

Artisan QSG

1 Before the start

1.1 Disclaimer

Please carefully read and understand the contents in the product manual. Failure to follow the instructions may lead to personal injury, poor quality of the finished product made, or damage to the product. Make sure that all people using the product are familiar with and understand the instructions to maximize the product value. Personal injury, property loss and product damage caused by improper operation or failure to operate according to the product instructions shall be borne by the user, and Shenzhen Kuazao Technology Co., Ltd. (hereinafter referred to as Snapmaker) shall not be responsible.

This specification is for reference only, and Snapmaker cannot guarantee the accuracy and completeness of the contents in this manual. No part of this specification may be copied, edited or modified in any form without the prior written consent of Snapmaker. In any case, Snapmaker reserves the right to modify the contents of the instructions without further notice. Users can go to the Snapmaker official website (<https://www.snapmaker.cn/>), in the navigation bar, click Support> Product Support> Snapmaker Artisan> QuickStart Guide to download the latest instructions. When using the product to make the goods, the user is obliged to ensure that the finished product does not infringe the intellectual property rights of any third party, and does not violate the provisions of the relevant laws and regulations. In view that the items made by the user using the Product are not within the control of Snapmaker, Snapmaker does not assume any responsibility for the user using the items made by the Product.

All official Snapmaker consumables are adapted to this product and have passed the safety test. If users use the product with non-official Snapmaker consumables, Snapmaker shall not assume any responsibility for the safety or printing quality of the materials.

In view that the methods and conditions of installing, handling, storage, use, maintenance and disposal of the products are not within the control of Snapmaker, Snapmaker shall not be responsible for personal injury, property loss and product damage that may be caused by the installation, handling, storage, use, maintenance and disposal of the products. Users shall install, carry, store, use, repair and dispose of the products according to the guidance of the product specification and the provisions of relevant laws and regulations and the requirements of safety standards.

1.2 Expected Use

The Snapmaker modular 3D printer has excellent 3-in-1 performance, dedicated to 3D printing, laser engraving and cutting, as well as CNC engraving and cutting. Snapmaker modular 3D printers shall achieve their intended use based on the product instructions. When using a Snapmaker modular 3D printer to create items, the user is obliged to confirm whether the application of the created item meets the intended purpose, especially for applications in tightly controlled areas, such as medical equipment and aviation equipment.

1.3 Security Information

1.3.1 General Security Information

- The use method and specific use of this product shall comply with the laws of the user location.
- The use and maintenance of this product shall follow the instructions to ensure safe operation.
- This product is only indoor use, do not placed in rain or wet environment.

- Prepare a solid and horizontal desktop or bench for the use of this product.
- Minors must operate the product under the supervision and assistance of adults.
- When operating this product, ensure that onlookers also read and understand the safety instructions and keep a safe distance.
- When operating this product, please pay close attention to the processing process and the surrounding environment changes.
- It is strictly prohibited to operate the product under the fatigue state or under the influence of drugs, alcohol and drugs.
- When the product is in operation, do not touch the product or any sports parts, otherwise it may cause personal injury.
- When the product is started, please ensure that the product is supervised.
- Turn off the power supply and remove the power cord before assembling or repairing the product.

Please stop using the product and power off immediately if:

- You smell the burning smell of this product.
- You notice that the components inside this product are damaged.
- This product has stopped working unexpectedly.
- This product has an abnormal sound or light that has never appeared before.

1.3.2 3D Print security information

- Do not touch the nozzle, glass printing board, and hot bed when the 3D printing module is printing, heating, or has just finished printing.
- A 3D printing module shall be used in the enclosure.
- Some materials may release toxic and harmful substances when they melt. Therefore, use an air purification filter or a 3D printing module with good ventilation.
- Additional safety measures may be required when using materials except standard consumables for this product. Before use, be sure to review the Safety Data Sheet (SDS) for each specific material for appropriate safety guidelines.

1.3.3 Laser safety information

- Laser modules belong to the four types of laser products. When the outer mask is matched as required and the laser module is used correctly, the overall laser grade of this product is level 1. Before operating the laser module, you should have the following knowledge: the physical characteristics of the laser radiation, the risk category of the laser, and the related health effects, and the safety measures.
- The laser module must be worn with an official Snapmaker outer cover for use. Install and use the cover according to the instructions. During the laser operation, the outer shield will effectively filter the scattered laser light. After the cover is properly installed and energized, the opening and closing state of the cover is chain bound with the emitting state of the laser, that is, the product will automatically suspend the laser operation when the cover door is opened to prevent the laser leakage.
- When a laser module works, the material carved or cut by the laser may release toxic or harmful gas or smoke. Please make a comprehensive judgment according to the type and composition of the carved or cut materials, and use the corresponding grade of air purifier, to ensure that the toxic and harmful gases or smoke produced in the work process can be effectively absorbed, so as to protect human health and prevent environmental pollution.
- When operating the laser module, do not look directly or touch the laser light hole, do not expose the body to the laser.
- Reflective material can cause laser reflection and cause human damage. Therefore, remove all the reflective material in the working area before using the laser module; while using the laser module, ensure that no reflective material exists in the working area.

- Flammable and explosive substances may cause a fire. Therefore, before using the laser module, remove all the flammable and explosive substances around the machine, and in the working area; while using the laser module, ensure to be free of any flammable and explosive substances around the machine and in the working area.
- It is strictly prohibited to use the laser module with the 3D printing platform, CNC carving and cutting platform (except for four-axis operation scenarios), otherwise it will damage the work platform, and may even cause fire or other hazards.

1.3.4 CNC security information

- Users of the CNC module should be at least 18 years old and have relevant experience.
- The CNC modules shall be used in the outer cover, and both users and bystanders shall wear the CNC goggles.
- Before CNC operation, keep the materials safely; during CNC operation.
- If the tool and machining parts encounter lag or other blocked conditions, please press the emergency stop switch or shutdown immediately. The tools and machining can not be processed until the moving parts stop moving and the wiring is removed.
- After CNC operation, do not avoid scald by touching the tool and clamp by hand.
- If some materials themselves contain toxic substances, processing using CNC modules may release them. To reduce damage, use air purification filters or use CNC modules with good ventilation, and take safety measures (such as wearing a mask).

1.3.5 Cover security information

- To move the cover or machine position, be sure to separate the machine from the cover.
- Do not scratch, bend, or break acrylic plates, profiles, and door handles that may reduce the protective properties of the cover, cause permanent damage to the cover, and cause personal injury.
- Do not place the integrated controller in the outer enclosure when using this product.
- The maximum load-bearing capacity of the outer cover top plate is 7kg. Do not place items beyond this weight on the roof, otherwise product damage.
- Do not put any items or body parts near or into the exhaust fan when it is in operation.
- When the exhaust fan is in operation, all the wires must be placed away from the exhaust fan blade to avoid damage to the exhaust fan and other parts of the outer cover.

1.3.6 Emergency measures

Burns caused by high-temperature surfaces

Touching high-temperature surfaces (including high-temperature nozzles, hot ends, hot beds, glass-printed plates, and uncured consumables) can burn the skin. If you are accidentally burned, please take the following measures promptly:

1. Stay away from heat sources;
2. Immediately rinse the burn area with running cold water;
3. Remove any clothing or jewelry near the burn area;
4. Wear the burns with clean, dry bandages;
5. If necessary, use painkillers or seek medical attention immediately.

Inhaling of smoke and particles

- Printing certain consumables, laser operations, or CNC operations may emit or produce smoke and particles that may stimulate the respiratory system. Therefore, we recommend that you go with air purification

filters or use this product with good ventilation. Wear a protective mask when necessary.





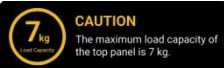
- If similar symptoms such as respiratory irritation occur, be sure to let the patient breathe fresh air immediately, and arrange for medical treatment in time.

Contact with irritating substances

Certain soluble consumables may be irritating to the human body. When contacting such consumables, always consult the Safety Data Sheet (SDS) provided by its manufacturer and take appropriate safety measures.

1.4 Safety Icon

Label icon	Warning content	position
	Be careful of the hot surfaces. Do not touch the high temperature surface by hand during or without cooling after printing. Please wait until the surface has cooled completely before touching, or use aids such as insulation gloves.	On the 3D printing module, glass printing board and heated bed
	Be careful to tie your hands. When operating the CNC module, do not touch the sharp knife head directly with your hand to avoid being pricked.	On the CNC, on the module
	Be careful to hold hands. When the machine moving parts move, do not touch or block them with your hand to avoid being hurt.	On a 3D print module
	Be careful, and it may be potentially dangerous.	On glass board and hot bed
	Do not touch the surface during printing, or without cooling after the printing ends.	On glass board and hot bed
	Glass printing board is fragile items, please take it carefully. After being removed, it should be placed in a safe area.	On the glass print board
	Do not print directly on this surface, or it will damage the hot bed.	In a hot bed
	Do not unplug or plug the hot bed cable under power supply.	On the hot bed cable line

	<p>Laser emitted from the hole.</p> <p>Do not touch the laser light out hole. Do not expose your eyes and skin to direct or reflected light.</p>	<p>On the laser module</p>
 	<p>Laser product grade is grade 4.</p> <p>Do not expose your eyes and skin to direct or reflected light.</p>	<p>On the laser module</p>
	<p>Laser product grade is Grade 1.</p> <p>Do not expose the eyes and the skin to direct or reflected light when the open and closing state of the mask and the laser emission state is invalid.</p>	<p>On the outer cover door</p>
	<p>The maximum load-bearing capacity of the outer cover top plate is 7kg.</p> <p>Do not place items beyond this weight on the roof, otherwise it will damage the roof.</p>	<p>On the outer cover roof</p>

* The actual drawings appearing in this manual take the safety certification label in the European Union as an example.

* The colors and materials of the same icon may vary in different locations.

1.5 Specification and parameters

Machine & Cover	
Dimensions (length, width, and height)	<p>Machine only: 620mm 580mm 634mm</p> <p>Machine & cover (including double side frame and duct connector): 995mm 849mm 705mm</p> <p>Minimum footprint: 1690mm 1035mm 705mm</p>
rough weight	<p>Box A: 34.8kg</p> <p>Box B: 31.5kg</p>
net weight	52.9kg
material	<p>Body & outer cover profile: aluminum alloy</p> <p>Paneling: acrylic board</p>
Supported software	Snapmaker Luban and the third-party slicing software
File transmission mode	Wi-Fi, USB cable, U disk

Straight line module	
Motor drive chip	TMC2209
Repeat positioning accuracy	±0.05mm
Guide value	X-axis: 40mm Y-axis: 40mm Z-axis: 8mm
Valid trip value	X-axis: 400mm Y-axis: 400mm Z-axis: 400mm
Integrated controller	
Dimensions (length, width, and height)	300mm × 189mm × 191mm
Touch screen	Dimensions: 7 inches Resolution: 1,2,80,800 pixels
rated voltage	AC 100V-240V, 50Hz/60Hz
rated current	8.3A (max.)
power rating	750W
internal storage	1GB RAM, 8GB eMMC
operating system	Android 10.0
Wi-Fi	
Protocol	802.11a/b/g/n20/n40
Frequency Range	2412-2462MHz (USA & Canada), 2412-2472MHz (EU) 5150–5250MHz, 5725–5850MHz (USA & Canada, EU)
Transmitter Power (EIRP)	2.4 GHz: < 20.51 dBm (USA & Canada), < 16.94 dBm (EU) 5.2 GHz: < 17.21 dBm (USA & Canada), < 16.06 dBm (EU) 5.8 GHz: < 15.09 dBm (USA & Canada), < 12.92 dBm (EU)
Bluetooth	
Protocol	BT 2.1+EDR /3.0
Frequency Range	2402 MHz–2480 MHz
Transmitter Power (EIRP)	Artisan Touch Screen: < 3.68 dBm (USA & Canada), < 2.28 dBm (EU) 10W Laser Module: < 11.35dBm (USA & Canada), < 9.23dBm (EU)
3D printing	

Forolding size (length, width and height)	When using dual nozzles: 400mm 350mm 400mm When using the left nozzle only: 400mm 375mm 400mm When using the right nozzle only: 400mm 400mm 400mm
Dimension accuracy (footnote 1)	±0.1mm
Jet diameter	Standard standard: 0.4mm Optional option: 0.2mm, 0.6mm, 0.8mm
Spray mouth material	Standard: brass Optional: hardened steel (diameter: 0.4mm)
Maximum nozzle temperature	300°C
Maximum printing speed	180mm/s
type plate	Double-sided (PEI coated / glass finish) printing platform
Hot bed area size at high temperature	260mm × 260mm
Maximum hot bed temperature	When heated in the high temperature area only: 110°C Global heating time: 80°C
Supported Materials (footnote 2)	PLA, easily stripping PLA, ABS, ASA, PETG, PVA, HIPS, TPU90, TPU95, high mobility TPU95, foaming TPU, CoPA, PA6 carbon fiber, PA12 carbon fiber, PA6 glass fiber
Supported consumables diameter	1.75mm
Work noise	55dBA (Test distance: 1m)
	laser
Processing size (length and width)	400mm × 400mm
power	10W
laser source	450nm 460nm Semiconductor laser
Laser grade under outer cover protection	Level 1
The highest carving speed	100mm/s
Maximum cutting depth (wood)	8mm
service temperature	0°C–35°C

spot size	0.05mm × 0.2mm
Material that supports the carving	Linden wood, tung wood, pine, plywood, wood, beech wood, walnut, bamboo, MDF, paint, coated metal, copper clad, horse iron, stainless steel, anode aluminum oxide, dark glass, slate, ceramic, jade, marble, shale, leather, fabric, canvas, corrugated paper, cardboard, plastic, dark acrylic (except blue)
Materials that support the cutting	Linden wood, Tong, Pine, Plywood, Beech, Walnut, Bamboo, MDF, Leather, Fabric, Canvas, Corrugated, Card, Plastic, Dark acrylic (except blue)
CNC	
Processing size (length and width)	400mm × 400mm
power	200W
Maximum spindle speed	18, 000RPM
Maximum operating speed (footnote 3)	Beech wood: 50mm / s acrylic: 33mm / s
Maximum drop step distance	Beech wood: 2mm acrylic: 1mm
The blade handle diameter	0.5mm–6.35mm
Supporting materials	Hardwood (beech, walnut), cork, medium density fiber board, high density fiber board, plywood, jade, carbon fiber, acrylic, substitute wood, printed circuit board
Snapmaker Luban	
Supported operating systems	Windows、 macOS、 Linux
Supported file types	3D printing: .stl、 .obj Laser engraving and cutting: .stl, .svg, .png, .jpg, .jpeg, .bmp, .dxf CNC engraving and cutting: .stl, .svg, .png, .jpg, .jpeg, .bmp, .dxf
The file type of the output	3D printing: .gcode Laser engraving and cutting: .nc CNC engraving and cutting: .cnc

Footnote 1: This data is obtained by using PLA, consumables and 0.4mm specification nozzle, 100mm print 100mm 100mm 100mm model test, the specific performance may vary with test conditions and product iterations, for reference only.

Footnote 2: Hardened steel nozzle should be used when printing nylon and reinforced nylon consumables.

Footnote 3: This data is tested by using a 3.175mm double-edged acrylic beech cutter and a 3.175mm acrylic flat-head cutter, and the actual cutting speed may vary with the tool and material.

* Note: When we improve the product, the above parameters may change accordingly.

1.6 List of spare parts

(Omitted in this document)

1.7 Identifier number

- ▲ Warning: Ignoring such information may cause machine failure, damage, or personal injury.

- ▲ Note: Details that you should pay attention to when installing and using the printer.

