

# the Repair Guys

## Preparation Can Be Key

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@backflow-parts.com](mailto:imark@backflow-parts.com) or mail us at American Backflow Products Co., PO Box 37025, Tallahassee, Florida 32315.

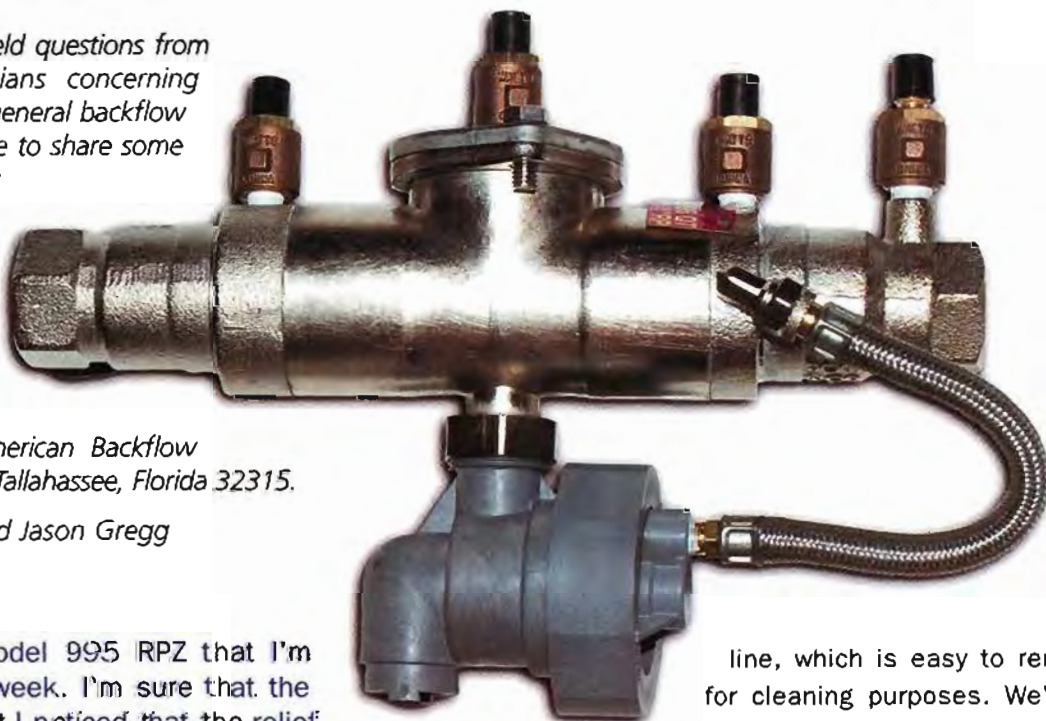
— Mark Inman and Jason Gregg

### QUESTION:

I have a 1-inch Watts Model 995 RPZ that I'm scheduled to repair next week. I'm sure that the repair will go smoothly, but I noticed that the relief valve had no cover bolts, so I thought that I would call to make sure that I don't get stuck at the jobsite without a clue. Could you give me some insight on this assembly so that I'll be prepared?

