

Maintenance Instructions

Model 350 3/4 - 1"

All Model 350 Double Check Valve 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").

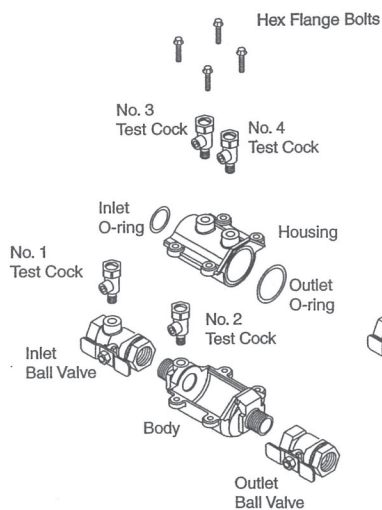


FIGURE 1

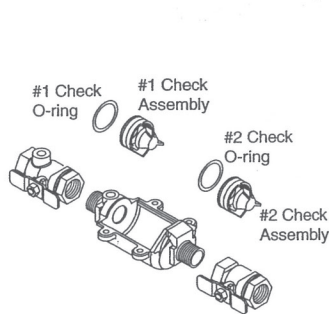


FIGURE 2

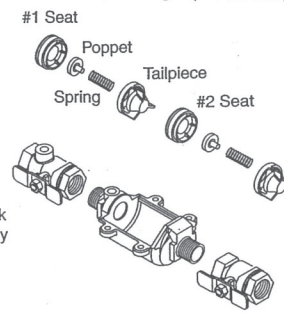
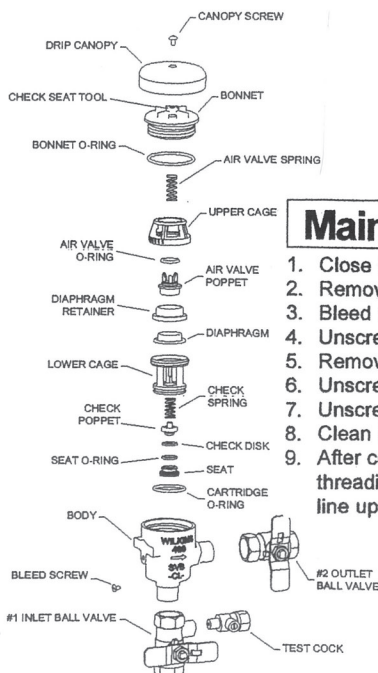


FIGURE 3

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 the 4 bolts (1/4-20 UNC Hex Flange) holding the housing in place.
4. Using a #2 flathead screwdriver, pry loose housing by placing the screwdriver in the notch between housing and body. Pull housing out of the body and remove checks by sliding them towards the outlet of housing.
5. Using the same screwdriver, locate the notch between seat and tailpiece of each check. Insert screwdriver and twist to "snap" checks apart. CAUTION: Checks are spring loaded.
7. Inspect the rubber seal ring around poppet for cuts or embedded debris.
8. If the poppet is damaged, replace with a new poppet.
9. Inspect the remaining check parts and seating areas. Remove any debris.
10. If necessary, replace any damaged parts with new ones.
11. Lightly grease o-rings on checks and reinstall into housing following the above procedures in reverse order.
12. Flush body prior to reinstalling housing.
13. Lightly grease o-rings on housing and reinstall into body following the above procedures in reverse order.

Note: When installing housing, match slight taper on the outlet of the housing with corresponding taper in body.



Maintenance Model 460 3/8 - 1/2"

1. Close inlet and outlet shut-off valves before disassembling device.
2. Remove canopy screw and drip canopy.
3. Bleed off pressure by opening the test cock and bleed screw.
4. Unscrew the bonnet from the body by turning counterclockwise. The drip canopy may be used as a bonnet removal tool.
5. Remove the check cartridge from the assembly by slowly rocking it back and forth within the body.
6. Unscrew the upper cage counterclockwise relative to the lower cage, allowing access to the diaphragm and air vent poppet.
7. Unscrew the check seat from the lower cage using the tool molded into the top of the bonnet labeled "CHECK SEAT TOOL".
8. Clean all parts with clean water only.
9. After completing inspection, replace necessary parts and reassemble. Repair kits are available from your supplier. Note: When threading the upper cage onto the lower cage, torque the upper cage by hand until the torque marks on the rim of the upper cage line up with the arrow on the lower cage.

