Maintenance Instructions Model 375 ¾ - 1"

All Model 375 Reduced Pressure Principle Backflow Preventers must be inspected and maintained by licensed personnel at least once a year or more frequently as specified by local codes. Replacement of worn or damaged parts must only be made with genuine "WILKINS" parts. The WILKINS Certificate of Limited Warranty provides that failure to do so "...releases WILKINS of any liability that it might otherwise have with respect to that device." Such failure could also result in an improperly functioning device.

The Model 375 Reduced Pressure Principle Assemblies should be thoroughly flushed after backflow conditions occur to prevent any type of corrosive deterioration to its components. Failure to do so could result in malfunction of the device.

GENERAL MAINTENANCE

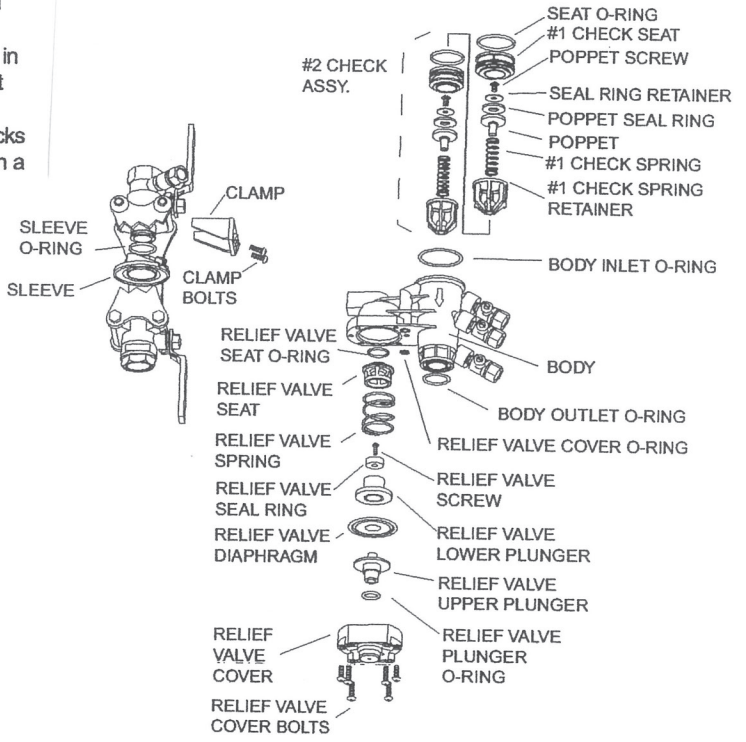
1. Clean all parts thoroughly with water after disassembly.
2. Carefully inspect rubber seal rings, diaphragms and o-rings for damage.
3. Test unit after reassembly for proper operation(see "Testing Procedures").

SERVICING CHECK VALVES

1. Close inlet and outlet shut-off valves.
2. Open No. 2, No. 3 and No. 4 test cocks to release pressure from valve.
3. Unscrew clamp screws, and remove clamp. (inserting screw in center hole can remove stuck clamp). Slide sleeve toward inlet pipe. Slide valve body toward inlet and lift upward.
4. Using finger or blunt object, push in outlet end of body, both checks should slide out the body inlet.(A phillips screw driver will work in a 3/4" valve. The closed ball valve handle will work in a 1" valve).
5. Twist spring retainers counter-clockwise to remove from seat and access poppets.
6. Inspect the rubber seal ring for cuts or embedded debris. To remove seal ring, remove screw and seal ring retainer. If the reverse side of the seal ring is unused, it is possible to invert the seal ring. This would be considered a temporary solution to fixing a fouled check and should be replaced with a new seal ring as soon as possible.
7. Inspect seat surface for nicks or dings and replace if necessary. Use fingernail to check for dings. Regrease seat o-rings.
8. Inspect seat o-ring sealing areas in body and wipe clean.
9. Reverse the above procedures to reinstall check valve assembly. (Drop #2 check assembly in body. Then drop #1 check assembly in and turn until #1 spring retainer lines up with #2 seat. Then push both assemblies into body.) Care should be taken to make sure the heavy spring is installed in the No. 1 check valve

