Swarm 2 build

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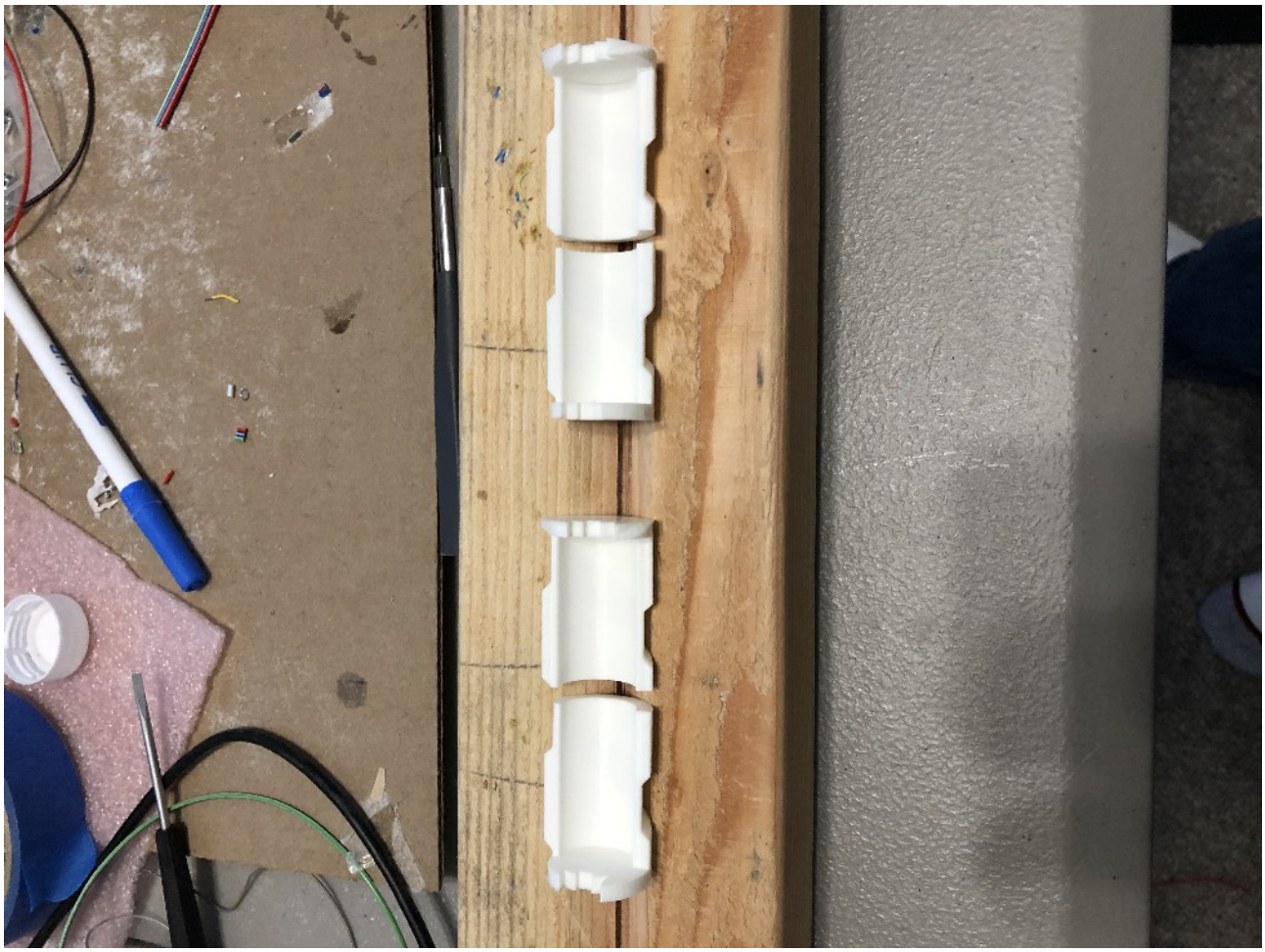
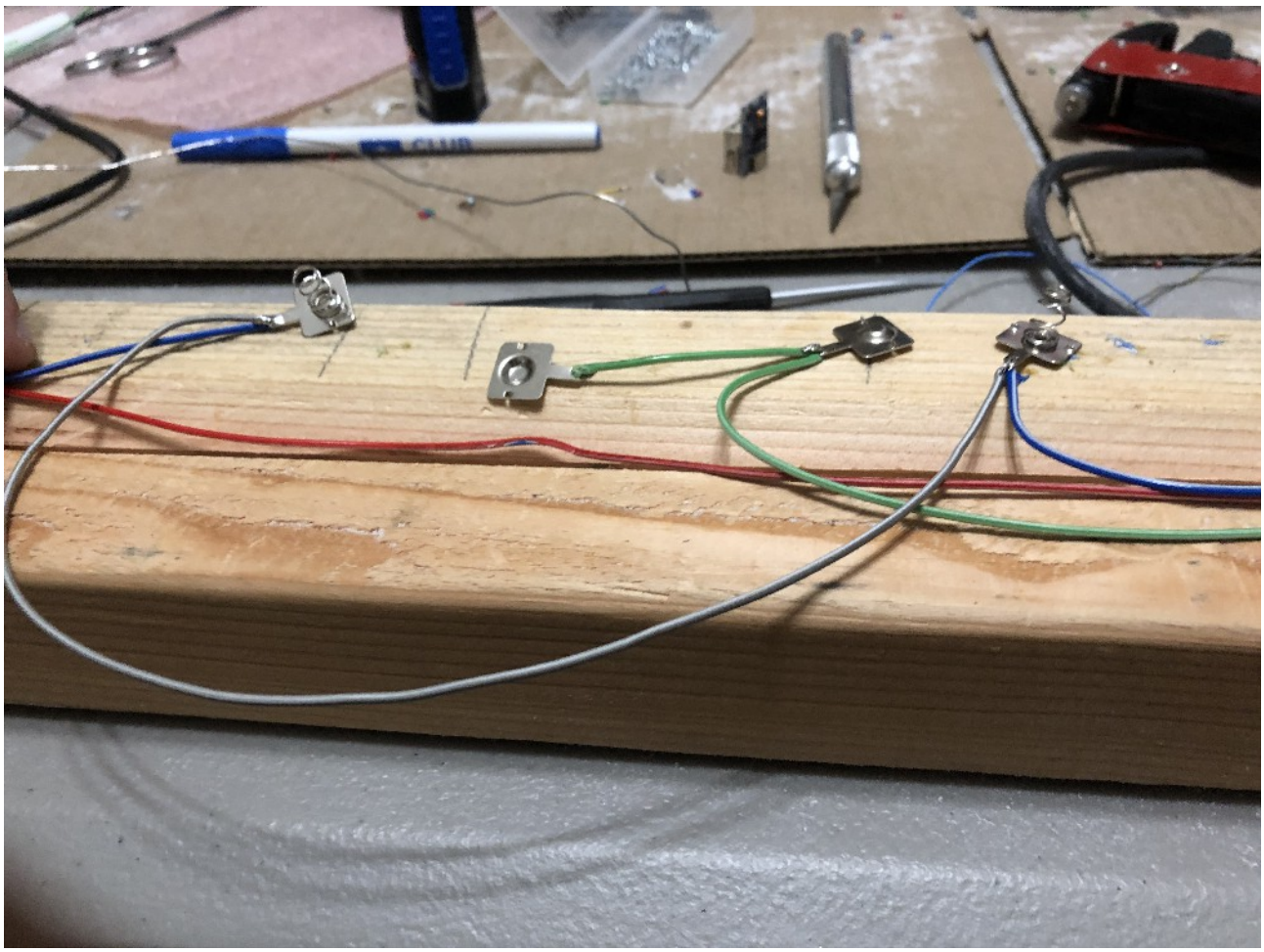
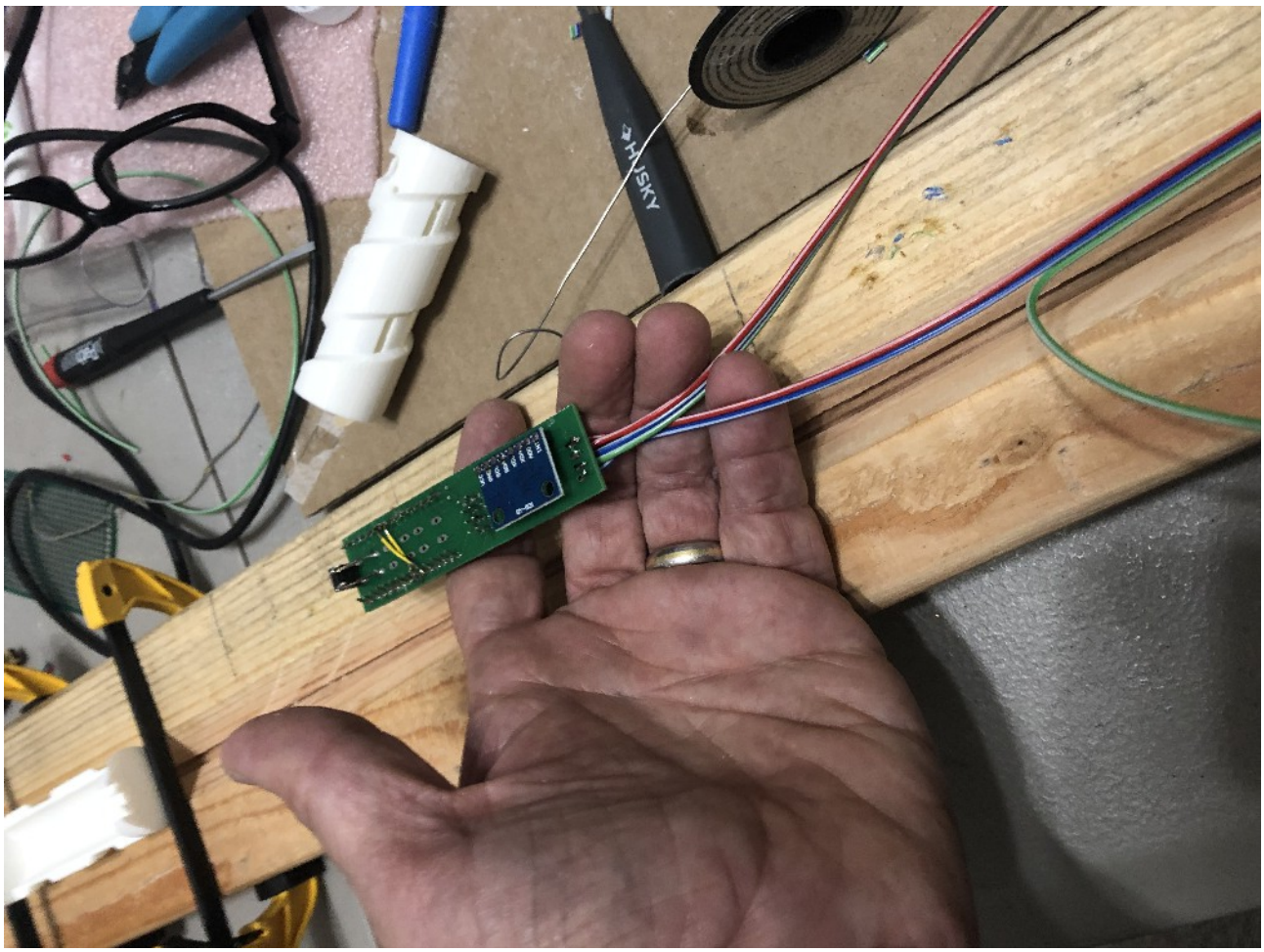


