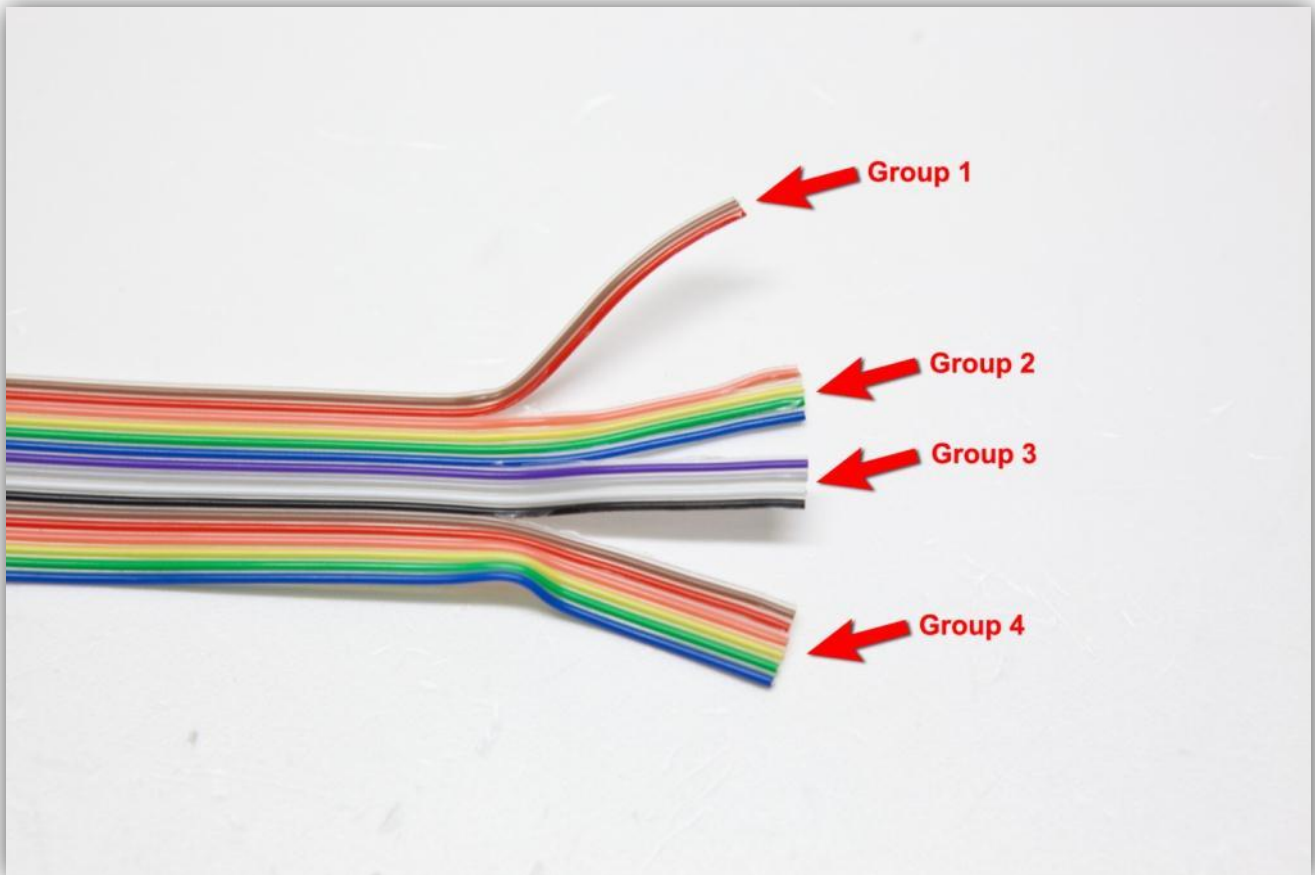


## 018 – WIRING THE Y AXIS MOTOR AND MICRO SWITCH

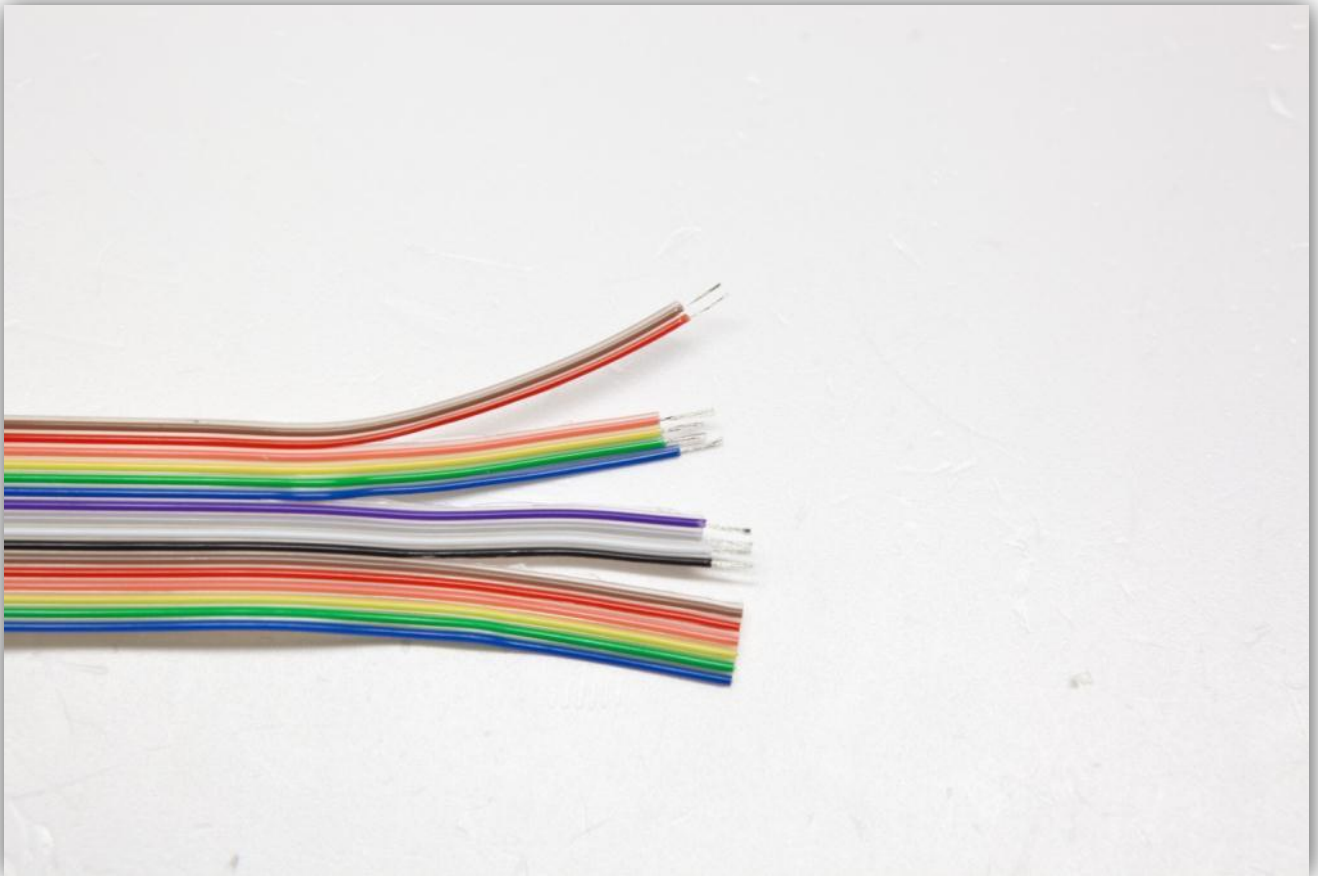
Take the rest of the flat cable, it should be 1 meter (39.4") long.

Detach the following groups for about 2 cm (0.79"):

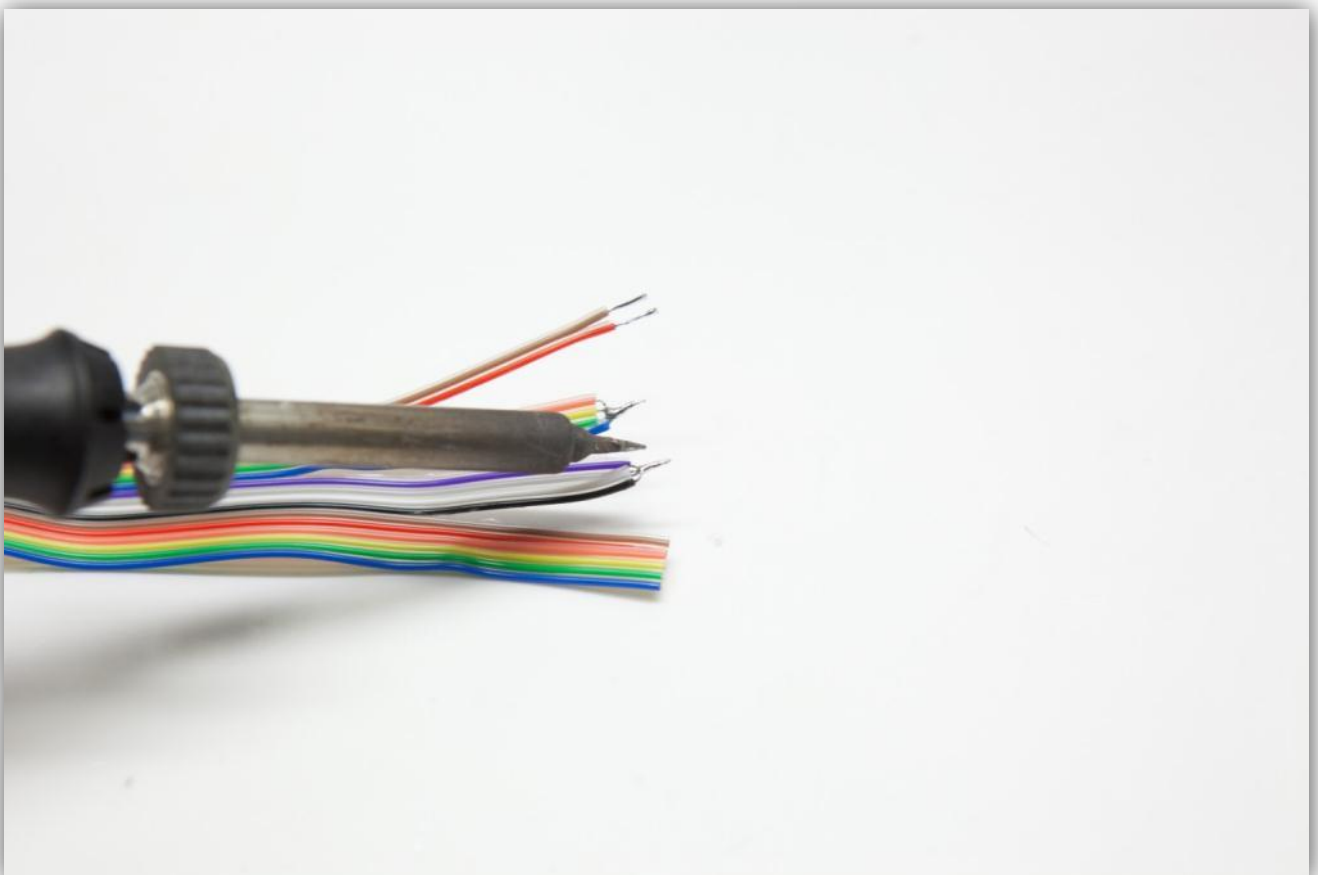
- Group 1: **Brown, Red**
- Group 2: **Orange, Yellow, Green, Blue**
- Group 3: **Violet, Grey, White, Black**
- Group 4: **Brown, Red, Orange, Yellow, Green, Blue**



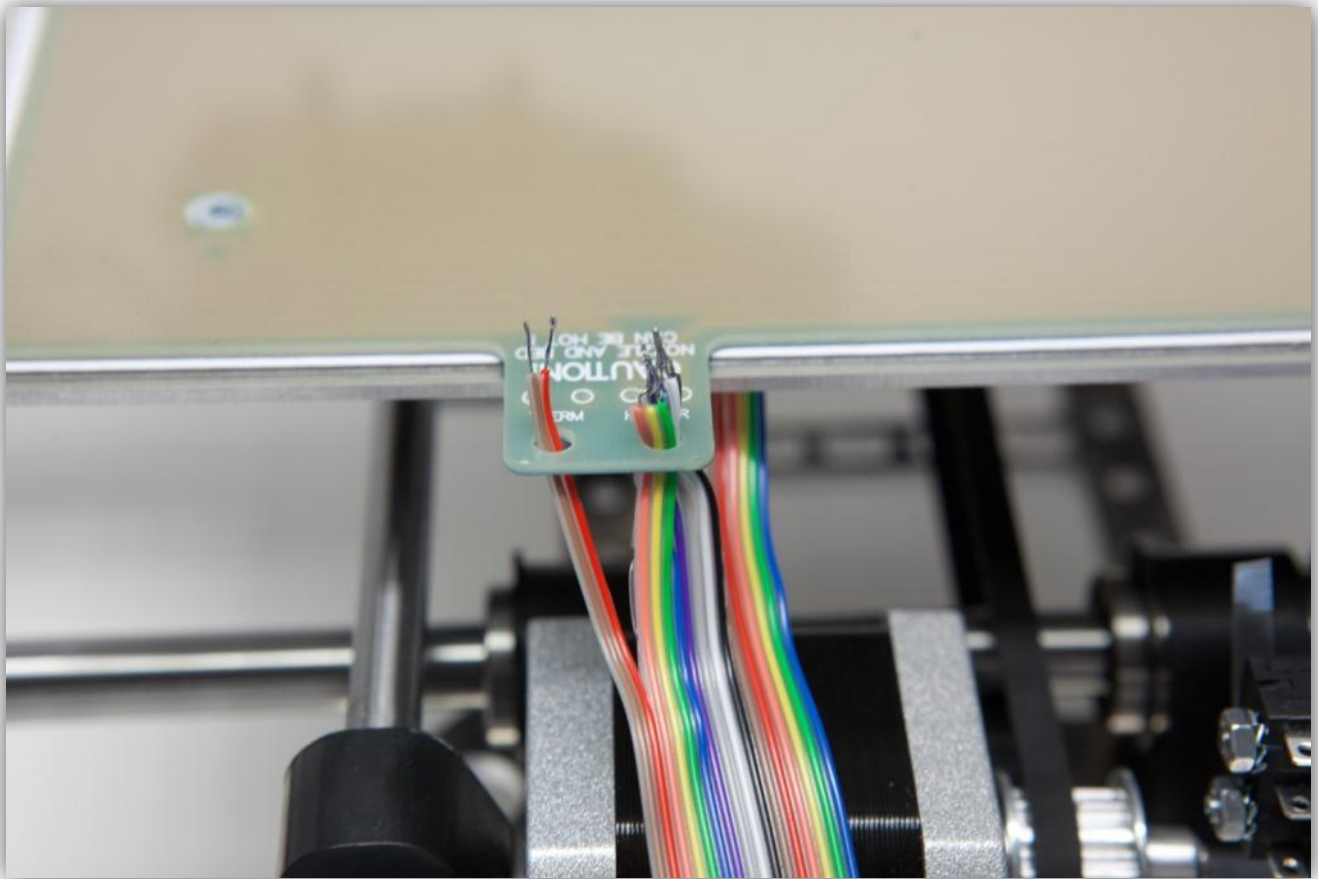
Strip and thin the first 3 groups. **Make sure you twist the wires from group 2 and 3 together.**



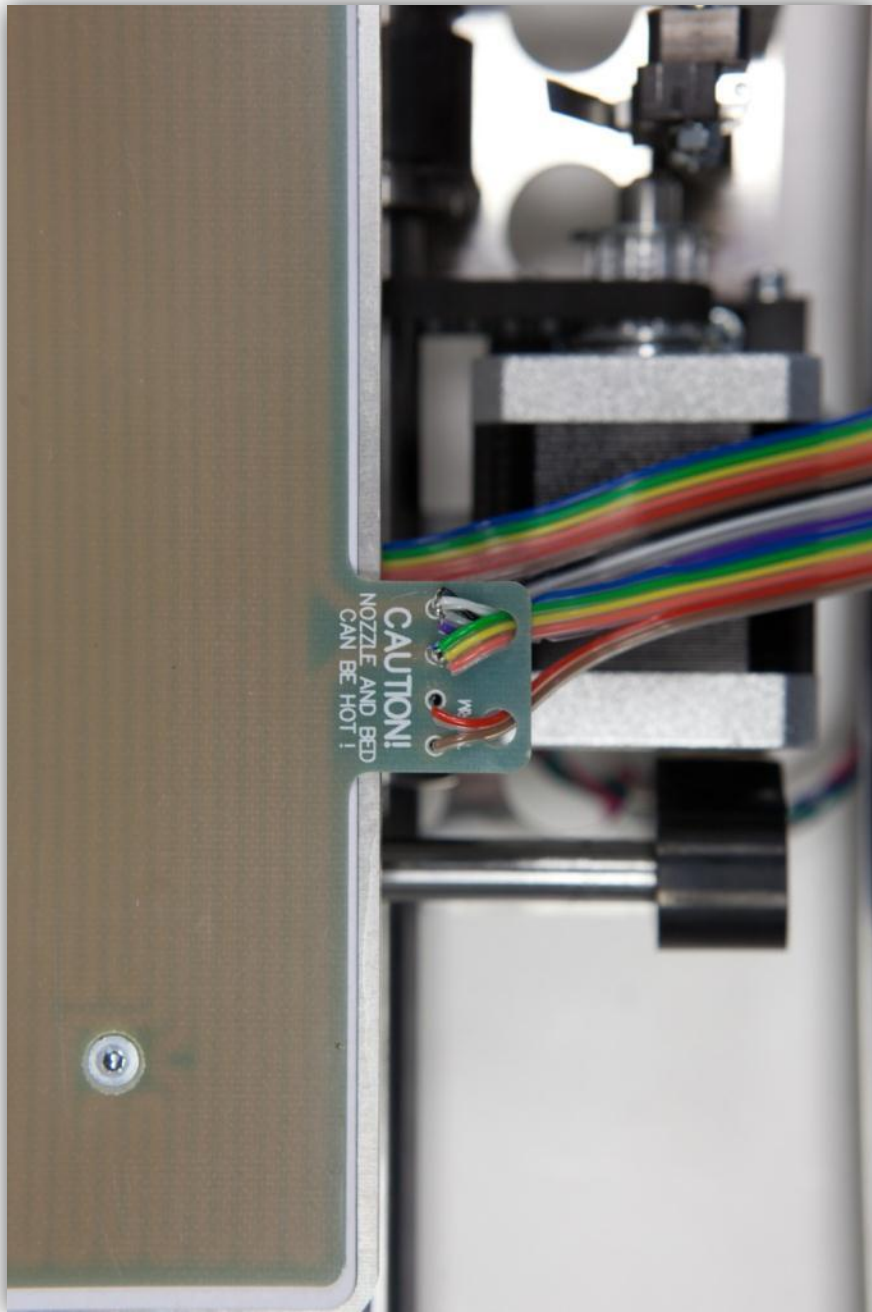
**Twist the wires from group 2 and 3 together before soldering them together.**



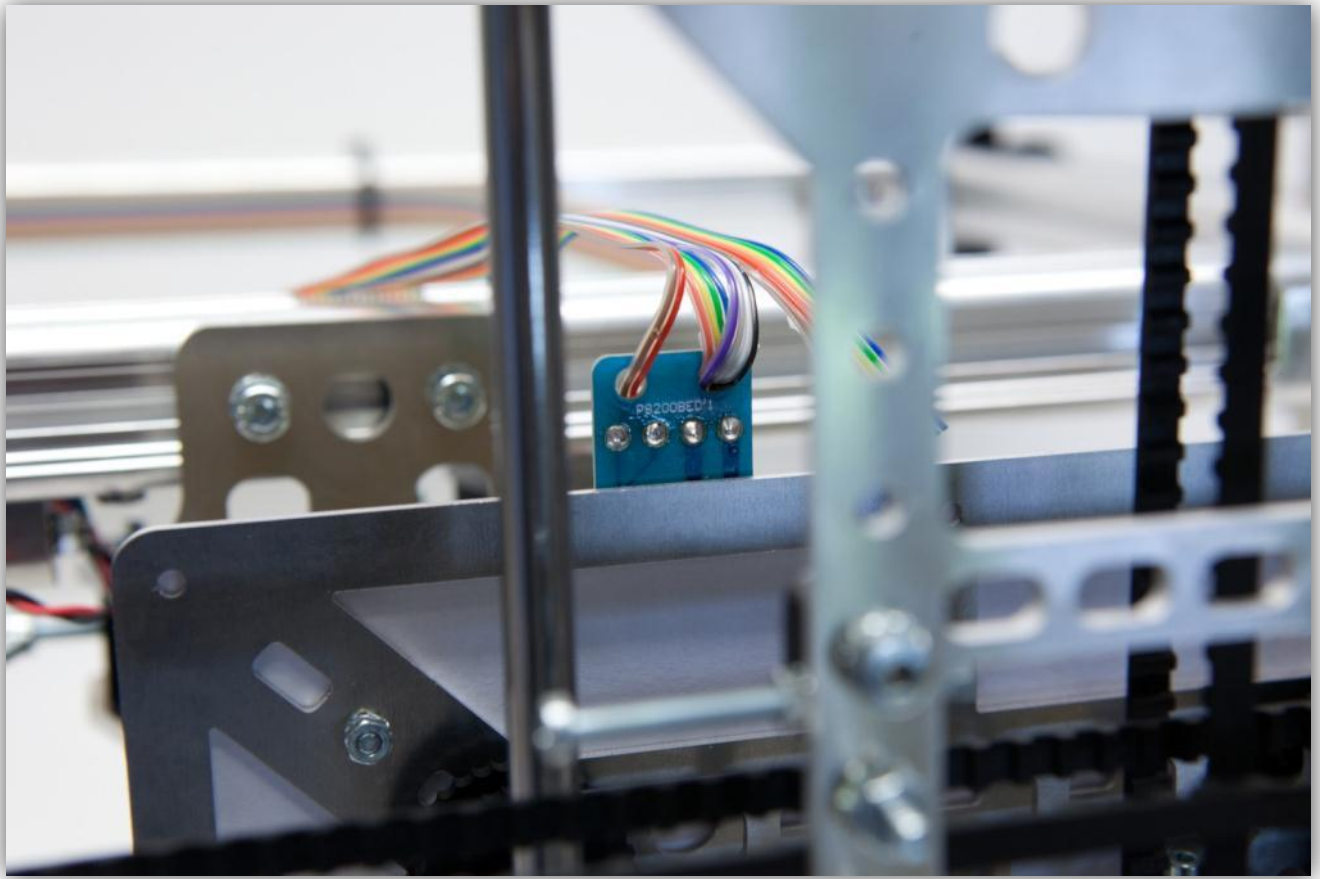
Guide the wires 1 cm through the holes of the heated bed. **Group 1** should go through the hole marked with THERM. **Group 2 and 3** should go through the hole marked with HEATER.



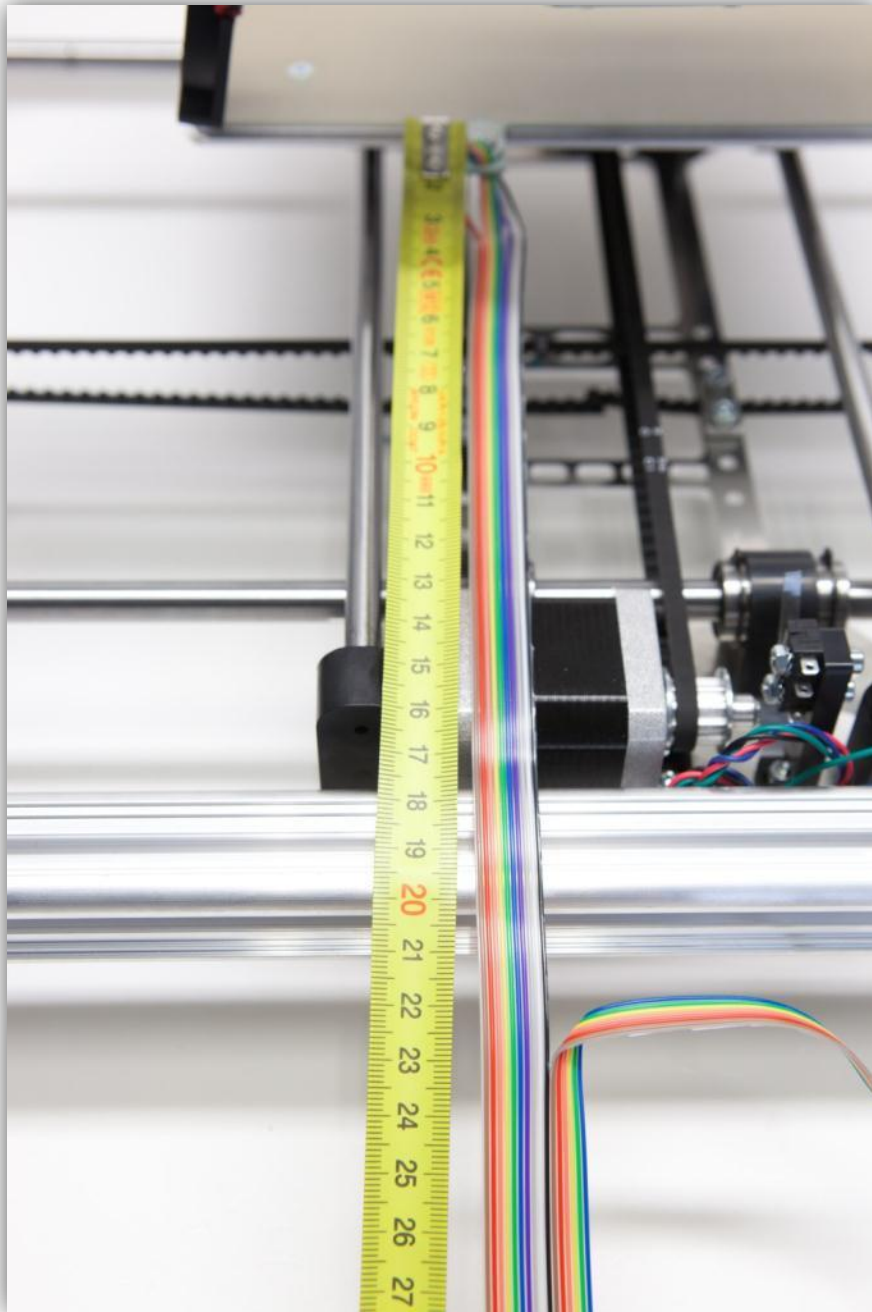
Now insert the tinned pieces of the wires into the small holes, the wires from **Group 1** go into the holes that correspond with THERM (not polarized) and the wires from **Group 2 and 3** go into the holes that correspond with HEATER (not polarized).



Solder the end of the wires to the bottom of the board. **Take extra care when soldering these points to not damage a part of the printer with the hot soldering iron.**

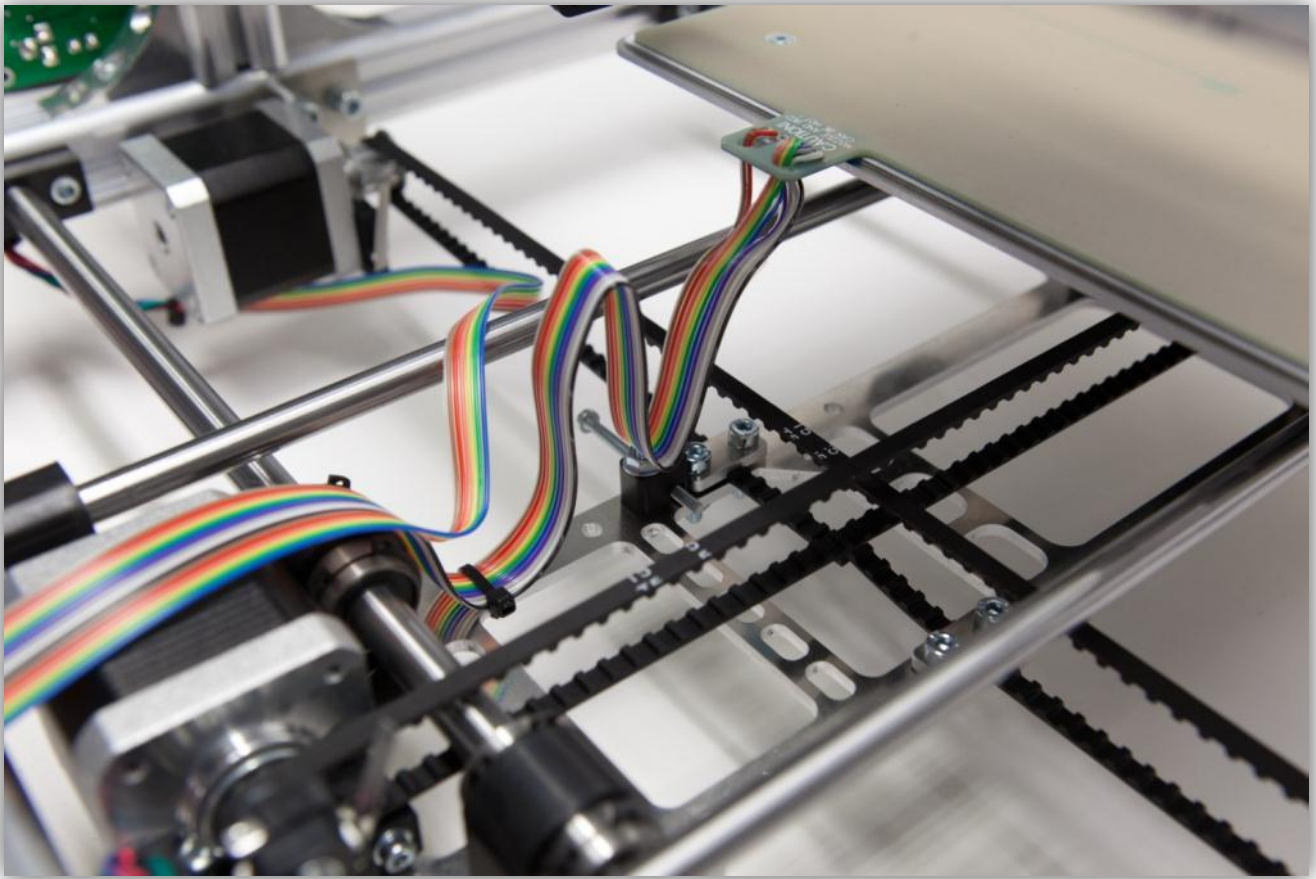


Detach **Group 4** 23 cm (9.06") from the wires that are now connected to the HEATED BED PCB.

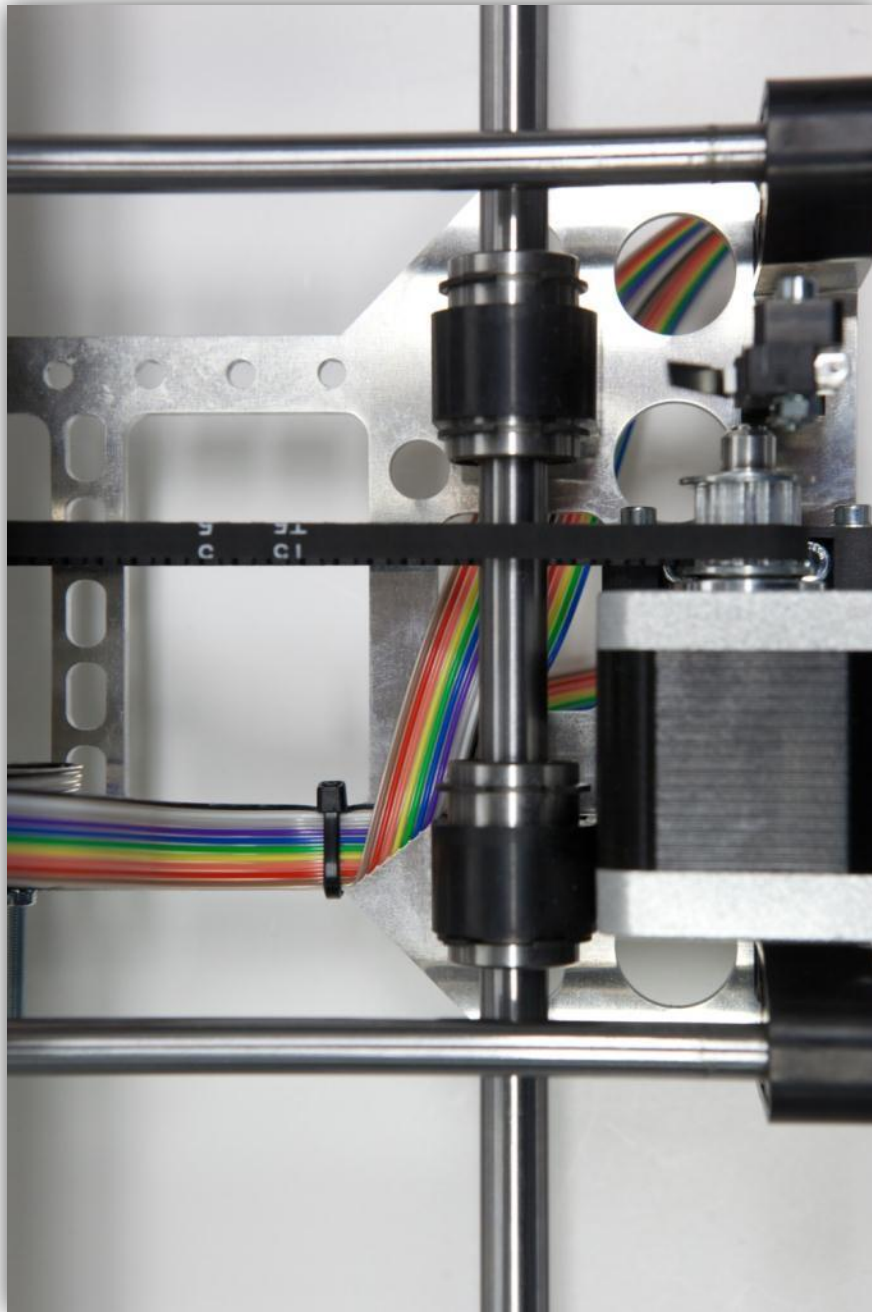


Use a small tie-strip to fasten the wires of **Group 1, 2** and **3**. Make sure the bed can move to its full extent without the wire catching or stretching. It's good practice to give it some bends as shown in the picture so that it folds nicely when the bed is moving.



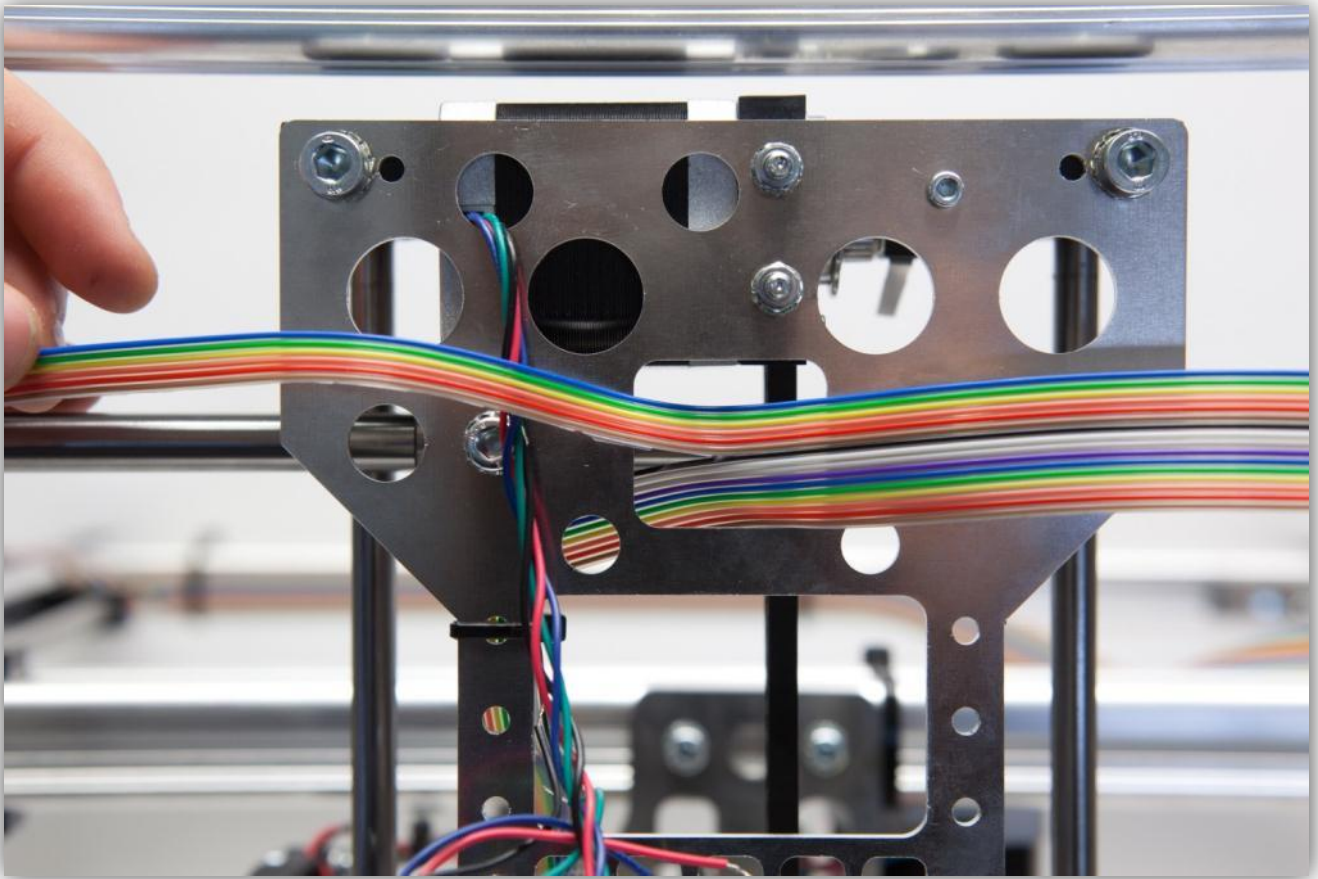


Fold the cable as shown in the picture below. Thread the cable through the hole.

