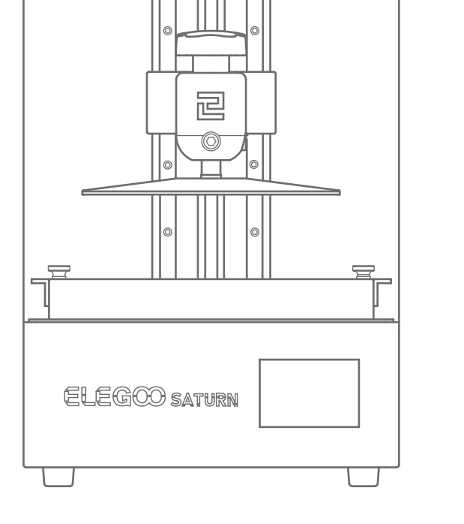


SATURN 3D PRINTER

ELEGOO

Thank you for purchasing ELEGOO SATURN series 3D 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.

Please read the instruction carefully before you use the printer.

Multiple language instructions and software are available to download from www.elegoo.com/download.

Follow us on Facebook and get FREE FEP film
Facebook: @ElegooOfficial
Instagram: @Elegoo_Official
Twitter: @Elegoo_Official

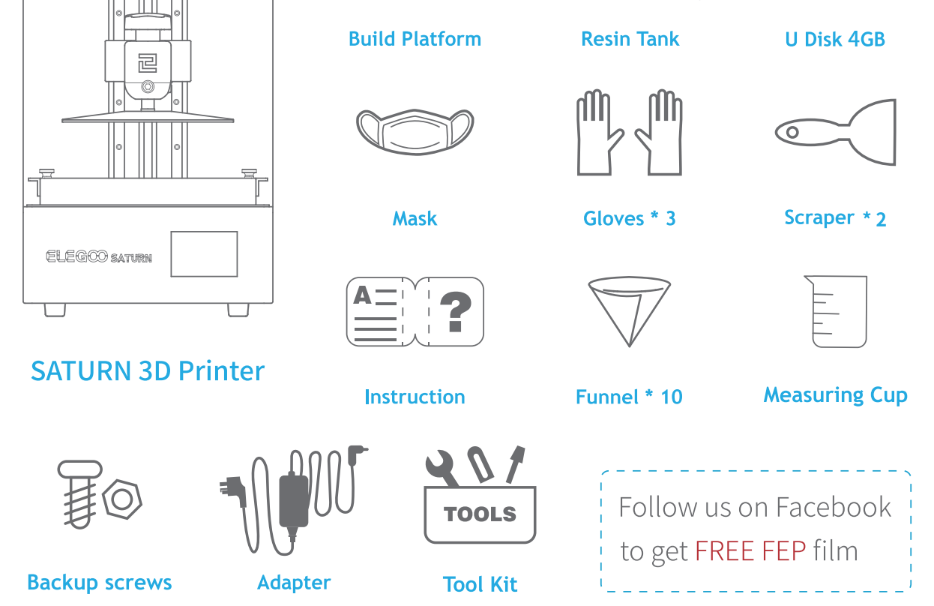
ELEGOO

Notice:

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

- Please keep the SATURN 3D Printer and its accessories out of the reach of children.
- When you use the printer for the first time, you would need to adjust it before printing (Unbox and Test).
- If the printing failed, you would have to clean the resin tank and change resin otherwise it may cause damage to your printer.
- Please fill 1/3 of the resin tank only and don't over fill.
- 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 dusty environment.
- Please keep your printer away from water or damp environment.
- Please wear a mask and gloves before using and avoid direct skin contact.
- If you want to print models with sharp edges please be careful when removing it from the build platform.
- Please don't disassemble the SATURN 3D Printer by yourself, which will cause your warranty expired. If you have any problems with the printer please contact us at 3dp@elegoo.com and if you run into emergency issues please shut down the power of the printer first.

