



Sovol Support Group



Sovol Official Website

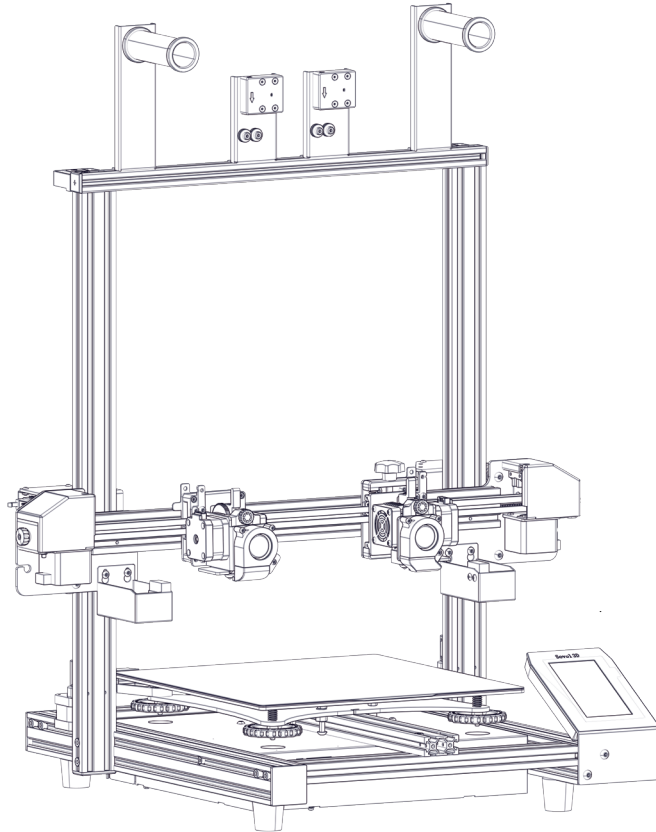
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Sovol 3D



SOVOL-SV04 Printer

This guidebook is for Sovol SV04 3D printer.

Select the correct input voltage to match your local mains (220V or 110V).

Please plug the power cable into a three-hole power jack.

Detailed tutorial for use are available on the SD card.

Content

This manual is designed for SV04 owners to start their SV04 printing journey. We still recommend all the sv04 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 sv04 for you to learn and help you get better printing experience. In this manual there are tutorials document can be found on official website and group you can scan the QR-codes or click the link to get them.

Additional resources and information:

- Quick start guide

Quick start user guide or video are available in the SD card.

- Official website: www.sovol3d.com

Find out all the latest news which contain the up-to-date information concerning software, firmware, device maintenance, upgraded parts and so on.

- Sovol Official User Group on Facebook

Be a part of the Sovol community sharing your projects and helping each other.

www.facebook.com/groups/sovol3d

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NOTES

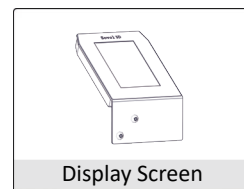
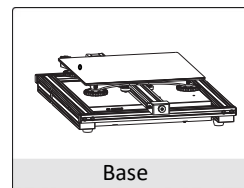
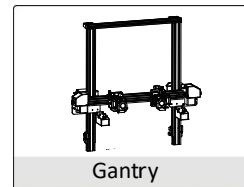
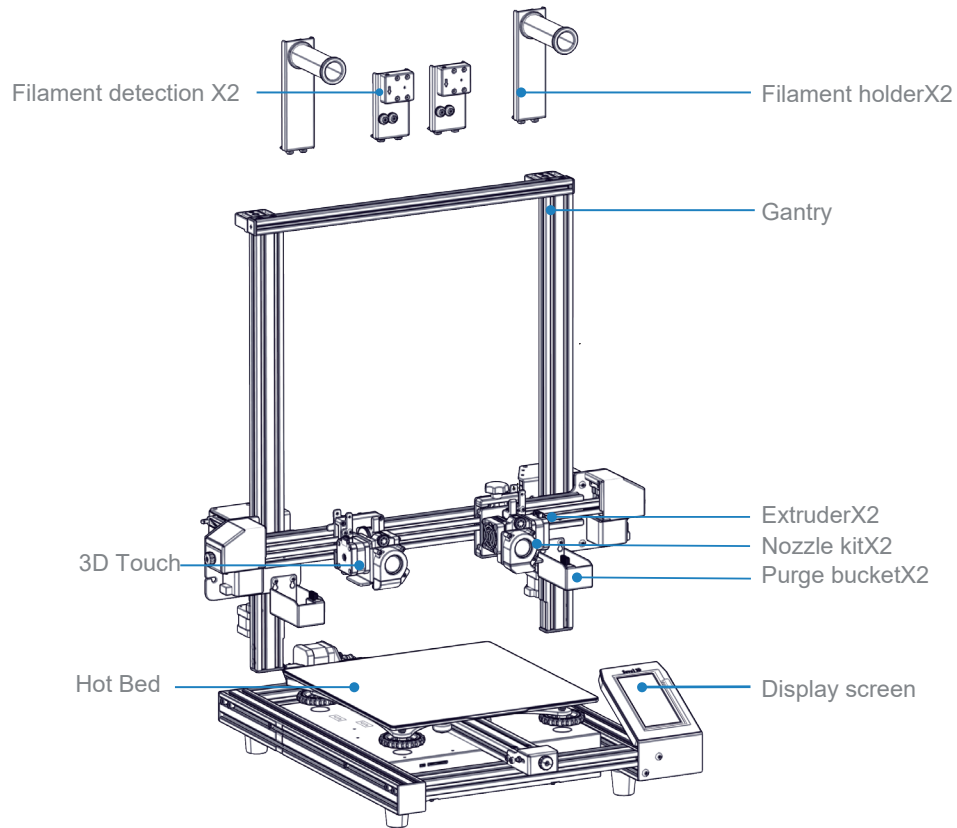
- ◆ Select the correct input voltage to match your local mains (220V or 110V).
- ◆ Do not use the printer any way other than described here in order to avoid personal injury or property damage.
- ◆ Do not place the printer near any heat source or flammable or explosive objects. We suggest placing it in a well-ventilated, low-dust environment.
- ◆ Do not expose the printer to violent vibration or any unstable environment, as this may cause poor print quality.
- ◆ Before using experimental or exotic filaments, we suggest using standard filaments such as PLA or ABS to calibrate and test the machine.
- ◆ Do not use other power cable except the one supplied. Always use a grounded three-prong power outlet.
- ◆ Do not touch the nozzle or printing surface during operation as they may be hot. Keep hands away from machine while in use to avoid burns or personal injury.
- ◆ Do not wear gloves or loose clothing when operating the printer. Such clothes may become tangled in the printer moving parts leading to burns, Possible bodily injury, or printer damage.
- ◆ When cleaning debris from the printer hotend, always use the provided tools. Do not touch the nozzle directly when heated. This can cause personal injury.
- ◆ 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 before every print for consistent results.
- ◆ Children under 10 years old should not use the printer without supervision.

01 Introduction

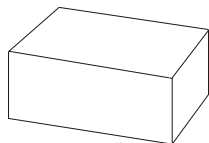
Equipment Parameters

Basic Parameters	
Model	SVO4
Molding size	300*300*400mm
Other model sizes	150*300*400mm/115*300*400mm
Molding technology	FDM
Number of nozzle	2
Nozzle diameter	0.4mm
Precision	±0.1mm
Filament	PLA/ABS/TPU/PETG/PVA/Wood
File format	STL/OBJ/AMF
File transfer	SD Card /USB
Slicing software	Sovol, Cura, Simplify3D, 3D Creator Slicer, Repetier-Host Windows
Power specification	Input :AC 100-240V 50/60Hz Output :DC 24V
Total power	500W
Hotbed temperature	≤100°C
Nozzle temperature	≤260°C
Filament sensor	Yes
Dual Z-axis screw rod	Yes
Language	English
Computer operating system	Windows XP / Vista / 7 / 8 / 10 / Linux / Mac OS
Print speed	≤180mm/s, 30-60mm / s normally

Equipment Introduction



Parts list



Tool Kit x 1



Filament x 2

Tool list



Wrench's & Screw Driver



0.4mm Nozzle Cleaner



Pliers



SD Card & Card Reader



Spatula



Profile End Cover



Micro USB



M5X70 Black Hex-Bolt And
Lock Washer



Teflon Tube



Nozzle



Cable Ties



Power Cable

Tips: the above accessories are for reference only, please refer to the physical accessories!

