Operation Instruction
Model: A2
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INTRODUCTION

A2 FDM 3D printer can print CAD 3D printer model to real. A2 uses aluminium alloy to build its frame while it uses linear bearings, belts and threaded rods to build X, Y, Z axis. It enables A2 to print steadily with no vibration.

Note:

1. All statement included in this Instructions have been checked carefully, if any typographical errors or misunderstanding, we have the final interpretation.

2. No notification if any update.
A. Security Considerations

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

⚠️ Danger

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

⚠️ Warning

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

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

1. Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Nozzle diameter: 0.4mm</th>
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<tbody>
<tr>
<td>Layer thickness: 0.1-0.3mm</td>
<td>Machine size: 500<em>500</em>490mm</td>
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<tr>
<td>Printing speed: 10-300mm/s</td>
<td>Machine weight: 6KG</td>
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<tr>
<td>X Y axis position accuracy: 0.012mm</td>
<td>Packing size: 510<em>310</em>215mm</td>
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<tr>
<td>Z axis position accuracy: 0.004m</td>
<td>Gross weight: 7KG</td>
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<tr>
<td>Printing material: ABS, PLA</td>
<td>Build size: 220<em>220</em>220mm</td>
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<tr>
<td>Material tendency: PLA</td>
<td>LCD screen: 12864 LCD</td>
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<tr>
<td>Filament diameter : 1.75mm</td>
<td>Offline printing: Support</td>
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<tr>
<td>Software language: English, Chinese</td>
<td>File format: STL, G-Code, OBJ</td>
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<td>Function of support: automatically</td>
<td>OS: windows(linux, mac)</td>
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<tr>
<td>Software: Cura</td>
<td>Working condition: 10-30℃, Humidity 20-50%</td>
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2. Machine parts

- Extruder
- Z Motor
- PC4-M6
- Gas-type Fitting
- Pulley
- Y Motor
- Mainboard
- X Motor
- Header Corner
- Screen
- Motor Fan
- Heating Block
- Nozzle
- Hotbed
- Hotbed
- Fixing Plate
3. Exploded drawing

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<tr>
<td>2</td>
<td>M5*30 Screw</td>
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<tr>
<td>3</td>
<td>M5*10 Pillar</td>
<td>4</td>
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<td>4</td>
<td>Pulley</td>
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<tr>
<td>5</td>
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<td>6</td>
<td>M3*12 Screw</td>
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<tr>
<td>7</td>
<td>Gas-type Fitting</td>
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<td>8</td>
<td>Heat Sink</td>
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<td>Fan</td>
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<td>10</td>
<td>Fan Cover</td>
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<tr>
<td>11</td>
<td>Throat</td>
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<td>12</td>
<td>M6 Nut</td>
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<td>13</td>
<td>Heating Pipe</td>
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<tr>
<td>14</td>
<td>Heating Block</td>
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<td>15</td>
<td>Nozzle (0.4mm)</td>
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## 4. Tool List

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<tr>
<th>Item</th>
<th>Picture</th>
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<td><img src="image1.png" alt="Image" /></td>
<td>X 2040 aluminum profile 400mm *1pcs Y 2040 aluminum profile 400mm *1pcs Left Z 2040 aluminum profile 400mm *1pcs</td>
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<td><img src="image2.png" alt="Image" /></td>
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<td><img src="image3.png" alt="Image" /></td>
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<td><img src="image4.png" alt="Image" /></td>
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<td><img src="image5.png" alt="Image" /></td>
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<td>T rod M5<em>315mm Screw rod M8</em>150</td>
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<td><img src="image12.png" alt="Image" /></td>
<td>5mm*160mm Screwdriver</td>
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<table>
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<td><img src="image13.png" alt="Image" /></td>
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<td>3-7</td>
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<td>Contain 4 Parts Below</td>
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<td>2-26</td>
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<td>2-27</td>
<td><img src="image19" alt="Y Motor Wire Winding 90cm" /></td>
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<td><img src="image19" alt="X Motor Wire Winding 40cm" /></td>
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<td><img src="image19" alt="Z Motor Wire Winding 40cm" /></td>
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<td><img src="image19" alt="Flament Feeder Wire Winding 40cm" /></td>
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<td></td>
<td><img src="image19" alt="12V 240W Power Supply" /></td>
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</tbody>
</table>

