

# Replacing Float Switch on Aqua-Hot

Replacing the float switch on an Aqua-Hot (Model 600D) or Hydro-Hot (Model 450DE) presents several challenges. At least 1 ½ gallons (2 gallons on Aqua-Hot) of coolant needs to be removed from the tank, the bad switch replaced, and then the coolant needs to be pumped back into the tank.

You should turn off the electric (and diesel) switches in your coach. It may take 24 hours for the coolant to cool to outside temperature or 1 - 2 hours for the coolant to cool enough so that you can work with it comfortably.

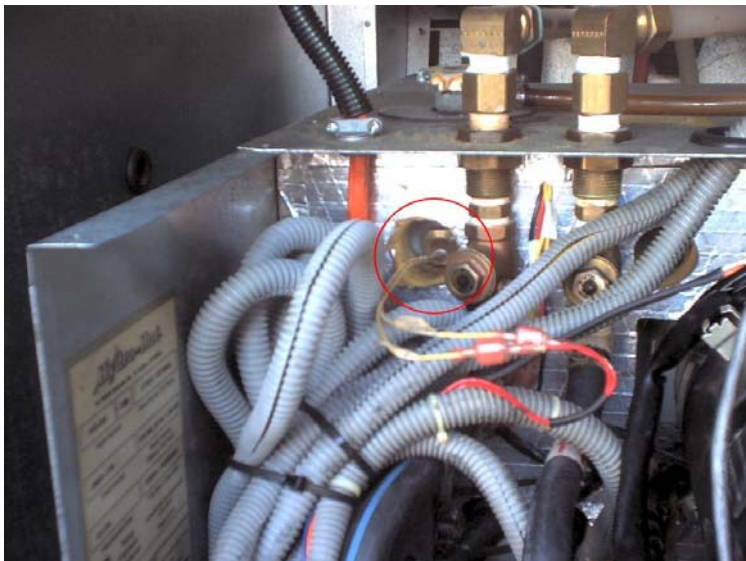
Before removing the coolant from the tank you need to make absolutely sure that the electric element is not turned on and cannot be accidentally turned on. You should also turn off the circuit breaker for the electric portion of the Aqua-Hot in the electric panel in your coach. It should be on its own 15-amp (or possibly 20-amp) breaker. If the electric element turns on when there is no coolant surrounding it, the electric element will immediately fail.

**Caution:** Make sure that you allow Aqua-Hot to cool before beginning work. When the Aqua-Hot is at operating temperature do not remove the cap, the coolant is at 200° F.

## Removing Coolant

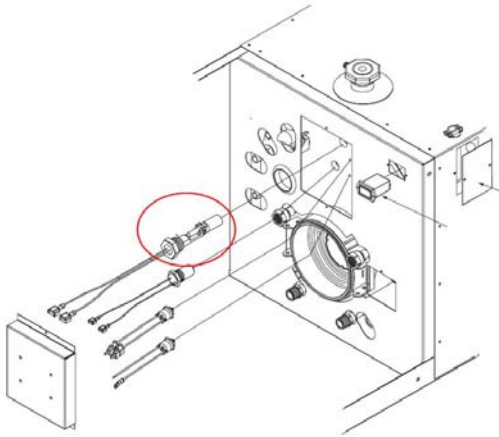
You will need to remove the cover from your Aqua-Hot and on some units you will need to remove the diesel burner head from its mounting on the burning chamber. If you can reach and remove the float switch comfortably (like the photo below), you do not need to remove the burner head.

You can get more information about removing the diesel burner head, either in the shop manual for your specific model or in the Model 450DE shop manual. Here: <http://www.aqua-hot.com/b2c/ecom/ecomEnduser/staticpages/documents/HHE-07E-MHydro-HotShopManual07-03.pdf> Section 8.2, Page 42 (actually page 45 of PDF).

