SOVOL

SV05

- This guidebook is for Sovol SV05 3D printer.
- Please plug the power cable into a three-hole power jack.
- Detailed tutorial for are available in the TF card.

3D Printer User Manual

V1.0

Dear Consumers：

Additional resources and information:
This manual is designed for SV05 owners to start their SV05 printing journey.We still recommend all the SV05 owners to read the manual carefully even if you are familiar with the 3D Printing technology, as there is lots of important information about the SV05 for you to learn and help you get better printing exprience. In this manual there are tutorial sdocument can be found on official website and group you can scan the QR-codes or click the link to get them.

Firmware Upgrade：

Please login the official website **https://sovol3d.com/pages/download**, switch the language and select the relevant printer and model and download the required firmware, you can use it after the installation is finished.

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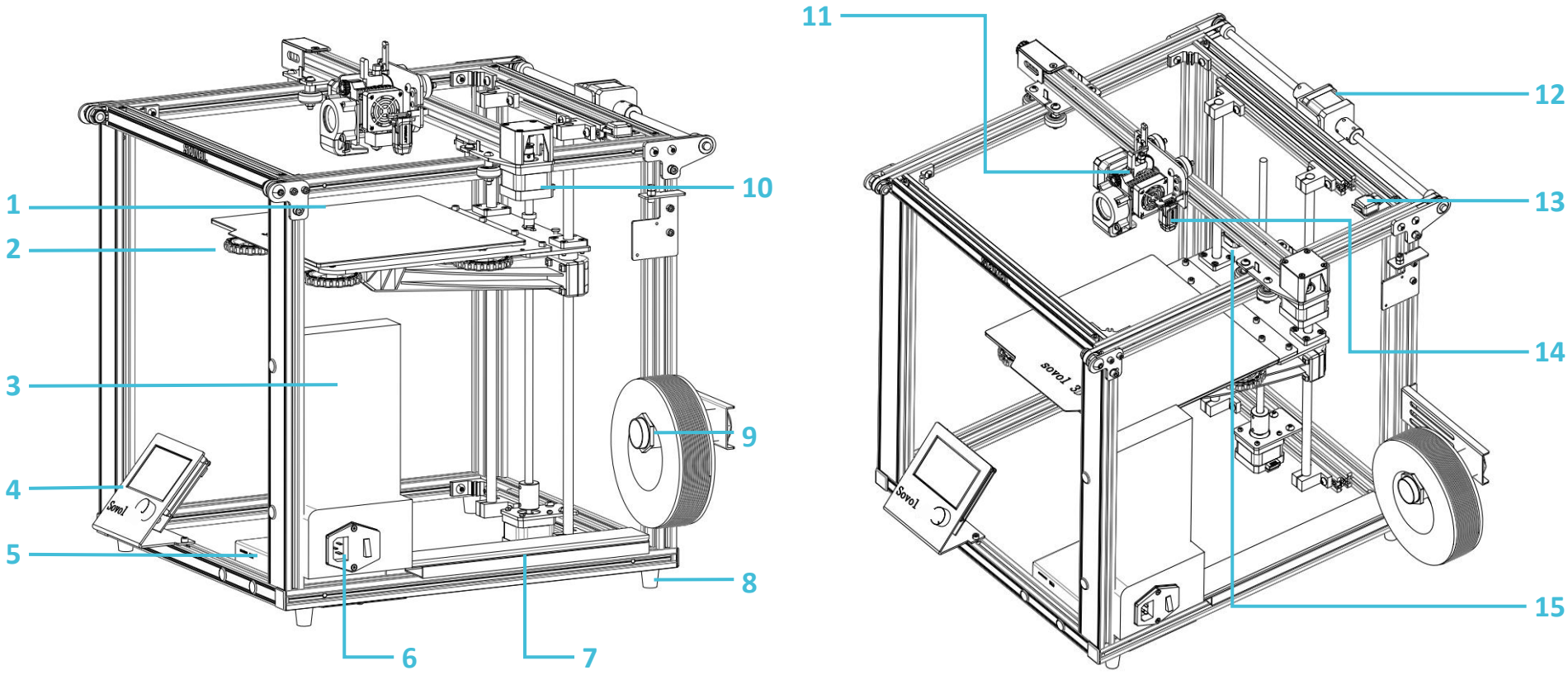
NOTES

- Do not use the printer any way other than described here in in order to avoid personal injury or property damage.
- Do not place the printer in the environment with large vibration or other instability. The shaking of the machine will affect the printing quality of the printer.
- Please do not place the machine in inflammable and explosive materials or near high heat source. Please place the machine in a ventilated, cool and dust free environment.
- It is recommended to use the material recommended by the manufacturer to avoid machine damage.
- Do not use any other power cable except the one supplied. Always use a grounded three-prong power outlet.
- Please do not open the plastic cover during usage, otherwise the printing will be interrupted.
- Do not wear cotton gloves when operating the printer. Such cloths may become tangled in the printers moving parts leading to burns, possible bodily injury, or printer damage.
- Please wait a moment to remove the print after the print is finished.
- It’s not recommended to use the third party firmware or mainboard etc, or the warranty will be void.
- Clean the printer frequently. Always turn the power off when cleaning, and wipe with a dry cloth to remove dust, adhered printing plastics or any other material off the frame, guide rails, or wheels. Use glass cleaner or isopropyl alcohol to clean the print surface.
- Children under 10 years should not use the printer without supervision.
- This machine is equipped with a security protection mechanism. Do not manually move the nozzle and printing platform mechanism manually while booting up, otherwise the device will automatically power off for safety.
- Users should comply with the laws and regulations of the corresponding countries and regions where the equipment is located (used), abide by professional ethics, pay attention to safety obligations, and strictly prohibit the use of our products or equipment for any illegal purposes. Sovol will not be responsible for any violators' legal liability under any circustance.

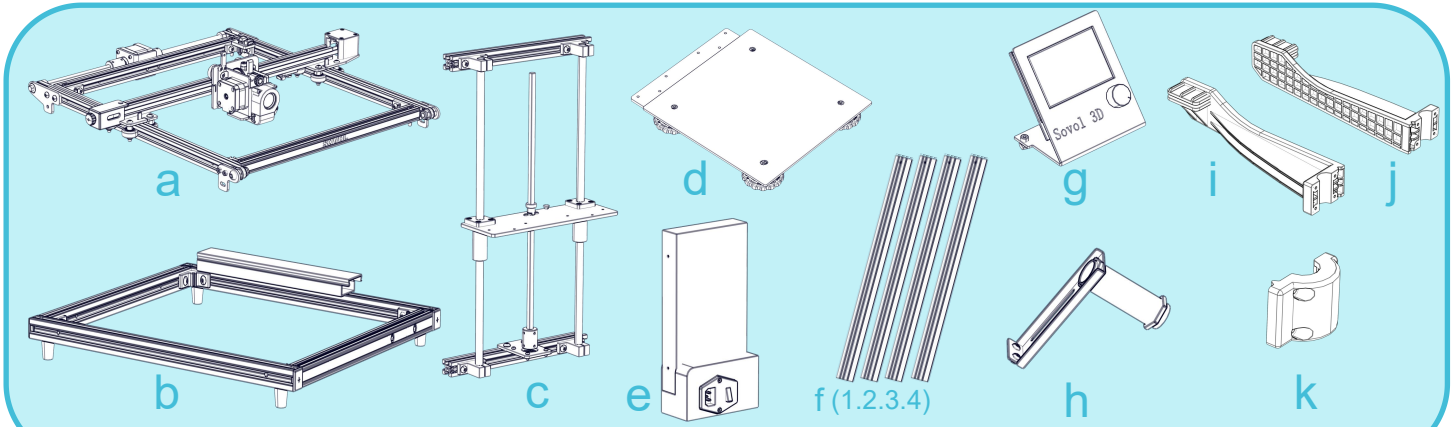


1. Hot Bed
2. Leveling screw
3. Power Supply
4. Display Screen
5. SD slot and USB port
6. Switch
7. Z motor
8. Foot pad
9. Spool Holder
10. X motor
11. Hot End
12. Y motor
13. Y limit switch
14. CRTouch
15. X limit switch

Basic Parameters	
Model	SV05
Software language	English
Print method	TF card, USB connection
Molding	FDM
Number of nozzles	1
Print size	220*220*300mm
Layer thickness	0.1~0.4 mm（ Adjustable）
Printing speed	Suggest 80mm/s
Nozzle diameter	Standard 0.4 (Adjustable)
Nozzle temperature	≦260℃
Supporting materials	PLA/ABS/TPU/PETG/WOOD
Material diameter	1.75mm
Support file format	G-Code
Voltage	Input：115V/230V 50/60Hz Output：24V
Operation system	Windows,Linux,Mac
Power	350W

