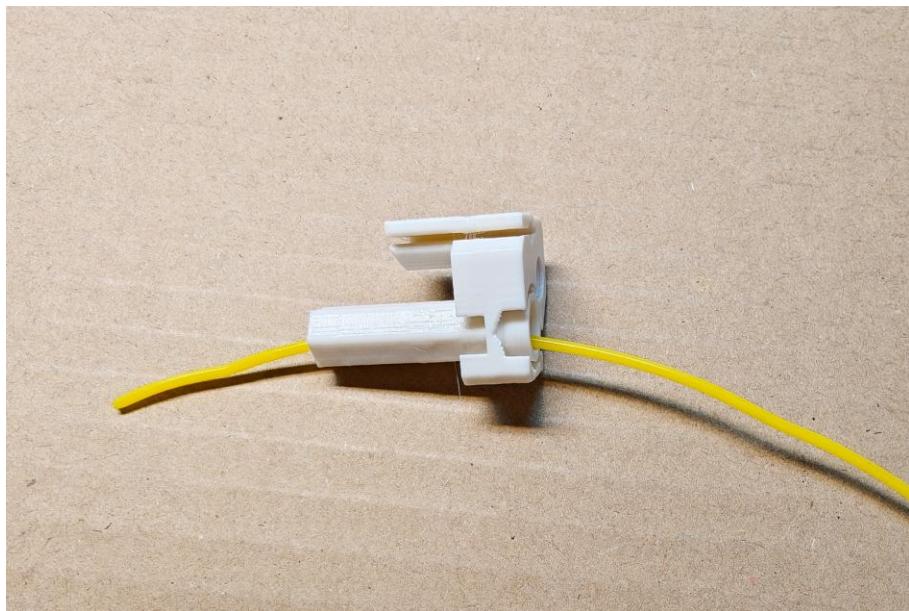
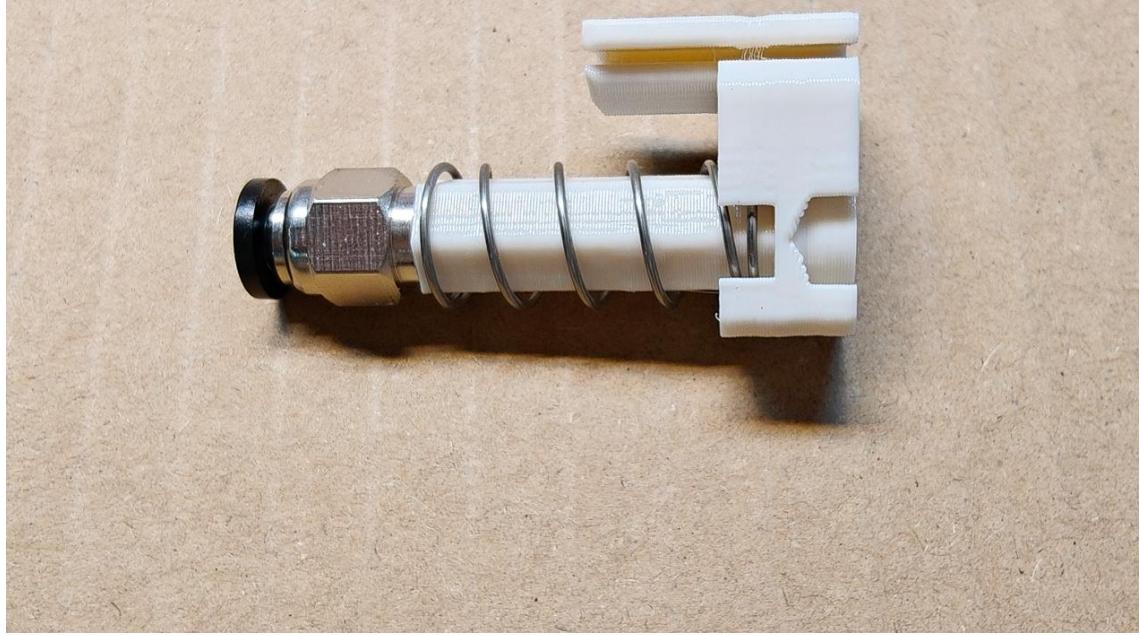
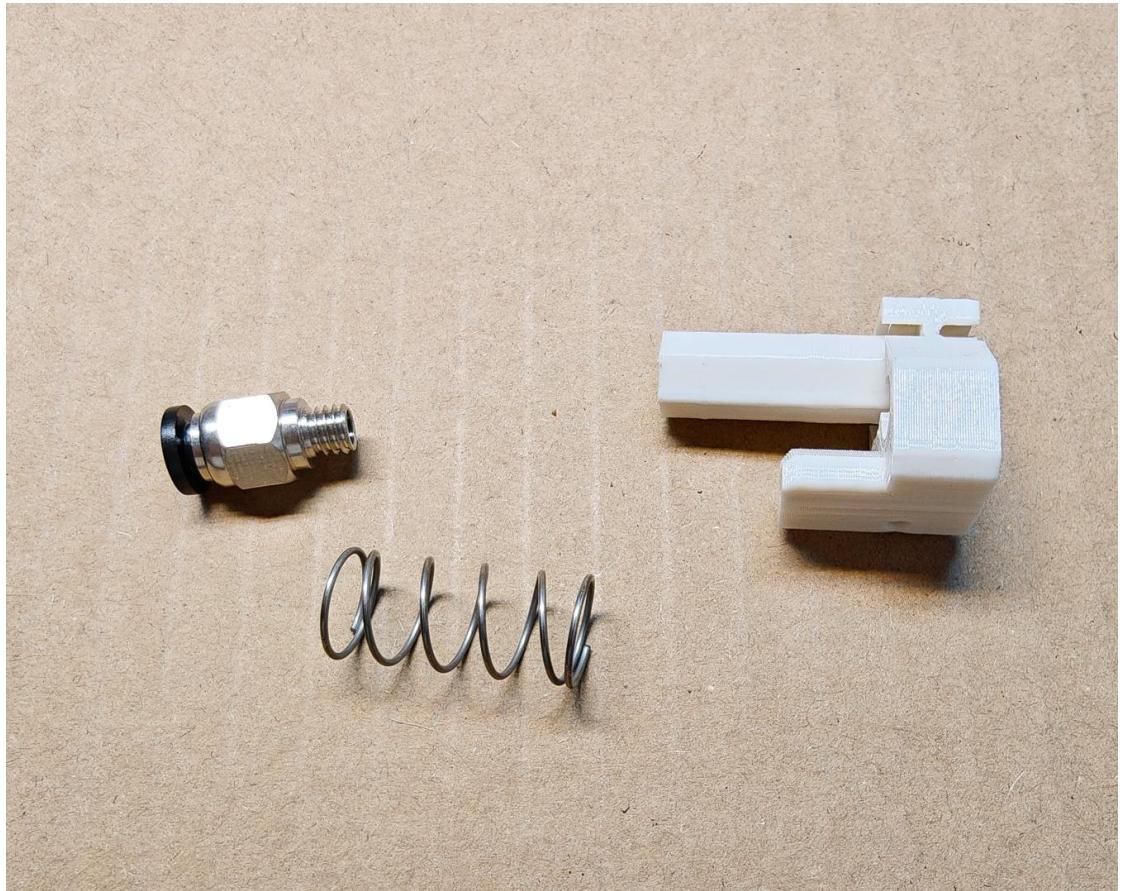


## BMCU370C Assembly Instructions

1. Take out the buffer slider. Then use a piece of filament to check if the small hole can pass through normally without resistance. Put the spring 0.8\*12\*25mm on the sliding part, and screw on the M6 push fitting. It doesn't matter if there is a slight skew during the tightening process. It will automatically return to the right position when it is tightened to the end. Just tighten it a little more to make the push fitting return to the right position. Don't tighten it too much, otherwise the teeth will slip off.





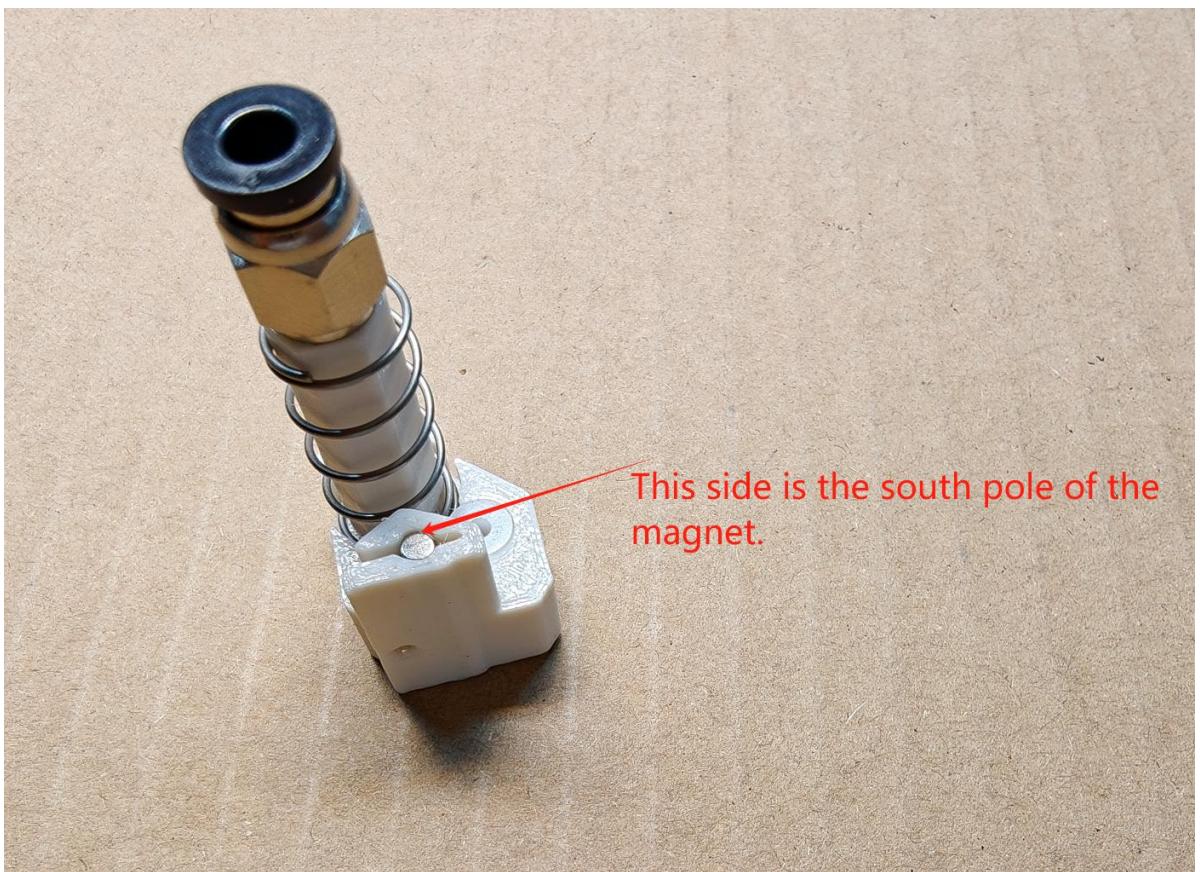
2. Insert two 62B bushings in the positions shown in the figure below. The bottom surface does not need to be completely flush.





3. Take out the D3H10 magnet and you need to determine the north and south poles. You can put it on a bottle cap or a small piece of foam floating on the water, the one pointing south is the south pole. Suck the two magnets up and shove them into the magnet slots of the slider, with the north pole (N,red) on the bottom and the south pole up. Screw in a M2\*8 self-tapping wire to hold the magnets in place.

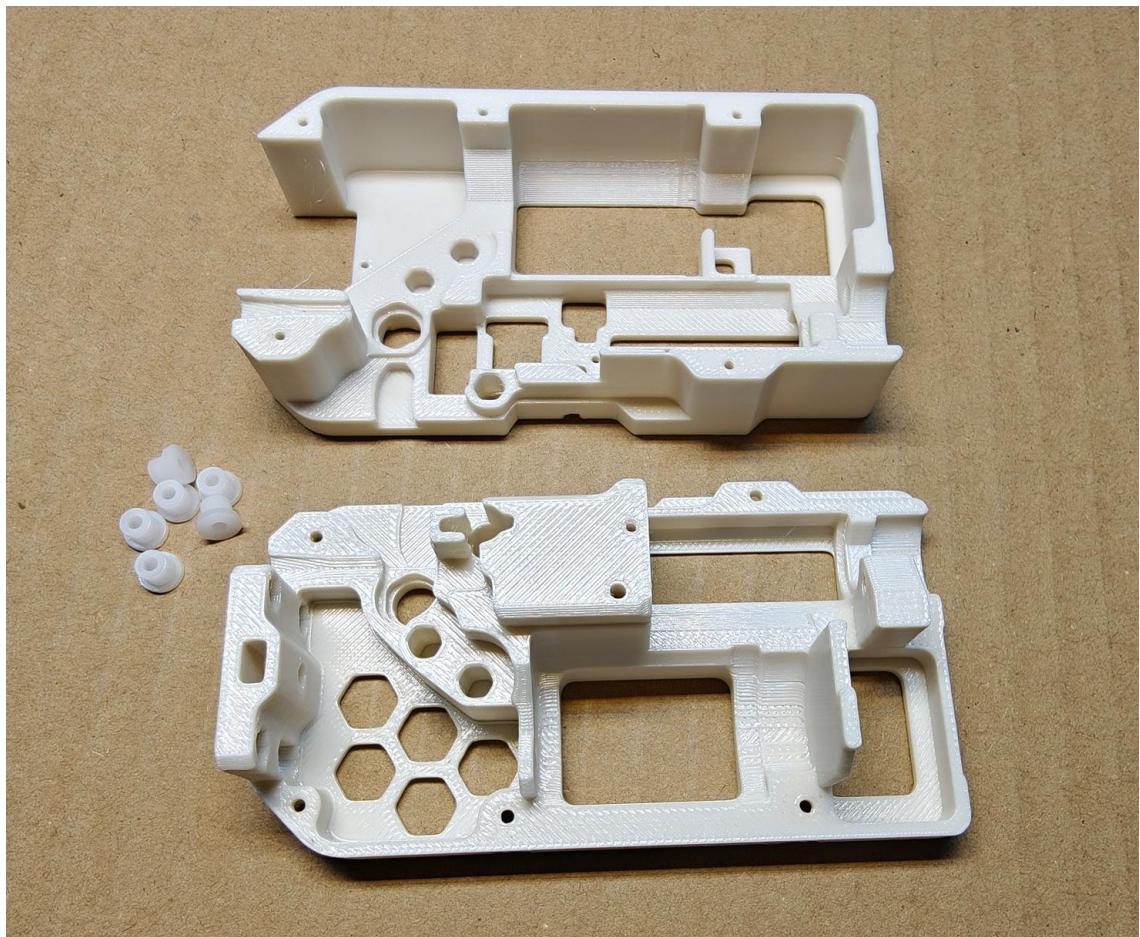


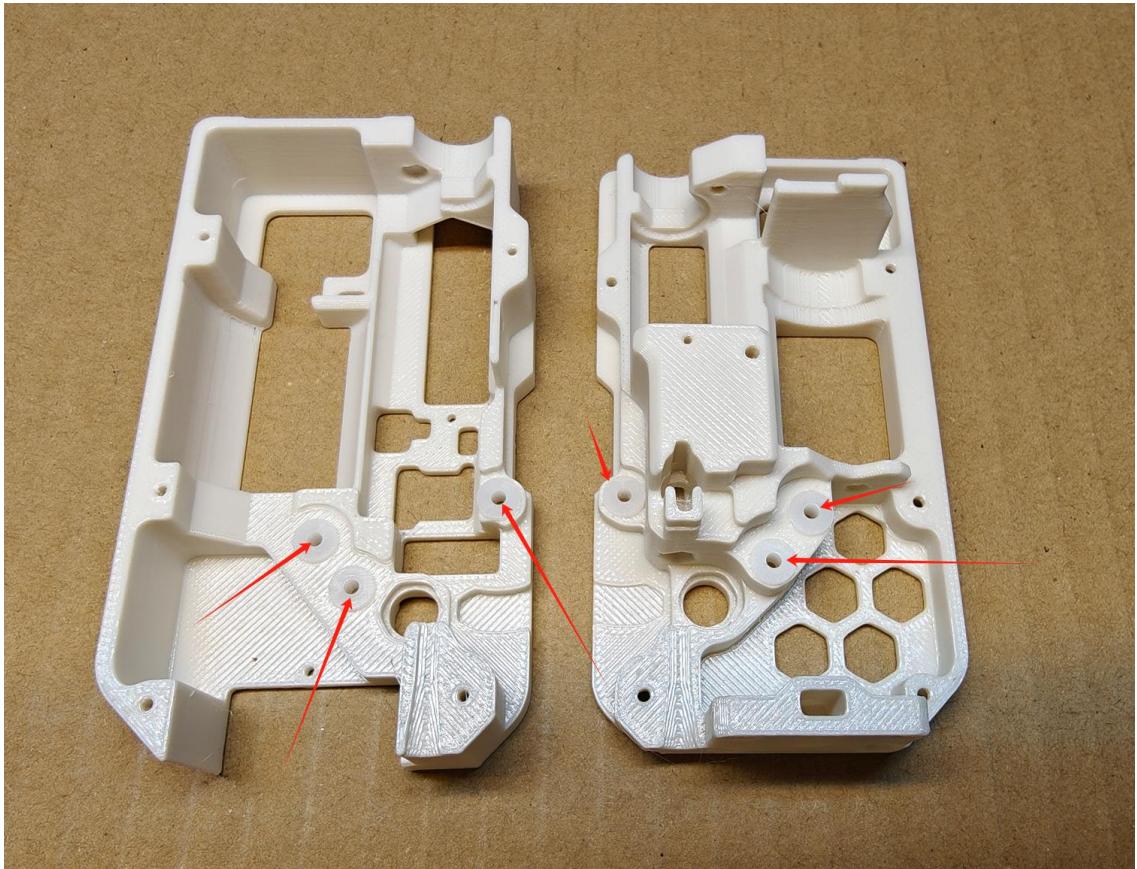


This side is the south pole of the magnet.

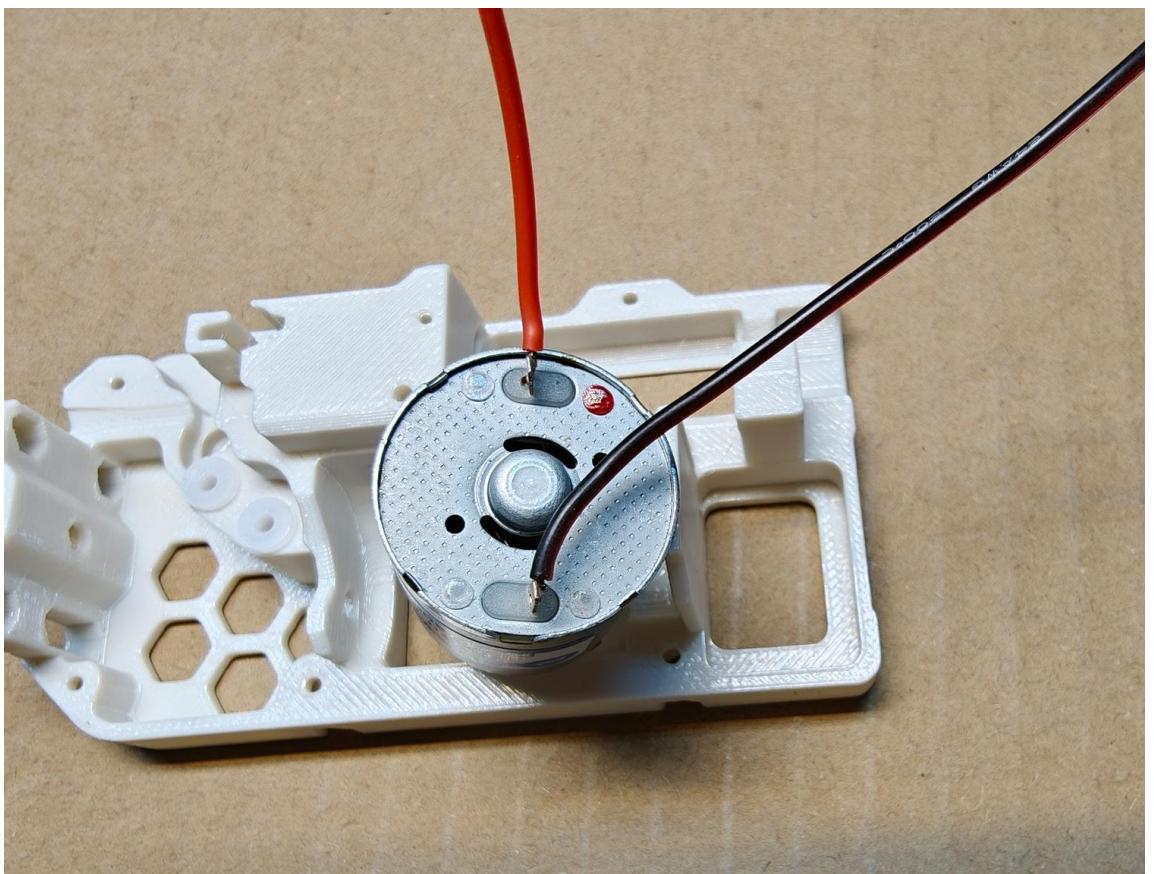


4. Take out the printouts of the body and body cover, check if there are any defects on the parts, and then press in 6 62B bushings respectively.