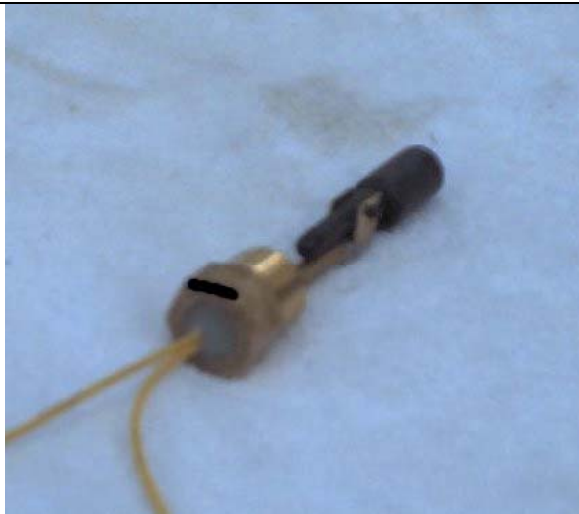


Hydro-Hot with float switch circled.

# Replacing Float Switch on Aqua-Hot



Drawing of Aqua-Hot 600D and similar models. Float switch is behind cover.



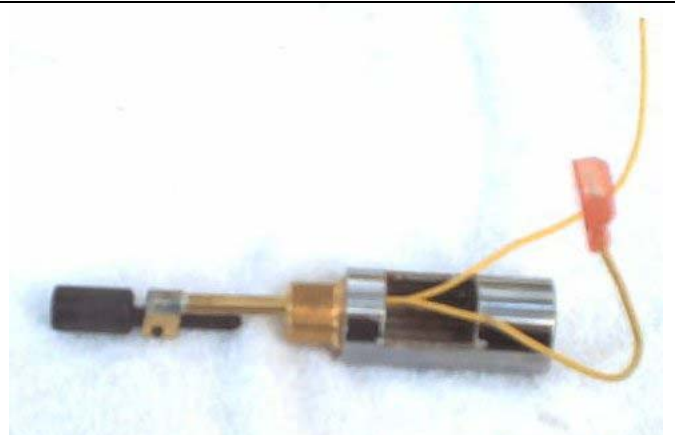
This is the position of the float when properly installed in your unit. Note the felt pen mark on the nut to assist you in orientating it. Felt pen mark will go at the top.



This is another view of what the float switch looks like when installed. Note the position that the float will be in when coolant does not close it.



To get the float into the boiler tank, you will need to turn it upside down (as shown in the photo above). Carefully feed the float into the port on the tank then tighten until in the correct orientation.



This is the modified 7/8" deep socket that we use to simplify installation.

# Replacing Float Switch on Aqua-Hot



Float Switch – Part number ELX-01G-ML7  
You have to use this float switch on some of the older Hydro-Hot units because the float on the new style switch will not fit into the tank.



Float Switch - Part number ELE-800-002  
This is the newer more robust float switch. Use this switch if you have a choice.

Once the coolant is removed, it is pretty easy to replace the float switch. If you have the old style float use a 5/8-inch deep socket. If you have the new style float use a 7/8" deep socket. You may cut the wires to make the float easier to remove.

You should put plenty of Teflon tape on the threads of the float. At least 3 or 4 layers. Turn the float in the upside down position (see photo above) and carefully feed it into the port in the boiler tank. When you get the float inside of the tank, carefully start switch in the threads and screw finger tight. Use deep socket to tighten in place. If you **CAREFULLY** tuck the wires inside of the deep socket, you can tighten the float. Note that the float needs to be in the correct orientation (as shown in photos above) for proper operation.

Connect the wires (they are not polarized, so don't worry about mixing them up). Replace coolant (you may need to add some coolant due to spillage). Install the radiator cap. Check for leaks, and then reinstall diesel burner head (if removed). Remove jumper on control board, if the switch was jumpered.

Check to make sure that everything has been re-installed, and then fire up the diesel burner and optionally the electric element.

Allow Aqua-Hot to come to operating temperature, then make final leak check, before reinstalling cover.

## Special Tools Needed:

7/8 deep socket.

Drain hose

Bucket(s) or container(s) for coolant

Towels or rags to clean up spillage

Teflon Tape

# Replacing Float Switch on Aqua-Hot

Parts Needed:

Float Switch  
Teflon Tape

Time Required:

About 2 hours

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