4. Pre-Assembly Parts Checklist

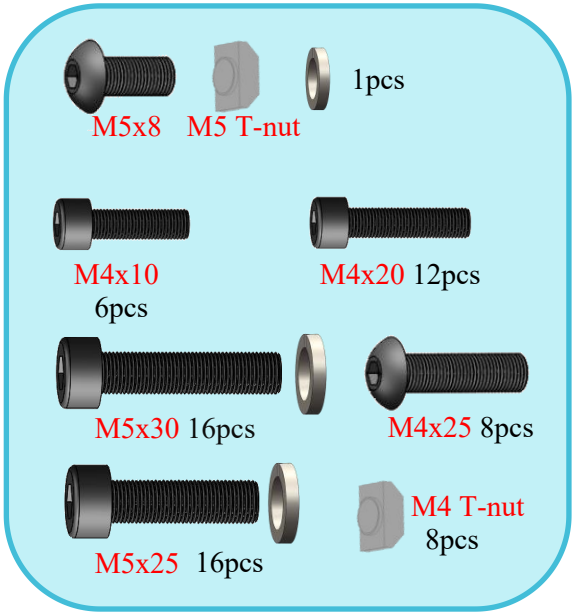
List 1

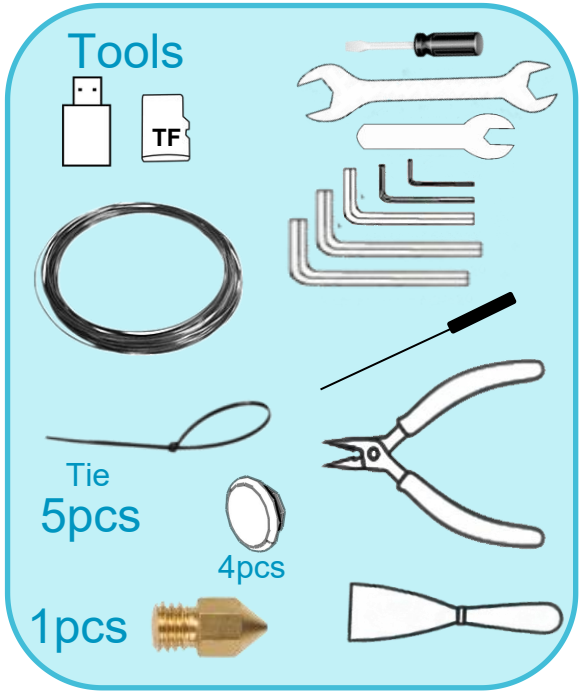


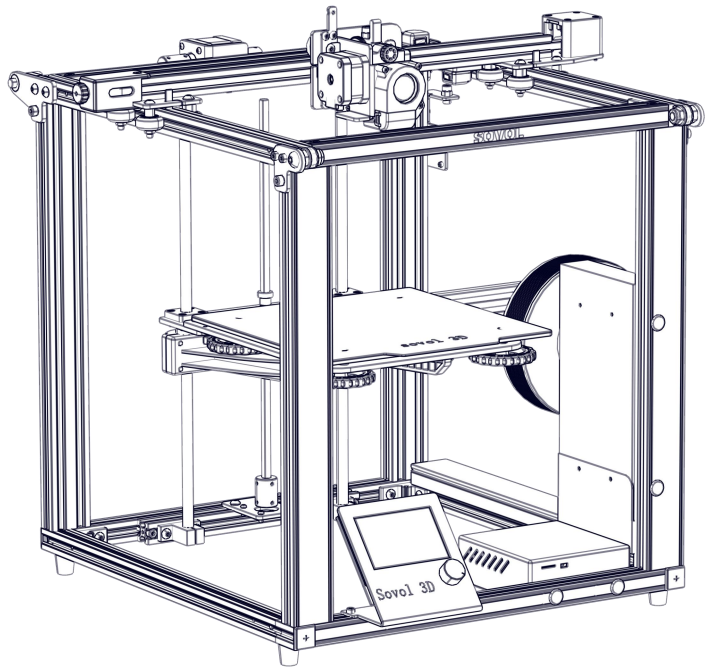
a. Take out the parts from the box and remove any tape and padding from the parts. Inspect the parts to make sure they were not damaged in shipment.

b. Check the items on List 1 and List 2.

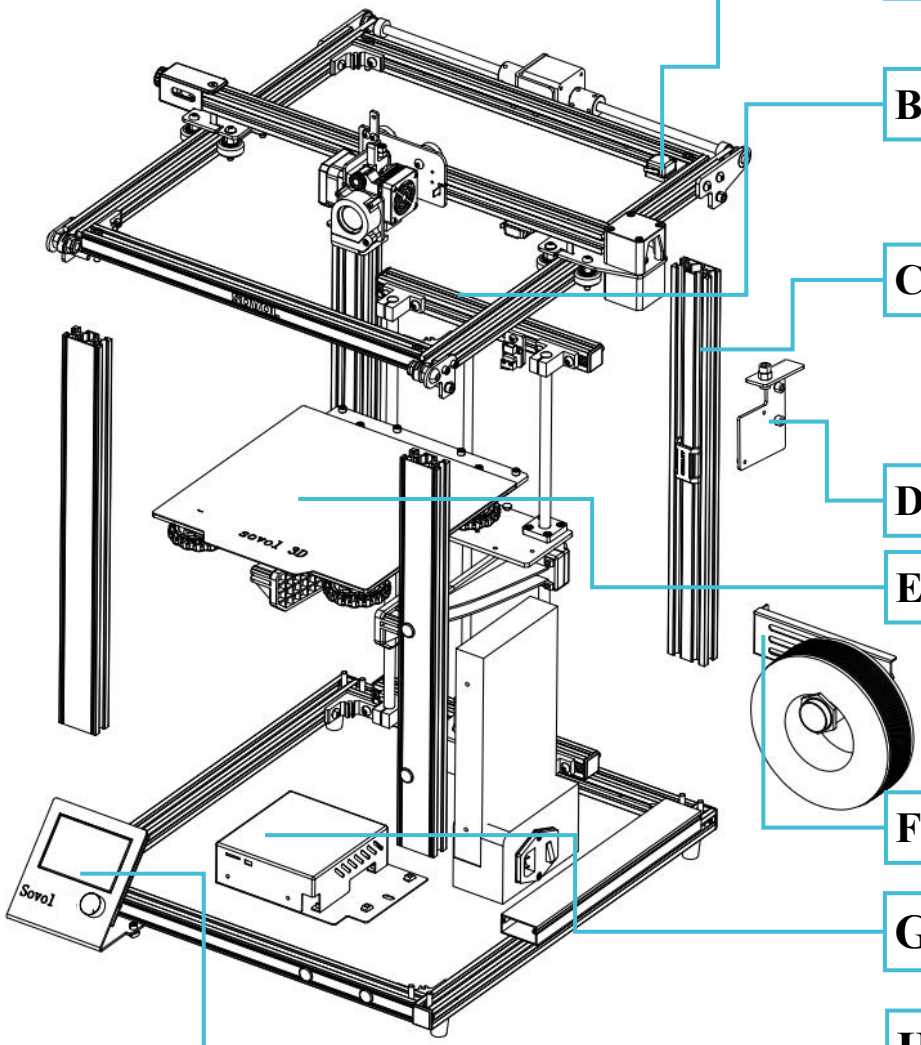
List 2







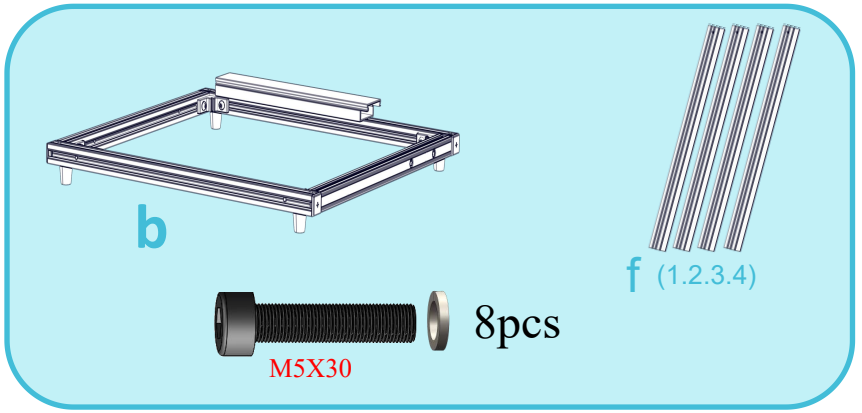
3. Package List



Tool List

No.	Image	Name	Qty
1		Wrench & Screw driver	1set
2		TF Card & Reader	1set
3		Spatula	1
4		Pliers	1
5		0.4mm Nozzle Cleaner	1
6		Power Cable	1
7		Filament(200)g	1
8		Spare Parts	1set

1 Install aluminum extrusions f(1.2.3.4) to base (b)



Step 1.

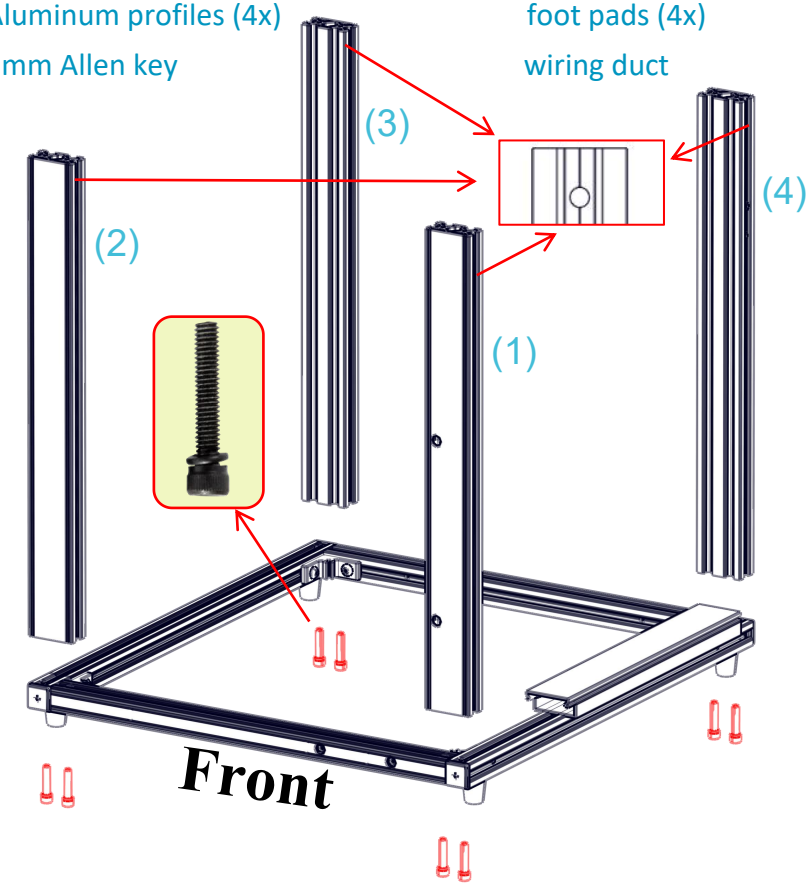
a. Prepare the following parts:

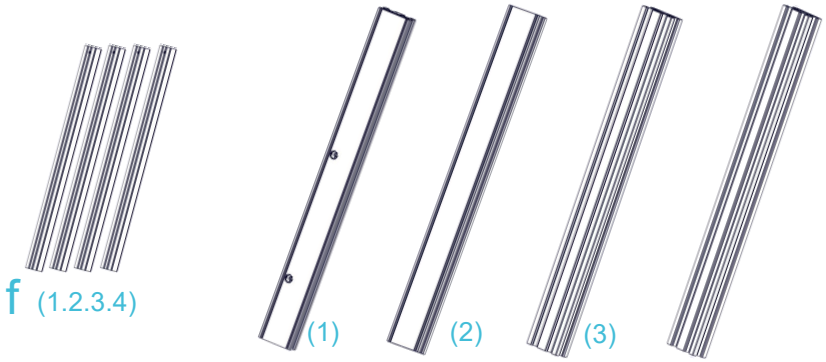
Base (b)
M5x30 socket head hex screws (8x)
M5 washer (8x)
Aluminum profiles (4x)
5mm Allen key

b. Check if the (b) part is complete

Parts for the base (b) include :

2020 aluminum profiles (4x)
corner bracket (4x)
foot pads (4x)
wiring duct





Step 2. Keep the front of the base (b) facing you.

Step 3. Take one of the vertical frame pieces (f) and place it in the corner of the base frame (b), ON TOP of the frame, and lined up with the corner. Notice the hole at the top of piece (f) facing left and right, in relation to the front of the printer. Use 2 M5x30 screws and washers to secure part (f) to the base.

Step 4. Install the remaining 3 aluminum extrusions (f) in the same way as Step 3， please pay attention to the installation postion of every aluminum profile (f).

2 Install top structure (a) to aluminum extrusions f(1.2.3.4)

Step 1.

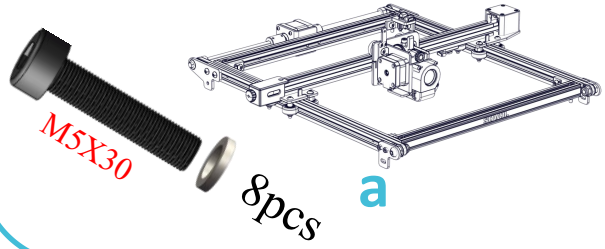
a. Prepare the following parts:

top structure (a)

M5x30 socket head hex screws (8x)

M5 washer (8x)

5mm Allen key



b. Check if the (a) part is complete

Parts for the part (a) include :

2020 aluminum extrusions (2x)

corner bracket (4x)

x and y axis assembly (1x)

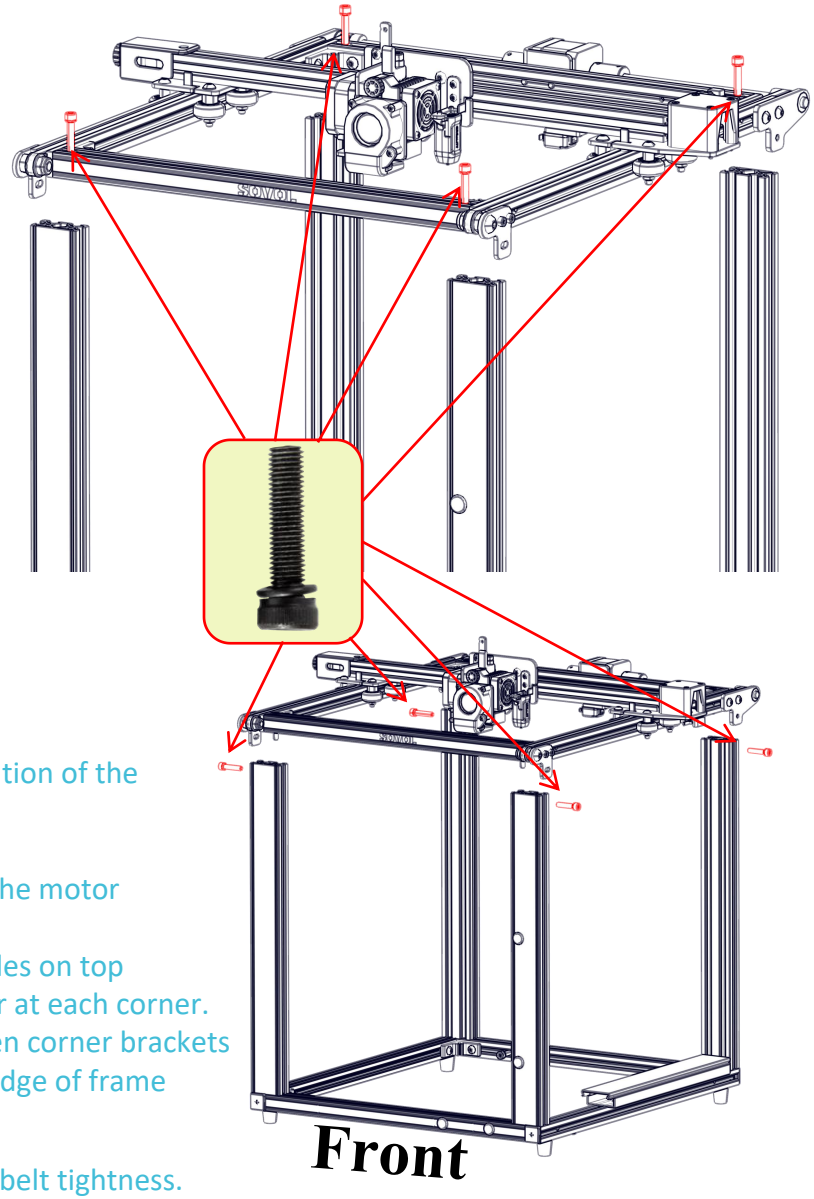
x-axis limit switch (1x)

timing belt (3x)

42-40 dual axis motor (1x)

y-axis coupler and smooth rod (2x)

y-axis limit switch (1x)



Step 2. Keep the front of the base (b) facing you , move the hotend assembly to the position of the aluminum extrusion opposite the motor.

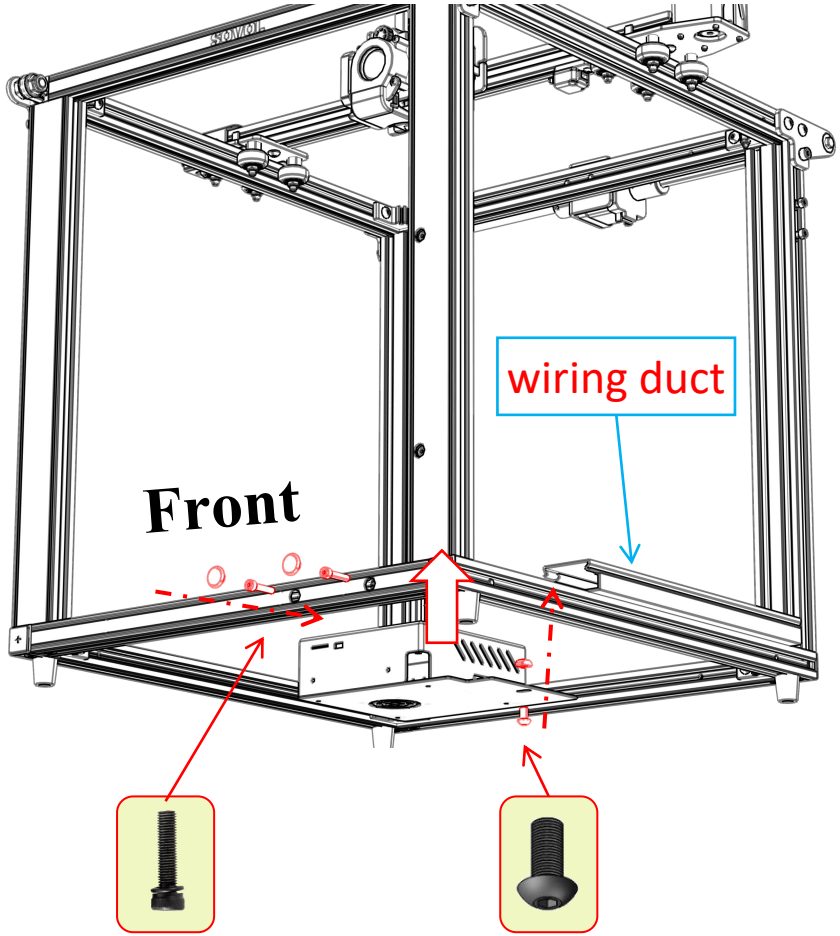
Step 3. 1) Place the hotend carriage (a) on top of all four frame extrusions (f), ensuring the motor is at the back of the frame.

