User Guide

Finder Desktop 3D Printer

FLASHFORGE

V1.0 17.6.2015

FLASHFORGE
3D PRINTER

Create a Joyful 3D Life with You!

Contents

WELCOME TO
FLASHFORGE FINDER

A. Introduction

This User Guide is designed to start your journey with the Finder 3D Printer off in the right direction. It presents the operation process on the basis of the window 7 operating system. To get familiar with the machine, it is essential for you to read through this guide. This User Guide includes four chapters.

In the first chapter, you will learn how to get set-up the Finder for the first print. In the second chapter, you will learn the ins and outs of FlashPrint software. The third chapter will take you through printing operation and different printing methods. The last chapter includes information regarding obtaining support.

Ensure that you have read the following section carefully prior to setting up and operating the Finder：

Ensure that the Finder is earthed lest electrostatic interference.

Before repairing or making any alterations to the Finder, it is essential that the machine is turned off, and the power cord is unplugged.

The Finder operates at a very high temperature; allow the nozzle, extruded plastic and heating plate to cool before touching.

Certain types of plastic filament may give off a slight odor when heated. Because of this, the Finder should always operate in a well-ventilated area.

Do not leave the Finder unattended when in operation.

B. Acknowledgment and Commitments

Acknowledgment

Our sincere gratitude goes to you for your great support. Even if you are familiar with earlier Flashforge machines or 3D printing technology, we still recommend that you read through this guide, as there is lots of important information about Finder for you to get a better 3D experience. Following this guide will ensure your successful first print journey.

Commitments

Our team is composed of geeks and makers who are passionate about 3D printing and want to share this new technology with the world. We understand the importance of product and service support, especially the challenges that a new technology may bring along. With FLASHFORGE, you can always expect a close, personal service from our team of experts.

At FLASHFORGE, we understand that 3D printing is a new technology to many individuals. Our aim is to educate and guide you through the entire process of 3D printing. With 3D printing, there are no limits — you can go as far as your imagination takes you. With the Finder, dreams are no longer simply just imaginations. They can become physical realities that you can hold, touch, and feel. It is amazing to see a 3D printer turn an idea into real life, layer by layer, and we are delighted to have you on-board with us to experience this phenomenon!

C. About 3D Printing

What is 3D Printing?

Simply put, 3D printing is transforming three-dimensional models into physical objects that you can hold and touch. It is also called additive manufacturing because the 3D model is created by "adding" layers upon layers of material until the object is fully formed.

The Technique

Fused Deposition Modeling(FDM) is the most common method of 3D printing. It is also the method that the Finder uses. It works by melting plastic material called filament onto a print surface using high temperature. The filament solidifies after it cools down, which happens instantaneously after it is extruded from the print head. 3D objects are formed with the filament laying down multiple layers.

3D Printing Process

3D printing involves three steps: 1.) 3D model design, 2.) Slicing and exporting the 3D model, and 3.) Making the print

1. **Designing the 3D Model:** Currently, there are three ways of creating a 3D model.

Designing From Scratch. You can use free CAD (computer aided design) software such as AutoCAD, SolidWorks, Pro-E to design your very own 3D model.

3D Scanners. An alternative method to creating a 3D model is to scan an

object. 3D scanners work by digitizing a physical object, collecting its geometric data, and saving it to a file on your PC. There are also apps that can turn a mobile device into a 3D scanner.

From the Cloud. The most popular way of obtaining a 3D model is to download it from websites that allow users to upload 3D models that they designed.

E.g. www.ishare3d.com

2. Slicing and Exporting the 3D Model:

A slicing software is required to process and interpret the 3D model into the language that 3D printers can understand. The FlashPrint is the slicing software used for the FlashForge Finder.

FlashPrint will slice the 3D model into numerous layers and output it as a .g file, which is the format read by the Finder. The file is then transferred to the Finder by USB cable, USB Flash Disk or Wi-Fi.

3. Making the Print:

Once the output file has been transferred to the Finder, it will start to turn the 3D model into a physical object by laying down layers of filament.

CHAPTER 1.
Set up Your Finder

A. Unpacking Your Finder
B. About Finder
C. Hardware Assembly
D. Loading and Unloading Filament
E. Leveling Build Plate

A.Unpacking Your Finder

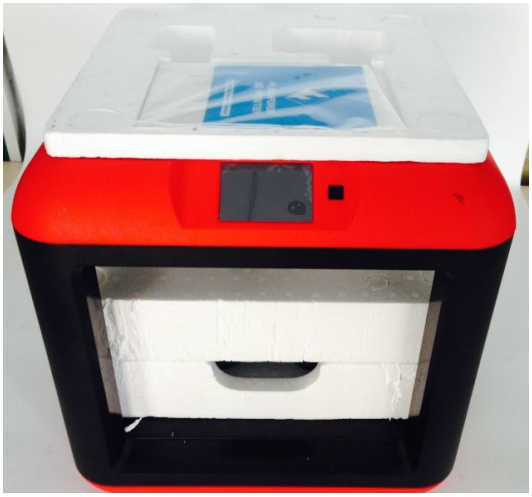
Congratulations on your purchase of the Flashforge Finder 3D printer! In about 15 minutes, you will be ready to start making your first 3D object. This section lays out the procedure for correctly removing the Finder from its shipping box. The Finder contains delicate components, please remember to handle with extra care and attention. Let's begin!

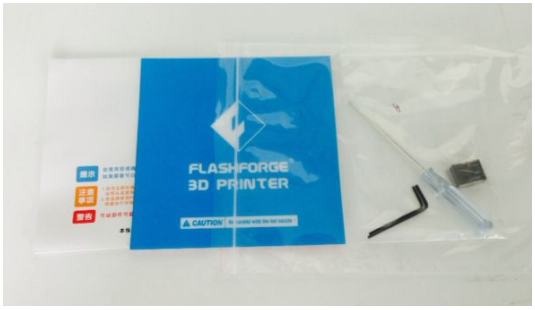
1. Place the color packaging box on a clean work surface or the ground. Open the box, grasp the two handles and lift your Finder out of the box.

2. The Finder is wrapped by packaging material. Next, we should remove the packaging material.

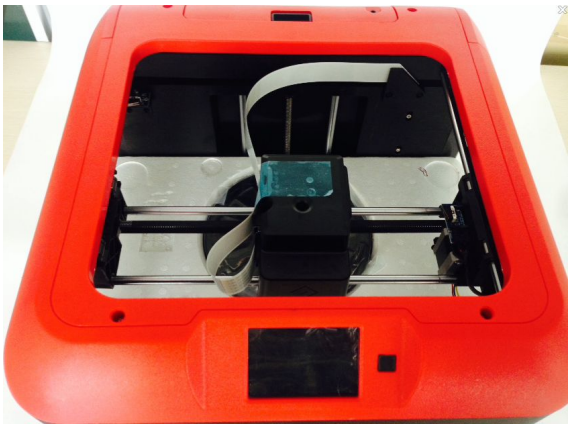
3. Remove the side protective foam sheets, you will see the Finder in a transparent bag. Then remove the bag to unveil the Finder.

4. On the top foam sheet we can see the accessories from the kit contents: one plate tape, one Quick Start Guide, one 4GB USB, two Allen wrenches (M1.5 and M2) and one screwdriver.

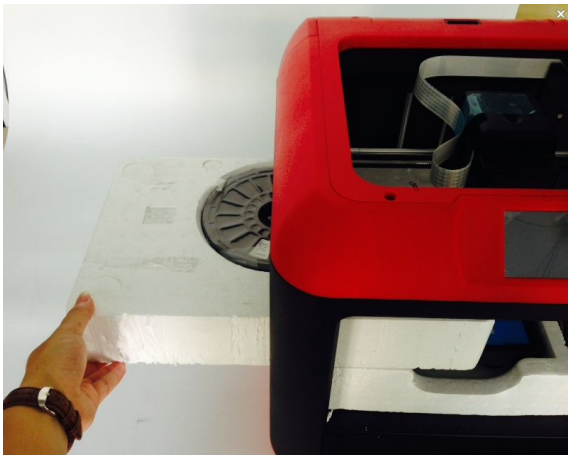




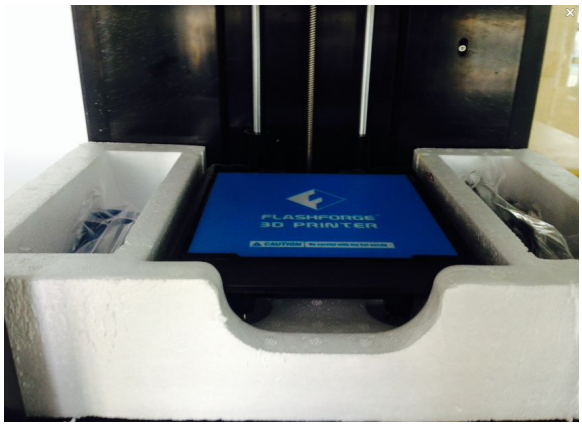
5. Remove the top foam sheet, you will see the extruder and X-axis guide rods. Slide the extruder left and right to ensure the extruder and the guide rod intact. Discard the tape holding the flat cable in place .



