

Installed summary

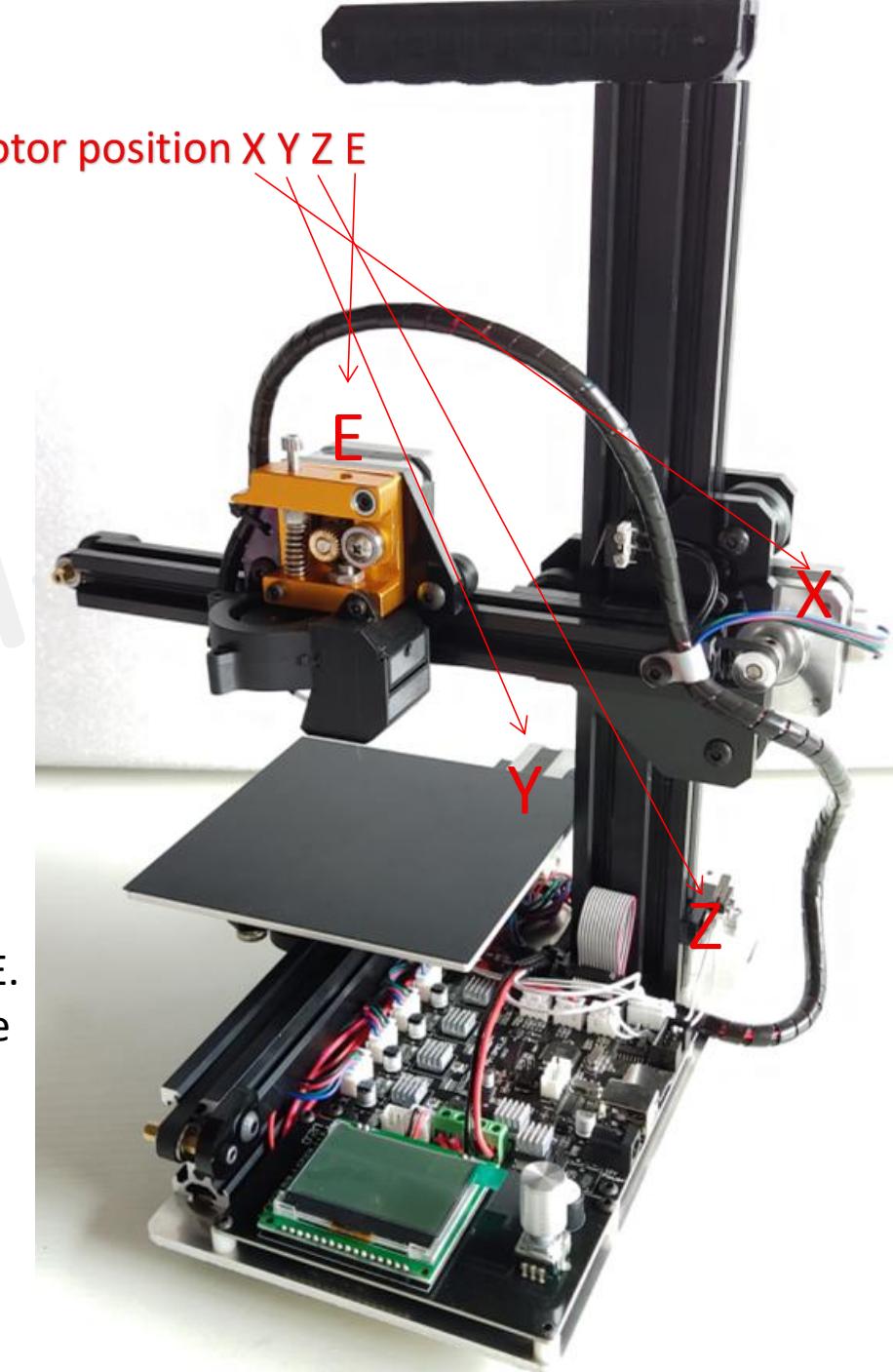
When assembling, look at the drawing carefully, pay more attention to the description and the place marked on the drawing, pay attention to the length and type of the screw mark, look at the place with text, and be sure to follow the order.

(It is recommended that the computer check, not recommended to print out, not only waste paper but also can not see clearly)

Introduce structure coordinates

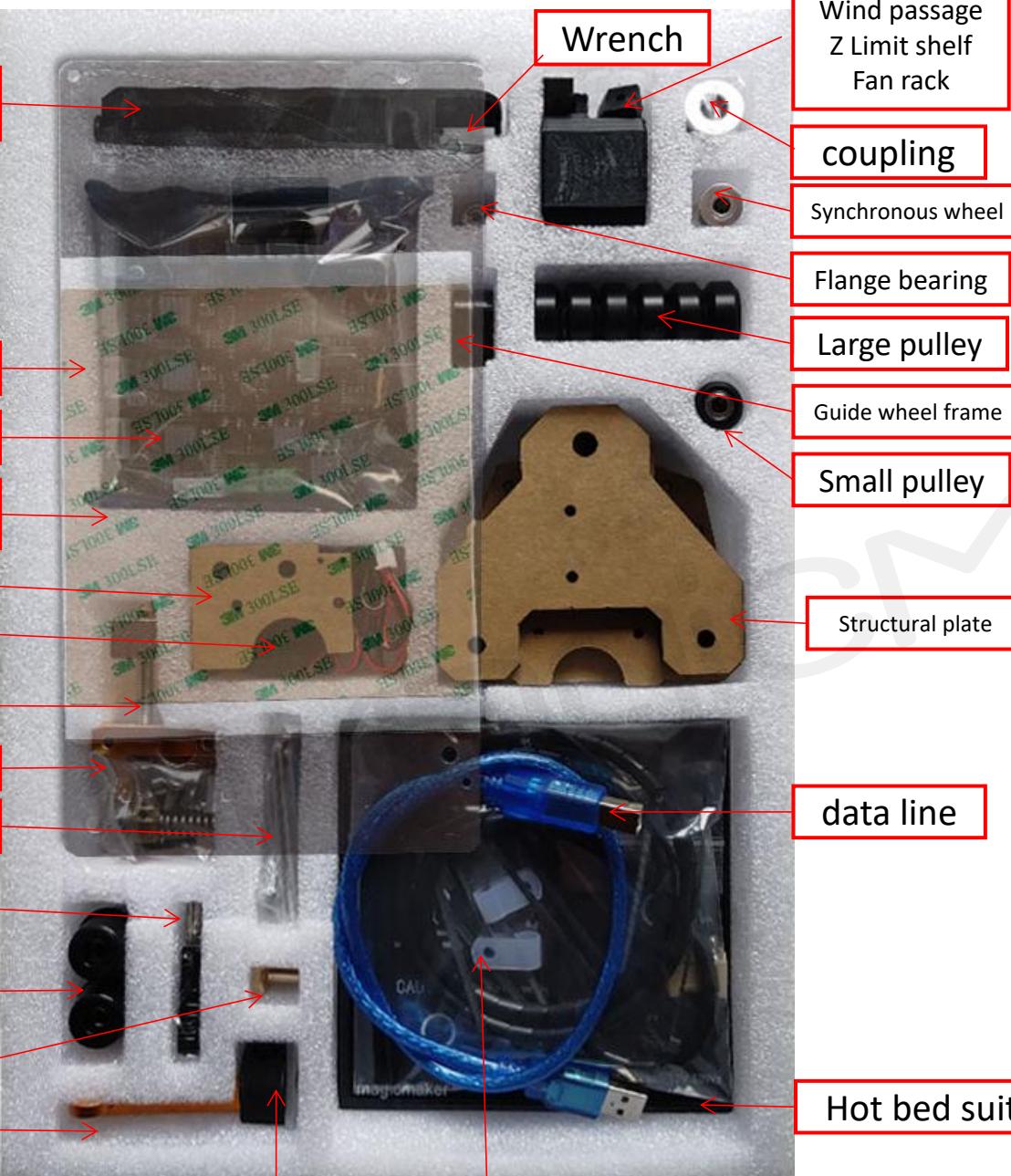
It's the x-axis that moves left and right, The platform for forward and backward motion is the Y-axis, It's the Z-axis that moves up and down, Extrusion motor is E. The zero point of the x-axis is on the right (maximum point), The zero point of the y-axis is behind, The zero point of the Z axis is below, There is no zero point on the e-axis. Clockwise rotation is positive.

Motor position X Y Z E



There is no need to count, Direct assembly. If you can't find any accessories, you can come back and have a look

Material shelf



Wind passage
Z Limit shelf
Fan rack

Screw rod

Motor wire

Power Supply

Screw

Structural floor

a main board

High temperature
twin adhesive

Y Motor frame

Fan

Nozzle assembly

Extrusion accessories

inner hexagon spanner

TF card
card reader

rubber feet

Screw rod nut

Extrusion arm



Aluminum profile

display screen +Flat Cable

Screw identification

Not all the screws have been given too much. Pay attention to collecting them and don't lose them

There are not many species, which can be distinguished according to size and length, and can be measured with a ruler



Basic framework

There may be some traces on the back of the aluminum plate, which does not affect the use

Look at the position in the figure, use a 5 * 10 round head to put on the bottom, and put on the M5 square nut



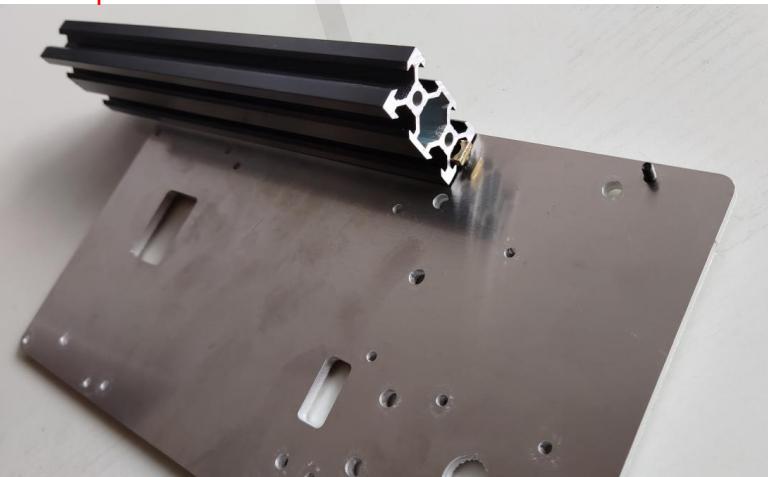
Screw 3 * 10 cup head into the marked position from the bottom



Hold the M3 screw against the profile, align the edge of the profile with the edge of the aluminum plate, and then tighten the 5 * 10 round head at the bottom to fix it



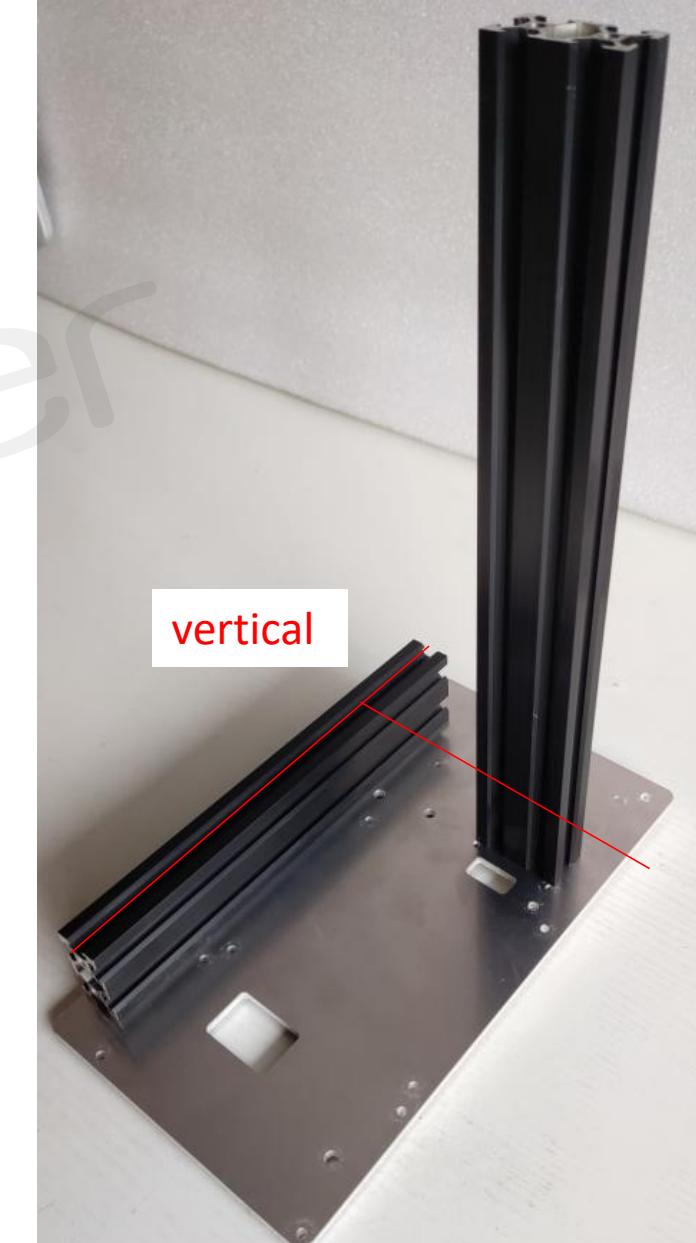
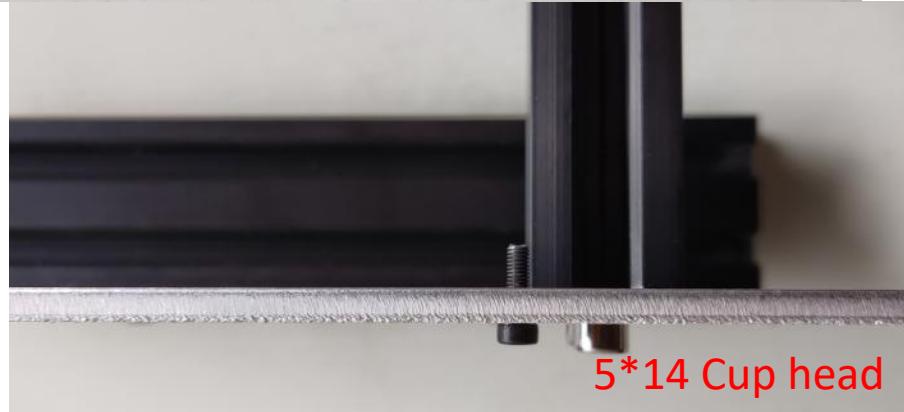
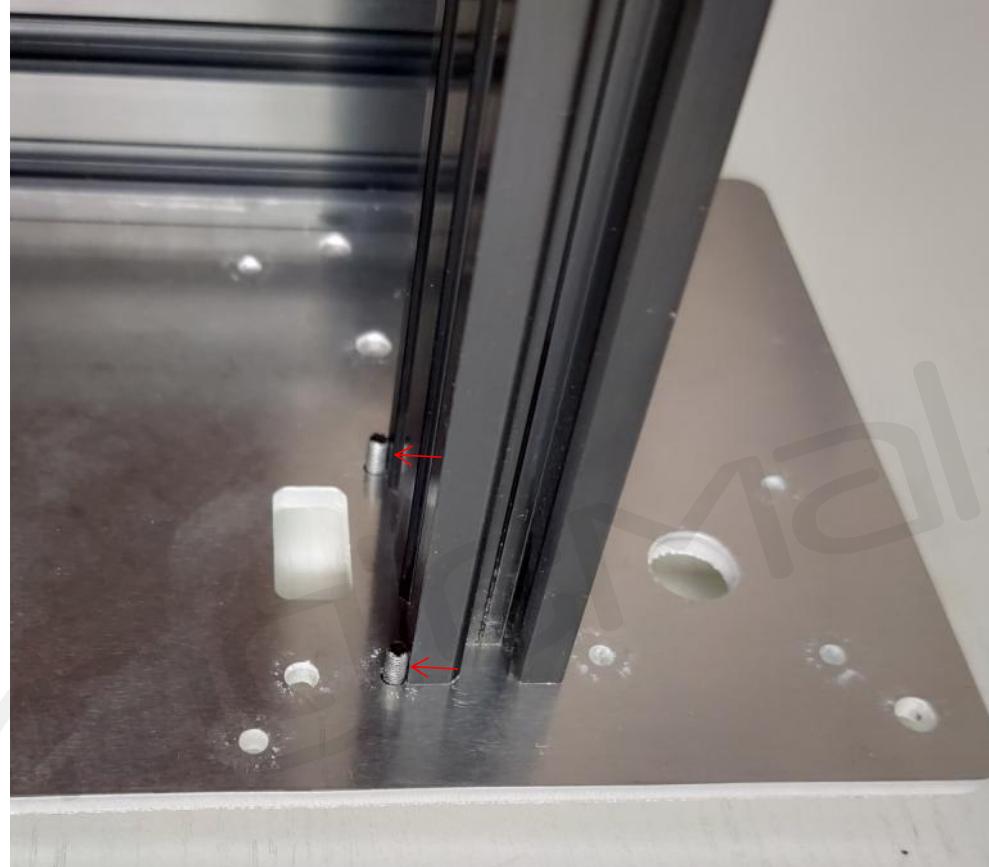
The shortest Aluminum profile slides into the nut



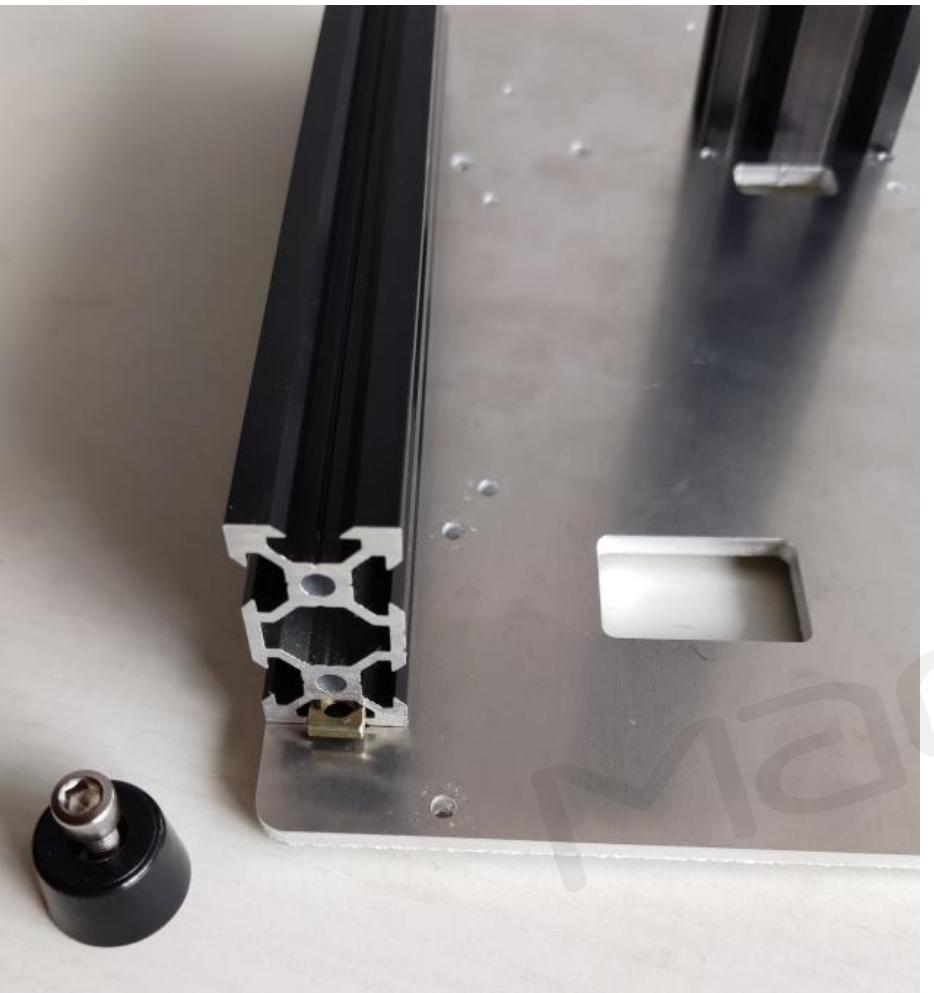
Take out the 3 * 10 cup head on the previous page,
The position in the picture is from screw in 2 3 * 10 Cup heads



Place the longest profile, screw 5 * 14 cup head into the back of the bottom plate to fix, and the back edge against the M3 screw previously screwed in, Then tighten the 5 * 14 cup head on the back



foot mat

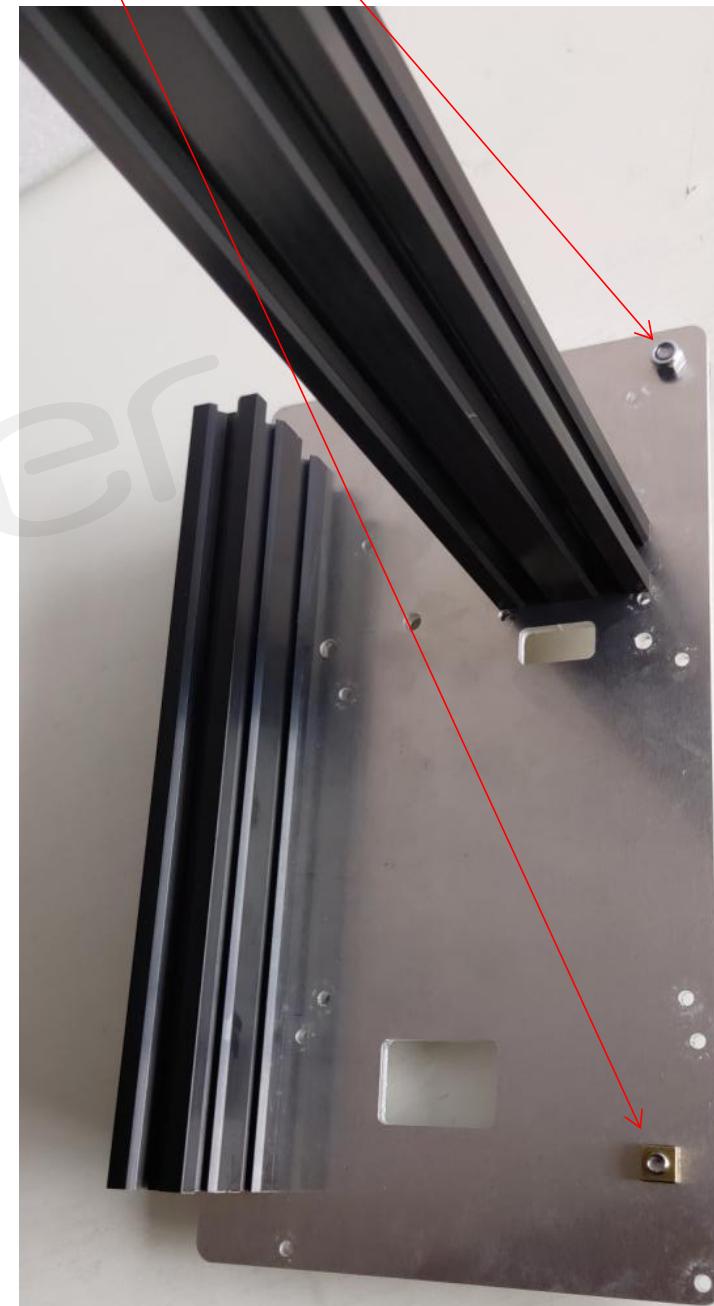


Insert M5 square nut into profile, Push to the corresponding position of the floor hole, Then screw the 5 * 14 cup head through the rubber foot and screw in the nut to fix it
The back foot does the same thing

Fix the 4 feet according to the position in the picture

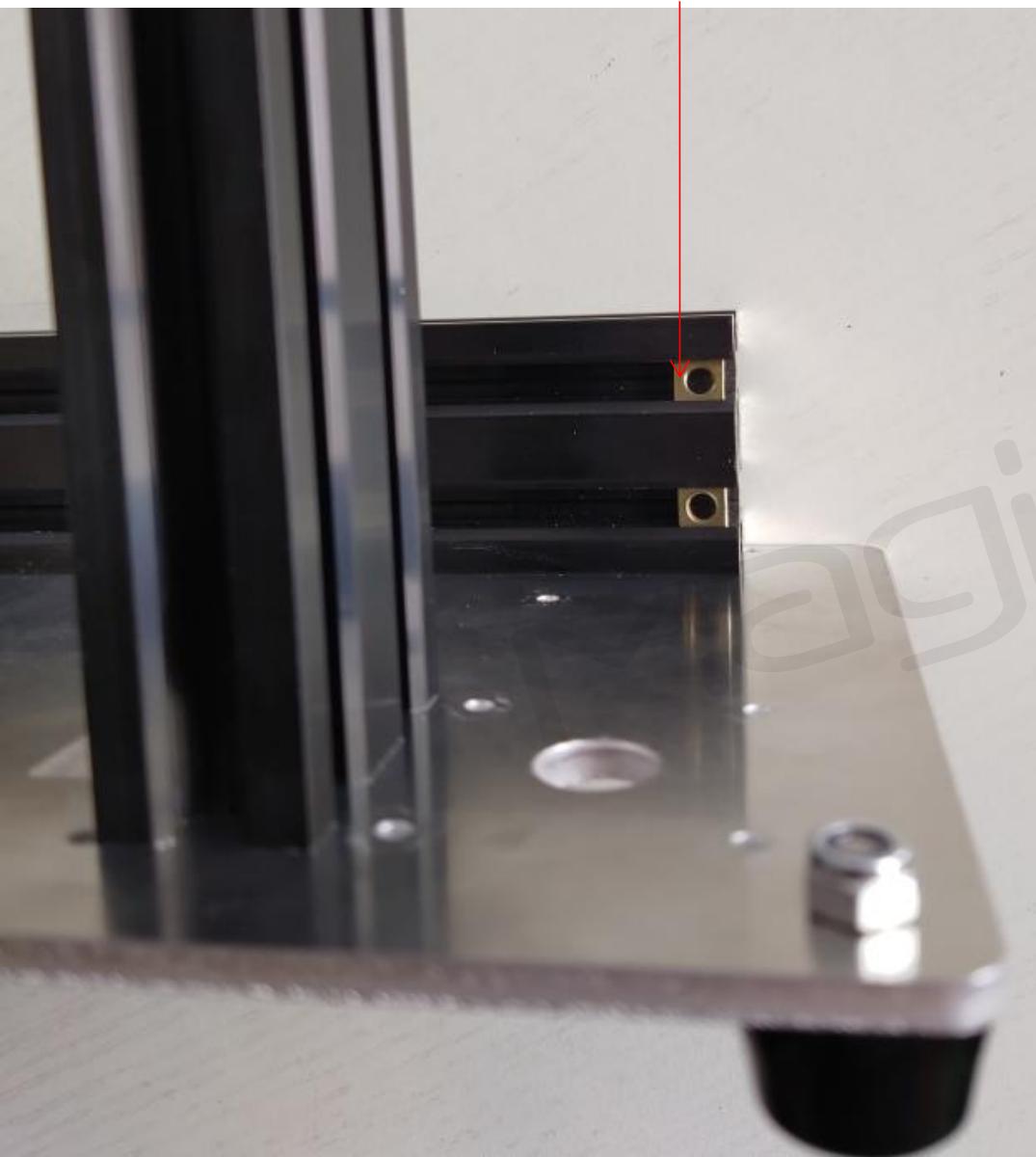


M5 square nut is used for the right front, and M5 lock nut is used for the right rear

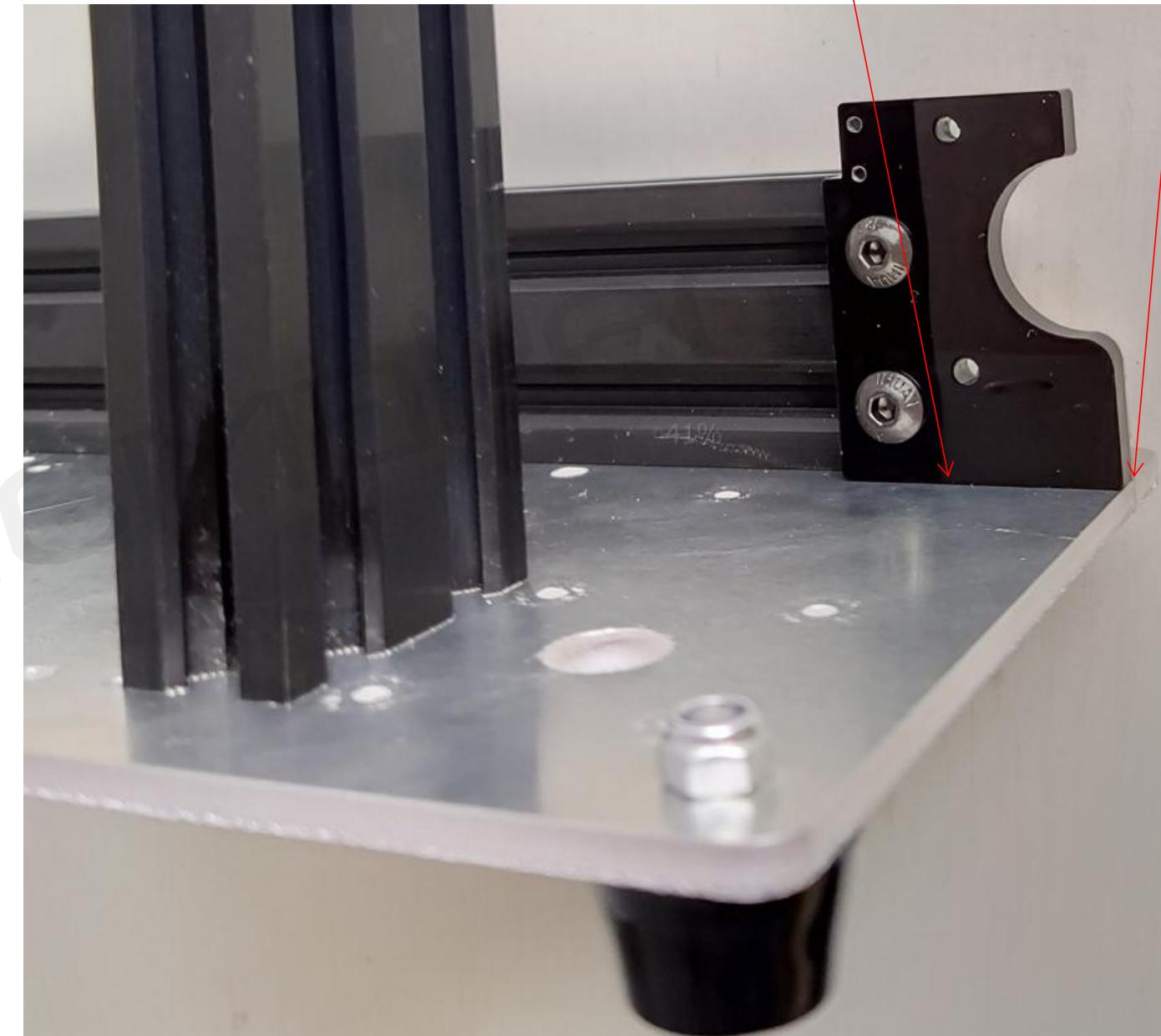


Y motor frame

Insert 2 M5 square nuts into the rear of aluminum profile



5 * 10 round head fixed



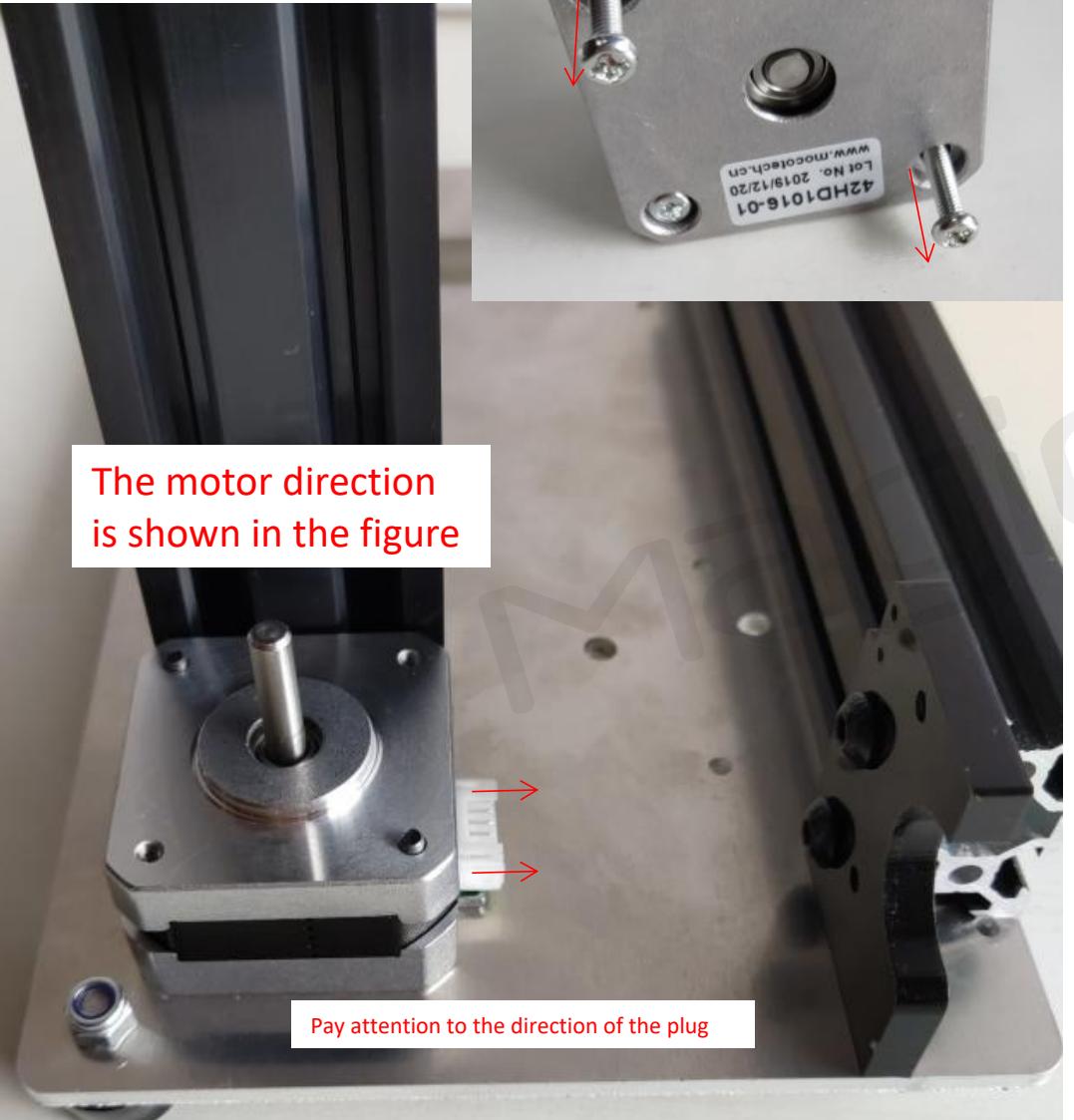
Bottom tight, Edge alignment

Z motor

Screw out two diagonal screws on one motor



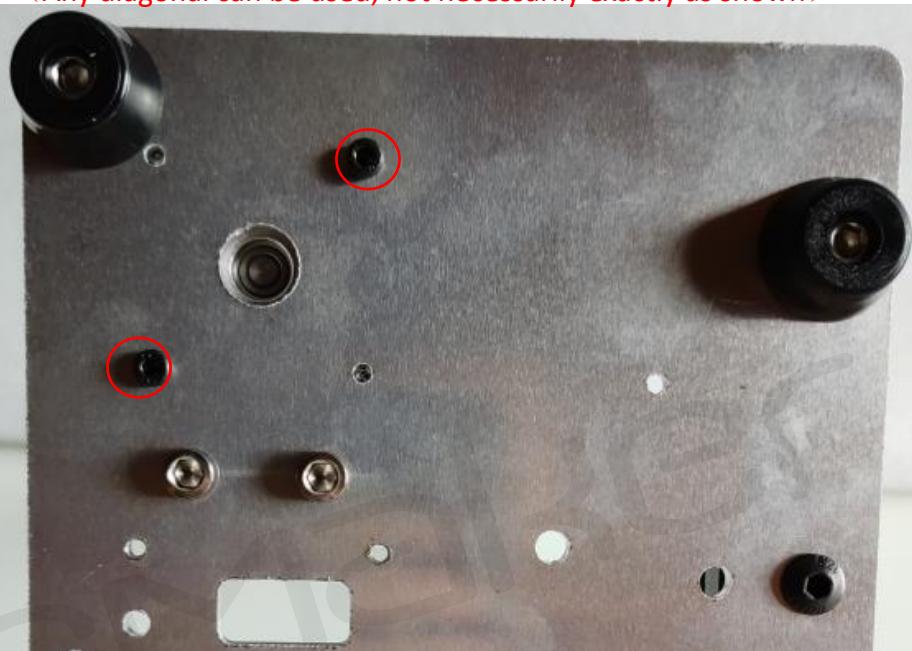
The motor direction
is shown in the figure



