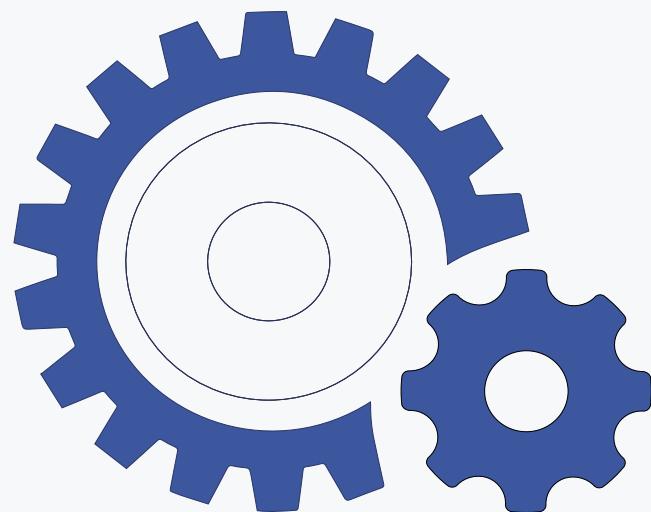




OMG V2s

1:3 Gear Ratio EXTRUDER

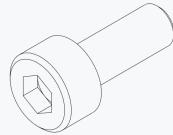


USER ASSEMBLY MANUAL

VERSION 220706

HARDWARE

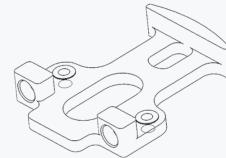
screw



Metric fastener with a cylindrical head and hex drive. **M3**

ISO 4762

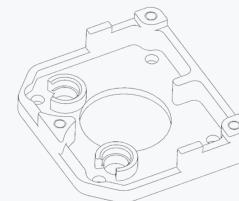
Part C



Spring

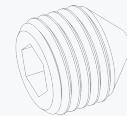


Spring Steel Material Quantity*2



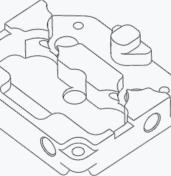
Part B

screw



M6 headless screw with an int

ernal drive. **ISO 4026**



Part D

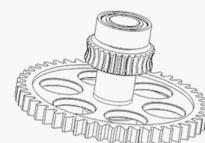
Motor Gear (BHCS)



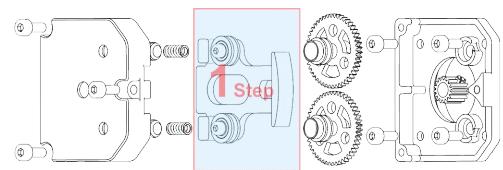
Universal motor shaft 5mm diameter

Number of gears 16 0.5 mode

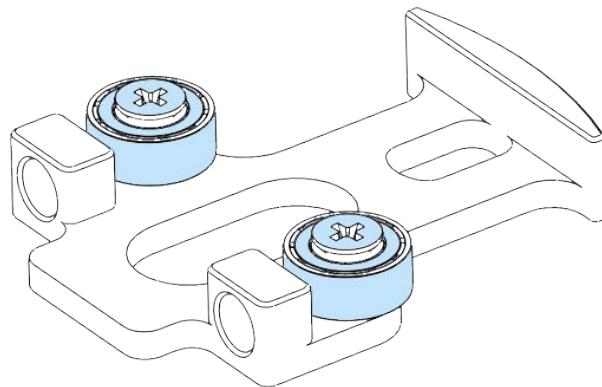
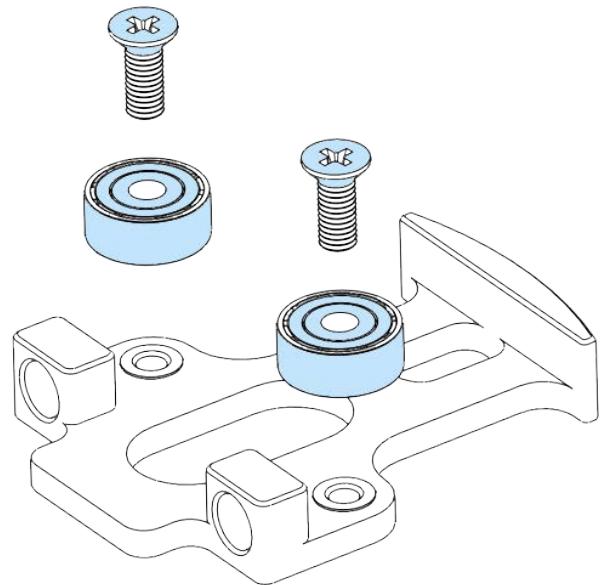
ISO

