

ELEGOO M4 Series Mars 4 Max MSLA 3D Printer



ELEGOO M4 Series Mars 4 Max MSLA 3D Printer User Manual

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ELEGOO M4 Series Mars 4 Max MSLA 3D Printer



Thank you for purchasing the ELEGOO MARS 4 series 3D printer.

- This manual is a general user manual for MARS 4 series printers.
- The content below is based on the MARS 4 DLP printer.
- Please unbox and inspect the printer upon receiving it.
- If you have any questions regarding the printer, please contact us at 3dp@elegoo.com, Facebook, or Instagram.
- Please read the instructions carefully before you use the printer.

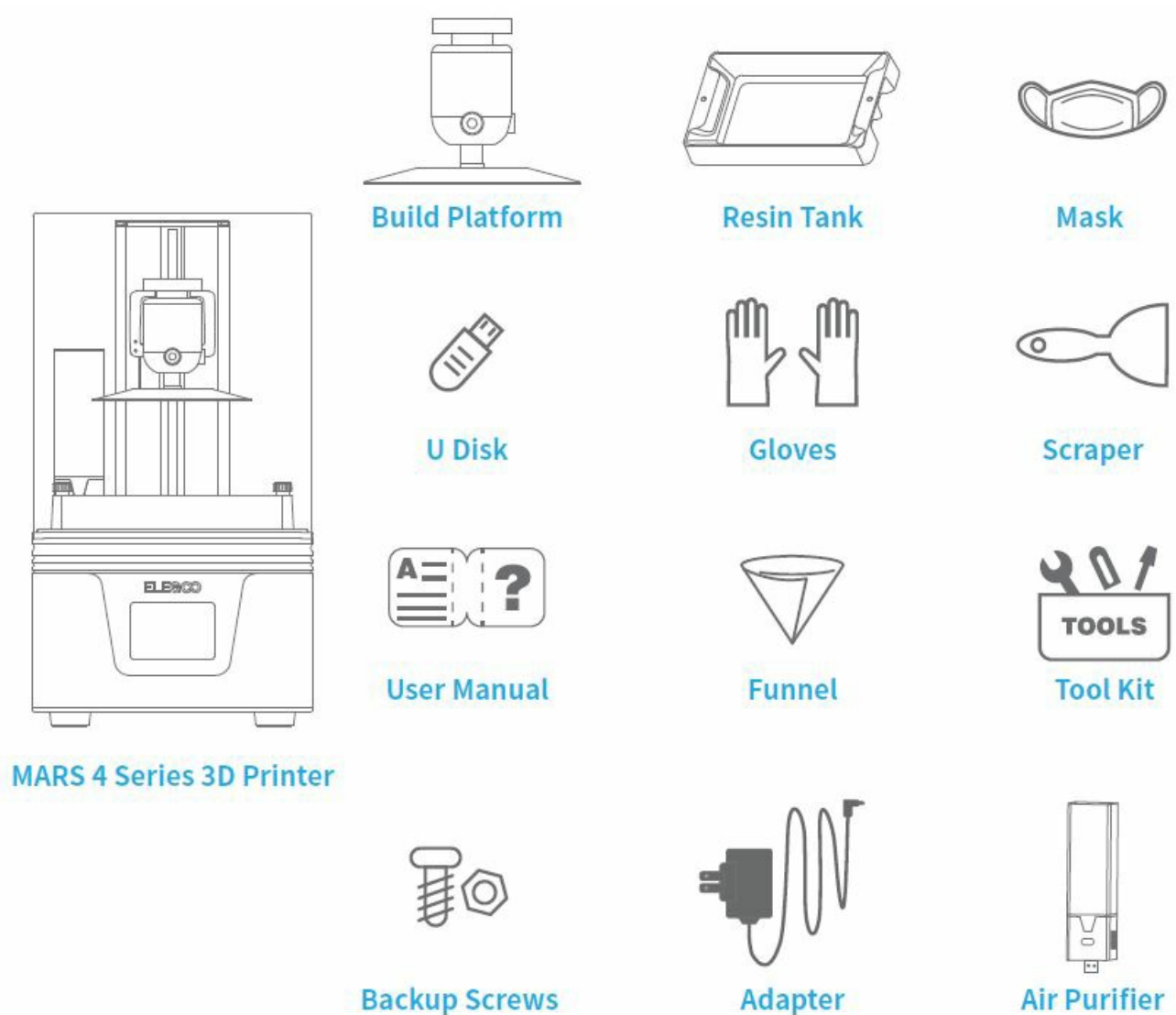
Notice:

If you need technical support, please contact us at 3dp@elegoo.com.