Package List



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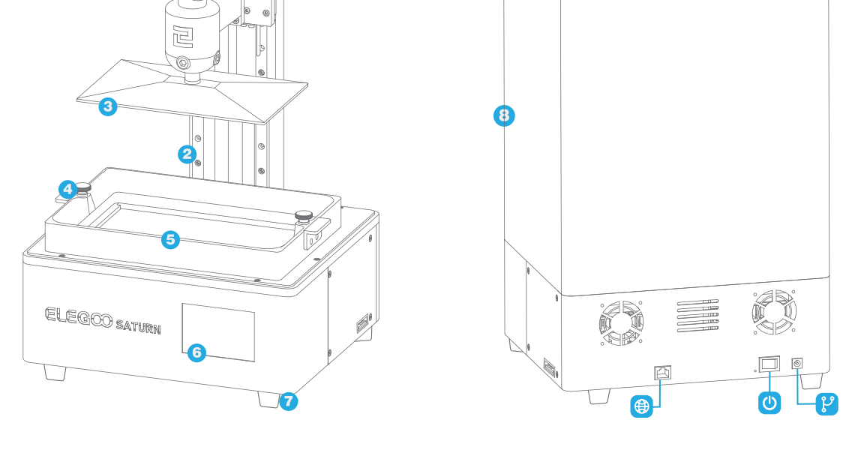
Printer Components



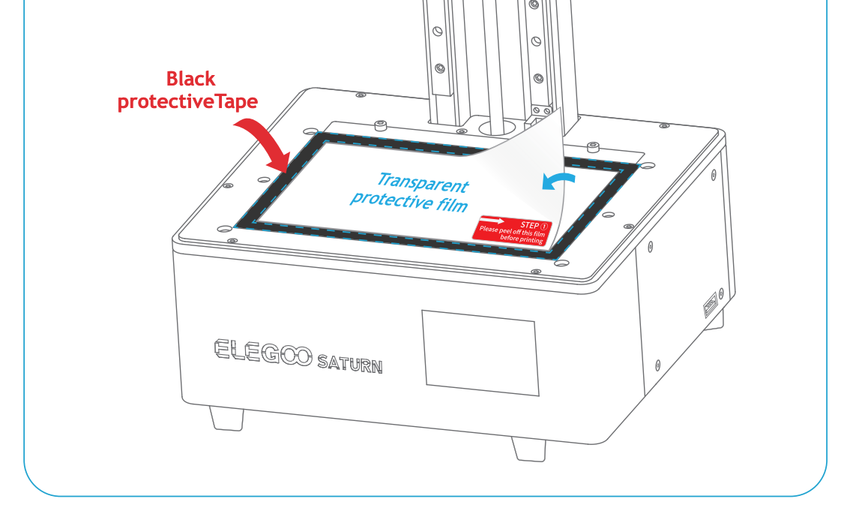
1. Rotary Knob
2. Z Axis
3. Build Platform
4. Rotary Knob
5. Resin Tank
6. Touchscreen
7. Leveling Pad
8. Cover

