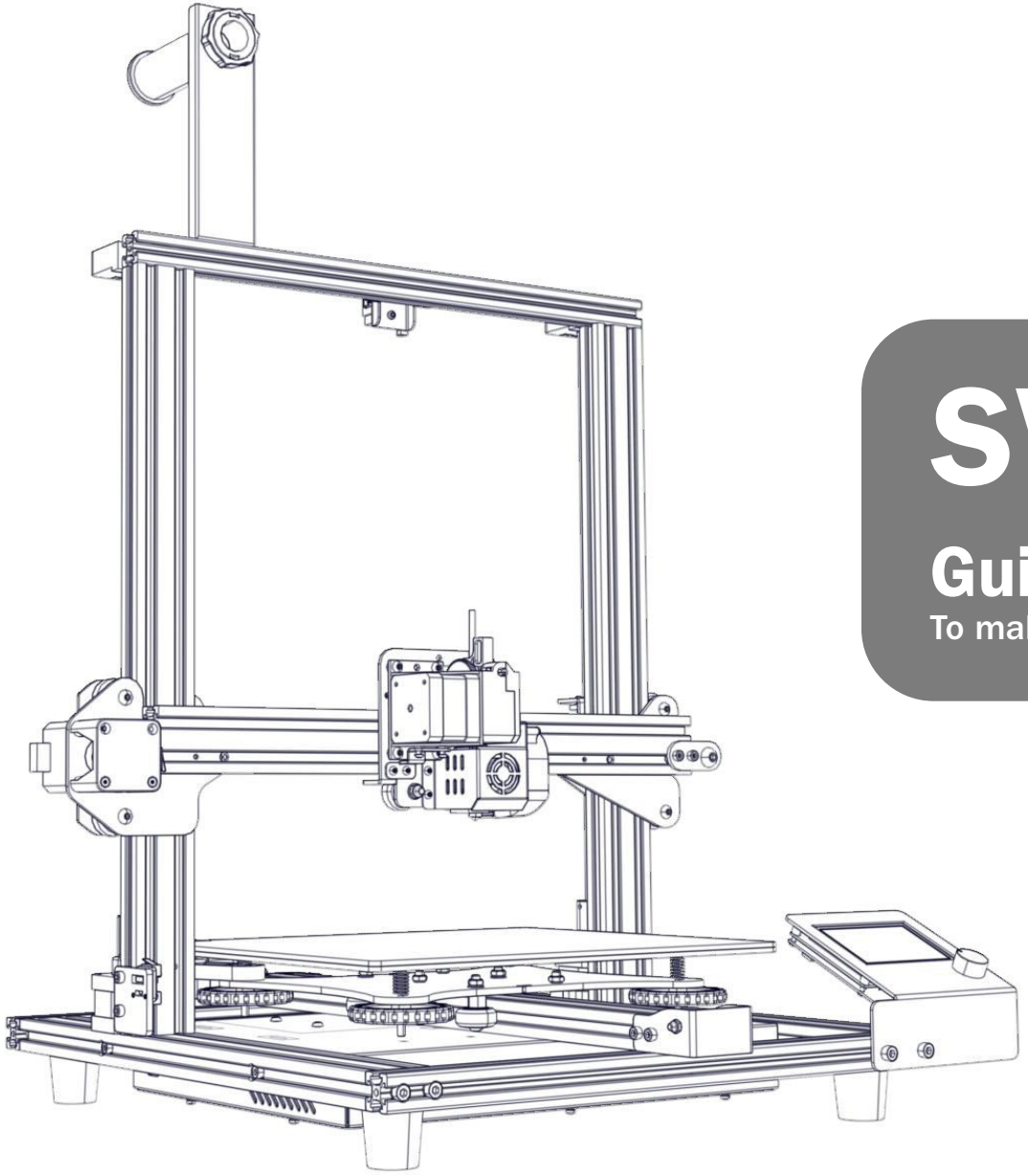


SOVOL

SV01

Guide Book

To make Top-quality 3d printer

V.2.0En

Notes

1. Select the correct input voltage to mach your local mains (220V or 110V).
2. Not use the printer any way other than described here in order to avoid personal injury or property damage.
3. Do not place the printer near any heat source or flammable or explosive objects. We suggest placing it in a well-ventilated, low-dust enviroment.
4. Do not expose the printer to violent vibration or any unstable enviroment, as this may cause poor print quality.
5. Before using experimental or exotic filaments, we suggest using standard filaments such as ABS or PLA to calibrate and test the machine.
6. Do not use other power cable except the one supplied. Always use a grounded three-prong power outlet.
7. Do not touch the nozzle or printing surface durint operation as they may be hot. Keep hands away from machine while in use to avoid burns or personal injury.
8. Do not wear gloves or loose clothing when operate the printer. Such cloths may become tangled in the printer moving parts leading to burns. Possible bodily injury, or printer damage.
9. 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.
10. 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 othe 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.
11. Children under 10 years of age should not use the printer without supervision.

Preface

This Guide is designed for Sovol users to start their printing journey.

We still recommend that please read this guide even if you are familiar with the 3d Printing technology, as there are lots of important information about the sovol for you get a better 3d experience.

In this guide there are links to video tutorials and downloads, use the Qr-codes or Click to access.

Additional resources and information:

(1) Quick start Guide
Quick start user guide or video found on the Micro Sd card.

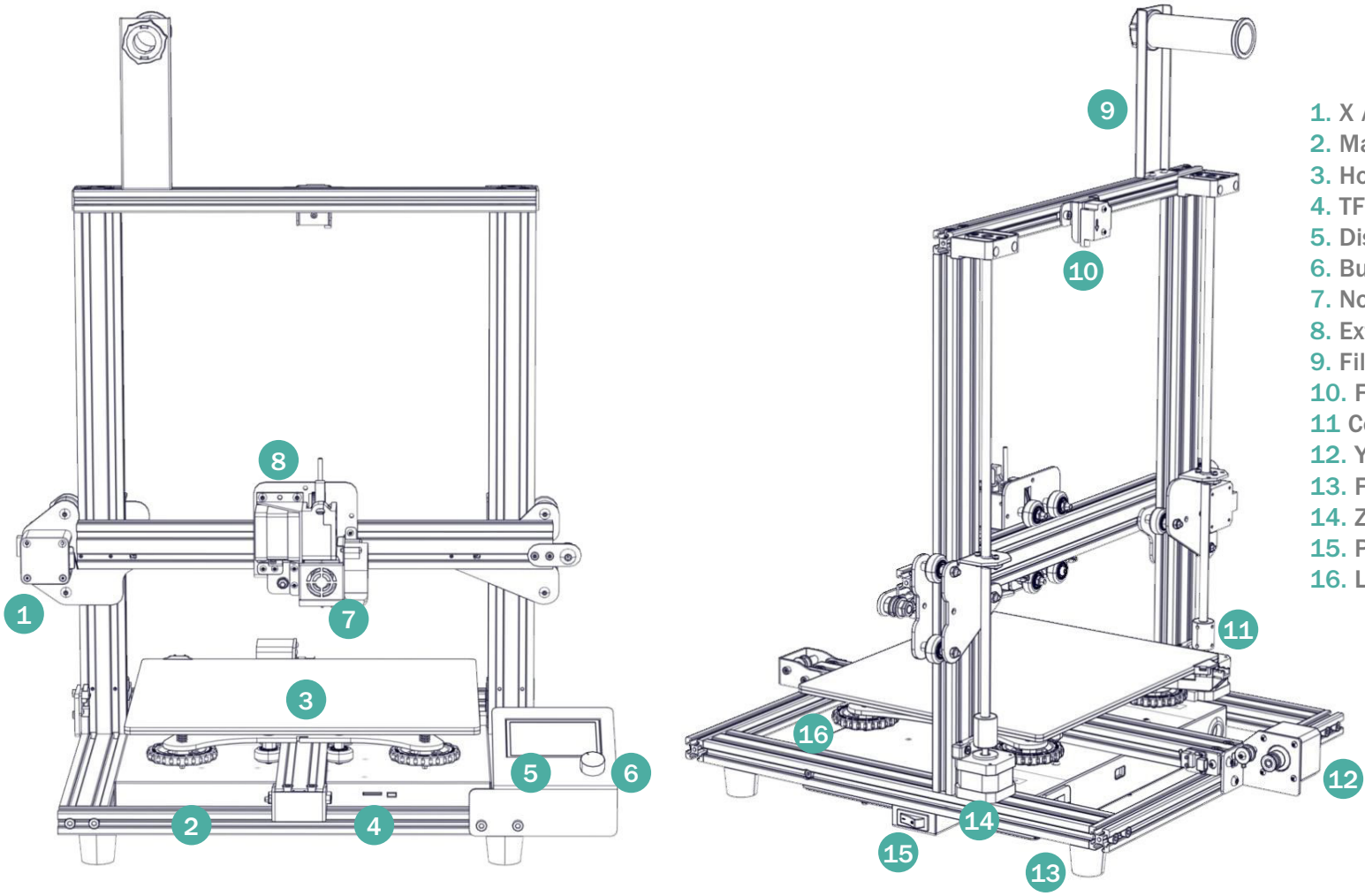
(2) Official website: **www.sovol3d.com**
Find out all the latest news which contains the up-to-date information concerning software, firmware, device maintenance and so on.