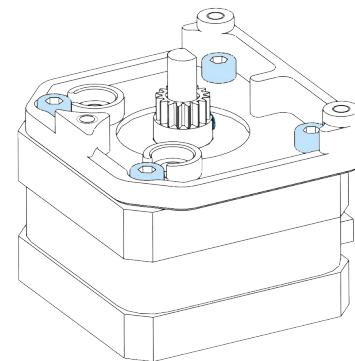
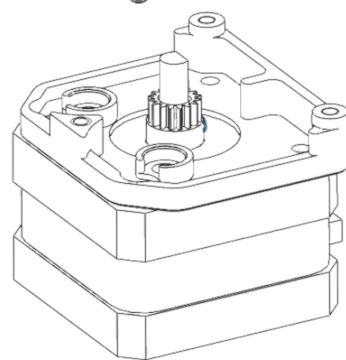
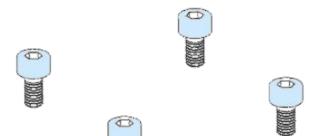
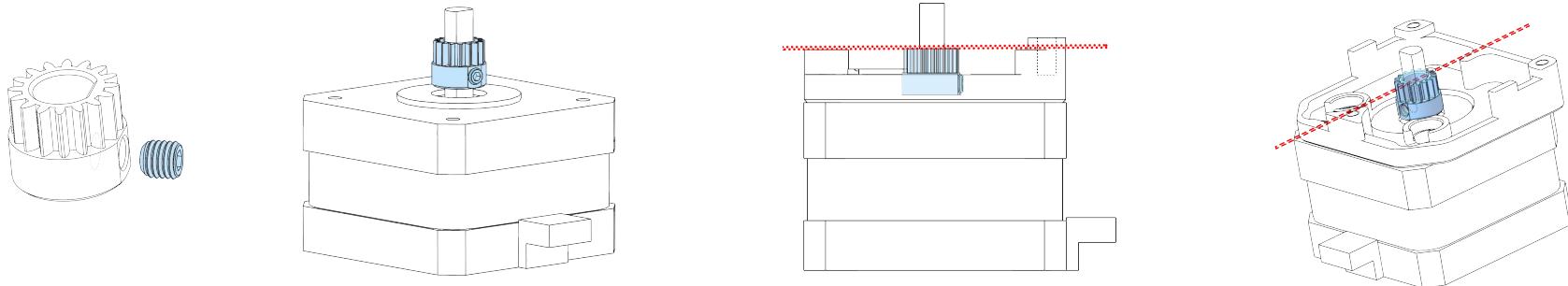
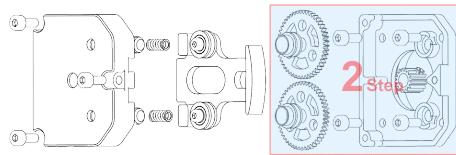


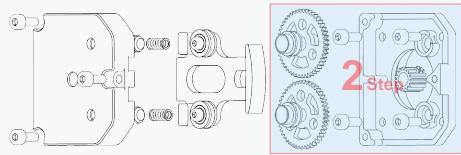
G-84



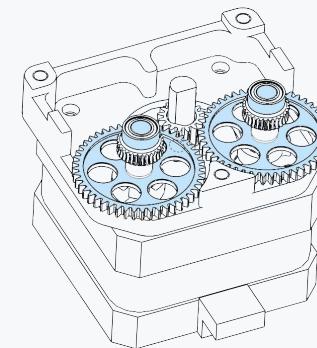
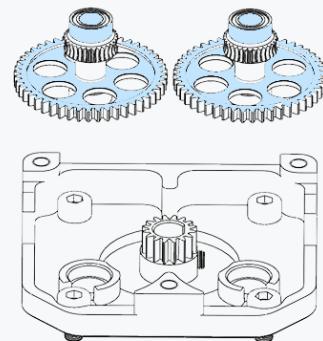
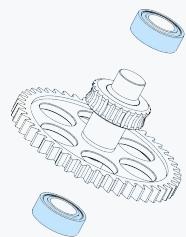
M3x6 BHCS



