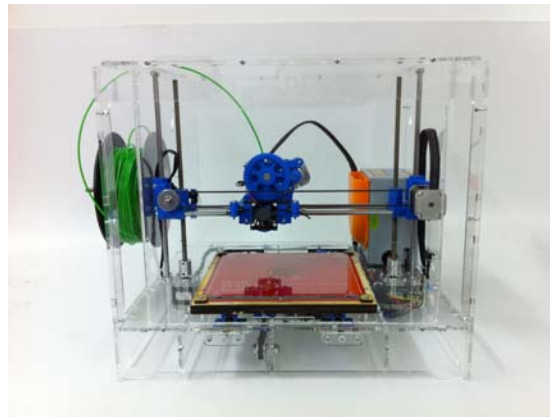




Mendel 3D Printer Assembly



Section 6

Wiring the Electronics

Step 1: Y Endstop Assembly

Parts Needed:

- Micro switch with Brown wires
- M3 x 12mm screw (2 pcs)
- M3 Hex nut
- Plastic endstop holder (2 pcs)
- Frame Assembly

Tools Needed:

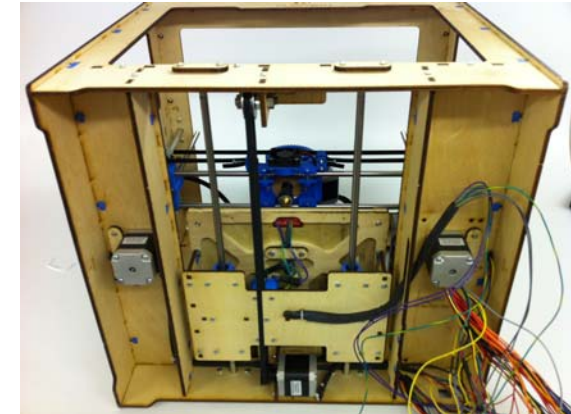
- Visegrip Pliers
- Philips screwdriver



Locate the endstop holders, M3 x 16mm screws and M2 hex nuts shown on the picture above.



Insert an M3 nut in the nut trap as shown. Use the screw to help you press the nut in or worst case use visegrip pliers to press them in. Do it for both endstop holders.



Position your frame assembly so that the bottom panel is facing you and the Y-Motor is facing down. Locate the endstop switch that is next to the motor.



Screw-in M3 x 12mm screws into the microswitch holes (2 holes) to make threads on them then remove the screws.



Using two M3 x 12mm screws, attach the microswitch to the endstop holder as shown above.



Snap the endstop assembly into the smooth rod next to the Y motor as shown on the picture above and use an M3 x 16mm screw to tighten it to the rod.

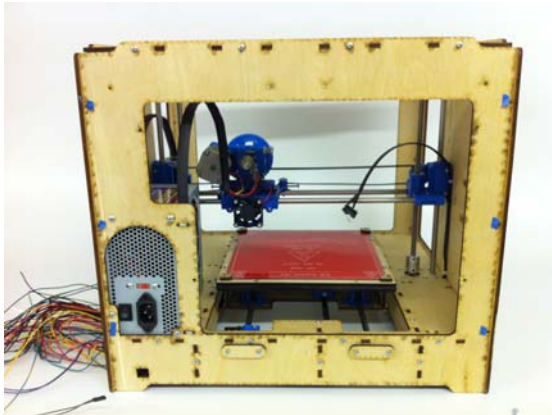
Step 2: X Endstop Assembly

Parts Needed:

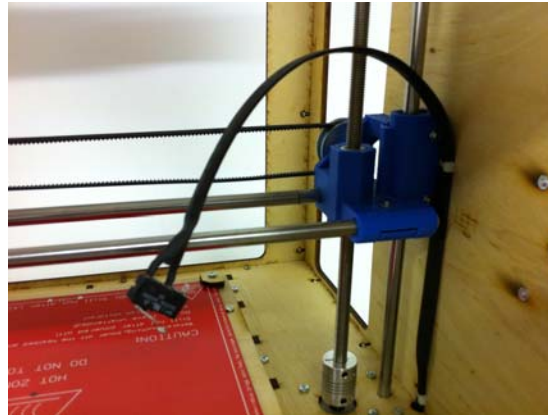
- Micro switch with Brown wires
- M3 x 12mm screw (2 pcs)
- M3 Hex nut
- Plastic endstop holder (2 pcs)
- Frame Assembly

