

**O User Manual** 

-IMAX PRO 2.0

Dear Customer,

Thank you for choosing ANYCUBIC products.

Maybe you are familiar with 3D printing technology or have purchased ANYCUBIC printers before, we still highly recommend that you read this manual carefully. The installation techniques and precautions in this manual can help you avoid any unnecessary damage or first time frustration.

More information please refer to:

1. <a href="http://www.anycubic.com/">http://www.anycubic.com/</a>

ANYCUBIC website provides software, tutorials, models, after-sale service, etc.

Please visit the website for technical support and we are likely to answer or solve all the questions for you!

2. Facebook page and Youtube channel links are shown below.



**ANYCUBIC** Website



Facebook page



Youtube channel

#### Team ANYCUBIC

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#### Safety instruction

Always follow the safety instructions during assembly and usage, to avoid any unnecessary damage to the 3d printer or individual injury.



Please contact our customer service first if you have any issue after receiving the products.



Be cautious when using the scraper. Never direct the scraper towards your hand.



In case of emergency, please immediately cut off the power of ANYCUBIC 3D printer and contact the technical support.



ANYCUBIC 3D printer includes moving parts that can cause injury.



It is recommended to use protection glasses when cleaning/sanding the printed models to avoid small particles contacting eyes.



Keep the ANYCUBIC 3D printer and its accessories out of the reach of children.



Vapors or fumes may be irritating at operating temperature. Always use the ANYCUBIC 3D printer in an open and well ventilated area.



ANYCUBIC 3D printer must not be exposed to water or rain.



ANYCUBIC 3D printer is designed to be used within ambient temperature ranging 8°C-40°C, and humidity ranging 20%-50%. Working outside those limits may result in low quality printing.



Do not disassemble ANYCUBIC 3D printer, please contact technical support if you have any question.















# Contents

Technical Specification	1
Packing list	2
Product Overview	3
Menu Directory	5
Unpacking	9
Installation	12
Leveling	15
Assisted leveling	15
Supplements to leveling	18
Filament loading	21
Printing	24
Driver installation	28
Introduction to slicing software	31
Cura installation	31
Machine settings	32
Import the configuration file	35
Manipulate 3D model in Cura	37
Slice and preveiw	39
Print online	39
Print offline	41
Introduction to filament sensor	42
Resume from outage	44
Troubleshooting	47

## **Technical Specification**

**Printing** 

Technology: FDM (Fused Deposition Modeling)

Build Size: 270mm(L)\*210mm(W) \* 190mm(H)

Print accuracy: 0.05-0.3 mm

Positioning Accuracy: X/Y/Z 0.01/0.0125/0.00125mm

Extruder Quantity: Single

Nozzle Diameter: 0.4 mm

Print Speed: 20~80mm/s (suggested 50mm/s)

Supported Materials: PLA, ABS, etc

**Temperature** 

Ambient Operating Temperature: 8°C - 40°C

Operational Extruder Temperature: max 260°C

(Set 205°C for PLA, set 245°C for ABS, set 215°C for PLA)

Operational Print Bed Temperature: max 100°C

(Set 60°C for PLA, set 100°C for ABS, set 60°C for PLA)

Software

Slicer Software: Cura, Simplify3D, Repetier-HOST

Software Input Formats: .STL, .OBJ, .JPG, PNG

Software Output Formats: GCode

Connectivity: Memory card; Data cable(expert users

only)

Electrical

Input rating: 110V/220V AC, 50/60Hz

**Physical Dimensions** 

Printer Dimensions: 454mm\*466mm\*410mm

Net Weight: ~18.8kg

# Packing list

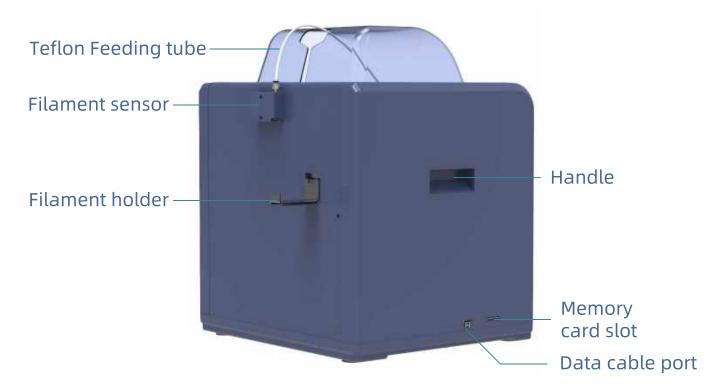
ANYCUBIC	Tool kit 1 unit	Assembly Instruction 1PCS
4Max Pro2.0	Limit switch 1PCS	Power cord 1PCS
Data cable 1PCS	Spatula 1PCS	Card reader 1PCS
Gift filament 1PCS	Filament holder 1 Unit	Extra Nozzle Kit 1PCS
		(MILLIAN)
Tweezers& Nozzle cleaning needles 1 PCS each	Plier 1 PCS	Memory card 1 PCS
		Office Salan Cardella Carde
Filament sensor 1PCS M3*16 screw 2PCS	Top cover 1 PCS	After sale service card 1PCS

