SAIN SMART
POWER TO THE MAKERS

INFI-20 BELT 3D PRINTER

USER MANUAL

V1.1

I. Welcome

Thank you for purchasing the INFI-20 belt 3D printer from SainSmart.This user manual is designed to aid INFI-20 belt 3D printer users to assemble and use their new printer. Even if you are familiar with 3D printing technology, we still recommend you to read through this user manual, as there is a lot of important information about INFI-20 for you to get a better 3D printing experience.

Support:

● Documentation like this user manual, help guide, latest firmware etc can be found on https://docs.sainsmart.com.

Scan QR code
to get them

● For technical support, please email us at support@sainsmart.com.

● Help and support is also available from our facebook group.
  (SainSmart 3D Printing User Group)

Scan QR code
to join group

Contents

II. Notice

1. Do not try to use the machine in any way that is not described in use, so as to avoid accidental personal injury and property loss.

2. Please keep the machine away from flammable, explosive, corrosive, or high heat sources. Please place the machine in a ventilated and cool environment.

3. Place the machine on a level and stable surface. Unnecessary vibration or shaking will affect print results.

4. This machine is compatible with 1.75mm filaments such as PLA, TPU, PETG.

5. Only use the OEM power supply cable. Use of aftermarket cables can be dangerous if they are not properly grounded.

6. Do not touch the nozzle or hot bed when the printer is working to prevent high temperature scalds and personal injury.

7. Be careful when the machine is operating as clothing, hair, fingers could easily get caught and cause injury.

8. It is recommended that you remove any debris and clean your printer nozzle after a print while the print head begins to cool.

9. Perform maintenance: Regularly clean the machine body with dry cloth in case of power failure, and wipe off dust, adhesive printing materials and foreign matters on the guide rail.

10. For children under the age of 10, please do not use the machine without the supervision of personnel to avoid personal injury.

11. This machine is equipped with a safety protection mechanism. Please do not move the nozzle and printing platform manually when the machine is on, otherwise the machine will be automatically powered off for protection.

12. The user shall abide by the laws and regulations of the equipment printing products, the place where the equipment is located and the corresponding countries and regions, strictly abide by the professional ethics, and strictly prohibit the use of our products for printing any product or object that violates the laws of the place where the equipment is located and the corresponding country or region.

III. Part List

Before you get started check that your package has all of the included accessories:
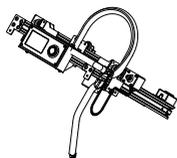
① 1 x X/Y Axis Belt Assembly
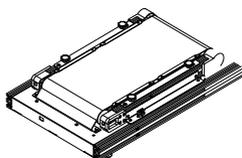
② 1 x Bottom Belt Assembly
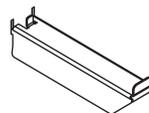
③ 1 x Spool Holder

④ 1 x Profile Bracket 1

⑤ 1 x Profile Bracket 2

⑥ 1 x Y-axis Fixing Plate 1

⑦ 1 x Y-axis Fixing Plate 2

Accessory Tool List

1 x Manual	1 x Power Cord	1 x TF Card and Reader
1 x Type-c Cable	1 x Scraper	1 x Air Pipe Connector PC4-M6
1 x Wrenches Kit	1 x Through Needle	1 x Feeler 0.1mm
1 x Diagonal Pliers	1 x Quick Connect Claw 2 x Snap Ring (Plastic)	24 x Hexagon Socket Flat Round Head Screw M5x8 4 x Hexagon Socket Head Spring Washer Combination Screw M5x40

All pictures shown above are for illustration purpose only, actual product shall prevail.

