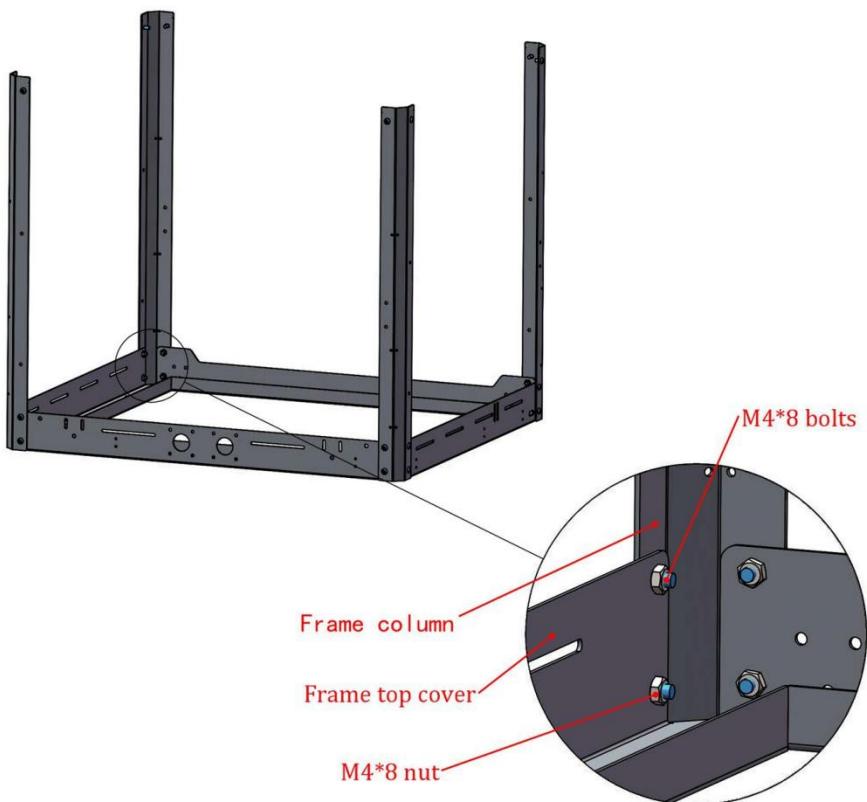


Flyingbear-Tornado Installation Manual

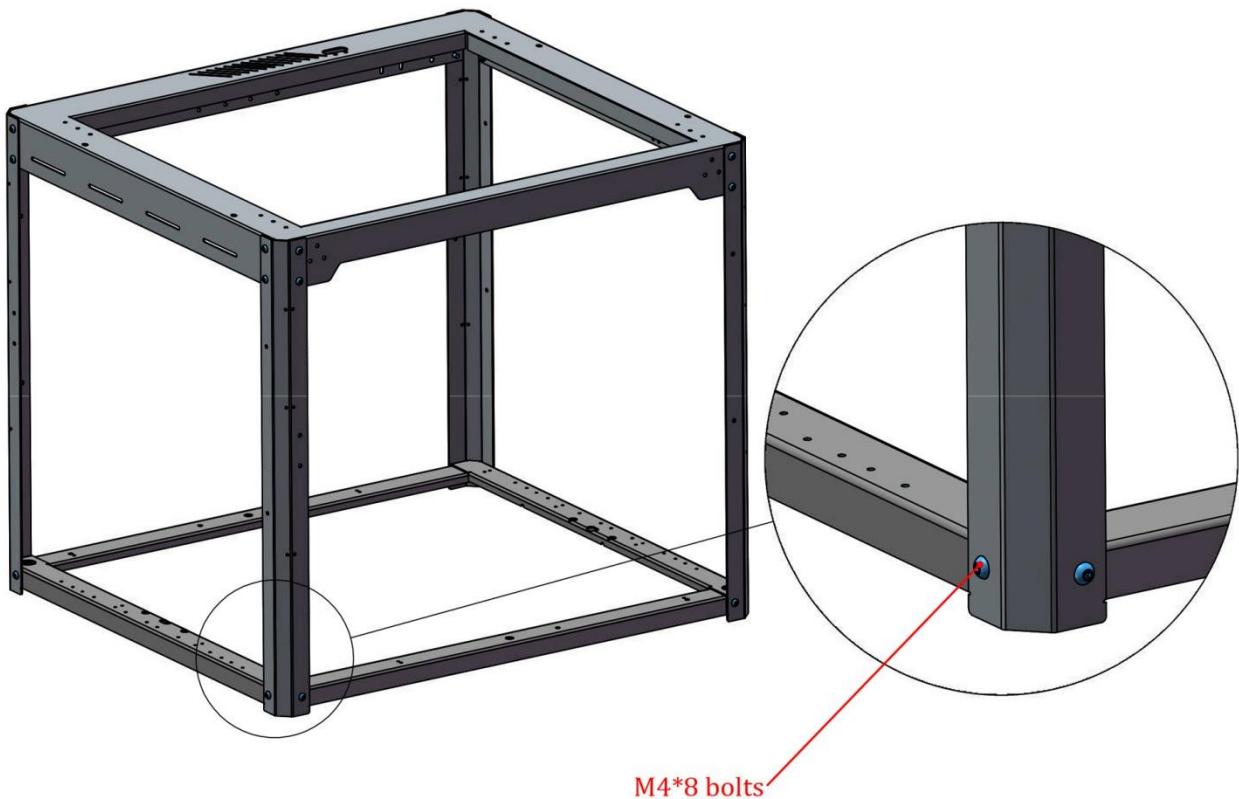
1.Frame installation-----	1
2.Driving wheel and idler wheel installation-----	2
3.Y-liner guide rail installation-----	3
4.X-linerguider rail installation-----	5
5.Z-hot bed installation-----	10
6.LCD and other parts installation-----	13
7.Power installation-----	15
8.Synchronous belt installtion-----	16
9.Nozzle and tank chain-----	17
10.Extruder installation-----	18
11.Auto leveling installation(only if you have TL touch option)-----	19
12.Wring diagram-----	20
13.Setting up slicing software-----	21
14.Setting auto leveling sensor-----	23
15.First print model-----	24

1. Frame installation

Step 1 -----

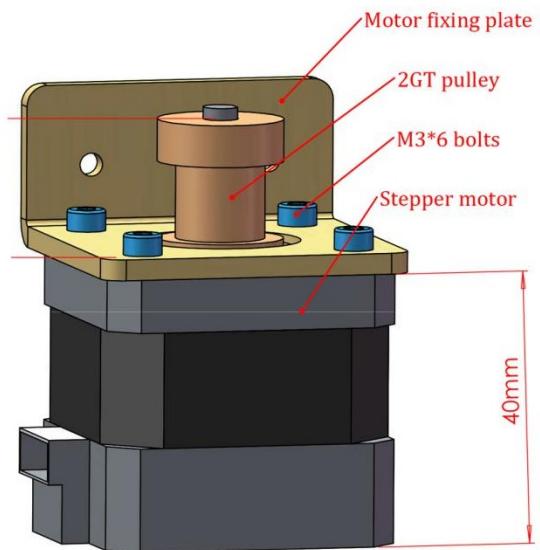
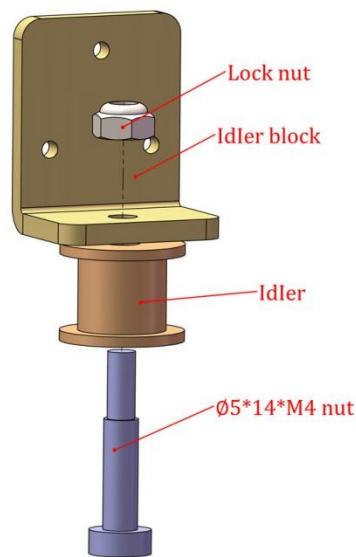


