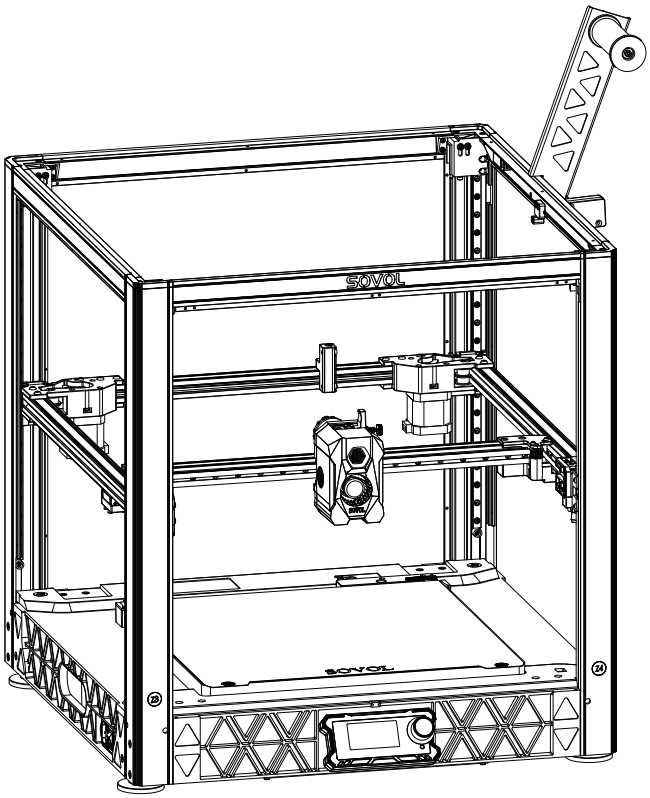
SOVOL

SV08

User Manual

V1.0



Dear customers:

Thank you for choosing Sovol printers! Sovol is committed to providing excellent machines to 3D printing enthusiasts all over the world. This manual is designed for SV08 owners to start their SV08 printing journey. We still recommend all the SV08 owners to read the manual carefully even if you are familiar with the 3D Printing technology, as there are lots of important information about the SV08 for you to learn and help you get better printing exprience. In this manual there are some tutorials can be found on official website and group you can scan the QR-codes.

Sovol Support Group

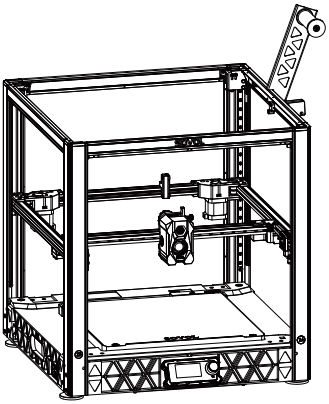
Sovol Official Website

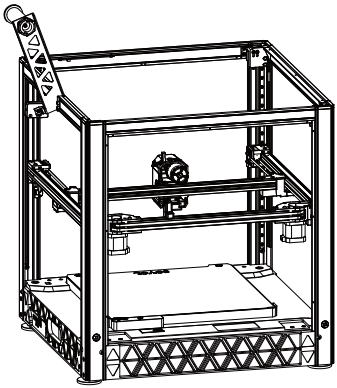
1 Note 02
2 Equipment Parameters 03
3 Package List 04
4 Assembly 05
Base & Toolhead 05
Top frame 07
AB-axis 08
Filament Holder 09
Extruder Module 10
Screen 11
Connect Wires 12
5 Screen 15
Menu 15
Menu 16
Wifi Connection 17
Pre-print preparation 18
Calibrate Z offset 19
Printing 21
6 Obico connection 23
7 Main Board 28

Note

- Do not use the printer by any way except as otherwise describedherein to avoid personal injury or property damage.
- Do not place the printer in an environment with heavy vibration or otherunstable factors. Printer shaking will affect printing quality.
- Do not place the printer near inflammables and explosives or heat sources.
- Keep the printer in a well-ventilated, cool and dust-free place.
- It is suggested to use the materials recommended by manufacturer inorder to avoid machine damage.
- Do not use any power cord other than the accompanied one.
  Usegrounded three-phase power outlet.
- Do not wear cotton gloves while operating the printer. This type offabric may be wound in the printer's motion parts, which can causeburns, personal injury, or printer damage.
- Wait for a moment after printing to remove the prints.
- It’ s not recommended to use the third party firmware or mainboard etc, or the warranty will be void.
- Clean the printer frequently. Prior to cleaning, turn off the power supply;use a dry cloth to wipe off dust, adhesive printed plastic or any othermaterials from the frame, rail or wheels. Use glass cleaner or isopropyalcohol to clean printer surface.
- Children below 10 years old shouldn't use the printer alone.
- Do not move the nozzle and printing mechanism with your handsduring printing.
- Users shall abide by relevant laws and regulations of the countries andregions where the printer is placed (used) and professional ethicsperform safety obligations, and do not use our product or device for anyillegal purpose. In no case shall Sovol bear any legal responsibilities foranyone breaching laws.

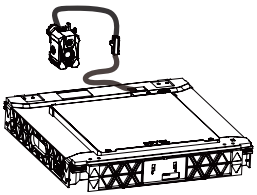
Equipment Parameters





Model	SV08
Software language	English
Print method	Network interface USB cord and WIFI
Type	FDM
Number of nozzles	1
Print size	350*350*345mm
Recommend Printing speed	300 mm/s (MAX 700mm/s)
Printing accuracy	±0.1mm
Nozzle diameter	0.4mm (Replaceable)
Nozzle temperature	⩽300°C
Hot bed temperature	⩽100°C
Applicable filament	PLA/ABS/ PETG/TPU
Diameter of filament	1.75mm
File format supported	G-code
Voltage	AC 100~120V / 200~240V, 50/60Hz,
Operation system	Windows,Linux,Mac
Power supply	150W/24V