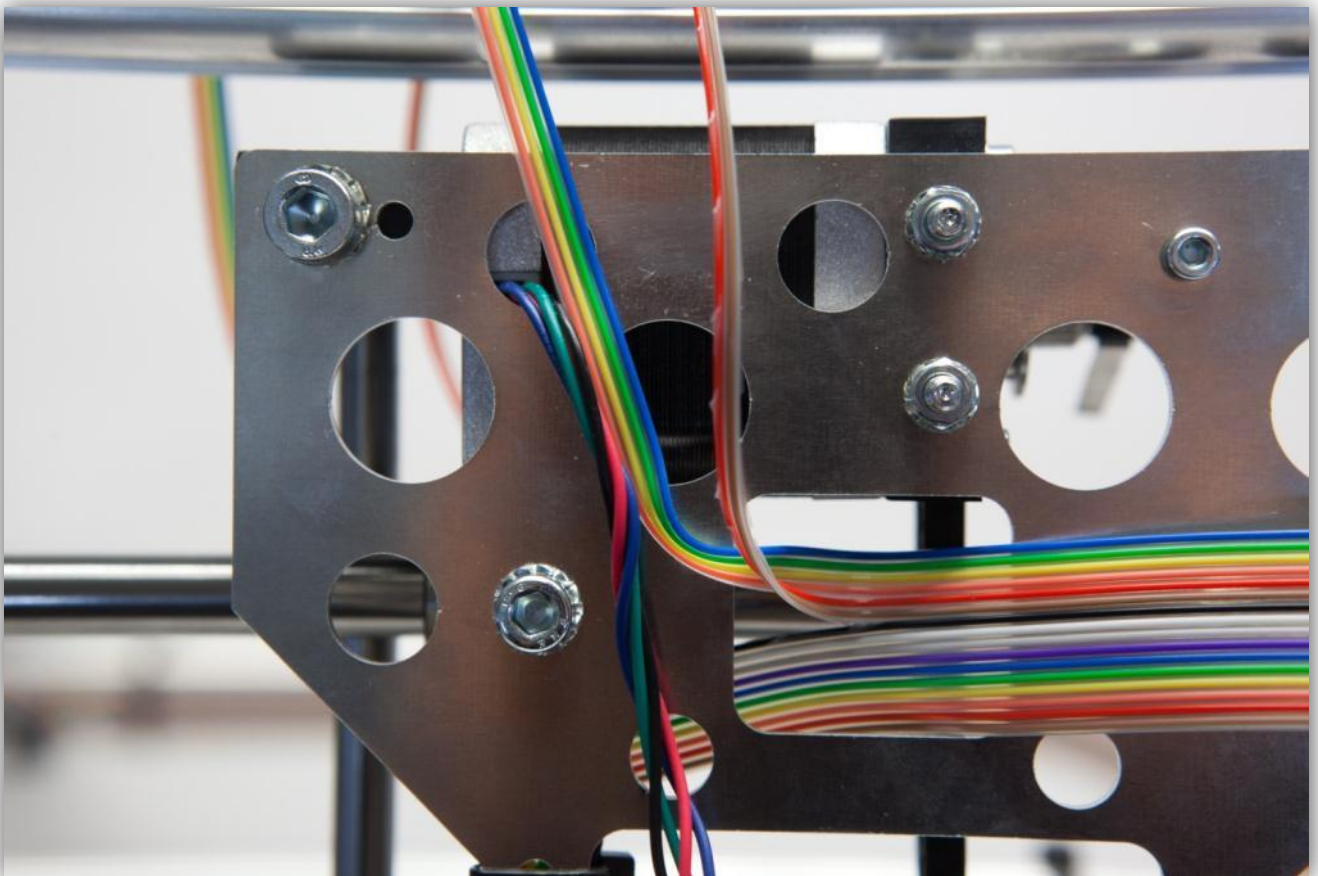


Notice where the cable splits.

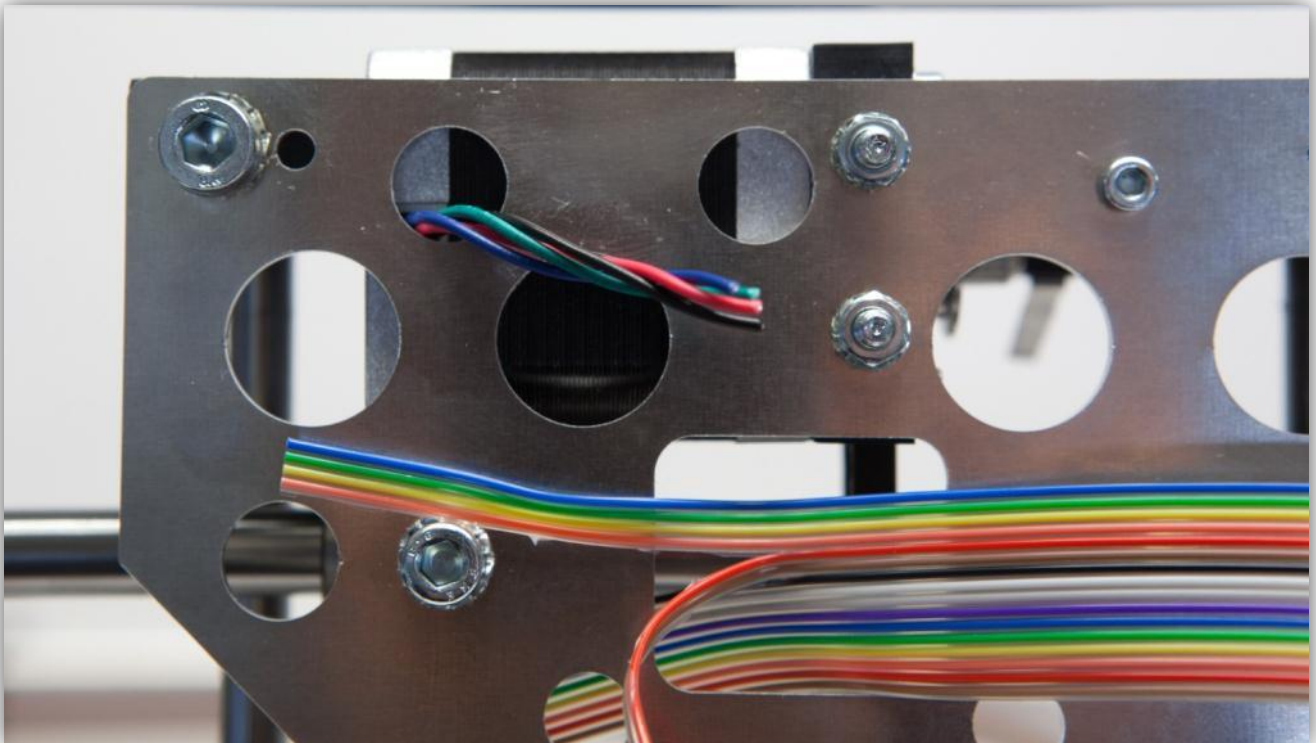




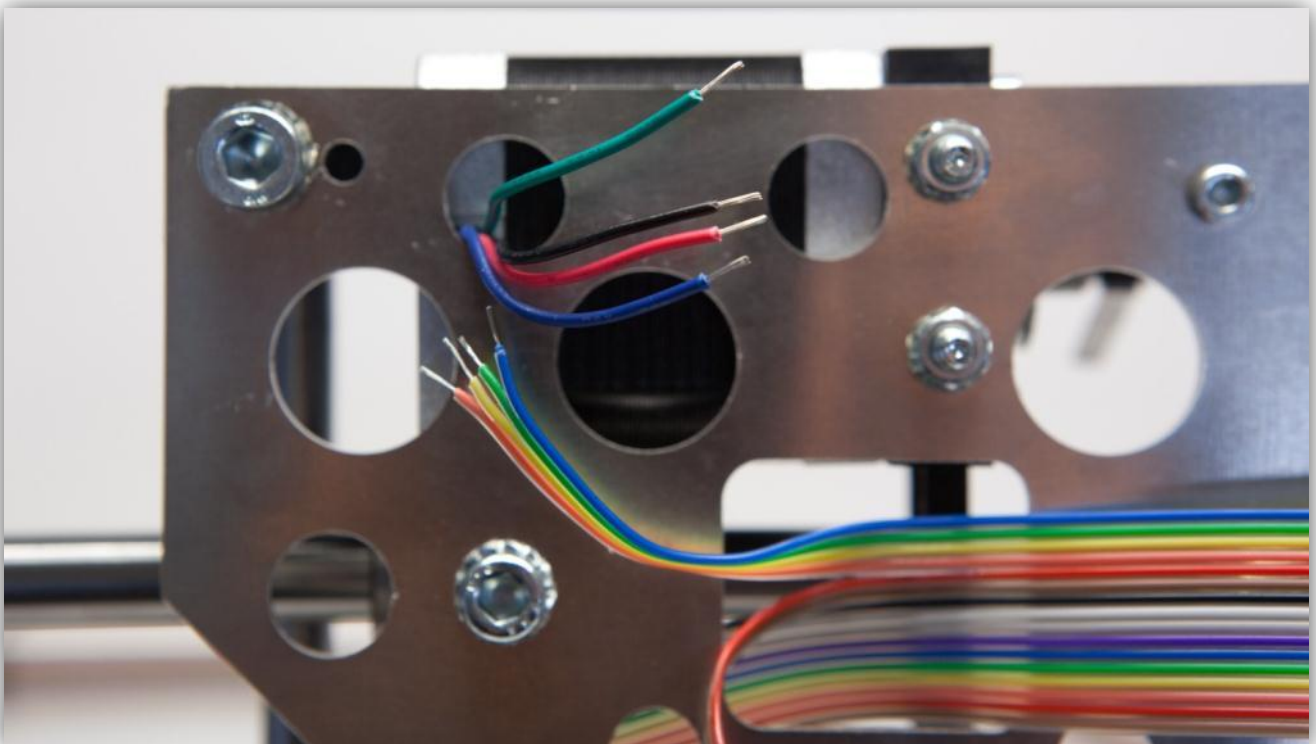
Split the wires as shown in the picture. You should have a group with the following wires: **Blue, Green, Yellow, Orange** and a group with the following: **Red, Brown**.



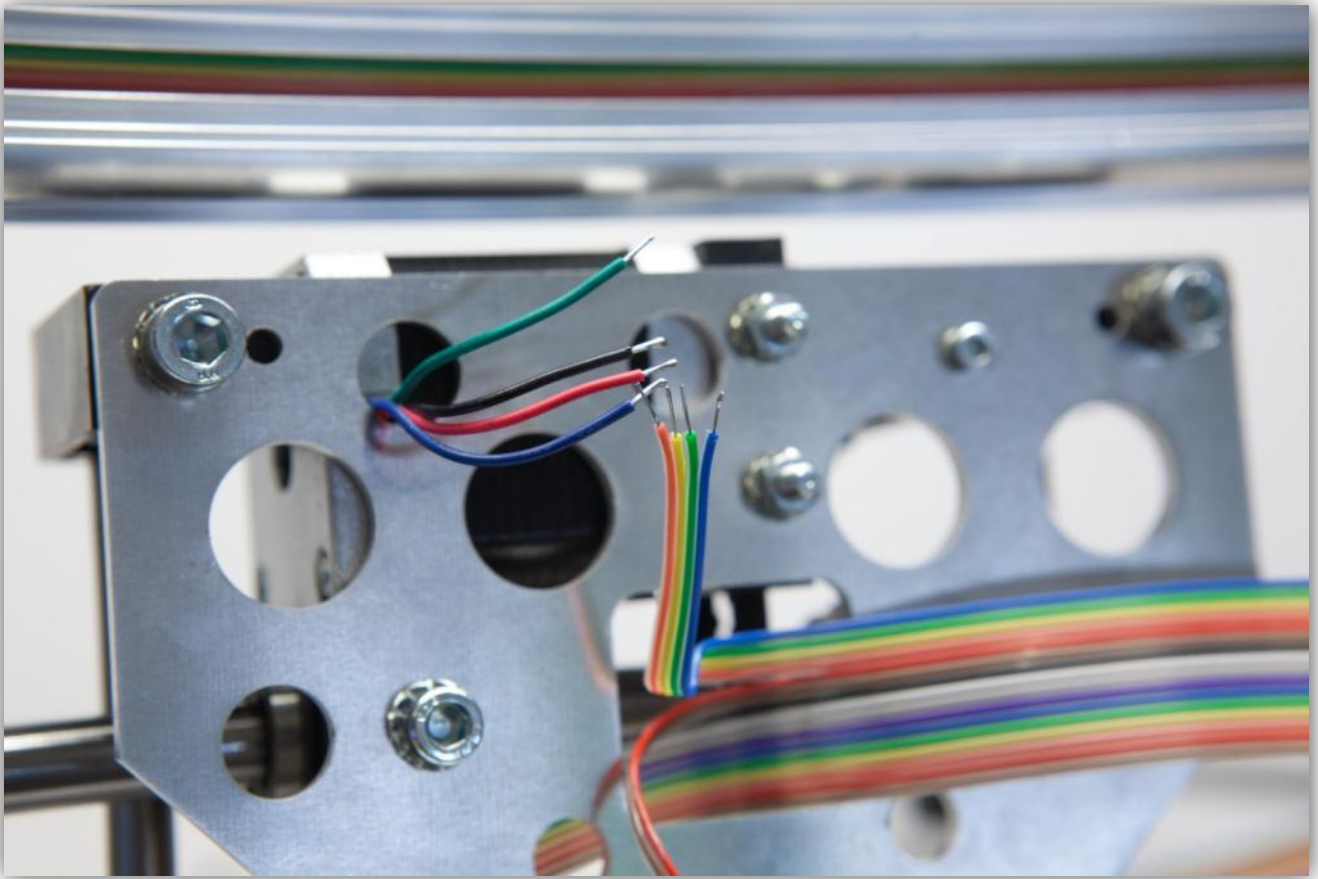
Cut the group with the following wires **Blue, Green, Yellow, Orange** and the wires of the motors so they can connect. Look at the picture below for guidance.



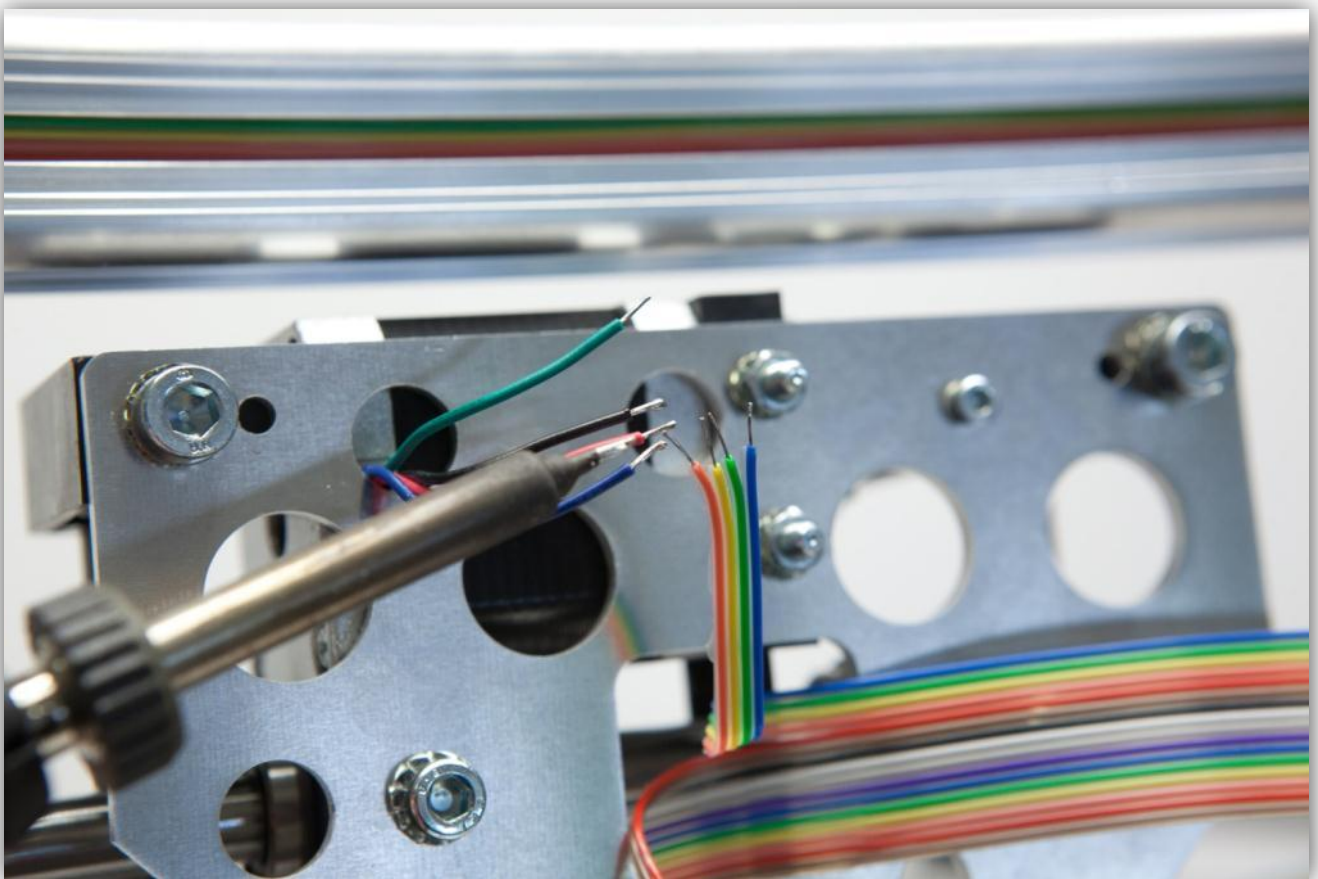
Strip 5 mm (0.2") the wires as shown in the pictures below.







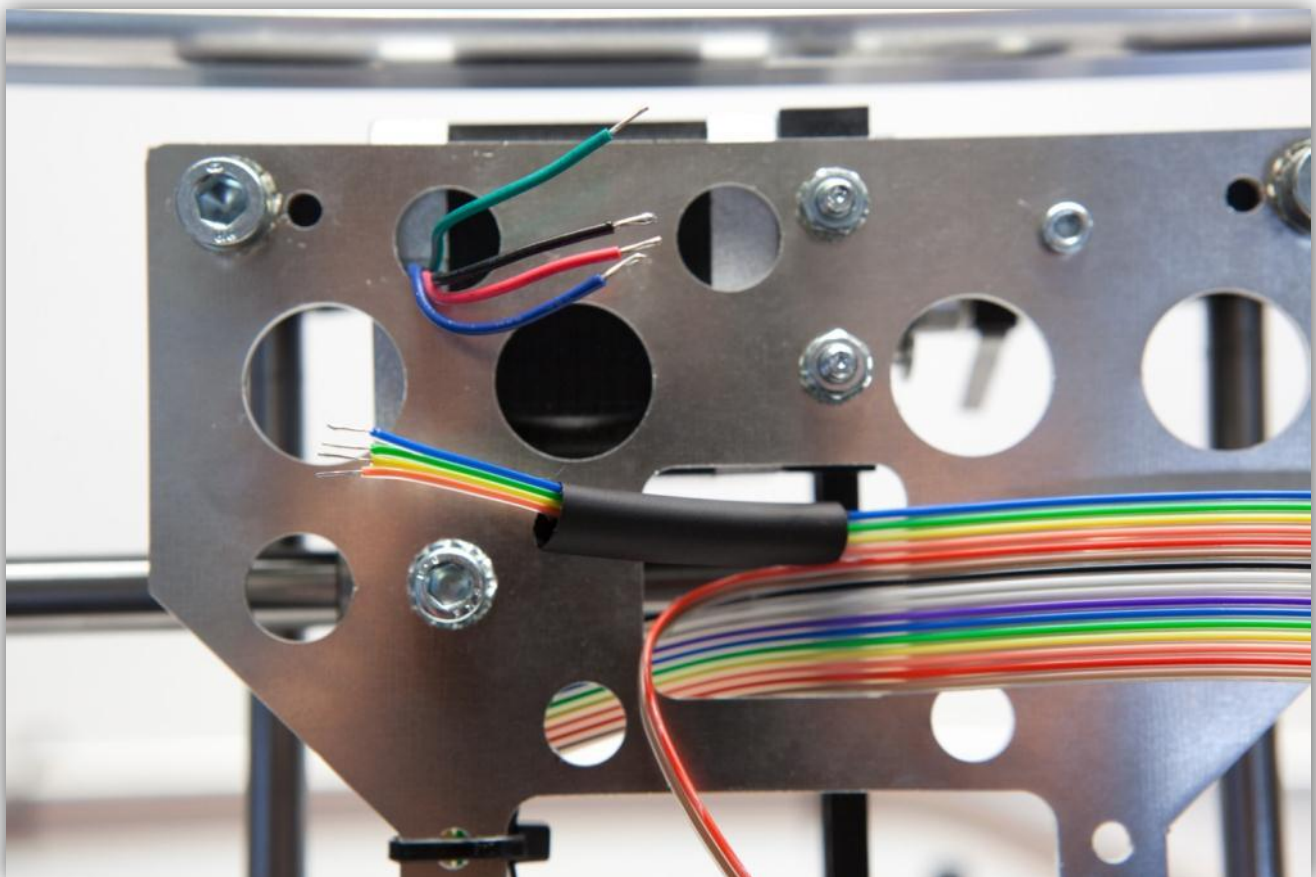
Tin the wires.



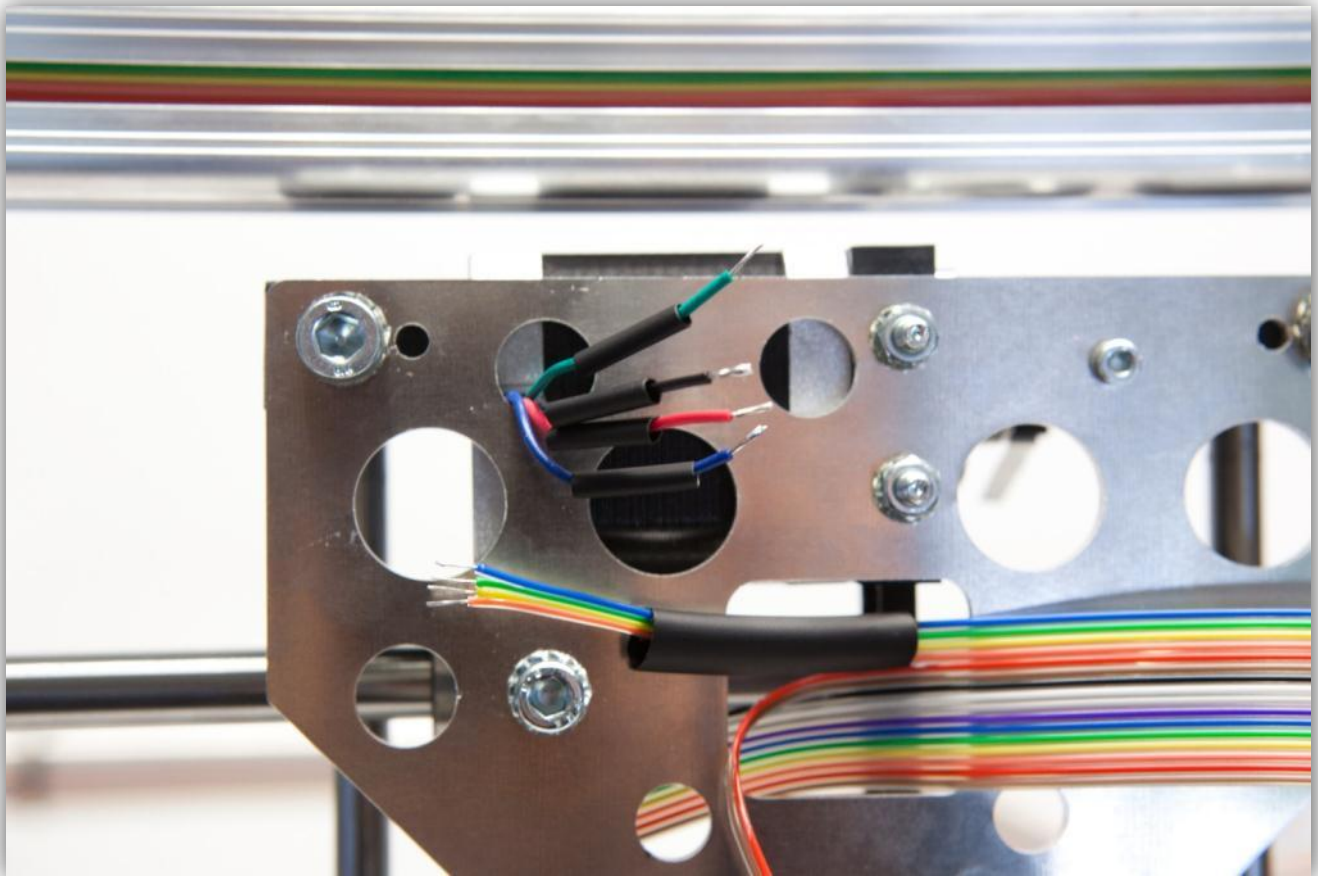
Cut 4 small pieces of the smallest heat shrink tubing of 1.5 cm (0.59") long and 1 large piece of the biggest heat shrink tubing of 4 cm (1.57"). You can find the heat shrink tubing in the bag labelled with 40.



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



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. **Watch the colours closely.**

**Flat cable** -> **Motor wires**

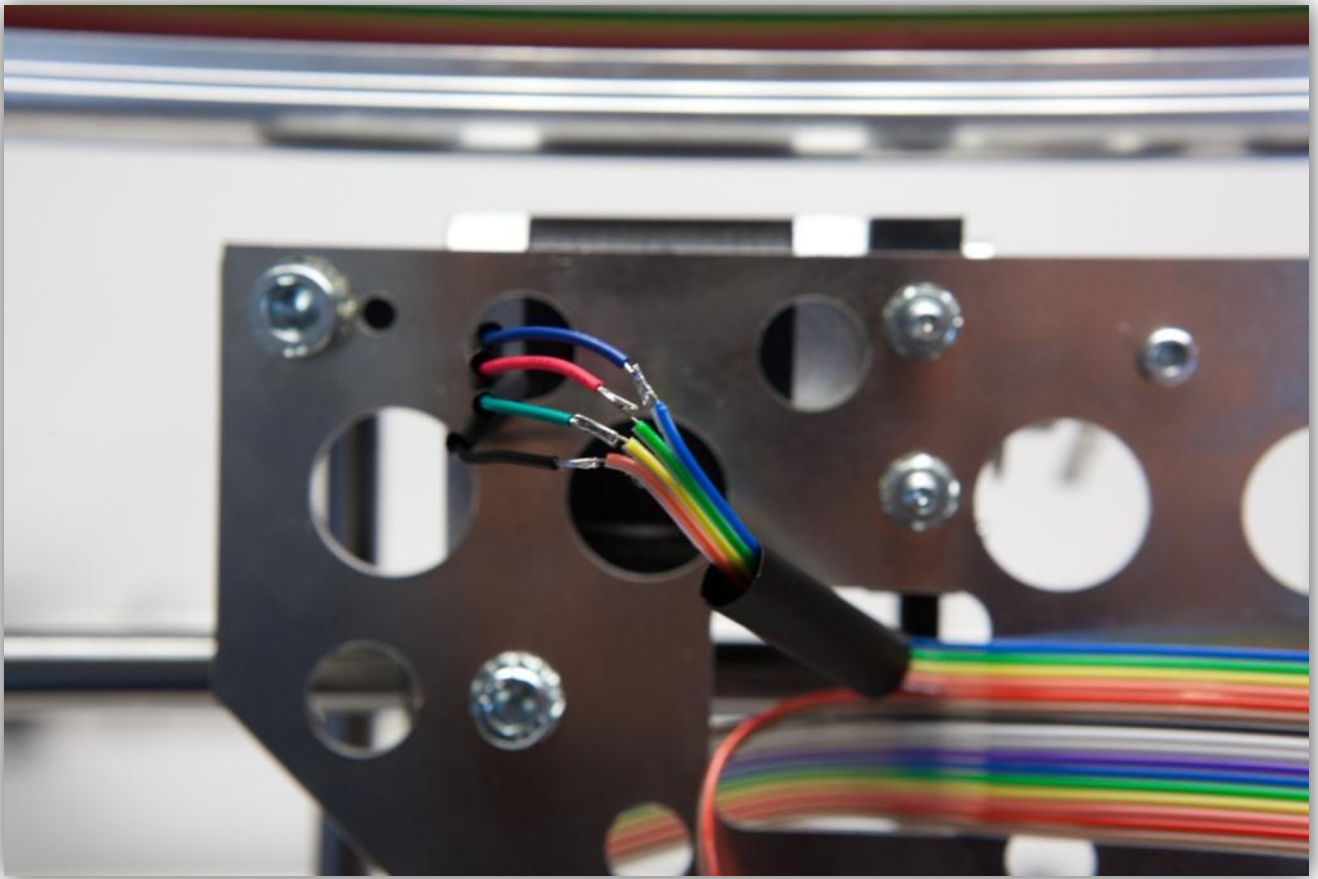
**Blue** -> **Blue**

**Green** -> **Red**

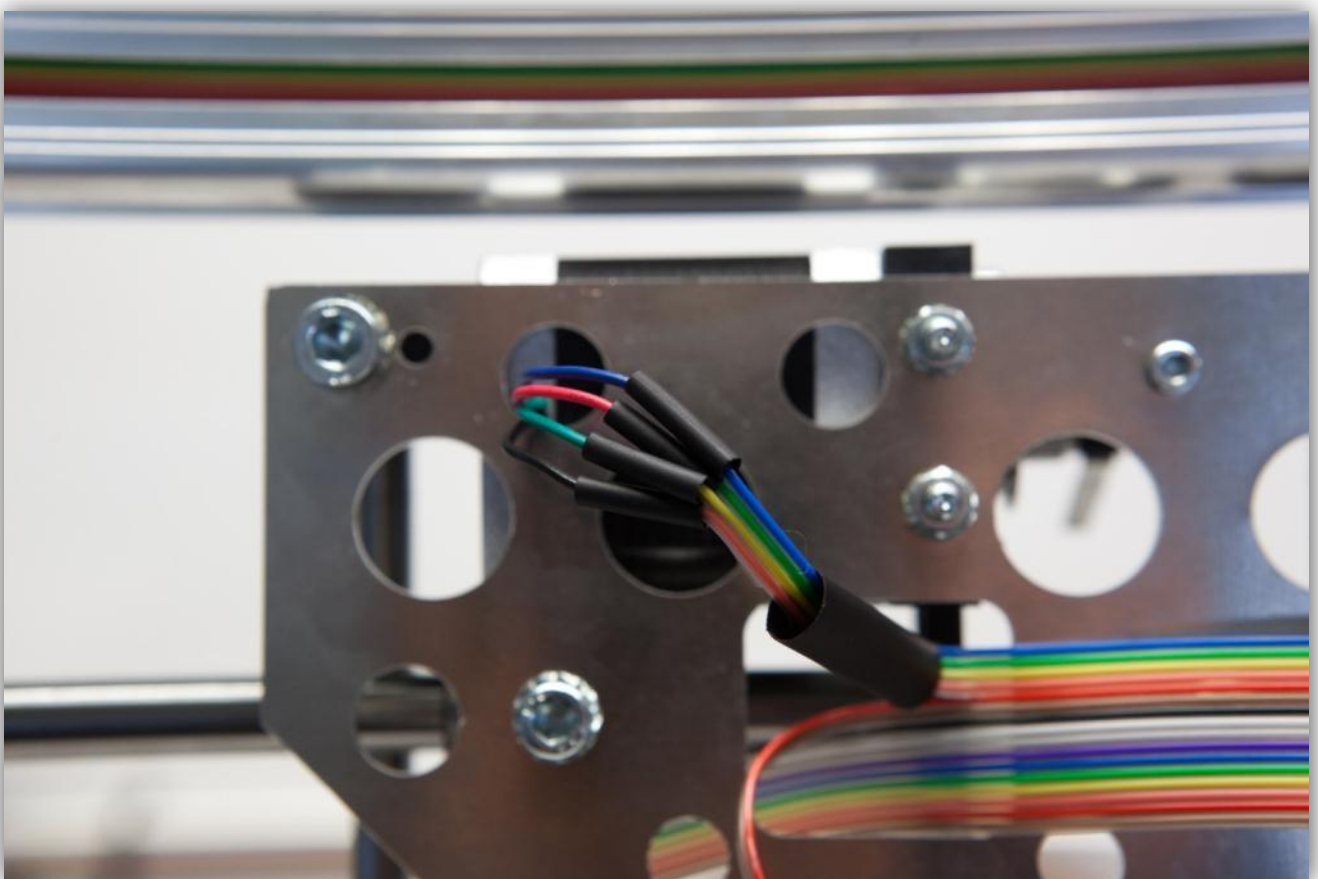
**Yellow** -> **Green**

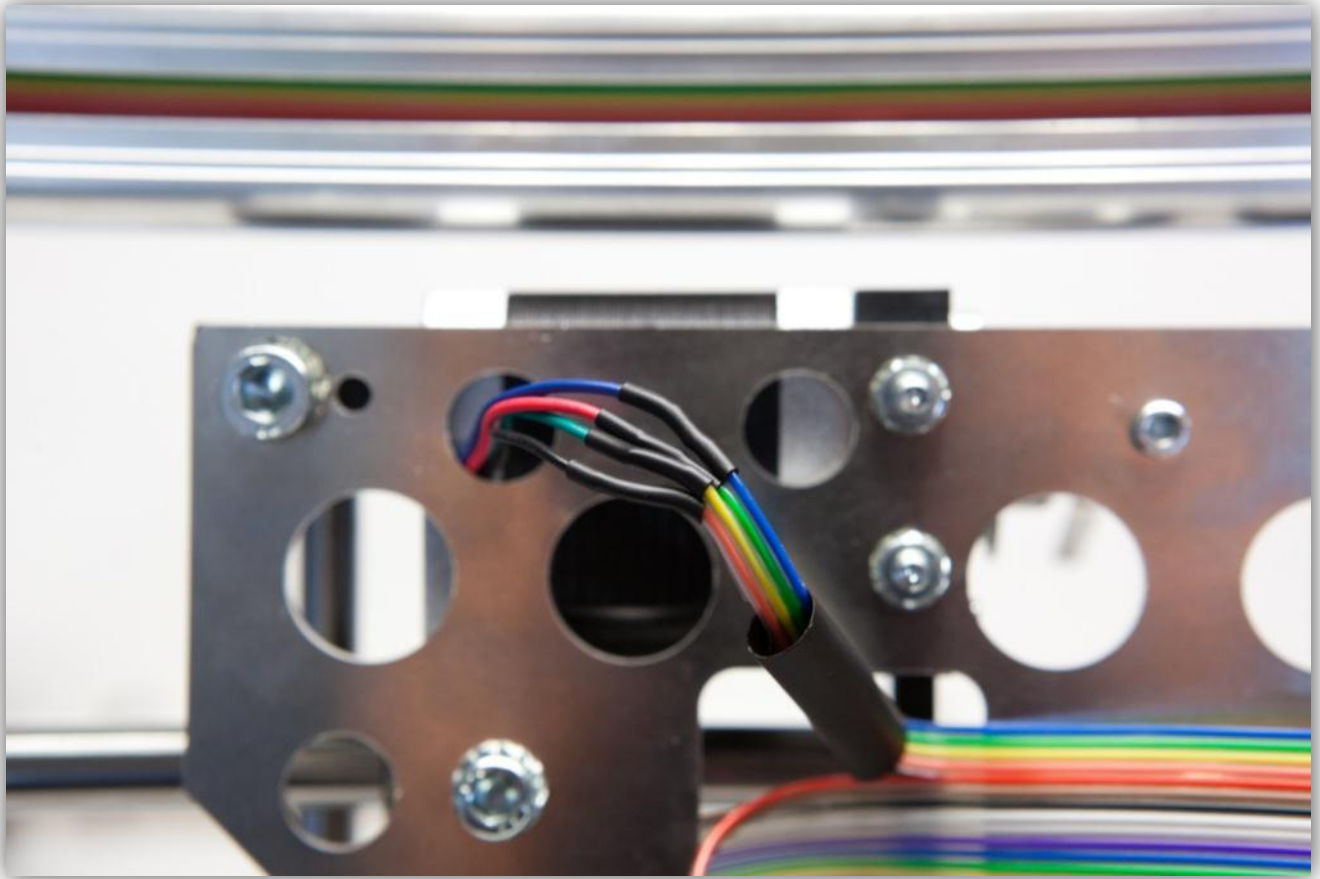
**Orange** -> **Black**



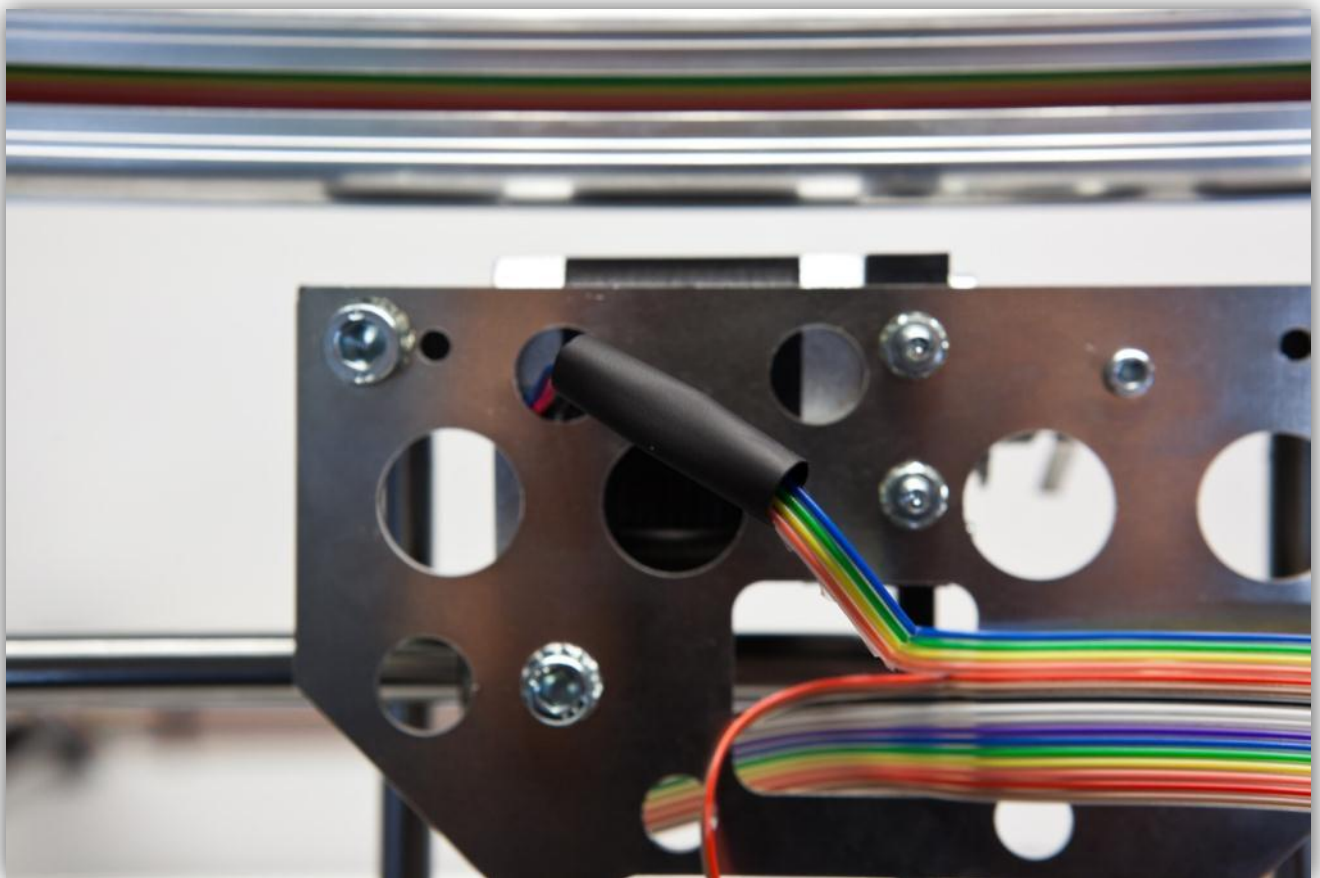


Slide the small heat shrink tubes over the solder joints and heat them up so they shrink.

