



USER MANUAL

Genmitsu

L8 Laser Engraving Machine

V1.0 Oct 2023



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Welcome

Thank you for purchasing the Genmitsu L8 Laser Engraver from SainSmart.

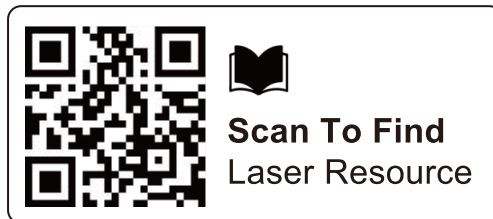
All your setup materials will be located on the included USB Drive, located in your accessories box. Inside you will find:

- PDF version of this manual
- Windows USB Driver
- Grbl Control / Candle software for Windows
- Sample files

Please visit SainSmart Online Resource Center installing drivers and software for your CNC.

<https://docs.sainsmart.com/l8>

Scan QR code to find information.



The drivers and software can also be found on the included USB drive.

For technical support, please email us at support@sainsmart.com

Help and support is also available from our Facebook group. (SainSmart Genmitsu CNC Users Group)

Scan QR code to join the group.





Safety Instructions

Thank you for purchasing Genmitsu laser engraving machine. For a better use and maintain of this equipment, please read the manual carefully and follow the steps in the manual.

CAUTION

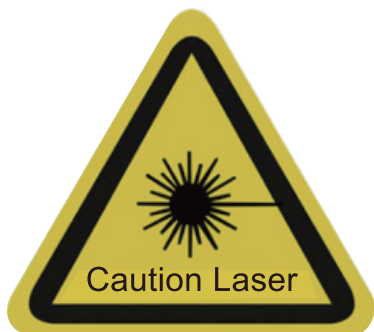
All risks caused by improper use or failure to follow the steps in the manual are borne by the individual. The final interpretation right of the manual belongs to the company, and has the right to modify all materials, data, technical details, etc. in this manual.

WARNING

- Before operating the equipment, please read the user manual carefully and strictly abide by the operating procedures.
- Laser processing may have risks, users should carefully consider whether the object to be processed is suitable for laser operation.
- Processing objects and discharges should comply with local laws and regulations.
 - ① Ignite the surrounding combustibles;
 - ② During laser processing, other radiation and toxic and harmful gases may be produced due to different processing objects;
 - ③ Direct irradiation of laser radiation will cause human injury. The place of use must be equipped with fire-fighting equipment. It is forbidden to pile up flammable and explosive materials on and around the workbench, and at the same time, it must be well ventilated.
- ★ The environment where the equipment is located should be dry, free from pollution, vibration, strong electricity, strong magnetism and other interference and influence. The working environment temperature is 5-30°C, and the working environment humidity is 35-65%RH.
- Equipment working voltage: AC100-240V.
- ★ The engraving machine and other associated equipment must be safely grounded before it can be turned on for operation.
- When the equipment is turned on, it needs to be on duty all the time. All power must be cut off before leaving to prevent abnormal situations. If any abnormal situation occurs, please cut off the power immediately!
- ★ It is strictly forbidden to place any irrelevant total reflection or diffuse reflection objects in the device to prevent the laser from reflecting onto the human body or flammable objects.
- ★ The device should be far away from electrical equipment sensitive to electromagnetic interference, which may cause electromagnetic interference.
- ★ There is high voltage or other potential dangers inside the laser equipment, non-professionals are strictly forbidden to disassemble.

Safety Instructions

Pay attention!



When the laser is turned on, it is prohibited to aim at humans, animals and flammables to avoid skin burns and fire.



Do Not Look Directly

The laser brightness is harmful to the eyes. Do not look directly at the laser.



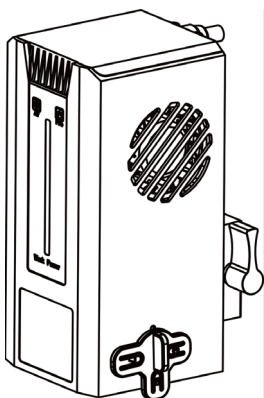
No Reaching In

Keep hands away from the machine during operation to avoid injury.



Turn off the machine when it is not in use to avoid misoperation.

Maintenance



Laser module is consumable. It's recommended to keep the machine power off for 10 minutes after 4-hour engraving and keep the machine power off for 10 minutes after 1-hour cutting.

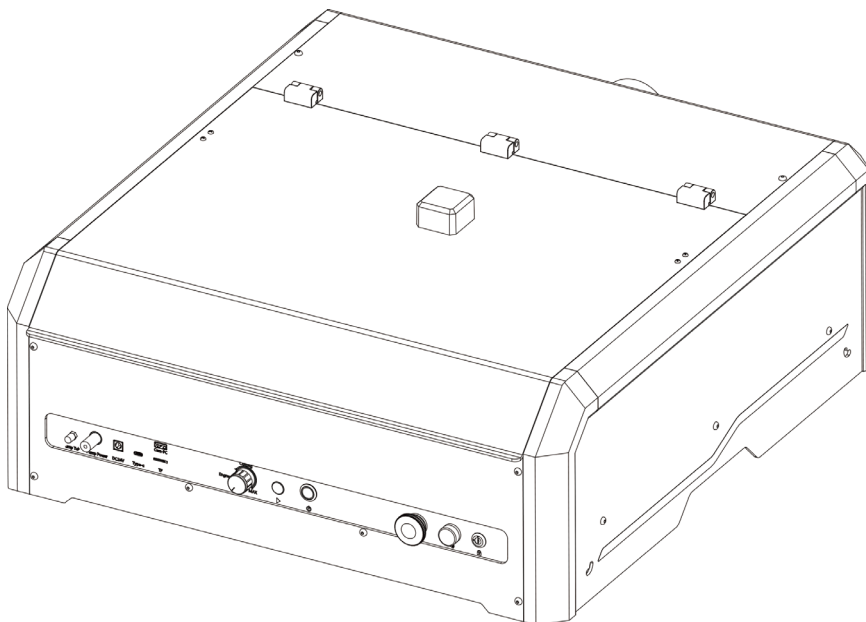


01 Product Parameters

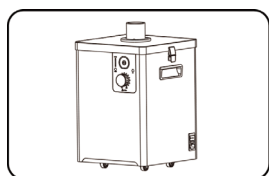
Model	L8
Material	High strength aluminum + acrylic
Laser Module	20W, 40W
Laser Wavelength	455nm
Total Power	<144W, <240W
Power Supply	DC24V/6A, DC24V/10A
Communication Interface	WIFI wireless connection
	USB-Type C interface wired connection, supports MAC and Windows desktop applications
Cooling Method	Air cooling
Laser Service Time	>10000 hours
Laser Class	Class 1
Engraving Size	20W-400*400mm, 40W-390*390mm
Engraving Accuracy	0.01mm
Engraving Speed	40000mm/min
Engraving Material	Paper, wood, plastic, leather, cloth, cardboard, leather, stone, ceramics, stainless steel, coated metals and other non-transparent materials
Support System	Windows/MAC/Android/IOS
Image Format	JPEG/BMP/PNG/JPG/GIF/DXF/PLT/HPGL
Product Size	715*621*261mm
Package Size	765*670*345mm

