

# Debug and Print

## catalogue

Debug and Print.....	- 1 -
catalogue.....	- 1 -
1 Connect and Software.....	- 3 -
1 Software Introduction.....	- 3 -
2 Connect printer to PC.....	- 3 -
3 Repetier and control printer.....	- 4 -
1 Software Installation.....	- 4 -
2 Language Settings.....	- 5 -
3 Printer settings.....	- 5 -
4 Connect the printer.....	- 7 -
5 Panel Introduction.....	- 7 -
6 some important command.....	- 12 -
2 Leveling and printing.....	- 20 -
1 the max printing height.....	- 20 -
2 two important key points.....	- 21 -
1 first key point.....	- 21 -
2 second key point.....	- 22 -
3,Auto-leveling.....	- 22 -
4,Start printing.....	- 23 -
1 Feeder filament.....	- 24 -
2 Slice.....	- 25 -
3 slice setting.....	- 27 -
4 printing.....	- 31 -
3 Marlin and max height.....	- 33 -
1 Arduino.....	- 33 -
2 Marlin.....	- 33 -
1 Open marlin.....	- 33 -
2 settings.....	- 34 -
3 Upload Firmware.....	- 35 -
3 confirm the max Height.....	- 36 -
1 find data and change.....	- 36 -
2 test and confirm.....	- 39 -
4 Offline printing.....	- 44 -
1 load the model.....	- 44 -
2 slice.....	- 45 -
3 Export Gcode file.....	- 46 -
4 Copy.....	- 47 -
5 Printing.....	- 47 -
5 Heated bed.....	- 48 -
6 Problem and advice.....	- 50 -

thank you for your kind support to choose our product!

when you use the printer,meet some problems, pls contact us.

Amazon aftersale email 1:dapengqian@126.com

Other email:rose@flsund3d.com

Technical Support skype 1:wangbo5111

Technical Support skype 2:oldjiawei Yin

whatsapp :008613183017642

1,If you are satisfied with kossel 3d printer kits,please leave a positive feedback to us,thank you so much for your kindness.

2,If you are not satisfied for any reason,please contact us before leaving a negative feedback(any negative review no longer be changed again),we will work together with you to help you solve any problem until you are satisfied.

# 1 Connect and Software

## 1 Software Introduction

Need software as follows:

A:**arduino**,it's the firmware working environment.

B:**Marlin**,it's the firmware,it's program to run printer working,need flash firmware to motherboard.

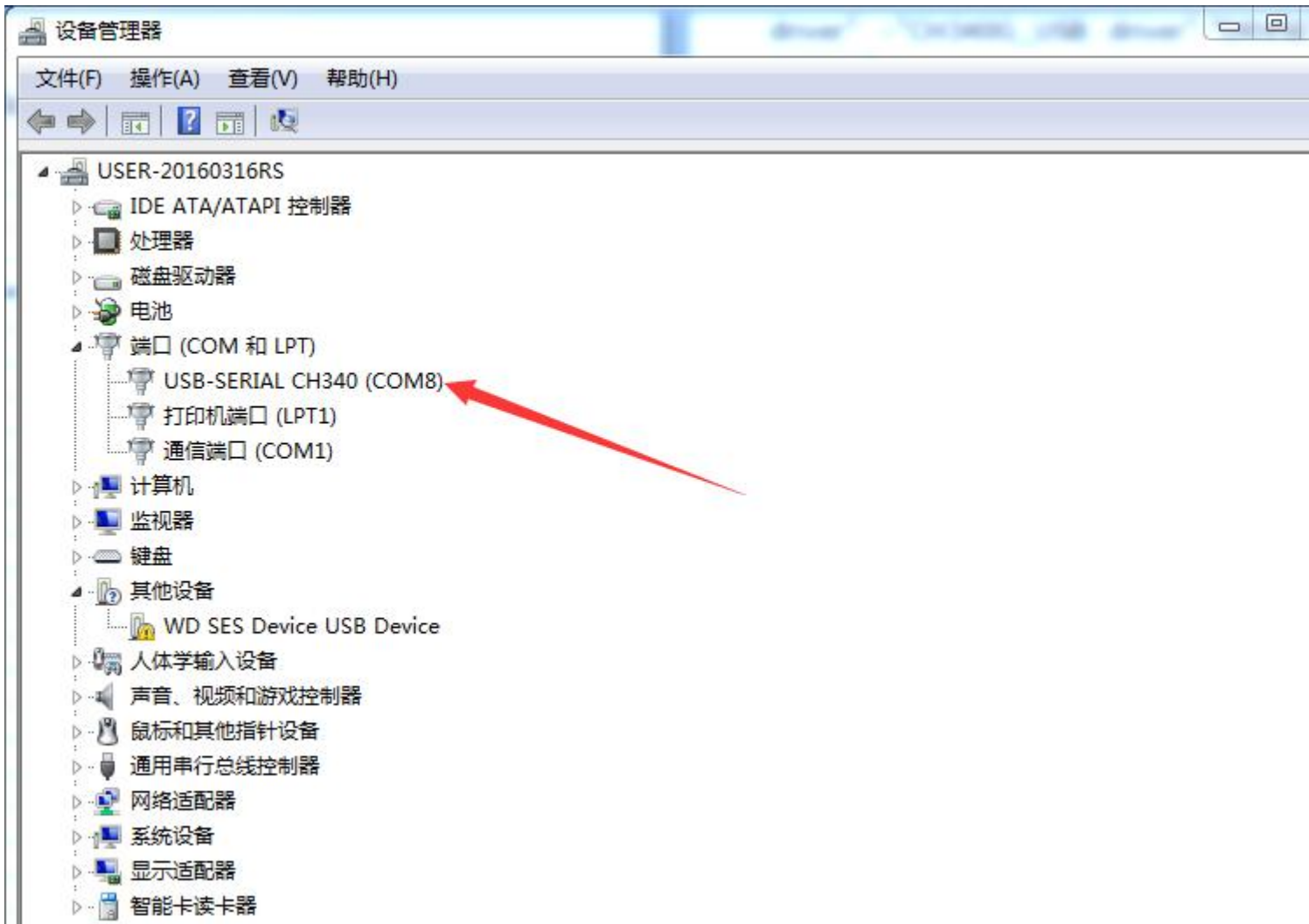
C:**RepetierHost**,it's also PC software,can control the printer,can slice the model, when printing,it's good to use.

## 2 Connect printer to PC

Install the driver. copy the file in the sd card to PC. open the file " CH340G\_USB toTTL driver"-“CH340G\_USB driver”-“DRVSETUP64”(64-bit system) or “SETUP”\*(64-bit system).



Check Device Manager, will find the hardware



If the PC can not find the hardware,pls check out the file “Solve streamline Version Windows 7,Can not install driver issue”.do as the file show.

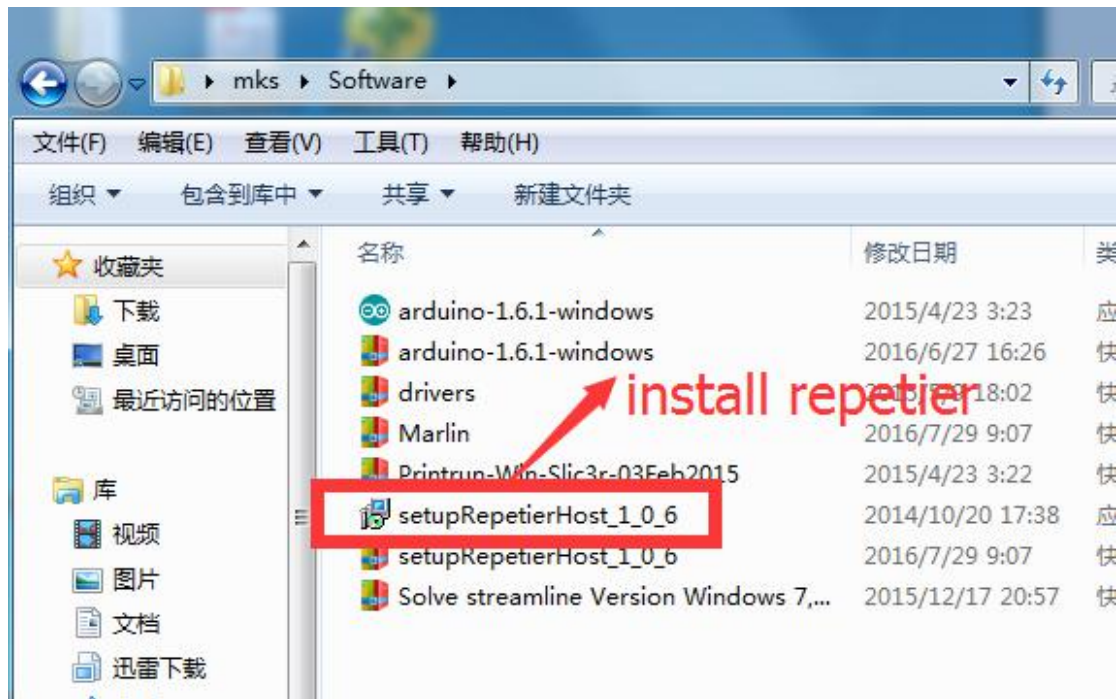
### 3 Repetier and control printer

#### 1 Software Installation

The repetier is software to control the printer,so need install it first.

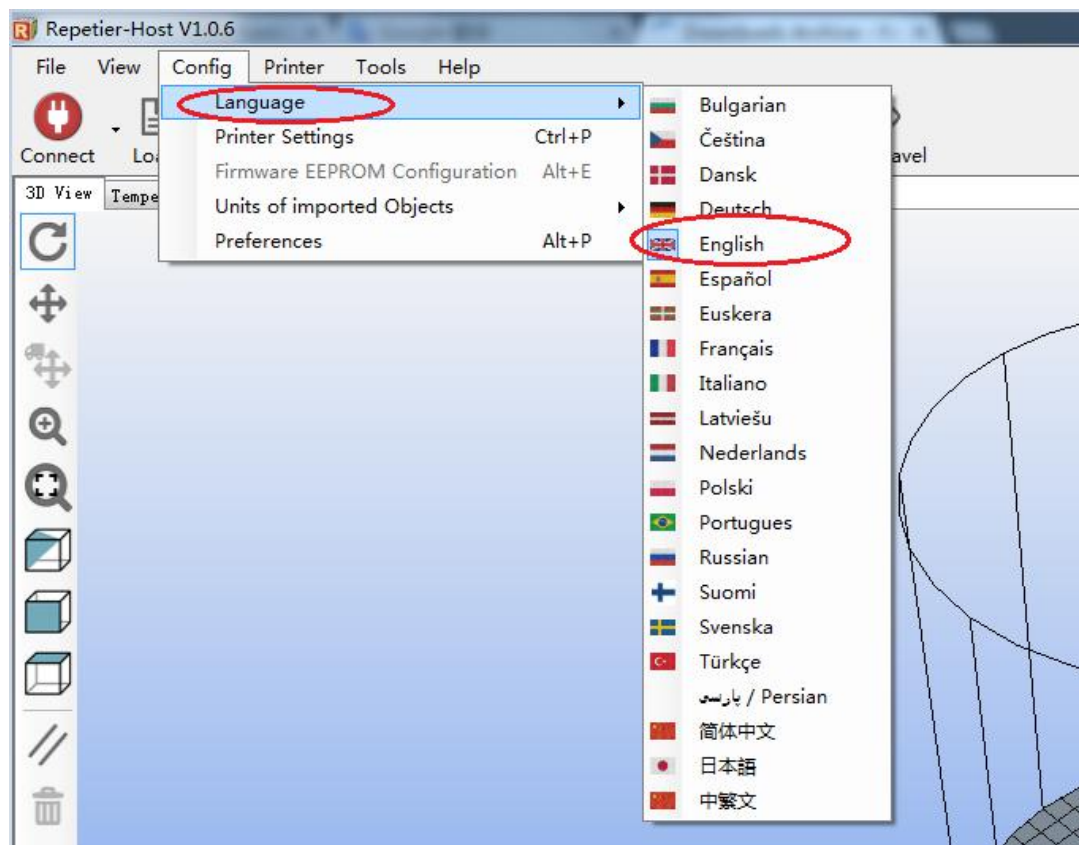
Install the “software,setupRepetierHost\_1\_0\_6”, the software could be download on the link:<http://www.repetier.com/download/>

About the more info about the Repetire, pls go the the link :  
<http://www.repetier.com/documentation/repetier-host/>

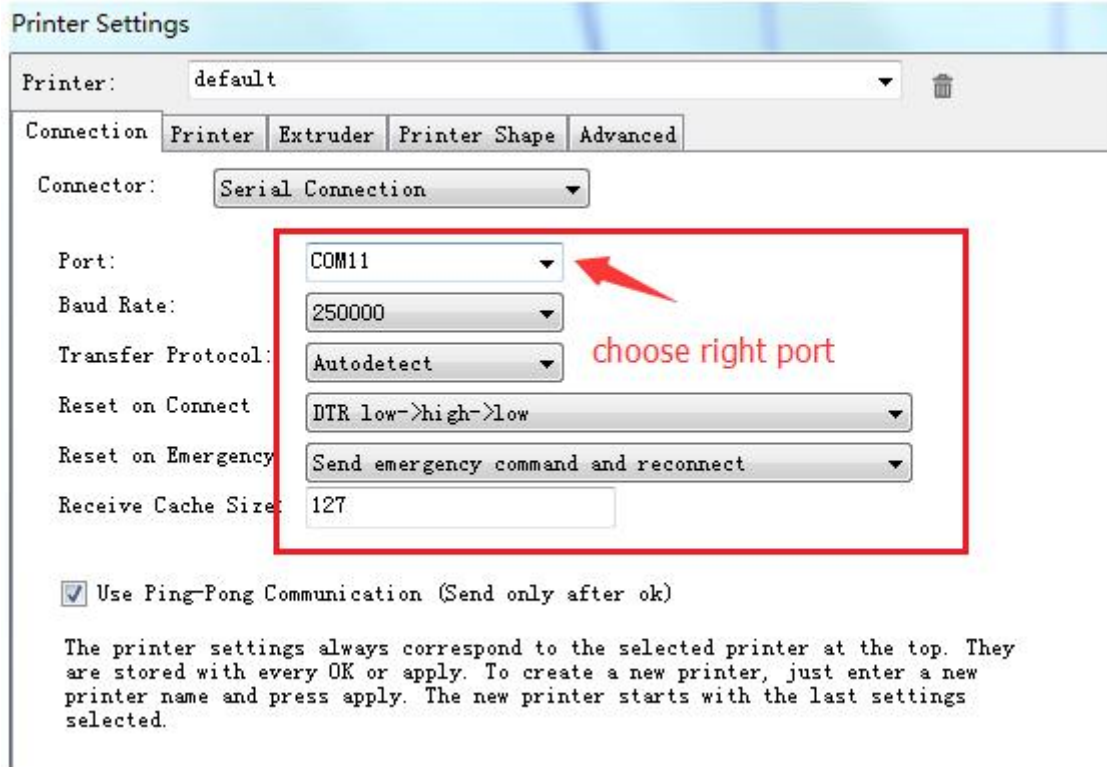
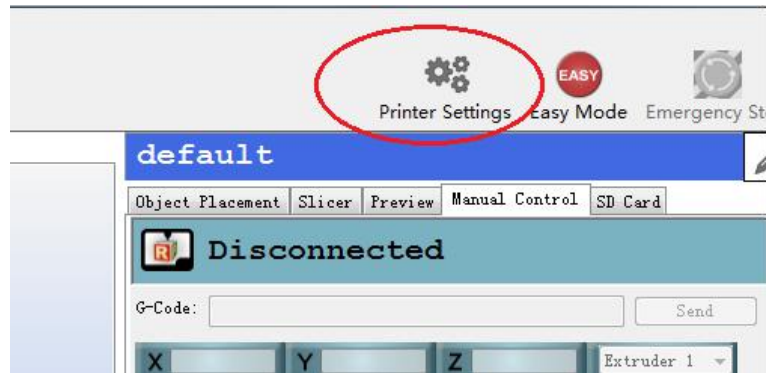


## 2 Language Settings

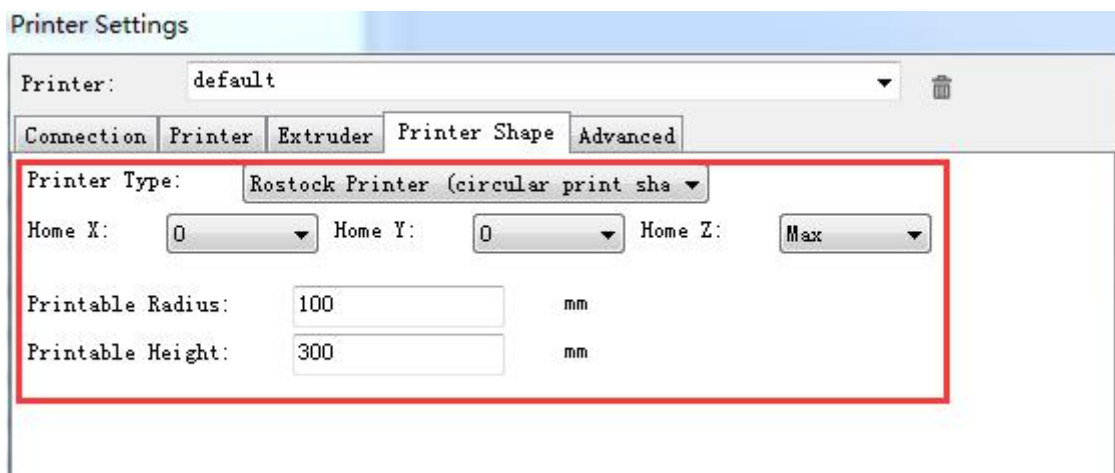
Set the language, Config-Language-choose the suit language.



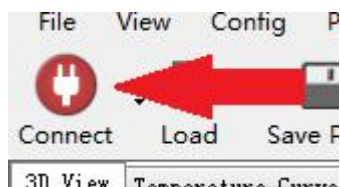
## 3 Printer settings



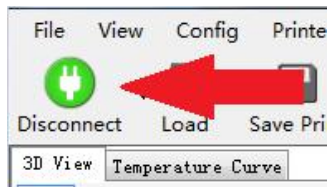
IN the printer shape,choose the Rostock printer,the home X is 0,the home Y is 0,the home Z is Max.the Radius could be setted 100 and the height could be setted 300 Temporarily. this two data could be modify late.



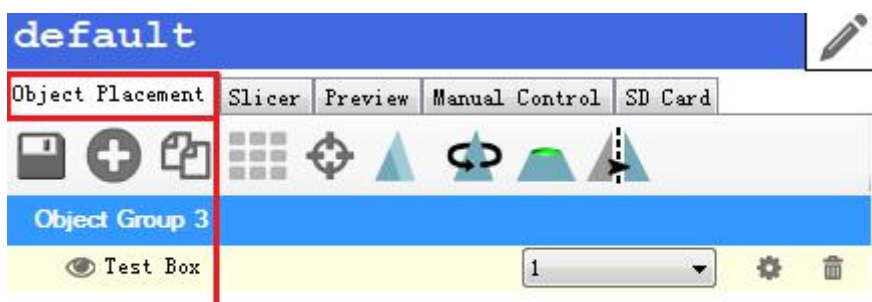
## 4 Connect the printer



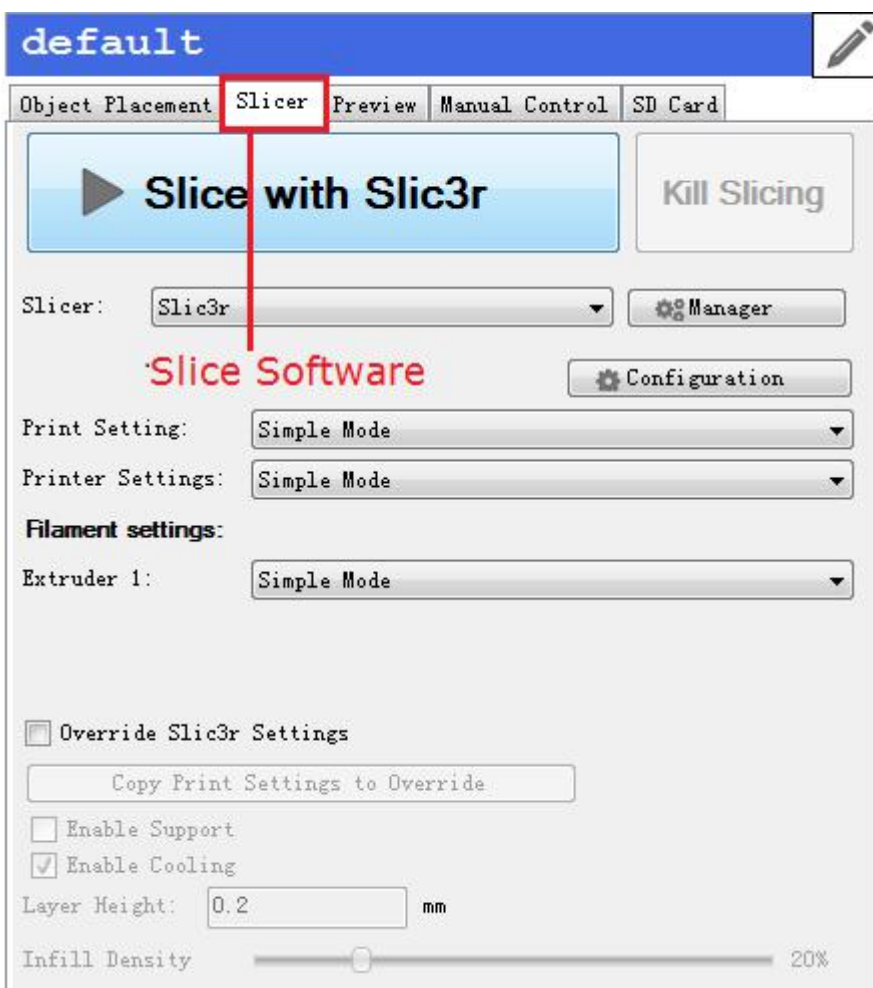
after connect

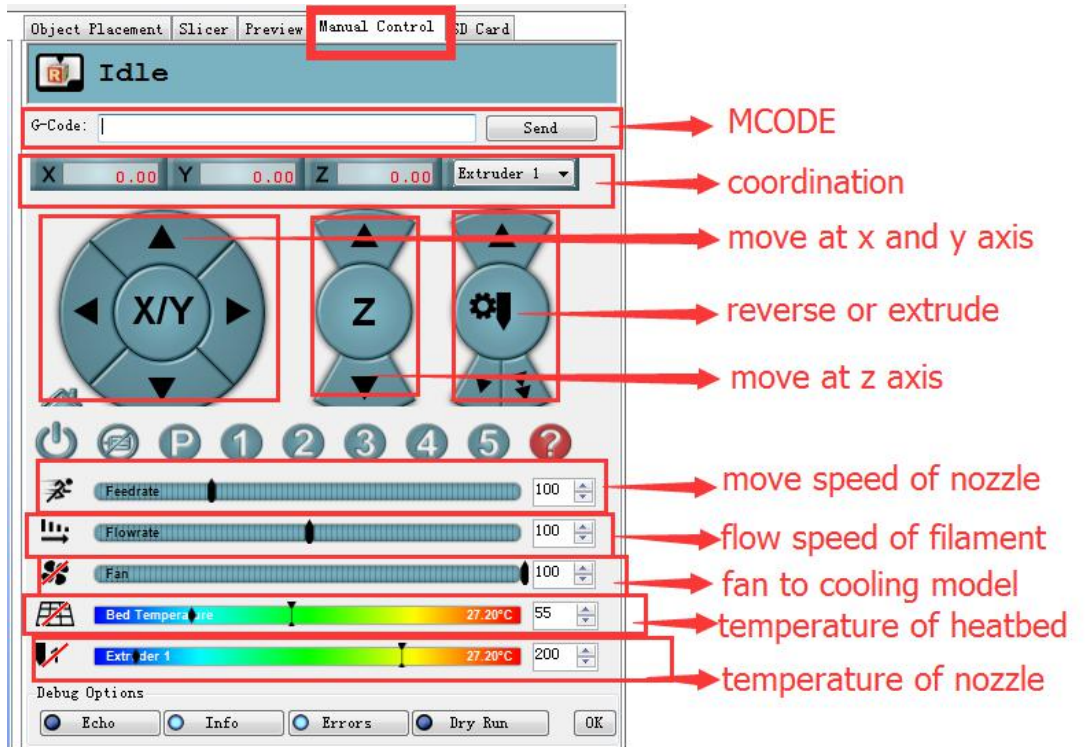
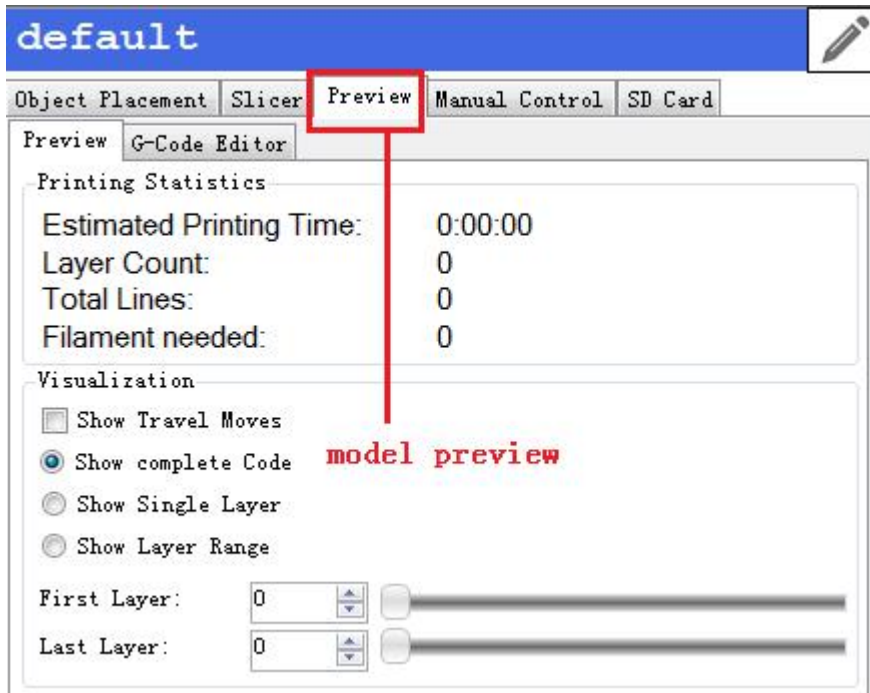


