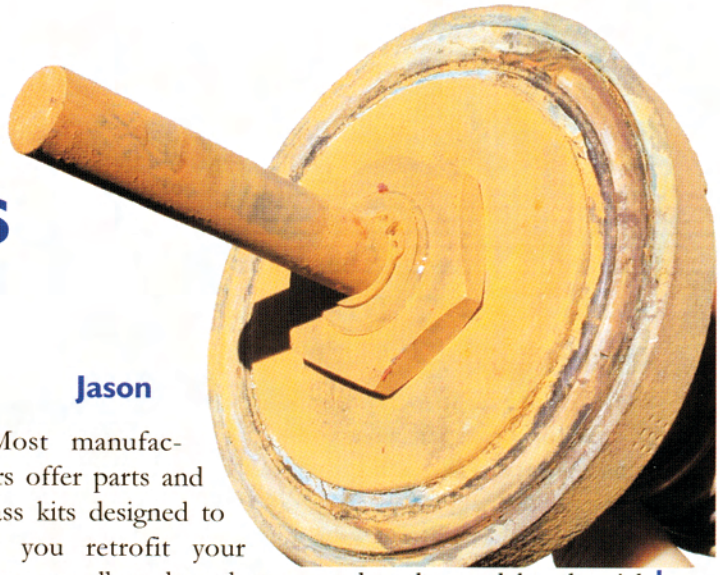
The Repair Guys



In our line of work, we field questions from contractors and technicians concerning repairs, installations, and general backflow prevention practices. We like to share some of the questions we receive and our answers. Everyone has different opinions on these subjects and we would like to hear yours. Contact us with your questions and ideas via email at: imark@backflowparts.com or mail us at American Backflow Products Co., P.O. Box 37025, Tallahassee, FL. 32315.

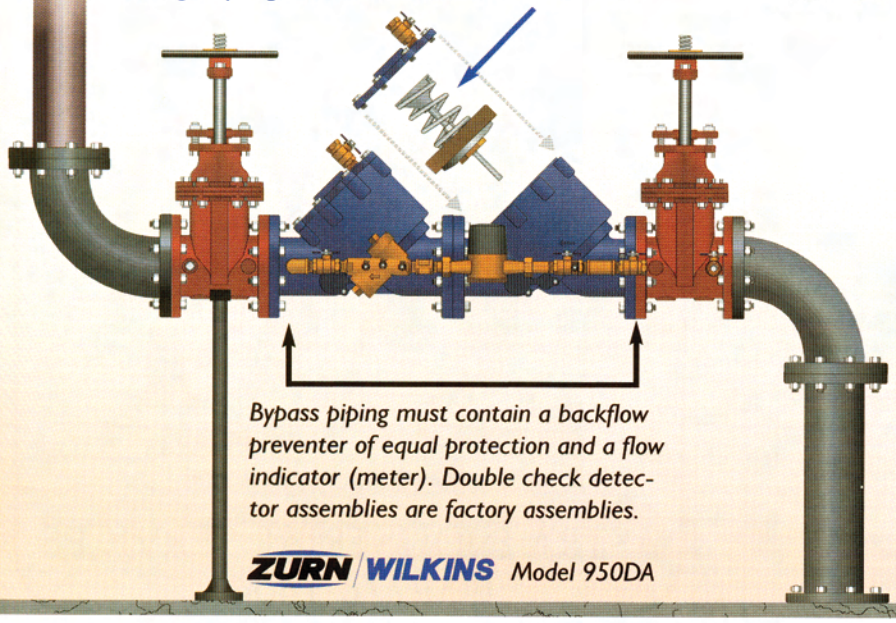
QUESTION —

We installed a 4" double check valve assembly on a fire line. Our water authority has informed us that a double check detector assembly is required for this installation. Can we install a bypass assembly on this valve to make it a double check detector?

Mark —

Sounds easy doesn't it? Unfortunately it is not quite that simple. You need to be aware that when you retrofit a device like this, you are creating a new device, which can require a new model and serial number. This may not seem like a big deal, but some water purveyors and manufacturers may not allow you to do this.

To establish resistance allowing bypass assembly low flows (up to 3 gallons per minute), some manufacturers provide stronger spring tension in check valve number 1.



Bypass piping must contain a backflow preventer of equal protection and a flow indicator (meter). Double check detector assemblies are factory assemblies.

ZURN/WILKINS Model 950DA

Jason

Most manufacturers offer parts and bypass kits designed to help you retrofit your device, as well as, data plates to update the model and serial numbers. It is a good idea to check with the local authorities and the manufacturer before you proceed with this work and extra cost.