Lets start building the rest of the tube. There are 4 battery holder pieces. Each battery holder uses 2 different pieces. Be careful to look at the pieces, and use one of each shape to make holders. You can glue each pair together first.

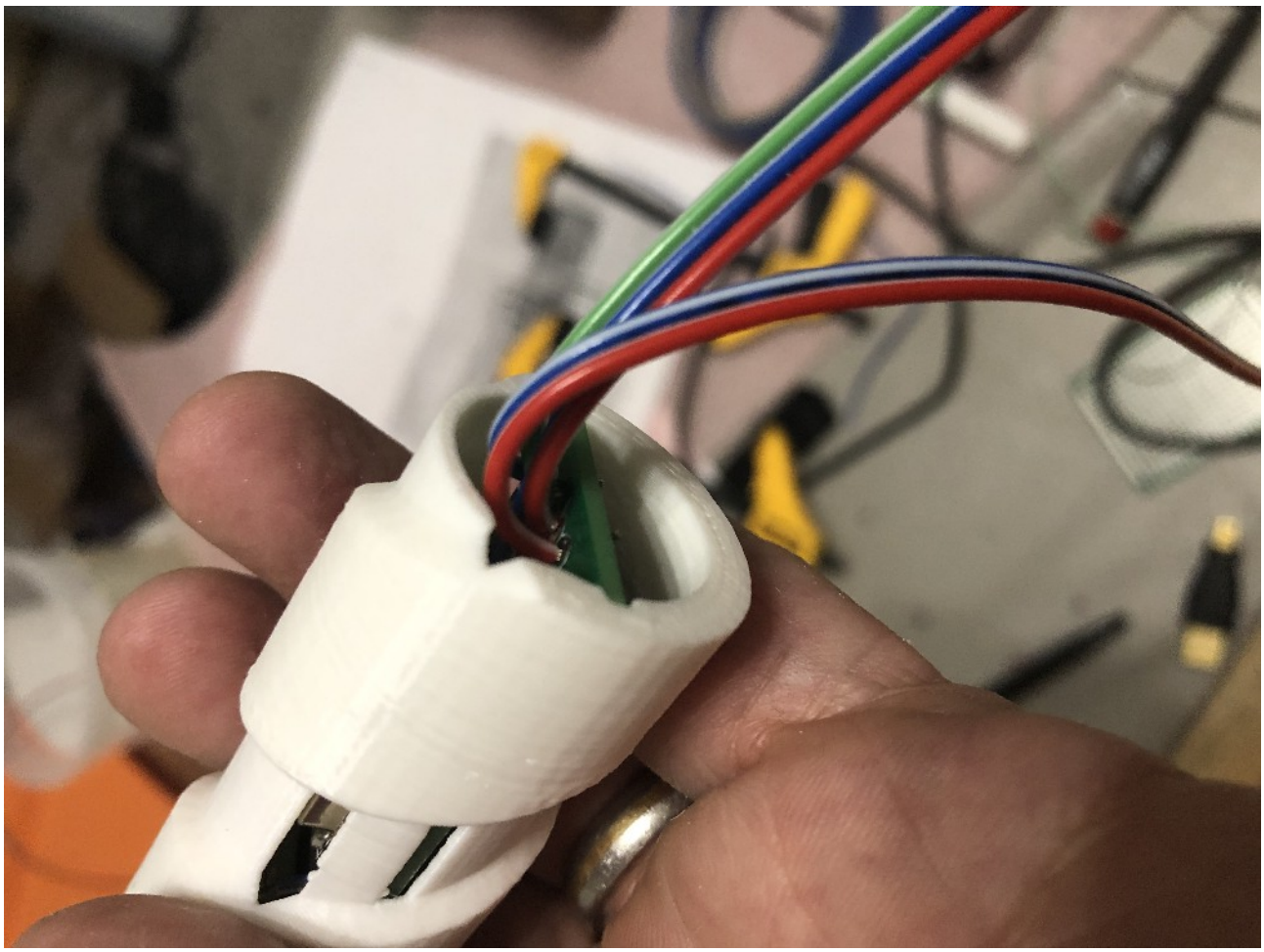


The wiring harness looks like this. The green wire is the power from the positive terminals of the batteries. The wire from these goes off to the right side of the picture where it will connect to the charger unit. The blue wire is the ground, and connects to the negative side of the batteries. It connects to bothe the charger unit and the CPU. Notice that the red wire just passes through. This is the main power supply between the charger and the CPU.

