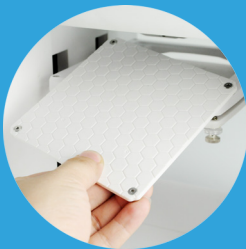


# INSTRUCTION MANUAL **10**


## **DUPLICATOR**


### **DESKTOP 3D PRINTER**



**REMOVE OBJECTS MORE EASILY**  
**STABLE & EFFICIENT STRUCTURE**  
**HONEYCOMB PRINT SURFACE**

CUSTOMER SUPPORT

 +86-571-23290996

 [support@wanhao3dprinter.com](mailto:support@wanhao3dprinter.com)

Model: Duplicator 10

# Important

## Getting the most out of your 3D Printer:



### **Read the manual carefully**

It will help you get set up with ease



### **Visit [www.wanhao3dprinter.com](http://www.wanhao3dprinter.com)**

We've got additional support videos and guides



Google Forum

### **Join Wanhao Technical Forum for online support**

<https://groups.google.com/forum/#!forum/wanhao-printer-3d>



### **Email [support@wanhao3dprinter.com](mailto:support@wanhao3dprinter.com)**

We're always happy to help

## Warranty Note

If you experience any issues with this product, or it's performance is not what you had expected, please contact us at WANHAO before returning the item to the store.

It is likely that we can resolve any problems for you via phone or email.


We can be reached through your local distributor or:


**Phone: +86-571-23290996(Mon-Sat; 8:30am-5:00pm)**

**Email: [support@wanhao3dprinter.com](mailto:support@wanhao3dprinter.com)**

**Web: [www.wanhao3dprinter.com](http://www.wanhao3dprinter.com)**

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Model: Duplicator 10



## 3D Printer

# Warranty Details

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The product is guaranteed to be free from defects in workmanship and mother board for a period of 12 months from the date of purchase. The extruder is guaranteed to be free of defects for 90 days. Printing with materials other than WANHAO FILAMENTS which require temperatures above 250 °C or which are different from those recommended on the website [www.wanhao3dprinter.com](http://www.wanhao3dprinter.com), will result in the immediate loss of the Warranty. Defects that occur within this warranty period, under normal use and care, will be repaired, replaced or refunded at our discretion. The benefits conferred by this warranty are in addition to all rights and remedies in respect of the product that the consumer has under the China laws. In case you purchase from WANHAO distributor, your warranty shall be covered by distributor's Warranty and honored by WANHAO distributor too.

Our goods come with guarantees that cannot be excluded under the Chinese Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.



---

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# Safety Instructions

Before you get started, please read these important safety instructions.

**CAUTION:** This WANHAO 3D Printer generates high temperatures and includes moving parts that can cause injury. Never reach inside of the WANHAO 3D Printer while it is in operation, and allow time for the printer to cool down after operation.



HOT EXTRUDER



MOVING PARTS



Vapours/fumes may be irritating at operating temperatures. Always use the WANHAO 3D Printer in an open, well ventilated area.




Do not leave the WANHAO 3D Printer unattended during operation.



Contact with extruded material may cause burns. Wait for printed objects and printer to cool before removing them from the build platform.

- Please read and understand the contents of this user manual carefully. Failure to read the manual fully and use the printer as directed may result in injury or damage.
- The WANHAO 3D Printer is not intended for use by children without supervision or instruction concerning the use of the appliance by a person responsible for their safety.
- Children should be under constant supervision when using the printer.
- Before installation, you should make sure that the WANHAO 3D Printer is unplugged from the power supply.
- Only place the printer on a stable flat surface that can safely support the WANHAO 3D Printer.
- Ensure the mains socket / outlet is near the equipment and is easily accessible.

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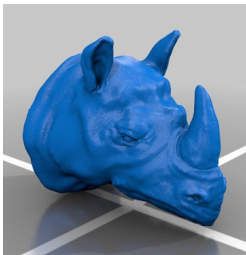
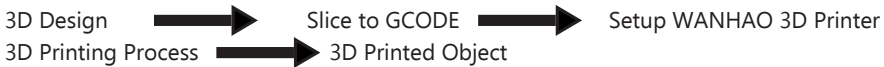
# INTRODUCTION

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## 1.1 What is 3D Printing?

3D Printing is a process where an object is created from a 3D computer designed file. Fused Filament Fabrication (FFF) is the process you D10 Printer uses to achieve this. FFF is an additive process where material is added in layers to create the object. Commonly, plastic materials such as PLA or ABS filament are used to create a 3D object.

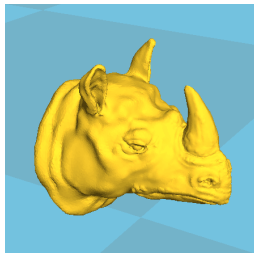
## 1.2 From 3D Design to Printed 3D Object



### 3D Design

Having a 3D design is the first step to creating a 3D Object. There are a number of free 3D Designs that can be downloaded and printed for personal use. Websites such as Thingiverse.com, Pinshape.com and YouMagine.com are a good place to start, but there are many more available!

Alternatively, you can create your own 3D Design using 3D Modelling Software. Programs such as Sketchup or Blender allow this, however this can take some practice before successfully modelling your 3D Design. After you've finished your 3D Design, you can export it as an STL file to be imported into a 'Slicer' program such as Cura.



### Slice to GCODE

A 'Slice' converts a 3D Design (usually an .STL or .AMF format) into individual layers. It then generates the machine code (such as GCODE) that the 3D Printer will use for printing.

The D10 printer uses Cura to convert and prepare files for printing.

# INTRODUCTION



## Load your Object



After slicing and preparing your file, load it onto the included Memory Card and insert into the D10 printer.



## 3D Printing Process

After loading your file and pressing print, the D10 printer will heat up the extruder and start your print. This can take some time depending on the size of the 3D model, print speed and resolution of each layer.

Here is an example of how size, infill, and resolution can affect printing time:

				
Dimensions:	62.5 x 25.75 x 67.75mm	70 x 70 x 140mm		
Infill:	20%	<b>0%</b>	20%	20%
Resolution:	2mm	2mm	2mm	<b>1mm</b>
Print Time:	53min	39min	6hr 40min	13hr 12min
Filament Used:	4m	2.54m	45m	45.67m

## 3D Printed Object

Once the printer has completed all of the layers, you will have a 3D Printed Object. The results are certainly worth it, with 3D models ranging from simple to complex.


