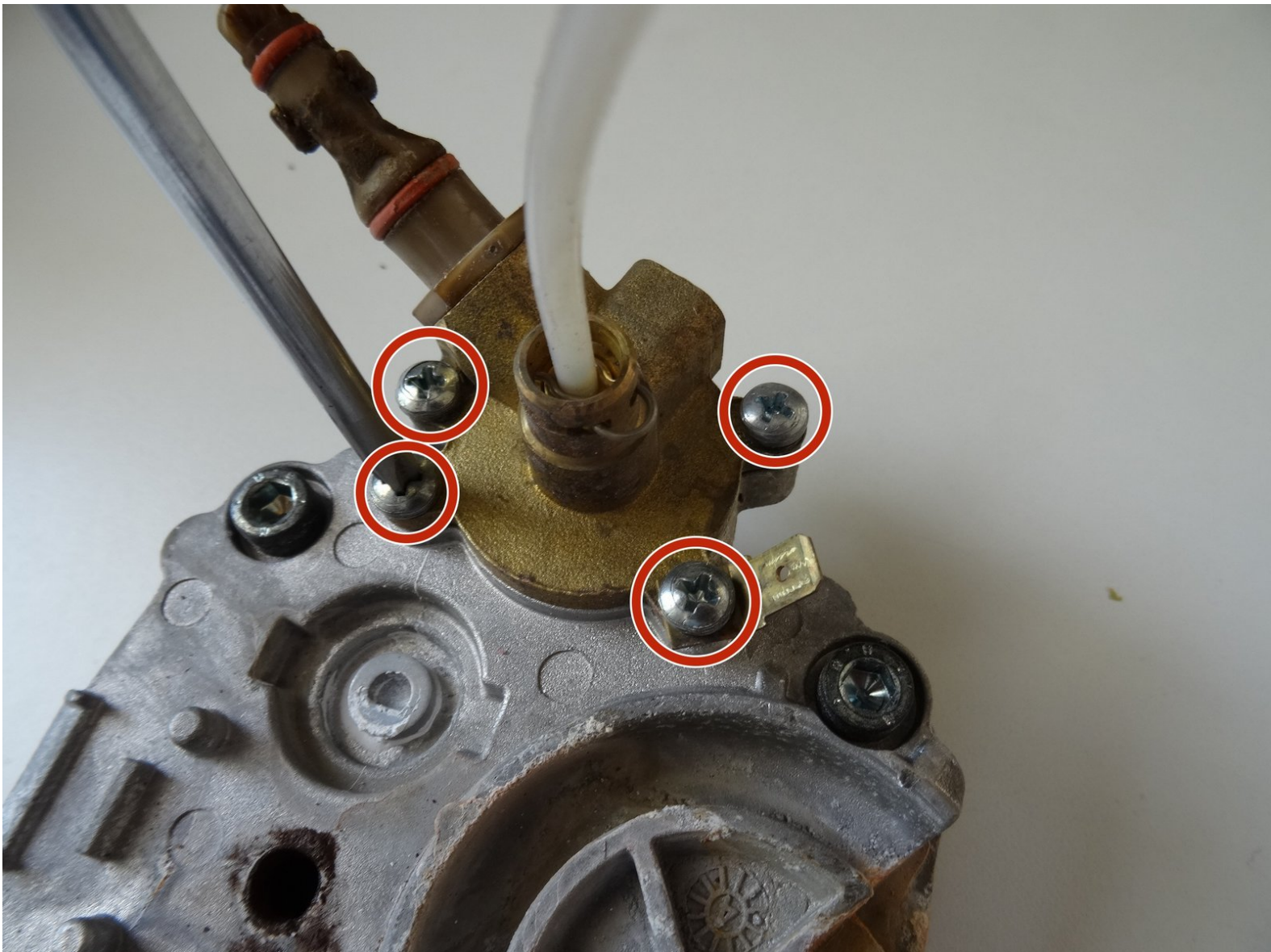




Saeco Royal support valve on the thermoblock

Removal of the support valve on the thermoblock of a Saeco Royal

Written By: VauWeh



INTRODUCTION

The support valve is heavily used, as it docks with each cup of coffee inlet pipe of the brewing group. During a revision, you can replace the seals and inspect or replace the internal components. You have to open the machine and remove the thermoblock. There are units from the Royal series in which the support valve is not mounted to the thermoblock. On those it is sufficient to replace the valve alone.