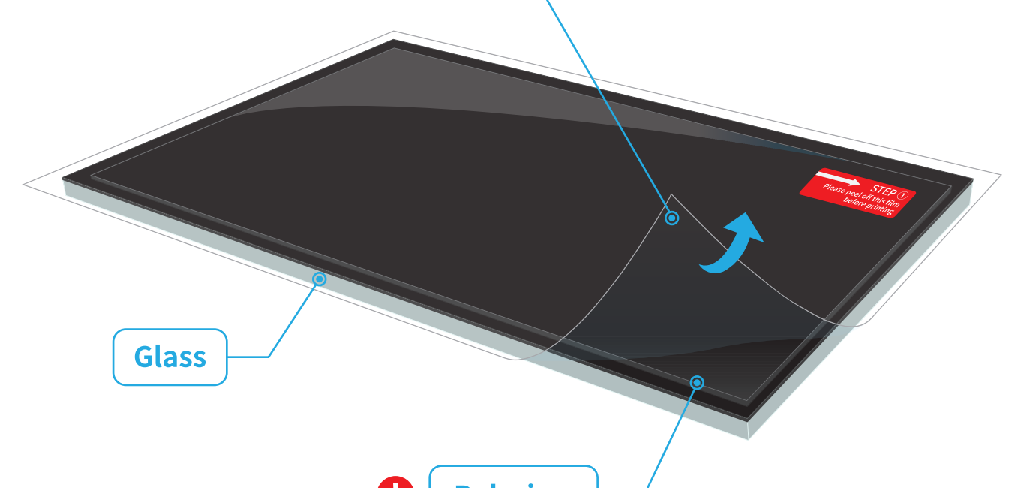
SATURN 3D Printer Tech Specs

System:	EL3D-3.0.1	Printing Parameter
Operation:	3.5 Inch Touch Screen	
Slicer Software:	CHITUBOX	
Connectivity:	USB	
Technology:	LED Display Photocuring	Printing Specification
Light Source:	UV Integrated Light (wavelength 405nm)	
XY Resolution:	0.05mm (3840*2400)	
Z Axis Accuracy:	0.00125mm	
Layer Thickness:	0.01-0.15mm	
Printing Speed:	30-40mm/h	
Power Requirements:	100-240V 50/60Hz 24V4A 96W	
Dimensions:	28cm(L)*24cm(W)*44.6cm(H) 11.02in(L)*9.44in(W)*17.55in(H)	Hardware Specification
Build Volume:	19.2cm(L)*12cm(W)*20cm(H) 7.55in(L)*4.72in(W)*7.87in(H)	
Weight:	22lbs (10kg)	

Precautions:

1.Please do not remove the black protective tape around the edges of the screen.
2. Before printing, please peel off the transparent protective film on the screen.



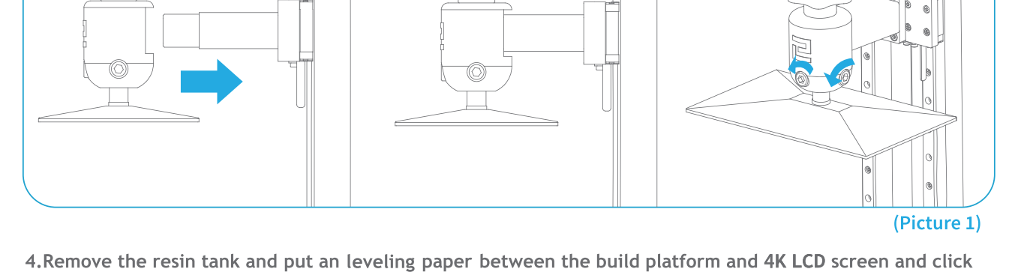


Transparent protective film: Before printing, please peel off the transparent protective film on the screen.

Please do NOT peel off the polarizer otherwise it would cause serious damage to the LCD and voids the warranty.

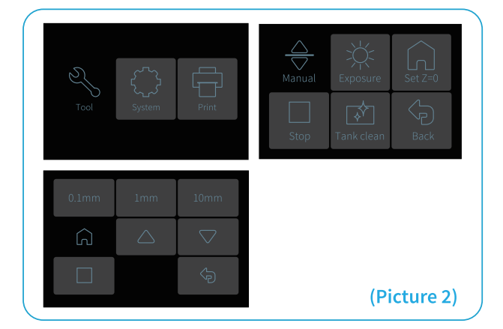
Unbox and Test

1. Take out the printer carefully and take off the plastic film.
2. Connect power cable to printer and power supply.
3. Please insert the build platform, fasten the rotary knob and loose the screws (see Picture 1).

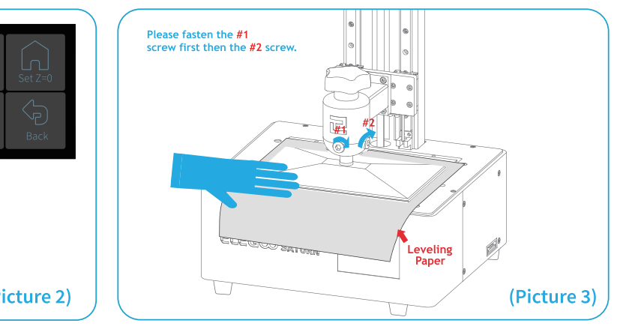


(Picture 1)

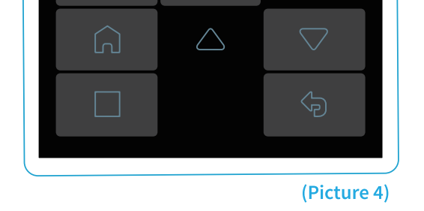
4.Remove the resin tank and put an leveling paper between the build platform and 4K LCD screen and click "Move Z axis to zero". (See Picture 2) Put the leveling paper on the LCD then put the build plate on the central position. Press the build plate with one hand and use another hand to fasten the screws. (See Picture 3)