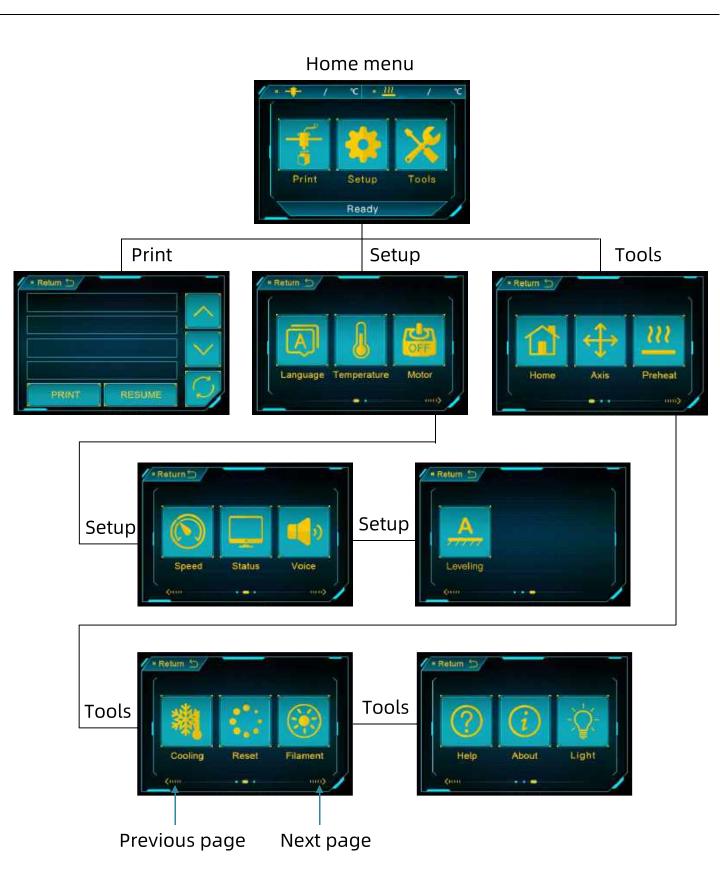
## **Product Overview**





# **Product Overview**

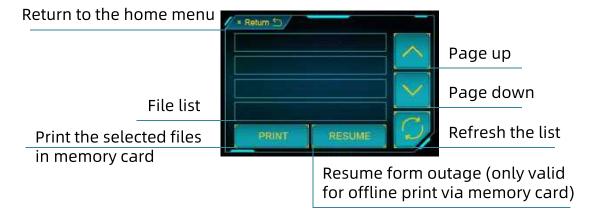




#### Home menu



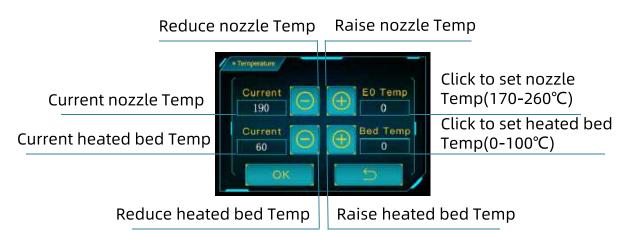
#### **Print**



#### Setup

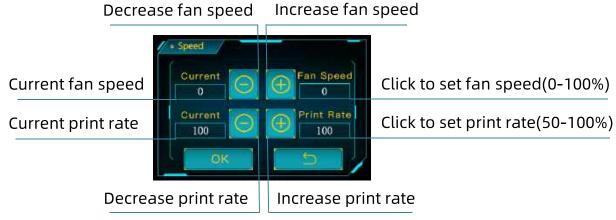
Language: Change language (English/Chinese)

#### Temperature:



Motor: Disable all motors (only valid when machine is not printing)

Speed:



**Status:** (the following with \* is valid only for offline printing , i.e. print from memory card)



Voice: Turn on/off the screen sound

Leveling: Level the platform

#### **Tools**

**Home:** (only valid when machine is not printing)



Axis: (only valid when machine is not printing)



Move left/right X axis by 0.1/1.0/10mm

Move forward/backward Y axis by 0.1/1.0/10mm

Move up/down Z axis by 0.1/1.0/10mm

Return

Speed mode for axis move Low/Medium/High

Preheat: (only valid when machine is not printing)

Nozzle Temp/Target Temp Click to preheat PLA



Heated bed Temp/Target Temp

Click to preheat ABS

Return

**Cooling:** Cut off the power to hot-end and heated bed (only valid when machine is not printing)

Reset: Popup window to decide if reboot the mainboard

Filament: (only valid for offline print)

Automatically heating to the setting temperature for filament in

Stop to filament in/remove



Automatically heating to the setting temperature for filament remove

Return

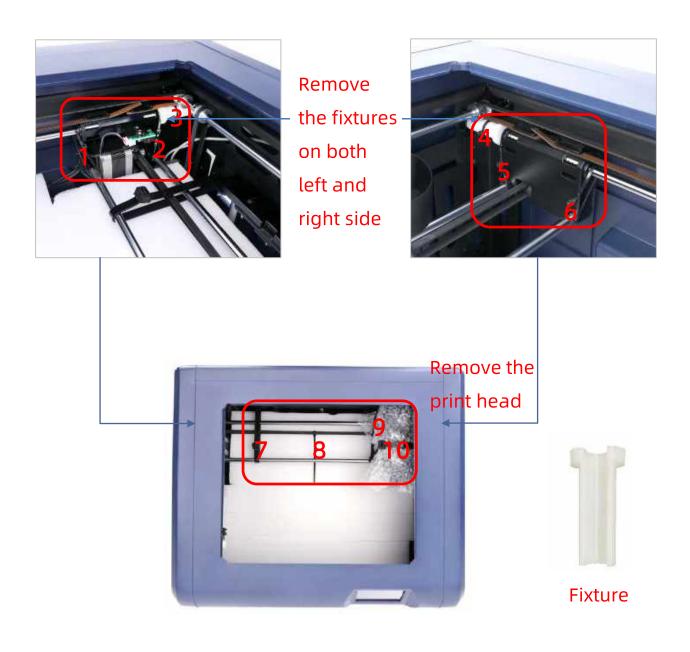
Help: Basic description of the Menu

About: Information about the product

Light: Turn on/off the light

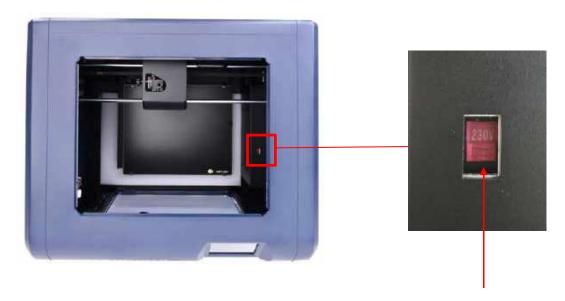
### Unpacking

1. Unpacking and place the printer on a flat table, and cut off 10 cable ties and remove 2 fixtures, as shown in the pictures below.



2. Inside the chamber, select the correct voltage mode according to your local voltage ratings (~110V or ~220V). The red switch is inside the power supply casing and 220V is default. Hex keys can be used to move the switch. Finally, double check the wirings, plug in the power cord, and power on the printer.

