MALYAN
Realizing Possibility

MA20 Belt 3d printer

User Manual

V1.0

I. Welcome

Thank you for purchasing the MA-20 Belt 3D Printer from MALYAN.
This MA-20 Belt 3D Printer User Manual is designed to aid MA-20
Belt users in the assembly and use of their new printer and to help
them getting started with 3D Printing. 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 the MA-20
for you to get a better 3D printing experience.

Support:

- Documentation like this user manual, help guide etc. can be found
  on http://malyansys.com/
- For technical support, please email us at support@malyansys.com.

**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 themachine 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:
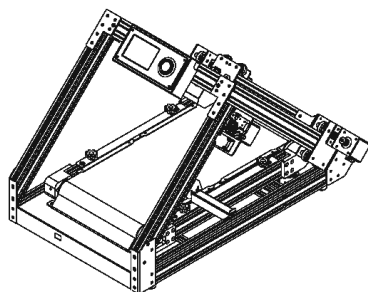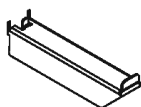
MA-20 Belt 3D Printer

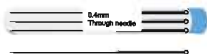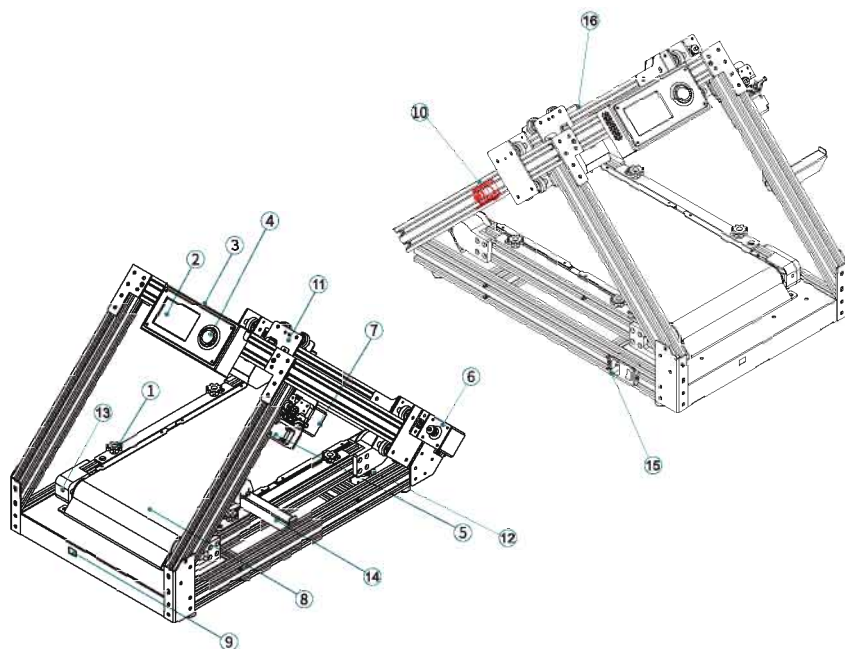|		
1x Manual	1x Power Cord	1x TF Card and Reader
1x Filament Spool Holder	1x Scraper	1x Air Pipe Connector PC4-M6
1x Wrenches Kit	1x Through needle	1x Feeler 0.1mm
1x Diagonal pliers	1x Quick connect claw 2x Snap ring (plastic)	1x Type-c cable

