U20 Plus instruction manual

Alfawise

目录

Safety Precautions

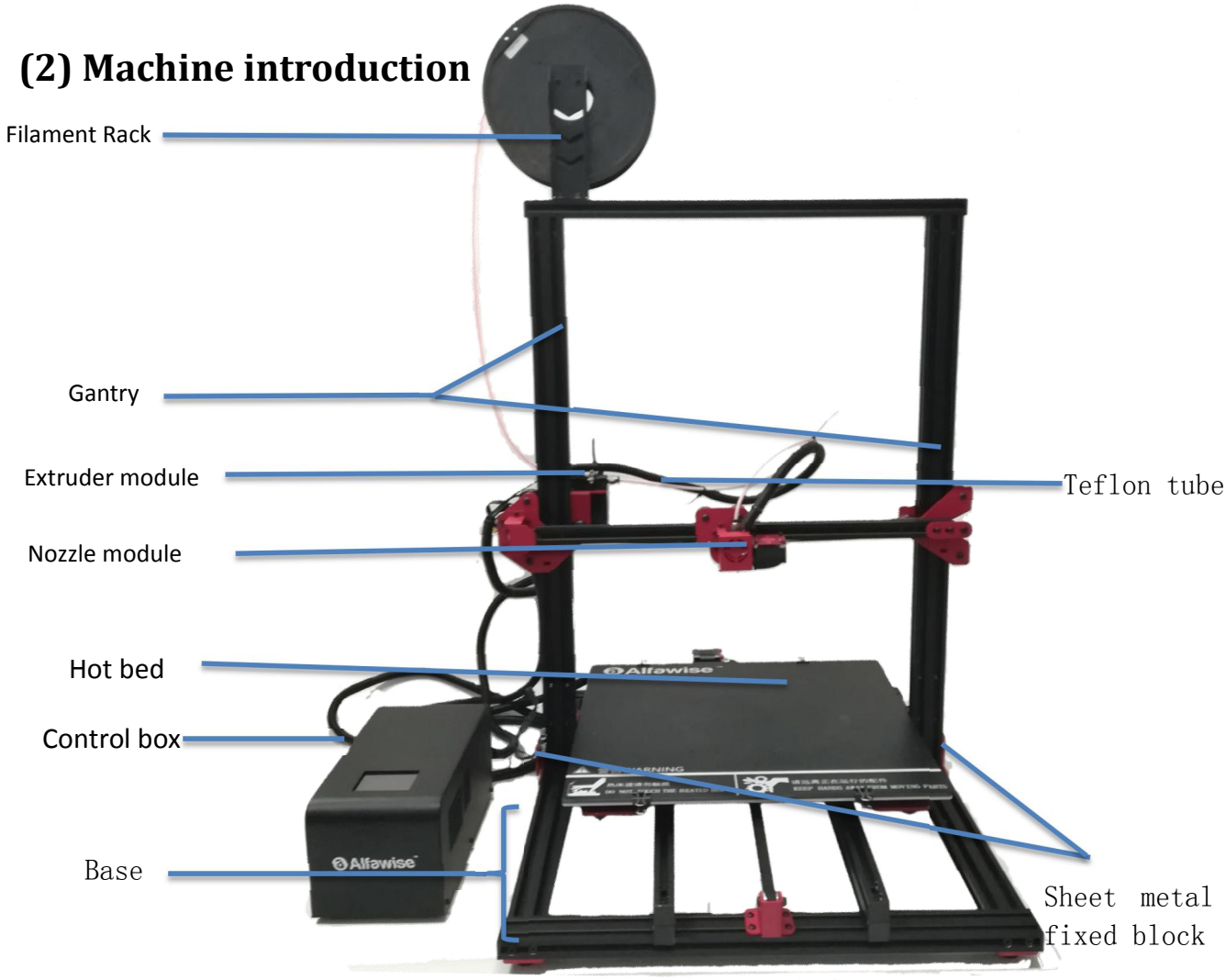
1) The temperature of the nozzle parts can reach 250° C during the operation of the machine. To ensure your safety, it is forbidden to touch the model and nozzle directly with your hand while the printer is printing or cooling.
2) During the operation of the machine, it is forbidden to reach into the machine to prevent pinching.
3) The working voltage is 110~220V AC voltage 50HZ AC. The three-pin socket must be grounded. Do not use other power sources to avoid damage to components or fire, electric shock and other accidents.
Note: Before powering on, please check whether the input voltage value of the switching power supply meets the voltage standard of the country or region.
4) When the machine is working continuously for ≥ 96 hours, it should be stopped for 1-3 hours.
Consumables
Consumables are not used after unpacking or for a long period of time after the print model is completed. The consumables should be taken out of the printer and sealed to prevent the consumables from being exposed to the air for a long time, causing moisture and affecting the print quality. At the same time, when the consumables are removed The front end of the consumable should be fixed on the tray to avoid consumables and affect the next print.
To use this printer, it is recommended to use the supplies provided by the company. At present, the quality of consumables sold in the retail market is uneven, and printing is prone to breakage.
Staggering and clogging the printer nozzle, etc., and irreversible damage to the heating components of the nozzle, the extrusion motor and the extrusion gear. The company will not guarantee the printer due to the use of consumables other than our company.
Environmental requirements
Temperature requirement: 10° C ~ 30° C, humidity requirement: 20%~50%, within this range, the 3D printer can work normally; beyond this range, this 3D printer will unable to achieve the best print results.

A. product information

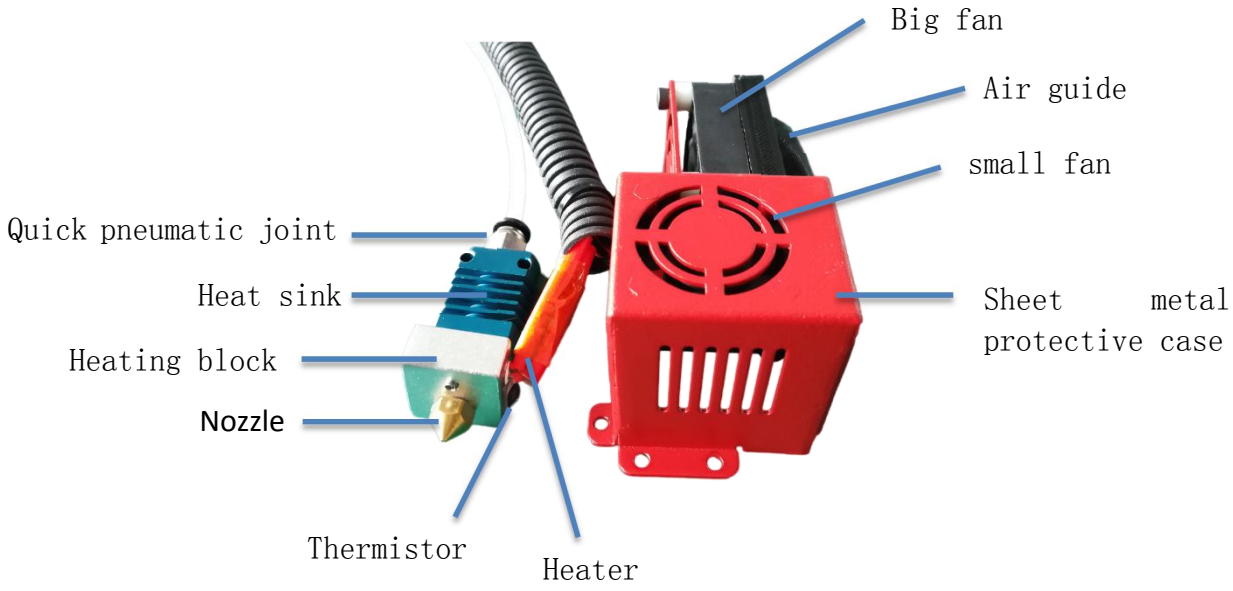
(1) Model parameter

Model parameter model	U20 Plus	Machine size	575*688*740mm
Frame	Classic aluminum frame	Machine weight	14.1KG
Molding Process	FDM	Kit Package Size	740*621*290mm
Number of nozzles	1	Weight after packaging	18.6kg
Molding size	400*400*500mm	Power requirements	Output 24V
Layer thickness	0.1-0.4mm(adjustable)	Operating system	Windows,Linux,MAC
Memory card offline printing	Support TF card	Interface language	English
LCD screen	Yes	environmental requirements	Temperature 10-30 ℃ Humidity 20-50%
Printing speed	≤90mm/s(30-60mm/s recommended)	Nozzle temperature	Room temperature to 250° C
Nozzle diameter	0.4mm	hot bed	Yes
Slicing software	Cura, repetier-host	Support filament	PLA, ABS, wood
File format	STL, G-Code, OBJ	filament diameter	1.75mm
filament color	Multi-color optional		

