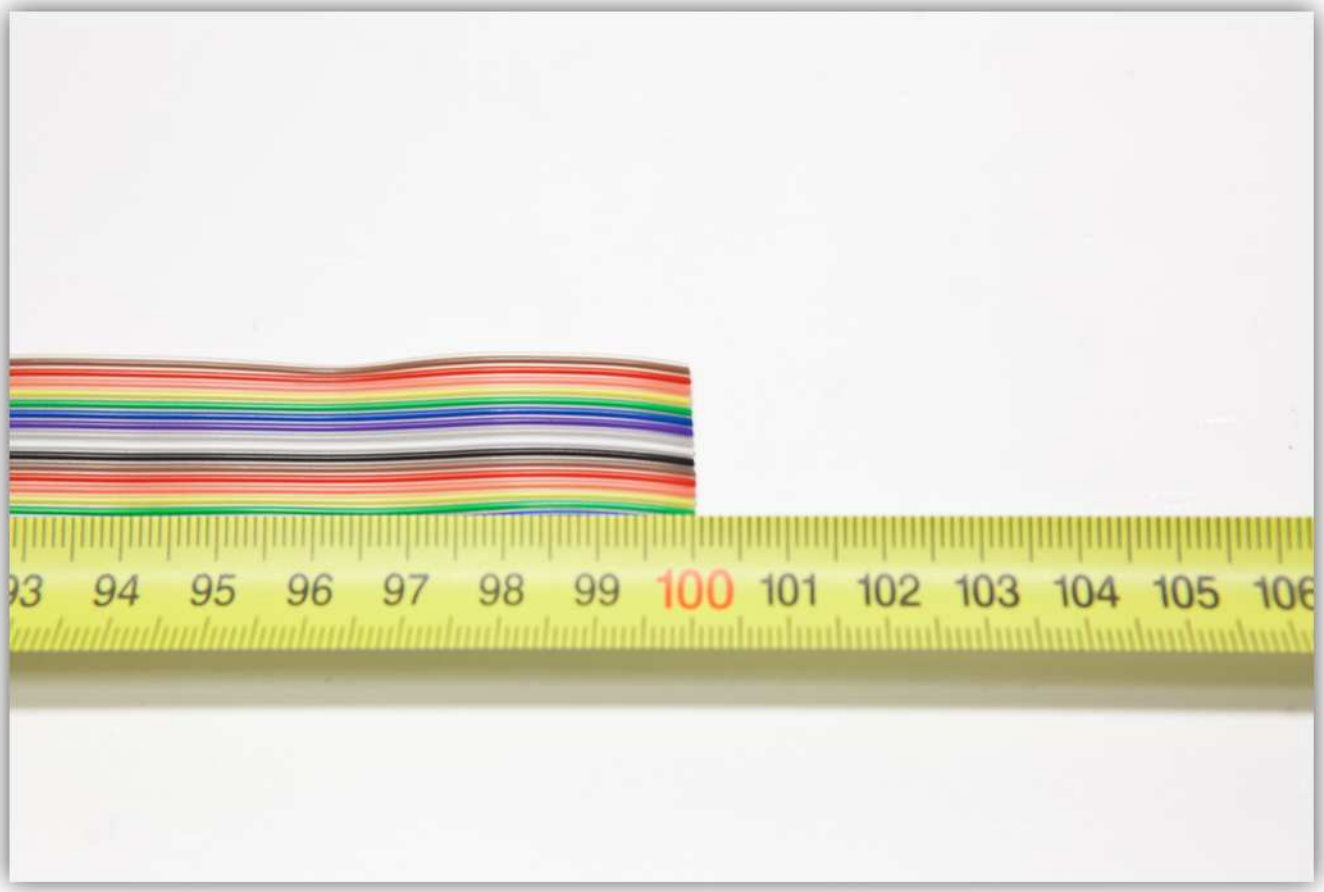
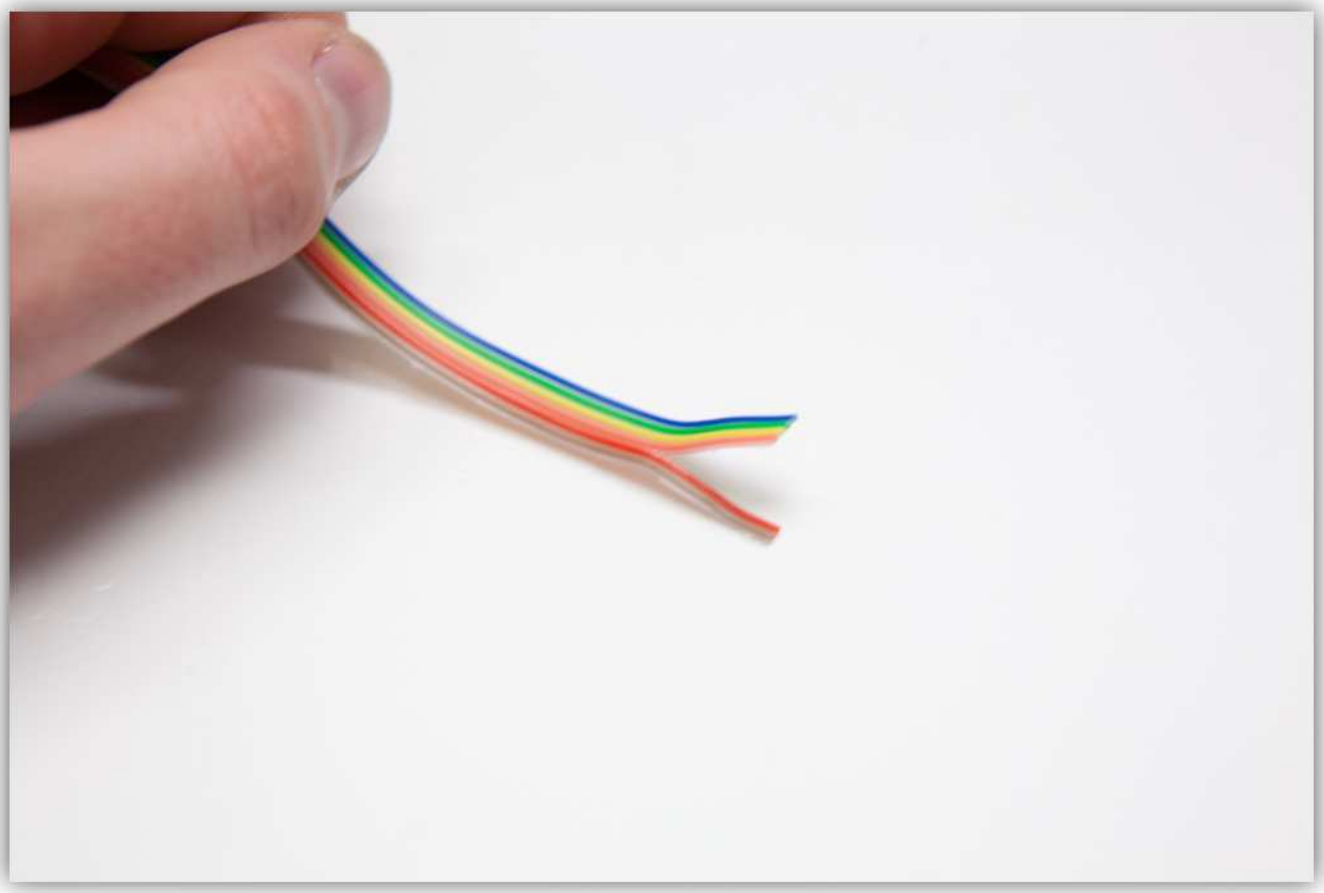
016 – WIRING THE Z AXIS MOTOR AND MICRO SWITCH

Take the MULTI-COLOURED FLATCABLE out of the bag labelled with 40. Cut a piece of 100 cm (3.94"). **This length is critical, measure twice before cutting.**

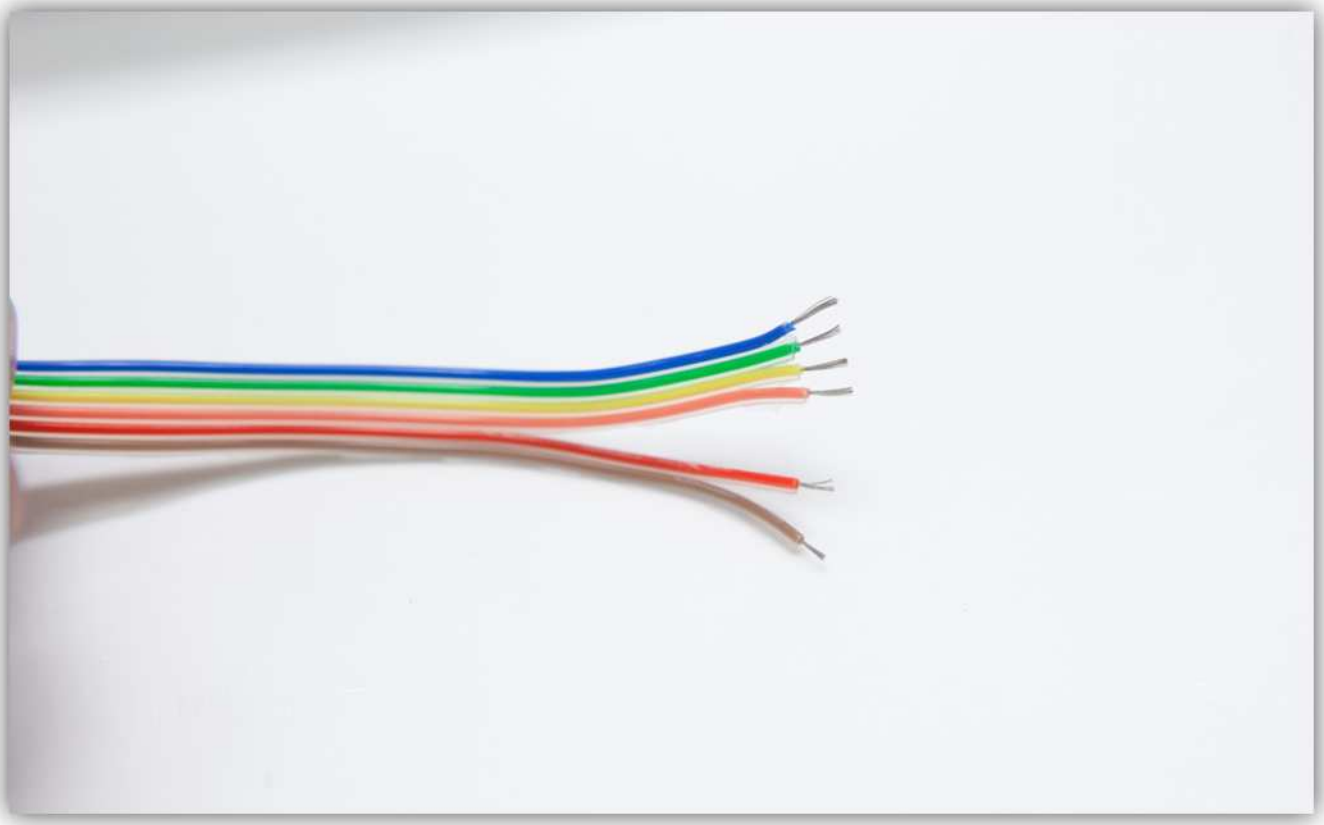


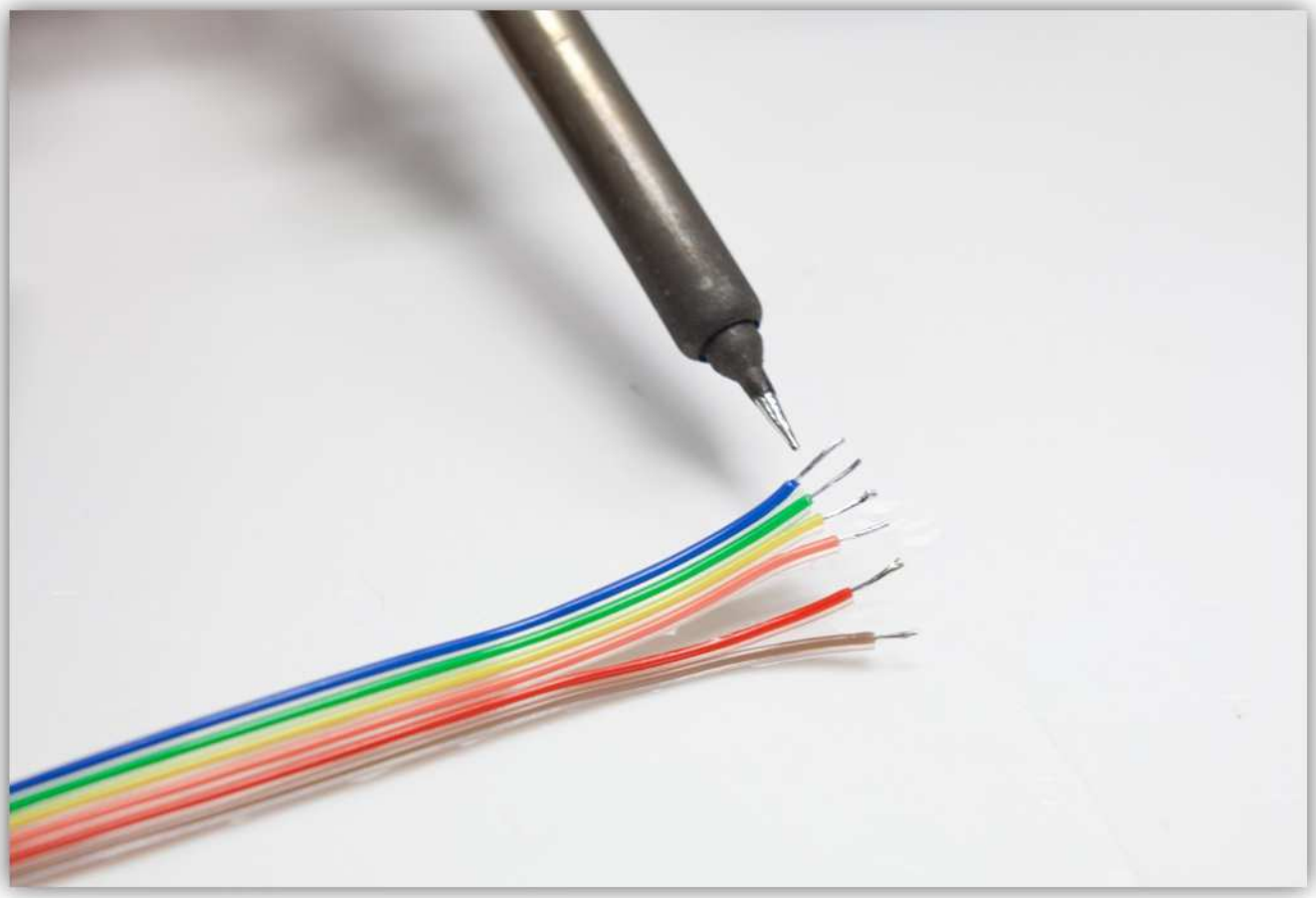
Detach (rip them of) the outer **Blue, Green, Yellow, Orange, Red** and **Brown** colour wires from the pack over the whole length. We will use these colours for this chapter.

Detach the **Brown** and **Red** wire for 2 cm (0.79").



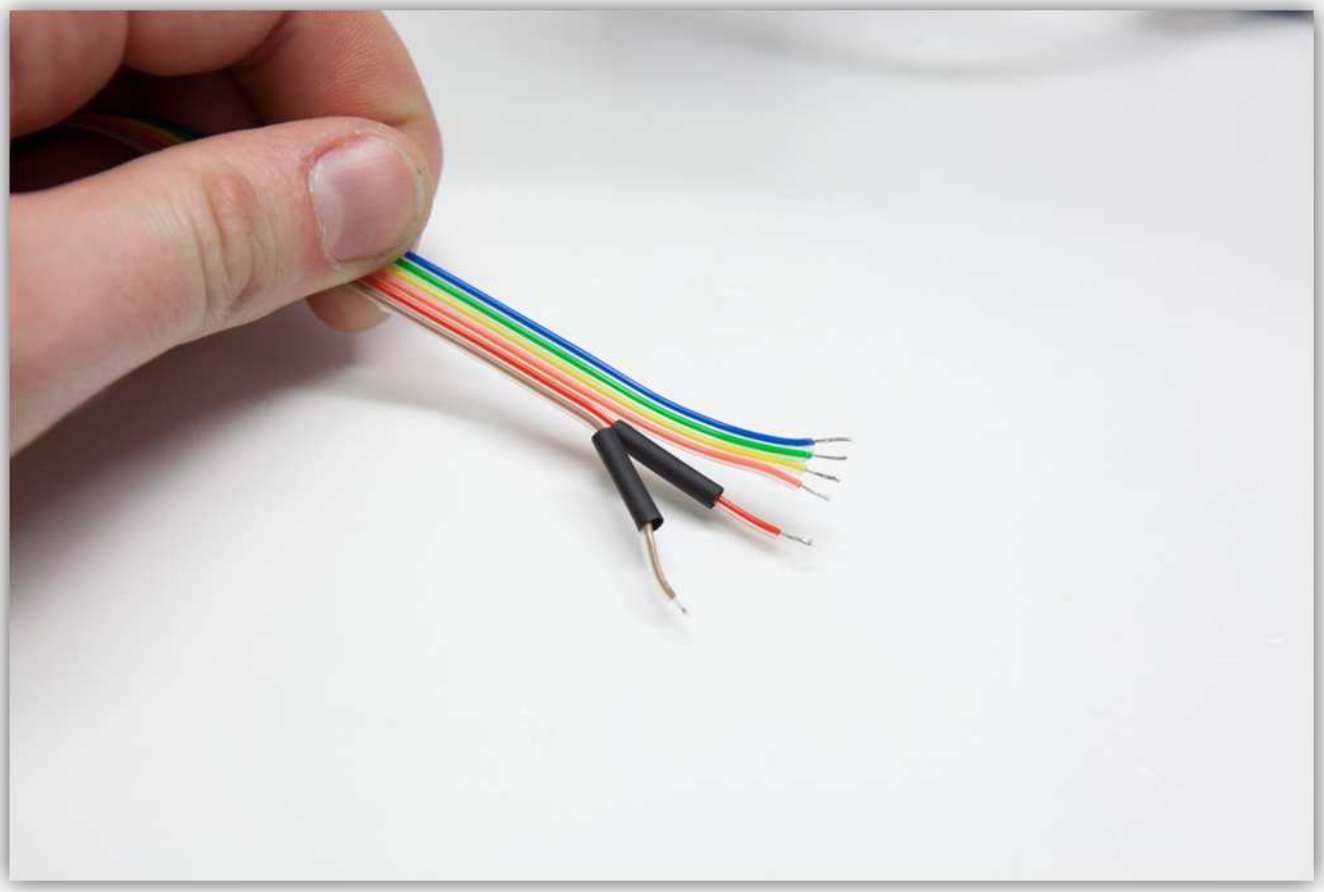
Strip and tin the wires.