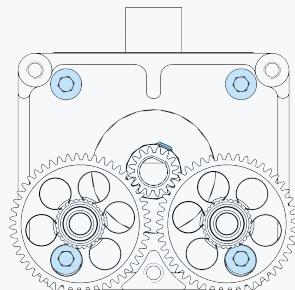




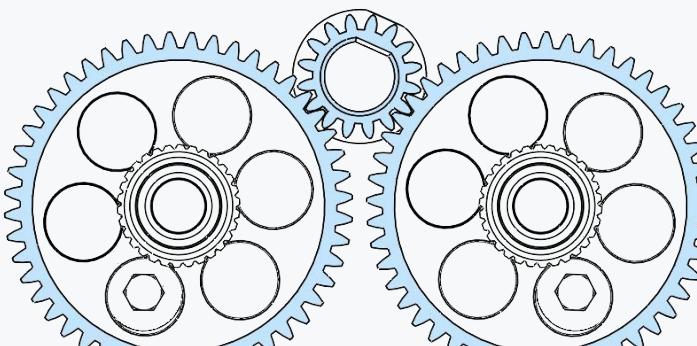
Bearing factory pre-installed



Loosen the motor fastening screws

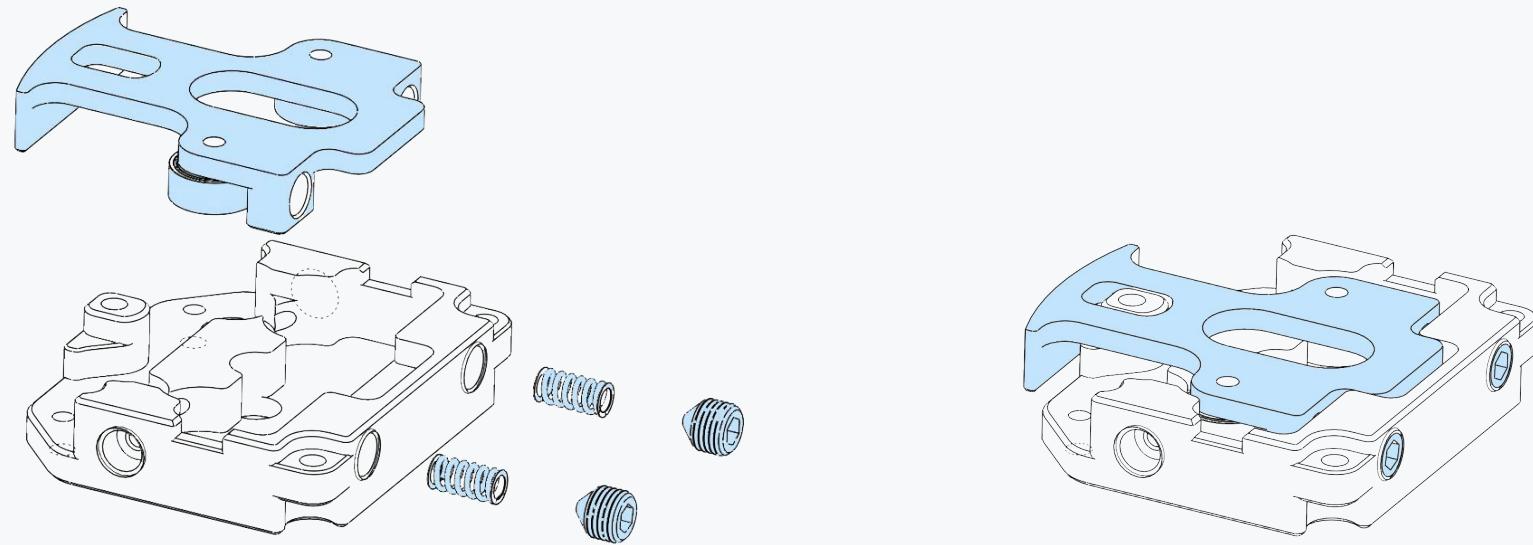
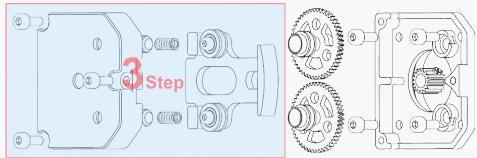