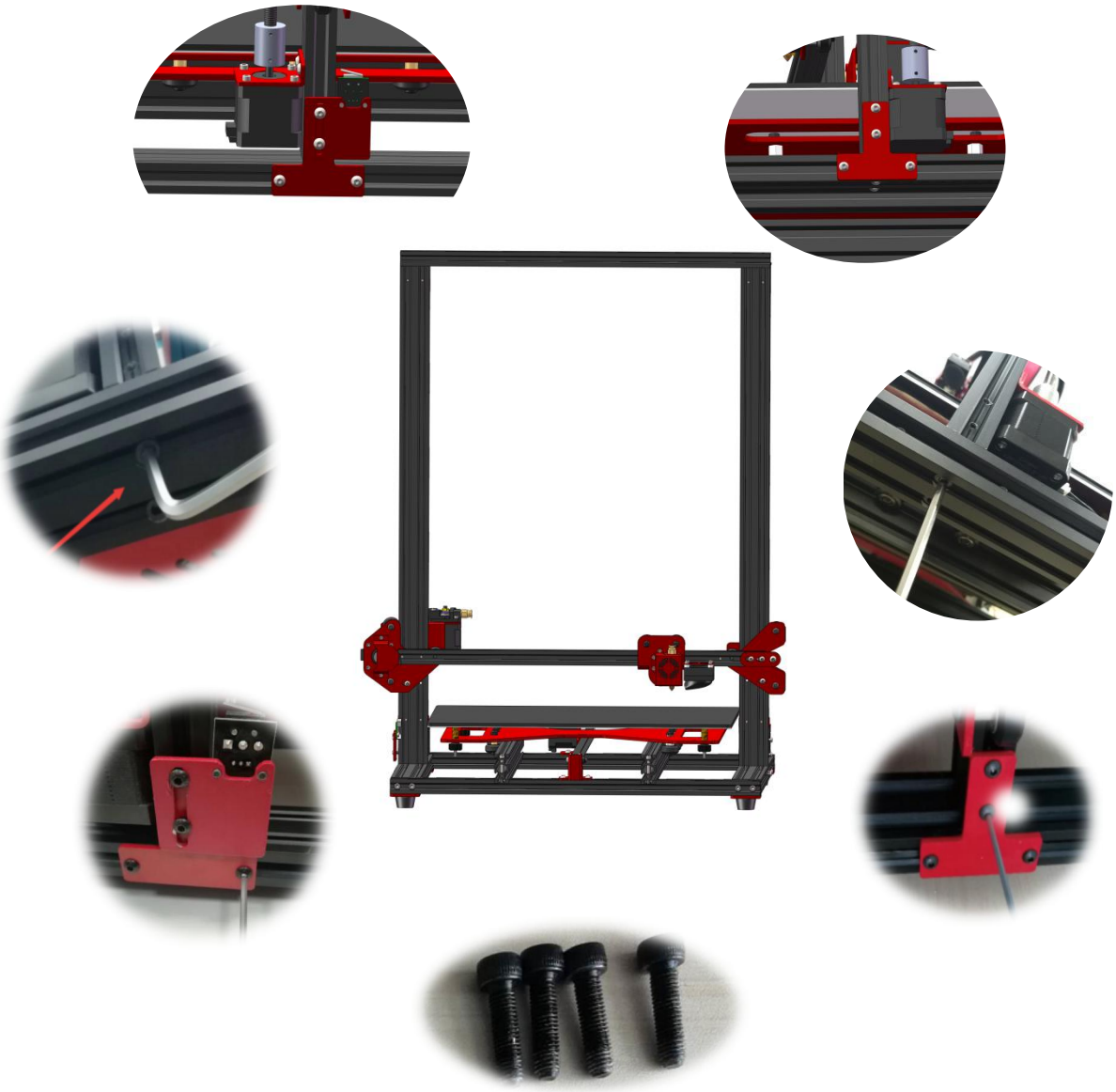
(2) Machine introduction



(3) Nozzle module exploded view



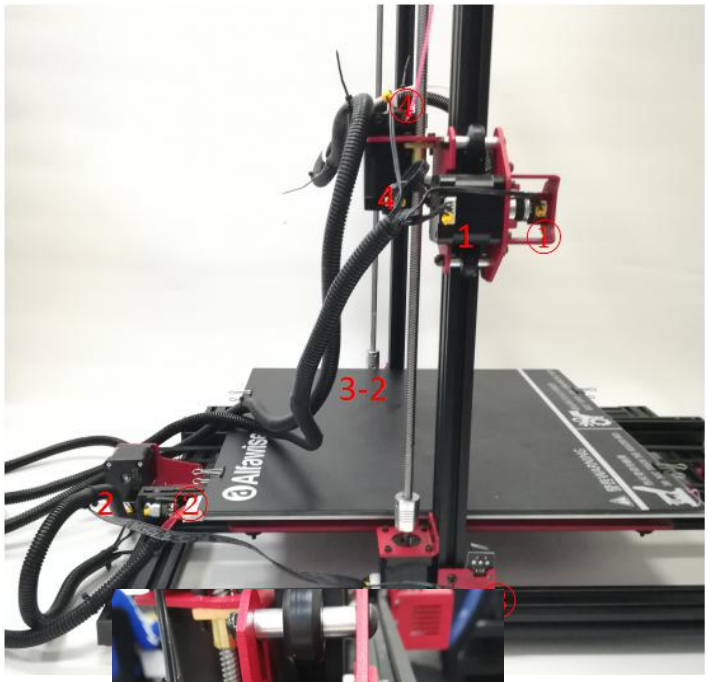
(4) Machine assembly

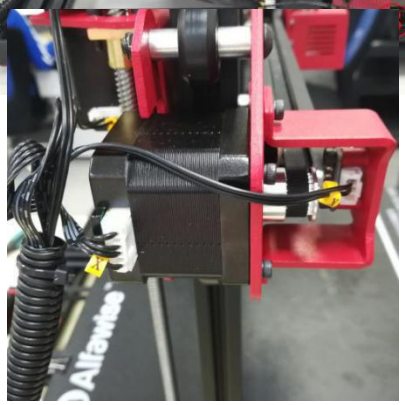


Gantry and base, M5*20 screw limit block and profile, M4*18 screw

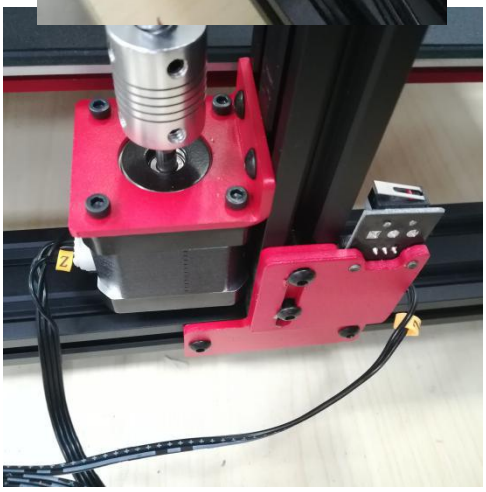
1.Rack installation

2.wiring

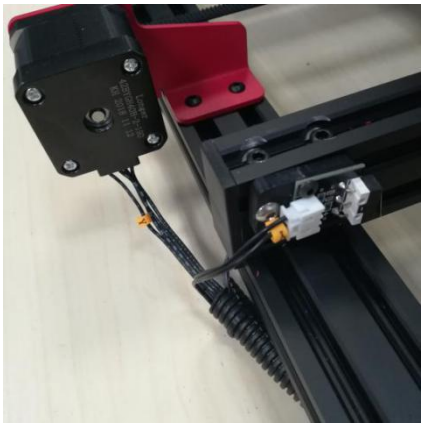




1



3-1



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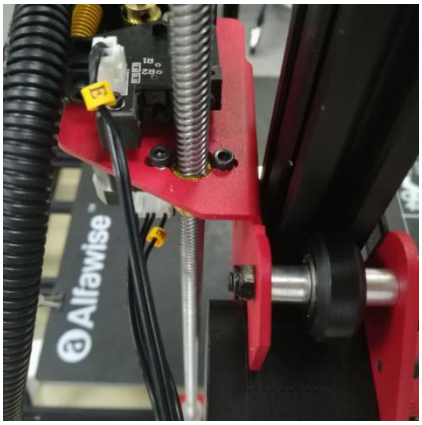


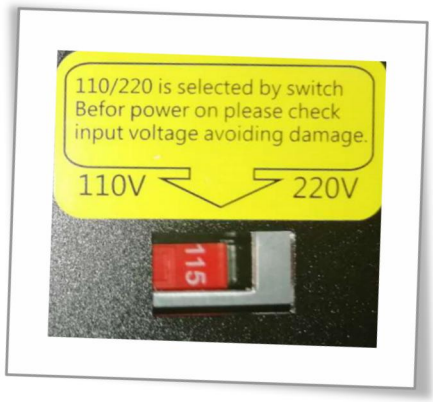
4

1: X-axis motor 2: Y-axis motor 3-1: Z-axis right motor 3-2: Z-axis left motor 4: E-axis extrusion motor

① X-axis limit switch②：Y-axis limit switch③： Z-axis limit switch ④：E-axis break detection switch

3.Power regulation

If the access voltage is 220V, please adjust the power supply in the control box to 220V, please be sure to confirm before powering on. Otherwise it will burn the power



If the access voltage is 110V, please adjust the power supply in the control box to 110V, please be sure to confirm before powering on. Otherwise it will burn the power

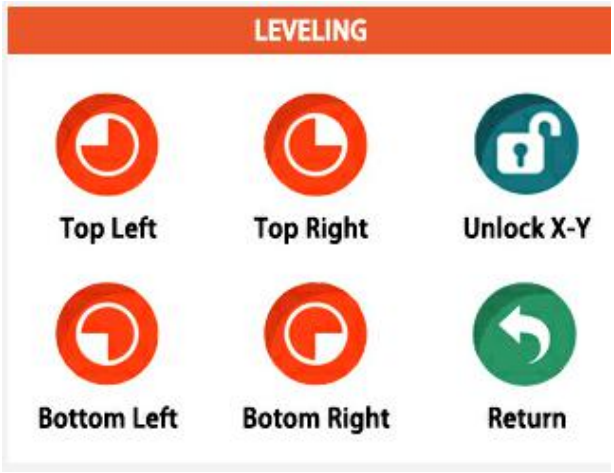
4. Pre-use inspection and leveling

shake the hot bed and the nozzle by hand to see if there is any gap or sway. If there is any shaking, you can use an open-end wrench to screw the hexagonal sleeve on the corresponding pulley, which can adjust the tightness of the hot bed and the nozzle.

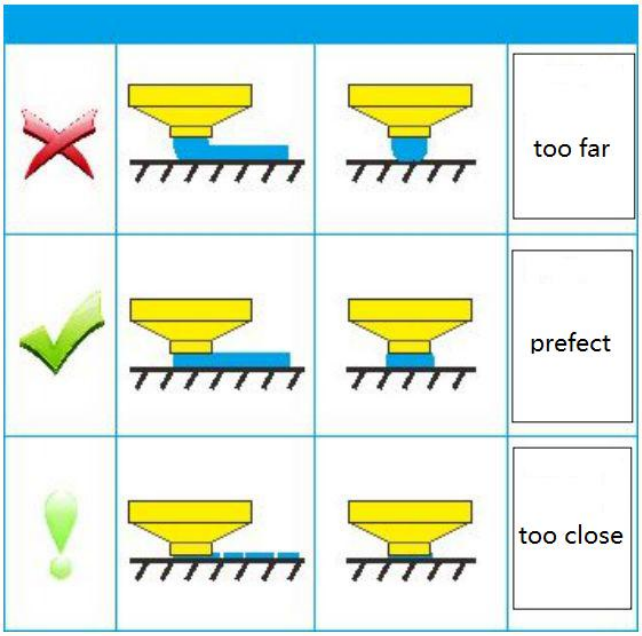
Tip: After the machine is assembled, please arrange the cable and move the three-axis motion by hand to see if it affects the movement and the jamming phenomenon.

5. Leveling method

You can manually click the XY zero and Z zero in the Movement interface, then unlock, manually move the hot bed and the nozzle, and then adjust the leveling nut so that the distance from the nozzle to the hot bed is about one A4 paper thickness。

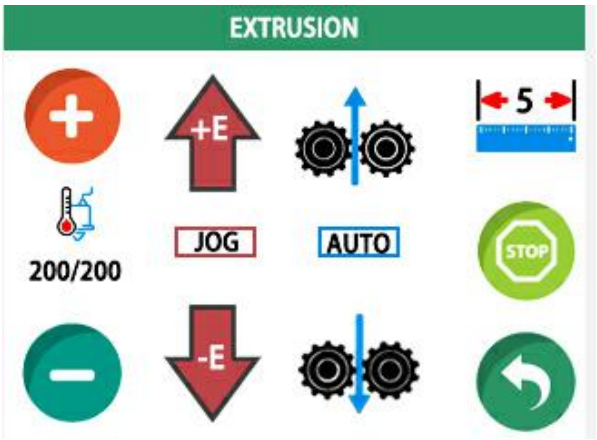


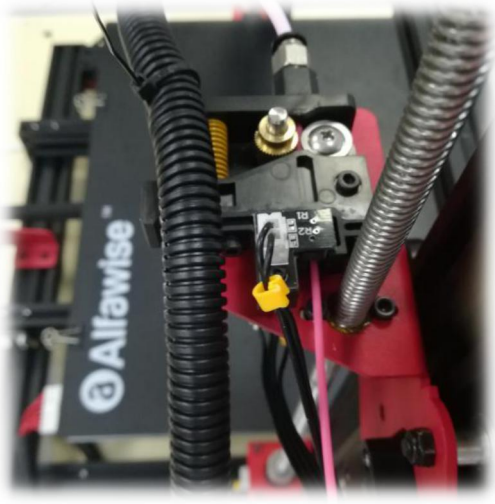
Turn on the machine, click the levelling button, click the four buttons in turn, the nozzle will move to the corresponding position correspondingly. After waiting to move to the corresponding position, you can manually adjust the hand nut to adjust the distance between the nozzle and the hot bed to approximately one A4. Thicken the paper, tighten the screw [tighten counterclockwise], and increase the distance between the heating plate and the nozzle. Loosen the screw [screw in the clockwise direction] and the heating plate will be close to the nozzle. Adjust the other three points in turn to complete the leveling.



Click the E+ button, the temperature can be automatically set to 200 degrees, wait for the temperature to reach the target temperature, click, AUTO FEED IN button, sustainable feeding, at this time, the end of the consumables is sent to the feeding mechanism, waiting for the consumables to be extruded from the nozzle, click Stop the extrusion with the stop button in the middle. At this point, you can click the Files icon, click on the file, and print the file.