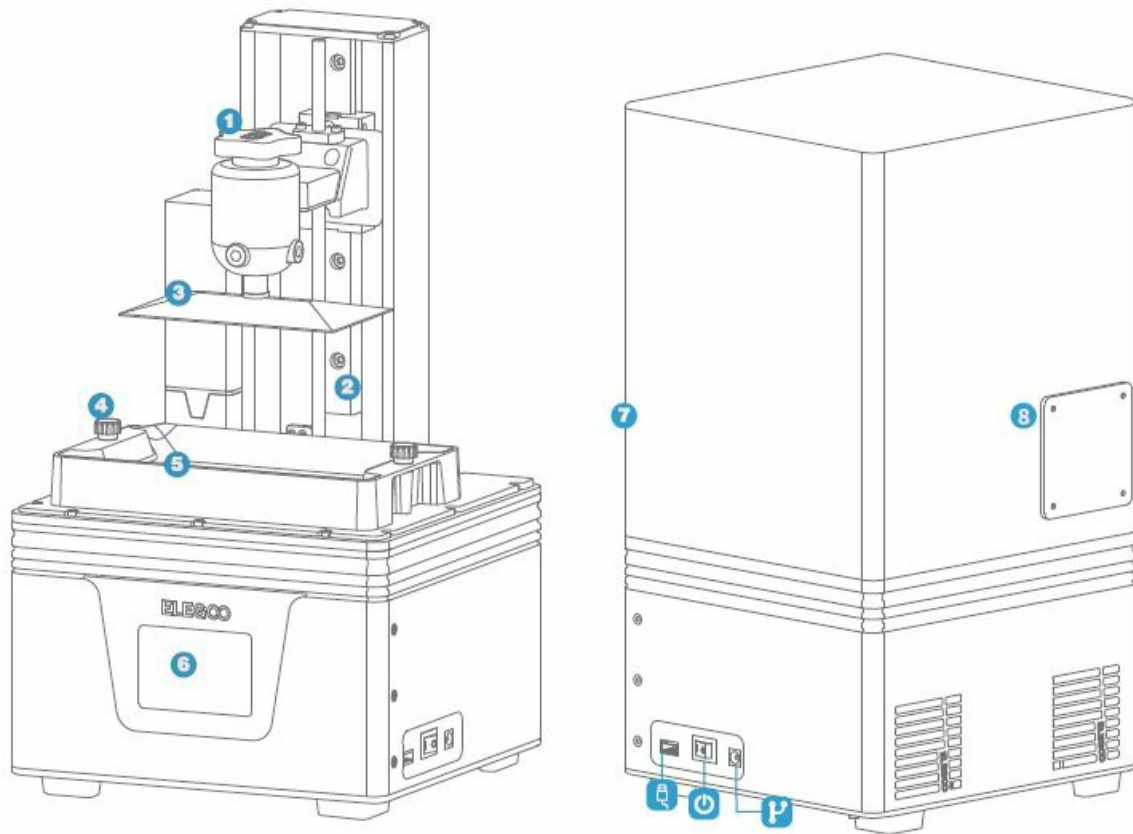
- Please keep the Mars 4 series 3D printer and its accessories out of the reach of children.
- When you use the printer for the first time, you will need to level the build platform before printing. (Unbox and Test)
- If the printing fails, you need to clean the excess cured resin in the resin tank and change the resin, otherwise, it may cause damage to your printer.
- Please fill not less than 1/3 of the resin tank, but do not exceed the MAX line position.
- Please use 95% (or higher) ethyl alcohol or isopropyl alcohol to wash your model unless you are using water-washable resin.
- Please use the printer indoors and avoid direct sunlight and a dusty environment.
- Please keep your printer away from water or a damp environment.
- Please wear a mask and gloves before use to avoid direct skin contact.
- Please do not disassemble the Mars 4 series 3D printer by yourself, otherwise the warranty will expire.

- If the release film in the resin tank is whitened or the printing failure rate is high, please replace the release film in time.
- If you have any problems with the printer, please contact us at 3dp@elegoo.com, and if you run into an emergency during use, please turn off the power supply of the printer first.
- Please keep the box for 30 days for return/exchange shipping (only original Elegoo boxes will be accepted)

Packing List



Printer Components



1. Screw Knob
2. Z-Axis
3. Build Platform
4. Screw Knob
5. Resin Tank
6. Touch Screen
7. Anti-UV Cover
8. Extension Port

Mars 4 DLP Printer Tech Specs

Printing Parameter

- **System:** EL3D-3.0.2
- **Operation:** 3.5 Inch Touch Screen
- **Slicer Software:** Voxeldance Tango
- **Connectivity:** USB

Printing Specification

- **Technology:** DLP Photocuring
- **Light Source:** Imported wick (wavelength 405nm)
- **XY Resolution:** 0.05mm (2560*1440)
- **Z-axis Accuracy:** 0.01mm
- **Layer Thickness:** 0.01-0.2mm

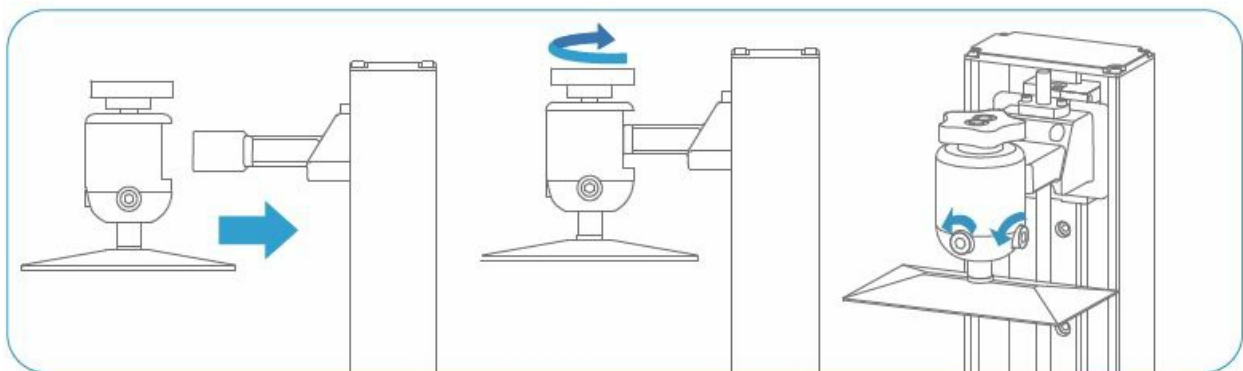
- **Printing Speed:** 30-70mm/H
- **Power Requirements:** 100-240V 50/60 Hz 12V 1.5A 18W

Hardware Specification

- **Dimension:** 24.6cm(L)*23cm(W)*45.3cm(H)
- **Build Volume:** 13.28cm(L)*7.47cm(W)*15cm(H)
- **Weight:** 6.8KG

