

Panowin F1

User Manual

PANOWIN TECHNOLOGIES CO.,LTD.

WARNING



CAUTION: In case of emergency unplug the Panowin F1 from the power outlet.



WARNING: Carefully monitor the Panowin F1 during operation. Do not leave unattended.



WARNING: The Panowin F1 contains moving parts that can cause injury. Keep hands, body parts, loose clothing, pets and children away from the Panowin F1 while it's operating.



WARNING: The Panowin F1 Extruder head & nozzle operates at high temperatures.

Allow the unit to cool before touching it following operation.



CAUTION: The Panowin F1 melts plastic during operation and emits plastic odors.

Always use your Panowin F1 in a well-ventilated area.

Tools & Screws



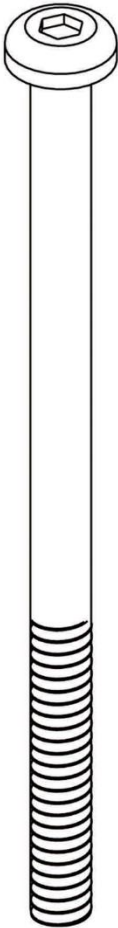
Large Hex Key



Small Hex Key

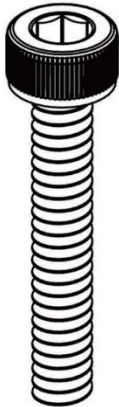


Tweezers



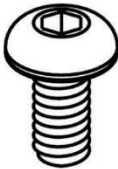
M3X50mm

6X



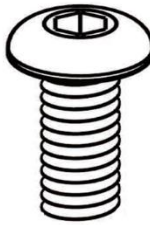
M3X18mm

18X



M3X6mm (Round Head)

2X



M4X10mm

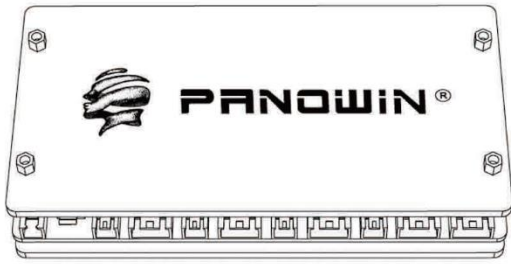
4X



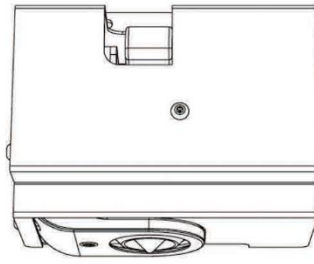
M3X8mm (Flat Head)

7X

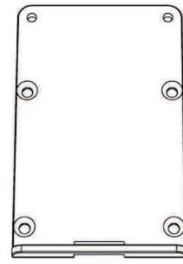
Components



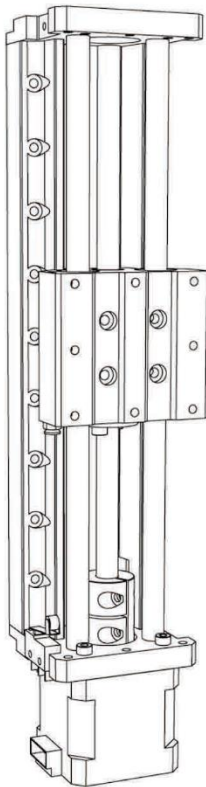
Main Control Board



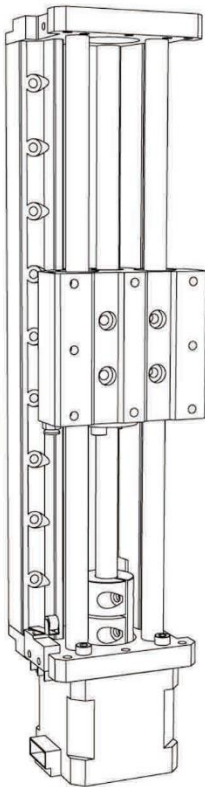
Extruder



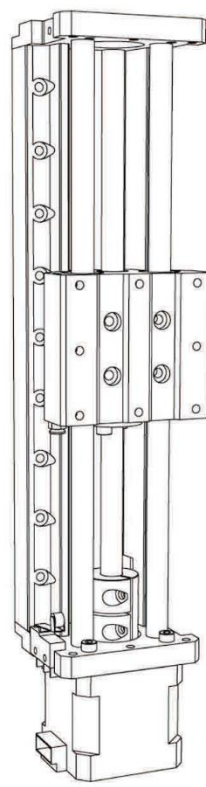
Extruder Mounting



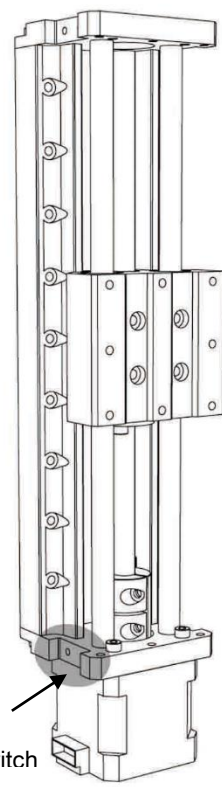
X Axis



Y Axis

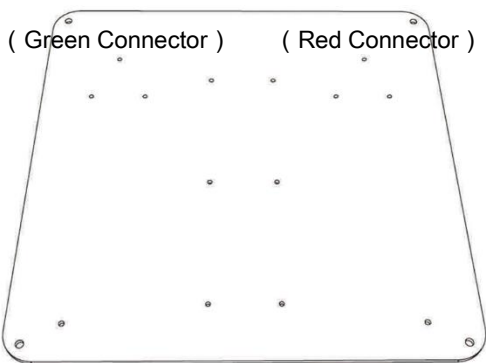


Z Axis Left



No Switch

Z Axis Right



(Green Connector)

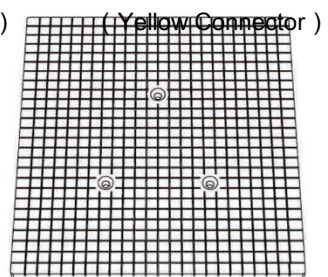
(Red Connector)

Base Plate

(Yellow Connector)



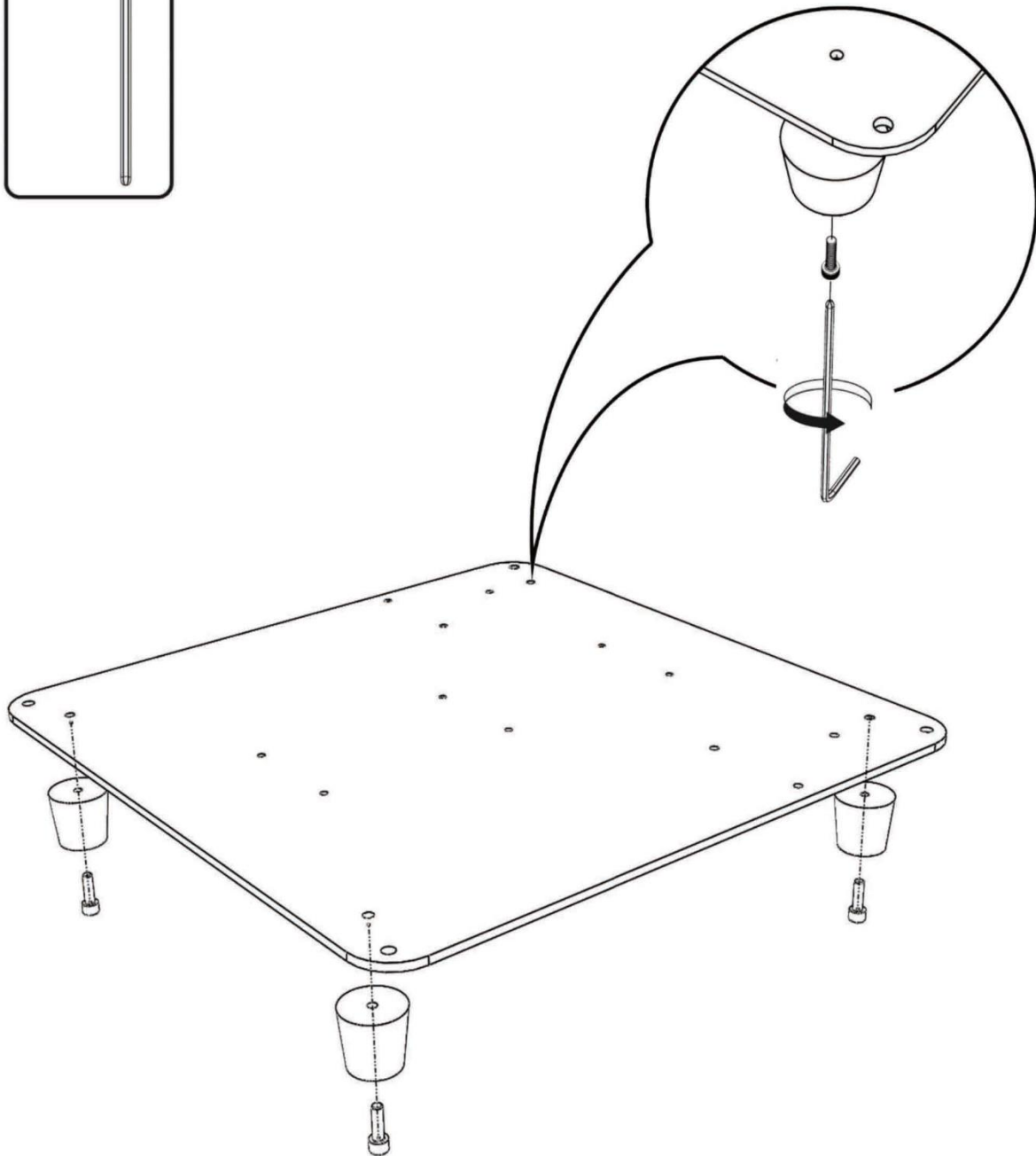
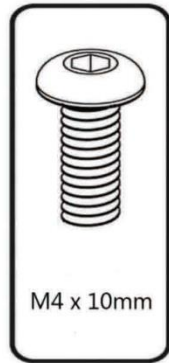
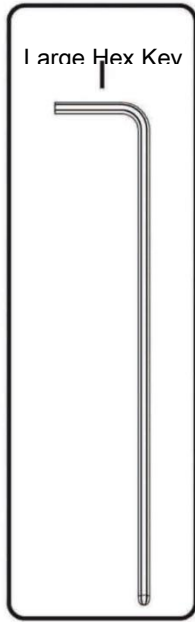
Rubber Foot



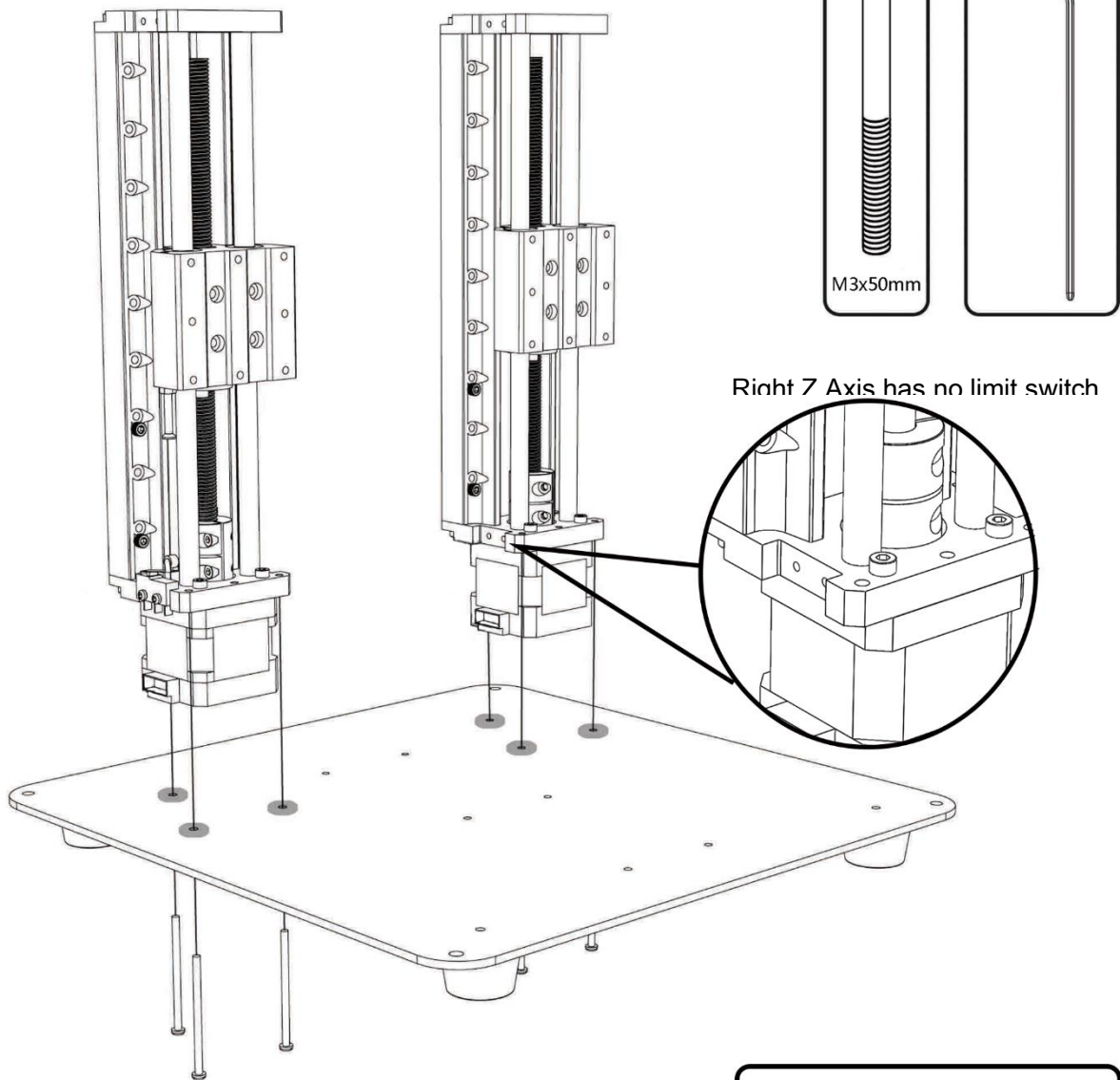
Print Red

Panowin F1
Mechanical Assembly

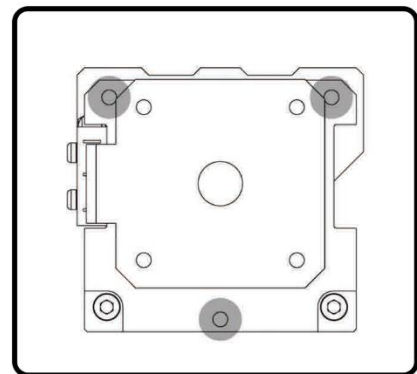
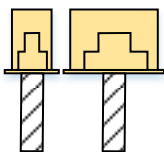
STEP1. Rubber Feet of Base