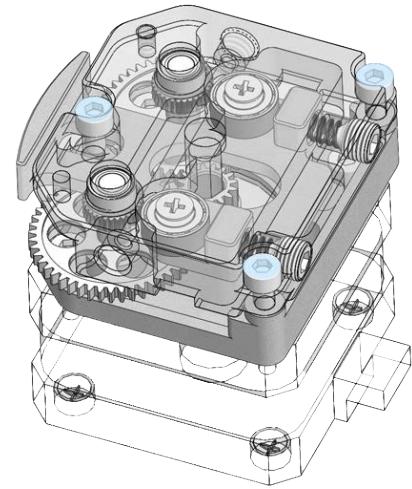
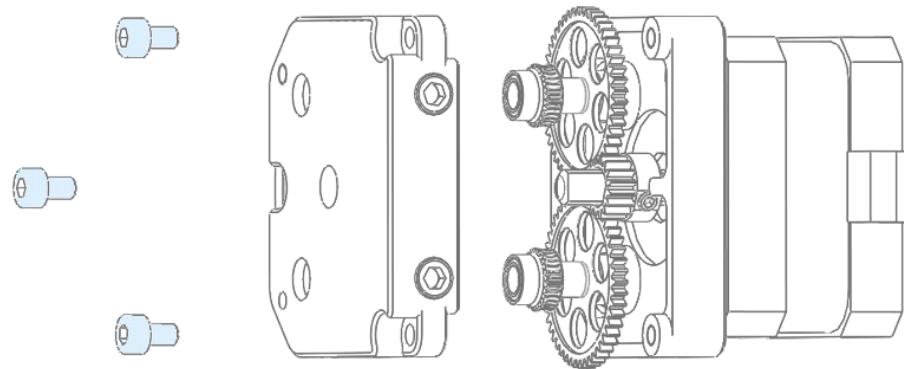
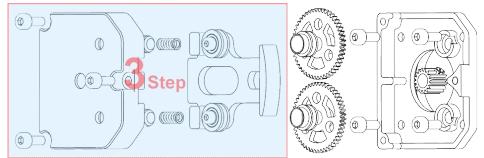
1:3 Gear Ratio