Levelling

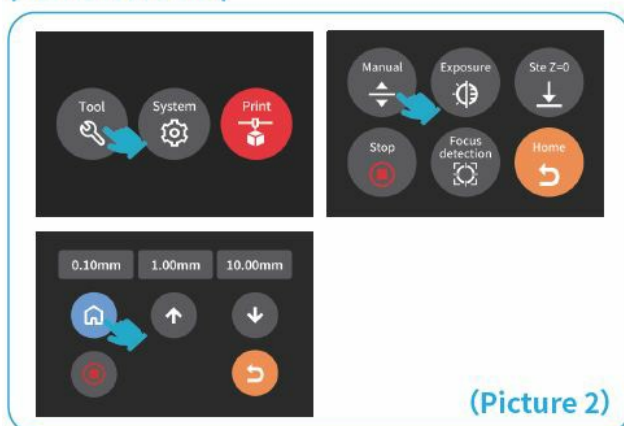
1. Take out the printer carefully and tear off the plastic film.
2. Power on the printer.
3. Please insert the build platform, fasten the screw knob and loosen the fixing screws. (See Picture 1)



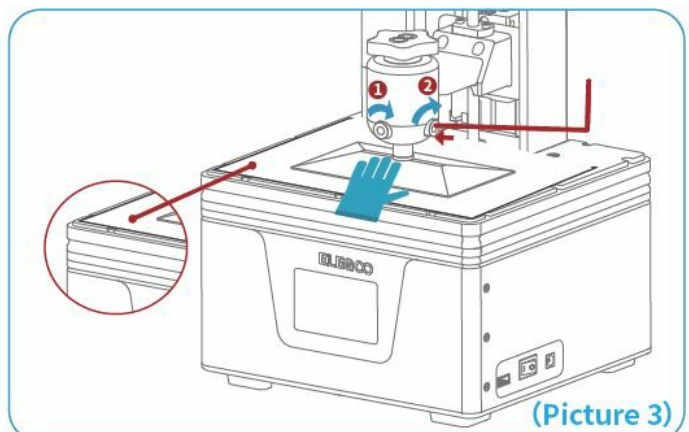
(Picture 1)

4. Remove the resin tank, place a levelling paper between the build platform and the tempered glass, and click “Move Z axis to zero” (See Picture 2). When the build platform stops, please press the top of the build platform with one hand, and ensure that the four corners of the build platform are evenly attached to the tempered glass, and then use the Allen wrench to tighten the fixing screws (1 2) on both sides of the build platform. (See Picture 3)

(See Picture 3)

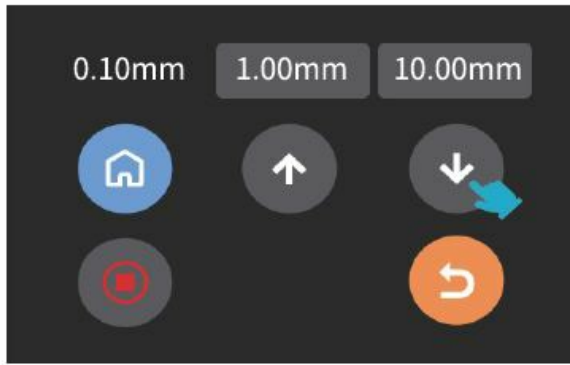


(Picture 2)

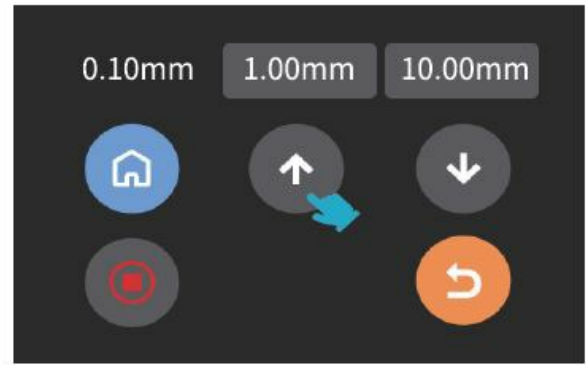


(Picture 3)

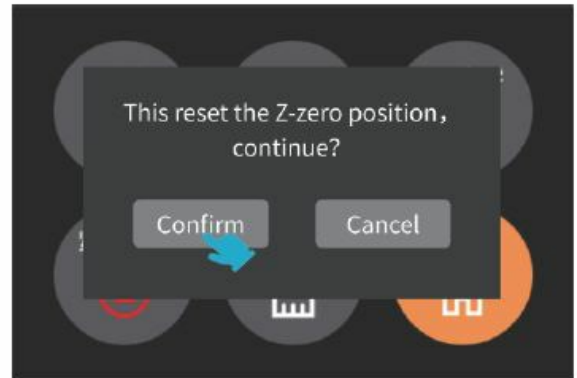
5. Since the distance between the printing platform and the tempered glass will change during the process of tightening the build platform screws, if you find that the MARS 4 DLP levelling paper can be pulled out without resistance, please click the “down” button (in steps of 0.1mm) until there is slight resistance to pull out the levelling paper. (See Picture 4) If there is too much resistance to pull out the MARS 4 DLP levelling paper, please click the “up” button (in steps of 0.1mm) until the levelling paper can be pulled out with slight resistance. (See Picture 5)



(Picture 4)

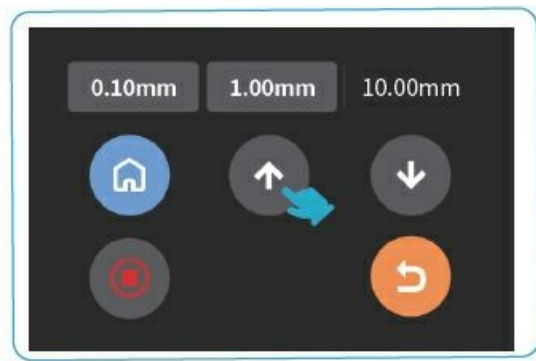


(Picture 5)



(Picture 6)

6. After completing the above levelling, set the current Z-axis position as the initial height of the first layer of printing. Operate as follows: return to the previous interface, and click "Set Z=0". At this time, a message will pop up on the touch screen, (as shown in Picture 6). Then click "Confirm" to complete. (Note: "Set Z=0" only works in print file mode.)
7. Press "10mm", then press "up" 10 times, and the Z axis will go up about 100mm. (See Picture 7)