TOOLS:

- [Phillips #2 Screwdriver](#) (1)
-

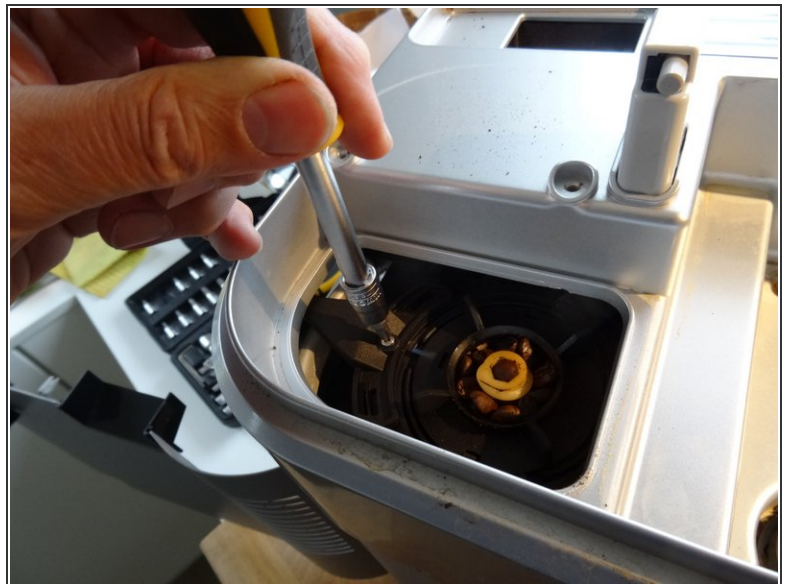
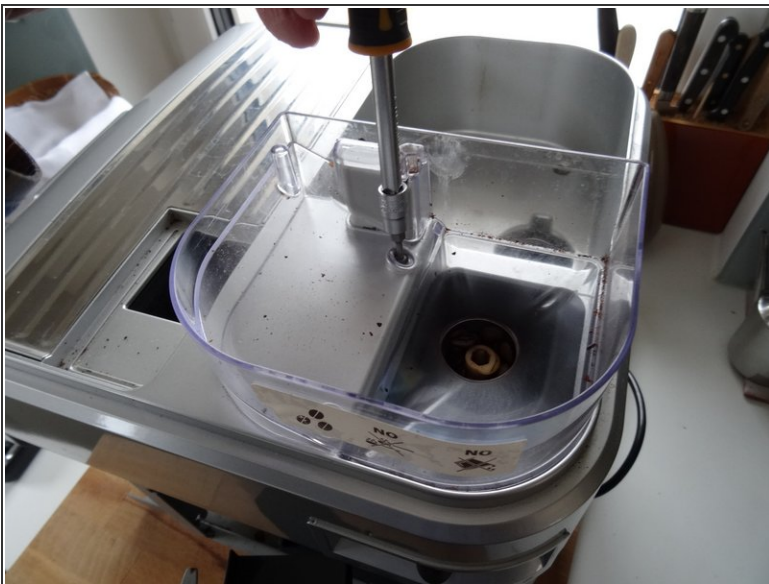
Step 1 — Preparing



 **Unplug!**

- Remove all attachments like water tank, brewing unit etc.

Step 2 — Top



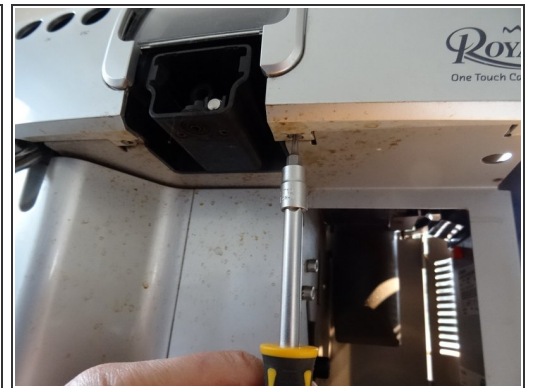
- The coffeebean supply is fixed with two screws. Unscrew them and lift it off.
- The adjuster of the grinder has to be solved. Mark the position or just take a picture. This type is fixed with a screw, others are only stucked together.

Step 3 — Rear side



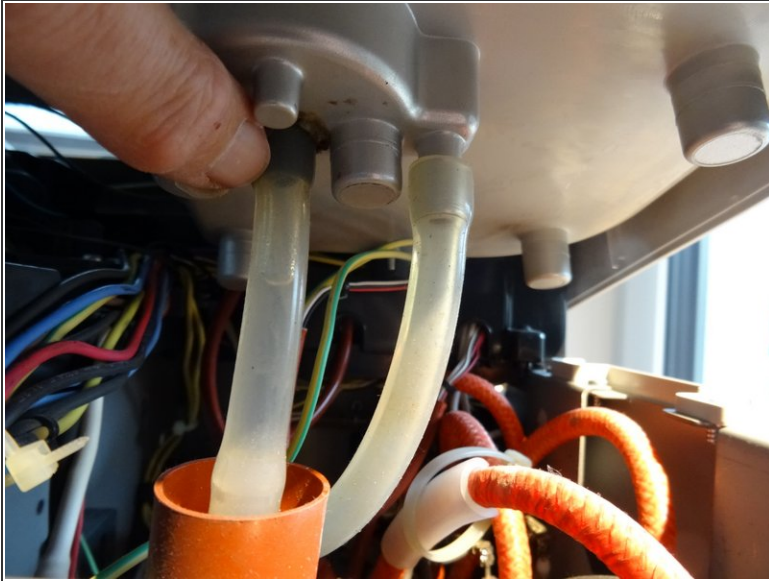
- There are two screws to be turned out.

