Operation Instruction

Model:A6

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INTRODUCTION

A6 FDM 3D printer can print CAD 3D printer model to real . A6 uses Acrylic to build its frame while it uses linear bearings , belts and threaded rods to build X , Y , Z axis .

It enables A6 to print steadily with no vibration .

Note:

1. All statement included in this Instructions have been checked carefully , if any typographical errors or misunderstanding , we have the final interpretation .
2. No noification if any update .

A. Security Considerations

To avoid danger when using 3D printer , please pay attention to precautions below .

Danger

During Operation , the maximum temeprature of nozzle can be 260 □ while hotbed can be 100 □ . For your safety , during printing or cooling down , do not touch the nozzle , hotbed and models under printing . Power works at 110V/220V 50HZ AC and supply ground needed . Do not use other power supply , or it may cause components damage , fire or electric shock . And we take no responsibility for this .

Warning

We suggest wering protective goggles when removing auxiliary support materials . Some filaments will emit slight irritant gases , so we suggest to use 3D printer in a ventilated environment .

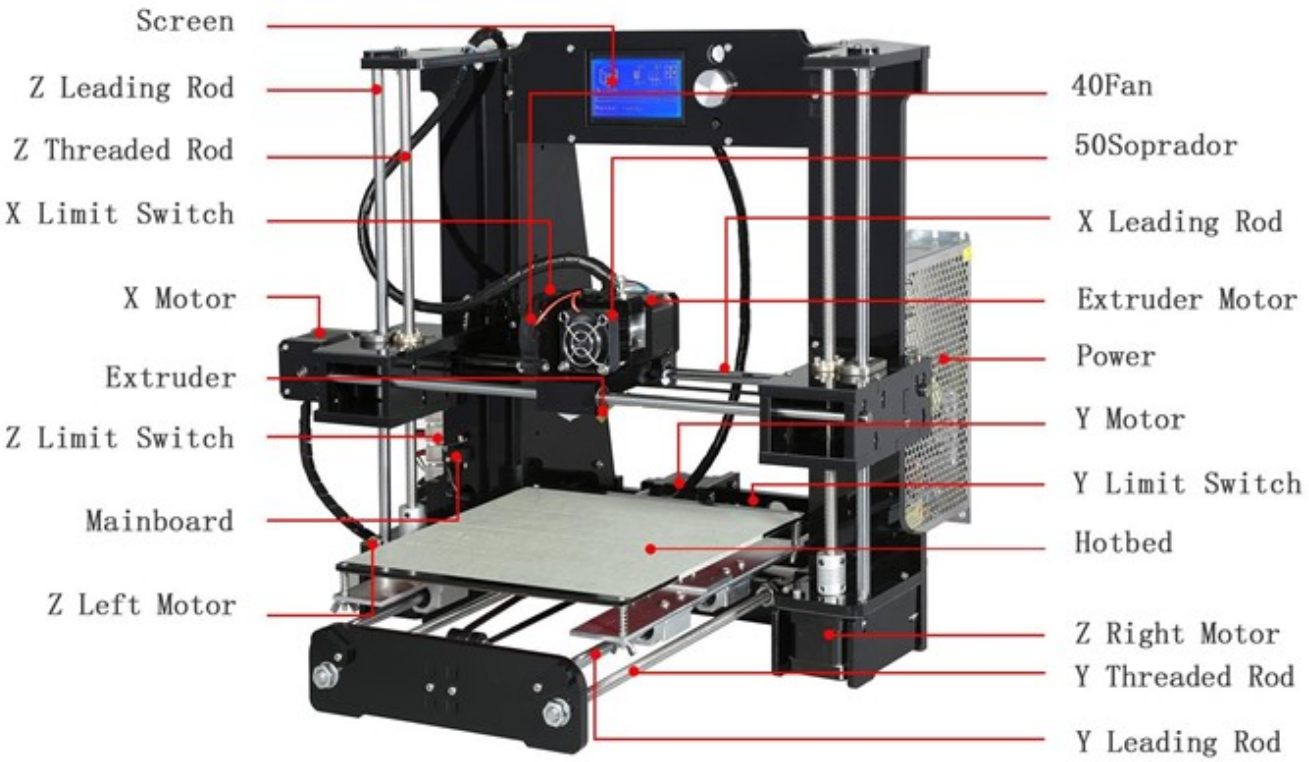
Note: ABS filament will emit a bit toxic gases when it melts .

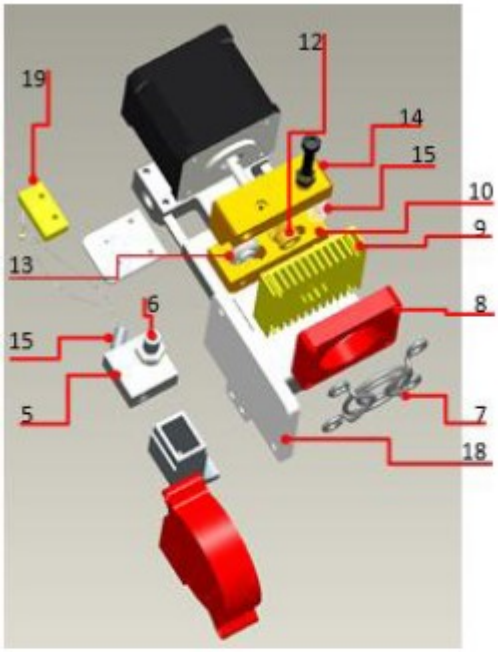
B. Product Details

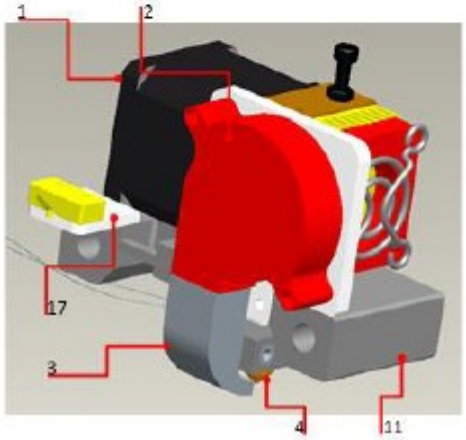
1.Specifications

Model：A6	Nozzle diameter： 0.4mm
Layer thickness：0.1-0.3mm	Machine size： 480*400*400mm
Printing speed：10-120mm/s	Machine weight：7.6KG
X Y axis position accuracy：0.012mm	Packing size：510mm*490mm*172mm
Z axis position accuracy：0.004m	Gross weight：9.5KG
Printing material：ABS,PLA	Build size：220*220*240mm
Material tendency：PLA	LCD screen：12864 LCD
Filament diameter ：1.75mm	Offline printing：SD CARD
Software language：Multi-Language	File format：STL、G-Code、OBJ
Function of support：automatically	OS：windows(linux、mac)
Software： Cura	Working condition：10-30□，Humidity 20-50%

2.Machine parts







3.Exploded drawing

NO	Part Name	Quantity
1	Extruder Motor	1
2	Blower	1
3	Wind Mouth	1
4	Nozzle(0.4mm)	1
5	Heating Block	1
6	Throat	1
7	Fan Cover	1
8	Fan	1
9	Heat Sink	1
10	Extruder Seat	1
11	Bend Parts	1
12	Brass Wheel	1
13	U-Bearing	1
14	Briquetting	1
15	Spring	1
16	Heating Pipe	1
17	Limited Switch Seat	1
18	Blower Seat	1
19	Limited Switch	1

4.Tool List

Anet 3D Printer A6 assembly parts list

Item	Material number	Picture	Name	QTY	Item	Material number	Picture	Name	QTY
1-1	1300100050		Main support plate	1	2-1	1700200016		Mainboard	1
1-2	1300100064		Side support plate	2	2-2	1700200017		12864 LCD Screen	1
1-3	1300100045		Back plate	1	2-3	1700100001		Hot bed fixed aluminum plate	1
1-4	1300100049		Front plate	1	2-4	1700200001		220mm*220mm*3mm Hot bed	1
1-5	1300100046		Filament support plate	2	2-5	1101900001		Plastic nippers	1
1-6	1300100047		Filament support plate connecting plate	1	2-6	1101900008		5mm*160mm Screwdriver	1

Item	Material number	Picture	Name	QTY	Item	Material number	Picture	Name	QTY
1-7	1300100057		Mainboard baffle	1	2-7	1700200020		Three parts below in this bag	1
2-23	1700100017		Guide rod 418mm 2pcs Guide rod 380mm 2pcs Guide rod 340mm 2pcs	6	2-7-1	1202100006		Wire 65CM	1
2-24	1700100018		T type lead screw M8*318mm 2pcs Threaded rod M8*400mm 2pcs Threaded rod M8*150mm 1pcs	5	2-7-2	1700200013 1700200014 1700200019		Z axis Limit switch A 20CM Y axis Limit switch B 50CM X axis Limit switch C 90CM	3
2-25	1700100019		Screw bag include below screws		2-7-3	1300400003 1300400004		Pillar washer M3*7 4pcs Pillar washer M3*15 4pcs	8
2-25-1	1700100020		M3*18 Spacer 42pcs		2-8	1700100013		Three parts below in this bag	1
2-25-2	1700100021		M3 Nut 52pcs	1	2-8-1	1101900010		3mm*130mm Screwdriver	1
2-25-3	1700100022		M8 Nut 14pcs M8 Spacer 12pcs	1	2-8-2	1101900004 1101900006 1101900005 1101900007		Hex wrench M1.5 Hex wrench M2 Hex wrench M2.5 Hex wrench M3	4

Item	Material number	Picture	Name	QTY	Item	Material number	Picture	Name	QTY
2-25-4	1700100023		M4*8 screw 16pcs M4*14 screw 4pcs	1	2-8-3	1101900002		Open spanner	1
2-25-5	1700100024		M3*30 screw 12pcs	1	2-9	1700200005		5015 Air blower	1
2-25-6	1700100025		M3*12 screw 19pcs	1	2-10	1700200027		Power line of hot bed	1
2-25-7	1700100026		M2*12 screw 6pcs M3wing nut 4pcs Spring 4pcs	1	2-11	1700300009		Five parts below in this bag	1
2-25-8	1700100027		M3*6 screw 2pcs M3*10 screw 2pcs M3*25 screw 2pcs	1	2-11-1	1300100005		Y axis belt fixation clamp	4
3-1	1700300007		Left Z axis nut support	1	2-11-2	1300100010		Guide rod back up plate	8
3-2	1700300008		Right Z axis nut support	1	2-11-3	1300100007		Y axis Limit switch fixed plate	1

Item	Material number	Picture	Name	QTY	Item	Material number	Picture	Name	QTY
3-3	1700100028		Extruder	1	2-11-4	1300100042		Y axis motor support	1
3-4	1700200008		X axis motor	1	2-11-5	1300100040		X axis Limit switch fixed plate	1
3-5	1700200009		Y axis motor	1	2-12	1300100044		Z axis motor support Plate	4
3-6	1700200010		Z axis motor	2	2-13	1300100048		Screen baffle plate	1
3-7	1700300001		1.7M Belt	1	2-14	1300100039		5015 Air blower fixed plate	1
3-8	1202200007		1.5M USB wire	1	2-15	1300100063		Z axis motor fixed plate	2
3-9	1300500005		Four parts below in this bag	1	2-16	1300100065 1300100056		Support plate lock plate	2

Item	Material number	Picture	Name	QTY	Item	Material number	Picture	Name	QTY
3-9-1	1300500001		4.5M Winding pipe	1	2-17	1300100041		Y axis motor fixed plate	1
3-9-2	1300900001		Belting	10	2-18	1700300010		Y axis belt bearing support	1
3-9-3	1300400006		R clip	3	2-19	1300300002		Wind mouth	1
3-9-4	1300400005		Locating piece	2	2-20			1.5M Power line	1
3-10	1101300008		Linear bearing	4	2-21	1700200018		16GB TF card and card reader	1
3-11	1200100002		Power Supply	1	2-22	1202100031		X Motor line 40CM Y Motor line 40CM Left Z Motor line 40CM Right Z Motor line 90CM Extruder Motor line 90CM	5

C. Cura Software

1.Installation of Cura14.07 a:

Where can I find the software?

1) SD card with shipment; 2) download from Internet; b:

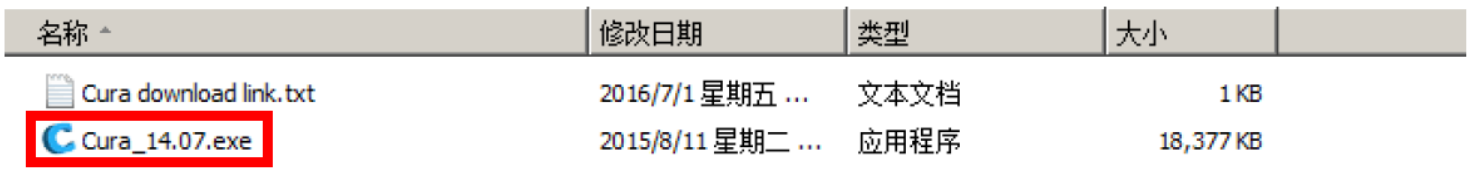
Installation process

1) From SD card with shipment

Insert SD card and open the file

1.1 File location in the TF card

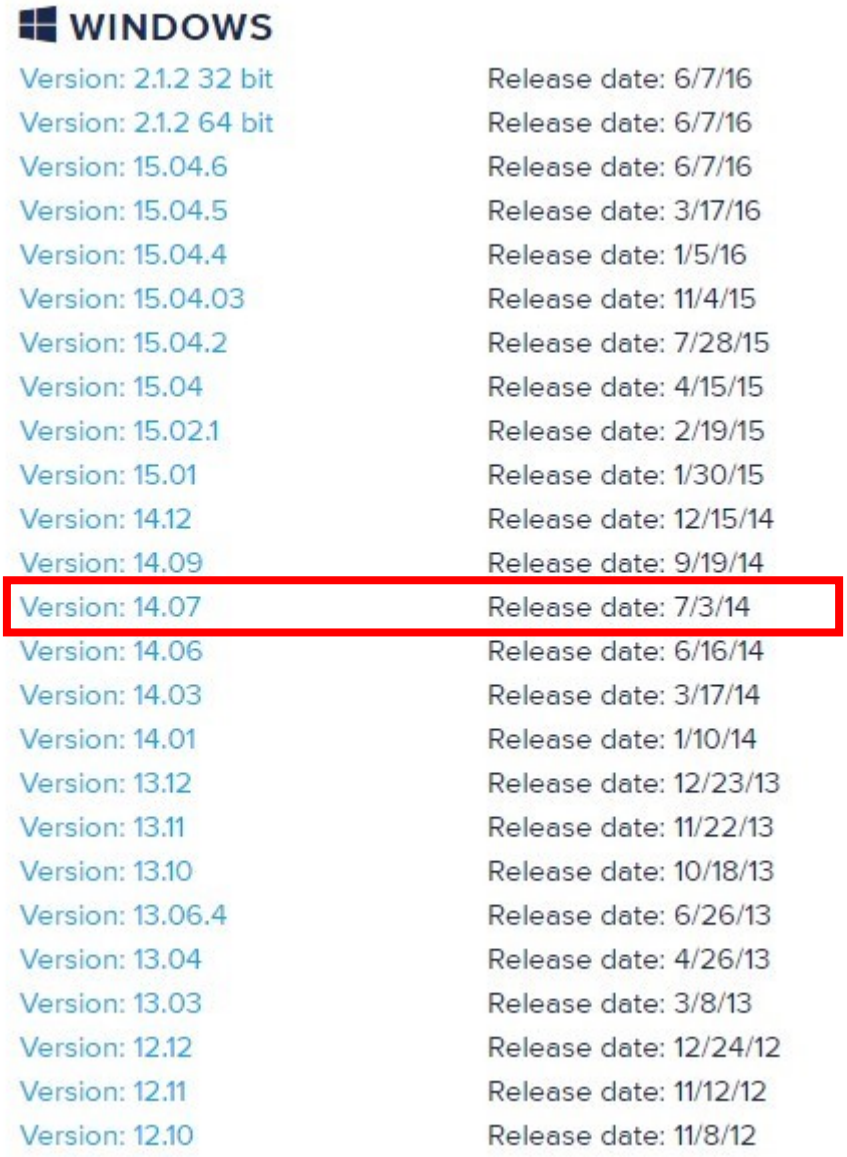
1)Insert SD card , open the file



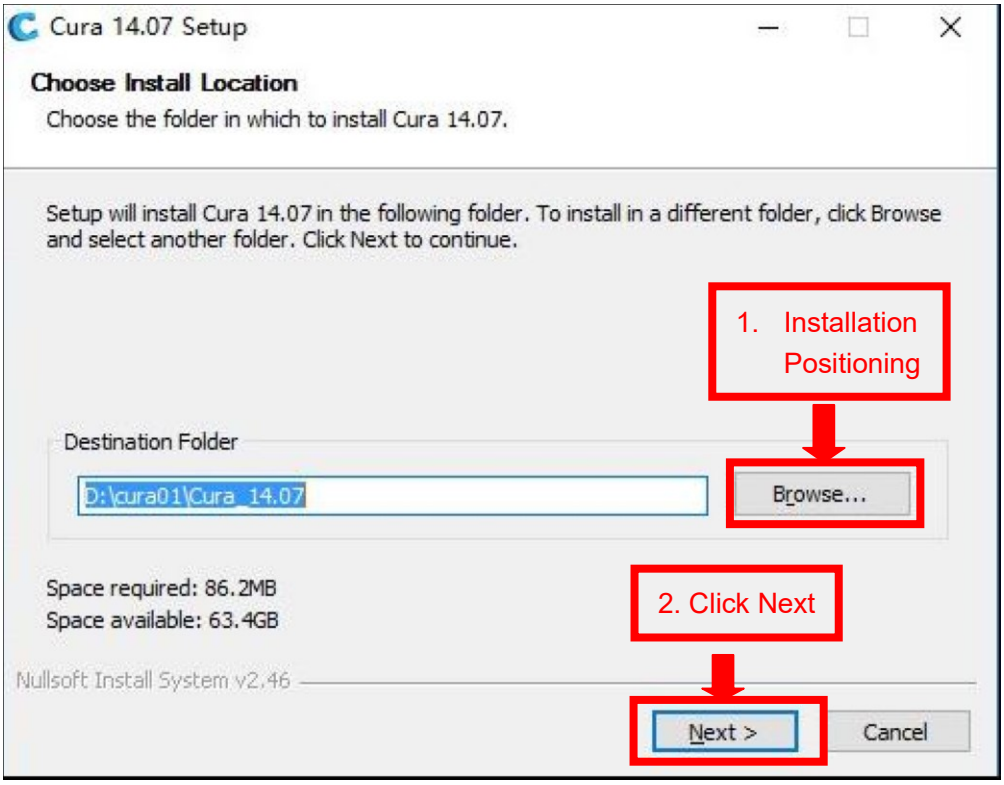
2) Download from Internet

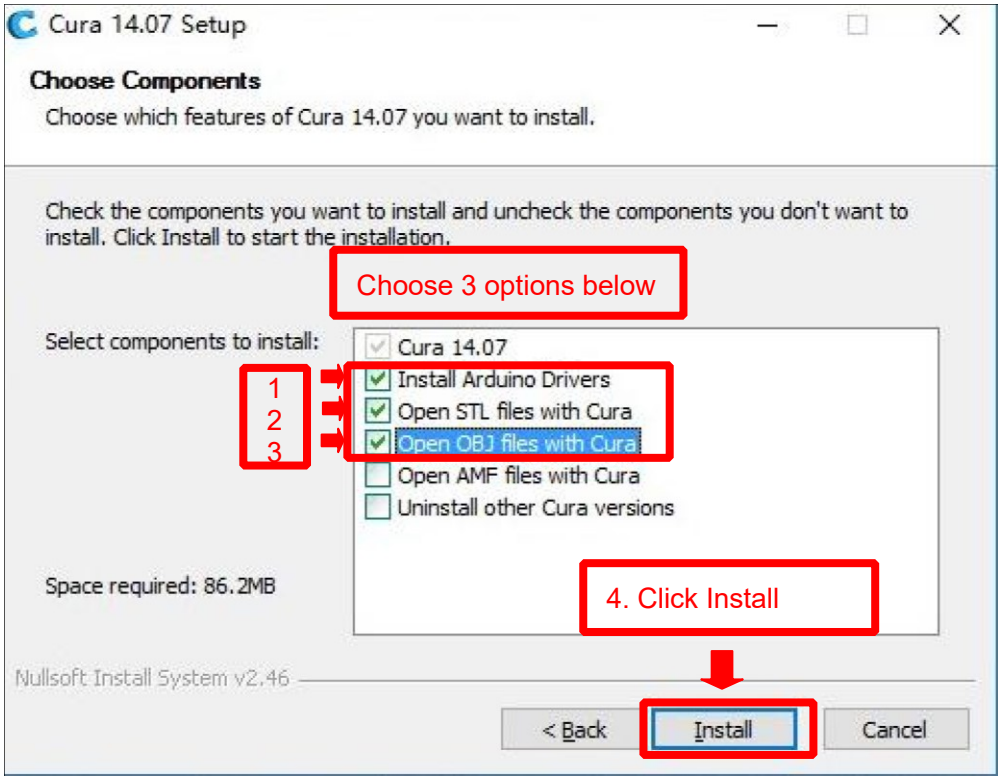
Official Website：https://ultimaker.com/en/cura-software/list

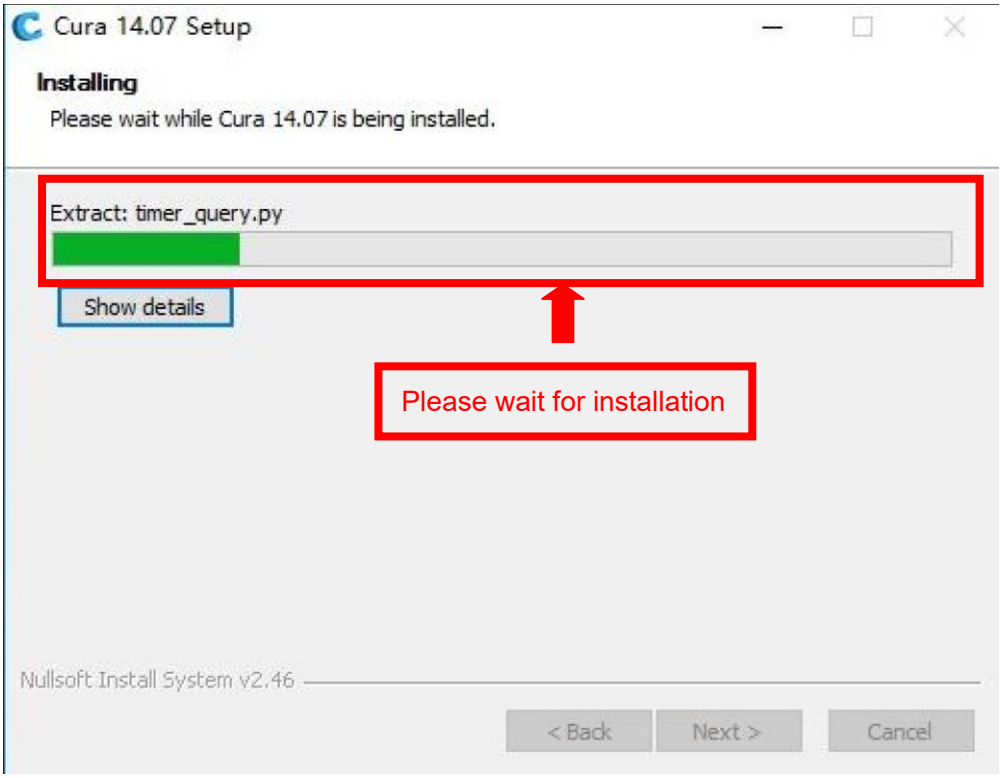
Choose corresponding software to download

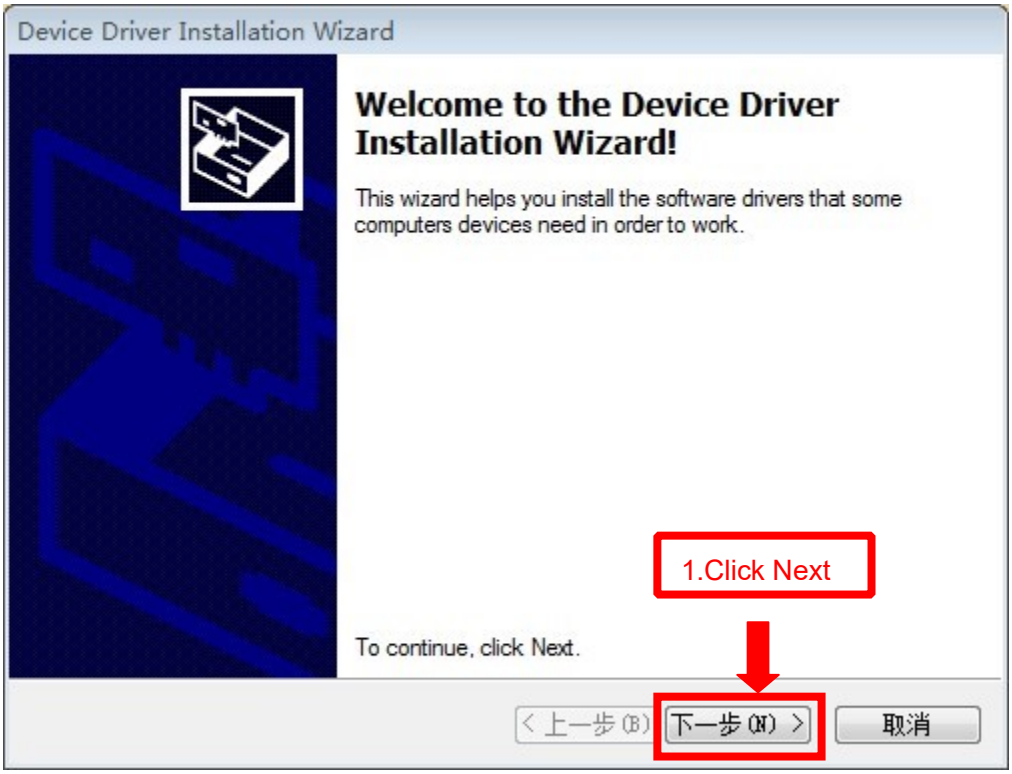


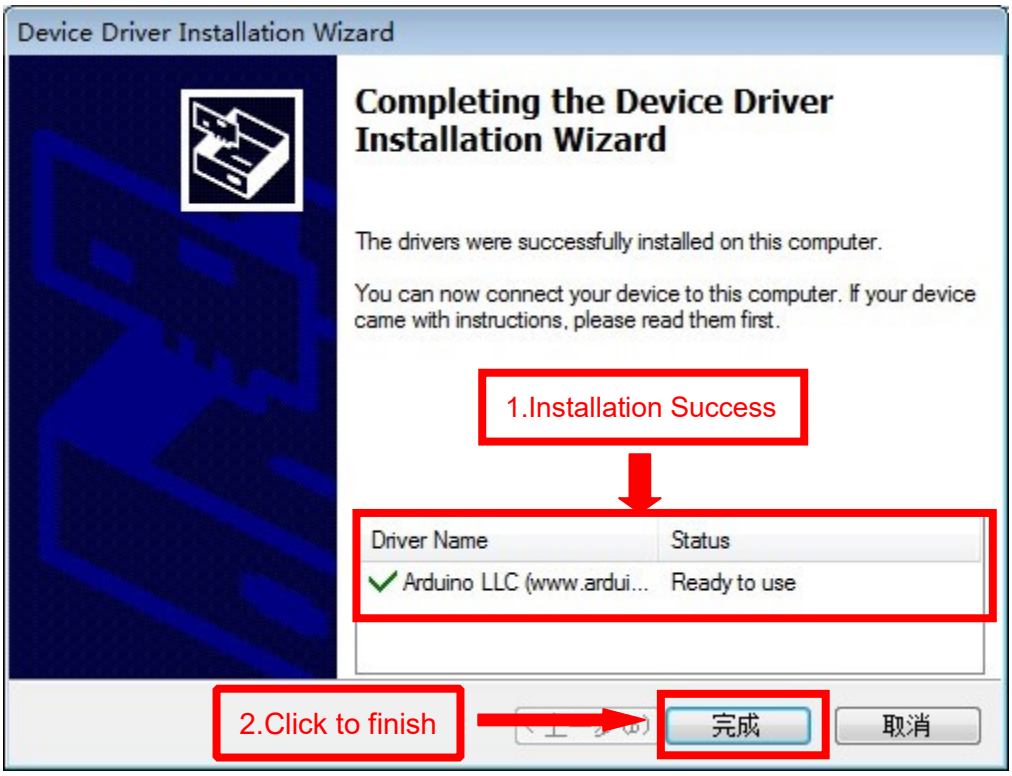
b.Software Installation Process

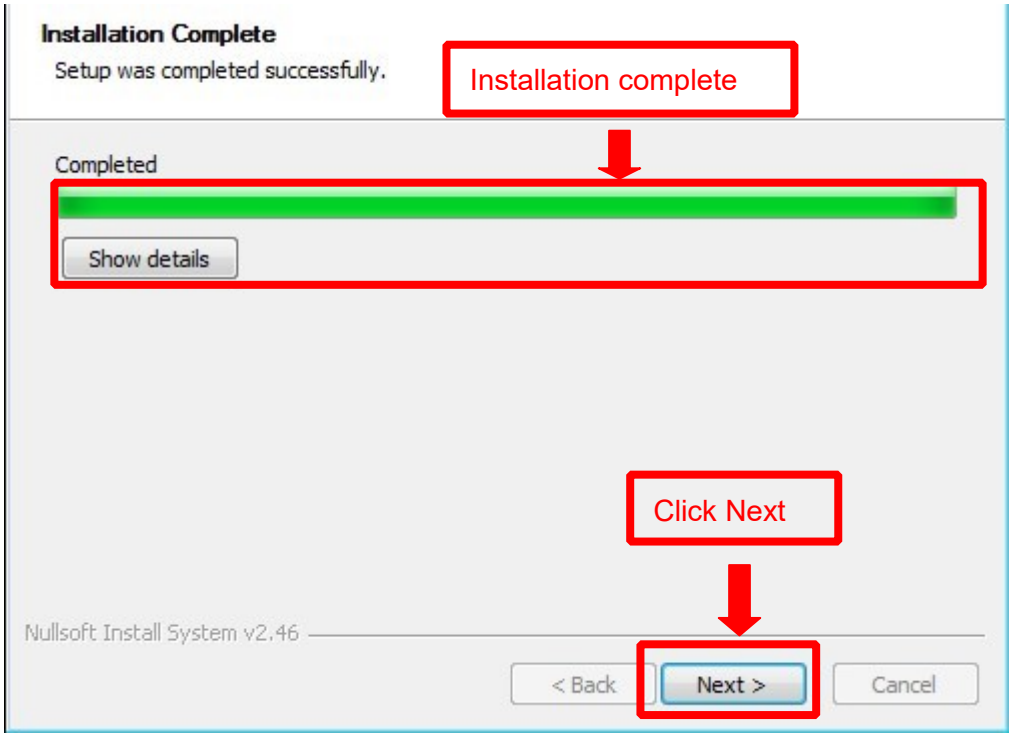

Cura 14.07 Setup
Choose Install Location
Choose the folder in which to install Cura 14.07.
Setup will install Cura 14.07 in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.
1. Installation Positioning
Destination Folder
D:\cura01\Cura_14.07
Browse...
Space required: 86.2MB
Space available: 63.4GB
2. Click Next
Nullsoft Install System v2.46
Next >
Cancel