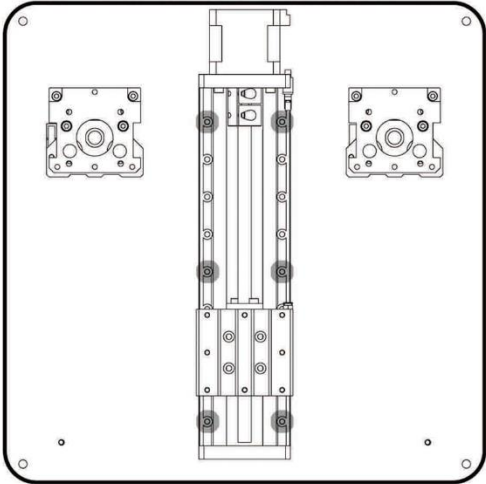
STEP2. Z Axis



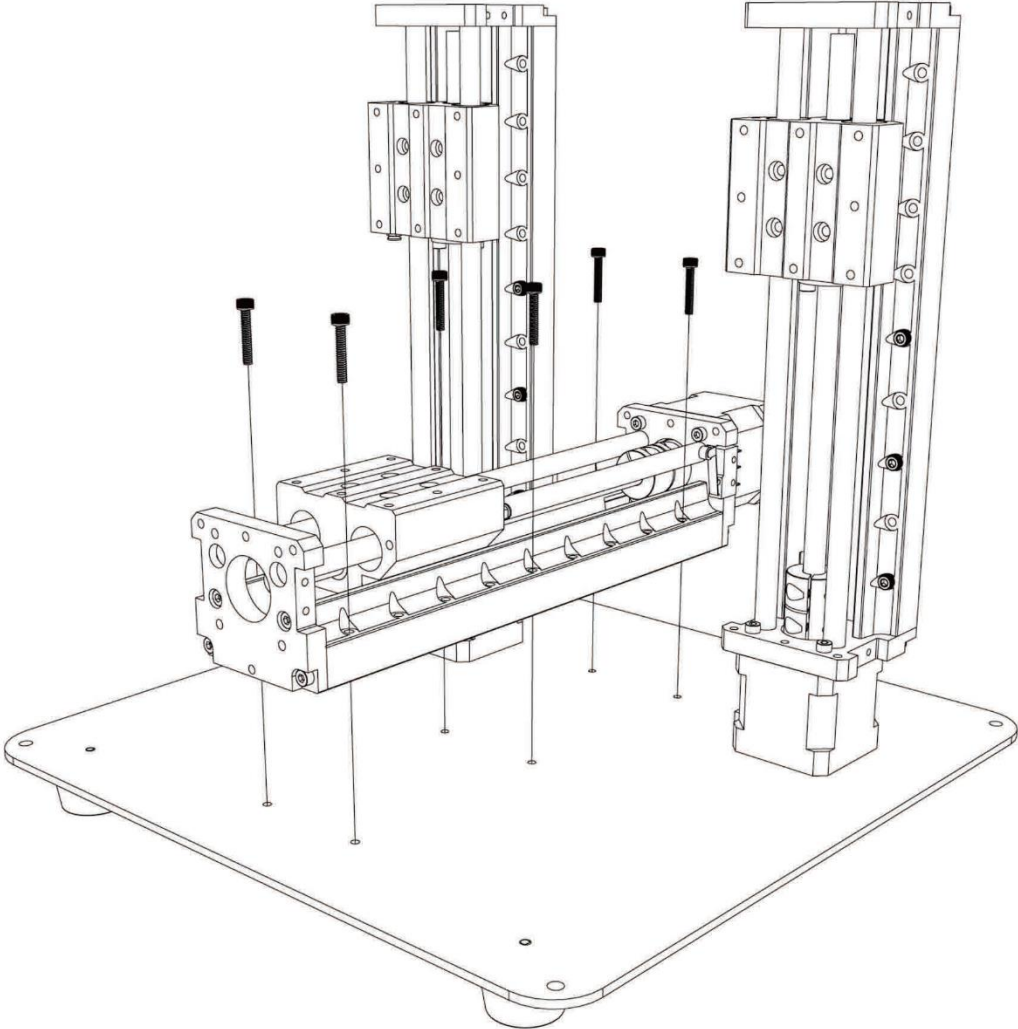
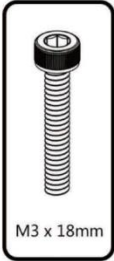
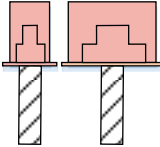
Z Axes are with the connector of color:

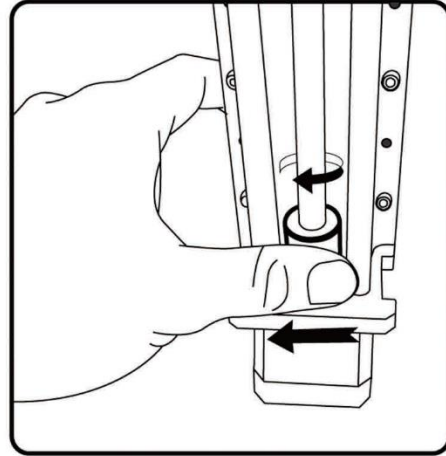
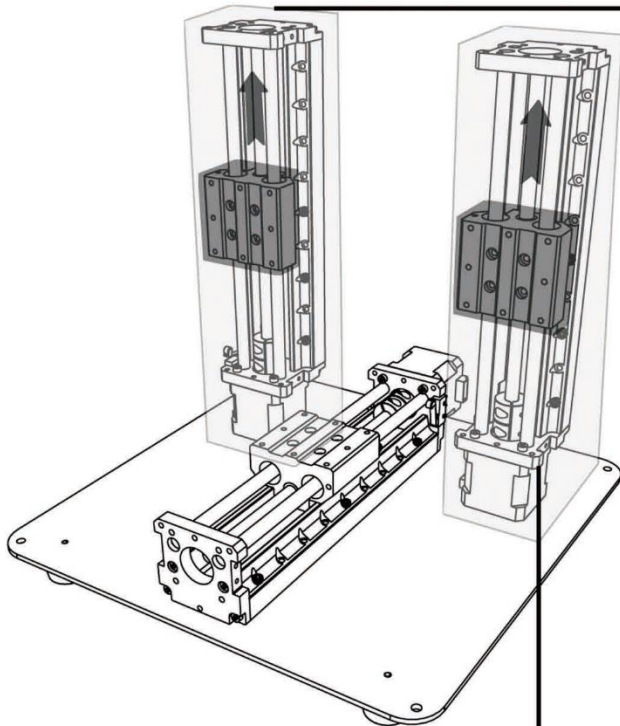


STEP3. Y Axis

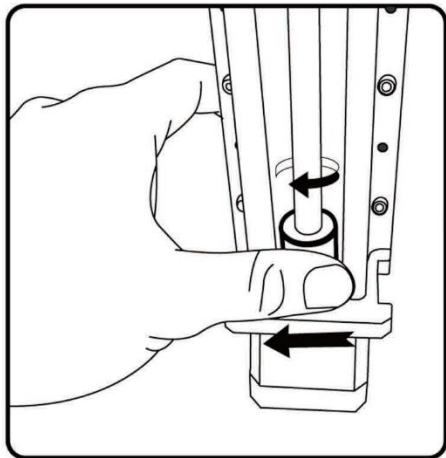


Y Axis is with the connector of color: Red

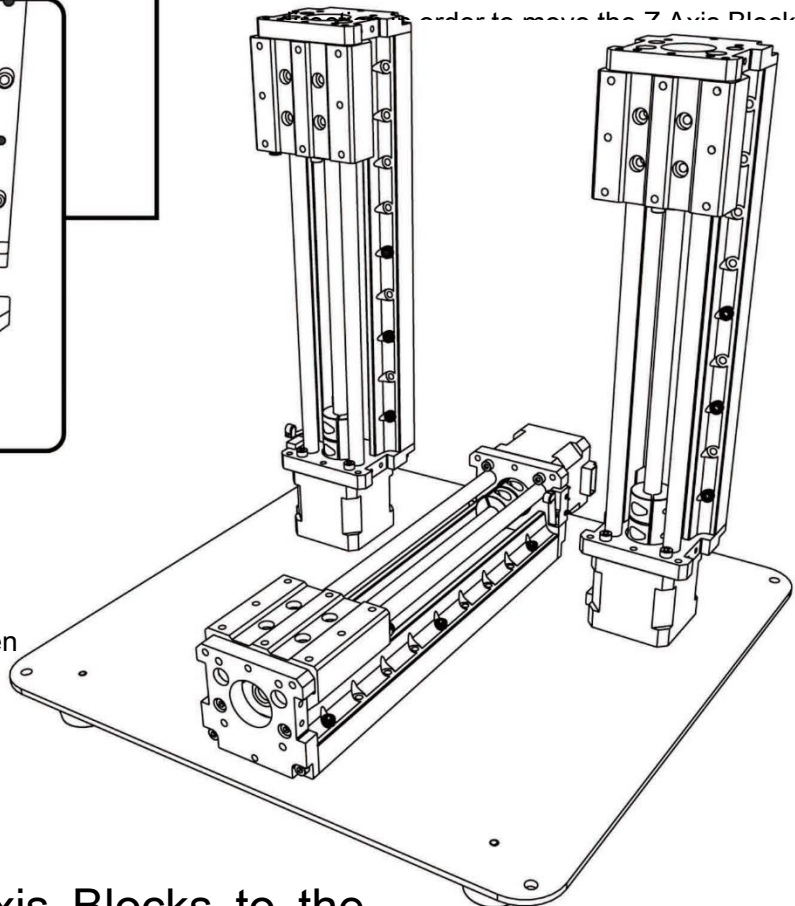




Manually rotate the coupling attached to the bottom of the threaded rods in a leftward

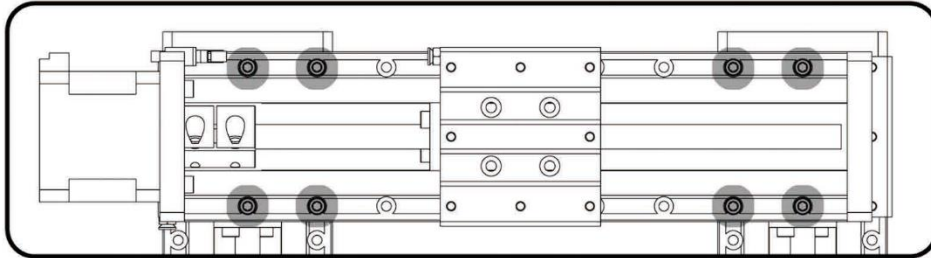


This is to make sure the two blocks of Z Axis keep level when

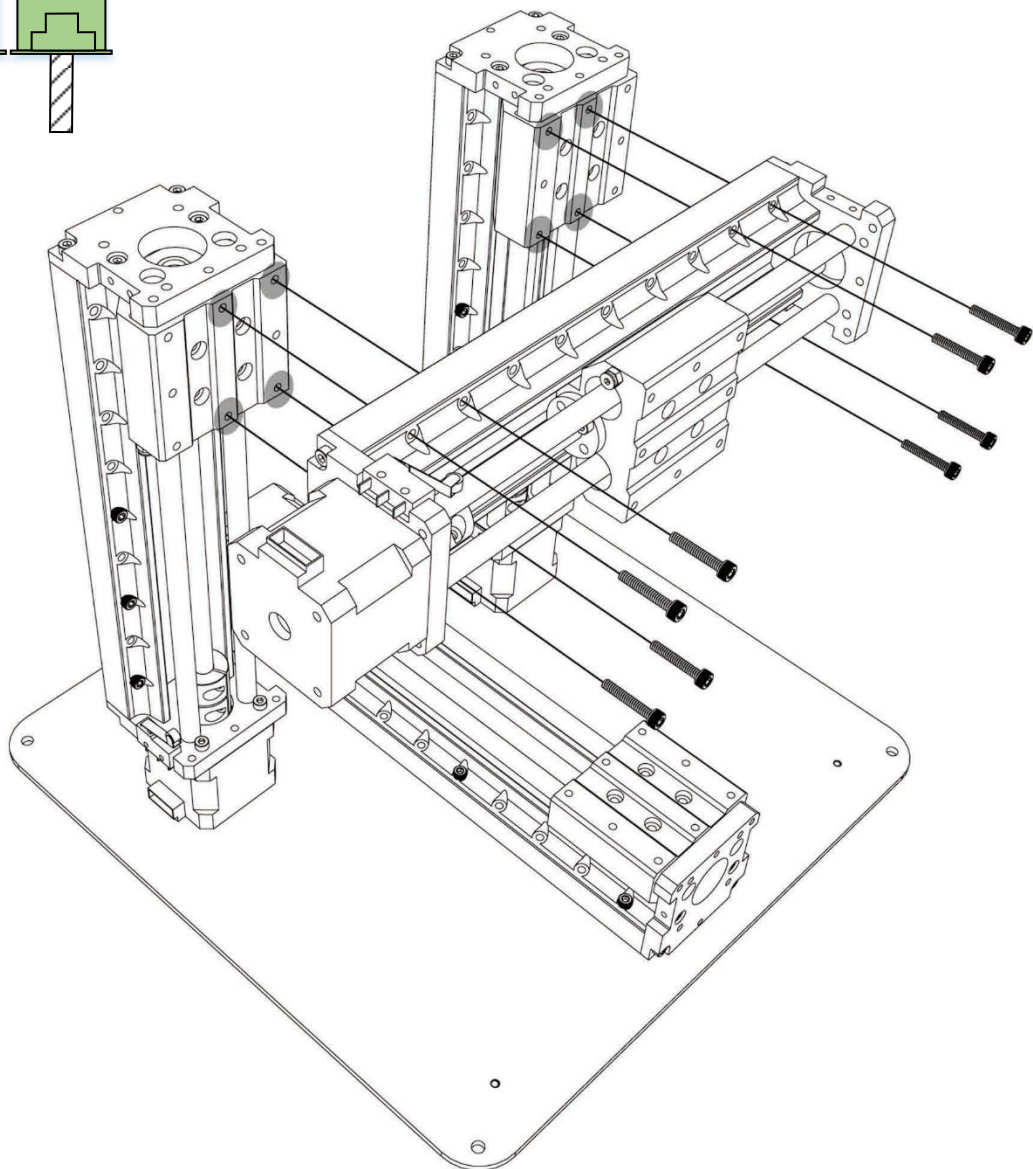
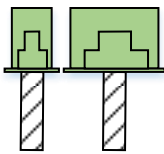


