Jetbot Motor Swap

6/16/2022

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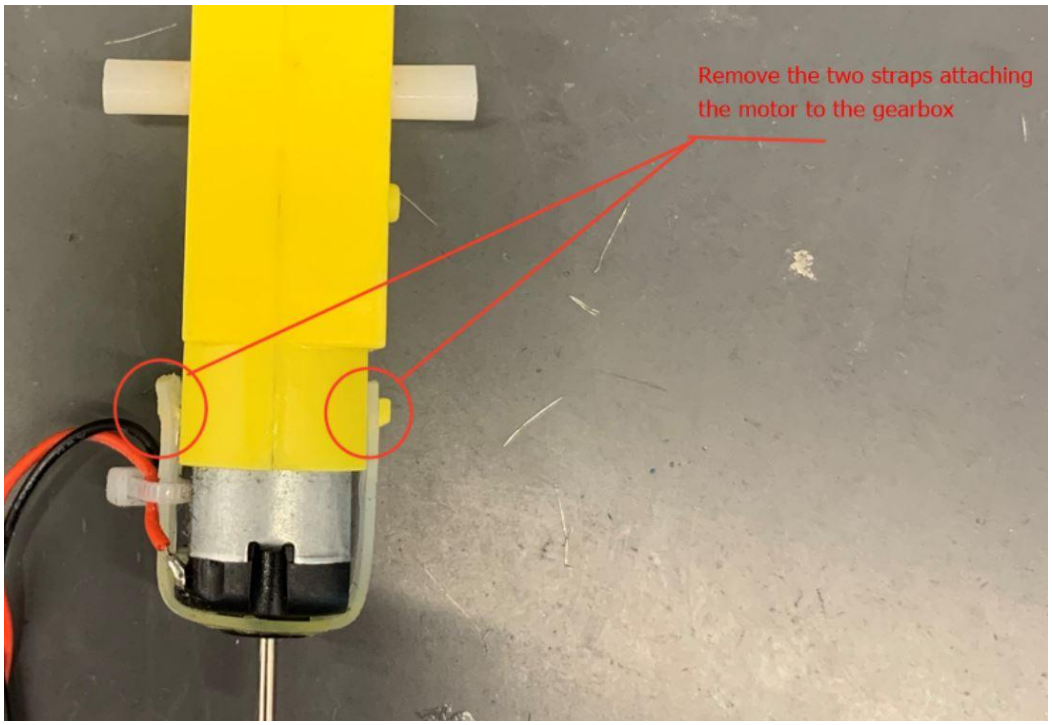
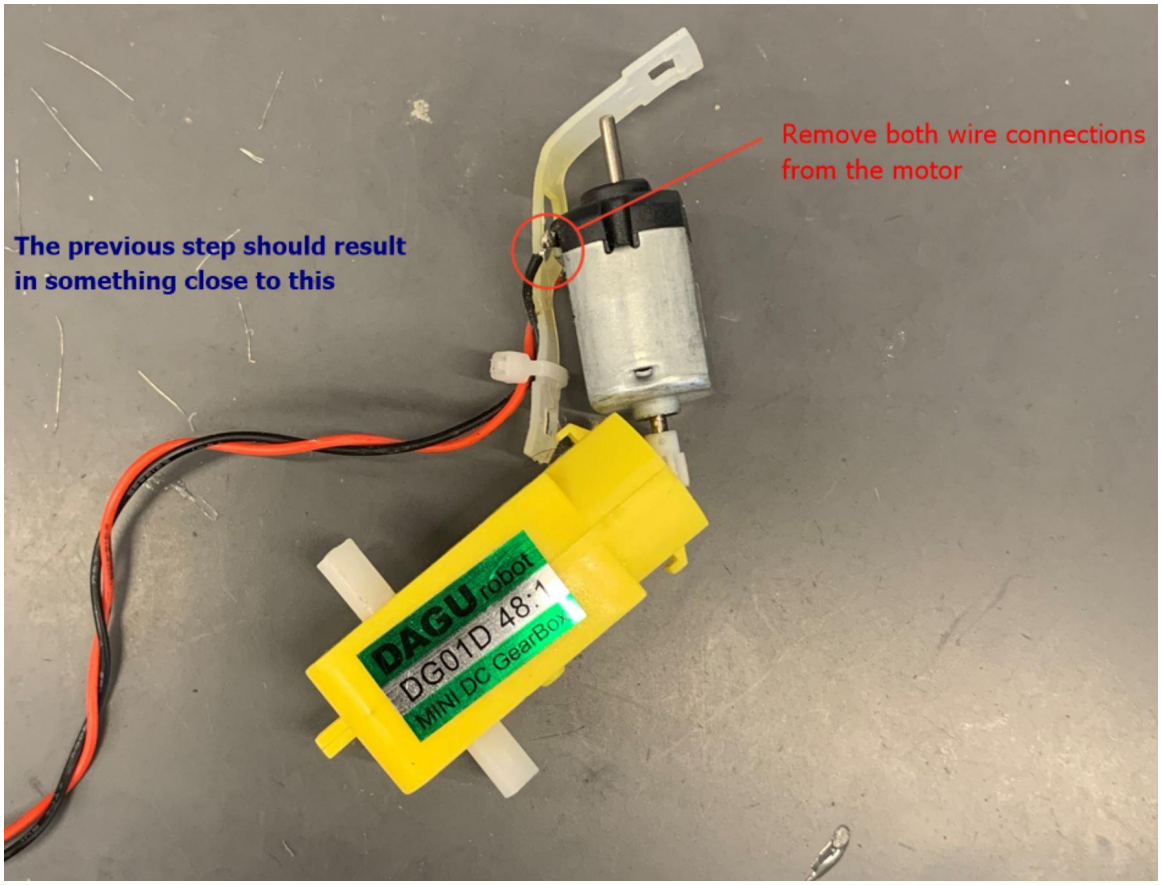
Materials:

1. Yellow hobby motor
2. Blue hobby motor with encoder
3. Philips head screwdriver
4. Soldering Iron
5. Hot Air Station (heater)
6. Small tool to split casing (small flat head screwdriver works)
7. Pry tool for the magnet (retaining ring pliers work)

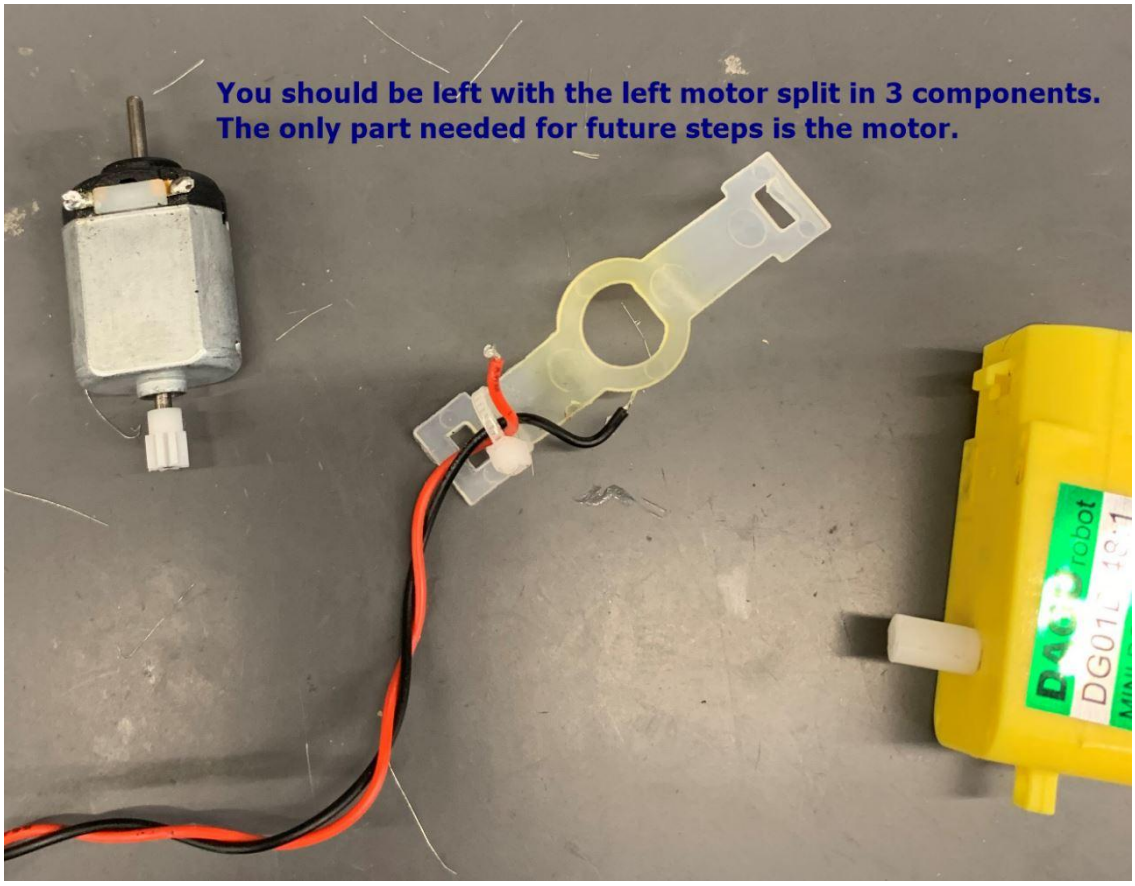
1. Step 1: Remove the motor from the yellow gearbox