(Picture 7)

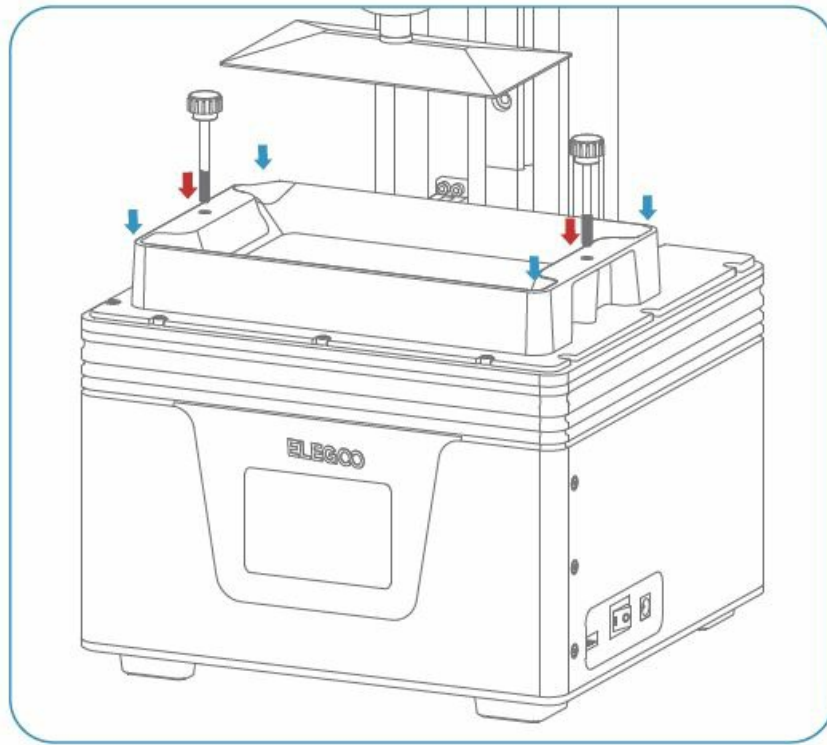


(Picture 8)

8. Press “Tool” – “Exposure” – “Select Image” – “Next” to test the projector. (See Picture 8) On the tempered glass of the MARS 4 DLP printer, the first image, can fully expose the pattern of “ELEGOO TECHNOLOGY www.elegoo.com”; the second image, can fully expose the “square frame” pattern; the third image, can perform full-screen exposure (can be used to clean the resin tank). If the above image can be exposed normally, the projector is in normal working condition.
9. A slight difference in brightness at different positions during exposure is normal and will not affect the printing results. Attention: Do not stare at the tempered glass or screen during exposure, so as not to affect your eyesight.

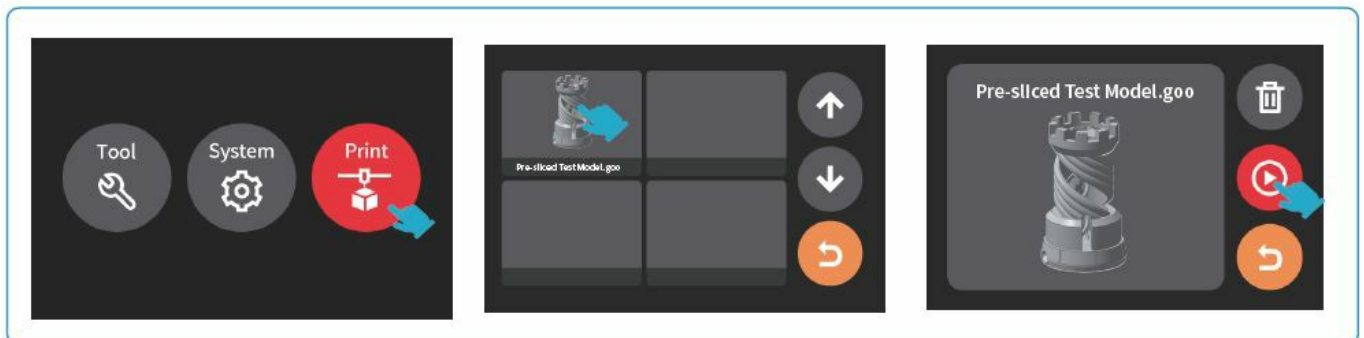
Test Printing

Model Printing



Install the resin tank back in place and tighten the screw knobs.

Install the resin tank back in place and tighten the screw knobs. Wear a mask and gloves (avoid direct contact of resin with your skin), then slowly add resin to the MAX line of the resin tank. Plug the USB air purifier into the USB port with the front side facing outwards, (the green light is on during printing, indicating that the air purifier is in normal working condition). Cover the anti-UV cover and make sure the printer is level and not wobble. Insert the U disk into the printer, select the model file “test model.goo” (See Picture 9) and start printing.

