

Troubleshooting: Perforated Plate Hits the Nozzle

SOURCE:

<https://support.zortrax.com/troubleshooting-perforated-plate/>

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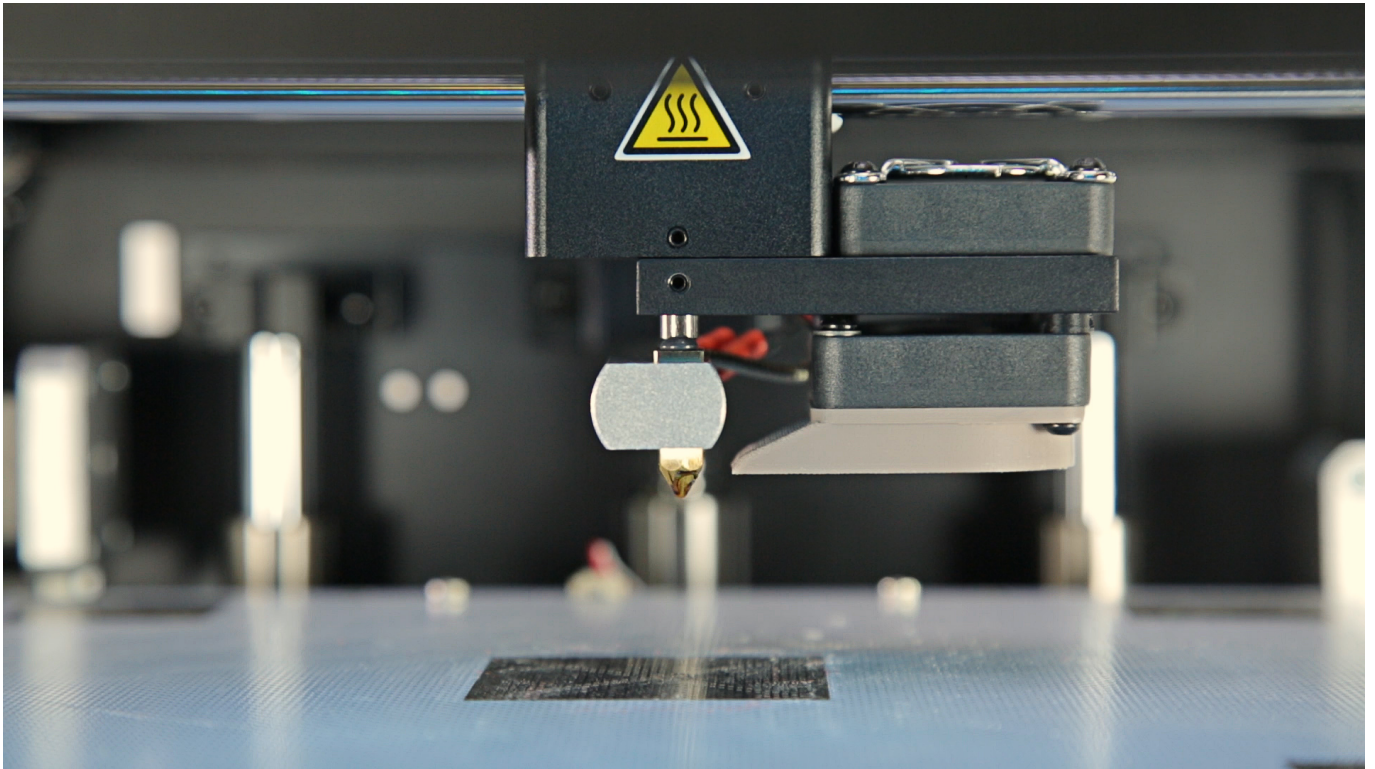
M200 Plus

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Perforated Plate Hits the Nozzle