# Unpacking



In some cases, 220V labeled as "230", 110V labeled as "115"



Press the machine switch

3. On Home Menu, click "Tools"-->"Home"-->"Home Z".

# Unpacking



4. After the platform rises, remove the packing materials underneath.



Take out the packing materials

#### **Installation**

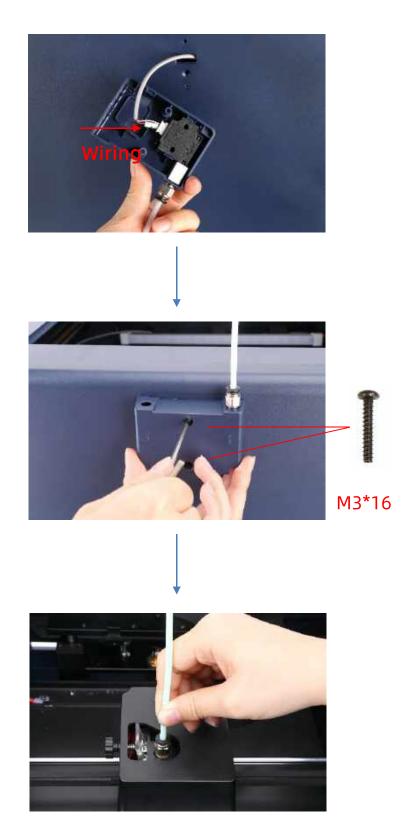
- 1. Be cautions during assembly as some parts may have sharp edges.
- 2. It is suggested to use a flat desktop and place the parts in an orderly manner for quick assembly.
- 3. The color of some parts may be different from what in the manual, but the assembly is the same.
- 4. Firmware has been pre-uploaded to the motherboard. After completing the assembly, please level the platform and load the filament then you could start the first test print.

Please note: every units of the printer have been inspected and tested for printing. Therefore, in some cases, there might be very small marks left on the print head or on the heated bed. Those will not affect the printing quality and those means the printer has been tested for the quality. Meanwhile, we provide an extra hot end in case you need to replace it in the future. Thank you very much for your kind understanding.

#### Team ANYCUBIC

# Installation

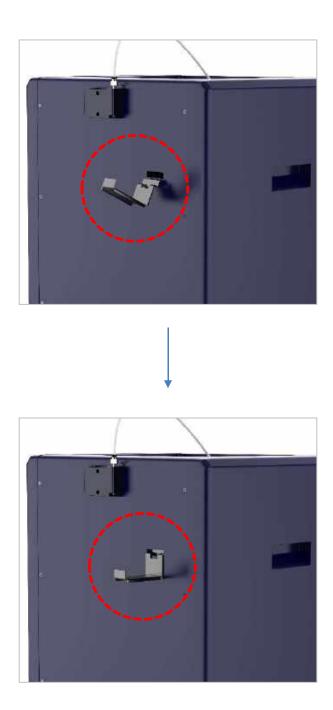
#### 1. Install filament sensor



Insert the Teflon tubing firmly into the extruder.

# Installation

## 1. Install the filament holder



It is essential to level the print platform of a 3D printer. Once leveled, it is not necessary to level every time before each prints. Please follow the procedures below:

#### 1. Assisted leveling

(1) Put the leveling paper (included on top of the printing platform) onto the printing platform.



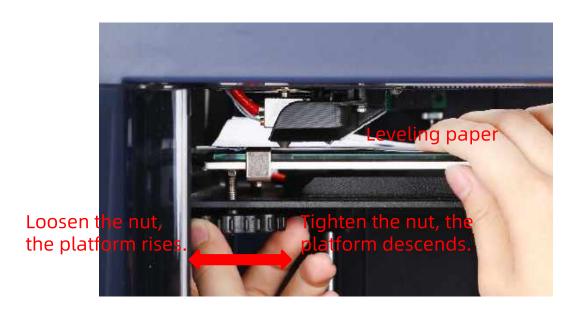
(2) Return to home menu. Then click "Setup"  $\rightarrow$  click "  $\longrightarrow$  " to next page  $\rightarrow$  click "Leveling", the printer will be automatically home.



(3) After home, click "Next" and the print head will be moving to the first leveling point.



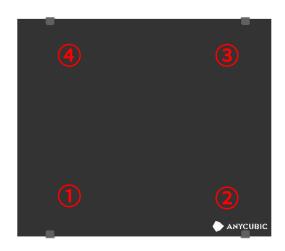
(4) Manually adjust (tighten or loosen) the corresponding nut underneath the printing platform. The purpose is to adjust the distance between nozzle and printing platform to about the thickness of a piece of paper (it is about 0.1mm when you can feel the drag resistance when pulling the paper).



Nozzle just touches the paper, and the paper can be moved, but with resistance.

(5) Click "Next" when finished the first leveling point, the print head will move to the next point, and then repeat Step(4) to adjust. Click "Next" and follow the instructions to finish the leveling of the 4 points on the platform.





You need to adjust the 4 points of the platform 2 to 3 times to ensure the leveling, otherwise the platform could be scratched.

(6) After leveling, click " to return to main page.



#### 2. Supplements to leveling

In some rare cases, after "Home All", the nozzle can be still much lower than the platform, even after fully tighten the 4 nuts underneath. On the opposite, sometimes the nozzle is still too high from the platform, even after fully loosen the 4 nuts underneath.

**How to solve this:** adjust Z adjustable screw up (down) to proper position.



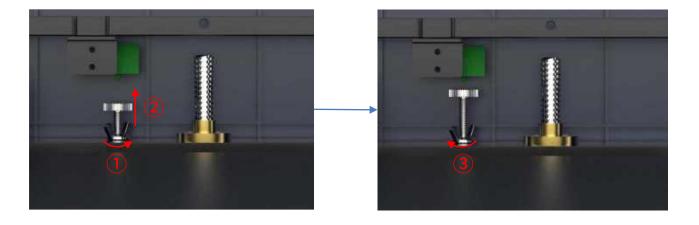
Case 1: the nozzle is still much lower than the platform, even after fully tighten the 4 nuts underneath.

#### Solution:

- ① Tighten the 4 nuts underneath fully.
- ② Return to main page, then click "Tools" → "Axis" → "10+Z" to lower the platform.



3 Loosen the butterfly nut, adjust the Z adjustable screw up to the appropriate position (the distance of adjustment = distance of nozzle below platform + 2mm), then tighten the butterfly nut.



④ After adjusting the Z adjustable nut, you need to level the platform again to verify the results.

Case 2: the nozzle is still too high from the platform, even after fully loosen the 4 nuts underneath.

#### Solution:

① Loosen the 4 nuts underneath fully.

2 Loosen the butterfly nut, adjust the Z adjustable screw down to the appropriate position (the distance of adjustment = distance of nozzle above platform + 2mm), then tighten the butterfly nut.