Package List



Base & Toolhead



Z1



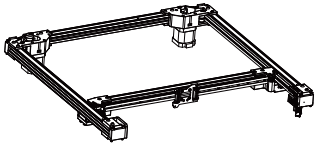
Z2



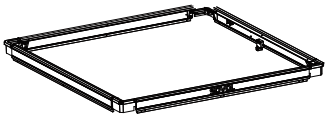
Z3



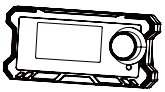
Z4



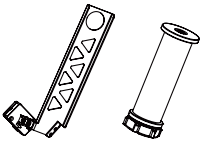
AB axis



Top frame



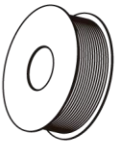
Screen



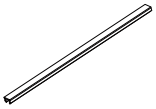
Filament Holder



PTFE TUBE



Filament



Black Seal strip

Tool Box



step1 M4X30*16



step2 M5X40*4



step3 M5X15*4



step4 M4X8*4



step5 M3X6*8



step6 M4X10*2



step7 M3X12*3



step8 M4X12*1



USB Flash Drive



Scraper knife



Toolkit



Power cord



Ribbon



Nozzle cleaner



Cutting nippers



Thermal Grease



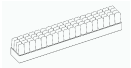
Tweezers



Spare nozzle



cable tie



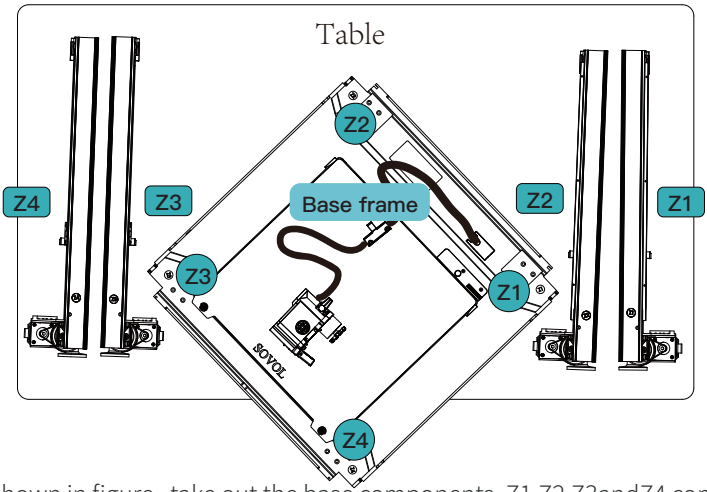
Silicone brush



M2.5 Allen screwdriver

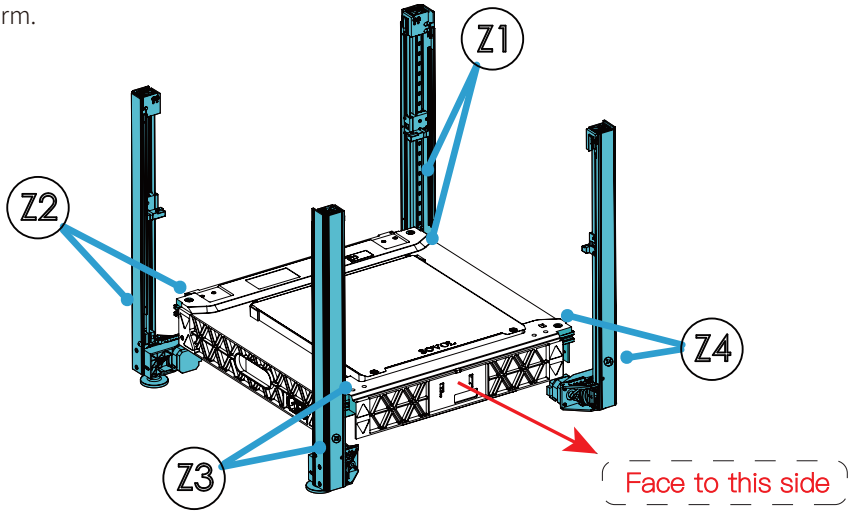


M4 Allen screwdriver

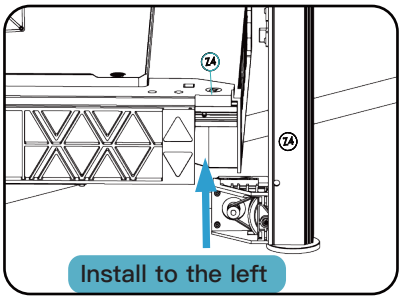


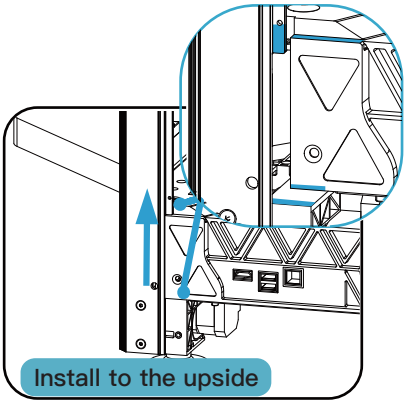
1. As shown in figure , take out the base components, Z1,Z2,Z3andZ4 components, from the packaging box, and place all compoents on a table surface that is not easy to scratch.

2. Place the nozzle kit and wiring harness connected to the base on the hot bed platform.



Notice:
There is a corresponding corner mark on the installation corner of the component. Z1 components are installed in the installation positions with the Z1 mark. Z2, Z3, and Z4 are also installed according to the corresponding icon positions.

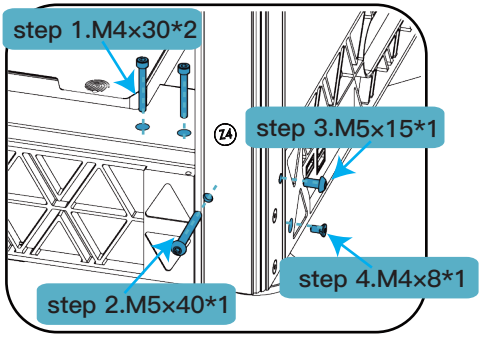


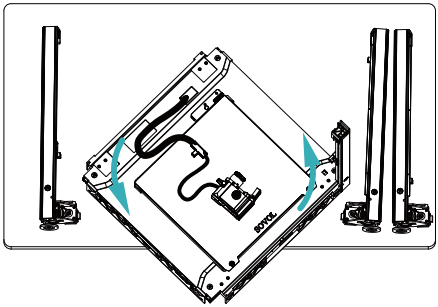


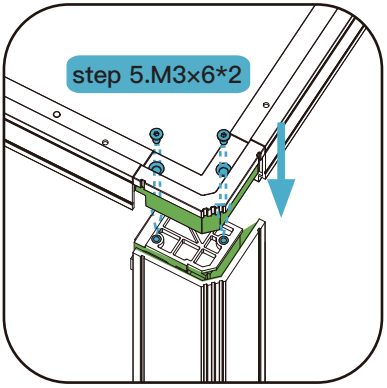
3. Align Z4 with the front panel of the base and install it to the left.

4. Check whether the mounting holes and screw holes are aligned. If not, manually adjust the Z4 assembly and base assemlbly to check whether they are aligned.

5. Remove the screws from the kit as shown in the figure. Aftter installing the Z4 component, rotate the base component again according to the preceding instructions to install other components.

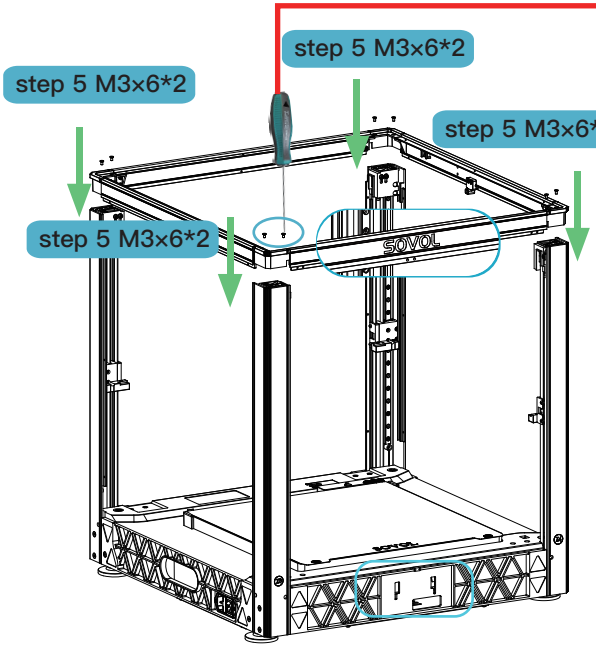






The top frame is installed according to the corresponding position in the picture.

Use two step 5 screws in each mounting corner to lock in a total of 8 M3×6 screws.

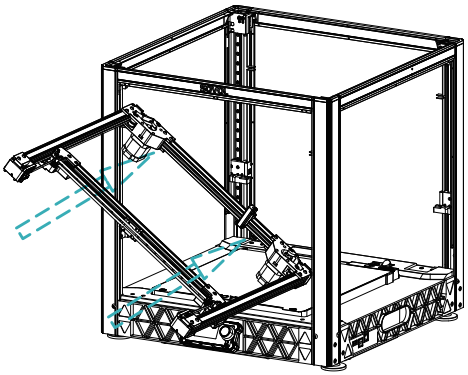


Use the M2.5 Allen screw-driver in the accessory box to tighten the screws in step 5

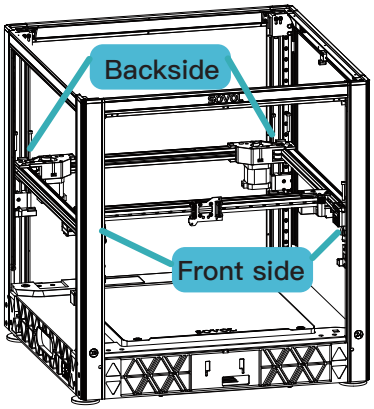
Notice:
The "Sovol" logo faces forward, corresponding to the screen installation position

When installing the top frame, all four corners need to be installed downward into the slots at the same time.

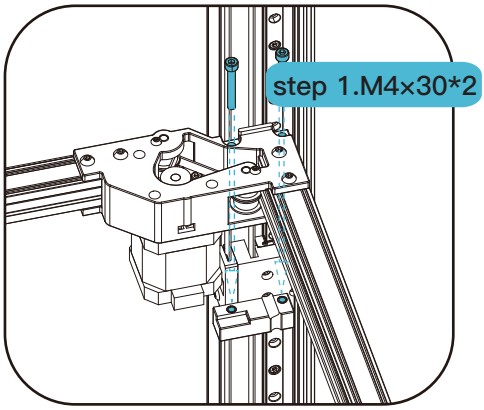
Take out the AB axis, as shown in the picture. Place the AB axis on the Z -axis mounting base according to the position in the picture.



The AB axis assembly needs to be tilted and placed sideways into the frame.

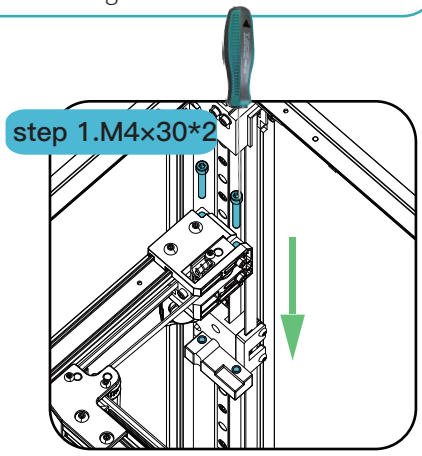


As shown in the figure on the right: To install the front end of the AB shaft, take out the step 1 screw from the spare parts package and tighten it with the M4 Allen screwdriver.

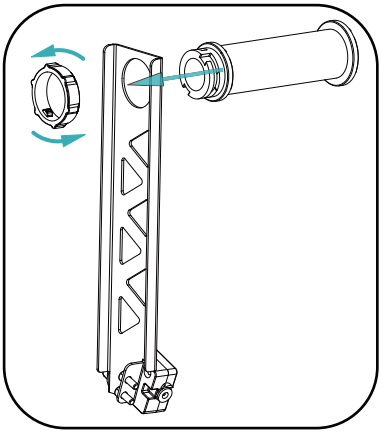


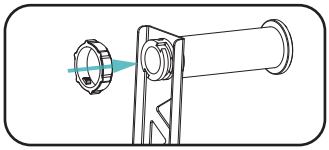
1. Installing the rear end of the AB shaft take the step 1 screw out of the spare parts package, place it into the screw holes, and lock it tightly.