8
C. Cura Software

1. Installation of Cura14.07

   a: Where can I find the software?
      1) SD card with shipment; 2) download from Internet;

   b: Installation process
      1) From SD card with shipment
         Insert SD card and open the file

1.1 File location in the TF card

1) Insert SD card, open the file

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<thead>
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<td>2016/5/22 星期三</td>
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<td>2015/8/11 星期二</td>
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</table>
2) Download from Internet

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

Choose corresponding software to download

<table>
<thead>
<tr>
<th>Version</th>
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<tr>
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<td>6/7/16</td>
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<td>11/12/12</td>
</tr>
<tr>
<td>12.10</td>
<td>11/8/12</td>
</tr>
</tbody>
</table>
b. Software Installation Process

1. Installation Positioning

2. Click Next

Choose 3 options below

1. Cura 14.07
2. Install Arduino Drivers
3. Open STL files with Cura
4. Open G83 files with Cura

4. Click Install
Please wait for installation

1. Click Next
1. Installation Success

- Driver Name: Arduino LLC
- Status: Ready to use

2. Click to finish

Installation complete

Click Next
1. Choose to run Cura
2. Click to finish

Click Next
1. Choose other to customize

2. Choose this option

3. Click Next
1. Choose to customize

2. Click Next
**Custom RepRap information**

RepRap机器几乎都不一样，所以你需要设置你自己的参数。请在运行机器之前检查这些默认参数。如果你想要添加一个默认的机器参数配置，请在github上提交。

你需要手动安装Marlin或者Sprinter固件。

<table>
<thead>
<tr>
<th>参数</th>
<th>值</th>
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</thead>
<tbody>
<tr>
<td>机器名称</td>
<td>A2</td>
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<tr>
<td>机器宽度 (mm)</td>
<td>220</td>
</tr>
<tr>
<td>机器深度 (mm)</td>
<td>220</td>
</tr>
<tr>
<td>机器高度 (mm)</td>
<td>220</td>
</tr>
<tr>
<td>喷嘴大小 (mm)</td>
<td>0.4</td>
</tr>
</tbody>
</table>

热床：
0,0,0为打印初始中心 (RoStock)

This is A2 parameter
You can customize name here.
We default these data.
You can fill in according to actual condition.
Choose this option.

DO NOT choose this option !!!

1. Click to finish

< Back  Finish  Cancel
Now you have finished the installation. Next, enter Cura.

2. Cura Setting

2.1 Clear platform

Delete the dog. Two ways for you:

1. Move mouse to dog, right click, click “delete object”.
2. Left click “File”, choose “Clear platform”.

```plaintext
Left click “File”, choose “Clear platform”.
```
Switch to full settings for parameter setting
Position of configuration file: Computer/SD card)/ configuration file for Cura-14.07

(suggestion : keep this file copy to your computer)
After Loading, the basic and advanced configuration will be changed to the A2 regular printing configuration.

If print once at a time, it will influence the printing quality, even cause damage to prinzer. So please choose “Printer at once”.
Layer height settings

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

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

Shell thickness setting

- 0.8mm is too thin for shell, 2mm shell costs more time, 1.2mm is relatively better. Please use the integer multiple of nozzle diameter.
Enable retraction to avoid filaments leakage when nozzles move in empty area.

The Blue line is the leak filament.

Enable retraction.