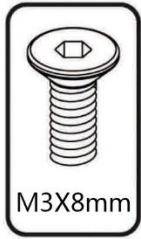
STEP4. Move Z Axis Blocks to the

STEP5. X Axis

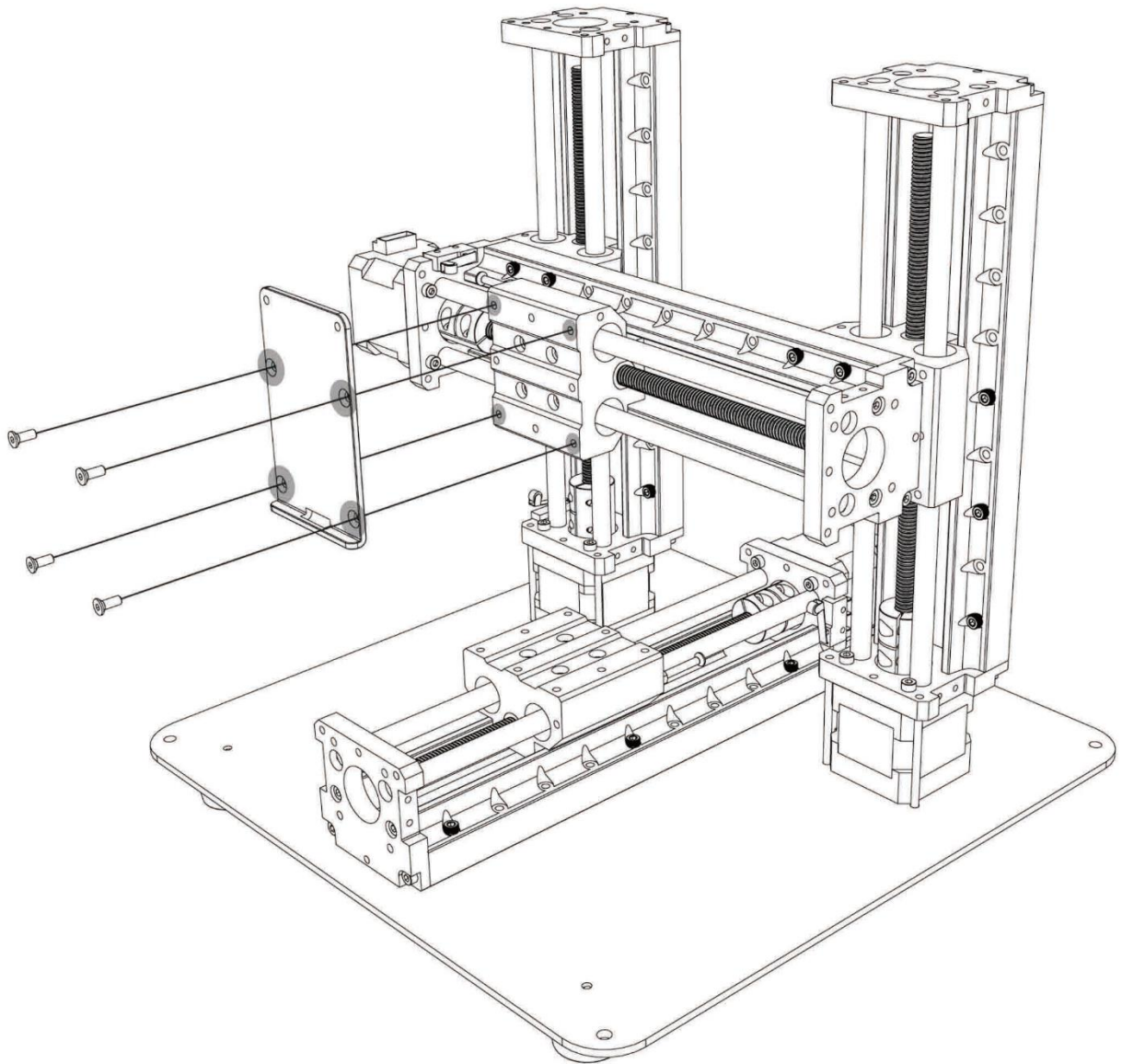


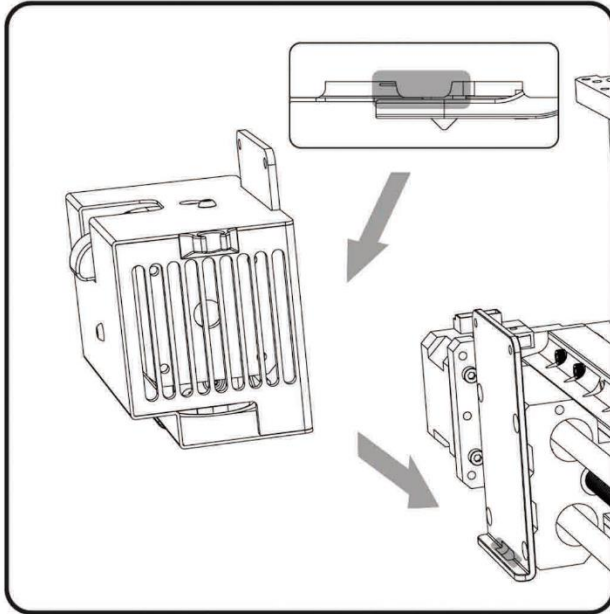
X Axis is with the connector of color:





STEP6. Extruder Mounting Plate



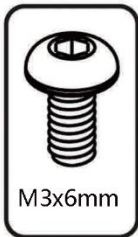


STEP7.

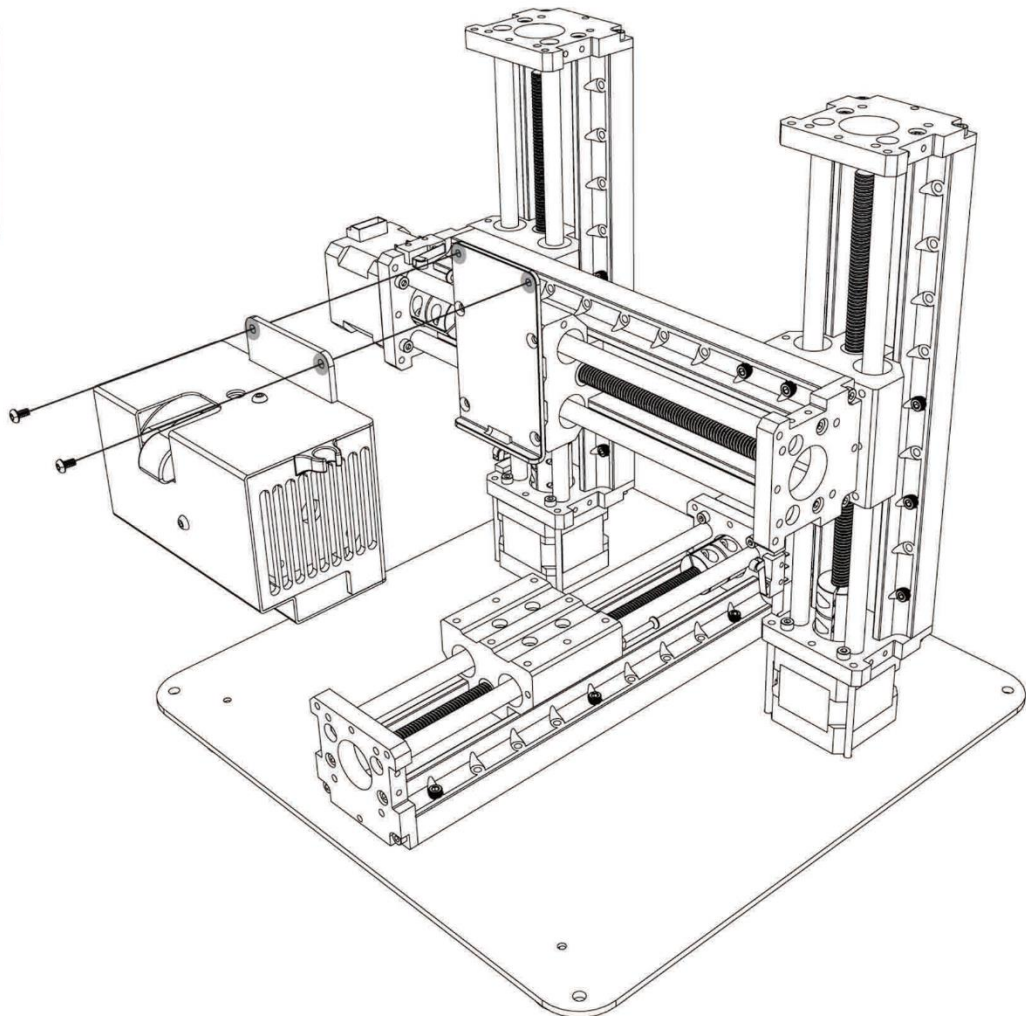
Extruder

Insert the tuber part at the bottom of the extruder back into the slot of the mounting plate,

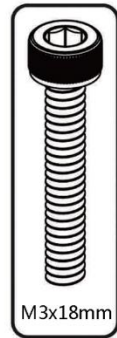
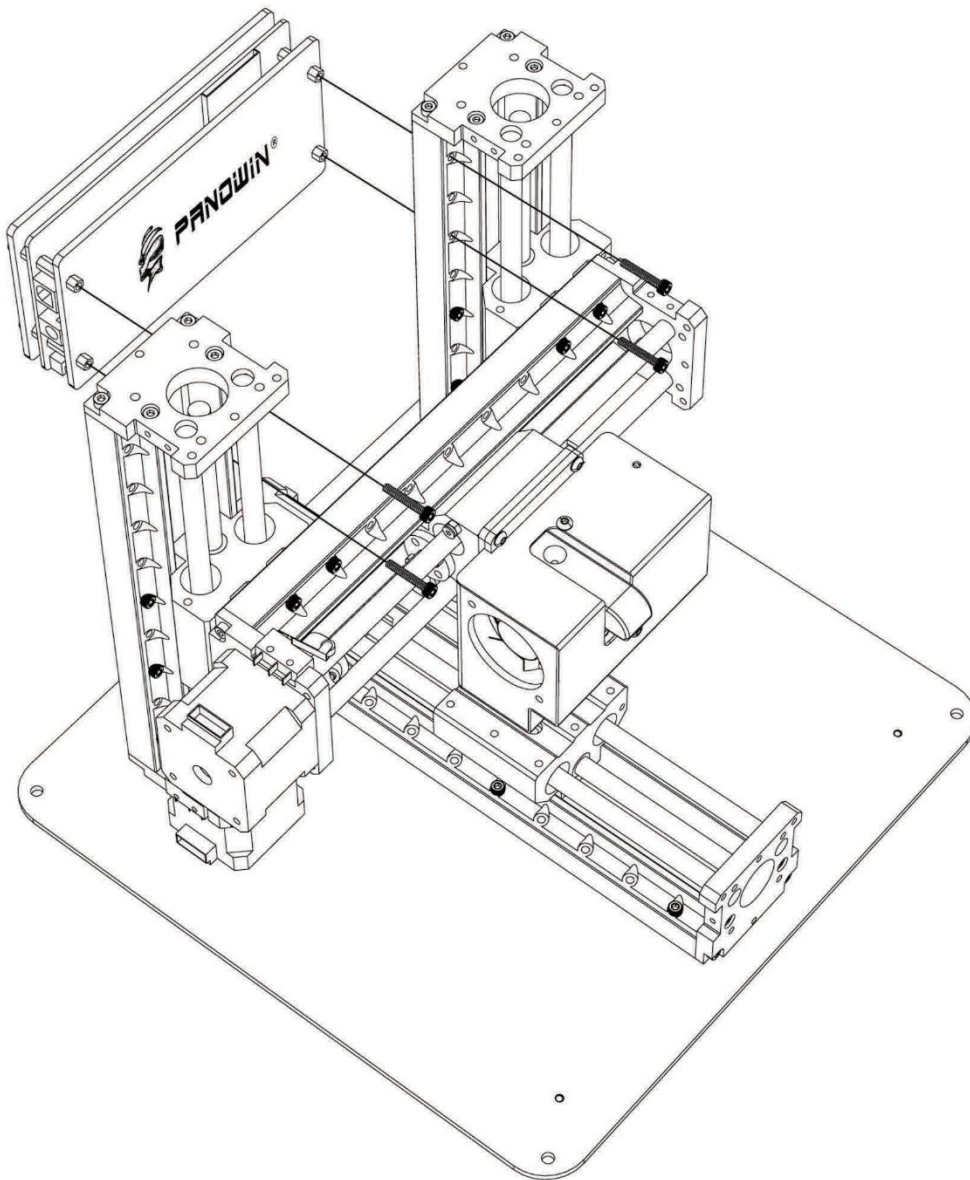
Align the two mounting holes, and fix the extruder with the round head



