



SainSmart 3D Printer

USER MANUAL

3D

InstaRep A8

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A8 3D Printer Installation

Guide A8 Assembly Instructions

Attention:

1. Please make sure the package not broken when you receive it.
2. Please check the printer parts according to the packing list.
3. Please contact your supplier if any questions.

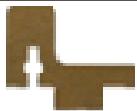
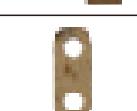
A8 assembly parts list 1

Item	Picture	Name	QTY	Check
1-1		Hot bed fixed aluminum plate	1	
1-2		220mm*220mm*3mm Hot bed	1	
1-3		Plastic nippers	1	
1-4		1.5M Power line	1	
1-5		5mm*160mm Screwdriver	1	
1-6		Four parts below in this bag	1	
2-1		Msinboard	1	
2-2		Left Z axis nut support	1	
2-3		Right Z axis nut support	1	

Item	Picture	Name	QTY	Check
2-4		Wind mouth	1	
2-5		1.6M Belt	1	
2-6		1.5M USB wire	1	

A8 assembly parts list 2

Item	Picture	Name	QTY	Check
1-6-1		40*10 Fan	1	
1-6-2		40*11 Cooling fin	1	
1-6-3		Fan cover	1	
1-6-4		M3*45 Screw 2pcs M3 Spacer 8pcs	1	
1-7		Screw bag include below screws	1	
1-7-1		M3*18 Screw 52pcs	1	
1-7-2		M3 Nut 64pcs	1	

Item	Picture	Name	QTY	Check
2-7		5015 Air blower	1	
2-8		Y axis belt bearing support	1	
2-9		Seven parts below in this bag	1	
2-9-1		Z axis Limit switch fixed plate	2	
2-9-2		Y axis motor support	1	
2-9-3		Y axis Limit switch fixed plate	1	
2-9-4		Y axis belt fixation clamp	2	

A8 assembly parts list 3

Item	Picture	Name	QTY	Check
1-7-3		M8 Nut 16pcs M8 Spacer 12pcs	1	
1-7-4		M4*8 Screw 28pcs M4*14 Screw 4pcs	1	

Item	Picture	Name	QTY	Check
1-7-5		M3*30 Screw 14pcs	1	
1-7-6		M3*12 Screw 15pcs	1	
1-7-7		M2*12 Screw 6pcs Wing nut 4pcs Spring 4pcs	1	
1-7-8		M3*20 Screw 4pcs M2.3*10 Screw 6pcs	1	
1-8		Three parts below in this bag	1	
2-9-5		Guide rod back up plate	6	
2-10		Side support plate	2	
2-11		Filament support plate	2	
2-12		Filament support plate connecting plate	2	
2-13		Screen baffle plate	1	

Item	Picture	Name	QTY	Check
2-14		Z axis motor support plate	4	
2-15		8GB TF card and card reader	1	

A8 assembly parts list 4

Item	Picture	Name	QTY	Check
1-8-1		Wire 65CM	1	
1-8-2		Z Limit switch A 20CM X Limit switch B 50CM Y Limit switch C 50CM	3	
1-8-3		Pillar washer M3*7 4pcs Pillar washer M3*15 4pcs	8	
1-9		Three parts below in this bag	1	
1-9-1		3mm*130mm Screwdriver	1	
1-9-2		Hex wrench M1.5 Hex wrench M2 Hex wrench M2.5 Hex wrench M3	4	
1-9-3		Open spanner	1	

Item	Picture	Name	QTY	Check
3-1		Bottom support plate	1	
3-2		Top support plate	1	
3-3		Back plate	1	
3-4		Front plate	1	
3-5		Support plate lock plate	2	
3-6		Z axis motor fixed plate	2	
3-7		Y axis motor fixed plate	1	

A8 assembly parts list 5

Item	Picture	Name	QTY	Check
1-10		Four parts below in this bag	1	
1-10-1		4.5M Winding pipe	1	
1-10-2		Belting	10	
1-10-3		R clip	3	
1-10-4		Locating piece	2	

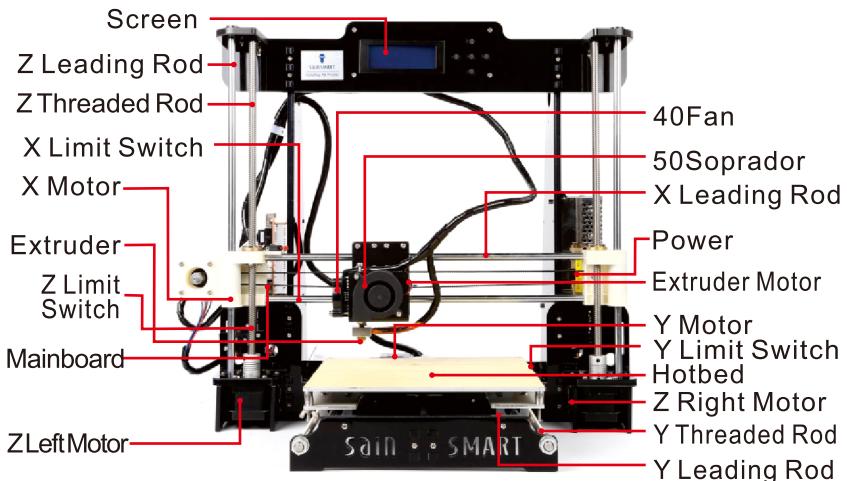
Item	Picture	Name	QTY	Check
3-8		Extruder	1	
3-9		X axis motor	1	
3-10		Y axis motor	1	
3-11		Z axis motor	2	
3-12		Linear bearing	7	

A8 assembly parts list 6

Item	Picture	Name	QTY	Check	
1-11		LCD 2004 screen	1		
1-12		X Motor Line Y Motor Line Left Z Motor Line Right Z Motor Line Extruder Motor Line	40CM 40CM 40CM 90CM 90CM	5	
1-13		Heat bed line	90CM	1	
3-13		Guide rod 436mm Guide rod 380mm	2pcs 4pcs	6	
3-14		T type lead screw M8*345mm 2pcs Threaded rod M8*400mm 2pcs Threaded rod M8*150mm 1pcs		5	
3-15		Power Supply	1		

Please check printer parts quantity when you receive it .

Name of each printer part

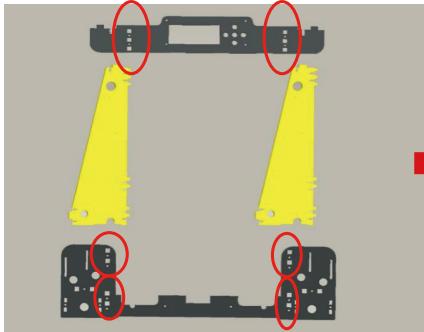


Assembly Step 1

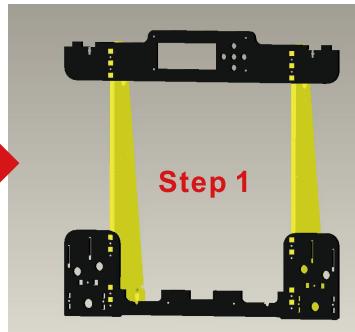
Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Bottom support plate	1
2	Top support plate	1
3	Side support plate	2
4	M3*18 Screw	12
5	M3 Nut	12



Please be aware the screw holes is in red circles.



Before Assembly



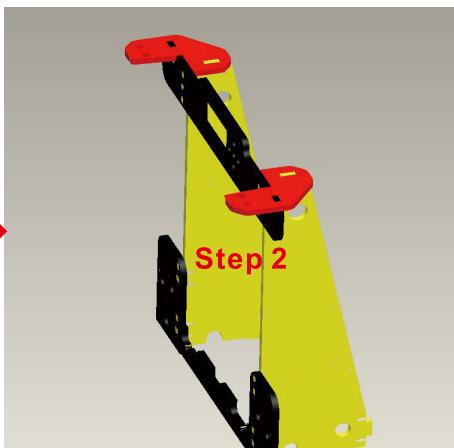
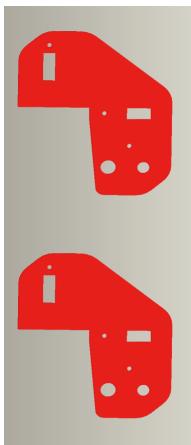
After Assembly

Assembly Step 2

Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Step 1	1
2	Support plate lock plate	2
3	M3*18 Screw	4
4	M3 Nut	4



Please be aware the screw holes is in black circles.



Before Assembly

After Assembly

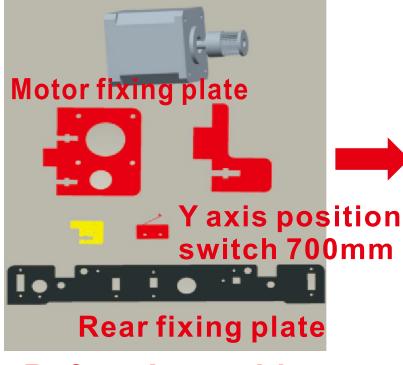
Assembly Step 3

Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Back plate	1
2	Y axis motor	1
3	Y axis motor support	1
4	Y axis motor fixed plate	1
5	Yaxis Limit switch fixed plate	1
6	Y axis Limit switch C 70CM	1
7	M3*12 Screw	3
8	M2*12 Screw	2
9	M3*18 Screw	4
10	M3 Nut	4

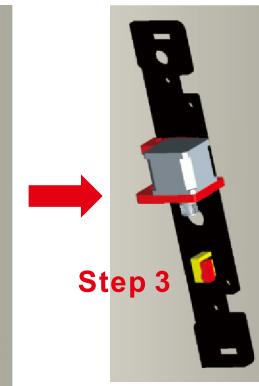
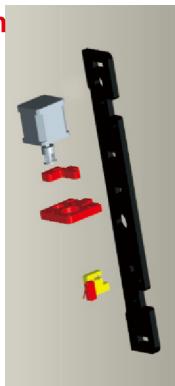




Y axis motor and wire 400mm



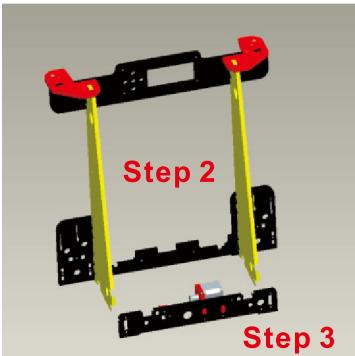
Before Assembly



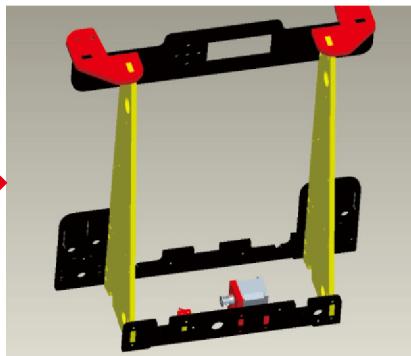
After Assembly

Assembly Step 4

Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Step 2	1
2	Step 3	1
3	M3*18 Screw	4
4	M3 Nut	4



Before Assembly

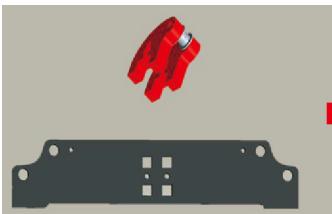


After Assembly

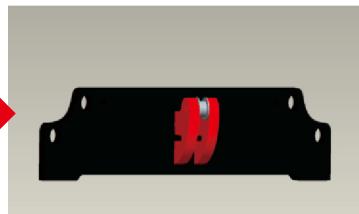
Assembly Step 5

Name and Qty. of printer parts

Item	Name of parts	QTY.
1	Y axis belt bearing support	1
2	Front plate	1
3	M3*18 Screw	2
4	M3 Nut	2



Before Assembly



After Assembly

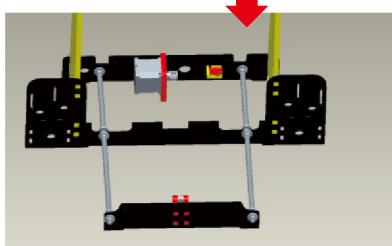
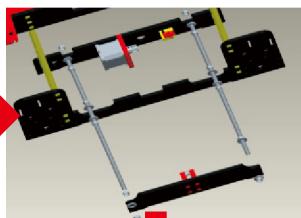
Assembly Step 6

Name and Qty. of printer parts

Item	Name of parts	QTY.
1	Step 4	1
2	Step 5	1
3	Threaded rod 400mm	2
4	M8 Nut	12
5	M8 Spacer	12



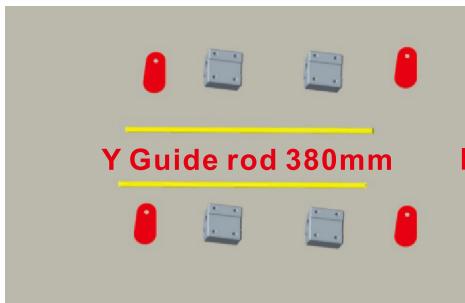
Before Assembly



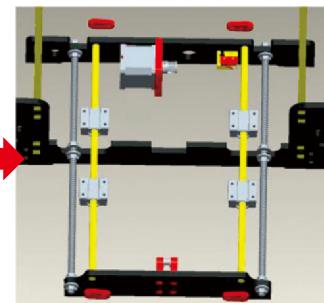
After Assembly

Assembly Step 7

Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Step 6	1
2	Y axis Guide rod	2
3	Guide rod back up plate	4
4	Linear bearing	4
5	M3*18 Screw	4
6	M3 Nut	4



Before Assembly



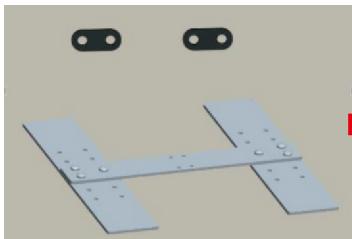
After Assembly

Assembly Step 8

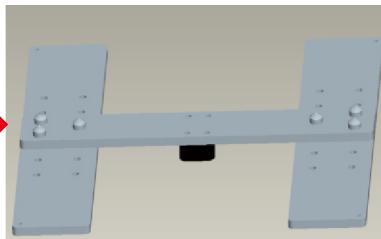
Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Hot bed fixed aluminum plate	1
2	Y axis belt fixation clamp	2
3	M4*14 Screw	4



Attention: Leave vacancy between belt fixation clamp and hot bed fixed plate for belt positioning.



Before Assembly



After Assembly

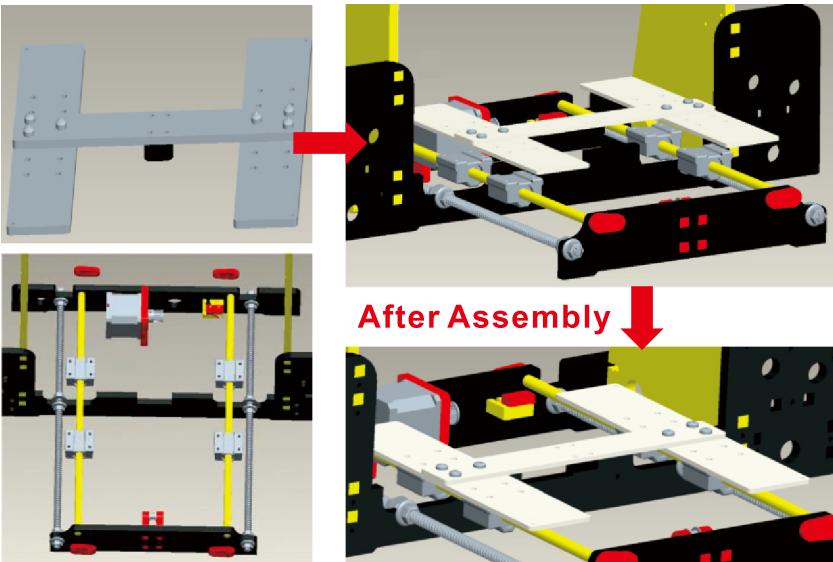
Assembly Step 9

Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Step 7	1
2	Step 8	1
3	M4*8 Screw	16



Attention: Please diagonally tighten the screws when all are in there place.

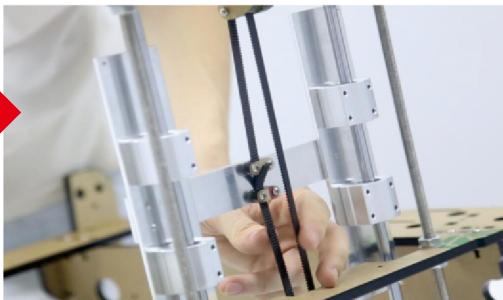
Before Assembly



Assembly Step 10

Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Belt	1

Attention: Belt is for X&Y axis transmitting .Cut the length you need to each transmission shaft. The belt is 1.5m in total and 10-20cm left after installation.



Before Assembly

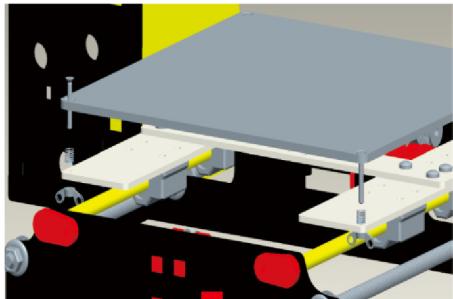
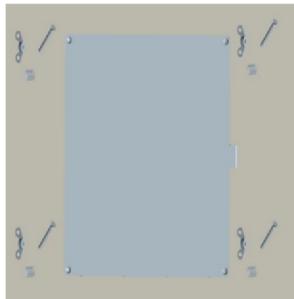
After Assembly

Assembly Step 11

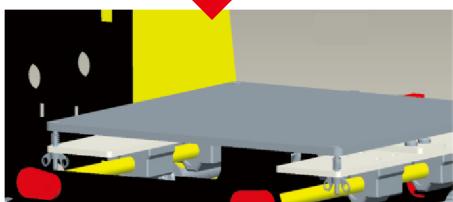
Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Step 9	1
2	Hot bed	1
3	M3*30 Screw	4
4	Spring	4
5	M3 wing nut	4



Attention: Hot bed screws should be in the bottom, and wing nuts will keep the height of hot bed level as well as firming the hotbed.



Before Assembly



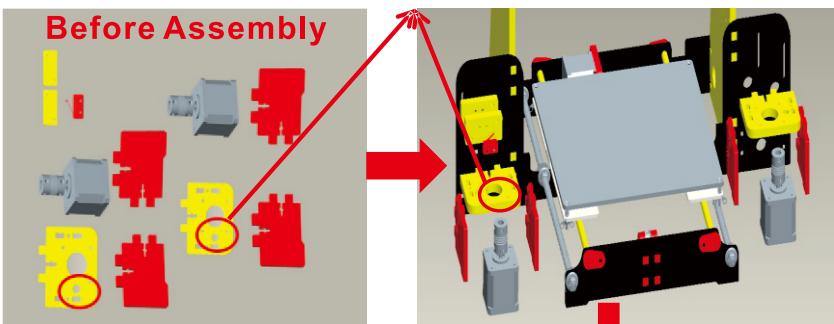
After Assembly

Assembly Step 12

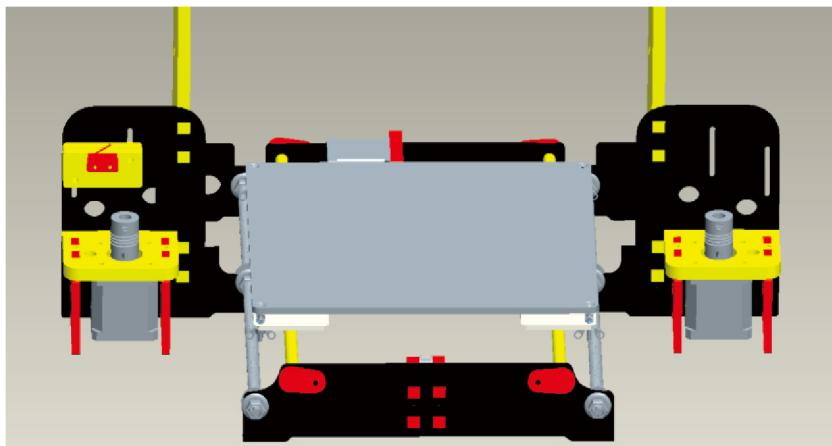
Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Step 10	1
2	Z axis motor	2
3	Z axis motor fixed plate	2
4	Z axis motor support plate	4
5	Z axis Limit switch fixed plate	2
6	Z axis Limit switch A 20CM	1
7	M3*18 Screw	10
8	M3 Nut	10
9	M3*12 Screw	8



Attention: This hole is for Z axis guide rod positioning.



