



## User Manual

# PHOTON ULTRA

Dear customer,

Thank you for choosing **ANYCUBIC** products.

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

Please visit <https://www.anycubic.com/pages/contact-us> to contact us if you have any question. You can also gain more information such as software, videos, models from the website.



**ANYCUBIC** support center

Team **ANYCUBIC**

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# Safety Instructions

*Always follow the safety instructions during assembly and usage, to avoid unnecessary damage to the 3D printer or individual injury*



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



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



In case of emergency, please immediately cut off the power of **ANYCUBIC** 3D printer and contact the technical support. **DO NOT unplug ANYCUBIC 3D printer when it is working.**



**ANYCUBIC** 3Dprinter includes moving parts that can cause injury.



It is recommended to use protection glasses when sanding the printed models to avoid eye contact with small particles.



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



Vapors or fumes may be irritating at operating temperature. Always use **ANYCUBIC** 3D printer in an open and well ventilated area. Do not use or place **ANYCUBIC** 3D printer in dusty environment for a long time.



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



Operate **ANYCUBIC** 3D printer with a temperature of 8°C-40°C and a humidity of 20%-50%. For optimal performance, do not exceed this range. Also, avoid direct sunlight exposure.



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

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# Technical Specification

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## Printing

System	ANYCUBIC Photon Ultra
Operation	2.8-inch Color TFT Screen
Software	ANYCUBIC Photon Workshop
Connectivity	USB memory stick

## Specifications

Technique	Digital Light Projection
Light source	UV-LED (wavelength 405nm)
XY Resolution	0.08 mm 1280*720 (720p)
Z axis Accuracy	0.01 mm
Suggested Layer Thickness	0.01-0.15 mm
Print Speed	Max 50 mm/h
Rated power	15 W

## Physical Dimensions

Dimension	222 mm (L) *227 mm (W) *383 mm (H)
Build volume	102.4 mm(L)*57.6mm(W) *165 mm (H)
Materials	405nm UV-resin for DLP 3D printer
Net weight	~4 kg

# Technical Specification

## Recommended Printing Parameters


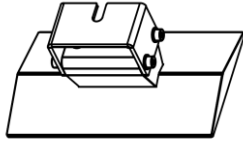
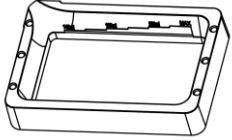

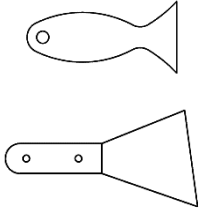
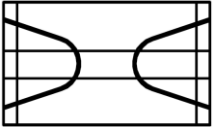

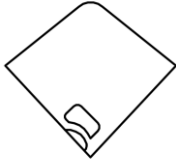




Layer Thickness	0.05 mm
Normal Exposure Time	2 s
Off Time	1 s
Bottom Exposure Time	35 s
Bottom Layers	4
Z Lift Distance	5 mm
Z Lift Speed	2 mm/s
Z Retract Speed	2 mm/s