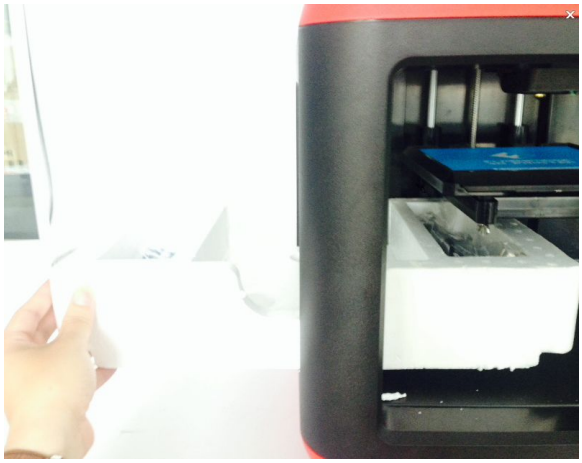
6. Take the filament spool protective foam out of the Finder. You will see a roll of blue PLA filament inside.



7. Then you will see the build plate. The build plate with a blue build tape is available for direct use. Beside the build plate lies **a power cable and a USB cable**.



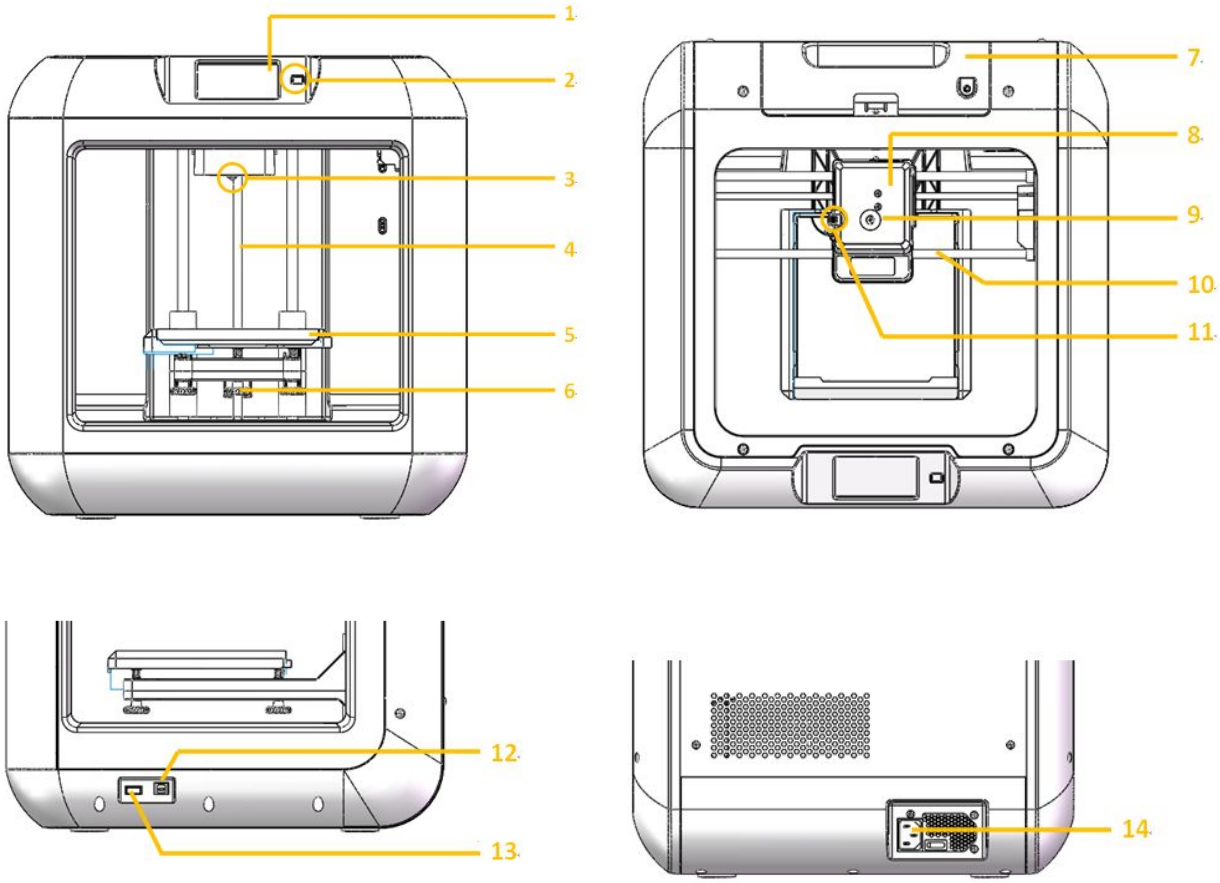
8. Move the build plate up. Remove the protective foam for build plate and take the power cable and USB cable out.



9. You have unpacked your Finder. Next, let's go to the overview and accessories of Finder.

B.About Finder

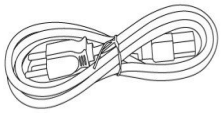
Views:



1. Touch screen panel 2. Power switch 3. Nozzle 4. Z-axis guide rod 5.Build plate 6. Leveling thumb screw 7. Filament cartridge 9. Filament intake 10. X-axis guide rod 11. Spring presser 12. USB cable input 13. USB flash disk input 14. Power input

Accessory Box

PLA Filament

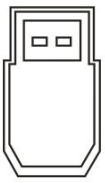


Power Cable

USB Cable

Plate Tape

Quick Start Guide



USB Flash Disk

Allen Wrench（M1.5、M2.0）

Screwdriver

Accessory Introduction

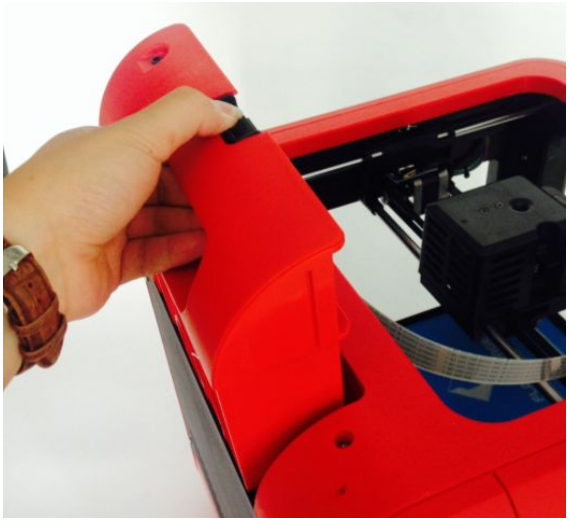
PLA Filament	Polylactic acid filament. PLA is a renewable bilplastic. Finder PLA is the source material from which you make objects on the Finder.
Power Cable	A cable that allows the Finder to connect with power
USB Cable	A cable that allows the Finder to communicate with a computer using the USB interface on the computer.
Plate Tape	A tape that sticks to the build plate for a better print quality.
Quick Start Guide	Overview of the printer and the operation.
USB Flash Disk	A data storage device for saving the files.
Allen Wrench, Screwdriver	Tools for the installation and maintenance of the Finder.

C.Hardware Assembly

Your Finder has been installed before leaving factory, you can start up the Finder for printing after mounting the filament spool.

Installing the Filament

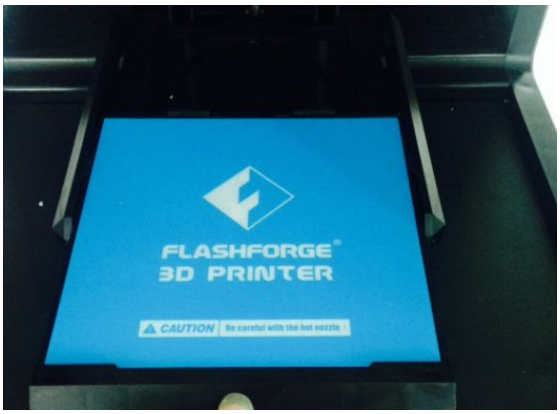
1. Remove the filament cartridge in the rear of Finder, where you will place the filament spool.



2. Thread the filament through the filament guide tube, pierce the filament through the filament outlet and then place the filament spool in the box. Note: You should ensure the right direction of the filament spool.

3. Put the filament cartridge back to the Finder. Next load the PLA filament to the extruder.

4. After loading the PLA filament, adhere the plate tape over the build plate, as shown in the right picture.
Note: The plate can be dawn out from the build platform.



Connecting power cable and USB cable

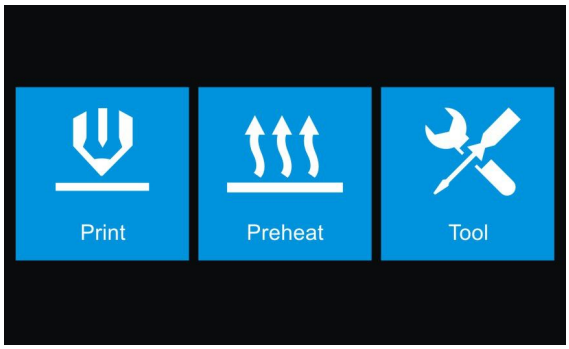
1. Insert the power supply into the power input on the back of the Finder and plug the power cord into an electrical outlet.