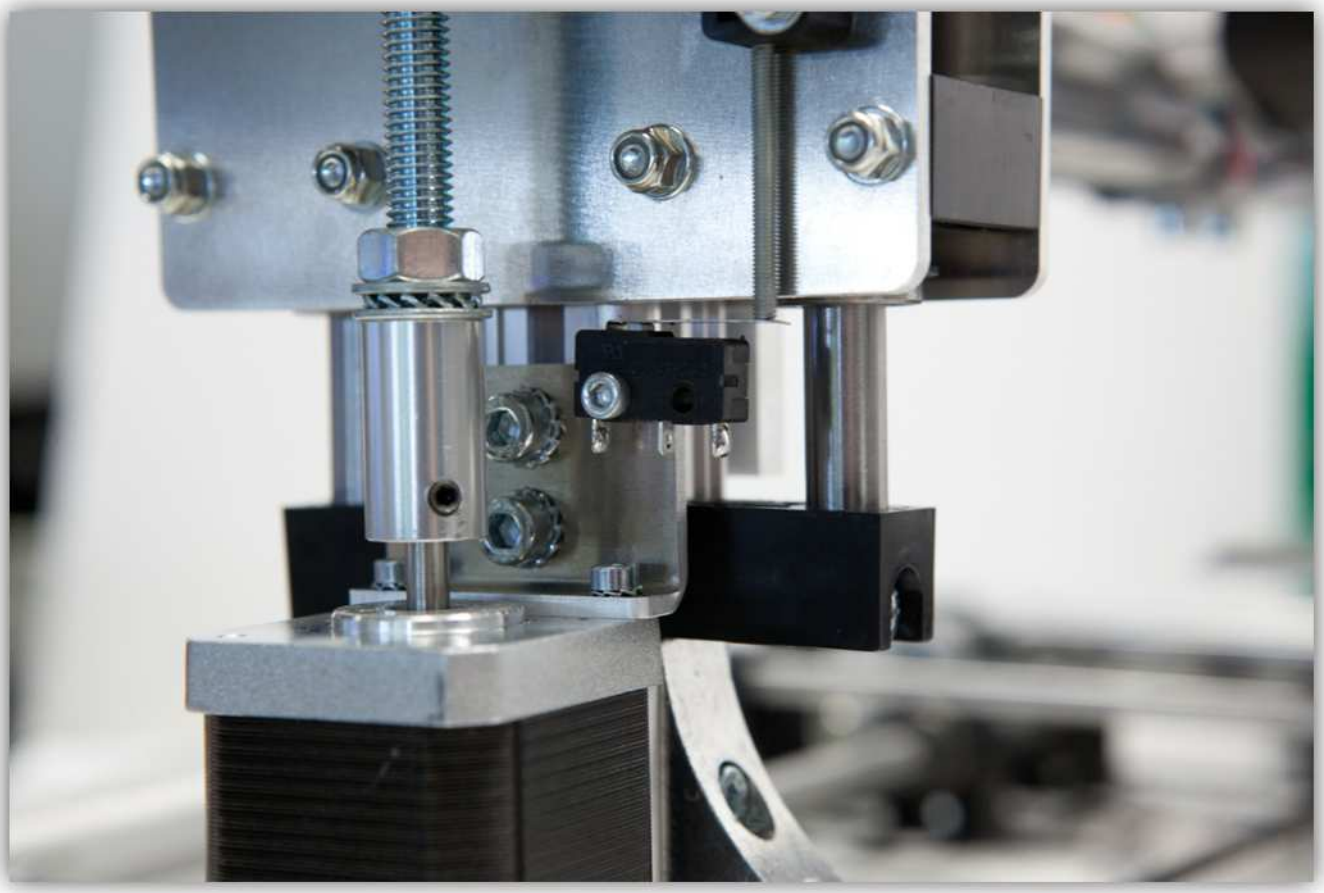


Cut 4 medium size pieces of the smallest heat shrink tubing of 1.5 cm (0.59") long

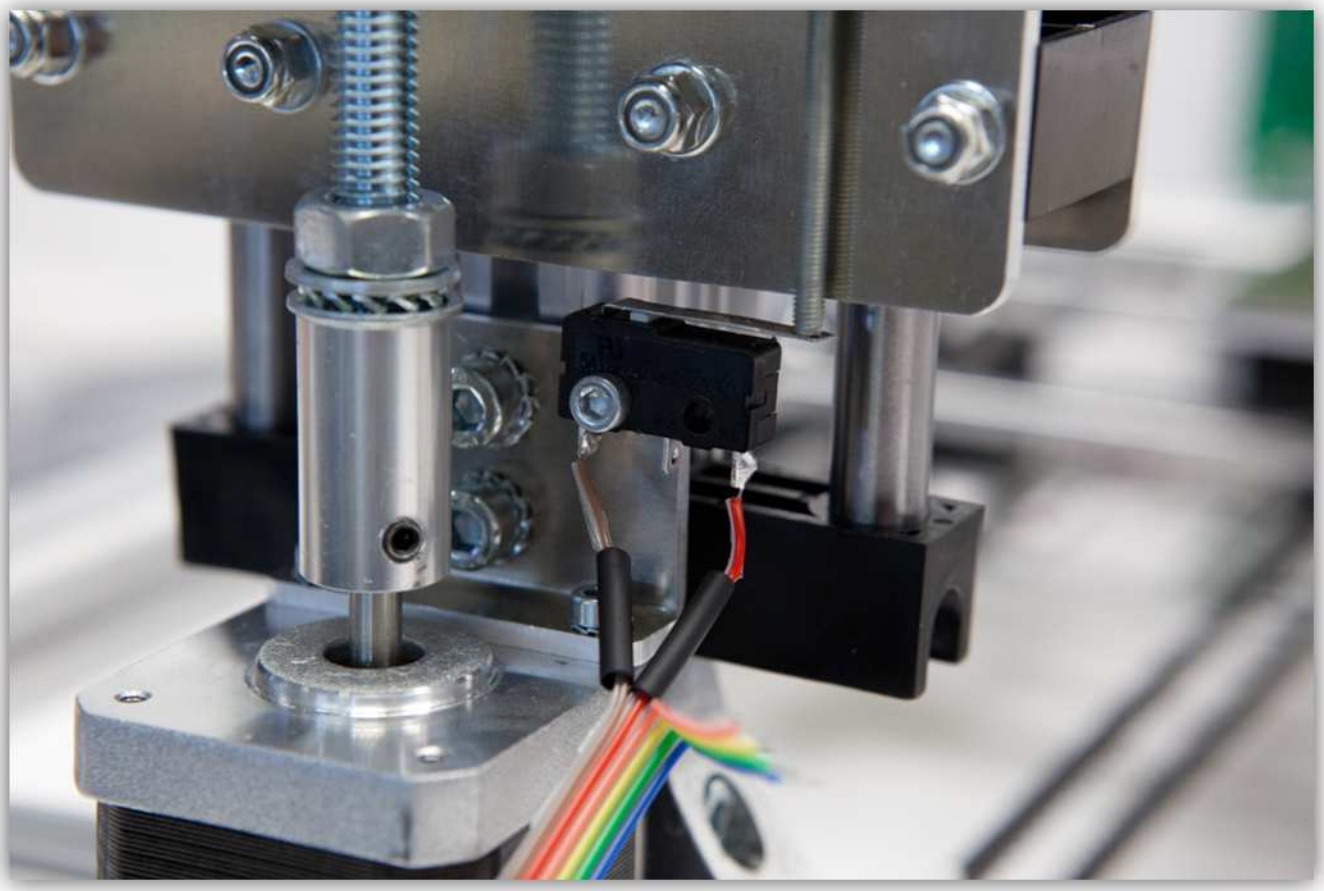
Slide the 2 medium size pieces of heat shrink tubing over the **Red** and **Brown** wires of the flat cable.



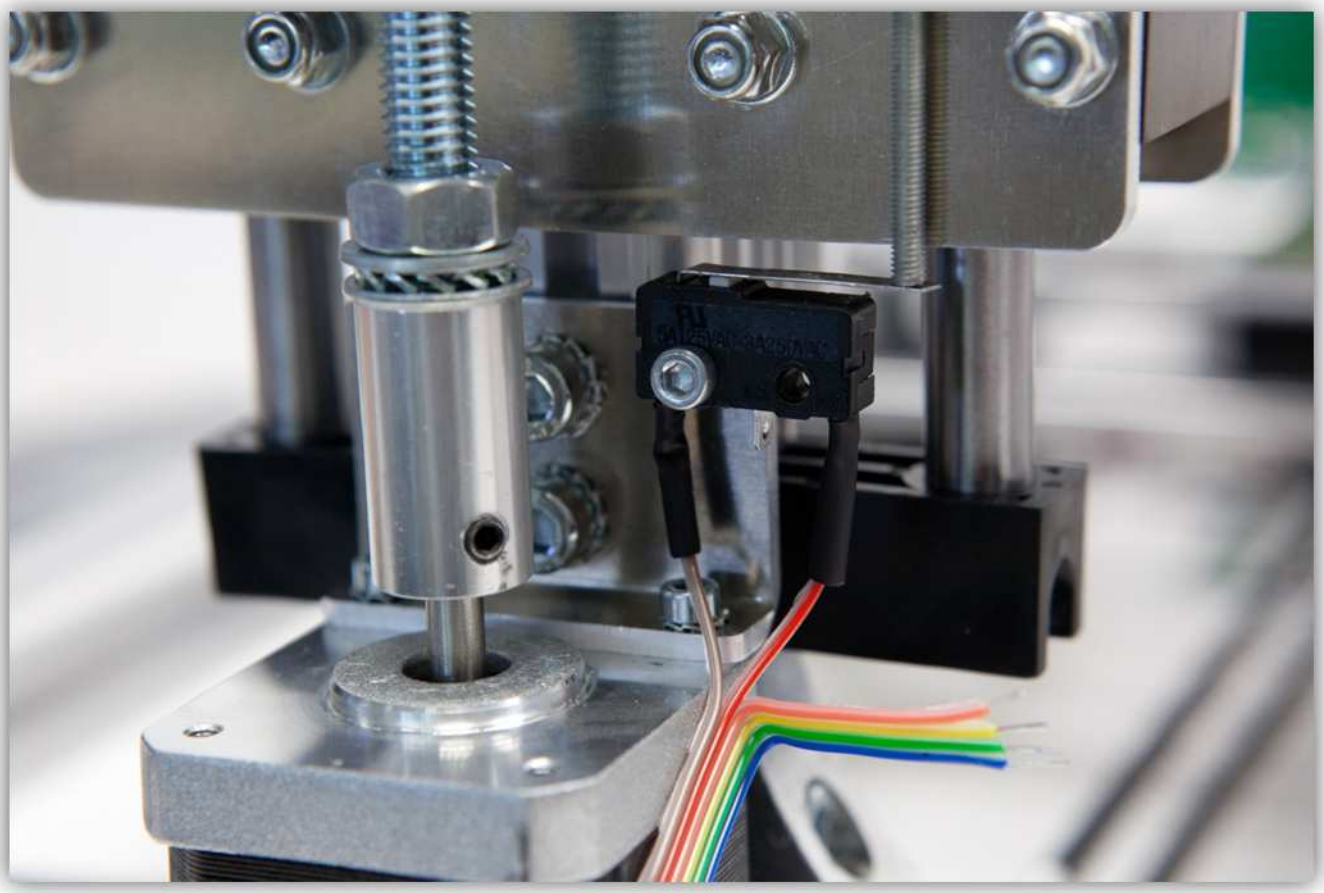
Tin the two outer contacts of the Z micro switch.

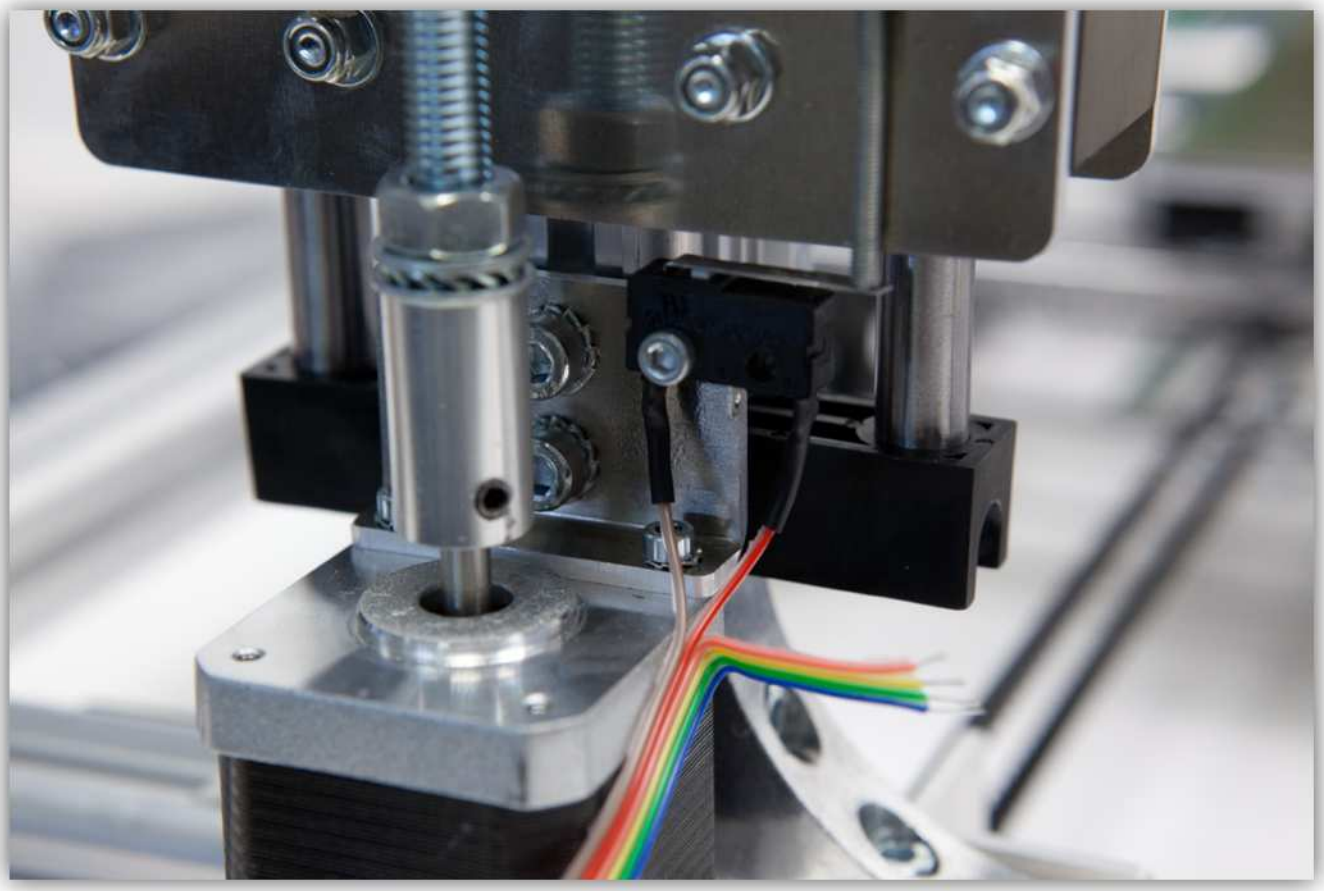


Solder the **Red** and **Brown** wires to the contacts.

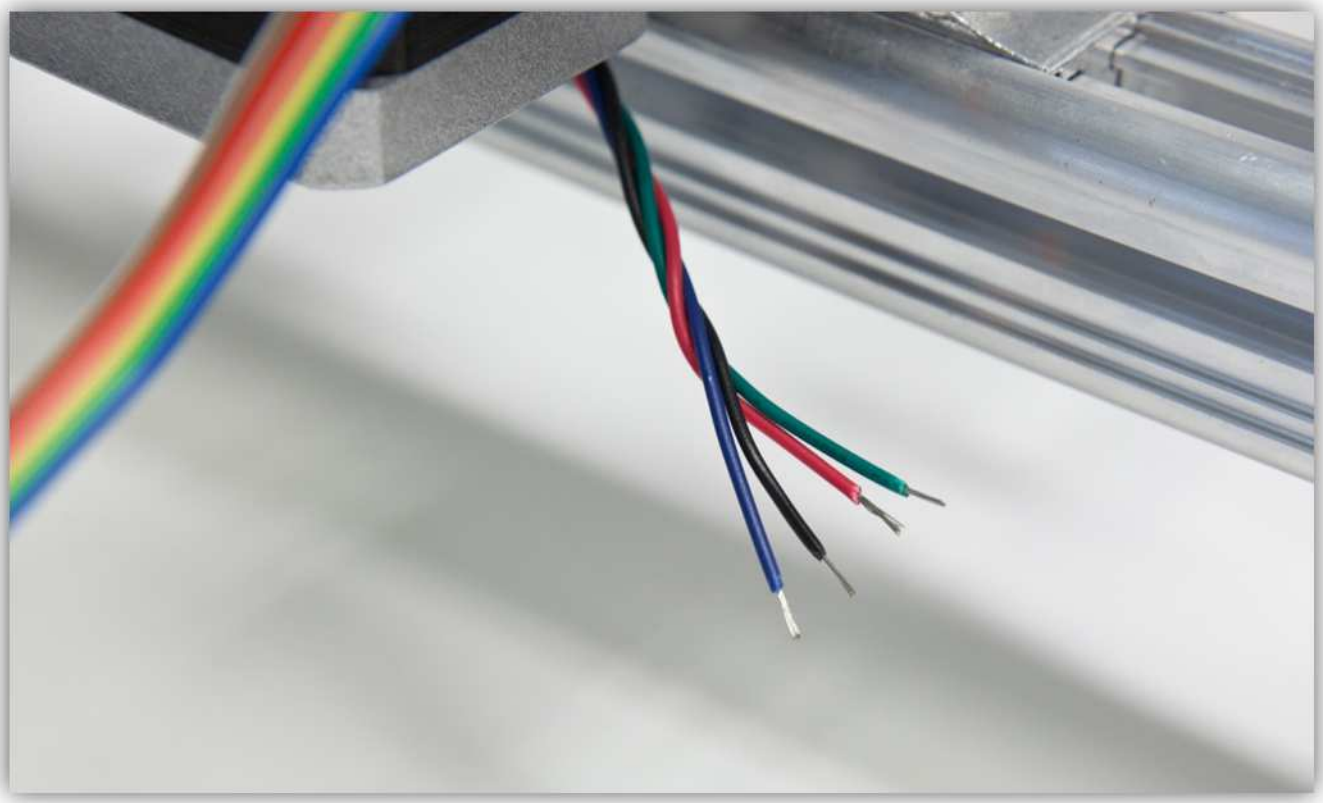


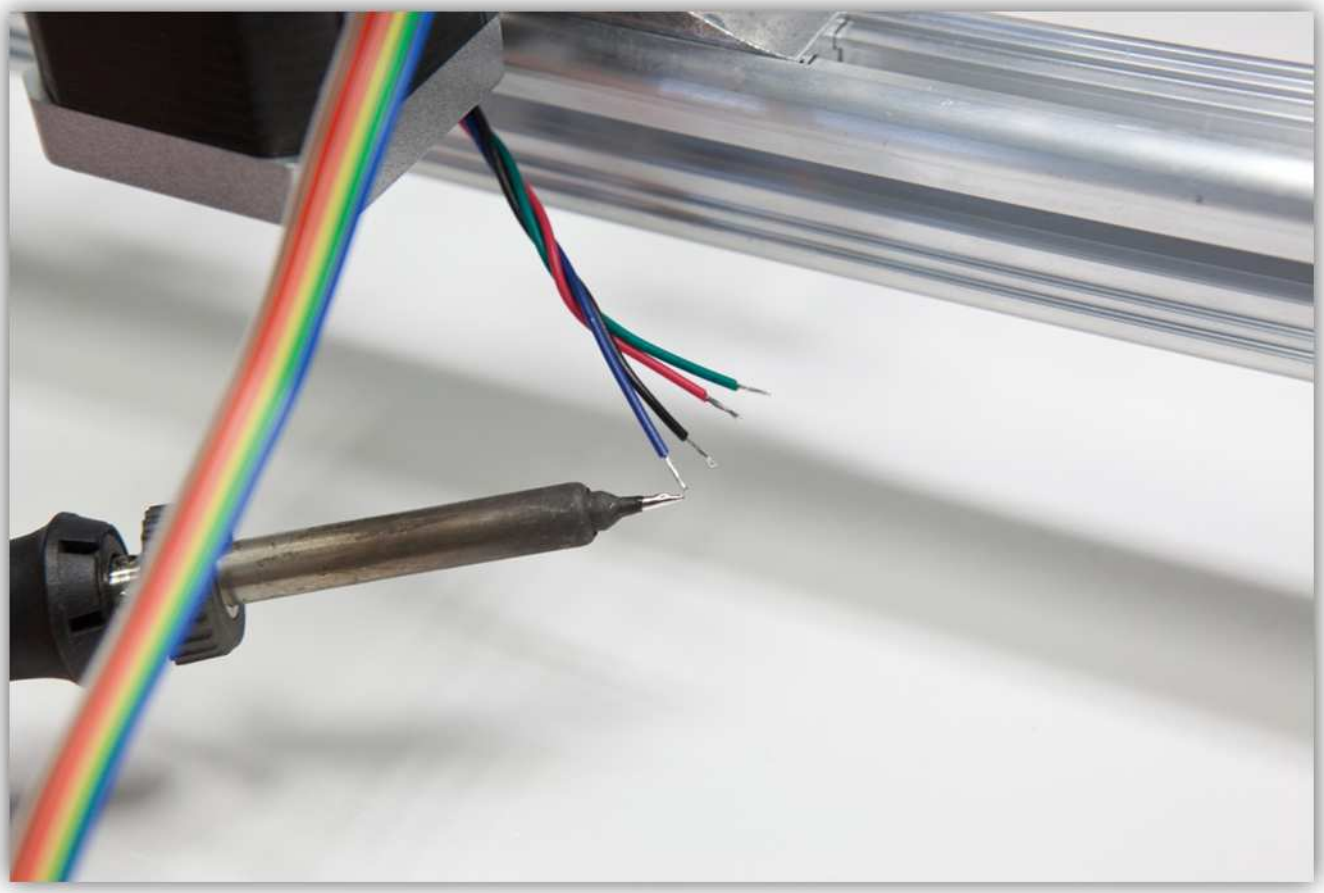
Slide the heat shrink tubes over the contacts and heat them up.