- ▲ Description: Understand the background information of the operation guide.

- ▲ Tip: Provide you with convenient operation instructions and additional options.

- ▲ Direction: When you see this information, make sure that the location is oriented correctly.

1.8 Assembly and Use Instructions

1. Some parts are heavy, so it is recommended that at least two people participate in the assembly and subsequent moving.
2. When assembling and using the machine, do not place any items in the recess on the left and right sides of the floor plate, so as not to interfere with the movement of the straight line module or the working platform.
3. After the machine is energized, do not plug or pull out any connecting cables without special instructions.
4. Do not press the steel strip of the straight line module.
5. Please organize and store the wire in time to prevent it from winding into knots or tripping people.
6. When installing more than two screws at the same time, it is recommended to prelock the diagonal screws first, then pre-lock the remaining screws, and finally lock all the screws in the order of pre-lock.
* *Pre-lock: screw the screw into the screw hole but not completely.*
7. When installing screws with an L-shaped wrench, it is recommended to screw the screw into the screw hole with a long handle, and then lock it with a short handle.

1.9 About this specification

The Quick Start Guide is designed to describe the first use process of Snapmaker Artisan, guide users to start quickly, and complete the first piece of 3D printing, laser engraving and cutting, CNC engraving and cutting. For more functions and use of this product, please go to the Snapmaker website (<https://www.snapmaker.com/>), in the navigation bar, click on Support> Product Support> Snapmaker Artisan> User Manual to view our online user manual.

1.10 Compliance

FCC Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Changes or Modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

ISED Compliance

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Operation of 5150-5250 MHz is restricted to indoor use only.

The device complies with RF exposure guidelines, users can obtain Canadian information on RF exposure and compliance. The minimum distance from the body to use the device is 20cm.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) L'appareil ne doit pas produire de brouillage.
- (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Le fonctionnement de 5150-5250 MHz est limité à une utilisation en intérieur uniquement.

Le présent appareil est conforme Après examen de ce matériel aux conformité ou aux limites d'intensité de champ RF, les utilisateurs peuvent sur l'exposition aux radiofréquences et la conformité and compliance d'acquérir les informations correspondantes. La distance minimale du corps à utiliser le dispositif est de 20cm.

In all UK and EU member states, the operation of 5150–5250MHz is restricted to indoor use only.



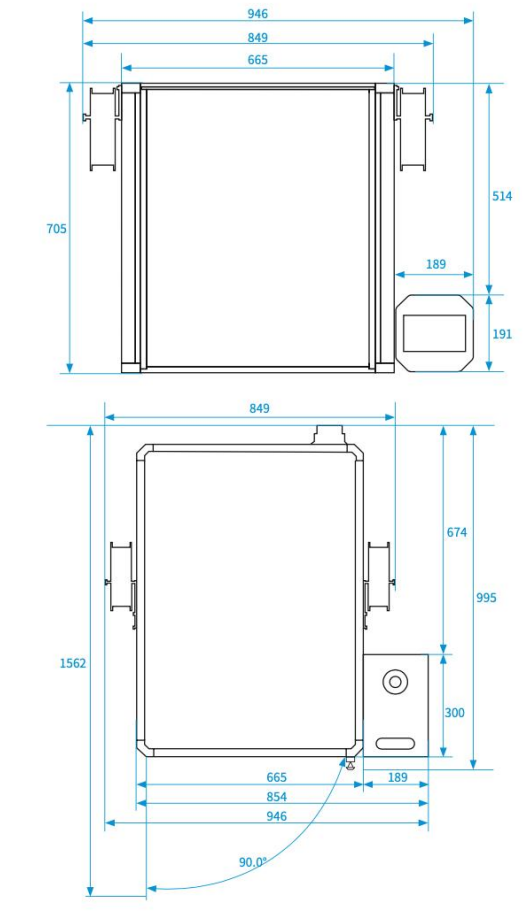
BE	BG	CZ	DK	DE	EE	IE	EL
ES	FR	HR	IT	CY	LV	LT	LU
HU	MT	NL	AT	PL	PT	RO	SI
SK	FI	SE	NO	IS	LI	CH	TR



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2 Machine assembly

1. Prepare a space of at least 1690mm (length) 1035mm (width) 705mm (height) size for assembly and subsequent use. The floor space dimensions of the machine and the outer cover are as follows.



- ⚠ Make sure that the plane bearing capacity of the assembly position is greater than 65kg. At the same time, to avoid subsequent moves, it is recommended to assemble in the final position and ensure that the location facilitates gas discharge.
- 2. Select two straight line modules with the "Y" identification at the junction port that will be used as the Y axis.
 - ▲ All straight line modules must be installed in the specified position and cannot be mixed for machine failure or damage.
- 3. Place the Y-axis straight module (Y-axis) flat into the groove of the auxiliary pad.
- 4. Pass the Y axis through the wire hole of the bottom plate. Then, the pin in the front groove is aligned and inserted into the pin hole of the Y shaft.
 - ▲ Straighten the Y axis as far as possible to avoid wire stacking between the Y axis and the bottom plate.
 - ▲ Make sure that the pin is fully inserted into the pin hole.

- ▲ The pin lock the relative positions between two components, reducing possible deviations during assembly.

- 5. Install and lock the screws to secure the Y-shaft to the bottom plate.

- 6. Hold the handle at the edge of the plate, flip the base to the front and remove the auxiliary pad.

- ▲ The machine is heavy, please flip it carefully to operate!

- 7. Place the Z shaft bracket flat on the bottom plate by inserting the pin into the pin hole.

- ▲ Ensure that the pins on the bottom plate are fully inserted into the pin hole at the bottom of the Z shaft bracket.

- 8. Install and lock the screws to secure the Z-shaft support to the bottom plate.

- 9. Select two straight modules with "Z" identification at the junction that will be used as Z axis.

- ▲ All straight line modules must be installed in the specified position and cannot be mixed for machine failure or damage.

- 10. Insert the pin of the X-axis adapter plate into the pin hole of the Z-axis straight-line module (the Z-axis) slide.

- ▲ Make sure that the pin is fully inserted into the pin hole.

- 11. Install and lock the screws to secure the X-axle transfer plate to the Z-axis pulley.

- 12. Take one of the Z-axes. First pass the Z axis through the line hole, and then the pin on the Z shaft bracket is inserted into the pin hole of the Z shaft.

- ▲ Make sure that the pin is fully inserted into the pin hole.

- 13. Install and lock screws to secure Z axis to Z axis support.

- ▲ After fixation, there will be a design gap of about 2mm between the bottom of the Z axis and the Z axis support, in order to avoid the size tolerance of the parts affecting the assembly.

- 14. Repeat steps 12-13 to secure the other Z axis to the Z axis bracket.

- 15. Move the Z axis slide to the bottom end it can.

- ▲ The purpose of this step is to ensure that the two Z-axis slides are flush with each other, thus ensuring the assembly accuracy of the X-axis in the subsequent

steps.

16. Select the last straight module ("X" identification at the junction) which will be used as the X axis.

▲ All straight line modules must be installed in the specified position and cannot be mixed for machine failure or damage.

17. Put the pin on the X-axis adapplate into the pin hole of the X-axis straight module (the X-axis).

▲ Make sure that the pin is fully inserted into the pin hole.

18. Install and lock the screws to secure X axis to X axis adapter plate.

19. Install and lock the screws and secure the three presses to the Z and X axes.

20. Card the X axis and the execution head connector into the press cord buckle.

21. Install and lock the screws to secure the execution head quick change slide seat to the X-axis slide car.

22. Move the Y-axle slide to the most front end that it can reach.

23. Install and lock the screws to secure the support platform to the Y-shaft pulley.

▲ When installing the screws, follow the following steps:

1. Pre-lock the four screws at the outermost corner;

2. Pre-lock the remaining screws;

3. Pull the support platform forward with one hand and lock all screws with a wrench. [\(Here is a real picture.\)](#)

* *Pre-lock: screw the screw into the screw hole but not completely.*

24. Place your hands on the bottom of both ends of the X axis and lift the X axis to above the Z axis bracket.

▲ This step is to install the execution head and working platform in subsequent steps.

3 Cover assembly and use

3.1 Outer Cover Assembly

The ① assembled the bottom frame

Encourage language: a good beginning, is half the success! Are you getting a —— ready?

1. Secure the bottom fixtures (top) to two long beams.
 - Screw: M4 20 screws, 2 screws

2. Secure profile connections to both ends of two long beams.
 - Screw: M5 12 screws, 4 screws

 - ▲ Ensure that the limit abutment of the profile connector is located in the grooves on both sides of the beam.

 - ▲ Ensure that the four profile connections are inside side up.

3. Secure short beam (rear) to profile connector.
 - M5 12 screws, 2 screws

 - ▲ There are two screw holes in the middle of the short beam (rear). make sure the screw holes face up when mounting.

 - ▲ Ensure that the limit bumps of the profile connections are located in the grooves on both sides of the beam.

4. Attach the short beam (front) to the profile connector to assemble the bottom frame.
 - Screw: M5 12 screws, 2 screws

 - ▲ Ensure that the limit bumps of the profile connections are located in the grooves on both sides of the beam.

② assembly support frame

Encouraging words: Start installing columns on the bottom frame, you're about to complete 30% of the assembly!

1. Secure the post-1 (with door closure) to the bottom frame.
 - Screw: M5 30 screws, 2 screws

 - ▲ Ensure that the limit bumps of the profile connections are located in the grooves on both sides of the column.

 - ▲ You can also put the bottom frame up first, and then install the column.

2. Secure the post-2 (with Hall switch) to the bottom frame.
 - Screw: M5 30 screws, 2 screws
 - ⚠ Ensure that the limit bumps of the profile connections are located in the grooves on both sides of the column.

3. Secure column-3 (with cover transfer module) to the bottom frame.
 - Screw: M5 30 screws, 2 screws
 - ⚠ Ensure that the limit bumps of the profile connections are located in the grooves on both sides of the column.

4. Attach the post-4 to the bottom frame to complete the assembly of the support frame.
 - Screw: M5 30 screws, 2 screws
 - ⚠ Ensure that the limit bumps of the profile connections are located in the grooves on both sides of the column.

5. Check all the details below to ensure that all beams and posts are installed in the correct position.
 - ⚠ Make sure that the two screw holes in the middle of the short beam (rear) face up.
 - ⚠ Ensure that the limit bumps of the profile connections are located in the grooves on both sides of the posts and beams.

③ mounting side panel and outer cover top

Encouraging words: so great! You've assembled the basic frame of the outer cover, with the midpoint line right ahead!

1. Insert the two side panels into the frame.
 - ⚠ Ensure that the left, right, and lower edges of the side panels are stuck into the grooves of the corresponding profiles.

2. Secure the guide pipe holder to the top of the outer cover.
 - Screw: M3 20 screws, 2 screws

3. Secure the outer cover top to the support frame.
 - Screw: M5 30 screws, 8 screws
 - ⚠ Ensure that the upper edges of the side panels are stuck into the grooves of the corresponding beam.

▲ It is recommended that all screws be pre-locked and then locked together.

4. Connect the LED light strip and the Hall switch to the hood transfer module.

④ assembled the hood doors

Encouragement words: 50% of the achievements have been achieved! Take a break and start the second half of the game.

1. Secure the door handle to the outer cover door panel.

◦ Screws: M4 12 screws, 2 screws

2. Secure the cover door to the outer cover.

◦ Screw: M4 12 screws, 4 screws

3. Cut out ten sealing grooves of appropriate length, and press into the outer gap of the roof plate, back plate, side plate and adjacent profiles respectively.

▲ The groove makes the inlay between the acrylic plate and the profile more stable.

▲ Ensure that the slot bar is installed in the correct way.

⑤ combination cover with machine

Encouragement language: there are less than half of the steps left, come on!

1. Card the bottom holder (bottom) into the corresponding grooves on both sides of the machine plate.

2. Lift the outer cover over the machine and cover the machine down.

▲ Move the cover carefully and slowly to avoid a collision with the machine. At least two people are advised to work together.

3. Insert the cover wire into the cover transfer module.

▲ Ensure that the wiring port is facing correctly.

4. Use wire cloth to facilitate subsequent steps.

5. Card the execution head connector, hot bed connector, cover connector, and five straight modules into the corresponding wire holes of the solid line card seat, and then secure the open wire press to the short beam (rear).

◦ Screw: M5 30,2 out

- ▲ Do not scatter the wire on the ground to avoid damaging the wiring port.
- ▲ Whether or not the first feature you experience after completing the assembly is 3D printing, snap the hot bed cable into the solid wire board early at this step.
- ▲ The wire hole on the far right of the wire press is reserved for the extension line of the rotating module.

The ⑥ installed the backplane and the exhaust system

Encouragement: You have completed three-quarters of the assembly steps, the end is in sight!

1. Secure the exhaust fan and air duct adapter to the backplane.
 - Screw: M4 35,4; M4 butterfly nut, 4
2. Connect the exhaust fan to the cover transfer module and cut the appropriate length of the receiving slot to store the exhaust fan line into the column slot.
3. Secure the backplane to the cover.
 - Screw: M5 16 low cylindrical head screws, 10 screws
 - ▲ Do not overlock the screws to damage the acrylic plate.
 - ▲ You can install the top two screws, attach the back plate to it, and then install the other screws.
 - ▲ It is recommended to pre-lock the diagonal screws first, then pre-lock the remaining screws, and finally lock all the screws in the order of the prelock.
4. Cover the duct into the duct clamp and secure it to the duct adapter.

⑦ plug in, fix, finish

Encouragement language: only a little bit left, persistence is victory!

1. Insert the execution head, cover, hot bed, and five straight modules into the integrated controller.
 - ▲ Ensure that the wiring port is facing correctly.
 - ▲ Make sure that you place the integrated controller in an easy to touch position so that you can press the emergency stop switch on the top of the controller to respond to emergencies quickly in time.
 - ▲ To facilitate the touch screen when the cover door is open, it is recommended to place the integrated controller on the right side of the cover.

2. Push the seal plug into the outside of the bottom four profile connections.
3. Connect the bottom fixings (top & down) on both sides with screws to lock the machine relative to the cover.
 - Screw: M5 12 screws, 2 screws
 - ▲ To move the outer cover and the machine, please refer to our online user manual: In the navigation bar of Snapmaker, official website, click Support> Product Support> Snapmaker Artisan> User Manual.