02 Products and Accessories

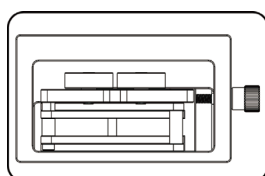
L8 Laser Engraver



Optional Parts

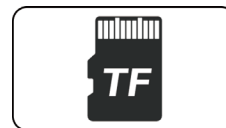


Air Purifier

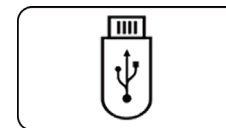


Rotary Roller

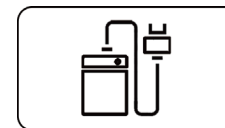
Standard Parts



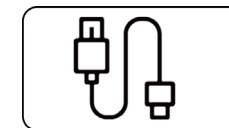
TF Card



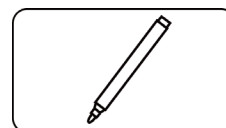
Card Reader



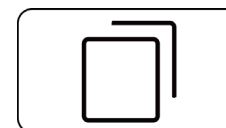
Power Supply



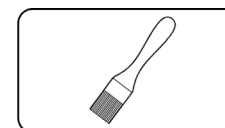
Type-C Cable



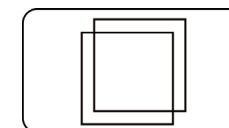
Marker Pen



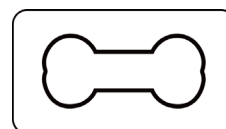
Kraft Paper*2



Brush



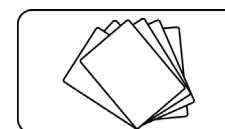
Wood Board*2



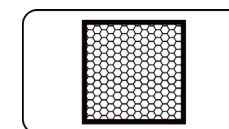
Dog Tag*2



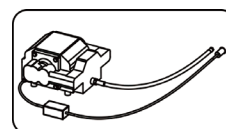
User Manual



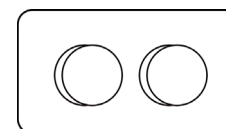
Multicolor
Business Cards*10



Honeycomb
Plate



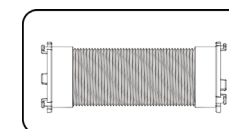
Air Pump+
Air Duct



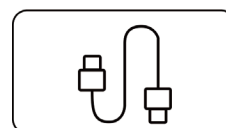
Wooden
Stake*2



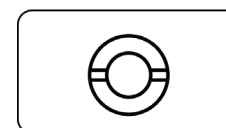
Open End
Wrench*2



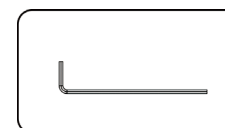
Smoke Exhaust
Telescopic Pipe