After Assembly



Assembly Step 13

Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Step 11	1
2	Step 12	1
3	Right Z axis nut support	1
4	Guide rod back up plate	2
5	Z axis Guide rod 380mm	2
6	M3*18 Screw	2
7	M3 Nut	2



Z axis Guide rod: 380mm

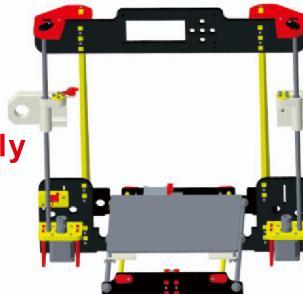


Before Assembly

Assembly Step 14



After Assembly



Assembly Step 15

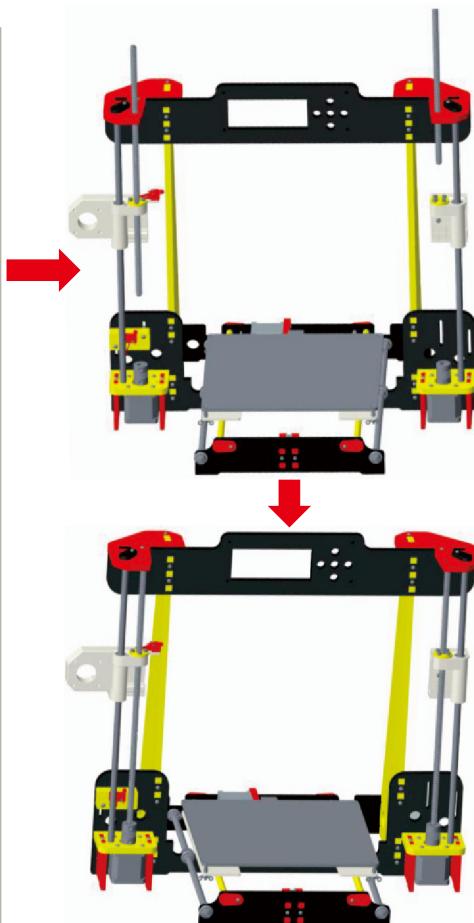
Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Step 13	1
2	T type lead screw 345mm	2

Attention: loose the jackscrew of elastic coupling to place T lead screw to the bottom, then tighten the jackscrew.

Before Assembly



T lead screw 345mm



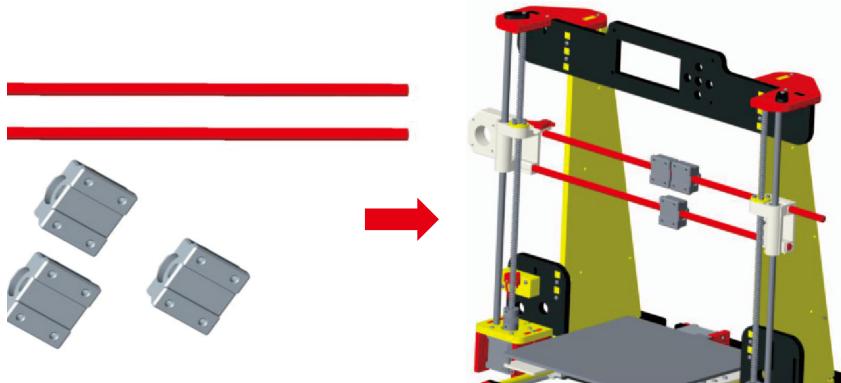
After Assembly

Assembly Step 16

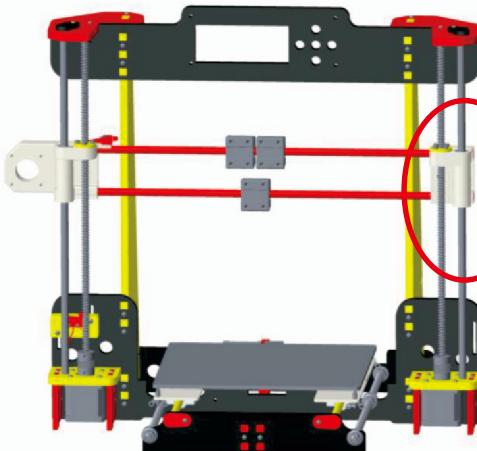
Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Step 14	1
2	X axis Guide rod	2
3	Linear bearing	3

Attention: Please keep A&B at the same level during X rods installation. Knock the guide rods with a hammer slightly if it's hard to place.

X axis Guide rod 436mm

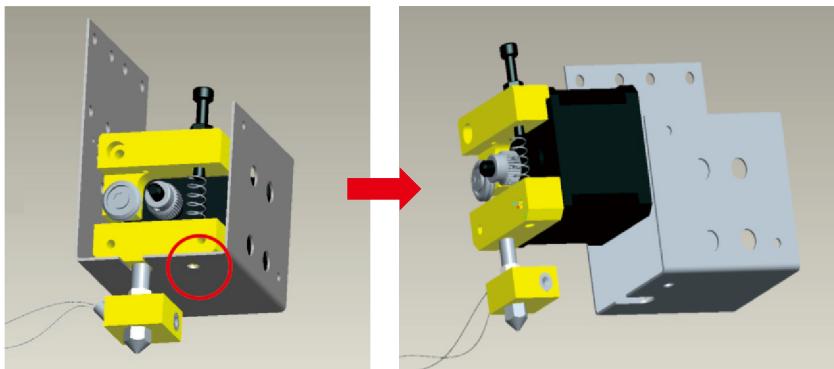


Before Assembly



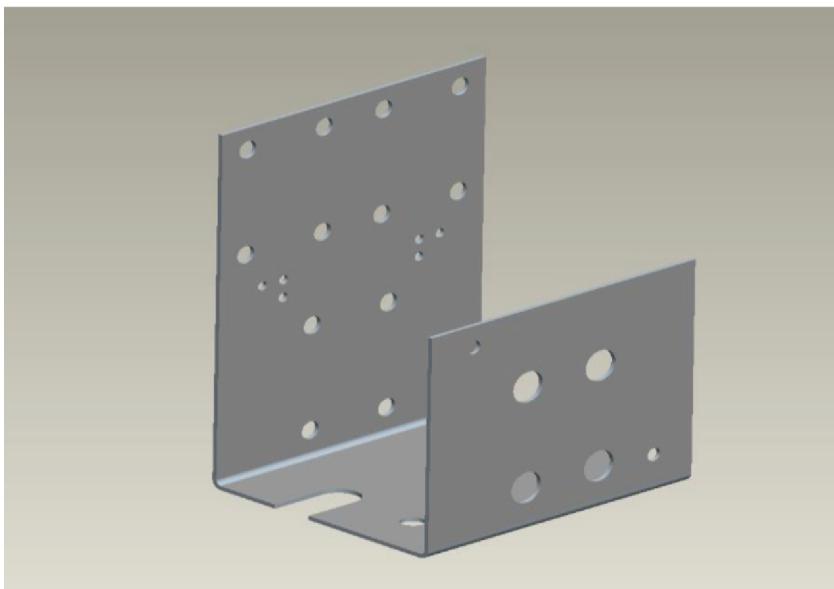
After installation,
tighten the screws
on the back

Assembly Step 17



Before Assembly

After Assembly



After Assembly

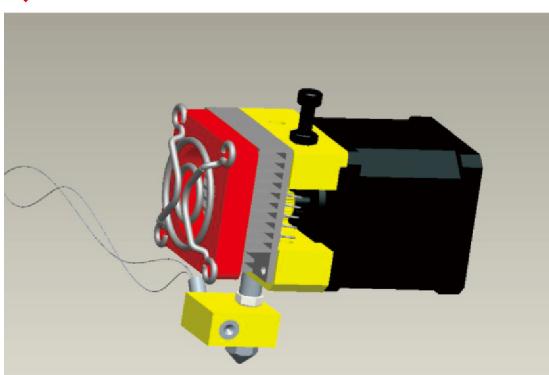
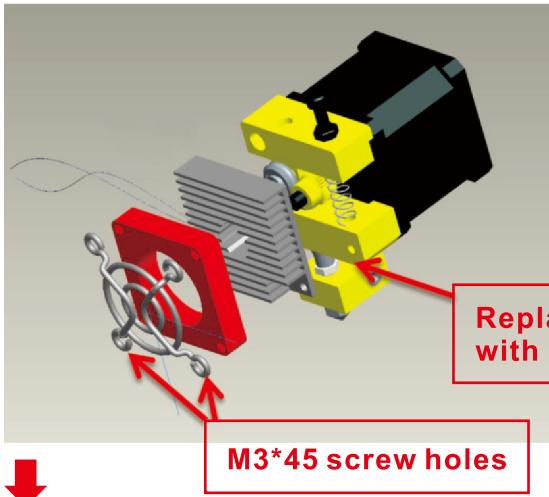
Loose M4*6 screws first, then separate extruder from L black aluminum parts, remember to keep the screws.

Assembly Step 18



Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Extruder taken from Step 16	1
2	40*10 Fan	1
3	40*11 Cooling fin	1
4	Fan cover	1
5	M3*45 Screw	2
6	M3 Spacer	6-8

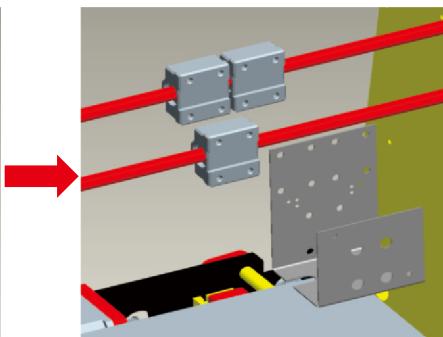
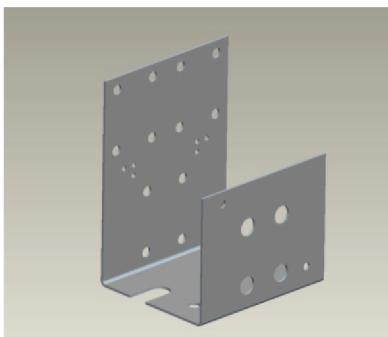
Before Assembly



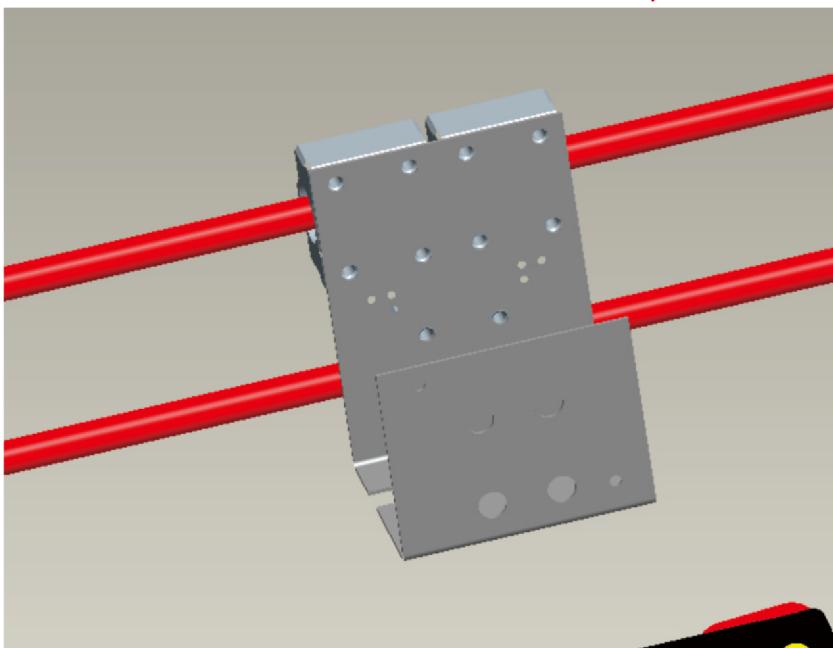
After Assembly

Assembly Step 19

Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Step 15	1
2	Black Aluminum taken from Step 16	1
3	M4*8 Screw	12



Before Assembly



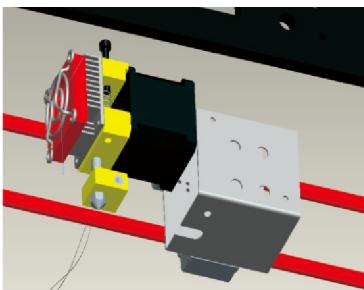
After Assembly

Assembly Step 20

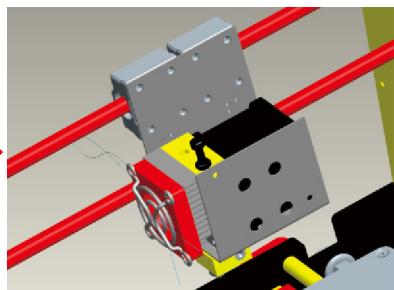
Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Step 17	1
2	Step 18	1
3	M4*16 We taken from Step 16	1



Attention: Install M4*6 Screw. Tighten M6 Screw on the throat with spanner till extruder is not loose.



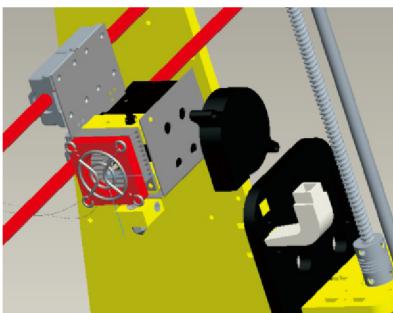
Before Assembly



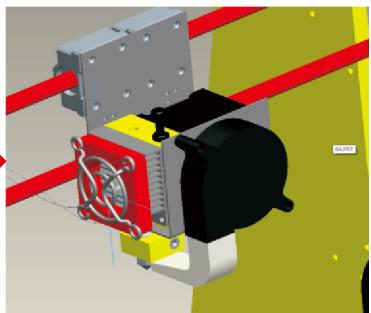
After Assembly

Assembly Step 21

Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Step 19	1
2	5015 Air blower	1
3	Wind mouth	1
4	M3*18 Screw	2



Before Assembly

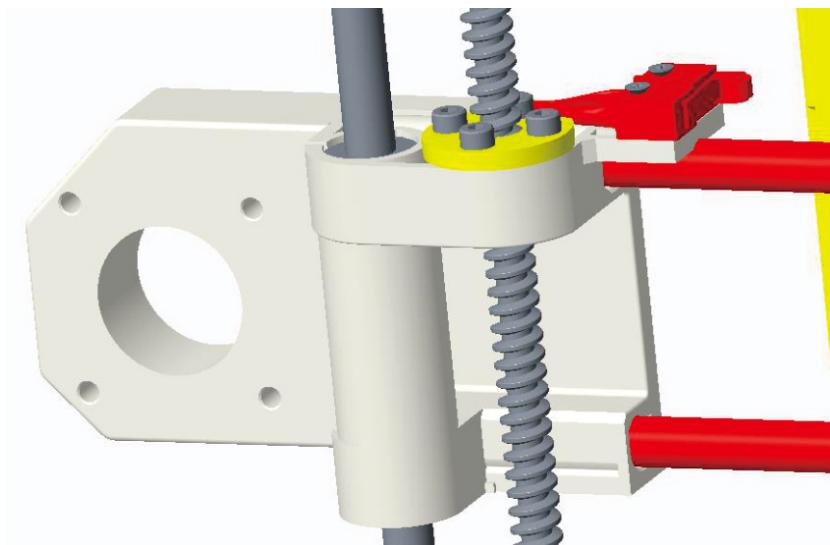


After Assembly

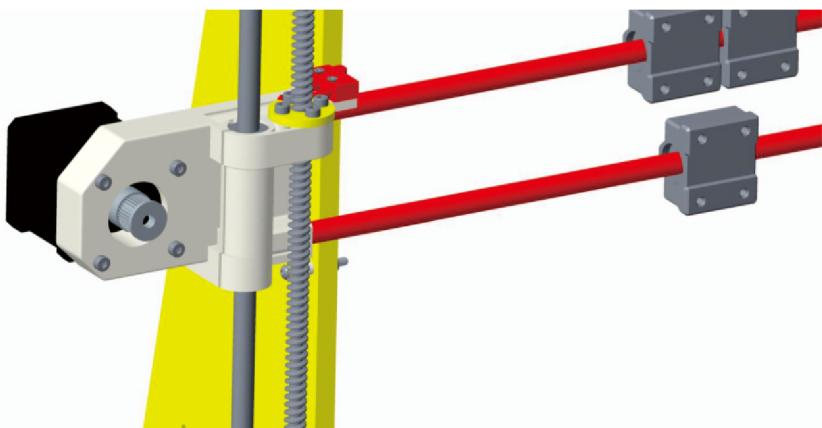
Assembly Step 22

Name and Qty. of printer parts

Item	Name of parts	QTY.
1	X shaft motor	1
2	Left shaft nut support	2
3	M3*20 Screw	4



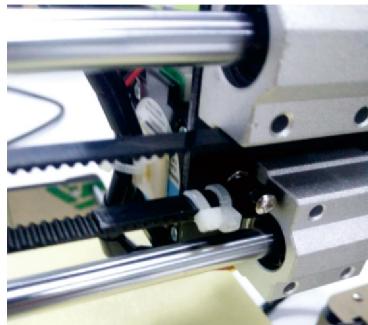
Before Assembly



After Assembly

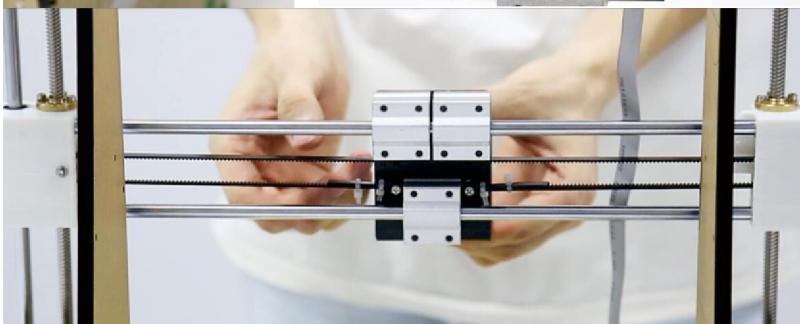
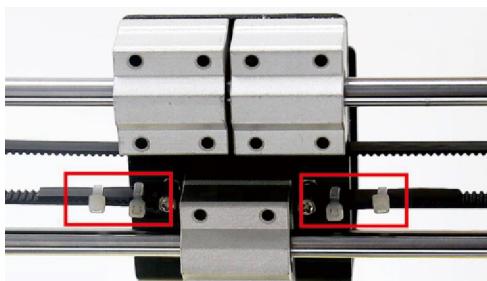
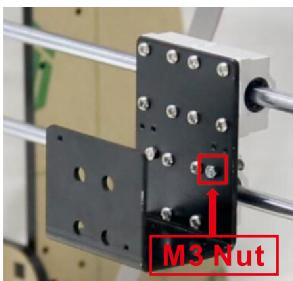
Assembly Step 23

Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Belt	1
2	M3*18 Screw	2
3	M3 Nut 4	4



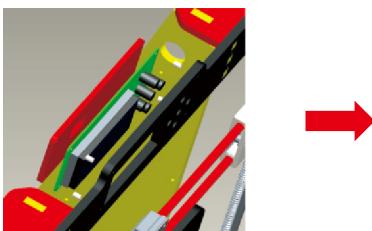
Attention: Belt is for X, Y axis transmitting. the length of belt is 1.5m in total. Normally there'll be 10-20cm left after installation.

