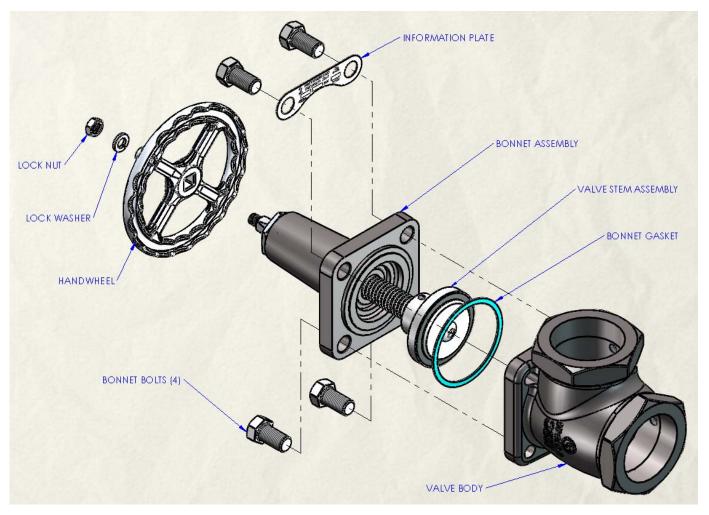
!!!WARNING!!! READ AND UNDERSTAND ALL INSTRUCTIONS INCLUDED WITH THIS REPAIR KIT RELIEVE ALL PRESSURE FROM SYSTEM BEFORE REMOVING VALVE FOR SERVICE

VALVE DISASSEMBLY INSTRUCTIONS

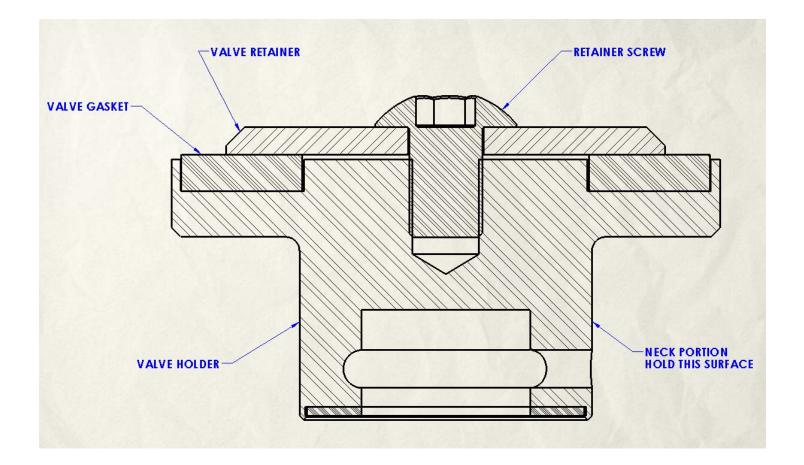
- 1. Turn handwheel counterclockwise to fully open the valve.
- 2. Remove handwheel lock nut and lock washer.
- 3. Remove handwheel from valve shaft.
- 4. Remove the bonnet bolts (4) from the valve body and retain.
- 5. Retain valve information plate for reinstallation later.
- 6. Remove bonnet assembly from the valve body.
- 7. Remove bonnet gasket from valve body and discard.



6. Use handwheel as a wrench to turn the valve stem assembly clockwise (as viewed from top) to fully remove valve stem assembly from the bonnet assembly.