Double-ended
Cable



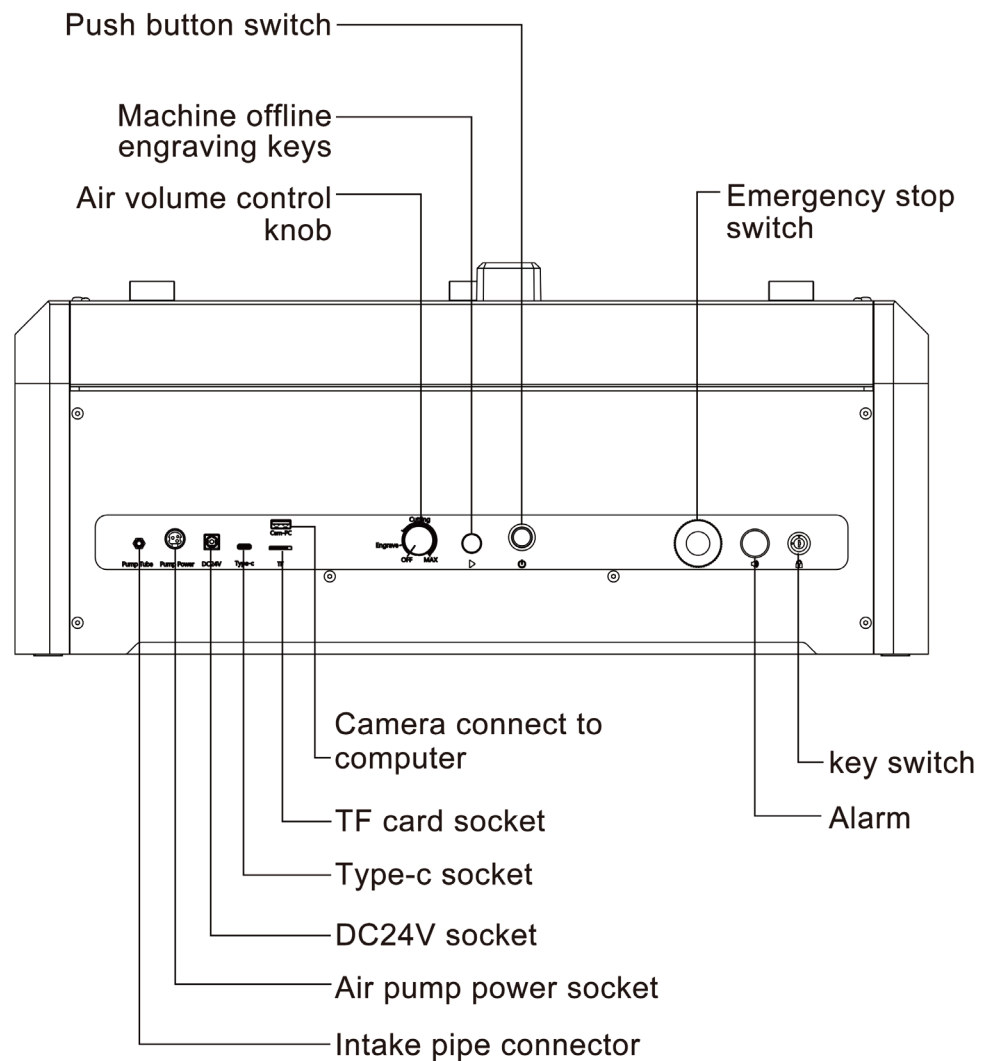
Window Mirror



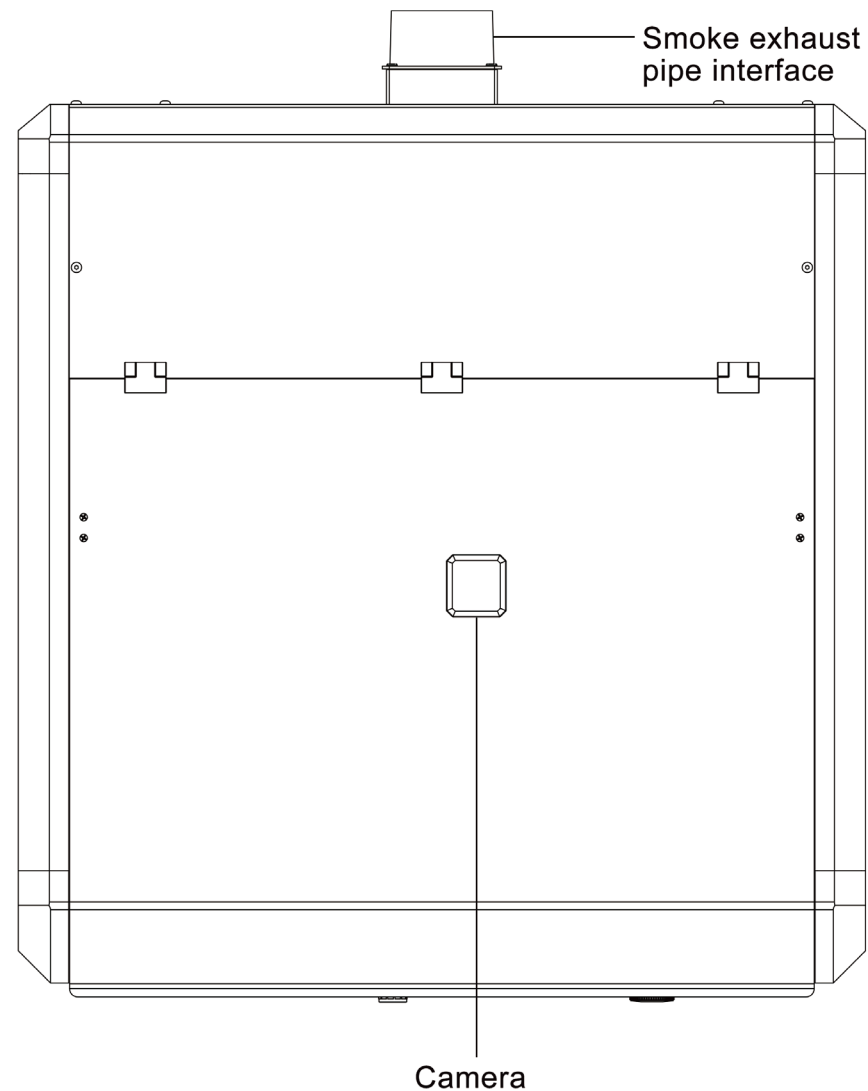
Allen Wrench*3

03 Product Structure and Assembly

Front View

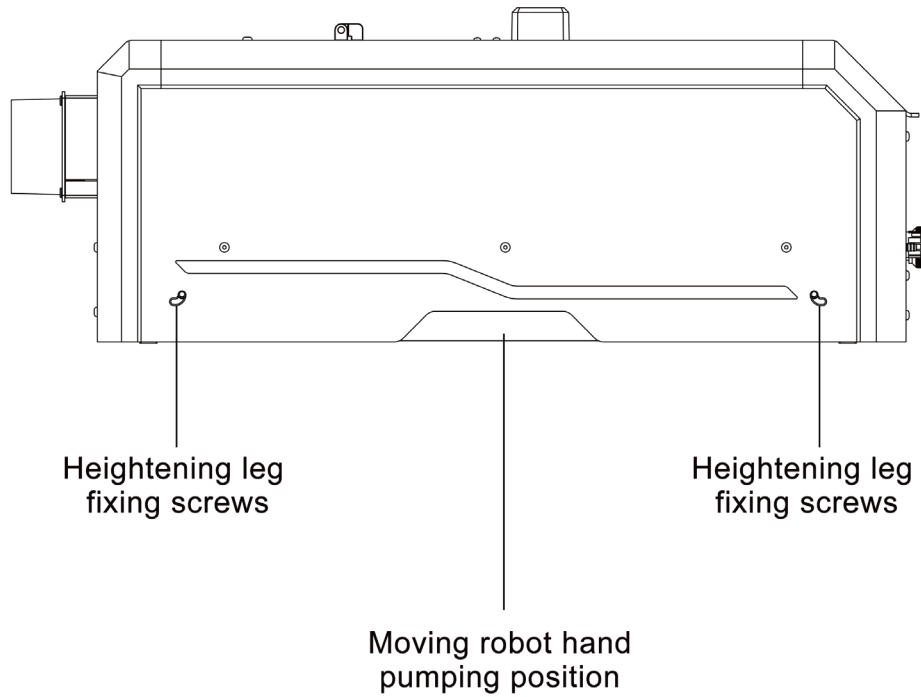


Rear View

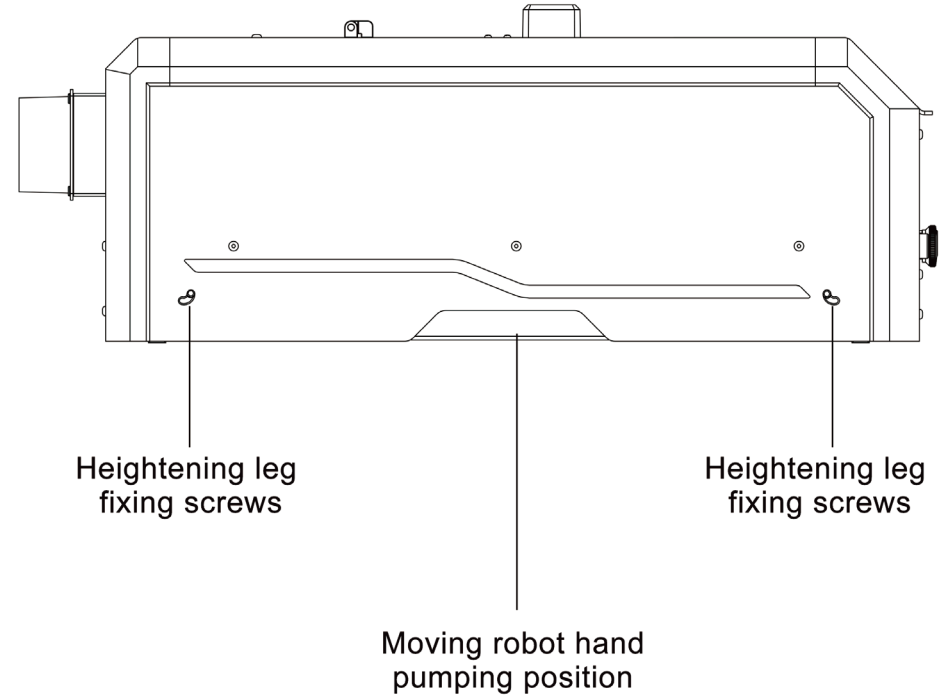


03 Product Structure and Assembly

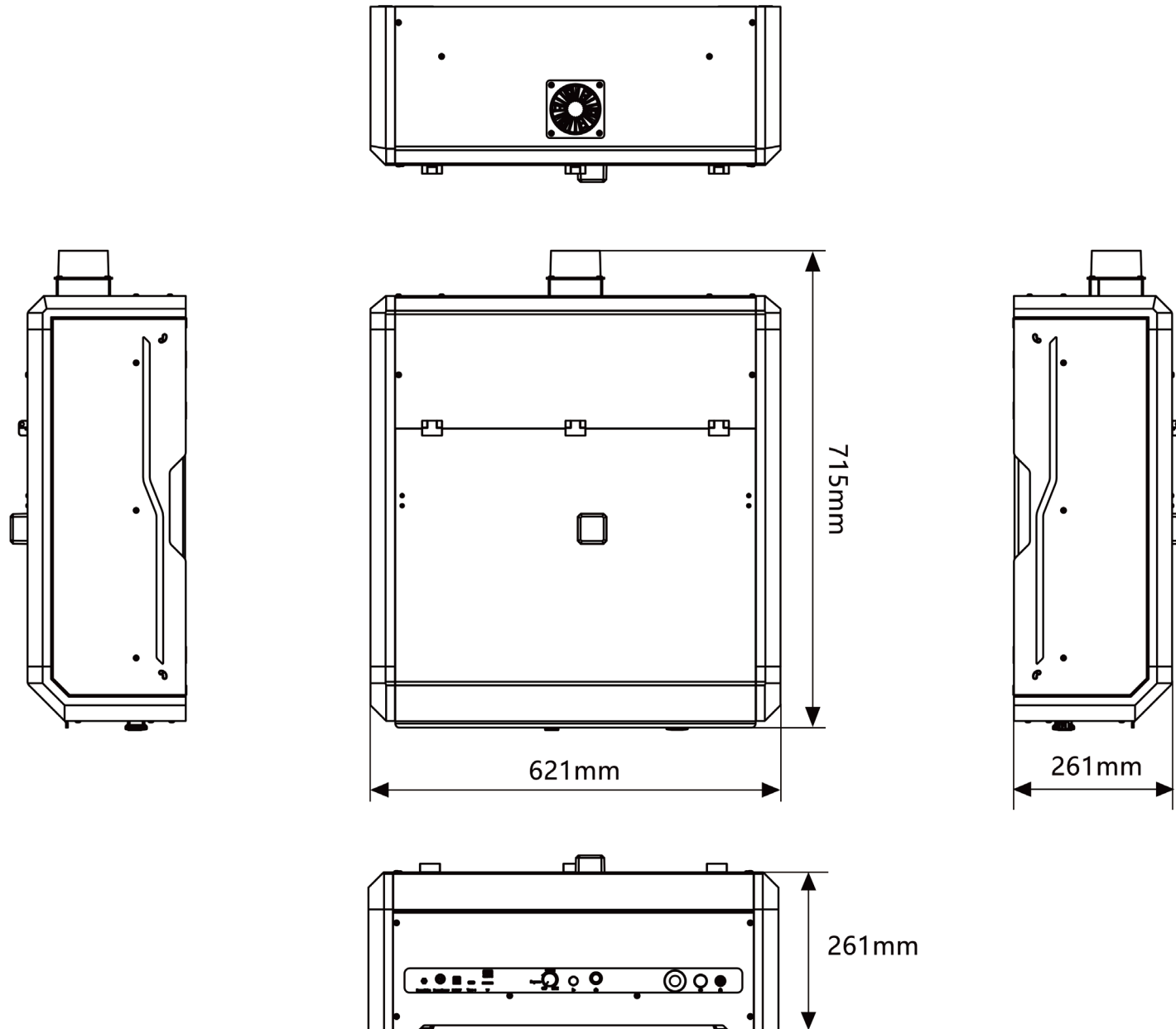
Left View



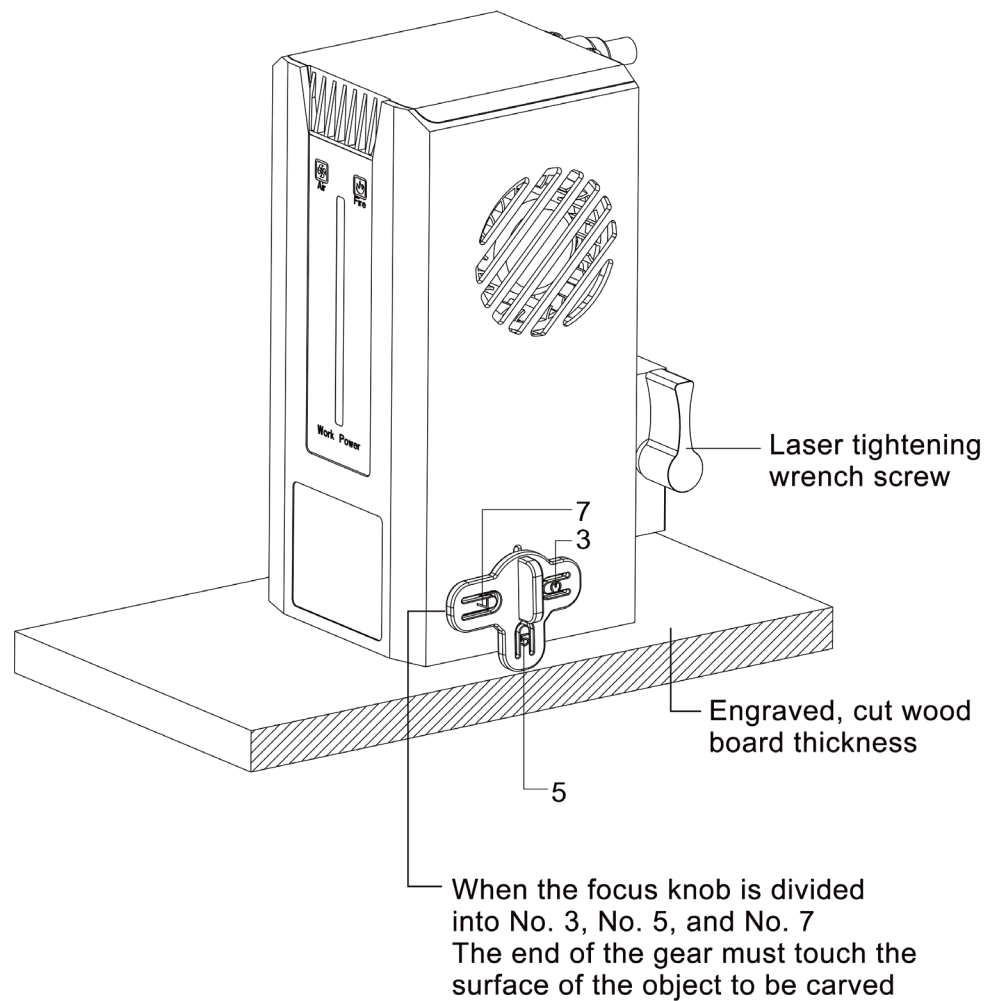
Right View



03 Product Structure and Assembly

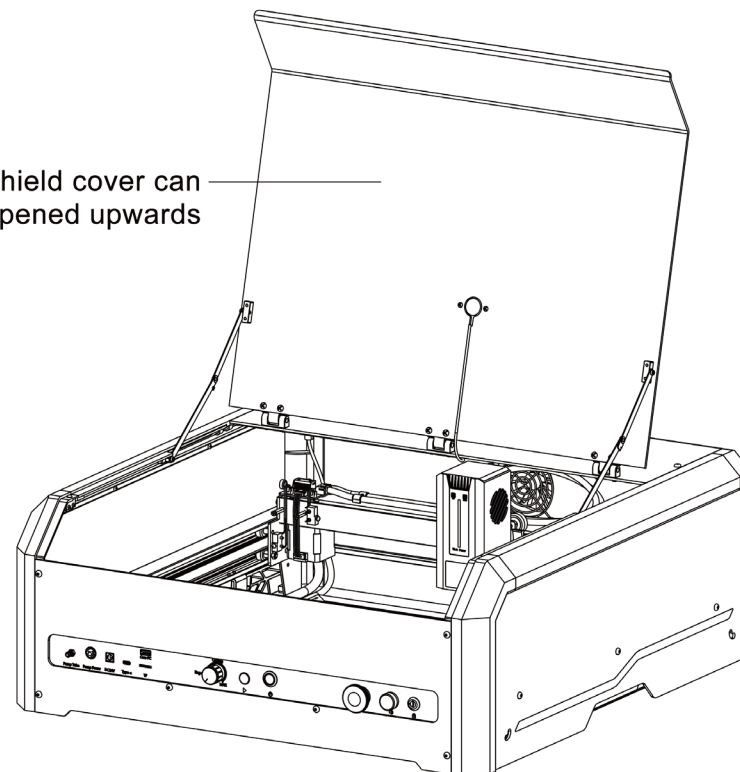


03 Product Structure and Assembly



Fixed focus	20W		40W	
3MM	Cutting	> 8MM	Cutting	> 12MM
5MM	Cutting	5~8MM	Cutting	8~12MM
7MM	Cutting	0~5MM	Cutting	0~8MM
7MM	Engraving		Engraving	

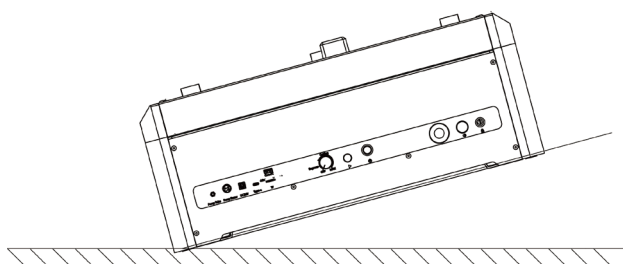
The light shield cover can be opened upwards



04 Product Functions and Introduction

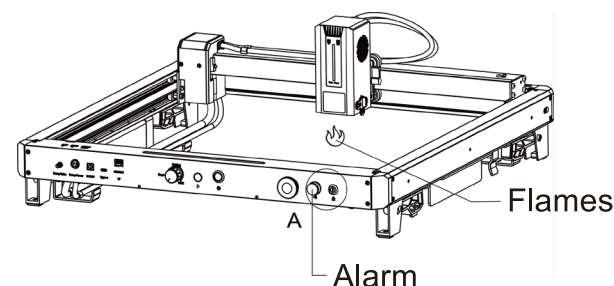
1. Tilt Protection

If the machine tilts $15^{\circ}+5^{\circ}$ above the horizontal plane for more than 1 second, the machine will stop running immediately, the laser module will stop laser output, and the status light will display an alarm. While in a protected state, the machine must be restarted to resume normal operation.