Pay attention to the direction of the plug

Insert two 3 * 30 cup heads into the bottom for fixation

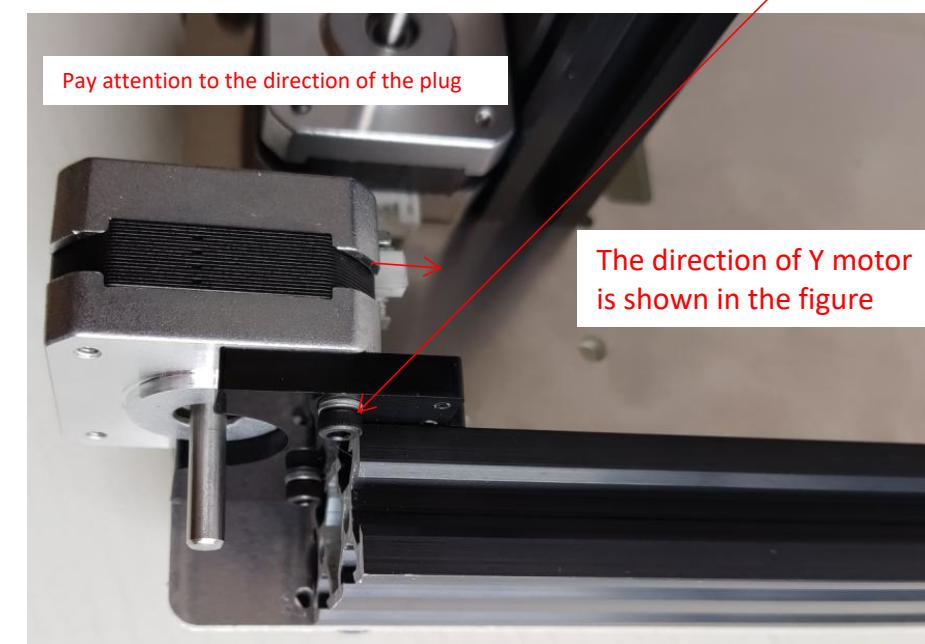
(Any diagonal can be used, not necessarily exactly as shown)



3*10 Cup head,
Wear 2 gaskets

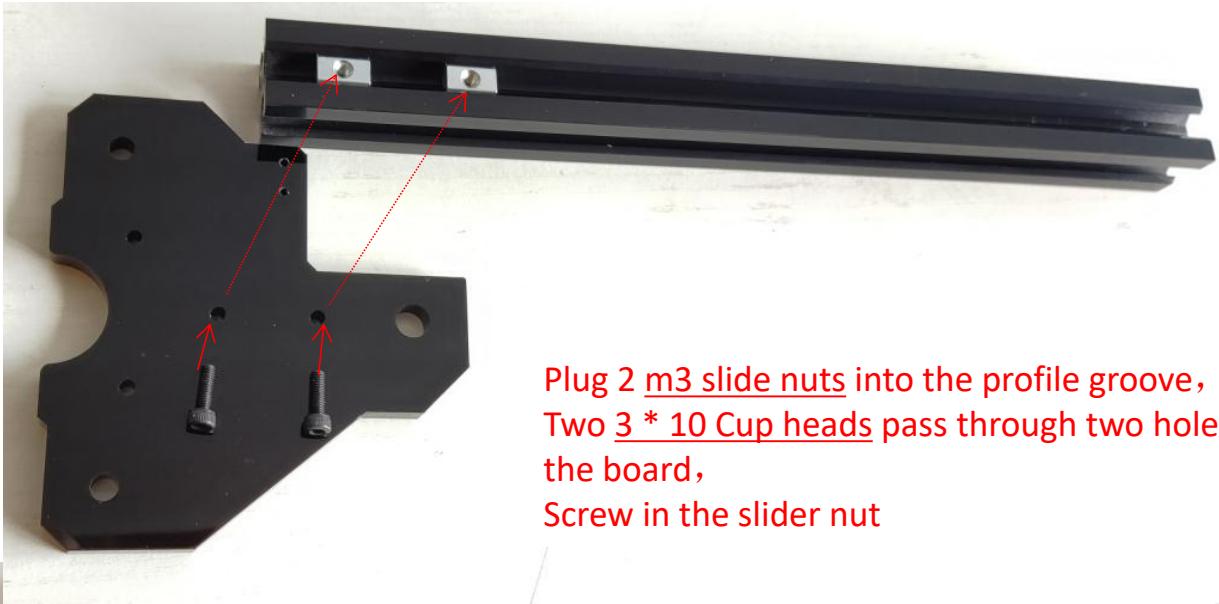


Pay attention to the direction of the plug

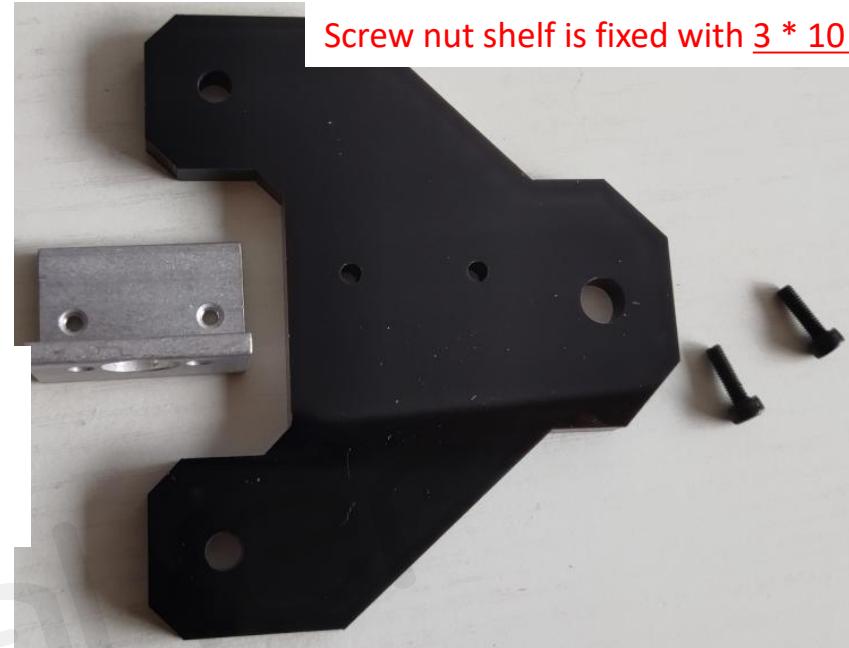
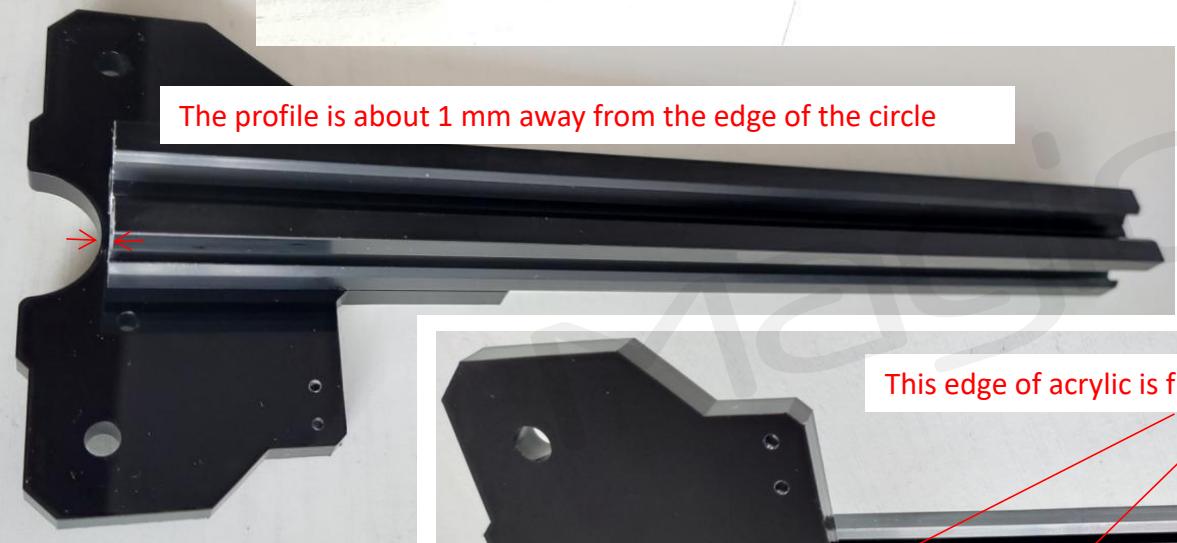


The direction of Y motor
is shown in the figure

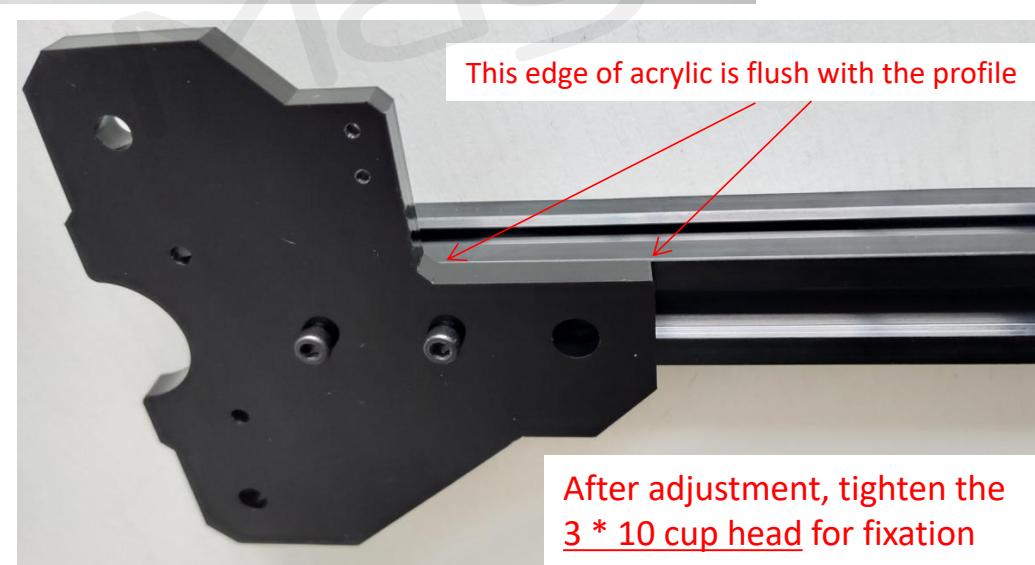
X axis



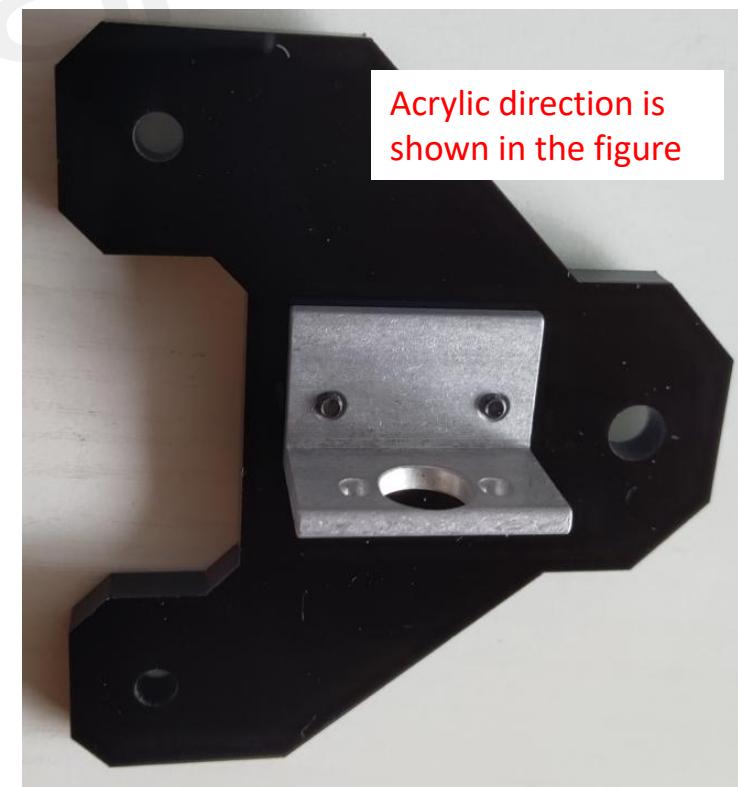
Plug 2 m3 slide nuts into the profile groove,
Two 3 * 10 Cup heads pass through two holes in
the board,
Screw in the slider nut



Screw nut shelf is fixed with 3 * 10 cup head



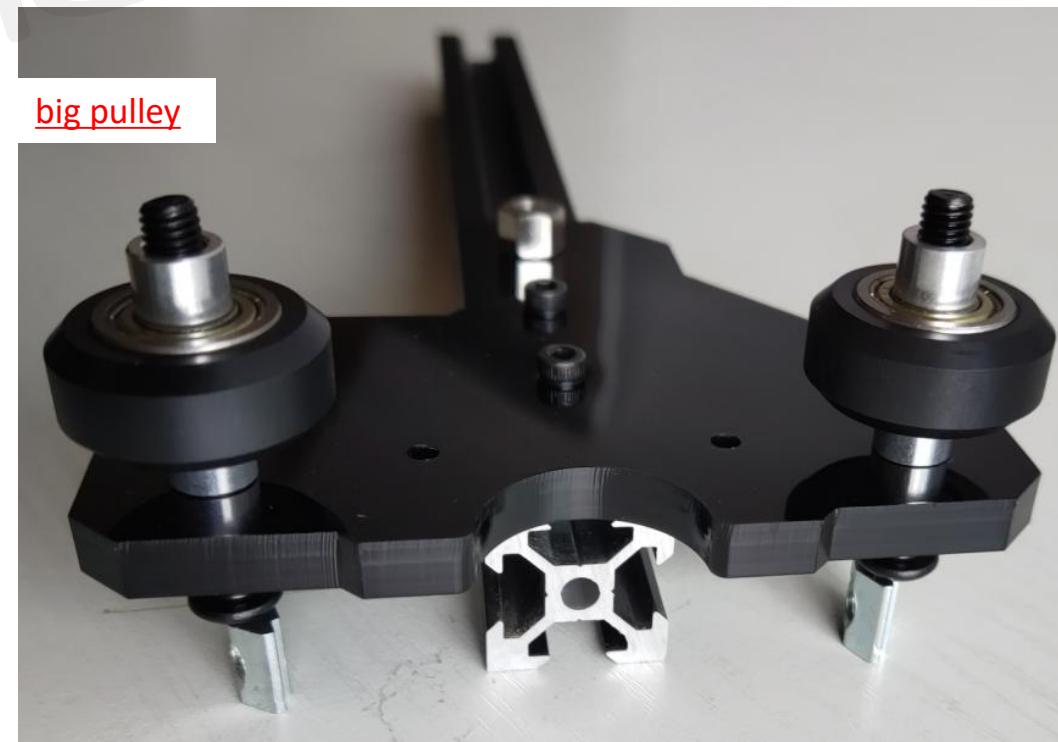
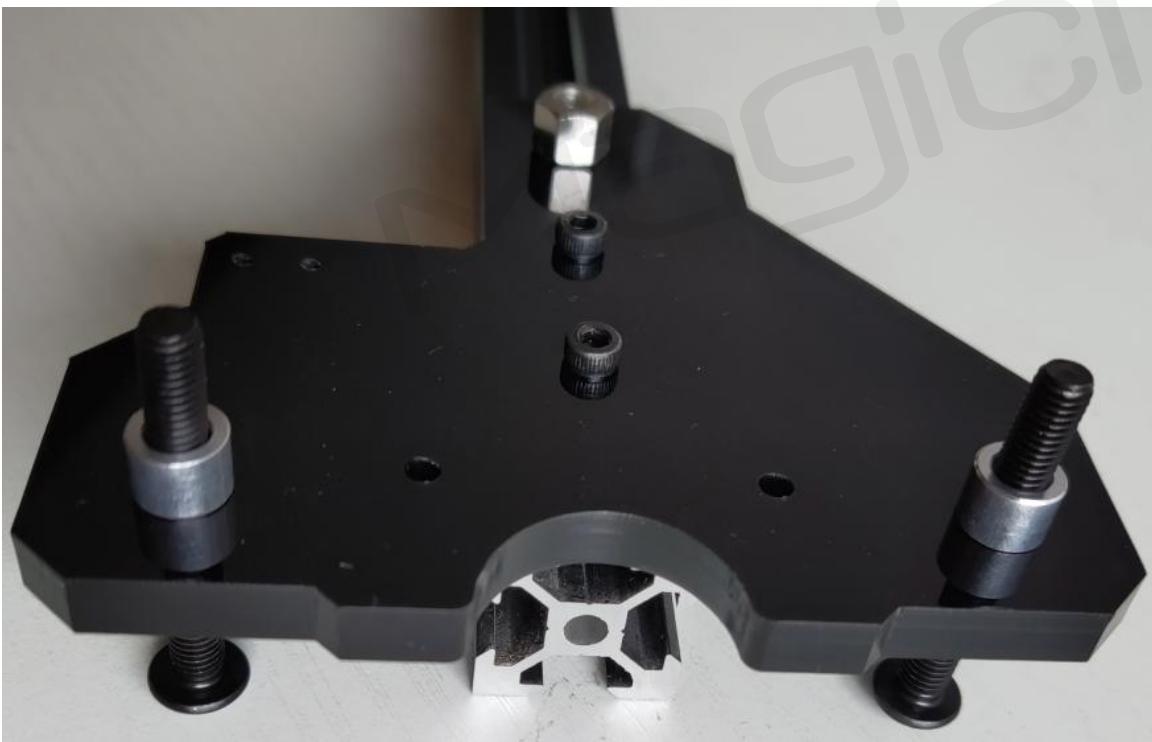
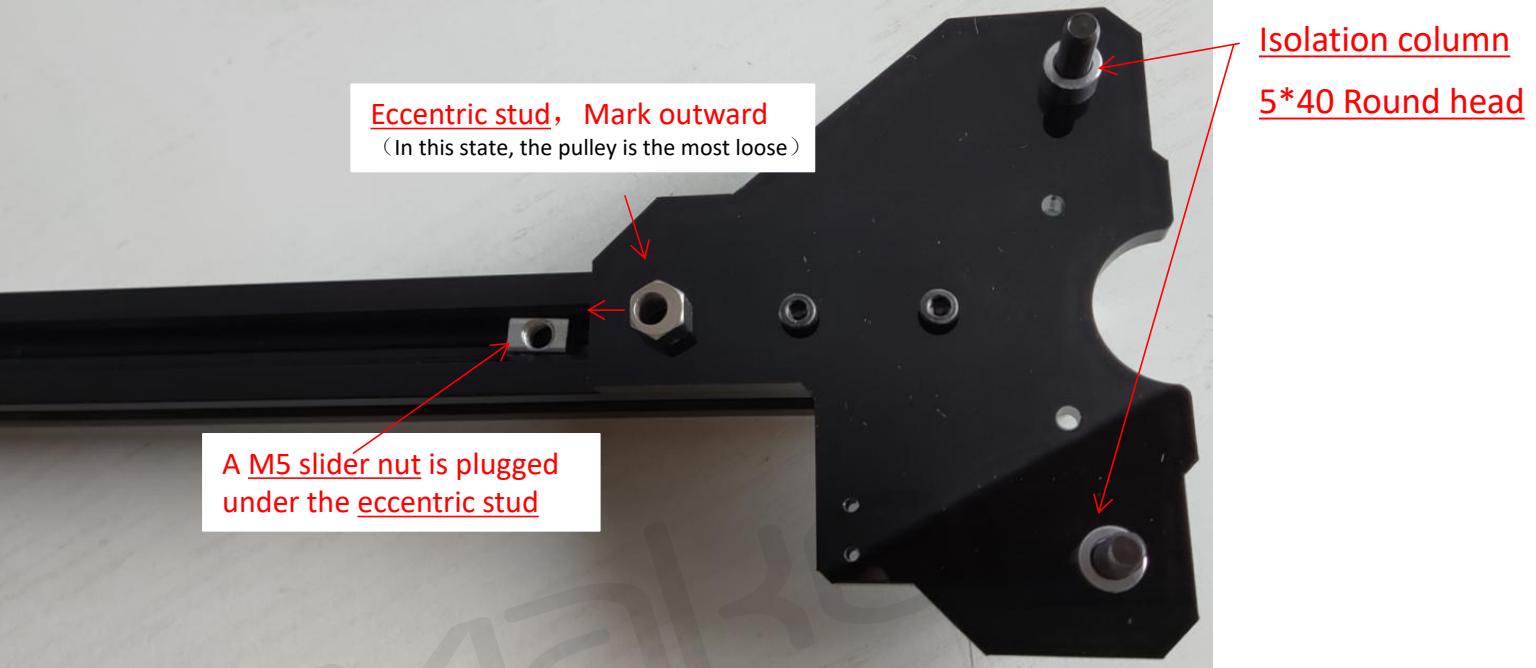
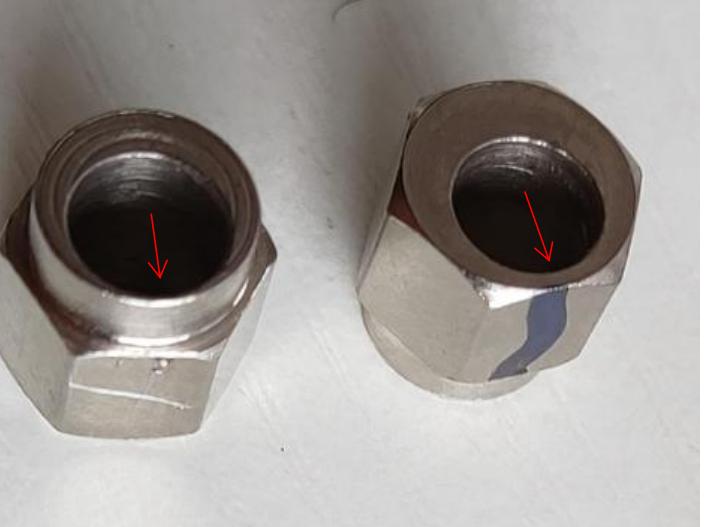
After adjustment, tighten the
3 * 10 cup head for fixation



Acrylic direction is
shown in the figure



Prepare 2 Eccentric stud first,
Make a mark on the nearest side of the circle
You can use a marker,, Or with a knife, If you can see it clearly

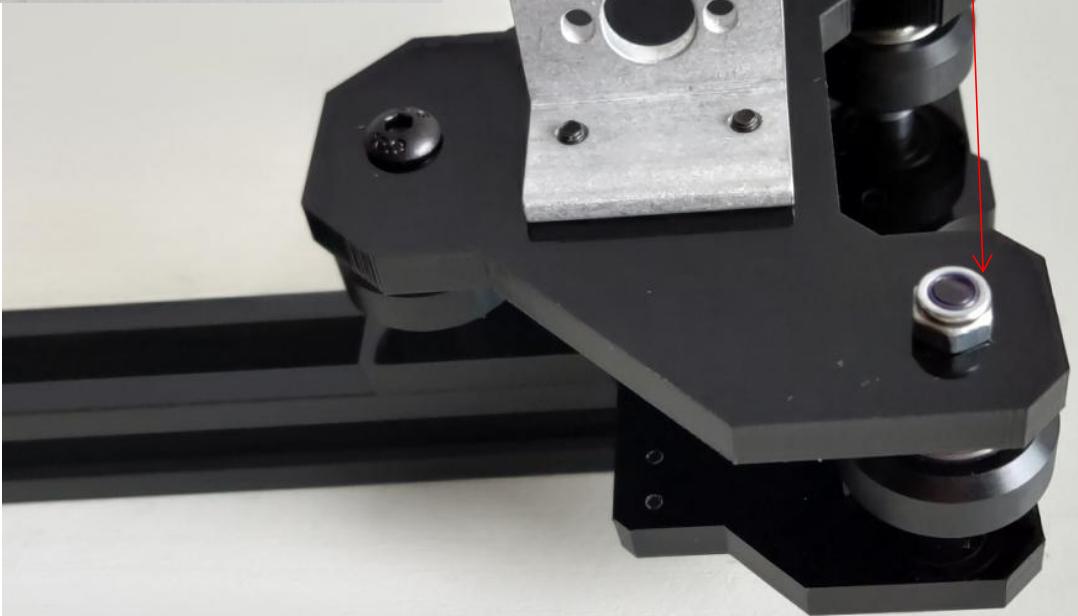




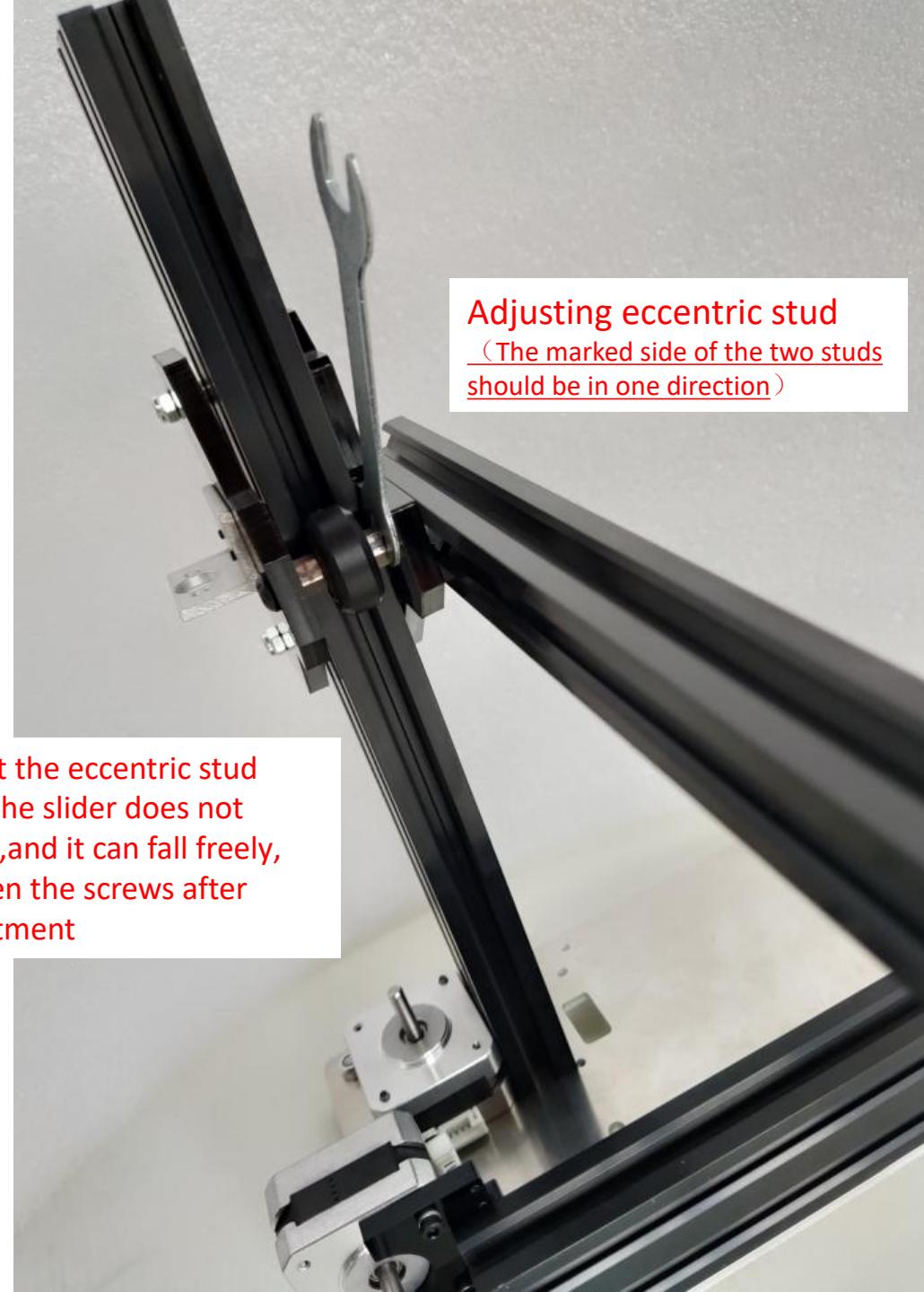
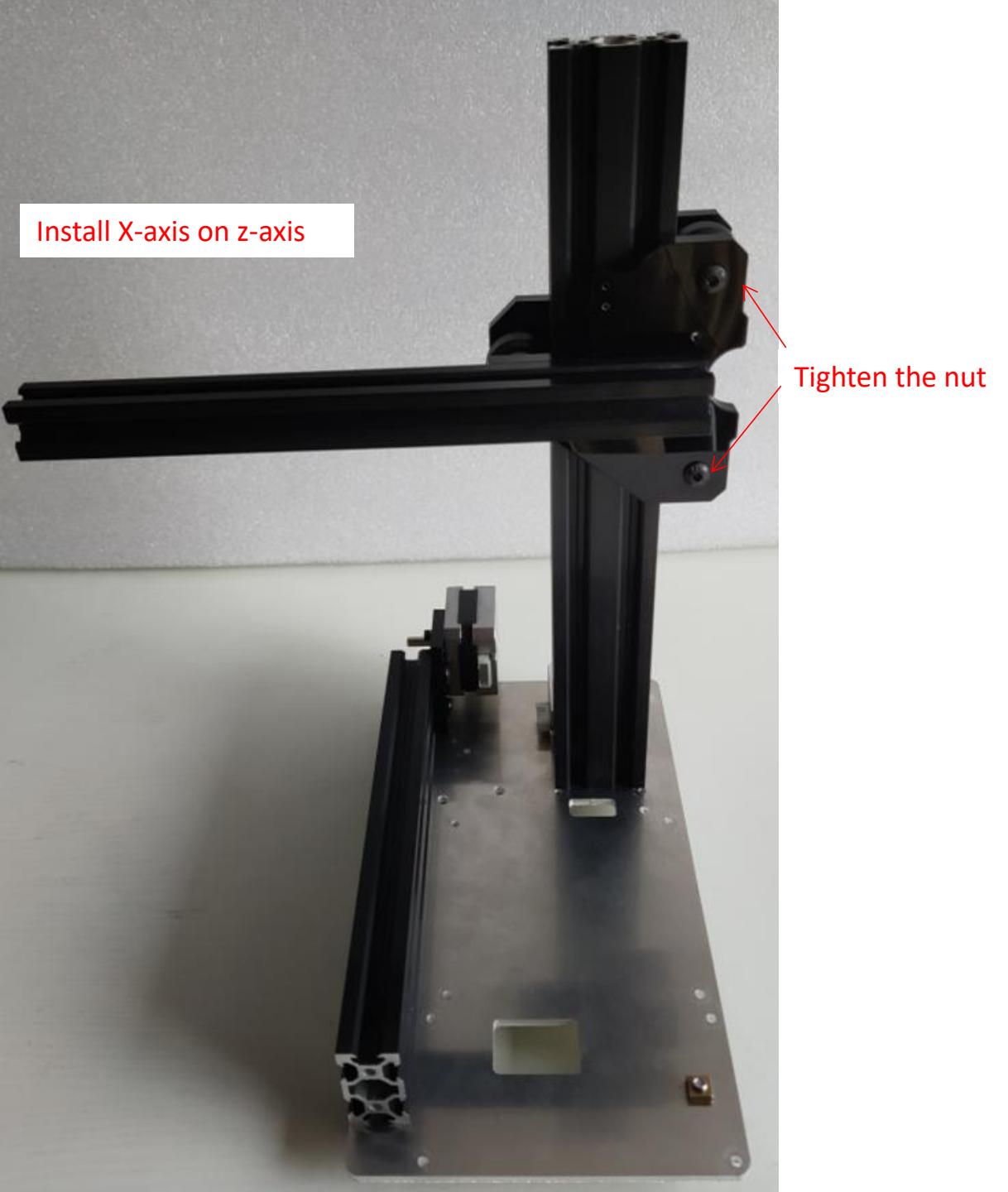
Through the back,
5*40 Round head

Don't tighten the nuts yet

m5 Lock nut



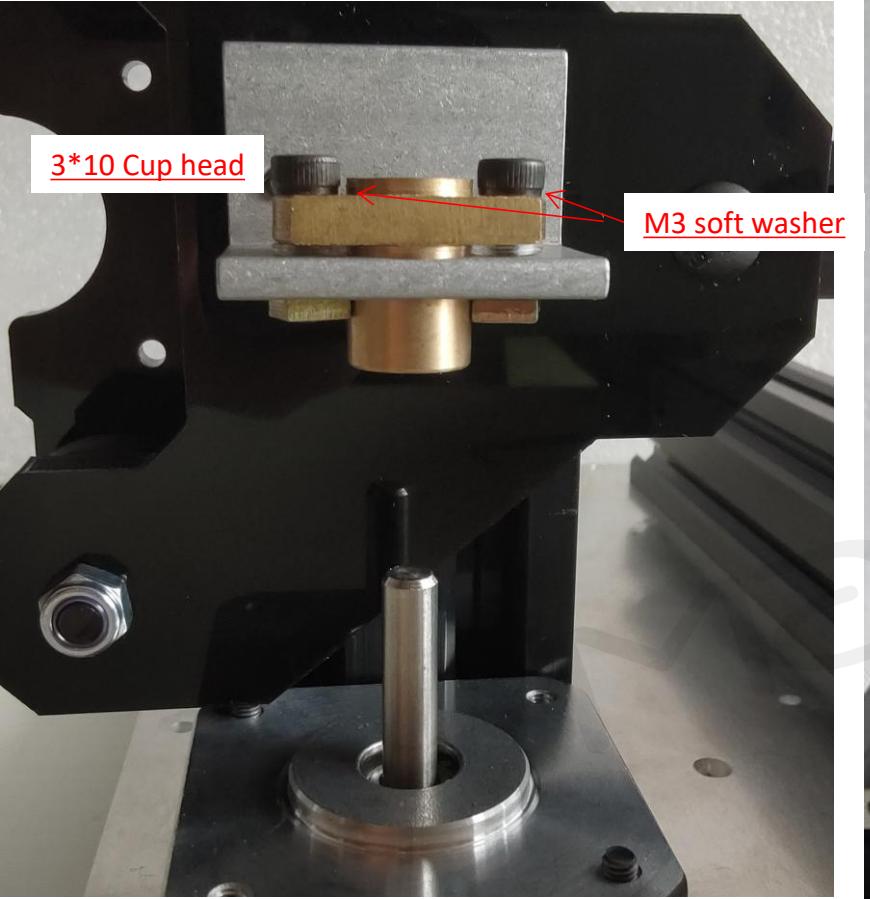
The marked side,
The direction is outward



Screw rod

(At this stage, please be serious,
Will affect the printing effect.)