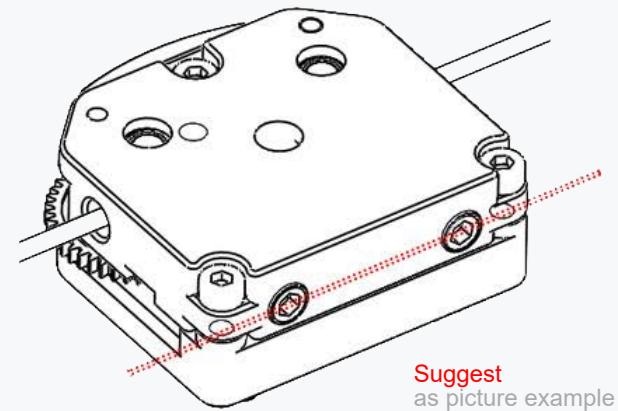
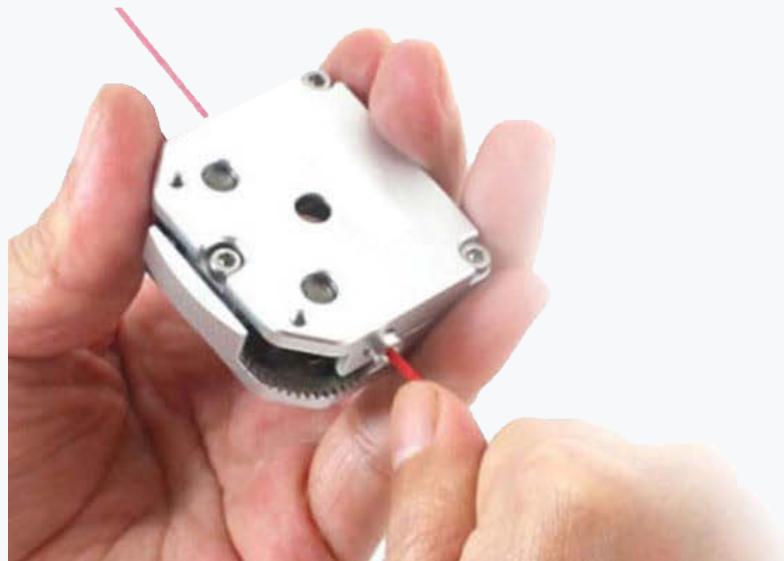
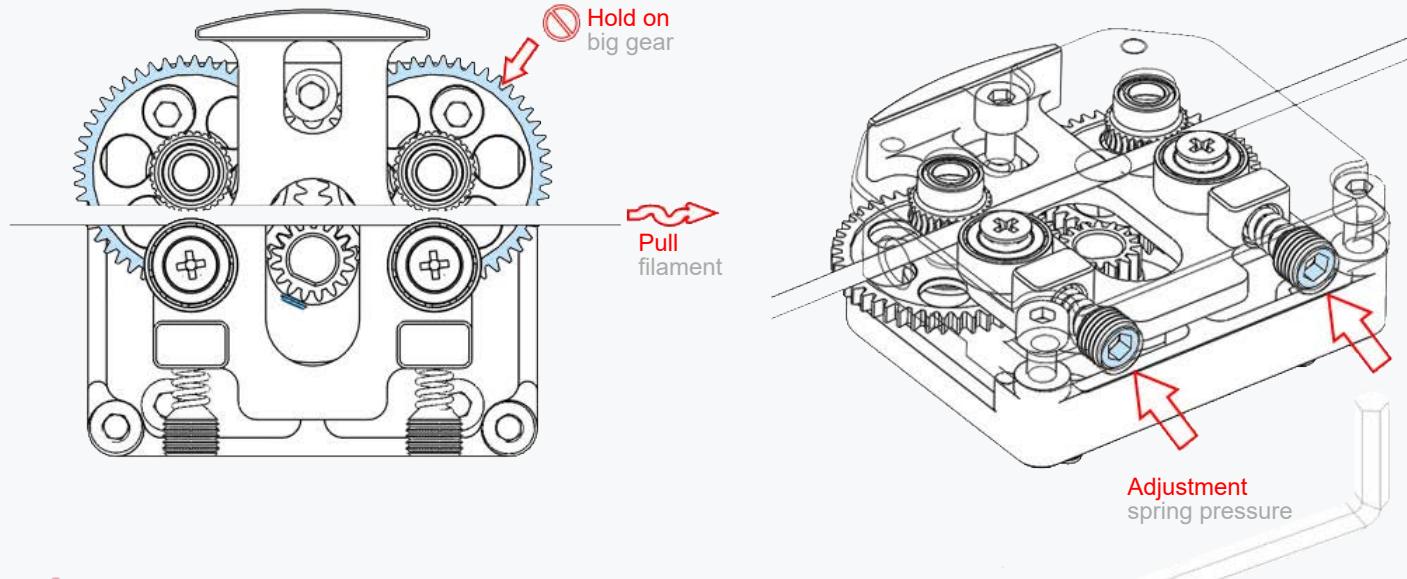


Adjustment

The Gear Spacing
Free rotation as standard







E-step

Values are reference

- 1/ The spring pressure is different.
- 2/ The soft and hard filament material is different.
- 3/ The reason for the gear processing tolerance.

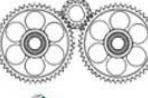
The user can adjust the step value value.

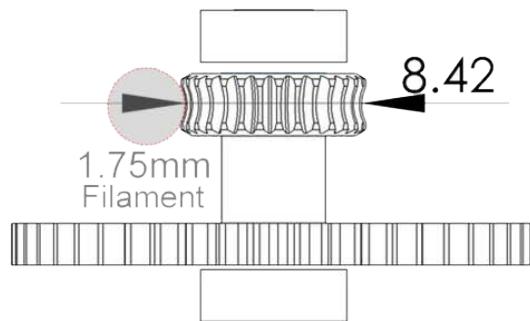
Method: Set the driving filament move to 10mm, and then measure the actual filament length.