Assembly Step 24

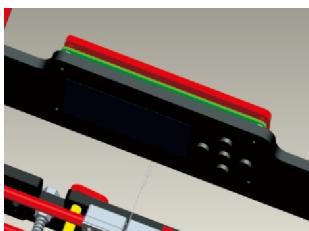


Assembly Step 25

Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	LCD 2004 screen	1
2	Pillar washer M3*7	4
3	Screen baffle plate	1
4	M3*30 Screw	4
5	M3 Nut	8



Before Assembly



After Assembly

Assembly Step 26

Attention: This is the wiring diagram of power supply. 1, 2, 3 separately represent the line of fire (brown), Zero line (blue), ground wire (yellow). 4,5, 6 represent negative pole (black)(-);7,8,9 represent the positive pole (red) (+). To avoid danger , please assure the installation is correct .

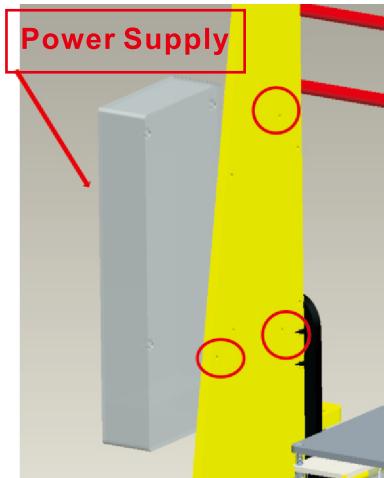


Assembly Step 27

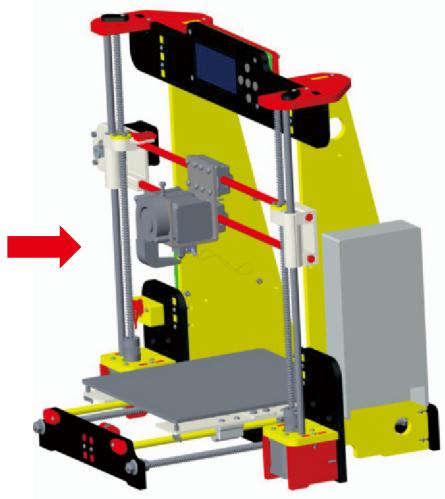
Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Step 22	1
2	Power Supply 12V	1
3	M3*12 Screw	3



Red circles stand for the power screw holes



Before Assembly



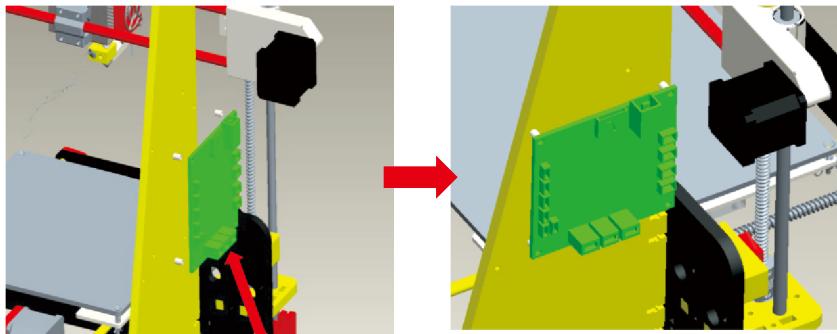
After Assembly

Assembly Step 28

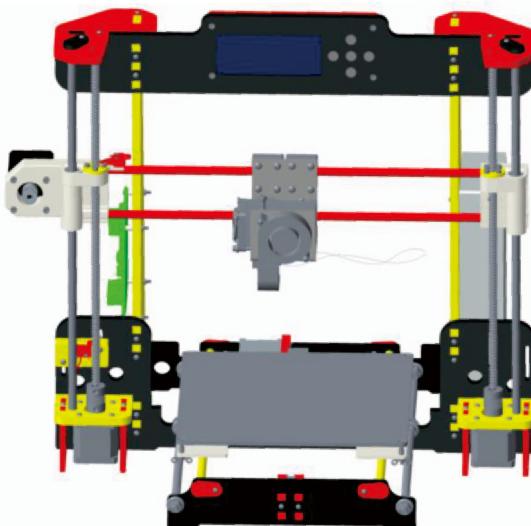
Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Step 23	1
2	Mainboard	1
3	M3*30 Screw	4
4	M3 Nut	4
5	Pillar washer M3*15	4



Before Assembly



Mainboard



After Assembly

Assembly Step 29

Attention: Please use the corresponding wire , especially motor wire & limited switch wire.

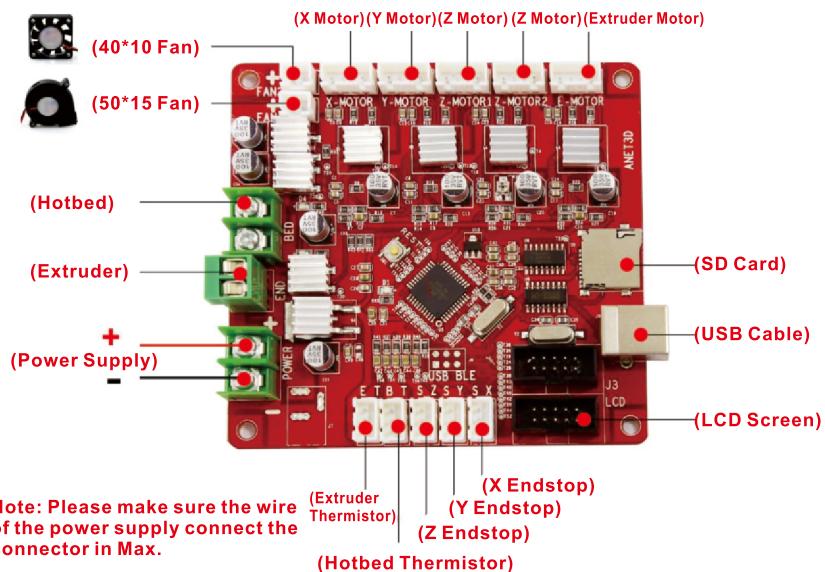
Length of A8 Components Wire

NO.	Option	Length(mm)
1	Power supply wire	700mm
2	X motor wire	400mm

NO.	Option	Length(mm)
3	Y motor wire	400mm
4	Left Z motor wire	400mm
5	Right Z motor wire	900mm
6	X limited switch wire	550mm
7	Y limited switch wire	700mm
8	Z limited switch wire	200mm
9	Extruder motor wire	900mm
10	4010 Fan wire	1100mm
11	5015 Blower wire	1100mm
12	Heating pipe wire	1000mm
13	Extruder thermistor wire	1000mm
14	Hotbed wire	900mm
15	X Belt	1500mm
16	Y Belt	
17	Screen wire	500mm

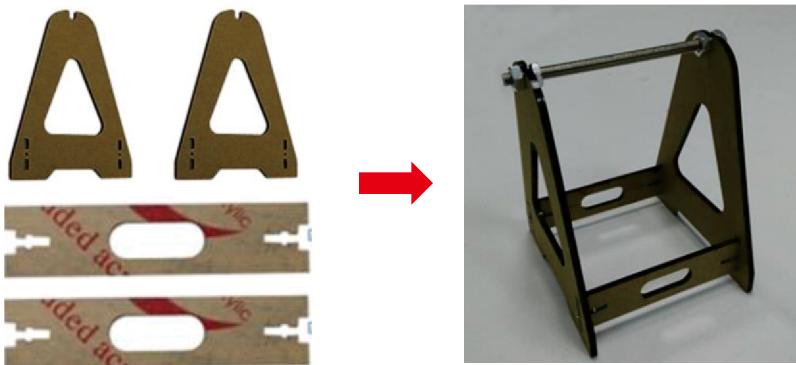
Assembly Step 30

Attention: Please connect the electronics wire to each components correspondingly.

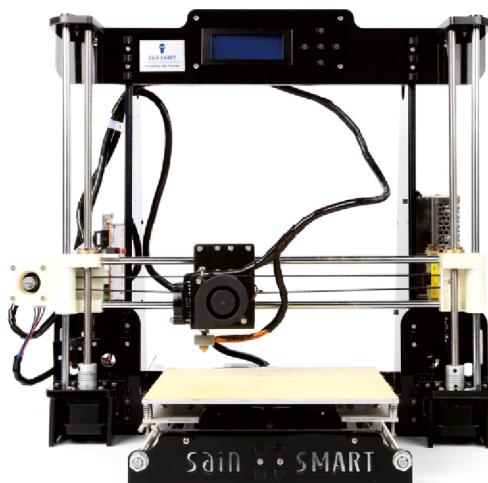


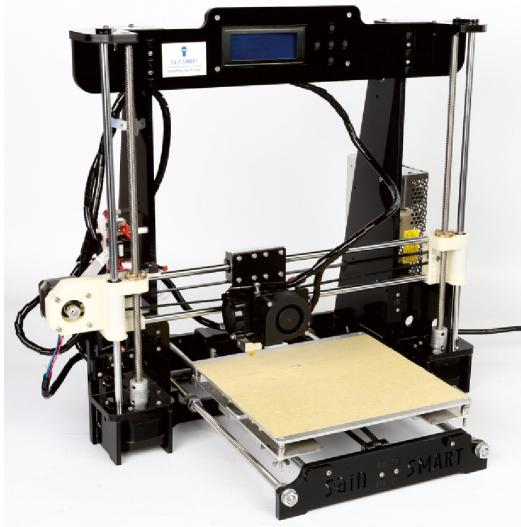
Assembly Step 31

Name and Qty. of printer parts		
Item	Name of parts	QTY.
1	Filament support plate	2
2	Filament support plate connecting plate	2
3	Threaded rod 150mm	1
4	M8 screw	4
5	M3*18 screw	4
6	M3 Nut	4

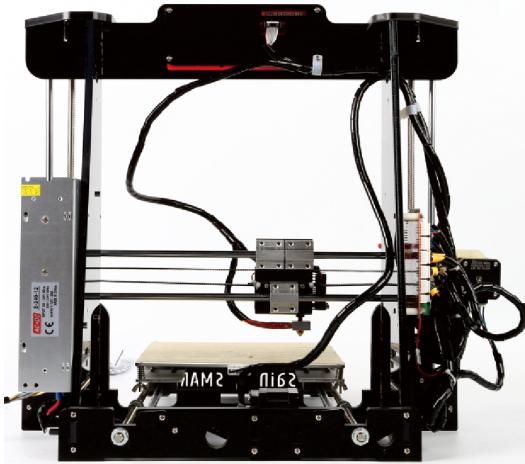


Assembly Step 32
Installation Picture 1





Assembly Step 32
Installation Picture 2



Assembly Step 32
Installation Picture 3

Installation Complete

- Congratulations ! You have just made yourself a 3D printer !
- Please contact your 3D printer supplier if any puzzles during using process.
- Thank you for choosing our products, we will always provide you more services.

Operation instruction

INTRODUCTION

A8 FDM 3D printer can print CAD 3D printer model to real. A8 uses Acrylic to build its frame while it uses linear bearings, belts and threaded rods to build X, Y, Z axis. It enables A8 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 notification 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°C while hotbed can be 100°C. 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: A8

Layer thickness: 0.1-0.3mm

Printing speed: 10-120mm/s

X Y axis position accuracy: 0.05mm

Z axis position accuracy: 0.015m

Printing material: ABS,PLA

Material tendency: PLA

Filament diameter : 1.75mm

Software language: Multi-Language

Function of support: automatically

Software: Cura

Nozzle diameter: 0.4mm

Machine size: 500*400*450mm

Machine weight: 7.5KG

Packing size: 510*345*215mm

Gross weight: 9.2KG

Build size: 220*220*240mm

LCD screen: Yes

Offline printing: SD CARD

File format: STL、G-Code、OBJ

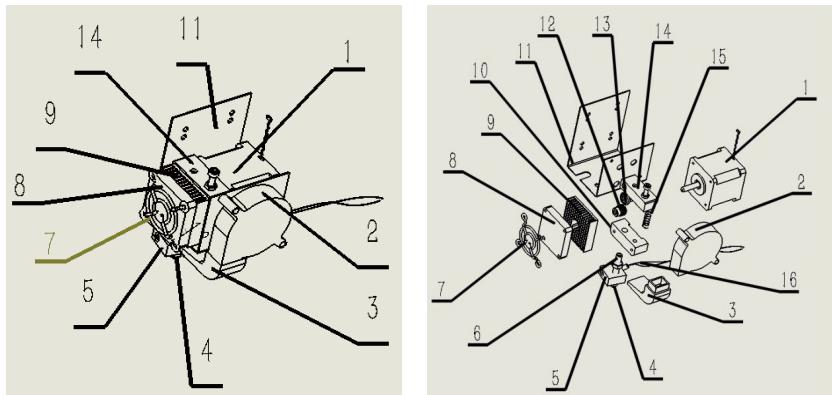
OS: windows(linux、mac)

Working condition: 10-30℃ , Humidity 20-50%

2. Machine parts

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

3. Extruder drawing



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

名称	修改日期	类型	大小
Installation Instruction	2016/7/7 星期四 ...	文件夹	
Print Model STL	2016/6/22 星期三 ...	文件夹	
Software	2016/7/7 星期四 ...	文件夹	
Test file GCODE	2016/6/22 星期三 ...	文件夹	
Tool List&other pictures	2016/7/7 星期四 ...	文件夹	

名称	修改日期	类型	大小
CH340G Drive	2016/7/7 星期四 ...	文件夹	
Cura 14.07	2016/7/7 星期四 ...	文件夹	
RepetierHost_1_0_5	2016/7/7 星期四 ...	文件夹	

名称	修改日期	类型	大小
Cura download link.txt	2016/7/1 星期五 ...	文本文档	1KB
Cura_14.07.exe	2015/8/11 星期二 ...	应用程序	18,377 KB

2) Download from Internet

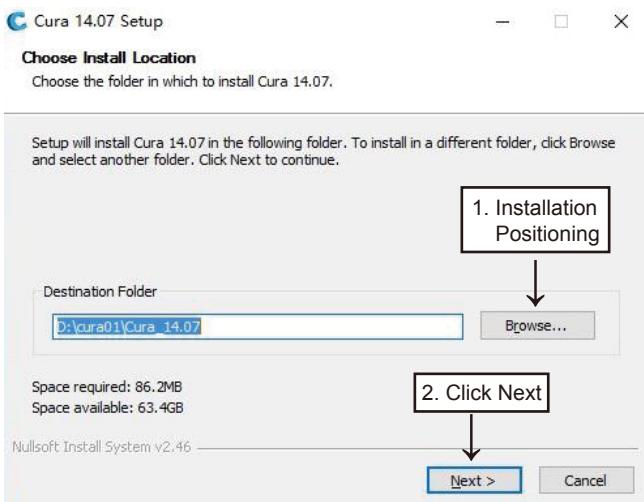
Official Website: <https://ultimaker.com/en/cura-software/list>

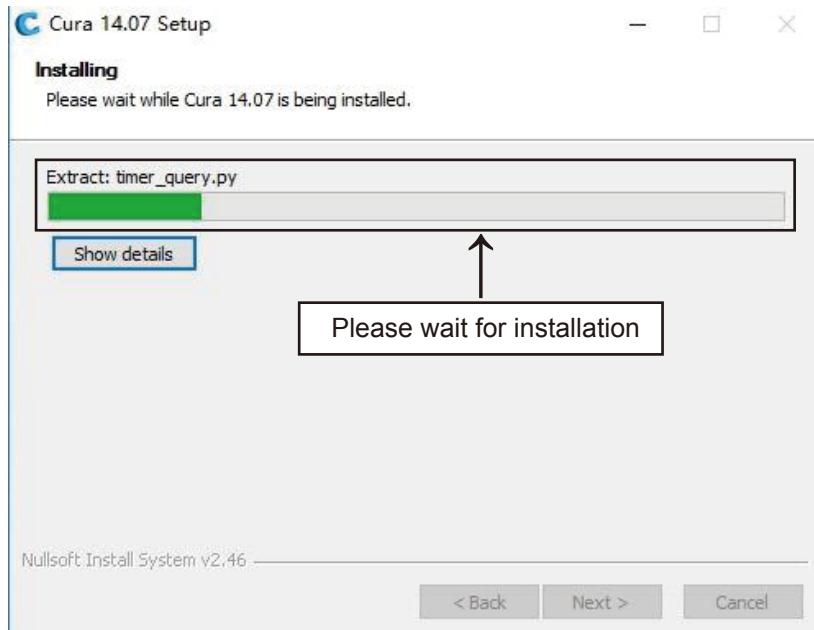
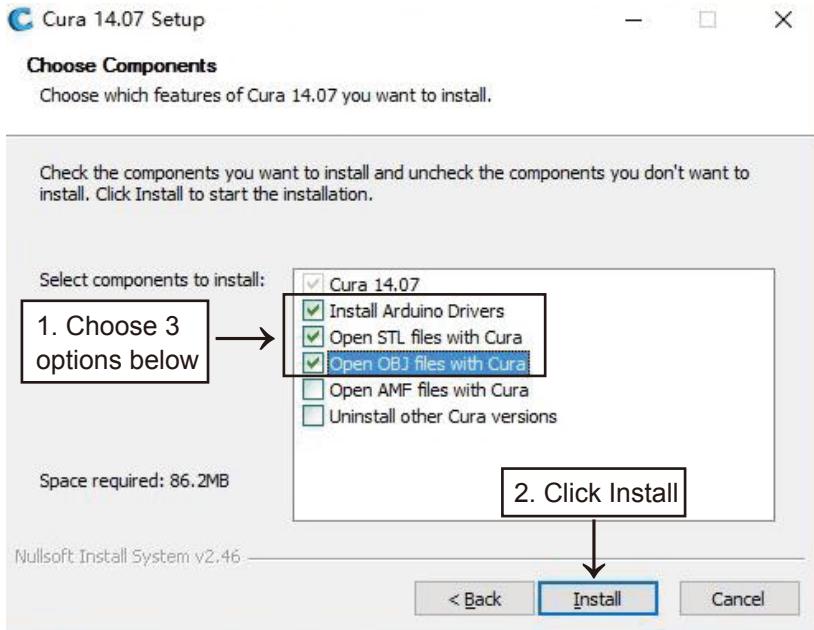
Choose corresponding software to download

WINDOWS

Version: 2.1.2 32 bit	Release date: 6/7/16
Version: 2.1.2 64 bit	Release date: 6/7/16
Version: 15.04.6	Release date: 6/7/16
Version: 15.04.5	Release date: 3/17/16
Version: 15.04.4	Release date: 1/5/16
Version: 15.04.03	Release date: 11/4/15
Version: 15.04.2	Release date: 7/28/15
Version: 15.04	Release date: 4/15/15
Version: 15.02.1	Release date: 2/19/15
Version: 15.01	Release date: 1/30/15
Version: 14.12	Release date: 12/15/14
Version: 14.09	Release date: 9/19/14
Version: 14.07	Release date: 7/3/14
Version: 14.06	Release date: 6/16/14
Version: 14.03	Release date: 3/17/14
Version: 14.01	Release date: 1/10/14
Version: 13.12	Release date: 12/23/13
Version: 13.11	Release date: 11/22/13
Version: 13.10	Release date: 10/18/13
Version: 13.06.4	Release date: 6/26/13
Version: 13.04	Release date: 4/26/13
Version: 13.03	Release date: 3/8/13
Version: 12.12	Release date: 12/24/12
Version: 12.11	Release date: 11/12/12
Version: 12.10	Release date: 11/8/12

b. Software Installation Process





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.

