

Valve Repacking Kit

Kit Includes

Note: This kit is intended for valves with 1/4 inch stems and replaces V-4322-620, V9999-609 and V-9999-611.

V-9999-608		V-9999-610	
2	Ring Packs	20	Ring Packs
1	Short Stem Guide	10	Short Stem Guides
1	Long Stem Guide	10	Long Stem Guides
1	Packing Follower	10	Packing Followers
1	Spacer	10	Spacers
1	Sleeve	3	Sleeves
1	Bullet	2	Bullets
1	Lubricant Capsule	4	Lubricant Capsules
1	1 in. x 2 in. Crocus Cloth	3	1 in. x 2 in. Crocus Cloth
1	Insertion/Removal Tool	1	Insertion/Removal Tool

NOTE: On stem assembly kits, only the parts required for that valve are included in the kit.

Tools Required

- box-end wrench, 5/16 inch
- screwdriver
- spring compression tool, part number JC5389

Removing V-3000 Actuator

1. Disconnect the control line to the actuator.
2. Isolate the valve from the system and relieve any pressure.



CAUTION: Failure to disconnect the control line prior to servicing the equipment may result in personal injury.

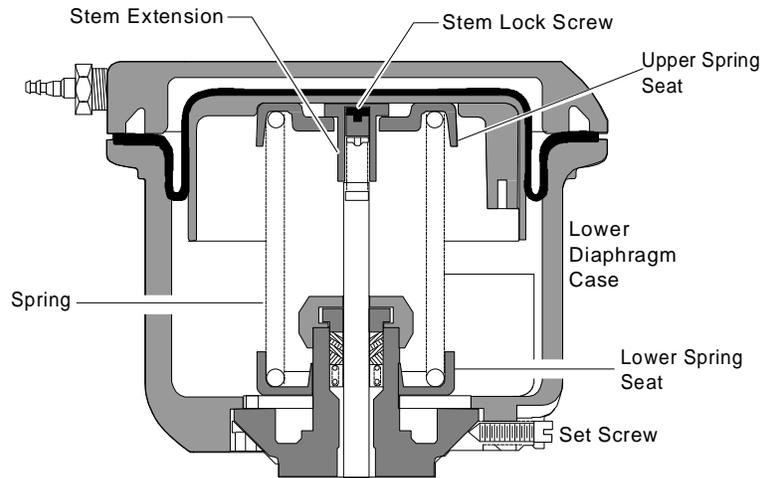


Figure 1: Valve with V-3000 Actuator

3. Remove the actuator by loosening the set screw on the bottom of the lower diaphragm case.
4. Lift the actuator off of the valve.

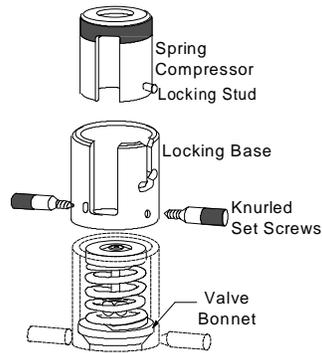


Figure 2: Spring Compression Tool

5. Place the locking base of the spring compression tool part number JC5389 over the valve spring assembly so that the base rests on the surface of the bonnet.



WARNING: The spring is under pressure and failure to use the compression tool could result in personal injury or damage to surrounding equipment.

6. Tighten the knurled set screws to fasten the locking base securely to the valve bonnet.
7. Insert the spring compressor into the locking base and over the spring assembly.
8. Apply enough hand pressure to the top of the spring compressor to engage the locking stud into the bottom notch of the base.
9. Using a 9/16 inch box-end wrench, hold the stem extension and loosen the stem locking screw with a small blade screwdriver. Then, using the box-end wrench, unscrew the stem extension.
10. Carefully apply enough hand pressure to disengage the spring compressor and allow the spring to expand to its relaxed position.
11. Remove the spring compression tool and lift the upper spring seat and spring off the valve.

