

A-Box 3D Printer Manual V1.1



Bigger Size, Smarter Choice

- * Dream Bigger, Print Bigger
- * Your Ideal Printer at Affordable Price
- * Pause Printing, Easy filament Changing
- * Real Time Speed Adjust, You have the Control

Statement

- **This manual consists of important information about printer installation, operation, maintenance and storage, please read it carefully before using and printing.**
- **The company has the right to revise contents related to printers of this model and the manual without noticing customers.**
- **The company is not responsible for printer damages caused by violation of this manual, including damages caused by printing or publishing errors of the manual.**
- **Any company or anyone is not allowed to revise print, copy or translate this manual without our permission.**
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Using Instructions and Important Safety Considerations

During printing process, do not touch power cable or USB cable, do not pull out SD card, or printing will be stopped.

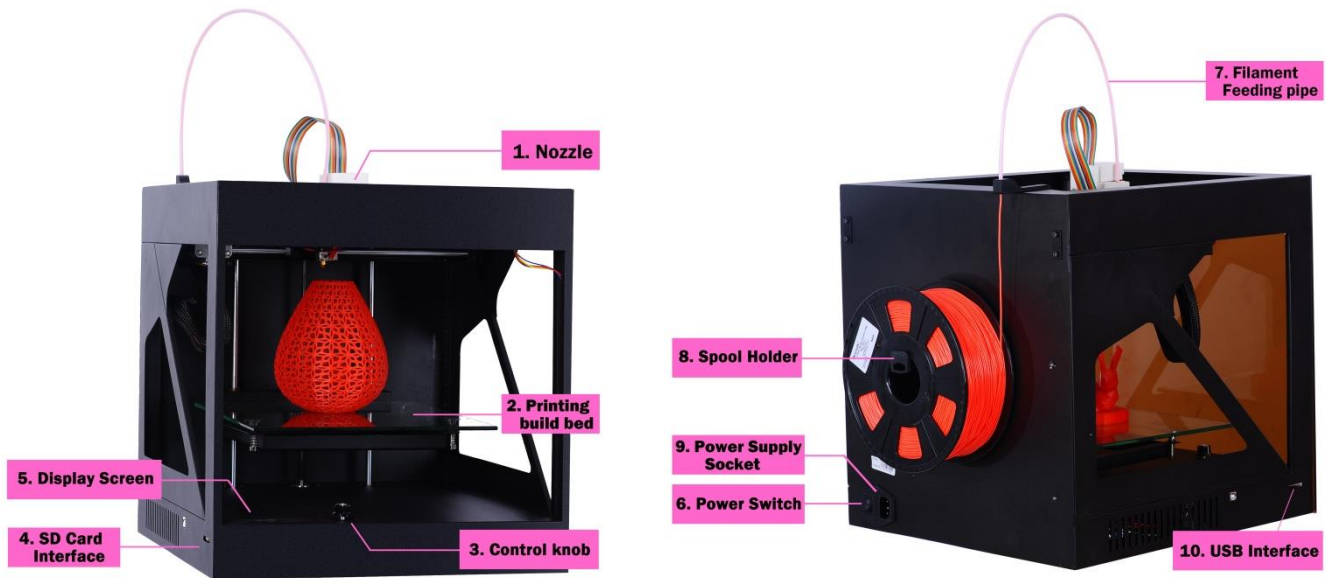
If extruder does not extrude, please do not heat it for long time, or nozzle may be blocked.

While testing printer, print filament will be extruded out from nozzle, please keep nozzle at least 50mm away from printing build bed, or nozzle may be blocked.

- **Please do not use the third party software to update firmwares of this printer, or printing can not be conducted with the software provide by our company.**
- **Please do not change parameter settings of printer, or printer may not work properly.**
- **Please do not reach your hand onto build bed while heating or using extruder, or you may be hit or burned by moving components.**
- **Please do not put or use printer in dusty, highly humid or strong sunlight environment.**
- **Please do not put printer on an inclining platform, or printing effect may be affected, printer may fall, get damaged or break other things.**
- **Please do not uninstall model from build bed without wearing protective gloves, or you may get burned or scratched.**

1. Product Introduction

1.1 Product Introduction



1. Nozzle 2. Printing build bed 3. Control knob 4. SD Card Interface
5. Display Screen 6. Power Switch 7. Filament Feeding pipe 8. Spool Holder
9. Power Supply Socket 10. USB Interface

1.2 Product Parameters

Build Volume: 210mm*180mm*200mm (L*W*H)

Layer Resolution: 0.05-0.4mm (suggest 0.1-0.2mm)

Printing Speed: 30-300mm/S (**Recommended Range:** 40-100mm/S)

Filament Diameter: 1.75mm

Consumable material type : PLA/Flexible/WOOD/HS/Pearl/Elastic

Product Net Weight: 12kg

Product Gross Weight: 15kg

Product Volume: 370 * 400 *390 mm (L*W*H)

Package Volume: 467*457*470mm (L*W*H)

Slicing Software: Cura

Printing format: .gcode

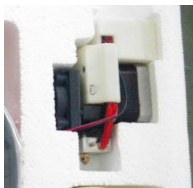

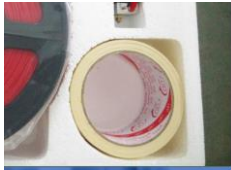


Connectivity: USB2.0 / SD flash drive

Operating System: Windows XP/7/8, Mac OS

Interface language: English

Extruding Temperature: 180-260°C

Operation Environment**Operation Temperature:** 5°C ~35°C, **Relative Humidity:** 30% ~90%**Electrical Parameters****Power Input:** 100~240V AC, 1.5A, 50/60Hz; **Power Output:** 19V/DC, 4.74A**Maximum Power:** 120W**2. Printer Installation****2.1 Open Package****Accessories List:**

Name	Qty	Note
1. Print Head Set	1 set	
2. Printing Filament	1 roll	
3. Build Bed Sticker	1 roll	
4. Front Decoration Plate (A1)	1 piece	
5. Glass Build Bed (A2)	1 piece	
6. Tool Box	1 set	SD card, screws, diagonal pliers, small wrench, flat shovel, power cable and data cable.

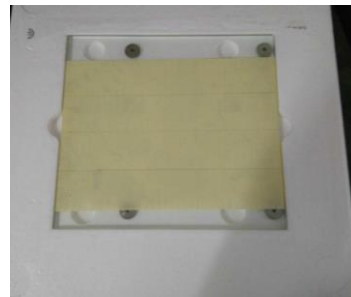
A. Open package.



B. Take out acrylic.



C. Take out glass build bed.



D. Take out fixing part of X-axis: move it toward arrow direction, then take it up and out.



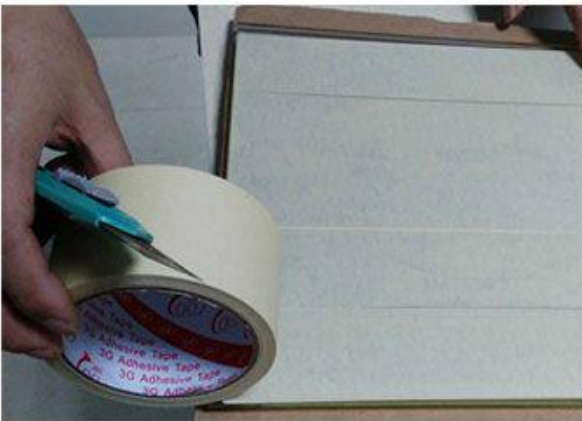
E. Take out accessories.



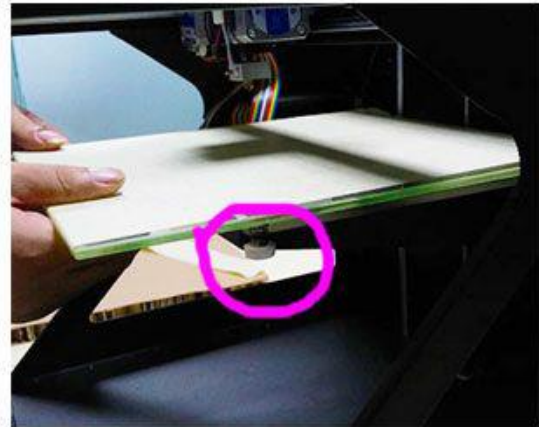
2.2 Installation of filament disk and build bed: Take out spool holder from accessory bag and fix it in installation hole on the back of printer, as shown bellow.