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

IV. Introduction to Your Belt 3D Printer

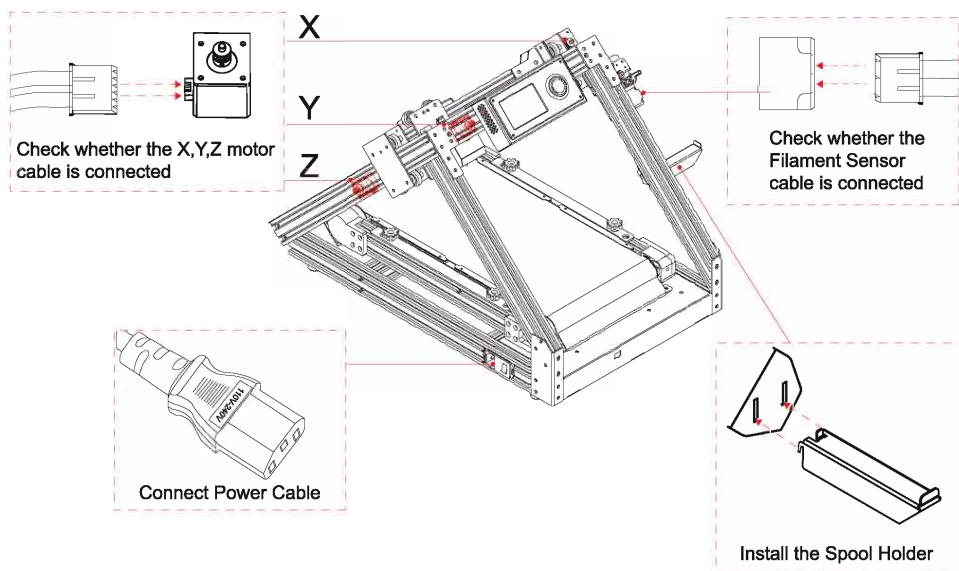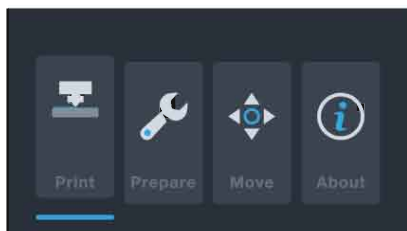|		
1.Bed leveling nut	2.LCD screen	3.TF card
4.Control knob	5.Filament sensor	6.X-axis motor
7.Extruder	8.Belt platform	9.Voltage Selector
10.Y-axis motor	11.Nozzle Kit	12.Z-axis belt motor
13.Belt tensioning screw	14.Filament Spool Holder	
15.Power Switch and Socket	16. Y-axis limit adjustment component	

V. Printer Parameters

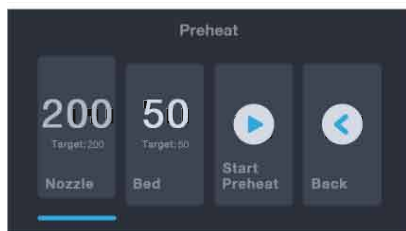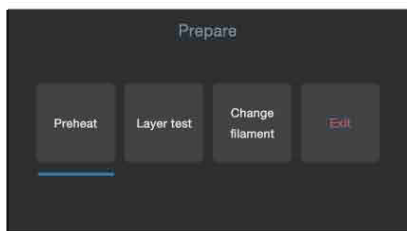|	
Model	MA-20
Print size	200 x 180 x ∞ mm
Molding technology	FDM
Number of nozzles	1
Layer height	0.1-0.4mm
Nozzle diameter	0.4mm
Printing accuracy	±0.1mm
Materials	PLA/PETG
File types	STL / OBJ / AMF
Printing mode	SD card offline printing
Slicer	MALYAN Slicer
Max. heated bed temp	100℃
Max. extruder temp	240℃
Power off detection	Yes
Filament Sensor	Yes
Printing speed	＜180mm/s, normally 30-60mm/s
Language	English
Outer box size	670*505*510mm
Total power	350W
Power supply specification	Input：100-120/220-240V 50/60HZ Output:12V 29.5A
Operating system	Windows / Linux / Mac

VI. Install Parts and Cable Connection

Check whether the X,Y,Z motor cable is connected

X
Y
Z

Check whether the Filament Sensor cable is connected

Connect Power Cable

Install the Spool Holder

Navigate the Menu

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   50
Target:200   Target:50
Nozzle   Bed   Start Preheat   Back