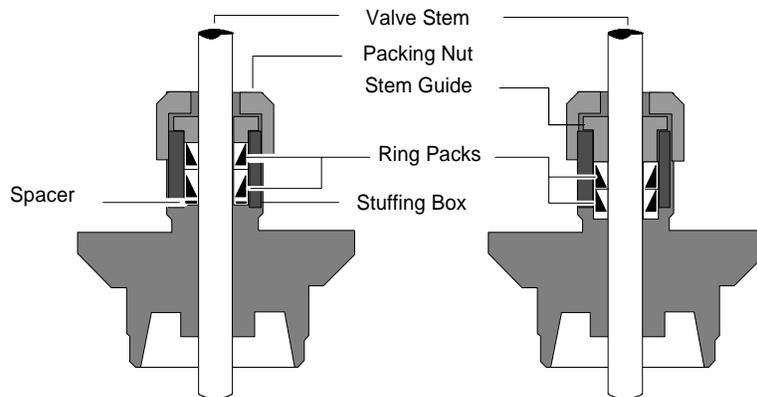


Figure 3: V-3000 Valve Tops

12. Remove and retain the packing nut.
13. Remove and discard the stem guide/liner.

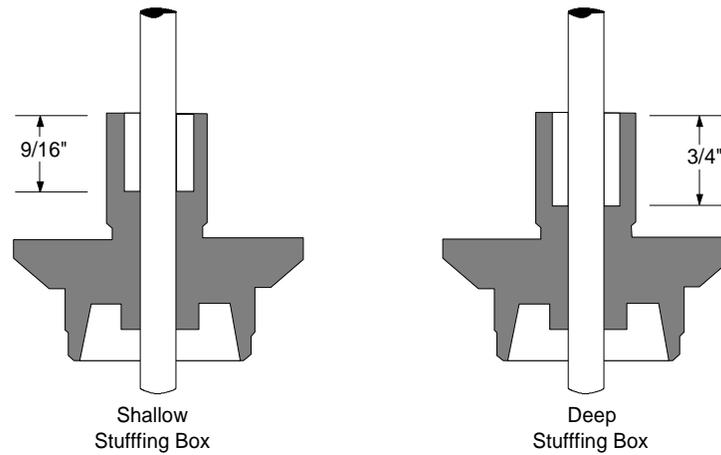


Figure 4: Depth Comparison

14. Determine whether the stuffing box is deep or shallow by measuring the inside and comparing it to the drawings in Figure 4.
 15. Remove the old packings using the small end of the packing insertion/removal tool. If present, remove the spacer and spring (not shown).
 16. Pull up and clean the accessible portion of the valve stem with the crocus cloth provided.
 17. Wipe the stem with a paper towel to remove any grit or debris. If the valve stem is still rough or marred, the stem must be replaced.
 18. V-3000 valves with shallow stuffing box: Drop one spacer into the stuffing box.
 V-3000 valves with deep stuffing box: No spacer is required, go to Step 17.
 19. Apply a small amount of lubricant to the inside and outside of the ring packs.
- Note: Be sure that the O-rings are already positioned in the U-cups before applying the lubricant.
20. Depending on stem thread length, proceed with steps outlined on page 5 or 6.

Using Bullet

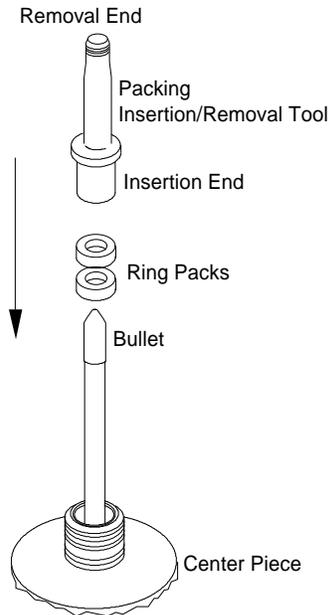


Figure 5: Bullet Installation Method

1. Slide the bullet onto the stem.

Note: If the bullet does not cover all threads on the valve stem, use the sleeve method as described on the next page.

2. With the O-ring facing down, place one ring pack onto the bullet and slide it onto the stem.
3. Remove the bullet.
4. Use the large end of the packing insertion/removal tool to push the ring pack down into the stuffing box.
5. Repeat Steps 1 to 4 above for the second ring pack.
6. Install the stem guide for V-3000 (liner for V-3800) into the stuffing box.
7. Install the packing nut onto the stuffing box.
8. Tighten the packing nut **finger tight only**.

Note: Overtightening the packing nut can cause the stem to bind.

9. Move the stem up and down by hand to be sure that it operates freely.
10. Assemble the valve spring and actuator using Steps 1 through 11 (pages 2 and 3) in reverse order.