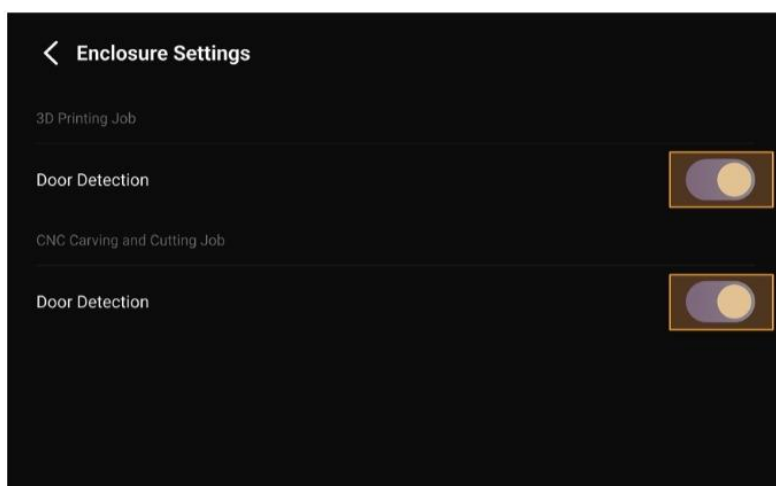
3.2 Use of the outer cover

3.2.1 Open / close the open and closing detection function

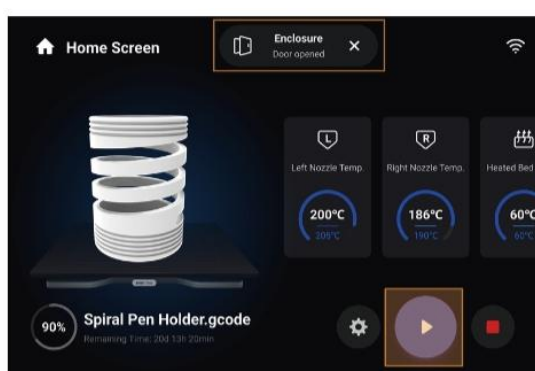
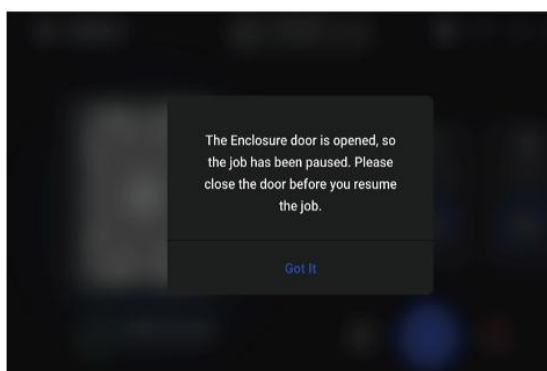
The inside of the column-2 of the cover is equipped with an intelligent sensor, which can detect the switching status of the cover door in real time.

You can click on the Settings> Cover Cover in the main interface of the touch screen, and turn on or off the 3D printing and CNC detection function in the cover setting interface. During laser operation, the open and close detection function is on by default and cannot be off.

When the function is turned on, the machine immediately stops work or stops the calibration when the sensor



detects that the hood door is opened. To resume, you should first close the outer cover door, and then click the Start button on the touch screen to continue working, or reenter the calibration process.



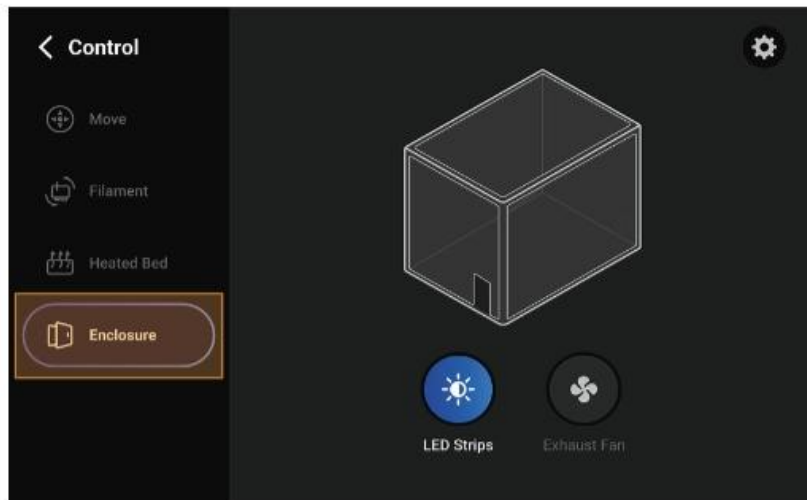
If you need to open the outer cover door frequently during the 3D printing or CNC operation, and you do not want the operation process to pause with the door opening, you can turn off the opening and closing detection function in the corresponding scenario.

- ▲ To open the outer cover door during the CNC work, you must first wear the safety goggles, whether the shutdown and shutdown detection function is on or closed.

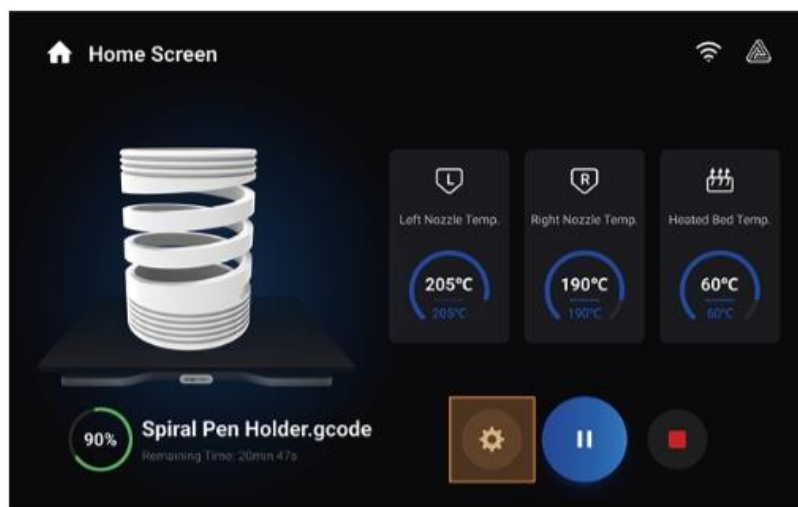


3.2.2 Open / close the LED lamp strip and exhaust fan

You can click on the Control> mask at the touch screen home interface, and turn on or off the lighting function of the LED light bar at the cover control interface.



- ▲ You can also change the settings of the LED light strip and the exhaust fan by clicking on the Settings button in the job interface during the 3D printing, laser work, and CNC work.



- ▲ For different work scenarios, we recommend that you set the status of LED lights and exhaust fan according to the table below:

Scenario		LED	Fan
3D Printing	PLA, Breakaway PLA, TPU90, TPU95, High Flow TPU95, TPU-Foam, PVA	O	O
	ABS, PETG, AS, HIPS, CoPA, PA12-CF, PA6-CF, PA6-GF	O	X
Laser Engraving and Cutting		O	O
CNC Carving and Cutting		O	X

* O = ON, X = Off

- ▲ Some 3D printing consumables (such as ABS) may produce odor during the operation, and the opening of the exhaust fan will affect its printing quality. In such cases, you can open the exhaust fan again after printing. For safety and environmental protection reasons, we recommend that you use a Snapmaker air purifier or other air purification and filtration device.

Select a functional section diagram copy:

Perfect is one hand at hand away!

You have successfully assembled the body and the outer cover, immediately choose a function, complete the final assembly and create your first work!

** Each execution head must be used with its corresponding working platform, not mixed and used, otherwise it may cause personal injury, property damage and product damage and other serious consequences.*

4 The 3D printing

4.1 Assemble the 3D printer

1. Move the cam handle of the support platform to left to be unfastened, and then card the 3D printing platform into the support platform.

⚠ In the later functional section, this specification will guide you to print with two volumes of Snapmaker Luban consumables (PLA & Easy stripping PLA). Therefore, make sure that the glass print plate is a PEI face-up.

2. Turn the cam handle supporting the platform to a tighten state.

⚠ Ensure that the block is fully inserted into the fixture.

3. Insert the hot bed cable into the hot bed.

▲ Ensure that the wiring port is facing correctly.

▲ When the machine is energized, do not plug or unplug the bed cable!

▲ To switch from the 3D printing function to the laser or CNC function, plug the hot bed connector inside the hood to prevent material debris from drifting into the laser or CNC operation.

4. Move the cam handle of the execution head snap change slide seat to the left to be unfastened, and then slide the twin nozzle module from right to left into the slide seat.

▲ Ensure sure the execution head is fully slid into the slide seat.

5. Turn the cam handle of the head change slide to the right.

▲ Ensure that the cam handle is thoroughly fastened.

6. Insert the execution head connector into the dual nozzle module.

▲ Ensure that the wiring port is facing correctly.

7. Pass the guide pipe outside through the guide tube holder until the limit tape of the guide tube covers the outside socket of the guide holder.

⚠ If you want to pull out the guide pipe, it is necessary to press the circle sheet at the socket first.

⚠ To switch from the 3D printing function to the laser or CNC function, first attach the guide tube clip on the top of the outer cover, and then clip the guide tube to avoid interference with the laser or CNC operation.

8. Pull off the joint wedge at the inlet of the double-nozzle module, then insert the guide pipe into the inlet, and finally put the wedge back in place.

⚠ To remove the guide pipe from the module, remove the joint wedge, and then press the round clip at the inlet before operating.

9. Secure the rack to the cover.

Insert both ends of the AC power cord into the integrated controller and the power outlet, respectively.

▲ Make sure the power switch is turned off before wiring!

▲ When the machine is energized, do not plug or pull out any connecting lines without special instructions!

You've already assembled the 3D printer. It's great!

Uncover the stickers on the backboard and start creating good things with Snapmaker right now!



4.2 Preparations

4.2.1, Initialize the settings

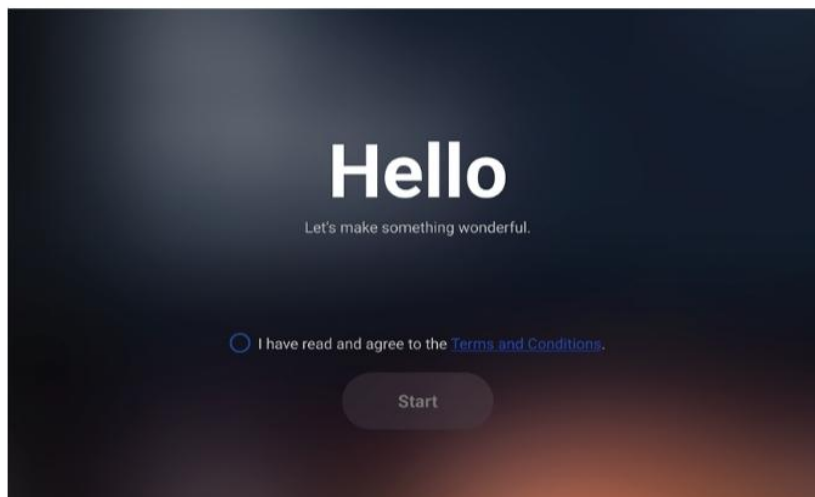
1. Turn on the power switch on the back of the integrated controller and start the machine.



⚠ To restart the machine, wait at least five seconds without power before starting again.

2. Initialize the settings. Follow the instructions on the touch screen to complete the following initialization

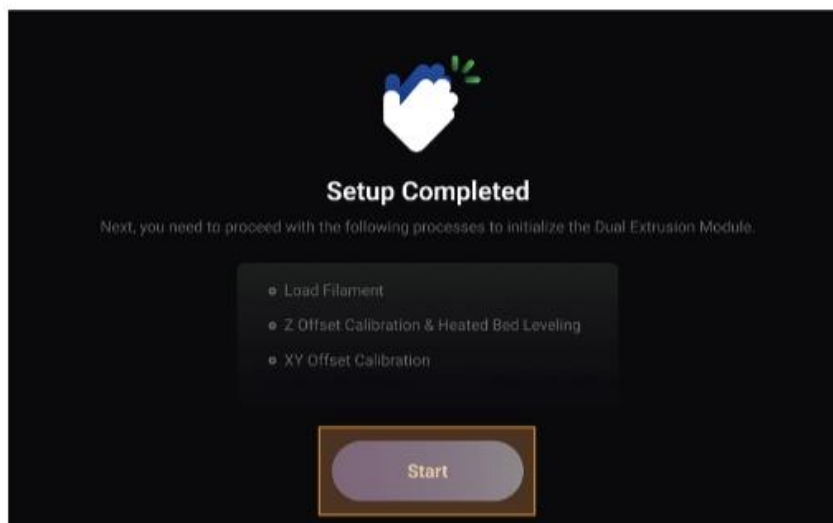
settings: Read the Terms of Use> Select Language> Naming Machine> Connect to Wi-Fi.



- ▲ The initialization settings is only present on the first boot. To change the above settings, click Settings on the touchscreen home interface, and then click Wi-Fi, language, or about the machine as necessary.

4.2.2 Calibrate the 3D printing function

When 3D printing is first enabled, the touch screen guides you to the necessary calibration operations to ensure that the dual spray head module works properly. The calibration guidelines for 3D printing function includes three processes: loading, Z axis offset calibration & hot bed leveling, and XY axis offset calibration. It is recommended to read the introduction of this section before following the touch screen prompts.



- ▲ This calibration guide only appears when the 3D printing feature is first used. If you need to re-calibrate the Z axis offset, flatten the heat bed, or calibrate the XY axis offset later, please click the calibration on the touch screen main interface, and then select the corresponding process.

1. Load Filament

Consumables enter the module from the inlet, transmitted from the extruder to the hot end, and extruded from the nozzle after heating. Our dual nozzle module adopts the design of double extrusion wheel, which has better consumables bite force and extrusion force, so as to achieve stable and smooth feeding and return, and can effectively avoid consumables fracture and nozzle blockage.



- ▲ During the loading process, the nozzle will be heated to an extremely high temperature, do not touch directly!

- ▲ In the later subsection, this manual will lead you to print Snapmaker Luban's built-in case model. Therefore, make sure to use two volumes of our supplied consumables (PLA & Easy stripping PLA).

- ▲ If the consumables need to be replaced later, follow the following steps:
 1. Click control> consumables on the main interface of the touch screen;
 2. Select the nozzle to be replaced, set the target temperature, and then click heat;
 3. When the nozzle is heated to the target temperature, click Return to remove the consumables from the module;
 4. Insert the new consumables into the module and click the feed until the new consumables flow out of the nozzle to complete the replacement.

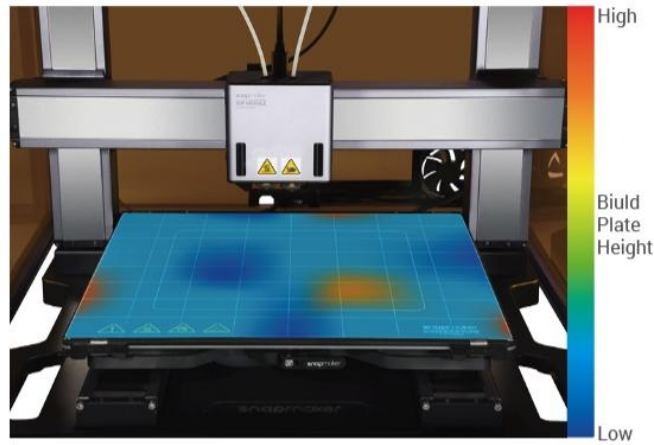
2. Z-axis offset calibration & hot bed leveling

function Introduction:

The dual spray head module has a built-in intelligent sensor, which can be used to automatically level the printing platform, and calibrate the distance between the left and right nozzle and the platform during the printing process, so as to ensure that the dual nozzle always works at the correct and consistent height during the printing process, and avoid problems such as poor adhesion of the first layer, scraping the platform, and head collision.

Calibration principle:

In the Z-axis offset alignment, the left and right nozzles touch the printing platform successively and obtain the Z-axis height of the module when the nozzle just fits the platform; In the subsequent hot bed leveling process, the left nozzle repeats the above steps at specific points in the platform to obtain the flatness data of the platform. During the printing process, the machine will adjust the movement of the two-jet nozzle module in real time by combining the data obtained by the two calibration processes to make the corresponding compensation.



⚠ Calibrate the Z axis offset and leveling the heat bed to ensure no residue on the nozzle surface.

⚠ After each hot end is replaced, the Z-axis offset calibration should be done again; after assembling the module or machine, the Z-axis offset calibration and heat bed leveling should be done again.