**Note:**

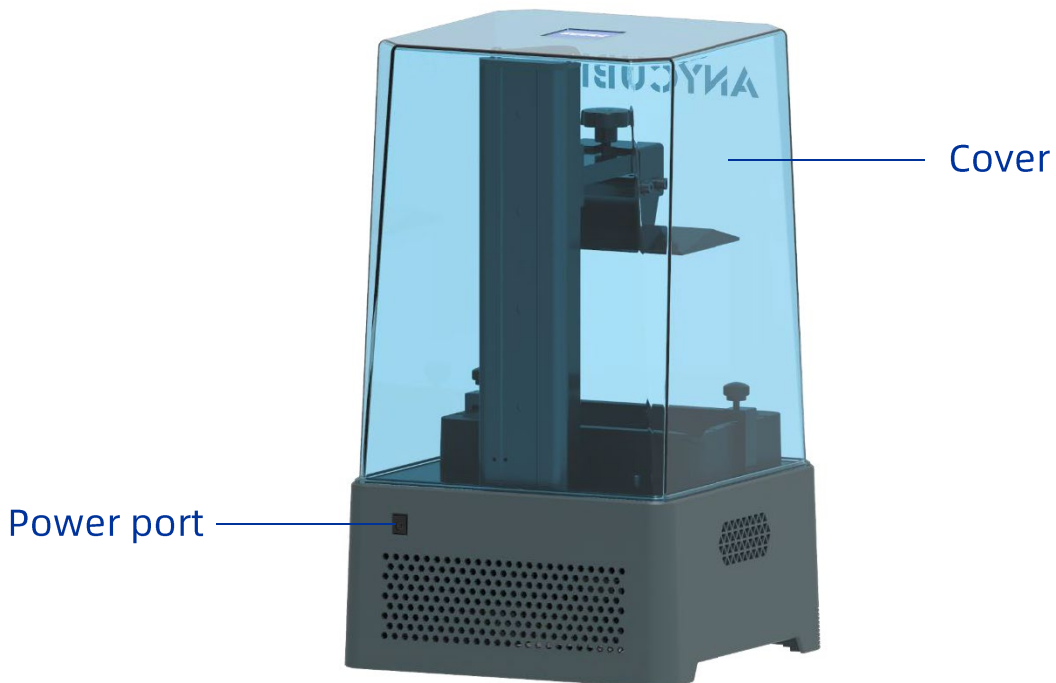
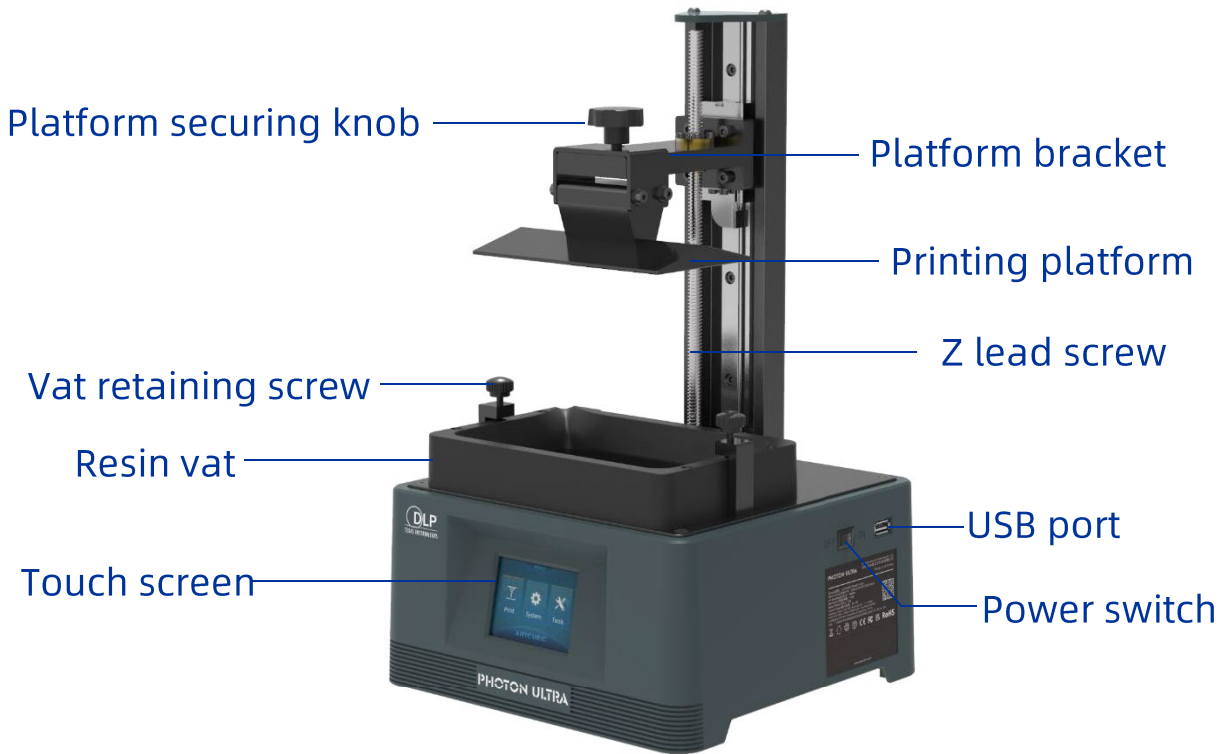
The printing parameters above are for Anycubic DLP resin.