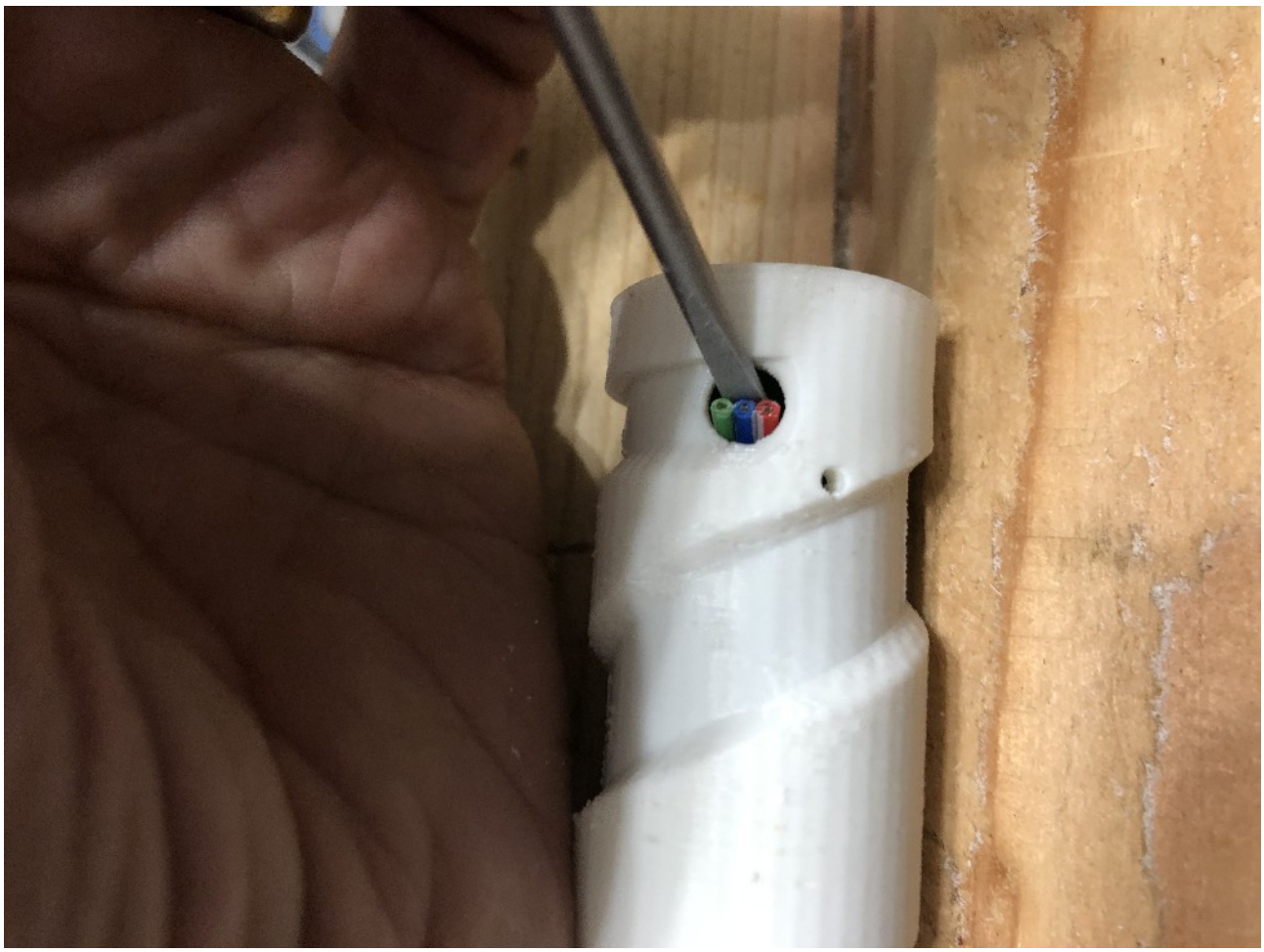


The red and blue from the harness supply power to the CPU. Notice the two yellow jumpers on the CPU board. These are the patch for the first rev of the Swarm II board. I describe this earlier in this document. Make sure you do this before you go on.

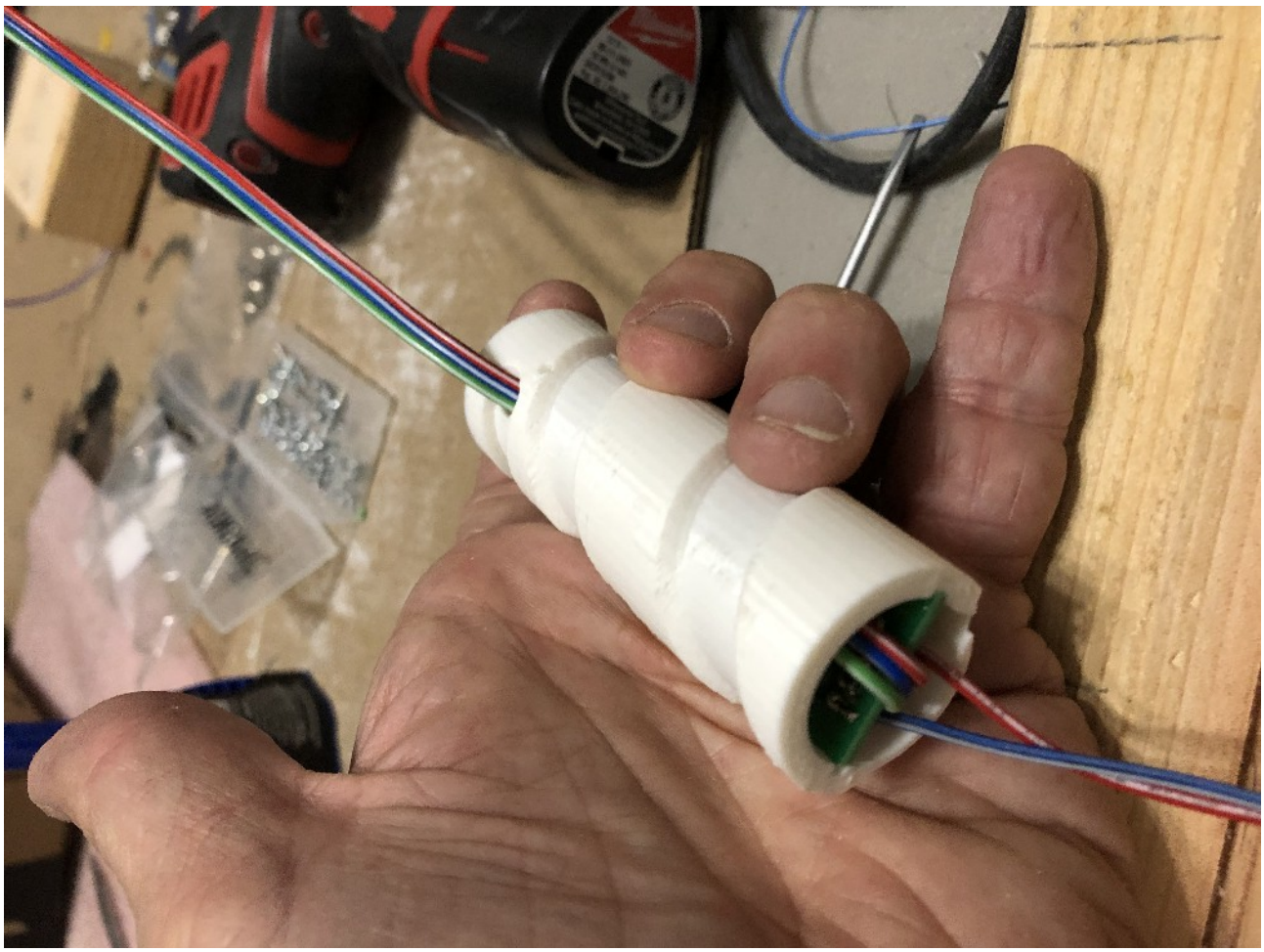
Slide the swarm assembly into the CPU tube. It slides in on the groove, and the radio crystal will just fit into the cutout. This is a tight fit.



All the way in. It stops up against a ridge at the other end that keeps it from falling out.