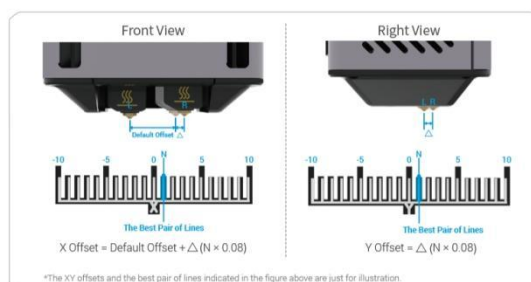
3. XY axis offset alignment

function Introduction:

Calibrating the offset of the left and right nozzles of the dual-head module in the X axis and Y axis direction to ensure seamless printing in the horizontal direction.

Calibration principle:

The machine will print a row of overlapping lines along the X and Y axes. By identifying the best line group, the machine will obtain the offset of the dual nozzle in the X axis and the Y axis direction, and will adjust the motion of the module accordingly in the print, taking the real-time compensation method to eliminate the offset at the physical level.

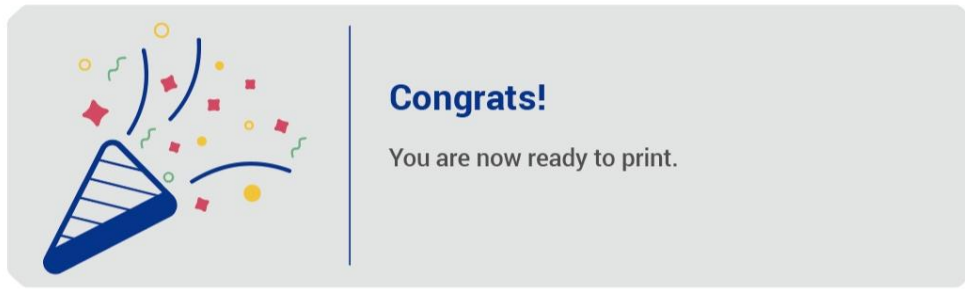


* In the figure above, the offset of the left and right nozzle and the position of the best line group are the only examples, whichever happens

⚠ Before performing the XY axis offset calibration, clean the glass print plate to

ensure that the plate surface is clean.

⚠ XY axis offset calibration after each hot end change.



4.3 Start printing

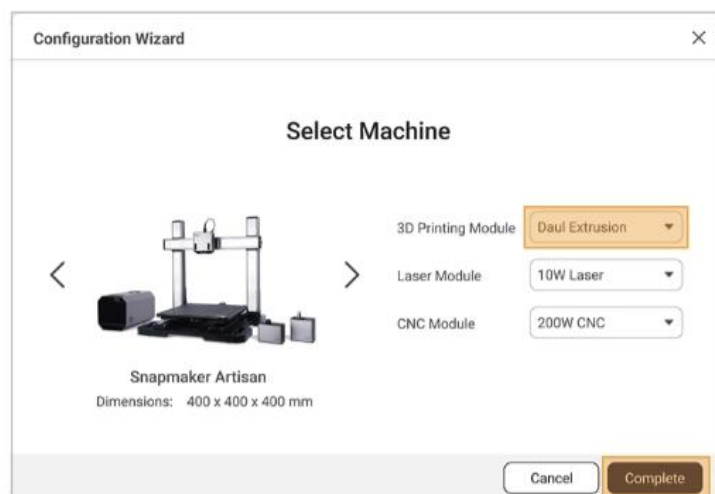
4.3.1 Install the Snapmaker Luban

1. Select software in the navigation bar of Snapmaker website to download and install our supporting software Snapmaker Luban (Luban).



Snapmaker Luban

2. Start Luban, select the language, machine model, and module type, then, under the Configuration wizard, and click Finish.



▲ All of these settings can be changed in Settings> Preferences Settings on the menu bar.

3. Make sure that your computer is connected to the same Wi-Fi as the machine, and then connect the Luban to the machine by:

- Enter the workspace from the home page and select Wi-Fi in the connection panel in the top left corner.
- Click Refresh, select your machine from the drop-down list, and then click Connect.

- c. Click Connect in the popup of the touch screen.



4.3.2 Generate the G code

1. Click on the upper left corner of the workspace to return to the home page, and then select and



enter the 3D print G code generator.

2. Follow the Luban prompts to complete the novice boot. During this process, the Luban automatically loads the built-in cases and generates the G code.

▲ If the novice guide does not automatically pop up or exits unexpectedly, click the menu bar Help> the novice guide.

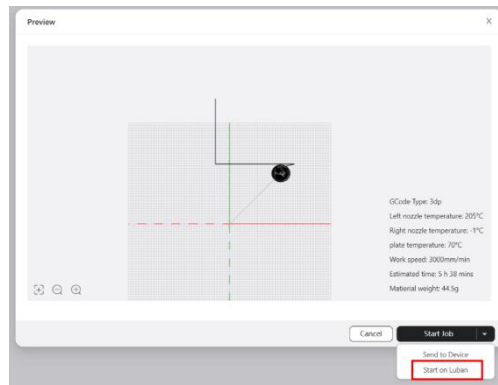
▲ You can also upload your own file by clicking on the file and configure the parameters for it.

3. After G code is generated, click Export in the bottom right corner of the page> to load G code into the workspace.



4.3.3 Start the first printing process

In the preview window that is popup in the workspace, click on Start Job> Online Job in the lower right corner to start your first print! If the Wi-Fi connection is unstable or disconnected during printing, the printing task is not affected.



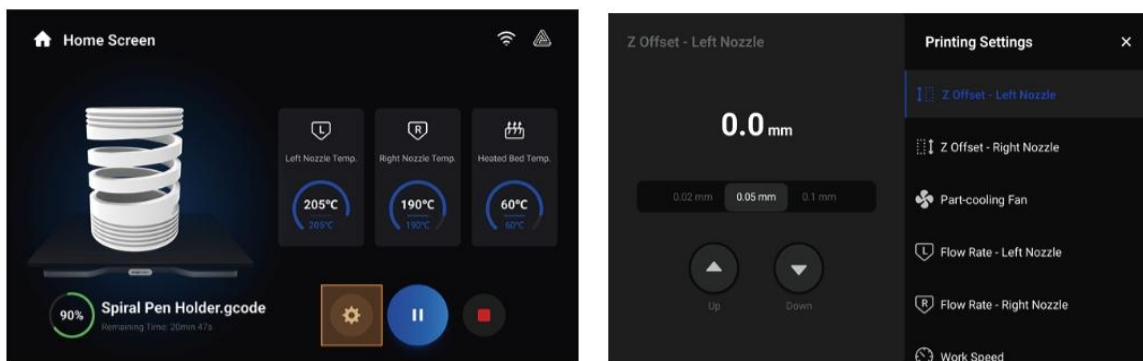
- ▲ In case of emergency during 3D printing, press the emergency stop switch on the top of the integrated controller and stop the operation immediately. After the risk is lifted, the emergency stop switch is released by rotating it clockwise.



- ▲ Ensure that the front cover of the dual nozzle module is closed during printing.

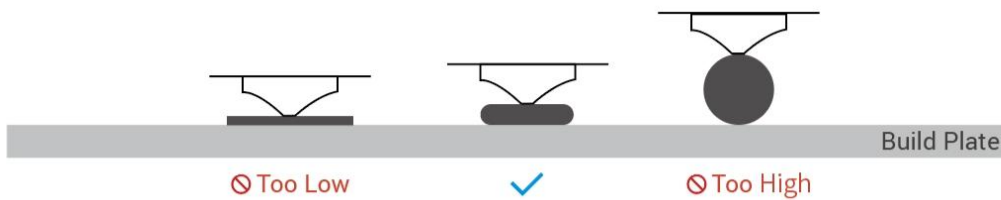
- ▲ You can also send the files to the machine in the workspace, or transfer the files to the machine through the U disk. For more information, please refer to our online user manual: In the navigation bar of Snapmaker, official website, click Support> Product Support> Snapmaker Artisan> User manual.

After printing starts, please pay close attention to the printing situation of the first layer of the model, so as to find problems in time and avoid waste of consumables. If you need to adjust the parameters during the printing process, click the setting icon to enter the printing manager. You can both modify the printing parameters such as the Z-axis offset, working speed, and flow rate, as well as adjust the function settings of the extended components such as outer covers, and air purifiers.

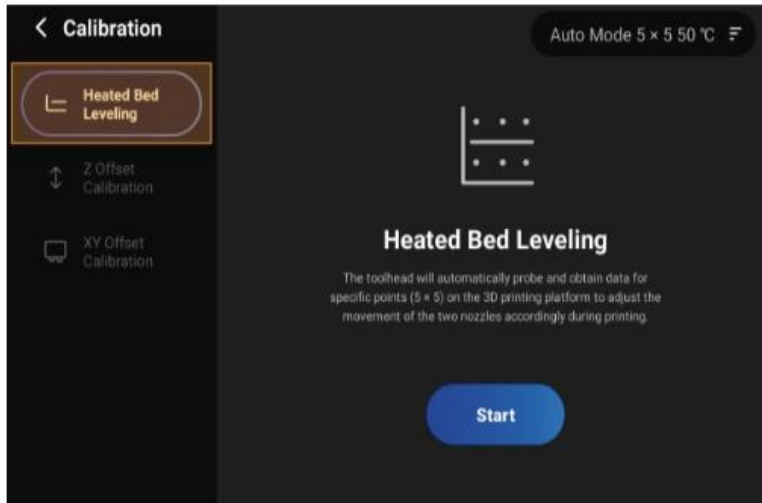


- ▲ In case of poor first layer adhesion, you can try the following solutions:
 - Method 1: Adjust the Z-axis offset in real time during the printing period, and appropriately reduce the distance between the nozzle and the printing platform. However, it should be noted that if the nozzle is too close to the printing platform, the nozzle may not be discharged smoothly, or if the

surface of the nozzle and the printing board may be scratched.



- Method 2: Stop the current printing task and clear the model on the printing board, and then click the calibration in the main interface of the touch screen to restart the Z-axis offset calibration and hot bed leveling. The machine is calibrated in automatic mode by default.



If the calibration results remain short, you can try the following further:

- Z-axis offset alignment: Click on the upper right corner of the calibration page, switch to another mode, and then calibrate again.
- Hot bed leveling: click on the upper right corner of the calibration page, switch to the manual mode, increase the leveling points, or increase the normal hot bed temperature, and then calibrate again.

For more information on 3D printing calibration, please refer to our online user manual: In the navigation bar of Snapmaker, official website, click Support> Product Support> Snapmaker Artisan> User manual.

- Method 3: Apply an appropriate amount of washable solid glue (such as PVP solid glue) evenly in the printing area to enhance the adhesion effect of the first layer of the print material. After printing, dip a wipe cloth in clean water to wipe the residual solid glue.

▲ For cover, refer to Section 3.2 of this specification: Use the cover for more guidance.

4.3.4, Remove the print material

After waiting for the printing and the temperature of the nozzle and hot bed to drop to room temperature, you can use a spatula to remove the print from the glass print board.

▲ At the end of printing, the temperature of the nozzle and the hot bed is still very high, do not touch directly!

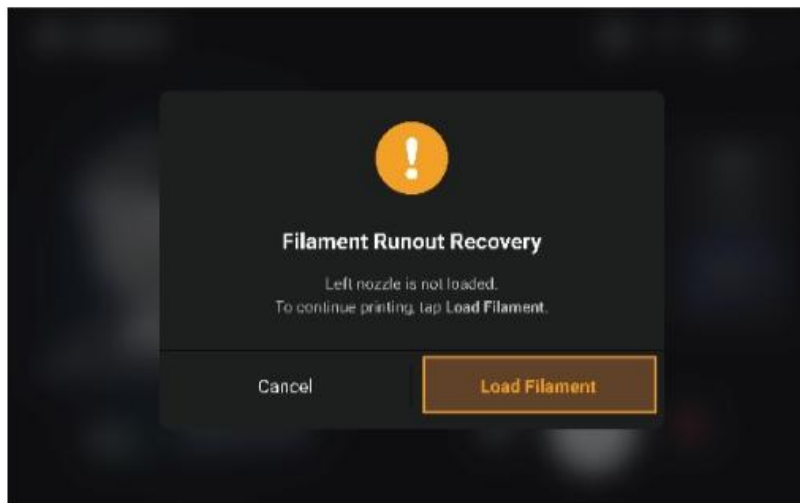
- ▲ Sharp shovel knife, please operate carefully!
- ▲ Do not use sharp objects to scratch the PEI level of the glass print board.
- ▲ You can also take out the glass print board before you do it.



Material outage continuation play & power outage continuation play

Artisan's 3D printing function supports outage and power failure, even if it stops unexpectedly, it can recover with one key!

When the consumables are used up, you can click the loading in the pop-up window of the touch screen, and follow the instructions to load the new consumables to continue printing.

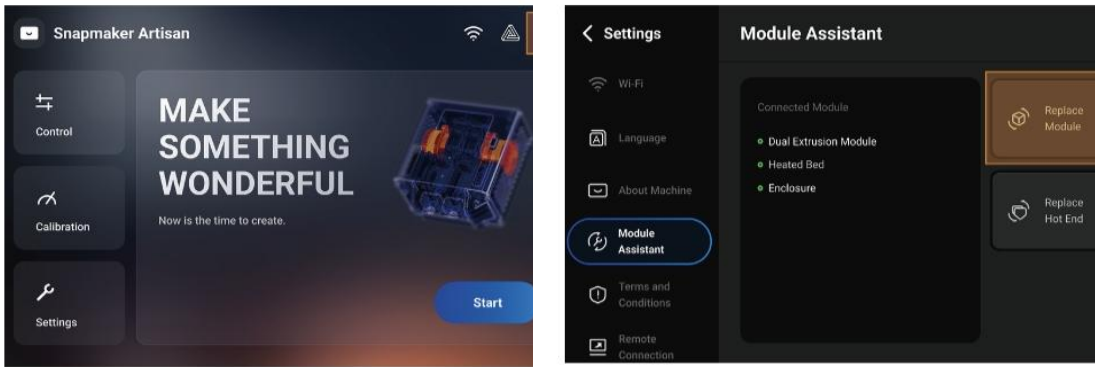


If a power failure occurs during printing, you can select to resume or cancel the work on the touch screen after the machine is restarted.

- ▲ If the hot bed is cooled before the machine is reenergized, the adhesion between the print object and the printing platform is reduced, which may fail.

Replace the module

To replace the module, remove or add an extension component, you can click ModulAssistant> in the upper right corner of the touch screen home to replace the module and follow the instructions of the touch screen without turning off the power switch.



- ▲ You can also find the process entry through the following path: Set up> Module Assistant> Module replacement.
- ▲ You can also turn off the power switch of the machine before replacing the module, remove, or add an extended component.

Firmware update

You can upgrade the firmware via the Wi-Fi or U disk. When a new firmware exists, the touch screen displays an update prompt after the connection. We recommend timely upgrading the firmware to the latest version.

By using the Wi-Fi:

1. Connect the machine to the Wi-Fi;
2. On the touch screen, click Settings> Firmware Update;
3. If a new firmware appears, click to download now;
4. When the firmware download is complete, click Update now.

Through the U disk drive:

1. In Snapmaker, in the navigation bar of the official website, click on Support> Product Support> Snapmaker Artisan> firmware, download the latest firmware, and save it to the U disk;
2. Insert the U disk into the integrated controller;
3. On the touch screen, click Settings> Firmware Update> Local Update;
4. Select the firmware package file, and then click Update.

