

Ahmsville Dial

Assembly Instructions

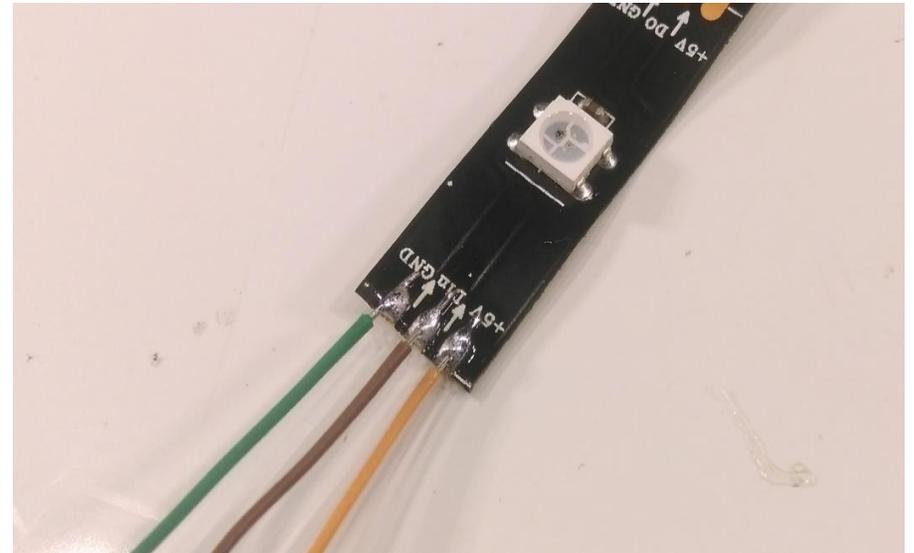
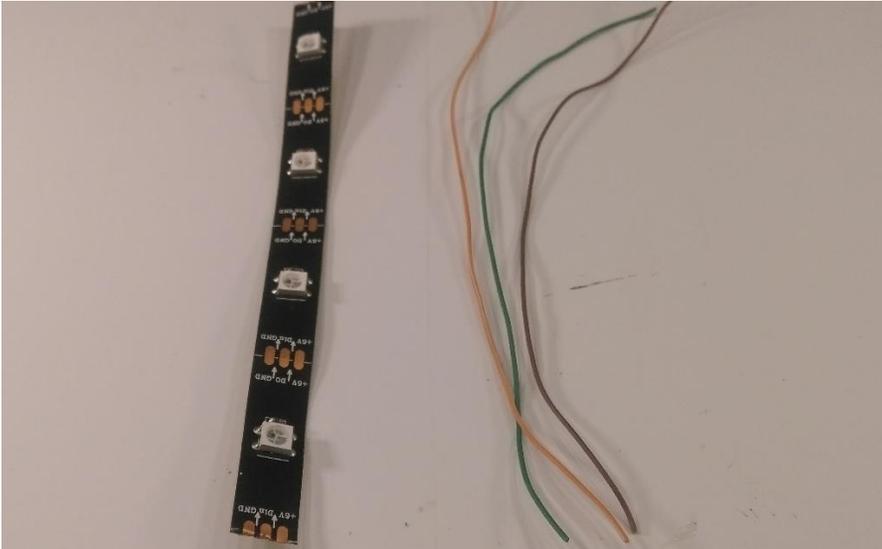


Parts List:

- STL files - <https://www.thingiverse.com/thing:3712049>
- Arduino pro micro (ss micro) - <https://ebay.to/2H8KfTF>
- Ahmsville dial kit - http://bit.ly/tindie_ahmsville-dial
- Individually addressable led - <https://ebay.to/30jeUWg>
- 6906 Bearing - <https://ebay.to/2KPDIOR>
- 3x1 neodymium magnets (30 pcs) - <https://ebay.to/31Mot0a>
- 8mm rubber base pads - <https://ebay.to/33FN6NF>
- usb cable (thickness <3.5mm) - (salvaged from an old mouse)
- m3 self tapping screws (6 pcs) - (salvaged)
- Thin flexible wires. - (salvaged)

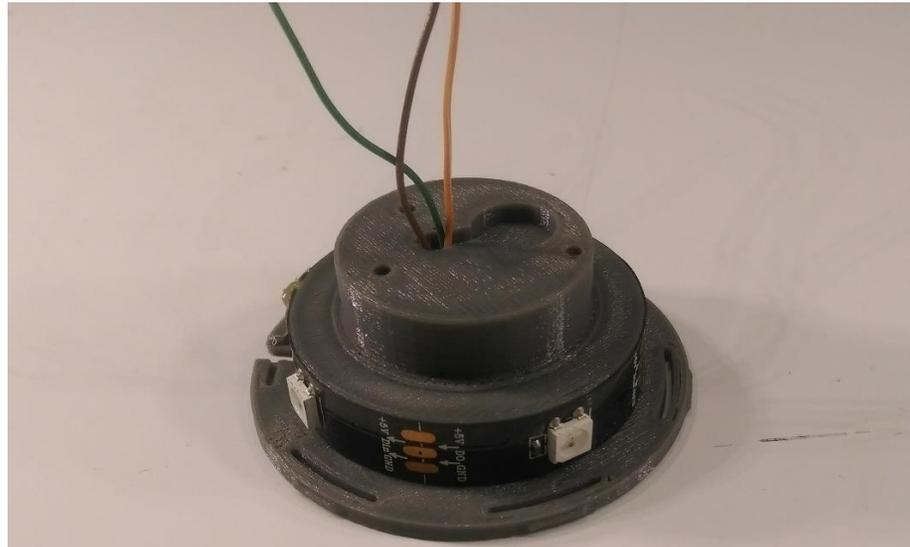
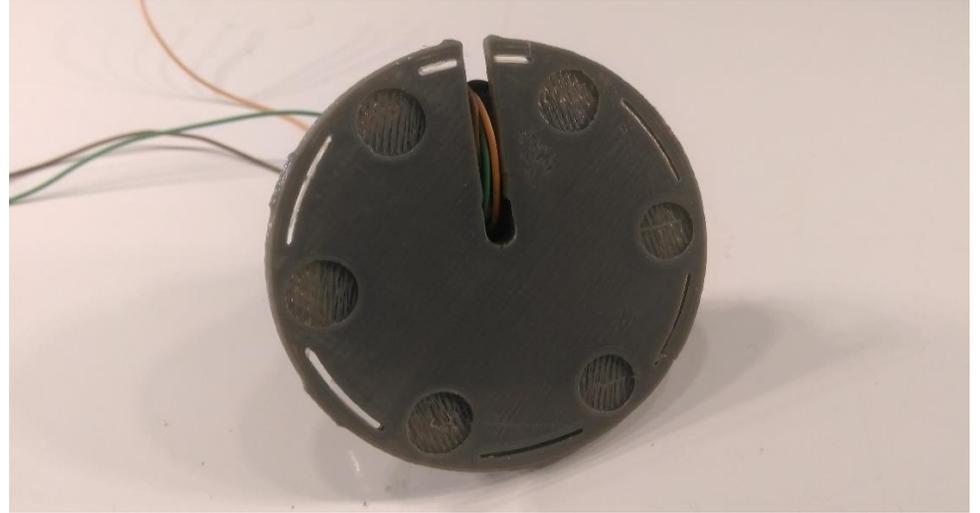
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Solder three wires of about 10cm to the 5v, Din, and ground pin of LED strip, take note of the wire colors and the pad each one is connected to. This will be useful later on.



