



Philips Senseo II 7810 Coffee Maker - Capacitor on Printboard replacement

This guide helps to solve a heating problem of a Philips Senseo II (7810) by providing an overview of how to replace the capacitor on the printboard.

Written By: BobJohnson



INTRODUCTION

Consumers have encountered heating problems with the Philips Senseo II 7810. Numerous issues that cause the coffee maker to not heat up water anymore can be: problems that prohibit engaging the heater element, a failing heater element or the machine shutting down early. The latter is mostly due to a capacitor that is not working properly and seems the most common issue. It can easily be recognized when the machine shuts down during the making of the coffee. Over time, degrading of the capacitor will happen and thus the problem is inevitable in the longer run.

This guide enables you to replace the described capacitor, and to repair your coffee maker. Using the same repair steps, it is also possible to replace the PCB's TRIAC and E-cap. These replacements are recommended when performing the capacitor fix.

This repair guide can also be suitable for other Philips Senseo models. Making the repair can lengthen the lifespan of your Senseo coffee maker. In this case, capacitor failure does not have to result in product failure, and by performing the repair the Senseo still holds its value.



TOOLS:

- [Phillips #2 Screwdriver](#) (1)
- [Flathead Screwdriver](#) (2)
- [Solder](#) (1)
- [Twist tie](#) (1)
- [T10 Torx Screwdriver](#) (1)
- [flat plier](#) (1)
- [Marker \(optional\)](#) (3)

Color

- [Soldering Iron](#) (1)
- [Utility Scissors](#) (1)
- [iFixit Tech Knife](#) (1)



PARTS:

- [Capacitor](#) (1)

Step 1 — Replacing the capacitor on printboard



- Remove the detachable components of the coffee maker:
 - unplug the product;
 - empty the water container and remove it from the coffee machine;
 - remove the cup tray and drip tray;
 - remove the pod holder and coffee outflow unit.

i Placing parts in a sink is easiest when disassembling.

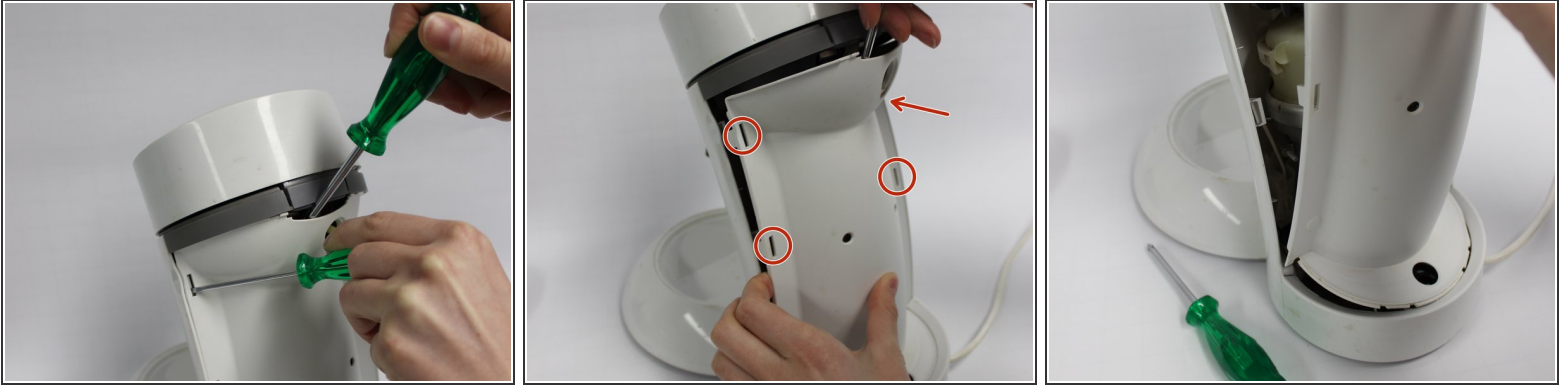
Step 2



- Remove outflow valve by putting a flathead screwdriver in the gaps and use this as a lever.