IV. Printer Components
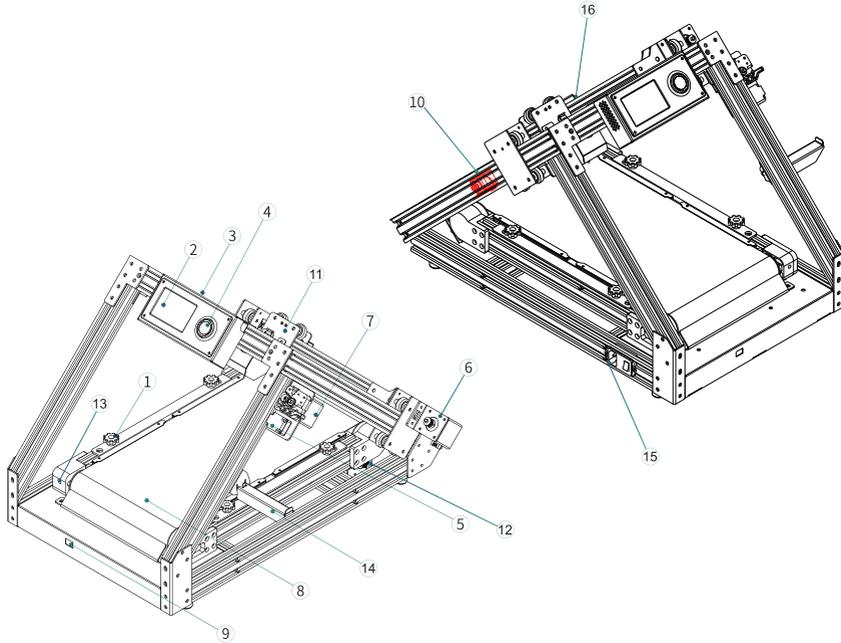
1.Bed Leveling Nut

2.LCD Screen

3.TF Card

4.Control Knob

5.Filament Sensor

6.X-axis Motor

7.Extruder

8.Belt Platform

9.Voltage Selector

10.Y-axis Motor

11.Nozzle Kit

12.Z-axis Belt Motor

13.Belt Tensioning Screw

14.Filament Spool Holder

15.Power Switch and Socket

16.Y-axis Limit Adjustment Component

V. Printer Parameters

Model	INFI-20
Print size	200 x 180 x ∞ mm
Molding technology	FDM
Number of nozzles	1
Layer height	0.1-0.4mm
Nozzle diameter	0.4mm
Printing accuracy	±0.1mm
Materials	PLA / PETG
File types	STL / OBJ / AMF
Printing mode	SD Card Offline Printing / WiFi
Slicer	SainSmart Slicer
Max. heated bed temp	100℃
Max. extruder temp	240℃
Power off detection	Yes
Filament Sensor	Yes
Printing speed	＜180mm/s, Normally 30-60mm/s
Language	English
Outer box size	630*530*290mm
Total power	350W
Power supply specification	Input：100-120/220-240V 50/60HZ Output:12V 29.5A
Operating system	Windows / Linux

VI.Installation Instructions

1. Fix profile bracket 1 and 2 with hexagon socket flat round head screw M5x8. (Lock the front first, then the side.)
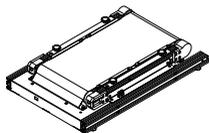
① 1 x Bottom Belt Assembly

② 1 x Profile Bracket 1

③ 1 x Profile Bracket 2

④ 8 x Hexagon Socket Flat Round Head Screw M5x8
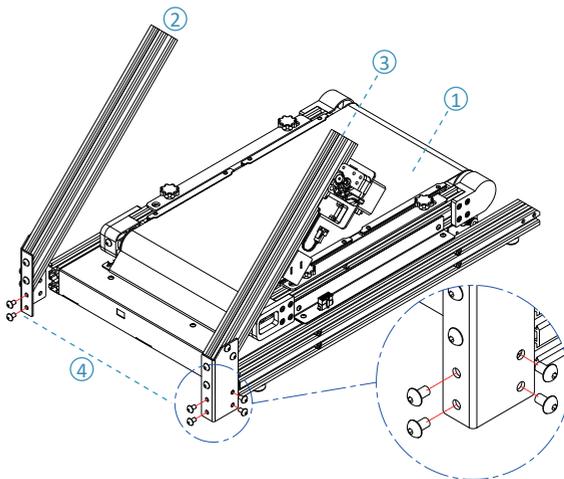
2. Fix X/Y axis assembly with hexagon socket head spring washer combination screw M5x40 and hexagon socket flat round head screw M5x8.
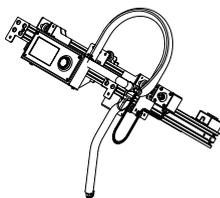
⑤ 1 x X/Y Axis Assembly

⑥ 2 x Hexagon Socket Head Spring Washer Combination Screw M5x40

⑦ 2 x Hexagon Socket Flat Round Head Screw M5x8
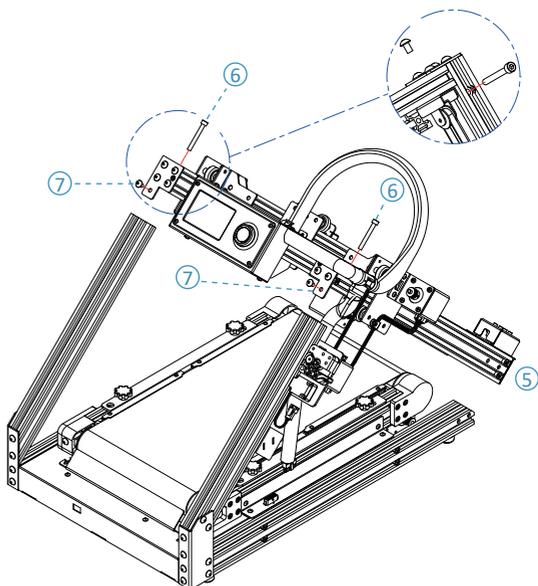
3. Insert the positioning pin on the Y-axis fixed plate into the corresponding hole of the aluminum profile, and then lock it with hexagon socket flat round head screw M5x8.

