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## Rebuilding an HLF 700 Series Boiler



### Tools Needed

Power screw Driver  
#2 Philips head bit  
4mm hex bit  
8mm open end wrench  
Pliers

The boiler will be hot! Turn off the machine and let it cool before proceeding.

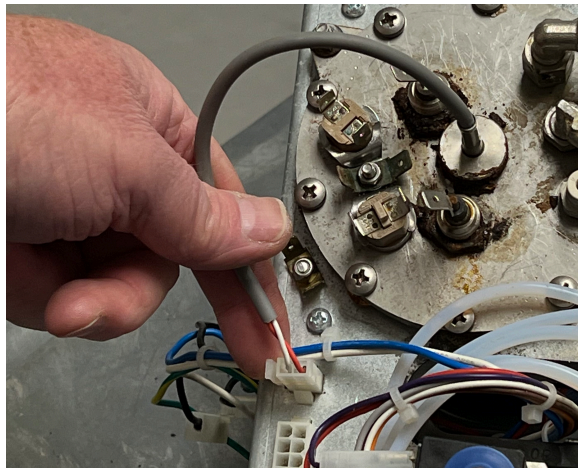
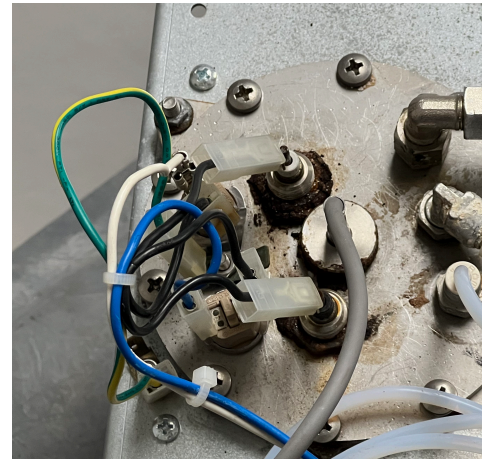
Remove the module following the video instructions here:  
<https://youtu.be/FI3a0xLwaKI>



**NOTE: DO NOT ignore the instruction to turn on Heating Control!**

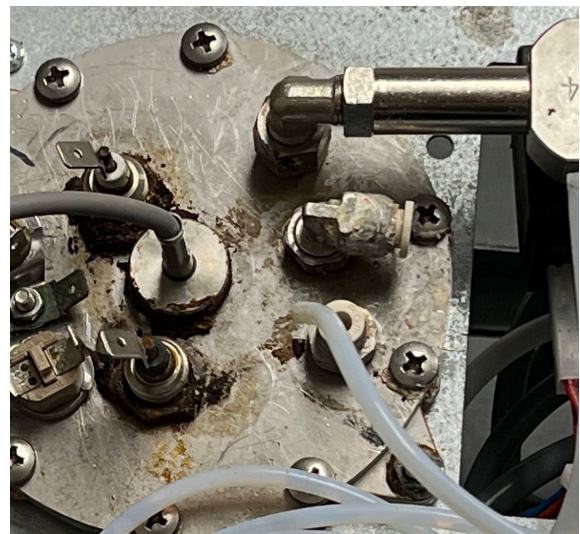
This forces the machine to fill the boiler before putting power to the heating element. If not done, the heating element will burn out immediately!

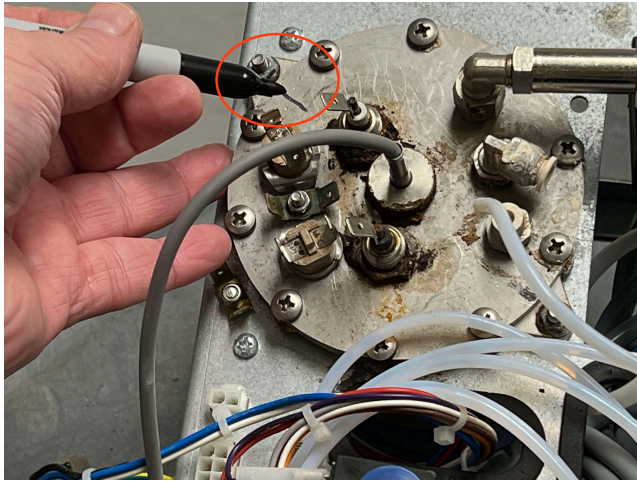
Disconnect the electrical connections on the top of the boiler. Mark them and or take a reference photo to help get them back where they belong.