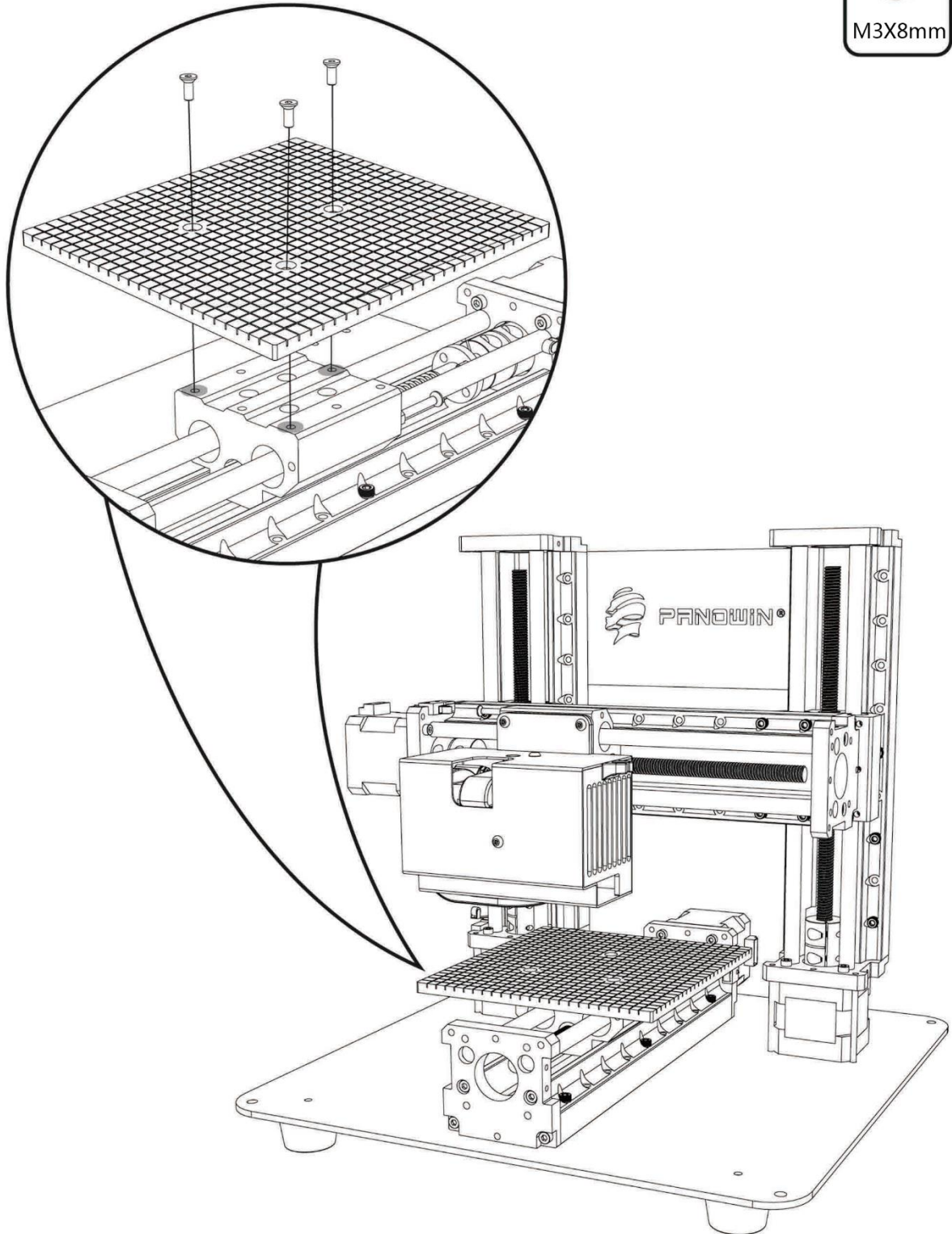
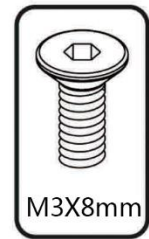
M3x6mm



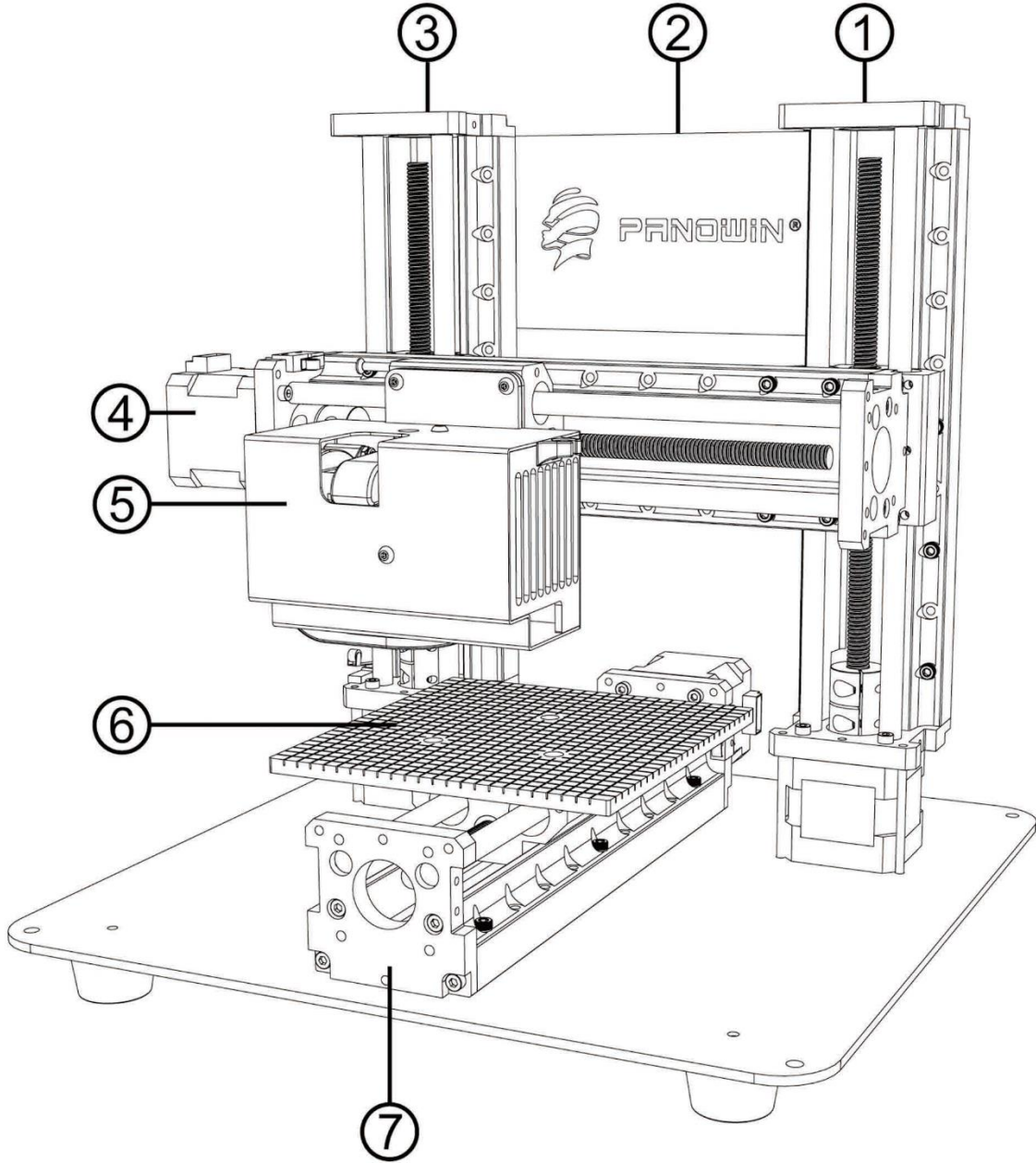
STEP8. Main Control Board



STEP9. Print Bed Installation



DONE

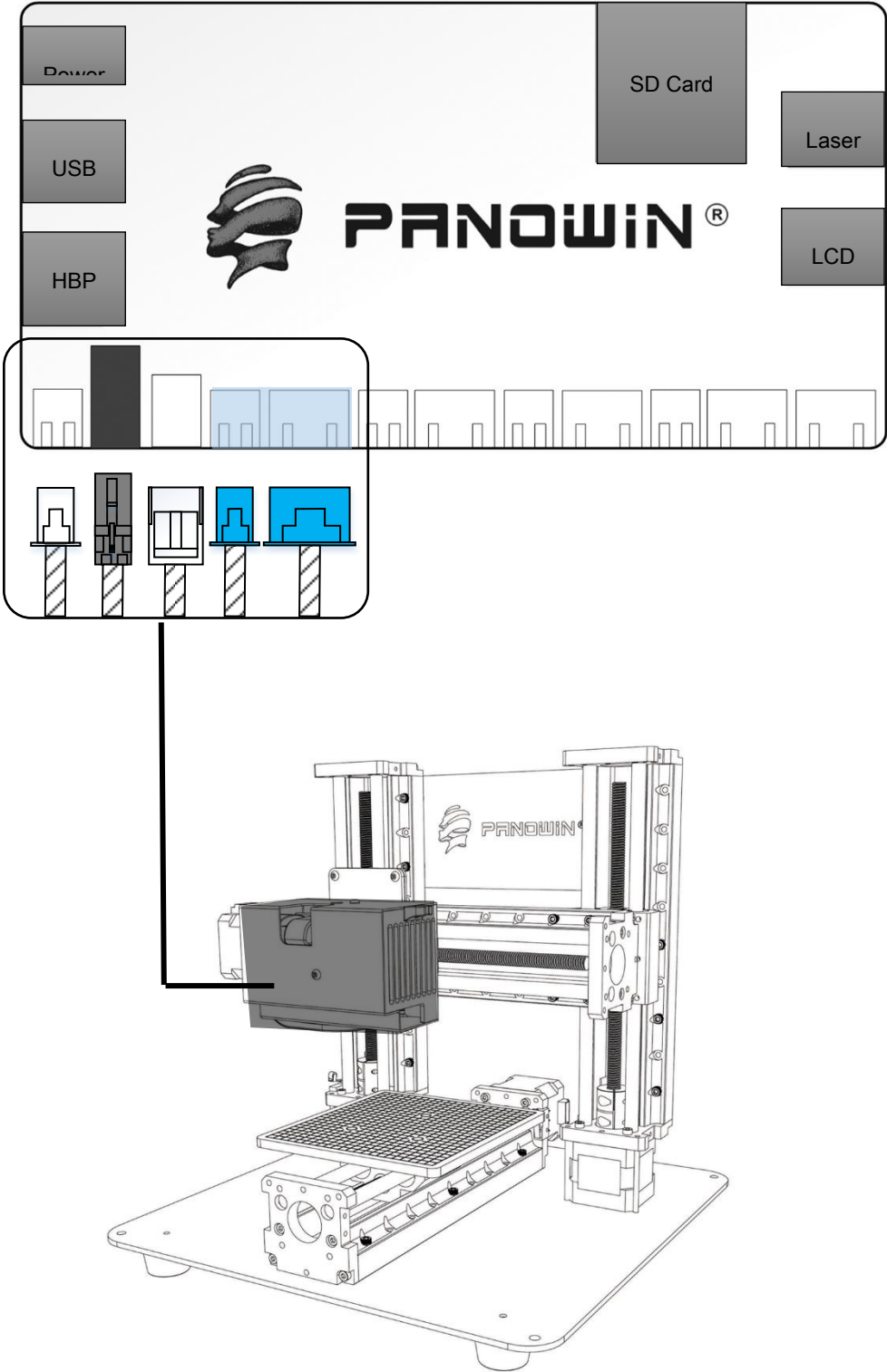


-
- | | | | |
|----------------|-------------------|---------------|----------|
| ① Z Axis Right | ② Main Control | ③ Z Axis Left | ④ X Axis |
| ⑤ Extruder | ⑥ Board Print Bed | ⑦ Y Axis | |