⑧ 1 x Profile Bracket 1

⑨ 1 x Profile Bracket 2

⑩ 10 x Hexagon Socket Flat Round Head Screw M5x8
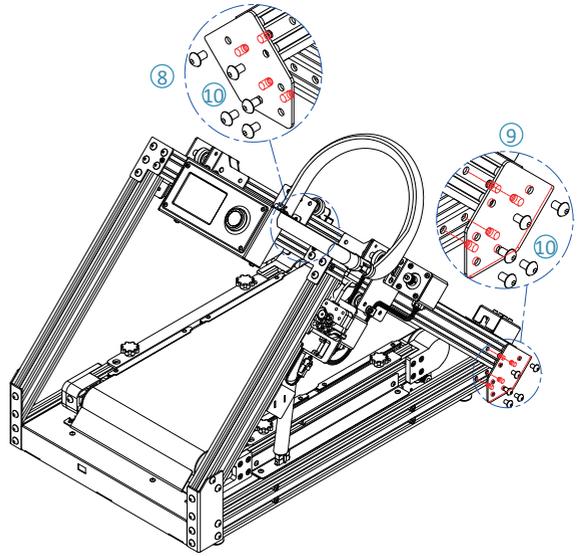
4.Cable Connection：

① Insert the teflon tube into connector. (Also insert the black clamp.)
② Connect the filament sensor cable.
③ Connect machine base cable.
④ Connect the extruder motor cable.
⑤ Connect power cable.
⑥ Install the spool holder.

① Teflon Tube Connector and Black Clamp

② Filament Sensor Cable

③ Machine Base Cable

④

Connect E Motor Cable

⑤

Connect Power Cable

⑥

Install the Spool Holder
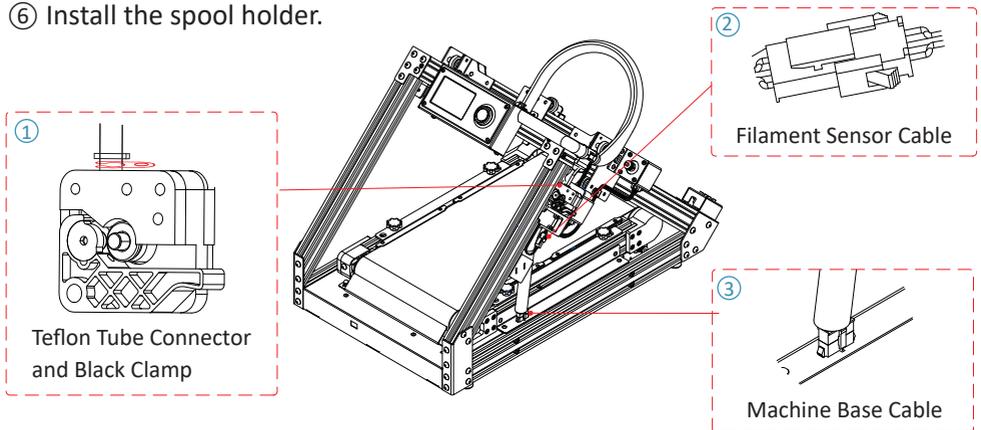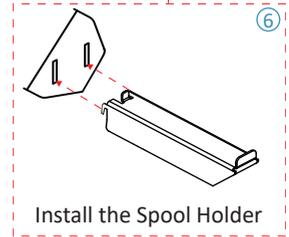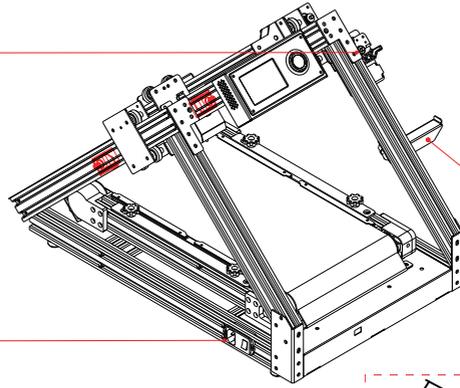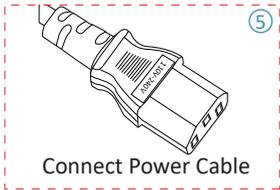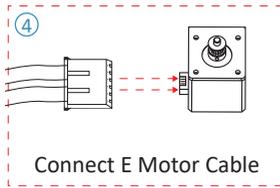
VII Menu Introduction

Print   – – –► Select Print File

| Print | Prepare | Move | About |

>>

Print
test.g
die.gcode
Exit
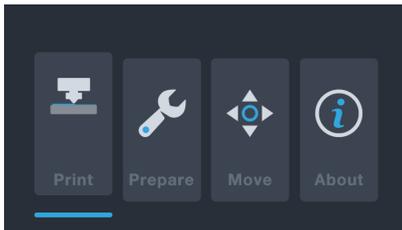
Prepare   – – –►Preheat