Take out glass build bed, masking tape and knife, tape the whole glass build bed with masking tape, as shown below; hold glass build bed with its four corner holes aiming at screws, then press build bed to the bottom and make it even.



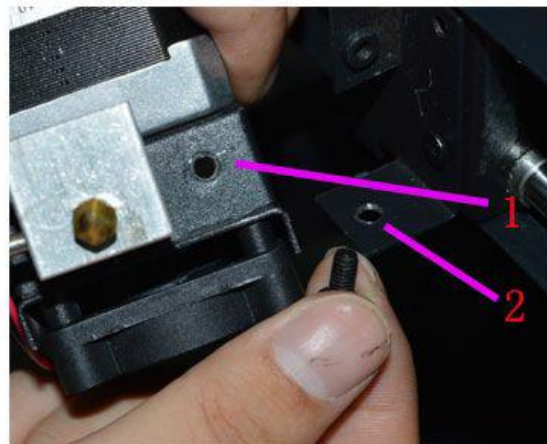
Tape the whole glass build bed with masking tape.



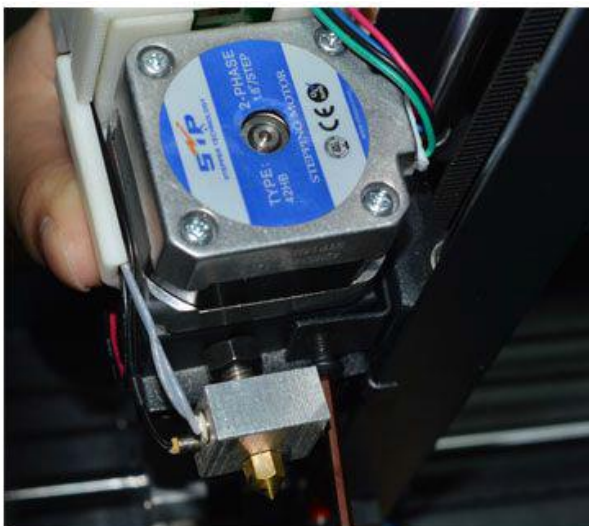
Aim to the screw hole and press to the bottom.

2.3 Print Head Installation

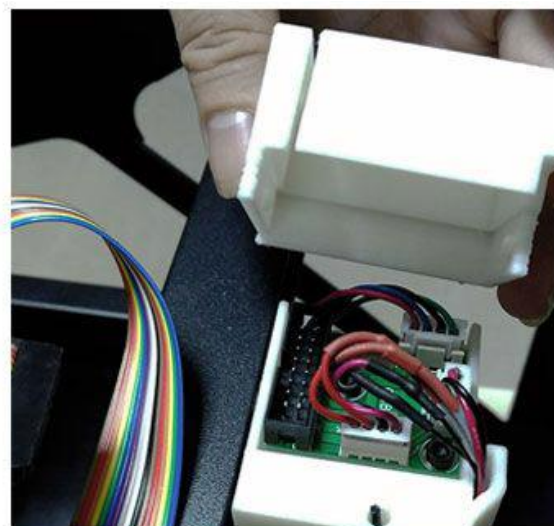
Take out print head set and tools. Stuck print head in sliding rail, aim screw hole which is on the bottom of print head to the screw hole on stuck piece of sliding rail, install screw from the bottom, as shown below.



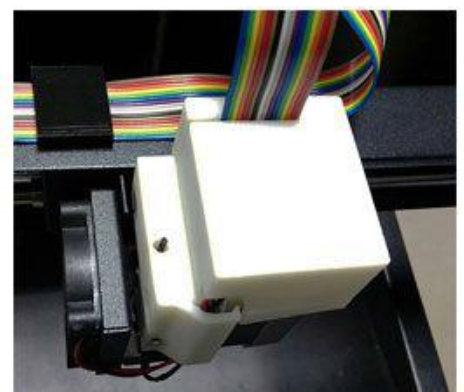
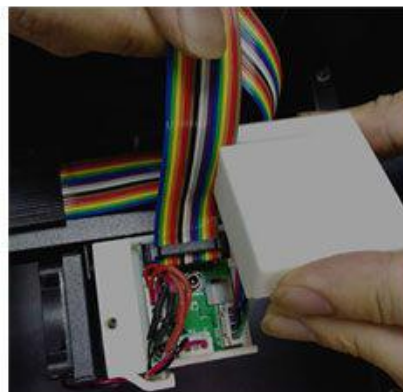
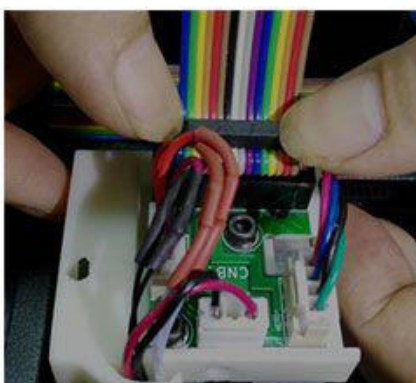
Take out print head set and tools. Stuck print head in sliding rail, aim screw hole which is on the bottom of print head to the screw hole on stuck piece of sliding rail, install screw from the bottom, as shown below.



Tighten up screws and fix print head.



Remove print head cover, as shown below.




Use both hands to insert print head cable into location as shown below. Stuck cable inside of cover and fasten cover. Installed print head is shown as below.

3. Software Installation

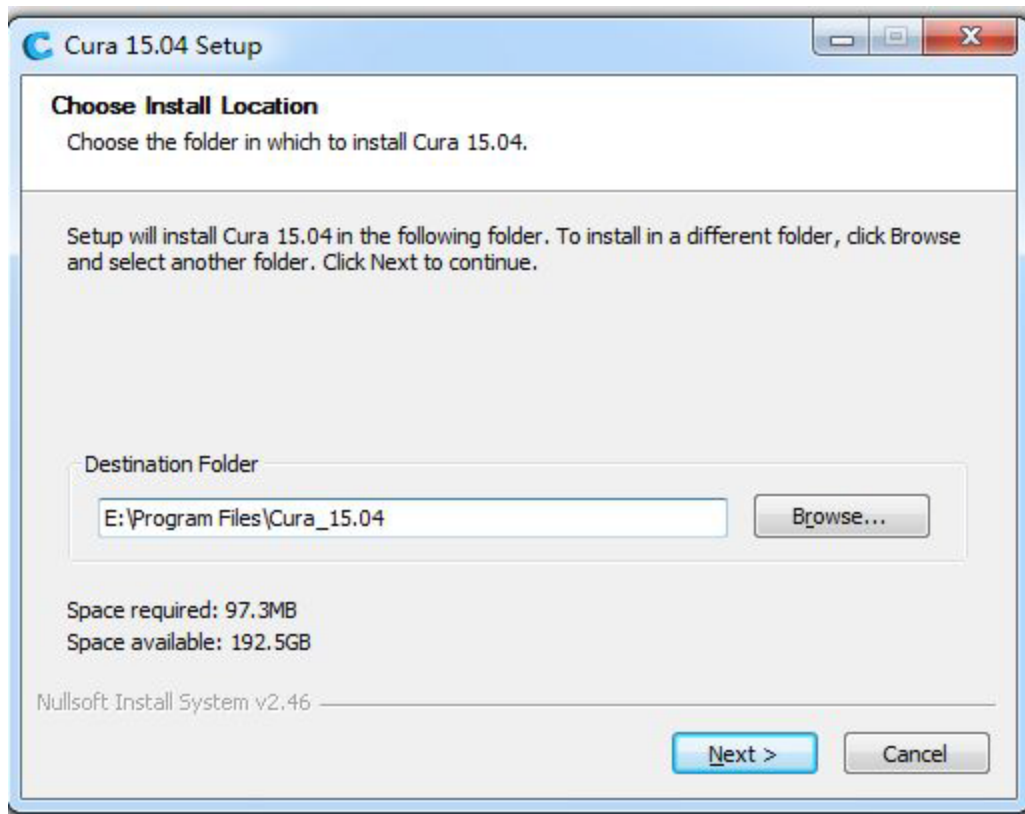
Before installation: To see SD card for Cura 15.04 Version, please copy it to your computer and then install it, do not update the version after installation is completed.

Click Cura Installation Program.