02 Assembly

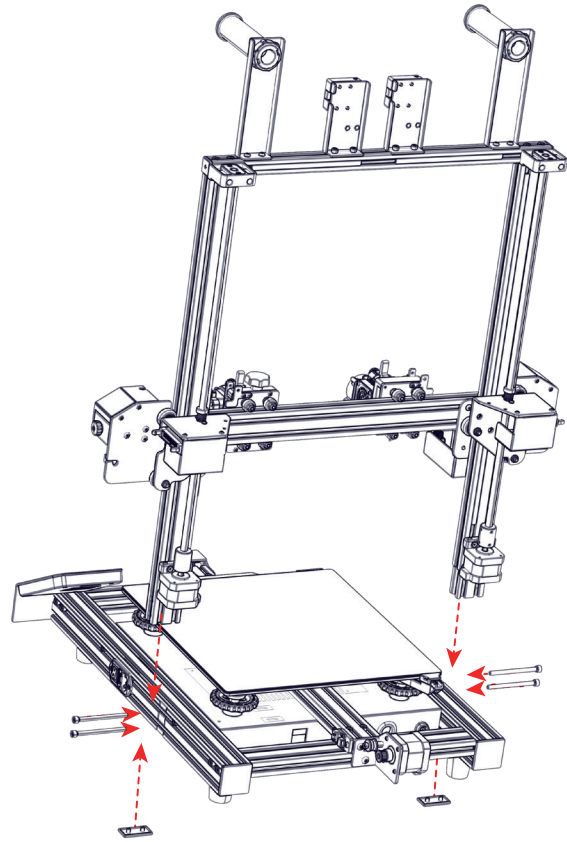
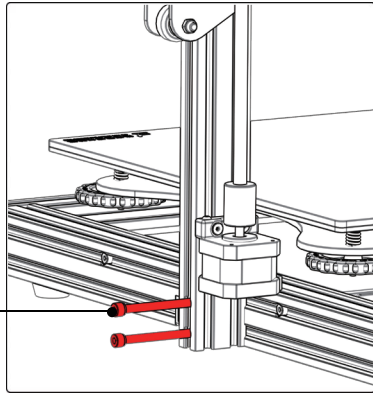
Gantry Installation

Install the gantry frame(a) to the base frame(b).

- On the gantry frame, make sure the nozzle assembly is to the front, and the long vertical lead screw is to the back. On the base frame, make sure the black belt cover is on the front, and the stepper motor is on the back.
- Use the M5x70 screws (2) and lock washers (2). Lift the base frame. Install the screws through the base frame into the threaded holes in the gantry frame. Tighten with the M5 hex key (Allen) wrench.

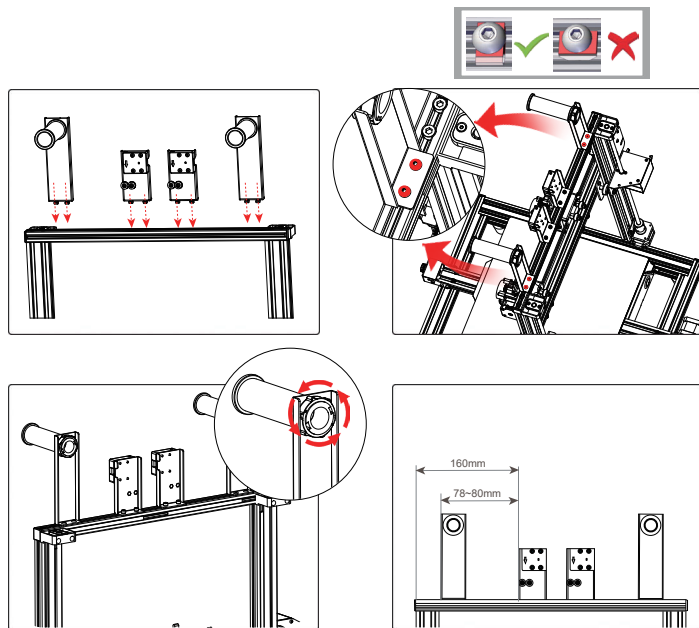


M5X70 (4pcs)



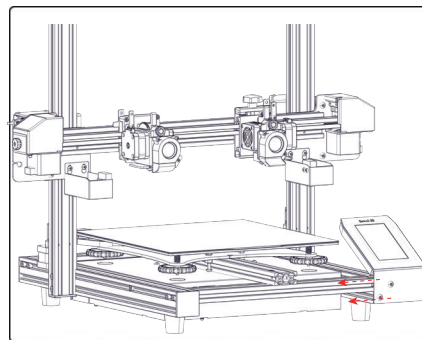
Carefully remove all parts from the box and remove any tape or inspect each component and ensure nothing was damaged during shipment.

Filament Holder Installation



- Secure the filament holder with two M4*8 screws and T-nuts. Loosen the t-nuts by hand and align them so they will fit inside the grooves of the frame. It is essential that the nuts are loose so that when you tighten the screws, the nuts will rotate 90° and grab on to the inside of the groove of the extrusion.
- Align the round cylinder through the hole of the filament plate. Turn the large nut to lock in place

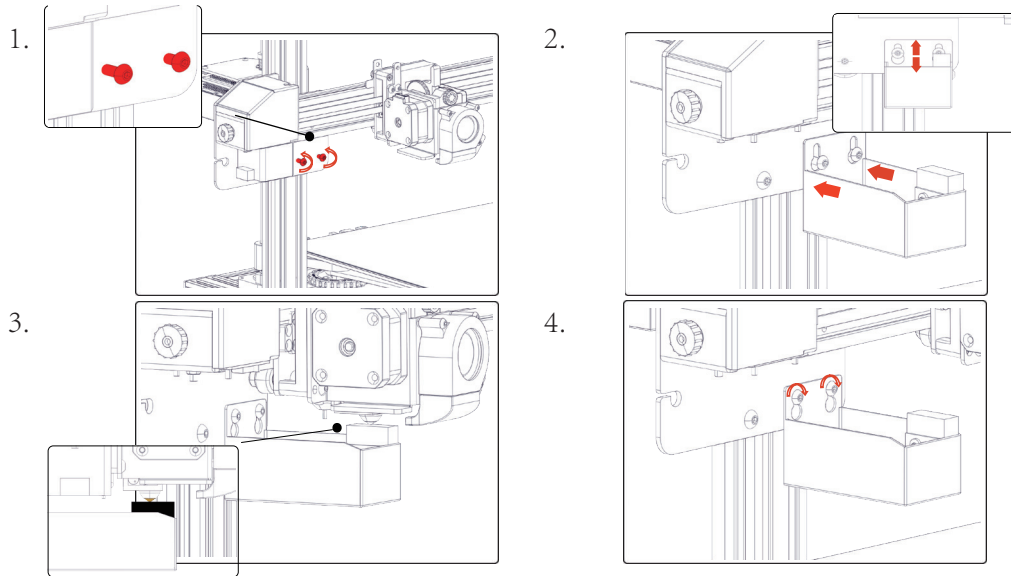
Display Screen Installation :



M5X8

Mount the touchscreen to the front right side of the frame with M5X8 screws(2).

Purge bucket Installation



1. look at the picture, loosen the screws on the blue bracket, but no need to remove them.
2. Hang the purge bucket on the screws, the purge bucket can be moved down and up to adjust the position.
3. Move the extruder to the edge, move the purge bucket up or down to make the nozzle touch the surface of the silicone column.
4. Tighten the screws, and follow this way to install the another purge bucket.