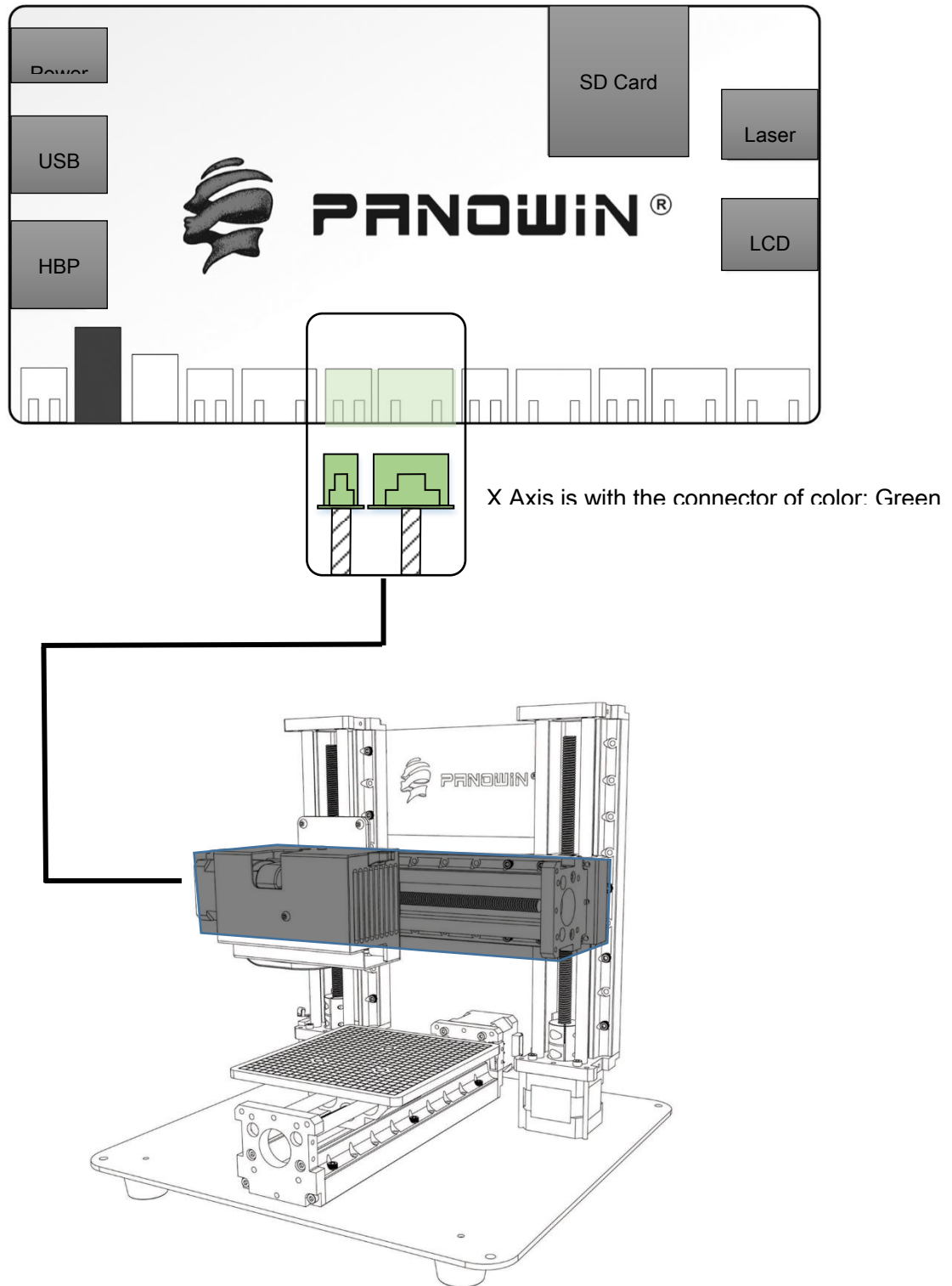
Panowin F1

Cable Connection

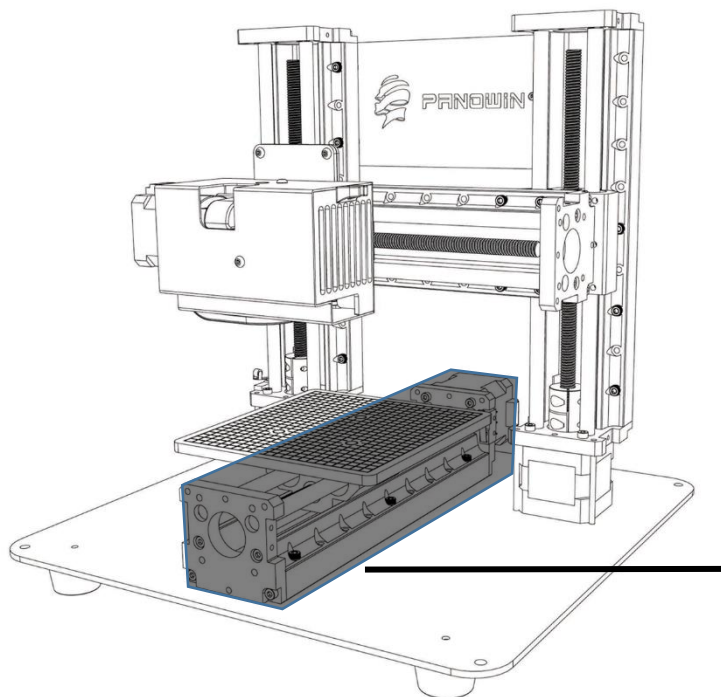
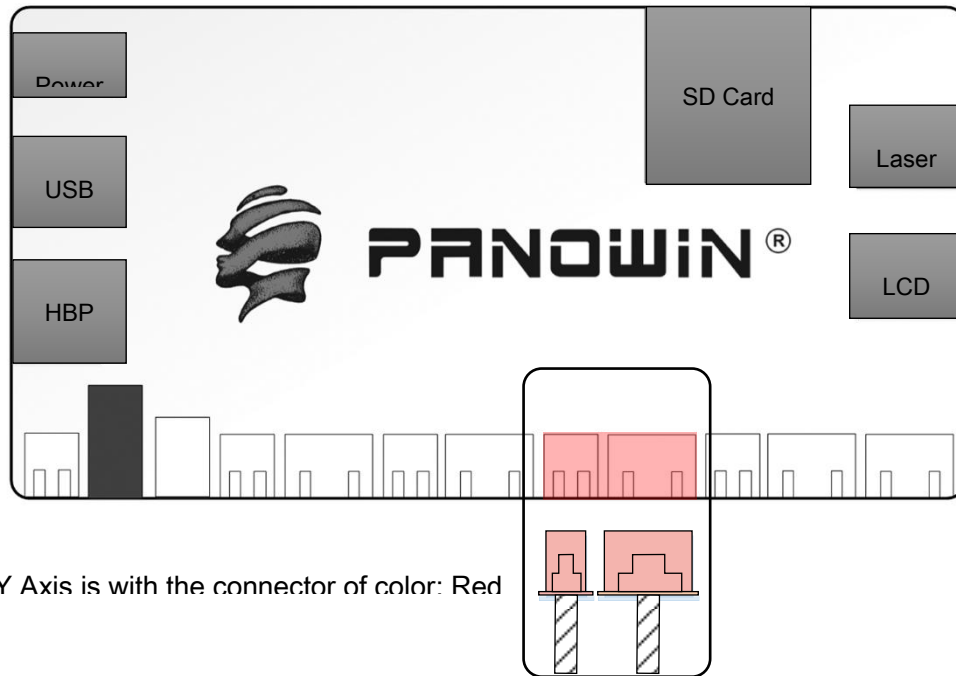
1. Connection for Extruder



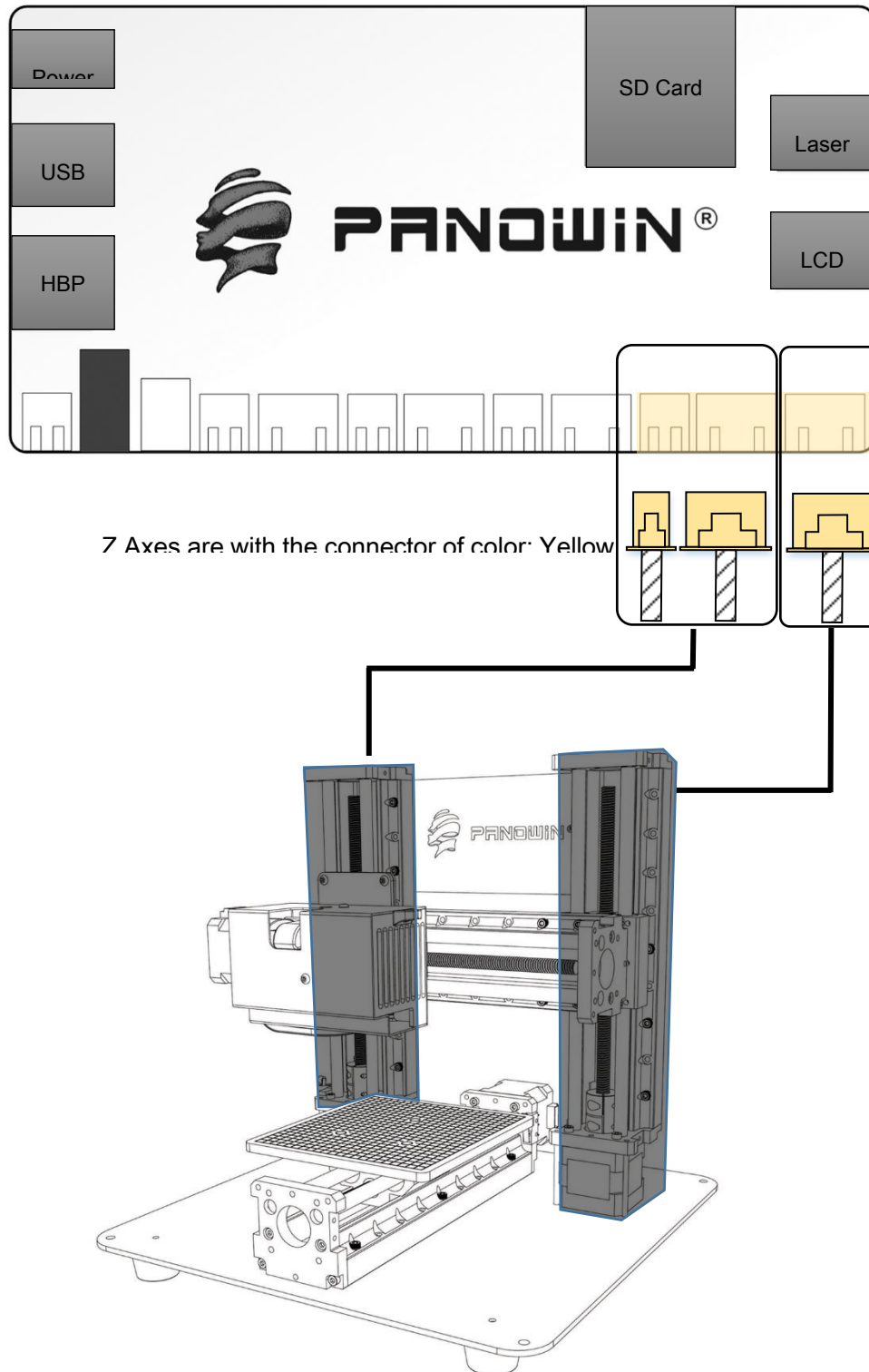
2. Connection for X Axis



3. Connection for Y Axis



4. Connection for Z Axis

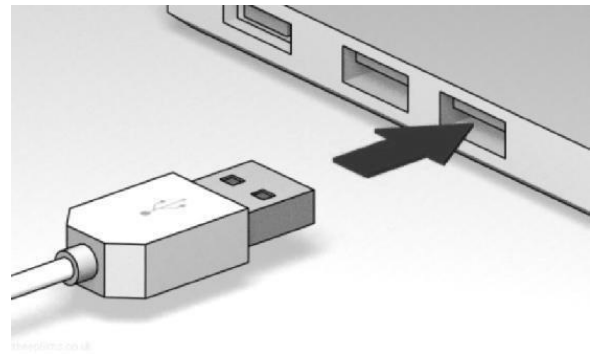
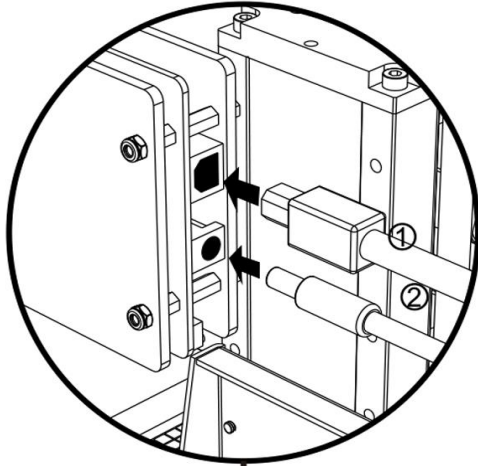


Panowin F1

Quick Start

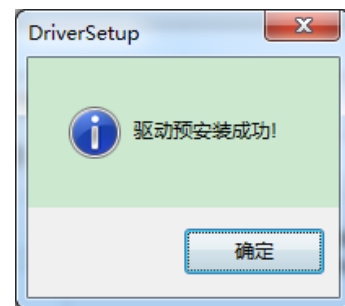
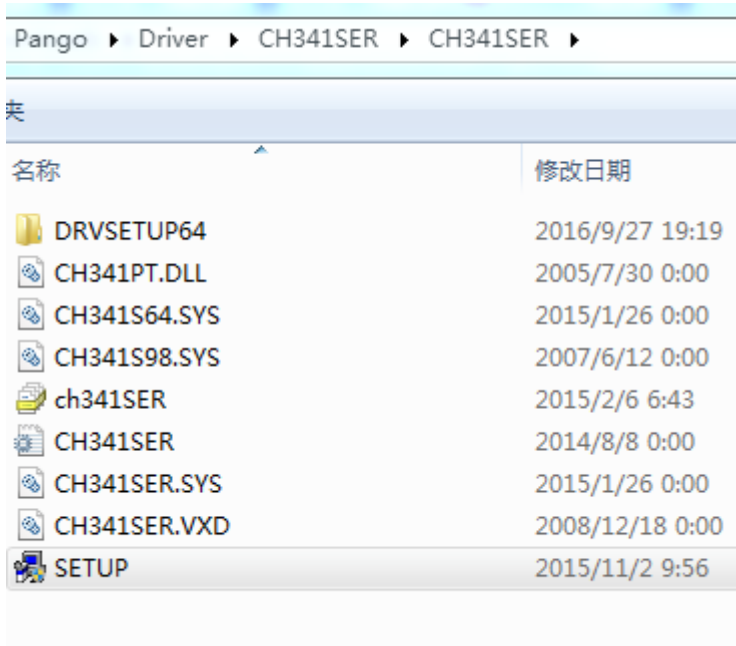
1. Connect the Cable of Power Supply and USB

Plug the cable of power supply and USB into the according interfaces on the right side of the main control board, and connect the other end of USB cable to the slot of you PC.

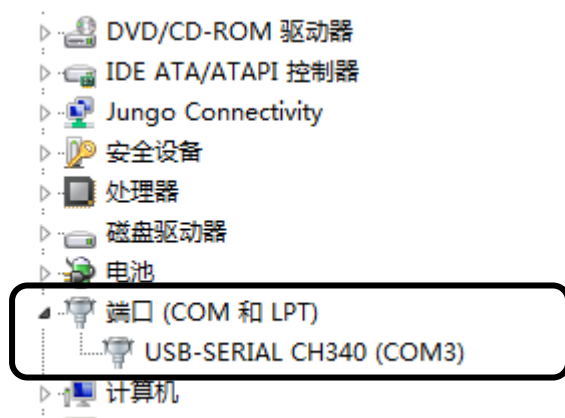


2. Install USB Driver

Find the USB Driver in the accessory SD card, and click SETUP.EXE to install the driver.

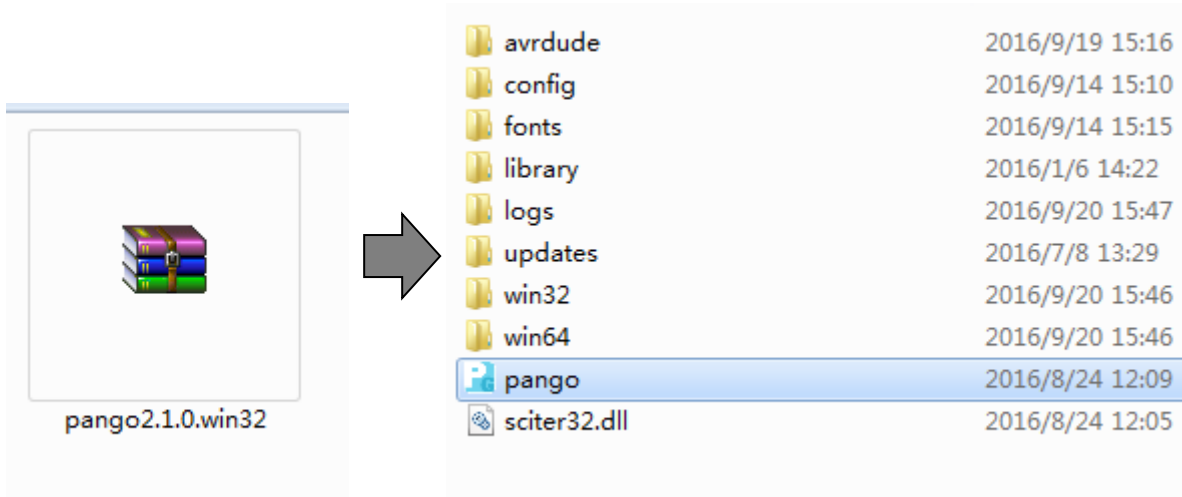


You can find the according COM port number in the Device Manager, which indicates that the driver has been installed properly.