# PARTS LIST


2x Hex Wrench  
1x USB Cable  
1x Power Supply Adaptor  
1x 250g PLA Filament  
1x PTFE Filament Tube

1x Full Set WANHAO D10  
1x Power Cable  
1x 8GB Memory Card  
1x Extruder Cleaner



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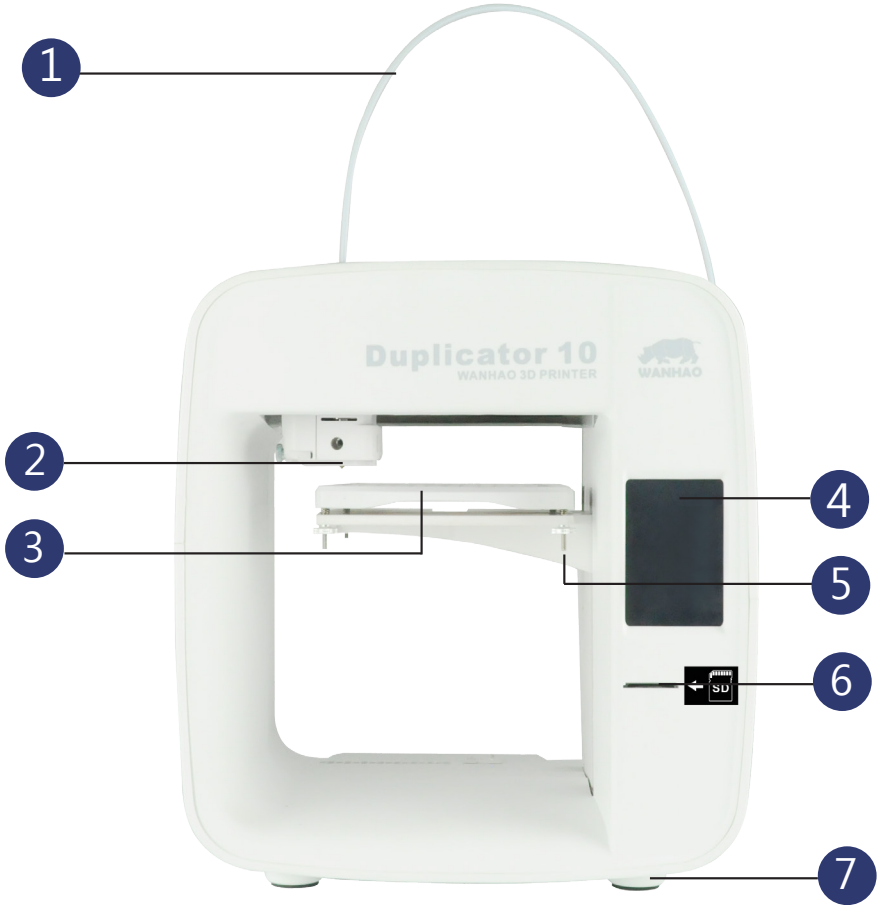


# Technical Specifications

Nozzle Diameter:	0.4mm
Extruder Quantity:	1
Filament diameter/light:	1.75mm
Max. Printing Speed:	80mm/s
Max. Travel Speed:	200mm/s
Filament Diameter	1.75mm
Compatible Filaments:	WANHAO PLA
Extruder system:	MK12 extruder
Leveling:	Pre-leveled
Case Material:	Plastic Case
Accuracy:	X 0.012mm Y 0.012mm Z 0.0025mm
Net Weight (kg)	6kg
Gross Weight (kg)	8kg
LCD display:	English
Software:	CURA and Repetier host
Data Transfer:	SD card / USB cable link printing
Layer Height:	0.05-0.3mm(for 0.4mm Nozzle)
Layer Thickness:	100-400 micron
Max Printing Space:	116 x 116 x 126mm
Platform:	Plastic build plate W/O heating
Power Supply Unit	AC adapter 110V~250V (Auto switch), 50/60Hz, 1.7A (input), +12V 5.42A 65W (output)

# PRODUCT OVERVIEW


## Printer Front View




- 1. PTFE Filament tube
- 2. Hot End
- 3. Print Surface
- 4. Touch Screen

- 5. Pre-leveled bed
- 6. Memory Card Slot
- 7. Anti-slip feet

CUSTOMER SUPPORT

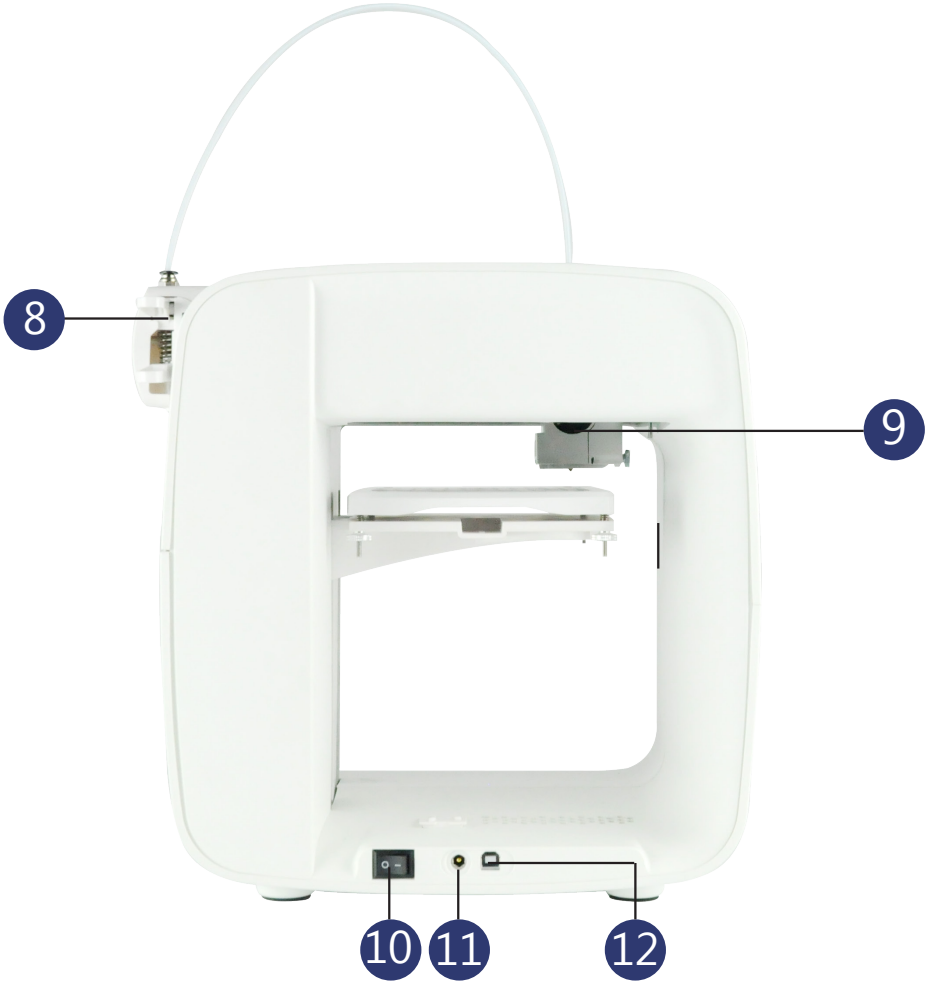
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# PRODUCT OVERVIEW