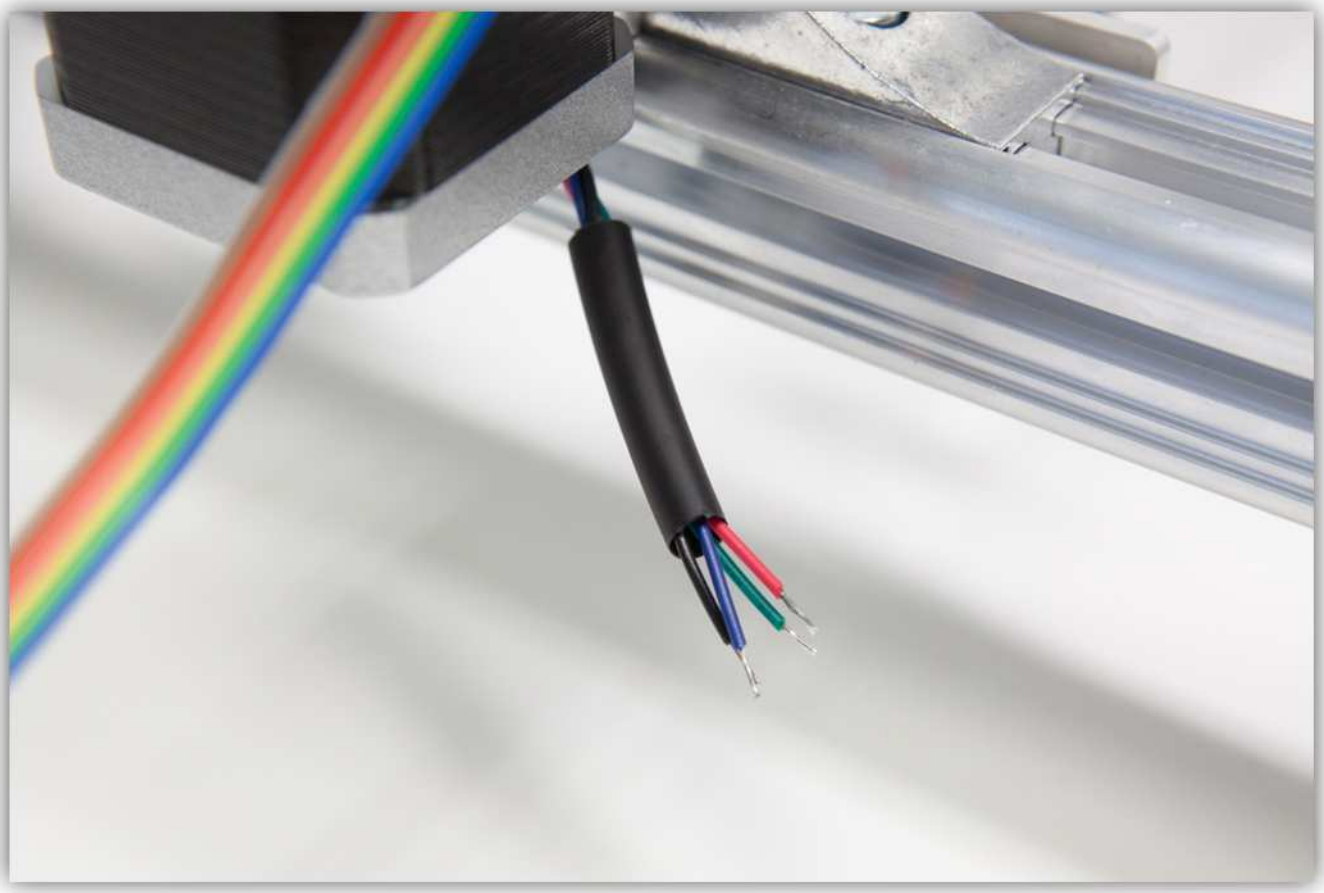
Shorten the wires of the Z motor a bit and thin them.



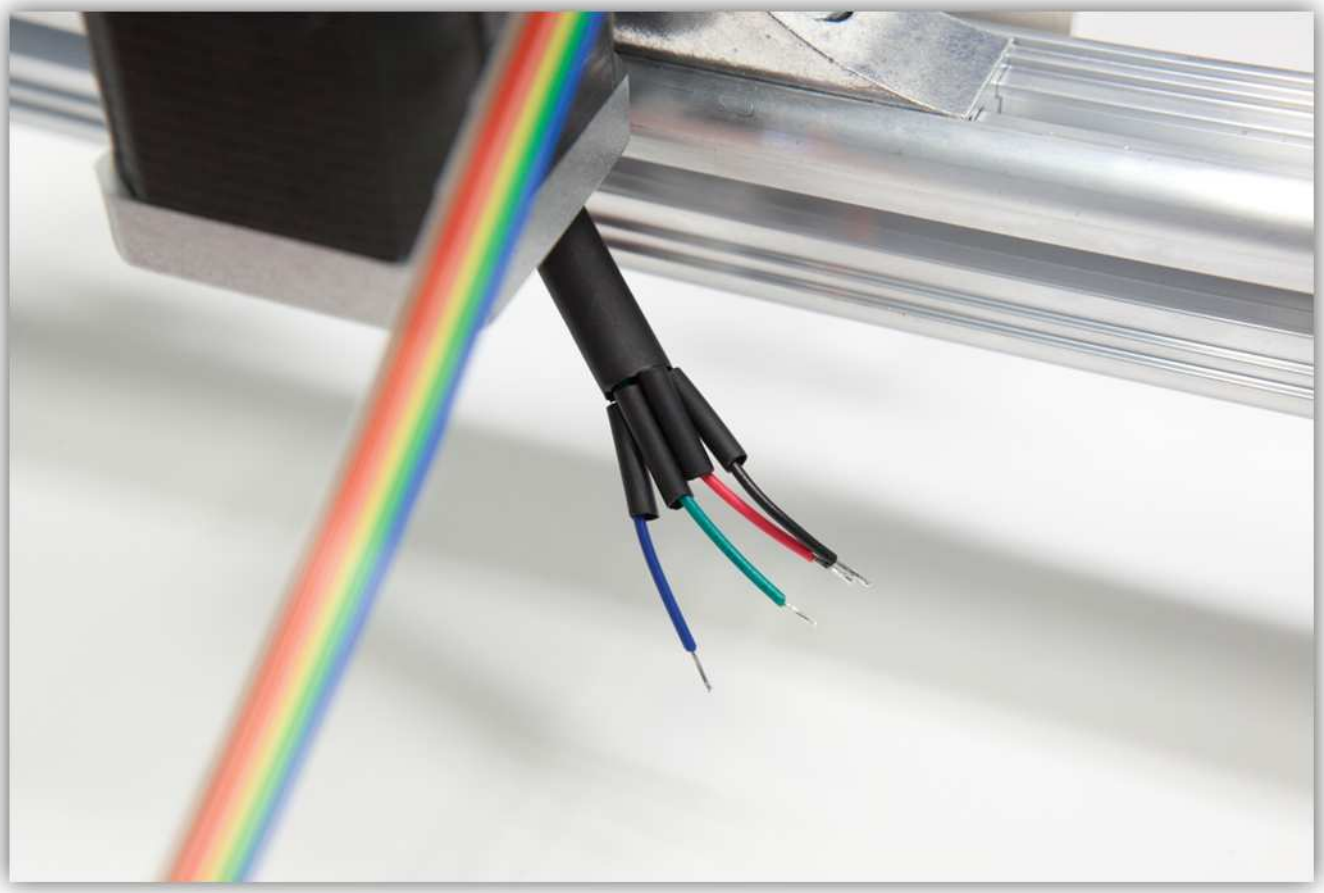


Cut 4 small pieces of the smallest heat shrink tubing of 1.5 cm (0.59") long and 1 large piece of the biggest heat shrink tubing of 4 cm (1.57"). You can find the heat shrink tubing in the bag labelled with 40.

Slide the biggest piece of heat shrink tubing over the 4 wires from the motor.

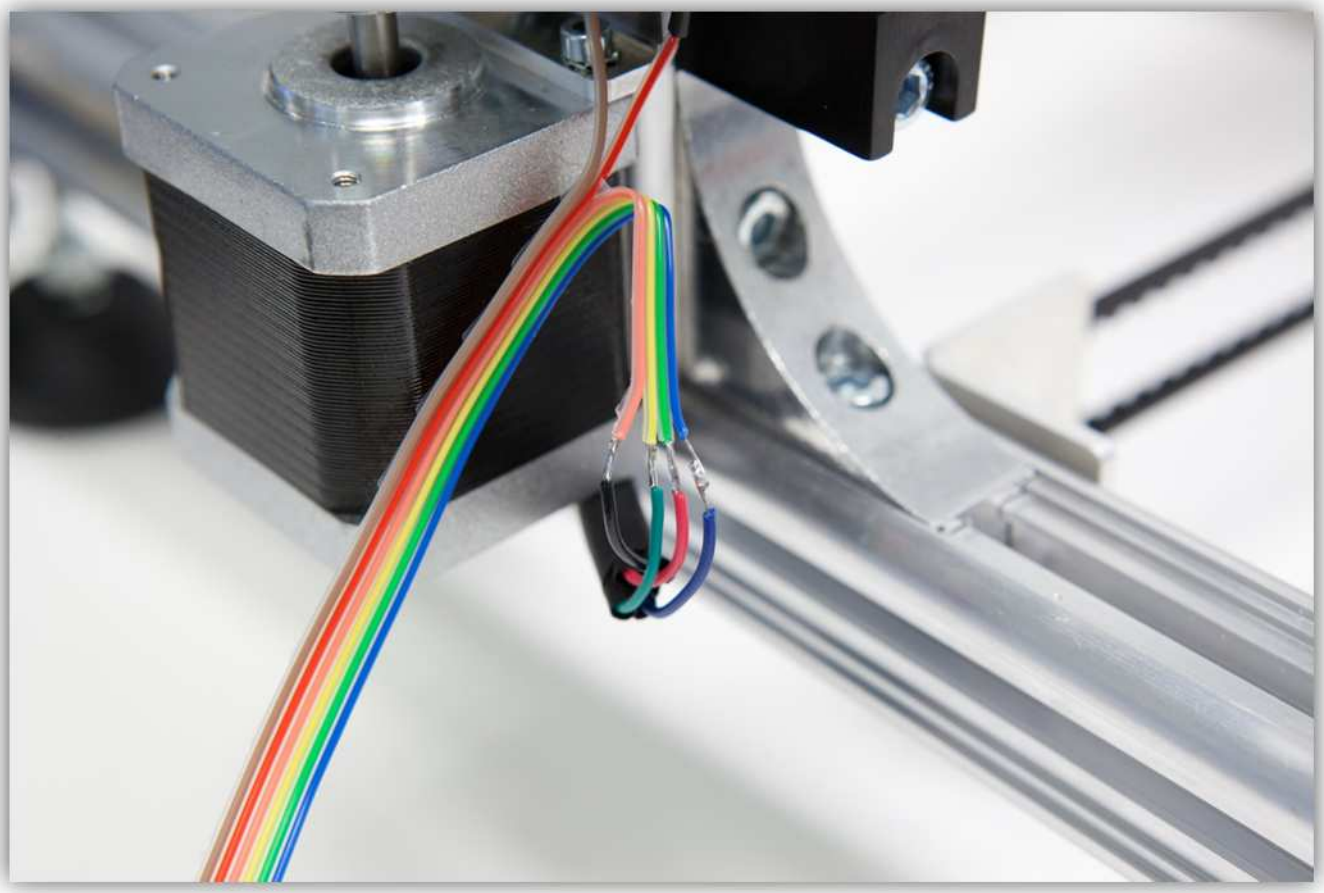


Slide the 4 small pieces of heat shrink tubing over the 4 wires of the motor.

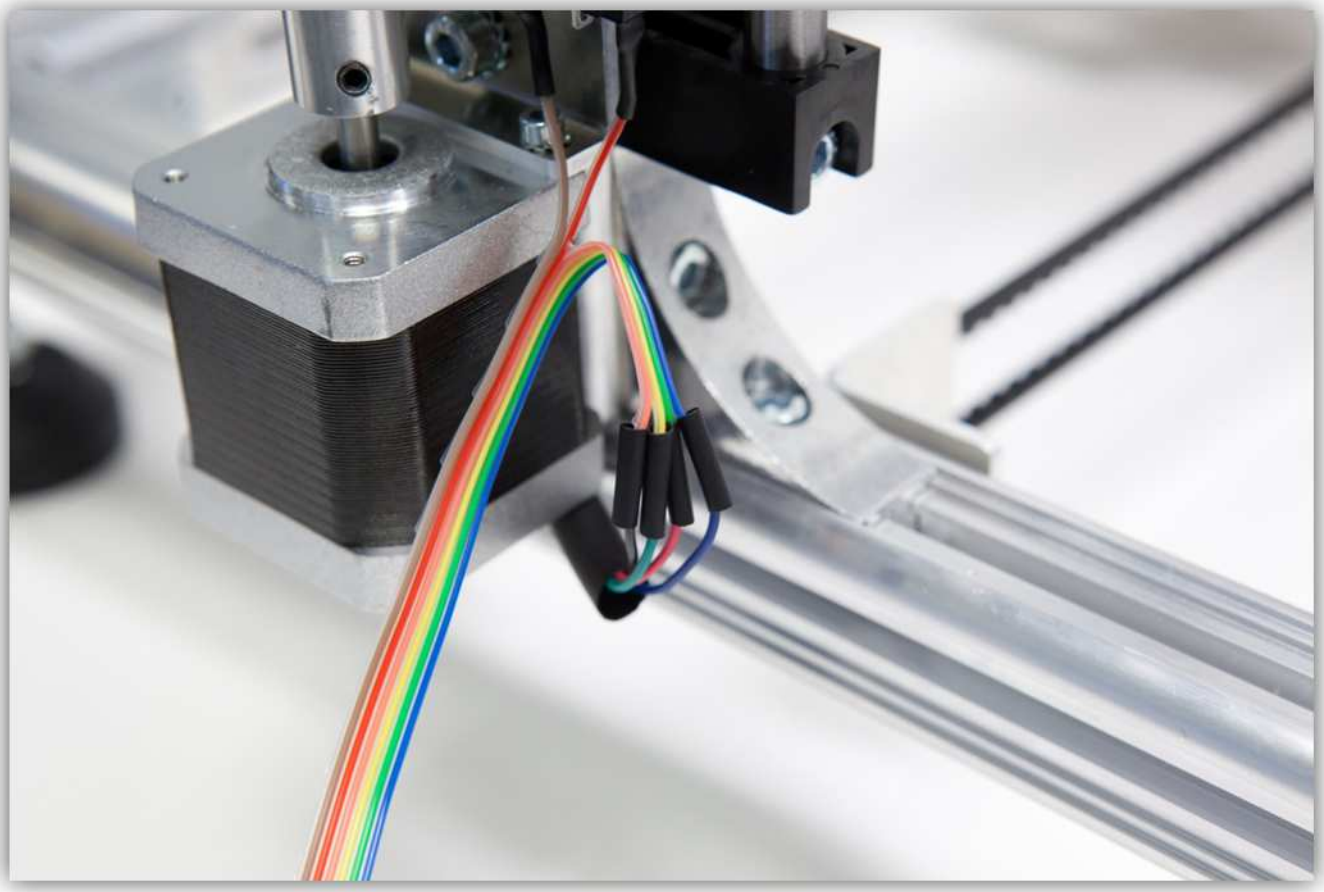


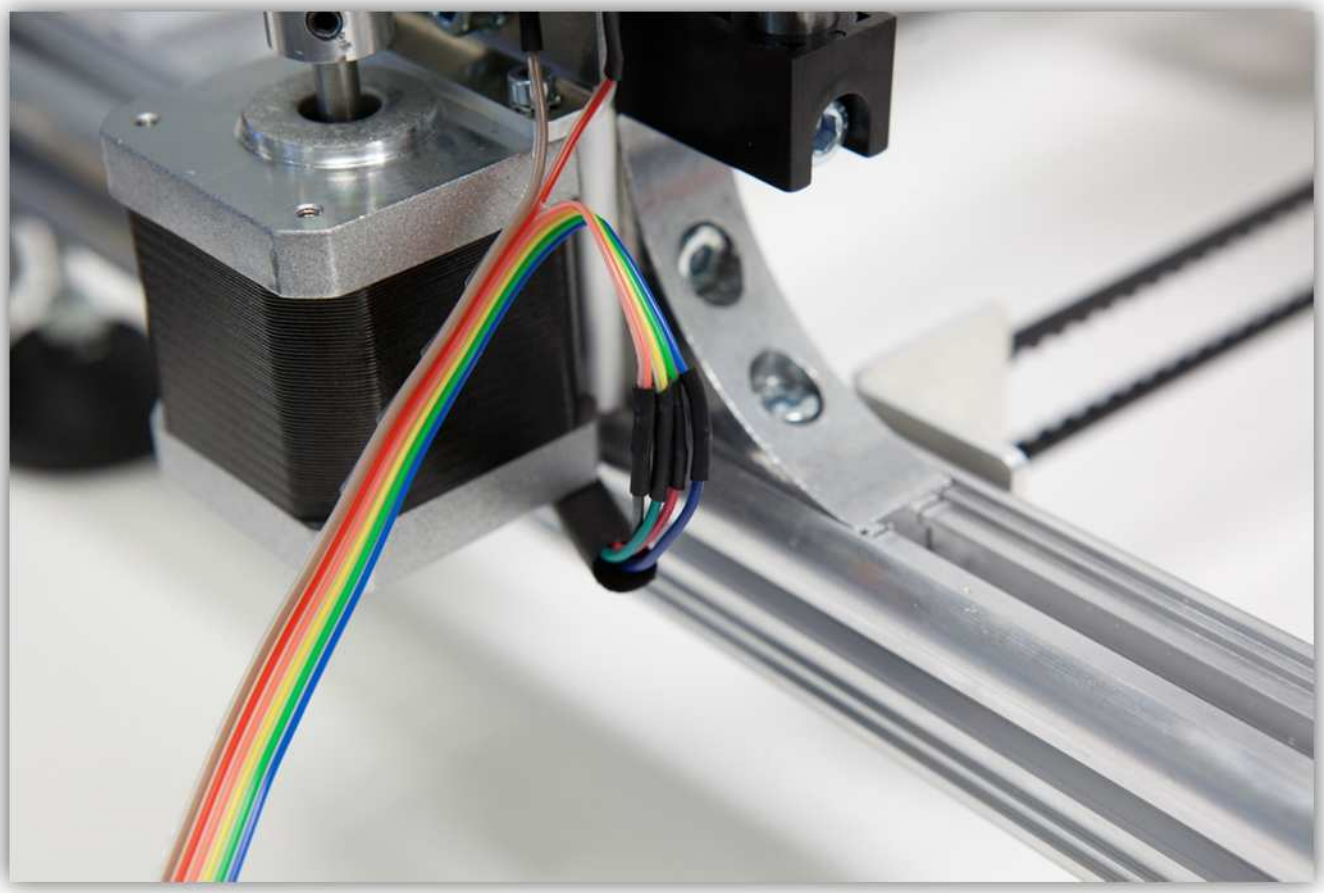
Solder the 4 wires from the motor to the 4 wires of the flat cable you tinned earlier. **Watch the colours closely.**