Maintenance Instructions 350 1 1/4 - 2"

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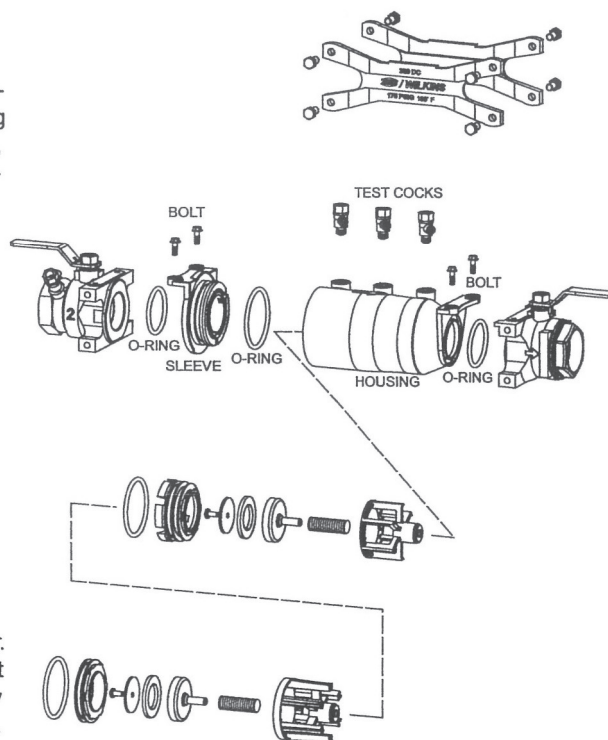
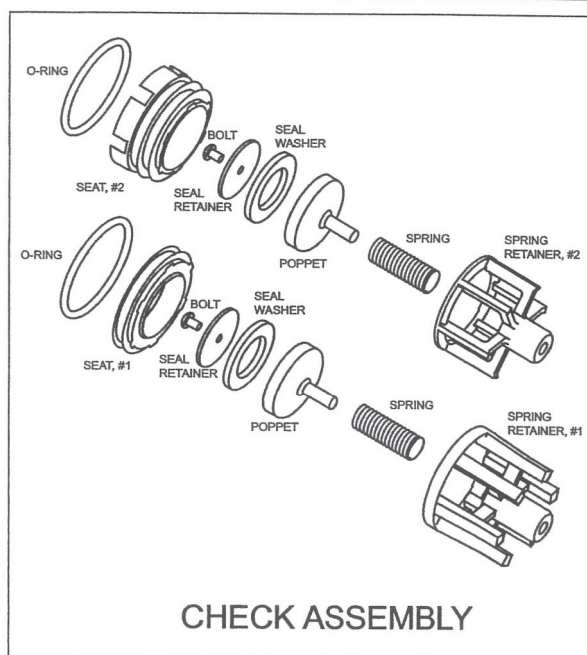
GENERAL MAINTENANCE

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 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 the 4 bolts (1/4-20 UNC Hex Flange) holding the housing in place. Lift housing up to remove.
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 seats 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 will 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.)
10. Lightly grease face of o-rings on housing and reinstall into body following the above procedures in reverse order. 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.

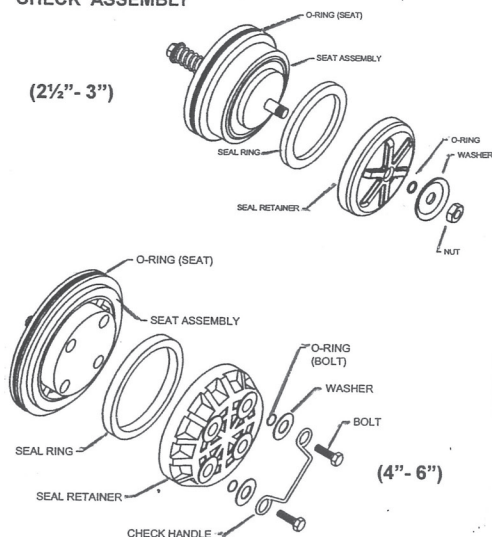
Note: When installing housing, match slight taper on the outlet of the housing with corresponding taper in body.



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Maintenance Instructions

CHECK ASSEMBLY



All Model 350/450 Double Check Valve 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").

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

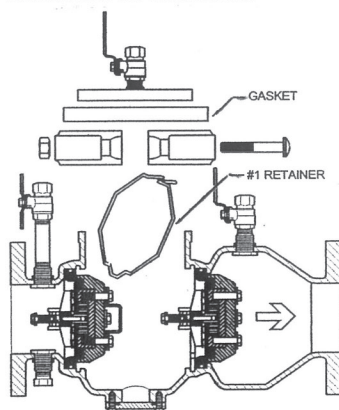


FIGURE 1

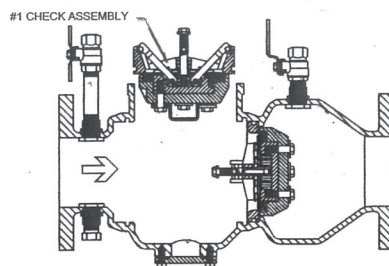


FIGURE 2

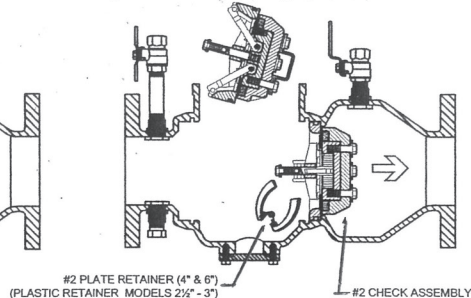


FIGURE 3

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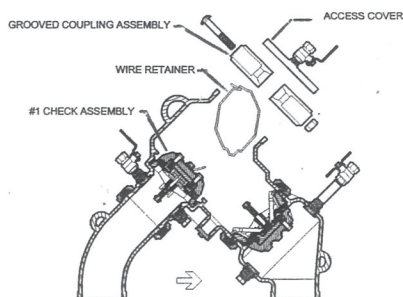