Step 2 -----

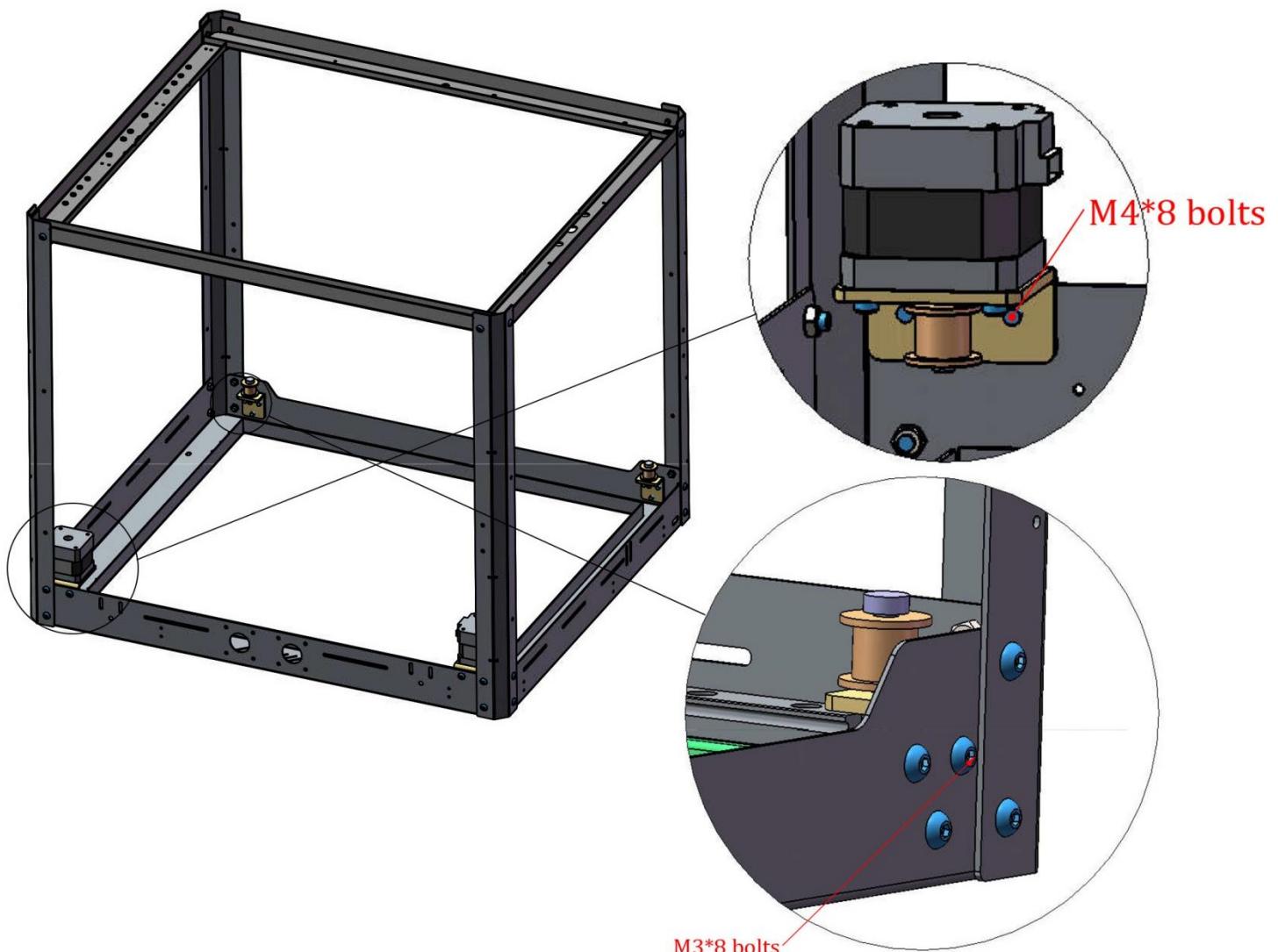


2. Driving wheel and idler wheel installation

Step 1 -----

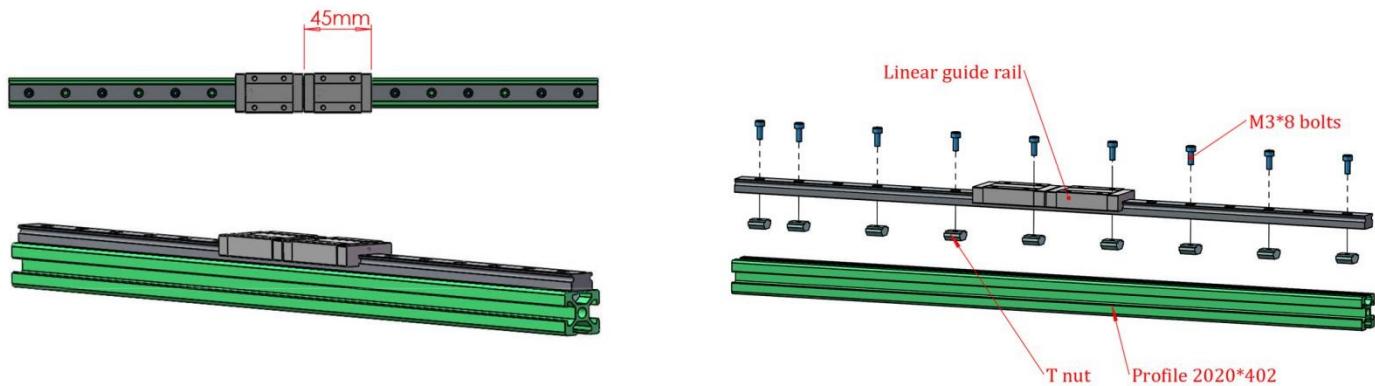


Step 2 -----

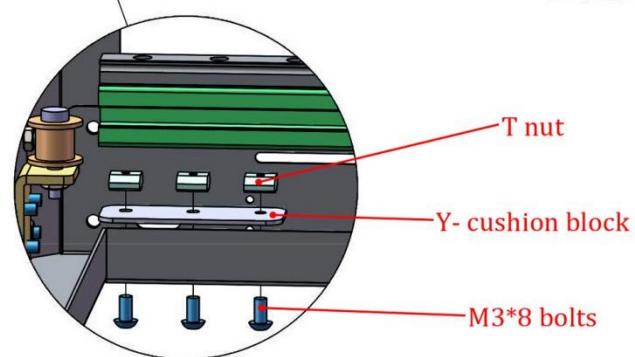
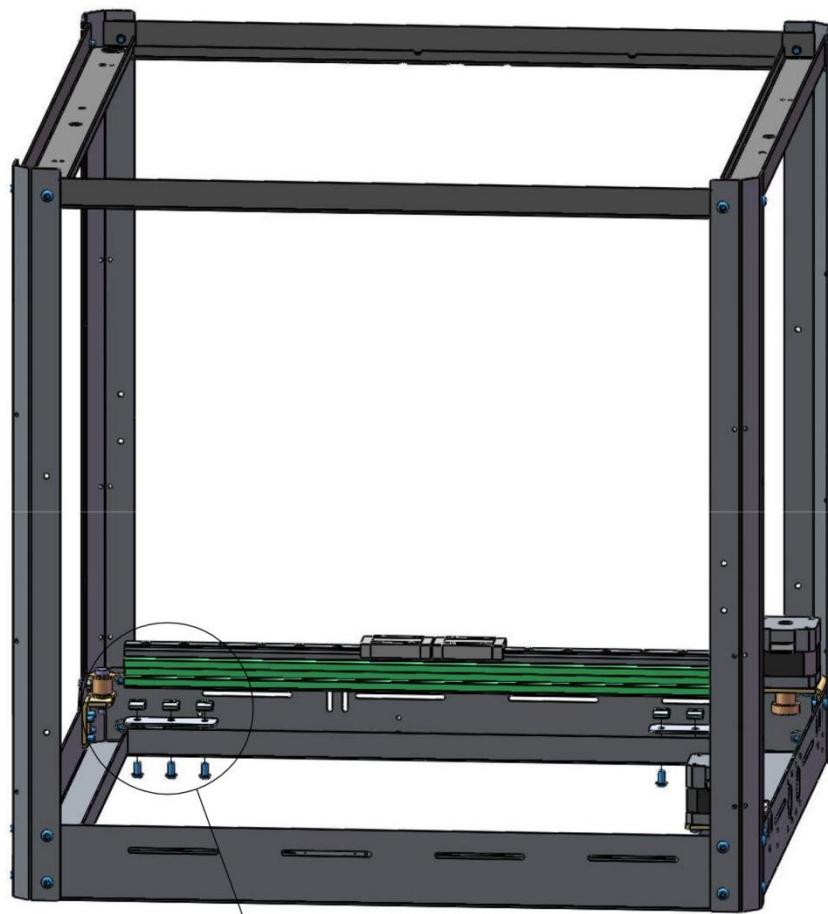


3、Y-linear guide rail Installation

Step 1 -----

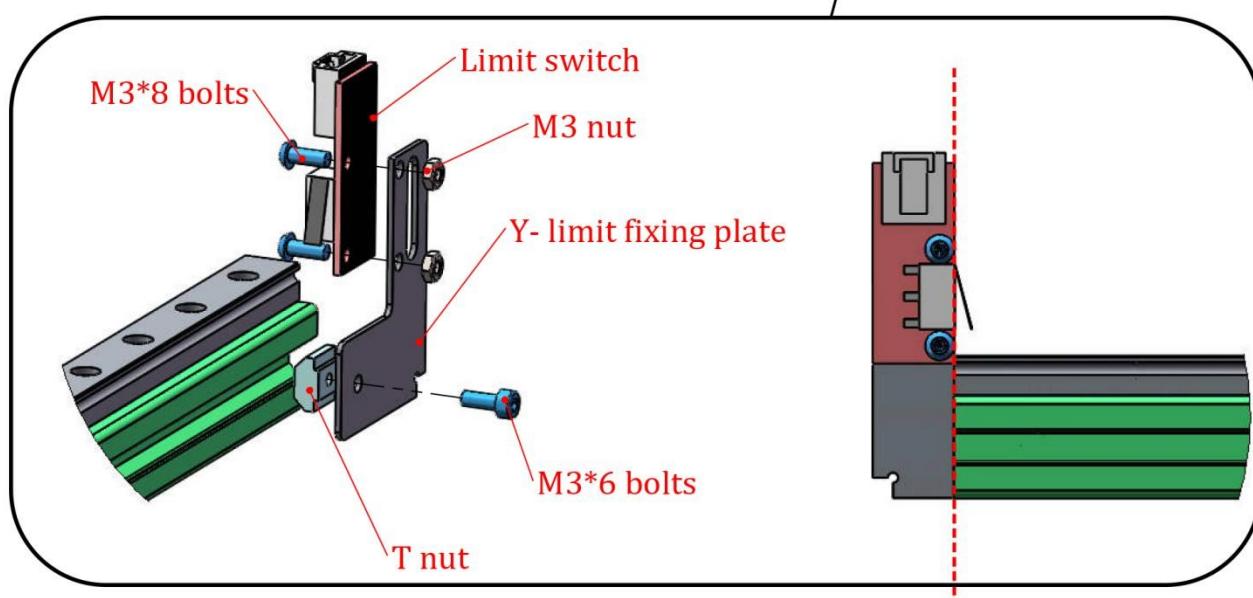
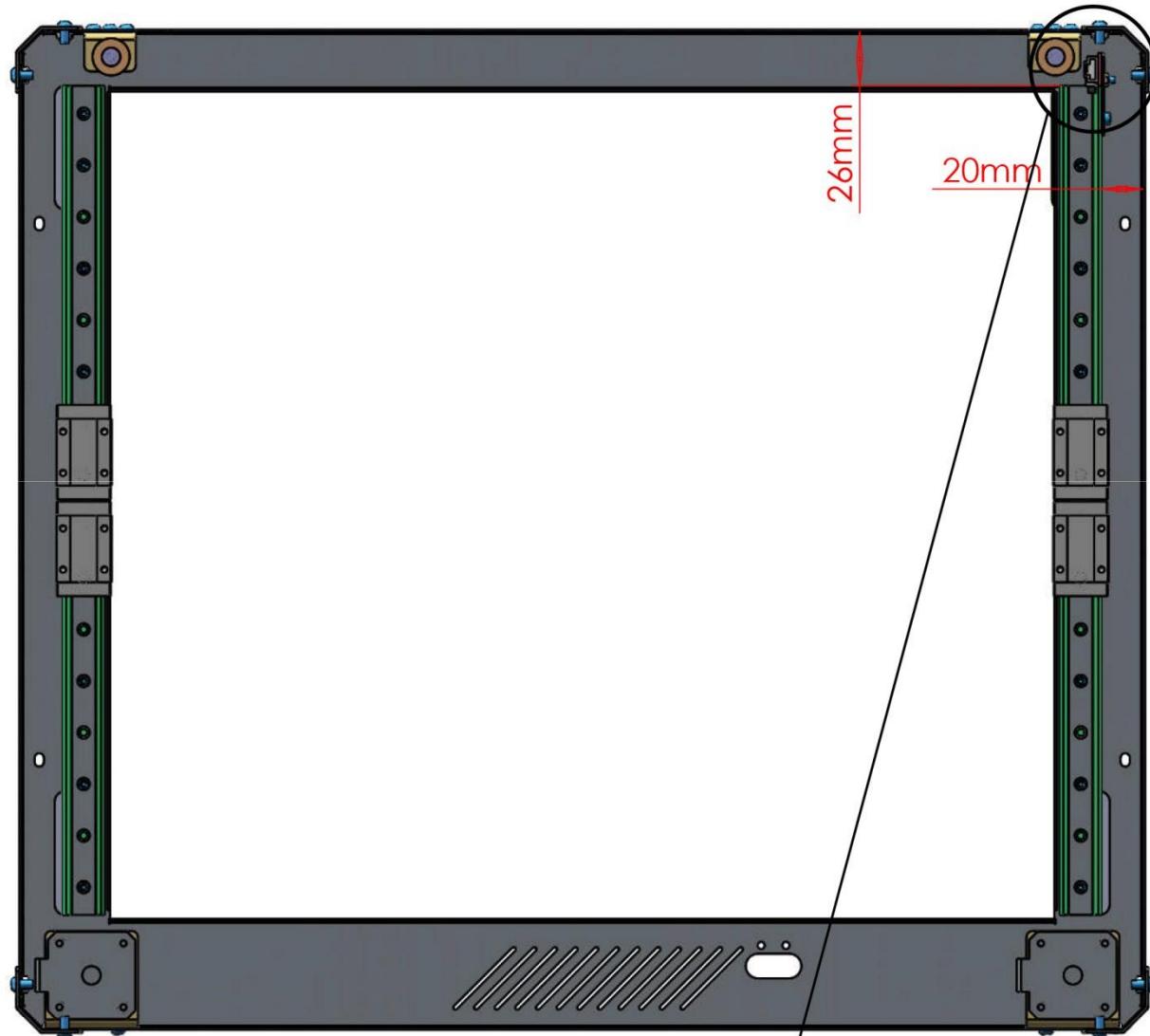