## Printer Rear View



- 8. Filament Feeder
- 9. Filament cooling fan
- 10. Power Switch

- 11. Power Socket
- 12. USB Interface

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Model: Duplicator 10

# PRODUCT ASSEMBLY & INITIAL SETUP

## Unboxing and Assembly

Your WANHAO D10 3D Printer is carefully packed to avoid damage in transit. Take your time unpacking it. The printer is preassembled and requires minimal set up before powering on. D10 quick started guide and first printing:

<https://www.youtube.com/watch?v=HK2KlqBjC-s&t=27s>



**1.** Carefully remove the 3D printer from the box and place on a clean, level work space.



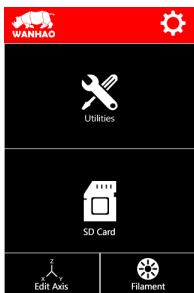
**2.** Cut the Cable ties holding the box to the Frame.



**3.** Plug in the PSU at the back and connect it to a power source. Switch on the printer.



**4.** Press the extruder lever and insert the included filament from the bottom and feed through the PTFE tube until you feel resistance. Next navigate to Load Filament and wait for the nozzle to preheat. Then click Load and wait until you see the filament extruded from nozzle.



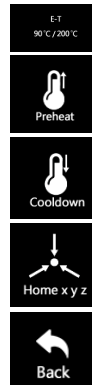
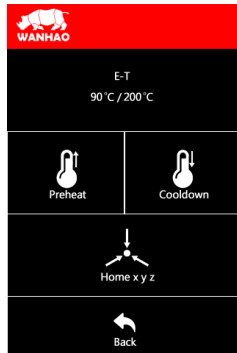
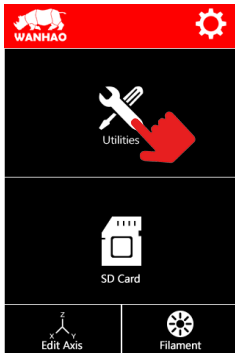
**5.** Insert your Memory Card loaded with 3D files, tap SD Card and select your print to start printing.

CUSTOMER SUPPORT

# INTERFACE INTRODUCTION

## Basic Interface Display

### 1 Utility



Current / Target extruder temperatures

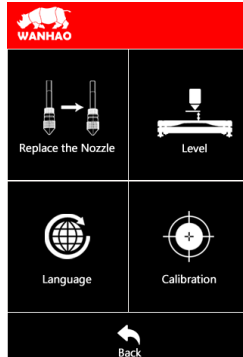
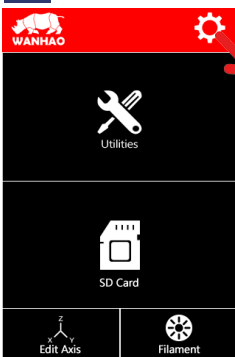
Preheats the extruder for PLA and ABS material

Cools the extruder

Returns the extruder to Home position

Previous menu

### 2 Menu



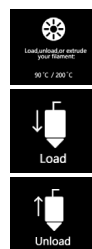
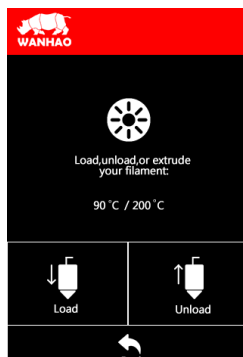
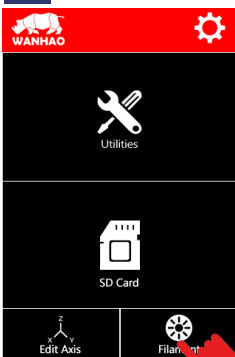
Cools down the extruder to allow for replacement

Levels the bed

Choose language. Select from English and French

Calibrate the screen

### 3 Filament Change



Heats the extruder to target temperature

Once preheated, tap to Load filament by 10mm increments

Once preheated, tap to Unload filament by 10mm increments

CUSTOMER SUPPORT

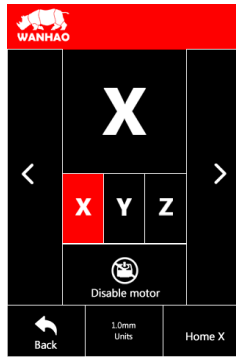
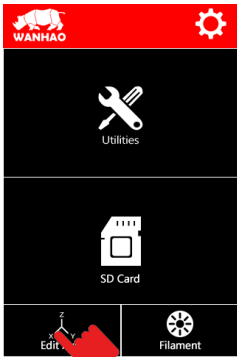
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# INTERFACE INTRODUCTION

## 4 Moving X, Y, Z



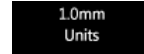
Select the X, Y or Z Axis



Tap in decrease or increase Axis coordinates



Disable the motor to freely move by hand

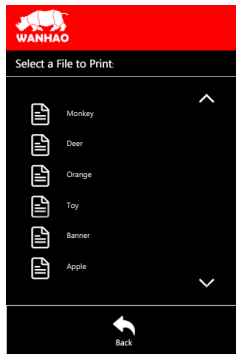


Unit setting



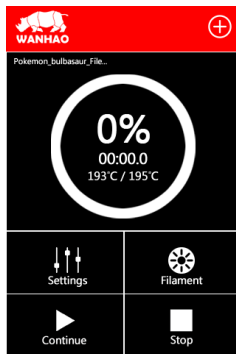
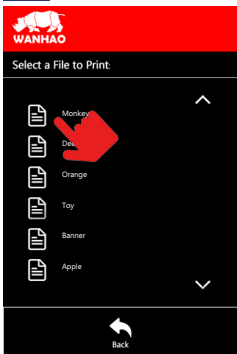
Home Axis