Disconnect the Temp Probe

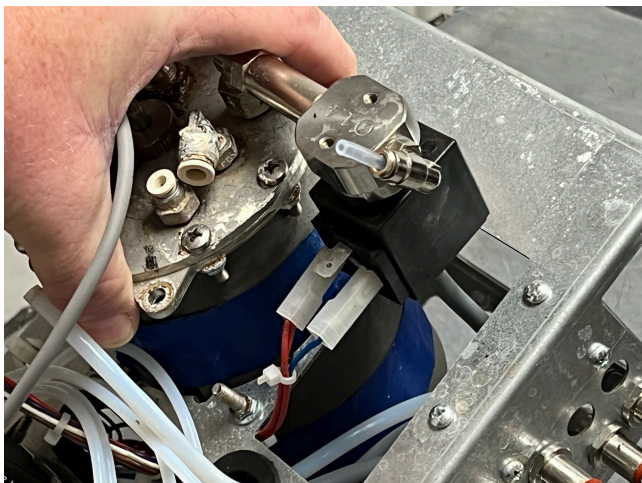
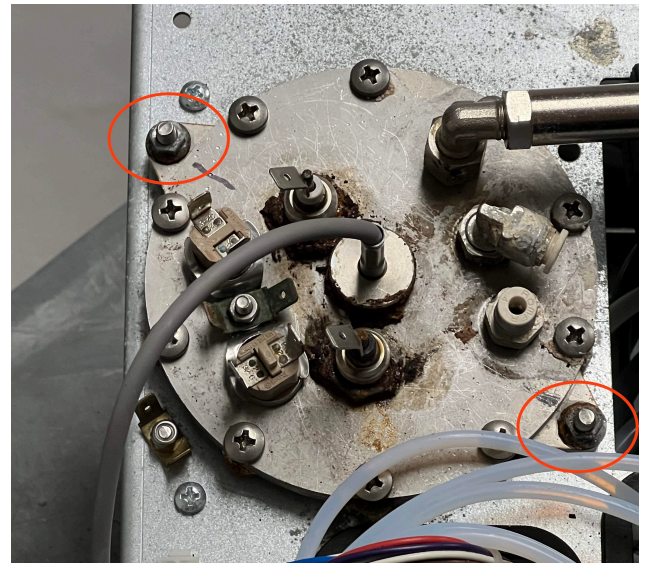
Disconnect the hoses  
The two teflon hoses have quick release collars. Pull the hose while push the collar in.



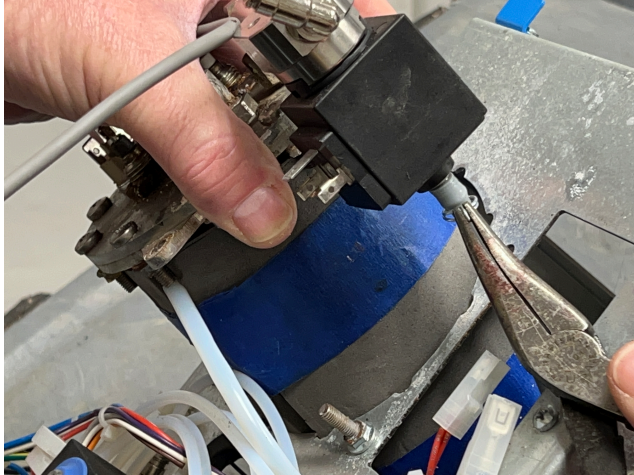


Mark the top of the boiler next to the nut as shown to help orient the top properly during reassembly.