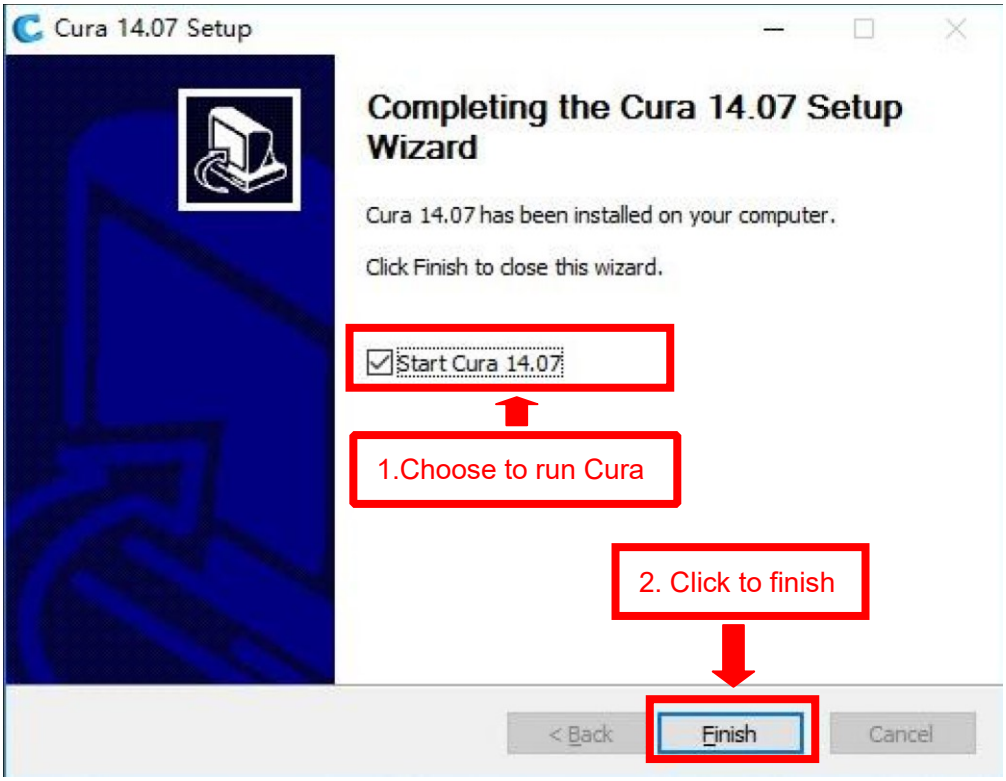

Cura 14.07 Setup
Choose Components
Choose which features of Cura 14.07 you want to install.
Check the components you want to install and uncheck the components you don't want to install. Click Install to start the installation.
Choose 3 options below
Select components to install:
1
2
3
Cura 14.07
Install Arduino Drivers
Open STL files with Cura
Open OBJ files with Cura
Open AMF files with Cura
Uninstall other Cura versions
Space required: 86.2MB
4. Click Install
Nullsoft Install System v2.46
< Back
Install
Cancel


Cura 14.07 Setup
Installing
Please wait while Cura 14.07 is being installed.
Extract: timer_query.py
Show details
Please wait for installation
Nullsoft Install System v2.46
< Back
Next >
Cancel

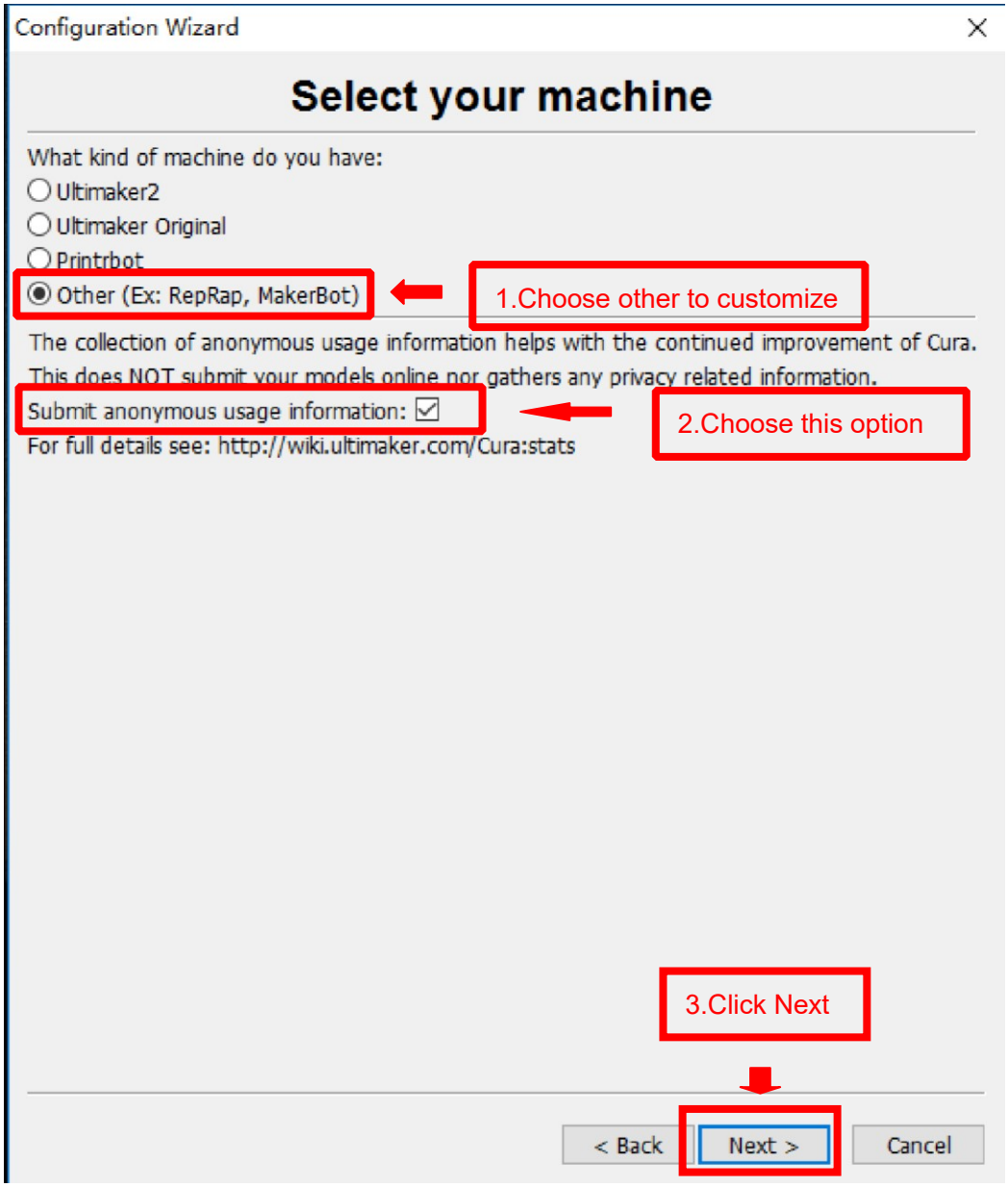

Device Driver Installation Wizard
Welcome to the Device Driver Installation Wizard!
This wizard helps you install the software drivers that some computers devices need in order to work.
1.Click Next
To continue, click Next.
< 上一步(B)
下一步(N) >
取消

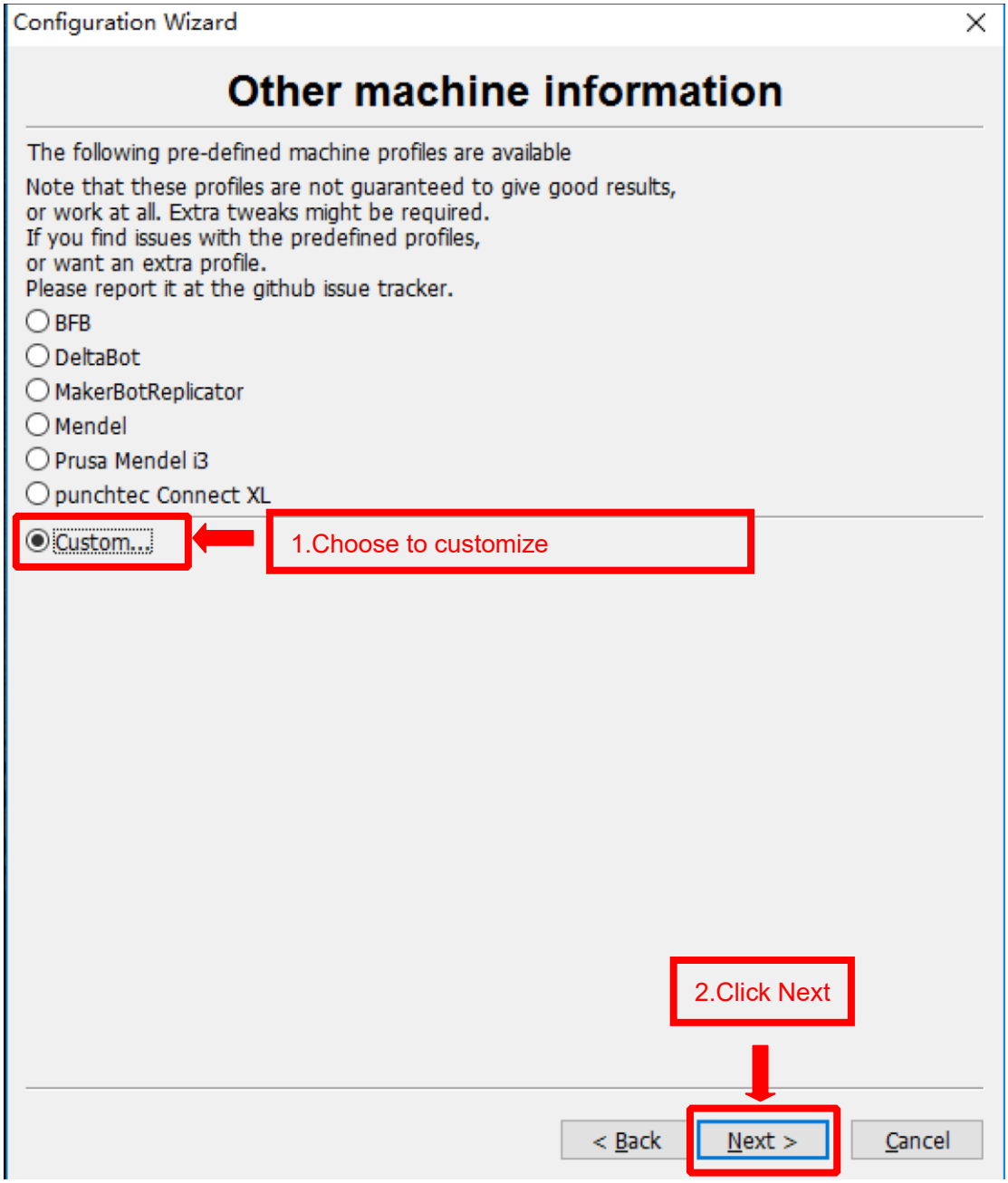

Device Driver Installation Wizard
Completing the Device Driver Installation Wizard
The drivers were successfully installed on this computer.
You can now connect your device to this computer. If your device came with instructions, please read them first.
1.Installation Success
Driver Name
Status
Arduino LLC (www.ardui...
Ready to use
2.Click to finish
完成
取消

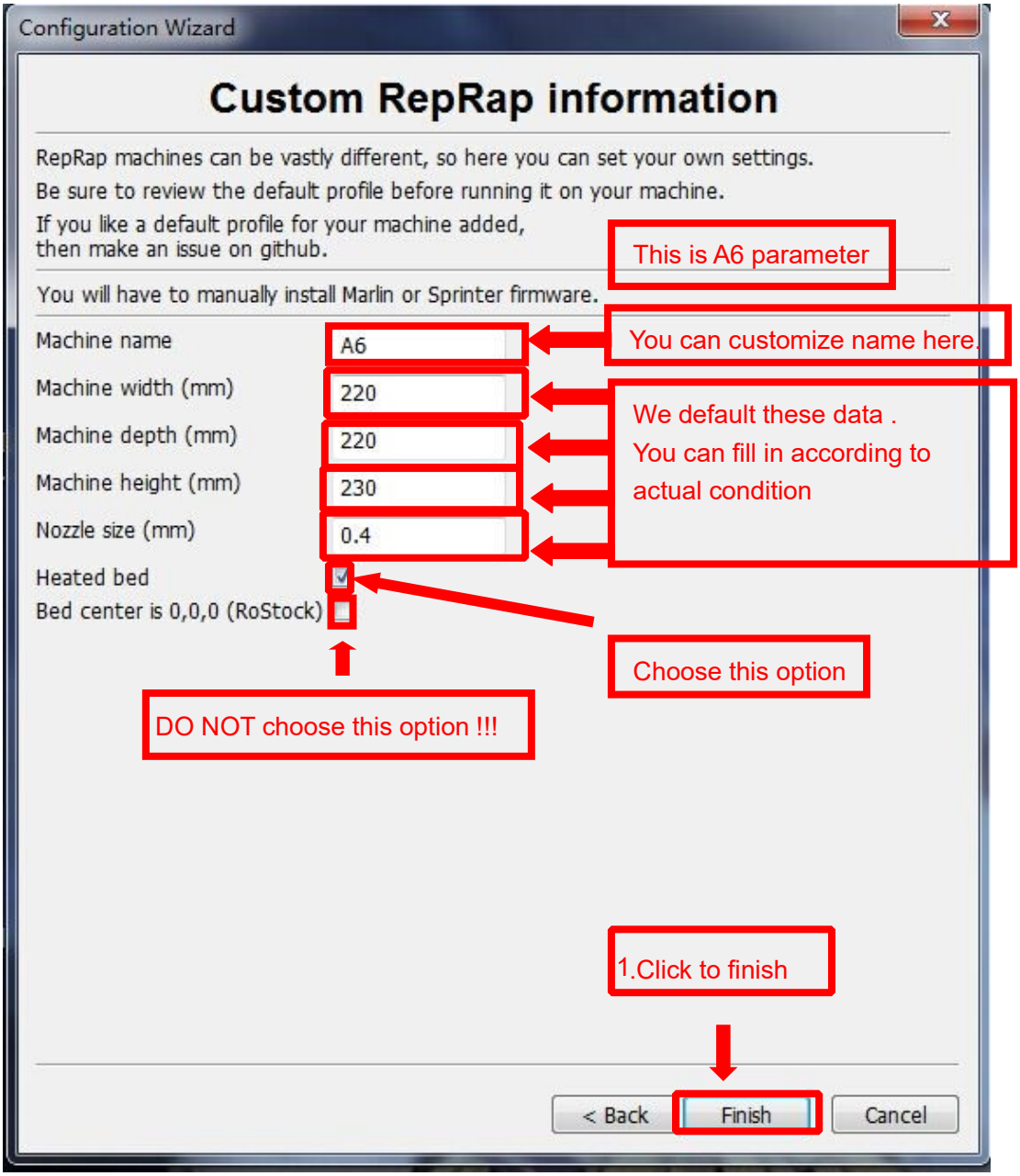

Installation Complete
Setup was completed successfully.
Installation complete
Completed
Show details
Click Next
Nullsoft Install System v2.46
< Back
Next >
Cancel

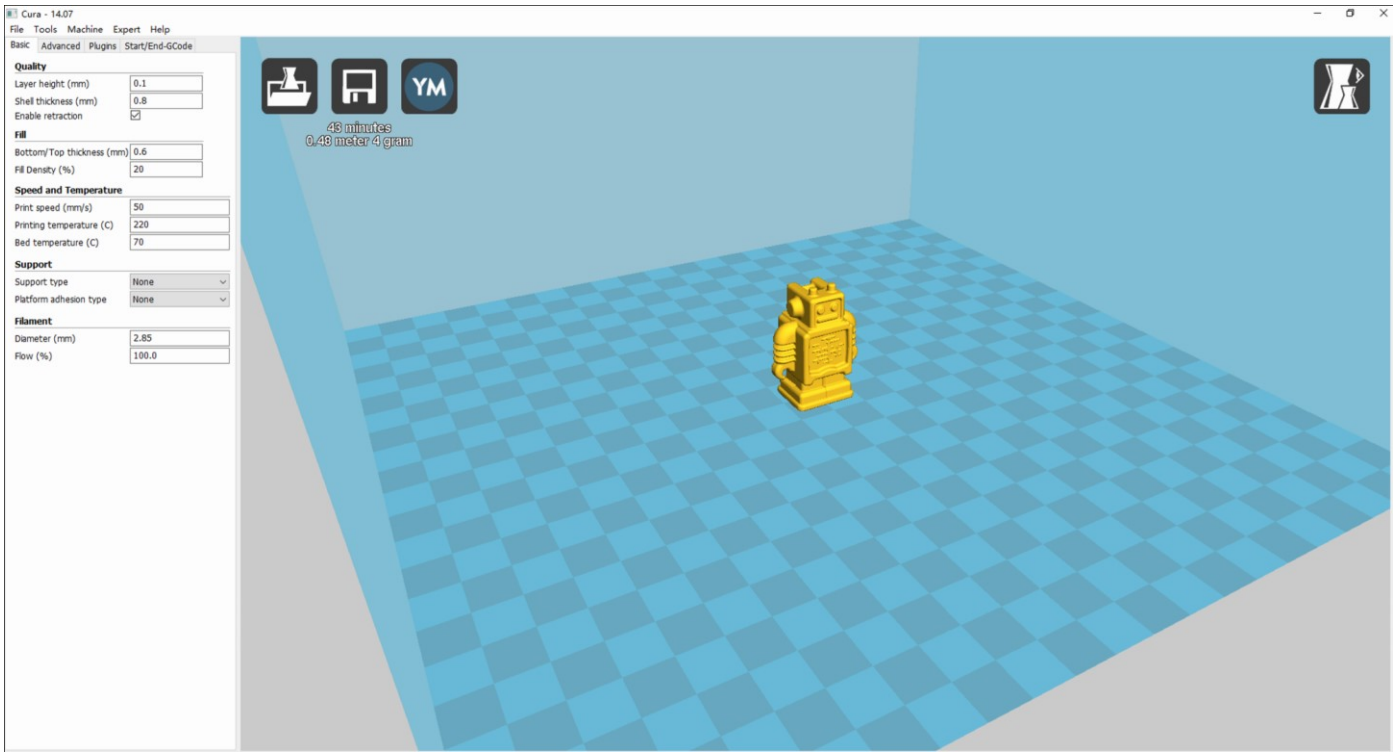

Cura 14.07 Setup
Completing the Cura 14.07 Setup Wizard
Cura 14.07 has been installed on your computer.
Click Finish to close this wizard.
Start Cura 14.07
1.Choose to run Cura
2. Click to finish
< Back
Finish
Cancel

Configuration Wizard
First time run wizard
Welcome, and thanks for trying Cura!
This wizard will help you in setting up Cura for your machine.
Click Next
< Back
Next >
Cancel


Configuration Wizard
Select your machine
What kind of machine do you have:
Ultimaker2
Ultimaker Original
Printrbot
Other (Ex: RepRap, MakerBot)
1.Choose other to customize
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:
2.Choose this option
For full details see: http://wiki.ultimaker.com/Cura:stats
3.Click Next
< 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
MakerBotReplicator
Mendel
Prusa Mendel i3
punchtec Connect XL
Custom...
1.Choose to customize
2.Click Next
< 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.
Machine name
A6
Machine width (mm)
220
Machine depth (mm)
220
Machine height (mm)
230
Nozzle size (mm)
0.4
Heated bed
Bed center is 0,0,0 (RoStock)
This is A6 parameter
You can customize name here.
We default these data .
You can fill in according to
actual condition
Choose this option
DO NOT choose this option !!!
1.Click to finish
< Back
Finish
Cancel



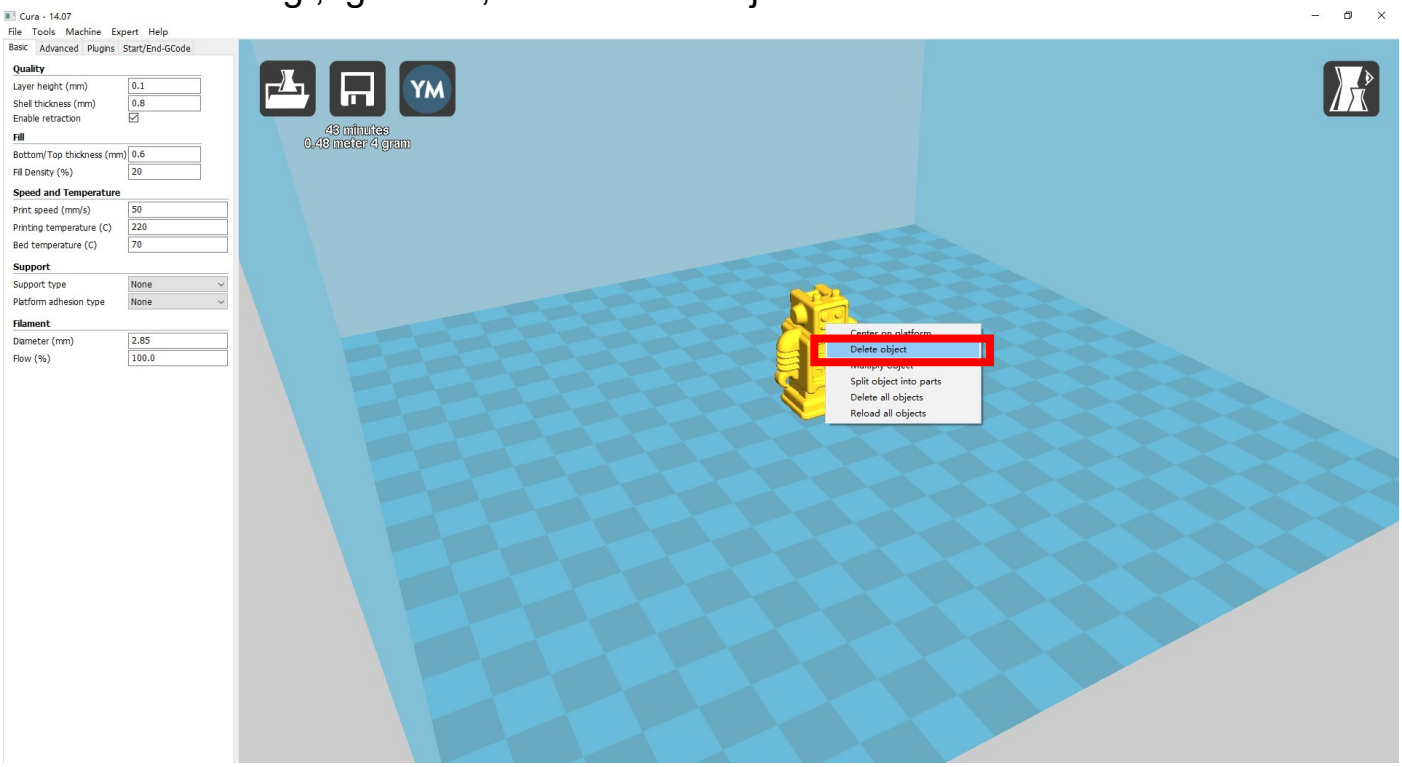
Now you have finished the installation. Next , enter Cura .