Tools Needed:

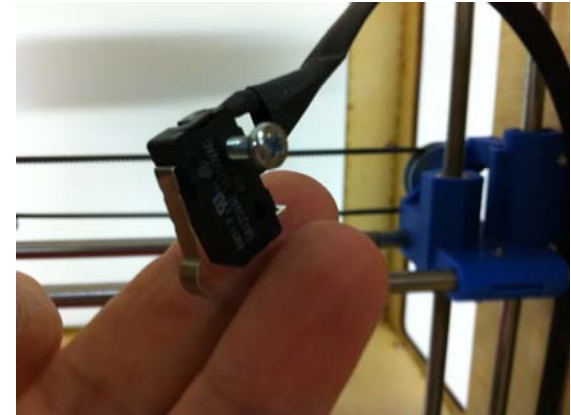
- Visegrip Pliers
- Philips screwdriver



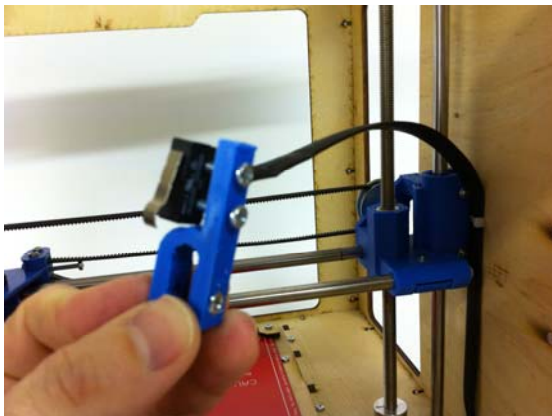
Flip over your machine so that the back panel is facing you.



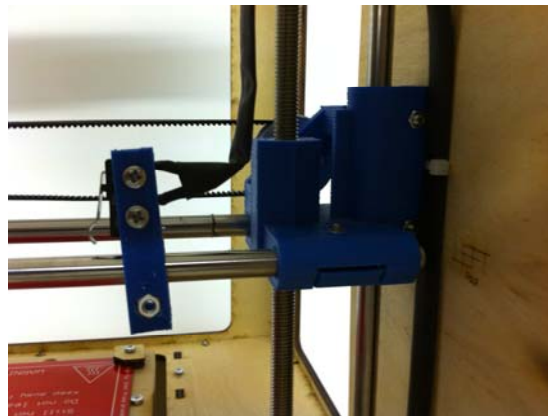
Locate the microswitch shown.



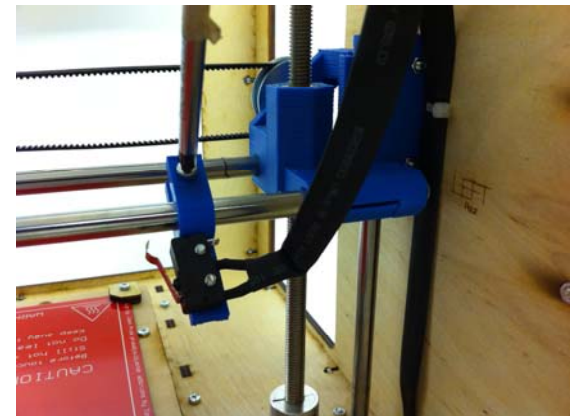
Screw-in M3 x 12mm screws into the microswitch holes (2 holes) to make threads on them then remove the screws.



Using two M3 x 12mm screws, attach the microswitch to the endstop holder as shown above.