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

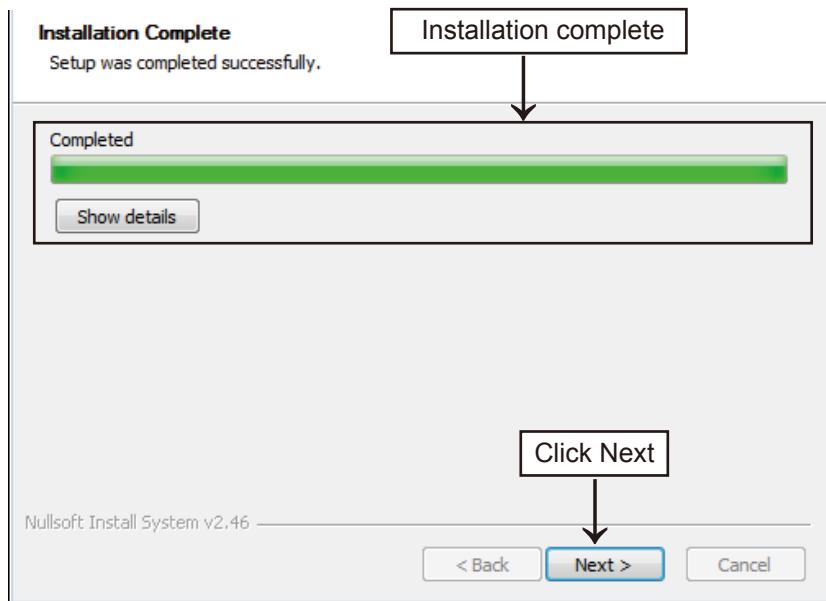
Driver Name	Status
✓ Arduino LLC (www.arduino.cc)	Ready to use

2. Click to finish

< 上一步 (B)

完成

取消



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

Select your machine

What kind of machine do you have:

- Ultimaker2
- Ultimaker Original
- Printrbot
- Other (Ex: RepRap, MakerBot)

1. Choose other to customize

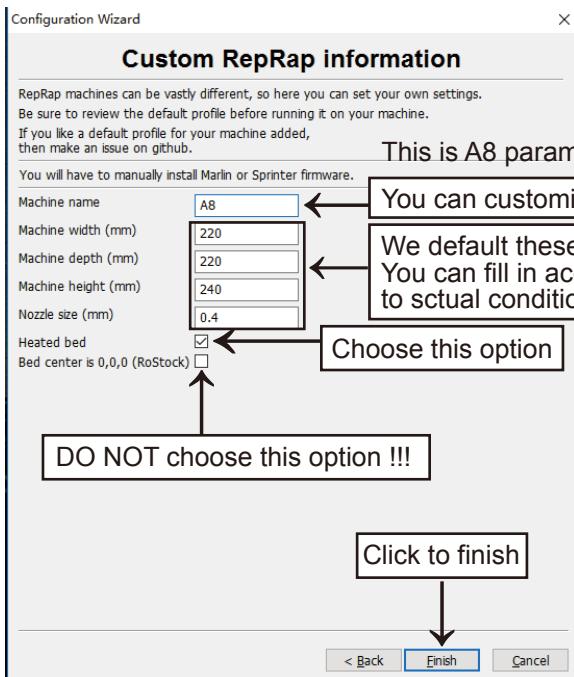
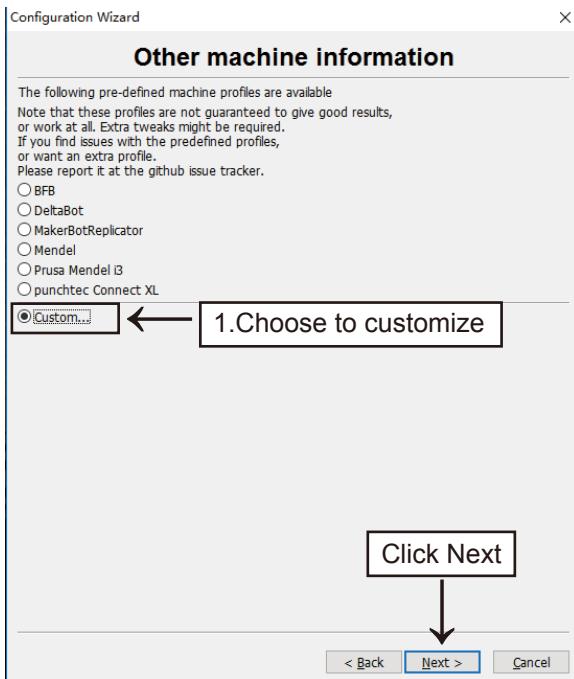
The collection of anonymous usage information helps with the continued improvement of Cura.
This does NOT submit your models online nor gathers any privacy related information.

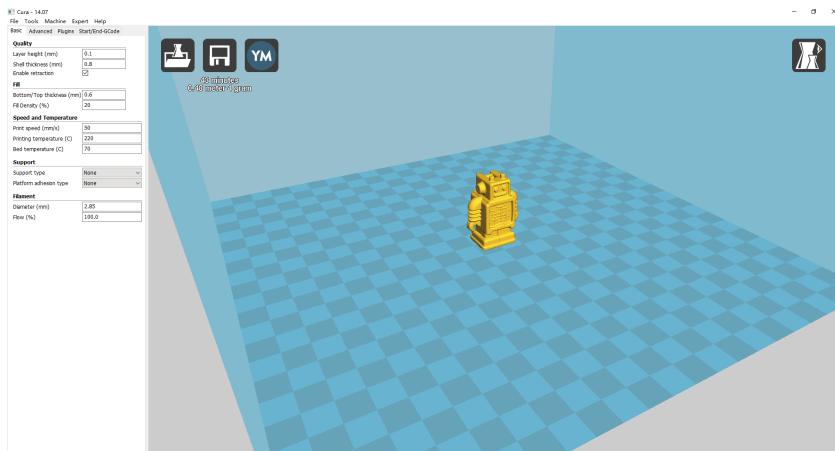
Submit anonymous usage information:

2. Choose this option

Click Next

< Back Next > Cancel





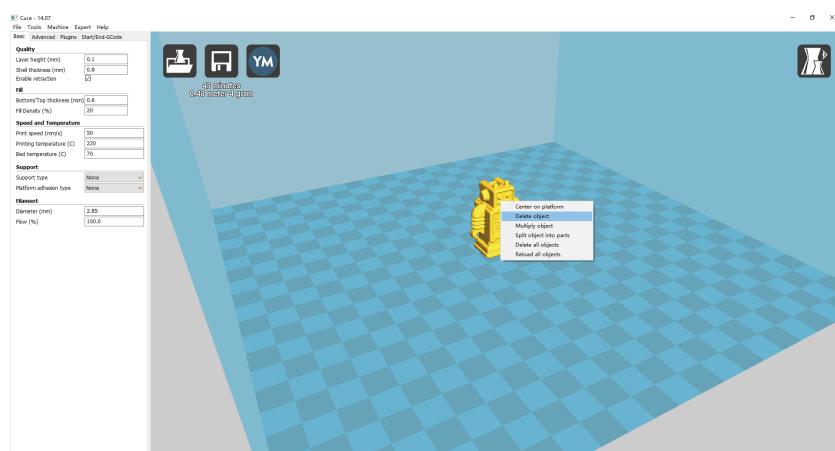
Now you have finished the installation. Next , enter Cura .

2. Cura Setting

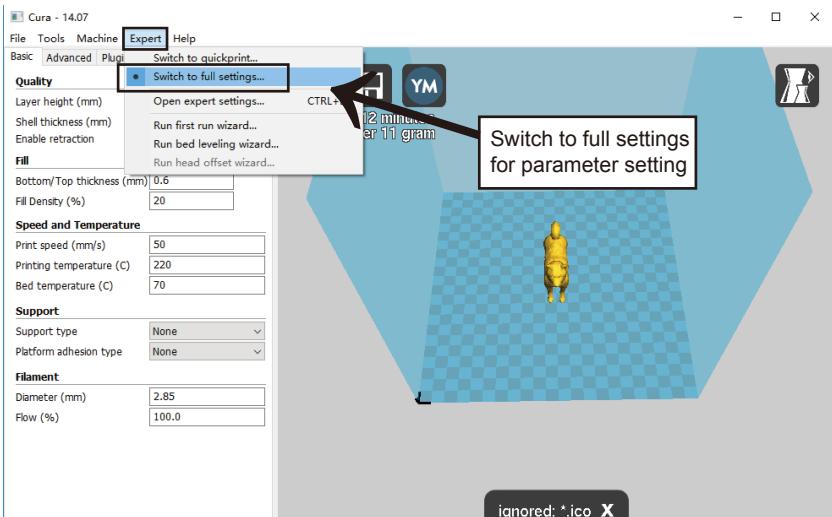
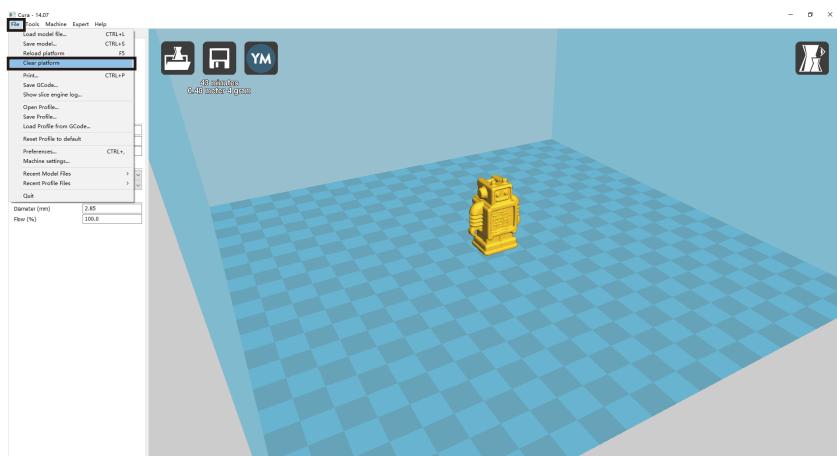
2.1 Clear platform

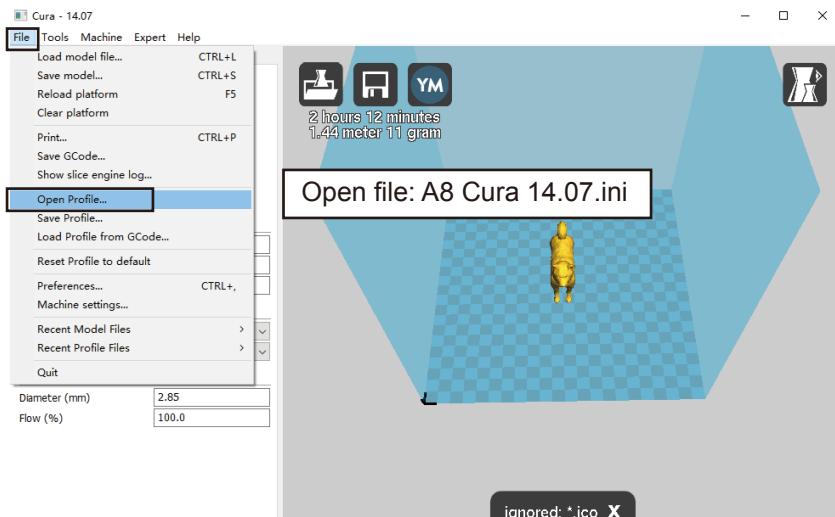
Delete the dog. Two ways for you :

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

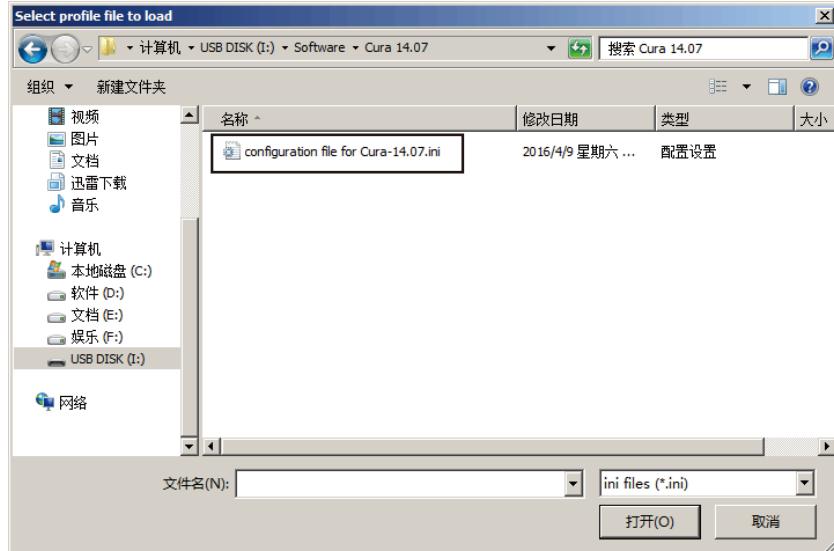


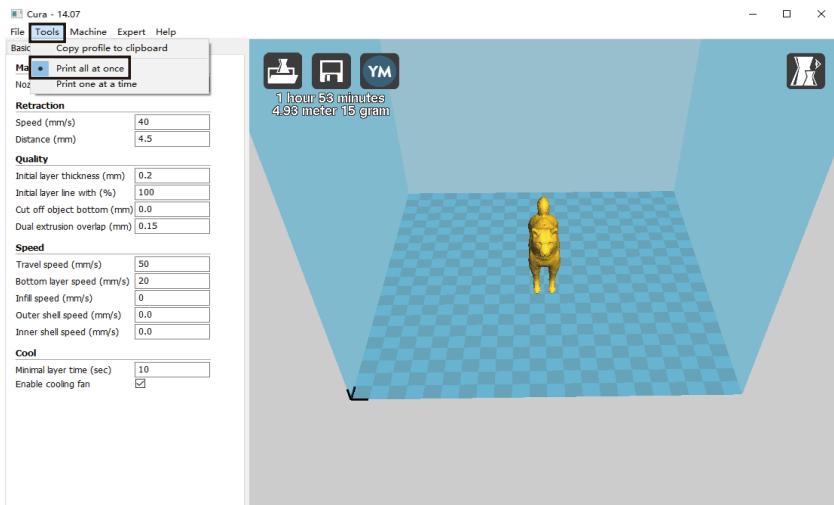
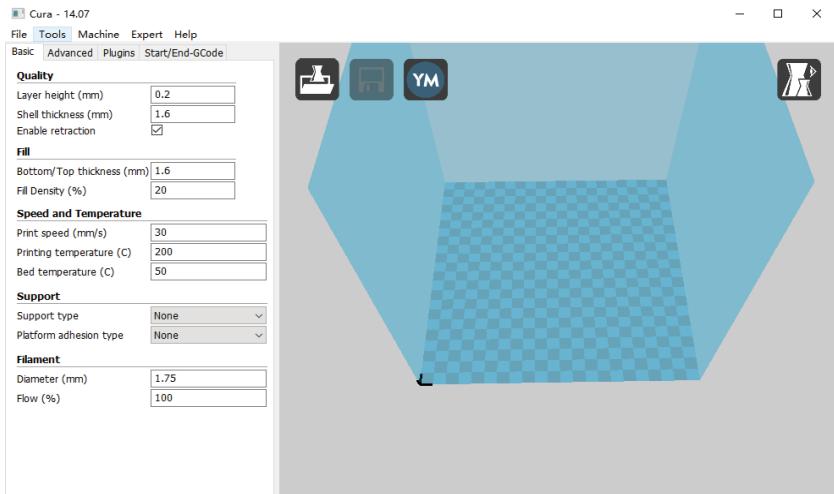
2.Left click “File”, choose “Clear platform”.





Position of configuration file: Computer/SD card)/ configuration file for
cura-14.07
(suggestion: keep this file copy to your computer)





If print once at a time, it will influence the printing quality, even cause damage to printer. So please choose "Printer at once".

2.2 Layer height settings

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	<input checked="" type="checkbox"/>

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

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	<input checked="" type="checkbox"/>

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

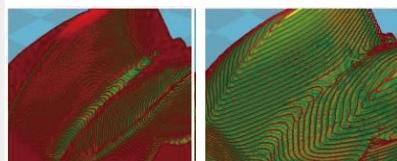
Support

Support type	None
Platform adhesion type	None

Filament

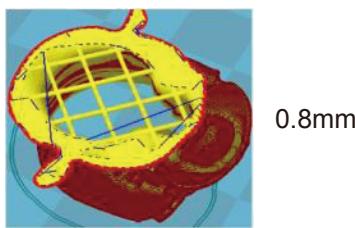
Diameter (mm)	1.75
Flow (%)	100

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.

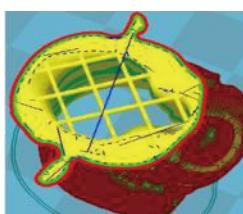


Left: 0.1mm Right: 0.2mm
Layer height Layer height

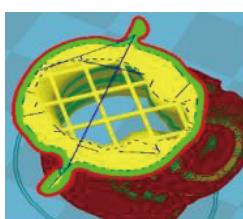
Shell thickness setting



0.8mm



1.2mm



2mm

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

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	<input checked="" type="checkbox"/>

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

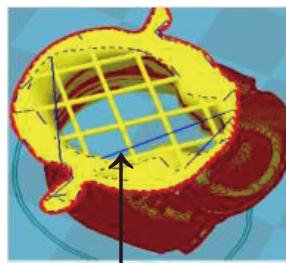
Support

Support type	None
Platform adhesion type	None

Filament

Diameter (mm)	1.75
Flow (%)	100

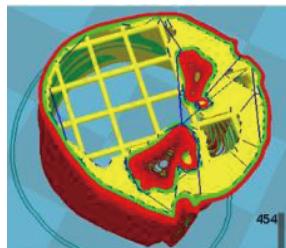
Enable retraction to avoid filaments leakage when nozzles move in empty area



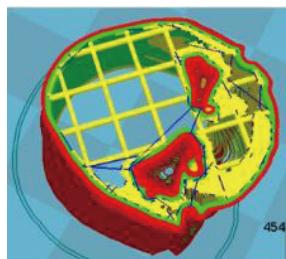
The Blue line is the leak filament
Enable retraction

When fill density is less than 20%,
it's easy for 0.6mm thickness to
cause hollow on the top. 1.2mm
normally won't have this issue.