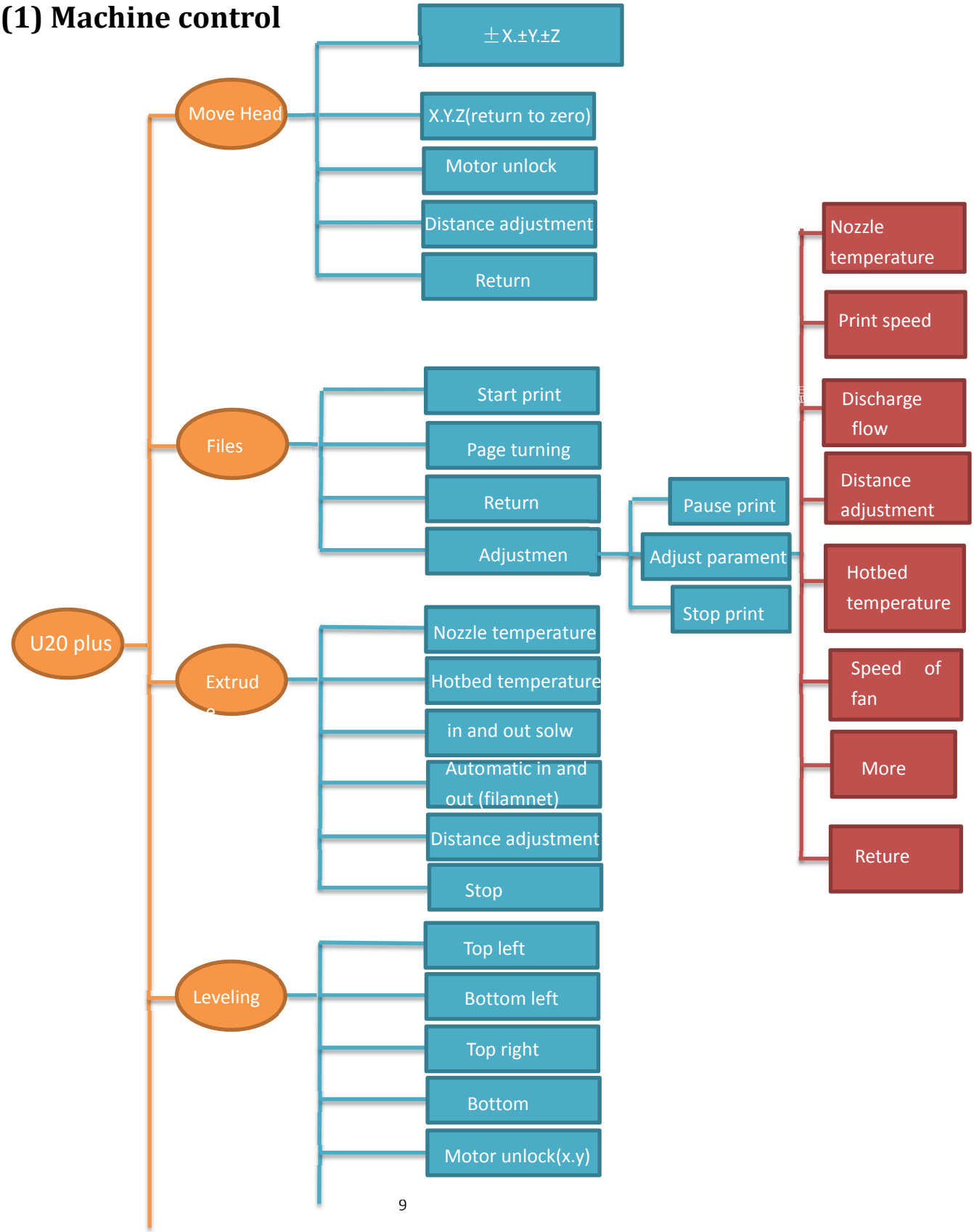
6. Place filament, feed

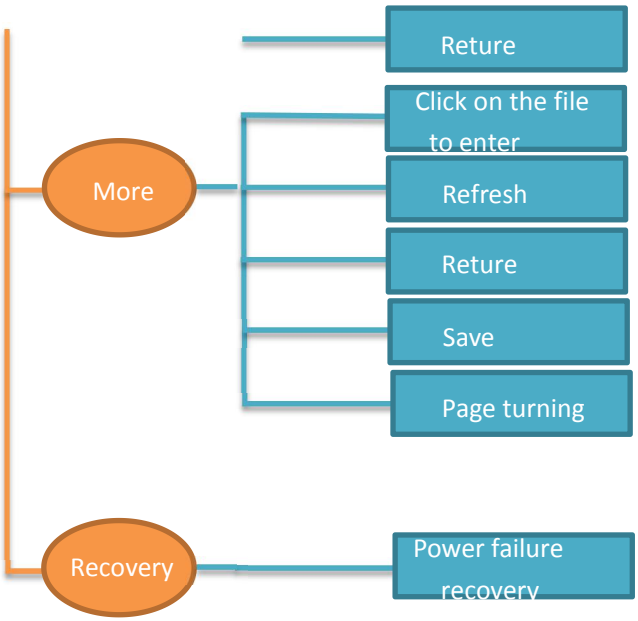




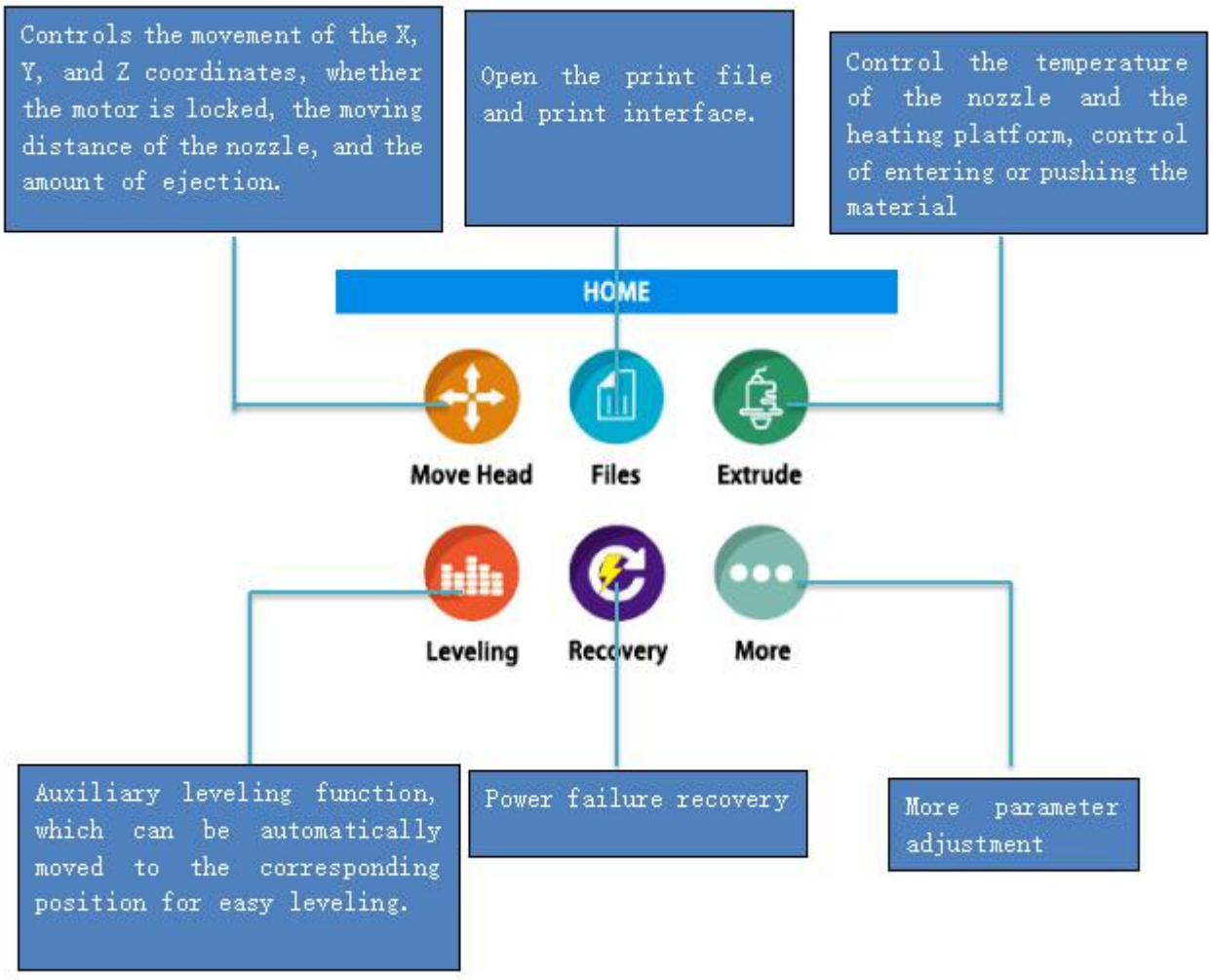
B. Machine operation

(1) Machine control



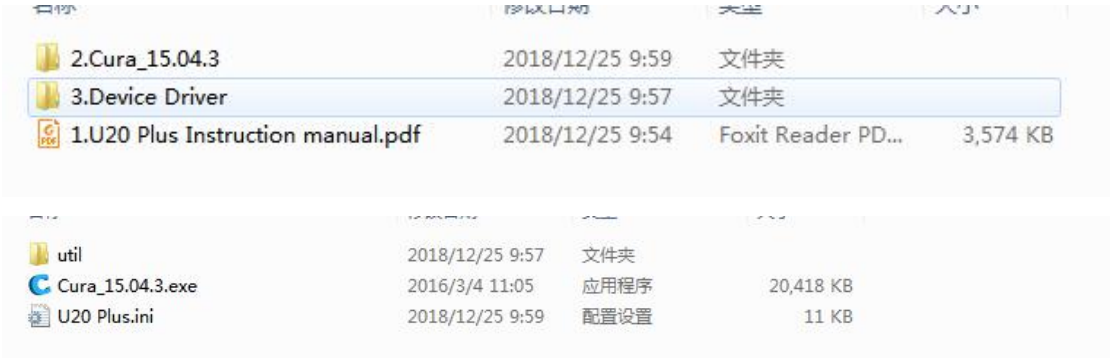


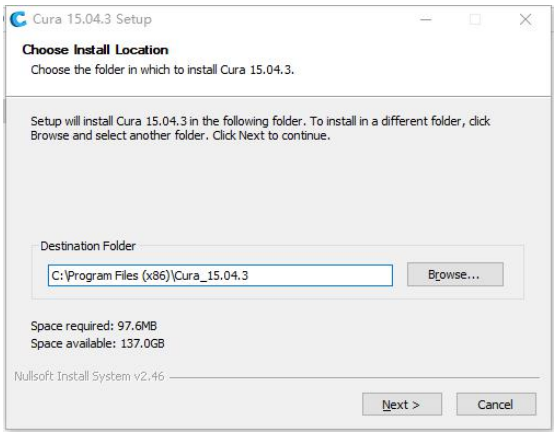
(2) Main interface

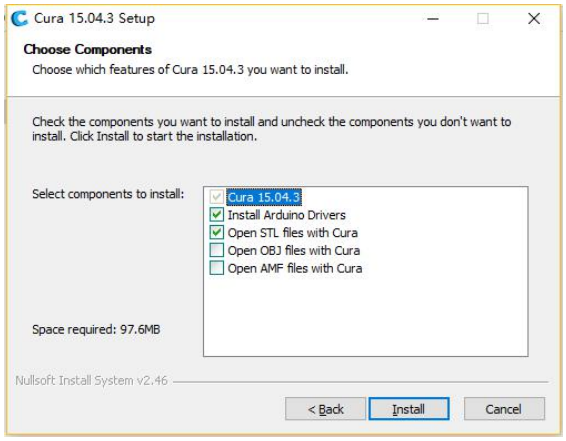


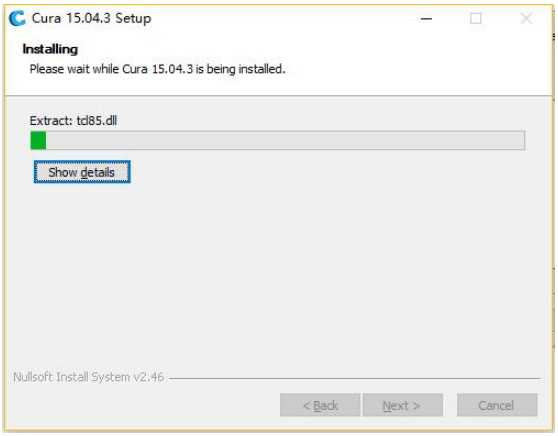
C. Installation and use of CURA

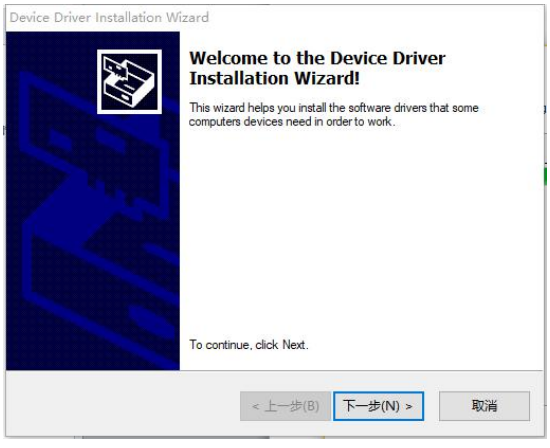
(1) Installation of CURA

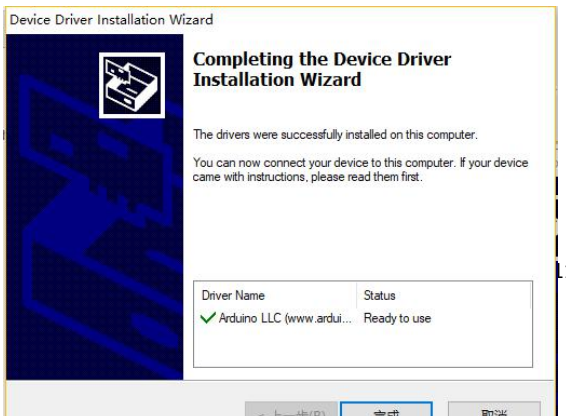


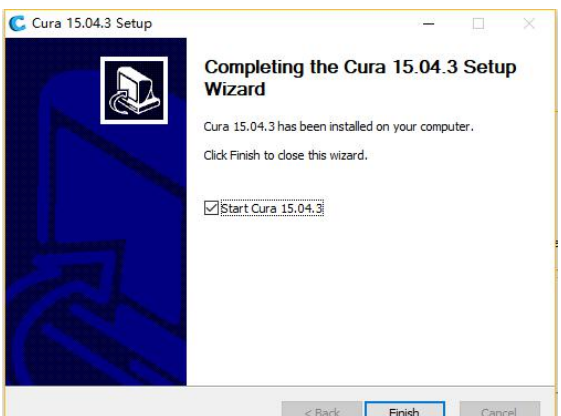


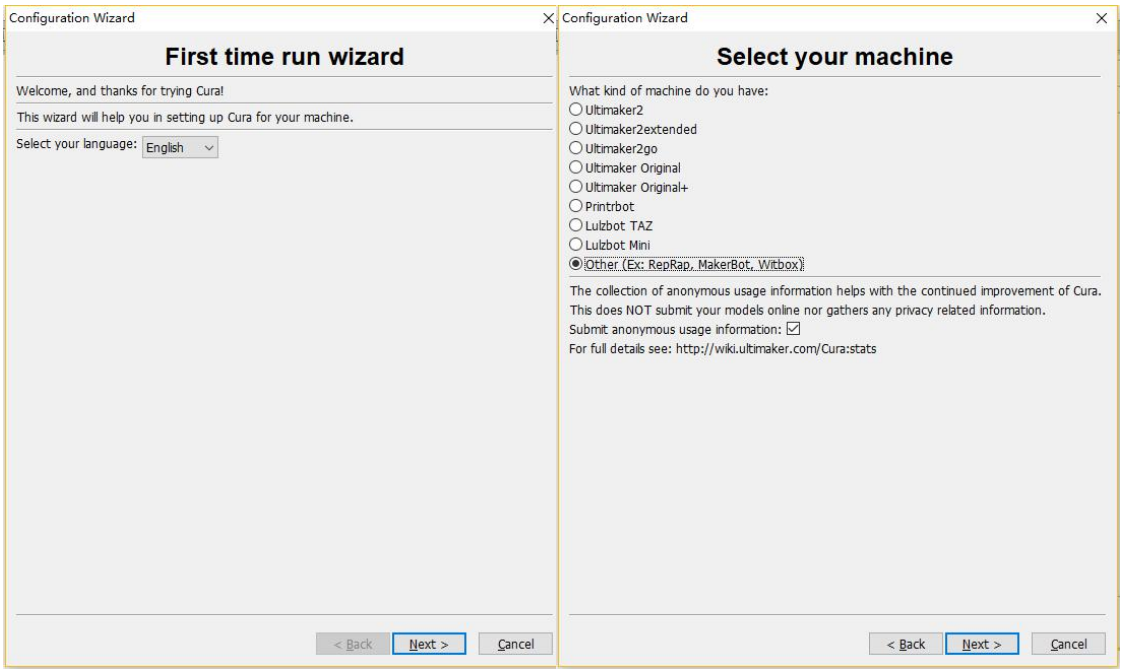


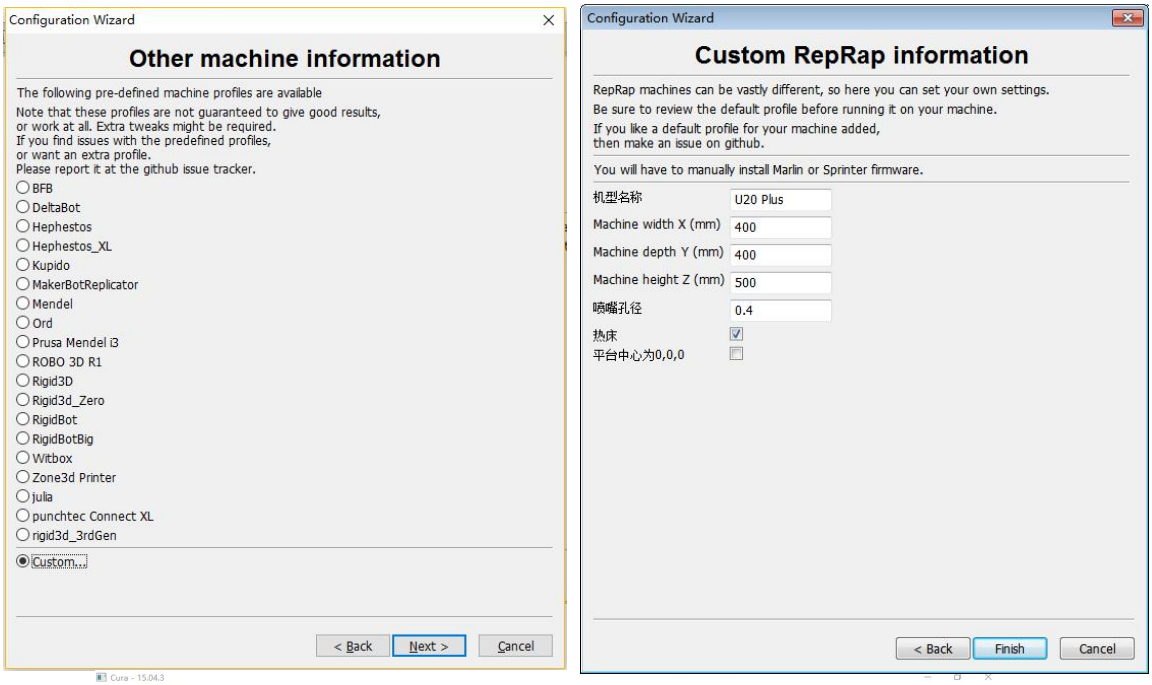


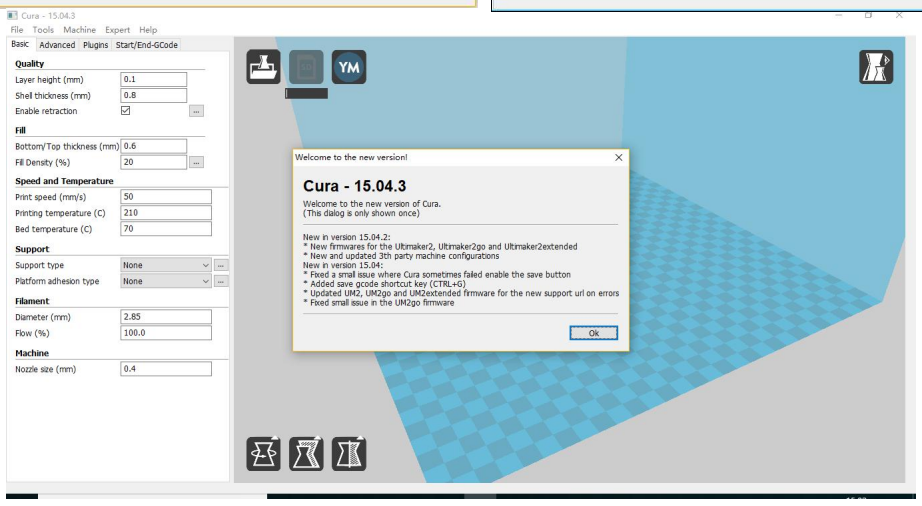


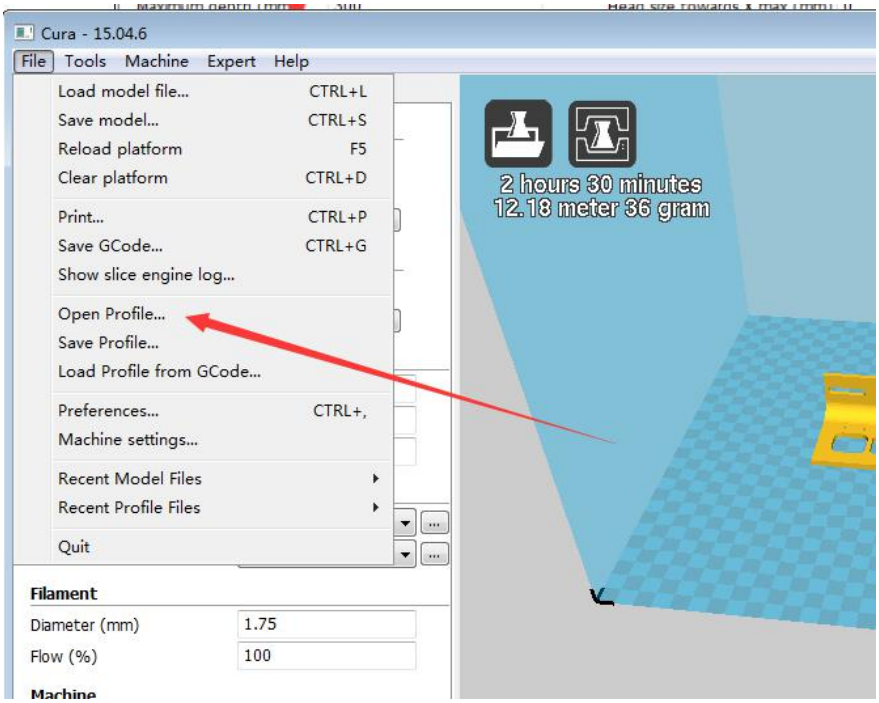


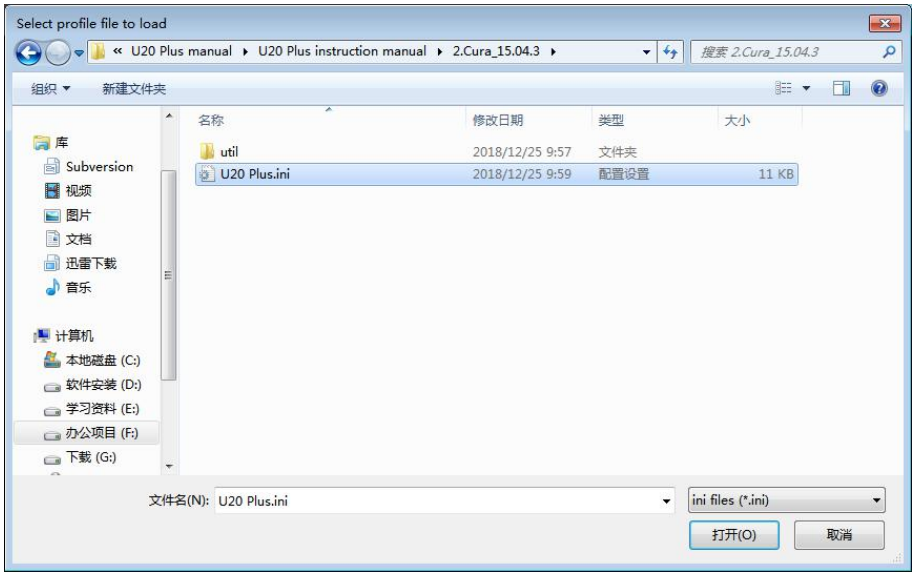


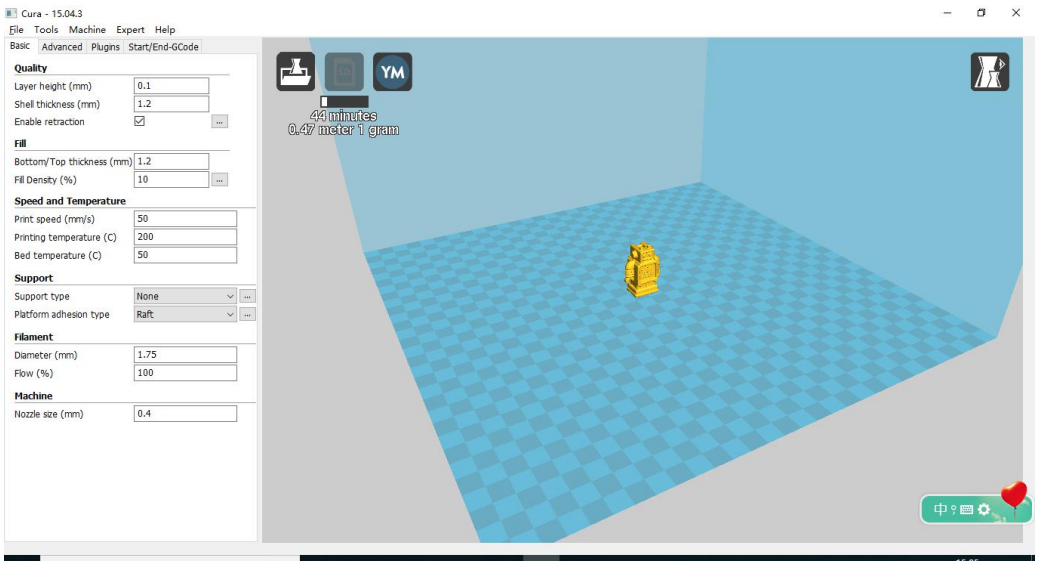

Configuration Wizard
First time run wizard
Welcome, and thanks for trying Cura!
This wizard will help you in setting up Cura for your machine.
Select your language: English
< Back
Next >
Cancel
Configuration Wizard
Select your machine
What kind of machine do you have:
Ultimaker2
Ultimaker2extended
Ultimaker2go
Ultimaker Original
Ultimaker Original+
Printrbot
Lulzbot TAZ
Lulzbot Mini
Other (Ex: RepRap, MakerBot, Witbox)
The collection of anonymous usage information helps with the continued improvement of Cura.
This does NOT submit your models online nor gathers any privacy related information.
Submit anonymous usage information:
For full details see: http://wiki.ultimaker.com/Cura:stats
< Back
Next >
Cancel


Configuration Wizard
Other machine information
The following pre-defined machine profiles are available
Note that these profiles are not guaranteed to give good results,
or work at all. Extra tweaks might be required.
If you find issues with the predefined profiles,
or want an extra profile.
Please report it at the github issue tracker.
BFB
DeltaBot
Hephestos
Hephestos_XL
Kupido
MakerBotReplicator
Mendel
Ord
Prusa Mendel i3
ROBO 3D R1
Rigid3D
Rigid3d_Zero
RigidBot
RigidBotBig
Witbox
Zone3d Printer
julia
punchtec Connect XL
rigid3d_3rdGen
Custom...
< Back
Next >
Cancel
Configuration Wizard
Custom RepRap information
RepRap machines can be vastly different, so here you can set your own settings.
Be sure to review the default profile before running it on your machine.
If you like a default profile for your machine added,
then make an issue on github.
You will have to manually install Marlin or Sprinter firmware.
机型名称
U20 Plus
Machine width X (mm)
400
Machine depth Y (mm)
400
Machine height Z (mm)
500
喷嘴孔径
0.4
热床
平台中心为0,0,0
< Back
Finish
Cancel

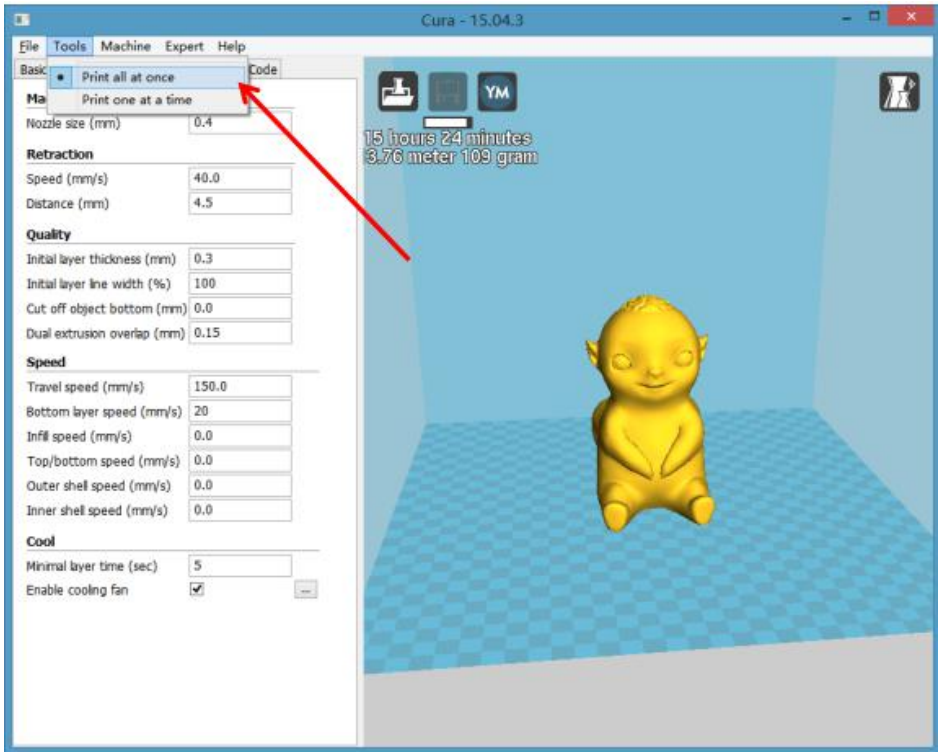

Cura - 15.04.3
File Tools Machine Expert Help
Basic Advanced Plugins Start/End-GCode
Quality
Layer height (mm) 0.1
Shell thickness (mm) 0.8
Enable retraction
Fill
Bottom/Top thickness (mm) 0.6
Fill Density (%) 20
Speed and Temperature
Print speed (mm/s) 50
Printing temperature (C) 210