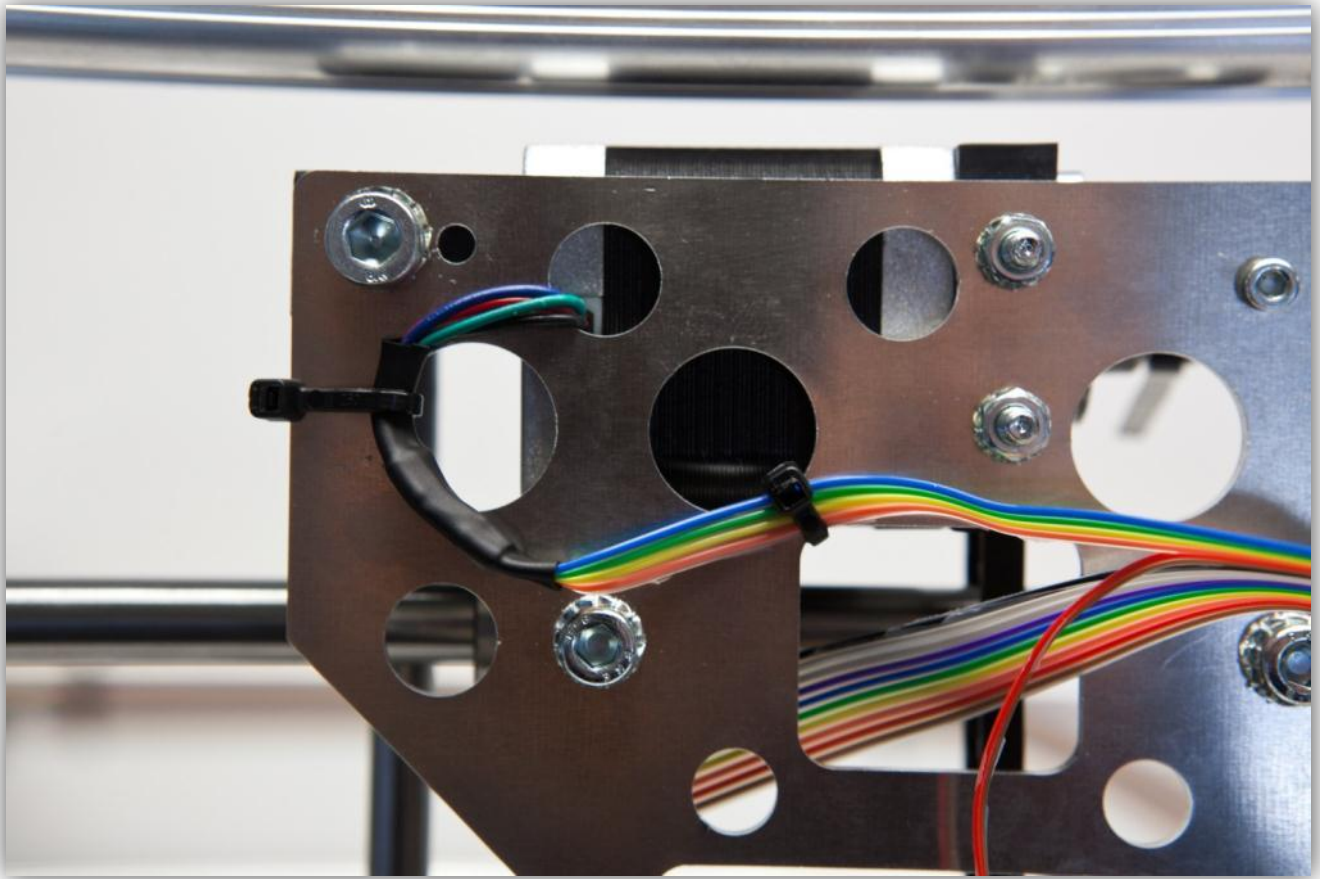




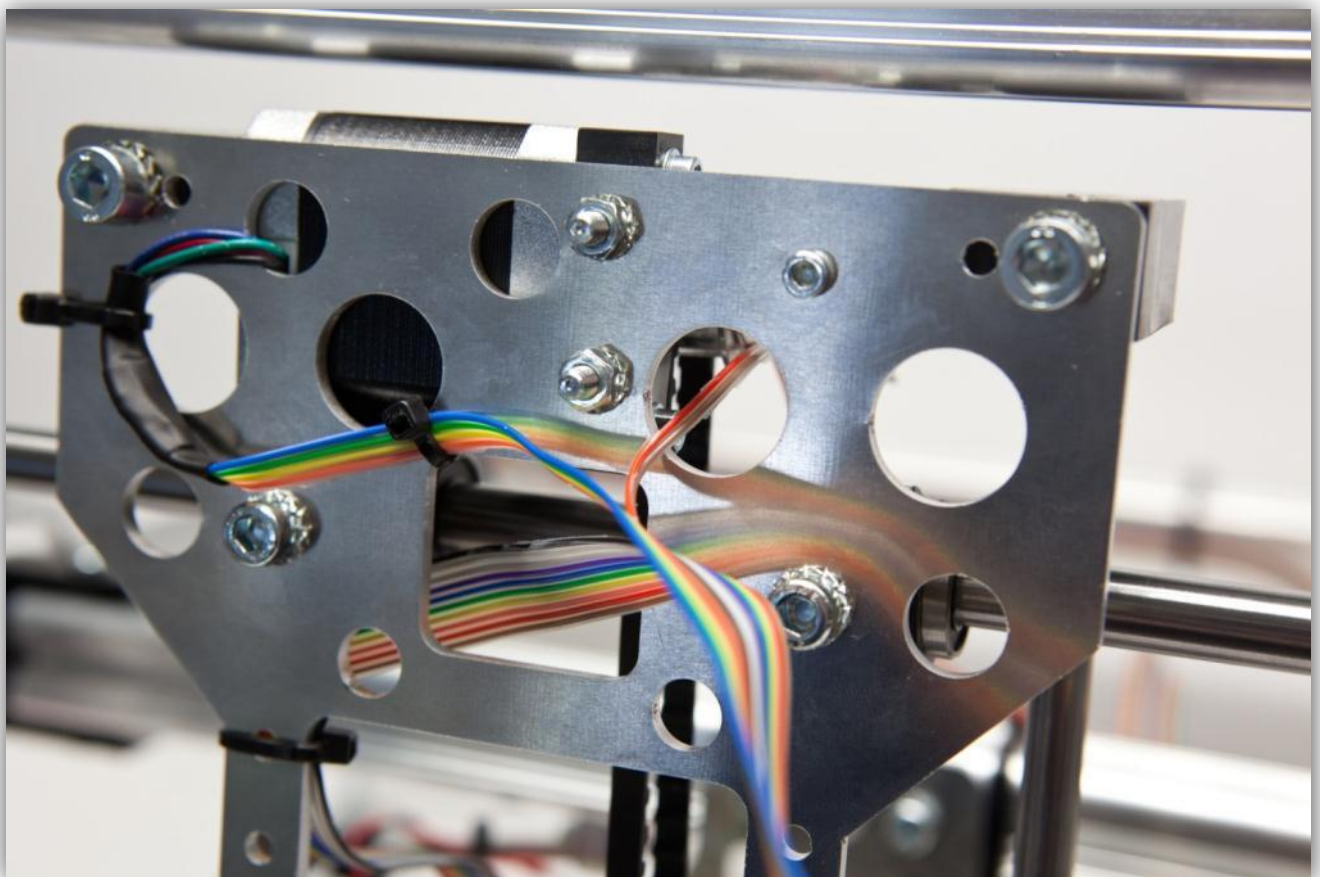
Now slide the big piece of heat shrink tubing over the 4 small pieces, heat the big piece so it covers and protects the 4 heat shrunk joints. Then use a small tie-strip to keep the wires in place as shown in the picture.



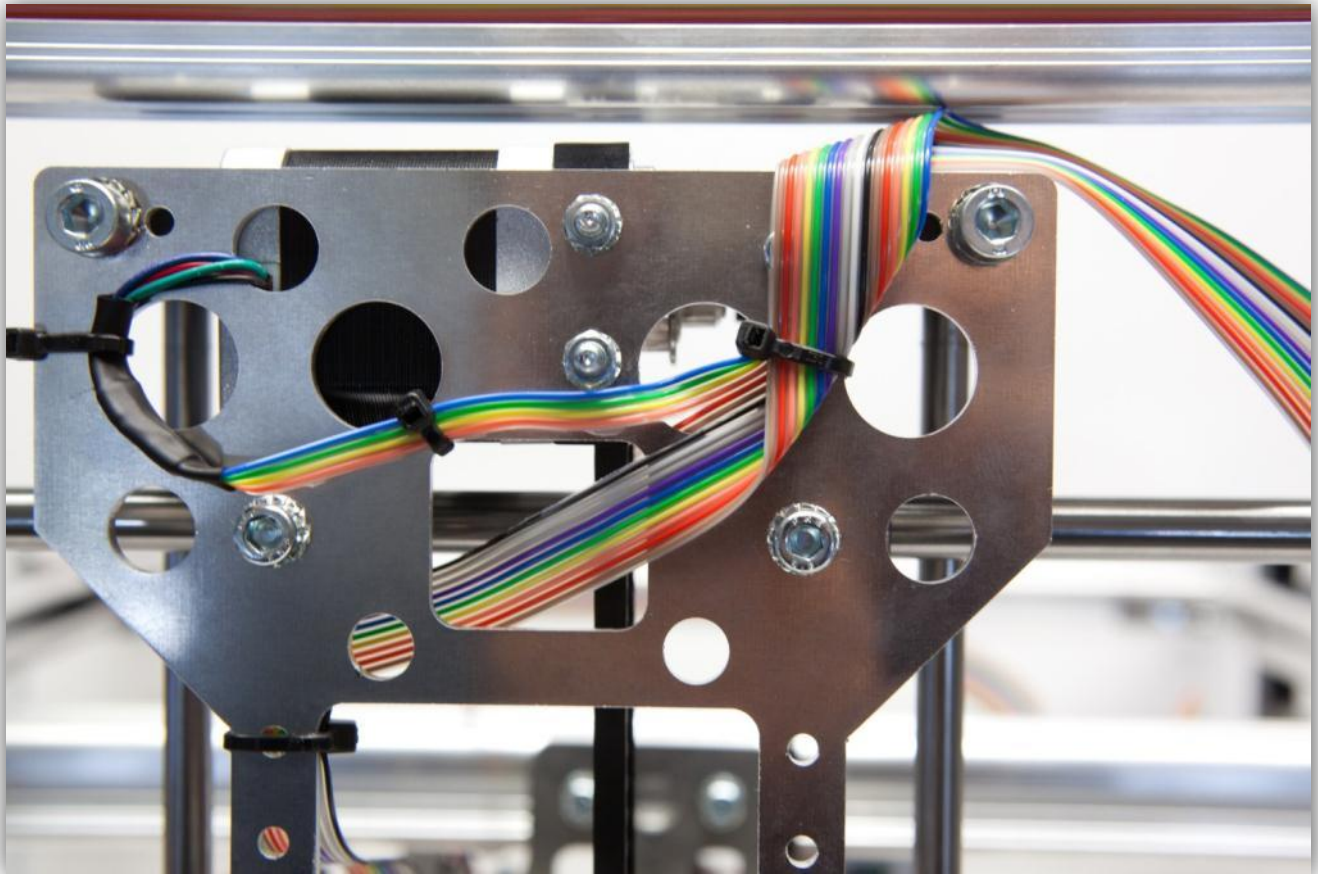




Slide the **Red** and **Brown** wire through the hole as shown in the picture below.

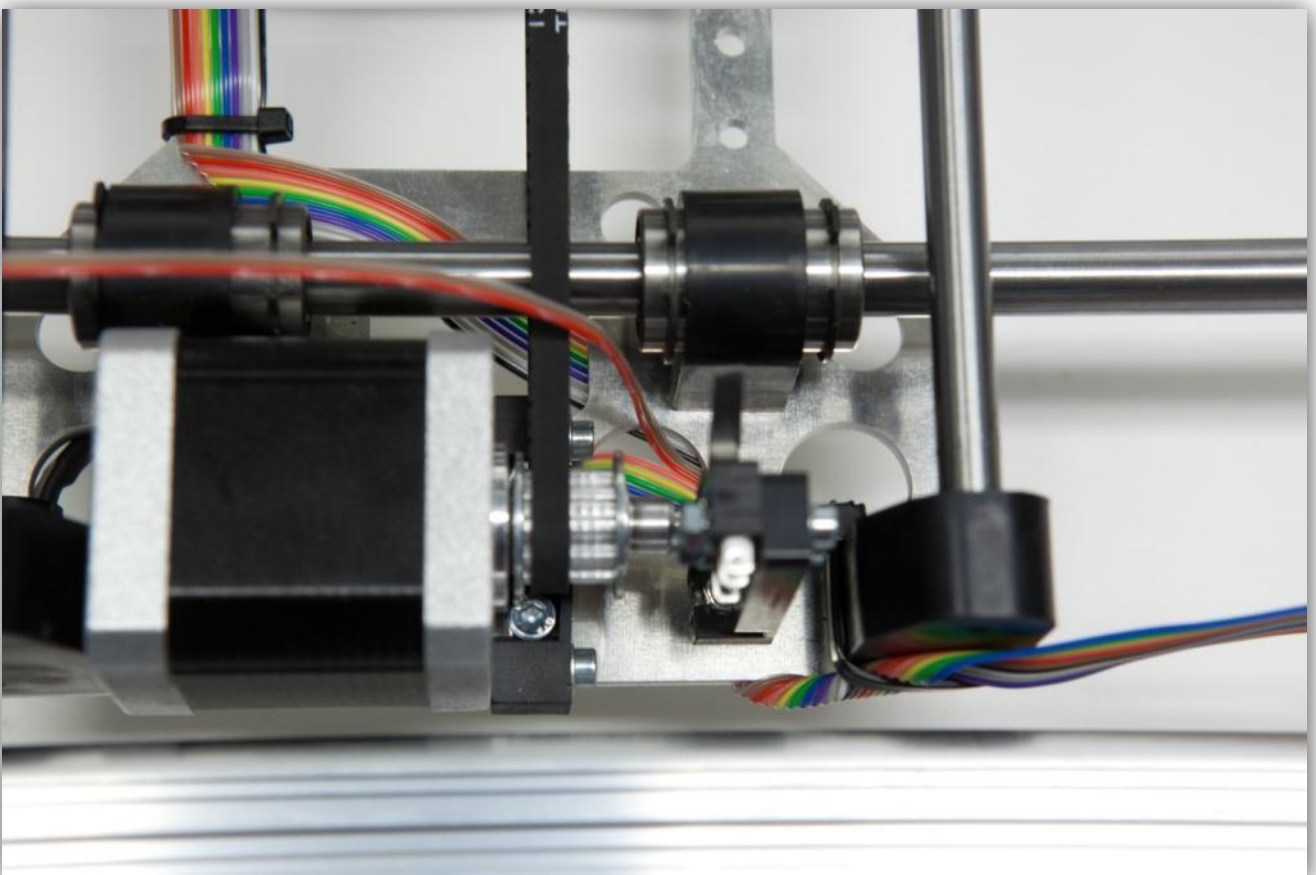
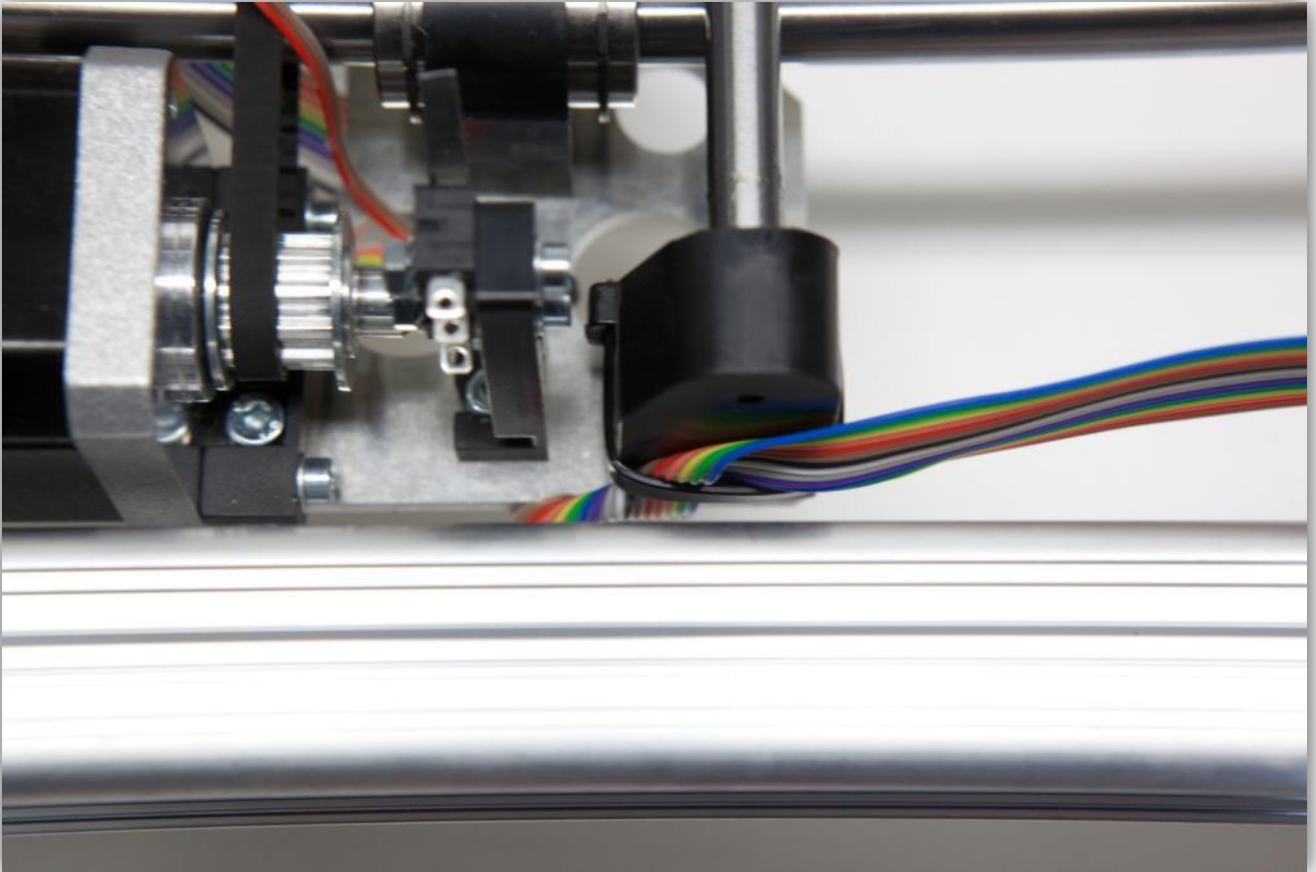


Fold the cable as shown in the pictures below and secure it with small tie-strips.



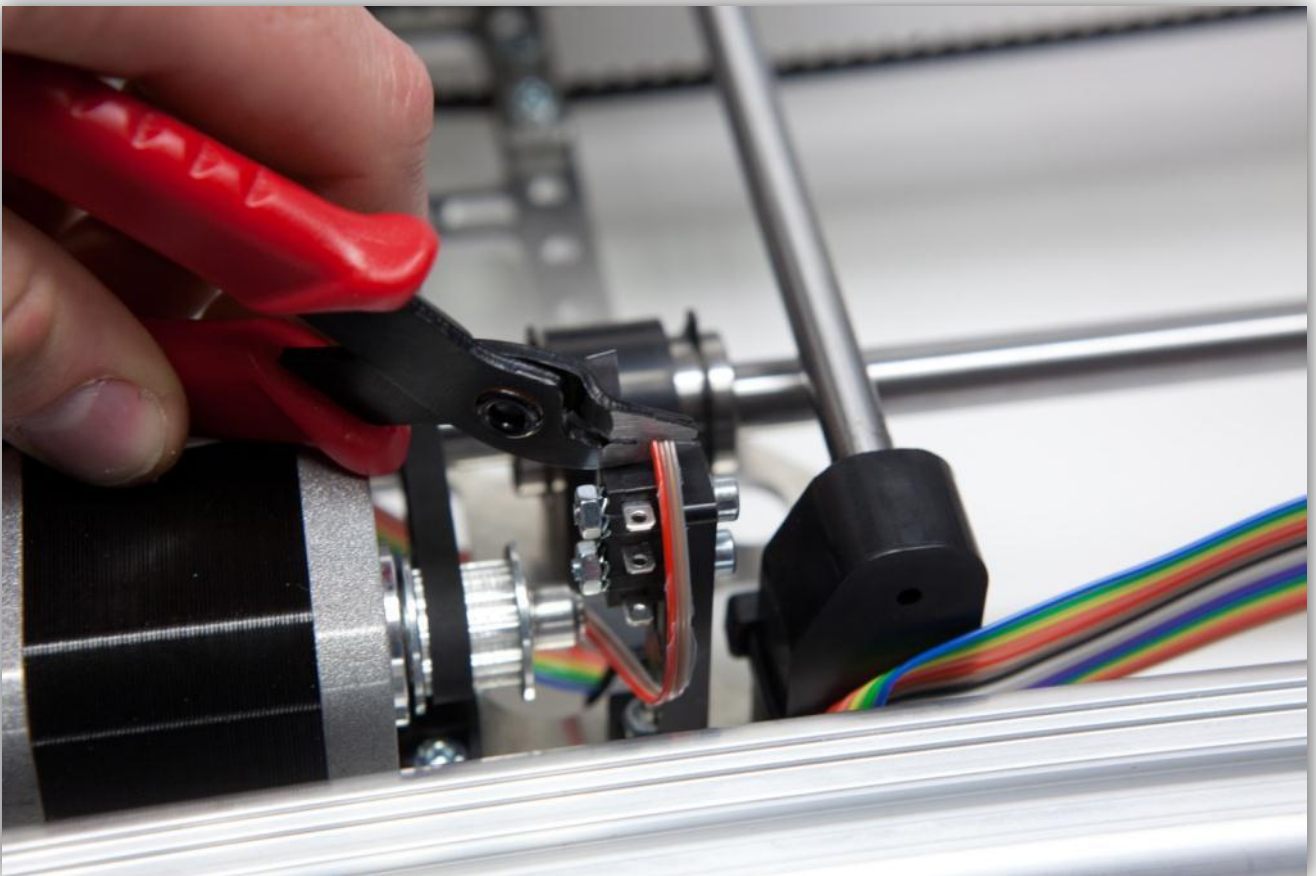
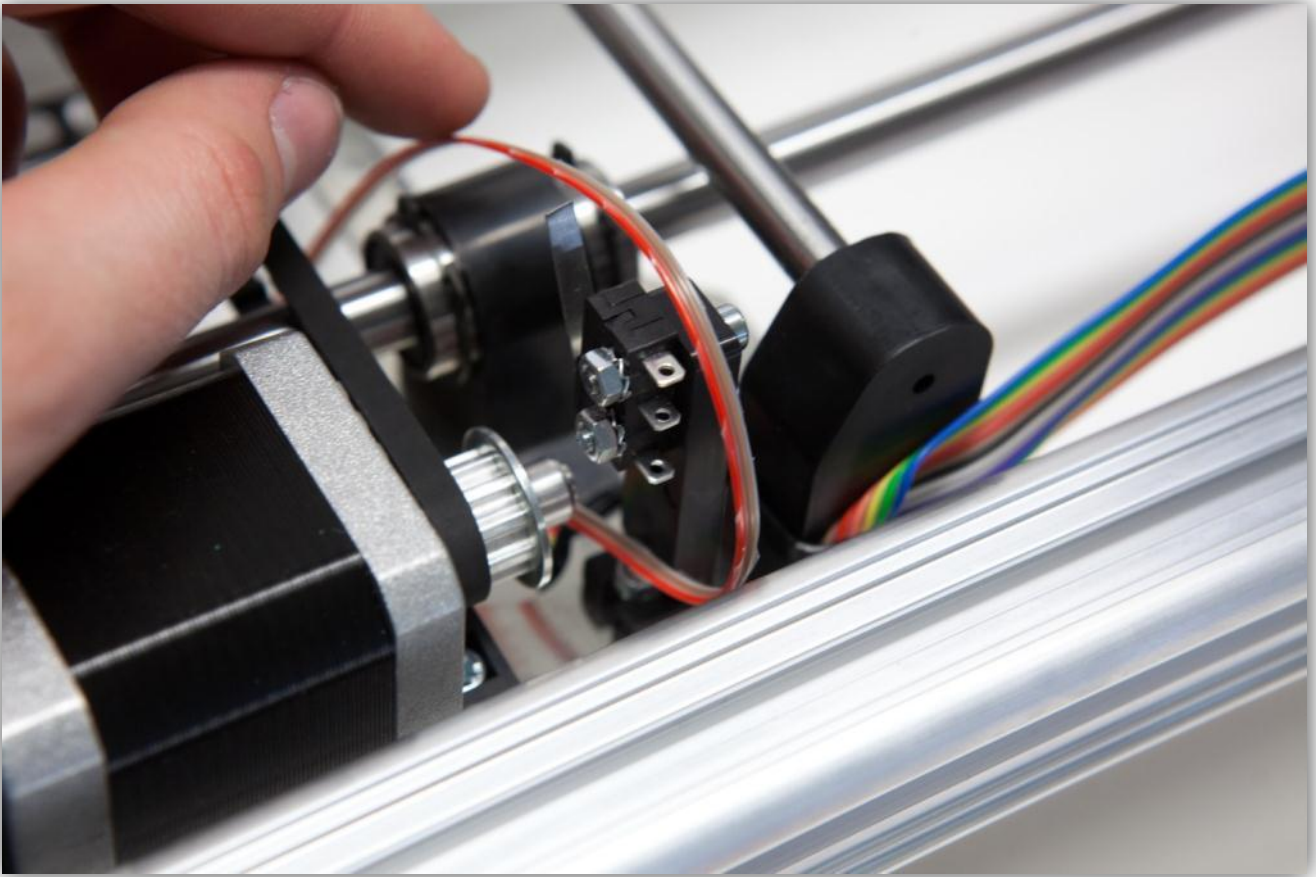


Secure the cable firmly so it is parallel to the frame.

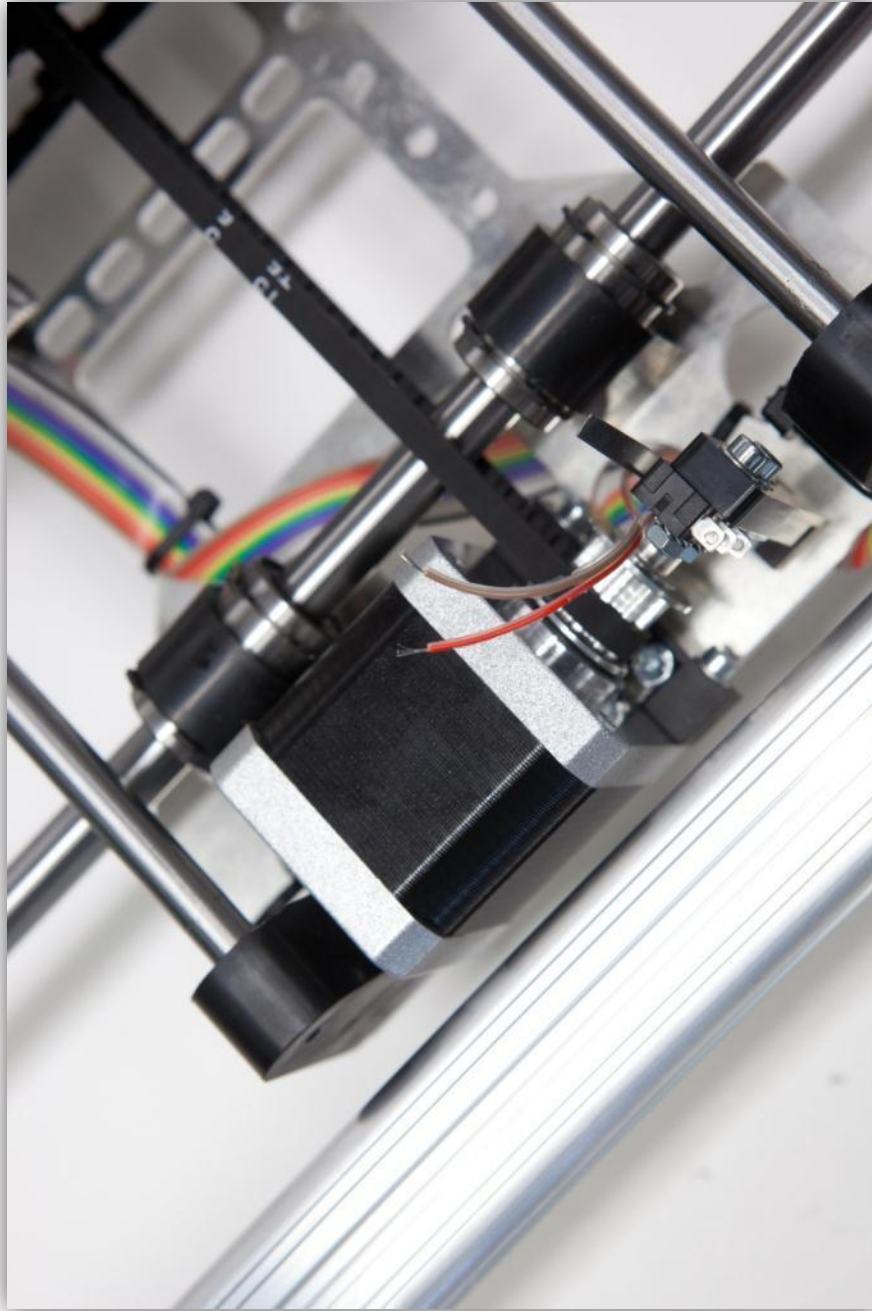


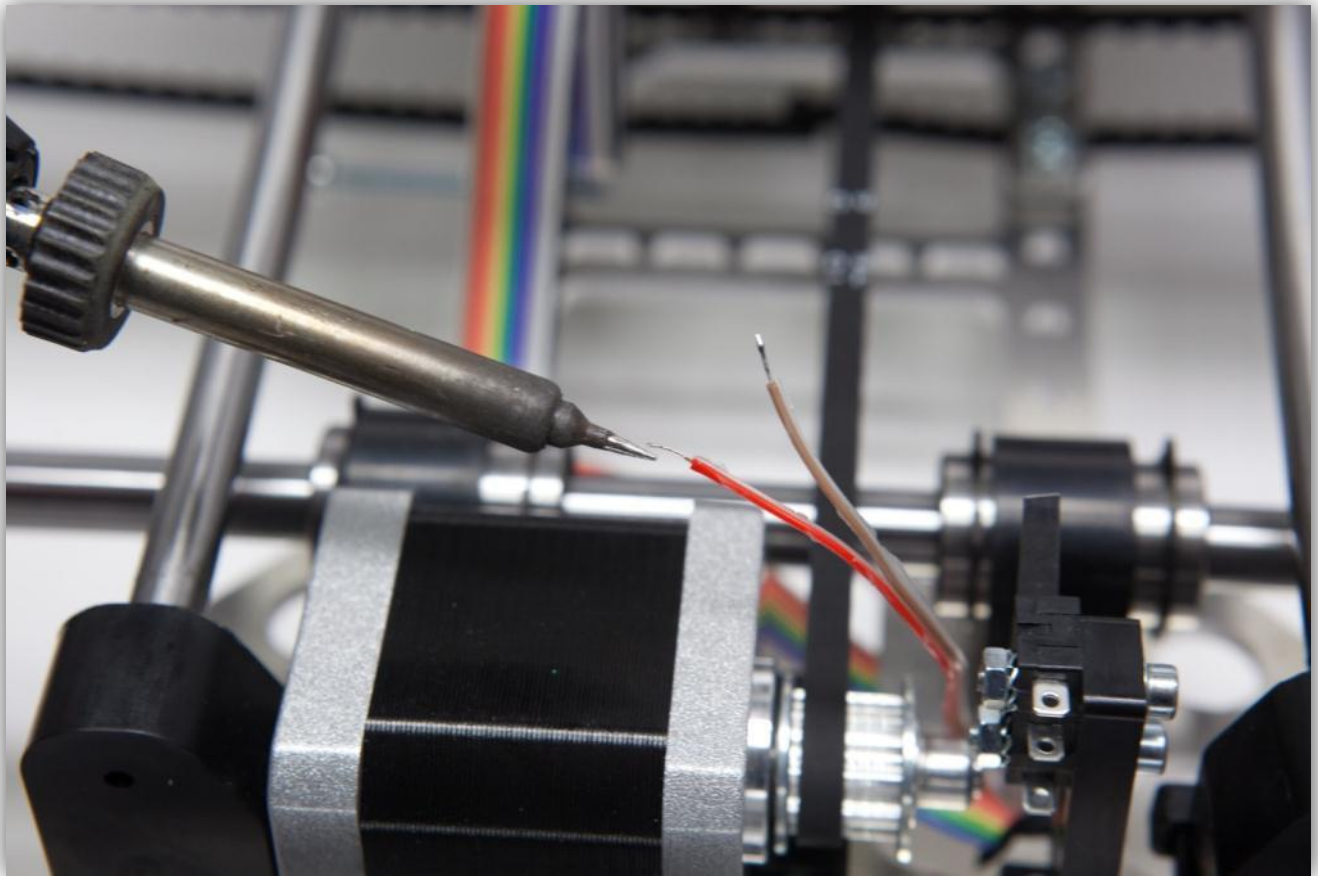


Cut the **Red** and **Brown** wire as shown in the pictures below.



Strip 5 mm (0.2") and tin the wires.



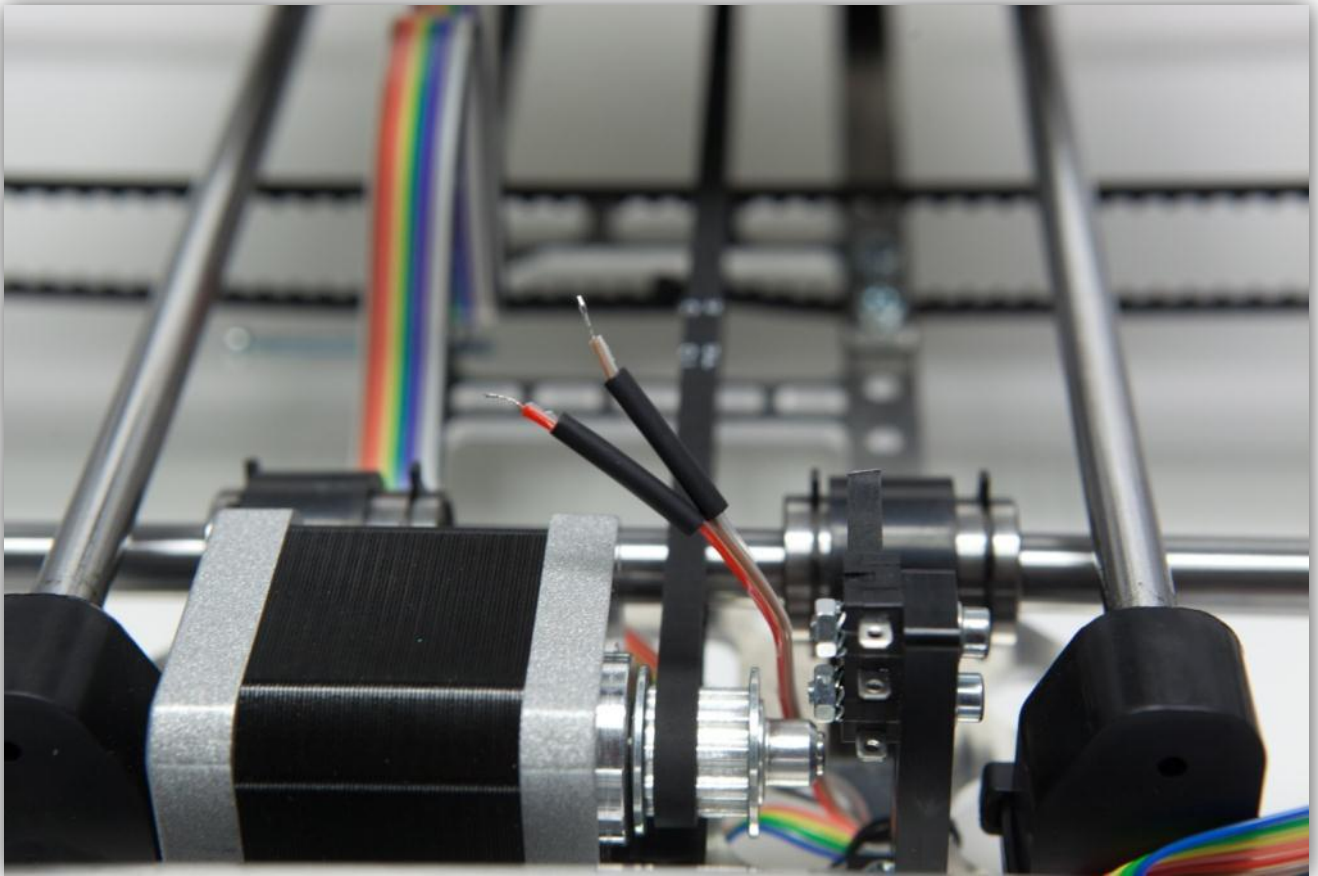


Cut 4 medium size pieces of the smallest heat shrink tubing of 1.5 cm (0.59") long.