Step 2 -----



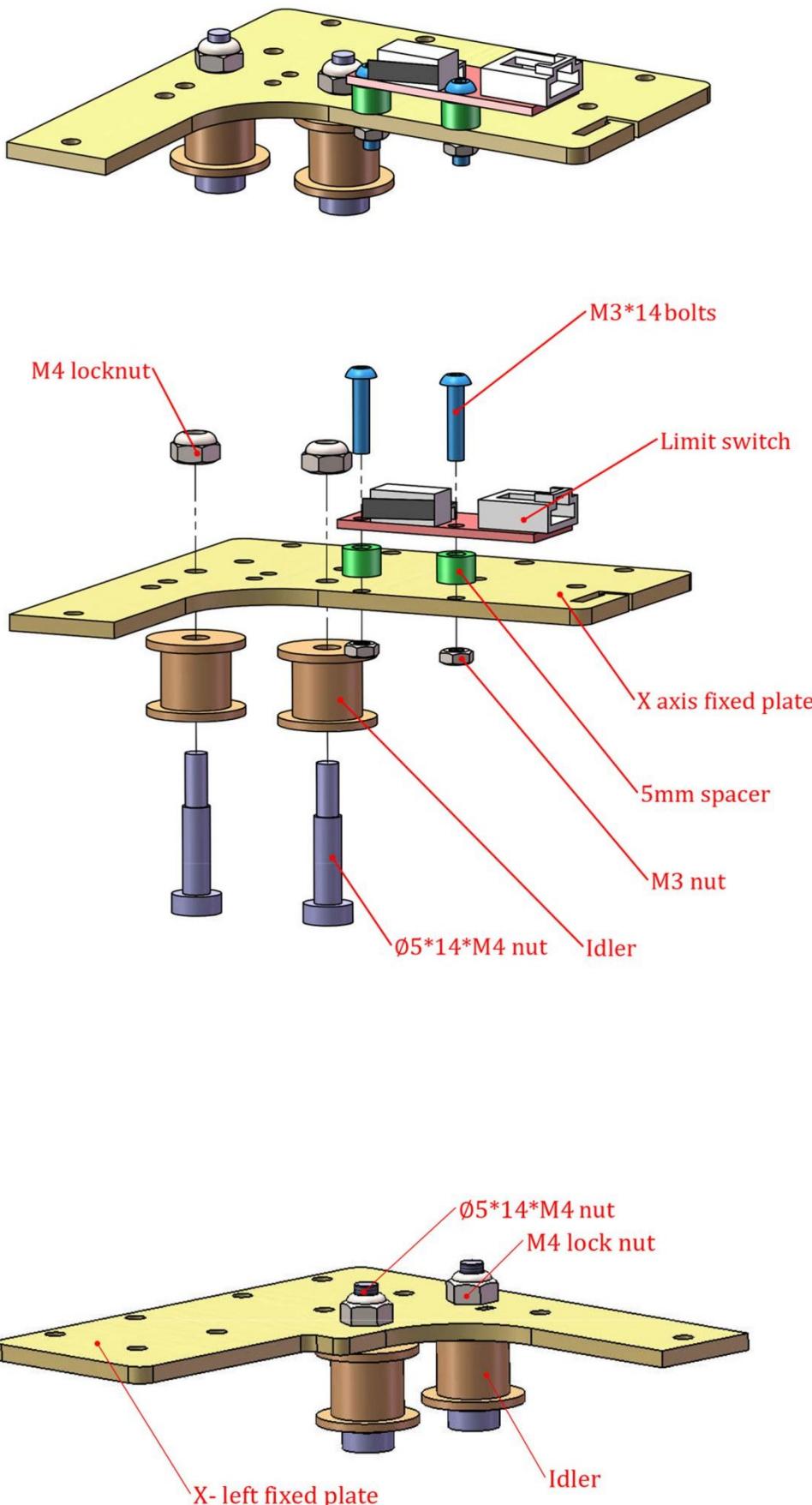
3、Y- linear guide rail Installation

Step 3 -----



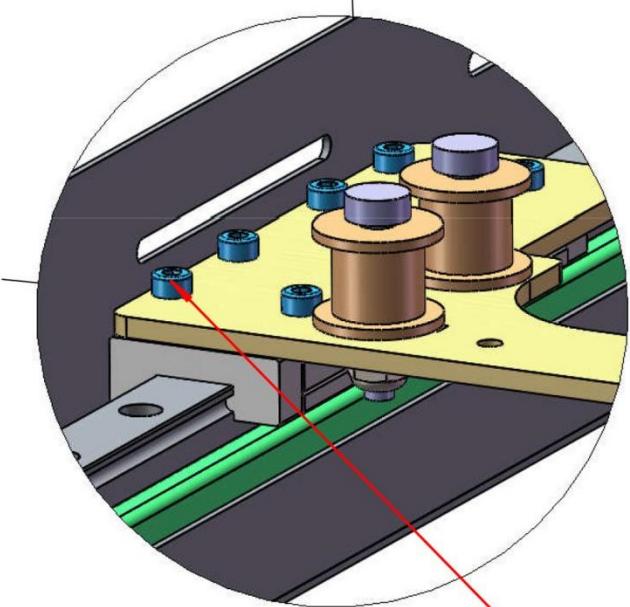
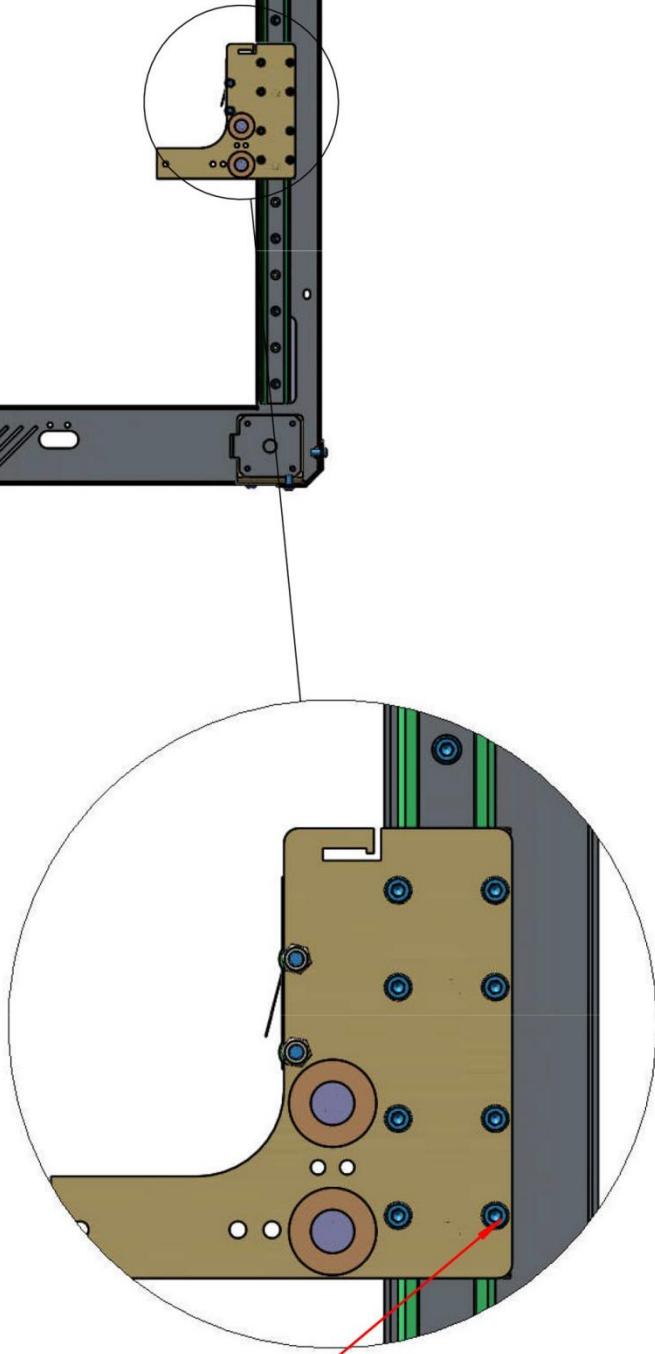
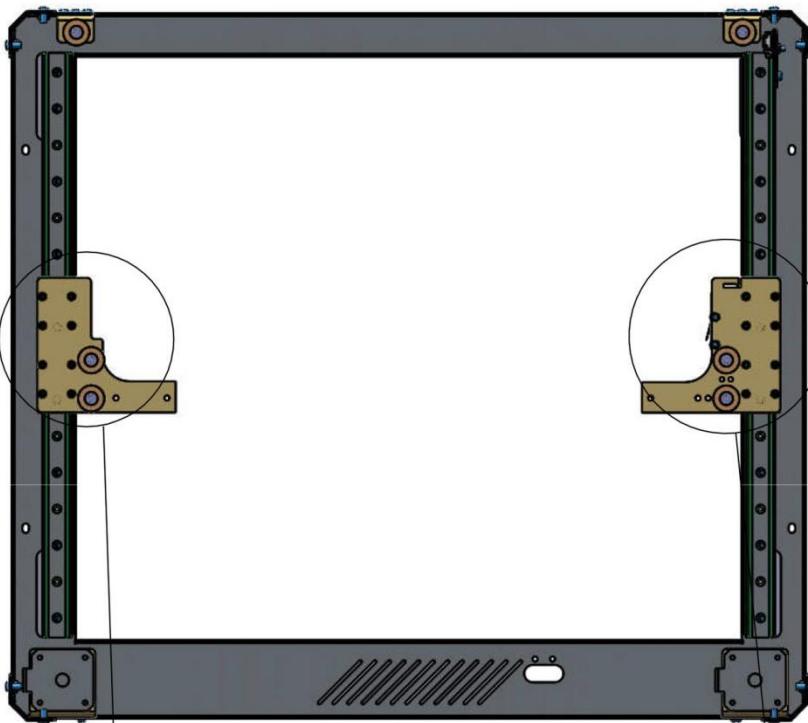
4、X- linear guide rail Installation

