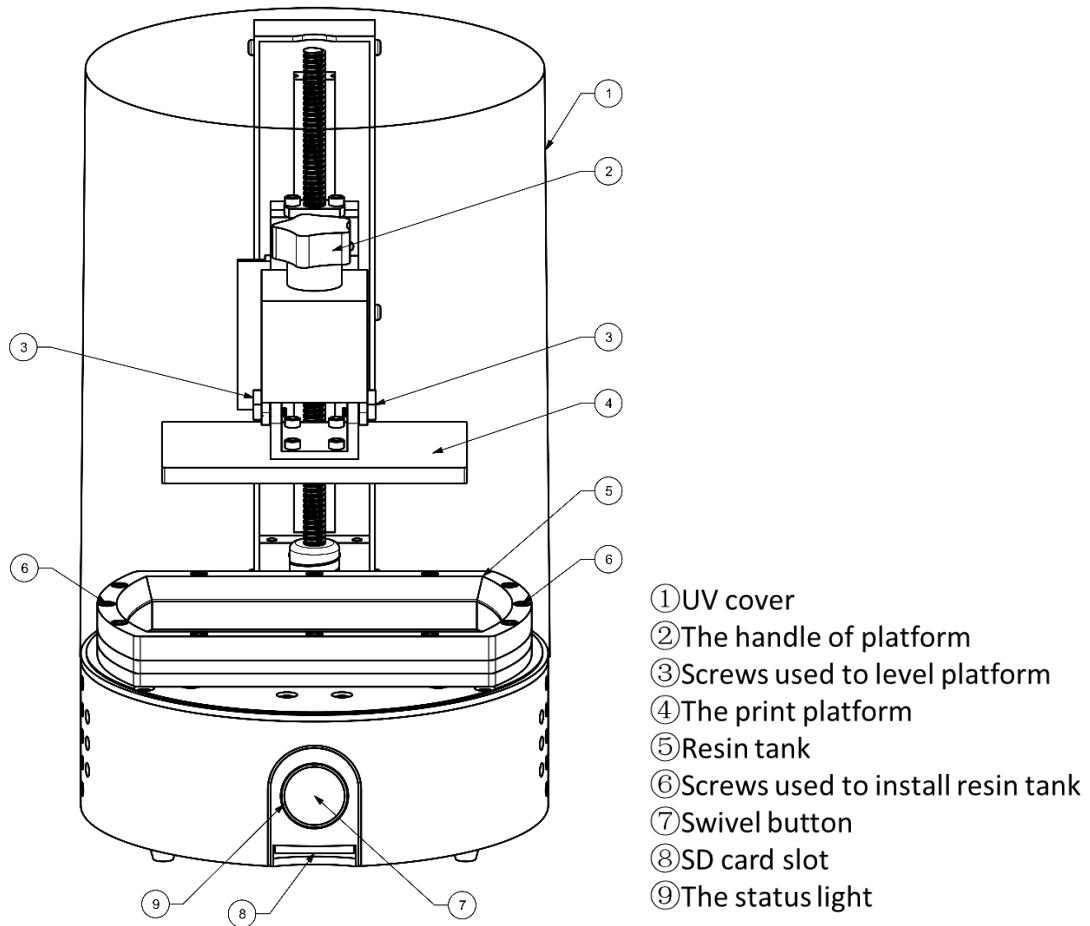


# The Instructions of SparkMaker

## Part I

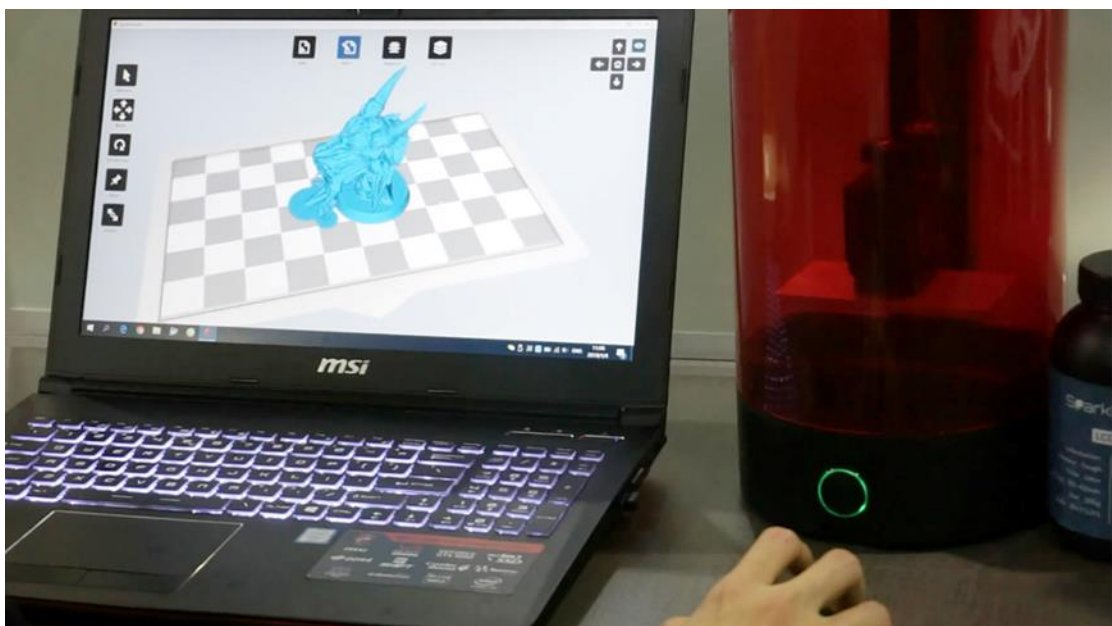
### Specifications of SparkMaker

Build Volume	98mm*55mm*125mm
XY Accuracy	100μm
Z Accuracy	20-100μm
Print Material	Resin
Print time	8-15 S/layer
Connectivity	SD Card
Printer Control	Interactive Push-button