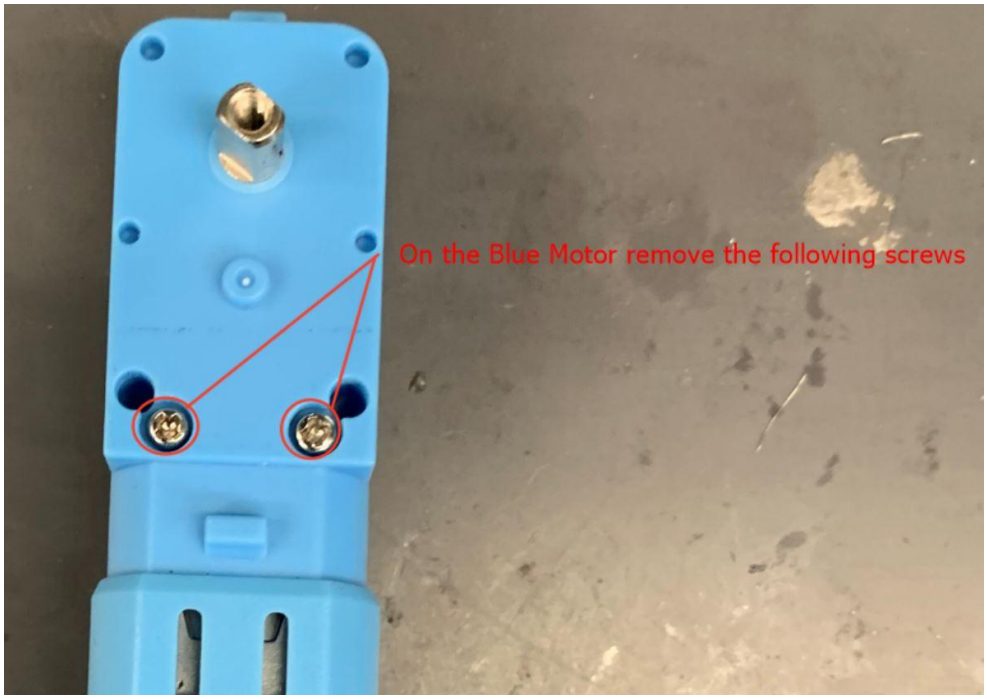
2. Desolder the red and black wires from the motor connections



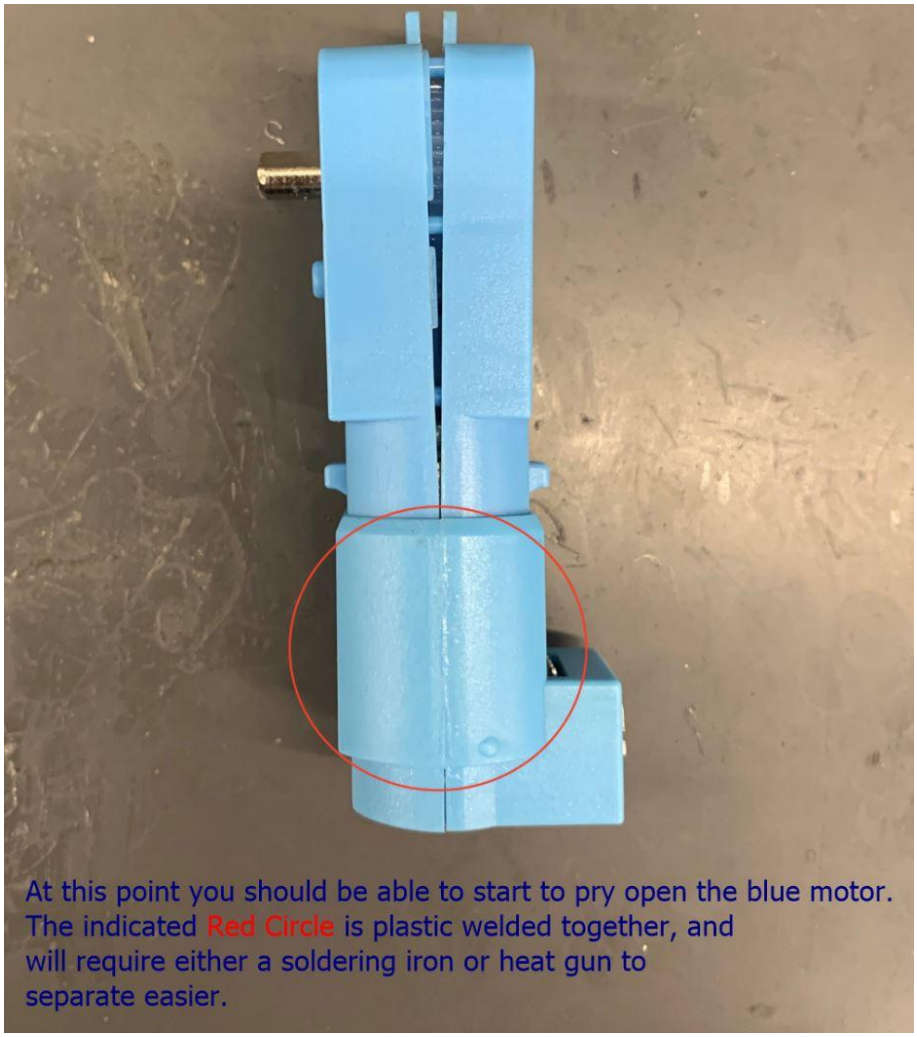
3. Fully remove the motor from the yellow gear box and wires. (The yellow gearbox can be easily reused with the blue motor by slipping it in and doing the inverse of steps 1 & 2.)