2. Locate the USB cable and plug one end into the Finder and the other into your personal computer. The Finder supports USB 2.0.

D.Load and Unload Filament

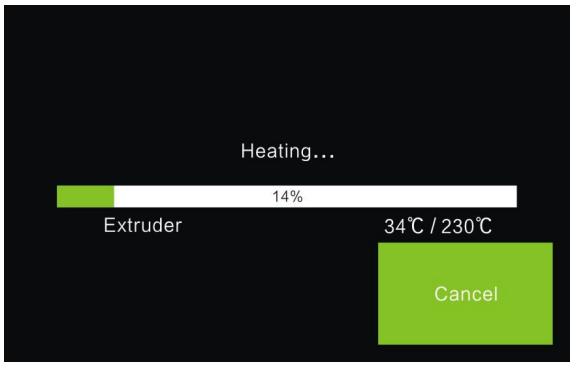
Loading the filament:

1. Tap **[Tool].**

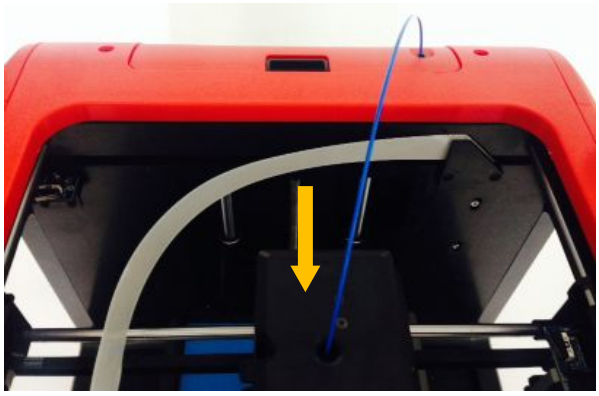


2. Tap **[Filament]--[Load].**

3. Wait for the extruder to heat up to the operating temperature. The extruder will alert you once it is at the operating temperature. Load the filament by inserting it into the extruder at an upright angle.

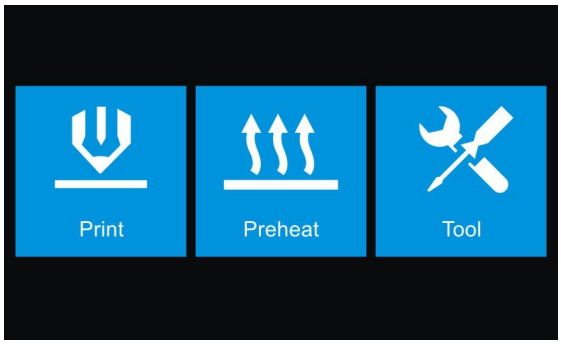


4. Filament will start to extrude out of the nozzle. Continue loading to ensure that the filament is extruding in a straight line. Refer to the troubleshooting section if the filament is extruding at an angle.
(Note: The Finder will sound a warning when the filament is running out, please change the filament in time)



Unloading the filament

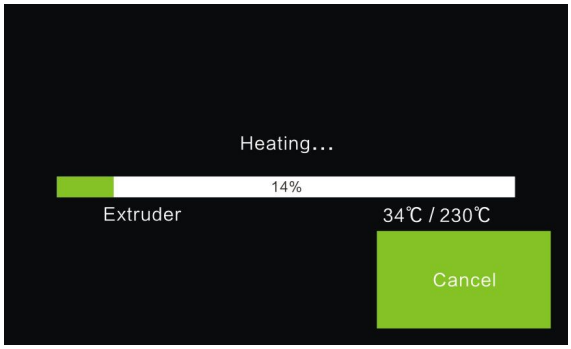
1. Tap **[Tool]**

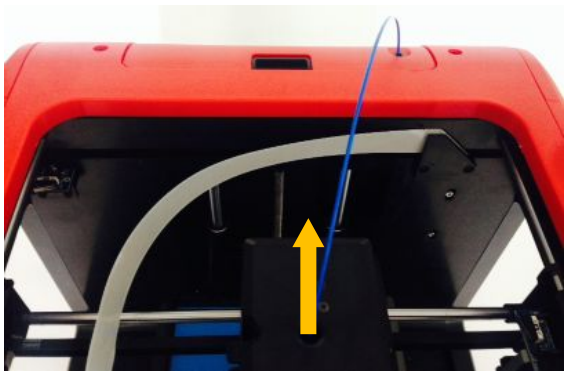


2. Tap **[Filament]--[Unload].**

3. Wait for the extruder to heat up to the operating temperature. The extruder will alert you once it is at the operating temperature. Unload the filament by gently guiding it out of the extruder.。

Note: Do not pull out the filament with force as it will damage the gears. If the melted filament has cooled down in the extruder, please repeat the steps above.

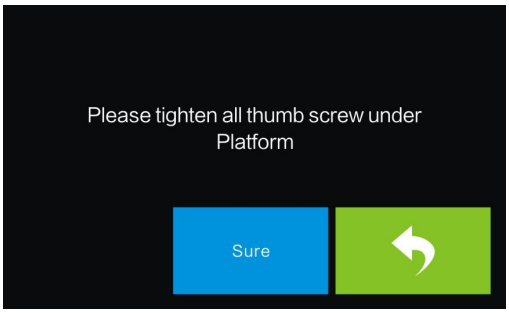




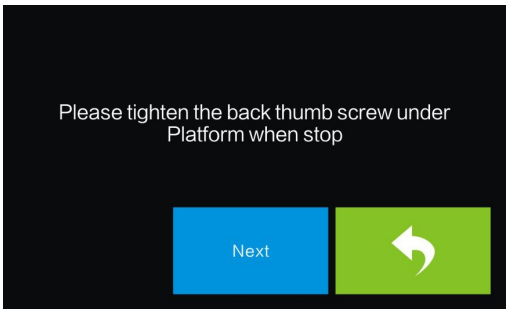
E.Leveling Build Plate

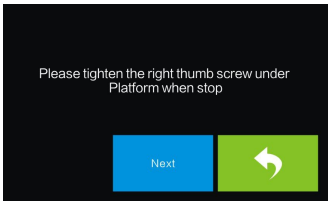
Finder creatively adopts three-point intelligent leveling system, which will give clear and comprehensive feedback to users. There are three spring-loaded screws under the build platform. The distance between the plate and the nozzle increases while tightening the nuts. On the contrary, the distance reduces.

1. Tighten the three nuts under the build platform according to the hints and then tap [Sure].

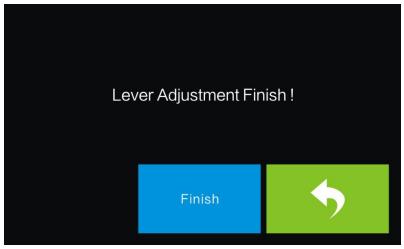


2. The plate and the extruder then start to move. When the extruder halts over the rear screw, begin to adjust this screw. Loosen the screw slowly to make the plate elevate to a point where the plate meets the auxiliary probe for leveling. The Finder will sound a warning. Then rotate the screw in the opposite direction till the sound disappears. After the sound disappears, rotate another half circle and then tap [Next].





3. When the extruder halts over the second screw, repeat the above steps and then go on with the third screw to complete leveling.



Chapter2.
About FlashPrint

A. About the Software

A. About the Software

1. Software Installation

1.1 Download

Method 1: Insert the USB flash disk from the toolkit into a computer, we have already prepare the latest driver installation package in the USB flash disk.

Method 2: Open the link below to download the installation package: http://www.ff3dp.com