SERVICING RELIEF VALVE

1. Remove relief valve cover screws and cover. Gently pull on diaphragm to remove the cartridge assembly.
2. Inspect seal ring for cuts and embedded debris. Turn over or replace if required.
3. Disassemble cartridge by unscrewing relief valve retaining screw.
4. Inspect diaphragm and o-ring for damage. Replace required parts and apply a light coat of grease to plunger o-ring, and place on plunger.
5. Carefully reassemble cartridge assembly.
6. Inspect relief valve seat for wear on seating surface. If damaged, replace seat and seat o-ring. (Twist seat and o-ring while inserting to keep it from popping out.
7. Insert cartridge assembly into relief valve cover.
8. Check cover o-ring in groove on body. Clean or replace as necessary.
9. Replace relief valve cover and cover screws.
10. Place device in service and test per "TESTING PROCEDURES".



Maintenance Instructions 375 1 ¼ - 2"

All Model 375 Reduced Pressure Principle Backflow Preventers must be inspected and maintained by licensed personnel at least once a year or more frequently as specified by local codes. Replacement of worn or damaged parts must only be made with genuine "WILKINS" parts. The WILKINS Certificate of Limited Warranty provides that failure to do so "...releases WILKINS of any liability that it might otherwise have with respect to that device." Such failure could also result in an improperly functioning device.

The Model 375 Reduced Pressure Principle Assemblies should be thoroughly flushed after backflow conditions occur to prevent any type of corrosive deterioration to its components. Failure to do so could result in malfunction of the device.

GENERAL MAINTENANCE

1. Clean all parts thoroughly with water after disassembly.
2. Carefully inspect rubber seal rings, diaphragms and o-rings for damage.
3. Test unit after reassembly for proper operation (see "Testing Procedures").

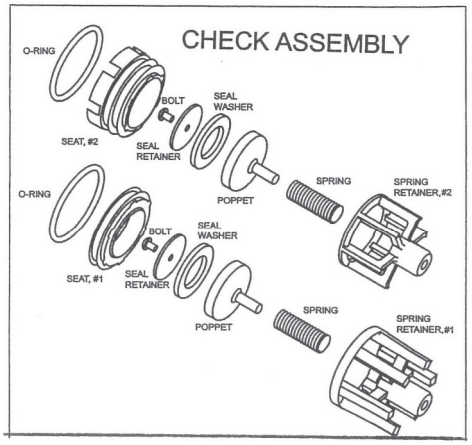
SERVICING CHECK VALVES

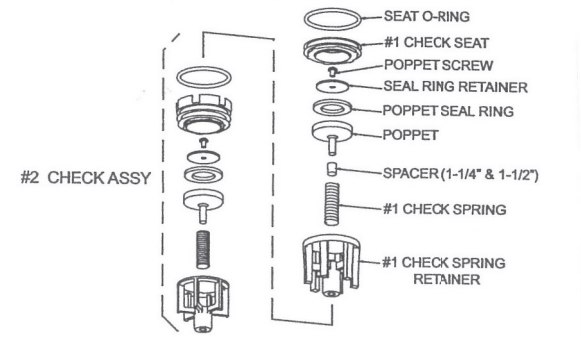
1. Close inlet and outlet shut-off valves.
2. Open No. 2, No. 3 and No. 4 test cocks to release pressure from valve.
3. Unscrew 4 screws holding body down lift valve body upward.
4. Twist and remove sleeve from body. Using finger or blunt object, push in outlet end of body, both checks should slide out the body inlet. A short object like a socket can be placed on a flat surface. Place body over object so it pushes into valve outlet and push down on body.
5. Twist spring retainers counter-clockwise to remove from seat and access poppets.
6. Inspect the rubber seal ring for cuts or embedded debris. To remove seal ring, remove screw and seal ring retainer.