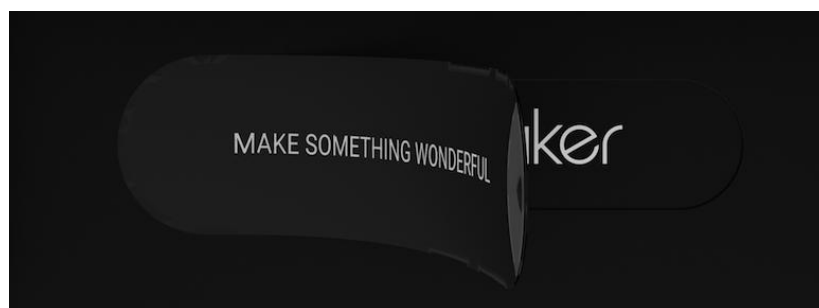
5 Laser engraving and cutting

5.1 Assemble the laser engraving and cutting machine

1. Move the cam handle of the support platform to the left to be unfastened, and then card the laser engraving and cutting platform into the support platform.
2. Turn the cam handle supporting the platform to the right to tighten.
 - ⚠ Make sure the block is fully inserted into the snap clip.
3. Move the cam handle of the execution head quick switch to the left to the unfastened state, and then slide the 10W laser module from right to left into the slide seat.
4. Turn the cam handle of the head change slide to the right.
 - ⚠ Ensure sure the execution head is fully slid into the slide seat.
5. Insert the execution head cable into the 10W laser module.
 - ⚠ Ensure that the wiring port is facing correctly.
6. Insert both ends of the AC power cord into the integrated controller and the power outlet, respectively.
 - ⚠ Make sure the power switch is turned off before wiring!
 - ⚠ When the machine is energized, do not plug or pull out any connecting lines without special instructions!

You have already assembled the laser engraving and cutting machine, great!

Uncover the stickers and start creating great things with Snapmaker right now!



5.2 Preparations

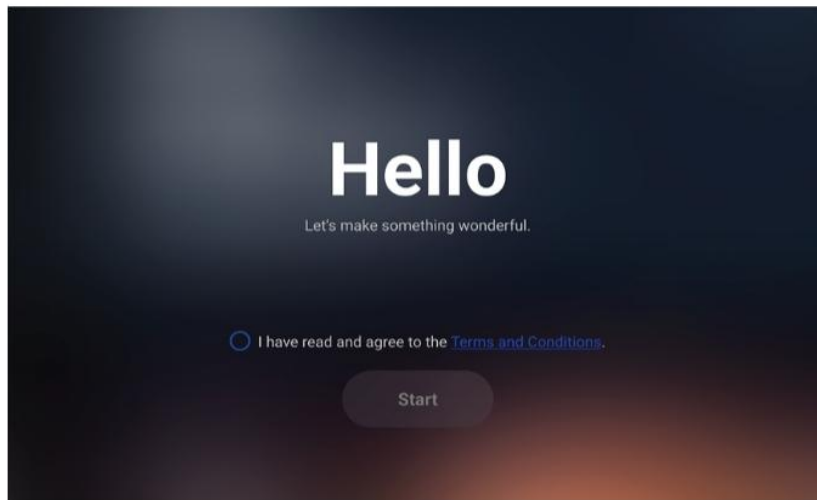
5.2.1, Initialize the settings

1. Turn on the power switch on the back of the integrated controller and start the machine.



- ⚠ To restart the machine, wait at least five seconds without power before starting again.

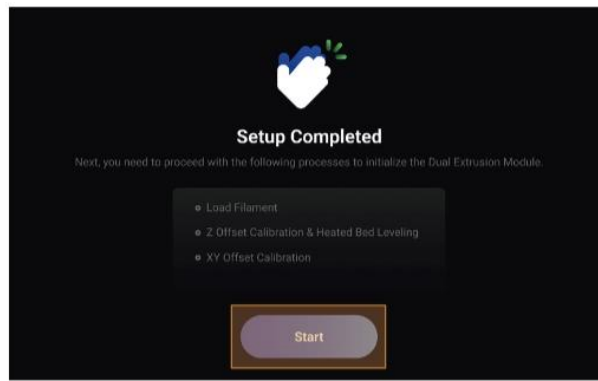
1. Initialize the settings. Follow the instructions on the touch screen to complete the following initialization settings: Read the Terms of Use> Select Language> Naming Machine> Connect to Wi-Fi.



- ▲ The initialization settings is only present on the first boot. To change the above settings, click Settings on the touchscreen home interface, and then click Wi-Fi, language, or about the machine as necessary.

5.2.2 Calibrate the laser function

Turn the laser for the first time, and the touch screen guides you to the necessary calibration to ensure the laser works correctly when it is on. The calibration guide for the laser function consists of two processes: material thickness measurement calibration and camera calibration. It is recommended to read the introduction of this section before following the touch screen prompts.



- ▲ This guide appears only during the first laser function. If you need to recalibrate the material thickness measurement system or the camera later, please click the calibration in the main interface on the touch screen, and then select the corresponding process.

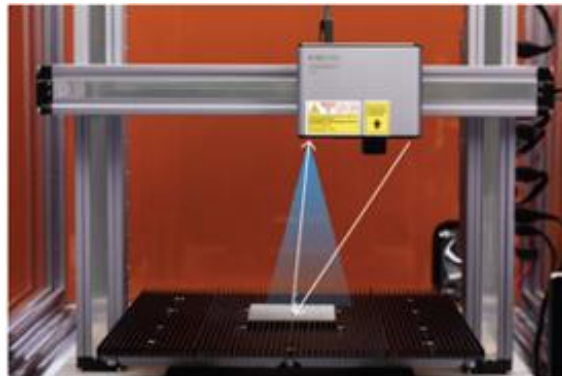
1. calibration measurement of material thickness

function Introduction:

The 10W laser module has a built-in triangular ranging system that automatically measures the material thickness by casting a red laser on the material surface to capture the laser image.

Calibration principle:

Material thickness measurement calibration is the calibration of the parameters within a triangulated ranging system. During the calibration process, the machine needs to determine the height of the laser engraving and cutting platform with the aid of the laser calibration plate, and to adjust the thickness calculation parameters by measuring the laser calibration plate of the known thickness.



- ▲ Before clicking to start, make sure that the outer cover door is closed and enter the laser security password. The initial password is the last four digits of the machine serial number (S / N), which can be viewed in the product label at the bottom of the integrated controller.



If you have completed the initialization and calibration process of 3D printing or CNC functions, you can also view the machine's serial number (S / N) on the

touch screen, as follows:

- a. Turn off the power supply of the machine and replace the execution head with a 3D printing module or a CNC module;
- b. Restart the machine, click Settings> on the touch screen to view the serial number of the machine.

- ▲ Red laser emitter is a second class laser product, do not look at the machine light.
- ▲ After each disassembly of the module or machine, the material thickness measurement and calibration should be carried out again.

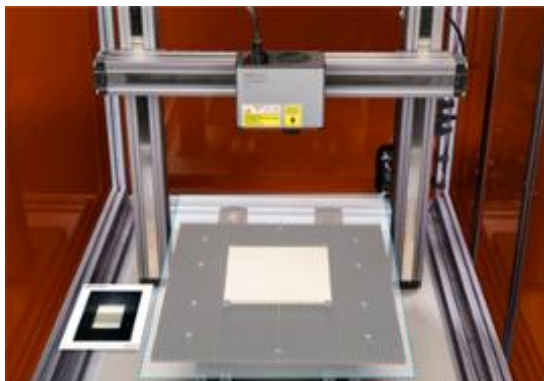
2. Camera calibration

function Introduction:

The 10W laser module has a built-in HD wide-angle camera and can be used to capture images of the working area, generating a background for editing the laser carving and cutting objects.

Calibration principle:

The camera calibration adjusts the mapping of the captured image to the actual platform, so that the image can get a normal image. During the calibration, the machine cuts a square on the white paper and completes the calibration by capturing the image of the square.



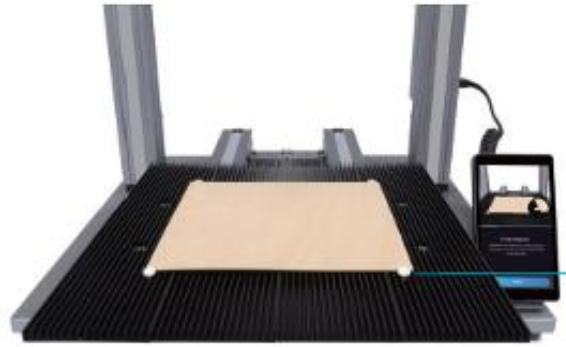
- ▲ New era calibration is required after assembling the module or machine each time.
- ▲ You can fix the white paper with the pressing block that we provide:



5.2.3 Fixed materials

Remove the linden wood in the material pack and place it on the laser engraving and cutting platform. As shown in the figure below, use four pressure blocks against the four sides of the lime wood board, and then

hold each pressure block with two screws, respectively.



- ▲ Make sure that the fixing tool does not collide with any part of the machine.



- ▲ For easy operation, you can first remove the laser engraving and cutting platform from the machine, fix the material on the platform, and then install the platform back to the machine.
- ▲ You can also press the four corners of the lime board with four presses, and then tighten the screws to secure the material. When fixed, do not block the carving and cutting areas of the material surface. This method is only applicable for materials with less than 8mm thickness. In addition, you can also use other tools such as adhesive tape to fix it.



Congrats!

You are now ready to engrave and cut.

5.3 Start the work

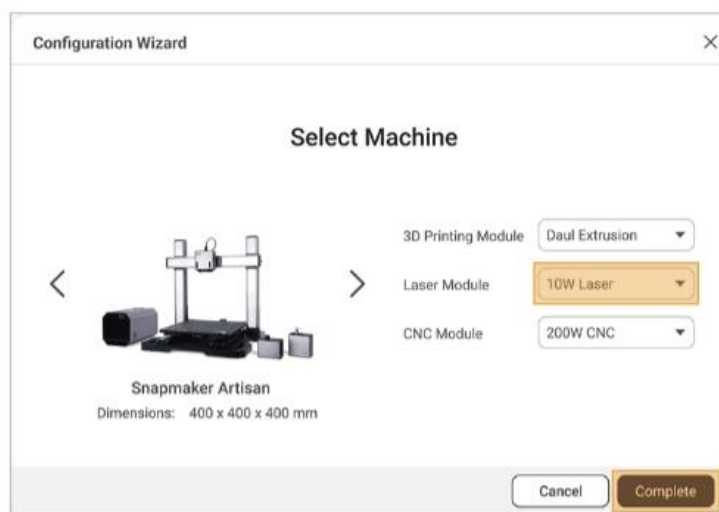
5.3.1 Install the Snapmaker Luban

1. Select software in the navigation bar of Snapmaker website to download and install our supporting software Snapmaker Luban (Luban).



Snapmaker Luban

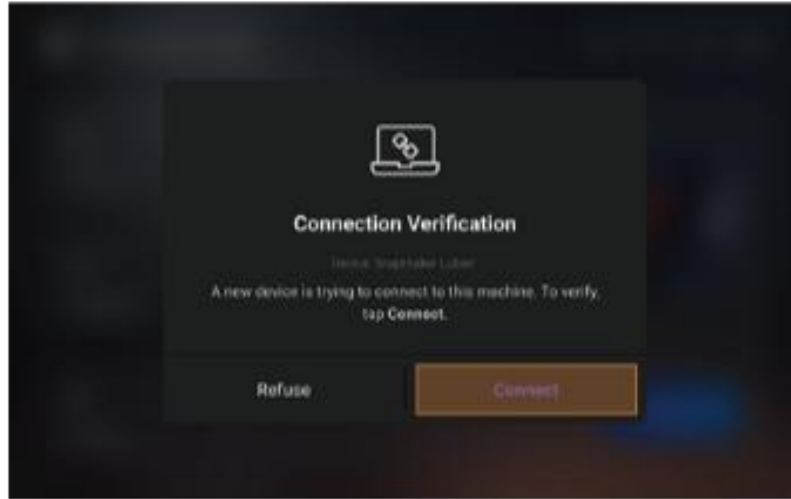
2. Start Luban, select the language, machine model, and module type, then, under the Configuration wizard, and click Finish.



▲ All of these settings can be changed in Settings> Preferences Settings on the menu bar.

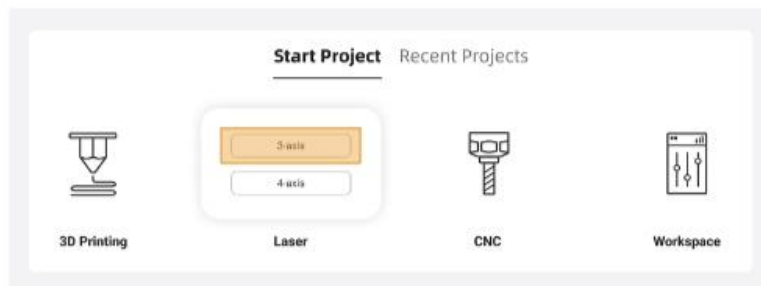
3. Make sure that your computer is connected to the same Wi-Fi as the machine, and then connect the Luban to the machine by:

- a. Enter the workspace from the home page and select Wi-Fi in the connection panel in the top left corner.
- b. Click Refresh, select your machine from the drop-down list, and then click Connect.
- c. Click Connect in the popup of the touch screen.



5.3.2 Generate the G code

1. Click on the top left corner of the Luban workspace to return to the home page, then select Laser> Triis to enter the laser G code generator.

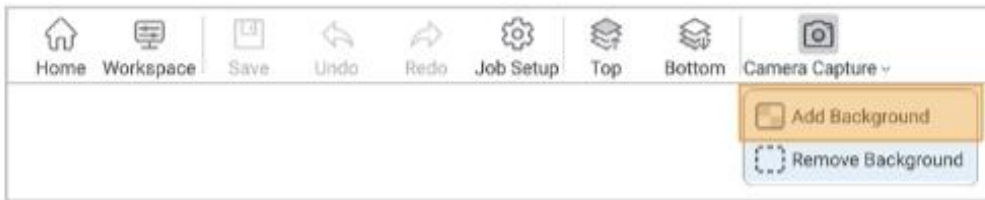


2. Follow the Luban prompts to complete the novice boot. During this process, the Luban automatically loads the built-in cases and generates the G code.

▲ If the novice guide does not automatically pop up or exits unexpectedly, click the menu bar Help> the novice guide.

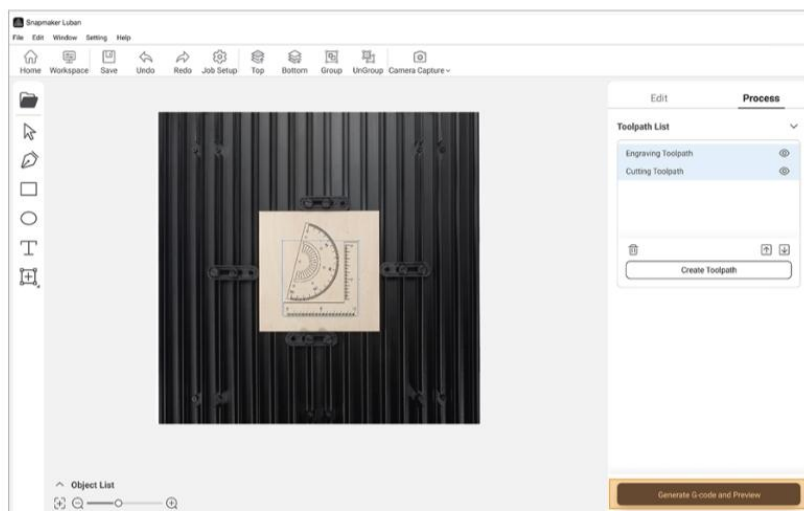
▲ You can also upload your own file by clicking on Import and configure the parameters for it.

3. In the menu bar, select Camera Capture> Add Background, select General Mode, and then click Start. The machine will take a photo of the work platform as a background to laser carving or cutting the object. After the shoot, click OK.