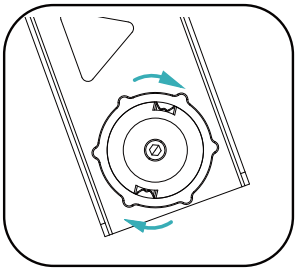
Note: When locking the screws, you need to adjust the mounting hole position of the AB axis and the mounting threaded hole of the Z- Front side axis component, and then lock the screws. If necessary, you can pull the AB axis frame to align the holes.



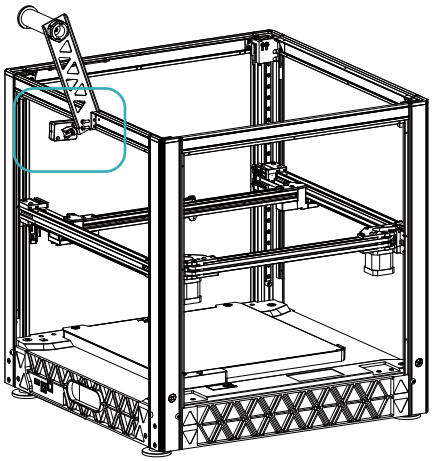
To prevent damage do not over tighten

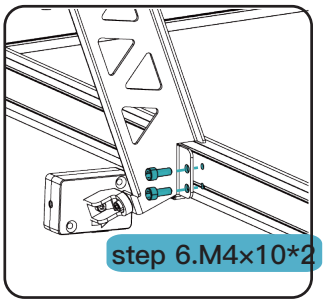




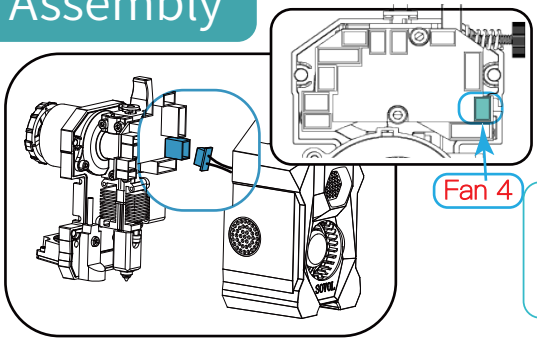


Turn counterclockwise to open the end cap, then insert the barrel into the circle of the barrel holder, then align the barrel cover with the barrel buckle and rotate it clockwise to tighten it.



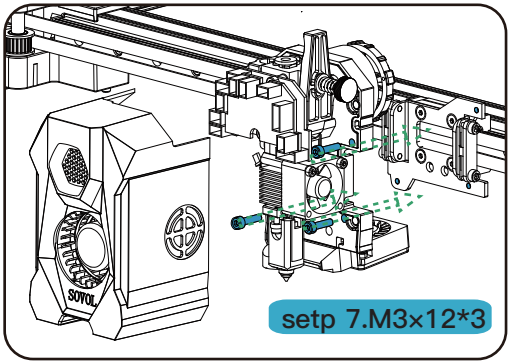


After the bracket is assembled, use two step 6 screws to lock it.

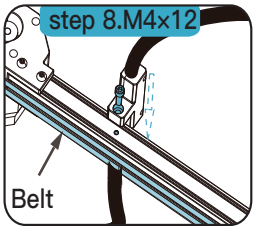


Please take off the cover before assemble the nozzle.

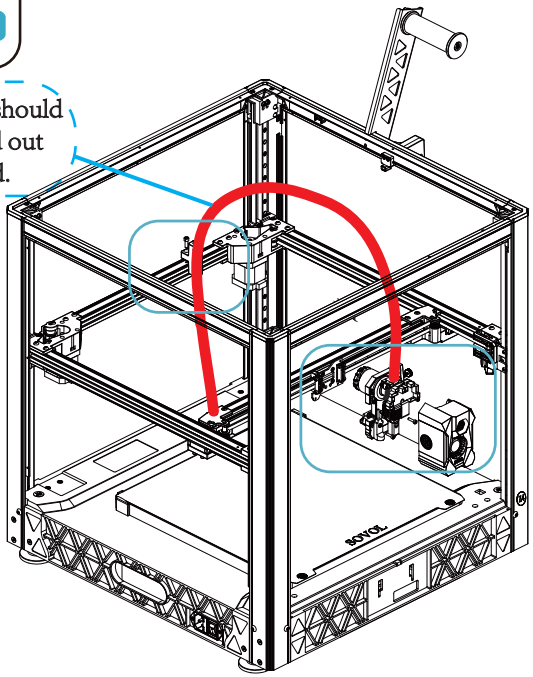
Notice: The nozzle cover is magnetically connected and is not fixed with screws.



Use 3 step 7 screws to lock and tighten on the nozzle mounting sheet metal. Then connect the heat sink that was pulled out in the previous step.



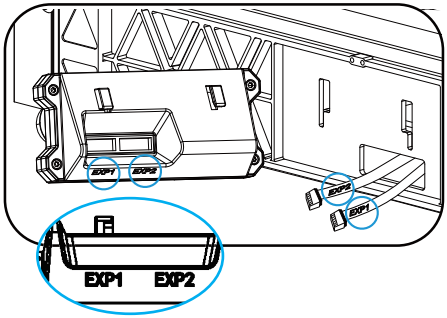
Nozzle cables should be straightened out and not twisted.



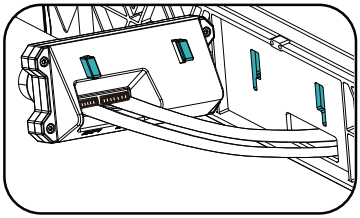
1.Please pay attention to the direction of the blue Teflon pipe buckle to avoid hitting the tool head cover.
2.Please insert the Teflon tube to the bottom.

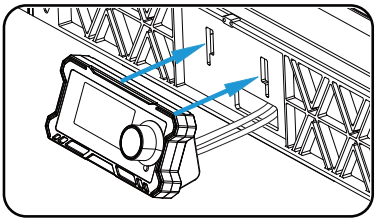
As shown in the picture, use 1 step 8 Screw locking harness clamp Note that the wire harness clip should be locked inside the frame.
Do not lock it outside the profile, as it will affect the belt drive.

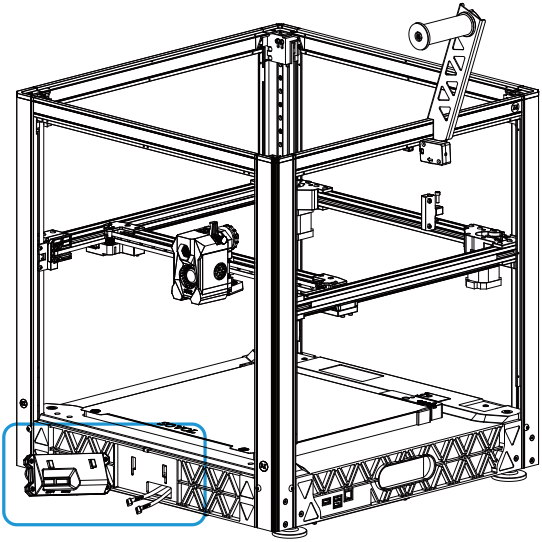
Wire harness wiring diagram after installing the toolhead. Be careful not to rotate or knot the wire harness.

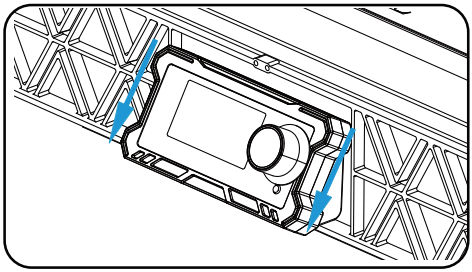


1. Prepare the touch screen and find the two display cables on the base. The cables are marked EXP1 and EXP2 below the corresponding display installation ports. Insert the display cables according to the corresponding marked ports.