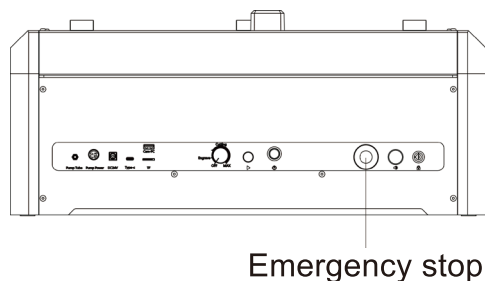
2. Alarm Protection

The flame sensor will trigger audible and visual alarms. When an open flame is detected, the machine stops working and the laser module stops output immediately. The status light displays an alarm. When it enters protection mode, the machine must be restarted to work normally.



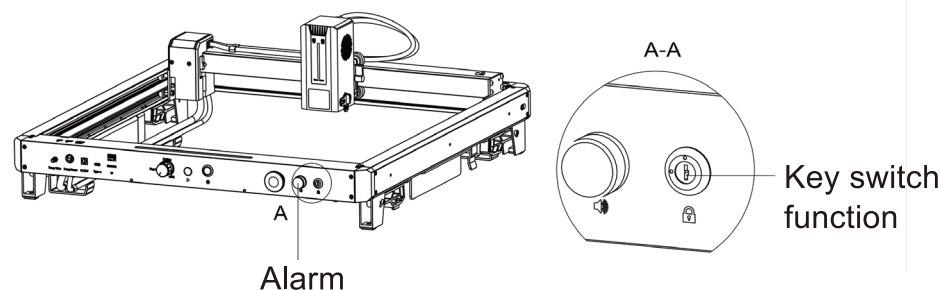
3. Reset Mode

Emergency stop switch when the emergency stop button is pressed, the power of the machine will be cut off in time and the machine will completely stop working. After turning the emergency stop switch clockwise, release the emergency stop switch and the machine enters reset mode.

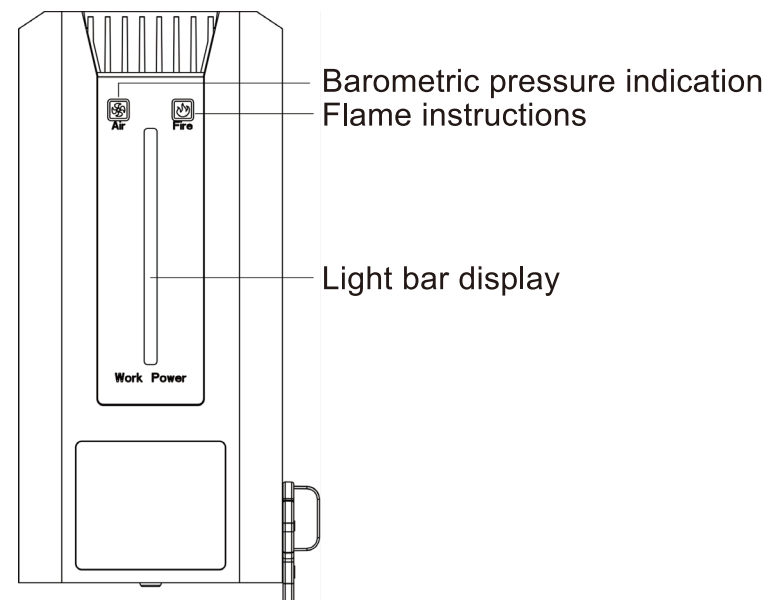
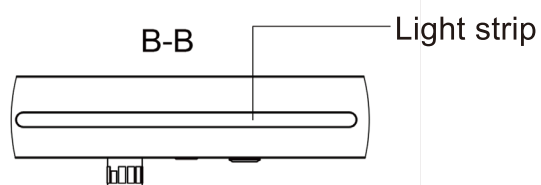
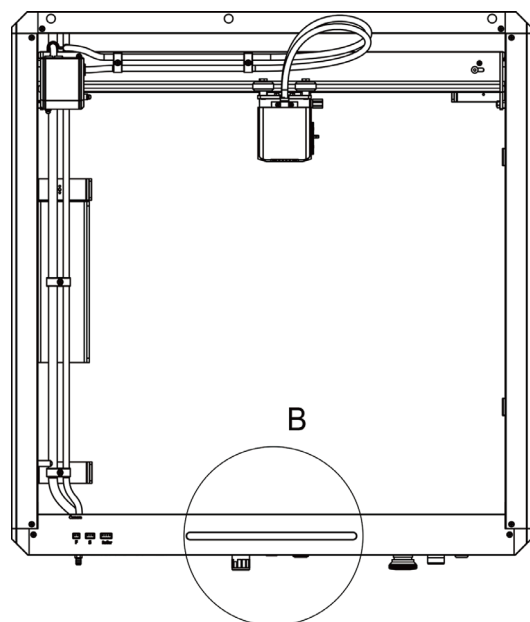


4. Key Switch Function

After inserting the key and turning it right, the machine's power is restored and enters reset mode. When using the machine, turn the key left and the power of the machine will be cut off in time, the machine will stop working completely.