(Picture 2)

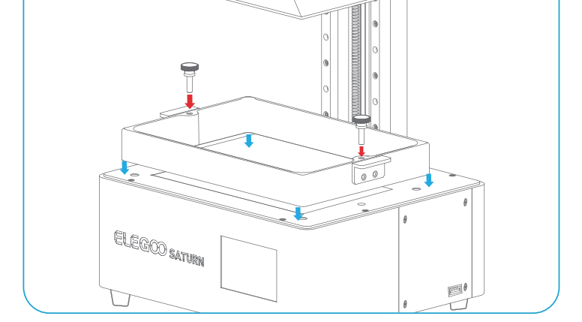


(Picture 3)

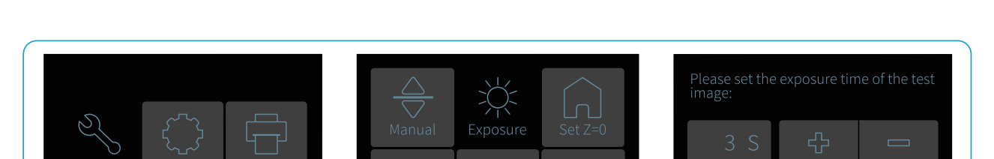


(Picture 4)

5. Press "10mm" then press "up" for 10 times, then Zaxis will go up about 100mm.
(See Picture 4)



Put the resin tank back and fasten the screws



(Picture 5)

6. Test the UV lights by pressing "Tool" - "Exposure" - "Next". (See Picture 5)
If the 4K LCD screen can display a complete rectangle then the UV lights work perfectly.

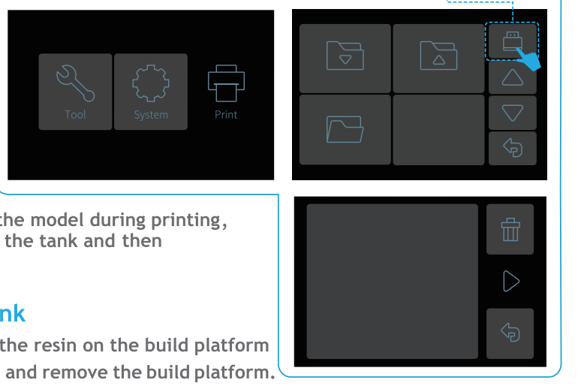
7. The slightly diferent brightness of LCD panel during exposure is normal and wont affect print results.
Attention: Please do NOT stare at the LCD panel during exposure in case of visual impairment.

Test Printing

1 Model Printing

Plug the USB to your printer, wear your mask and gloves and then add resin slowly to the 1/3 level of the tank. (Avoid direct contact with your skin) Select Model file "Rook.ctb"(See Picture 6) and start printing. Put on the cover to avoid direct sunlight and make sure the printer is leveled and not shaky.

Click this button to switch from USB FLASH to built-in data disk.

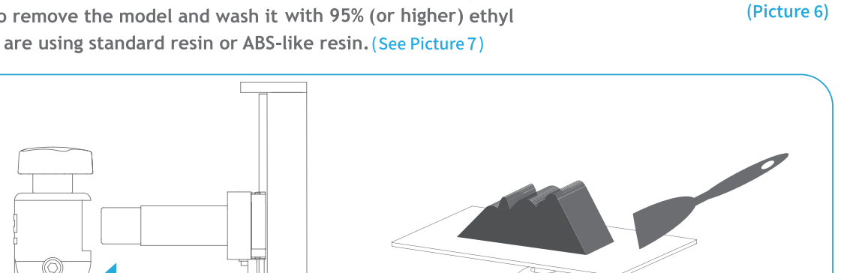


(Picture 6)

If you found resin is not enough to complete the model during printing, you can press Pause and add more resin into the tank and then press Print to continue printing.

2 Wash Your Print and Clean the Tank

Once printing is completed please wait until the resin on the build platform doesn't drop any more. Loose the rotary knob and remove the build platform. Use scraper to remove the model and wash it with 95% (or higher) ethyl alcohol if you are using standard resin or ABS-like resin. (See Picture 7)



(Picture 7)

Software

1 Install ChiTu Box

ELEGOO ChiTu Box is stored 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/download.