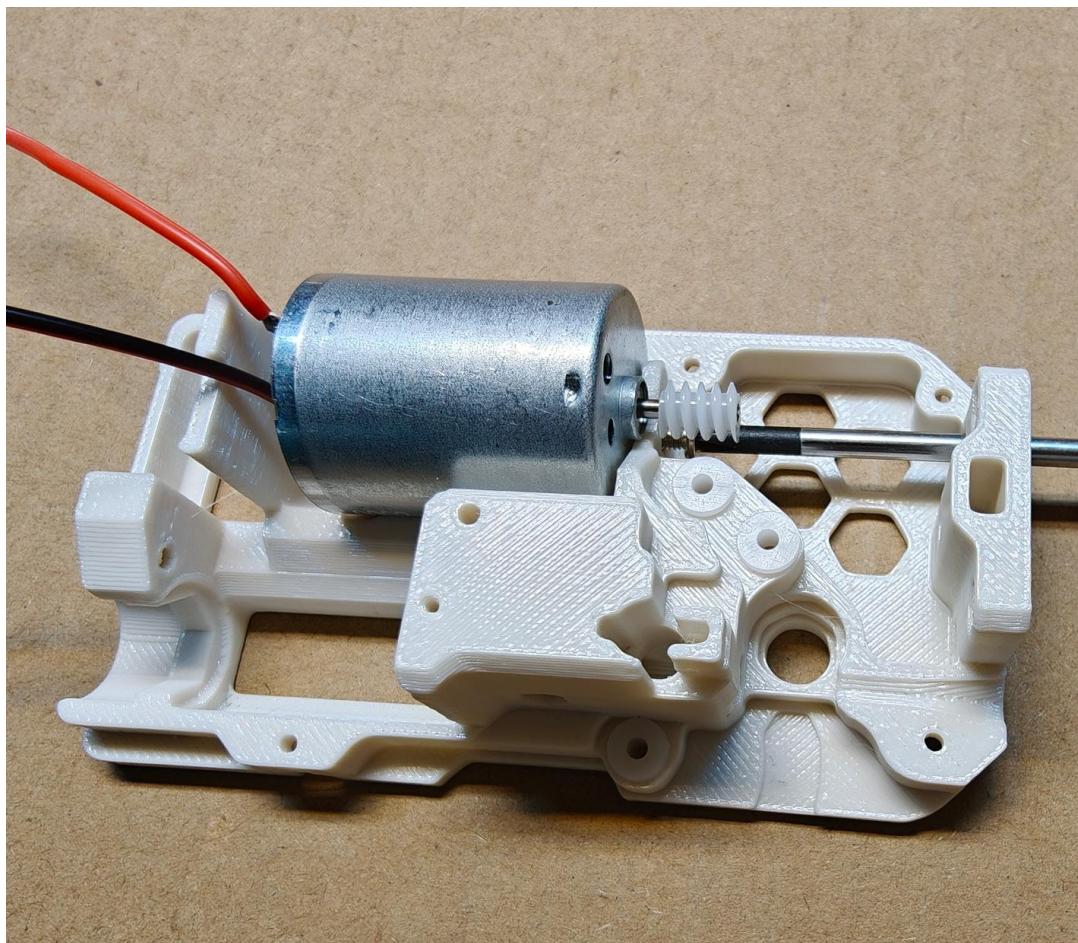


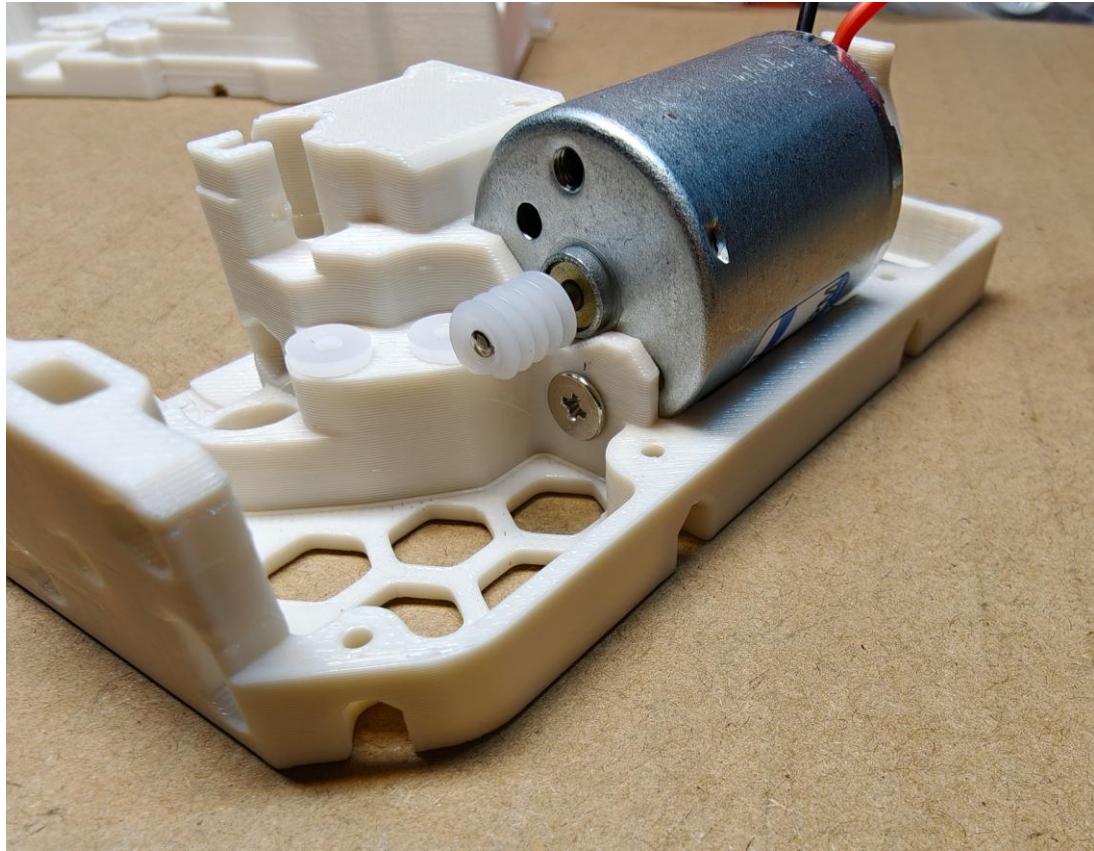


5. Take out the 370 motor and solder the 5CM lead wire, solder the red wire to the pole piece with the red dot, and solder the black wire to the other pole piece. Then press the worm gear on the shaft. Add 5-24V voltage to the motor to see if it can run idle. At the same time, observe whether the worm gear is crooked and whether the motor has any abnormal noise or vibration.

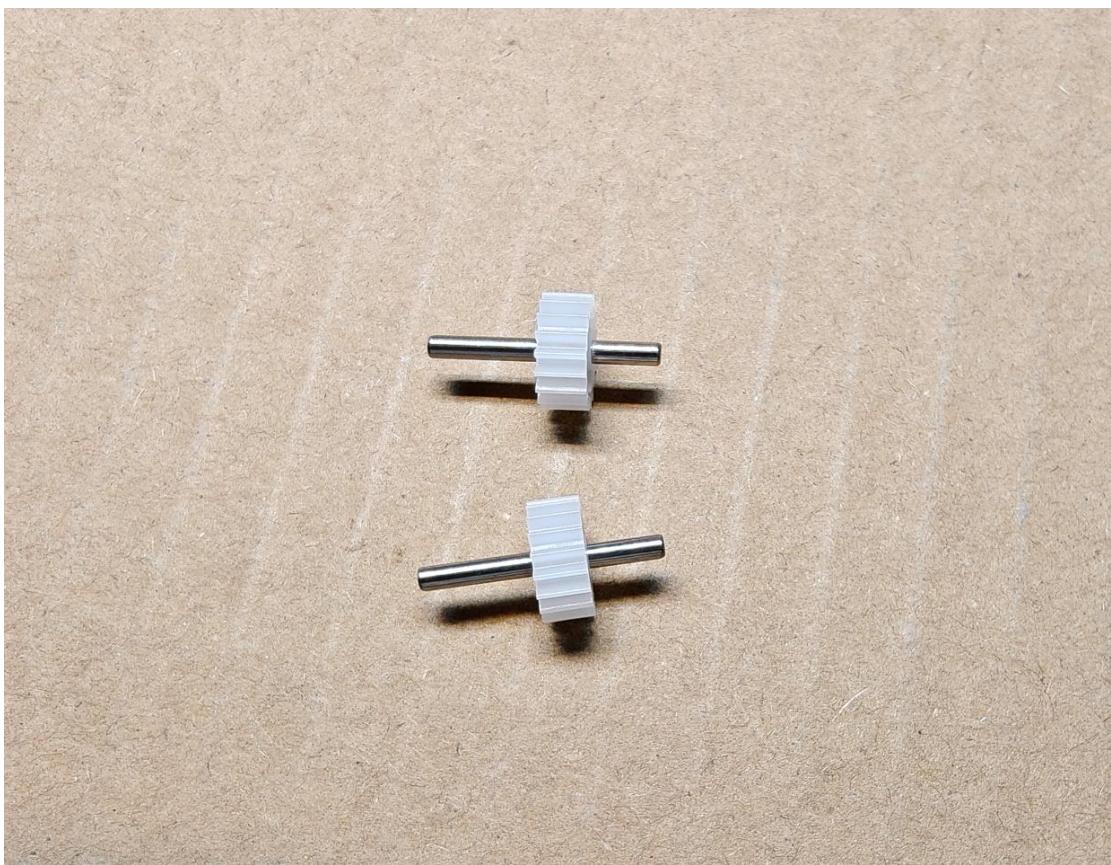
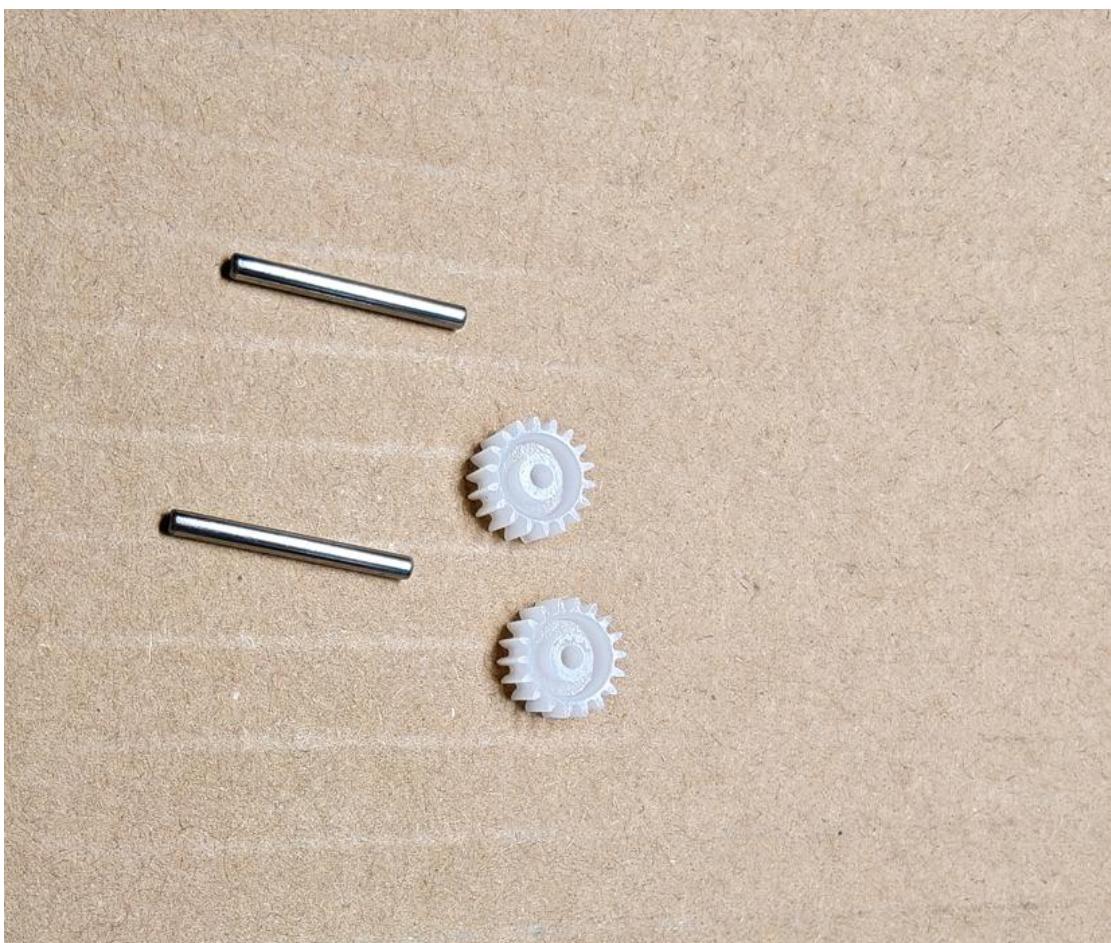


6. Install the motor in the body and screw in an M3\*5 flat head screw to secure it.

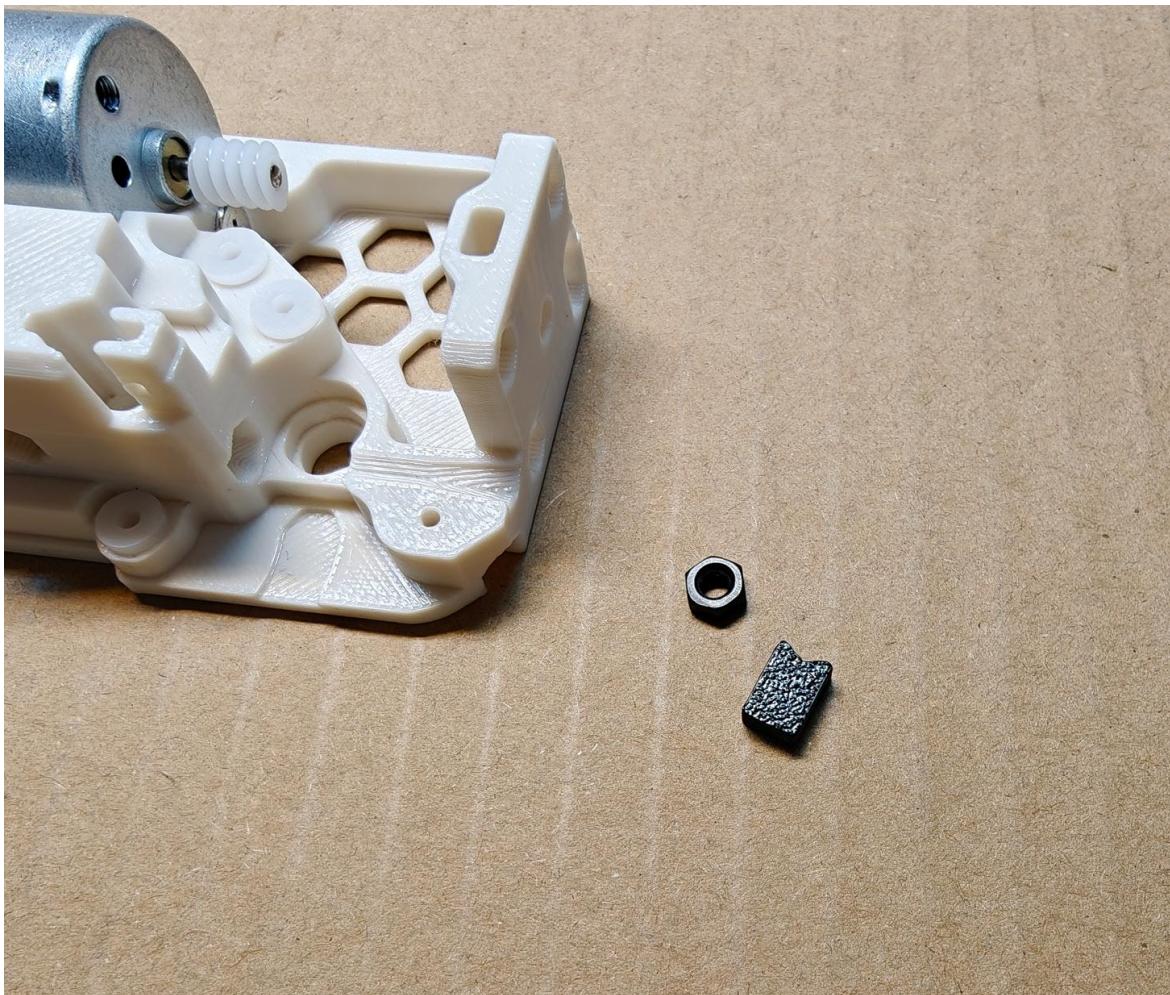


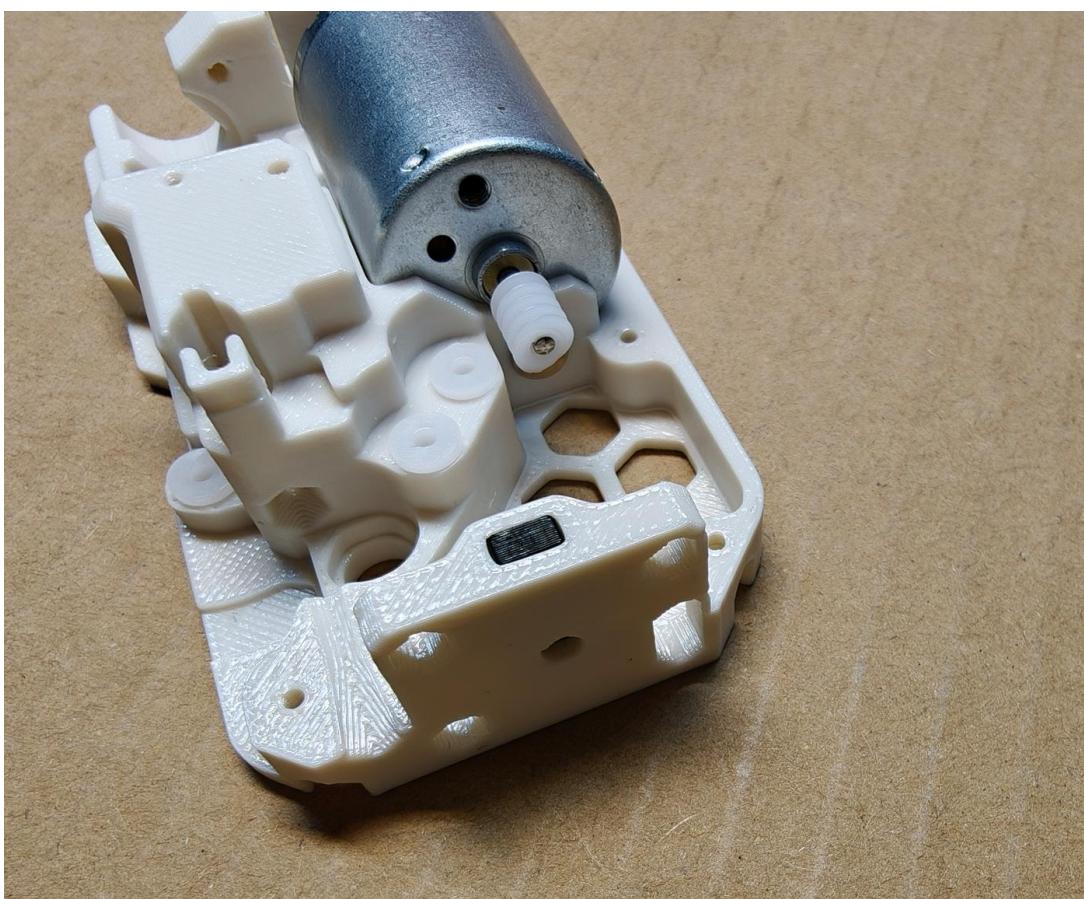
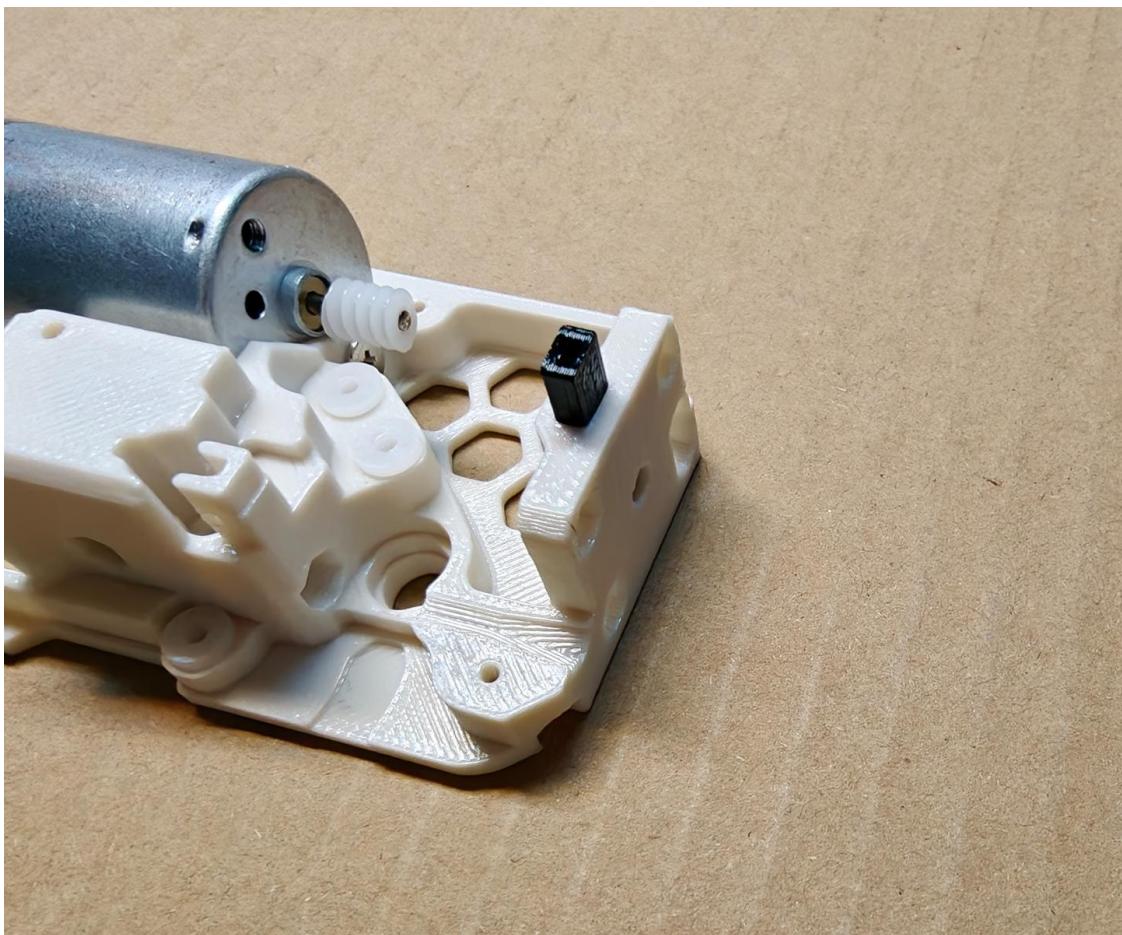