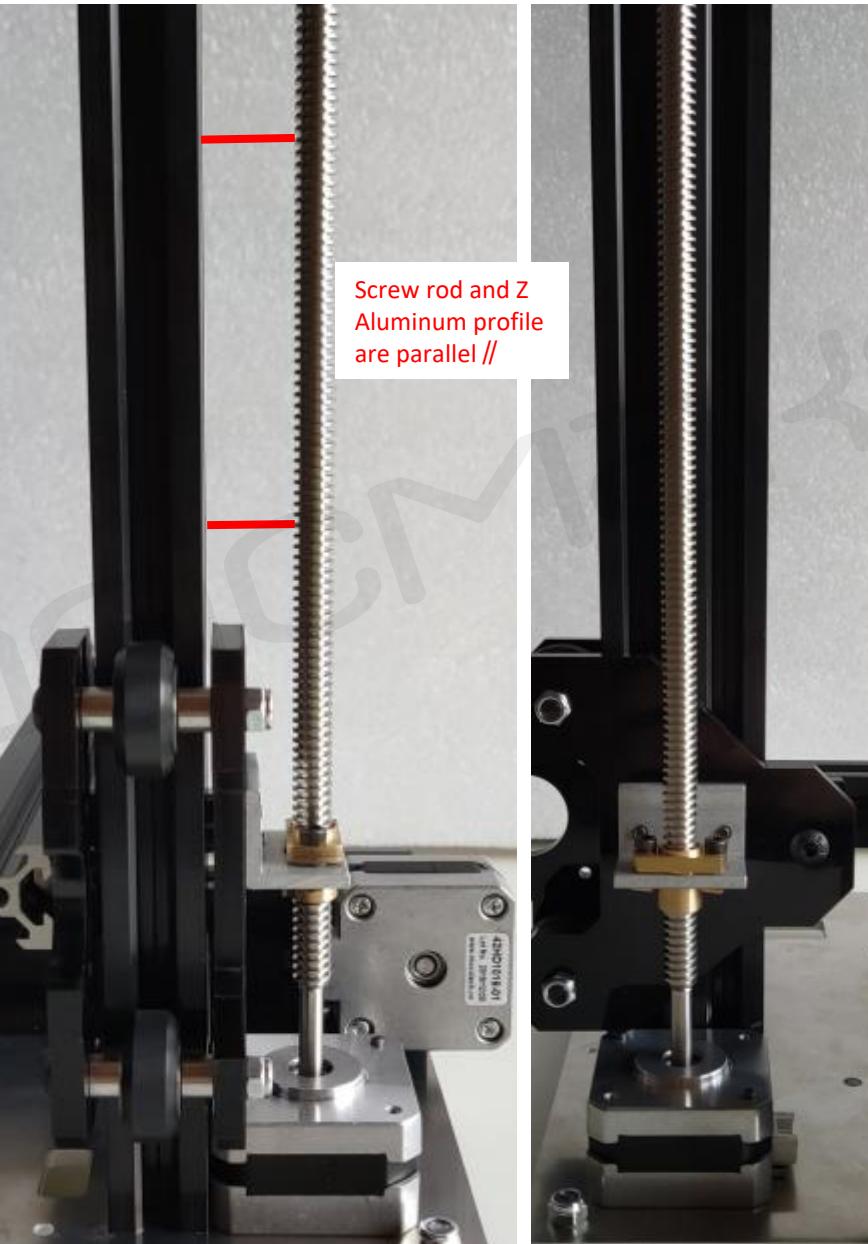
A M3 soft washer is placed between the screw rod nut and the shelf, Install m3 nut below, do not tighten it first



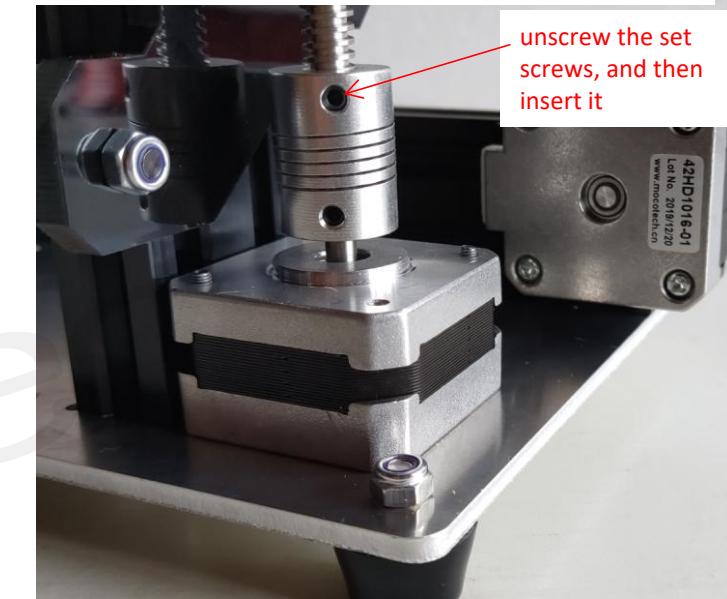
(The soft washers be stacked together, pull open)

If u have lube,
can lubricating the screw rod

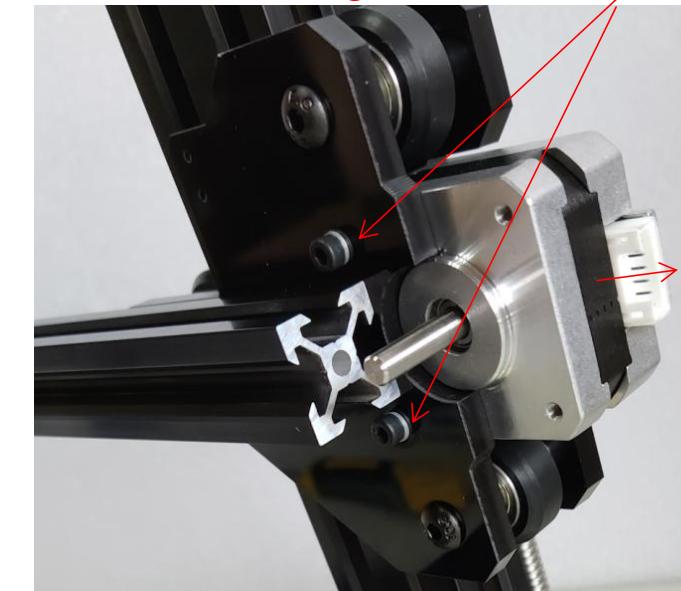
Adjust the screw rod until it is vertical to align the motor shaft below, and then tighten the screw to fix the screw rod nut., (in order not to affect the function of the soft washer, do not tighten it hard, only need the nut will not be loose)



The coupling is installed between the screw rod and the motor joint, Screw and motor shaft close, do not leave gap



X Motor, 3*10 Cup head, each screw needs to install two gasket.



Guide wheel seat

3*25 Cup head, Screw on the copper pillar



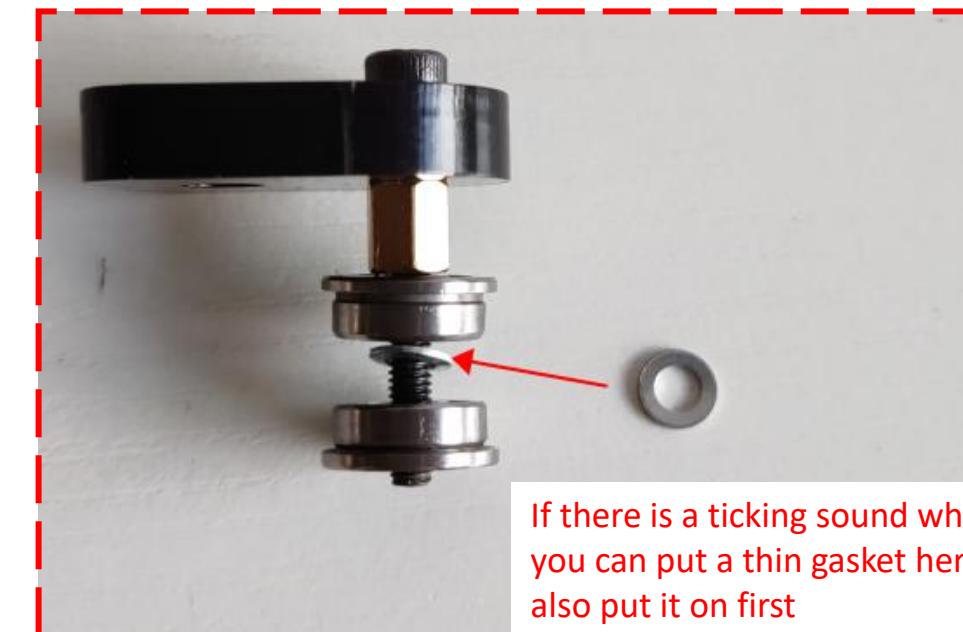
As the picture, install 2 flange bearings,
Screw on the copper pillar to fix



5*10 round head screwed on the slider nut, not tightened



There are two sets like this

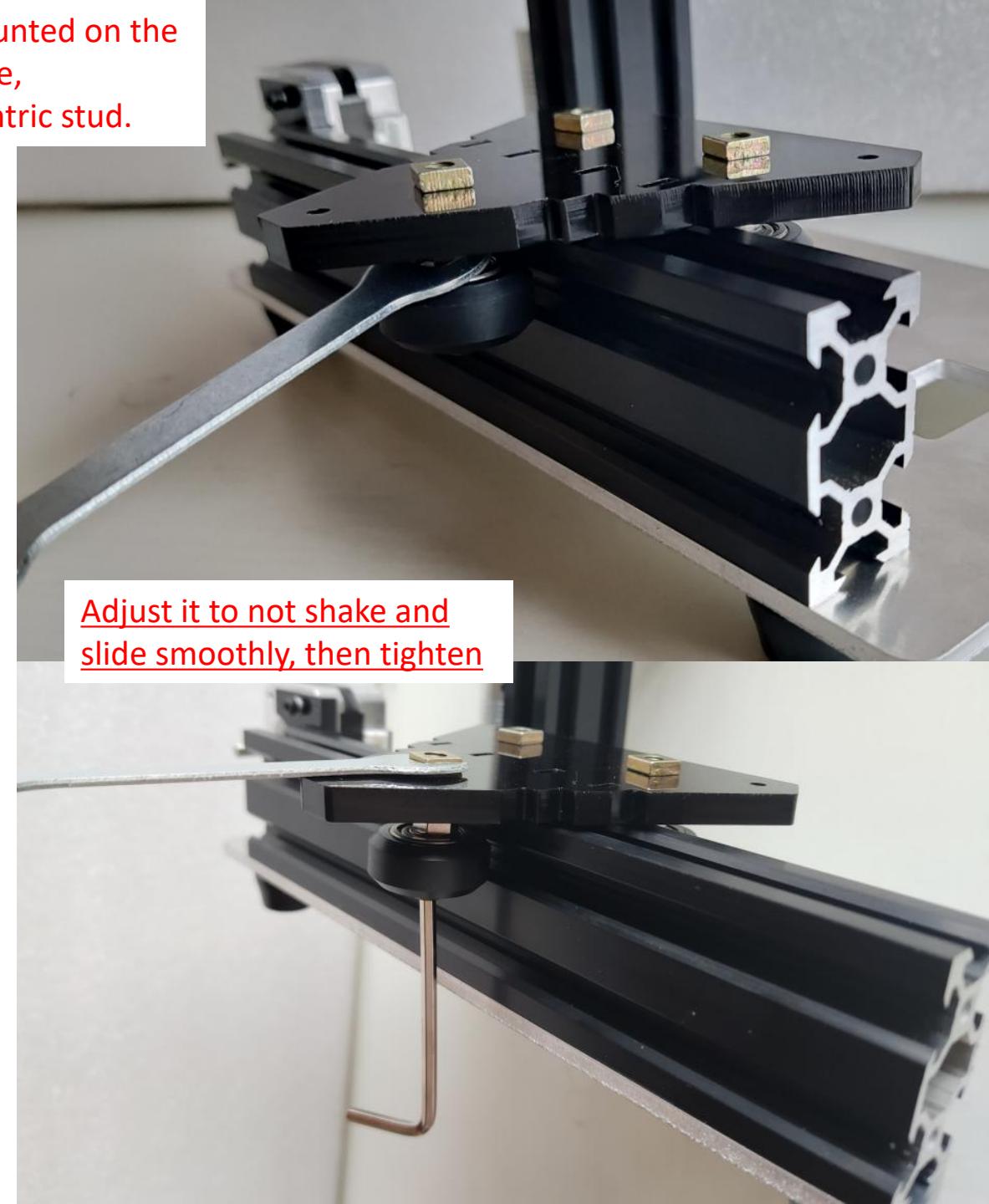


If there is a ticking sound when printing,
you can put a thin gasket here, or you can
also put it on first

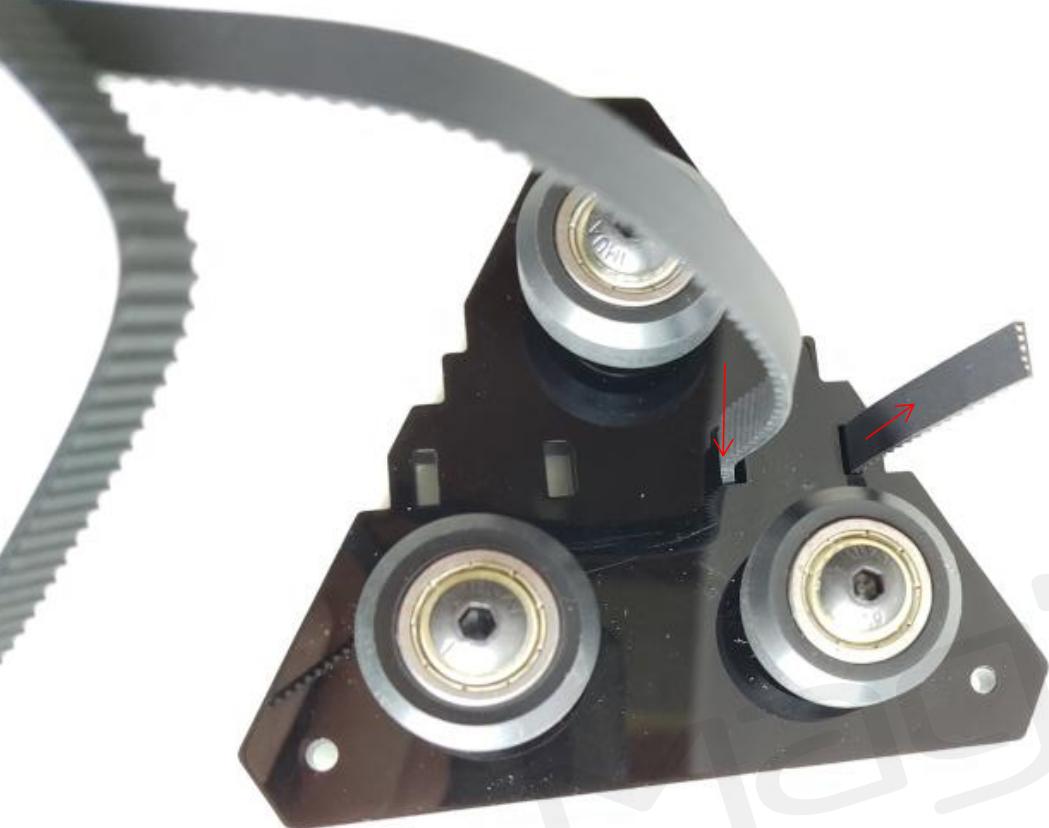
Y slider



The slider is mounted on the aluminum profile,
Adjust the eccentric stud.



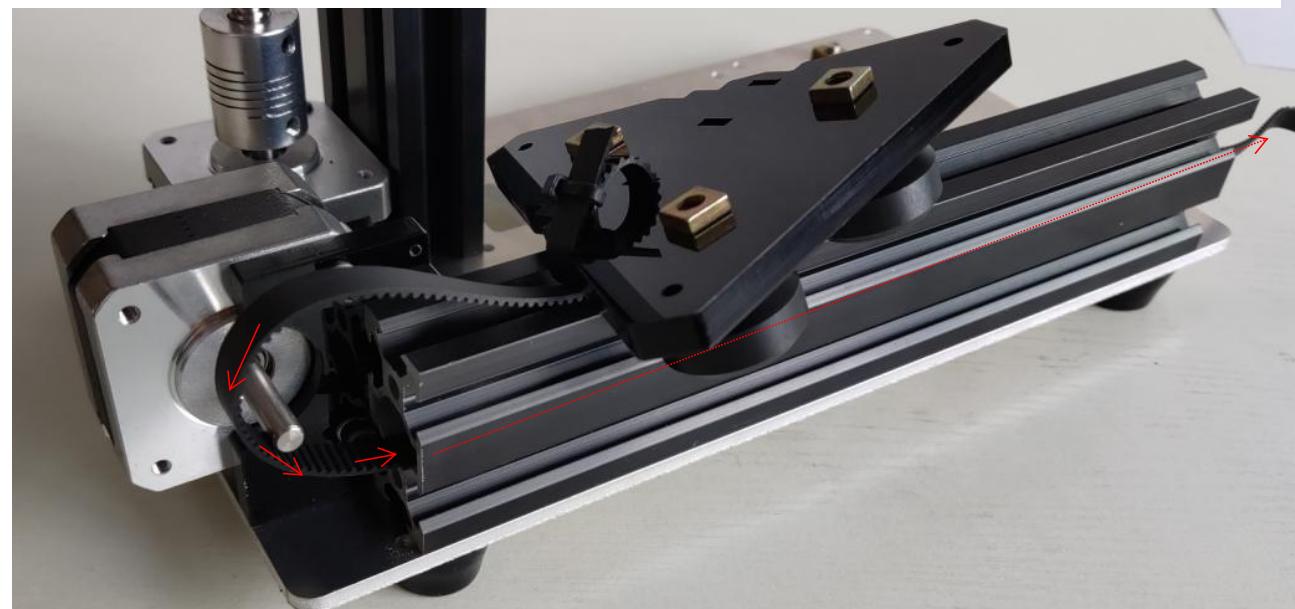
As shown through, The belt passes through the slider



As shown , bundle the belt with a cable tie to fix it



The belt goes through the hole in the Aluminum profile of the profile

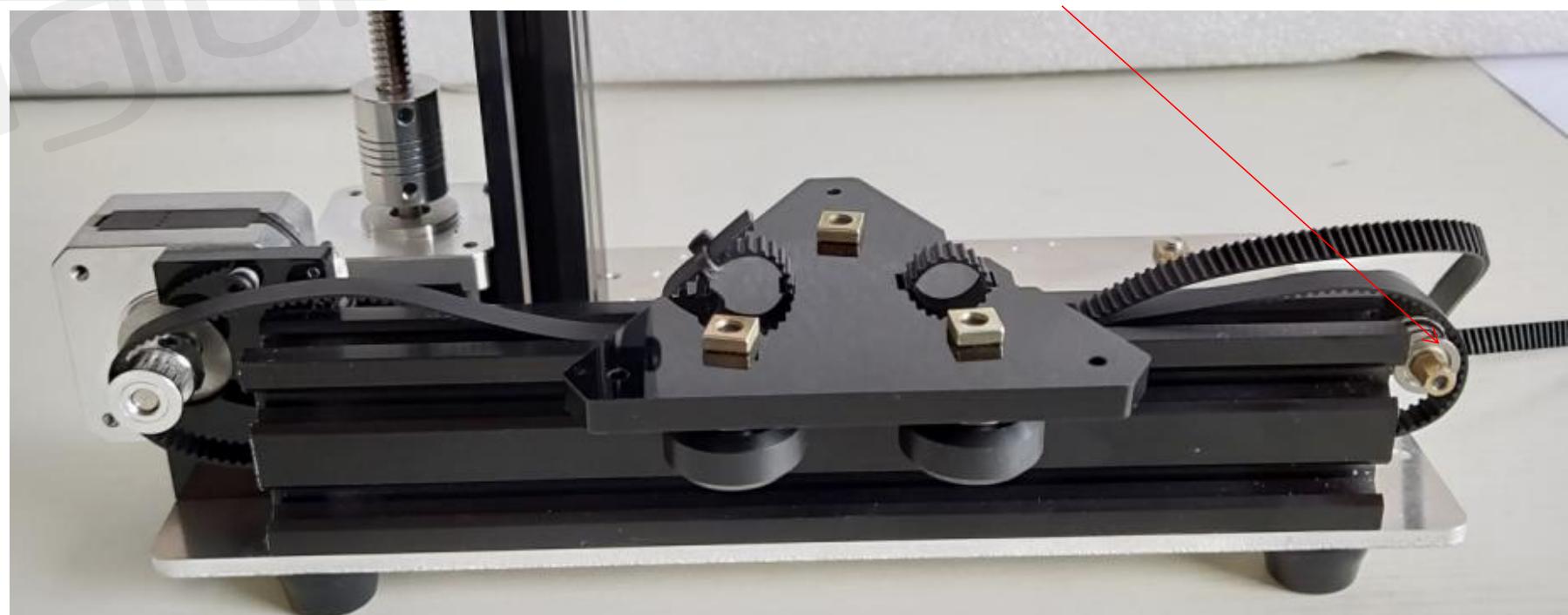


The other side passes through the acrylic plate as before

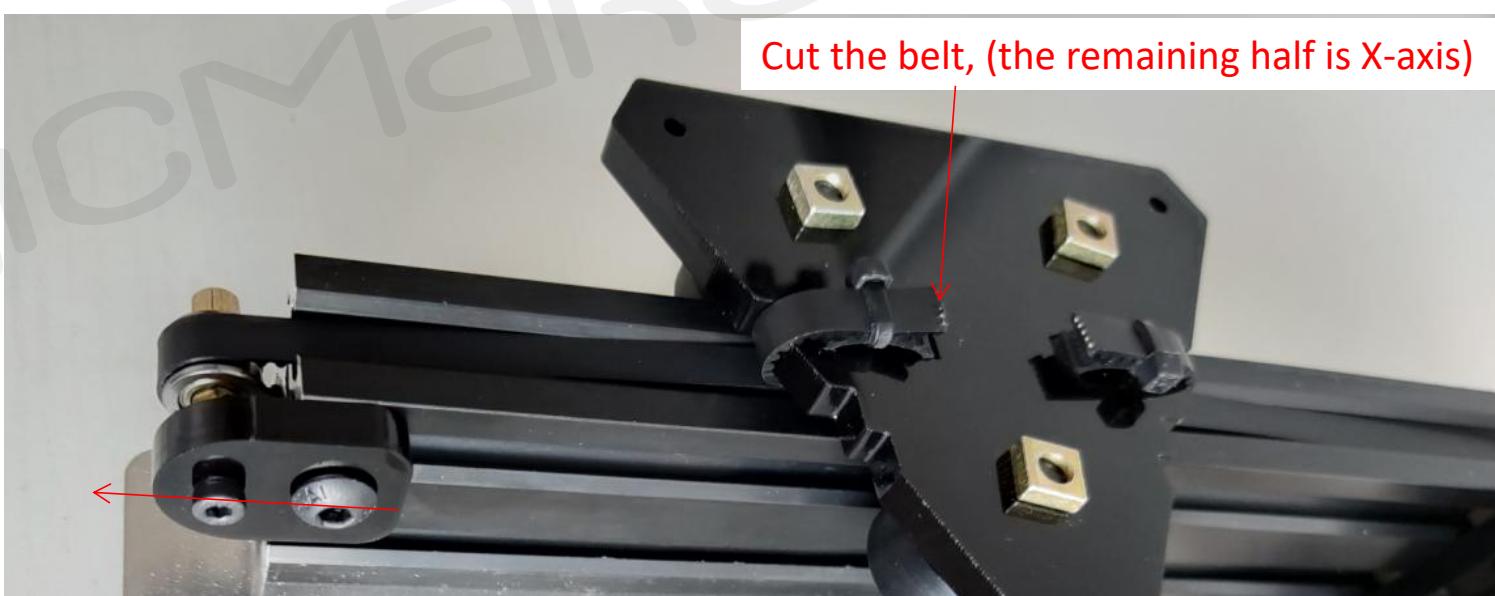
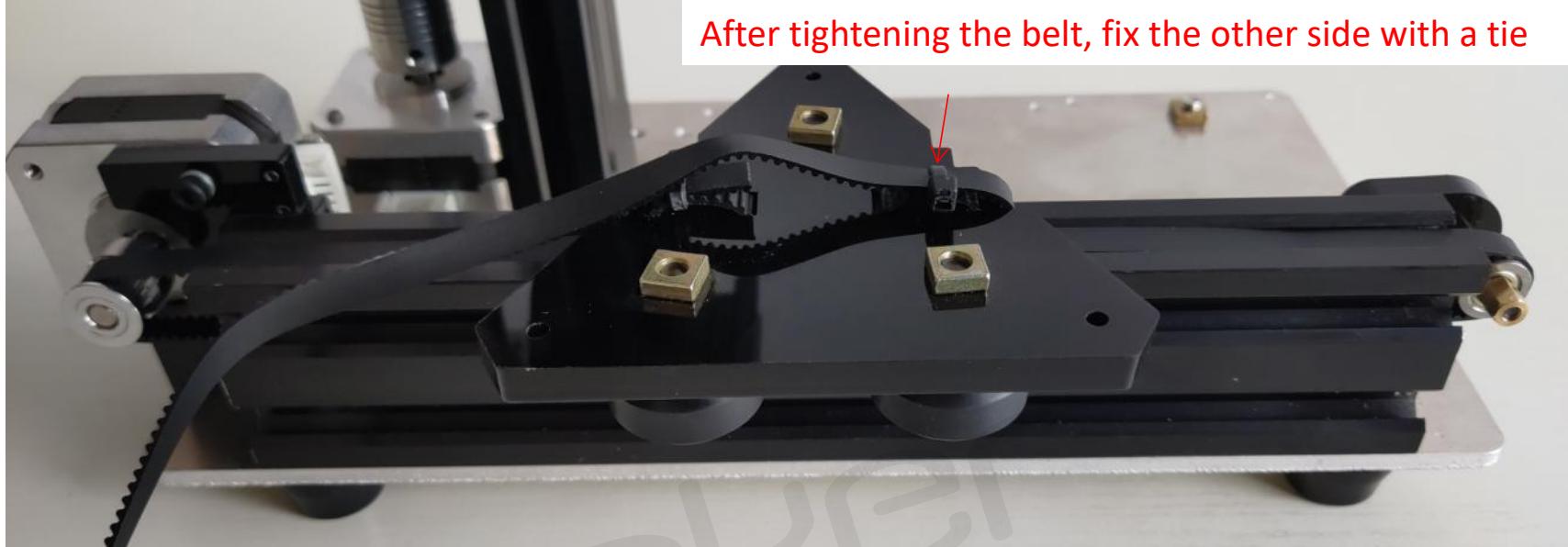
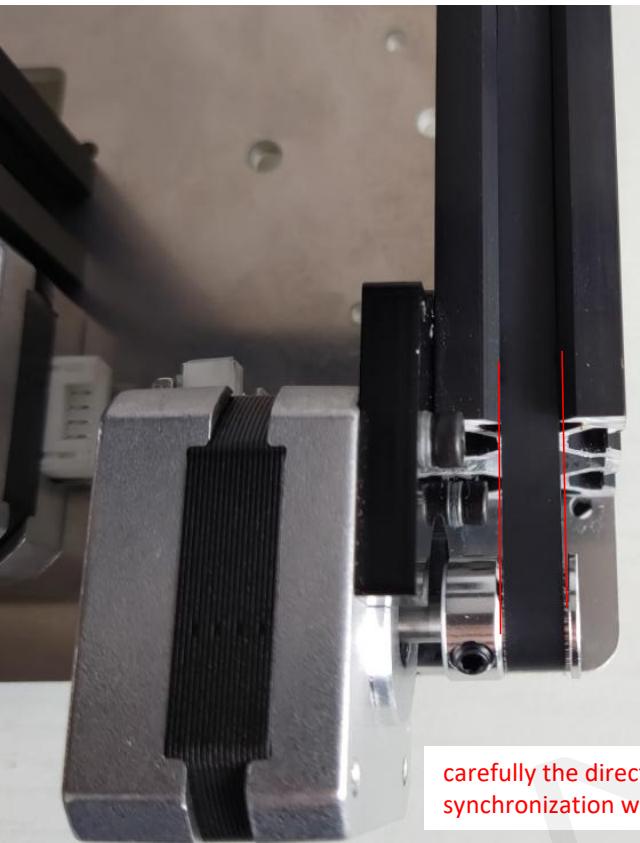


Slider slides into Aluminum profile.

The guide wheel seat is fixed against the profile (no need to tighten it)

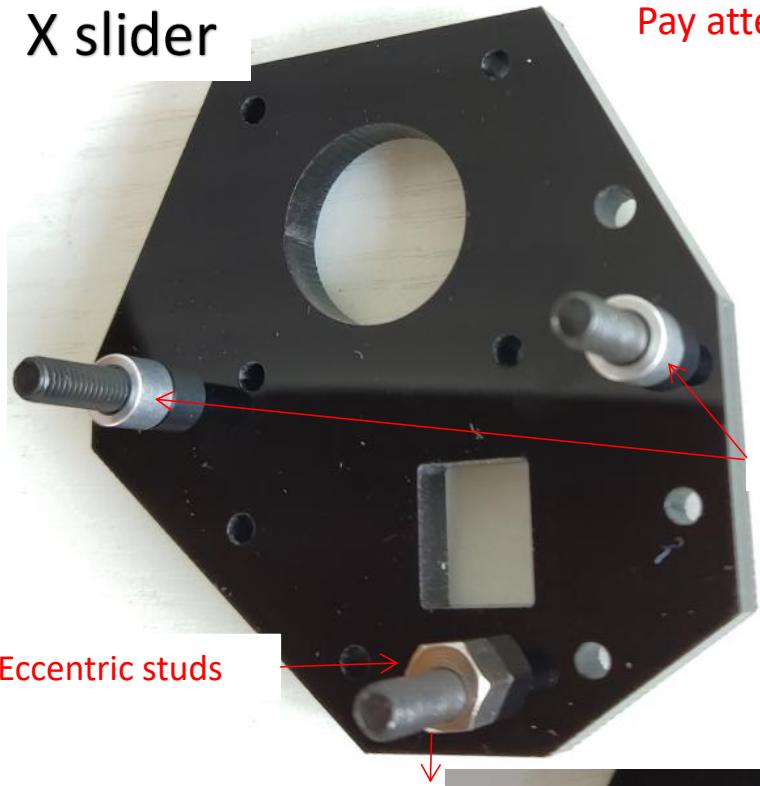


Install the synchronous wheel on the motor,The groove of the synchronous wheel is aligned with the groove of the aluminum profile, then the synchronous wheel is fixed.