UV Backlight	400-410nm 24W UV LED
Software	SparkStudio
Stepper Motor Driver	1/128 Micro step
Hardware Dimensions	Φ170mm*275mm
Product Weight	2KG
Power Adapter	DC 24V 2A 48W



## Part II

### How to use SparkMaker



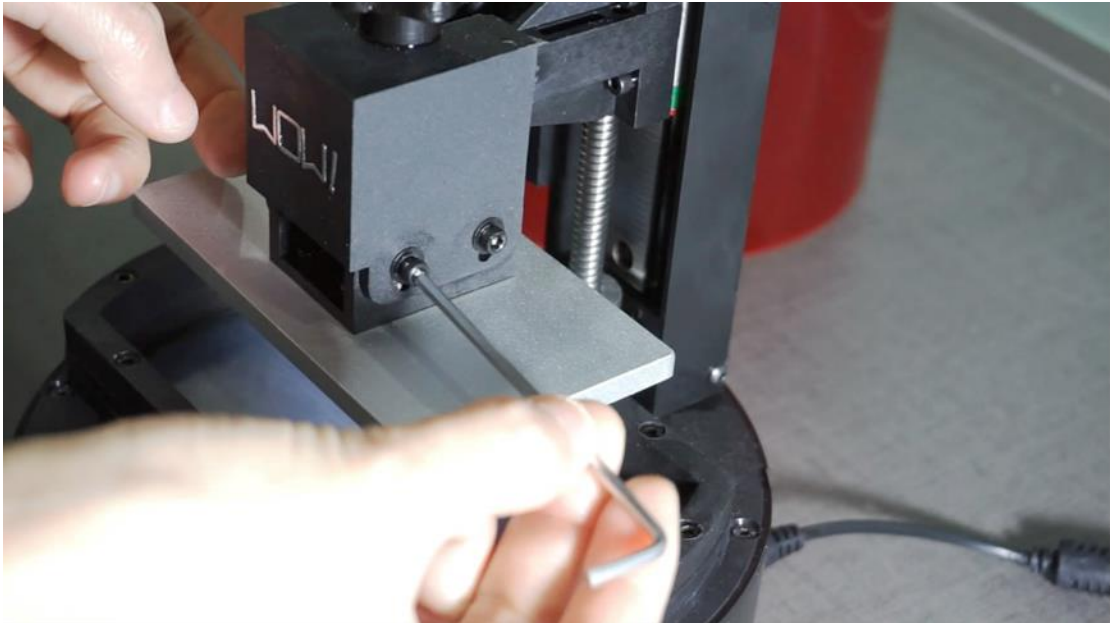
Step1: Add STL file model to SparkStudio to add support and slice



Step2: Save the slice file to SD card.



