

VP 658 Powertop Valve Repacking Kit 658-167

Product Description

This kit contains a repacking tool and the parts required to repack ten VP 658 Powertop valves. See *Figure 1*.

Contents

The O-rings are lubricated and sealed in a plastic bag.

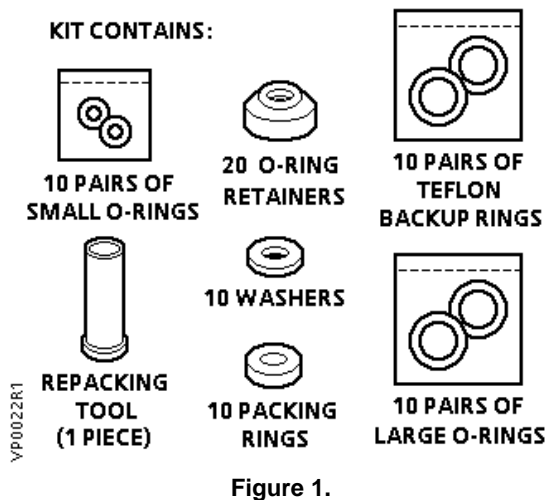


Figure 1.

Warning/Caution Notations

| | | |
|----------------|--|---|
| WARNING | | Personal injury/loss of life may occur if a procedure is not performed as specified. |
| CAUTION | | Equipment damage, or loss of data may occur if the user does not follow a procedure as specified. |

Required Tools

- 1/4-inch nut driver or flat-blade screwdriver
- Two 7/16-inch (11.5 mm) open-end wrench
- 1/16-inch (1.6 mm) diameter rod

Expected Installation Time

30 minutes

Installation

Valve repacking procedure

NOTE: The repacking procedure assumes that the valve body must remain in the line. If the valve can be removed from the line, the repacking procedure is simplified.



WARNING:

Shut off medium and disconnect the air line to the actuator top before beginning the repacking.

Disassembly for Normally Open Valves (See *Figure 2*)

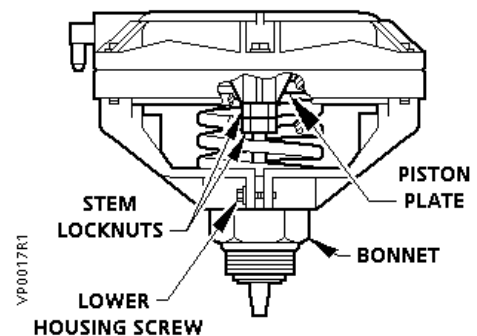


Figure 2. Actuator Assembly on Normally Open (N.O.) Valves.

1. Remove the entire valve top assembly by unscrewing the bonnet from the body. Then proceed with the disassembly at a convenient location.
2. Loosen the two lower housing screws with a nut driver or flat-blade screwdriver.
3. Loosen stem locknut. If one locknut is provided, use a 7/16-inch (11.5 mm) open-end wrench and a 1/16-inch (1.6 mm) diameter rod through the hole in the stem to prevent it from turning. If there are two locknuts, use two 7/16-inch (11.5 mm) open-end wrenches.



CAUTION:

Do not grab the stem with pliers. It must be smooth to provide a good seal.

Installation, Continued

- Unscrew the stem assembly from the piston plate in the actuator assembly. Remove stem locknuts and bonnet cap.
 - Remove the stem assembly through the bottom of the bonnet.
 - On Model 1 and 2 valves, remove and discard the bearing with U-cup seal, washer and second U-cup. On Model 3 valves, remove and discard the washer, the large O-rings the small O-rings the O-ring retainers, and the packing ring. None of these components should be reused.
 - Clean the packing chamber. Remove any dirt.
- The disassembly for N.O. valves is now complete.

Disassembly for Normally Closed (N.C.) Valves (See Figure 3)

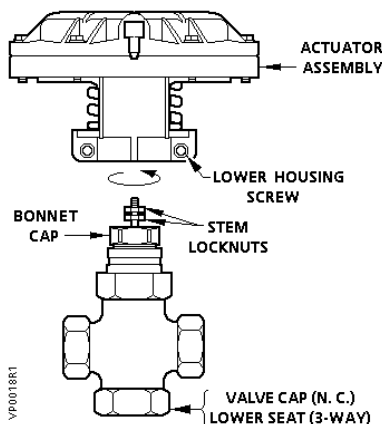


Figure 3. Actuator Assembly Removal on Normally Closed and Three-way Valves.

- The disassembly must be done at the valve location. Follow Steps 2, 3, and 4 for N.O. valves.
- Remove the valve cap. Remove the stem assembly through the bottom of the valve.
- Follow Steps 6 and 7 for N.O. valves.