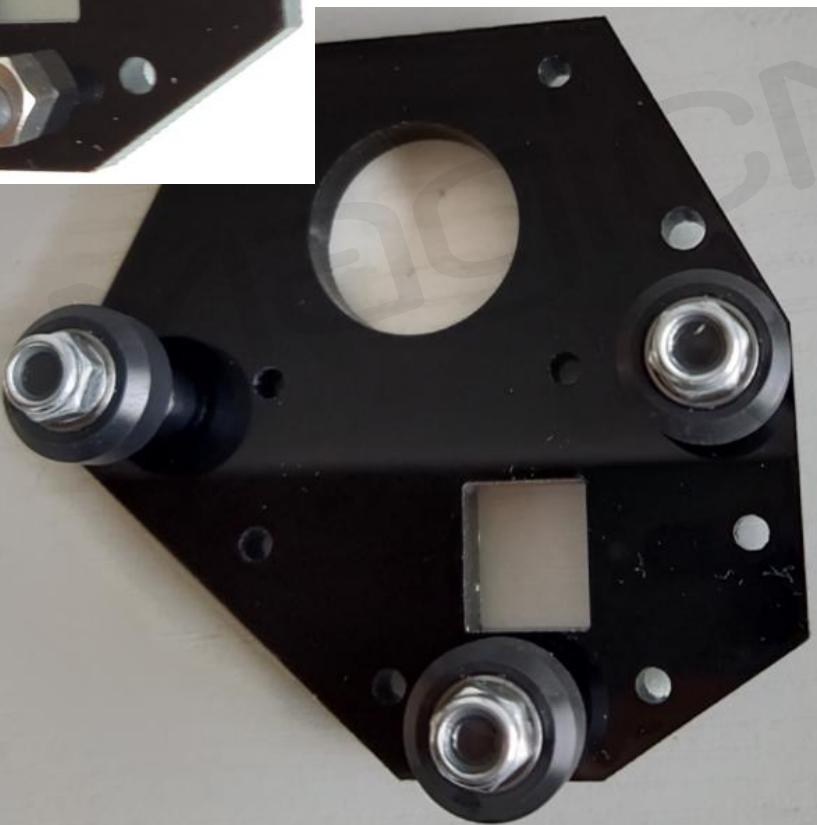


Loosen the guide wheel seat, Move outward to tighten the belt, and then fix it

X slider



Install the small pulley,
Screw on M5 Lock nut

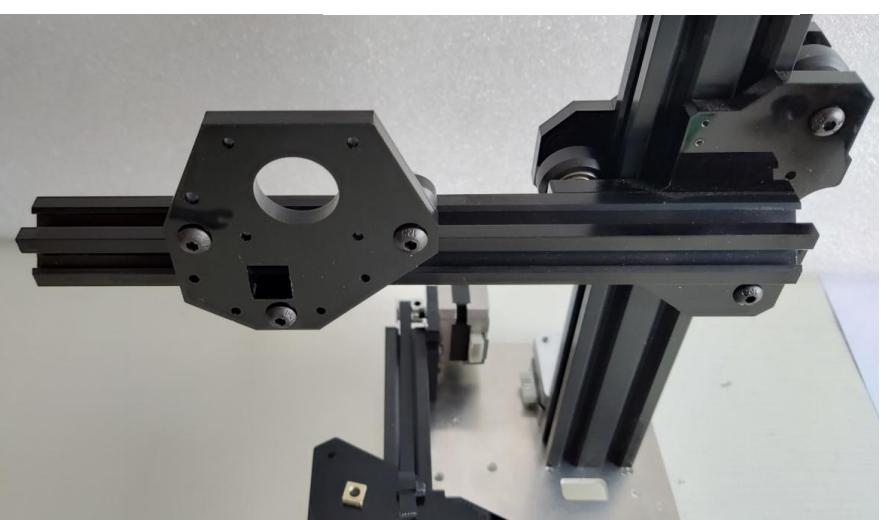


Pay attention to the direction

The slider is mounted on the
aluminum profile,
then adjust the eccentric stud.

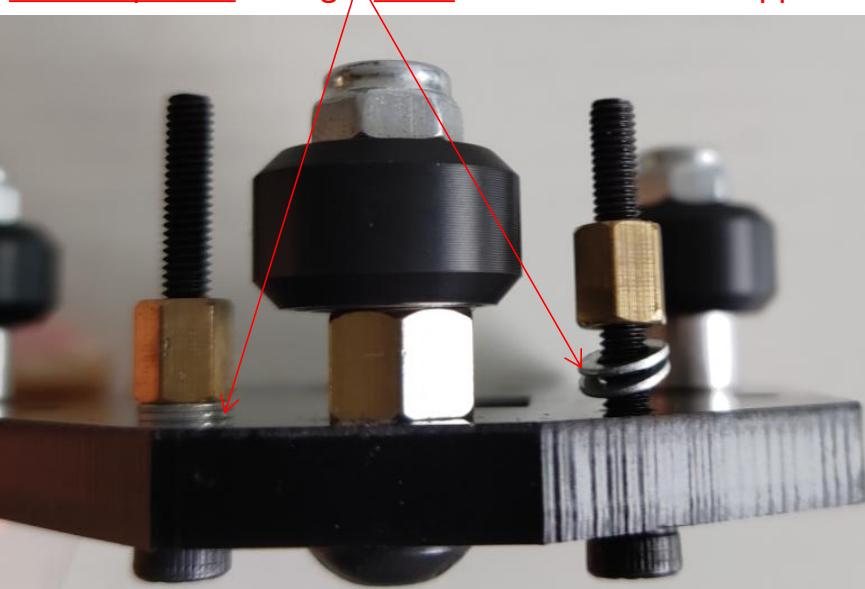


Adjust to no shaking
and smooth sliding



**The bearing of the small
pulley is relatively fragile
and does not need to be
tightened too tightly**

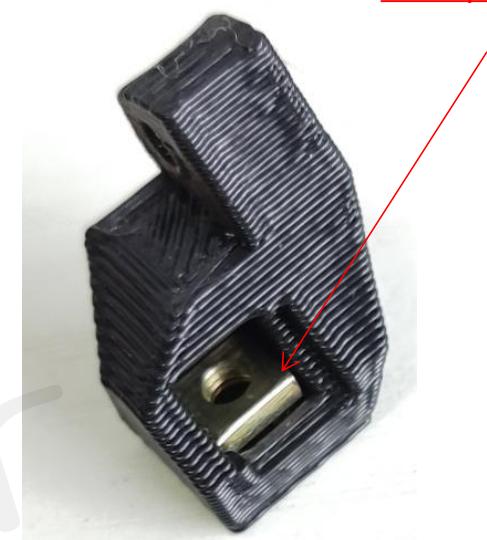
3*25 Cup head, Plug 2 shim and screw on the copper column



Screw the 3*10 cup head to fix the fan rack



Put in the M3 square nut



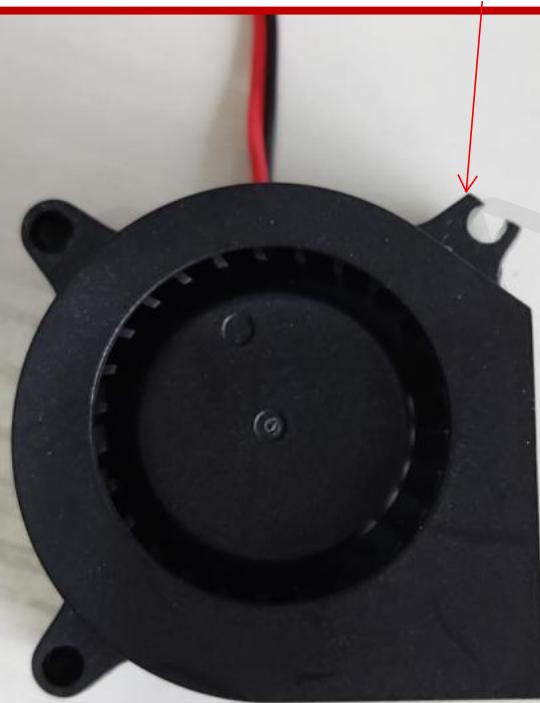
Align the acrylic edge with the fan rack edge



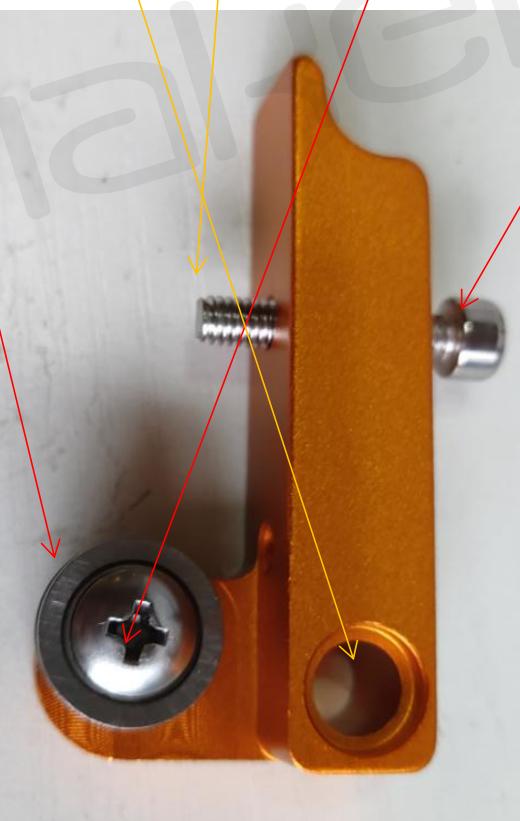
Accessories for extruders



Use a knife to cut off the fan at least 1mm, be sure to cut.

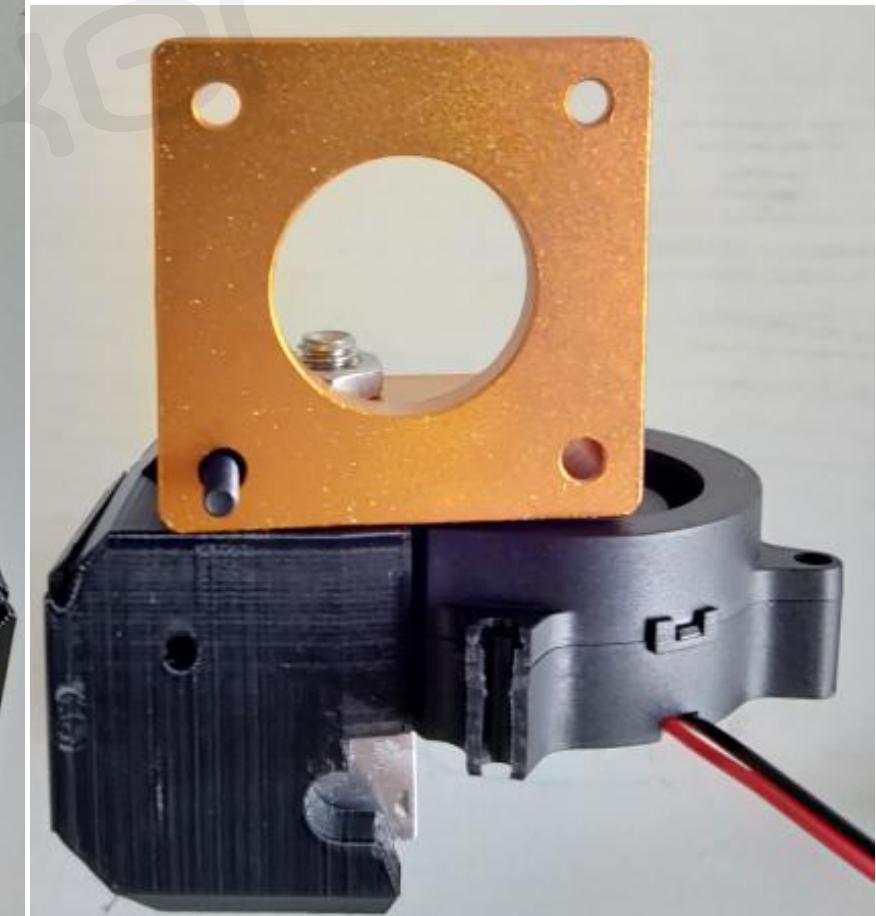
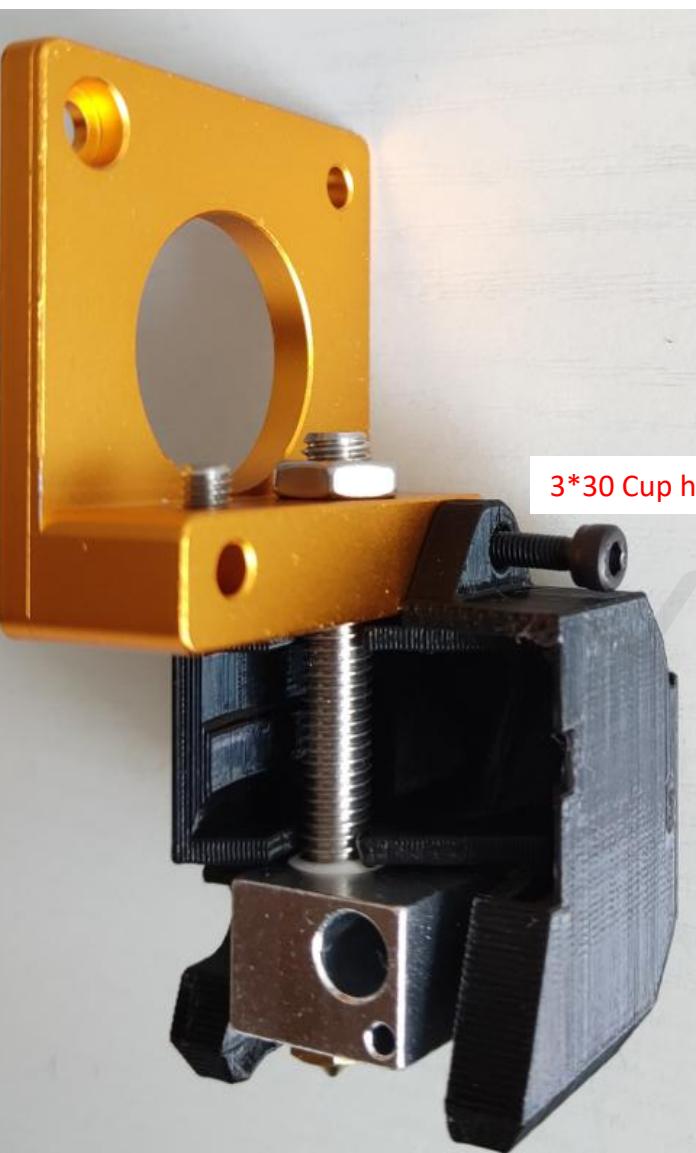


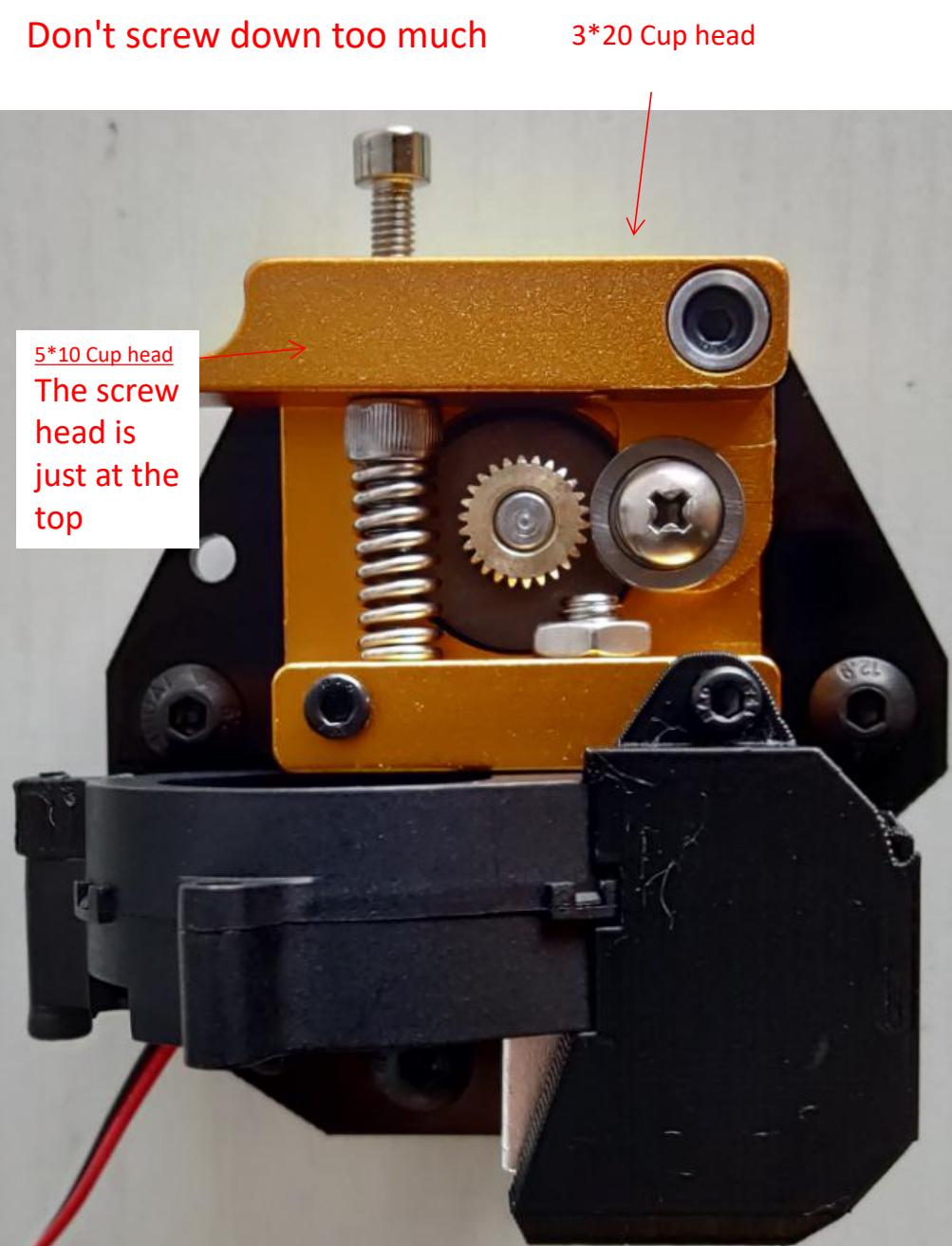
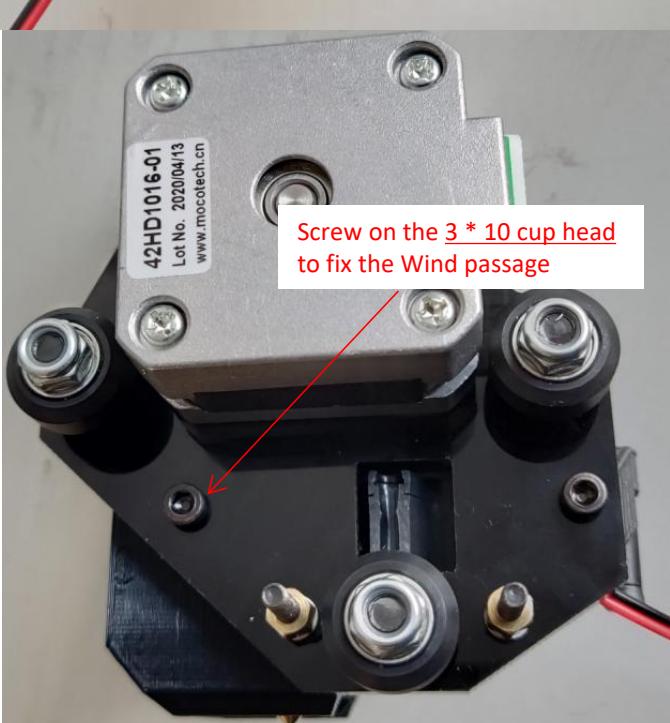
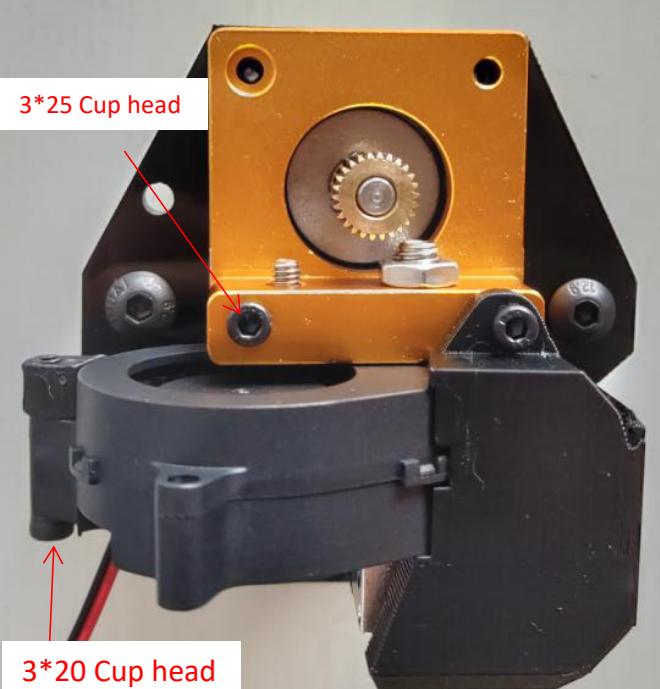
The direction is as shown,
flush with the motor shaft



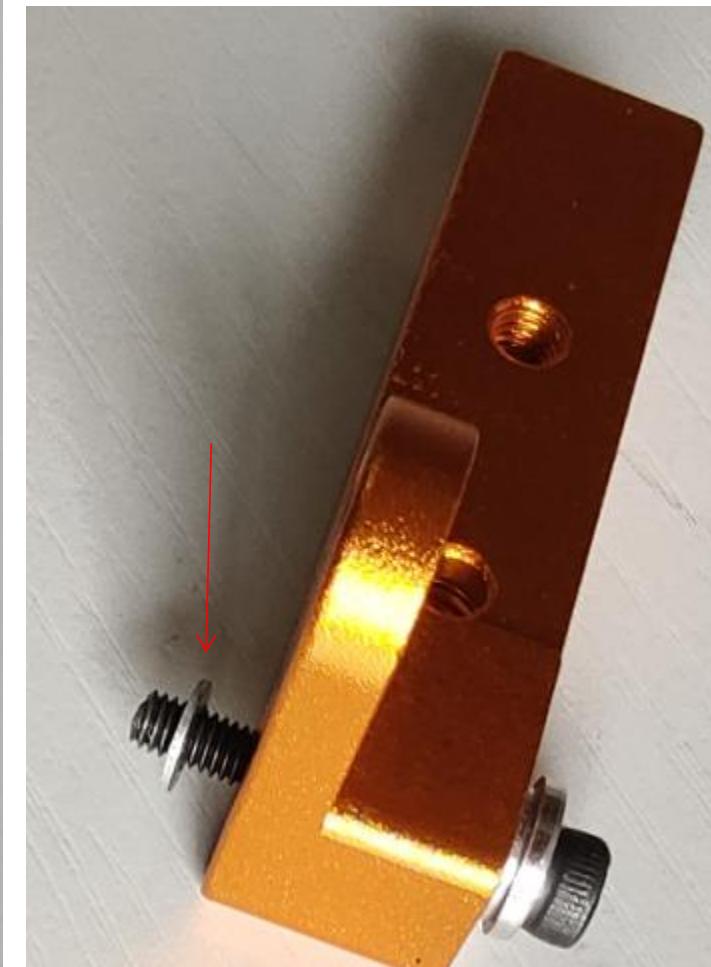
Extruder

Insert the fan diagonally into the fan cover slot as shown

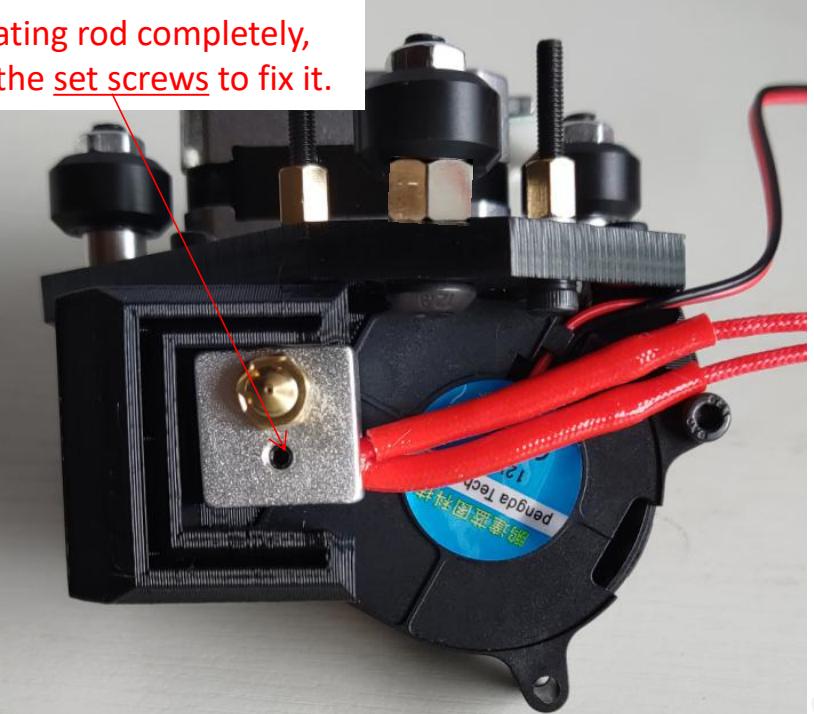




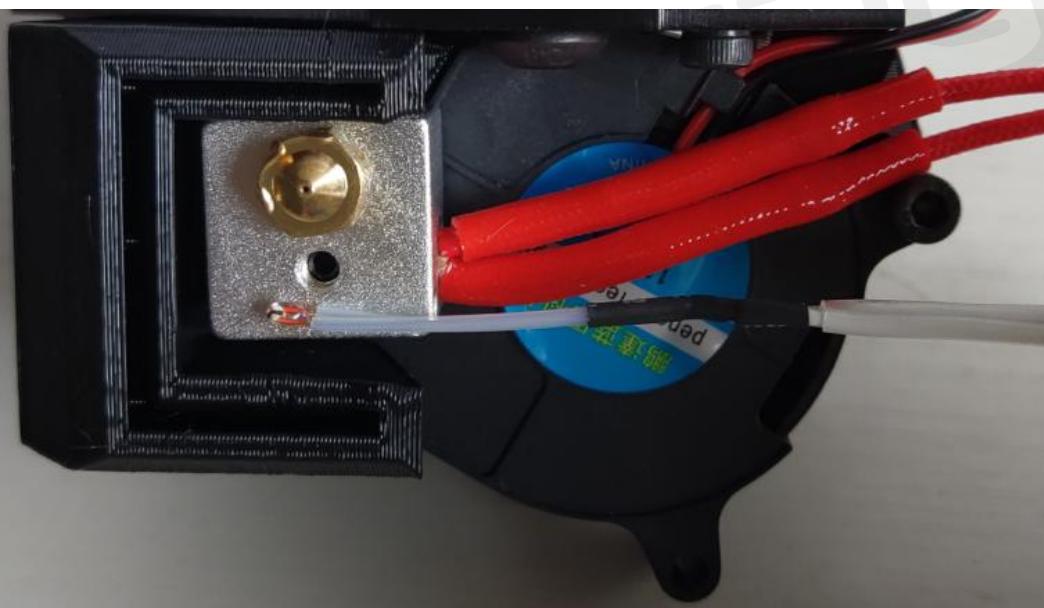
If the extrusion arm is too tight to move, A gasket can be added, or the screw is not tightened



Insert the heating rod completely,
then tighten the set screws to fix it.



The glass ball of the thermistor is inserted into the middle
of the aluminum block

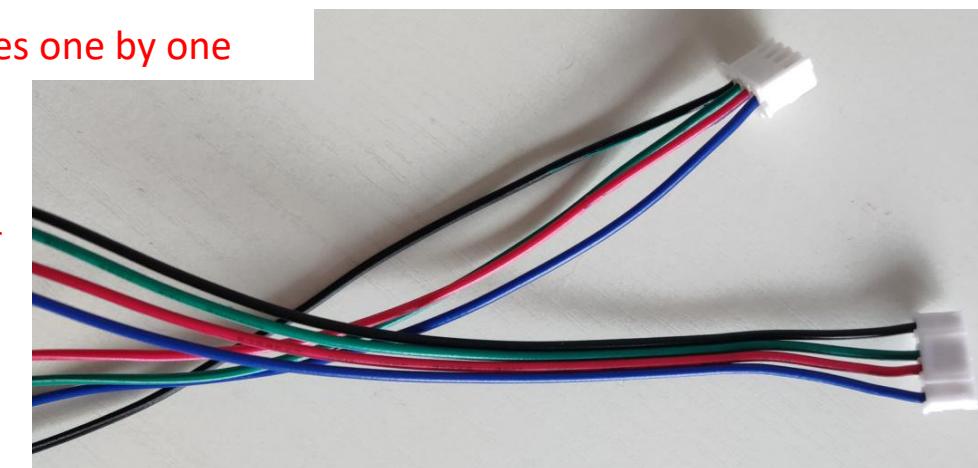


Use a cable tie to tie the heating rod and the thermistor, which should be
tied to the position of the heat sensitive transparent sleeve
(do not tie the black position)



Tear the motor wires one by one

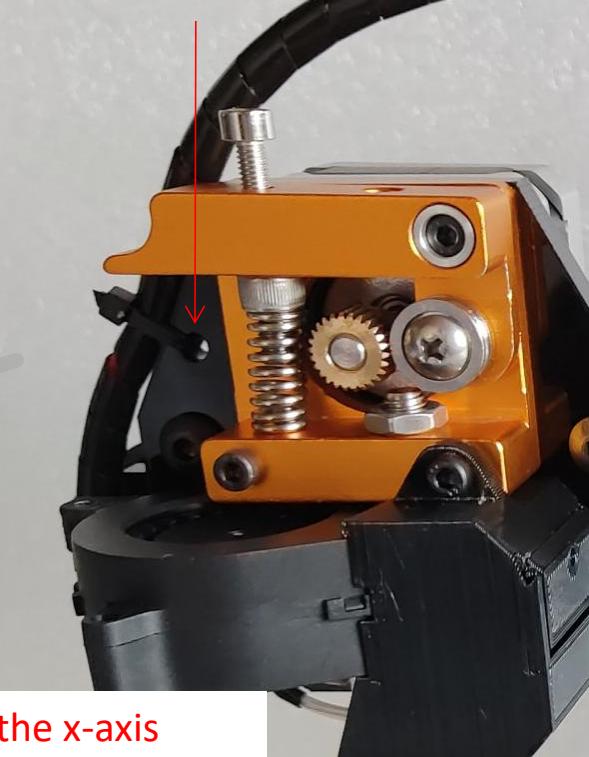
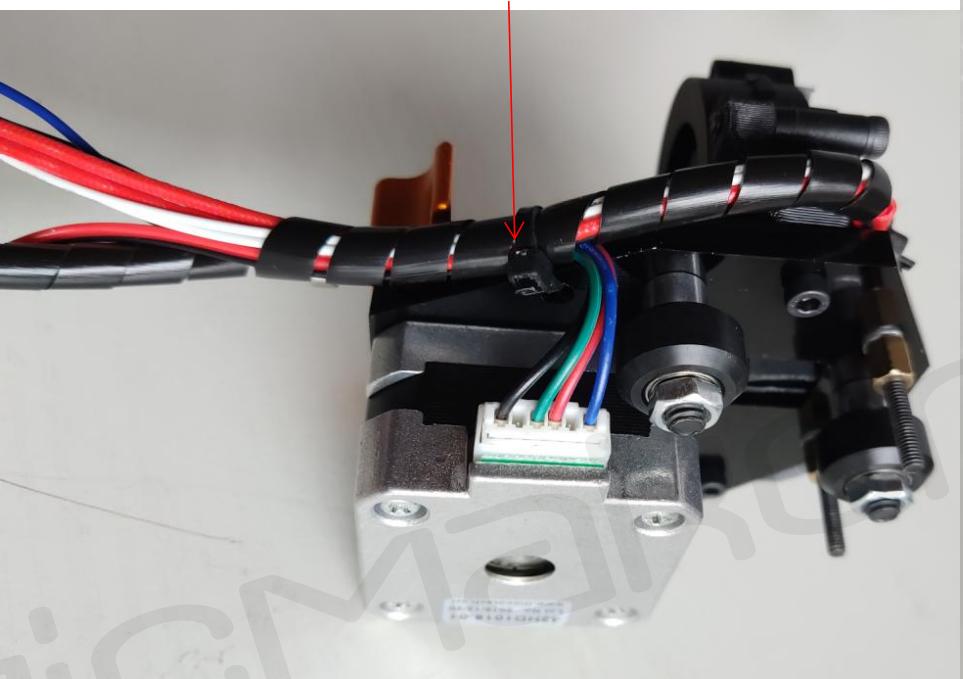
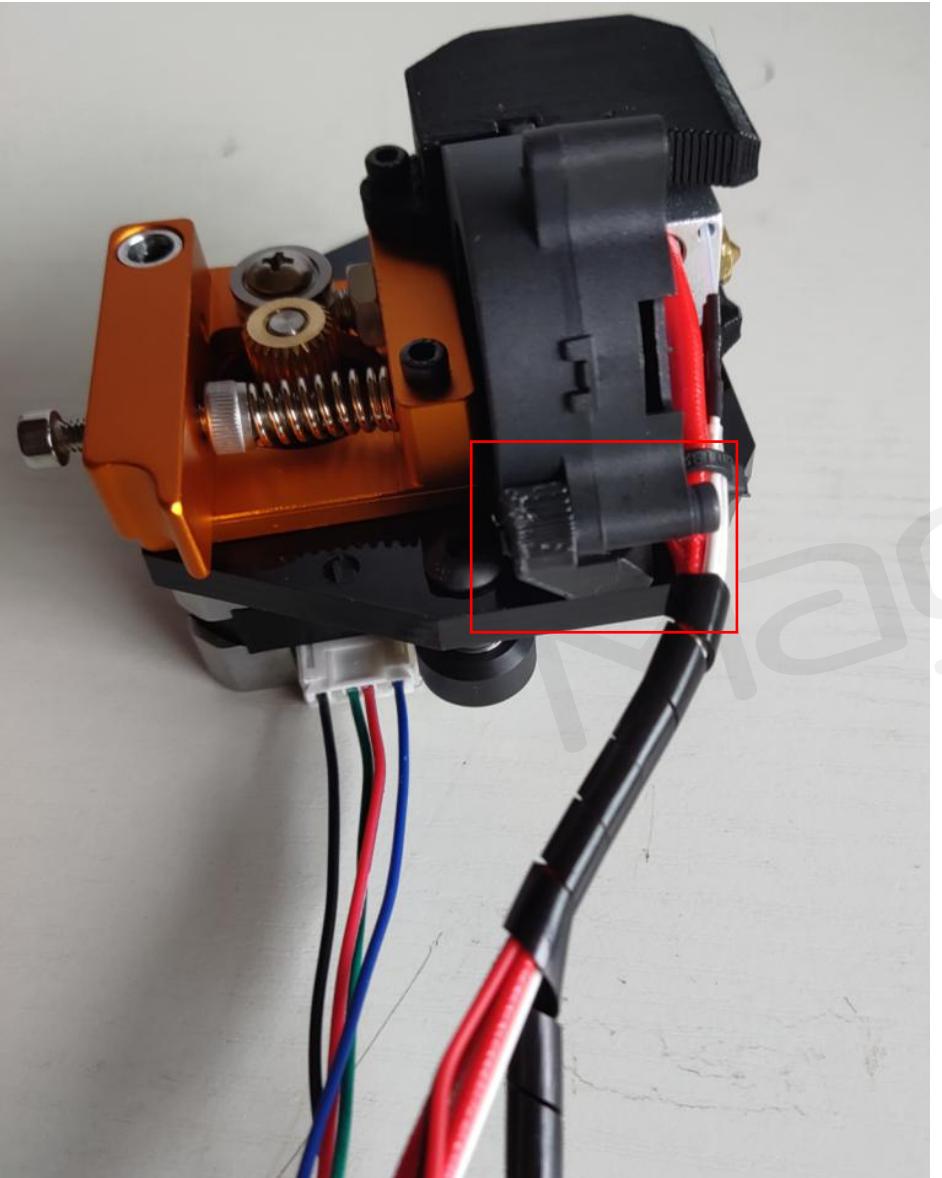
Label the two longer motor
cord plugs.
The longest is the E-axis,
The next is the x-axis.