## 5 Panel Introduction



check the model placement

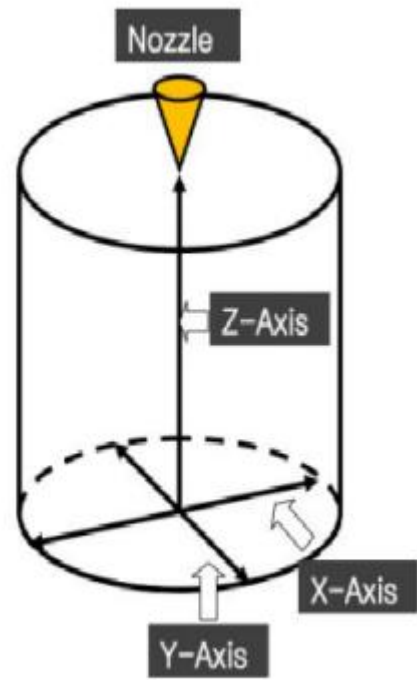
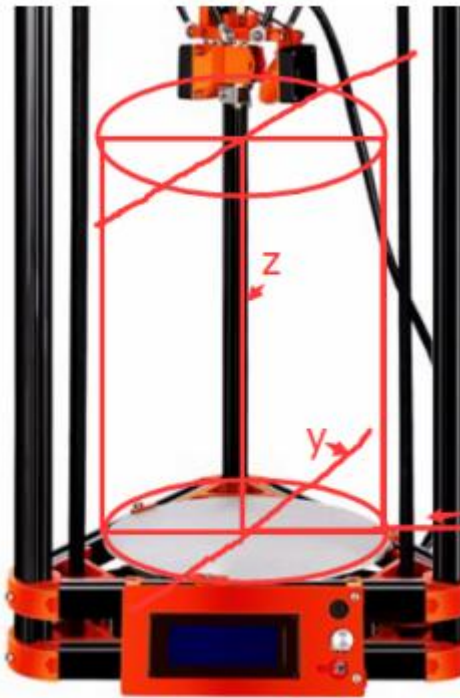




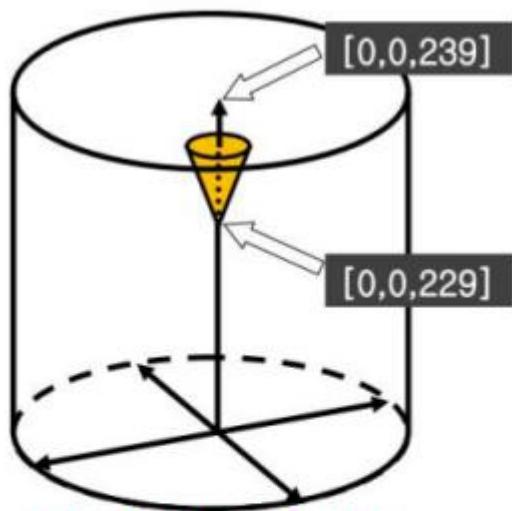
home function same to G28



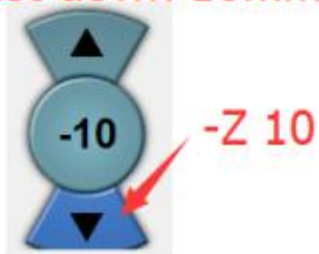
>> Move nozzle at x y z axis



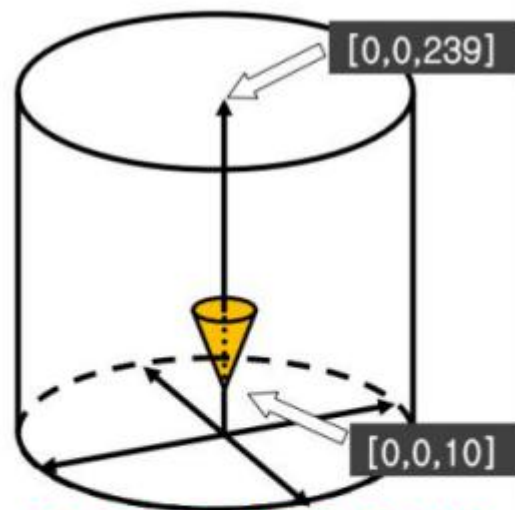
[Relative Movement]



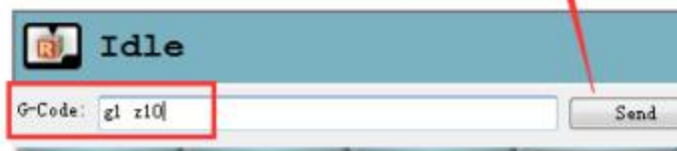
just down 10mm



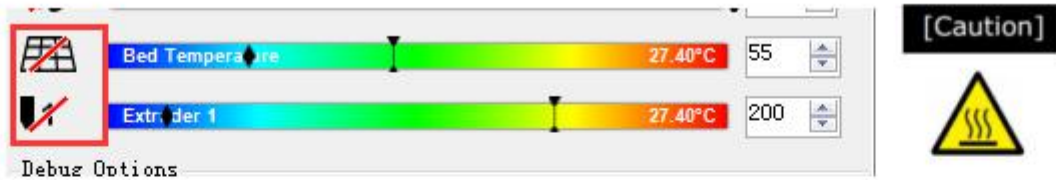
[Absolute Movement]



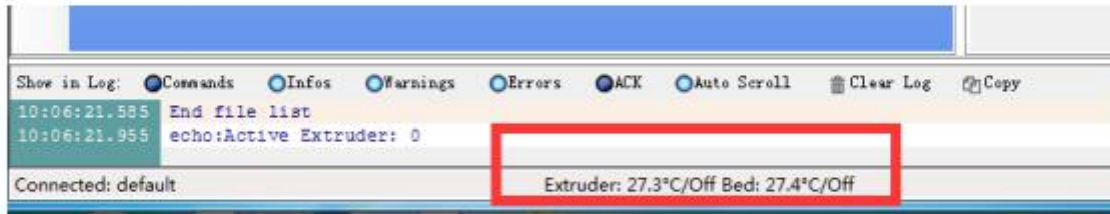
down to 10mm height



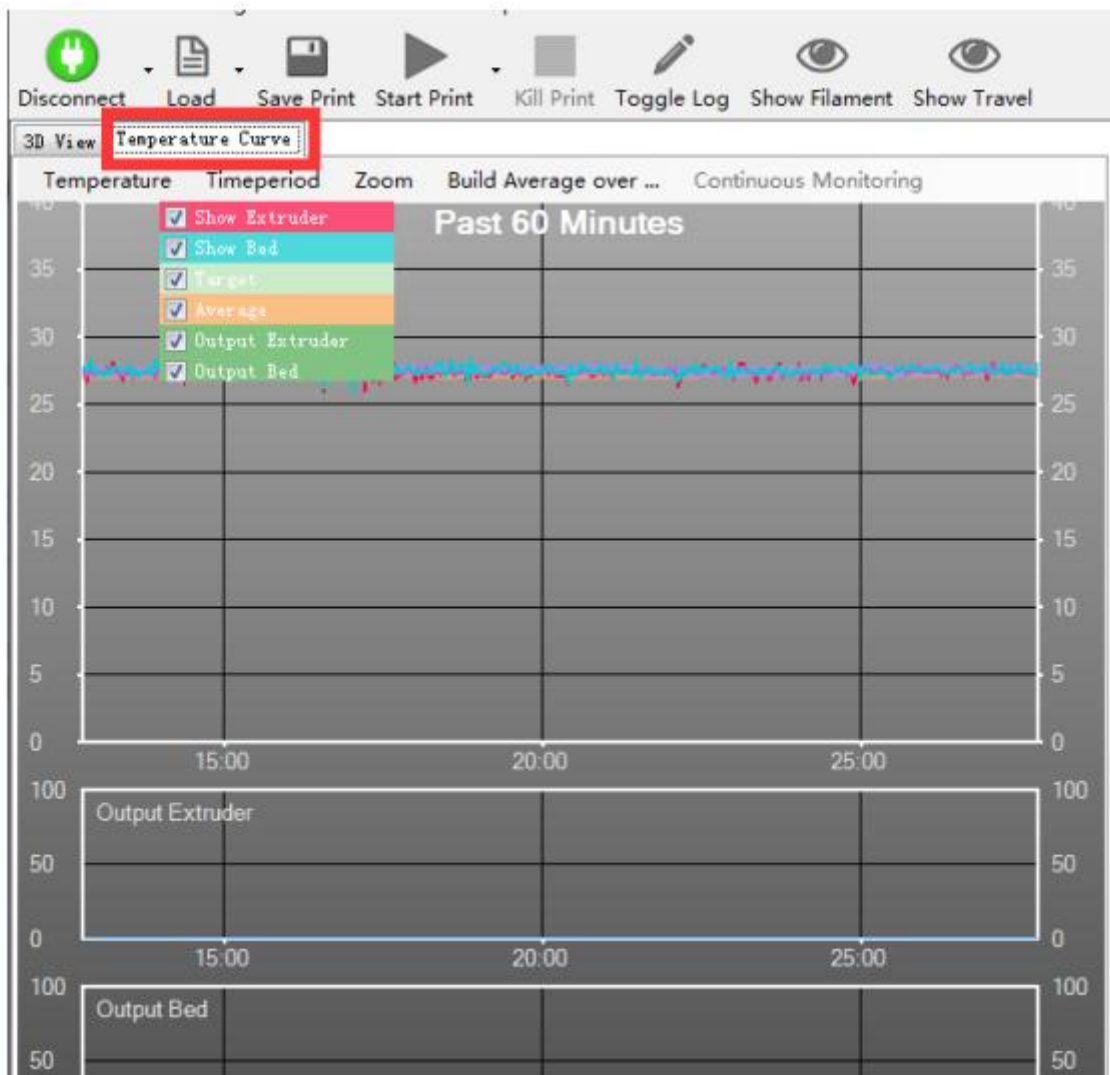
## >> Preheat hotend and bed



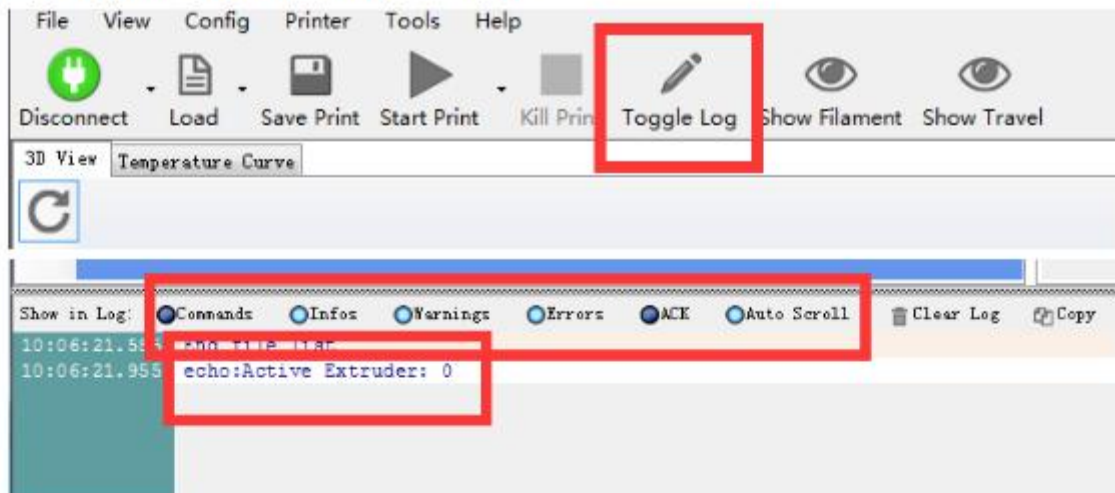
Check from there (bottom of repetier)



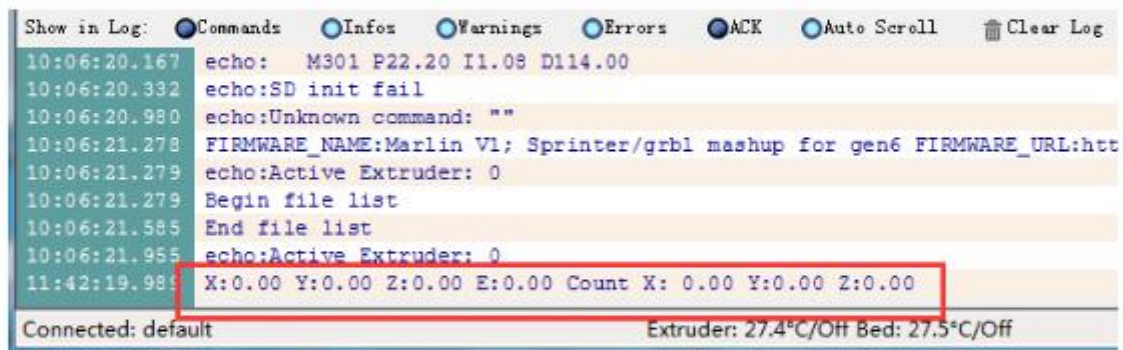
## Temperature curve



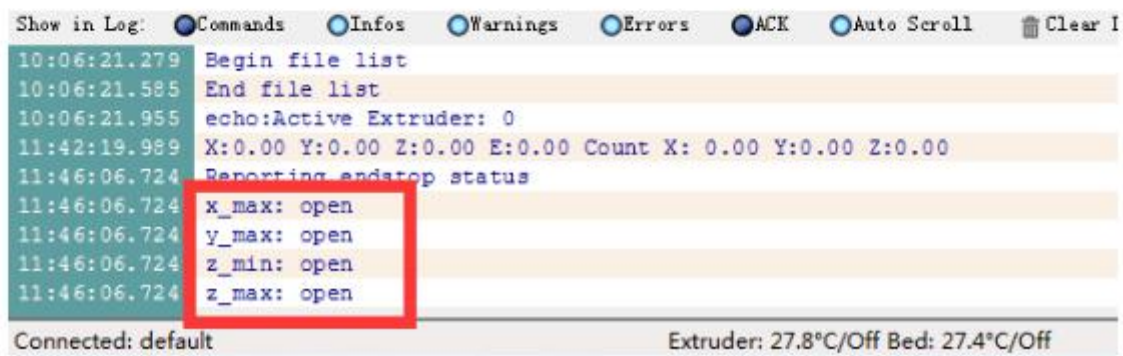
>>Info of operation, Check at the bottom



>> Info of coordination ,send m114 then check at the bottom



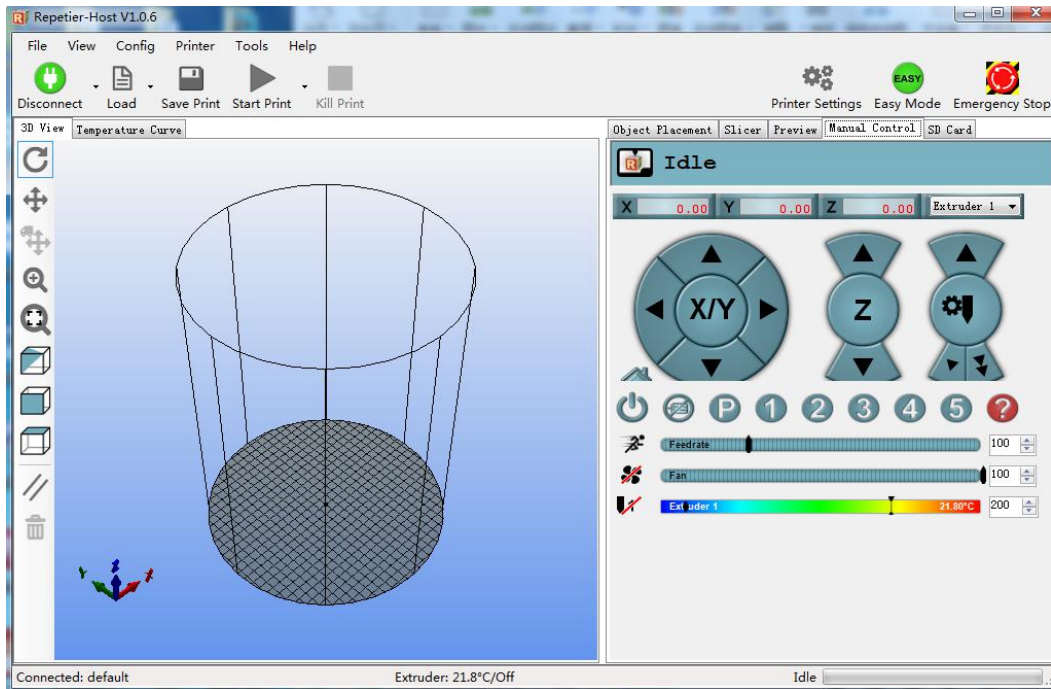
>> Info of limit switch, send m119 then check at the bottom



Observation: x\_max, y\_max, z\_max, z\_min  
Hit the switch= triggeredn      Not hit switch= open

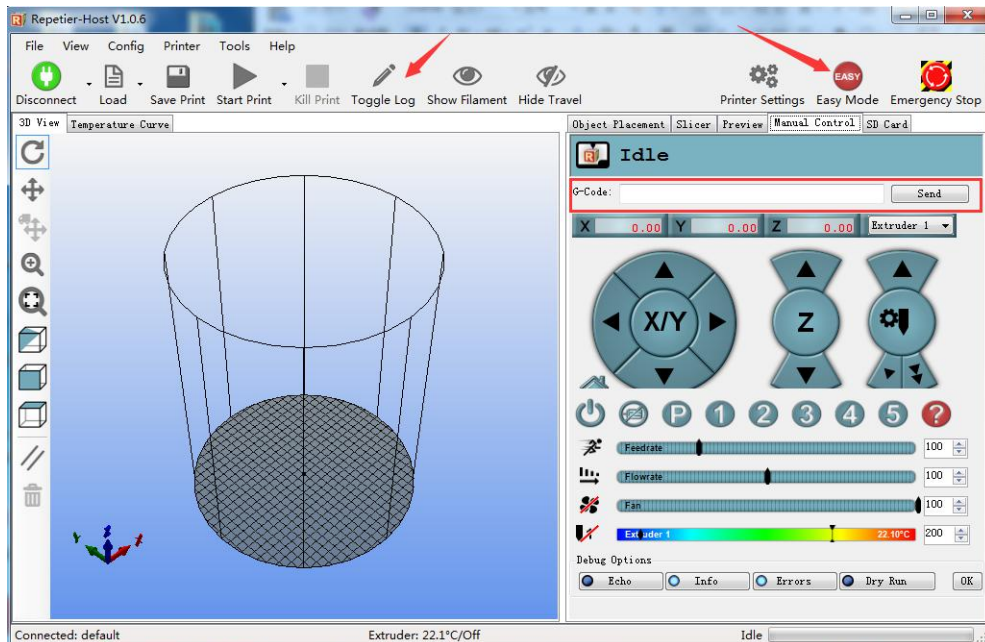
## 6 some important command

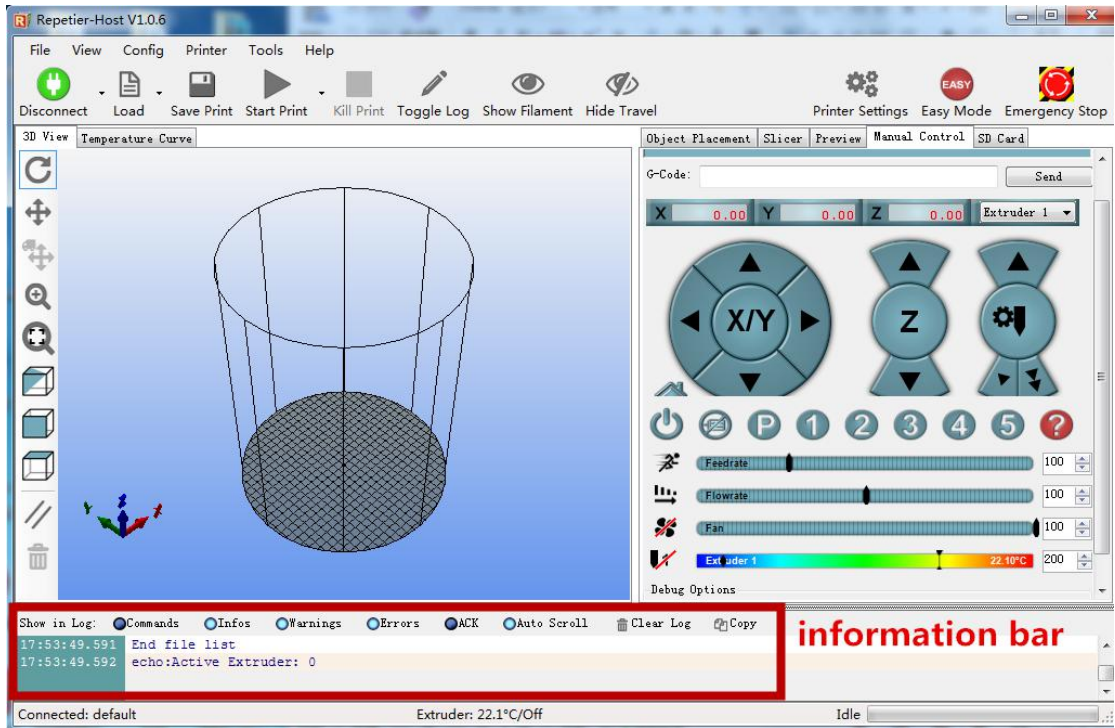
Controlling the printer by repetier,after opening repetier,choose right port and click connect. The repetier interface is like this



open “command bar”where we can input command.**Click Easy Mode open command bar**, can input command in command bar.

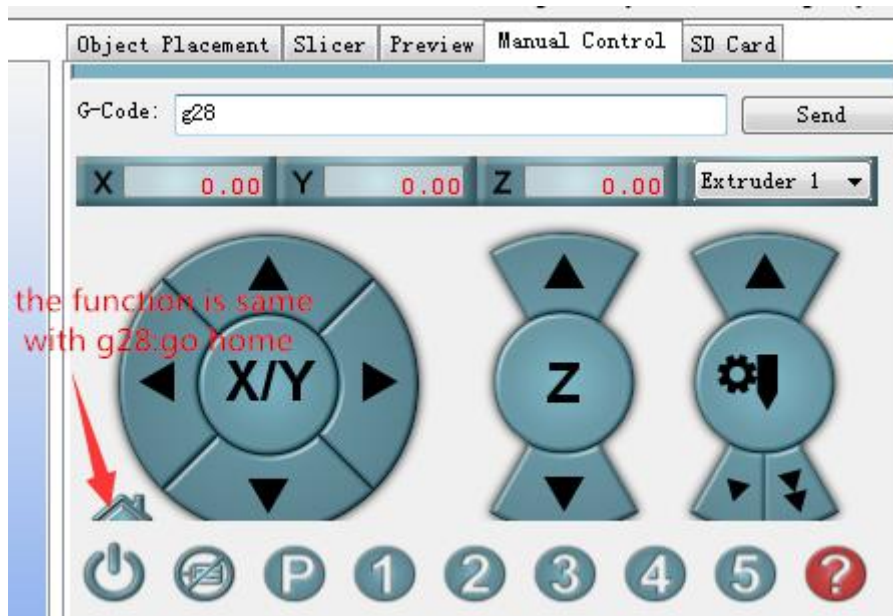
Then **click Toggle Log**,The information bar appears below the repetier interface.can read info about printer in information bar.





**(1) g28----all axis go home**

In the repetier letters are case-insensitive,G28 also can be used.but in simplify3D,only can use capital letters .The other command is the same



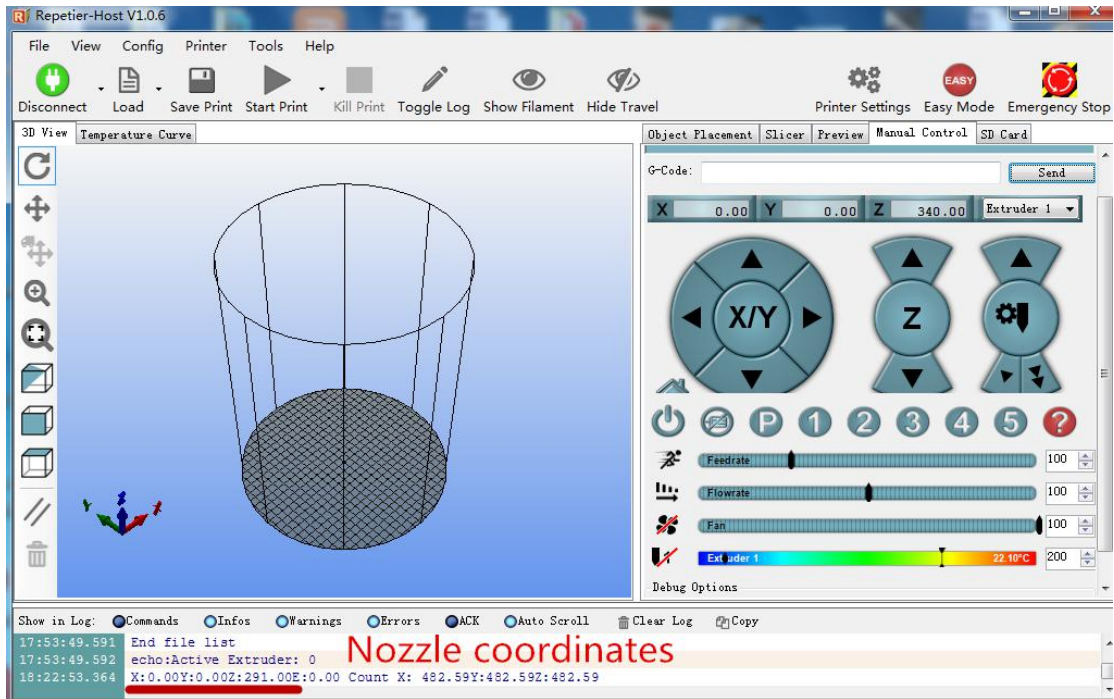
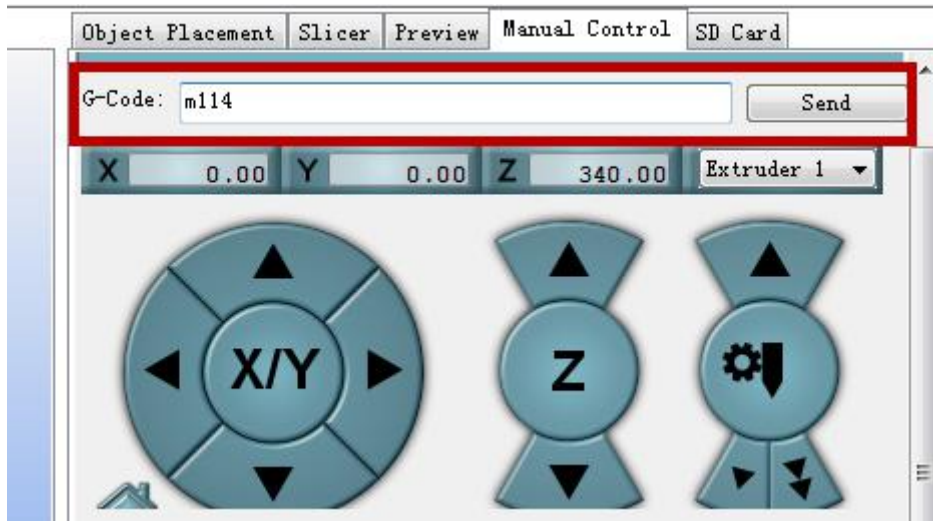
Send g28,in delta 3D printer all axis rise and hit limit switch ,then stop at the highest position.



G28 is same to this icon

**(2) m114----check the current coordinates of the nozzle**

input m114 and send ,can see the current coordinates of the nozzle in information bar.