2. Cura Setting

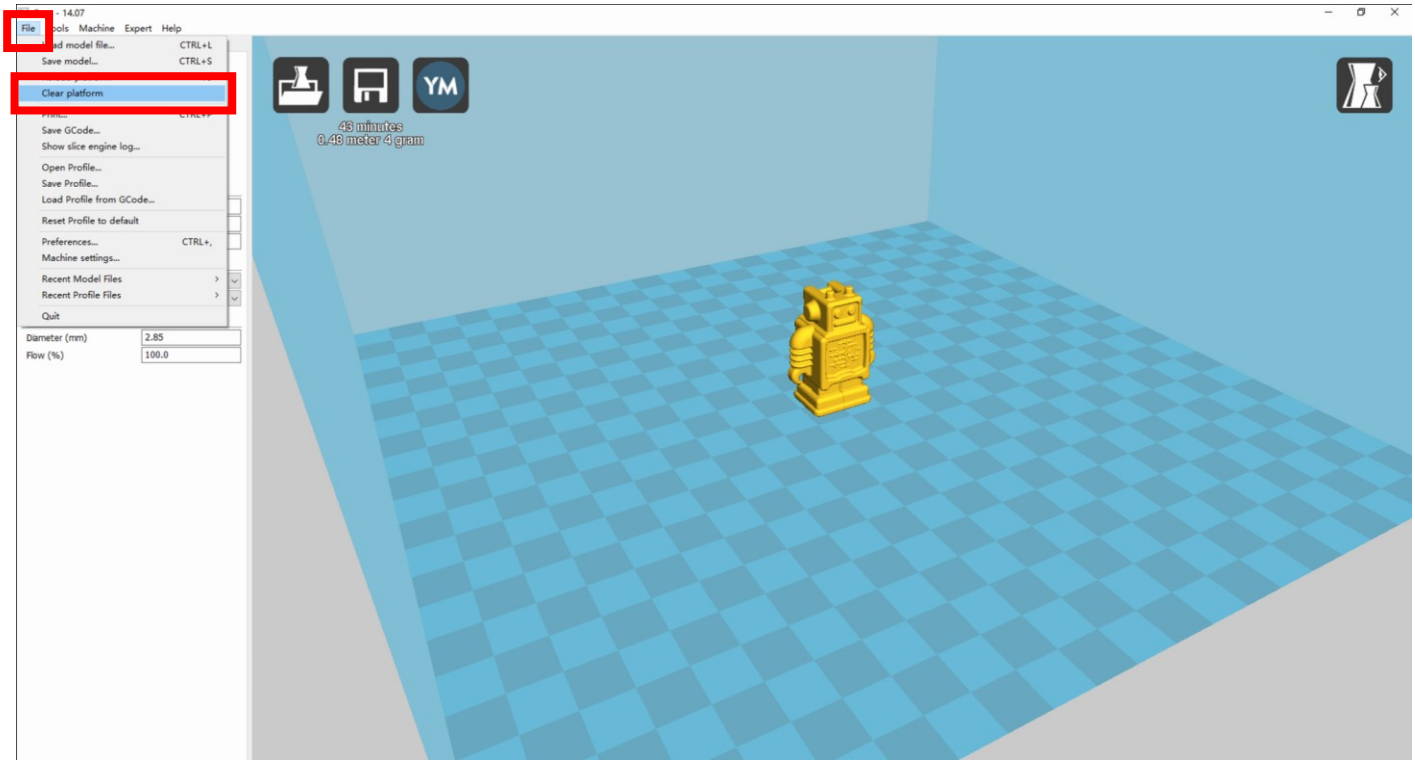
2.1 Clear platform

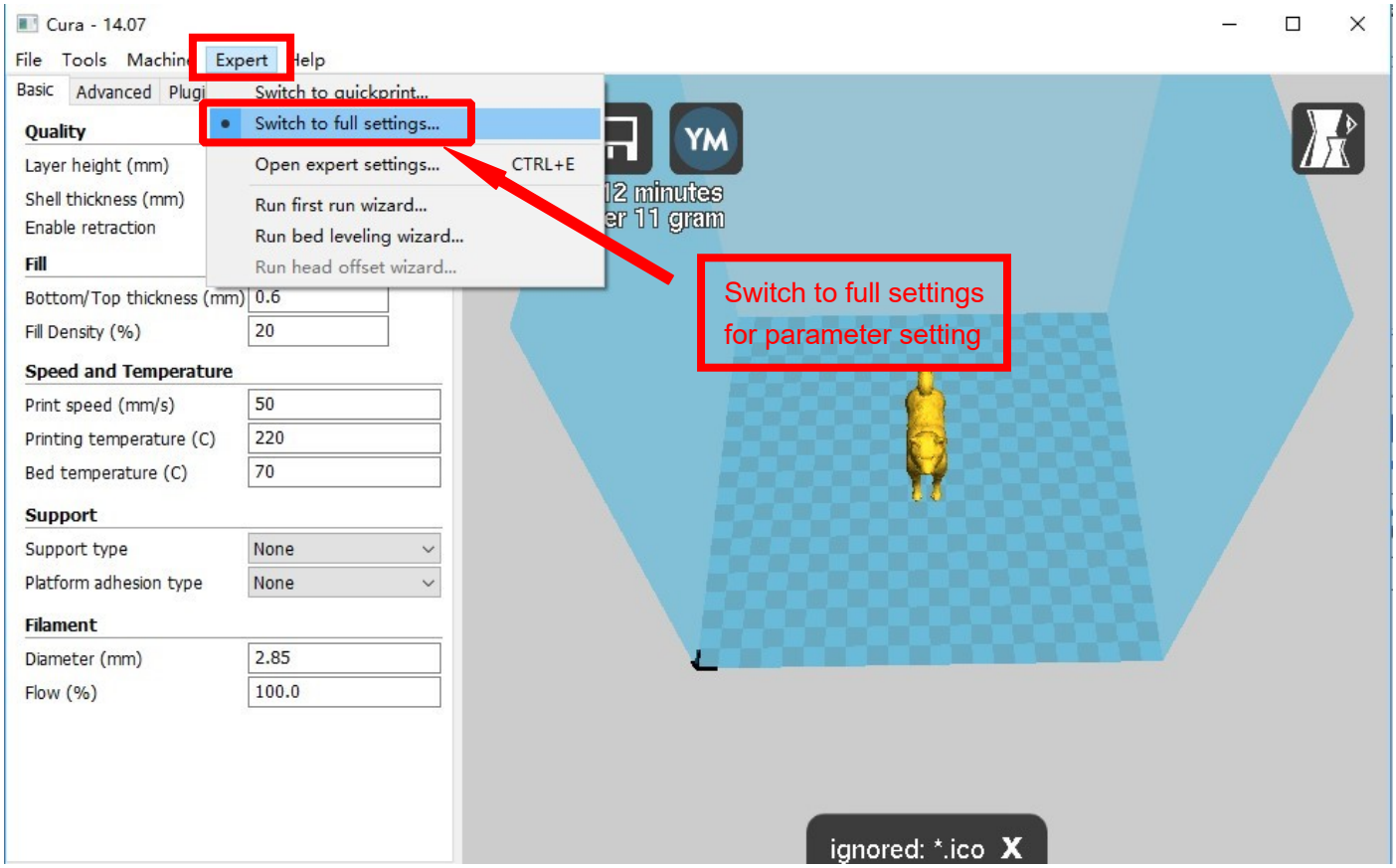
Delete the dog. Two ways for you :

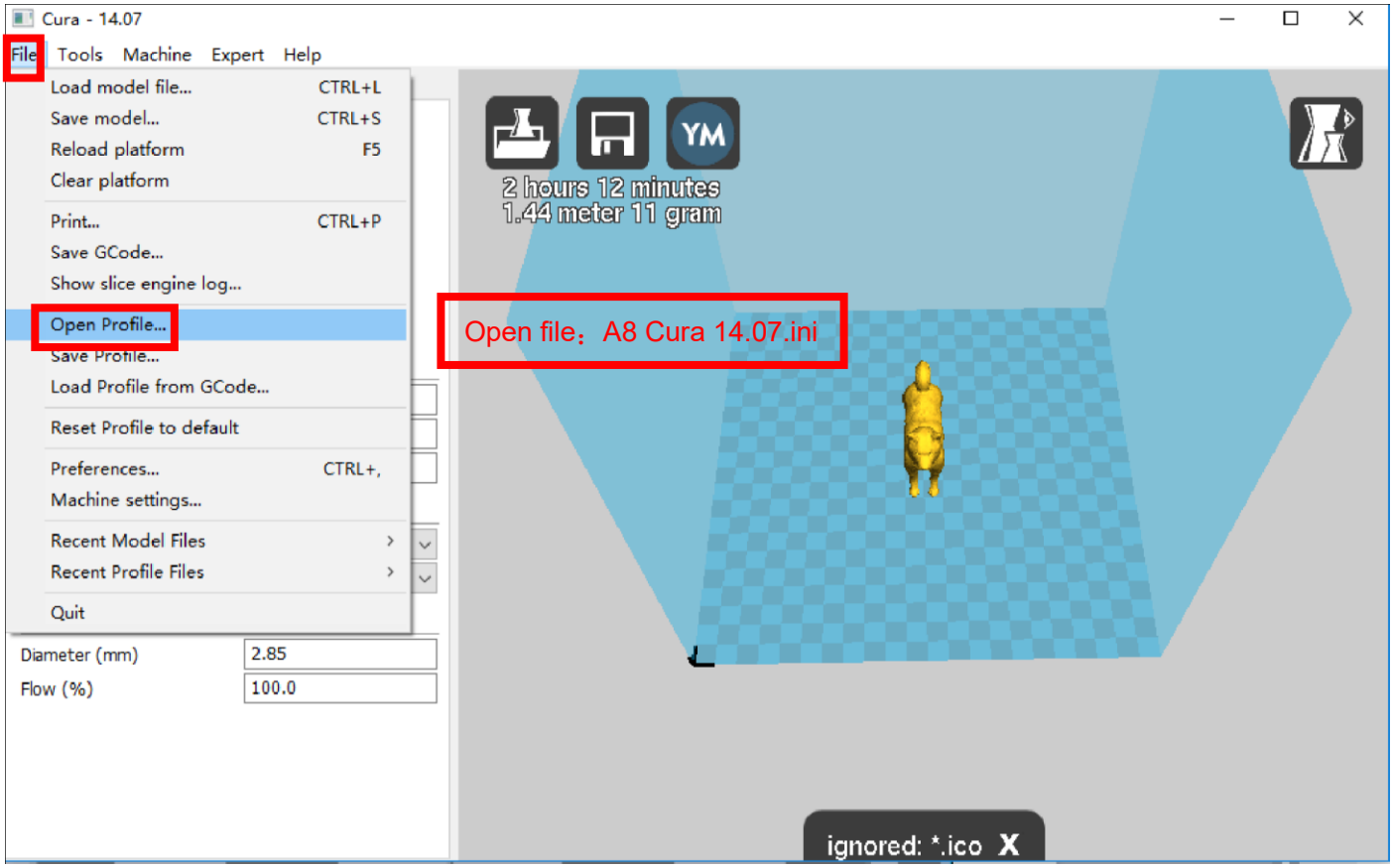
1.Move mouse to dog ,right click, click “delete object”.



2.Left click “File” , choose ”Clear platform”.

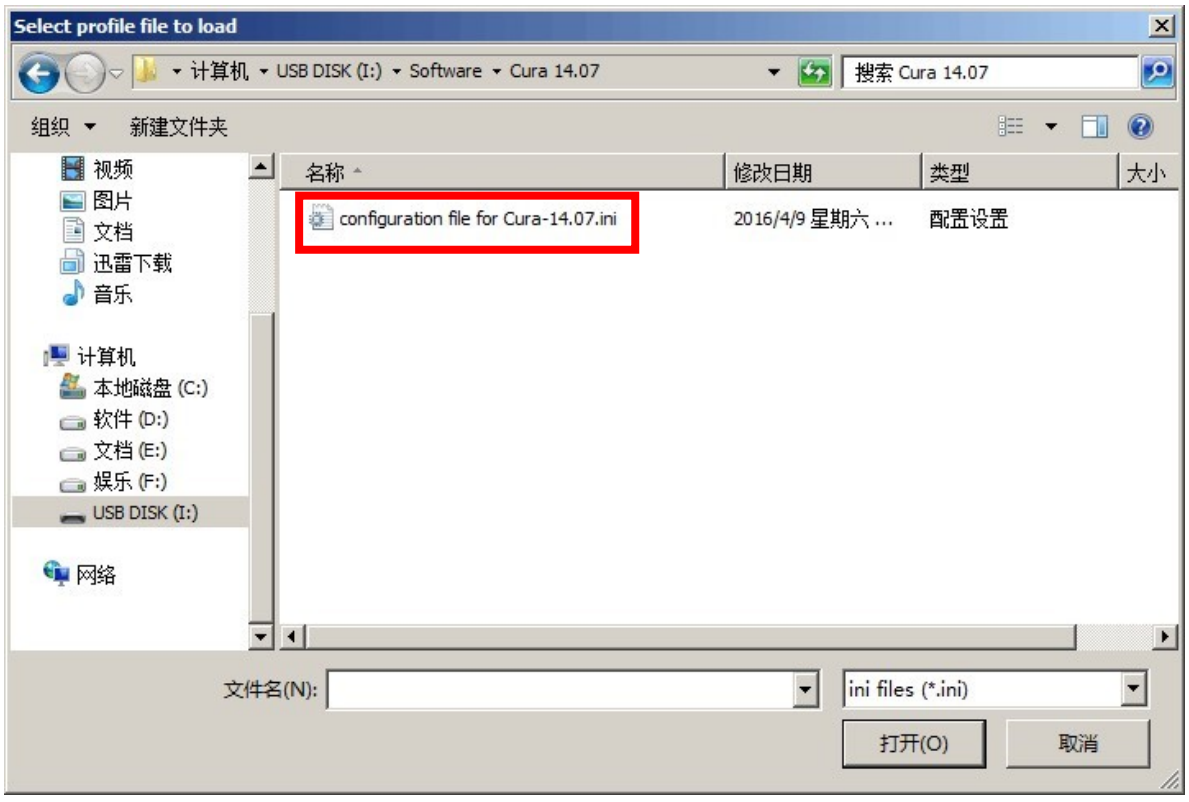


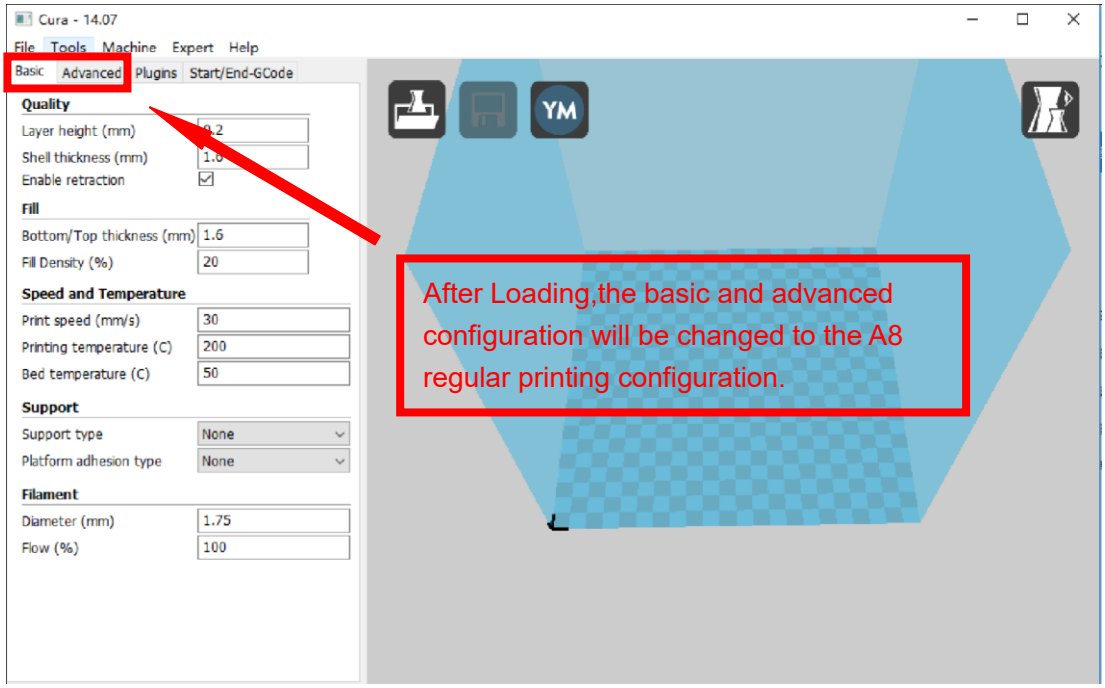


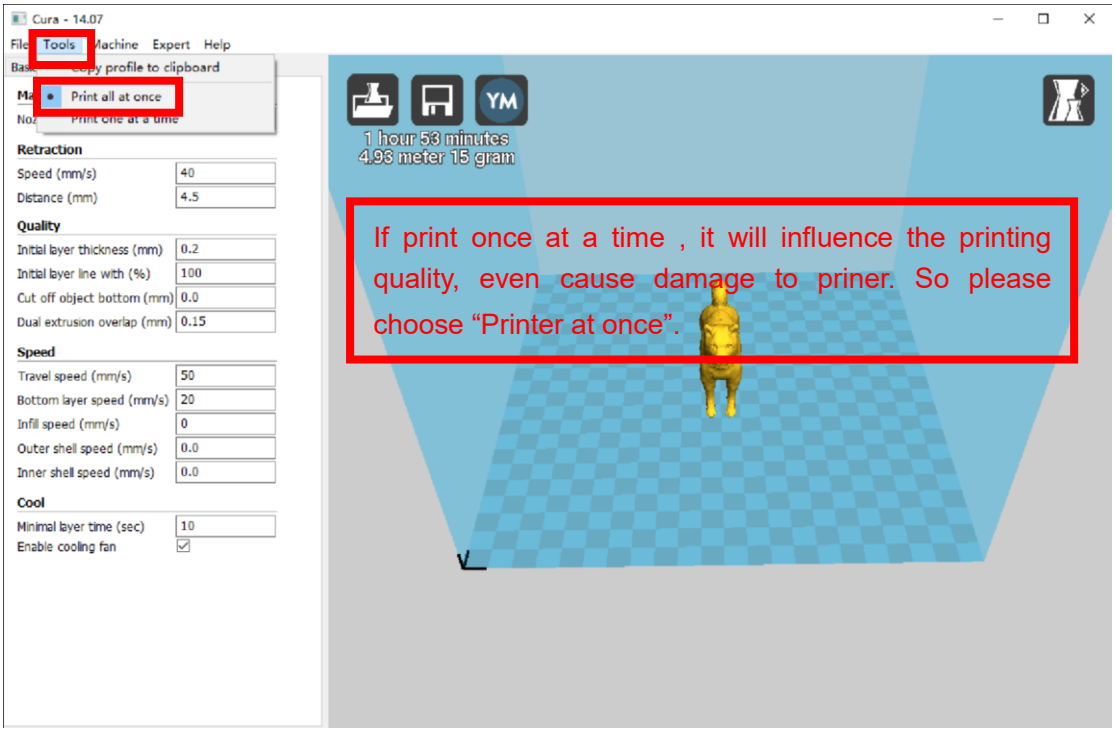


Position of configuration file: Computer/SD card)/ configuration file for cura-14.07

（suggestion :keep this file copy to your computer）

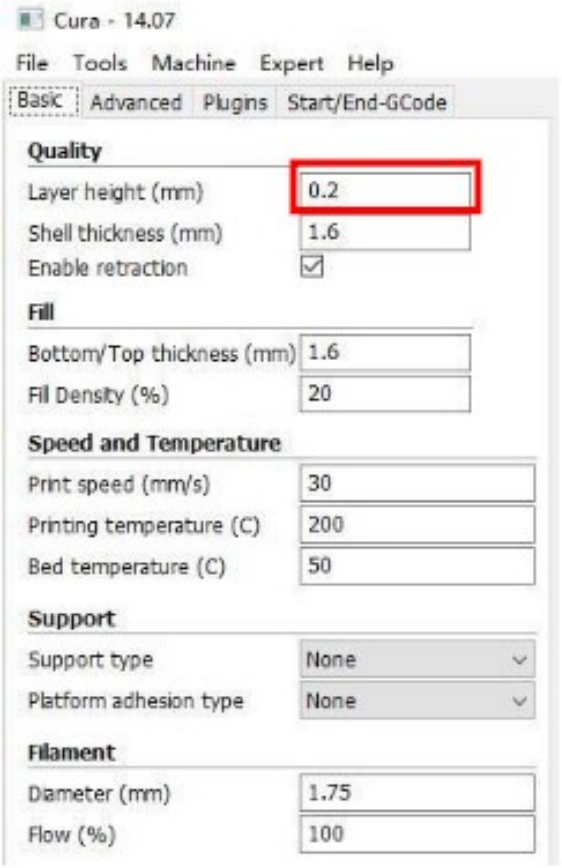


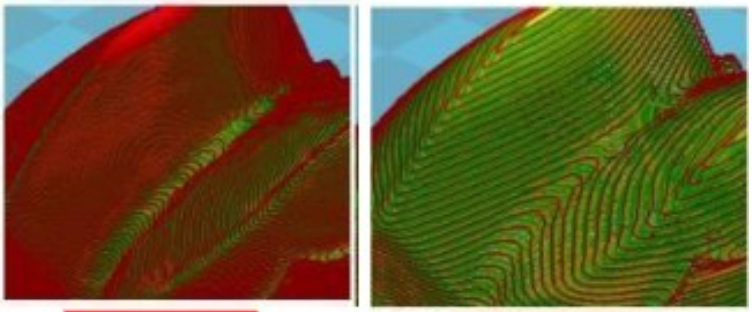

Cura - 14.07
File Tools Machine Expert Help
Basic Advanced Plugins Start/End-GCode
Quality
Layer height (mm) 0.2
Shell thickness (mm) 1.6
Enable retraction
Fill
Bottom/Top thickness (mm) 1.6
Fill Density (%) 20
Speed and Temperature
Print speed (mm/s) 30
Printing temperature (C) 200
Bed temperature (C) 50
Support
Support type None
Platform adhesion type None
Filament
Diameter (mm) 1.75
Flow (%) 100
YM
After Loading,the basic and advanced configuration will be changed to the A8 regular printing configuration.


Cura - 14.07
File Tools Machine Expert Help
Copy profile to clipboard
Print all at once
Print one at a time
Retraction
Speed (mm/s) 40
Distance (mm) 4.5
Quality
Initial layer thickness (mm) 0.2
Initial layer line with (%) 100
Cut off object bottom (mm) 0.0
Dual extrusion overlap (mm) 0.15
Speed
Travel speed (mm/s) 50
Bottom layer speed (mm/s) 20
Infill speed (mm/s) 0
Outer shell speed (mm/s) 0.0
Inner shell speed (mm/s) 0.0
Cool
Minimal layer time (sec) 10
Enable cooling fan
YM
1 hour 53 minutes
4.93 meter 15 gram
If print once at a time , it will influence the printing quality, even cause damage to priner. So please choose “Printer at once”.

2.3 Layer height settings

Layer height： 0.1mm cost long time but have the best printing precision. 0.2mm cost half time compared to 0.1mm , but have general printing precision. 0.3 cost less time with not good precision. It defaults 0.2mm.

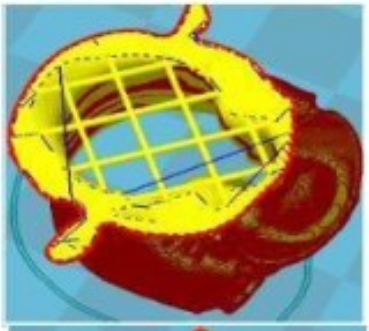




Left: 0.1mm Layer height

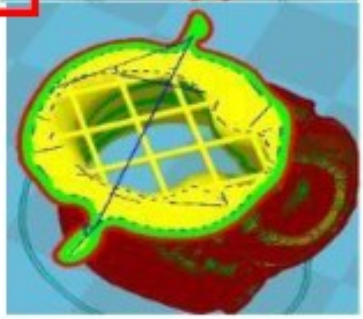
Right: 0.2mm Layer height

Layer height setting

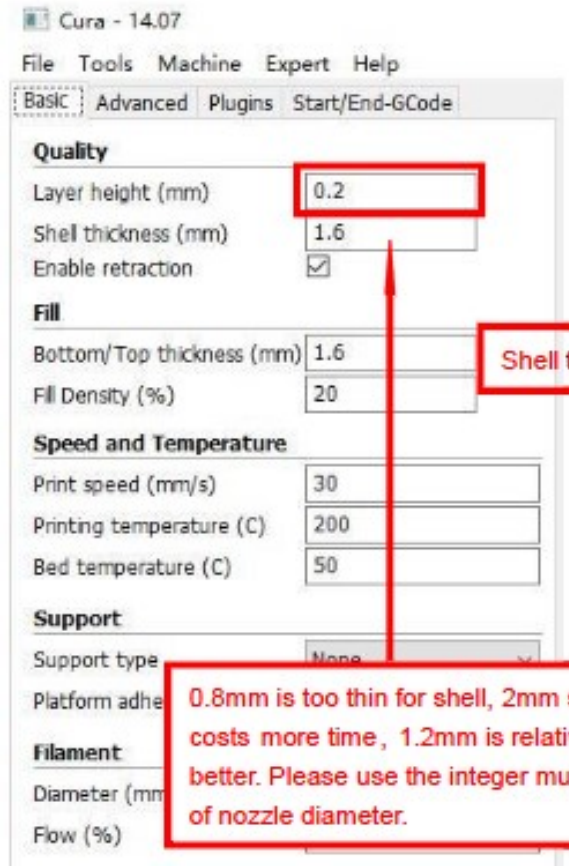


0.8mm

1.2mm

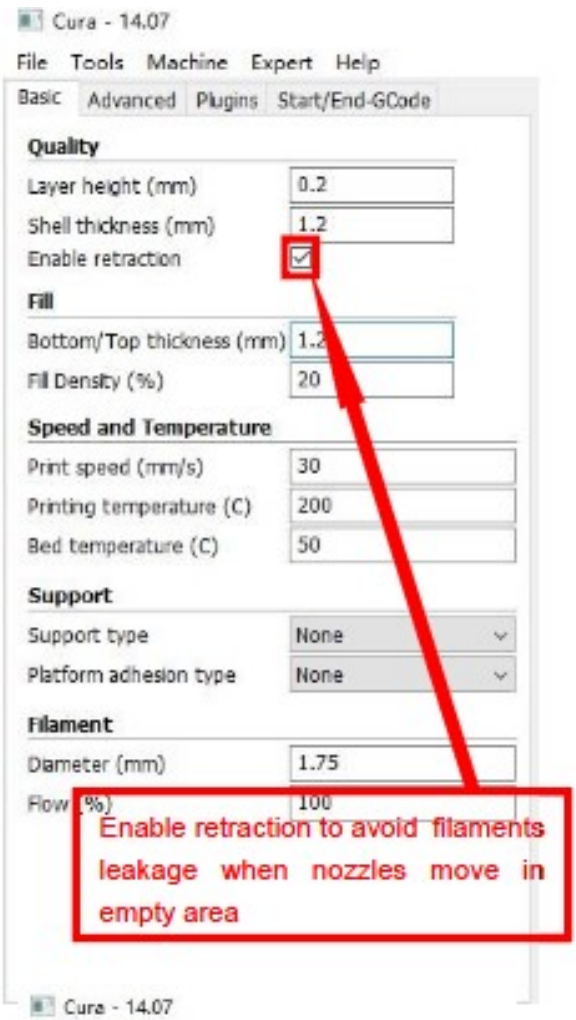


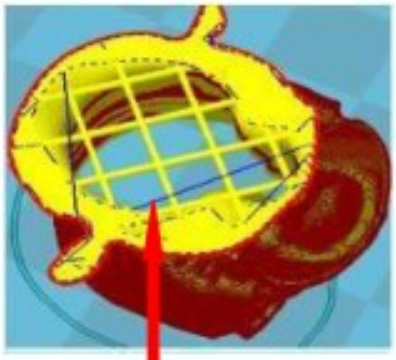
2mm



Shell thickness setting

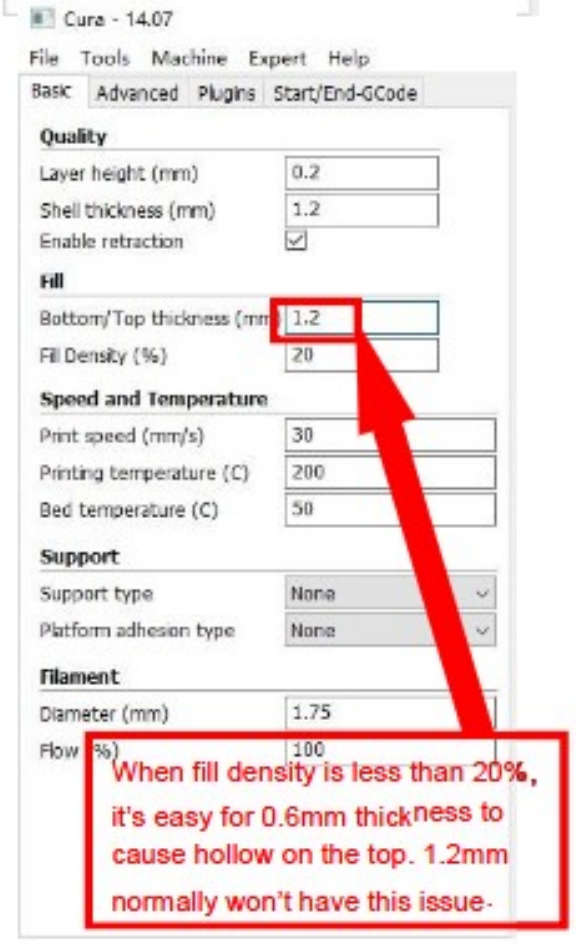
0.8mm is too thin for shell, 2mm shell costs more time, 1.2mm is relatively better. Please use the integer mutiple of nozzle diameter.