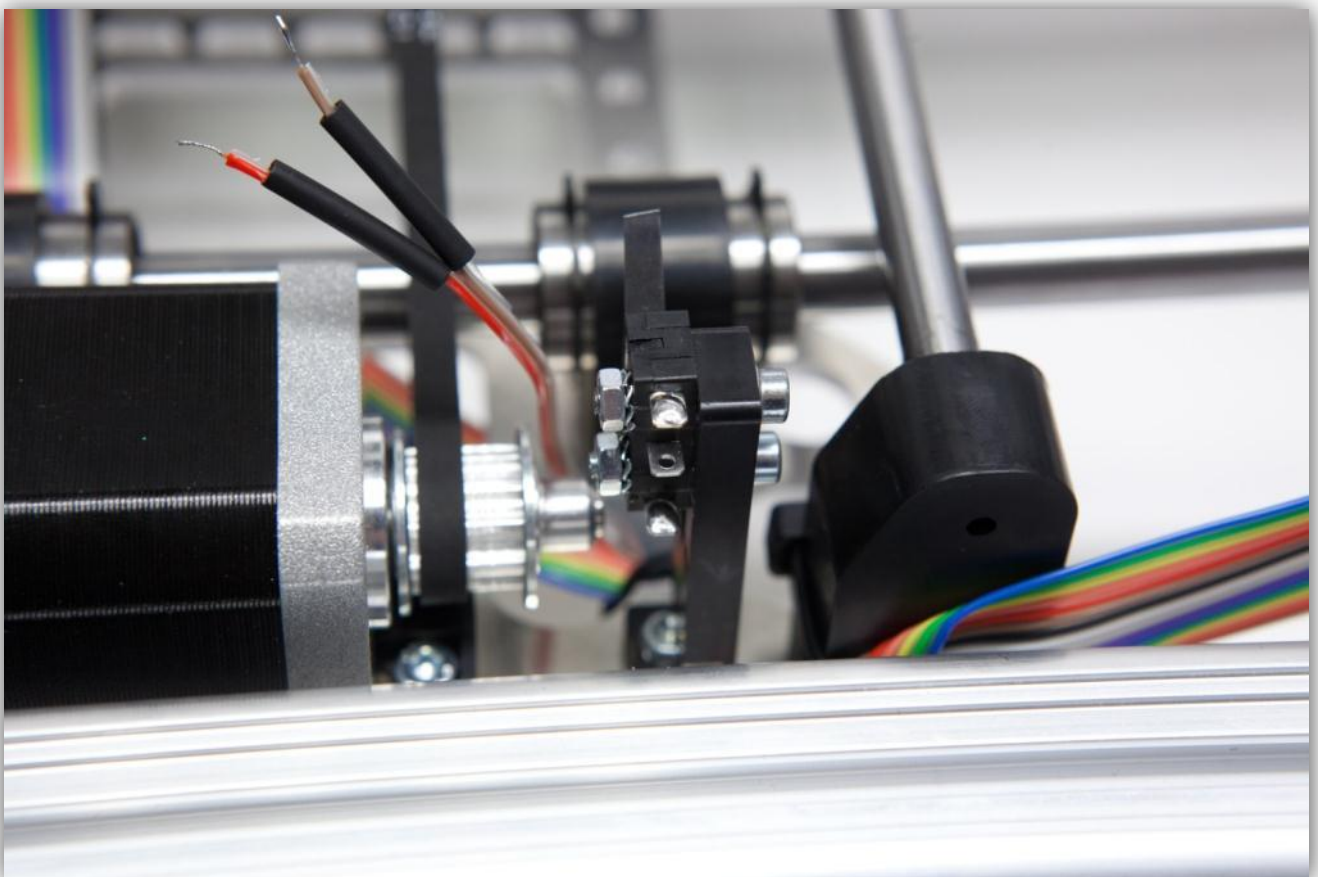


Slide the 2 medium size pieces of heat shrink tubing over the **Red** and **Brown** wires of the flat cable.

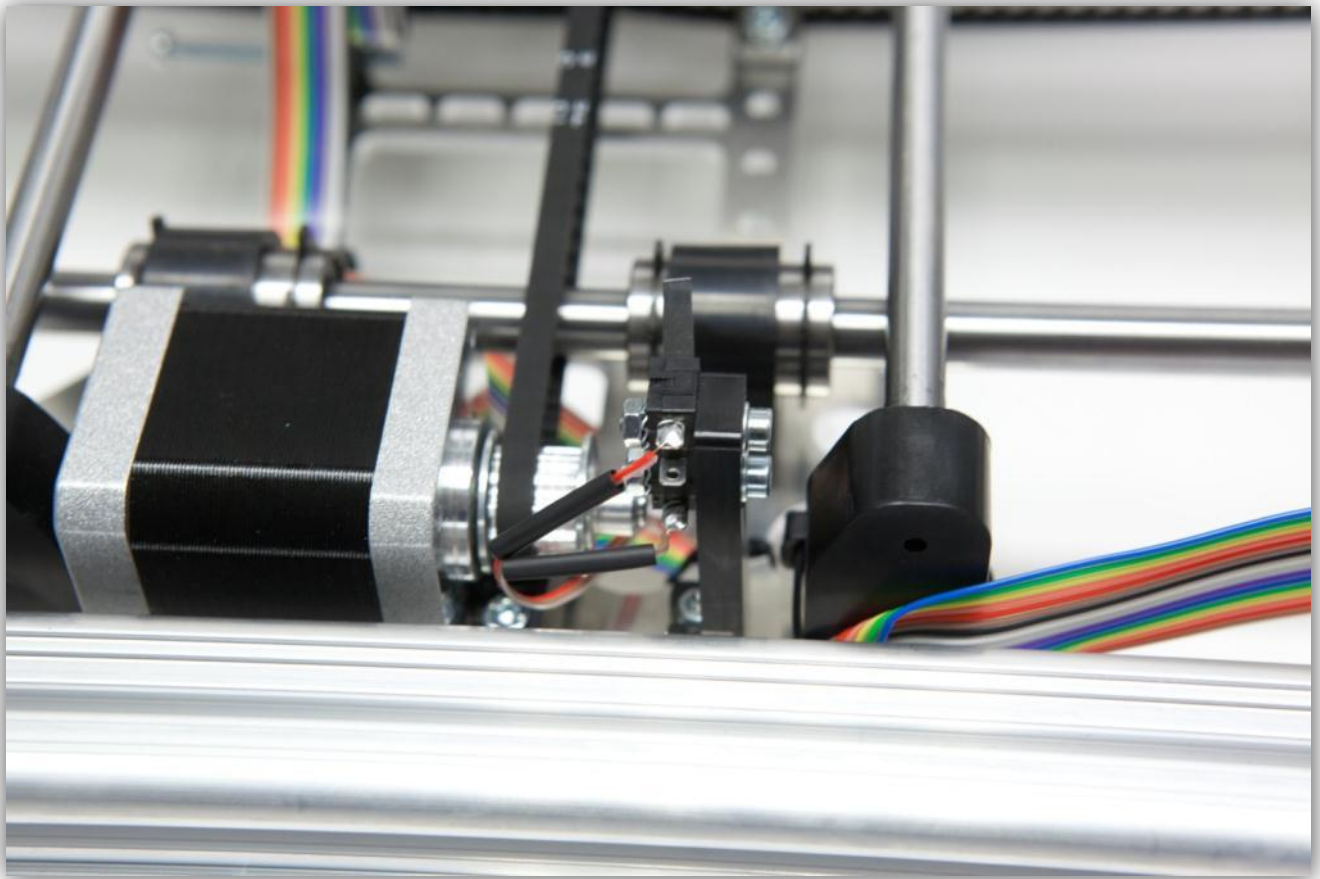




Tin the two outer contacts of the Y micro switch.

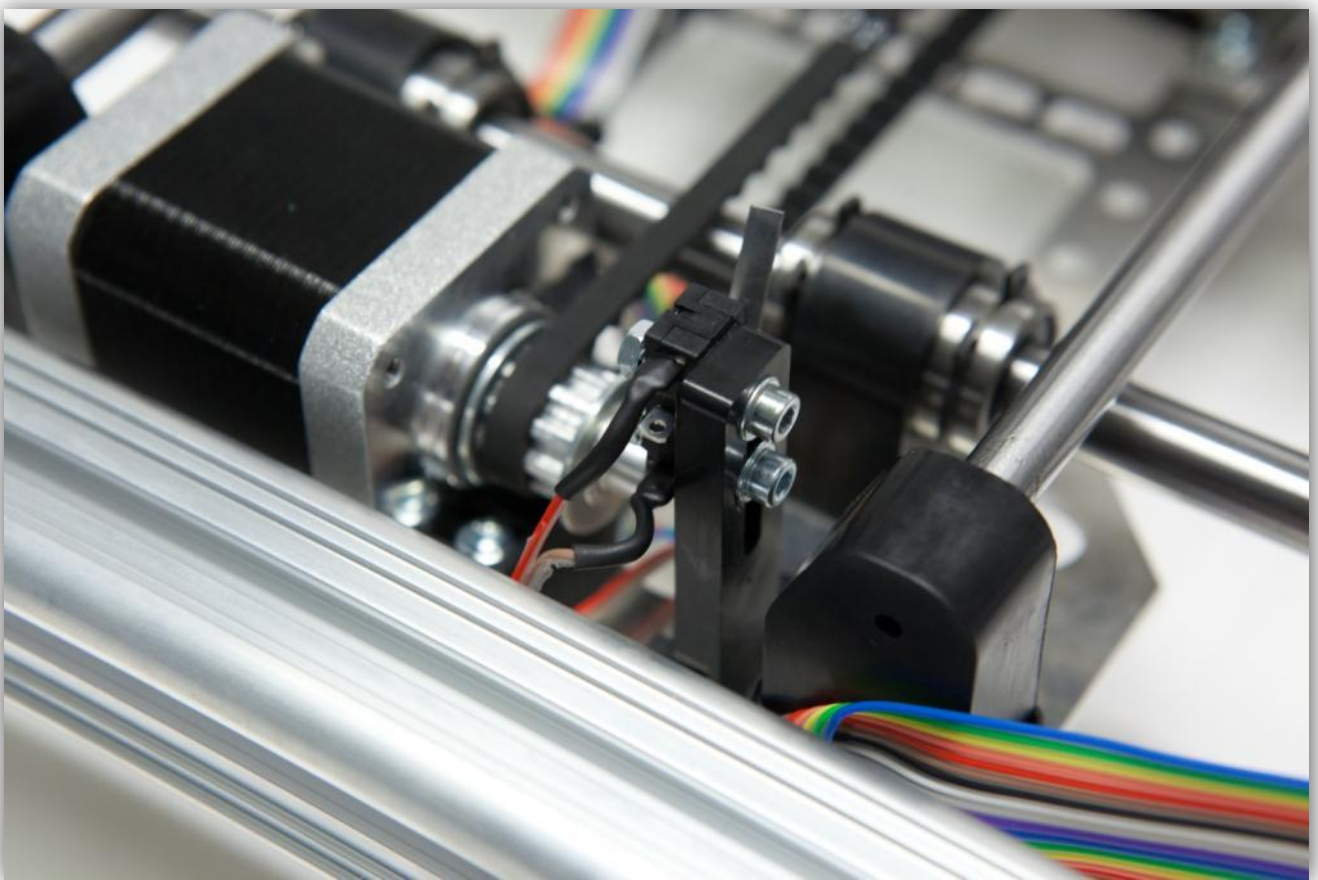
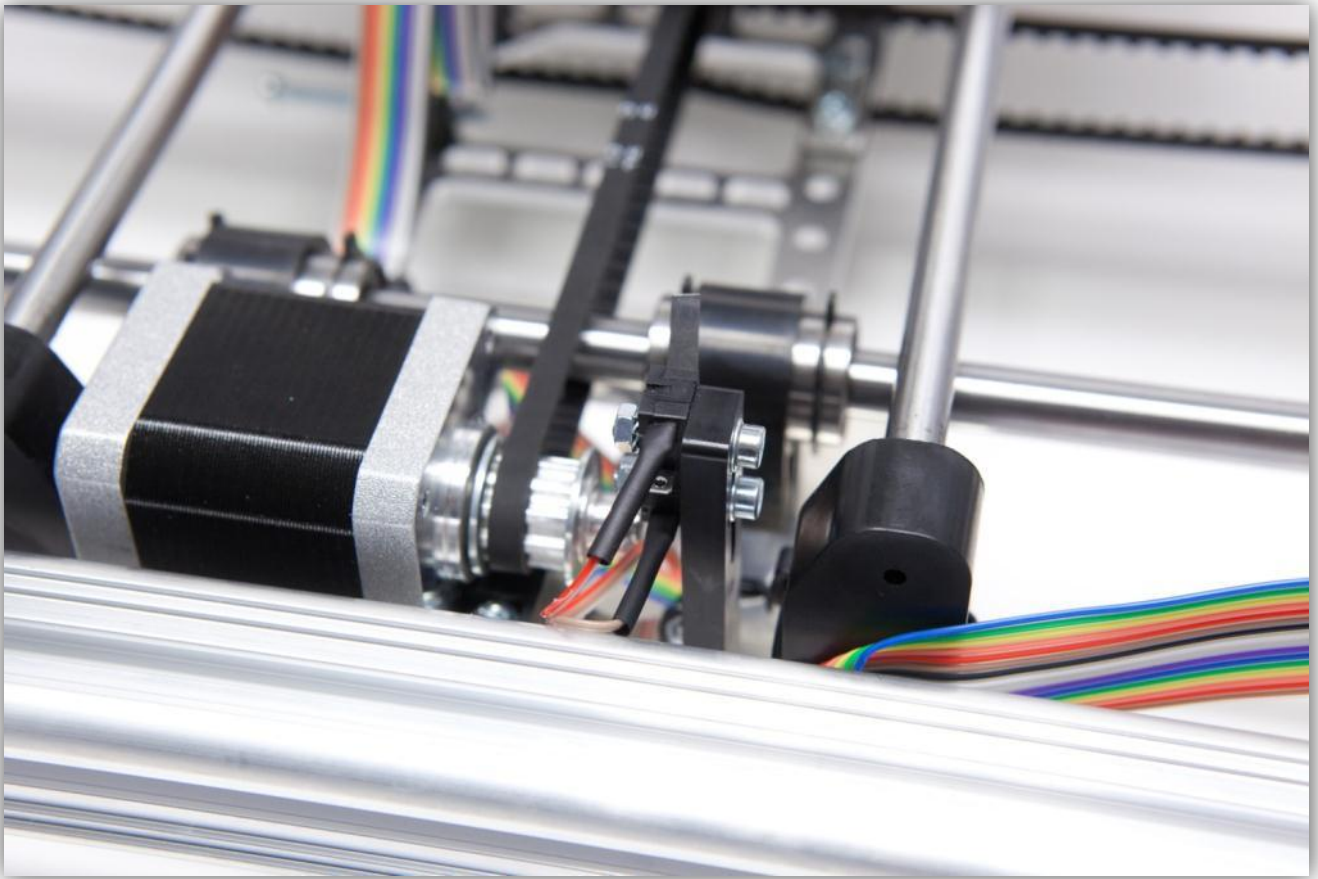


Solder the **Red** and **Brown** wires to the contacts.

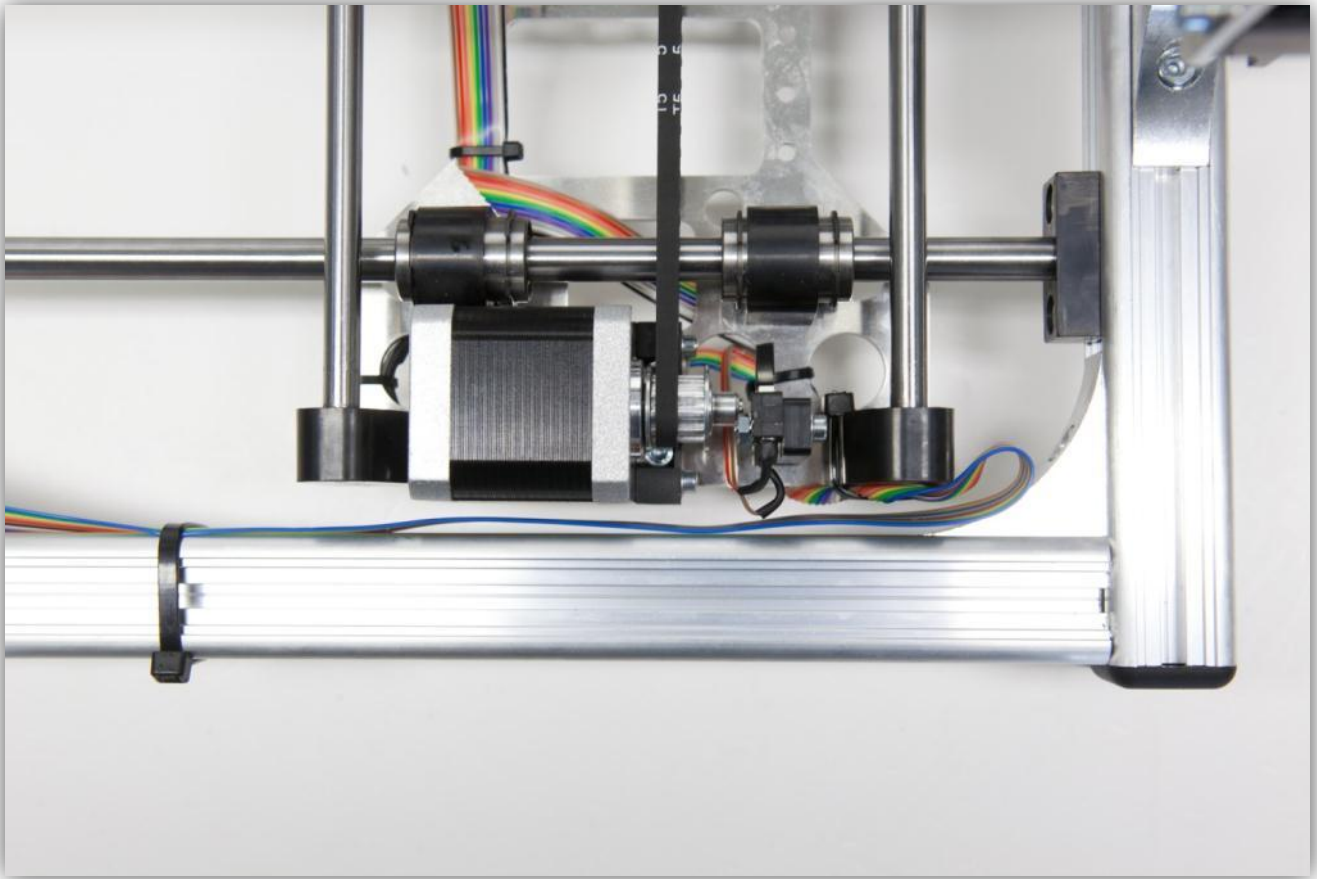


Slide the heat shrink tubes over the contacts and heat them up.

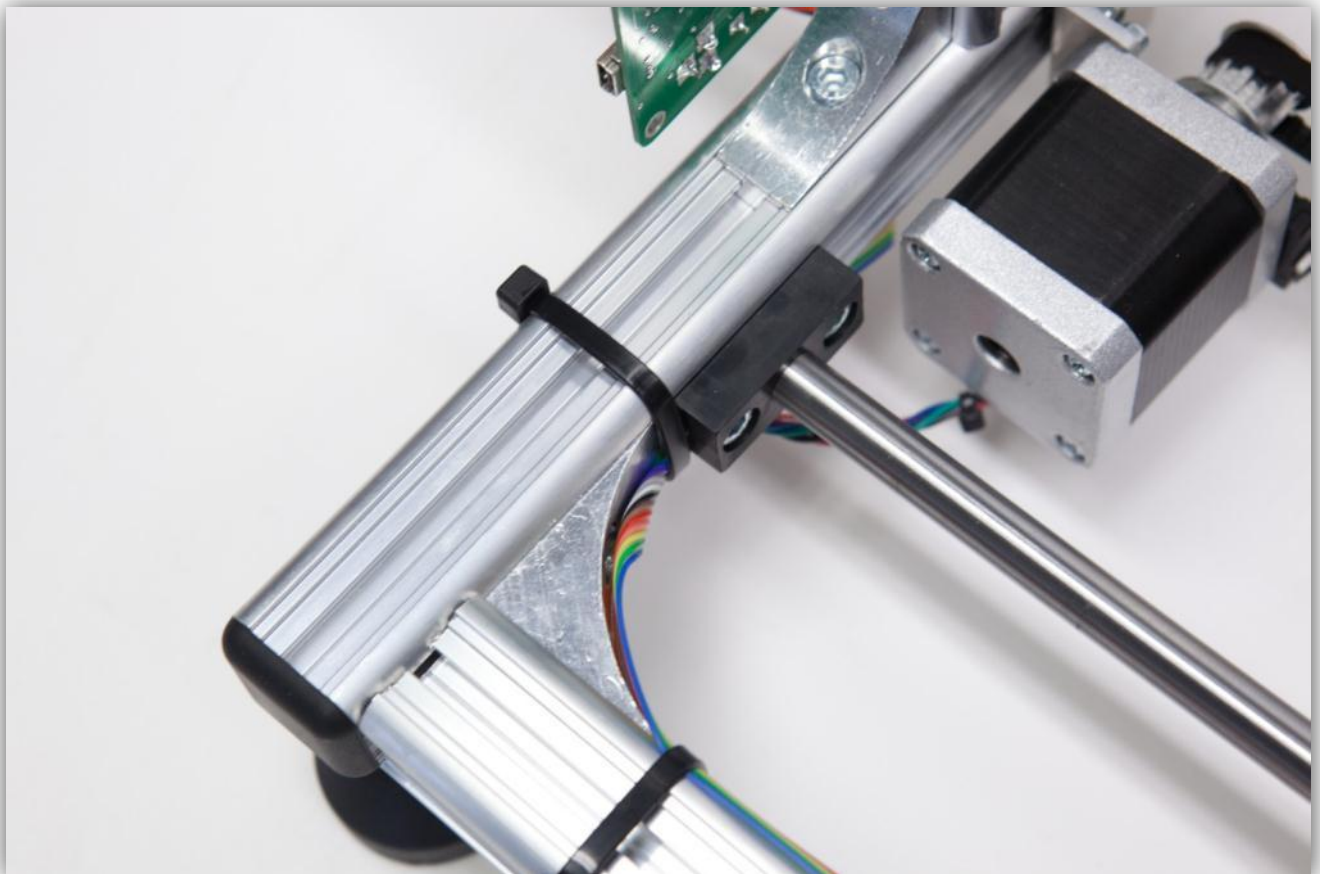




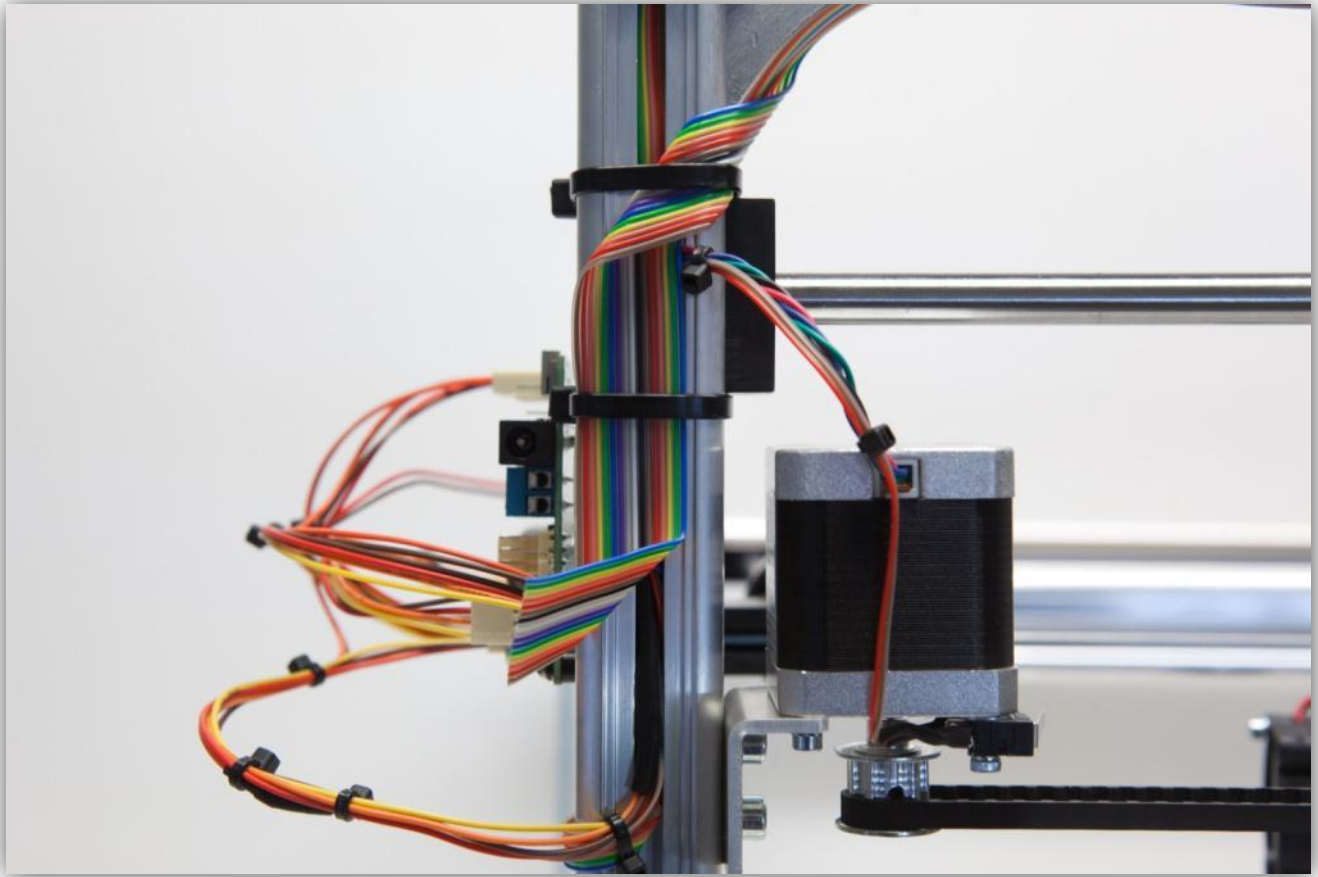
Now move the X CARRIAGE as far away as possible from the controller board. Lead the flat cable as shown in the picture and secure it with a large tie-strip.



Lead the flat cable further along the ALUMINIUM PROFILES while securing it with large tie-strips. **Notice how the cable folds in the corner and disappears under the ALUMINIUM PROFILE.**

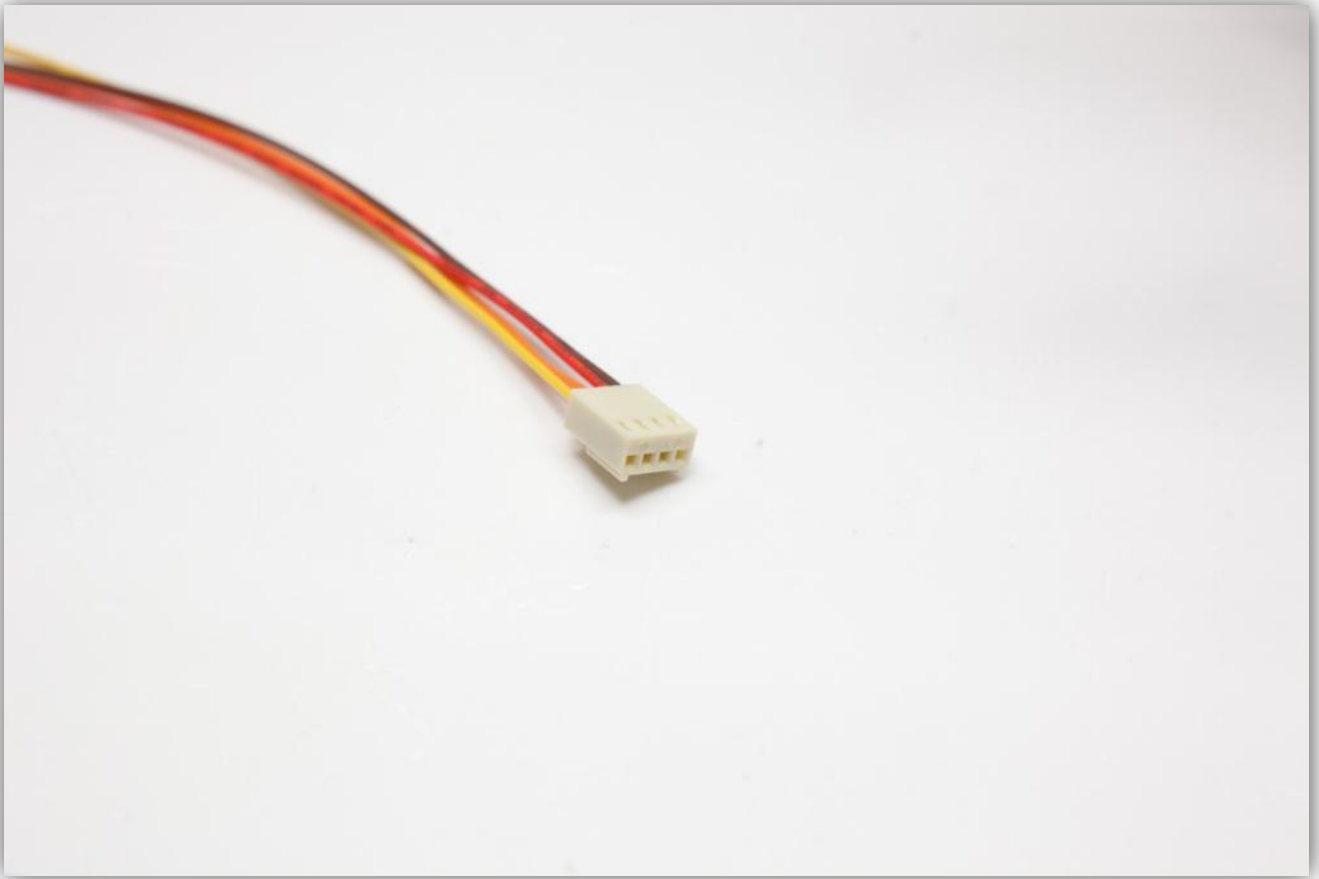


Fold and secure the cable as shown in the picture below.

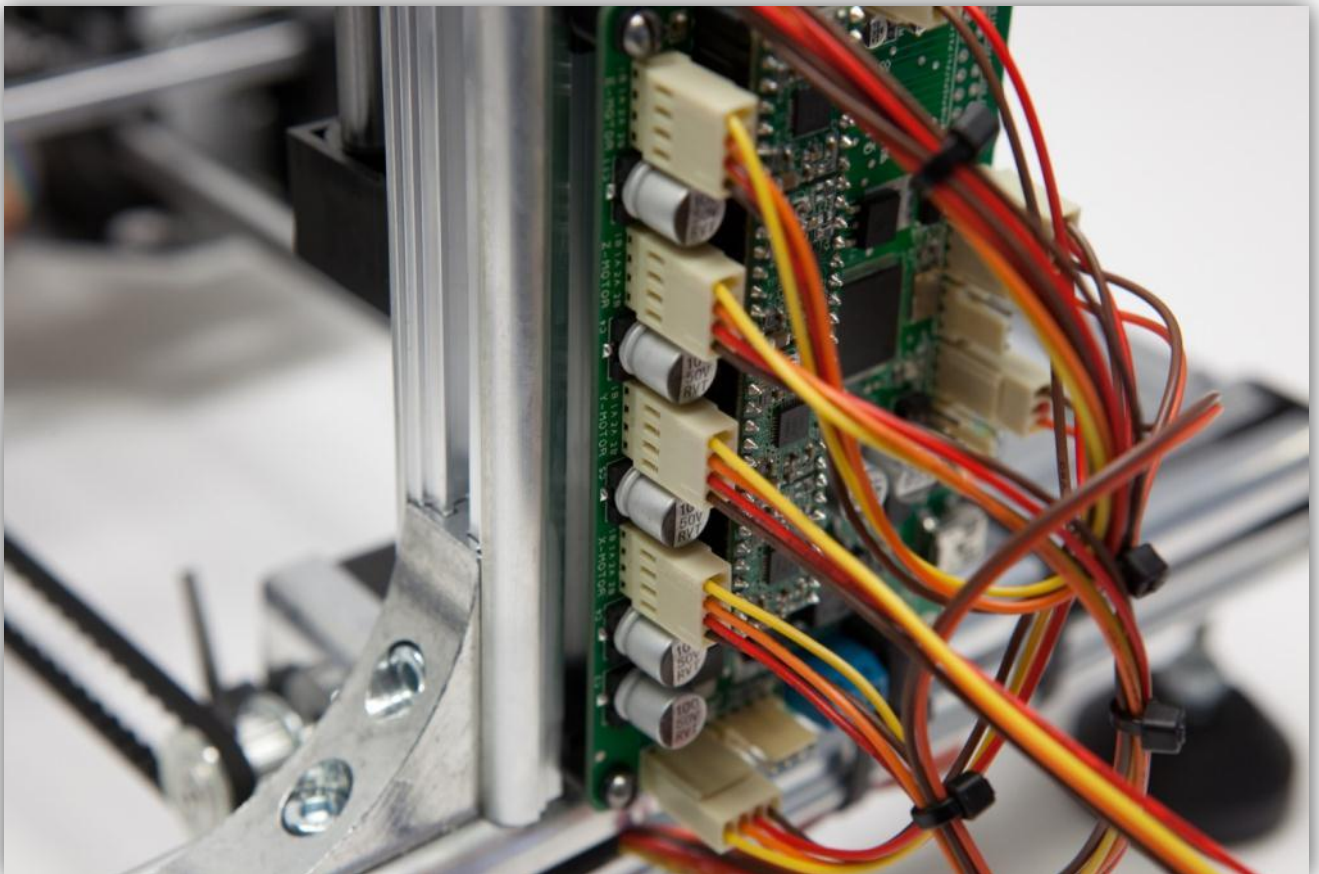


Take a board to wire connector with 4 wires out of the bag labelled with 40.

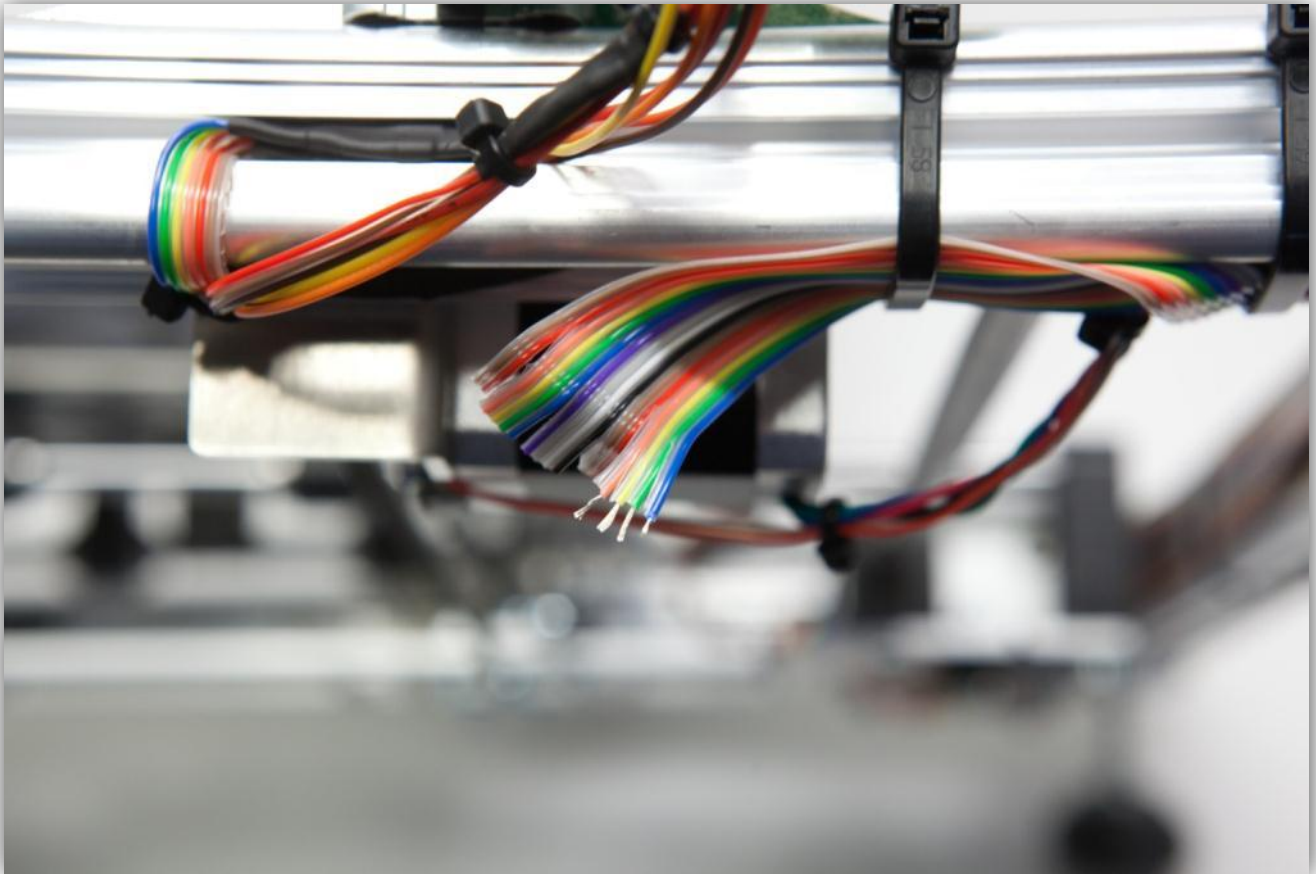




Plug the female connector in the male connector labelled with Y-MOTOR on the controller board.