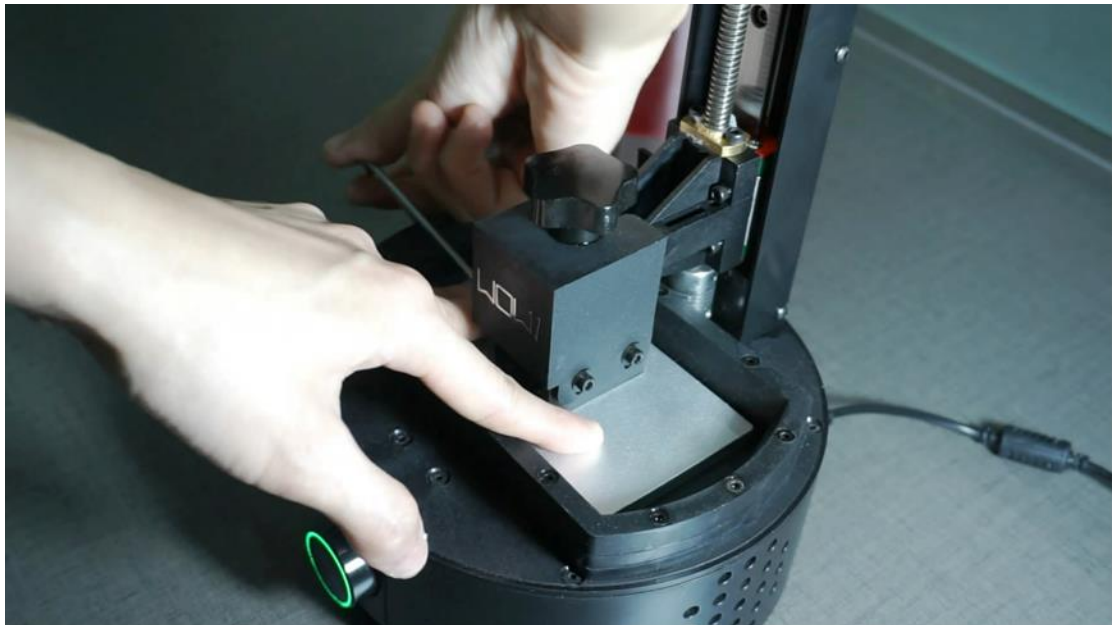
Step3: Level platform when first print (No need to level again next time).



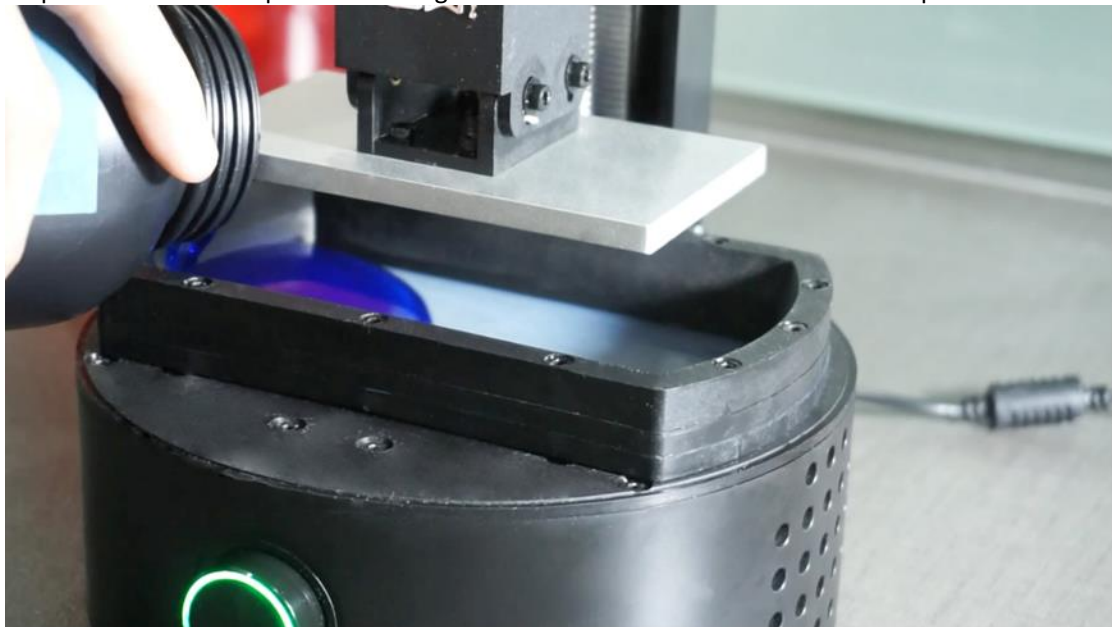
Step4: Loosen the four screws on both sides of the platform.