Prepare

| Preheat | Layer test | Change filament | Exit |

>>

Preheat

200
Target:200
Nozzle

50
Target:50
Bed

▶
Start Preheat

◀
Back
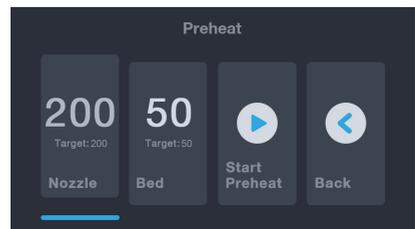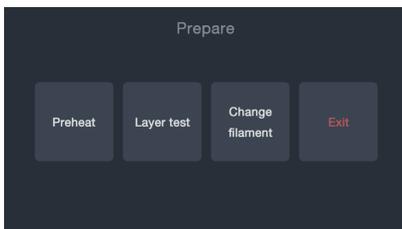
Prepare – – –► Layer Test

Prepare

Preheat | Layer test | Change filament | Exit

》》

Layer test

205/205 Nozzle | **50** Bed | **1.0** Speed

Pause | Cancel
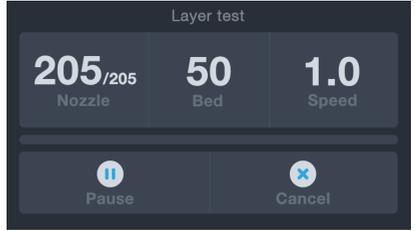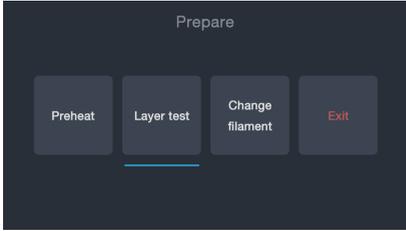
Prepare – – –► Change Filament

Prepare

Preheat | Layer test | Change filament | Exit

》》

Change filament

Nozzle temperature
200/200

Push to Exit

Move – – –► Axis Control & Home

Print | Prepare | Move | About

》》

Move

X Axis | Y Axis | Z Axis
Extruder | Home | Back
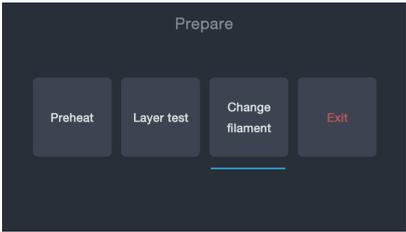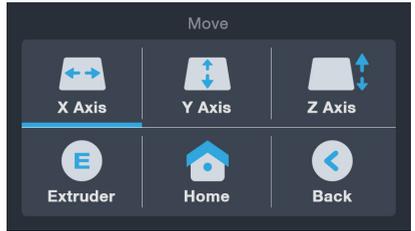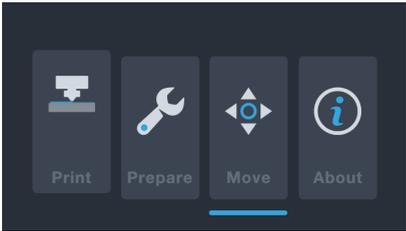
About – – –► Machine Information

Print | Prepare | Move | About

》》

About

Brand : SainSmart
Model : INFI-20
Version : V200.160
Contact : www.sainsmart.com
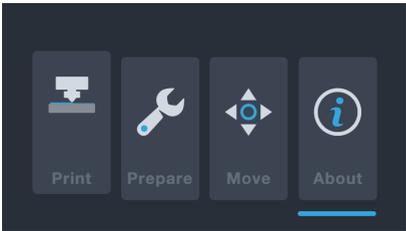
VIII. Loading Filament

Feeding Handle
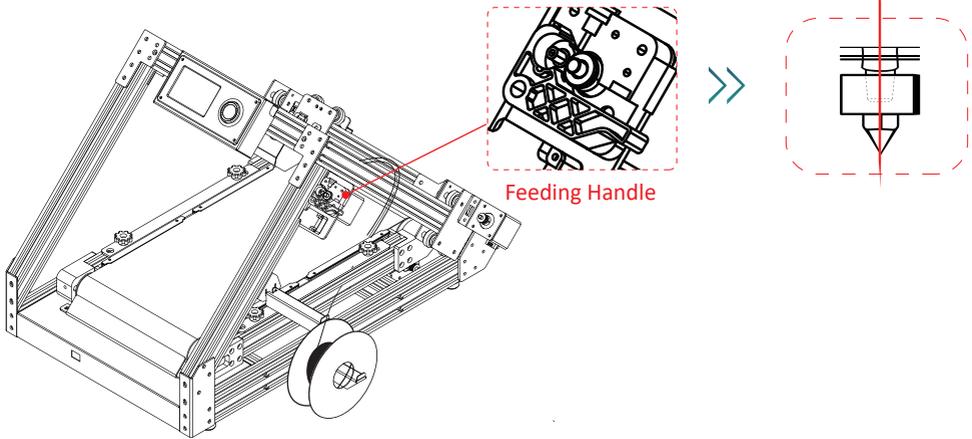
Step 1. Navigate to "Preheat" in "Prepare" menu and set your nozzle temperature and bed temp to the appropriate settings for your filament.