Step 4 — Front



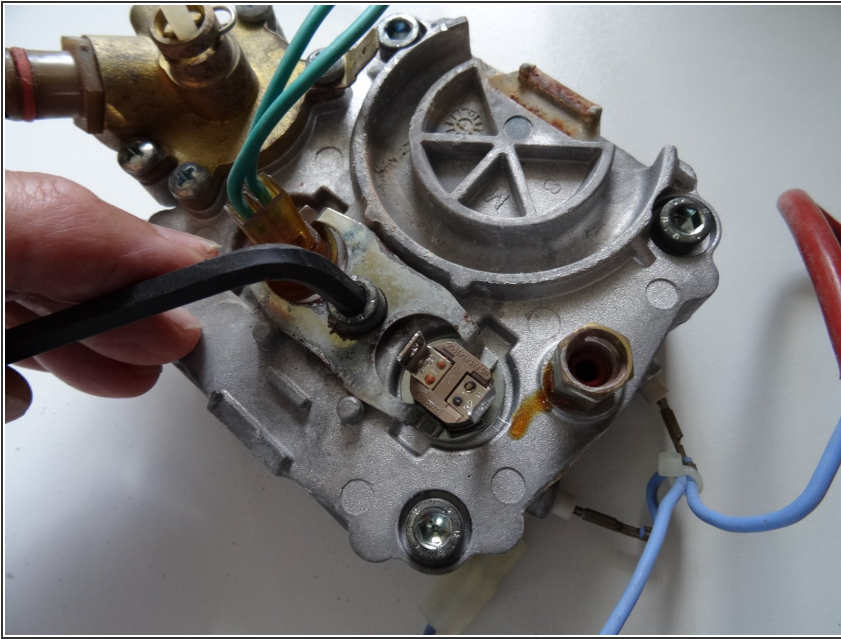
- The screws are situated on the underneath of the cover. This type is held by four screws.

Step 5 — Lift cover off



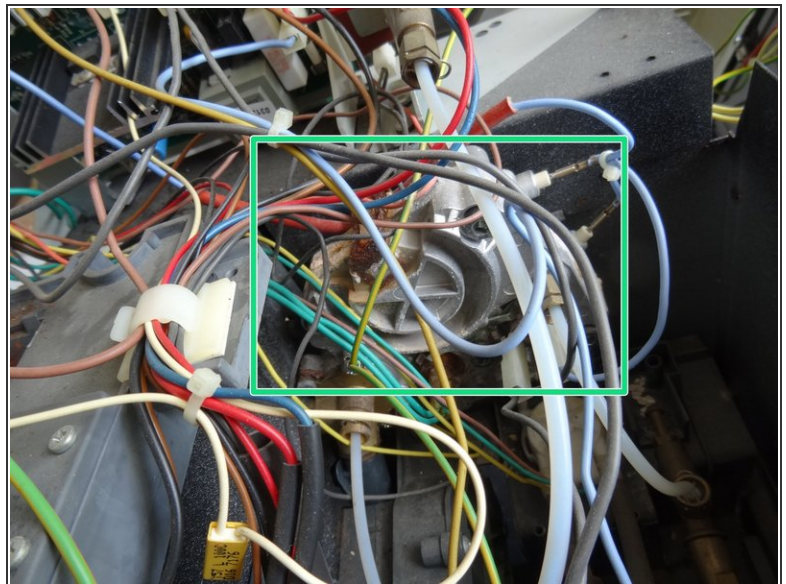
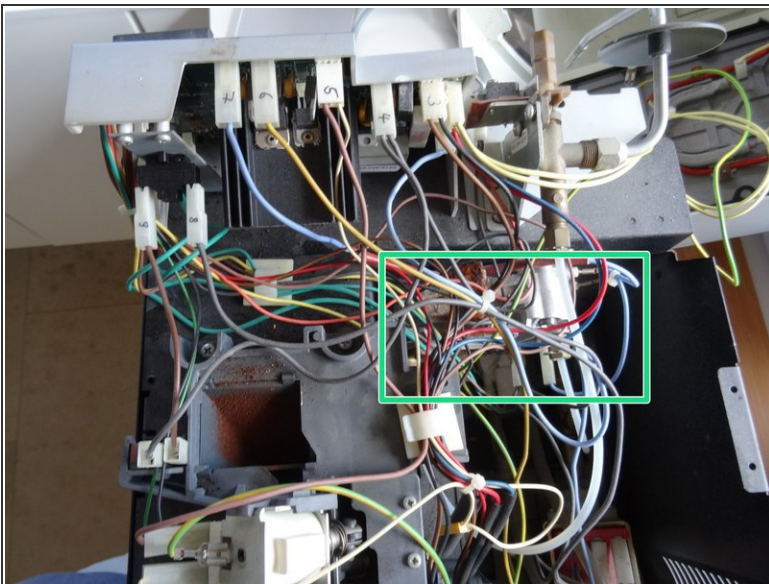
- Now the cover can be raised: first grip on left and right rear side and lift about 10 cm (4 in). Sometimes the cover jams a little bit.
- Solve the hoses which lead to the water tank. Perhaps you have to pull out some contacts, (e.g. the yellow-green protection lead), don't forget to put them on again later.
- The cover can be drawn aslant towards the front, sliding it over the hot water pipe.
- Most repairs can be done with the cover being laid up partially , it must not be completely removed.