3) **Sovol Official User Group** on Facebook.
Be a part of the Sovol community sharing your projects and helping each other.

Index

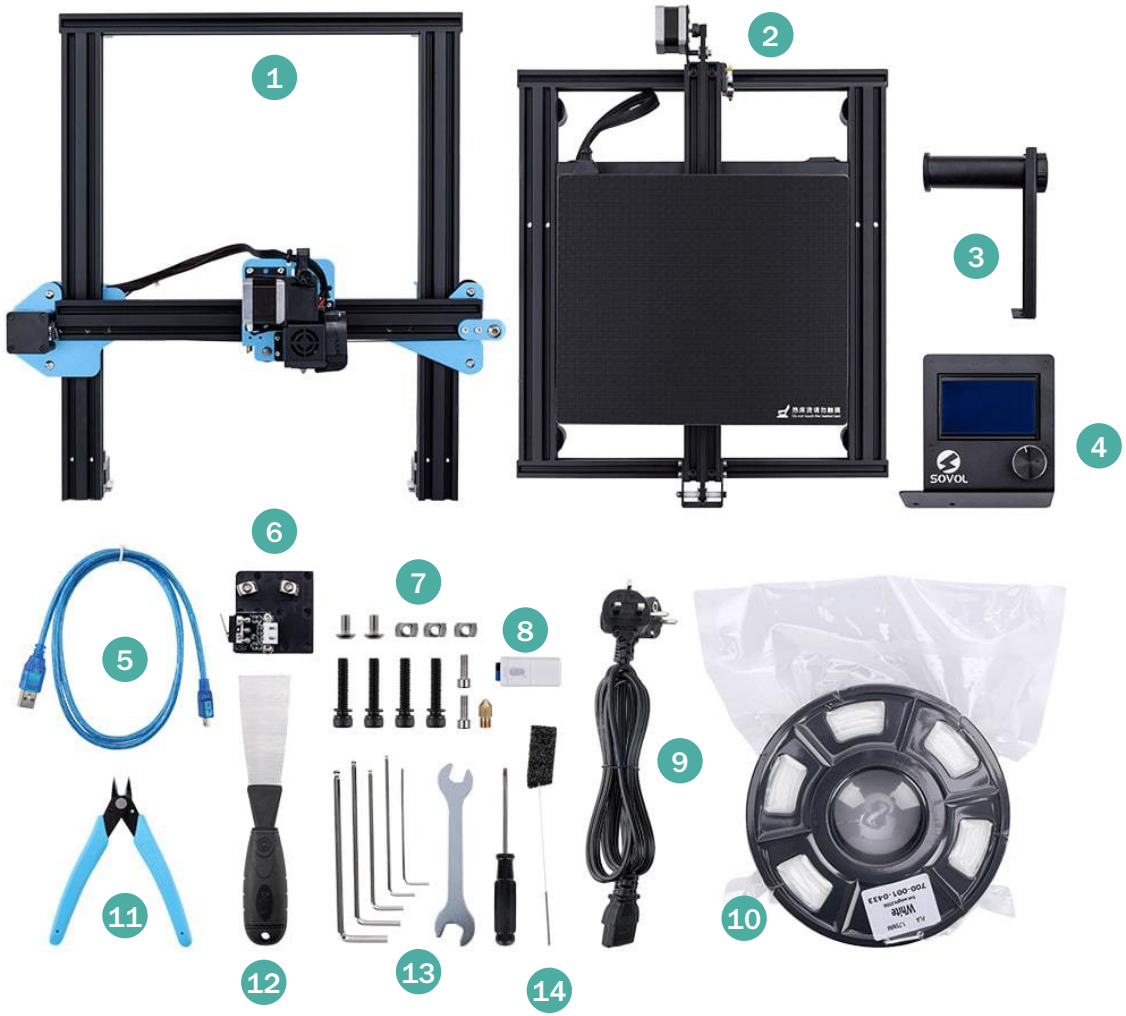
SOVOL

Printer Parts



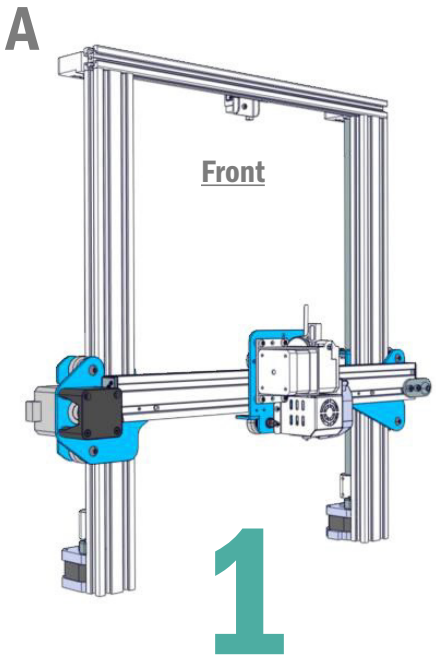
1. X Axis Motor
2. Main control box
3. Hot bed
4. TF Card and Usb
5. Display screen
6. Button knob
7. Nozzle kit
8. Extrusion kit
9. Filament holder
10. Filament sensor
11 Couplers
12. Y Axis Motor
13. Foot pad
14. Z Axis Motors
15. Power switch
16. Leveling nut

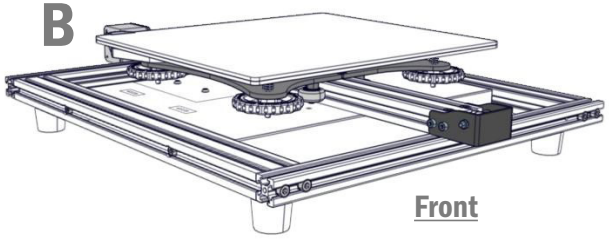
Box Contens

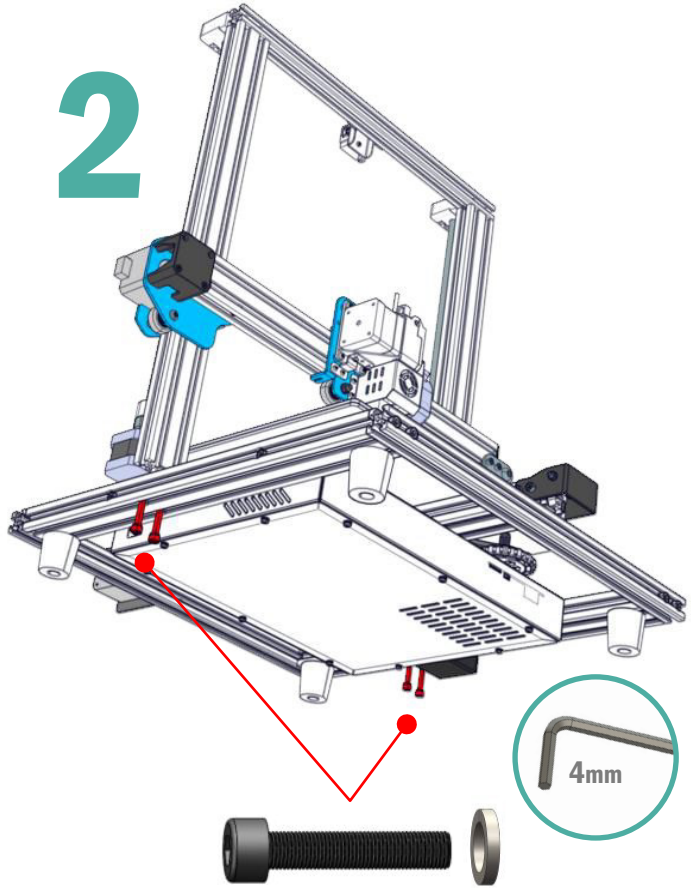


1. Gantry
2. Base with hot bed
3. Filament holder
4. Display Screen
5. Usb cable
6. Z Axis switch limit plate
7. Screws, T-Nuts and extra nozzle
8. Micro SD card and Reader
9. Power cable
10. Filament (200gr.)
11 Pliers
12. Spatula
13. Tool set
14. Nozzle cleaner (0.4mm)

Assembly Steps 1-2







M5x25 + WASHERS (4 Units)

1 **Remove the parts from the box.**

Note that the base and gantry are connected at the factory. If possible, perform this operation with the help of another. Remove any tape and padding from the parts. Inspect the parts to make sure they were not damaged in shipment.