7. Take out two 182A gears and insert the D2L20 shaft, leaving about 6MM exposed at one end.



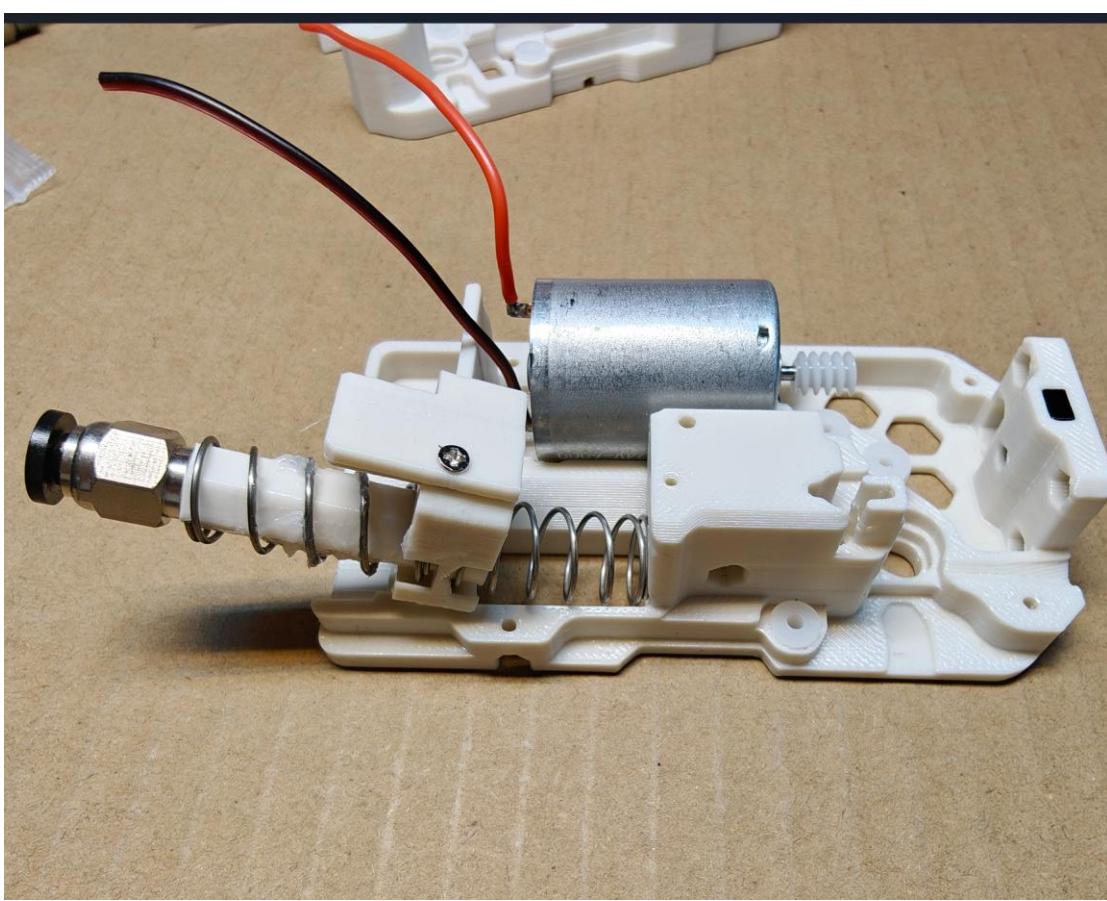
8. Take out the M3 hex nut and put it into the nut hole of the body with the pointed end facing up, then press it in with the print of the nut holder.

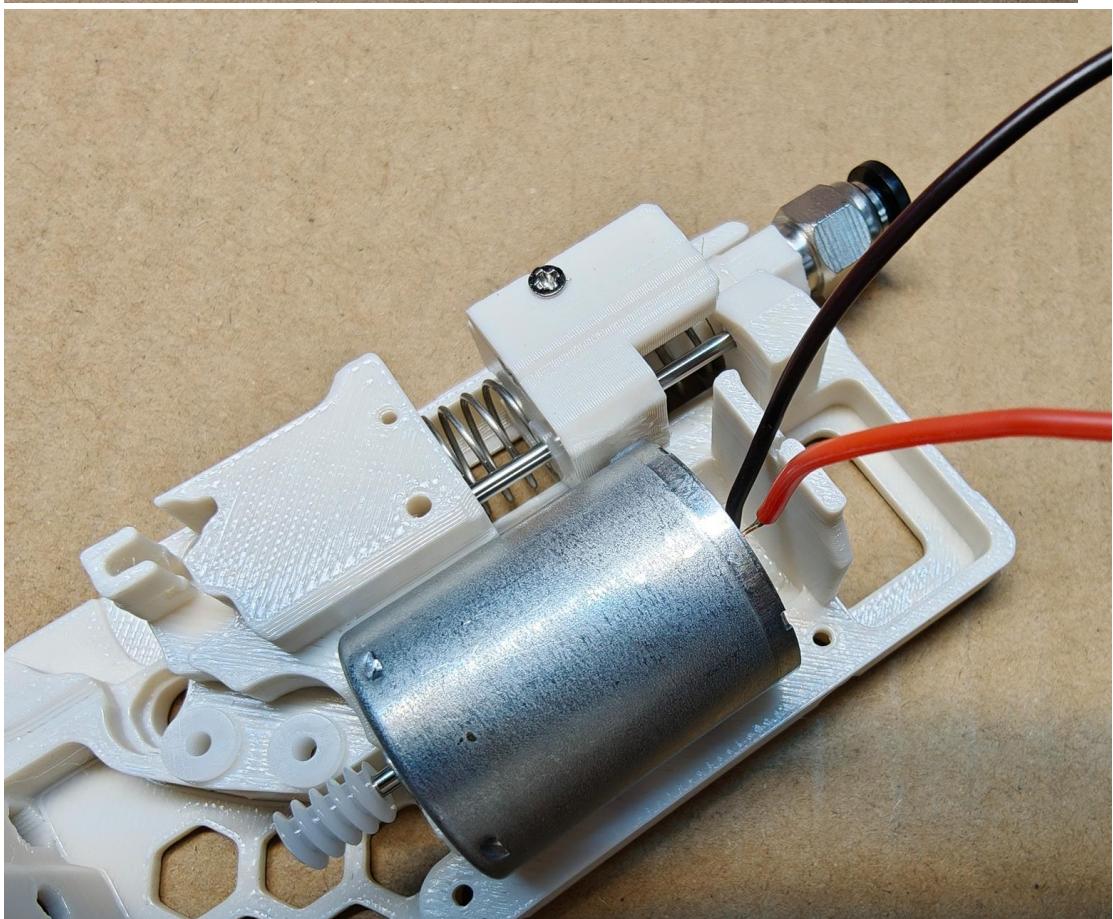
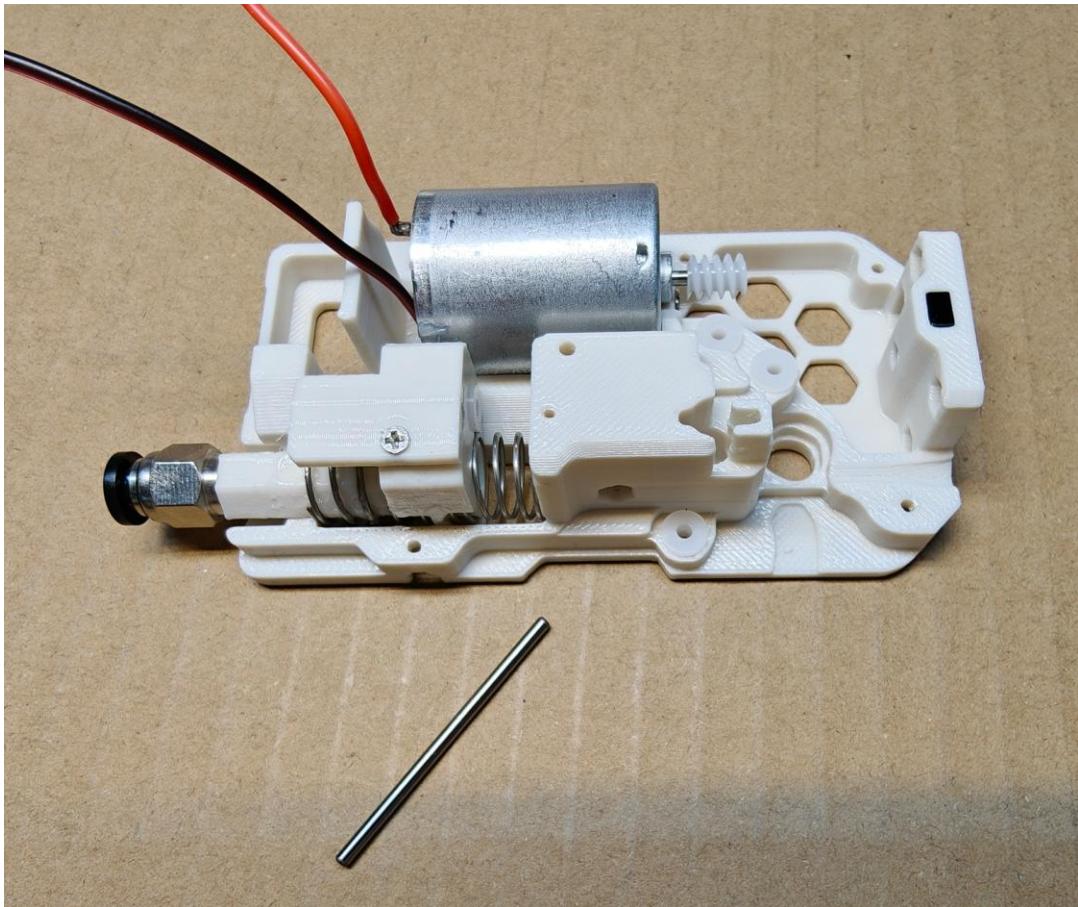




9. Apply grease to the hexagonal surface of the slider and the several surfaces on the base. As shown in the figure below, put a 0.8\*12\*25 spring on the bottom of the slider print and insert it into the body and fix it. Then insert a D2L40MM shaft through the hole where the 62B shaft sleeve is installed on the slider. Apply a little grease in the middle of the shaft. Push the slider forward and backward by hand until there is no resistance.





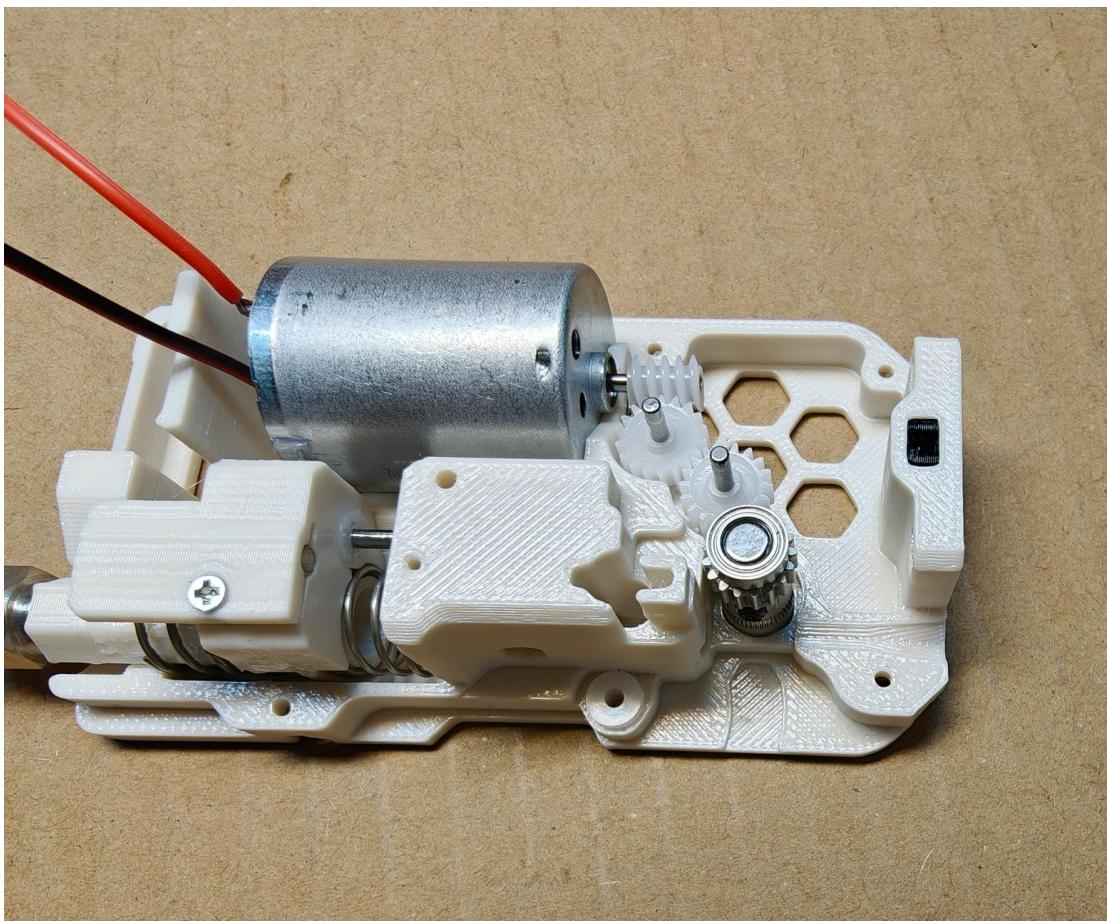


10. Take out the filament drive gear (BMG) with the top screw, put it on the D5L22MM shaft, and put the MR85ZZ bearings on the upper and lower parts, so that one end of the shaft is flush with the bearing as shown in the figure below. Tighten the top screw, but do not use too much force because there are few threads.



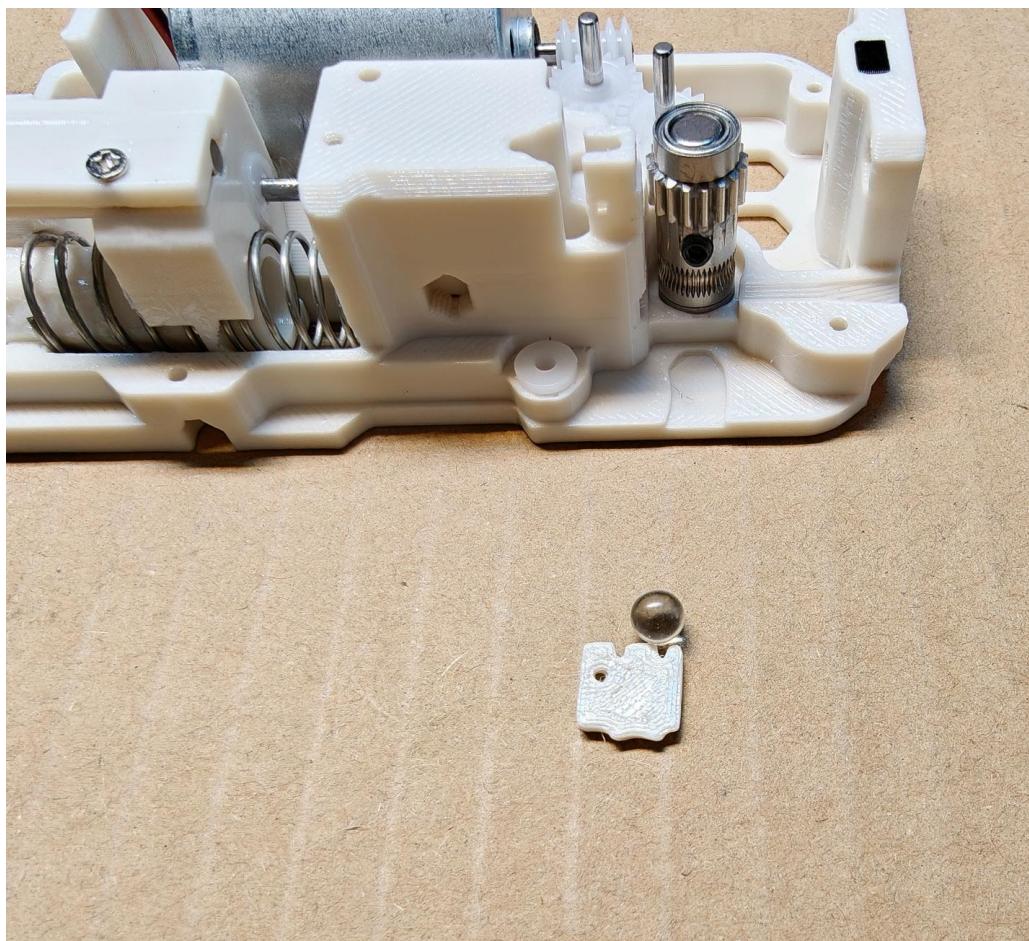
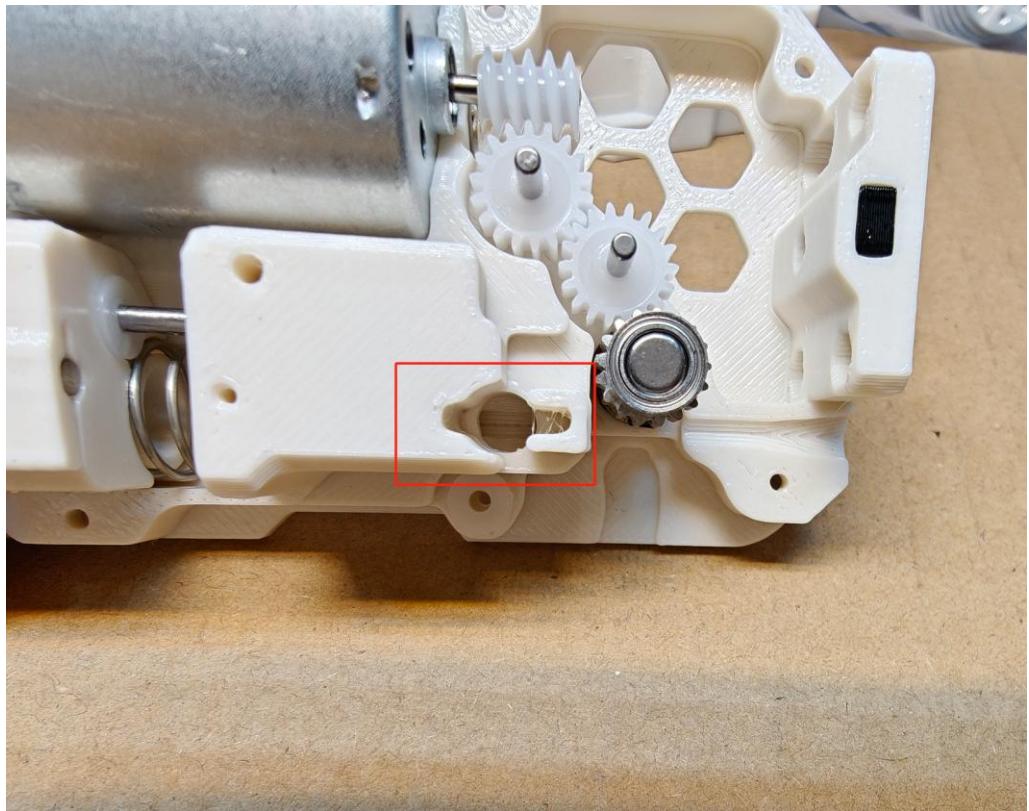