Strip 5 mm (0.2") the following wires: **Blue, Green, Yellow, Orange** and tin them.

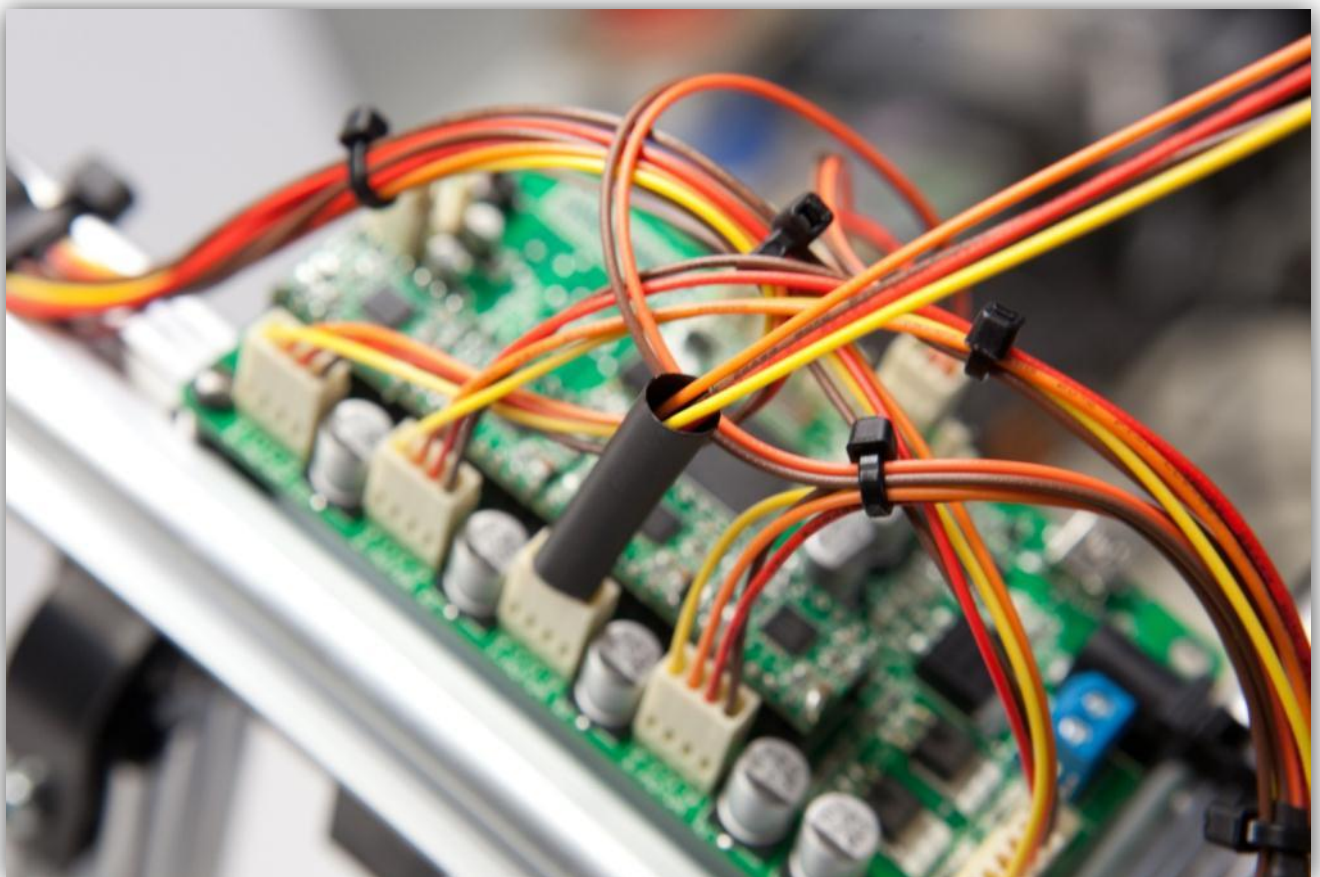


Cut 2 small pieces of the smallest heat shrink tubing of 1.5 cm (0.59") long and 1 large piece of the big heat shrink tubing of 4 cm (1.57"). You can find the heat shrink tubing in the bag labelled with 40.

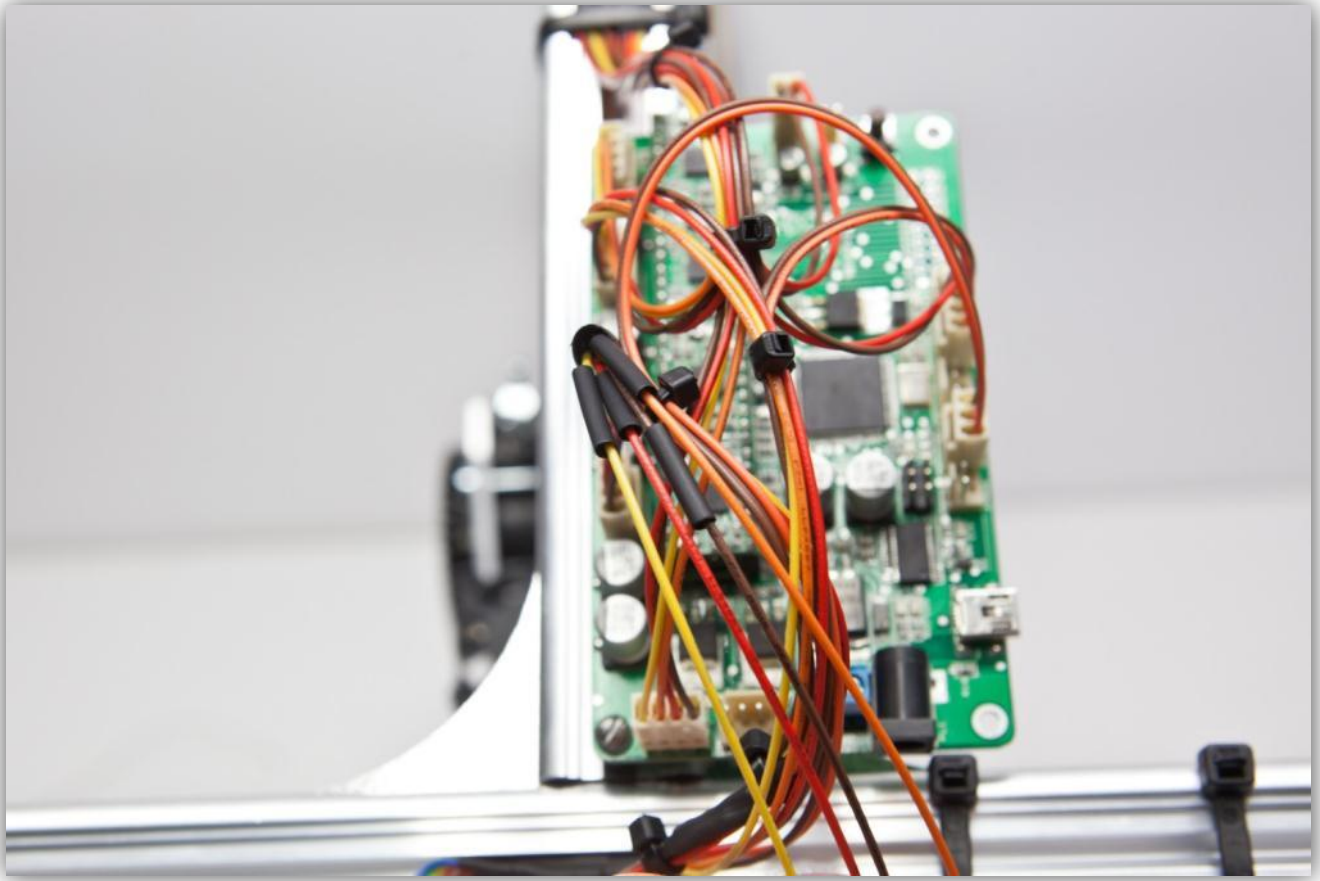




Slide the big heat shrink tubes over the 4 wires of the connector.



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.**

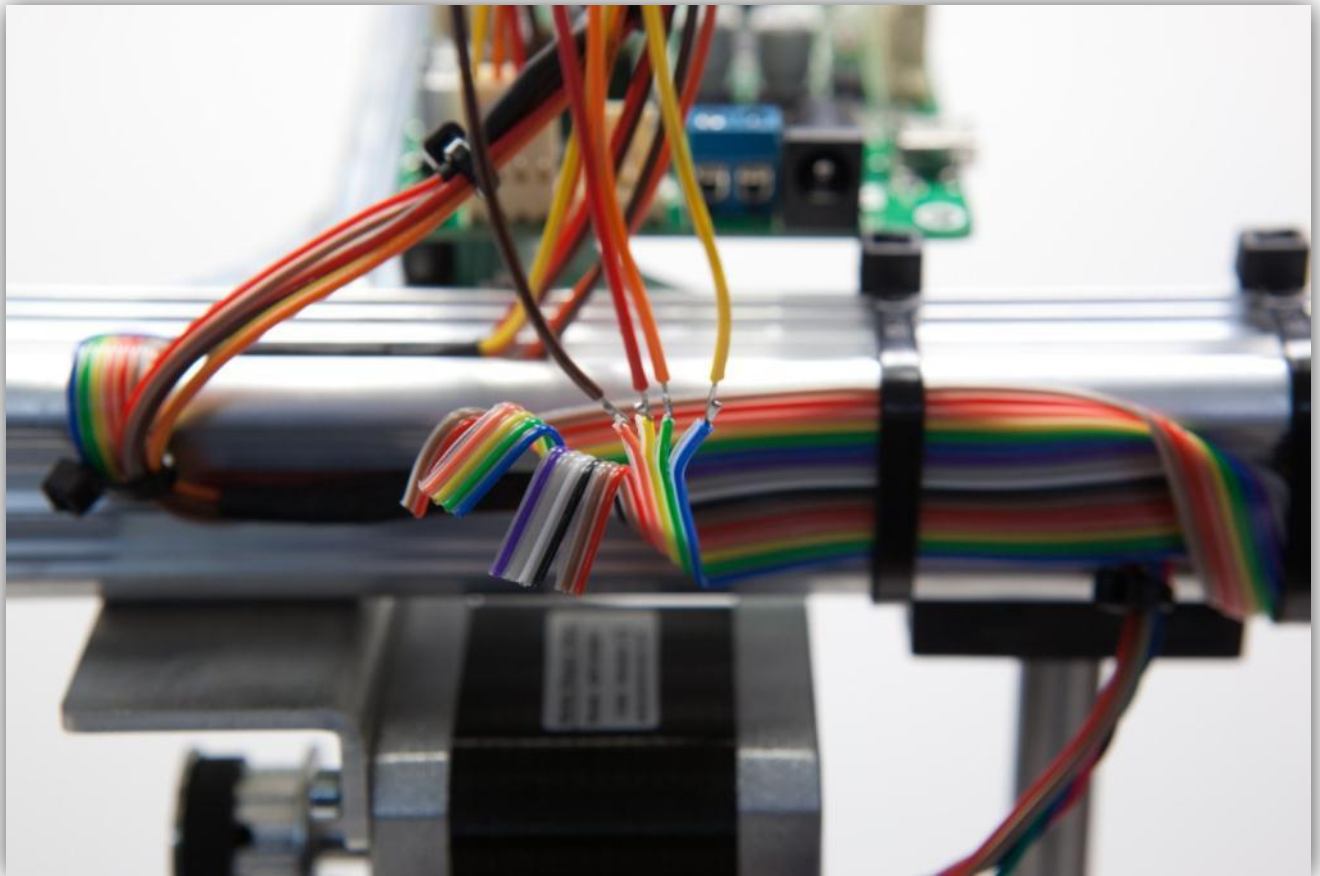
**Flat cable** -> **Connector wires**

**Blue** -> **Yellow**

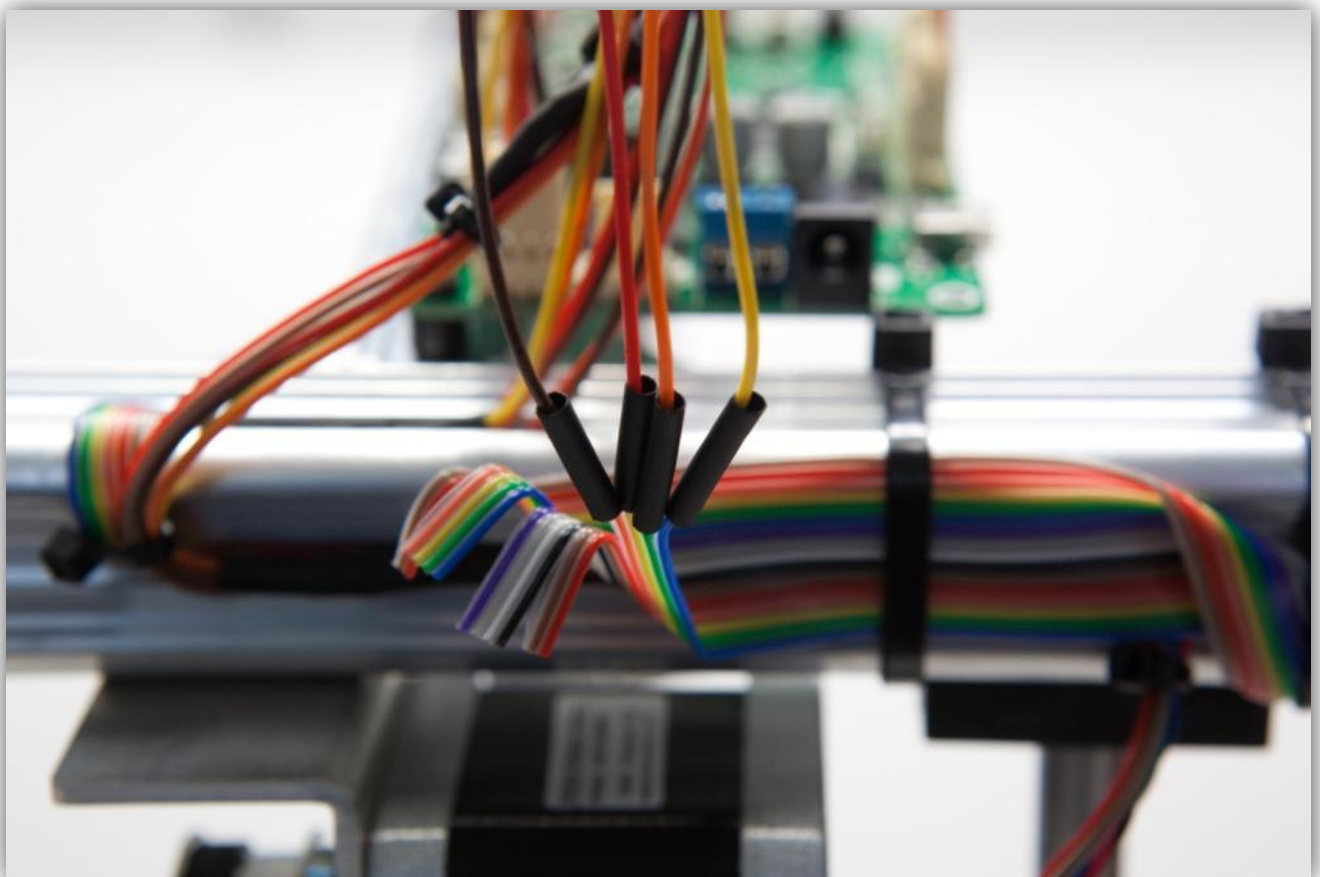
**Green** -> **Orange**

**Yellow** -> **Red**

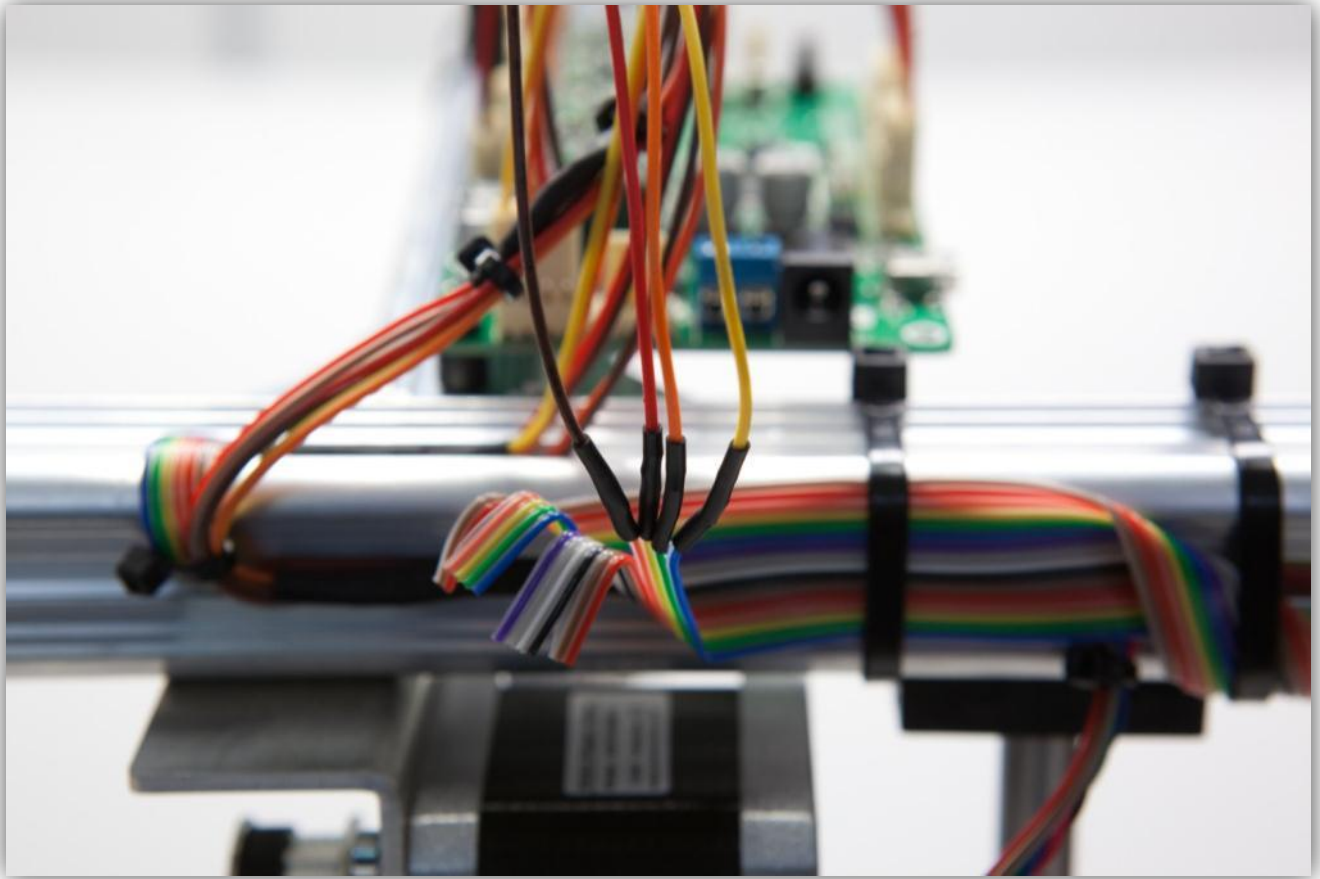
**Orange** -> **Brown**



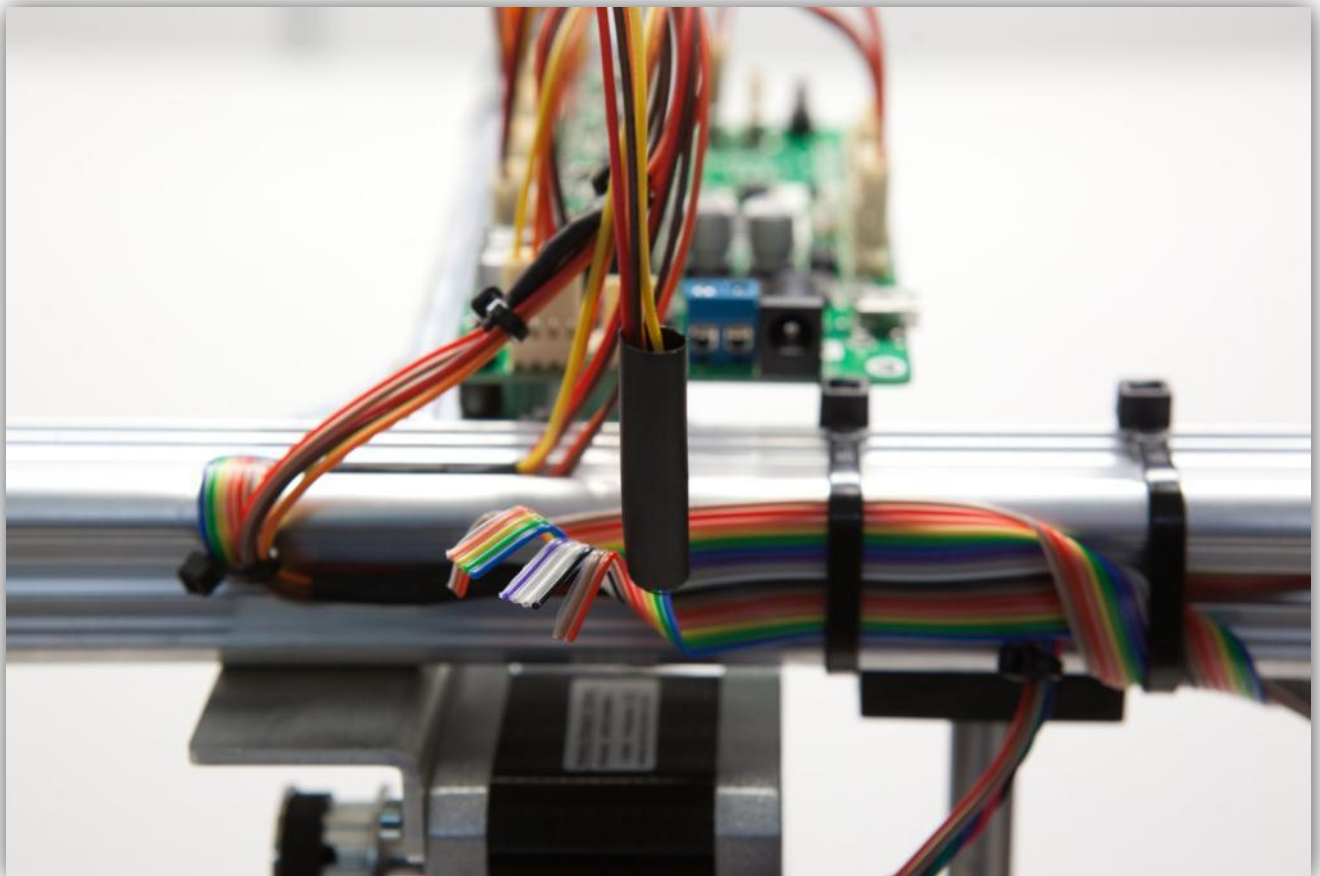
Slide the small heat shrink tubes over the solder joints and heat them up so they shrink.



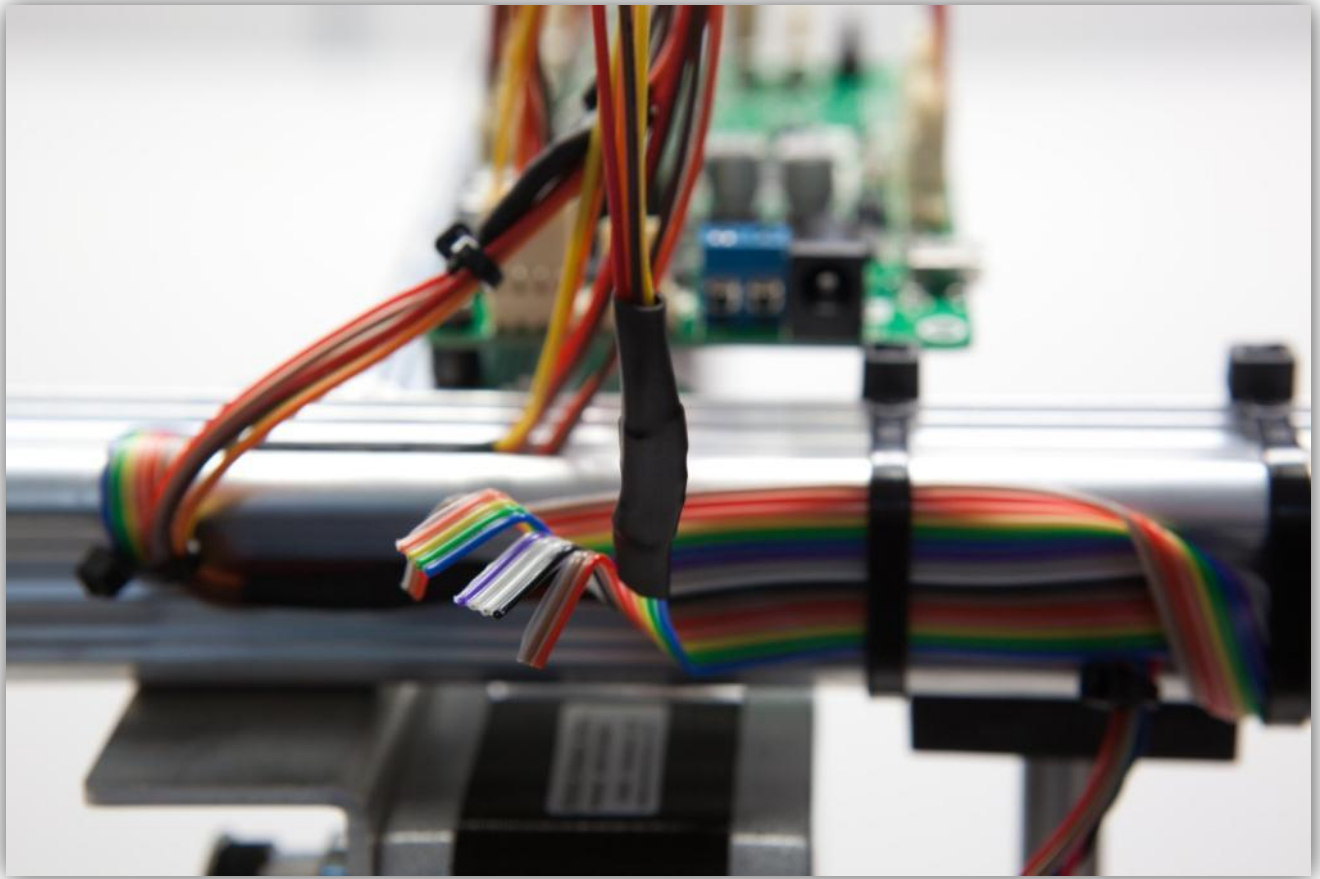




Now slide the big piece of heat shrink tubing over the 4 small pieces, heat the big piece so it covers and protects the 4 heat shrunk joints.

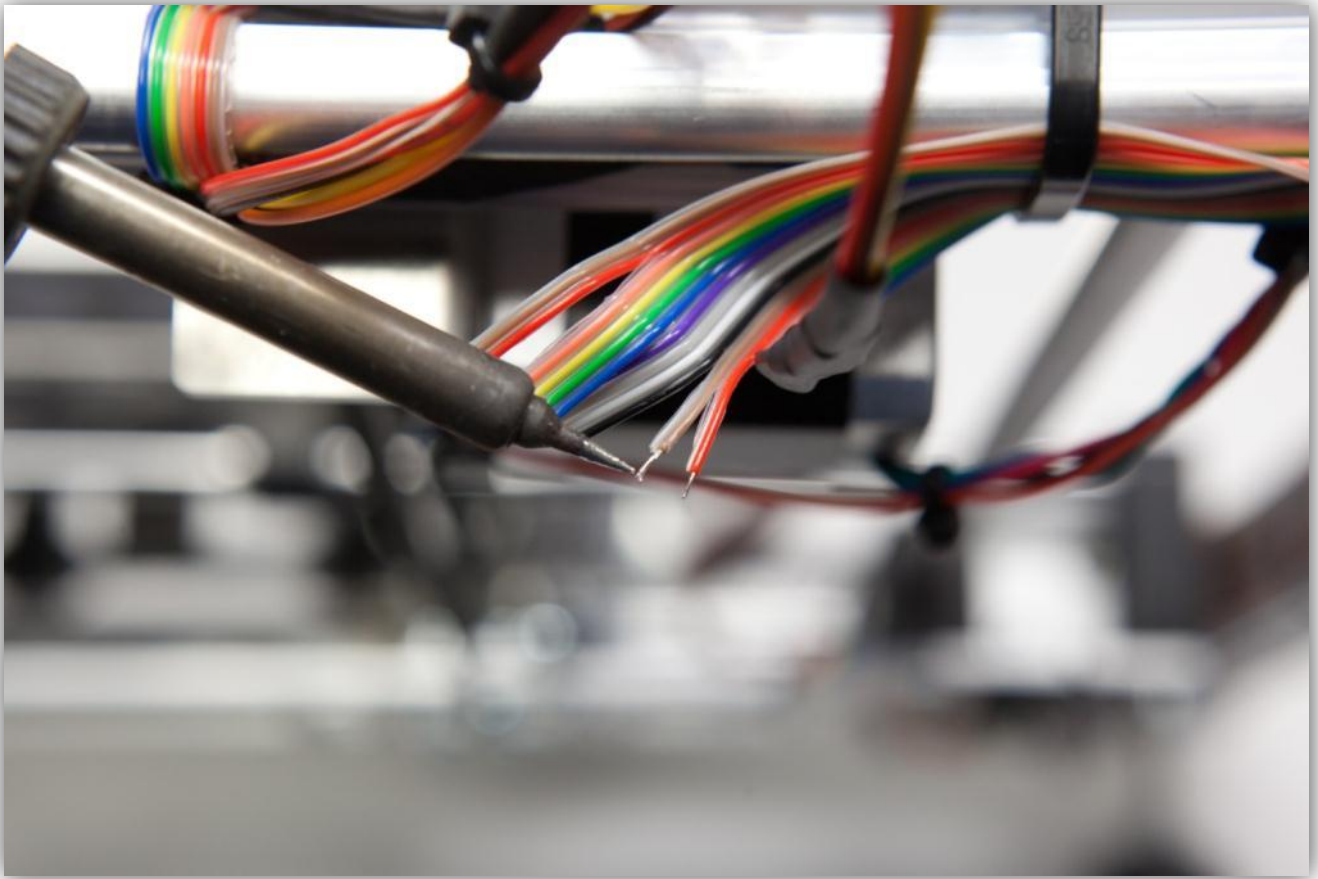




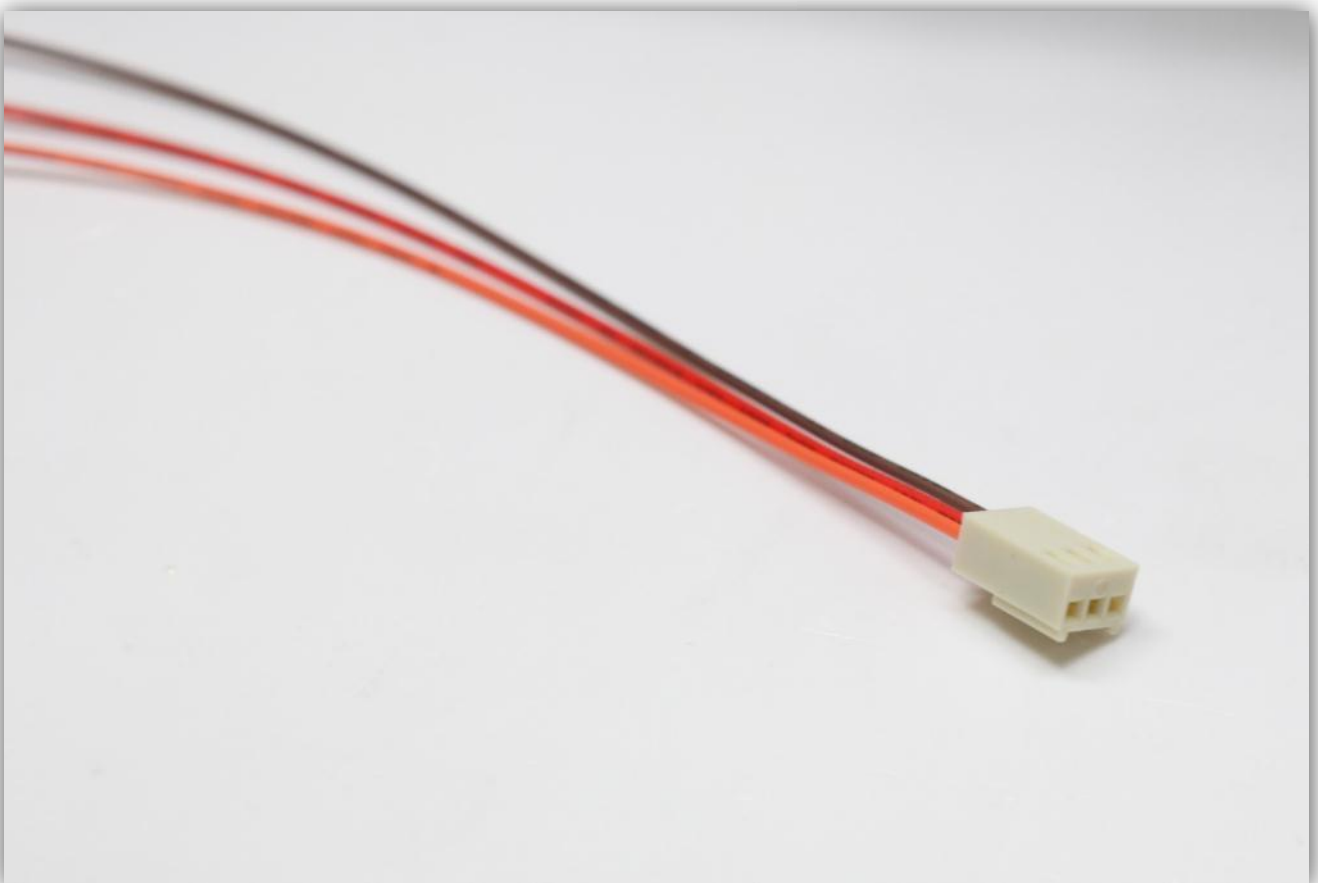


Strip 5 mm (0.2") the **Red** and **Brown** wire from the flat cable and tin the ends.

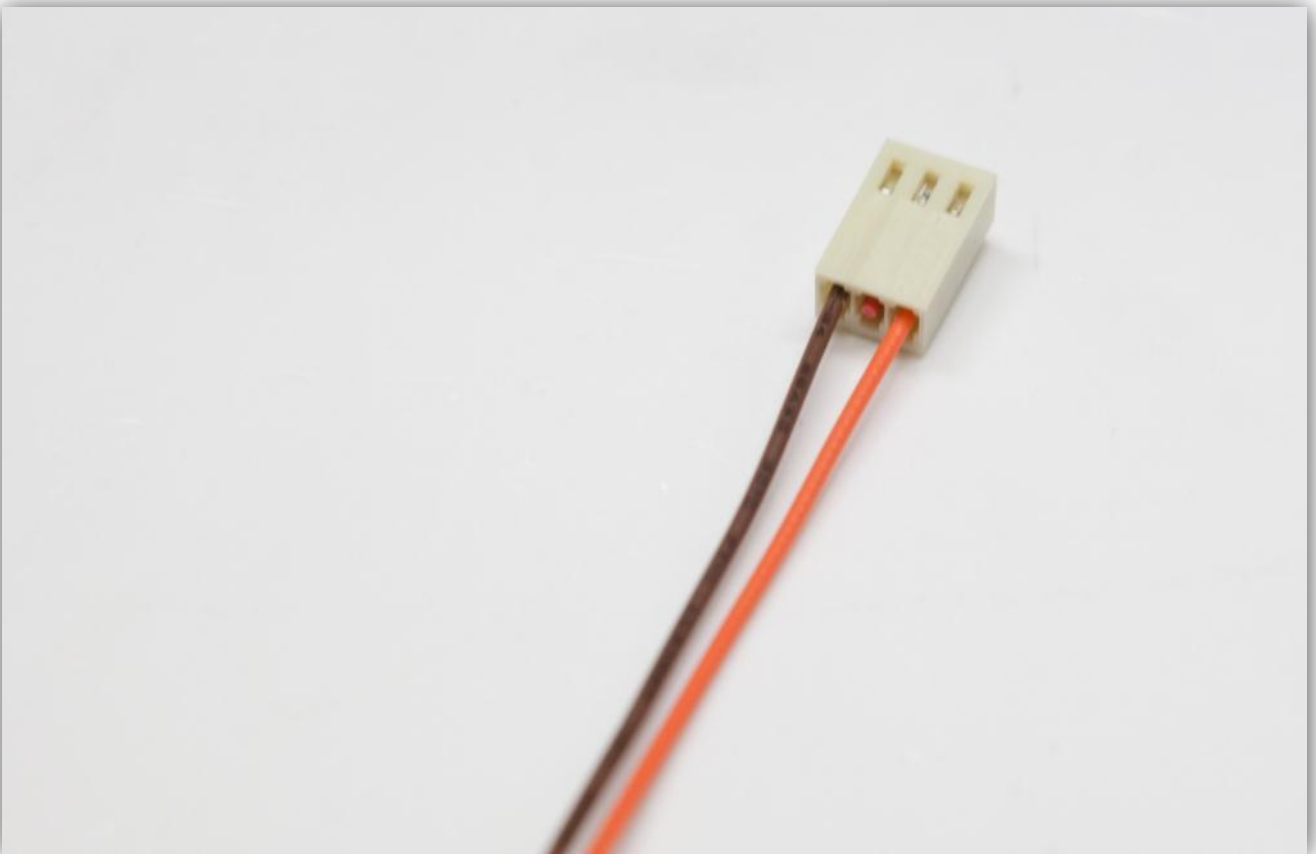




Take a board to wire connector with 3 wires out of the bag labelled with 40.