Undo these two nuts and lift the boiler out of the frame. (Note the orientation mark)



As you're removing the boiler from the module, undo the electric connection for the valve.



Use a pair of pliers to release the retaining ring and remove the silicon discharge hose.

Once the boiler is out, you'll remove the nuts and bolts holding the top. The boiler is full of water, so either let it drain through the hoses or open it carefully and pour out the water.

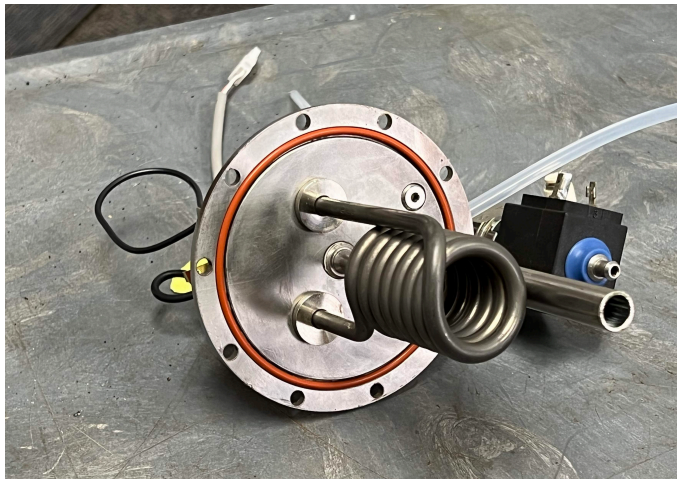


Remove the temp probe, heating element, and any fittings you are going to replace. Examine the inner side of fittings — they can become clogged with hard water scale.

For the temp probe, we strongly recommend using several layers of plumbers teflon tape on the threads before adding the o ring.



If you have any all metal quick release fittings, we recommend replacing them with the newer design. Tape is not needed on these fittings.



The reassembled top. Note the orientation of the heating element vs the temp probe in the center. It won't fit properly if the heating element is reversed.



Including the Heating Disk orientated as shown is essential to proper function.



To keep the Heating Disk and main o ring in place, we hold the top plate upside down and slip the shell on as shown.

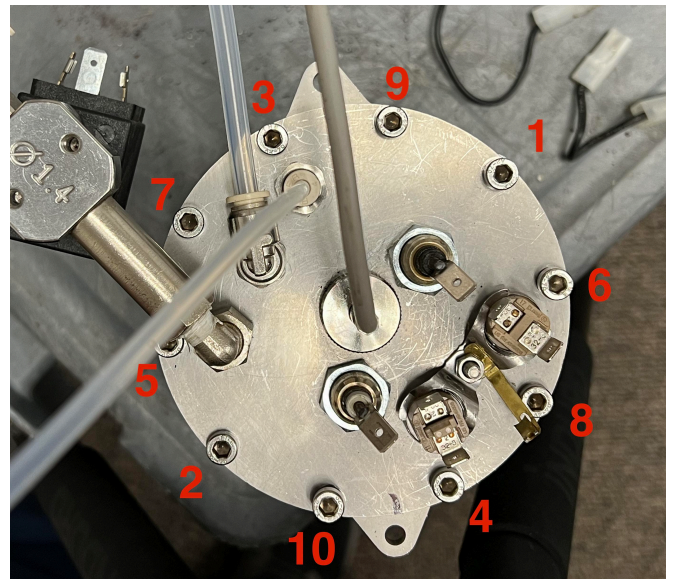
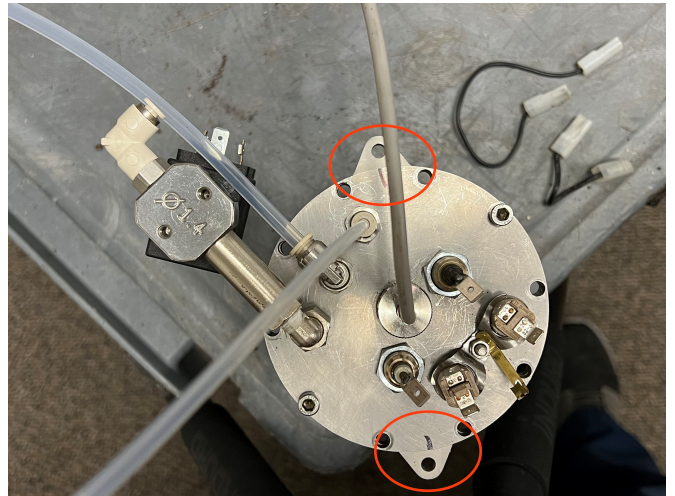
Line up the reference marks and put in two bolts (finger tight) to hold everything in place while you get the rest of the bolts in.