⚠ Pull gently while applying force.

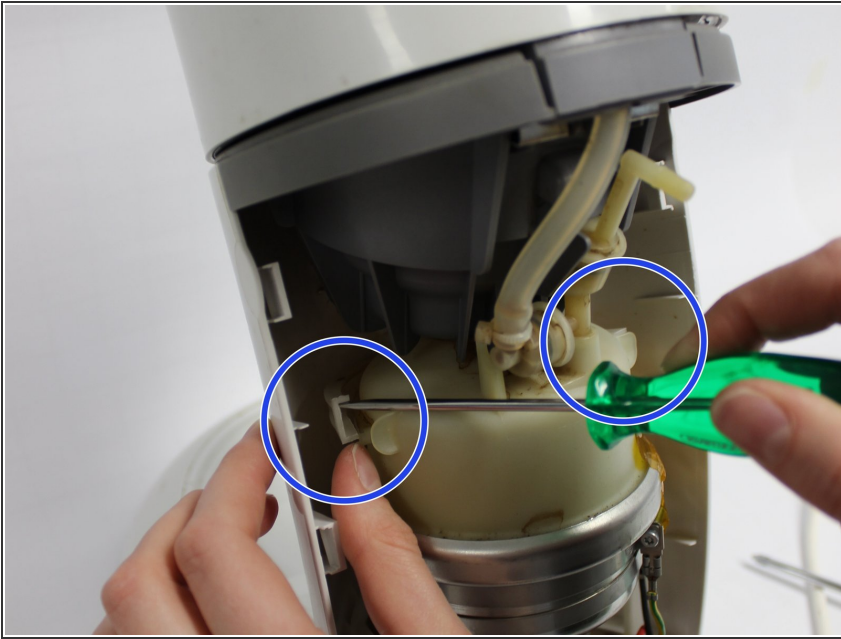
Step 3



- Remove back panel by:
 - inserting (flathead) screwdriver in the top and pressing this against the snap-fit;
 - pressing screwdriver on left side against the snap-fit simultaneously;
 - rotating back panel whilst pressing against the snap-fits to loosen the panel until it is no longer connected on that side;
 - pressing screwdriver on right side against the snap-fit and removing back panel altogether.

⚠ Expect difficulty with pulling, more hands may be required.

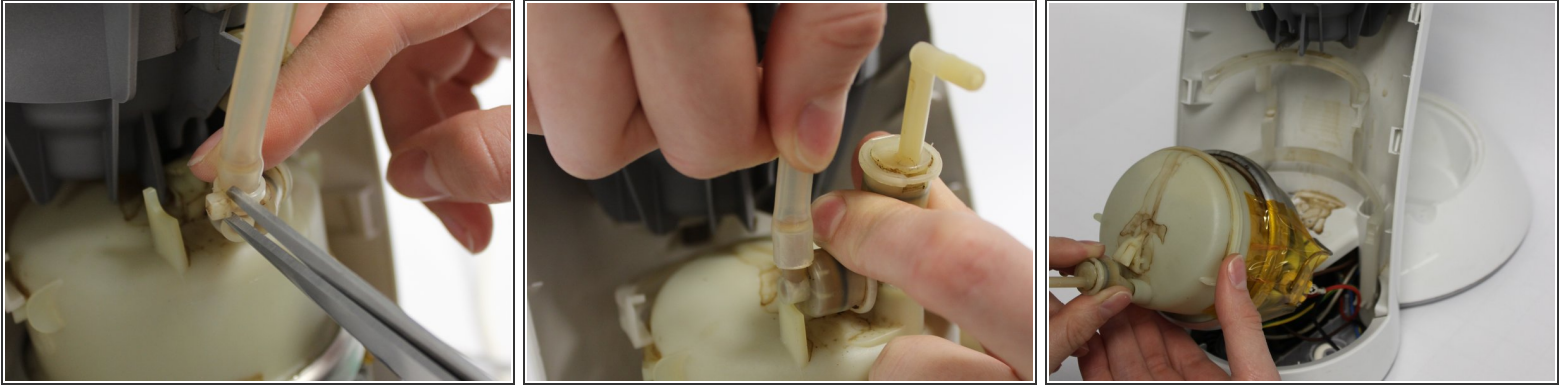
Step 4



- Remove side clamps to make the boiler accessible by pressing the plastic hooks (left and right) to the side.