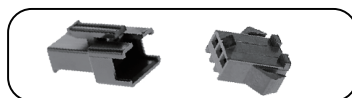
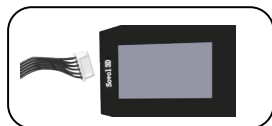
Cable Connection



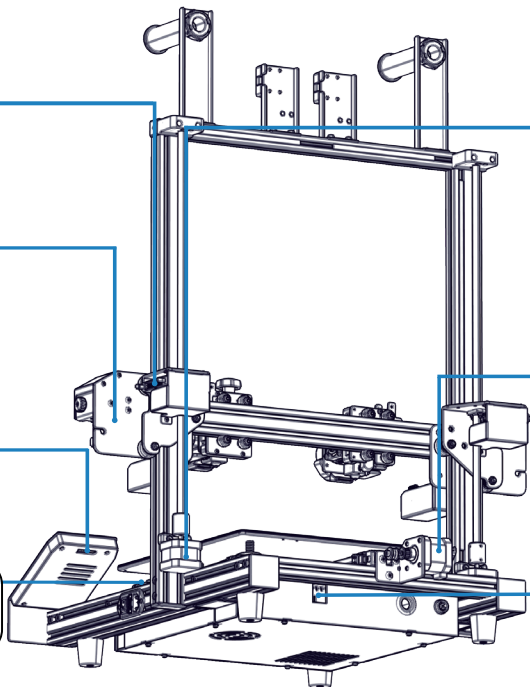
Ribbon Cable



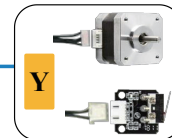
The X cable is connected to the motor and running belt switch



line connection
Filament detection and extension



The Z cable is connected to the motor and running belt switch



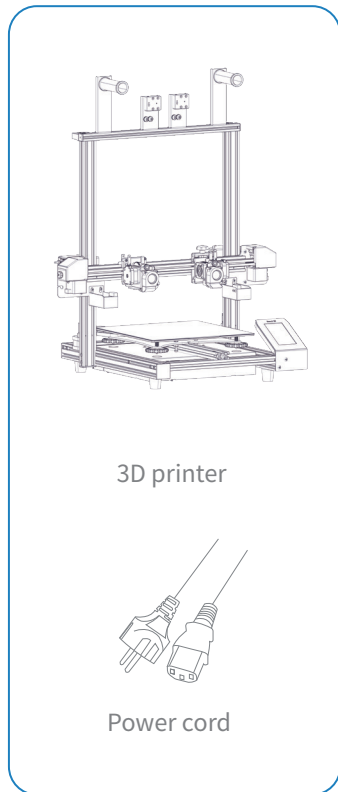
The Y cables go to the motor and switch at the back of the base frame that move the build plate.


Select the correct input voltage to match your local mains (220V or 110V).

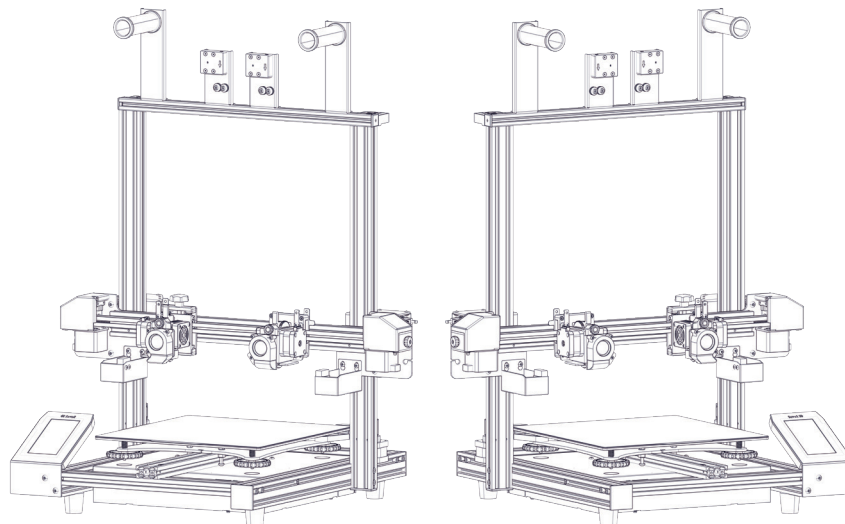


Tip: Try not to bend the pin connectors as you push them in. Pay attention to the working voltage of your machine.

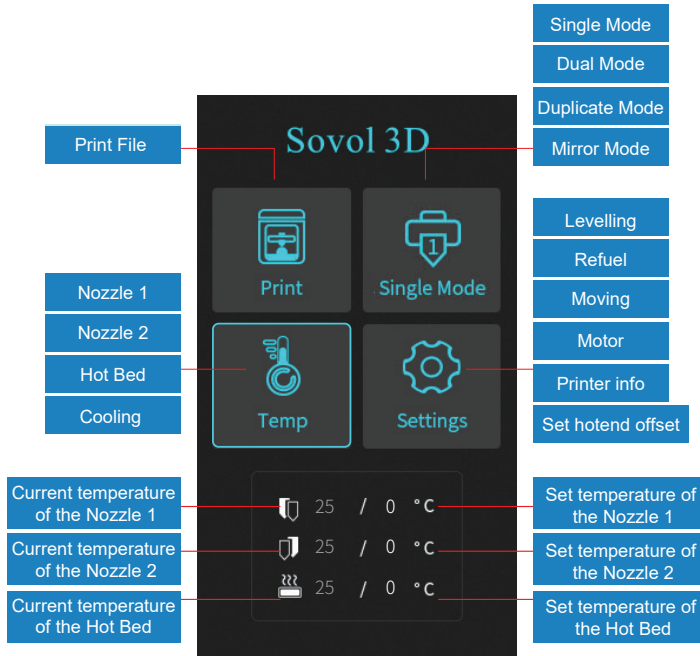
Turn the power switch to the I position to start the equipment.



 **Caution**
Do not connect or disconnect the cables when the machine is powered on.



03 Interface information

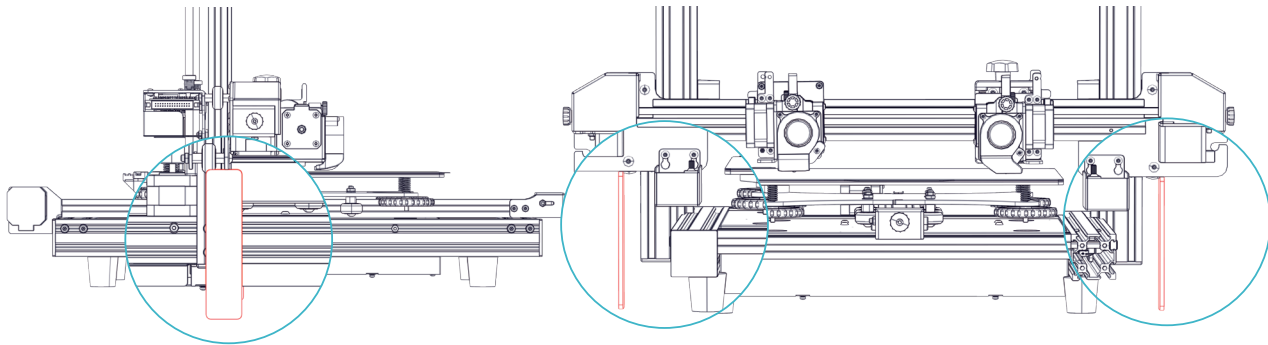


Screen Information					
Main Menu	Sub Menu	Explanation			
Print	Selected file	Adjust	Stop		
			Pause/Continue		
			Print speed		
			Nozzle temp		
			Hot-bed temp		
			Z offset		
			fan		
Printer Mode		Single Mode			
		Dual Mode			
		Duplicate Mode			
		Mirror Mode			
Temp	Nozzle 1	Preheat PLA/ABS (195°/240°)			
		Manual			
	Nozzle 2	Preheat PLA/ABS (195°/240°)			
		Manual			
	Hot Bed	Preheat PLA/ABS (60°/80°)			
		Manual			
		Cooling			
Setting	Levelling	Z-axis:Z home,+0.1mm,-0.1mm			
		Aux leveling	Please click numbers to assist leveling (①~⑤)		
		AUTO leveling	Auto leveling , please wait...		
		Check level (Measurement parameters)			
	Refuel	Withdraw			
		Feed			
	Moving	X-axis	Y-axis	Z-home	Z-axis
	Motor off	yes/no			
	Set hotend offset	X offset			
		Y offset			

