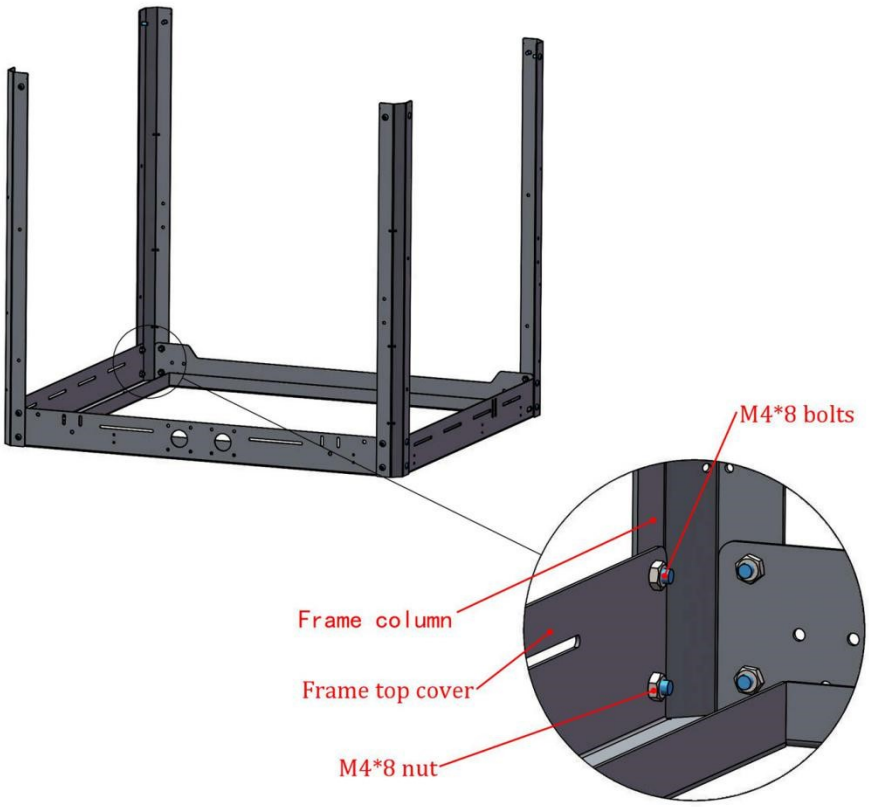
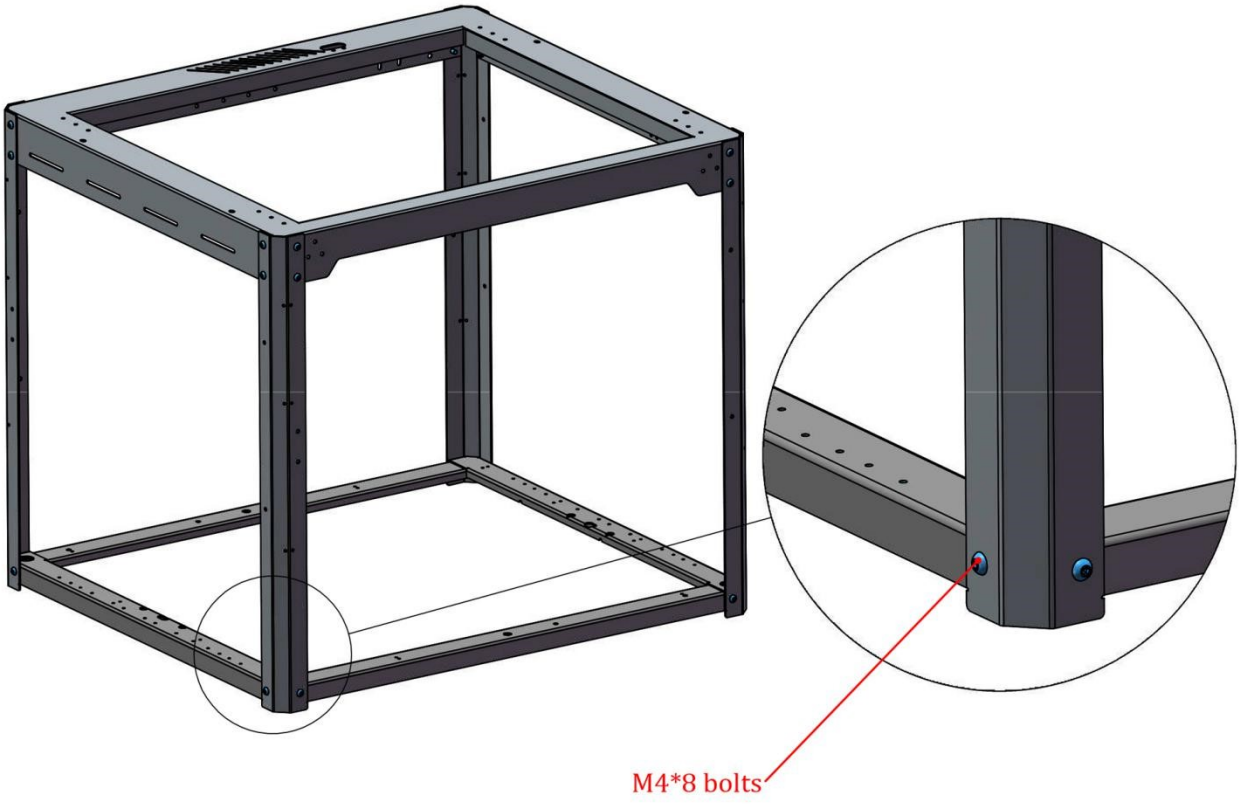
# Flyingbear-Tornado Installation Manual

# 1、Frame installation

**Step 1 ----------**

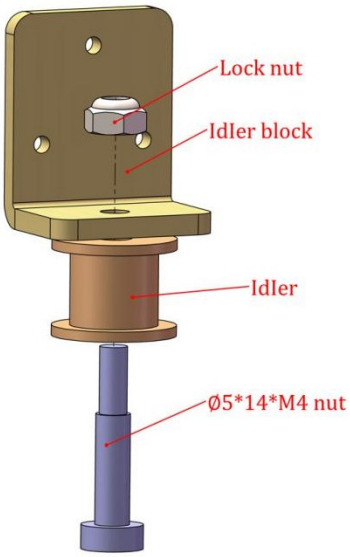


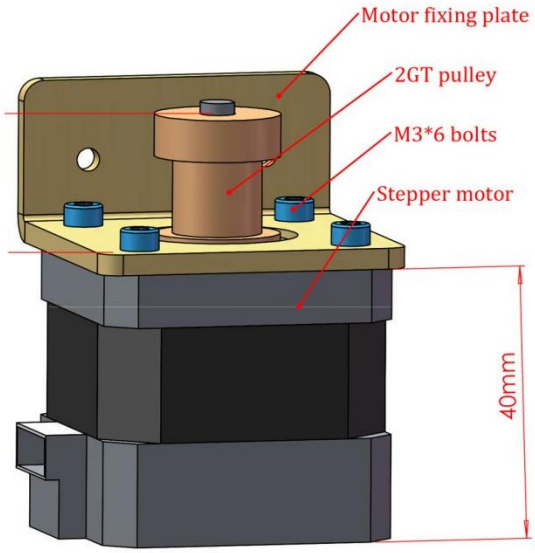

**Step 2 ----------**



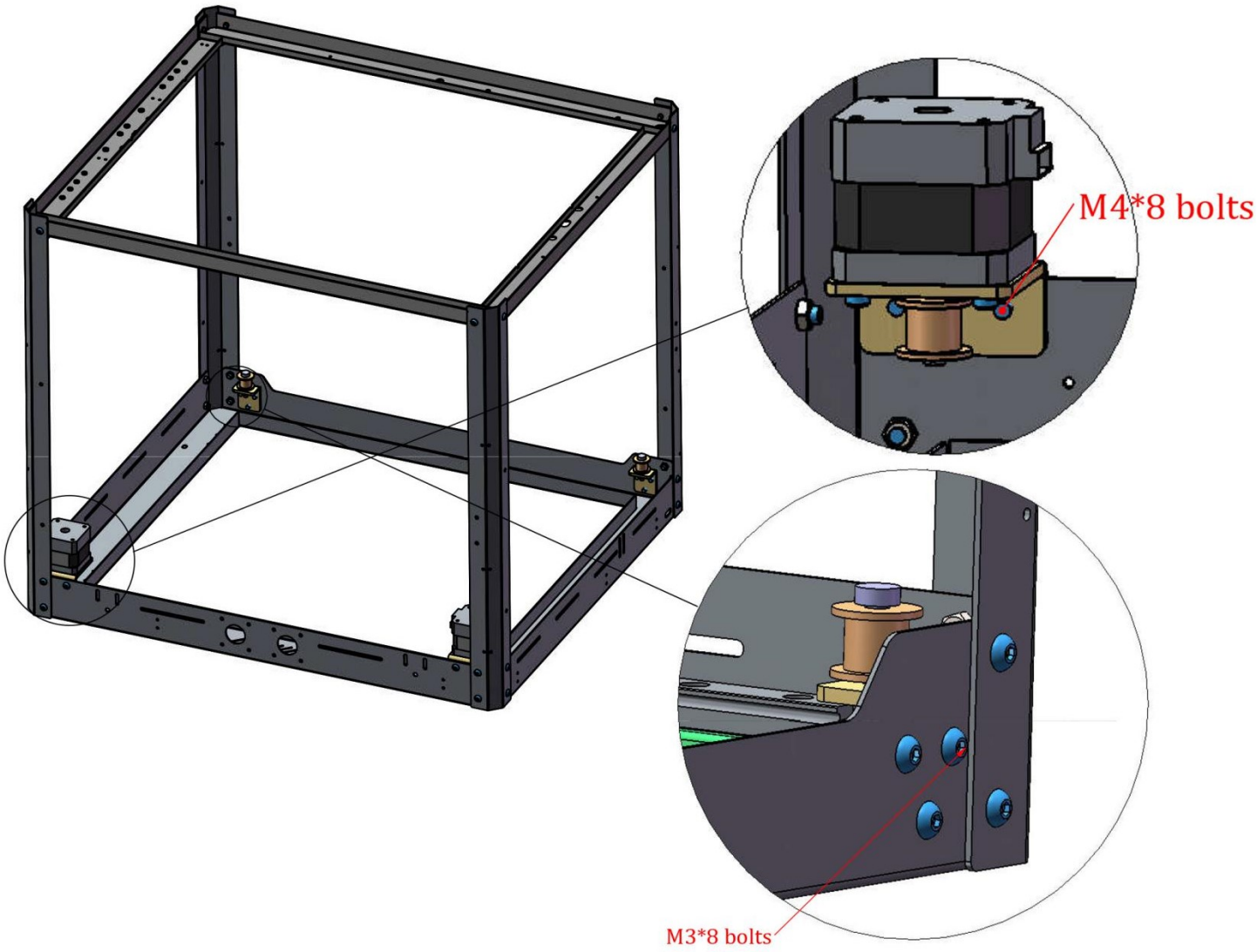
# 2、Driving wheel and idler wheel installation