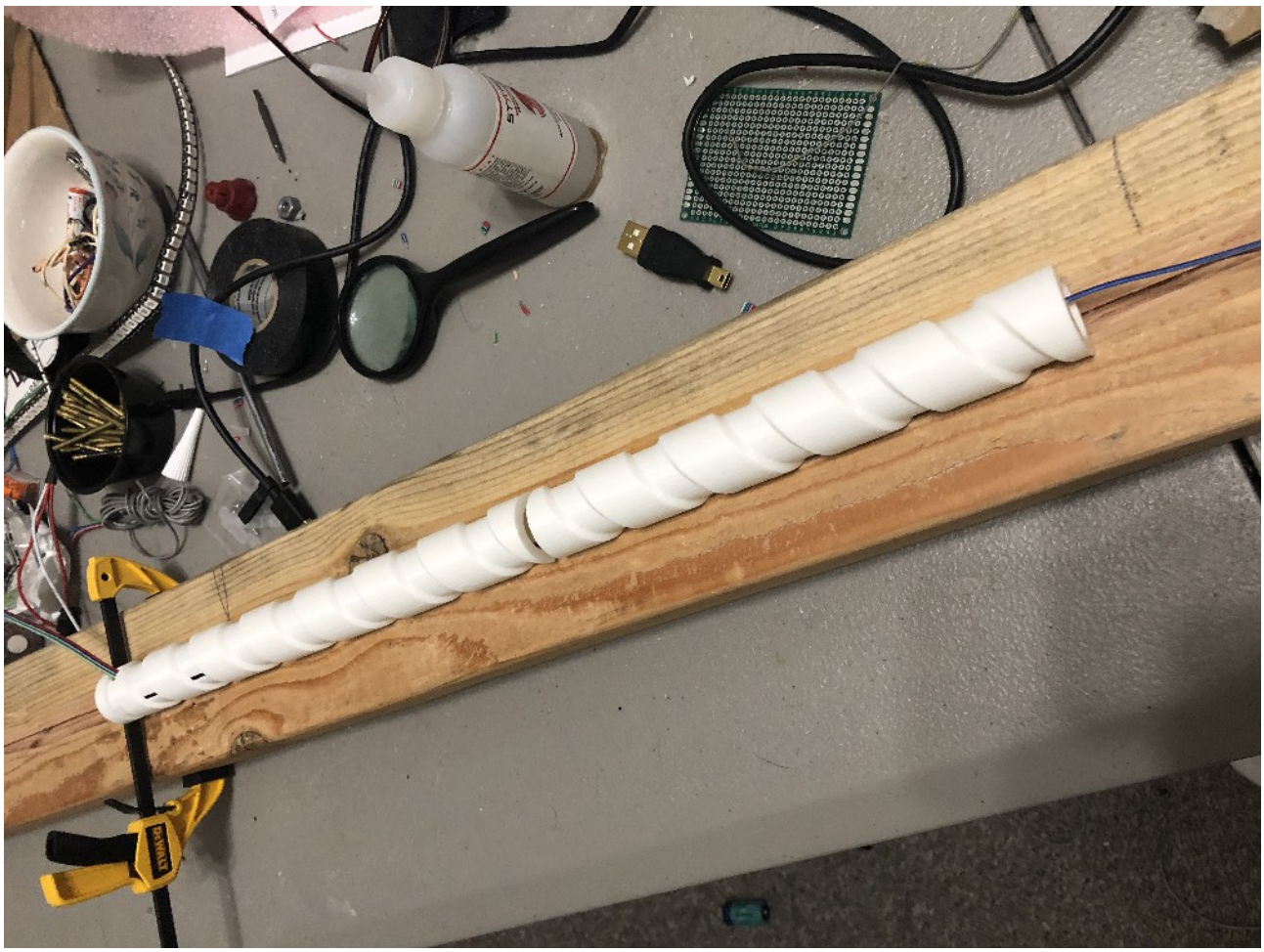


Using a screw driver helps the LED wire exit the hole as you feed it through the back side.