04 Adjust

Adjust X axis

With the printer on a flat surface, use your thumb and fingers to twist the two Z-screws simultaneously to lower the X axis. Place the two spacer pieces on the side, and lower it until both sides rest on the acrylic spacers. Make two Adjustment piece to parallel with z axis, to level the X axis. (as shown in the picture)



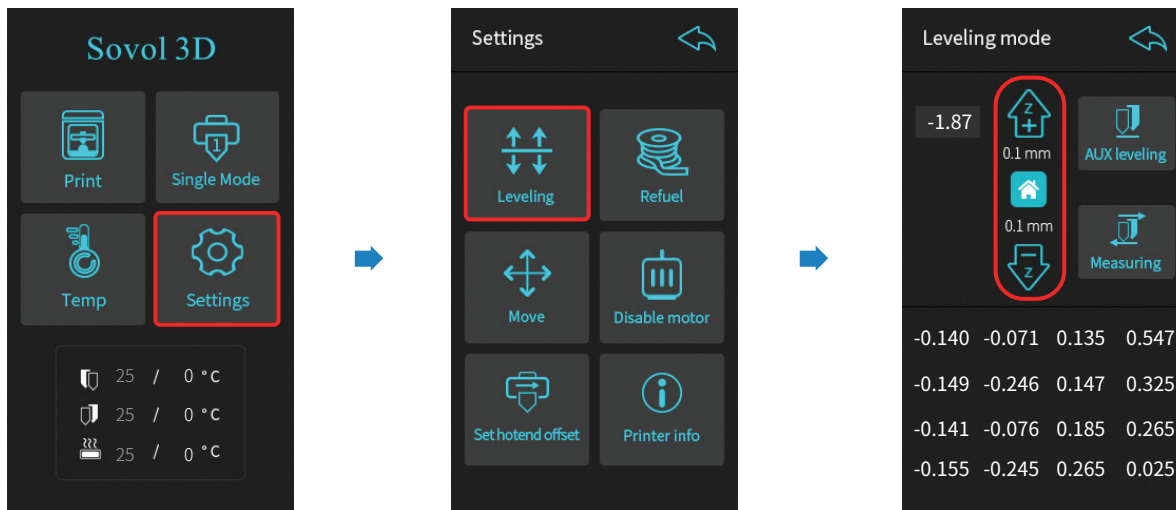
Note: Watch the video in SD card for further explanation if needed

Level the Platform

Step 1. Move the extruder 1 to the center of the bed, then adjust the distance between the nozzle and the glass bed.

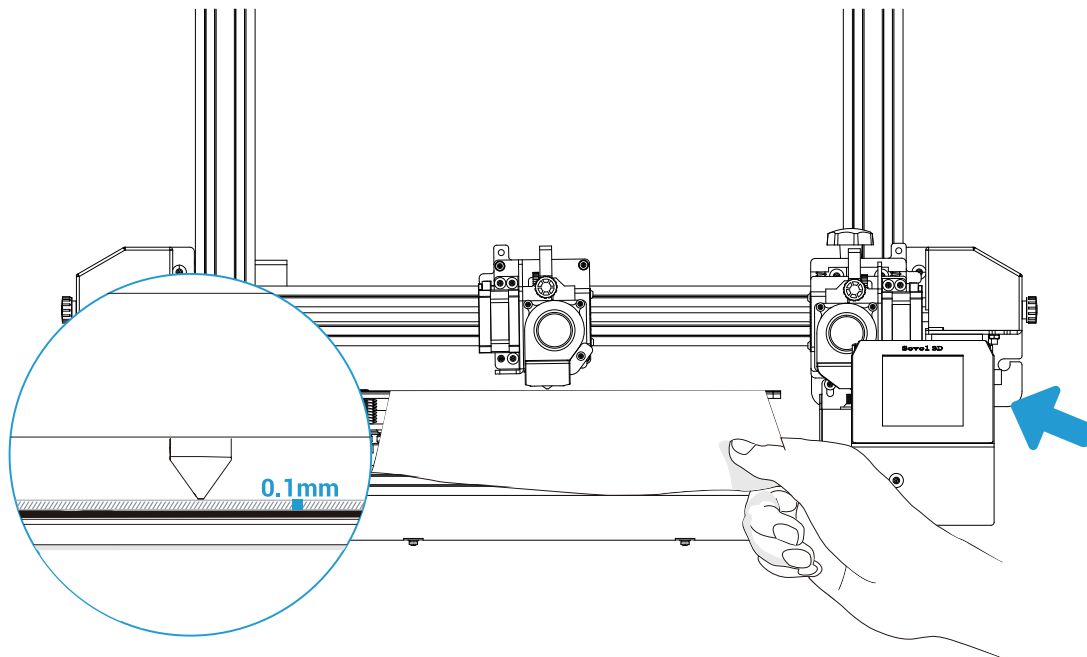
Step 2. Select Settings> Leveling

Step 3. Select Z+ or Z- to adjust the distance between the nozzle and the glass bed.



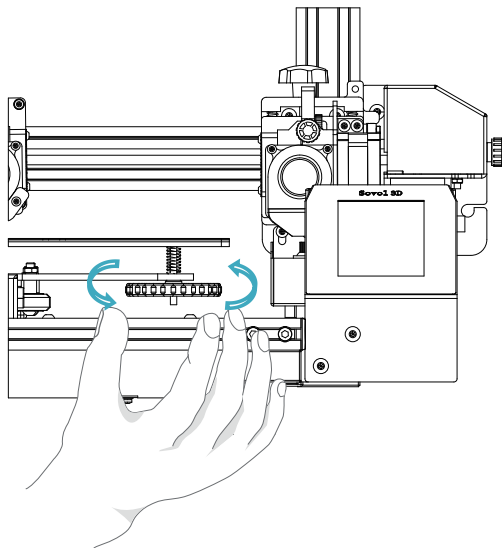
Notes: The UI information is only for reference, the actual UI may be different.










Put a piece of standard A4 paper between the nozzle and the glass bed, drag the paper, make sure that nozzle can scratch the paper slightly, then the distance is perfect. You can repeat Step 2 and Step 3 to adjust until the nozzle can scratch the paper slightly.

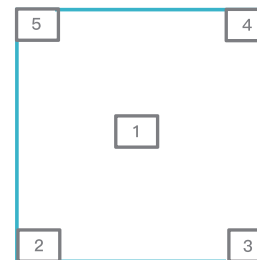
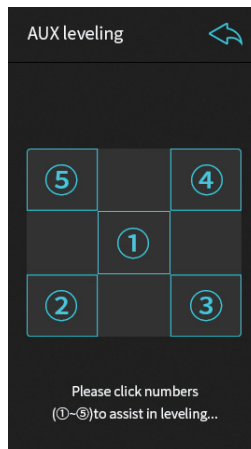


Select Settings> Leveling> AUX leveling>Click on the number ①-⑤ to level the corners, move the nozzle near to the top of the leveling wheels, adjust the distance between the nozzle and the print glass bed by twisting the leveling wheels.

The distance should be same as the thickness of a piece of A4 paper. After leveling the 4 corners, click number ① to check out if the distance between the nozzle and the glass bed is perfect.



		 The nozzle is too far away from the platform, so the filament can not adhere to the platform.
		 Filament are extruded evenly, just sticking on the platform.
		 The nozzle is too close to the platform, and the filament are not extruded enough, even scraping the platform.