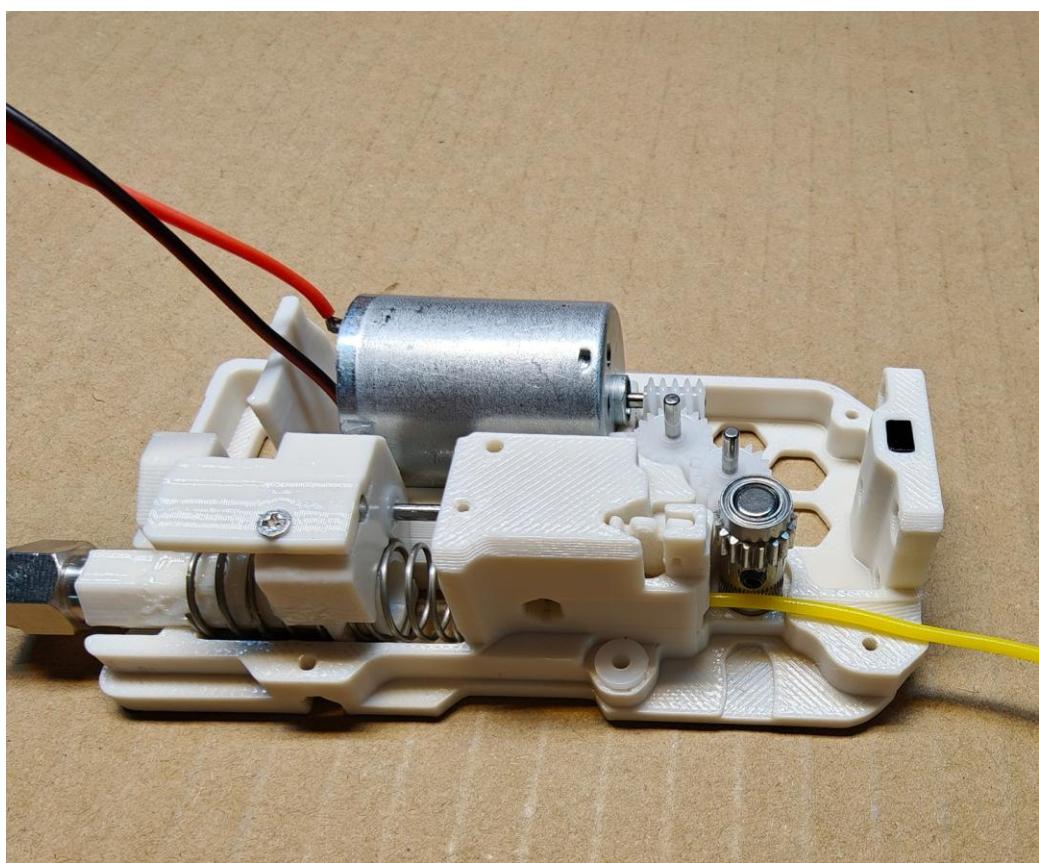
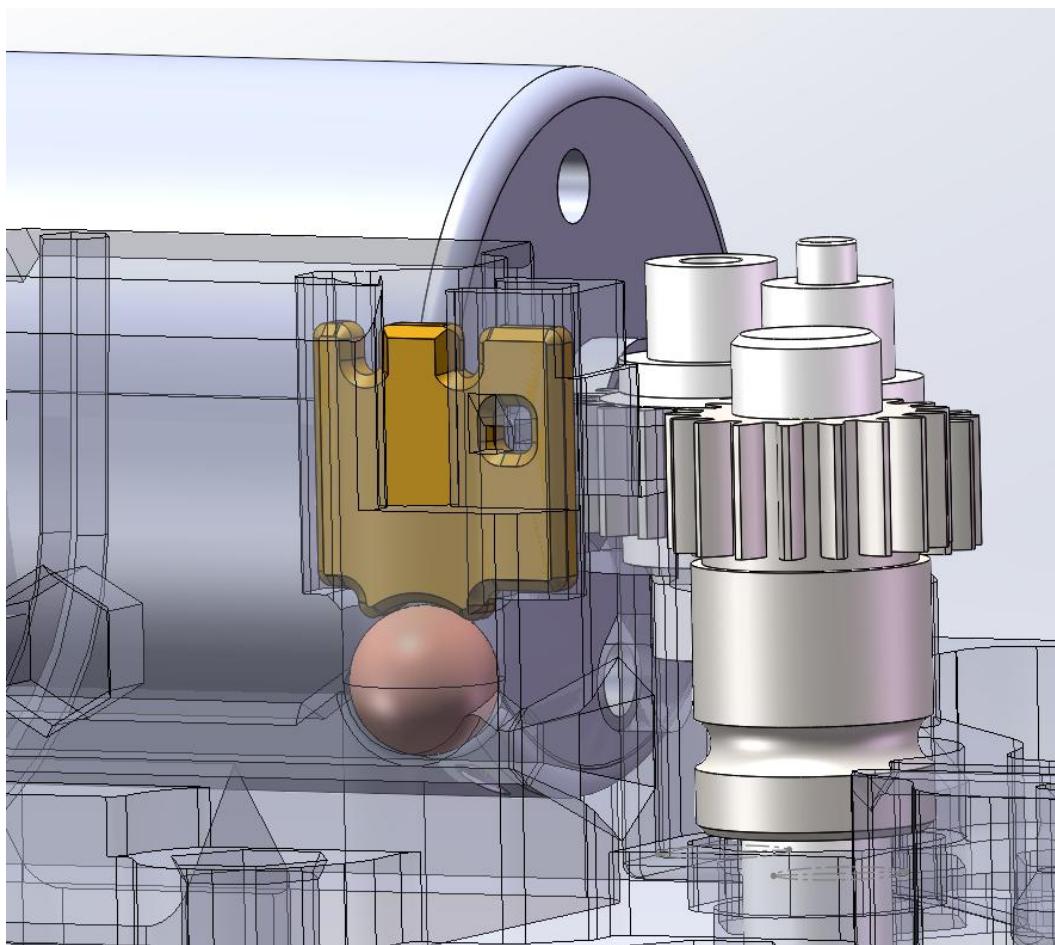
11. As shown in the figure below, install two 182A gears with shafts on the plastic sleeve of the base, with the long shaft inserted into the sleeve and the short end exposed on top, and then install the filament drive gear assembly installed in the previous step.



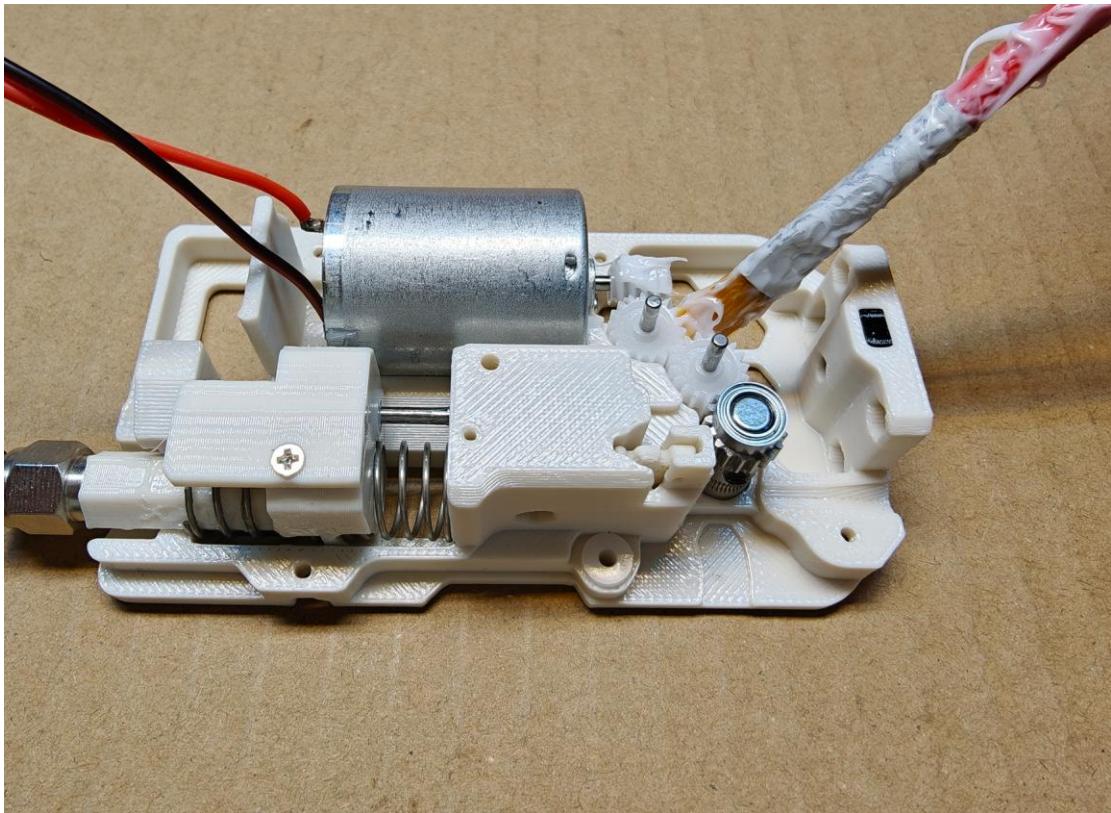
## 12. Clean the string in the ball socket of the filament sensor.

There should be no extra string drawing and defects in the groove to prevent the filament sensor from malfunctioning. After cleaning, put in a 5MM glass ball and the trigger piece on top of it. Pay attention to the direction. The hole and the hole on the base should be on the same side. Insert the filament into the filament path to lift it up. After pulling out the filament, the ball and the trigger piece can fall with gravity. If it cannot continue to clean the ball socket and the mounting groove. Or replace a print of the trigger piece.

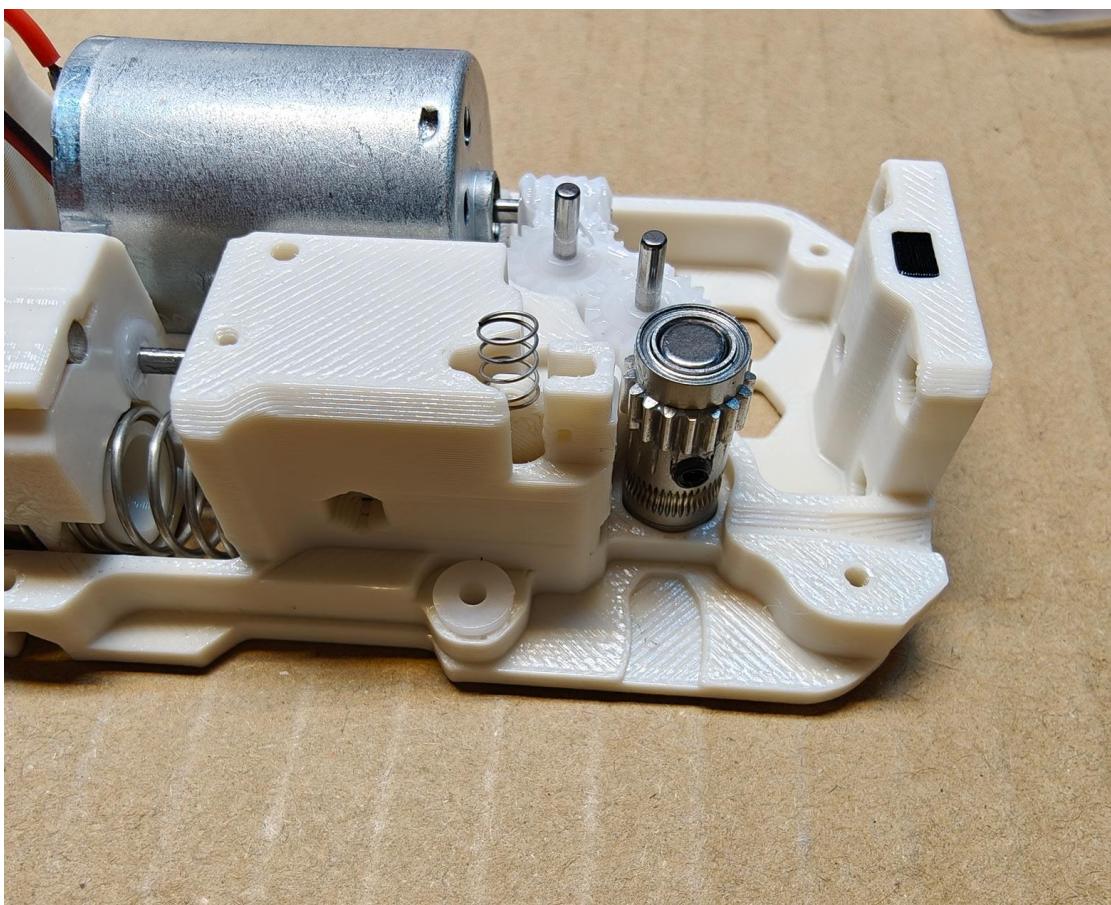
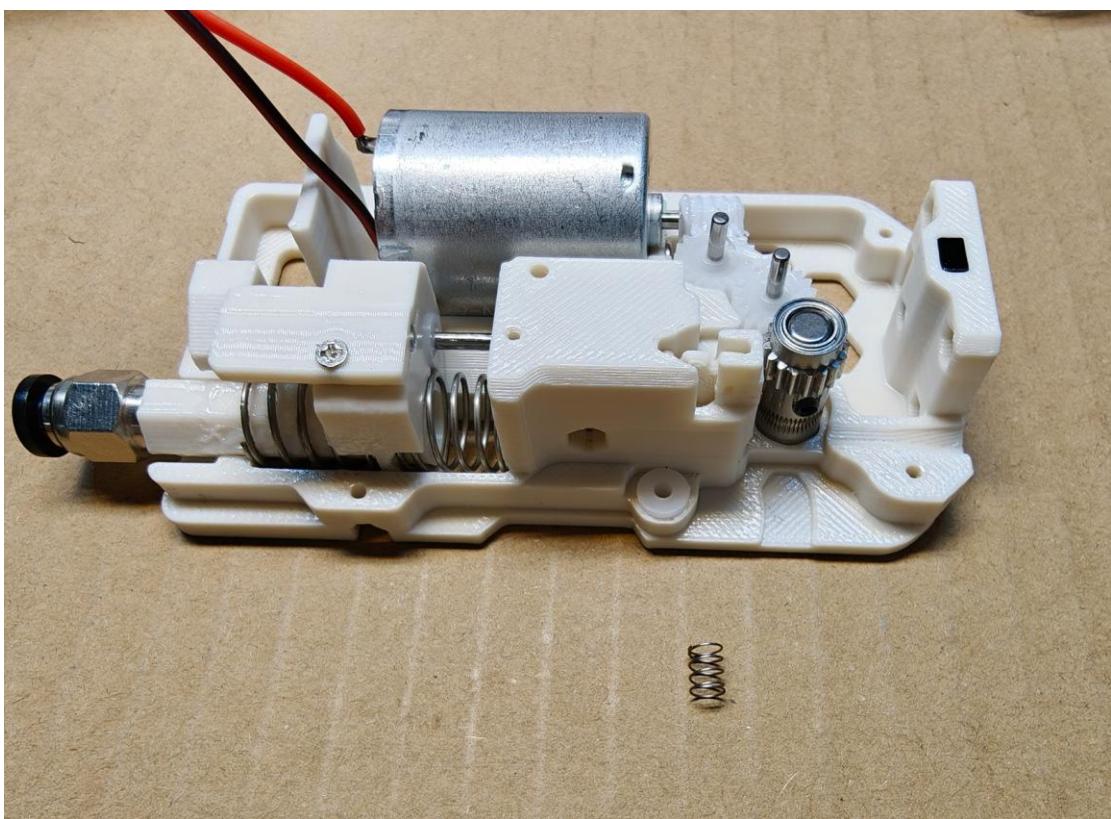


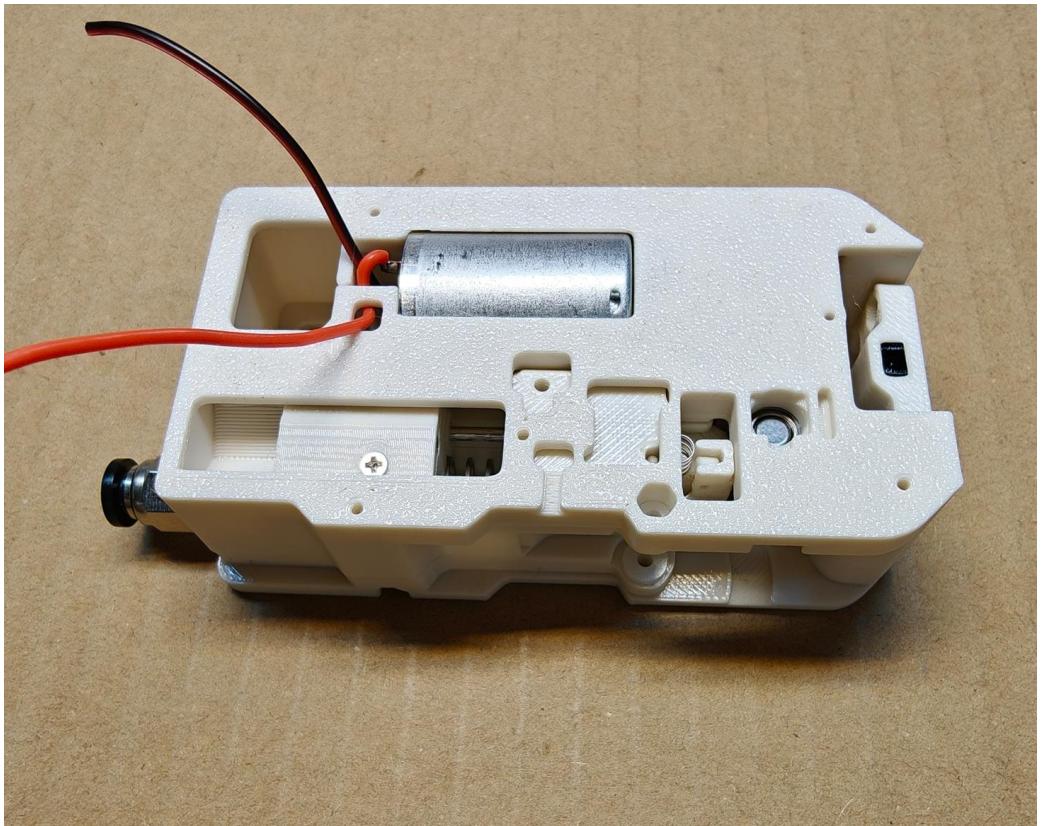


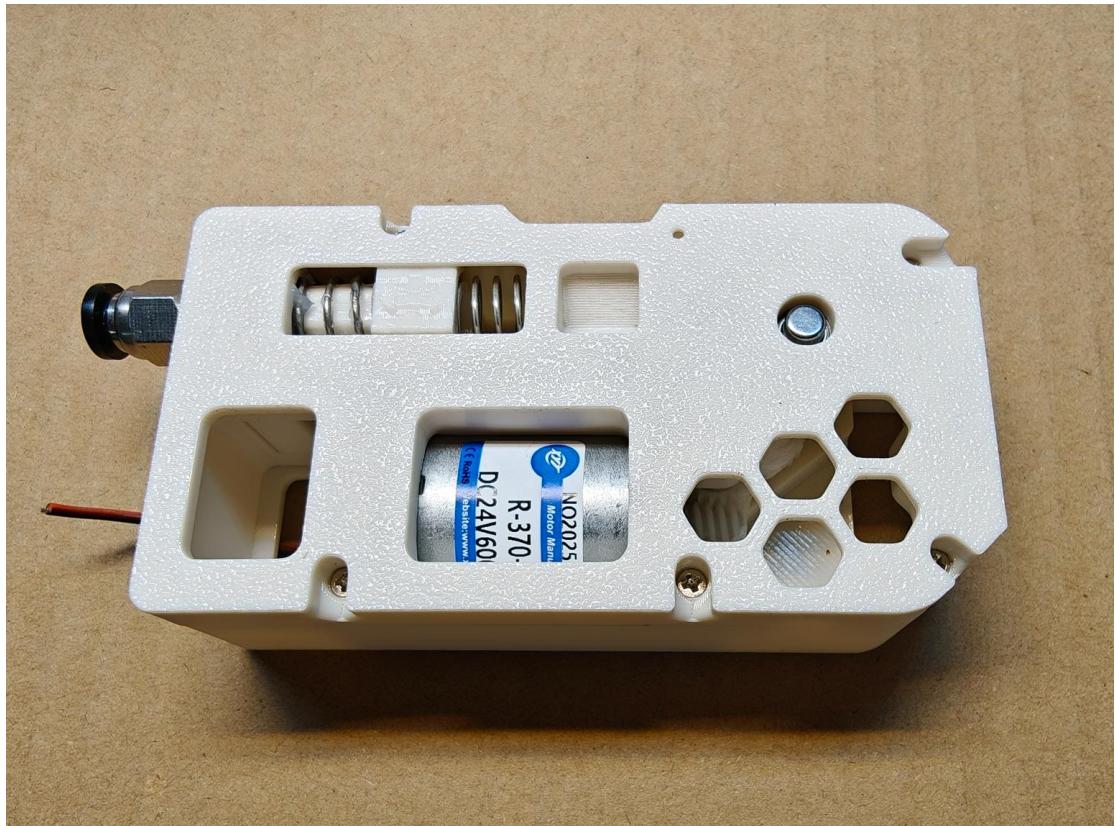
13. Apply a grease that is compatible with plastic materials to the motor worm gear and all other gears and shafts.



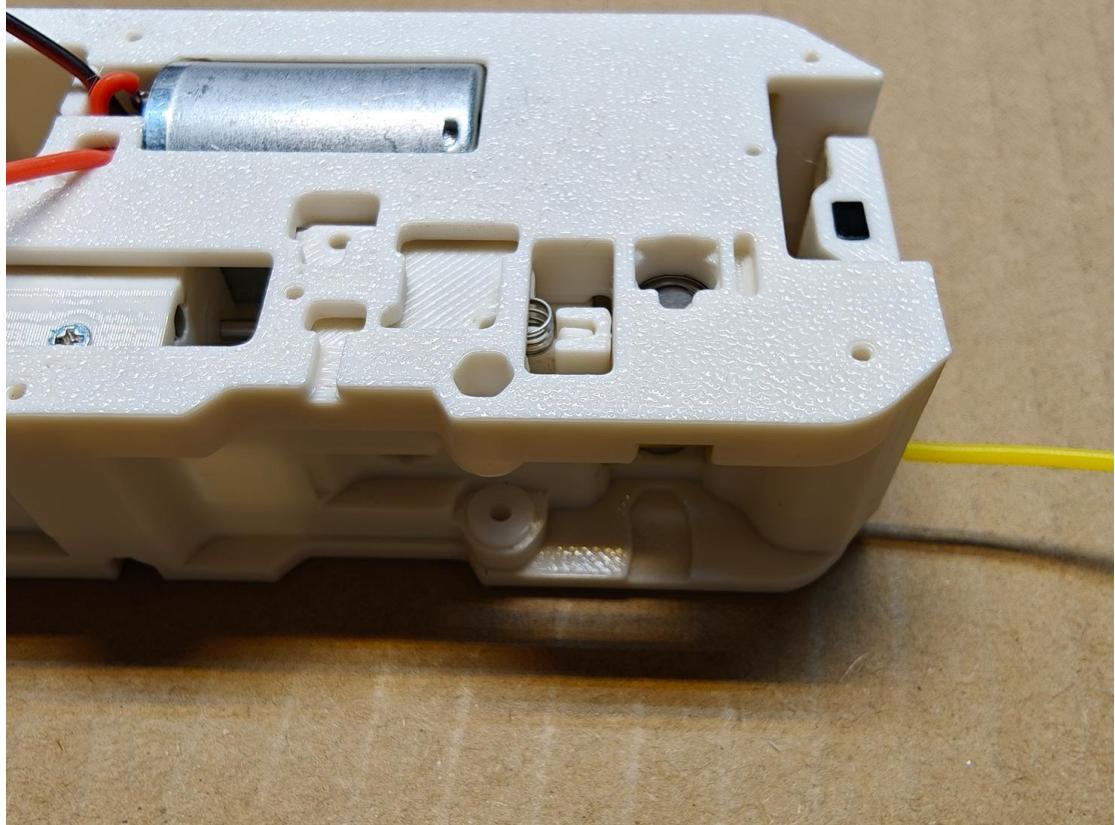
14. Put a  $0.3 \times 4 \times 5$  small spring on the trigger piece, then put on the body cover, pay attention to aligning all the axes and holes and tightening them, and pass the positive lead of the motor through the hole marked with "+" on the upper cover. Then turn the assembly over, screw 5 M2\*8 self-tapping screws into the screw holes, pay attention not to use too much force, and tighten them until there is no gap.