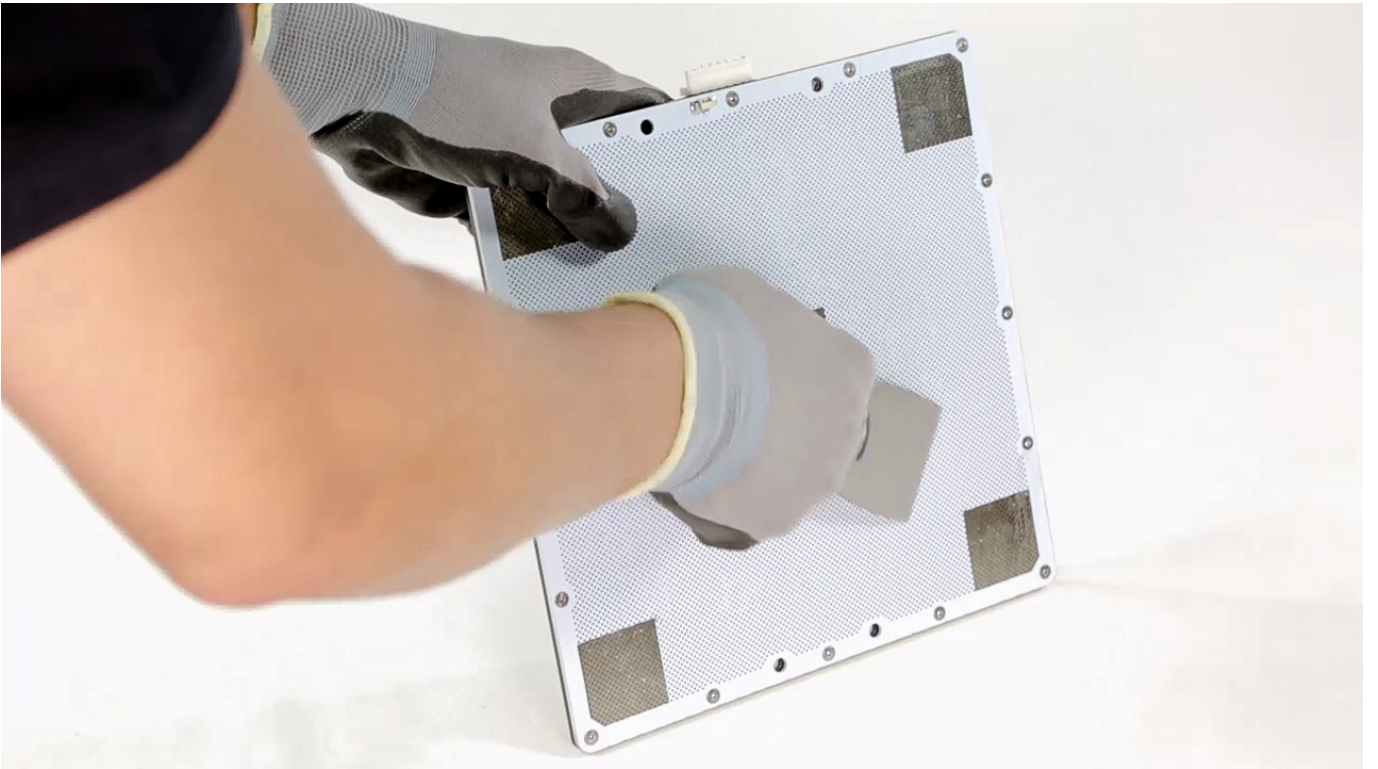
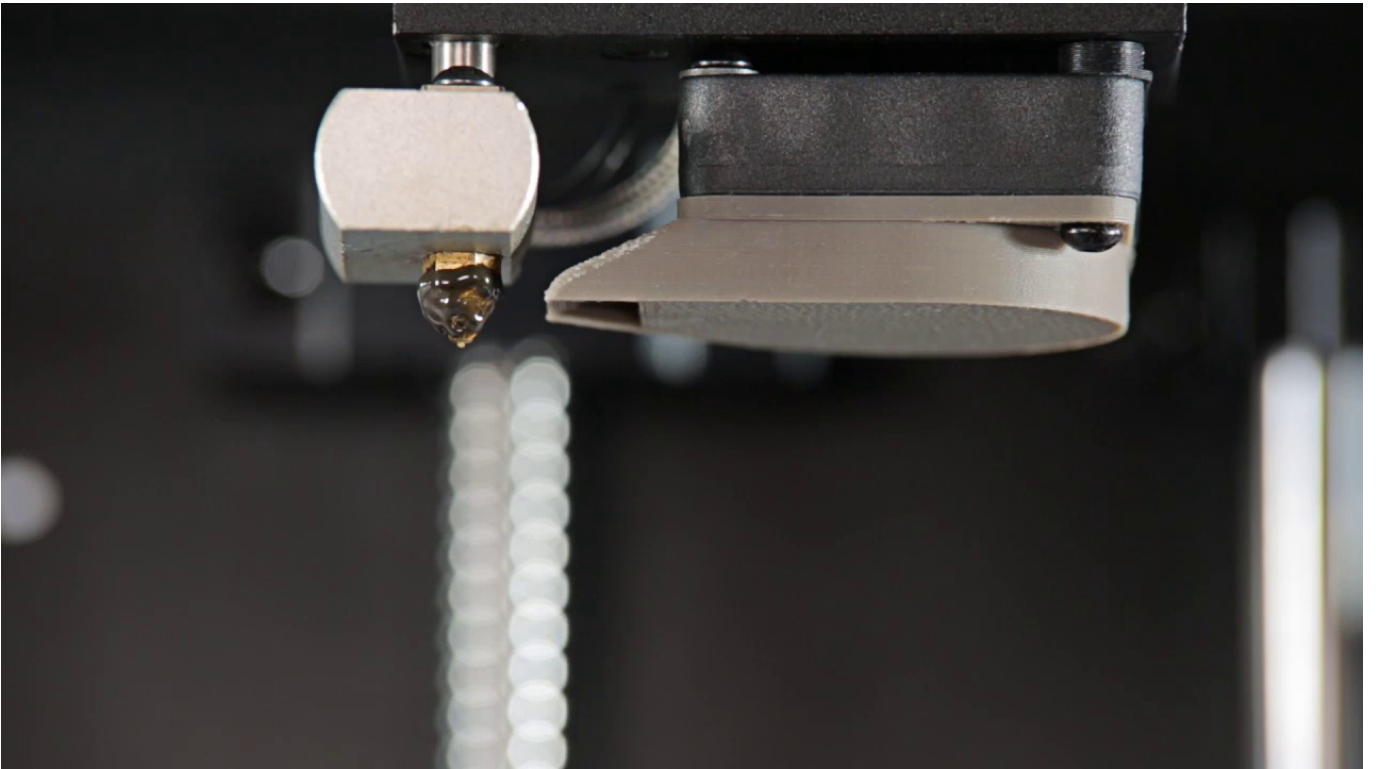


The video shows what the problem looks like.

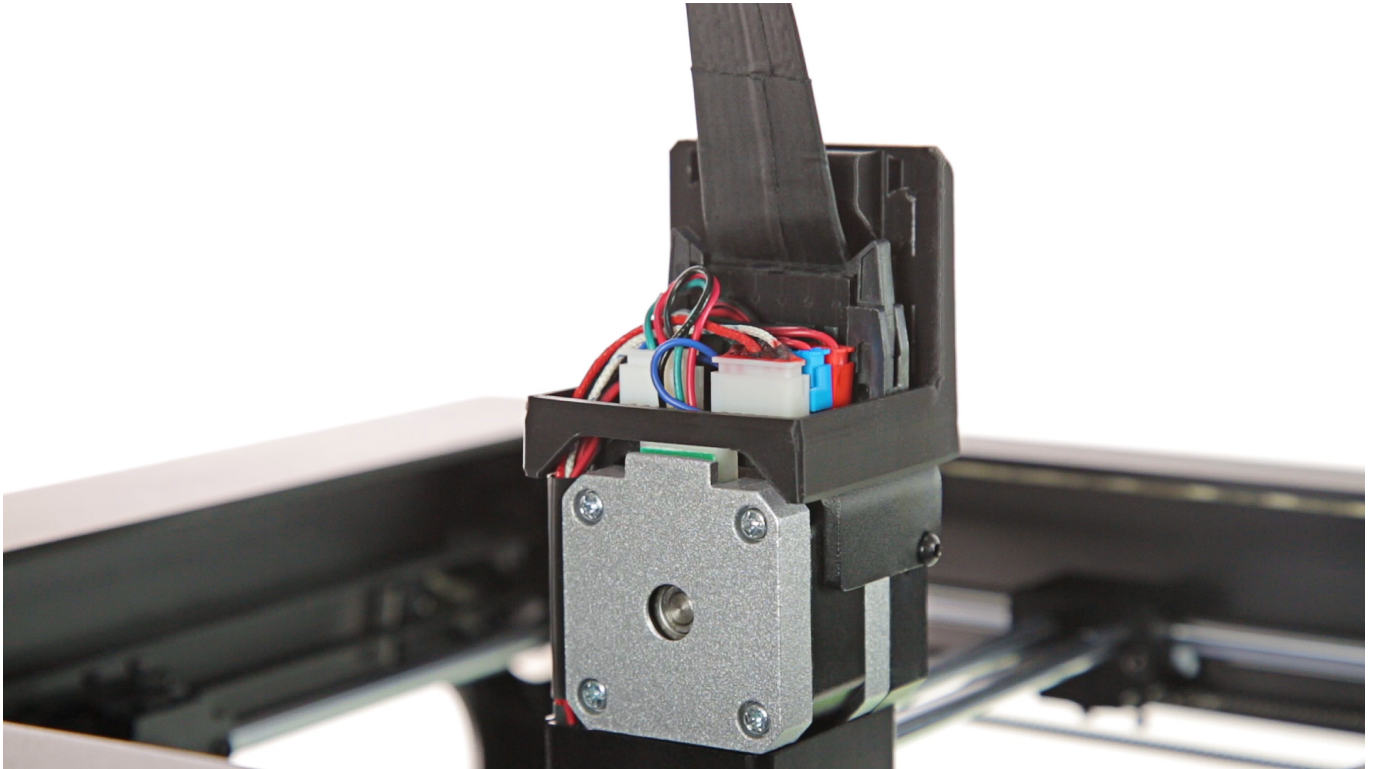
Remember that once the perforated plate in your printer hits the nozzle, immediately turn the printer off with the switch on the left side of the machine.