Step 2. Place your spool onto the filament holder.

Step 3. Insert the filament into the filament detector sensor.

Step 4. Press down on the stepper motor filament lever to insert filament passed the sensor and into the bowden tube.

Step 5. Feed filament through until you see some plastic begin to extrude from the nozzle.

IX. Leveling

1. Before you start producing your first batches of prints or your inspiring mega prints, we suggest you calibrate your machine by leveling and running a layer test. (Scan the QR code to watch the leveling video.)
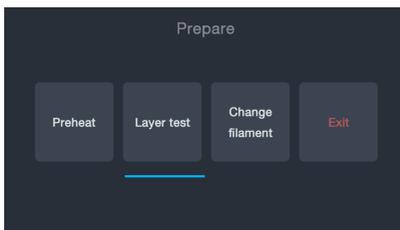
2. Adjust the height of your belt.

Step 1. Navigate to the "Prepare" menu.

Step 2. Select "Layer test" function. After waiting for the nozzle to heat up,nozzle will keep moving and extruding out filament to help you adjust the distance between the nozzle and the belt.

Step 3. Adjust the height of your belt to make sure the filament is extruded fully and evenly, so that your print can be well adhered to the platform.
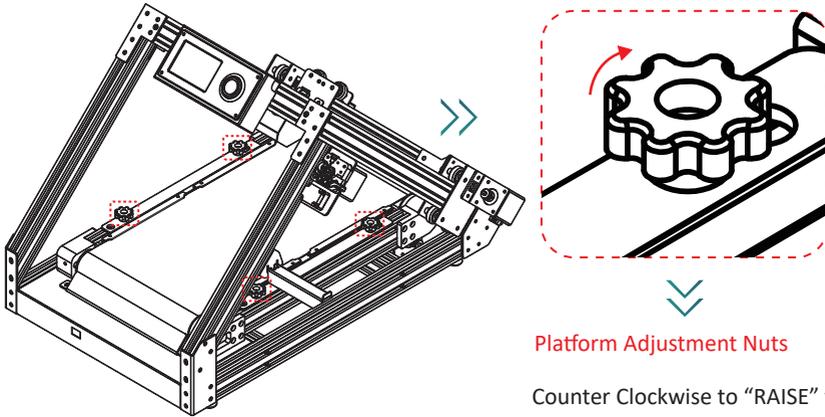
Platform Adjustment Nuts

Counter Clockwise to "RAISE" the platform.
Clockwise to "LOWER" the platform.

3. Press the belt with your hand and if you find that the belt has a bulge, tighten the belt tensioning screws clockwise on both sides to increase the belt tension. You can observe the scales on both sides to make sure the left and right side are adjusted with the same amount.
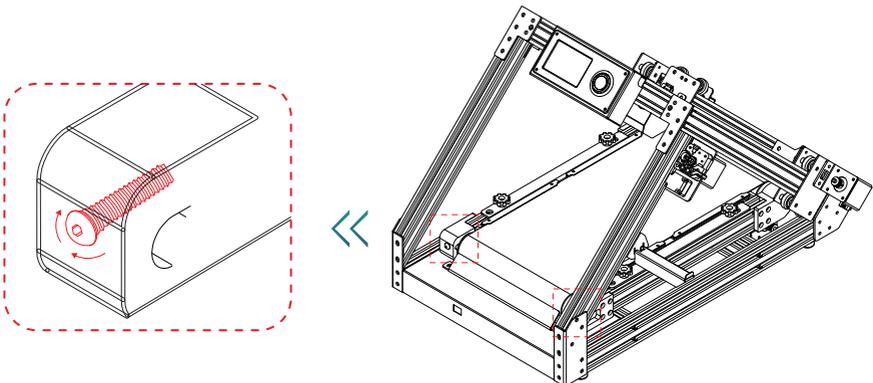
4. Home the printer and adjust the screws in the Y-axis limit switch to make sure a proper distance between the nozzle and the platform.
(Use the 0.1mm feeler gauge to assist.)
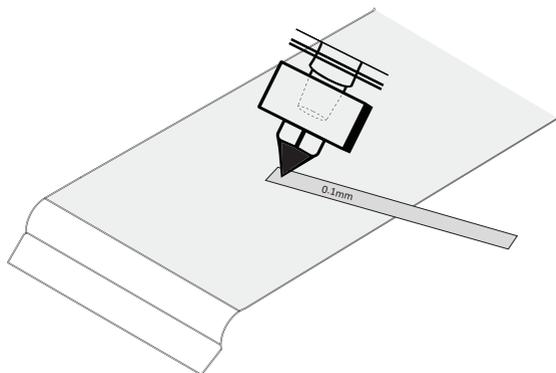
5. To make sure the nozzle is at the correct height above the platform:

First, loosen two fixing screws at the endstop, then turn the bottom adjusting screw to adjust the height of the endstop, turn clockwise to move the nozzle closer to the platform and vice versa.