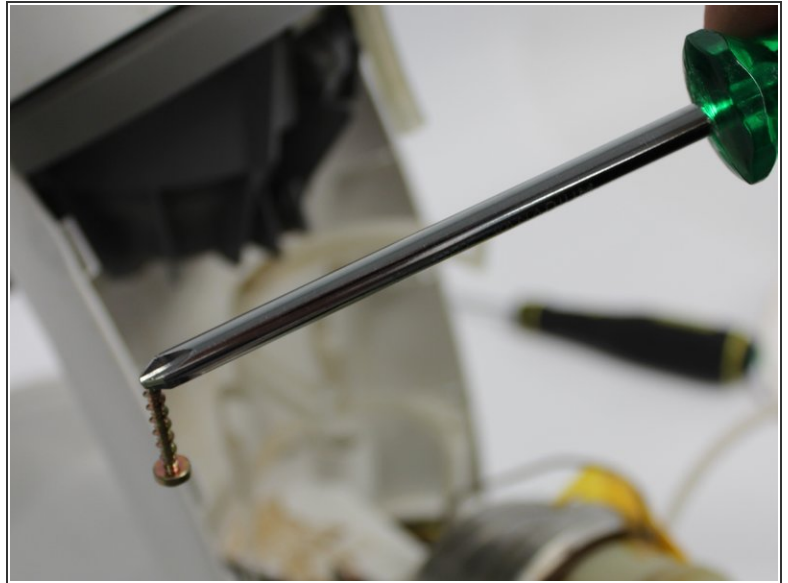
⚠ When used prior to the disassembly, the boiler may still contain hot water!

Step 5



- Access the inner housing of the coffee maker by:
 - removing tie wrap from three-way valve with a pair of scissors;
- ⚠ Requires a lot of force.
 - disconnecting the three-way valve from the hose. Beware of possible breaking of the bottom tube of the valve that is inside the boiler opening;
- ⚠ Difficulty with pulling, needs sculling.
 - tilting the boiler, towards you (away from the inner casing).
- ⚠ When filled with (hot) water, beware of boiler leakage.

Step 6



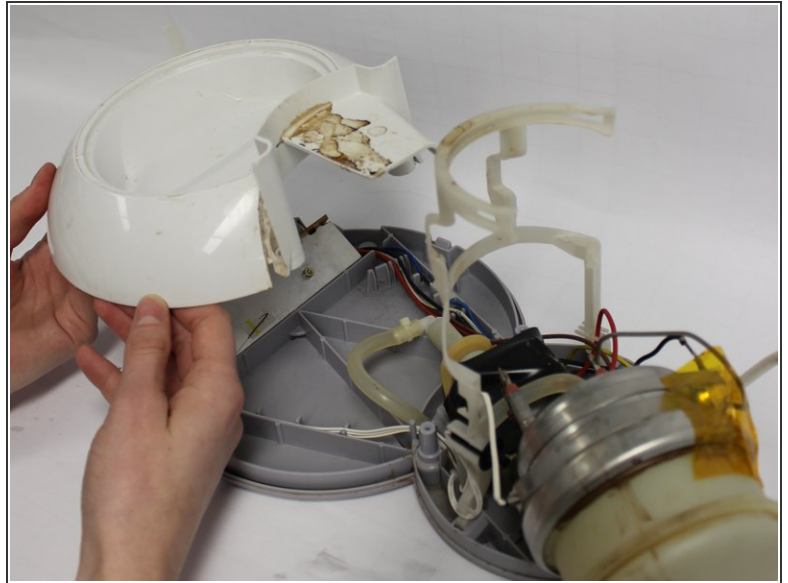
- Remove the 2 screws from within the housing, using a Torx T10 screwdriver.
- ☑ Tip: use the magnetism of a screwdriver to remove the screws from the housing.