Step 1 -----



4. X- linear guide rail Installation

Step 2 -----



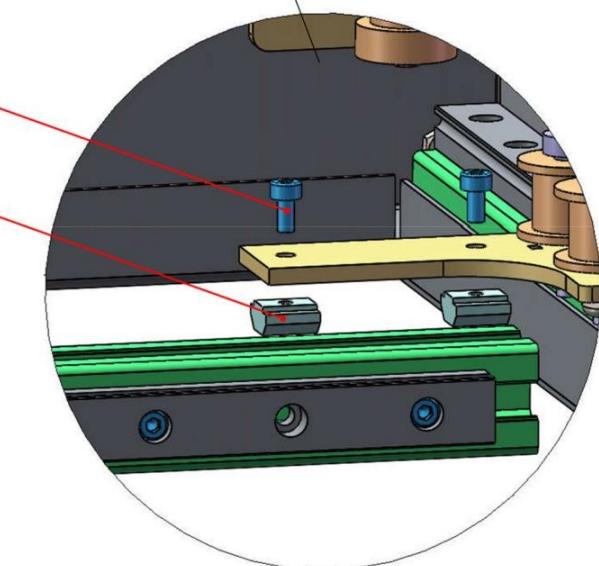
M4*6 bolts M3*6 bolts

4. X-linear guide rail Installation

Step 3 -----

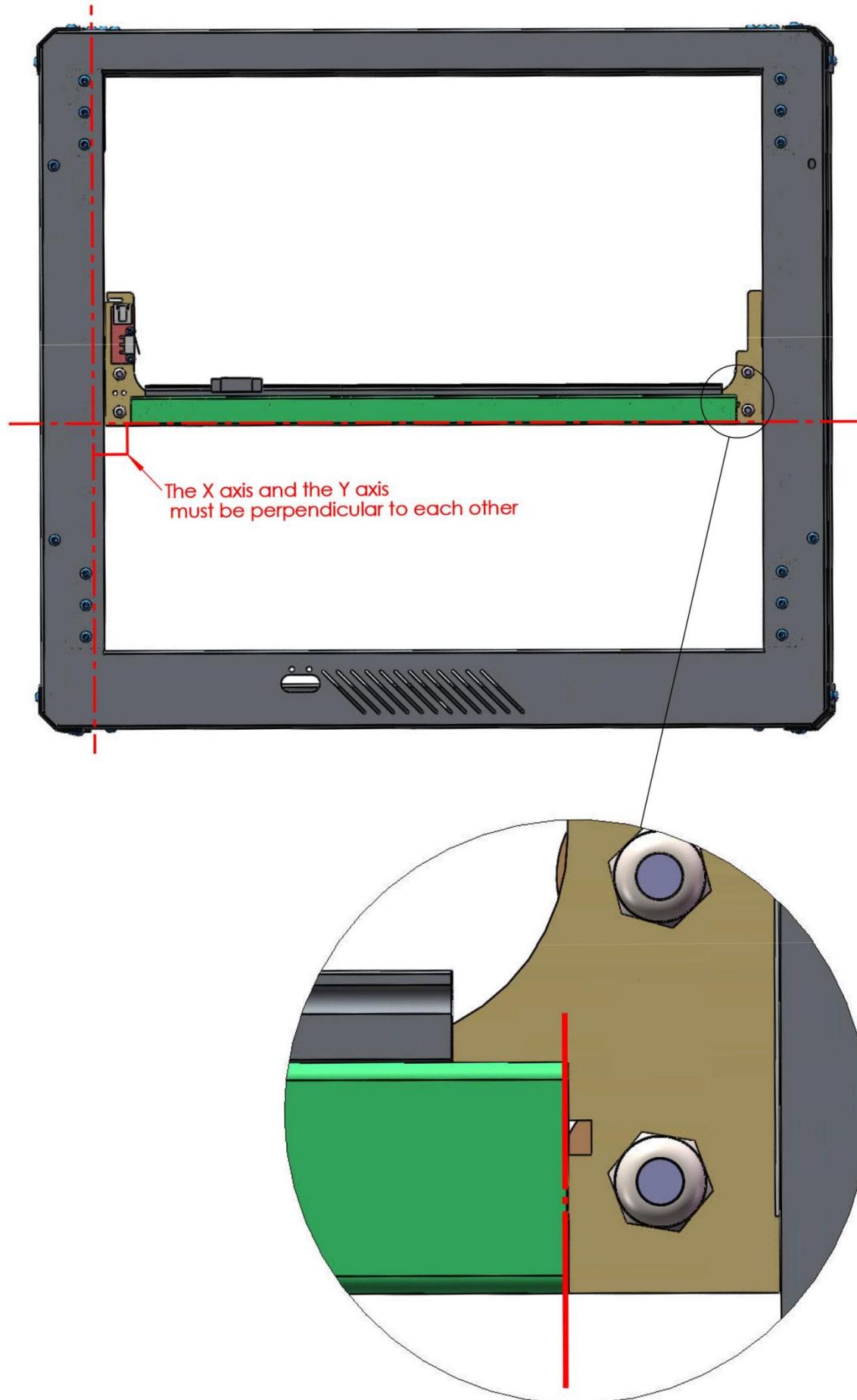


Step 4 -----



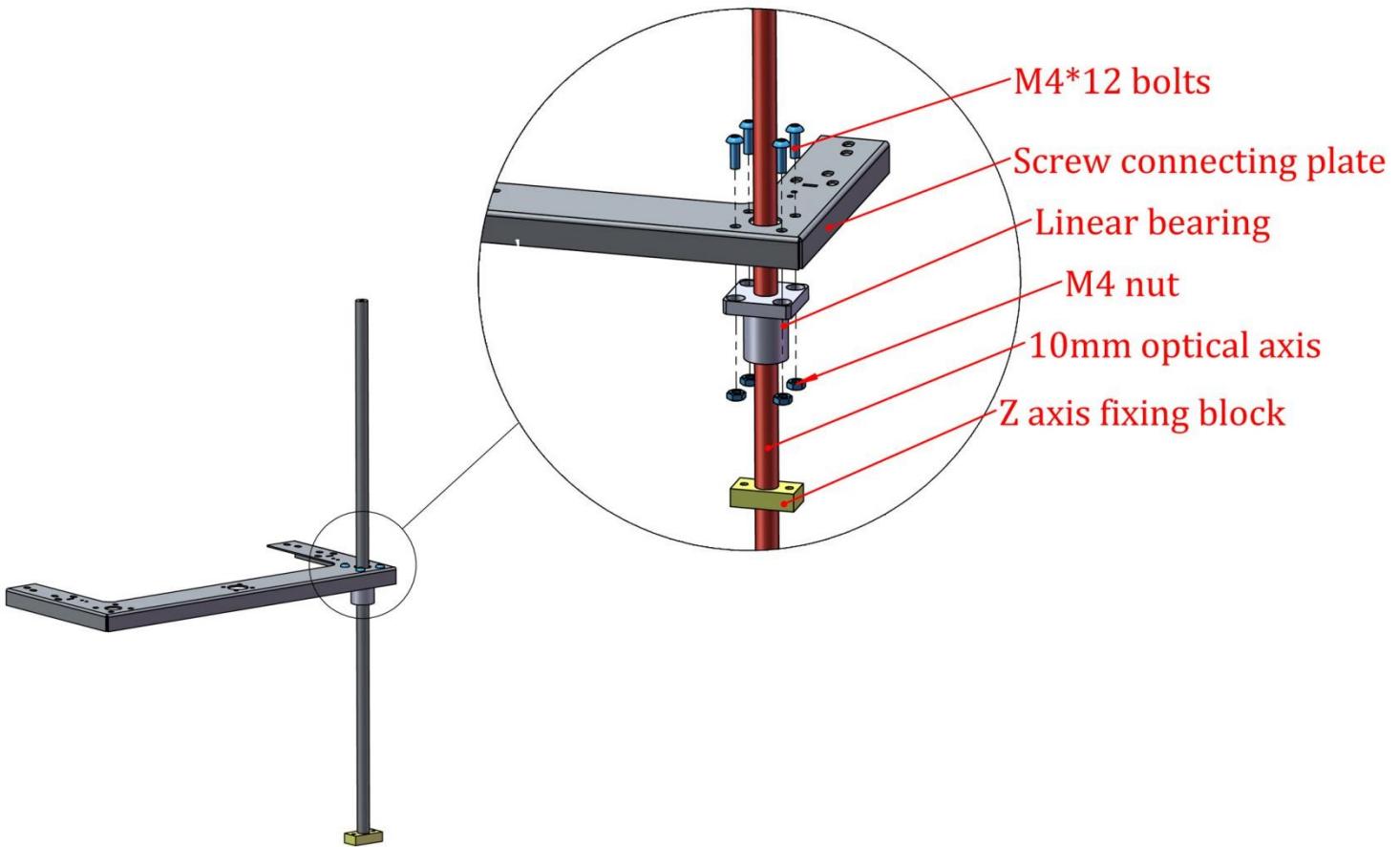
4. X- linear guide rail Installation

Step 5 -----

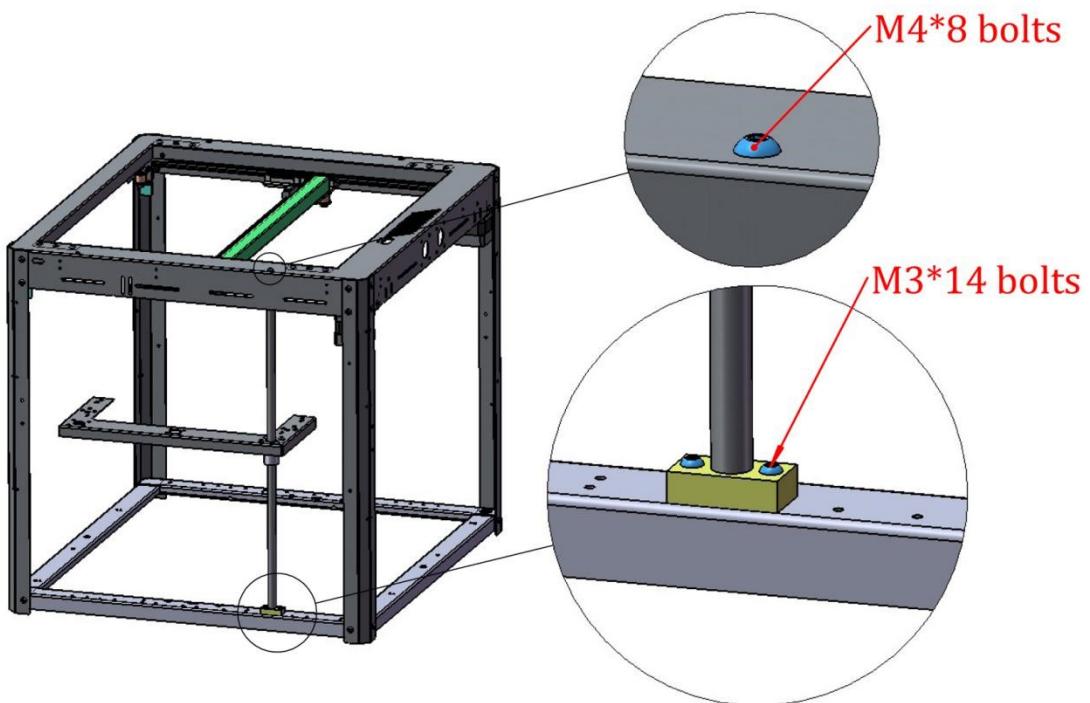


5、Z hot bed installation

Step 1 -----



Step 2 -----

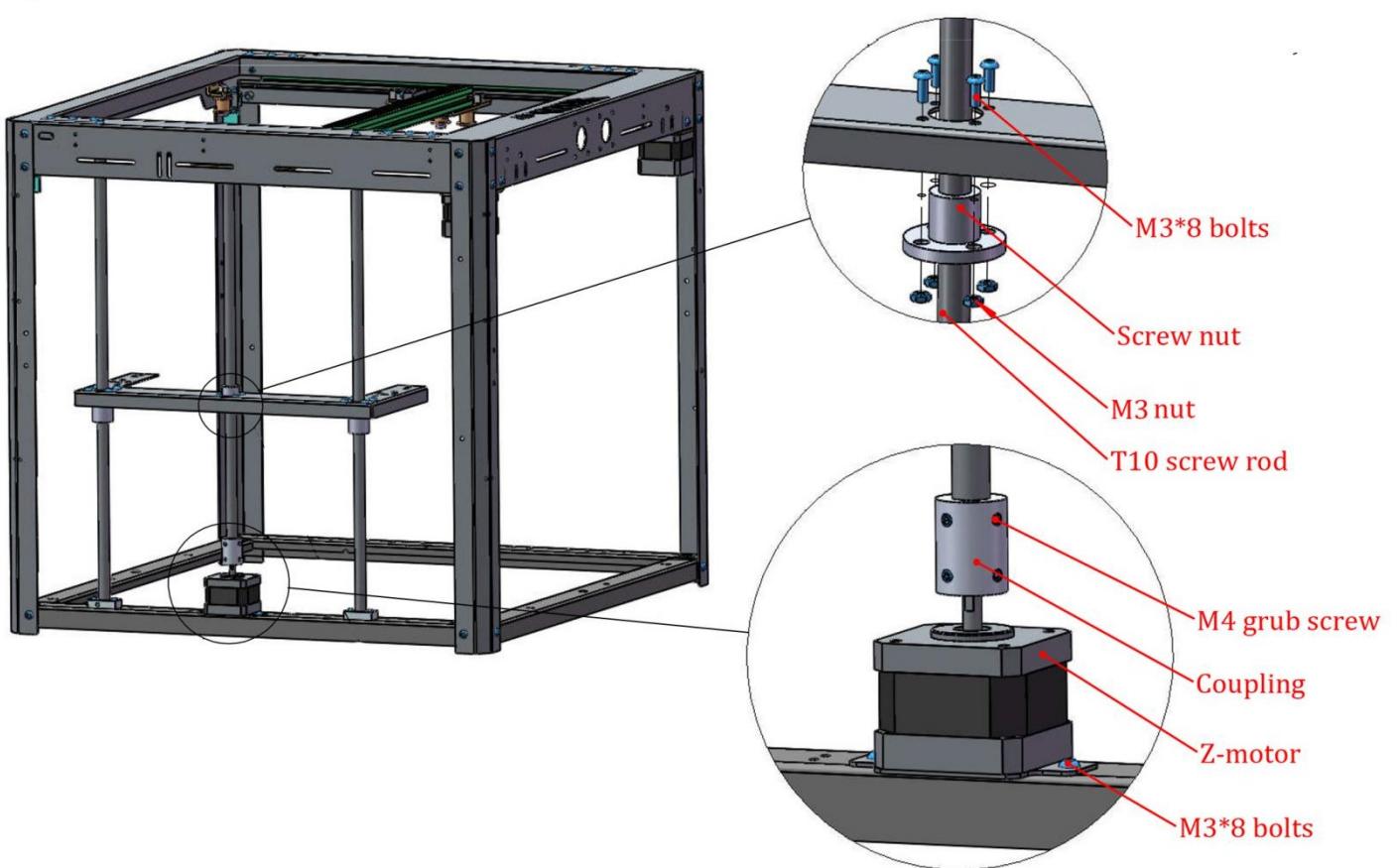


5、Z hot bed installation

Step 3 -----

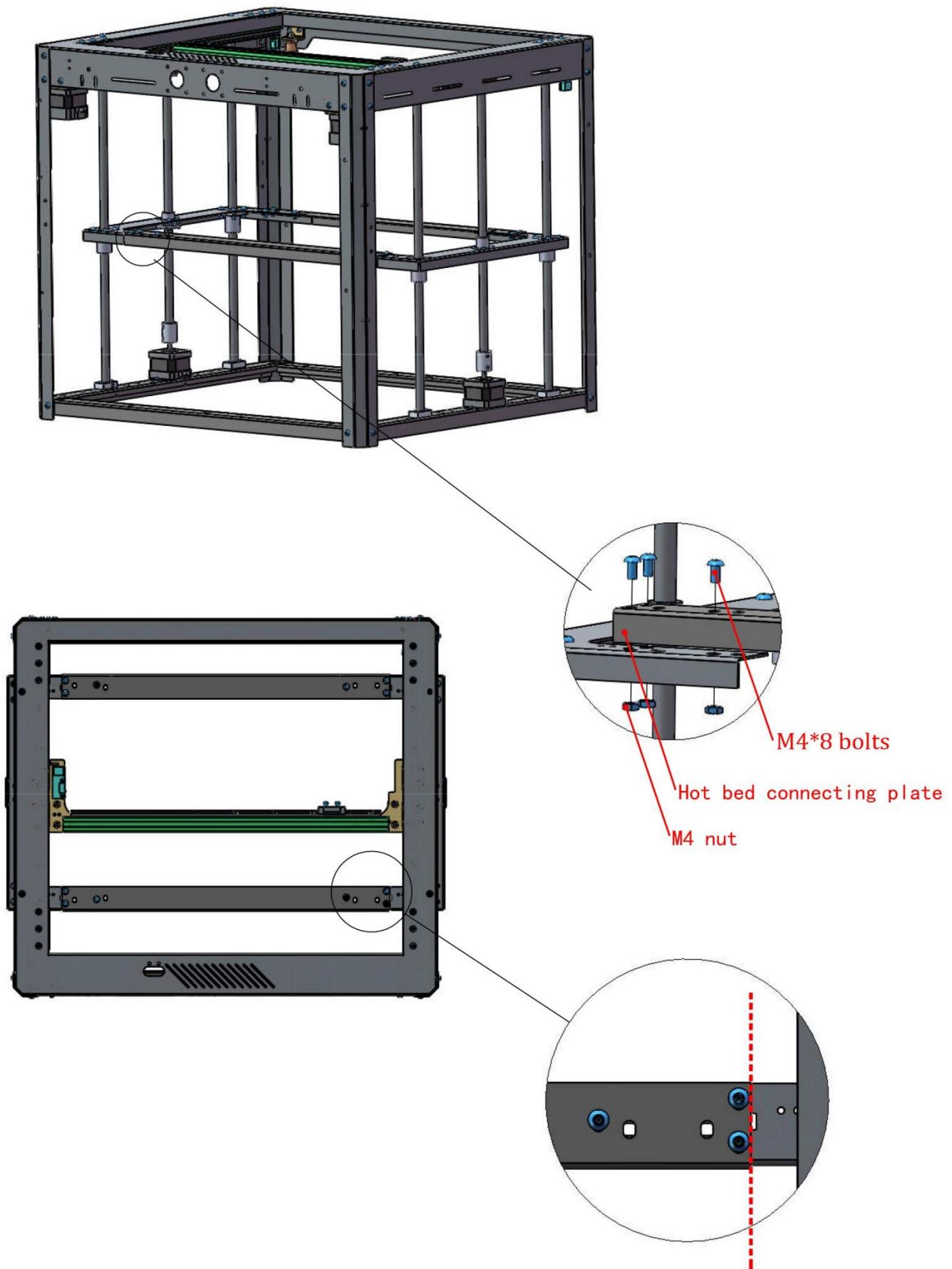


Step 4 -----



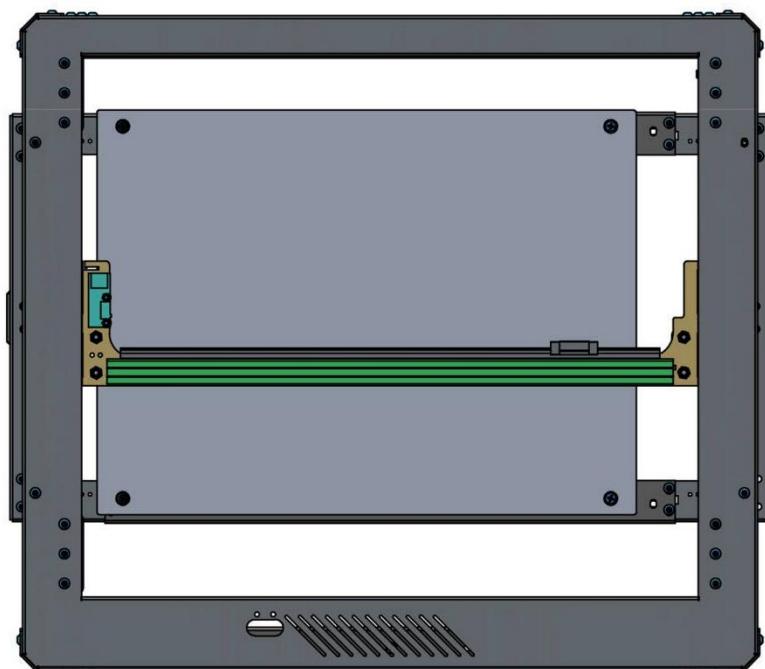
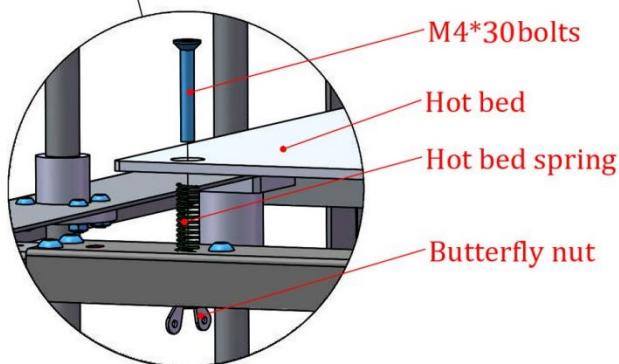
5. Z hot bed installation