3 After adjusting the Z adjustable nut, you need to level the platform again to verify the results.

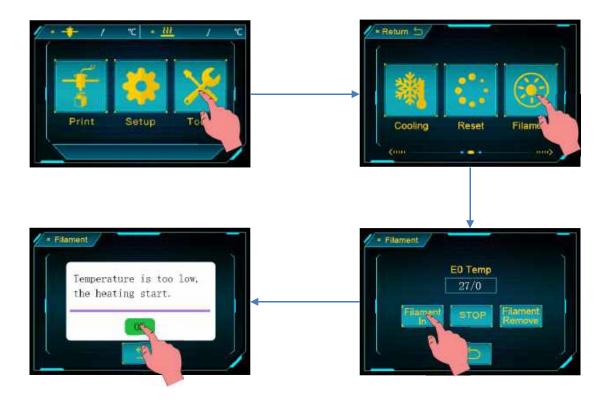
## Filament loading

1. Click "Tools"  $\rightarrow$  "Axis"  $\rightarrow$  "10+Z" to lower the platform about 100mm.



Click 10 times to lower the platform 100mm

2. Return to the home menu, click "Tools" $\rightarrow$  "Filament" $\rightarrow$  "Filament In", and the interface as shown below will pop up, click "OK".

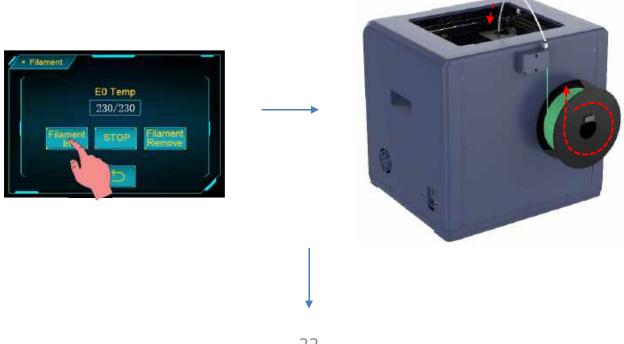


3. Straighten the end of filament, then place the filament on the filament holder.

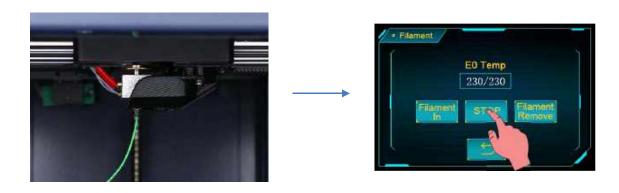
# Filament loading



4. When the nozzle reaches to the target temperature, click "Filament in" again, pass the filament from the filament sensor, teflon tubing, and finally to the print head, and then the filament would be automatically fed in by the extruder and it would be melted through the nozzle. Now, click "STOP". You may use tweezers to clean the filament residue on the nozzle tip.



# Filament loading

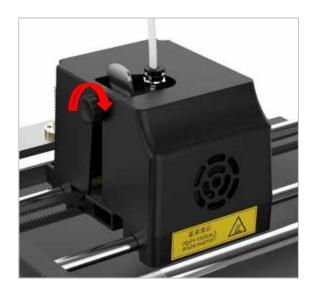


#### Supplements to feeding

During feeding, if the melted filament is not smooth or too thin, please adjust the extrusion force by rotating the knob as shown below.



If the melted filament is not smooth, please increase the extrusion force by rotating counterclockwise



If the melted filament is too thin, please reduce the extrusion force by rotating clockwise

1. Insert the memory card into the memory card slot. A test file "owl.gcode" (author: etotheipi, www.thingiverse.com) has been preloaded on the memory card.

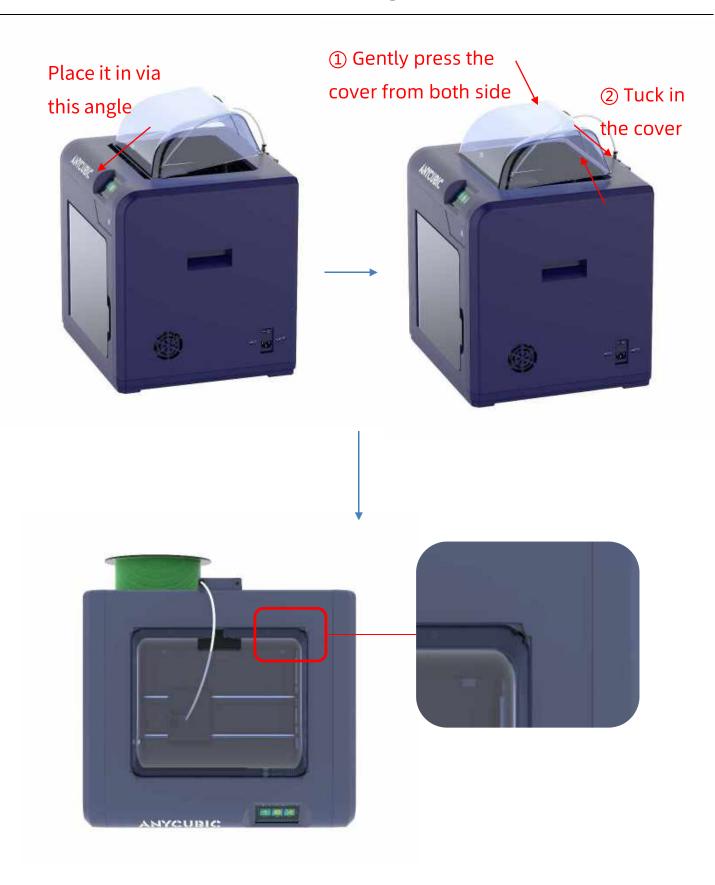


Tip: To eject the memory card, please press it.

2. On Home Menu, Click "Print" to enter the files list. Click the "owl.gcode" and click "PRINT" for the test printing.

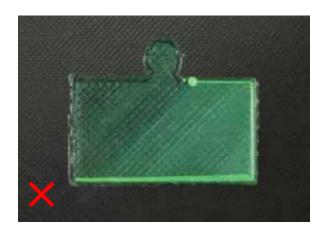


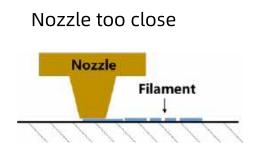
3. For printing ABS filament, it is recommended to cover the top cover to maintain a relative high environment temperature, which helps improving the printing quality.



