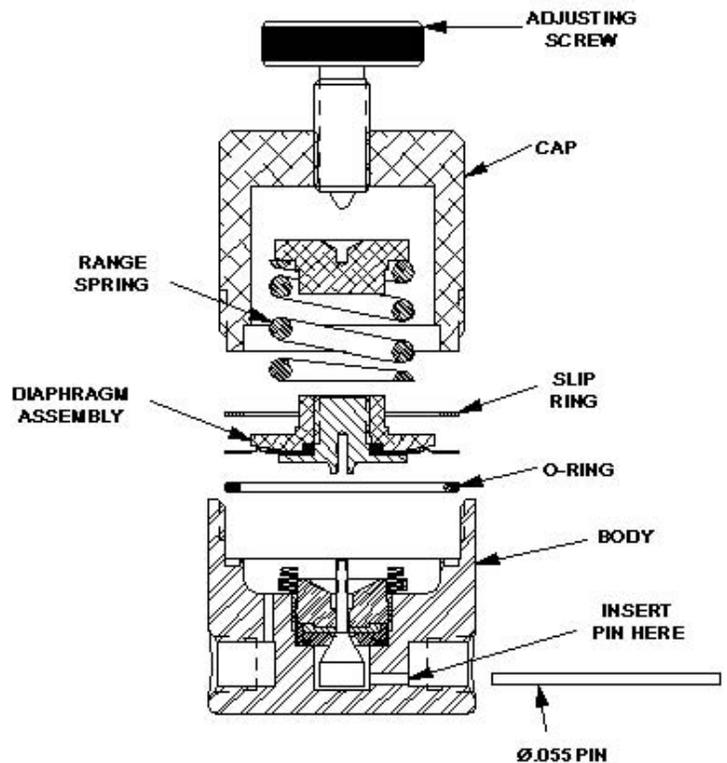


MV-1 Series Vaporizing Regulator Diaphragm Replacement Instructions

**Make sure you thoroughly understand these directions before proceeding
MAKE SURE THE REGULATOR IS DISCONNECTED FROM AIR SOURCE
MAKE SURE ANY RESIDUAL PRESSURE IS BLED OFF FROM REGULATOR.**

1. Disconnect unit from DC power supply or terminate DC power supply at its source. **FAILURE TO DO THIS WILL RESULT IN SERIOUS PERSONAL INJURY. DO NOT PROCEED UNTIL DC POWER HAS BEEN REMOVED AND/OR TERMINATED.**
2. Remove the two screws that hold the heating plate to the bottom of the regulator.
3. Securely clamp the regulator over the flats in a vise.
4. Turn the knob counterclockwise as far as it will go. Remove the cap and adjusting screw as a unit. The range spring will be securely held inside the cap if this unit is equipped with a spring stabilizer.
5. Some models do not have a stabilizer, in which case the range spring will be sitting on top of the diaphragm.
6. Remove the Teflon slip washer.
7. Insert a $\varnothing.055$ pin into the small hole at the bottom of the inlet port.
8. Continue inserting pin until the slot in the bottom of the poppet has been engaged.
9. It may be necessary to rotate the diaphragm assembly while you do this.
10. Once the slot in the bottom of the poppet has been engaged with the driving pin, the diaphragm can be unscrewed.
11. Continue turning the diaphragm in a counter-clockwise direction until it is free.
12. Remove the $\varnothing.055$ pin
13. Remove the large Viton O-ring in the cavity.
14. Coat the new o-ring with a suitable lubricant, such as Krytox, and place it in the groove inside the cavity.
15. Place new diaphragm over the threaded end of the poppet and carefully start the threads by hand.
16. Continue tightening the diaphragm assembly until the edges of the diaphragm are just flush with the O-Ring that is in the cavity.
17. Remove $\varnothing.055$ pin.
18. Place new slip washer inside the cavity on top of the diaphragm assembly.
19. Place range spring and spring button onto diaphragm assembly unless it was equipped with a stabilizer and is inside the cap.
20. Place a small amount of Krytox or other lubricant on the outer threads of the cap.
21. Put the cap over the regulator and engage threads by hand. Tighten hand tight.
22. Finish tightening cap to 40 lbf "ft (54 N " m).



23. Attach primary pressure supply to inlet with suitable fittings.
24. Slowly apply pressure to the unit. Continue increasing inlet pressure up to one-half the maximum rated pressure for this unit. Let stand for 30 seconds.
25. If there is evidence of leaking, such as bubbles or frothing, immediately relieve the primary pressure. The unit must be disassembled and inspected for foreign debris.
26. Attach a pressure gauge and quarter-turn valve to the outlet port. Leave the valve in the open position.
27. Reinstall the knob on the adjusting screw if it has been removed, being careful to line up the flat on the adjusting screw with the set screw in the knob.
28. Slowly turn the knob clockwise. When there is evidence of flow at the quarter-turn valve close it.
29. Squirt a leak detecting fluid around the base of the cap where it meets the body. Agitate the fluid to form foam and apply around the 0.125 (3.1mm) leak detection port in the bonnet of the cap.
30. Slowly continue turning the knob while watching and listening for any leaks. It may be necessary to re-apply the liquid. If leaks are noticed, immediately back off adjusting screw and repair unit as needed.
31. If no leaks are noticed, adjust control pressure to a value that is 110% of the maximum rating for this regulator.
32. Reapply the leak detecting fluid as needed.
33. Note the pressure reading on the gauge. Wait for 5 minutes. Increasing pressure indicates a leak across the seat or flat seal. Decreasing pressure indicates a possible diaphragm leak. If the pressure does not remain stable, the unit must be disassembled and the cause of leakage repaired.
34. Relieve the outlet pressure while backing off on the adjusting knob. Continue backing off on adjustment knob until it is all the way out and will turn no further.
35. The regulator is now ready for service.

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