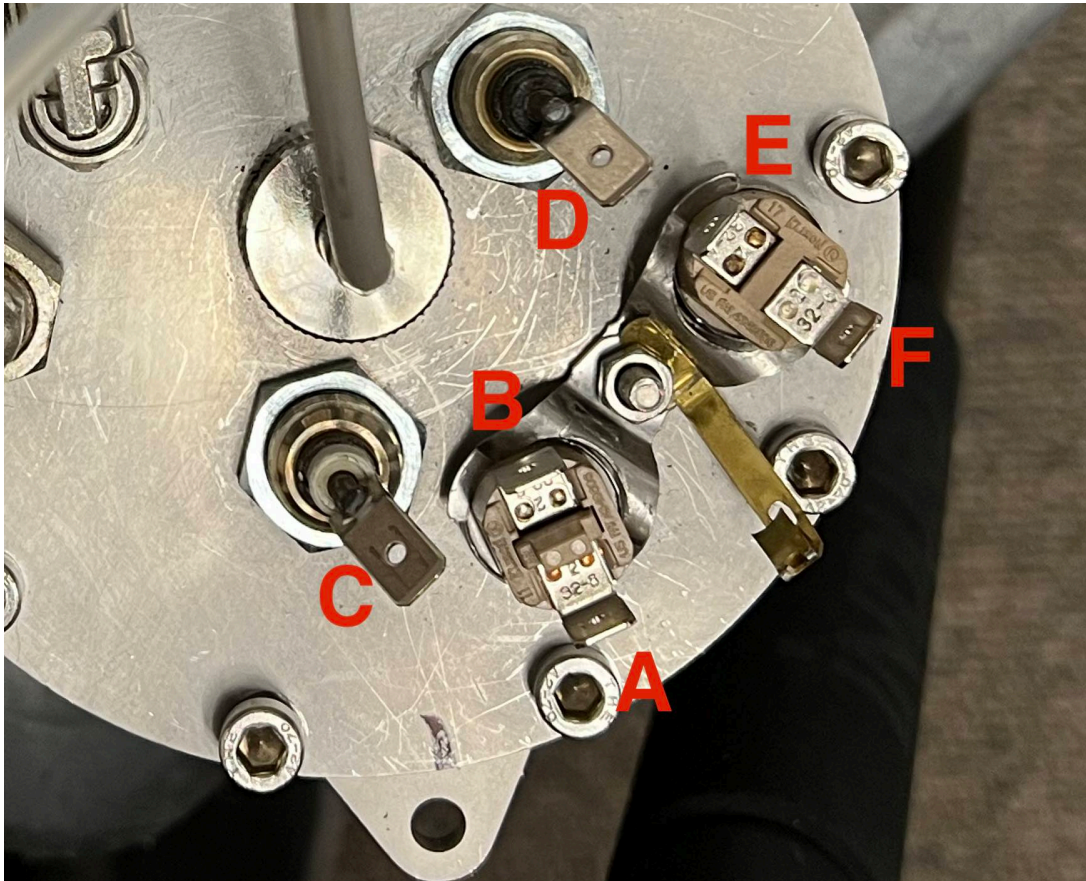
You may find it easier to get the nuts in if you remove the thermal blanket.