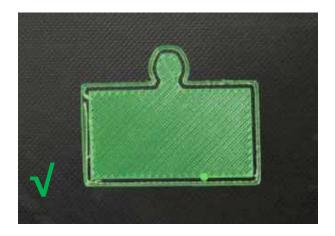
4. There might be 3 kinds of results for the first layer of the test prints:

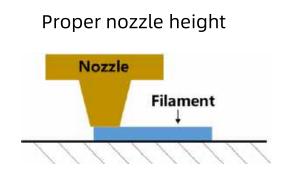
A: Lack of extrusion, the nozzle rub against the platform.





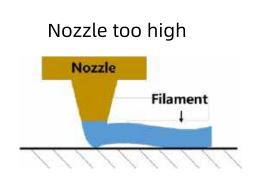
**B:** Good extrusion and adhesion





C: Large gap, filaments are not even adhere to the platform





In case of "nozzle too close" or "nozzle too high"(A or C), please manually fine tune the corresponding nuts under the platform.

It may need adjustment for few times until satisfying results such as B.

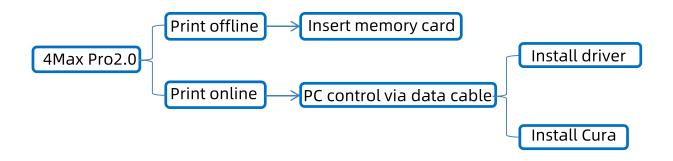
5. The nozzle and heated bed are still in high temperature when printing finishes. Make sure to wait for nozzle and heated bed to cool down before removing the model from the printing platform.

#### **Driver installation**

There are two operational mode for 4Max Pro2.0: print offline and print online.

**Print offline:** As shown previously, insert memory card into the memory card slot on the printer base, click on the Home Menu "Print" to enter the file list, and print a selected file (GCode files ONLY).

**Print online:** Install CP2102 driver to bridging PC and machine, and install Cura for slicing and control the machine to print via data cable.

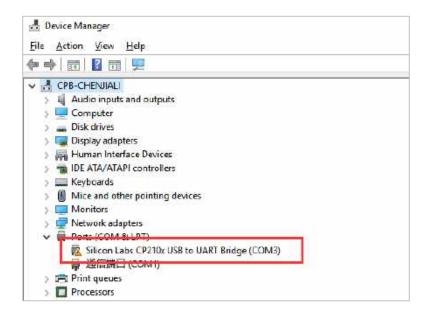


It is suggested to use **Print Offline** mode to minimize the noisy signal via data cable.

#### How to install the software to enable PC control (print online).

First, turn on the machine, connect the printer (data cable port) and your PC via data cable. 4Max Pro2.0 uses CP2102 chip for communication. The CP2102 driver may not be installed automatically, so it is required to check that. Right click "This PC"→ "Properties"→"Device manager", if there is an exclamation mark as shown below, then it needs to be installed manually.

#### **Driver** installation

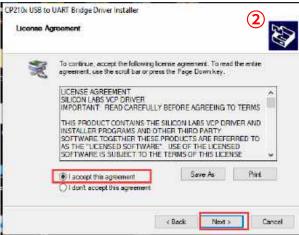


CP2102 driver file are located in the memory card (or visit our website to download), "Files\_English\_4Max Pro2.0"→"Driver\_CP2102". There are two versions, Windows and Mac version.

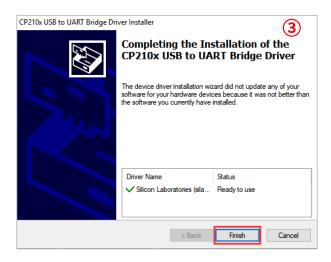
For Windows, specifically, "CP2102xVCPInstaller\_x64" is for 64 bit system and "CP2102xVCPInstaller\_x86" is for 32 bit system. Here we take Windows 7-64 bit PC system for example, while there is "Installation for Mac PC" in memory card for those who use Mac system.

Double click "CP210xVCPInstaller\_x64.exe"to install it.

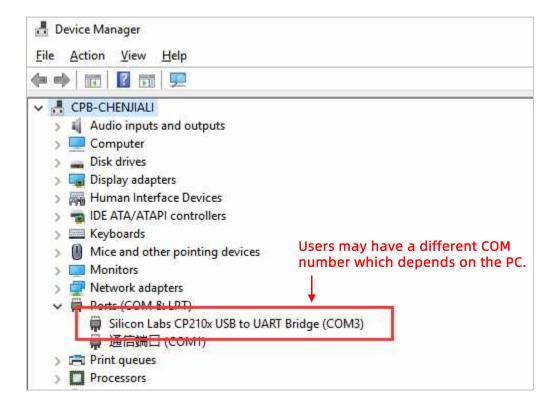




#### **Driver installation**



Right click "This PC"  $\rightarrow$  "Properties"  $\rightarrow$  "Device manager" to check, you can see that the exclamation mark has disappeared.



## Introduction to slicing software

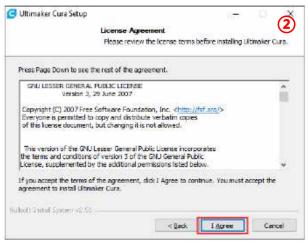
Introduction of slicing software: ① Cura installation, ② Machine settings, ③Import the configuration file, ④ Manipulate 3D model in Cura, ⑤Slice and preview, ⑥Print online, ⑦Print offline

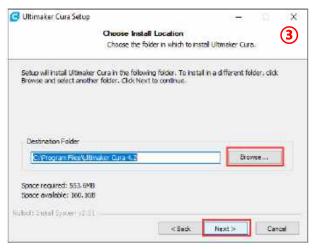
#### 1. Cura installation

3D printer reads Gcode file and prints. It is necessary to convert 3D files (such as stl file) into Gcode files for machine to recognize. Software that convert 3D files into Gcode files is called slicing software.

Ultimaker\_Cura-4.2.1-win64 is used for example here (Users may use their own slicer software). It is located in memory card→" Files\_ English\_4Max Pro2.0"→ " Cura"→ " Windows". Double click "Ultimaker Cura-4.2.1-win64.exe", and follow the steps as shown below.