Step 6 — Remove thermoblock



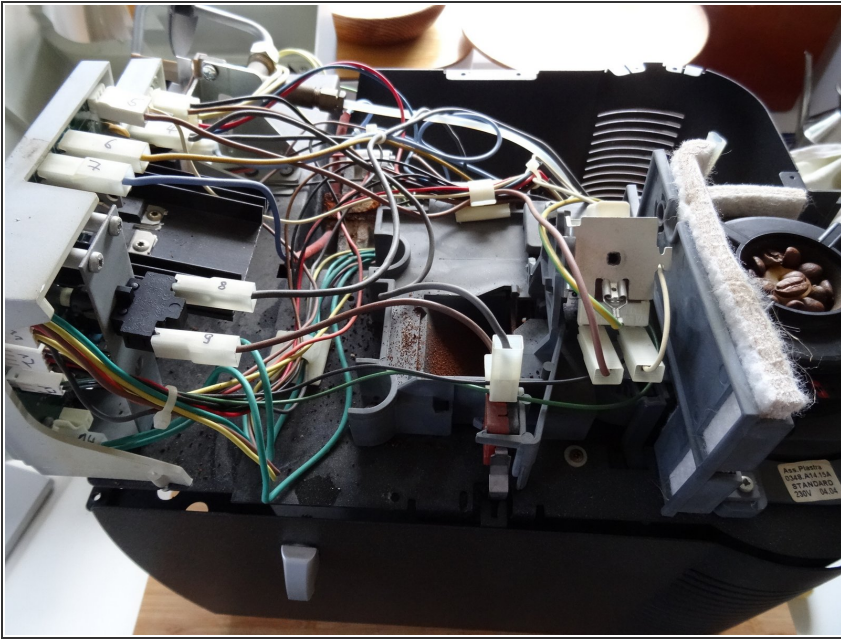
- This is what the removed thermoblock looks like. This one was 14 years old and leaking in various places.

Step 7



- A look into the open device. The thermoblock is hidden under a pile of cables and tubes.

Step 8



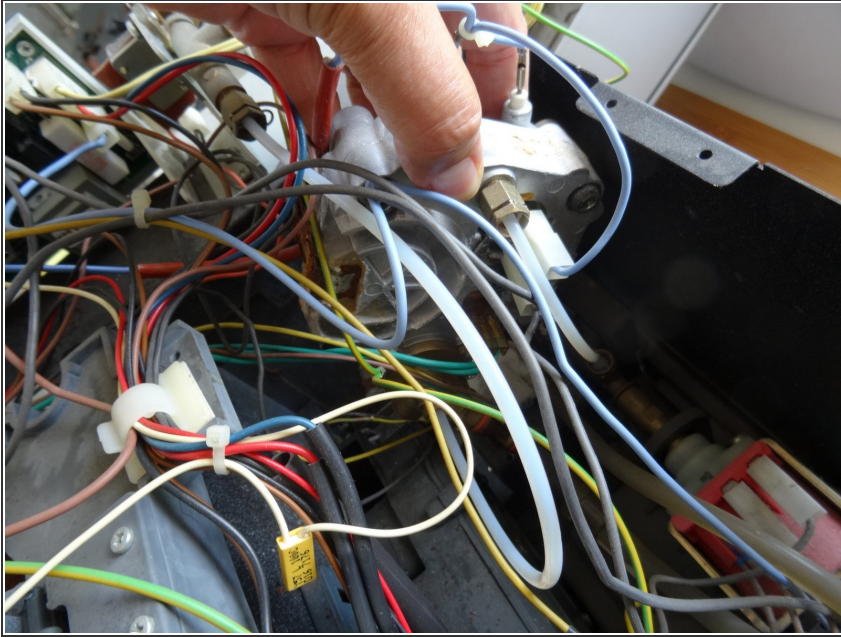
- It's safer to number the cable connectors on the electronics. You probably just need to disconnect the slightly hidden # 14 connector on the two green cables at the very bottom and # 7 on the blue cable on the top.

Step 9




- The thermoblock is attached to the wall behind the brew group with only two Phillips screws.
- Remove the two Phillips screws circled in red.