Using Sleeve

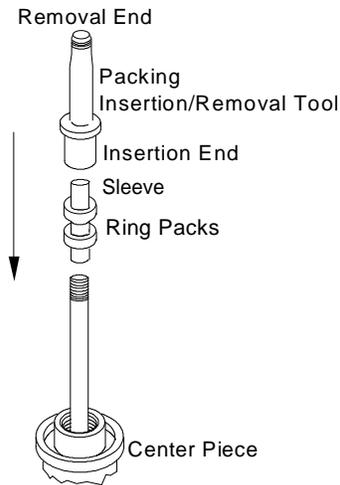


Figure 6: Using Sleeve

1. With the O-rings facing down, slide the ring packs onto the sleeve.
 2. Slide the sleeve over the threaded portion of the stem.
 3. Push both of the ring packs off of the sleeve.
 4. Remove the sleeve.
 5. Use the large end of the packing insertion/removal tool to push the ring packs down into the stuffing box.
 6. Install the stem guide for V-3000 (packing follower for V-3800) into the stuffing box.
 7. Install the packing nut onto the stuffing box.
 8. Tighten the packing nut finger tight.
- Note: Overtightening the packing nut can cause the stem to bind.
9. Move the stem up and down by hand to be sure that it operates freely.
 10. Assemble the valve spring and actuator using Steps 1 through 11 (pages 2 and 3) in reverse order.

Valves with V-3800 (Oval Top) Actuator

1. Disconnect the control line to the actuator.
2. Isolate the valve from the system and relieve any pressure.

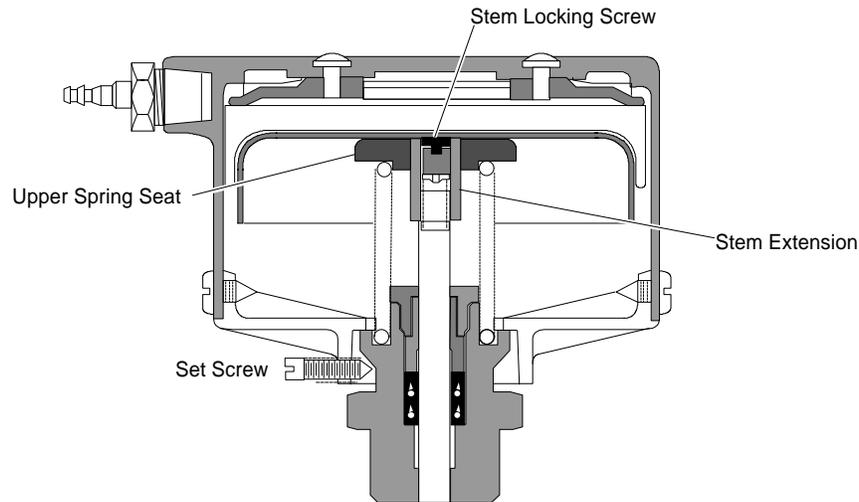


Figure 7: Valve with V-3800 Actuator

3. Remove the actuator by loosening the actuator set screw on the bottom of the lower diaphragm case.
4. Lift the actuator off of the valve.
5. Push down on the upper spring seat to compress the spring.
6. While maintaining compression, rotate the upper spring seat 90° to disengage it from the stem extension.

 **CAUTION:** When removing the spring, wear eye protection and gloves. To avoid injury or damage, **DO NOT** direct the upper spring seat towards equipment or personnel.

7. Hold the stem extension with a 3/8 inch open end wrench and loosen the stem locking screw.
8. Unscrew the stem extension from the stem.

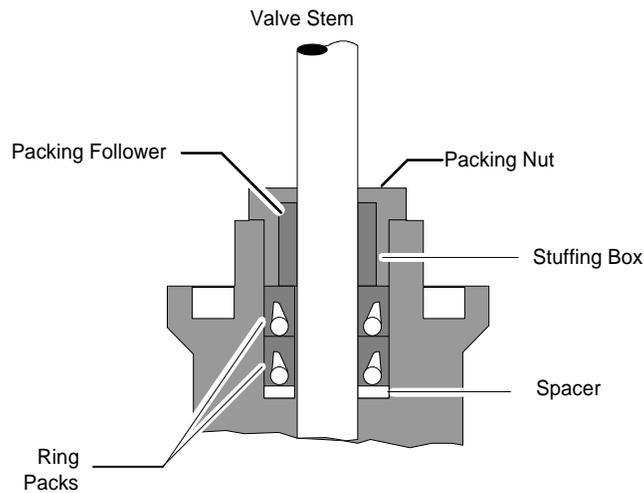


Figure 8: V-3800 Oval Top Valve

9. Remove and retain the packing nut
 10. Remove and discard the old stem liner. See Figure 6.
 11. Remove the old packing using the small end of the packing insertion/removal tool.
 12. If present, remove the spacer and spring.
 13. Pull up and clean the accessible portion of the valve stem with the crocus cloth provided.
 14. Wipe the stem with a paper towel to remove any grit or debris. If the valve stem is still rough or marred, the stem must be replaced.
 15. Drop one spacer into the stuffing box.
 16. Apply a small amount of lubricant to the inside and outside of the ring packs.
- Note: Be sure that the O-rings are already positioned in the U-cups before applying the lubricant.
17. Depending on stem thread length, proceed with steps outlined on page 5 or 6.
 18. After the ring packs are installed, Install the spring and actuator by using Steps 1 through 8 in reverse order.