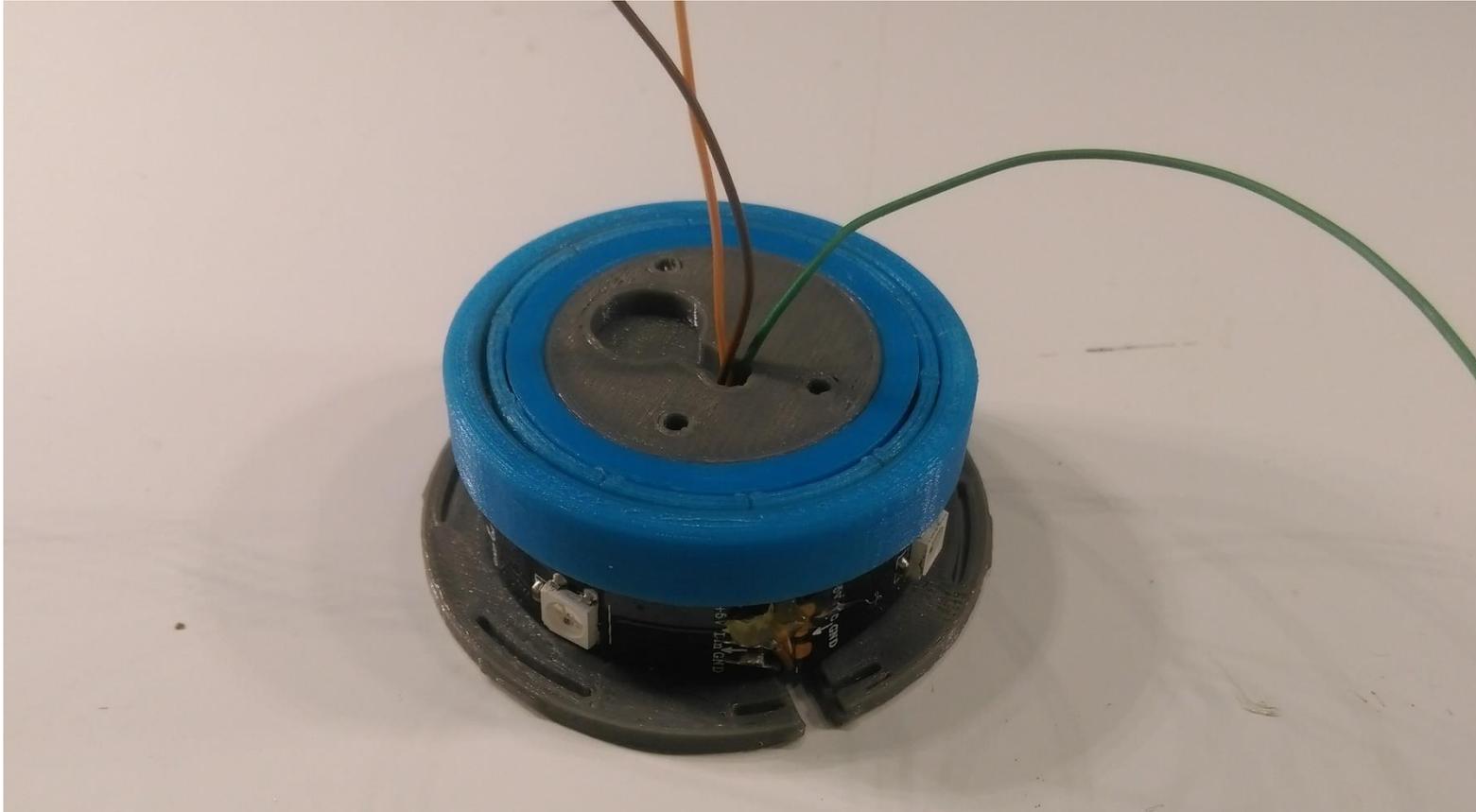
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Attach the LED strip to the base and pass the wires through the slot into the hole in the base.



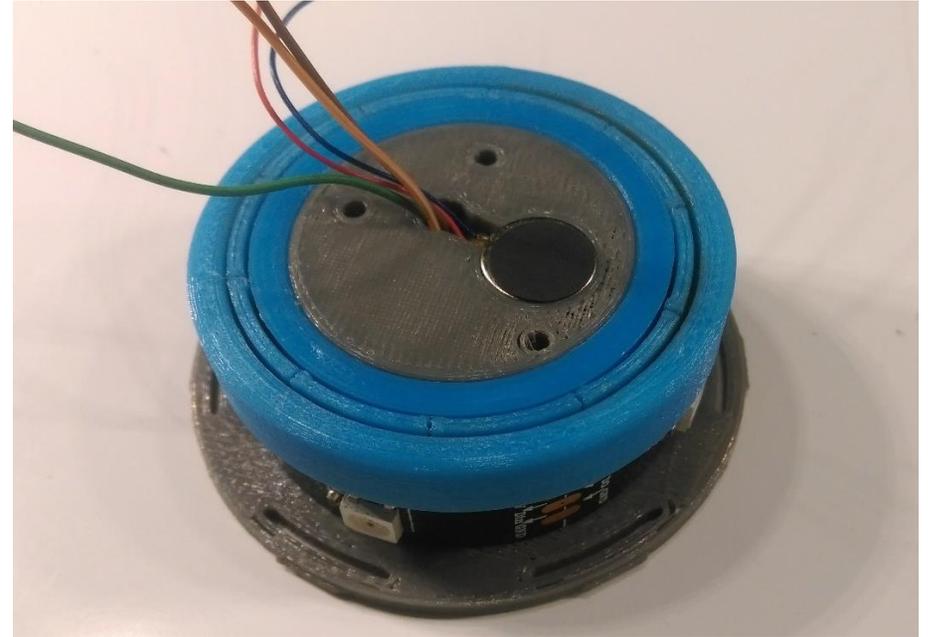
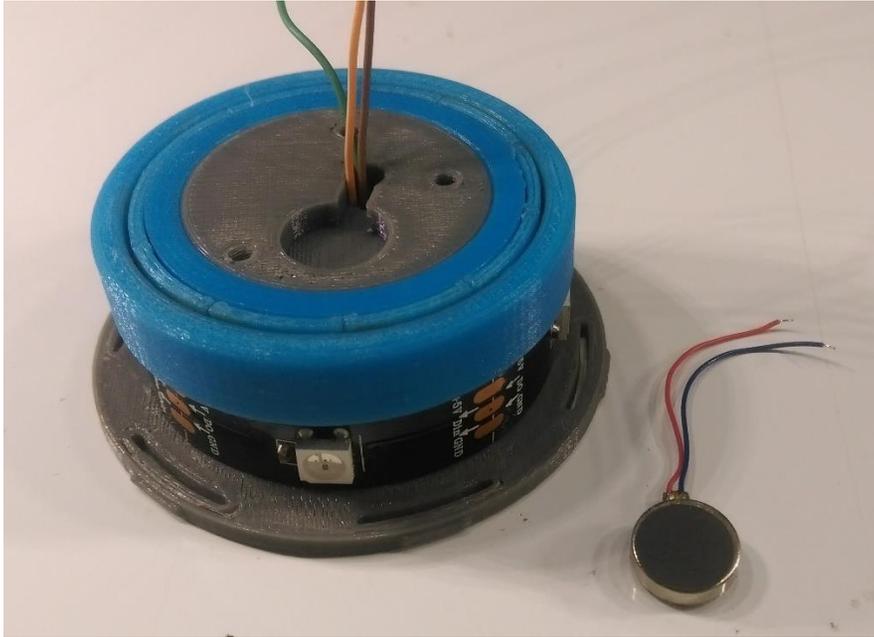
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Install the 6906 bearing. (in my case a 3d printed 6906 bearing)