E motor-wire is the longest one

Fix the wire harness to the hole on the edge of acrylic with a tie, **This is an important step**

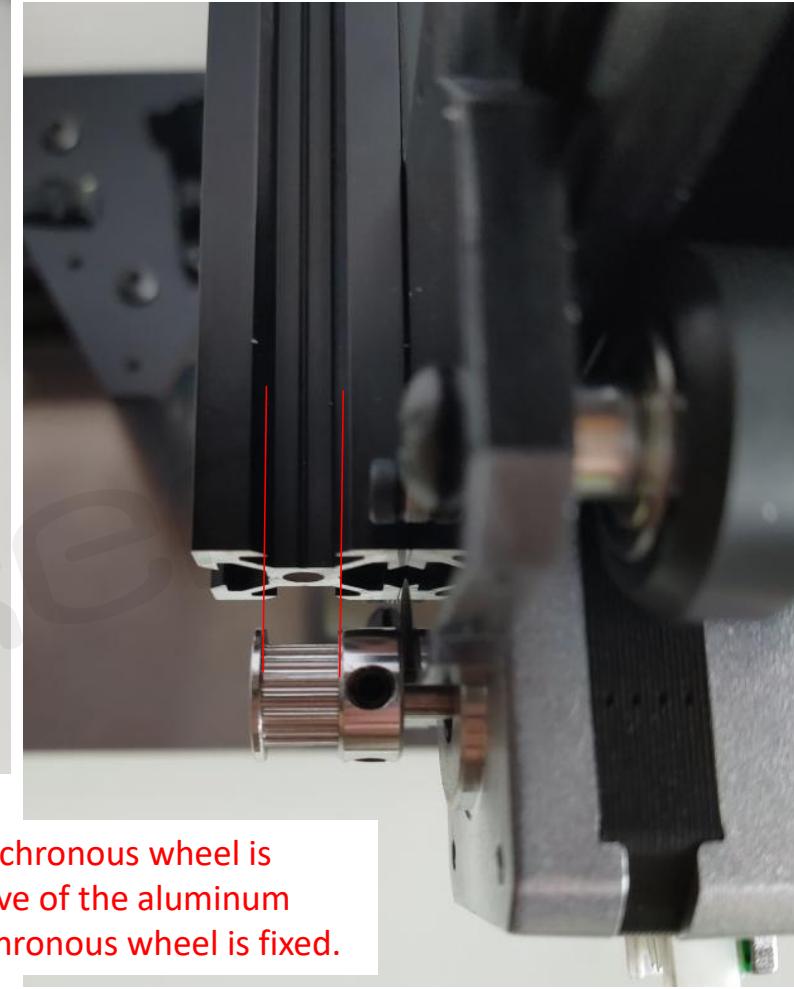
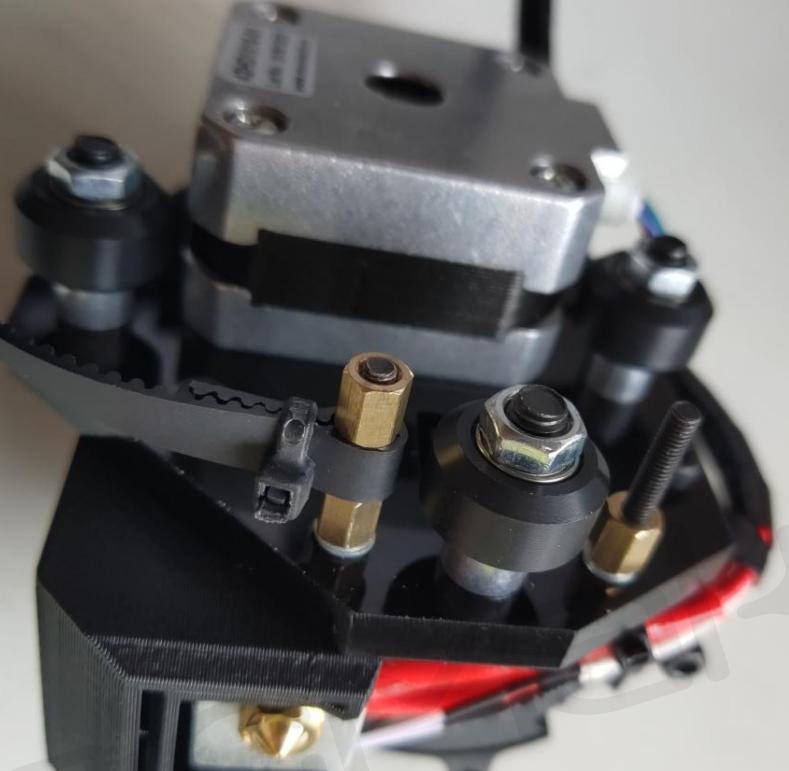
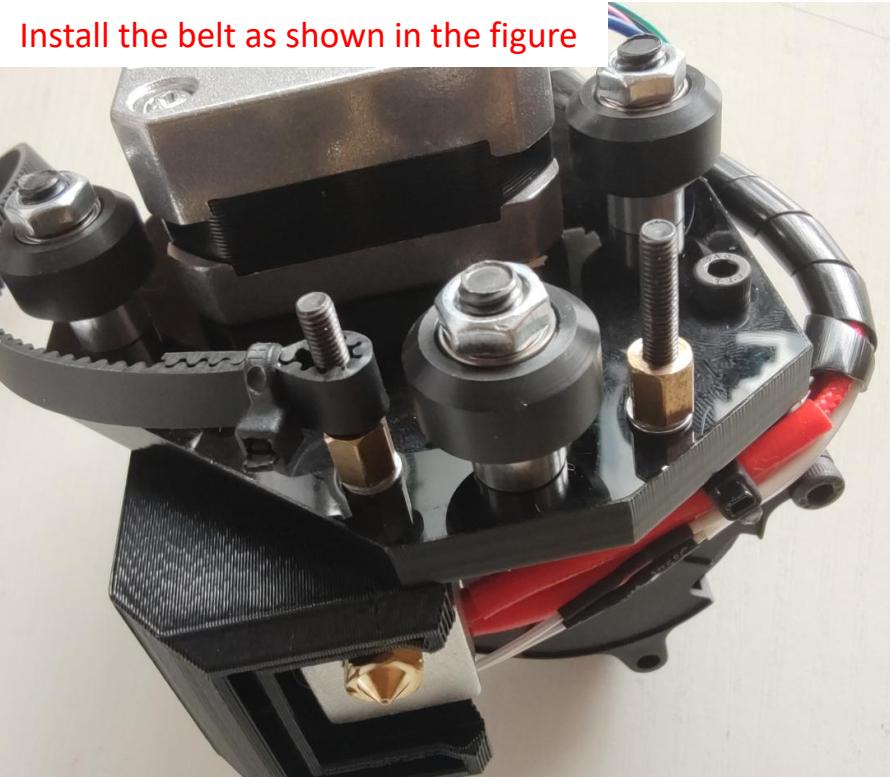
As shown, the winding tube covers the wire



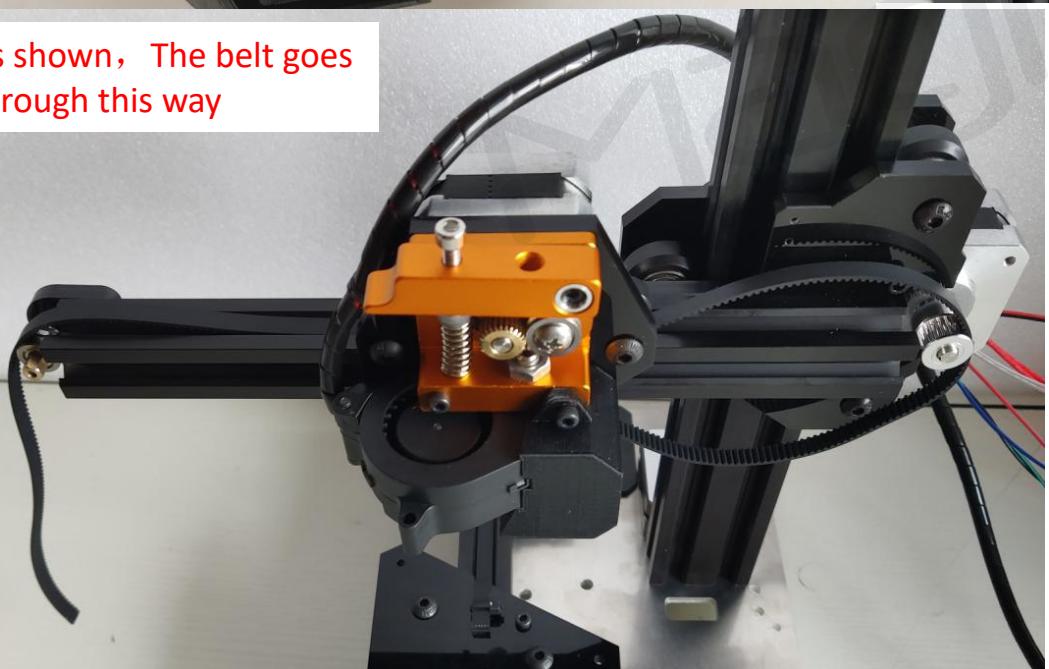
The length of the winding tube is equal to the length of the x-axis



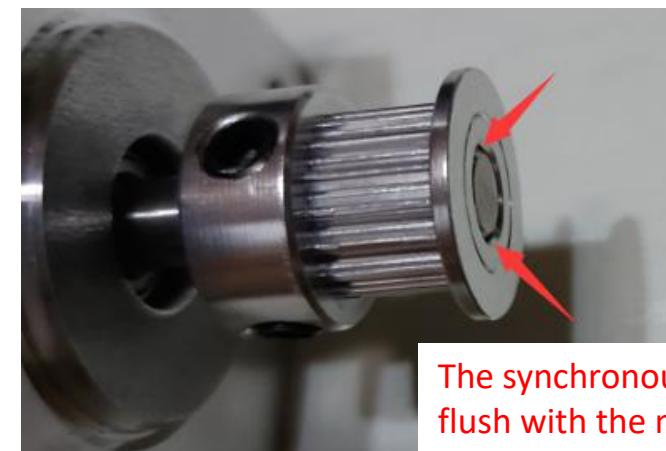
Install the belt as shown in the figure



As shown, The belt goes through this way



The groove of the synchronous wheel is aligned with the groove of the aluminum profile, then the synchronous wheel is fixed.



The synchronous wheel is flush with the motor shaft

Fix this side in the same way as before and cut off the excess belt



Install the guide
wheel seat



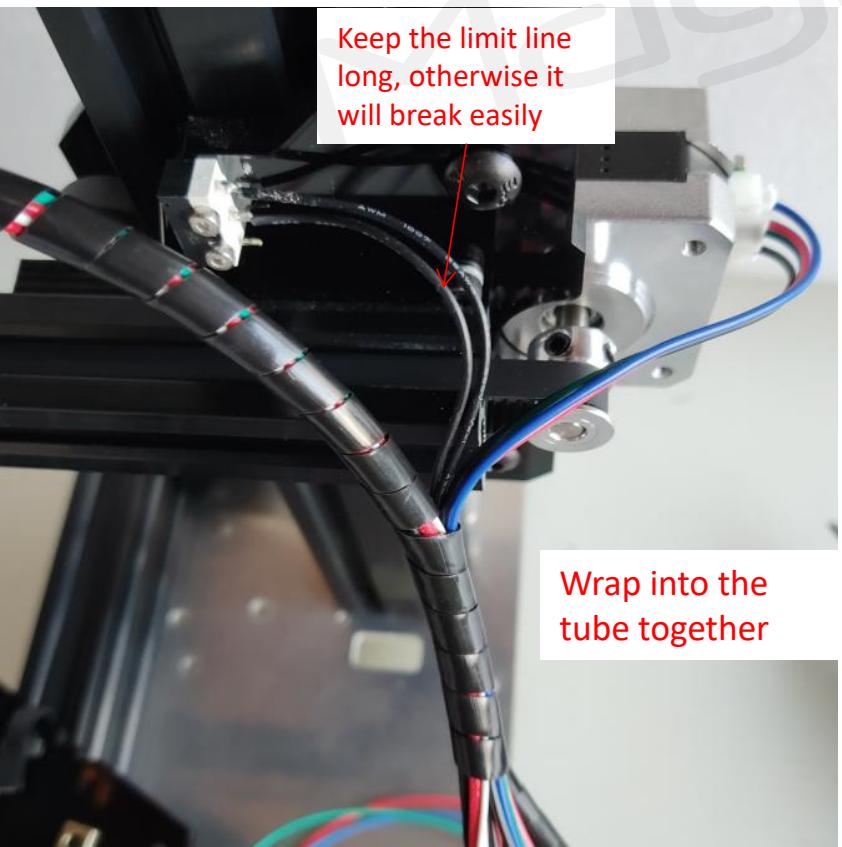
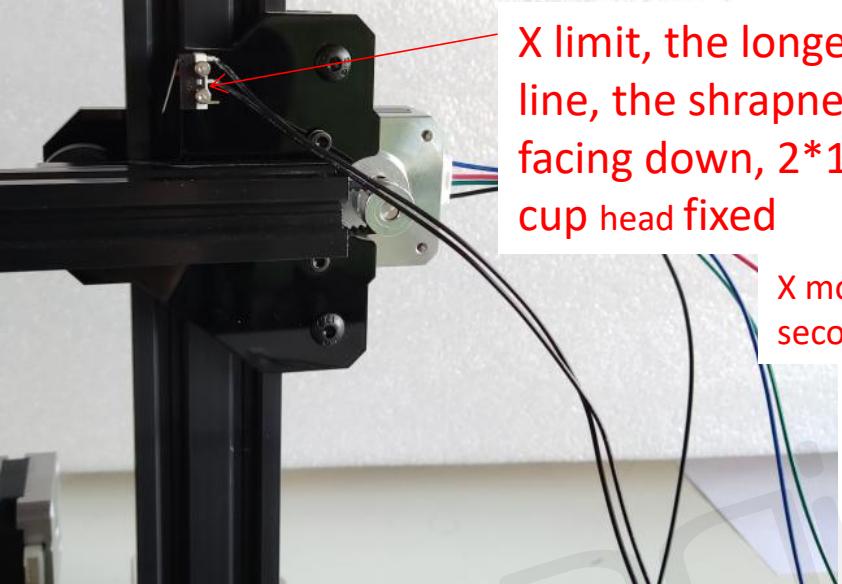
Put it on

Tie up like the other side



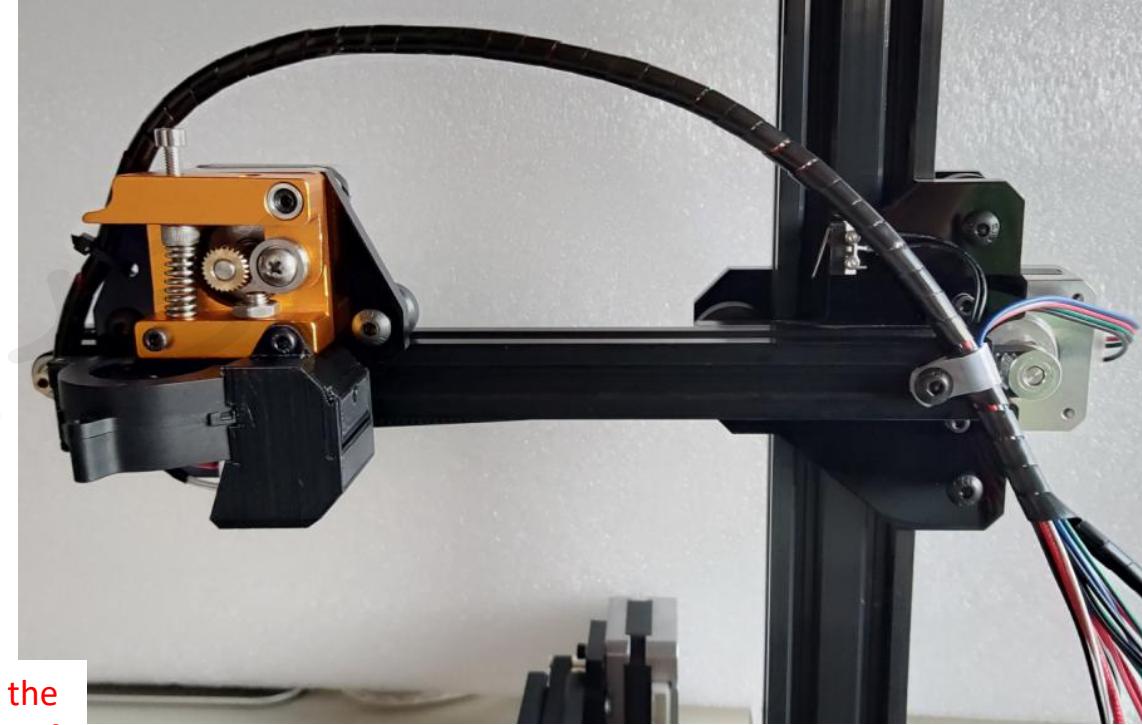
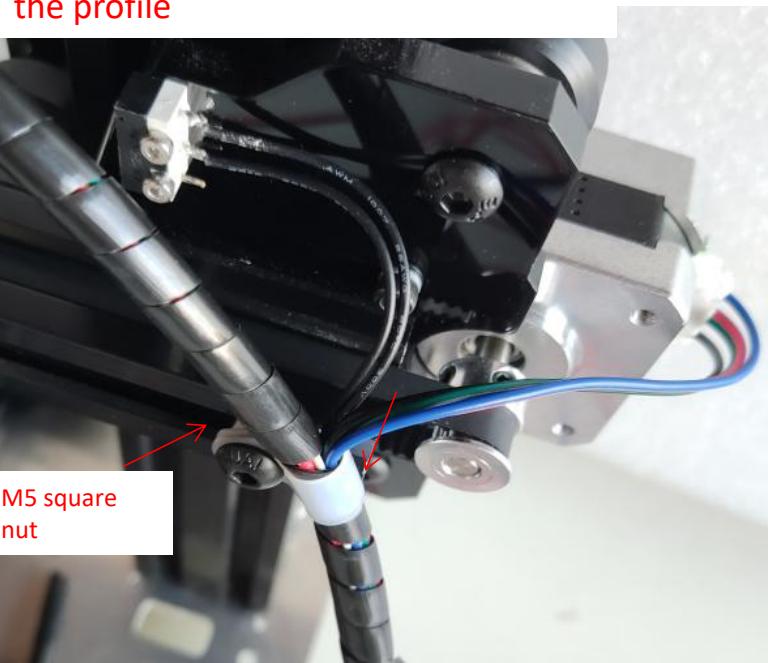
Loosen the guide wheel seat,
Move outward to tighten the belt,
and then fix it

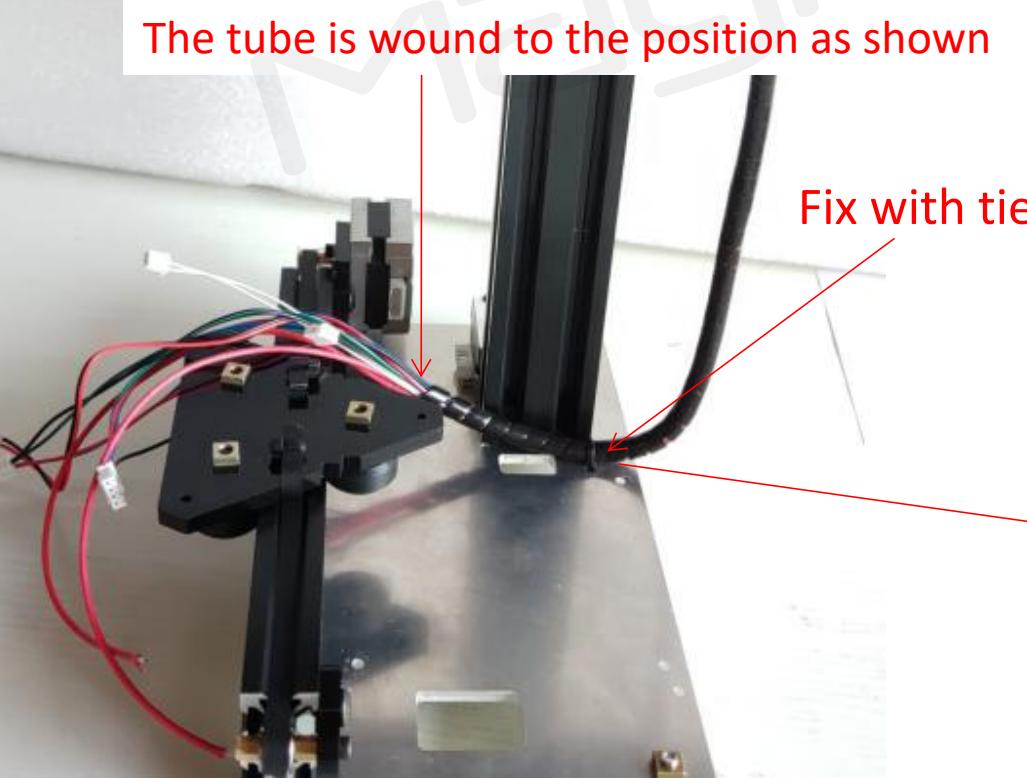
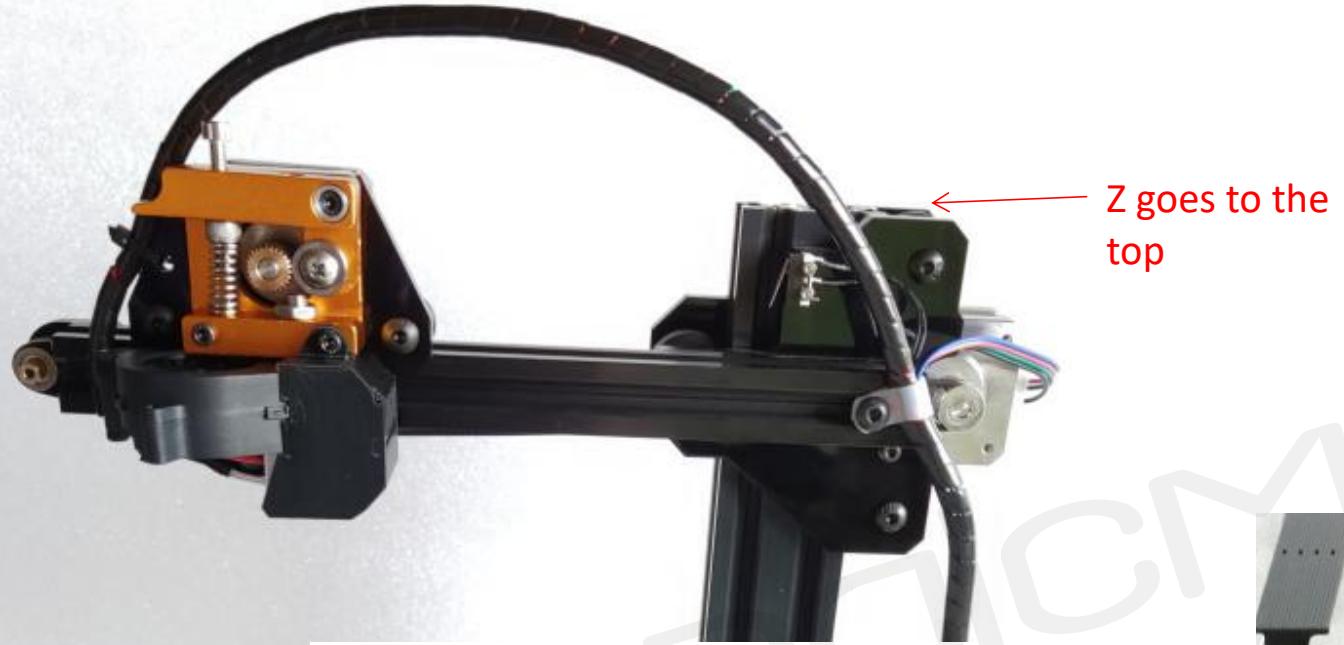




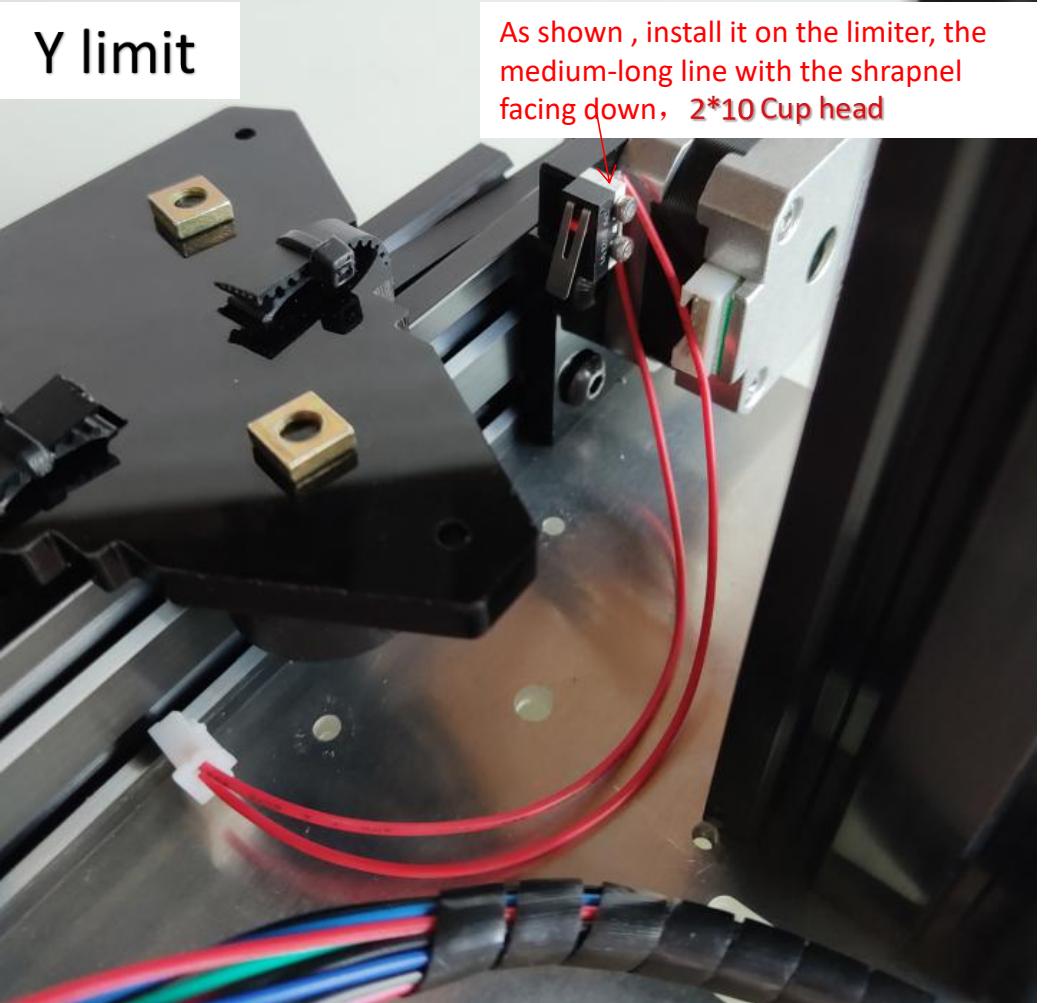
X motor wire is the second in length

R line card 5*10 round head fixed, the line card position is just at the edge of the profile





Y limit

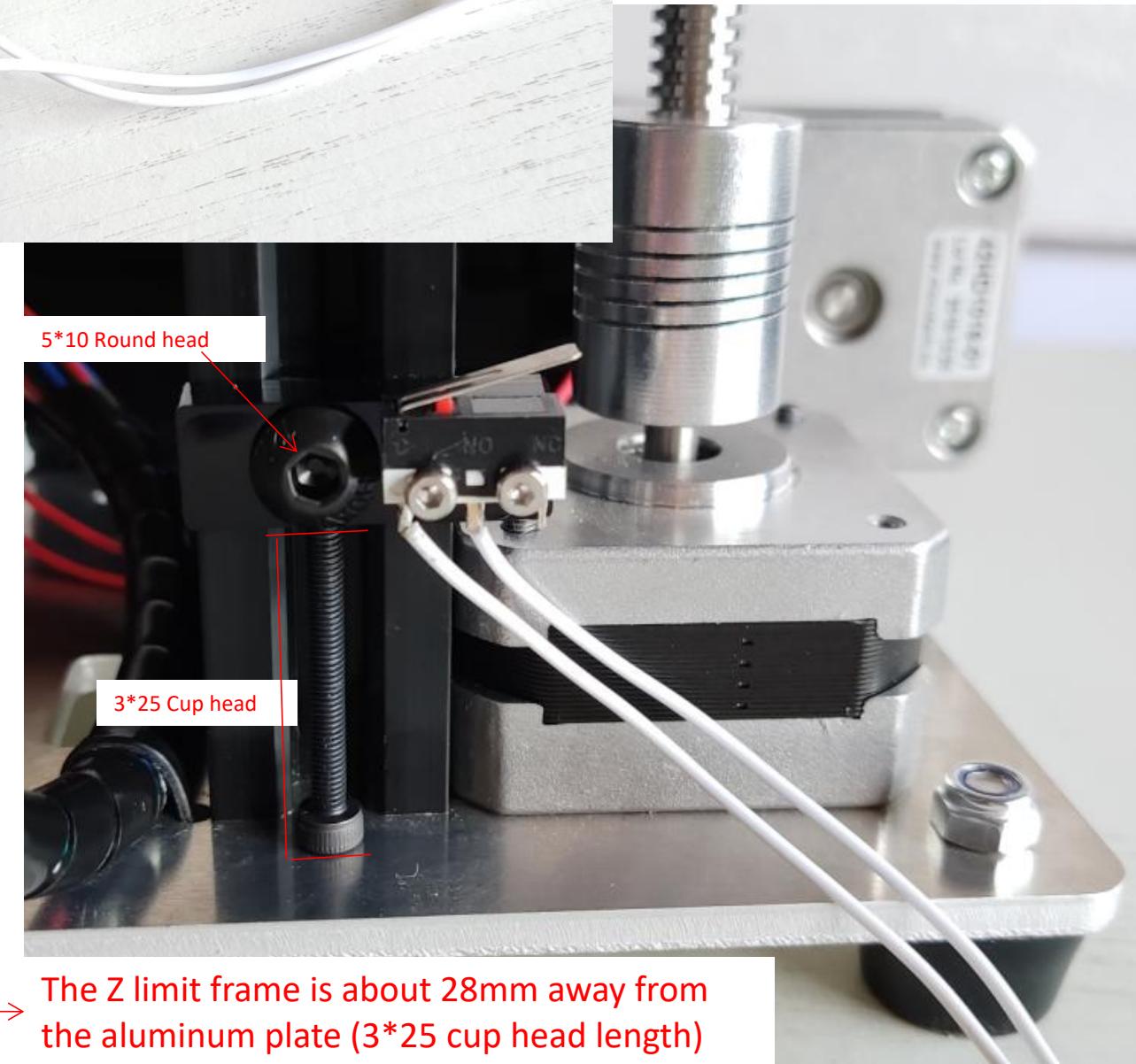


As shown , install it on the limiter, the medium-long line with the shrapnel facing down, 2*10 Cup head

Z limit



The shortest line, pay attention to the direction of the shrapnel as shown, 2*10 Cup head



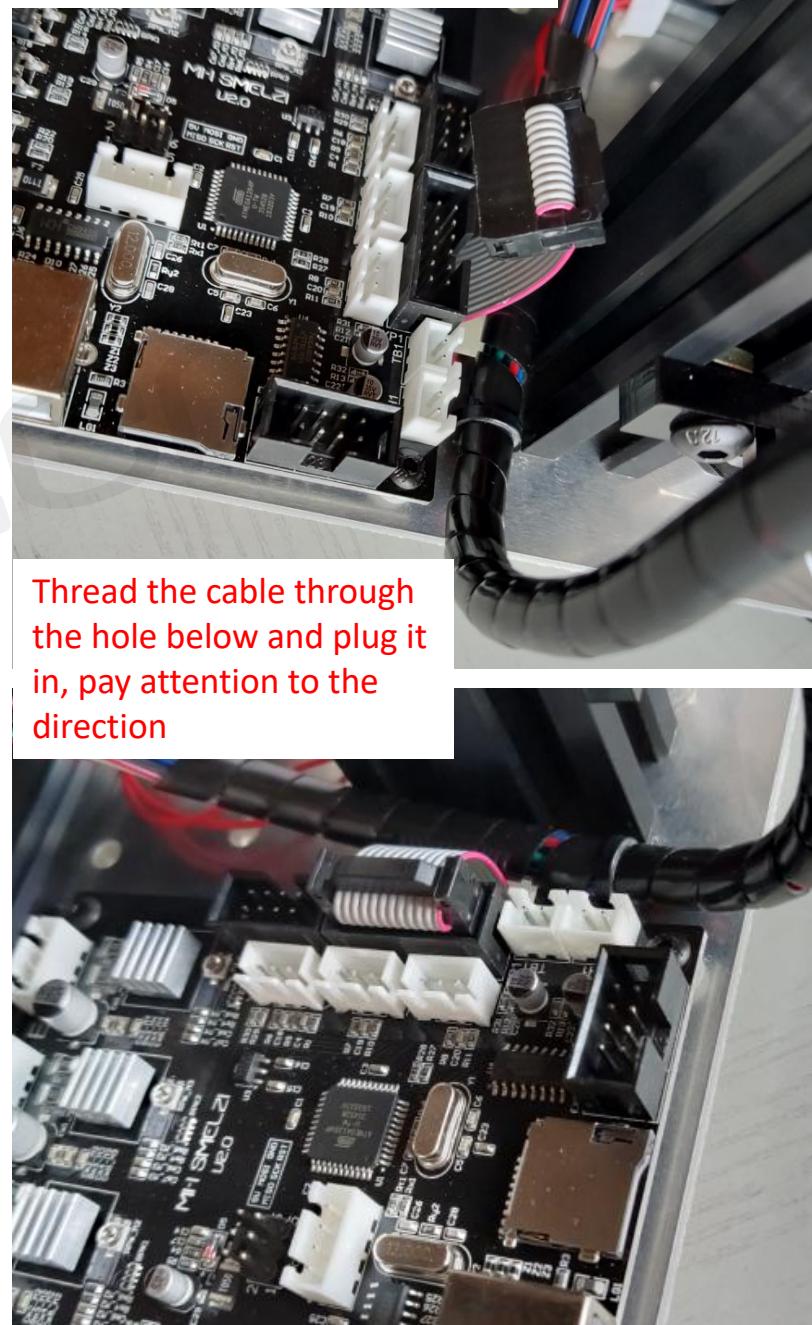
The Z limit frame is about 28mm away from the aluminum plate (3*25 cup head length)

Pay special attention to the Z limit installation height, install strictly according to the requirements, and also pay attention not to use the wrong screws, and the limit frame is flat

If the limit is installed higher → Z axis zero point becomes higher → the leveling platform becomes higher → the leveling spring becomes loose → the nut falls during printing → the main board is short-circuited → GG now you can understand the leveling when you can't understand it, install it as required correct

Main board

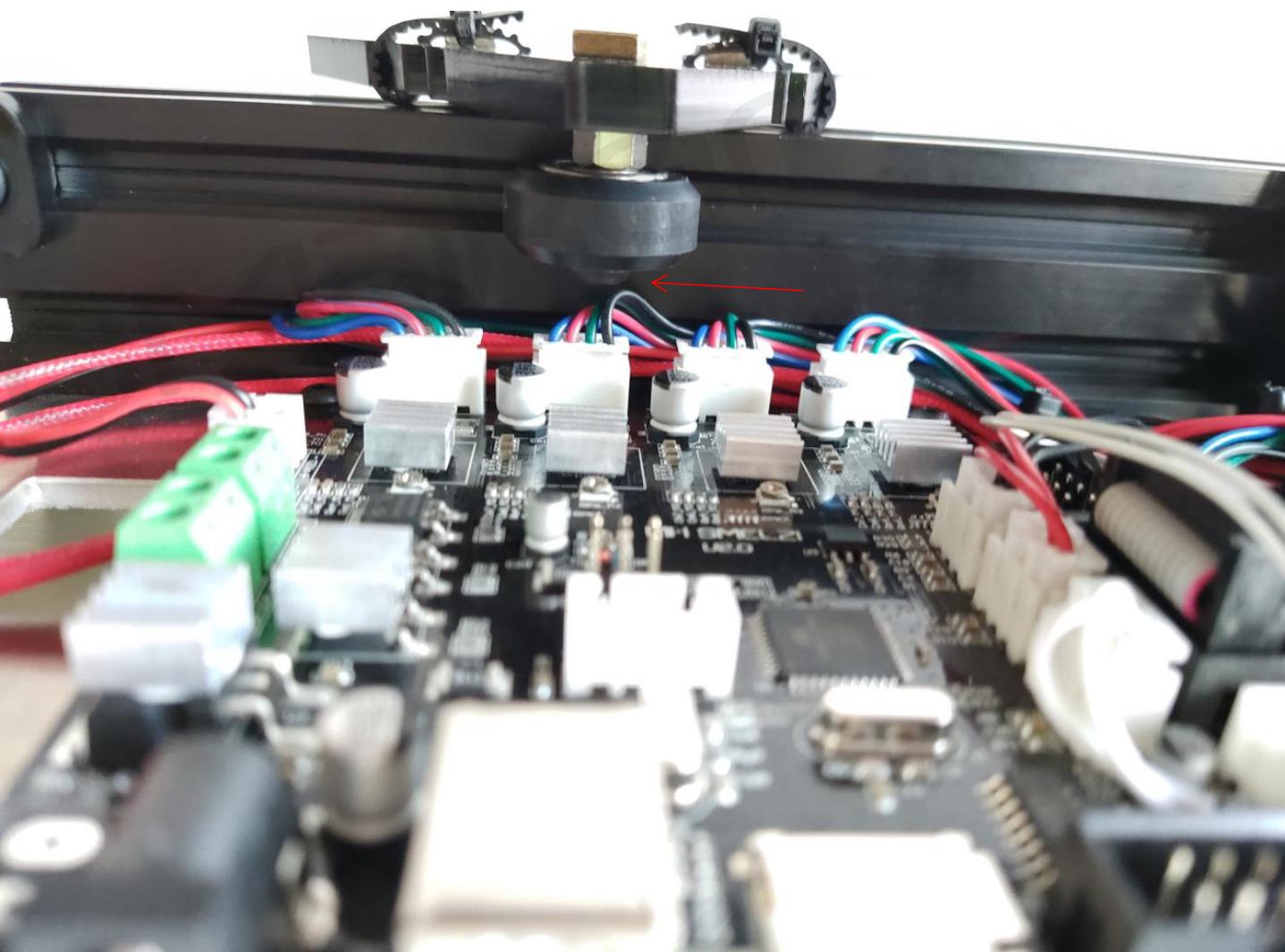
During installation and use, please pay attention to the type of screw and iron chip falling on the mainboard, which will cause a short circuit and burn the mainboard.