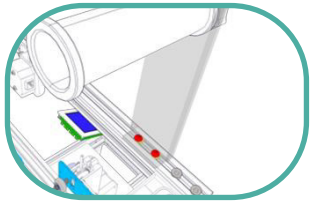
2 **Install the gantry (A) to the base (B).**

a) On the gantry frame make sure the nozzle assembly is in to the front, and the long vertical leads screws is in to the back.

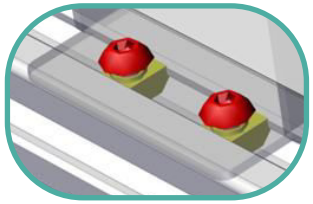
b) On the base frame, make sure the black belt tensioner is on the front, and the stepper motor is on the back.

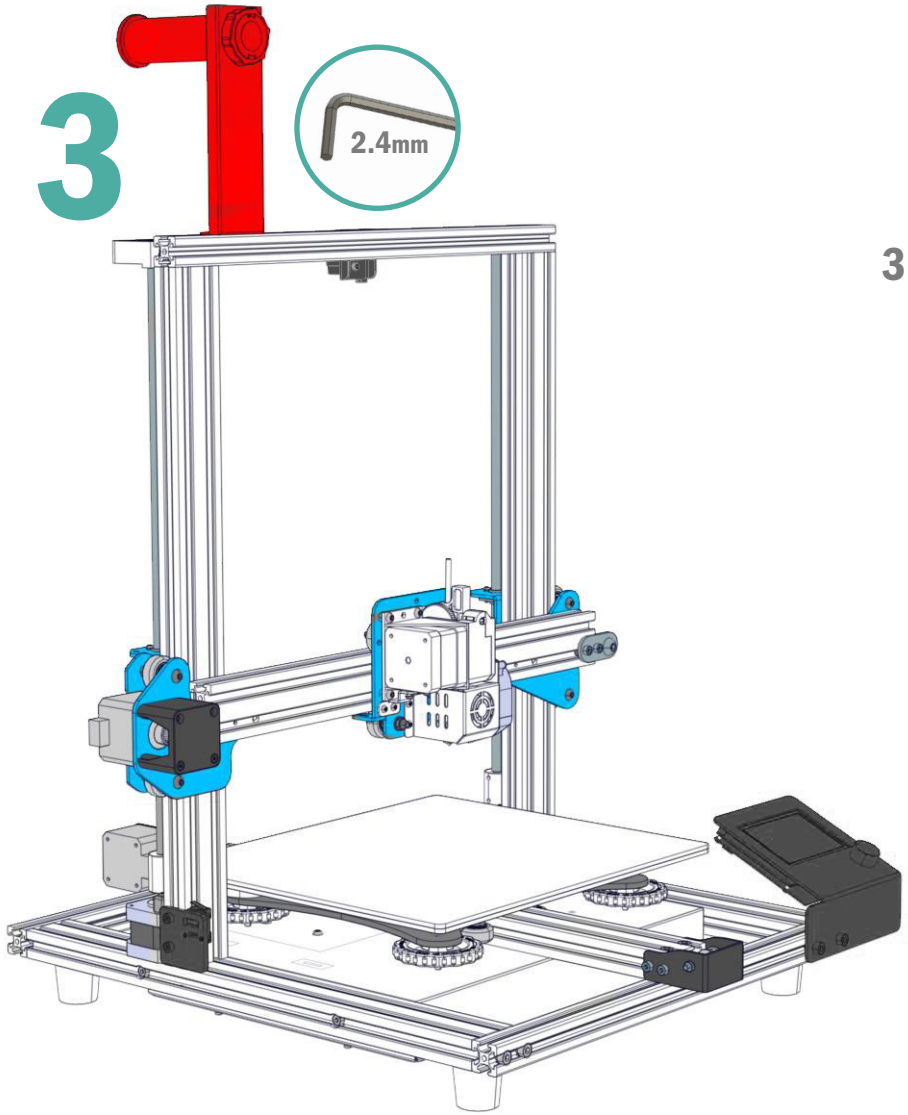
Use the **M5x25 screws (4)** with their washers. Lift the base frame. Install the screws through the base frame into the threaded holes in the gantry frame. Tighten with an Hex key (Allen). Do not exceed tightening to avoid deformations in the frame.

Assembly - Step 3



M4x8 + T-NUTS (2 Units)



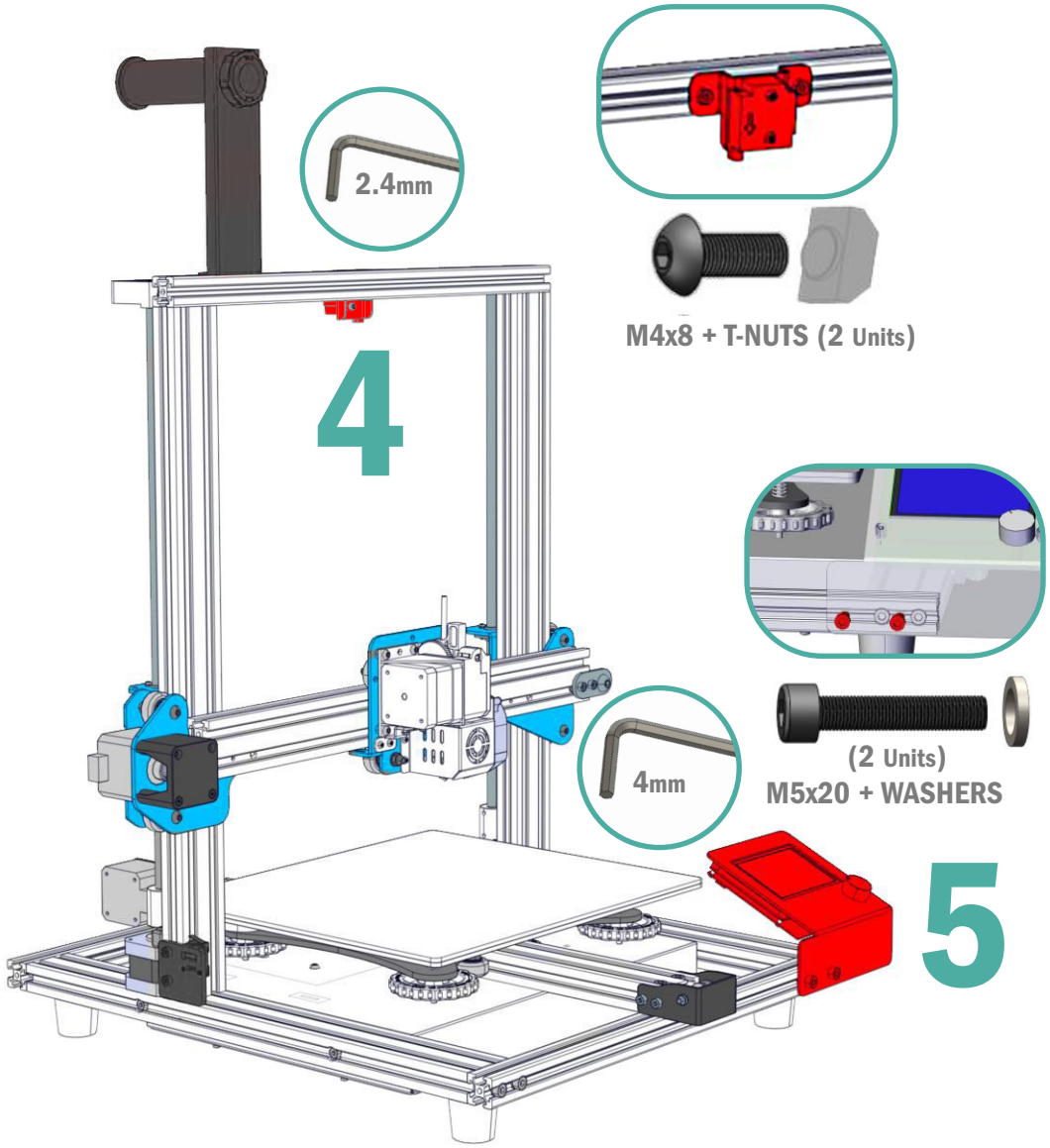


3 Install the filament spool holder.

Secured in the screw hole of the filament holder with **M4x8 (2)** and **M4 T-Nut (2)**. Loosen the T-nuts by hand and turn them so they will fit inside the grooves on the frames.