04 Product Functions and Introduction



LED Status:

- **WiFi connection status:** flashes on for 0.2S and off for 0.2S
- **Warning status:** flashes, on for 0.5S and off for 0.2S
- Open the door, flame alarm, tilt protection: flashes, on for 0.5S, off for 0.5S
- **Engraving status:** breathing flashes
- **Standby mode:** light always on

Barometric Pressure Indication

Red light flashing: No airflow. Smoke and dust may contaminate the lens during the engraving or cutting process. Please check the working status of the air pump and ensure that the silicone tube is connected.

Green light is always on: Air currents. The airflow can be adjusted according to personal needs when cutting.

Flame Instructions

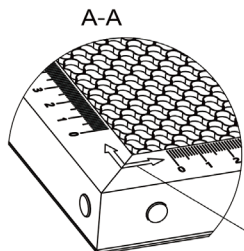
Green light is always on: Detect whether the processing material is burning.

Red light: If a flame is detected, it is recommended to stop the current work immediately to ensure safety.

Light Bar Display

Laser light bar: Currently used laser power value

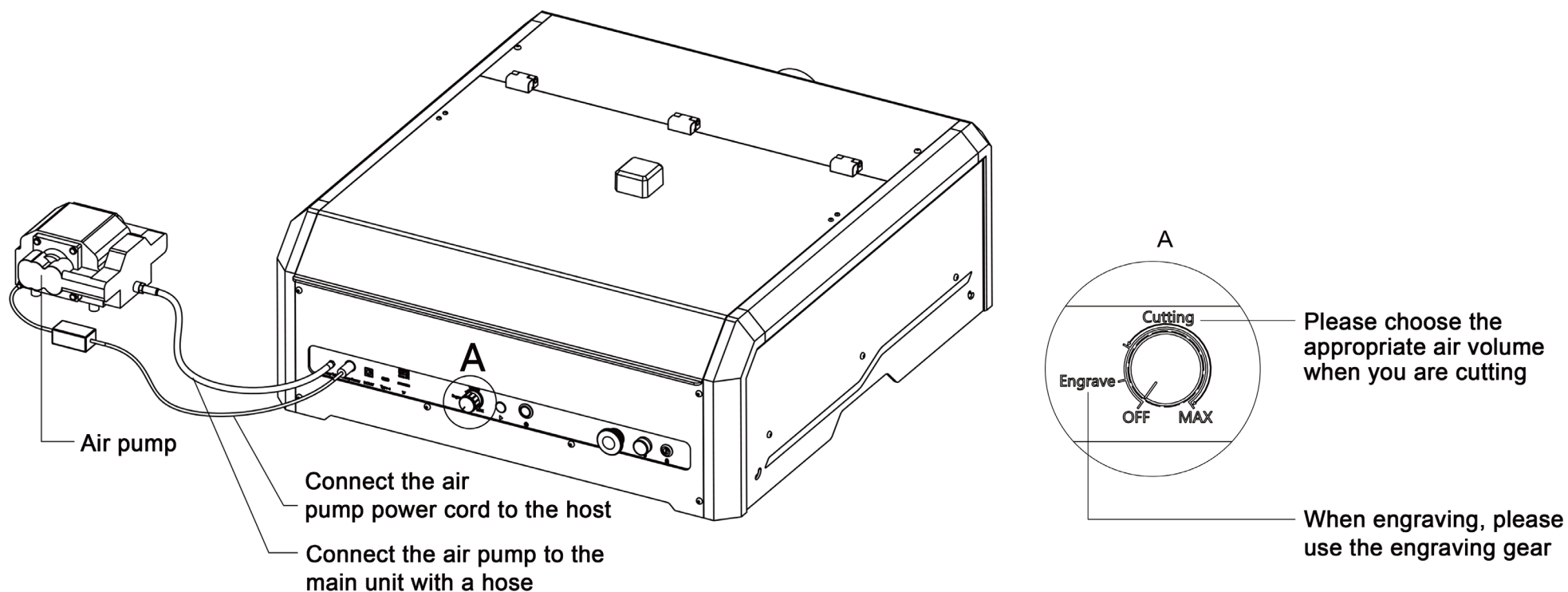
A schematic diagram showing a probe tip, which has a hexagonal base and a sharp, conical point, in contact with a flat surface. The tip is positioned centrally within a rectangular frame.



- Honeycomb panel usage area: 20W-400*400mm, 40W-390*390mm.

The zero point is consistent with the laser zero point, and with the X positioning bar, rapid positioning can be achieved.

04 Product Functions and Introduction



Connect the air assist pump to the engraving machine.

- Connect the fitting to the air assist pump;
- Slide the tube onto the fitting.

Select the appropriate air volume level according to the required content.

Tip: The use of the process needs to pay attention to the trachea can not be bent.

04 Product Functions and Introduction



LightBurn



LaserGRBL

Lightburn and **LaserGRBL** software is supported by L8.

LightBurn is a layout, editing, and control software for your laser cutter.

It talks directly to your laser without the use of additional software.

With LightBurn, you can import artwork in a variety of common vector graphic and image formats (including AI, PDF, SVG, DXF, PLT, PNG, JPG, GIF, and BMP).

It works with Windows, MacOS, and Linux (Ubuntu 18.04 and 20.04 specifically).

LightBurn provides a range of tutorials on their YouTube channel.

LaserGRBL is a free open-source software used to control a CNC laser engraver machine.

It is compatible with Windows, macOS, and Linux operating systems.

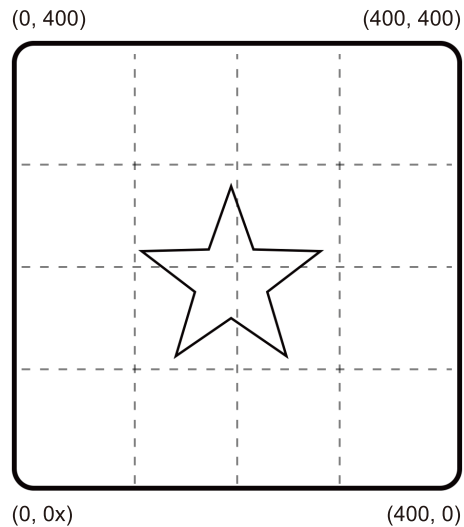
LaserGRBL is designed to send G-code commands to the laser engraver to allow for simple and efficient control of the engraving process.

It is a specific firmware or software used for controlling laser engraving machines or laser cutters.

GRBL, which stands for “G-code Real-time Interpreter and Line-buffer,” is an open-source, highly popular firmware designed for CNC (Computer Numerical Control) machines, including laser engravers.

We recommend use Lightburn because it provides a user-friendly interface that is easy to navigate, making it suitable for both beginners and experienced users. Also, it can fully use the camera function of the L8 for position with your preset file (find in the USB drvier)

04 Product Functions and Introduction

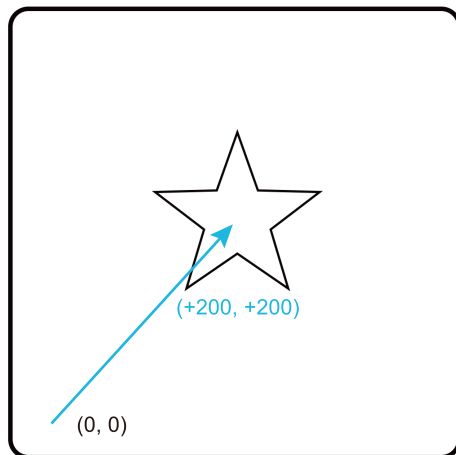


As an example, suppose we are to engrave a star, and it is located at the center of the lightBurn workspace as shown on the computer screen, at (200.200). Below diagrams show how the machine will behave in each of the three start from modes.

Problems can arise when moving the laser module by hand while working in Absolute Coordinator or User Origin mode. This is because the machine doesn't know it has been moved. It has no way of knowing its real time position other than homing which re-establishes the (0.0) position.