Bottom/Top thickness: 1.2mm

Under the same fill density

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

Bottom/Top thickness: 0.6mm
Bottom/Top thickness setting

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

Printing Speed setting

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

Pringting Temperature

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

Attention: Normally we add support to complex model or model with vacant parts. It may have influence on the surface if you choose everywhere. You’d better circle around the model and try to avoid unnecessary support.
Attention: please choose None if the printing platform is ready and the high temperature adhesive tape is good. Please choose Brim when the model is small. Choosing Raft makes it difficult to separate model from the platform.
28

Attention: Flow is proportion of filament, we suggest to use 100. Increasing flow & decrease diameter has the similar effect. Model surface gets many bumps when flow is too big; model frame gets flimsy if flow is too small.

Attention: A2 use 1.75mm filament

We suggest not to change it, A2 default 0.4mm

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

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

Initial layer line proportion

“0” means using default speed

Min printing time for each layer. When the time is less than 10, it prints slower. It’s better to decrease time when printing thin and long models.

We suggest not choose this when printing ABS.
Attention: Normally this option cannot be changed, if changed, it's at your peril.
3. Expert Setting
1. The minimum length before retraction. Used to avoid frequent retraction. No need to change.
2. Enable Combing: Digital for surface quality, the nozzle will try not to go through surface, that's why Cura is better than Slic3r.
3. Minimum extrusion length, to avoid frequent extrusion.

Printing route with Combing
Go aside of the surface

Printing route without Combing
Go through the surface
Skirt is to avoid extruder unfilled before printing, and it appears only when platform attachment type is None. Normally “1” is ok. Change it to “0” when your model reaches the maximum size, or the printing size will be too big.

Peripheral line quantity: 1
Start distance: 3

Peripheral line quantity: 1
Start distance: 3
1. To ensure the attachment of model to platform, fan won’t start at the beginning.
2-4. Fan speed min & max: If they are not equal, the software will choose a suitable speed during them.
5. Condition to choose cool head lift: When it’s printing with the minimum speed but still cannot reach the minimum time, you need to choose cool head lift. But it may cause filament leak.
If no solid infill top, the only qualification is the surface thickness.

<table>
<thead>
<tr>
<th>Infill</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Solid infill top</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solid infill bottom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infill overlap (%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No solid infill top  
With solid infill top
These above are examples, you can set these options according to actual requirements. The biggest progress Cura has made is the kinds of support structure types, making it easier to separate from the model.
It's difficult to separate if the distance between support and the supported place is too close; The surface will be influenced if the distance is too far. Different angle will generate different support, you can try the examples we provide above which will have different effect.
When choosing “Spiralize the outer contour” : Z axis rises while X,Y axis moves, and only a hollow bottom and a single layer of surface.

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

Attention: The software defaults not open the option above, you’d better not turn it on.

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

Save the Gcode file

Link to Youmagine

Model Display

Estimated Print Time

Estimated Length of Filament

Scaling

Whirling

Mirroring

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

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

Reset

Green: X axis

Yellow: Y axis

Red: Z axis

Zoom to max size

Scaling ratio

Modification ratio

Reset
Attention: The model will be converse after mirroring.
Normal: Most used.

Transparent

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

Overhang: Used to see the vacant part.

X-Ray
Right click model → Left click “Multiply object” → Example: copy 4 model

5 models in total

Attention: You can try other functions by yourself.
D. Printing Operation

1. Display Introduction

- Extruder Temp
- Hotbed Temp
- Fan Speed
- Buzzer
- Knobs
- Icon
- Speed
- Status
- Printing Progress
- Printing Time
- Reset

Click to enter main menu

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

Main menu
2. Filament Feeding

2.1 Set Preheat

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

Press Knobs → Prepare → Preheat PAL → Start preheating

Attention: Please choose “Preheat ABS” if you want to print with ABS.
2.2 Filament Installation

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

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

1. Attention: confirm the specification & type of filament
   Specification & type
   - Item No.: A10018 White
   - NATURAL: 1.0KG(N.W.)
   - Print Temp: 200-230°C
   - Ld.: 180606
   - Recommended printing temp

   Attention: For A2 printer we use 1.75mm filament

2. Attention: Install filament only when temp reaches 190°C

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

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

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

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

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

2. Turn off stepper motor. Based on step 1, enter “Quick settings” → “Disable stepper”
3. Please manually move nozzle to platform and check the gap between nozzle and platform.