Prepare - - -▸ Layer test
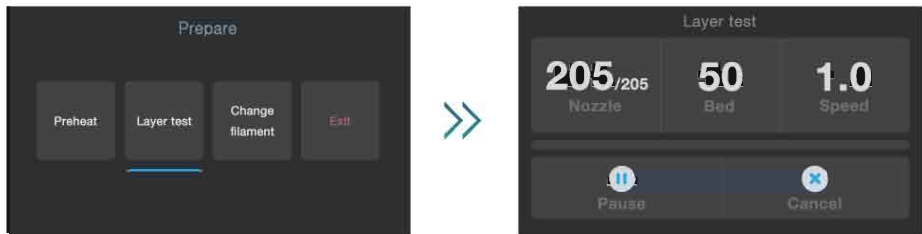
Prepare - - -▸ Change Filament
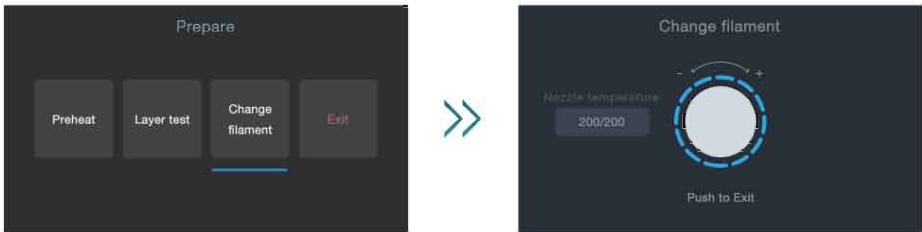
Move - - -▸ Axis Control & Home
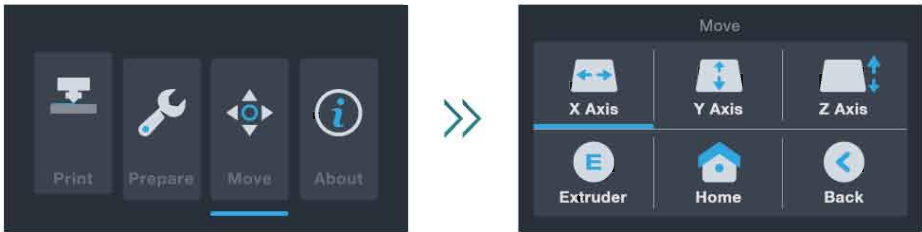
About - - -▸ Machine Information

VII. Load Filament

Feeding handle
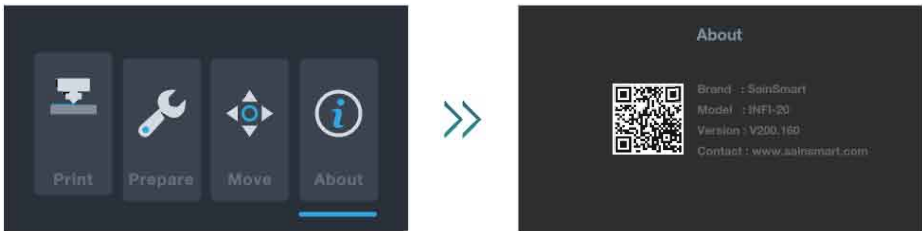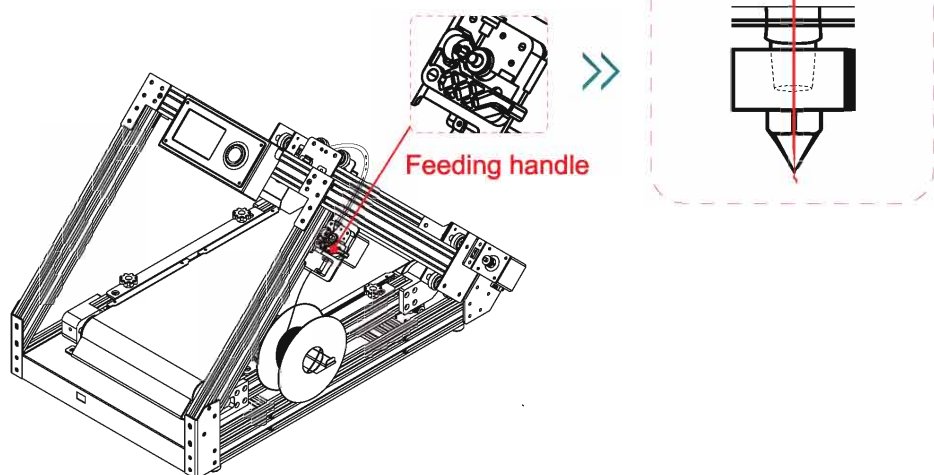
Step 1. Navigate to **PREHEAT** in the Menu and set your nozzle temperature and bed temp to the appropriate settings for your filament.

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 the 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.