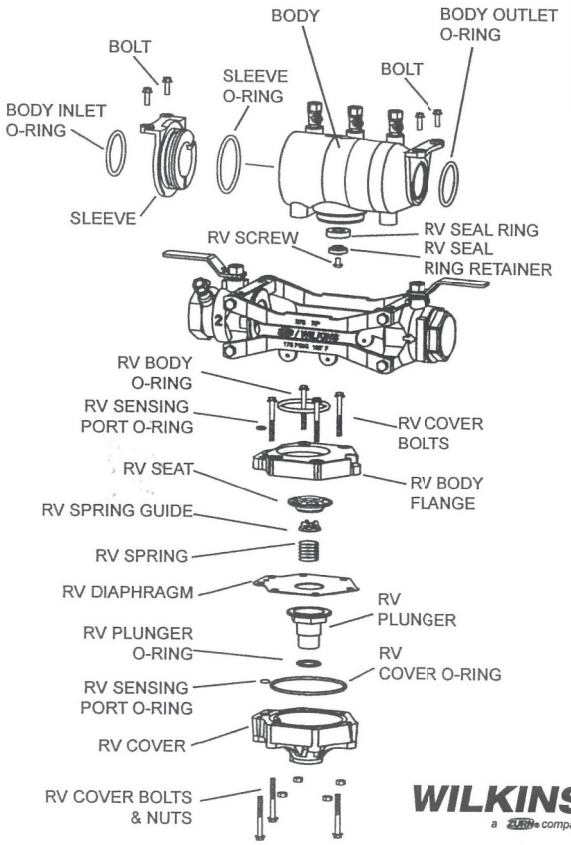
   If the reverse side of the seal ring is unused, it is possible to invert the seal ring. This would be considered a temporary solution to fixing a fouled check and should be replaced with a new seal ring as soon as possible.
7. Inspect seat surface for nicks or dings and replace if necessary. Use fingernail to check for dings. Re-grease seat o-rings.
8. Inspect seat o-ring sealing areas in body and wipe clean.
9. Reverse the above procedures to reinstall check valve assembly. Drop #2 check assembly in body. Then drop #1 check assembly in and turn until #1 spring retainer lines up with #2 seat. Then push both assemblies into body. Insert sleeve against checks. (Place sleeve down against flat surface and push on body with rocking motion.) Care should be taken to make sure the heavy spring is installed in the No. 1 check valve.
10. Rock body side to side to help o-rings slide in. If it does not drop in completely, do not use screws to force it. An overly greased o-ring might slide out of groove at top of ball valve. Use a screw driver to push o-ring back in groove, then push body down in.

SERVICING RELIEF VALVE

1. Remove three bolts holding relief valve module to body.
2. Pull down and remove relief module to expose seat and seal ring. These can be inspected without further disassembly. CAUTION: do not lose small o-ring or large o-ring that fit between module and check body.
3. To inspect diaphragm or replace seat/diaphragm stem assembly, remove the four screws holding the two module halves together. CAUTION: do not lose small o-ring.
4. Remove stem assembly. Inspect diaphragm and plunger o-ring for damage. Replace any damaged parts and apply a light coat of grease to plunger o-ring and place on plunger. CAUTION: stem assembly is internally spring loaded. Seat can be unscrewed from plunger to replace diaphragm or spring. The seat surface must not be nicked during disassembly or reassembly.
5. There are two o-rings that fit into the cover surface, one large, one small. These o-rings should not be greased. Insert stem into cover. Place second module half onto cover. Push the seat down into the cover with your thumb to align diaphragm bolt holes with cover and then insert four bolts and tighten.
6. Inspect o-ring that seals between module and check body. Replace if necessary. Apply grease to the o-ring and then place on step on check body. Place small o-ring into groove between the two front bolts holes in relief valve module.
7. Slide relief valve module onto check body. Rocking side to side can help it slide on over o-ring. Replace three remaining bolts.
8. Place device in service and test per "TESTING PROCEDURES.



