

# ZONESTAR

## Installation Guide

INSTALLATION GUIDE

Model:P802QS/P802QSU

Ver 3.0



[www.zonestar3d.com](http://www.zonestar3d.com)



[Youtube Channle](#)



[Facebook Group](#)

# Version Record

Version	Date	Author	Check	Remark
V1.0	2016-06-25	Chris	Hally	1st Version
V1.1	2016-09-02	Chris	Hally	Add Detail Z-axis installation
V2.0	2017-01-20	Alien	Hally	Fix some bugs
V3.0	2017-05-12	Alien	Hally	New package and upgrade

If you have any problems with the installation, please feel free to contact us, we will reply to you ASAP!

Email: [Support@zonestar3d.com](mailto:Support@zonestar3d.com)

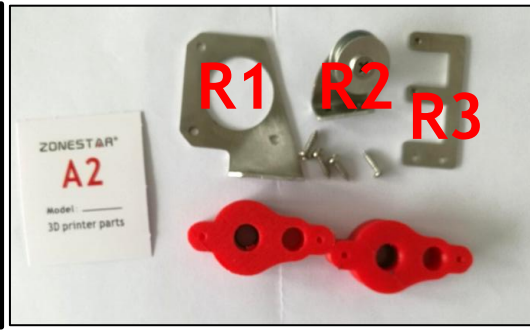
If you are interested in translating our documents into the language you are familiar with, please contact us and we will pay for this.

Email: [Hally@zonestar3d.com](mailto:Hally@zonestar3d.com)

## ●Picture of the whole parts



# ●Parts - package



Option for P802QSU

## ●Screws and nuts



<b>M4x6 Screw (x45)</b>	<b>M3x6 Screw (x36)</b>	<b>M3x10 Screw(x10)</b>	<b>M3 Nut (x30 )</b>
<b>M3X20 Screw(x20)</b>	<b>M3x12 pole (x4) M3 shim (x12)</b>	<b>M3x25 Screw (x4) Φ4.5*22 spring (x4) M3 Hand Nut (x4)</b>	



## ●Viode tutorial



English



Spanish



Russian



Electronic Parts  
Check



Wiring Guide



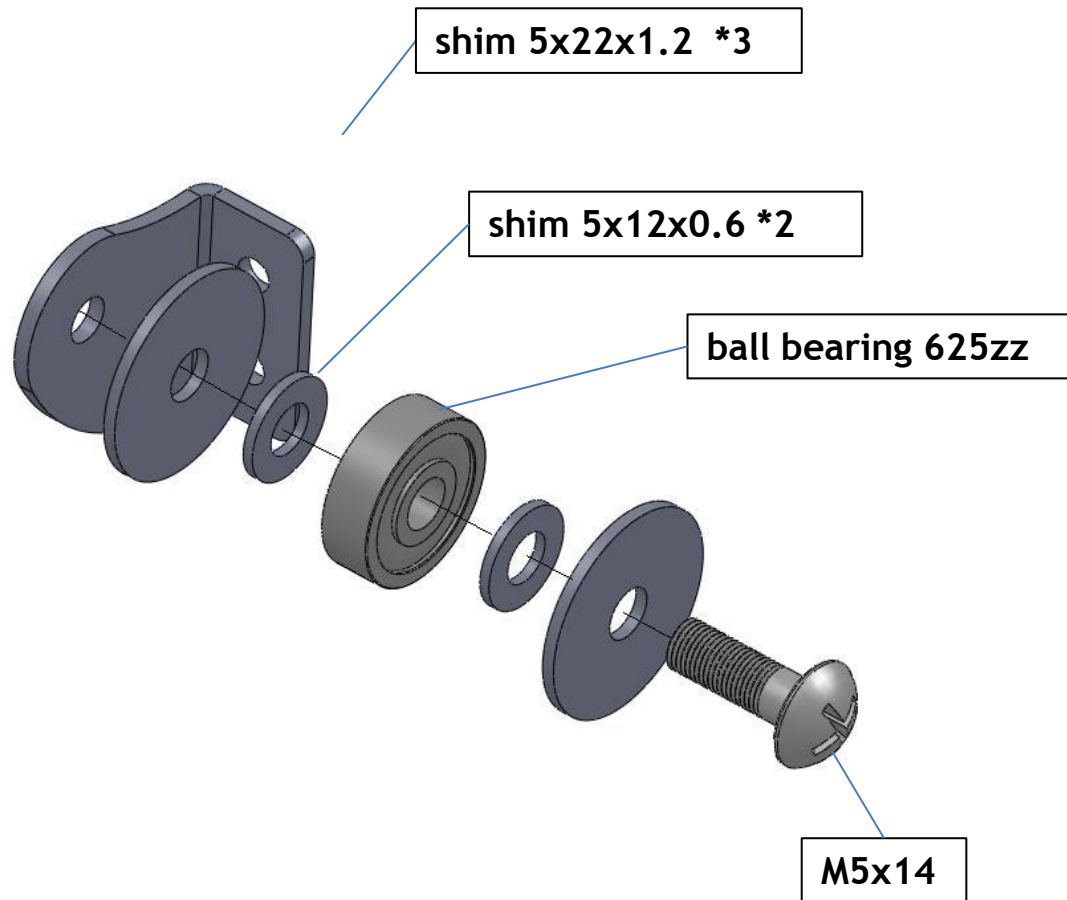
Filament Run-out  
Detector

**Note 1: The video tutorial may be a little different from your kit!**

**Note 2: We suggest you check the electronic parts before installed.**

## ● Assemble Y-axis belt pulley

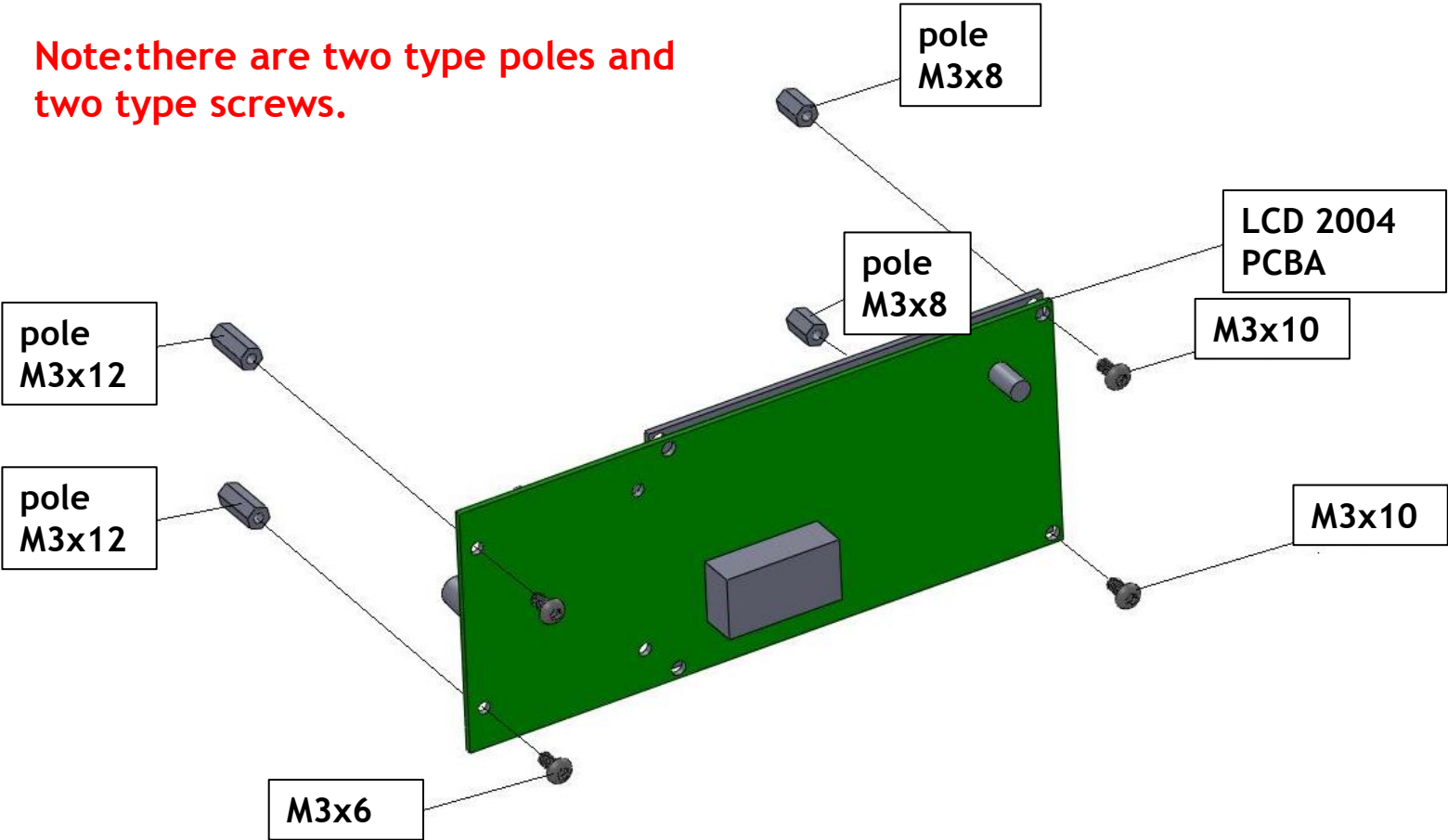
Pre-Assembled



**Note: smooth surface of the shims towards ball bearings.**

# ● Assemble LCD display module

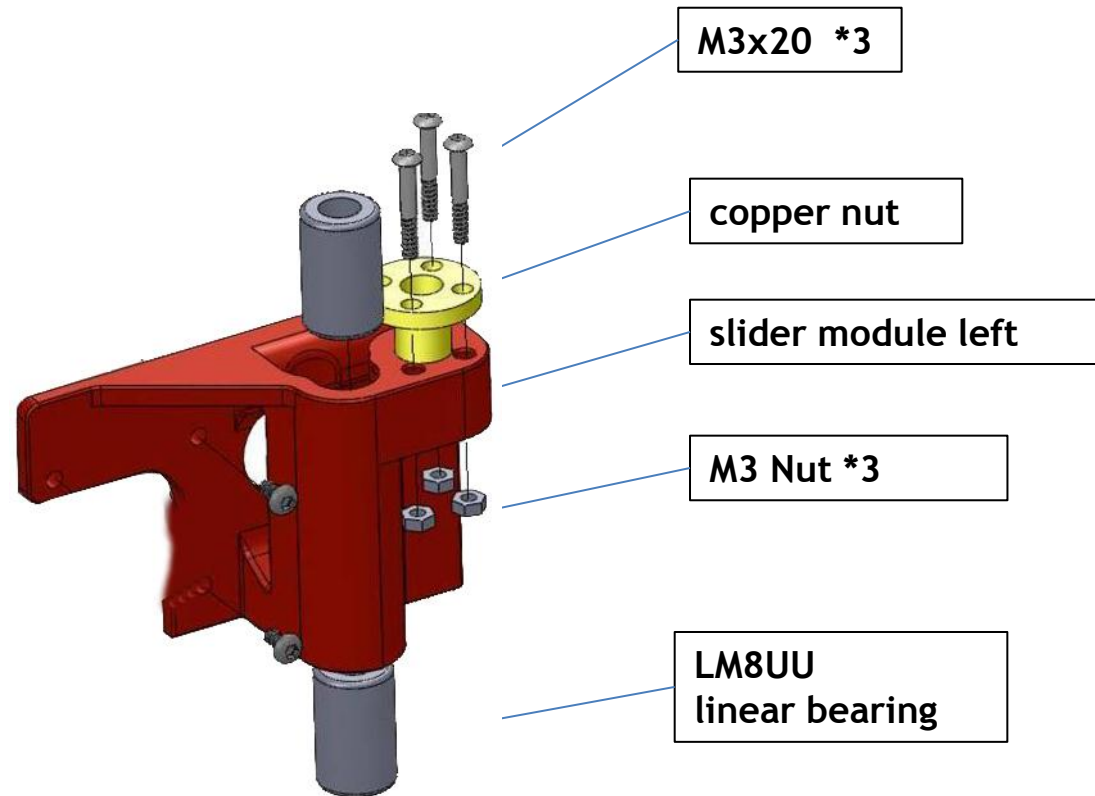
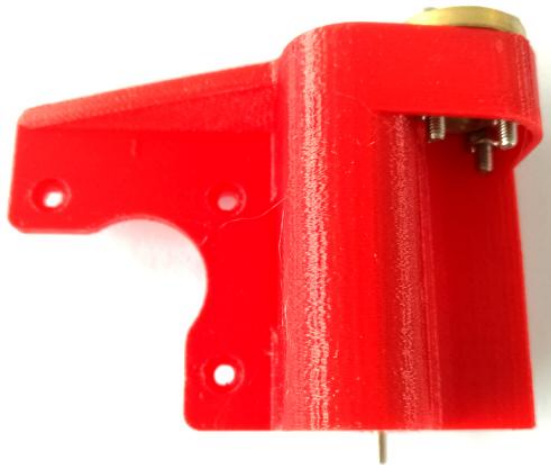
Note:there are two type poles and two type screws.





## ● Assemble slider module left

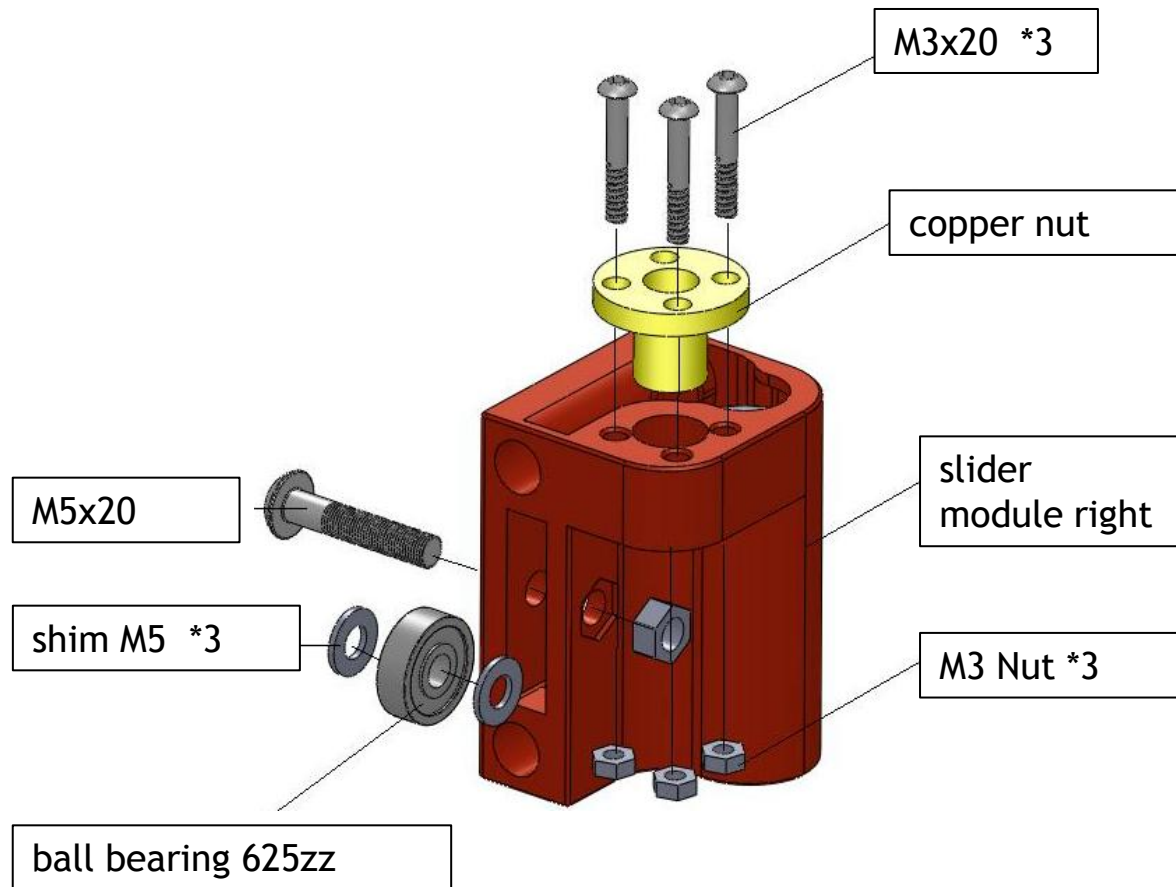
1. Put two linear bearings on slider module left, through the two bearings by sliding rod, then push bearings into slot, check concentricity of the bearings.
2. Mount copper nut, lock with three M3x20 screws and M3 nuts.