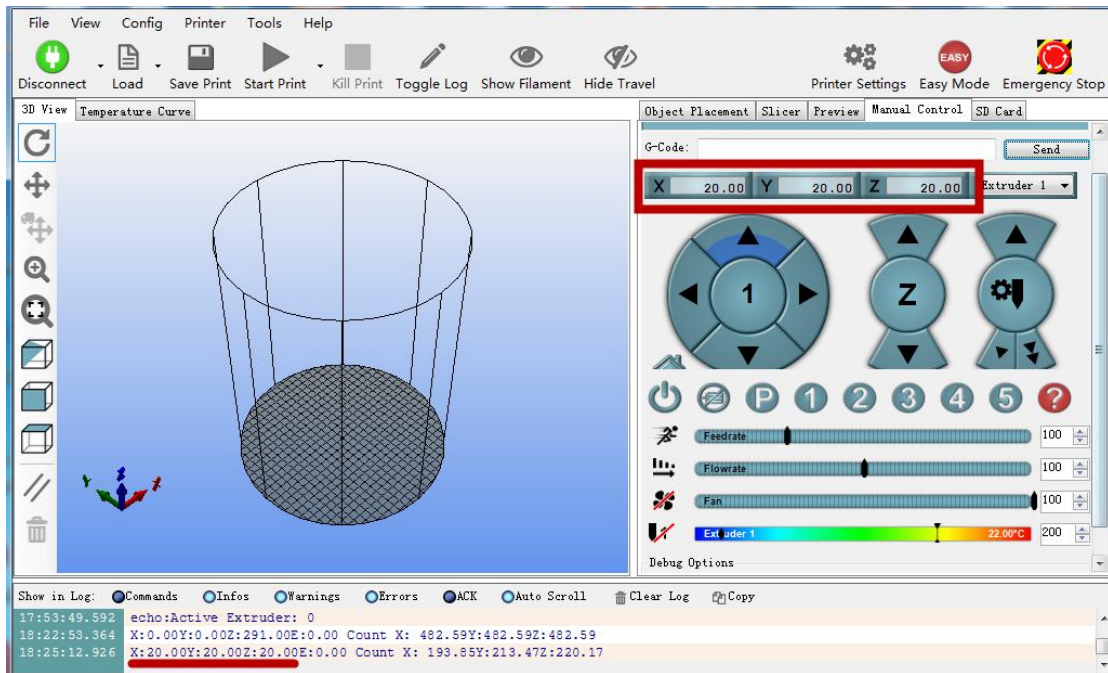
This coordinate is the coordinates of the nozzle after the home,z axis coordinate varies according to the maximum height set by each person

### (3) g1 x\_y\_z ----move nozzle to targeted coordinate

For example ,input g1 x20 y20 z20,the nozzle will go to coordinate x y z(20 20 20)



After we send this command ,we can view coordinate of nozzle now.



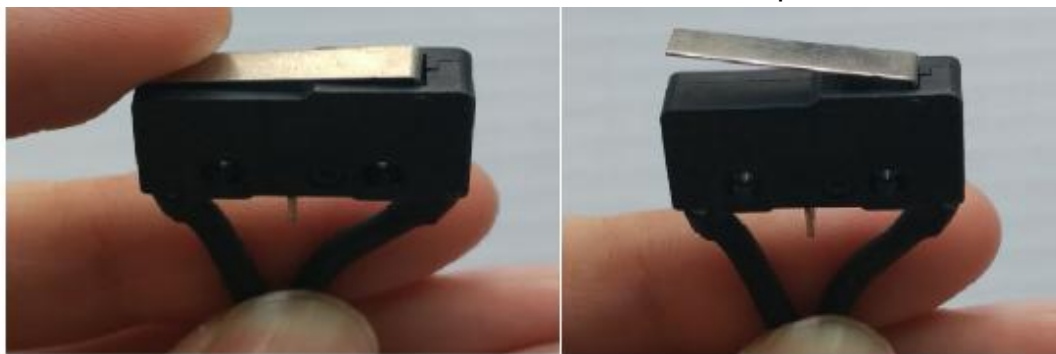
It's ok to move only one or two axis

- Eg:
- g1 z0—x and y keep previous coordinate,z coordinate arrive to x 0,this arrive the lowest bottom;
  - g1 x20—y and z keep previous coordinate,x coordinate will arrive to x 20;
  - g1 x20 y10—z keeps previous coordinate,x coordinate arrive to x 20;y coordinate arrive to y 10;
  - g1 y15 z30—x keeps previous coordinate,y coordinate arrive to y15; z coordinate arrive to y 30.

**(4) M119----check the status of the switch.**

The switch status is important directive,when meeting the motor moving problem,can check the switch status to search problem.

When hit the switch,it shows TRIGGERED;if not touch, it shows open.



switch on

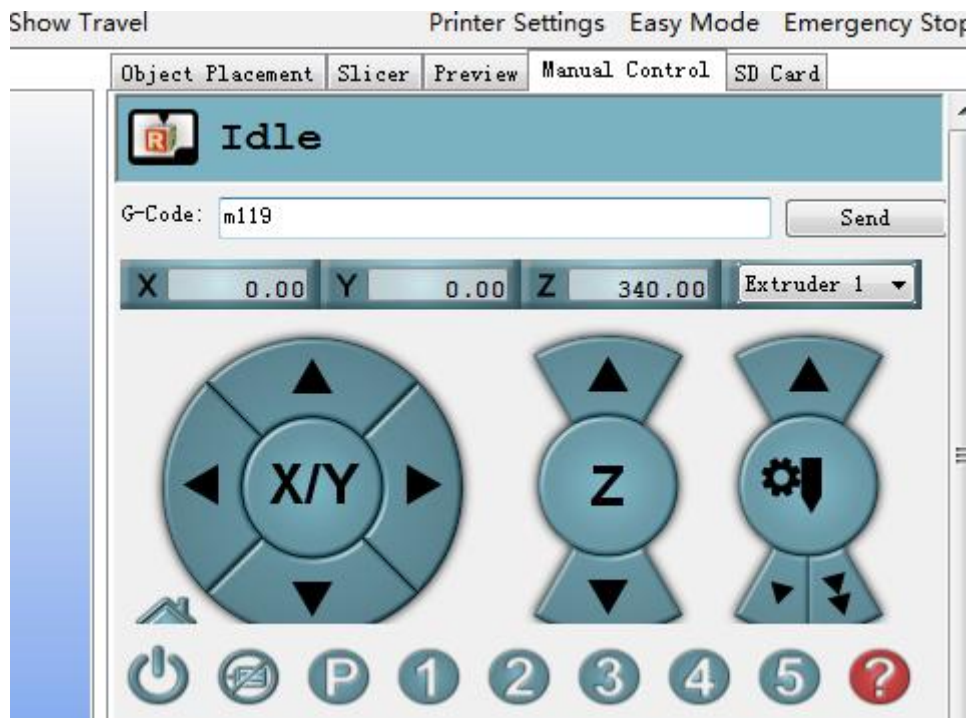
switch off

```
Show in Log: Commands Infos Warnings
17:15:21.551 X:0.00 Y:0.00 Z:11.00 E:0.00 Cc
17:15:26.348 Reporting endstop status
17:15:26.351 x_max: TRIGGERED
17:15:26.352 y_max: TRIGGERED
17:15:26.352 z_min: open
17:15:26.352 z_max: TRIGGERED
```

```
Show in Log: Commands Infos Warnings
16:36:23.879 X:0.00 Y:0.00 Z:11.00 E:0.00
17:14:42.268 Reporting endstop status
17:14:42.269 x_max: open
17:14:42.269 y_max: open
17:14:42.269 z_min: open
17:14:42.269 z_max: open
```

switch on

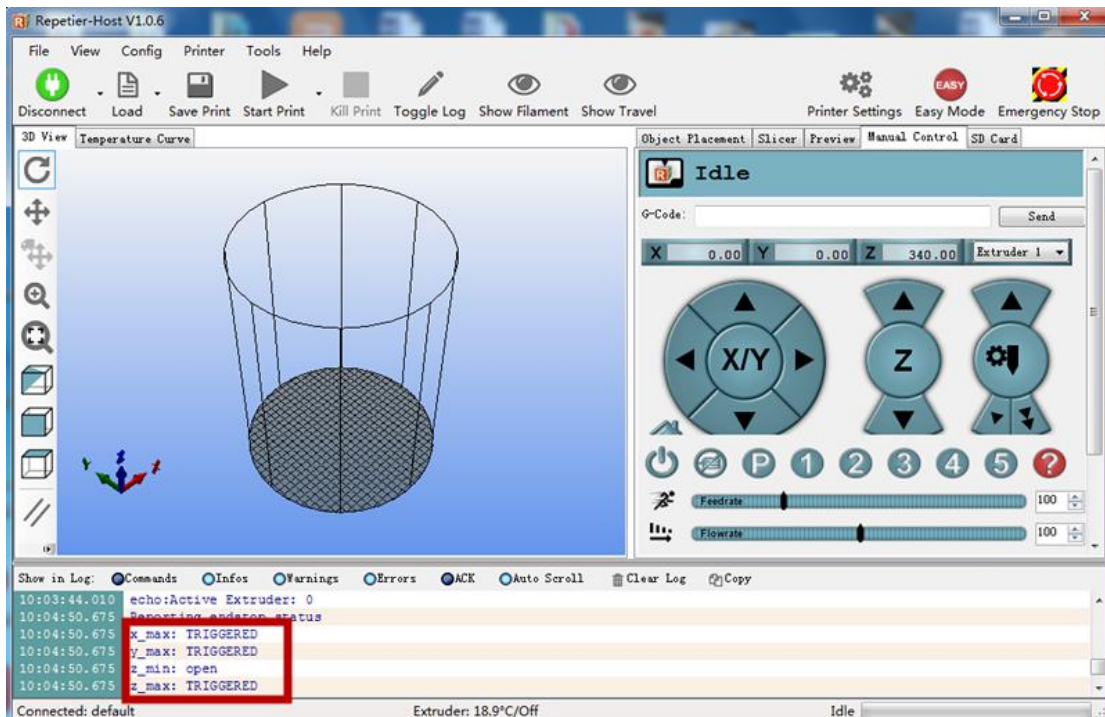
switch off



When send g28,the nozzle will go home,then send m119

It show:

- x\_max TRIGGERED
- y\_max TRIGGERED
- z\_max TRIGGERED.
- Z\_min open ( this is autoleveling switch )

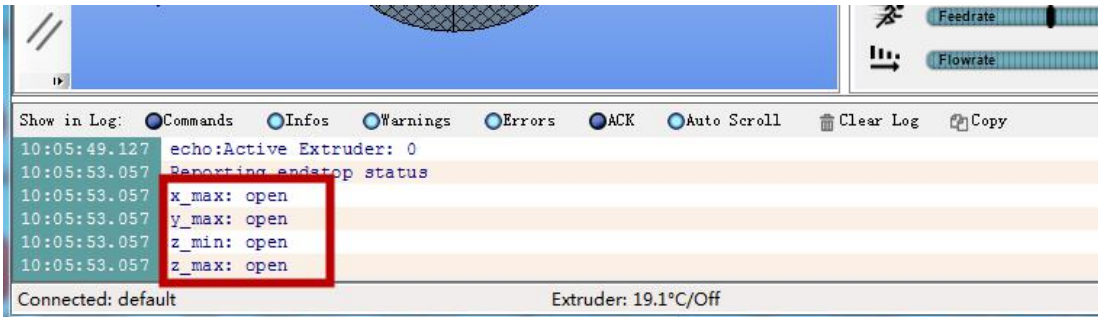




If the nozzle is at the middle air,not hit any limit switch,all four switch show open.

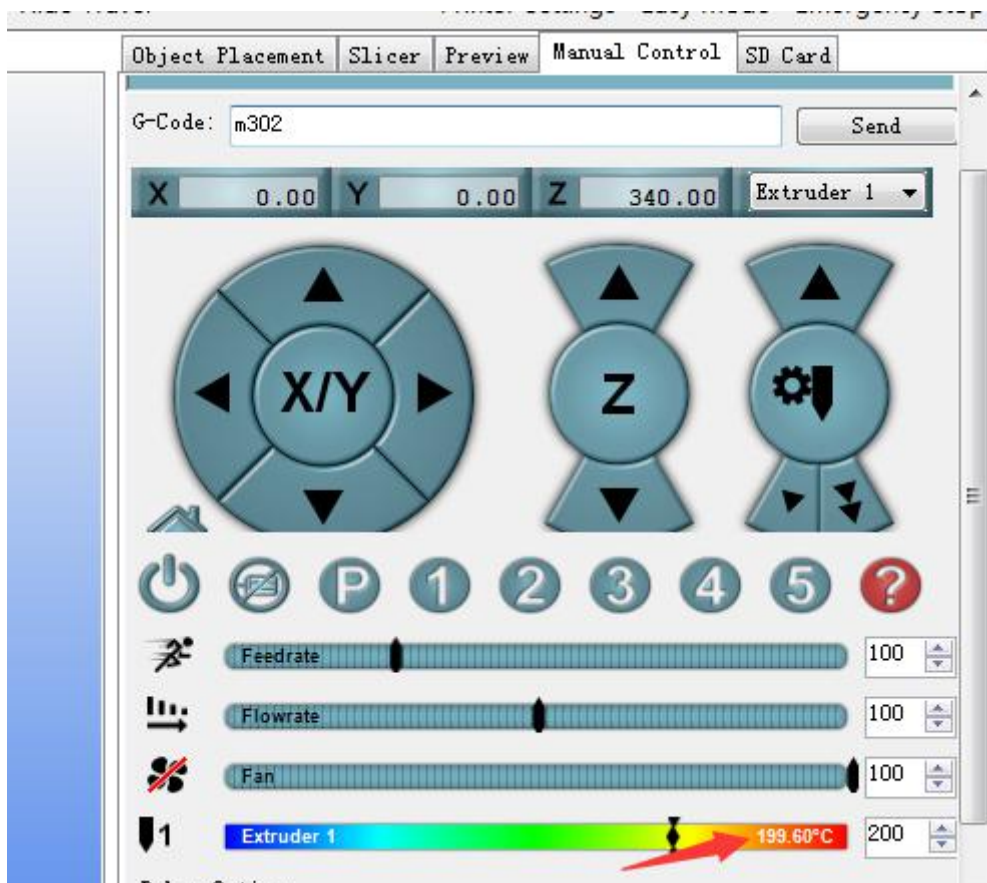
It show:

x\_max open  
y\_max open  
z\_max open  
Z\_min open ( this is autoleveling switch )

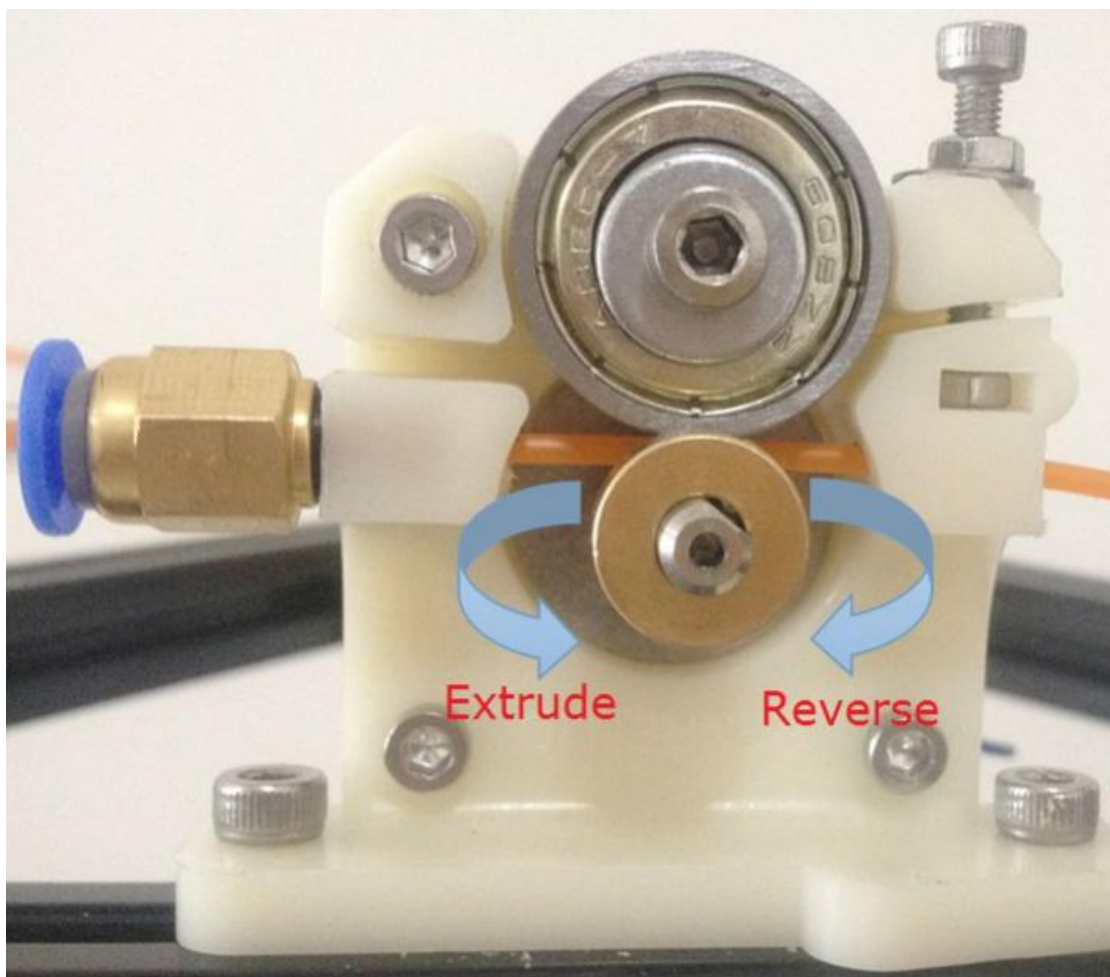
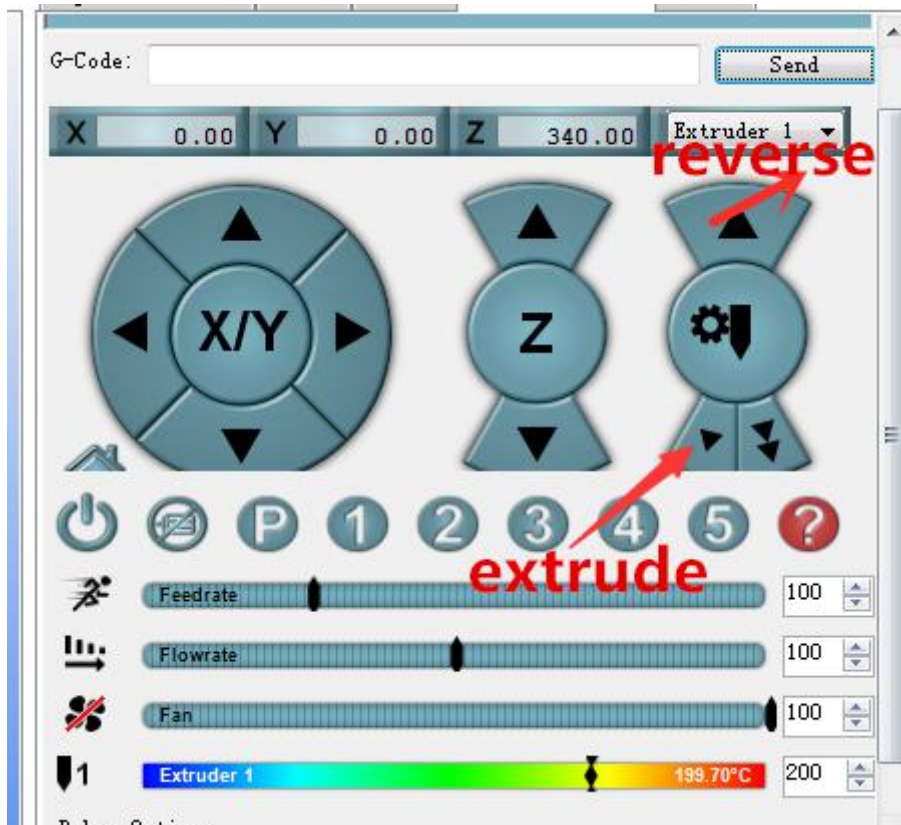


### (5) m302----manual control extruder motor

Before manual control extruder motor ,need heat nozzle to targeted temperature and can melt filament.this step is to prevent the extruder run at cold status, then input 302.



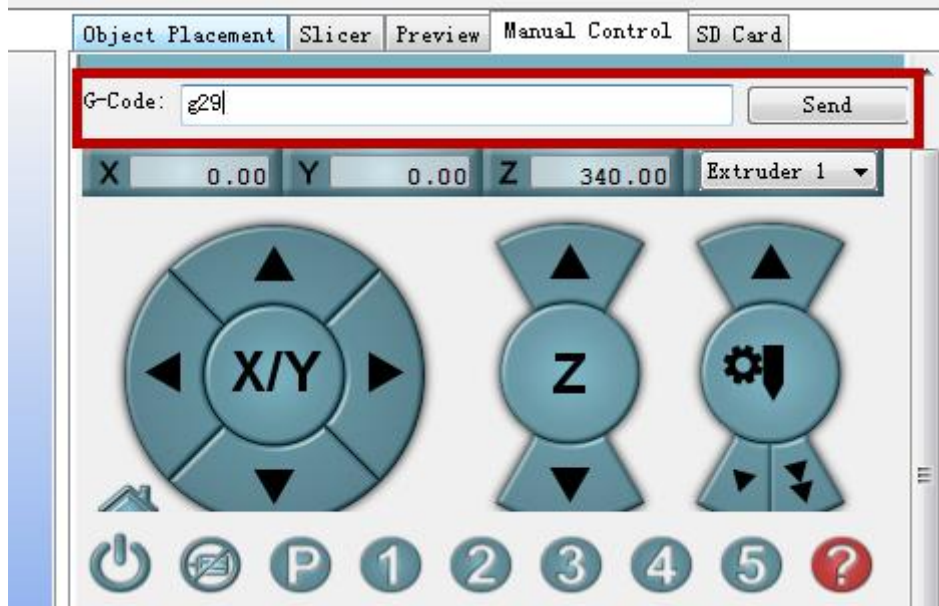
**Important note:if use M302 code, must guarantee the nozzle temp reach 175°C。 If can not reach 175°C, the extruder can not run. !!!**



When heating the nozzle ,first input m302 and send ,and then click extrude,we can see extrude motor run ,and filament come out from nozzle(if you have installed filament)

**(6) g29----Auto leveling command**

g29 is to control auto-leveling,input g29 and send ,the nozzle go down and touch bed with dozens of points.then can print directly(after using g29 don't use other command).

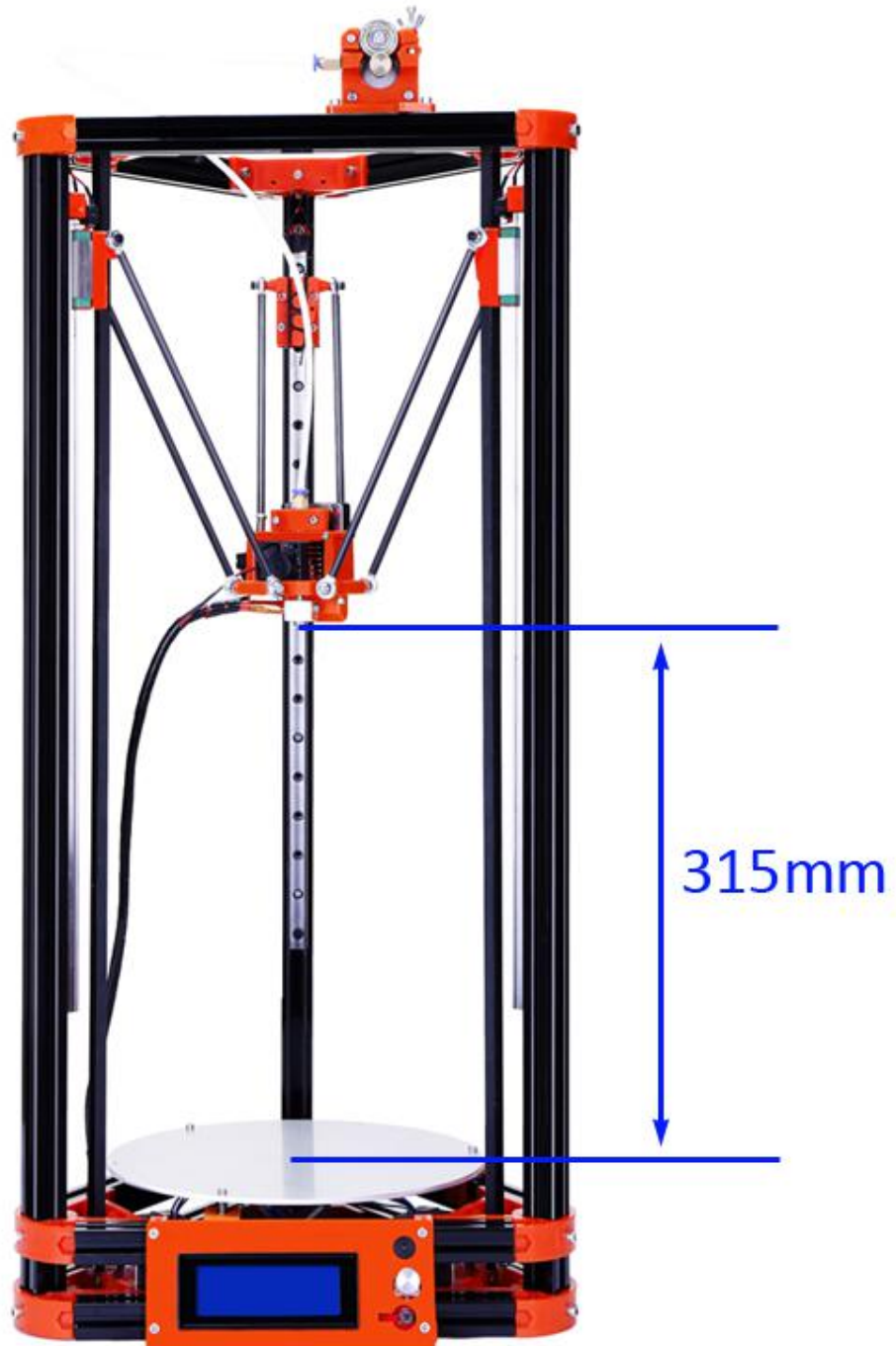


## 2 Leveling and printing

### 1 the max printing height

The max printing height is one important data,when assembly printer, we provide two key points, if do as we design,the max height will be 315mm, even have small error,fine tune can help solve.