Sometimes the electrical circuit in the printer cannot be completed due to material remains on the nozzle or the perforated plate.

In this case, clean both parts with a spatula. See the manuals: [nozzle cleaning](#), [platform maintenance \[M200 Plus\]](#), [platform maintenance \[M200\]](#).



Heater&Thermocouple Connection



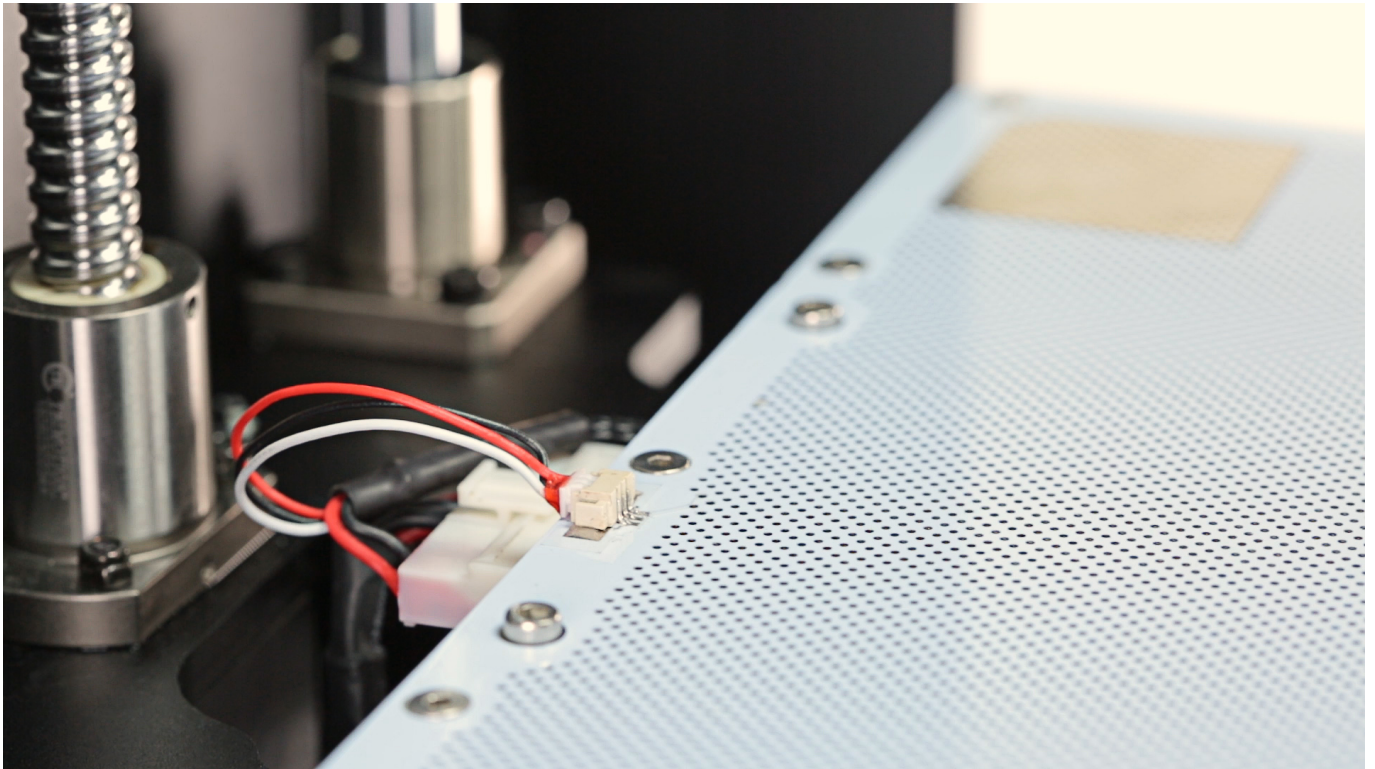
In some cases, problems with calibration can occur when the heater&thermocouple connector has not been properly plugged into the extruder PCB.

Detach the extruder upper printed cover from the extruder and check the heater&thermocouple connection.

Also, make sure that the heater&thermocouple are properly installed in the hotend.

If everything is properly connected, move on to the next step.