Snap the endstop assembly onto the smooth rod next to the X idler as shown on the picture above



Use an M3 x 16mm screw to clamp it to the rod. Do not tight yet. Flip the endstop back up as in previous picture

Step 3: Z Endstop Assembly

Parts Needed:

- Micro switch with Brown wires
- M3 x 12mm screw (2 pcs)
- M3 Hex nut
- Plastic endstop holder (2 pcs)
- Frame Assembly

Tools Needed:

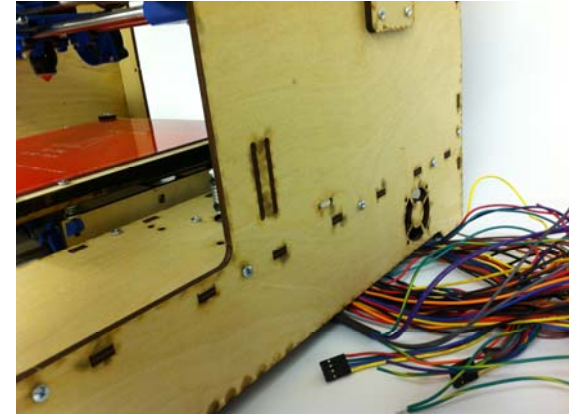
- Visegrip Pliers
- Philips screwdriver



Locate the micro switch shown as well as the plywood side spacer.



Screw-in M3 x 12mm screws into the microswitch holes (2 holes) to make threads on them then remove the screws.



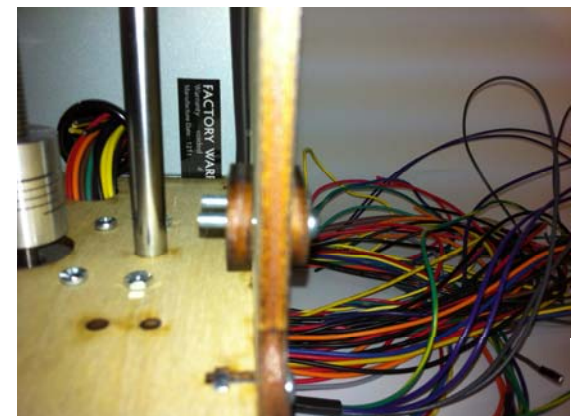
Locate on the left panel the 2 slots shown on the picture above. They are directly below the X-end-motor almost at the bottom panel.



Insert the M3 x 20mm screws into one of the spacers



Insert into the slots



Insert the second spacer.

Step 4: Fan Assembly

Parts Needed:

- Frame Assembly
- Fan
- Laser cut Fan Tray
- M3 x 25mm screws (4 pcs)
- M3 nuts (4 pcs)

Tools Needed:

- Philips screwdriver



Insert the endstop wire on the same hole where the X-Motor is



Screw in the micro switch



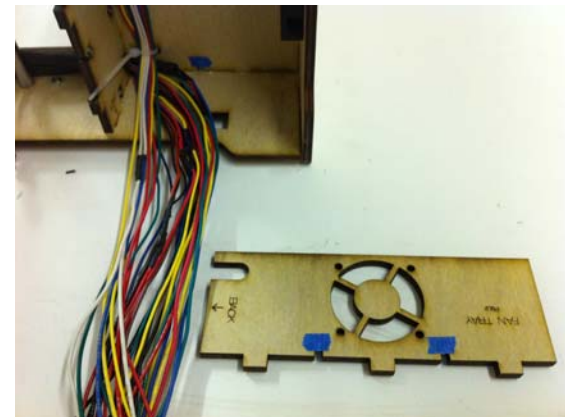
This is how it should look once finished.



Locate the Fan cutout shown above. It's on the lower side of the right panel.



Install the Fan



Locate the Fan Tray shown above. It will be installed on top of the fan.