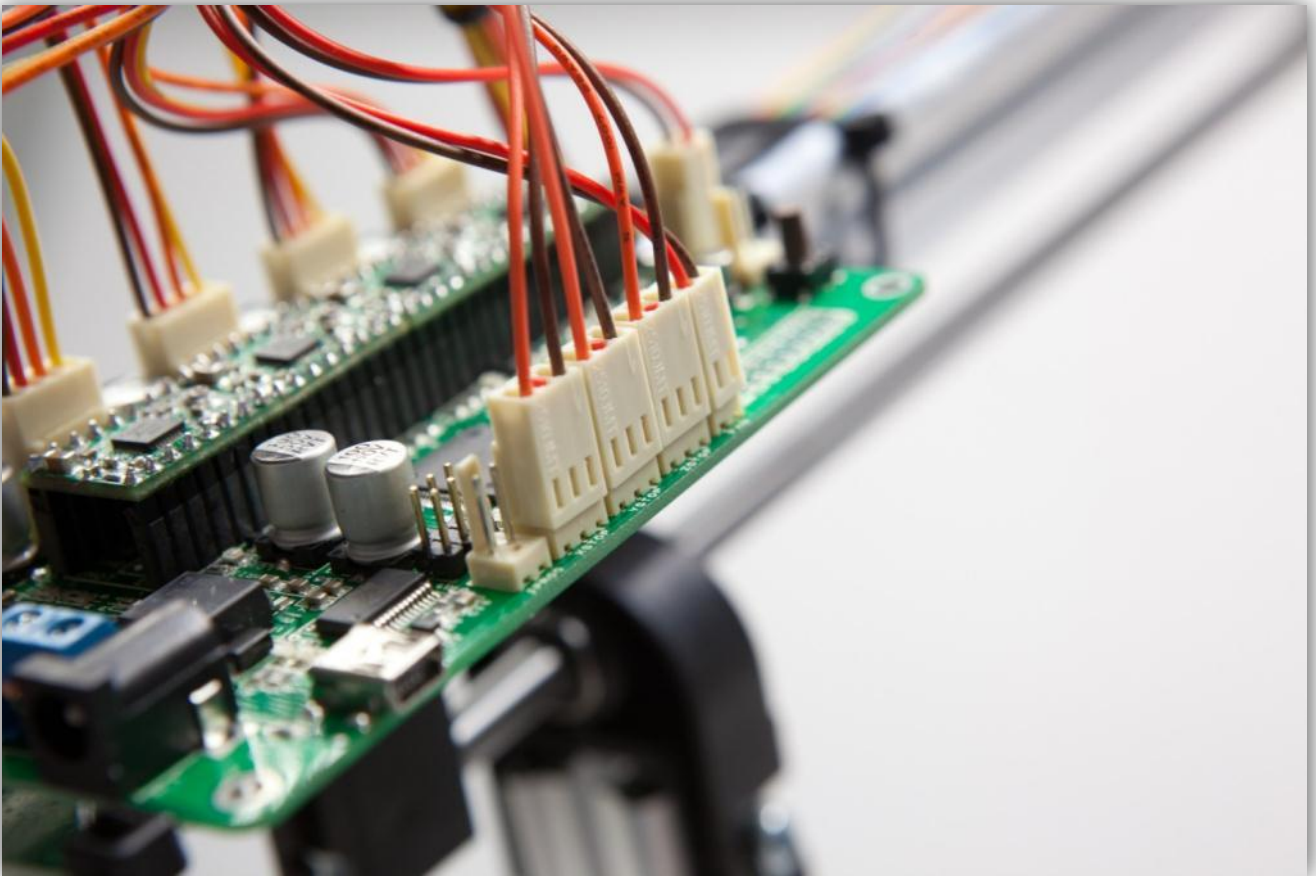


Cut the middle wire away at the connector.



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

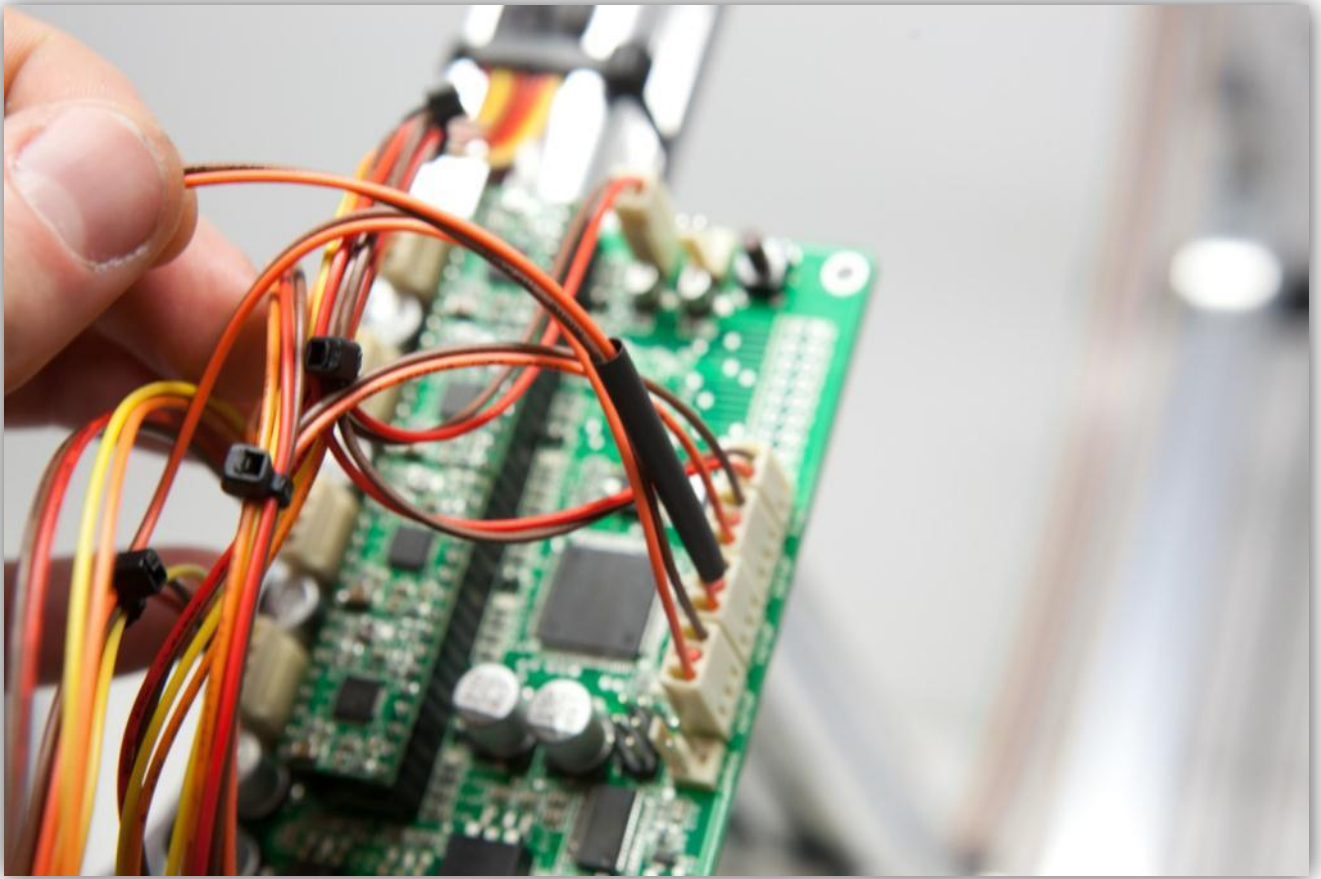




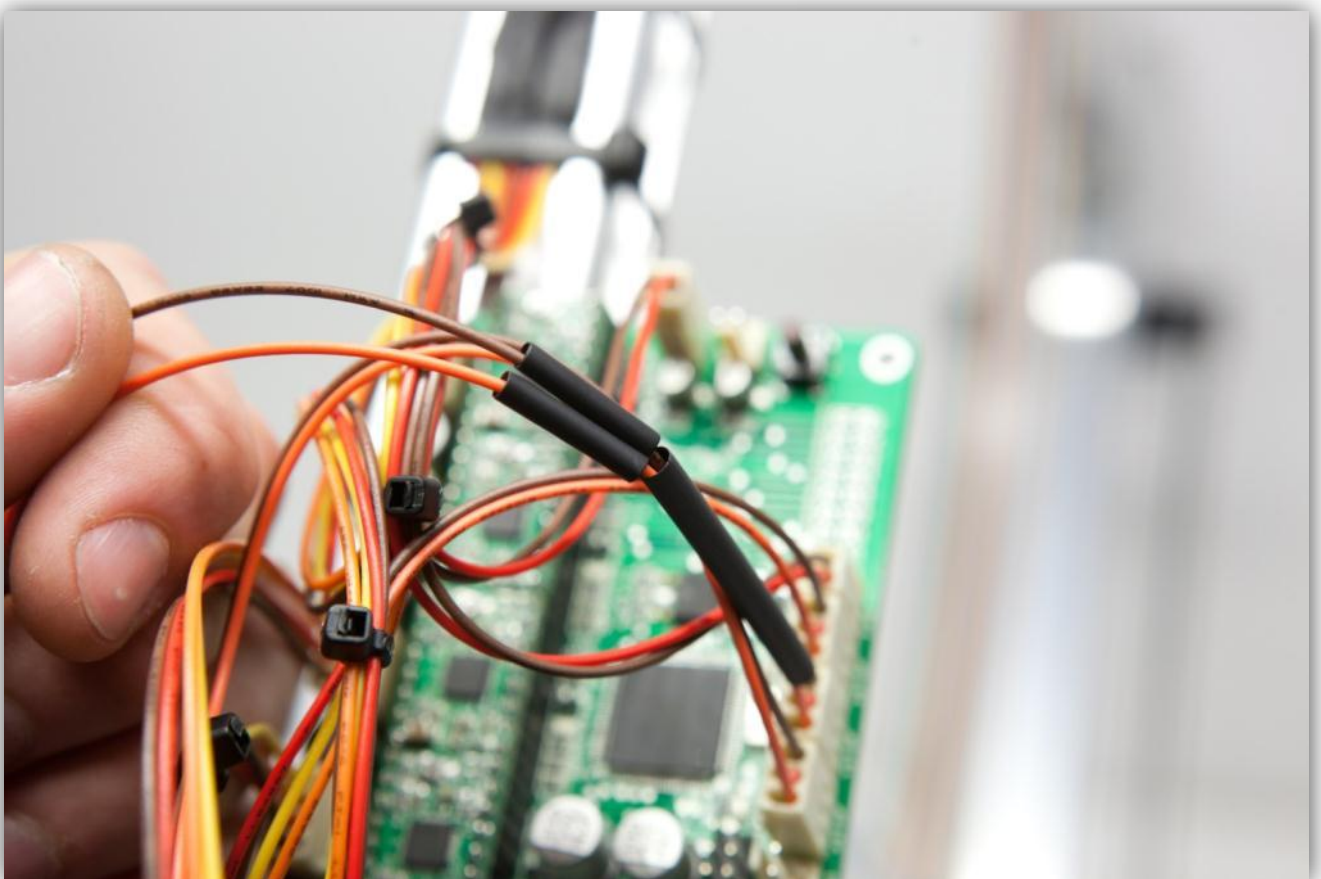
Cut 2 small pieces of the smallest heat shrink tubing of 1.5 cm (0.59") long and 1 large piece of the medium size heat shrink tubing of 4 cm (1.57"). You can find the heat shrink tubing in the bag labelled with 40.



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.

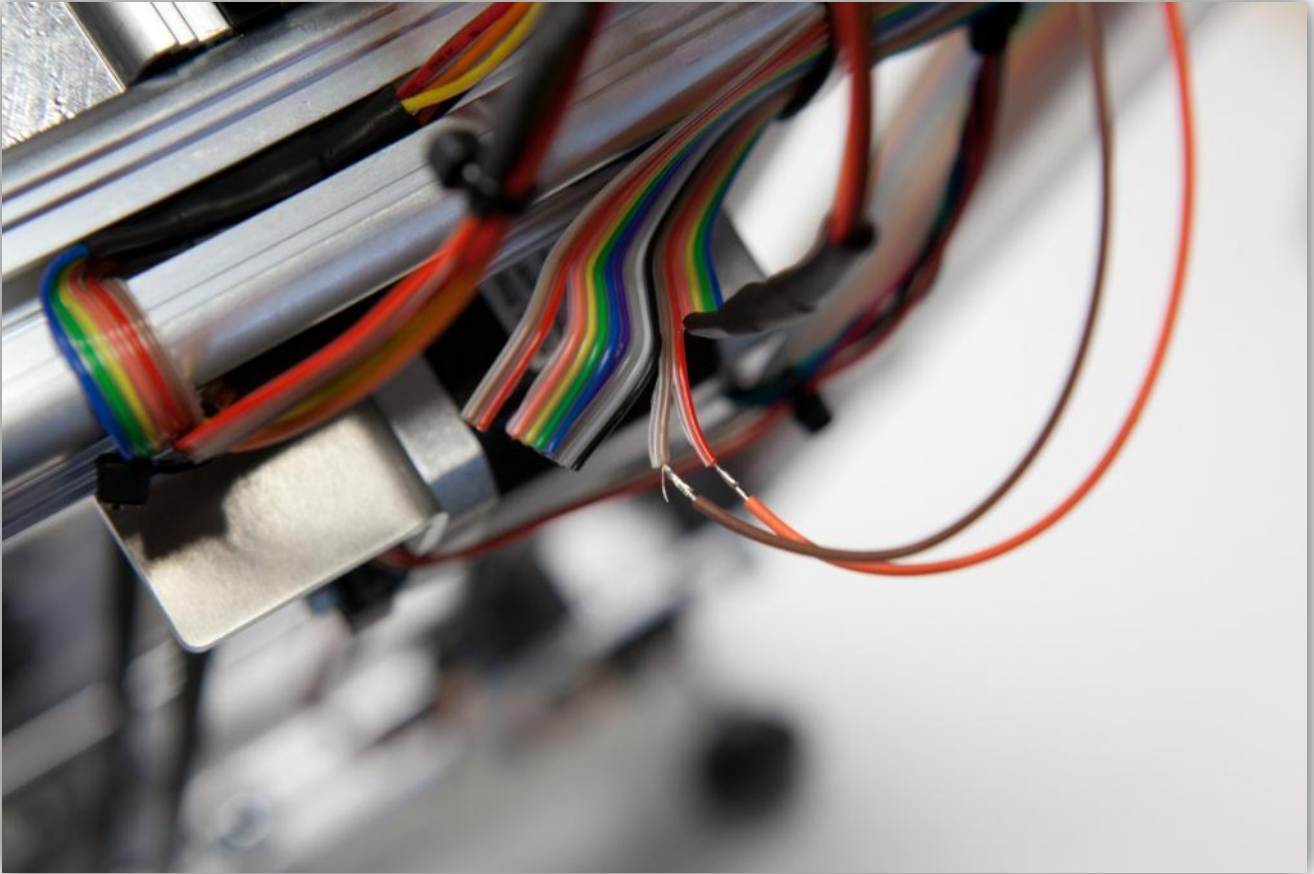


Solder the 2 wires from the connector to the 2 wires of the flat cable you tinned earlier. **Watch the colours closely.**

**Flat cable** -> **Connector wires**

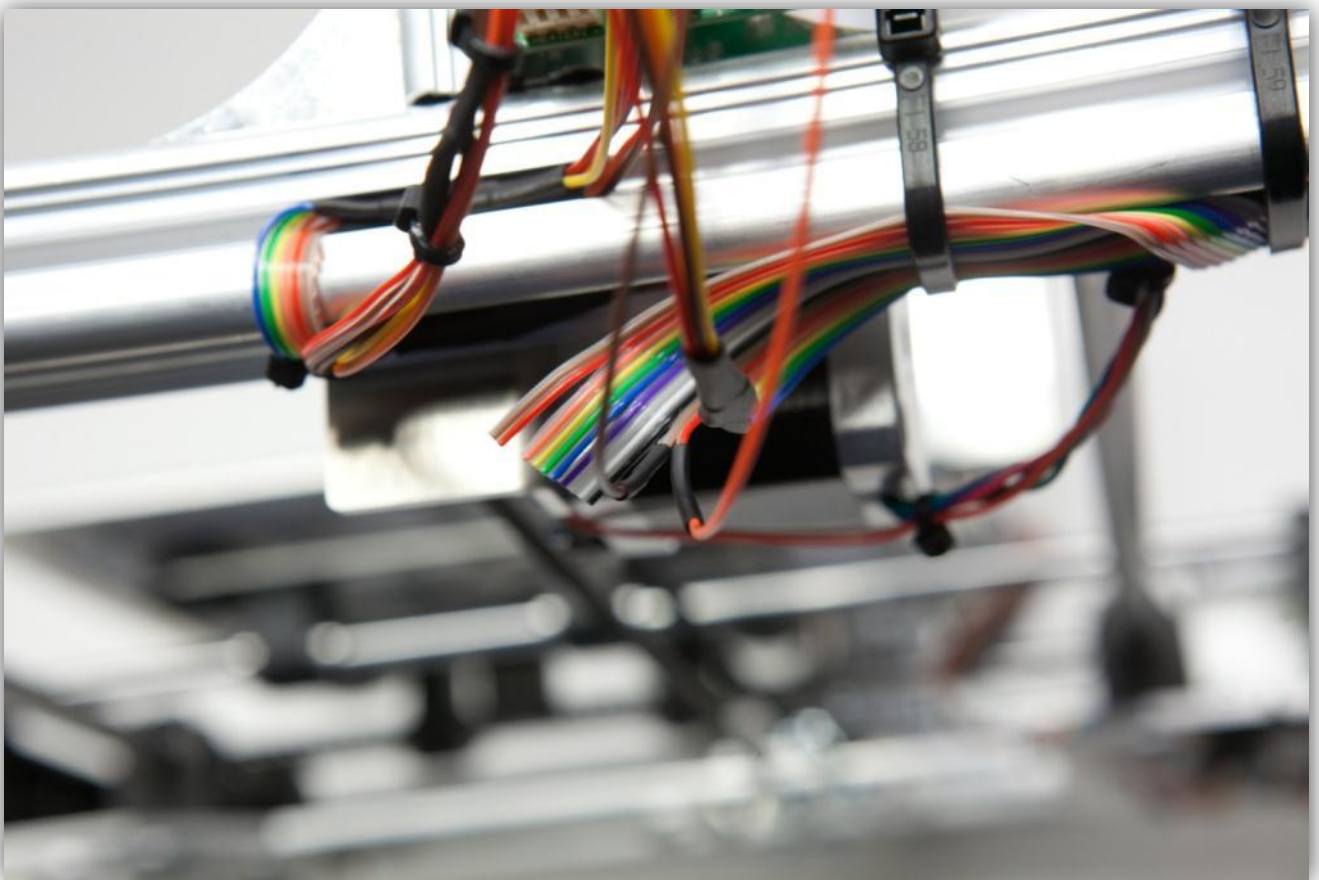
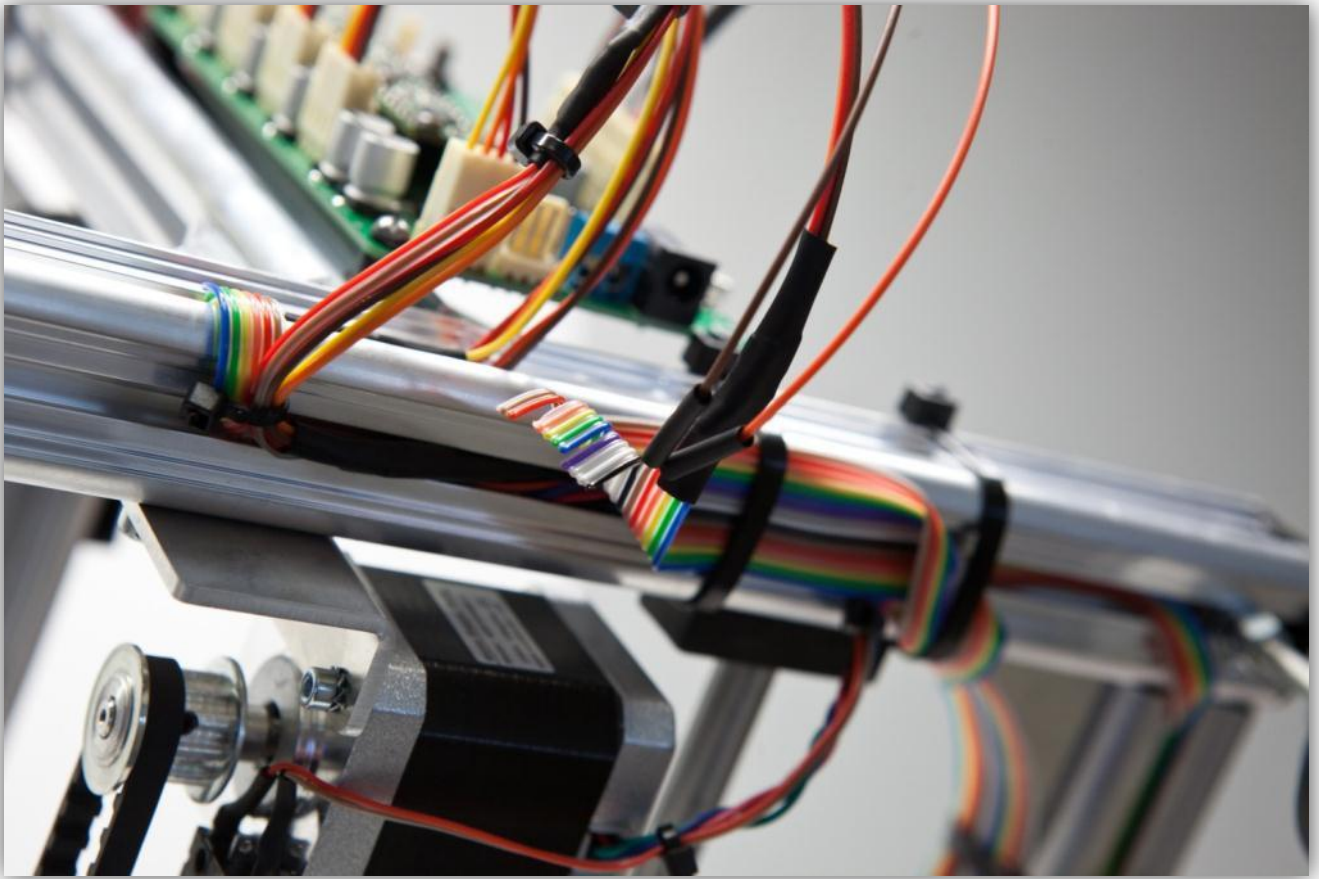
**Red** -> **Red**

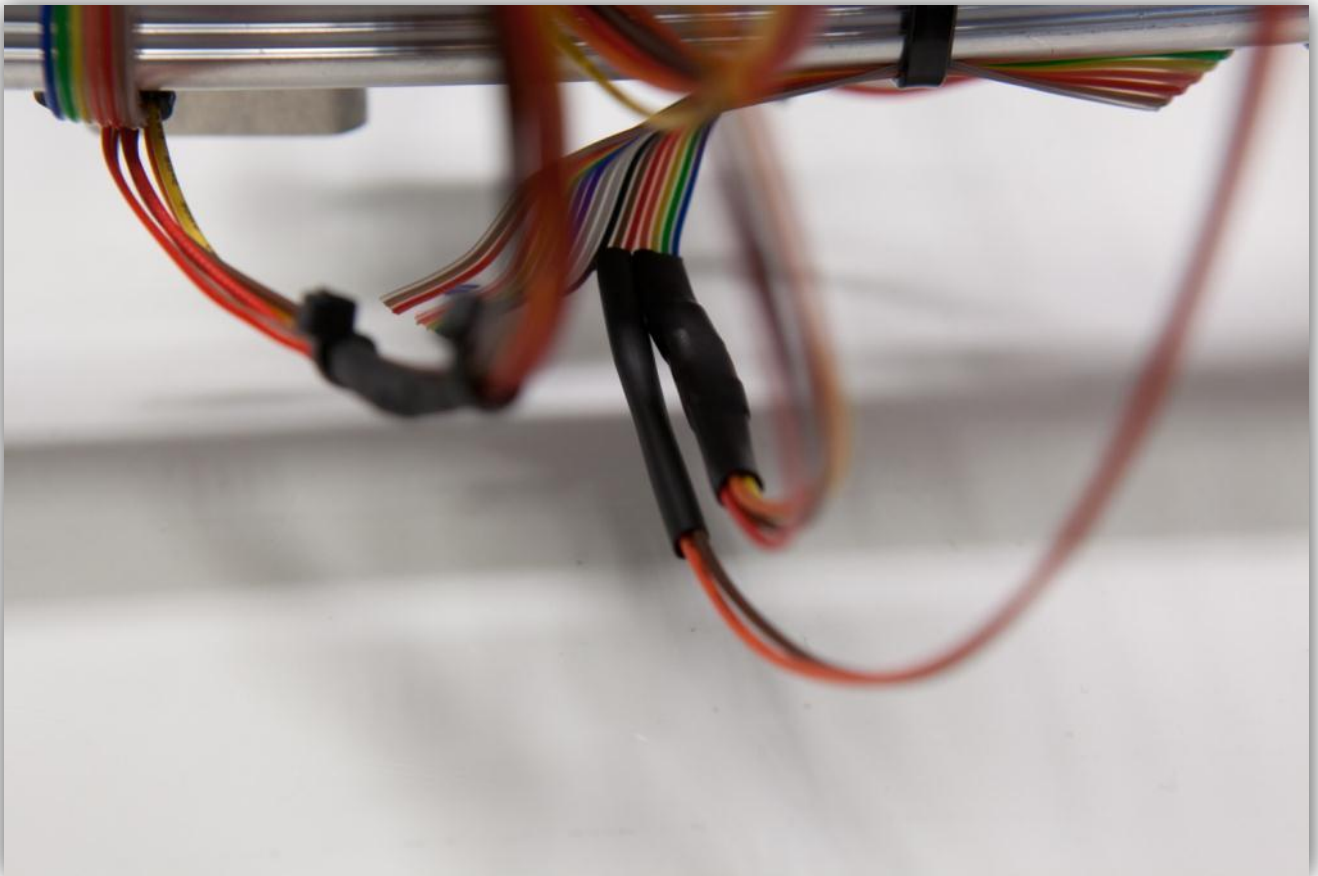
**Brown** -> **Brown**



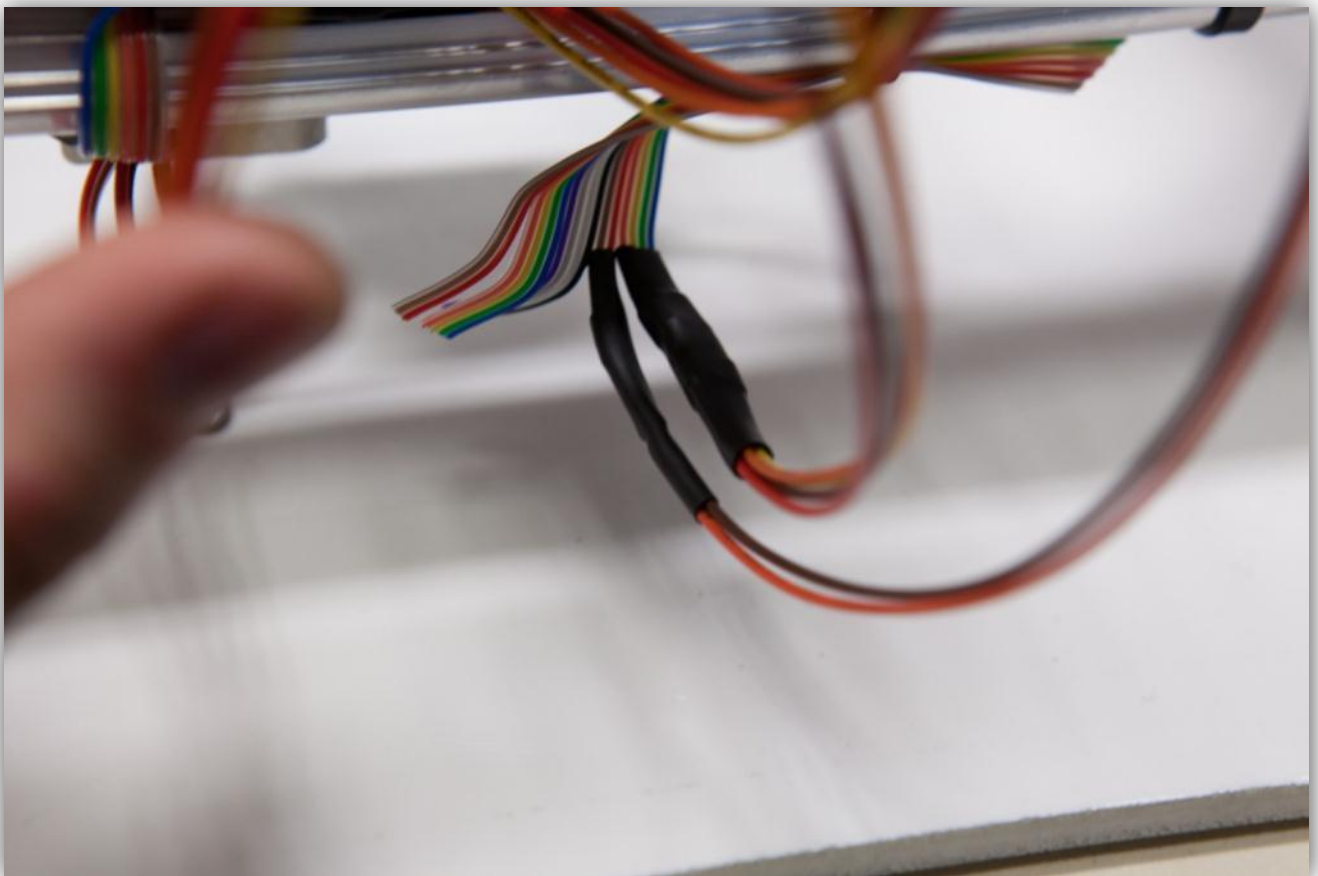
Slide the 2 small heat shrink tubes over the solder joints and heat them up.







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.

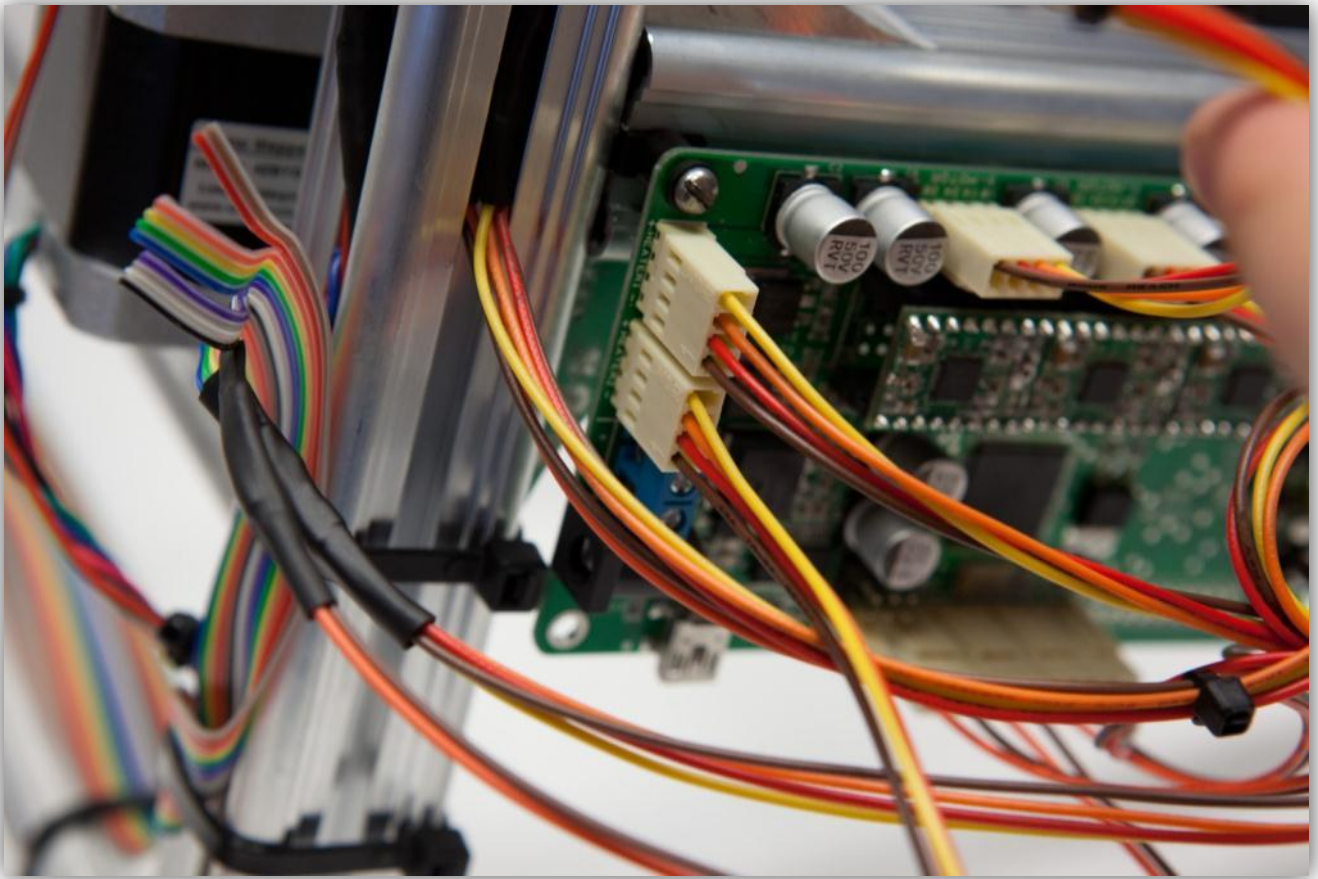


Take a board to wire connector with 4 wires out of the bag labelled with 40.