Step 5 -----



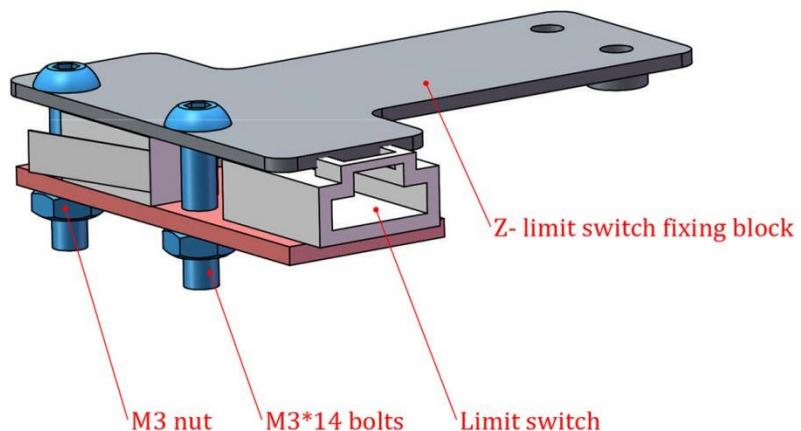
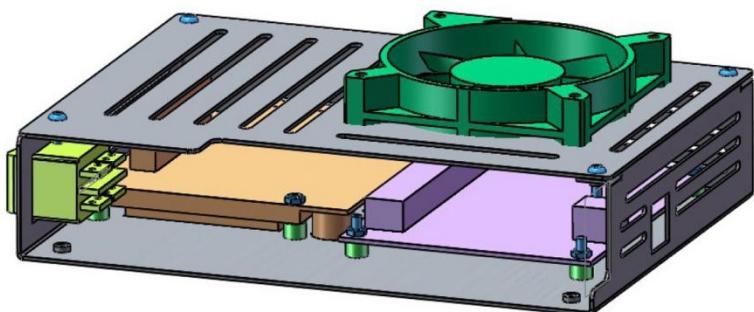
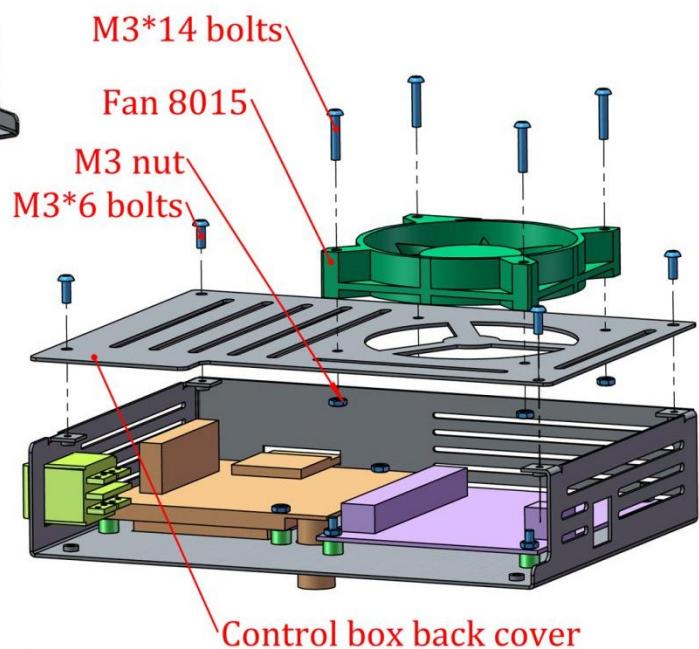
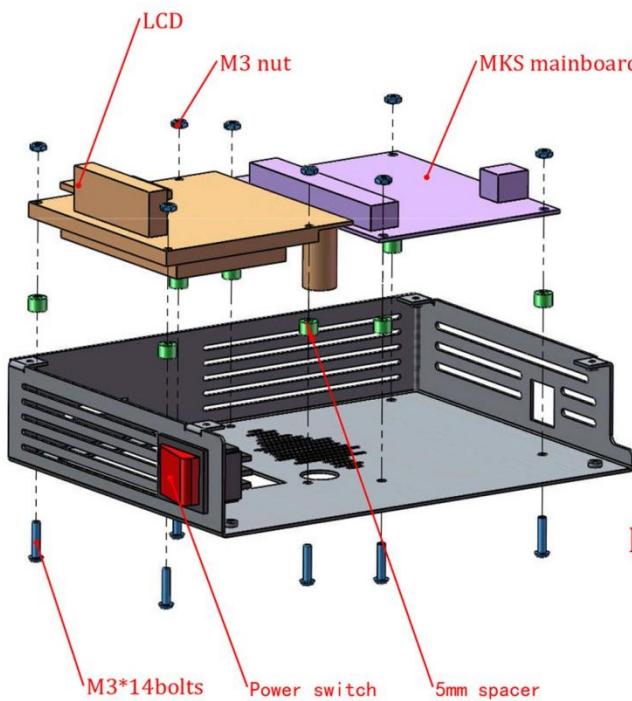
5. Z hot bed installation