Perforated Plate Cable Connection

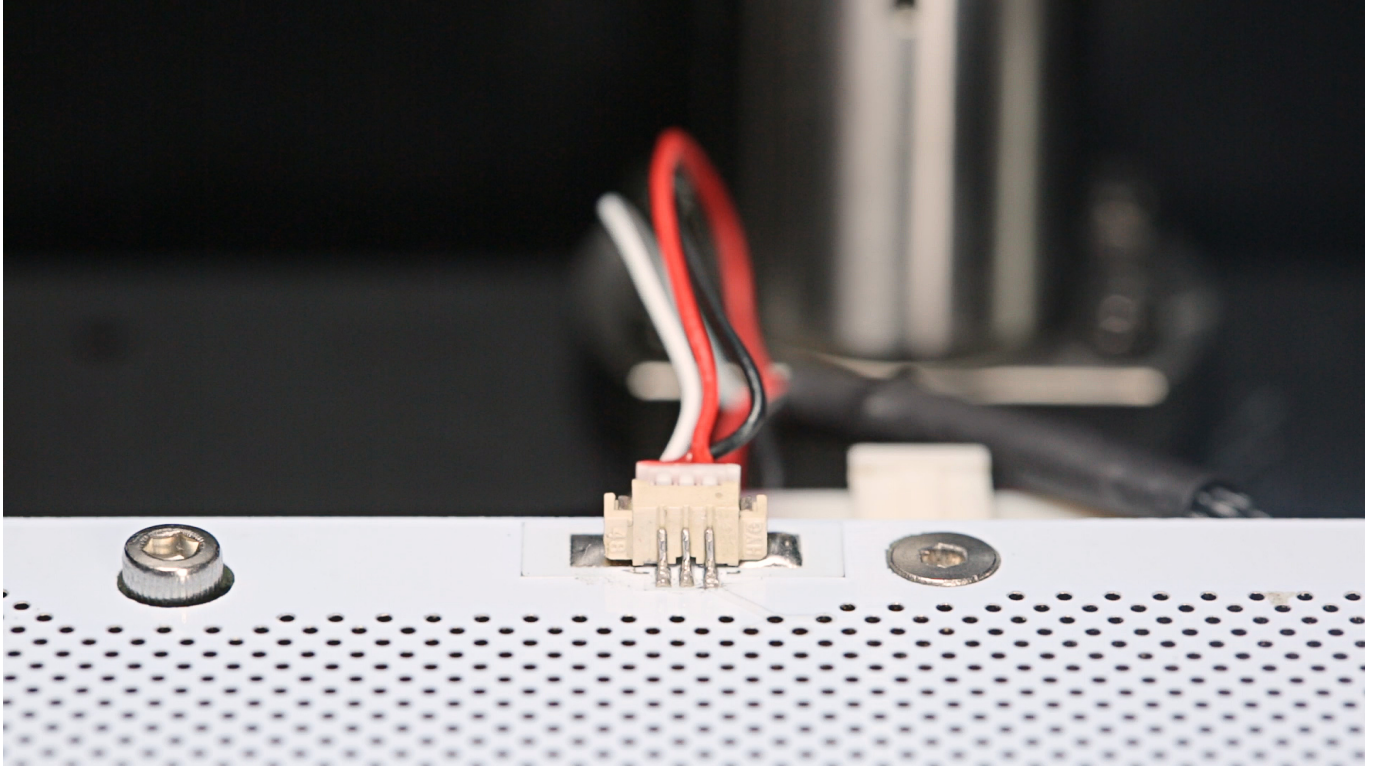


Make sure that the small perforated plate cable is properly connected.

If it is connected, move on to the next step.

Small Connector Inspection

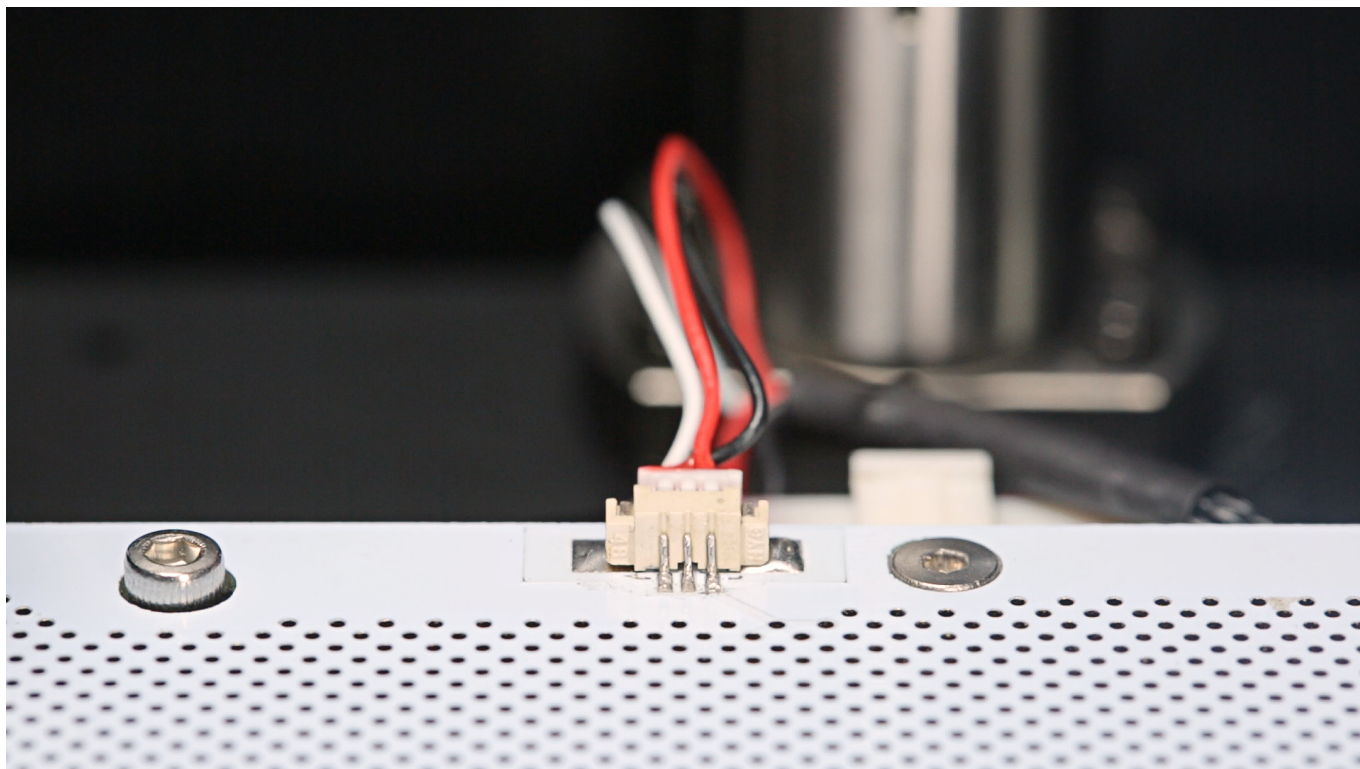
LEFT AND MIDDLE PIN



The next step is to check if the problem is not caused by a perforated plate or heatbed cable failure.

To determine that, prepare a multimeter and measure the electric circuit continuity between the left and the middle pin on the perforated plate's small connector. If the multimeter indicated that there is circuit continuity, follow the next step from this manual.