Under the same fill density:

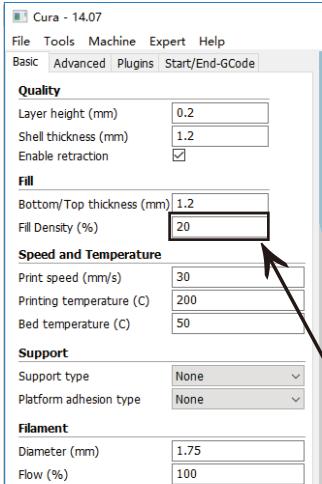


Bottom/Top thickness: 1.2mm



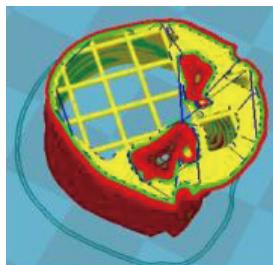
Bottom/Top thickness: 0.6mm

Bottom/Top thickness setting

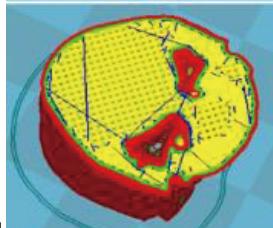


Fill Density: If strength requirement is not so high, set 10% is ok. Please improve fill density when strength requirement gets higher. Printing time will go up as well.

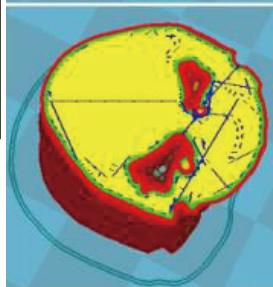
Fill Density Setting



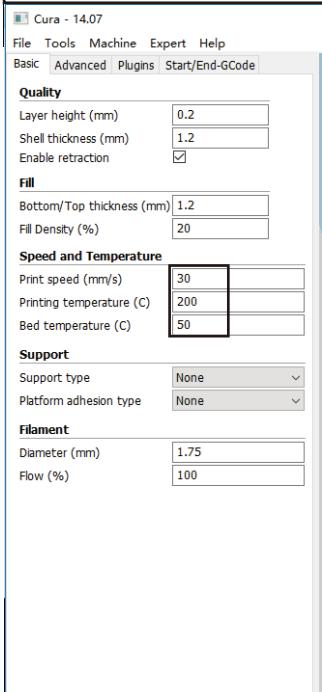
20%



50%



90%



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 print speed is suitable for printing.

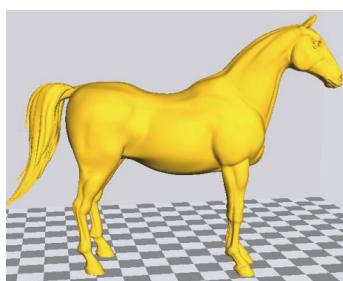
Printing Temperature:

PLA filament temperature setting:

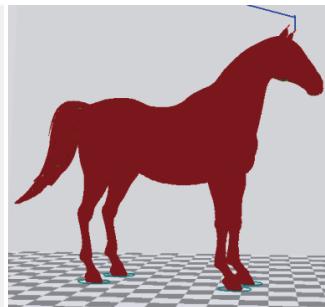
nozzle: 190-210°C hotbed: 40-60°C

ABS filament temperature setting:

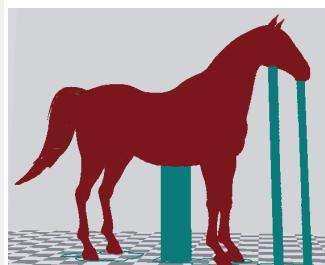
nozzle: 230-250°C hotbed: 60-90°C

QualityLayer height (mm) Shell thickness (mm) Enable retraction **Fill**Bottom/Top thickness (mm) Fill Density (%) **Speed and Temperature**Print speed (mm/s) Printing temperature (C) Bed temperature (C) **Support**Support type Platform adhesion type Filament Diameter (mm) Flow (%) 

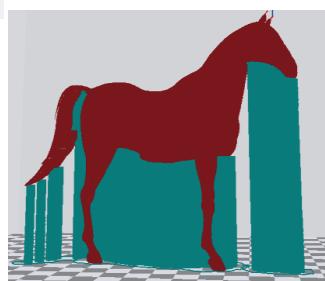
Original Model



Support type: None



Support type: Touching



Support type: Everywhere

Support type setting

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.

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	<input checked="" type="checkbox"/>

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

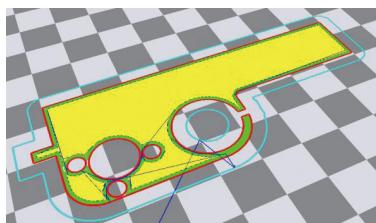
Support

Support type	None
Platform adhesion type	None
	None
	Brim
	Raft

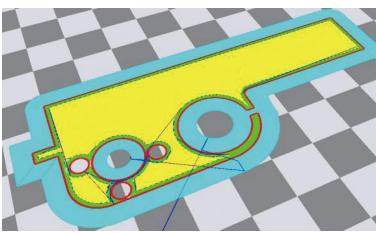
Filament

Diameter (mm)	2.85
Flow (%)	100

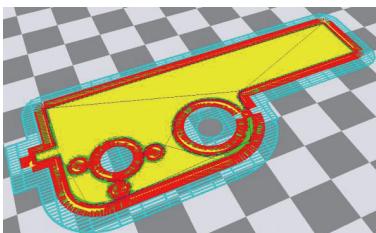
Support setting



None: no support



Brim: Touch with the edge



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	<input checked="" type="checkbox"/>

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 1.75
Flow (%)	2 100

Cura - 14.07

File Tools Machine Expert Help

Basic Advanced Plugins Start/End-GCode

Machine

Nozzle size (mm)	0.4	3
------------------	-----	---

Retraction

Speed (mm/s)	40	4
Distance (mm)	4.5	

Quality

Initial layer thickness (mm)	0.2	5
Initial layer line with (%)	100	6
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	7
Inner shell speed (mm/s)	0.0	

Cool

Minimal layer time (sec)	10	8
Enable cooling fan	<input checked="" type="checkbox"/>	9

1. Attention: A8 use 1.75mm filament

2. 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.

3. We suggest not to change it, A8 default 0.4mm

4. We suggest not to change it, or use the date in the picture

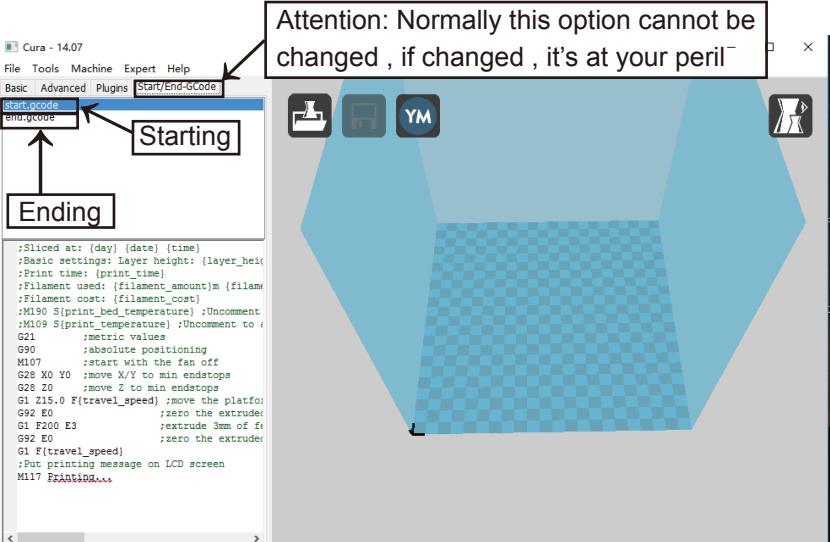
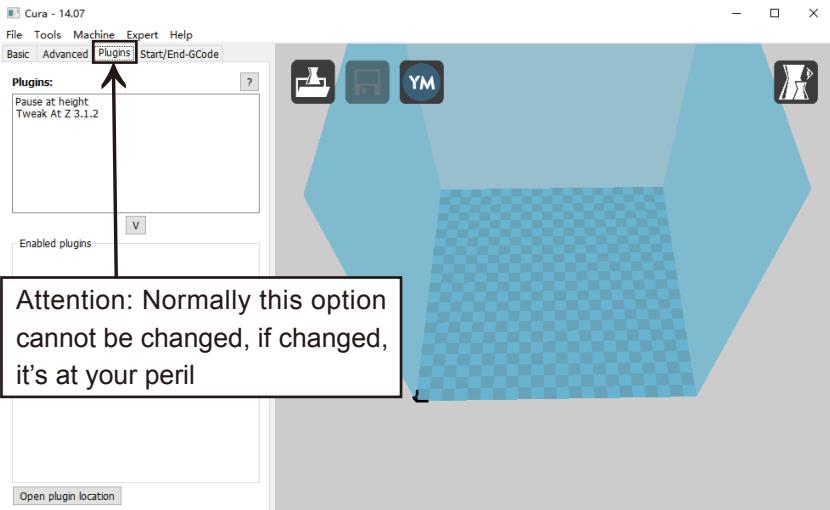
5. We suggest 0.2mm to avoid initial layer tilt, 0.3mm is more easy to seperate from the platform

6. Initial layer line proportion

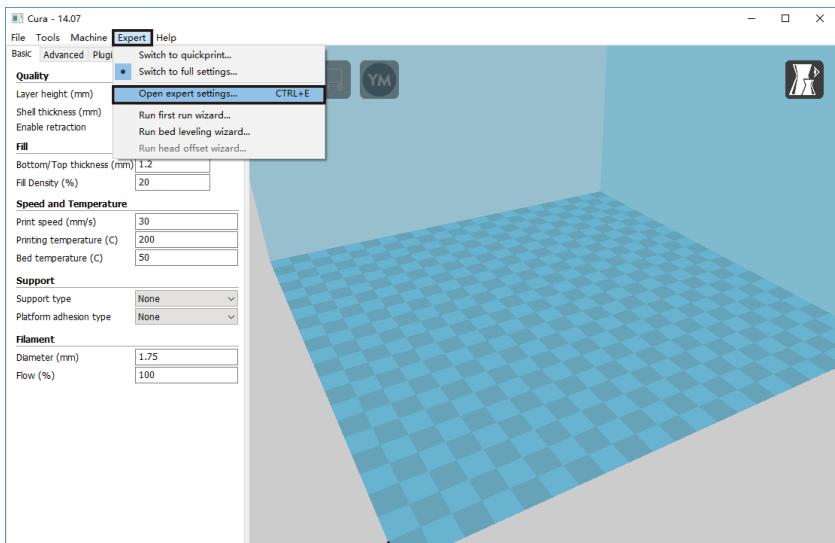
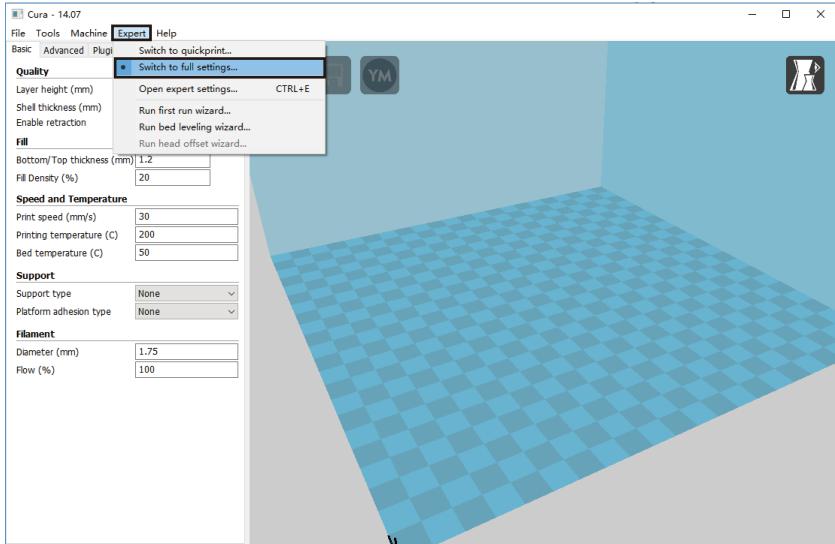
7. "0" means using default speed

8. 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.

9. We suggest not choose this when printing ABS



3.Expert Setting

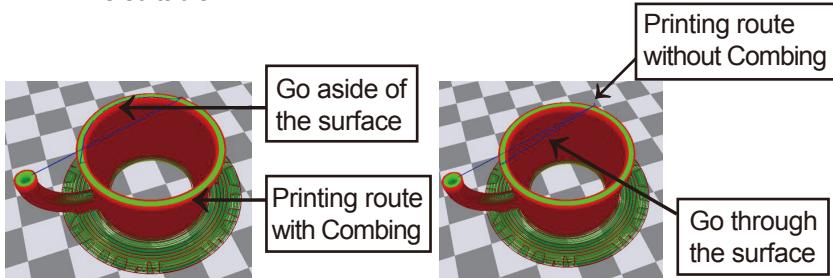


Expert config

X

Retraction		Support	
Minimum travel (mm)	1.5	Structure type	Lines <input type="button" value="▼"/>
Enable combing	<input checked="" type="checkbox"/> 1	Overhang angle for support (deg)	60
Minimal extrusion before retracting (mm)	0.02	Fill amount (%)	10
Z hop when retracting (mm)	0.0	Distance X/Y (mm)	0.7
Skirt	4	Distance Z (mm)	0.15
Line count	1	Black Magic	
Start distance (mm)	3.0	Spiralize the outer contour	<input type="checkbox"/>
Minimal length (mm)	150.0	Only follow mesh surface	<input type="checkbox"/>
Cool		Brim	
Fan full on at height (mm)	0.5	Brim line amount	4
Fan speed min (%)	30	Raft	
Fan speed max (%)	100	Extra margin (mm)	5
Minimum speed (mm/s)	10	Line spacing (mm)	3
Cool head lift	<input type="checkbox"/>	Base thickness (mm)	0.3
Infill		Base line width (mm)	1
Solid infill top	<input checked="" type="checkbox"/>	Interface thickness (mm)	0.27
Solid infill bottom	<input checked="" type="checkbox"/>	Interface line width (mm)	0.4
Infill overlap (%)	15	Airgap	0.22
		Surface layers	2
		Fix horrible	
		Combine everything (Type-A)	<input checked="" type="checkbox"/>
		Combine everything (Type-B)	<input type="checkbox"/>
		Keep open faces	<input type="checkbox"/>
		Extensive stitching	<input type="checkbox"/>
<input type="button" value="Ok"/>			

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 .



Expert config

X

Retraction

Minimum travel (mm)	1.5
Enable combing	<input checked="" type="checkbox"/>
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	<input type="checkbox"/>

Infill

Solid infill top	<input checked="" type="checkbox"/>
Solid infill bottom	<input checked="" type="checkbox"/>
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	<input type="checkbox"/>
Only follow mesh surface	<input type="checkbox"/>

Brim

Brim line amount	4
------------------	---

Raft

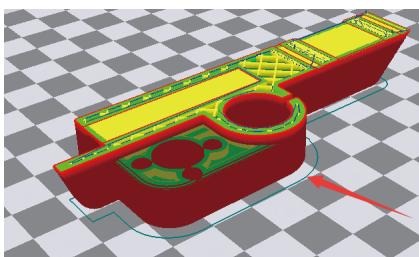
Extra margin (mm)	5
Line spacing (mm)	3
Base thickness (mm)	0.3
Base line width (mm)	1
Interface thickness (mm)	0.27
Interface line width (mm)	0.4
Airgap	0.22
Surface layers	2

Fix horrible

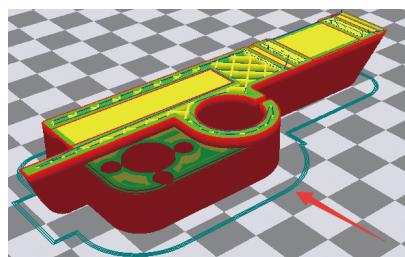
Combine everything (Type-A)	<input checked="" type="checkbox"/>
Combine everything (Type-B)	<input type="checkbox"/>
Keep open faces	<input type="checkbox"/>
Extensive stitching	<input type="checkbox"/>

Ok

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

Expert config

X

Retraction

Minimum travel (mm)	1.5
Enable combing	<input checked="" type="checkbox"/>
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	1
Fan speed min (%)	30	2
Fan speed max (%)	100	3
Minimum speed (mm/s)	10	4
Cool head lift	<input type="checkbox"/>	5

Infill

Solid infill top	<input checked="" type="checkbox"/>
Solid infill bottom	<input checked="" type="checkbox"/>
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	<input type="checkbox"/>
Only follow mesh surface	<input type="checkbox"/>

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)	<input checked="" type="checkbox"/>
Combine everything (Type-B)	<input type="checkbox"/>
Keep open faces	<input type="checkbox"/>
Extensive stitching	<input type="checkbox"/>

Ok

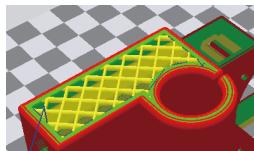
- To ensure the attachment of model to platform, fan won't start at the beginning.
- 4. Fan speed min & max: If they are not equal, the soft ware will choose a suitable speed during them.
- Condition to choose cool head lift: When it's printing with the minimum speed but still cannot reach the minimum time, you need to choose cool head lift. But it may cause filament leak.

Expert config X

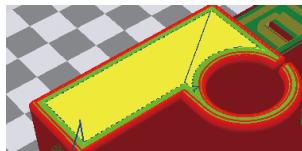
Retraction	
Minimum travel (mm)	1.5
Enable combing	<input checked="" type="checkbox"/>
Minimal extrusion before retracting (mm)	0.02
Z hop when retracting (mm)	0.0
Skirt	
Line count	1
Start distance (mm)	3.0
Minimal length (mm)	150.0
Cool	
Fan full on at height (mm)	0.5
Fan speed min (%)	30
Fan speed max (%)	100
Minimum speed (mm/s)	10
Cool head lift	<input type="checkbox"/>
Infill	
Solid infill top	<input checked="" type="checkbox"/>
Solid infill bottom	<input checked="" type="checkbox"/>
Infill overlap (%)	15
Support	
Structure type	Lines <input type="button" value="▼"/>
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	<input type="checkbox"/>
Only follow mesh surface	<input type="checkbox"/>
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)	<input checked="" type="checkbox"/>
Combine everything (Type-B)	<input type="checkbox"/>
Keep open faces	<input type="checkbox"/>
Extensive stitching	<input type="checkbox"/>
Ok	

If no solid infill top , the only qualification is the surface thickness.

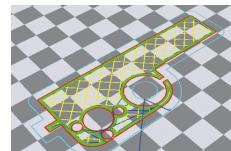
Please check the detail below.