VT Series Valves with V-3802 Actuator

1. Disconnect the control signal.
2. Isolate the valve from the system and relieve any pressure.

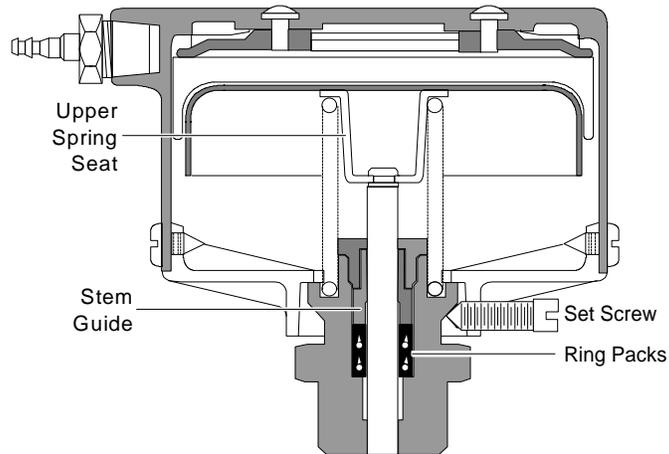


Figure 9: VT Valve with V-3802 Actuator

3. Remove the actuator by loosening the actuator set screw on the bottom of the lower diaphragm case.
4. Lift the actuator off of the valve.
5. Compress the spring with the heel of the hand on the upper spring seat and push to one side.



CAUTION: When removing the spring, wear eye protection and gloves. To avoid injury or damage, **DO NOT** direct the upper spring seat towards equipment or personnel.

5. Remove the spring seat and spring.
6. Remove and retain the packing nut and remove and discard the packing follower.

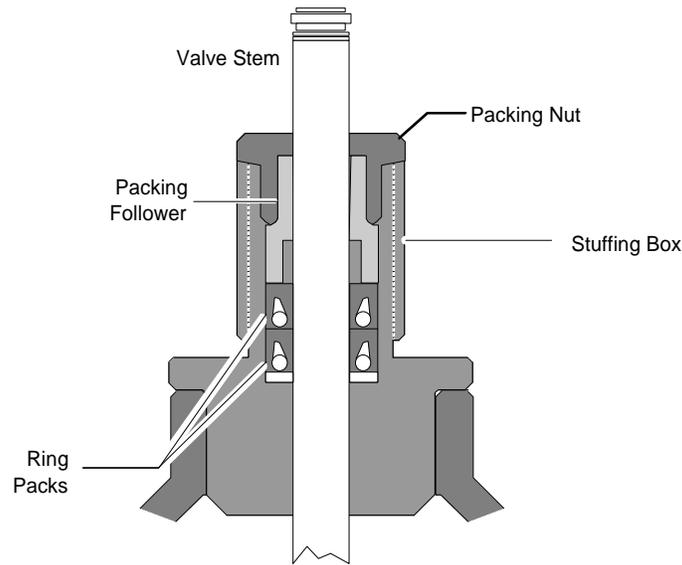


Figure 10: VT Series Valve

7. Remove the old packings using the small end of the packing insertion/removal tool.
 8. Pull up and clean the accessible portion of the valve stem with the crocus cloth provided. Wipe the stem with a paper towel to remove any grit or debris. If the valve stem is still rough or marred, the stem must be replaced.
 9. Apply a small amount of lubricant to the inside of the ring packs and the inside of the stuffing box. Be sure that the O-rings are already positioned in the U-cups before applying the lubricant.
 10. Slide the bullet onto the stem.
 11. Place one ring pack onto the bullet and slide it onto the stem.
 12. Remove the bullet.
 13. Use the large end of the packing insertion/removal tool to push the ring pack down into the stuffing box.
 14. Repeat Steps 9 to 13 for the second ring pack.
 15. Install the packing follower into the stuffing box.
 16. Install the packing nut onto the stuffing box.
 17. Tighten the packing nut finger tight.
- Note: Overtightening the packing nut can cause the stem to bind.
18. Move the stem up and down by hand to be sure that it operates freely.
 19. Install the spring and actuator by using Steps 1 through 5 in reverse order.