Bed temperature (C) 70
Support
Support type None
Platform adhesion type None
Filament
Diameter (mm) 2.85
Flow (%) 100.0
Machine
Nozzle size (mm) 0.4
Welcome to the new version!
Cura - 15.04.3
Welcome to the new version of Cura.
(This dialog is only shown once)
New in version 15.04.2:
* New firmwares for the Ultimaker2, Ultimaker2go and Ultimaker2extended
* New and updated 3th party machine configurations
New in version 15.04:
* Fixed a small issue where Cura sometimes failed enable the save button
* Added save gcode shortcut key (CTRL+G)
* Updated UM2, UM2go and UM2extended firmware for the new support url on errors
* Fixed small issue in the UM2go firmware
Ok

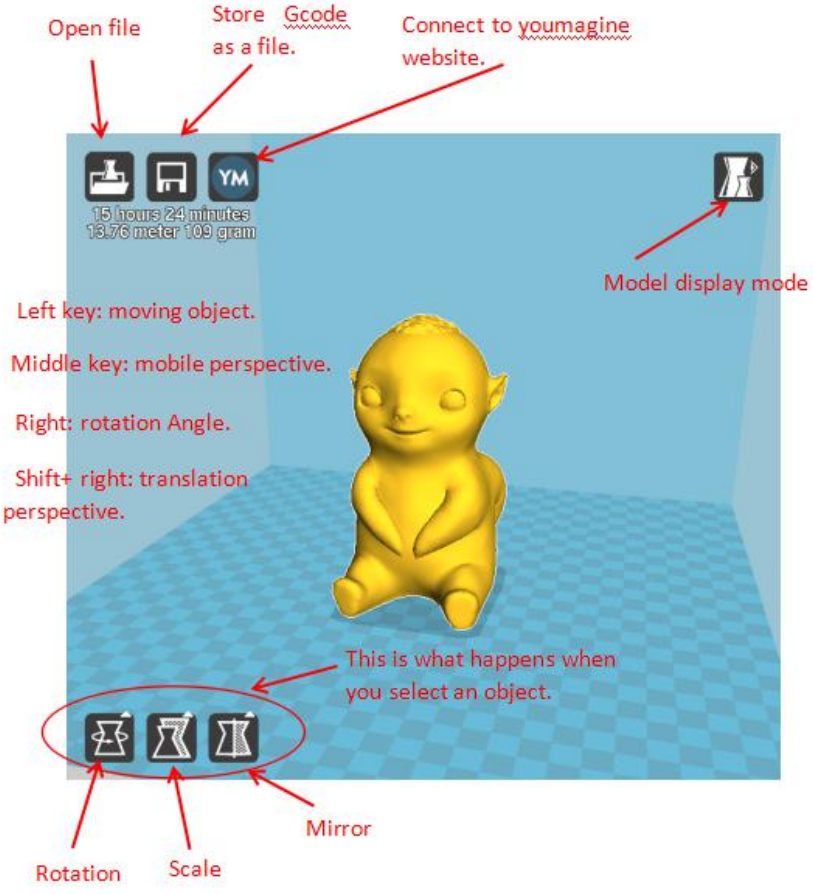

Cura - 15.04.6
File Tools Machine Expert Help
Load model file... CTRL+L
Save model... CTRL+S
Reload platform F5
Clear platform CTRL+D
Print... CTRL+P
Save GCode... CTRL+G
Show slice engine log...
Open Profile...
Save Profile...
Load Profile from GCode...
Preferences... CTRL+,
Machine settings...
Recent Model Files
Recent Profile Files
Quit
Filament
Diameter (mm) 1.75
Flow (%) 100
Machine
2 hours 30 minutes
12.18 meter 36 gram


Select profile file to load
U20 Plus manual ▸ U20 Plus instruction manual ▸ 2.Cura_15.04.3 ▸
搜索 2.Cura_15.04.3
组织 新建文件夹
名称 修改日期 类型 大小
util 2018/12/25 9:57 文件夹
U20 Plus.ini 2018/12/25 9:59 配置设置 11 KB
库
Subversion
视频
图片
文档
迅雷下载
音乐
计算机
本地磁盘 (C:)
软件安装 (D:)
学习资料 (E:)
办公项目 (F:)
下载 (G:)
文件名(N): U20 Plus.ini
ini files (*.ini)
打开(O)
取消