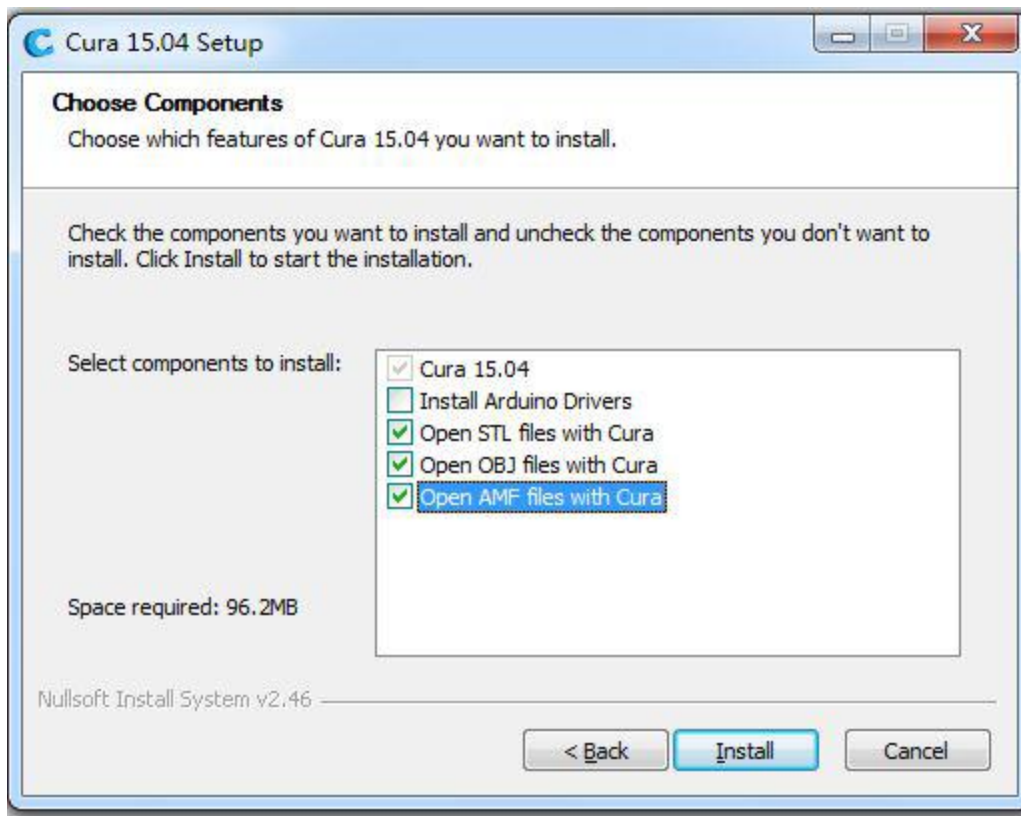
(This manual is designed for Windows operating system interface, OS users need to refer corresponding operation.)

 Cura_15.04.exe

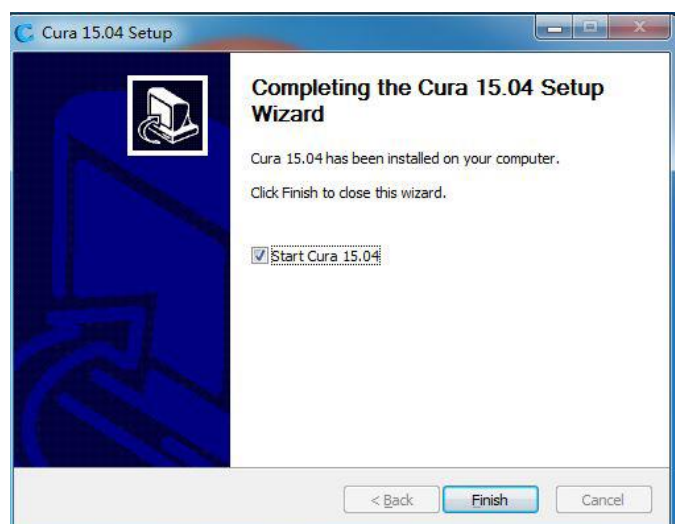
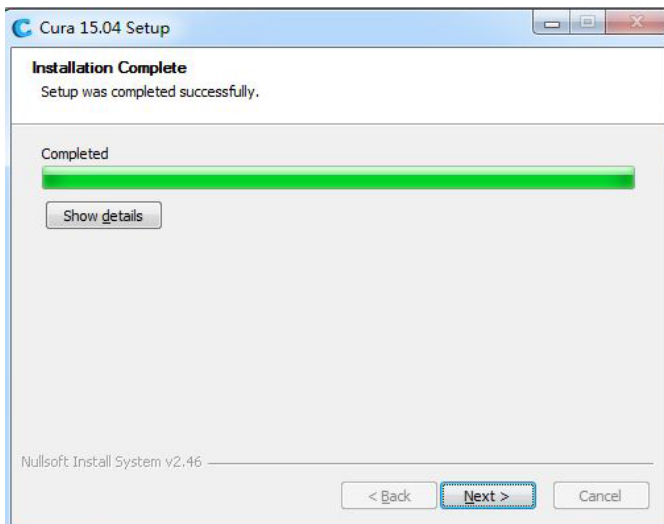
Set path on Pre-Installation Window: you'd better install it in English directory, please do not name it in Chinese.



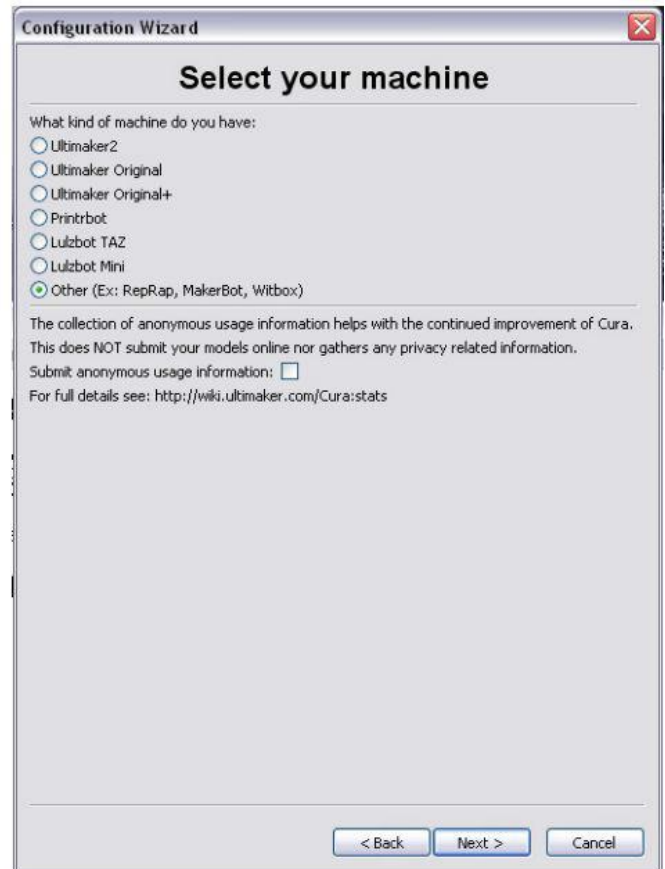
Select needed formats (STL is a commonly used format).