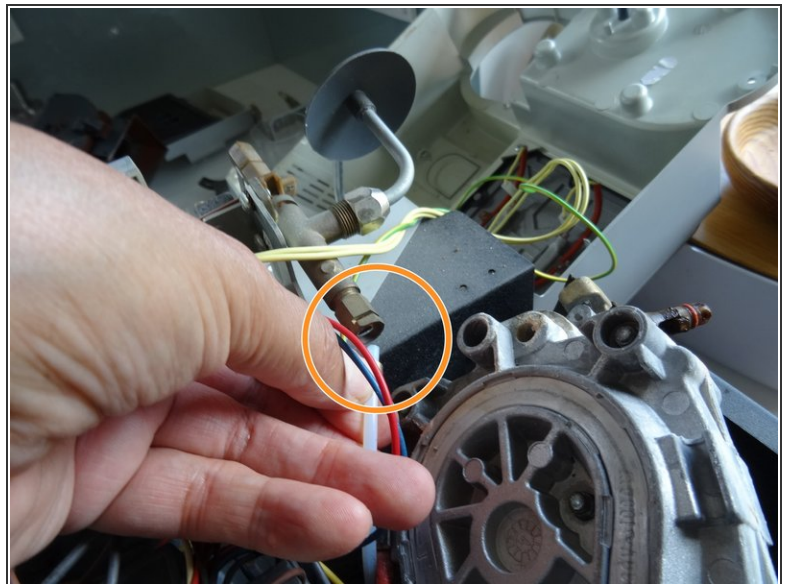
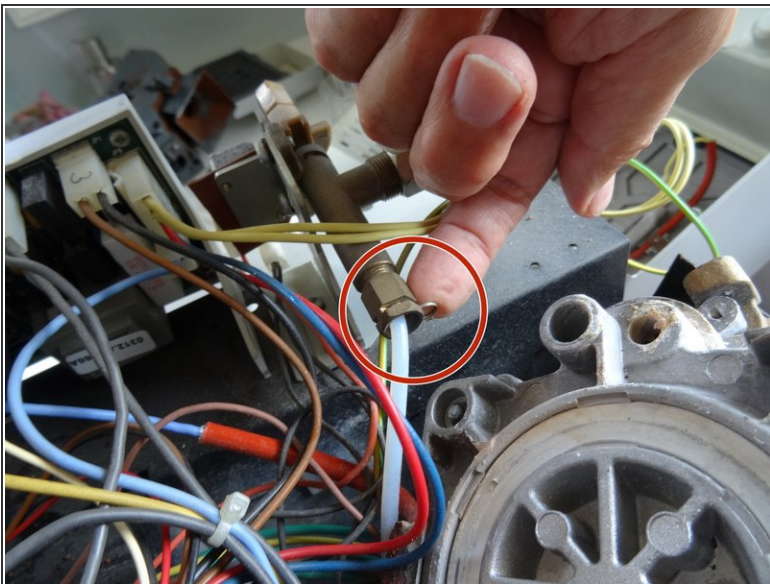
Step 10




- Take out the thermoblock and place it on the machine.

 Hold on! The thermoblock is still connected to the machine by many cables and hoses. Don't attempt to completely remove it just yet!

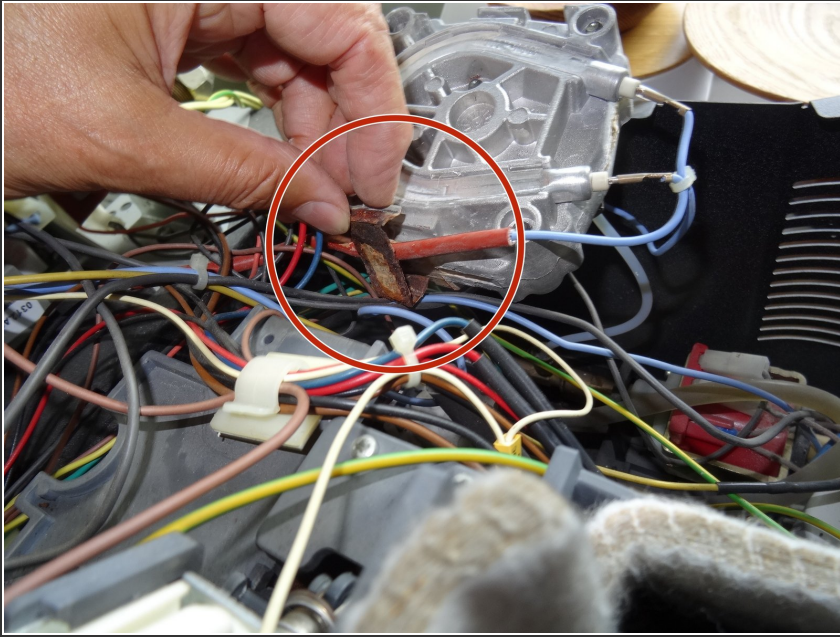
Step 11



- Pull the clamp on the hose to the steam valve off.
- Pull the hose circled in orange out.