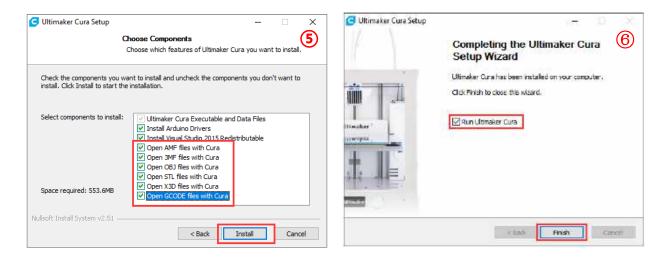




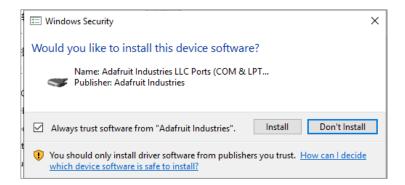




# Introduction to slicing software



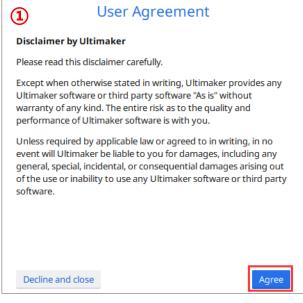
Note: Printing online requires the installation of a driver, as shown below. If you don't print online, you don't need to install it.

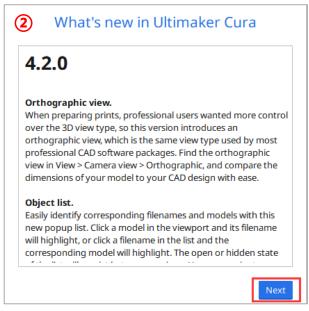


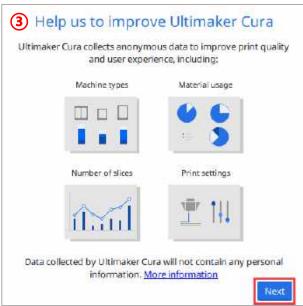
#### 2. Machine settings

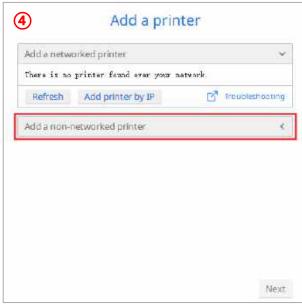
Upon completion of installation, the first launch of the software will display the following welcome screen. Click "Get started" to start the machine settings.

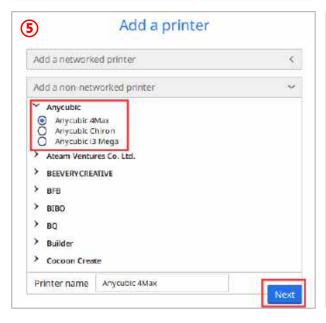








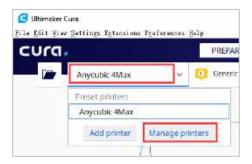




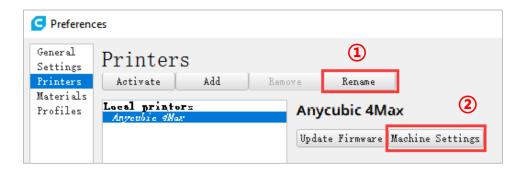


According to the wizard, we have selected the "Anycubic 4Max" model. Now, we will set the model parameters of 4Max Pro2.0 based on that model.

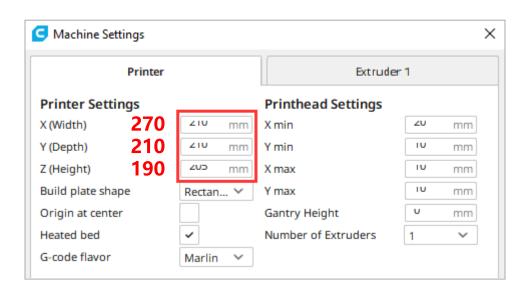
(1) Click "Manage printers", as shown below.



(2) Click "rename" to change the machine name to "Anycubic 4Max Pro2.0", and then click "Machine Settings".



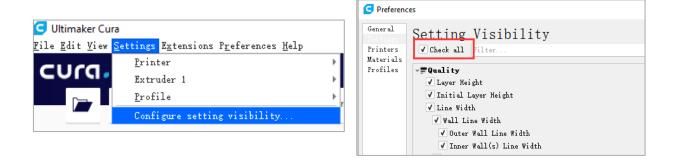
(3) Modify the "XYZ" parameters as 270, 210 and 190 respectively on the "Machine Settings" page, as shown below.



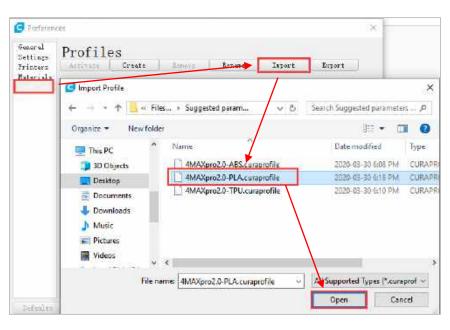
#### 3. Import the configuration file

After continuous testing, we provided users the suggested printing parameters of different filaments for 4Max Pro2.0, and the user could directly import the parameter files in the memory card to the software.

(1) Click "Settings"- "Configure setting visibility...", and then check "Check all" to make all Settings visible.

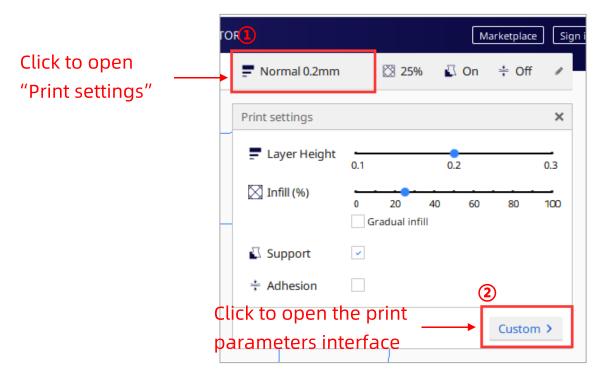


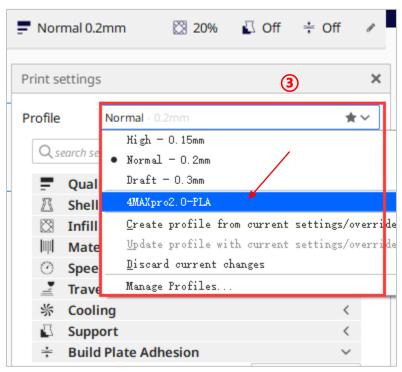
(2) Click "profile" on the left, and then click "import" to open the "import profile" dialog box, then select the "4Max pro2.0-PLA. curaprofile" (file path: memory card → "Files \_ English \_4Max Pro2.0" → "Suggested parameters for 4MaxPro2.0"), and click "open". After successful import, the following success prompt will pop up.