VIII. 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.
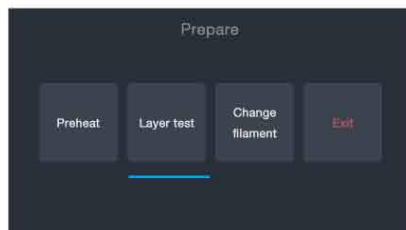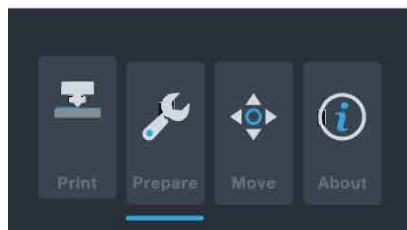
2. Adjust the height of your belt

Step 1. Navigate to your Home Menu

Step 2. Select **PREHEAT** with a **LONG PRESS** (Press and Hold) this will initialize Belt Leveling.

Step 3. Adjust the height of your belt as the nozzle moves per the leveling process

Platform Adjustment Nuts
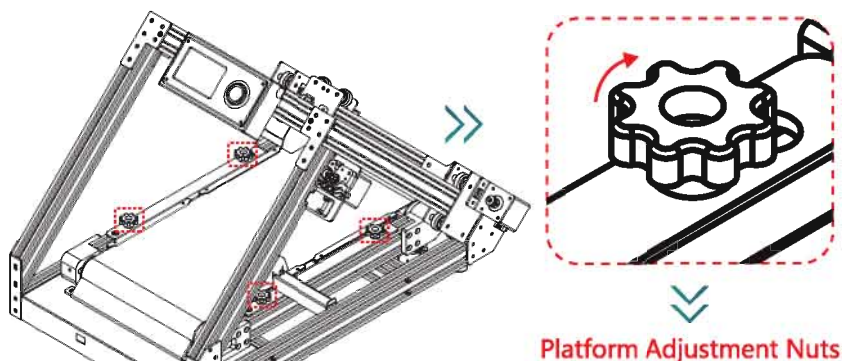
Counter Clockwise to **"RAISE"** the platform
Clockwise to **"LOWER"** the platform

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.
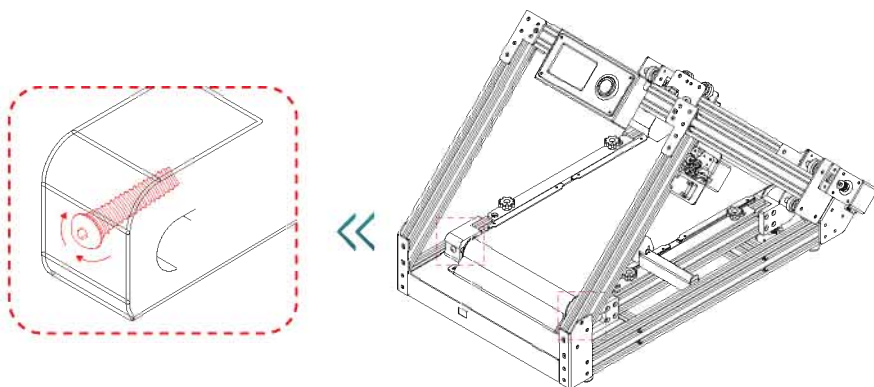
4. Home the printer and adjust the screws in the Y-axis limit switch to make sure a proper distance between the nozzle and the platform.
   (Use the 0.1mm feeler gauge to assist)
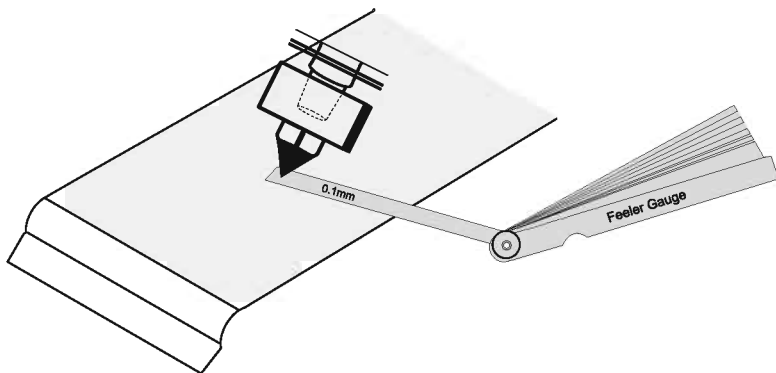
5. To make sure the nozzle is at the correct height above the platform:
   First, loosen the four screws at the endstop, then turn the bottom screw to adjust the height of the endstop, turn clockwise to move the nozzle closer to the platform and vice versa. Adjust the nozzle height by small degree to 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 four screws on the Y-limit switch now.