Step 7



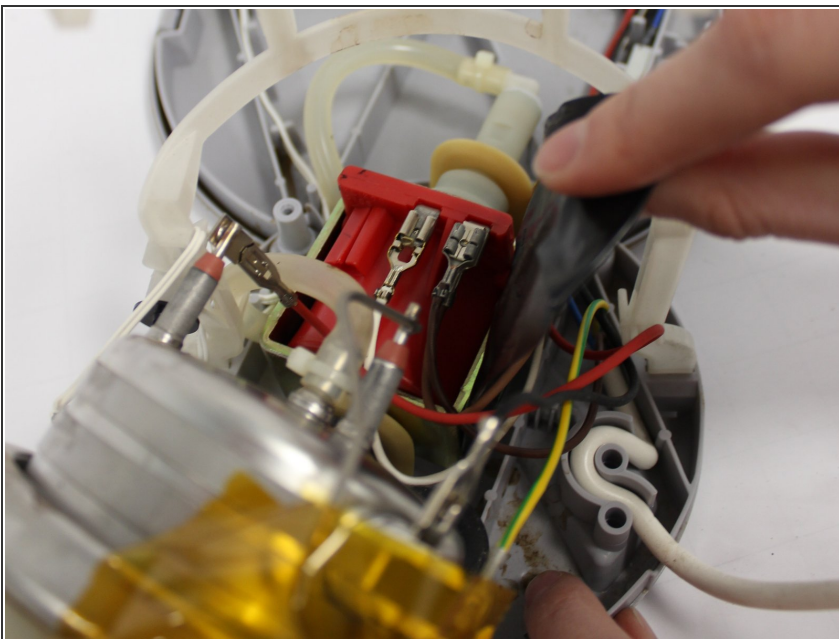
- Tilt the coffee machine and disconnect the bottom housing by pressing a flathead screwdriver against the snap-fit (CAUTION). There is a total of 6 snap-fits. (Two snap-fits at the rear are not visible in the picture)
- ⚠ Beware of not applying too much force when pressing snap-fits to avoid bending (and breaking) during the repair.

Step 8



- Remove the cylindrical housing from the bottom housing.
- Remove the cup tray housing from the bottom housing.

Step 9



- Remove the tape from the red pump, by pulling.

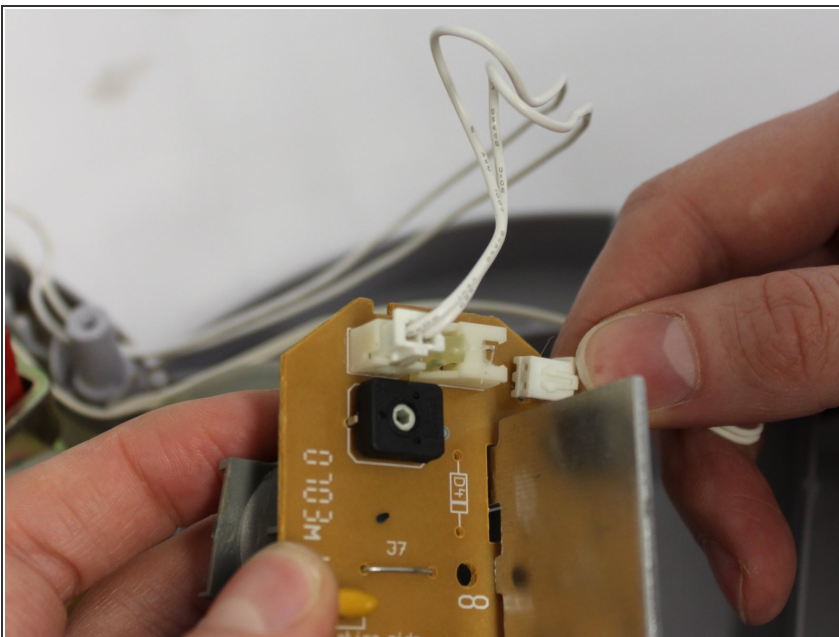
⚠ Leaving the tape attached on the right side, enables re-using of the tape when reassembling.

