

The Repair Guys



MARK INMAN



DOUG TAYLOR

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.

Question

I have a 1" Febco model 860 reduced pressure principal assembly that is dripping from the relief valve and needs to be repaired. Can you give me some information on how to replace the diaphragm and seat disc in this relief valve?

MARK

If you are not familiar with how to repair the relief valve on this assembly, it can be a little tricky the first time. Before we get started, it is important to remember that discharge from the relief port does not necessarily indicate that there is a problem with the relief valve. Many times you will find that the discharge is an indication of a failed #1 or #2 check valve. It is always a good idea to trouble shoot the assembly first to verify the problem. After you have determined that the relief valve needs service, go ahead and close the inlet and outlet shutoff valves and bleed off the water pressure.

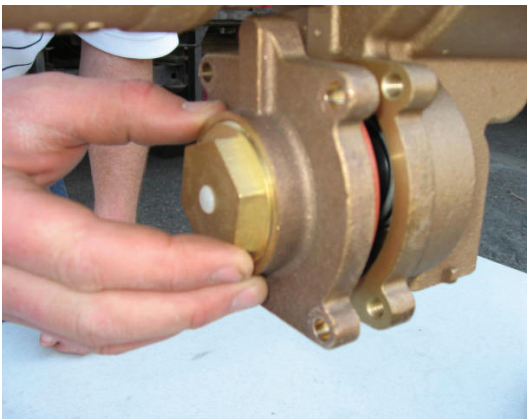
DOUG

The relief valve on this unit is located on the bottom of the assembly. The access cover for the RV has what looks like a brass nut that is located in the center of the cover. Loosen this nut by unscrewing $\frac{1}{4}$ turn counterclockwise. Then you can remove the relief valve cover bolts (2) and access cover. The relief valve is unique in that the RV module is attached to the access cover. The RV module has a large

diaphragm that you can see and a smaller inner diaphragm that is attached to the access cover. To remove the RV module from the cover, simply unscrew and remove the brass nut on the cover. Now you can grab the large diaphragm and module and pull away from the cover until the small diaphragm comes out through the hole in the cover.

MARK


Now that the module is separated from the cover, you can disassemble the module and replace the rubber parts. The RV spring is separate from the RV module. There is an allen screw located in the center of the module that holds it together. This screw must be removed in order to replace the seat disc and both diaphragms. You will notice that there are white plastic slip rings on either side of the small diaphragm that should be replaced. The relief valve seat is black plastic and located inside the body of the assembly. The RV seat simply slides into place and is sealed by a thin gasket that may need to be replaced. Be sure not to forget there is a small sensing line o-ring at the top of the RV cover.





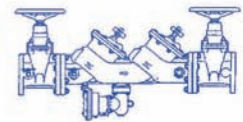
DOUG

Once you have replaced the rubber parts of the module you are ready to reassemble the module into the RV cover. You must shape the small diaphragm so that it forms a “tulip” shape. It can then be inserted into the RV cover. Make sure the two white slip rings are in place (one on either side of RV cover protecting the small diaphragm). A thin coat of food grade grease will help to hold them in

position. Make sure the small diaphragm is not creased or folded under the slip ring. Now you can screw (hand tight) the large brass nut into the cover. Turn the cover over and we can work on the large diaphragm. The large diaphragm must be formed so that the bead on the outer edge is seated in the groove of the cover. The module and cover are now ready to be installed on the assembly. The RV spring will be held in place between the module and the RV seat. 



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