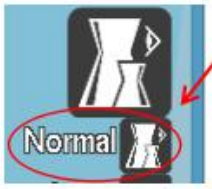

Cura - 15.04.3
File Tools Machine Expert Help
Basic Advanced Plugins Start/End-GCode
Quality
Layer height (mm) 0.1
Shell thickness (mm) 1.2
Enable retraction
Fill
Bottom/Top thickness (mm) 1.2
Fill Density (%) 10
Speed and Temperature
Print speed (mm/s) 50
Printing temperature (C) 200
Bed temperature (C) 50
Support
Support type None
Platform adhesion type Raft
Filament
Diameter (mm) 1.75
Flow (%) 100
Machine
Nozzle size (mm) 0.4
44 minutes
0.47 meter 1 gram

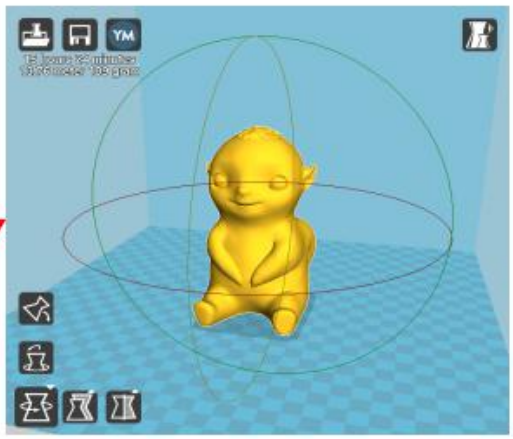
(2)Slice software offline printing instructions





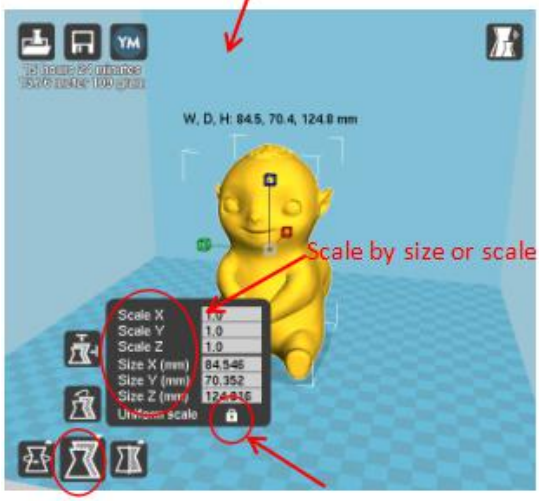
It works under
Normal conditions.





1.Click on the rotating

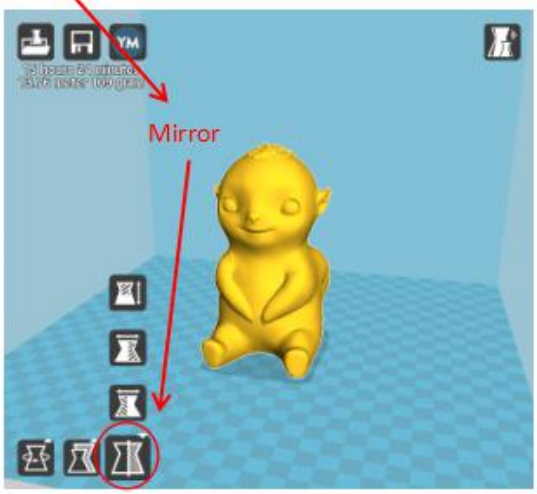
2. Pull the rotation control circle, by default 15 degrees, hold shift and shake the control circle, you can rotate the unit by 1 degree.



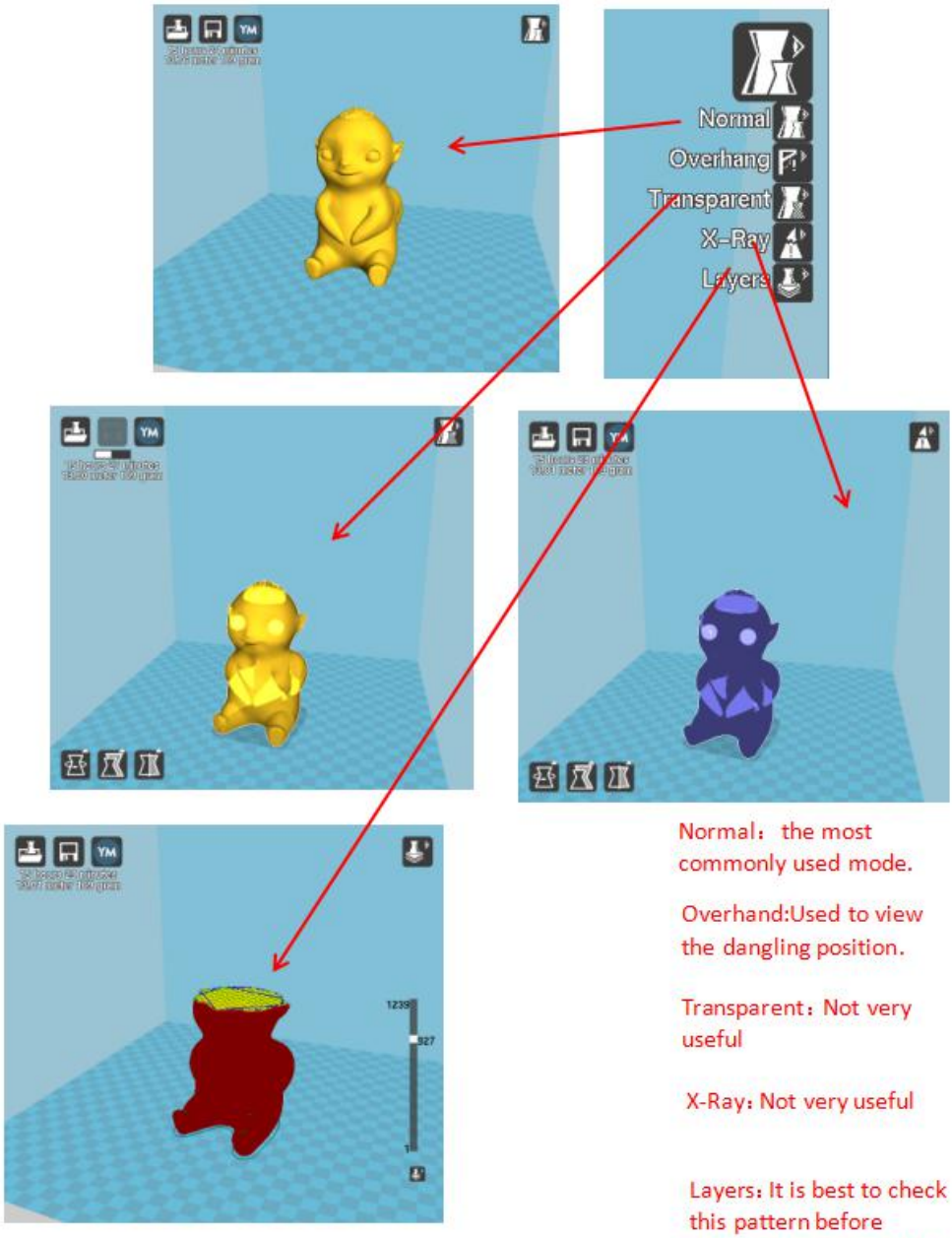
Scale by size or scale

Uniformly scaled size

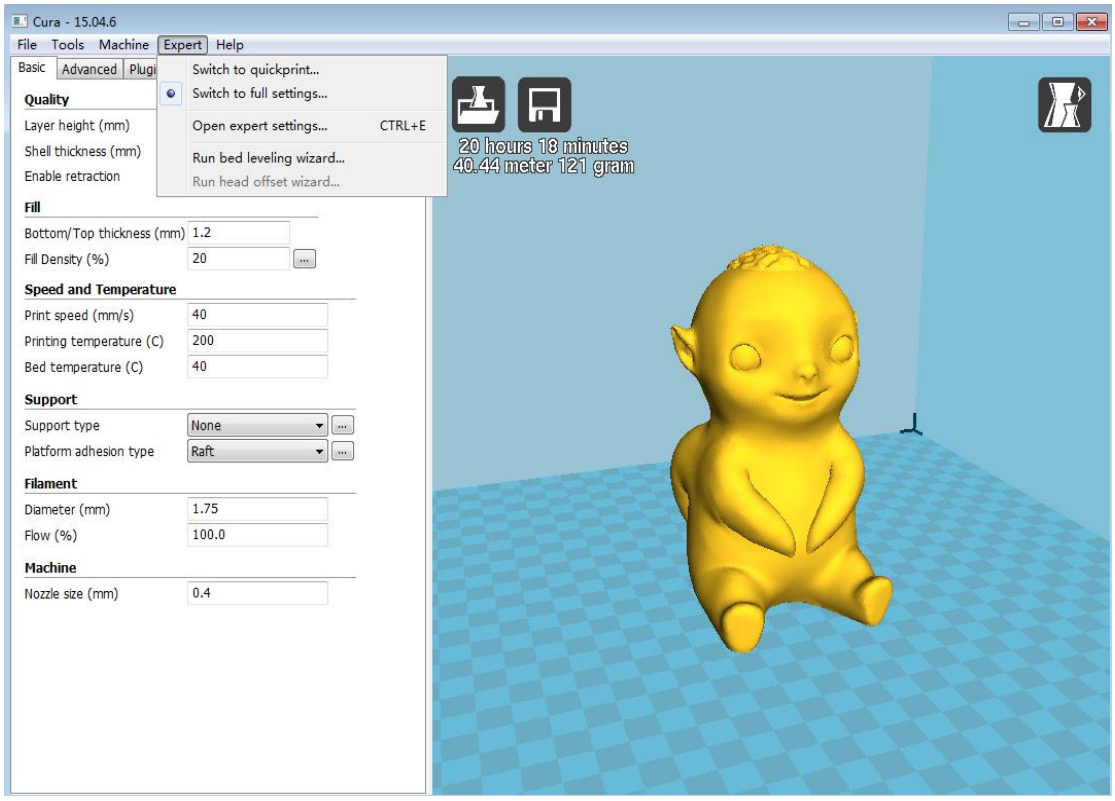
The scale button

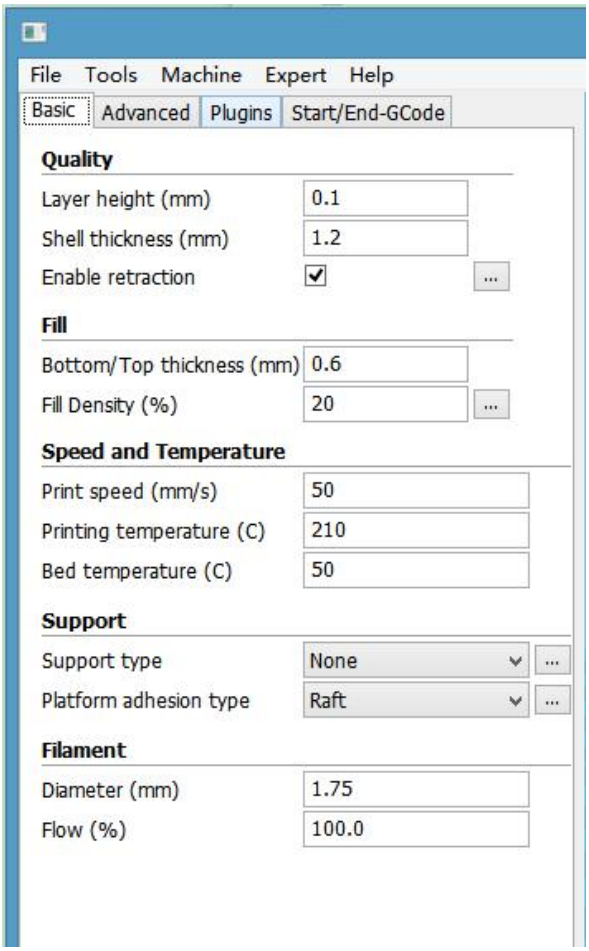


By "File" > Save "<filename>.gcode" (filename is a custom file name, the file name should not be too long). The file name must be English or numeric. It cannot be named as Chinese or special characters. The file must be saved on the SD card. Under the root directory. Save the sliced file to the SD card, insert it into the card slot, turn on the power, and print the steps. Select “Folder” in the main menu of the display, then select the “filename.gcode” file you just saved, and confirm the warm-up. And print



(3) Software parameter setting





Layer height(mm): 0.1~0.4mm, 0.1mm high precision, long printing time, generally 0.2mm, 0.4mm low precision, short printing time.