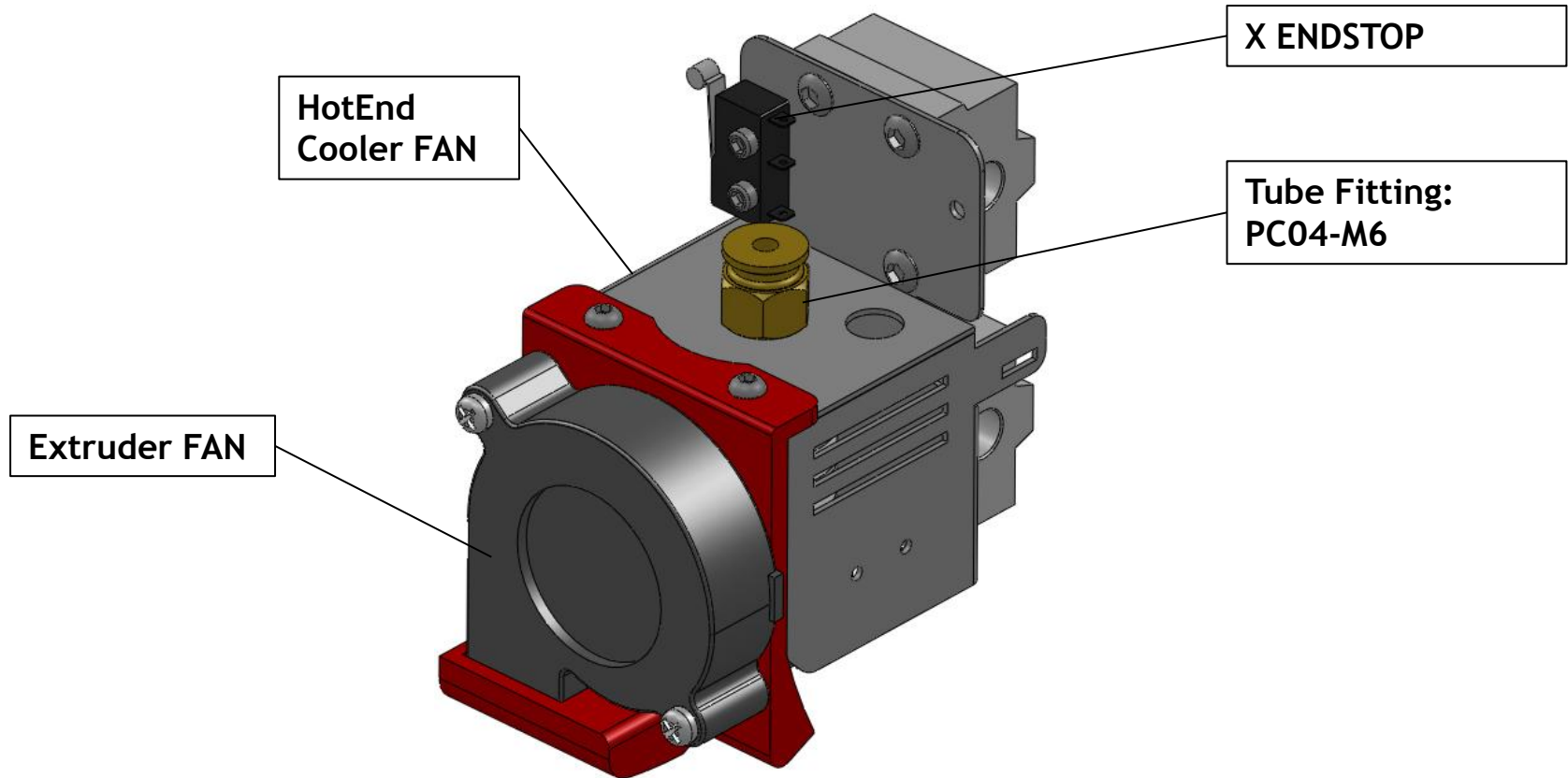


## ● Assemble slider module right

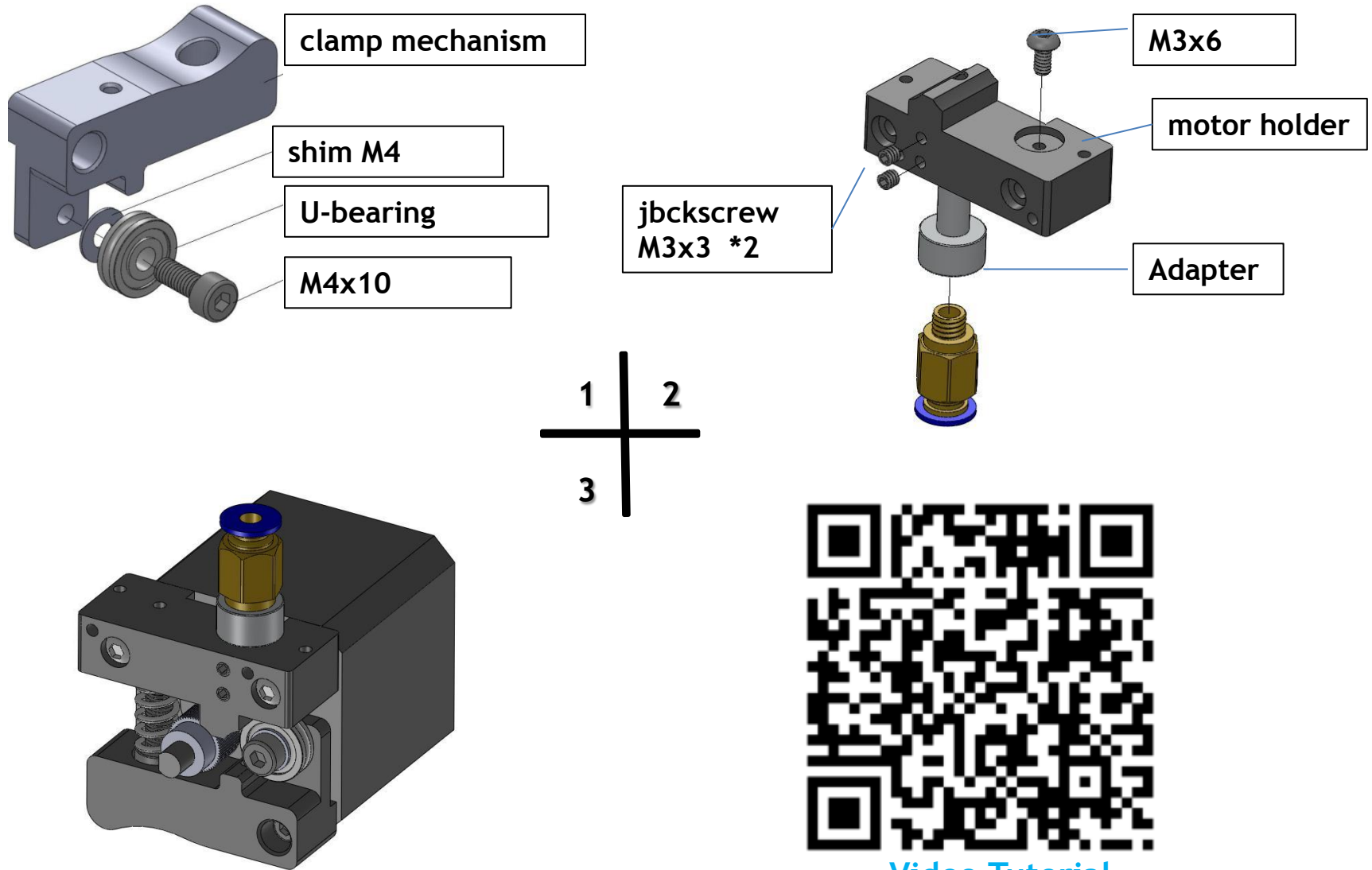
1. mount screw M5x25, shim M5, linear bearing shim M5, lock with nut M5.

2. mount copper nut, lock with three screws M3.





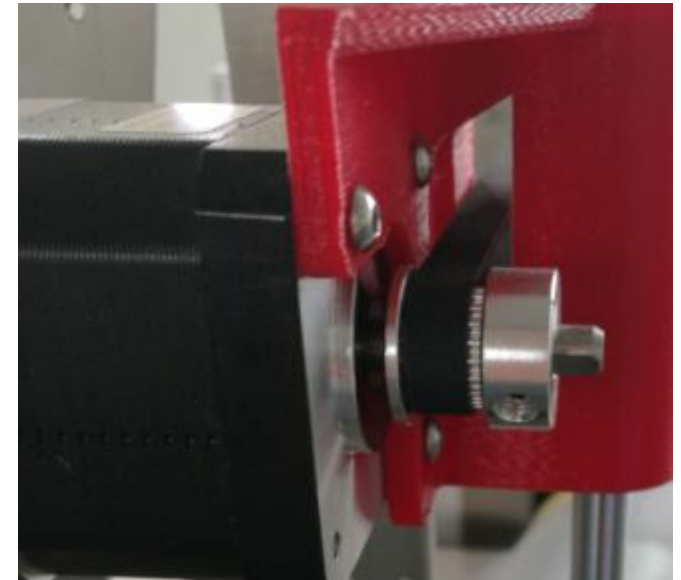
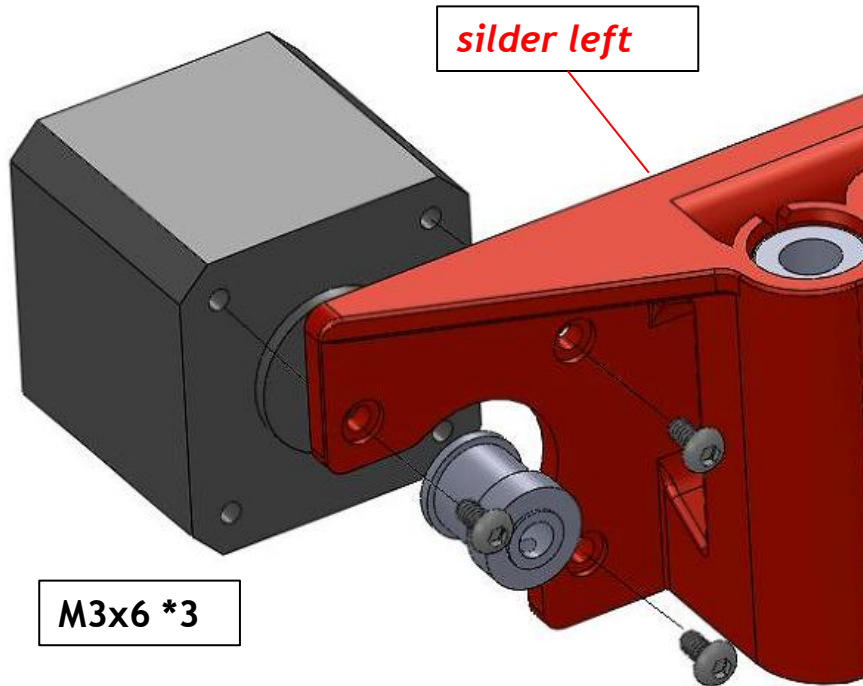
- Assemble Extruder Engine(EM4)



Video Tutorial

## ●Install X-axis Motor to slider left

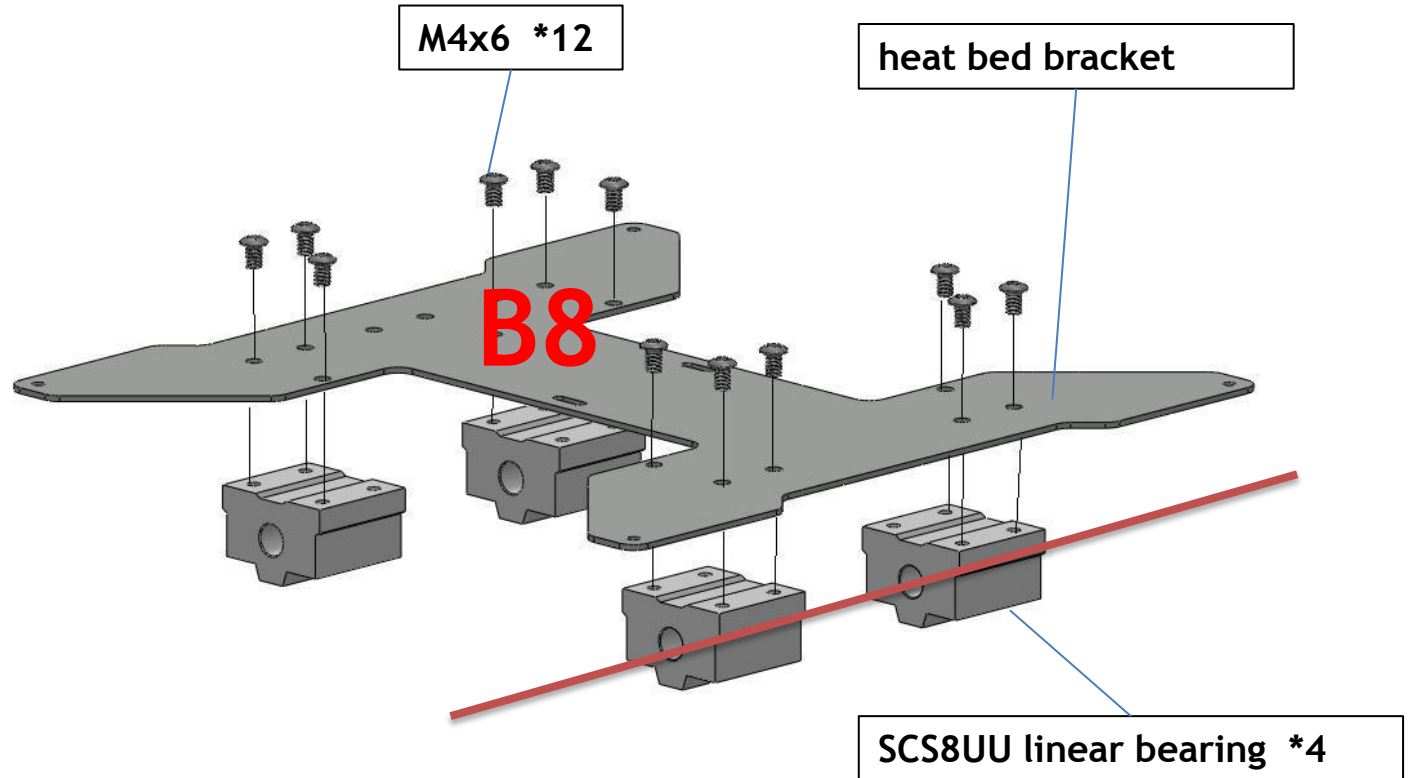
1. Install a stepper motor (23mm shaft length) to *slider left* , lock with 3 pcs M3x6 screws.
2. Mount one pulley to the stepper motor, lock the jbscrew on the pulley.



**Note: Please pay attention to the installation direction of the pulley and the position on the motor shaft.**

## ● Assemble heat bed bracket

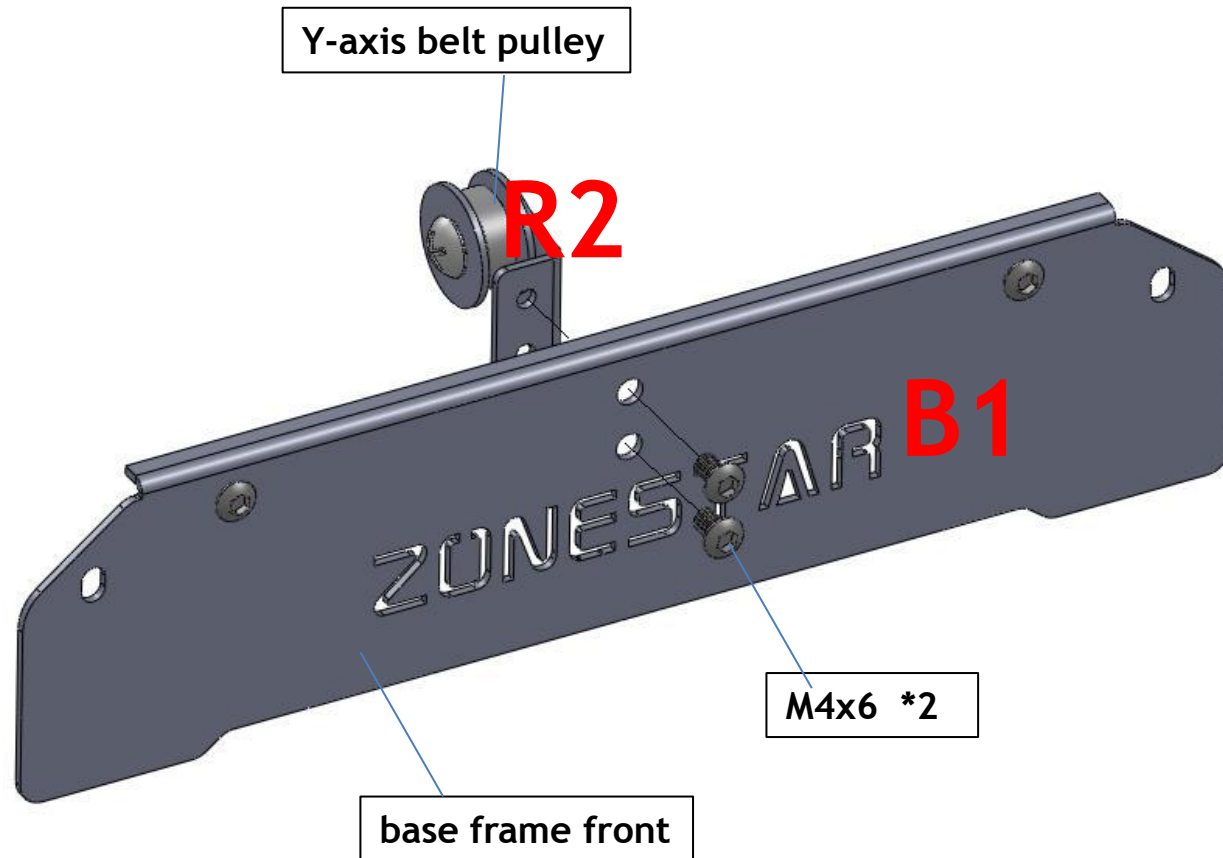
Install 4 bearings (SCS8UU) on *heat bed bracket*, lock with M4x6mm screws.



Note: In order to let the bearin is on the same line, please insert a lead rod to the linear bearing before tightend the M4 screws.



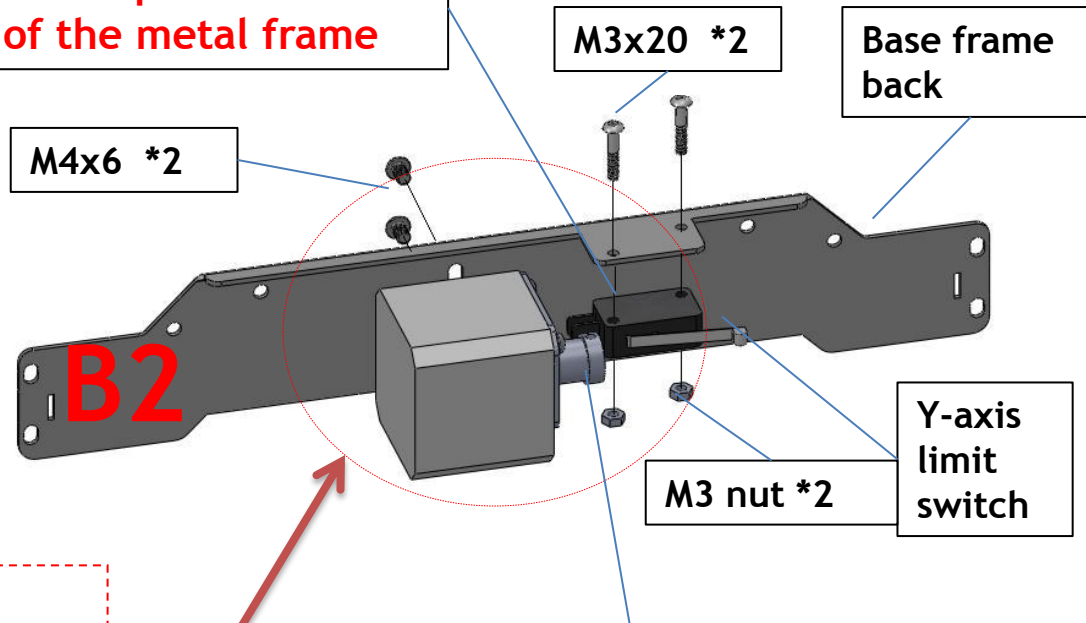
## ● Assemble base frame front



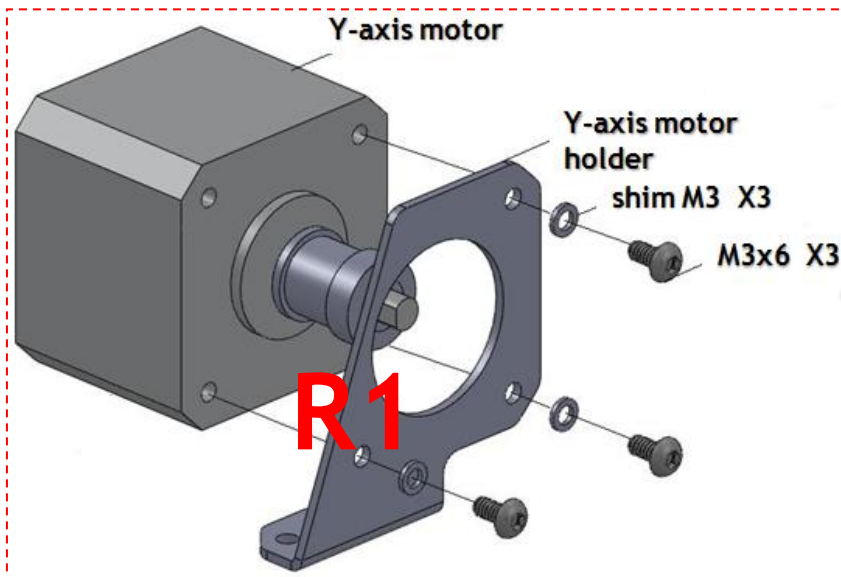
## ● Assemble base frame back

**Note 1: Y Endstop install on the down of the metal frame**

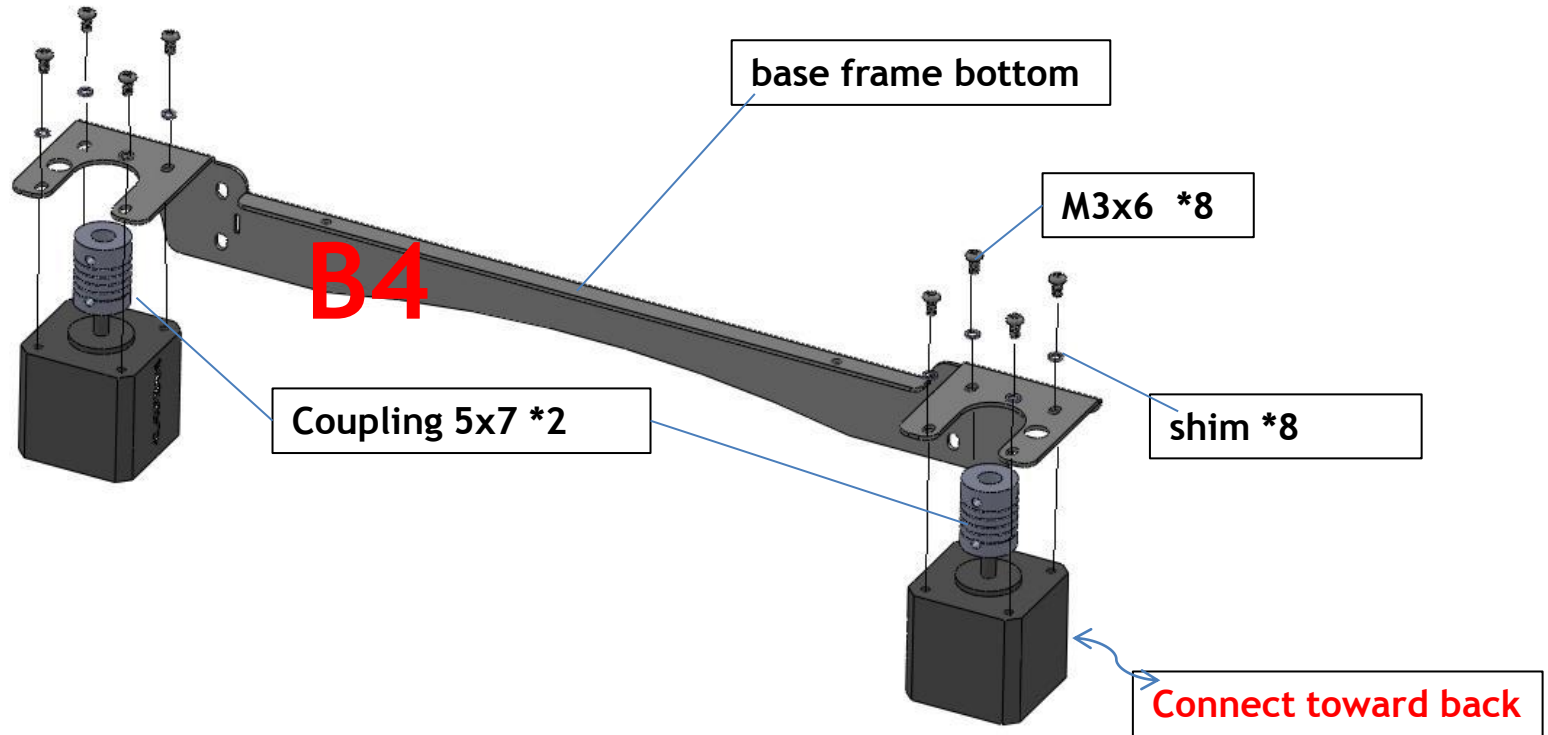
**Note 2: the lower position of the motor, the better.**