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

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

1) SD Card Offline Printing

a. Loading mode

Cura supports STL file & G-code file.
b. Code Saving

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

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

Attention: Please use the function according to your requirement.
d. Judgment of the gap between nozzle and platform.
   1. Too big gap: The printed model is uneven, curled with gap. It means the gap is too big for filament to reach the platform, making the printing effect so bad.

   ![Image of too big gap]

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

   ![Image of too close gap]

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

   ![Image of appropriate distance]

   Wait to print complete after gap adjustment.
2) **USB Online Printing**

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

![Machine settings interface](image1)

- **Method 1**
- **Method 2**

Modify serial port (set according to PC) (115200 or choose AUTO to automatic identification)

When online printing, you need to use USB to connect with PC and set serial port, baudrate correctly.

b. **Online Printing**

![Online printing interface](image2)

Import print model, click this icon. (Icon available only when it's online)

![Print model import interface](image3)

The printer will start printing automatically when the extruder & hotbed reaches estimated temp after you choose print model. You can also modify temp in this interface.
5. 2004LCD Screen Indtruction
Press to enter this option

Whole submenu interface

Back
Quick Settings
Print file
Position
Extruder
Fan speed
SD Card
Debugging
Configuration

Back
Home All
Speed Mul.:
Flow Mul.: 
Preheat PLA
Preheat ABS
Cooldown
Set to Origin
Disable stepper

Change banned

Turn off motor

Press to start printing

Enter this option to choose file you need.
Attention: all movement controlled with "UP" & "Down".

Example for operation

Use Up and Down to control X axis.
Back
Quick Settings
Print file
Position
Extruder
Fan speed
SD Card
Debugging
Configuration

Whole interface of submenu

Enter SD card before printing

Back
Print file
Unmount Card
Delete file

Remove SD card

Enter SD card during printing

QBack #
Pause Print
Stop Print
Unmount Card

A2 can pause print during printing, during printing, enter “SD card” → “Pause print”. It will stop printing in a few seconds. If you want to continue printing, enter “SD card” → “Continue print”
Back
Quick Settings
Print file
Position
Extruder
Fan speed
SD Card
Debugging
Configuration

Back ▲
Echo : Off
Info : On
Errors : On
Dry run : Off

Attention: Change banned
Back
Quick Settings
Print file
Position
Extruder
Fan speed
SD Card
Debugging
Configuration

Attention: Change banned of these settings

Back ↑
General
Acceleration
Feedrate
Extruder
Store to EEPROM
Load f. EEPROM

Back ↑
General
Acceleration
Feedrate
Extruder
Store to EEPROM
Load f. EEPROM

Back ↑
Baudrate: 115200
Stepper Inactive
Max. Inactive

Dis. After: 360 [s] 0=Off
Back → General → Acceleration → Feedrate → Extruder → Store to EEPROM → Load f. EEPROM

Configuration stored in EEPROM

Back → General → Acceleration → Feedrate → Extruder → Store to EEPROM → Load f. EEPROM

Configuration loaded f. EEPROM

Attention: Change banned
6. Install Filament

6.1 Set Preheat Mode

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

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

Extruder preheat
Hotbed preheat

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

Attention: Put filament into printer only when extruder temp reaches 100°C. (Use PLA as example)

Confirm Extruder Temp has reached 100°C → 1 roll PLA → Stroke the filament head straight → Press extruder screw. Meanwhile, hold the white wind mouth → Meanwhile, stick filament into the extruder quickly until filament goes out from the nozzle → Filament installation succeed.