2) Line up the pre-drilled screw holes on tops of frame extrusions (f) with the holes on top of carriage assembly (a) and tighten in place with an M5x30 screw and washer at each corner.

3) After 4 screws on top are tightened, use 4 M5x30 screws and washers to fasten corner brackets in each corner of carriage assembly (a), into corresponding holes on outside edge of frame extrusions (f).

Tips : 1.Facing your top-side Y-axis passive block, you can adjust it to adjust the timing belt tightness.

3 Install Chassis



Tips： The chassis and the top frame are connected by the the wires, please be careful with the wires management, not be intertwined.

Step 1.

a. Prepare the following parts:

Chassis(a)

M4x20 socket head hex screws (8x)

M4 washer (8x) M5x8 screws (1x)

M5 T-nut (1x) M5 washer (1x)

4mm Allen key 5mm Allen key

Silicone cover(2x)

b. Check if the (a) part is complete

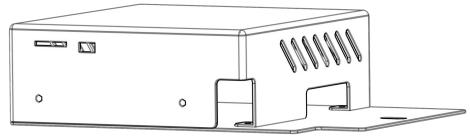
Parts for the part (a) include :

2020 aluminum extrusions L410 (2x)

Corner bracket (4x)

X and y axis assembly (1x)

X-axis limit switch (1x)

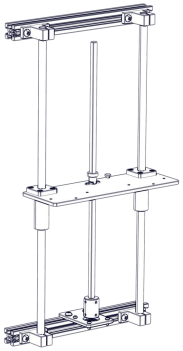


1pcs

Step 2. Keep the front of the machine facing you.

Step 3. Take out the chassis from the right of the printer to the printer inside, keep the wire outside the printer, manage the wire along the right profile of the printer, then open the wiring duct, put the wires in the wiring duct and then install the chassis on the front 2020 profile of the printer, lock the chassis with the M40x 20 in the front, and with the M5x8 bolt, M5 T nut in the other side. After manage the wires, close the wiring duct.

4 Z-axis frame (c) assembly



C

4pcs

Step 1.

a. Prepare the following parts:

Z-axis frame (c)

M5x30 socket head hex screws (4x)

M5 washer (4x)

5mm Allen key

b. Check if the (c) part is complete

Parts for the part (c) include :

2020 aluminum profiles (2x)

Smooth rod mount (4x)

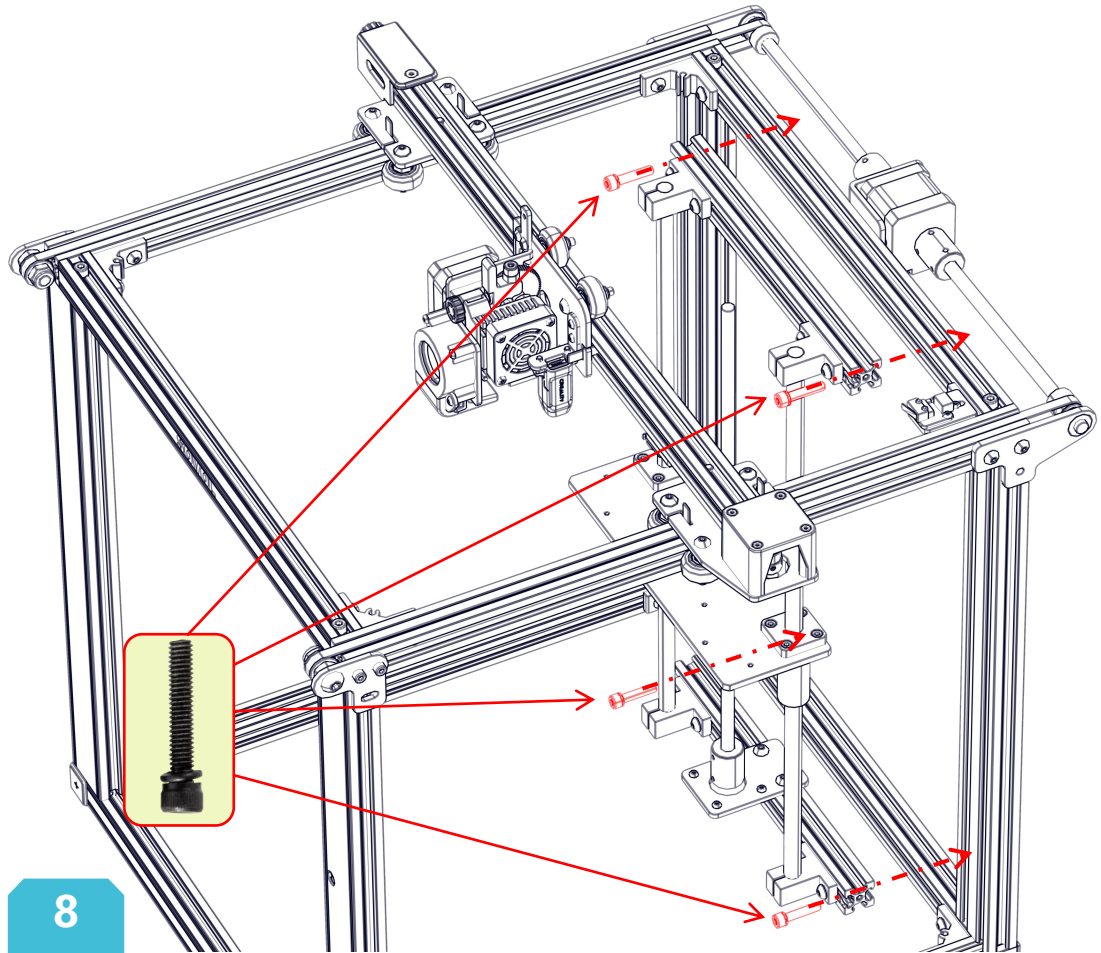
Smooth rod (2x)

Z-axis motor kit (1x)

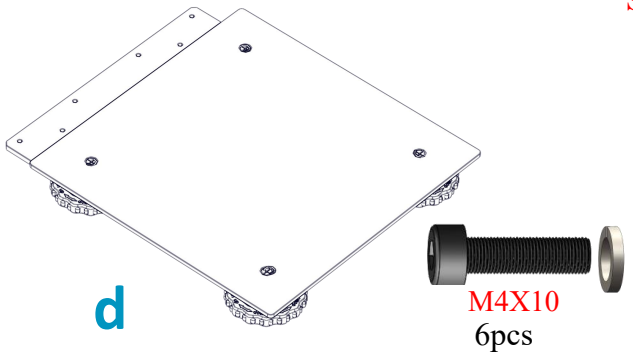
Platform board assembly (1x)

Step 2. Keep the front of the machine facing you.

Step 3. Place Z-axis frame inside of previously assembled frame. Making sure the motor is on the bottom, attach the frame to the lower and upper assembly with a M5x30 screw and washer at each corner. The upper and lower assembly extrusions will have corresponding pre-drilled holes for these screws.



5 Mounting The Hotbed



Step 1.

a. Prepare the following parts:

Hot bed assembly(c)

M4x10 socket head hex screws (6x)

4mm Allen key

M4 washer (6x)

b. Check if the (d) part is complete

Parts for the hotbed (d) include :

Hot bed with heating line (1x)

Platform board (1x)

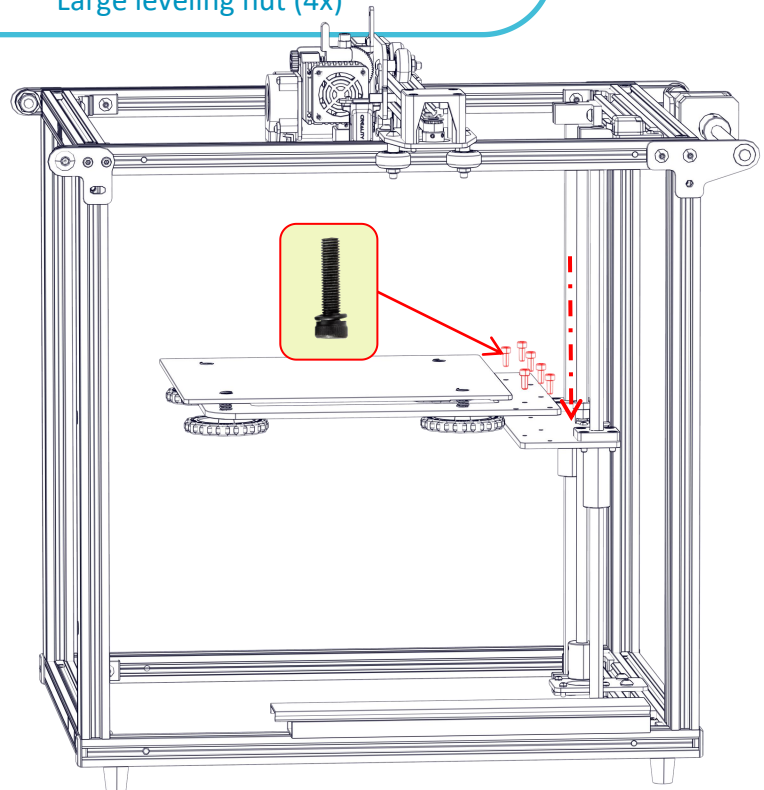
Hot bed spring (4x)

M4x30 flat head screw (4x)

Large leveling nut (4x)

Step 2. Keep the front of the machine facing you, then you need to move to the left or right side of the printer, making it easy to install the hot bed (d).