Flat cable	**->**	**Motor wires**
Blue	**->**	**Blue**
Green	**->**	**Red**
Yellow	**->**	**Green**
Orange	**->**	**Black**

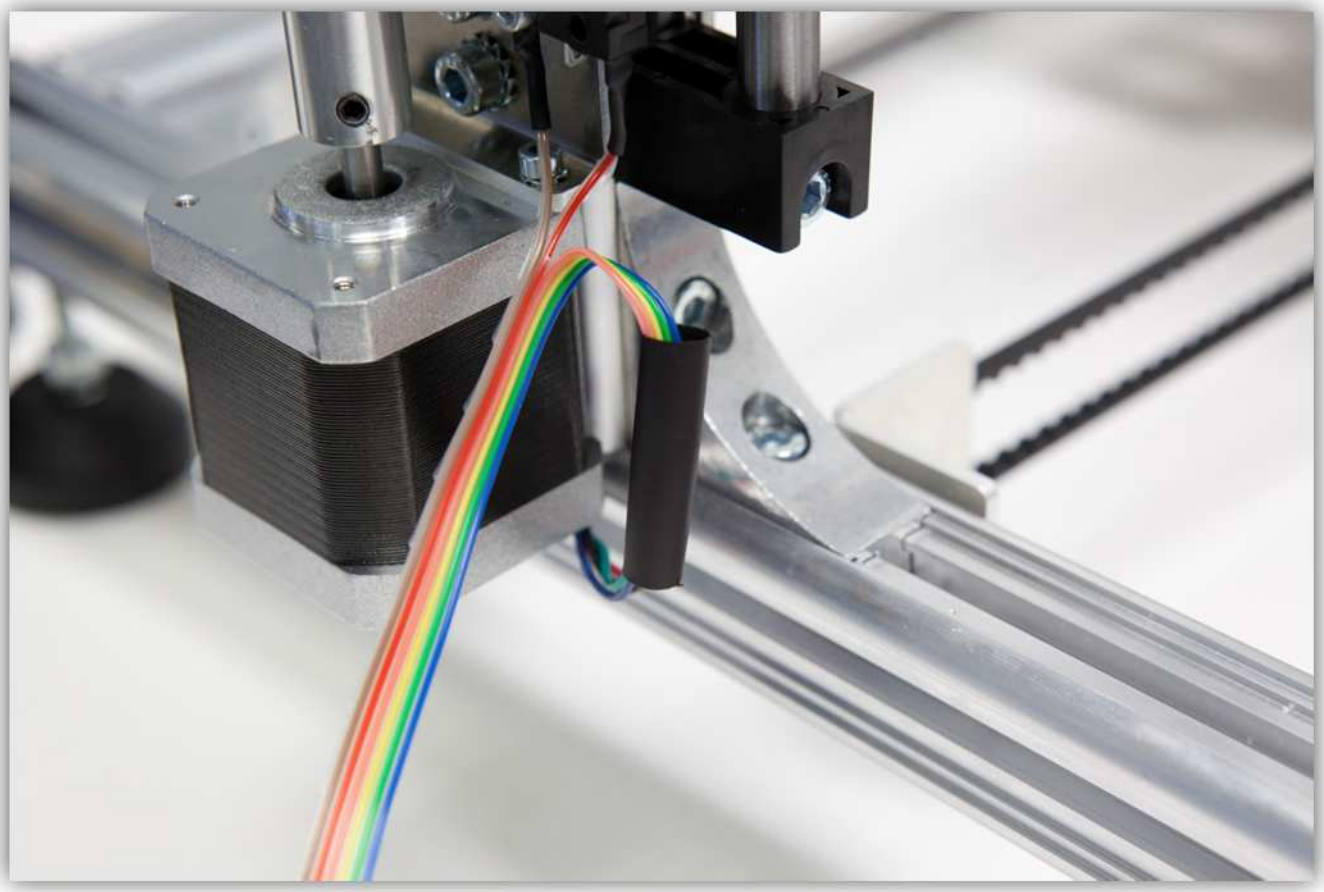


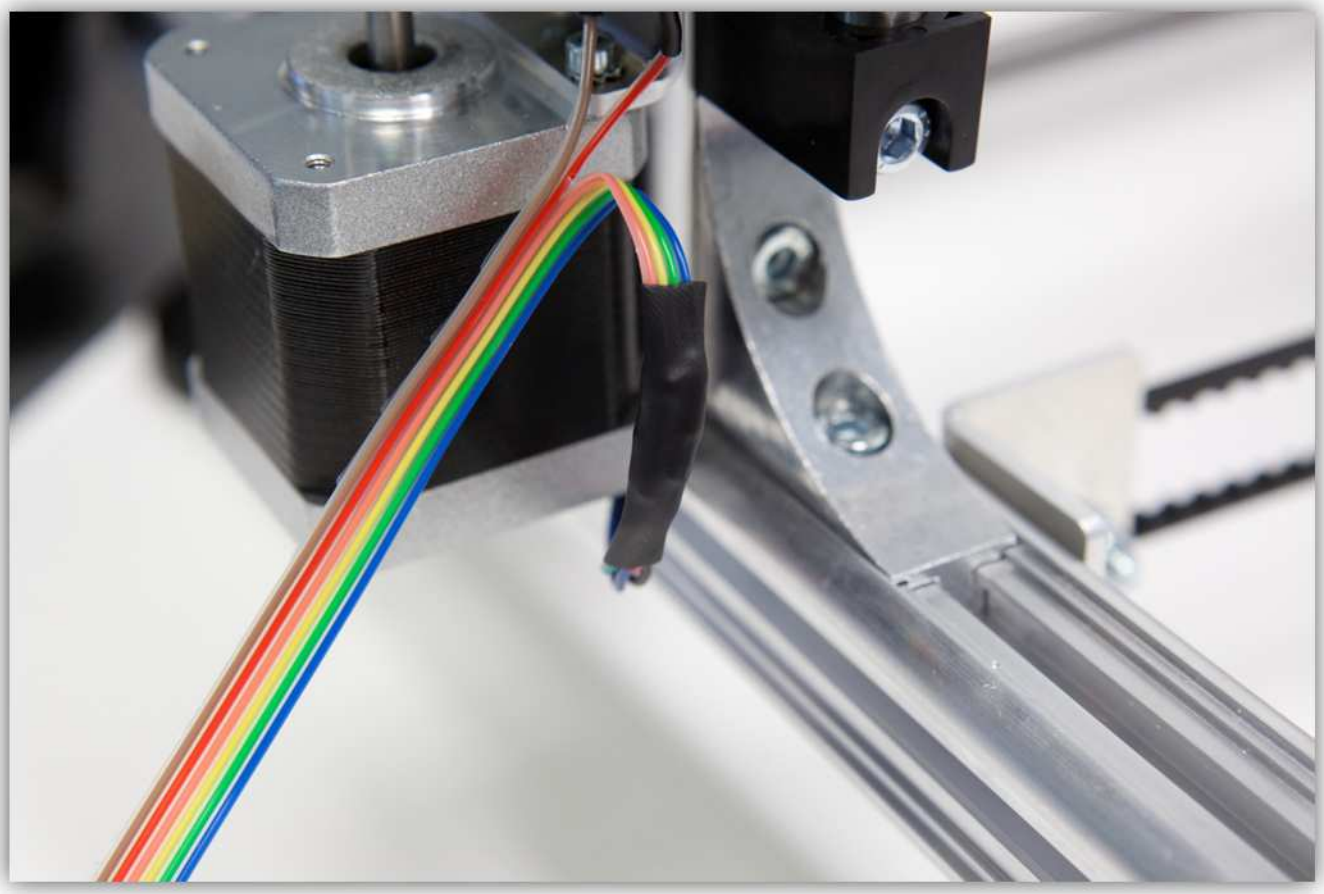
Slide the small heat shrink tubes over the solder joints and heat them up so they shrink.



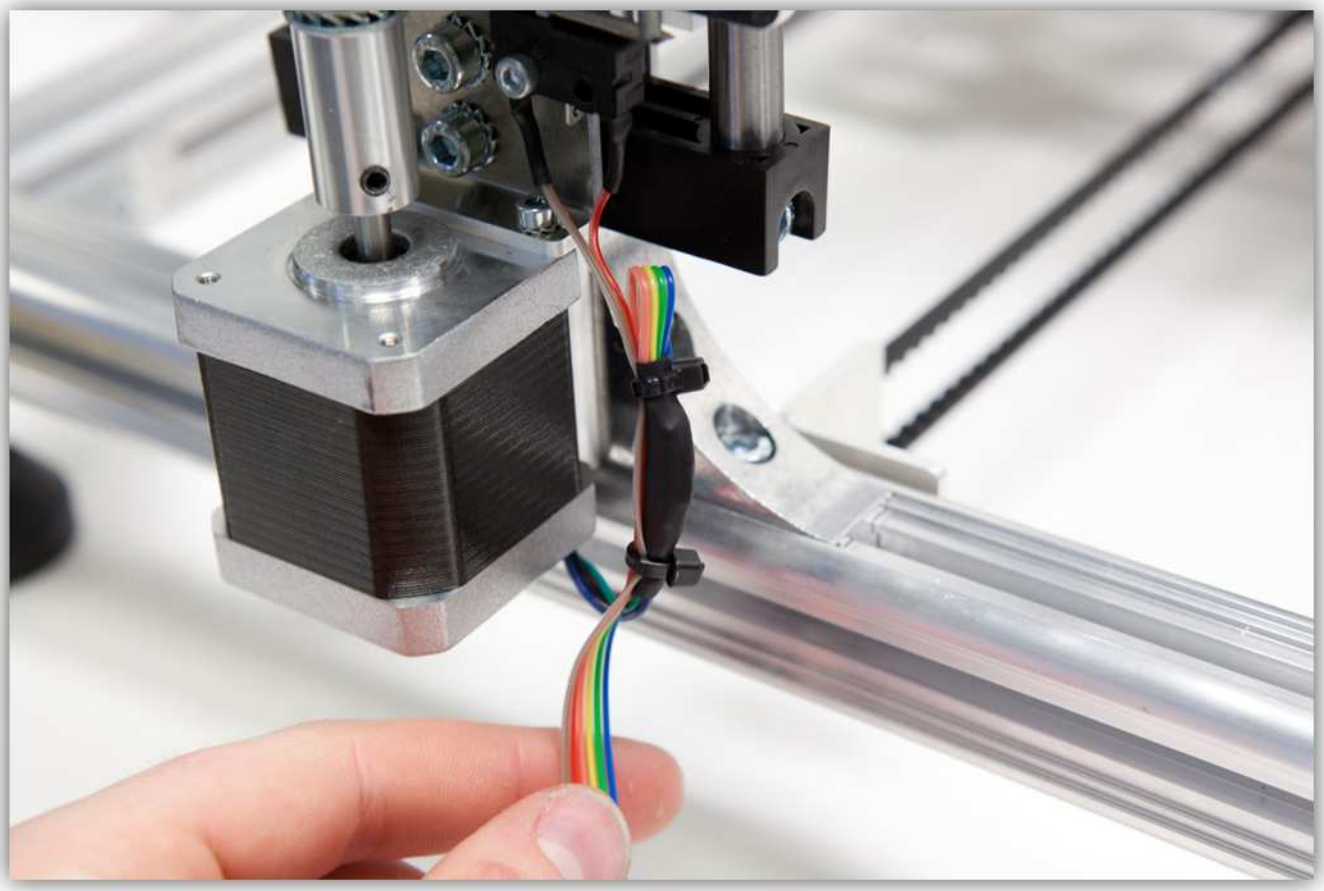


Now slide the big piece of heat shrink tubing over the 4 small pieces, heat the big piece so it covers and protects the 4 heat shrunk joints.