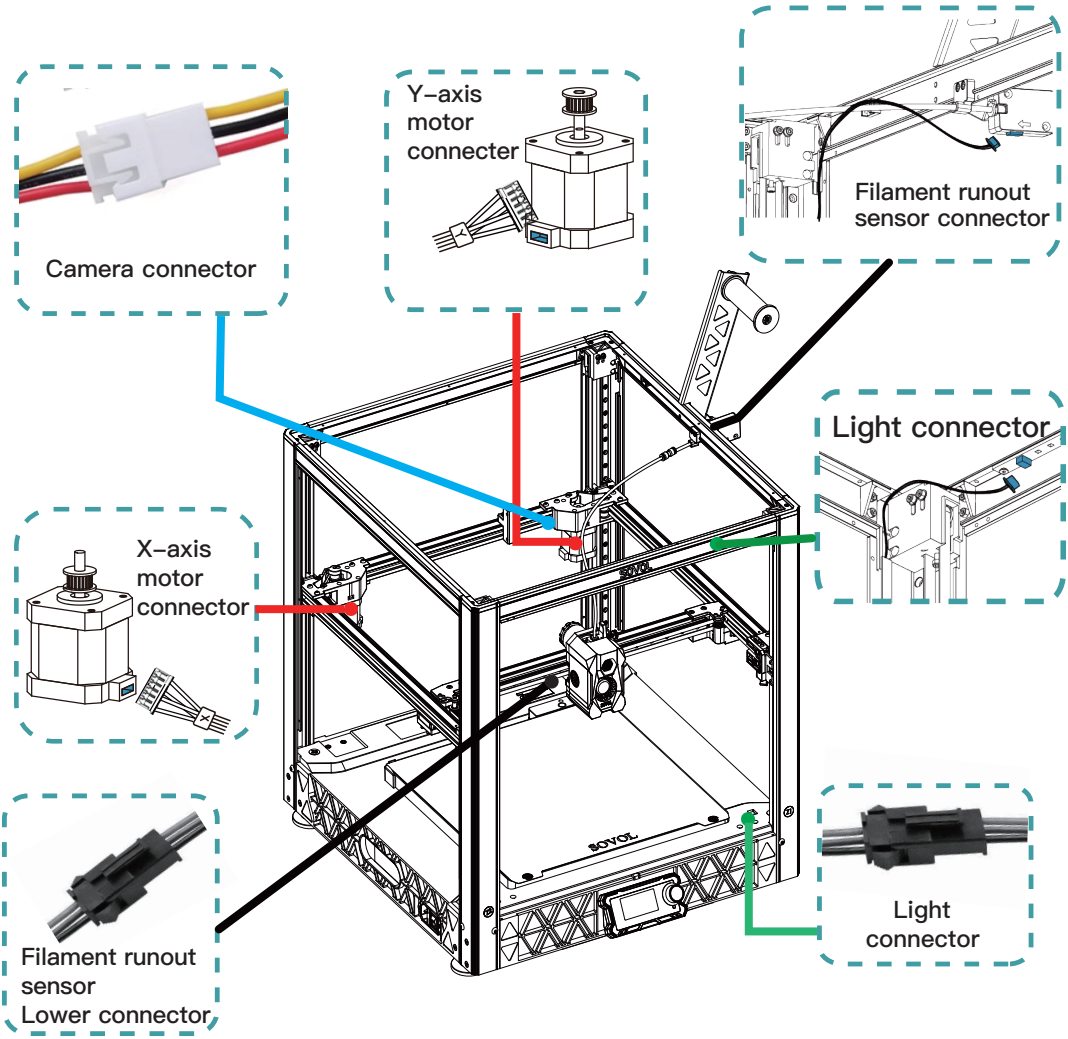


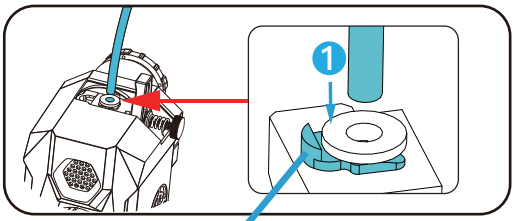






2. After the screen cable is connected, use the buckle to assemble the screen. Align the screen buckle and the base buckle into the correct positions, then press down to tighten the screen buckles.





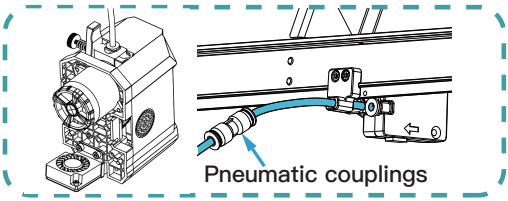
The blue clip faces the motor

Install PTFE tubes at both ends

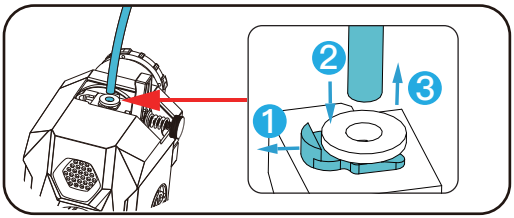
When intalling teflon tubes for the first time,follow these steps.

1.Place the longest end of the teflon tube, as shown in the picture on the left,and align it with the squeeze outlet.

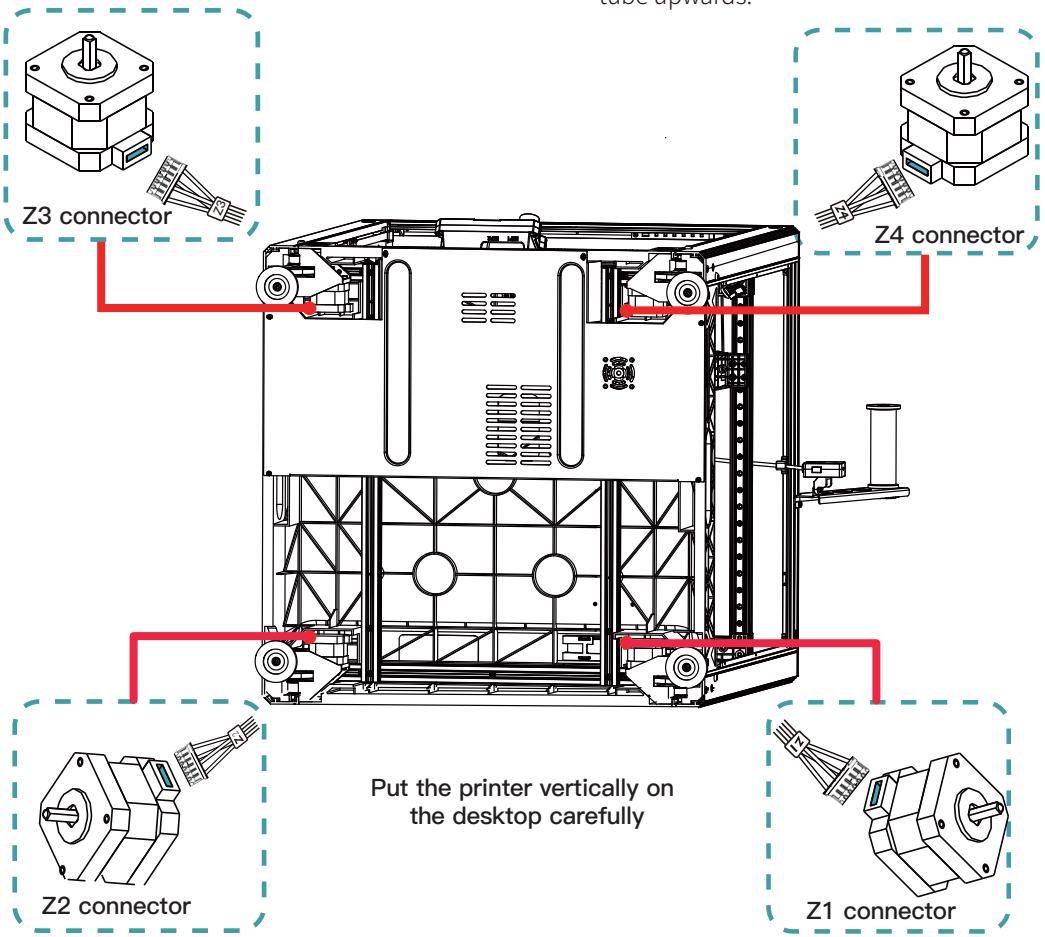
2.Make sure the Tdflon tube is inserted into the bottom.

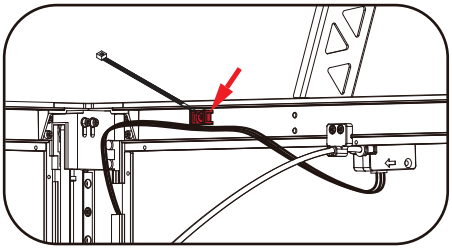


Insert the PETF into the two ports

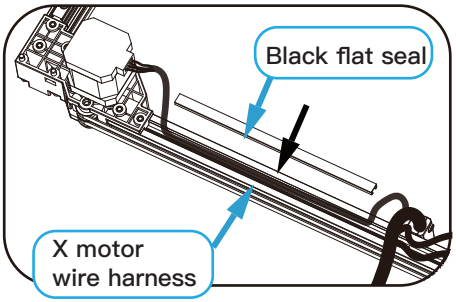


Assemble two side of PTFE TUBE
Please follow the following steps when unplugging the Teflon tube from extruder
1. Please pull out the Teflon tube buckle of the quick-plug interface first.
2. Press down on the quick-plug interface.
3. At the same time, pull out the Teflon tube upwards.