2 How to Use ChiTu Box

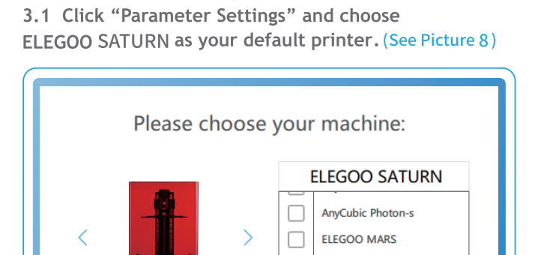
After installation completed, run ChiTu software. Click File - Open File, then open your own 3D model files (.stl type) or you can download some samples from our website www.elegoo.com.
You can control and change the visual angle, size and position of the model by left-clicking the model and use options on the left menu.

Elegoo ChiTu Box

Other operations:
1) Long press the left click and drag the model to the position you want.
2) Scroll the mouse wheel to zoom in or zoom out the model.
3) Long press the right click to see different perspectives of the model.

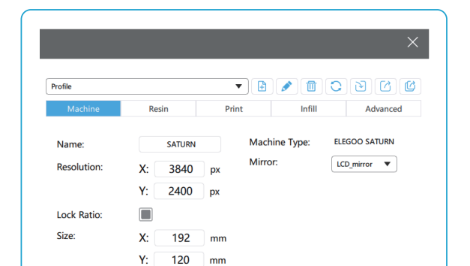
3 ChiTu Box Setting

3.1 Click "Parameter Settings" and choose ELEGOO SATURN as your default printer. (See Picture 8)



Please choose your machine:
ELEGOO SATURN
☐ AnyCubic Photon-s
☐ ELEGOO MARS
☐ ELEGOO MARS Pro
☑ ELEGOO SATURN

(Picture 8)



Name: SATURN
Machine Type: ELEGOO SATURN
Resolution: X: 3840 px Y: 2400 px
Mirror: LCD_mirror
Lock Ratio: ☑
Size: X: 192 mm Y: 120 mm Z: 200 mm
Build Area Offset: ☐

(Picture 9)

3.2 Build Volume

Above are the default parameters and you don't need to change them. If the model is bigger than printer build volume you would need to change its size with ratio locked. (See Picture 9)

3.3 Resin Parameter (See Picture 10)

Resin Density: 1.1g/ml

Resin Cost: you can enter the unit price of your resin and after slicing you will see how much it costs for you model.

3.4 Parameters (See Picture 10)

Layer Height: Recommended height is 0.05mm but you can set it from 0.01-0.15mm The higher you set, the longer time it will take for exposure time of each layer.

Bottom Layer Count: Set from 3-6 layers.

Exposure Time: Set from 1.5-3s according to the layer height and complexity of the model, the thicker you set, the longer time will be needed. (When printing large models or small models with tiny supports, you would need to increase layer exposure time to guarantee yor printing result.)

Bottom Exposure Time: Set from 25-40s, the longer you set, the stickier the bottom will be on the build platform.

Light-off Delay/Bottom Light-off Delay: Maintain default parameters and you don't need to change them.

Bottom Lift Distance: When printing the bottom layers, it is recommended to set the lifting distance of the build plate to 5mm.

Lifting Distance: When printing the normal layers, it is recommended to set the lifting distance of the build plate to 3-5mm.

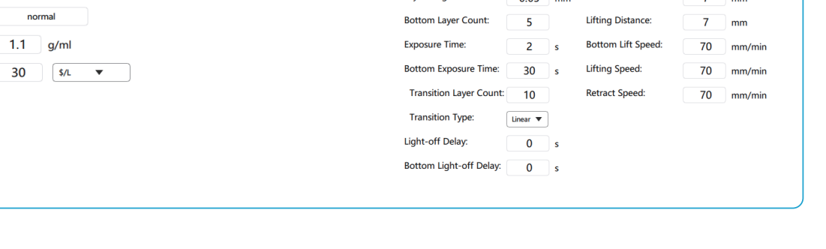
Bottom Lift Speed: When printing the bottom layers, it is recommended to set the lifting speed of the build plate to 70mm/min.

Lifting Speed: When printing the normal layers, it is recommended to set the lifting speed of the build plate to 70mm/min.