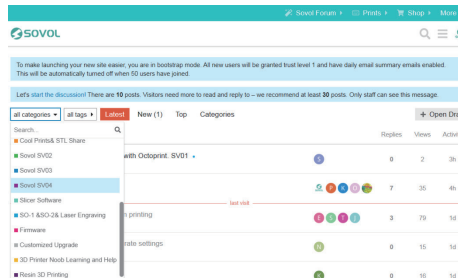


If You Have Questions, Several Ways to get Help

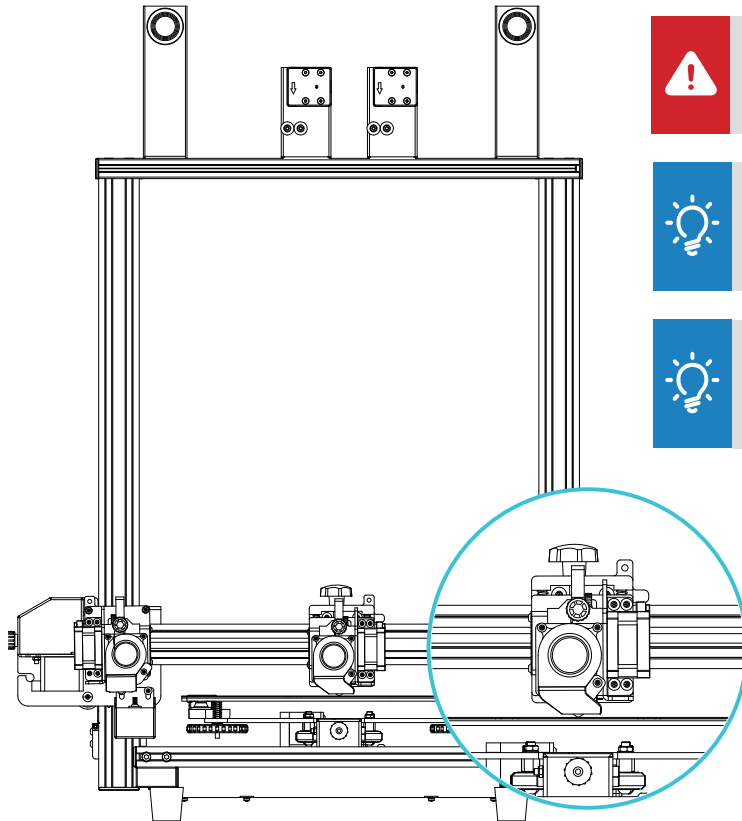
- 1 Search "Sovol SV04 IDEX 3D Printer" group on Facebook and join in. Discuss and get help from SV04 Owners.
- 2 Search "Sovol" on Youtube and Subscribe for more Tutorials and Trouble Shooting videos.
- 3 Search "Sovol3d" on Facebook, message us or contact us via email info@sovol3d to get help from Sovol support.





- 4 Search "forum.sovol3d.com" on Google and enter SV04 category to Discuss and get help from SV04 owners.
- 5 Download Firmware or other Files : <https://sovol3d.com/pages/download>




Switch to Nozzle2, select AUX leveling, click number ①, the right extruder 2 will move to the center. Adjust the distance between nozzle 2 and the glass bed by twisting the knob above the extruder 2. The distance between the nozzle 2 and the glass bed should be same as the thickness of a piece of A4 paper and make sure that nozzle can scratch the paper slightly.



 Do not to move No. 2 nozzle after leveling.

 Note:
How to level the bed, please check out the video in SD card.

 Note:
Please don't forget to adjust the position of the purge bucket after leveling nozzle2.

Level the Platform

Auto-leveling

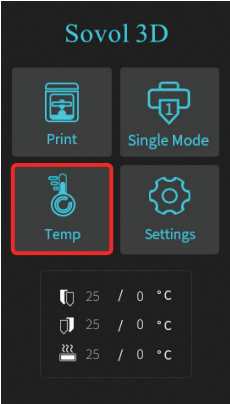
After performing the manual adjustments, use the “Measuring”function to perform the auto-leveling measurements. This info is stored in the printer memory, and will help compensate for unevenness in the bed.



Notes: The UI information is only for reference, the actual UI may be different.

05 Prepare

1



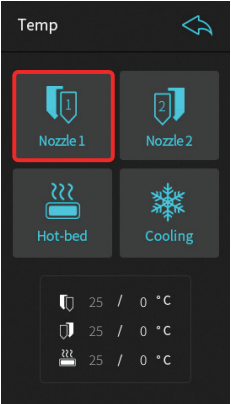
Sovol 3D

Print Single Mode

Temp Settings

25 / 0 °C
25 / 0 °C
25 / 0 °C

2




Temp

Nozzle 1 Nozzle 2

Hot-bed Cooling

25 / 0 °C
25 / 0 °C
25 / 0 °C

3



Nozzle 1

Nozzle 1 pre-heat: 25

200
0-260°C

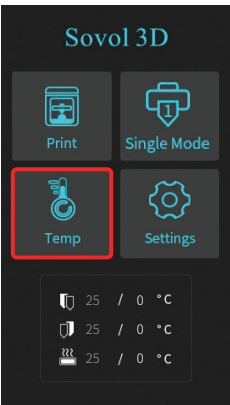
Nozzle 1 Temp:

Cooling

Preheat Mode :
PLA ABS

Fan:

1



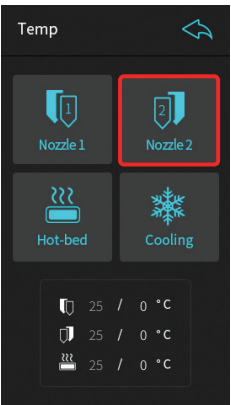
Sovol 3D

Print Single Mode

Temp Settings

25 / 0 °C
25 / 0 °C
25 / 0 °C

2



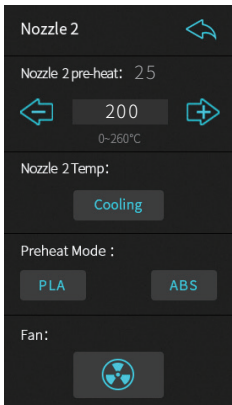
Temp

Nozzle 1 Nozzle 2

Hot-bed Cooling

25 / 0 °C
25 / 0 °C
25 / 0 °C

3



Nozzle 2

Nozzle 2 pre-heat: 25

200
0-260°C

Nozzle 2 Temp:

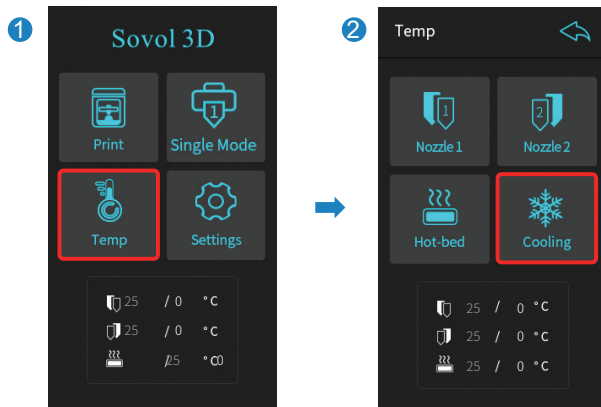
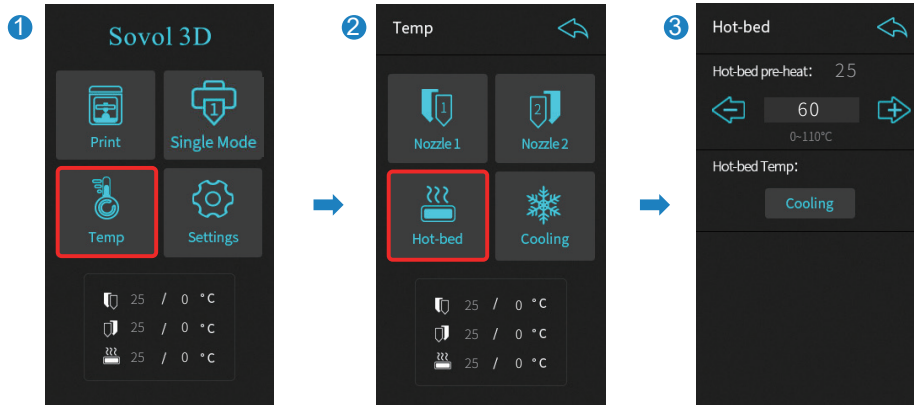
Cooling

Preheat Mode :
PLA ABS

Fan:



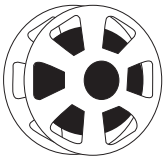
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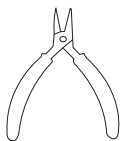
Note: The UI information is only for reference, the actual UI may be different.