Adjust the nozzle height by small degree to ensure proper height between the nozzle and the platform when home. Sliding the 0.1mm feeler gauge in between, you should be able to feel a slight friction.

You can tighten the two fixing screws on the Y-limit switch now.
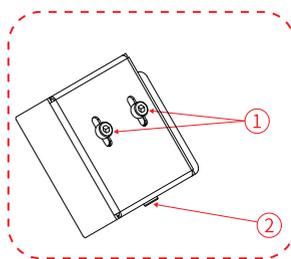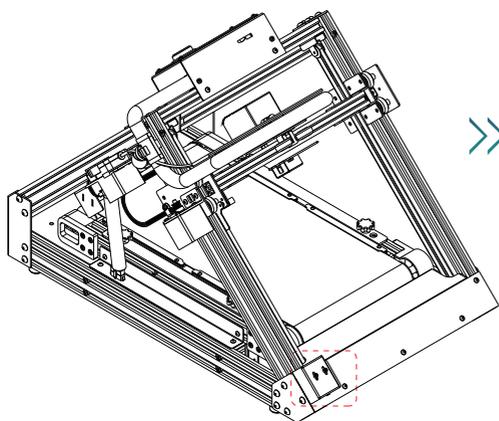
① Y-axis Limit Fixing Screw

② Y-axis Limit Adjusting Screw

6. Turn the four platform adjustment nuts counterclockwise to lift the platform. All nuts should be adjusted, each rotation should be less than 180°. Use the feeler gauge to test the distance between the nozzle and the platform.

Platform Adjustment Nuts
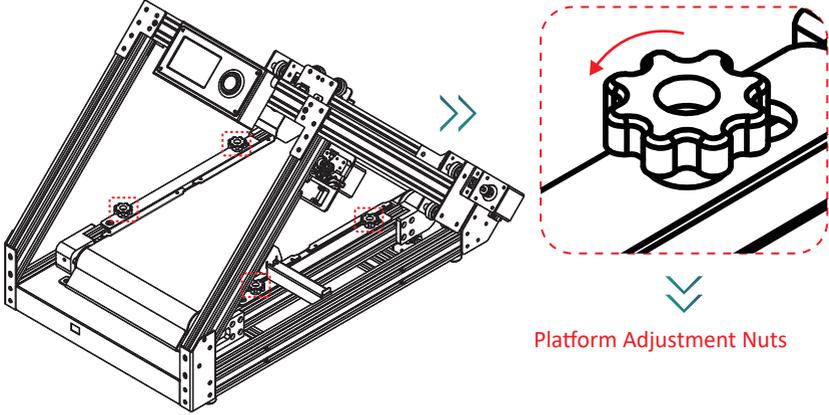
7. Check the leveling again with the "Layer test" function, if you still find the nozzle is too far from the platform, repeat step 6 until you get a satisfactory extrusion result.

⚠️ Sketch Map

	The nozzle is too far away from the platform, so the filament can not adhere to the platform.		Nozzle just lean to the printing platform, filament is extruded fully and evenly, can be well adhered to the platform.
	The even filament adheres right on the platform.		