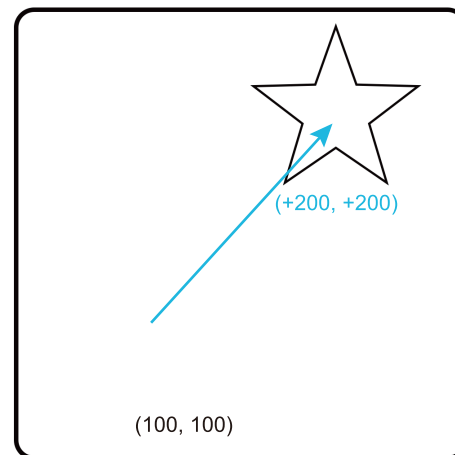
Consider the following sequence of actions while working in Absolute Coordinates:

1. Machine is home to (0,0)
2. User physically drags the laser to somewhere around(300,300). The machine still thinks it's at (0,0);
3. User runs the star program. The machine starts moving up and to the right in order to reach the "center" and crashes into the top right corner.



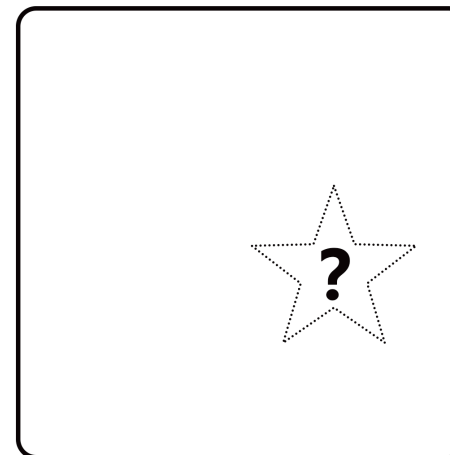
A) Absolute Coordinates:

The machine will move to the center, The finished star will be located at (200,200)



B) User Origin:

Suppose the user origin was set at (100,100); then the finished star will be located at (300,300)



C) Current Position:

The star will be wherever the laser module was at the moment the program starts.

⚠ IMPORTANT

If the machine has crashed, be sure to pull the laser back toward the center a bit before homing.

There are two limit switches on the X and Y-axis. If either of the two limit switches on an axis is pressed down, the machine will not move that axis while homing.

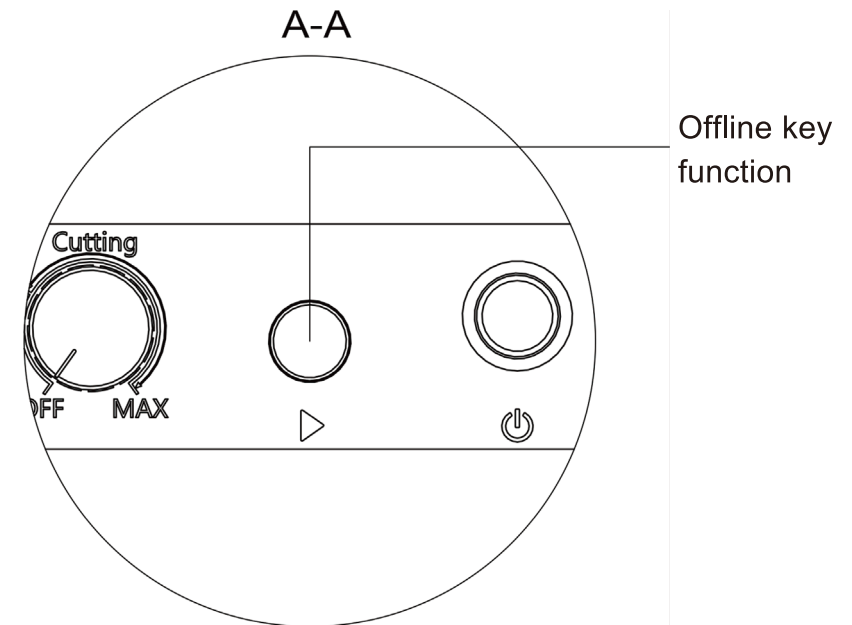
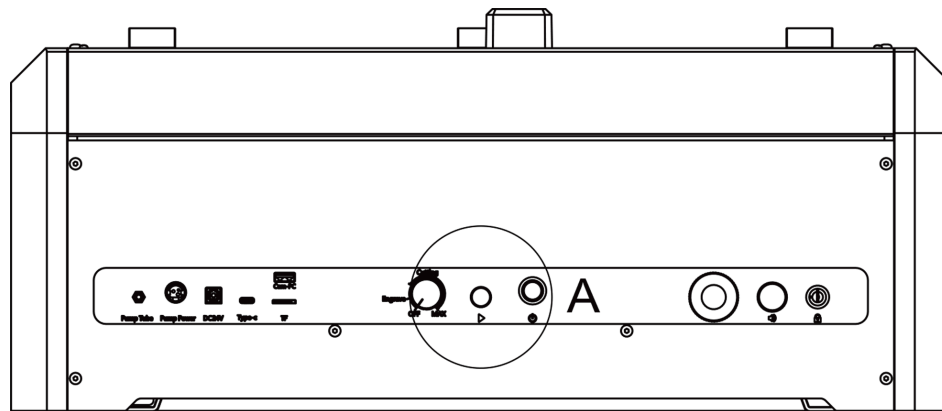


04 Product Functions and Introduction

In LightBurn, a calibrated camera enhances engraving efficiency and precision. It enables rapid workpiece positioning, material conservation, object tracking, and lens and alignment calibration. Homing is recommended due to the software's operation in absolute coordinates.

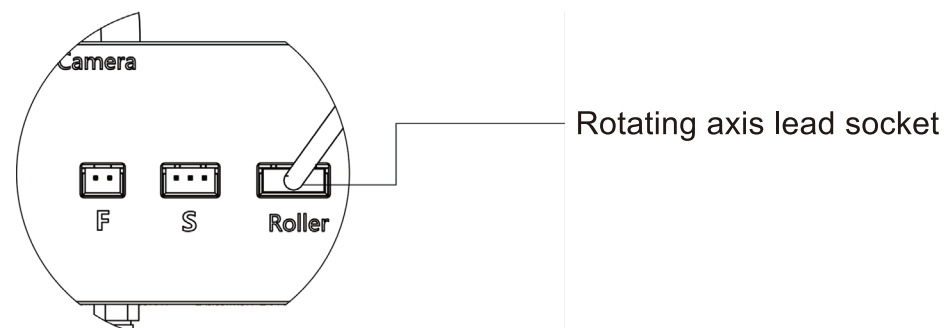
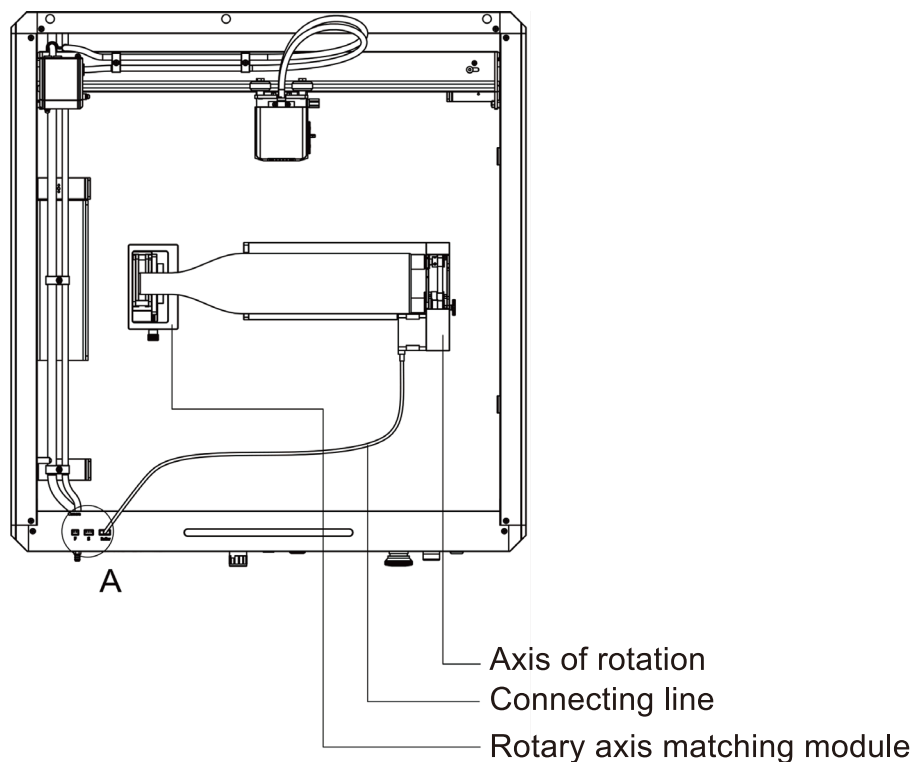
The utilization of the camera function via LightBurn necessitates a specific setup process. We strongly advise you to consult the camera setting documentation available on our support page prior to its use: <https://docs.sainsmart.com/l8>

04 Product Functions and Introduction



- Generate engraving or cutting files (gcode) through LightBurn software and save the files to the root directory of the TF card.
- Insert the TF card into the machine before powering on, then use the matching power adapter and power cord to connect to the control panel, and finally turn on the power switch on the right side of the control panel.
- Press the “Offline key function” button:
 - a. Press and the machine will automatically reset and preview
 - b. Press and hold for more than 3S to enter the engraving
 - c. Short press again to pause
 - d. Short press again to continue
 - e. Press and hold again for more than 3S to cancel engraving

04 Product Functions and Introduction



Place the roller in the required area, use the connecting wire to plug into the panel "Roller", and plug the other end into the roller motor.