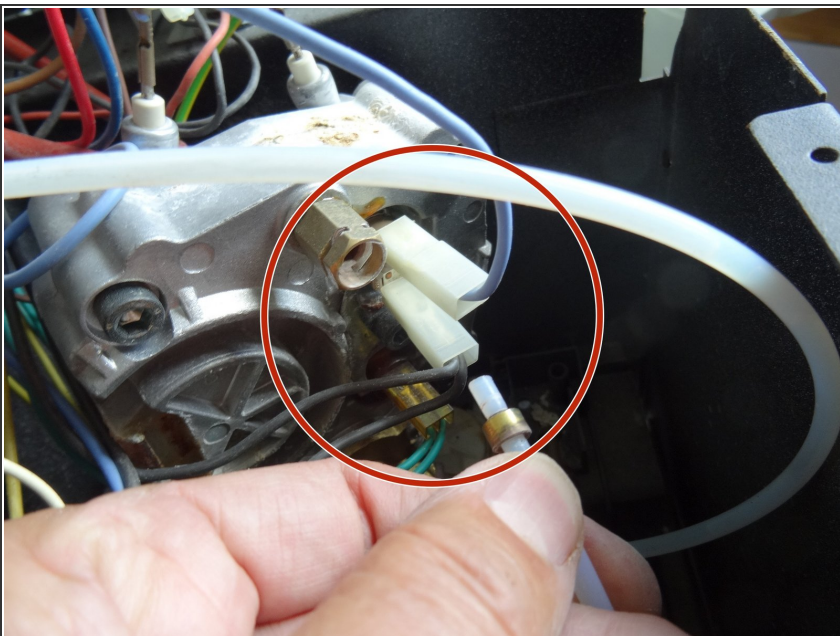
 There are two seals at the end of the hose that stick to the hose. Exchange them during re-assembly.

Step 12



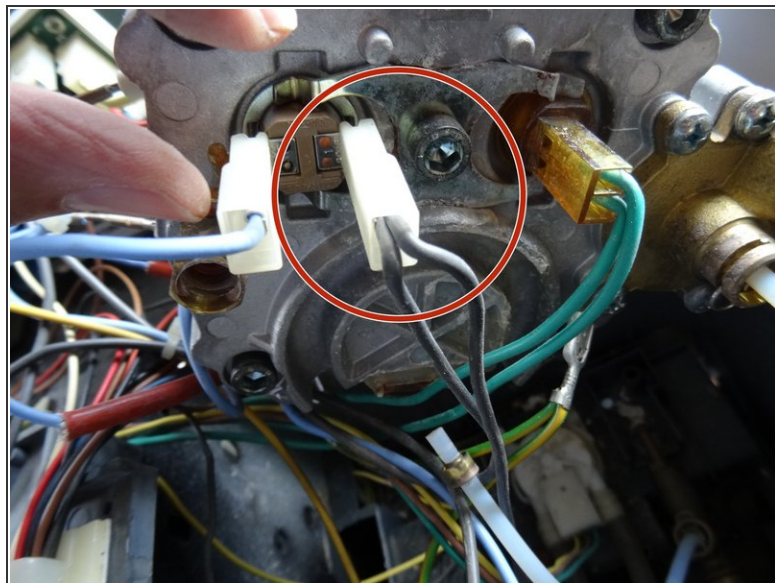
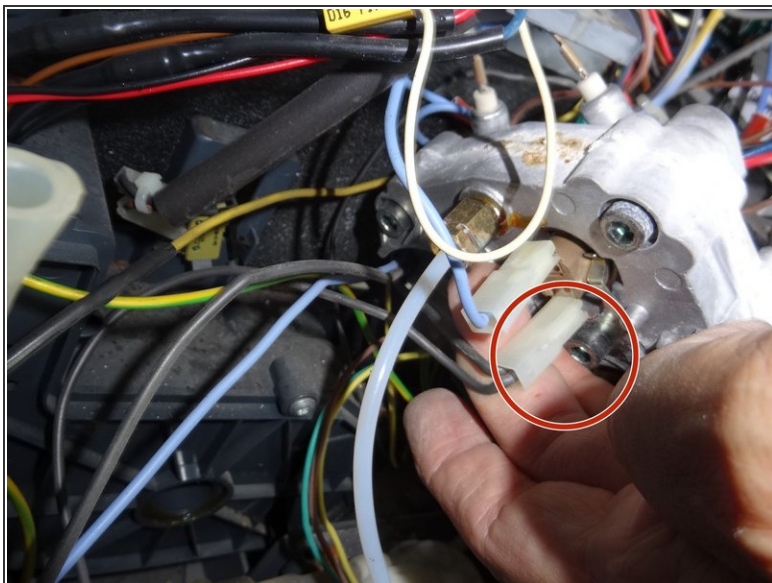
- Remove the metal holder of the thermal fuse.
- ⓘ My thermal fuse holder is heavily rusted, this may or may not be the case for you.