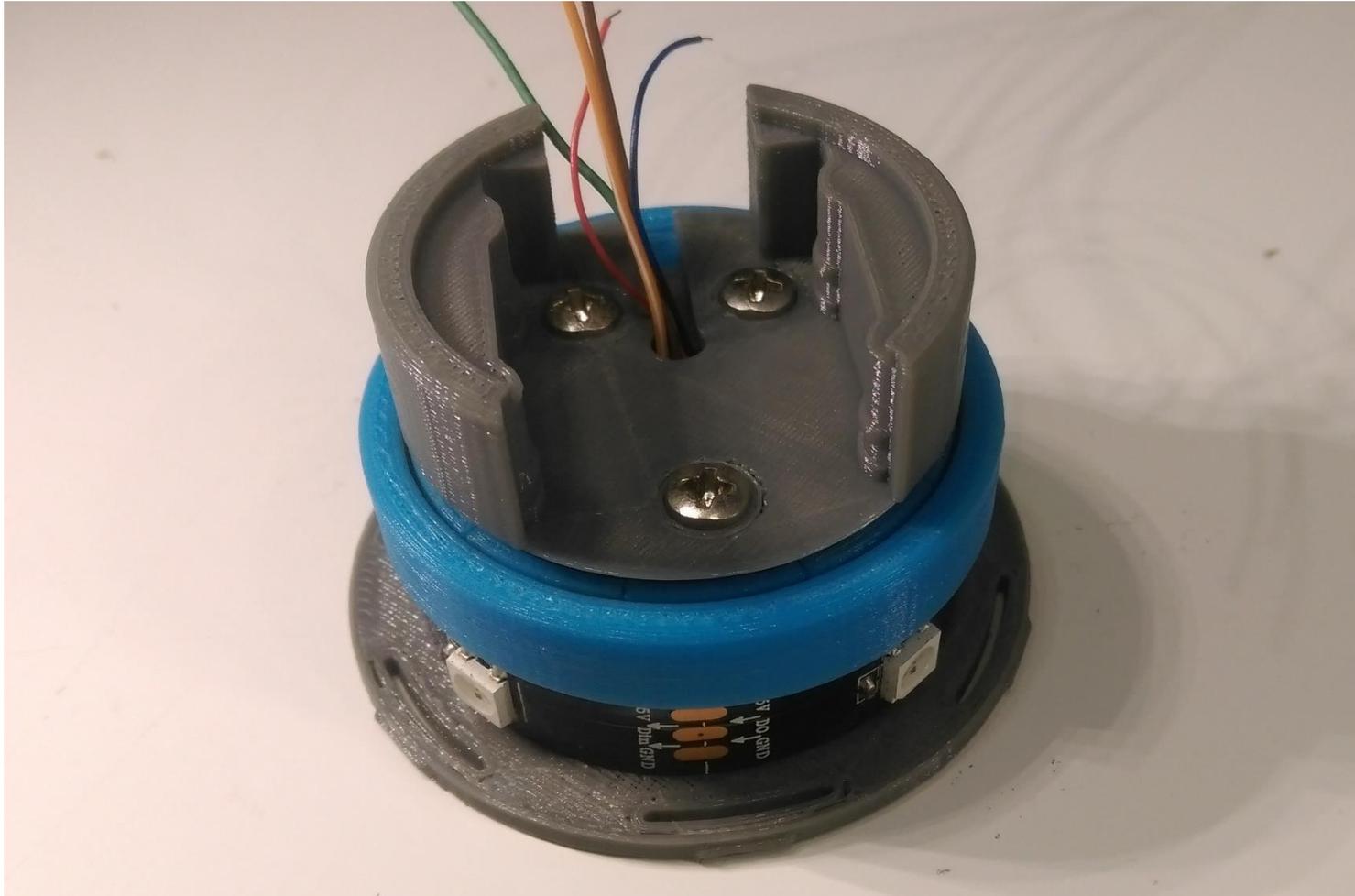
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Attach the vibration motor.