**Step 1 ----------**



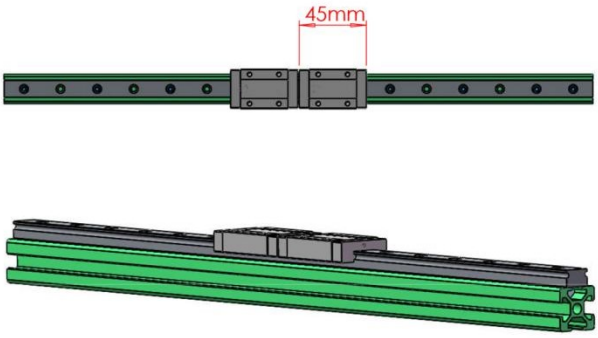



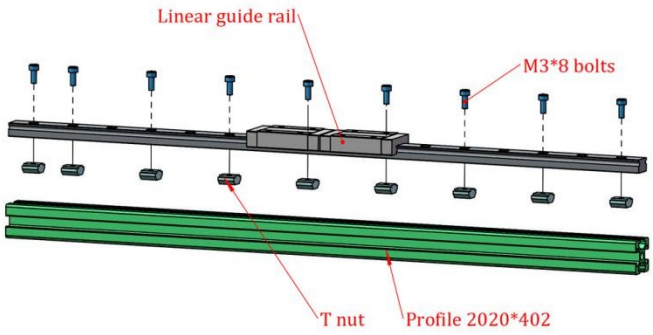

**Step 2 ----------**



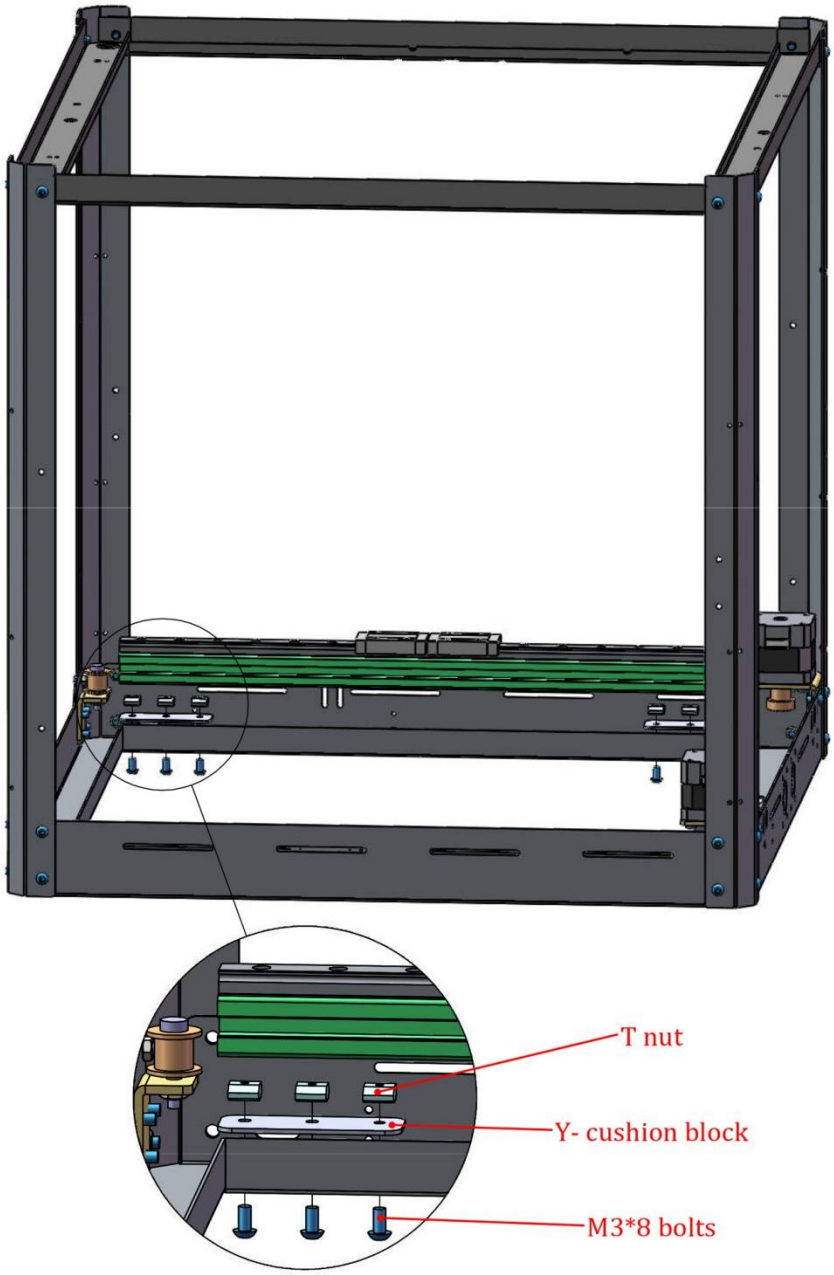
# 3、Y- linear guide rail Installation

**Step 1 ----------**



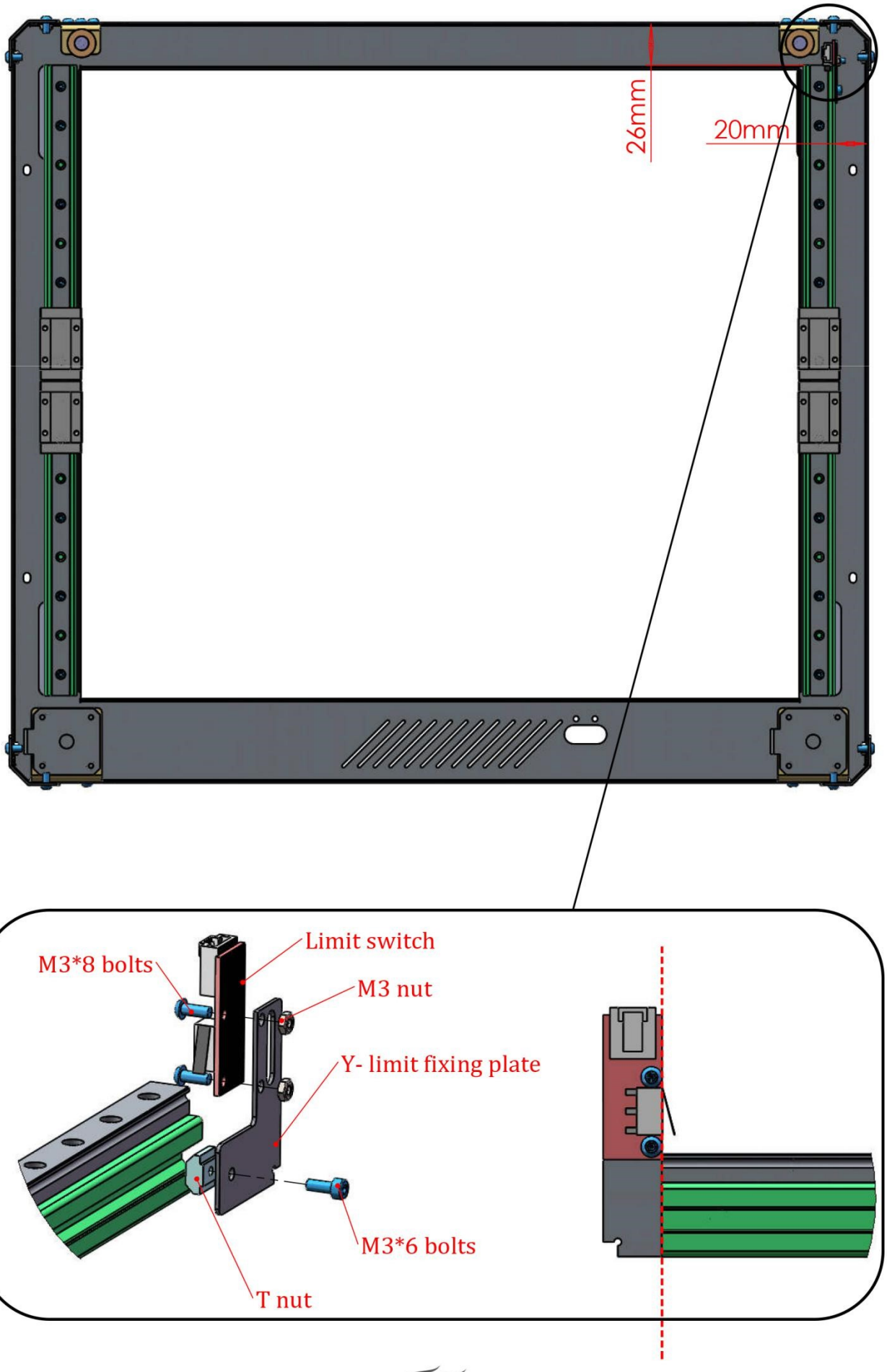




**Step 2 ----------**



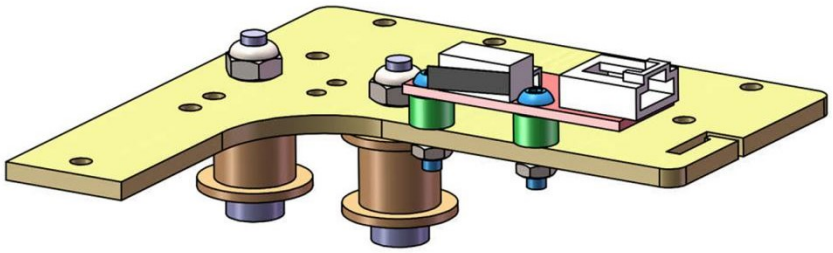
# 3、Y- linear guide rail Installation

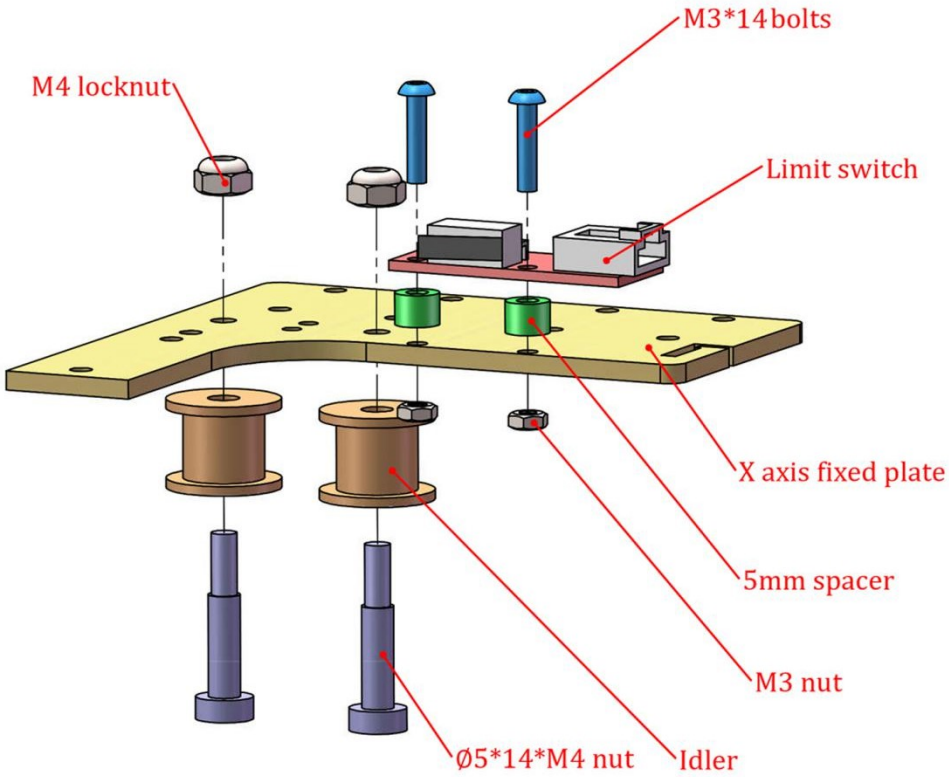
**Step 3 ----------**

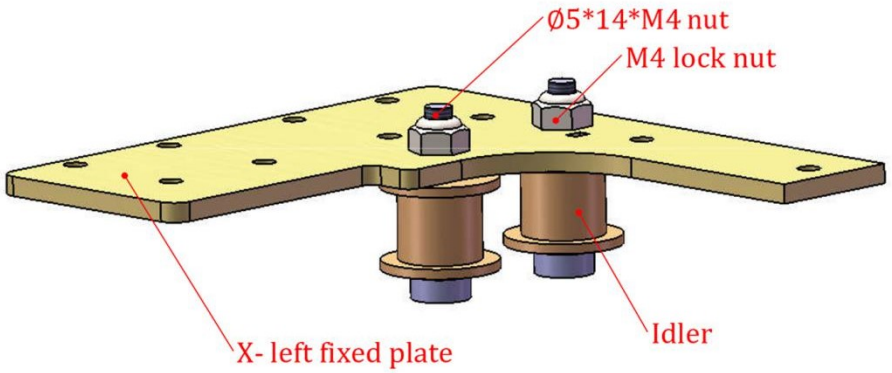