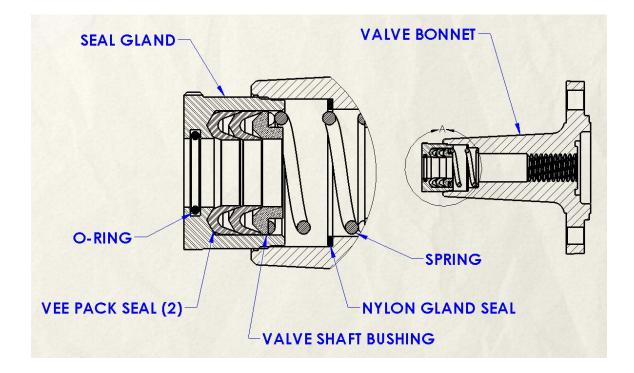
VALVE GASKET REPLACEMENT INSTRUCTIONS

- 1. Use a vise or pipe wrench to retain the neck of the valve holder, take care not to crush the valve holder or damage the stem thread and sealing surface.
- 2. Remove the retainer screw from the valve holder and discard.
- 3. Remove the valve retainer and retain.
- 4. Remove the valve gasket and discard.
- 5. Clean the valve holder and valve gasket recess area using a soft cloth.
- 6. Install new valve gasket into the valve holder and ensure it is fully seated.
- 7. Install valve retainer over valve gasket.
- 8. Apply Loctite # 271 thread locker compound (Included) to thread on new retainer screw.
- 9. Install retainer screw through valve retainer and tighten into valve holder.
- 10. Wipe off any excess Loctite, be careful not to get Loctite on the valve gasket.
- 11. Inspect valve stem threads and stem sealing surface for wear and clean off any foreign material using a soft cloth.



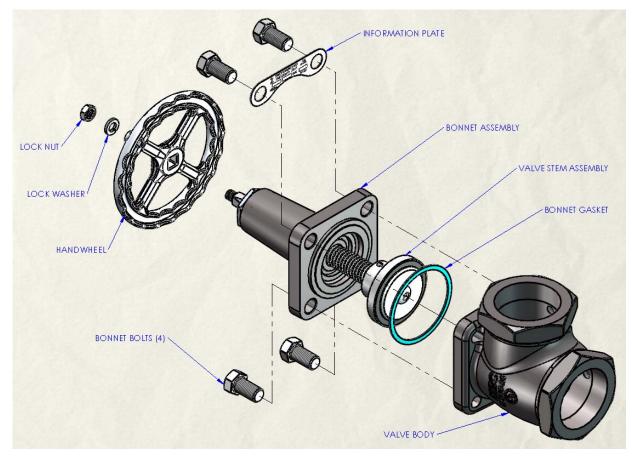
UPPER SEAL PACK REPLACEMENT INSTRUCTIONS

- 1. Secure bonnet assembly in vise.
- 2. Use a crescent wrench to remove the seal gland from the bonnet by turning counter clockwise. Note: This joint is factory sealed using a Loctite thread sealant, and will require extra initial force to break this seal to remove the seal gland.
- 3. Remove the spring from the bonnet and retain.
- 4. Remove the nylon gland seal from the bonnet and discard.
- 5. Remove and discard the valve shaft bushing, vee pack seals (2), and O-ring.
- 6. Clean the excess sealant from the external threads on the seal gland using a wire brush.
- 7. Wipe the inside of the seal gland with a soft cloth to remove grease and foreign matter.
- 8. Lubricate the new O-ring using a light valve grease and install into the seal gland as shown.
- 9. Lubricate the vee pack seals (2) using a light valve grease and install together into the seal gland as shown.
- 11. Install the valve shaft bushing into the seal gland as shown.
- 12. Install the new nylon gland seal into the bonnet as shown.
- 13. Install the retained spring into the bonnet as shown.
- 14. Apply a small amount of Loctite # 271 thread sealant (Included) to the external threads of the seal gland.
- 15. Install the seal gland assembly into the bonnet and tighten clockwise using a crescent wrench until fully seated against the nylon gland seal.



VALVE ASSEMBLY INSTRUCTIONS

- 1. Apply a heavy valve or bearing grease to the acme drive threads on the valve stem assembly.
- 2. Insert the valve stem assembly into the bonnet assembly as shown until the acme thread engages the bonnet thread.
- 3. Start the valve stem thread into the bonnet thread by turning the stem counter clockwise (as viewed from the top) until threads are engaged.
- 4. Use the handwheel as a wrench to continue turning the valve stem assembly counter clockwise until fully installed and backseated into the bonnet assembly.



- 5. Install new bonnet gasket into valve body.
- 6. Install bonnet assembly into valve body as shown and align with bolt holes in flange.
- 7. Install retained valve information plate and bonnet bolts (4) as shown and hand tighten bolts.
- 8. Tighten bonnet bolts using a corner to corner pattern with a minimum of 100 ft/lbs of torque.
- 9. Close the valve by turning the handwheel clockwise until the valve seats.
- 10. Connect the valve assembly inlet to a pressure source of at least 150 Psi. Check for leaks (as evidenced by bubbles) at all joints and sealing surfaces by submersing the valve in water, (or by applying Marshall Excelsior "leak detector" solution to all joints).
- 11. **CAUTION:** DO NOT USE THE VALVE IF ANY JOINT OR SEALING SURFACE CONTINUES TO LEAK UNDER PRESSURE.