LEFT/MIDDLE AND RIGHT PIN

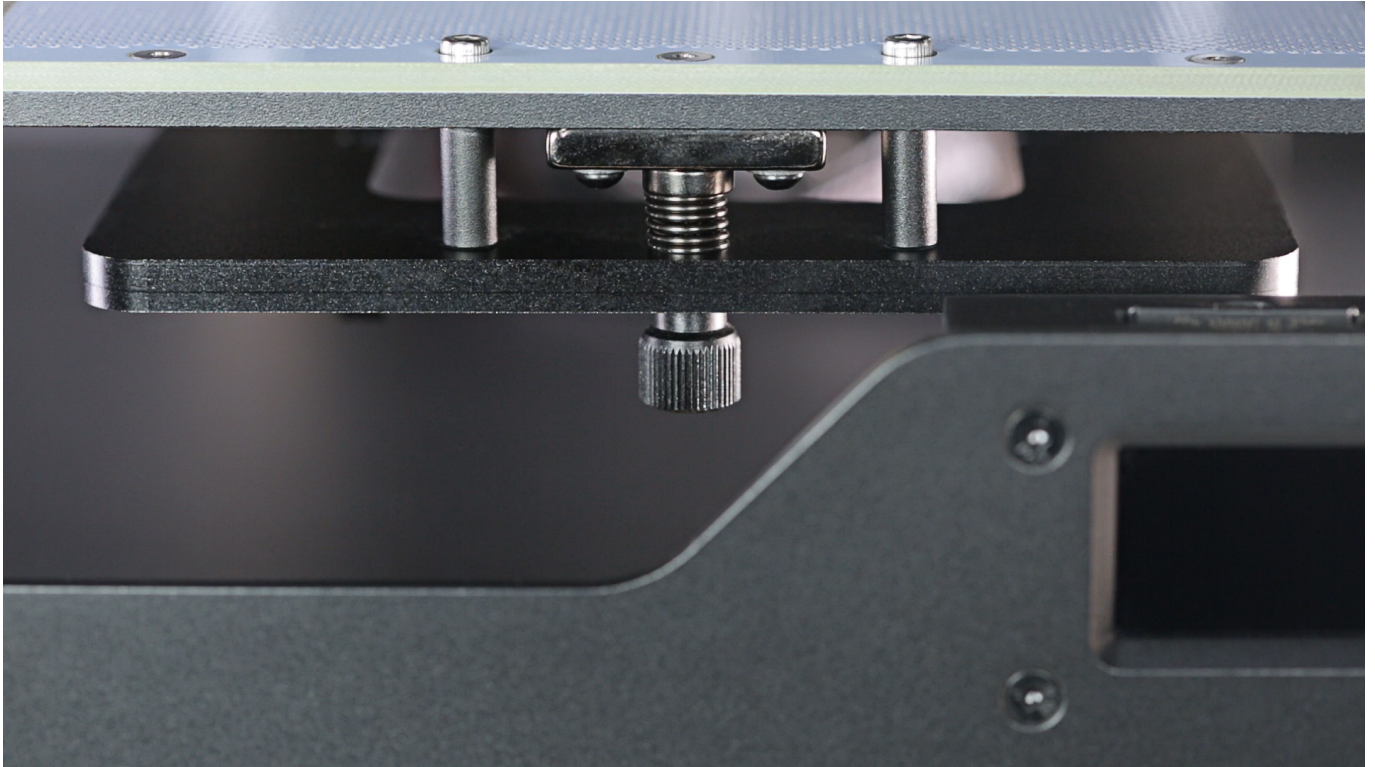


Use the multimeter again and measure the circuit continuity between the left/middle and the right pin on the plate's small connector. If there is continuity between the pins, unplug both cables from the platform and repeat the measurement.

If the circuit continuity is detected while the platform is unplugged, the problem is caused by the perforated plate failure, and when the continuity is not detected, the problem results from the heatbed cable failure.

If the continuity is not detected at all, move on to the next step.

Perforated Plate and Heatbed Inspection

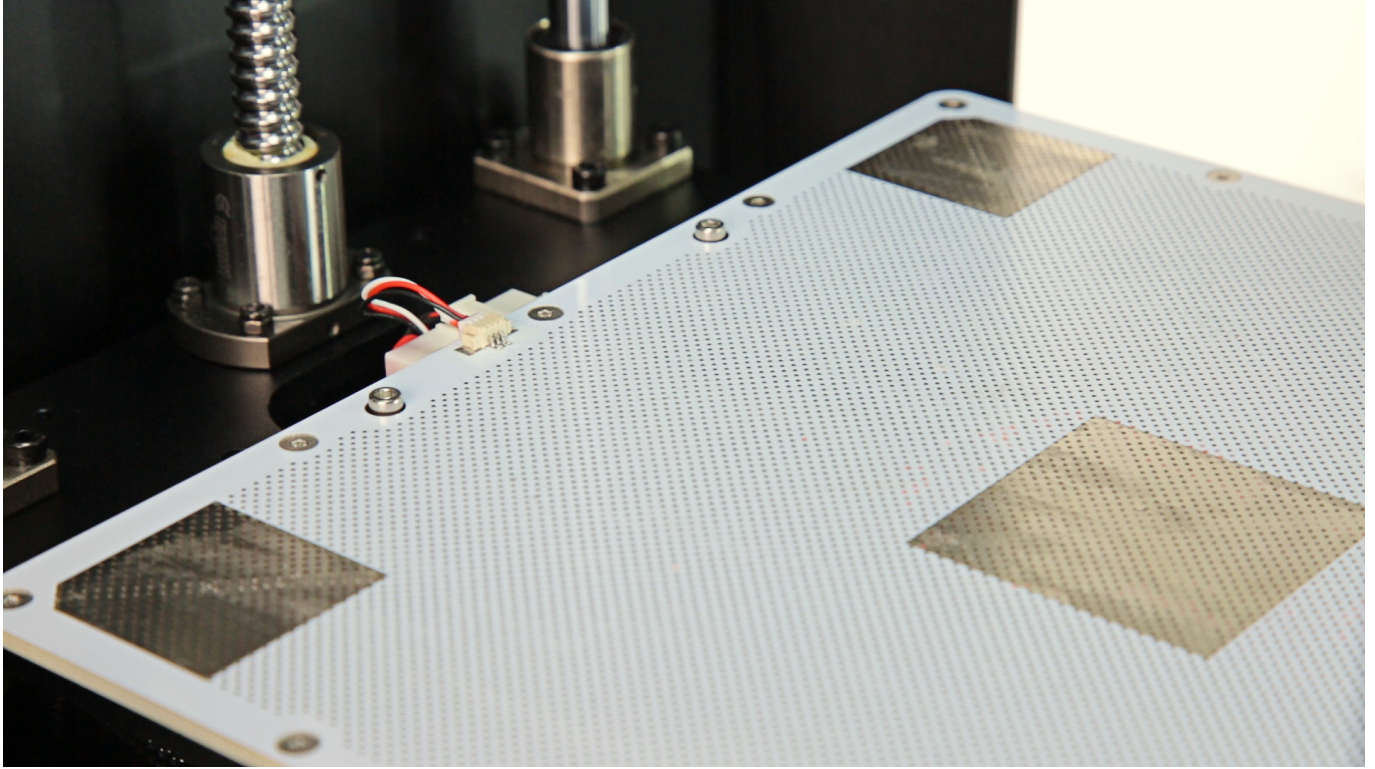


Now you have to determine that there is no short circuit between the perforated plate and the heatbed. Use the multimeter and check the calibration squares and the magnet/screws under the heatbed. See the video.