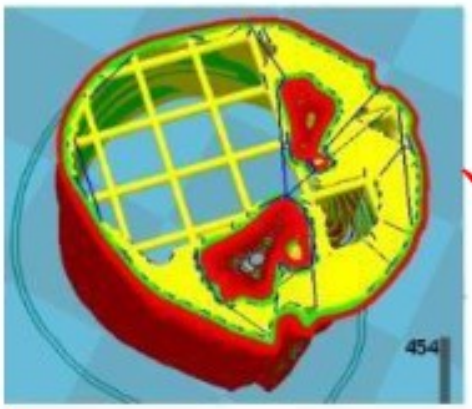




The Blue line is the leak filament

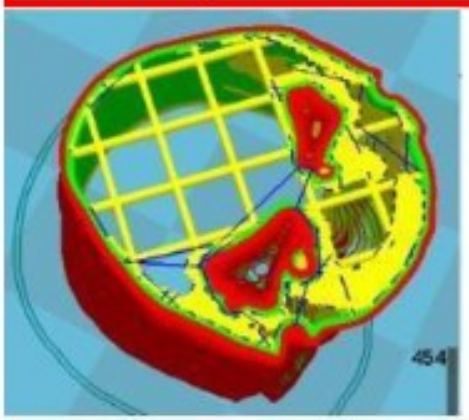
Enable retraction





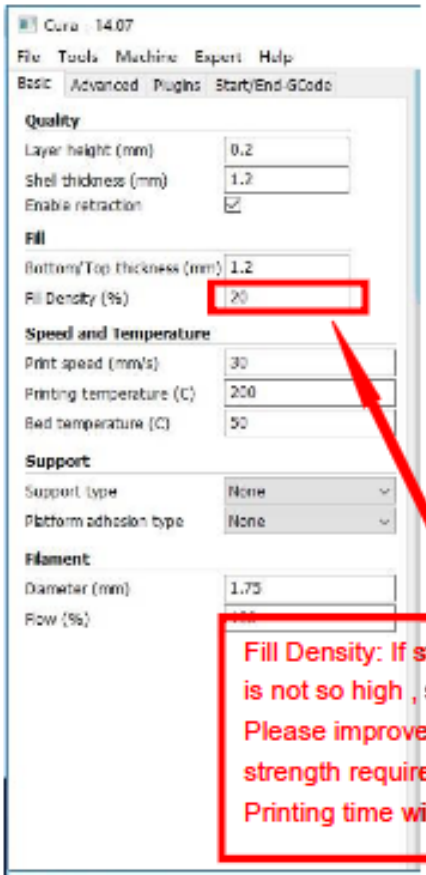
Bottom/Top thickness: 1.2mm

Under the same fill density

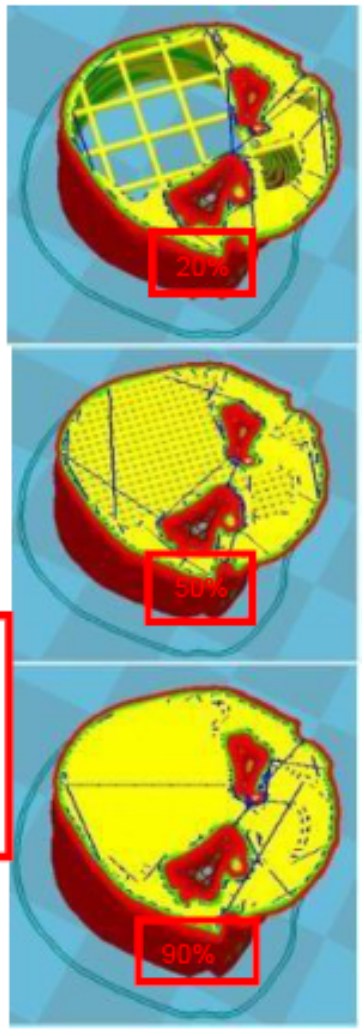


Bottom/Top thickness: 0.6mm

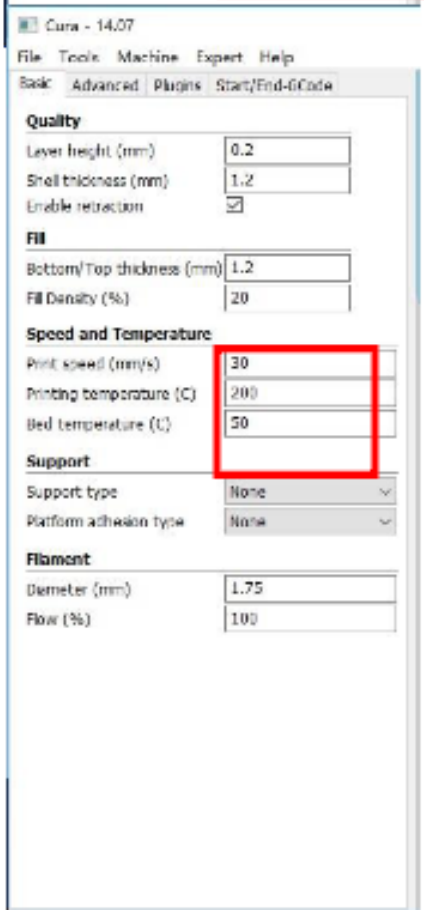
Bottom/Top thickness setting



Fill Density Setting



Fill Density: If strength requirement is not so high , set 10% is ok.
Please improve fill density when strength requirement gets higher.
Printing time will go up as well.



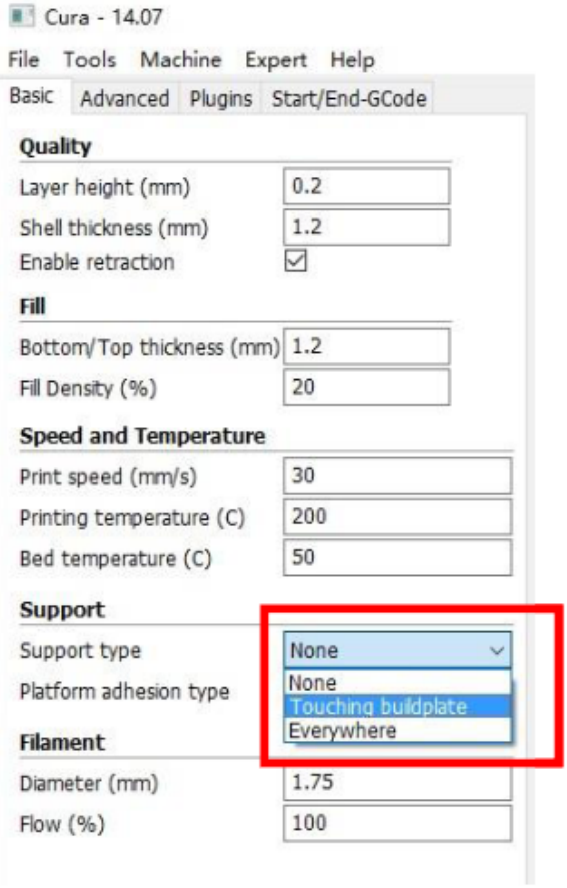
Printing Speed setting

This is default speed. If other settings aren't changed, it prints more accurately while the printing process takes more time.
High printing speed takes less time while it cannot print accurately , making the model have bad quality.
Normally 40-60 print speed is suitable for printing.

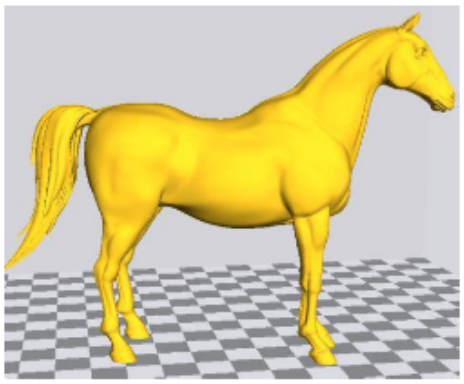
Pringting Temperature

PLA filament temperature setting: nozzle: 190-210 ℃ hotbed: 40-60℃

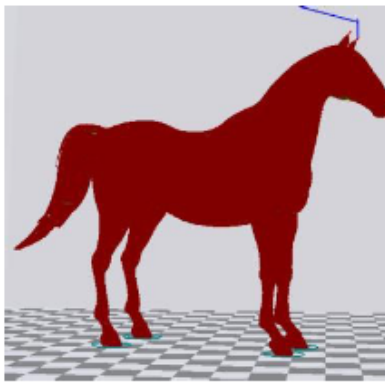
ABS filament temperature setting: nozzle: 230-250℃ hotbed: 60-90℃



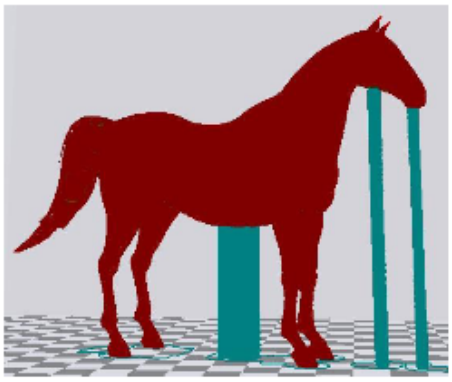
Support type setting



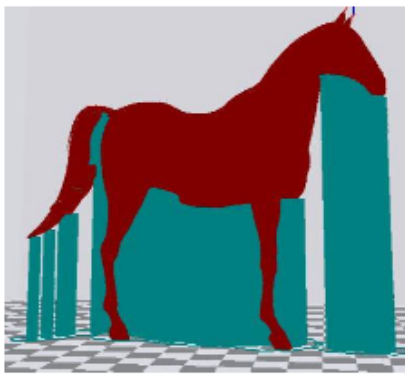
Original Model



Support type: None

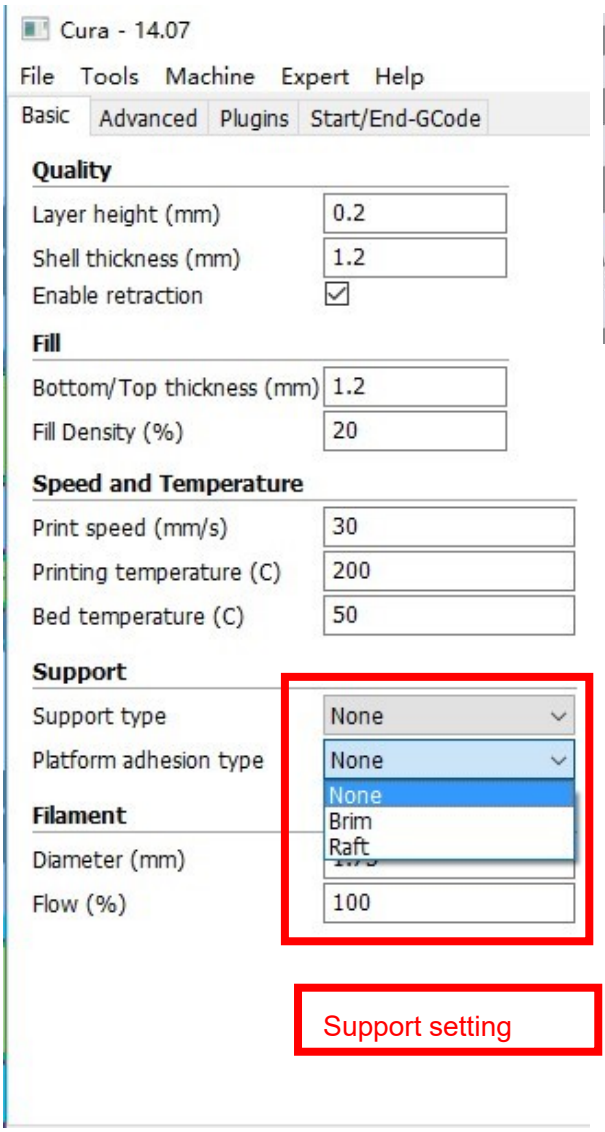


Support type: Touching

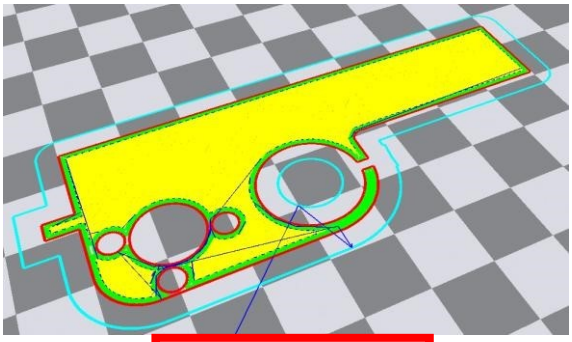


Support type: Everywhere

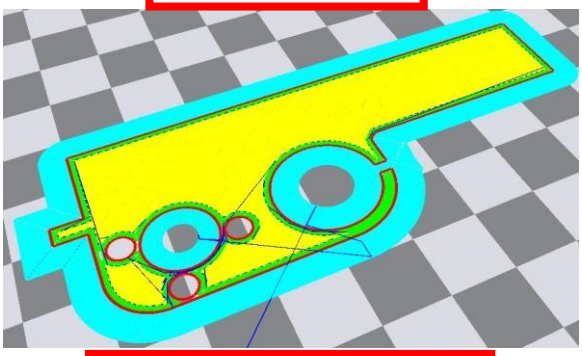
Attention: Normally we add support to complex model or model with vacant parts. It may have influence on the surface if you choose everywhere. You'd better circle around the model and try to avoid unnecessary support.



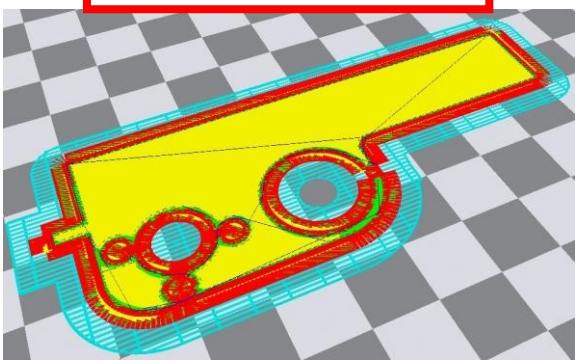
Support setting



None: no support



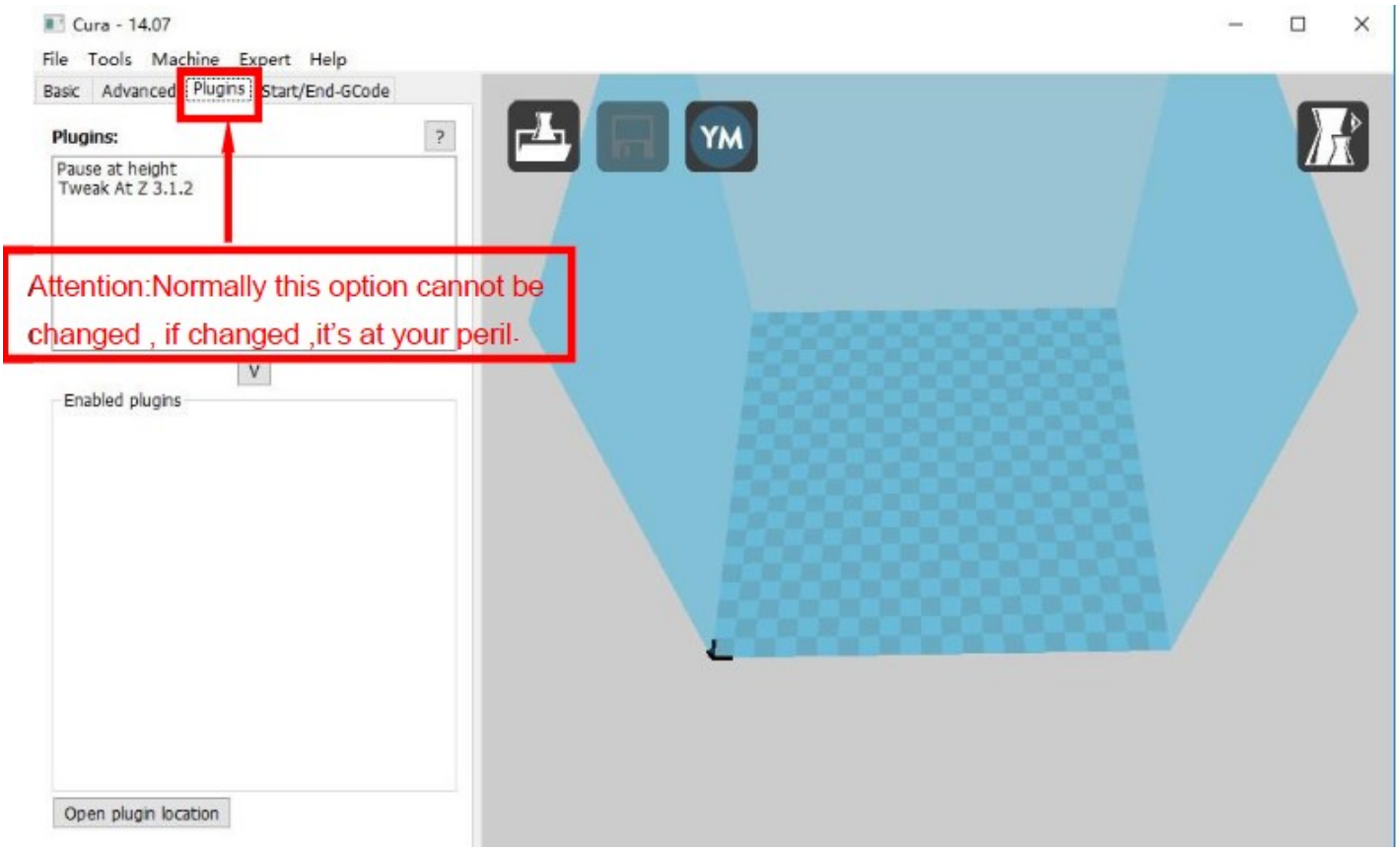
Brim:Touch with the adge



Raft: Totally touch with the bottom

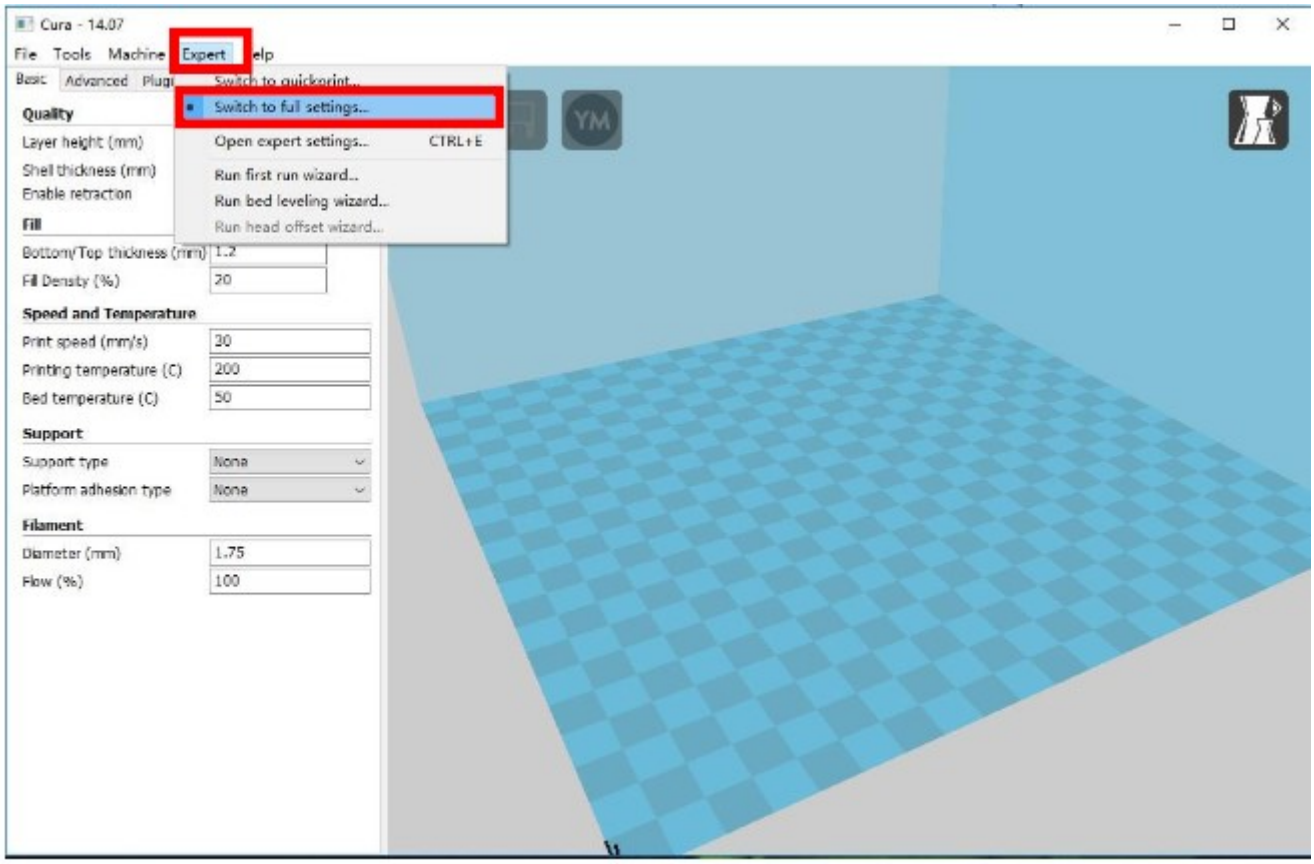
Attention: please choose None if the printing platform is ready and the high temperature adhesive tape is good. Please choose Brim when the model is small . Choosing Raft makes it difficult to seperate model from the platform

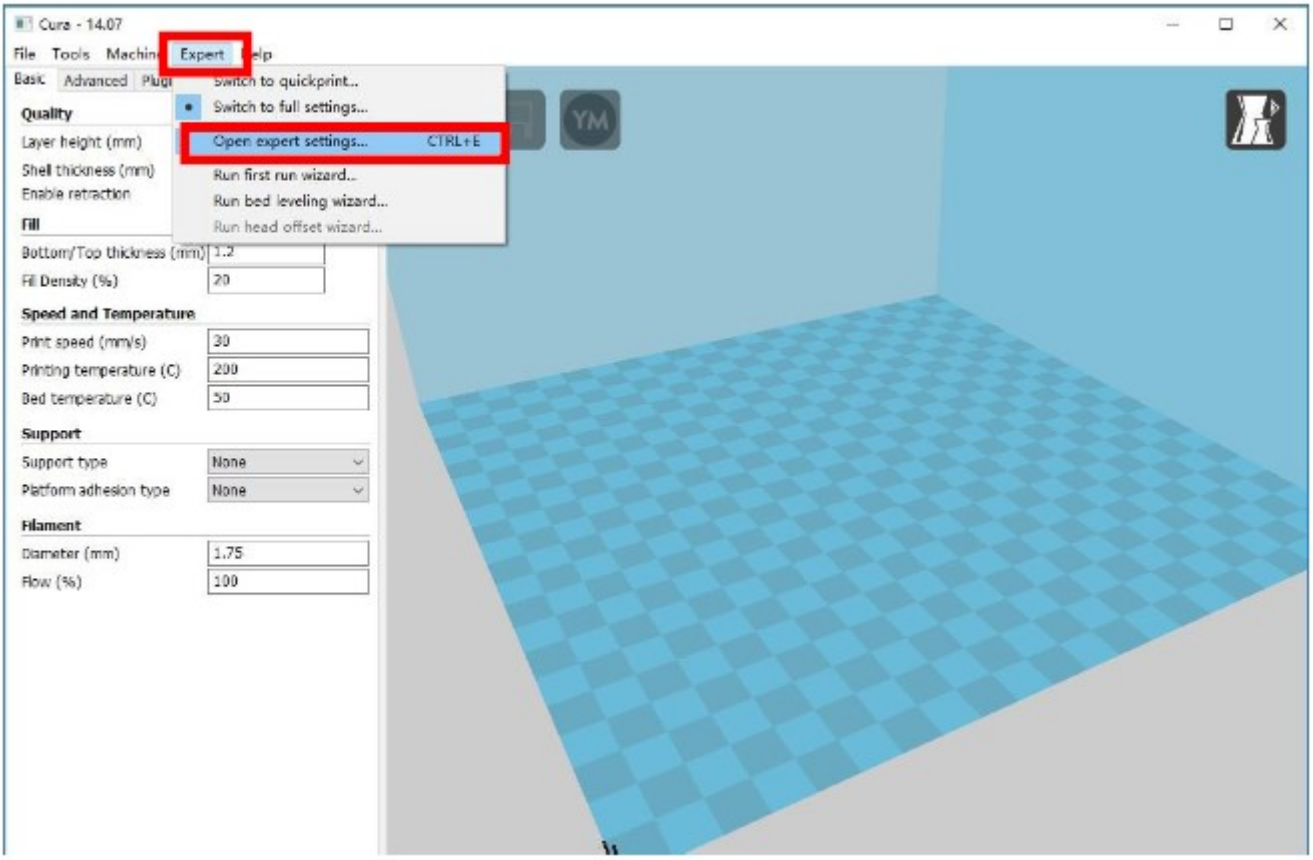
Cura - 14.07
File Tools Machine Expert Help
Basic Advanced Plugins Start/End-GCode
Quality
Layer height (mm) 0.2
Shell thickness (mm) 1.6
Enable retraction
Fill
Bottom/Top thickness (mm) 1.6
Fill Density (%) 20
Speed and Temperature
Print speed (mm/s) 30
Printing temperature (C) 200
Bed temperature (C) 50
Support
Support type None
Platform adhesion type None
Filament
Diameter (mm) 1.75
Flow (%) 100
Attention: A8-S use 1.75mm filament
Attention:
Flow is proportion of filament , we suggest to use 100
Increasing flow & decrease diameter has the similar effect.
Model surface gets many bumps when flow is too big;model frame gets flimsy if flow is too small.
Cura - 14.07
File Tools Machine Expert Help
Basic Advanced Plugins Start/End-GCode
Machine
Nozzle size (mm) 0.4
Retraction
Speed (mm/s) 40
Distance (mm) 4.5
Quality
Initial layer thickness (mm) 0.2
Initial layer line with (%) 100
Cut off object bottom (mm) 0.0
Dual extrusion overlap (mm) 0.15
Speed
Travel speed (mm/s) 50
Bottom layer speed (mm/s) 20
Infill speed (mm/s) 0
Outer shell speed (mm/s) 0.0
Inner shell speed (mm/s) 0.0
Cool
Minimal layer time (sec) 10
Enable cooling fan
We suggest not to change it , A8-S default 0.4mm
We suggest not to change it , or use the date in the picture
We suggest 0.2mm to avoid initial layer tilt,0.3mm is more easy to seperate from the platform.
Initial layer line proportion
“0” means using default speed
Min printing time for each layer. When the time is less than 10 , it prints slower. It’s better to decrease time when printing thin and long models.
We suggest not choose this when printing ABS.