Step5: Rotate the knob drops the platform to the lowest point.

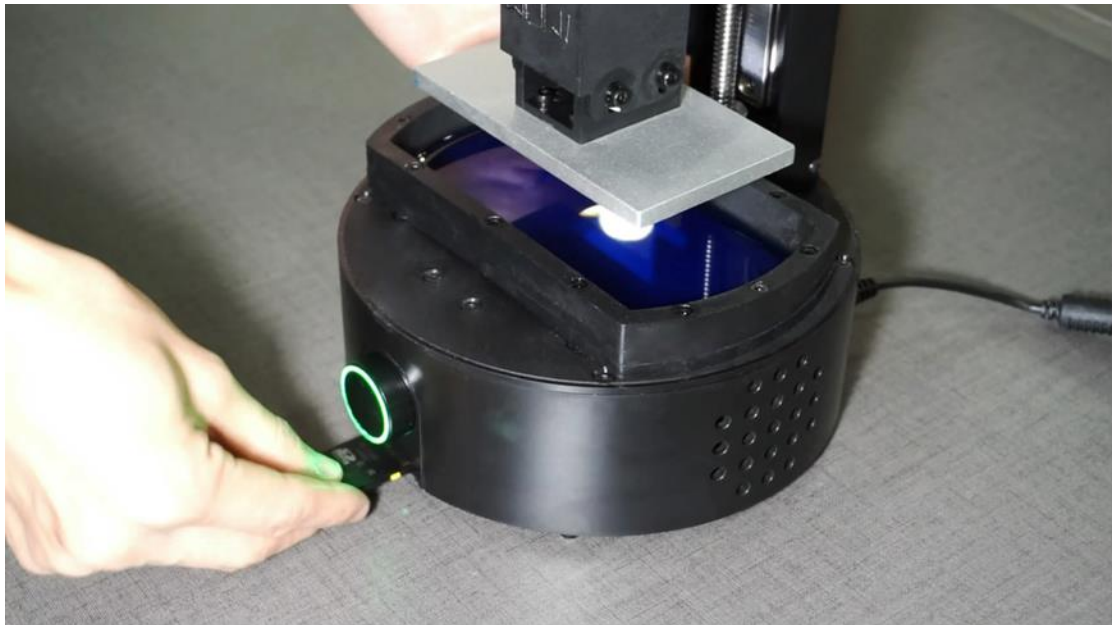


Step6: Press down the platform and tighten the four screws on both sides of the platform.



Step7: Pour the resin into resin tank (Less than 120g resin).