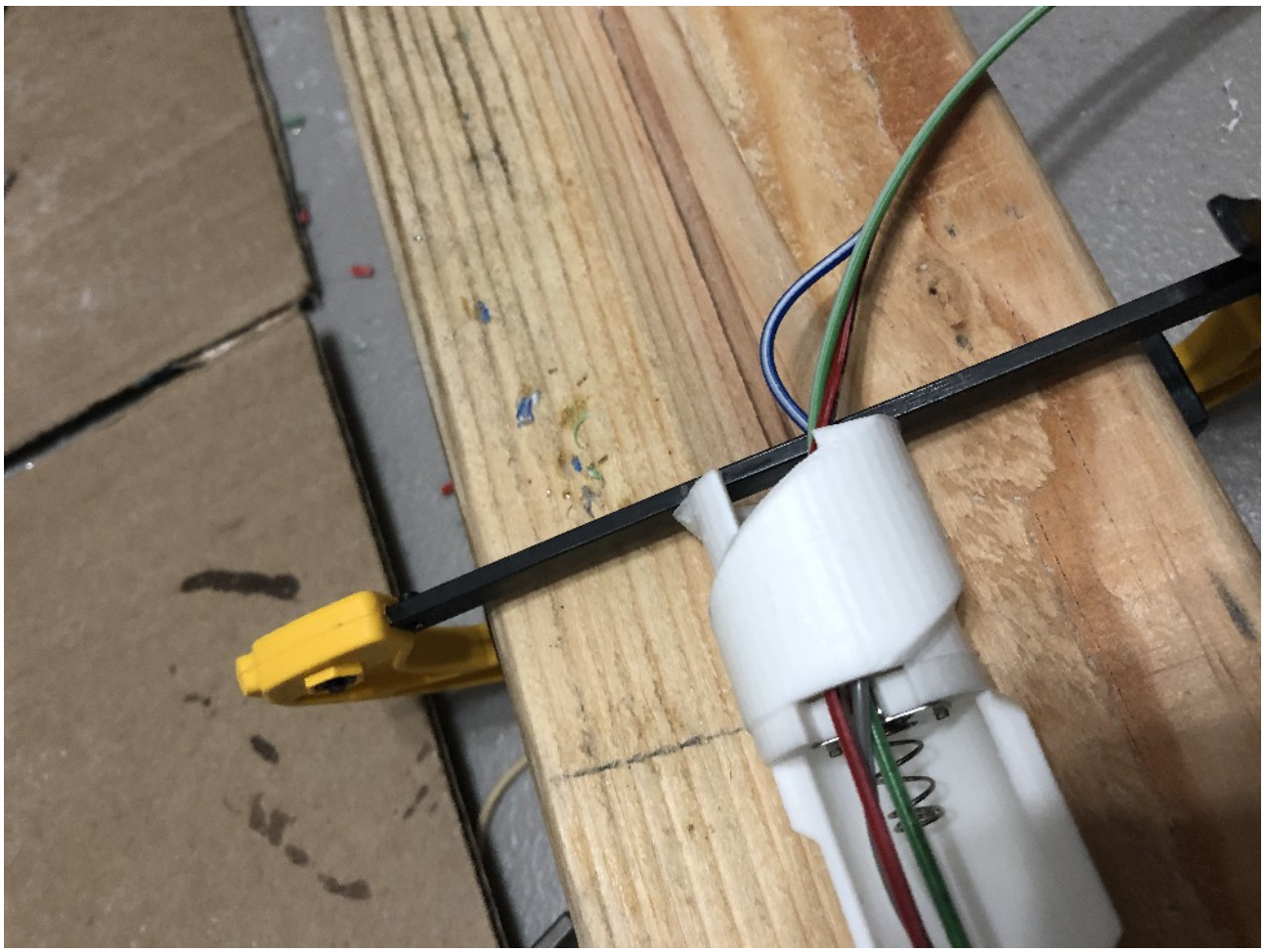


CPU in place

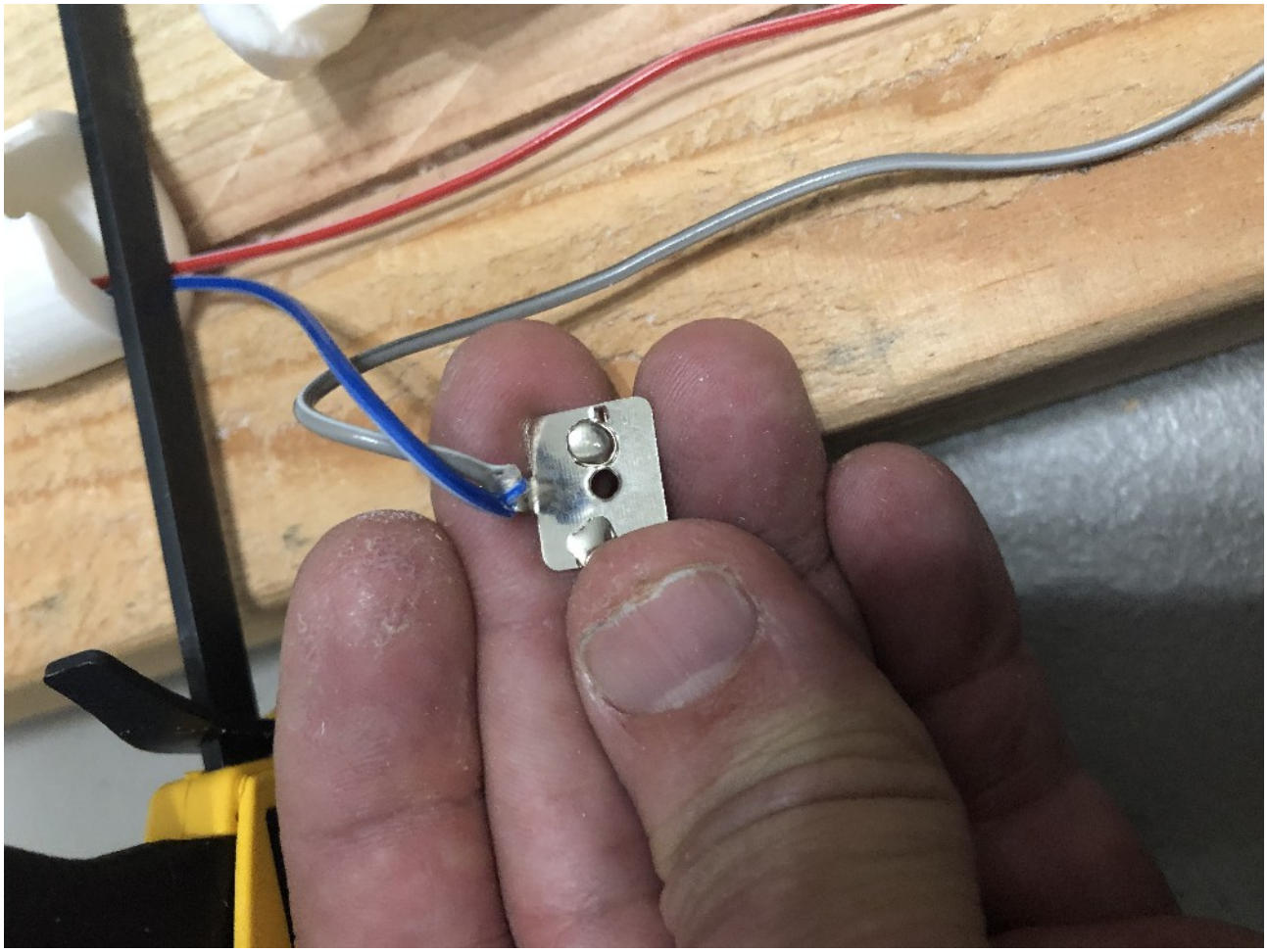
There are 4 longish tubes. Two are a little shorter. These two go on the CPU side of the batteries. The orientation doesnt matter.
Glue it to the CPU aligning the LED slot so the spiral notch matches. This will glue the board into place so it cant come out.



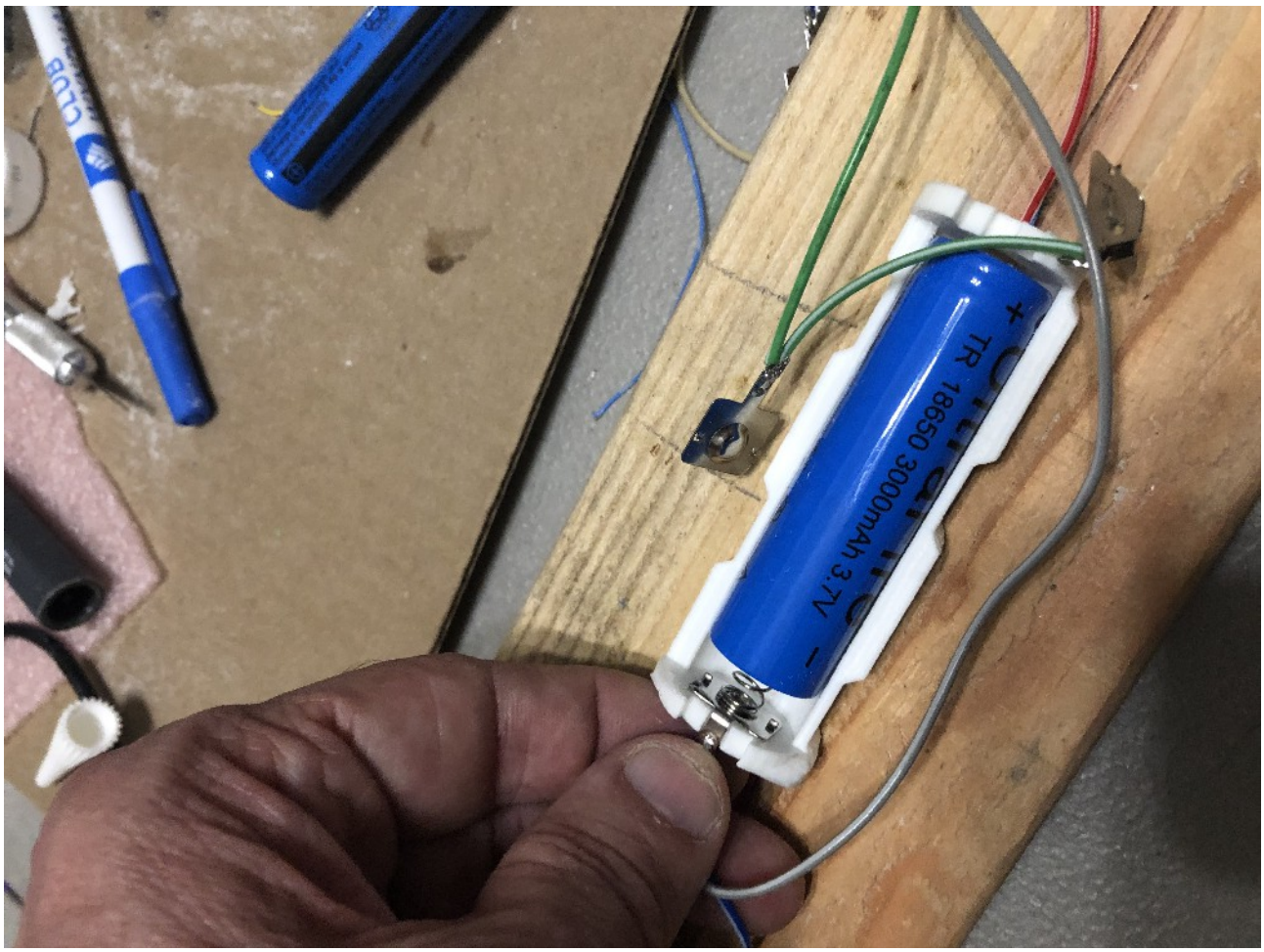
I find it really useful to have these mini clamps to hold pressure on the tubes while they set. Here we see the second shorter tube getting ready to be glued in place.