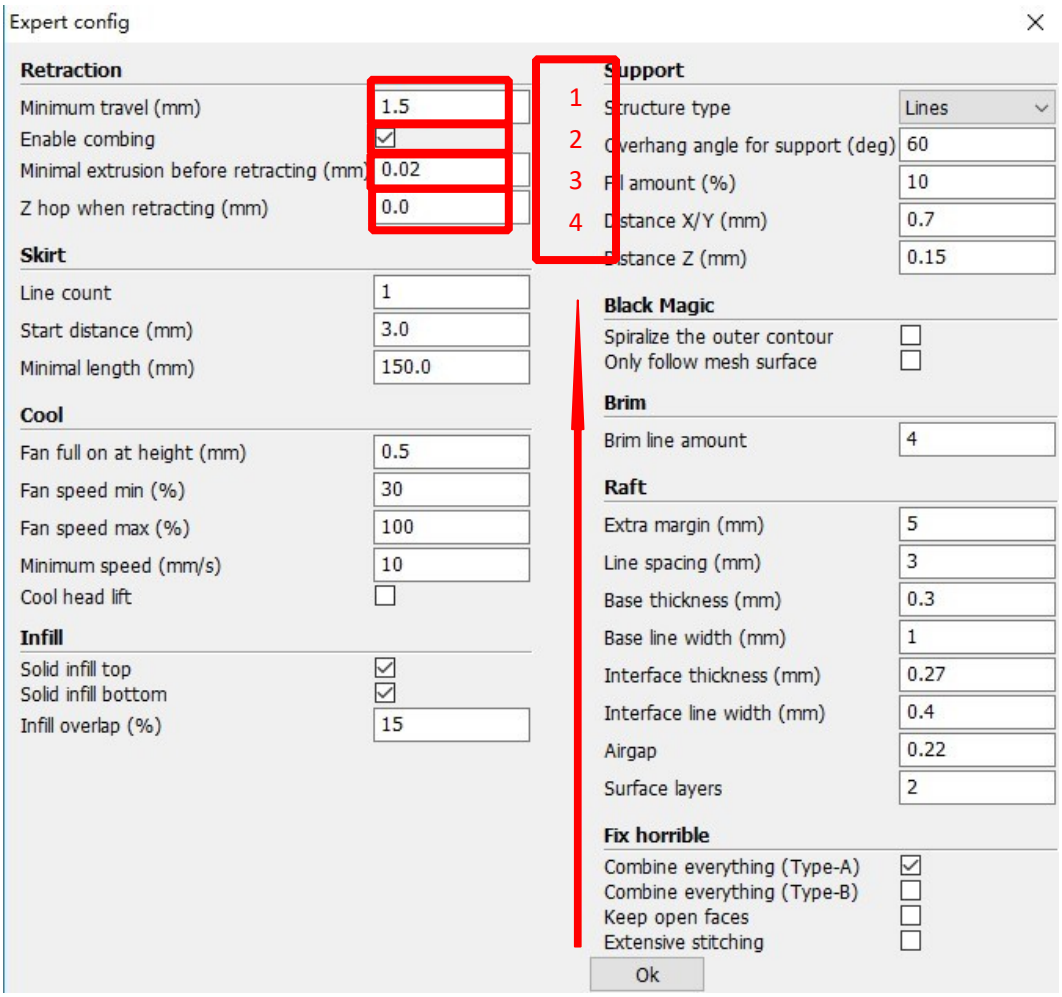

Cura - 14.07
File Tools Machine Expert Help
Basic Advanced Plugins Start/End-GCode
Plugins:
Pause at height
Tweak At Z 3.1.2
Attention:Normally this option cannot be changed , if changed ,it's at your peril.
Enabled plugins
Open plugin location
YM

Attention:Normally this option cannot be changed , if changed , it's at your peril.
Cura - 14.07
File Tools Machine
Basic Advanced Plugins Start/End-GCode
start.gcode
end.gcode
Ending
Starting
;Sliced at: {day} {date} {time}
;Basic settings: Layer height: {layer_hei
;Print time: {print_time}
;Filament used: {filament_amount}m {filam
;Filament cost: {filament_cost}
;M190 S{print_bed_temperature} ;Uncomment
;M109 S{print_temperature} ;Uncomment to
G21 ;metric values
G90 ;absolute positioning
M107 ;start with the fan off
G28 X0 Y0 ;move X/Y to min endstops
G28 Z0 ;move Z to min endstops
G1 Z15.0 F{travel_speed} ;move the platfo
G92 E0 ;zero the extrude
G1 F200 E3 ;extrude 3mm of f
G92 E0 ;zero the extrude
G1 F{travel_speed}
;Put printing message on LCD screen
M117 Printing...
YM

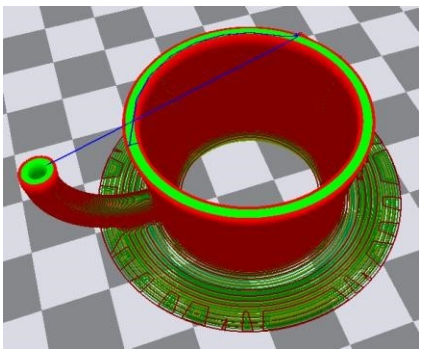
3.Expert Setting





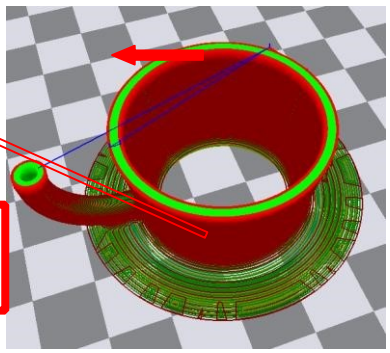


1. The minimum length before retraction . Used to avoid frequent retraction. No need to change.
2. Enable Combing: Digital for surface quality , the nozzle will try not to go through surface , that's why Cura is better than Slic3r.
3. Minimum extrusion length , to avoid frequent extrusion.
4. The height extruder rise in the retraction . If you need to set this option , 2mm is suitable .



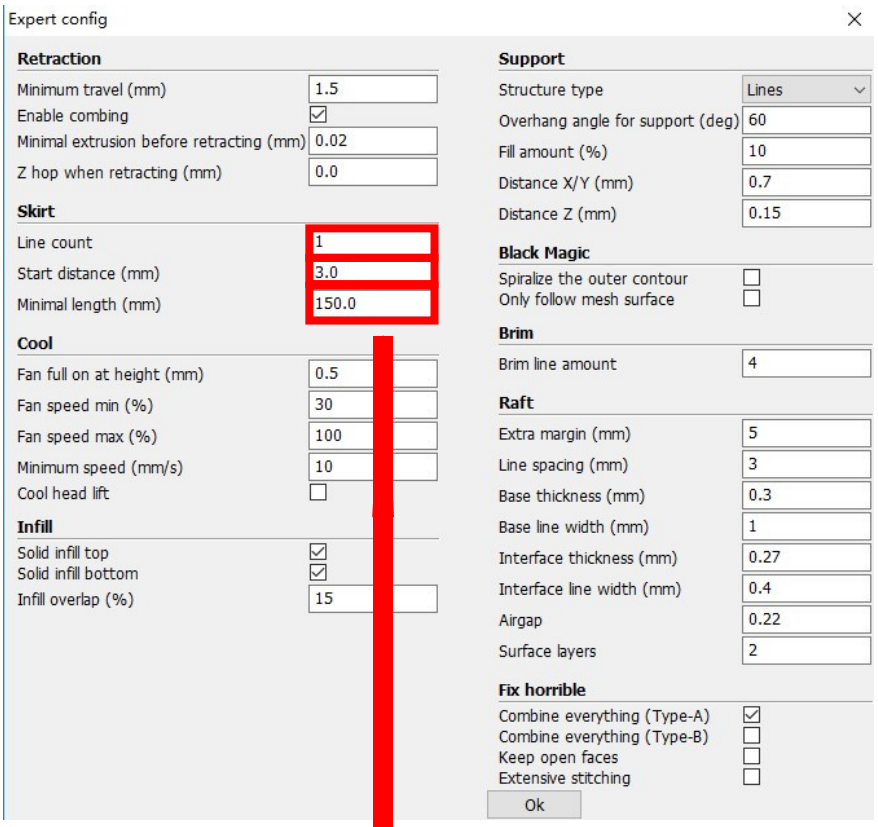
Printing route with Combing

Go aside of the surface

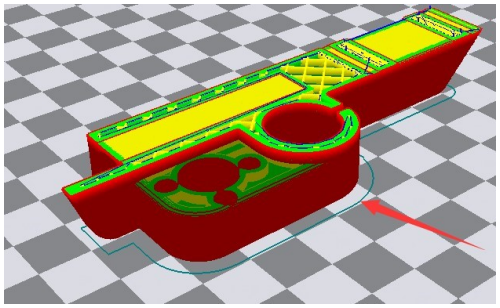


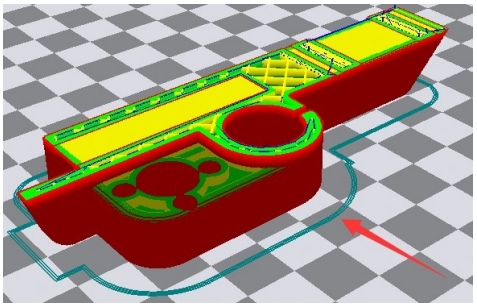
Printing route without Combing

Go through the surface



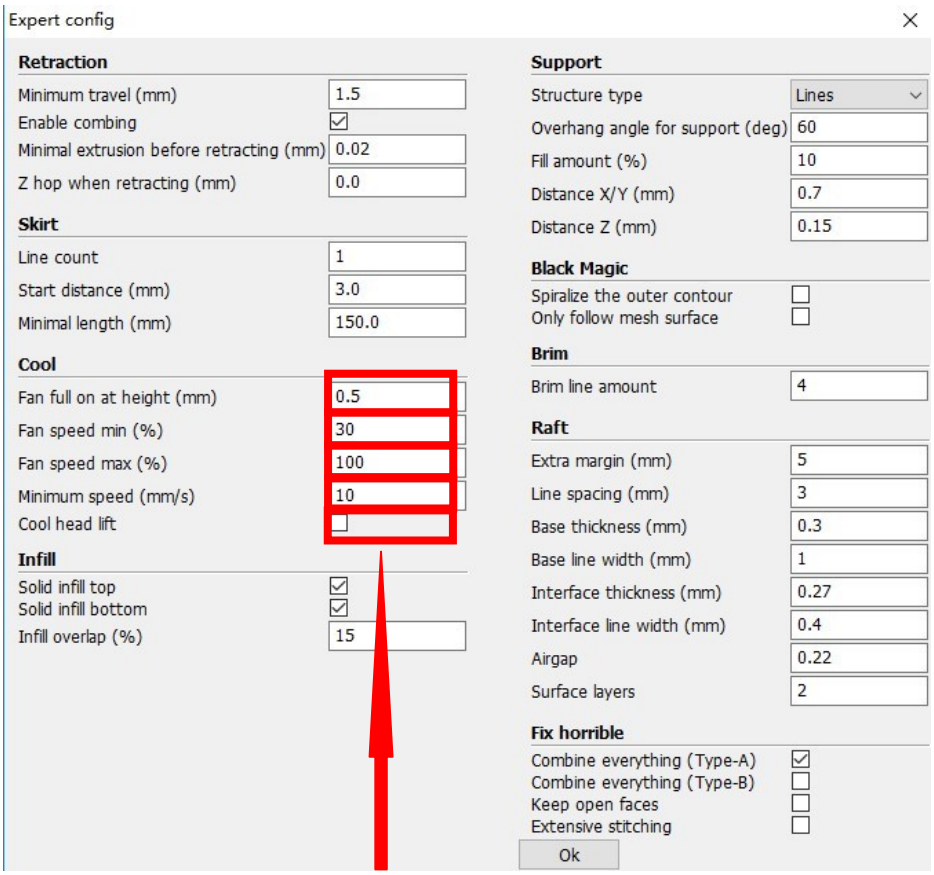
Skirt is to avoid extruder unfilled before printing , and it appears only when platform attachment type is None. Normally “1” is ok . Change it to “0” when your model reaches the maximum size , or the printing size will be too big.





Peripheral line quantity: 1
Start distance: 3

Peripheral line quantity: 1
Start distance: 3



1. To ensure the attachment of model to platform , fan won't start at the beginning.

2-4. Fan speed min & max : If they are not equal , the soft ware will choose a suitable speed during them.

5. Condition to choose cool head lift : When it's printing with the minimum speed but still cannot reach the minimum time , you need to choose cool head lift . But it may cause filament leak.

Expert config

Retraction

Minimum travel (mm)	1.5
Enable combing	☑
Minimal extrusion before retracting (mm)	0.02
Z hop when retracting (mm)	0.0

Skirt

Line count	1
Start distance (mm)	3.0
Minimal length (mm)	150.0

Cool

Fan full on at height (mm)	0.5
Fan speed min (%)	30
Fan speed max (%)	100
Minimum speed (mm/s)	10
Cool head lift	☐

Infill

Solid infill top	☑
Solid infill bottom	☑
Infill overlap (%)	15

Support

Structure type	Lines
Overhang angle for support (deg)	60
Fill amount (%)	10
Distance X/Y (mm)	0.7
Distance Z (mm)	0.15

Black Magic

Spiralize the outer contour	☐
Only follow mesh surface	☐

Brim

Brim line amount	4

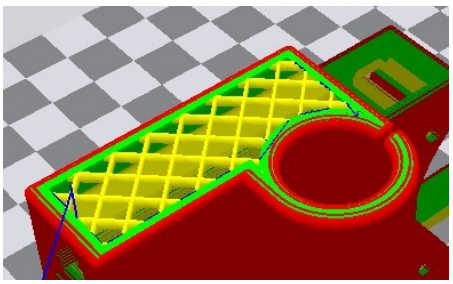
Raft

Extra margin (mm)	5
Line spacing (mm)	3
Base thickness (mm)	0.3
Base line width (mm)	1
Interface thickness (mm)	0.27
Interface line width (mm)	0.4
Airgap	0.22
Surface layers	2

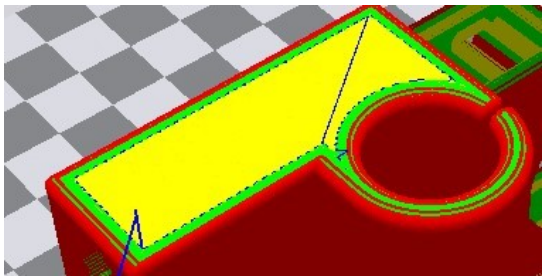
Fix horrible

Combine everything (Type-A)	☑
Combine everything (Type-B)	☐
Keep open faces	☐
Extensive stitching	☐

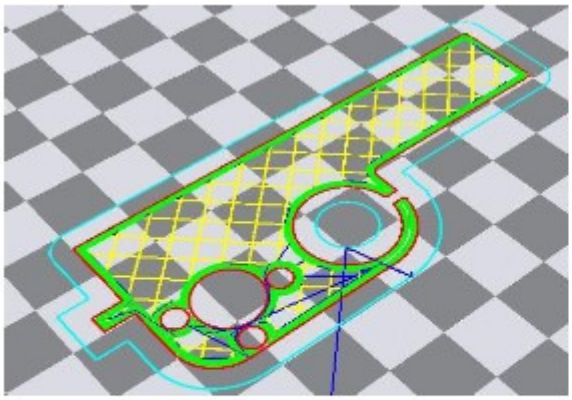
Ok



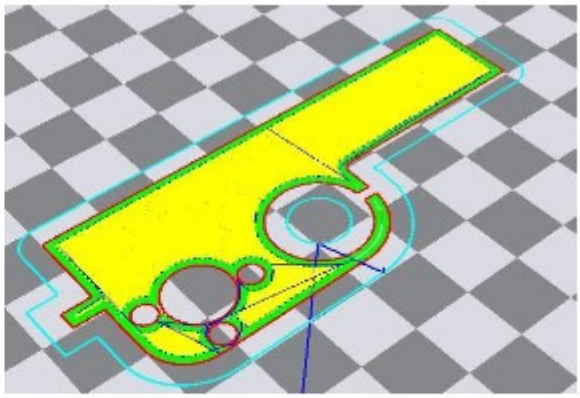
No solid infill top



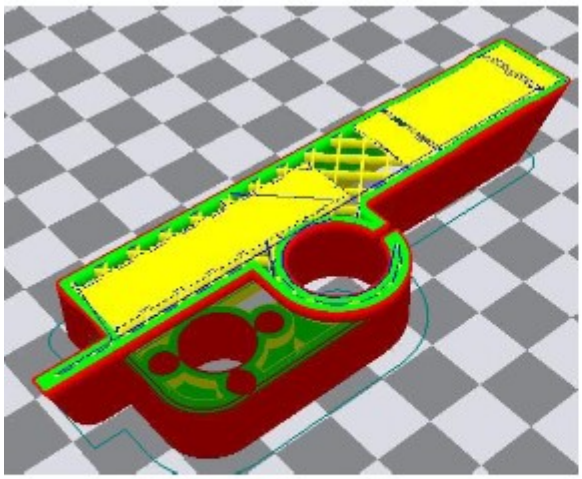
With solid infill top



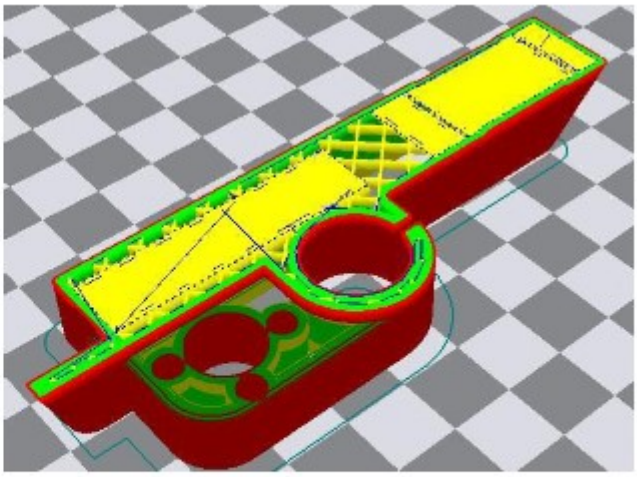
No solid infill bottom



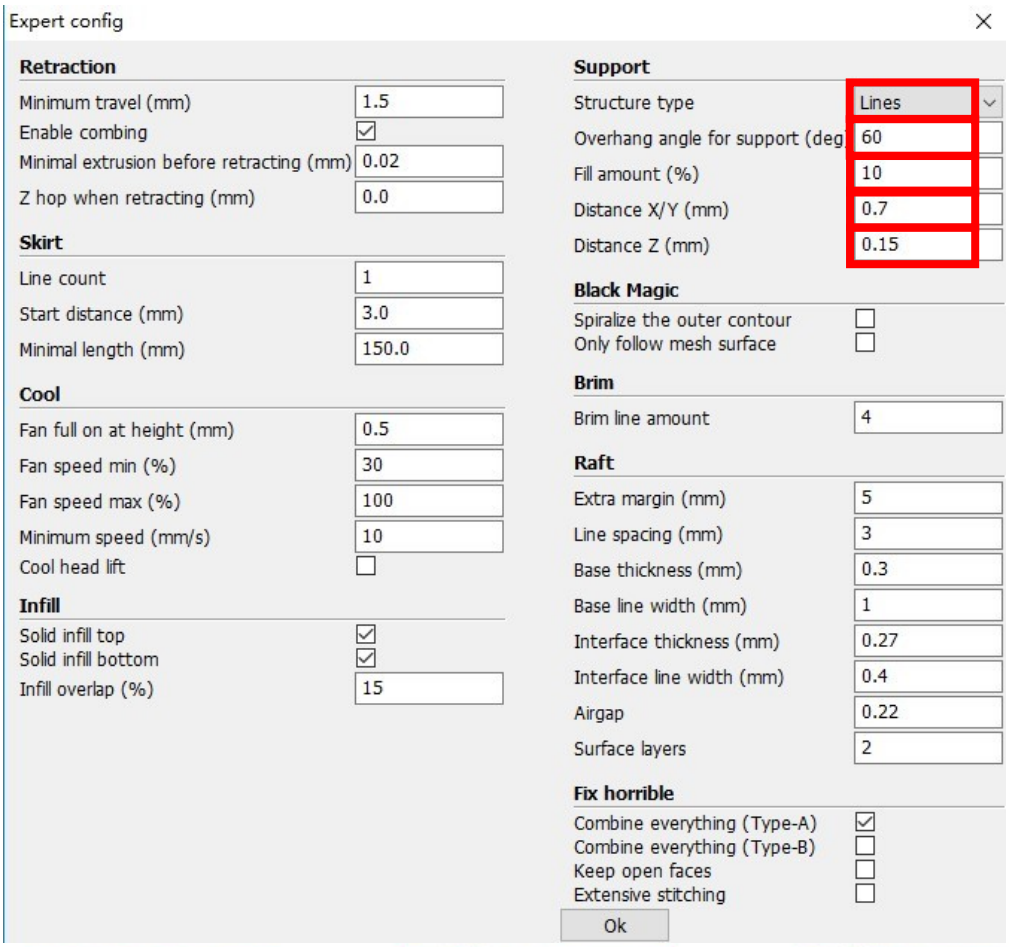
With solid infill bottom

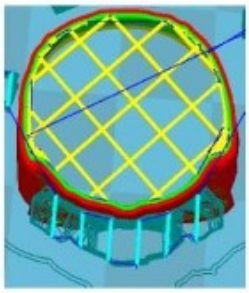


Infill coverlap: 20

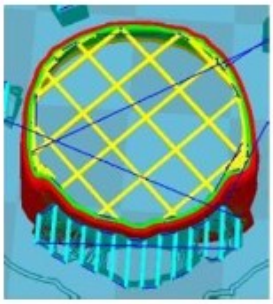


Infill coverlap: 40

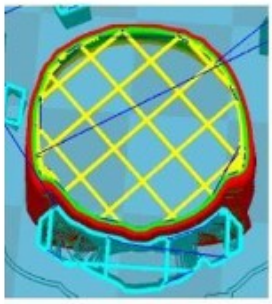




Structure types:lines
Infill covertap: 15
Distance X/Y: 0.7

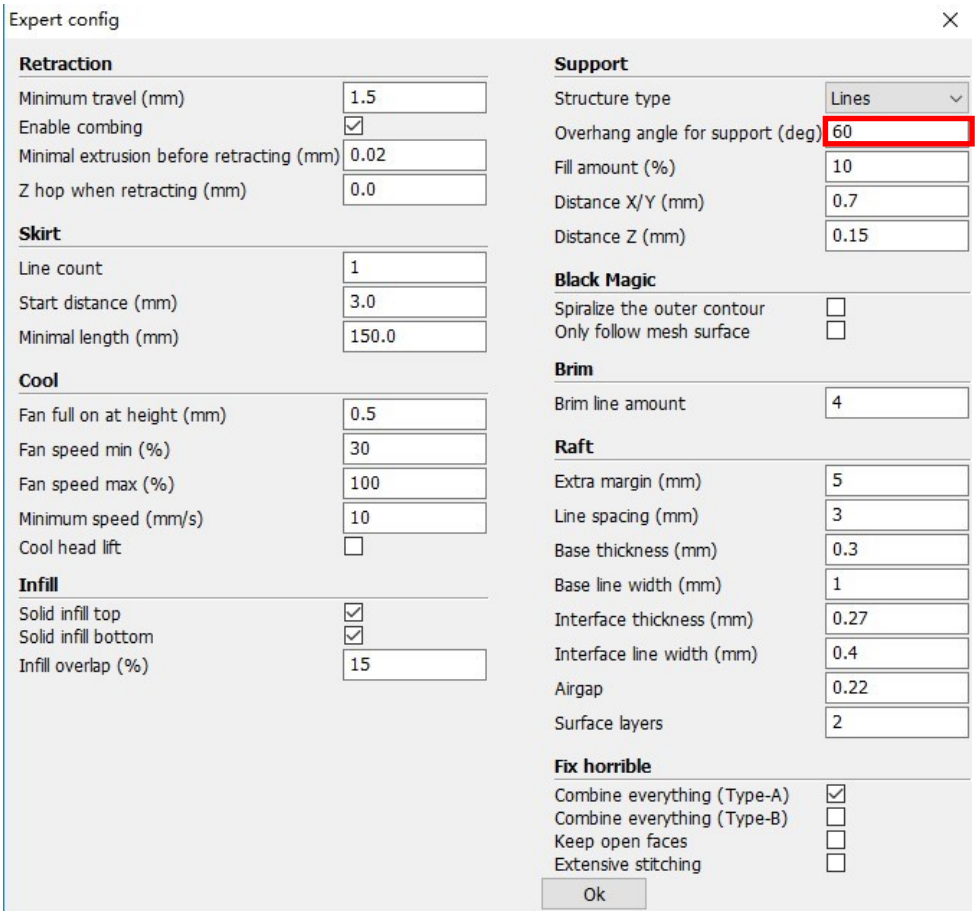


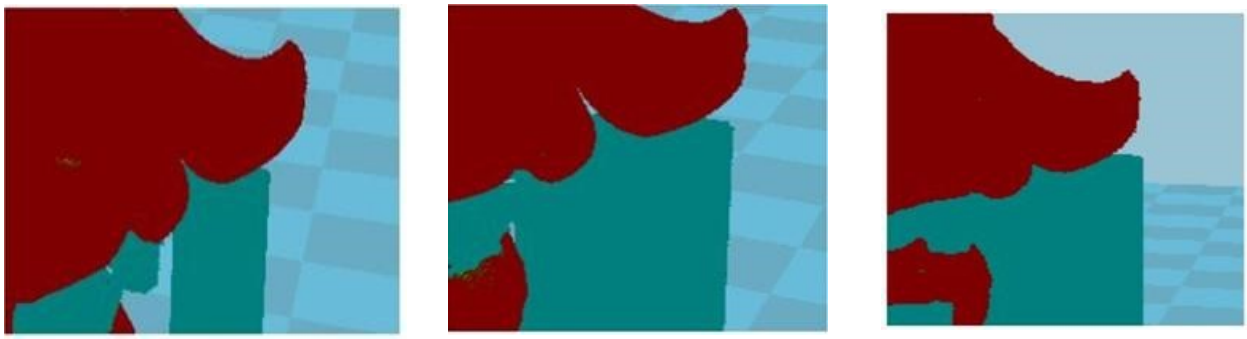
Structure types:lines
Infill covertap: 30
Distance X/Y: 0.7



Structure types:grids
Infill covertap: 15
Distance X/Y: 0.7

These above are examples , you can set these options according to actual requirements. The biggest progress Cura has made is the kinds of support structure types , making it easier to seperate from the model.





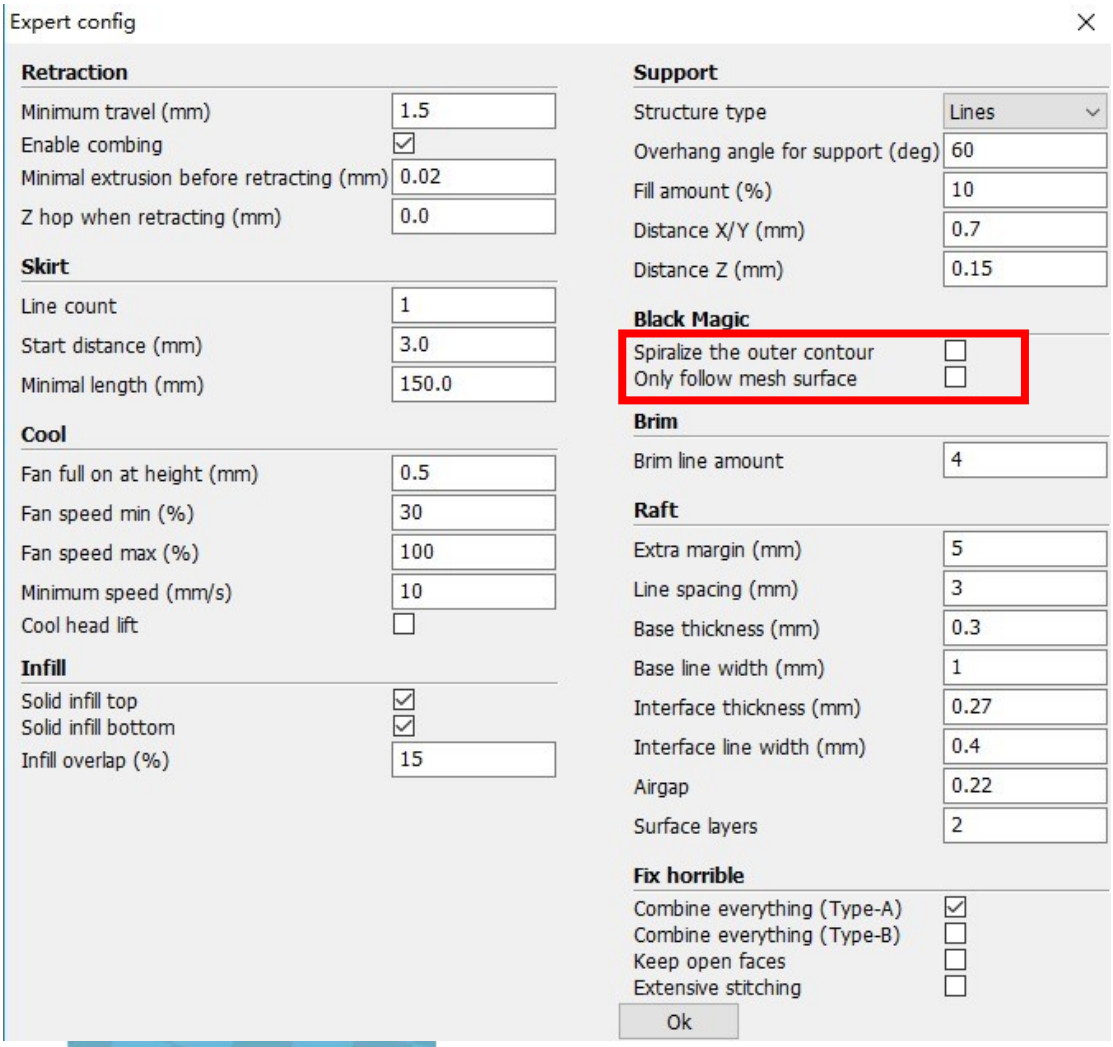
60°

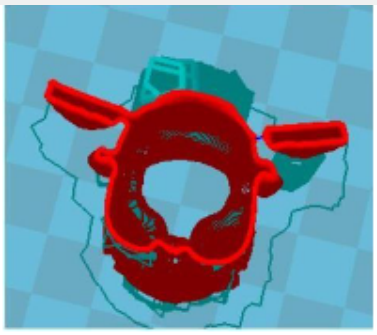
45°

30°

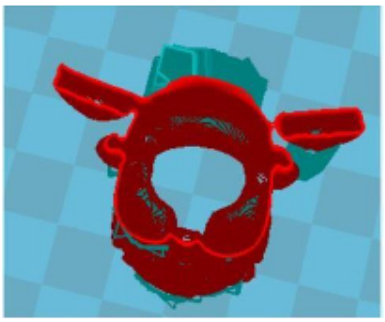
It's difficult to seperate if the distance between support and the supported place is too close; The surface will be influenced if the distance is too far.