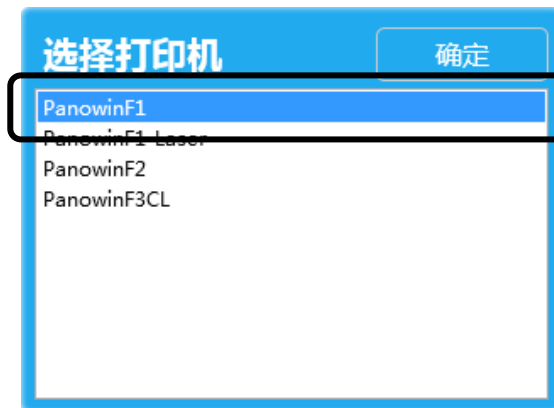


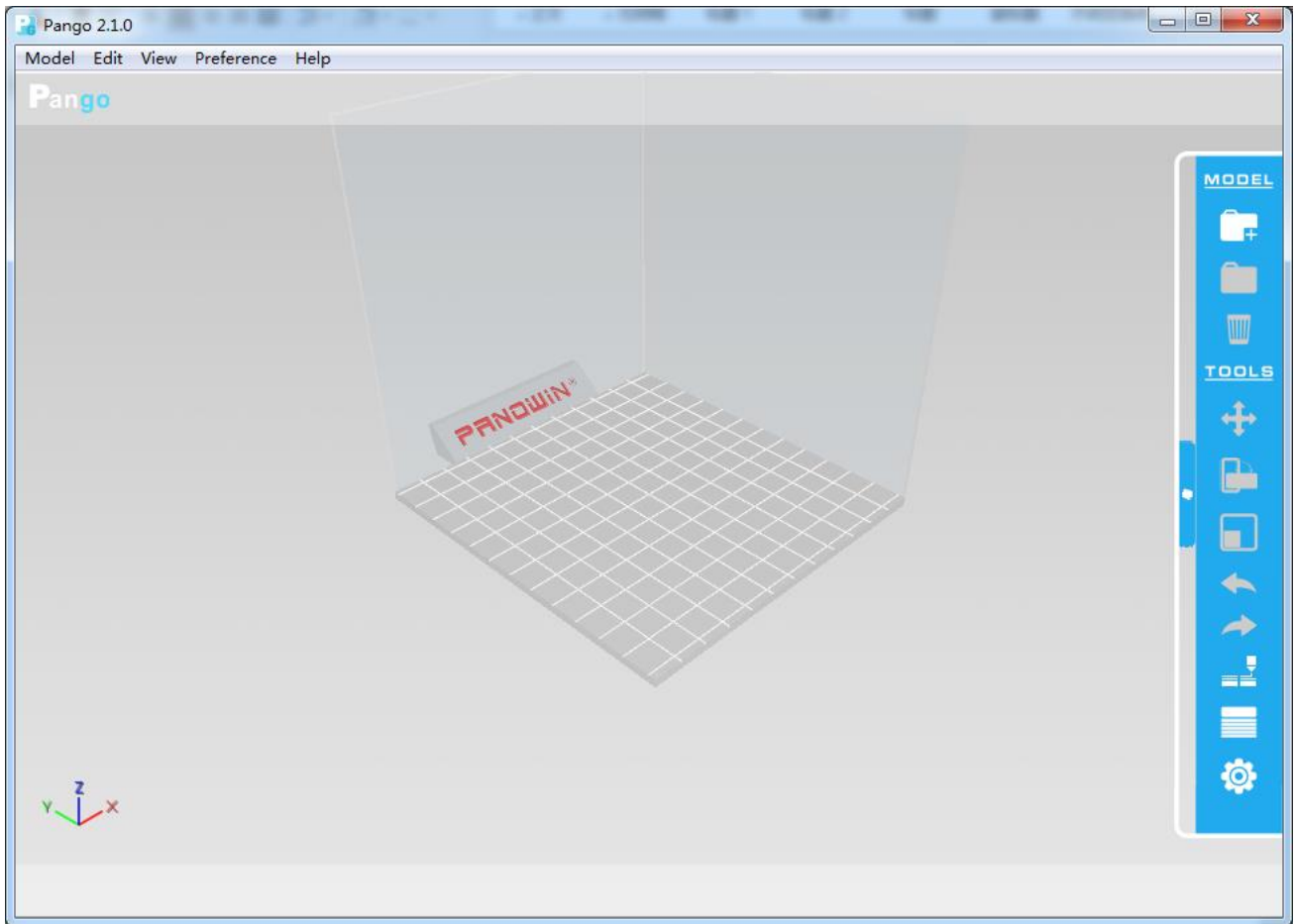
3. Launch Pango

Find Pango in the accessory SD card, and unzip the zip file into your disk.



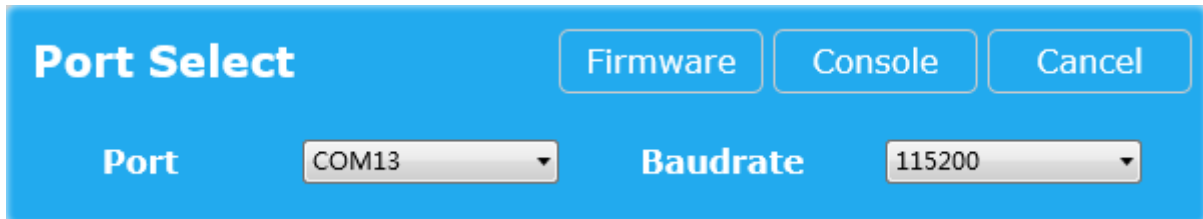
Double click paogo.exe to launch it, choose “ Panowin F1” in the Machine Option dialog, and press the button to enter the main interface of Pango.



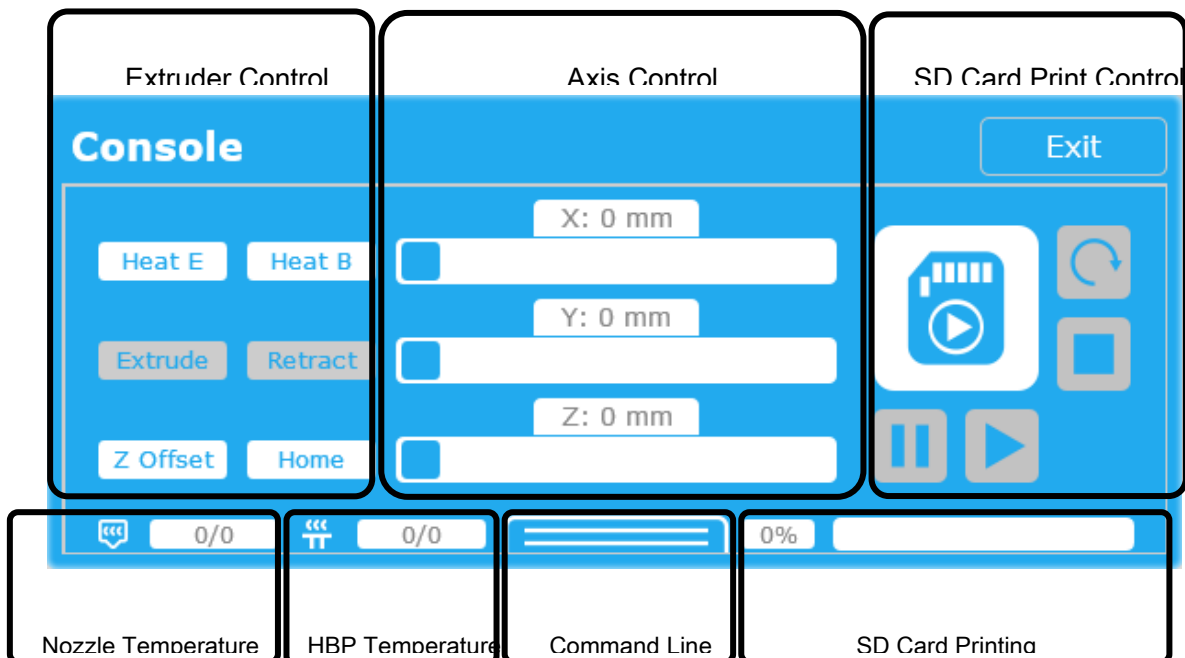


4. Open Serial Console

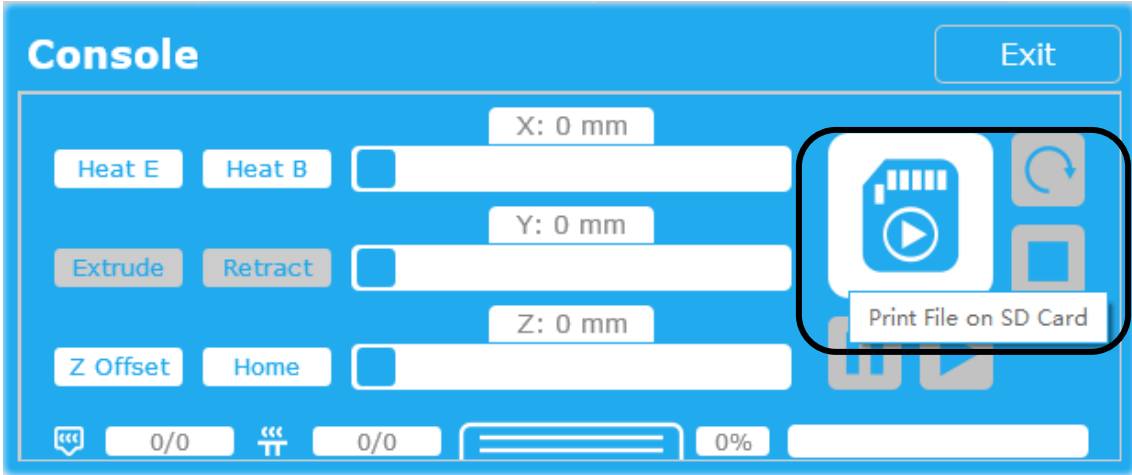
Select the menu “View”->“Console”, click the “Console” button in the following dialog ,to open the serial console in pango.



The basic functions of the console are as follows :

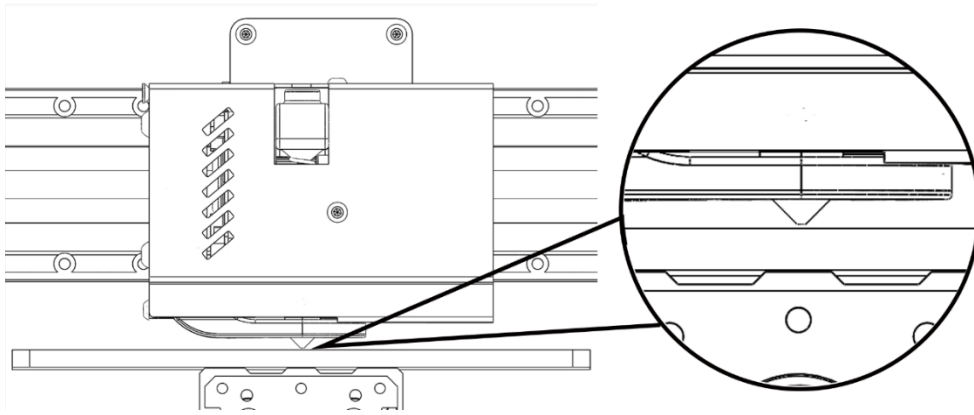


You can also make your cursor hovering on any button to get the tip for its function.

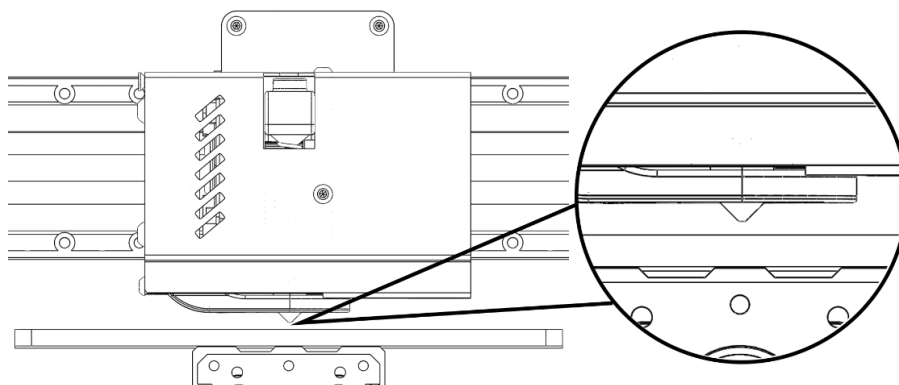


5. Calibrate the Z Axis Offset

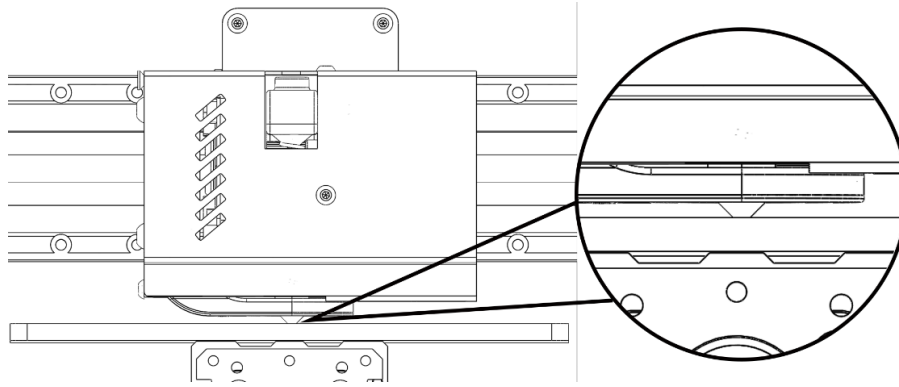
When the Extruder is at the home position of Z Axis, we need to make sure that the distance between the nozzle and print bed is close to zero, no more, no less, in order to make the print model attached to the print bed well.



If the nozzle is too high, the model will not stick well on the print bed.

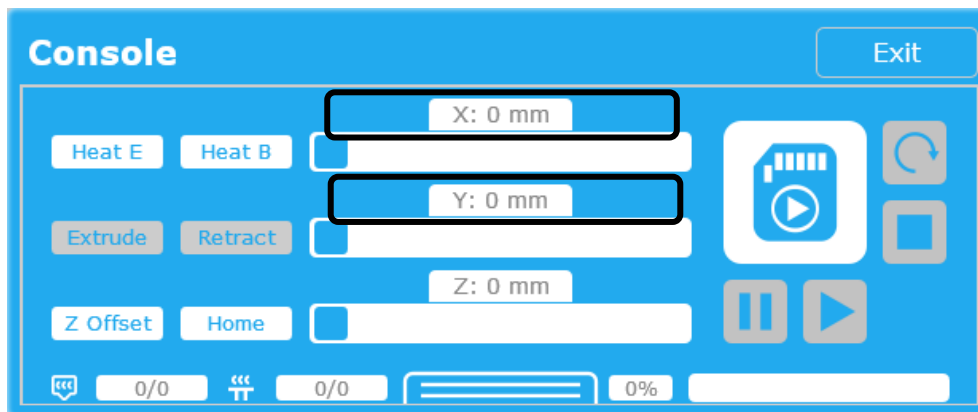


If the nozzle is too low, the filament can't come out smoothly and it will even damage the print bed.