If the short circuit is not detected, follow the next steps provided in this manual.

Voltage Measurements

M200/M300/M300 PLUS

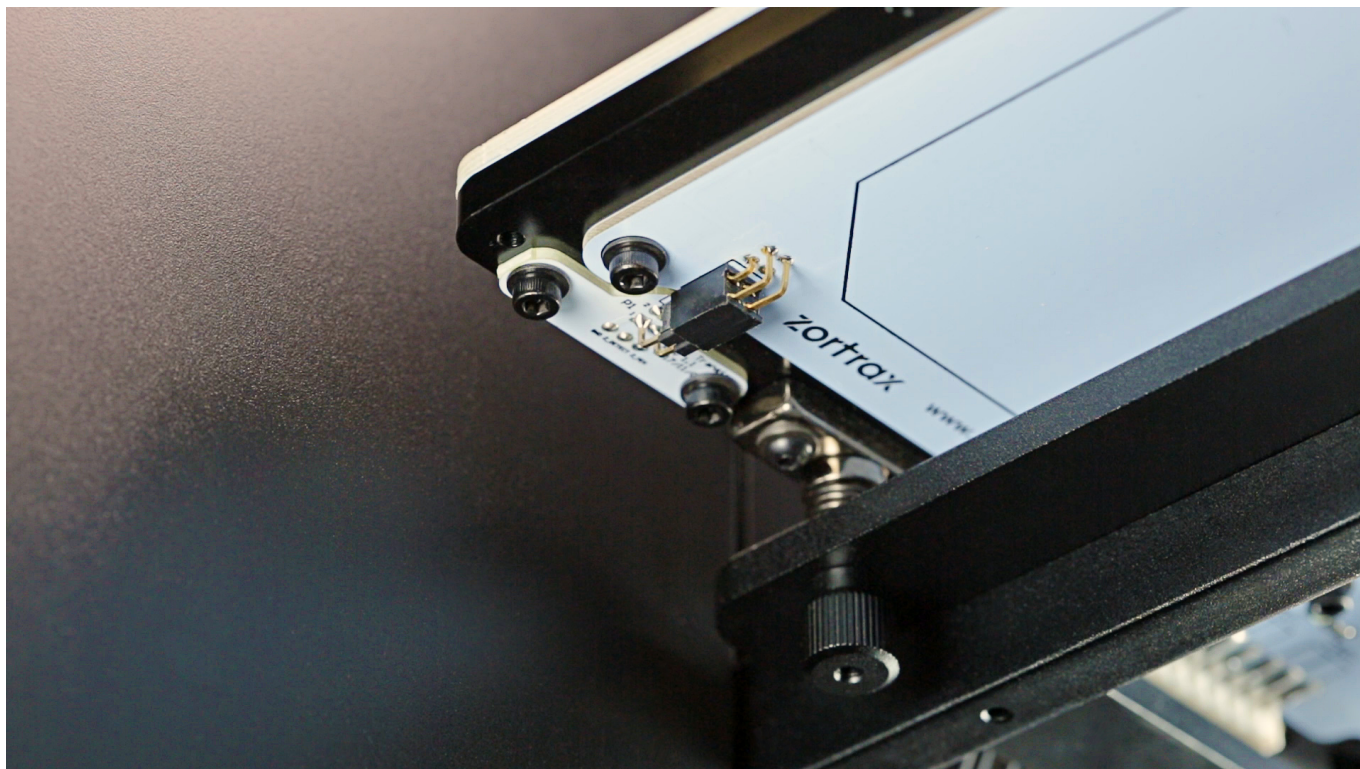


The next step is to check if the problem is not caused by the perforated plate. Use the multimeter and measure the voltage between the left and middle pin on the plate's small connector and five calibration squares. The correct value is about 3.2 V.

If the voltage is lower than 3 V, carry out platform maintenance and check if the underside of the perforated plate is not damaged.

Make sure that the small connector is not damaged. Otherwise, the voltage might not be properly transmitted to the calibration squares.