Retract Speed: When printing the bottom layers, it is recommended to set the retract speed of the build plate to 70mm/min.

Transition Layer Count: Take above settings as an example,bottom exposure time is 30s/layer and after 5 layers, the exposure time will decrease from 30s to 2s gradually over 10 layers, which will greatly enhances the printing success rate. If you are printing small models, you can reduce the Transition Layer Count.

Transition Type: linear transition.



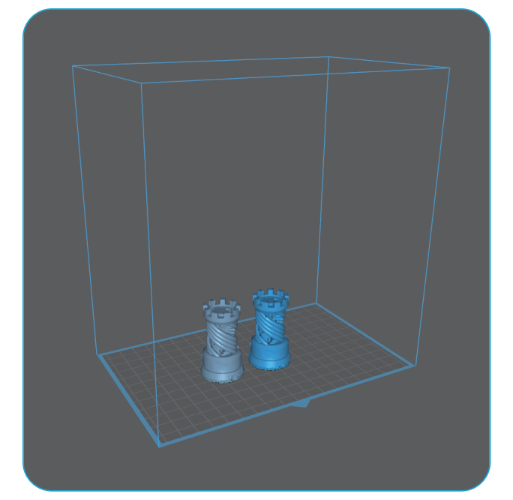
Resin Type: normal
Resin Density: 1.1 g/ml
Resin Cost: 30 $/L

Layer Height: 0.05 mm
Bottom Layer Count: 5
Exposure Time: 2 s
Bottom Exposure Time: 30 s
Transition Layer Count: 10
Transition Type: Linear
Light-off Delay: 0 s
Bottom Light-off Delay: 0 s
Bottom Lift Distance: 7 mm
Lifting Distance: 7 mm
Bottom Lift Speed: 70 mm/min
Lifting Speed: 70 mm/min
Retract Speed: 70 mm/min

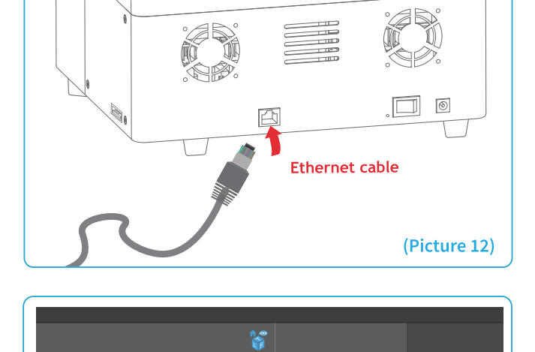
(Picture 10)

4 Save Model

After setting up all the parameters, click "slice" and once it's done, click "export sliced files to U Disk or SD Card" then plug the U disk to your printer, start printing. (See Picture 11)



(Picture 11)



(Picture 12)

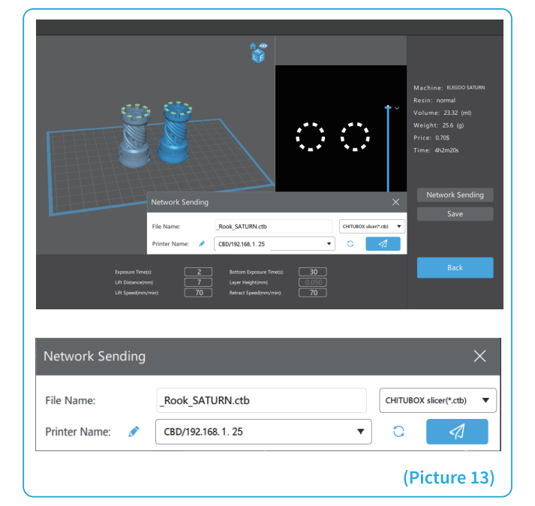
If you want to print using the internet, please follow below procedures:

1.Connect your Saturn with Ethernet cable and keep your computer in the same network with Saturn. (See picture 12)

2.Please make sure there is no cured resin on the build plate or in the resin tank in case of breaking the LCD.