Different angle will generate different support , you can try the examples we provide above which will have different effect.





When choosing "Spiralize the outer contour" : Z axis rises while X,Y axis moves , and only a hollow bottom and a single layer of surface.



When choosing "Only follow mesh surface" : The nozzle prints along the surface.

Attention: The software defaults not open the option above , you'd better not turnit on .

Expert config

Retraction

Minimum travel (mm)	1.5
Enable combing	☑
Minimal extrusion before retracting (mm)	0.02
Z hop when retracting (mm)	0.0

Skirt

Line count	1
Start distance (mm)	3.0
Minimal length (mm)	150.0

Cool

Fan full on at height (mm)	0.5
Fan speed min (%)	30
Fan speed max (%)	100
Minimum speed (mm/s)	10
Cool head lift	☐

Infill

Solid infill top	☑
Solid infill bottom	☑
Infill overlap (%)	15

Support

Structure type	Lines
Overhang angle for support (deg)	60
Fill amount (%)	10
Distance X/Y (mm)	0.7
Distance Z (mm)	0.15

Black Magic

Spiralize the outer contour	☐
Only follow mesh surface	☐

Brim

Brim line amount	4

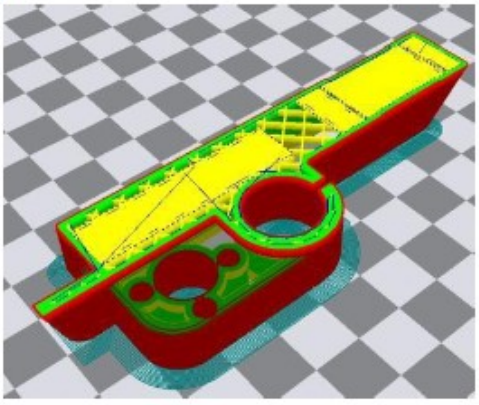
Raft

Extra margin (mm)	5
Line spacing (mm)	3
Base thickness (mm)	0.3
Base line width (mm)	1
Interface thickness (mm)	0.27
Interface line width (mm)	0.4
Airgap	0.22
Surface layers	2

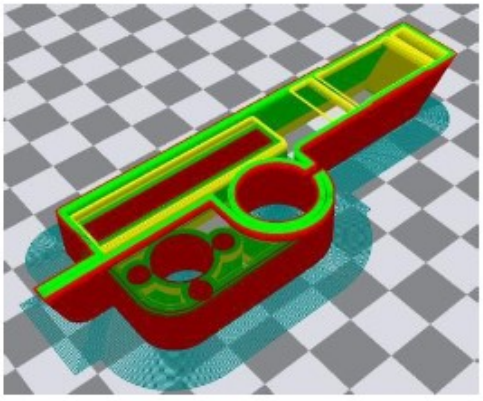
Fix horrible

Combine everything (Type-A)	☑
Combine everything (Type-B)	☐
Keep open faces	☐
Extensive stitching	☐

Ok

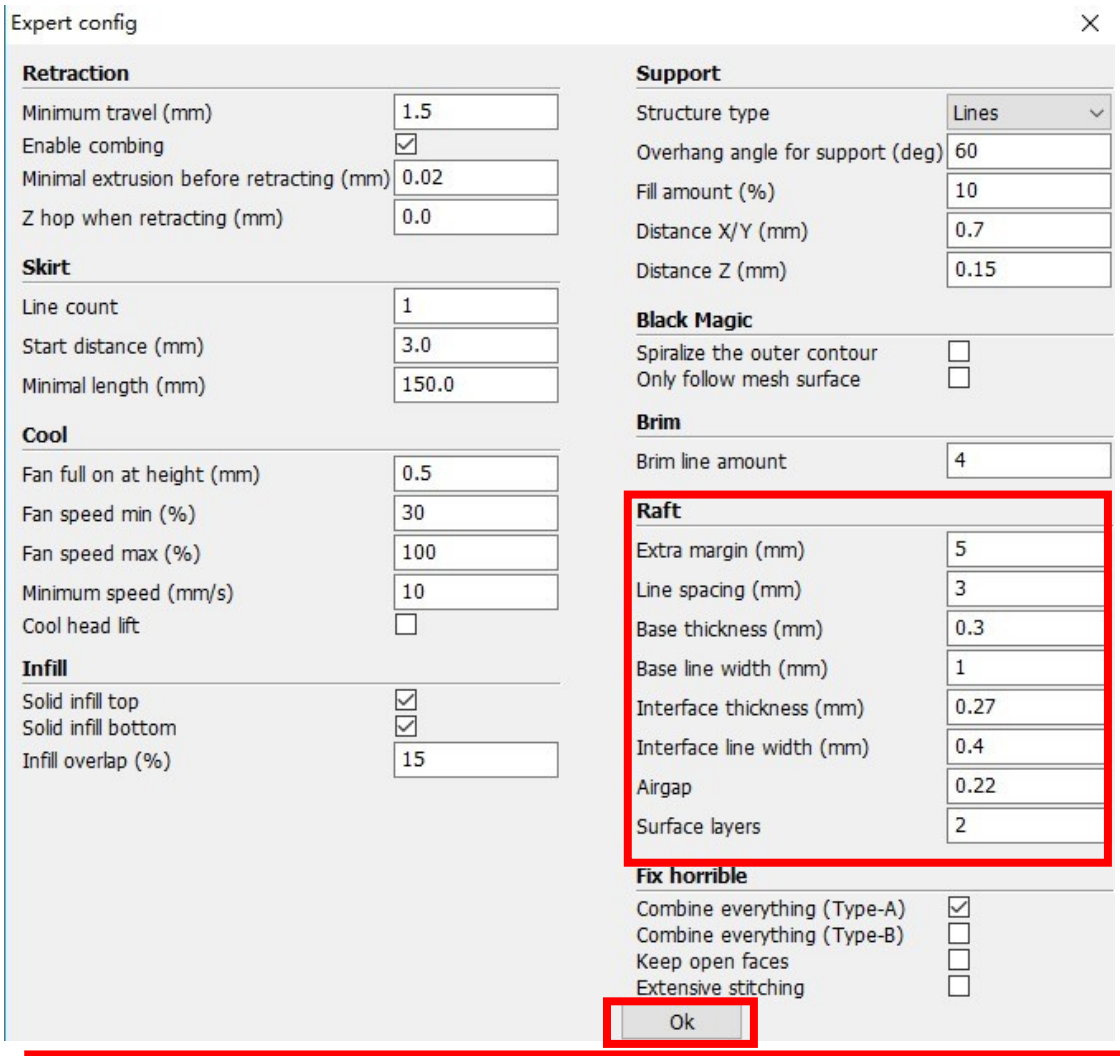


Brim line amount: 10



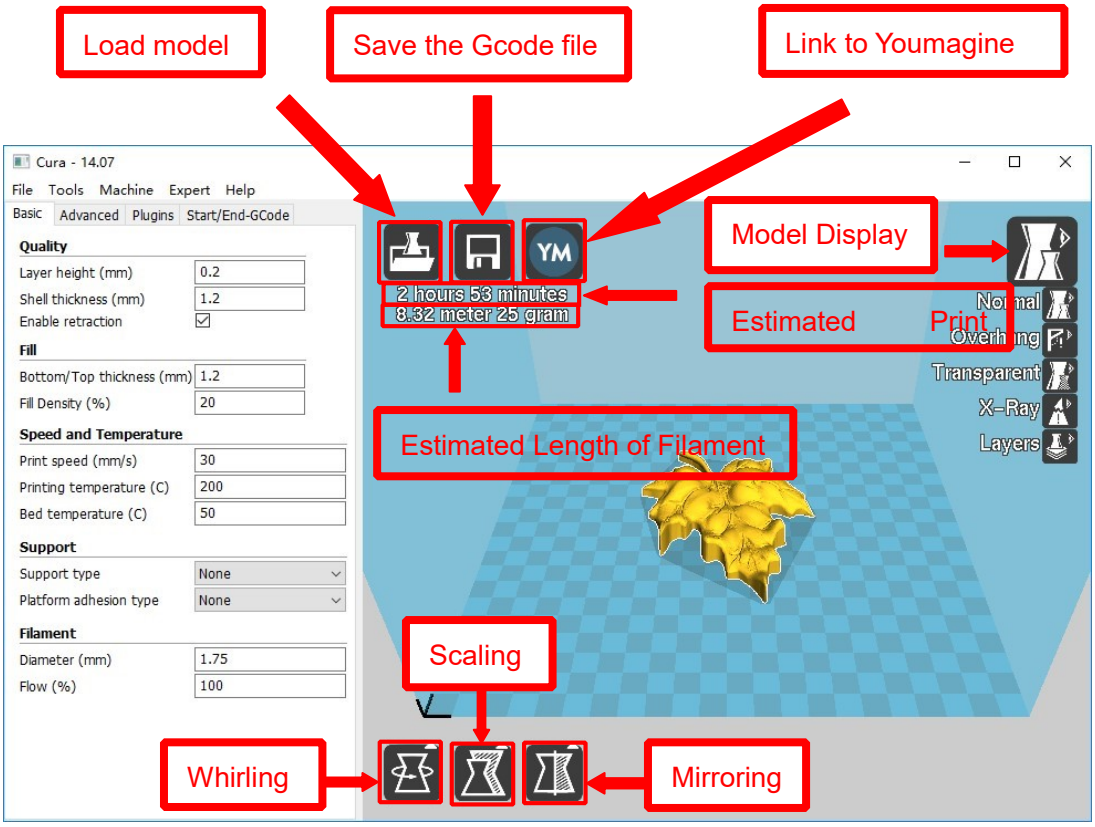
Brim line amount: 20

Guidance to use Brim if needed: Expert → Expert Settings → Support → Support Types → Birm.
The images above are only for reference , please set the parameter according to actual requirement.



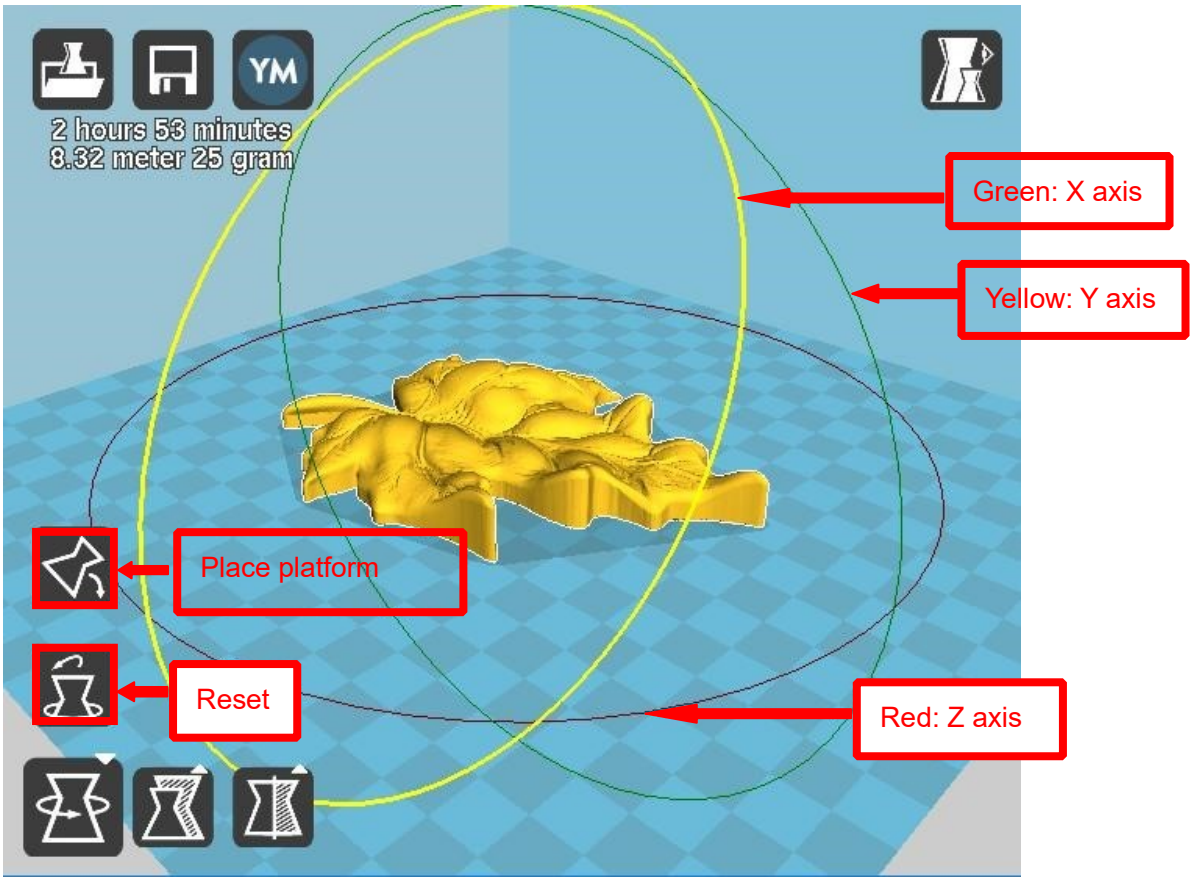
Guidance to use Raft if needed: Expert → Expert Settings → Support → Support Types → Raft.

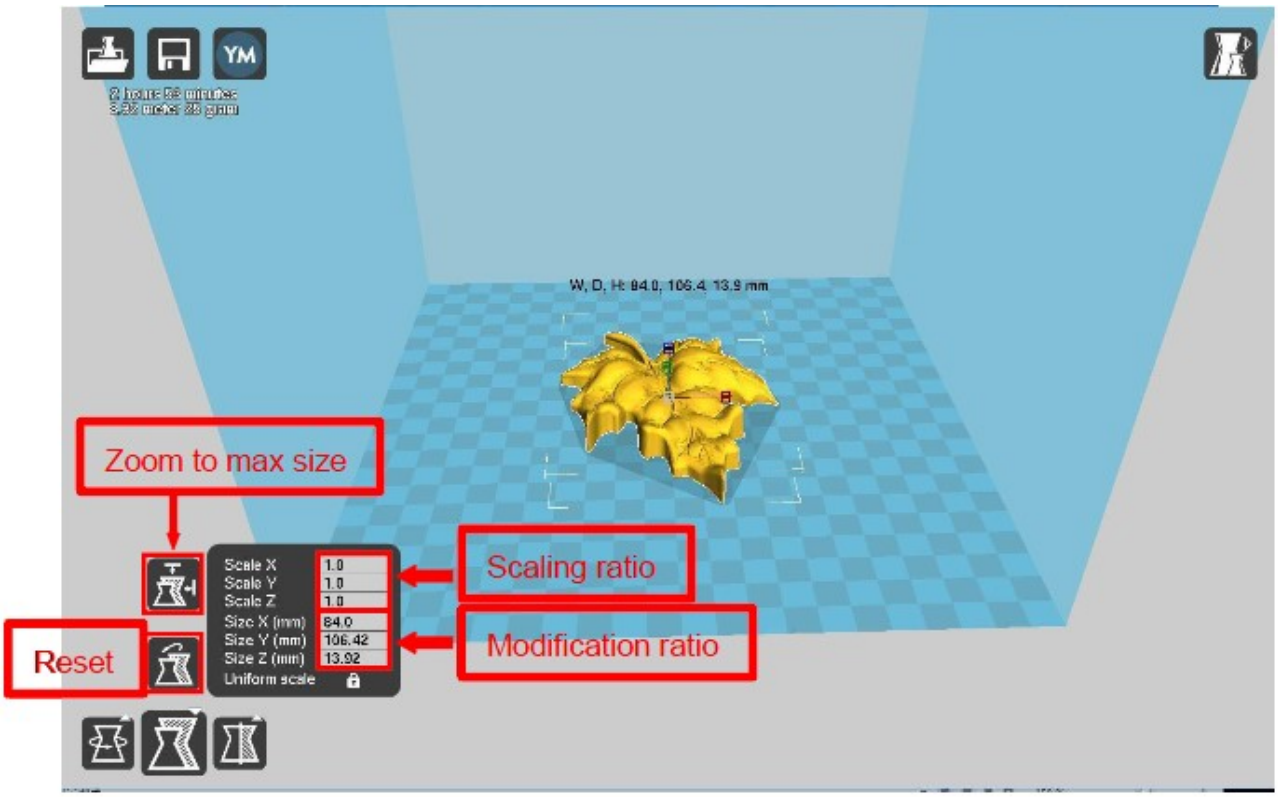
The images above are only for reference , please set the parameter according to actual requirement.

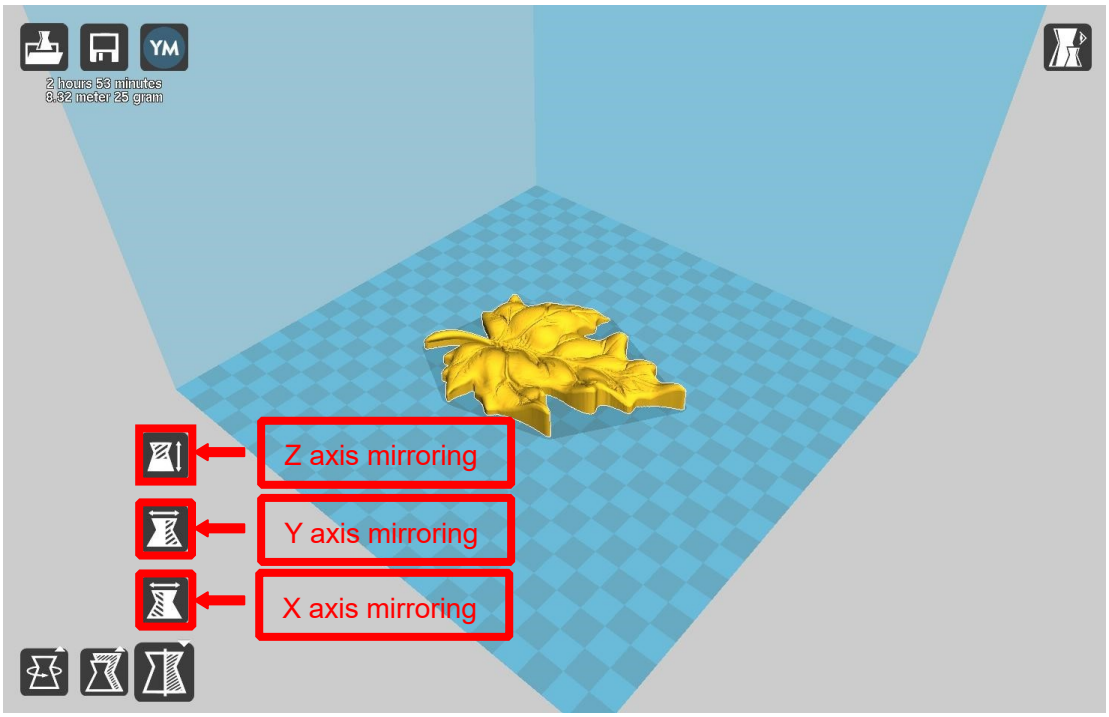


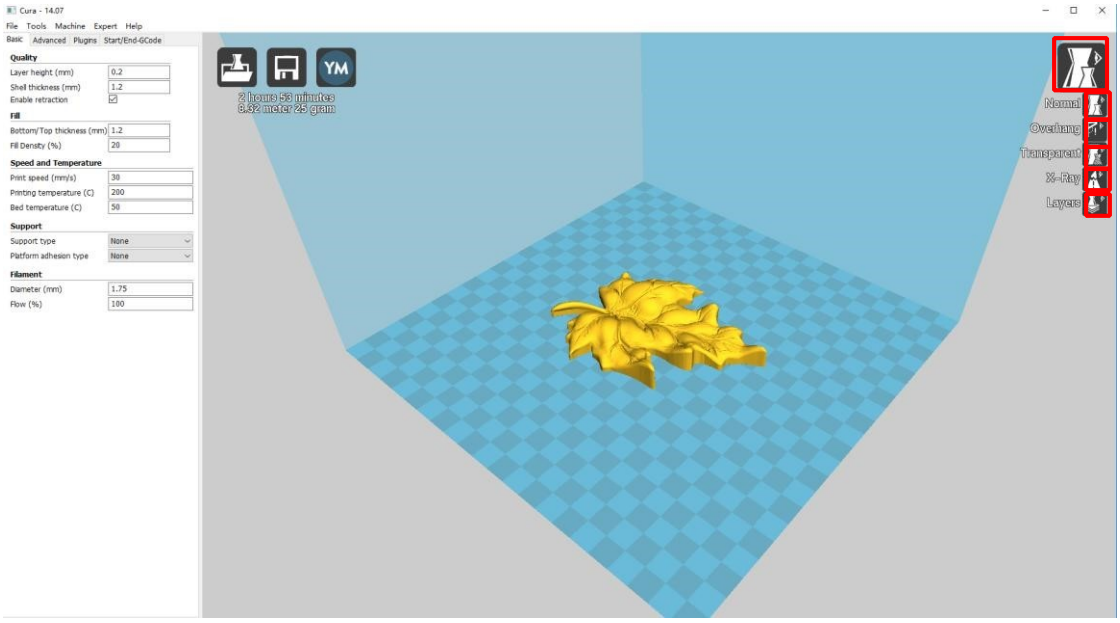
Left click the model and you will see the icon of “whirling, scaling, mirroring.

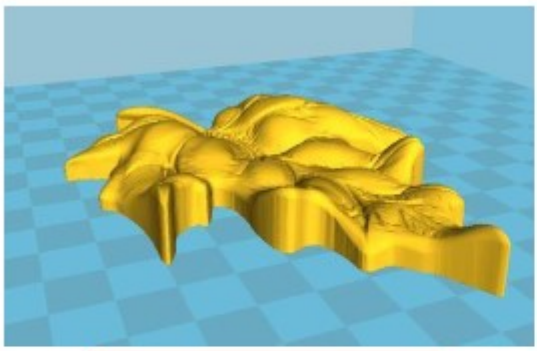
Left click to select model and move → move model.
Slide mouse wheel → scaling.
Right click to select model and move → whirling.
Shift + right click platform and move → move platform


2 hours 53 minutes
8.32 meter 25 gram
Green: X axis
Yellow: Y axis
Place platform
Reset
Red: Z axis

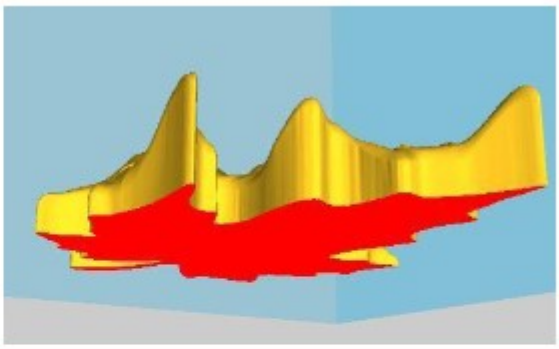

Zoom to max size
Scale X 1.0
Scale Y 1.0
Scale Z 1.0
Size X (mm) 84.0
Size Y (mm) 106.42
Size Z (mm) 13.92
Uniform scale
Scaling ratio
Modification ratio
Reset


2 hours 53 minutes
8.32 meter 25 gram
Z axis mirroring
Y axis mirroring
X axis mirroring

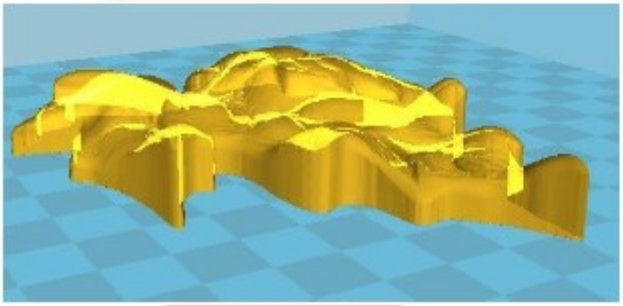

Cura - 14.07
File Tools Machine Expert Help
Basic Advanced Plugins Start/End-GCode
Quality
Layer height (mm) 0.2
Shell thickness (mm) 1.2
Enable retraction
Fill
Bottom/Top thickness (mm) 1.2
Fill Density (%) 20
Speed and Temperature
Print speed (mm/s) 30
Printing temperature (C) 200
Bed temperature (C) 50
Support
Support type None
Platform adhesion type None
Filament
Diameter (mm) 1.75
Flow (%) 100
2 hours 53 minutes
8.32 meter 25 gram
Normal
Overhang
Transparent
X-Ray
Layers



Normal: Most used.

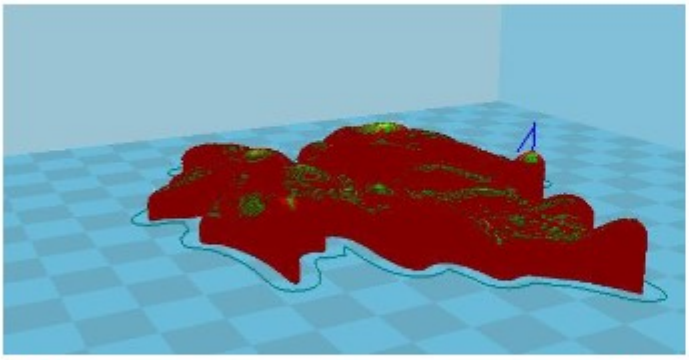


Overhang: Used to see the vacant part.