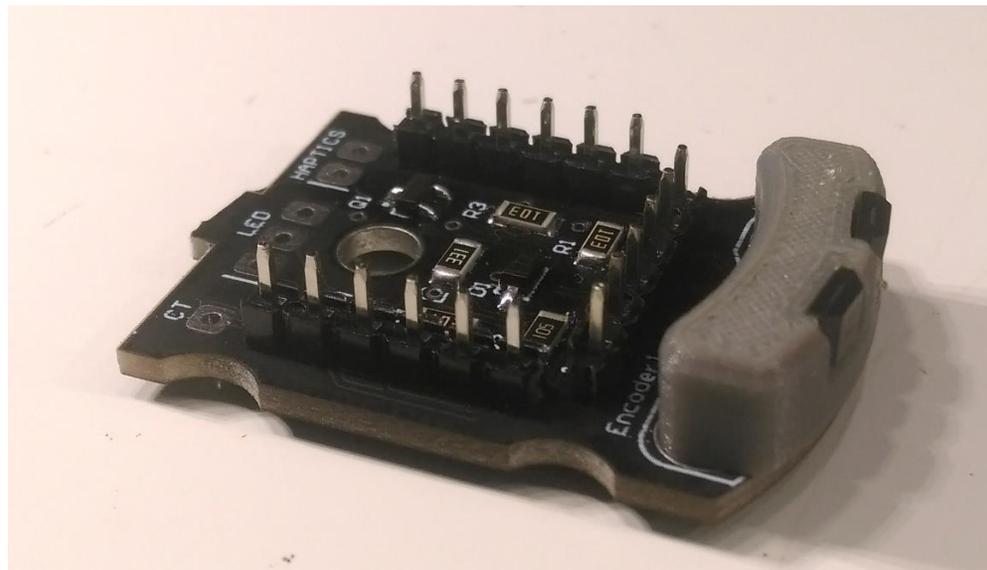
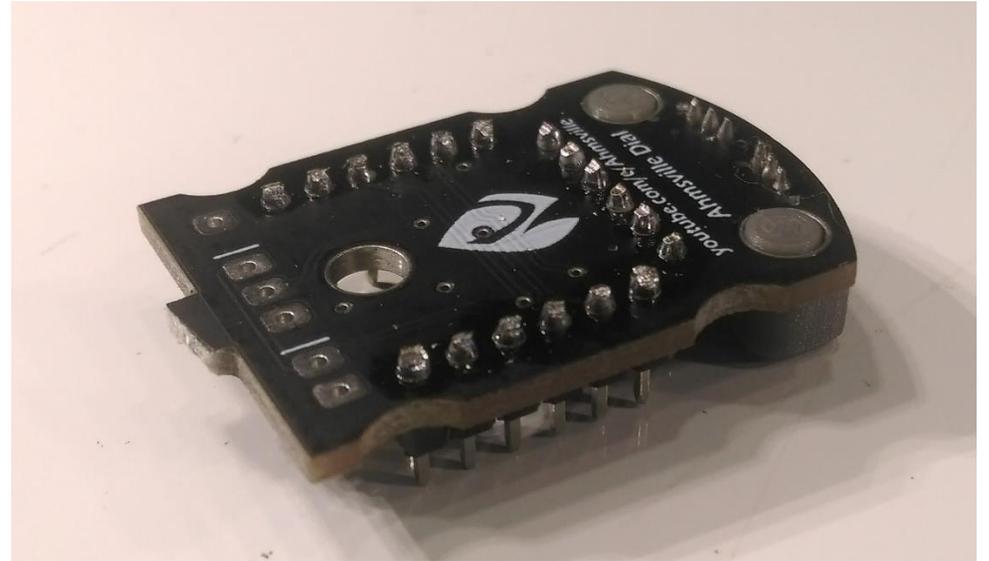
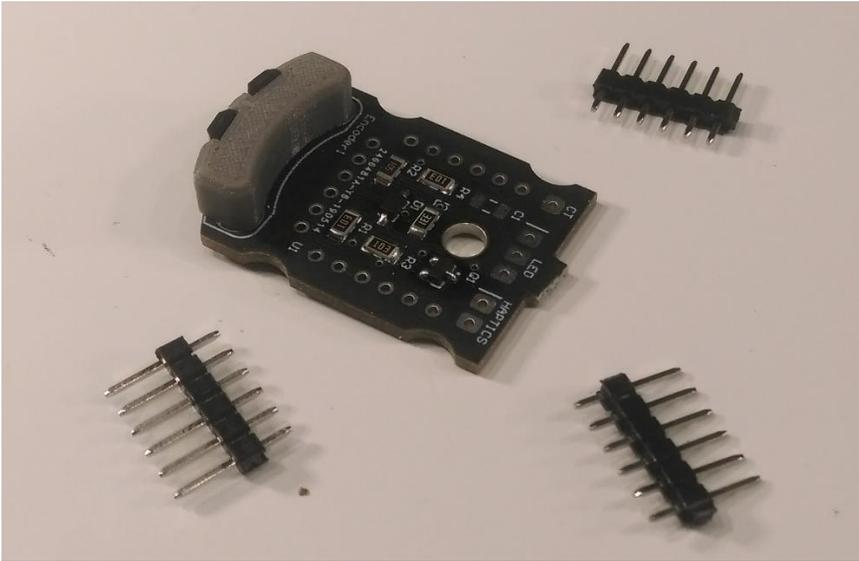
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Attach the board holder and secure it with three screws. Make sure to pass the wires from the LED strip and the vibration motor through the slot on the board holder.



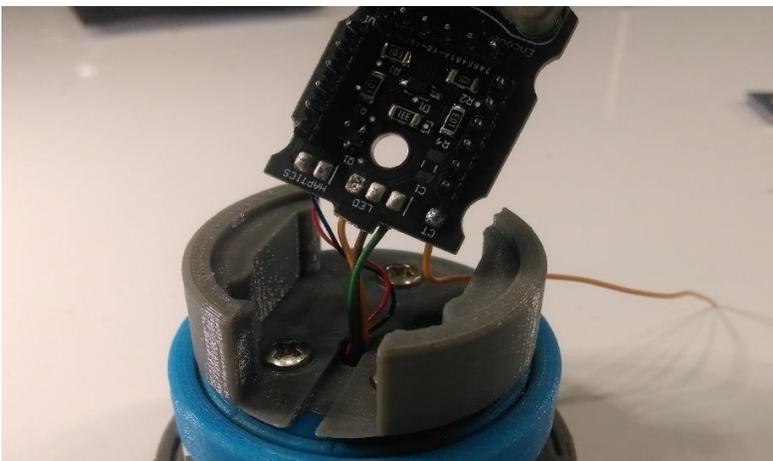
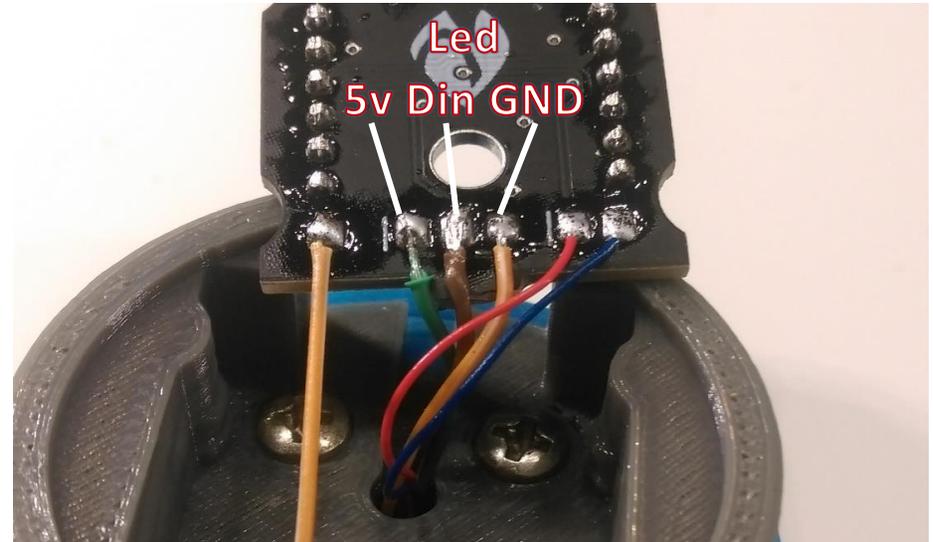
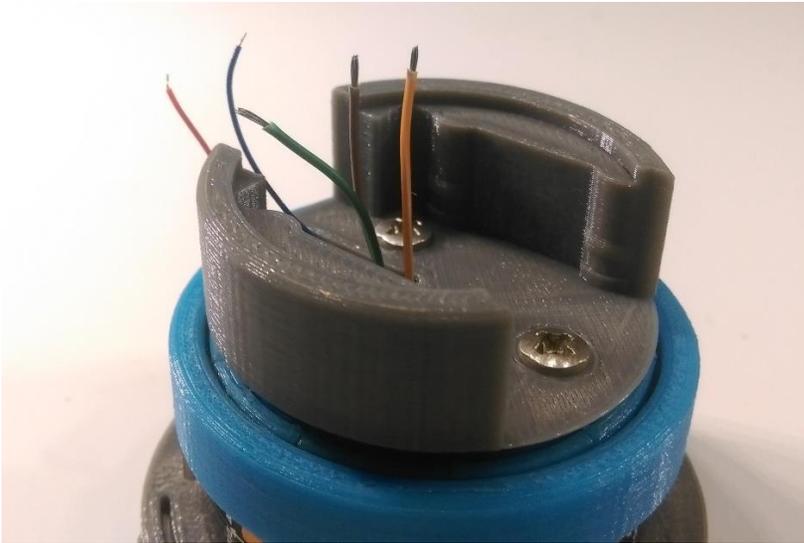
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Prepare the dial board by soldering the headers to it, insert the longer side of the headers to the dial board, solder them and then trim them down.