You want the nuts to be loose so that when you tighten the bolts, the nut will rotate 90° and grab onto the inside of the groove. Tighten with an Hex key (Allen).

Assembly - Steps 4-5



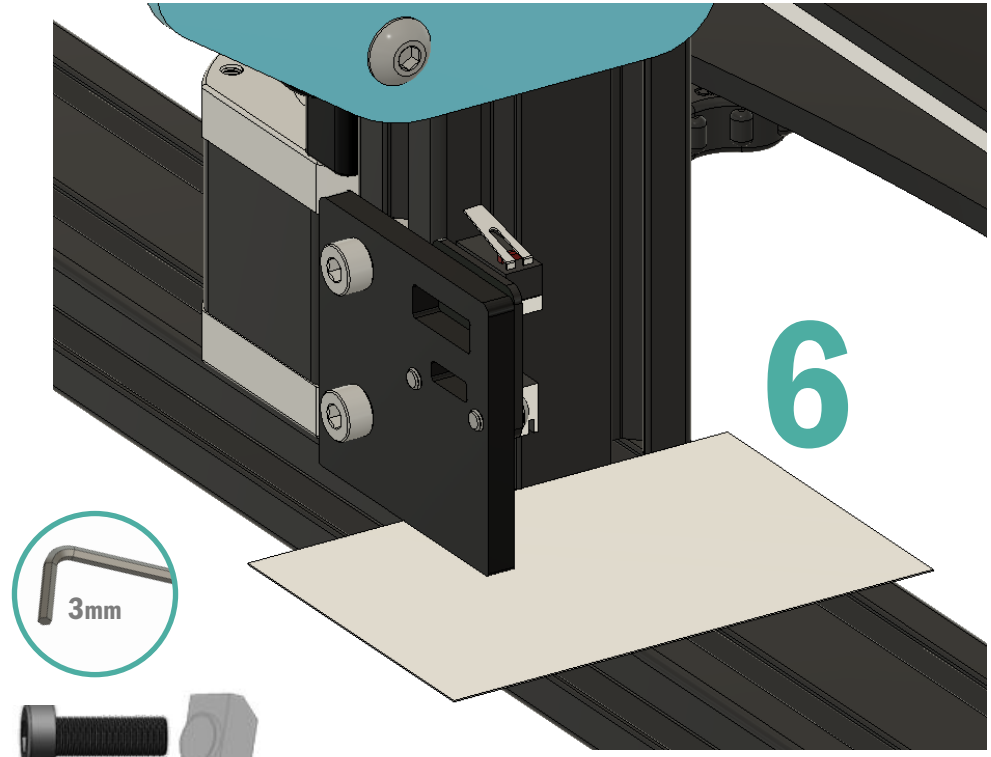
4 **Install the filament sensor.**

The plate with the filament sensor is installed in the upper rear part of the frame. The correct direction is indicated by an arrow on the sensor housing. Fixing to the frame is similar to the method used previously. Use the **M4x8 (2)** screws with **M4 T-Nut (2)**. Loosen the T-nuts by hand, when you tighten the screws, the nut will rotate 90° and grab onto the inside of the groove.

5 **Install the Lcd screen.**

The screen is mounted on the right front of the base frame. Use **the M5x20 (2)** screws provided with their washers. Install the screws throught the Screen plate into the threaded holes in the bottom frame.
In another step, we will explain how to make screen connections

Assembly - Step 6



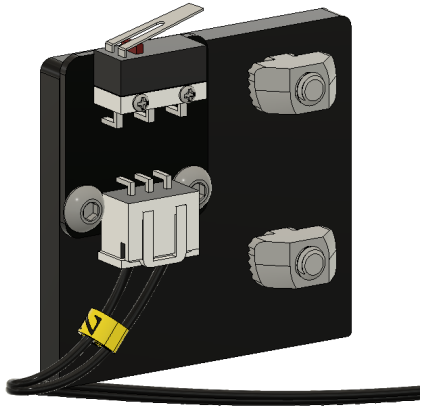
M4x10 + T-NUTS (2 Units)

6 Install the Z limit switch

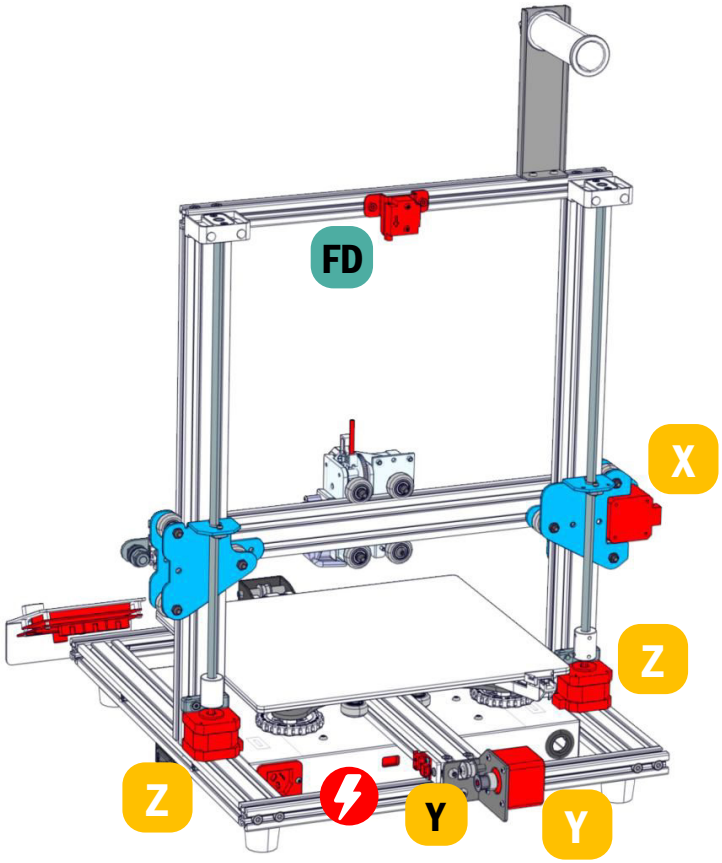
This device sets the starting height of the Z axis, which is responsible for the up and down movement of the print head.