Step 10



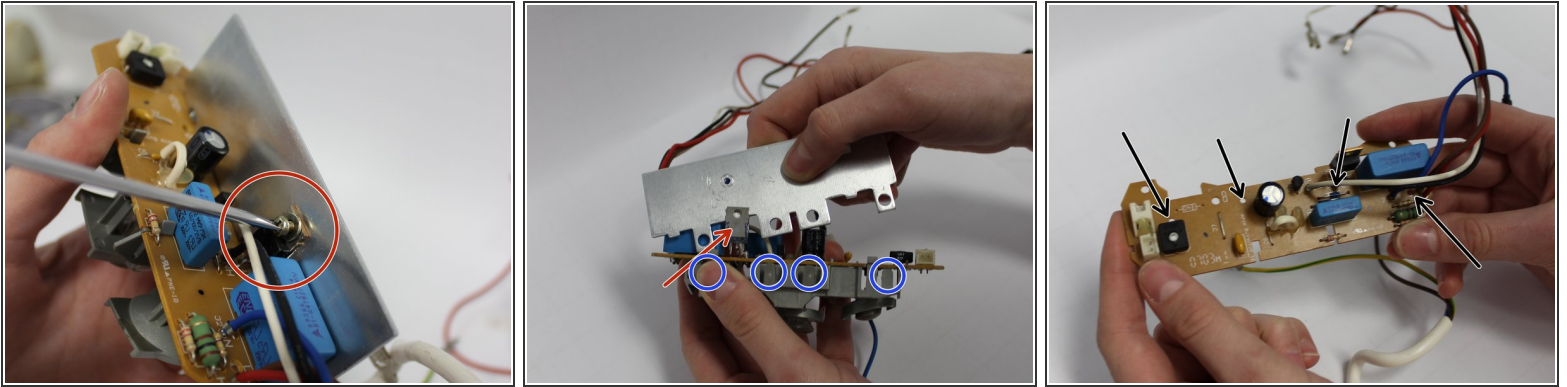
- Disconnect the two cables (white-brown) from the red pump by pulling gently. If the cables are hard to remove, carefully use flat nose pliers to pull the cables.
- ⚠ Remember the position of the cables for reassembling the Senseo machine. Marking the location and the cable with a different color marker, can be a solution.
- Disconnect the red, blue and green/yellow cables from the boiler.
- ⚠ Remember the position of the cables for reassembling the Senseo machine. Marking the location and the cable with a different color marker, can be a solution.

Step 11



- Remove the two white cables, so the printboard (PCB) is no longer connected to the internal components.
- ⚠ Remember the position of the cables for reassembling the Senseo machine. Marking the location and the cable with a different color marker, can be a solution.

Step 12

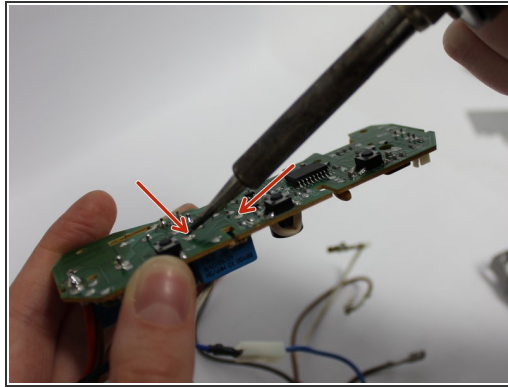
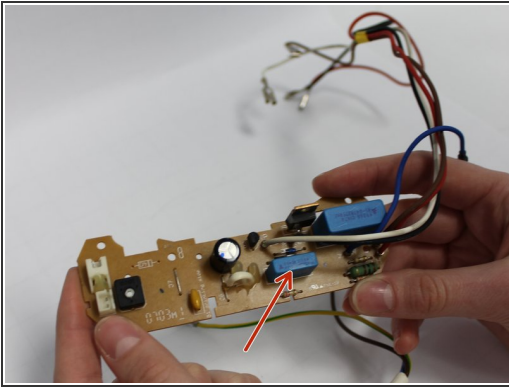


- Remove the nut from the plate against the PCB, using a Phillips screwdriver.