① Y-axis limit fixing screw
② Y-axis limit adjusting screw
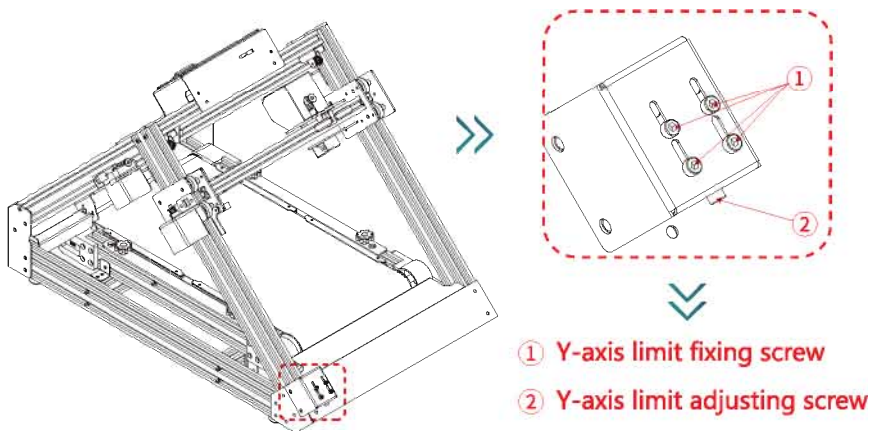
6. Turn the four platform adjustment nuts counterclockwise to lift the platform. All 4 nuts should be adjusted, each rotation should be less than 180º (Half a turn). Use the feeler gauge to test the distance between the nozzle and the platform.

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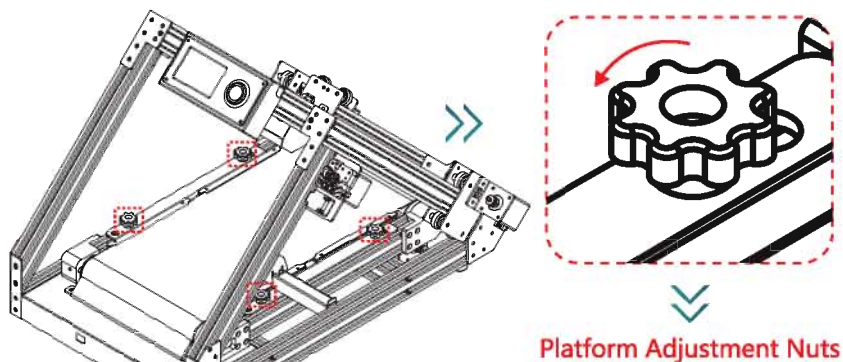
7. Check the leveling again with the "layer test" function, if you still find the nozzle is too far from the platform, repeat step 6 until you get a satisfactory extrusion result.

⚠ Sketch Map

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

IX. Priting Your Own Models

1.Installing Software

① Check your accessories box for the included SD Card.

② Install the Malyan Belt 3D Printer Slicer Software.

③ Import the Included Machine and Filament Print Profiles
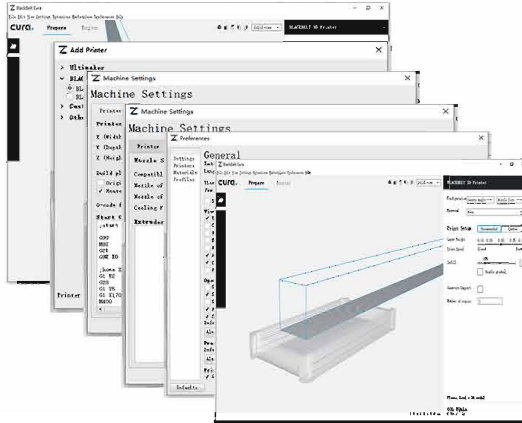
2.Print from SD Card

① Copy the gcode file generated to memory card.

② Insert 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.
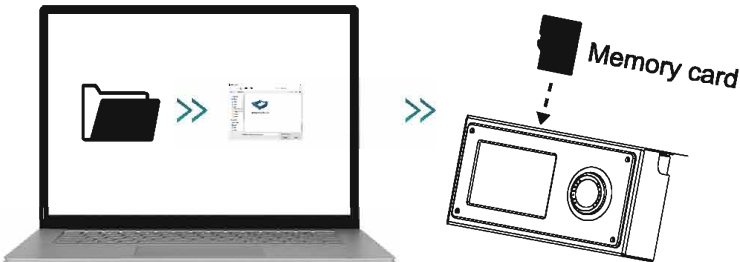
X. WiFi Configuration

Setup WIFI to configure multiple machines over your network for easy management.