06 Load Filament

When you wait for the temperature to rise, hang the filament over the Filament Holder.



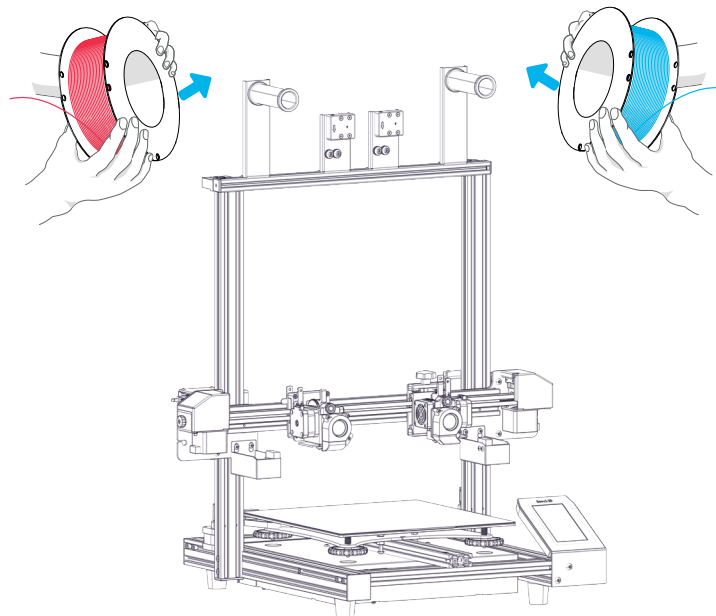
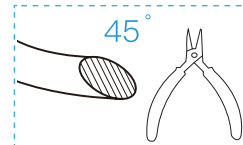
Filament



Pliers

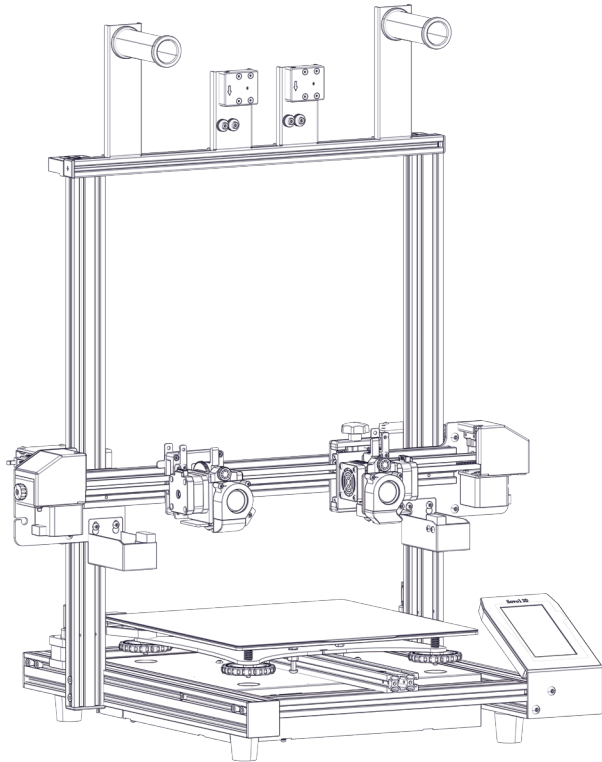


For smoother printing, the end of the filament should be placed as shown below.



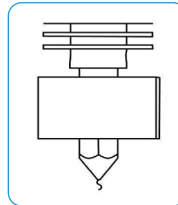
Load Filament

When the temperature hits the target temperature, feed the filaments into the extruder until you see the liquid filament coming out from the nozzle.



Tips: How to replace the filament?

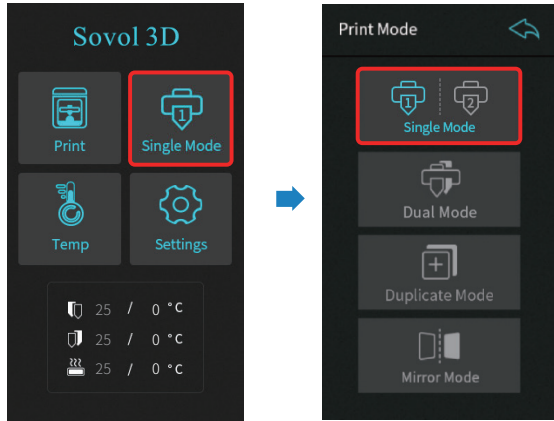
Heat the nozzle to 200c, push the filament a little forward and then withdraw the filament out quickly. Then feed the new filament.



07 Start Printing

1. Single Mode

Single Mode print size 300*300*400mm

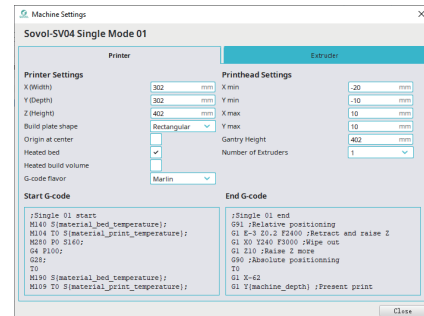
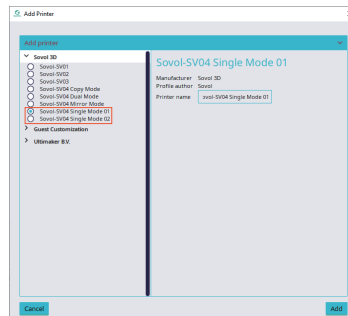


Note: How to set up your machine on slicer, please check out the video in SD card.



Warning: After slicing, please select the correct printing mode to print.

Single Mode 01/02(Slicer)=Single Mode 01/02(Touch Screen)
Dual Mode(Slicer)=Dual Mode(Touch Screen)
Copy Mode(Slicer)=Duplicate Mode(Touch Screen)
Mirror Mode(Slicer)=Mirror Mode(Touch Screen)



Sovol-SV04 Single Mode 01

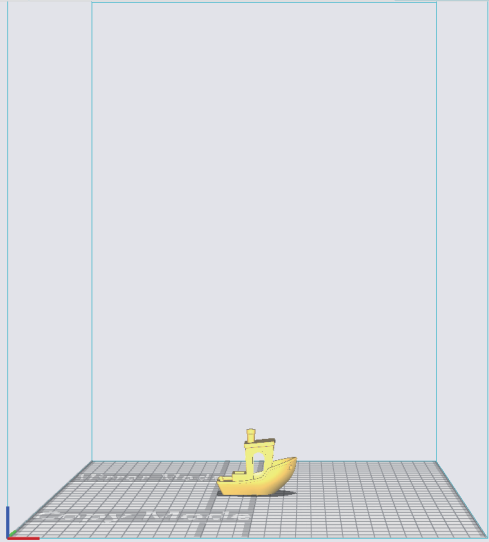
Generic PLA

Draft - 0.2mm

15%

OFF

OFF



Object list
01_Single_3DBenchy
60.0 x 31.0 x 48.0 mm

Print settings

Profile: Draft - 0.2mm

Search settings

Quality

Layer Height	0.2 mm
Initial Layer Height	0.2 mm
Line Width	0.4 mm
Wall Line Width	0.4 mm
Outer Wall Line Width	0.4 mm
Inner Wall(s) Line Width	0.4 mm
Top/Bottom Line Width	0.4 mm
Infill Line Width	0.4 mm
Skirt/Brim Line Width	0.4 mm
Initial Layer Line Width	120.0 %

Shell

Wall Thickness	0.8 mm
Wall Line Count	2
Outer Wall Wipe Distance	0.2 mm
Top Surface Skin Layers	0
Top/Bottom Thickness	0.8 mm
Top Thickness	0.8 mm
Top Layers	5
Bottom Thickness	0.8 mm
Bottom Layers	3
Initial Bottom Layers	3