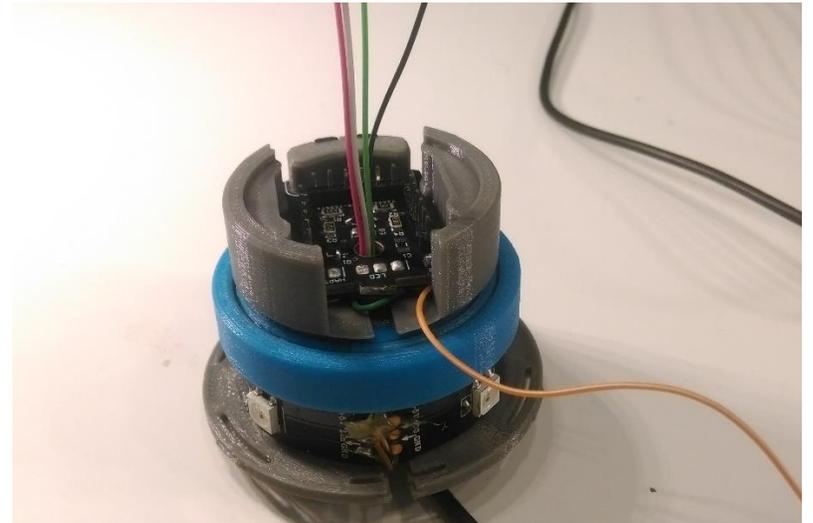
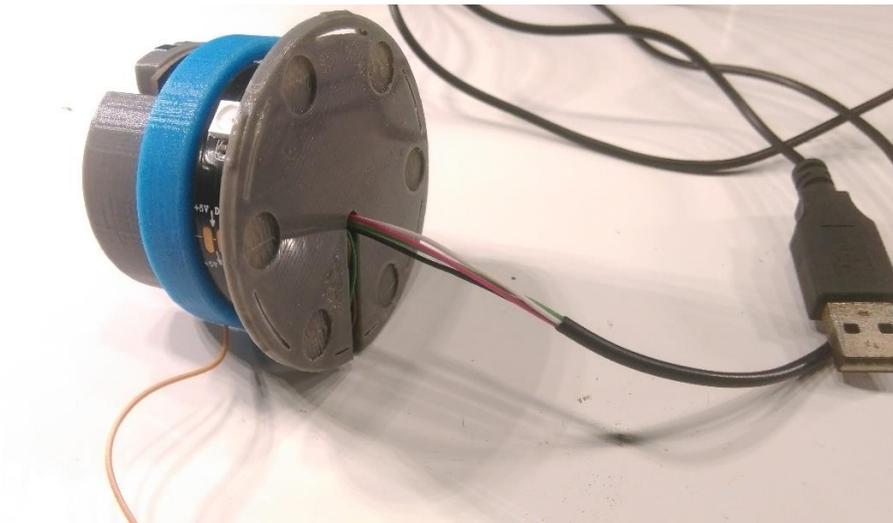
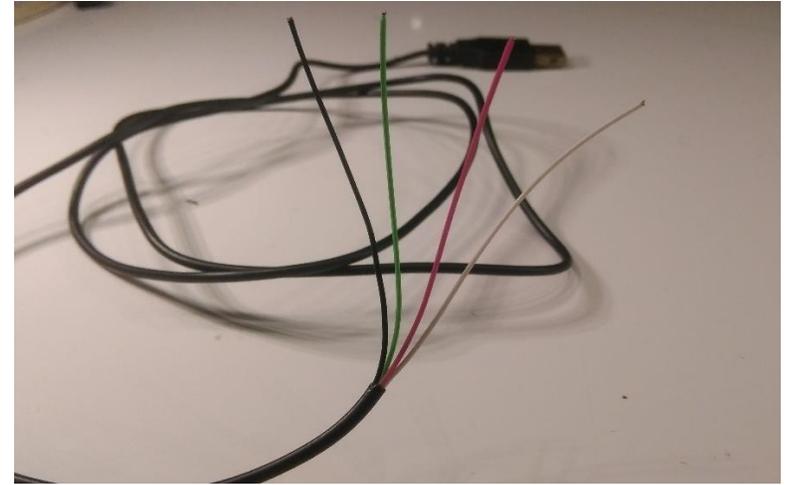
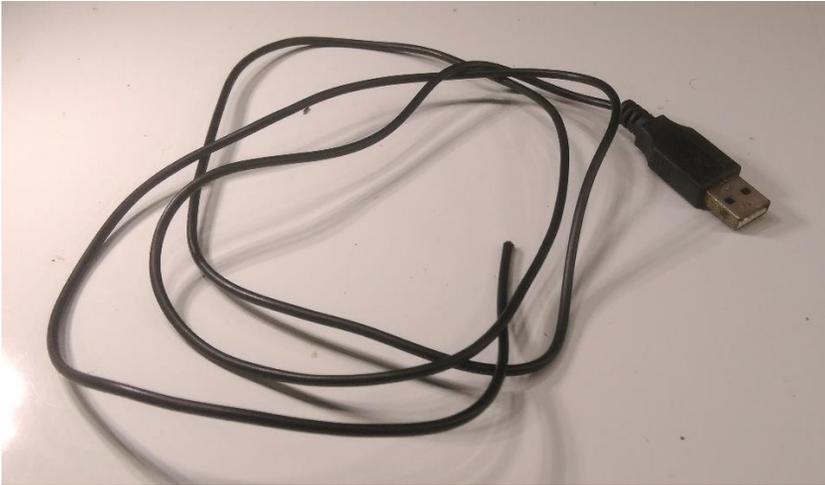
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- 1) Shorten the wires from the LED strip.
- 2) Solder the wires from the LED strip and the vibration motor to the dial board and make sure the wires are connected to the appropriate pads.
- 3) Also solder an extra wire to the CT pad on the dial board, this will later be connected to the capacitive touch pad.
- 4) The dial board can then be inserted into the board holder.