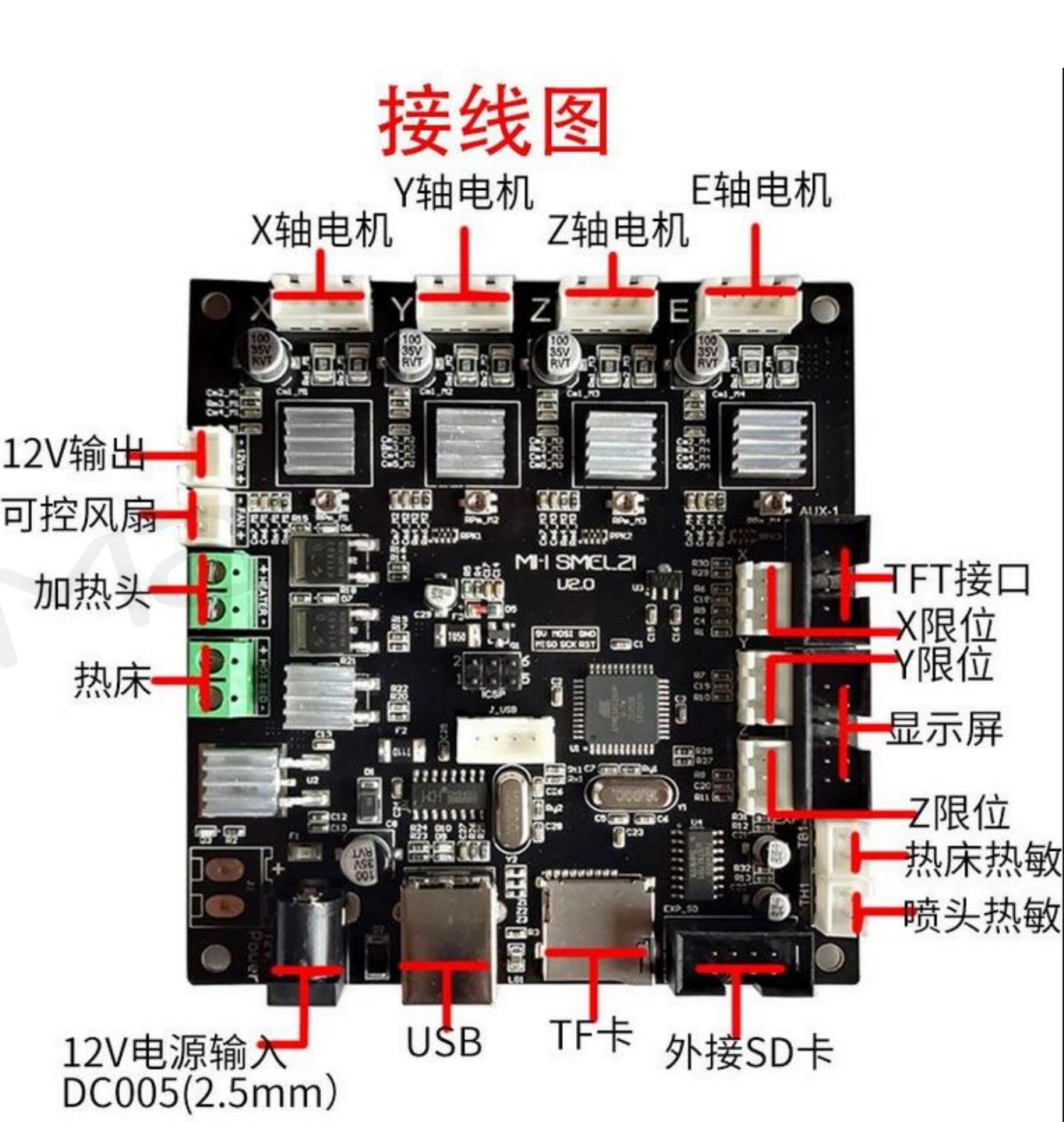
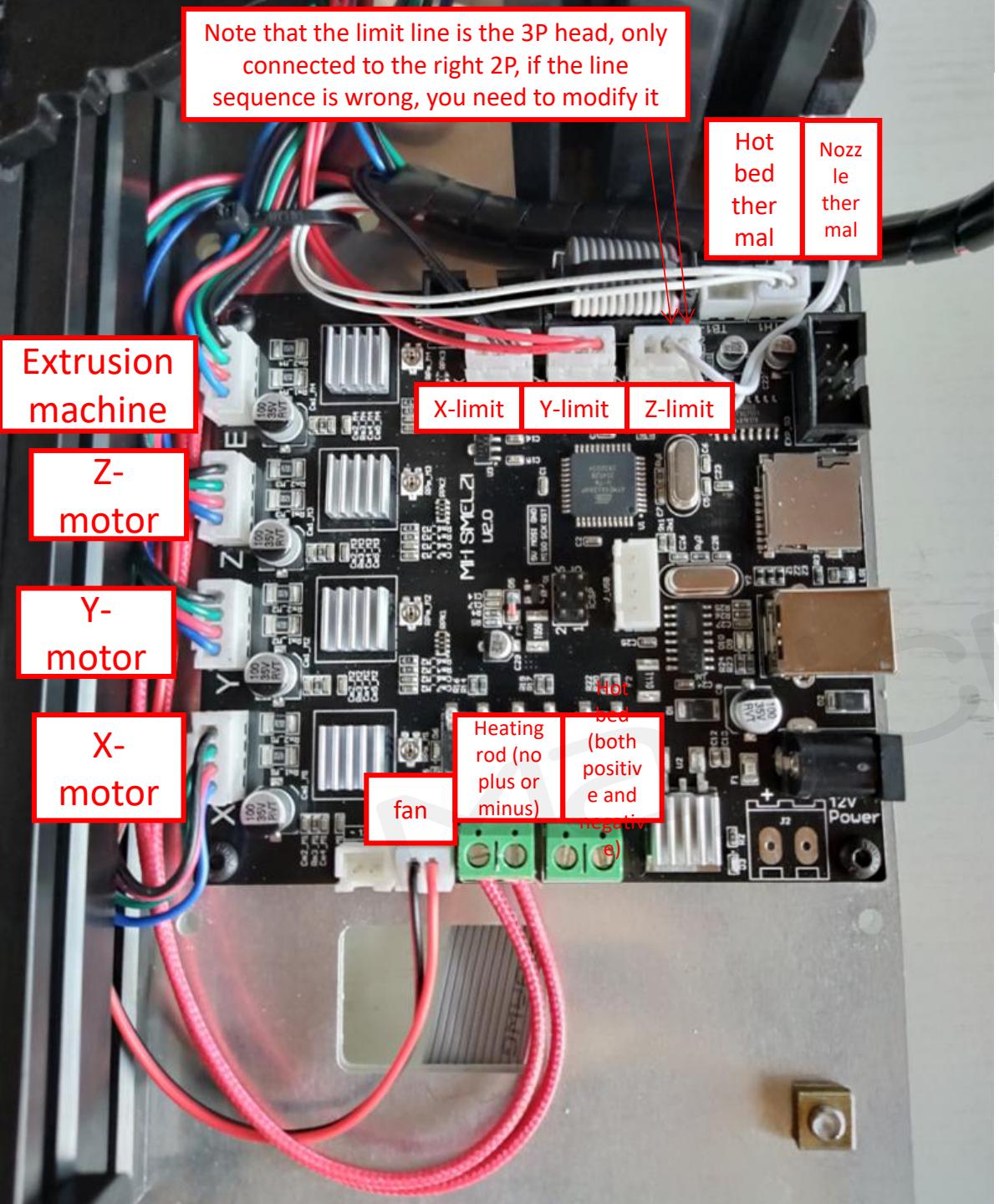


Wire up



Note that the motor cable should be pressed down and inserted into the groove of the profile, otherwise the slider will hang

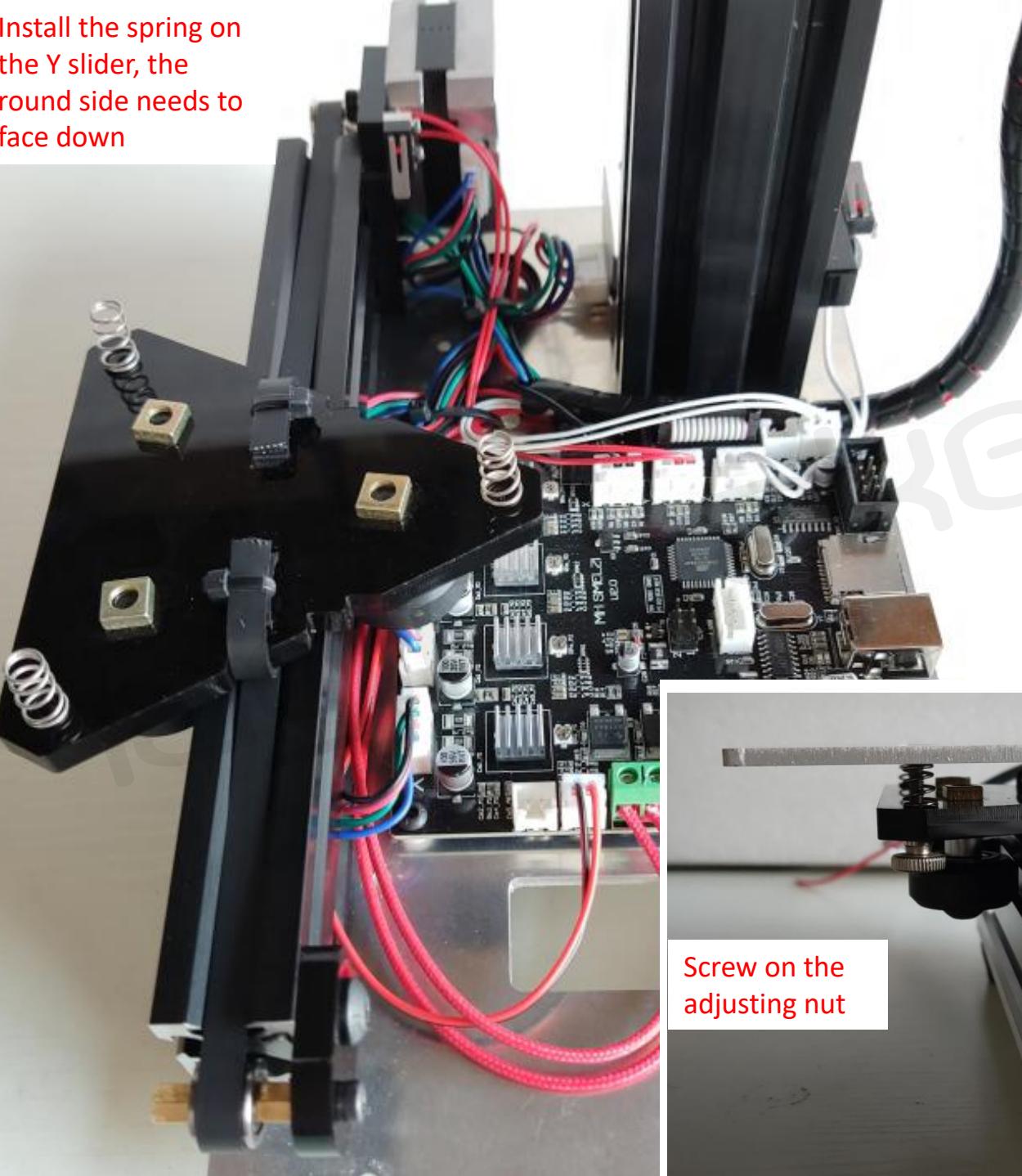




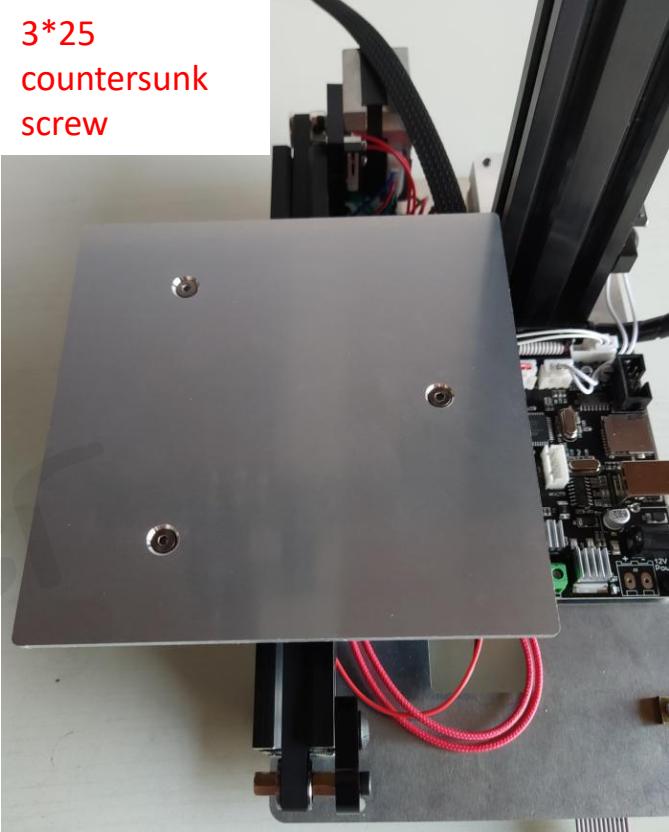
Remove the protective film from the hot bed



Install the spring on the Y slider, the round side needs to face down



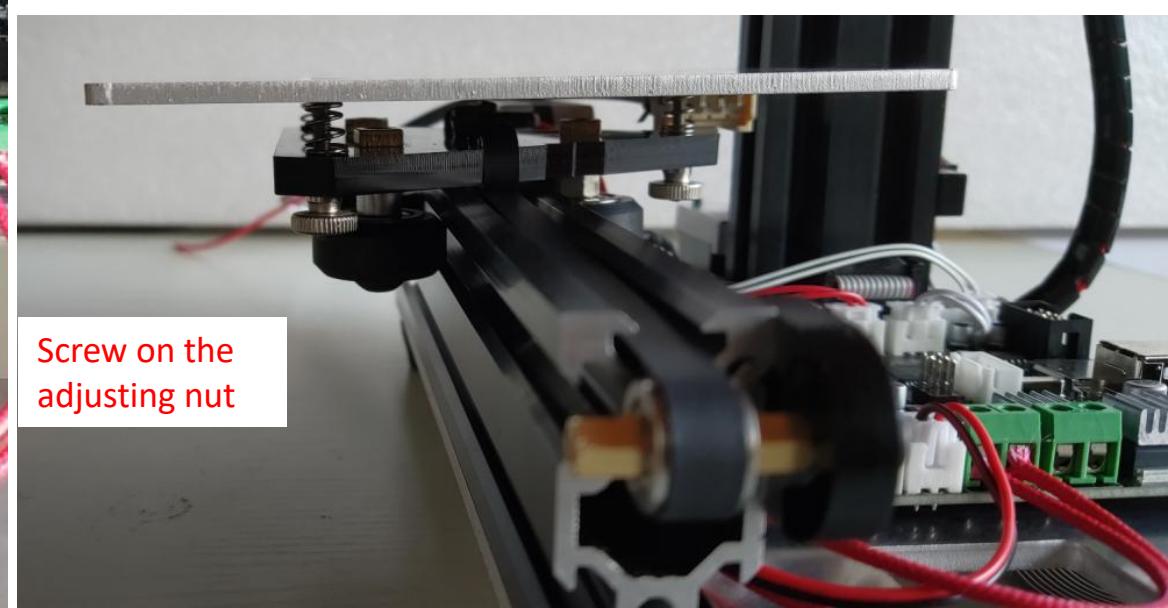
3*25 countersunk screw



Plug in

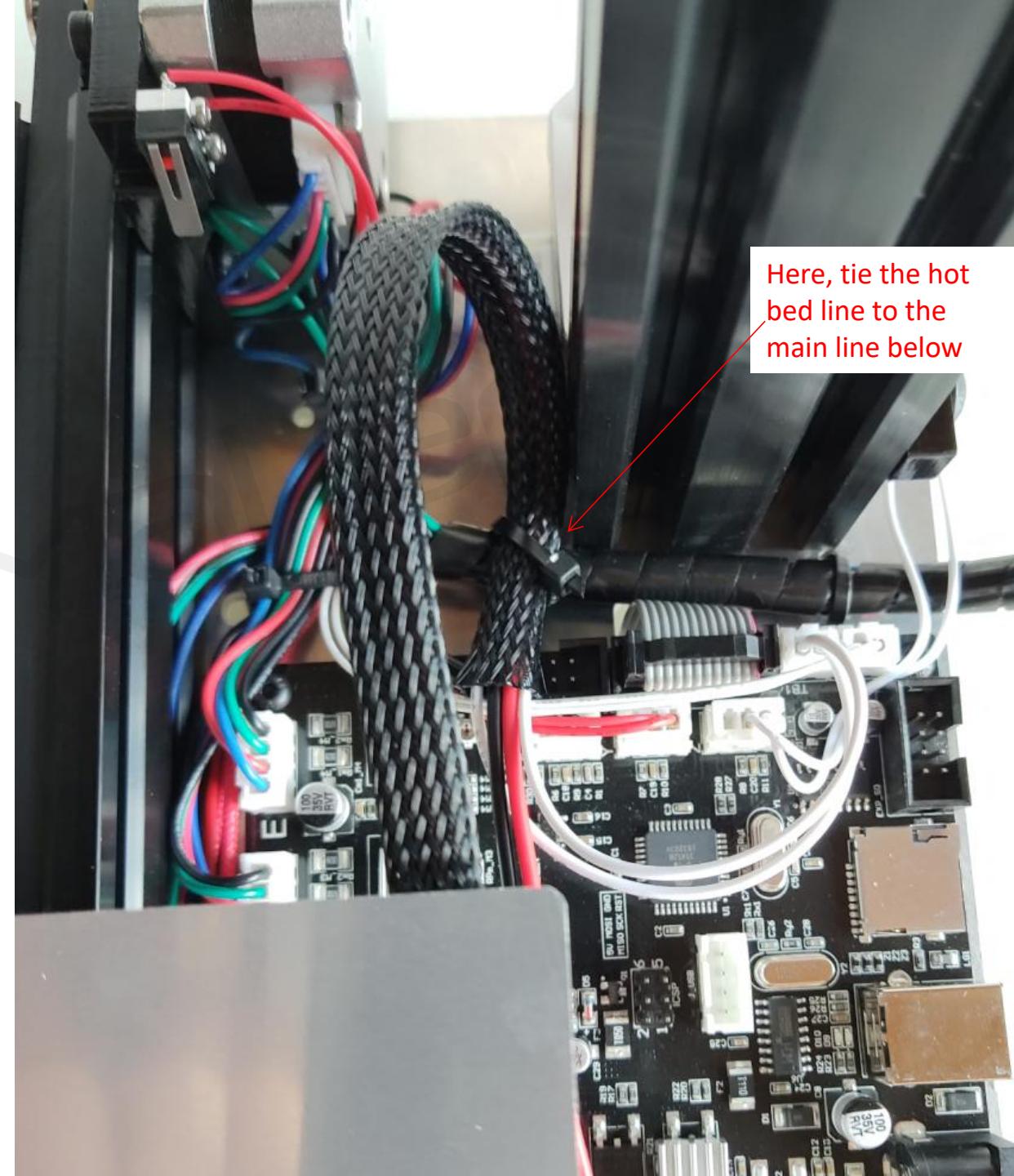


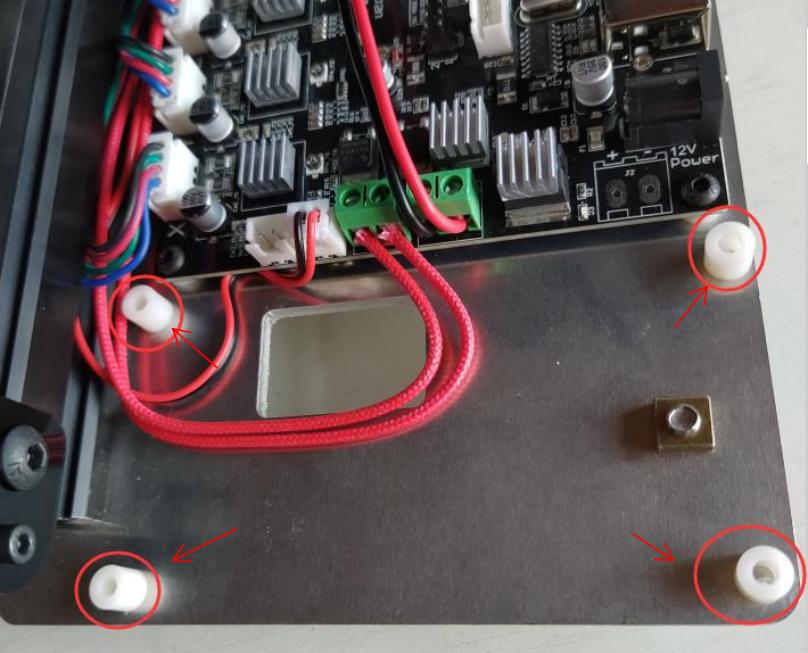
Screw on the adjusting nut



Connect the hot bed line
and thermal

Note that the wire
should bend along, not
twisted



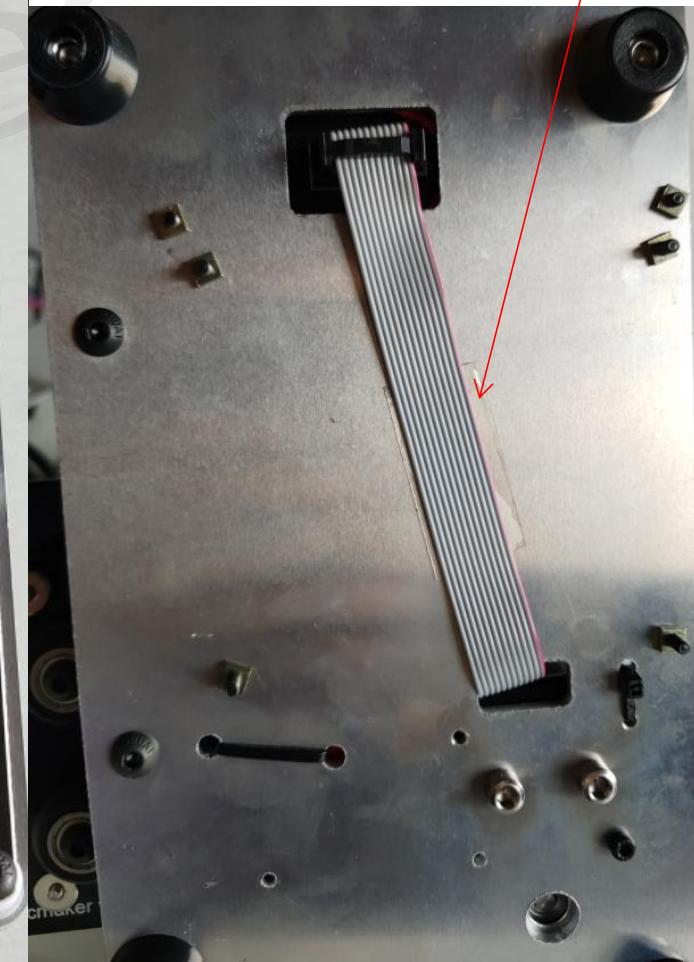


Padded the gasket, the display should pad the higher one.

Install the display, 3*16 Round head, m3 square nut below



Plug in the cable, if you have double-sided tape, you can paste it down



Attach 3M glue

3M glue on the bright
side of the black film



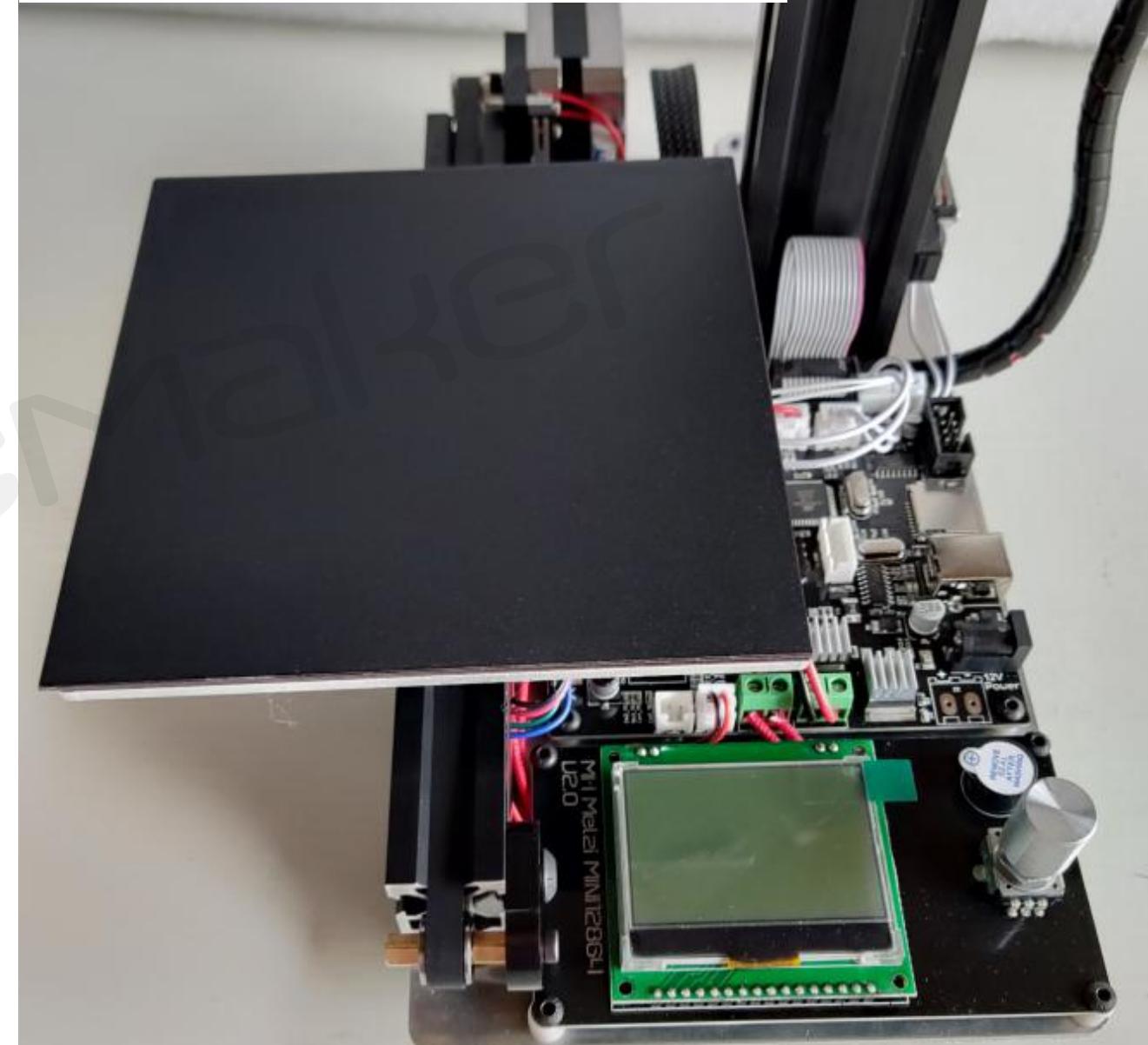
Paste slowly, put it
neatly, and put as few
bubbles as possible

Magnetic sleeve stick 3M glue

The smooth sides of the magnetic plates face inward,
The double-sided adhesive tape is pasted on the outside
of the magnetic plate



**Stick a black film on one side (black matte facing outward)
One side on the hot bed**





This diagram shows the bottom assembly of a 3D printer's build plate. It consists of the same layers as the top assembly, but viewed from below. The labels are identical to the top diagram, with red arrows pointing to the components.