## 5 SD card printing



Tap to select file to print

## 6 Select the file to print



Progress indicator



Change settings on the fly



Adjust / change filament on the fly



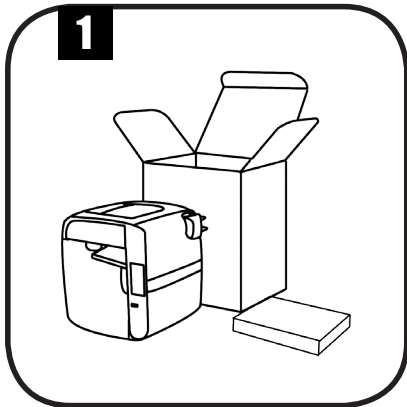
Pause or Continue printing



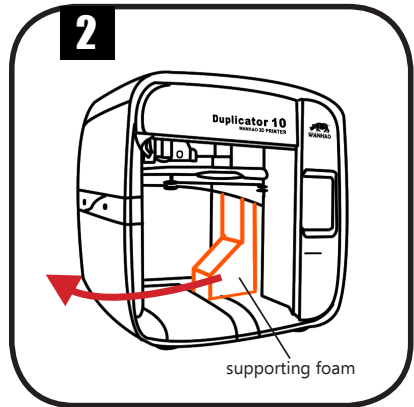
Stop the print

CUSTOMER SUPPORT

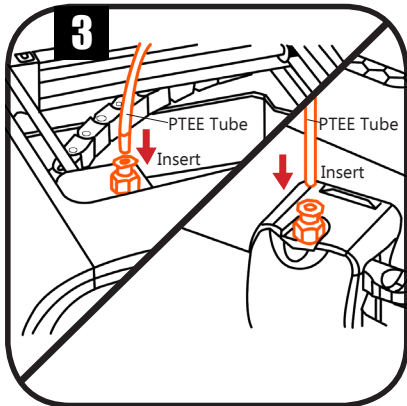
# QUICK START GUIDE :



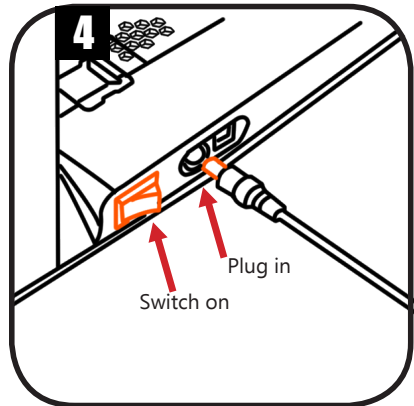
Unpack your WANHAO D10 and its accessories.



Set up your WANHAO D10 as demonstrated in the photo and remove the supporting foam from beneath the printing platform.





Insert one end of the PTFE Filament tube into the printer head and the other end into the extruder.



Plug in the PSU at the back and connect it to a power source before you switch on the printer.

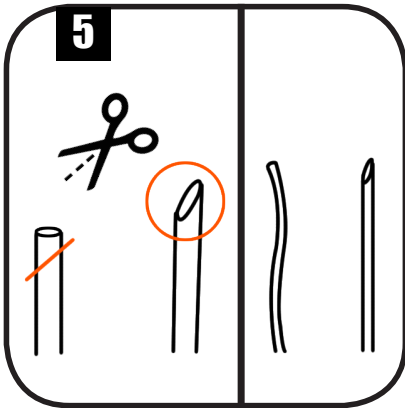
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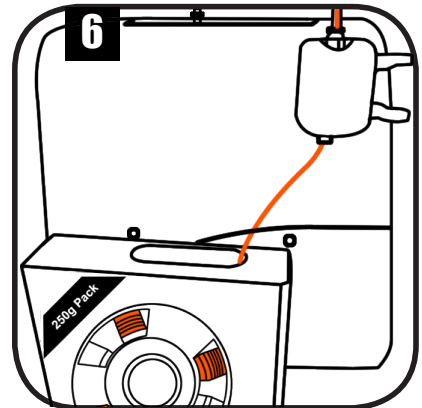
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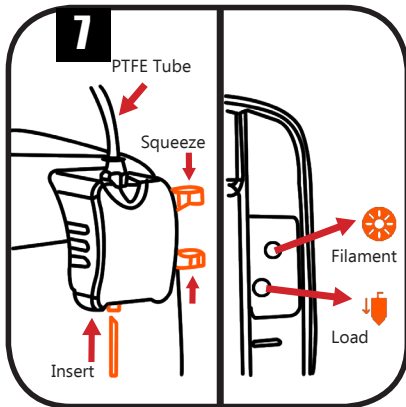
# QUICK START GUIDE:



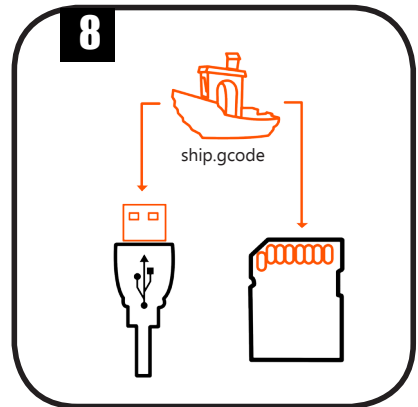
Trim the tip of the filament at an angle and keep it as straight as possible when loading the filament.



Slide the filament out of box and insert the filament into the bottom extruder hole.



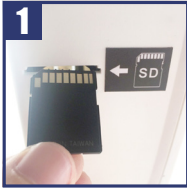
Slightly squeeze the extruder and feed the filament through the PTFE tube until you feel resistance. Press "Filament" "Load" on the touchscreen. After preheating a few minutes Filament will begin extruding from the nozzle.



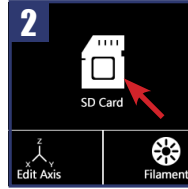
On your computer, slice your 3D file in CURA and save the GCODE to your memory card. Insert the Memory Card into the printer and select your Print.



# HOW TO PRINT FROM SD CARD



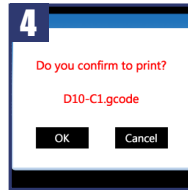
1 Insert the SD Card per the Picture. The contacts point upwards.