⚠ If you find an object in the photo deformed, click Calibrate and manually calibrate the camera according to Luban.

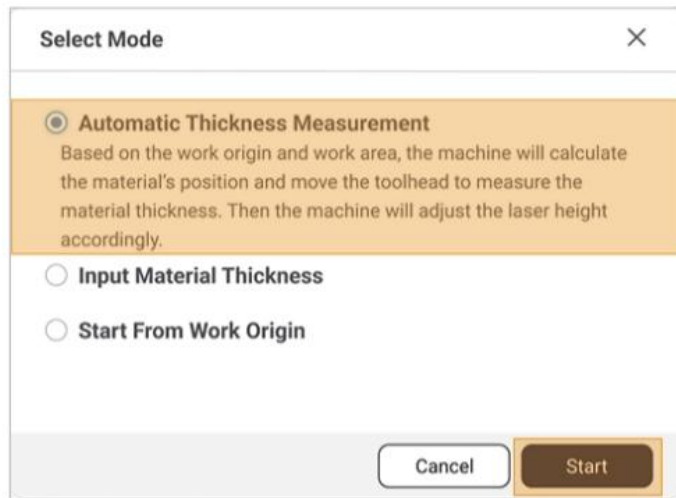
4. After adding the background of the camera capture to the canvas, press and hold down the Ctrl + A key on the keyboard to select all the objects, and then drag all the objects with the mouse to the material surface suitable for carving and cutting. Finally, click on Generate G code and preview.



- ▲ For more information about generating G code, please refer to our online User manual: In the navigation bar of Snapmaker, official website, click Support> Product Support> Snapmaker Artisan> User Manual.

5.3.3 Start the first operation

1. Click Export in the bottom right of the Luban page> Load G code into the workspace.
2. In the preview window, click Start Jobs> Online Jobs. Then, in the Select Mode window, select Auto Measure Thickness> Start.



- ▲ Before clicking Start, make sure the hood is properly installed, connected, and the door is closed.
- ▲ In case of emergency during the laser operation, press the emergency stop switch on the top of the integrated controller and stop the operation immediately. After the risk is lifted, the emergency stop switch is released by rotating it clockwise.



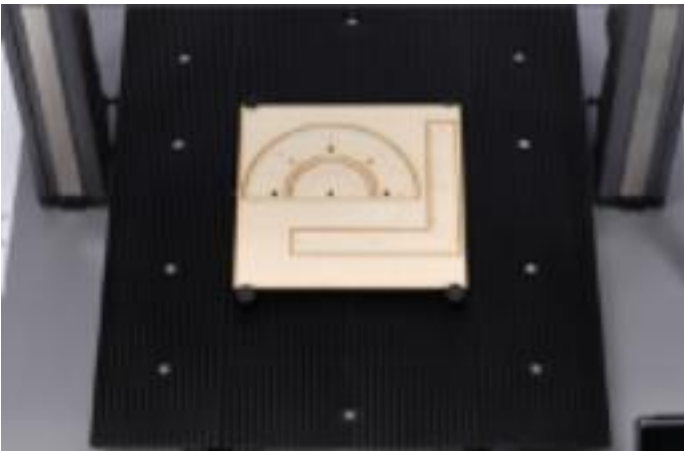
- ▲ If you use other materials in subsequent laser operations, the thickness measurements may fail in the following conditions:
- The thickness of the material exceeds 50mm
 - The material is transparent, bright, or mirror

- The material is colored in red or black
- There are hollow holes in the middle of the material

▲ The Luban provides three laser-focus modes. You can follow the instructions in this instruction by using the automatic thickness measurement mode, which is the most convenient and quick. You can also choose another mode to start jobs depending on the situation:

- Input material thickness: If the material thickness is known, you can enter the material thickness by yourself.
- Use Work Origin: In this mode, you need to manually focus and set the work origin. Please read the online user manual to understand the operation method before operating.

3. After waiting for laser engraving and cutting, open the cover door and remove the finished product.



▲ This manual introduces the camera capture method, and you can also choose to use the working origin method to determine the laser working position.

In addition to the online job process described in this manual, you can also use USB, to connect the Luban to the machine, or send G code files to the machine through U disk copy, Wi-Fi transmission, etc., and then start the job on the touch screen.

For more operational details, please refer to our online user manual: In the navigation bar of Snapmaker, official website, click Support> Product Support> Snapmaker Artisan> User manual.



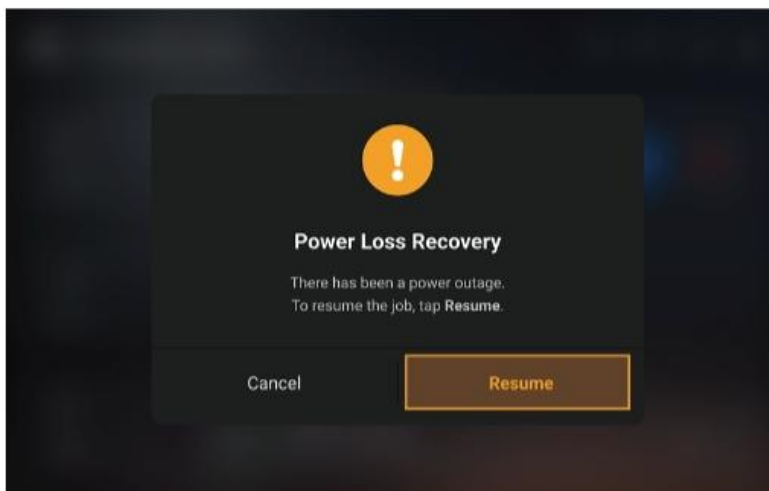
Share!

Share your print in our Facebook group and our forum.

Power continued

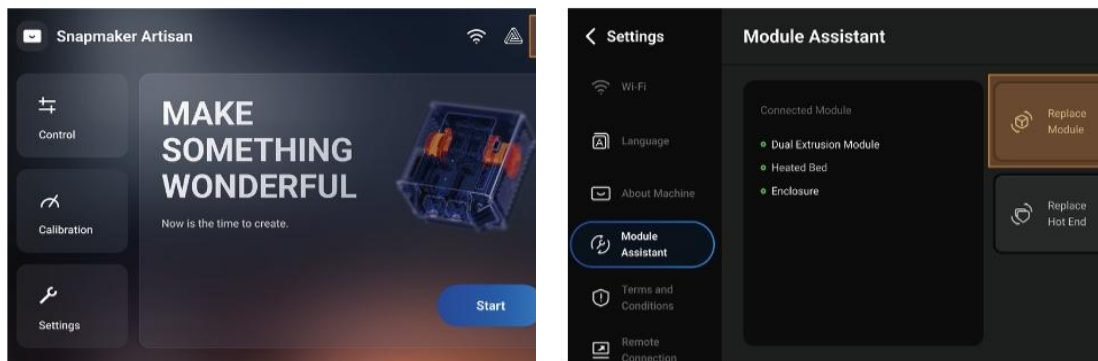
Artisan's laser carving and cutting function support power outage, even if accidentally stop, can also be a key recovery!

If a power failure occurs during the operation, you can select resume or cancel the job on the touch screen after the machine is energpowered.



Replace the module

To replace the module, remove, or add an extension component, you can click the tool button in the upper right corner of the touch screen home interface> to replace the module, and follow the instructions of the touch screen without turning off the power switch.



- ▲ You can also find the process entry through the following path: Set up> Module Assistant> Module replacement.
- ▲ You can also turn off the power switch of the machine before replacing the module, remove, or add an extended component.

Firmware update

You can upgrade the firmware via the Wi-Fi or U disk. When a new firmware exists, the touch screen displays an update prompt after the connection. We recommend timely upgrading the firmware to the latest version.

By using the Wi-Fi:

1. Connect the machine to the Wi-Fi;

2. On the touch screen, click Settings> Firmware Update;
3. If a new firmware appears, click to download now;
4. When the firmware download is complete, click Update now.

Through the U disk drive:

1. In Snapmaker, in the navigation bar of the official website, click on Support> Product Support> Snapmaker Artisan> firmware, download the latest firmware, and save it to the U disk;
2. Insert the U disk into the integrated controller;
3. On the touch screen, click Settings> Firmware Update> Local Update;
4. Select the firmware package file, and then click Update.

6 CNC carving and cutting

6.1 Assemble the CNC engraving and cutting machine

1. Place your hands on both ends of the X axis and move the X axis up above the Z axis bracket.
2. Turn the quick removal handle to unfastened and card the CNC carving and cutting platform into the support platform.
3. Turn the quick removal handle of the support platform to tightening.
 - ⚠ Make sure the press is fully inserted into the snap clip and tighten the grip.
4. Turn the quick remove handle to be unfastened, and then slide the 200W CNC module from right to left into the execution head transfer plate base.
5. Turn the quick removal handle of the execution head transfer plate base to the fastening state.
 - ⚠ Hold the handle after making sure the execution head has fully slid into the base.
 - ⚠ When tighten the handle, please hold the X axis with the other hand to avoid the force slide of the X axis.
6. Inserts the execution header into the 200W CNC module.
 - ⚠ Ensure that the wiring port is facing correctly.
 - ⚠ (Tags close-up)
 - ⚠ When connecting, hold the X axis with the other hand to avoid the force slide of the X axis.
7. Connect the control box to the power supply.
 - ⚠ Make sure the power switch is turned off before wiring!
 - ⚠ When the machine is energized, do not plug or pull any connecting lines without special instructions!

You have already assembled the CNC carving and cutting machine, great! Uncover the stickers and start creating great things with Snapmaker right now!



6.2 Preparations

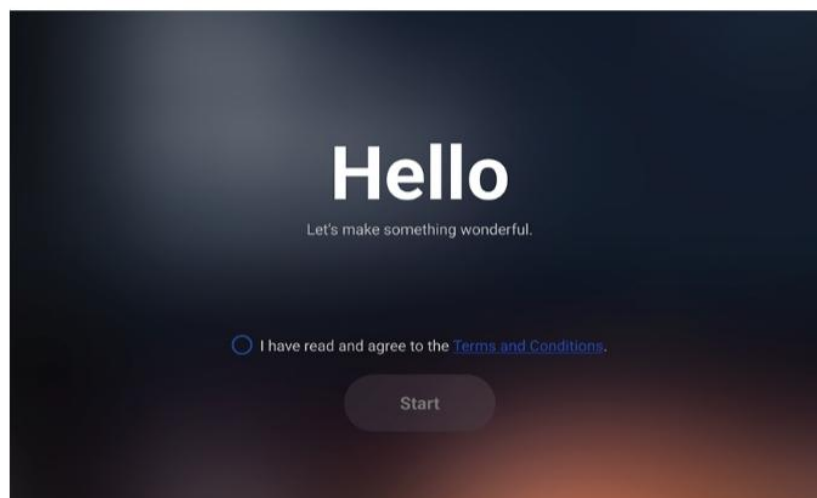
6.2.1, Initialize the settings

1. Turn on the power switch on the back of the controller and start the machine.



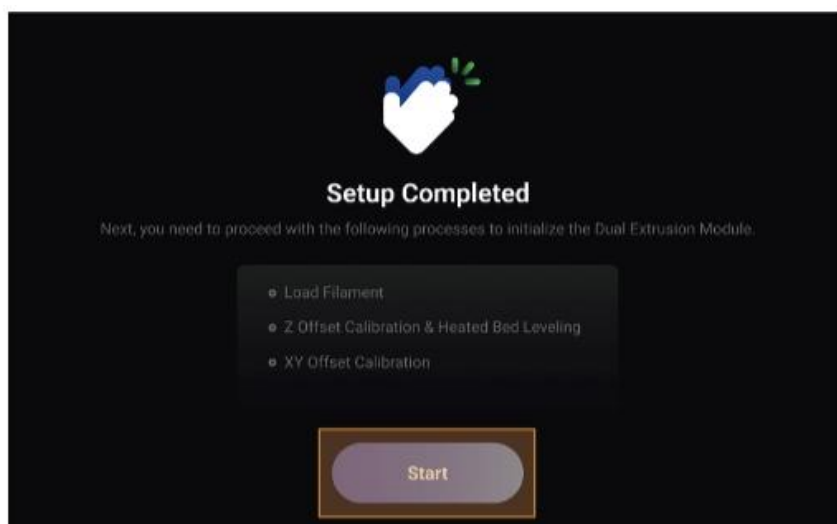
- ⚠ To restart the machine, wait at least five seconds without power before starting again.

2. Do the machine setup. Follow the instructions on the touch screen by following: Read the Terms of Use> Select Language> Naming Machines> Connect to Wi-Fi.



- ▲ Machine settings are only present on the first boot-up. To change the above settings, click Settings on the touchscreen home interface, and then click Wi-Fi, language, or about the machine as necessary.

3. Be familiar with the initial setting of the CNC operation by following the instructions on the touch screen.

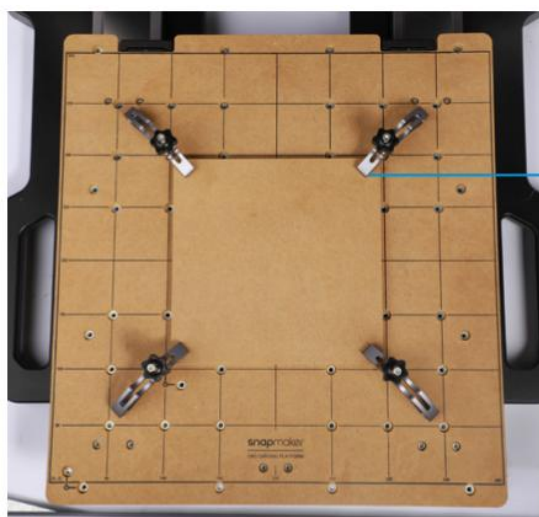


6.2.2 Fixed materials

1. Place the supplied material in the center of the CNC carving and cutting platform.



2. Install the fixture on the CNC carving and cutting platform, and then tighten the plum blossom knob to secure the material.



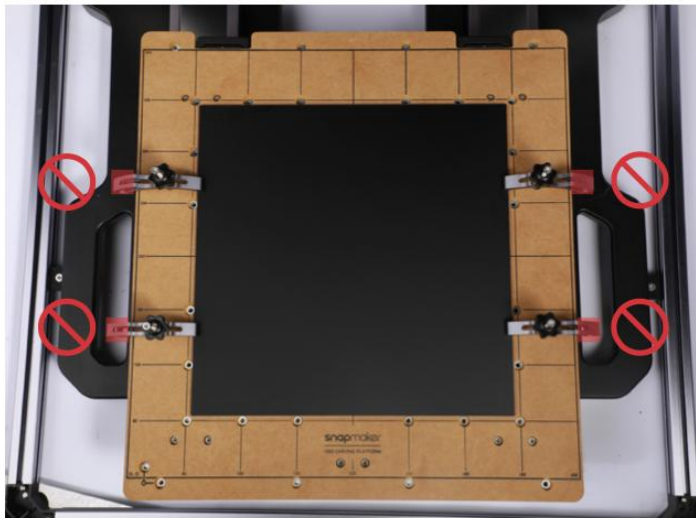
- ⚠ Our built-in case size is the 152.2mm 123.9mm. Make sure that the clamp does not interfere with the CNC

Knife movement.

- ▲ Do not screw through the CNC engraving and cutting platform.



- ▲ Make sure that the fixture does not collide with any part of the machine.



- ▲ All three locations shown are available for fixing the material.