Step 6 -----



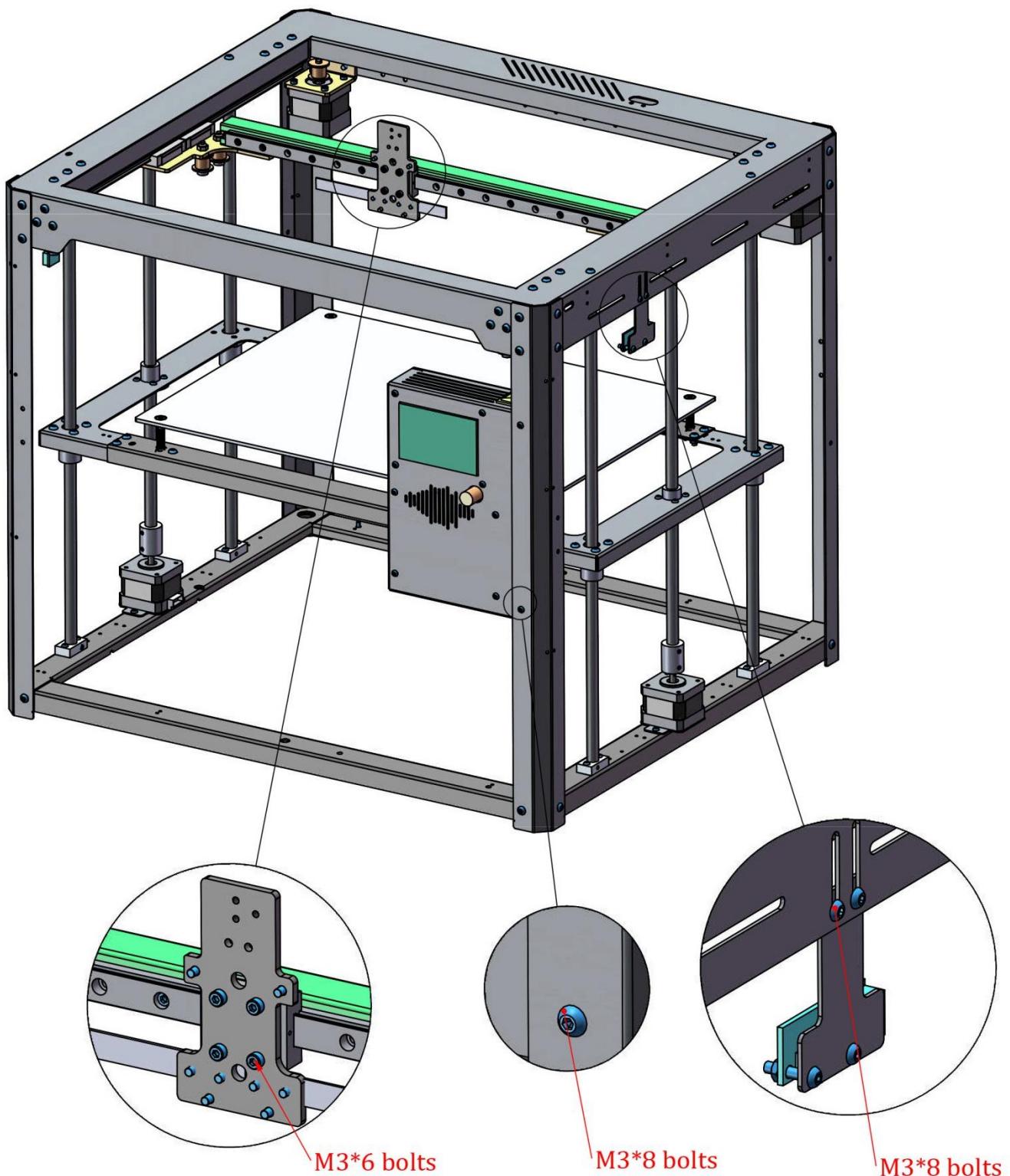
6. LCD and other parts installation

Step 1 -----



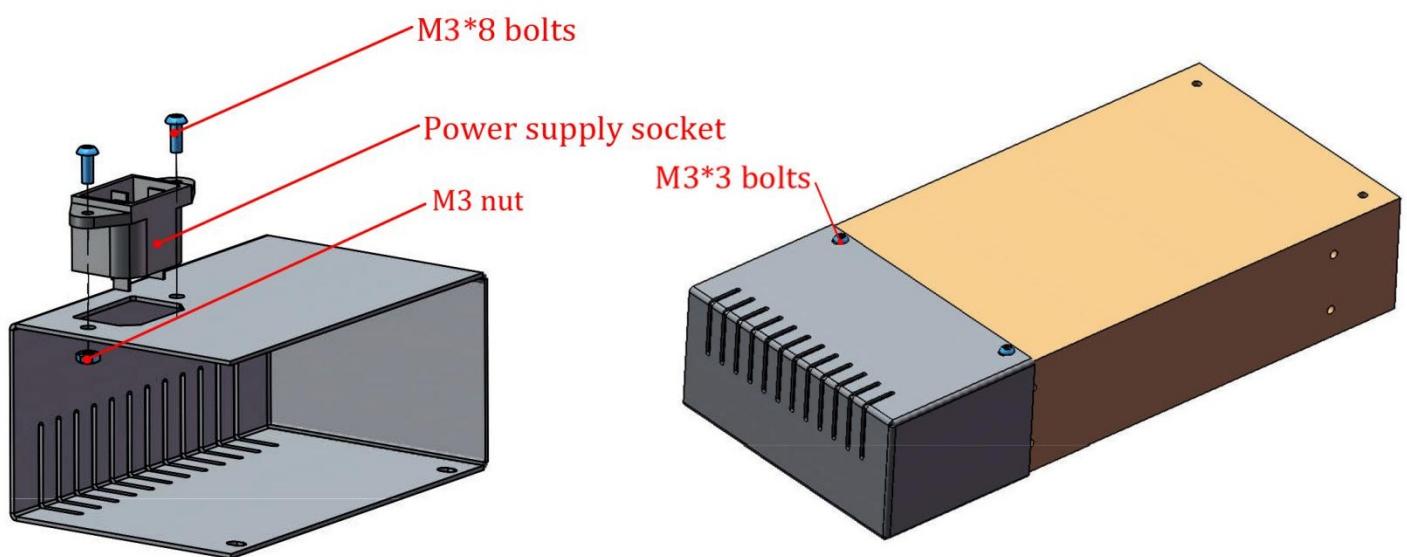
6. LCD and other parts installation

Step 2 -----

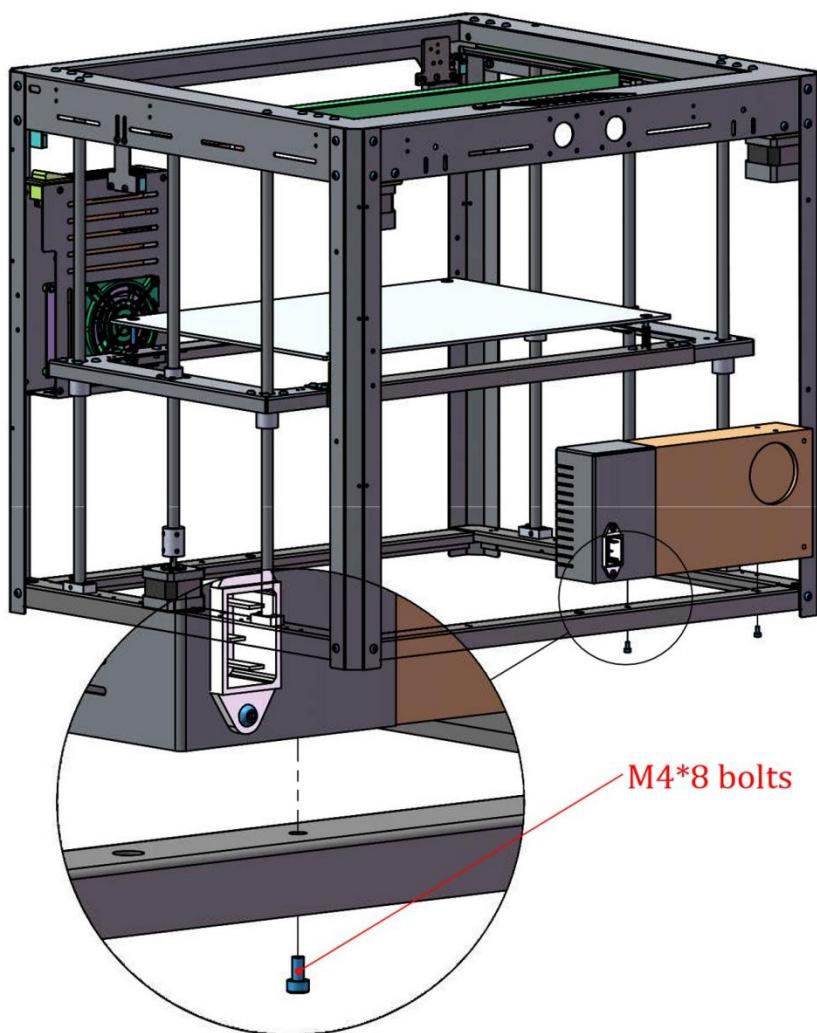


7. Power installation

Step 1 -----



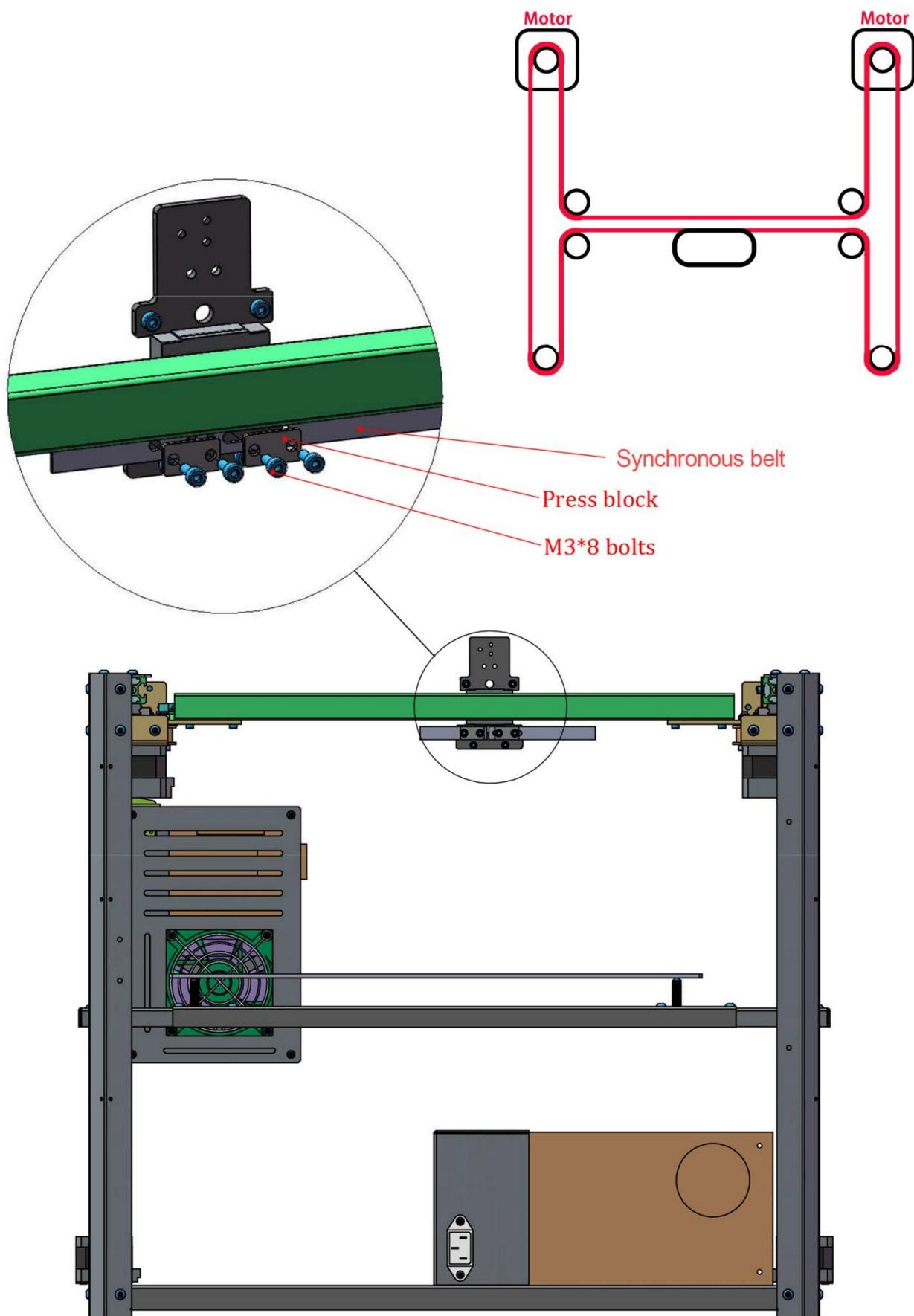
Step 2 -----



8. Synchronous belt installation

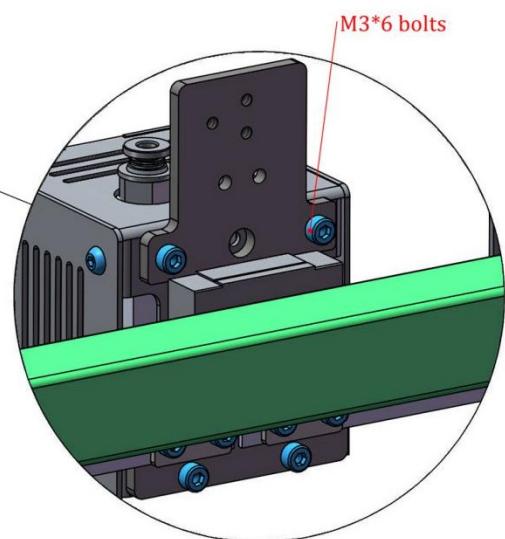
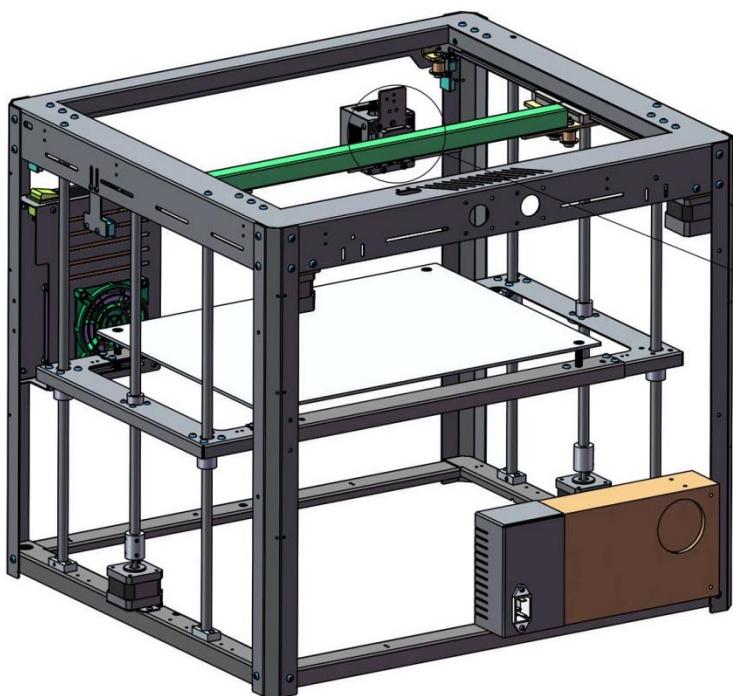
Step 1 -----

Belt mounting method

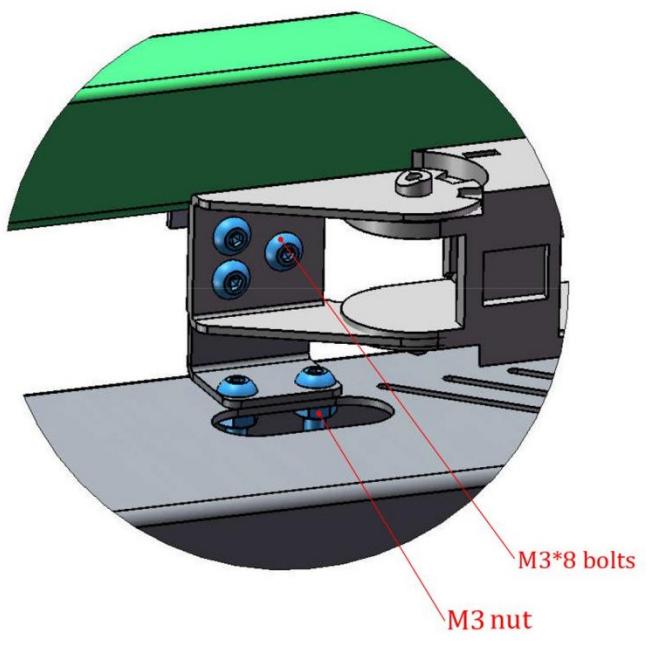
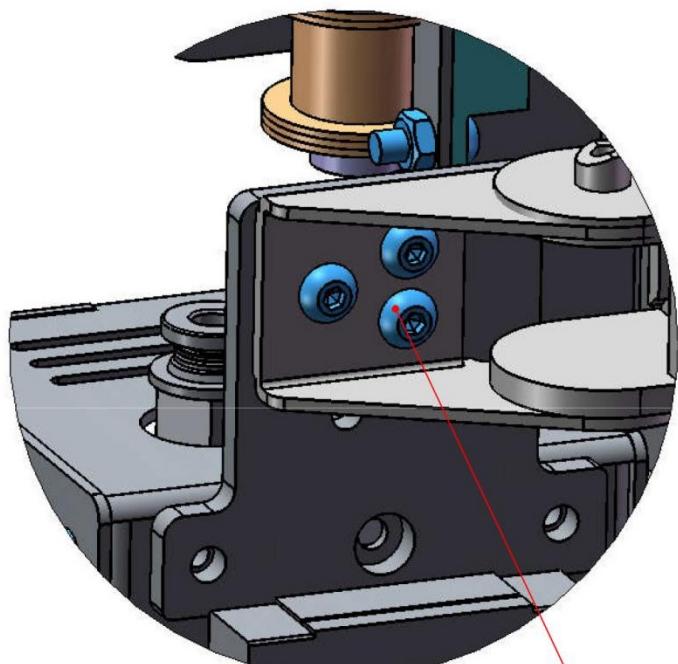