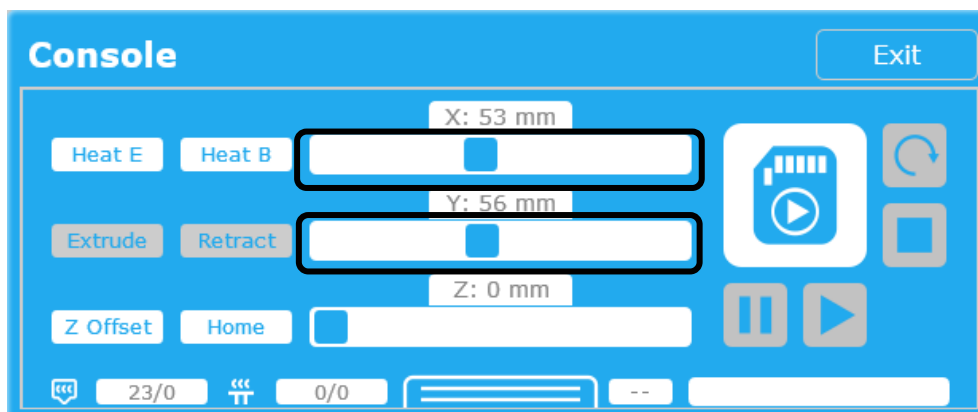


Therefore, please follow the steps bellow to calibrate the Z Axis Offset when you have assembled the machine for the first time.

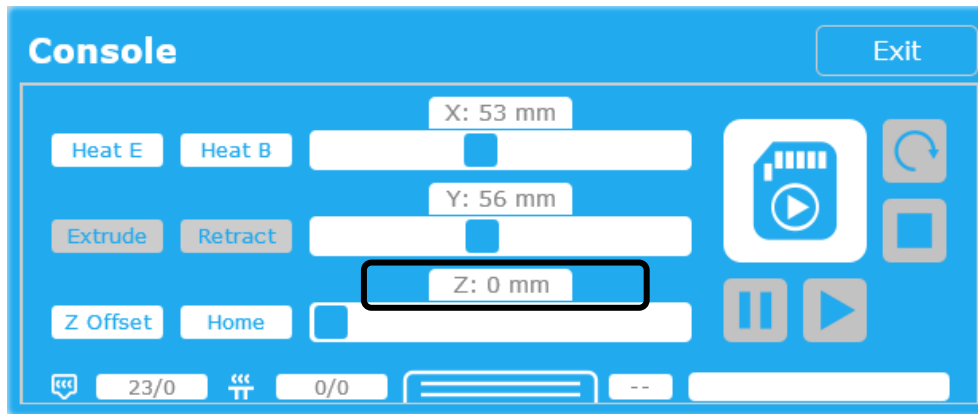
- (1) Click the “Home X” and “Home Y” button to home the XY axes.



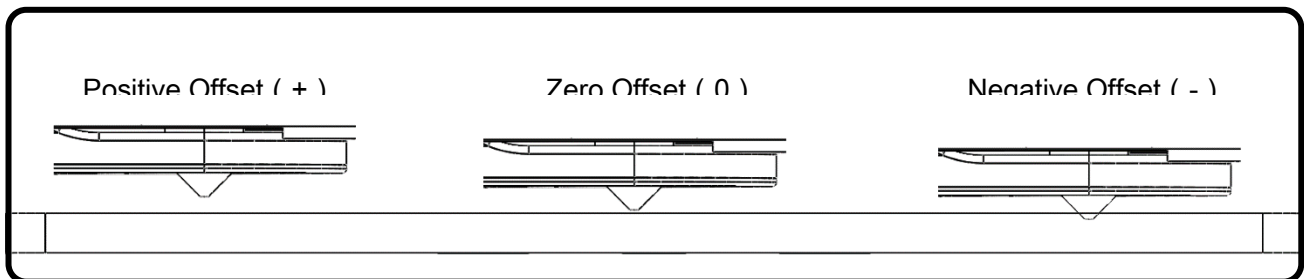
- (2) Drag the slide bar of XY Axes, to move the Extruder to an approaching position of the Print Bed Center.



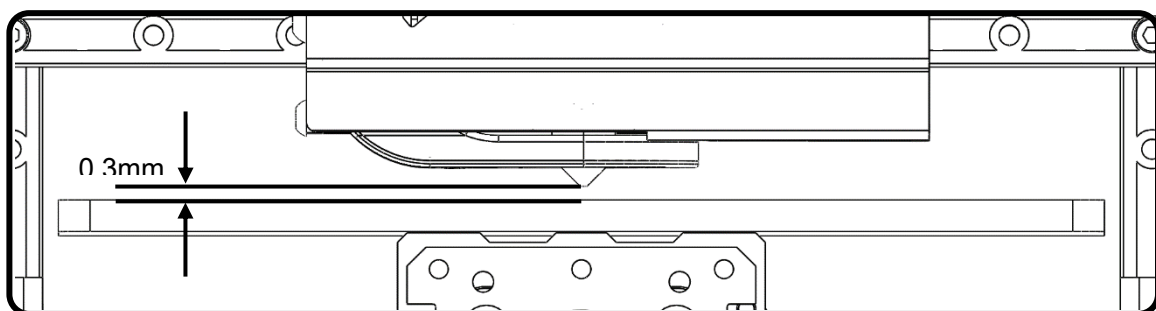
- (3) Click the “Home Z” button, and wait until the Z Axis finished the homing operation.

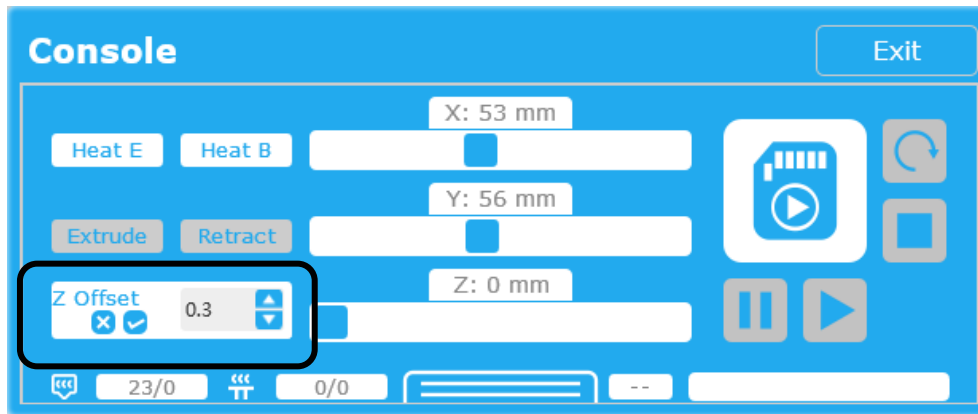


- (4) Estimate the offset from the nozzle to the print bed, take the print bed as zero point, if the nozzle is higher than the bed, the offset is a positive value, and if the nozzle is pressing the bed, the offset is a negative value.



- (5) For example, the nozzle is 0.3mm far away from the print bed after Z Axis homing, so the offset value should set to be 0.3. Click the “Z offset” button on the console, and input the value “0.3” to the input box, then click “√” button to save.

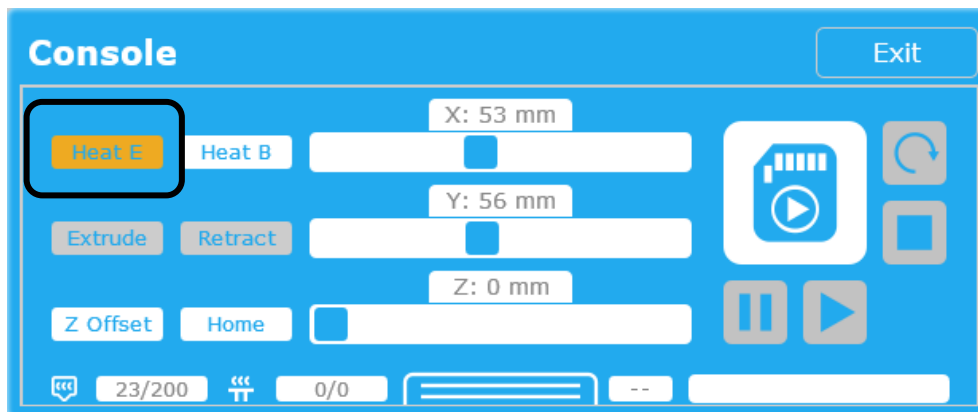




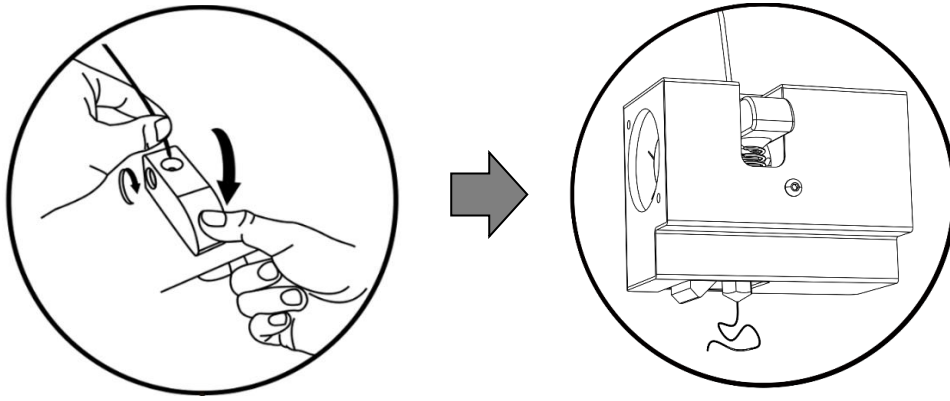
- (6) The printer will auto home Z Axis, and move down 0.3mm to compensate the offset. If the value is proper, the nozzle will exactly hit the print bed. But if not, you can adjust the value and try more times until you get a good result.

6. Feed the filament

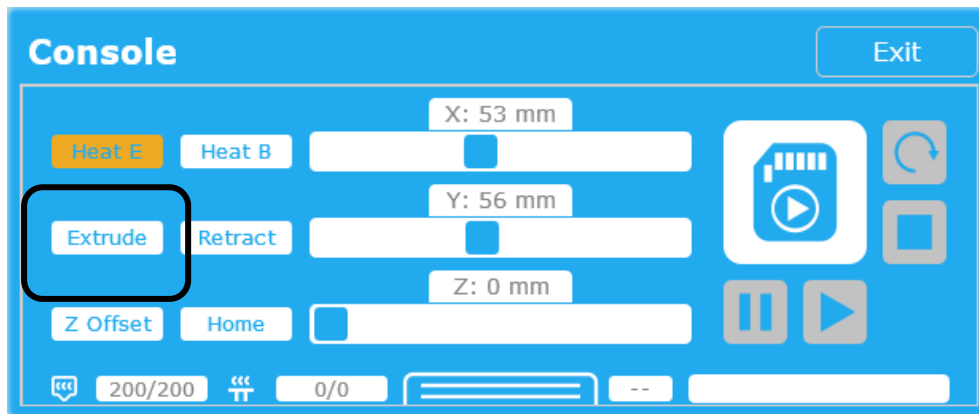
- (1) Click the “Heat E” button and wait until the nozzle temperature reach preset value (200 °C).



- (2) Cut the end of filament into speculate shape, press the lever on the Extruder, and insert the filament into the feed hole on the top, manual extrude the filament to make it go out from the nozzle.



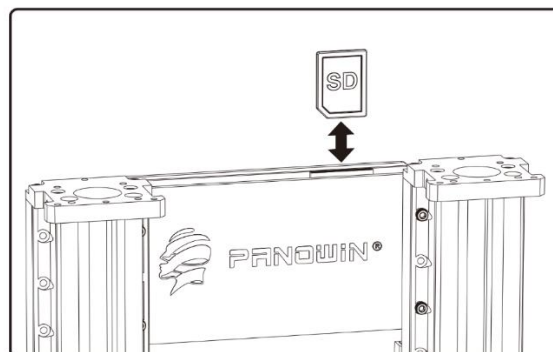
(3) Click the “Extrude” button to test the extruding of the filament.



7. Quick Print

You can start the print after the Z Offset calibration, filament feeding and extruding test.

There is a file named “autoprint.pcode”(filament holder) in the accessory SD card, you can just insert the SD card to the machine to launch the Auto Printing, to make a quick print.



■ Auto Printing once SD Card Inserted

Auto Printing once SD Card Inserted is a characteristic function of Panowin F1, which

saves the redundant operations while using PC connection or user interfaces, and make the print work more convenient and fast:

- (1) Save the sliced file name as “autoprint.pcode” and copy the file into SD card.
- (2) Insert the SD card to the machine, the printer will auto start the print work with twice “beep”, if the file is validated.
- (3) If you need to stop the print work, just remove the SD card, the printer will auto stop.

■ **Serial Console**

You can also use the Serial Console of Pango to do the start/pause/resume operations of print work, and to maintain the machine.

■ **User Interface Extension**

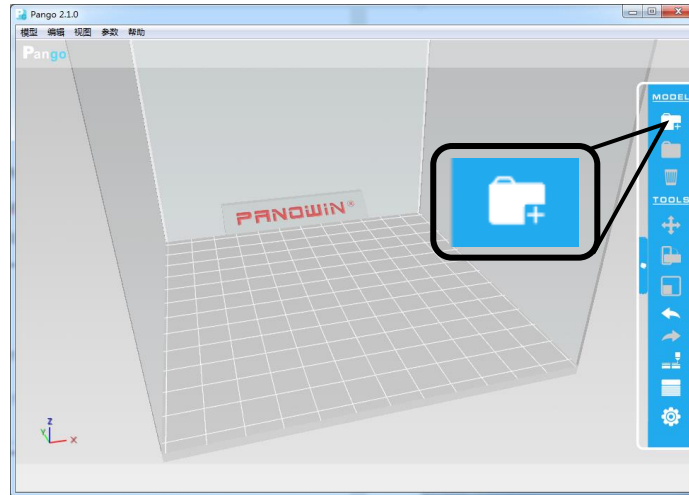
You can also use the LCD touch screen extension to improve the user experiences and convenience of the printer.