Engraved tapered cylinder

For example, with some popular glass tumbler, it is often best to support the narrow end of the cylinder so that the horizontal edge is presented to the laser. The swivel includes an end support.

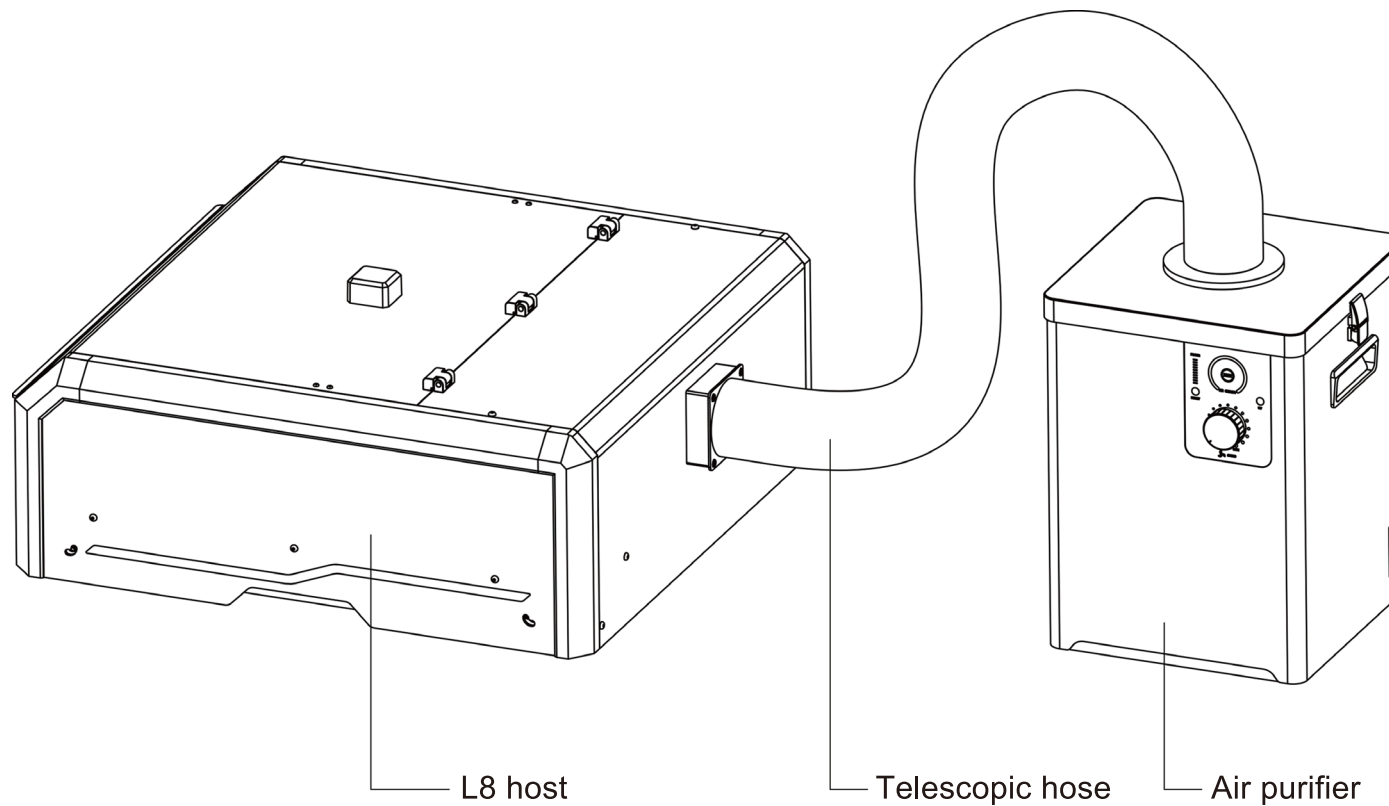
When engraving with rotation, the -axis goes through its normal scanning motion, but the y-axis remains stationary while the rotation provides movement in that direction.

The spinner can hold a wide variety of round objects, from something as thin as a pencil to a 32-ounce Yeti-style glass. It consists of a fixed axis and a moving axis that can be locked into 1 of 4 positions.

Note:

1. Loosen the knobs at both ends at the same time, push the pulley to the desired position, and then lock the knobs at both ends at the same time.
2. When using rotary engraving vector content, we recommend engraving at a speed $<800\text{mm/min}$.

04 Product Functions and Introduction



- Connect the telescopic exhaust pipe to the air purifier
- Connect the pipe fittings to the air purifier;
 - Turn on the air purifier and use it.

05 Software Download and Installation on PC

Driver installation in Windows

TF card

1

01_Windows

2

driver

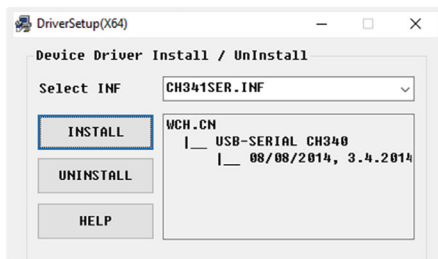
3

driver.exe

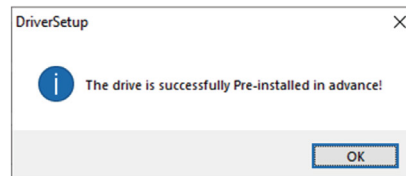
4

1. Path to Install Driver:

Enter the memory disk and double-click the folder
/01-windows/driver/driver.exe



5 Click "Install"



6 Finish installation

2. The Software can be acquired as follows:


Method 1: Acquire the driver, software, photos and other data from the USB flash disc provided (Note: Before the use for the first time, please copy all the data from the USB flash disc to your computer as backup to prevent accidental loss due to improper operation.)

Method 2: Download at the designated website <https://docs.sainsmart.com/l8>


05 Software Download and Installation on PC

3. Path to Install Software:


Double-click the TF card data file/Windows/Software/CutLabX/ and follow the prompts to complete the installation.

**TF card**


1

**software**

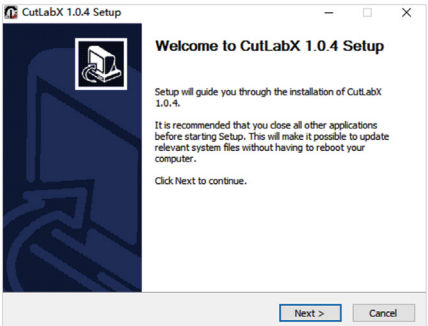
3

**01_Windows**

2

**CutLabX**

4



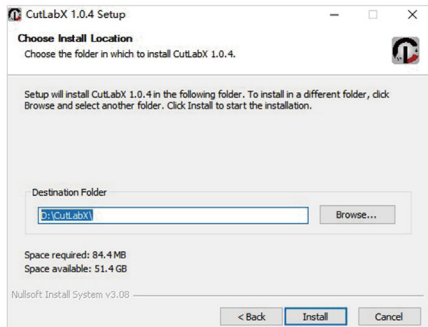
Welcome to CutLabX 1.0.4 Setup

Setup will guide you through the installation of CutLabX 1.0.4.

It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.

Click Next to continue.

Next > Cancel



Choose Install Location

Choose the folder in which to install CutLabX 1.0.4.

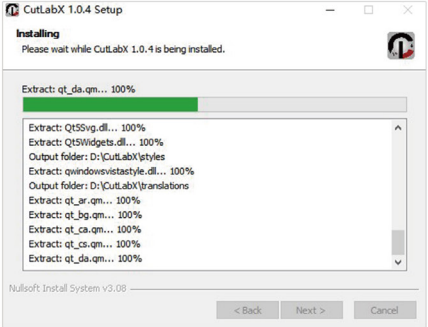
Setup will install CutLabX 1.0.4 in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.

Destination Folder: D:\CutLabX

Space required: 84.4 MB
Space available: 51.4 GB

Nullsoft Install System v3.08

< Back Install Cancel



Installing

Please wait while CutLabX 1.0.4 is being installed.