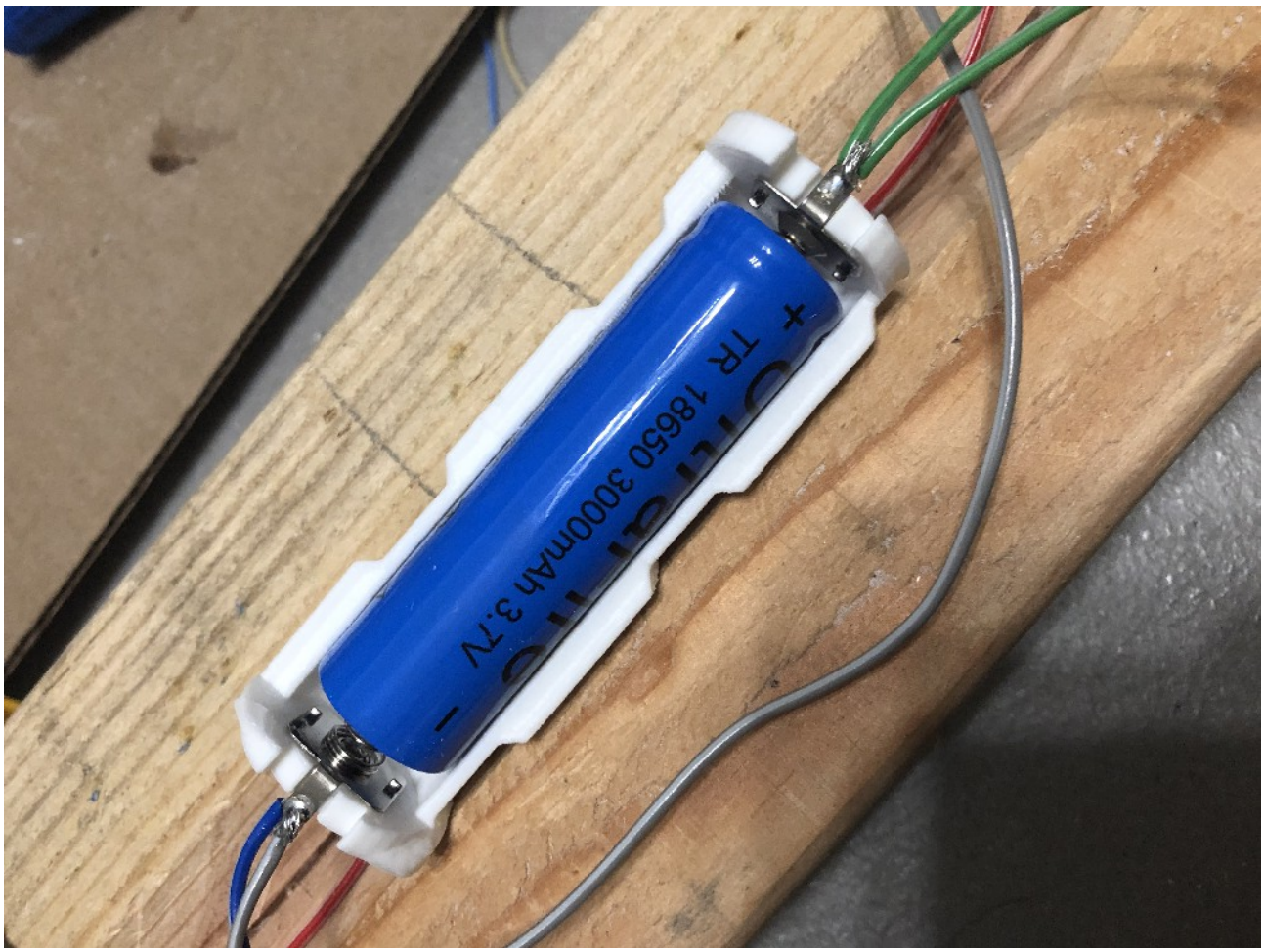
There are 3 short spacers. These go between the battery holdrs, and on each side of the battery holders. The help the wire transition from the outer edge where they pass around the batteries, to the inside of the tube. Alighn the first so the cut is towards the battey box. The other 2 will be in exactly the same orientation.



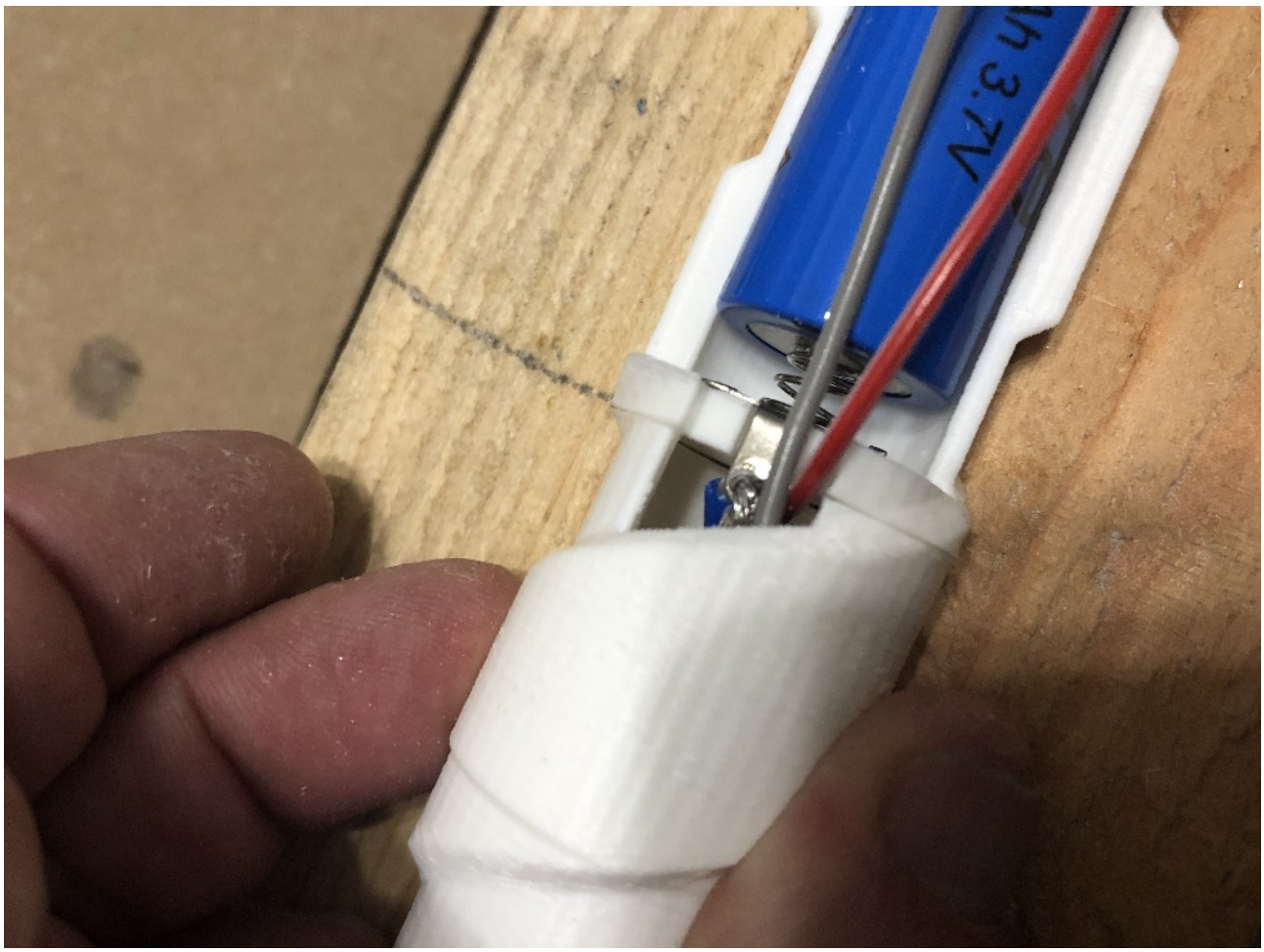
The first spring terminal will glue onto the battery box. Its important that the battery box aligh with the notch of the last piece you glued on to the tube, so pay attention to the next couple pictures before you start gluing.