# Packing List

			
		Print platform 1PC	Resin vat 1PC
			
Photon Ultra		USB memory 1PC	Scrapers 2PCS
			
Mask 1PC	Gloves 3Pairs	Funnel 5PCS	Assembly instruction 1PC
			
Power adapter 1PC		Leveling paper 1PC	Tool kit

# Product Overview





# Menu Directory

Home menu



Print



System



Tools



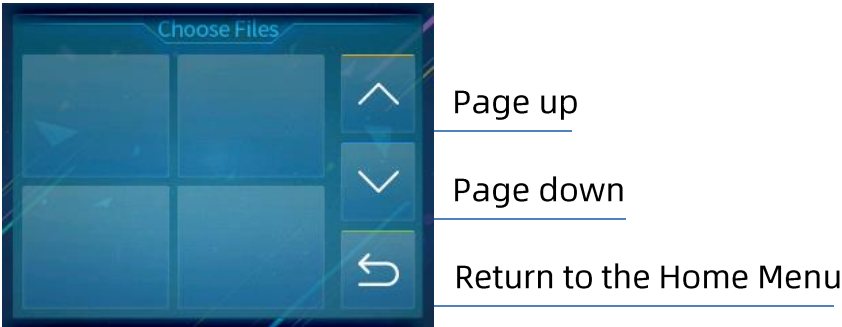
## Home menu



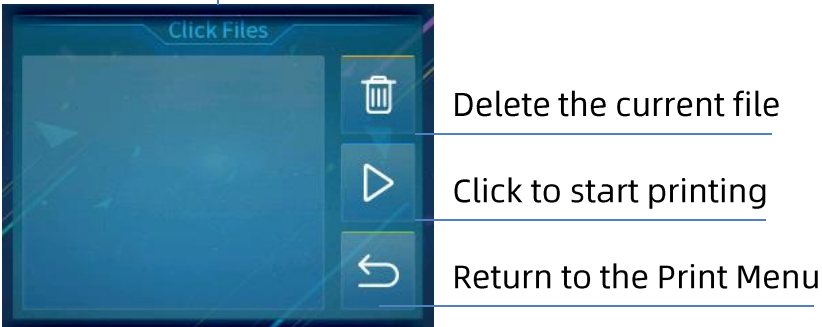
# Menu Directory

## Print

File List:



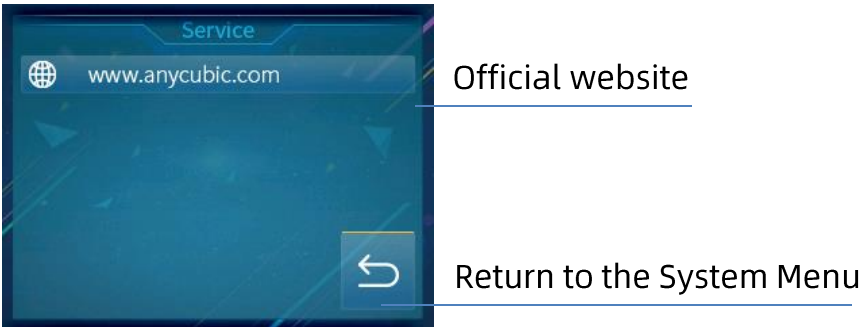
Click Files



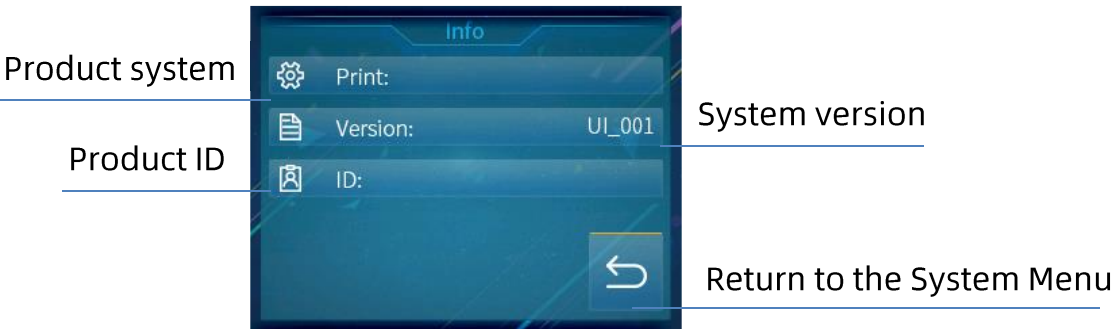
## System

Language: Change language(English/Chinese)

Service:



Information:



# Menu Directory

## Tools

### Move Z:

Move the Z axis upwards

Stop moving the Z axis

Move Z

0.1mm1mm10mm

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Move Z by 0.1mm/1mm/10mm

Return to Zero

Return to the Tools Menu

Move the Z axis downwards

### Detection:

Click to set the test time

Test DMD for the preset time

Detection

S

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Next

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Select one of the images to detect

Reduce the test time

Return to the Tools Menu

Increase the test time

### Focus:

Click to set the exposure time

Expose for the preset time

Focus

Please set the exposure time of the test image.

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Next

↶

Reduce the exposure time

Return to the Tools Menu

Increase the exposure time

**Z=0:** Reset the zero point

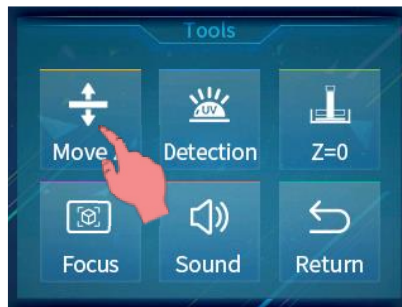
**Horn icon:** Turn on/off the screen sound

# Assembly and Leveling Instructions

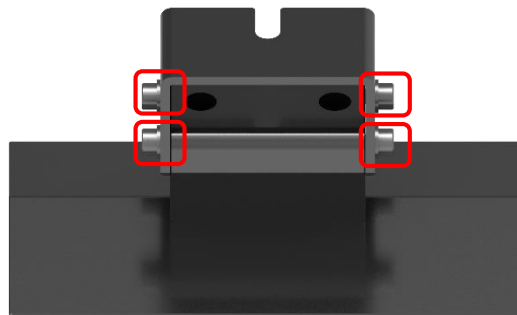
1. Unpack the machine and take out the accessories. Then plug in the power cord and turn on the printer.



2. Raise the Z axis to a certain height to ensure that the toughened glass will not be scratched when the printing platform is installed.

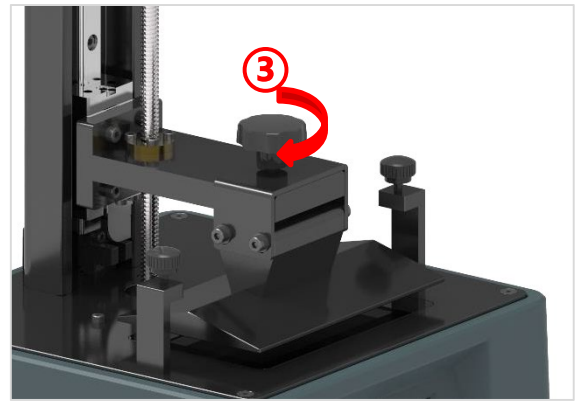
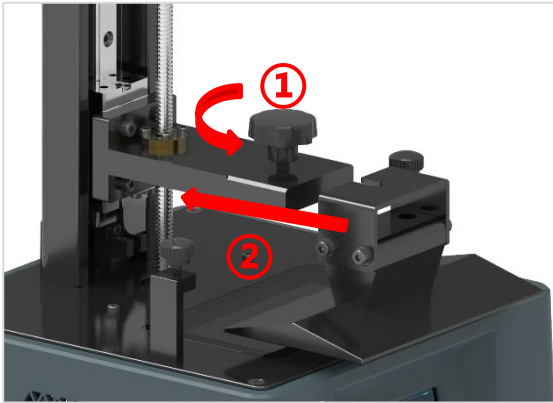