**Note 3: lock the jbscrew on the pulley after installed**



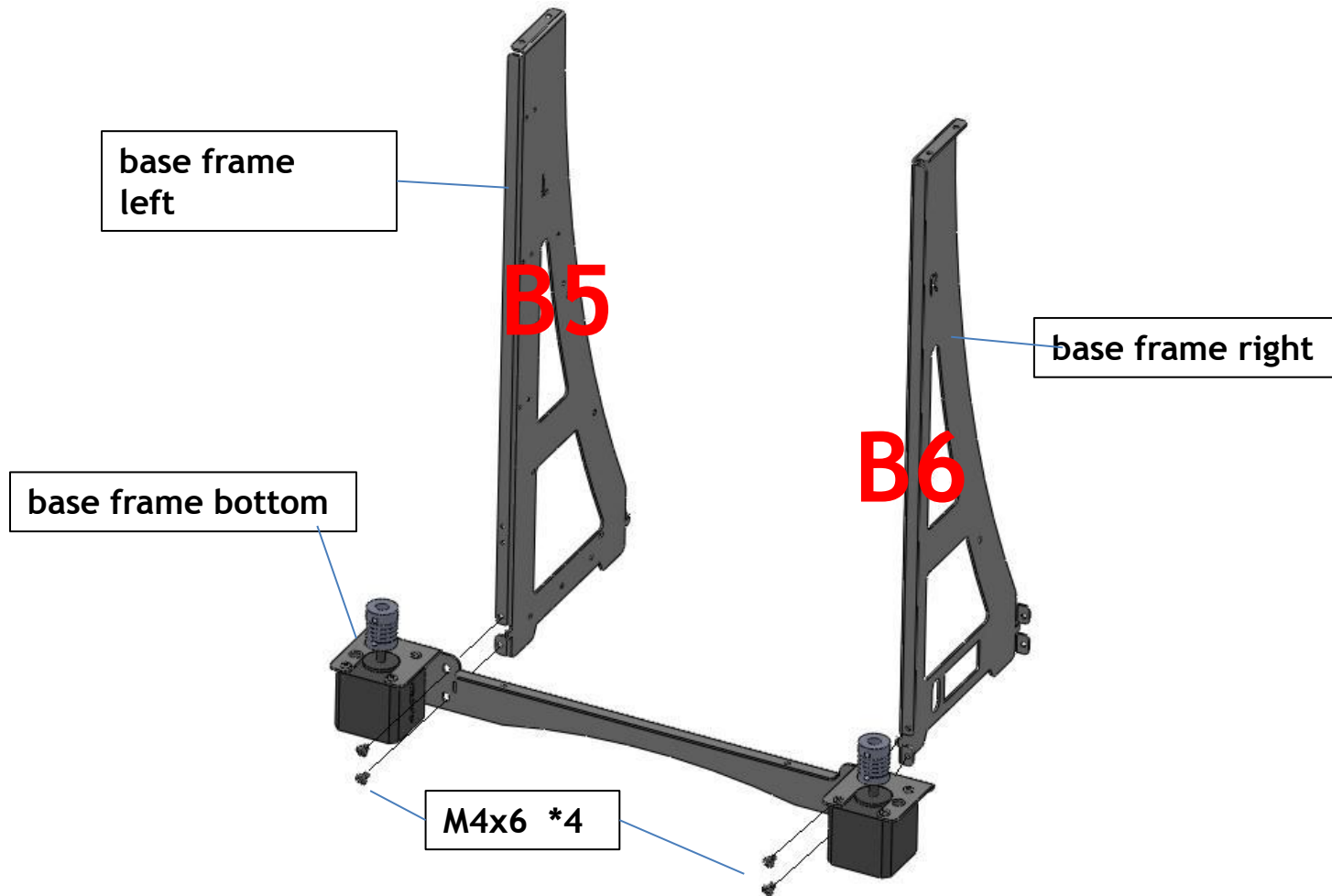
## ● Assemble base frame bottom



Note 1: Don't tighten the motor in this step.

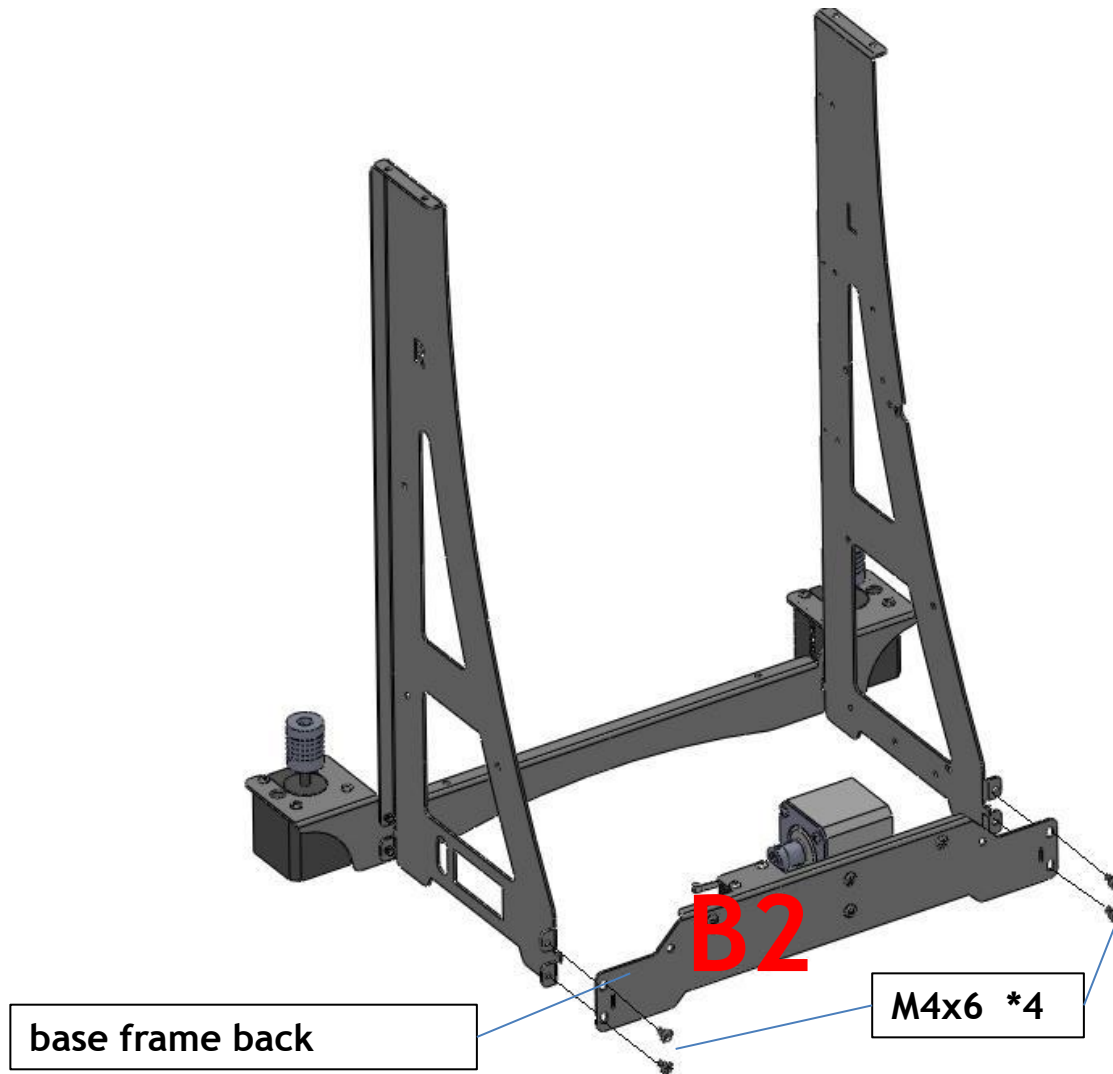
Note 2: Don't lock the jbscrew on the coupling in this step.