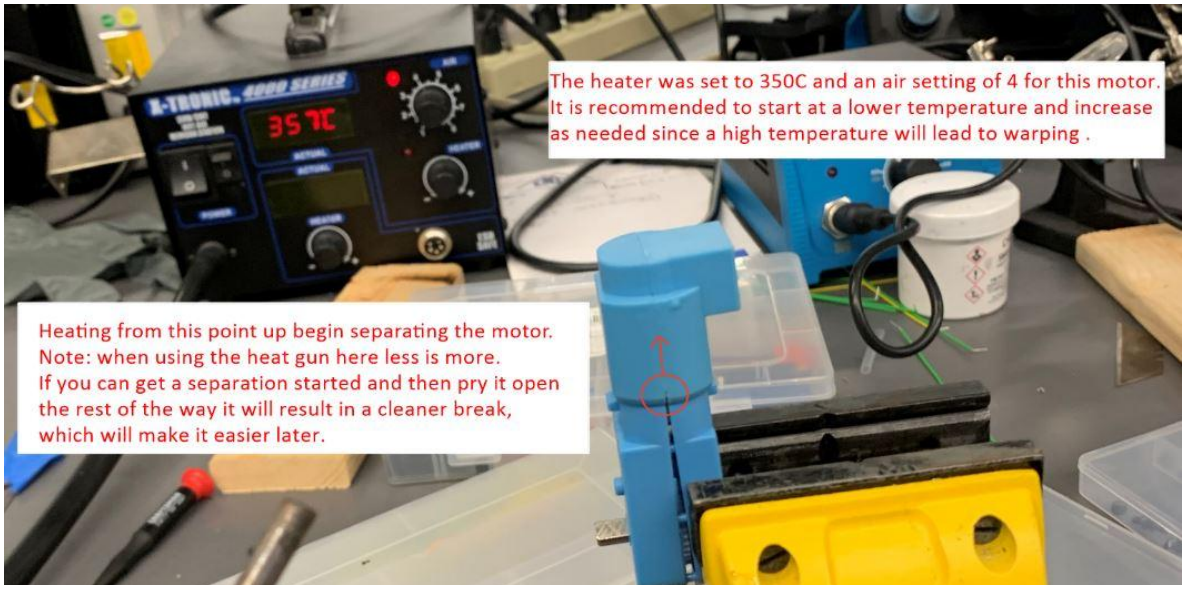
4. Begin disassembling the blue motor.



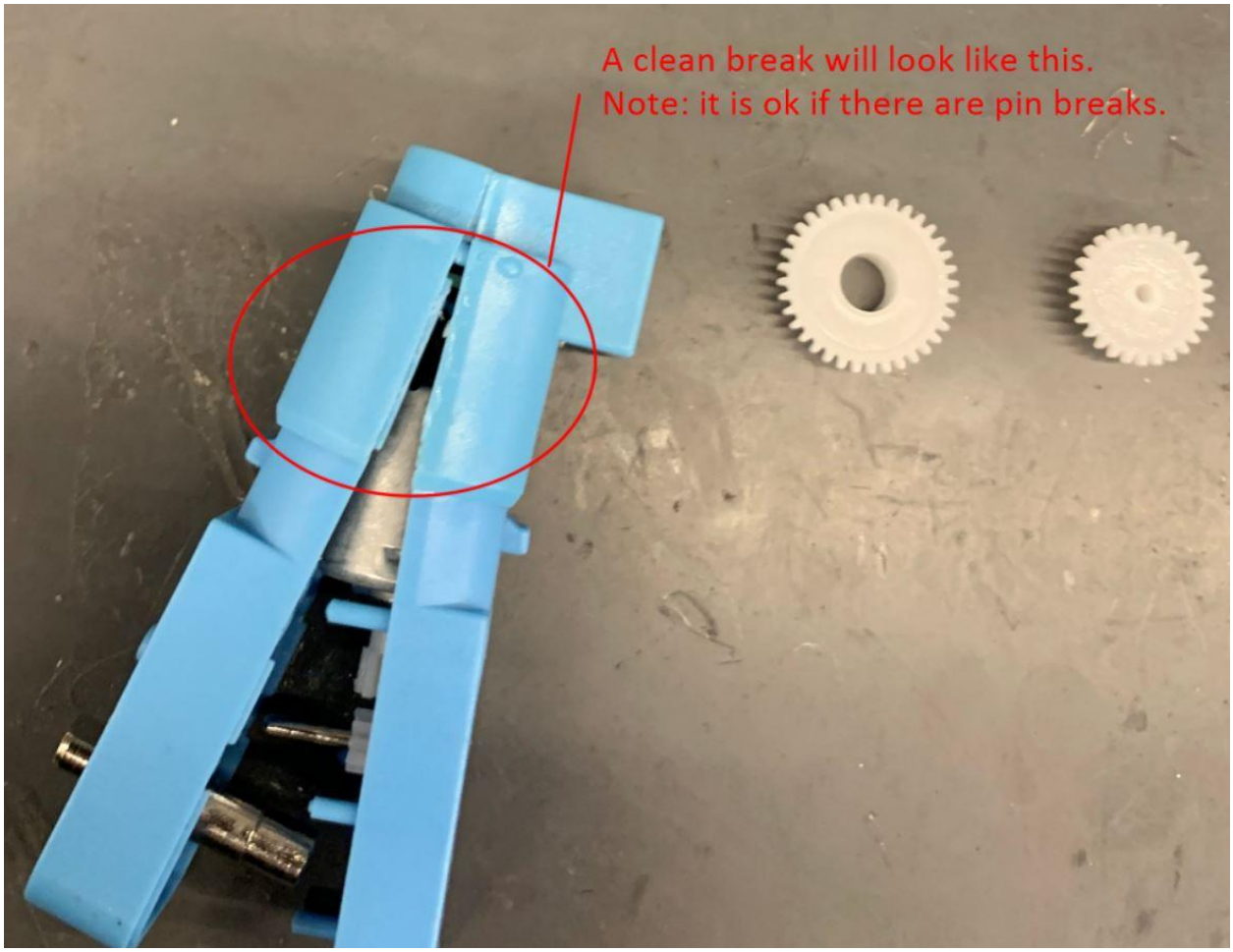
5. Begin separating the motor from the notch. Do not over-separate the pieces before breaking the seal marked by the red circle.