⚠ The order of loosening the snapfits now is important. First carefully press out (in an upward direction) four click fingers (from plastic buttons) that hold the plate in place, and then push out four pins in the PCB (holes marked with black arrows), which loosens the buttons. Beware of not affecting the transistor integrity when removing the plate.

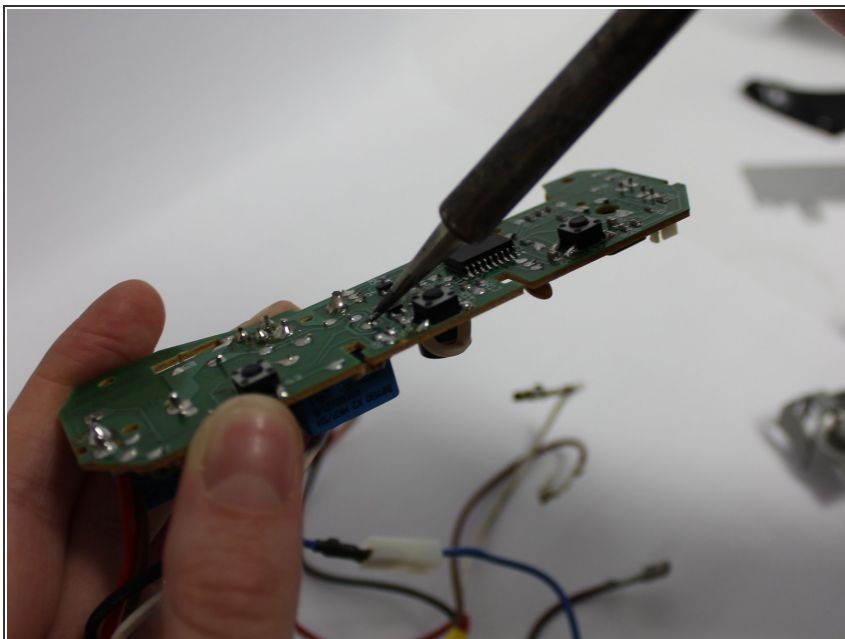
- Remove the snap-fits of the PCB, so the plate and the PCB can be disconnected. Use a flathead screwdriver for punching and sculling.

Step 13




- i Obvious characteristics of a damaged capacitor are leakage of a brownish fluid, corrosion, or severed leads. Non-obvious signs could be measured with a capacity gauge (for the professional handyman).
- Search for the pegs of the capacitor on the PCB and warm up the soldering iron. Remember orientation (left-right)!
- ✚ The capacitor specification should be: 470nF, min. 275 VAC, 22.5 mm pitch. Only use X2-Class qualification which can be distinguished on the part. Capacitors come in blue and yellow colors.
- ⚠ Caution: the soldering iron will be hot. Perform this action in a well-ventilated area.