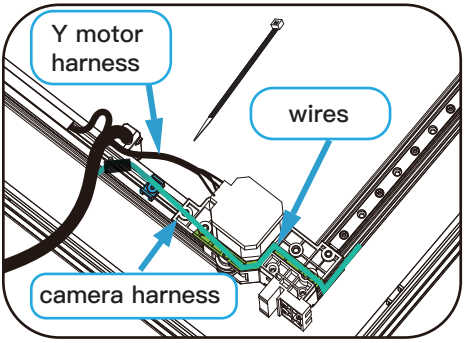


After connecting the material breakage detection line, you need to use a cable tie to fix the wire harness on the cable tie as the picture shown.



(Looking up at gantrys perspective)

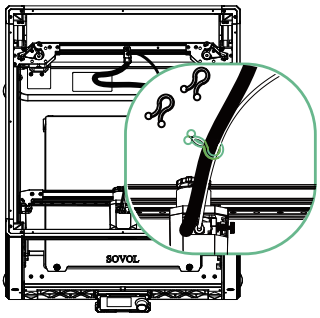
Place the "X motor wire harness" in the wire trough at the bottom of the profile, then lower the black flat seal to cover the wire harness, adjust the position and press the flat seal tightly.



(Looking up at gantrys perspective)

Place the camera wire harness in the reserved wire trough according to the trajectory in the picture. Then use cable ties to tie the Y motor harness and camera harness to the cable tie buckle.

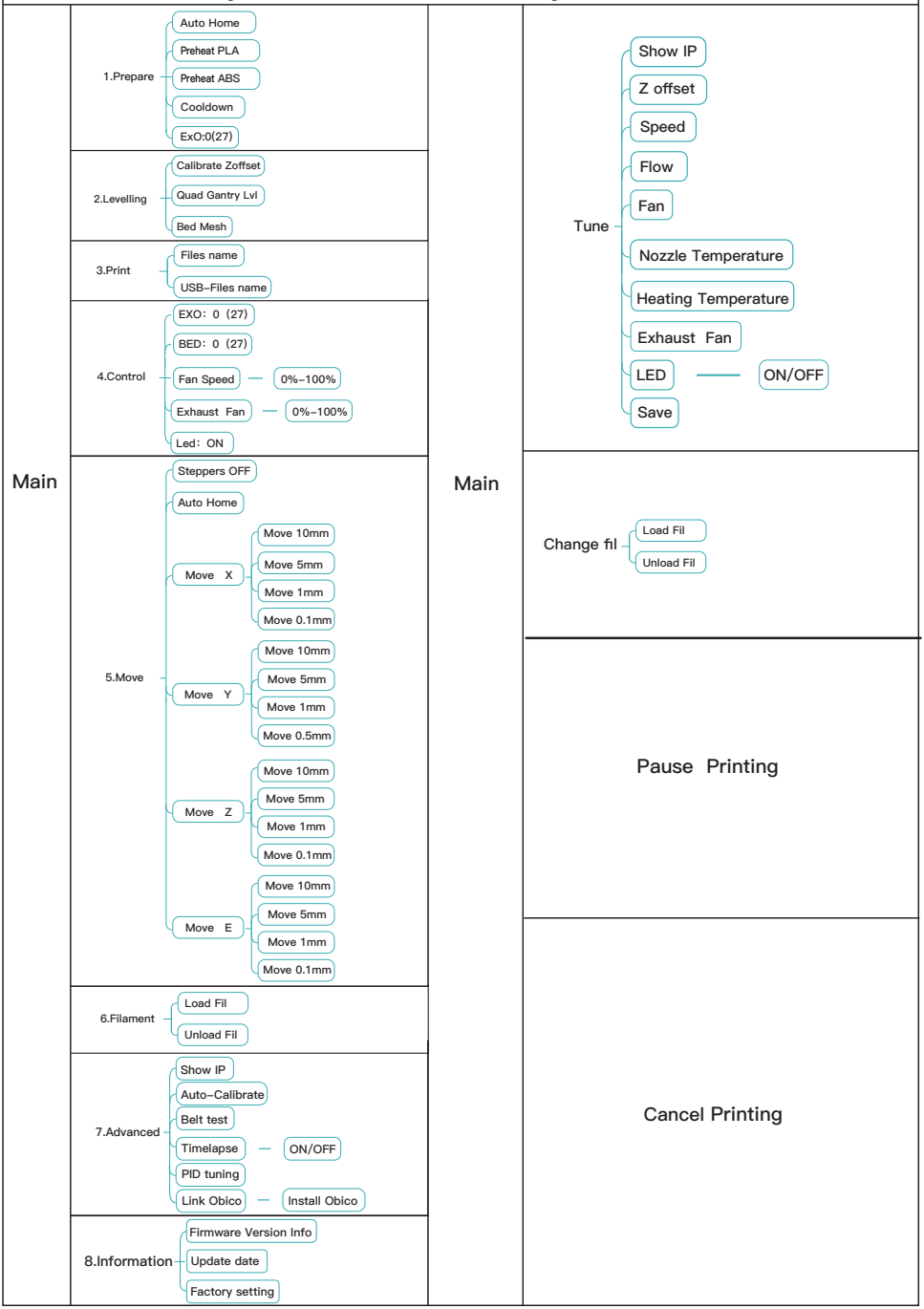
Please route the camera module cable through the outside of the motor

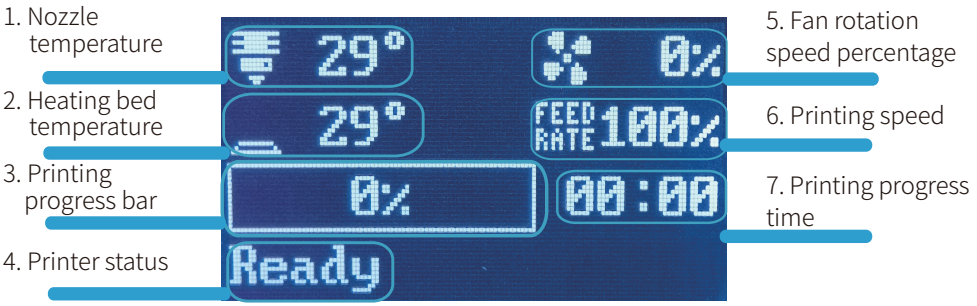


Use three ties to secure the PTFE TUBE and toolhead wire harness. Bound together to facilitate the movement of the toolhead and wire harness can move freely and improve the shaking of the wire harness.

When installing cable ties, the first cable tie is installed 50mm away from the nozzle, the second cable tie is installed 120mm away from the first, and the third cable tie is installed 120mm away from the second cable tie.

We will continue to update the software version, and the operation interface will be different.





1. Nozzle temperature: Displays the current temperature/preset value temperature of the nozzle.

2. Heating bed temperature: Displays the current temperature/ preset value temperature of the heating bed.

3. Printing progress bar: displays the printing progress percentage, starting printing 0% - printing completed 100%

4. Printer status: ready to print, printing, printing content display.

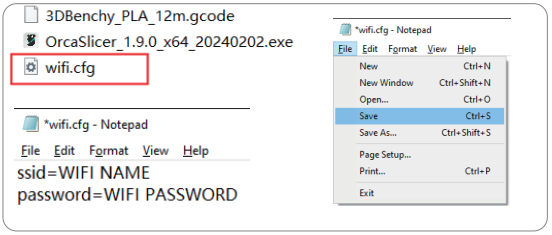
5. Fan rotation speed percentage: displays the cooling fan rotation speed percentage, 0%-100% Printing progress time: displays the time required to print the model.

6.Printing speed:displays the current printing speed. Printing speed can be adjusted with the knob.

7. Printing progress time: displays the time required to print the model.

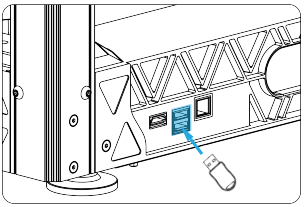
1 Use the USB flash drive included in the machine's accessory package and insert it into your computer to access its contents. Search for the file named "wifi.cfg" within the drive.

2 Open the "wifi.cfg" file using Notepad; this action resembles the example displayed on the right. Enter your WiFI network name (SSID) and password in the following format:
– ssid=your_WiFi_network_name
– password=your_WiFi_password
Example:
– ssid=Spixi–12CS
– password=Spixi2023



3 After entering your WiFi info, save the "wifi.cfg" file, ensuring it remains in the USB's root directory.
*Please make sure you type in the correct WiFi info.

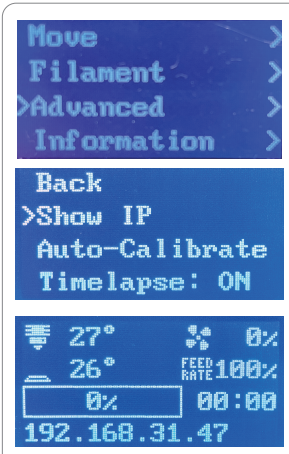
4 Power on the machine, enter the system and then plug the USB port into one of the two USB ports on the right side of the machine. Once inserted, pause for 15–20 seconds before continuing.