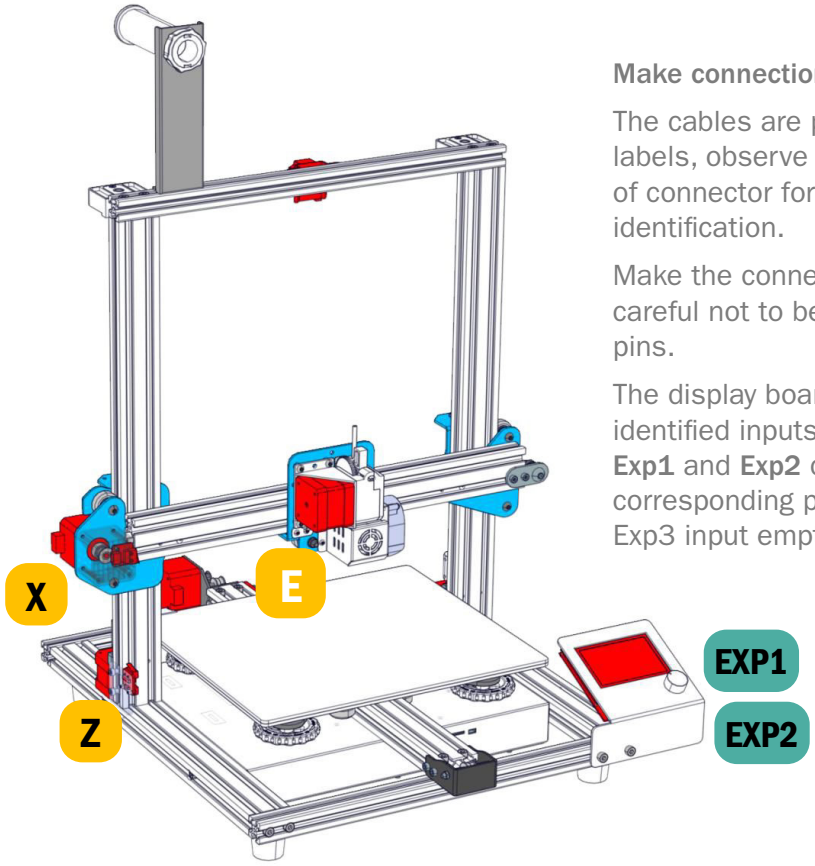
It is placed next to the left Z stepper motor and fixed to the edge of the vertical frame using the included T-nuts.

Loosen the T-nuts, place a card or slightly thick paper in the bottom frame and rest the sensor plate on the top. This will provide the correct minimum height, slightly above the horizontal profile. Tighten the screws and connect the 2-wire connector labeled **"Z"**.



Cable Connection





Make connections

The cables are provided with labels, observe them and the type of connector for proper identification.

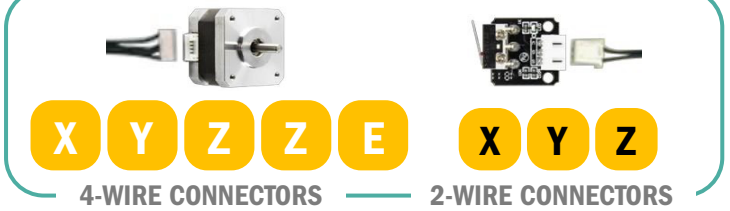
Make the connections being careful not to bend the connector pins.

The display board has three identified inputs. Connect the **Exp1** and **Exp2** cables in their corresponding place leaving the Exp3 input empty..

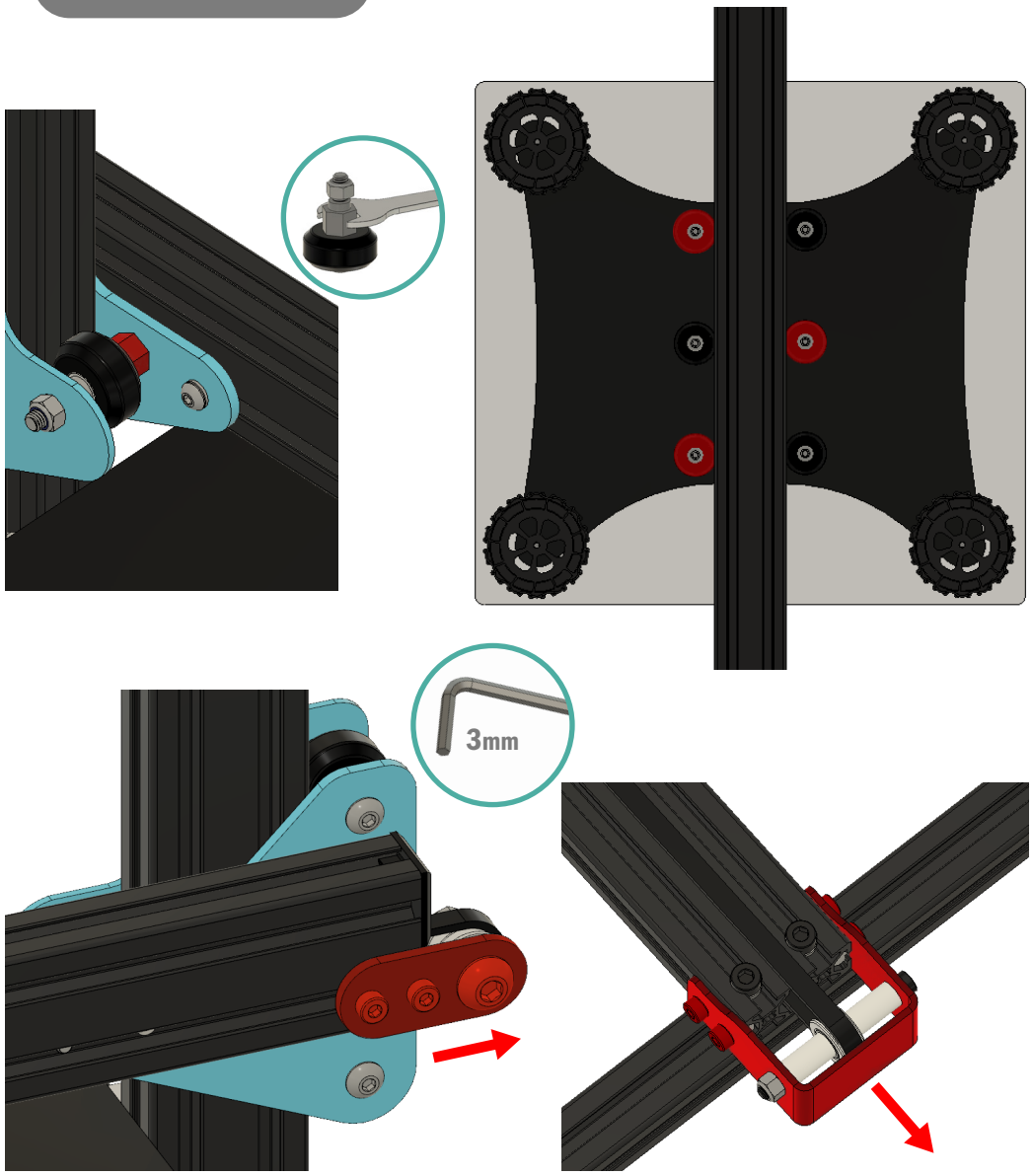
IMPORTANT

Do not forget to place the voltage selector in the position corresponding to your local mains (220V or 110V).

Use a grounded electrical outlet.



Quality Adjustments



Sovol printers are pre-assembled at the factory, however, to obtain the best print quality, some adjustments must be made.

Eccentric nut adjustments.

In each movement group there are some wheels provided with eccentric nuts.

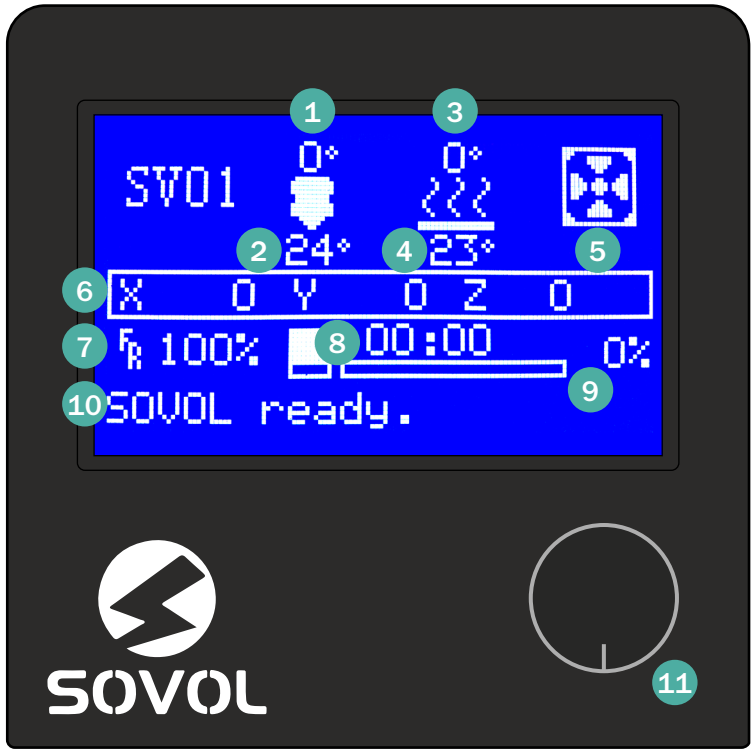
You must adjust them to get enough firmness and smooth movement at the same time. Properly adjusted, you should be able to turn the wheels with your fingers with a little force.