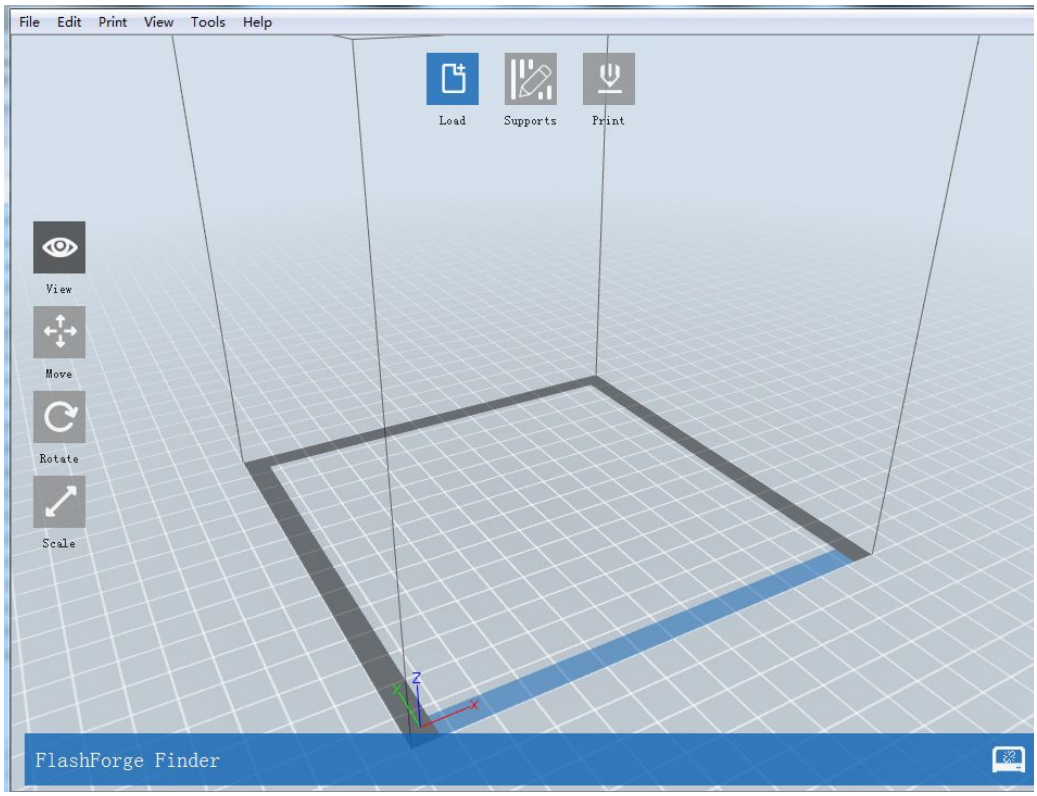
1.2 Installation & Start

1. Decompress the downloaded RAR, and complete installation according to the instruction.

2.Start the software with the start menu shortcut or by clicking the software icon.

2. Software Operating Instructions

You can use Flashprint software to control Finder and perform printing tasks.


File
Edit
Print
View
Tools
Help
Load
Supports
Print
View
Move
Rotate
Scale
Z
FlashForge Finder

Load one or multiple files.

Enter the support edit mode

View FlashPrint home screen from one of six viewing angles.

Move model around on xy-plane; shift+click to move along z axis

Turn and rotate your model

Scale the size of your object

Select right or left extruder you want to print with

Print it directly with your Finder or export to your SD card.

2.1 Load File

You can load a model file or Gcode file into the software by the following six methods:

Method 1: Click the **Load** icon on the main interface. Then select the object file.

Method 2: Select the file for loading and drag the file to the main interface of the software.

Method 3: Click [**File**] -- [**Load File**]. Then select the object file for loading.

Method 4: Click the [**File**] --[**Examples**] to load the example files

Method 5: Click the [**File**] --[**Recent Files**] to load the files opened recently.

Method 6: Select the file for loading, and drag the file to the icon of the software.

You can load into .stl, .obj, or .fpp model files which are editable in the software. Please refer to Section 2.2~2.5 and you can find instructions of that modification, such as operations of mouse, changes of view from different angles and how to edit and save the file. After modification, please refer to Section 2.6 if you want to slice the model file , generate Gcode file and print it.

2.2 Mouse Operations

2.2.1 Left-click

Select a model by moving the cursor onto it and left-click it.

Select multiple models by holding down the **Ctrl** key and left-click the models.

Model looks brighter when selected.

Model can be edited when selected.

Left-click on blank space to undo the selection of model.

2.2.2 Left-click and hold down the left mouse button

When changing the viewing angles or editing models, different effects appear by left-clicking and holding down the left button. Please refer to Section 2.3.1~2.3.2 & 2.4.

2.2.3 Right-click and hold the right button

Same results in any operations when right-clicking and holding down the right button. Please refer to the Sections 2.3.1 & 2.3.2.

2.2.4 Scroll the mouse wheel

Same effects in any operations when scrolling the mouse wheel. Please refer to the Section 2.3.3.

2.3 Change Views

Change your views of the model by moving, rotating, scaling the view and so on.

2.3.1 Set Position

You can move the view of build platform frame in the software interface by the following three ways:

Method 1: Hold down the left mouse button and drag.

Method 2: Hold down the middle mouse button and drag.

Method 3: Hold down the Shift key, hold down the right mouse button and drag.

2.3.2 Set Rotation

You can rotate the view of build platform frame in the software interface by the following two ways,

Method 1. Hold down the right mouse button and drag.

Method 2. Hold down the Shift key, hold down the left mouse button and drag.

2.3.3 Set Dimensions

You can scale the view of build platform frame in the software interface by scrolling the mouse wheel in any condition.

2.3.4 Set View

You can set the view of build platform frame in the software interface from six angels by following two ways to observe the model. (**Top/ Bottom/Front/ Back/ Left/ Right View**) .

Method 1: Click the the [**View**] button, and then select the view you need to observe the model.

Method 2: Click the the [**Look**] button on the left of the software interface, and select the view you need.

2.3.5 Reset View

Method 1: Click the [**View**] menu and select [**Home View**]

Method 2: Click the [**View**] button on the left side, click it again and you will see the viewing options, you can click [**Reset**].

2.3.6 Show Model Outline

Click [**View**]--[**Show Model Outline**], it will highlight the outer surfaces of your model file with gray and white color.

2.3.7 Show Steep Overhang

Click [**View**]--[**Show Steep Overhang**]. When the intersection angle between the model surface and horizontal line is within the overhang threshold value, the surface has steep overhang and it becomes red in the software. Overhang threshold value could be set as needed. The default value is 45 degree.

2.4 Edit models

You can edit the models by moving, rotating, scaling the model and so on.

2.4.1 Move

When the model is selected, you can change model location on the build platform by the following two ways:

Method 1: Click the [**Move**] button on the left of the software interface. Hold down the left mouse button and drag, you could adjust the location of the model in XY direction. Hold down the Shift key, and long-press hold down the left mouse button and drag, you can adjust the location of the model in Z direction. You can see the distance and direction of the movement which refers to the relative distance between present and former location.

Method 2: Click the [**Move**] button on the left of the software interface and then enter the distance value you want to move on X/Y/Z axes positioning. Click [**Reset**] to reset distance values.

Note: Generally, we suggest you to click [**Center**] and [**On Platform**] after adjusting location of the model to make sure the model within the build area and sticking to the build platform. Only click [**On Platform**] if you want to print the model in a specified position.

2.4.2 Rotate

When the model is selected, you can change the orientation of your model on the build platform by the following two ways:

Method 1: Click the [**Rotate**] button on the left of the software interface and you can find three mutually perpendicular rings whose color is red, green and blue. Click one ring and rotate on the present axis, you will see

the rotation angle and direction in the center of circle. In this way, you could make the model rotate on X/Y/Z axis.

Method 2: Click the [**Rotate**] button on the left of the software interface, and then enter into rotating angel values in X/Y/Z axes positioning. Click [**Reset**] to reset rotating angel values.

2.4.3 Scale

When the model is selected, you could change the size of the model on the build platform by the following two ways.

Method 1: Click the [**Scale**] button on the left of the software interface, then hold down the left mouse button and move the mouse to adjust the size of the model. You will see corresponding values of different axes near the borders.

Method 2: Click the [**Scale**] button on the left of the software interface, and then enter into scale values in X/Y/Z axes positioning. Click the [**Maximum**] button to get largest size possible for building. Click [**Reset**] to reset the size of model.

Note: If the [**Uniform Scaling**] radio button is clicked, it will scale the model in equal proportion when changing **value** in any positioning of the model. Otherwise it will only change the value of the corresponding positioning.

2.4.5 Others

2.4.5.1 Undo

Undo the most recent edit you made to your model file by the following

two ways:

Method 1: Click [**Edit]--[Undo]**.

Method 2: Press the shortcut **Ctrl+Z**.

2.4.5.2 Redo

Redo the most recent edit you have undone to your model file by the following two ways:

Method 1: Click [**Edit]--[Redo]**

Method 2: Press the shortcut **Ctrl+Y**.

2.4.5.3 Select All

By the following two methods, you could select all models in the scene. (When models are too small to be seen or out of viewing scope, please click **[Center]** and **[Scale]** buttons to adjust the model.)

Method 1: Click [**Edit]--[Select All]**.

Method 2: Press the shortcut **Ctrl+A**.

2.4.5.4 Duplicate

There will be two ways to create copy of relevant model after pitching on it.

Method 1: Click [**Edit**]--[**Duplicate**]

Method 2: Press the shortcut **Ctrl+D**

2.4.5.5 Delete

There will be two ways to delete relevant model after pitching on it.