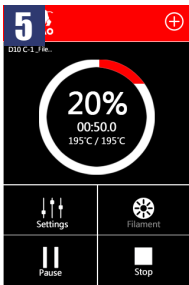
2 Click SD card.



3 Click the file to print.



4 Click OK to print.



5 Congratulations, you have started your first print!

**Important:** We highly recommend adding a RAFT support to all of your 3D files to increase the print success rate. CURA has built in functionality to automatically generate a raft for you.

# DOWNLOADING AND INSTALLING CURA

The preferred software for your printer is **Cura**. This software package prepares your 3D model into instructions that your printer uses to produce an object.



1. The Cura software package can be downloaded from the "**Down Load Software**" section on our website: <http://www.wanhao3dprinter.com/Down/ShowArticle.asp?ArticleID=56>

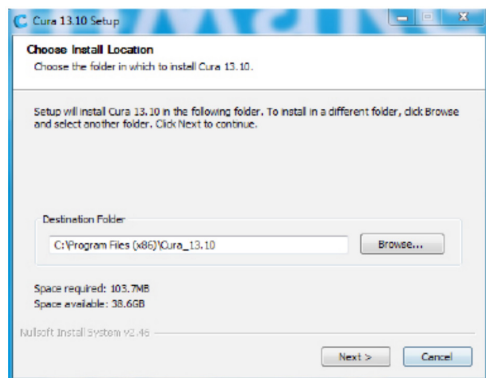
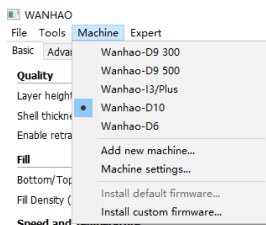
2. Download the latest version of Cura for your operating system. Our software is available for, WindowsXP or newer, MacOS 10.6 or newer and Ubuntu Linux 12.10 or newer.



3. Open the installer and follow the directions to install the software.

4. After installing Cura, Cura will ask what kind of 3D printer you have. Select the **D10**. No other configuration will be required, and Cura will be ready to use.

5. After the installation you will see the D10-robot positioned in the Cura interface. In case you did not select the machine type. Please go to Machine—Wanhao-D10 to select the correct machine.



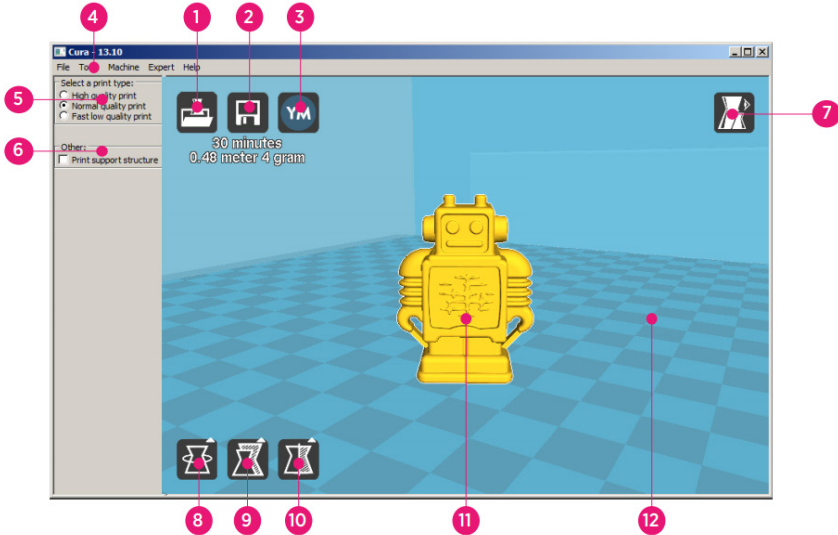
**NOTE:** We keep on updating our software, so the latest version that you have downloaded might be a newer version than the one in this manual.

6. If you already have this software, then you just need to add the D10 into the setting, Detailed tutorial is on page 25.

CUSTOMER SUPPORT

# Cura Software Interface

This is the main screen of Cura. Here you can choose which object or objects to print. And how you want them to be printed.



## 1. Load file

Click this button to load an object to your print area. You can add as many objects as you can fit on the plate.

## 2. Save toolpath (SD)

When you press this button the prepared toolpath will be saved on the SD card.

## 3. Share on

YouImagine.com  
Through this button you can share your 3D files on YouImagine.

## 4. Menu bar

In this bar you can change to Full settings, preferences and more expert settings

## 5. Print type profiles

3 options to choose a print profile.

## 6. Print with support structure

The option to give your model some support material to make the print more successful.

## 7. View modes

After your model has been prepared for printing, you can use different view modes to analyse your design.

## 8. Rotate model options

Option to change the rotation of the object you like to print

## 9. Scale model options

Option to change the scale of the object you like to print.

## 10. Mirror model options

Options to mirror the object you'd like to print.

## 11. Loaded 3D model

This is the object you have loaded through the load file button.

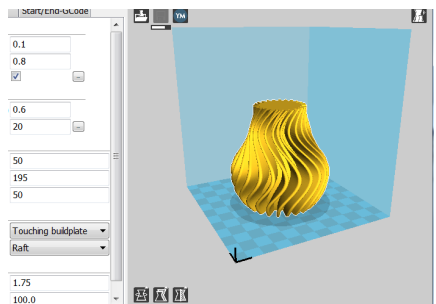
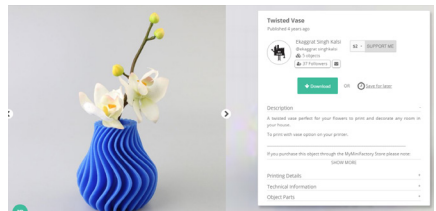
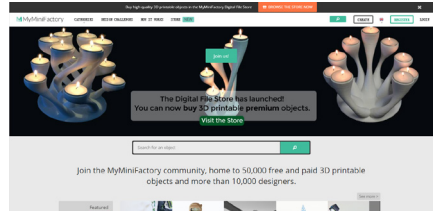
## 12. 3D Print Area

This a visualization of the printable 3D space of the D10 Printer

# MYMINIFACTORY.COM FIND NEW 3D FILES

Myminifactory.com is an online community for 3D printing with thousands of files available for download.


1. Open your web browser and go to [www.myminifactory.com](http://www.myminifactory.com)
2. Use Browse or search for a model of interest.
3. Choose a design you like.
4. Once you've chosen a model, click download and save the .STL file to your computer
5. Load the .STL file into Cura and prepare it for print on your D10 3D Printer.