1. Create a text file and insert the following:

M550 + space + user name   M550 <SSID>   Save as "wifi.gcode" and
M551 + space + password   >>   M551 <Password>   >>   copy to the root directory
M553   M553   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
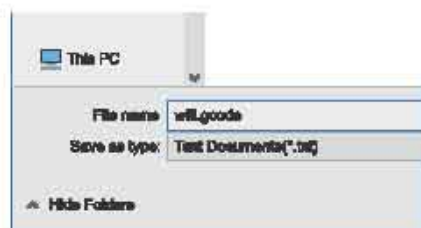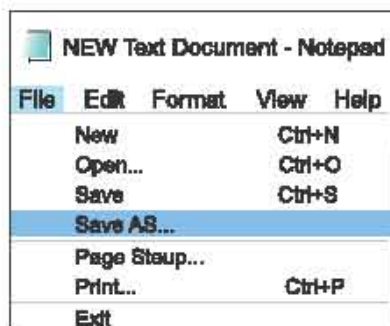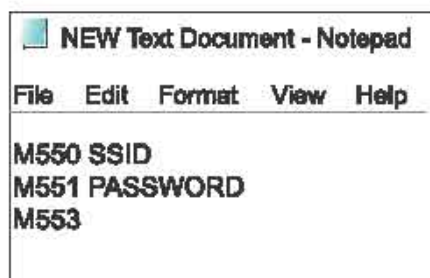
WiFi.gcode

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.
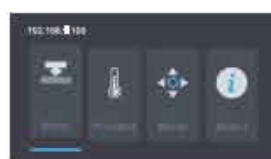
3. Open the browser, navigate to the IP address displayed.
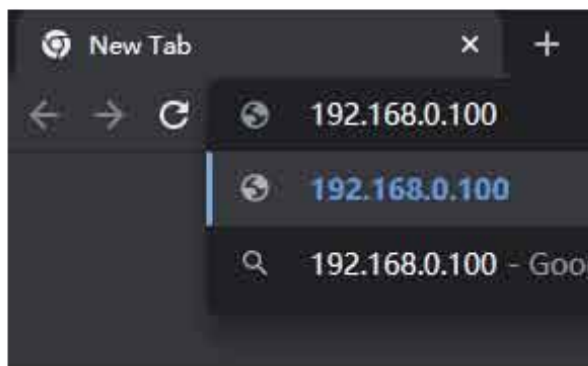
Notes: If no IP address is displayed,
1. Please repeat step
2. Make sure the password you entered is correct.
3. Make sure you have a stable wifi connection.

XI. Troubleshooting

Fault diagnosis

Cause of failure

start — N → Memory card → 1. Wipe the memory card / 2. Format the memory card / 3. Replace the memory card

Printed by memory card

Document identification — N → File name → 1. file name is modified to English and digital formats

Y/N — Y → Printing garbled code — Y → Whether other documents print normally — Y → slices → 1. Move the model position and slice again / 2. Repair the software model

Return "Home"

Y/N — N → Exercise or not — N → Shaft motor → 1. Check the motor / circuit / 2. Check with replacement method

Over zero — Y → Limit switch → 1. Check the circuit / 2. Replace the limit switch

Hot bed heating

Y/N — N → Hot bed is No heating — N → Hot bed → 1. Check the circuit / 2. Replace the hot bed

Temperature condition — N → Thermistor → 1. Check the circuit / 2. Replace the thermistor

Nozzle heating

Y/N — N → The nozzle is No heating — N → Heating tube → 1. Check the circuit / 2. replace the heating pipe

Temperature condition — N → Thermistor → 1. Check the circuit / 2. Replace the thermistor