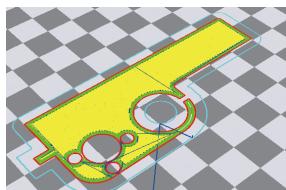
No solid infill top



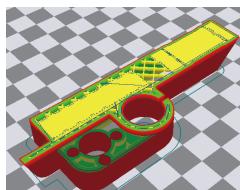
With solid infill top



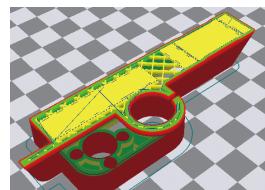
No solid infill bottom



With solid infill bottom



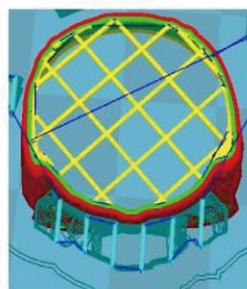
Infill coverlap: 20



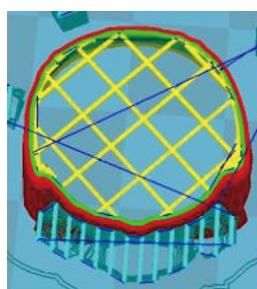
Infill coverlap: 40

Expert config

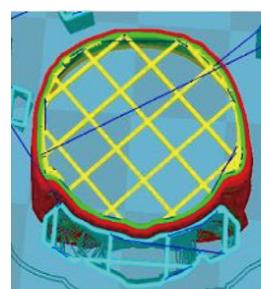
Retraction		Support	
Minimum travel (mm)	1.5	Structure type	Lines <input checked="" type="checkbox"/>
Enable combing	<input checked="" type="checkbox"/>	Overhang angle for support (deg)	60
Minimal extrusion before retracting (mm)	0.02	Fill amount (%)	10
Z hop when retracting (mm)	0.0	Distance X/Y (mm)	0.7
Skirt		Distance Z (mm)	
Line count	1	0.15	
Start distance (mm)	3.0	Black Magic	
Minimal length (mm)	150.0	Spiralize the outer contour	<input type="checkbox"/>
Cool		Only follow mesh surface	<input type="checkbox"/>
Fan full on at height (mm)	0.5	Brim	
Fan speed min (%)	30	Brim line amount	4
Fan speed max (%)	100	Raft	
Minimum speed (mm/s)	10	Extra margin (mm)	5
Cool head lift	<input type="checkbox"/>	Line spacing (mm)	3
Infill		Base thickness (mm)	0.3
Solid infill top	<input checked="" type="checkbox"/>	Base line width (mm)	1
Solid infill bottom	<input checked="" type="checkbox"/>	Interface thickness (mm)	0.27
Infill overlap (%)	15	Interface line width (mm)	0.4
Fix horrible			
Combine everything (Type-A) <input checked="" type="checkbox"/>			
Combine everything (Type-B) <input type="checkbox"/>			
Keep open faces <input type="checkbox"/>			
Extensive stitching <input type="checkbox"/>			
Ok			



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 separate from the model.

Expert config

X

Retraction

Minimum travel (mm)	1.5
Enable combing	<input checked="" type="checkbox"/>
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	<input type="checkbox"/>

Infill

Solid infill top	<input checked="" type="checkbox"/>
Solid infill bottom	<input checked="" type="checkbox"/>
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	<input type="checkbox"/>
Only follow mesh surface	<input type="checkbox"/>

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

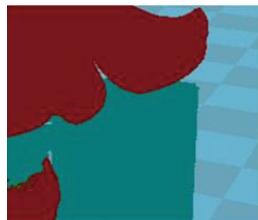
Fix horrible

Combine everything (Type-A)	<input checked="" type="checkbox"/>
Combine everything (Type-B)	<input type="checkbox"/>
Keep open faces	<input type="checkbox"/>
Extensive stitching	<input type="checkbox"/>

Ok



60°



45°



30°

It's difficult to separate 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.

Expert config

X

Retraction

Minimum travel (mm)	1.5
Enable combing	<input checked="" type="checkbox"/>
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	<input type="checkbox"/>

Infill

Solid infill top	<input checked="" type="checkbox"/>
Solid infill bottom	<input checked="" type="checkbox"/>
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	<input type="checkbox"/>
Only follow mesh surface	<input type="checkbox"/>

Brim

Brim line amount	4
------------------	---

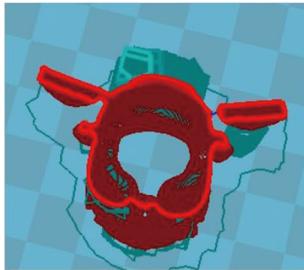
Raft

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

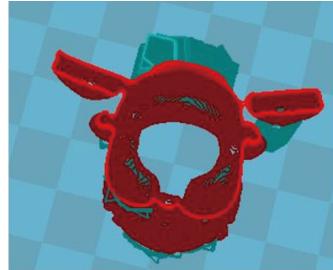
Fix horrible

Combine everything (Type-A)	<input checked="" type="checkbox"/>
Combine everything (Type-B)	<input type="checkbox"/>
Keep open faces	<input type="checkbox"/>
Extensive stitching	<input type="checkbox"/>

Ok



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 turn it on.

Expert config

X

Retraction

Minimum travel (mm)	1.5
Enable combing	<input checked="" type="checkbox"/>
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	<input type="checkbox"/>

Infill

Solid infill top	<input checked="" type="checkbox"/>
Solid infill bottom	<input checked="" type="checkbox"/>
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	<input type="checkbox"/>
Only follow mesh surface	<input type="checkbox"/>

Brim

Brim line amount	4
------------------	---

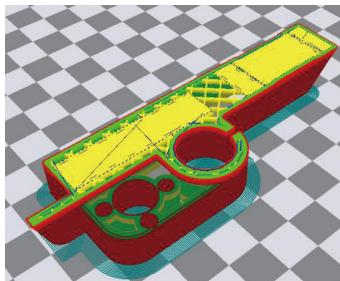
Raft

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

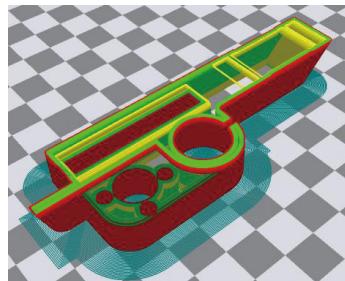
Fix horrible

Combine everything (Type-A)	<input checked="" type="checkbox"/>
Combine everything (Type-B)	<input type="checkbox"/>
Keep open faces	<input type="checkbox"/>
Extensive stitching	<input type="checkbox"/>

Ok



Brim line amount: 10



Brim line amount: 20

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

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

Expert config

X

Retraction

Minimum travel (mm)	1.5
Enable combing	<input checked="" type="checkbox"/>
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	<input type="checkbox"/>

Infill

Solid infill top	<input checked="" type="checkbox"/>
Solid infill bottom	<input checked="" type="checkbox"/>
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	<input type="checkbox"/>
Only follow mesh surface	<input type="checkbox"/>

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

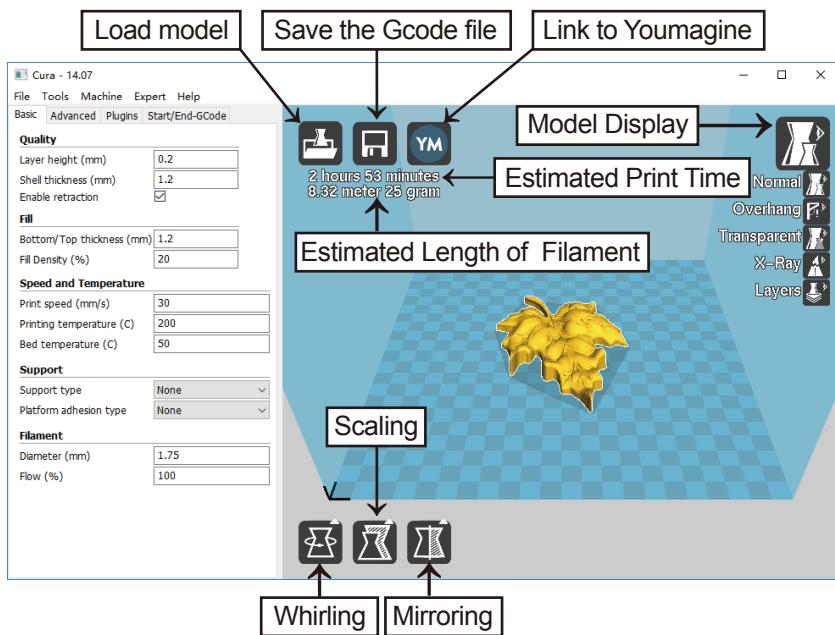
Fix horrible

Combine everything (Type-A)	<input checked="" type="checkbox"/>
Combine everything (Type-B)	<input type="checkbox"/>
Keep open faces	<input type="checkbox"/>
Extensive stitching	<input type="checkbox"/>

Ok

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.



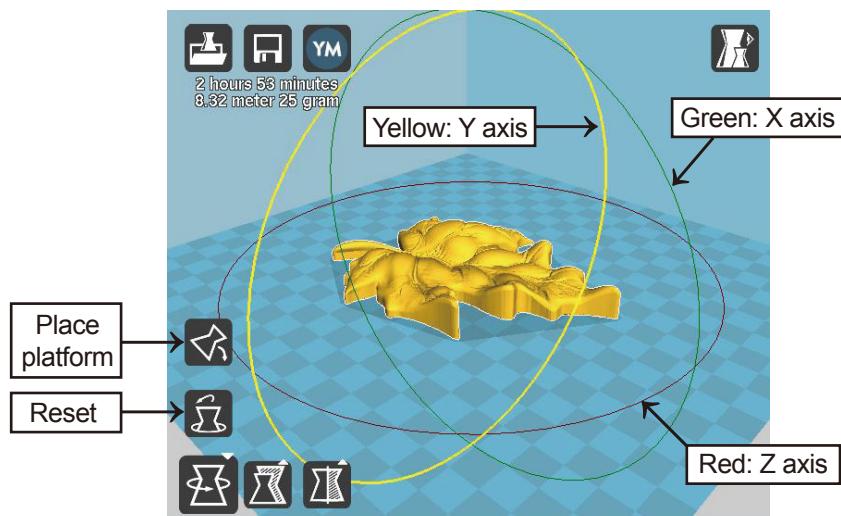
Left click the model and you will see the icon of “whirling, scaling, mirroring.”

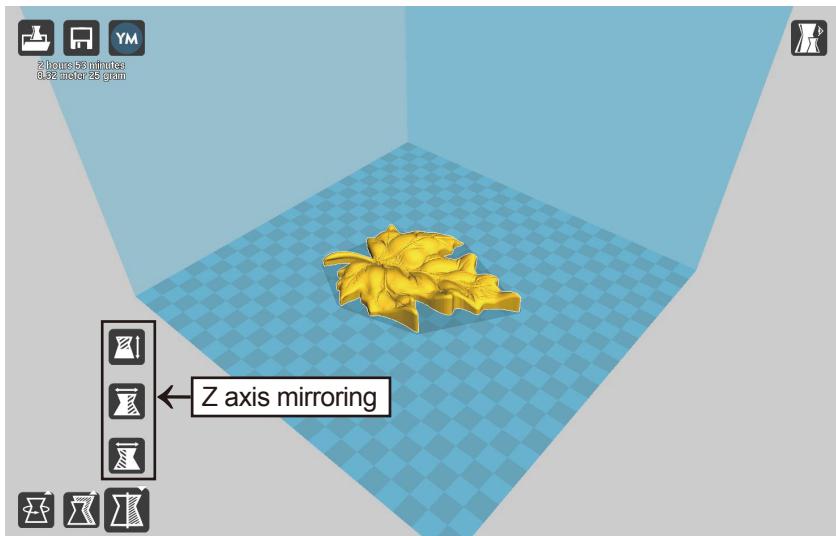
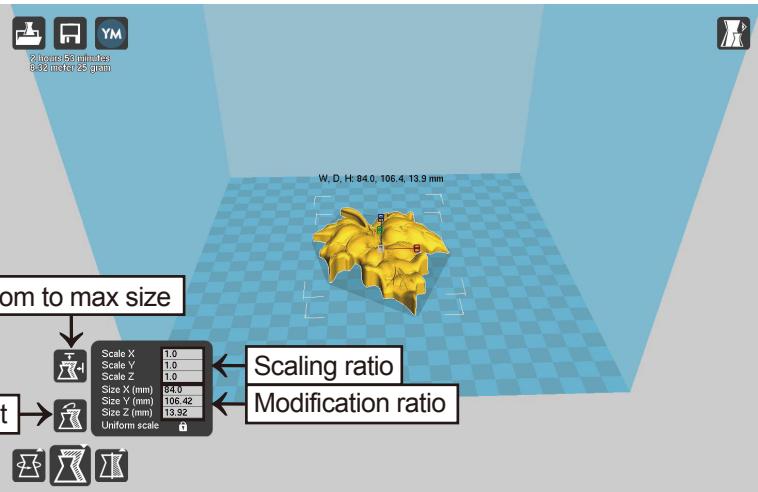
Left click to select model and move → move model.

Slide mouse wheel → scaling.

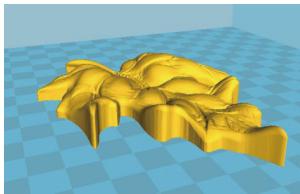
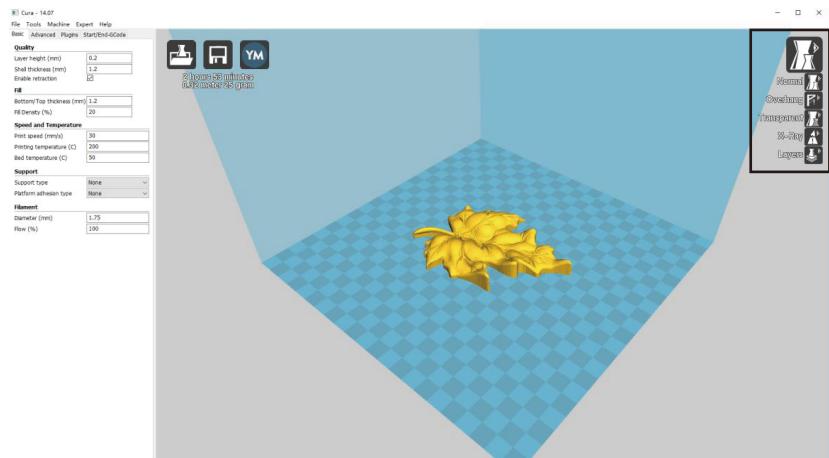
Right click to select model and move → whirling.

Shift + right click platform and move → move platform

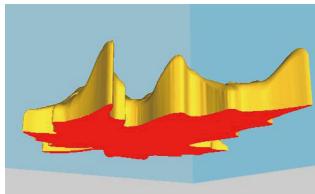




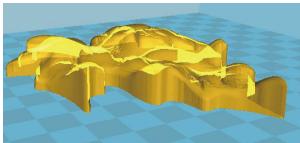
Attention: The model will be converse after mirroring



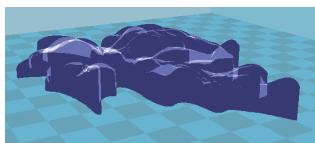
Normal: Most used



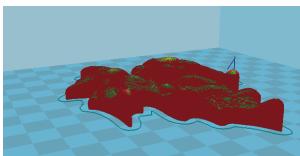
Overhang: Used to see the vacant part



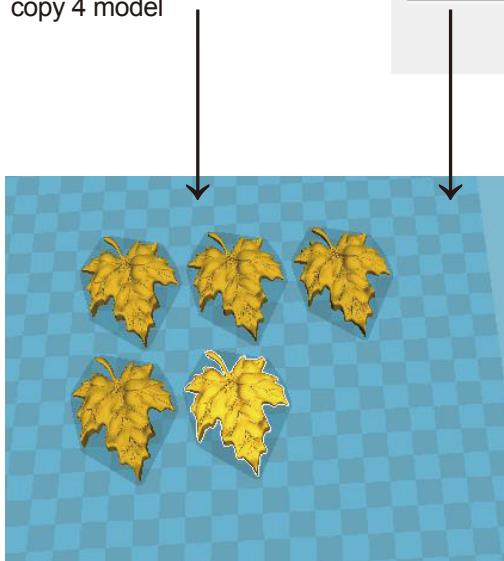
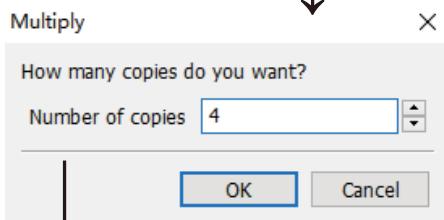
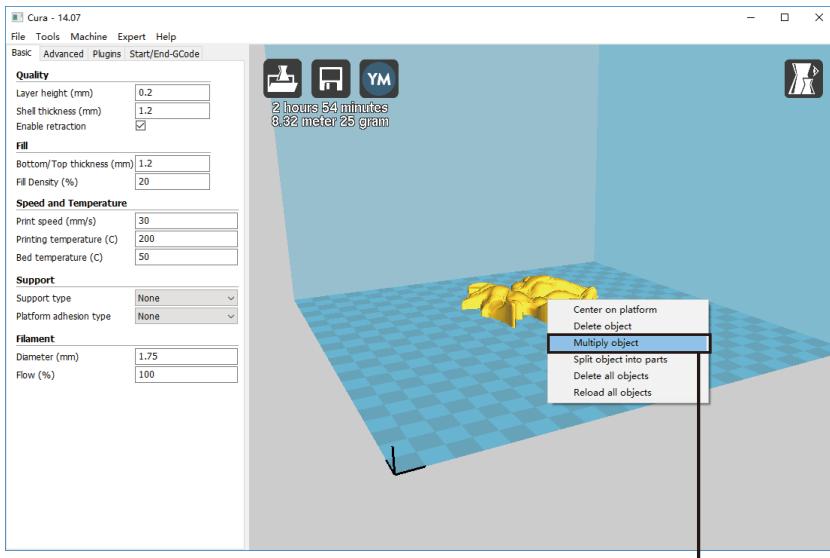
Transparent