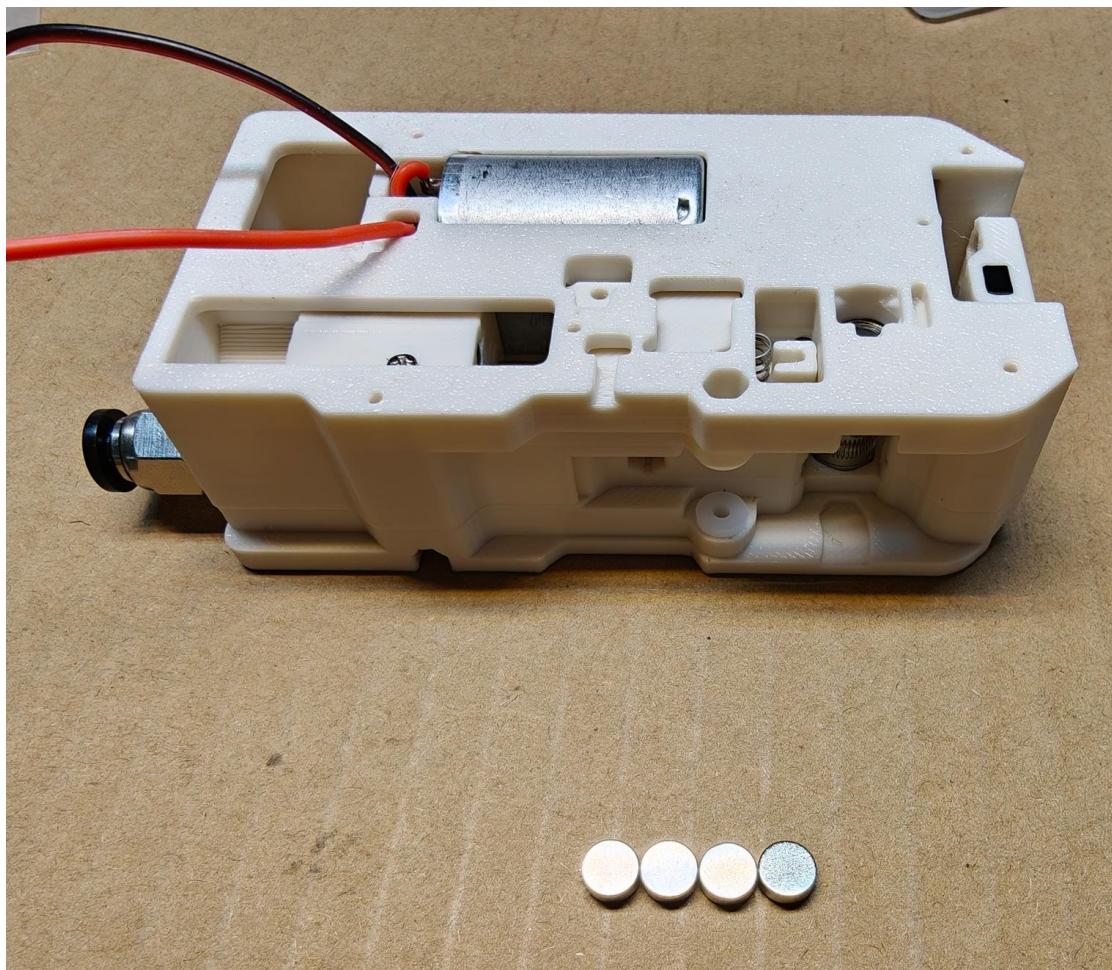


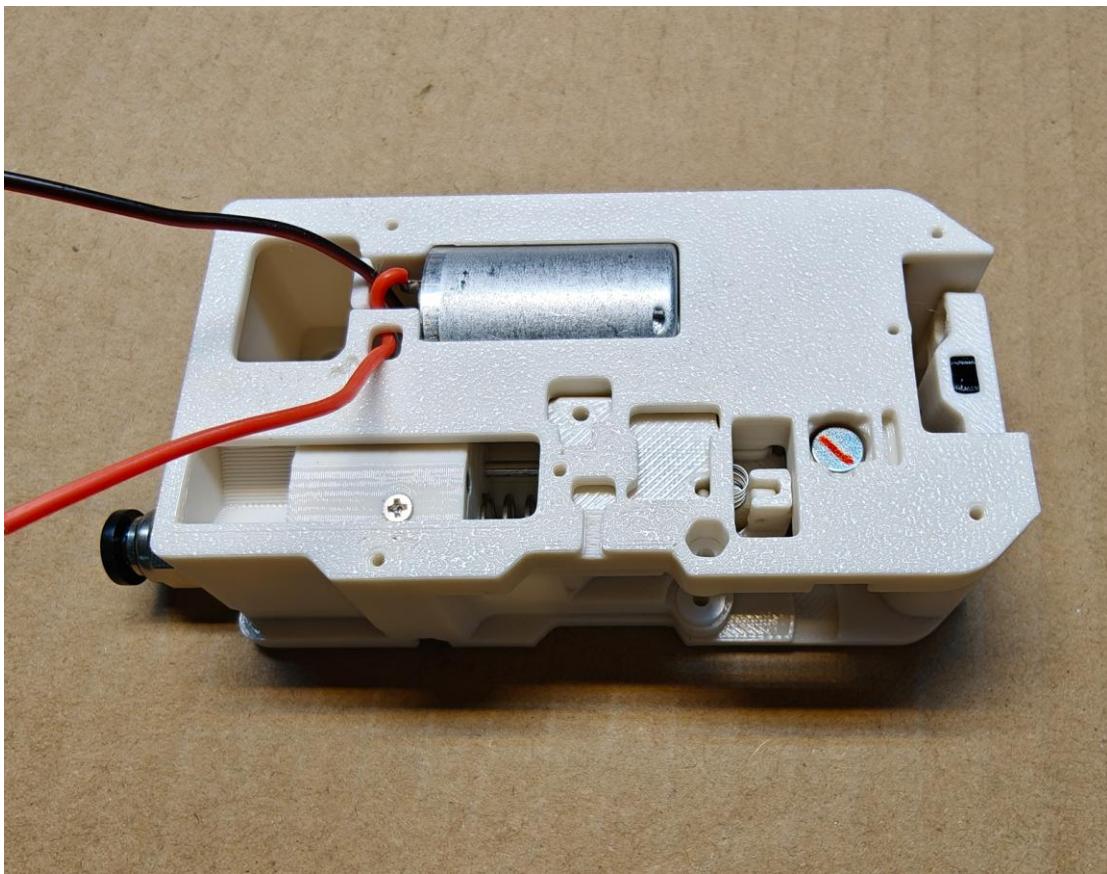


15. Test the filament sensor again to see if it works normally.



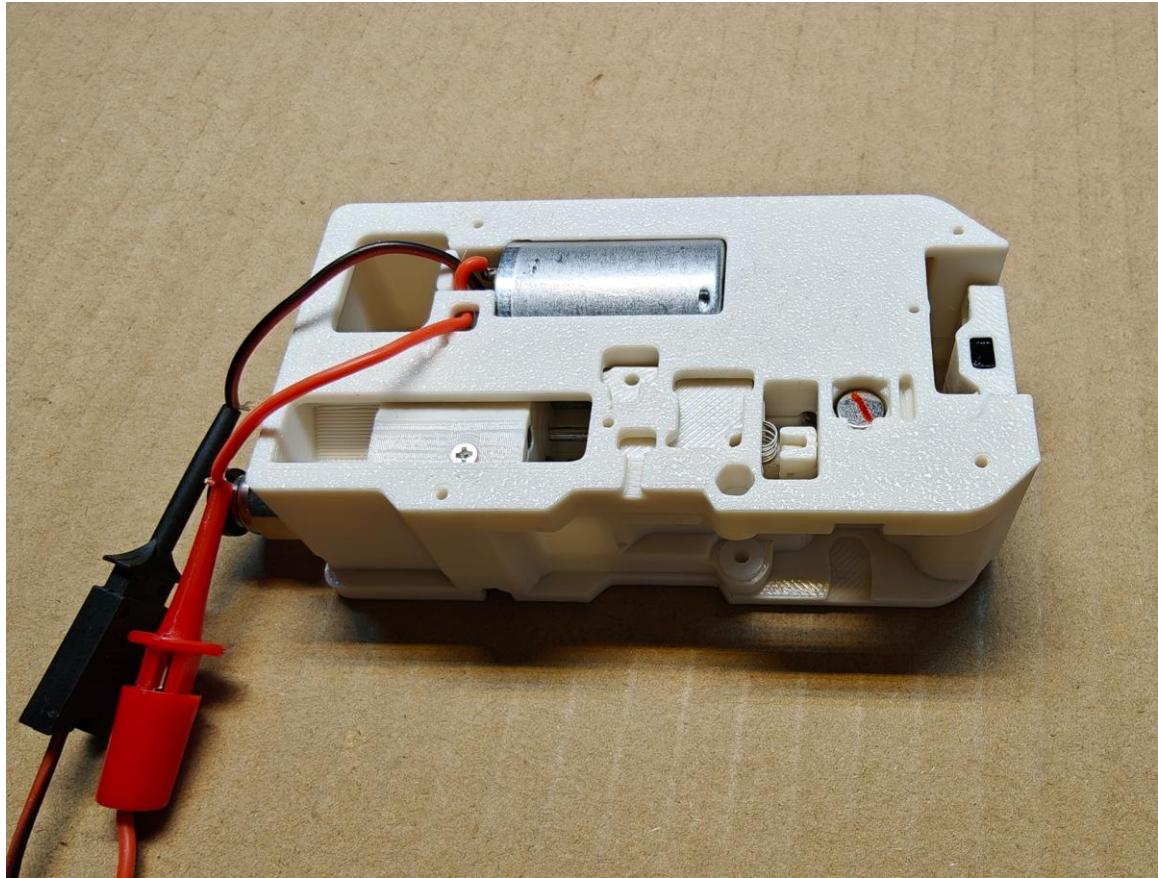
16. Place a D6H2.5 magnet (radial magnetization) on the top of the shaft of the BMG drive gear and place it completely flat.





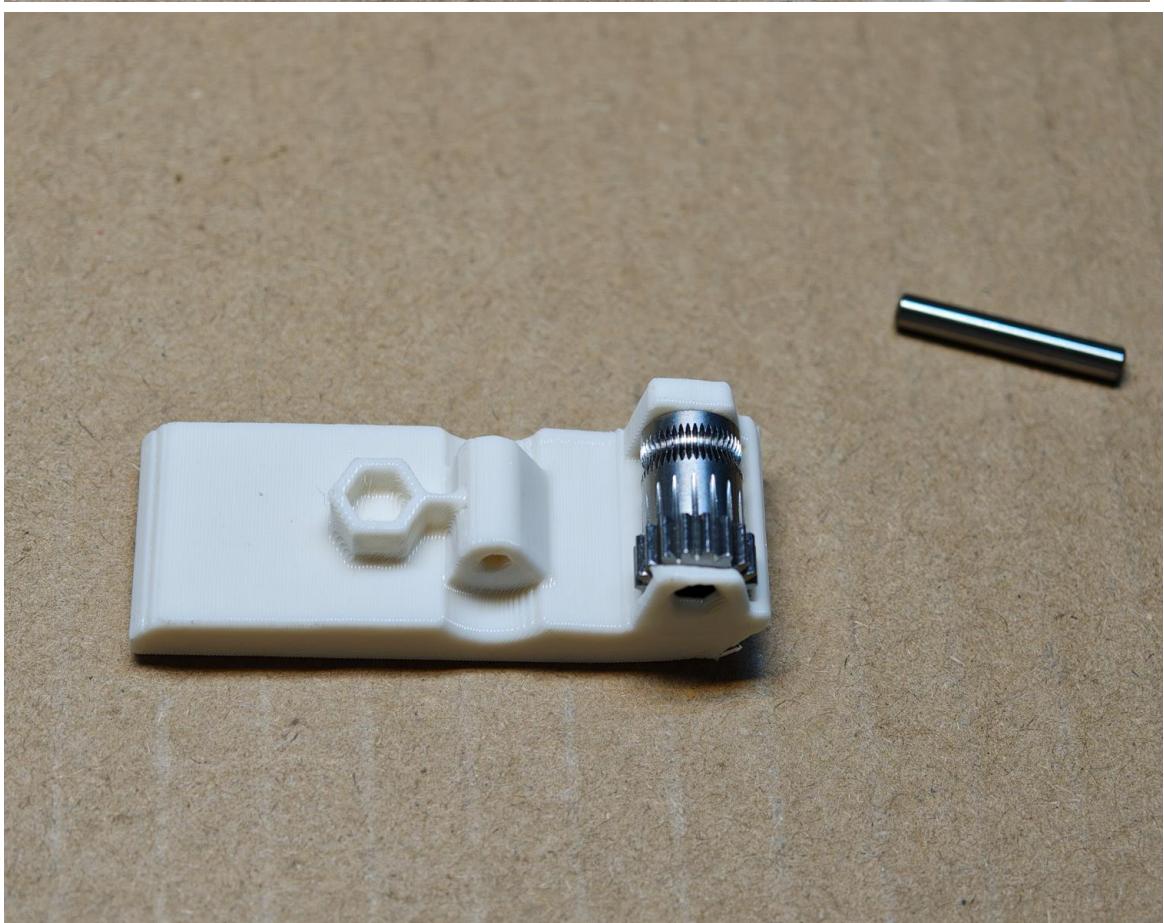
17. Apply 12V voltage to the motor through the motor lead, and observe whether the motor and gear set can rotate normally through the hole on the side, and observe whether the grease is added enough. If not, continue to add grease to the gear. If it does not rotate, you need to disassemble it again to see if the installation error has caused additional resistance to the gear set. After reassembly, continue the experiment until the 12V voltage can also make the motor drive the gear set to run easily. Observe whether the magnet can rotate synchronously with the gear. If it does not rotate or is not completely synchronized, it needs to be adjusted. Loosen

the set screw and push the filament drive gear shaft out a little bit from the hole on the bottom, so that the end face of the shaft is slightly higher than the bearing. The height should be less than 0.5MM, then tighten the set screw and power on again for testing. Make sure that the magnet and filament drive gear are completely synchronized, otherwise the bmcu will not work properly. Observe the direction of rotation of the gear. If the rotation direction of one module is different from that of others under the same positive and negative poles, then the lead of this motor is solder in reverse.



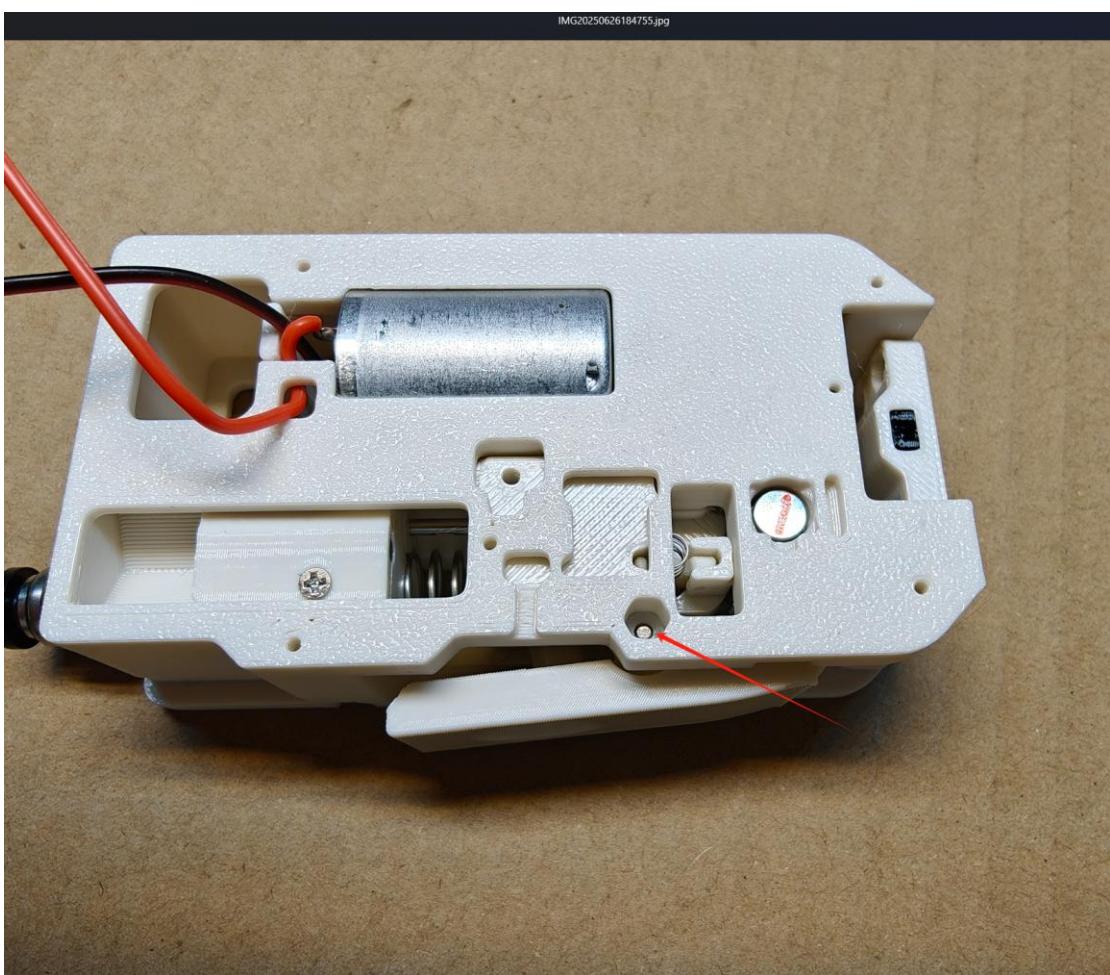
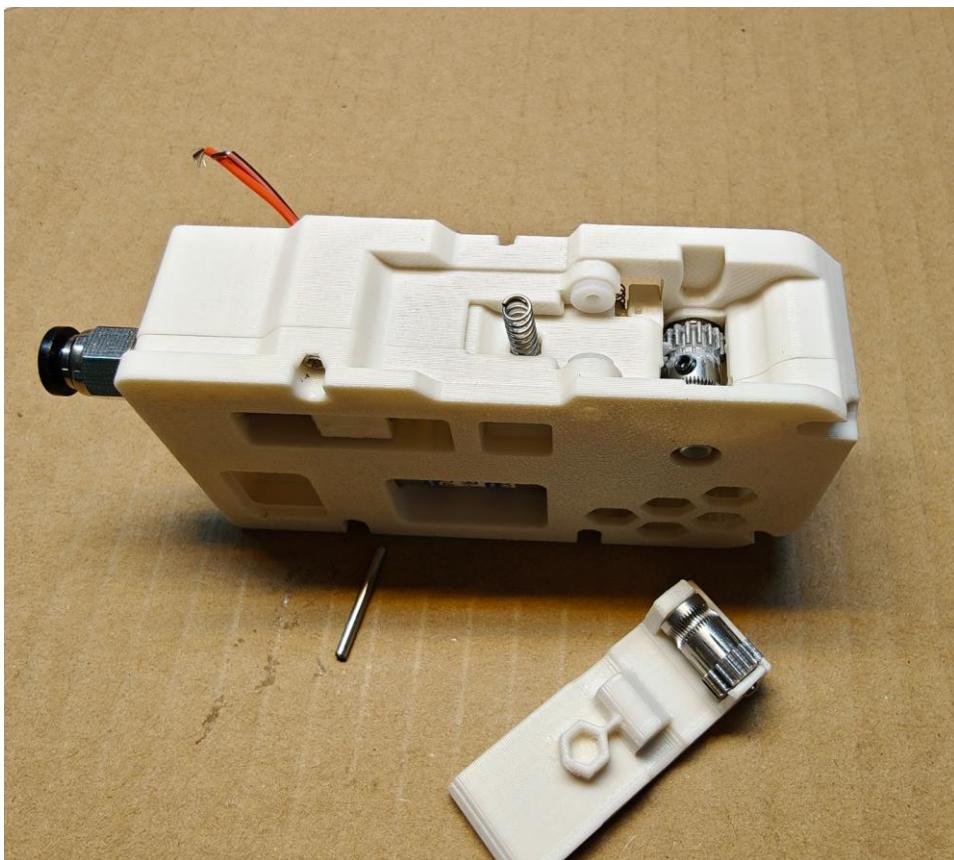
18. Take out the filament drive wheel without the set screw, the two needle bearings and the shaft of the D3L20, apply some gear grease on the inner wall of the drive gear and the needle bearings, and then put them together as shown in the figure below. It will be easier to insert the shaft from the thinner side of the handle. Wipe off the excess gear grease.