## ● Assemble base frame left and right

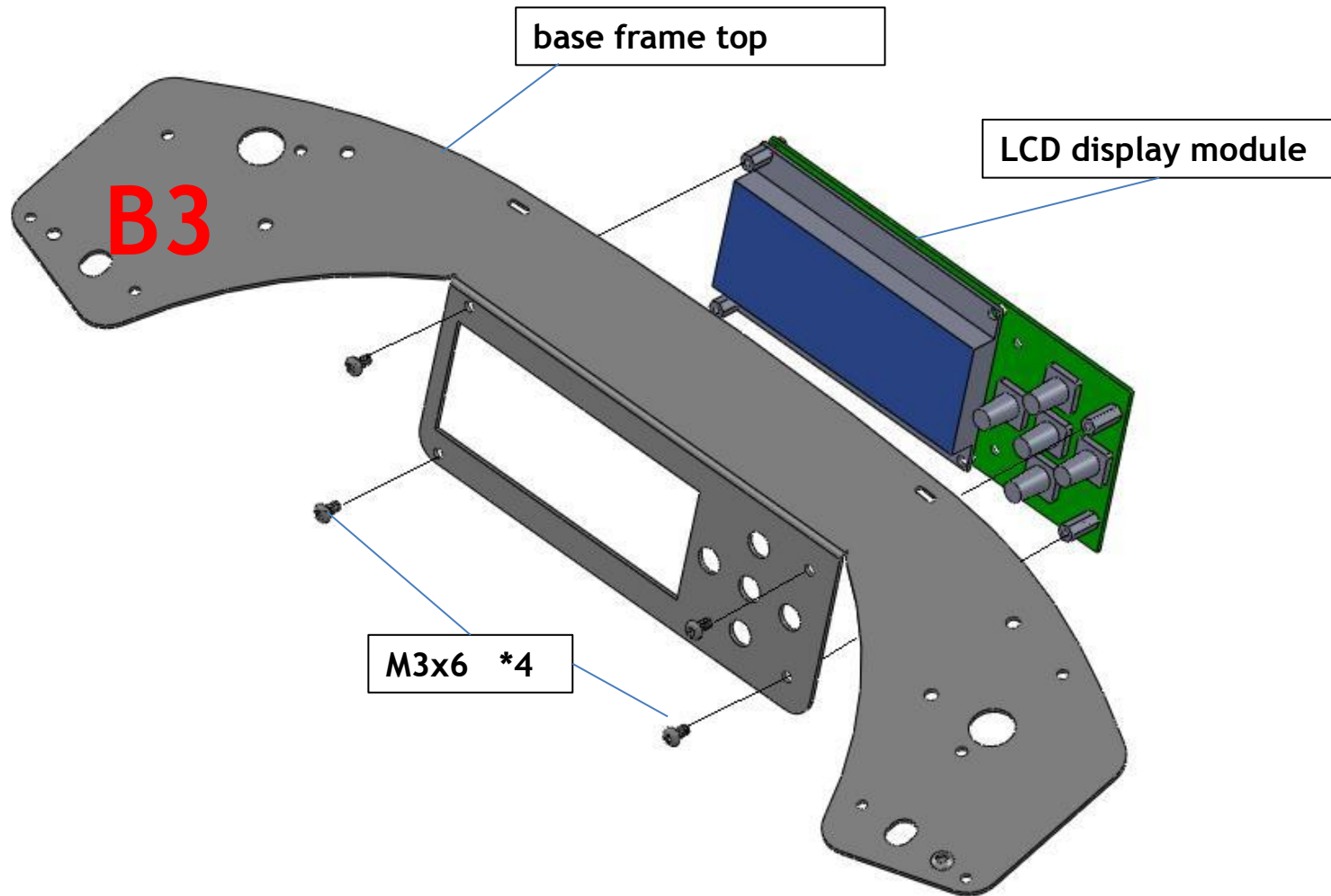


**Notice: base frame left and base frame right are different!**

## ● Assemble base frame back

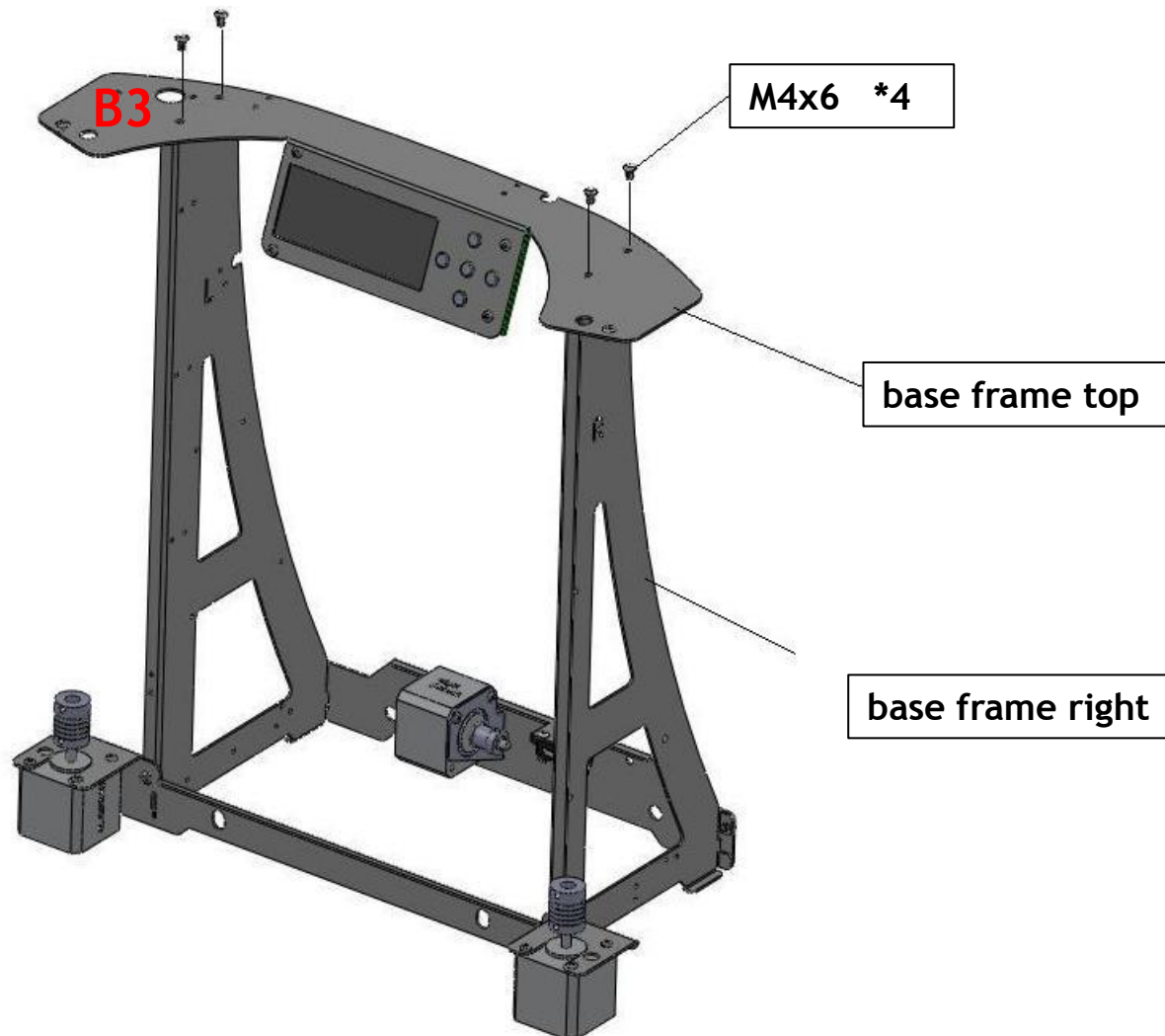


## ●Install LCD display module

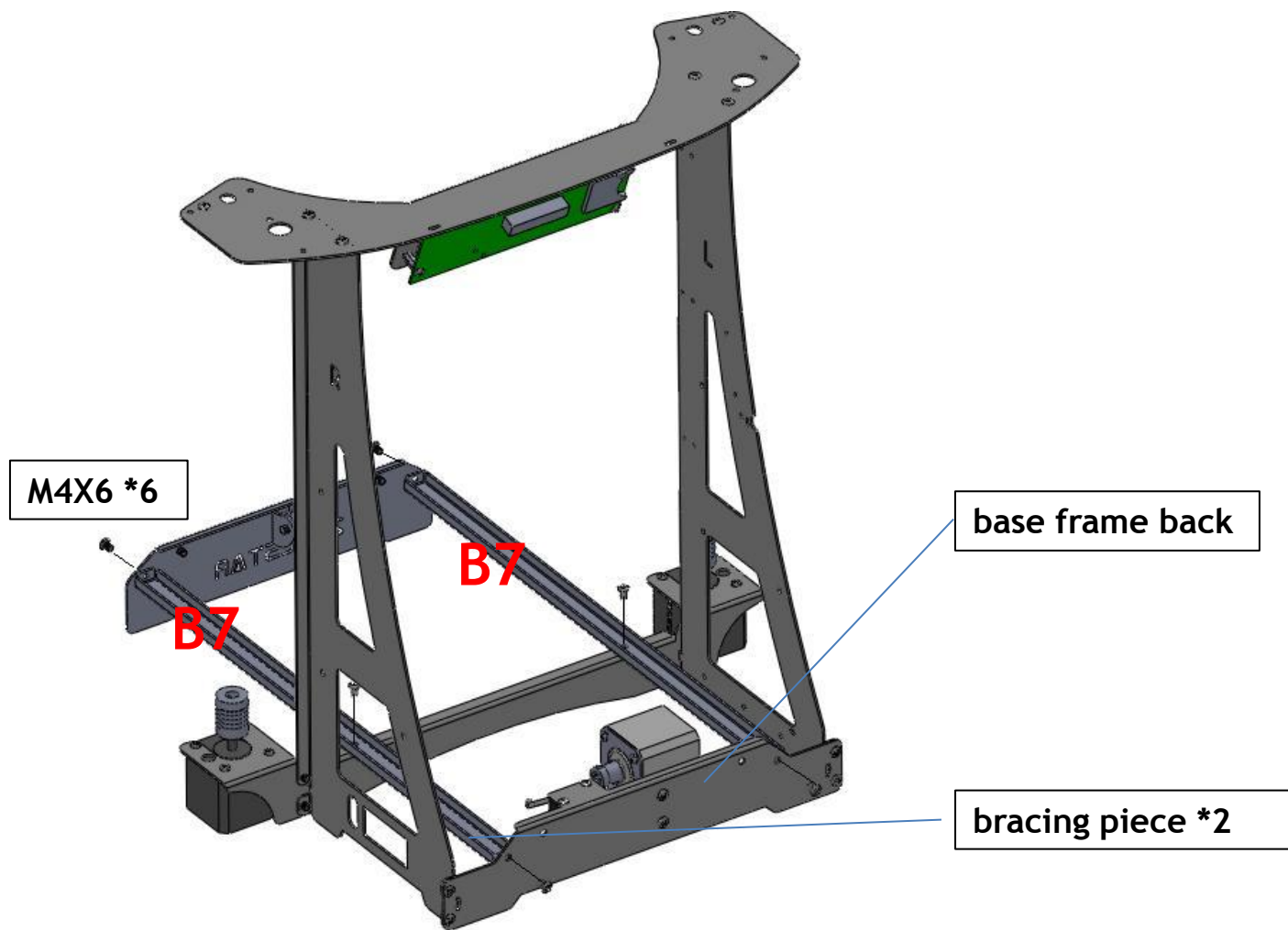




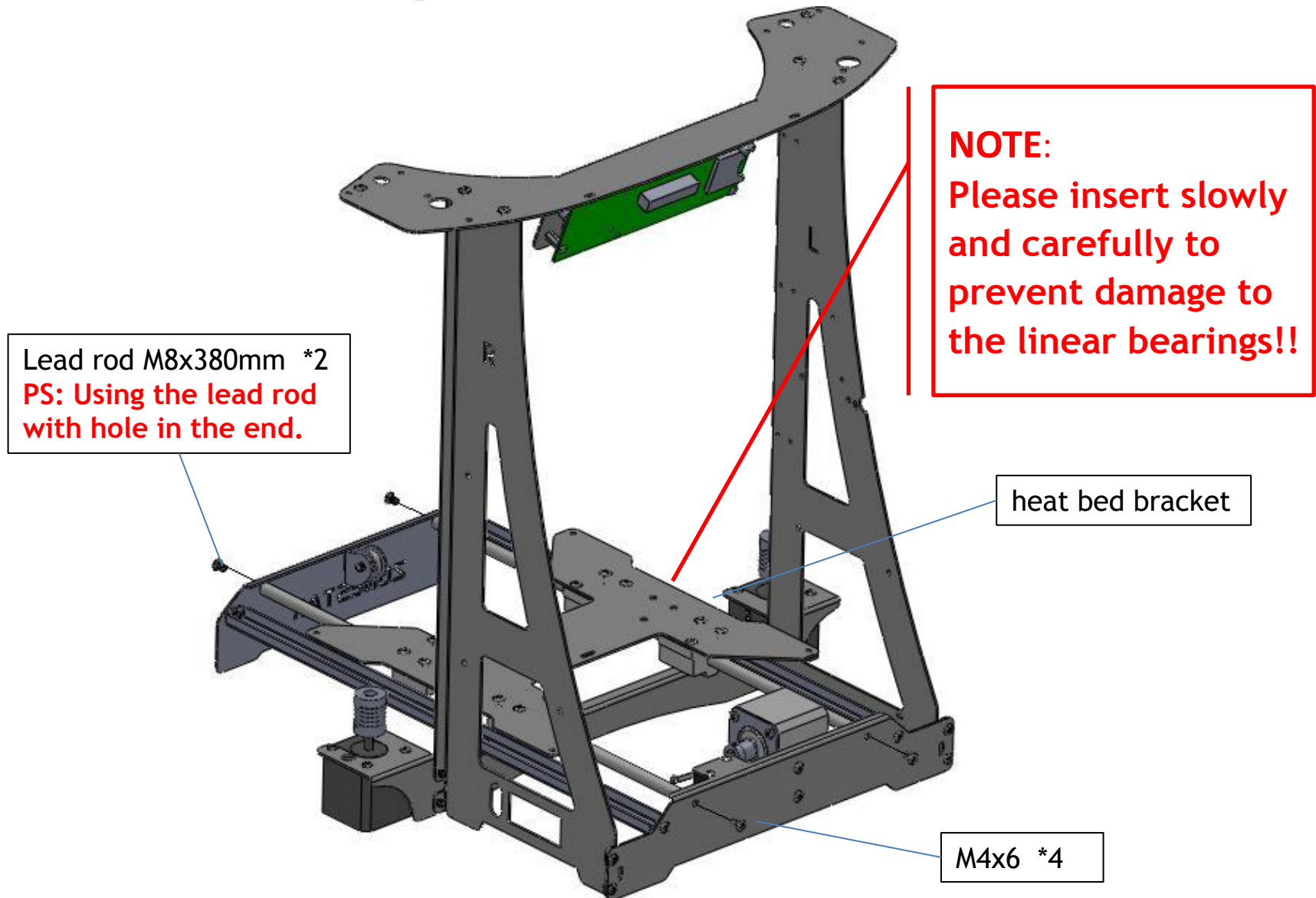
## ● Install base frame top



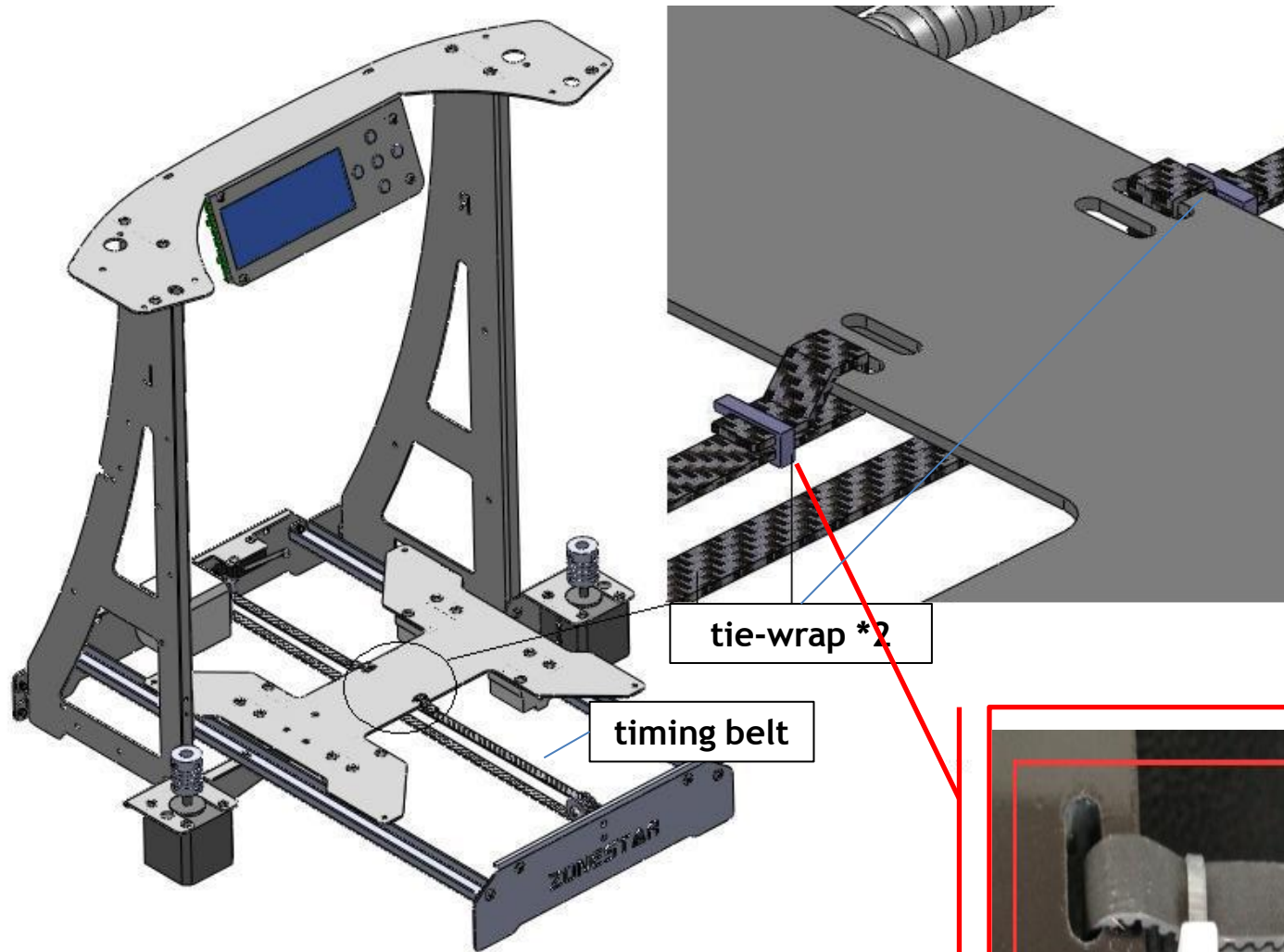
## ● Assemble Y-axis bracing piece



## ● Install Y-axis sliding rod and heat bed bracket

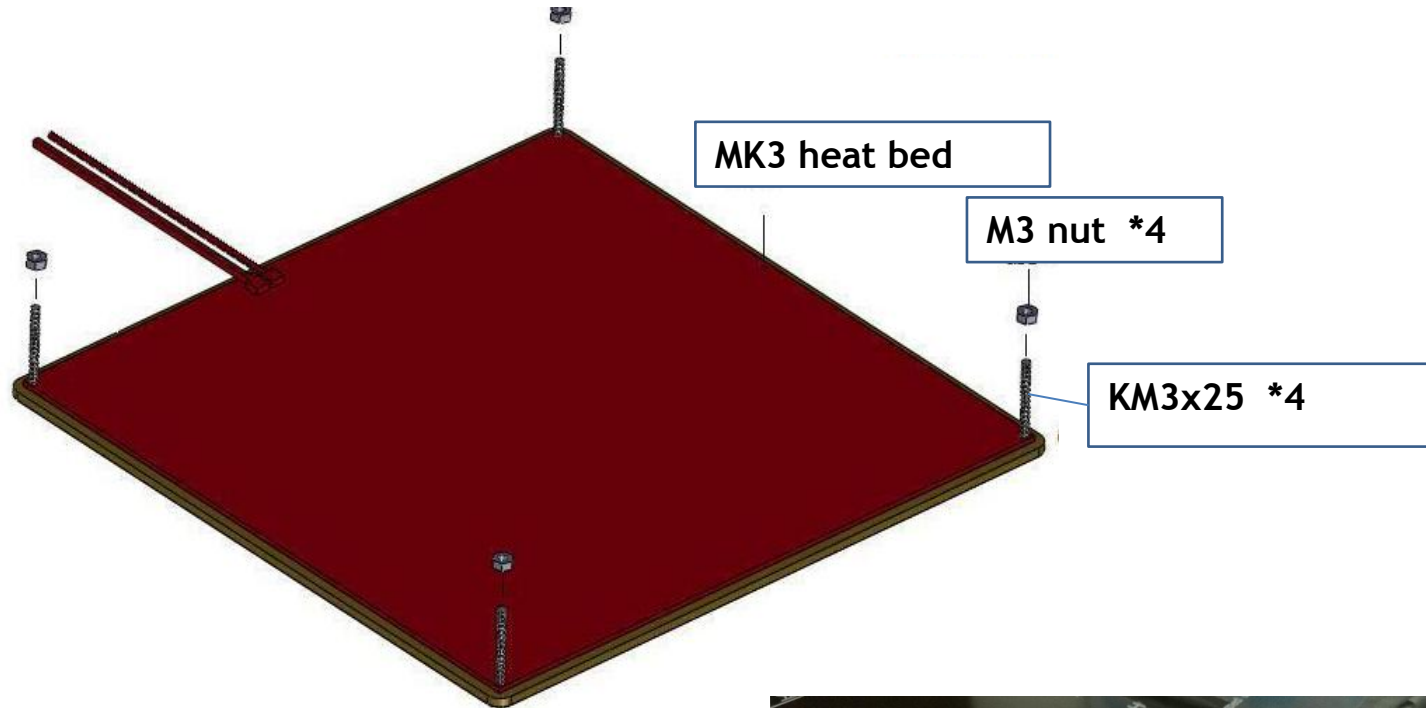


## ●Install Y-axis timing belt



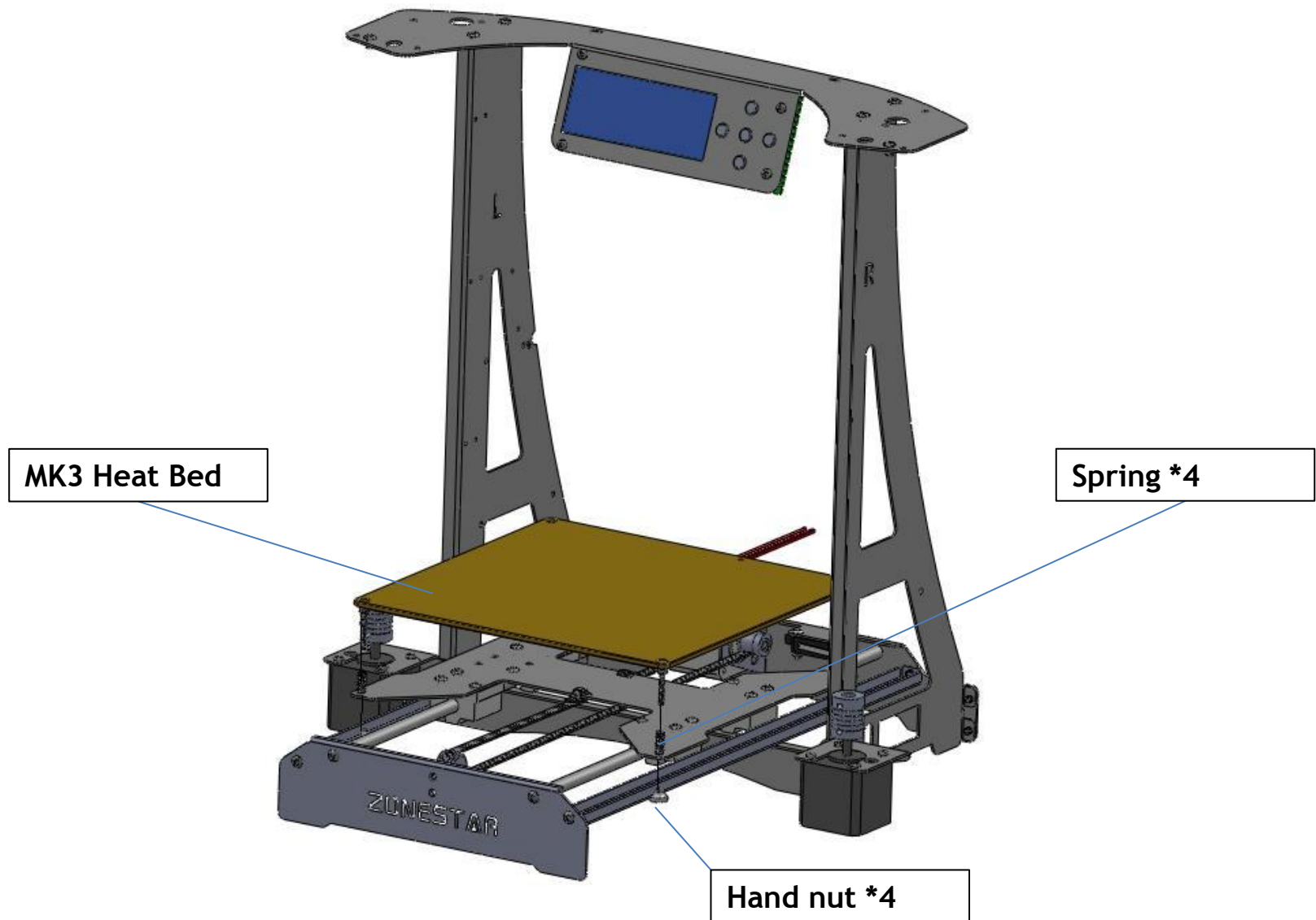
**Note: Tighten the belt before locked it.**

## ● Assemble Heat Bed



**Note: Don't tighten the screw in this step.**

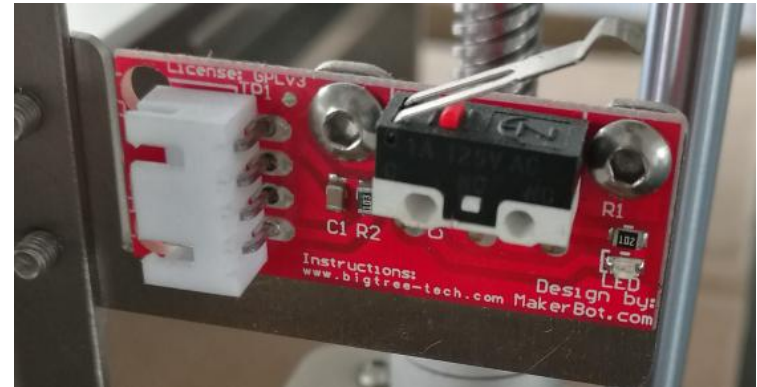
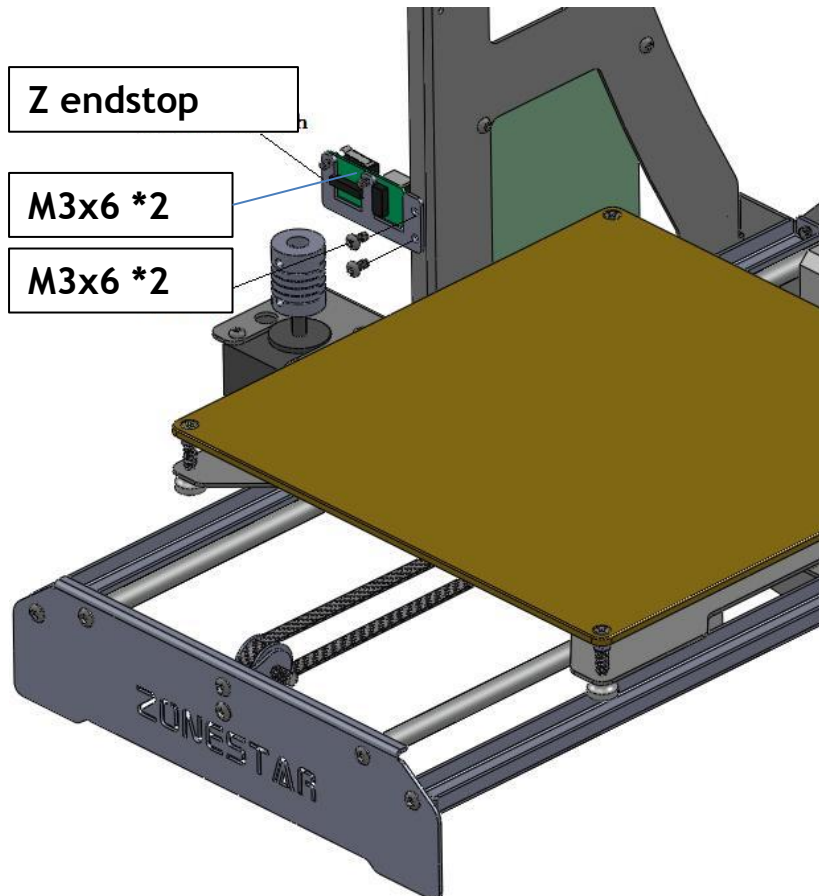
## ●Install Heat Bed





# ●Install Z-endstop

1. Lock the *Z endstop PCBA* to the *Z endstop frame* with 2 M3x6 screws.
2. Install the Z endstop module to *base frame left*



## ●Install slider module left and rods

1. Through *base frame top* and *Lead screw fix module* and *slider module left* by *lead rod*, its bottom entering the hole on Z-axis motor(left), its top locked with M4x6.

2. Through *base frame top* and *Lead screw fix module* and *slider module left* by *lead screw*, its bottom touching coupling.

Lead screw 345mm

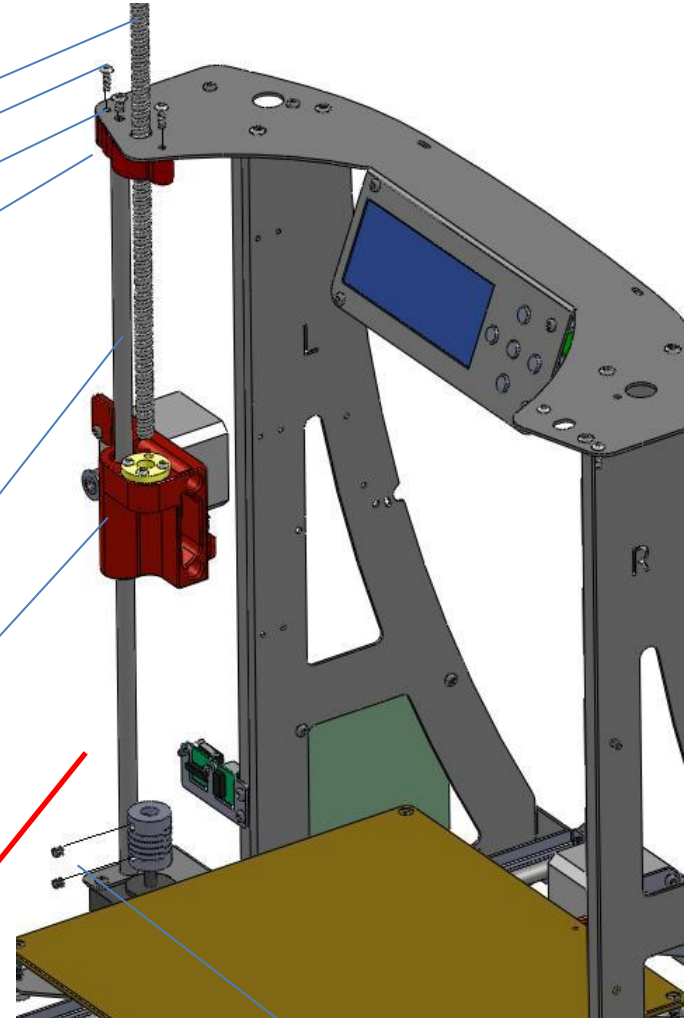
KA3x10 \*2

M4x6

Lead screw fix module

Lead rod 380mm  
PS: Using the lead rod with hole in the end.

slider module left



### NOTE 1:

Please insert slowly and carefully,  
avoid to damage the linear bearings!!