# 4、X- linear guide rail Installation

**Step 1 ----------**

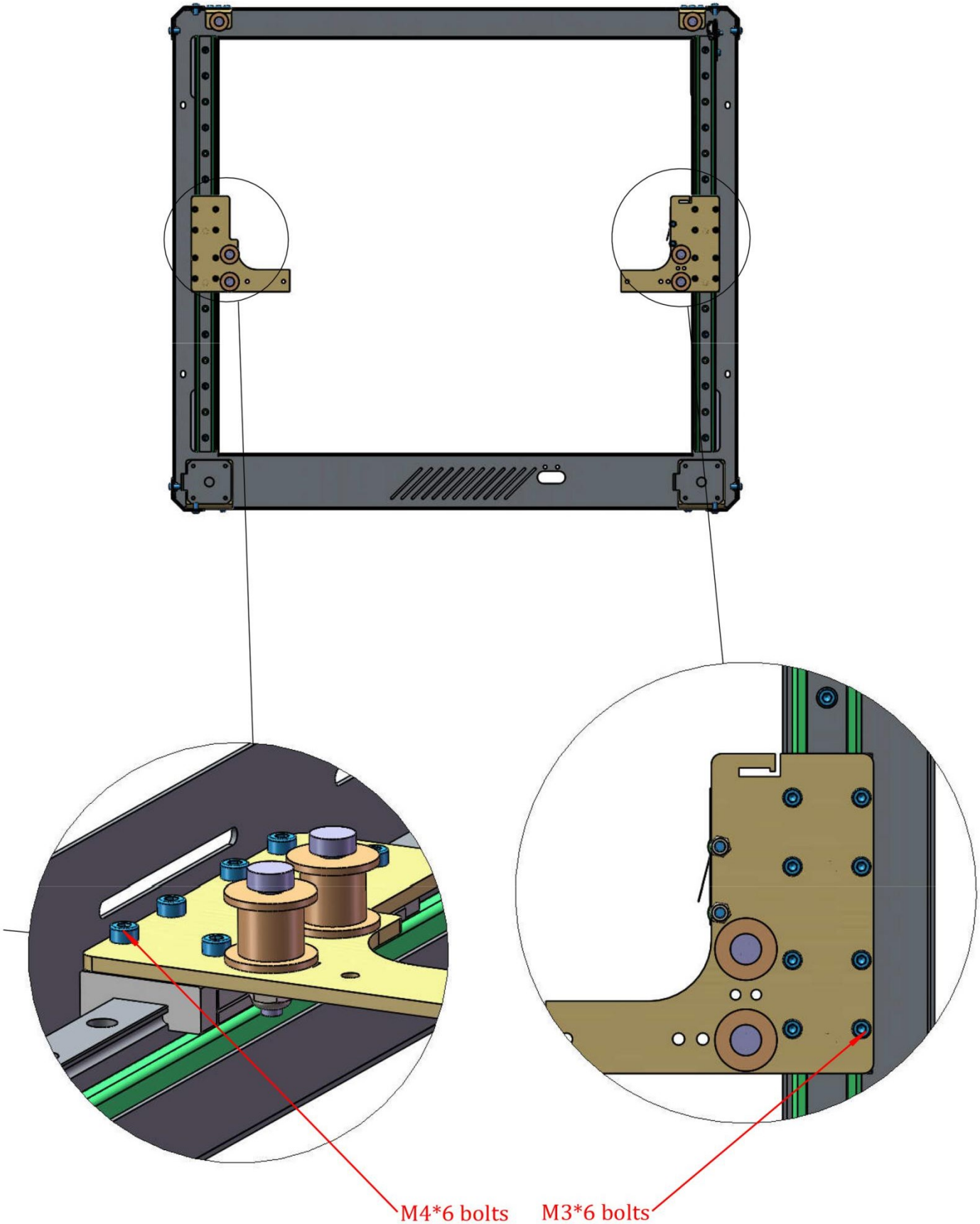




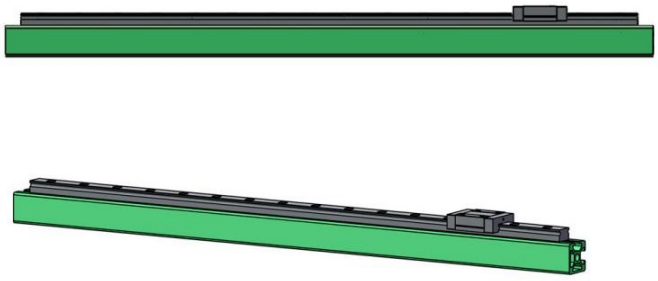
# 4、X- linear guide rail Installation

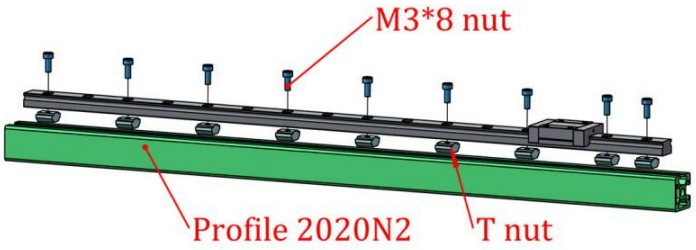
**Step 2 ----------**



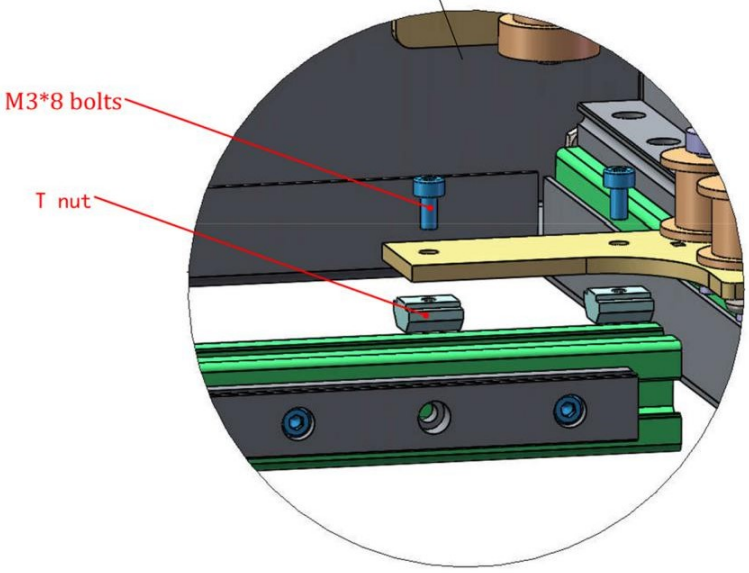
# 4、X- linear guide rail Installation

**Step 3 ----------**



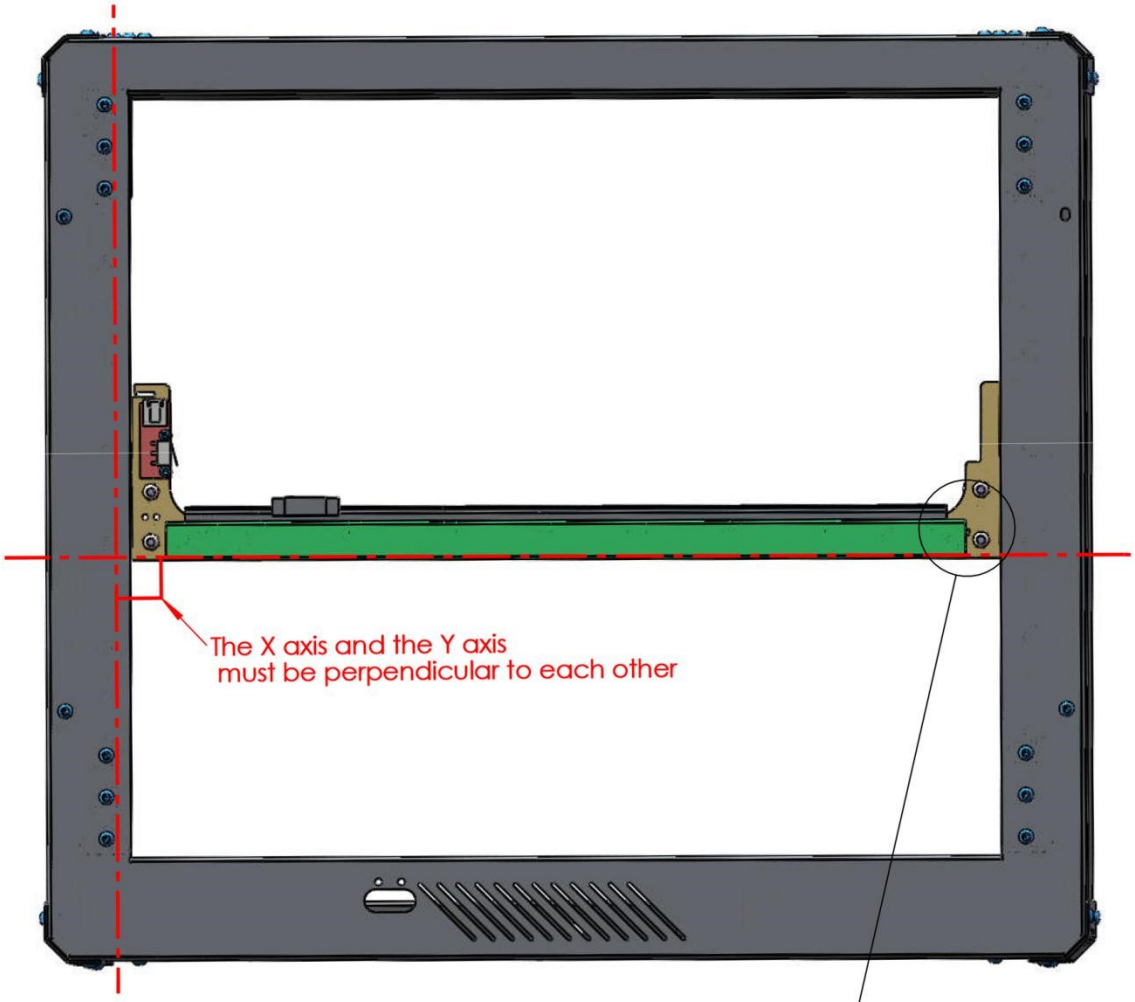


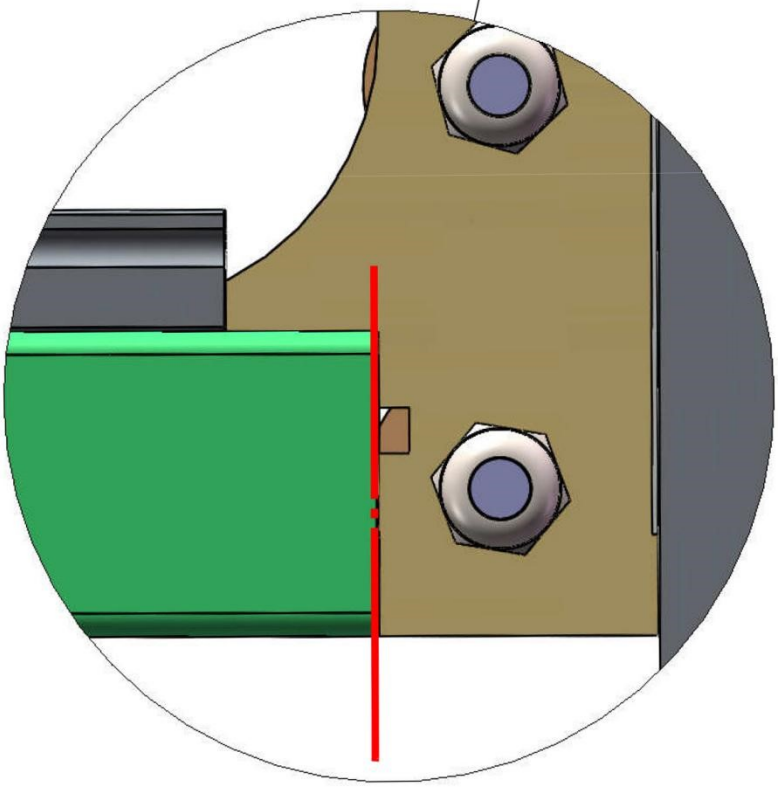

**Step 4 ----------**



# 4、X- linear guide rail Installation

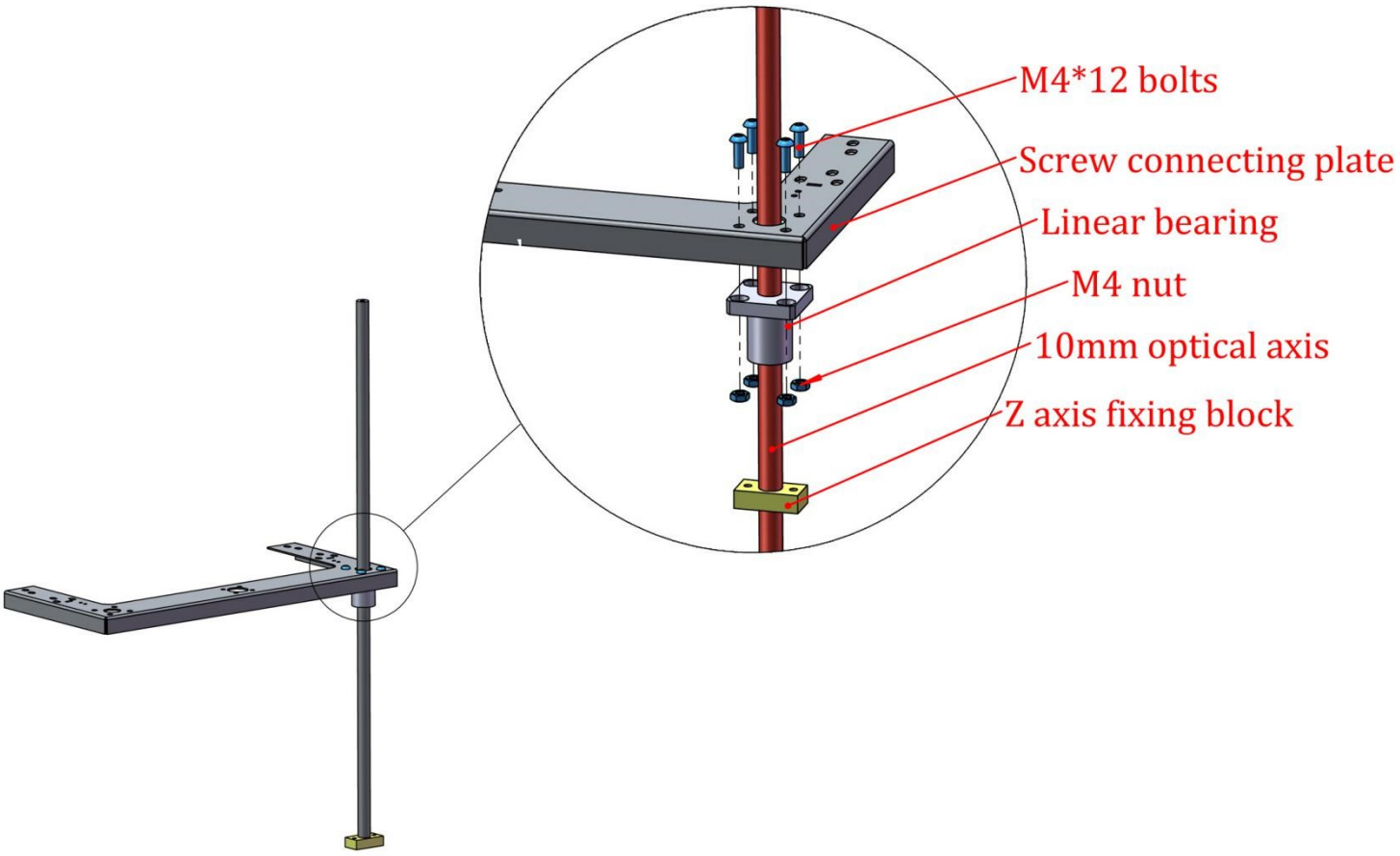