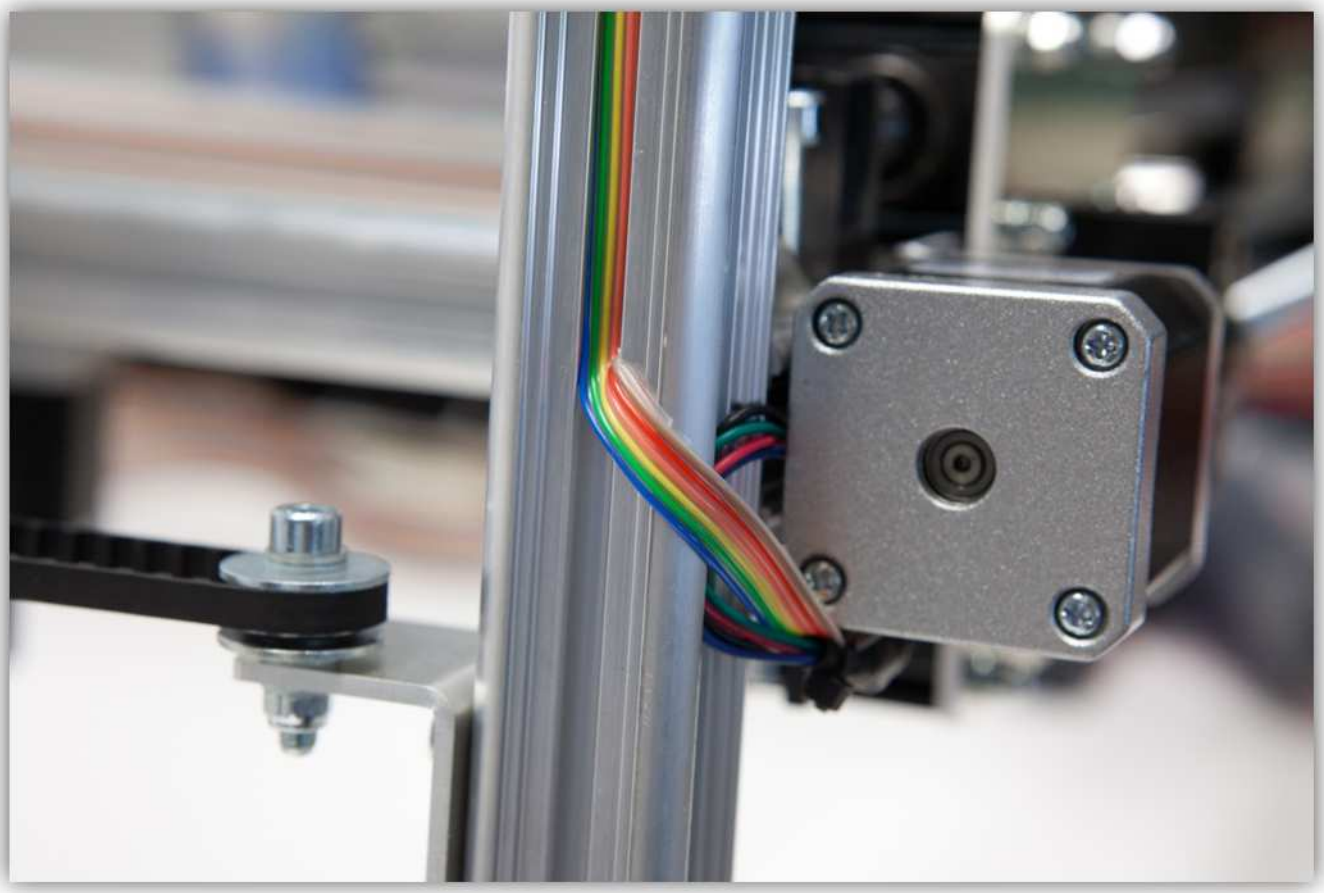


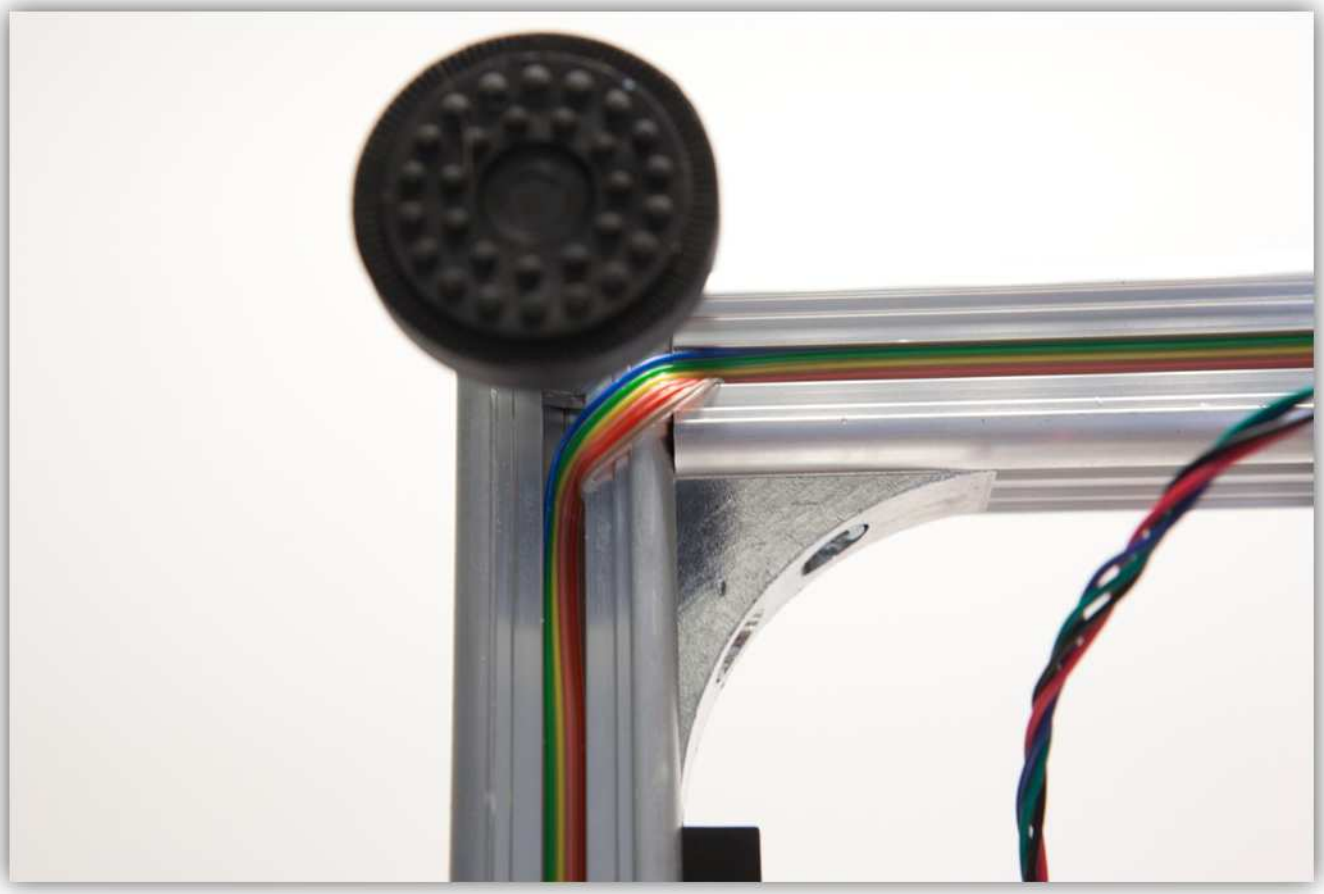


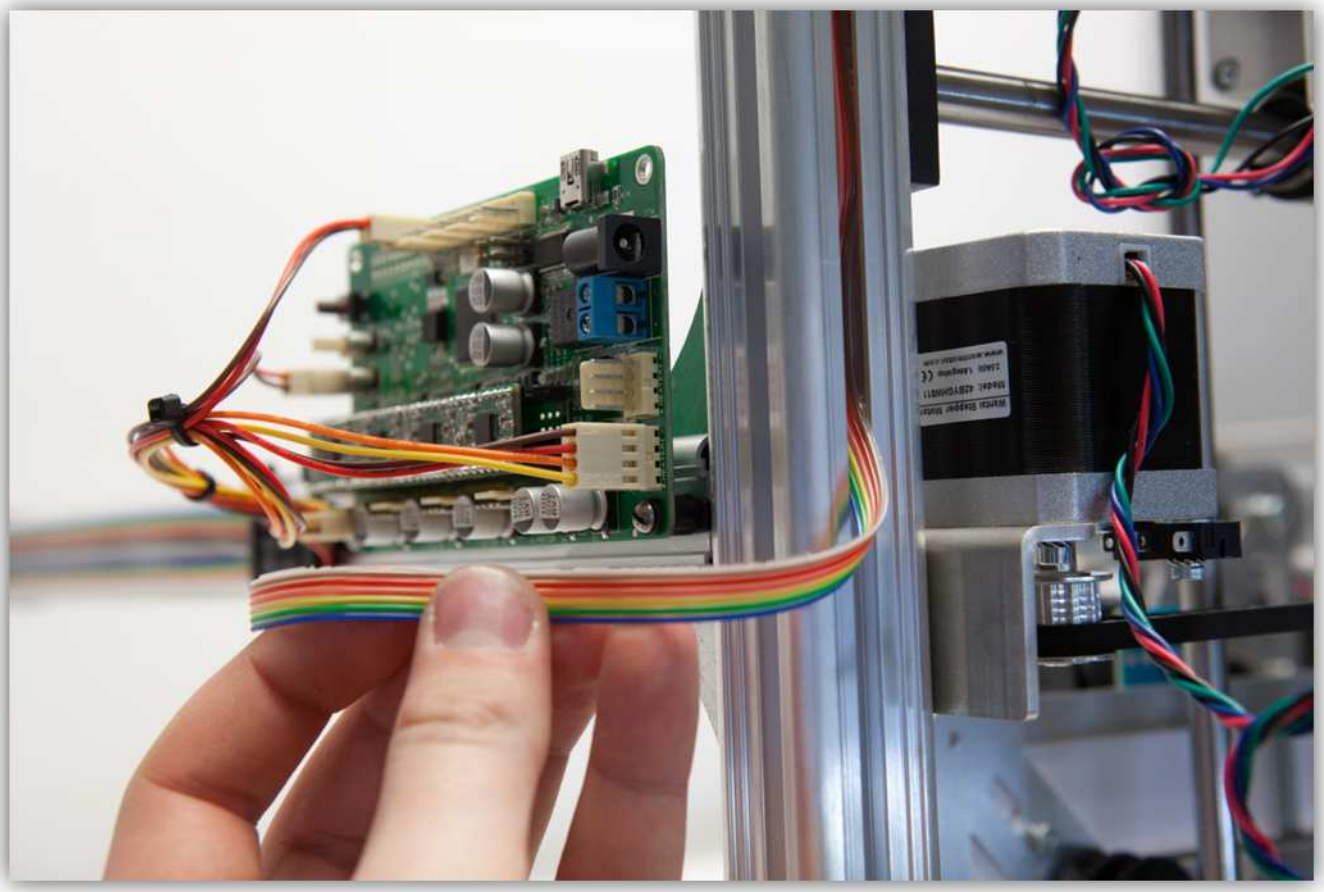
Use two small tie-strips to hold the wires in place as shown in the picture below.



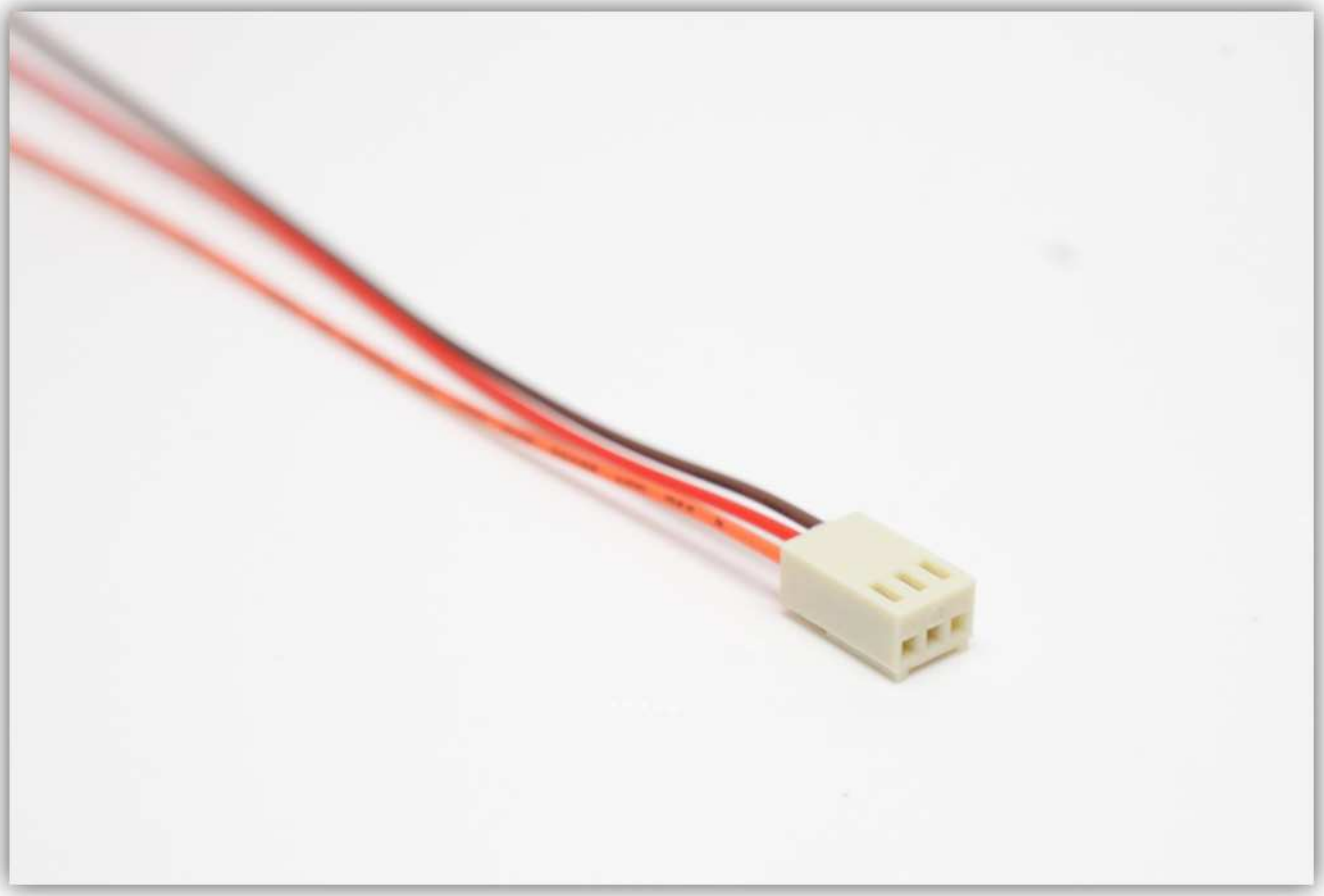
Slide the flat cable in the hollow space of the profile, run it through the back of the printer as shown in the picture below.



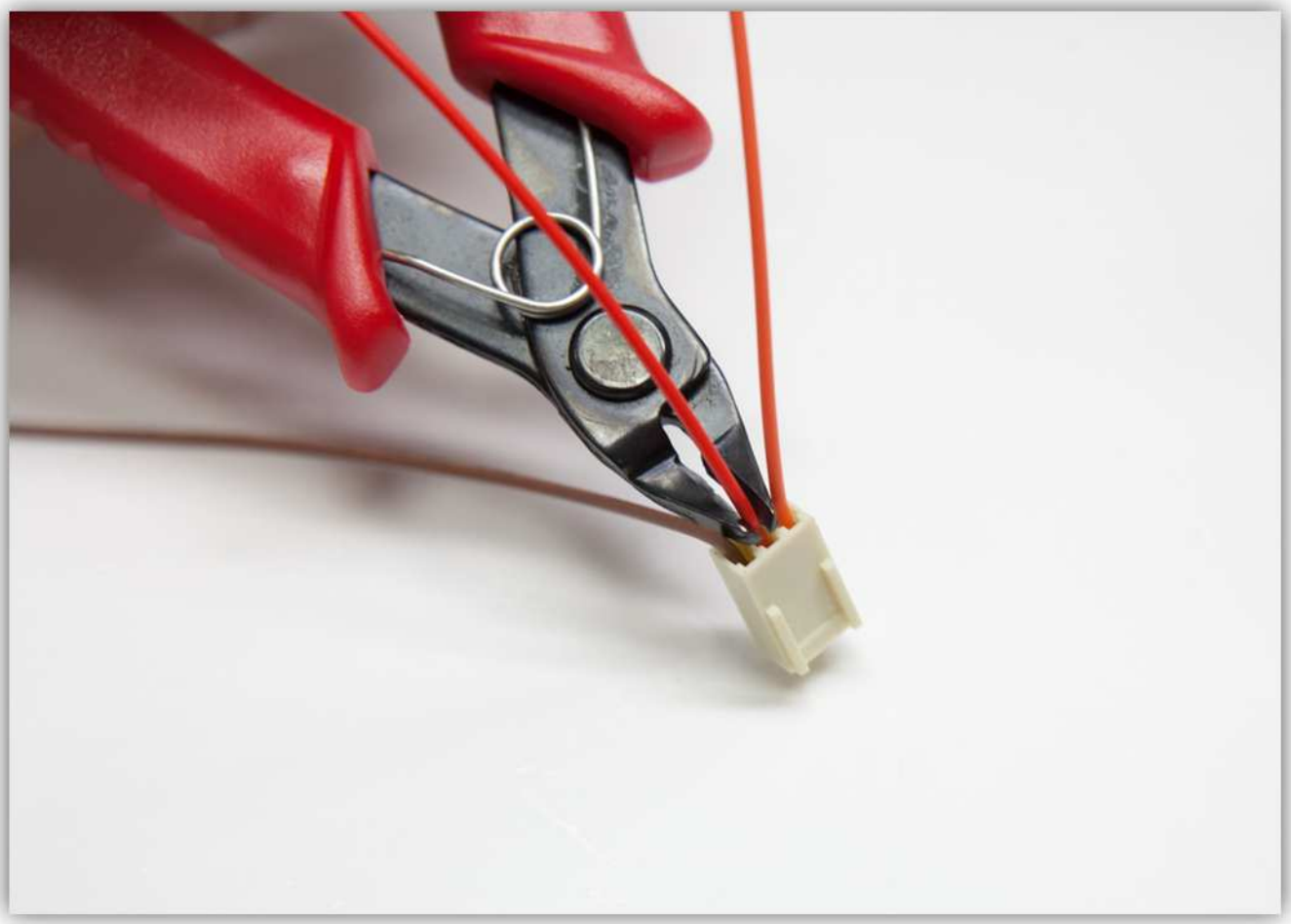


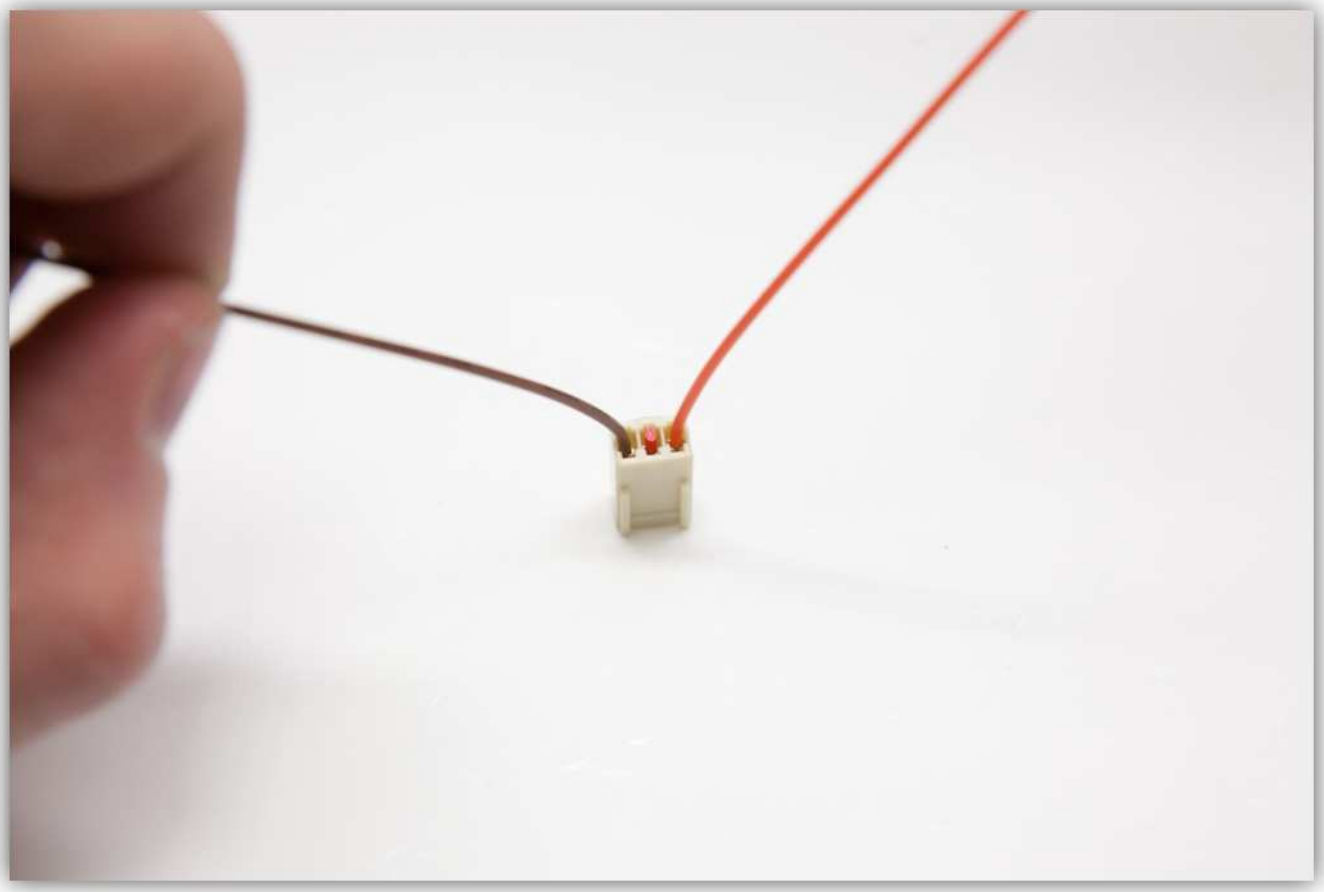


Take a board to wire connector with 3 wires out of the bag labelled with 40.

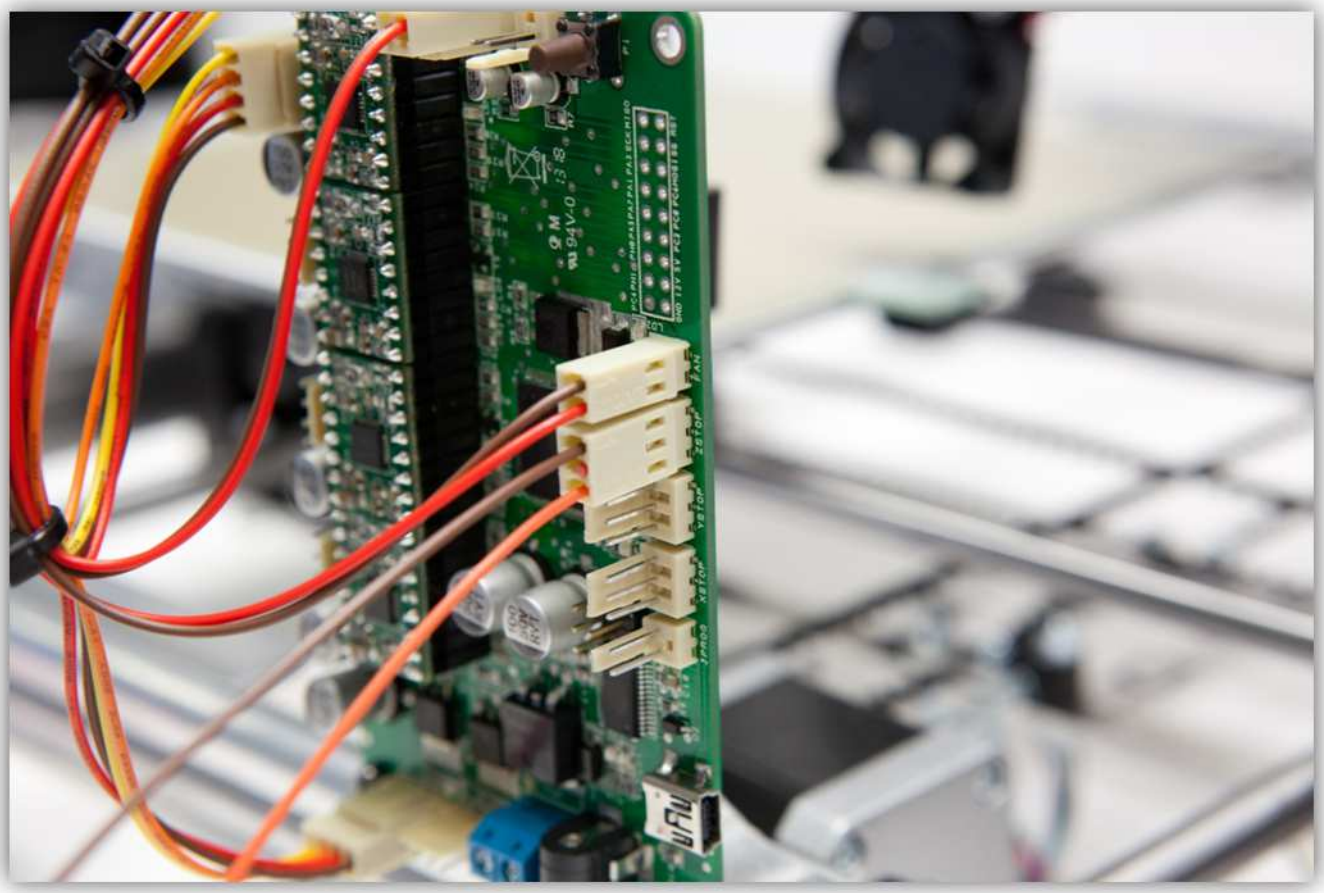


Cut the middle wire away at the connector.