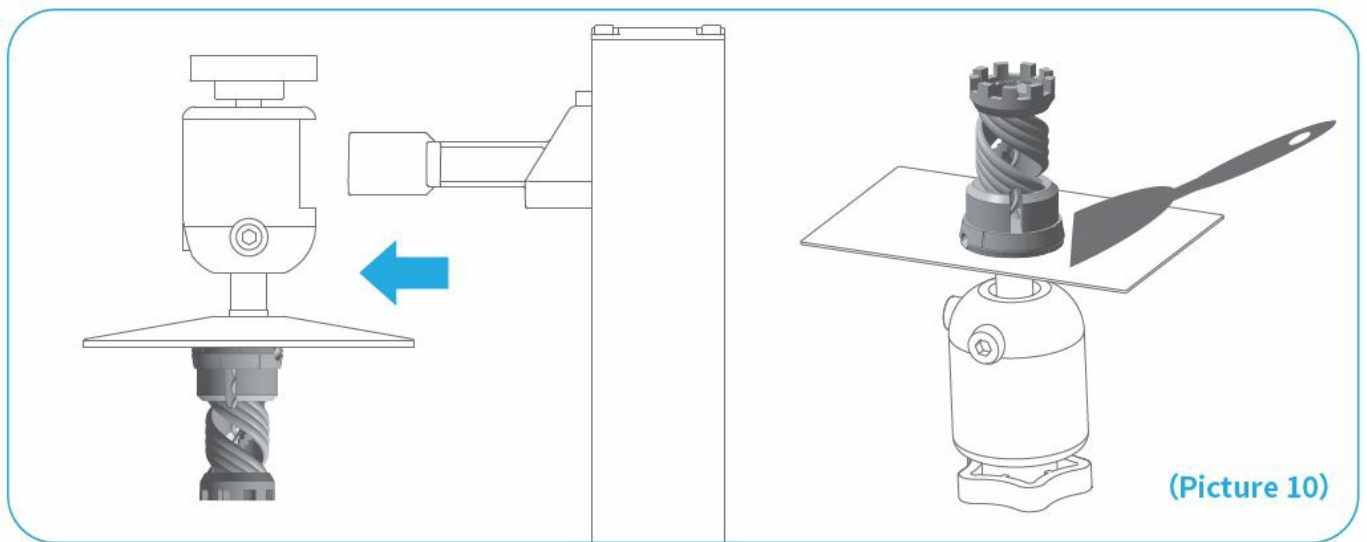


(Picture 9)

- If you find that there is not enough resin in the resin tank to complete the model printing, you can press the “pause” button, add more resin to the resin tank after the build platform stops lifting, and then press “Print” to continue printing.

Wash Your Print and Clean the Tank

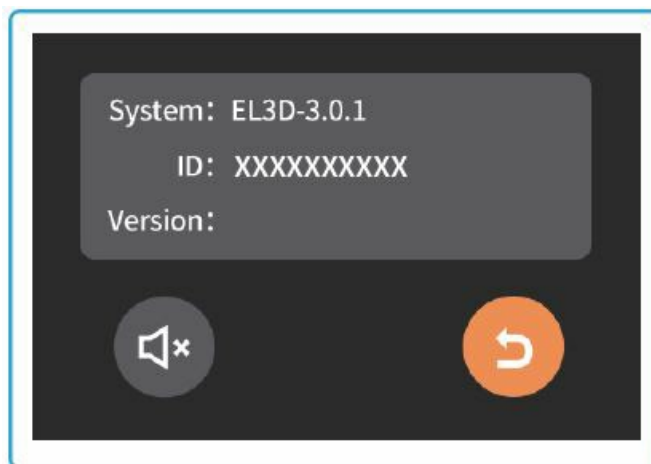
After the printing is completed, please wait until the residual resin on the build platform doesn't drip anymore. Loosen the screw knob and remove the build platform. Remove the model with the scraper, and wash it with 95% (or higher) ethyl alcohol if you are using standard resin or ABS-like resin. If you are using water-washable resin, you can directly rinse it with water (the rinsed water should be stored in a container). (See Picture 10)



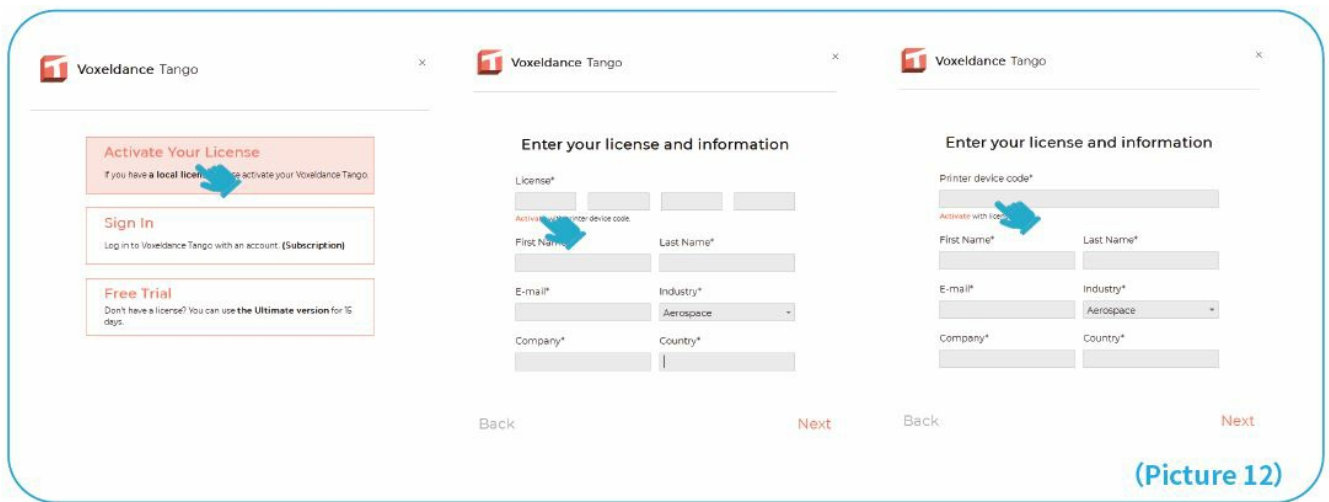
- Install Voxeldance Tango ELEGOO Voxeldance Tango software is saved in the U Disk. Choose the right version and install it on your computer, or you can download the latest version from www.elegoo.com/pages/3d-printing-user-support.

How to Use Voxeldance Tango

- Once the installation is complete, run the Voxeldance Tango software, select “Activate your license” – “Activate with printer hardware code” (See Picture12); Press “Settings” – “System” on the machine to view the machine “ID” (See Picture 11), and fill in the 10-digit “ID” into the “Printer Hardware Code” column of the software, and fill in other relevant information to complete the software activation.