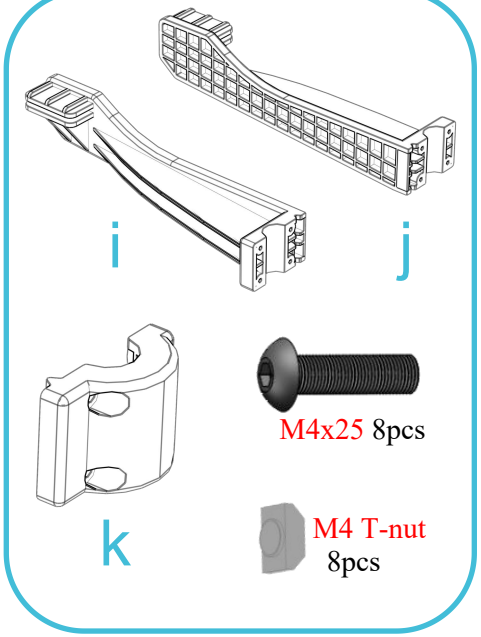
Step 3. Using 6 M4x10 screws, connect the hotbed to the hotbed mount on the Z-axis frame. Make sure the cantilever bed is flat and all six screws are securely fastened.



Two points to be aware of:

1. Before installation, we must check whether the hot bed components are complete,whether the hot bed is flat, and whether the platform plate is tilted.
2. We must not press hard on the hot bed assembly when installing the hot bed assembly. Excessive force to press will cause the hot bed to deform.

6 Mounting The Hotbed



Step 1.

a. Prepare the following parts:

left hotbed holder (i)

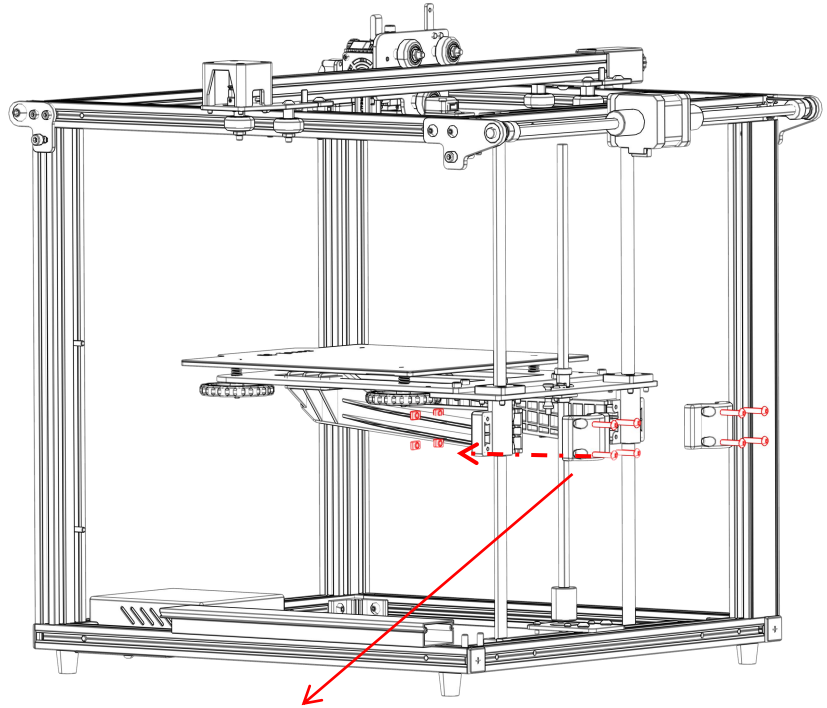
right hotbed holder (j)

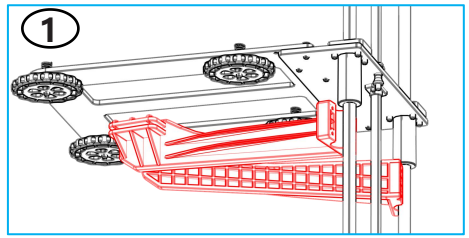
fixing block for the hotbed holder (k)(2x)

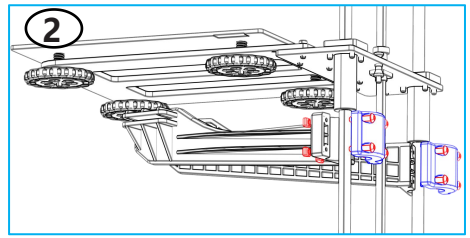
M4x20 socket head hex screws (8x)

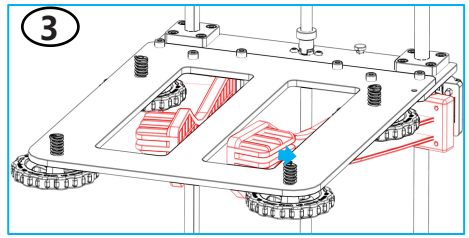
M4 T-nut (8x)

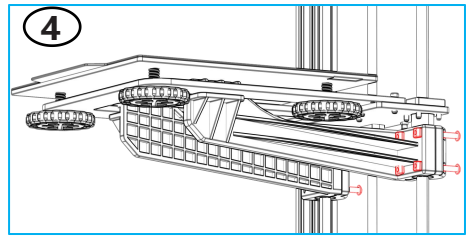
4mm Allen key







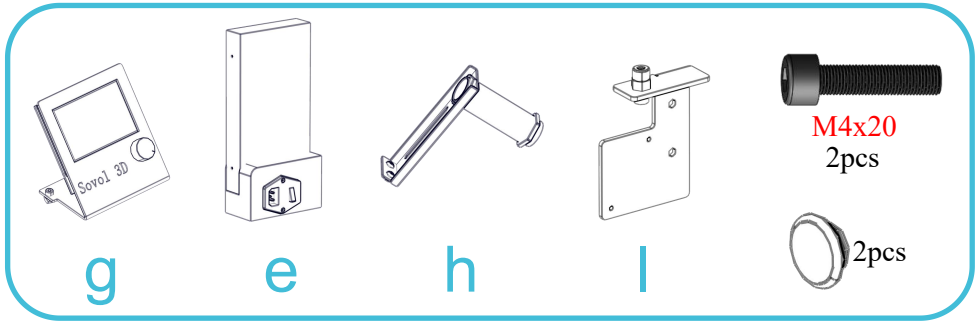


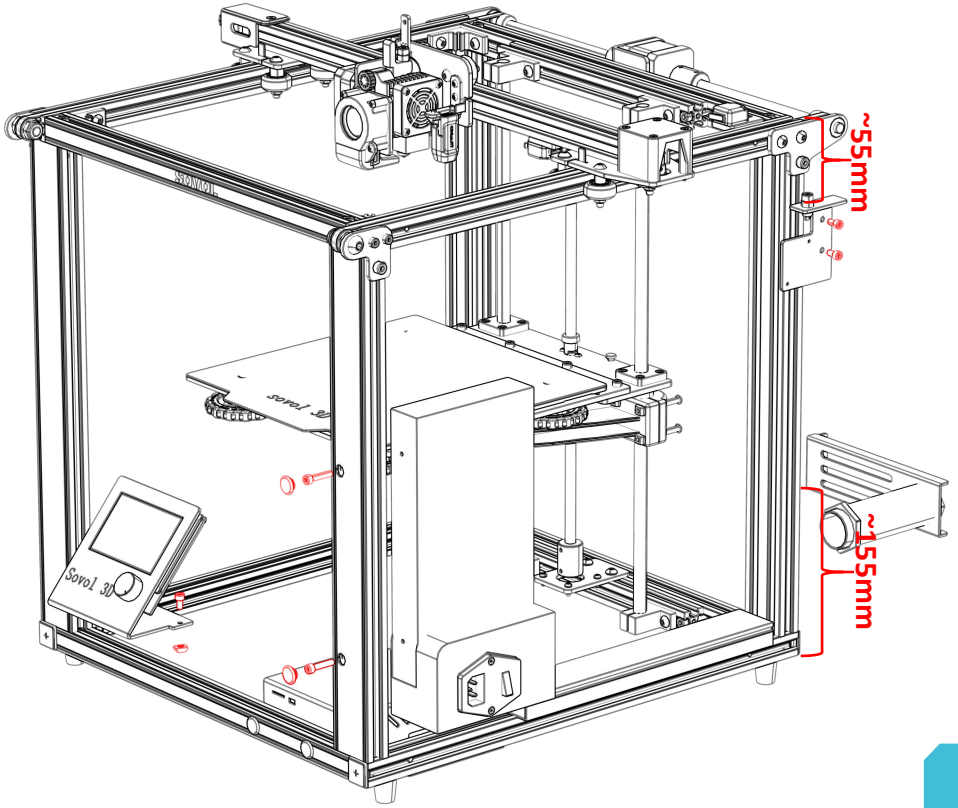


Step 2. With the back of the printer facing you, take out the left holder for the hotbed (i), align the left lead screw on the Z-axis assembly, note that the left hotbed holder (i) must be under the hot bed, then take out a fixing block (k) cooperates with the left hotbed holder (i) to wrap the lead screw, and use M4x25 screws and M4 T-nut to slightly fix the left hotbed holder (i), move the left hotbed holder (i) and the fixing block up and snap into the flange bearing on the lead screw, the opening part of the left (i) front hot bed holder should be aligned with the opening part of the support plate at the bottom of the hot bed, and should be clamped tightly; then tighten the M4x25 screw and the M4 T-nut together.

Step 3. The right hotbed holder installation is as same as the step 2.