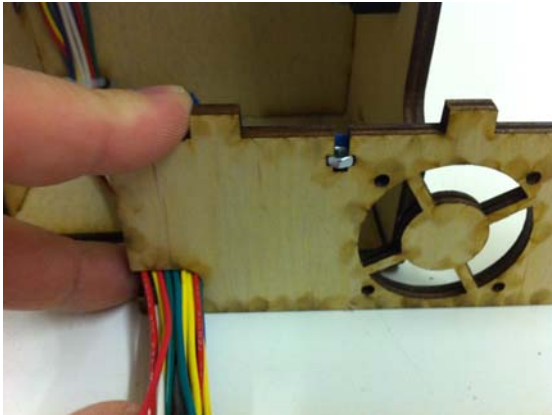
Step 5: Card Tray Assembly.

Parts Needed:

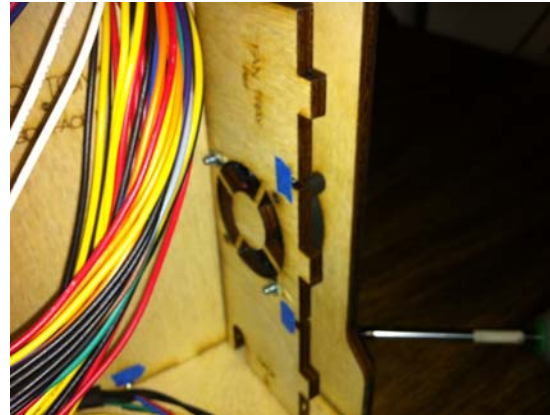
- Laser Cut Card tray
- Controller Card
- M3 x 25mm screw (3 pcs)
- M3 Hex nut (3 pcs)
- Heatsinks (4 pcs)
- Thermal Adhesive (4 pcs)

Tools Needed:

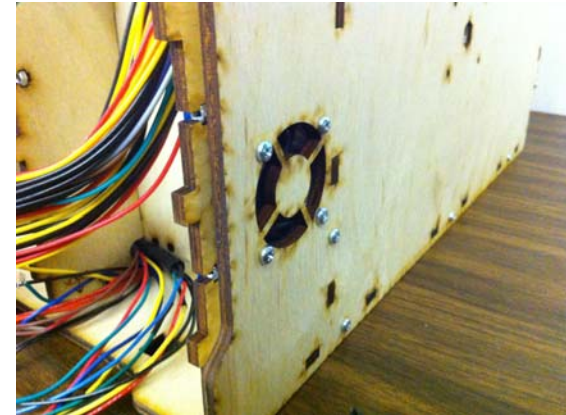
- Philips screwdriver



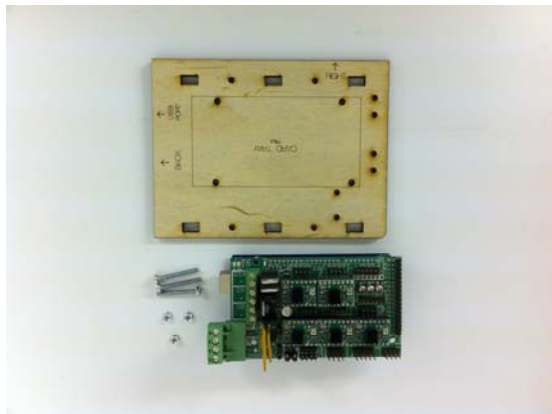
Before Attaching, make sure you run the cables coming from the X motor, Z1 Motor and Z-end-stop below the fan and thru the slot on the Fan tray shown above.



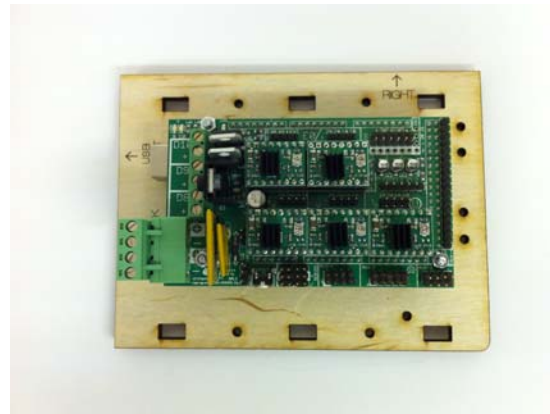
Attach the Fan Tray. Ignore the fact that the wires are not on the slot... this is the only picture available to show the Fan Tray installed. The wires should be under the Fan and thru that slot.



