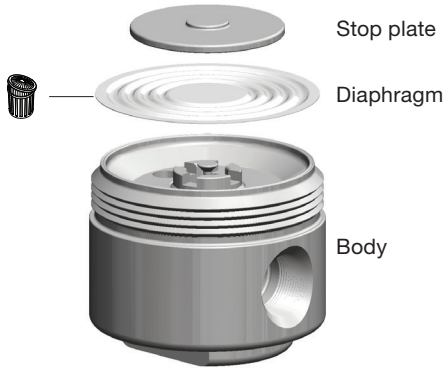
4. Remove the **cap assembly** and handle as one piece and set aside for later use.
   Note: The **range spring** may fall from the **cap assembly** when lifted. Set aside for later use.



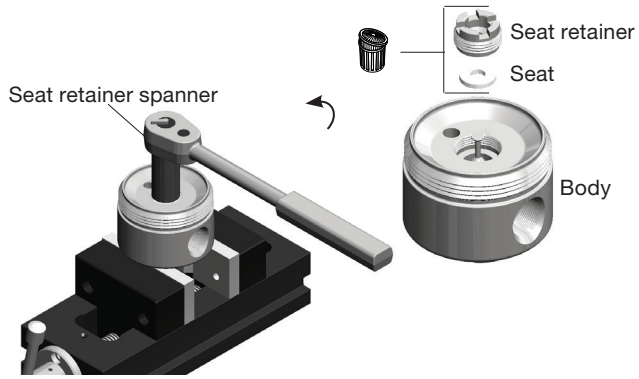
5. Remove the **diaphragm** and the **stop plate** from the **body**. Set stop plate aside for later use.

NOTICE

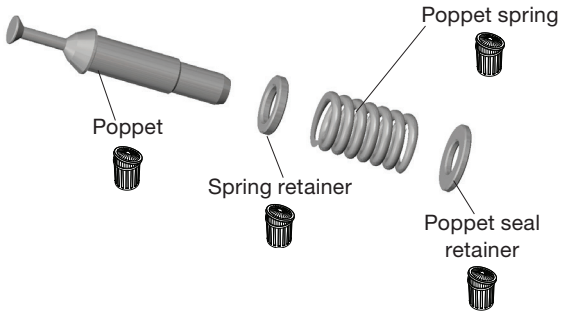
Do not damage the diaphragm sealing surface on the body. Leakage could result.



6. Use the **seat retainer spanner** to loosen and remove the **seat assembly**. Discard the **seat retainer** and the **seat**.



7. Invert the body and remove and discard the **poppet**, the **spring retainer,** the **poppet spring** and the **poppet seal retainer**.

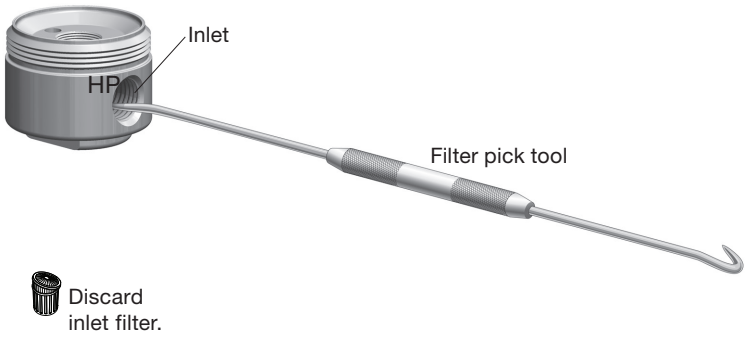


8. Thread the **seal extraction tool** into the **body** and remove the **poppet seal and spring**.

9. Remove the **inlet filter** from the **inlet** (marked 'HP') of the body using the **filter pick tool**. Discard old filter.

NOTICE

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



Reassembly

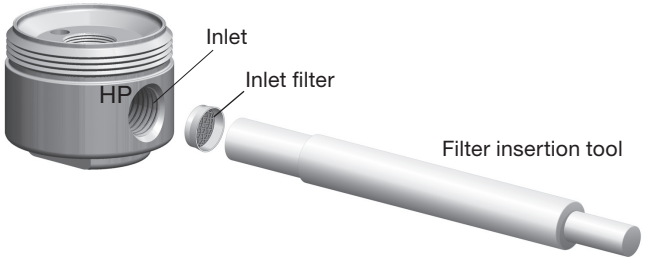
NOTICE

Ensure all parts and tools are free of debris or damage.

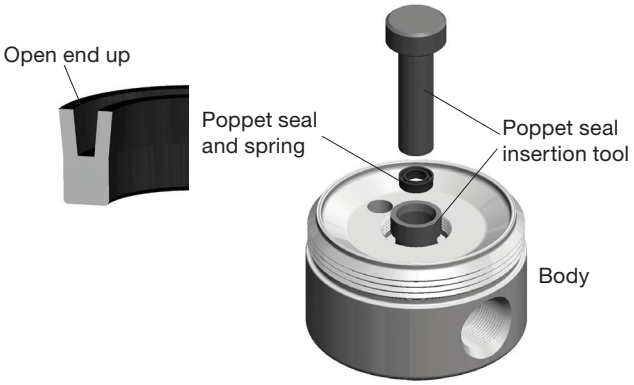
10. Insert the inlet **filter** into the **inlet** (marked 'HP') of the body using the filter insertion tool.