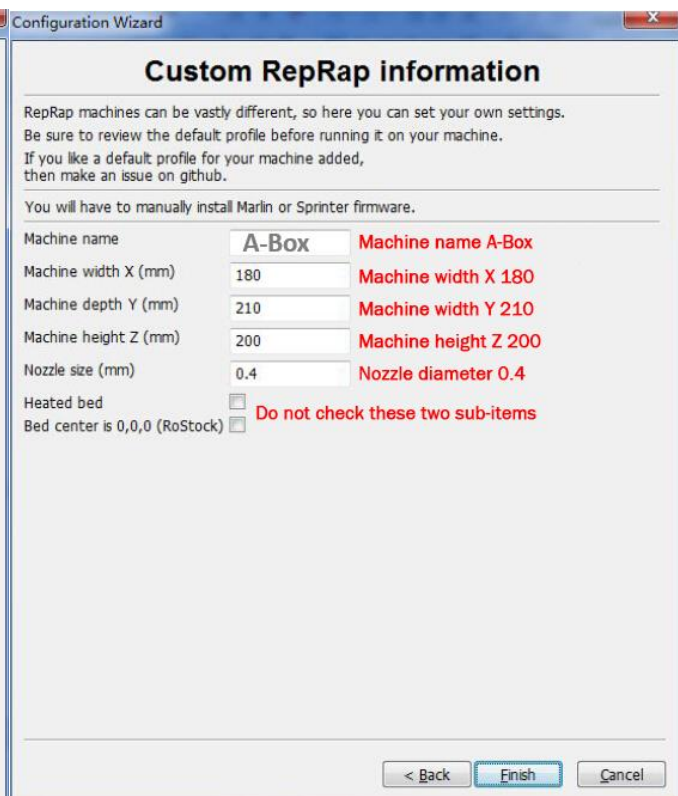
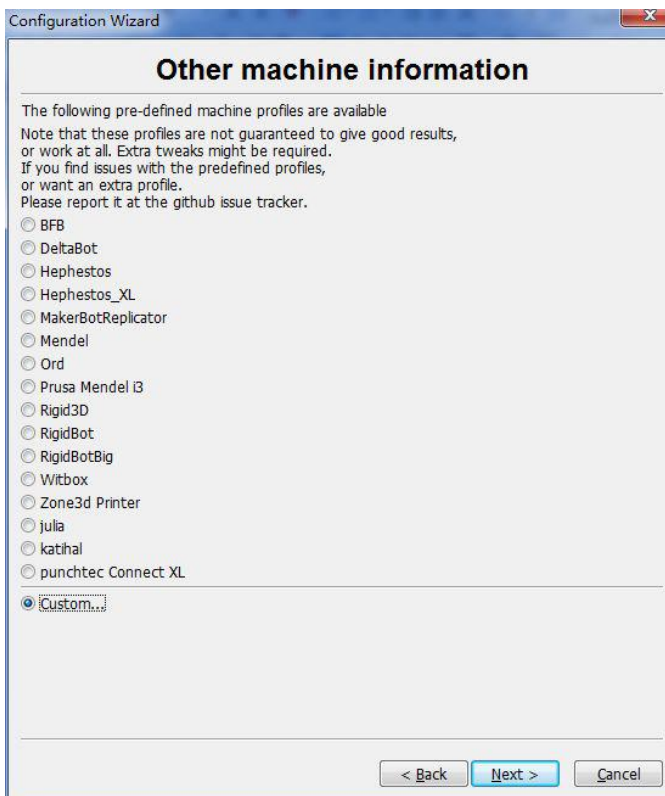
Click “Finish” after installation is completed and start Cura software.
(Installing Driver Window may pop up during installation, click “Install” to continue.)



Select “English” for language, select “Other” for machine, then click “Next” to continue.



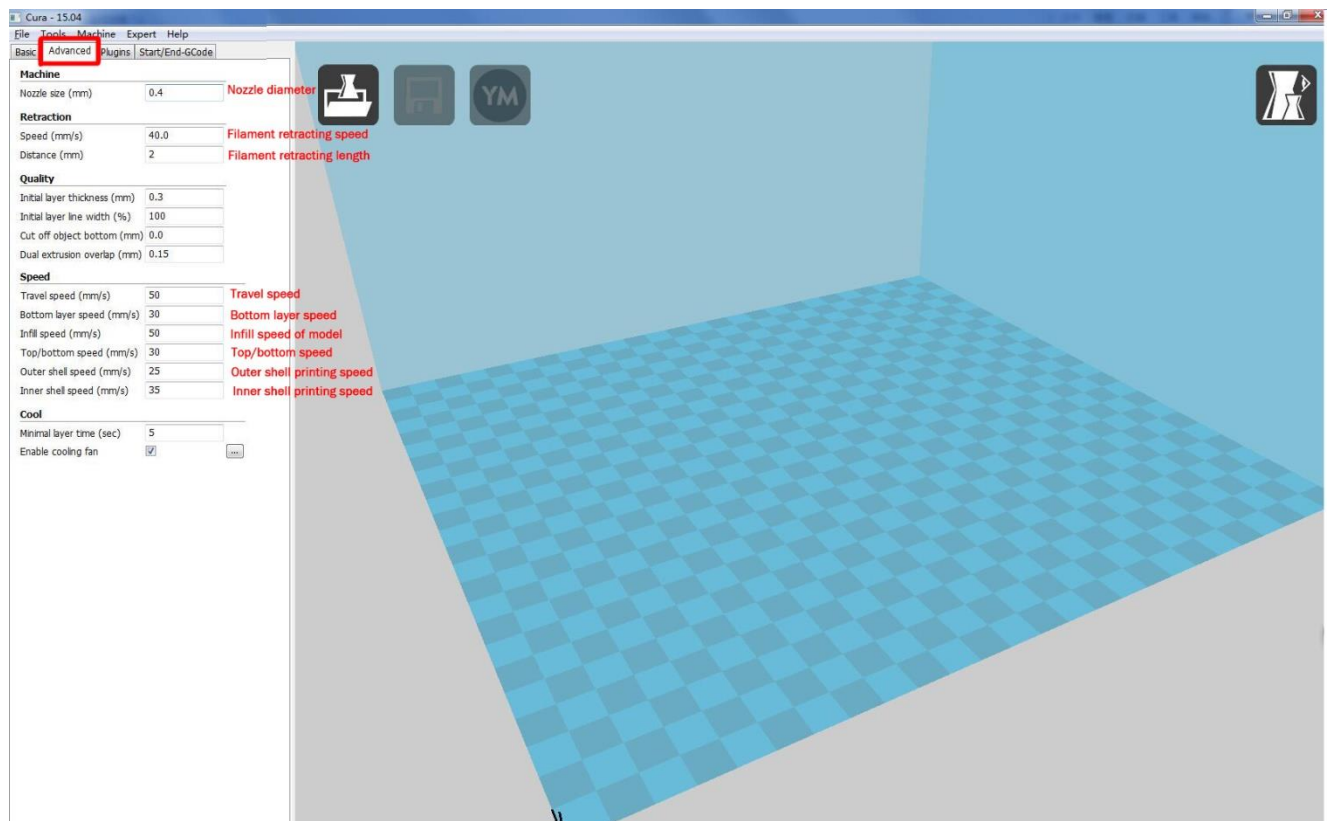
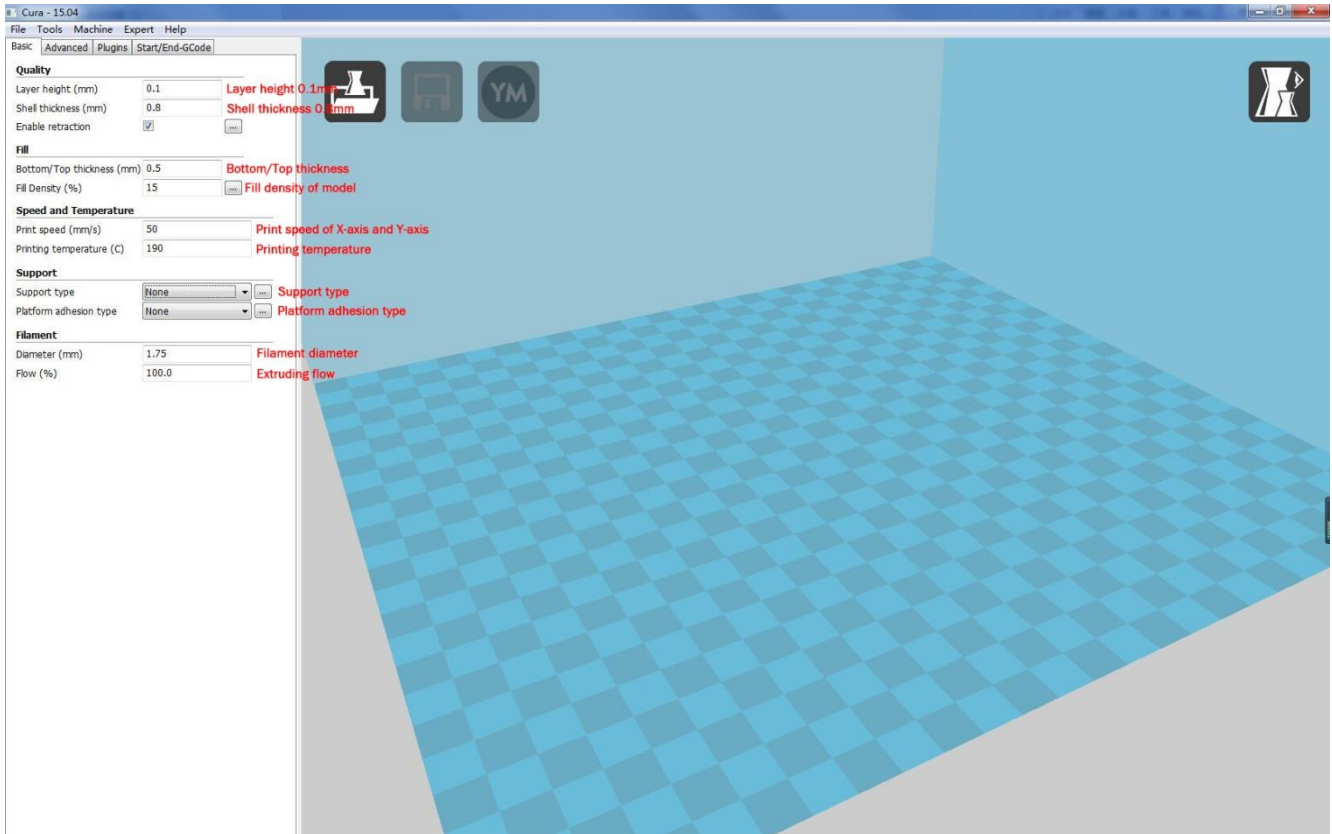
Select “Customer” and input parameters as shown below, click “Finish” to enter main interface.