Shell thickness: set to 0.4mm is very thin, generally set to 1.2 high will be firm, printing time will increase.

Enable retraction: Rewinding is to prevent the silk from leaking out when printing quickly, otherwise it will affect the appearance.

Bottom/top thickness: In order to make the top layer print more perfect, the bottom layer is flat.

Fill Density(%): If the strength is not high, 20% can be used; if the intensity is high, it will be increased and the printing time will increase.

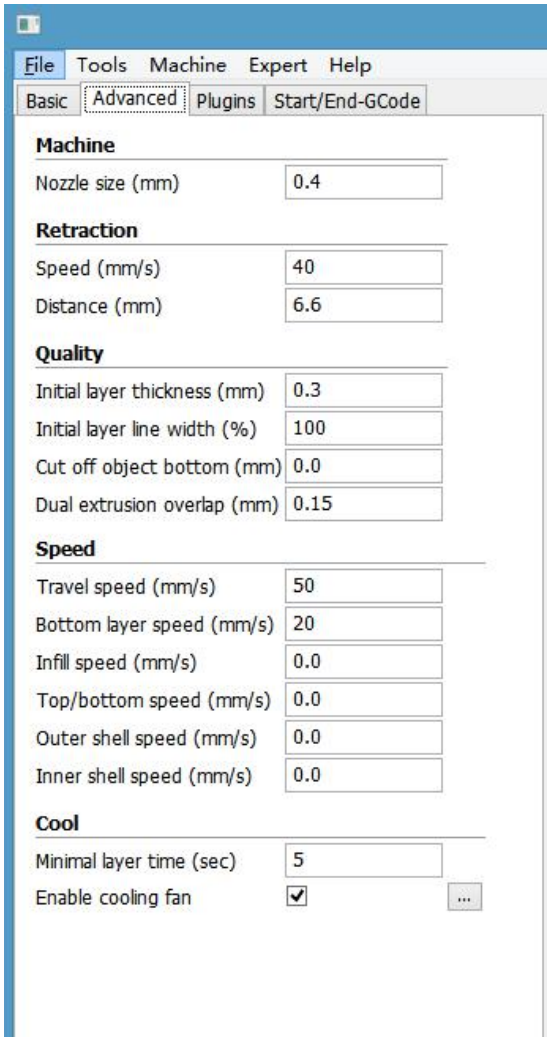
Print speed(mm/s): generally set between 30-100, the higher the speed, the lower the accuracy.

Printing temperature(c): look at the material, here is generally 190 ~ 210 degrees.

Support type: divided into semi-support and full support. Models that are suspended relative to the structure usually require additional support, but the surface after removal of the support is relatively unsightly.

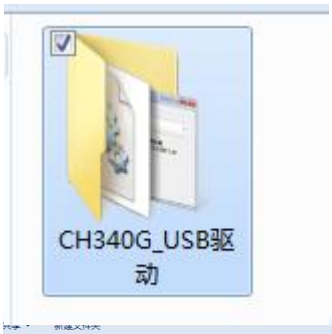
Plarform adhesion type: "None" is nothing; the "Brim" edge increases the bottom area; the "Raft" base makes the model adhere more firmly. In order to make the model better adhere to the base, adding a bottom plate or edge, it is better to add a base and edge to the model with a smaller bottom area.

Diameter(mm): 1.75mm flow(%): 100%

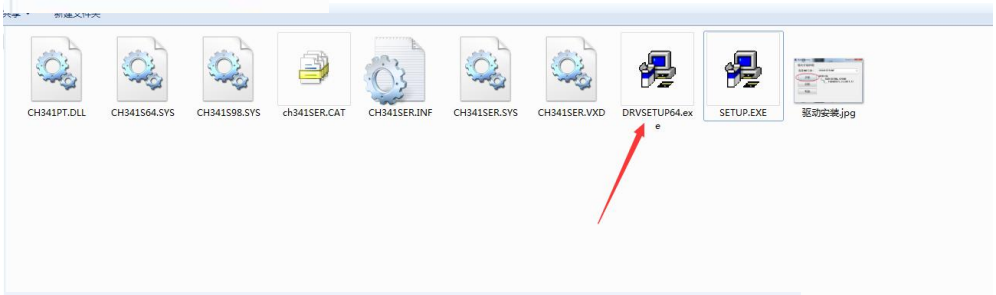


Nozzle size: 0.4mm.
speed: The speed at which the pump is drawn when the model is printed.
Distance : The length of material withdrawal, generally 4.5~8mm.
Initial layer thickness: print the thickness of the first layer, the default is OK.
Initial layer line width: 100% will be thicker and denser, the default is OK.
Cut off object bottom: The length of the bottom cut of the model.
Dual ectrudion overlap : 0.15 mm. The default is fine.
travel speed: The speed at which the nozzle does not squeeze the consumables.
Bottom layer speed: The speed of printing the first layer, the slow speed is better for the model to be attached to the bottom.
Infill Speed / Top / Bottom Speed /outer Shell Speed / Inner Wall Speed: The default is 0 as with the print speed.
Minimal layer time: the default.
Enable cooling fan : Turn on the nozzle cooling fan.

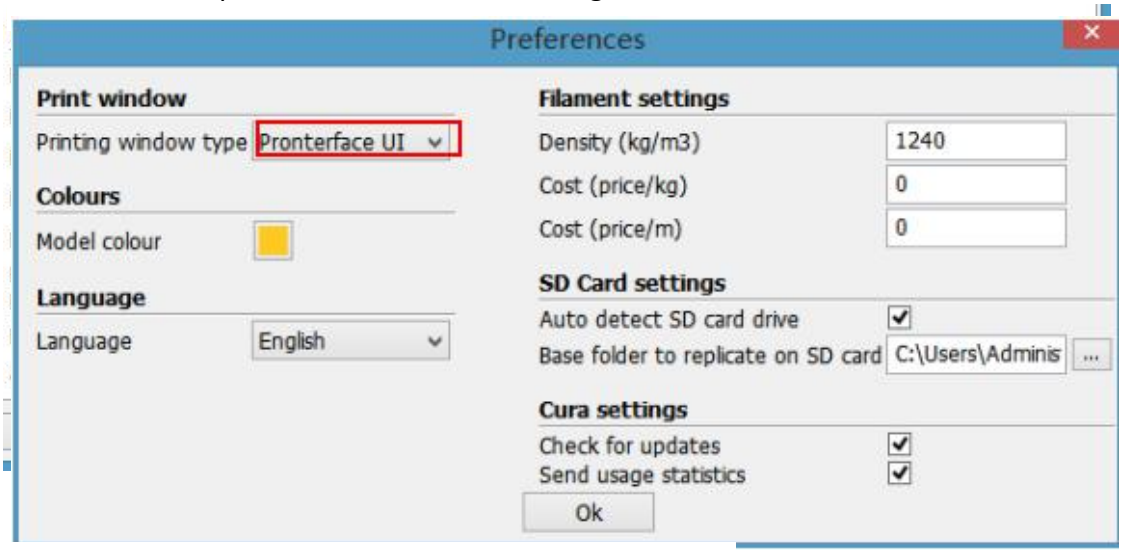
D. Online printing instructions



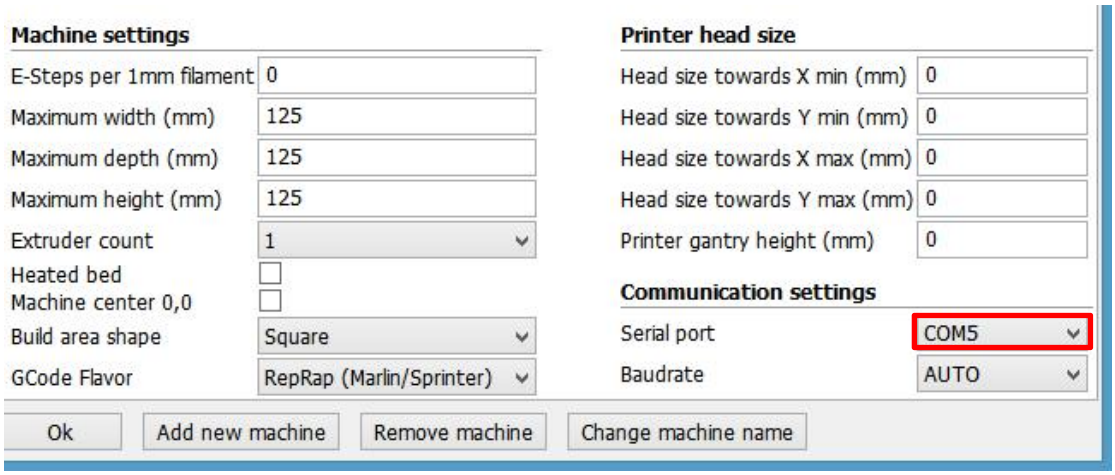
1. When the printer is powered on and connected to the computer, the driver will be installed automatically. If it cannot be installed automatically, please find the driver under the driver folder to install manuallv:



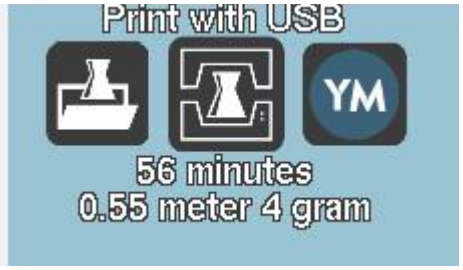
2. "Ctrl" + "," opens the "Preferences" dialog.



3. Click the menu "Model" "" Model Settings" to open

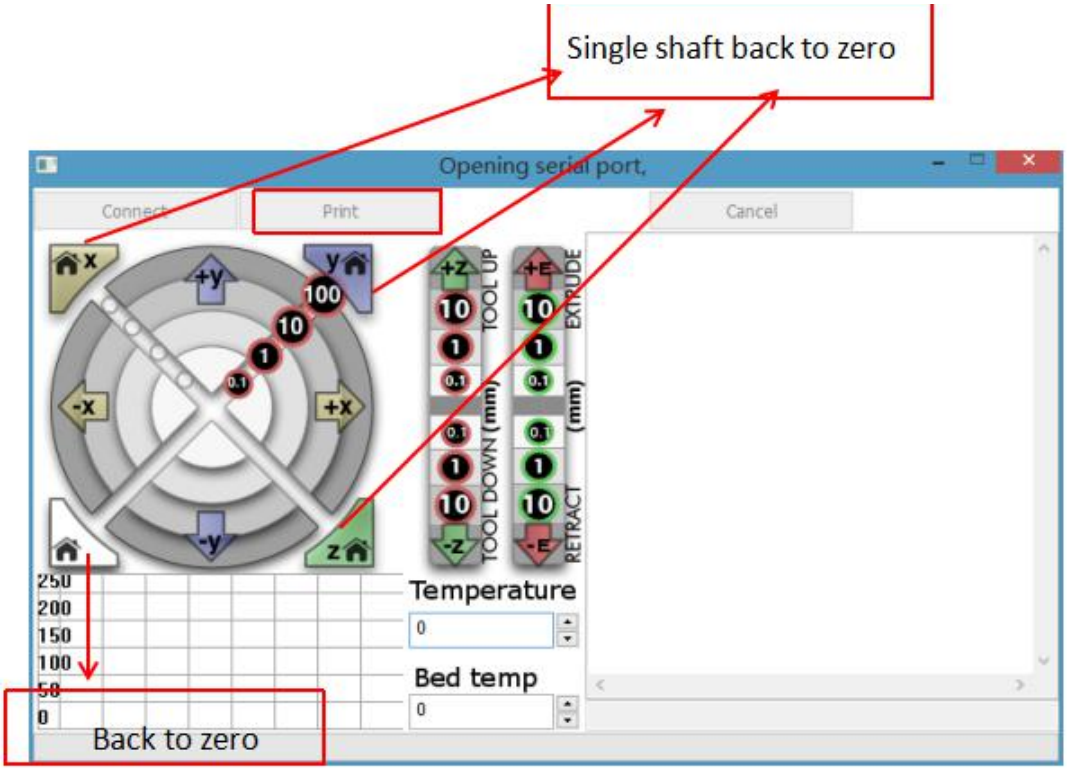


Select the corresponding serial port (different computer serial ports may be different, generally choose the larger one), the baud rate is "AUTO", and the point is "OK".



