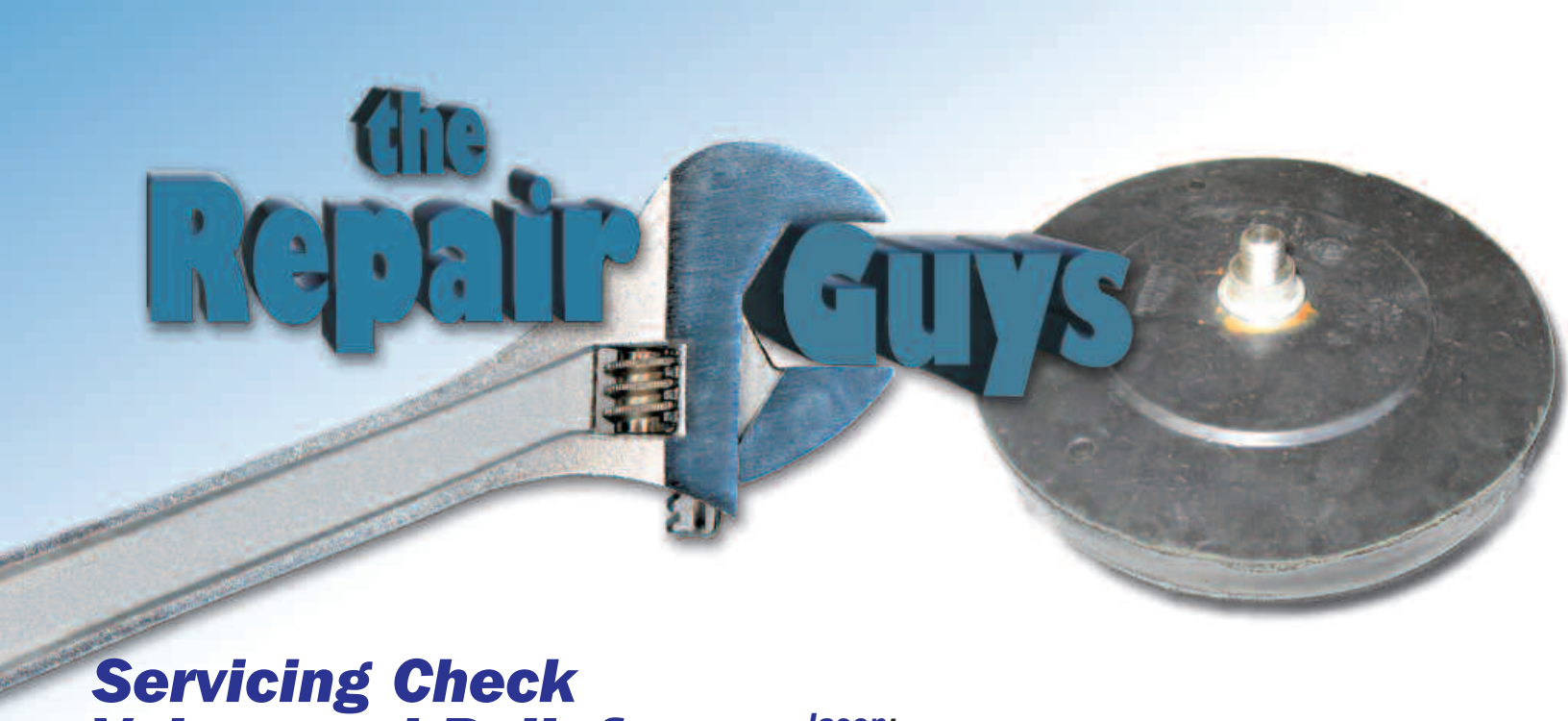


Servicing Check Valves and Relief Valves

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

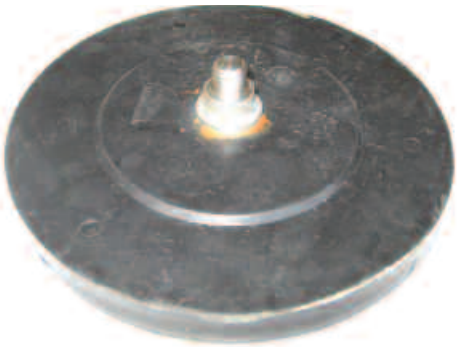
— Mark Inman and Jason Gregg

Question:

I am working on a 4 inch Febco model 860 RPA. I need to service the first check valve, but I'm not familiar with this model. Can you give me some ideas on how to repair this assembly and if there are any special tools I will need?