Install remaining two screws and nuts as shown.



Locate the parts shown above.



Install the controller card onto the Card Tray using 3 M3 x 25mm screws and M3 nuts. The screws insert from below and the nuts go on the top.

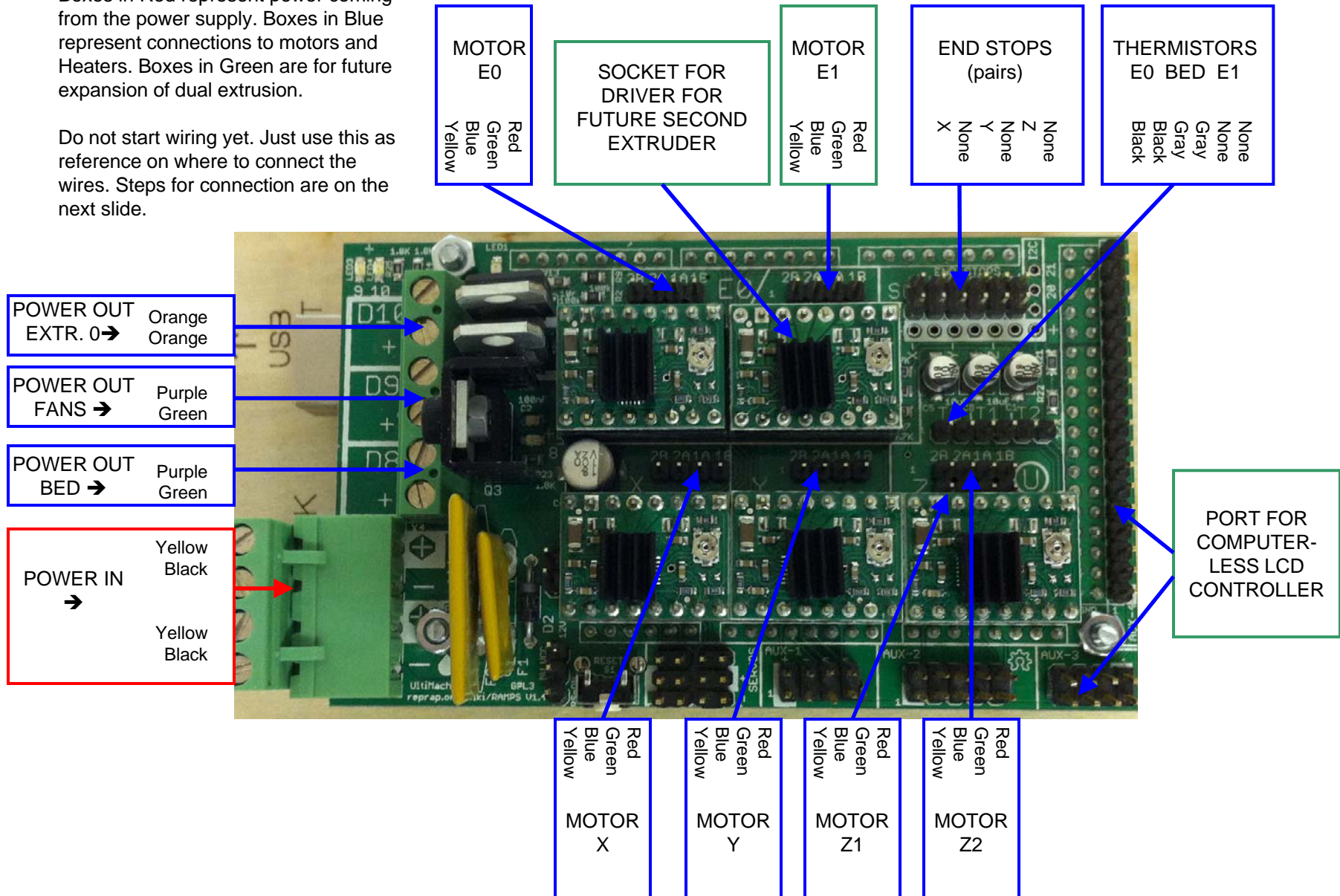


This is how the Card Tray should look.