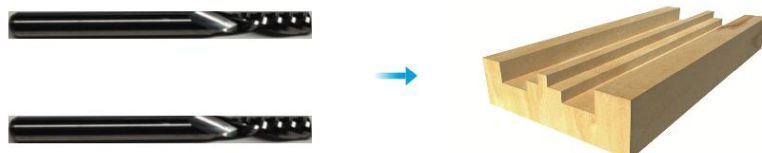


6.2.3 Fixed cutting tool

Function introduction: the purpose of the CNC tool

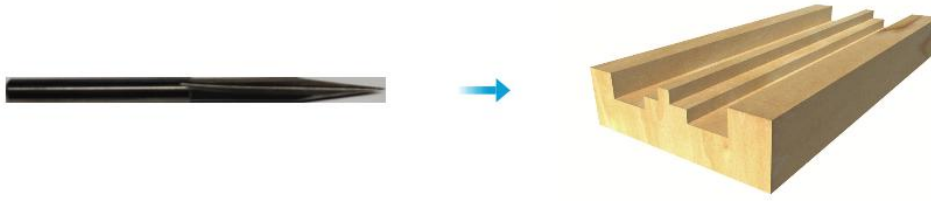
Single-edged vertical milling tool and double-edged vertical milling tool

Can be used for drilling, digging groove, machining plane, etc. Single-blade exhaust chip performance is better, suitable for processing plastic and other materials.



Double-edged straight slot knife

Can be used for finishing processing, such as curved surface, relief pattern processing, etc.



How to fix the CNC tool

1. Tilt the ER11 clip into the ER11 nut until it is in place.



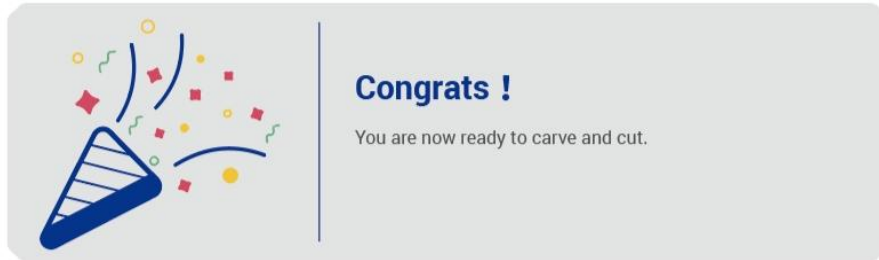
2. Make sure that you are wearing your CNC goggles. Insert the CNC cutter into the ER11 clip (our built-in model match is a double-edged vertical milling cutter). Ensure that the ends of the CNC tool are flush with the edges of the ER11 clip.



- ▲ Handle the CNC tool carefully and place the tool beyond the child.

1. Turn the entire component tightly onto the CNC module as much as possible, and then thoroughly lock the ER11 nut with an open wrench.





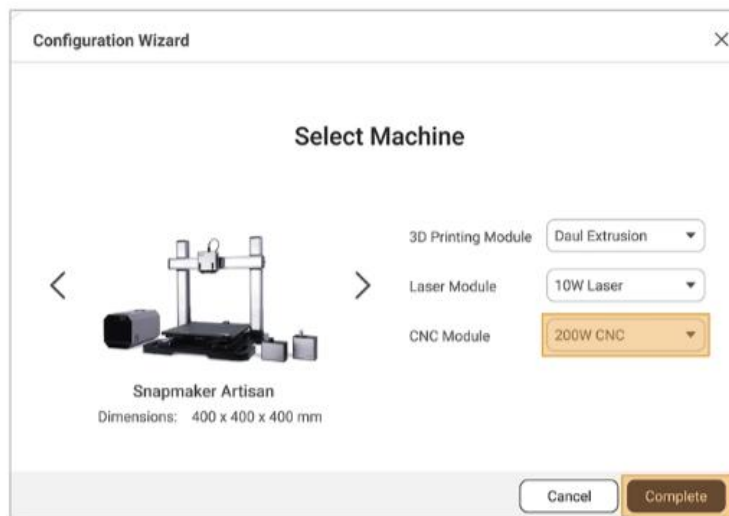
6.3 Start the carving

6.3.1 Install the Snapmaker Luban

1. Select software in the navigation bar of Snapmaker website to download and install our supporting software Snapmaker Luban (Luban).



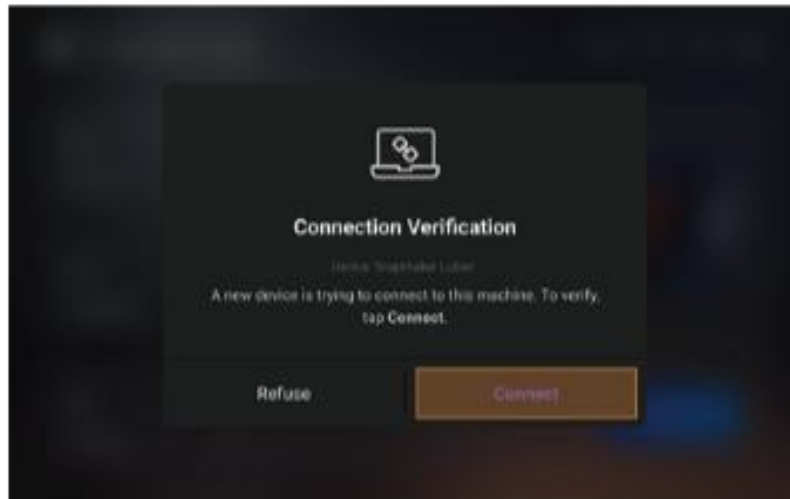
2. Start Luban, select the language, machine model, and module type, then, under the Configuration wizard, and click Finish.



▲ All of these settings can be changed in Settings> Preferences Settings on the menu bar.

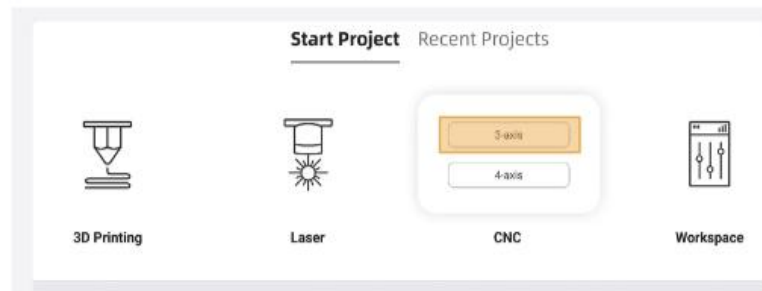
3. Make sure that your computer is connected to the same Wi-Fi as the machine, and then connect the Luban to the machine by:

- Enter the workspace from the home page and select Wi-Fi in the connection panel in the top left corner.
- Click Refresh, select your machine from the drop-down list, and then click Connect.
- Click Connect in the popup of the touch screen.



6.3.2 Generate the G code and send it to the machine

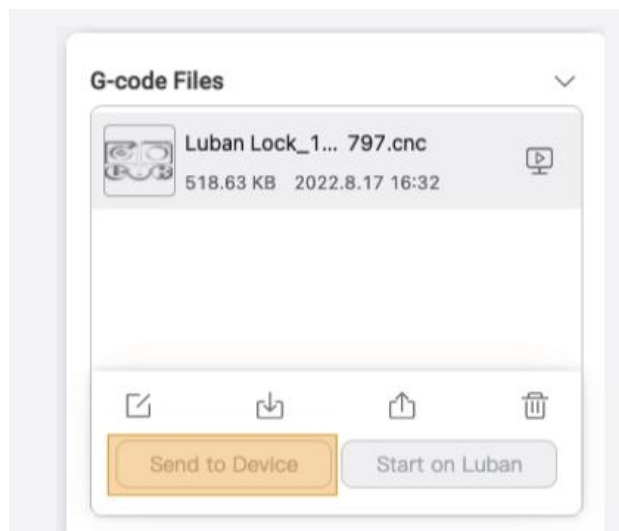
1. Click on the top left corner of the workspace to return to the home page and select and go to CNC G Code Builder> Triple.



2. Follow the tips on the Luban to complete the novice boot. In this process, Luban automatically loads the tests in the case library File and generate the G code.

- ▲ If the novice guide does not automatically pop up or exits unexpectedly, click the menu bar Help> the novice guide.
- ▲ You can also upload your own file by clicking on the file and configure the parameters for it.

3. Click Export> Load the G code into the workspace, and then in the G code file panel click Send to the Machine, via Wi-Fi sends the G code for the test file to the machine.

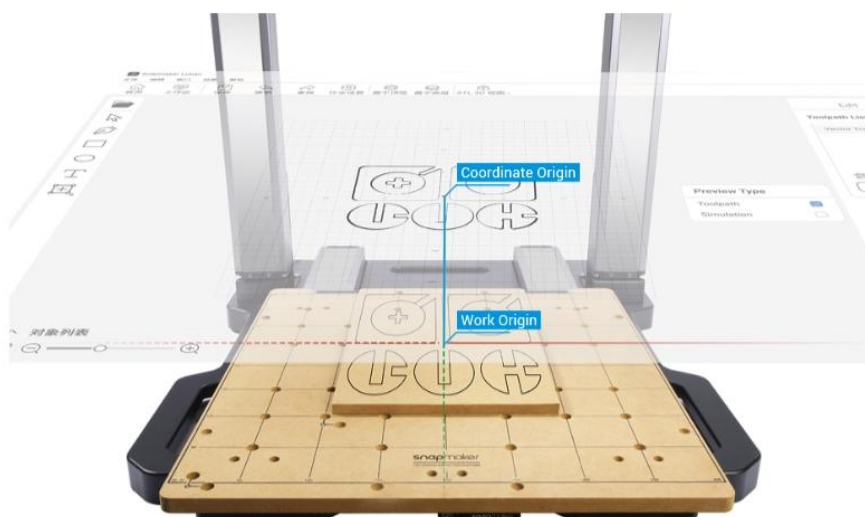


- ▲ You can also send the G code files to the machine via the U disk, or work online via the Luban.close
For detailed steps, refer to our online user manual: Midpoint in the navigation bar of the Snapmaker website
Click Support> Product Support> Artisan> User Manual.

6.3.3 Set the working origin and start the carving

Function introduction: Working origin

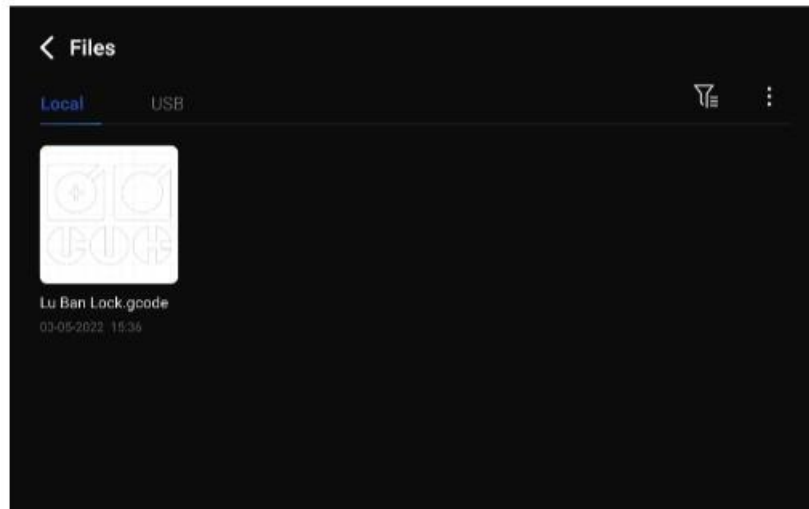
Determine the carving area by setting the working origin. The working origin corresponds to the coordinate origin in the software (0,0).



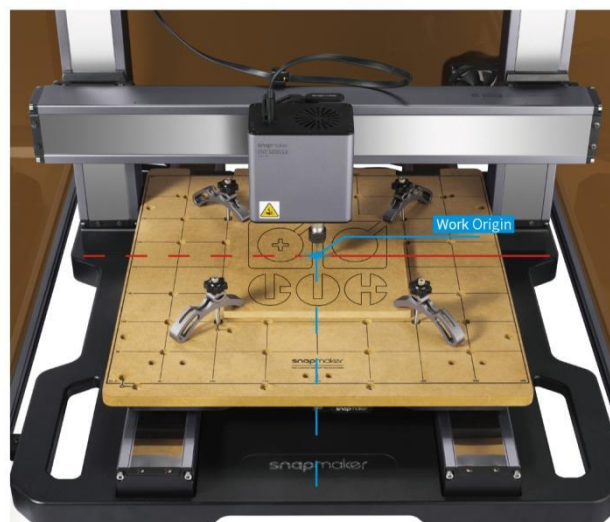
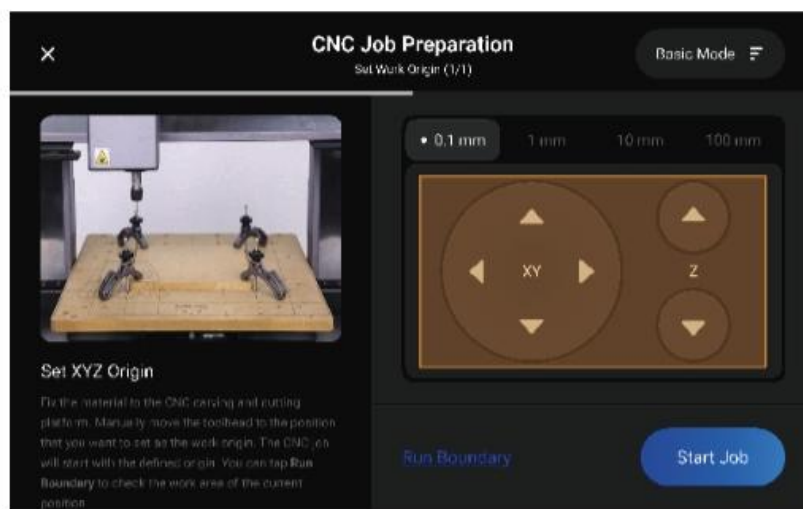
- ▲ You can also set the working origin with the L-shaped positioning block. For detailed steps, please refer to our online user manual: In the navigation bar of Snapmaker, the official website, click Support> Product Support> Artisan> User manual.

How to set up the working origin

1. After the G code file is sent successfully, click Start> File> Local on the touch screen, select the received G code file, and then click Next.



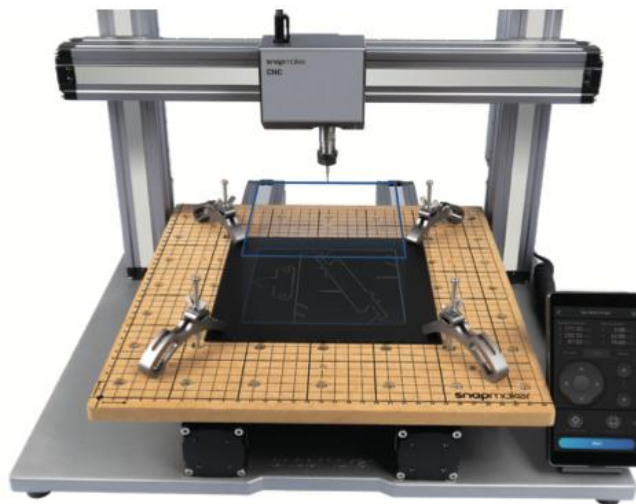
2. Click X-, X +, Y-, Y +, Z-, and Z + to move the CNC tool to the working origin (in this example, the midpoint of the model corresponds to the coordinate origin of the software). The distance between the CNC tool and the material surface is now about 5mm.



3. Place the calibration card or a piece of A4 paper between the CNC tool and the material. Adjust the height of the CNC tool constantly through the Z- / Z + button until you feel a slight resistance when pulling the calibration card and see the card fold when pushing. Click on Set XYZ Origin.