(Picture 11)



(Picture 12)

- Click File-Open File, and then open your 3D model file (stl. format), You can control and change the viewing angle, size, and position of the model by left-clicking on the model and using the options on the upper menu.

Software Settings (Take MARS 4 DLP as an example)

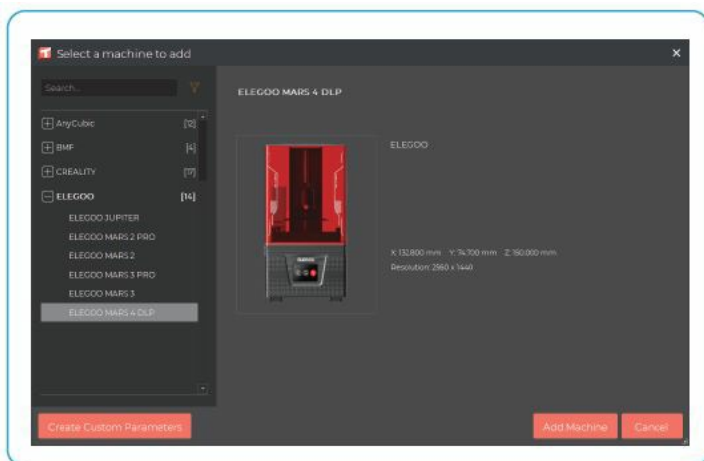
Elegoo Voxeldance Tango

Other operations:

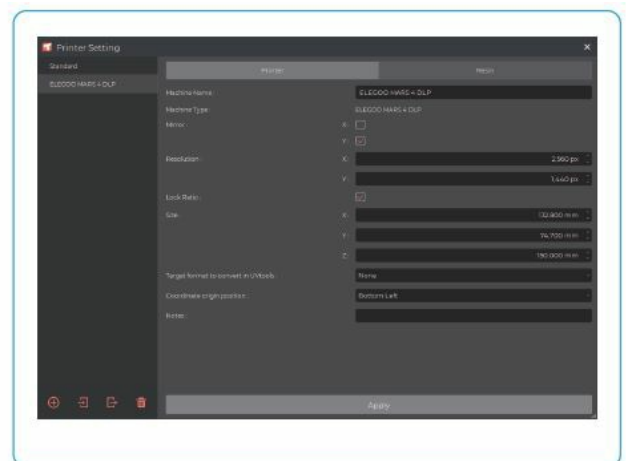
- Click on the model, left-click and long-press the centre point of the model, and drag the model to the position you want.
- Scroll the mouse wheel to zoom in or zoom out the model.
- Long press the right mouse button and rotate to see different perspectives of the model.

Voxeldance Tango Setting

Click “Parameter Settings” and choose ELEGOO MARS 4 DLP as your default printer. (See Picture 13)



(Picture 13)



(Picture 14)

Build Volume

Above are the default parameter values and you don't need to change them (See Picture 14). If the model is larger than the build volume of the printer, you would need to modify its size in the proportion corresponding to the direction (X, Y, or Z direction value).

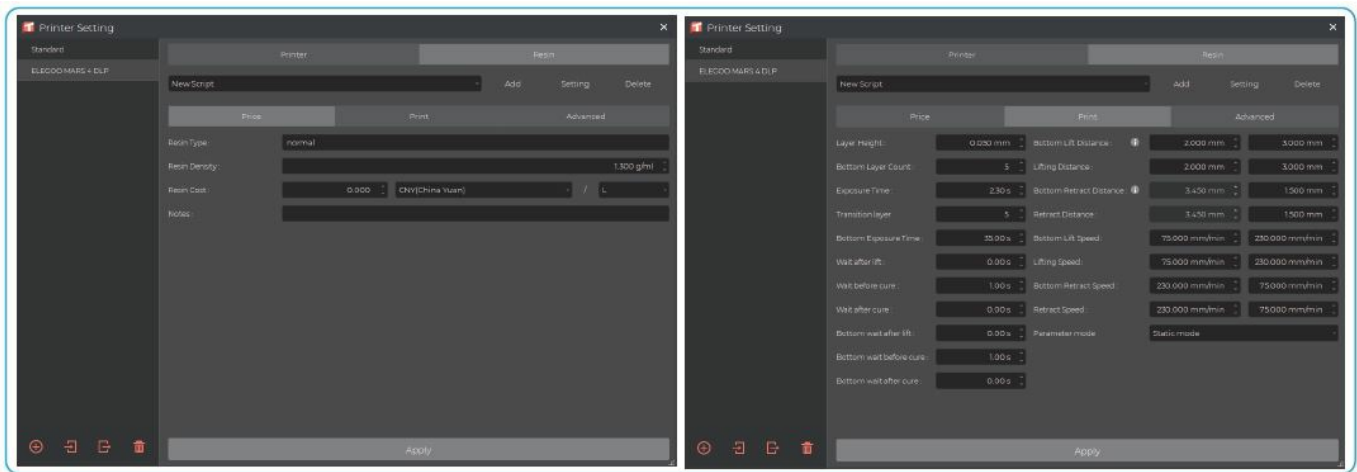
Resin Parameter (See Picture 15)

- **Resin Density:** 1.1g/ml
- **Resin Cost:** You can input the cost of the resin, and after slicing you will see how much it costs for your model.