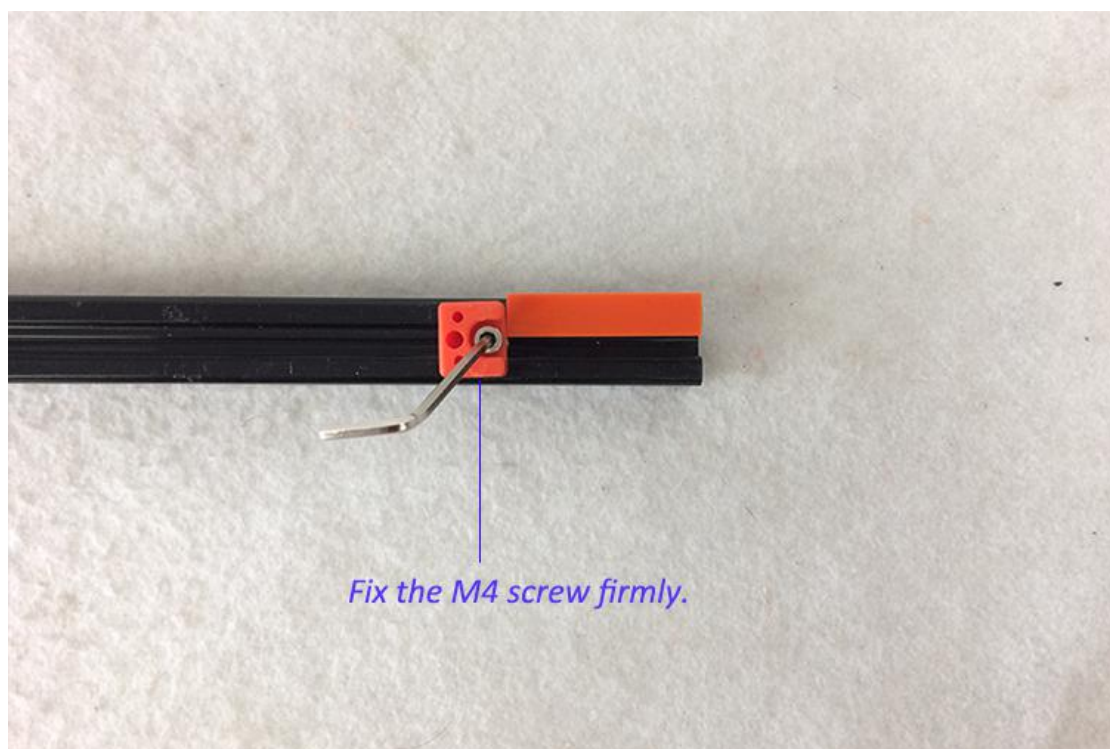
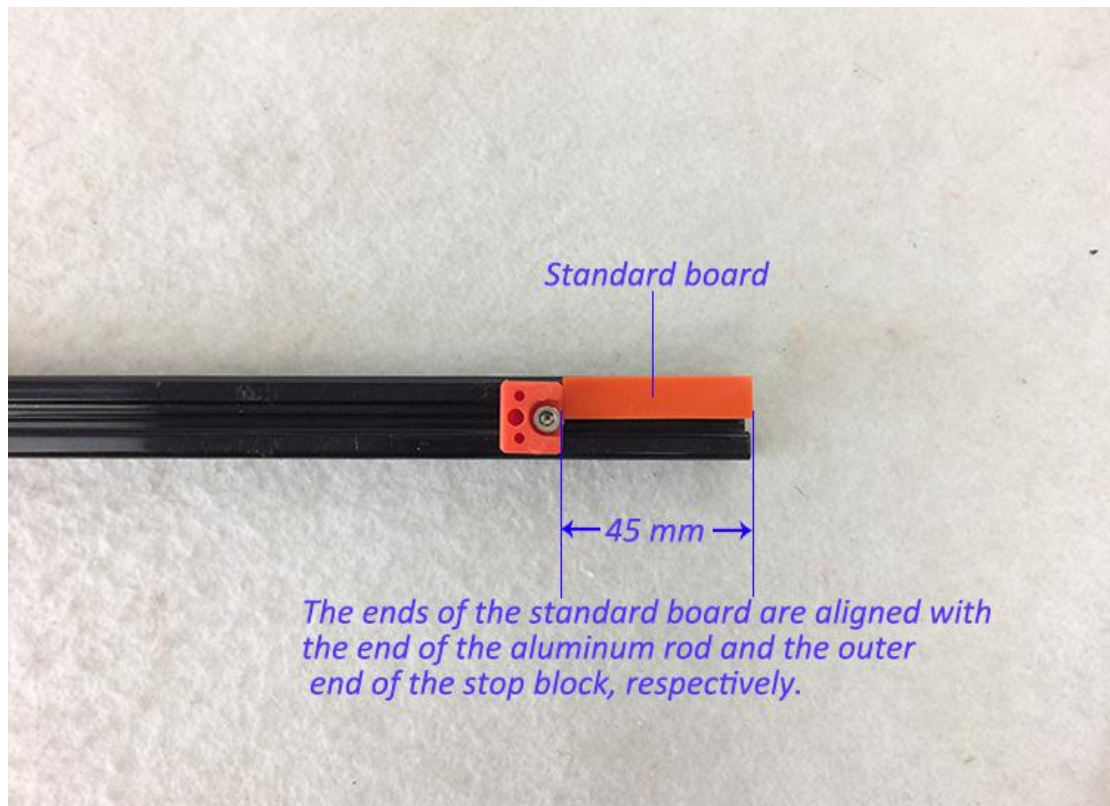
When out of factory,we have flashed firmware to board,the max printing height is 315mm.if the limit block and plate is not assembly as we design, need set the new max height, in later chapter,include guide how to set up the max height and flash firmware.



## 2 two important key points

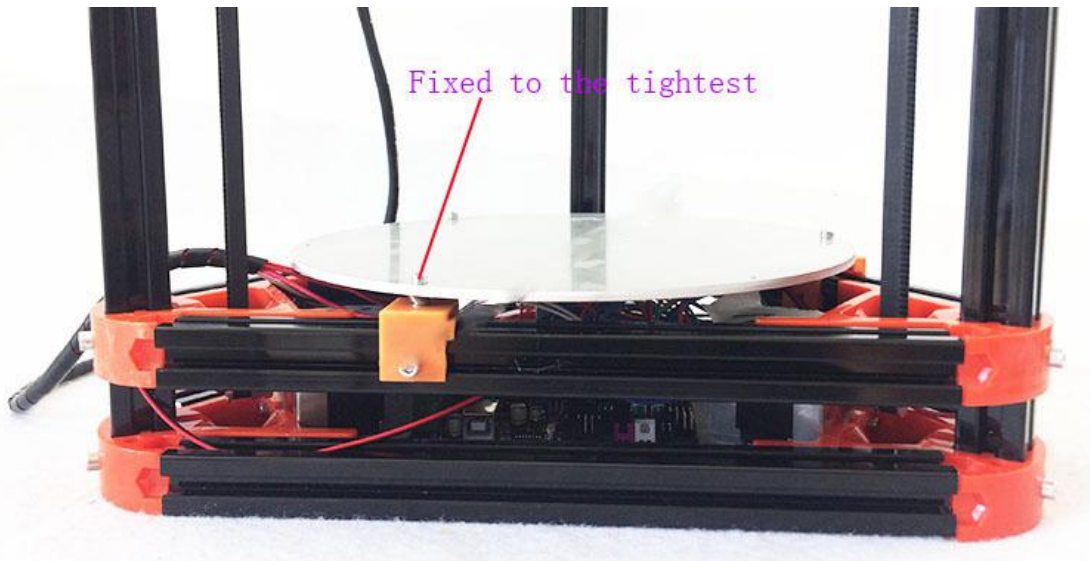
### 1 first key point

The distance between aluminum top and limit block is 45mm, the turbo fan can help you confirm the distance.



## 2 second key point

The M3\*20 screw to fixed the platform must arrive to the lowest bottom and fixed to the tightest.

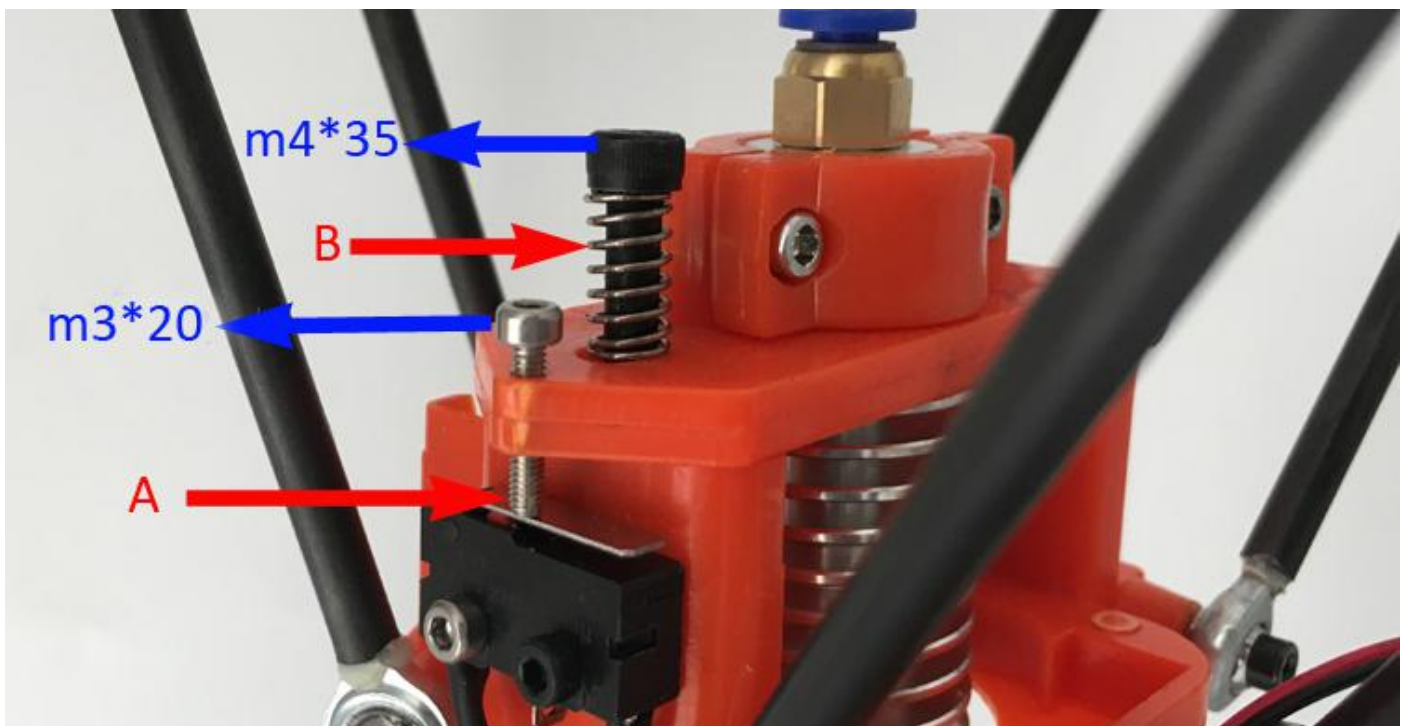


if the key points are not done as this, the max height will not be 315mm, the nozzle maybe hit the platform first, and you also need confirm the max height and change max height in firmware, then flash to board.

## 3, Auto-leveling

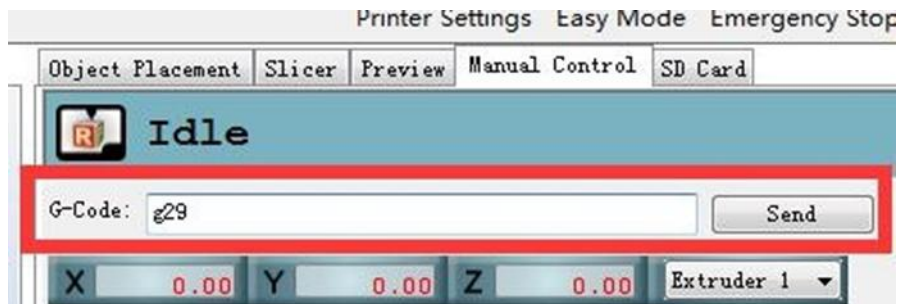
1, check the tightness of the screws; it determines the sensitivity of automatic leveling.

To **A**, the m3\*20 screw can not fixed to the bottom, can press the switch is ok. to **B**, the spring can not too loose or too tight, the nozzle should bounce up smoothly, these two points can be adjust in any time.



2,send g28,help the nozzle go home.

3,send g29 and the nozzle will go down and touch the plate by 36 points.



4,when printing,if the first layer can not stick on the platform well,we advice you adjust the three screws on the platform, to make small adjust,can help you get a good effect. The auto-leveling and adjust the three screws can work together when printing.



## 4,Start printing

### Important Note

A,when use switch power supply,If your country AC voltage is 220V,pls choose 220V;if it's110V,pls choose 110V,there is one adjust button on the switch power supply.

B, when heating the nozzle or printing,for the fan which cooling heat sink,guarantee it working,if not,pls stop heat and print.

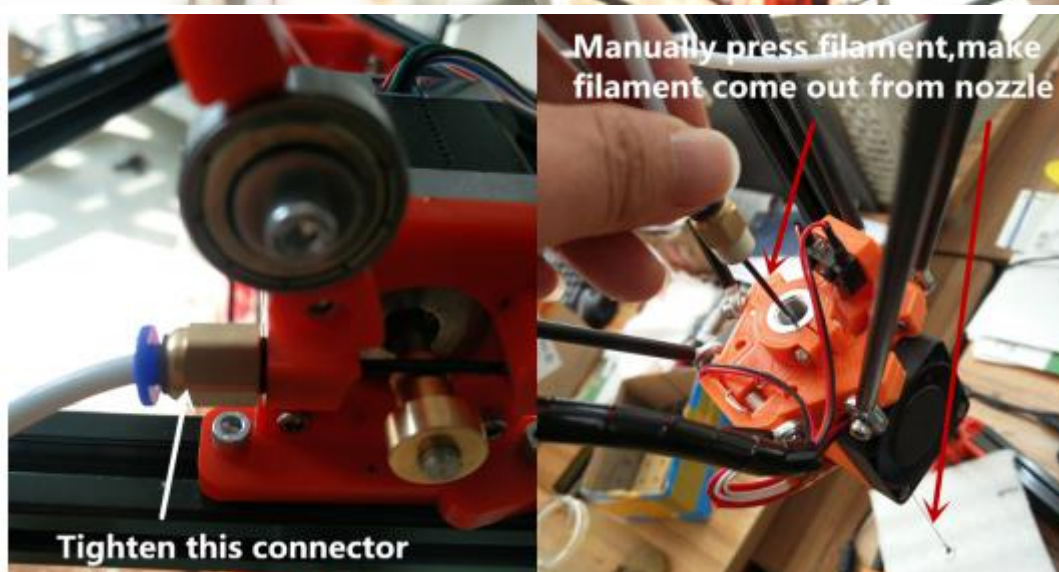
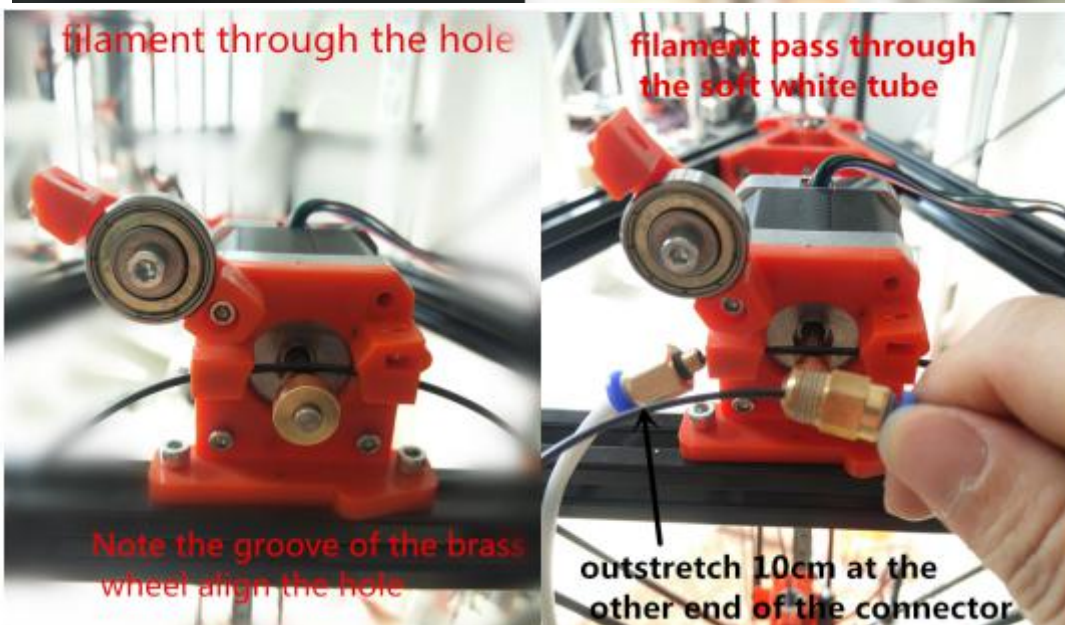
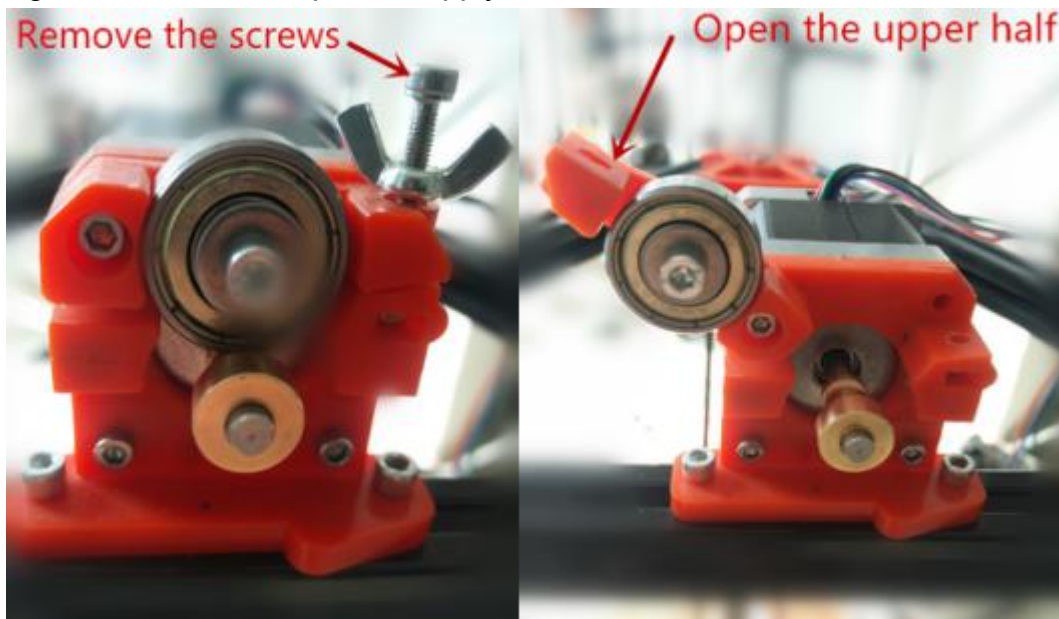
C,when first printing or when you are not familiar to the printer.we recommend you not set Reverse filament,to avoid the nozzle block. And when you are familiar to the printer and understand it well, you could make the advanced settings.

D,we recommend you use the software "Repetier"when printing,it's intelligent and efficient.

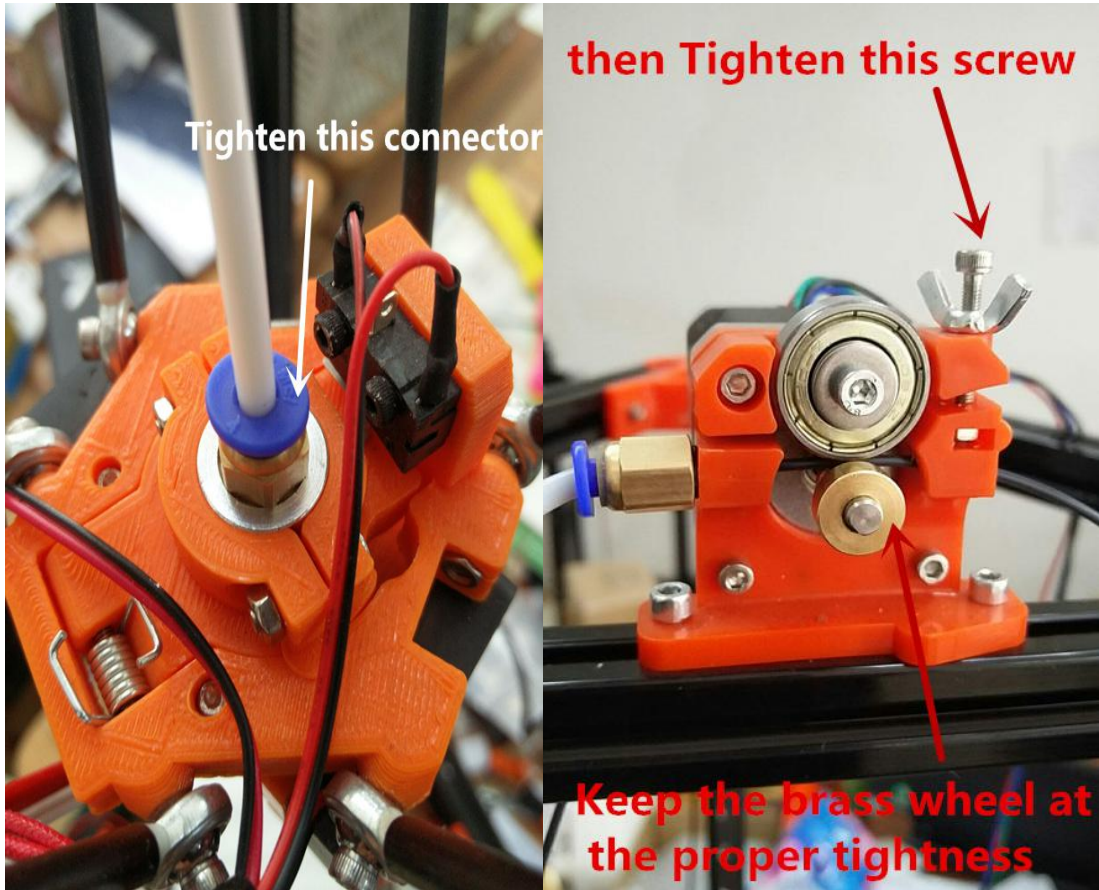
E,the temperature is a important parameter, for PLA filament, the working temperature is 200°C-210°C, you could adjust it,and the temperature should not too high.too high temperature maybe lead to Nozzle clogging.

# 1 Feeder filament

Before printing, connect USB and power supply, then feeder filament.

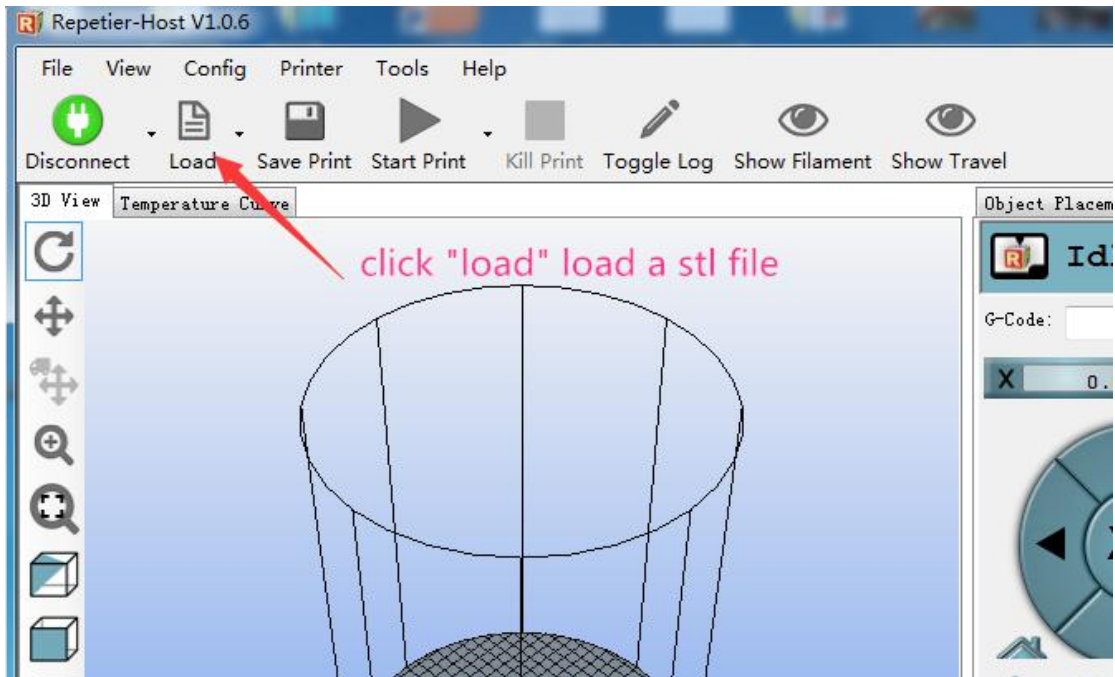






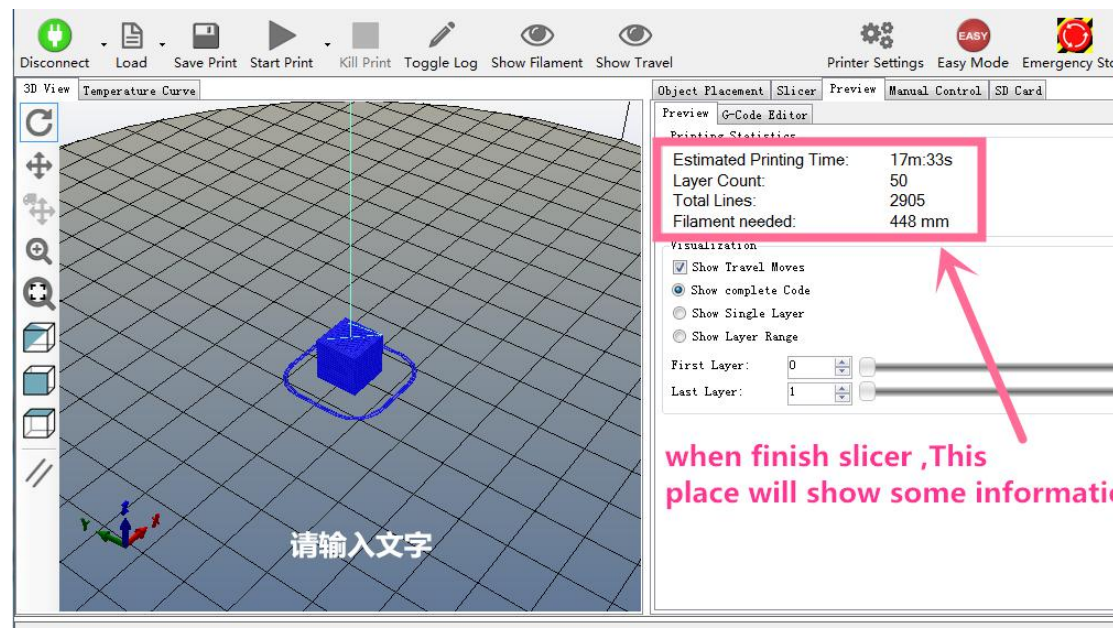
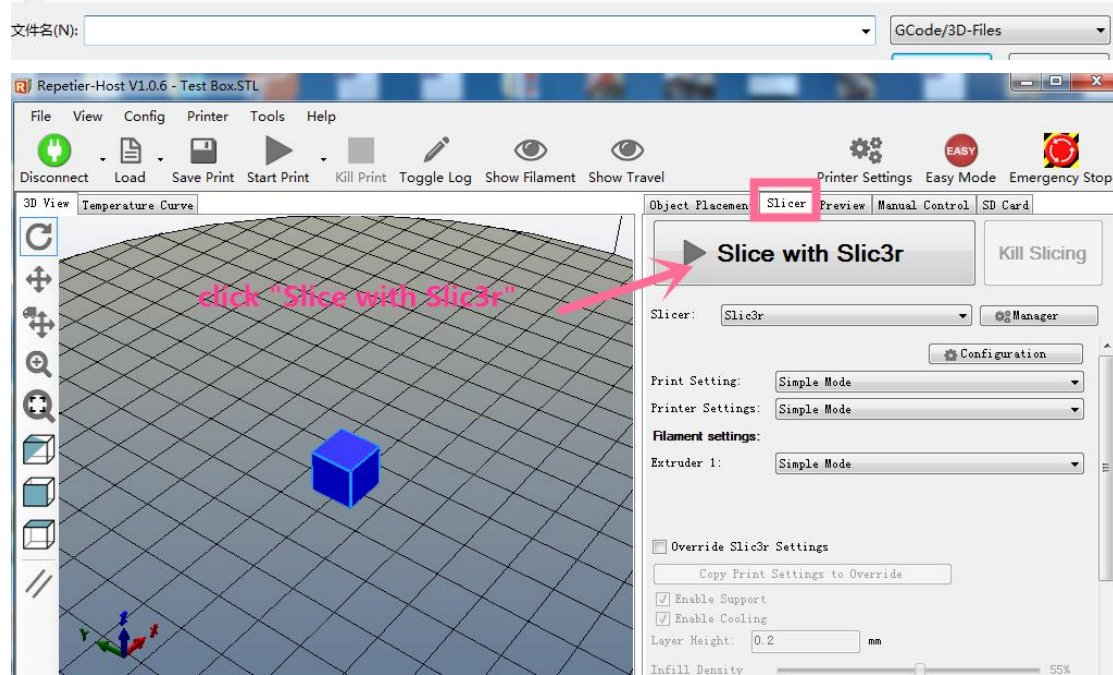
## 2 Slice

The 3d printer only can Identify g-code files,so need slice first,transfer the stl file to g-code file.