Panowin F1

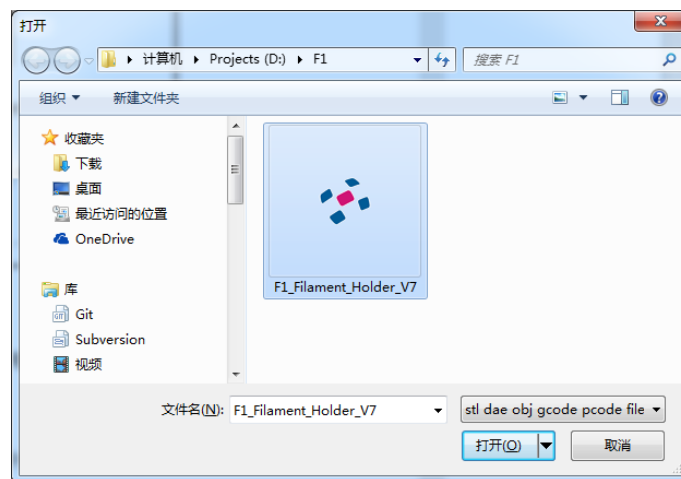
Slicing Guide

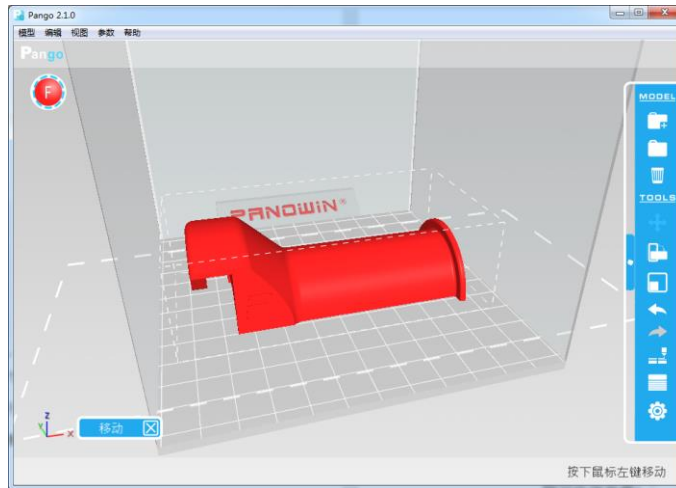
1. Load Models

(1) Click the “Load Model” button on the right tool bar.



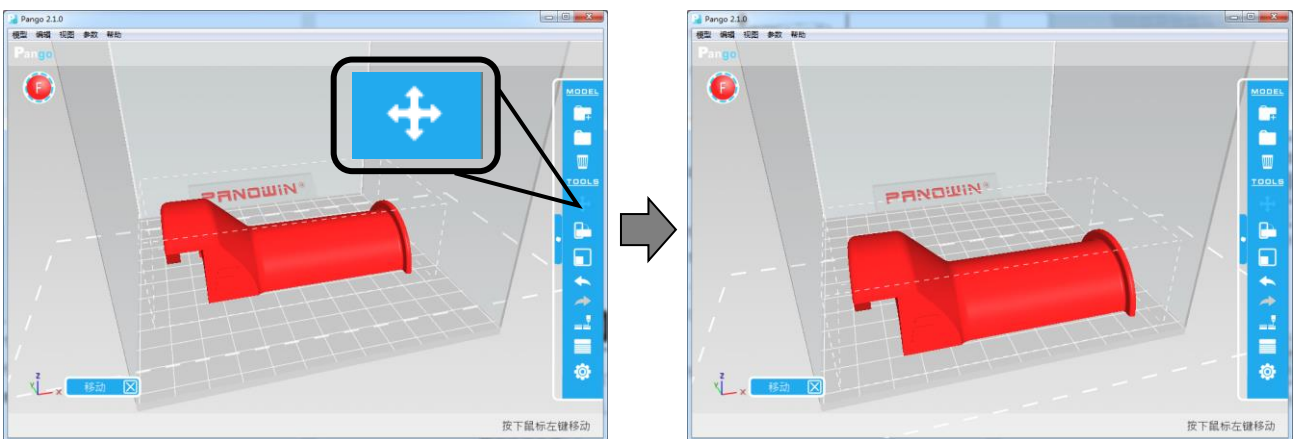
(2) Select the model of the supported formats (STL, DAE or OBJ) to load.



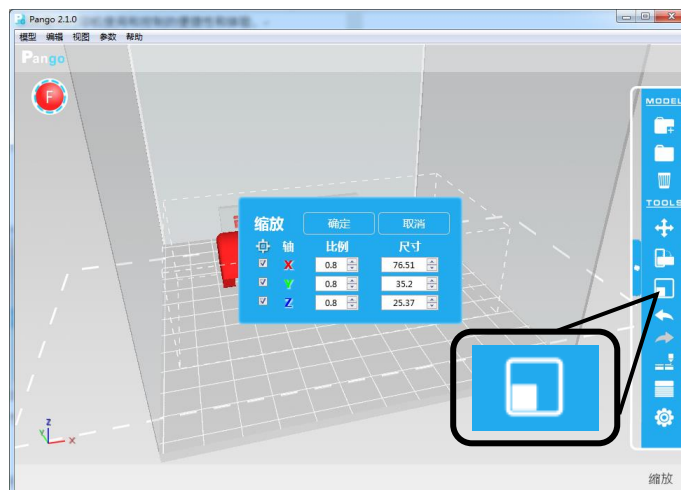


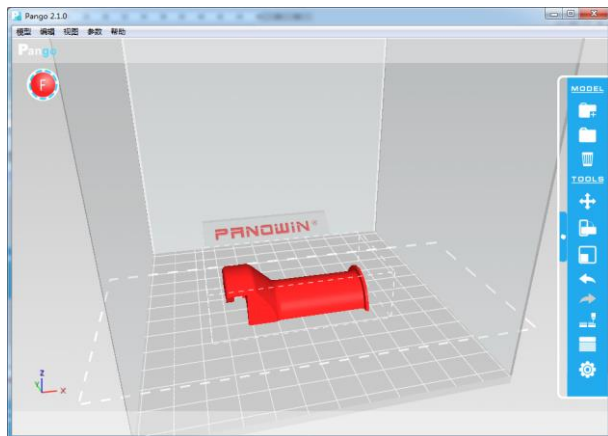
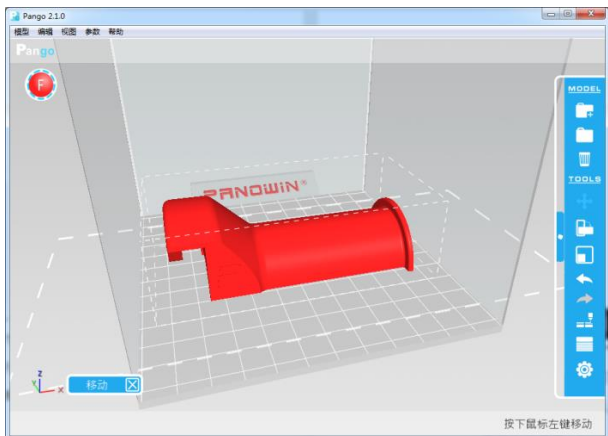
2. Adjust Model

- (1) Click the “Move” button , to move the model, with default interval of 10mm , if dragging the model with the SHIFT key pressed, you can move it with any offset.

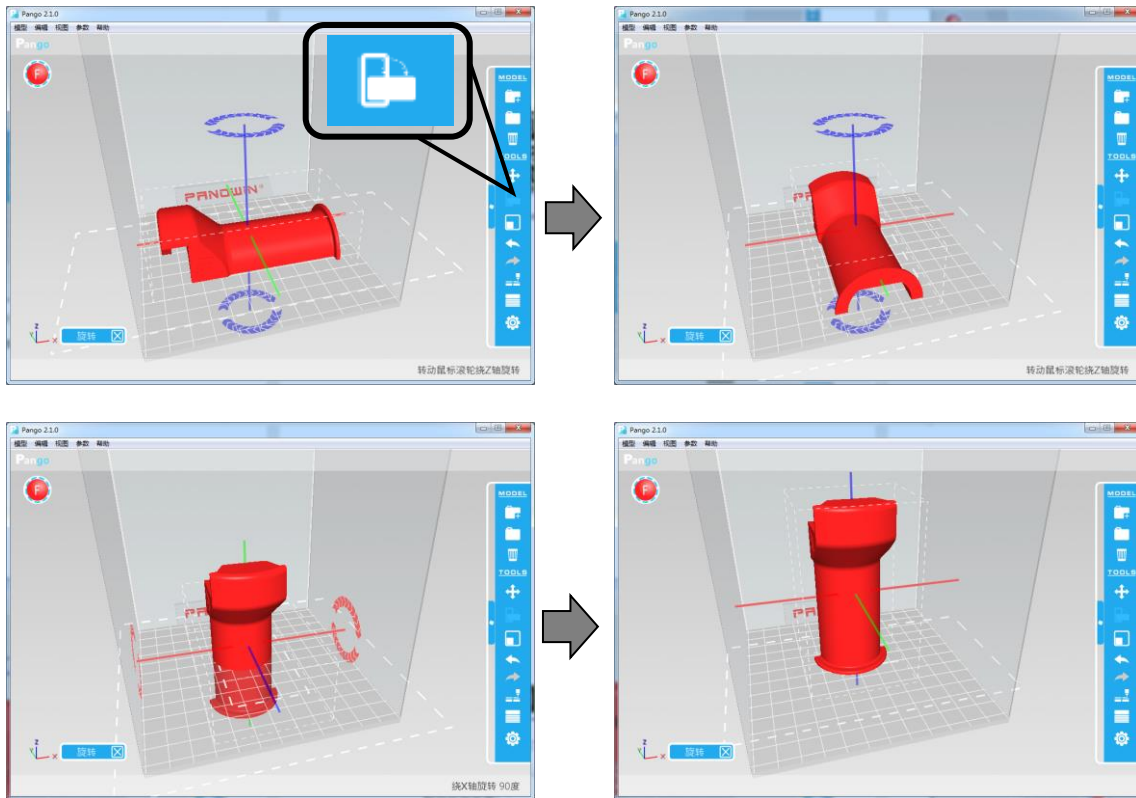


- (2) Click the “Scale” button , to resize the model.



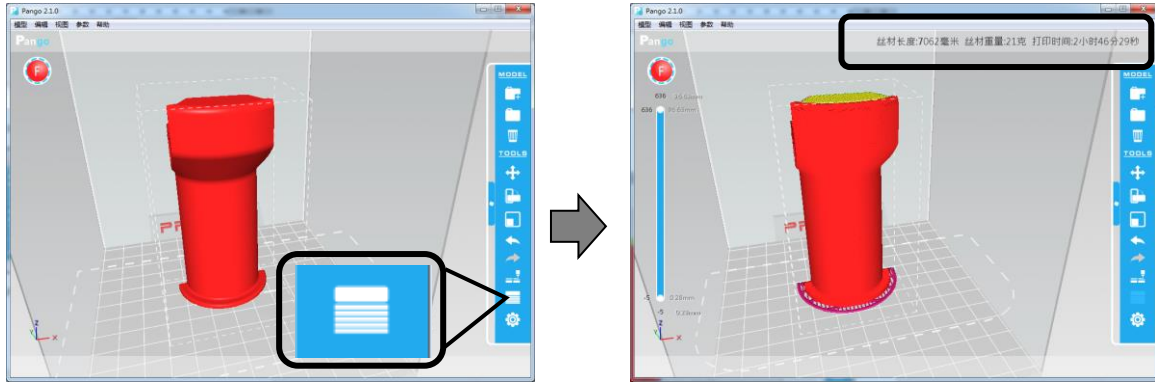


(3) Click the “Rotate” button, select the corresponding axis, roll the middle wheel of your mouse, to rotate the model in a certain direction, with a default increasing degree of 15°. If rolling with the SHIFT key pressed, you can rotate the model with any degrees.

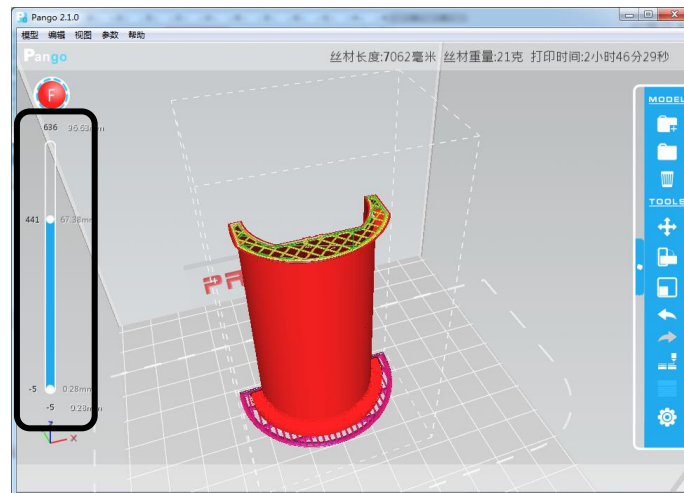


3. Slice Preview

(1) Click the “View Layer” button to slice the model and preview. The slice information, such as the weight of filament, time cost, will be showed on the right top of the interface.



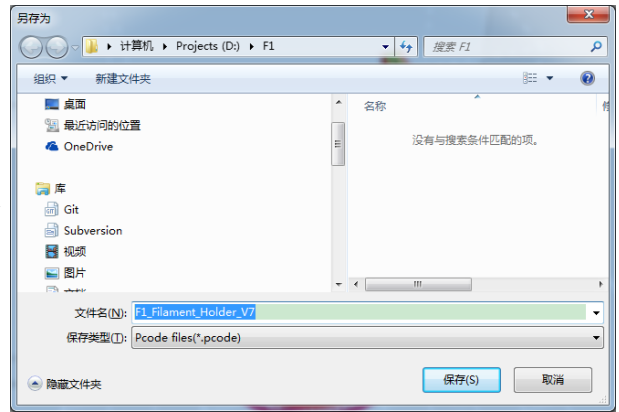
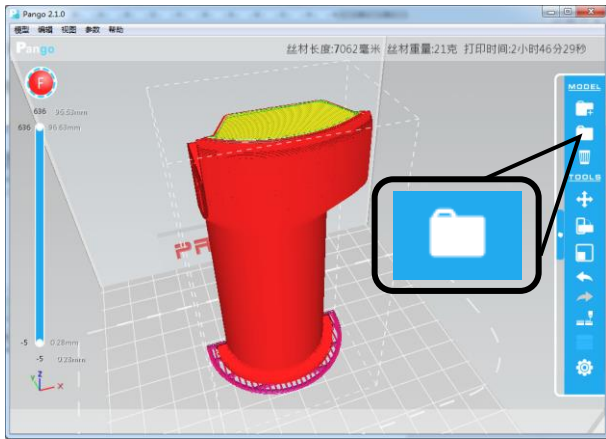
(2) You can also drag the slider bar on the left side , to check the slice results of any layers.



4. Save PCODE

Click the “Save CODE” button to save the slice data as a pcode file, and copy the pcode file to the SD card to print it with Panowin F1.

- If you want to do the “Auto Printing”, please save the file as “ autoprnt.pcode”.
- If you use Pango Console or LCD Interface to control the print process, you can save the file with any name.



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