Status shows that the connection has been successfully connected

4. After loading a file, click the status icon above or “Ctrl+P” to start printing, and the print window will pop up.



We can click on the gray circle on the window to control the motion of the XYZE axis, respectively, 0.1, 10, 100 means the amount of each movement. The G-code control can be entered in the lower right corner text box. Do not use it if you don't understand it. Click “Print” to start printing. Please be careful during printing to avoid printing failure.

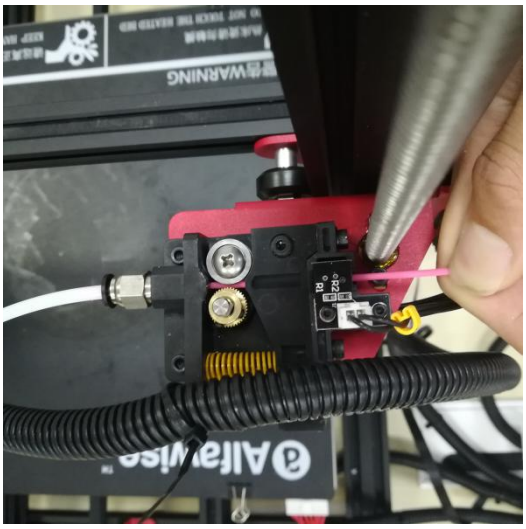
E. Description of power failure and break detection function.

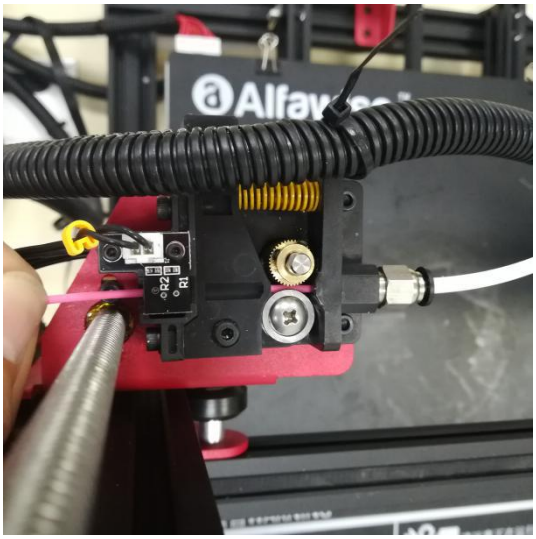
(1) Power failure

When printing for a period of time and the height of the print exceeds 0.5mm, the power-off icon will be displayed. At this time, the power is turned back on, and the icon can be clicked. After waiting for the temperature to rise, normal printing can be resumed.

(2) Broken material detection

At this point, pull the Teflon tube out of the extruder end, remove the material, refill the consumables to the nozzle, and click the Recovery button to resume printing.

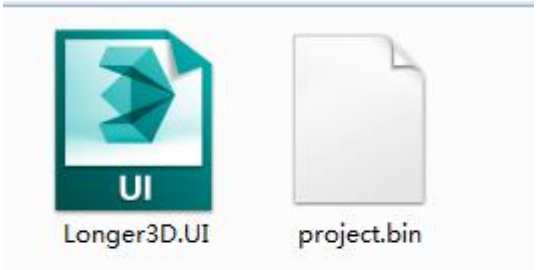


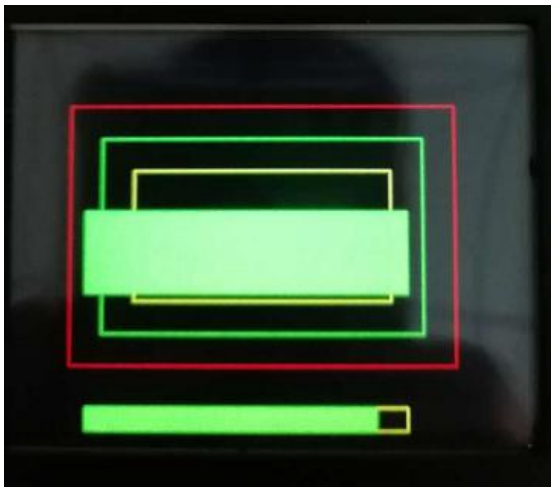


F. Machine Usage FAQ Guide

Question 1: How to update the firmware?

1. Copy these two files to the SD card



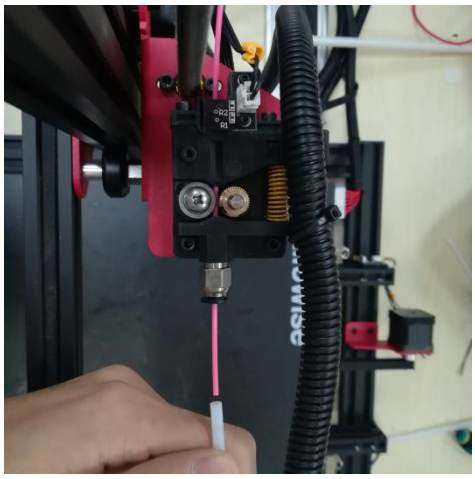


2. Then restart the machine and wait for the machine progress bar to complete before the firmware is refreshed.
3. Then the user needs to delete the two files in the SD card to be used normally, otherwise the firmware will be refreshed every time the phone is turned on.。

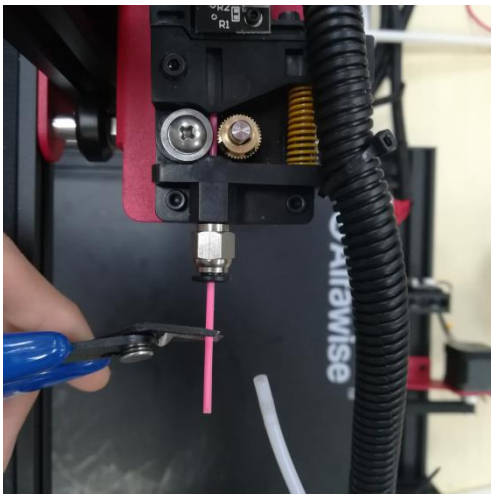
Question 2: What should I do if the machine does not discharge?

1. After the machine nozzle is heated, the consumables are normally fed into the feeding mechanism by hand, and then passed through the Teflon tube to enter the nozzle.
2. When it is found that the gear of the feeding mechanism emits a "beep" sound, it can first check whether the consumables are wound, causing the extrusion mechanism to pull the material.
3 If this is not the reason, raise the machine nozzle and use the 0.4mm needle in the toolbox to insert it from below the copper nozzle and rotate while inserting.
4. Under normal circumstances, this needle can be used to open the copper nozzle, so that the feed is smooth. The reason for this blocking is generally that there are impurities in the consumables, which leads to plugging.

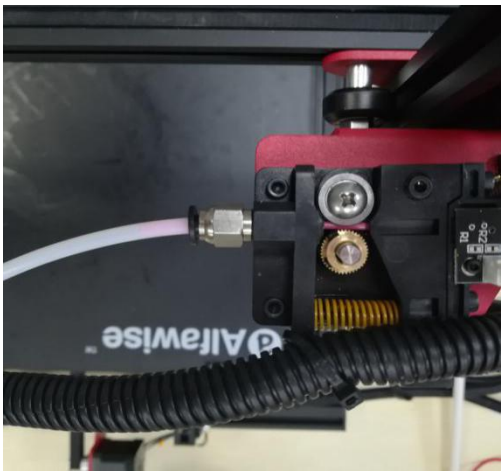
Question 3: What should I do if the machine does not retreat when the material is returned?



1. Before returning the material, please heat the nozzle first, and then withdraw the consumables as soon as possible. If you can't pump it, you can re-feed the material with the advanced material, and melt the extruded block formed at the end of the consumable in the nozzle.



2. When withdrawing the consumables, before the end of the consumables reaches the pneumatic joint, we will usually pull the Teflon directly from the Teflon and cut the end of the consumables.



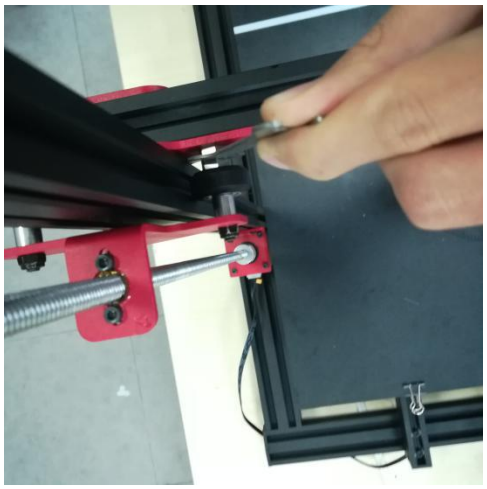
3. Because the end of the consumables in the nozzle will be deformed by heat, if the end deformed consumables are directly pulled out, it may get stuck to the pneumatic joint or the limit switch that damages the broken material detection (the limit switch for the broken material detection is single) Towards).

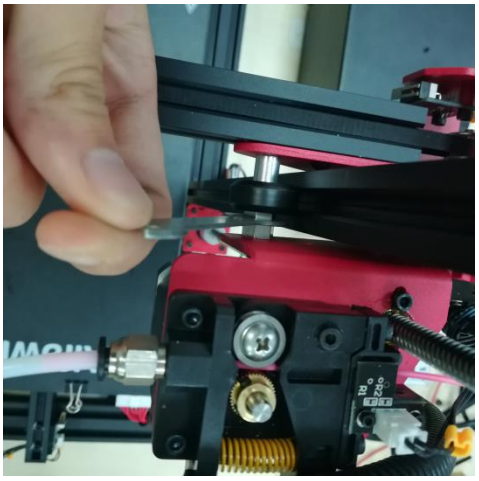
Question 4: What can I do if I can't power off?

If the power is suddenly turned off when the part is first printed, the machine will not save the print data. Unless the height of the print exceeds 0.5mm, the power failure will be supported. If the height is less than 0.5mm, it is recommended to reprint directly.

Question 5: When the machine is leveled, when the nozzle moves to the left, it can be leveled normally. When the nozzle moves to the right, it is found that the nozzle and the hot bed are far apart or very close. What should I do if the spring is adjusted to the limit position?

If this happens, the X-axis beam is generally loose. At this time, the hex socket on the right side of the machine can be adjusted with a wrench to adjust the tightness





Question 6: After the machine is heated, the spit is normal, but when the first time of printing, the silk falls on the platform and curls, and then after printing a few layers, what should I do if it is off the platform?

1. After the user gets the 3D printer, if the leveling is found to be curled on the first layer of silk, it feels like it is gently falling on the platform. It can be judged that the leveling is not adjusted, and the nozzle is too high from the hot bed. ,
2. At this point we need to re-level, the quality of the leveling can largely determine the success rate of the part printing.
3. In addition, in order to ensure good contact between the model and the platform, we can set the larger plane of the model face down when slicing, and can also be set in the slicing software to add Raft to the model, which can make the model stick to the platform. Firm.