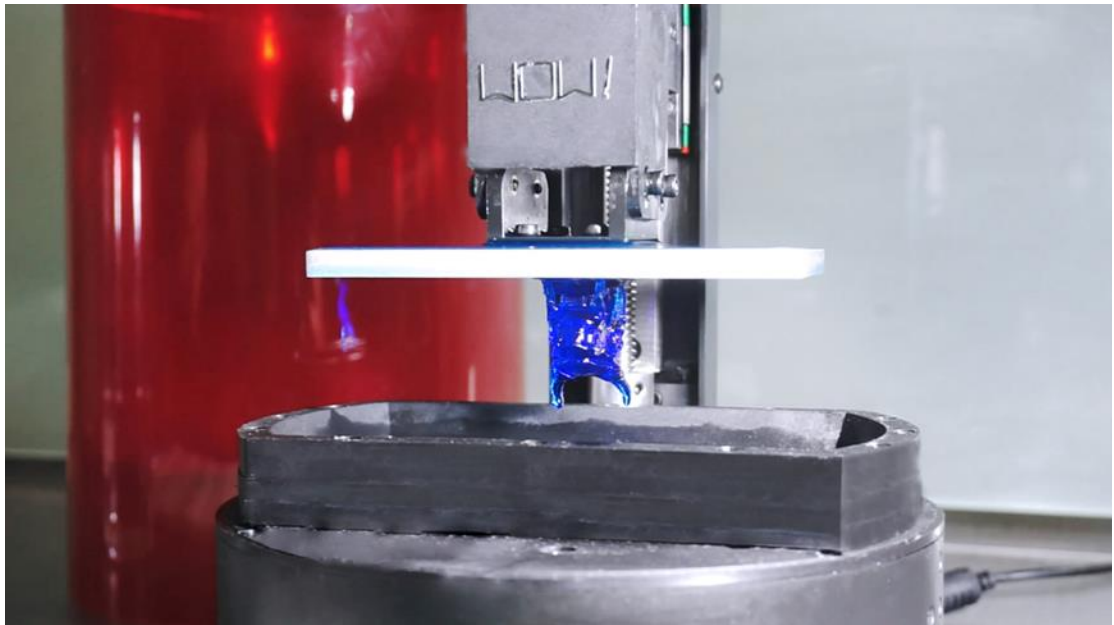




Step8: Insert the SD card into the slot (Face down).



Step9: Press the button and start to print.



Step10: The print is finished.



Step11: Loosen the handle and remove the platform.





Step12: Remove the supports of model.



Step13: Clean the model with 99% alcohol.



Step14: Irradiate the model with UV-light about 2-3mins.



Step15: Finally, get the model.

## How to update the firmware

- Download the latest firmware from SparkMaker website. ([www.sparkmaker3d.com](http://www.sparkmaker3d.com))
- Unzip the files and save the update.wow file in SD card.
- Turn off the power of SparkMaker.
- Insert the SD card in SparkMaker.
- Turn on the power of SparkMaker.
- The light of the button will turn purple for a while and turn green in the end.
- Delete the update.wow file with your computer.
- Finished the update and you can start print.

## Matters needing attention

- a. The resin and the printed model do not eat.
- b. The resin must away from children and pets.
- c. The resin must avoid contact with skin and you should wear gloves.
- d. The resin should shake well before use and store in a dark place.
- e. The SparkMaker should put in a place without strong light.
- f. UV cover should be put on the SparkMaker when printing.
- g. The SD card's capacity should not more than 32GB and should be formatting when first use.
- h. Avoid looking at UV light and you should wear goggles.
- i. Wash with soap and water if the resin stick to the skin or into the eyes.

## Part III FAQ

### Which resin should I choose?

Type	Feature	Color	Hardness	Elongation	Description
LCD-T	Tough	Clear	60D	115%	ABS Alike
LCD-W	Water Washable	Clear	60A	150%	Water Washable
LCD-C	Castable	Clear	80A	24%	Castble
LCD-E	Elastic	Clear	26A	300%	Rubber Alike
LCD-N	Nylon Alike	Black	75D	115%	Nylon Alike
LCD-H	High HDT	Clear	90D	3%	>300°C HDT
LCD-G	Super Clear	Clear	70D	5%	Super Clear
LCD-A	High Precision	Black	70D	75%	Super Detail

### How to Print?

Step 1: Import the .stl format file into SparkStudio.

Step 2: Edit->Support->Slice->Export and save the file in .WOW format to SD card.

Step 3: Connect the Power Supply to Sparkmaker using the power cable supplied. Sparkmaker will make some noise when the power source is connected successfully.

Step 4: Insert the SD card into the Card Slot in front of the Sparkmaker and the 3D printer light will start flashing in green.

Step 5: Pour the liquid resin into the build platform of the Sparkmaker. (A height of 6-7 mm is enough for the printing)

Step 6: Press the button (the green flashing one) for about two seconds to start, if you start the machine successfully, the button will flash in red.

Step 7: The machine will start to work and the vertical lift will go up and down. The whole process will last about 6 hours to complete the printing from the SD card.