Mark —

Adding a bypass assembly to your device is only part of the modification process. Depending on what manufacturer you are dealing with, the #1 check valve and sometimes the #2 check valve will have to be changed as well. The meter on the bypass must be approved and the bypass device must be matched to the mainline device. This means you should not use just any meter or double check assembly when you build your bypass.

— Jason

For a double check detector assembly to work correctly, low flows must be detected by the meter on the bypass. Normally, a heavier spring in the #1 check valve on the mainline unit is used to direct low flow through the bypass. If the check valve is not changed the bypass will not work like it was designed.

QUESTION —

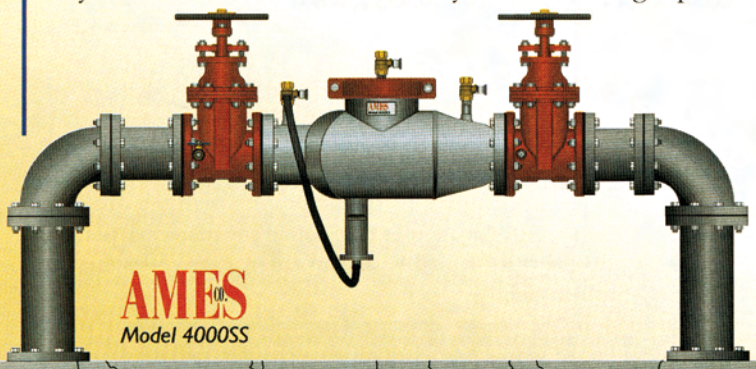
I'm working on an Ames 4" 4000RP. I've replaced the 1st and 2nd check valve assemblies. But even with these new parts installed, the 1st check continues to fail. The seats are in good condition and I've double and triple checked the installation, but I just can't figure out why it's failing. I've run out of patience and the allotted shut down time and will have to reschedule for another repair. Any suggestions before I return?

Mark —

I can certainly sympathize with you in this situation. It sure can be frustrating when, after installing new parts, cleaning everything and, of course, putting the covers back on, the device gives you problems again. But don't give up and throw your Backflow Theory and self-help books at it just yet! This type of check valve is called a knuckle joint assembly. It utilizes hinge pins and brackets that pivot to guide the clapper plate onto the seat.

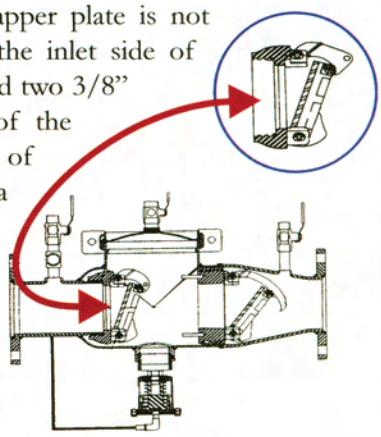
— Jason

The #1 check valve is a tower mounted knuckle joint assembly. Where the brackets attach to the body is the key to how the clapper plate lines up on the seat. If the bracket or the body is not perfectly aligned then the clapper will not fully seat. It's like the front door of your home. Hinges pivot the door to close within the frame. If the frame or door is not plumb then the door will not close properly.



Mark —

It may be that your clapper plate is not plumb with the seat. On the inlet side of your knuckle joint you'll find two 3/8" bolts holding the bracket of the check assembly to the neck of the device. Start by putting a 3/8" flat washer behind the bracket on your upper bolt. This should help to shim or adjust the position of the clapper so that it falls squarely on the check seat.

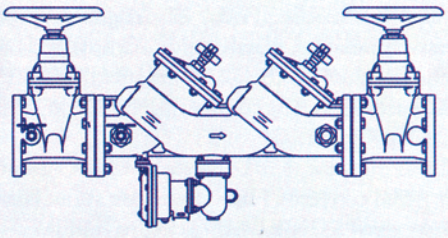


— Jason

Yes, the same way putting a shim behind the hinge on your door will help to get it plumb, a shim washer will do the same on this knuckle joint assembly. Keep in mind though that in some situations you may need to use more than one washer to solve the problem. Now, pick up those self help books, wipe the water off of them and get back to work.

dw&bp

AMERICAN BACKFLOW PRODUCTS
A DIVISION OF AMERICAN PUMP & SUPPLY



PARTS

(800) 575-9618

24 Hour Fax (850) 575-6508

Backflow Preventer

- Repair Kits
- Accessories
- Enclosures

Visit us at www.backflowparts.com

Circle 101 on Reader Service Card