4. Software Settings

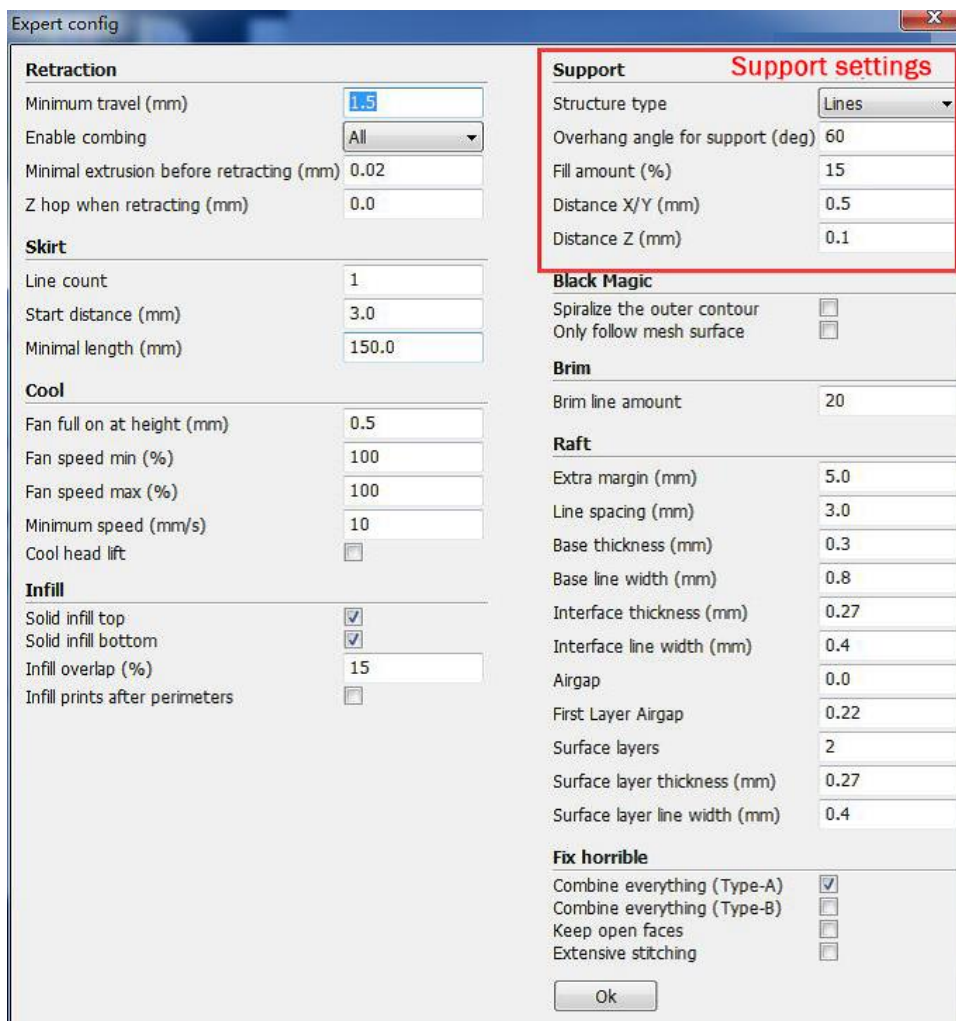
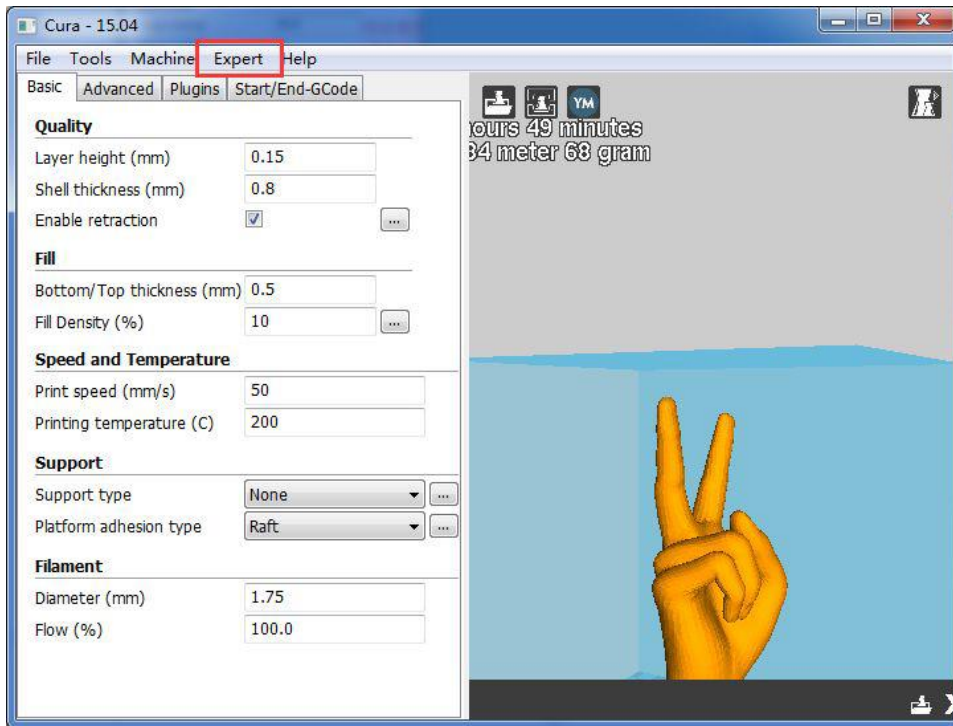
Set parameters on main interface and maintain defaulted settings for unmarked parts, as shown below.

(Following are defaulted software settings, experienced users can change them as they need.)