Method 1: Click [**Edit**]--[**Delete**]

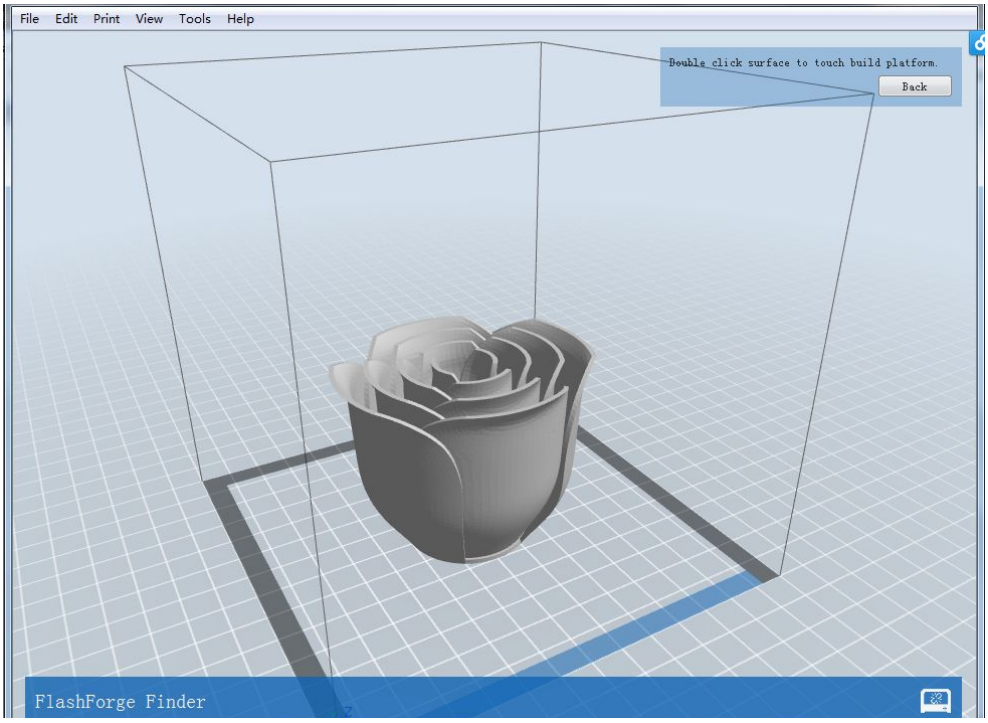
Method 2: Press the shortcut **Delete**

2.4.5.6 Surface to Platform

After selecting the model, you can make the model surface to platform via the following operation.

Click [**Edit**]--[**Surface to Platform**] into surface to platform mode(As shown in the picture)

Select one surface of model, double left-click the surface, then the model will be placed automatically with the selected surface to platform.



Surface to Platform

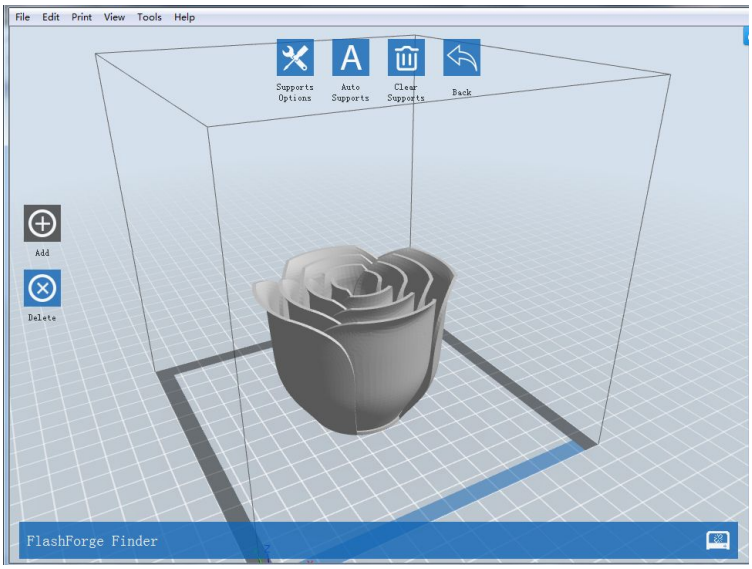
2.4.5.7 Auto Layout All

Click [**Edit**]--[**Auto Layout All**] after loading one or more than one models, all models will be placed automatically as automatic placement

rule.

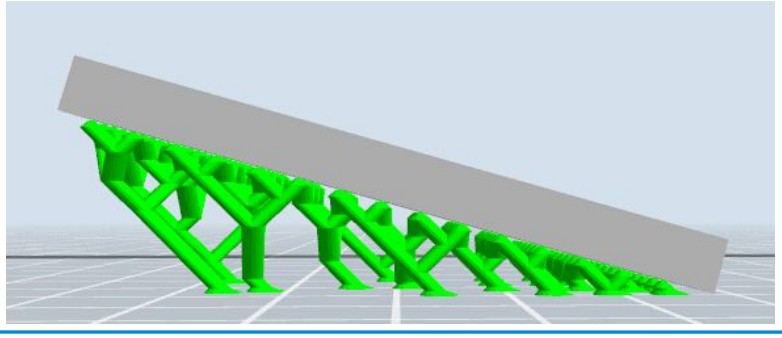
2.5 Supports Edit

After loading the model, click [**Edit]--[Supports**] or click the **Supports** icon( ) directly on the main interface, then you will enter the support edit mode(as shown in the picture below). Click [**Back**] to exit when you finish editing..



2.5.1 Auto Supports

Click the [Auto Supports] button, the software will judge the position where supports are needed and generate corresponding treelike or linear supports. If the model already had support, the existing supports will be deleted and new supports will be generated.



2.5.2 Clear Supports

Click [**Clear Supports**], all supports will be deleted. The operation can be repealed via clicking [**Undo**] or pressing the shortcut key **Ctrl+Z**.

2.5.3 Add Support

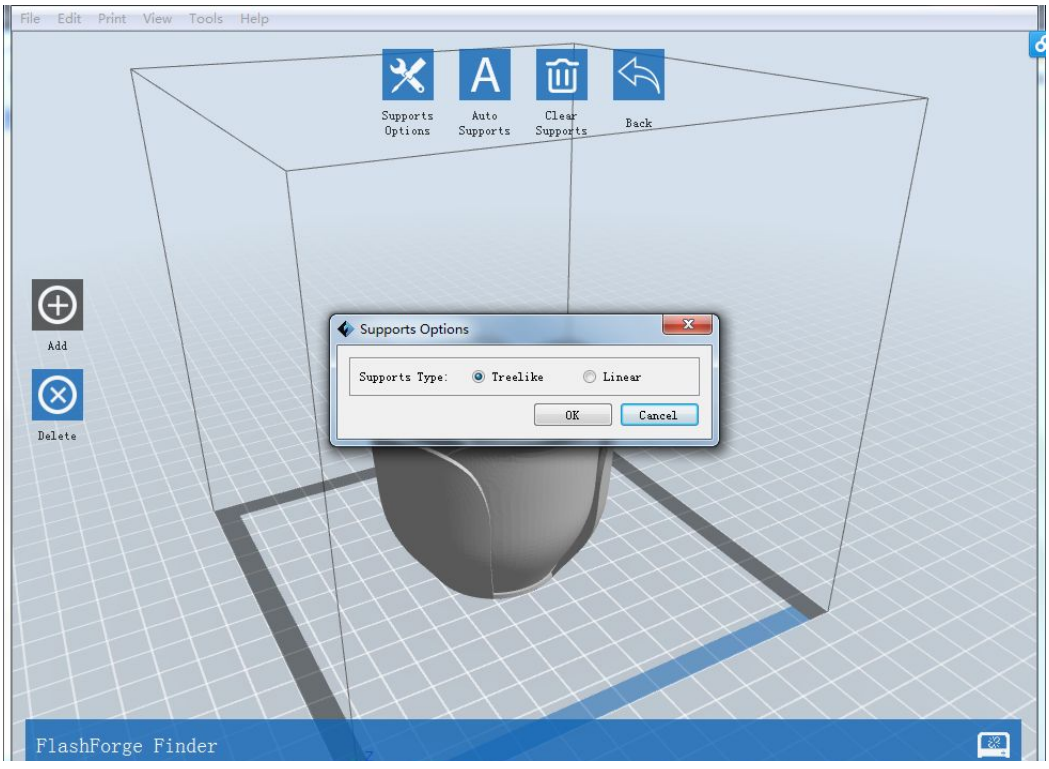
Supports will be added once clicking the [**Add**] button. Move the cursor to the position where needs supports, left-click to choose the starting point of supports, hold down the left mouse button and drag the mouse the supports preview will show up(if support surface doesn't need support or the support column angle is too large, will highlight the support review).Loosen the left mouse button, if support column doesn't meet with model, then support will be generated on origin and terminal point(the highlighted preview support won't generate support structure)

2.5.4 Delete Supports

Supports will be deleted once clicking the [**Delete**] button. Move the cursor to the supports needed deleting, current supports and its child node support will be highlighted, click the left mouse button to delete these highlighted support.

2.5.5 Supports

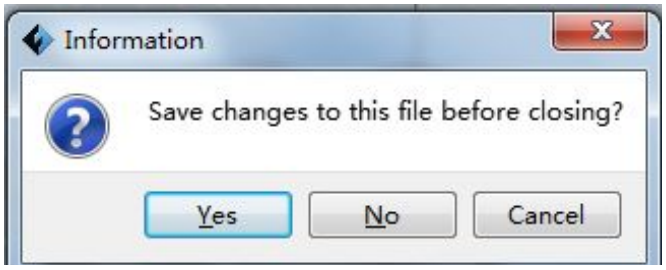
Click the **Supports** icon on the main interface, an option box will appear, supports options include “treelike”and “linear”, when choose “treelike”, click [**OK**], then the support generated will be treelike structure; when choose “linear”, click [**OK**], then the support generated will be linear structure; if the model already had support, when you choose one of the supports options,software will judge whether existing supports need to be deleted or not depend on the type of existing support, and will pop up the corresponding prompt to let you make the choice.