**Step** 5 ----------



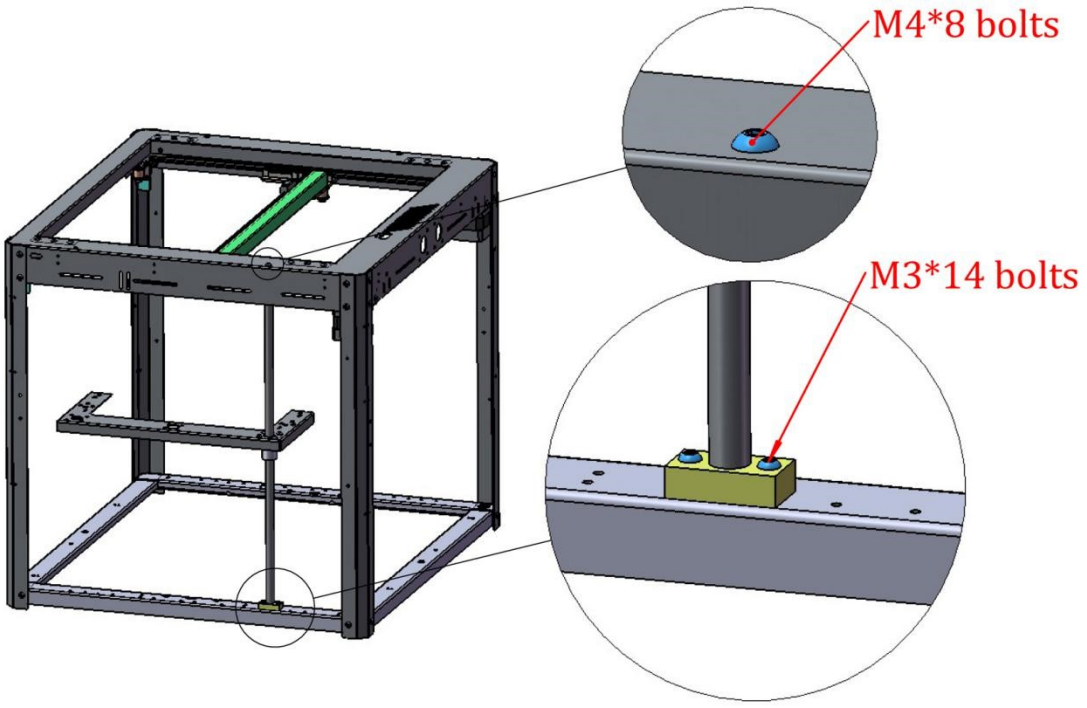



# 5、Z hot bed installation

**Step 1 ----------**



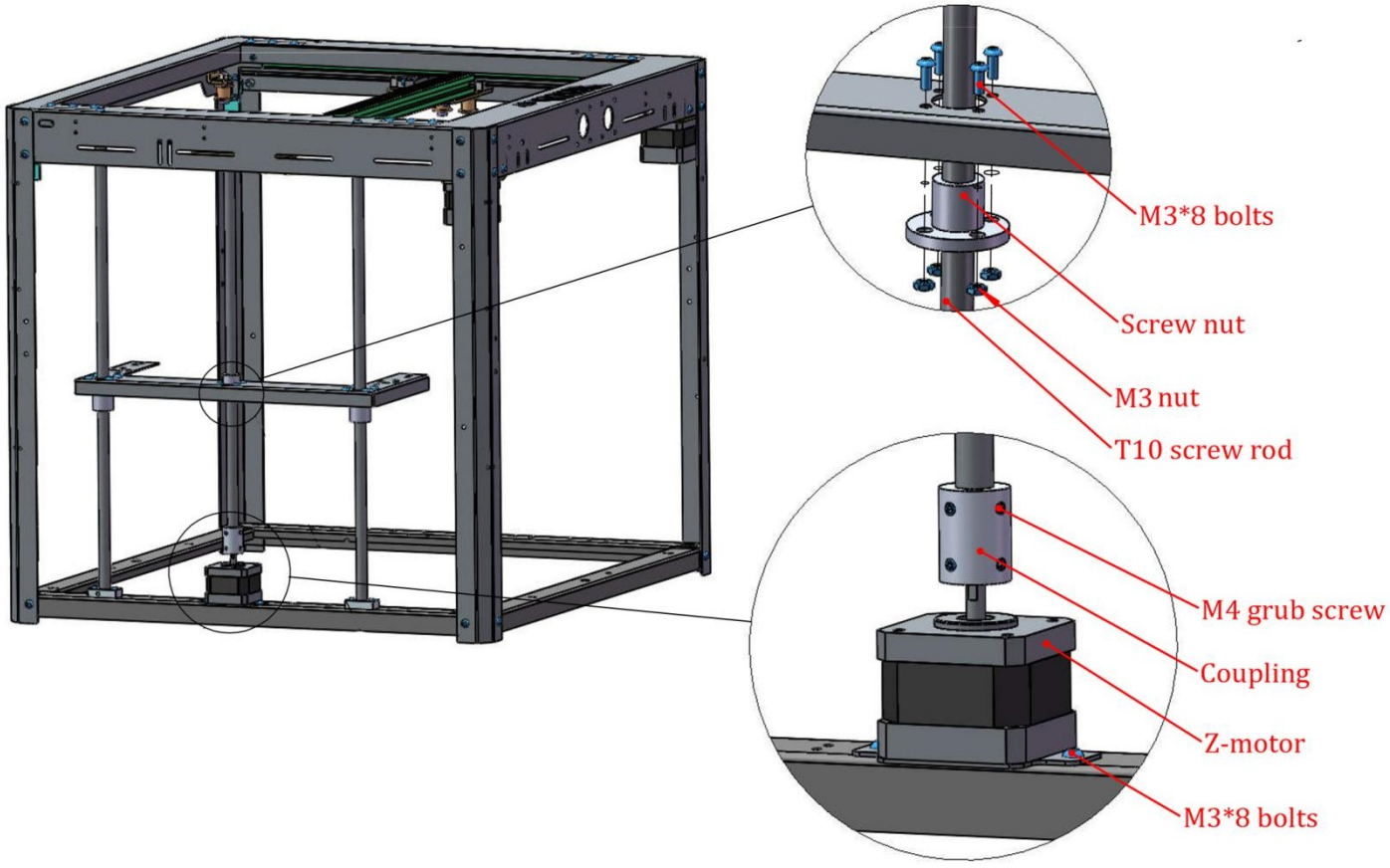

**Step 2 ----------**



# 5、Z hot bed installation

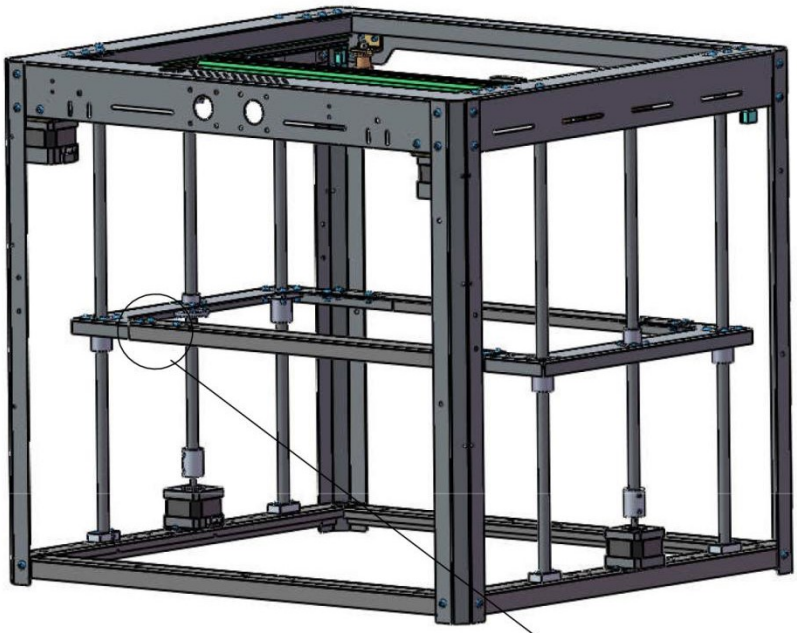
**Step 3 ----------**

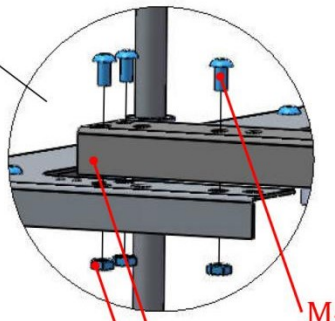
**Step 4 ----------**

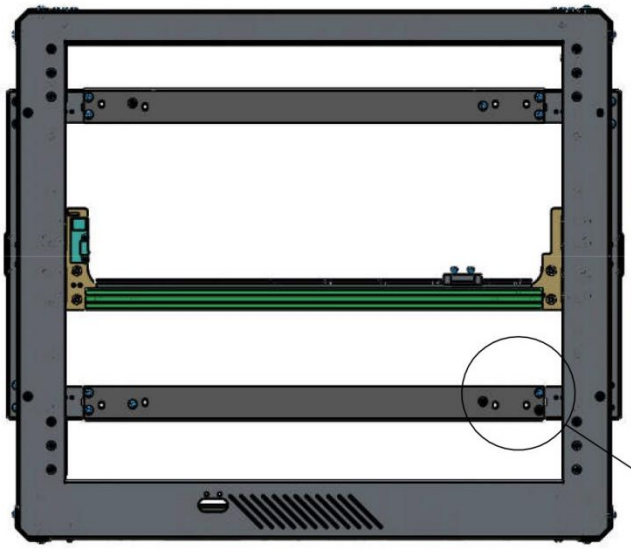


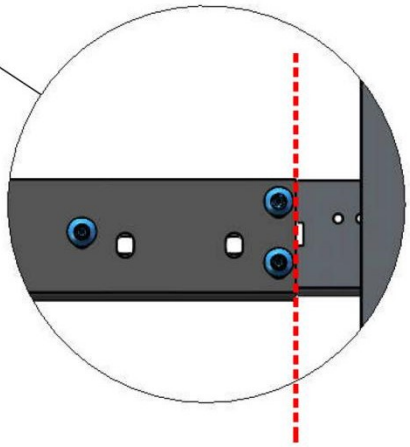
# 5、Z hot bed installation

**Step 5 ----------**



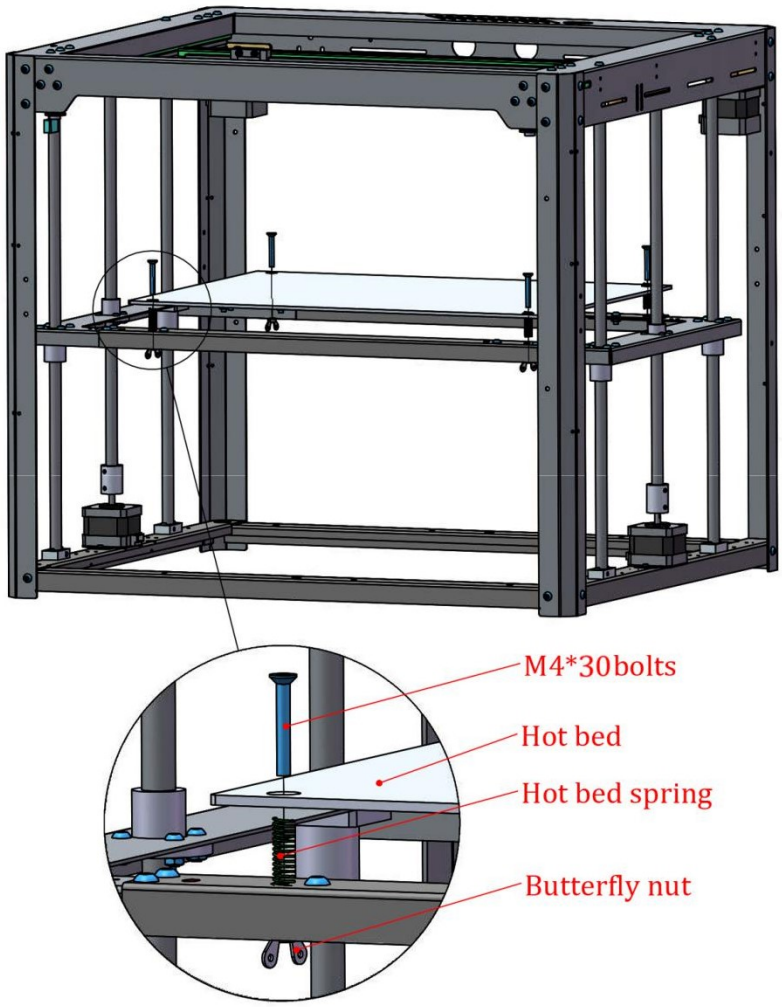