The adjustment of the wheels that guide the Z axis also helps to have a synchronized movement of both sides of the horizontal profile and the correct leveling of them.

Belt adjustments.

The X and Y axis are moved by belts. At the end of each axis there is a tensioner that can be adjusted. Check regularly that the belts have enough tension.

Screen Information



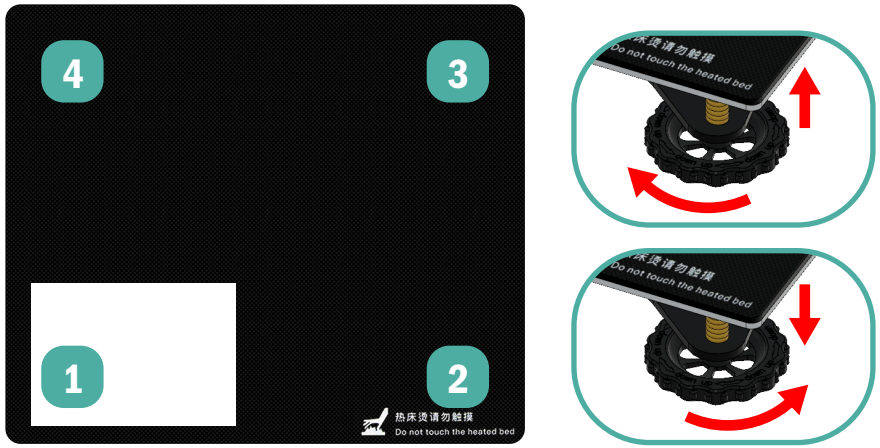
1. SET TEMPERATURE NOZZLE
2. CURRENT TEMP. NOZZLE
3. SET TEMPERATURE HOT BED
4. CURRENT TEMP. HOT BED
5. LAYER FAN SPEED (%)
6. CURRENT LOCATION NOZZLE
7. PRINT SPEED (%)
8. PRINT TIME
9. PRINT PROGRESS
10. PROMPT MESSAGE

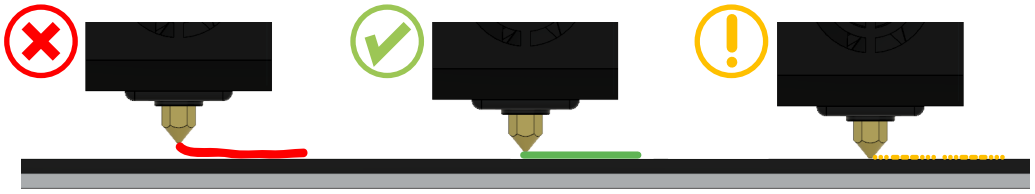
11. BUTTON KNOB
> **PRESS:** Confirm/Enter Sub Menu **ROTATE:** Move/Change value

Not Printing (Sovol ready)		
Menu	**Sub Menu**	**Explanation**
Prepare	Move Axis	Moving X, Y, Z axis or Extruder by imputing
	Auto Home	Return to Zero
	Disable Steppers	Close motors and move X, Y, Z axis by hands
	Preheat Pla Preheat Abs	Preheat hotend, bed or both at the preset temperature
	Cooldown	Turn off the heaters
Control	Temperature	Heats hotend and bed, fan speed or set the preset Pla/Abs preheat entering a value
	Store Settings	Save the modified configuration in memory
	Initialize EEPROM	Restore factory settings
No Card/ Print TF	No card in the printer / Print from TF card	

PRINTING		
Menu	**Sub Menu**	**Explanation**
Tune	Speed Nozzle Bed Fan Speed Flow	It allows to modify: print speed, fan speed, nozzle temperature, bed temp. and filament flow while printing
Pause	Pause printing, resume	
Stop	Stop printing	

Bed Leveling





TOO FAR
The filament can not adhere to the platform.

CORRECT DISTANCE
Filament are extruded evenly just sticking on the platform

TOO CLOSE
Filament are not extruded enough, even scraping the platform

1 Run the sequence to level

1. Auto Home - The nozzle will move to the zero point on the XYZ axes.

2. Disable Steppers - The motors are released to allow manual movement.

3. Preheat Pla Bed - Optional, but recommended to recreate the printing temperature conditions.

2 Slide a paper between the bed and nozzle

If necessary, adjust the bed so that the paper can be placed in the first corner.

3 Level the four corners of the bed

Adjust each of the four thumbscrews under the bed until the piece of paper slides, with just a tiny bit of drag, in all locations on the build plate.

When finished, cool the bed, if heated, using the menu **Prepare>Cooldown**

Tip: The Z axis motors are also disabled. So you should handle the print head gently keeping it flat during the leveling process. If you put too much pressure, you will lose the initial Z position obtained with Auto Home getting an invalid leveling.

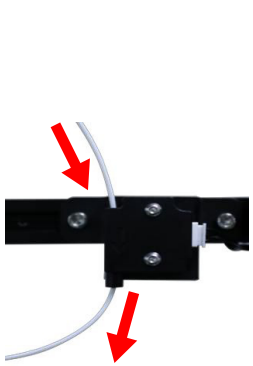
Loading Filament

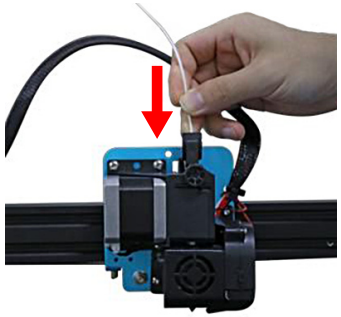
METHOD 1

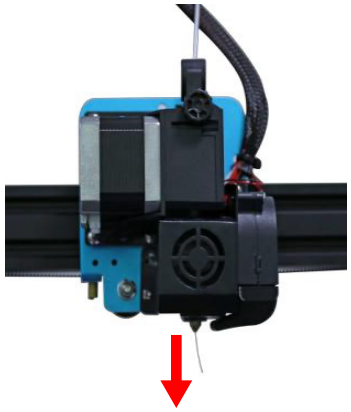
Prepare > Preheat PLA > Preheat PLA End
Prepare > Preheat ABS > Preheat ABS End

METHOD 2

Control > Temperature
> Nozzle > 200°







TIP: HOW TO REPLACE THE FILAMENT ?

Printing: Cut the filament in use near the extruder, feed slowly with the new filament until the extruder takes it.

Not printing: Preheat the nozzle at least to the melting temperature of the filament that is installed. Pull the filament to remove it, insert the new filament and feed until it comes out of the nozzle.

1 Heat the nozzle

Method 1: Use the printer's Preheat presets to heat Pla or Abs temperature according to the temperature range of the filament you are going to use.