- Film (frosted side up)
- 3M glue
- Magnetic plate (a set of two)
- ab) 3M glue
- Hot bed (aluminum substrate)

Material rack, if there is foothold, remove the foothold first

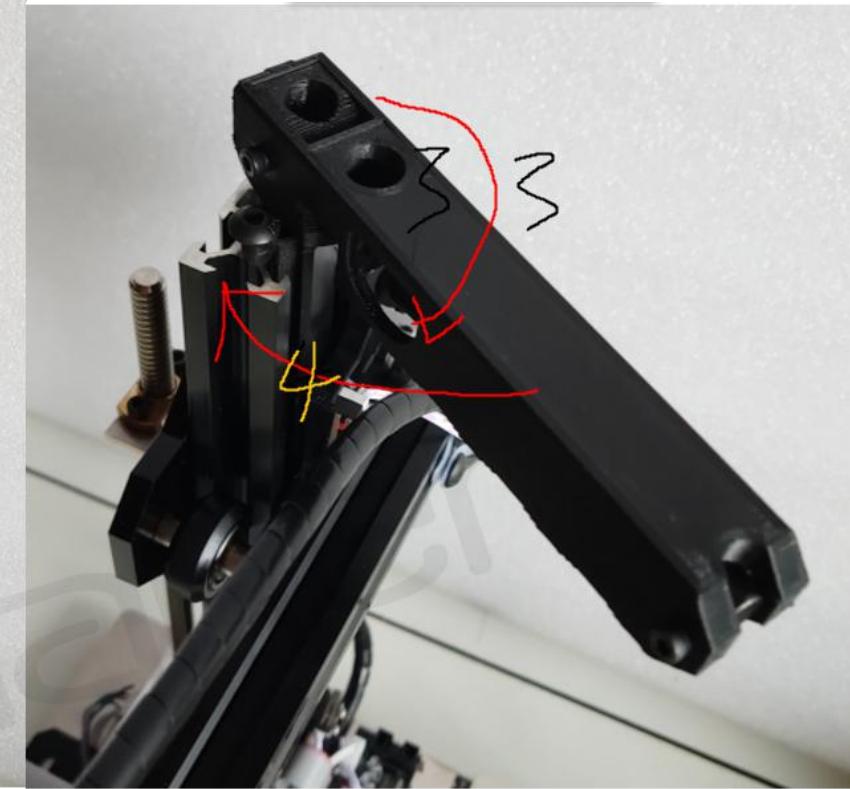


3*20 Cup head

The material rack seat is screwed to the end with a 5*10 round head in the direction shown in the figure (not tightened)



3*20 cup head
screw on the rack



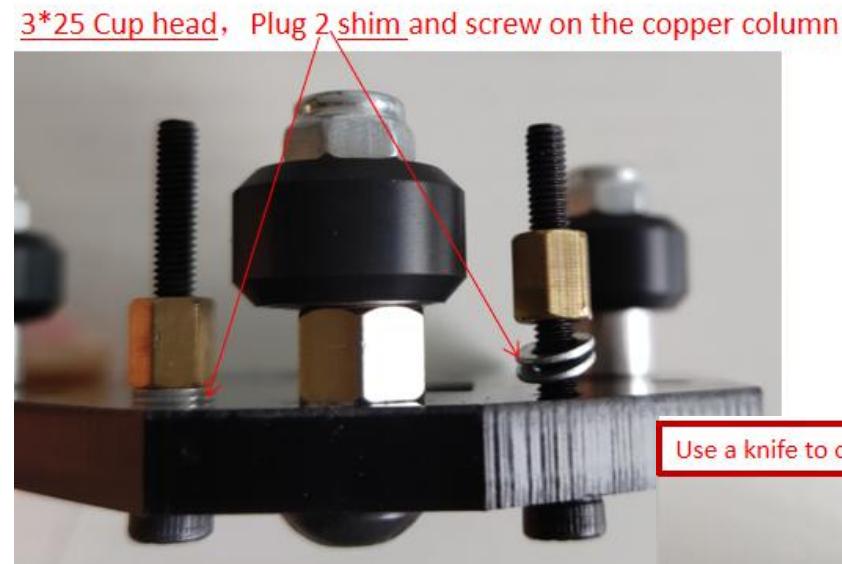
The 5*10 round head is adjusted to a suitable height, so that the material rack arm can slide out



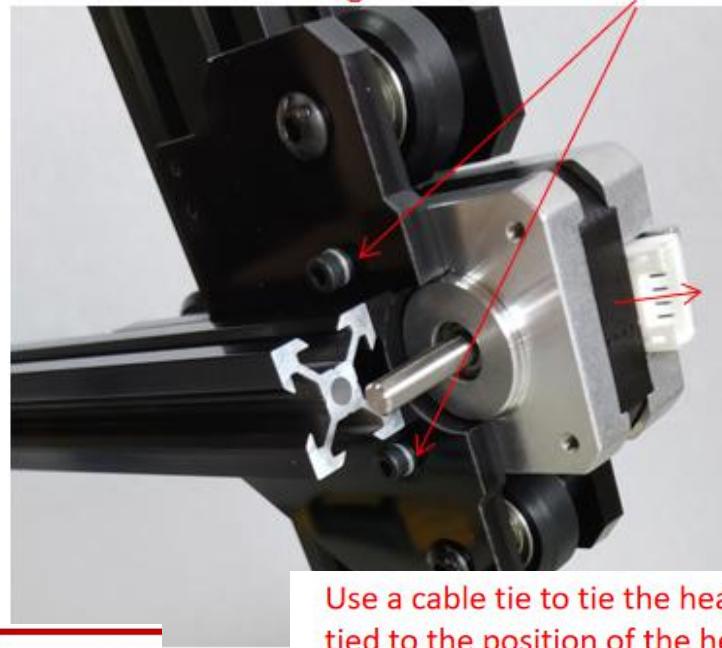
When the height is
adjusted properly,
you can drop 502
to fix it



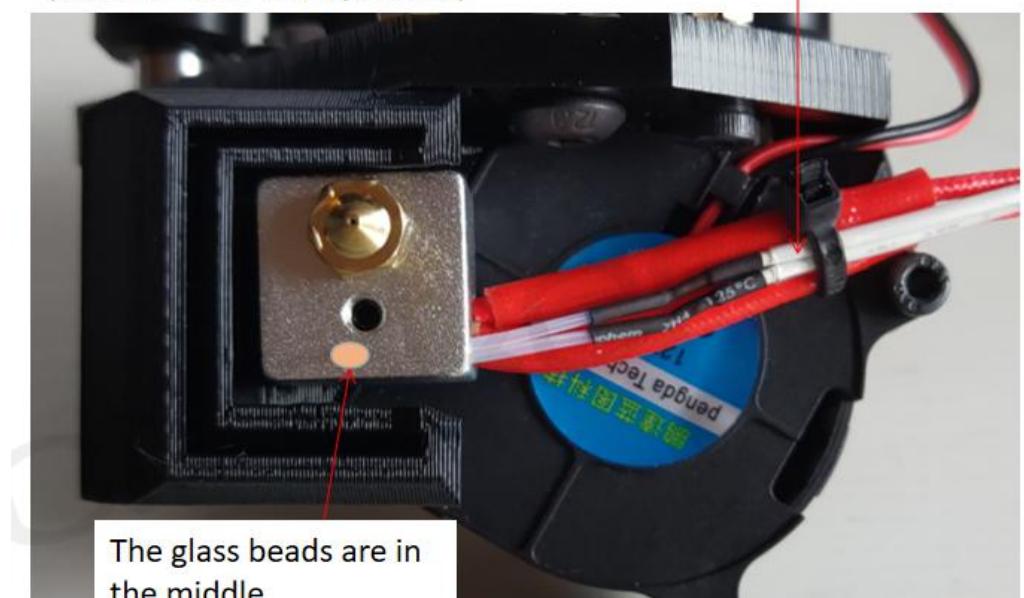
Pay attention to inspection



X Motor, 3*10 Cup head, each screw needs to install two gasket.



Use a cable tie to tie the heating rod and the thermistor, which should be tied to the position of the heat sensitive transparent sleeve (do not tie the black position)



The glass beads are in the middle

When the assembly of Mini Luban is completed, please follow the manual for operation and leveling

After leveling, you can print the test.
It is best to print the test model first after leveling.

magicmaker3 / magicmaker

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..

Miniluban cura4.41 configuration file.3mf Add files via upload

Processed test files.gcode Add files via upload

Processed test files.gcode

Slicing software video tutorial link.txt Add files via upload

Software download link.txt Add files via upload

owl.stl Add files via upload

If you need the mainboard shell, you need to print it yourself, the colors can be matched at will.

magicmaker3 / magicmaker

Code Issues Pull requests Actions Projects Wiki Security Insights

master magicmaker / MiniLuban / Related model files /

magicmaker3 Create Auxiliary frame for soft material printing1.4.rar

..

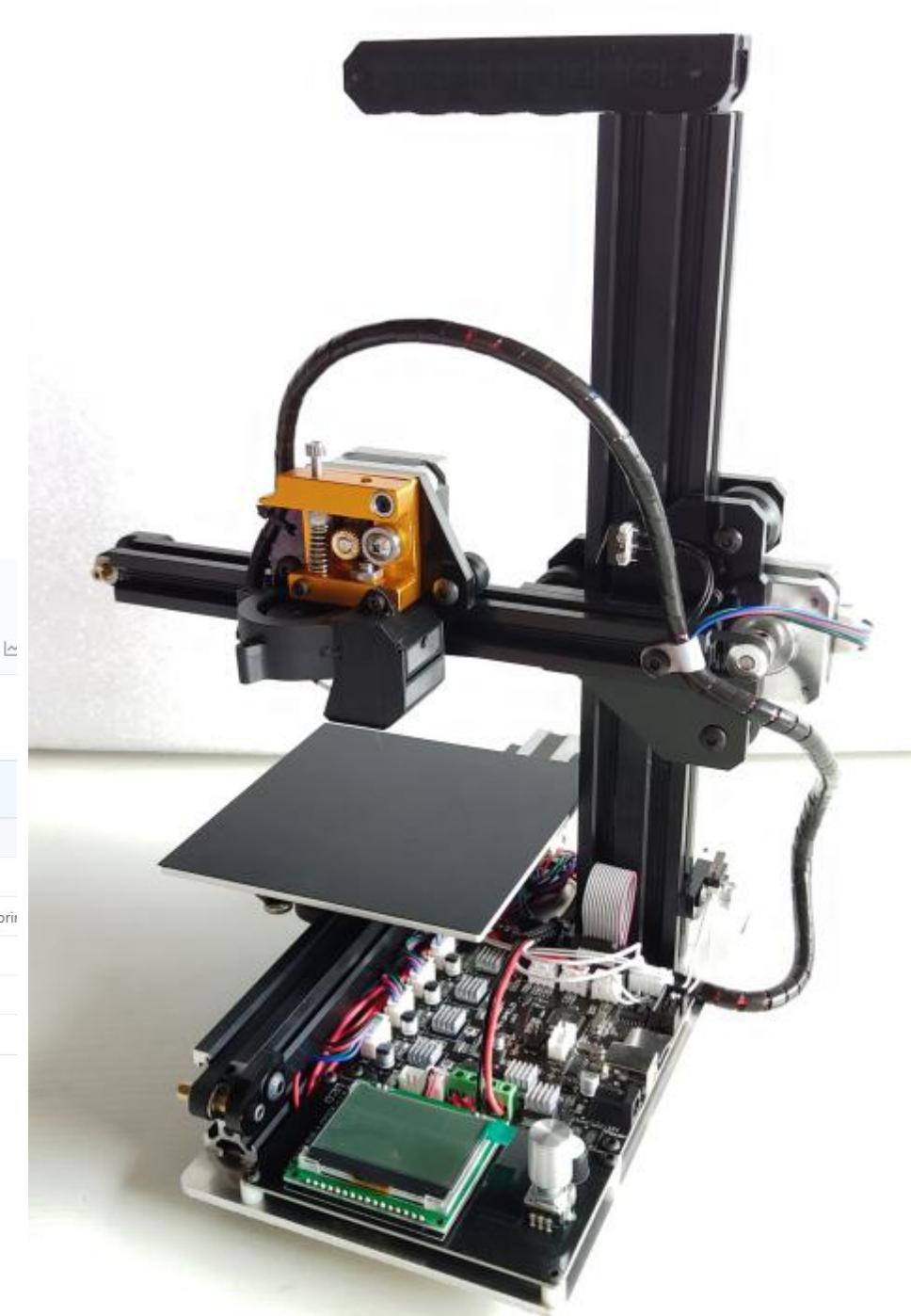
1.cpp Create 1.cpp

Auxiliary frame for soft material printing1.4.rar Create Auxiliary frame for soft material pri

Main board cover2.2.STL Add files via upload

Screen cover2.1.STL Add files via upload

Wire cover1.4.STL Add files via upload



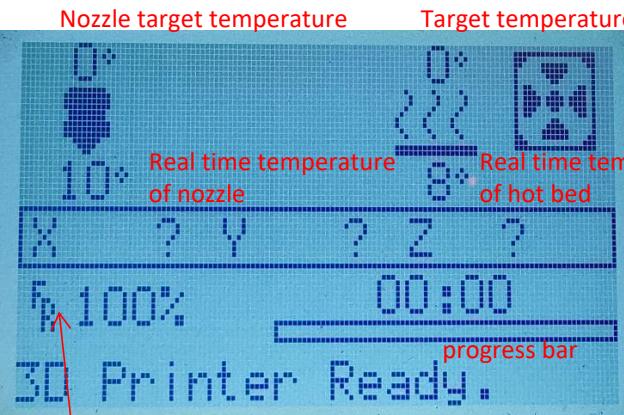
Network address of data:
<https://github.com/magicmaker3/magicmaker>

Notes (must read)

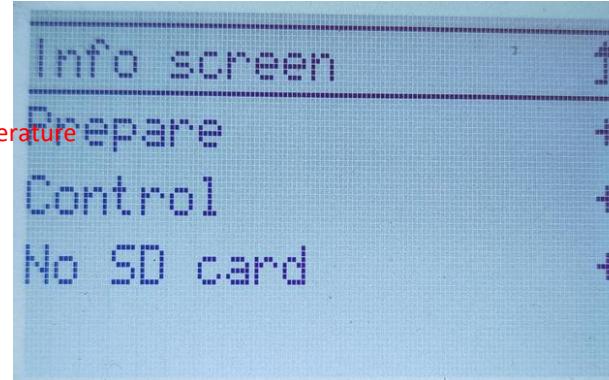
1. The first printing must be leveled, and the platform nozzles must be re-leveled after disassembly
2. Do not frequently push any motor of the machine, it may burn out the driver chip
3. The fan will only turn when the temperature of the nozzle exceeds 40 degrees. In order to prevent the nozzle from damaging the parts, please unplug the power after the fan does not turn (forced shutdown, etc., you can unplug it and plug it in immediately)
4. If the platform is unstable because the gap between the nozzle and the platform is large, if the model is too tight, it is because the gap is too small, but in any case, the nozzle should not touch the platform
5. If there is a printing problem, first eliminate the slicing problem, first print the test file that I uploaded in the "SLuban slice software" folder
6. Pay attention to the same direction when releasing the magnetic suction platform, the suction will become weak after rotating
7. Low proficiency is not recommended for layer thickness above 0.2
(recommended 0.1 and 0.2)
8. The file name does not recognize Chinese, please change to pinyin or number after importing the memory card
9. When encountering problems, read the tutorial carefully and think more

It must be leveled before printing, please see the manual for details

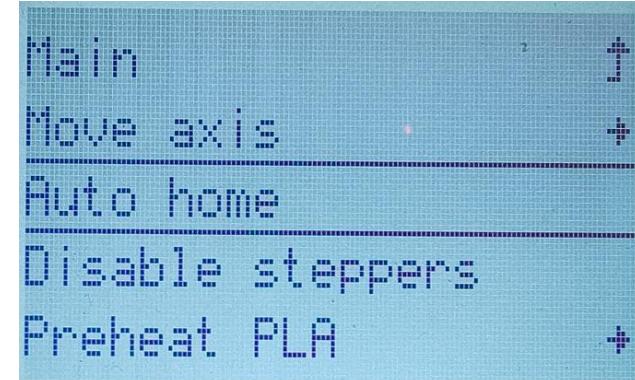
Knob operation, rotating button = select instruction, press button = confirm



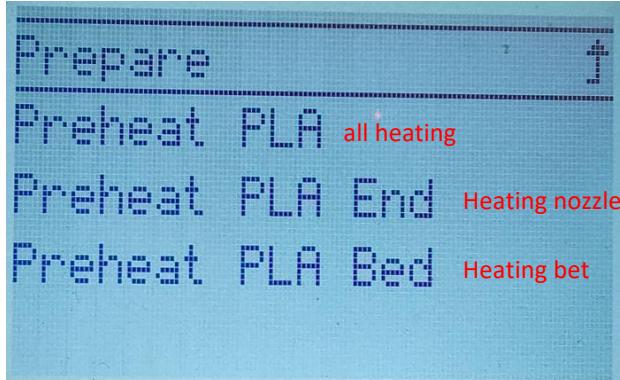
Printing speed (You can accelerate or decelerate by turning the knob directly)
Normal boot screen, display temperature should be similar to room temperature (Temperature display - 14 indicates that the thermal sensor is not connected properly)



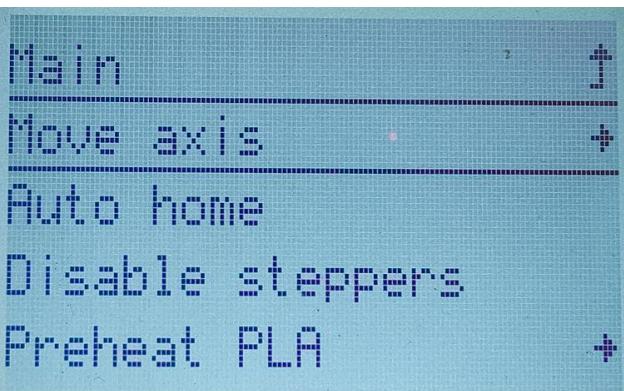
Click to enter the first-level menu, no card inserted or poor card quality will show no card (rate above class 4), after plugging qualified card, you can enter the menu and select the file for printing



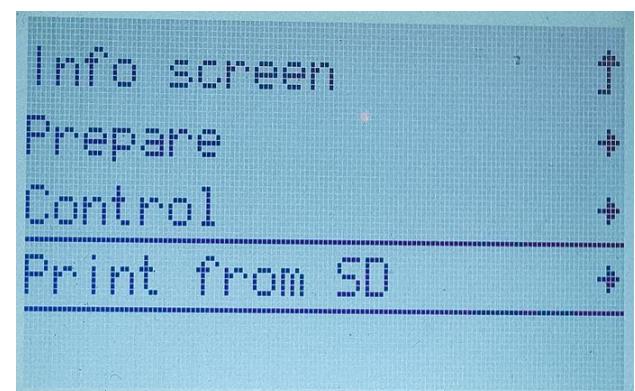
Click prepare enter the secondary menu
Click "Auto home" to check whether the motor and limit are normal, and then the leveling can be carried out



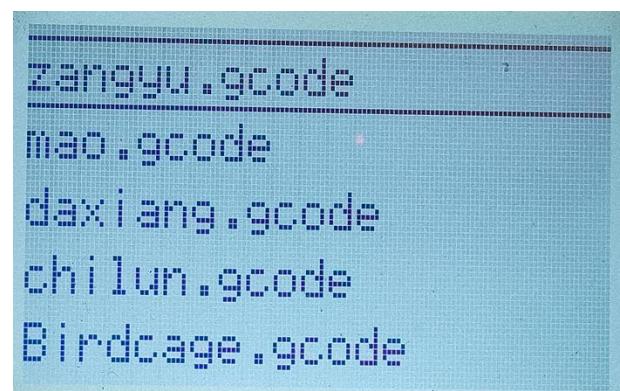
To heat the nozzle separately, click "preheat PLA"



Click "move axis" to move each axis independently, and the movement amount can only be within the coordinate range



After inserting the card, click "Print from SD" to select file printing



The file name can only be English letters and Arabic numerals
The suffix is .gcode

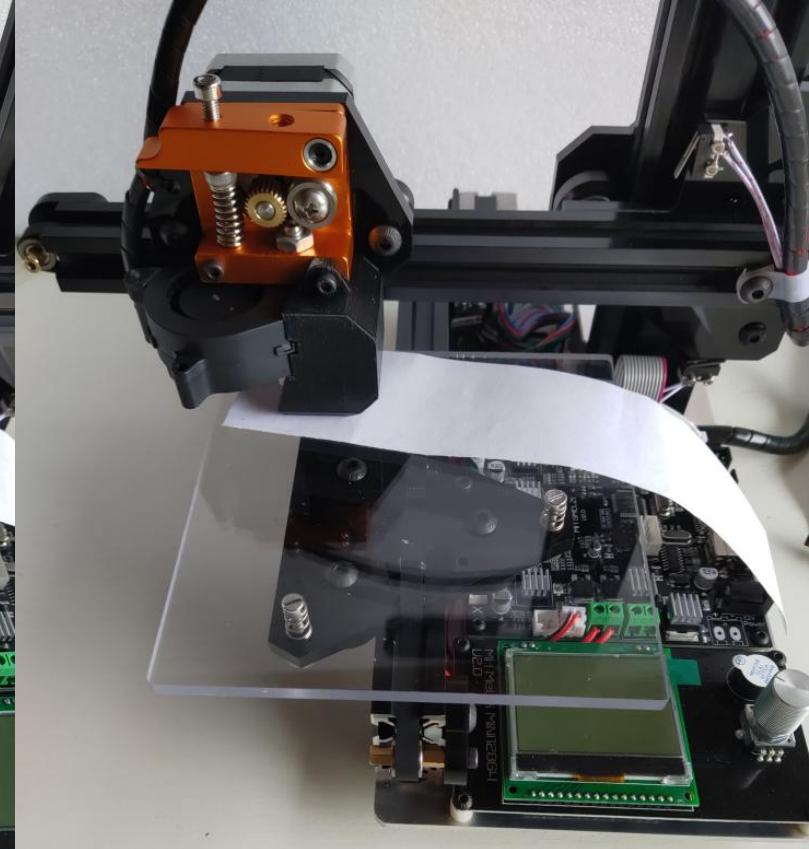
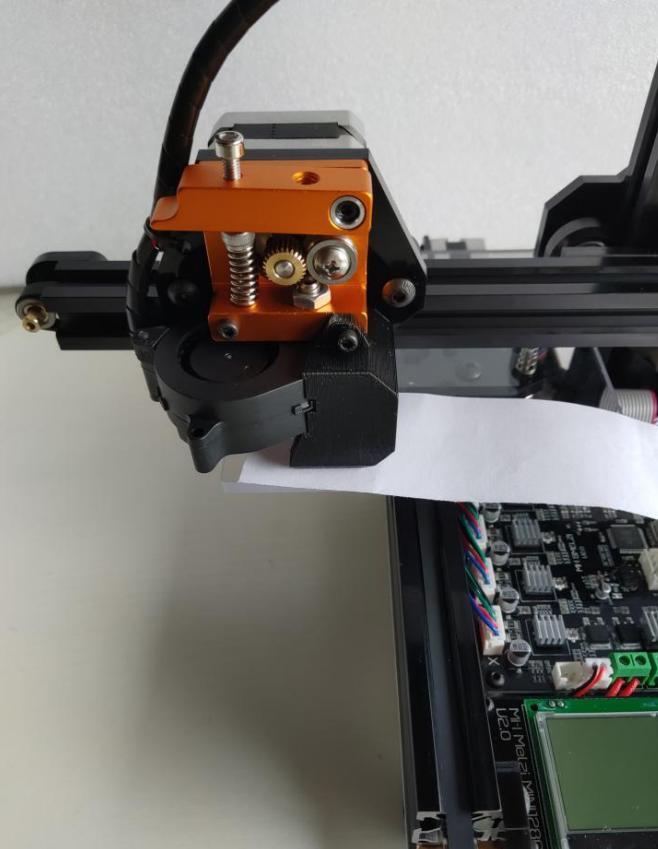
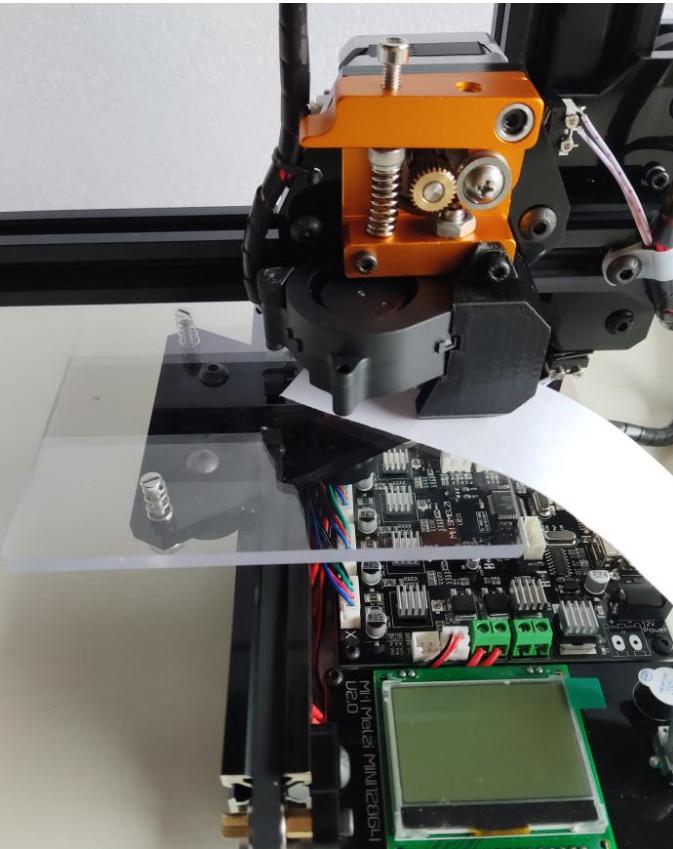
Leveling (this step must be done)

Leveling Description: leveling platform is adjusted so that the same nozzle and the distance of each platform location, if not leveled, it will cause the nozzle blown platform, thereby damaging the nozzle. following leveling course, very simple, sure to operate patiently

Step1 Tighten the three adjusting nuts to the end first, And then go back to the origin and zero the three axes

Step2 Power off, Place a sheet of A4 paper between the nozzle and the platform, Then fine tune the three nuts under the platform, Adjust the distance between the nozzle and the platform to the thickness of A4 paper

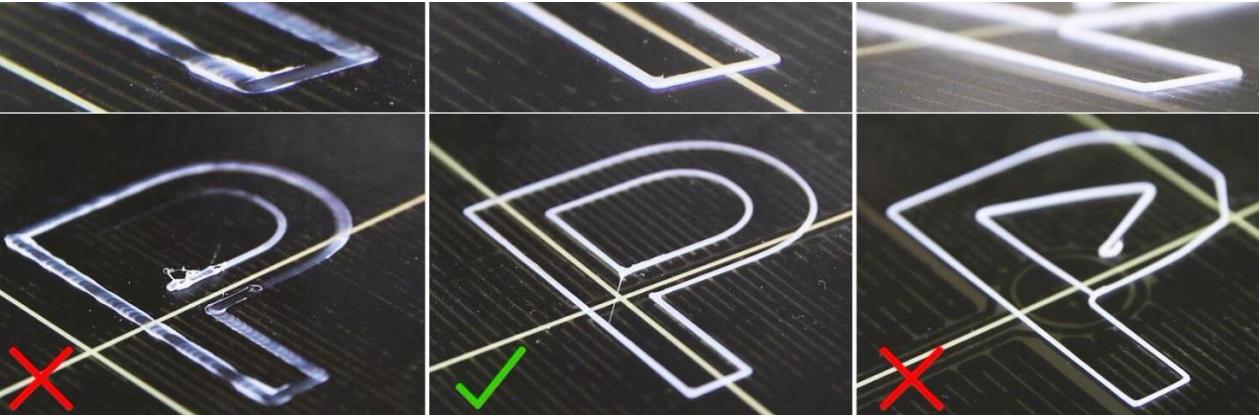
Step3 Adjust the nut while dragging the A4 paper, The paper can be dragged and some scraping is appropriate, Move the nozzle to three corners of the platform in turn, The spacing of the three corners is adjusted and it is finished, Cycle at least twice.



The first time you print,it need someone to watch,Avoid accidents.

Leveling

As shown in the normal state



Small spacing,
extruding sheet,
scraping platform

Good spacing and
good effect

Large spacing,
unstable adhesion

Advanced leveling

The same process above, without using A4 paper, directly observe the distance between the nozzle and the platform on the side of the screw on the 3 sides, just adjust the nozzle to leave the platform, you can see that there are seams.

Reference operation demonstration video <https://www.bilibili.com/video/BV1Fz411i7m6/>



After leveling, observe under the hot bed. The hot bed cannot be supported by anything other than the spring. The hot bed will be bent.

Solution: move the Z limit up a little, and then level it again

Loading and unloading materials

Loading materials: The middle finger or index finger drags the fan frame, press the extruding arm with the thumb, and insert the filament directly. It is best to straighten the filament before inserting. If it cannot be inserted normally, please adjust the insertion direction and insert it along the groove of the bearing.

Be sure to press the extruding arm with two fingers



Replace material: If you finish printing normally before, and the nozzle has cooled down (below 50 degrees), there is a high chance that you can pull it out gently. If it doesn't work or it's struggling, follow the normal procedure.

Turn on first, then operate on the operation panel to warm up

Point preparation---preheating---preheating PLA---sprinkler

After the nozzle is up 180 degrees, press and hold the extruder arm, and continue to insert the original wire in to see if there is any wire from the nozzle below. After the wire is drawn, insert about 2cm, then quickly pull it out, and then replace the new wire. Just insert it to the end.

It looks very complicated, if you can understand it, it is very simple. It will be completed in a few seconds after preheating. Follow the procedure to greatly reduce the chance of jamming.

Change material during printing: Tentatively print, wait for the machine to stop, press the extruder arm, pull it out directly, and then insert the new material directly, and then click to continue printing. The new material is prepared first. This process is as fast as possible, so that the model will be less affected.

Print test

Download the cut test model in the official group, import the memory card, and then insert the memory card into the printer, select the cut file ***.gcode to print, and the machine will first preheat the print head to the printing temperature. Start printing, observe whether there is a scraping platform on the first layer of nozzles, and whether there is a sticky platform on the exit wire, and the first layer of printing can leave the machine without any problems

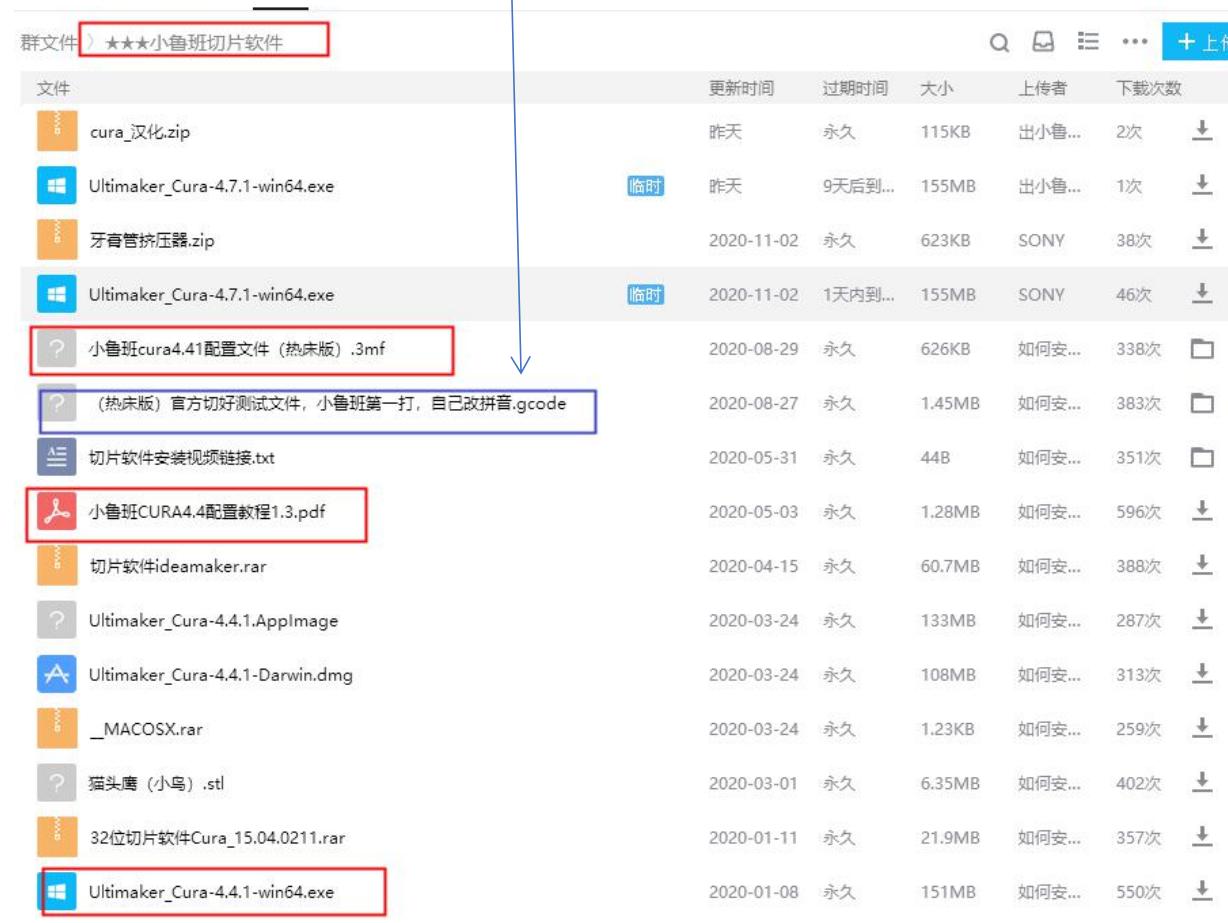
In the later stage, if the nozzle, platform has been adjusted or large-scale movement to make the platform uneven, you need to re-level it

It is recommended to print a larger model and observe carefully in the early stage of printing, whether the nozzle is scratched or not sticky, stop in time if this situation occurs, and then level again

sliced(Convert the STL model file into a machine-recognizable code file)

Download the slice software and tutorial, follow the slice tutorial operation, video tutorial link:

<https://www.bilibili.com/video/BV17K4y1t77R/>



Slicing software is the software that converts the model file in .stl format into a printable .gcode format

.stl is a three-dimensional model, which can be designed with three-dimensional modeling software, or can be downloaded online, and it needs to be a closed polygon.

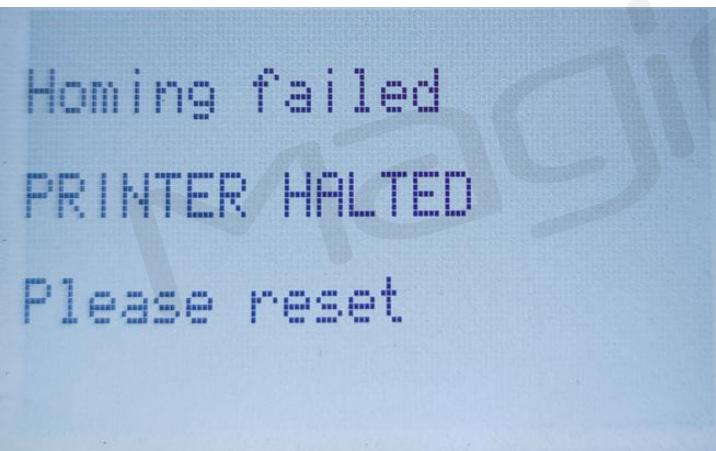
.gcode is the code file after the stl file is converted by the slice software. The file is a bunch of G code, and you can edit and change it yourself.(Don't understand too clearly)

All in all, the model you design needs to export .stl, and the downloaded model needs to be .stl.

When imported into the machine, the executable file of the machine is .gcode.