Top/Bottom Pattern: Lines

Bottom Pattern/Initial Layer: Lines

Top/Bottom Line Directions: [45, -45]

Outer Wall Inset: 0 mm

Optimize Wall Printing Order:

Outer Before Inner Walls:

Alternate Extra Wall:

Compensate Wall Overlaps:

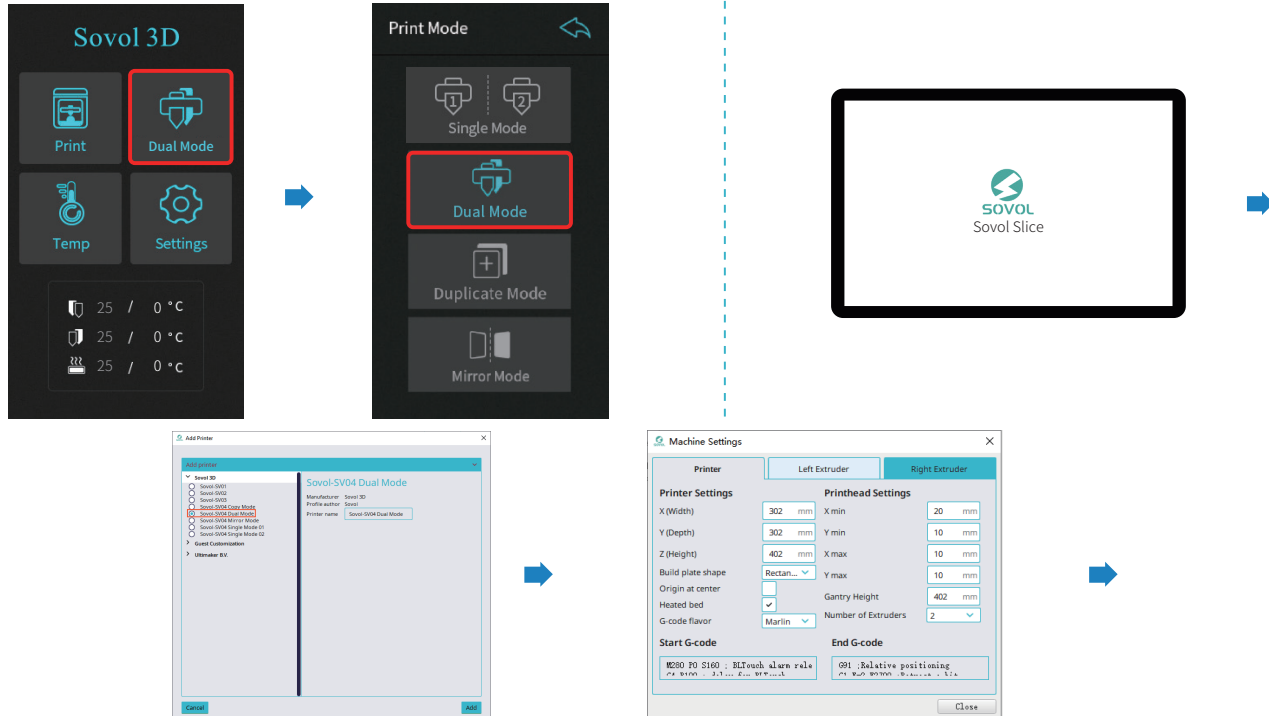
Comensate Outer Wall Overlaps:

Recommended

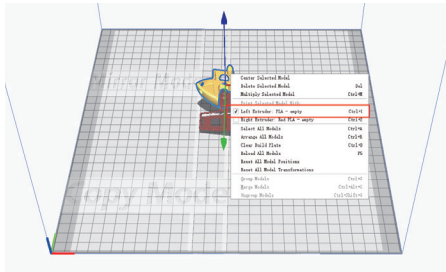
Slice

2. Dual Mode

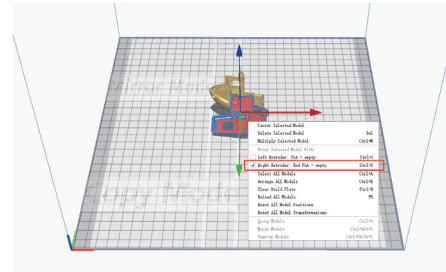
Dual Mode print size 300*300*400mm



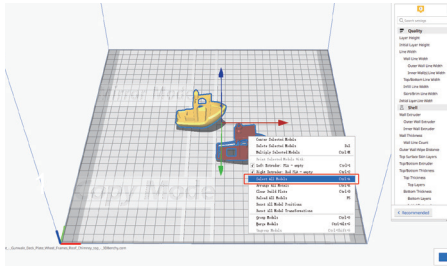
About X/Y offset, please check out the video " How to adjust X/Y offset " in the SD card.



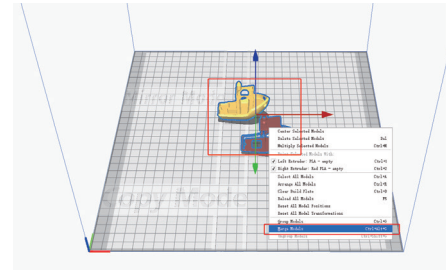
1 Set nozzle 1 (left) to print



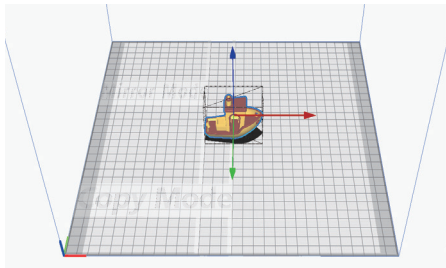
2 Set nozzle 2 (right) to print




3 Select 2 models



4 Merge 2 models

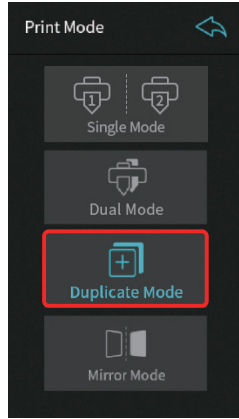
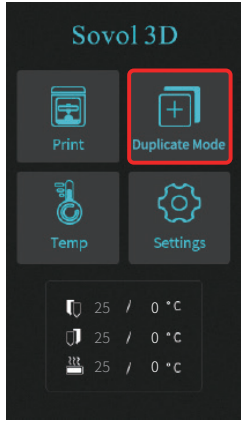


5 Slicing

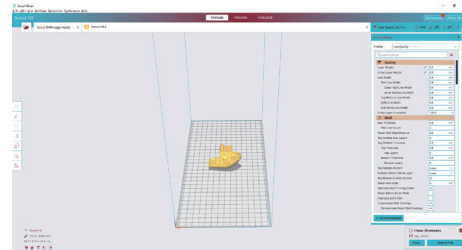
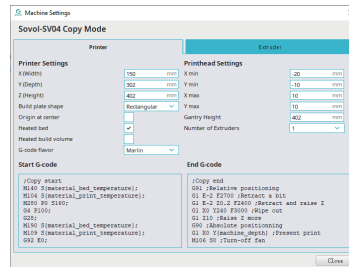
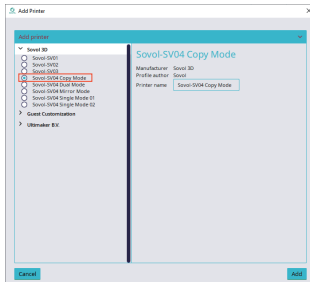
 Note: For information on how to use different material for support, please watch the video on the SD card