Note 2: Don't lock the  
jbckscrew on the coupling in  
this step.

# ●Install slider module right and rods

Lead screw 345mm

KA3x10 \*2

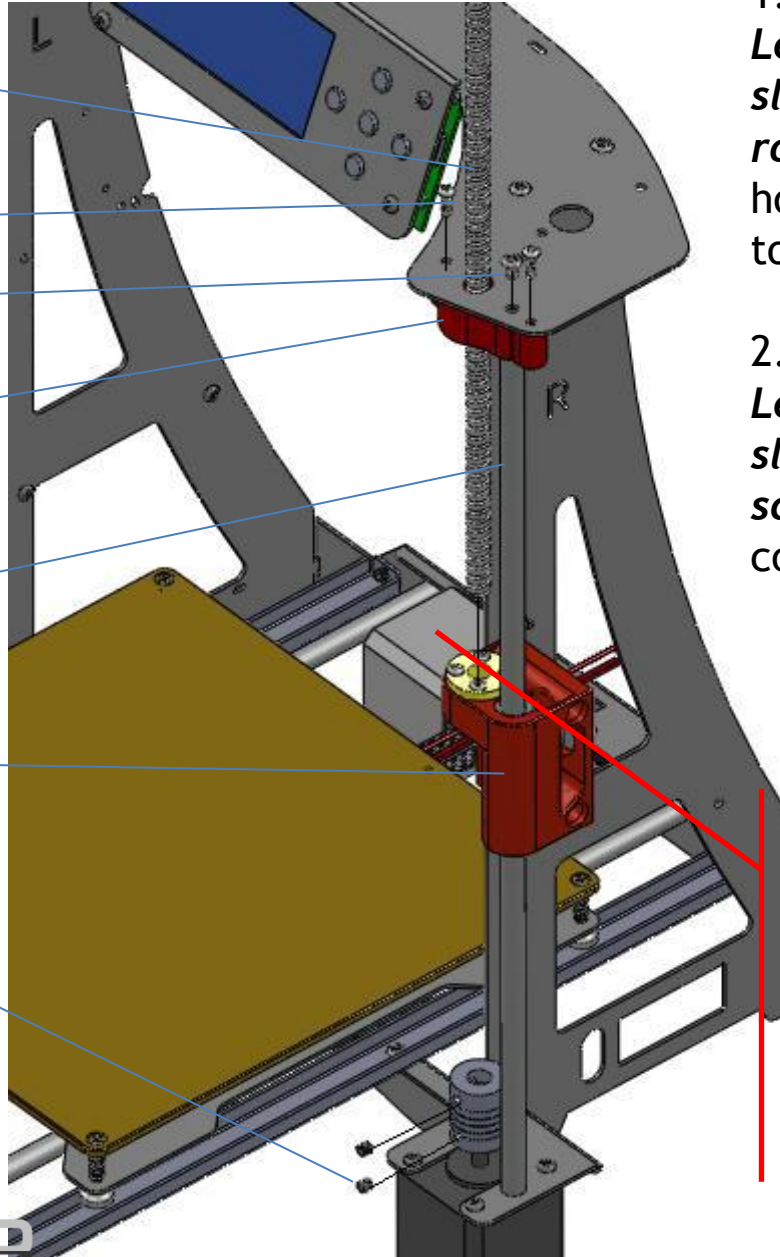
M4x6

Lead screw fix module

Lead rod 380mm  
PS: Using the lead rod with hole in the end.

slider module right

Note 2: Don't lock the jbckscrew on the coupling in this step.



1. Through *base frame top* and *Lead screw fix module* and *slider module right* by *lead rod*, its bottom entering the hole on Z-axis motor(left), its top locked with M4x6.

2. Through *base frame top* and *Lead screw fix module* and *slider module right* by *lead screw*, its bottom touching coupling.

**NOTE 1:**  
Please insert slowly and carefully, avoid to damage the linear bearings!!

## ●Detail for how to assemble slider module

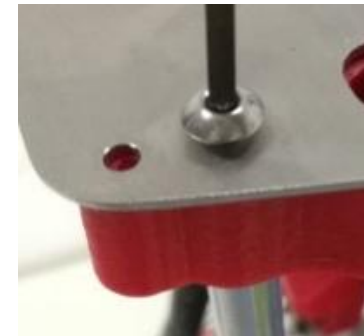
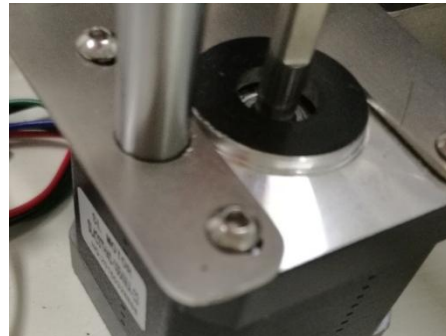
**Step 1.**Loosen the screws that fix the cooper a little.



**Step 2.**Insert the lead rod through the “Z-axis lead screw fix module” and “X-slider”



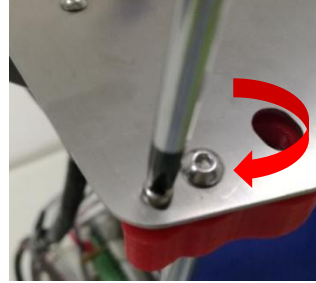
**Step 3.**Fix the lead rod to the top metal frame



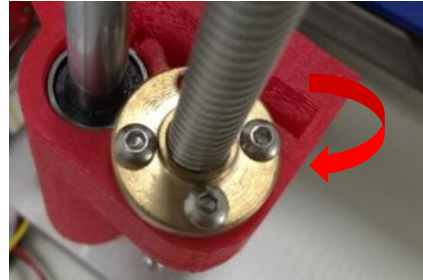


## ●Detail for how to assemble slider module

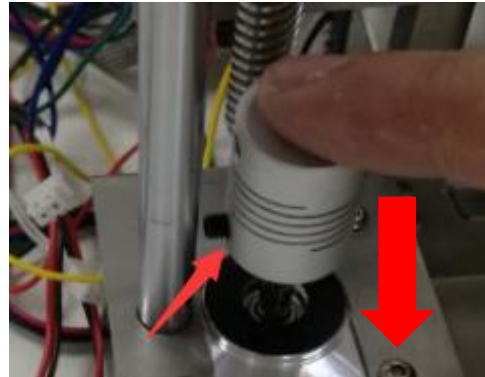
Step 4. Fix the “z-axis lead screw fixed module” to the top metal frame.



Step 5. Insert the lead screw to the cooper nut. **If the lead screw hard to insert to the bearing, please take out the bearing from the “z-axis lead screw fixed module” and knock the bearing, let the lead screw insert it.**

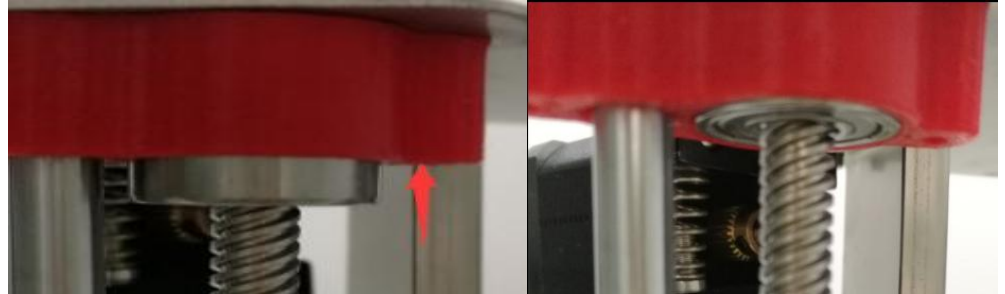


Step 6. Loosen the jack screw and insert the coupling to the motor, push the coupling to the bottom.



## ●Detail for how to assemble slider module

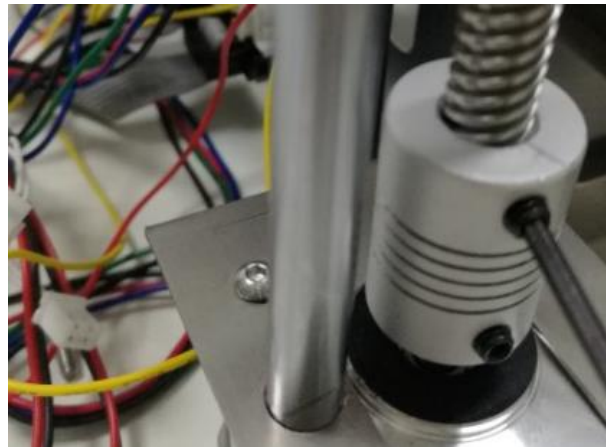
Step 7. Insert the lead screw and bearing to “Z-axis lead screw fixed module”



Step 8. Insert the lead screw to the bottom of coupling. **If the lead screw center with the coupling is not concentric, please move the Z-axis motor a little.**



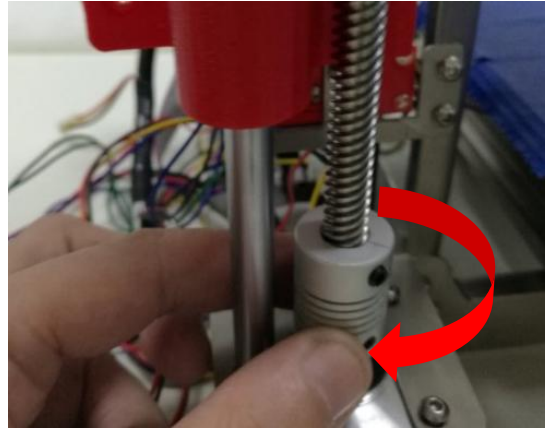
Step 9. lock the jbscrew to fix the coupling to the motor and lead screw.



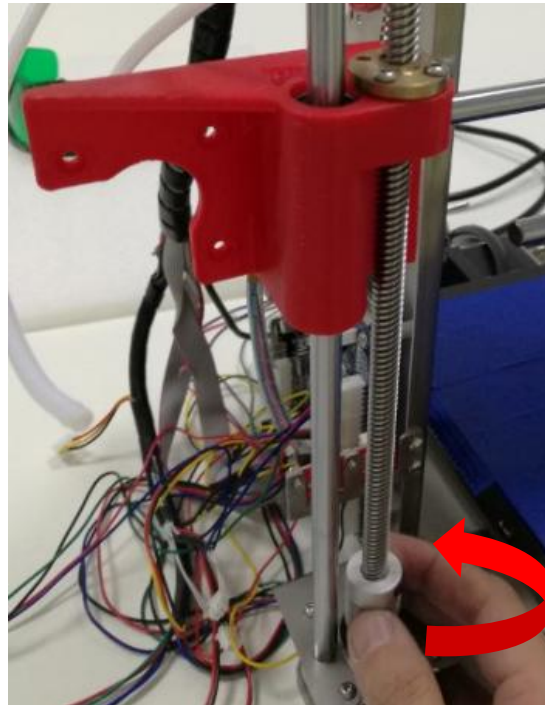


## ●Detail for how to assemble slider module

**Step 10.** Rotate the coupling and move down the “x-slider” to the lowest position, then fixed the Z-axis motor.



**Step 11.** Rotate the coupling and move up the “x-slider” to the middle position, then fixed the copper nut.

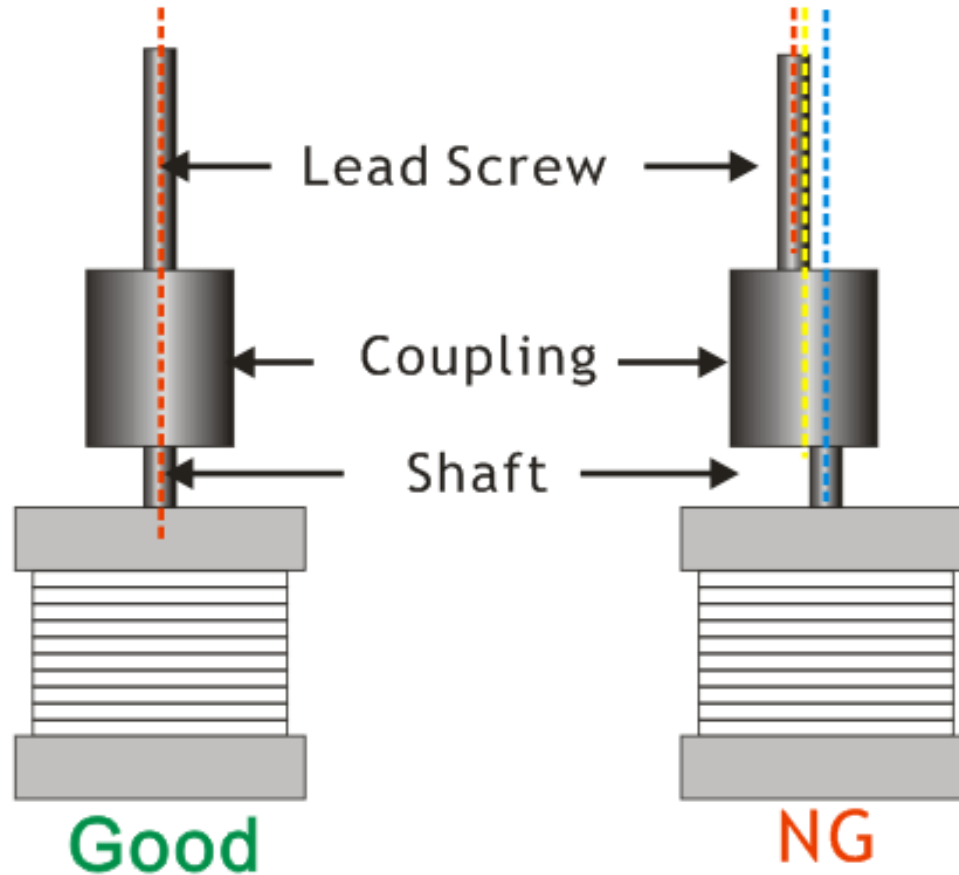


**Step 12.** Rotate the coupling, move down and move up the “x-slider”, make sure it can move smoothly.



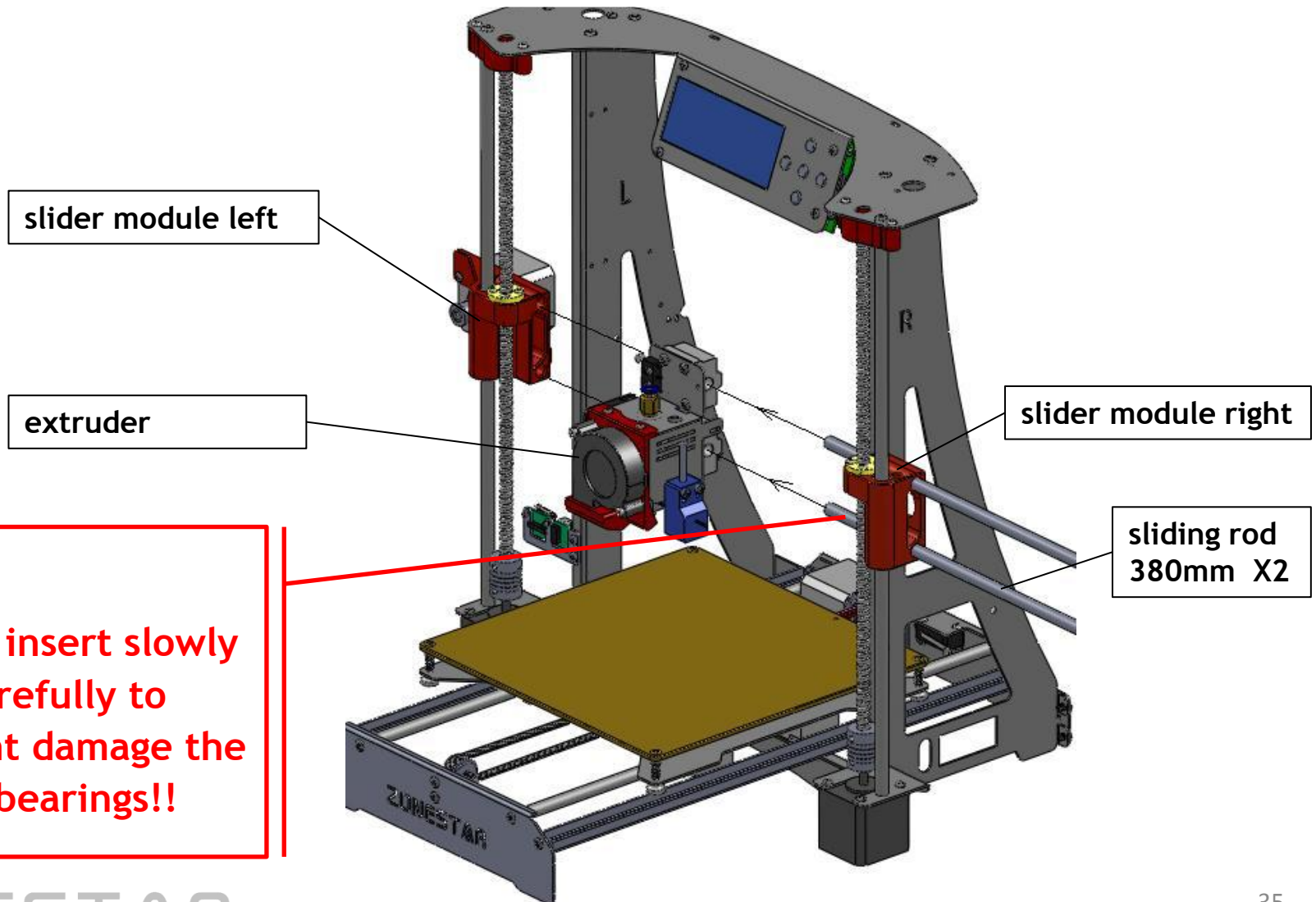
## ●Detail for how to assemble slider module

**Note:** As far as possible to keep the motor shaft and Z axis lead screw are in the center of the coupling, otherwise, printing quality will be reduced.



## ●Install hot end

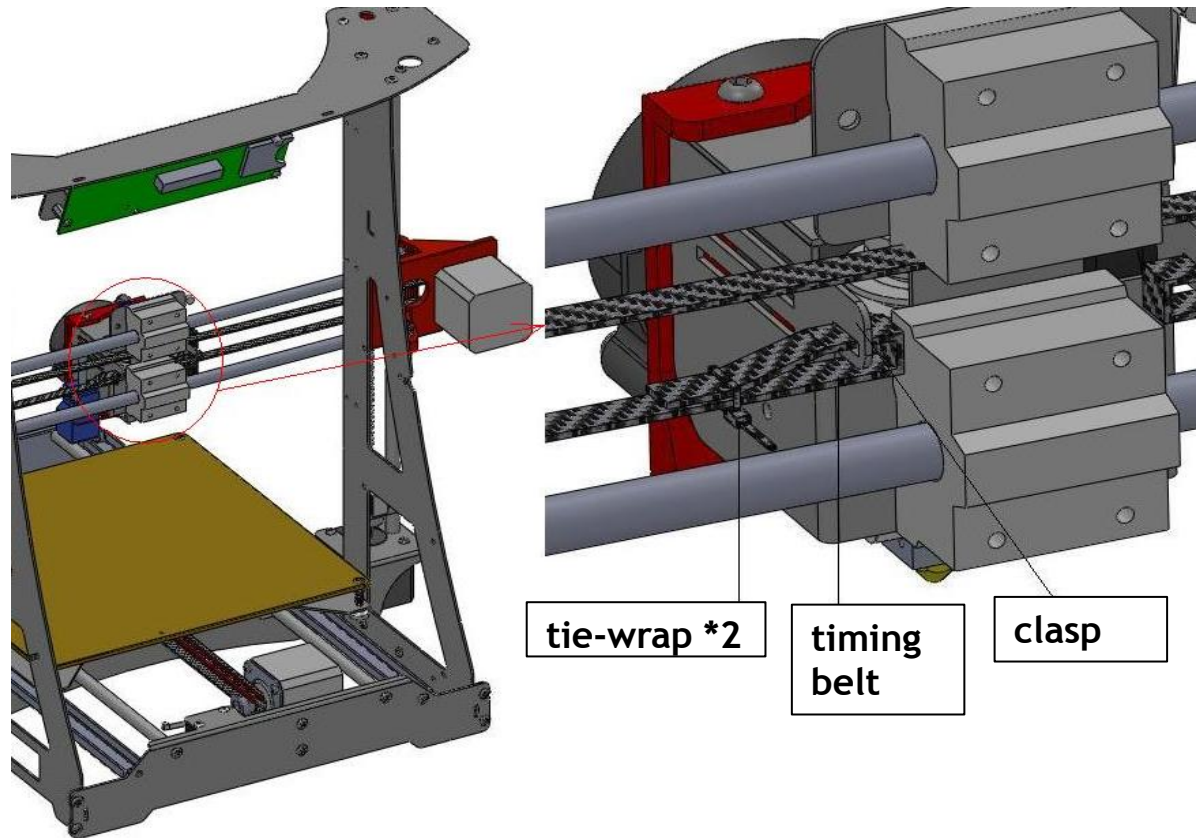
Through hole of slider module right and hole of extruder and hole of slider module left, its right end leveled with hole edge of slider module right.