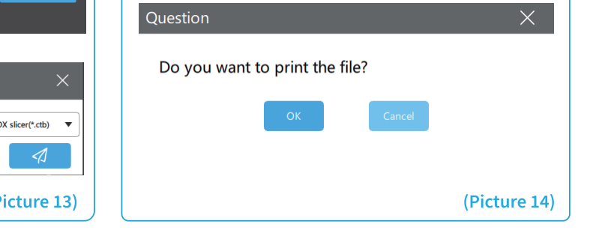
3.Click Network Sending option after you sliced the model in ChituBox and save as .ctb file type then it will search Saturn's IP address. If not found, please click Refresh and check whether the Internet is connected. (See picture 13)

4.After sending out the model, ChituBox will ask you whether to print now. You can choose to print or operate it on Saturn manually. (See picture 14)



Network Sending
File Name: _Rook_SATURN.ctb CHITUBOX slicer(*.ctb)
Printer Name: CBD/192.168. 1. 25

(Picture 13)



Question
Do you want to print the file?

(Picture 14)

FAQ

1. Model doesn't stick to the build platform

--Bottom layer exposure time is too short, please add more time.
--Model bottom has very small contact with the build platform and please add more bottom layers.
--Leveling is not well set and it will cause first layer too thick or one side is very thick while the other side is very thin.

2. Model layer breakage

--Printer is shaking during printing.
--Release liner film is very loose due to long-time usage and need to be changed.
--Build platform or resin tank is not fastened.

3. SATURN can't work

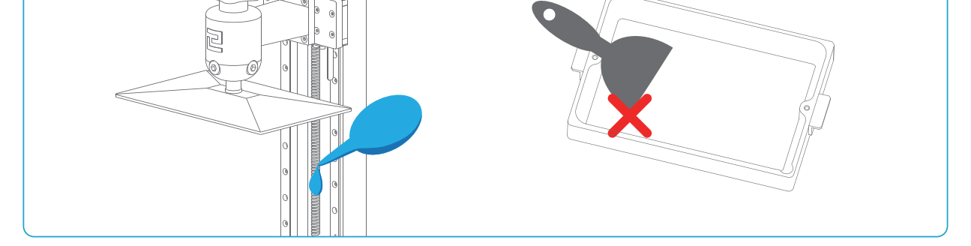
We offer a full one-year warranty on the printer and 3-month warranty for the screen.
If your printer doesn't work please contact us at 3dp@elegoo.com.
and as to better help and solve problems for you please add your order ID in your email.

4. Printing failure

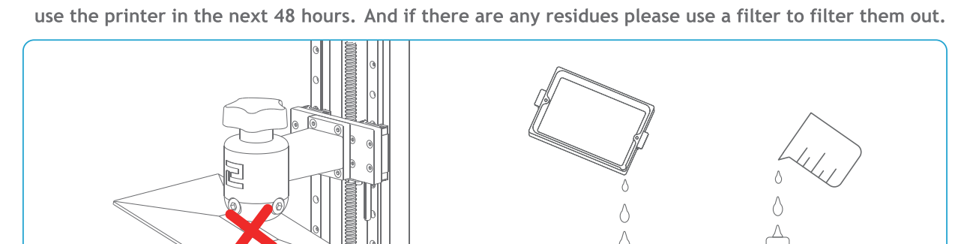
If the model was not completely printed or failed, there might be some residues left in the resin, which can be filtered out using a funnel when you save the rest resin back into its sealed bottle. If you don't filter out the residues, the platform may cause damage to the 4K LCD screen when you're printing next time. As to the residual resin on the platform and tank, you can clean and wipe them up using tissues.

5.Maintenance

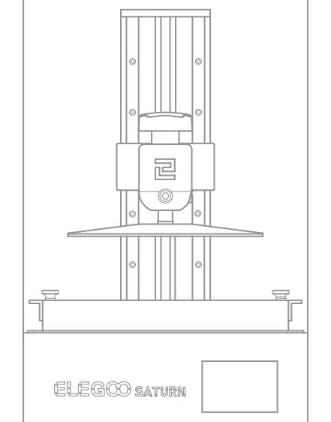
1.If Z axis keeps making friction noises, please add some lubricant to it.
2.Please do not use sharp or pointy objects to scrape the release liner film in case of damages.



3.Be careful when you remove the build platform in case you may smash the 4K LCD screen.
4.Remember to pour the rest of the resin in the 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 using tissues or ethyl alcohol once you complete printing.
6.Please clean up the resin tank before changing another colors of resin.



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