3. Duplicate Mode

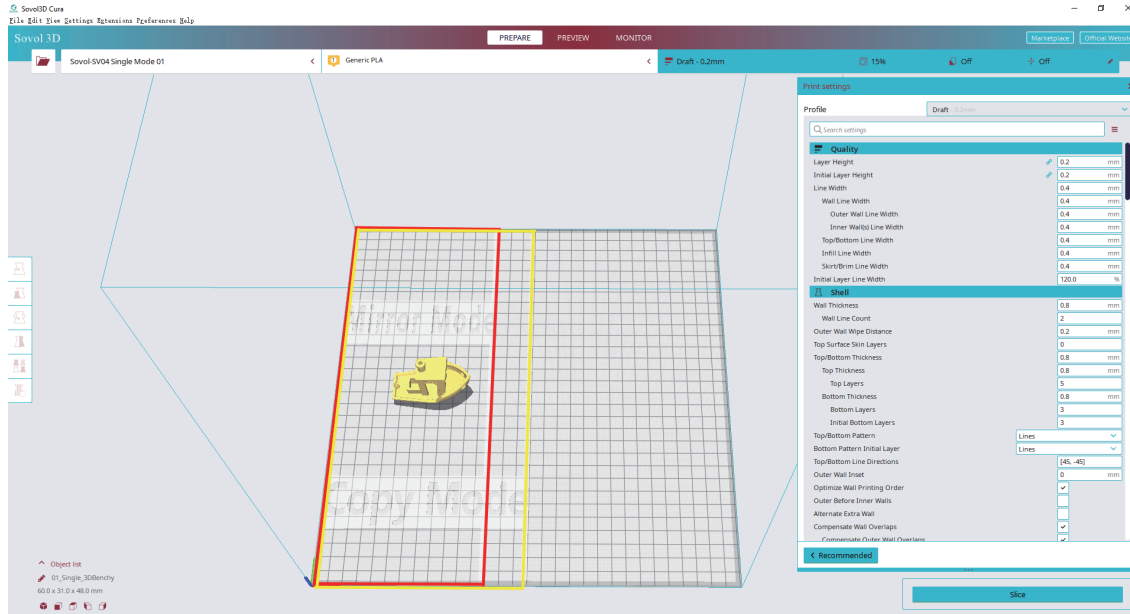
Duplicate Mode print size 150*300*400mm



Method 1

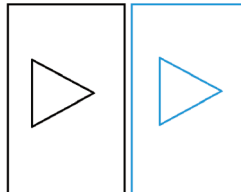


Method 2



The yellow area is for Duplicate Mode

The red area is for Mirror Mode



Copy Mode Print Display

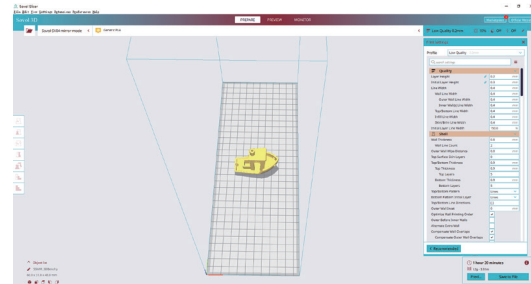
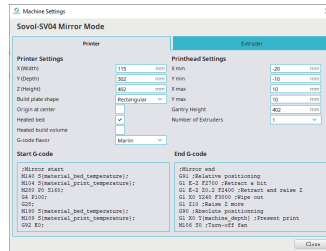
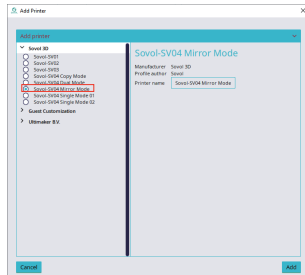
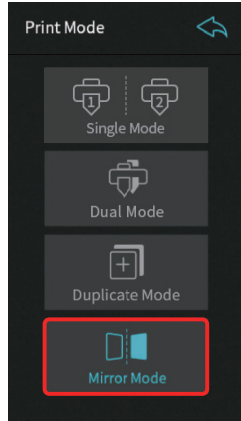
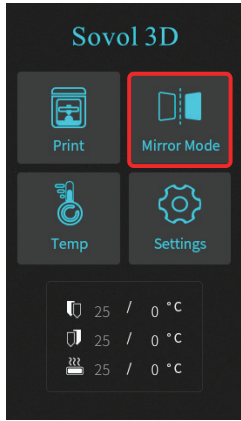


Warning: When you select Single mode 01 print, you must put the model in the yellow area(Copy area) and select Copy Mode to print.

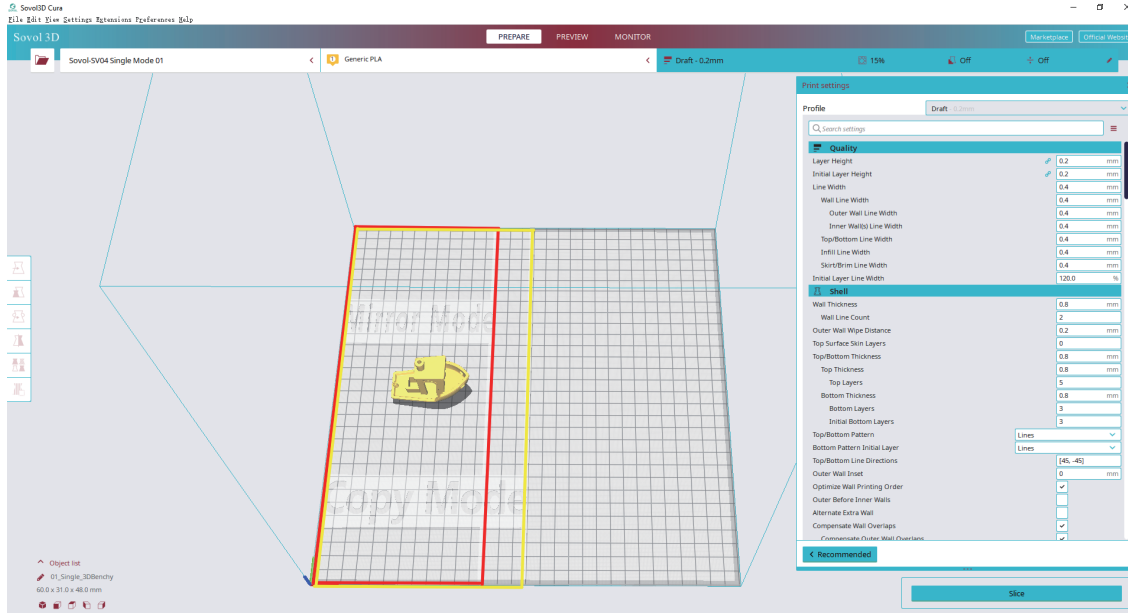
4. Mirror Mode

Mirror Mode print size 115 * 300 * 400mm

Method 1

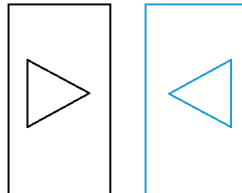


Method 2



The yellow area is for Copy Mode

The red area is for Mirror Mode



Mirror mode print display

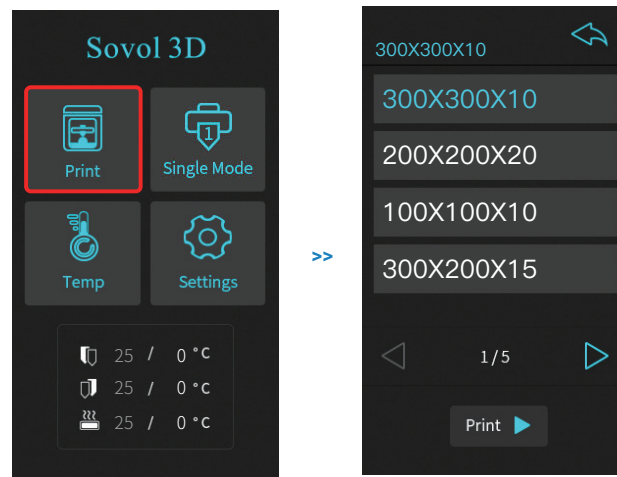


Warning: When you select Single Mode 01 print, you must put the model in the red area (Mirror area) and select Mirror Mode to print.

08 Load the SD card



5. Generate G-code, and save the gcode file to SD card the file.



6. Insert the SD card> Select print> Select the file to print.



File names must be Latin letters or numbers, no Chinese characters or other special symbols



Notes: For details on the software instructions, please refer to the slicing software manual in the SD card

09 Circuit Wiring