9. Nozzle and tank chain installation

Step 1 -----



Step 2 -----

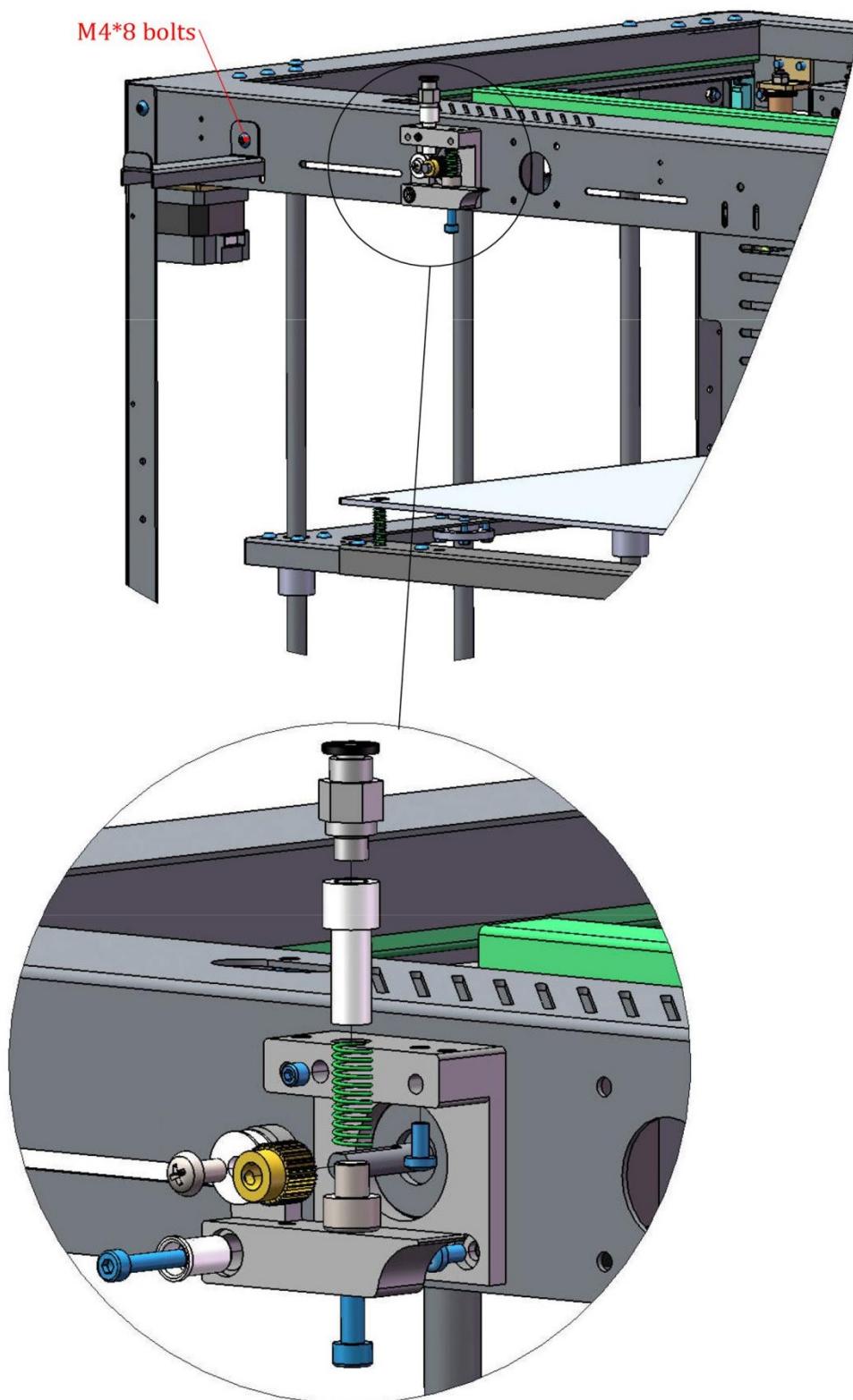


M3*8 bolts

M3 nut

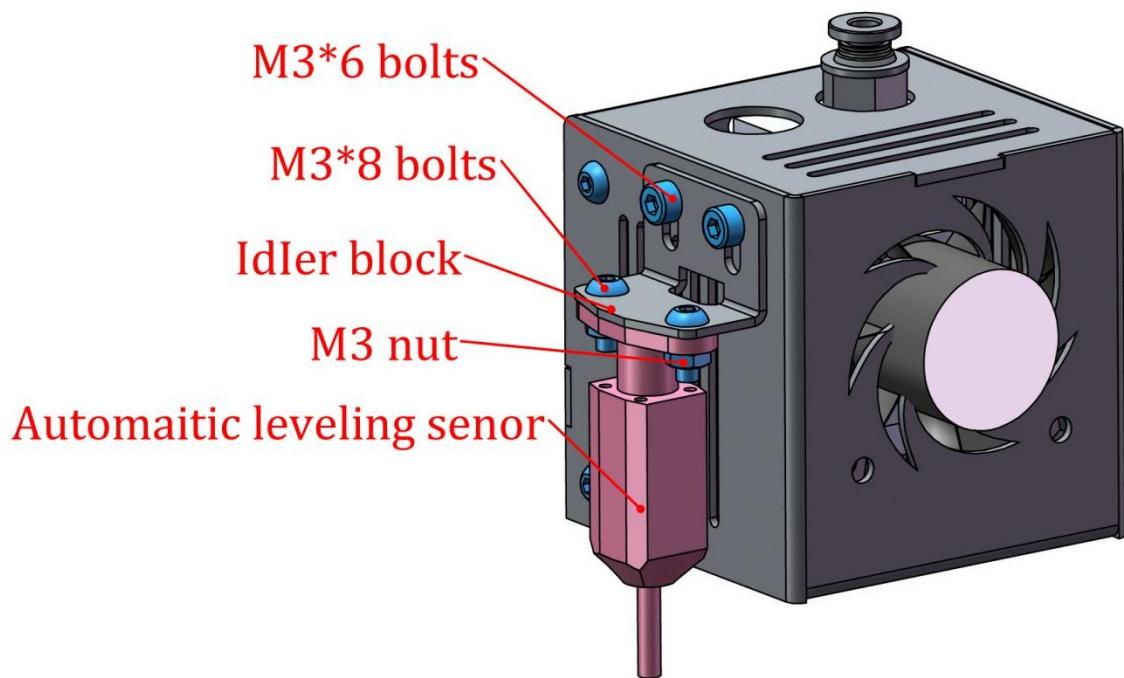
10、Extruder installation

Step 1 -----

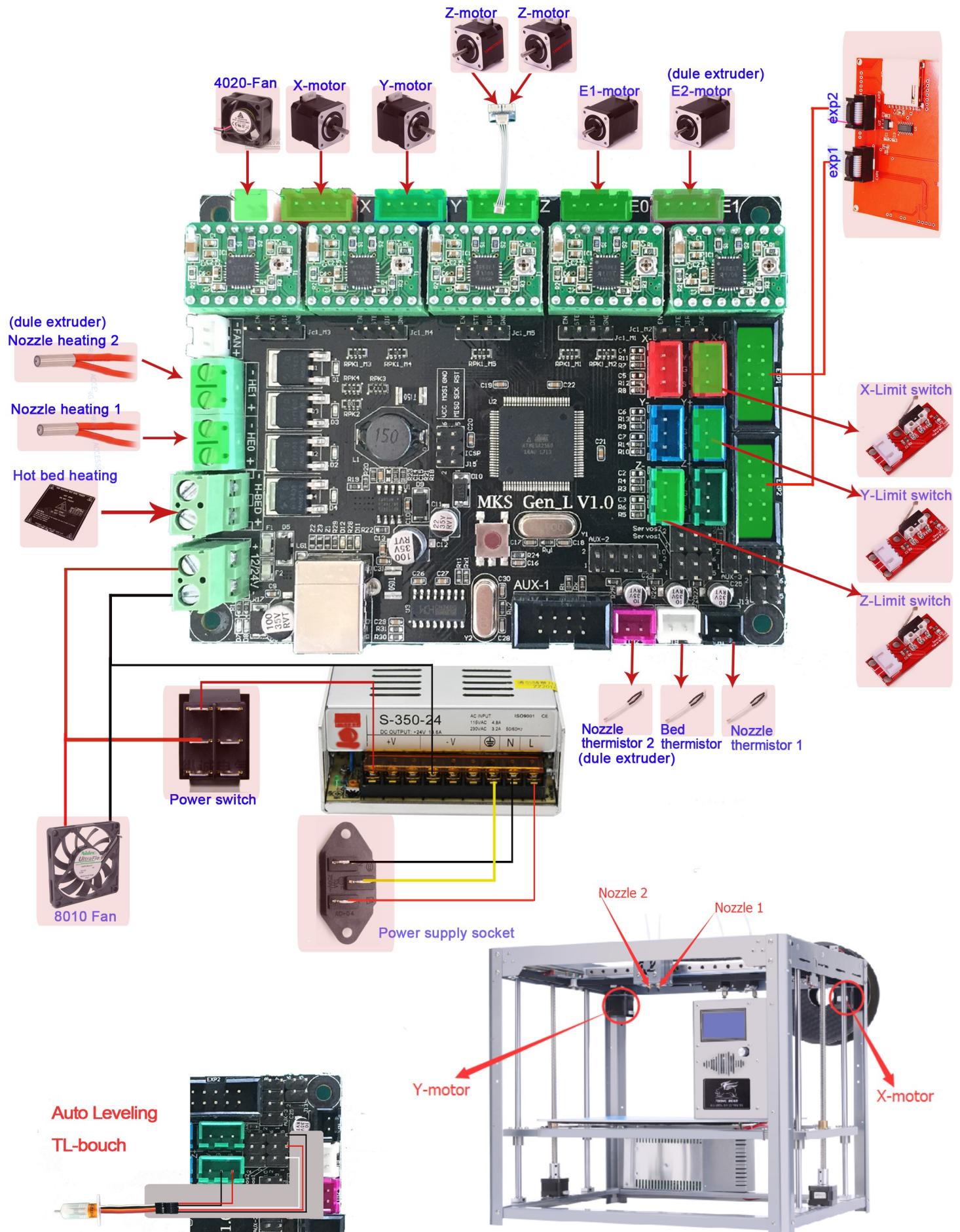


11 . Auto leveling installation

Step 1 -----



12、Flyingbear-Tornado wiring diagram

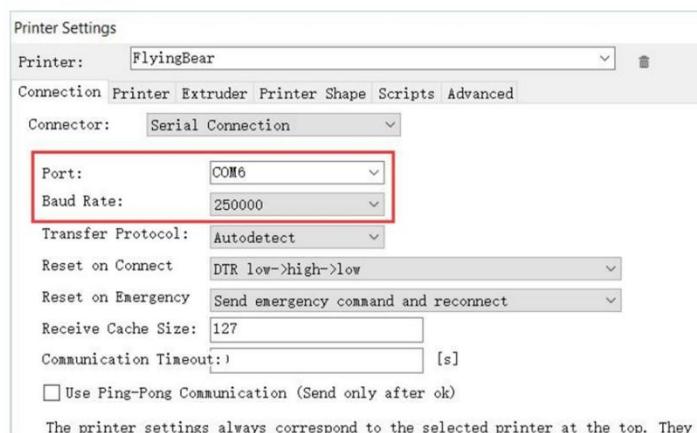
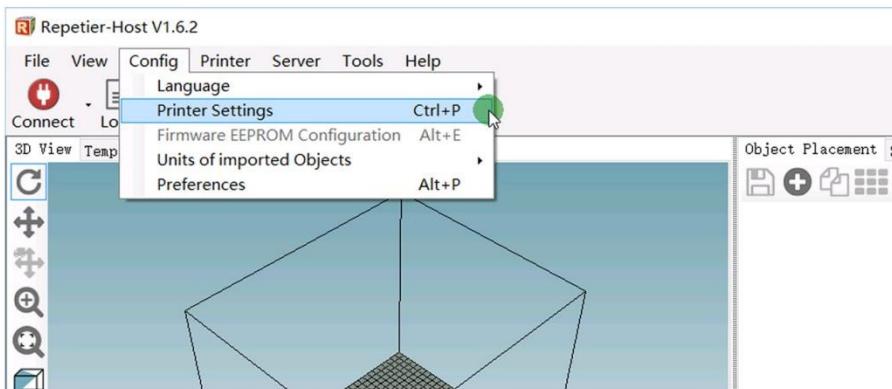


13、Setting up slicing software

3D printers have very many slicing software, such as Cura, simplify3D, and so on, but we only introduce how to use repetier-host.

Software download address: <https://www.repetier.com>

When the software installation is complete, click "printer settings", and then follow the pictures in turn to operate



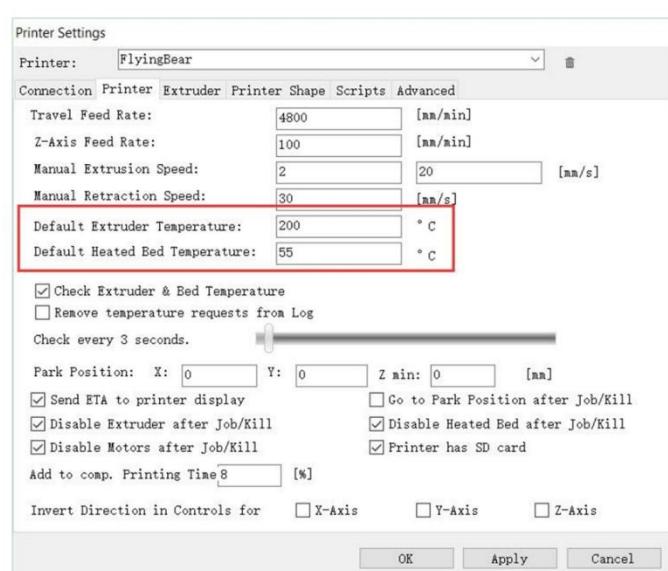
Port: According to the ports in Device

manager (COM&LPT) to choose,

(Notice: Each computer is different, my computer is COM5.)

Baud Rate: fill in “250000”

Other parameters remain the same.



Reference temperature:

Print PLA

Extruder temperature: 190°C around

Bed temperature: 40°C around

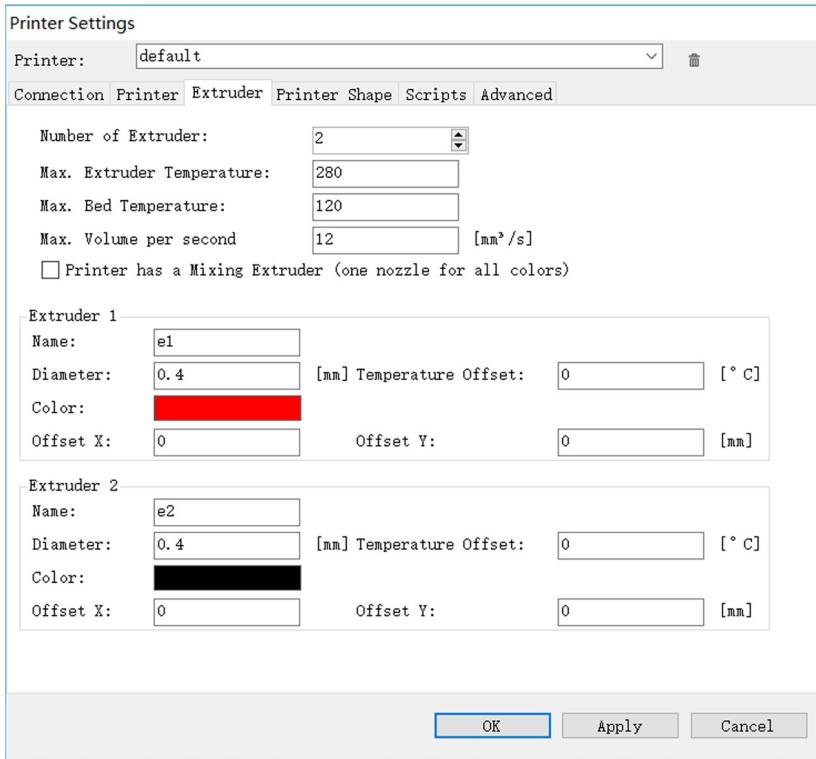
Print ABS

Extruder temperature: 230°C around

Bed temperature: 80~100°C around

Other parameters remain the same.