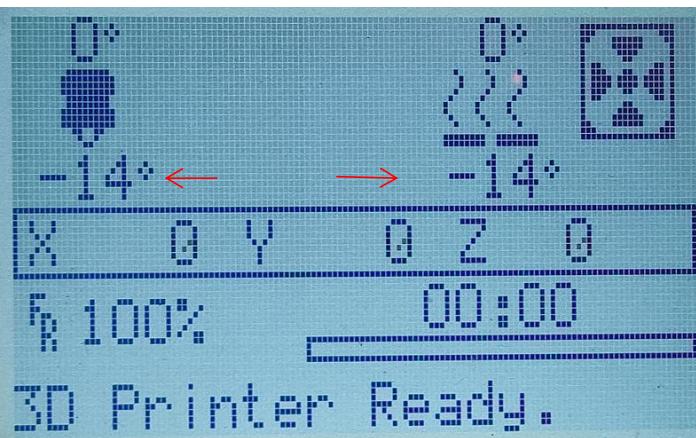
SLuban can only understand English and numbers

Error analysis



Possible causes:

1. Wrong position of limit switch plug
2. Wrong insertion of motor plug



Temperature display -14 means that the thermal sensor is not installed, check the thermal line and thermal plug.
The nozzle on the left, the hot bed on the right

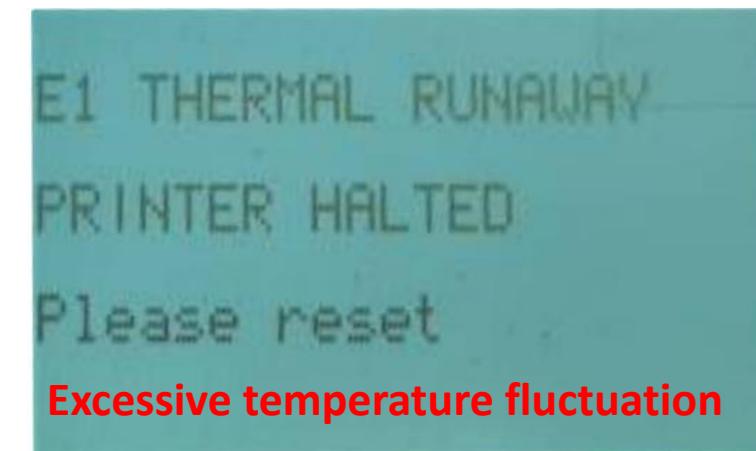


Possible causes:

1. The thermal bead is not stuffed in the middle of the aluminum block
2. The heater wire is connected incorrectly or not securely



Check the wiring of the temperature probe on the nozzle



Solution:

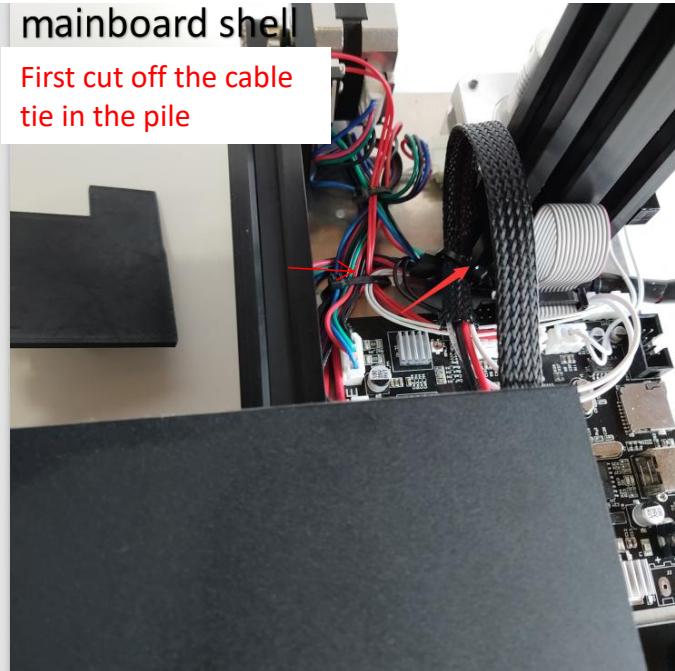
1. Check whether the thermal plug is good
2. Open the rear cover of the fan housing



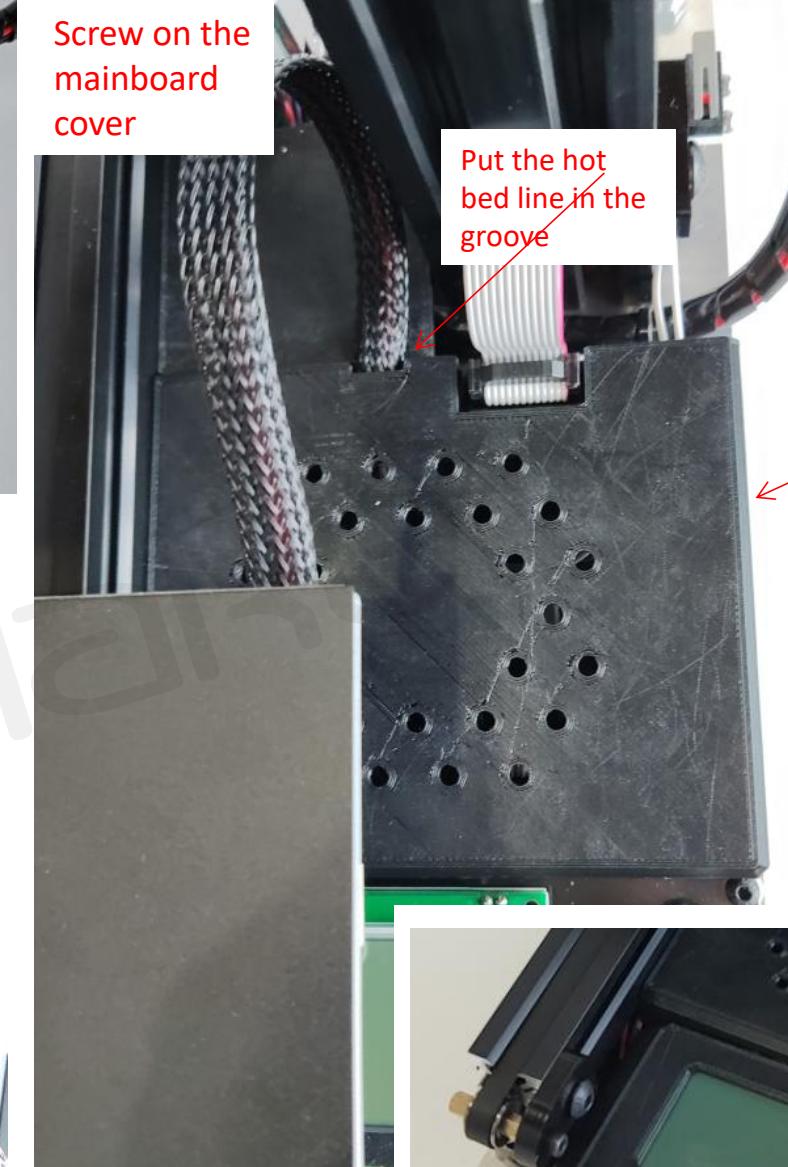
Check the wiring of the temperature probe on the hot bed

Install after printing the mainboard shell

First cut off the cable tie in the pile



Screw on the mainboard cover



When installing and removing the mainboard cover, be sure to pull out the card first

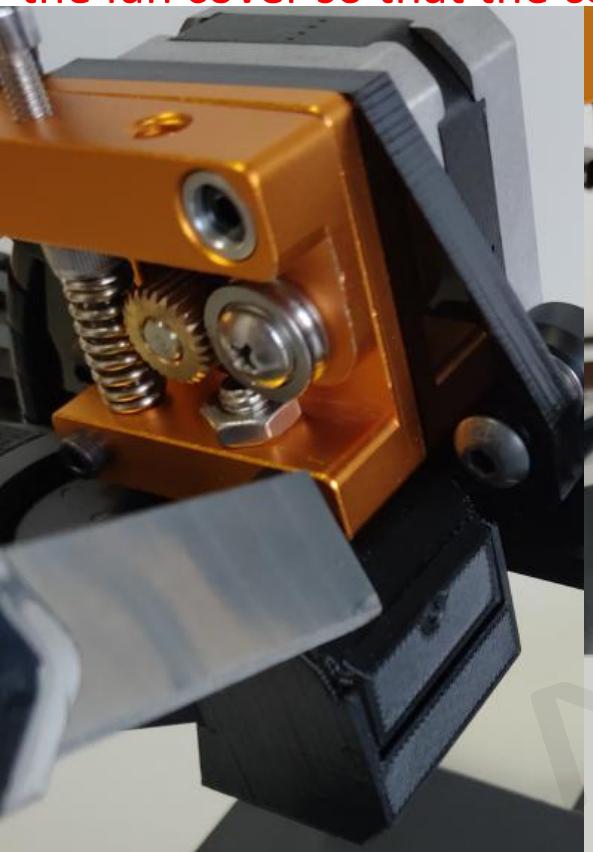


The screen cover is installed in the same way

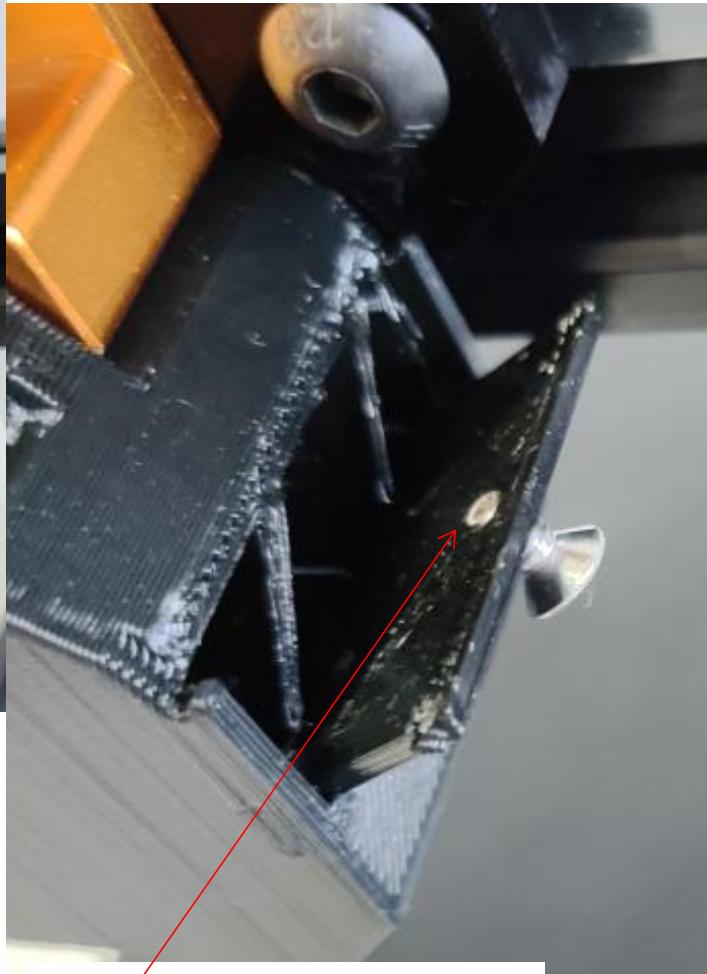


Controllable fan cover (ABS needs to be unsealed)

Use a knife to cut into the slit in the back cover of the fan cover so that the cover can be opened

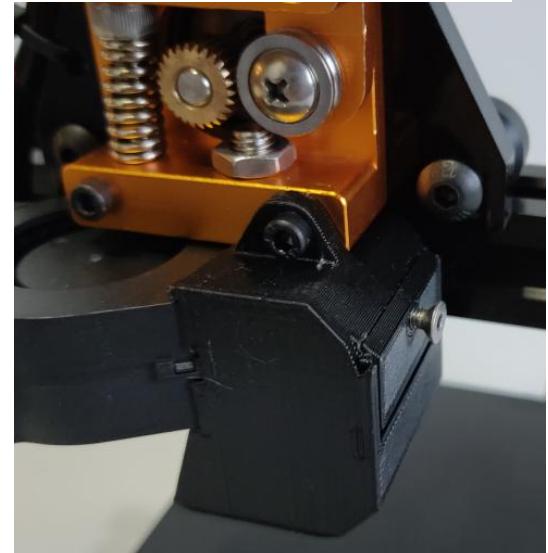


Twist a short M3 screw (the one in the extrusion bag)

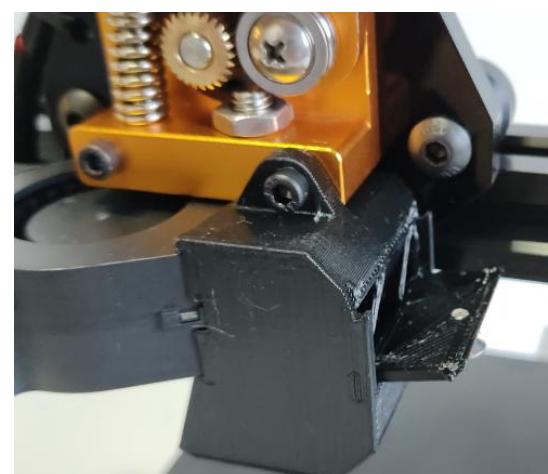


Screw not to exceed the cover

Covered status:
The model is freezes fast, suitable for PLA



Open state:
The model freezes slowly, suitable for ABS



Material break detection

Function: It will automatically pause when the material is broken, and continue printing after resuming

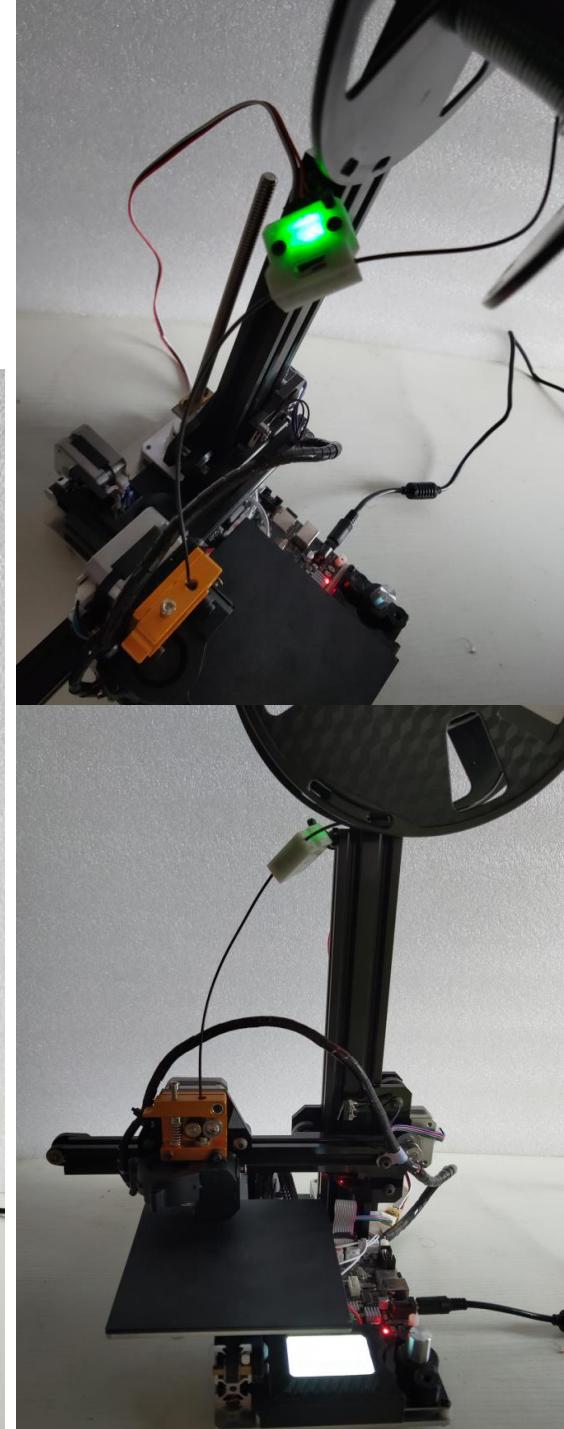
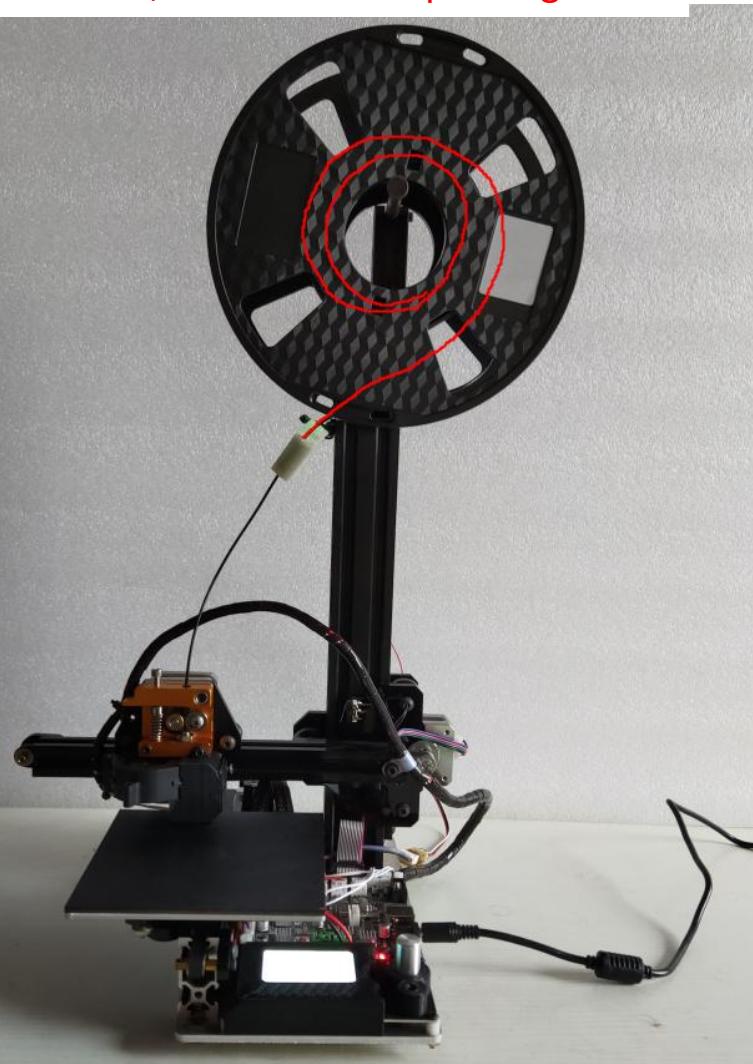


Fix one M5 screw + M5 square nut on the top of the side, and 2 tie straps are tied and fixed as shown in the figure. The tie straps should not be tightened and can be moved flexibly



The material break detection is an external component, which is not mandatory.
It is recommended to test and print before installation
装上后耗材必须先从模块上穿过。

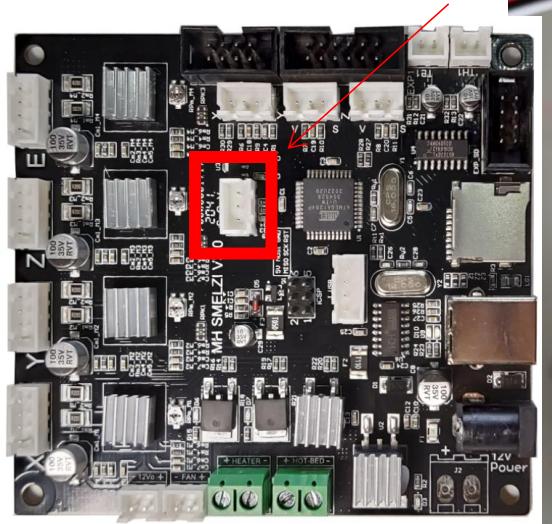
The material tray is placed as shown in the figure, and it must pass through the material break detection module, and then start printing



Material break detection module

0.5m 3P line

Wire the socket of the module and the mainboard



挤出丢步缺丝问题解析

1. Poor throat heat dissipation

checking point:
a. Fan rotates normally
b. The fan is not installed as required, air leakage

2. The nozzle is blocked

Check method: preheat the nozzle and manually extrude, and observe whether the filament is smooth

Solution:

- Preheat to 230 degrees and forcefully squeeze out the material for a section, if it is caused by the scraping platform, this method may be dredged
- Find a needle with a diameter of less than 0.4mm and pass it through (the silk glue that bundles the power cord is stripped and straightened)



3. Spring force is too large

Material will squeeze and deform

Notice:

The force of part of the spring is too large, which will cause the extruder to jam during printing.

Solution:

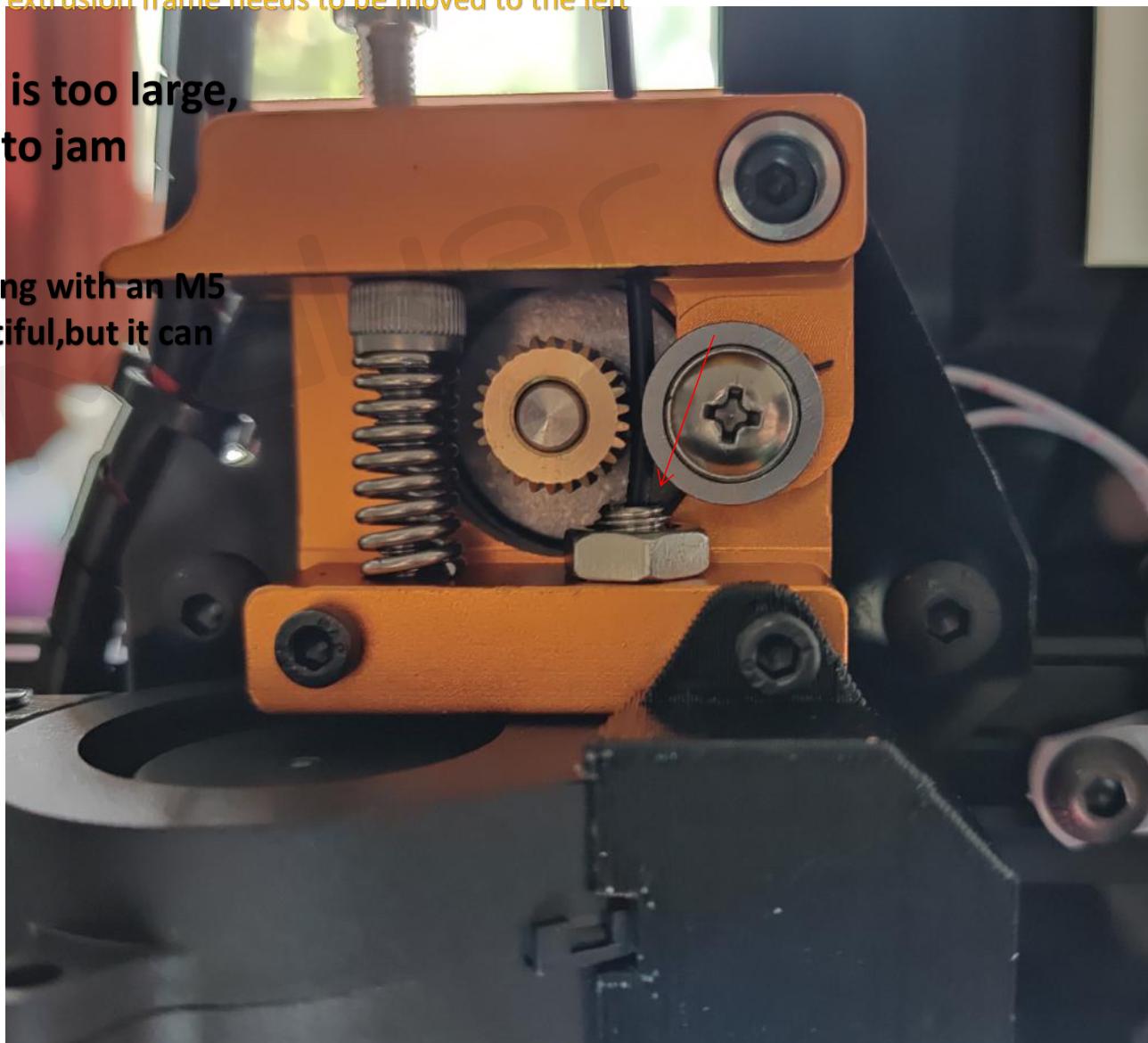
Replace the 5*10 cup head on the spring with an M5 square nut. Although it is not so beautiful, but it can effectively solve the problem.

4. Material entrance is crooked

Check method: see if the filament is scraping down the wall at the mouth of the throat

Solution: Adjust the extrusion frame, try to smooth it

As shown in the picture, the filament scrapes the right side of the throat, and the extrusion frame needs to be moved to the left



5. The current of the motor is insufficient

(the current has been adjusted in the factory setting, and the above 4 problems have been checked and there is no problem before considering this)

挤出不出丝少丝等问题解析

1.喉管散热不良

(具体表现: 不出丝或出丝稀疏)

可能原因: a.风扇未正常运转

b.风扇没按要求装好, 漏风

2.堵头 (一般来自材料杂质)

(具体表现: 不出丝或出丝稀疏)

检查方式: 预热喷头到200左右,

手动向下送料, 看出丝是否顺畅

解决方法:

- a.预热到230度手动用力送料看,能挤到出丝顺畅就表示成功疏通
- b.找直径0.4mm以下的针预热后边捅边手动挤料, 能挤到出丝顺畅就表示成功疏通

(可以用捆电源线的丝胶皮剥了,捋直当针用)



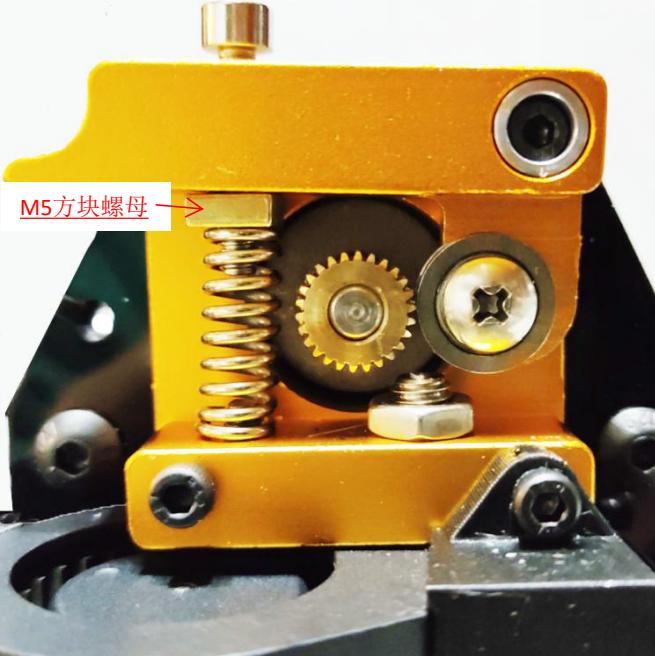
3.挤出臂压力过大

(具体表现: 不出丝或出丝断断续续, 挤出轮转不动)

部分弹簧的弹力过大, 会将耗材挤压变形使挤出轮卡住不出料

解决办法:

把弹簧上面的5*10杯头换成M5方块螺母, 或钳断一小截弹簧

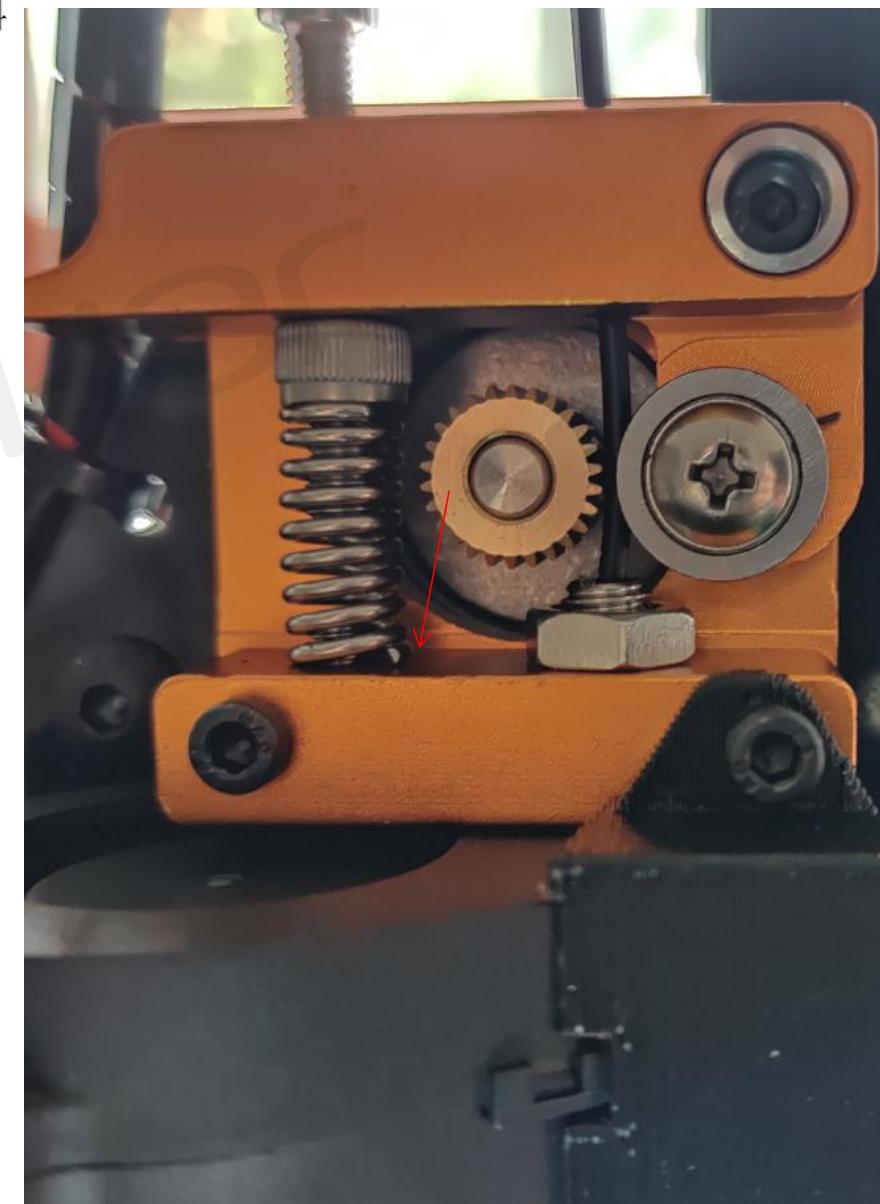


之前的26齿挤出轮容易出现这情况,现在40齿的细齿挤出轮基本没这问题

4.进料口歪了 (具体表现: 有缺丝现象)

检查方式: 进料口边缘很多碎屑

解决方法: 黄色挤出架往出现碎屑的方向调整, 电机往反方向靠



5.材料温度不合适

(不同材料, 不同厂家的耗材最适温度不同)

(具体表现: 出丝不顺畅)

解决方法: 预热后手动挤出, 调整几个温度值, 取最顺畅的值。

有的料本身就问题 (比如部分闲鱼上的廉价料), 这种情况换料就好了

6.电机电流不足

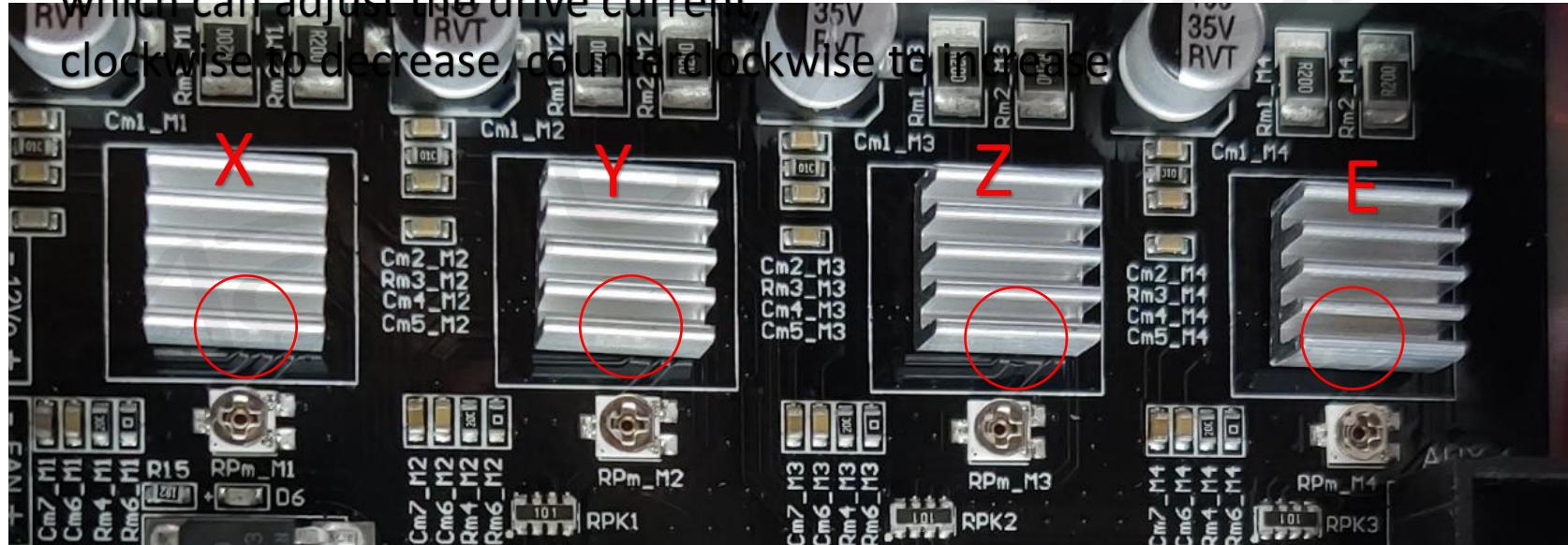
(电流出厂调好了的, 以上5个问题都检查没问题再考虑这项), 下页有调电流详解

Motor current adjustment tutorial (The factory current has been adjusted. Adjusting the current is risky. Please confirm and understand before operating)

(Unplug the motor before adjusting operation, otherwise it will burn the drive, so it should be powered off)

Next to the heat sink is the drive current device, which can adjust the drive current

clockwise to decrease current, counter-clockwise to increase



---Blind adjustment method without multimeter---

电机力气小的话，电流器逆时针转10度，再打印文件测试（层厚0.3的文件测试，电机压力大测试的结果更有用）

如果丢步，就关机再转10度，以此。

如果不丢步，就打印几分钟，手摸电机，看是否发烫，发烫厉害的话就需要调回小一下，再测试，直到不烫。如果不烫的话就继续打印，打印1小时还不会发烫就OK

（发热的标准，手一直摸着能受得了就行，手耐热型的就考虑下亚克力受不受得了）

--Measuring Current Method--

Multimeter to DC voltage 2 V, red pen point current, black pen point grounding (data line socket shell) measured voltage value /1.6, is the actual current Motor rated current 0.9 A, 0.6A more appropriate, large easy to heat,

Do not exceed A 0.9



The final result of the adjustment

在力气和发热两个属性

Maintain

- 1.Avoid using in dusty environment and hot sun
- 2.If there is lubricating oil, it can be applied on the screw rod (Pay attention not to drop oil on the platform. If there is oil on the platform, it will not stick to the model)
- 3.If the nozzle is blocked,It can be preheated first and then dredged with a needle with a diameter of 0.3-0.4mm。 The nozzle is not blocked, but the wire is difficult, Maybe the Teflon pipe has been worn, so the pipe or nozzle needs to be changed

Handling of common problems

1 Hot head clogging

Reason

- 1, Nozzle damage, It's caused by the wrong operation of the scraped platform. Change the nozzle
- 2, Nozzle inner wall carbonization,Usually used more than 1 year nozzle prone to appear,It can be dredged with a needle,or change the nozzle.
- 3, If there are impurities in the material, you can try to preheat the temperature to 230 to extrude,Then use a needle to dredge it, or change the nozzle.
- 4, Injury of "Teflon tube" in larynx inside,Too long use time, The temperature should not exceed 250 °C, Direct replacement
- 5, The throat is blocked, If the fan doesn't turn, the pipe will be blocked, Check the fan
- 6, Incorrect wire changing operation

2 Memory card not recognized

The memory needs good quality, the speed is above 'class4', and the capacity is less than 16g

3 Do not frequently and quickly push the motor to generate electricity, it is easy to burn the drive