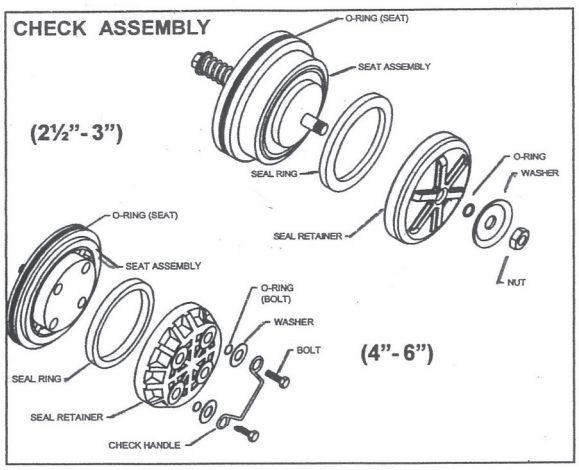




WILKINS a Zurn company

WILKINS Model 375 / 375A / 375AST / 450 - Sizes 2 ½"-6"

A ZURN Company



All Model 375/475 Reduced Pressure Principle Backflow Preventers must be inspected and maintained by licensed personnel at least once a year or more frequently as specified by local codes. Replacement of worn or damaged parts must only be made with genuine "WILKINS" parts.

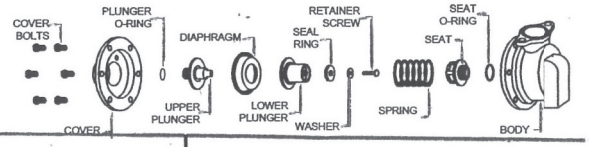
GENERAL MAINTENANCE

1. Clean all parts thoroughly with water after disassembly.
2. Carefully inspect rubber seal rings and o-rings for damage.
3. Test unit after reassembly for proper operation (refer to "TESTING PROCEDURES").

SERVICING RELIEF VALVE

1. Remove relief valve cover bolts and cover. Gently pull on diaphragm to remove the cartridge assembly.
2. Inspect seal ring for cuts and embedded debris. Turn over or replace if required.
3. Disassemble cartridge by unscrewing relief valve retaining screw.
4. Inspect diaphragm and o-rings for damage. Replace required parts and apply a light coat of lubricant to plunger o-ring.
5. Carefully reassemble cartridge assembly.
6. Inspect relief valve seat for wear on seating surface. If damaged, replace seat and seat o-ring. Install spring over seat guides.
7. Insert cartridge assembly into relief valve body.
8. Replace relief valve cover and cover bolts.
9. Place the device in service and test per "TESTING PROCEDURES" on page 2.

RELIEF VALVE ASSEMBLY



SERVICING CHECK VALVES

1. Close the outlet and then the inlet shut-off valves.
2. Open No. 2, 3 and 4 test cocks to release internal pressure. Leave them open during check removal and reinstallation.
3. Loosen and remove the two nuts, bolts and seal from the grooved coupling around the access cover.
4. If the valve has a wire retainer on the #1 check assembly, pinch together the exposed ends, pull toward the #2 check and remove from valve.
5. If the valve has a plastic retainer on the #1 check, grasp one of the exposed ends, push down and then pull toward the #2 check. The retainer should "spiral" out of the groove around the check.
6. (2-1/2 – 3" Models) Remove the #2 retainer and check in the same manner as the #1.
7. (4 – 6" Models) Remove the #2 check by locating one of the two spring-loaded plate retainers around the face of the check. Pinch the sides of the spring together and rotate the plates out of the body groove one at a time. Remove the 2nd retainer the same way.
8. **Always service the checks one at a time to avoid mixing parts.** Start by removing the hardware and o-rings from the back of the check assembly (See "Check Assembly" illustration). Separate the seal retainer from the assembly to expose the seal ring.
9. Inspect the seal ring for cuts or embedded debris. If the reverse side of the seal is unused, the seal ring can be inverted and used temporarily until a new seal is obtained. Inspect seat o-ring and replace if cut or damaged in any way.
10. Inspect valve cavity and seating areas. Flush with water to remove any debris.
11. (Reassembly, 2-1/2 – 3" Models) Lubricate the #2 check o-ring, install in the body and close the #4 test cock to hold it in place. Install the plastic retainer by inserting one end into the body groove and then sliding your hand around the face of the retainer, pushing it into the groove as you go. The retainer will "snap" into place when fully seated. Install #1 check and retainer in the same way.
12. (Reassembly, 4 – 6" Models) Lubricate the #2 check o-ring, install in the body and close the #4 test cock. Install the #2 check retainers into the body groove one plate at a time, squeezing the spring ends together to clear the stops on the face of the seat. Lubricate and install the #1 check, close the #2 test cock and install:
    (A) wire retainer by pinching the ends together, placing the lower edge of the ring into the body groove below the check and rotating the top of the ring into the notch above the check.
    (B) plastic retainer as described above in the 2-1/2 – 3" Models Reassembly section.
13. Lubricate the outside surface of the grooved coupling gasket. Reassemble access cover and grooved coupling, making sure the ends of the coupling touch each other. Close any remaining open test cocks and place valve back in service.