Method 2: Set the temperature manually in the printer menu **Control**

2 Pass the filament through the sensor

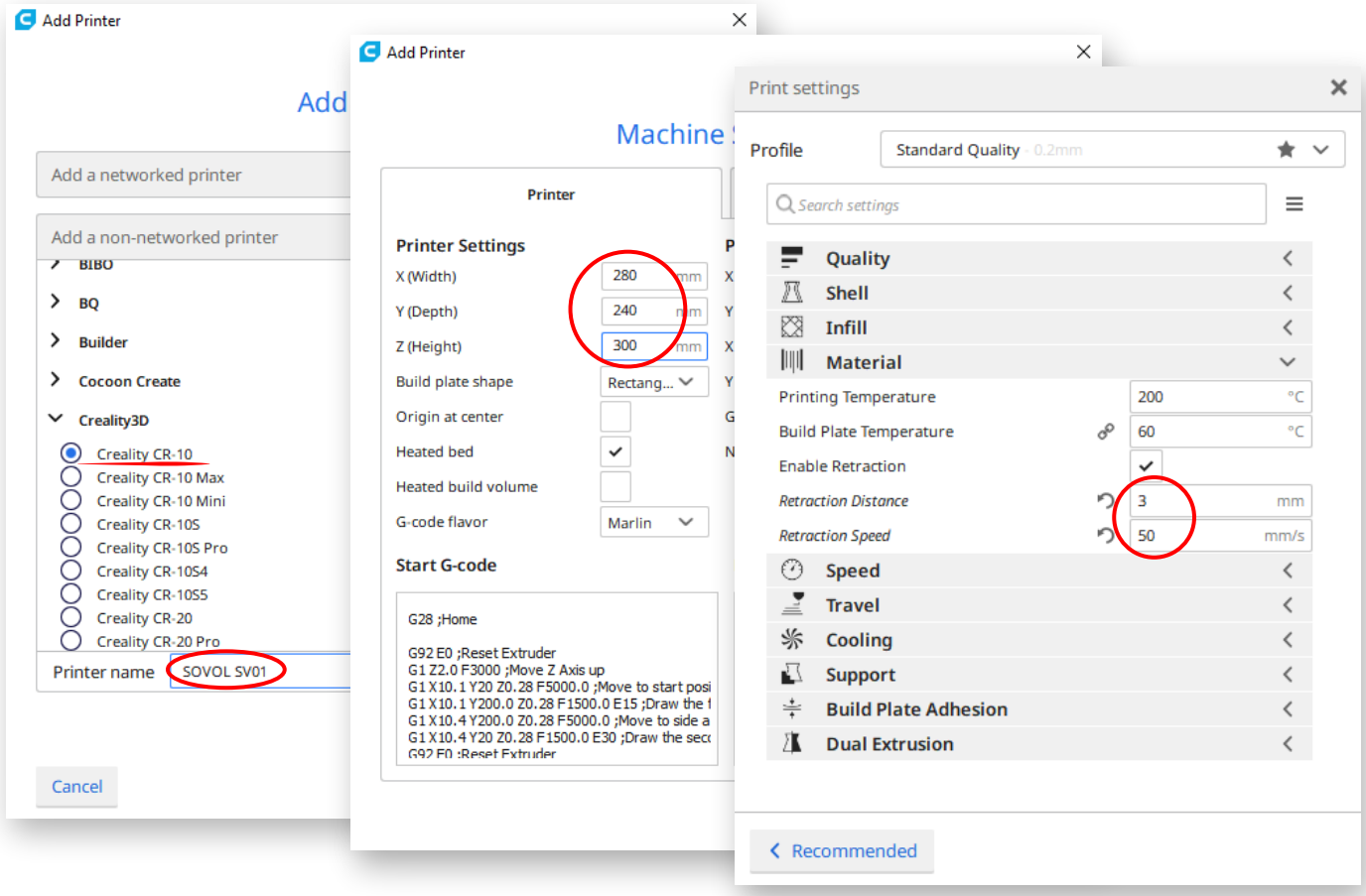
3 Insert the filament into the extruder

When the nozzle is hot, press and hold the extruder lever, and insert the filament through the small hole of the extruder until it comes out of the nozzle.

When finished, cool the nozzle, using the menu **Prepare>Cooldown**

Software Installation

Cura.exe



1 Install Cura

There is a **Cura** installer on the MicroSd card included with the printer.

To download the latest version visit the website of

Ultimaker

2 Open Cura and add a New Printer

Choose Creality Cr-10 as the base profile and change the name to **Sovol Sv01**.

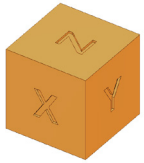
3 Adjust the size

Enter **280**mm, **240**mm and **300**mm as the printer size for X, Y and Z.

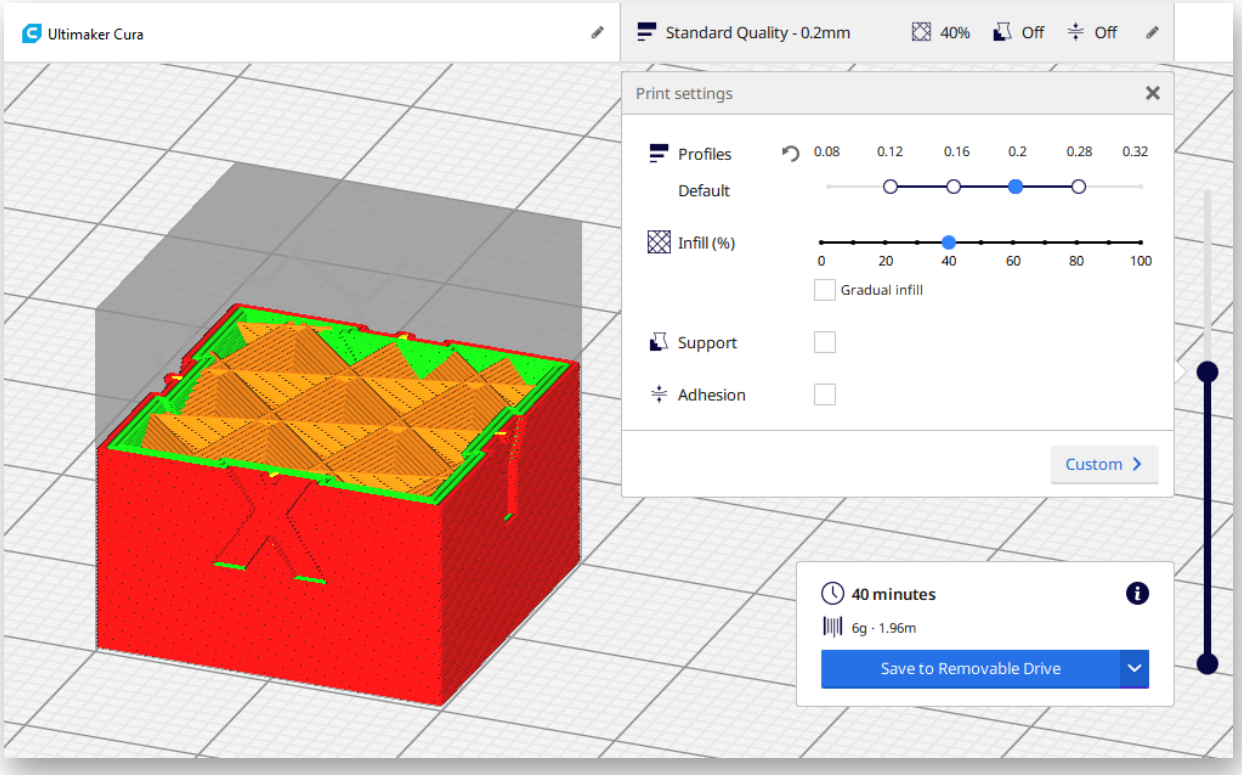
4 Configure retraction

The main difference between **Sovol Sv01** and Cr-10 is the **Direct Drive Extruder**. Retraction distance values of **~ 3mm** and **~ 50mm/s** as retraction speed are suitable.

Preparing to Print



xyz-cube.stl



> Print from TF > xyz-cube.gcode

1 **Load a model in Cura**

On the SD card you will find a calibration cube so you can perform an initial test.

2 **Choose settings**

Cura has a menu with basic print settings. If you want advanced settings, click Custom.

3 **Make the Slice**

Cura will perform the necessary calculations and generate a gcode file with the paths and parameters for the printer.