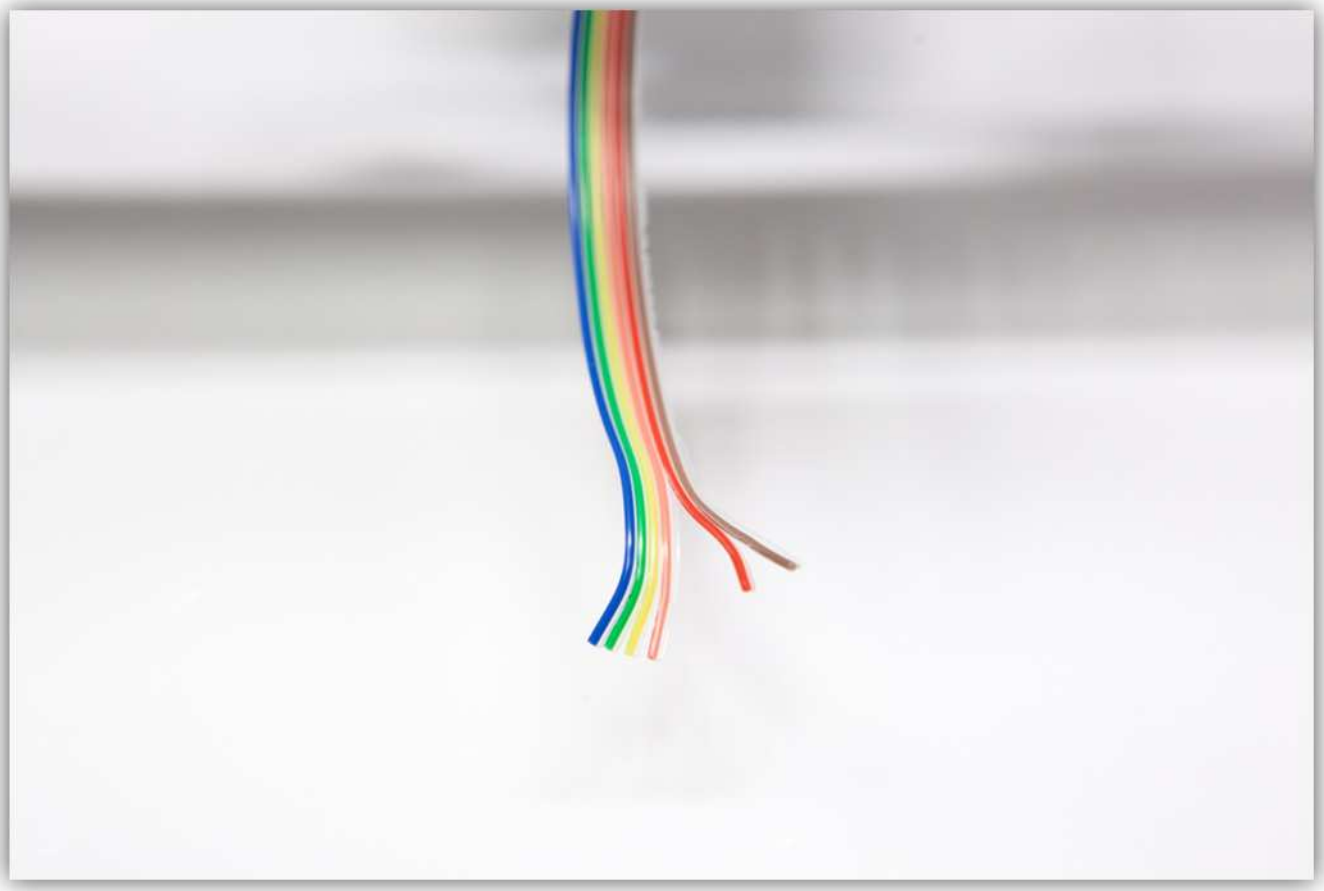


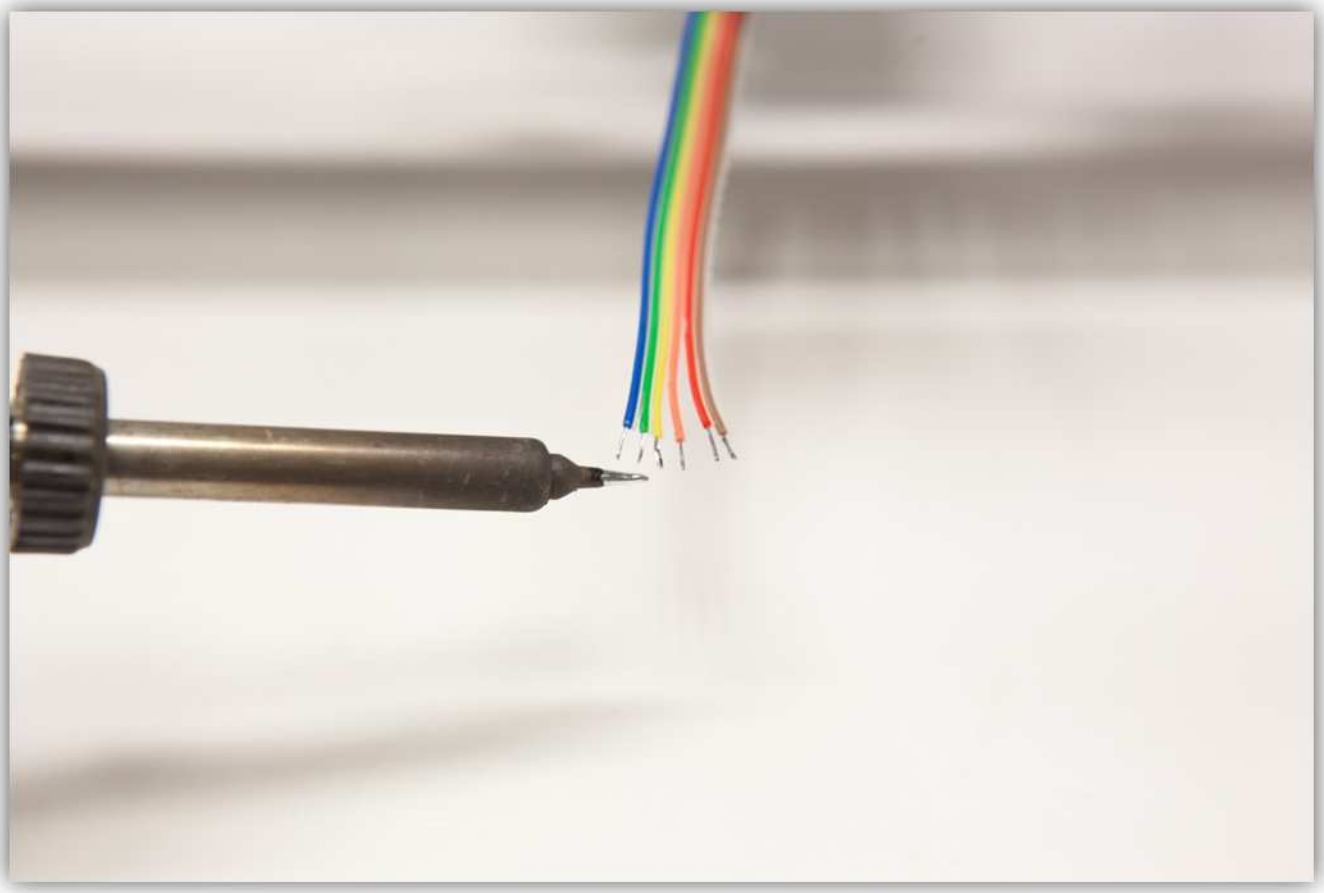


Plug the female connector in the male connector labelled with ZSTOP on the controller board.



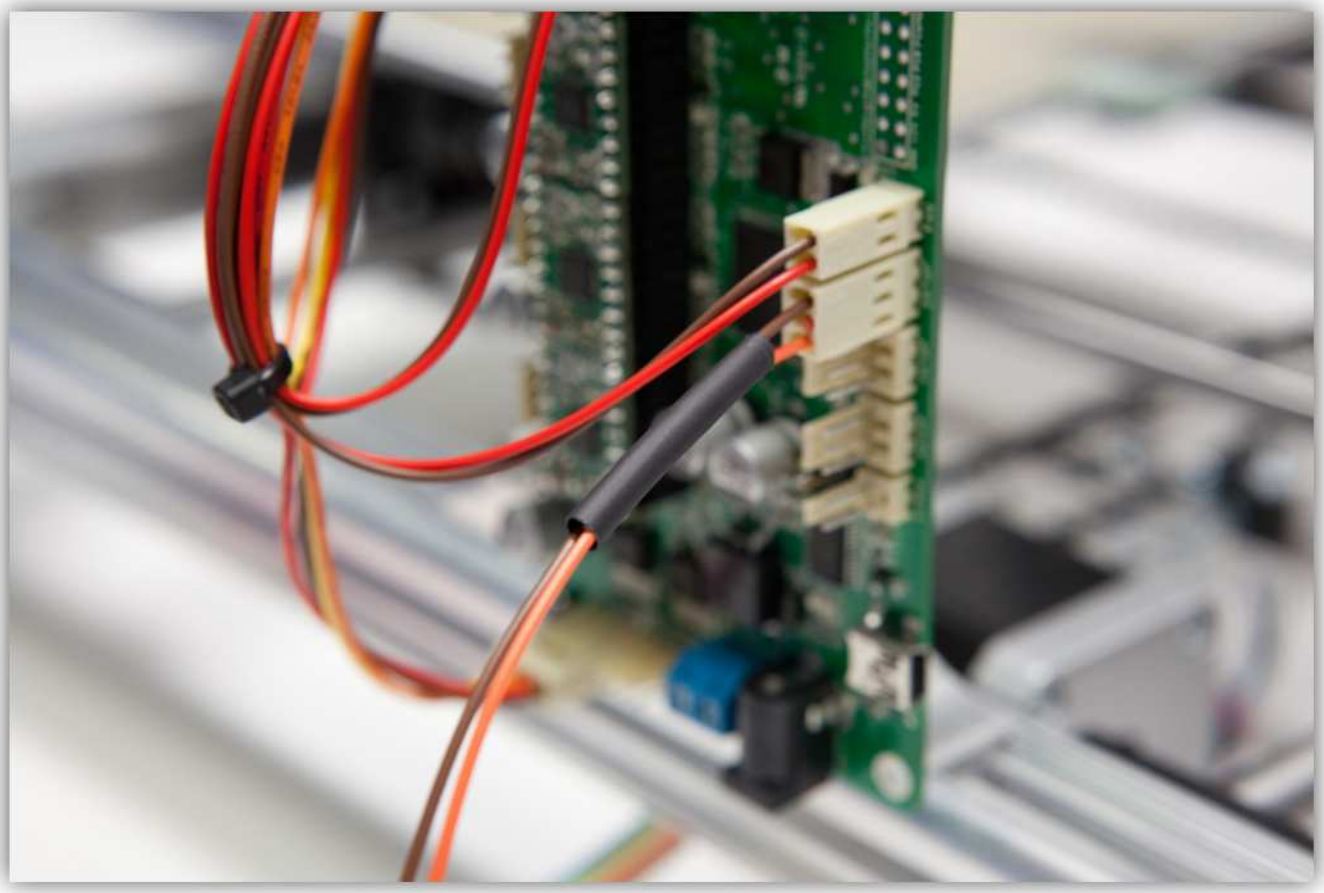
Strip all the wires from the flat cable that comes from the Z motor.



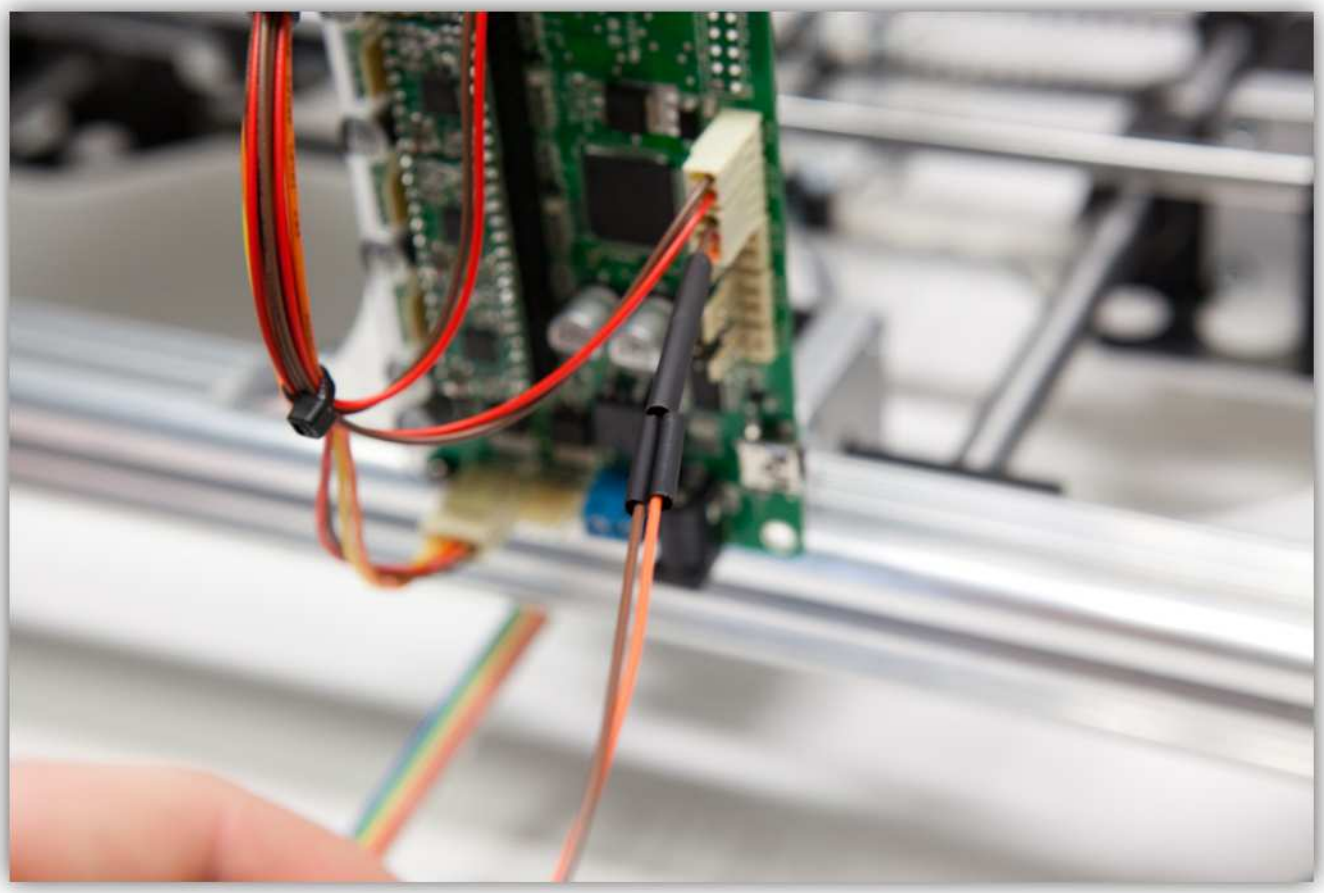


Cut 2 small pieces of the smallest heat shrink tubing of 1.5 cm (0.59") long and 1 large piece of the medium size heat shrink tubing of 4 cm (1.57"). You can find the heat shrink tubing in the bag labelled with 40.

Slide the medium size heat shrink tubes over the 2 wires of the connector.

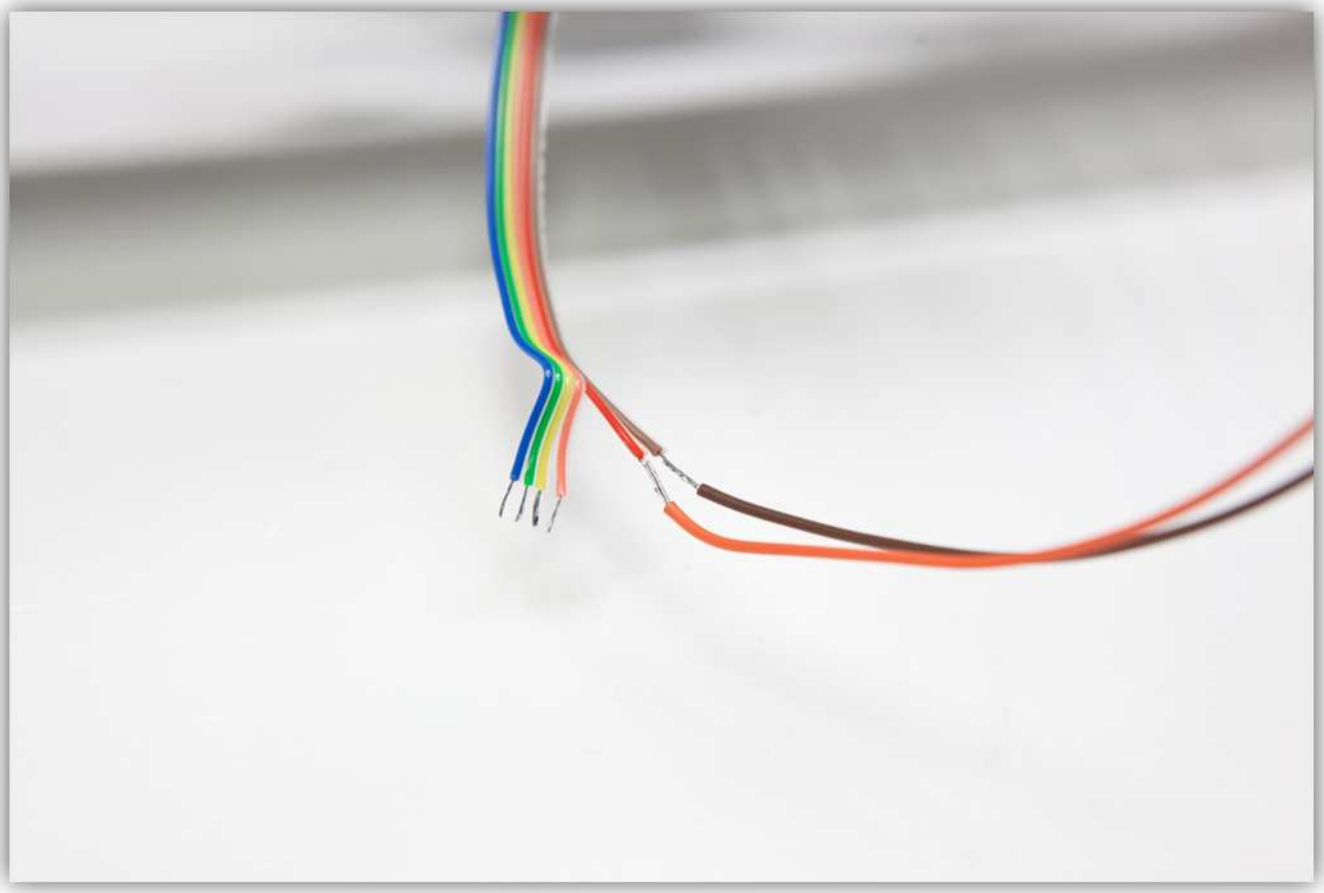


Slide the 2 small heat shrink tubes over the 2 wires of the connector.