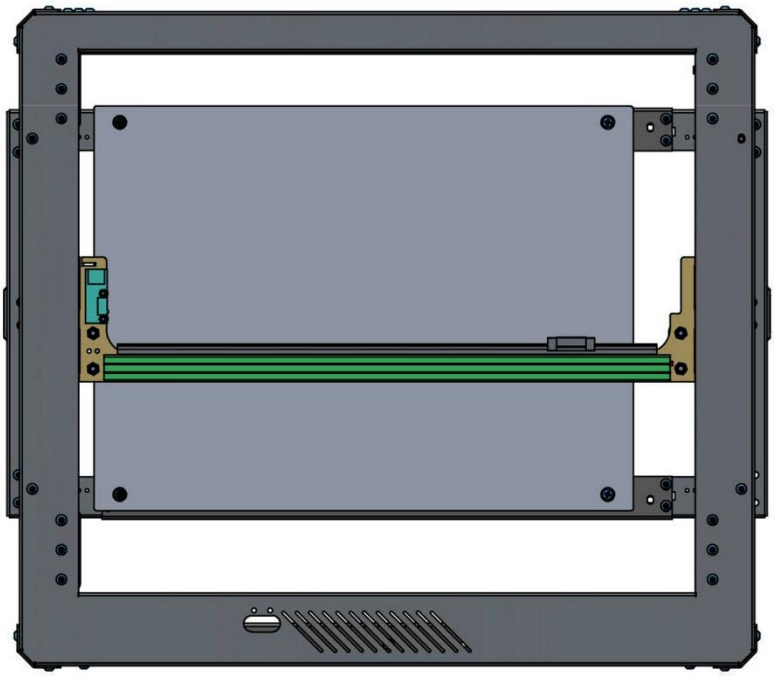





# 5、Z hot bed installation

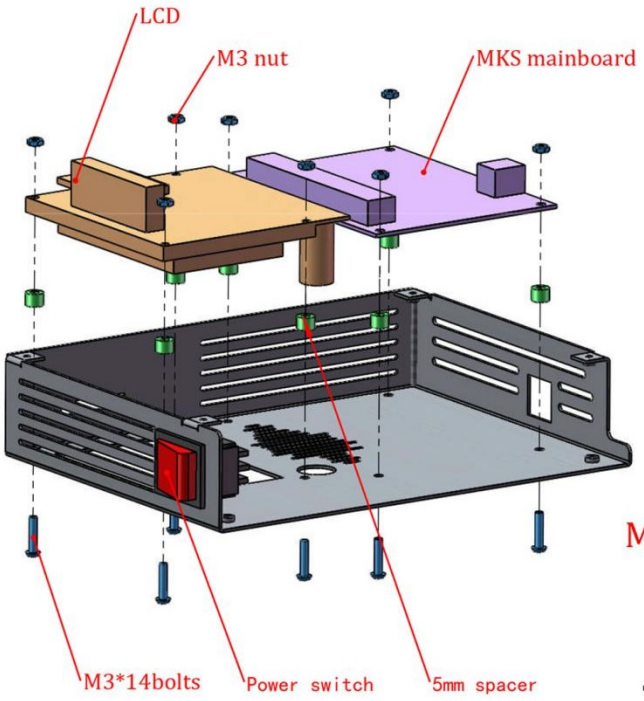
**Step 6 ----------**

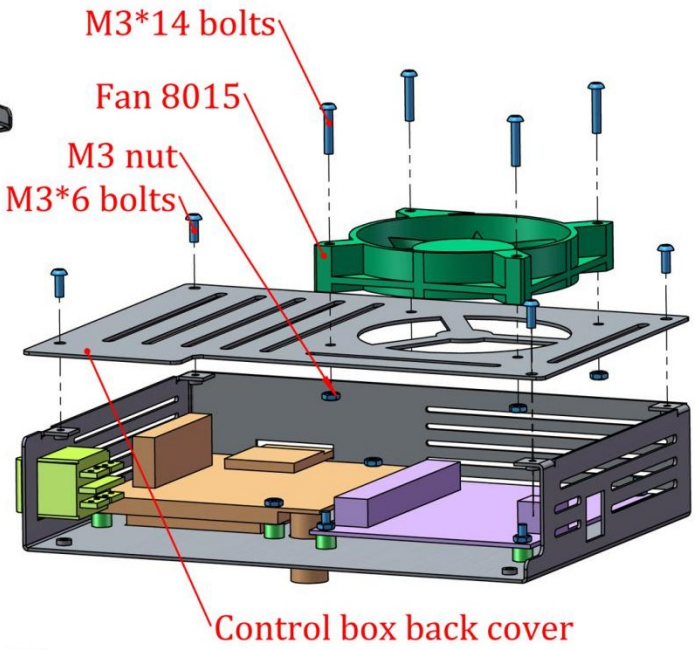


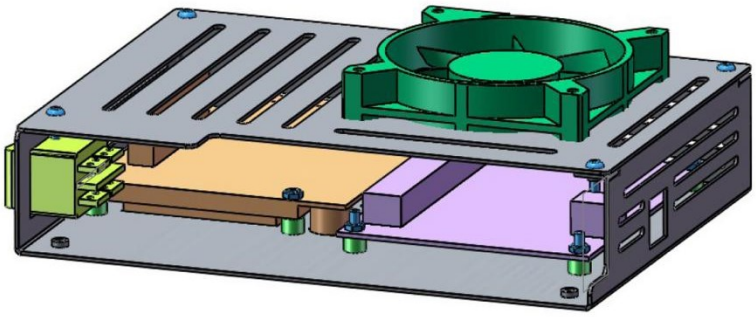



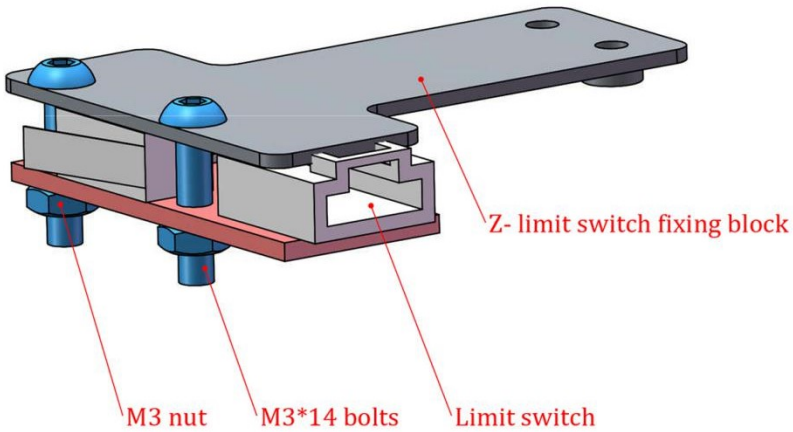
# 6、LCD and other parts installation

**Step 1 ----------**



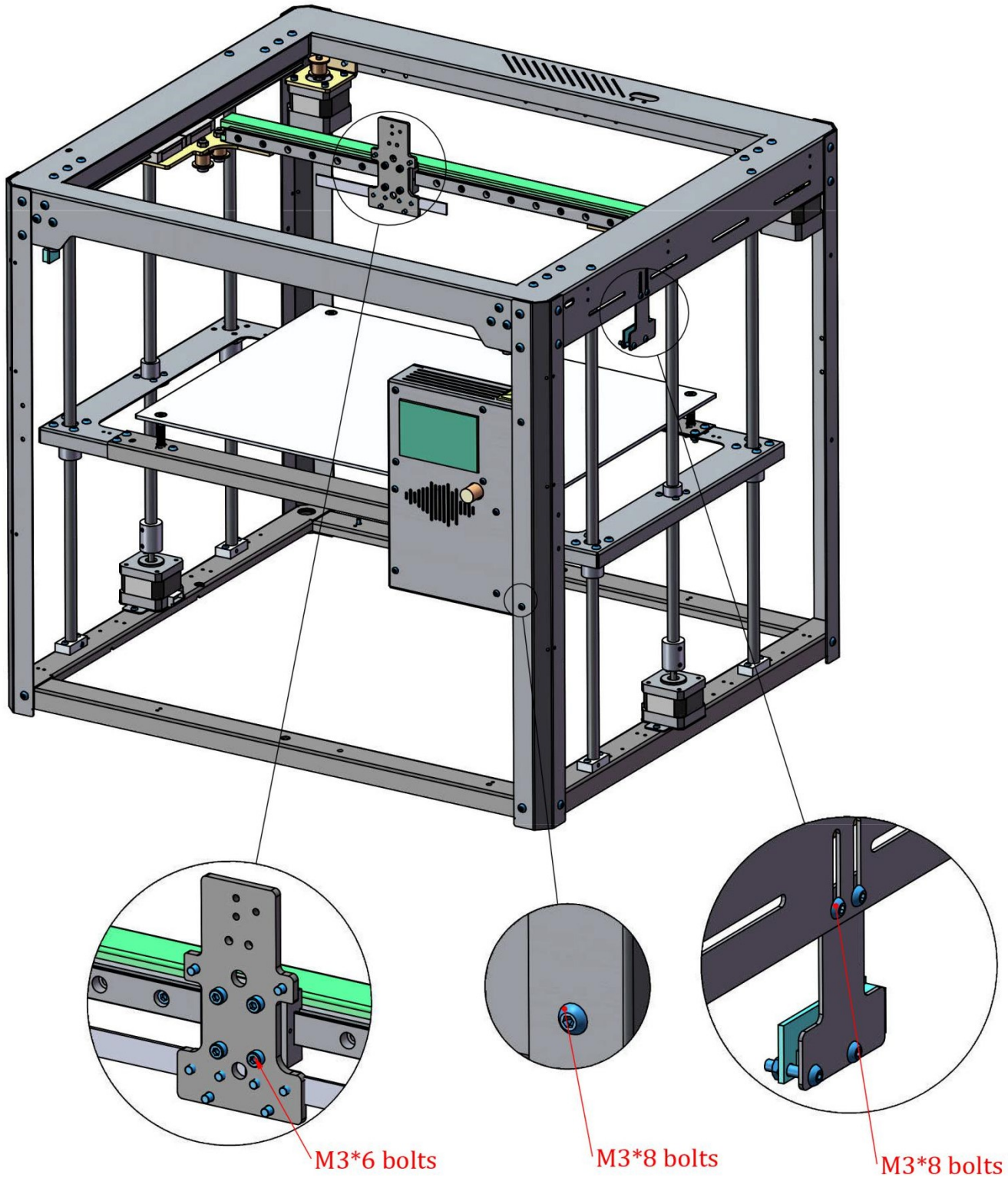





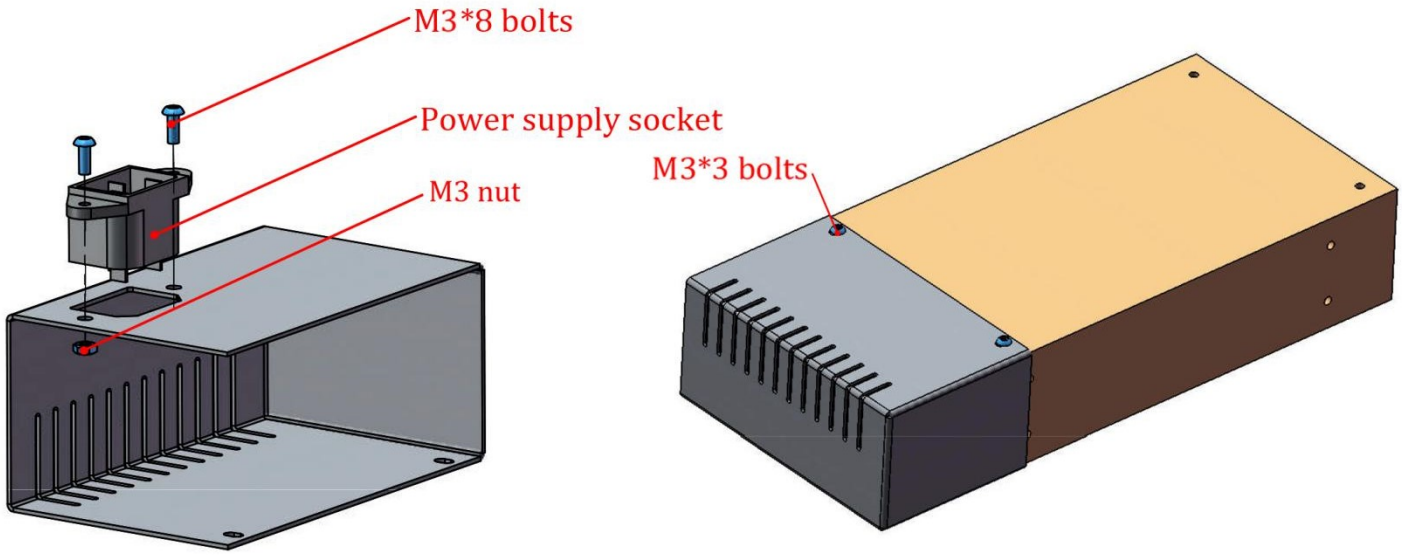
# 6、LCD and other parts installation

**Step 2 ----------**

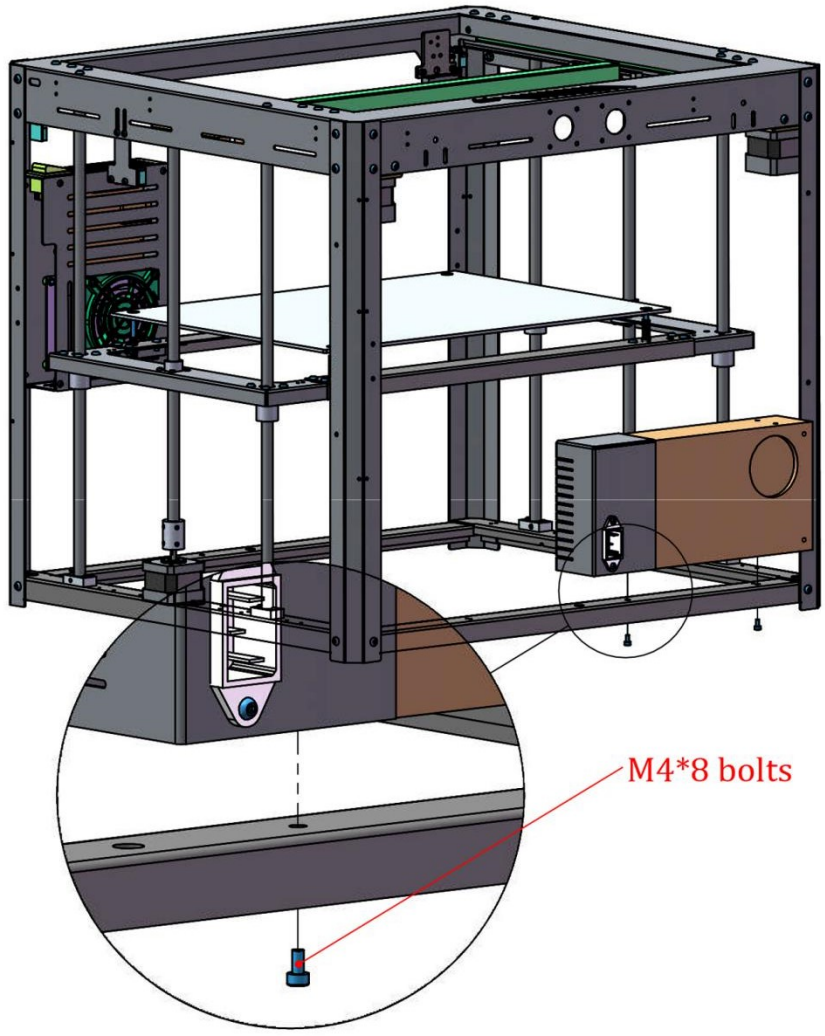