Step 13



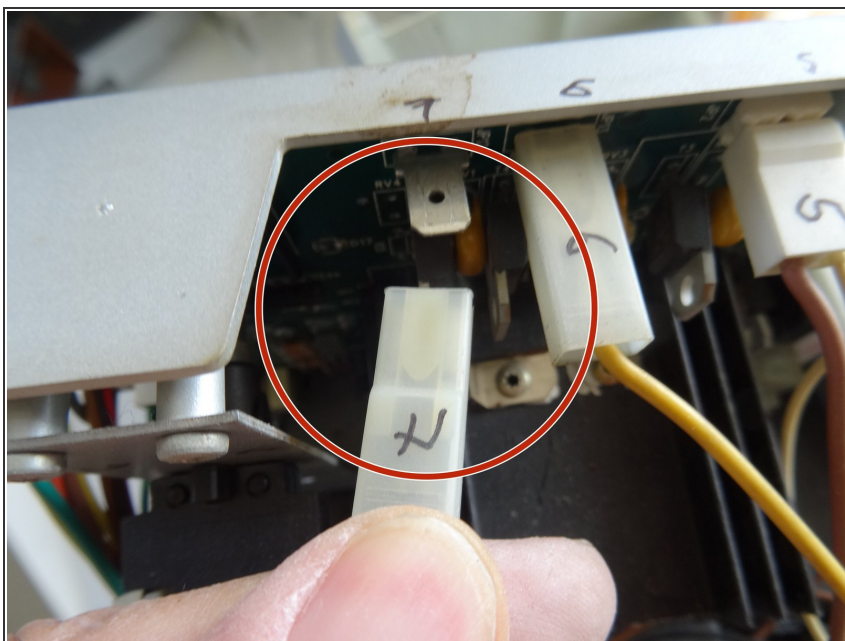
- Pull first the clamp, and then the second pressure hose out of the thermoblock.
- ⓘ There are two seals at the end of the hose. They stay stuck either at the end of the hose or afterwards, so don't try to remove them. Exchange them during re-assembly.

Step 14



- Disconnect the connector with the two gray cables from the thermal switch.

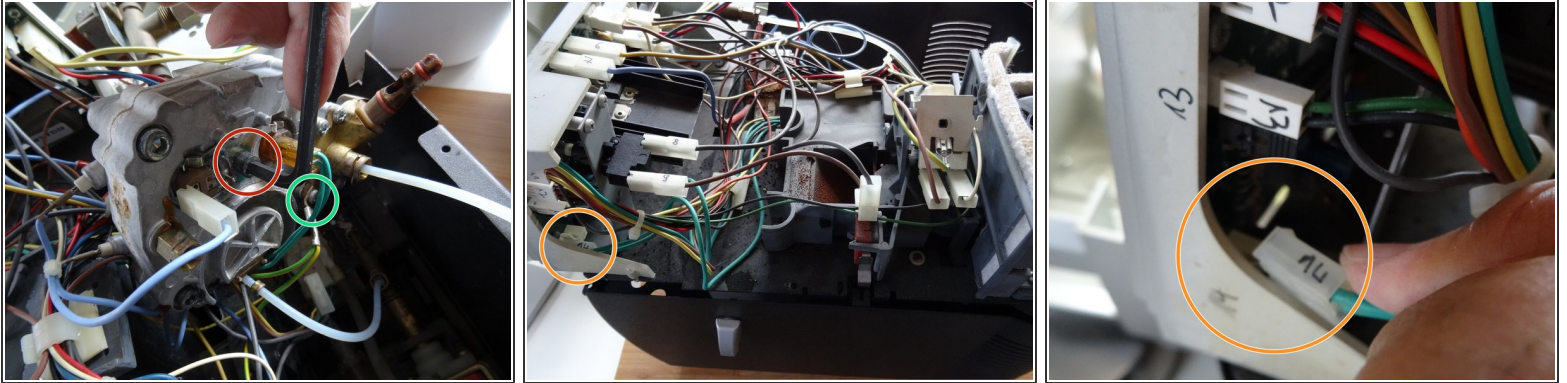
Step 15



- The blue cable from the thermoblock leads to the connector on the electronics, which is marked with 7

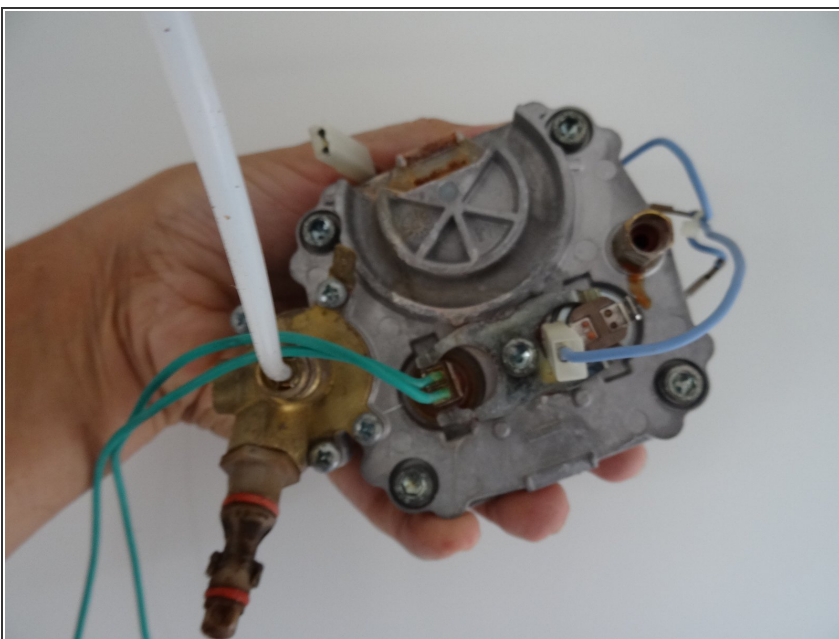
here. This particular plug stuck a lot, so force was required to pull it out.