E-Step value setting

The value is affected by the following 4 factors

- 1 Motor step angle 1.8° or 0.9°
- 2 Motor drive subdivision value 16 32 64...
- 3 Extruder reduction ratio 1:3
- 4 Filament gear diameter 8.4mm +-0.1

E-step = filament move 1mm			
 1:3 motor drive subdivision 16	8.4 mm	8mm	8.8 mm
 Step Angle 0.9° 36 Step Motor Nema 14	726	764	695
 Step Angle 1.8° 42 Step Motor Nema 17	363	382	347



Klipper Rotation_distance= $\pi\varphi=3.14*8.42=8.81\text{mm}$

Ender 3 V2 E-setup set Example

- 1 Motor step angle 1.8°
- 2 Motor drive subdivision value 16
- 3 Extruder reduction ratio 1:3
- 4 Filament gear diameter 8.4mm

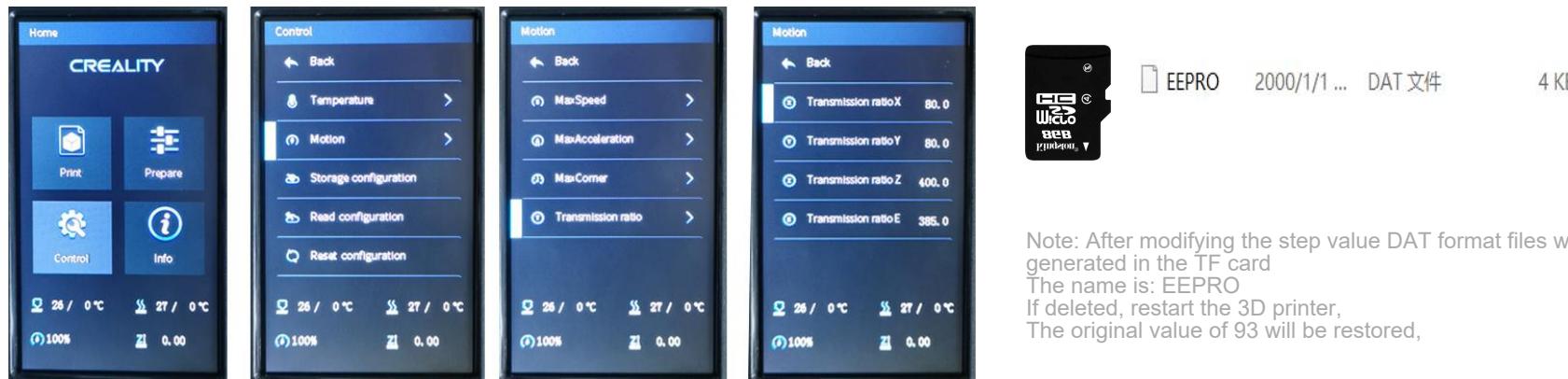
Please write the following code (red) into a notepad, save it to a TF card, as a Gcode format file, Then insert the TF card into the printer and execute printing to modify it (the original value is 93)

M92 E363

M500

M501

Note 363 can be modified to the step value you need. If 36 stepping motor is used, the value is 726

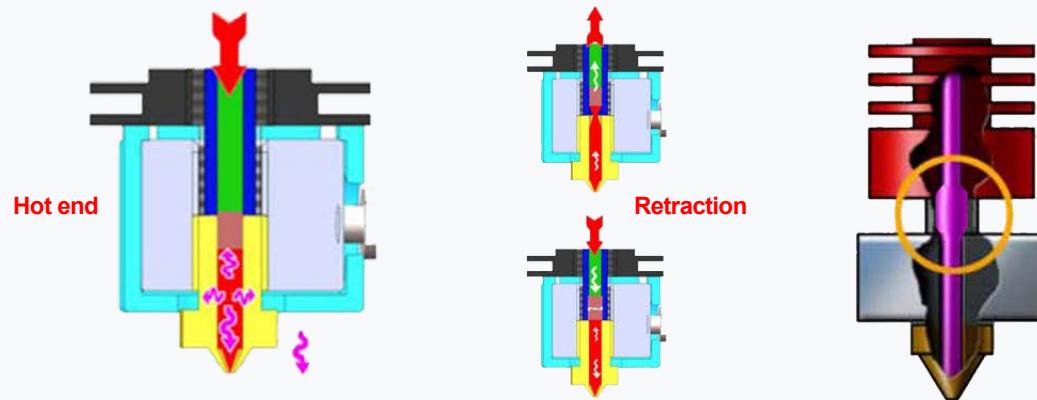


If you change to a new TF card, you need to print the firmware again, or copy the EEPRO file to the new card

Retraction Settings Adjustment

Direct Drive Recommended Retraction Speed 5mm/s Distance 5mm

Remote filament feeding recommended Retraction speed 10mm/s Distance 10mm



Filament blockage:

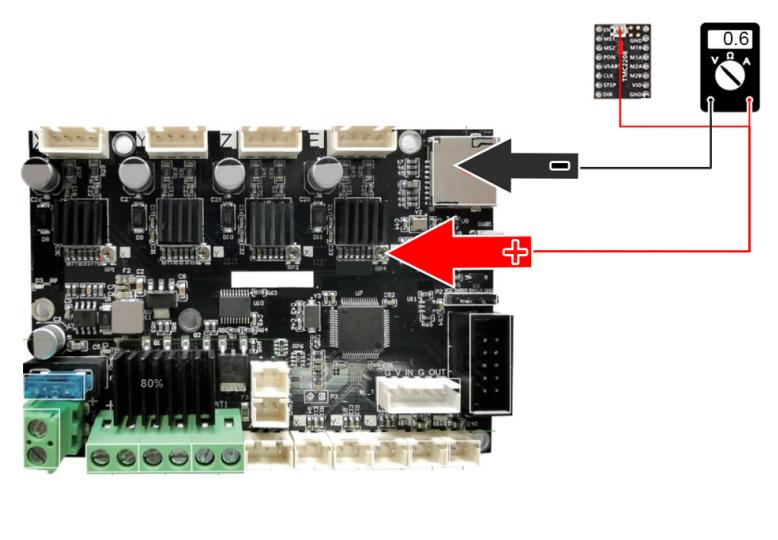
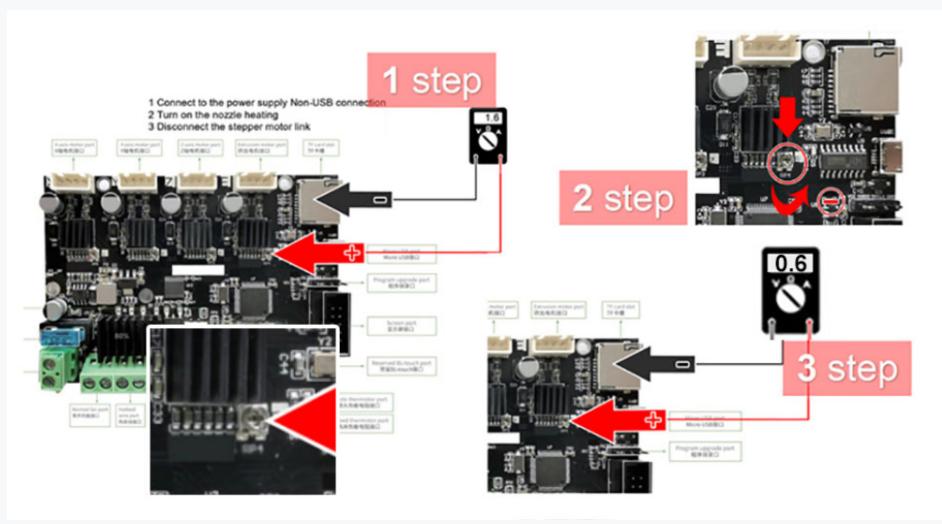
After the filament is drawn back, when the extruder feeds again, The heated and softened filament will come from up and down resistance, and the diameter of the cooling part of the throat (Teflon) will become larger and clogged. There is a foreign body in the filament (or not completely melted, etc.)

Drive voltage



DM1 DM2 DM3-set Need to adjust the motor drive voltage to **0.6v**

Step 1: Check the drive voltage **Step 2:** Rotation adjustment **Step 3:** Re-check Vref to 0.6V



OMG V2s adapter extension parts



OMG V2s Set



HOW TO GET HELP

If you need assistance with your build, we're here to help. Head on over to our Discord group and post your questions. This is our primary medium to help Users and we have a great community that can help you out if you get stuck.



[Https://my3dtech.de](https://my3dtech.de)

THIS IS JUST A REFERENCE

This manual is designed to be a simple reference manual. Building or Adjustment can be a complex endeavour and for that reason we recommend downloading the CAD files off our Github repository if there are sections you need clarification on. It can be sometimes be easier to follow along when you have the whole assembly in front of you.

GitHub

[HTTP://github.com/OMGmy3D/OMGV2S-Extruder](http://github.com/OMGmy3D/OMGV2S-Extruder)