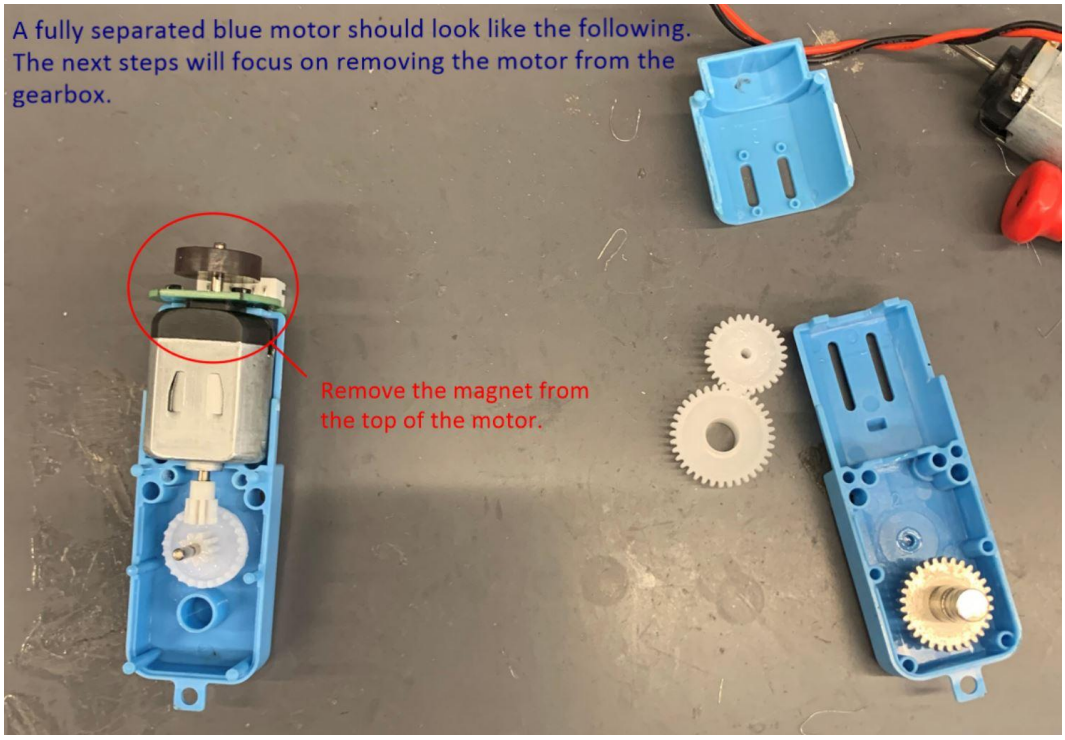
6. Split the motor casing using either a soldering iron or heater



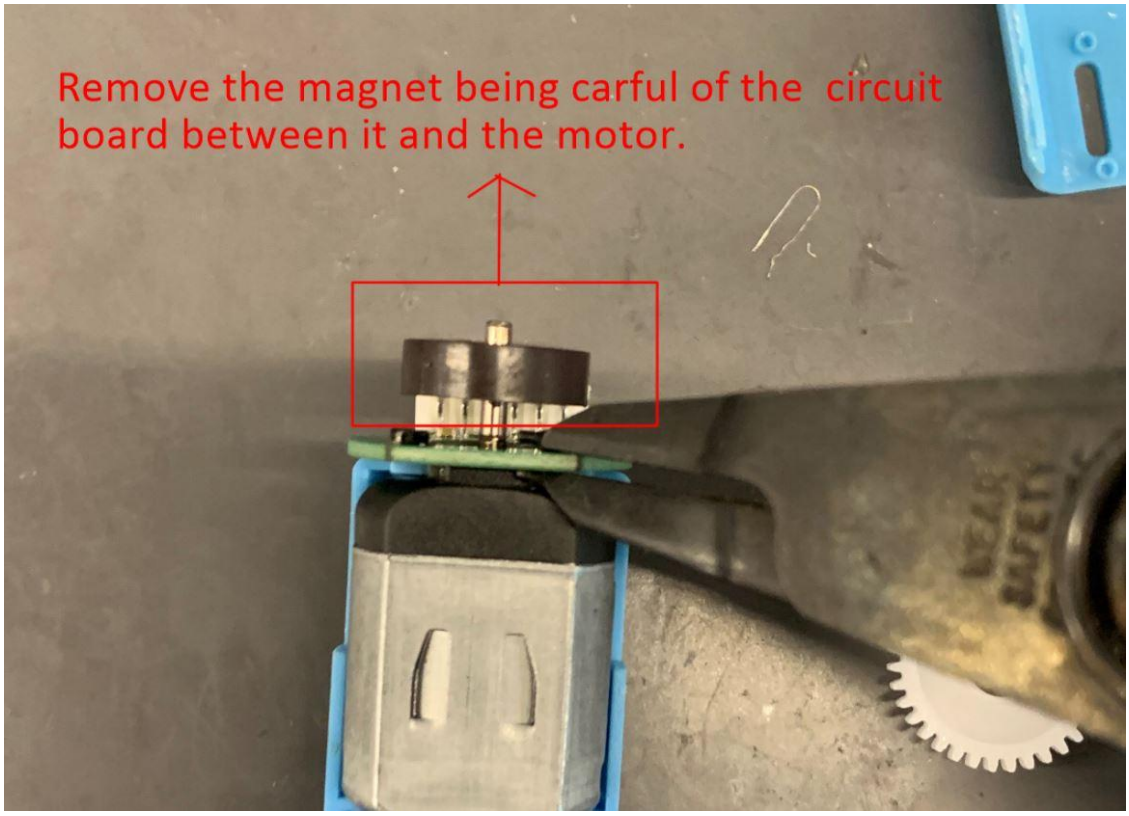
7. Once split it should look as follows. Note: “Pin” in the figure refers to the plastic extrusions, not any electrical pins.