Attention: confirm the specification & type of filament

Specification & type

1.75MM PLA 3D FILAMENT
Item No: A10579 White
Natural: 1.0KG (N.W)
Print Temp: 200-230°C
Lot: 100000

Recommended printing temp

Attention: For A2 printer we use 1.75mm filament.

Attention: Install filament only when temp reaches 100°C

192.0/190°C
35/60°
Z: 105.00 Buff: 0
Mul: 100 Flow: 100
Stepper Disabled
3. Stroke the filament head straight → Press extruder screw. Meanwhile, hold the white wind mouth → Meanwhile, install filament into the extruder quickly until filament liquid goes out from the nozzle.

4. Press down → Hold up → Press extruder screw, hold on wind mouth. Stick filament in quickly until filament goes out from extruder.

Attention: High temp!!

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

Filament installation succeed.
6.3 Pull Out Filament

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

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

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

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

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

3. Please manually move nozzle to platform and check the gap between nozzle and platform.
4. When the gap is more than 2mm, you need to adjust the height of Z limited switch. Example: When the gap is 12mm, you need to adjust limited switch down by 10mm. The rest 2mm can adjust by spring on the hotbed.

Adjust screw
Adjust spring
Butterfly nut

Gap should be less than 2mm

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

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

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

1) SD Card Offline Printing

a. Loading mode
Cura supports STL file & G-code file.

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

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

Attention: Please use the function according to your requirement.
e. Judgment of the gap between nozzle and platform.

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

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

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

Wait to print complete after gap adjustment.
2) USB Online Printing
   a. Machine settings (Use USB to connect to PC)

   Method 1

   Method 2

   Modify serial port (set according to PC)
   (115200 or choose AUTO to automatic identification)
   When online printing, you need to use USB to connect with PC and set serial port, baudrate correctly.

   b. Online Printing

   Import print model, click this icon.
   (Icon available only when it's online)

   The printer will start printing automatically when the extruder & hotbed reaches estimated temp after you choose print model. You can also modify temp in this interface.
E. FAQ

1. Z Axis Adjustment

During installation, we need to test moving parts:

As showed above, the part in the red box is Z axis. Use Z axis as example, normally the reason Z axis cannot run smoothly will be:
1) The coaxiality of driving rod and nut support is too big (In most condition)
2) X belt is too tight.
1. Adjust coaxiality:

Choose Position → Move Axis → Move Z to test Z axis. If it cannot run smoothly, you need to loosen the screw of nut support for a little. Move it to the maximum stroke and adjust the coaxiality. Manually rotate the coupling. If it’s well adjusted, the coupling will be rotated smoothly.

Install Screw

Brass Nut

Z Axis Nut Support

Flexible Coupling

Test the Fluency of Z Axis
Choose Preheat PLA (For example), wait until the temp reaches estimated temp.

Press the gas-type fitting, extract the feed pipe.

Nozzle Block:
Normally it’s because feed pipe doesn’t fully fit into the bottom, and filament melts in the gap. So preheat nozzle to estimated temp and hold Y axis aluminium profile. Meanwhile press gas-type fitting, extract the feed pipe at a constant rate until the filament is extracted.
# 3. FAQ

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

Important maintenance tips:

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

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

3. When finished printing, the filament should keep sealing, avoid moisture.

4. Preheat the extruder at the beginning of 2 nd time printing, let extruder auto-push filament for a while.

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

6. Do not let the fan and air-condition blow to the hot bed when printing.

7. Keep the working condition at “Temp:10-30℃，Humidity:20-70%”. 
Ⅶ. Maintenance Service Provision

1. This product executes regulations of “Product Warranty Card”.

2. Please contact supplier or customer service if the product have any problems. Do not repair it by yourself, otherwise you need to bear all the consequences.