Parameters

- **Layer Height:** The thickness of each printed layer, the recommended height is 0.05mm, but you can set it from 0.01-0.2mm. The higher the thickness you set, the longer time it will take for exposure of each layer.
- **Bottom Layer Count:** The setting number of initial printing layers. If the number of bottom layers is n, the exposure time of the first n layers is the exposure time of the bottom layer, the default setting is 5.
- **Exposure Time:** The exposure time for normal printing layers. The default exposure time is 2.3 seconds, and the thicker the printing layer setting is, the longer the time it will take.
- **Transition Layers:** The number of transition layers after the bottom layer to make it stickier between layers. Except for the exposure time, other parameters of the transition layer are the same as the normal layer, the default setting is 5.
- **Bottom Exposure Time:** The setting of bottom layer exposure time. Properly increasing the bottom layer exposure time can help to increase the stickiness between the printing model and the build platform; the default setting is 35 seconds. The longer the setting time, the stickier the bottom layer will be on the build platform.
- **Wait After Lift:** When the printing platform is stationary, the time difference between the build platform starts to return to the printing surface after lifting, the default setting is 0 seconds.
- **Wait Before Cure:** After the build platform moves to the printing surface, the time difference between the build platform starting to stationary and starting to exposure, the default setting is 1 second.
- **Wait After Cure:** The time difference between the end of the exposure and the start of the build platform to leave the printing surface, the default setting is 0 seconds.
- **Bottom Wait After Lift:** When printing the bottom layer, the time difference between the build platform starting stationary and starting to return to the printing surface after lifting, the default setting is 0 seconds.
- **Bottom Wait Before Cure:** When printing the bottom layer, after the build platform moves to the printing surface, the time difference between the build platform starting stationary and the start of exposure, the default setting is 1 second.
- **Bottom Wait After Cure:** When printing the bottom layer, the time difference between the end of the print exposure and the start of the build platform to leave the printing surface, the default setting is 0 seconds.
- **Bottom Lift Distance:** During the bottom printing process, the distance that the build platform leaves the printing surface each time, the default setting is 2+3mm.
- **Lifting Distance:** In the normal layer printing process, the distance that the build platform leaves the printing surface each time, the default setting is 2+3mm.
- **Bottom Retract Distance:** During the bottom printing process, the retract distance of the build platform, do not change if not necessary, the default setting is 3.5+1.5mm.
- **Retract Distance:** In the normal layer printing process, the retract distance of the build platform, do not change if not necessary, the default setting is 3.5+1.5mm.
- **Bottom Lift Speed:** During the bottom printing process, the moving speed of the build platform away from the printing surface each time, the default setting is 75+230mm/min.
- **Lifting Speed:** In the normal layer printing process, the moving speed of the build platform away from the printing surface each time; the default setting is 75+230mm/min.
- **Bottom Retract Speed:** During the bottom printing process, the moving speed of the build platform is close to the printing surface; the default setting is 230+75mm/min.

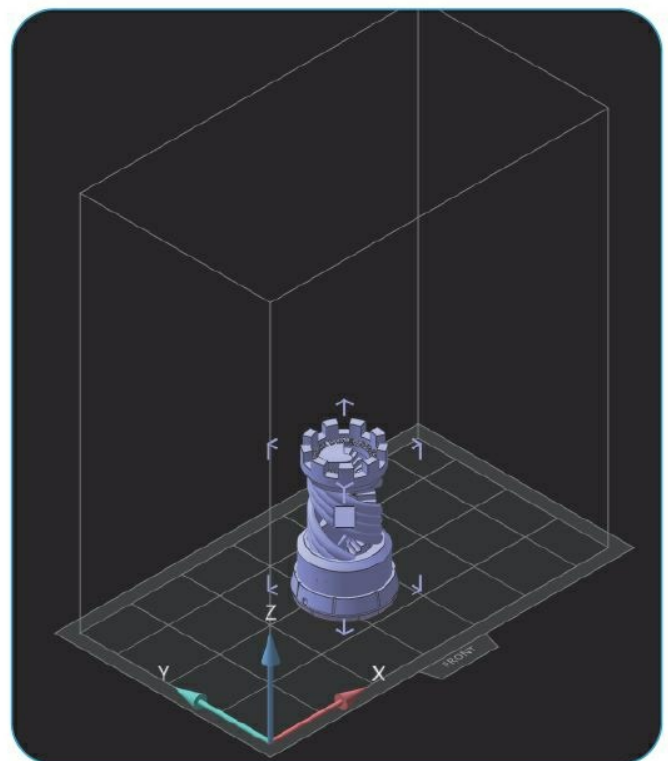
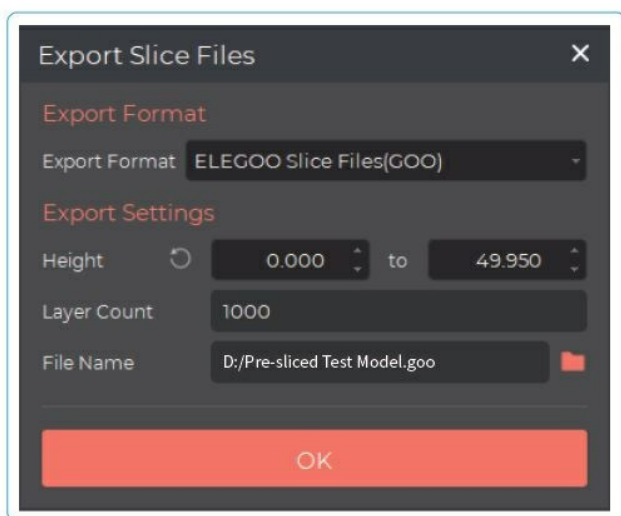
- **Retract Speed:** In normal layer printing, the moving speed of the build platform is close to the printing surface; the default setting is 230+75mm/min.
- **Parameter Mode:** The default static mode allows the printer to print according to the parameters set in the slicing software, or you can choose the dynamic mode, the printer will dynamically adjust the printing parameters according to the complexity of the model to improve the printing speed.



(Picture 15)

Save the Model

After setting up all parameters, click “Slice”, and once it’s done, click “export sliced files to U Disk or SD Card”; then insert the U disk or SD card into your printer, and start printing. (See Picture 16)



(Picture 16)

FAQ

1. The model doesn't stick to the build platform

The bottom layer exposure time is too short, please add more time. The model bottom layer has very small

contact with the build platform, please add a bottom raft.

Levelling is not well set and it will cause the first layer too thick, or one side is very thick while the other is very thin.