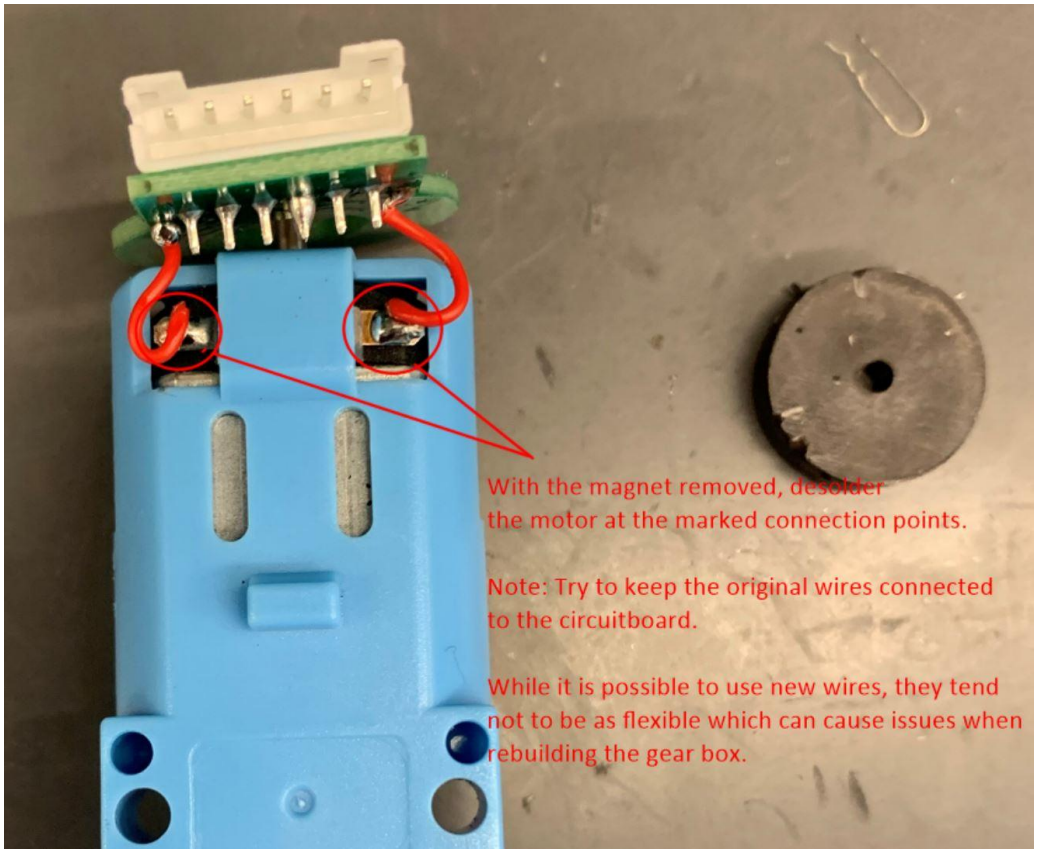
8. A fully separated blue motor should look as follows



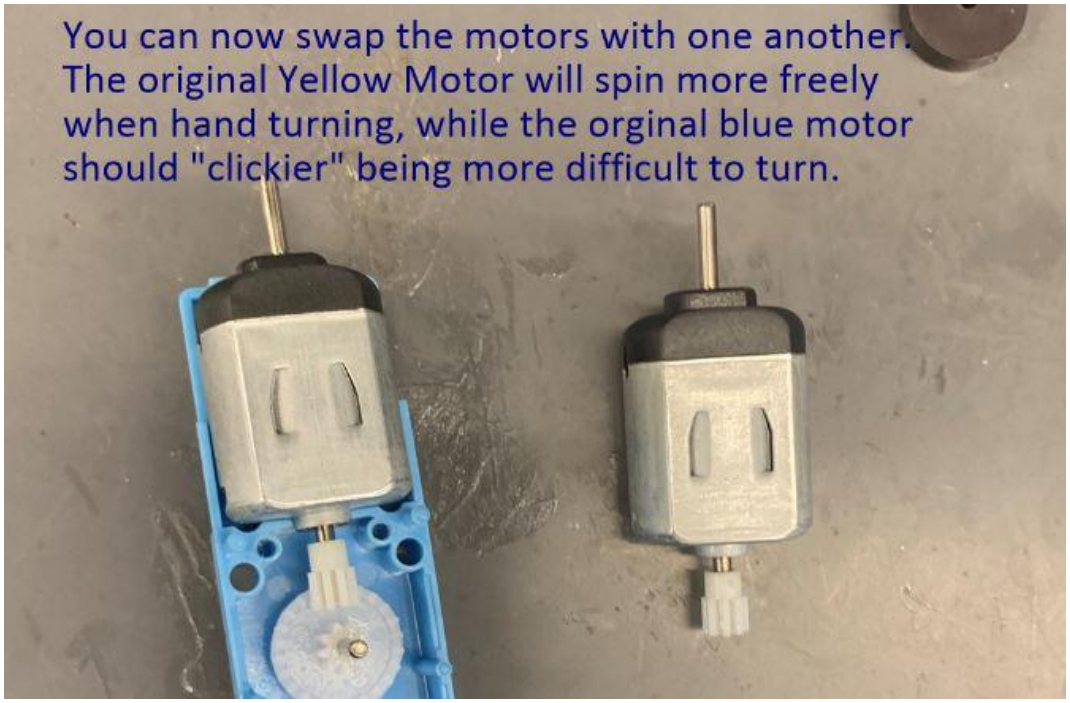
9. Remove the magnet from the motor using a pry tool for leverage being cautious of the encoder circuit board.