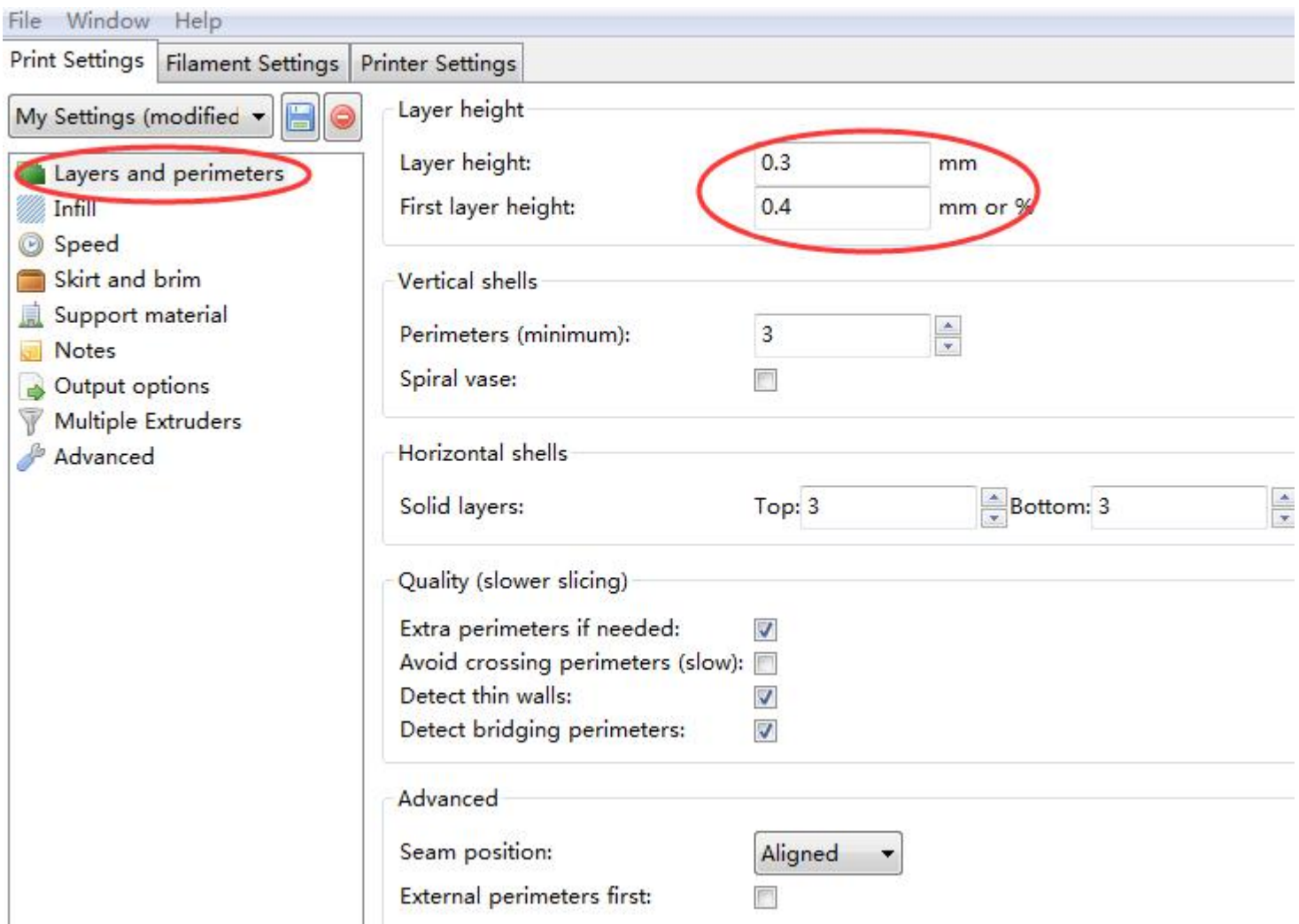
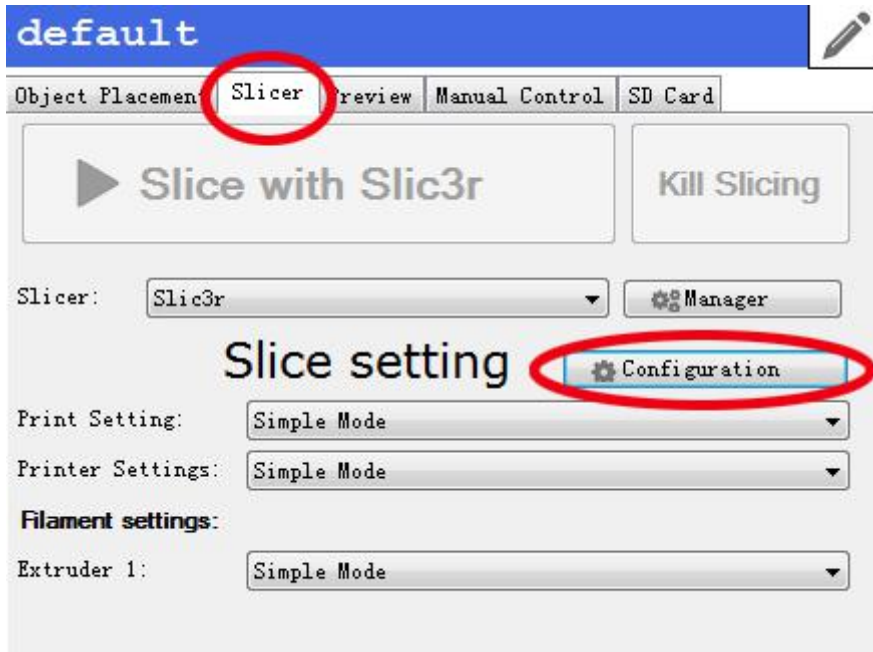


LCD Bracket	2016/8/3 18:44	3D Model Files	148 KB
LCD Shell	2016/8/3 18:44	3D Model Files	497 KB
Limit block	2016/8/3 18:44	3D Model Files	37 KB
Overall pulley	2016/8/3 18:44	3D Model Files	180 KB
Self-leveling effect set 1	2016/8/3 18:44	3D Model Files	7,555 KB
Self-leveling effect set 2	2016/8/3 18:44	3D Model Files	5,189 KB
Self-leveling effect set 3	2016/8/3 18:44	3D Model Files	186 KB
Test Box	2016/8/3 18:44	3D Model Files	1 KB
The wire feeding machine 1	2016/8/3 18:44	3D Model Files	249 KB
The wire feeding machine 2	2016/8/3 18:44	3D Model Files	179 KB
Wire feeder Fixture	2016/8/3 18:44	3D Model Files	179 KB
Wire feeder	2016/8/3 18:44	3D Model Files	249 KB

choose a model you want to print



### 3 slice setting



My Settings (modified) [Save] [Reset]

- Layers and perimeters
- Infill**
- Speed
- Skirt and brim
- Support material
- Notes
- Output options
- Multiple Extruders
- Advanced

**Infill**

Fill density: 20 %

Fill pattern: rectilinear

Top/bottom fill pattern: rectilinear

**Reducing printing time**

Combine infill every: 1 layers

Only infill where needed:

**Advanced**

Solid infill every: 0 layers

Fill angle: 45 °

Solid infill threshold area: 70 mm<sup>2</sup>

Only retract when crossing perimeters:

Infill before perimeters:

My Settings (modified) [Save] [Reset]

- Filament**
- Cooling

PLA filament

**Filament**

Diameter: 1.75 mm

Extrusion multiplier: 1

**Temperature (°C)**

Extruder: First layer: 210 Other layers: 205

Bed: First layer: 0 Other layers: 0

Print Settings | Filament Settings | **Printer Settings**

My Settings (modified) [Save] [Reset]

Filament  
**Cooling**

Enable

Keep fan always on:

Enable auto cooling:

If estimated layer time is below ~30s, fan will run at 100% and print speed will be reduced so that no less than 30s are spent on that layer (however, speed will never be reduced below 10mm/s).  
 If estimated layer time is greater, but still below ~60s, fan will run at a proportionally decreasing speed between 100% and 80%.  
 During the other layers, fan will always run at 80% except for the first layer.

**this fan is turbo fan, can be controled by repetier**

Fan settings

Fan speed: Min: 80 [Up] [Down] Max: 100 [Up] [Down]

Bridges fan speed: 100 [Up] [Down] %

Disable fan for the first: 1 [Up] [Down] layers

Cooling thresholds

Enable fan if layer print time is below: 60 [Up] [Down] approximate seconds

Slow down if layer print time is below: 30 [Up] [Down] approximate seconds

Min print speed: 10 [Up] [Down] mm/s

File Window Help

Print Settings | Filament Settings | **Printer Settings**

My Settings [Save] [Reset]

General  
 Custom G-code  
**Extruder 1**

Size

Nozzle diameter: 0.4 mm

Position (for multi-extruder printers)

Extruder offset: x: 0 y: 0 mm

Retraction

Length: 5 mm (zero to disable)

Lift Z: 0 mm

Speed: 30 mm/s

Extra length on restart: 0 mm

Minimum travel after retraction: 2 mm

Retract on layer change:

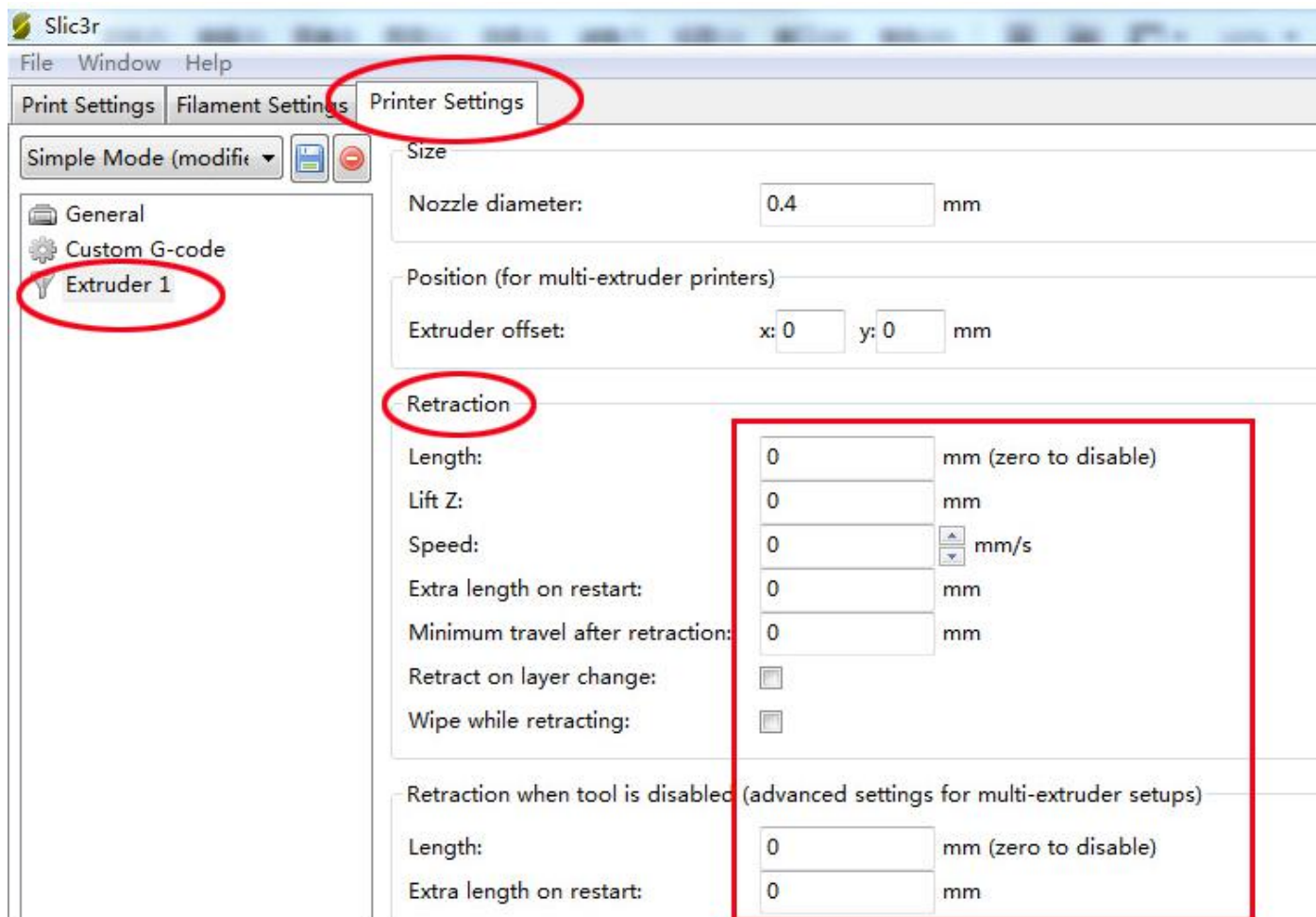
Wipe while retracting:

Retraction when tool is disabled (advanced settings for multi-extruder setups)

Length: 10 mm (zero to disable)

Extra length on restart: 0 mm

when first printing or when you are not Familiar to the printer.we recommend you not set Reverse filament,to avoid the nozzle block.All these stting for 0,it mean not reverse filament when printing. When you are familiar to the printing work,could add to set the reverse.



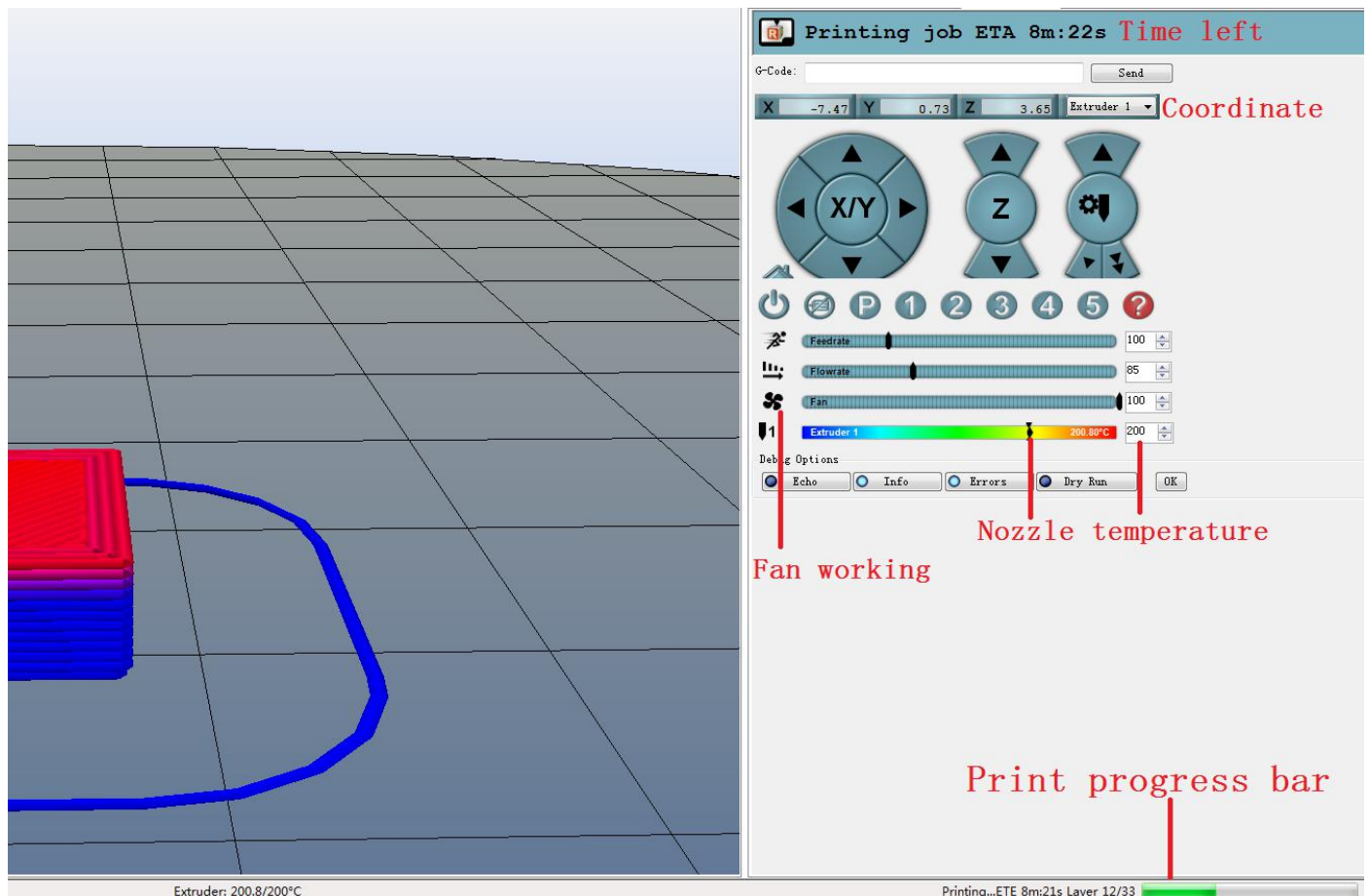
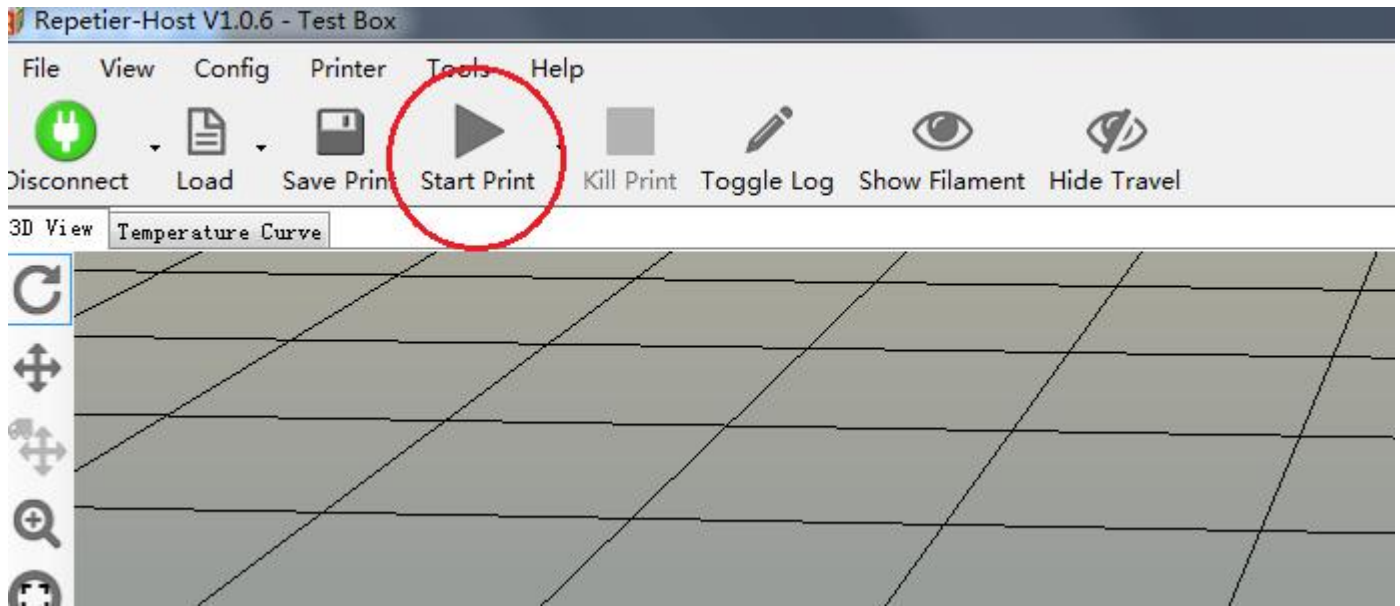
All these stting for 0,  
it mean not reverse filament when printing

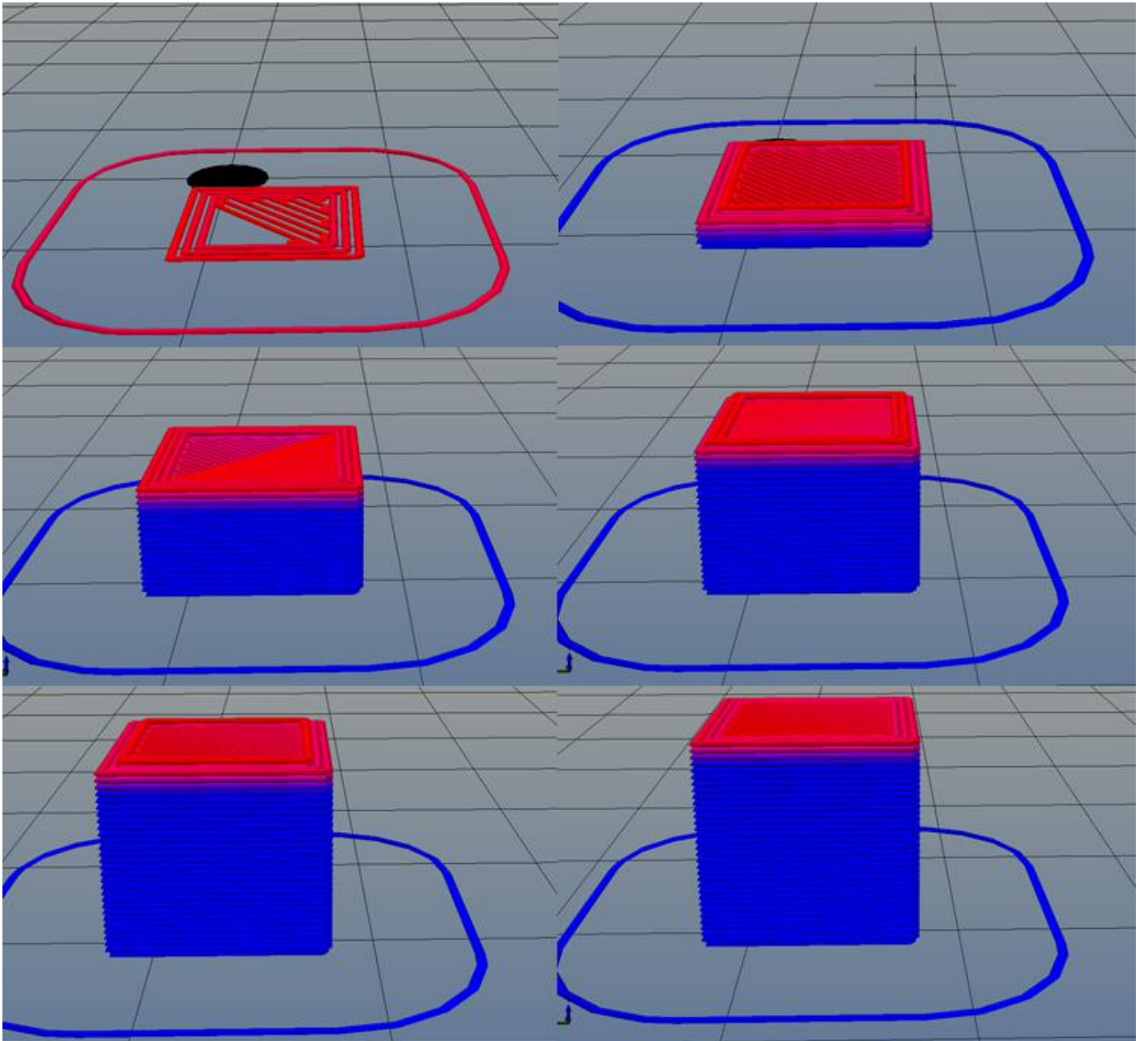
The above pictures only show some key parameters setting when slice, about more info about the slic3d software,pls go to the link as follow.

<http://manual.slic3r.org/intro/overview>

## 4 printing

Complete sliced, could start printing, click the "Start print", will print the model, the panel display printing progress.





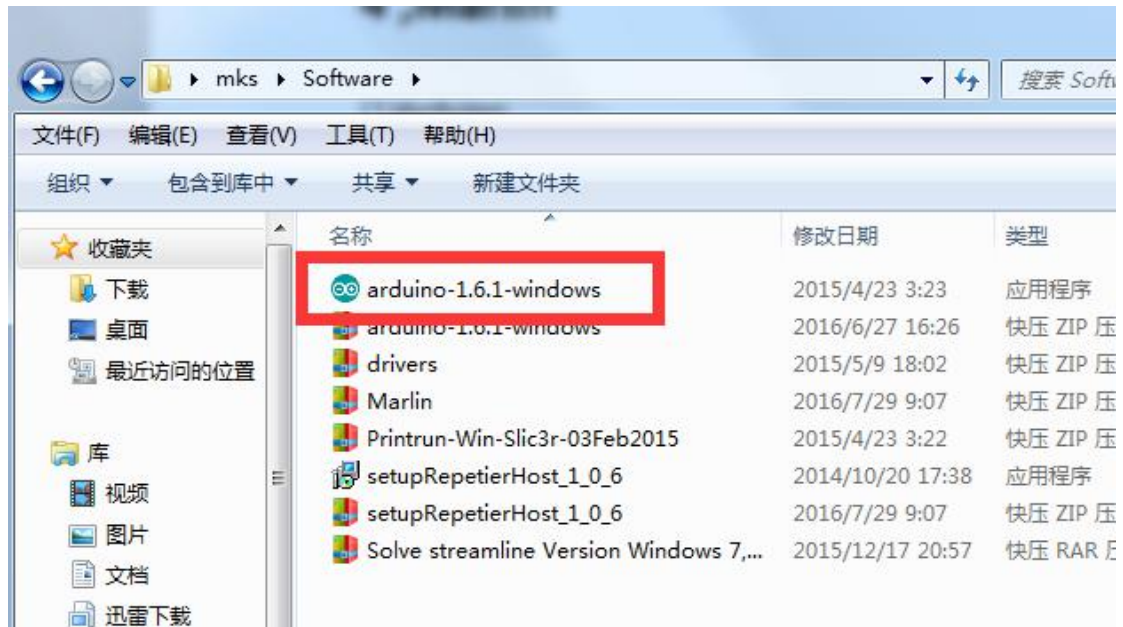


# 3 Marlin and max height

## 1 Arduino

The marlin is the printer program which run the printer,it's also named firmware.