Once all the nuts and bolts are in place and finger tight, give them a final tightening in this order. (The o ring can be squeezed out of place if all the bolts on one side are tightened while the other side is loose.)

Next, replace the thermal blanket and replace the boiler in module — reconnecting the silicon discharge hose and electrical connections as you do — and replace the two nuts that hold it in place.

Now it's time to reconnect the electrical connections. We recommend carefully cutting the zip tie so the two black jumpers can not be confused.

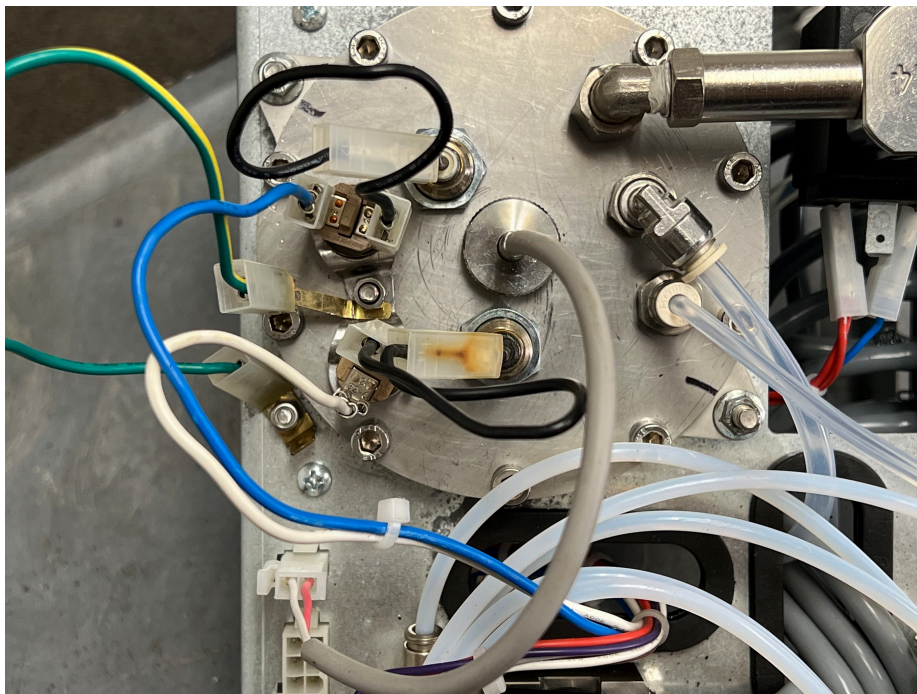




- A. Blue Wire to one side of thermostat
- B. Black jumper from other side of thermostat to Heating Element C.
- D. Black jumper from other side of heating element to Thermostat E.
- F. White Wire on other side of thermostat

Connect the Green/Yellow Ground wire from the brass tab between the thermostats to the brass tab on the boiler module frame.

Connect the Temp Probe and the Teflon hoses.



This photo shows the boiler back in the module with the electrical connections, ground connection, temp probe connected and teflon hoses connected.

The teflon hoses go in with a 2 stage push. They go in a bit, but then will go further with another push. That further push is essential to keep it from leaking or even coming off completely under pressure. When properly attached, you should not be able to pull the hose free.

From here, continue with the instructions in the video on how to replace the module.

**MAKE SURE YOU HAVE TURNED ON 'HEATING CONTROL' BEFORE YOU CONNECT THE ELECTRICAL CONNECTIONS FROM THE MACHINE TO THE MODULE!**

Unless the physical location makes it impossible, we strongly recommend leaving the back off and making a couple espresso and Americanos. These drinks build up the most pressure and are most likely to reveal any leaks in the system.