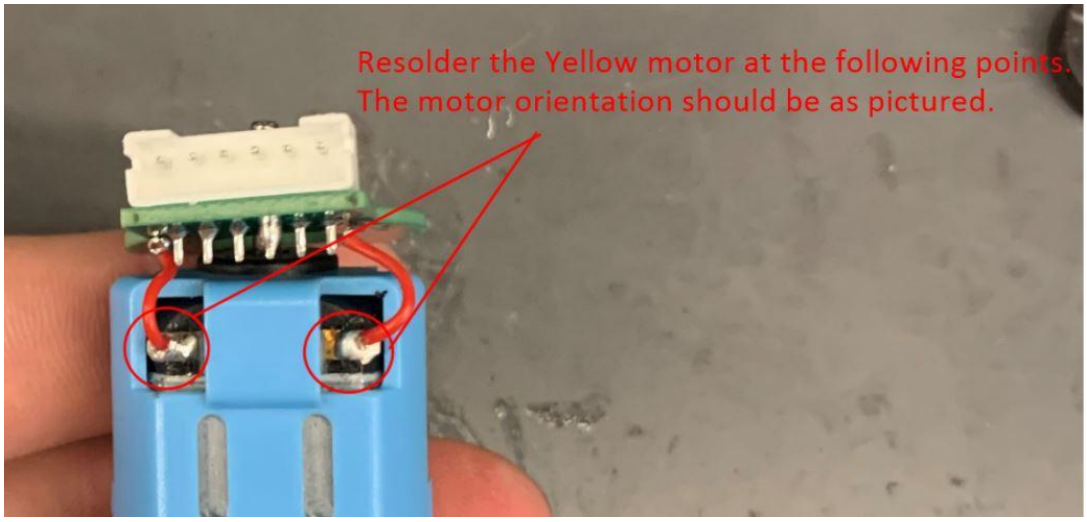
10. Desolder the motor wires from the circuit board at the circled locations.



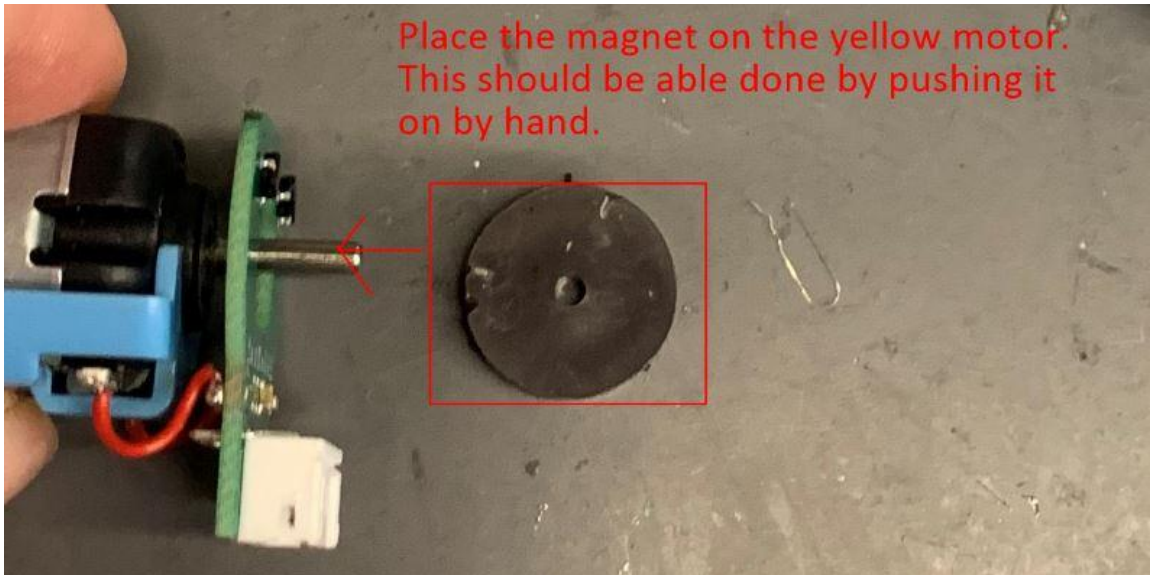
11. Swap the yellow and blue motor. If you are unsure which is which, the yellow one (new motor) will be a more fluent rotation while turning by hand.