**Tip:** If you've made a 3D design yourself, you can contribute back to the YouMagine community!

CUSTOMER SUPPORT

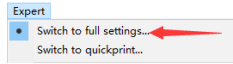
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 [support@wanhao3dprinter.com](mailto:support@wanhao3dprinter.com)

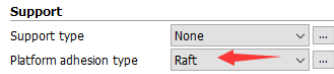
Model: Duplicator 10

# PREPARING A 3D MODEL

1. Open Cura and check you are in Expert Mode to access all features. Click **Expert > Switch to Full Settings**.

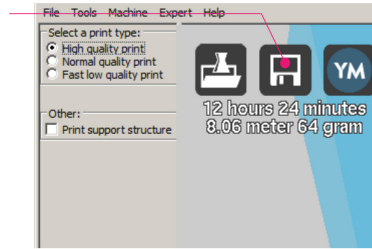


2. In the Basic tab, ensure Platform Adhesion Type is set to Raft.



3. From the File menu select Load File and choose your 3D file. Cura will automatically prepare the file for you.

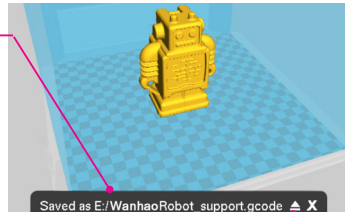
4. Once the 3D model has finished processing, click the Save toolpath button (disk) to save to Memory Card (memory card must be inserted into reader / computer).



**Tip:** Just below the load / save icons Cura provides the estimated print time and filament used and weight for each print



6. Wait for the file to save to the Memory Card. Once completed a save notification will appear.



8. Before removing the Memory Card / USB Reader always select **eject** button in Cura.

# PRINTING AND REMOVING MODELS

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## Printing a File

The D10 only accepts and prints GCODE files. The included Memory Card has sample model GCODE available to get you started. Follow these steps to print your first model.

1. Turn on the D10 and ensure filament is loaded per steps on page 11
2. Insert the included Memory Card into the memory card slot with contacts facing up
3. Enter the main menu and select print file
4. Select the file you would like to print
5. The printer will show the status screen with the current / target temperature
6. Once the nozzle reaches the target temperature the printer will automatically begin printing

### NOTE:

- \* SD memory cards (up to 32GB) should be formatted to FAT32. If there is no SD card inserted, no files will be available to print
- \* If your file is not printing correctly, press the main dial button and select 'Stop print' from the menu. Ensure the extruder is raised prior to removing the print off the print bed
- \* Immediately turn off the machine if any of the motors are jamming or forcing against the chassis
- \* If you cannot access the print menu, it is likely the Memory Card is not mounted properly. Try removing and reinserting the Memory Card

## During Print Settings

While printing, some settings can be modified. Push Settings to access advanced settings

1. **Print Speed:** Adjust the print speed %. Note the original print speed is determined by GCODE file generated, not the printer
2. **Extruder Temperature:** Modify the temperature of the Nozzle
3. **Pause print:** Pauses the print once the current GCODE instruction has completed (be patient as the full layer may require printing per GCODE file). Tap Resume to keep printing
4. **Stop print:** Stops the current print

# PRINTING AND REMOVING MODELS

## Good 3D Printing Practices

Please refer to these steps during every print to ensure the best quality.

### Before Printing

1. Ensure your GCODE file is correctly setup, filament diameter is set to 1.75mm and correct temperature settings for the material you are using. The D10 prints PLA filament. Depending on the type of PLA filament, temperatures can range from 180 to 210°C. If you are unsure, start with 190°C
2. Check all cables and connectors are connected and the printer is on a stable surface
3. Check the Print Bed is level and approximately 0.1mm from the nozzle
4. Check the Print Bed is clean and dust free and nozzle does not have excess material stuck to it



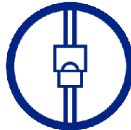
Always check Gcode file settings match filament and printer



Always check Print Mat is clean and there is no residual plastic



Always check Extruder Temperatures are set for correct filament type



Always check all cords are connected



Always check Extruder distance is 0.1mm from Print Mat



Always check Print Bed is level

### During Printing

1. Closely monitor the first layer being printed – Most problems, like poor adhesion and warping, will occur in the first layer. If problems occur, stop the 3D Printer in the menu or power off the printer
2. Do not leave the 3D Printer unattended while in operation
3. Keep hands clear while machine is operating

### After Printing

1. Wait for the Extruder to cool down
2. Carefully remove 3D Object. Never use Scraper towards your body. Keep Scraper evenly flat when scraping to avoid damage to the Heated Print Bed. Damaged Heated Print Beds/ mats may affect adhesion for future prints
3. Store 3D printer in a clean, dry environment

# FILAMENT

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## Filament

The WANHAO Duplicator 10 is designed to be only used with PLA (Polylactic Acid BioPlastic) filament. Only use genuine WANHAO filaments as using generic filaments may damage your 3D printer and may void your warranty. Extra filament including multiple colours and PLA types are available from the online store at <https://www.aliexpress.com/store/120824>

## PLA filament

Extruder Temp:	180~210°C
Official Name:	Polyactic Acid
Printing Level:	Basic
Advantages:	<ul style="list-style-type: none"><li>* Bioplastic</li><li>* Non-Toxic</li><li>* Less warping issues</li><li>* Hard or soft/flexible variants</li><li>* High print speed</li></ul>
Disadvantages:	<ul style="list-style-type: none"><li>* Low heat resistance</li><li>* Easier break than ABS</li><li>* Requires thicker walls than ABS</li></ul>
Finishing:	<ul style="list-style-type: none"><li>* Sanding possible</li><li>* Limited gluing</li></ul>



# MAINTENANCE & SETUP TIPS

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## Storage

PLA filaments are sensitive to moisture. If stored in a humid environment the quality of the filament can deteriorate with a tendency to bubble and spurt from the nozzle tip. This will affect print quality. Always store PLA that will not be used for an extended period of time.

- \* Store in a sealed, air tight bag/container. We recommend a vacuum seal bag
- \* Store with a silica gel (moisture absorber) pack. One is included with each filament spool

## Saving files to SD Card

- \* Format new MicroSD Cards up to 32GB to FAT32
- \* Save files only in the root directory on the SD Card. The D10 will not read files in folders.
- \* Ensure your models are saved as GCODE files. STL and other 3D file formats should be converted or 'sliced' into GCODE before loading them onto the SD Card. See the section Creating a GCODE file using Cura for information on creating GCODE files

## Creating a GCODE file using Cura

A GCODE file provides the essential temperature settings and movement information for your WANHAO D10. A number of 'Slicer' software programs exist which convert a 3D model file into a series of 3D printable layers. Cura is free open source slicer software released on the AGPLv3 license. It is available on MacOS X and windows.