2. Model layer breakage

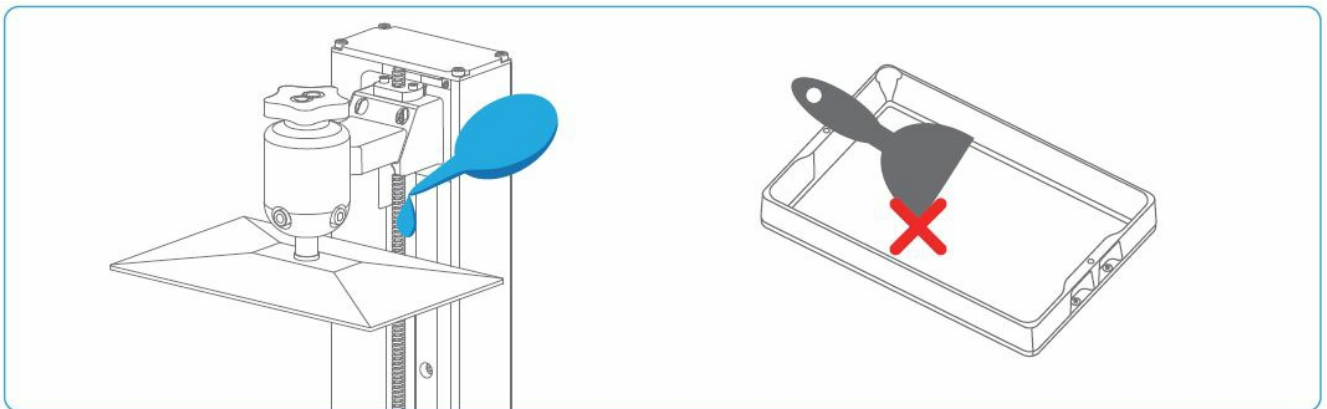
The printer is shaking during printing. Release liner film is very loose due to long-time usage and needs to be replaced. The build platform or resin tank is not fastened.

3. Printing failure

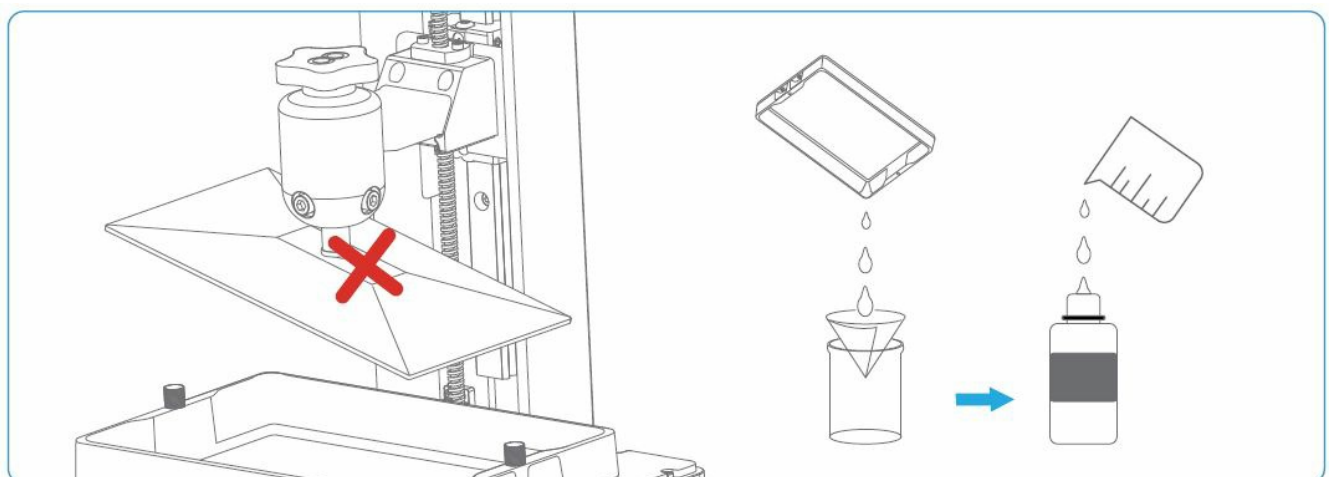
If the model was not completely printed or failed, there might be some residues left in the resin, which can be filtered out with a funnel when you save the rest resin back into its sealed bottle. If you don't filter out the residues, the build platform may cause damage to the tempered glass or screen when you're printing next time. As to the residual resin on the build platform, you can clean and wipe them up with tissues.

Maintenance

1. If the Z-axis keeps making friction noises, please add some lubricant to the lead screw.
2. Please do not use sharp or pointy tools to scrape the resin tank to avoid damaging the release liner film.



3. Be careful when you remove the build platform in case you may damage the tempered glass or screen.
4. Remember to pour the rest of the resin from the resin tank back into the resin bottle and seal it well if you don't use the printer in the next 48 hours. And if there are any residues, please use a filter to filter them out.



5. Please clean up the build platform and the printer with tissues or ethyl alcohol once you complete printing.
6. Please clean up the resin tank before changing the resin to another color.

Warranty Statement

1. From the date of purchase, the ELEGOO printer is entitled to 1-year free warranty service, except for

consumables of the LCD screen and the release film.

2. The LCD screen enjoys a 6-month free warranty service, and the DLP printer enjoys a 1-year free warranty service.
3. The free warranty does NOT include problems caused by self-disassembly and improper use, wear and tear of the machine housing, etc.
4. Within the scope of the free warranty, if the product has non-human quality problems, the user does not need to pay for accessories and maintenance fees.

CONTACT

- More to explore on ELEGOO Amazon Brand Store
- www.amazon.com/elegoo.



Documents / Resources

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References

- [a ELEGOO](#)
- [∞ ELEGOO: Best Consumer Level 3D Printers, Materials and STEM Products – ELEGOO Official](#)
- [∞ ELEGOO Support - Official ELEGOO Help Center – ELEGOO Official](#)
- [User Manual](#)

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