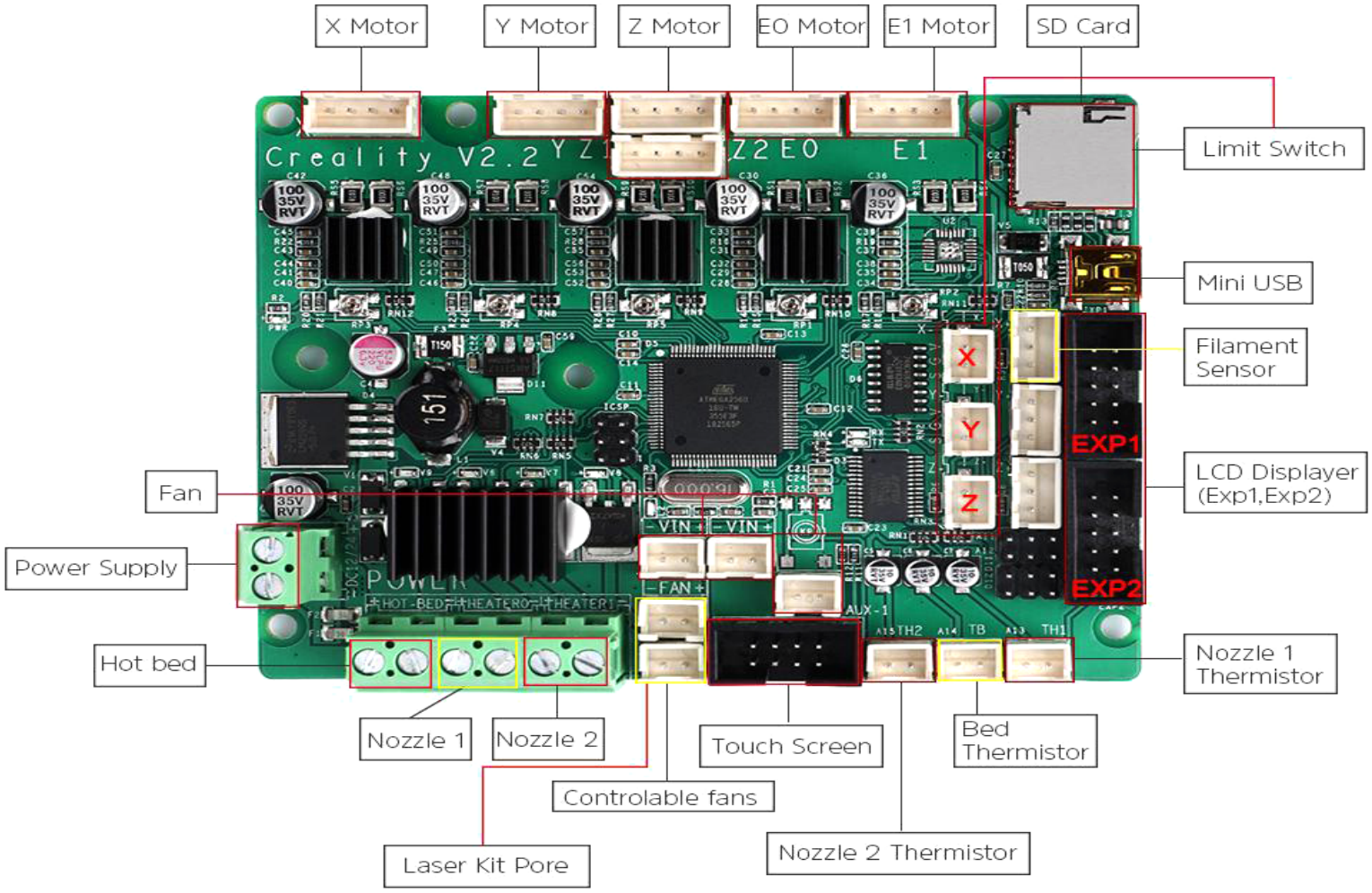
4 **Save the gcode file to the card**

Use the USB reader provided with the printer.

5 **Print the model**

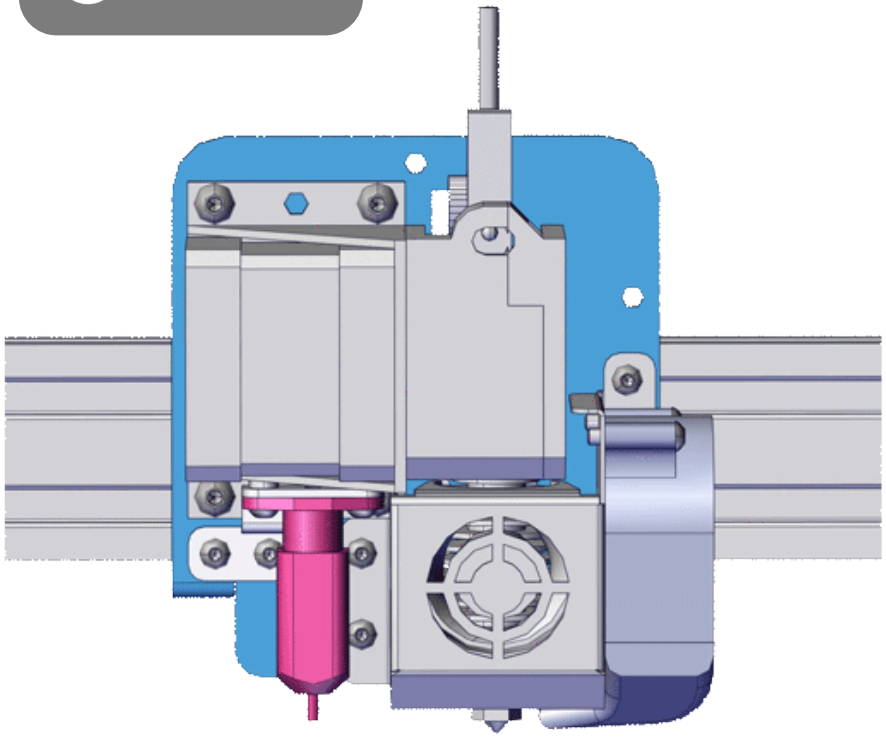
Insert the SD card upside down in the printer, select the gcode file in the menu and print.

Conection Diagram



NEW UPGRADED SILENT BOARD
With TMC2208 Driver For Sovol SV01

BLTouch Installation



BLTouch is an optional device for automatic leveling. Installation requires the disassembly of the printer base and the firmware update.

1 BLTouch device assembly

Watch the linked videos for a detailed guide.

SOVOL VIDEO
youtu.be/BTCXNLIzrz8

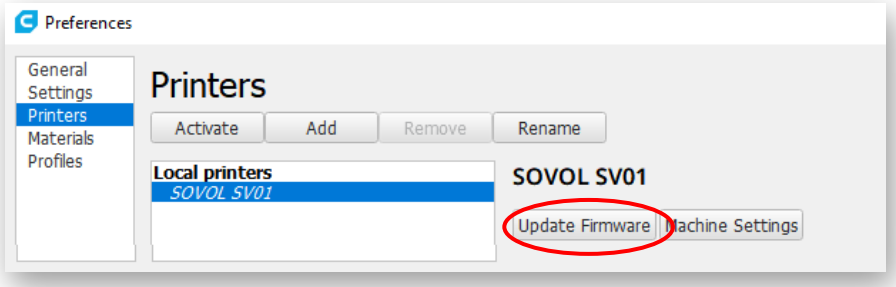
SOVOL VIDEO
youtu.be/s_Bh4_cOWXY

2 Download Firmware

On our website you will find an updated Firmware for BLTouch, pay attention to download the correct version.

sovol3d.com/pages/download

DON'T YOU HAVE A BLTOUCH?
Go to sovol3d.com and get yours.



3 Update the Firmware from Cura

Open Cura, connect the printer to your computer using the Usb cable and load the Firmware from **Printer Preferences** into the Cura software. Wait without disconnecting until the process is finished.

In our video tutorials you will find an alternative method.

Service

1.The printer can be returned within seven days, 15 days replacement, one-year warranty, lifetime maintenance.
Every machine is assembled and tested by our expert staff before departing our facilities.

Replacement requirement

1. The appearance of the product is intact, without damage, cracks, deformation, etc.;
2. Machine is complete including all parts, tools, original box, and foam padding;
3. Provide a valid purchase invoice, product numbers should be the same.

Warranty coverage

1. The following accessories are not included in the warranty coverage (unless damaged by transportation): platform sticker; platform forming plate; acrylic cover; card reader and TF card; platform glass; USB cable; filament; rack and tools, etc.
2. Profile: Small blemishes in the black paint due to testing or shipping are not covered in the premise that the blemish does not affect normal use;
3. Nozzle assembly (nozzle, heating block, throat pipe , heat sink, Teflon tube, etc.) warranty period is 3 months. If damage occurs after the warranty expires, you will be responsible for replacement;
4. 12 Month Warranty on the motherboard, LCD display, power supply, heated bed. The free warranty maintenance is provided by the original factory over the warranty period. After Warranty expires, original factory maintenance is available, but the customer is responsible for shipping and maintenance costs;

Not included in warranty coverage:

1. It will be difficult to provide an effective warranty service if you can not provide a correct serial number;
2. The whole machine and components exceed the warranty period;
3. Equipment failure or damage caused by unauthorized modification of the equipment (private modification includes:
a) modification of the nozzle assembly; b) modification of the machine structure; c) use of third-party components;
d) use of third-party firmware procedures or change the original Factory firmware program, etc.);
4. Equipment failure or damage due to incorrect installation and use;
5. Equipment failure or damage caused by use in a non recommended working environment specified by this manual (Unstable, dusty, moisture);
6. Equipment failure or damage due to improper use (beyond workload, etc.) or maintenance;
7. Equipment failure or damage due to the use of other branded components or other inferior consumables.

Facebook QR Code

www.sovol3d.com

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