About Expert Support Settings

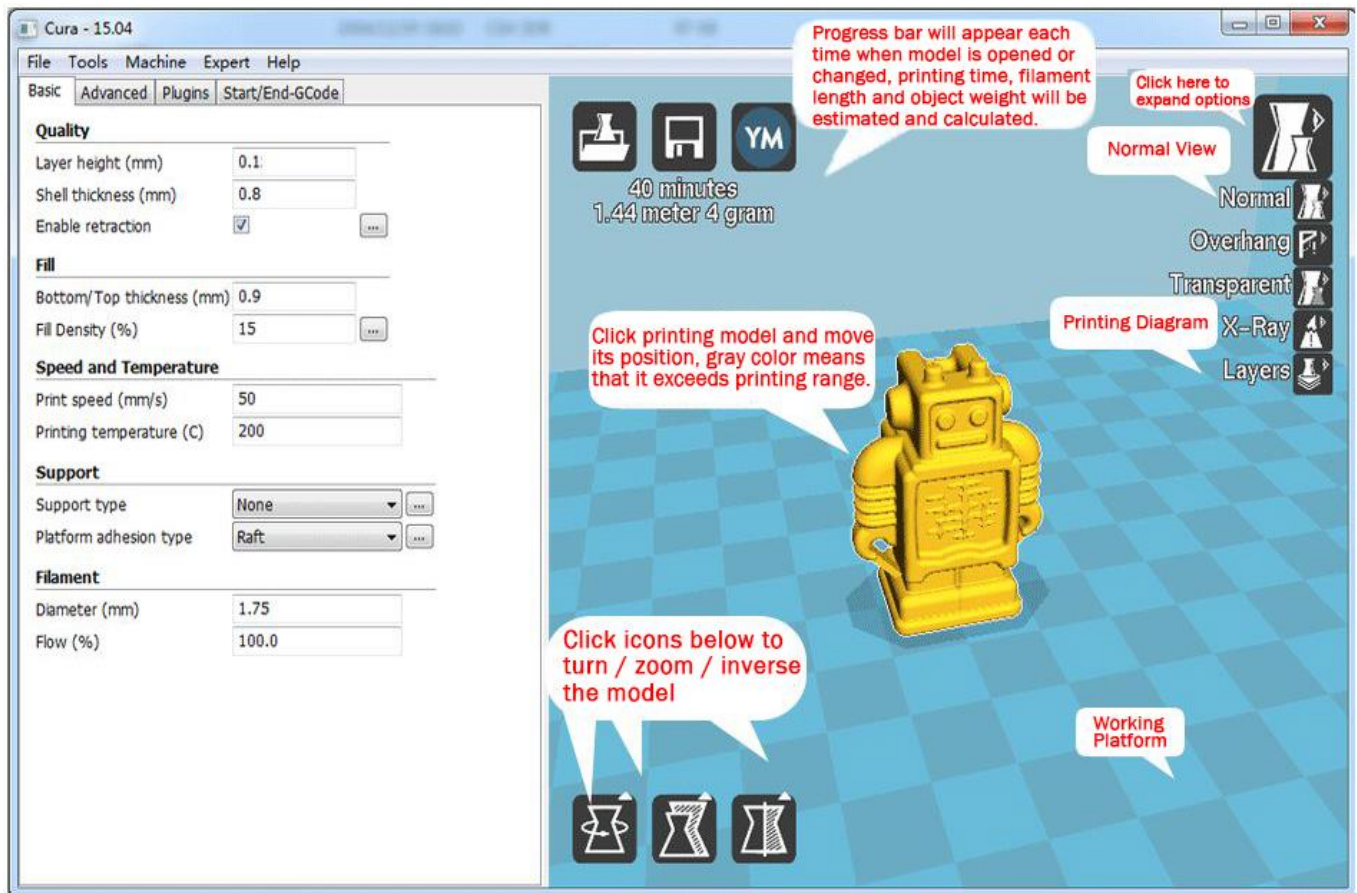
Click “Expert” and enter expert menu, click “Open expert settings” and change support settings.



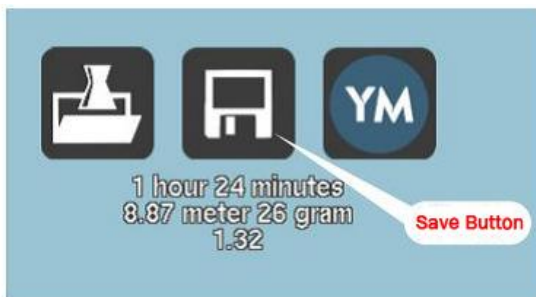
All settings are finished, connect your computer to printer and carry on next step.

5. Software Operation

Drag model file onto build bed Window, G-code will be formed automatically.



For off-line printing, save G-code file in SD card, then insert SD card into operation panel and directly conduct printing on operation panel.



When SD card is not inserted in the computer, click this button to save G-code file in the computer.



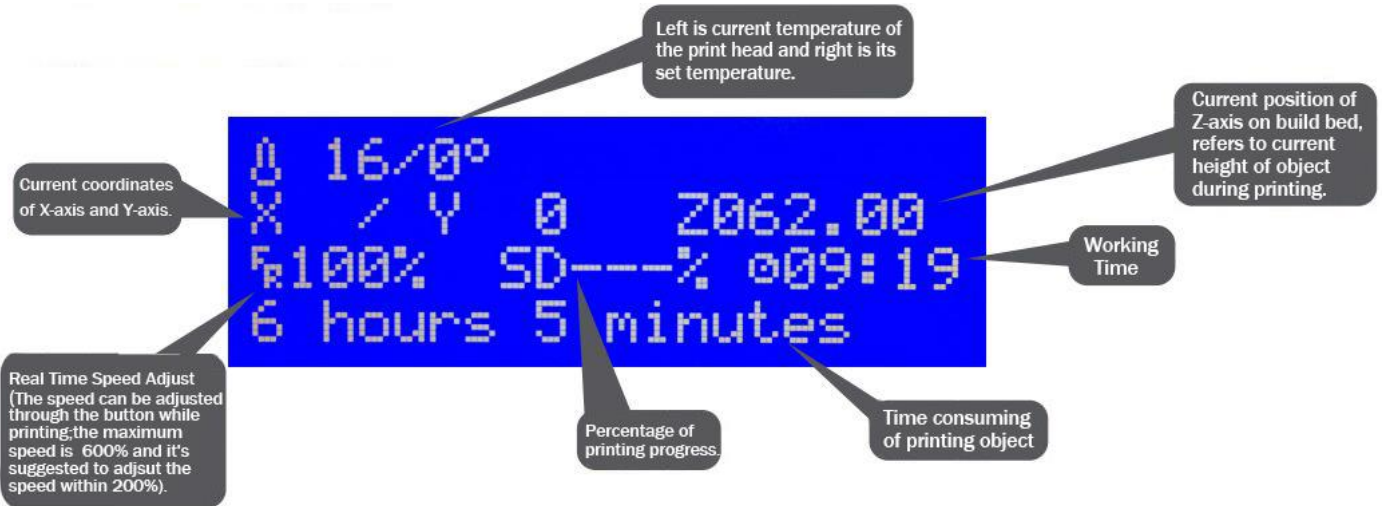
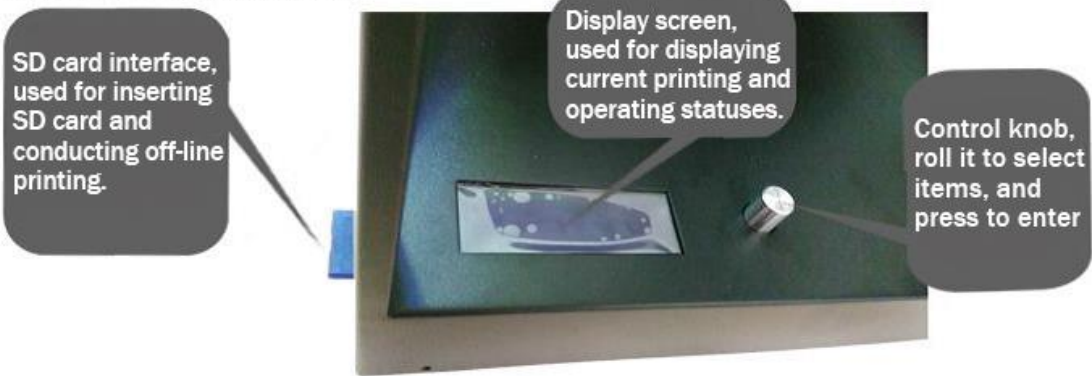
When SD card is inserted in the computer, this button automatically turns into "Save into SD card".



When the computer is connected to the printer, this button automatically turns into print icon, click it and enter printing interface.

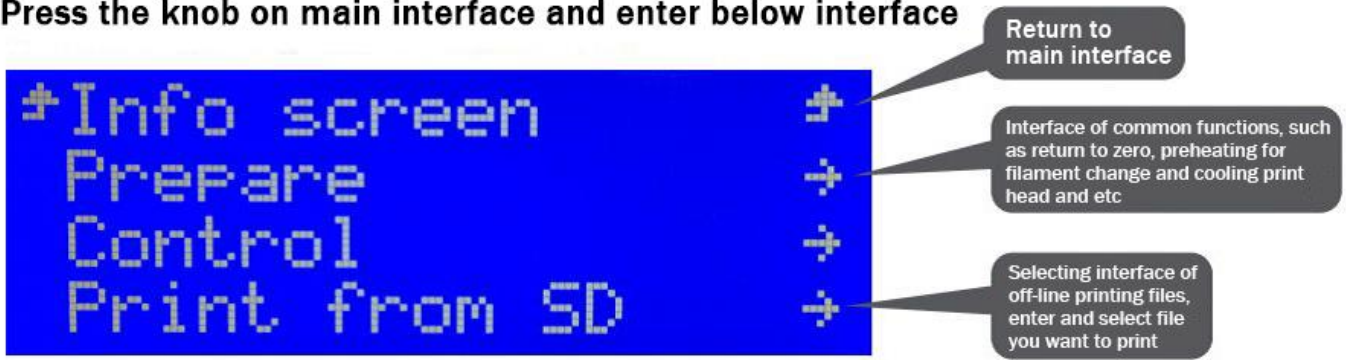
6. Operation Panel

Display screen and SD card interface are on lower left of the printer [inner side of the printer]



Basic operation on control panel

Press the knob on main interface and enter below interface



Interface Introduction of Common Functions

The screenshot shows a blue background with white text for the printer's menu. Callouts point to the following options:

- Back to last step**: Points to the '+' icon at the top right of the menu.
- Return X-axis, Y-axis and Z-axis to zero**: Points to 'Auto home'.
- Preheat PLAS filament**: Points to '>Preheat PLA'.
- Cooling print head**: Points to 'Cooldown'.
- Manually move X-axis, Y-axis and Z-axis**: Points to 'Move axis'.