M200 PLUS

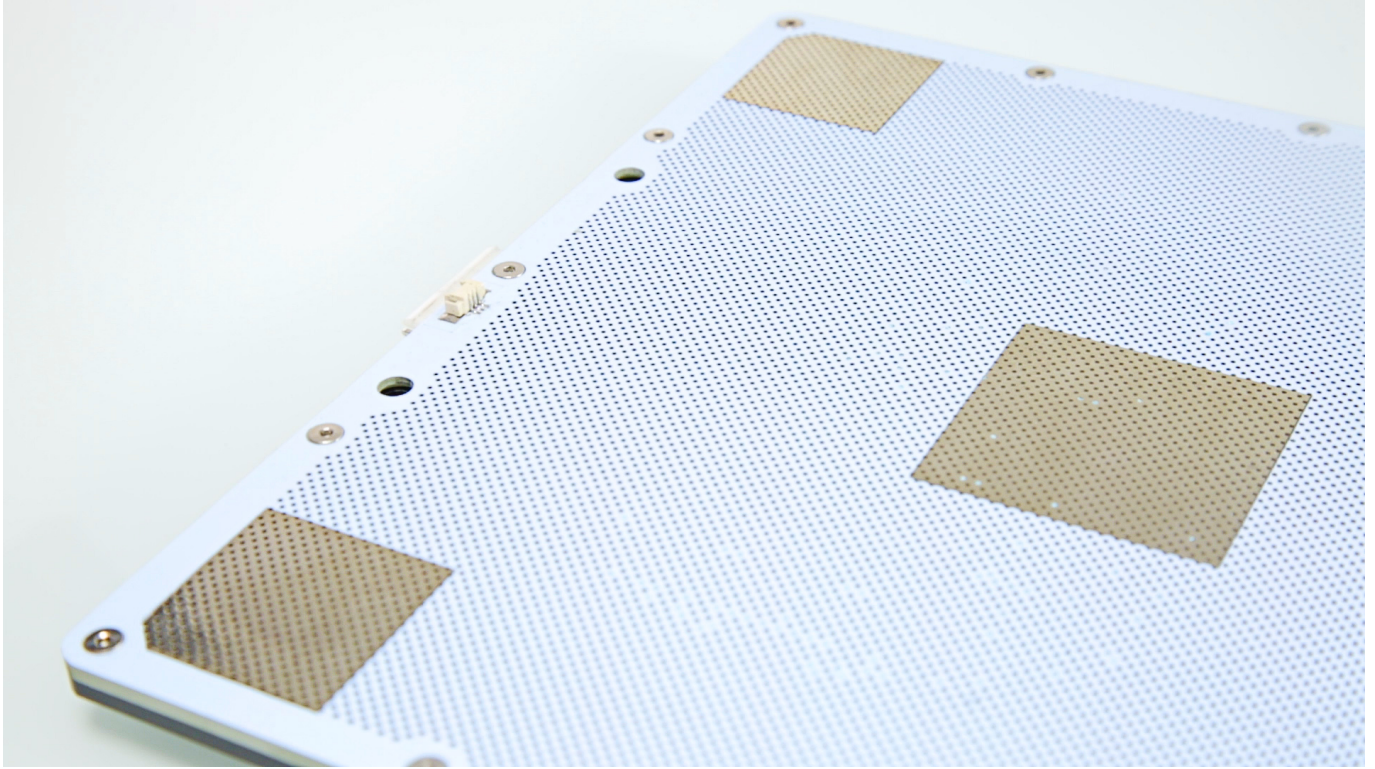


For the M200 Plus, measure the voltage between the two big pins on the connector placed under the platform and five calibration squares. The correct value is about 3.2 V.

If the voltage is lower than 3 V, carry out platform maintenance and check if the underside of the perforated plate is not damaged.

Electric Circuit Continuity Measurements

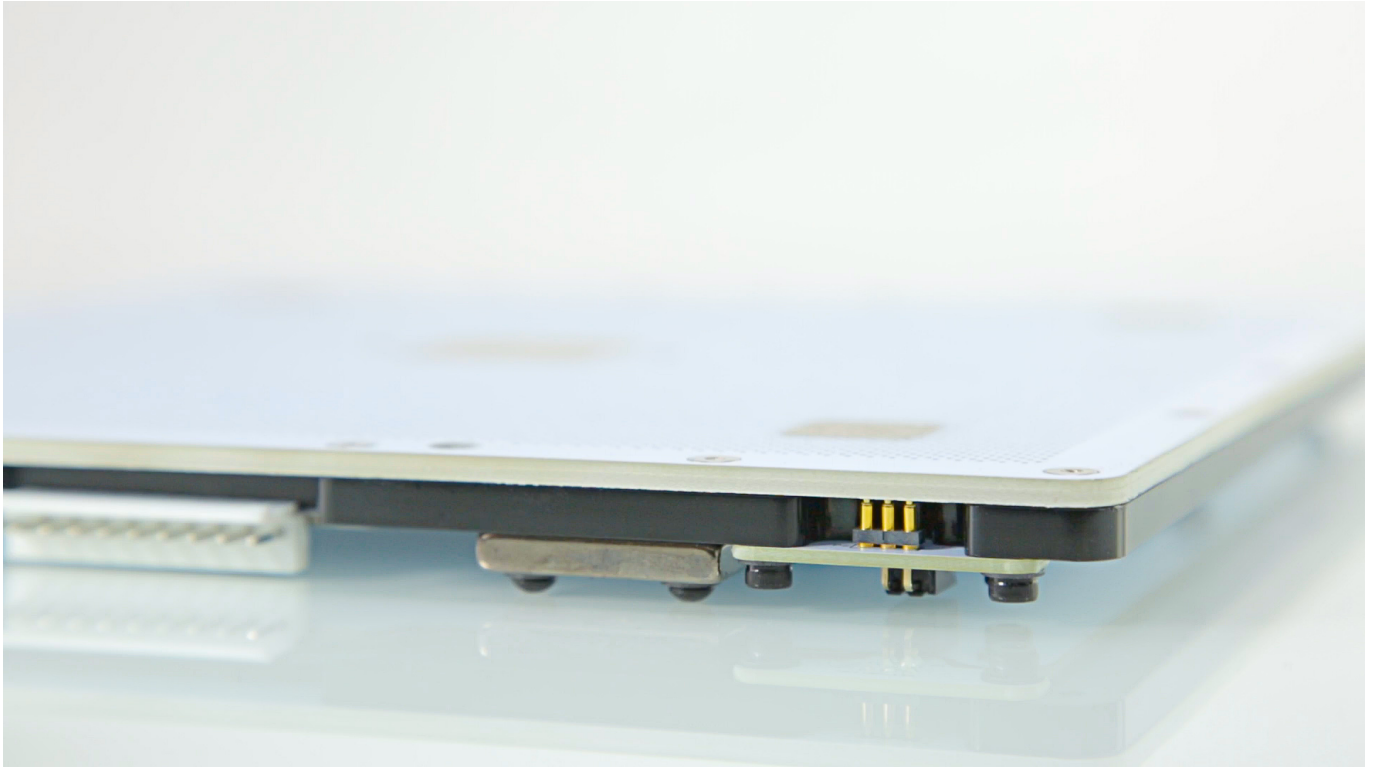
M200/M300/M300 PLUS



It is also necessary to measure the electric circuit continuity between the right pin on the plate's small connector and five calibration squares.

If the multimeter indicates that there is no circuit continuity, especially in one of the calibration squares, replace the perforated plate.