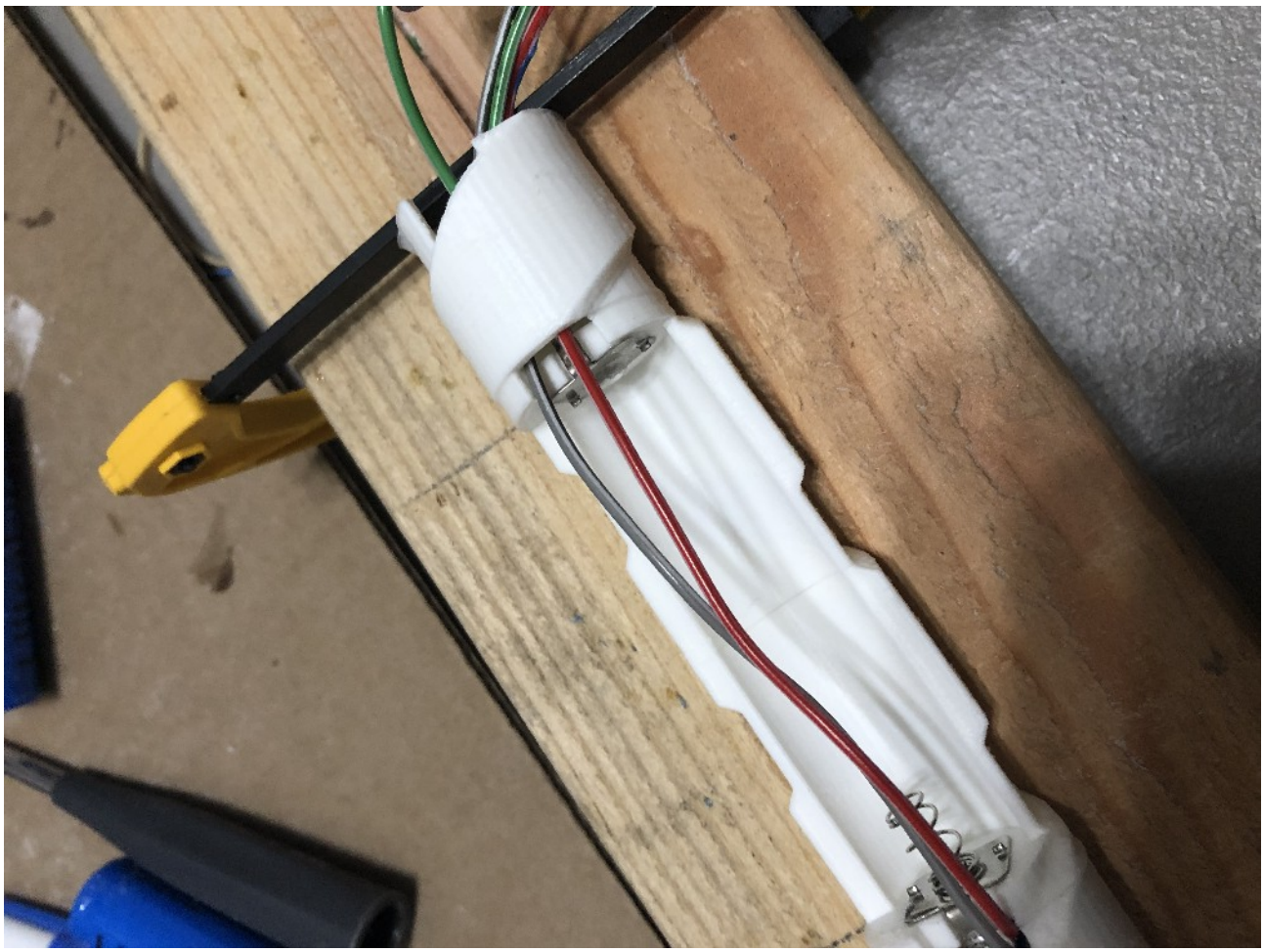
Put a dab of glue on the terminal and glue it in the box using a battery to help hold it in place. Look really close at the spiral led grooves in this picture get it right before you glue it in place. This is really important.



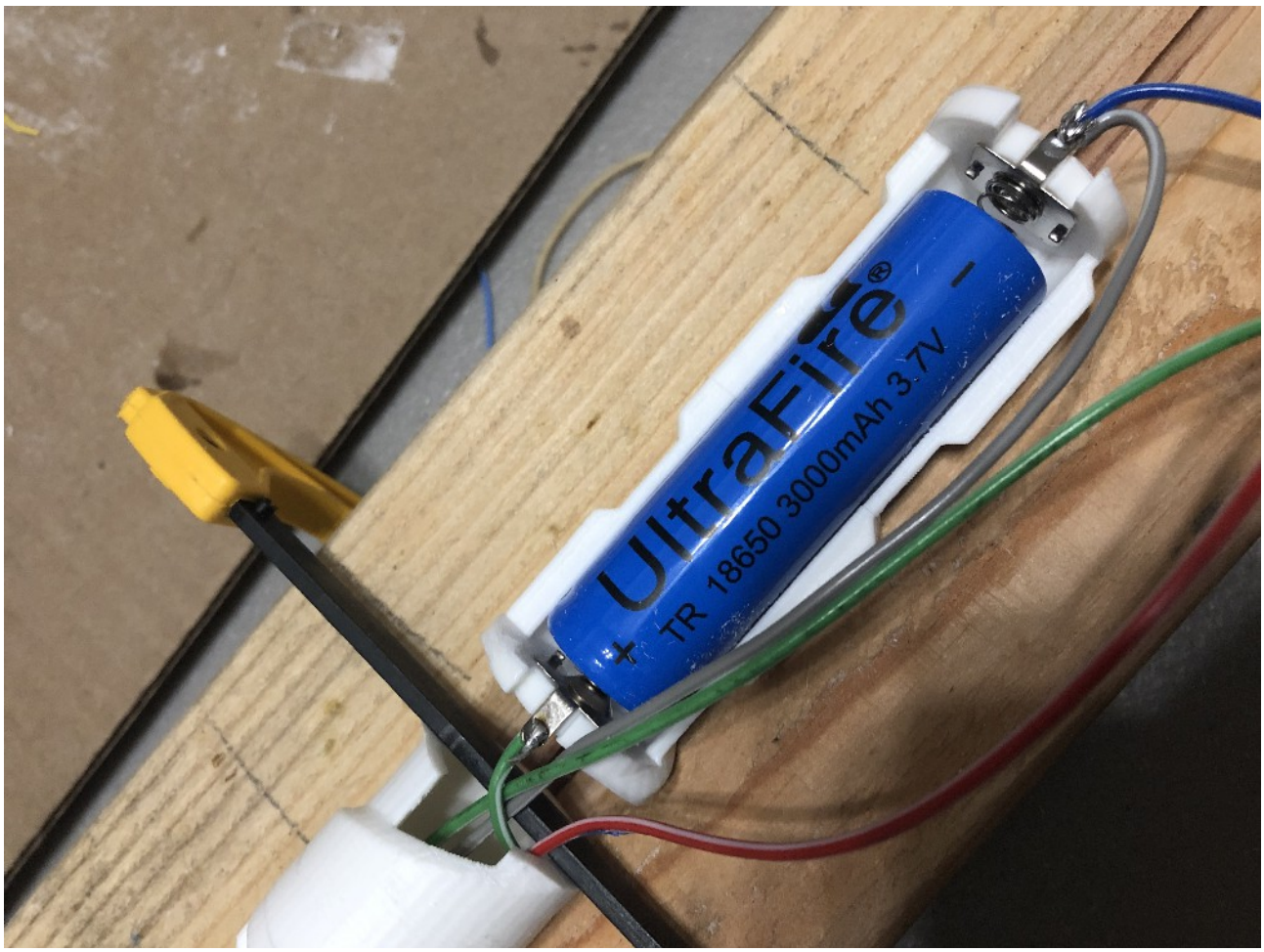
Glue the positive terminal in too, using the battery to hold it in place. While you are doing this, be careful that none of the positive or negative wires anywhere on the harness can touch each other, because this battery has power, and if they touch, the will short out. After the glue dries, remove the battery



Glue the battery holder to the existing tube. You should be able to see where it aligns with the notch the wires come out of.