2.6 New Project

Click [**File**]--[**New Project**] can build a blank project. If there is an unsaved modification on previous project, then will inform you whether

the modification needs to be saved or not. Click [**Yes**] will save the modification , click [**No**] will abandon it. If click [**Cancel**] or close tool tip, then will cancel the new project.



2.7 Save Project

After finishing the model edit and adjustment, there are two ways below to save all models in the scene.

Method 1:

Click [**File**]--[**Save Project**] in the menu bar, can save the file as a project file which suffix is ".fpp" in this type of file,all models in the scene (include support) are independent .after reloading the files, extruder configuration information and model position will be as same as the configuration during saving.

Method 2:

Click on [**File**]--[**Save as...**] to save the model as project file .fpp or .stl and .obj. For .stl and .boj, models are integrated as one(include support part). If load it again, only the position of the model was saved, not included the printing parameters.

2.8 Printing Procedure

2.8.1 Select Machine Type

Before connecting the printer with PC, Click[**Print**]--[**Machine Type**] to select your machine type. After connection, the software will automatically recognize and choose your machine type, manual operation is invalid now. The selection of machine type will confirm the framework volume, which will influence the slicing result.

2.8.2 Connect Printer with PC

Before this step, we need to do setup for the printer(refer to Section 2.9.1.1)

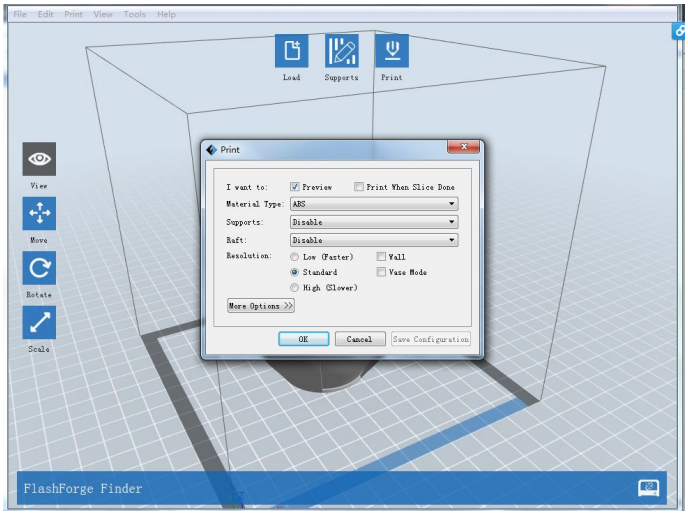
2.8.3 Print

2.8.3.1 Generate Gcode File

You need to slice the model before printing(printable file is generated by slicing the model). The following is operation process.

(1)Pattern

Step 1: Click [**Print**]--[]**Print** or click the **Print** icon on main interface, dialog of slicing parameters will show up.



Step2: After the setting of slicing parameters, click [**OK**] and a dialog for saving Gcode will pop up.

Step3: Choose a save path and click the [**Save**] button, slicing will begin and a progress bar will appear. If you want to stop, click the [**Abort**] button to stop slicing.

(2)Slicing Parameters

Preview: Choose to enter preview interface or not

Print when slice done: Print or not when slice done

Material type: Choose according to the type of model

Supports: When print with model contains part hanging in the air or top-heavy, support is necessary. Click [**supports**] to create support part for the printing.

Raft: This function will help the model to stick well on the platform.

Wall: During dual color printing, this function will help to clear the leaking filament of another extruder.

Vase Mode: No capping for the model

You have three resolution solution(with default setting)to choose from, high resolution is corresponding with slow printing speed, opposite for the low resolution.For PLA printing, an extra solution “Hyper” is available.

Click [**More options**] to set for layer, shell, infill, speed, temperature.

Different resolution solution is corresponding to different defaults, click [**Restore Defaults**] to back to default setting.

Layer

a. Layer: Layer thickness of the printing model. With a small number, the surface of the model will be more smooth.

b. First Layer Height: This is the first layer of the model, which will affect the sticking performance between the model and platform. Maximize is 0.4mm, usually the default is ok.

c. Shell: Contains of the outside shell number, capping layer number (under vase pattern, top solid layer setting is invalid.)

Primeter Shells: Maximize is 10

Top Solid Layer: Maximize is 10, minimum is 1.

Bottom Solid Layer: Maximize is 10, minimum is 1.

Infill

a. Fill Density means fill rate.

b. Fill Pattern is the pattern of filling shape which effects printing duration.

Speed

a. **Print Speed** is the moving speed of the extruder. Generally, the lower

speed is, the better print you will get. For PLA printing, 80 is recommended.

b. Support Print Speed is needed to set when choosing Slic3r as the slice engine which can control the moving speed of the extruder when printing the supports.

c. Travel Speed is to control the moving speed of the extruder under non-printing Status during work. for PLA printing, 100 is recommended.

Note: Modify parameters settings to get better prints as different models need different parameters.

Temperature

Extruder Temperature: Recommended extruder temperature is 220℃.

Note: Different temperatures have subtle influences in prints. Please adjust the temperature according to the condition in order to get a good print.

2.8.3.2 Print Gcode file

Load Gcode file into FlashPrint software when it is generated.

Step 1: The generated Gcode file will be loaded into software automatically if you select the **[Preview]** check-box when slicing, or you need manually load into it and then go to preview interface.

Step 2: Click the [**Print**] button on up right corner, the machine starts to print while click the [**Back**] button to exit.

Note: In the preview interface, there is a vertical scroll bar which shows each layer of the model and you can find **Estimated Material Right** and **Estimated Print Time** it costs on the top right corner.

2.8.3.3 Pause or Terminate Printing

Once printing starts, click the machine icon on the bottom right corner of the software interface and it will show the process status in a frame. Click Pause button to pause printing and then click Continue button to resume it. Click [**Stop**] button to cancel this printing task and you need to restart this print task if you want to print it again.

Note: Please **DO NOT** click the [**Pause]** button unless necessary, for it will affect printing result.

2.9 Printer Operations

2.9.1 Connect / Disconnect

2.9.1.1 Connect

You can connect the Finder to Flashprint software via USB cable or WIFI. The machine icon on the bottom right corner of the software interface shows a broken chain pattern means disconnected, while shows a unbroken one means connected.

A. USB Cable Connection

a. Find USB ports on the right-side of machine and computer, plug in and connect.

b. Open Flashprint software and turn on the printer.

c. Click **[Print]--[Connect Machine]**, then select USB in the **[Connection Mode]** option and select machine you want to connect in **[Select Machine]** option. If you can not find your machine, click the **[Rescan]** button to scan your machine and select it. Finally click Connect button to connect to the printer. If you still can not find your machine after rescan, which means you haven't installed the driver in the software. You have to install the driver manually, please refer to the Chapter 2.8.3.1. Normally, driver shall be installed automatically along with software.

B. WiFi Connection

a. Via wireless network

1. Switch on the printer, and make the WIFI available by clicking the menu **[Tools]--[Set up]--[WIFI]-[WIFI ON]**.

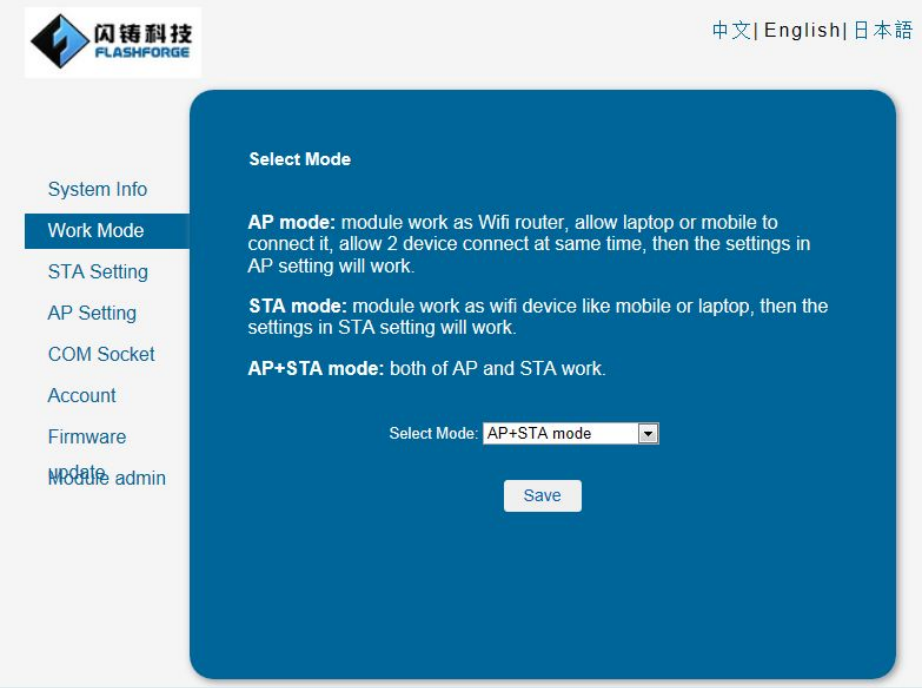
2. Open the wireless network connection in your computer, and choose .