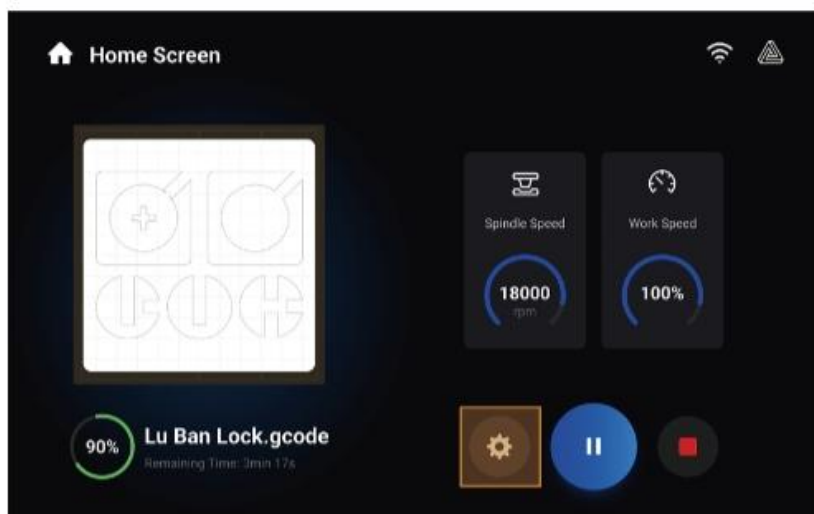
4. Click Z + to lift the CNC tool until it is higher than the clamp, and then click the running frame to check whether the working origin is incorrect. If the running border area is not the carved target area, or when the CNC tool collides with any part of the machine, reset the working origin and run the border.



- ▲ If you have run the running frame at the CNC tool above the clamp, you can drop the CNC tool as necessary
Run the border again.
 - ▲ If the CNC tool collides with any part of the machine, press the emergency stop switch on the top of the controller, at risk
After lifting, rotate the emergency stop switch clockwise to release it. If the CNC tool is damaged, replace the tool.
1. Click to start work and the machine will start carving.
- ▲ Make sure that the controller is placed at easy contact points. In case of emergency during the operation, press the emergency stop switch on the top of the controller and stop the operation immediately. When the risk is lifted, rotate the emergency stop switch clockwise to release it.
 - ⚠ It is not recommended to open the outer cover exhaust fan during the operation, otherwise the dust generated by the carving will be attached to the inner surface

of the outer cover and the exhaust fan. For external cover functions, refer to Section 3.2 of this specification.

- ▲ If the parameters need to be adjusted during the job, click the tool button.

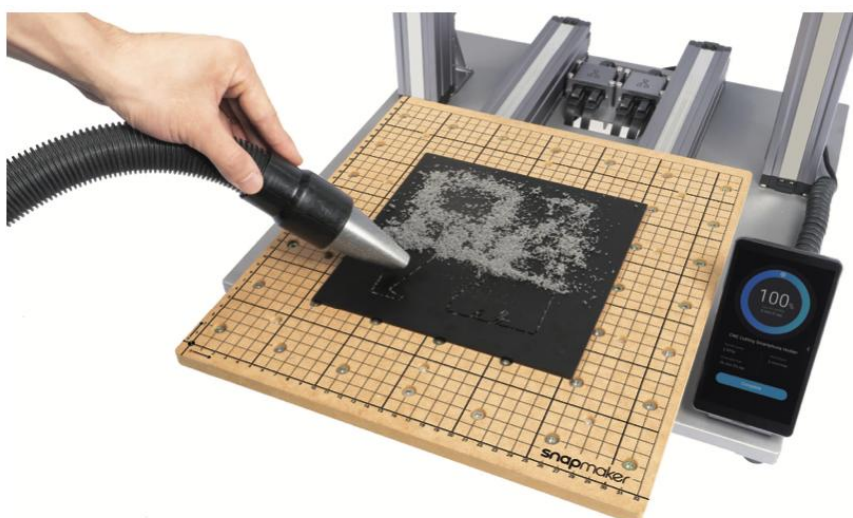


6.3.4 Clean up the finished products and machines

1. Remove the fixture from the CNC engraving and cutting platform.



2. Clean the finished product and the machine with a vacuum cleaner, and then remove the finished product with a diagonal clamp.





Share!

Share your print in our Facebook group and our forum.

Power continued

Artisan's CNC carving and cutting function to support power outage, even if the unexpected suspension, can also be a key recovery!

If a power failure occurs during the operation, you can choose to continue or terminate the operation on the touch screen after the machine is restarted.



Firmware update

You can upgrade the firmware via the Wi-Fi or U disk. When a new firmware exists, the touch screen displays an update prompt after the network connection. We recommend timely upgrading of the firmware to the latest version.

By using the Wi-Fi:

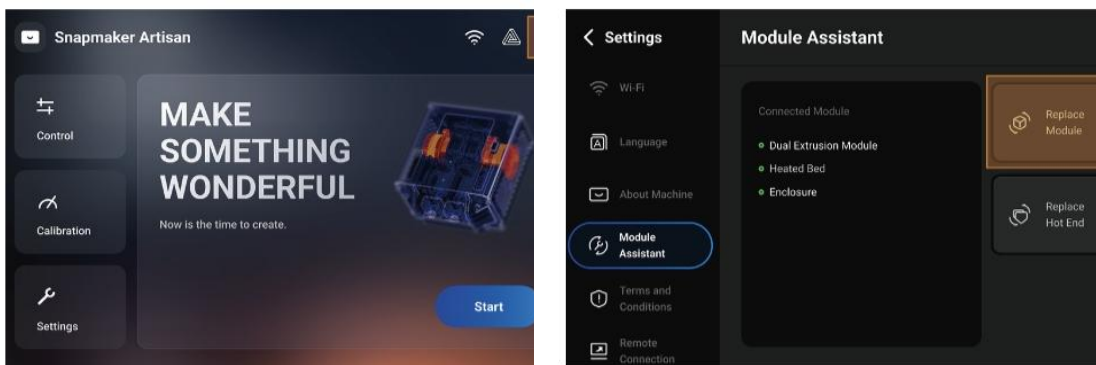
1. Connect the machine to the Wi-Fi;
2. Click Settings> Firmware Upgrade on the touch screen;
3. If a new firmware appears, click to download now;
4. When the firmware download is complete, click Update now.

Through the U disk drive:

5. In Snapmaker, in the navigation bar of the official website, click on Support> Product Support> Snapmaker Artisan> firmware, download the latest firmware, and save it to the U disk;
6. Insert the U disk into the controller;
7. On the touch screen, click Settings> Firmware Upgrade> Local Update;
8. Select the firmware package file, and then click on Update.

Replace the module

To replace the module, remove, or add an extension component, you can click the tool button in the upper right corner of the touch screen home interface> To replace the module, and follow the instructions of the touch screen without turning off the power switch.



▲ You can also find the process entry through the following path: Set up> Module Assistant> Module replacement.

▲ You can also power off the machine, replace the module, remove, or add extended components.

7 Maintenance and maintenance

7.1 3D Printing

7.1.1 Clean the glass printing board

Remove the consumables residues

Maintain the scene

If you use a sticky 3D printing consumables, or if the nozzle is too close to the printing platform, some of the consumables may stick to the surface of the printing board. Failure to clean up in time may affect the result of the next print. As the residues continue to stack, the print board will also become more difficult to clean up.

Maintenance frequency

After each printing session.

Maintenance method

1. Prepare the cleaning tools: the spatula;
2. Gently scrape the consumables residue on the glass printing board with a spatula;



- ⚠ When cleaning, the Angle between the blade and the glass printing plate should be less than 30° to avoid damage to the surface of the printing plate.
- ▲ If it is still difficult to remove the residue with a spatula, you can click on the Control> Hot bed on the touch screen and heat the hot bed to 50°C before trying to scrape it. It is recommended to wear gloves during operation to avoid hot temperature.
3. Scrscraping to the plate without consumable residues, the cleaning is completed.

Remove solid glue

Maintain the scene

Apply an appropriate amount of washable solid glue on the glass printing board before printing to enhance the adhesion effect of the first layer of the print material. However, after the printing ends, if the residual solid glue on the plate surface is not cleaned up in time, it may affect the result of the next printing.

Maintenance frequency

After applying the solid glue on the printing board each time.

Maintenance method

1. Prepare the cleaning tools: wipe the cloth, clean water;



2. Ensure that the machine is powered off and that the power switch is turned off;
3. Dip in the wipe cloth with the appropriate amount of water, wipe away the residual solid glue on the glass printing board;
 - ▲ If it is difficult to remove the solid glue, you can click on the Control> Hot bed on the touch screen and heat the hot bed to 50°C before trying to erase it. It is recommended to wear gloves during operation to avoid hot temperature.
4. Wipe off to the plate surface without solid glue residue, namely complete cleaning.

Remove the grease and dust

Maintain the scene

When the skin of human hands or other parts touches the glass printing board, it may leave a small amount of natural oil on the plate surface; part of the air dust will also adhere to the printing board. Over time, the adhesion effect of the first layer of the printing board may be affected.

Maintenance frequency

At least once a month.

Maintenance method

1. Prepare the cleaning tools: wipe the cloth and clean water



2. Dip with a wipe cloth in the right amount of water, gently wipe the surface of the glass printing board;
3. Wipe to the plate surface without obvious grease, dust or other stains, namely complete cleaning.

- ▲ If it is difficult to remove the oil with clean water, you can dip a wipe cloth in an appropriate amount of alcohol before trying to remove it.

7.1.2. Clean the dust proof screen

Maintain the scene

When the double-spray nozzle module is working or left idle for a long time, part of the dust in the air will attach to the dust-proof net in the air intake duct on both sides. If not cleaned up in time, it may hinder the heat dissipation, and thus affect the working efficiency of the module.

Maintenance frequency

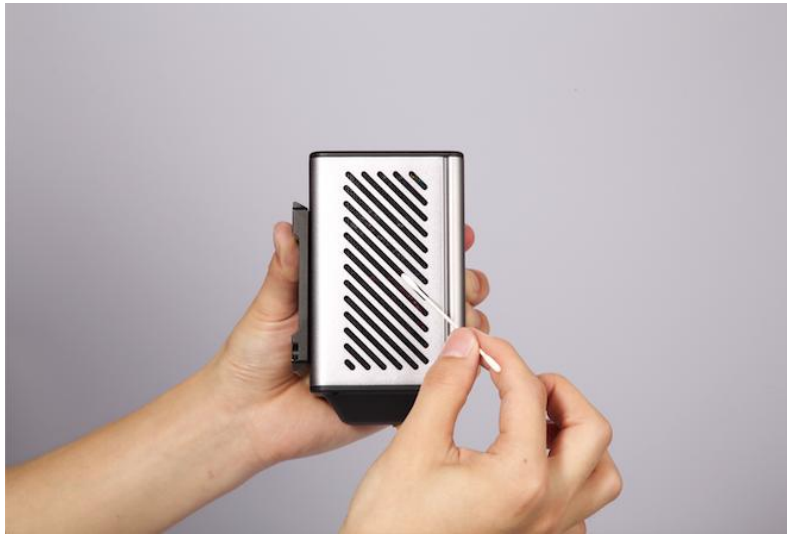
At least once a month.

Maintenance method

1. Prepare the cleaning tools: cotton swabs or paper towels, clean water;



2. Ensure that the machine is powered off and that the power switch is turned off;
3. Dip with a cotton swab or paper towel in the appropriate amount of water, gently wipe the left and right sides of the double sprinkler head module inlet duct dust net;



- ▲ Cotton swabs are a disposable item. If there is still dust on the dust-proof net after wiping, please take a new cotton swab and wipe it again.

4. Wipe to the dust net surface without dust, no water stains, that is, to complete the cleaning.

7.1.3 Clean the spray nozzle

Maintain the scene

During 3D printing, some of the squeezed consumables may adhere to the nozzle surface. After the nozzle is cooled, these consumables residues will also solidify, which is difficult to remove. Failure to clean up may plug the nozzle, or leave a dark mark on the later print.

Maintenance frequency

At least once a month.

Maintenance method

1. Prepare the cleaning tools: steel wire brush;



2. Start the machine, and then click Control> consumables on the touch screen to heat the nozzle to be cleaned to 200°C;



(UI drawing details change later)

3. After heating, gently scrape the residue on the nozzle surface along the horizontal direction;



- ▲ The nozzle temperature is extremely high, be careful to scald!
- ▲ When cleaning, do not make the wire brush touch the insulation rubber sleeve above the nozzle, so as not to wear it.



4. Scrscraping to the nozzle surface without residue, the cleaning is completed.

7.2 Laser engraving and cutting

7.2.1 Clean the laser lens shield

Maintain the scene

10W laser module after a period of time, laser lens protection goggles may accumulate excessive dust or oil, resulting in a significant reduction in laser cutting capacity. At this point, the laser lens shield is cleaned to restore the engraving and cutting capability of the laser module.

Maintenance frequency

At least once a week.

Maintenance method

1. Prepare cleaning tools: cotton swabs, high purity alcohol (bring your own).



- ⚠ Please use alcohol with no less than 75% purity. Among them, alcohol with a purity higher than 99% had the best wiping effect.
2. Power off and remove the 10W laser module from the machine.
3. Dip a cotton swab with alcohol in it and put it into the air hood. Wipe the laser lens shield from the inside out, starting from the center of the lens.



- ⚠ Cotton swabs are a disposable item. If there is still dust or oil on the protective lens after wiping, please take a new cotton swab and wipe it again.
- 4. Wipe to the surface of the protective lens without dust, no oil stains, no water stains, that is, to complete the cleaning.
- ▲ We include a spare laser lens shield. If the original laser lens shield is damaged, replace the guidelines in the online user manual: in Snapmaker, the navigation bar of the official website, click Support> Product Support> Artisan> User manual.

7.3 CNC carving and cutting

7.3.1 Fixed nut

Repair scene

The nuts on the CNC carving and cutting platform may fall off after long use or under incorrect operation, fix as follows.

Maintenance method

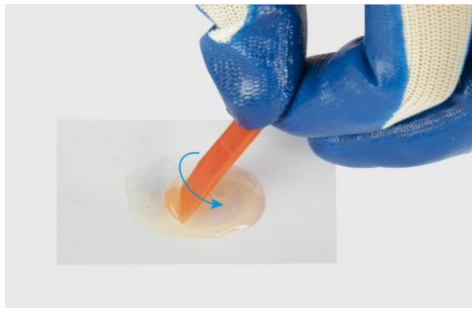
- ▲ Before operation, please wear protective gloves to prevent contact with toxic AB glue, and wear protective equipment that can avoid inhalation of volatile toxic gases.
- 1. Prepare the maintenance tools ready:
- 2. Remove the debris from the nut.



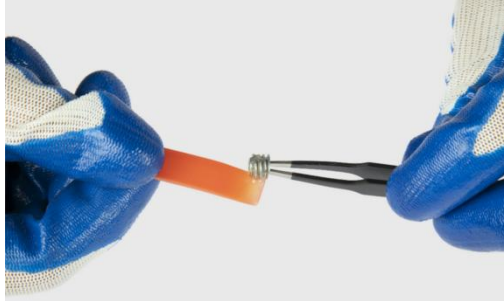
- 3. Extrude class A glue and class B glue in a 1:1 ratio.



- ⚠ Do not mistakenly use the lid of Class A glue on class B glue.
- 4. Mix Class A glue with Class B glue with a mixing bar and stir them well.



5. Apply the mixed glue to the thread of the nut.



6. Install the nut into the holes of the CNC carving and cutting platform and press for a while. And wait for at least 24 hours to ensure that the mixed glue is cured before use.