NOTICE

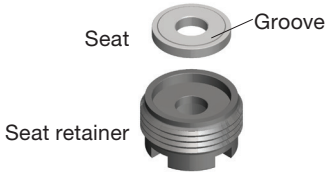
Do not insert the inlet filter with a sharp tool. Damage to the filter could result.



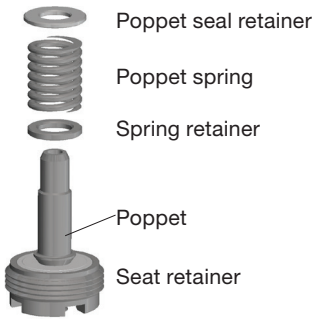
11. Insert the **poppet seal and spring** into the **body** using the **poppet seal insertion tool** with the open end of the poppet seal and spring facing up.



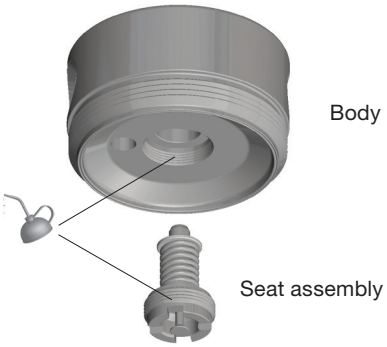
12. Insert the **seat** with the groove facing up into the **seat retainer.**



13. Place the **poppet** through the **seat retainer**. Then place the **spring retainer,** the **poppet spring** and the **poppet seal retainer** onto the exposed end of the poppet.



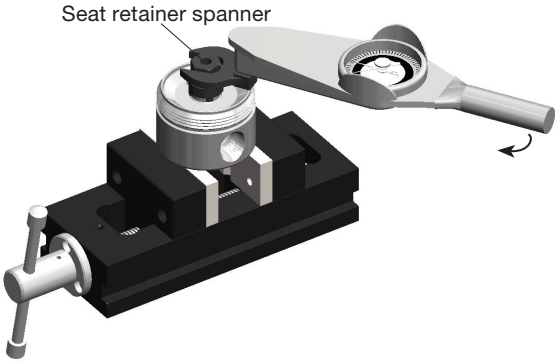
14. Invert the **body** and thread the **seat assembly** into the body.



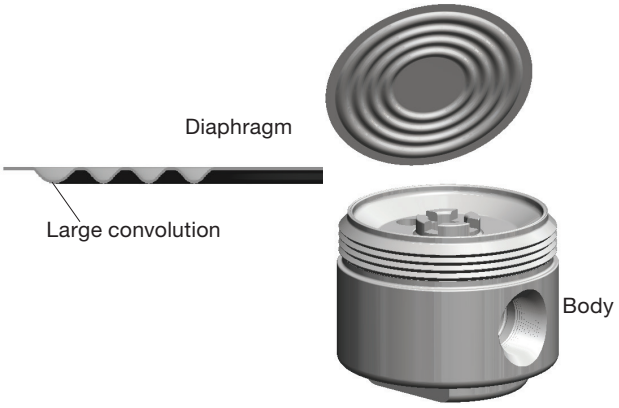
15. Tighten the **seat assembly** to 30 ft·lb (40 N·m, 4 m·kg).

NOTICE

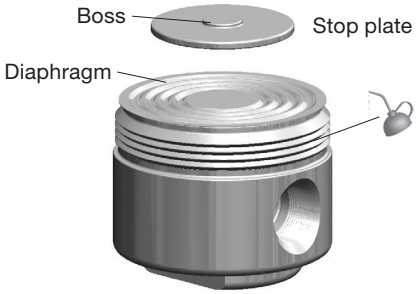
Do not damage the diaphragm sealing face on the body. Leakage could result.



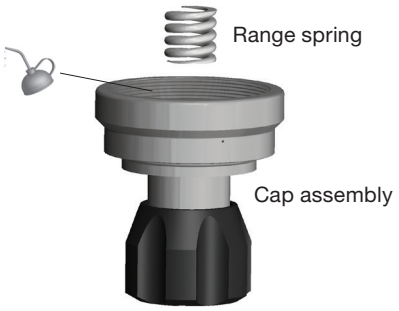
16. Install the **diaphragm** on the **body** with the large convolution facing towards the body.



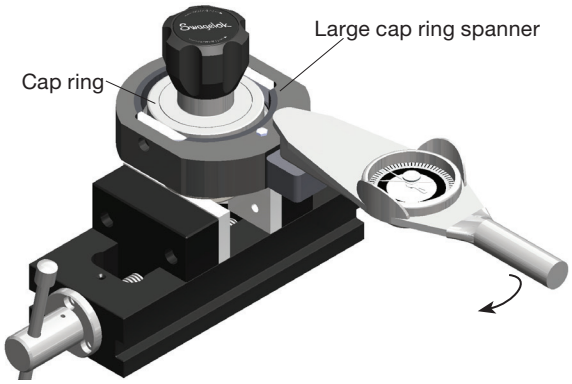
17. Install the **stop plate** onto the **diaphragm** with the **boss** on the stop plate facing away from the diaphragm.



18. Reinsert the **range spring** into the **cap assembly**.



19. Thread the cap assembly onto the body and tighten the **cap ring** to 273 ft·lb (370 N·m, 37,8 m·kg).



20. Test the regulator for proper operation.
21. If using an antitamper nut, thread the antitamper nut onto the stem after the set outlet pressure is reached. Tighten the nut to 13 ft·lb (17.5 N·m, 1.8 m·kg).

*For additional information, see **swagelok.com**.*

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