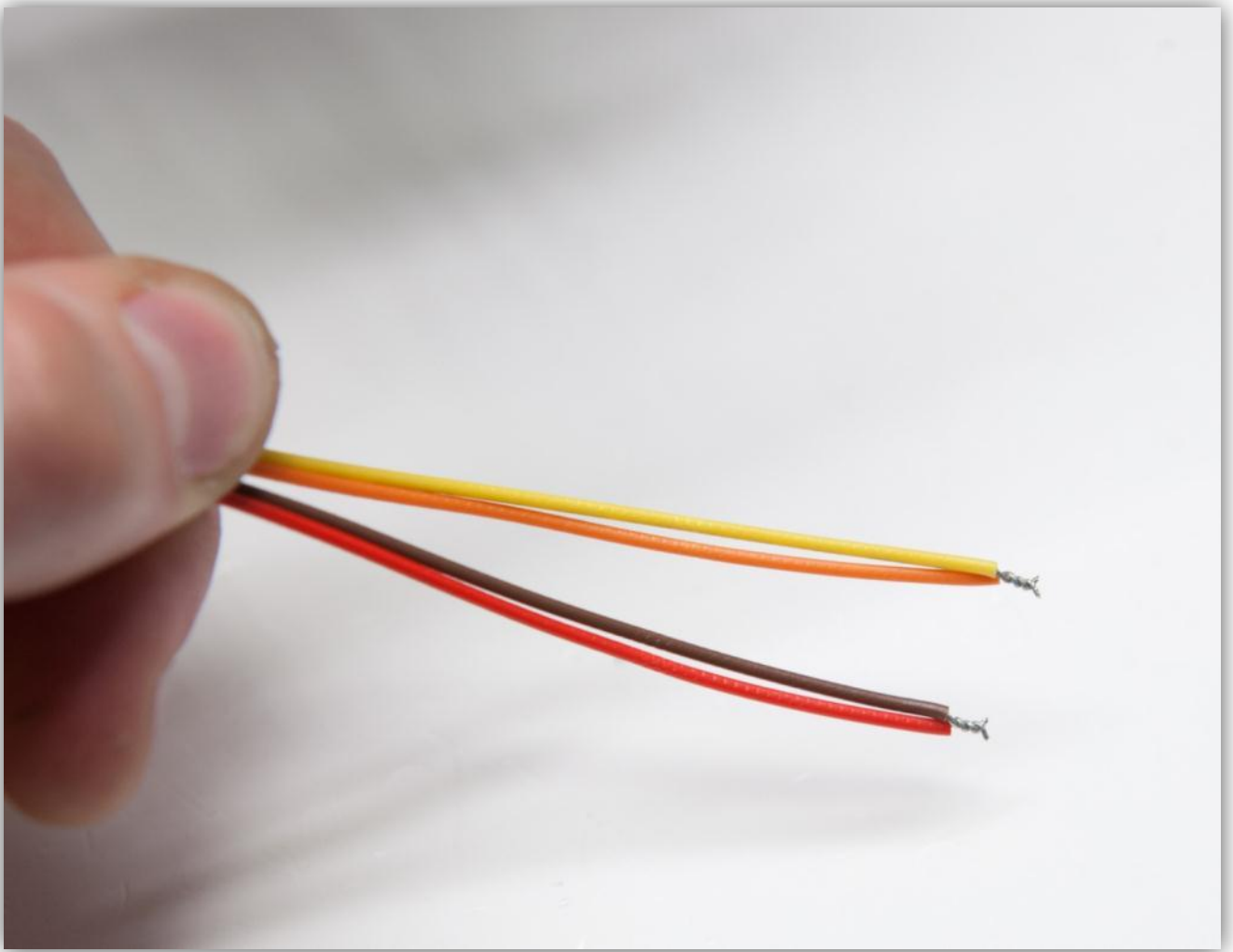


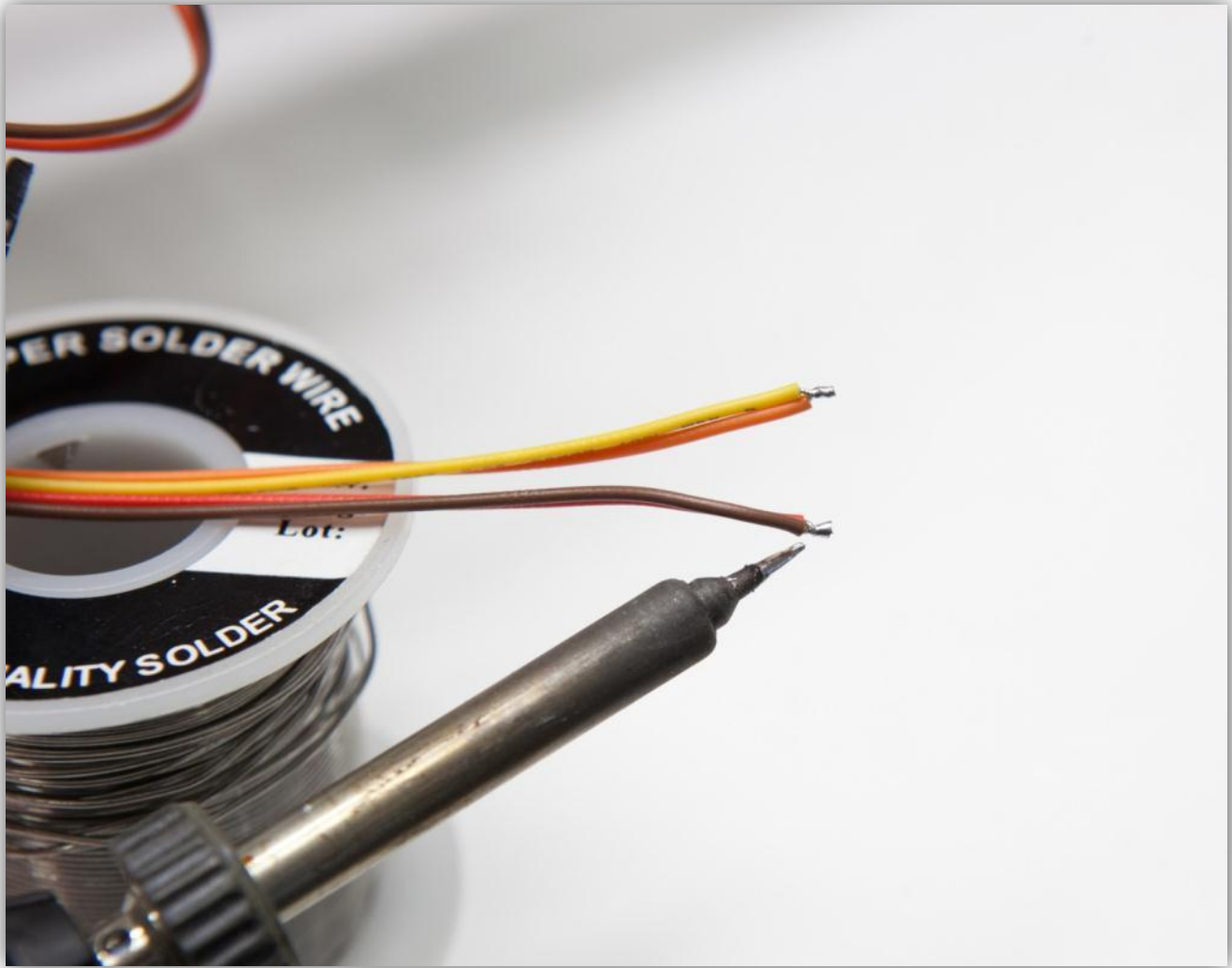
Plug the female connector in the male connector labelled with HEATER2 on the controller board.





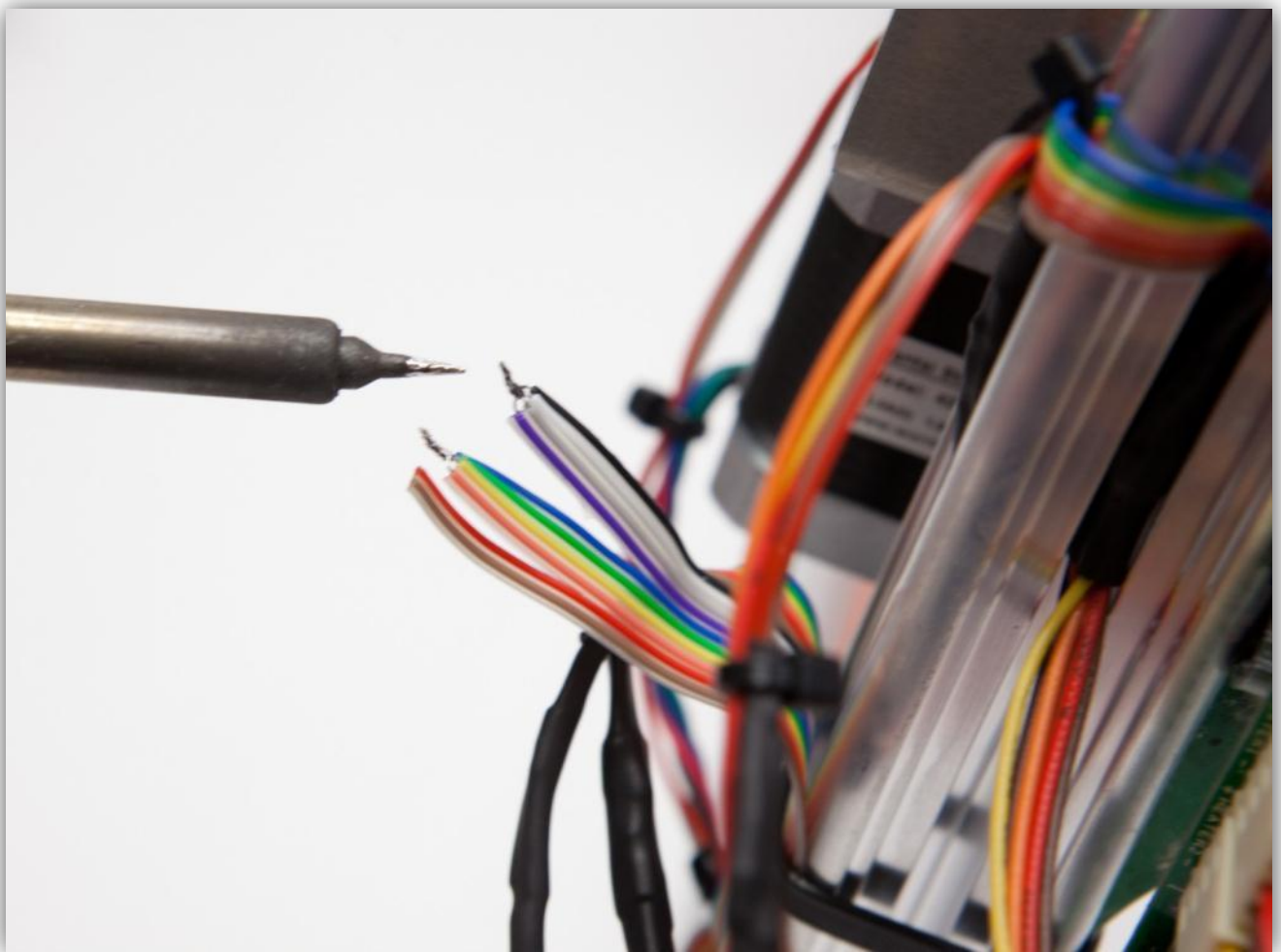
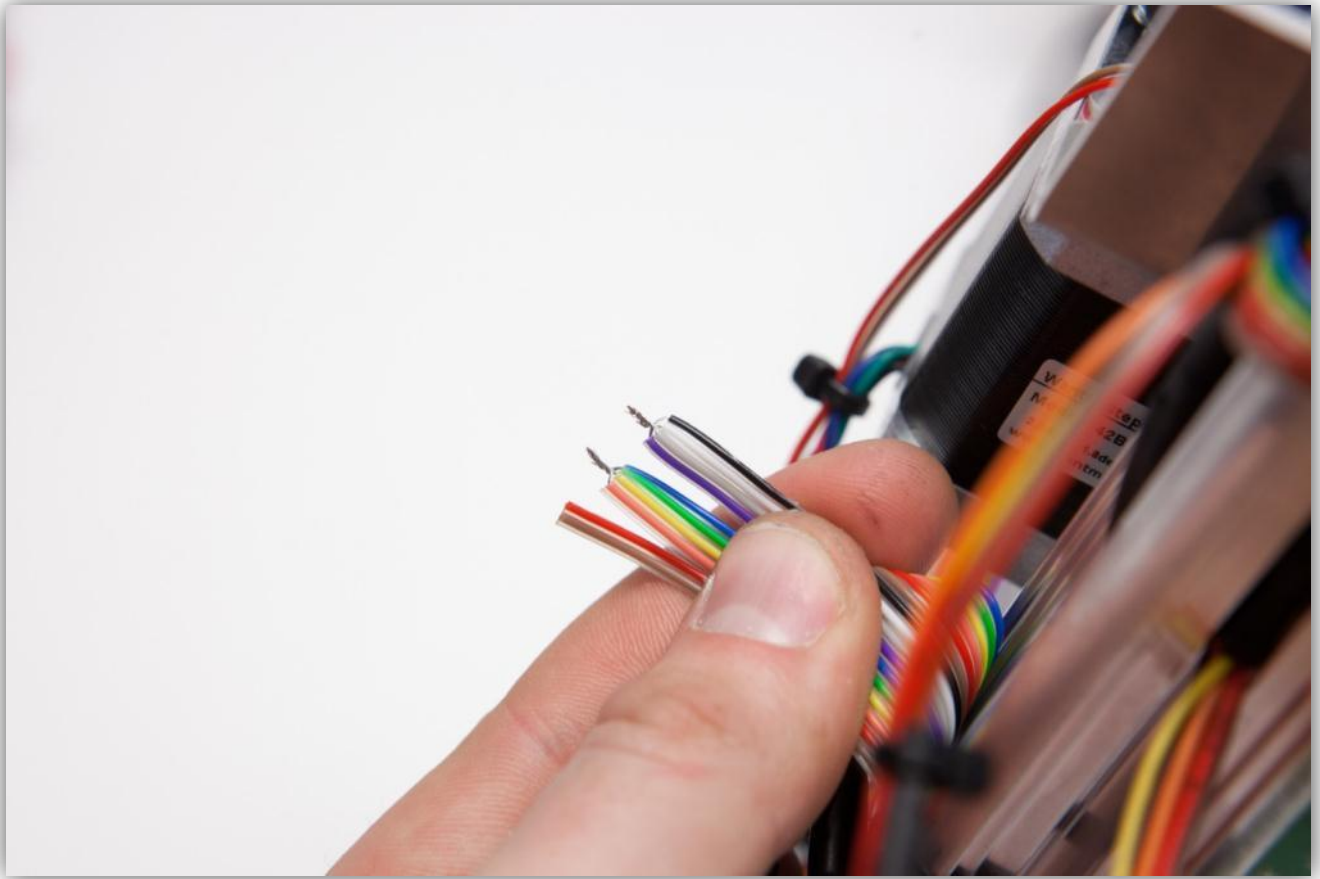
Twist and tin the ends of the **Yellow** and **Orange** wires together and twist and tin the ends of the **Red** and **Brown** wires together.





Next detach 2 cm (0.79") the **Orange, Yellow, Green, Blue and Violet, Grey, White, Black** as groups. Strip 5 mm (0.2") the ends, twist them together per group and tin the ends together per group.

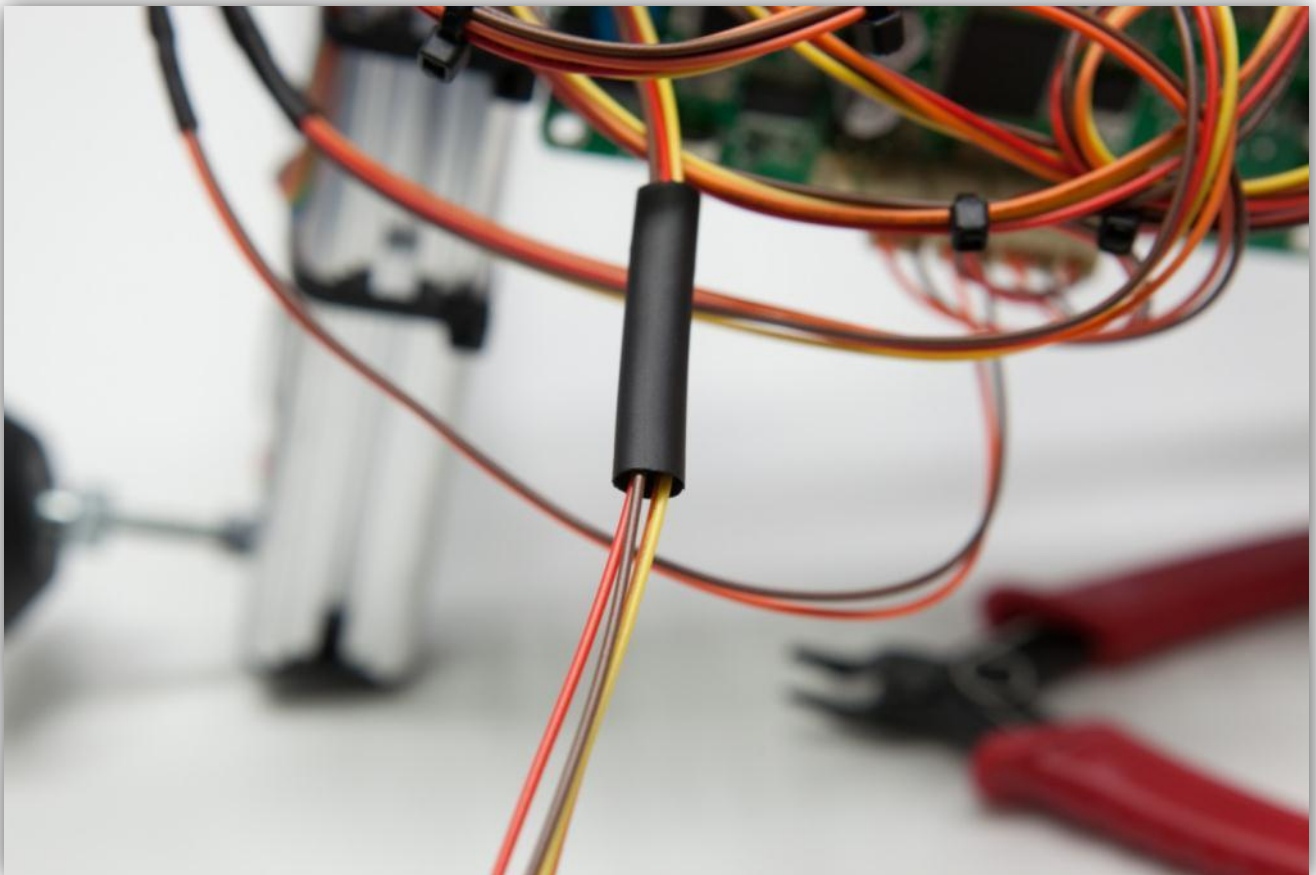




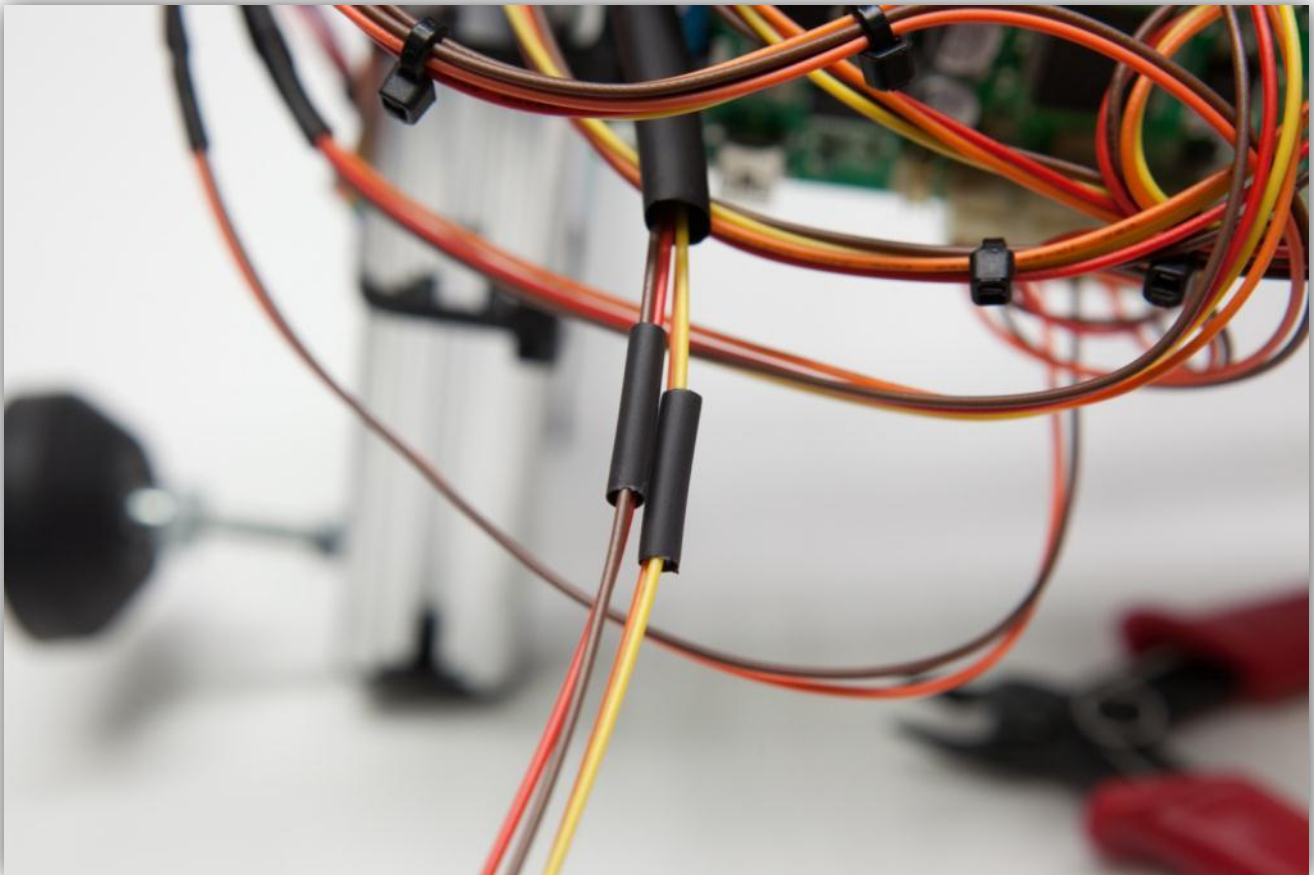
Cut 2 small pieces of the medium size heat shrink tubing of 1.5 cm (0.59") long and 1 large piece of the biggest heat shrink tubing of 4 cm (1.57"). You can find the heat shrink tubing in the bag labelled with 40.



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



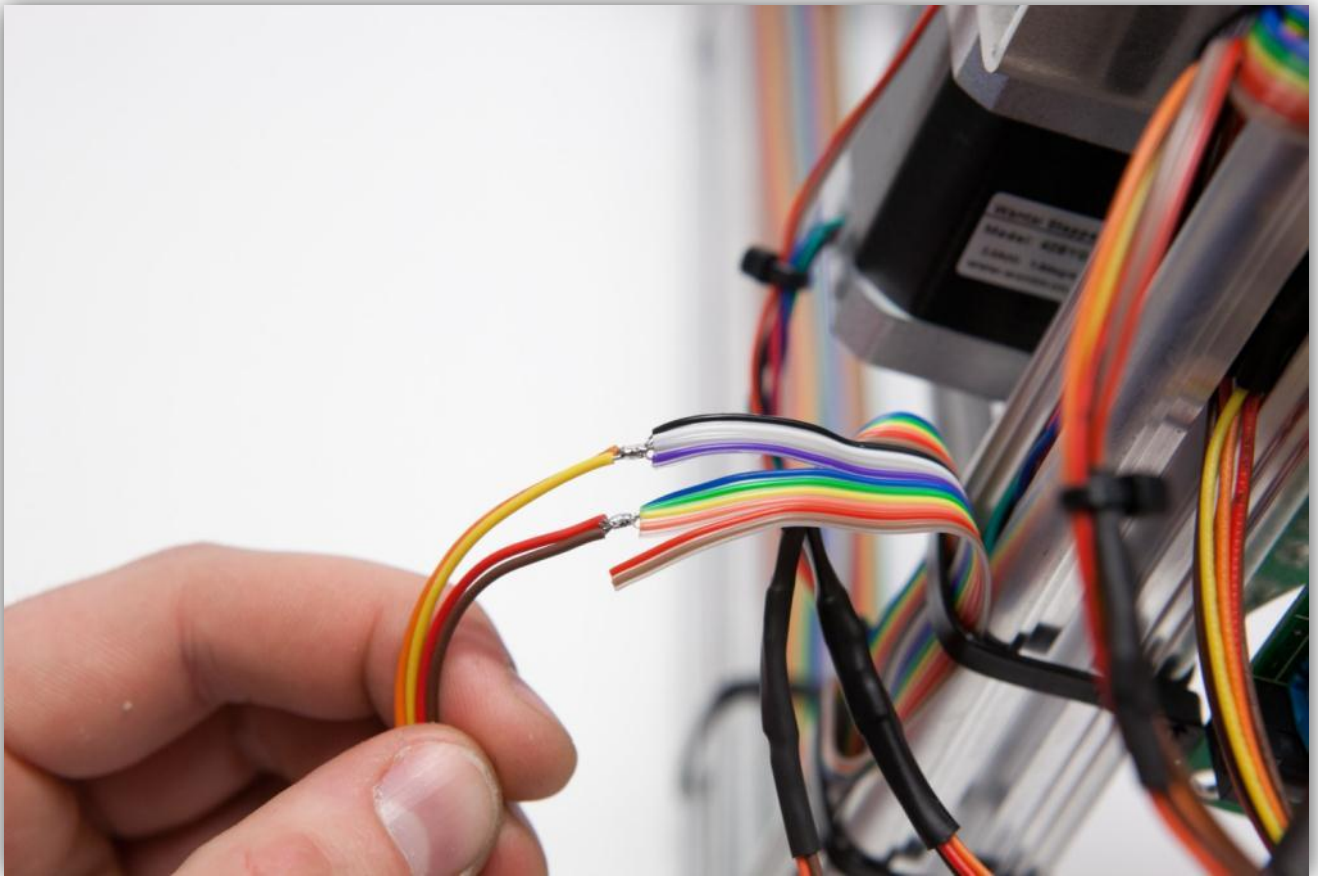
Slide 1 medium size heat shrink tubes over the **Yellow** and **Orange** wire and 1 medium size heat shrink tube over the **Red** and **Brown** wire.



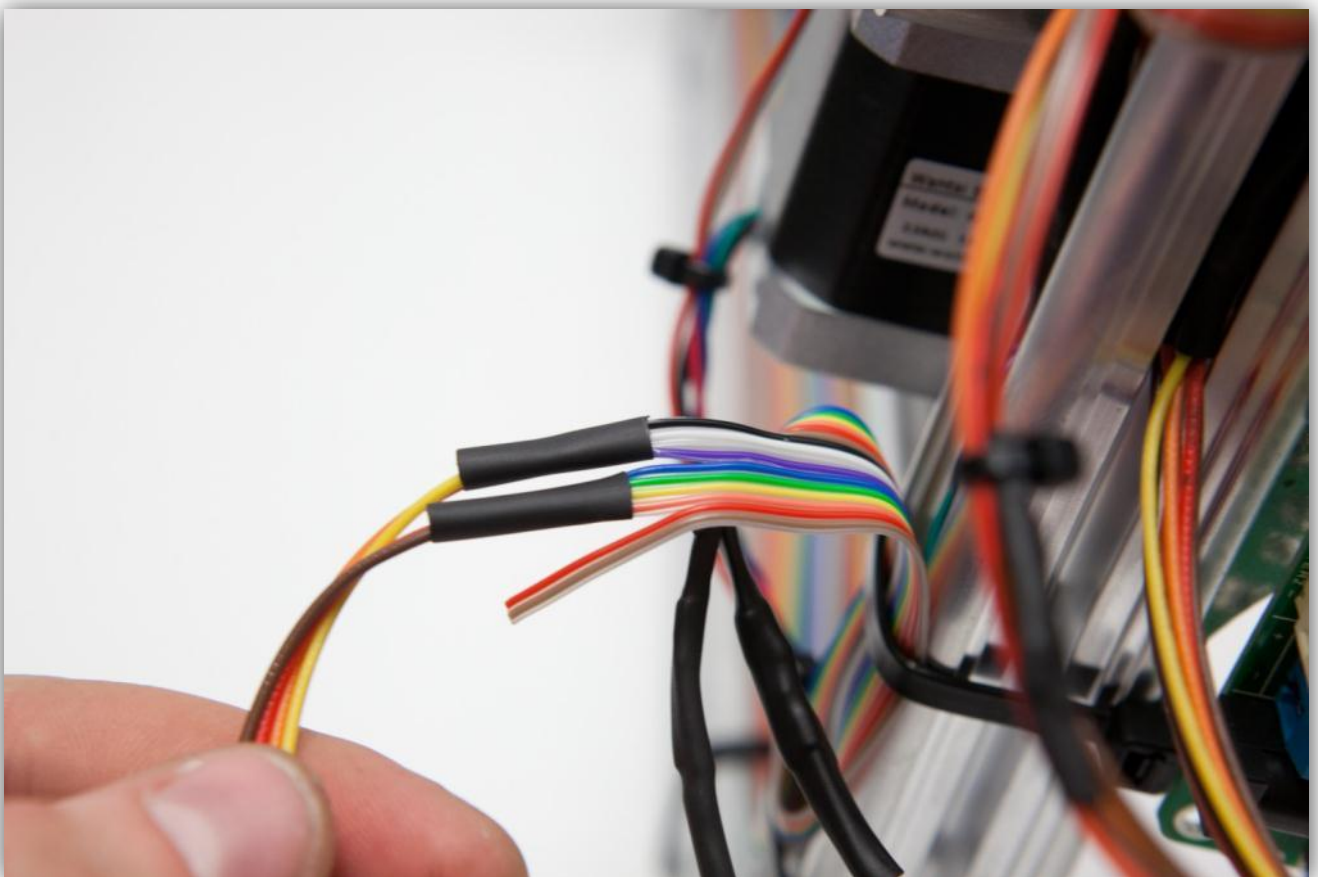
Solder the 6 wires from the connector to the 4 wires of the flat cable you tinned earlier. **Watch the colours closely and respect the groups.**

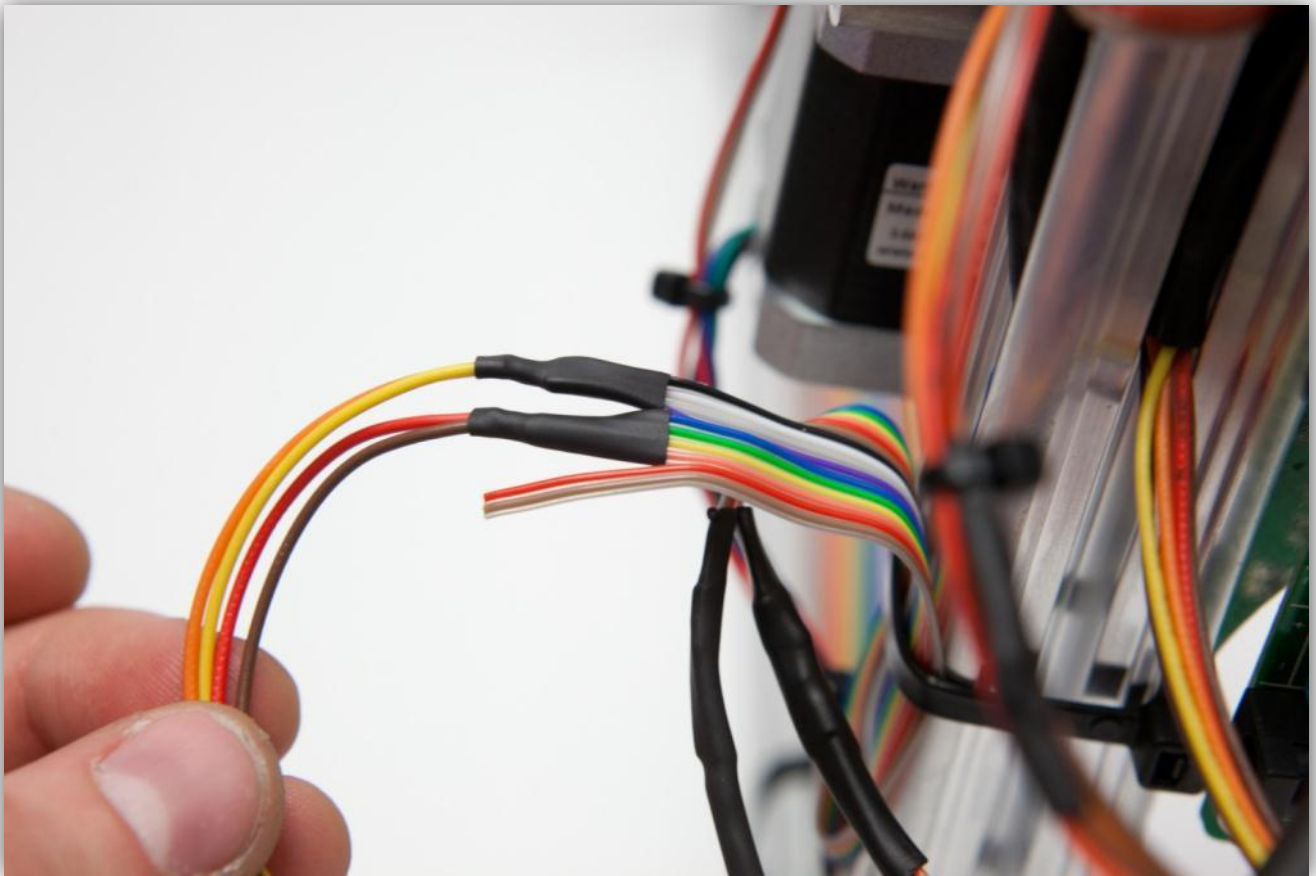
<b>Flat cable</b>	->	<b>Connector wires</b>
<b>Orange, Yellow, Green, Blue</b>	->	<b>Red and Brown</b>
<b>Violet, Grey, White, Black</b>	->	<b>Yellow and Orange</b>



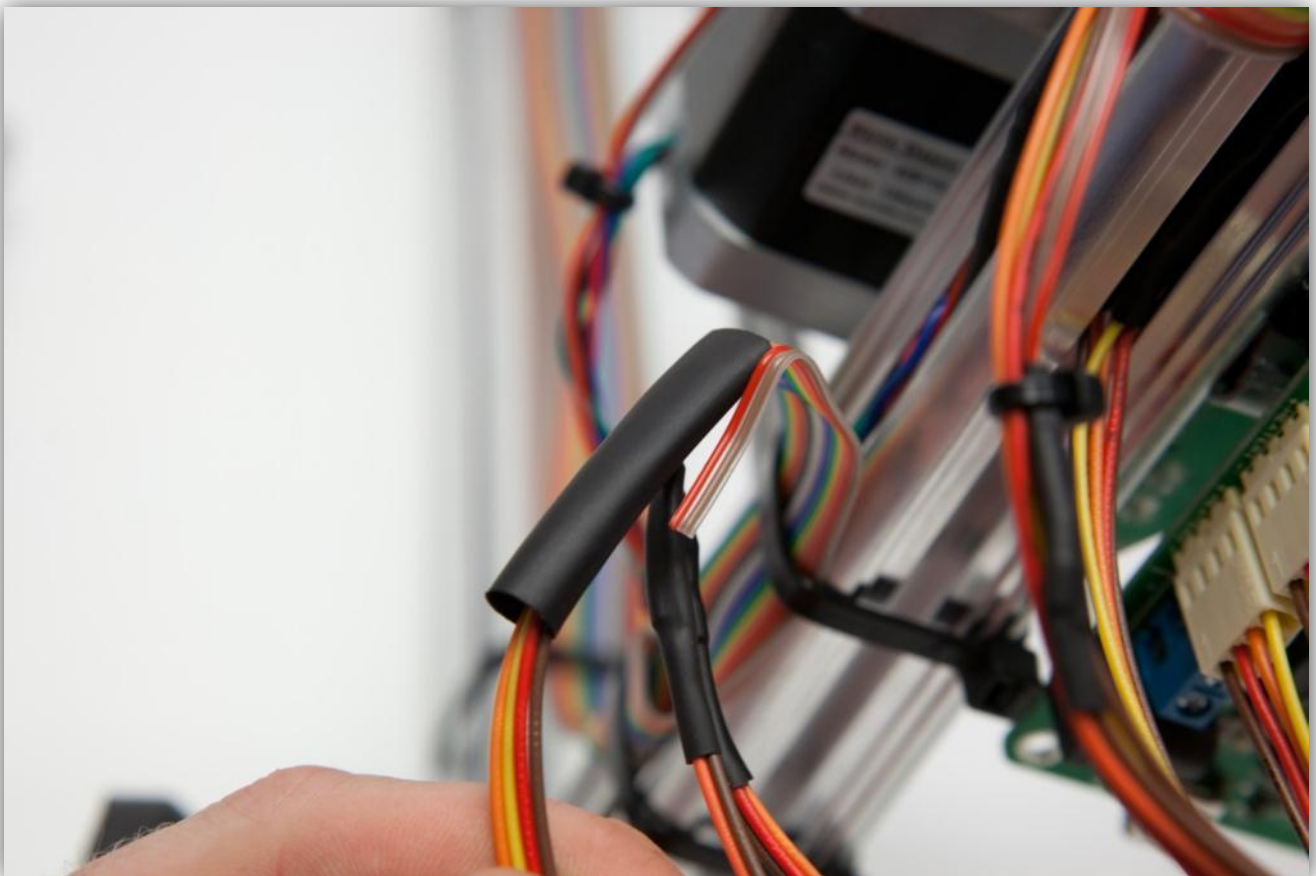


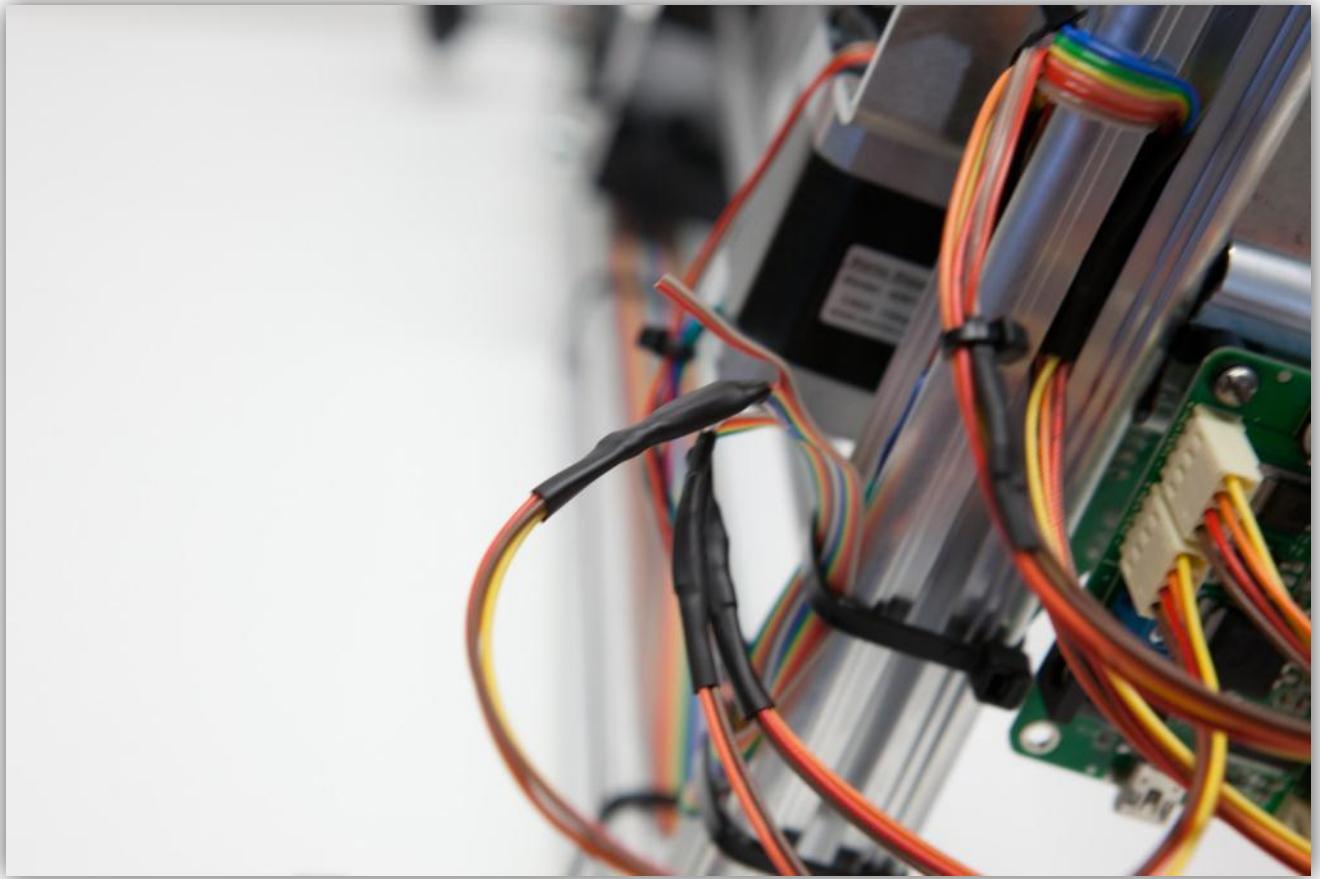
Slide the medium size heat shrink tubes over the solder joints and heat them up so they shrink.