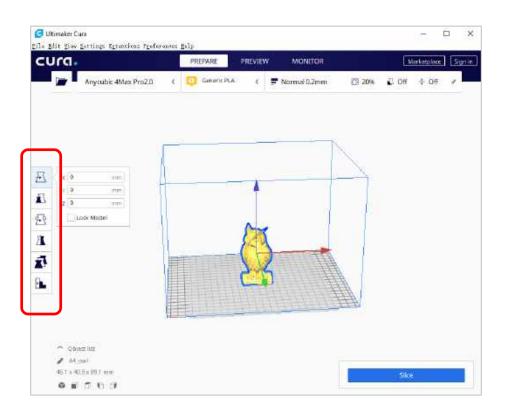
(3) Select the configuration file that you just imported.





#### 4. Manipulate 3D model in Cura

In the Cura software interface, click on the "File"  $\rightarrow$  "Open File(s)..." to import your own three-dimensional format model (such as .stl file). Users can "Rotate" "Scale" "Mirror" the model. As shown below:



## Other operations:

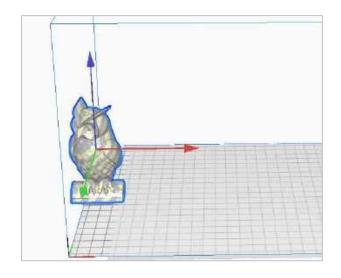
- a) Position change: left click on the model, hold on and drag the model to move.
- b) Zoom in/out: scroll the mouse wheel.
- c) Change viewing angle: right click and move the mouse.



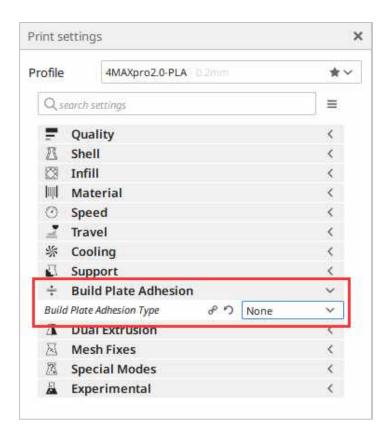
Per Model Settings: When you open multiple models, you can configure a separate slice configuration for the specified model.

Support Blocker(E): Set the mask area on the model so that the support could not be generate on the set area.

Note: as shown in the figure on the right, the gray color of the model indicates that the model is out of print range.



After importing the model, users can customize the printing parameters according to individual needs. But the configuration files that we provide are suggested.

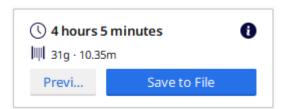


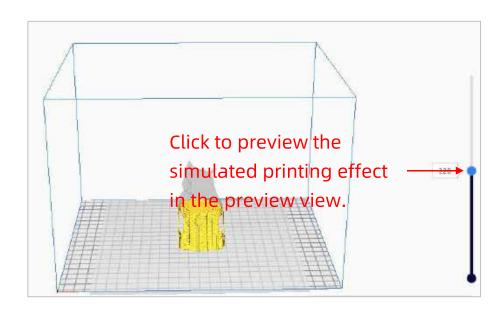
Note: The "Build Plate
Adhesion Type"
parameter needs to be
set to "None" when
printing the maximum
size modle.

#### 5. Slice and preview

After setting the printing parameters, click the "Slice" button in the lower right corner of the software. After the Slice is finished, click the "preview" button to preview the simulated printing effect in the preview view.

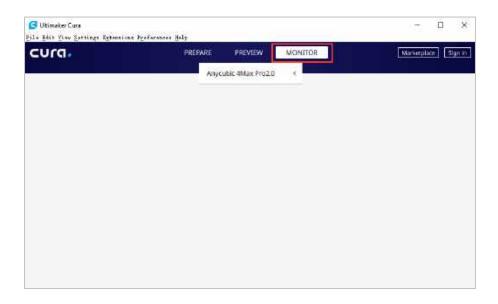




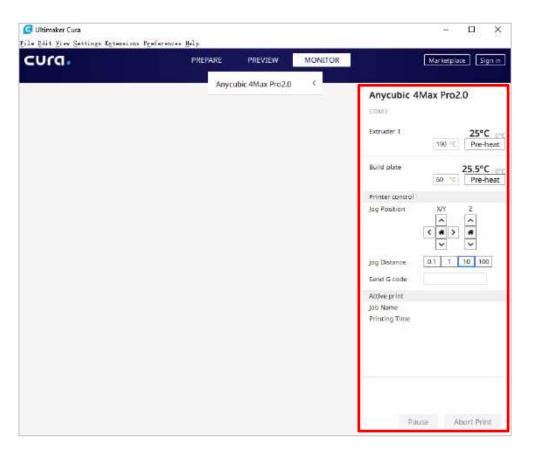


#### 6. Print online

After the parameters have been set up, you can print online via Cura. Click the "MONITOR" on the main interface. If the printer is not connected properly, the interface will be blank.



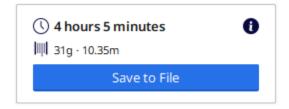
After connecting the data line, Cura will automatically connect to the printer. After waiting for more than ten seconds, the operation panel will be displayed on the right side of the interface. User can control printer through the operation panel. (In the process of printing, do not plug the data line, or it will interrupt the printing)



#### 7. Print offline

After slicing, click "save to file" in the lower right corner of Cura software. Save the model GCode file to the **memory card**, and then insert the memory card to the printer and control via the touch screen for offline printing.

**Note**: the file name should only contain English letters, underscore and space. File name contains special characters could not be recognized by the printer. In order to let the printer better recognize the Gcode file in the memory card, you need to back up all the files in the memory card to the computer, and keep the memory card only for the Gcode file, please save all the Gcode files in root directory of the memory card.



## Introduction to filament sensor

1. Machine alarms when filament break during an ongoing print, the interface shown below will be popped up.



2. Click "OK", remove the remaining filaments and re-installing new filaments.

#### Remove the remaining filaments:

① Press the black plastic ring, pull out the teflon feeding tube.





- ② Return to the home menu, click "Tools" $\rightarrow$  "Filament" $\rightarrow$  "Filament In", and the interface as shown below will pop up, click "OK".
- ③ When the nozzle reaches to the target temperature, click "Filament in" again.