5 Use the knob to navigate to the screen's menu and select the "Advance" menuby rotating and pressing the knob.

6 Find the "Show IP" option within the "Advance" menu, and select it to view your machine's default IP which is 127.0.0.1—this can be disregarded

7 Press the knob and turn the knob to enter the "Advance" menu again, Select the "show IP" menu again, wait for 5–8S, and the IP address of the wifi you are connected to will be displayed at the bottom of the main interface of the screen, as shown in the figure on the right; (Please record the IP address displayed at this time, such as 192.168.31.47, so that you can enter the web interface to figure out the problem at any time when you encounter problems in printing.)



8 Turn on the computer, make sure that your computer and the network WiFi connected to the printer are the same WiFi, and then select any browser, enter the IP address displayed on the printer's screen. You will be taken to the Mainsail interface and control your printer with your computer.

9 If you want to use your smart phone to control the printer, you also need to make sure that your smart phone is connected to WiFi.
The WiFi connected to the printer is the same WiFi network, then open any browser on the smart phone, enter the IP address display on the printer display, you can enter the Mainsail interface, and use the smart phone to smart phone to control your printer.

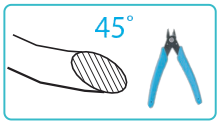
You can view the Show Ip during printing

Attentions:
1. WIFI must use 2.4G band signal.
2. Pay attention to the strength of the WIFI signal, the router connected without obstacles in a. The straight line distance from the machine should not exceed 10m.
3. Make sure the wifi name and password are correct.
4. computer or cell phone must be used with the printer is the same network wifi
5. If the printer display does not show the IP address, or show the IP address “172.0.0.1”, please recheck the wifi.Please recheck the name and password in the wifi.cfg file to make sure they are correct. And try “show IP” several times.
6. If you want to change the WiFi network, please re-enter the name and password of the WiFi network you want to connect to in the wifi.cfg file. If you want to change the WiFi network, please re-enter the name and password in the wifi.cfg file.

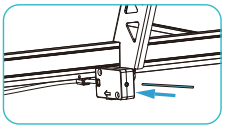


In the event of a missing configuration file, follow these quick steps to generate a new one:

1. Right-click on your desktop and select “New” > “Text Document” to create a new TXT file.
2. Rename this file to “wifi.cfg” with a lowercase “cfg” extension.
3. Confirm the file extension change by clicking “Yes” when prompted, effectively creating your new .cfg file.

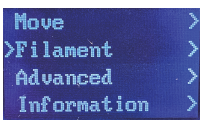


Use the scissors in the accessory kit to cut off the end of the filament at a 45° angle.

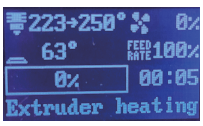


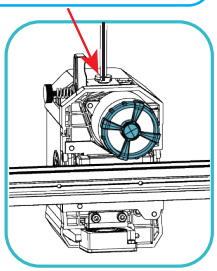
Steps to insert filament: Insert the filament into the hole of the filament runout sensor until it reaches the end. When the consumables cannot be inserted any further, complete the stepof inserting filament.

Make sure the filament are loaded correctly & are engaged with the extruder gears







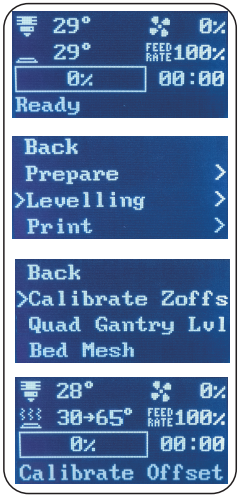


Select the "Load Fil" function, the heating block will heat up, reach the specified temperature value, the E-axis extrusion motor starts to rotate, the E-axis motor rotation process can check whether the consumables have been loaded, confirm the extrusion normal, the loading of consumables step is completed.

After completing the consumables procedure, if no consumables appear in the nozzle, repeat the preceding operations.



Calibrate Z offset



Turn on the power and enter the home page.
Press the button to confirm.

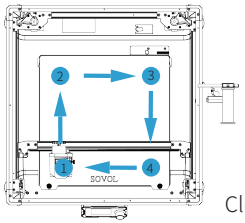
Enter the first-level menu, select ‘Levelling’

Select "Calibrate Z offset", the machine will automatically heat the hot bed to 65°C, reset, Z-axis calibration, nozzle heating, and Z-axis height calibration.

Please start printing after the leveling calibration is completed.

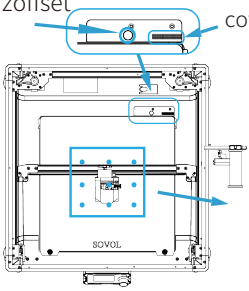
Note: The following leveling process takes about 6min.
1. Warm heat bed to 65°C.
2. Homing of X, Y and Z axes of the toolhead.
3. Perform Quad-gantry-leveling(QGL)
(the nozzle moves to the four corners of the hot bed probe point, according to the parameters, probe 1-5 turns to complete this step)
4. Heat nozzle to 220 °C after cleaning the nozzle
(Automatically wipe the nozzle when moving to cleaning silicone pad)
5. Cool the nozzle to 130°C
6. Do Zoffset calibration (nozzle moves to Zoffset calibrator)
7.Do bed mesh leveling
(Do bed mesh leveling before printing the model)
8. Print the leveling test model
(Observe the nozzle height on the way to print the leveling model to see if the nozzle is
(Print the leveling model and observe whether the filament sticks to the hot bed during the process, then adjust the Zoffset value according to the comparison diagram.)
9.Screen restarts (auto-saves leveling values)





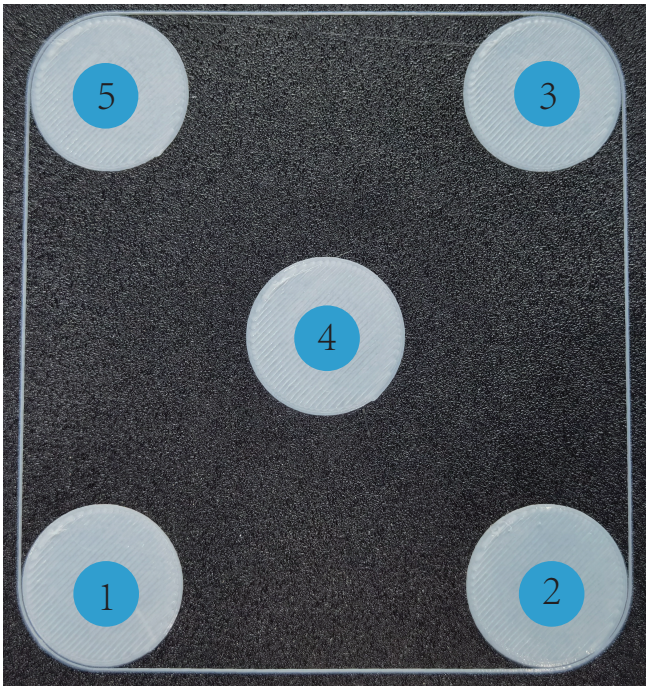
Cleaning the silicone nozzle cover

zoffset



Bed Mesh schematic diagram





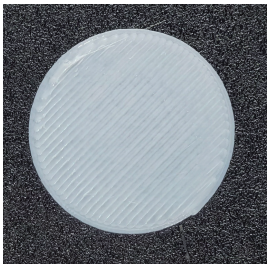
1. The leveling printing test is to print 5 round pieces in the order marked above. Please observe the printing effect during printing process.

2. Once completing the printing of No.1 round piece, please observe the printing effect of No.1 round piece and adjust Z Offset right away. Here are 3 situations for your reference,
1) if the round piece printed like picture a below, please increase 0.05-0.15mm Z Offset;
2) if the round piece printed like picture b below, nothing needed to adjust;
3) if the round piece printed like picture c below, please decrease 0.05-0.15mm Z Offset.

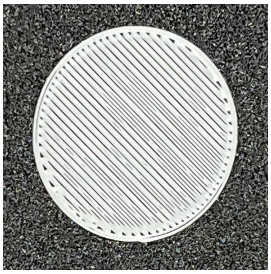
3. Once completing the first time adjustment please observe the printing effect of No.2 round piece right away to make sure if you need to do the second time adjustment. Keep observing the printing effect of No.3/No.4/No.5 rounf piece until you can print a round piece like picture b.



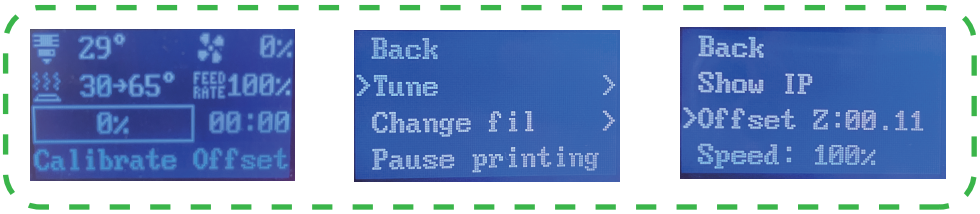
a.TOO LOW



b.GOOD



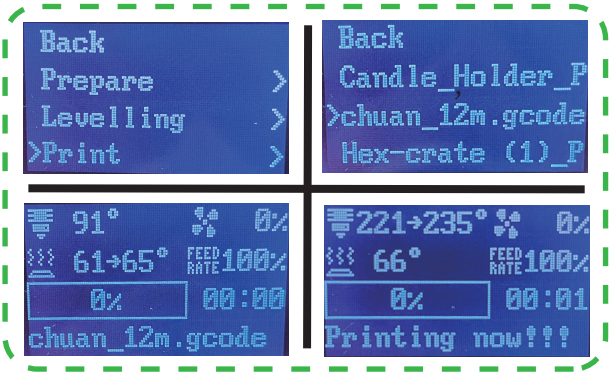
c.TOO HIGH



How to adjust Z Offset:

Press the knob during the leveling printing test → rotate the knob → choose Tune → press the knob → choose Offset Z → press the knob → rotate the knob to adjust the Z Offset.