3. Unscrew four screws on the platform.

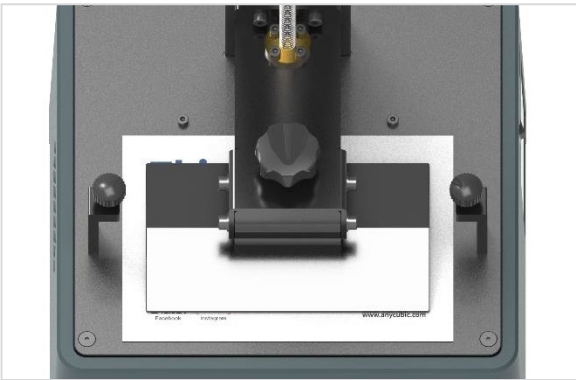


# Assembly and Leveling Instructions

4. Install the printing platform.



5. Place the leveling paper upon the toughened glass. Then click “  ” on the touch screen. Wait for the Z axis to descend and stop automatically.

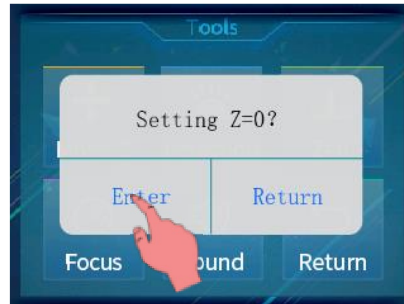


6. Use your fingers to press the platform to let it fit evenly on the toughened glass. Then tighten the four screws on the platform.

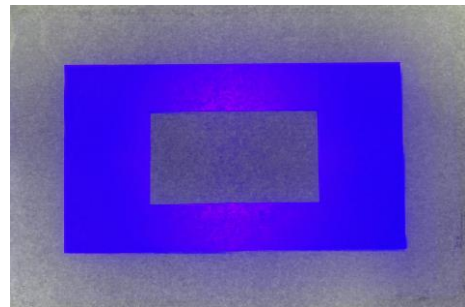
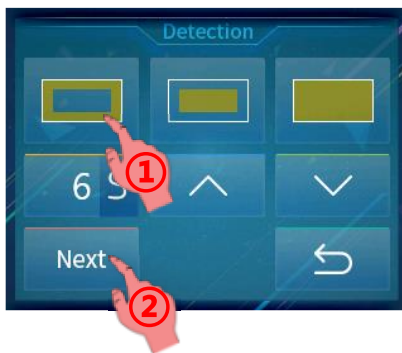


# Assembly and Leveling Instructions

7. Click “Tools”→ “Z=0” to save the zero position, and then click “Enter” on the pop-up window. Till now, the leveling process is finished. Click “Enter” again.



8. Testing UV light: Click “Tools”→ “Detection”, select a image and set the test time, then click “Next”. It should display a complete image as what you select.



9. Install the resin vat.



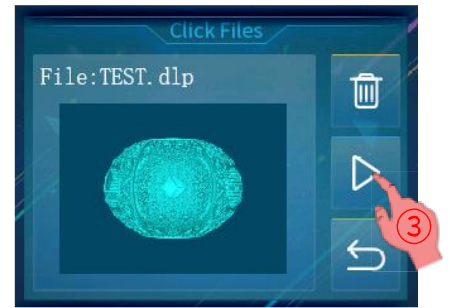
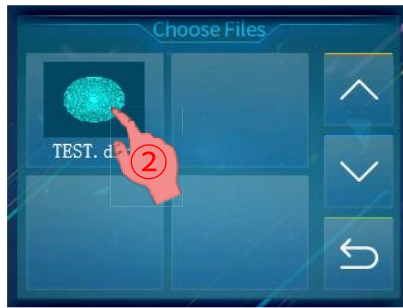
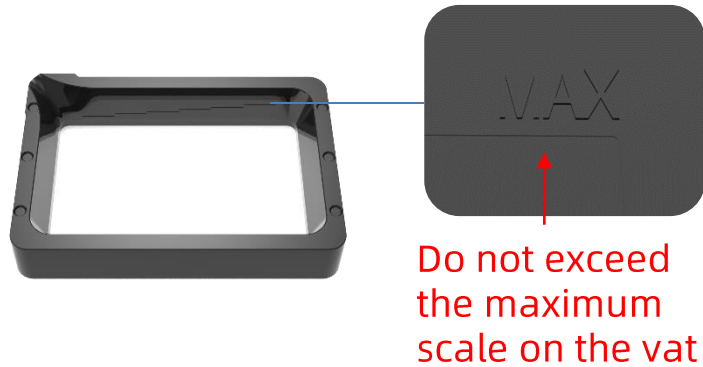