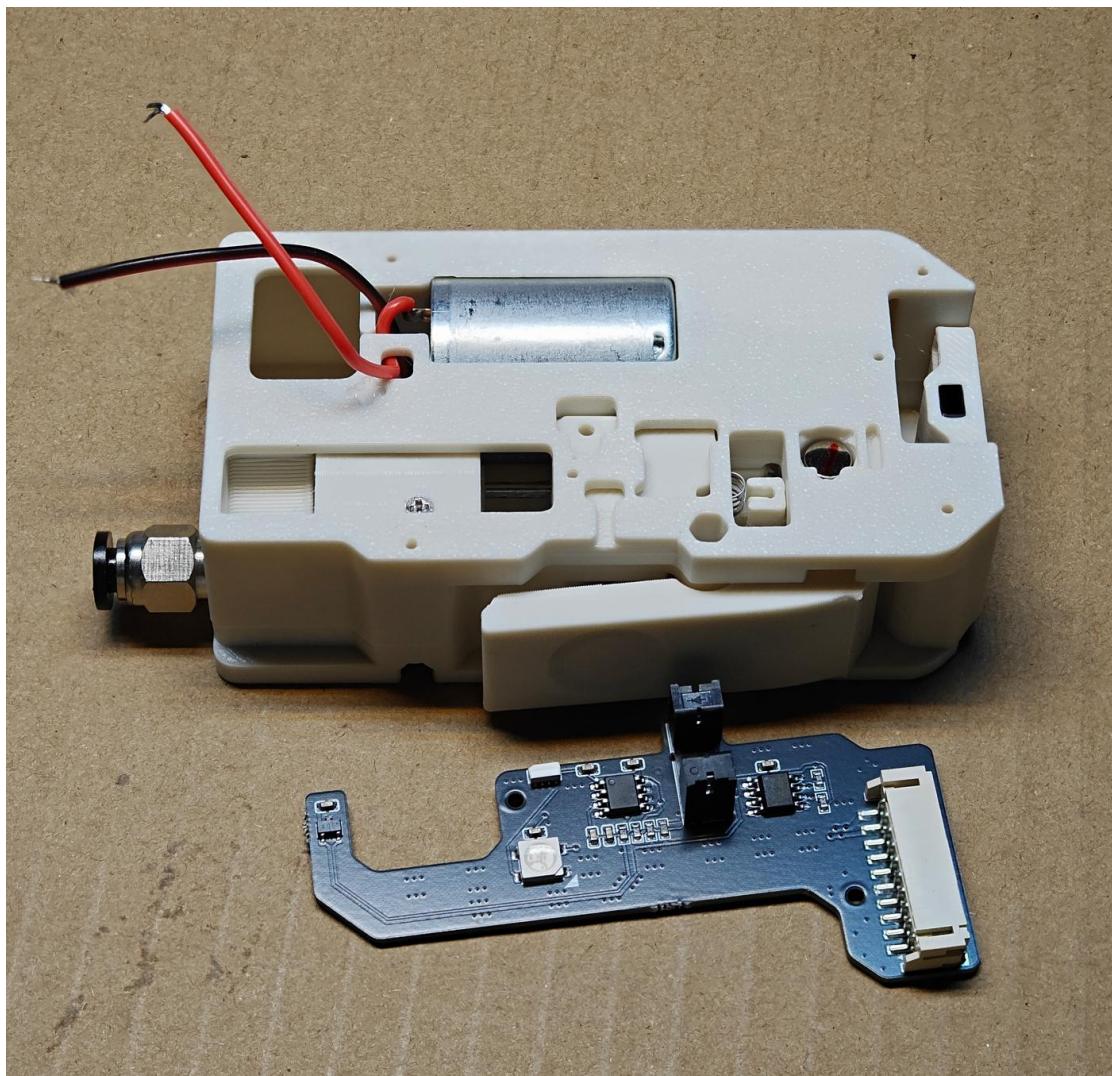


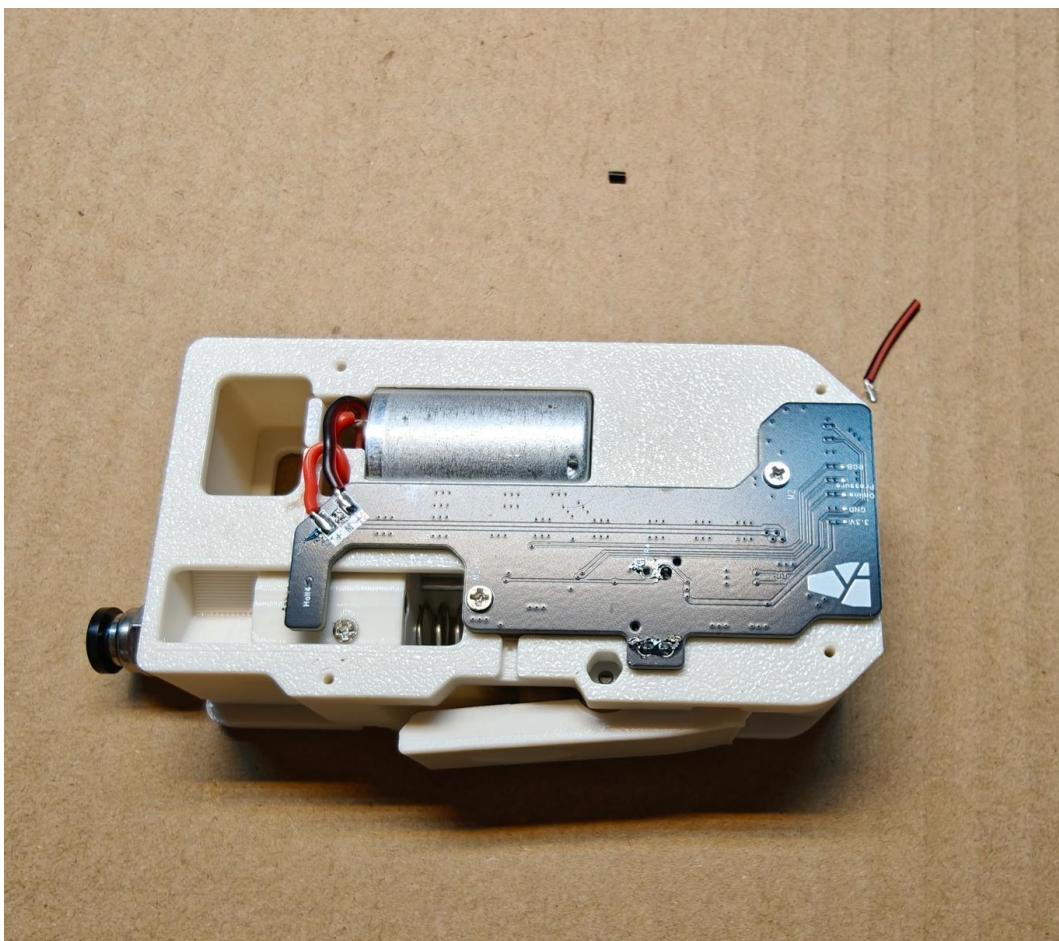
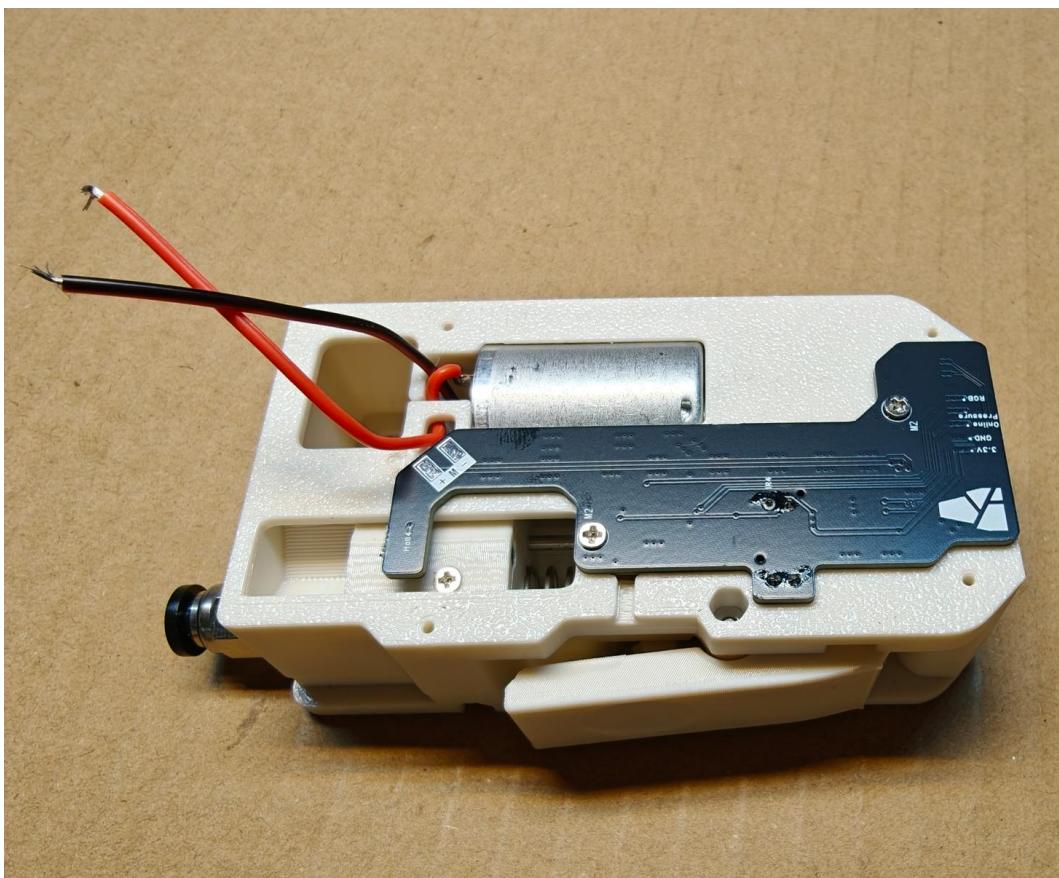


19. Take out a 0.6\*4\*15mm spring and place it in the fixed position of the body. Then use a D2L20 pin to fix the handle assembled in the previous step to the module, and press it by hand to see if the filament can be compressed and released normally.

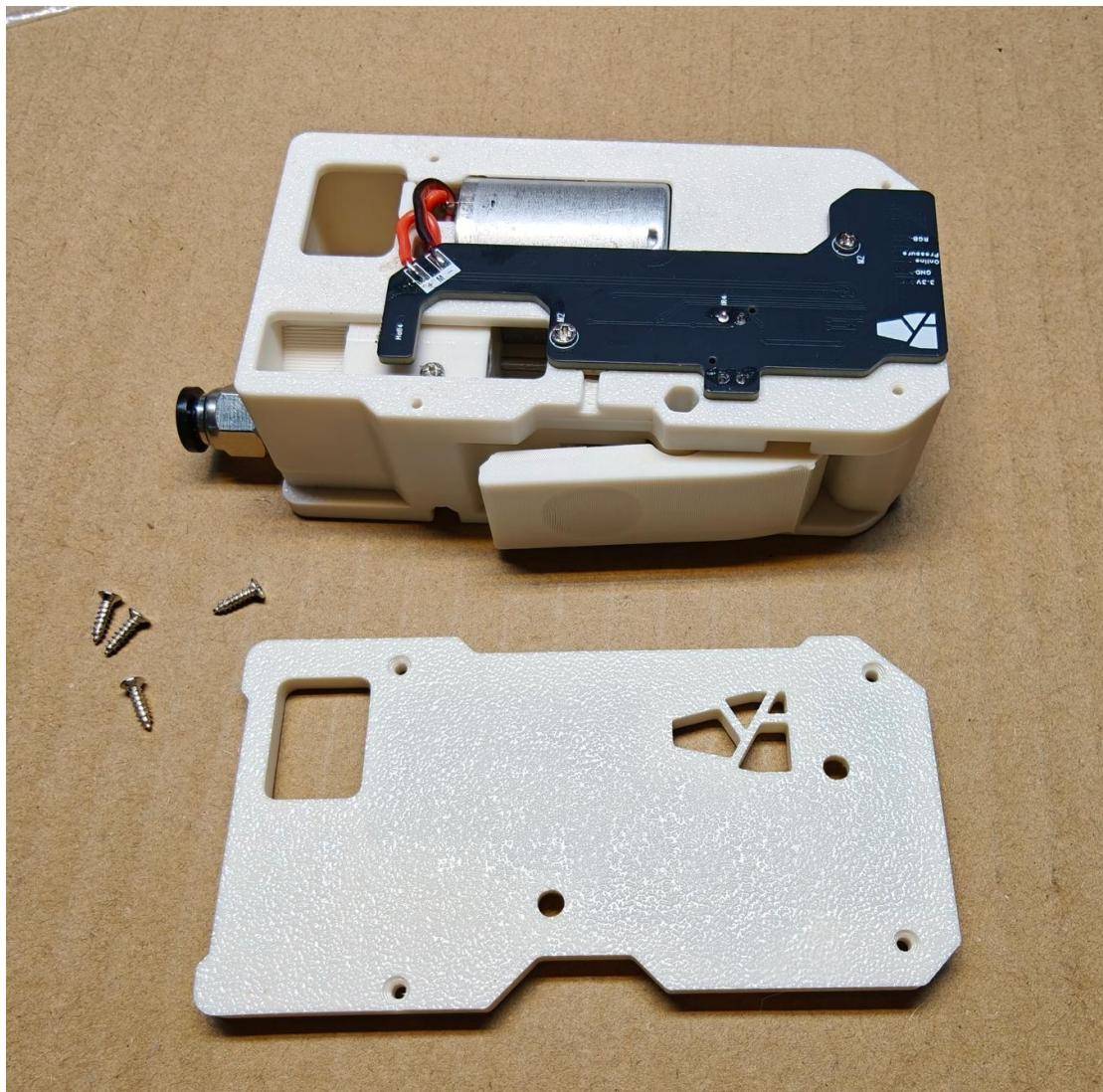


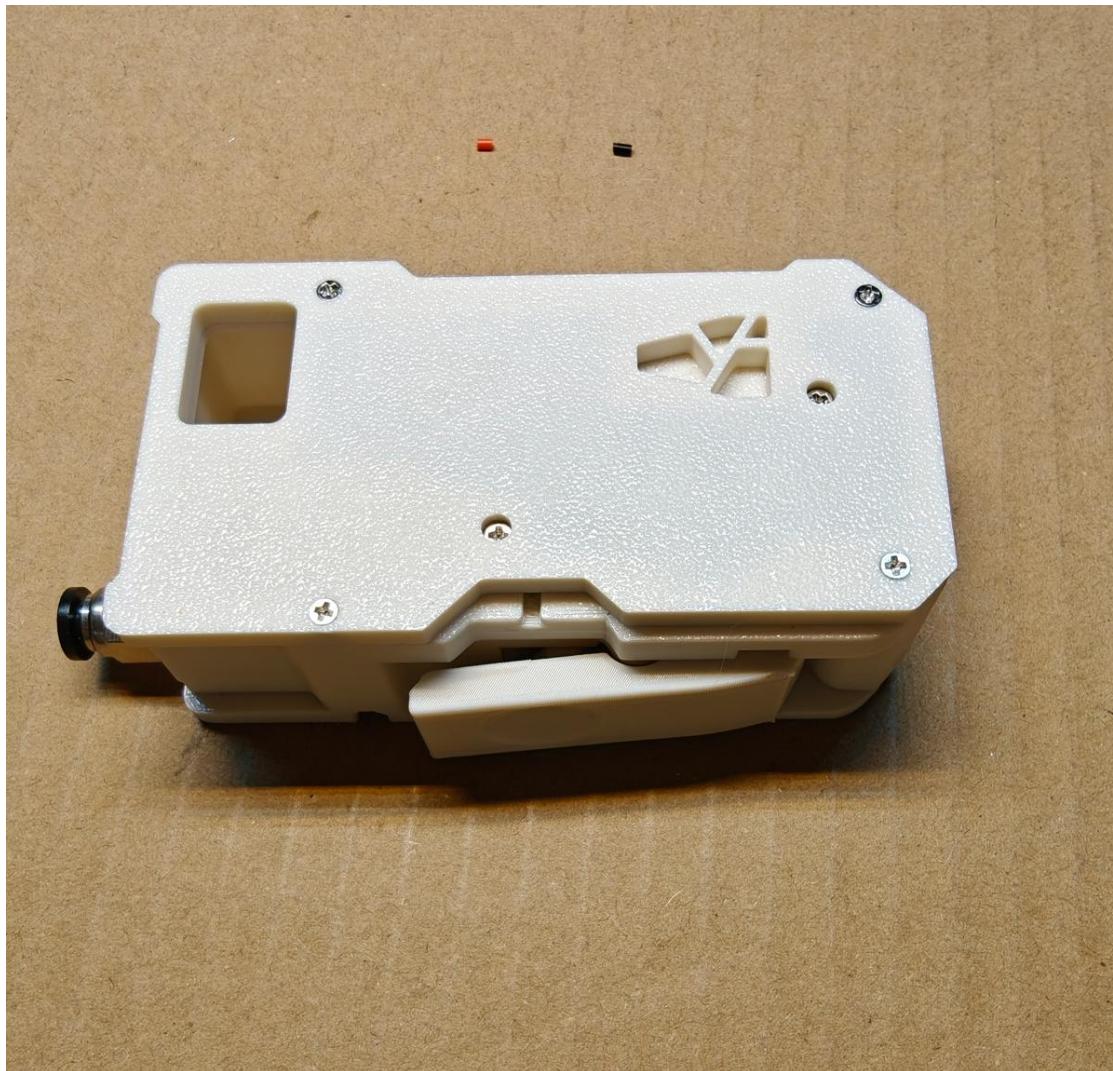
20. Install the daughter board to the assembly and fix it with two M2\*8 self-tapping screws. Then cut the motor wires to the appropriate length and solder them to the pads. The red wire should be soldered to the pad marked as the positive electrode.



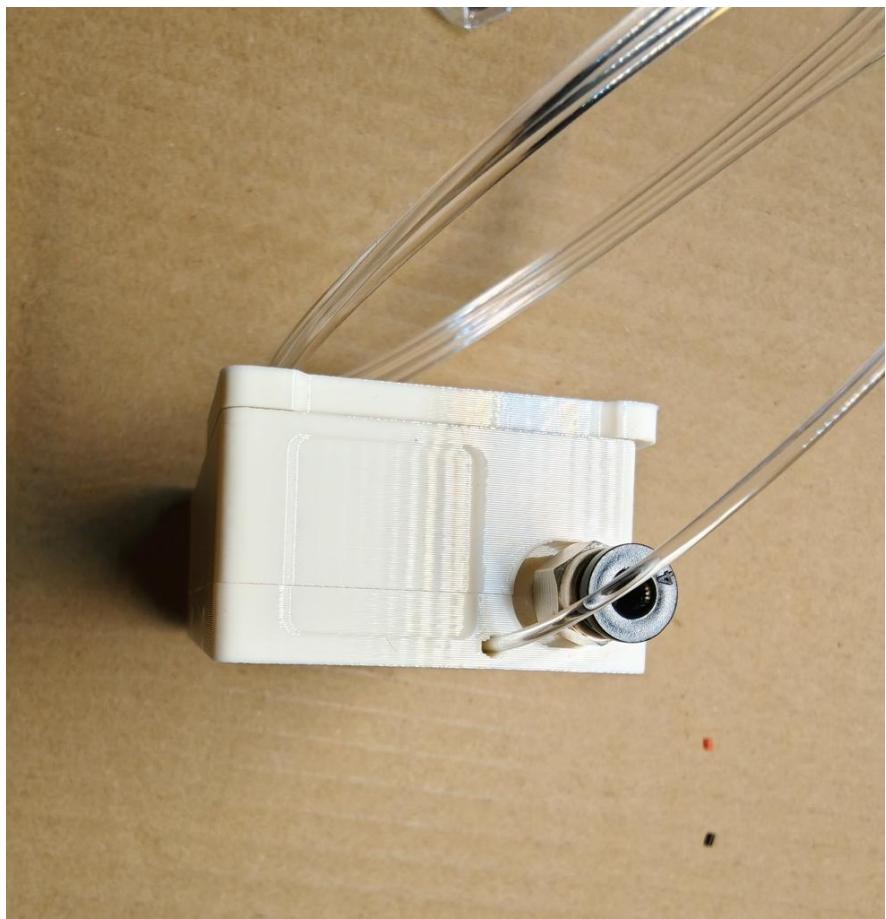


21. Cover the printed PCB cover and be careful not to pinch the motor leads. Then fix it with four M2\*8 self-tapping screws. Check the gap on the side to make sure there is no obvious gap on the side.