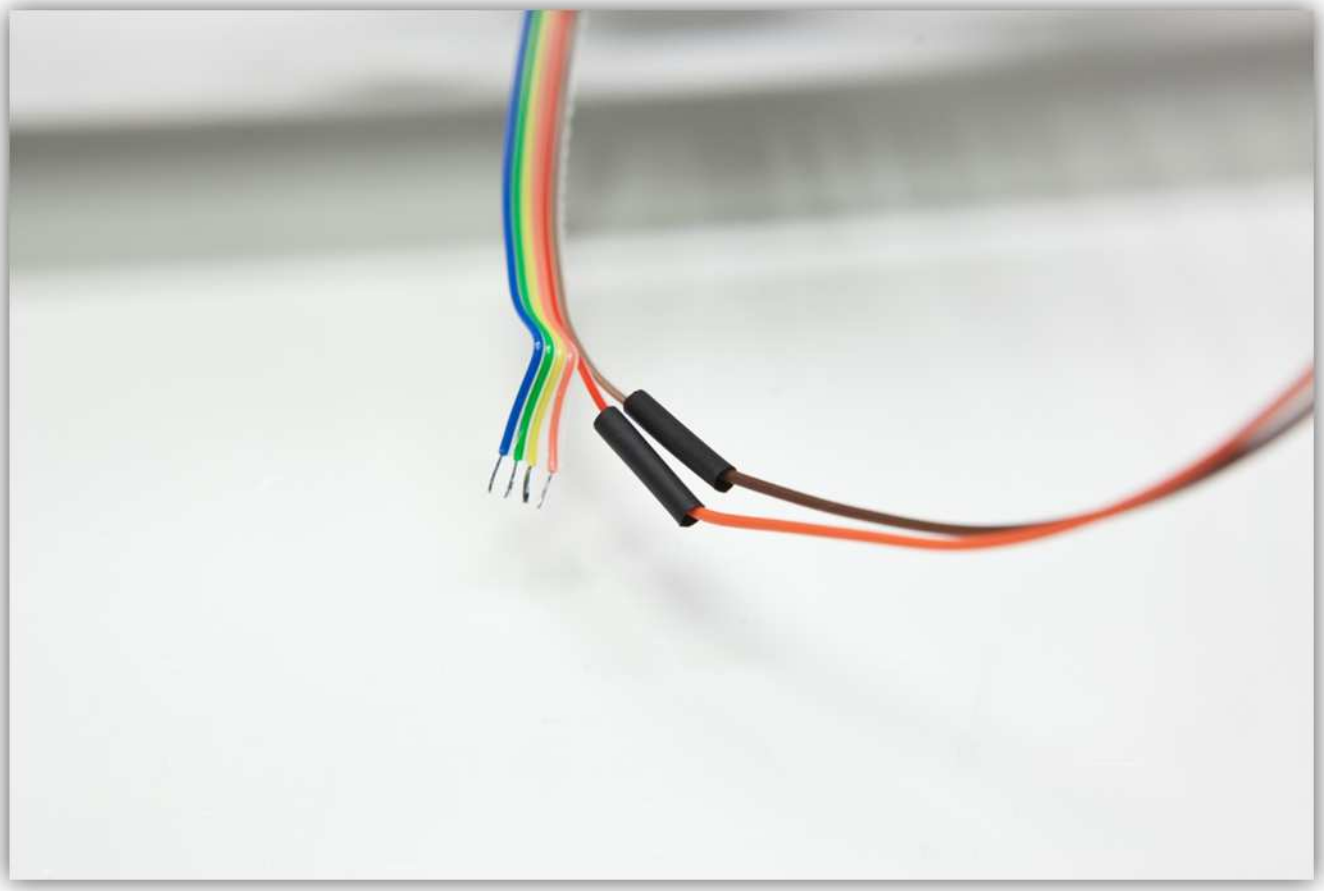


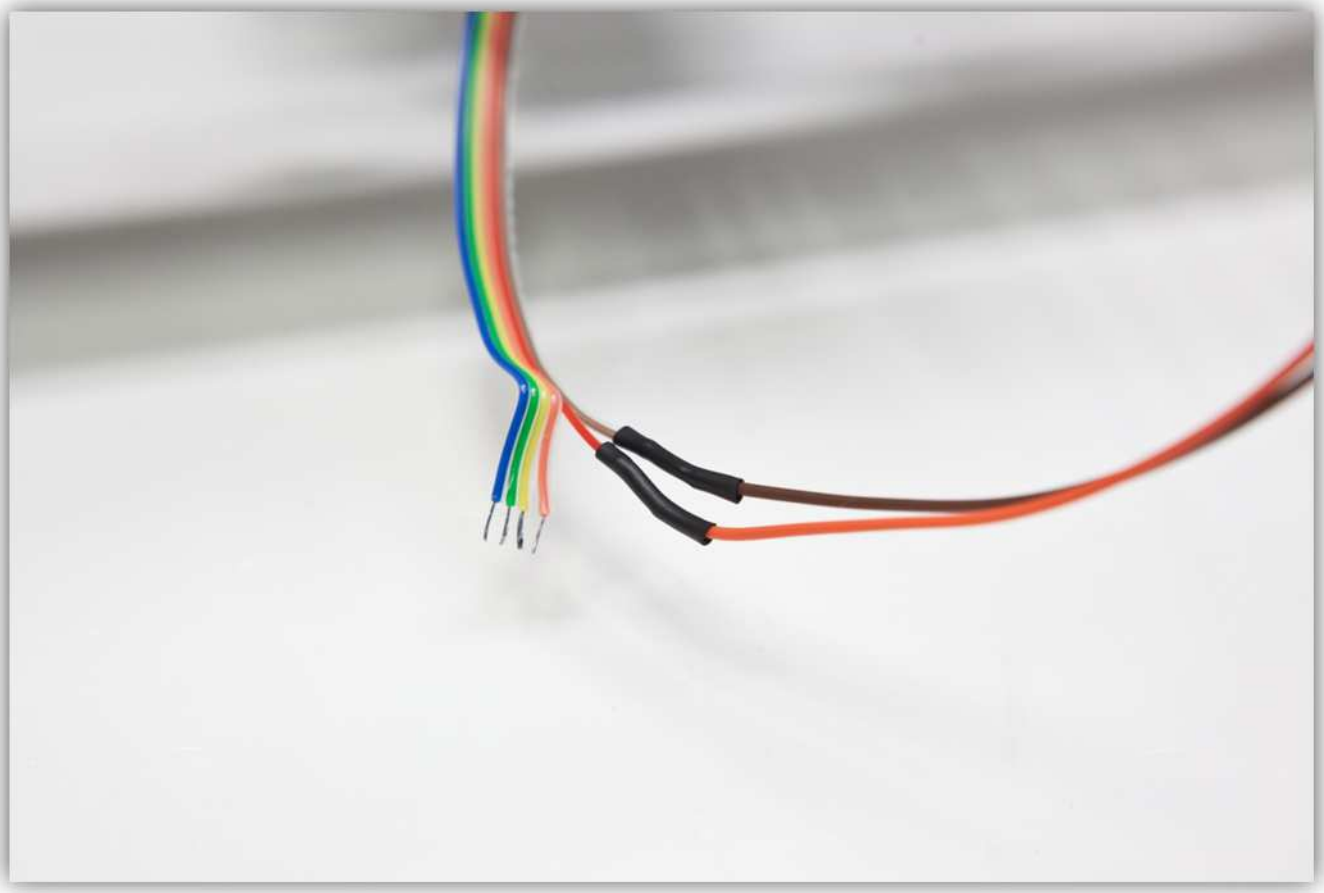
Solder the 2 wires from the connector to the 2 wires of the flat cable you tinned earlier. **Watch the colours closely.**

Flat cable	**->**	**Connector wires**
Red	**->**	**Red**
Brown	**->**	**Brown**

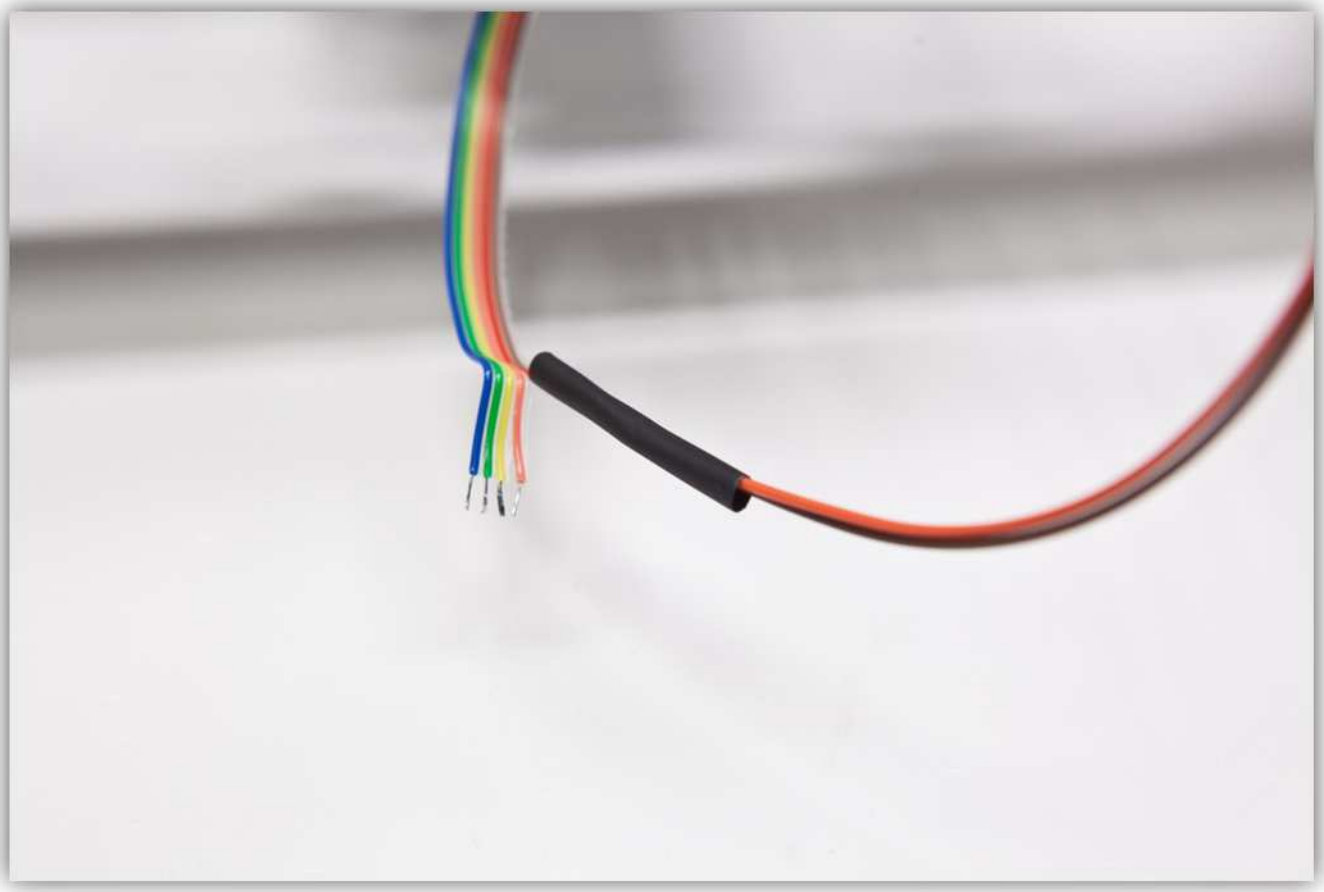


Slide the 2 small heat shrink tubes over the solder joints and heat them up.



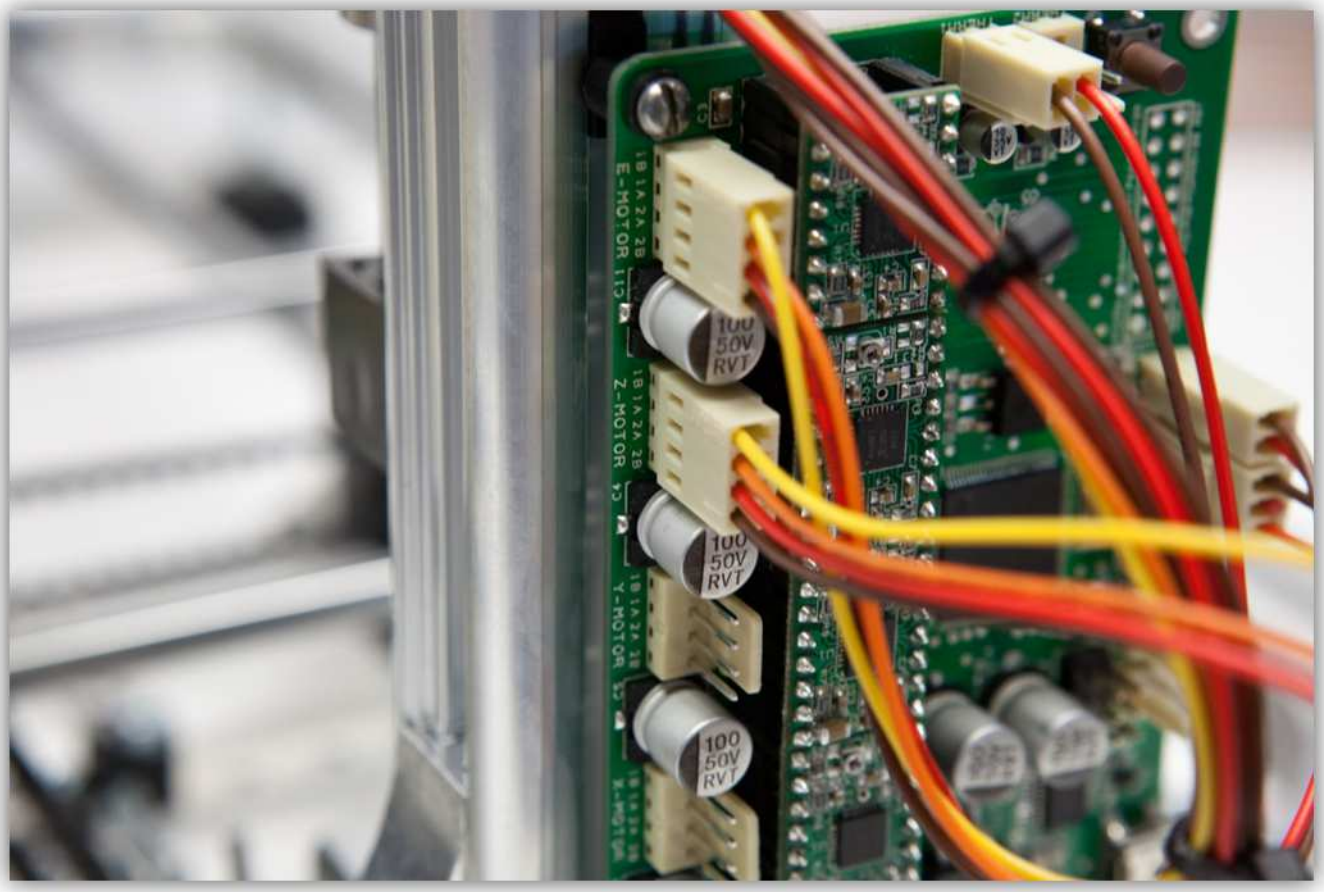


Now slide the medium size piece of heat shrink tubing over the 2 small pieces, heat the medium size piece so it covers and protects the 2 heat shrunk joints.



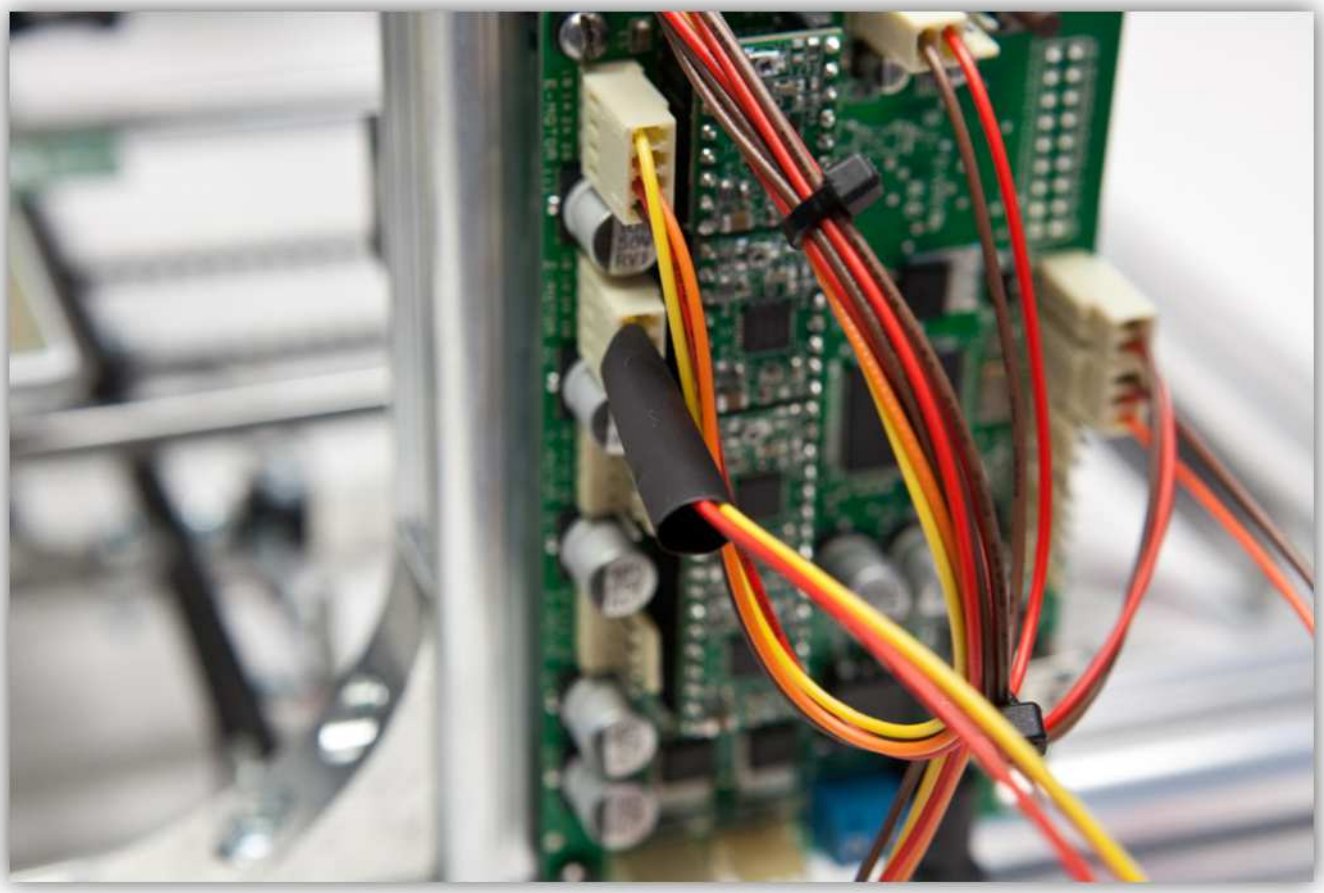
Take a board to wire connector with 4 wires out of the bag labelled with 40.

Plug the female connector in the male connector labelled with Z-MOTOR on the controller board.



Cut 2 small pieces of the smallest heat shrink tubing of 1.5 cm (0.59") long and 1 large piece of the big heat shrink tubing of 4 cm (1.57"). You can find the heat shrink tubing in the bag labelled with 40.

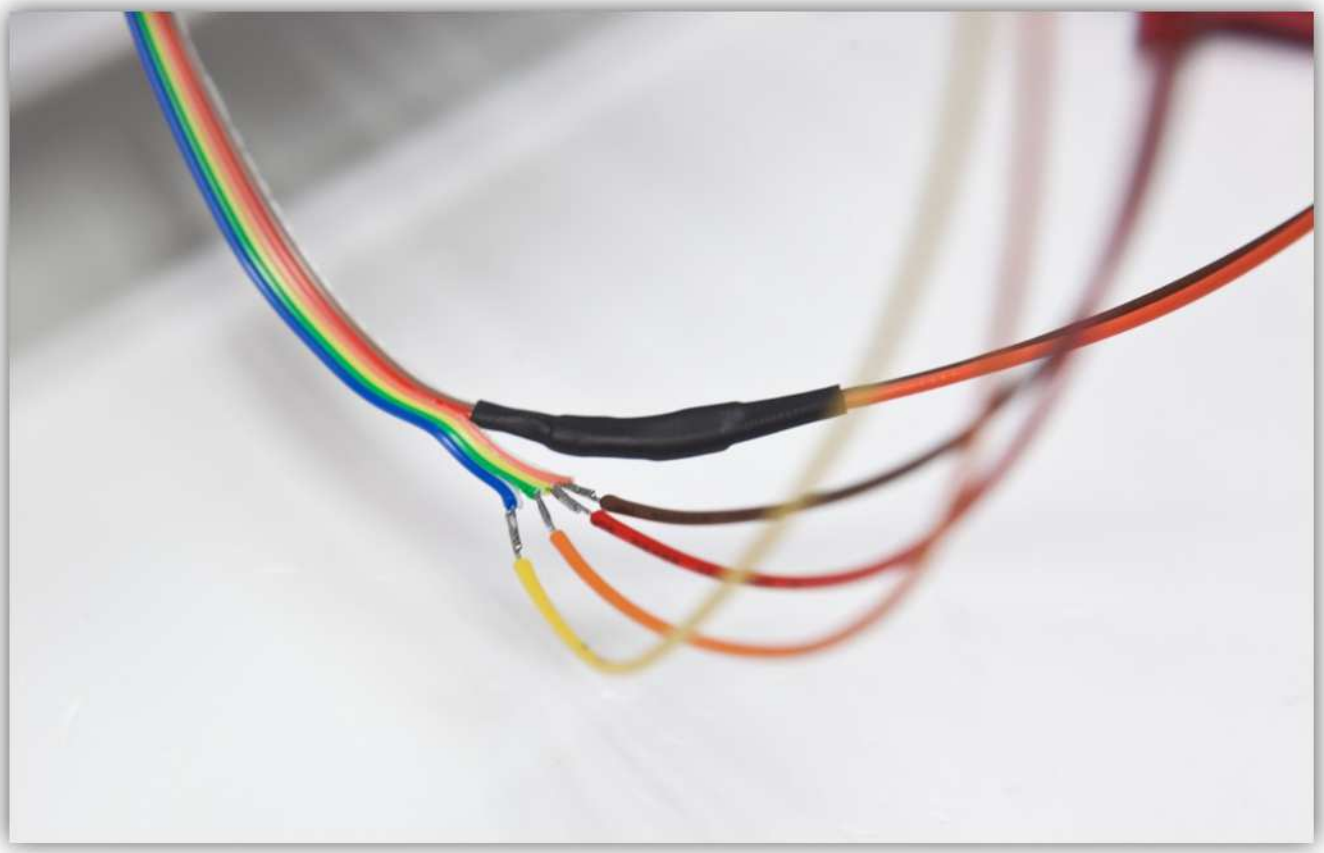
Slide the big heat shrink tubes over the 4 wires of the connector.