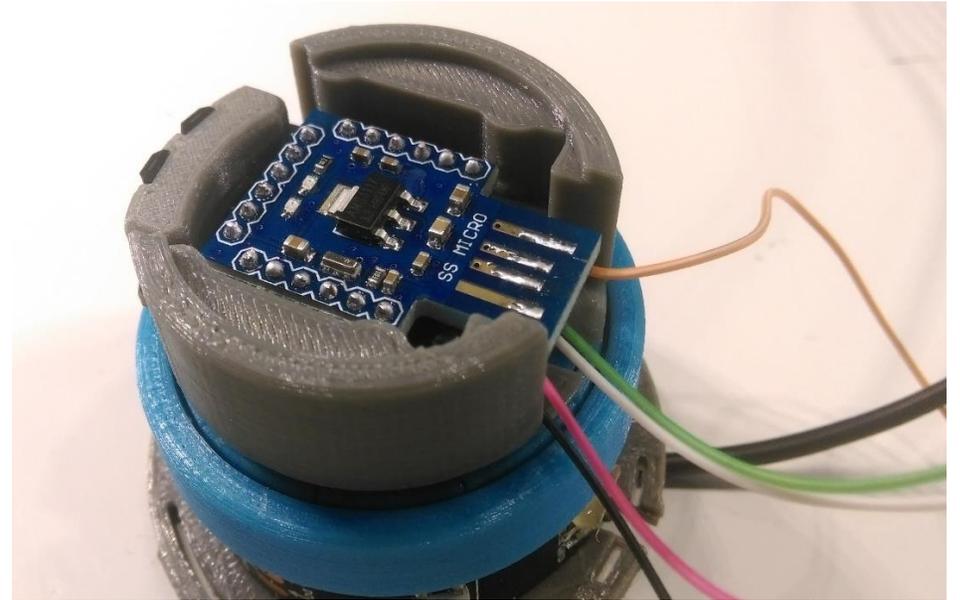
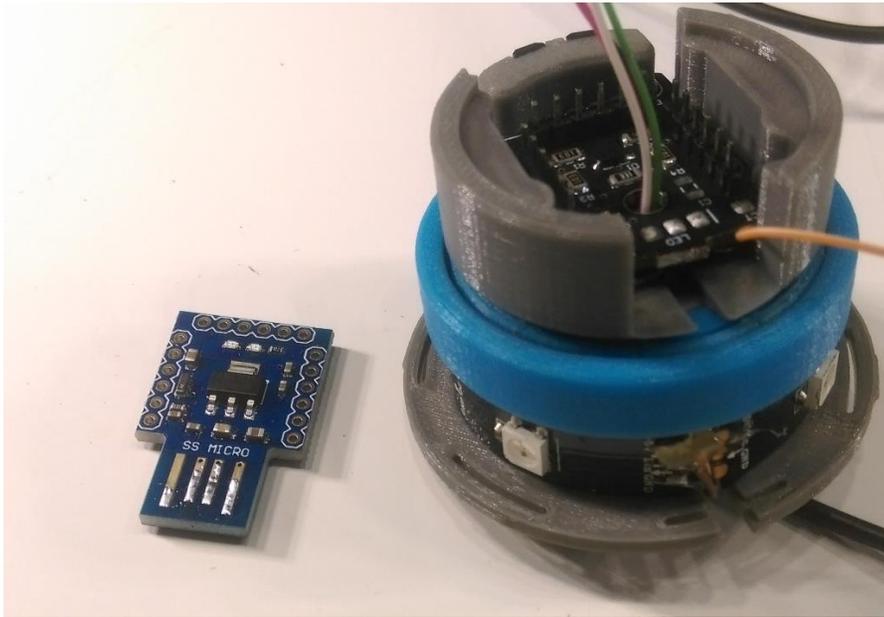
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- 1) Prepare the USB cable by stripping it to reveal the wires, usually Black, Green, White and Red, for GROUND, D+, D- and 5V POWER respectively. 2) insert the wires through the hole in base and through the hole in the dial board.



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Solder the Arduino pro micro board to the headers on the dial board.



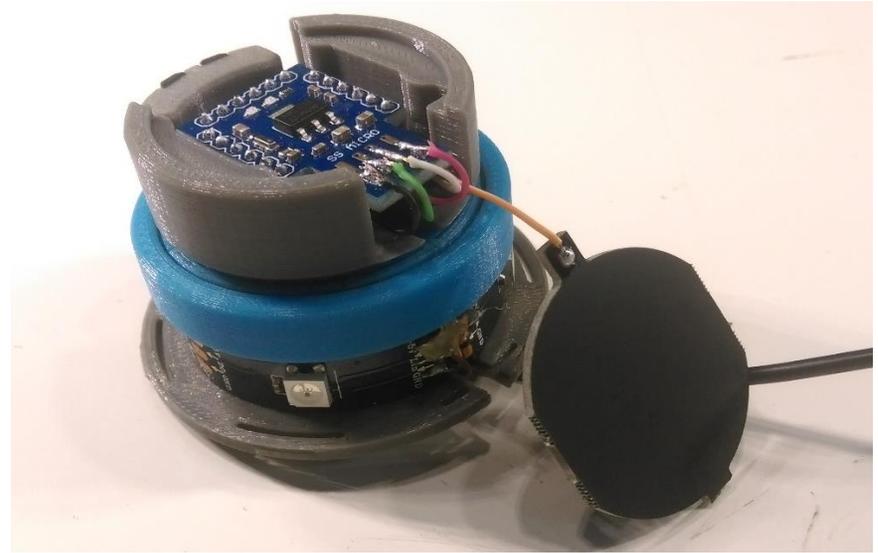
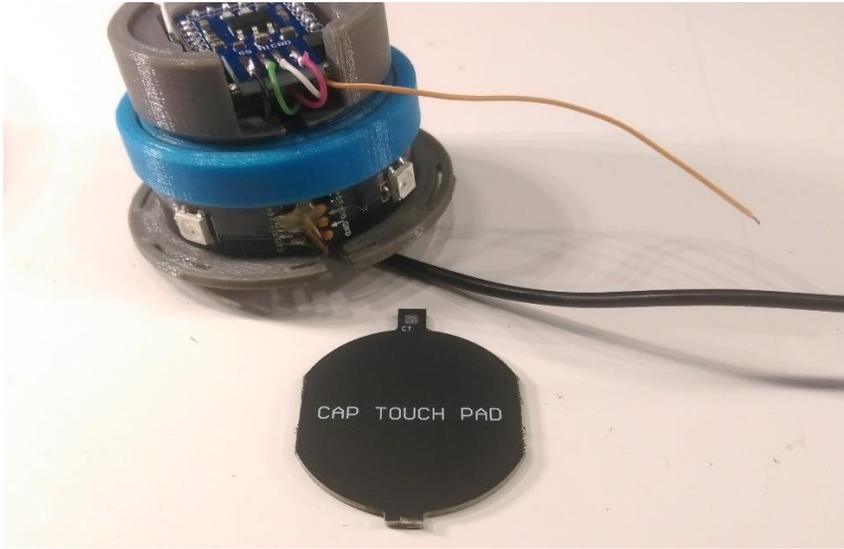
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Shorten the wires from the USB cable to a more manageable length and solder each wire to the appropriate pad on the Arduino board. (You can connect the usb to your pc to confirm that your connection is correct, if the pc detects the arduino you're Good)