Start pringting

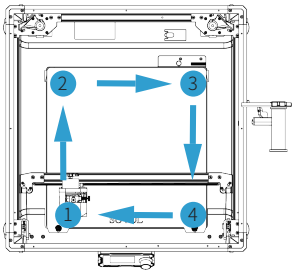


Using a USB flash drive to print or print from a web site interface.

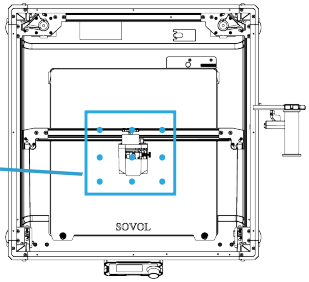
Printing process after confirming the print model:

1. Preheating print bed to a temperature of 65°C.
2.Resetting the extruder to its home on the X, Y, and Z axes.
3.Perform Quad-gantry-leveling(QGL) (the nozzle moves to the four corners of the hot bed probe point, according to the parameters, probe 1-5 turns to complete this step)
Conducting targeted levelling of the print bed in the grid area associated with the anticipated model placement.
4.Raising the nozzle’ s temperature to the predetermined slicing temperature, for instance 250 °C, before relocating it to the edge of the print bed to extrude a purge line (for nozzle priming purposes).
5.Commencing printing process.

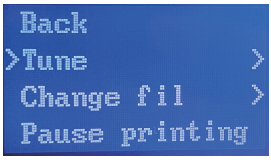




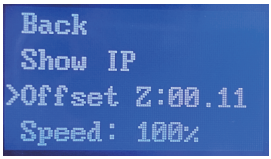
Bed Mesh schematic diagram



Adjust while printing

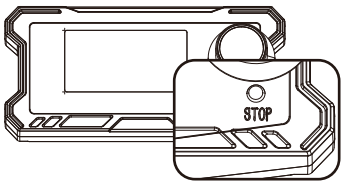


On the page of Printing, press the buttom to confirm and enter the firstlevel menu.
You can select "Tune" ,
"Pause Printing",
"Cancel Printing".



Z-axis compensation parameter "Offset Z" :
Enter the adjustment menu and reduce the printing speed to 50%. Adjust according to the adsorption of consumables on the platform plate
Z-axis compensation parameter "Offset Z",
After adjusting, return the speed to 100%.

Emergency Stop:



Press the ‘Stop’ buttom while encounter emergency. Machine will immdeately stop printing work.
For resume printing, please turn off the power and turn it on again.

Obico connection

Obico Download

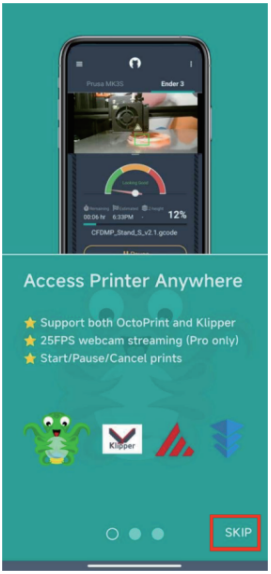
a. For Android users: visit the Google Play store,search for“Obico” and select install app.

b. For iOS users: Visit the Apple APP Store, search for “Obico”, and then select Install APP.

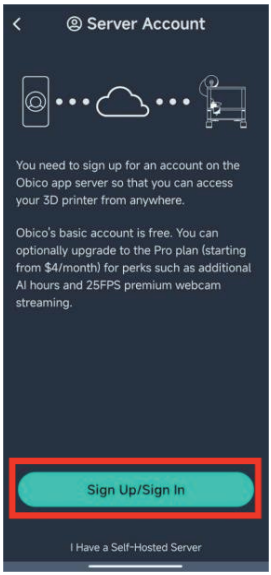
c. Via Web interface: If you want to access via Web interface https://obico.io

1. Start the Obico operating interface of the printer and follow the steps below.

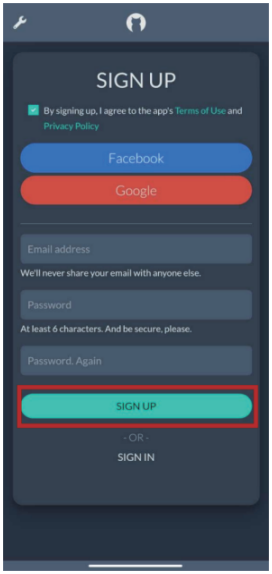
2. Connect the Obico software on your phone. Open Obico downloaded from the above website.



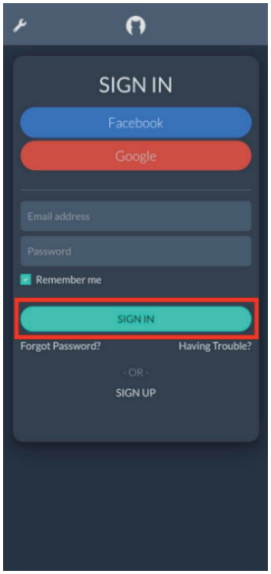
①.Click on ‘SKIP’



②.Click on ‘Sign Up/Sign in’

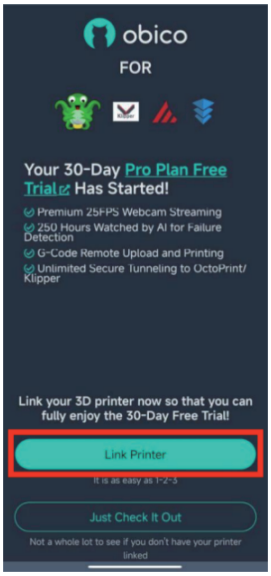


③.Register an account, enter the information, and click on ‘SIGN UP’

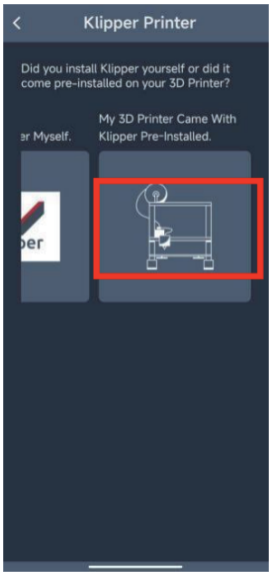


④.Enter the account information and click on ‘SIGN IN’

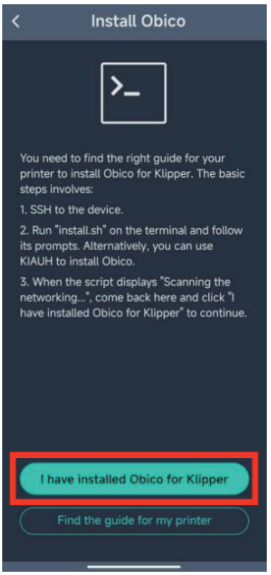
Obico connection



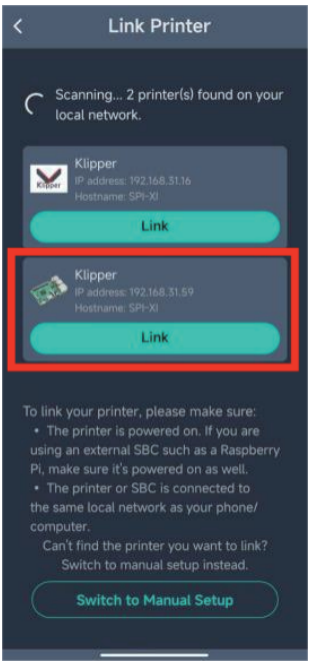
⑤.Click on ‘LinkPrinter’



⑥.Select ‘My 3D Printer Came With Klippe Pre-Installed’



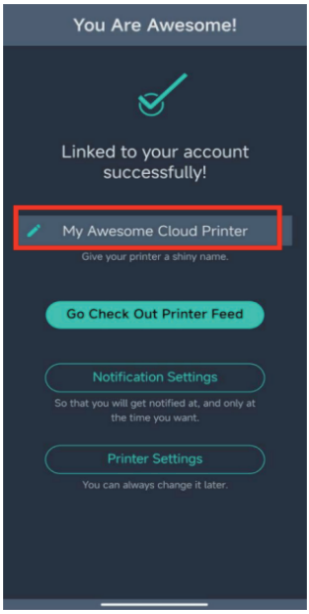
⑦.Click on ‘I have installed Obico for Klipper’