NOTE: Disassembly of the poppet assembly is not recommended. If the poppet assembly needs repair, please contact factory.

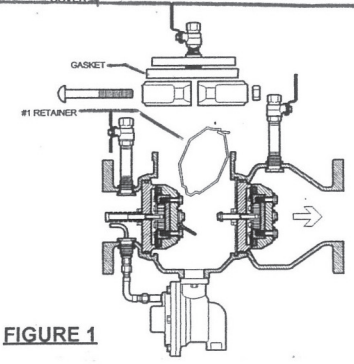


FIGURE 1

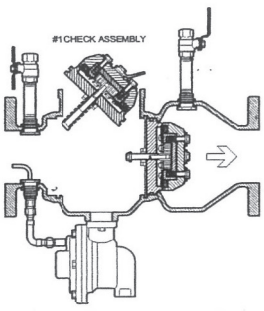


FIGURE 2

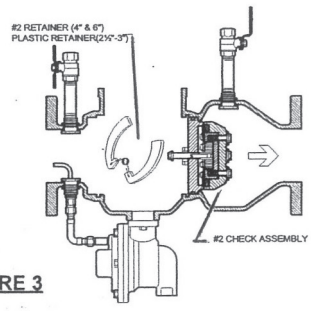


FIGURE 3

375 /375DA

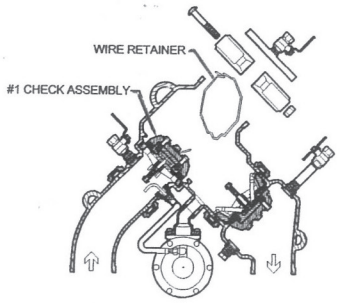


FIGURE 1

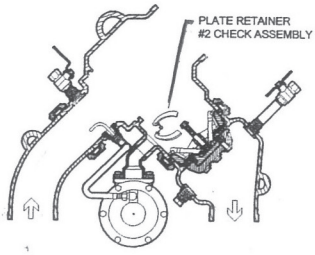


FIGURE 2

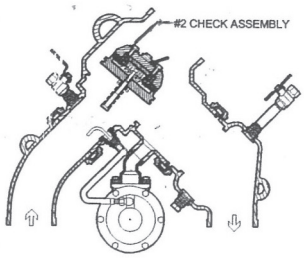
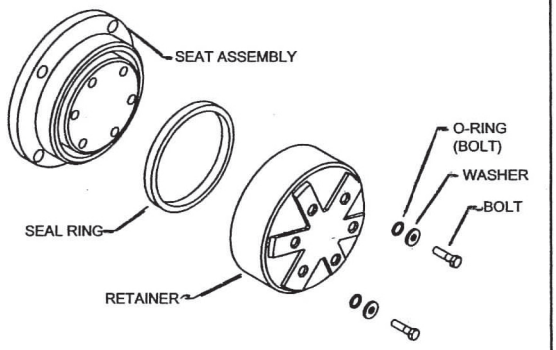


FIGURE 3

475 / 475DA

Maintenance Instructions



CHECK ASSEMBLY

All Model 375 Reduced Pressure Principle Backflow Preventers must be inspected and maintained by licensed personnel at least once a year or more frequently as specified by local codes. Replacement of worn or damaged parts must only be made with genuine "WILKINS" parts.