# 7、Power installation

**Step 1 ----------**

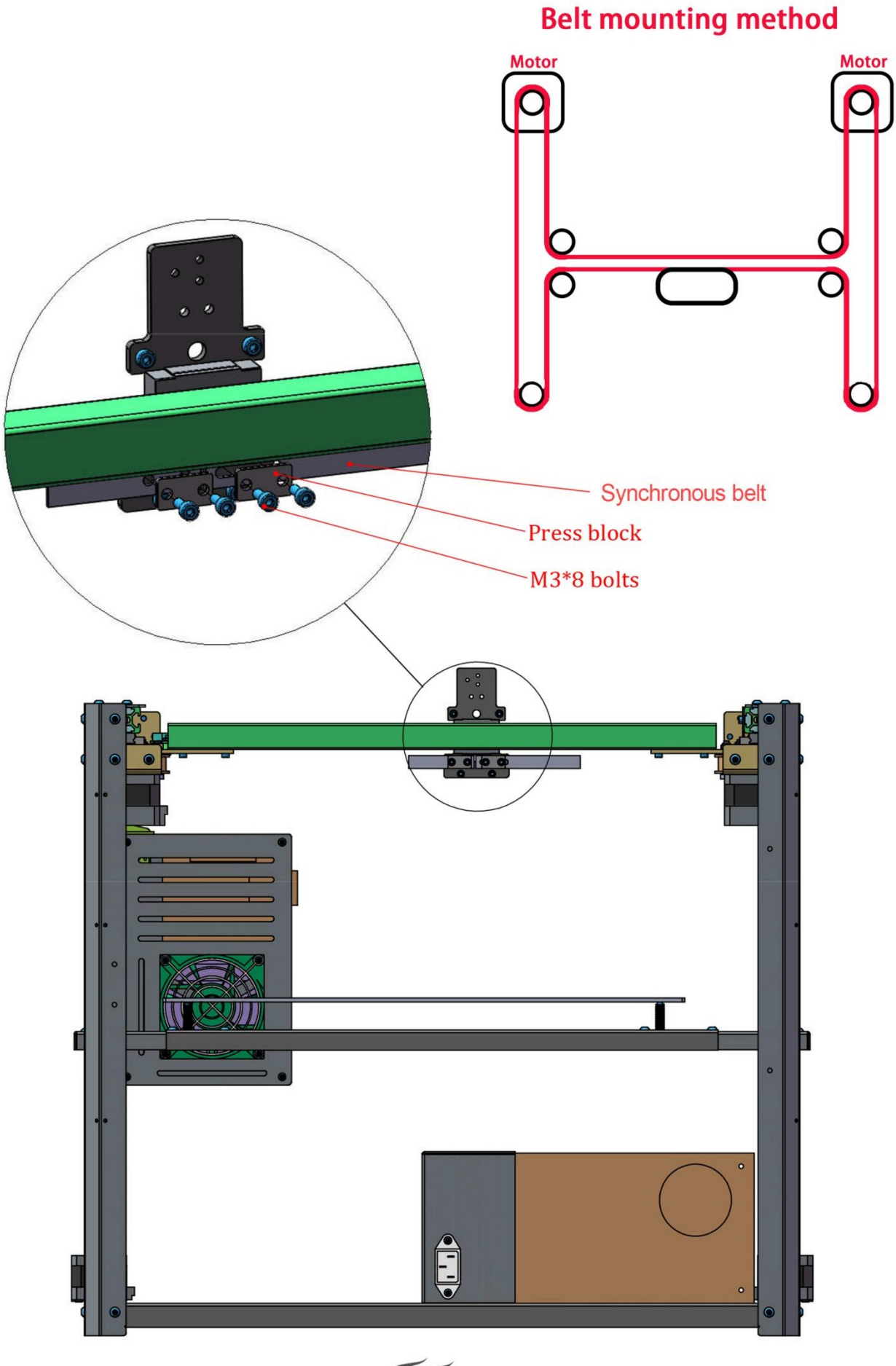



**Step 2 ----------**



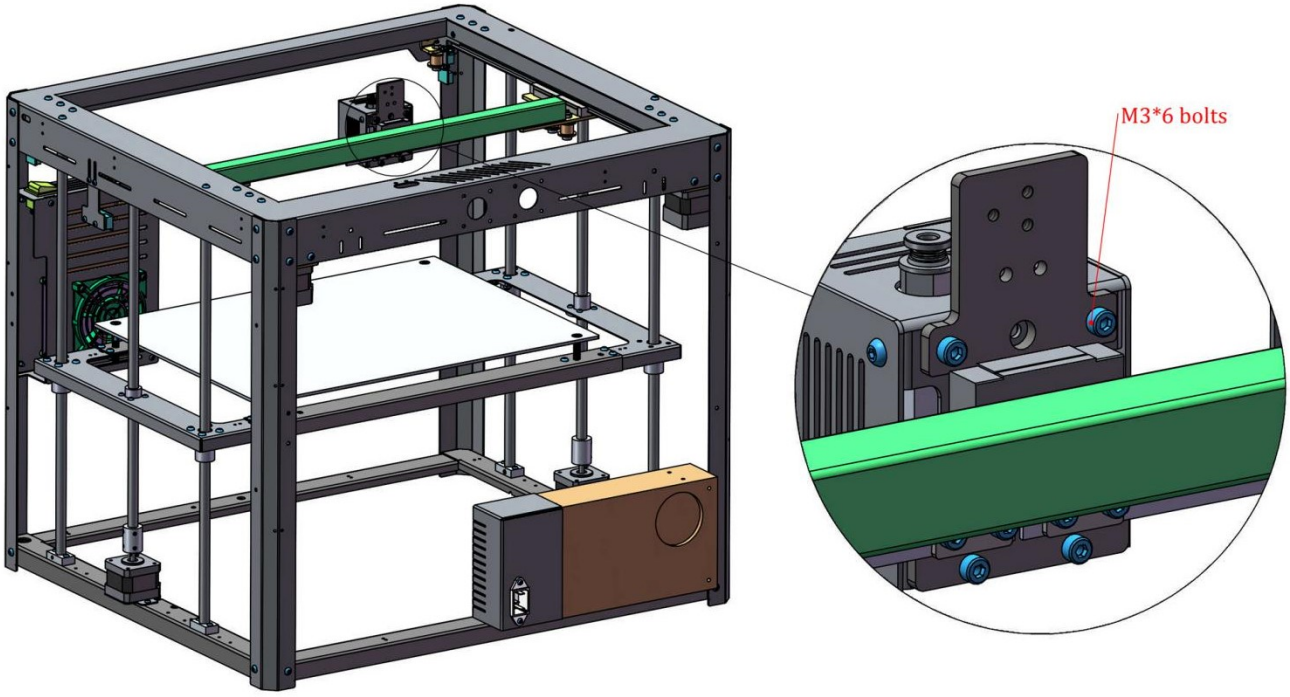
# 8、Synchronous belt installation

**Step 1 ----------**

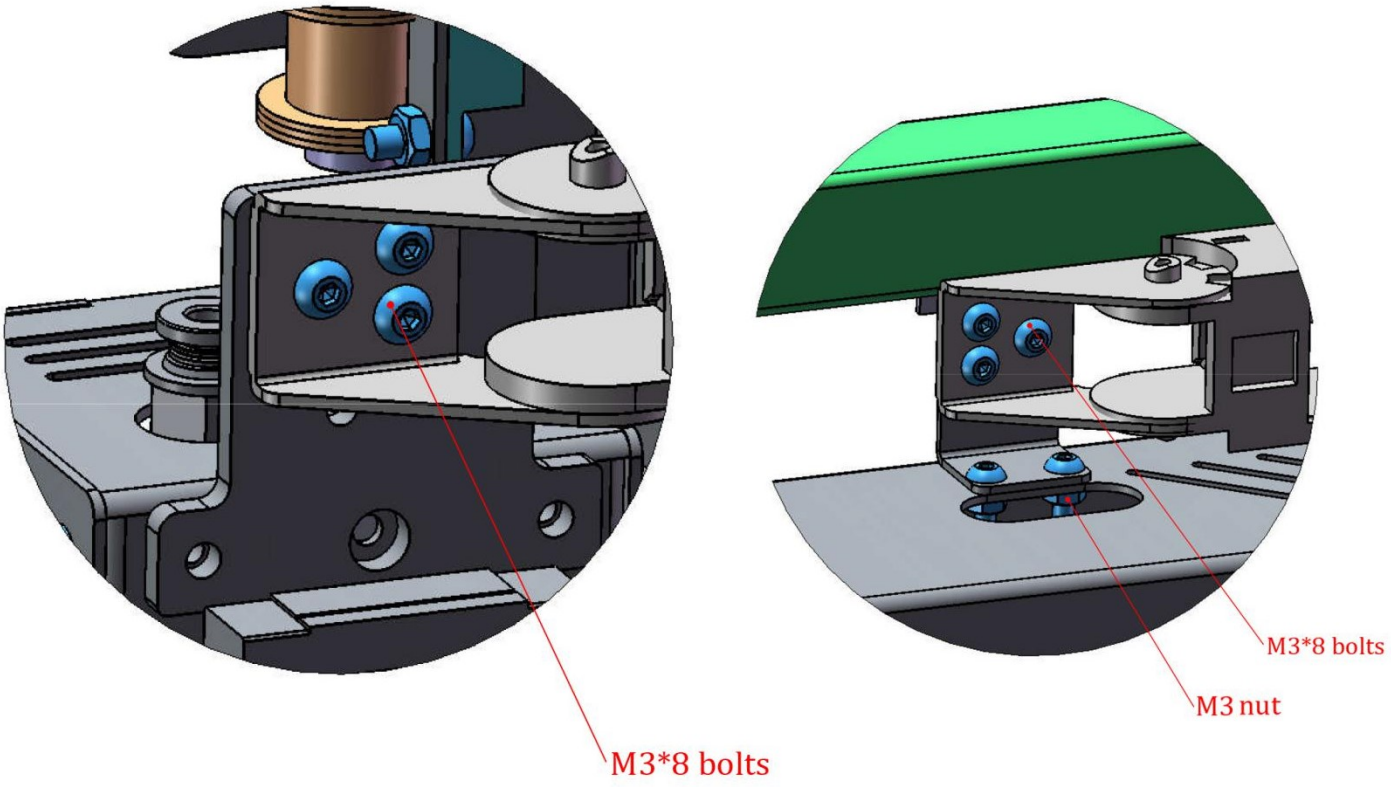


# 9、Nozzle and tank chaain installation

**Step 1 ----------**

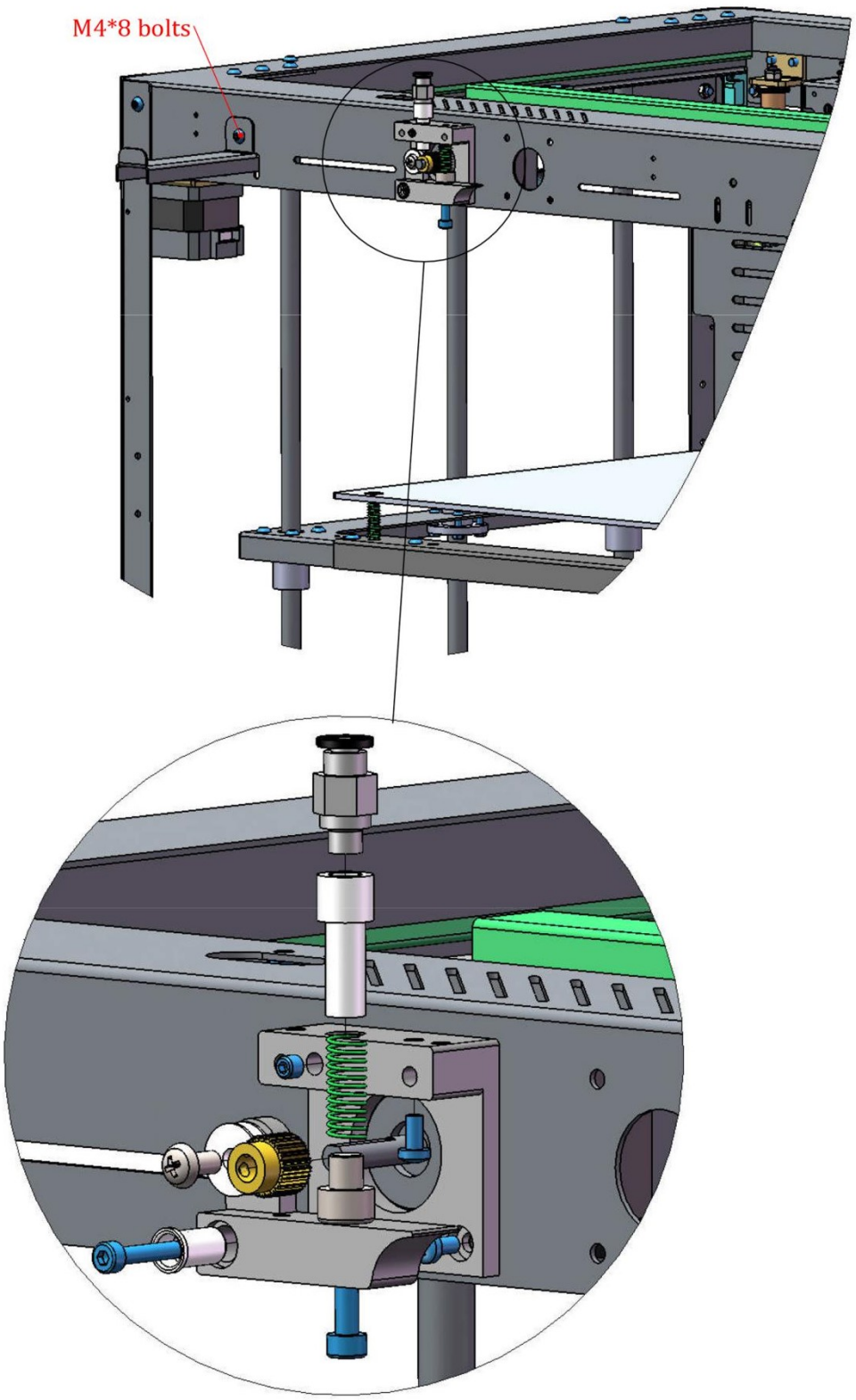



**Step 2 ----------**



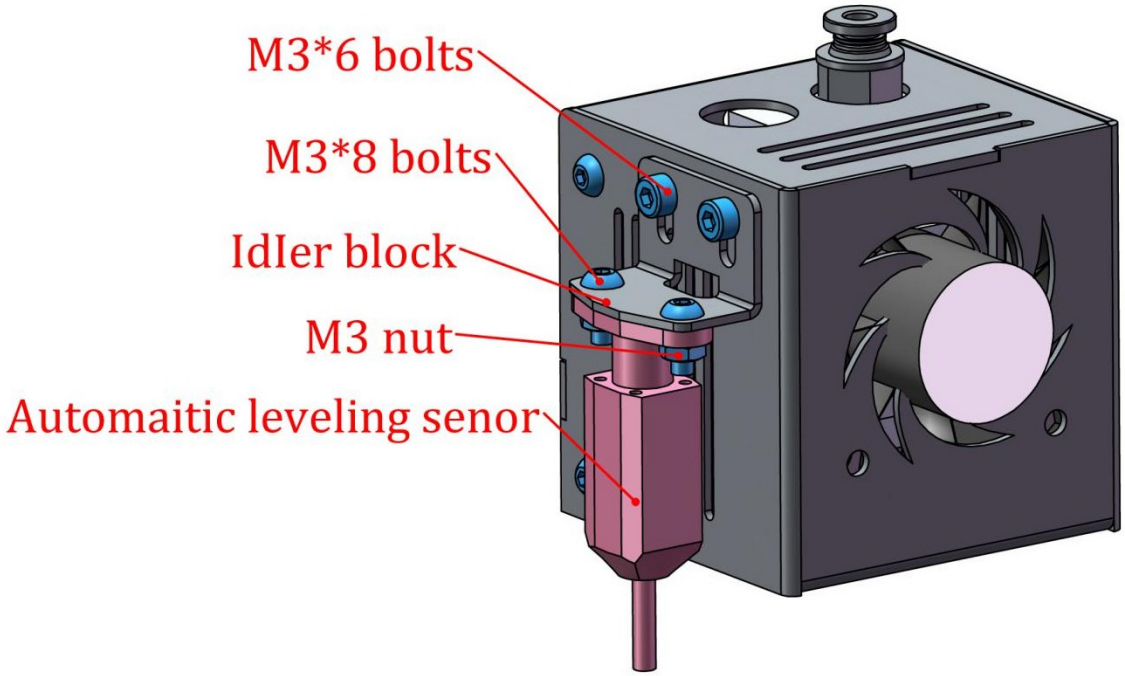
# 10、Extruder installation

**Step 1 ----------**

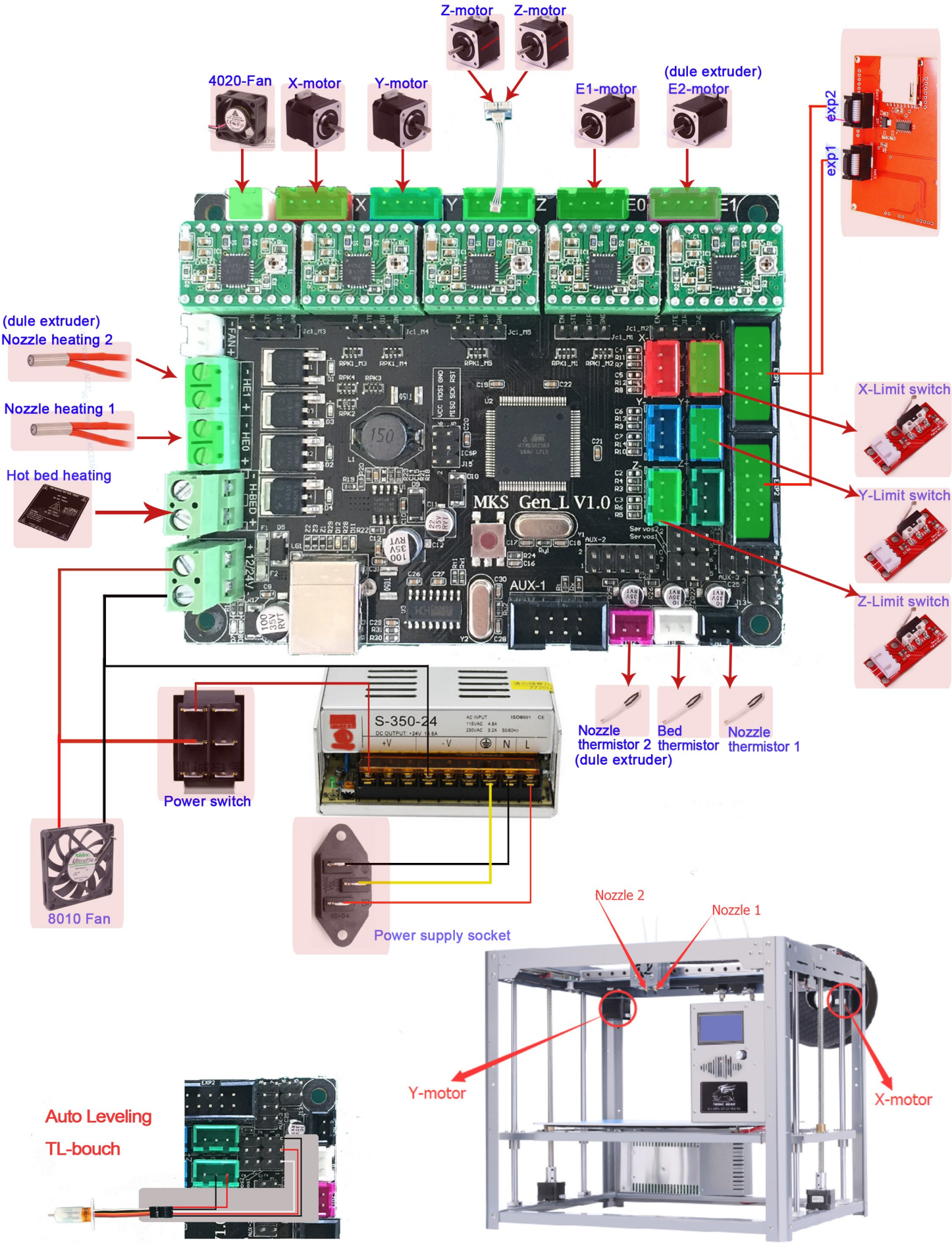