FIGURE 1

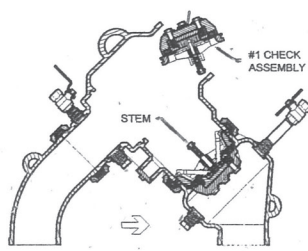


FIGURE 2

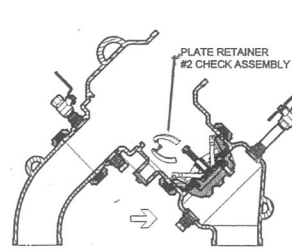


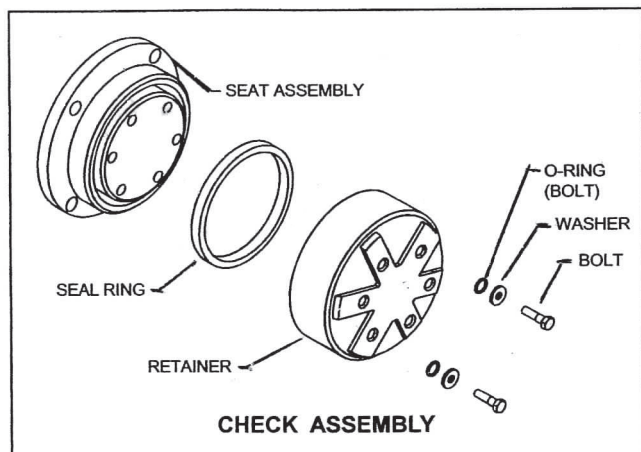
FIGURE 3

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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 gasket 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. (2 1/2" & 3" Models) Tighten check assembly nut between 20-25 ft/lbs of torque. 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.

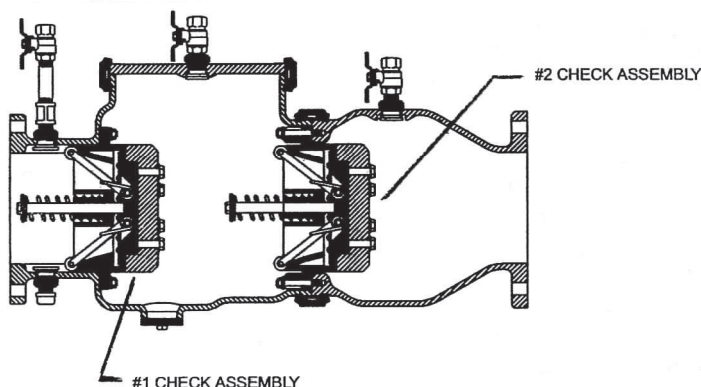
Maintenance Instructions



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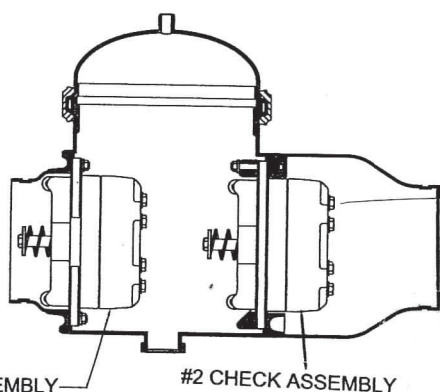
GENERAL MAINTENANCE

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").



350 / 350DA

#1 CHECK ASSEMBLY



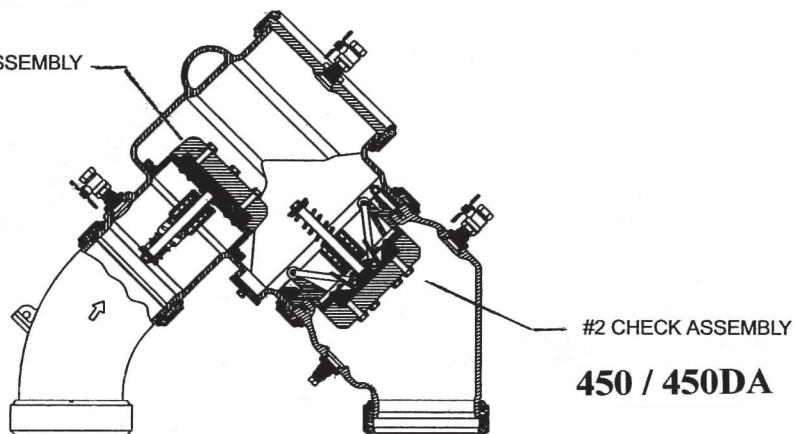
350 AST

#1 CHECK ASSEMBLY #2 CHECK ASSEMBLY

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.



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