Mark:

Fortunately, there are no special tools required to repair this model. In fact, this assembly was designed to be repaired easily. The check valve cover is sealed with an o-ring and the spring is self-contained. Remember to always use caution when removing a check valve lid even if the spring is self contained.



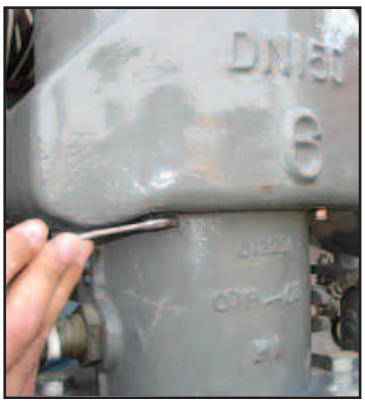
Jason:

Once the check valve cover has been removed, the first thing you will notice is that the spring assembly will fall down against the check valve body. Don't be alarmed; the unit is not falling apart in front of you. One end of the spring assembly is held in place by a recess in the lid. When you reassemble the check valve just be aware that the spring assembly will have to be set back into the recess in the cover.

Mark:

Now, you need to remove the check valve from the body. On the exterior of the check valve body you will notice four lock nuts. These lock nuts secure the seat assembly to the body. Once the lock nuts are removed then the seat assembly can be removed from the body with the check disc, arm assembly, and spring assembly still attached. Before the check assembly is removed, make sure you have a new seat gasket to replace the old one. This gasket makes the seal between the seat assembly and the check valve body.

Jason:



Now that the check assembly is out of the body, you can get to the disc and seat assembly very easily. The check disc is vulcanized and cannot be inverted. The disc is attached to the arm assembly by a stud and a jam nut. Simply remove the nut and replace the disc if needed. Note that the disc will have some play where it attaches to the arm assembly, so do

not try to over tighten the stud to make it snug. When you reinstall the check valve assembly into the body be sure to tighten the lock nuts back equally so the seat does not warp.

Question:

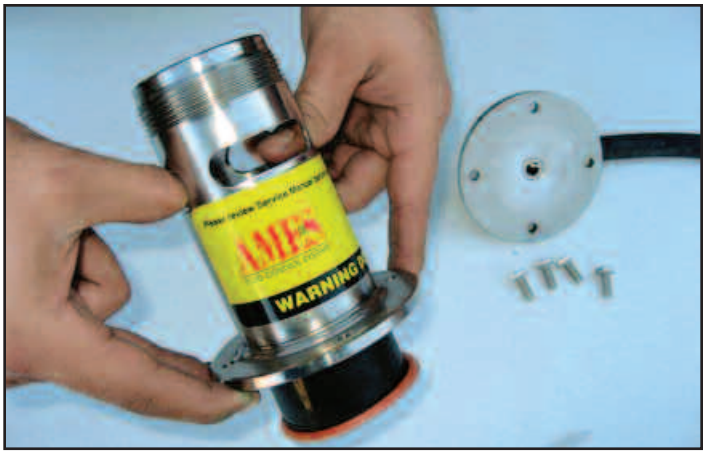
I am working on a 6 inch Ames 4000SS RPA. I decided to replace the entire relief valve portion of the device, thinking that this would be a fast and easy fix. However the new relief valve assembly will not thread into the device body. Am I doing anything wrong, or are there two different models of the 4000SS?

Mark:

No, there are not two different models of the 4000SS, but there are two different relief valve assemblies for this device. If you saved the original relief valve assembly, you'll probably notice some slight differences between it and the new one that you ordered. The least obvious, but most important difference are the threads on the newer relief valve, which have a slightly different pattern than on the original.

Jason:

The newer relief valve operates the same and has the exact same internal parts as the original, just different threads on the body. The change was inevitable because the thread pattern on the original relief valve made it difficult to screw into the body of the device. This would cause some to think that a pipe wrench was required to tighten the relief valve into the body. The use of a pipe wrench on this type of relief valve assembly can damage the relief valve housing and render the relief valve useless.



Mark:

Because of the thread pattern, the relief valve would tighten up after only a few turns, and would leak causing some to use pipe dope to try and seal the threads. The newer relief valve has a thread pattern that allows the relief valve to thread into the device body with ease. The newer relief valve also uses an o-ring for a seal, so that no pipe dope is needed to seal the threads.

Jason:

So yes there is a difference in the two relief valve assemblies, but you will still be able to use the newer relief valve. There is an adapter coupling offered by Ames which has male threads that match the original thread pattern and female threads that match the thread pattern of the newer updated relief valve. This will allow you to use the newer relief valve on your existing assembly.