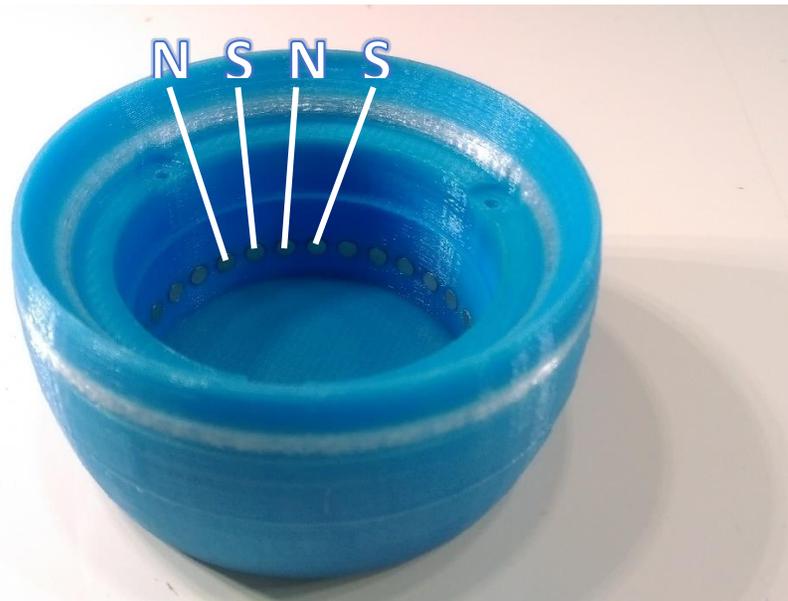
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- 1) Shorten the capacitive touch wire and solder it to the capacitive touch pad. 2) Hot glue the capacitive touch pad to the top of the board holder.



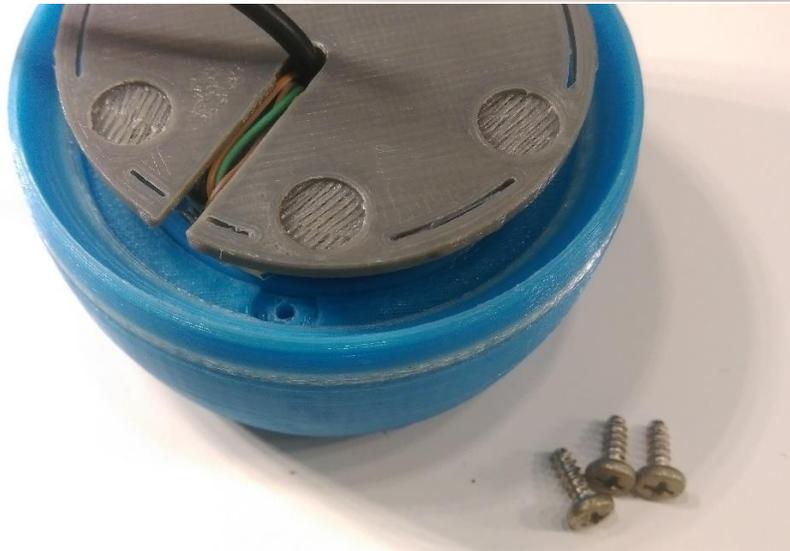
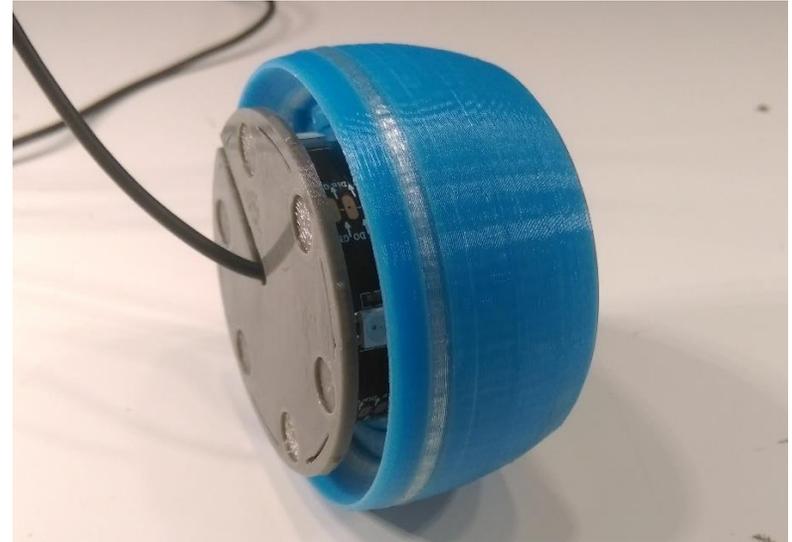
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Prepare the knob by glueing on the tiny neodymium magnets (30 pcs), the magnets should be glued on with alternating poles. (N,S,N,S,N,S.....)