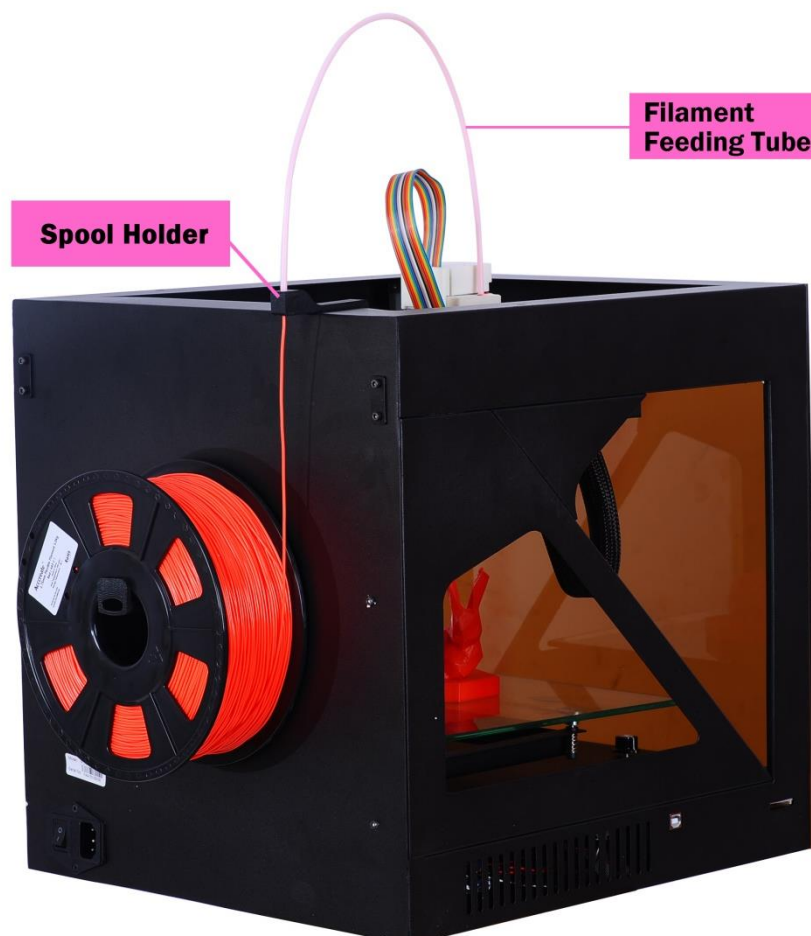
Red text descriptions are provided for several functions:

- Return X-axis, Y-axis and Z-axis to zero**: If X-axis, Y-axis and Z-axis return to zero, mechanical movement of the printer will be turned back to original point, this operation needs to be done before leveling build bed.
- Preheat PLAS filament**: Usually used while changing printing filament.
- Cooling print head**: Used for compulsorily stopping heating print head, pausing printing or other times when print head needs to be cooled.
- Manually move X-axis, Y-axis and Z-axis**: Used in leveling build bed or testing printer operation.

7. Start Working

7.1 Load Filament

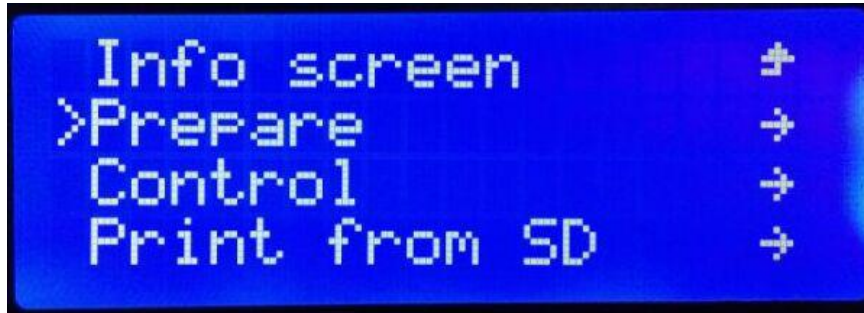
Take out filament feeding pipe and spool holder, install them on printer shell; open filament package, cut off curve filament beginning, press about 10cm of filament straight, transport filament into filament feeding pipe till it goes into the hole which is on top of print head, as shown below:



7.2 Print Filament Test 【take PLA for instance】

Connect power supply, turn on printer, operate on operation panel, insert print filament into white filament feeding pipe till it goes into print head.

7.2.1 Operate on display screen, turn knob and enter main menu, turn knob and make “>” move to “Prepare”, and then press down, as shown below.

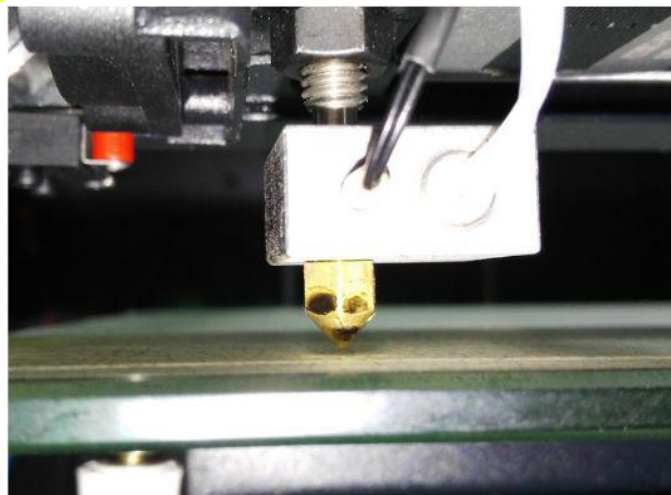


7.2.2 Enter “Prepare” menu, turn knob and make “>” move to “Auto Home”, and then press down, printer operation system resets automatically, as shown below.



7.2.3 After printer resets, if the distance between nozzle and build bed is of soft contact【about as thick as a piece of A4 paper】, then turn off power, freely push extruder with your hands on X/Y direction, if the distance between the whole build bed and nozzle is same, then you can carry on next step, or build bed needs to be calibrated.

Notes: Printer has been calibrated before leaving the factory, but transportation may cause declining of build bed and changing of distance, so build bed needs to be adjusted, check “Maintenance” for specific adjusting method.