LPB wireless network. It is the default network of the printer, and no password is needed if you haven't changed the settings.

3. Open your browser and enter the IP address **10.10.100.254** in the Address Bar. Then enter in **admin** as the account and password . (The above mentioned IP address /Account /Password are default when the setting haven't been changed)

4. Click [**Work Mode**], then choose AP+STA mode and save it.

Please don't click the [**Reboot**] button yet.



Note: If you choose the STA mode only, the printer may be unable to connect WIFI with the wrong STA setting. In this condition, it has the risk of being unable to connect the WIFI forever.

5. Click [**STA Setting**], and then click the [**Scan**] button and choose a commonly used network. Type in password, save it, and then click [**Reboot**] to the printer.

6. Five seconds after the reboot, choose disconnect and try to connect WIFI again. Open FlashPrint, click the menu **[Print]--[Connect]** to select WIFI connection, and then enter the network IP address (same as the IP showed on the touchscreen) in the IP port option. Finally click **[Connect]** to complete it.

After this, you do not need to connect WIFI in the future if no WIFI setting is changed. If you want to change WIFI setting, please try the same way.

e. Open STA setting, click search, choose an appropriate network, type in password and save it. Then reboot the printer.

f. After the reboot, open wireless connection, choose appropriate network, and open FlashPrint. Click **[Print]--[Connect Machine]**. Choose WIFI as connect mode, and type in the IP address (showed on Touch Screen Panel), and click connect.

Type 2: Set Finder as WIFI spot, and connect PC with Finder.

a. Switch on Finder, go to WIFI (**[Tools]—[Settings]—[WIFI]—[WIFI ON]**)

b. Open the wireless network connection, and choose xxx.LPB. (this is the default network without password, if the settings haven't been changed)

c. Click **[Print]--[Connect Machine]**. Choose WIFI as connect mode, and type in the IP address 10.10.100.254:8899, and click **[Connect]**.

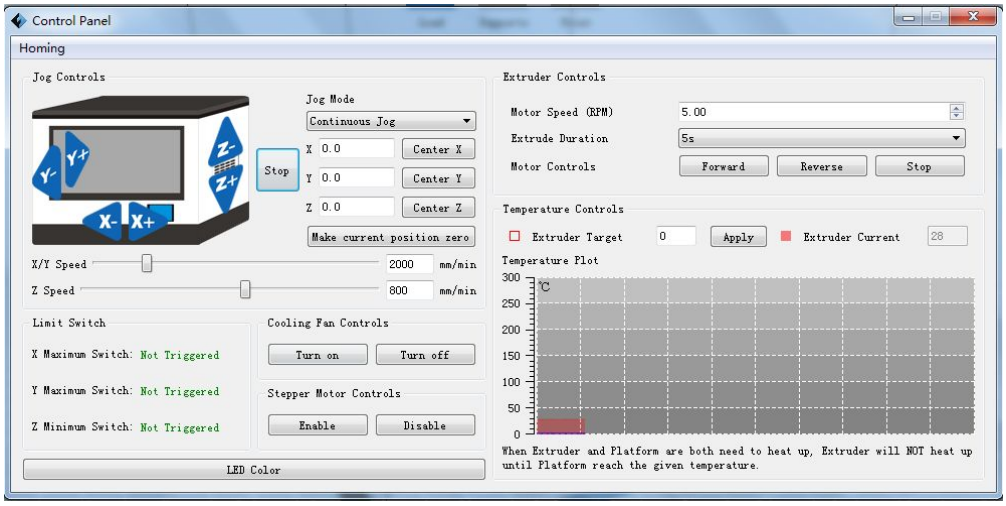
Note: A printer can only have one connection. If printer is operating by another process, connections should be switched off first and try to connect again. If AP mode is chosen, WIFI cannot be used by PC.

2.9.1.2 Disconnect Finder

Choose **[Print]--[Disconnect]**, and the connection between PC and Finder is break.

2.9.2 Control Panel

After connect PC and Finder, click **[Tools]--[Control Panel]**. Then you will see the Control Panel dialog pop up, and operate the following tips.



Jog Controls

a. **Jog Mode:** refers to the distance that extruder/build platform move a single time (that is to say, the distance extruder/build platform move upon your single click).

b. **Six blue arrow direction button:** Control the move along X/Y/Z axis. X/Y axis button control extruder move, Z axis button control build platform move. Click X-, extruder will move leftward a specified distance; Click X+, extruder will move a specified distance rightward. Click Y-, extruder will move forward a specified distance; Click Y-, extruder will move backward a specified distance. Click Z-, build platform will move upward a specified distance; Click Z-, build platform will move downward a specified distance. (Specified distance refers to the move distance you set in Jog Mode.

c. **Stop button:** When the extruder/build platform is moving, this button will stop this movement immediately.

d. **XYZ coordinate frame on the right side:** Show the current position of extruder/build platform.

e. **Make Current Position Zero button:** Set the current position of the extruder/ build platform as (0, 0, 0). (**NOTE:** X, Y, and Z boxes are for

display purposes. Changing the value in the boxes will not affect anything.

f. **Center X/Y/Z button:** Extruder and build platform will back to the zero (0, 0, 0) you set last time.

g. **X/Y Speed and Z Speed:** Set the move speed of extruder/ build platform.

Limit Switch

To protect Finder, it has 3 end-stop switches to control the maximum position, and the 3 limit switches corresponding to X/Y/Z axis limit switch. It has 2 status:

a. **Not Triggered:** When extruder/build platform do not move to the maximum position, X/Y/Z axis limit switch is not triggered, and shows "Not Triggered".

b. Triggered: When extruder/build platform move to the maximum position, X/Y/Z axis limit switch is not triggered, and shows "Triggered".

Cooling Fan Controls

This is aim to check cooling fan of extruder is work or not. Click [**Turn On**], you will turn on the cooling fan; and click [**Turn off**], you will turn off the cooling fan.

Stepper Motor Controls

This is aim to check whether stepper motor is on or not. Click **[Enable]**,

and lock the motor so it does not allow any movement; click [**Disable**], and unlock the motor to be controlled manually.

LED Color

LED color of Finder can be changed via control this button.

Extruder Controls

You can set the value of "**Motor Speed(RPM)**", which can control the rotation speed of filament feeding wheel. The motor rotation time can be controlled via setting the value of "**Extruder Duration**".Generally we suggest the users choose option of continuous time 60 seconds.

The filament must be melted in extruder before motor starts to rotate. Therefore, please do not start rotation operation until the extruder temperature reach the printing temperature of filament. For PLA filament, the extruder temperature should reach 200℃, after reaching the extruder temperature, click the **[Forward]/[Reverse]** rotation button to control filament load and filament unload. Furthermore, if you want to stop filament load and unload, you can click **[Stop]**.

Temperature Control

Input the temperature you want to get in the left frame, click **[Apply]**, the printer will automatically heat the corresponding part, the right side shows the current actual temperature of corresponding part. After start heating, the below curve of temperature form will start to change, different color correspond different parts' temperatures

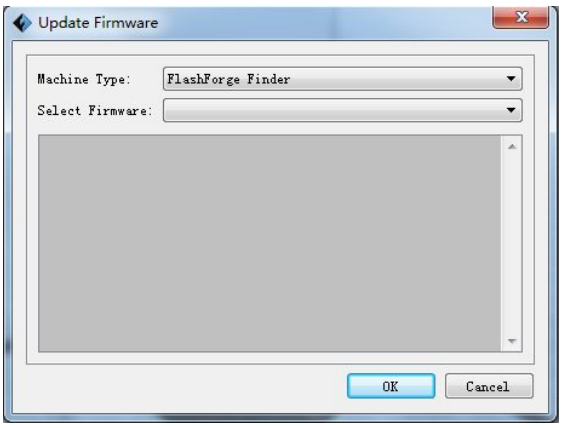
.

2.9.3 Update Firmware

Every time when you start the software, it will automatically detected the update and download new printer firmware. If there is new available firmware, it will remind user to update, the installation method is as below:

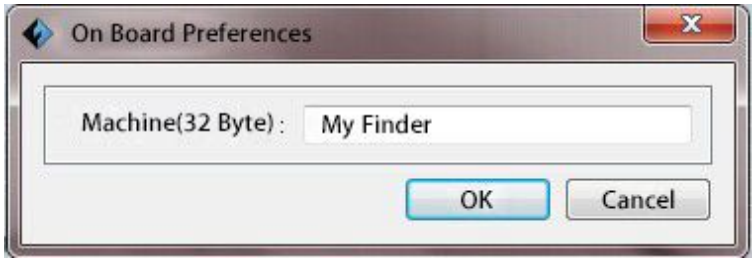
Step 1: Click **[Tools]**--[**Update firmware**]. It needs to cut off connection before updating firmware. If software and printer are already in connection, it reminds you cutting off the connection, choose [**Yes**] and go on to the next step.