X. Priting Your Own Models

1.Installing Software
① Check your accessories box for the included SD card.
② Install the sainsmart belt 3D printer slicer software.
③ Import the included machine and filament print profiles.
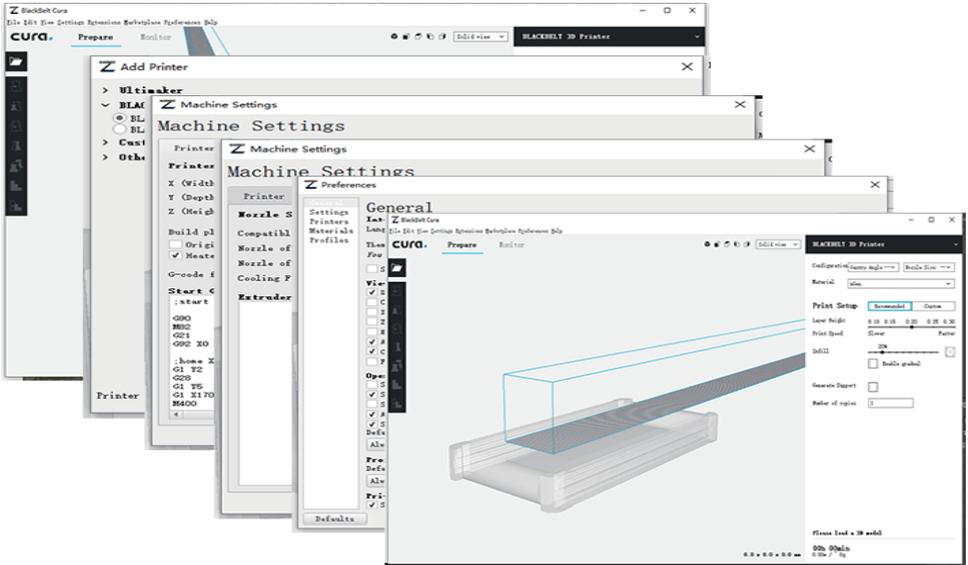
2.Print from SD Card
① Copy the gcode file generated to memory card.
② nsert the included SD card into the micro SD card slot near the top of the controller display unit at the top of your 3D printer.
③ The 3D printer will begin preheating and printing your file as soon as it is ready to begin.

Memory Card
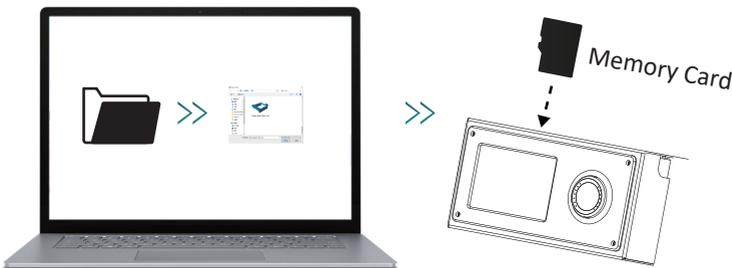
XI. WiFi Configuration

Note: Before enabling WiFi on your INFI-20, please note that the INFI-20 only supports 2.4GHz WiFi, not 5GHz. If your router has these two bands combined, please separate them so that the INFI-20 can recognize your WiFi network. In addition, do not use the same SSID for your 2.4 GHz WiFi and 5GHz WiFi.

1. Create a text file and insert the following:

M550 + space + user name
M551 + space + password
M553

»

M550 <SSID>
M551 <Password>
M553

»

Save as "wifi.gcode" and copy to the root directory of your included SD card.

NEW Text Document - Notepad

| File | Edit | Format | View | Help |

M550 SSID
M551 PASSWORD
M553

»

NEW Text Document - Notepad

| File | Edit | Format | View | Help |

New	Ctrl+N
Open...	Ctrl+O
Save	Ctrl+S
Save AS...	
Page Steup...	
Print...	Ctrl+P
Exit	

This PC

| File name | wifi.gcode |
| Save as type: | Text Documents(*.txt) |

Hide Folders

»
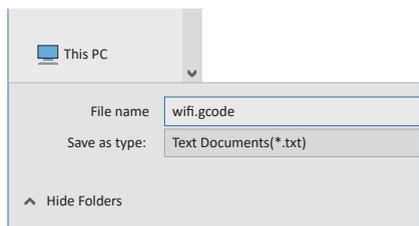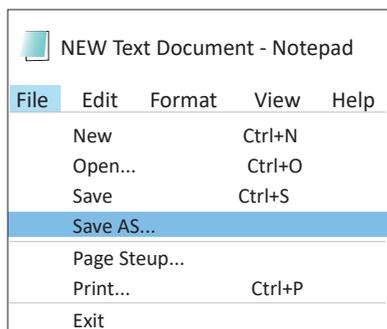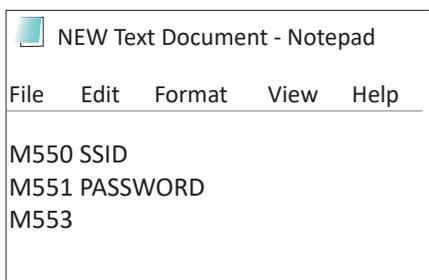
WiFi.gcode

2. Insert the SD card into the printer, run the "wifi.gcode" file, then restart the machine, wait for the IP address to show up on the screen.

test.g
Wifi.gcode
Exit

»

Finish

✓

00:00

ONE MORE   GO HOME

»