The disassembly for N.C. valves is now complete.

Disassembly for Three-way Valves (See Figure 3)

- The disassembly must be done at the valve location. Follow Steps 2, 3, and 4 for N.O. valves.
- Remove the lower seat. Remove the stem assembly through the bottom of the valve body.
- Follow Steps 6 and 7 for N.O. valves.

Assembly for Normally Open Valves

- Slide the stem into the bonnet. See Figure 4.

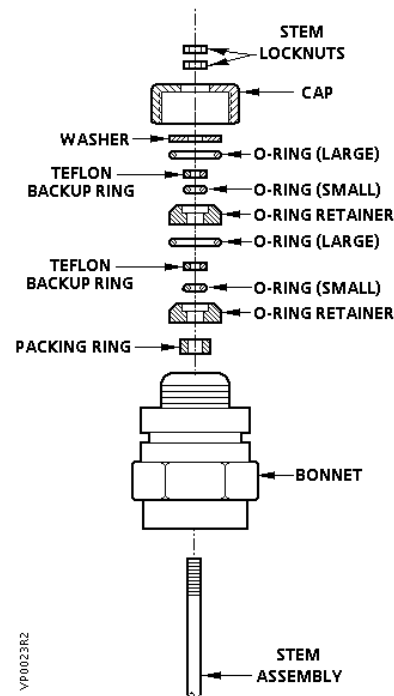


Figure 4. Packing Assembly.

- Slide the packing ring over the stem and push it to the bottom of the packing chamber with the repacking tool (included in the kit). See Figure 5.

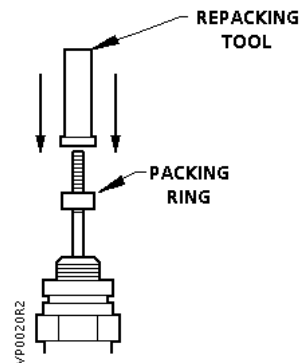


Figure 5. Use of the Repacking Tool.

- Remove the repacking tool from the stem.
- Slide the O-ring retainer into the bonnet with the tapered surface facing up. Slip the small O-ring and the Teflon® back up ring over the stem threads onto the smooth portion of the stem. With the repacking tool, push both down into the cavity of the O-ring retainer. Slide the large O-ring into the bonnet cavity. See Figure 6.

Installation, Continued

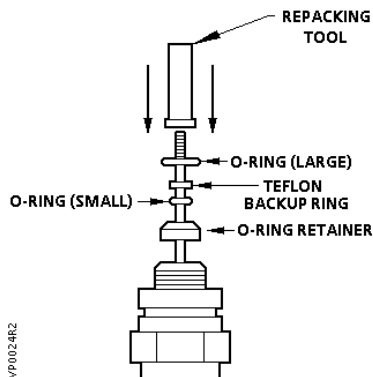


Figure 6. Repacking the O-rings.

- Place the second O-ring retainer into the bonnet with the tapered surface facing up. Slip the small O-ring and the back up ring over the stem threads onto the smooth portion of the stem. With the repacking tool, push both down into the cavity of the O-ring retainer.
- Slide the large O-ring into the bonnet cavity. Slide the copper washer onto the stem and place the cap over the stem. Thread the cap onto the bonnet. Hand tighten to bring all packing components together. With a wrench, tighten the cap to 10 to 20 ft-lbs. See *Figure 4*.
- Move the stem up and down to make sure it does not bind.
- Install the stem locknuts. To ensure proper seating of the valve when the bonnet is attached to the body, there must be at least 1/16-inch (1.6 mm) clearance between the lower locknut and the cap when the stem is all the way down. When the bonnet is not attached to the body, there must be at least a 5/8-inch (16 mm) clearance between the lower locknut and cap when the stem is all the way up.

- Pull the stem up and attach it to the actuator assembly by screwing the stem into the piston plate. Tighten the stem locknuts.
- Tighten the two lower housing screws with a nut driver or flat-blade screwdriver.



CAUTION:

Do not overtighten lower housing screws.

- Replace the valve top assembly by screwing the bonnet into the body.
- Restore medium supply to the valve and reconnect the air line to the actuator top.

The assembly for N.O. valves is now complete.

Assembly for Normally Closed Valves

- Slide the stem into the bonnet.
- Replace the valve cap on the bottom of the valve body.
- Follow Steps 2 through 10 and Step 12 for normally open valves.

The assembly for N.C. valves is now complete.

Assembly for Three-way Valves

- Slide the stem into the bonnet.
- Screw the lower seat onto the bottom.
- Follow Steps 2 through 10 and Step 12 for N.O. valves.

The assembly for three-way valves is now complete.

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