Arduino is an working environment for firmware, only installing the arduino on PC,then can open marlin and flash program to board, if you are not familiar with the software,pls don't change any parameters,thank you.

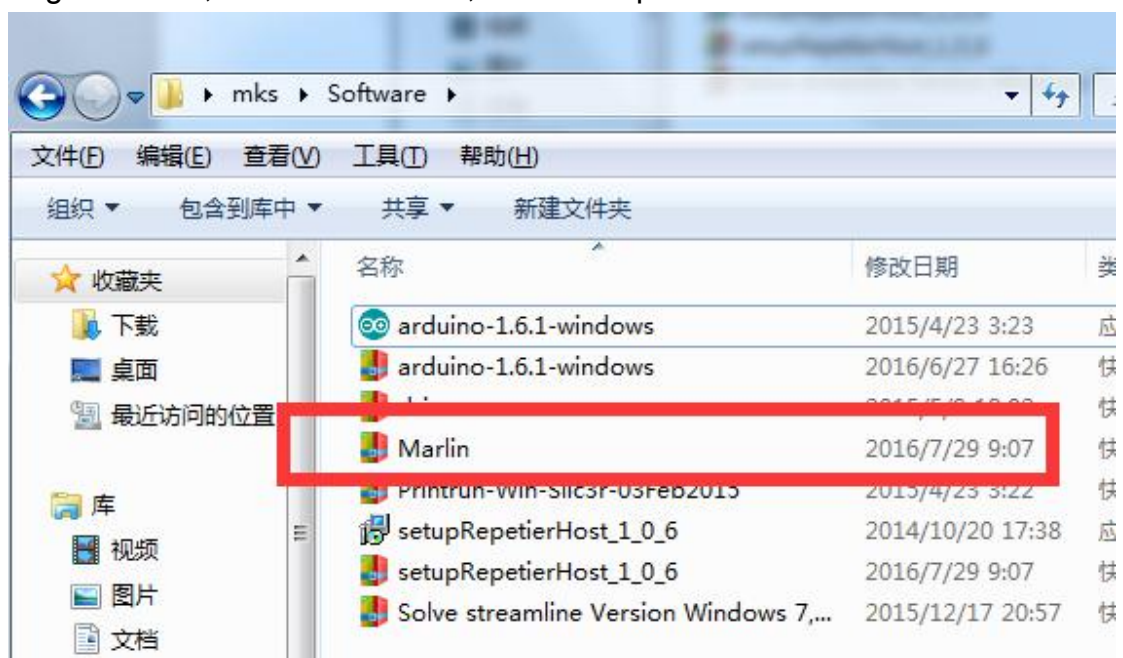


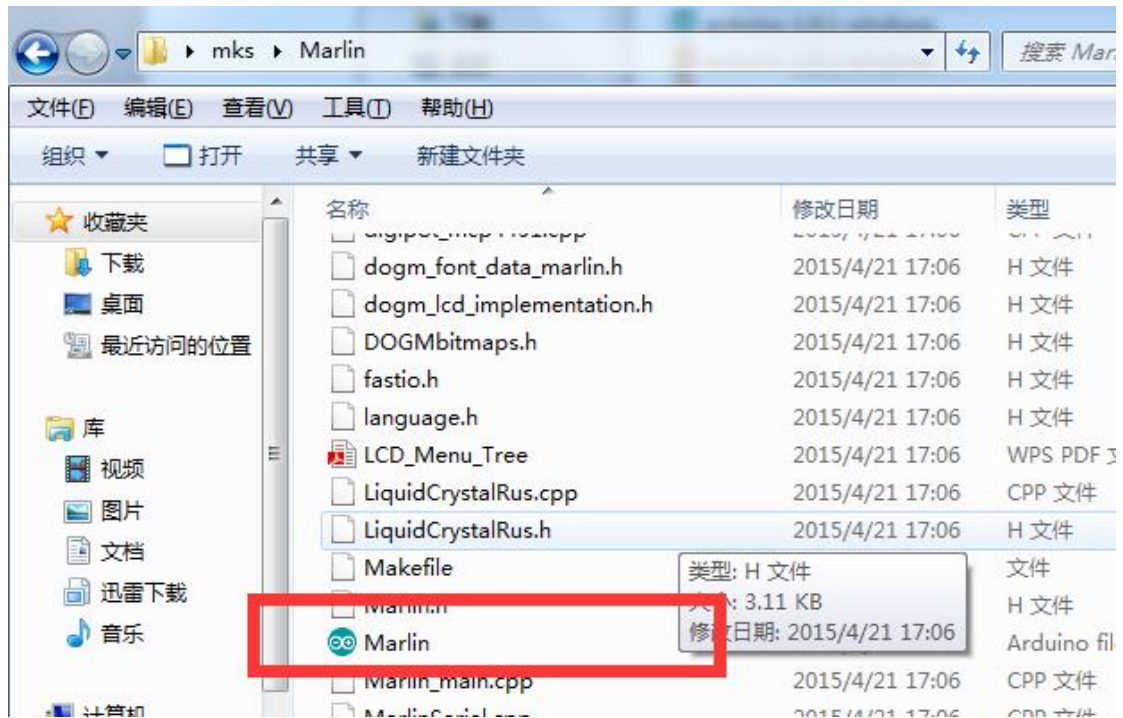
## 2 Marlin

### 1 Open marlin

open marlin, if it's compressed file,must unzip it.

find the icon green color,this format is "ino", click and open it in arduino.





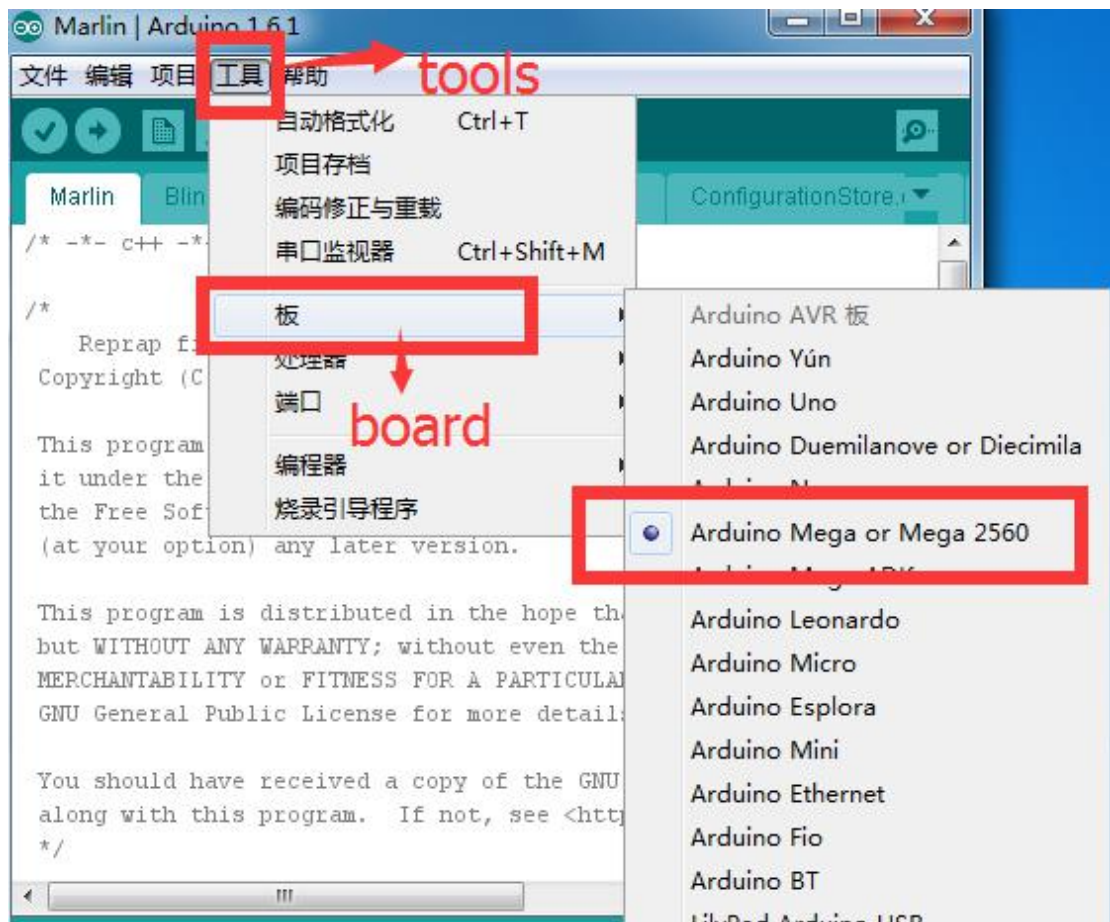
## 2 settings

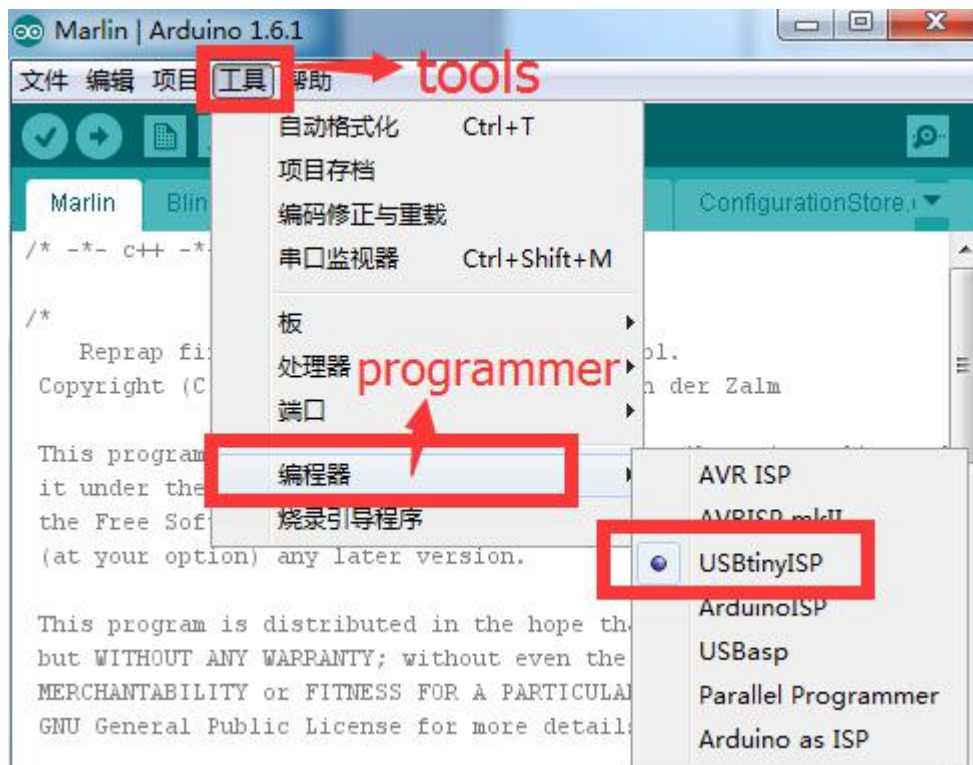
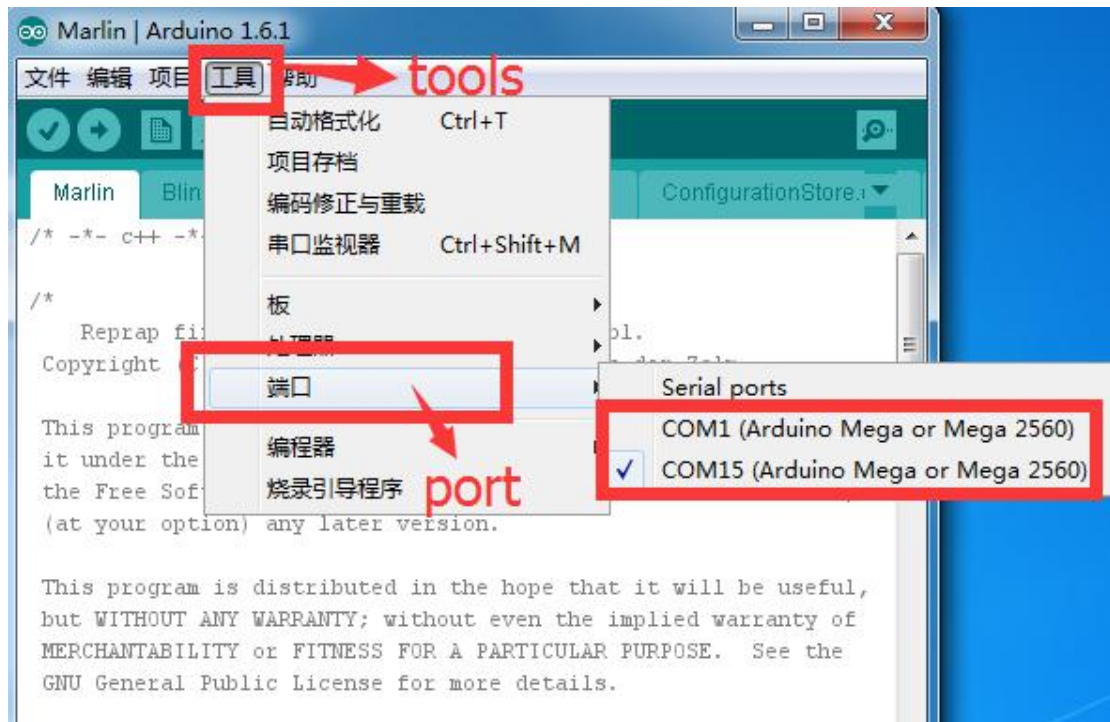
Firmware could only be upload succeed when the settings like the above

Go to tools > board > arduino mega 2560

Go to tools > port, select the COM port

Go to tools > programmers > USBtinyISP

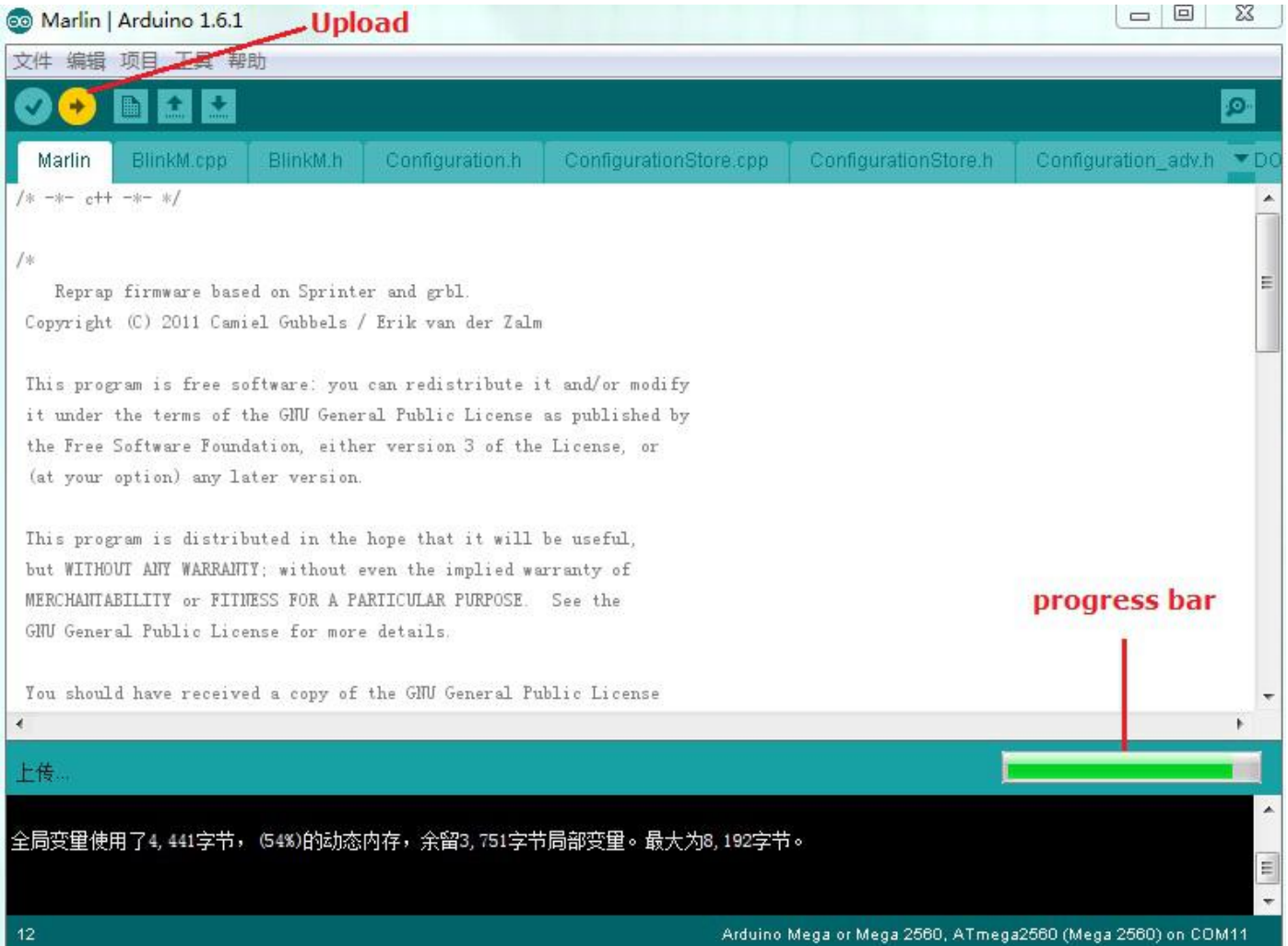




### 3 Upload Firmware

Click the 上传 (Upload) button to upload the Marlin Firmware Sketch to Kossel Mini Controller Board. Once upload successful, message "Done".

**pls disconnect repetier when flash firmware !!!**

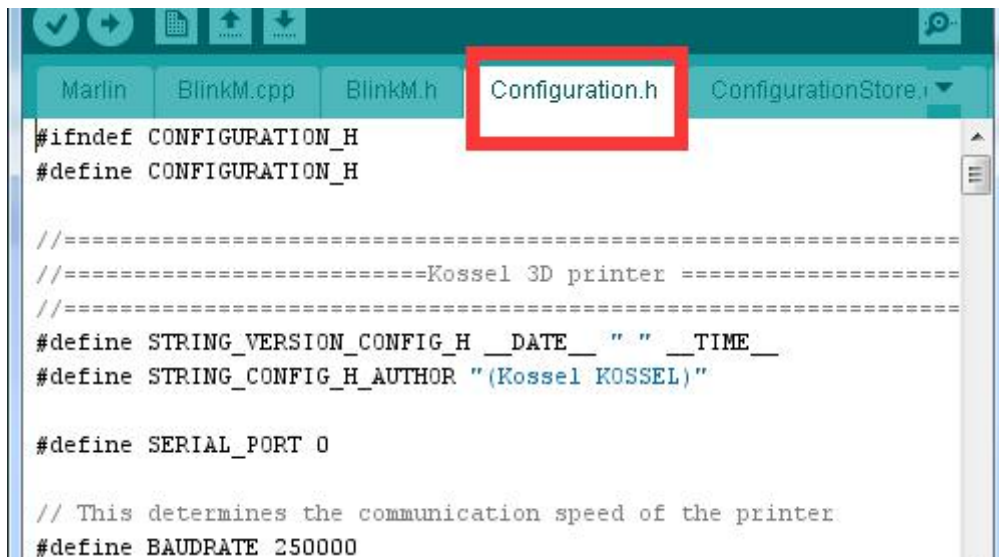


### 3 confirm the max Height

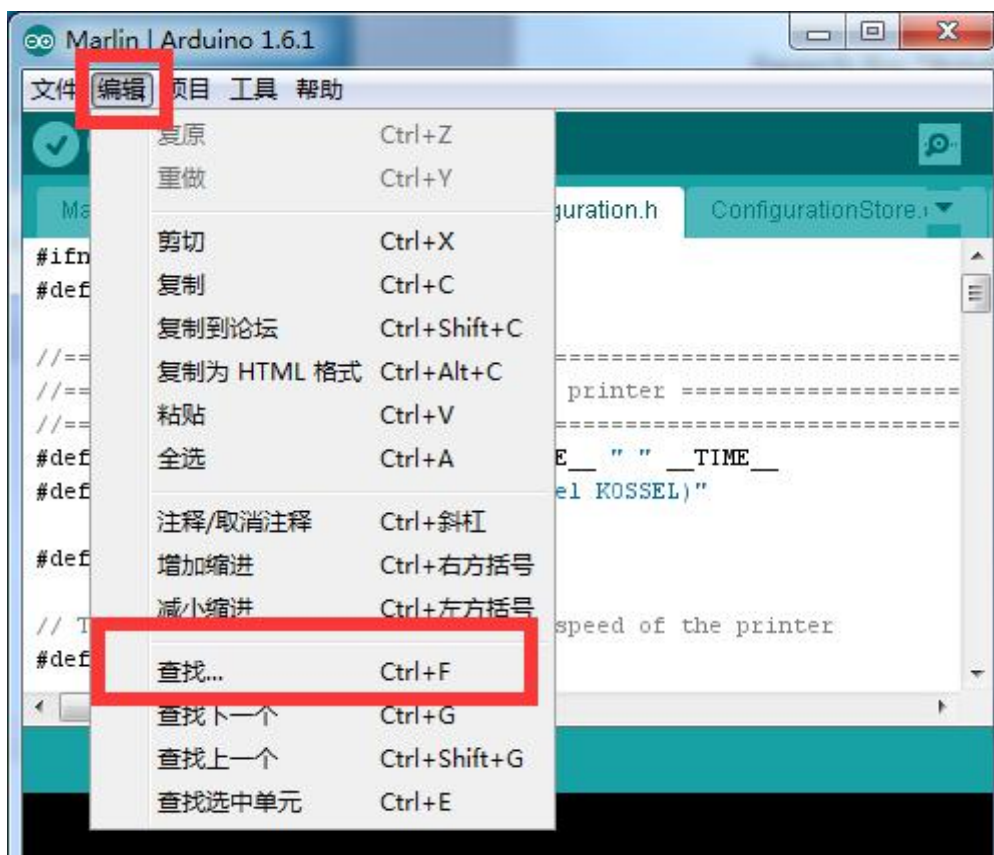
The max height is so important,so it's good to know how to get it.In order to help understand it soomthly, we give one example here,now the max height in the board is 270mm,this is Initial data,need confirm the current.

### 1 find data and change

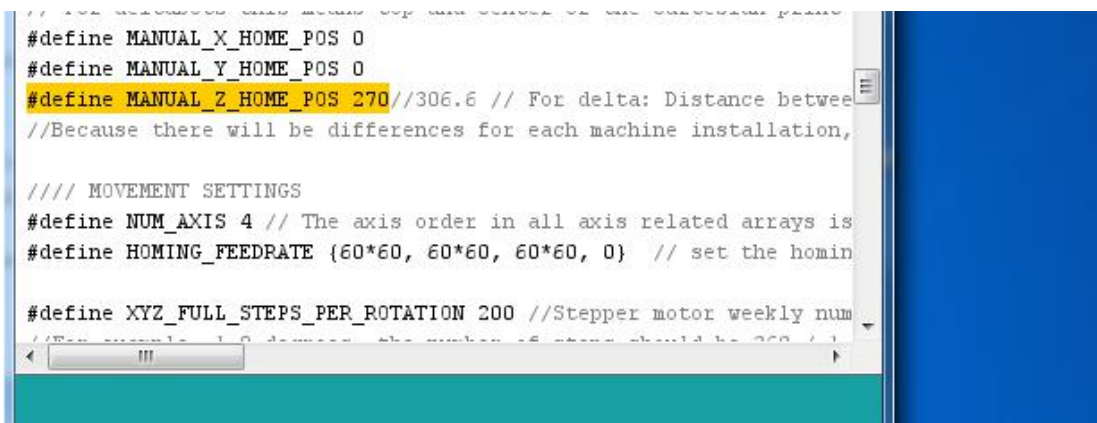
Open the marlin /Configuration.h



Editor > search



Search for “#define MANUAL\_Z\_HOME\_POS”



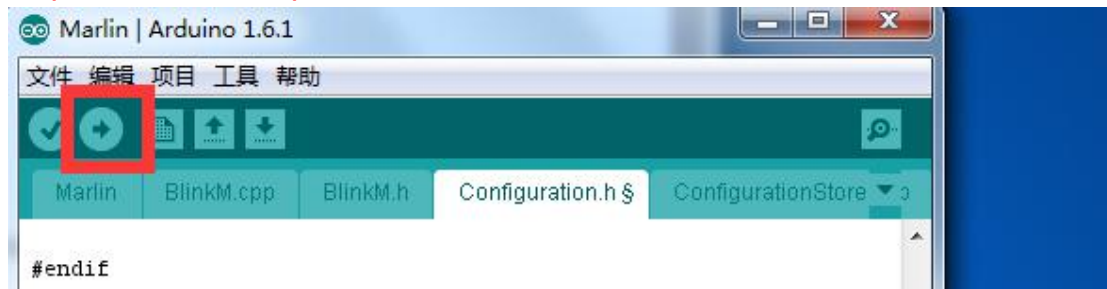
Notice: 270 is the height of the machine, Replace it with 310.

```
// For deltabots this means top and center of the cartesian print
#define MANUAL_X_HOME_POS 0
#define MANUAL_Y_HOME_POS 0
#define MANUAL_Z_HOME_POS 310 //306.6 // For delta: Distance between
//Because there will be differences for each machine installation,

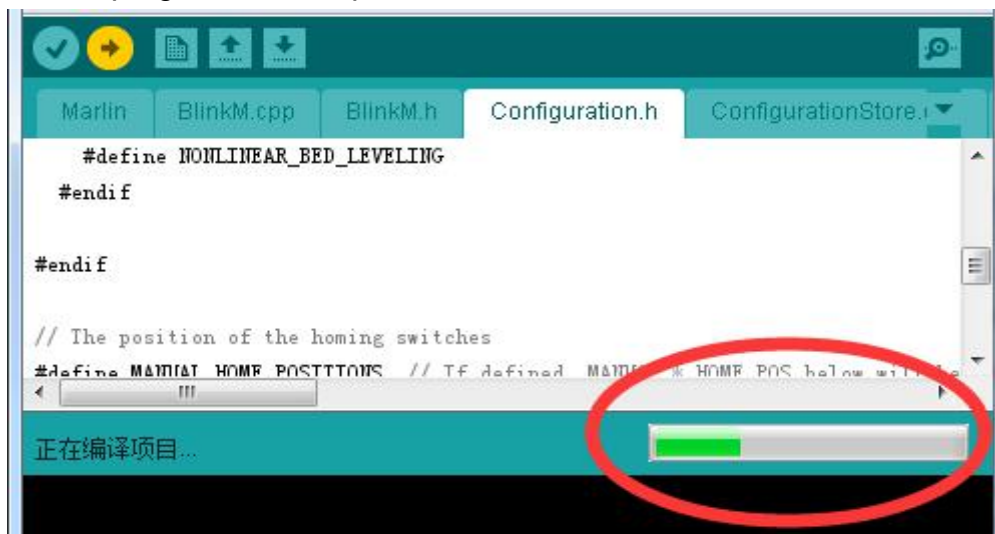
//// MOVEMENT SETTINGS
#define NUM_AXIS 4 // The axis order in all axis related arrays is
#define HOMING_FEEDRATE {60*60, 60*60, 60*60, 0} // set the homin

#define XYZ_FULL_STEPS_PER_ROTATION 200 //Stepper motor weekly num
```

Then upload, pls disconnect repetier when flash firmware.