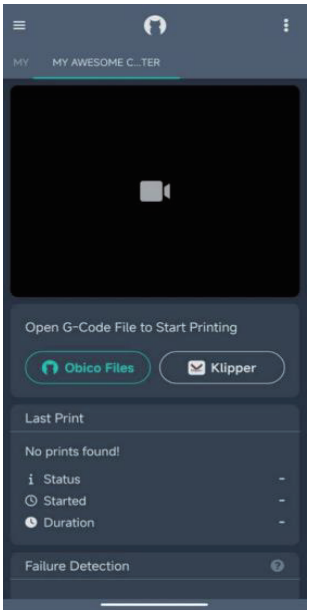
The printer should be connected to the networkunder the following scenarios:

Scenario 1: If the machine can be detected, simply click 'Link'

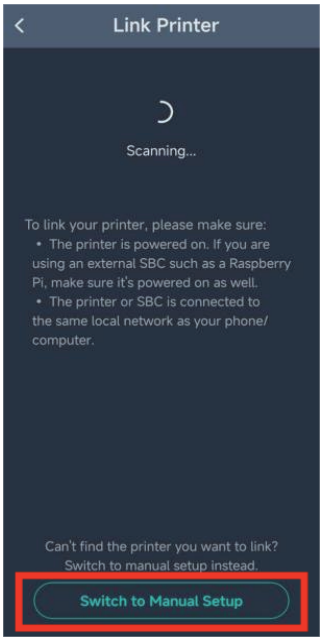
Obico connection



Display successful connection, enter the name.



The printer information is displayed on the phone.

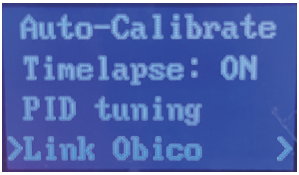


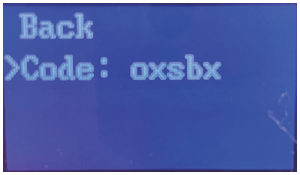
Scenario 2: If the machine cannot be detected, manual connection is required. Please click
“Switich to Manual Setup”

Obico connection

a.Select the obico function, and a 5-digit verification code will appear.

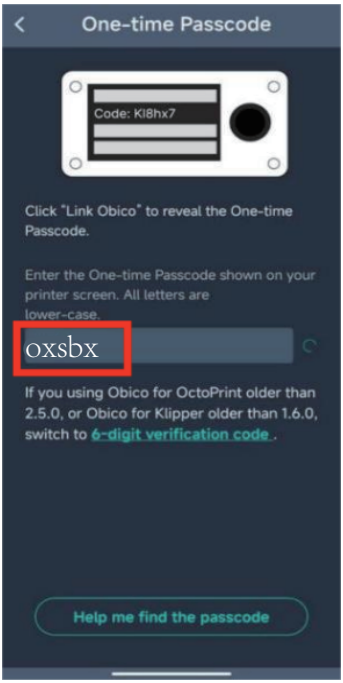


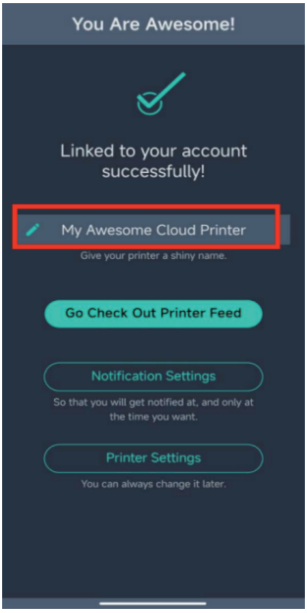




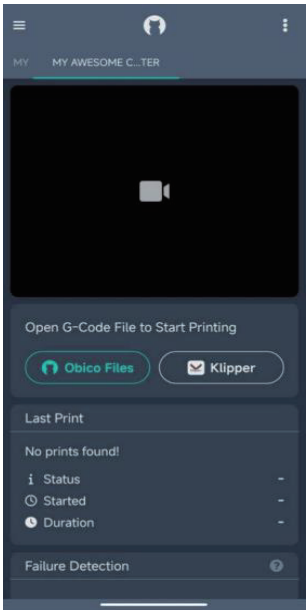
b.Enter the verification code displayed on the knob screen.







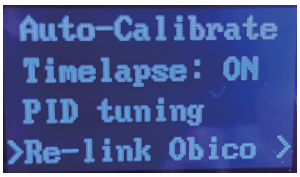
c.Display successful connection, enter the name.



d.The printer information is displayed on the phone.

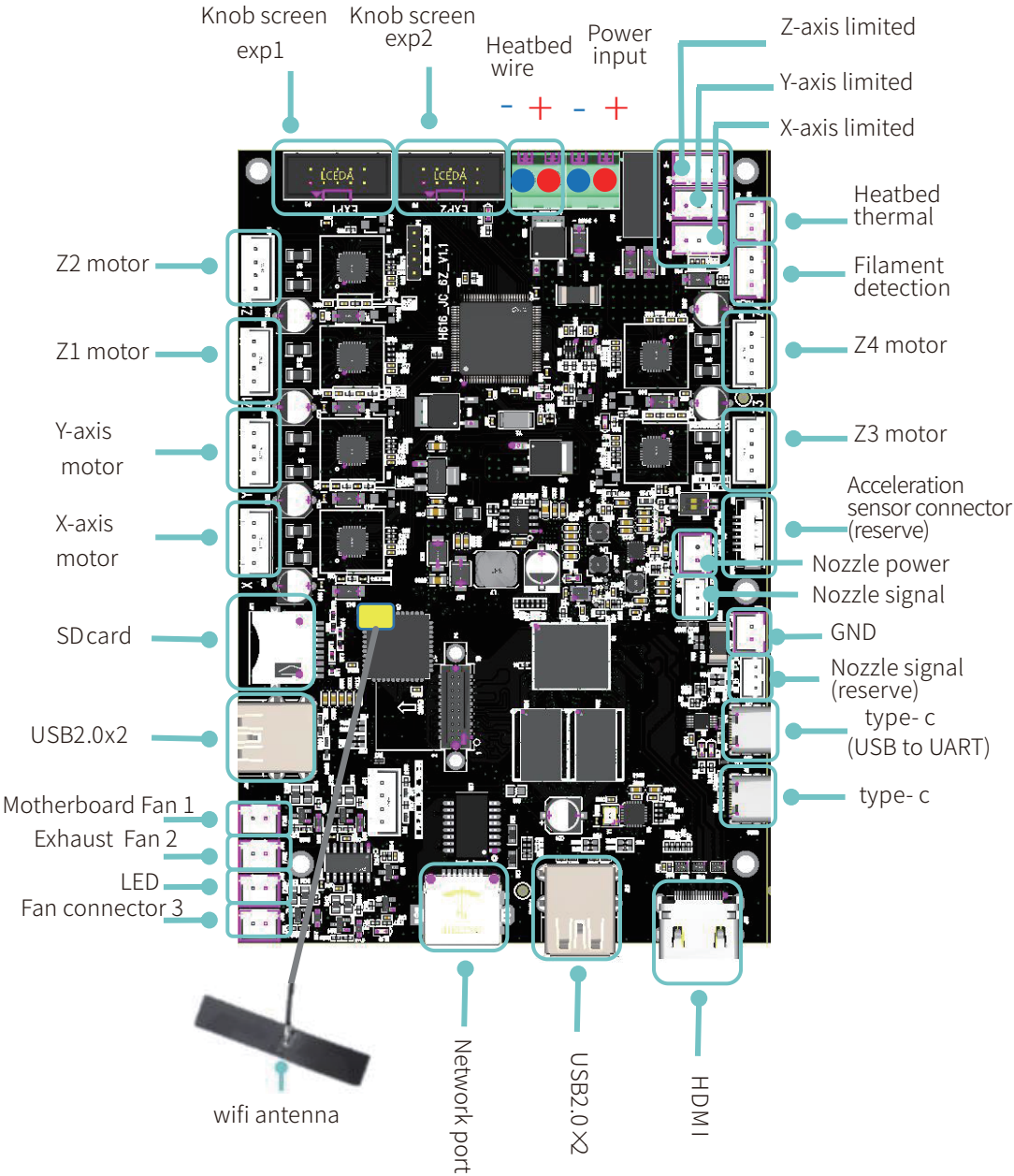
3.Rebind Obico and perform the following operations on the machine.







Mainboard


Knob screen exp1
Knob screen exp2
Heatbed wire
Power input
- + - +
Z-axis limited
Y-axis limited
X-axis limited
Heatbed thermal
Filament detection
Z4 motor
Z3 motor
Acceleration sensor connector (reserve)
Nozzle power
Nozzle signal
GND
Nozzle signal (reserve)
type- c (USB to UART)
type- c
Z2 motor
Z1 motor
Y-axis motor
X-axis motor
SD card
USB2.0x2
Motherboard Fan 1
Exhaust Fan 2
LED
Fan connector 3
wifi antenna
Network port
USB2.0 X2
HDMI

sovol official user group

sovol official website

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