## Introduction to filament sensor

- 4 After the filaments are extruded smoothly at the nozzle, click "Stop" on the screen, and then click "Filament Remove".
- (5) After the filaments are withdrawn from the print head, pull out the remaining filaments from the teflon feeding tube, and then insert the teflon feeding tube into the print head firmly.

Re-install new filaments: see page 21 "Filament loading".

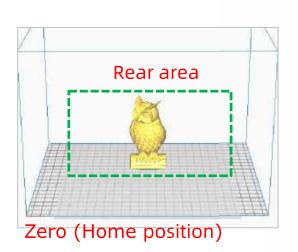
3. After the filaments re-installed, use tweezers to clean the filament residue on nozzle tip. Then click "CONTINUE", the print will start again from the last position.



## Resume from outage

4Max Pro2.0 allows resume print after accidently power loss (This function only valid when print offline, via memory card only).

1. In slicing software (i.e. Cura), it is required to place the model at the rear of the platform. Because during "RESUME", machine will home first and could touch/interfere with the unfinished object if the model was placed in the front area.



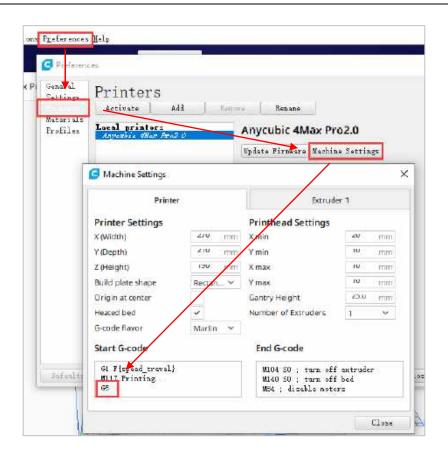


2. For the first time of using this function, customers are required to add "G5" to the "Start G-code". Then, save the model as GCode file to the memory card by "File"  $\rightarrow$  "Save GCode".

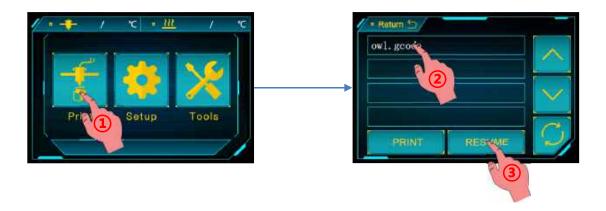
#### Note:

- "Resume from outage" is valid only for offline printing;
- ② Just type the "G5" when you use it for the first time, G5 will be automatically added later, without having to manually type it again.

# Resume from outage



3. During printing, if there is an accident power loss, the print will stop immediately. But after power comes back, customers could choose "Print"  $\rightarrow$  select the unfinished file $\rightarrow$  "RESUME, machine will home first and continuing on the unfinished object.



#### Note:

① In order to get smooth surface, use tweezers to carefully remove the excessive filament at nozzle before continuing print upon the last point.

# Resume from outage

- ② Do not move Z axis after power off otherwise resume will be invalid.
- 3 4Max Pro2.0 supports resume from outage only when print offline
- ④ This function is developed based on Cura. We could not guarantee this function compatible with other slicing software.
- ⑤ Due to the differences of filaments, temperature, extrusion, etc...we could not guarantee a perfect surface at the point of "RESUME", especially for small objects.

#### 1. Motor shaking or abnormal sound

- ① The corresponding end stop could not be triggered when home, check the wirings, and inspect any obstacles by manually moving the corresponding axis
- ② The motor cable are not connected properly, check each connection and then inspect the cable routing for any faults
- ③ The motor is damaged.
- 4) The motor driving wheel is loose.
- (5) The belt is loose, please check the belt tension at each position of X/Y/Z. And whether the belt is slippery during motor movement or not.

#### 2. File not printing or memory card failure

- Remove the memory card and insert into PC. Open the GCode files using text editor (eg. Notepad), and inspect if GCode is readable or not. If files contains of multiple "ÿÿÿ" symbol, then file has been corrupted. Try reformatting the memory card to FAT32 format and reloading the GCode file
- ② Memory card is not readable, ensure file name does not contain special characters or Change memory card
- 3 Touch screen freeze, reboot the machine and try again

#### 3. No extrusion or extrusion motor knocking

- Ensure that the nozzle temperature has been set to match the filament
- ② Filament tangled on spool

- (3) Not enough cooling for the hotend
- 4 Nozzle clogged please try to replace it or clean it with the nozzle cleaning needles
- (5) Teflon tubing has been tangled, squeezed or bent

## 4. Filament leaking

1 Nozzle or throat tube is not tightened properly, try to fix/change it after cooling

#### 5. Layer shifting

- ① Print head moving too fast, slow down the print speed.
- ② Check the belts and driving wheels and ensure they are properly installed.
- 3 Grease the rods and check all nuts and bolts remain tightened.

# 6. The print head falls during the printing process, scratch the platform or crush the model

① Please remove the plastic cover of the print head and check whether the screws attached to the print head are loose (please consult customer service for more details)

#### 7. No sticking to the bed

① The nozzle is too far from the platform, please try to re-level; at the same time set the "initial layer thickness" to 0.2 in Cura, and set the "initial layer line width" (for example, set to 150) to improve the first layer adhesion.

- (2) Print too fast at the bottom layer speed, reduce it to ~20mm/s
- ③ Ensure that the print platform is clean (use detergent solution if necessary)
- 4) Add a brim or raft to the model in slicing software

#### 8. Freezing screen

- ① Please check if the soft cable above the screen is loose (you need to open the plastic base to check if the screen cable is loose)
- ② Inspect if the touch screen has been pressed by something
- ③ Check if screen has cracks, if so, please contact our after sale service via official website www.anycubic.com

#### 9. T0 sensor abnormal

- (1) Check the wiring of the hotend and ensure a good connection
- ② Check if there is any pins bent inside the connector

#### 10. Print head move abnormal

- (1) Check if choosing the right machine type in slicing software
- ② Check if any plugins in the slicing software
- 11. When leveling, if the adjustable nut is completely loose (tightened), the platform is still far away (near) from the print head, this time you need to adjust the Z adjustable screw down (up).

### 12. Print stopped halfway

- Check if the GCode file is corrupted
- ② Delete plugins in the GCode file
- ③ Use print offline mode (memory card) instead of print online via data cable
- The quality of the memory card is unstable. Try changing another brand memory card.
- (5) The power supply voltage is unstable. Please print again when the voltage is stable.

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