You could Check the progress of the upload from there.

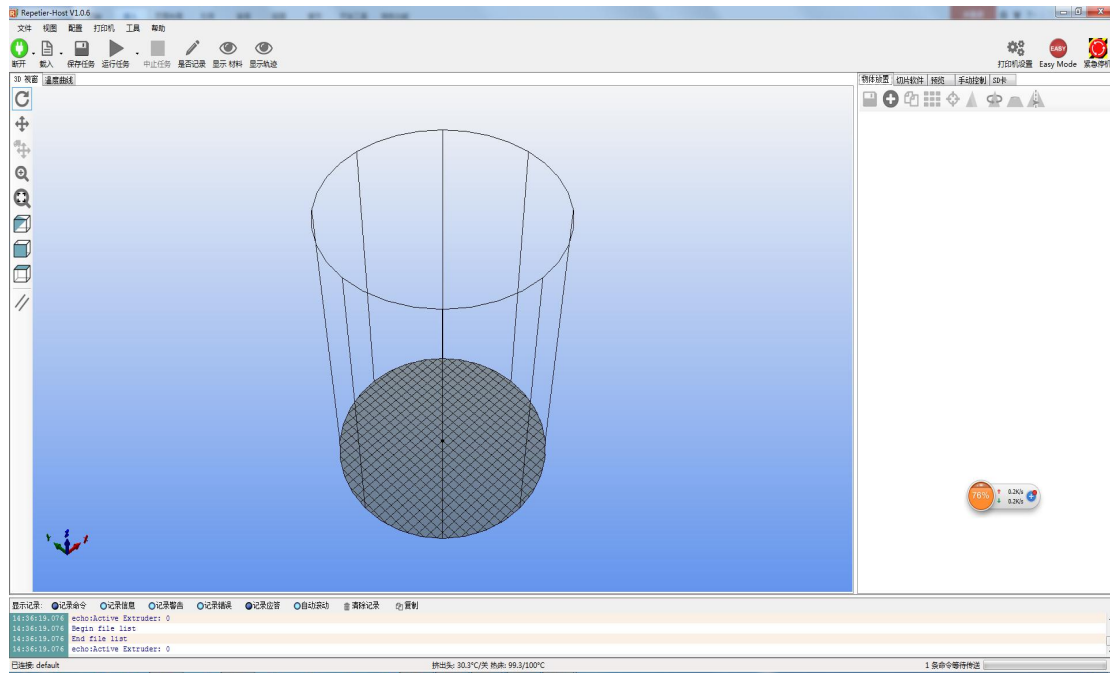


When it read finished, the upload is succeed.



## 2 test and confirm

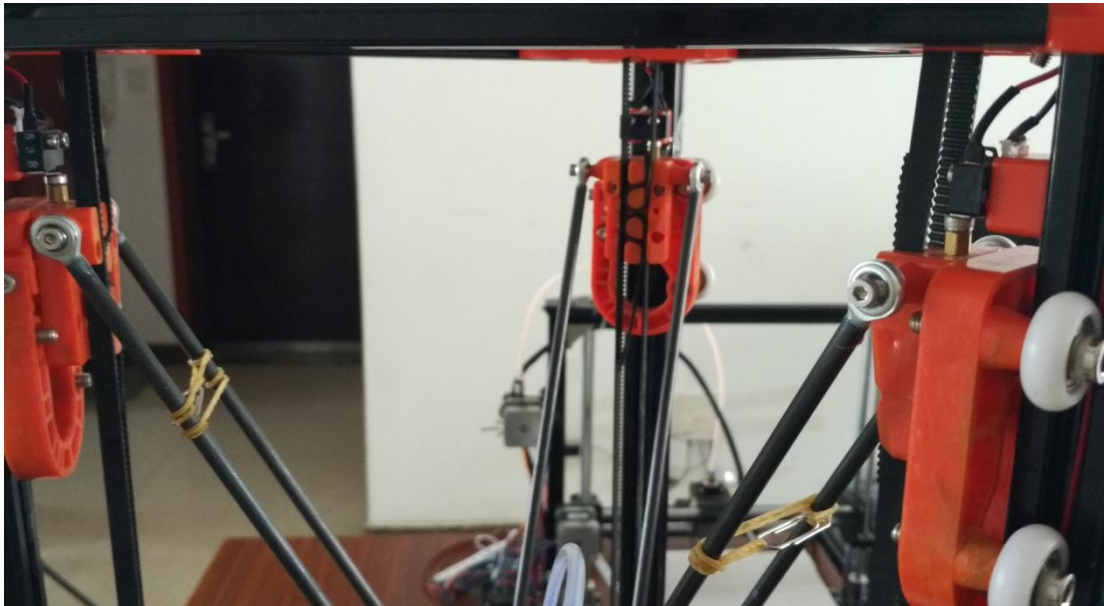
Connect printer to PC



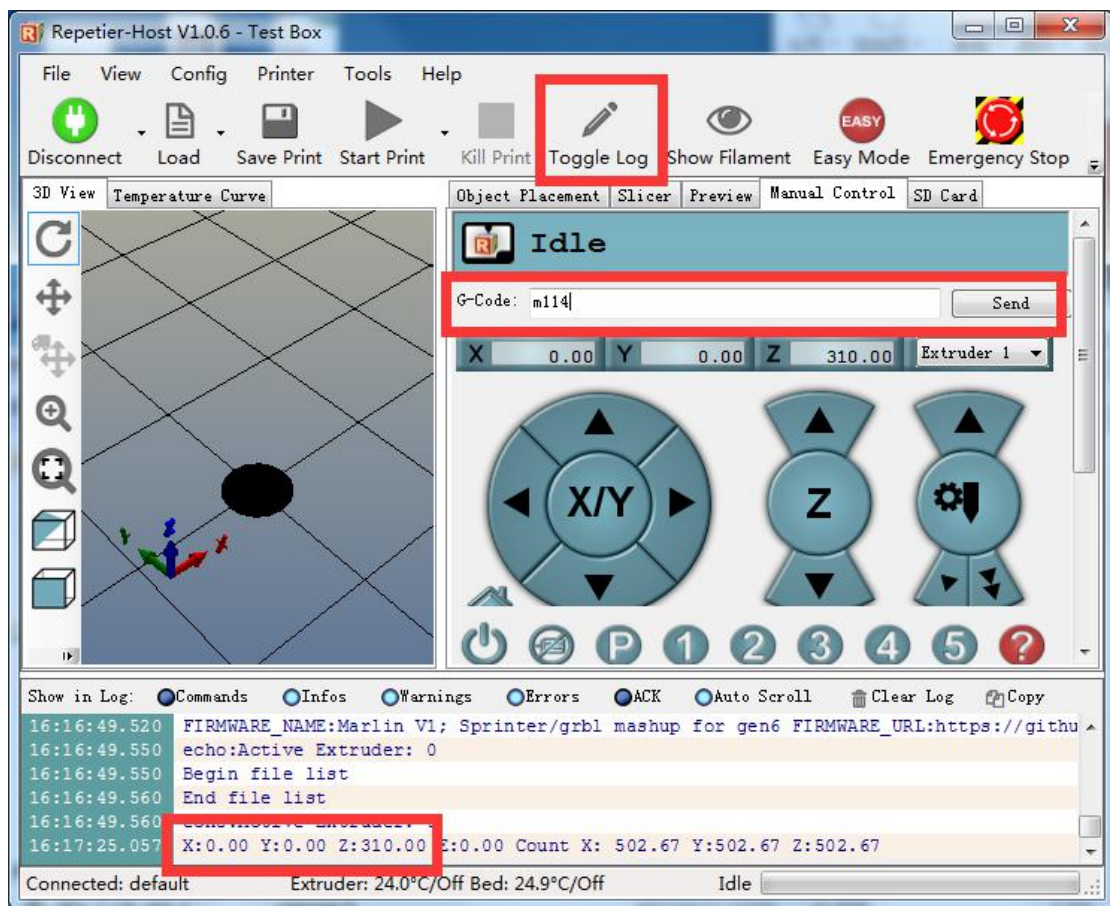
Home the axis's pulley(input g28 on the Manual Control)



All axis will go up to the top position after that



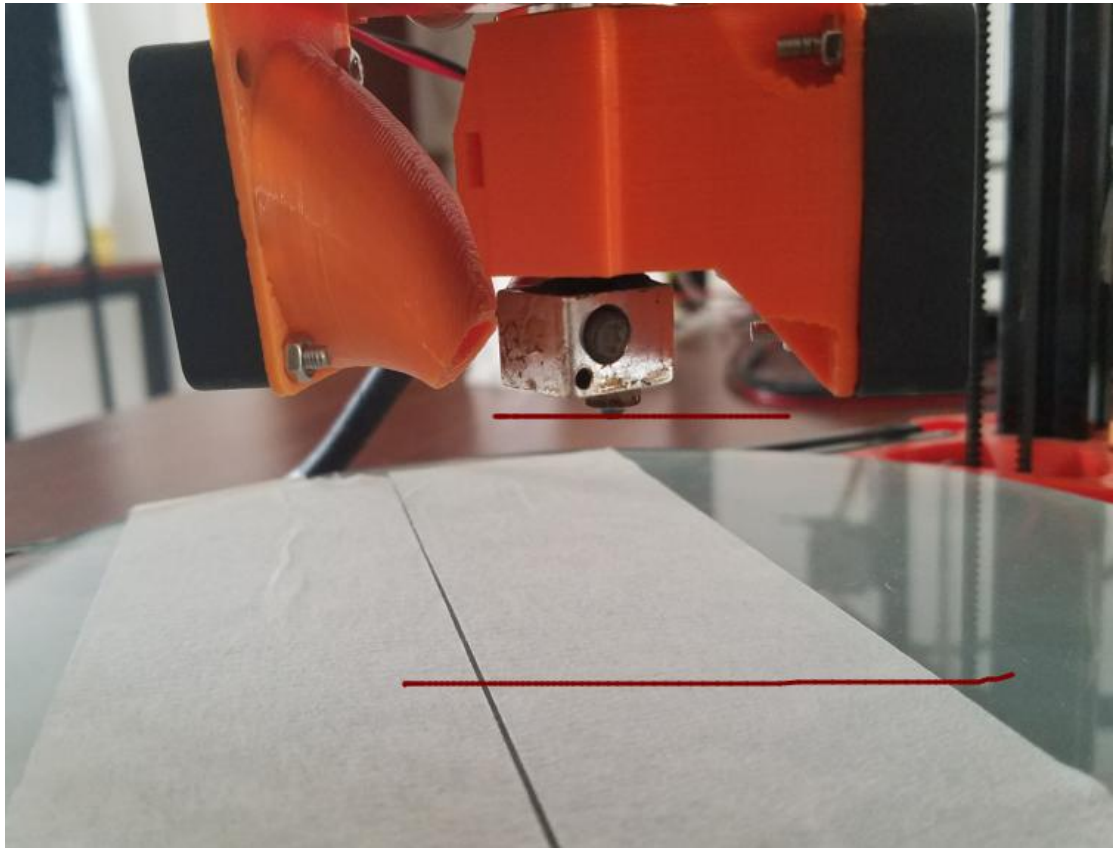
Send m114 to check the Z axis's coordination



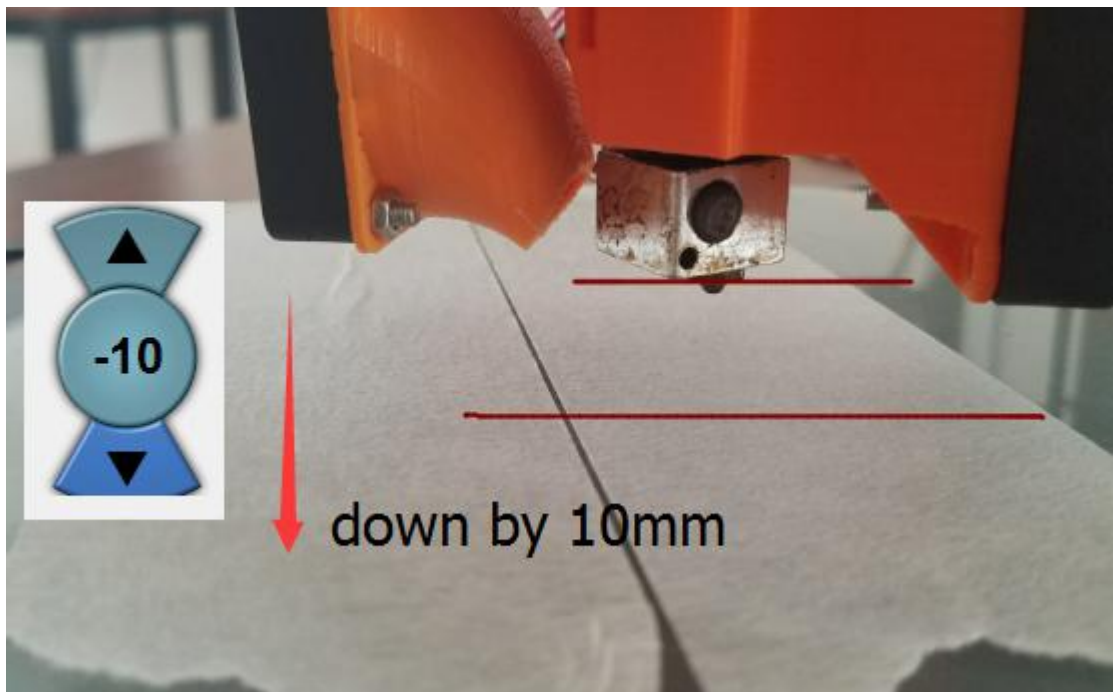
As you could see The Z axis is 310mm at this time (record as A)

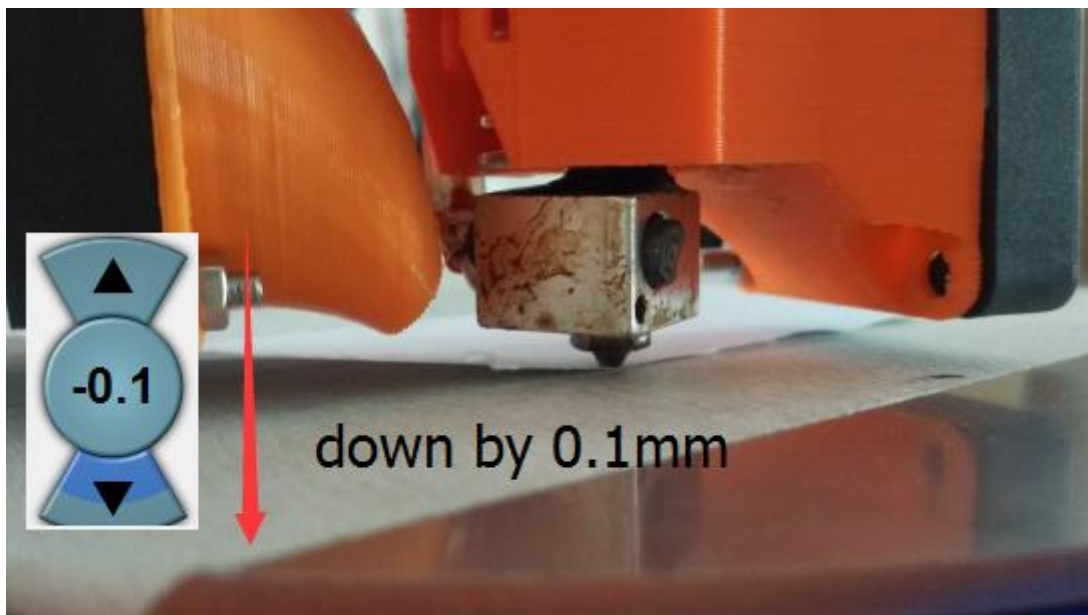
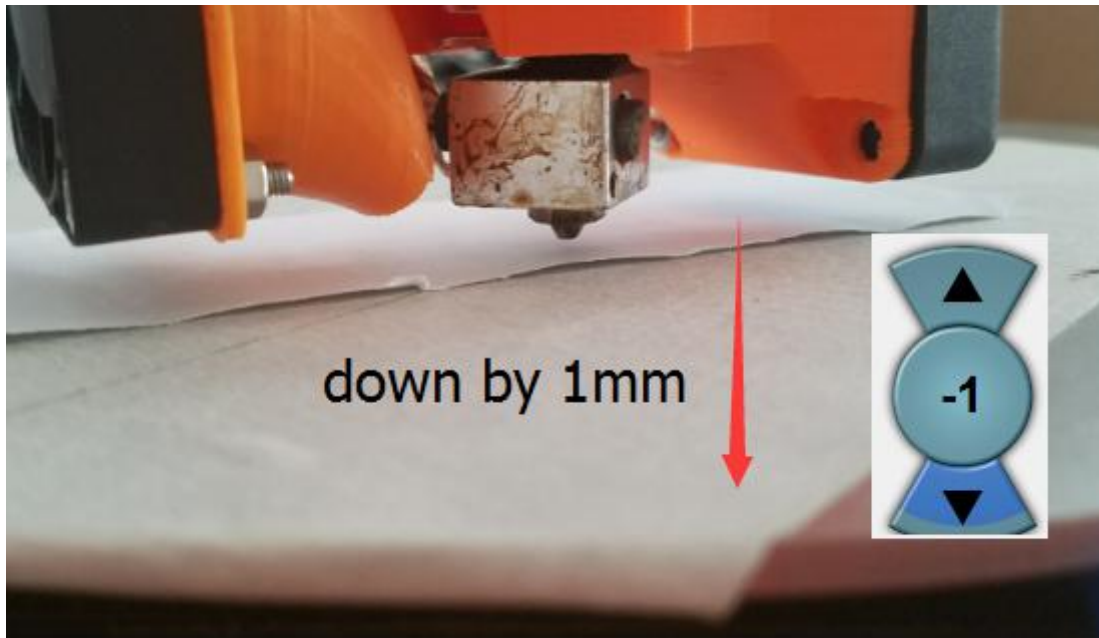
Send "g1 z40" to let the nozzle down to the position higher than the plate about 20cm





Then Down the nozzle close to the plate manually by 10mm, then down 1mm every steps until it nearly touch the plate, (put a A4 paper between the nozzle and the plate) down the nozzle by 0.1mm carefully until the nozzle touch the paper would be OK





There should be a A4 paper gap between the nozzle and the plate at this time  
 Input m114 to check the coordination of Z axis again

```
Show in Log:  Commands  Infos  Warnings  Errors  ACK  Auto Scroll 

The height of the nozzle is 11.4mm at this time (record as B)  

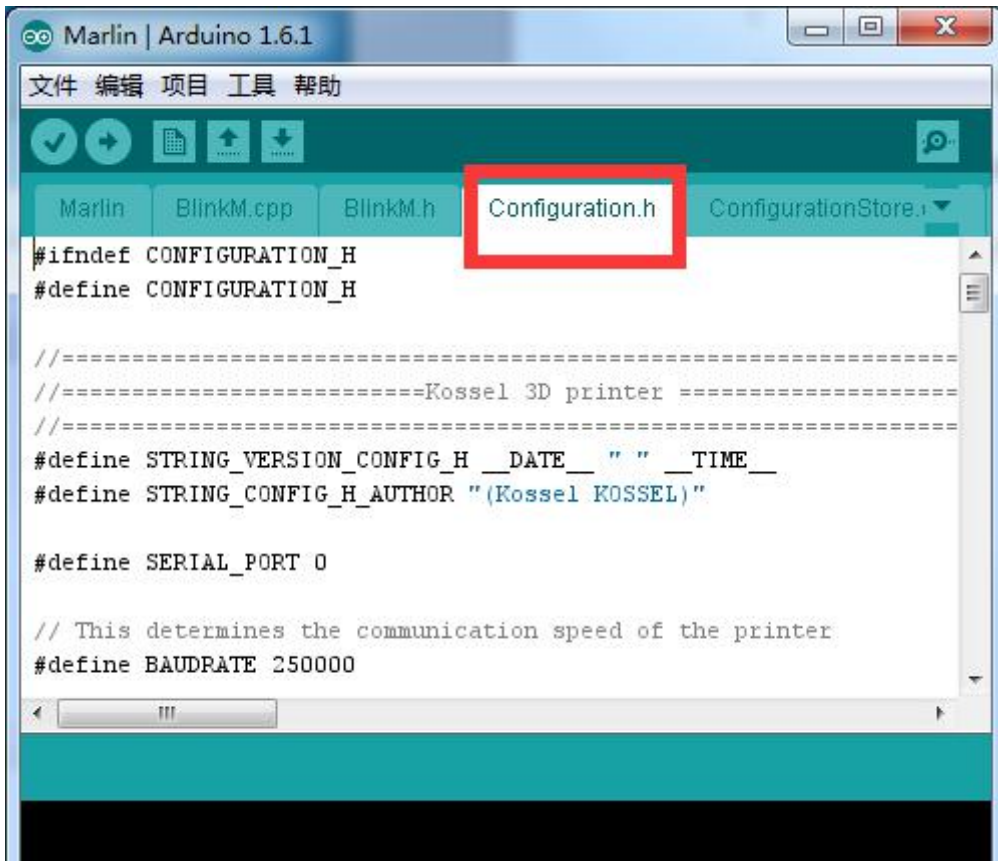
  The right height of the machine could be figure out with A and B:  

  right height = A - B  

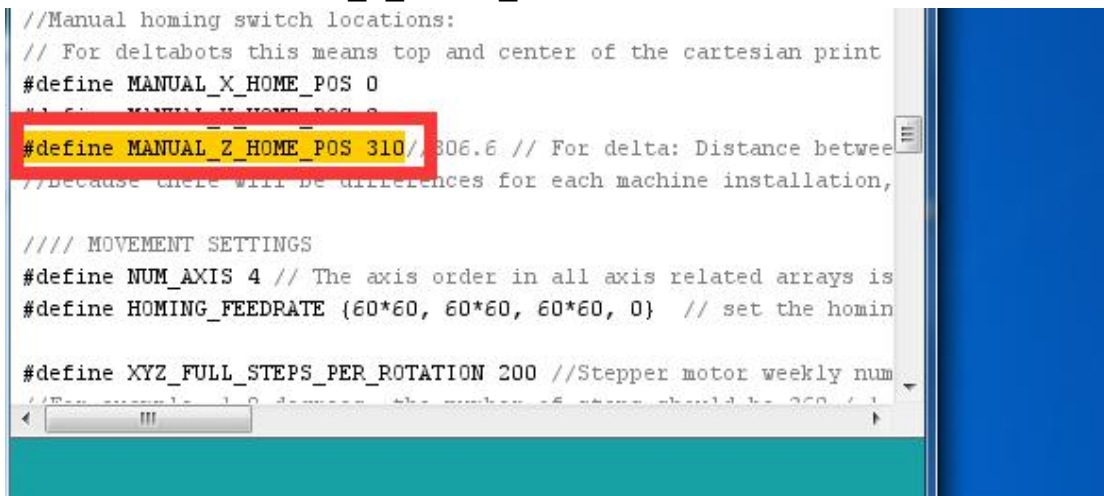
  310mm-11.4mm=298.6mm


