



3 - Kettle - Common breakdowns

Experience shows that the main problems concern the heating resistor, the contacts of the switch

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INTRODUCTION

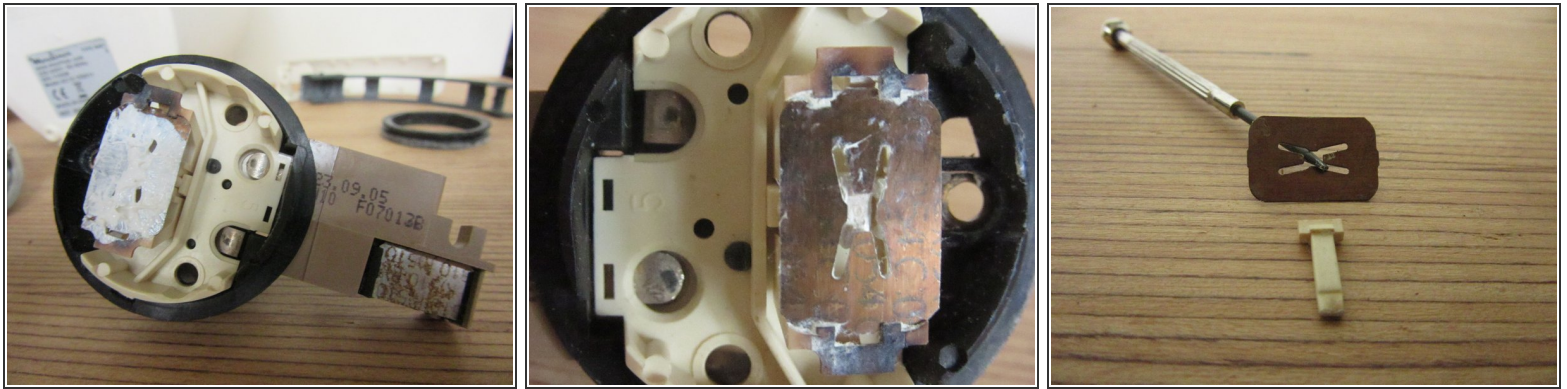
This device is relatively simple, so the problems are rather easy to identify. However, take the time to "read the method" in order to do a repair in good condition. Go through the *two tutorials* on the functions and how it works. You will maximize the chances of success.

Step 1 — Resistor fault, base



- One of the frequent failures is the resistor insulation fault. This is the case when the device is energized and the differential circuit breaker "trips". There is unfortunately not much to do, except to change the resistance.
- The resistance can also be switched off. Not necessarily tripping at the switchboard, but the water does not heat up. To check the resistance value, you must use an ohmmeter. Knowing that the power of the kettle is between 920 and 1100W, $R = U^2 / PR = 230^2 / 1100 = 48$ ohms. Our resistor actually measures 54 ohms
- Another failure may be due to the cable or the socket of the base. To check its condition, simply use a multimeter to test the continuity between the terminals of the wall socket and the socket fixed to the base. To reach the contacts of this one, press on the protection of the central contact. This releases the other 2 contacts.
- The other causes come from the M/A device, located in the tank. We describe in step 2, a problem encountered on this element.

Step 2 — On/off device



- The problem was that the water would not heat up when the switch was turned on! After successfully testing the resistance and continuity of the power supply at the base, the remaining element that could be a problem is the M/A device located in the tank.
- It turned out that after removing the part and disassembling it completely, the plate responsible for cutting the high temperature circuit was permanently activated.
- This plate is in contact with the resistor support. It heats up and deforms. While deforming, it presses on a plastic "finger" which presses on another plate which cuts the circuit. Apparently, for some reason, the finger was pressing on the plate continuously, which prevented the current from passing.
- After having shortened the length of the "finger" to approximately 1 mm, the normal function was restored. It is possible that in the long run, the plate loses its original characteristics (elasticity) and the device malfunctions.
- Important: when reassembling, do not forget to coat the plate with thermal paste to promote heat conduction with the resistor support.

That's it! After having studied the first two tutorials on toasters, the functionalities, then the different sub-assemblies that compose it, we have just reviewed the main causes of failure of this device.

We hope that this has allowed you to learn more about your appliance and thus be able to repair it by yourself.

If you liked it (or not!) feel free to leave us a comment. And if you are in the area of [Welded Workshop](#), come and see us. We're organizing co-repair workshops, outreach sessions, and more...