## Installing Cura

1. Install the file located on your included SD Card or download Cura from **[www.wanhao3dprinter.com](http://www.wanhao3dprinter.com)**
2. Select a destination folder for the install, then press 'Next'
3. Select the components to install, then press 'Install'
4. Once complete, press 'Finish'
5. Refer to your computer manual of further instructions on the above steps if required

# SETUP

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## Adding the Duplicator 10 to Cura

On first launch Cura will ask you to add a 3D printer from the list provided. Select the Wanhao D10 to automatically add the D10 profile. Alternatively, you can add a 3D printer by selecting

**Machine** → **Machine settings** → **Add new Machine**

1. Select **Other**
2. Select **Custom...**
3. Enter Machine name as '**Duplicator 10**', or your desired name
4. Input Machine width as **116mm**
5. Input Machine depth as **116mm**
6. Input Machine height as **126mm**
7. Change Nozzle size to **0.4mm**
8. Ensure heated print bed is **Not ticked**
9. Select '**Finish**'

For the latest optimized / recommended Cura settings for your Duplicator 10, visit [www.wanhao3dprinter.com](http://www.wanhao3dprinter.com)

## Loading a 3D design into Cura

1. Clear the platform using **File** → **clear platform...**
2. Then, load your 3D design file onto the platform using **File** → **Load model file...**
3. Load any file with the following extensions: **.STL, .OBJ, .DAE, .AMF**

**TIP** : You can load more than one file onto the platform. Cura will automatically move the additional files to fit

**NOTE:** Files in grey are outside of the print area and need to be moved or scaled to fit.

# SERVICING

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## Servicing your Duplicator 10 Replacing the print mat

The Duplicator 10 print surface is durable and easy to clean. Should you require a replacement, additional print surfaces are available for purchase from **[www.wanhao.store](http://www.wanhao.store)**

1. Lift the old print mat from the print bed
2. Replace with the new print mat

## Nozzle cleaning

If your Extruder nozzle becomes blocked, follow these steps to clean the nozzle.

1. Remove the existing filament using the steps in **Filament > Remove filament**
2. Remove the PTFE tube from the extruder
3. Using the included wire, insert and remove the wire to clear the blockage. Repeat until the blockage is cleared

**For additional tips and videos, visit [wanhao3dprinter.com](http://wanhao3dprinter.com) for support**

# SERVICING

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## Routine Component Check

### Motor Connectors

Loose motor connections could cause a 3D print to fail. It's a good habit to routinely check for any damage to connectors or cables.

### Axis Lubrication

Regular lubrication of the X and Y Axis rods is important for the longevity and smooth running of your printer. The rods can be lubricated with machine oil or synthetic grease. We recommend using bearing grease and to apply liberally to both the X Axis and Y Axis rods.

### Nuts and Bolts

Loose nuts and bolts could affect the geometry of the Duplicator 10. Check that all nuts and bolts remain firmly tightened. If required, retighten using the hex wrench.

## Storing

Always store your Duplicator V10 in a cool, dry location that is free from dust.

# FINISHING

## Finishing Techniques Useful Tools / Equipment

- Safety Goggles
- Mask
- Long nose Pliers
- Wire Cutters
- Sandpaper (100, 200, 300, 400, 500, 600 Grit)
- Medium, fine and extra fine sanding sponges
- Acrylic based primer spray paint
- Acrylic based spray paint (color of your choice)
- Acrylic based varnish spray paint

**NOTE:** Different paint types are also compatible with PLA. Consult your local paint supplier for the best compatibility for your intended purpose.

## Removing support Material

Even after support material is removed by hand, residual material will remain.

1. Ensure that safety goggles and a mask are worn for protection
2. Remove most of the support material by hand, taking care not to damage the 3D object
3. Using the long-nose pliers, carefully grasp some of the remaining material, then twist to remove. Repeat until no more material can be removed
4. Using the wire cutters, cut away any excess filament



## Sanding

Though fused filament fabrication (FFF) is capable of producing high quality objects straight out of the machine, the layer lines will be visible. Sanding will reduce these 'step' marks in the model.

1. Ensure that safety goggles and a mask are worn for protection
2. Starting with 100 grit sand paper, carefully sand your 3D object using small, circular motions

**NOTE:** PLA is less resistant to high temperatures caused by sanding. Take your time sanding your 3D object to avoid damage.

3. Using the medium sanding sponge, sand difficult to reach areas of your 3D object
4. Gradually increase the sandpaper grit until the 3D print is smooth

**TIP:** Spraying a primer filler also help to reduce the layer lines on the 3D object. This can then be sanded away and repeated, until the desired smoothness is achieved

# FINISHING

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## Surface Coating

1. Ensure that safety goggles and a mask are worn for protection
2. Ensure that your 3D object is clean and free from dust
3. Spray your model using an acrylic based primer, following the directions of your primer
4. Allow appropriate time to dry before applying additional coats
5. Spray your model using an acrylic based paint of your colour. Allow appropriate time to dry
6. Spray your model using an acrylic based varnish, following the directions of your varnish. Allow appropriate time to dry before applying additional coats.

**NOTE:** Different paint types are also compatible with PLA. Consult your local paint supplier for the best compatibility for your intended purpose.

Congratulations! Your 3D object looks great!

## MAINTENANCE

The maintenance of Duplicator 10 should be conducted by skilled person only. Always unplug the printer before doing maintenance or modifications. In order to have a smoothly working Duplicator 10 it is important to maintain it correctly. Please follow the safety / deterioration checks during maintenance:

- \* Check condition of all rubber belts
- \* Oil the lead screens with light machine oil (sewing machine oil)
- \* Check the condition of the power cable. Make sure there are no cracks in the sheath
- \* Check the condition of the wiring on the printer to ensure nothing is pinched or damaged
- \* Check the fans are operational during print
- \* Check the chassis is secure. Tighten any screws if there is flex in the frame

# DISPOSAL OF PACKAGING

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This product has been packaged to protect it against transportation damage. Unpack the appliance and keep the original packaging carton and materials in a safe place. It will help prevent any damage if the product needs to be transported in the future and you can use it to store the appliance when it is not in use.