```

Disconnect repetier and open marlin/Configuration.h



editor—search: #define MANUAL\_Z\_HOME\_POS

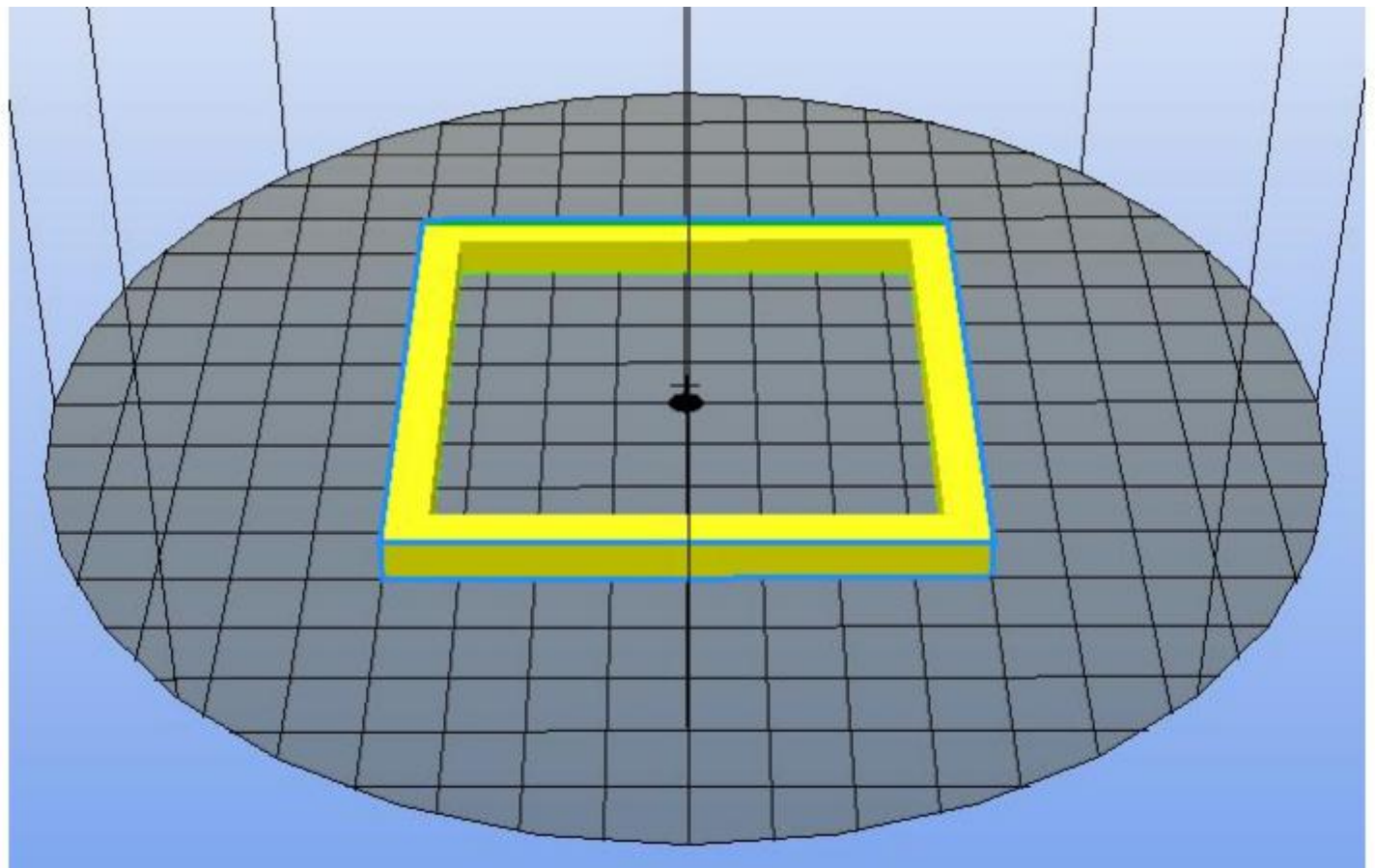
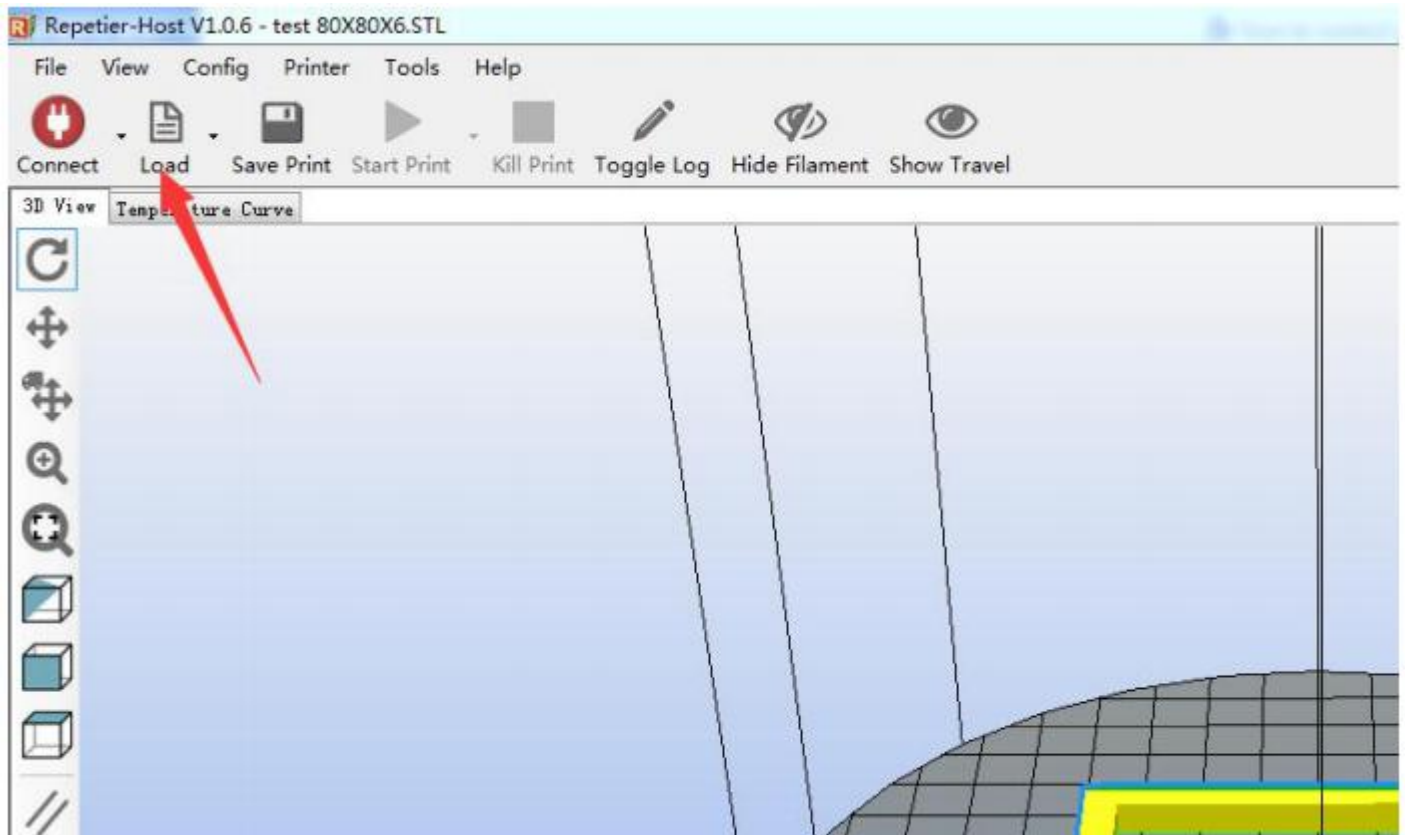


replace 310 with 298.6 then upload, and it's successful to change the new max height from 270mm to 298.6mm, the current max height is 298.6, this is only one example.

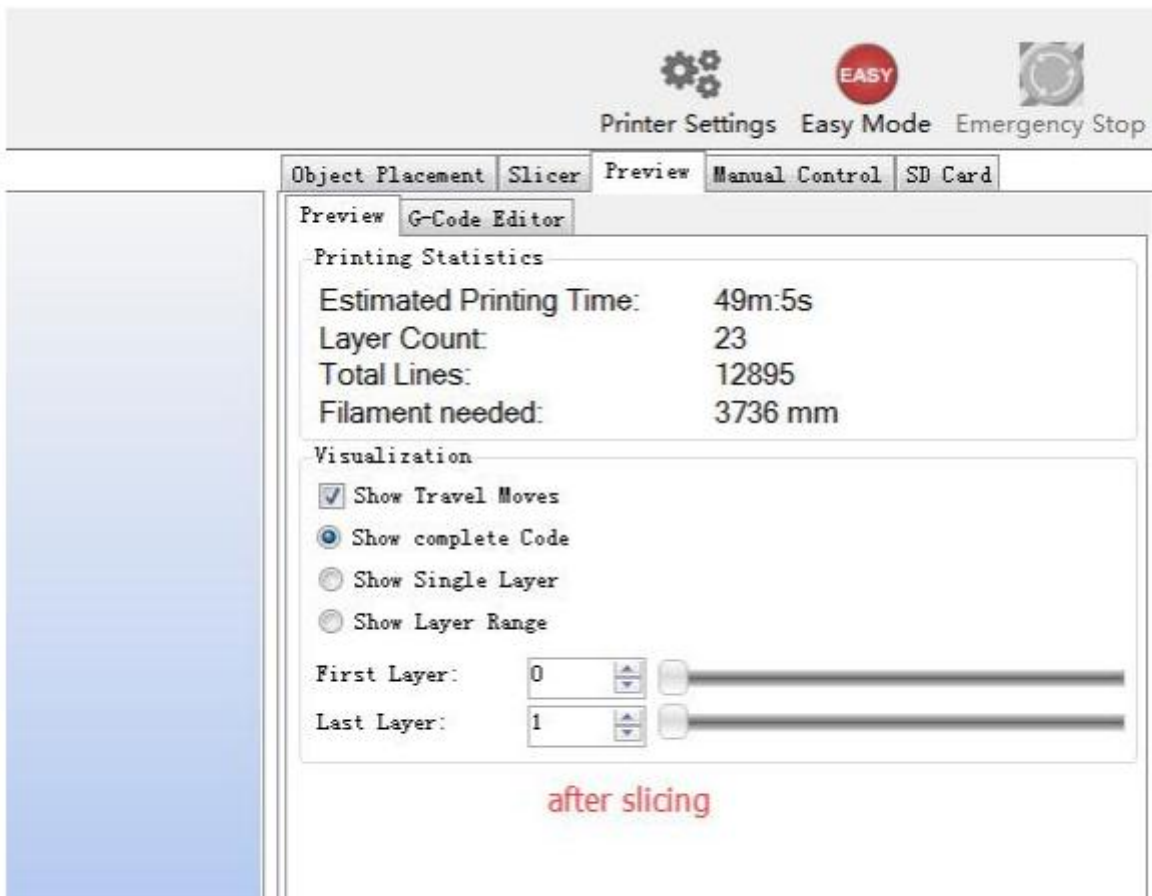
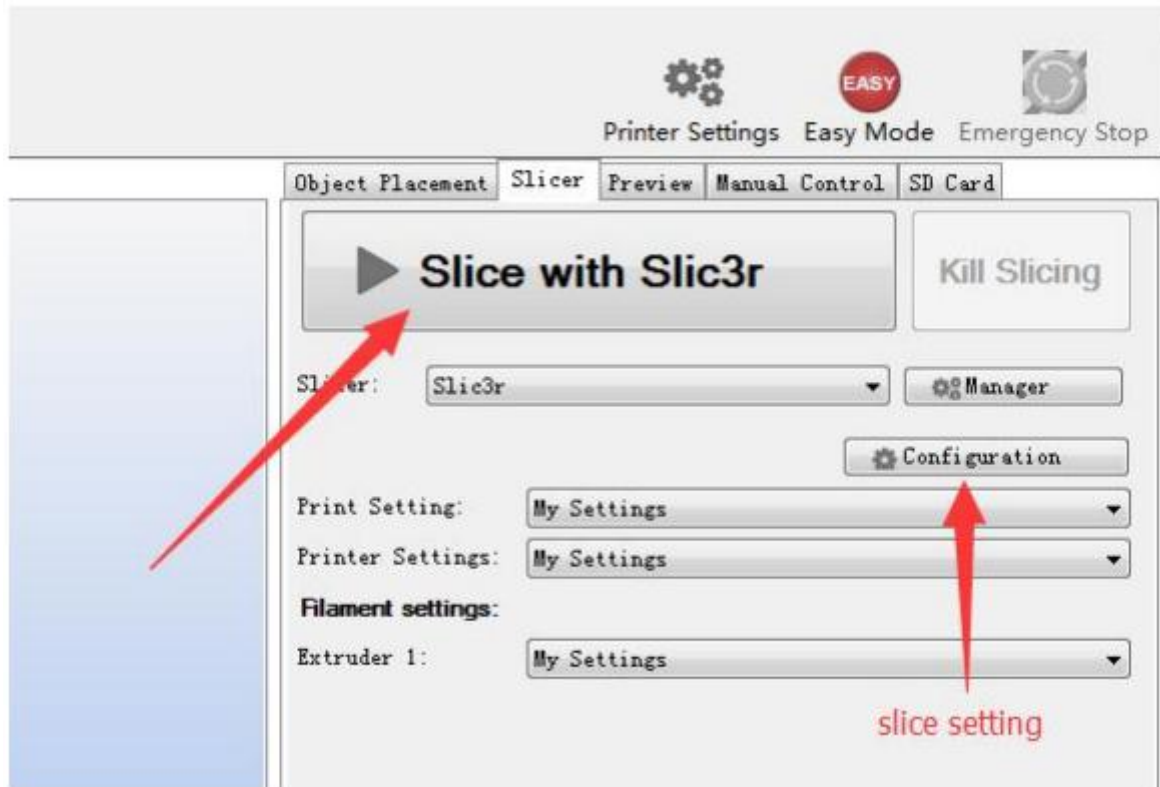


# 4 Offline printing

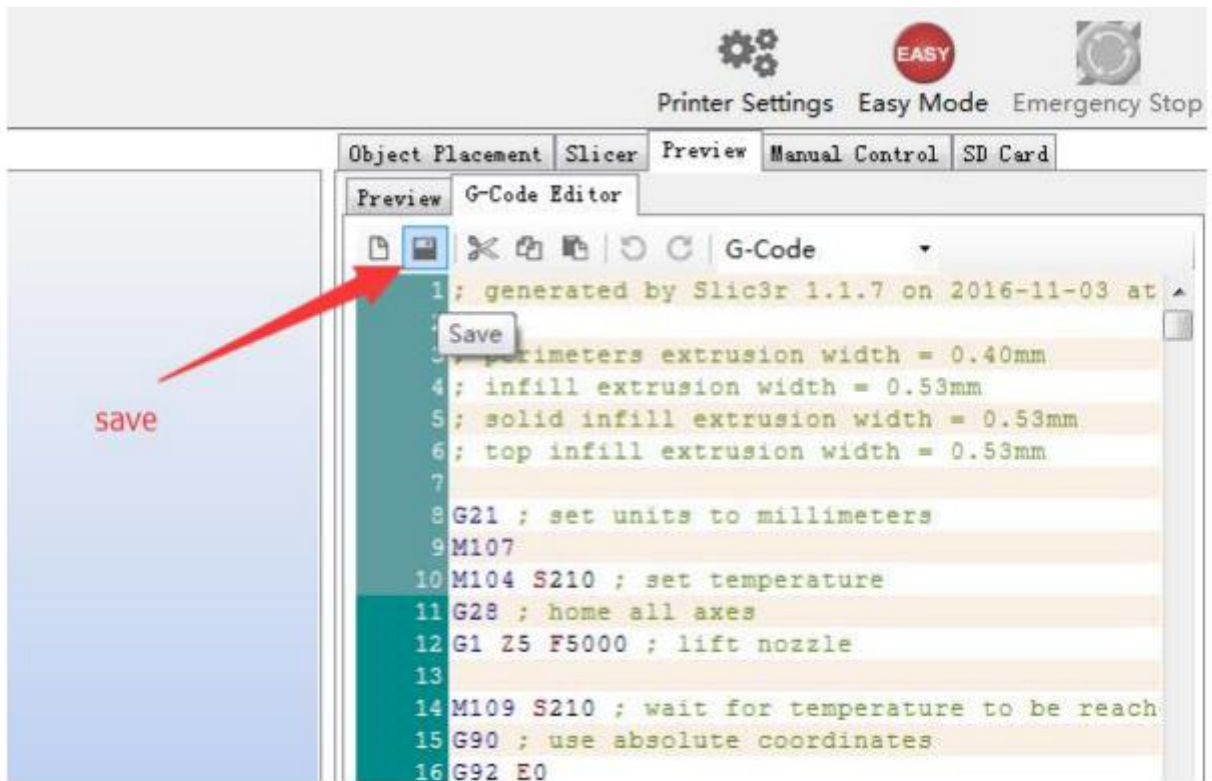
## 1 load the model



## 2 slice



### 3 Export Gcode file



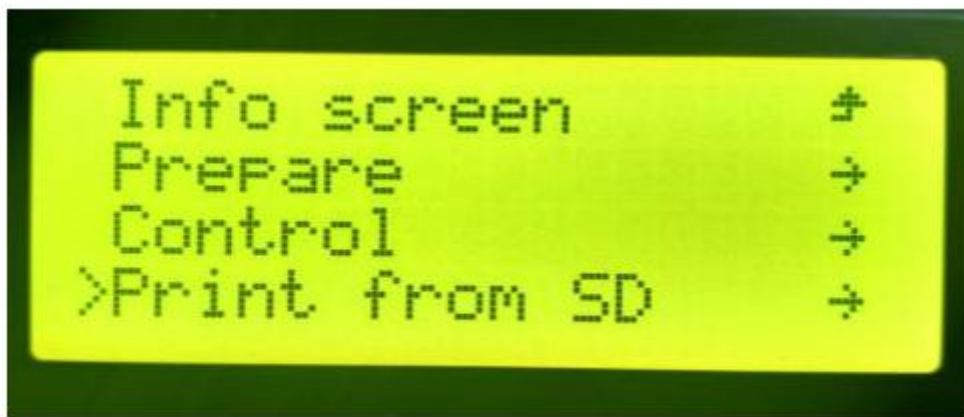


#### 4 Copy

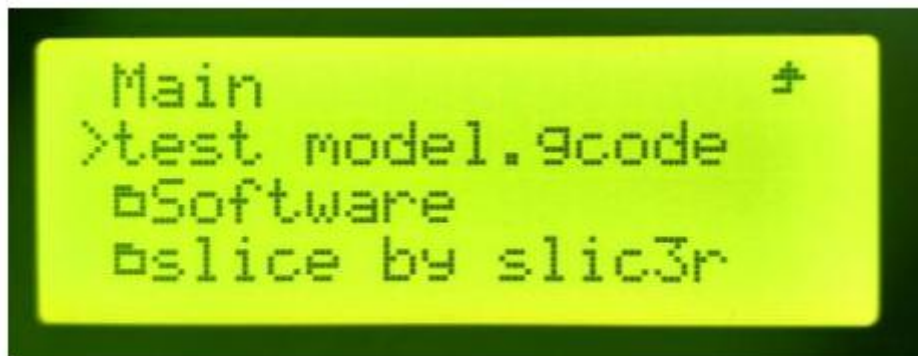
Copy the Gcode file to SD card and insert the SD card into LCD

#### 5 Printing

See "print from SD", choose it and press



See the Gcode file "test model", choose it and press, then start printing



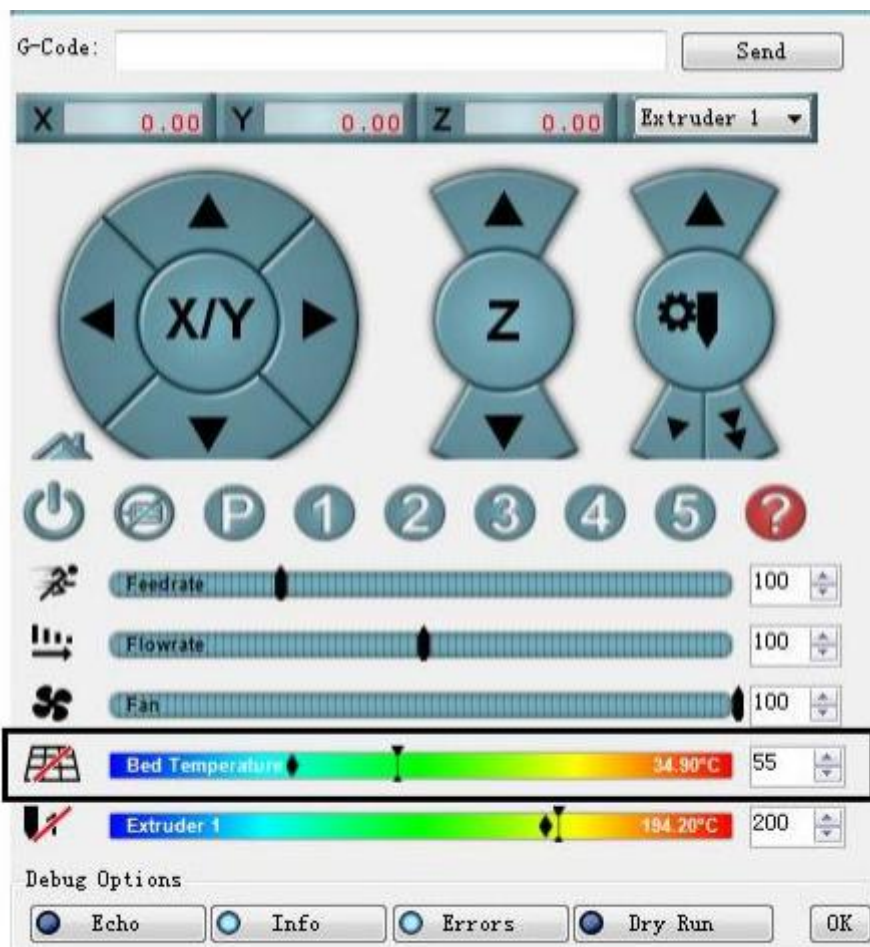
# 5 Heated bed

if use PLA filament,no need open heated bed.

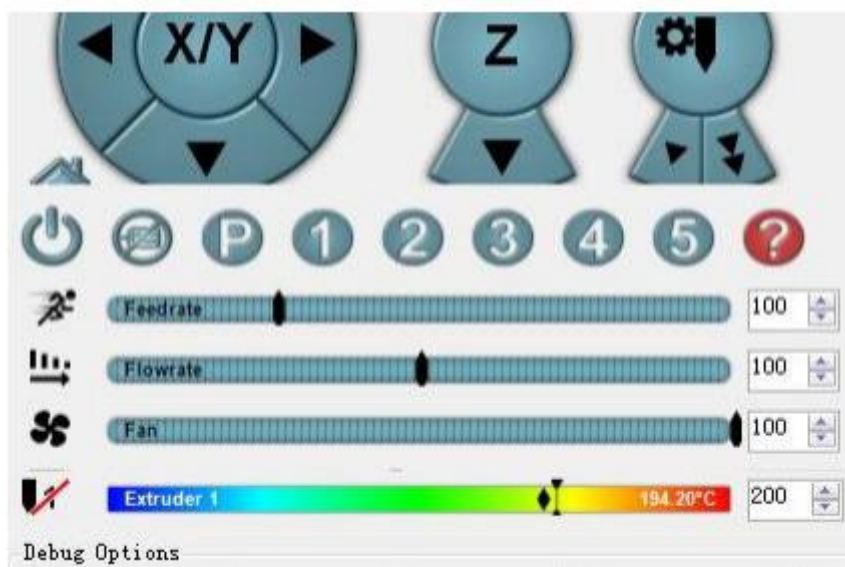
If use ABS filament,need open heated bed, set the heated bed temp 85-100°C

Must connect heat bed line to board heated bed sensor to board.

If use repetier to control the printer, can see heated bed choose,can set heated bed temp.



If can not find heated bed choose,only show as the follow picture





Pls open the firmware, find the word “#define TEMP\_SENSOR\_BED 0”, Modify 0 to 1, then be “#define TEMP\_SENSOR\_BED 1”. after this, flash the firmware to board again, then can see the heated bed choose.

```

文件 编辑 项目 工具 帮助
Marlin Configuration.h $ ConfigurationStore.cpp
// 10 is 100k RS thermistor 198-961 (4.7k pullup)
// 60 is 100k Maker's Tool Works Kapton Bed Thermister
//
// 1k ohm pullup tables - This is not normal, you w
//                               (but gives greater accurac
// 51 is 100k thermistor - EPCOS (1k pullup)
// 52 is 200k thermistor - AIC Semitec 204GT-2 (1k pull
// 55 is 100k thermistor - AIC Semitec 104GT-2 (Used i:

#define TEMP_SENSOR_0 1
#define TEMP_SENSOR_1 0
#define TEMP_SENSOR_2 0
#define TEMP_SENSOR_BED 0

```

modify



```

文件 编辑 项目 工具 帮助
Marlin Configuration.h $ ConfigurationStore.cpp
// 10 is 100k RS thermistor 198-961 (4.7k pullup)
// 60 is 100k Maker's Tool Works Kapton Bed Thermister
//
// 1k ohm pullup tables - This is not normal, you w
//                               (but gives greater accuracy
// 51 is 100k thermistor - EPCOS (1k pullup)
// 52 is 200k thermistor - AIC Semitec 204GT-2 (1k pull
// 55 is 100k thermistor - AIC Semitec 104GT-2 (Used ir

#define TEMP_SENSOR_0 1
#define TEMP_SENSOR_1 0
#define TEMP_SENSOR_2 0
#define TEMP_SENSOR_BED 1

```

3, if can not heat the heated bed, can check as follow advice.

1), check whether the switch power have problem or not, see the green light on the switch power, if have multimeter, test the voltage output.

2), connect the heated bed power supply line (black and red line) to 12 V switch power directly, to touch the heated bed, check whether the heated bed can hot or not, if can heat, then the heated bed is no problem.

Actually, the heated bed can connect to 12V switch power directly and no connect to motherboard when working.

3) , pls check whether the heated bed temp sensor connect to board ok or not.

also can connect the nozzle temp sensor to heated bed temp sensor port to check whether the heated bed temp sensor have problem or not.

# 6 Problem and advice

## 1. The computer can not install arduino and other software

this situation often occur in the windows10, you can download Arduino1.6.1 online, pay attention to the correct version.

## 2. The computer can't installed the drive

first enter the device manager to find the port item, double-click the unknown device port (unplug the motherboard, the port disappears, connect the motherboard, the port appears, the port is the printer port), click the 'update driver' button, then click find the driver software the computer ', and then in the 'Browse 'to find your driver address, the next step, that's ok.

If you connect the motherboard and computer, in the device manager port, nothing did appear, there may be a problem with the motherboard, please contact us

## 3.marlin upload failed

Marlin toolbar configuration may be wrong, the board (2560), processor (2560), port (2560), programmer (USBtinyISP) need to select the right

Repetier connection is not disconnected

Arduino don't be installed on right location ,don't be installed in C drive

arduino version wrong, the correct version is 1.6.1

## 4.repetier interface nozzle temperature is 0, the display shows "MINTEMP"

Nozzle temperature sensor / white line in the motherboard slot inside the loose, another direction to tighten

may be the nozzle temperature line / white line is broken, measured with a multimeter,the resistance is 100K, you can also insert the hot bed temperature Sensor into the nozzle temperature sensor slot to check.

## 5. There is no heating function for the hot bed

There is no heating function for the hot bed at the repetier interface, or 0 for the repetier hot bed  
Modify marlin parameters on the hot bed and then upload (refer to the instructions attached)

## 6 hot bed can not be heated

if temperature sensor can not read the temperature hotbed can not be heated, you can use a multimeter to check the white line is normal or through the exchange of the nozzle white line test

if there is a problem with the power supply you can not heat the hot bed ,then you can detect whether the power supply output voltage is 12V by a multimeter or whether power indicator light

shine (the premise is to ensure that the customer's state voltage is 220V)

may be a hot bed is broken, hot bed directly connected to the power supply to check whether it can be heated

motherboard may be a hot bed slot is broken, with a multimeter to detect whether the voltage is 12V

### **7. The hot bed can be heated but not reach the specified temperature**

Under normal circumstances can be heated below 100 degrees, and can not be more than 100 degrees is the power of the current / power is too small, you can recommend customers to change a greater current / power, such as 12V / 30A

very low temperature can not reach, such as 50 degrees, 70 degrees, 90 degrees this is the hot bed problem, can directly connected hot bed and the power to detect.

### **8 Motor does not operate or does not work properly**

When enter G28 ,there is motor not working / the shaft does not rise, it may be the axis above / corresponding to the limit switch is broken, manual closing switch input M119 If repetier the following information bar always shows "triggered" /don't display "open" Then this switch is bad, or use a multimeter to test whether the switch on the motherboard slot has a 5V output voltage

can ask the customer if the other machine function is normal, such as G28, fans, heating head, if only g28 can be used, other instructions can not be used, may be using a different version of the repetier, the correct version is 1.0.6

LED indicator on the board does not shine, does not light show the motherboard no voltage ,so may be the motherboard problem

measure the output voltage of the power supply, if the output voltage is 12v ,that is normal, there is no output voltage or output voltage is low will cause the motor does not work.

motor vibration, a lot of noise, this is because the motor voltage is not right, you can measure the voltage on the motherboard port, 0.5v is normal, you can also measure the power supply output voltage, the output voltage will cause this situation.

Extruder does not work, in the repetier interface, you need to enter m302. If the extruder does not turn during printing, there may be no voltage on the motherboard port, or the motor is broken.

If you are not effective you can re-upload marlin

### **9. Leveling issues**

If auto leveling starts in mid-air, it is because the auto-leveling limit switch is not plugged in or broken. Input M119 Check repeteir information bar z min switch status, open normal / triggered is not normal, may be effector are not flexible ,After switch be triggered can not be rebound to the initial position of the effector, switches may be broken (regardless of whether the switch is triggered or not "Triggered" means the switch is broken

If when leveling you found the center of hotbed is higher than around, because the nozzle is not caused by the surface movement, you can modify the marlin to change the curvature. See the leveling tutorial for more information

### 10. Printer filement are not discharged

may be filament in the nozzle blocked, then open the nozzle to inspect

It may be that the filament are stuck in the extruder, check if the filament is too wide to cause the filament can't pass through the extruder.

Check whether the extruder is working normally, and at the same time, feel whether the consumable at the feed inlet is in.

Check repetier parameter configuration (please refer to instruction manual)

**11.If there problems with auto leveling and nuzzle collides to the hotbed, you can adjust the two screw on the effector as follows:**