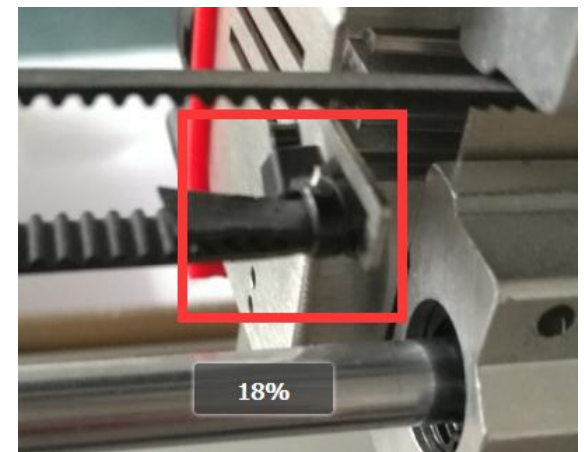
**NOTE:**  
Please insert slowly  
and carefully to  
prevent damage the  
linear bearings!!

## ●Install X-axis timing belt

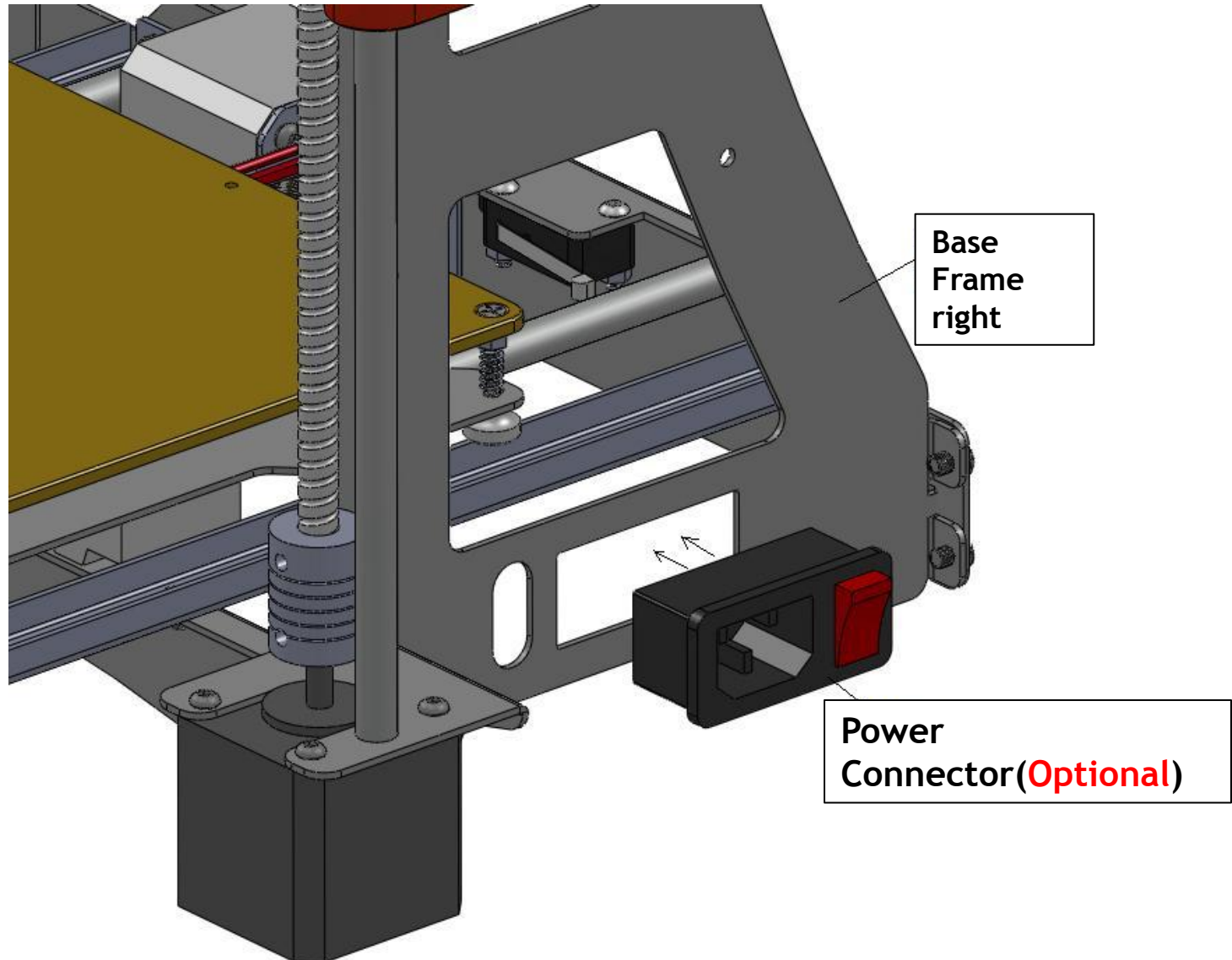
Fixed one end of the timing belt on one clasp of the hotend by cable tie, through pulley of slider module left and ball bearing of slider module right, then fixed on the other clasp of the hotend by tie-wrap.



**Note: Tighten the belt before locked it.**

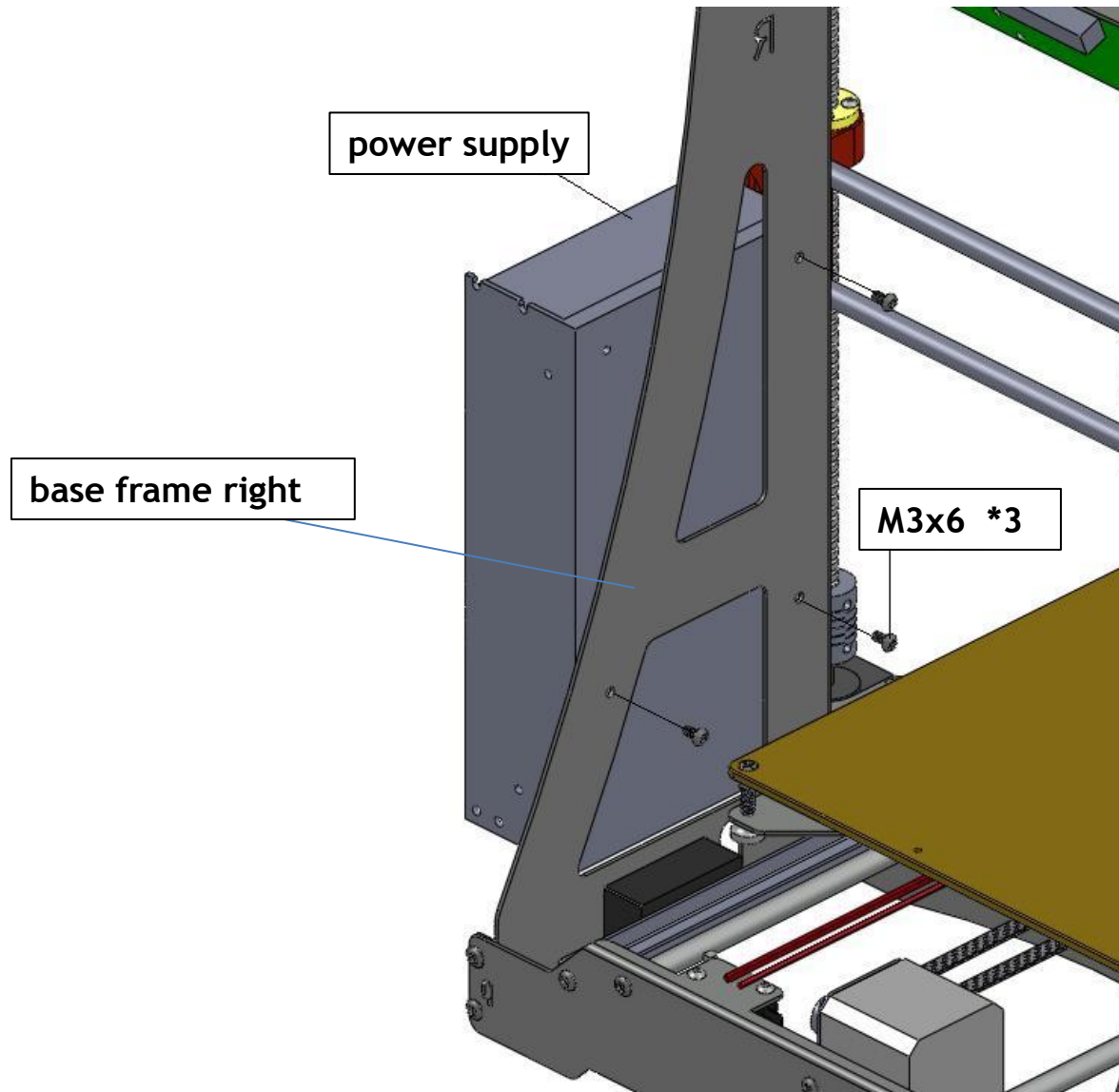


- Install AC power connector (**Optional**)