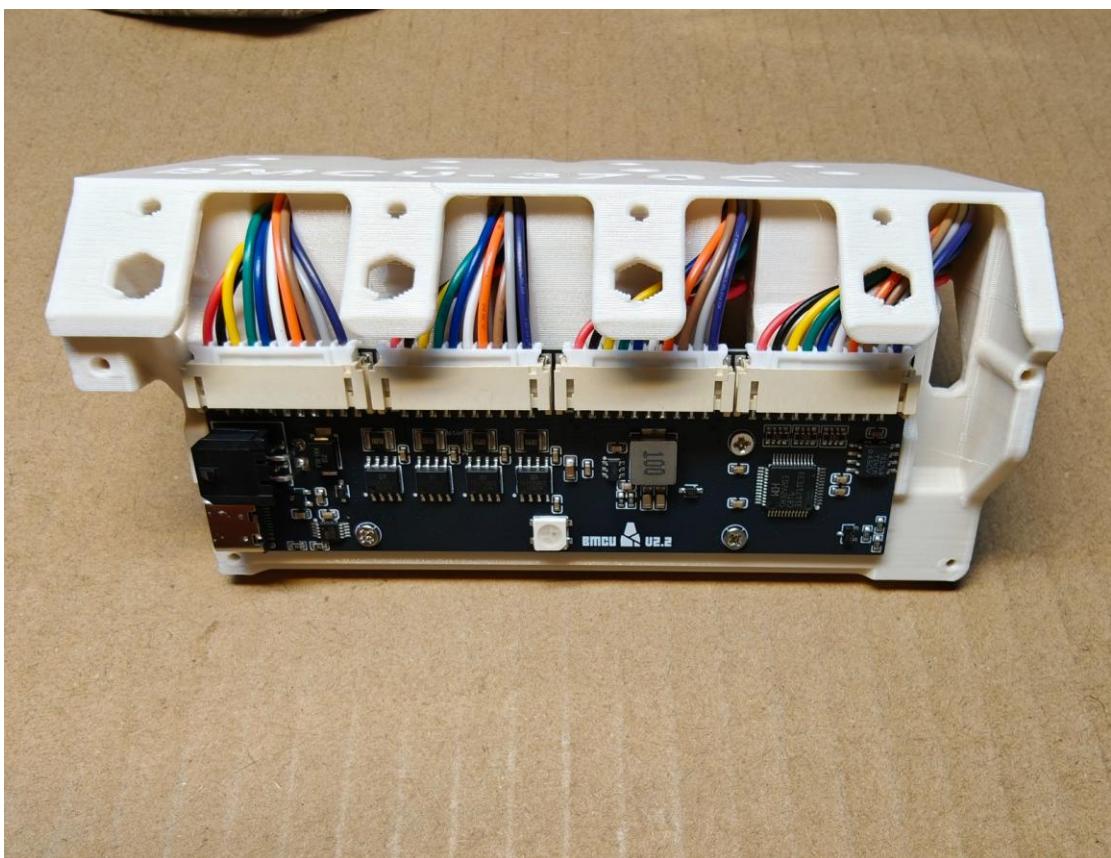
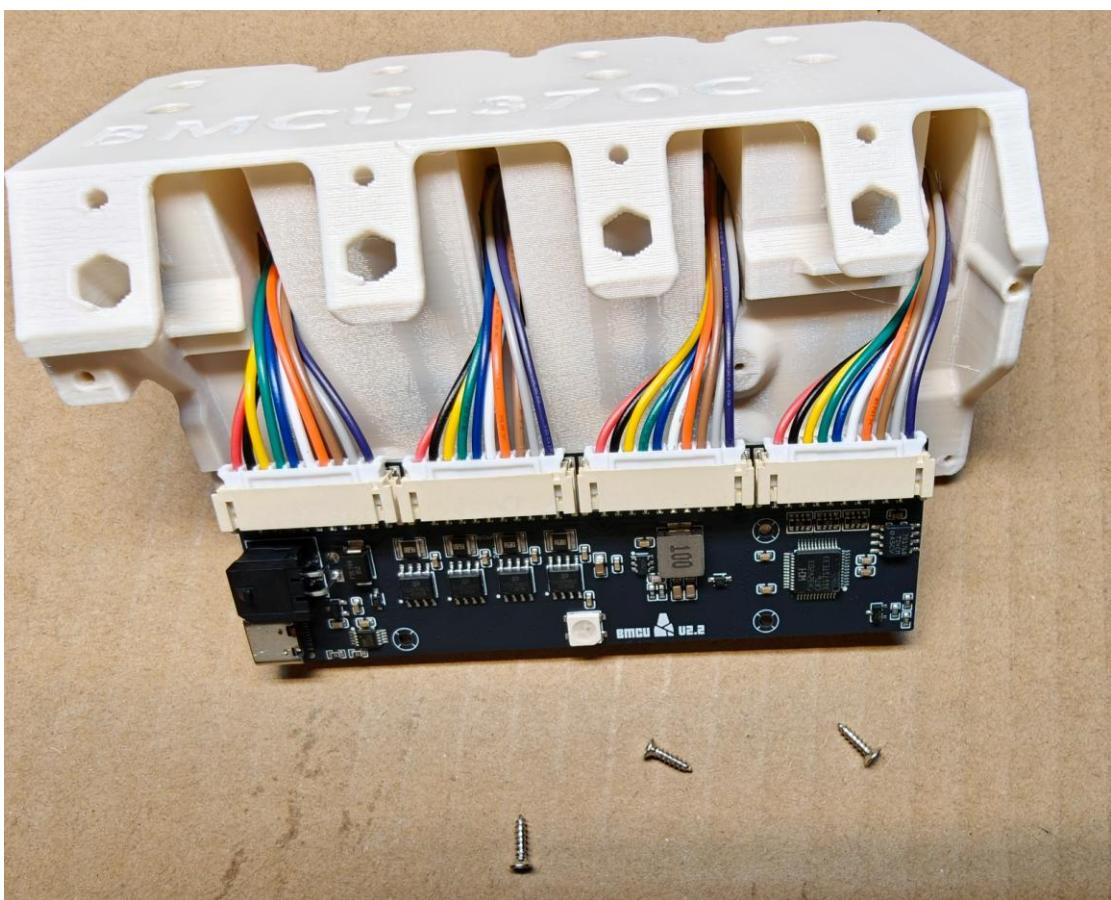


22. As shown in the figure below, insert a transparent filament into the hole until it reaches the bottom. If insertion is difficult, apply a little grease to the filament tip. You will feel it bend inside. Then use a sharp blade to cut off the excess filament into a flat end face that is flush with the outer shell. This way you have installed one module. Repeat the above steps to continue installing the remaining 3 modules.



23. Plug the motherboard with 4 rainbow cables, and then install it on the base body as shown in the figure, align the fixing holes with the screw holes of the base, and fix it with 3 M2\*8 self-tapping screws. Then cover the base PCB cover, and then fix it with four M2\*8 self-tapping screws. The PCB cover of the base also needs a transparent filament. After inserting it to the bottom, use a blade to cut out a flat and smooth section.

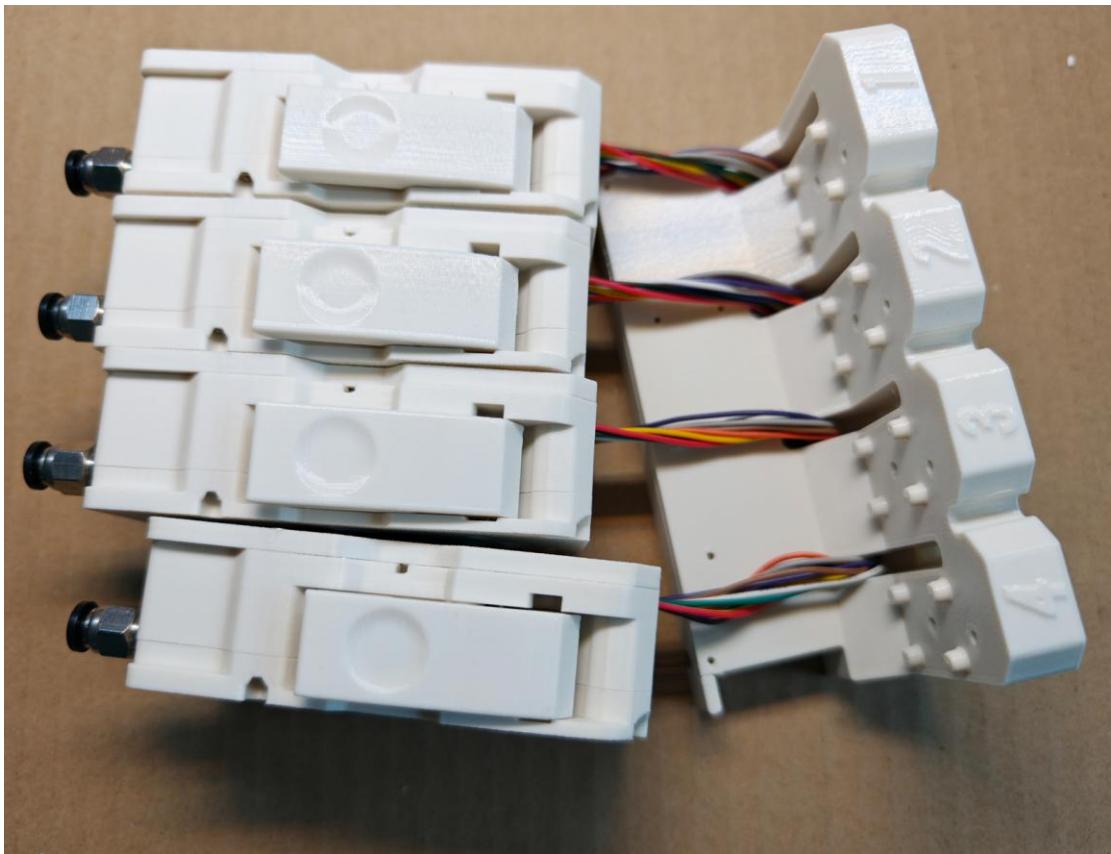




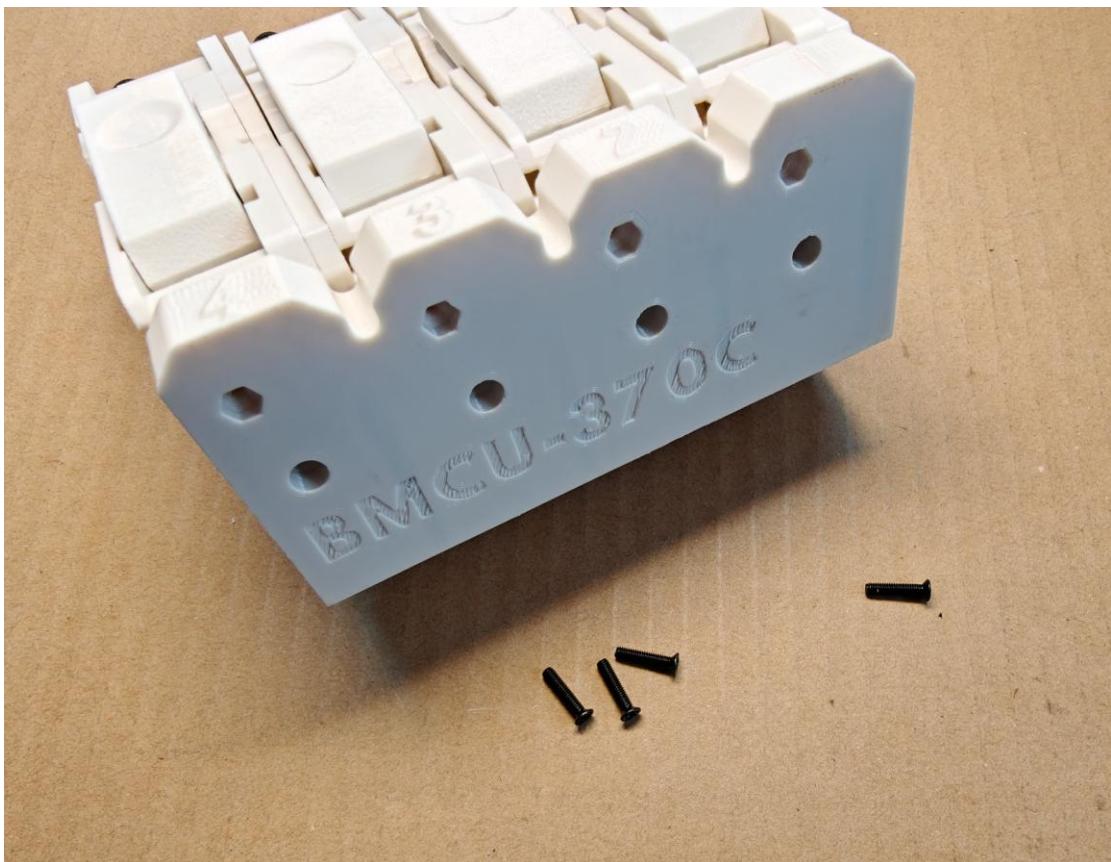




24. Insert the four modules into the four cables of the base, and then fix them on the base with the handles facing outwards as shown in the figure. Be careful not to pinch the cables in the gap between the modules and the base, and all of them should be stuffed into the cable groove.

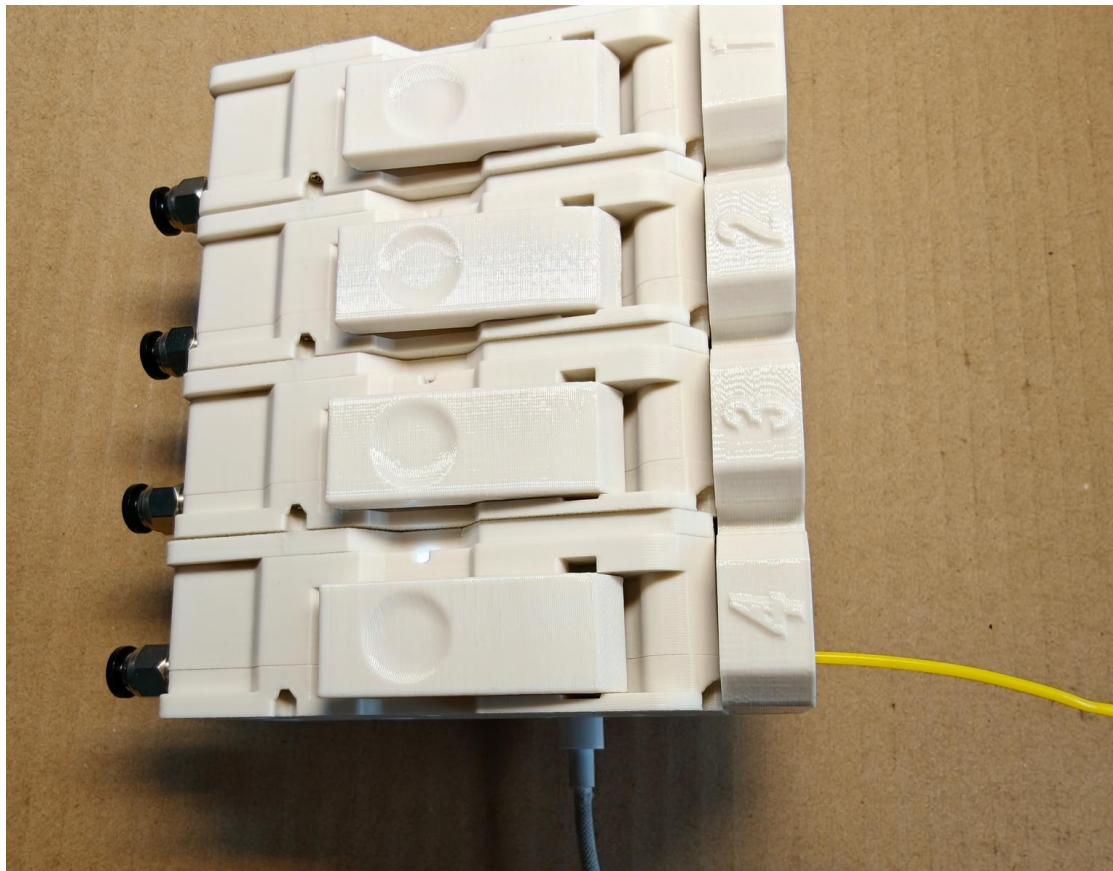


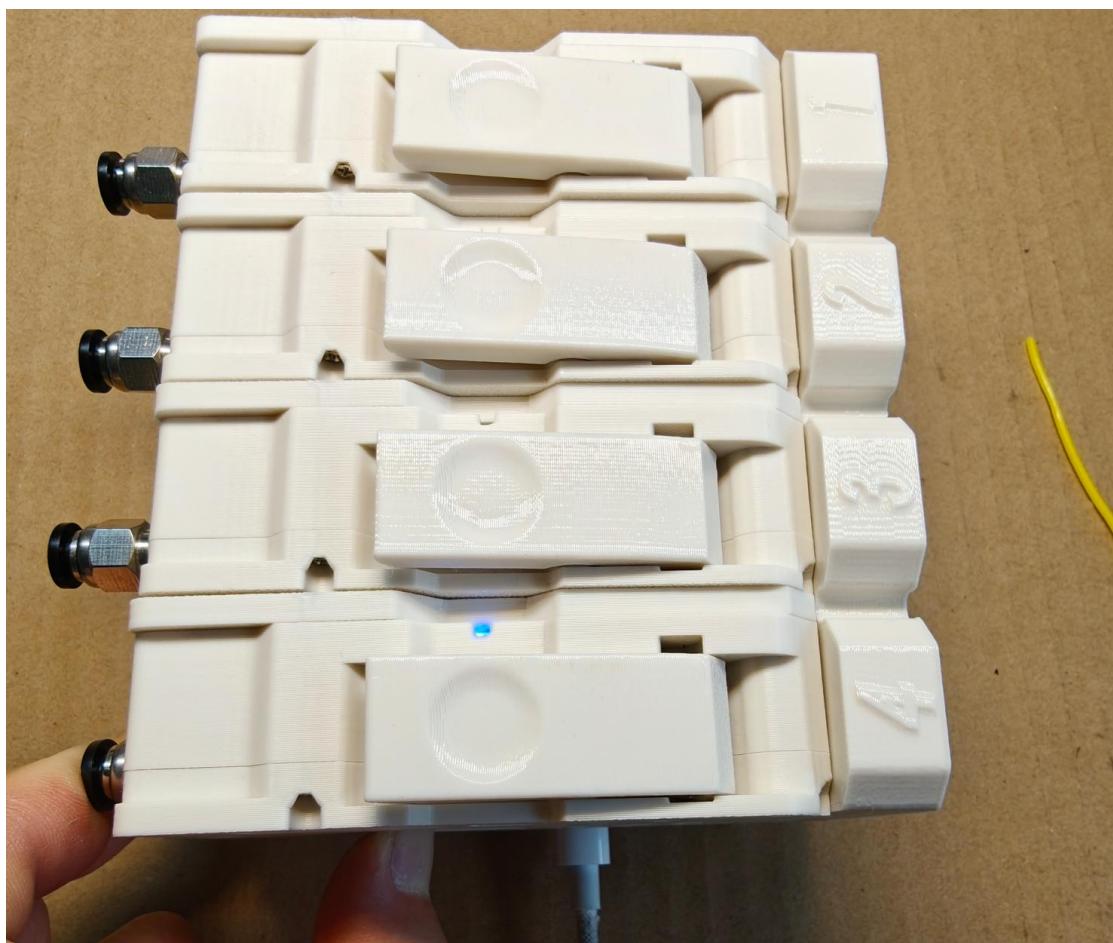
25. Use four M3\*14 flat head screws to pass through the base to fix the four modules on the base. If the module and the base are skewed after tightening, it may be because the wires are pinch in the gap. You need to disassemble and reorganize the wires before continuing to fix them.