# 11、Auto leveling installation

**Step 1 ----------**



# 12、Flyingbear-Tornado wiring diagram

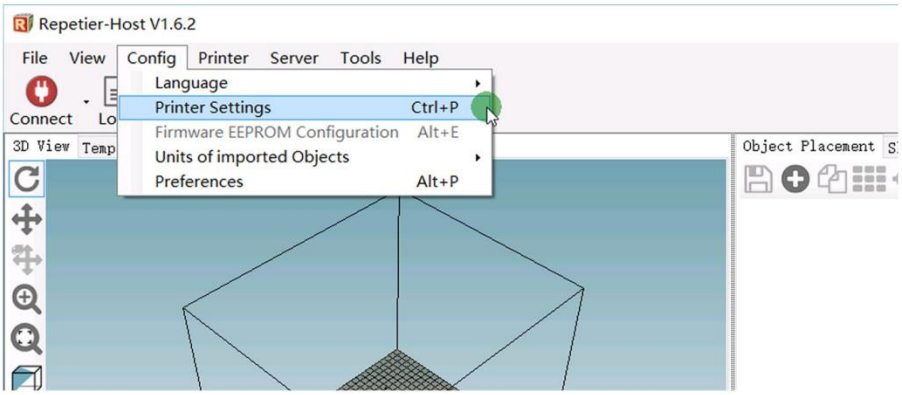


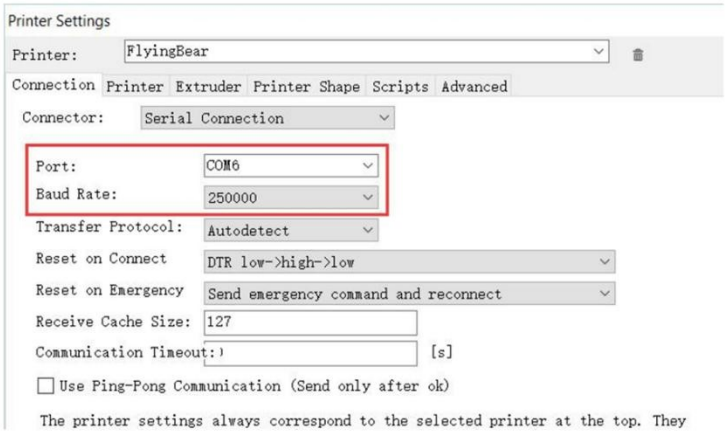
# 13、Setting up slicing software

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

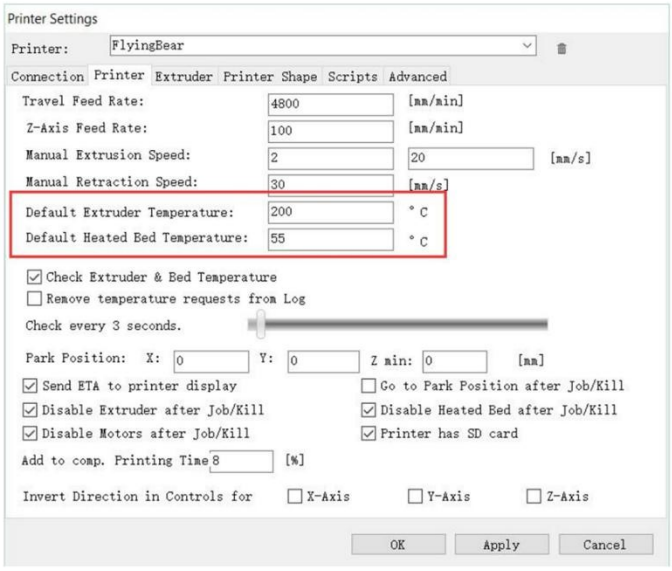



**Port** :According to the ports in Device manager （COM＆LPT）to choose, **(Notice: Each computer is different,my computer is COM5.)**

**Baud Rate**：fill in “250000”

**Other parameters remain the same.**




Reference temperature:

*Print PLA*

**Extruder temperature**：190℃ around

**Bed temperature**： 40℃ around

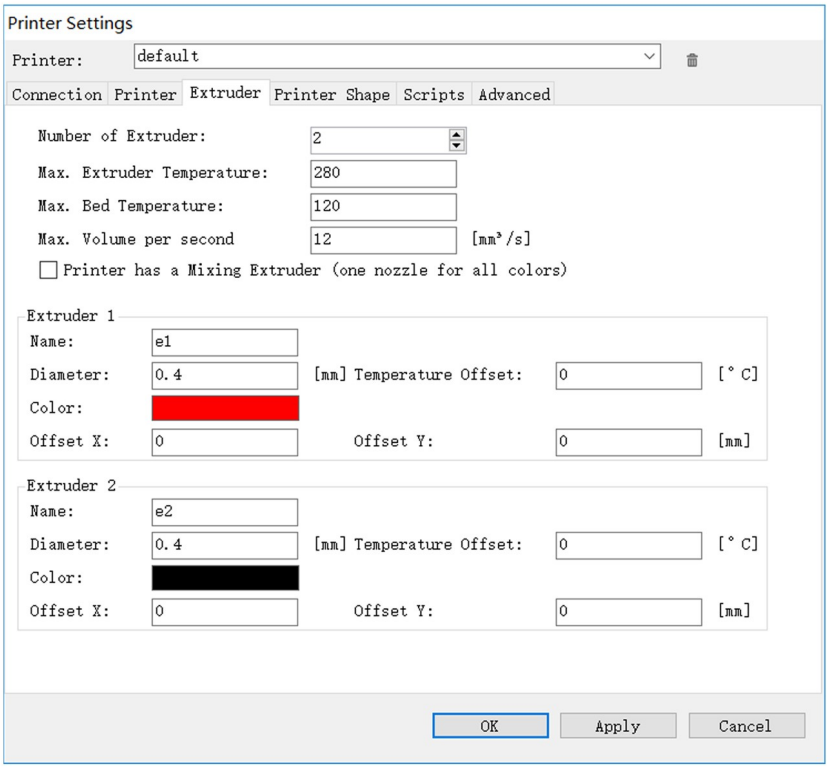
*Print ABS*

**Extruder temperature**：230℃ around

Bed temperature：80~100℃ around

**Other parameters remain the same.**

# 13、Setting up slicing software



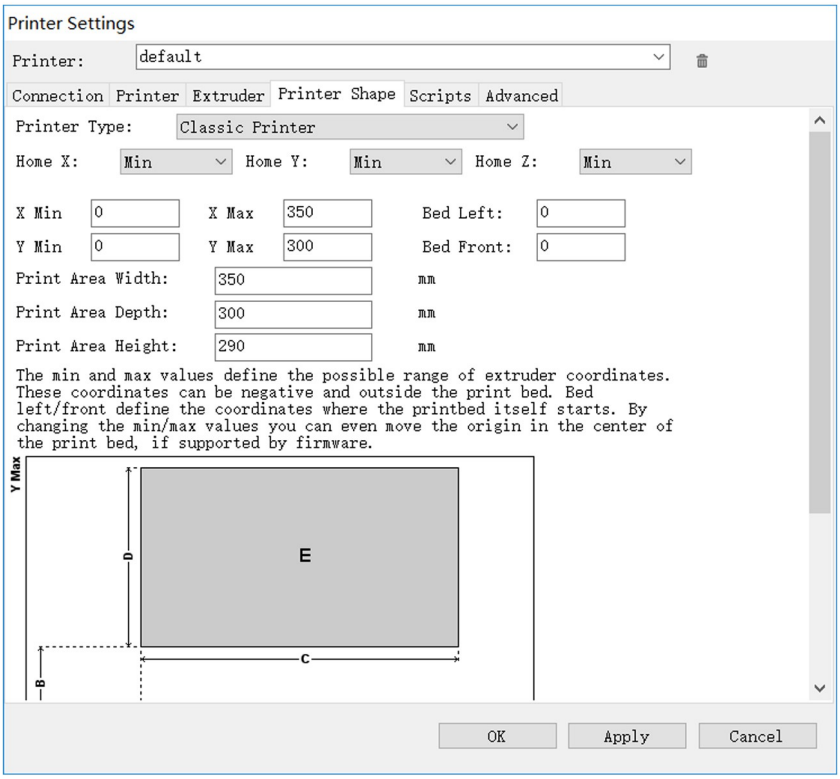

For double nozzles, please fill in 2

**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

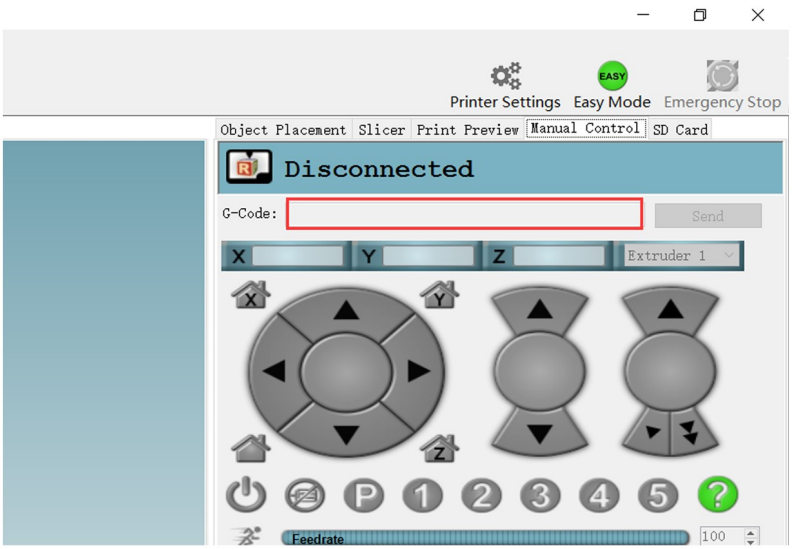
**Print Area Depth**：300

**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.)**

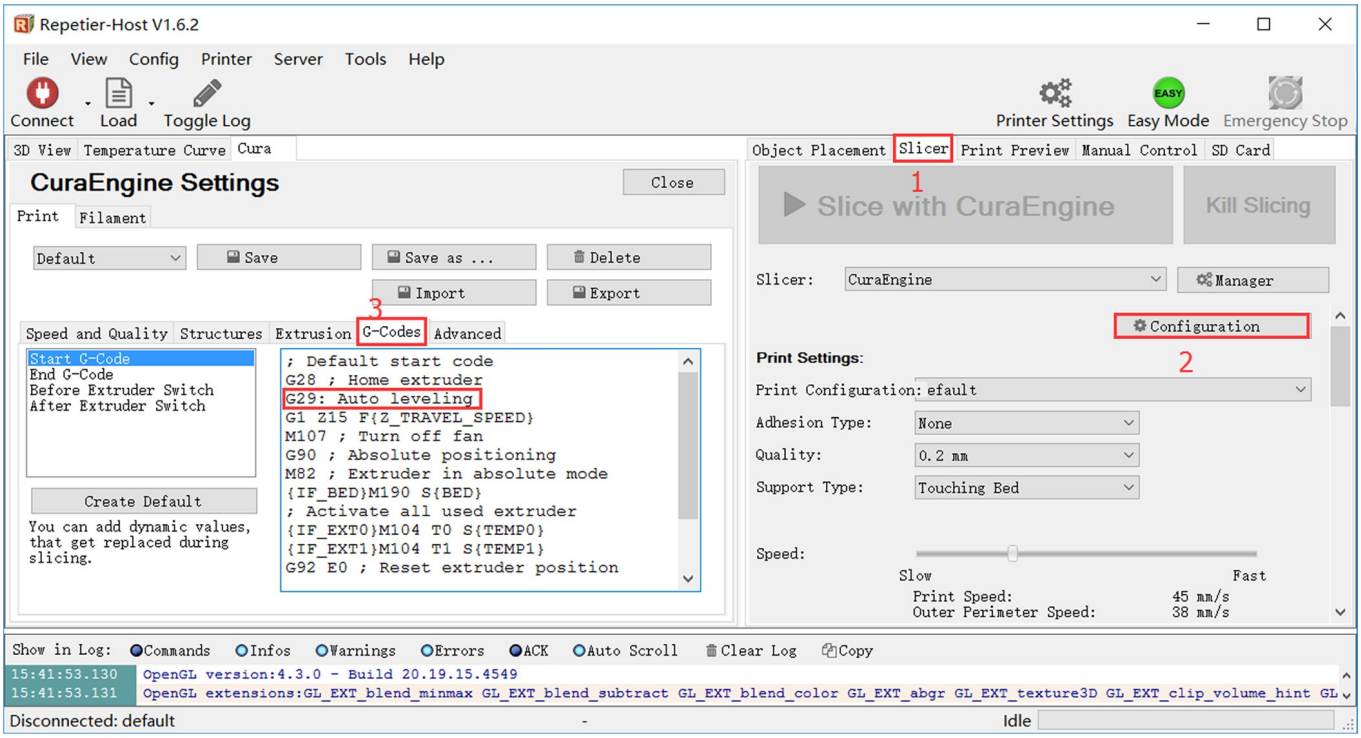
**Other parameters remain the same.**

# 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

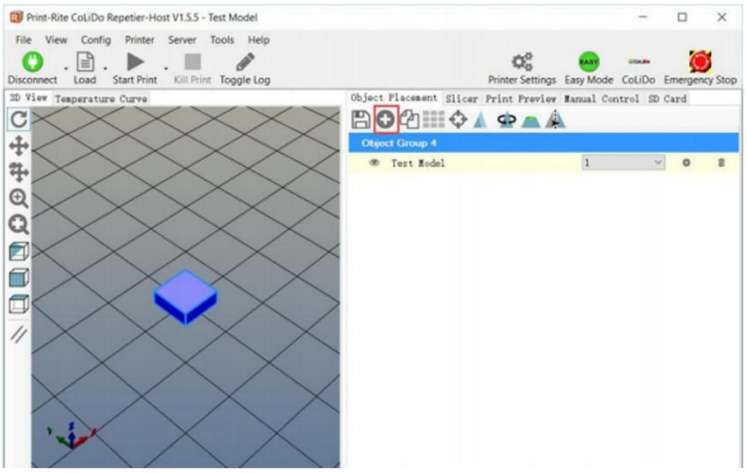


# 15、First print model

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.

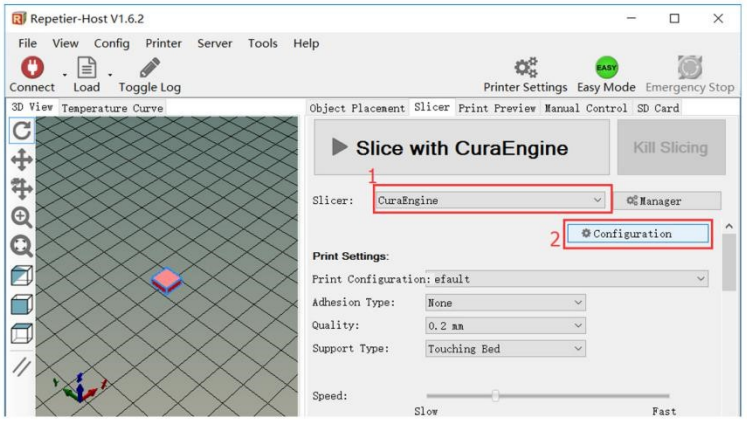
Attention:The hot bed needs to paste the masking tape or painted with the self-adhesive before printing.

Introduction of using SD card to print

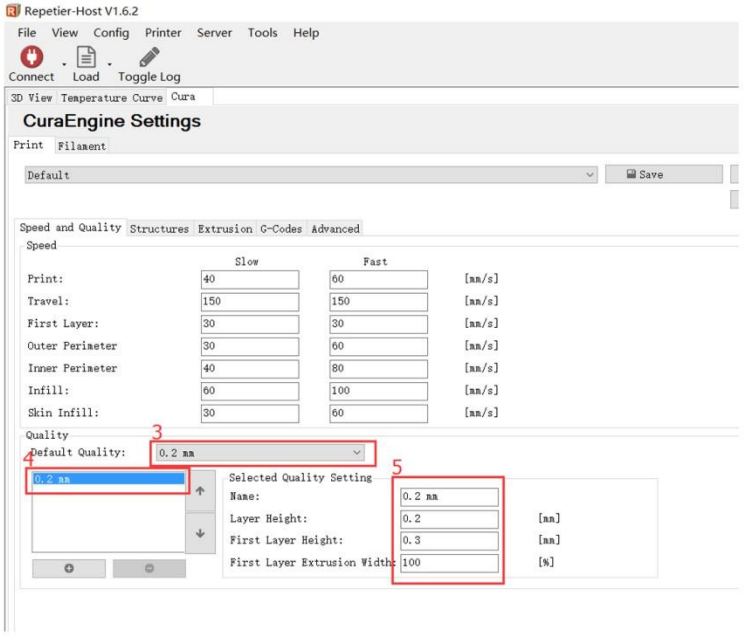



Click the botton，load the folder

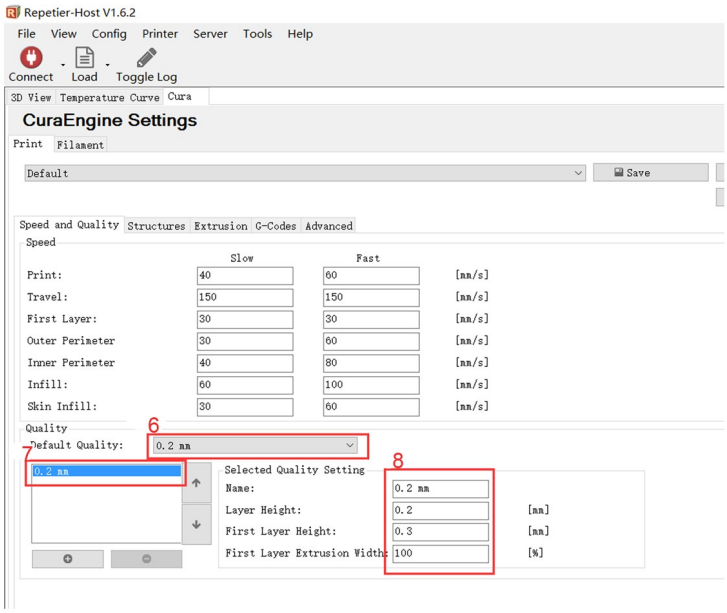
“Test Model” in “FlyingBear-tornado Printer”

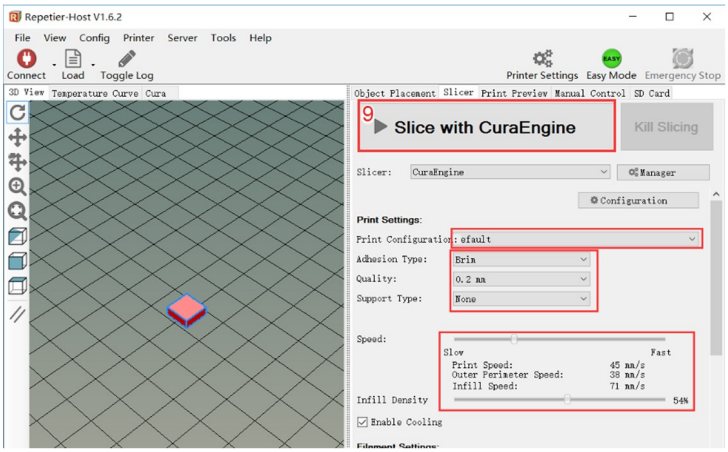


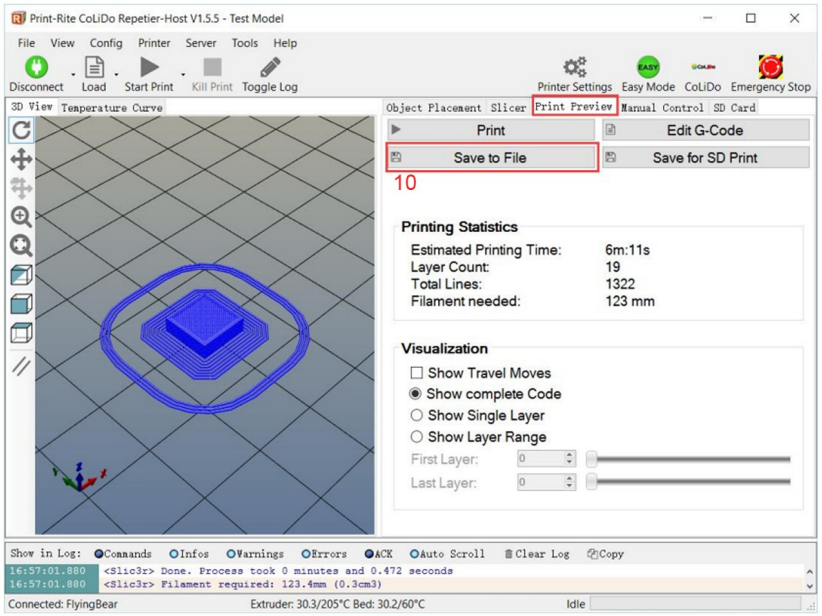

Set parameters according to pictures



# 15、First print model

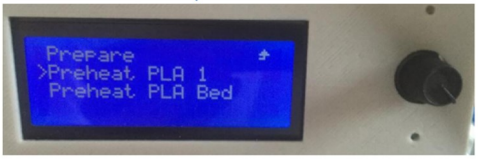



After slice is done,Click “Save to File” to save the file in SD card.


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.