Step 6: Card wiring.

Boxes in Red represent power coming from the power supply. Boxes in Blue represent connections to motors and Heaters. Boxes in Green are for future expansion of dual extrusion.

Do not start wiring yet. Just use this as reference on where to connect the wires. Steps for connection are on the next slide.



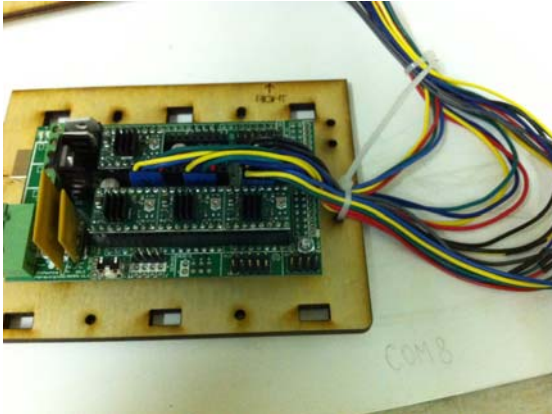
Step 7: Wire Bundling.

Parts Needed:

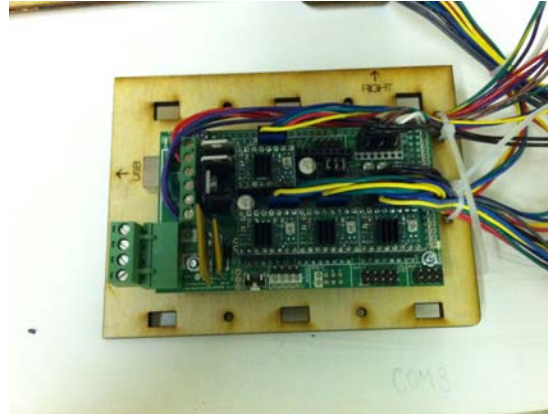
- Laser Cut Card tray
- Controller Card
- M3 x 25mm screw (3 pcs)
- M3 Hex nut (3 pcs)
- Heatsinks (4 pcs)
- Thermal Adhesive (4 pcs)

Tools Needed:

- Philips screwdriver



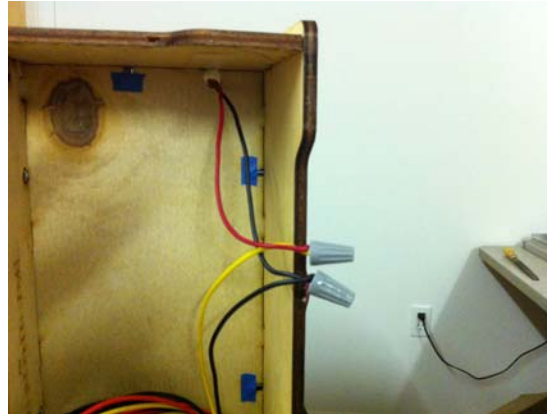
Using the diagram on the previous slide connect the X, Y, Z1, and Z2 motor wires, as well as Extruder 0 and Bed Thermistors. Bundle wires and zip tie to the card tray as shown



Continue connecting the power for the heated bed and Extruder 0, Extruder 0 Motor and endstop wires. Bundle cables and zip tie to the card tray as shown.



Use wire nuts to connect the brown wire on the Power Supply with one of the Orange Wires. Do the same with the green wire and one of the black ones.



Use a yellow and black wire from the power supply to connect to the led strip.



Bundle any wires left from the power supply around the Z1 motor. Alternatively you could trim them down but keeping them allows for quick addition of options later on.