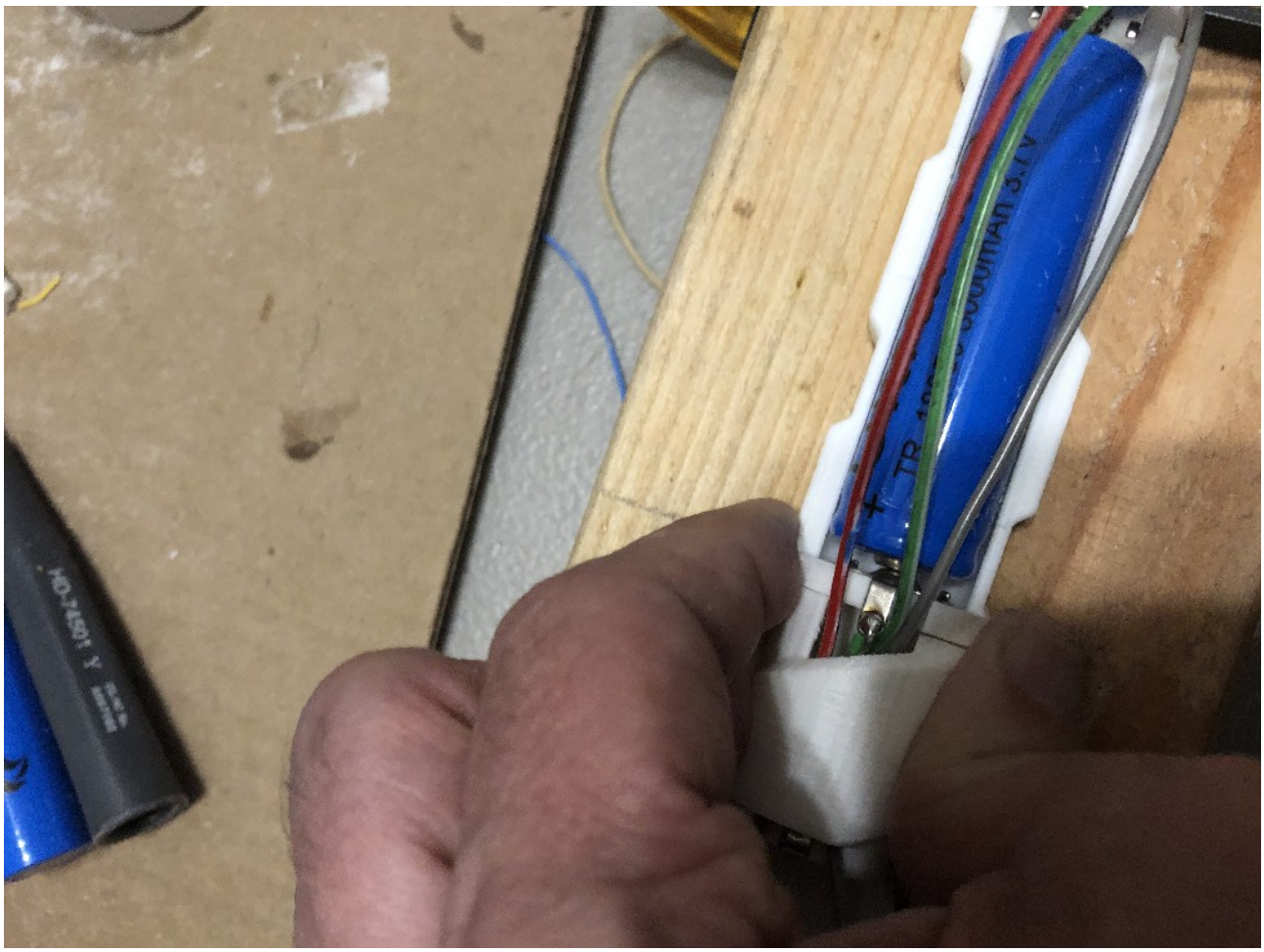


Glue another short tube on in the same alignment as the first.

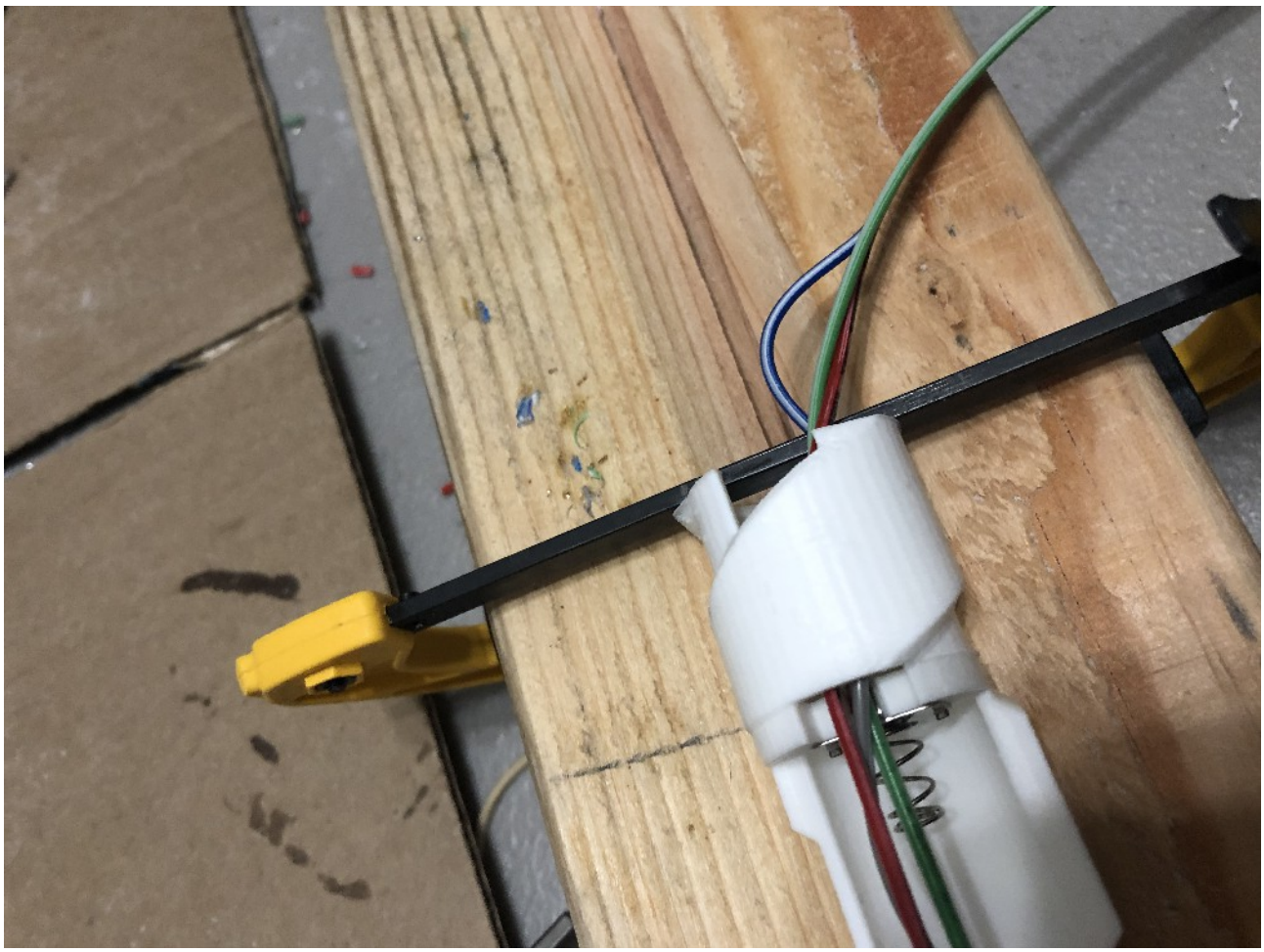


The second battery box has the terminals reversed, so the positive tabs are in the center, and the negative tabes are on the outside for both batteries.

Again, remove the batteries after they set, this will be important because you dont want live power for the next steps.



After you get the power tabs glues in place, glue the second battery box to the tube, line up the wiring notch.



Glue on the last of the 3 short tubes in the same alignment.

You can now glue on the remaining two longer tubes in any orientation, just make sure the LED notch keeps wrapping around the tube.