13、Setting up slicing software



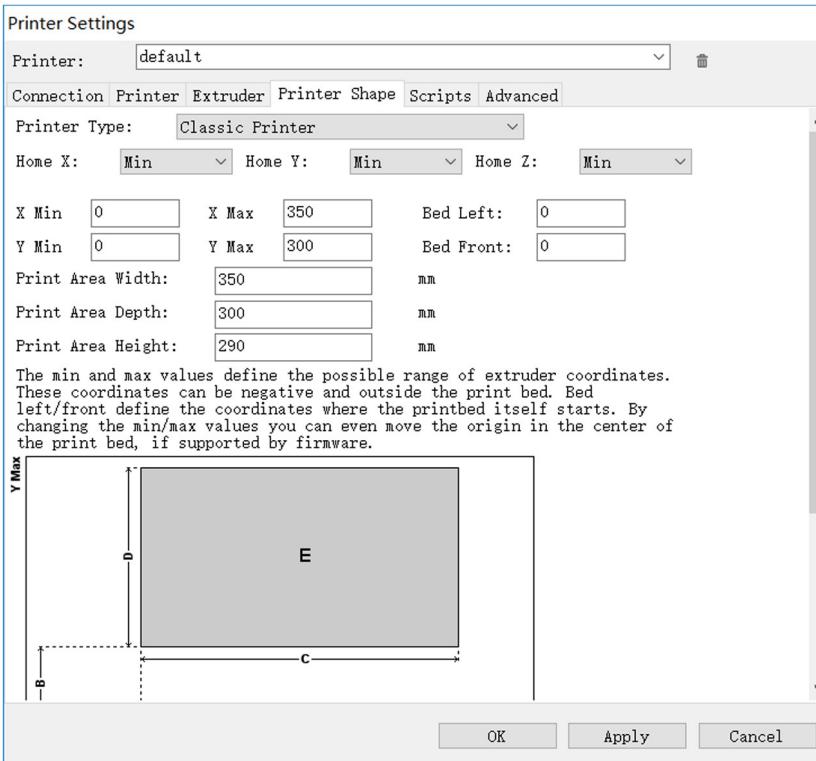
For double nozzles, please fill in 2

Number of Extruder: 1/2

Name: P9.2-0.4

Diameter: default it is 0.4, Please fill in it according to your nozzle's diameter.

Other parameters remain the same.



Printer: Flyingbear-tornado

X Max: 350

Y Max: 300

Print Area Width: 350

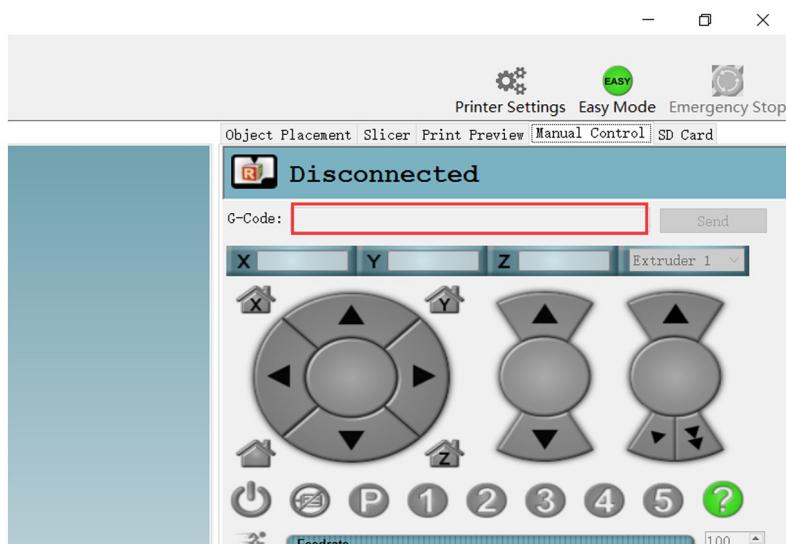
Print Area Depth: 300

Print Area Height : 290 (Notice: The actual size is 300, but due to each customer's installation is different, it is possible to cause the size is small than 290. So it's more safe to fill in 290.)

Other parameters remain the same.

14. Setting auto leveling sensor

Open the repetier-host and connect to the printer.select "manual control"tab and you should see "G-Code".Write in this field "G28"and press send button,Then send the G1 Z0, the screen will show that the Z axis is "Z=0".Now you can operate the printer by LCD screen , select "prepare/move the axis / 0.1 mm/move z" according to the menu . Move the Z axis, until the distance between nozzle and hot bed reaches the most suitable distance.(the best distance between nozzle and hot bed is probably a piece of A4 paper). Then record the Z axis numerical that LCD displays (This numerical value should be a negative number, let's assume this value is -1.5).And then we send the G code "M851 Z - 1.5", finally send G code "M500" to save your changes



Before slicing, add the auto leveling "G29" code

CuraEngine Settings

Print Filament

Default Save Save as ... Delete Import Export

Speed and Quality Structures Extrusion G-Codes Advanced

Start G-Code
End G-Code
Before Extruder Switch
After Extruder Switch

3

;

G28 ; Home extruder

G29: Auto leveling!

G1 Z15 F{Z_TRAVEL_SPEED}

M107 ; Turn off fan

G90 ; Absolute positioning

M82 ; Extruder in absolute mode

{IF_BED}M190 S{BED}

{IF_EXTRUDE}M104 T0 S{TEMP0}

{IF_EXTRUDE}M104 T1 S{TEMP1}

G92 E0 ; Reset extruder position

Slicer

Object Placement Slicer Print Preview Manual Control SD Card

1

Slicer: CuraEngine Manager Configuration

2

Print Settings:

Print Configuration: Default

Adhesion Type: None

Quality: 0.2 mm

Support Type: Touching Bed

Speed: Slow Print Speed: 45 mm/s Outer Perimeter Speed: 38 mm/s Fast

Show in Log: Commands Infos Warnings Errors ACK Auto Scroll Clear Log Copy

15:41:53.130 OpenGL version:4.3.0 - Build 20.19.15.4549

15:41:53.131 OpenGL extensions:GL_EXT_blend_minmax GL_EXT_blend_subtract GL_EXT_blend_color GL_EXT_abgr GL_EXT_texture3D GL_EXT_clip_volume_hint GL

Disconnected: default

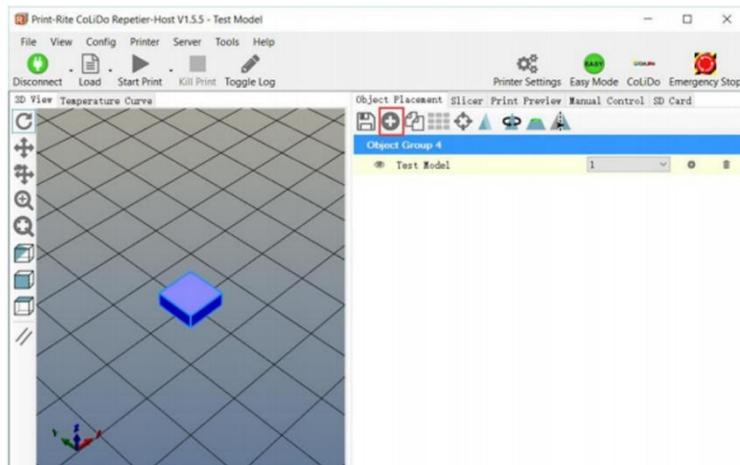
Idle

15、First print model

There are two ways to print: use the SD card to print and use the computer to print. It is recommended to use the SD card to print. The computer will be standby or have other abnormal situation to interrupt the printing process when use the computer to print.

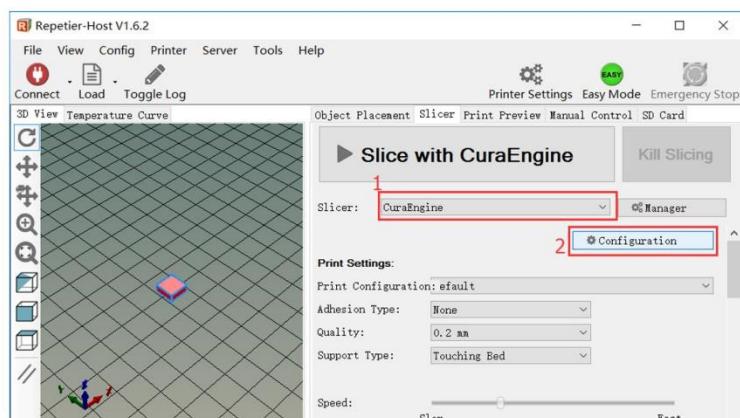
Attention:The hot bed needs to paste the masking tape or painted with the self-adhesive before printing.

Introduction of using SD card to print

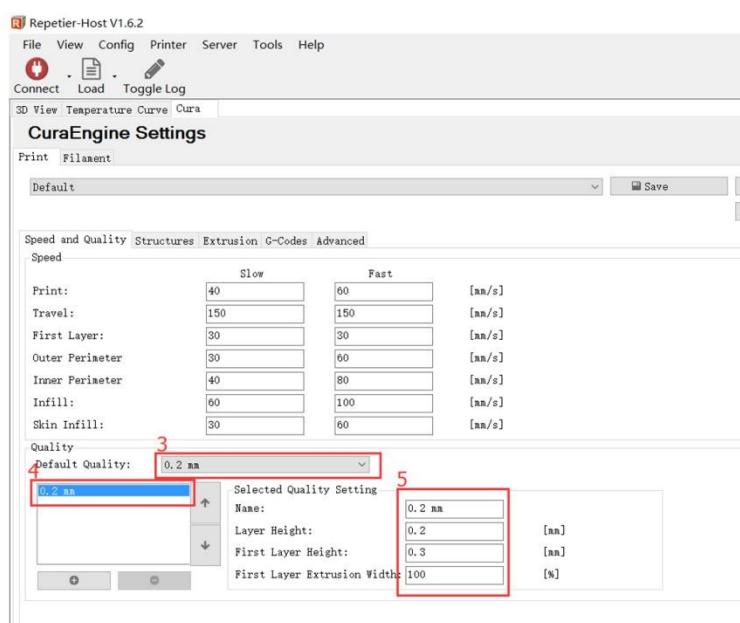


Click the button, load the folder

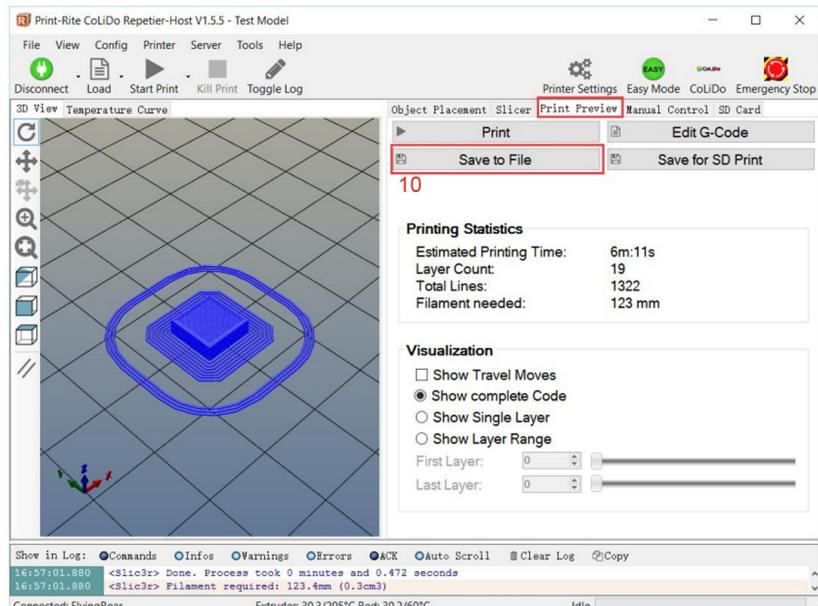
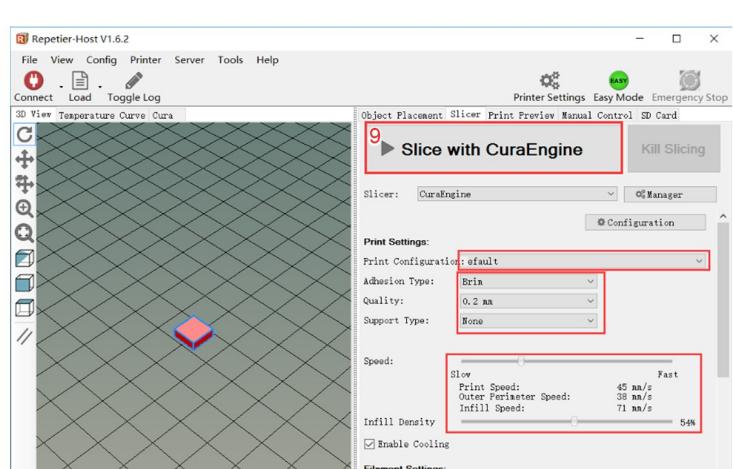
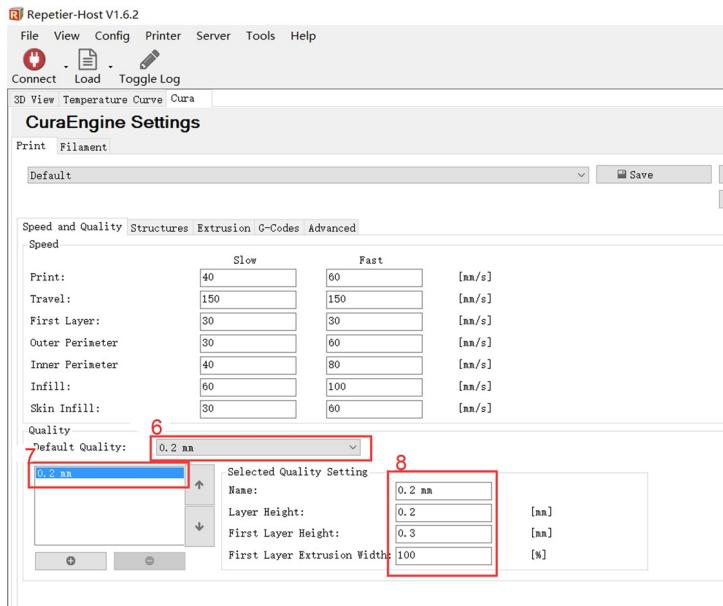
“Test Model” in “FlyingBear-tornado Printer”



Set parameters according to pictures



15、First print model



After slice is done, Click "Save to File" to save the file in SD card.



After insert the SD card into LCD, choose "Prepare"---"Auto home"



Choose "Prepare"---"Preheat PLA"---"Preheat PLA"



Choose "Print from SD" ----"Test Model"

Then wait a moment, after the heating process all finished, it will begin to print.