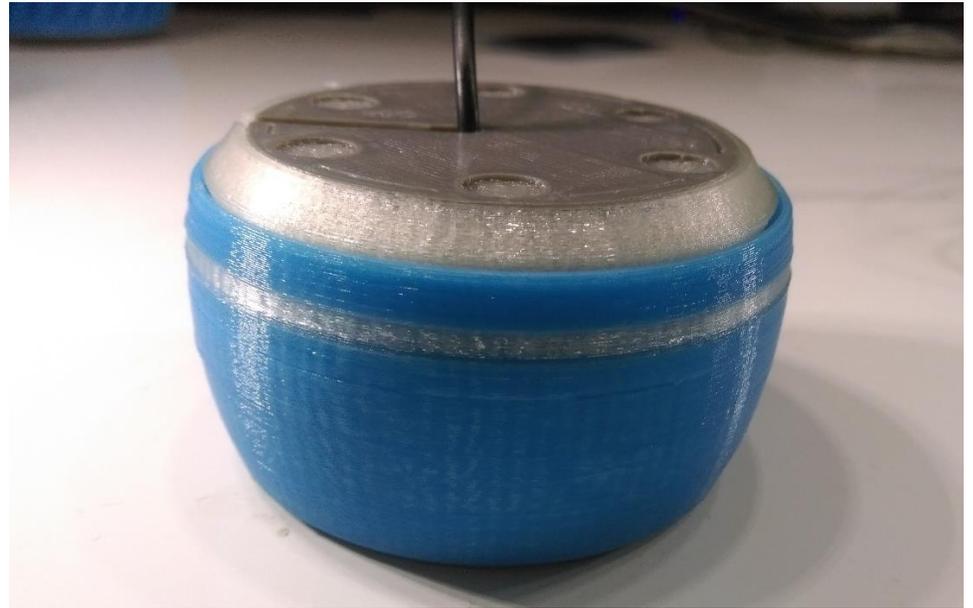
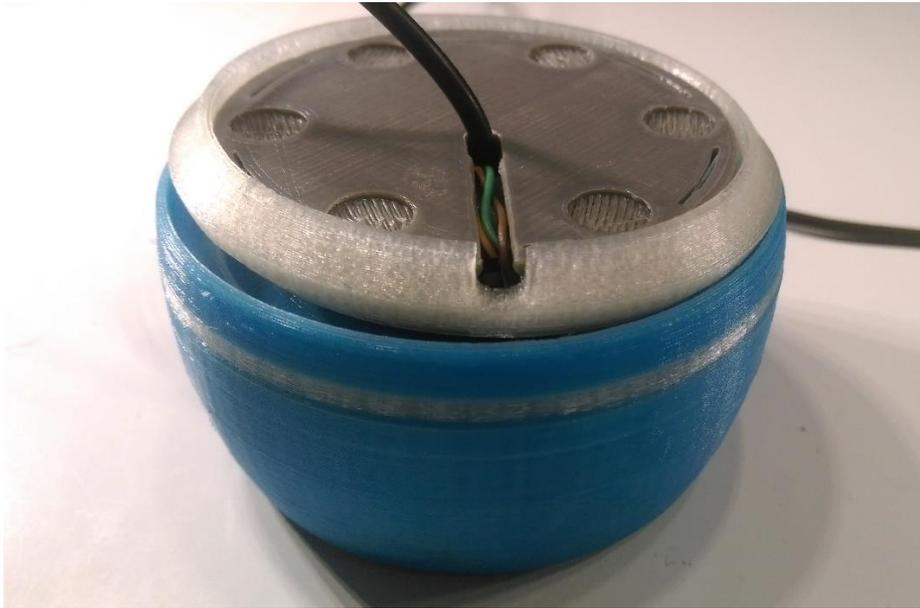
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Attach the knob to the rest of the electronics and secure it with three screws.



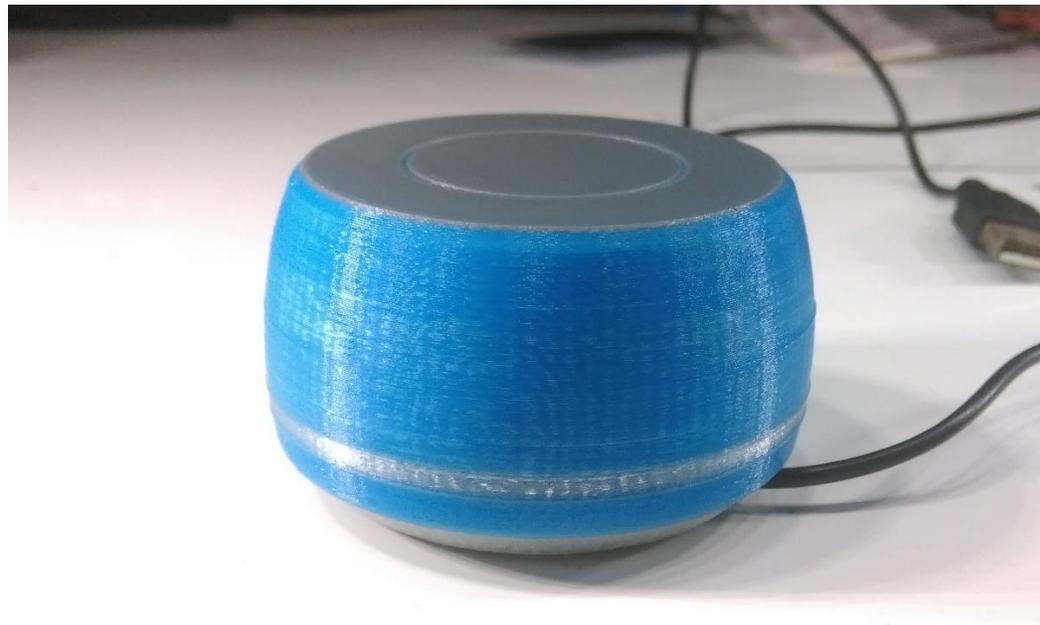
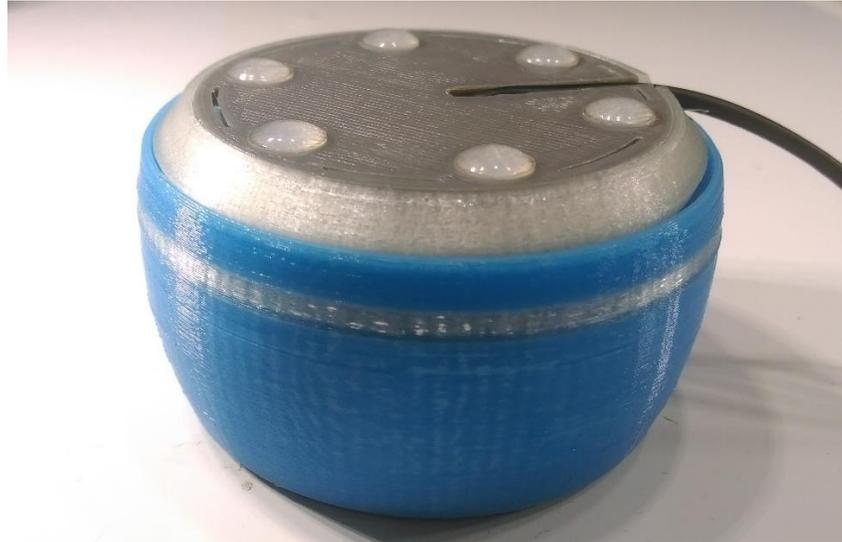
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Attach the LED diffuser to the base, line up the slots and apply a little pressure to snap it into place.



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Attach the silicone rubber pads to the base and lay down the USB cable in the slot on the base.



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Connect the completed dial to your PC and start programming it.