### Mark:

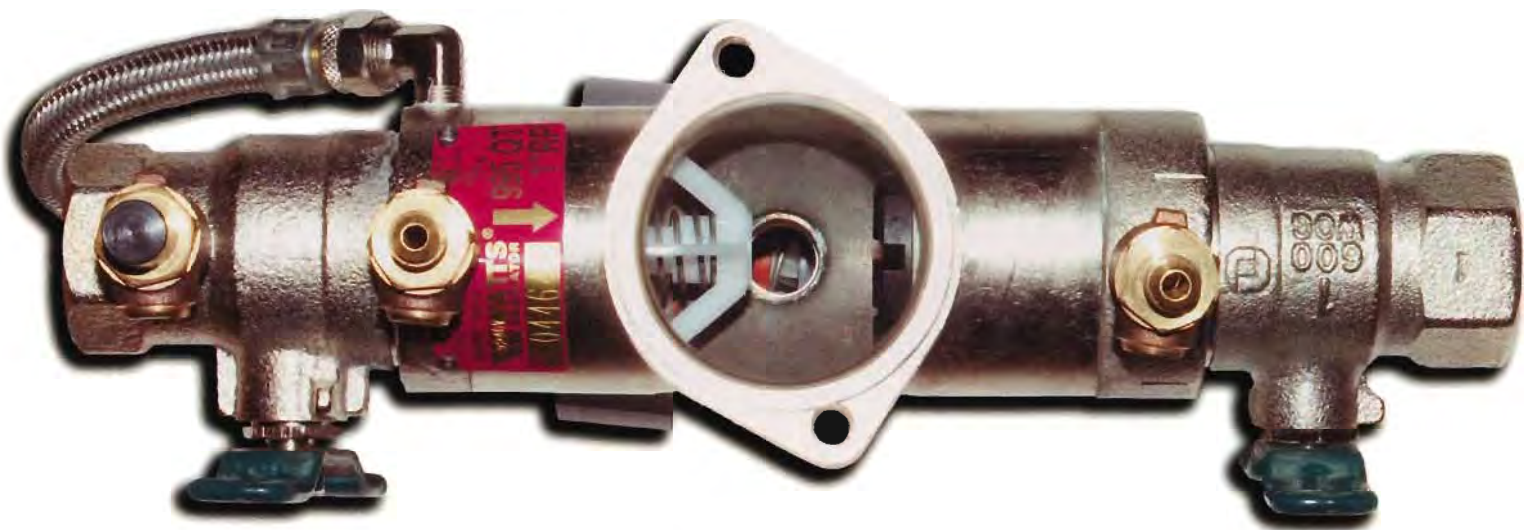
The 1-inch Model 995 QT is a relatively new design by Watts. This assembly utilizes a nickel-plated, copper body that helps with corrosion resistance. Both check springs are contained and the check valve modules are threaded into the assembly, which eliminates the use of a retainer. Both check valves are serviceable without the need for special tools. The relief valve (RV) body is plastic and the cover is held onto the body with a threaded union nut, which eliminates the need for cover bolts and speeds up the repair process. One more feature that you'll notice is the external stainless braided sensing



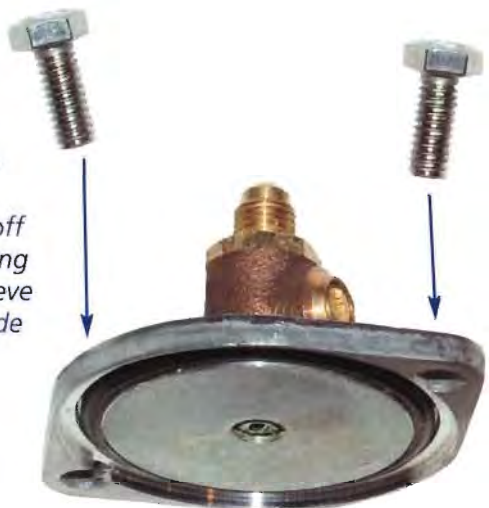
line, which is easy to remove for cleaning purposes. We'll go over a complete rebuild so that you'll have the information on hand when you make the repair.

### Jason:

We'll start by removing the number 1 check valve module. After closing both shut-off valves and bleeding any residual pressure through the test-cocks, go ahead and remove the two cover bolts, access cover and O-ring. To remove the module, you'll need to turn it counter-clockwise - maybe 1-1/2 to 2 turns - and then it's free. Pull the check module out of the assembly. Now we can disassemble the module. Grasp the check cage in one hand and with the other hand, push the seat inward and clockwise to unlock. With the spring tension removed, inspect and clean the seat, replace the disc holder and seat O-ring. You'll also notice a small white sleeve that



Remember to open the test cocks between the shut-off valves when repairing an assembly to relieve water pressure inside the valve body!



fits around the disc holder stem; this sleeve should be transferred to the new disc holder before reassembly. This little sleeve is a travel stop that allows the disc holder to only travel a set distance. Reassemble the check module in reverse order and set it aside for now.