192.168.1.100

Print   Preheat   Move   About

16
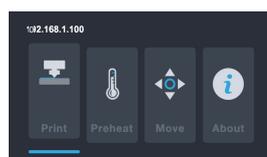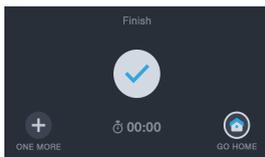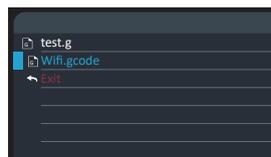
3. Open the browser, navigate to the IP address displayed.
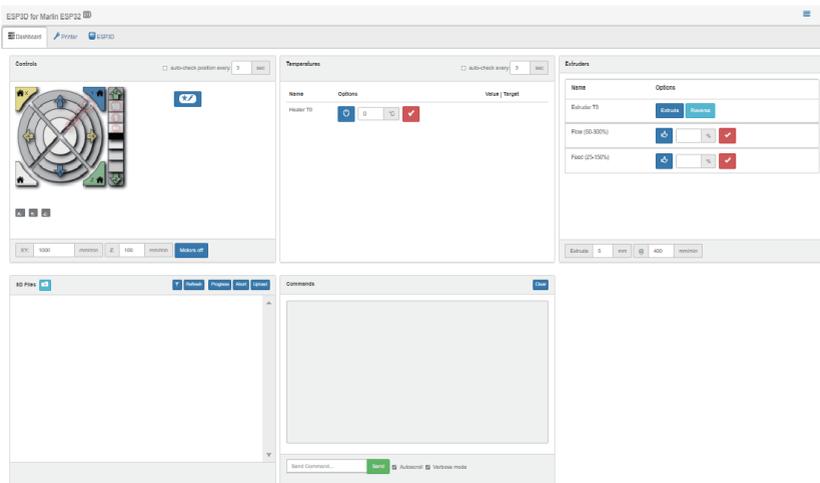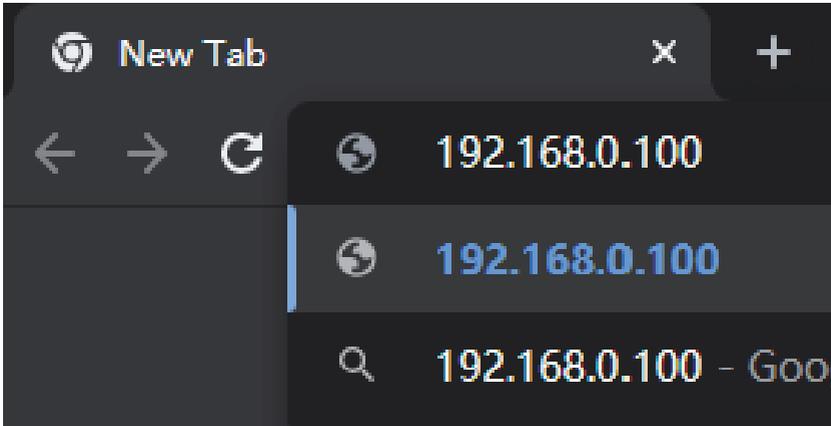
Notes: If no IP address is displayed,

1. Please repeat step.

2. Make sure the password you entered is correct.

3. Make sure you have a stable wifi connection.

XII. Troubleshooting

Fault diagnosis

Cause of failure

Fault diagnosis		Cause of failure

Start

Printed by memory card

Y/N → N → Document identification → Y → Printing garbled code → Y → Whether other documents print normally → Y → Slices

- N → Memory card → 1. Wipe the memory card / 2. Format the memory card / 3. Replace the memory card
- N → File name → 1. File name is modified to English and digital formats
- Y → Slices → 1. Move the model position and slice again / 2. Repair the software model

Y

Return "Home"

Y/N → N → Move or not → Y → Over zero → Y → Limit switch

- N → Shaft motor → 1. Check the motor / circuit / 2. Check with replacement method
- Y → Limit switch → 1. Check the circuit / 2. Replace the limit switch

Y

Hot bed heating

Y/N → N → Hot bed is No heating → Temperature condition → N → Thermistor

- N → Hot bed → 1. Check the circuit / 2. Replace the hot bed
- N → Thermistor → 1. Check the circuit / 2. Replace the thermistor

Y

Nozzle heating

Y/N → N → The nozzle is No heating → Temperature condition → N → Thermistor

- N → Heating tube → 1. Check the circuit / 2. Replace the heating pipe
- N → Thermistor → 1. Check the circuit / 2. Replace the thermistor

Y

Silk out printing

Is it misplaced → Y → Slices/Synchronous belt → 1. Slice again / 2. Adjust the timing belt

Y/N → N → Discharge or not

- N → Coupling → 1. Tighten the coupling

Is the E motor running → Gear has No rotation → Consumables are No, it's normal → Y → Other

- N → Consumables → 1. Check consumables / 2. Replace consumables / 3. Check the discharge quantity
- N → E-axis motor → 1. Check the circuit / 2. Exclusion by substitution

Complete

Contact after sales | The fault remains the same | Troubleshooting

sain SMART
POWER TO THE MAKERS

If you need any assistance,please contact us via;

✉ Email: support@sainsmart.com

f Facebook messenger: https://m.me/Sainsmart

www.sainsmart.com

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DE, 19808, United States