M200 PLUS

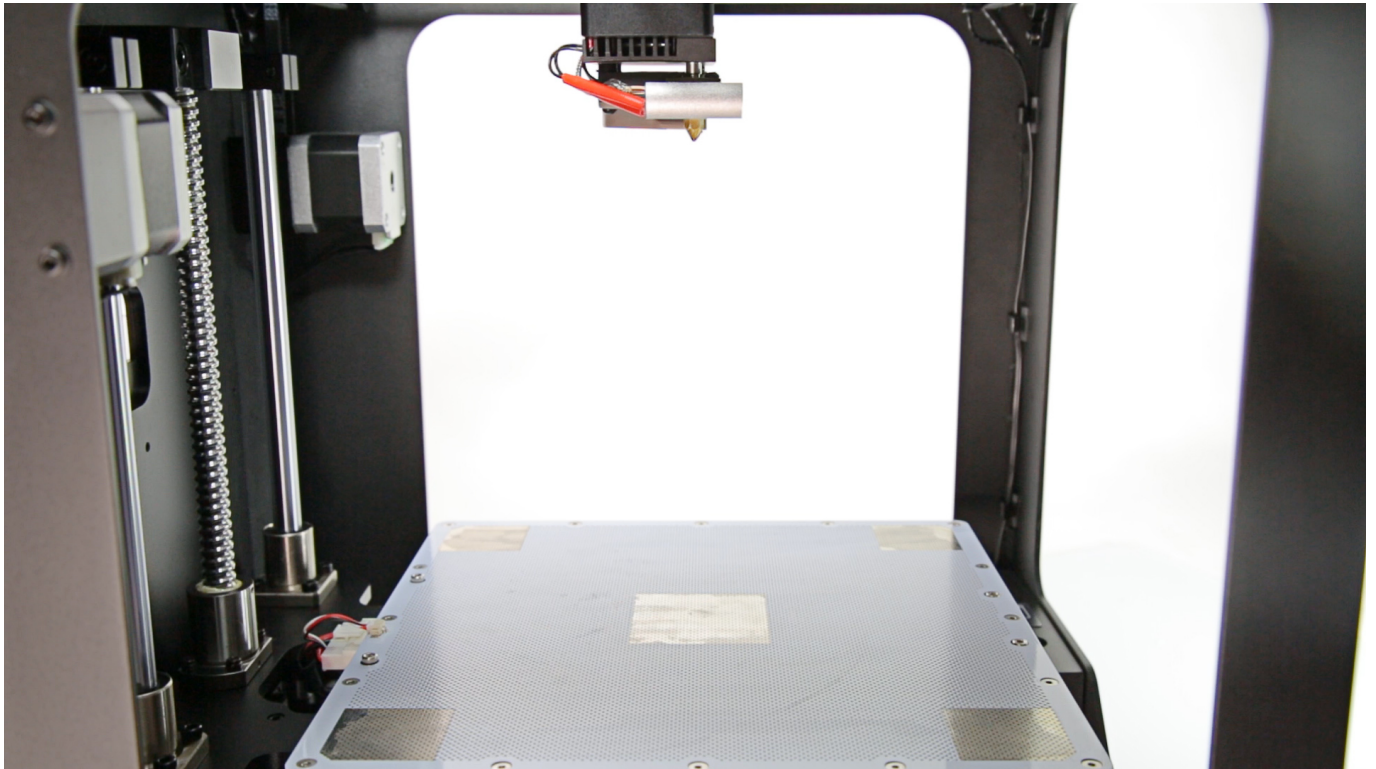


For the M200 Plus, measure the electric circuit continuity between the left pin on the plate's small connector and five calibration squares.

If the multimeter indicates that there is no circuit continuity, especially in one of the calibration squares, replace the perforated plate.

Before replacing the perforated plate, measure the circuit continuity between the calibration squares. If the continuity is detected, the Pogo pin is damaged.

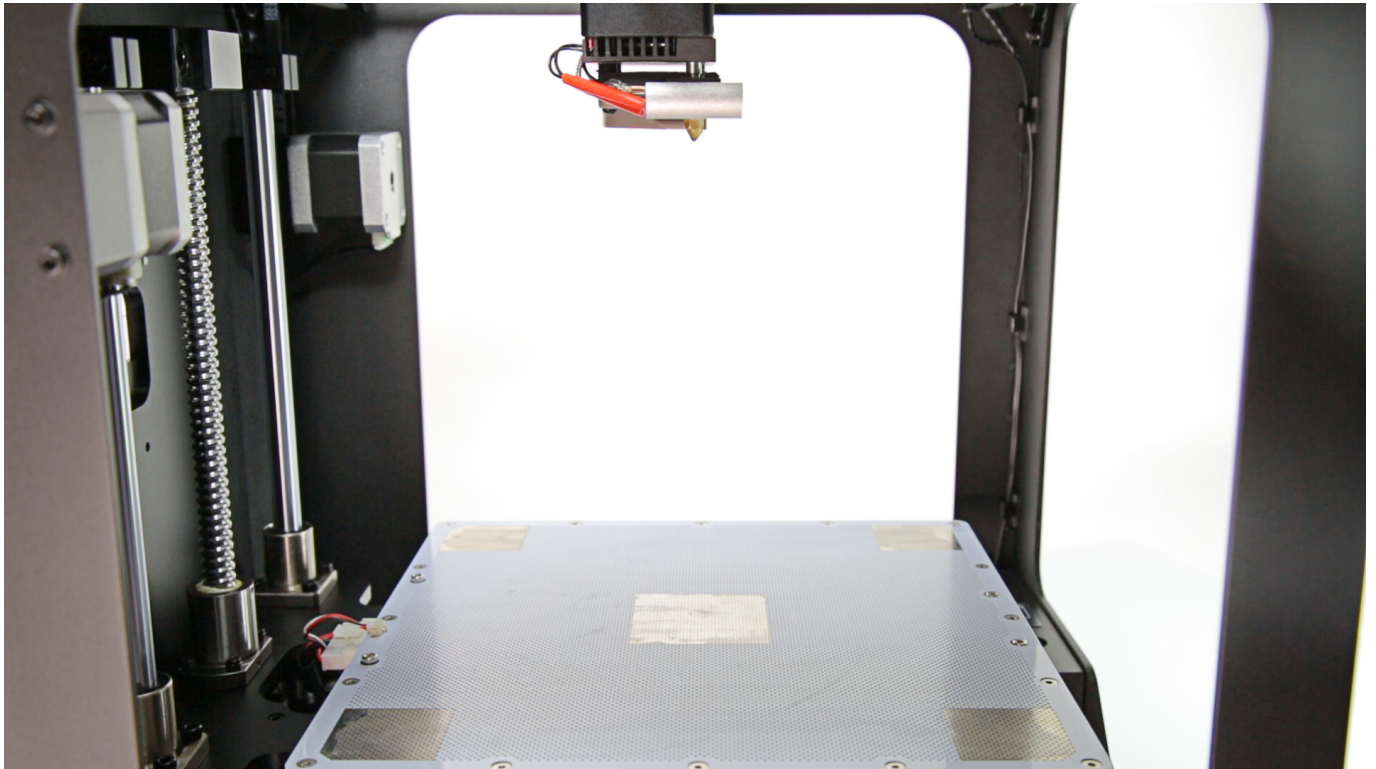
Voltage Measurements (Nozzle)



The next component that you should check is thermocouple. To do so, measure the voltage between the nozzle and five calibration squares. The correct value is about 3.2 V. If the value is correct, move on to the next step.

If the value is less than 3 V, replace the thermocouple/extruder PCB.

Resistance Measurements



The last step is to check the resistance between the nozzle and the thermocouple's signal cable. The correct value is 1-3 Ohm.

If you get higher or lower values, the nozzle is probably oxidized and needs to be replaced.

Contact Customer Support

If the measures described above do not resolve the problem, contact Customer Support through the support form available at: support.zortrax.com/support-form.