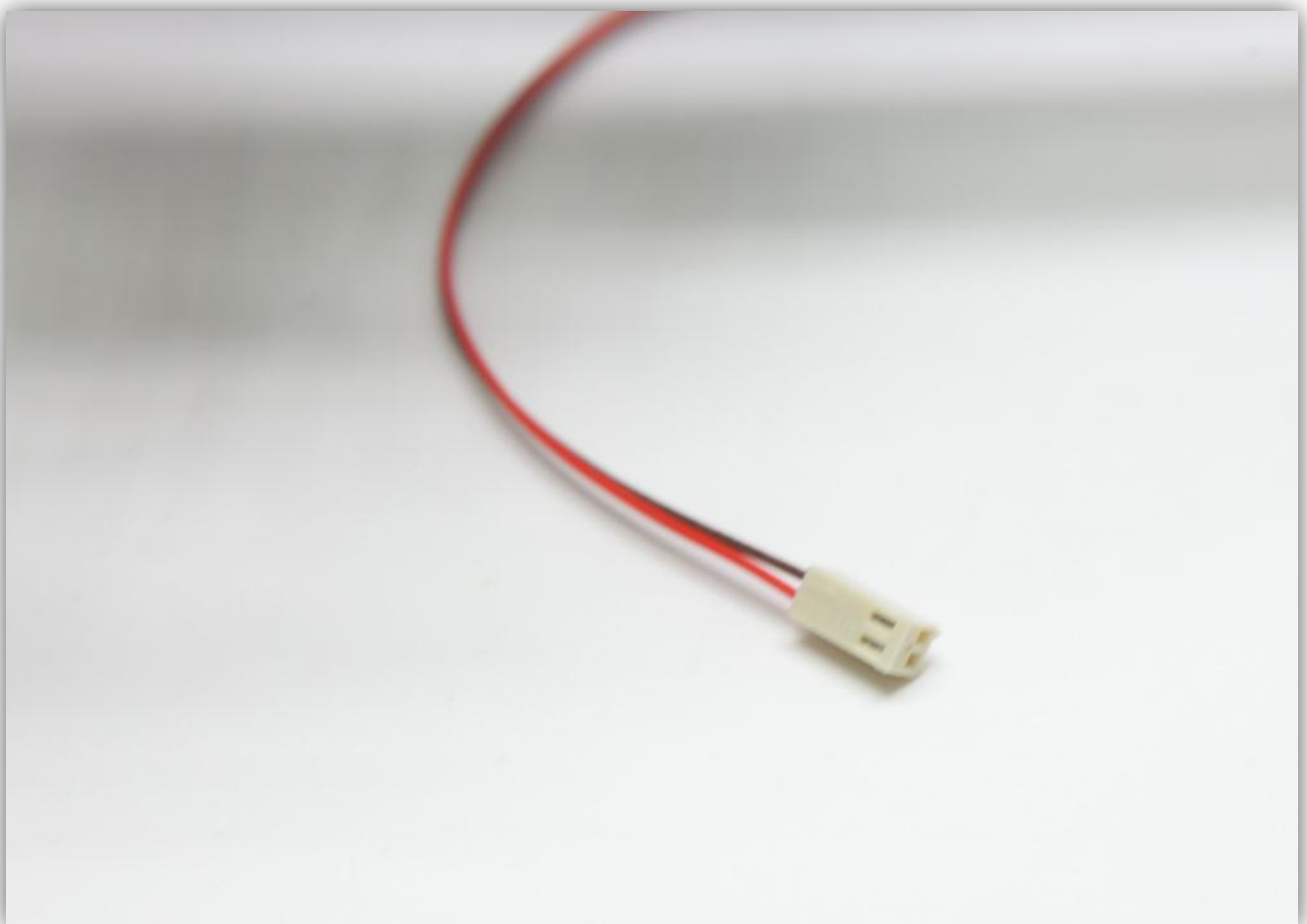


Now slide the big piece of heat shrink tubing over the 2 medium size pieces, heat the big piece so it covers and protects the 2 heat shrunk joints. Secure all the joints with 2 large tie-strips to the profile.



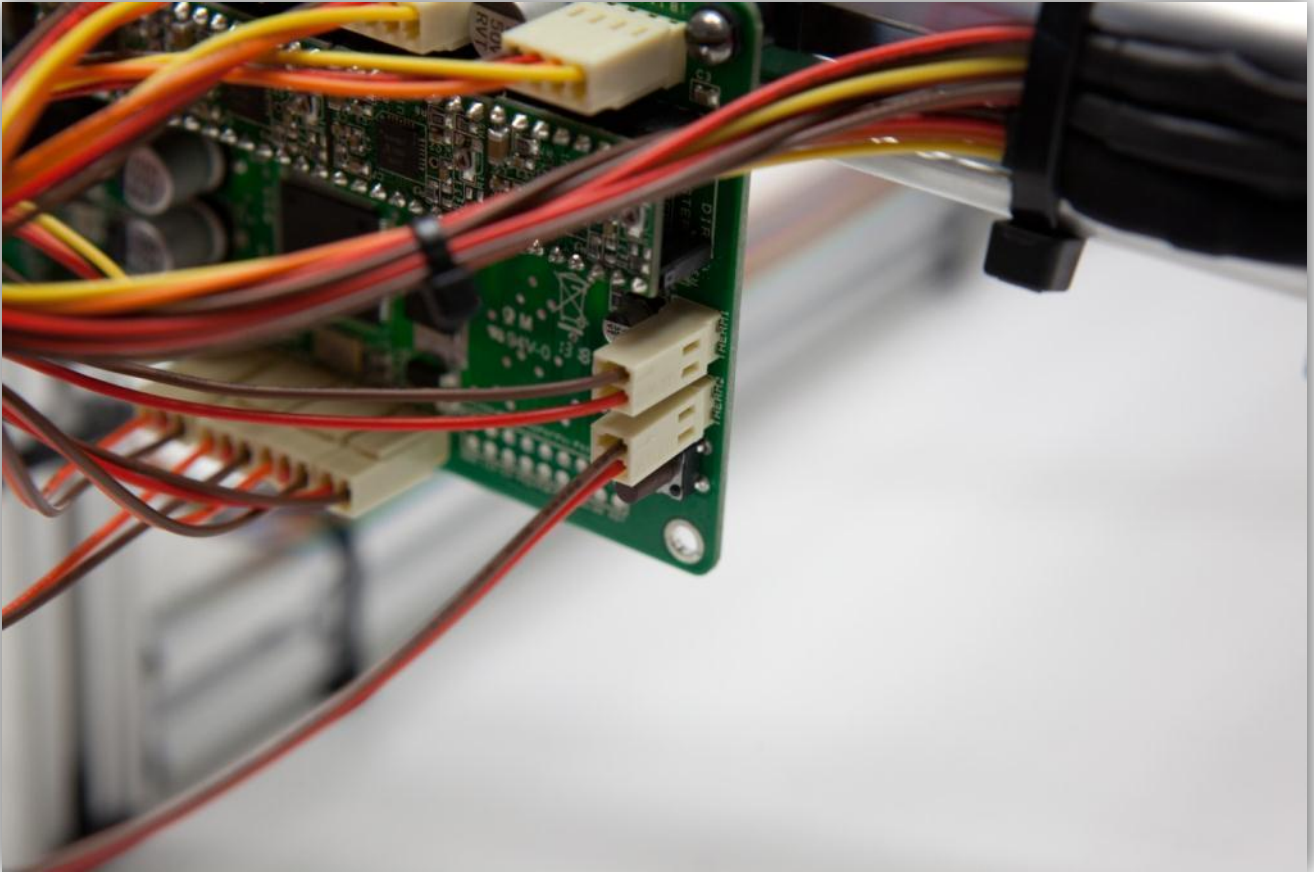


Take a board to wire connector with 2 wires out of the bag labelled with 40.





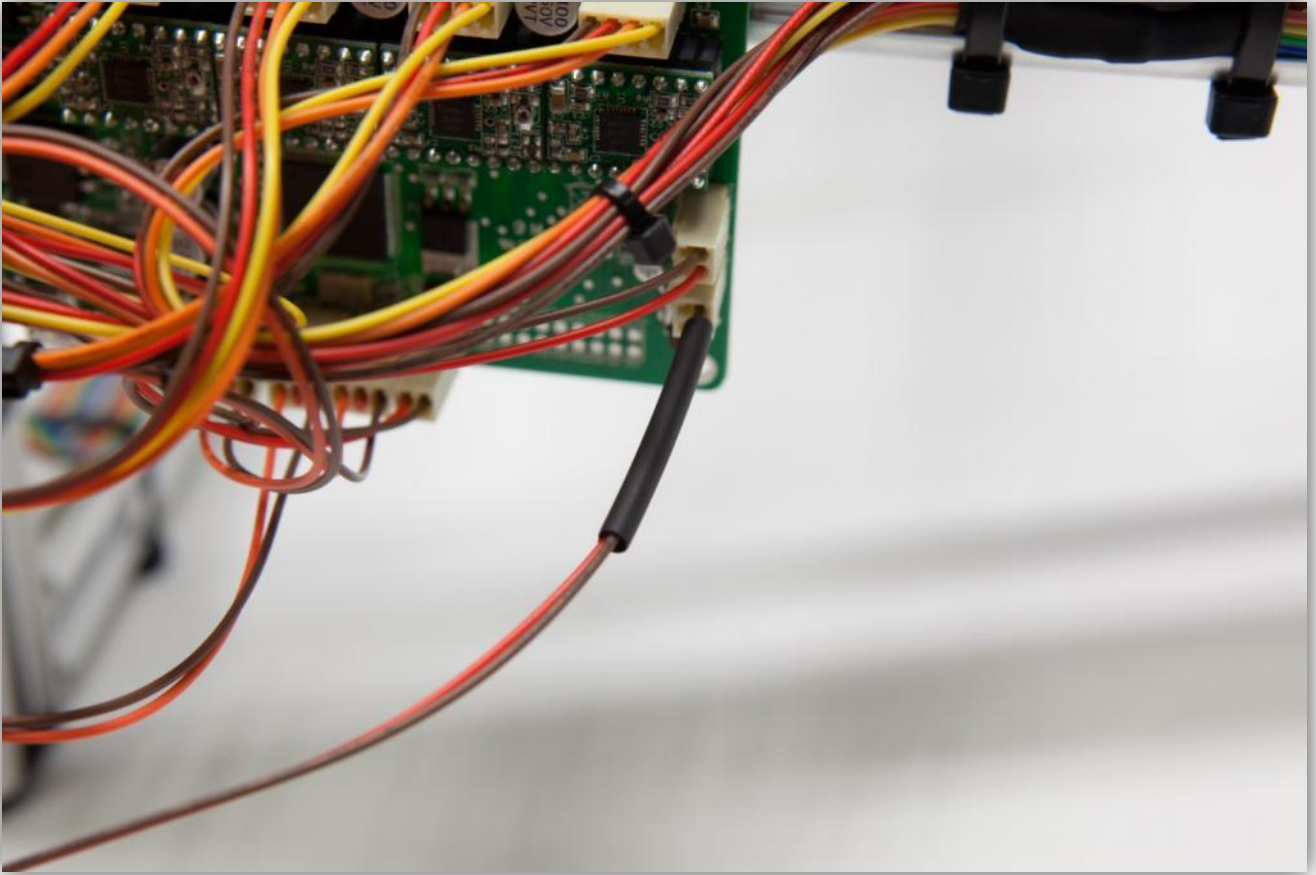
Plug the female connector in the male connector labelled with THERM2 on the controller board.



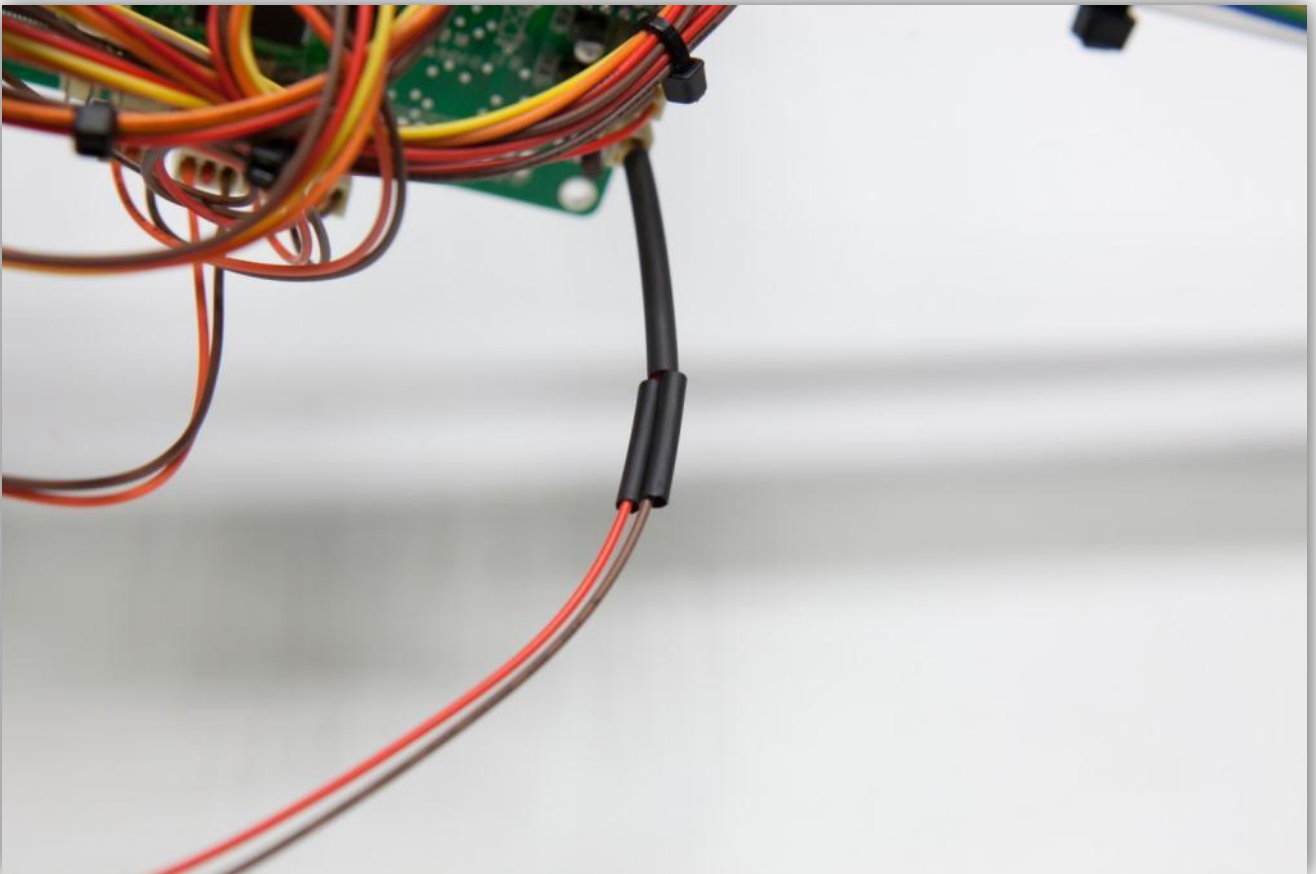
Cut 2 small pieces of the smallest heat shrink tubing of 1.5 cm (0.59") long and 1 large piece of the medium size heat shrink tubing of 4 cm (1.57"). You can find the heat shrink tubing in the bag labelled with 40.



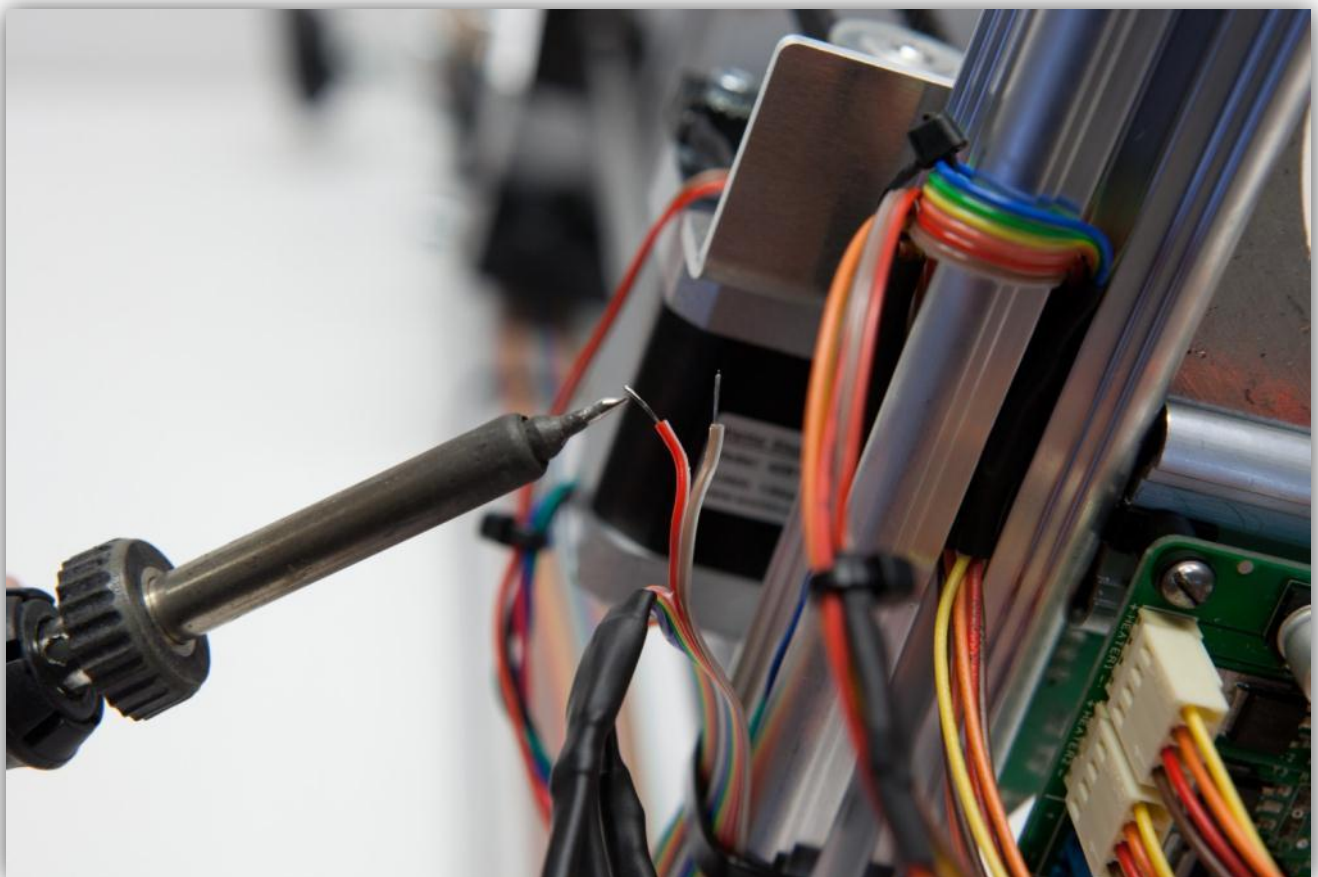
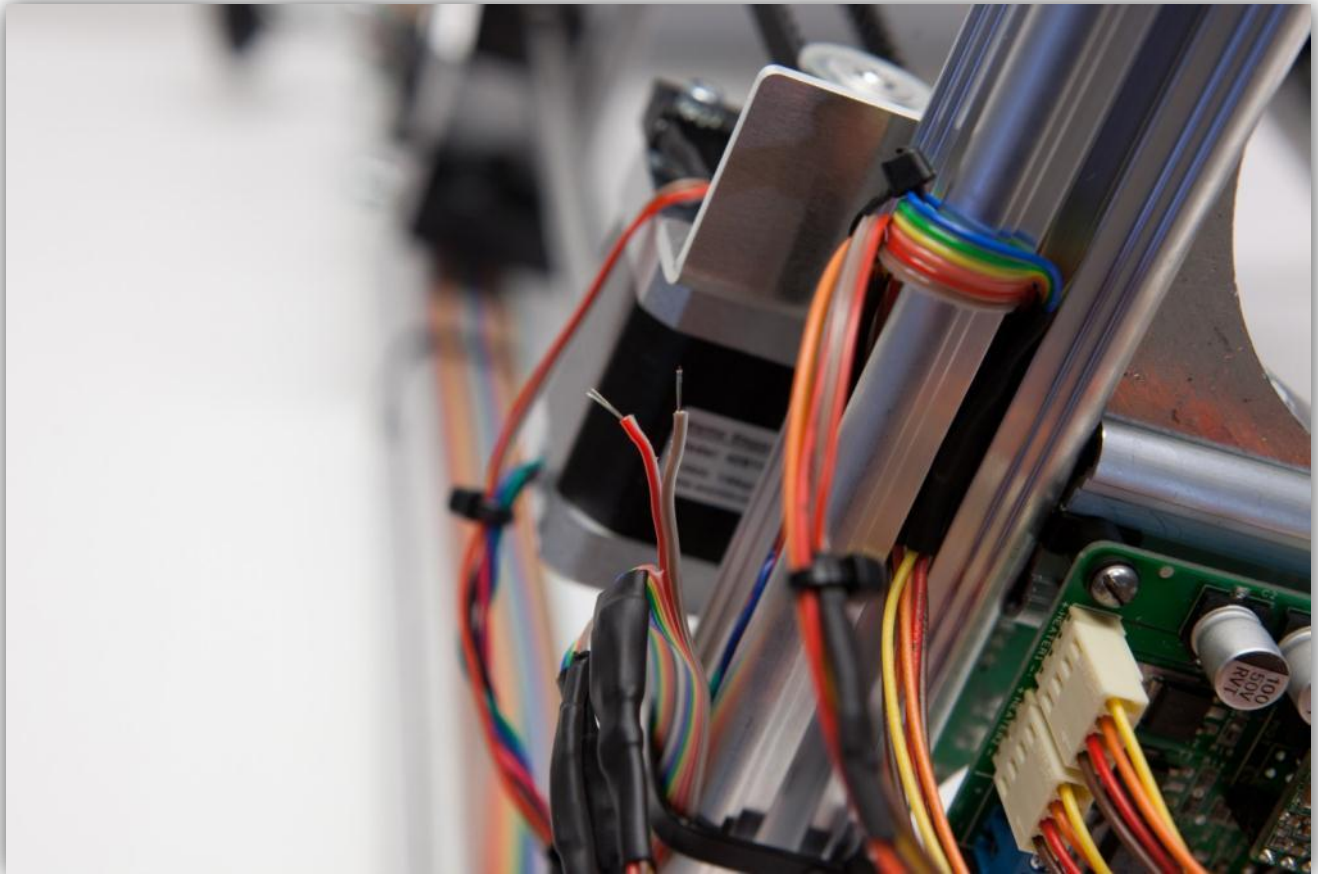
Slide the medium size heat shrink tubes over the 2 wires of the connector.



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



Strip the two wires 5 mm (0.2") that are left over (**Red** and **Brown**) and tin them.



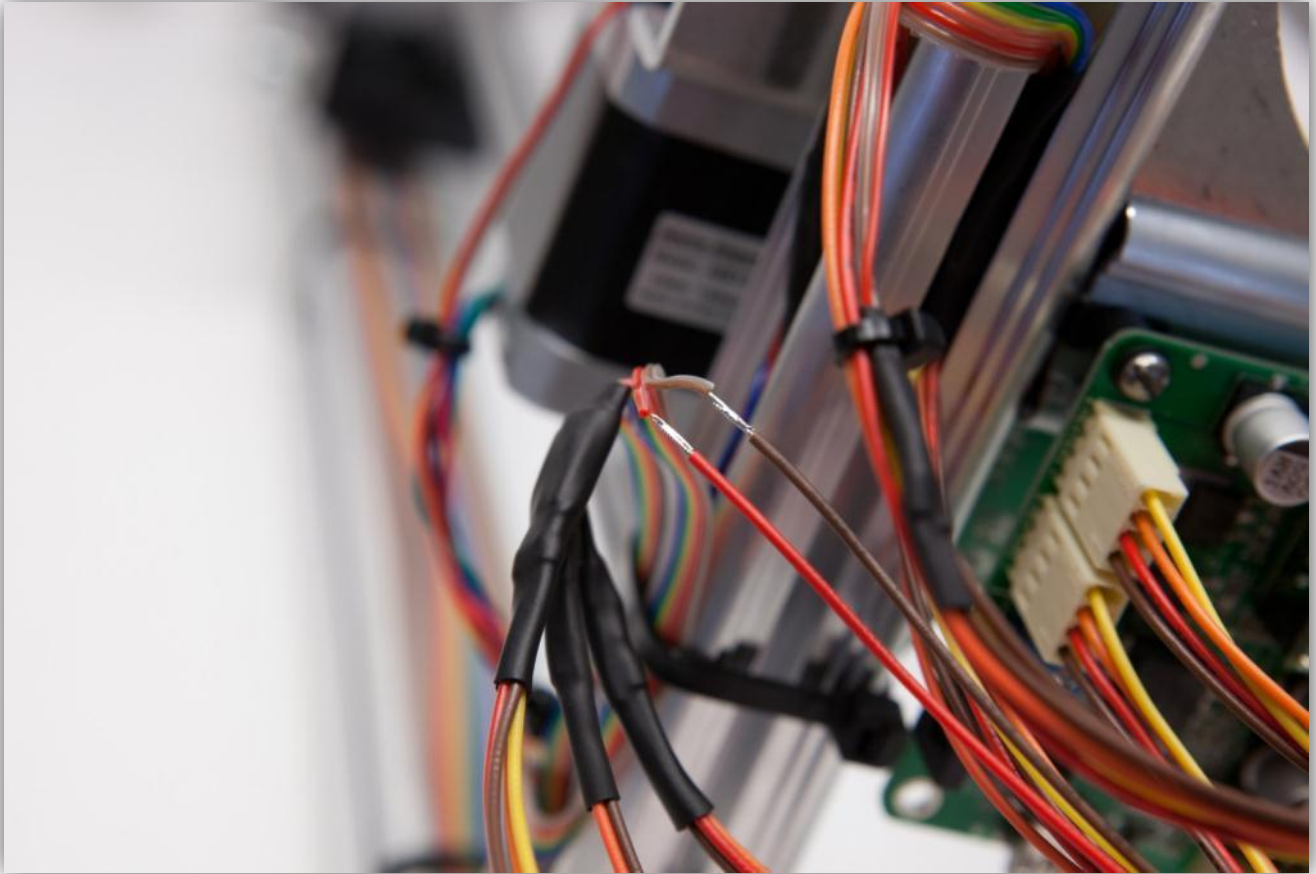


Solder the 2 wires from the connector to the 2 wires of the flat cable. **Watch the colours closely.**

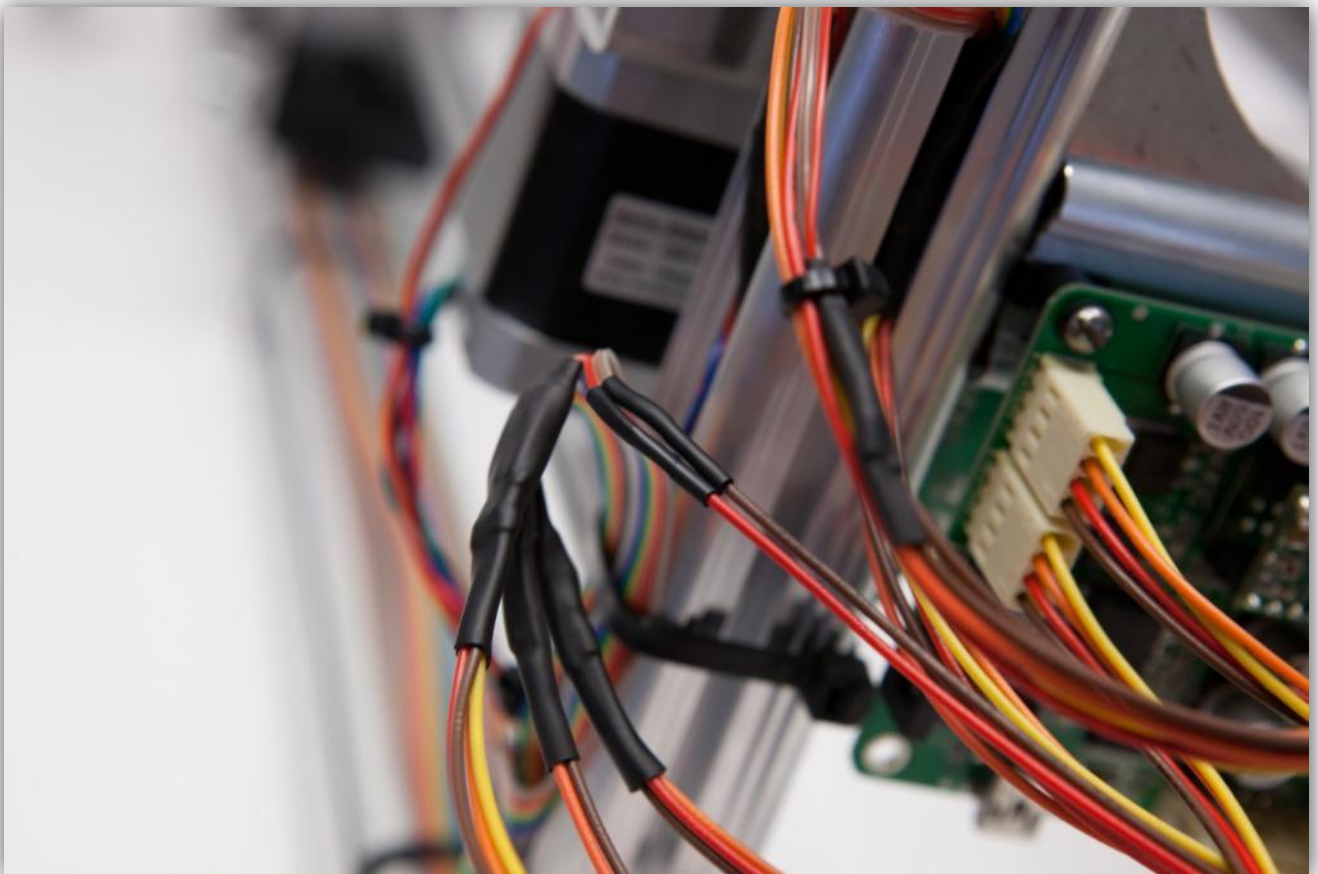
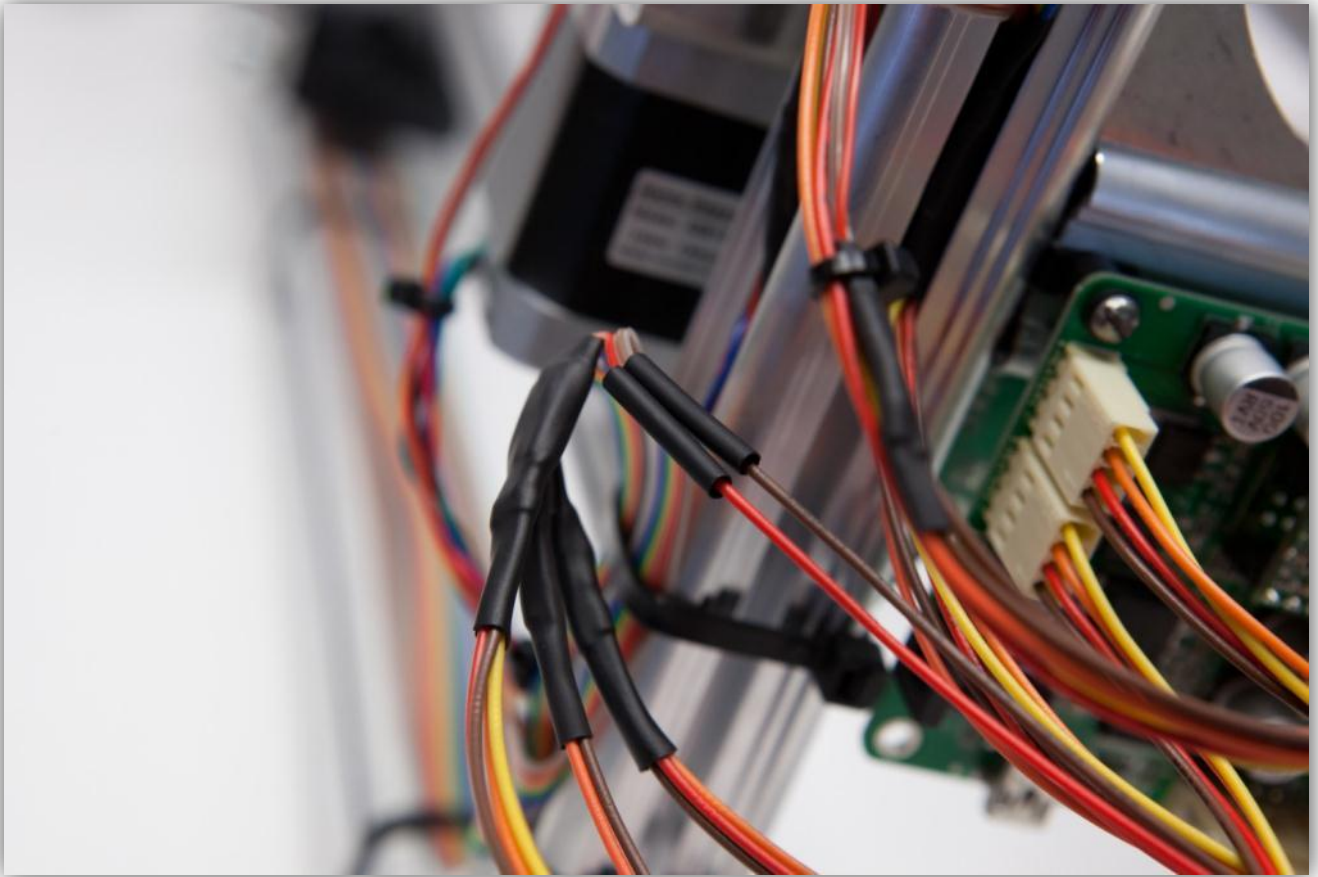
**Flat cable** -> **Connector wires**

**Black** -> **Red**

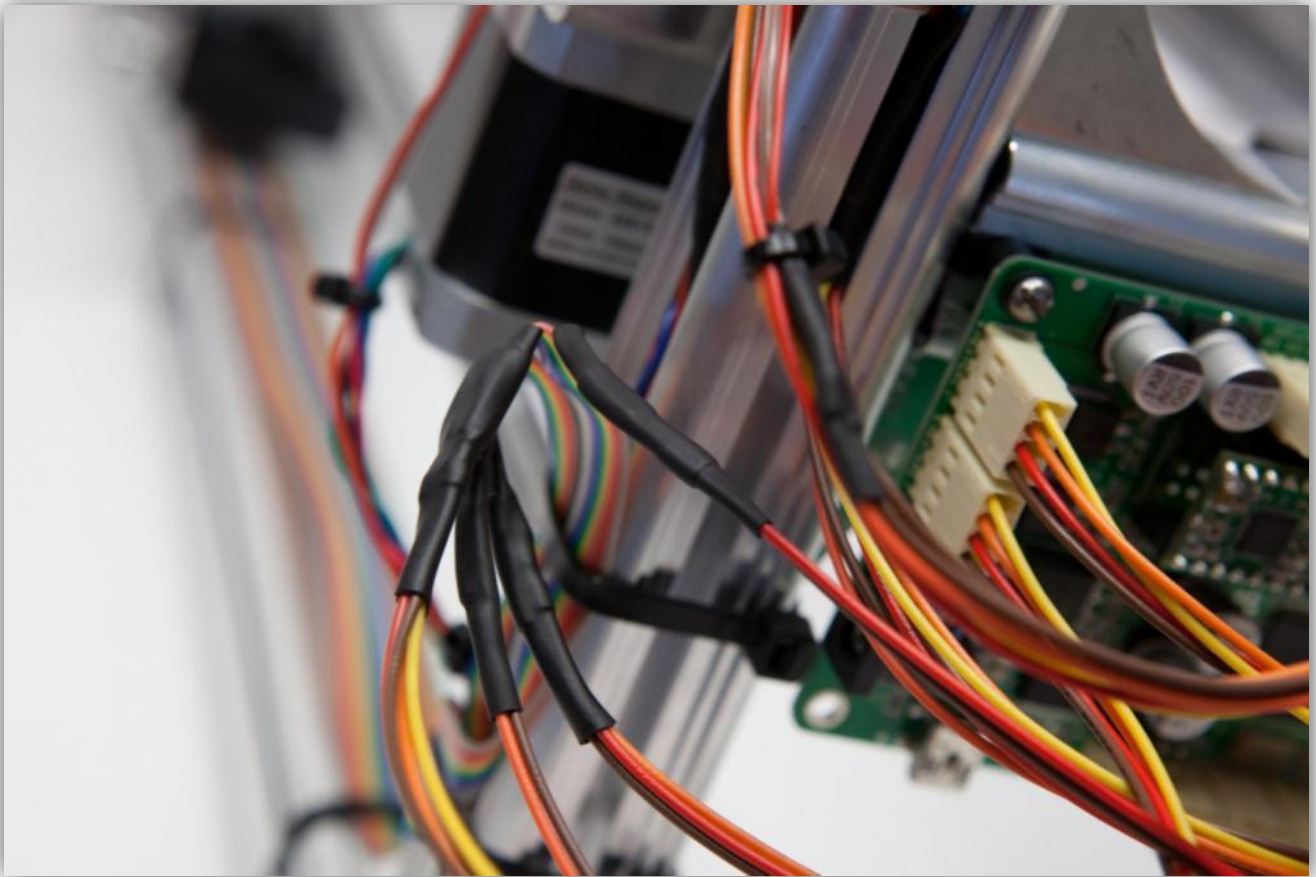
**White** -> **Brown**



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.





Use small tie-strips to keep the cables together.