In the event it is to be disposed of, please recycle all packaging material where possible. Wrapping can be a suffocation hazard for babies and young children, so ensure all packaging materials are out of their reach and disposed of safely. Observe any local regulations regarding the disposal of packaging and dispose of it appropriately for recycling. Contact your local authorities for advice on recycling facilities in your area.

# DISPOSAL OF PRODUCT

Observe any local regulations regarding the disposal of waste products. Contact your local authorities for advice on recycling facilities in your area.

At the end of its working life, do not throw this product out with your household rubbish. Electrical and electronic products contain substances that can have a detrimental effect on the environment and human health if disposed of inappropriately. Observe any local regulations regarding the disposal of electrical consumer goods and dispose of it appropriately for recycling. Contact your local authorities for advice on recycling facilities in your area.

# TROUBLESHOOTING

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## Problems

### Filament stuck when removing

Please visit [www.wanhao3dprinter.com/video](http://www.wanhao3dprinter.com/video) for a video on how to clear the nozzle with stuck filament.

### Where can I buy more filament?

If you require more filament, visit our online store, <https://www.aliexpress.com/store/120824> to purchase various colors and types.

### What brand of filament should I buy?

We recommend using only WANHAO branded filament. Lower quality generic filaments can damage your 3D Printer and potentially void your warranty.

### What types of filament can my 3D Printer Print?

The WANHAO D10 3D Printer accepts PLA and PLA specialty filaments such as wood, flexible, luminous and conductive. For our full range of filaments visit

<https://www.aliexpress.com/store/120824>





# TROUBLESHOOTING

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## Useful Terms

### **Display**

LCD interface for operating the 3D Printer

### **Firmware**

Software that is programmed into the electronic board

### **GCODE**

Code that is produced using the slicing process. Describes the movements and temperature settings of your 3D printer. Layer by layer instructions for your print.

### **Nozzle**

Opening at the bottom of the print head where filament is pushed through

### **Extruder Assembly**

The section filament is pushed through encompassing the hot end and nozzle

### **SD Card**

Secure Digital memory card. This is where your GCODE files can be stored and accessed by the 3D Printer

### **PLA Filament**

Commonly used plastic filament with low environmental impact

### **Brim/Raft**

Types of printed foundations that help models adhere to the print bed

### **Slicing**

Process that turns a 3D Design into a code that can be used by 3D Printers

### **Spool**

Filaments of PLA are wrapped, creating a spool

### **Stepper Motor**

DC motors that move in discrete steps. This allows for precise positioning and/or speed control


### **.stl / STL**


A common file format for 3D Designs/Models

### **USB Cable**

This cable allows communication between the WANHAO 3D Printer and a computer, using the USB port of the computer

CUSTOMER SUPPORT

 +86-571-23290996

 [support@wanhao3dprinter.com](mailto:support@wanhao3dprinter.com)

Model: Duplicator 10

# TROUBLESHOOTING

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## Troubleshooting

If have any trouble using the Duplicator 10, please refer to the troubleshooting guide below, or call customer support on **+86-571-23290996**

You can also visit <https://www.wanhao3dprinter.com> for support videos and advanced tutorials

## Printing Problems

### Clicking sound from one of the stepper motors

One of your stepper motors may not be connected properly. Check each connection and then inspect the cable routing for any faults

### File not printing

Remove the SD Card and insert into your Computer. Open the GCODE file using a text editor (eg. Notepad), and inspect if GCODE is readable or not. If file consists of multiple 'ÿÿÿÿ' symbol, then file has been corrupted. Try reformatting your Micro SD Card and reloading the GCODE file.

**NOTE:** Reformatting will delete all files on your SD card

### Not extruding when starting to print

Ensure that the nozzle temperature has been set to match your material.

### Not sticking to the bed

- Ensure that the bed is clean and free from dust
- Check that the bed is level and set to a distance of approximately 0.1mm
- If there are defects / deep scratches in the printing mat, it may need to be changed. Change the mat or use blue painters masking tape
- Add a brim or raft to your file
- Ensure nozzle to bed gap is not bigger than 0.1mm. Material will solidify if gap is large
- Visit <https://www.wanhao3dprinter.com> for additional support suggestions

### Models Warping/Curling

- Check the infill % of your GCODE. The higher the infill, the more likely to warp
- Add a brim or raft to your file

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### **Model appears very 'stringy'**

- Ensure that the filament diameter is set to match your filament spool (1.75mm), then try creating a new GCODE before printing again
- Check you are using the correct temperature for the filament used

### **Print stopped halfway**

- Check that the GCODE file is complete and not corrupt
- Check the original model file

### **The motor does not stop at the end of axis**

Check that the stop micro switches are aligned with the motor mount and registering.

### **The print head / bed does not move**

Check the part can be moved by hand when stepper motor is disabled. Clear anything that is blocking the path

## **Connectivity Problems**

### **My 3D printer won't turn on**

Check that you have correctly inserted the power cable into the rear of the Control Box, the power cord is plugged into the mains outlet and that the Control Box power switch is on.

### **SD Card not shown / files not appearing**

- Please ensure your SD Card is 32GB or less
- Please ensure your SD Card is formatted as FAT32
- Reseat the SD card and try again



# Repair and Refurbished Goods or Parts Notice

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Unfortunately, from time to time, faulty products are manufactured which need to be returned for repair.

Before returning any product, be aware any data, notes, information returned with your printer may be lost / deleted or replaced.

**We recommend you save this data elsewhere prior to sending the product for repair.**

You should also be aware that rather than repairing goods, we may replace them with refurbished goods of the same type or use refurbished parts in the repair process.


**Please be assured, refurbished parts or replacements are only used where they meet WANHAO's stringent quality specifications.**


If at any time you feel your repair is being handled unsatisfactorily, you may escalate your complaint. Please telephone us on 86-571-23290996 or write to us at:

WANHAO Precision Casting Co.,Ltd  
77, RENMING ROAD, JINHUA, CHINA  
WANHAO Help Desk 86-571-23290996  
(Operating Hours: Mon - Sat; 8:00am - 5:00pm)  
support@wanhao3dprinter.com  
www.wanhao3dprinter.com



CUSTOMER SUPPORT

 +86-571-23290996

 support@wanhao3dprinter.com

Model: Duplicator 10



**WANHAO**