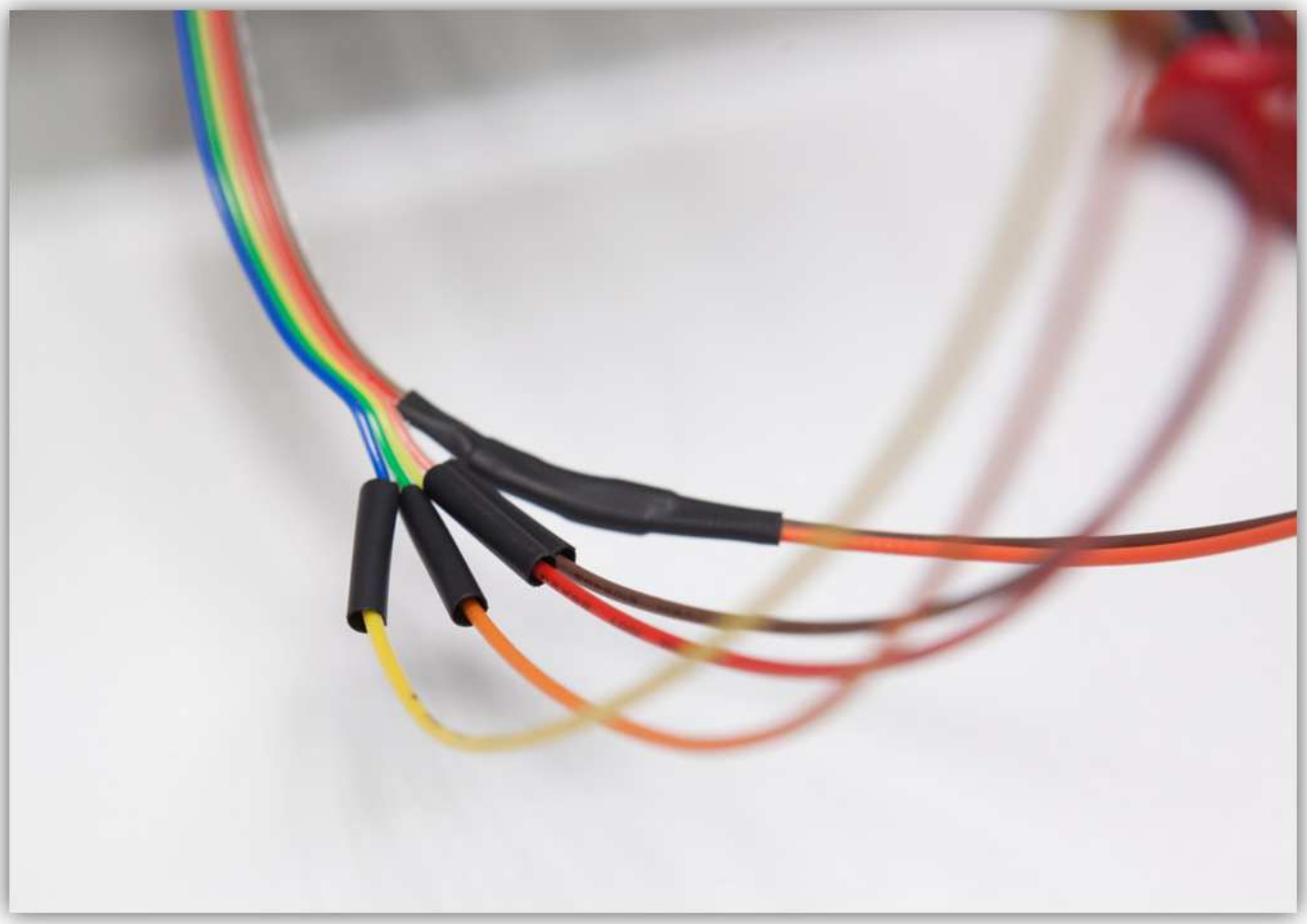
Slide the 4 small heat shrink tubes over the 4 wires of the connector.

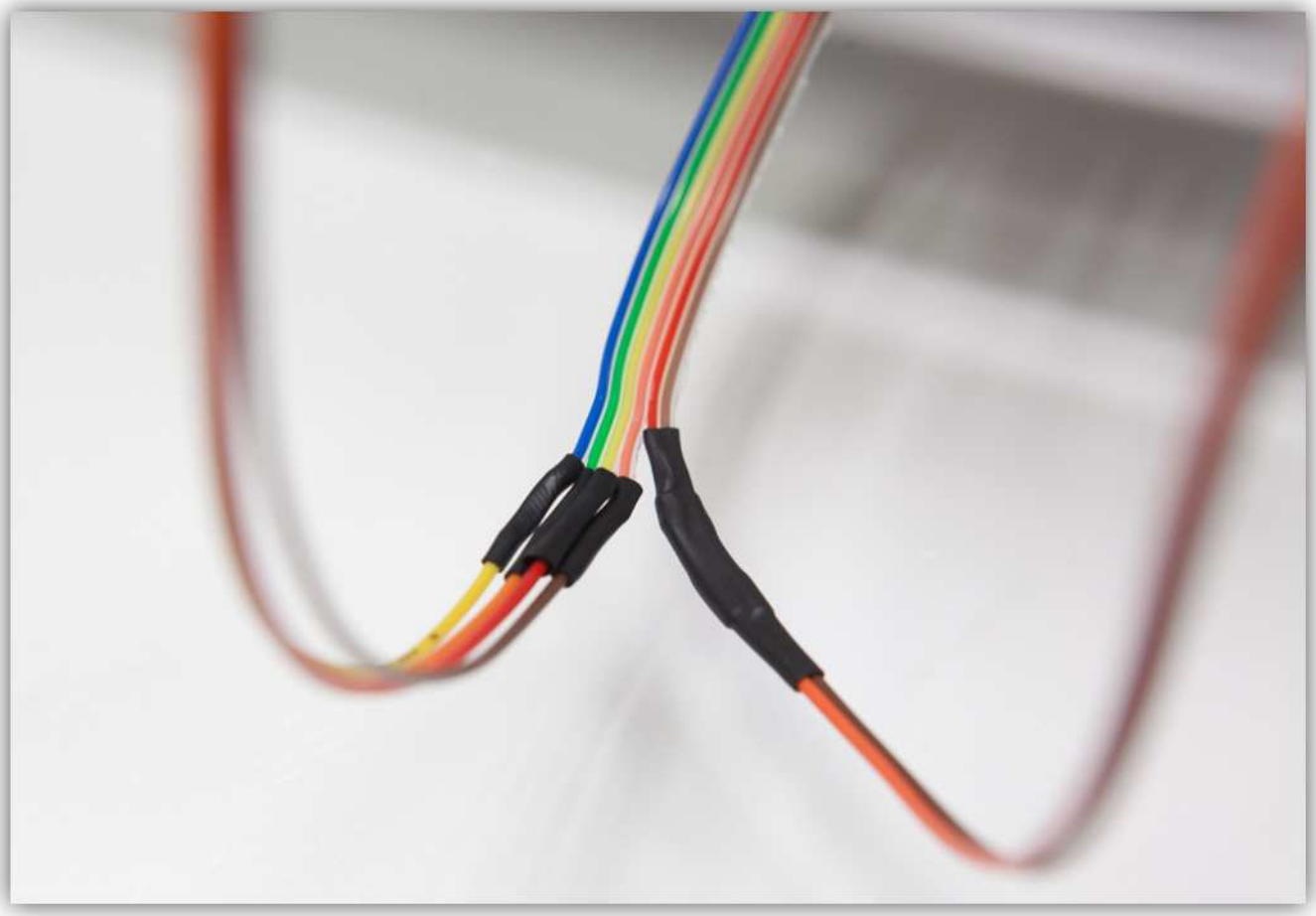
Solder the 4 wires from the connector to the 4 wires of the flat cable you tinned earlier. **Watch the colours closely.**

Flat cable	**->**	**Connector wires**
Blue	**->**	**Yellow**
Green	**->**	**Orange**
Yellow	**->**	**Red**
Orange	**->**	**Brown**

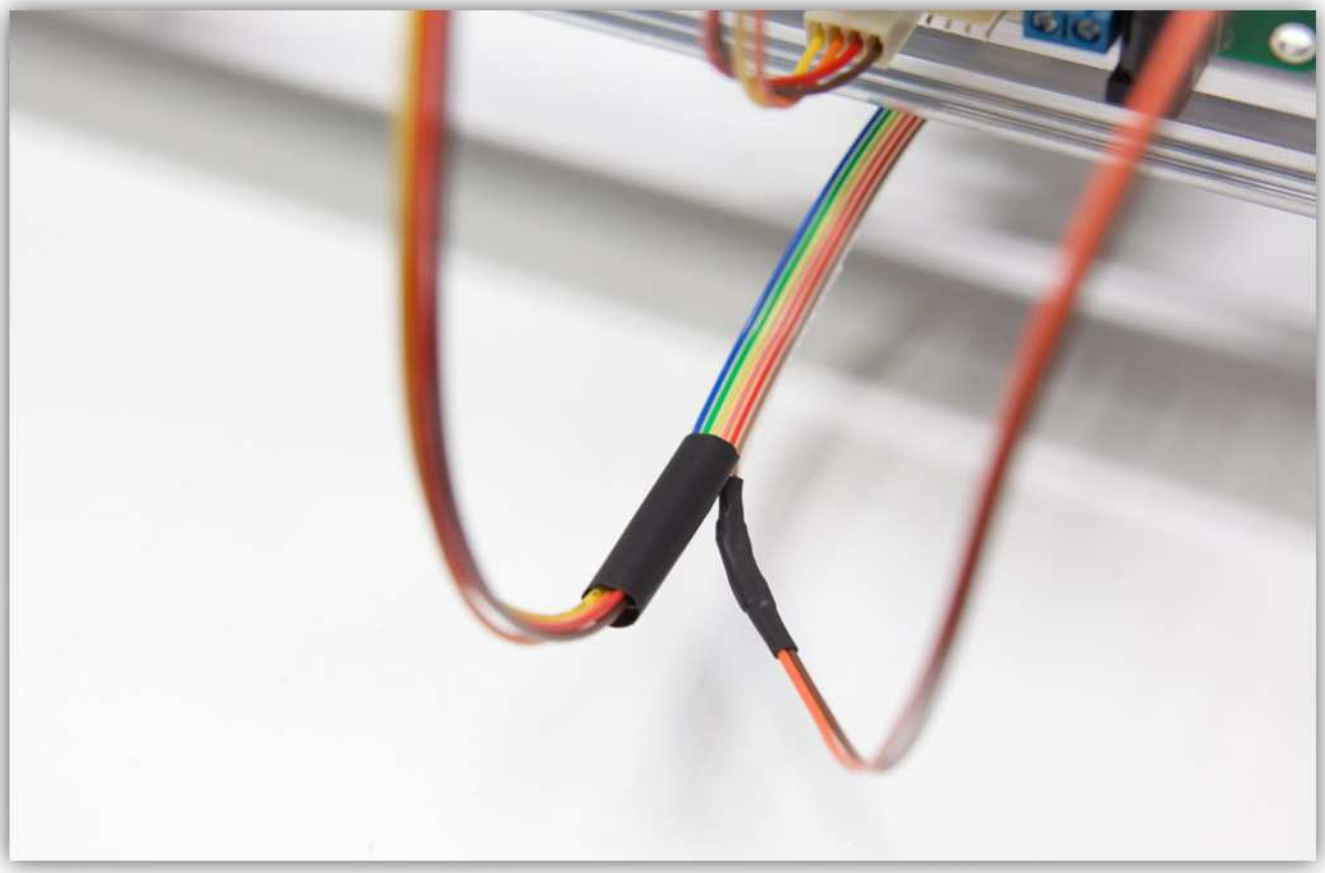


Slide the small heat shrink tubes over the solder joints and heat them up so they shrink.

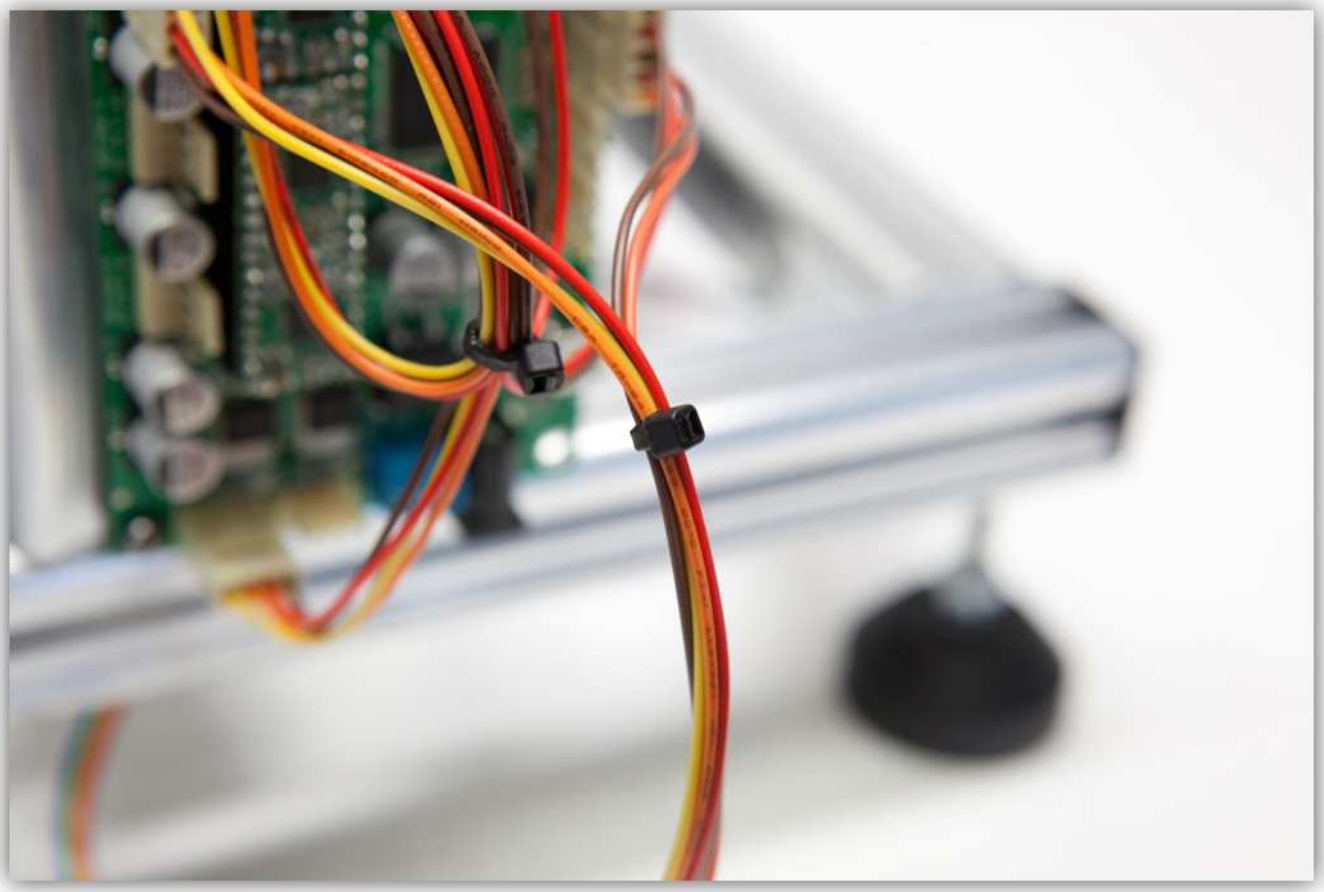




Now slide the big piece of heat shrink tubing over the 4 small pieces, heat the big piece so it covers and protects the 4 heat shrunk joints.

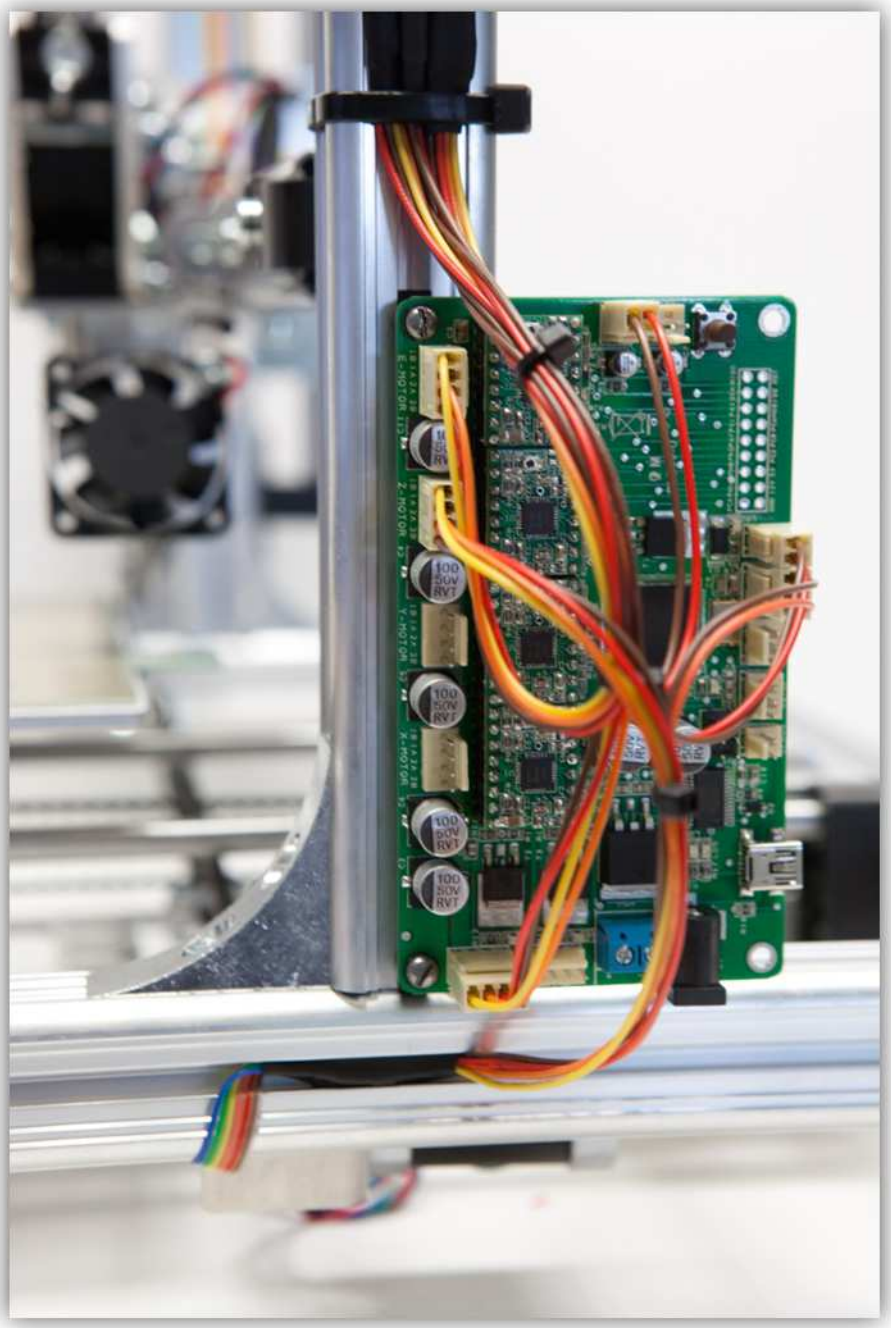


Use small tie-strips to group the cables together.



Tuck the excess cable into the void in the profiles.

The controller board should now look like this.


E-MOTOR
Z-MOTOR
Y-MOTOR
X-MOTOR
100
50V
RVT