Step 16



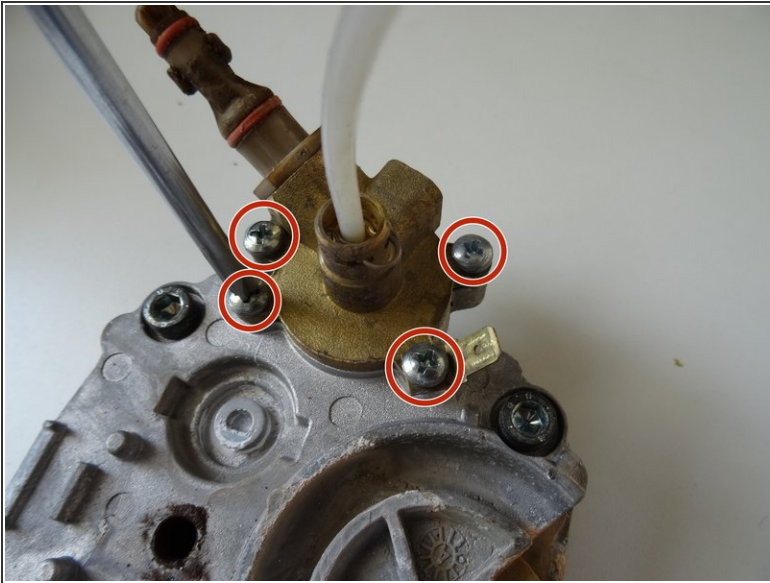
- The Allen screw, which holds the holder of the two thermocouples, was not easy to open...
ⓘ This can also be a Phillips screw. It may vary which appears for you.
- Therefore, the plug on the electronics with the two green cables was pulled out. The plug has the mark 14 and is at the very bottom of the electronics.
- Disconnect the plug with the yellow-green grounding wire from the support valve.

Step 17



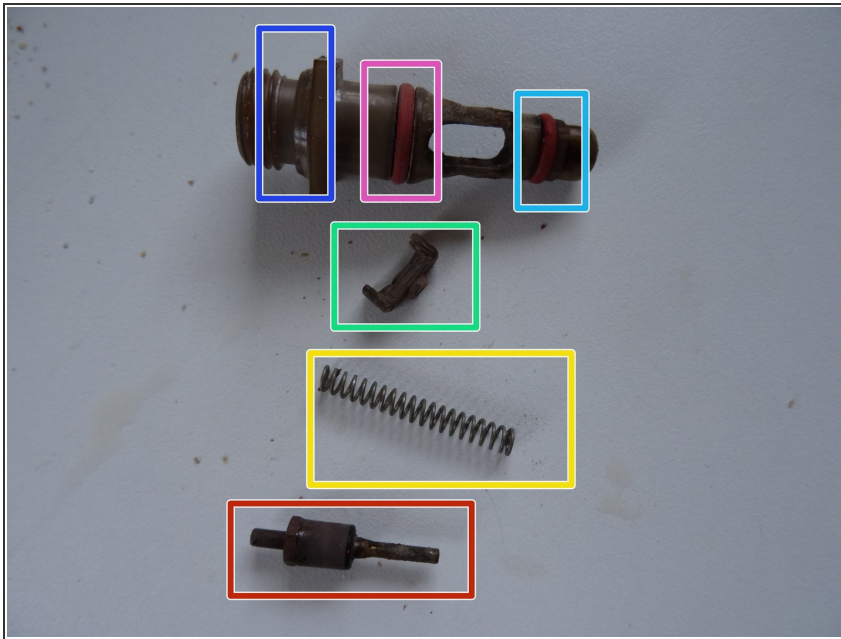
- Thread the green and blue cables out.
- The thermoblock is free. Lift it out of the machine.
- ⓘ To replace the thermoblock, the attached components must be removed from the old block and transferred to the new part.

Step 18 — Support valve on the thermoblock



- Remove the four Phillips screws securing the support valve.
- ⓘ Pay attention to the connection tab for the grounding cable and keep it safe since it will be needed again.
- Lift the unit with the support valve out of the thermoblock
- ⓘ The unit is sealed with an O-ring in the thermoblock. Clean the sealing surfaces before re-assembly and insert a new seal.

Step 19



- Unscrew the valve out of the unit with a 13mm open end wrench.
- Check if everything moves smoothly. Clean all parts well. Careful, they are sensitive.
- The valve spring
- The valve stamp. Check if the gasket on the valve seat is still good. Change it if necessary.
- The sliding piece
- Support seal on the thermoblock. Medium size.
- Support gasket top. The largest of the three.
- Support gasket bottom. The smallest.

Repeat the steps in reverse order to reassemble your device.