7 Display, Power Supply, Filament Holder Installation (1)





Step 1.

a. Prepare the following parts:

display (g) power supply (e)

filament holder(h)

Feed bracket(l)

M4x20 socket head hex screws (4x)

4mm Allen key

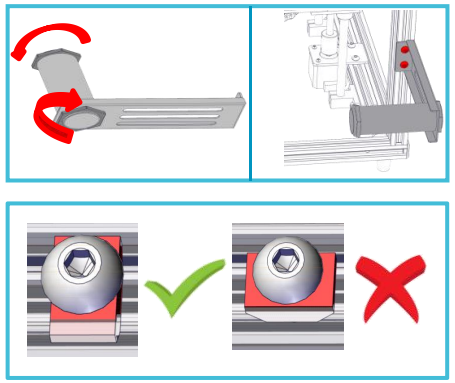
b. Check the parts you need to install now :

display (g)

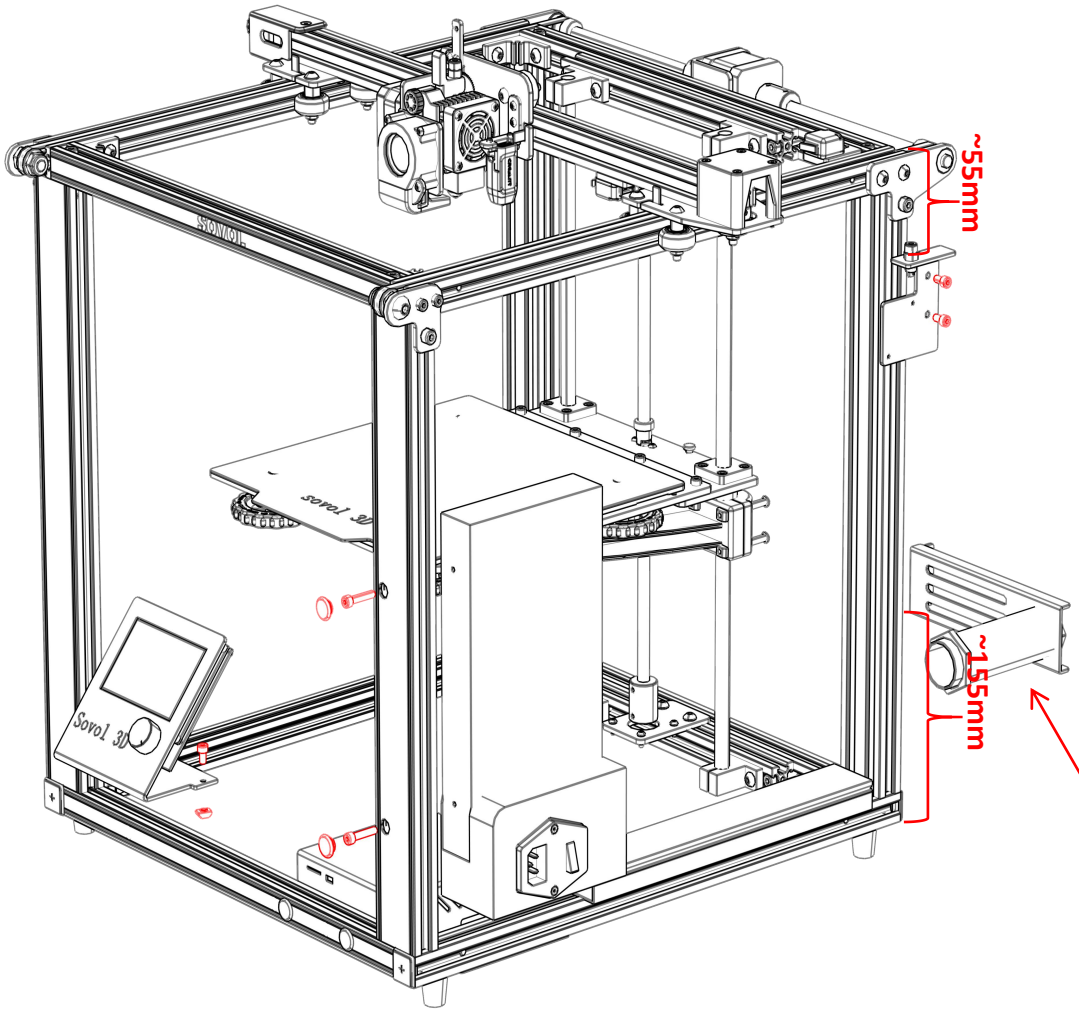
rack tube nut (h3)

rack tube (h2)

metal plate bracket (h1)



8 Display, Power Supply, Filament Holder Installation (1)

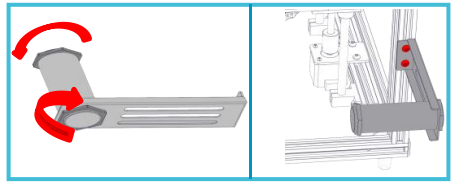


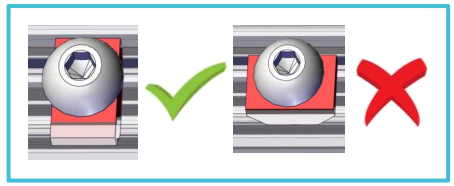
Step 2. Take out the display (g), install it on the lower left side of the front of the machine, and use the M4 hexagon wrench to tighten it (the screws have been pre-installed on the display.

Step 3. Take out the power supply (e), and then take 2 M4x20 screws; turn the switch of the power supply toward the outside, and align the side with the threaded holes with the 2040 profile on the right side of the front of the printer, as shown on the left picture. Lock the power supply on the right 2040 profile with the M4x20 screws, then take out 2 silicone covers and put them into the 2040 profile hole

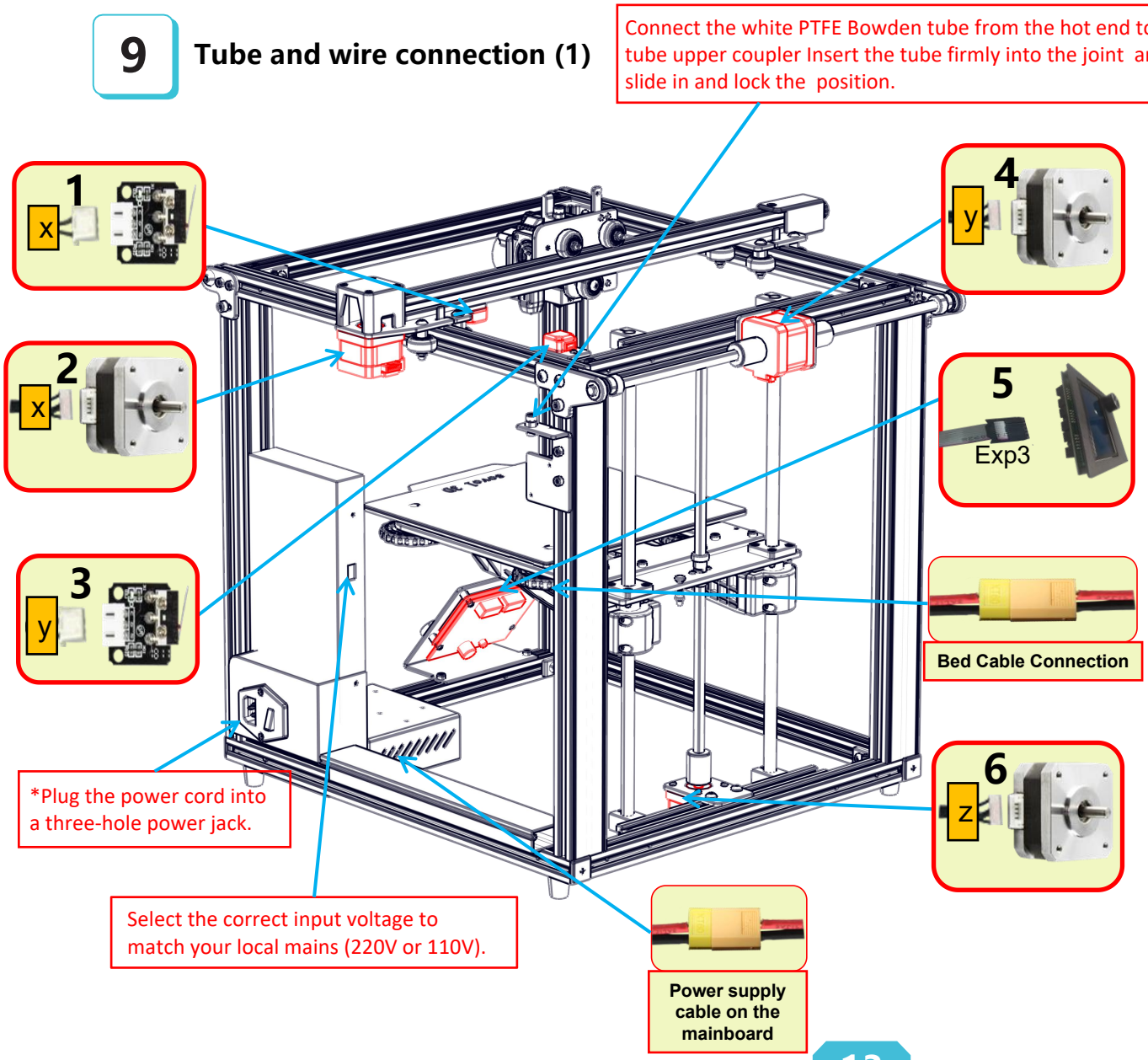
Step 4. Take out the filament guide (I), install it on the 2040 profile on the right side of the back of the printer, the distance of the installation position can refer to the figure on the left. It is recommended that the distance between the top surface of the filament guide (I) and the top surface of the profile of the top assembly is about 55mm, as shown on the left. Then use the M4 hexagon wrench to tighten the screws and the M4 T-nut should be positioned like the figure B.

