



MAKERBOT REPLICATOR 2 : TECHNICAL SUPPORT ARTICLE

THERMOCOUPLER (THERMOCABLE) REPLACEMENT

Version 1.3

This article relates to : Replicator 2

*Specifically : **Replacing the Thermocoupler that runs from the heaterblock to the motherboard** (pictures right)*

ABOUT THE CABLE

The thermocoupler (see Fig 1.1) is brown in colour and screws into the back of the aluminum heater block with a hex nut connector (see Fig 1.2) and runs to the motherboard. Some models of the Replicator 2™ this cable ran under the aluminum mounting block and in through a space next to the filament fan to join the main cable bundle that runs from the extruder to the motherboard.

WHAT CAN GO WRONG

When the cable threads under the mounting block, when a print fails filament can coat the wire. When pulling this filament off the wire some people have inadvertently ripped the cable from the hex mounting fitting.

This part is the most fragile within the machine. It can also break through use, and get damaged along the wire at points where it is bent sharply. For these reasons Bilby CNC upgrade the replacement cables to have reinforcing along the entire length of the cable, and wire replacements along a different wire path to reduce bends and resulting fatigue damage.

FITTING A THERMOCABLE

1. Unscrew the extruder assembly from the gantry.

You will find that undoing the two screws that are under the aluminum mounting block (the long block not pictured here) and lifting out the heater block assembly will provide for easier access to the thermo cable mounting point. The screws are on the underside of that block.

2. Remove old cable from the Heater block and attach new one

Unscrew the hex connector (Fig 1.2) from the heater block and screw in the new one.

3. Change wire path (Fig 1.5)

BilbyCNC recommend wiring the thermocoupler straight up so that it runs up to the side of the stepper motor into the extruder cable bundle

4. Connect the new cable to the motherboard

Turn your machine on its side and remove the plate protecting the motherboard. Connect the cable to the motherboard (note : the cable has a red and yellow cable. If you can not see this easily pull the gold coating back a bit). The motherboard labels the connections "red" and "yellow" (Fig 1.6) We suggest folding the wire into a loop (Fig 1.4) to improve connection as the wire is so thin it can come loose from connectors with normal use.

5. Test it working

Run "load filament" and test it is all working. You can do this with the heaterblock just sitting in place—does the machine have any errors on startup? All good? Then fit it properly. You need to remove the old cable and insert the new one into the extruder bundle. This will require some zip tie removal and threading.

BilbyCNC hopes you found this helpful.

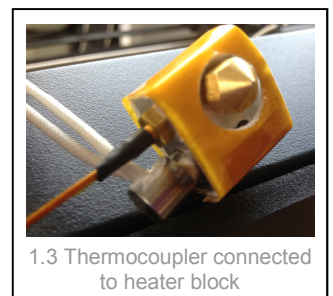
Please call 1800 245 297 if you need further assistance



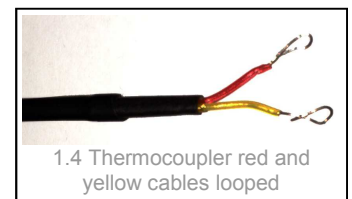
1.1 Thermocable



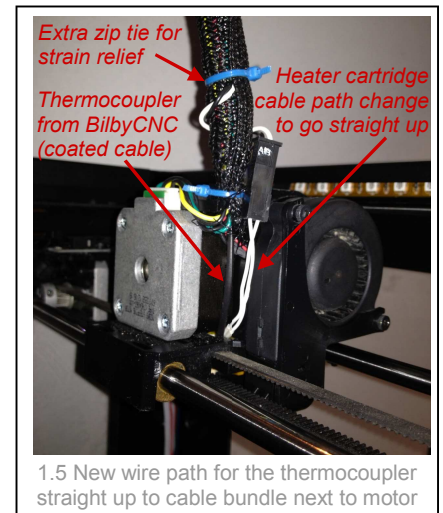
1.2 Hex connector that screws into heater block



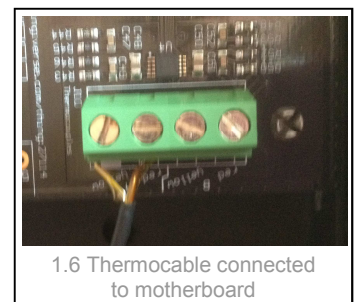
1.3 Thermocoupler connected to heater block



1.4 Thermocoupler red and yellow cables looped



1.5 New wire path for the thermocoupler straight up to cable bundle next to motor



1.6 Thermocable connected to motherboard