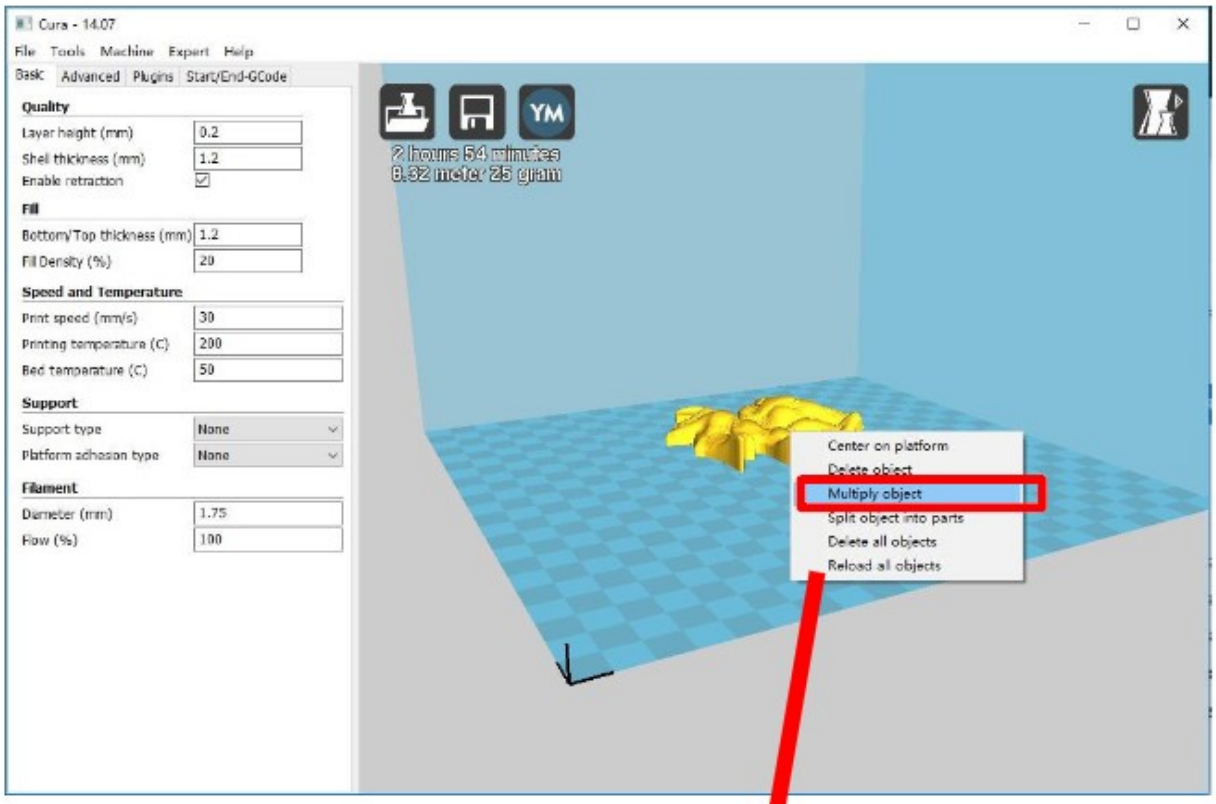


Transparent

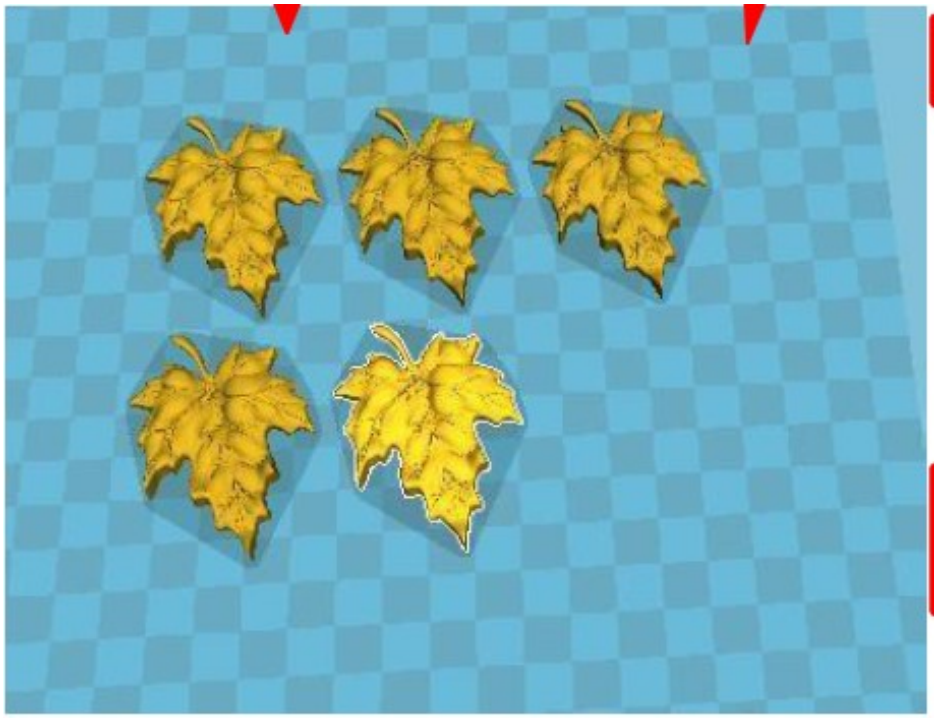
X-Ray



Layers:Used to simulate the effect of each layer and the path.



Right click model → Left click "Multiply object" → Example: copy 4 model

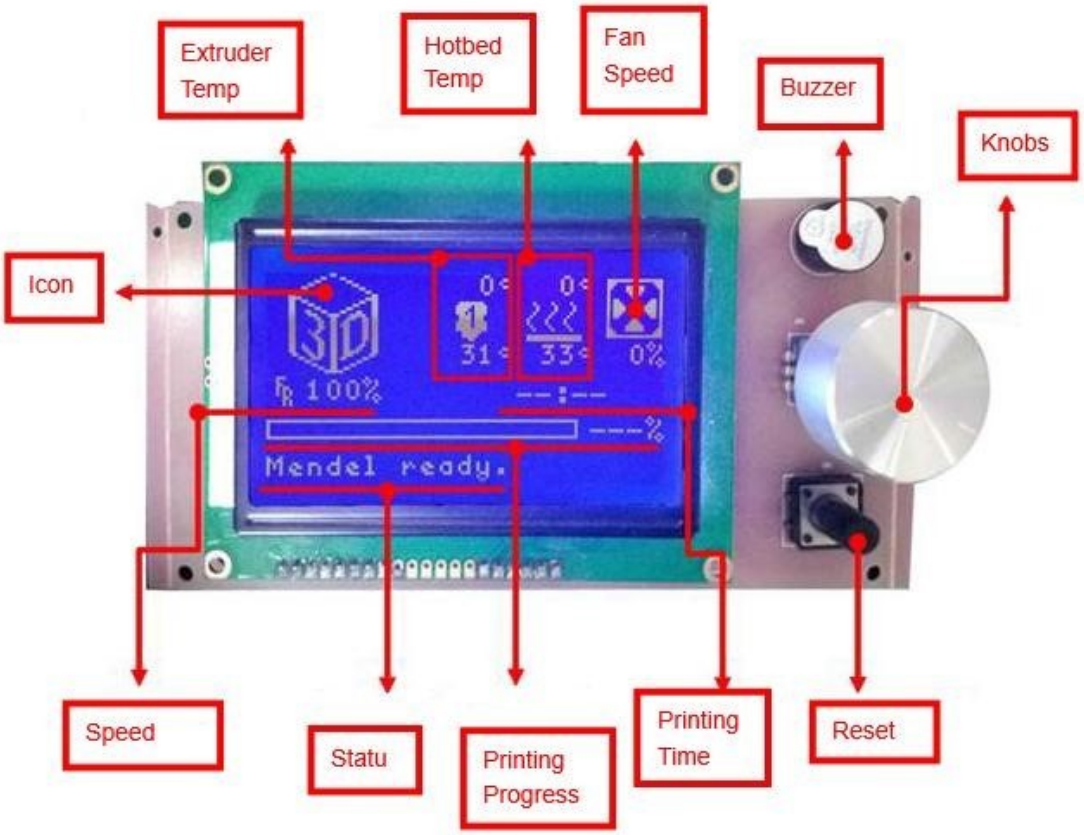


5 models in total

Attention: You can try other functions by yourself.

D. Printing Operation

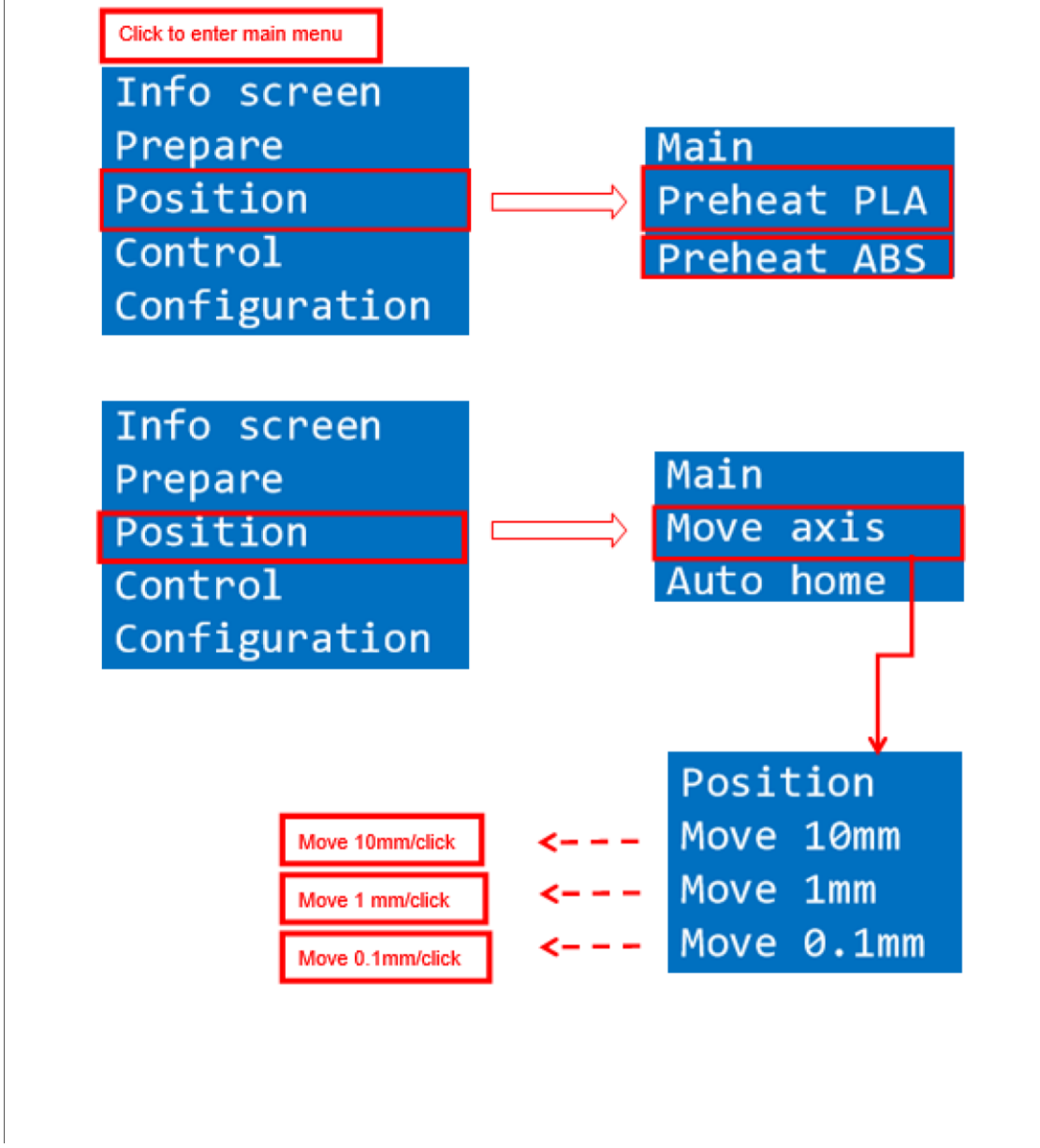
1.Display Introduction

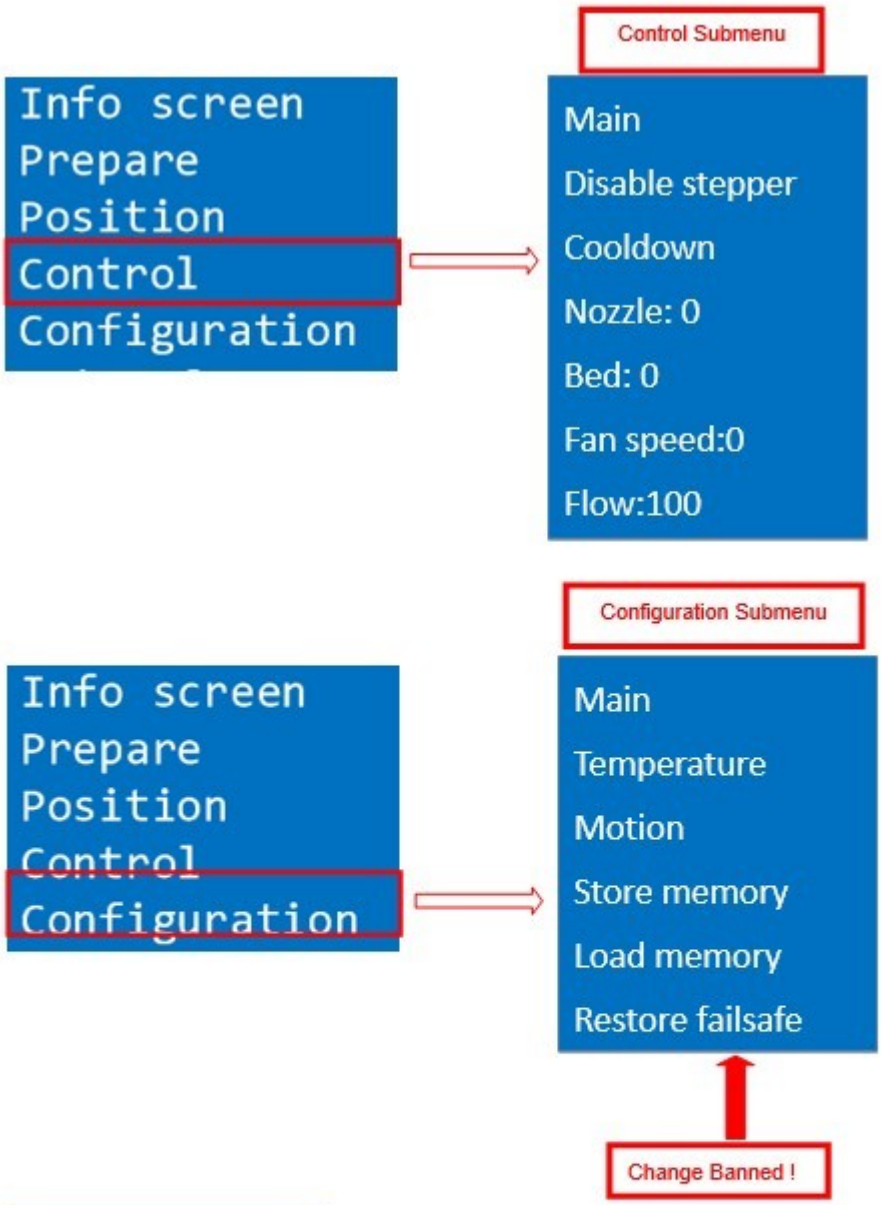


Click to enter main menu

Info screen
Prepare
Position
Control
Configuration
Print from SD
Change SD card

Main menu


Click to enter main menu
Info screen
Prepare
Position
Control
Configuration
Main
Preheat PLA
Preheat ABS
Info screen
Prepare
Position
Control
Configuration
Main
Move axis
Auto home
Position
Move 10mm
Move 1mm
Move 0.1mm
Move 10mm/click
Move 1 mm/click
Move 0.1mm/click

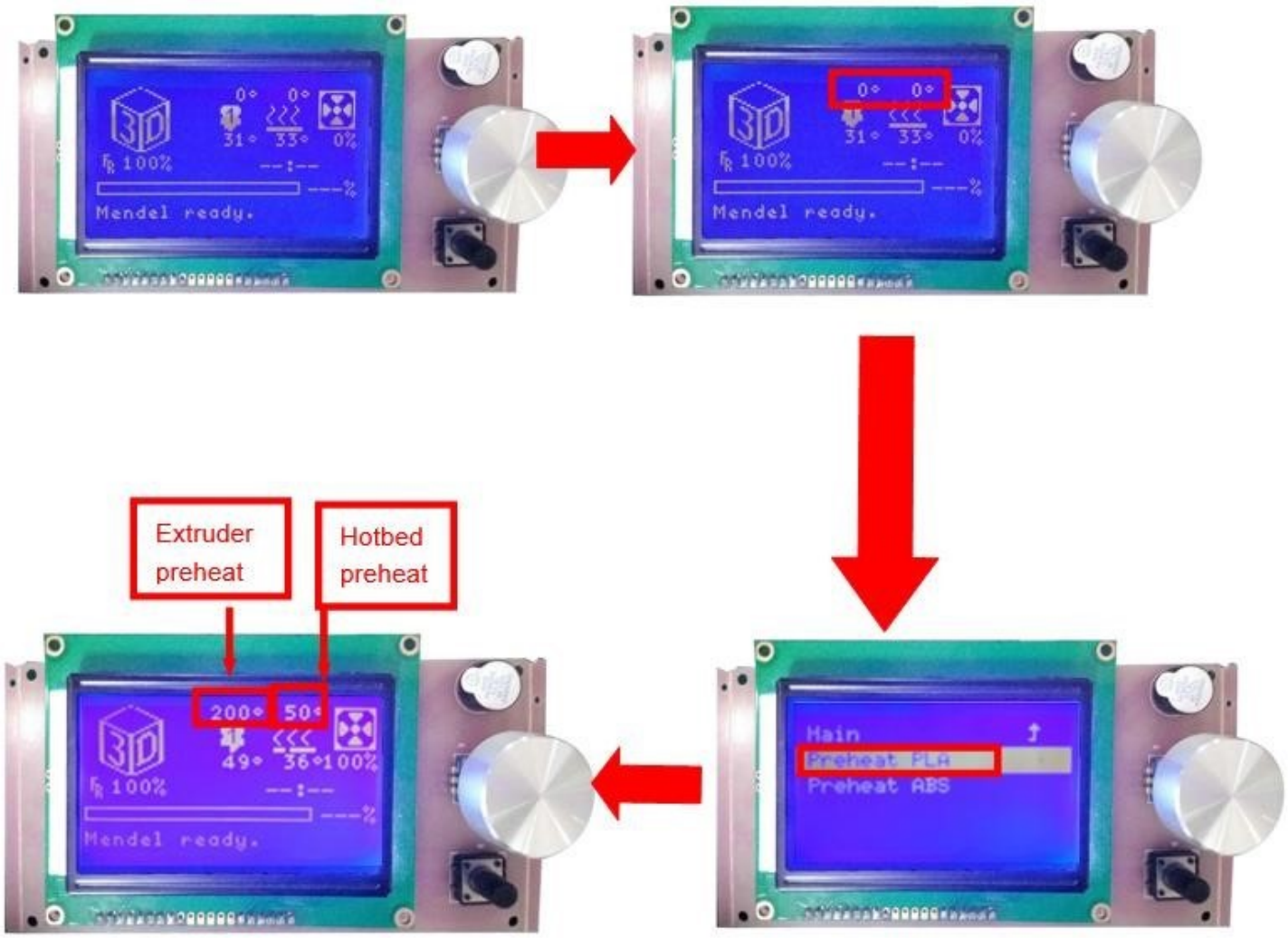

Control Submenu
Info screen
Prepare
Position
Control
Configuration
Main
Disable stepper
Cooldown
Nozzle: 0
Bed: 0
Fan speed:0
Flow:100
Configuration Submenu
Info screen
Prepare
Position
Control
Configuration
Main
Temperature
Motion
Store memory
Load memory
Restore failsafe
Change Banned !
Configuration
No SD card
Init.SD card
Version

2.Filament Feeding

2.1 Set Preheat

Attention: Before filament installation, we need to preheat. Use PLA as example .

Press Knobs → Prepare → Preheat PAL → Start preheating



Attention: Please choose "Preheat ABS" if you want to print with ABS

2.2 Filament Installation

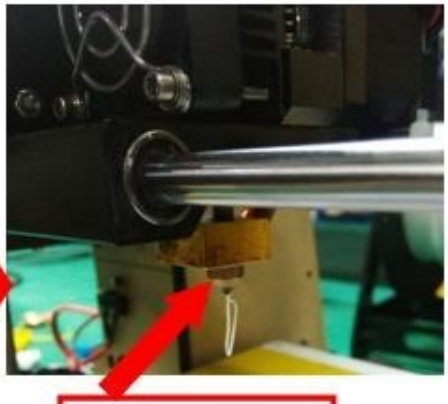
Attention: only when extruder temp reaches 200℃ can we put filament in the printer.

Confirm Extruder Temp has reached 190℃ → 1 roll PLA → Stroke the filament head straight → Press extruder screw.Meanwhile ,hold the white wind mouth → Meanwhile, stick filament into the extruder quickly until filament goes out from the nozzle → Filament installation succeed

② Attention: Install filament only when temp reaches 190℃

③ Stroke the filament head straight → Press extruder screw.Meanwhile ,hold the white wind mouth → Meanwhile, install filament into the extruder quickly until filament liquid goes out from the nozzle

Press extruder screw, hold on wind mouth. Stick filament in quickly until filament goes out from extruder.



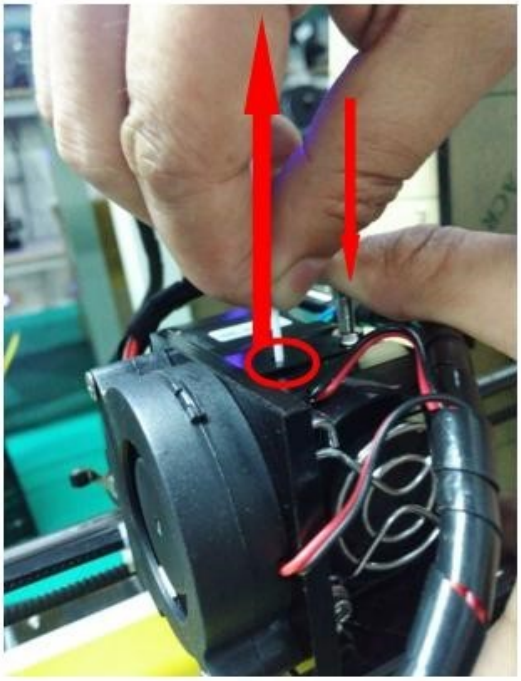
Attention:High temp!!

If the shape of output filament is average , means installation is good.

Filament installation succeed

2.3 Pull out filament

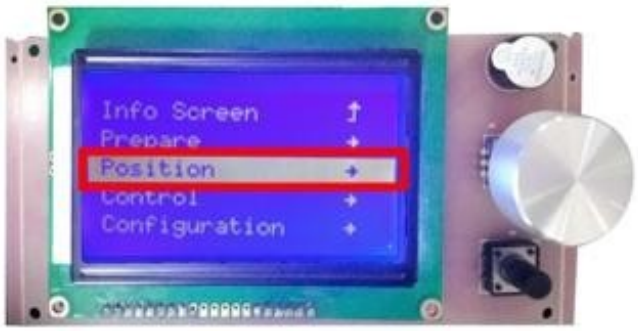
When Change filament/Long-term not in use of printer , you need to pull out filament.



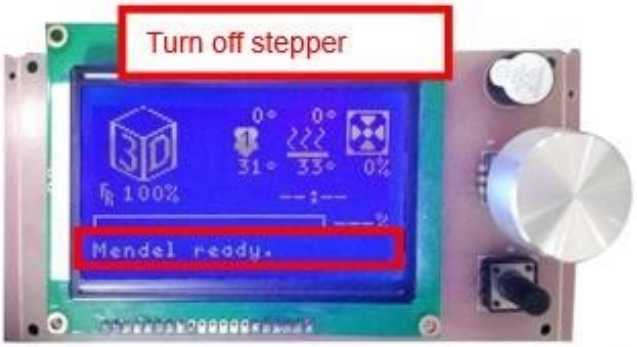
Use PLA as example
1. Preheat extruder to 190℃
2. Press extruder screw, hold wind mouth. Meanwhile, stick filament down for a few length, then pull out with average speed.

Precautions:
1. Do not stick down for long length in order to avoid failure of pulling out. Replace filament timely.
2. Please confirm you have preheated the extruder to 190℃. Do not pull out before 190℃， or it will cause irreparable damage.

3.Platform Adjustment

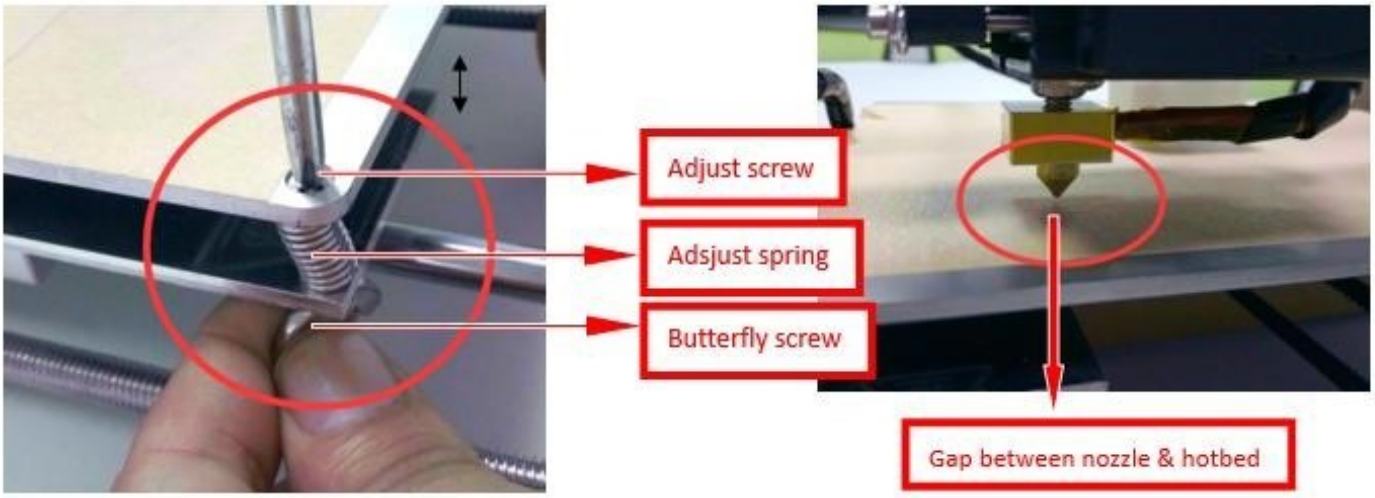


1. Choose “Position” → “Auto home” , printer will move to limited switch until it stops.

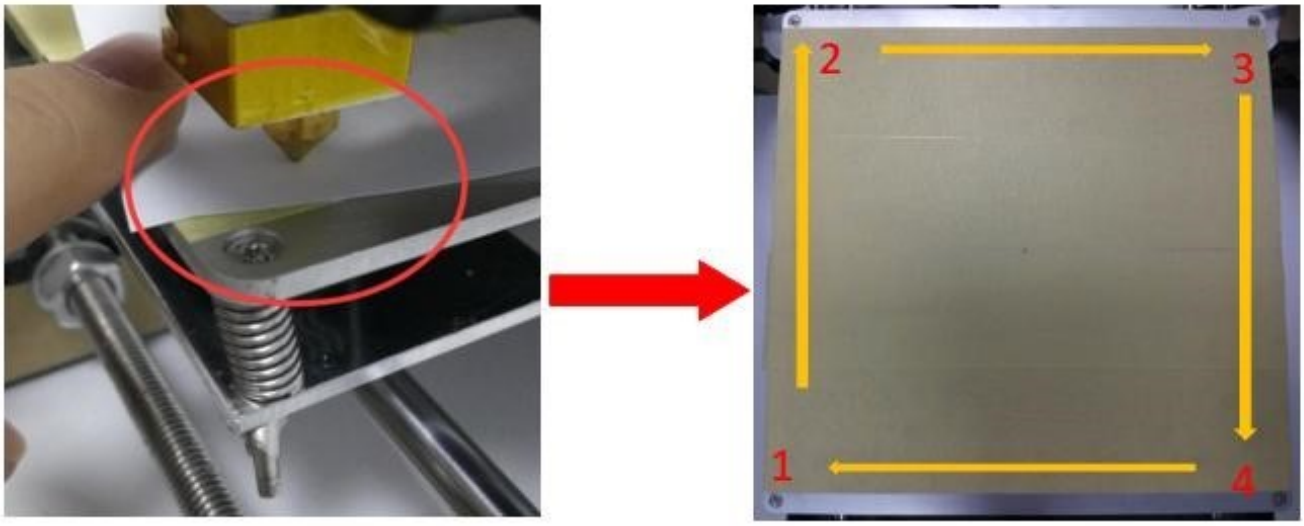


2. Turn off stepper motor: based on step 1 , enter “Quick settings” → “Disable stepper”

3. Please manually move nozzle to platform and check the gap between nozzle and platform.



4. When the gap is more than 2mm, you need to adjust the height of Z limited switch.
Example: When the gap is 12mm , you need to adjust limited switch down by 10mm.The rest 2mm can adjust by spring on the hotbed.