GENERAL MAINTENANCE

1. Clean all parts thoroughly with water after disassembly.
2. Carefully inspect rubber seal rings and o-rings for damage.
3. Test unit after reassembly for proper operation (refer to "TESTING PROCEDURES").

SERVICING RELIEF VALVE

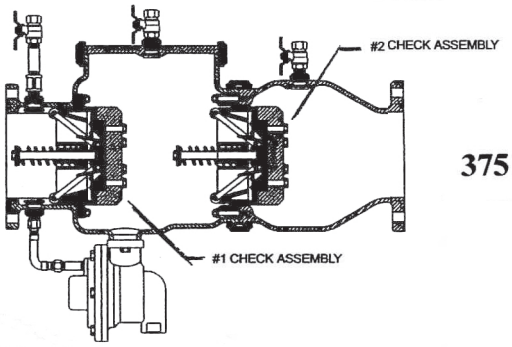
1. Remove relief valve cover bolts and cover. Gently pull on diaphragm to remove the cartridge assembly.
2. Inspect seal ring for cuts and embedded debris. Turn over or replace if required.
3. Disassemble cartridge by unscrewing relief valve retainer screw.
4. Inspect diaphragm and o-rings for damage. Replace required parts and apply a light coat of lubricant to plunger o-ring.
5. Carefully reassemble cartridge assembly.
6. Inspect relief valve seat for wear on seating surface. If damaged, replace seat and seat o-ring. Install spring over seat guides.
7. Insert cartridge assembly into relief valve body.
8. Replace relief valve cover and cover bolts.
9. Place the device in service and test per "TESTING PROCEDURES"

NOTE: Disassembly of the seat assembly is not recommended. If the seat assembly needs repair, please contact factory.

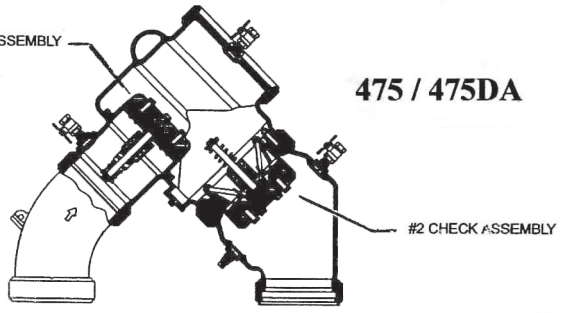
SERVICING CHECK VALVES

1. Close inlet and outlet shut-off valves.
2. Open No. 2, No. 3 and No. 4 test cocks to release pressure from valve.
3. Loosen & remove the grooved coupling around the access cover. Remove cover.
4. To service only the #1 check assembly, remove the 6 bolts, washers and o-rings from the back of the #1 check assembly. Separate the retainer and the seal ring from the check assembly and proceed to step #8.
5. To service both checks or the #2 check, the #1 check assembly must first be removed. Remove the 4 nuts and washers retaining the #1 check assembly. Remove the #1 check assembly from the body.
6. To remove the #2 check assembly, remove the 7 nuts, washers and the #2 check retaining ring. Grasp the check assembly by the stem and remove from valve.
7. Remove all 6 bolts, washers and o-rings from the check assembly (See "Check Assembly" illustration). Separate retainer from check assembly to expose seal ring for inspection.
8. Inspect the rubber seal ring for cuts or embedded debris. If the reverse side of the seal ring is unused, it is possible to invert the seal ring. This would be considered a temporary solution to fixing a fouled check and should be replaced with a new seal ring as soon as possible.
9. Inspect valve cavity and seating areas. Remove any debris.
10. Reverse the above procedures to reinstall check assemblies. Lubricate seat o-rings to hold them in place while reinstalling seat. Place washers on studs and tighten retaining nuts evenly.
11. Reinstall access cover and grooved coupling.

NOTE: If any portion of the seat assembly is damaged or missing or if the seat sealing rib is damaged in any way, do not attempt to field repair it. Contact your local WILKINS representative for assistance.



375 / 375DA



475 / 475DA

RELIEF VALVE ASSEMBLY