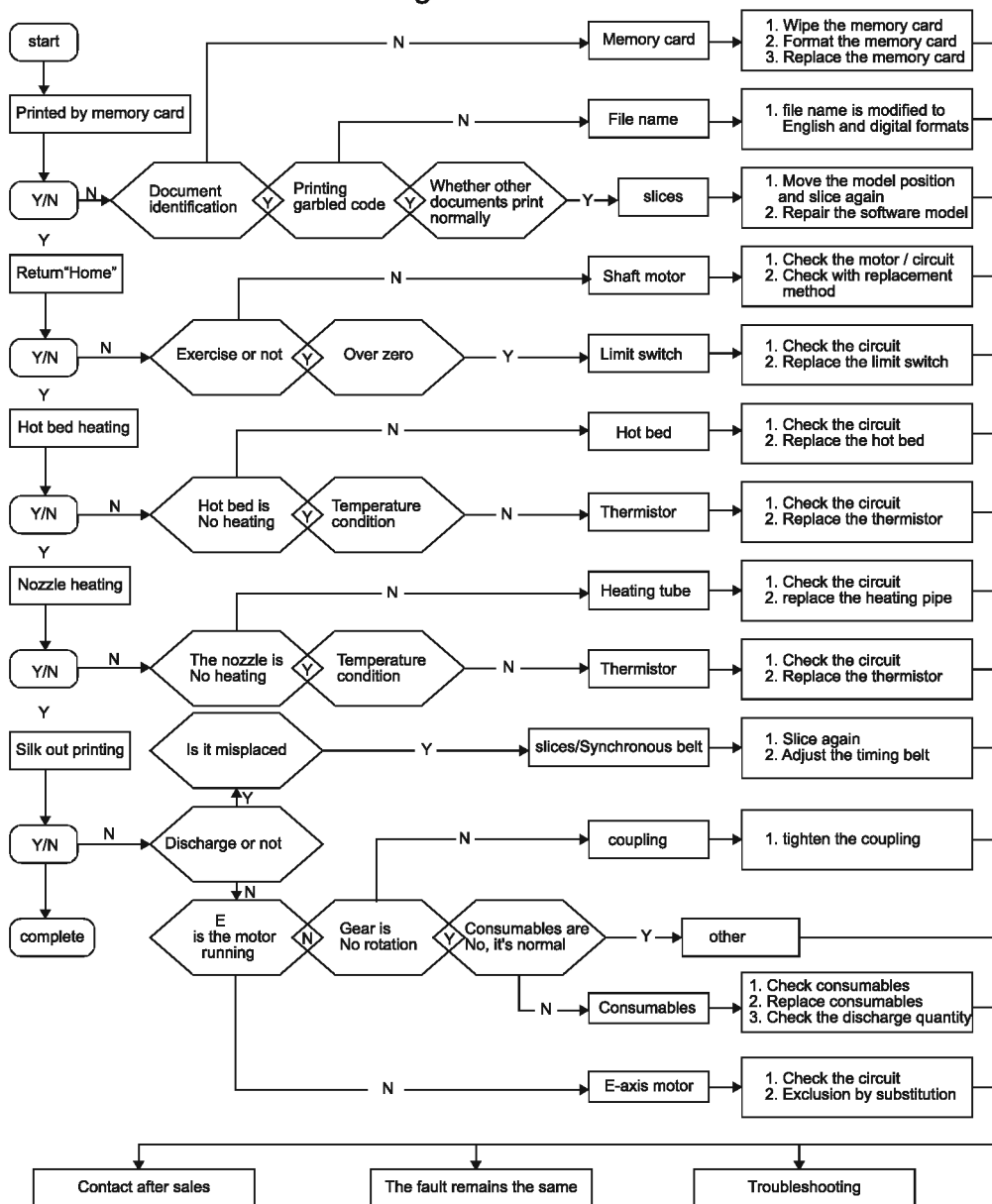Silk out printing

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 motor running — N → Gear is No rotation — N → Consumables are No, it's normal — Y → other

Consumables → 1. Check consumables / 2. Replace consumables / 3. Check the discharge quantity

complete

E-axis motor → 1. Check the circuit / 2. Exclusion by substitution

Contact after sales | The fault remains the same | Troubleshooting

MALYAN
Realizing Possibility

If you need any assistance,please contact us via;

✉ Email: support@malyansys.com

www.malyansys.com

No. 5, Huapu Road, Xiangcheng District,
Zhangzhou City, Fujian Province

FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
 -Reorient or relocate the receiving antenna.
 -Increase the separation between the equipment and receiver.
 -Connect the equipment into an outlet on a circuit different from that to
 which the receiver is connected.
 -Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
This equipment should be installed and operated with minimum distance 20cm etween the radiator & your body.