# First Print Instructions

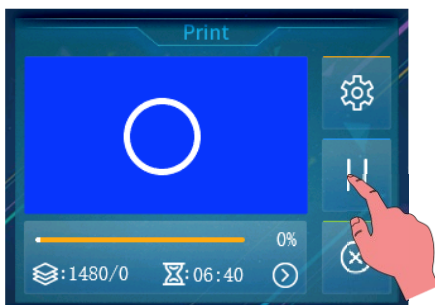
## 1. Print

Insert the USB memory (the test file "TEST.dlp" has been saved in it) into the USB port. **Then wear masks and gloves (to avoid direct skin contact with resin)**, and slowly pour resin into the vat. The resin cannot exceed the vat's maximum scale.

After that, put on the cover. Take off the gloves, select the "TEST.dlp" test file and start printing. (The printing time on touch screen is for reference only, we make no guarantee that it is the actual printing time.)



If you think the resin is insufficient to finish an ongoing print (or you want to change the resin), you can click "Pause", the platform will rise, and you can slowly add (or change) the resin. After that, click "Start" to resume.



click to pause

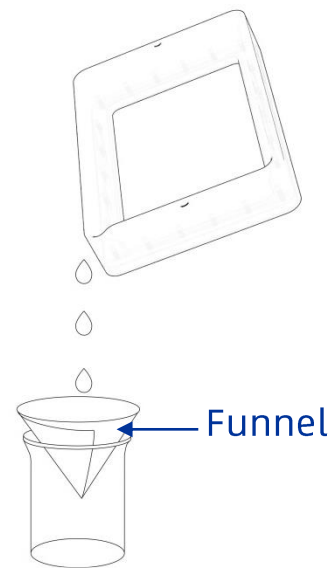


click to start

# First Print Instructions

## 2. Handling models and residues

After printing, unscrew and remove the platform when resin stop dropping from the platform. The model can be removed by scraper. The removed model should be washed with ethanol 95vol% concentration. The printed object may need post curing to achieve better hardness by direct **sunlight** or UV-curing box.



**【IMPORTANT】** Inevitably, in case of incomplete curing or failed prints, there might be some cured resin left in the vat. It is suggested to filter the resin by a funnel and then store the liquid in a sealed container. The residues left on the platform or in the vat can be wiped off with paper towel.

Before each prints, please ensure there is no solid residues in the vat or on the platform, otherwise the FEP film may be crushed and broken during printing.



# Slicing Software Overview

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3D printer reads sliced file and prints models. It is necessary to convert 3D files (stl./obj.) into sliced files for machine to recognize. Software that realize the process is called slicing software, for example, Photon Workshop.

Photon Workshop can be used to export sliced file. You should select **Photon Ultra** as machine type first, then manipulate the model and set the parameters. Lastly, export the sliced file (.dlp).

**The instruction of Photon Workshop has been saved in the USB memory, it is recommended that read it carefully if it is the first time for you to use Photon Workshop.**

# FAQ and Machine Maintenance

## 1. FAQ

### (1) Model do not stick to platform

- Bottom exposure time is insufficient, increase the time.
- Contact area between the model and platform is small, please add raft.
- Bad leveling.