X-Ray



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

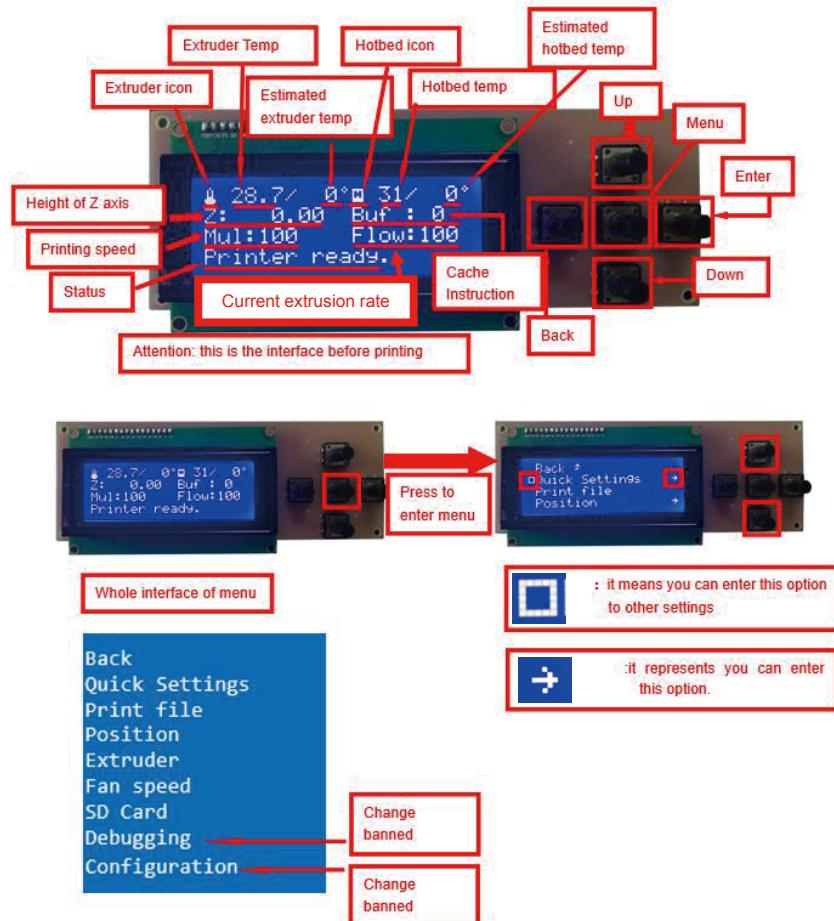


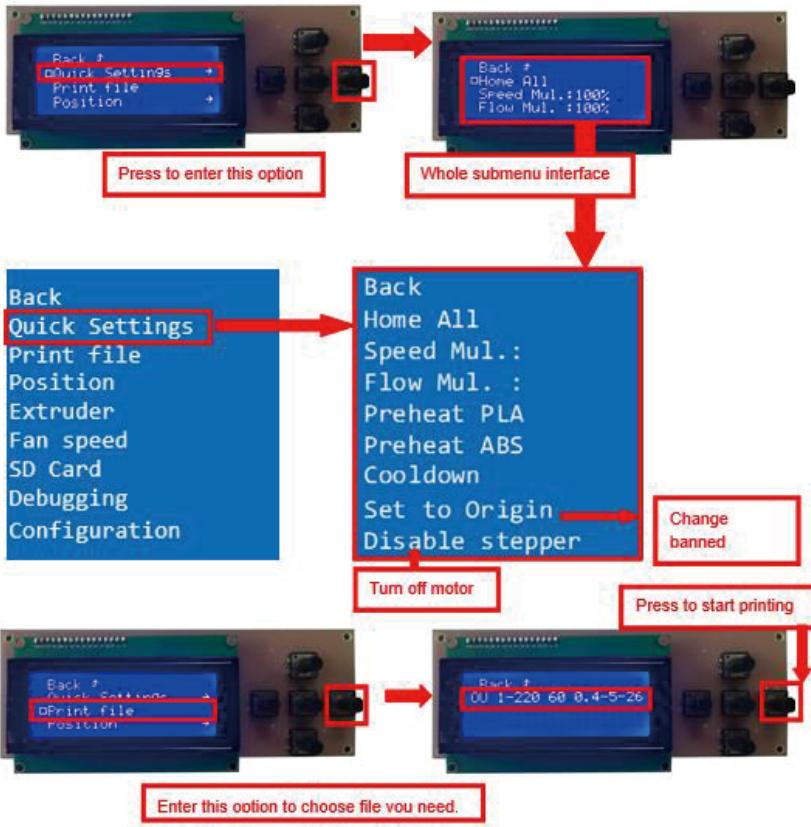
5 models in total

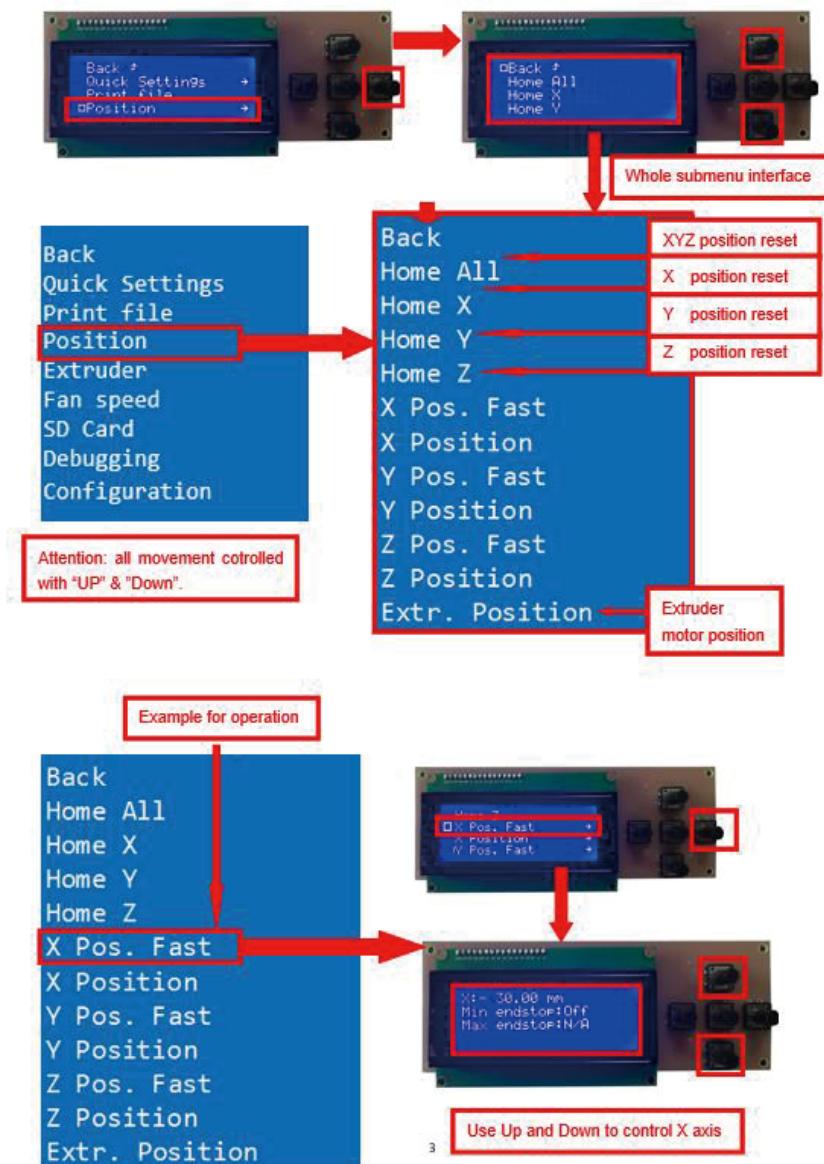
Attention: You can try other functions by yourself.

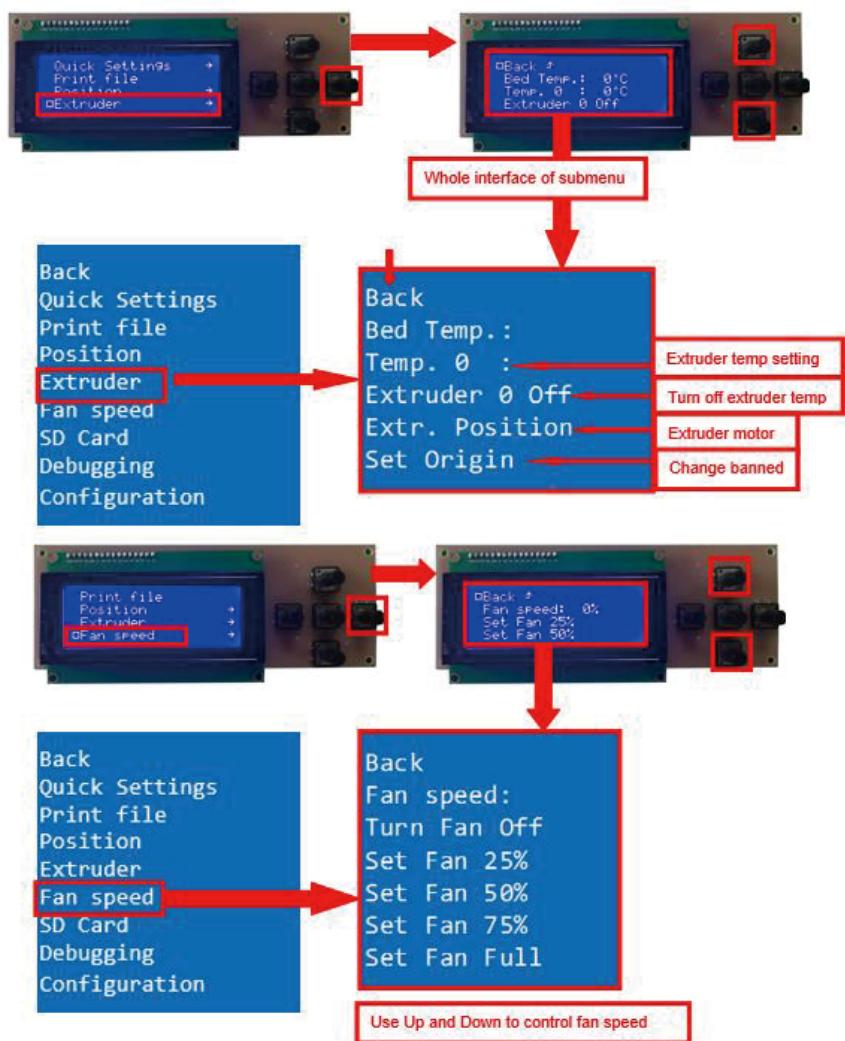
D. Printing Operation

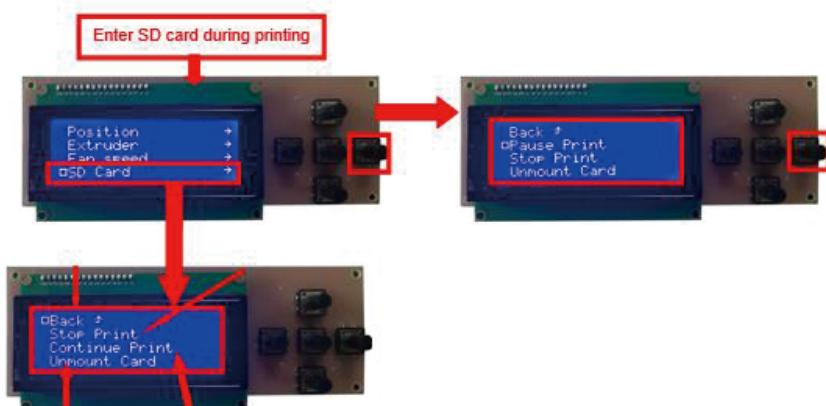
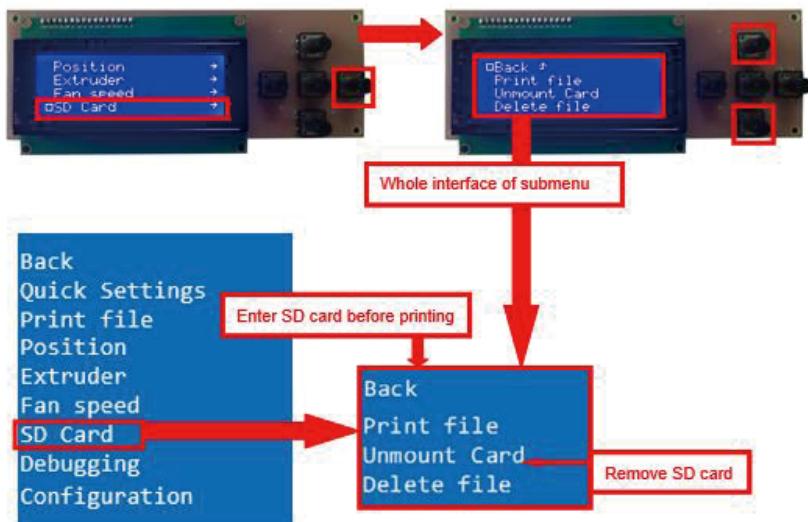
1. Introduction of Display



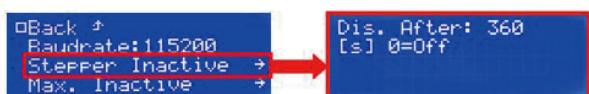
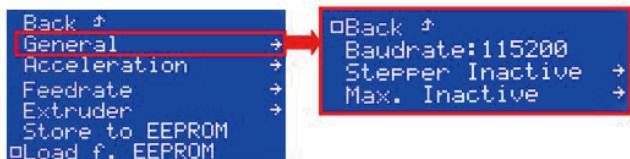
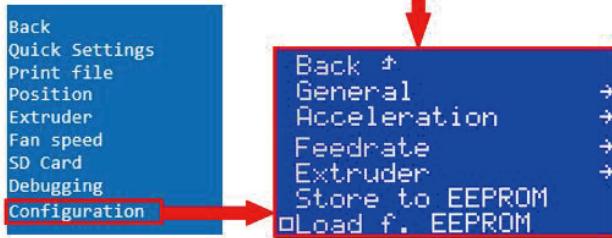
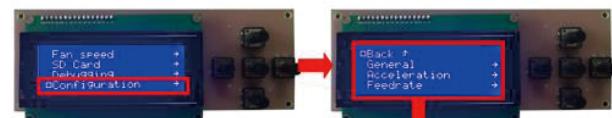
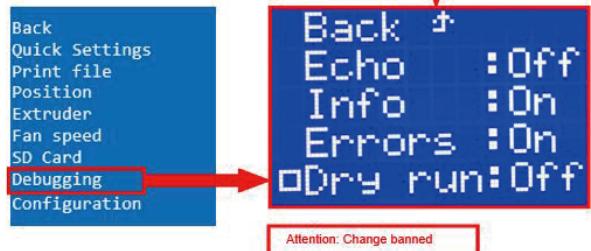
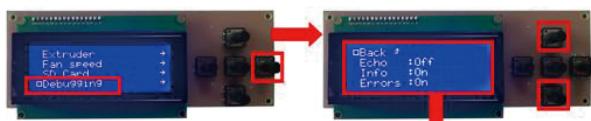








A8 can pause print during printing , during printing , enter "SD card" → "Pause print". It will stop printing in a few seconds. If you want to continue printing , enter "SD card" → "Continue print"



Back ↴
Baudrate:115200
Stepper Inactive →
Max. Inactive →

Dis. After: 0
[s] 0=Off

Back ↴
General →
Acceleration →
Feedrate →
Extruder →
Store to EEPROM
oLoad f. EEPROM

Back ↴
Print X: 400
Print Y: 400
Print Z: 400
Move X : 400
Move Y : 400
Move Z : 400
Jerk : 20.0
Z-Jerk : 0.3

Attention: Change banned

Back ↴
General →
Acceleration →
Feedrate →
Extruder →
Store to EEPROM
oLoad f. EEPROM

Back ↴
Max X: 400
Max Y: 400
Max Z: 8
Home X: 100
Home Y: 100
Home Z: 4

Back ↴
General →
Acceleration →
Feedrate →
Extruder →
Store to EEPROM
oLoad f. EEPROM

Back ↴
Steps/MM: 95.0
Start FR: 20
Max FR: 50
Accel: 1000
Stab.Time: 1
Wait Units: 0 mm
Wait Temp. 150°C
Control:Dead Time
DT/PID P: 7.00
PID I: 2.00
PID D: 40.00
Wait Units: 0 mm
Wait Temp. 150°C
Control:Dead Time
DT/PID P: 7.00

Attention: Change banned

Back ↴
General →
Acceleration →
Feedrate →
Extruder →
(Store to EEPROM →
oLoad f. EEPROM

Configuration stored in EEPROM

Back ↴
General →
Acceleration →
Feedrate →
Extruder →
Store to EEPROM →
oLoad f. EEPROM

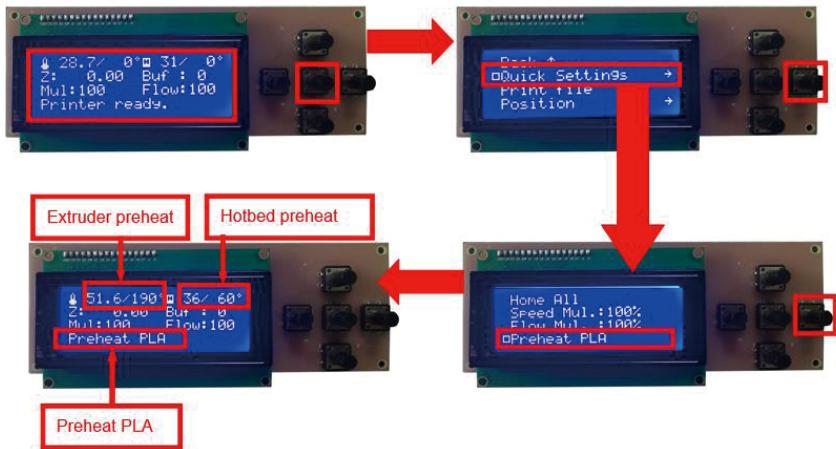
Configuration loaded f. EEPROM

2. Install Filament

2.1 Set Preheat Mode

Attention: Before filament installation, you need to preheat the printer. Use PLA as reference as below:

Press Menu → Quick Settings → Preheat PLA
The printer begins to preheat (You can back to main interface to check)

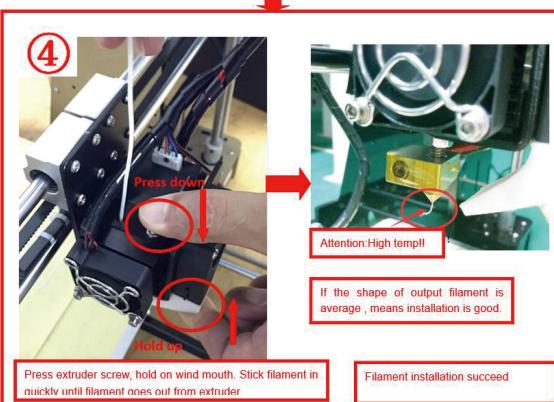
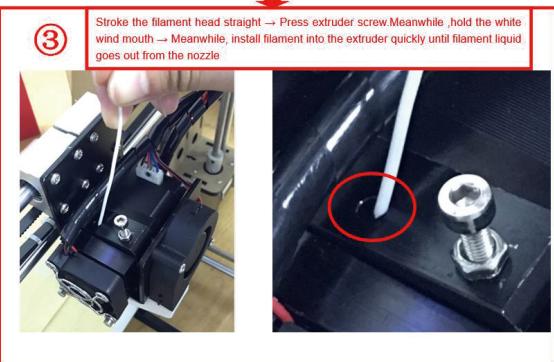
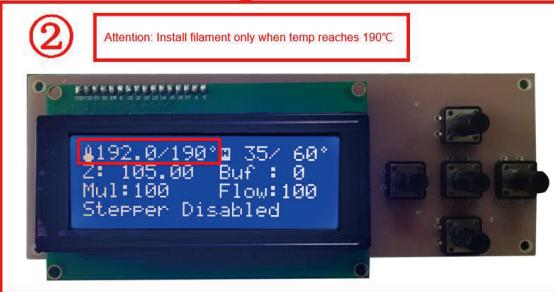
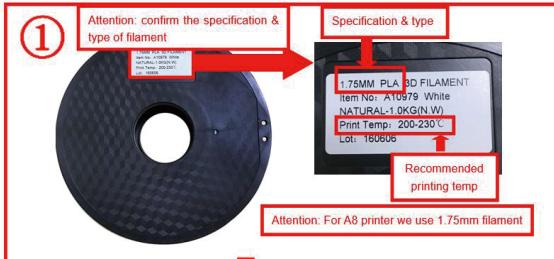


Attention: Please choose "Preheat ABS" if you want to print with ABS.