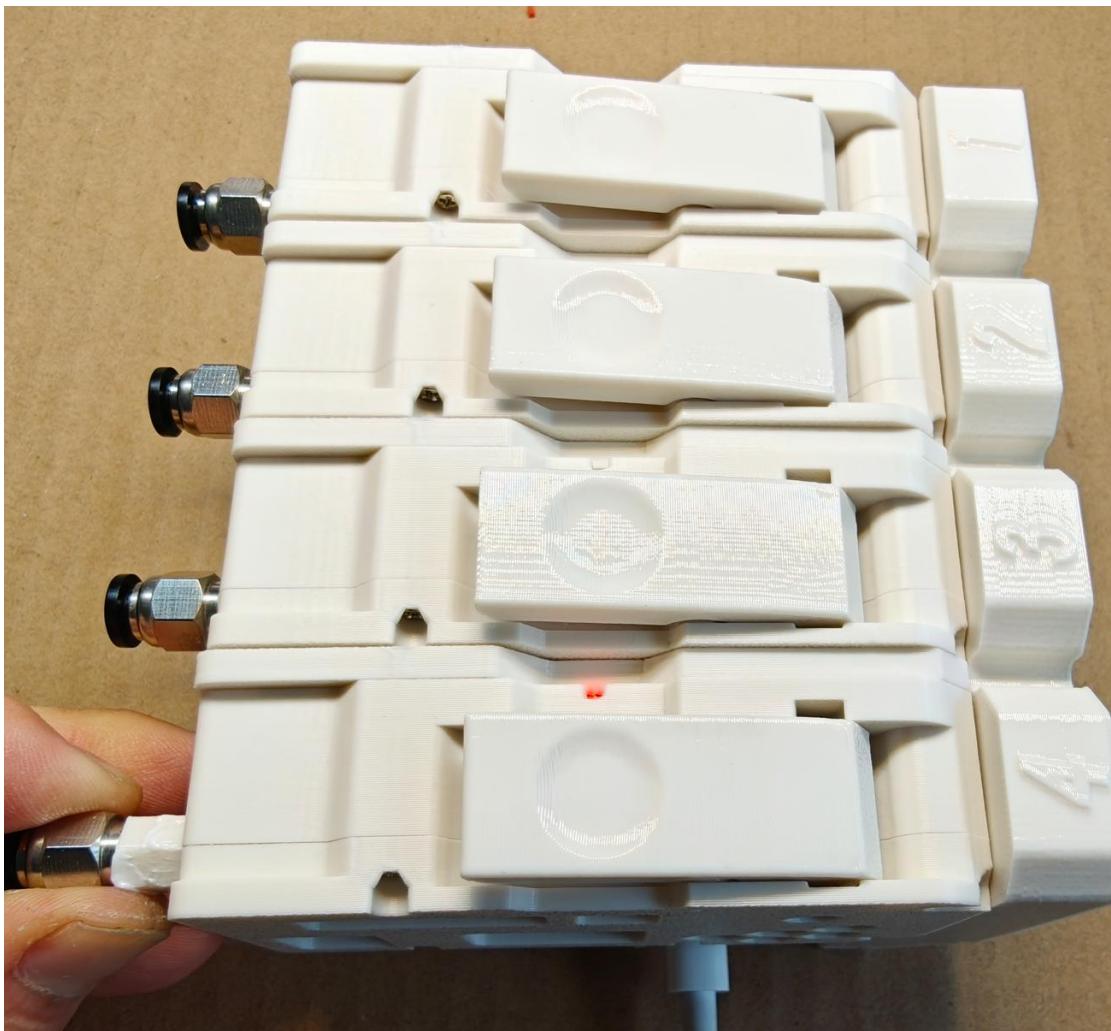


26. After everything is fixed, use USB to power the motherboard. Because the correct firmware is flashed before delivery, you generally do not need to flash the firmware again. Unless you start assembling it a long time after receiving it, you may need to flash a newer firmware. After powering on, you can insert the filament into each module to see if the indicator light on the side will light up white (sometimes warm white), and rotate the filament to see if the white light will go off and on. If the white light does not light up, or does not go out after removing the filament, it means that the trigger piece of your filament sensor is abnormal and you need to

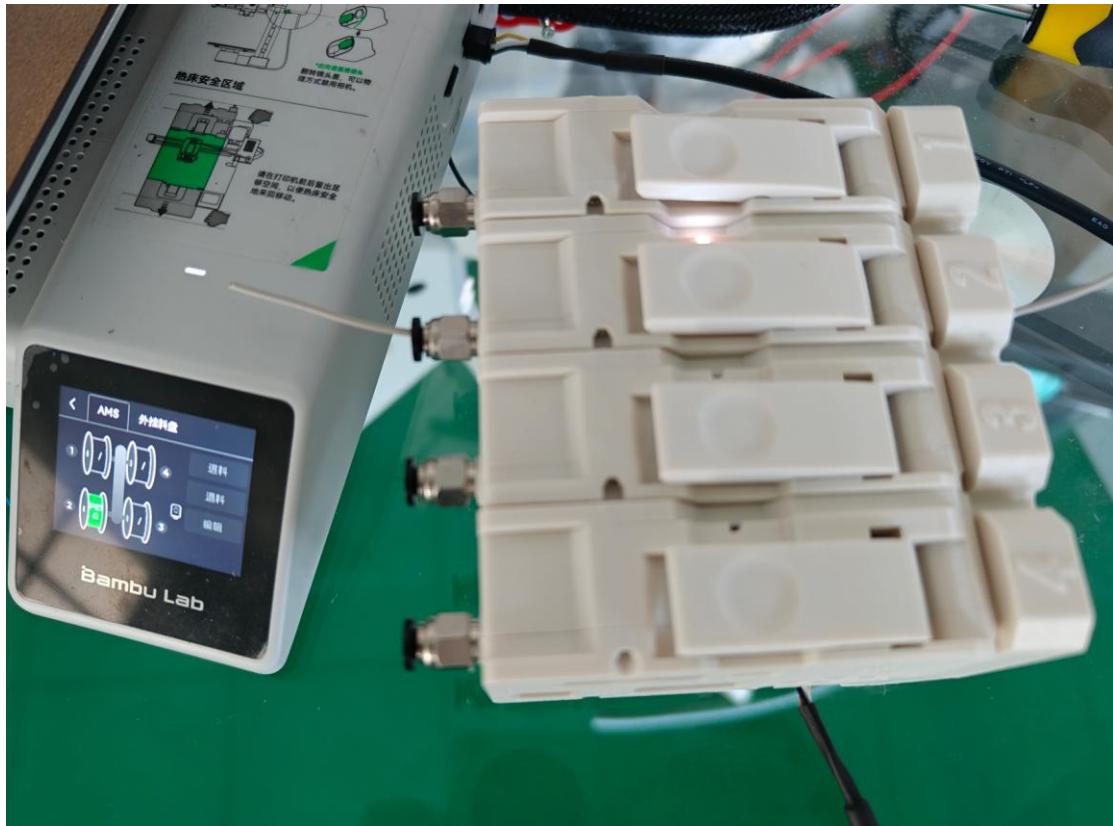
disassemble and reassemble the glass ball trigger piece and spring. After removing the filament, press the slider to the bottom. At this time, the indicator light on the side will turn blue (some will be purple), and it will turn red when the slider is fully pulled. Check these 4 modules one by one. If all are normal, you have completed the installation of the BMCU370C hardware. If the color of your indicator light is opposite, then the magnetic pole direction of your D3L10 magnet is installed in reverse. You need to disassemble and reverse the direction of the magnet before testing.



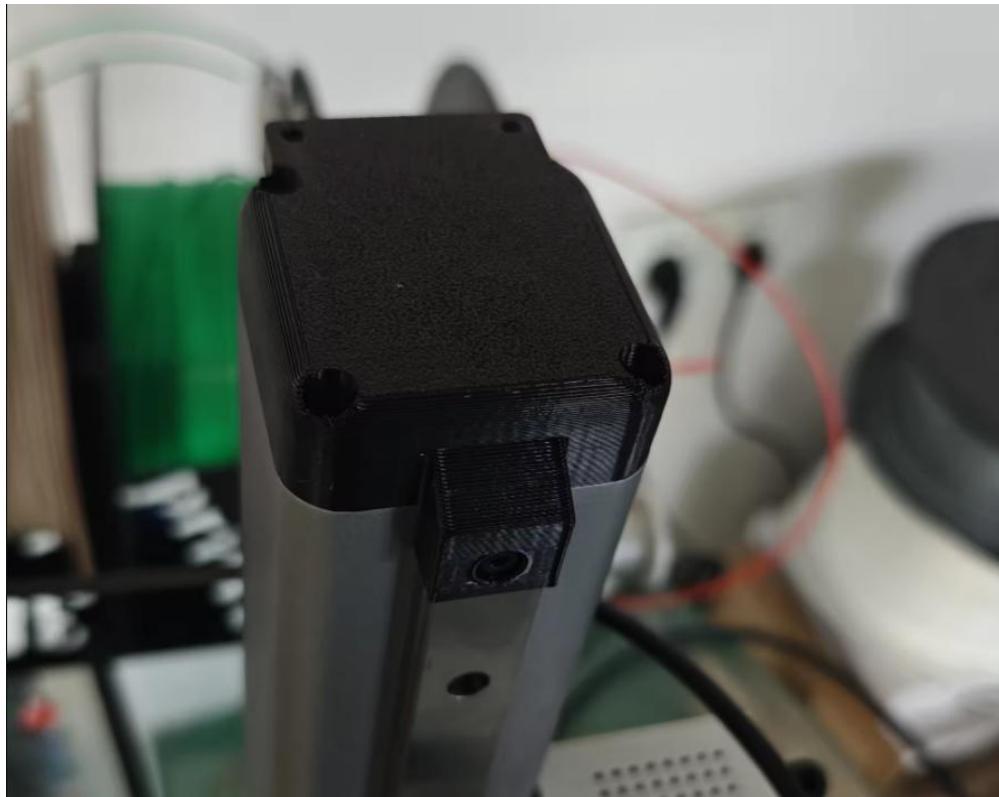




27. Turn off the printer, connect the BMCU370C via the AMS cable, turn on the printer, wait for the print to start, and then you should find the AMS option in the filament menu on the printer's touch screen. Load the filament in a channel and press the slider. The channel will drive the filament in the direction of the tool head. If you pull the slider, it will pull the filament in the opposite direction. If your filament is driven in the opposite direction, then the polarity of your motor wires may be soldered in reverse.



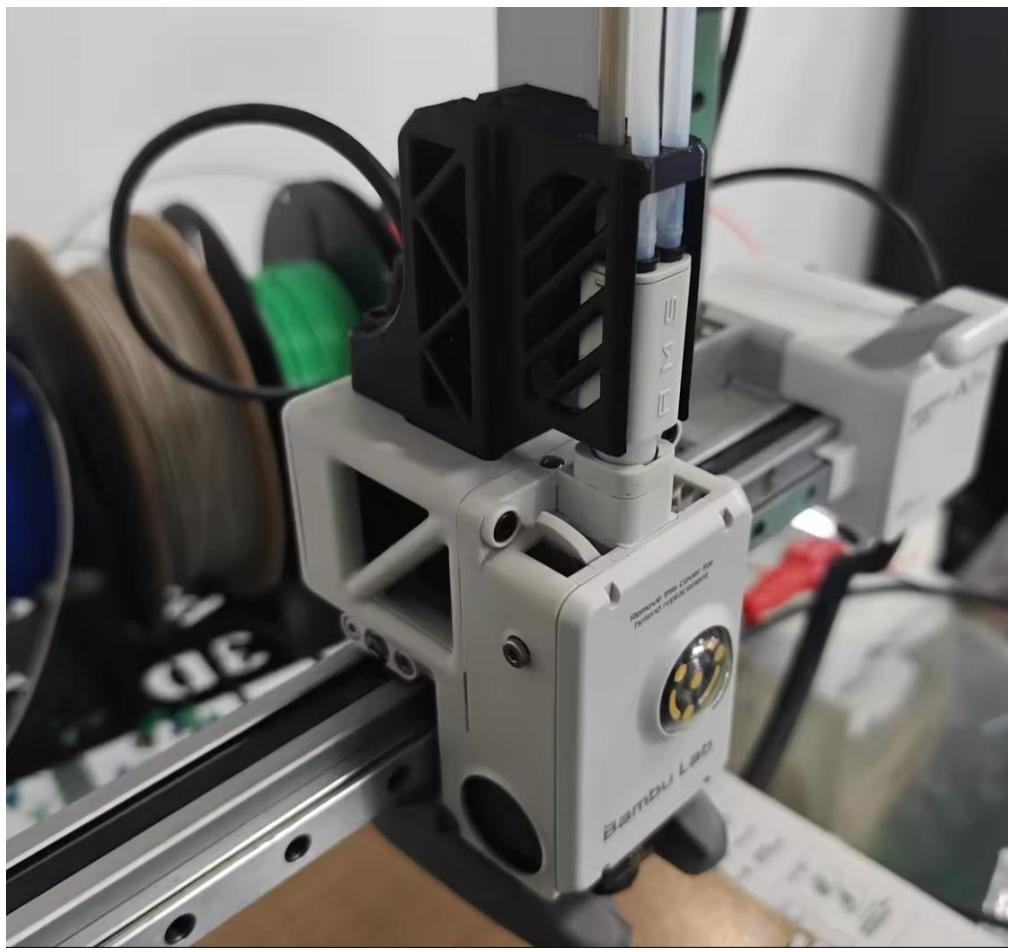
28. Install the bracket to fix the BMCU on your printer

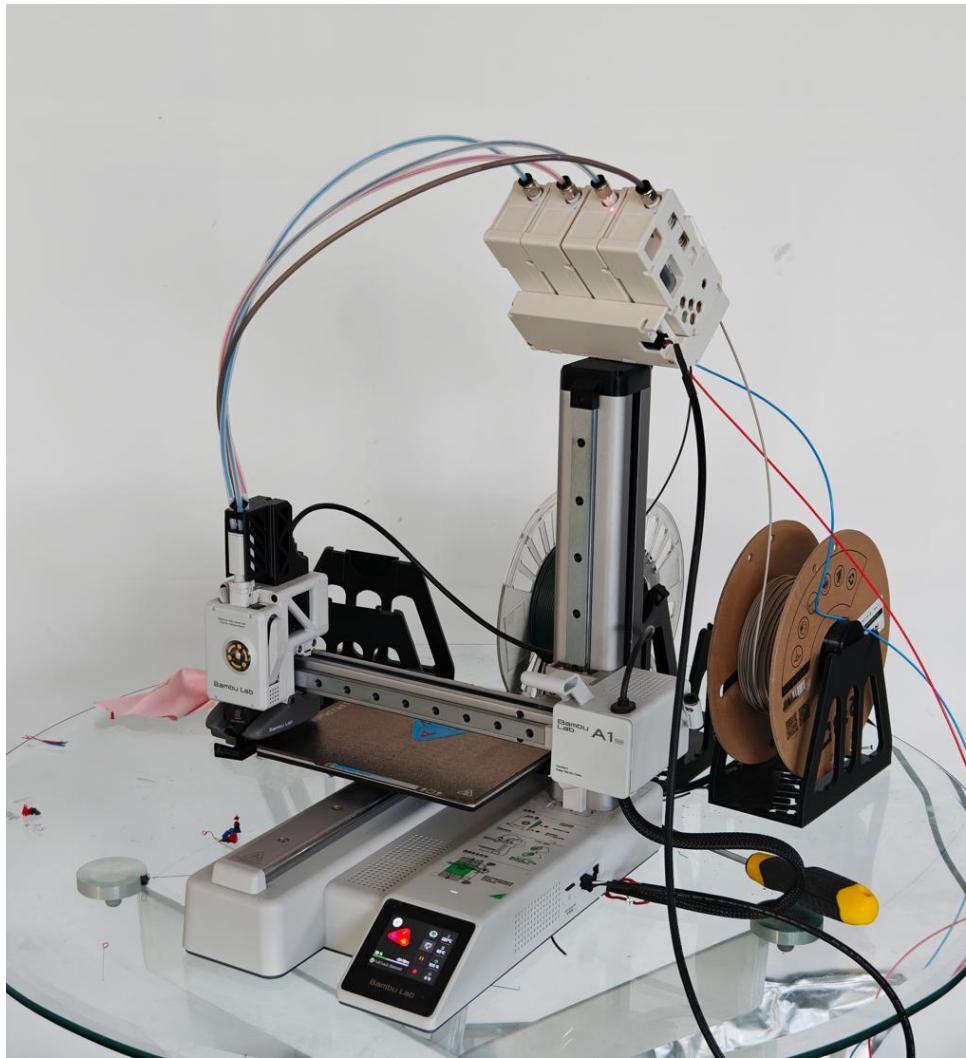


29. Use two M3\*14 self-tapping screws to fix the BMCU to the bracket.
30. Cut four 4\*2.5 PTFE tubes to connect BMCU and filament hub. The length of the tubes depends on where you fix the BMCU. They should be neither too long nor too short. According to our experience, a filament hub protector is essential, you can try to install this protector. A reliable filament spool holder is also a must.

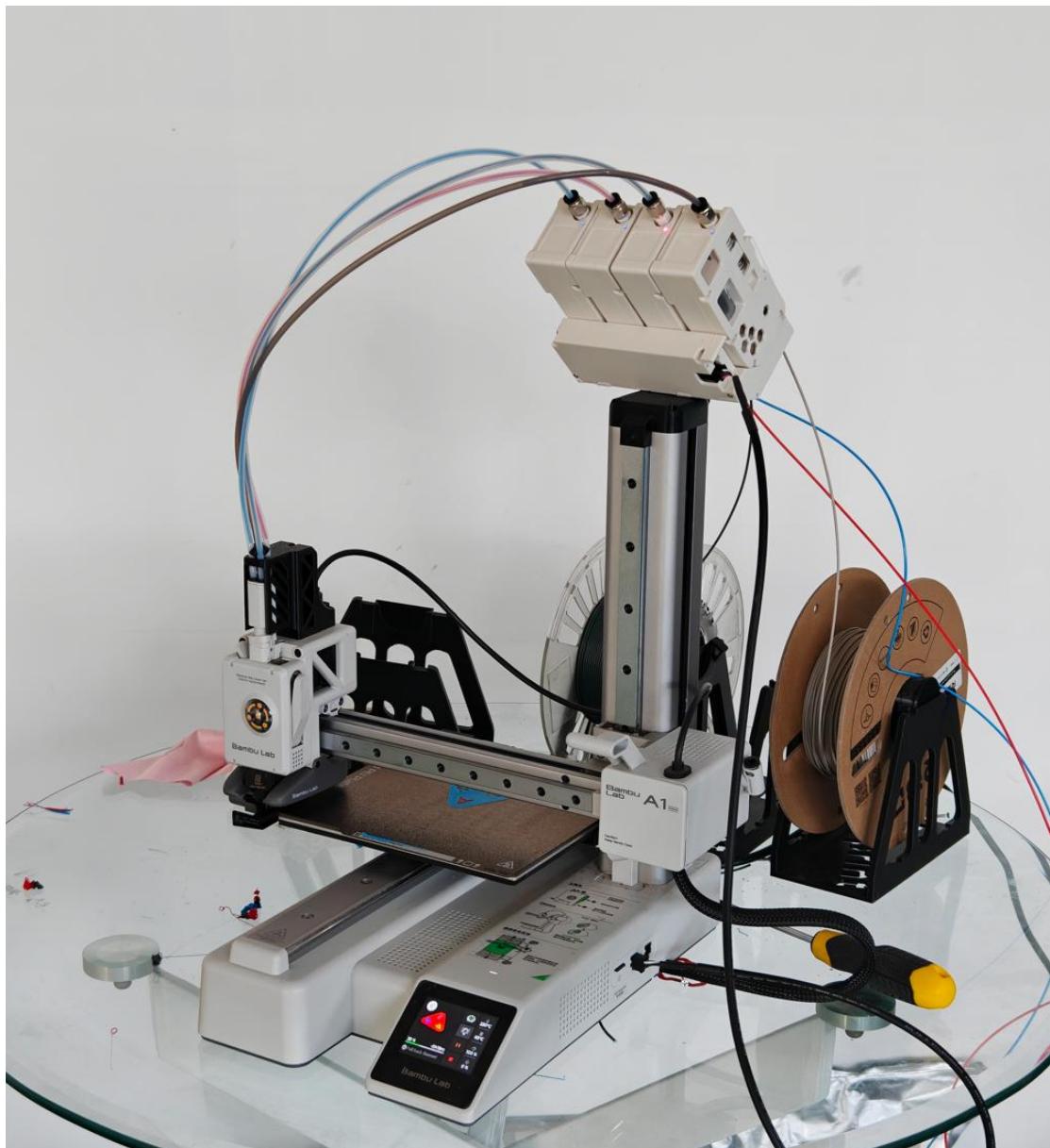
<https://makerworld.com.cn/models/671696>

<https://makerworld.com/zh/models/1096062-mms-a1-mini-spool-holder-4-spools>



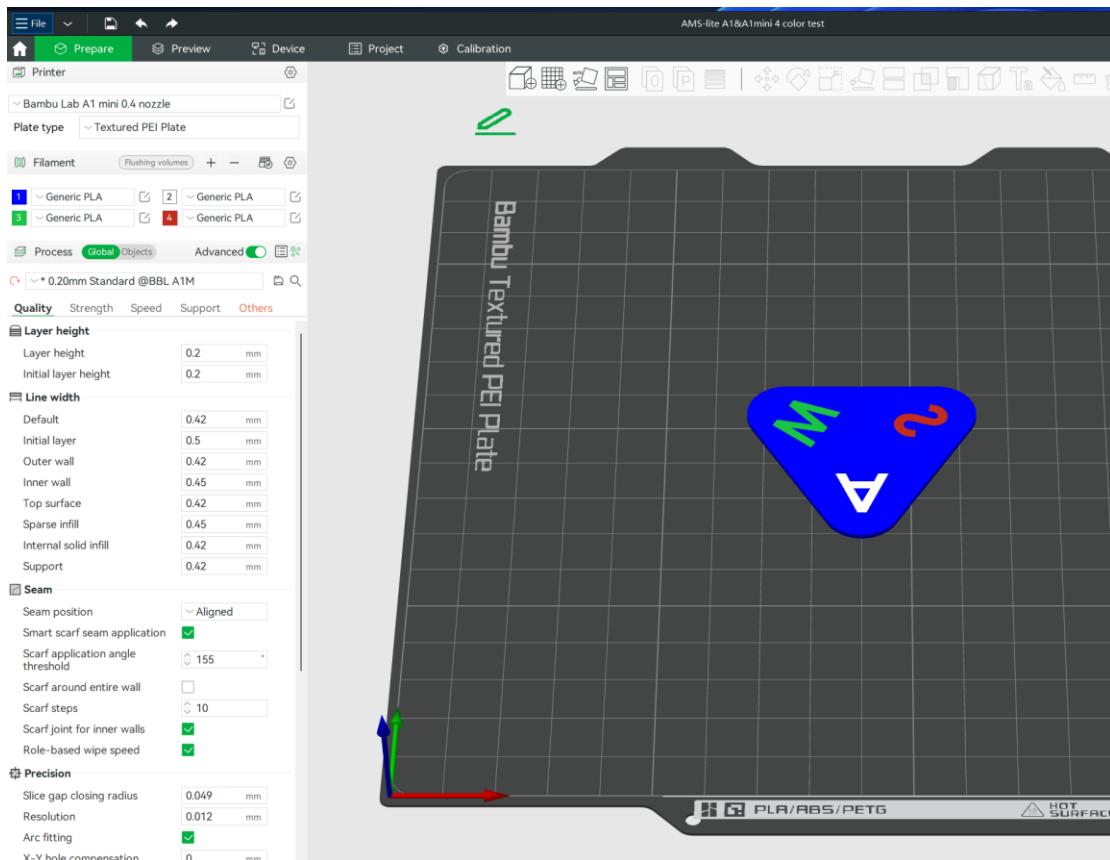


31. Fix the BMCU on the printer with the printed mounting bracket and insert the PTFE tube of appropriate length. Load the filament into all four channels and set the material and color of each channel on the touch screen or in bambu studio. Now you need to load and unload the filament on the touch screen (or in bambu studio). If each channel can be loaded and unloaded correctly, the hardware part of the BMCU has passed the test. It is ready for use.





32.In bambu-studio, you can use BMCU correctly only after you have completed the AMS multi-filament slicing correctly. All its functions are exactly the same as AMS. If you don't know how to use it, you can read the official AMS tutorial.



Warning: Before you turn off the printer, make sure that no filament is loaded into the tool head. Otherwise, when you load or unload the filament again when you turn on the printer next time, the error warning "Failed to check the filament location" will appear. If you have fallen into this situation, don't panic. You can unplug the PTFE tube

of the corresponding channel from the connector of the BMCU, then manually press the cutter lever on the tool head to cut the filament, then press the lever on the left of the tool head to release the filament, then pull the filament out from the tool head, and finally insert the tube back into the BMCU.