### (2) Layer separation or splitting

- The machine is not stable during printing.
- FEP film in the vat is not tight enough or needs to be replaced.
- The printing platform or resin vat is not tightened.
- The lift speed is too fast.
- The printing object is hollowed without punching.

### (3) Layer shift

- Add supports.
- Reduce the lift speed.

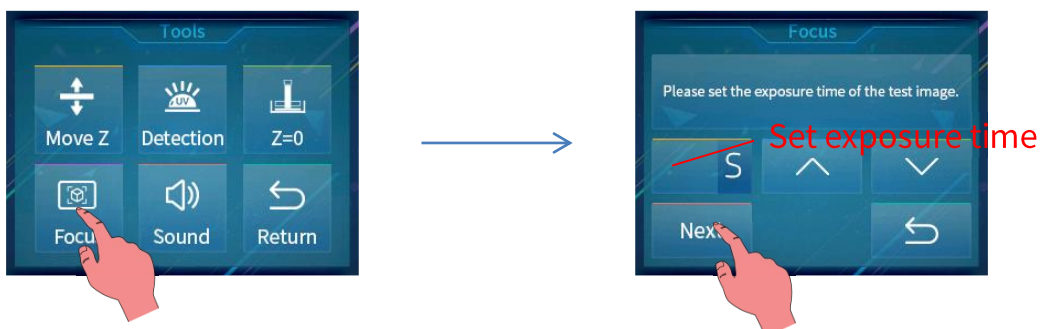
### (4) Floccules left in resin vat or attached to models

- Over exposure. Reduce the normal exposure time and bottom exposure time appropriately.
- It may caused by projection failure or focus failure.

### (5) Pits and Holes on the Surface

- It may caused by projection failure or focus failure.

You can check whether the projector is well-focused through an exposure image. Click "Tools" → "Focus", set exposure time and click "Next". If the grids are projected clearly, it is well-focused.



# FAQ and Machine Maintenance



grid image  
(for reference only)

## 2. Machine maintenance



(1) If Z axis make noisy sound, please apply lubricant to Z lead screw.



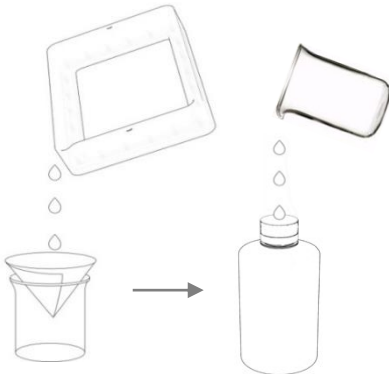
(2) Clean off the residues cured on FEP film when the printing fail: Set full-screen exposure for 20s and then remove the cured resin sheet to protect the film.

**DO NOT use sharp objects to scrape off the residues on FEP film.**

# FAQ and Machine Maintenance



(3) Be careful when remove the platform, do not let it fall to damage the machine.



(4) Do not left resin in resin vat for over two days when it is unused. Please filter and store the resin properly.

(5) After printing, please clean up the platform (**wipe with paper towels or wash with alcohol**), and ensure no residue left (**filter the residue with funnel**).

(6) If the body of printer is stained with resin, use alcohol to clean.

(7) If toughened glass is stained with resin, please clean up with paper towels or alcohol.

(8) If resin infiltrates into the sealant that cannot be cleaned, please expose to the sun until the resin is cured. Liquid resin infiltrating into inside of machine may cause malfunction.

# FAQ and Machine Maintenance

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- (9) Please clean the resin vat first before you change resin.
- (10) Do not use or place machine in the dusty environment for a long time to avoid the pollution of optical path.
- (11) After use, turn off the machine first. Do not unplug the machine when it is working to avoid the damage of DMD.
- (12) The machine should be moved carefully to avoid collision or severe vibration.

Thank you for purchasing **ANYCUBIC** products! Under normal usage and service, the products have a warranty period up to one year. Please visit **ANYCUBIC** support center([support.anycubic.com/en](https://support.anycubic.com/en)) to report any issue with **ANYCUBIC** products. Our professional after-sale service team would respond within 24 hours and solve the issues.