Step 2: Choose corresponding printer type and firmware version and click **[OK]** in the firmware updating box. After confirming the printer is in free state, the software will automatically update the firmware.



2.9.4 On Board Preferences

When the computer and printer are in connection state, click **[Tools]--[On Board Preferences]**, you can check the printer name, extruder quantity etc.



2.9.5 Machine information

When the computer and printer are in connection state, click **[Tools]--[Machine information]**, you can check the machine type, machine name and firmware etc.

2.9.6 Manual Installation of Driver

The manual installation of driver method as below:

Step 1: Open the root directory of software(For example:\Program Files\flashforge\FlashPrint)

Step 2: Open the driver folder in root directory, find the driver software, click installation(There are two installation packages:dpinst_amd64.exe for 64 - bit system, dpinst_x86.exe for 32- bit system, users can choose which they need)

2.10 Other

2.10.1 Preferences

Click **[File]--[Preferences]**, you can choose language and if needs detecting update when start

Language

The software supports six languages, that is Chinese(simplified Chinese and traditional Chinese), English, French, Korean, Japanese and Russian,

Detect Update

It is used to set if needs to activate the online automatic update function, if choose yes, every time when you open software, it can online detect if there is new version software, once new version found, it will reminds uses to download and install new version firmware.

2.10.2 Check the Help Contents

Click **[Help]--[Help]**, you can read the help contents.

2.10.3 Version updating

There are two ways to update the software.

Online Automatic Update

Choose [**Detect update**], the software will be updated automatically (Refer to 2.9.1)

Manual Update

Click **[Help]--[Check for Update]**, it can detect online if there are

updated version. If there are available updated software version, the user can download and update new version.

Note: The process of software download and installation, please refer to Section1.1～1.2

2.10.5 Check Flashprint information

Click **[Help]--[About Flashprint]**, the software information box will pop up. The contents include the current software version and copyright information.

Chapter3.
First Print

A. Overview
B. Start Printing
C. Methods of Printing

A. Overview

This chapter will provide a step-by-step guide on turning a 3D model into a physical reality. Before proceeding, it is recommended that you go over prior chapters on loading/unloading filament, leveling the build platform, and the functions and capabilities of FlashPrint.

There are three connection methods in order to print using the Finder. All methods, which include USB, USB flash disk, and Wi-Fi are covered in this chapter.

B. Start Printing

Three kinds of connection methods: including USB, USB flash disk, Wi-fi

Below we will introduce you one by one the print mode and connection method, it will become a wonderful experience in your first print.

1. Double-click the icon to open the FlashPrint software.

2. Click on the [**Load**] icon to select a 3d model file with STL suffix from the hard disk.

3. The object selected will show on the screen.

4. Adjust model print position and size according to your convenience, requirement and preference. Please refer to the Software part on Chapter 2 for adjustment.

5. Now the 3d model is ready to be printed. Part B will introduce how to choose connection methods.

C. Printing Method

USB Connection Printing:

1. Connect Finder to computer with an USB 2.0 cable

2. Open the machine. Make sure that the plate has been leveled and filament has been loaded. The two steps above could be referred to the **Build Plate Leveling** section, and the **Filament Loading** section.

3. Select the [**Print**] menu, then choose [**Connect**].

4.Click on [**Rescan**], then click [**Connect**].

5.Now the printer is connected with FlashPrint. The status bar on the bottom right corner displays nozzle temperature.

6. Click the [**Print**] icon, a printing options dialog will pop up. Make sure that the [Material Type] is selected as "PLA". Advanced settings can be set under [**More Options**] icon. Check the box [**Print When Slice Done**] and click [**OK**].

7. Save the file at any location, and the object will start slicing.After the object is done slicing, it will automatically upload the gcode to Finder，then, the printer will go into a preheat phase. The Finder will begin printing once it has finished preheating.

Printing from USB Flash Disk:

1. Insert the USB flash disk into the computer.

2. Tap [**Print**], and a printing options screen will show up. Make sure that the [**Material Type]** is selected as "PLA". You can operate advanced settings after clicking the [**More Options**] button. Notice that you need to click the [**Print preview**] radio button and click [**OK**].

3. Save the g. code file in the USB flash disk, FlashPrint will begin slicing the 3D model.

4. After finishing slicing, insert the USB flash disk into the USB interface on the Finder. Turn on the Finder. Make sure the build plate is leveled, and filament is loaded.

5. Tap [**Print]** and then select SD Card icon in the middle. A list of file(s) will show up, press the file that you would like to print, then press [**Yes**].

6.The printer will heating up automatically and will start printing after finishing heating,

Printing from Wi-Fi:

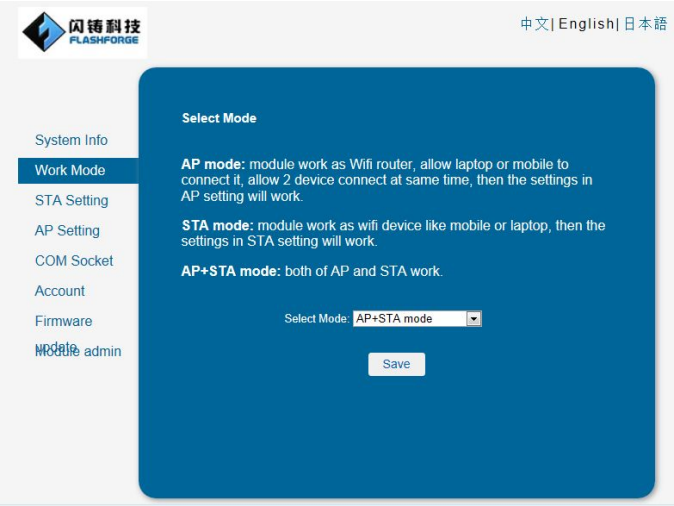
1. Turn on Finder. Make sure the build plate is leveled and filament is loaded.

2. Open the wifi, tap **[Tools]--[Setting]--[WIFI]--[WIFI ON]**.

3. After open Wifi，a connection called LPB can be founded on the list of available networks. Connect to this network.

4. Open the Internet browser，type in "**10.10.100.254**" and hit **[Enter]** on your keyboard. Enter the user-name and password to login. The default *user-name* and *password* are both"admin." The control panel will appear after a successful login.

5. Click **[Work Mode]**, select AP + STA mode, click **[Save]**. Don't click **[Reboot].(Note: If you choose STA mode only, in the case of STA setting error, it will occur the risk of failure connect with the printer through wifi)**



6. Click **[STA Setting]**, click **[Scan]**. Choose commonly used network. enter the password. Click **[Reboot]**.

7. Open wireless network selection to select common network. Then start FlashPrint and click **[Menu]—[Print]—[Connect]** successively. Choose WIFI as the link mode, input the IP address of user' internet(The IP address shows on the screen of the 3D printer) to the IP port below, and then click **[Connect]**.

8. And now the printer has connected with FlashPrint. The status bar in the lower right corner would show the temperatures of the nozzle.

9.Click the **Print** icon on the main interface, a printing selection dialog will show up. You should ensure that you choose "PLA" in the material options. Click **[More Options]** to implement advanced options. And you should check on **[Print When Slice Done]** and click [**OK**].

10. Gcode files could be saved at any locations. After being saved, the model starts to be cut into slices and be uploaded to Finder. Then the printer will turn into preheat mode and start to print when the preheat finishes.

The printer cannot read the target file from USB flash disk under the WIFI mode. You can transfer the file to TF card for printing.

Chapter4.
Supports and Service

A. Supports
B. Attachment

A. Supports

Our team of knowledgeable staff is on standby and ready to help you overcome any challenges you may have with your Finder. If your issue or question is not covered in the user manual, you can seek for solutions on our office website or contact us via telephone.

There are solutions and instructions to common issues that can be found in our knowledge base. Have a look first as most basic questions are answered there.

http://www.ff3dp.com

The FlashForge support team can be reached by e-mail or phone between the hours of 8:00 a.m. to 5:00 p.m. PST Monday through Saturday. In case you contact us during after-hours, your inquiry will be answered the following business day.

Tel：**86+579-82273989**

ADD：**No. 518, Xianyuan Road, Wucheng, Jinhua, Zhejiang**

***When contacting support, please have your serial number ready. The serial number is a bar code on the back of your Finder."**

B. Attachment

Parameters:

Name	Finder
Extruder Number	Single
Technique	Fused Deposition Modeling (FDM)
Screen	3.5’’ color IPS Touch Screen
Build Size	230×150×140mm
Layer Thickness	0.1 - 0.5mm
Build Precision	±0.2mm
Located Precision	Z axis 0.0025mm; XY axis 0.011mm
Filament Diameter	1.75mm
Nozzle Diameter	0.4mm
Current Speed	24CC/hr
software	FlashPrint
Support Formats	stl、obj
OS	Windows Mac OS
Printer Size	420*420*420mm
Weight	10.75Kg
Input Voltage	100-240V, 50-60Hz, 100W
Data Transmission	USB cable、USB flash disk、wifi