Check 1 Module

repair — continues on page 16

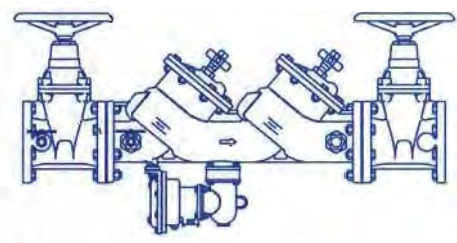


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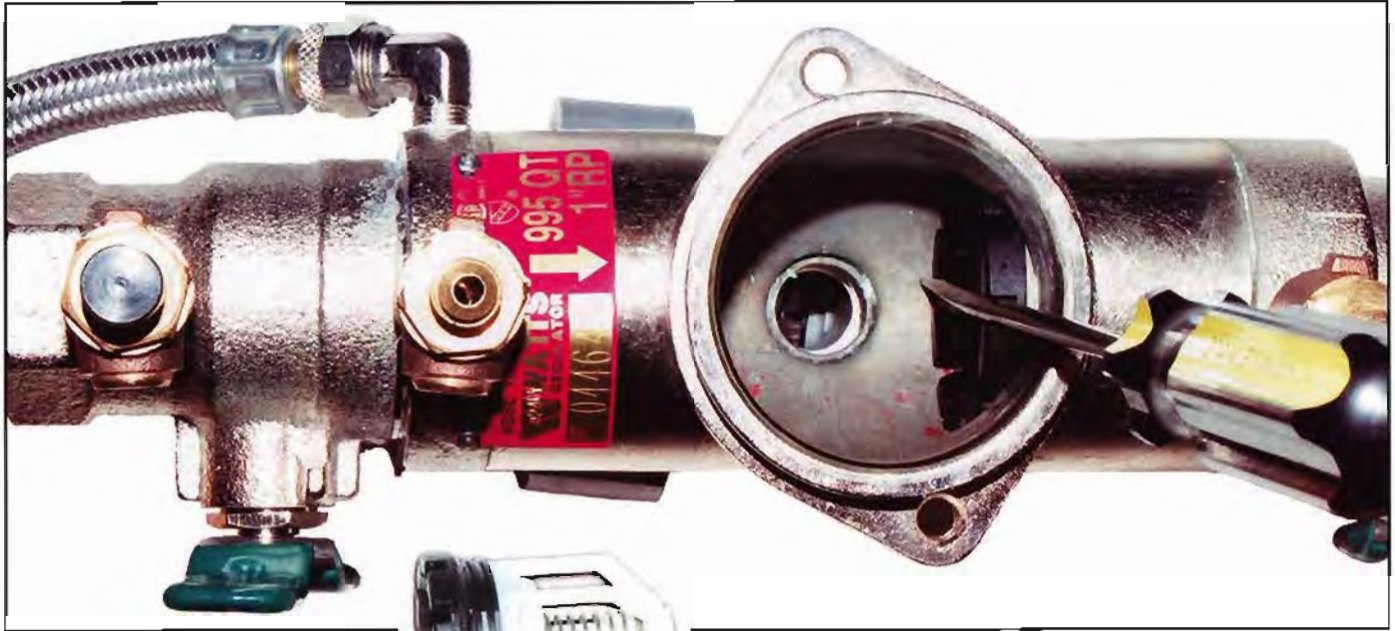
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Circle 101 on reader service card.



**Mark:**

To remove the number 2 check module, insert a screwdriver down through two of the slots provided on the check valve seat and turn the module counter-clockwise. Once the module is loose, slide it upstream and into the void of the number 1 check and then, bring it up and out of the assembly. To disassemble the module, grasp the cage in one hand, and with the other hand push the seat inward and turn clockwise to unlock. Inspect and clean the check seat, replace the disc holder and seat O-ring and reassemble in reverse order. Before placing the check valves back into the assembly, remove the sensing line and brass elbow from the assembly and inspect the sensing line passage. The passage hole coming through the device body is very small and is susceptible to being clogged under certain conditions. Clean if necessary and replace elbow and sensing line. Now, reinstall the check modules with the number 2 check threading in first followed by the number 1 check. Remember that these check modules are sealed by the seat O-ring; excessive tightening is not necessary.



Check 2 Module

nut removed, the cover, stem/diaphragm assembly and spring should come out of the RV body all together. To clean or replace the rubber components, remove the spring and pull the stem assembly out of the cover. Using two wrenches on the flats provided on the stem, loosen

and inspect or replace diaphragm. To remove the RV seat disc, grasp the white three-pronged guide and turn counter-clockwise to remove. The relief valve seat



is pressed into the body and can be removed by inserting a finger into the center of the seat and pulling outwards. Inspect seat and O-ring for wear and replace if needed. Reassemble the stem/diaphragm in reverse order and then snap the relief valve spring onto the stem. Center the spring over the seat, and insert the cover and stem assembly into the body as a unit. The locating pin in the relief valve cover should be aligned with the corresponding notch in the top of the relief valve body. Now, thread relief valve cover nut back onto body and tighten (hand tight). [dw&bp](#)

**Jason:**

To service the relief valve, simply remove the relief valve cover nut by turning it counter-clockwise. With the