Step 8: After the printing is completed, loosen the black button on the top of the building platform and remove the printed objects. The objects can be cleaned using alcohol. (If the resin type is LCD-W, then you can only wash the prints using water)

Step 9: Wash the model with alcohol of up to 99% purity less than 2 minutes after the printing is finished, after that, use UV-light to illuminate the model about 10 minutes or just put it in the sun for a period of time.

### **How to Clean the Machine?**

The edge of the building platform can be cleaned using tissue or dust cloth and residual adhesive can be removed with a knife or spade and the residual adhesive in the tank should be removed with tweezers. The remaining resin can be absorbed using a syringe and stored in a bottle for next use. Loosen the two screws used to install resin tank and clean the tank with alcohol, and then reinstall it.

### **How to Clean the prints?**

The Prints should be cleaned using alcohol up to the purity up to 99%.

### **How can I print other objects from my slicer or can it only print the pre-loaded file you sent?**

There are two ways to print other objects,

First:

1. Transfer your 3D files to the STL format.
2. Install the modeling software: Sparkstudio.
3. Import the .STL files into Sparkstudio.
4. Save your slicer to the SD card and then you can print.

Second:

Go to the Sparkmaker website and download different files: [www.sparkmaker3d.com](http://www.sparkmaker3d.com)

### **SparkMaker Operation & Troubleshooting**

1. If SparkMaker is not printing and the light is green, rotate the button clockwise, the printing platform will raise up, and then rotate the button counterclockwise to lower the printing platform back down.
2. Insert the SD card, press the button, it will start printing and the light will be turn red.
3. If SparkMaker is printing, press the button, after it finishes the current layer it is printing, it will pause and the printing platform will raise up 20mm, so you can check the printing status. Press the button again, and it will lower down 20mm and continue printing.
4. If SparkMaker is printing, pressing the button for several seconds and the light will change to green and it will stop printing.

### **What should to do if printing is interrupted?**

Remove residual adhesive on the building platform with a knife or spade and take out residual adhesive from the tank with tweezers. Remember to check the building platform and resin tank, residual adhesive will cause printing failure could damage LCD screen.

### **Why has printing failed ?**

1. You should level printing platform well.
2. You should check your model and add suitable supports and connect it to the floor.
3. You should set the appropriate print parameters.
4. You should add suitable support for the model in software.

### **Can other third party resin be used in SparkMaker?**

Theoretically, the resin curing wavelength between 400-410nm can be used in SparkMaker, but the parameter of printing should be adjusted if you want to use other resin.

### **Can SparkMaker resin be used in other SLA printers?**

The SparkMaker resin can be used in LCD-SLA 3D printers that use PEFT film or FEP film resin tanks, and curing wavelength between 355-420nm.

### **Why does the light turn red but turn green soon after when I insert the SD card and push the button to print?**

1. The SD card is not being recognized and you need change to a new SDHC card.
2. The way or position you inserted the SD card is incorrect and you should adjust the position.

### **Why are the supports of some models cut off when printing?**

1. Do not use a too big lift distance in software. (Normal is 5 mm)
2. Do not use a too fast lift speed and lower speed.
3. Do not use too thin supports. (Easy to cut off)
4. Do not use too little supports. (Draft force is too big)
5. Add more exposure time. (Add 3 seconds every test)
6. Check the FEP film of resin tank and clean it with alcohol.

### **Why bottom of model cannot stick to the platform or drops out when printing ?**

1. Add more bottom layer exposure time, especially for dark colored resin. (Use 200s)
2. Levelling the platform.

### **Why are some parts of model deformed or some characteristic disappeared ?**

1. The problem area needs added support.
2. Check the FEP film of resin tank and LCD screen, see if something shielded the UV light.

### **Why does the platform continuously decline and won't stop when I push the button to print ?**

1. Clean the platform, make sure there is no residual gum on platform.
2. Check the Endstop and the trigger block, see if they work properly.
3. Level the platform again.

### **Have further questions?**

Send e-mail to [hello@wow-innovation.cn](mailto:hello@wow-innovation.cn), or ask experienced users on SparkMaker official Facebook group on <https://www.facebook.com/groups/140657399943252/>.