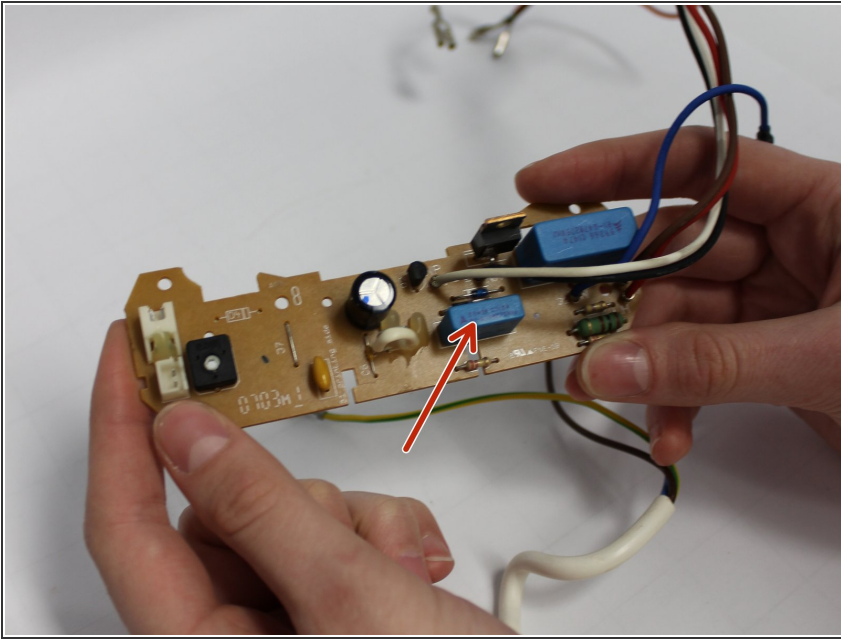
Step 14




- Loosen the capacitor of the PCB, by desoldering the tin spots using the iron and remove the capacitor from the PCB.

 Caution: the soldering iron will be hot. Do not breath the soldering fumes. They are toxic. Perform this action in a well-ventilated area.

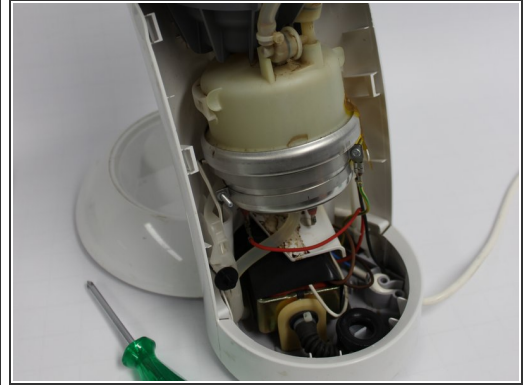
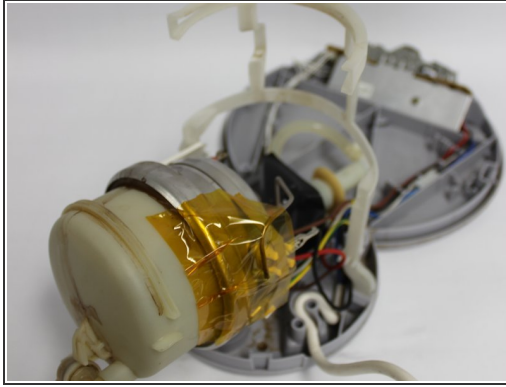
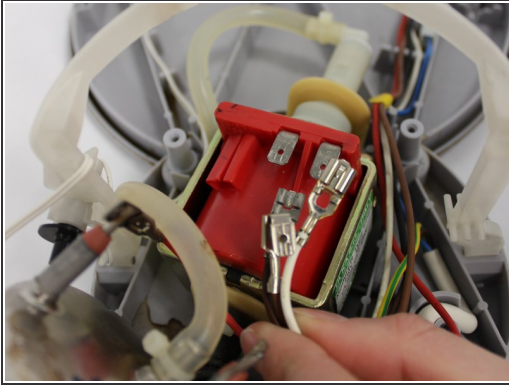
Step 15



- Replace the capacitor by soldering a new capacitor of the same type on the exact same spot:
- scratch the green plastic of the printboard (with flathead screwdriver) to improve conductivity and cohesion;
- keep the capacitor on the right spot, hold the tin against the pegs of the capacitor and heat the tin with the soldering iron. The tin will cool down and the capacitor will be fixed.

 Caution; the soldering iron will be hot. Do not breath the soldering fumes. They are toxic. Perform this action in a well-ventilated area.

Step 16



- Reassemble the Senseo coffee maker. The suggested actions during the disassembly should now help you greatly. Be careful with connecting wires (in the right way), tilting and reconnecting the boiler, and closing the housings and snap-fits.

☞ Tip: by following the previous 15 steps in reverse order, reassembly should take 15 minutes.

To reassemble your device, follow these instructions in reverse order.