Step 5. Take out the filament holder kit and install it as shown in Figure A below, and the recommended installation position can refer to the left picture. The recommended distance between the bottom surface of the filament holder and the bottom profile of the printer is about 155mm.


A


B

9 Tube and wire connection (1)



Step 1. For the installation of the line, we need to move to the back of the printer to facilitate the installation of the line. And check the wiring for damage.

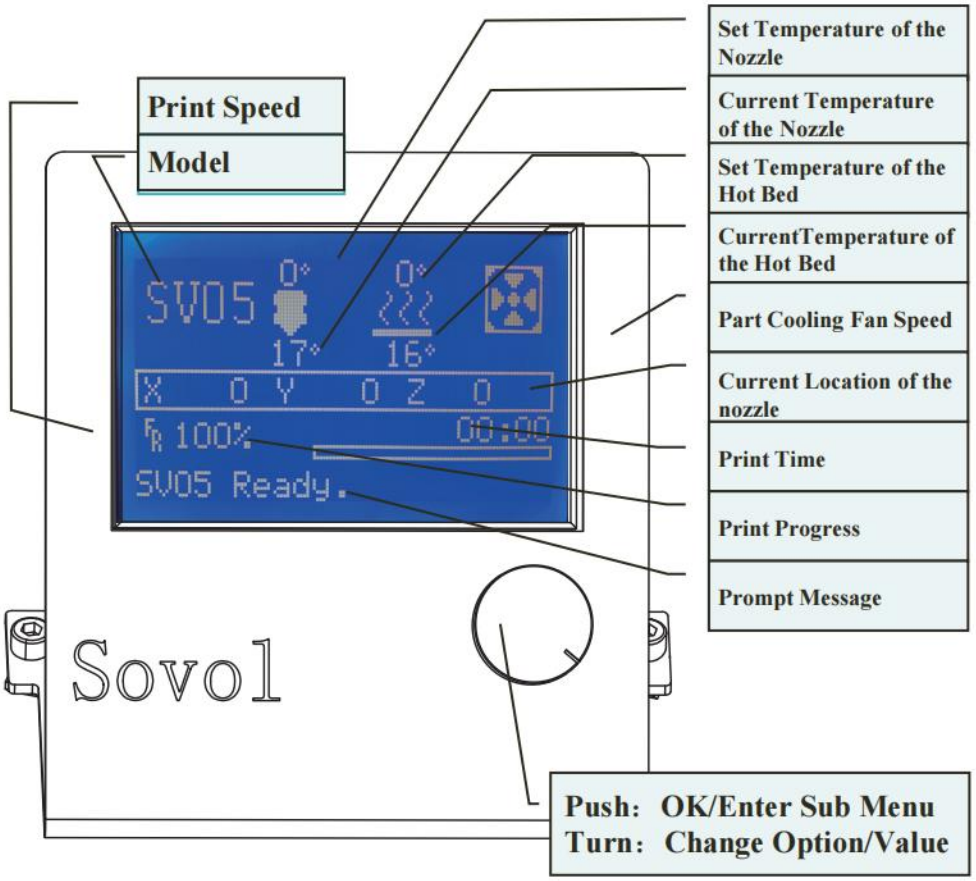
Step 2. Find the letters on the 1/2/3/5/6 wire harnesses, as shown on the left, and insert it according to the position indicated by the red arrow on the drawing. After the insertion, gently pull on it to insure it's firmly seated. Please note that the (X /Y/ Z) 4 wire plug corresponds to the motor and the 2 wire plug corresponds to the limit switch.

Step 3. The plug on the 5# electrical harness is inserted into the display board into the jack marked "Exp3.

Step 4. Find out the hotbed red cable and black cable from the electrical harnesses, connect the bed cable connection, and connect the red cable and black cable on the hotbed, then find out the red cable and black cable from the power supply and connect them with the red cable and the black cable taking out from the mainboard in the chassis

Step 5. Check that all electrical harnesses are securely connected.

Information Displayed



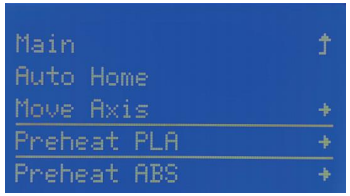
Screen Information

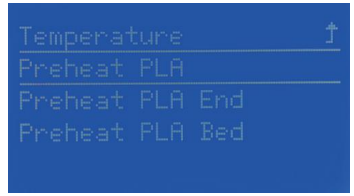
Screen Options

Menu	Sub Menu	Explanation
Info Screen	Main	Return
Prepare →	Disable Steppers	Moving X Y Z axis by your hands
	Auto Home	reture to the origin
	Preheat PLA	Print PLA heating
	Preheat ABS	Print ABS heating
	Move Axis	Move X Y Z axis or Extruder by given value
Bed Leveling →	Probe Z offset	Adjust the z-axis compensation value
	Auto Home	reture to the origin
	Level Bed	Automatic leveling of hot bed
	Fade Height	Set Z fade height
	Bed Tramming	AUX leveling
	Store Settings	Save Settings
Configuration →	Advanced Settings	Aduanced Settings such as mabile acceleration
	CR-Touch	CR-Touch Set
	Sound	Set Sound
	Restore Defaults	Restore default settings
	Temperature	heat the nozzle and the bed or change fan speed by given value
Print form SD Card		
Printing		
Turn →	Speed	Change printing speed
	Nozzle	Change the nozzle temperature
	Bed	Change the bed temperature
	Fan Speed	Change blower fan speed
	Flow	Change filament flow
	Advance K	Linear Advance
	Store Settings	Save settings
	Probe Z offset	Adjust the Z-axis compensation value
Pause Print		
Stop Print		

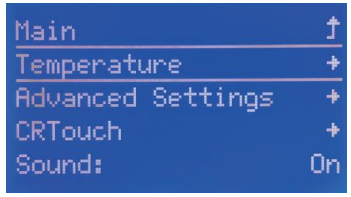
1. Preheat

Method 1

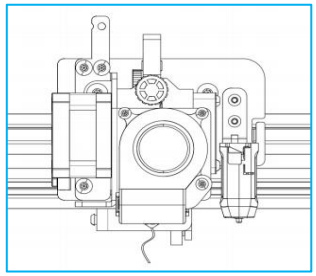


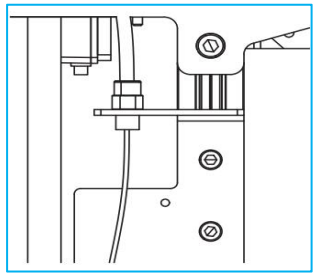


Method 2



2. Feeding





When it reaches the target temperature, load the filament through the feed bracket into the small hole of the Extruder until it reaches the nozzle. If the filament flows out from the nozzle, it presents that the filament is properly loaded.

Q：How to replace filament?

Method 1: After preheating the nozzle, push the filament forward a little bit, quickly draw out the filament, then load the new filament.

Method 2: Click “change filament” on the touch screen, wait the filament withdraw out automatically, then load the new filament.

16. Bed Leveling

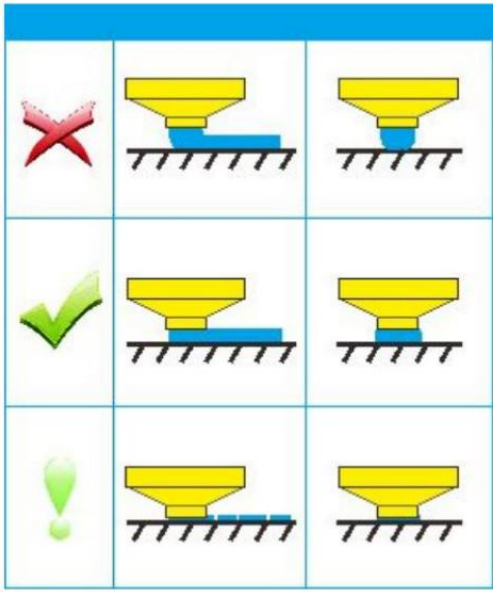
1. Click bed tramming, the x.y.z axis of the printer will automatically return to zero, and the CR touch will finally stop at the center of the hot bed.

2. Place a piece of A4 paper on the hot bed, click next on the screen, and move the CR touch to the next detection point. After the CR touch stops detection, adjust the adjustment knob under the hot bed until you feel a slight resistance to the paper between the nozzle and the hot bed. At this time, the distance between the nozzle and the hot bed is perfect.

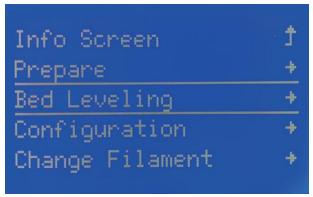
3. Repeat step 2 until the four corners and the center of the hot bed are leveled, click Done to exit the bed tramming mode and take away the A4 paper. At this time, the state of the hot bed is basically flat.

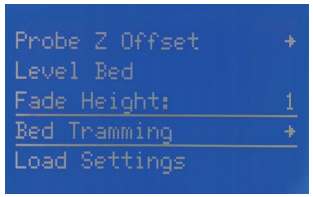
4. Click Bed leveling, click auto home to reset the machine to zero, click probe Z offset, place a piece of A4 paper on the hot bed, and control the z-axis to move up and down by adjusting the display knob, Until you feel a slight resistance to the paper between the nozzle and the hot bed, click the display knob, return and save the z-axis compensation value at this time, and take away the A4 paper.