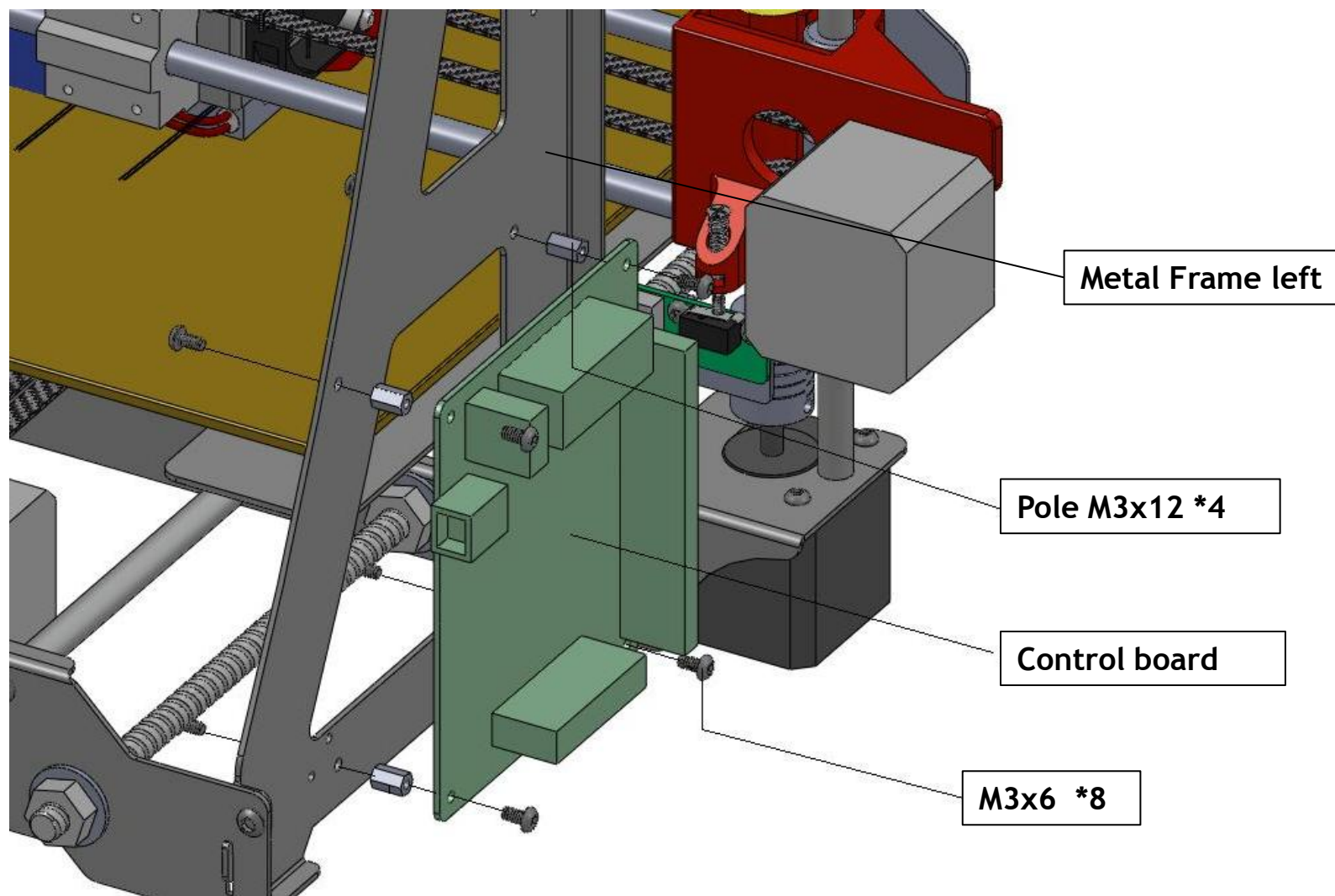




## ● Assemble power supply

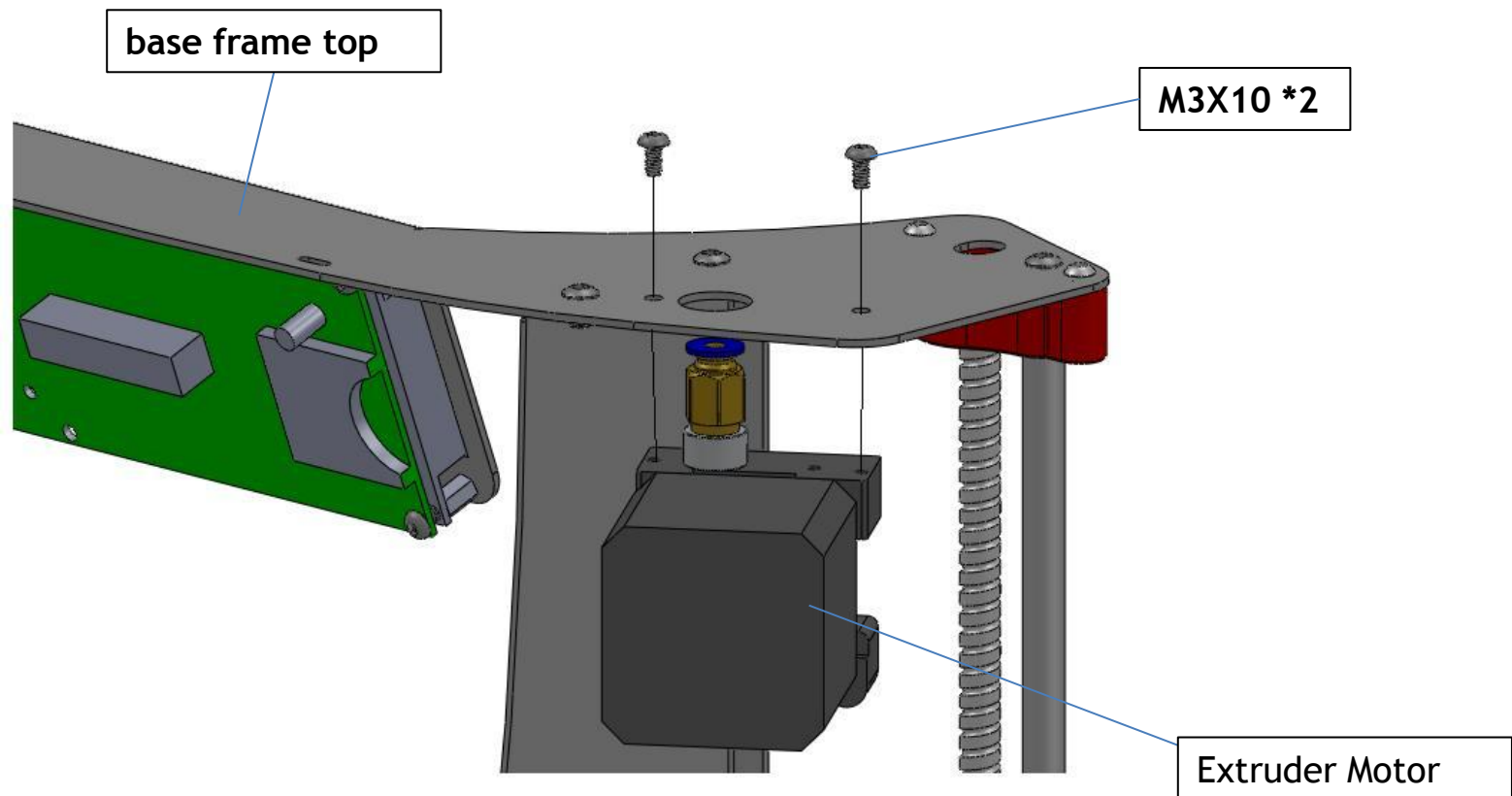


## ●Install control board



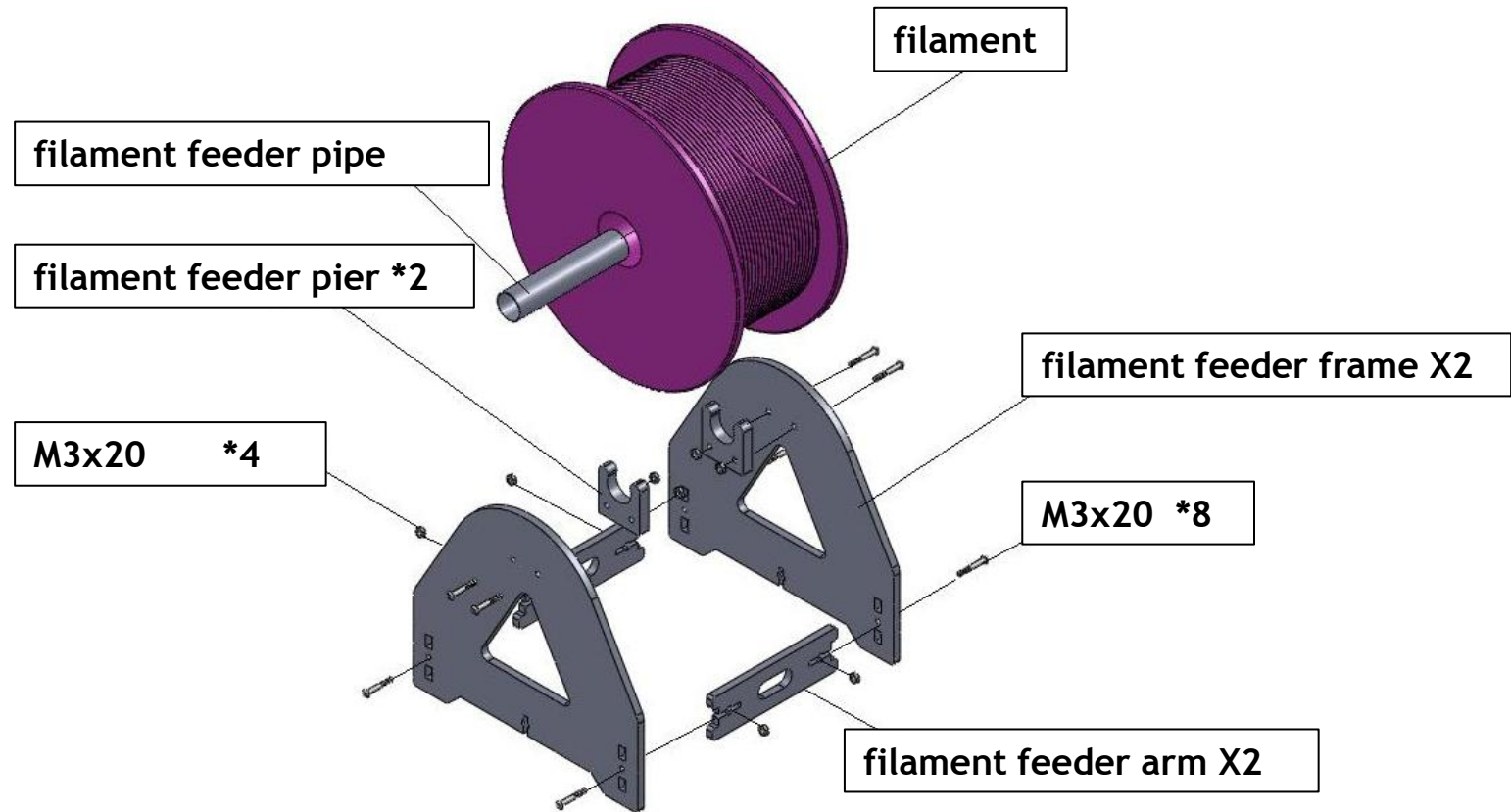


## ●Install Extruder Motor



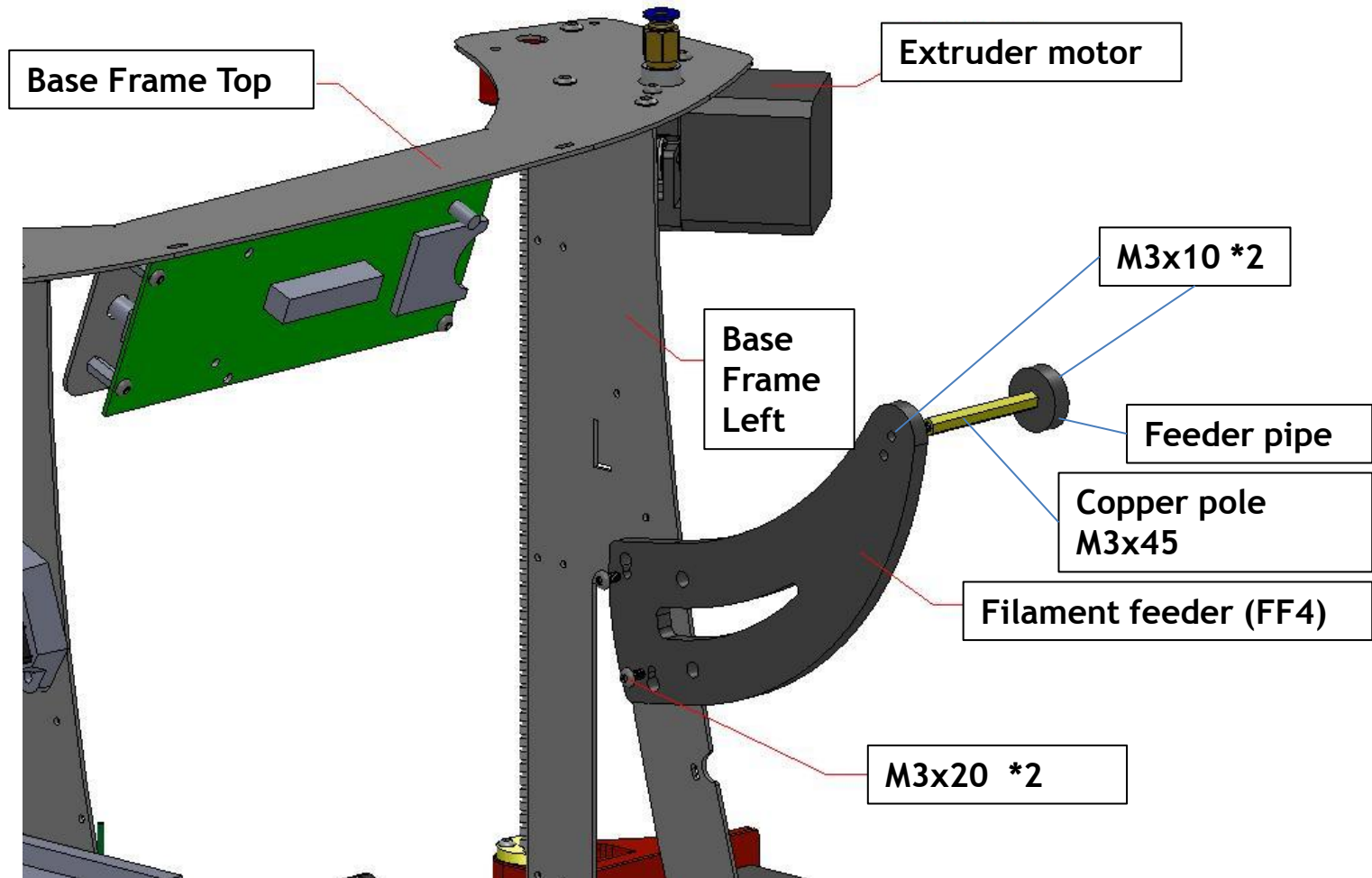
## ● Assemble Filament Feeder (FF3)

If there is one set **FF3** filament feeder in the parcel, please refer to the below picture to assemble it, otherwise please skip this step.



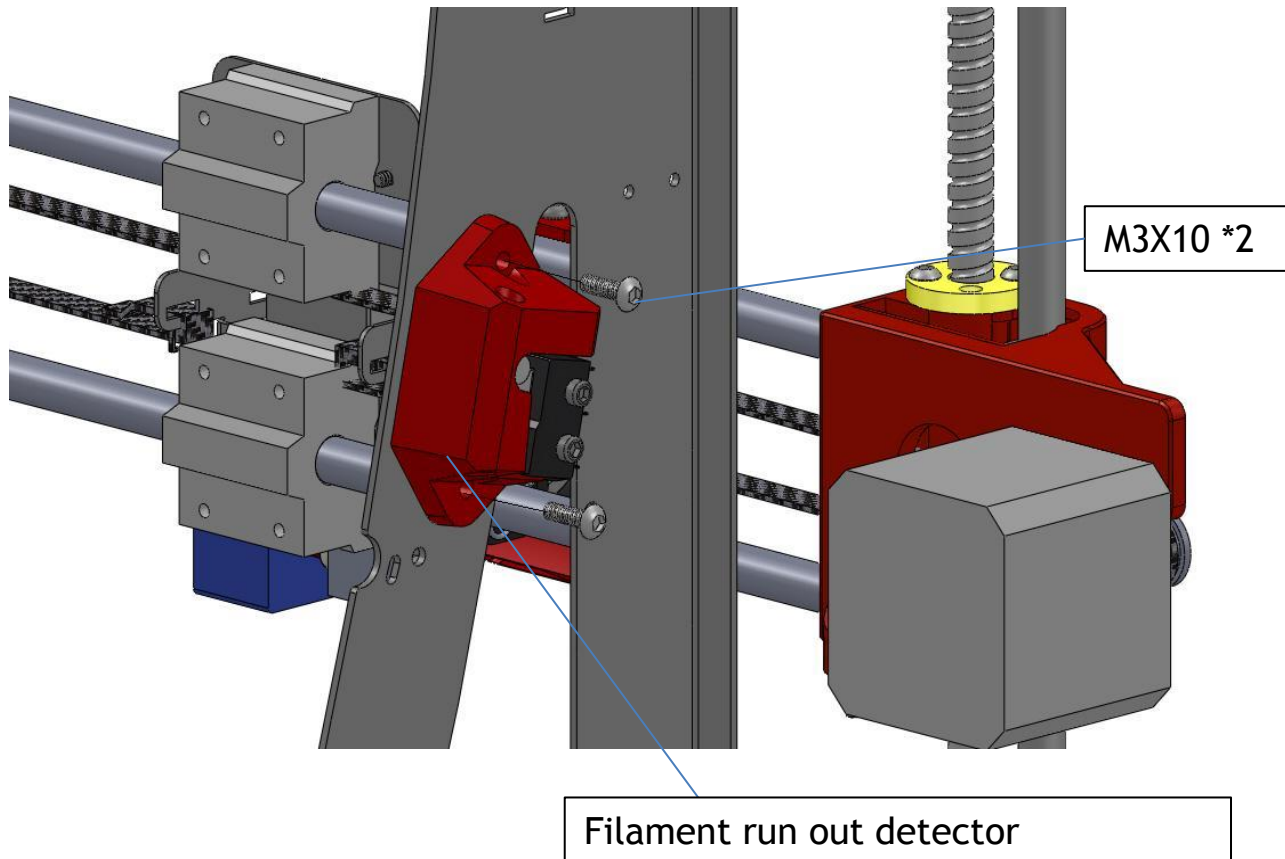
## ●Install Filament Feeder (FF4)

If there is one set **FF4** filament feeder in the parcel, please refer to the below picture to assemble it, otherwise please skip this step.



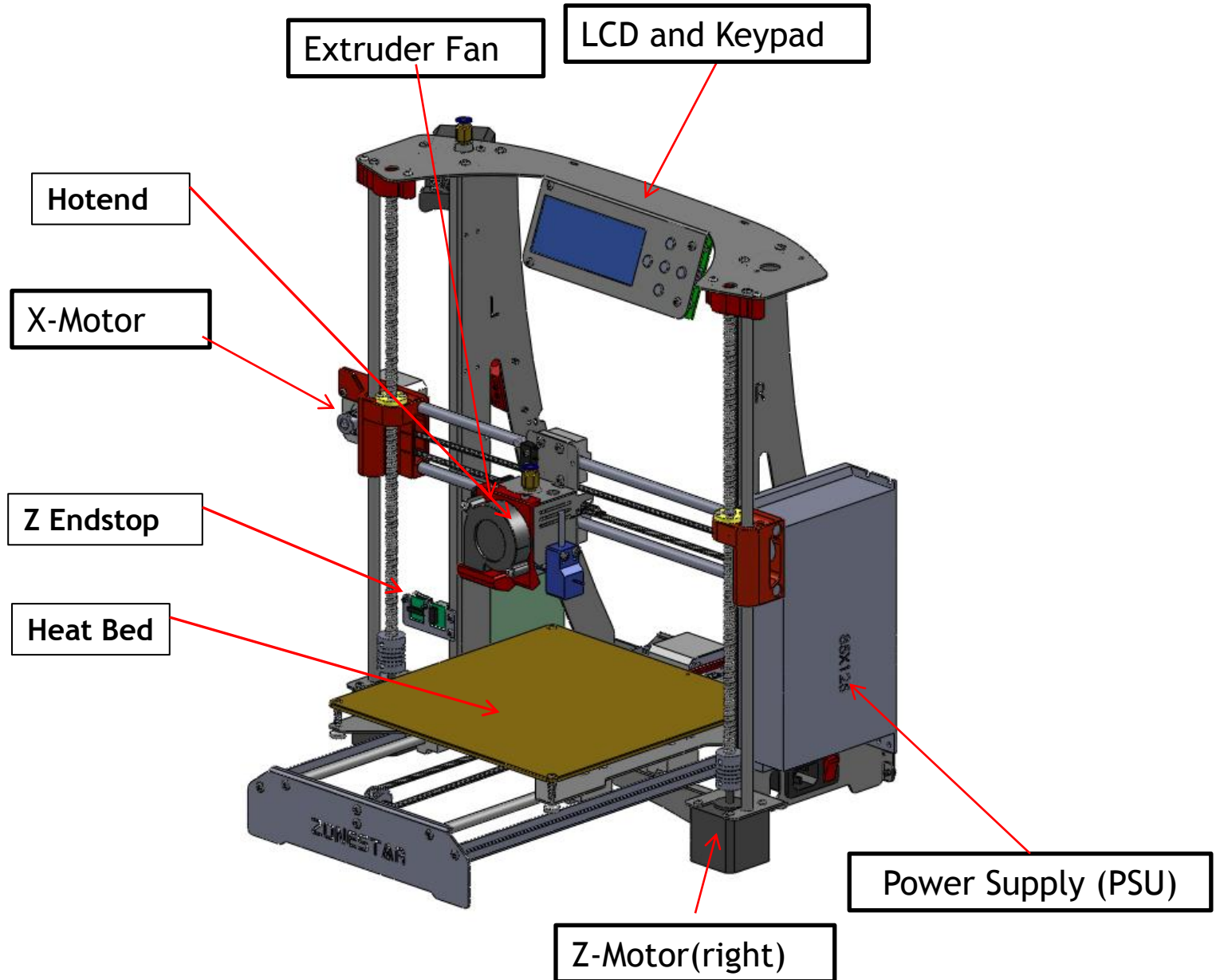
## ● Install Filament Run Out Detector

If there is one set *filament run out detector* in the parcel, please refer to the below picture to assemble it, otherwise please skip this step.

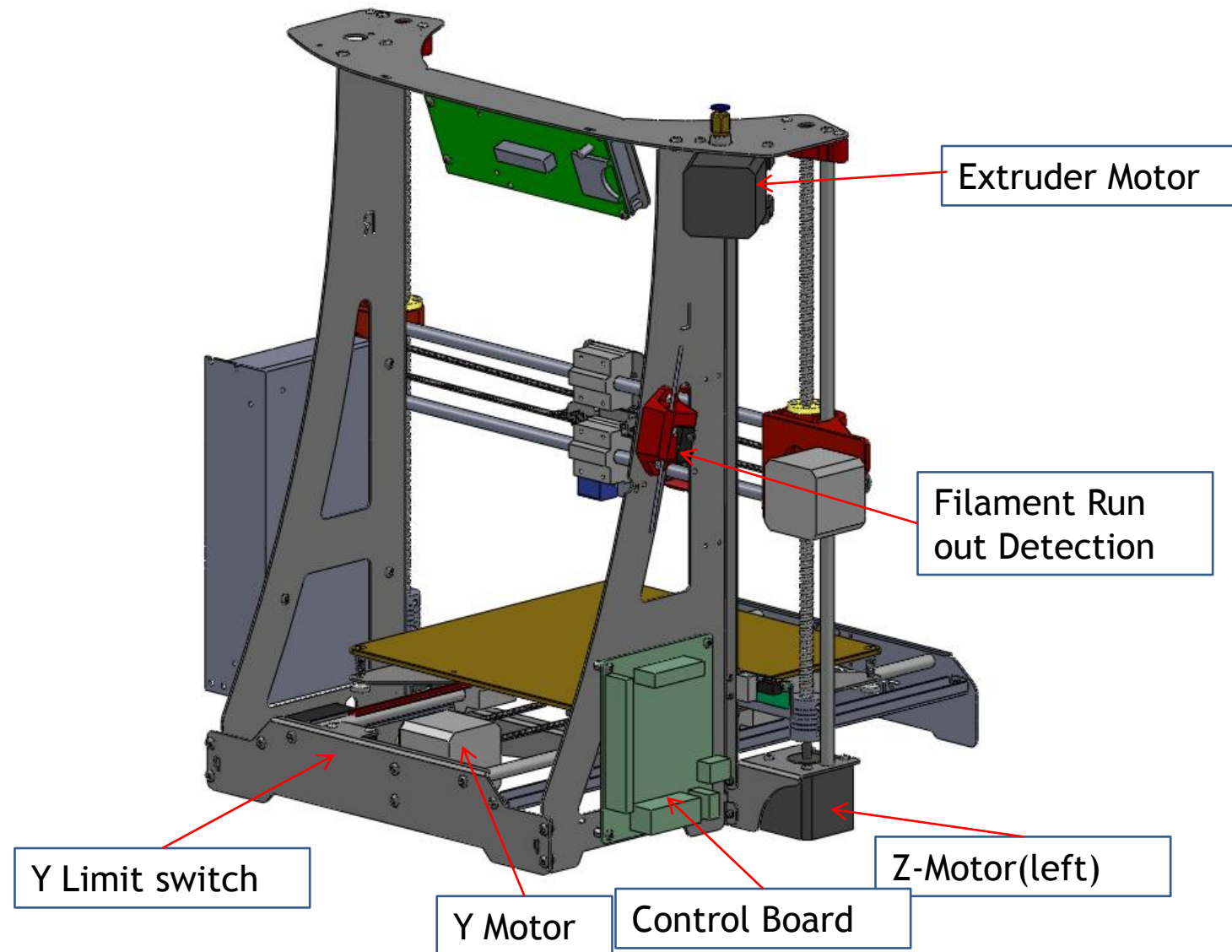


**Note:** Filament run out detector is optional.

# To know your printer



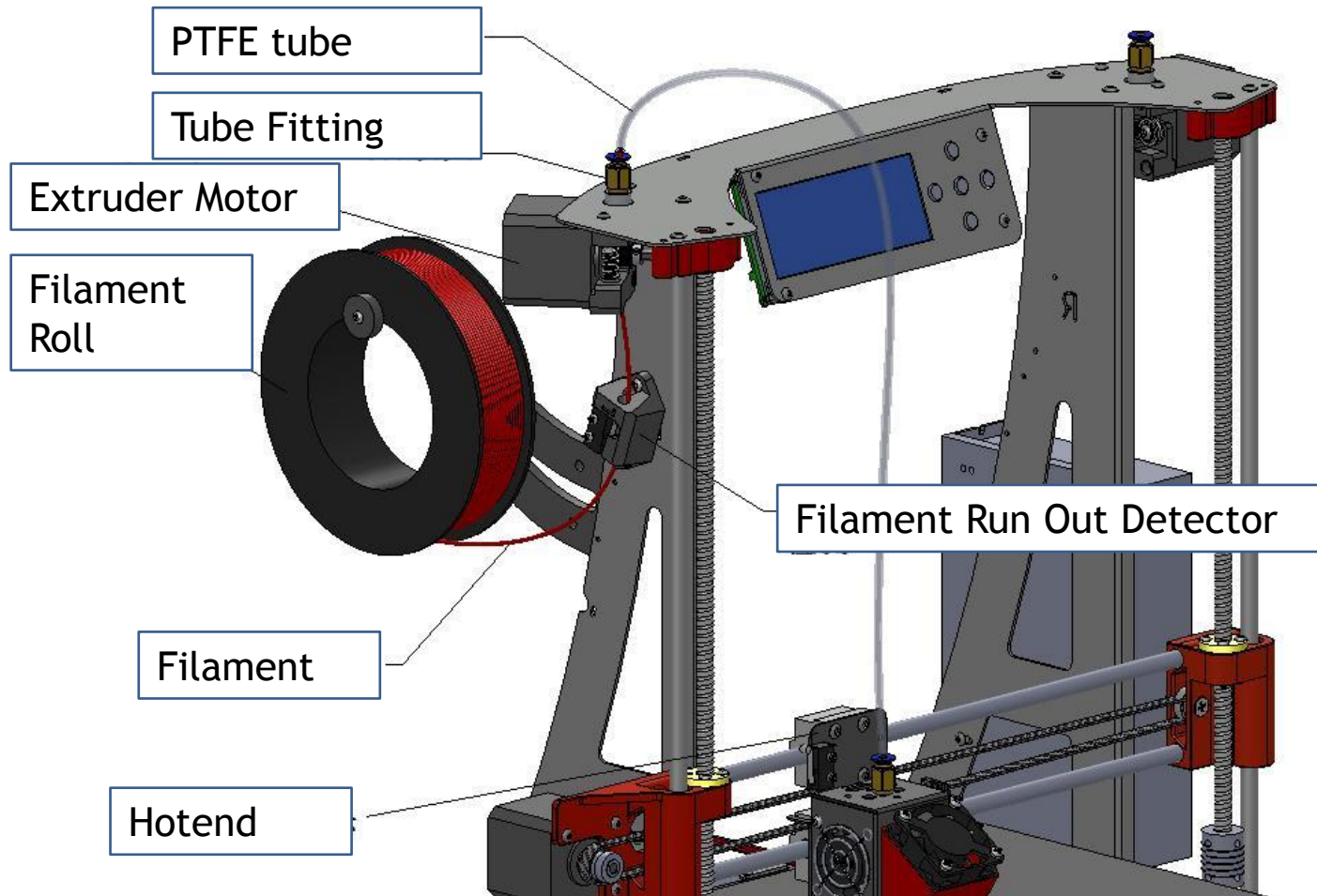
# To know your printer





## ●Install PTFE tube

Push the plastic ring on the **Tube Fitting** and then insert PTFE tube into fitting, to connect the extruder and hotend by PTFE tube.