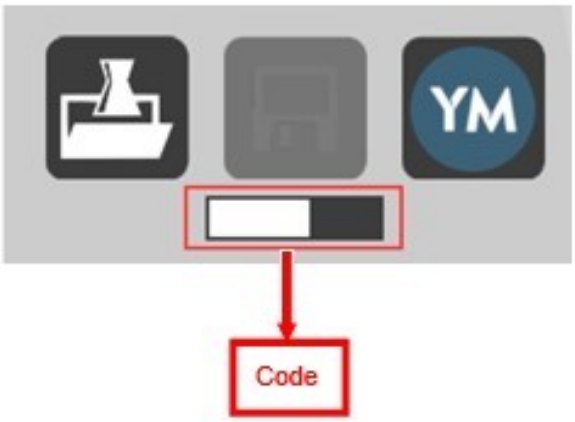
After adjustment of springs, reset printer and close stepper motor to test. Use A4 paper to test the gap.
Tips: When you are familiar with the printer with time going by, we can adjust while it's printing. It's because the printing speed is slow at the beginning so that there's enough time for adjustment. Meanwhile, the printing effect will be better.

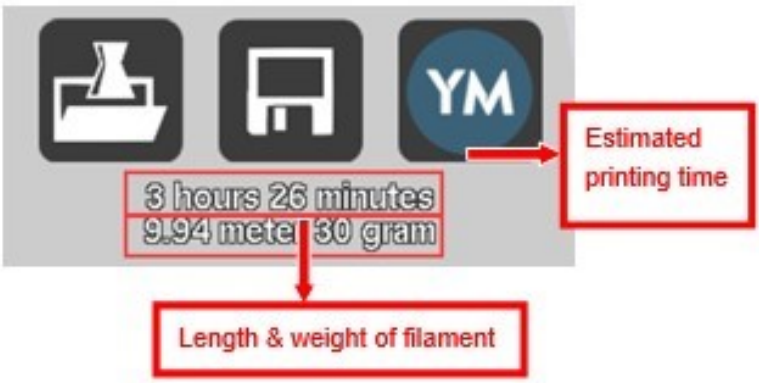
4.Printing

1) SD Card Offline Printing

a. Loading mode

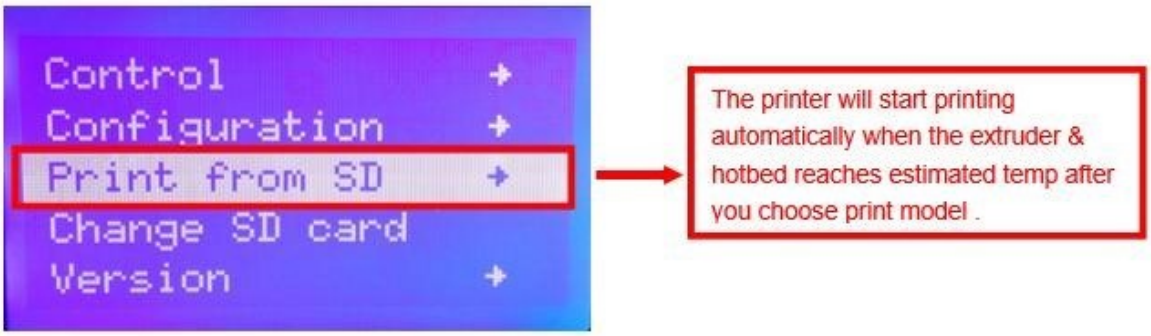
Cura supports STL file & G-code file.



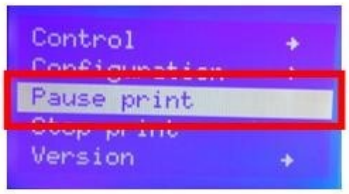


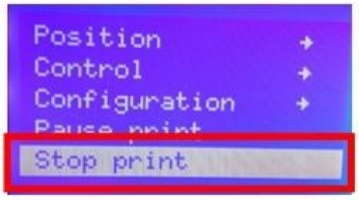
b. Code Saving

Copy file to SD card . Then connect SD card to printer, click reset. Picture below shows the location of print file , there are 2 methods to find print file.

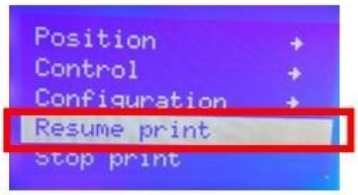


c. Introduction of Stop print , Pause print , Continue Print:
Only when the printer is printing can we use Stop print, Pause print, Continue Print.



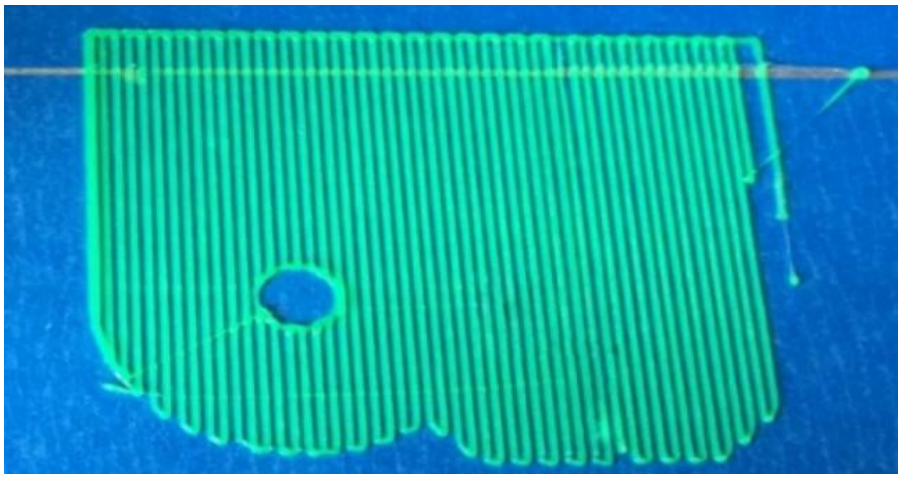


Attention:Please use the function according to your requirment .

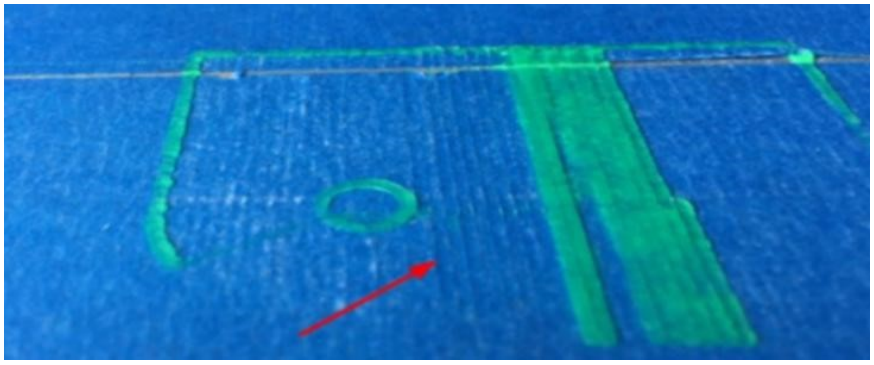


d.Judgment of the gap between nozzle and platform.

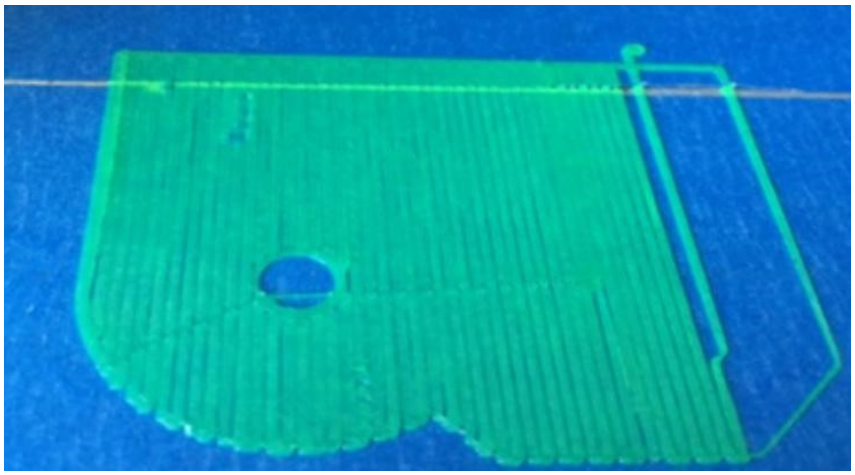
1. Too big gap: The printed model is uneven, curled with gap. It means the gap is too big for filament to reach the platform, making the printing effect so bad.



2. Too close gap: The printed model edge has irregular projections. It means the gap is too close to print normally. Sometimes it even cannot output filament



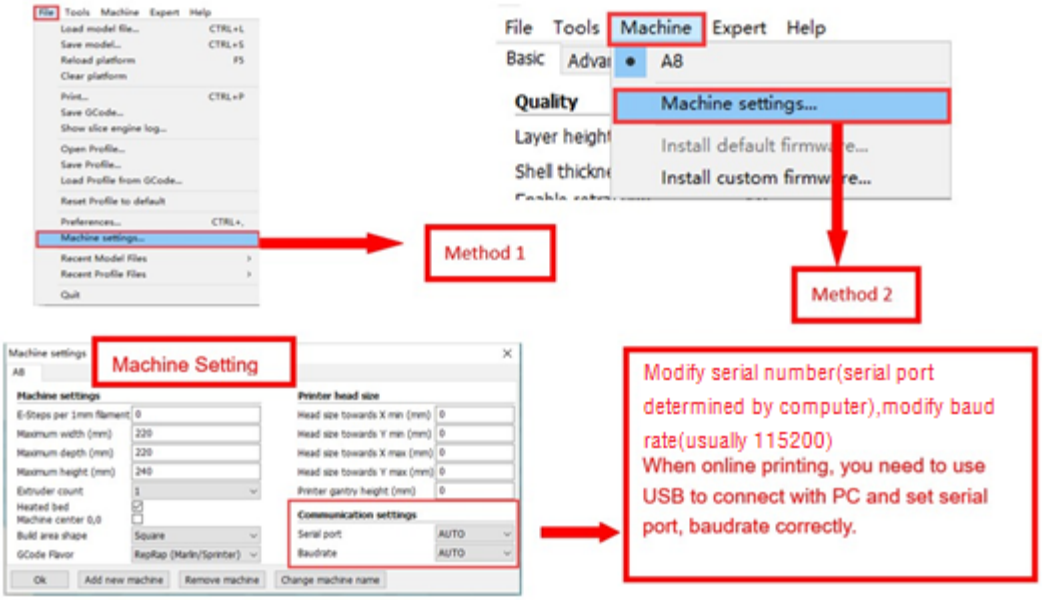
3. Appropriate distance: Printed model flat with no gap, no glitches. It means the distance is appropriate to print



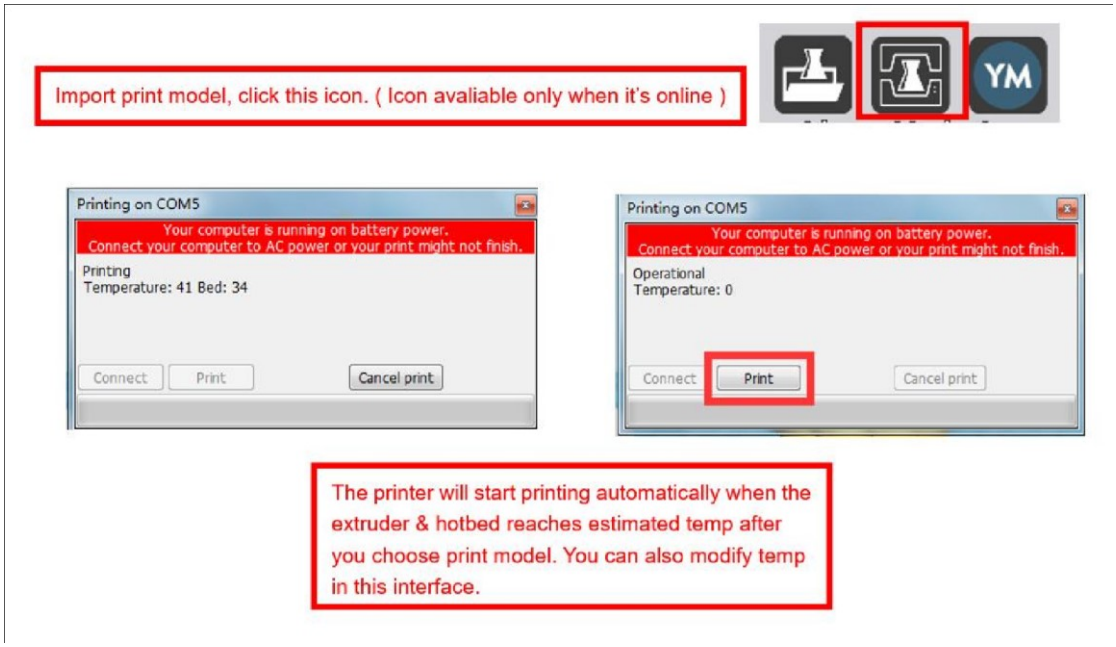
Wait to print complete after gap adjustment.

2) USB Online Printing

a. Machine settings (Use USB to connect to PC)



b. Online Pringting

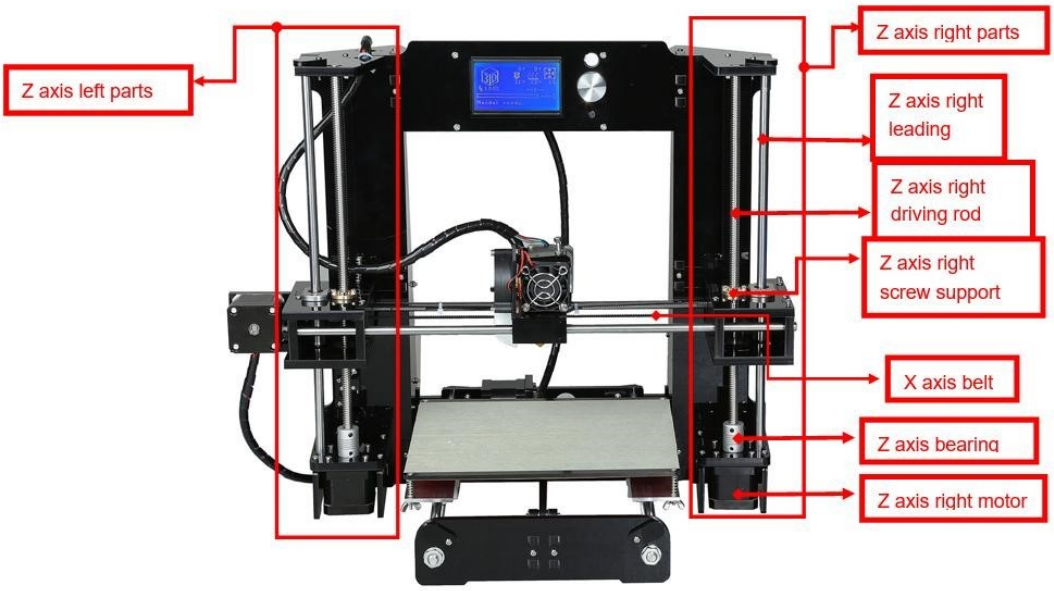


E. FAQ

1. Z Axis Ajustment

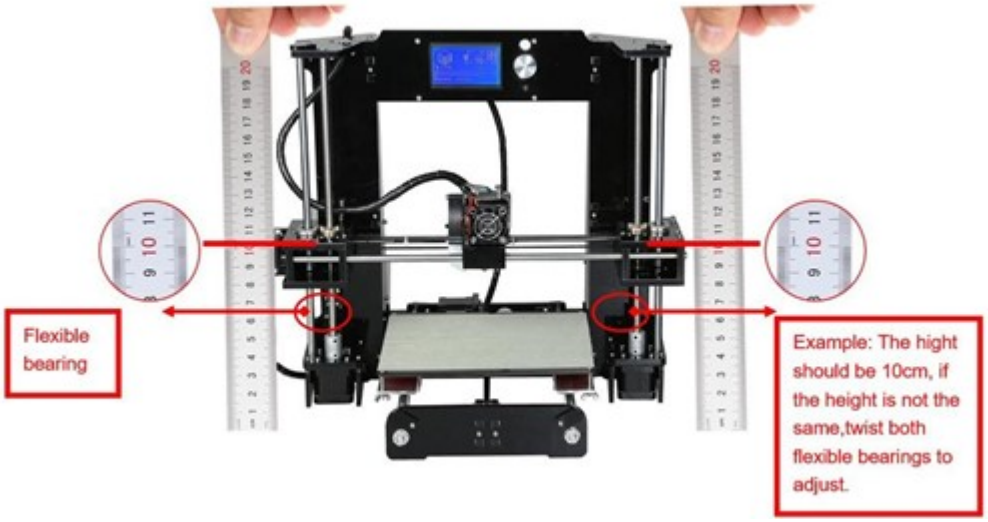
During installation, we need to test moving parts:

1.



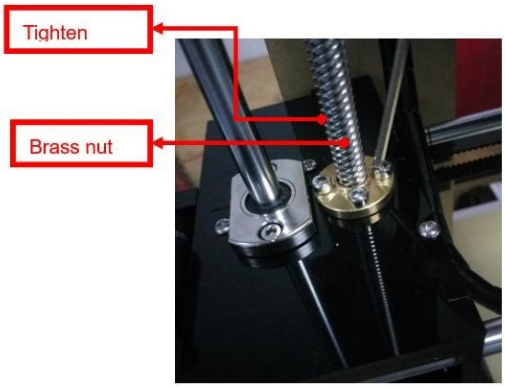
Use right Z axis for reference as shown above.
Reasons for Z axis's not smooth movement:
1. The height of both Z axis screw support is apprently different.
2. Large deviation of leading rod and motor rod'sconcentricity.
3. X belt is too tight.

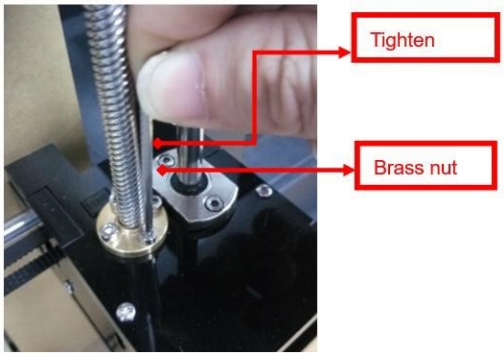
Preparation: Before Z axis moving adjustment, please confirm the height of both Z aixs screw support is the same. (Keep the same height of two white parts)



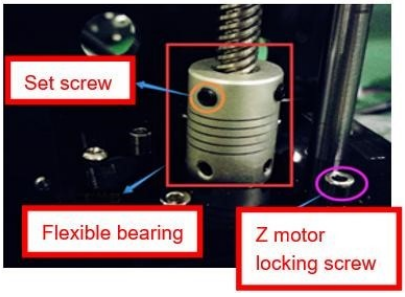
2. Ajust concentricity

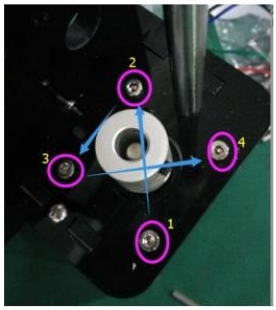
1. Click to adjust Z axis to move (Position → Z pos.Fast → +/-) . If it cannot move smoothly, you need to adjust the unsmooth side's screw support. Try to keep them at the same height.
2. We can also tight/loose the Z motor screw according to requirments. This is to correct the deviation in the first time installation. Please take steps as follows to lock screws,





Z axis left screw support Z axis right screw support

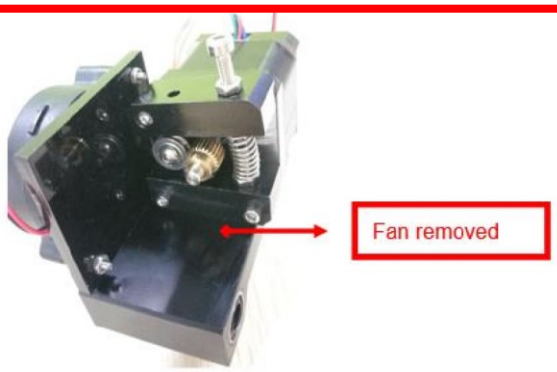




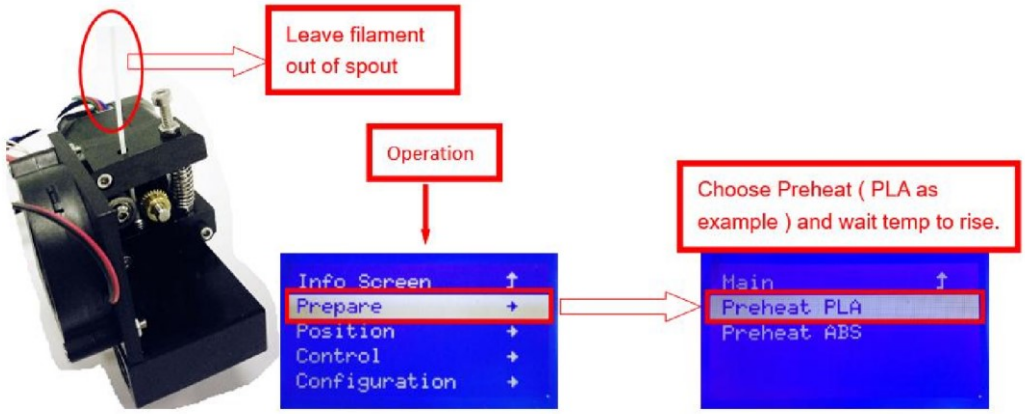
Z motor & Flexible bearing Z motor screw locking sequence

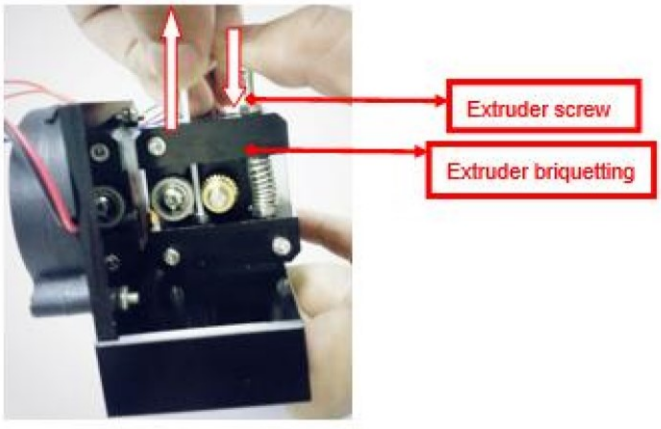
1. Nozzle blocking

Tips: We have removed fan to show obviously. Please cosider movement according

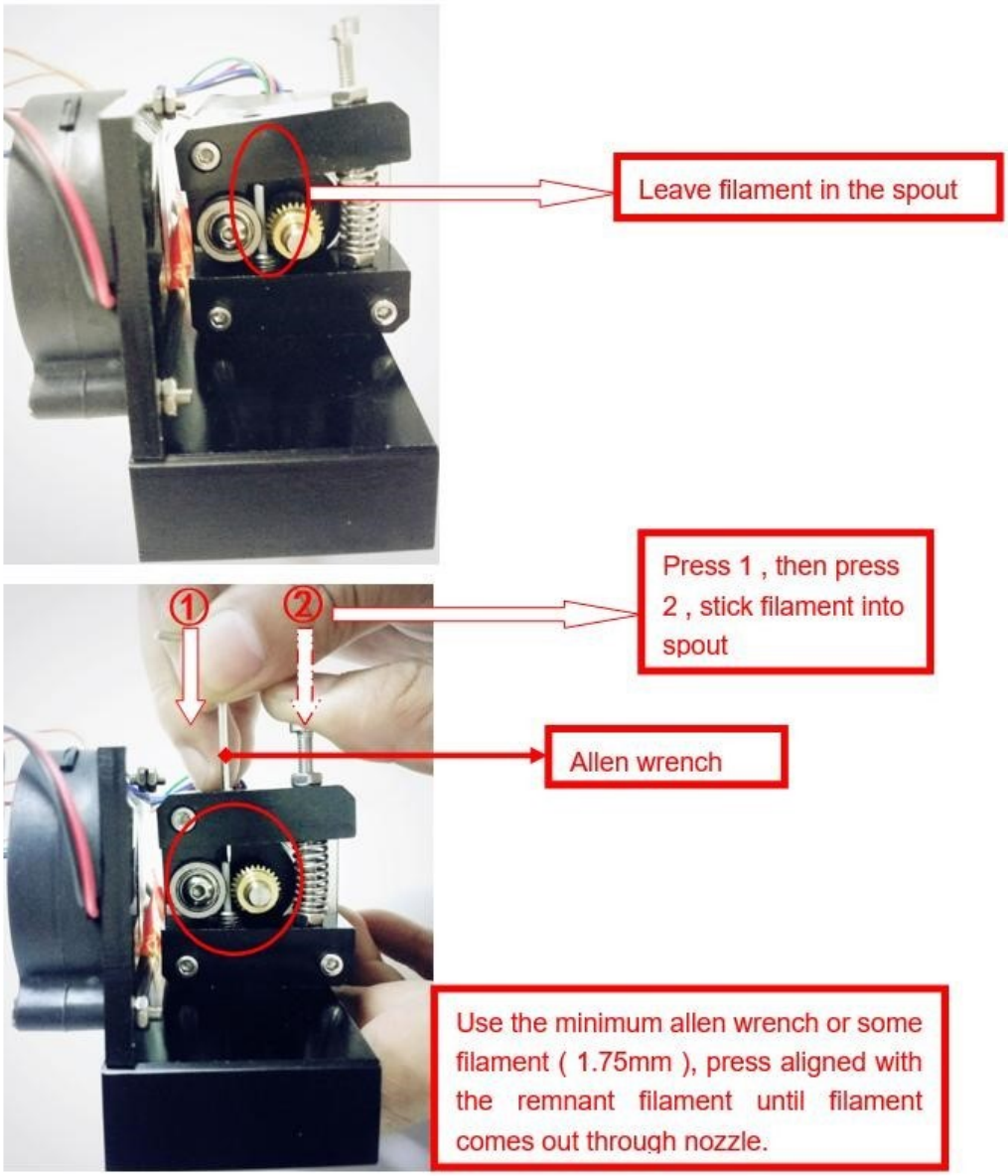


A. Only a little filament left in the nozzle and difficult to take out:





B. Filament full filled in spout



3.FAQ

No.	Symptom	Reason	Method
1	Print model dislocation	Synchronous wheel/belt loose.	Tighten set screws or fasten belt
2	Glitch with the print model	Too high temp or slicing problem.	Extruder temp is too high and retracting speed & distanse is too small
3	Foamy print model	Low temp or not smooth filament entering.	Rise extruder temp or check if brass nut and bearing is good. Replace a nozzle if methods above can't solve the problem.
4	Printer model is warped	Hotbed level isn't well adjusted.	Adjust hotbed
5	Unavaliable G-code tramsformation	Wrong setting/wrong save path	Choose right machine type and change the right path
6	Software installation failed	Different OS	Reset OS
7	Unusual temp	Broken temp sensor	Change a new one

4. Maintenance

Important maintenance tips:

1. maintenance of X,Y,Z axis: Add some lubricants on the rods to reduce friction when the machine works noisy and a little bit shake.

2. Please refer to the USER MANUAL before printing, do preparation of hot bed adjustment first.

3. When finished printing, the filament should keep sealing, avoid moisture.
4. Preheat the extruder at the beginning of 2 nd time printing, let extruder auto-push filament for a while.

5. Machine should do some regular maintenance, drop some lubricating oil on thread rod, polished rod and bearings to avoid fatigue wear.

6. Do not let the fan and air-condition blow to the hot bed when printing.
7. Keep the working condition at “Temp:10-30，Humidity:20-70%”.

5. Maintenance Service Provision

1. This product executes regulations of “Product Warranty Card”.
2. Please contact supplier or customer service if the product have any problems . Do not repair it by yourself, otherwise you need

   to bear all the consequences.