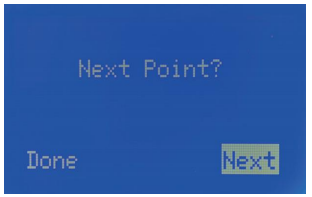
5. Click Level bed, and the machine will automatically level 9 points (Note: during the automatic leveling of the machine, no other operation is allowed on the machine until the 9 points are completely leveled). After the leveling,no need to add G29 or M420 to the start code.



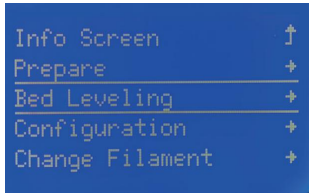
Step 1—Step 3

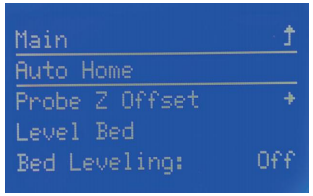


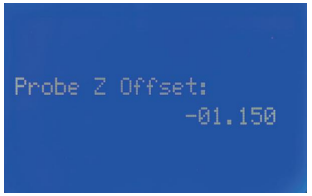


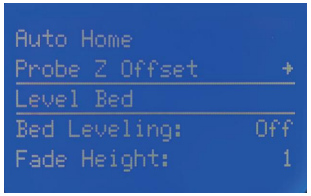


Step 4—Step 5



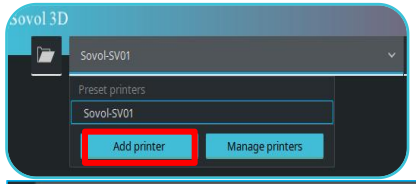


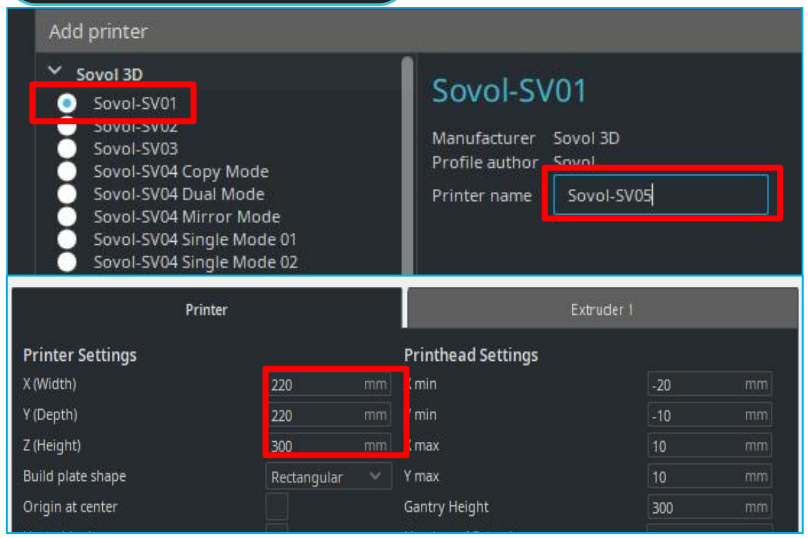




① Install Sovol3D Cura software

1. Select Other → SV01 → Rename the printer：SV01 Pro → Add Printer.



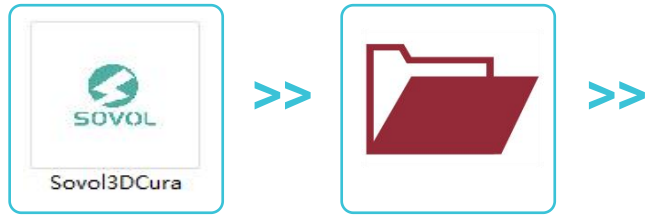


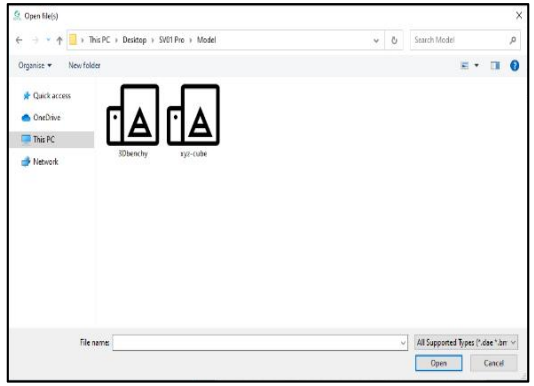
2. Select Add printer →SV01→Rename the printer：SV05→Add Printer

3. Select Manage Printer Machine Settings → Printer Settings.
（ Printer Setting 220*220*300 ）

② Slicing

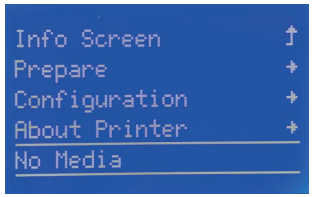
Open slicer→Import（Open file）→Select the file→Click slice→Save to file (Save to the TF card)

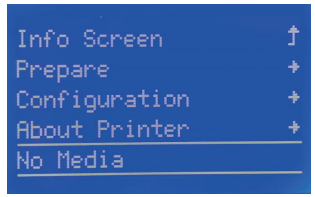




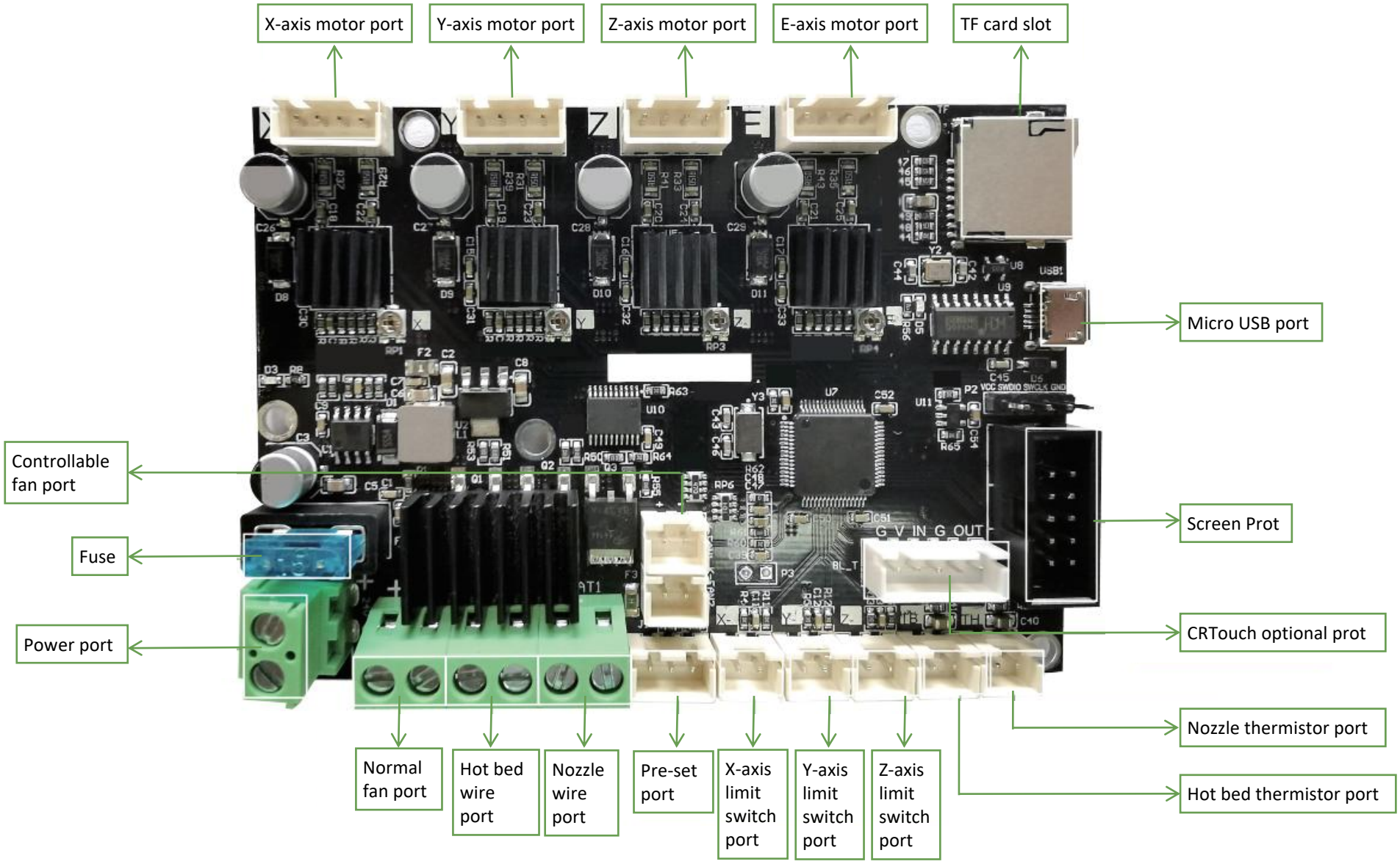
③ Printing

Insert the TF card→Select Print from TF →Select the file.





Note: File names must be Latin letters or numbers, not Chinese characters or other special symbols.


X-axis motor port
Y-axis motor port
Z-axis motor port
E-axis motor port
TF card slot
Micro USB port
Controllable fan port
Screen Prot
Fuse
Power port
CRTouch optional prot
Nozzle thermistor port
Hot bed thermistor port
Normal fan port
Hot bed wire port
Nozzle wire port
Pre-set port
X-axis limit switch port
Y-axis limit switch port
Z-axis limit switch port

SHENZHEN Lian Dian Chuang Technology CO., LTD.