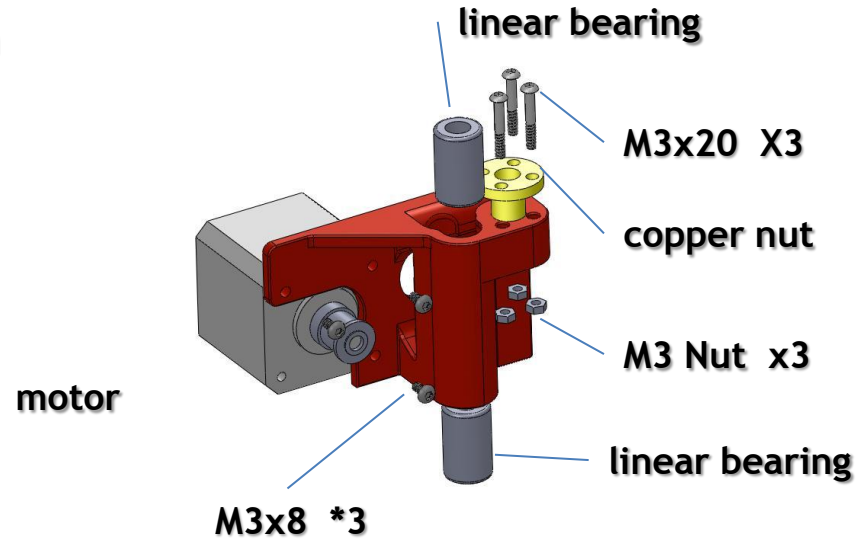
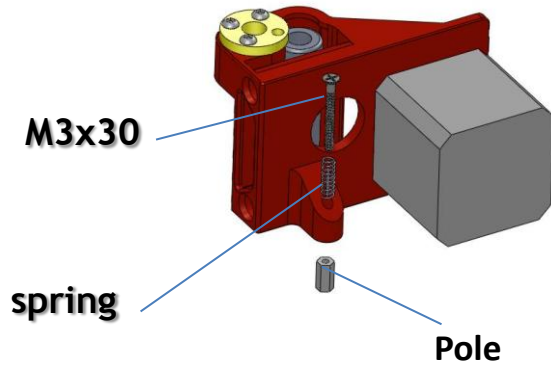




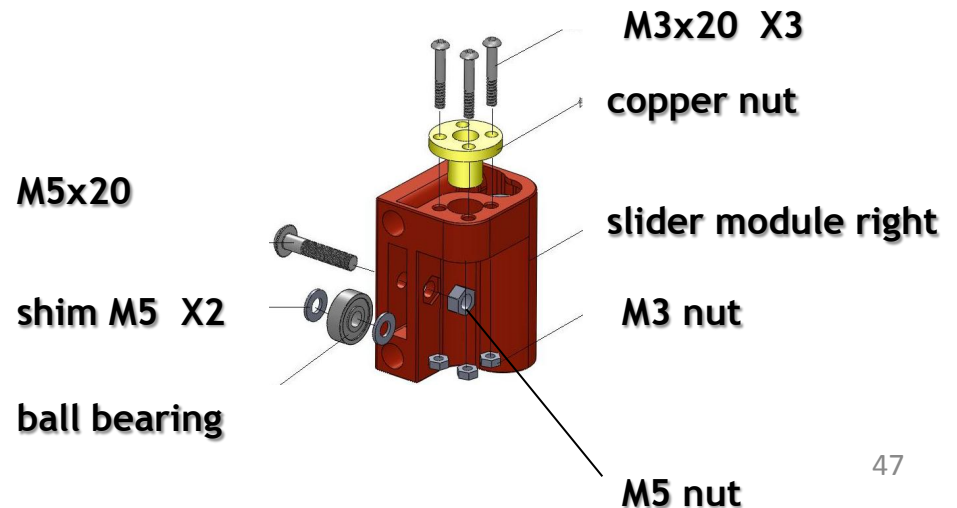
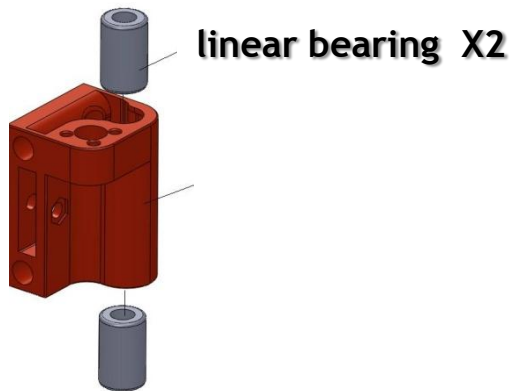
# Appendix I : Assemble slider module

## Slider module left

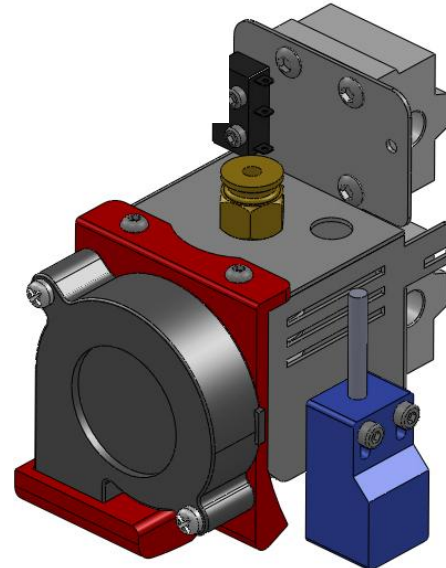
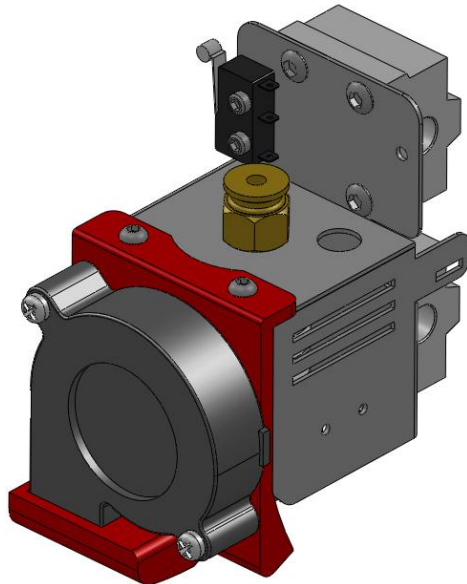
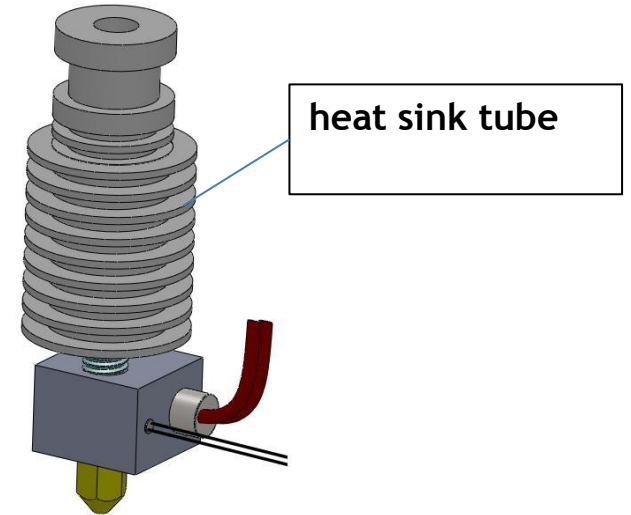
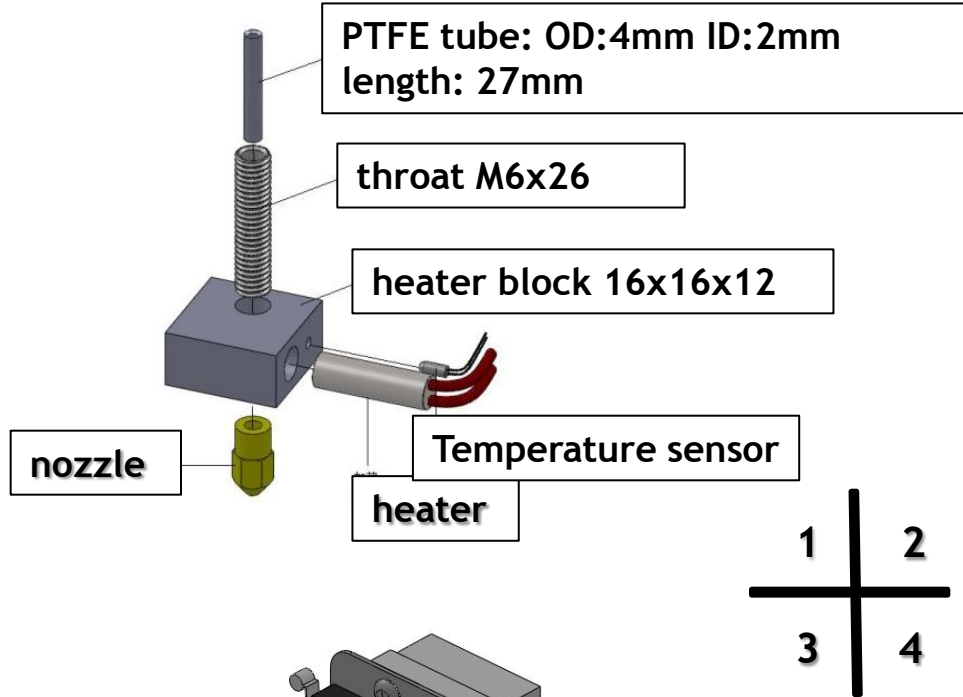
**Note:proper position that spring can produce compressive force.**



## Slider module right



## Appendix II : Assemble Hotend (HE2)



# Wiring Guide

- Attention.
- P802QS/P802QSU Wiring Diagram
- Power Supply Wiring
- Motor wire and How to change the direction of stepper motor
- How to adjust the current of motor



Wiring Guide

Video Totorial Link: <https://youtu.be/4i7aiA3zrBU>

# **!Attention!**



*The picture in this file may not match the actual machine, just for reference only.*



*Take care when installation, to avoid electrical shock hazards!*

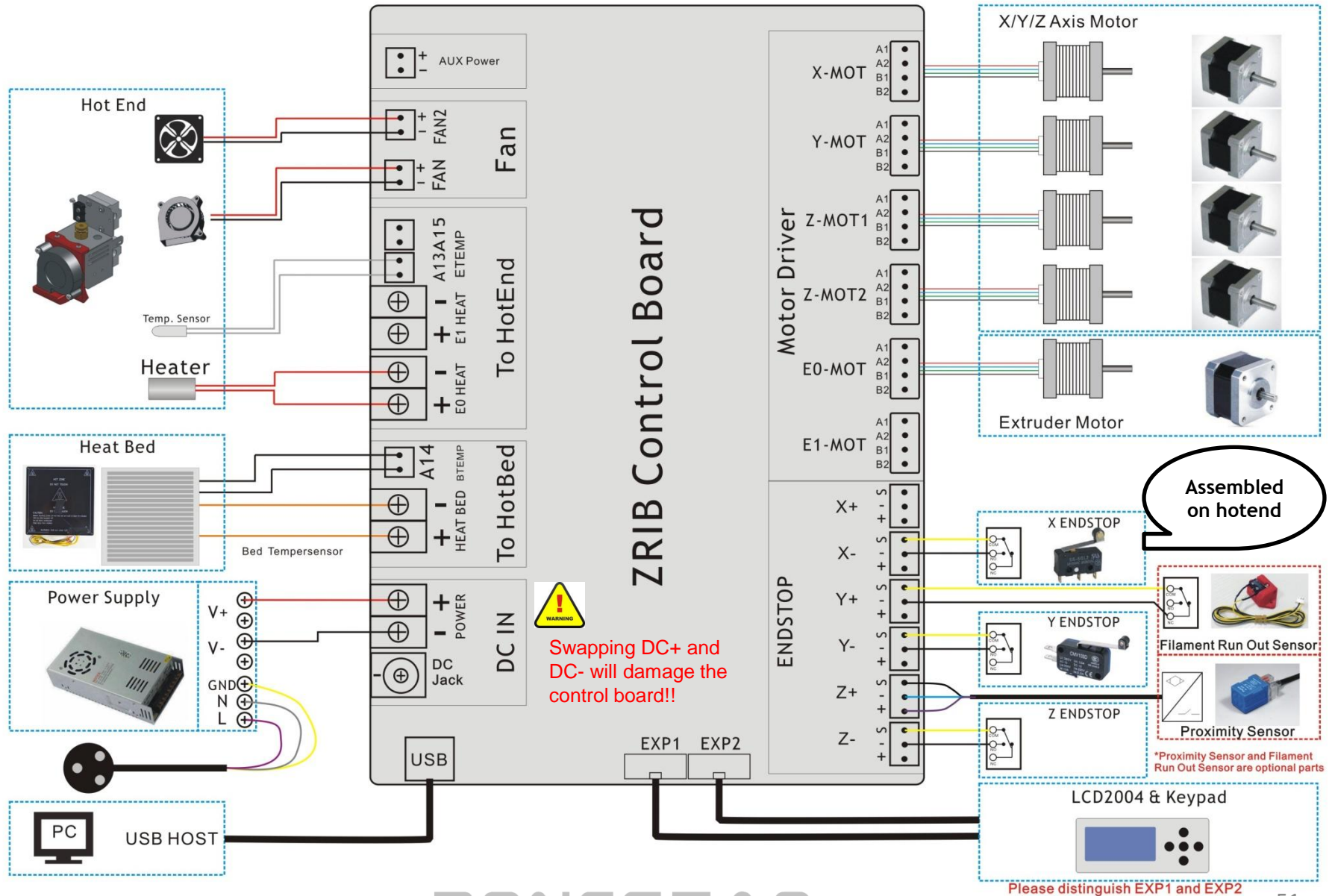


*Once the connection is completed, please confirm again.  
**WRONG WIRING MAY DAMAGED THE ELECTRONIC DEVICE!***



*Operating current of some parts of are larger, please make sure the contact is good .*

# P802Q/P802QSU Wiring Diagram



# Power Supply Wiring

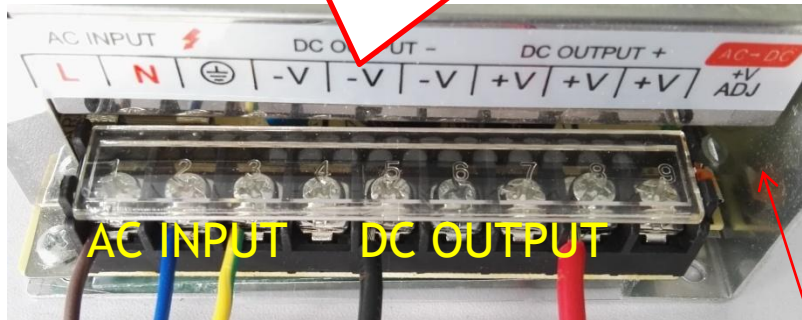


The voltage of power supply is different depending on the country. Before wiring, please make sure this setting is right.



AC power L, N, G must be correctly distinguished, or may endanger personal safety !

Note:  
“V-” may be marked “COM”!



AC Power Cord Color:  
Yellow: GROUND  
Blue (or Grey): N  
Brown (or Orange): L

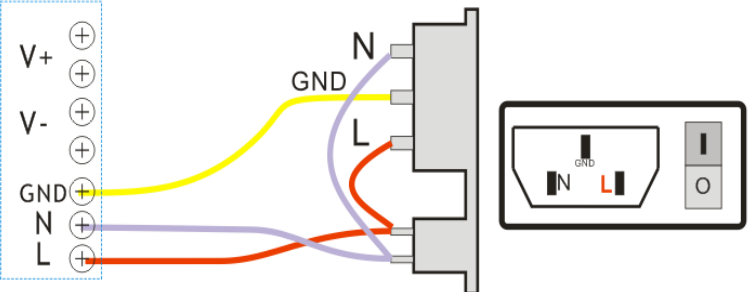
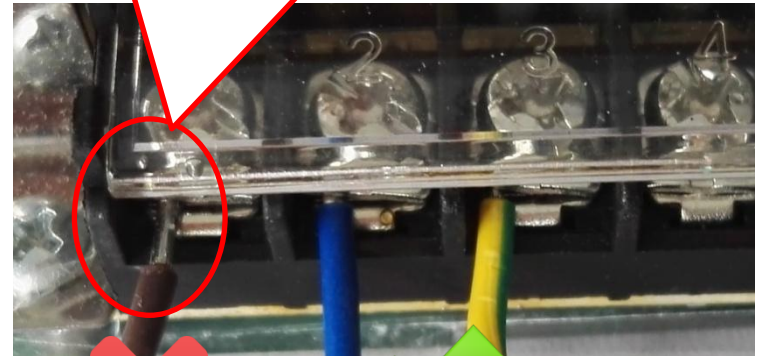
To Control Board DC-  
To control board DC+

LED

Connect AC Power Connector  
(Optional)



Attention!  
Exposure wire is dangerous!

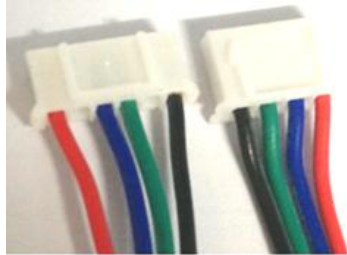




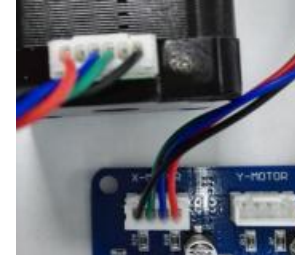
# Motor wire and How to change the direction of Stepper motor

Default motor wire sequence as below, please check before connect.

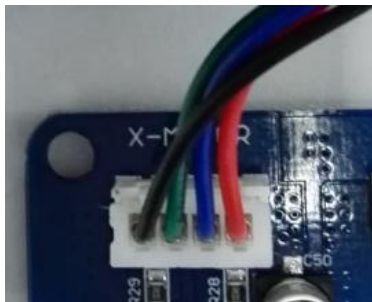
Motor wire  
color and  
sequence



Motor wire color  
connect to control  
board and motor



exchange the sequence of the motor line, the motor direction will be reversed



1. use tweezers pull out  
joint from connector

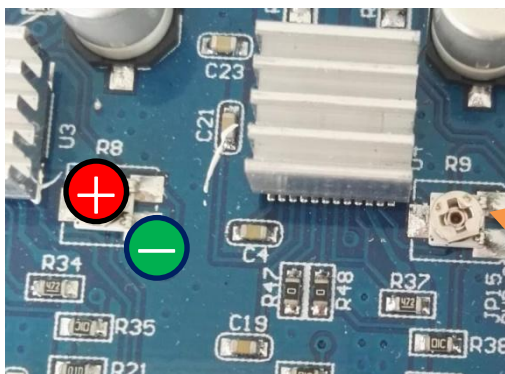
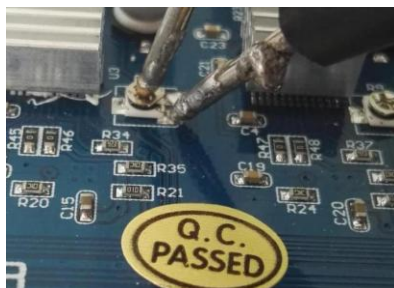
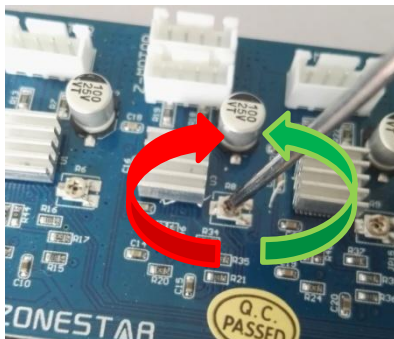
2. pull out the wire

3. insert joint to connector





# How to adjust the current of motor



1. Rotate the potentiometer using a screwdriver, clockwise rotating the potentiometer will increase the VREF, otherwise the VREF will be decreased.

2. Use a voltage meter to measure the value of Vref

3.  $I_{\text{motor}} = V_{\text{ref}} \times 1.25 \text{ (A)}$

e.g. if the Vref = 1V, the current will be 1.25A

4. Recommended value:

X motor  $I = 1 \sim 1.2\text{A}$   $V_{\text{ref}} = 0.8 \sim 1\text{V}$

Y motor  $I = 1 \sim 1.2\text{A}$   $V_{\text{ref}} = 0.8 \sim 1\text{V}$

Z motor  $I = 1 \sim 1.2\text{A}$   $V_{\text{ref}} = 0.8 \sim 1\text{V}$

E motor  $I = 1.2 \sim 1.5\text{A}$   $V_{\text{ref}} = 1 \sim 1.2\text{V}$

5. If you haven't multi-meter, plz see the angle of the VR, this angle is about 1V

We have adjust the current when the control board leave factory, usually you don't need to adjust it again.

## ●Level the heatbed

Refer to the below video to level the heat bed.

Video Tutorial Link: <https://youtu.be/QWsYR8NIGpc>



P802 Bed Level

# Congratulations!