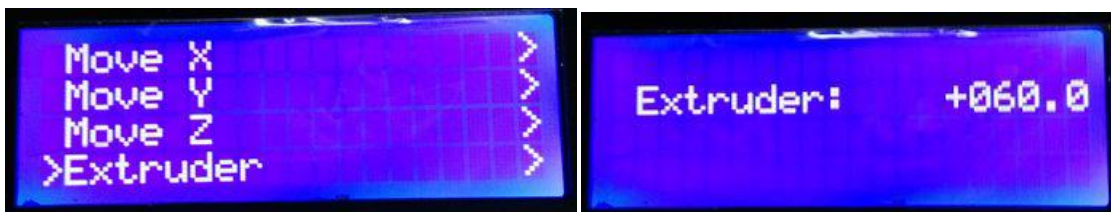
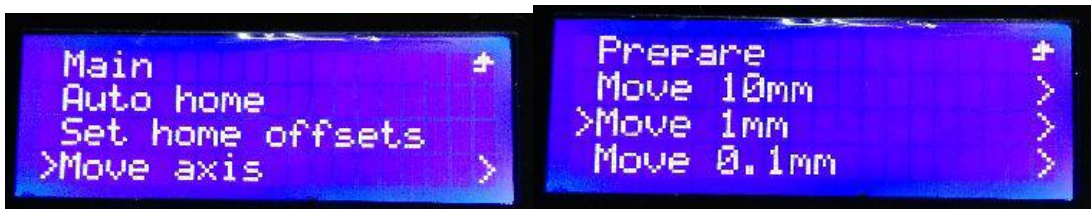
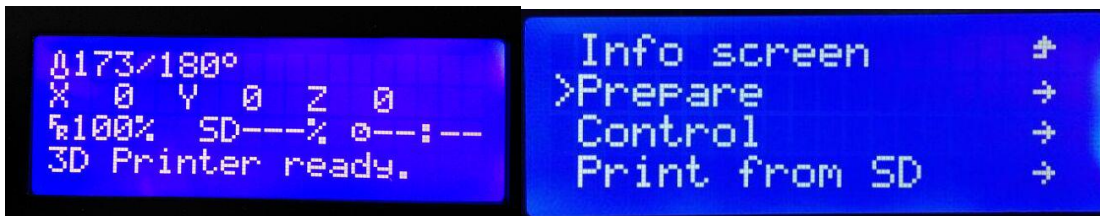


7.2.4 Press knob and enter main menu, turn knob and make “>” move to “Prepare”, press down, turn knob and make “>” move to “Preheat PLA”, and then press down, nozzle will be heated.



7.2.5 When temperature rises to 170°C, press knob again and enters main menu, operate as follow: “Prepare”-->“Move axis”-->“Move 1MM”--> “Extruder”, press down, turn knob clockwise till value shows “60”, later you will see filament comes out from extruding nozzle.

- Notes: In order to prevent filament inlet from getting blocked during testing and transporting, leave certain filament in extruder, so next time when you use printer, leftover filament can be extruded out and new filament can be loaded.



7.2.6 Repeat above operation, if no filament is extruded out, insert filament feeding pipe which is close to print head into filament inlet until it goes close to gear, after feeling filament flowing, remove your hand, let filament flow automatically, till new filament is extruded out of nozzle slowly and smoothly, filament testing is finished, you can carry on next step -- print.

7.3 Off-line Print

Since functions of connect-to-computer print and off-line print are same, and there are various inconvenient factors in connect-to-computer print, so off-line print is recommended.

7.3.1 Press button and enter main menu, turn knob and make “>” move to “Print from SD”, press down and enter file selecting menu, turn knob and make “>” move to file which needs to be printed, press down and enter print interface.

8. Notes

8.1 During printing process, please do not cut off power supply, do not pull out USB cable and SD card, or printing will be stopped.

8.2 When extruder does not extrude, please do not heat it for long time, or nozzle may be blocked. While testing printer, nozzle will extrude out print filament , therefore, please keep nozzle at least 50mm away from printing build bed, or nozzle may be blocked.

- **Please do not use the third party software to update firmwares of printer, or printing can not be conducted with the software provide by our company.**
- **Please do not change parameter settings of printer, or printer can not work properly.**
- **Please do not reach your hand onto printing build bed while heating or using extruder, or you may be hit or burned by moving components.**
- **Please do not put or use printer in dusty, highly humid or strong sunlight environment.**
- **Please do not put printer on an inclining platform, or printing effect may be affected, printer may fall, get damaged or break other things.**
- **Please do not uninstall model from build bed without wearing protective gloves, or you may get burned or scratched.**

9. Maintenance

Correct and proper using habit and maintenance can decrease error and increase service life of printer, repair and maintenance of printer key parts are shown as follow.

9.1 Repair and Maintenance of Build Bed

9.1.1 After model printing is completed, do not remove model directly from build bed, no matter what size a model is, build bed should be removed from printer first, and then separate model from build bed; if model is often removed directly from build bed, build bed may become uneven and curve, printing effect may be affected, even printing failure may be caused.

9.1.2 After model is removed, leftover filament should be cleaned from build bed, or build bed surface may be uneven and printing may be affected next time.

9.2 Repair and Maintenance of Extruding Nozzle

9.2.1 Please cool printer and cut off power supply for long time no use, because melted print filament may cause corrosion on internal metal part of extruding nozzle, if printer is heated for long time and melted print filament is not extruded out, carbonized filament may easily block extruding nozzle, even cause damage to extruding nozzle.

9.2.2 Little printing filament may be left on extruding nozzle during printing process, if it is not cleaned for long time, the whole extruding nozzle may be jammed with leftover filament, after being heated for long time, dark stains can be seen, printing quality may be seriously affected; therefore, suggest to clean extruding nozzle after model printing is completed each time, keep extruding nozzle clean and avoid blocking.

Cleaning method: After model printing is completed, while temperature of extruding nozzle is still high, hold a piece of clean cloth or soft napkins with tweezers or diagonal pliers, repeatedly mop leftover filament until completely remove it. If temperature of extruding nozzle drops, reheat it to 200℃ and continue.

- **Attention!** The temperature is very high, wear protective gloves and be careful, or you may get burned!

9.2.3 Method of dealing with blocked filament. Do not deal with it unless you are professional, contact customer service of our company for consultation.

9.3 Build Bed Calibration

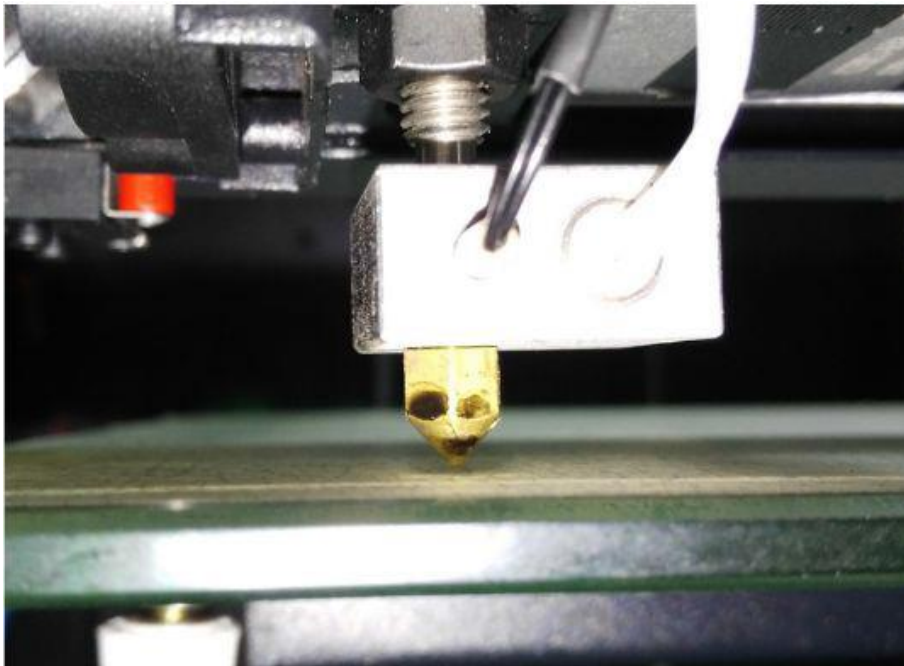
9.3.1 Click “Auto home” on control interface, printer operation system resets automatically; click “Disable steppers” and unlock motor, turn Z-axis anticlockwise with your hand and make build bed move about 5mm away from nozzle, as shown below.



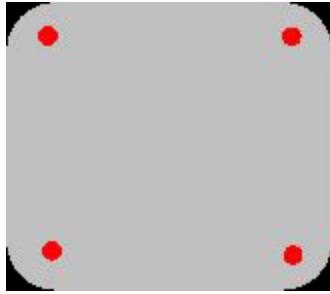
9.3.2 Turn Z-axis clockwise and slowly, make build bed touch the limit switch of Z-axis (on upper left of build bed), stop when you hear a sound of “ka”, as shown below.



9.3.3 Examine distance between nozzle and build bed, if the nozzle is too further or closer to the build bed, adjust screw which is under build bed and form soft touch between build bed and nozzle 【about as thick as a piece of A4 paper】 , as shown below.



9.3.4 After one spot is adjusted, move extruder slowly with your hand and adjust the other three spots in same way, if screws are adjusted to their limitation, it means height of the whole build bed needs to be adjusted, then adjust height of build bed and limit switch, after that, adjust four spots again, as shown below.



- **Attention! After build bed is adjusted, it should be placed in the same direction each time, or build bed may be uneven.**