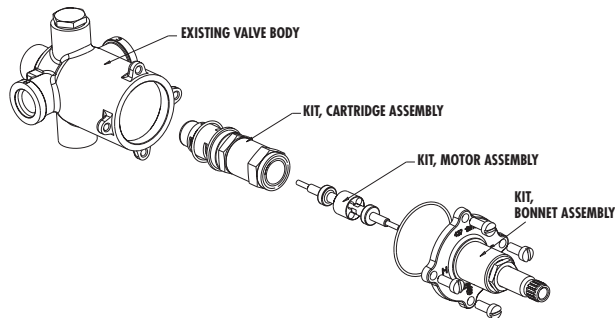


RETROFIT INSTRUCTIONS

The following instructions explain how to retrofit your existing 427/428 HydroGuard to the new, enhanced version which utilizes wax elements. The combination of these design concepts results in a valve with enhanced performance. See the exploded view of this new assembly below:

Figure 1



Before you begin your upgrade, take the time to ensure you have all the necessary pieces. Your retrofit kit, for each valve, consists of the following (refer to above diagram when taking inventory):

1. Cartridge Assembly (with one loose "O" ring).
2. Motor Assembly.
3. Bonnet Assembly (with one loose "O" ring).
4. Wrench (not shown).
5. Lubricant.

After you verify that you have everything needed to complete the retrofit, proceed with the next section.

Retrofit:

Follow the instructions below to perform your retrofit. Save all components until you have successfully completed your retrofit.

Disassembly:

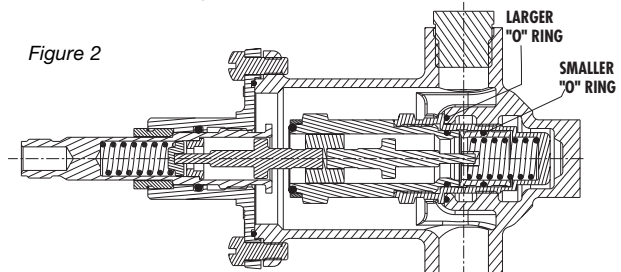
1. Remove the handle and trim plate.
2. Turn off hot & cold water supply-stops (required for this retrofit).
3. Remove 4 bonnet screws and bonnet assembly.
4. Remove internal components from valve body.
5. Using wrench (**225 350**), remove cylinder.
6. At this point you should have an empty valve body.

You are now ready to put the new components into your existing valve.

Reassembly:

1. Ensure the inside of the valve body is free of deposits and debris. Clean as necessary.
2. Look inside the body. If there are two grooves then install the smaller "O" ring on the cartridge as shown in *Figure 2* (model 3 or earlier). Otherwise, install larger "O" ring on to the "O" ring groove in the body.
3. Screw cartridge assembly into the body. Installation torque 150 in/lbs. (**Caution: Do not overtighten, it will effect performance**).
4. Assemble two motor with motor adapter and place it in the body.
5. Install bonnet assembly using four screws.
6. With handle, rotate the stem assembly clock-wise, until it bottoms out on the cartridge. At this point your valve is in the "OFF" position.

Figure 2



See cut-away above to see how everything goes together.

7. Turn the hot and cold water supplies back on and verify there is no leakage.
8. Maximum temperature setting adjustment must be set on the job based on application. For point-of-use applications, we recommend 110°F (43°C).
The high temperature limit stop is located on the bonnet. Rotate handle to the maximum desired outlet temperature. With an open-end wrench, screw high temperature limit stop into bonnet until it touches stem's shoulder. Close valve and open it to full hot to verify settings.
9. Install trim and handle.
10. Your retrofit is complete.

If you have any problems, comments, or suggestions, please contact your Powers representative. We are interested in feedback from the field.

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