2.2 Filament Installation

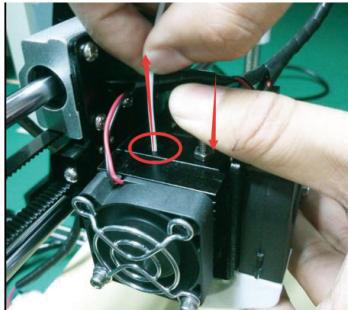
Attention: Put filament into printer only when extruder temp reaches 190°C. (Use PLA as example)

Confirm Extruder Temp has reached 190°C → 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



2.3 Pull out filament

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



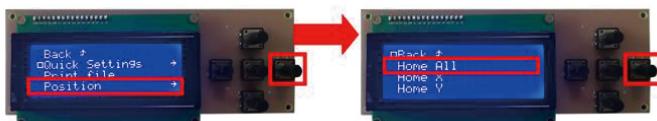
Use PLA as example

1. Preheat extruder to 190°C
2. Press extruder screw, hold wind mouth. Meanwhile, stick filament down for a few length, then pull out with average speed.

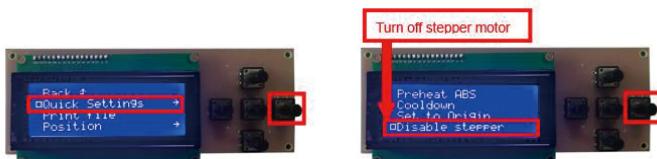
Precautions:

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°C. Do not pull out before 190°C , or it will cause irreparable damage.

3. Platform Adjustment

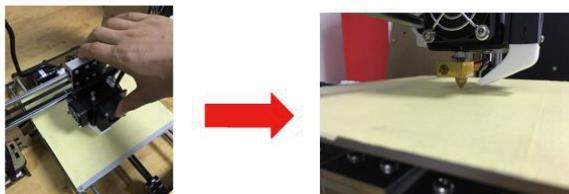


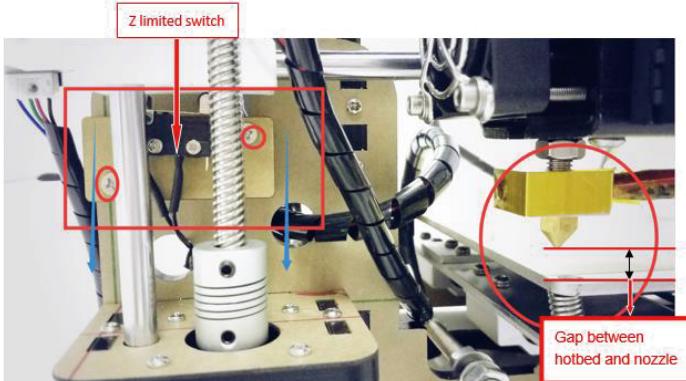
1. Choose "Position" → "Home all", printer will move to limited switch until it stops.



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

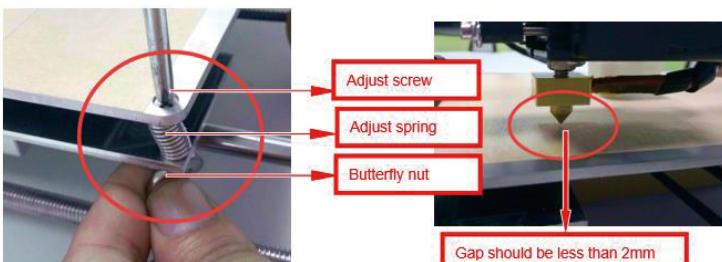
3. Please manually move nozzle to platform and check the gap between nozzle and platform.





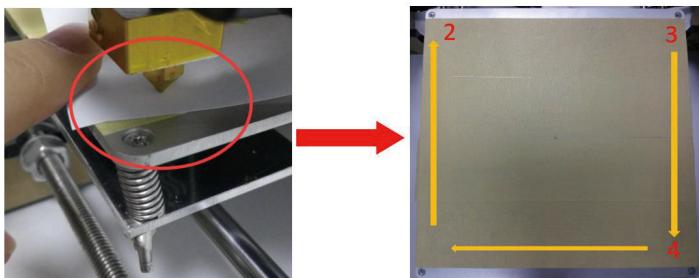
4. When the gap is more than 2mm, you need to adjust the height of Z limited switch.

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 Z limited switch, you need to reset printer and turn off stepper motor, move extruder to the center. You can check the gap better with these conditions.

5. Adjust the gap to about 0.2mm to satisfy printing needs.Move extruder to a corner of platform, adjust the springs one by one . Use 1 or 2 A4 paper to test if they can go through the gap with some resistance.



After adjustment of springs, reset printer and close stepper motor to test. Use A4 paper to test the gap.

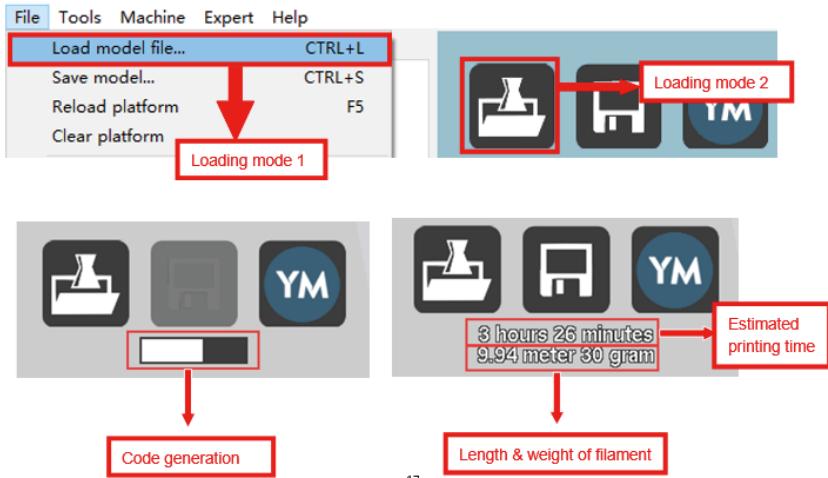
Tips: When you are familiar with the printer with time going by, we can adjust while it's printing. It's because the printing speed is slow at the beginning so that there's enough time for adjustment. Meanwhile, the printing effect will be better.

4.Printing

1) SD Card Offline Printing

a. Loading mode

Cura supports STL file & G-code file.



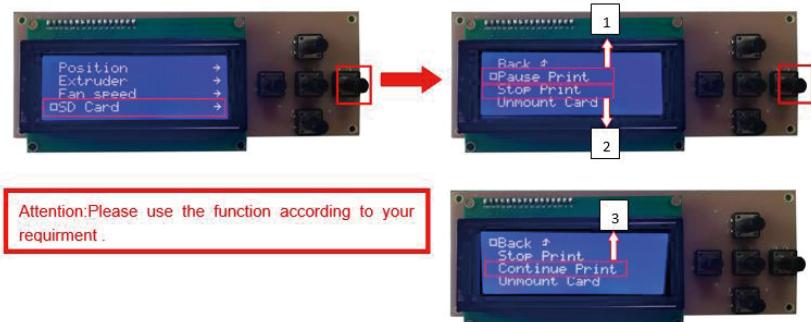
17

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.



d. Print model

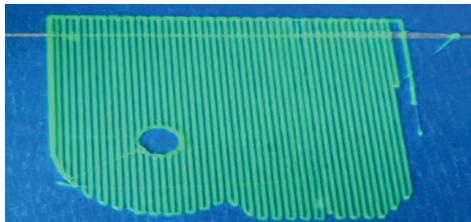
Back
Quick Settings
Print file
Position
Extruder

The printer will start printing automatically when the extruder & hotbed reaches estimated temp after you choose print model.

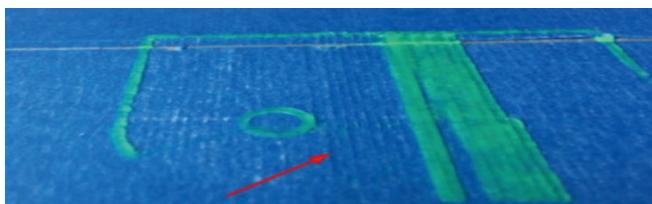
Attention: If the print bottom fails to stick to platform tight, you can adjust the platform to make it tight during printing.

e. Judgment of the gap between nozzle and platform.

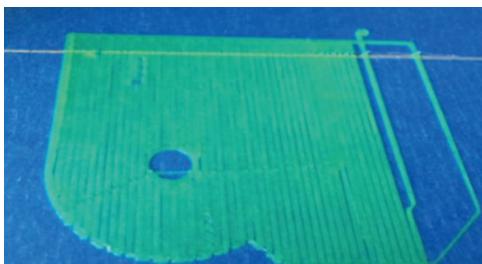
1. Too big gap: The printed model is uneven, curled with gap. It means the gap is too big for filament to reach the platform, making the printing effect so bad.



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



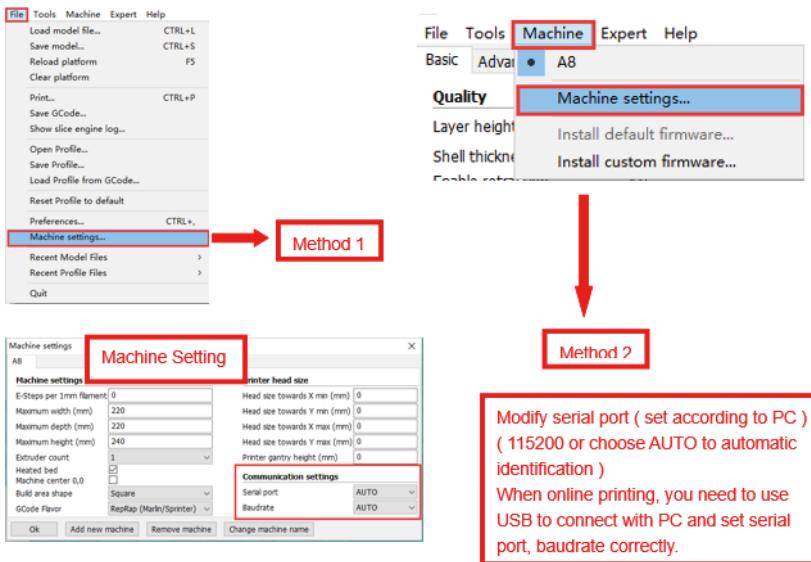
3. Appropriate distance: Printed model flat with no gap, no glitches. It means the distance is appropriate to print.



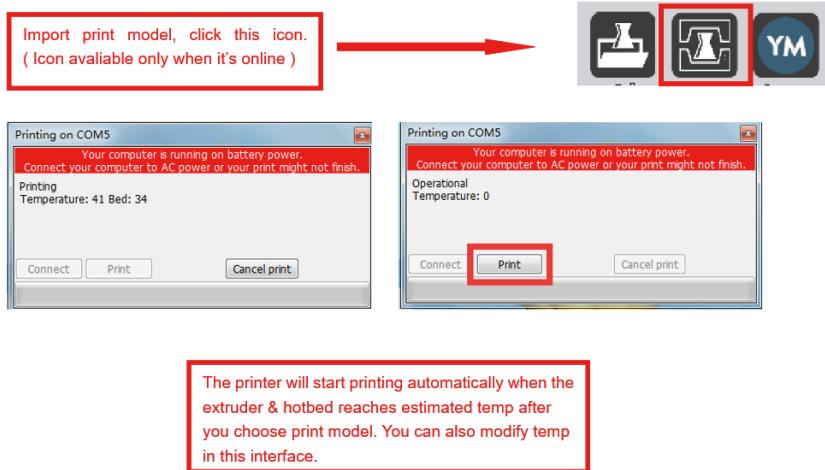
Wait to print complete after gap adjustment.

2) USB Online Printing

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

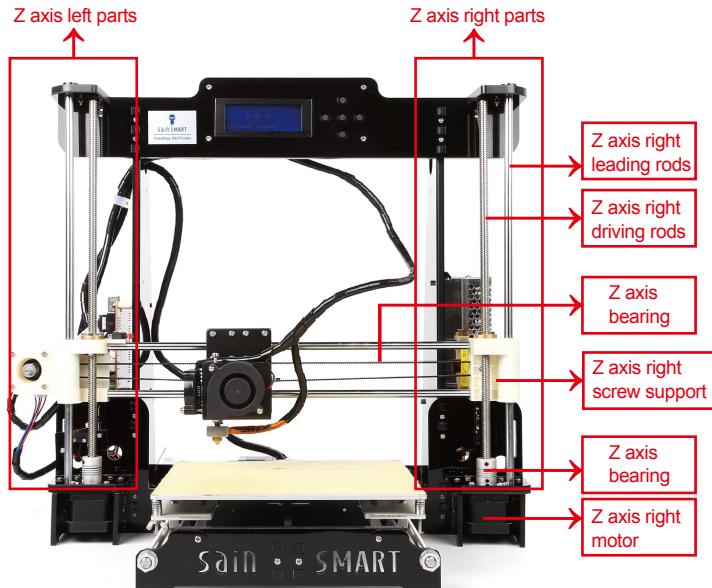


b. Online Printing



E. FAQ and Solution

1. Z Axis Adjustment



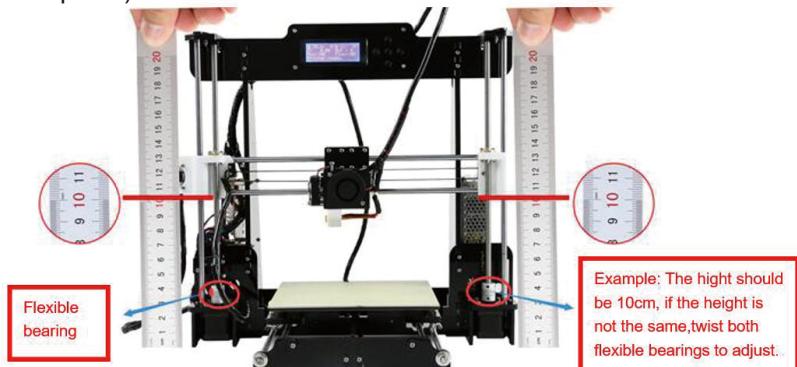
Use right Z axis for reference as shown above.

Reasons for Z axis's not smooth movement:

1. The height of both Z axis screw support is apparently different.
2. Large deviation of leading rod and motor rod's concentricity
3. X belt is too tight

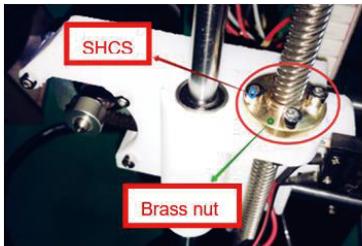
During installation, we need to test moving parts:

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

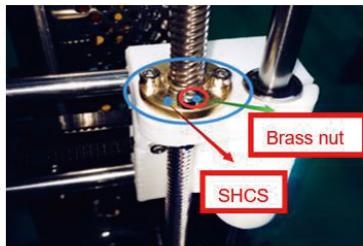


2. Ajust concentricity

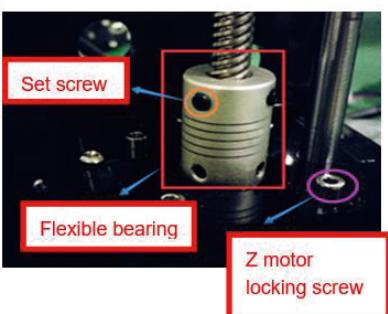
- 1) Click to adjust Z axis to move (Position → Z pos.Fast → +/-) If it cannot move smoothly, you need to adjust the unsmooth side's screw support. Try to keep them at the same height.
- 2) We can also tight/loose the Z motor screw according to requirments. This is to correct the deviation in the first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



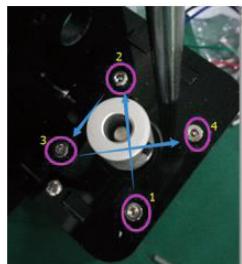
Z axis left screw support



Z axis right screw support



Z motor & Flexible bearing



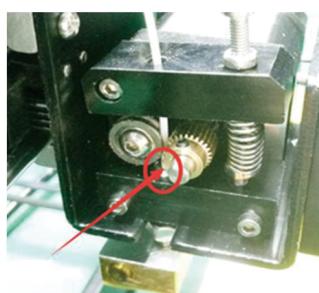
Z motor screw locking sequence

2. Nozzle blocking

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

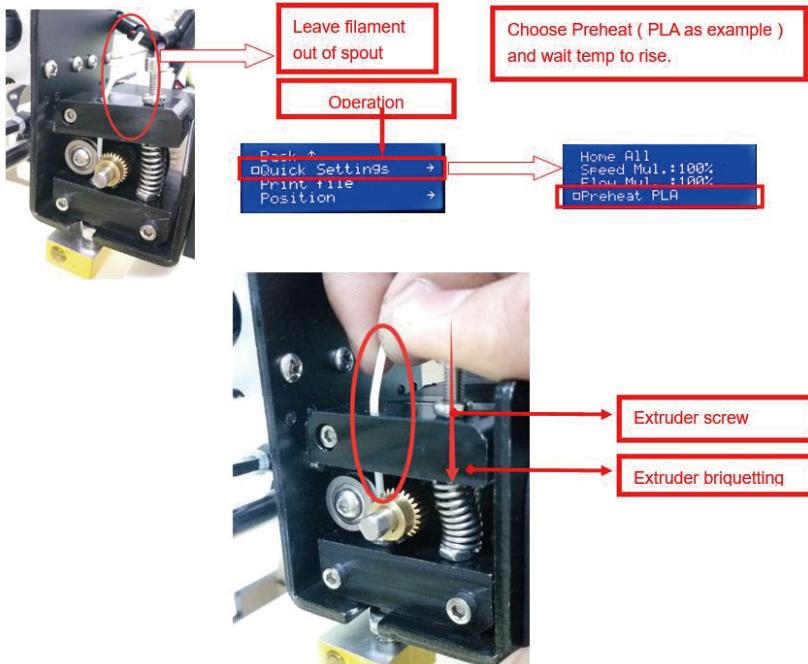


Fan

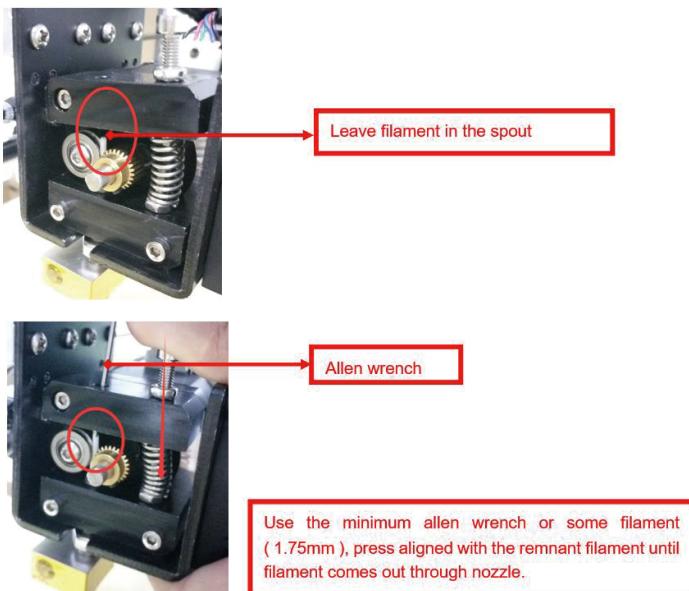


Fan removed

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 & distance is too small
3	Foamy print model	Low temp or not smooth filament entering	Raise 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	Unavailable G-code transformation	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

F. 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°C, Humidity:20-70%" .

G. Maintenance policy

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.



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