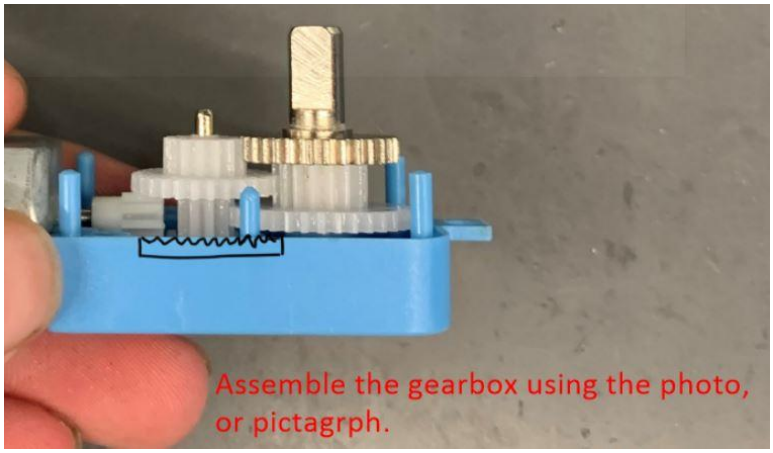
12. Place the new motor in the case soldering the wire connections from the circuit board to their respective places.

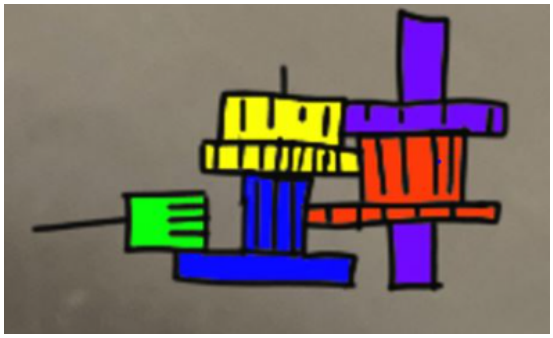


13. Return the encoder axis to the axel.



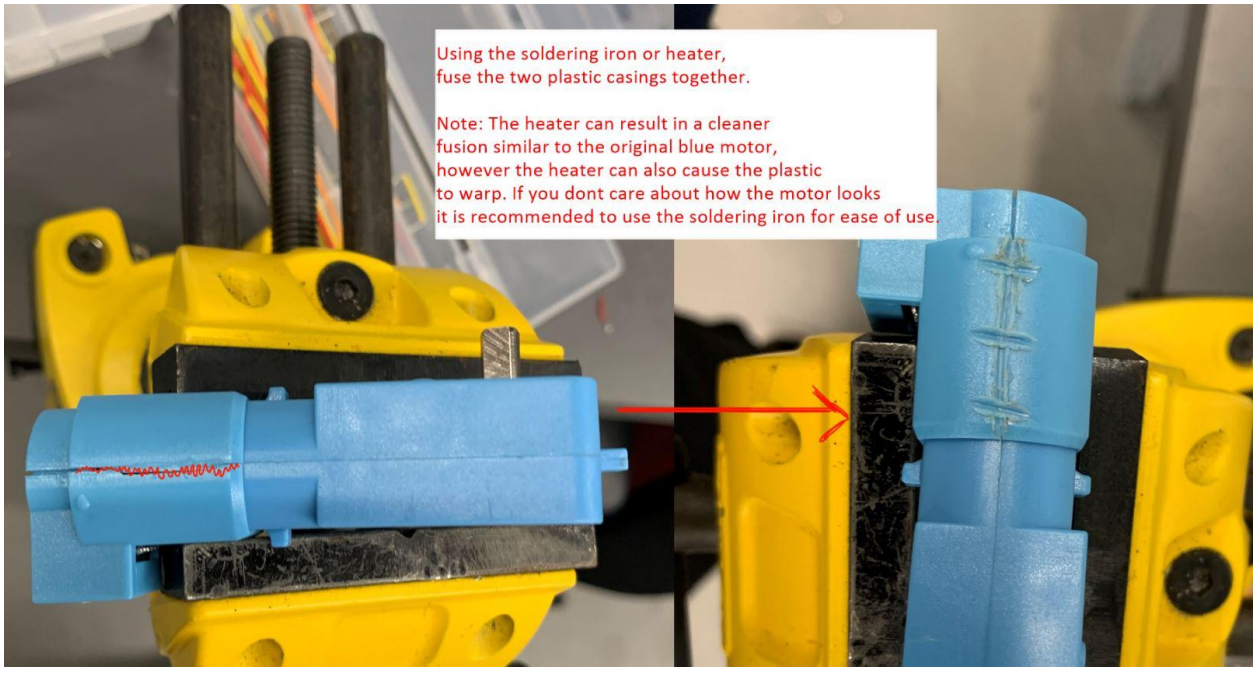
14. Reassemble the gearbox within the case side the motor is currently residing in.





15. Place the opposite side of the gearbox casing on and screw it into resecure. If you haven't already tested the motor is functional, do so now, or even if you have it is a good idea to check again here.

16. Once the motor is confirmed to be functional, place the remaining casing components back on the motor/gearbox. With the motor clamped within a vice, using a soldering iron or heater fuse the pieces back together on both sides.



17. Your motor Swap is now complete!