Extract: qt_ds.qm... 100%

Extract: QtSvg.dll... 100%

Extract: QtWidgets.dll... 100%

Output folder: D:\CutLabX\styles

Extract: qwindowsvistastyle.dll... 100%

Output folder: D:\CutLabX\translations

Extract: qt_ar.qm... 100%

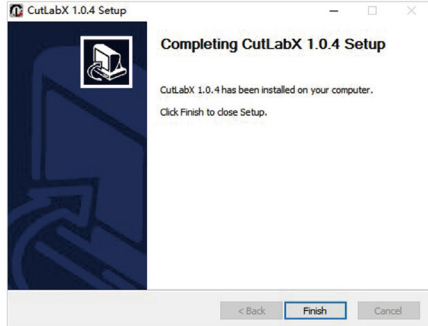
Extract: qt_bg.qm... 100%

Extract: qt_cs.qm... 100%

Extract: qt_da.qm... 100%

Nullsoft Install System v3.08

< Back Next > Cancel



Completing CutLabX 1.0.4 Setup

CutLabX 1.0.4 has been installed on your computer.

Click Finish to close Setup.

< Back Finish Cancel

5 Double-click CutLabX installation

6 Select the installation location and click "Install"

7 Installation process


8 The installation is complete

Tip:

CutlabX installation processes, such as pop-up antivirus software or housekeeper prompts the risk, please choose to allow the program all operations, CutlabX file is a Win system installation package if it is misjudged as a suspicious file, that is, the successful completion of the software installation!

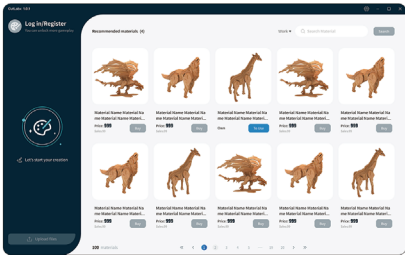
4. Online Operation:

Double-click on the software icon - enter the home page, click on the beginning of the creation - select the appropriate com and connect - connected to the machine successfully!



CutLabX

1 Double click the software icon

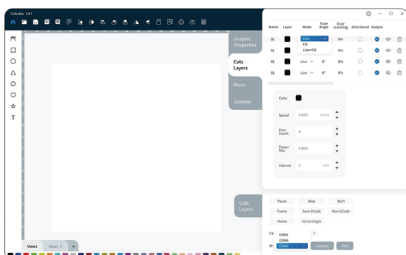


Log In/Register

Recommended Controllers (15)

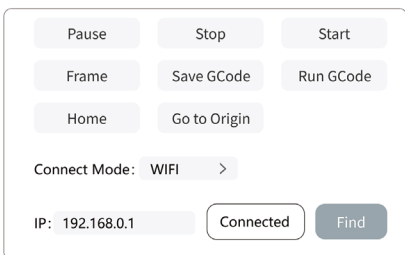
Go to the home page and click to start creating

2



Choose the appropriate port and connect

3



Pause Stop Start

Frame Save GCode Run GCode

Home Go to Origin

Connect Mode: WIFI >

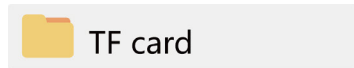
IP: 192.168.0.1 Connected Find

Shows that the connection is successful

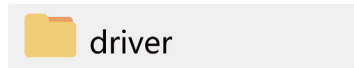
4

05 Software Download and Installation on PC

Mac Driver Installation



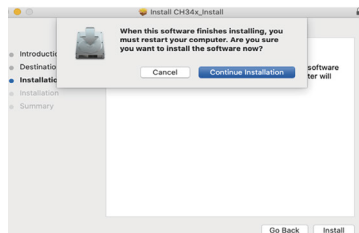
1



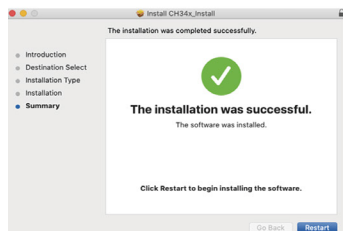
3



3 Click to continue



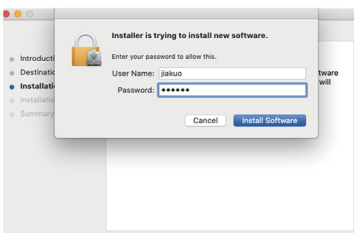
5 Click to continue the installation



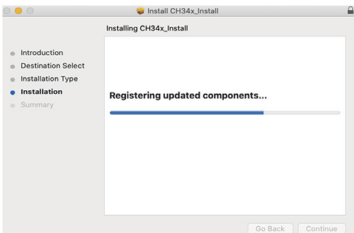
7 Complete the installation



2



4 Enter the computer password



6 Continue the installation


1. Path to Install Driver:

Path to Install Driver: Enter the USB flash disk and double-click the folder: **02_MAC /driver/**

Note: The software can be installed after the river has been installed.


05 Software Download and Installation on PC

Mac software installation and online Introduction




TF card

1




02_MAC

2



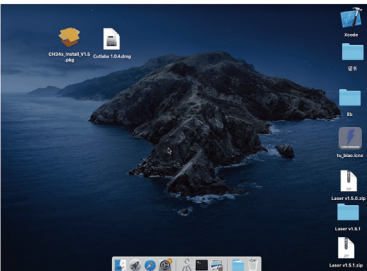
software

3

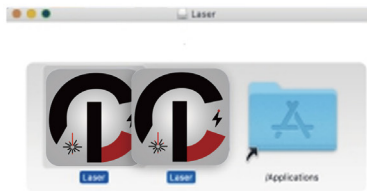


CutLabX


4



5 Double click the software icon



6 Left click the icon and drag into the Applications folder in the right



7 Complete installation

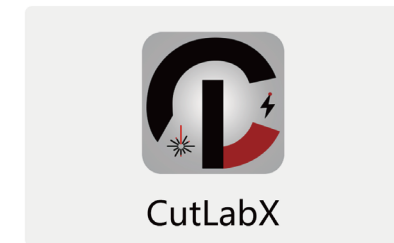
2. Path to Install Software:

Enter flash disk and double click the folder:

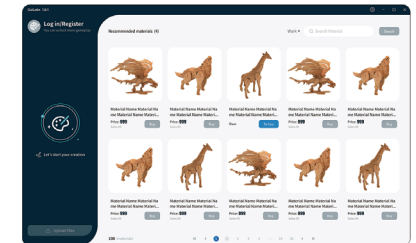
02 MAC/software/CutLabX/move software icon to the right/ complete installation

3. Online Operation:

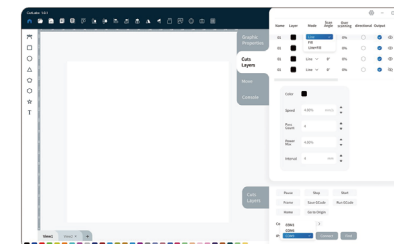
Double-click on the software icon - enter the home page, click on the beginning of the creation - select the appropriate com and connect - connected to the machine successfully!



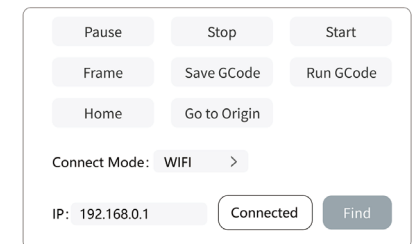
1 Double click the software icon



2 Go to the homepage and click to start creating



3 Choose the appropriate port and connect



4 Shows that the connection is successful

06 Software Download and Installation on Mobile Phone

Software Download and Installation:

Method 1: APP download URL: <https://www.cutlabx.com>

Method 2: Scan the QR code to download.



Web Download

Note:

1. For Android system, open the browser to scan the QR code to download;
2. Corresponding authority should be permitted after successful installation.

07 Mobile Phone Connection

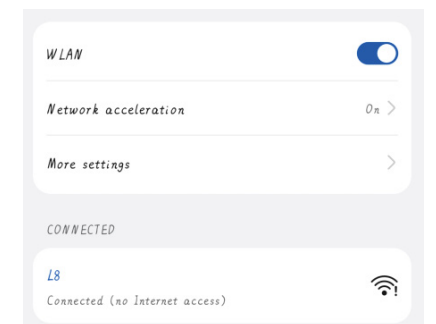
Note: After the mobile phone successfully connects to the machine, the phone has no network.

1. Instructions for connecting the phone to the machine: Default WiFi.

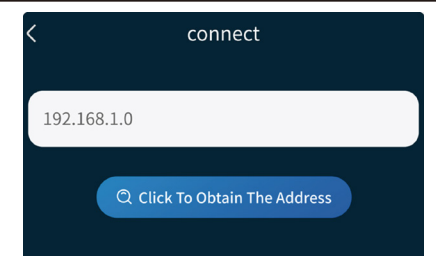
Turn on the power of the machine and turn it on.



Turn on the WLAN on the mobile phone, find the WIFI signal named L8, and the password is 12345678.



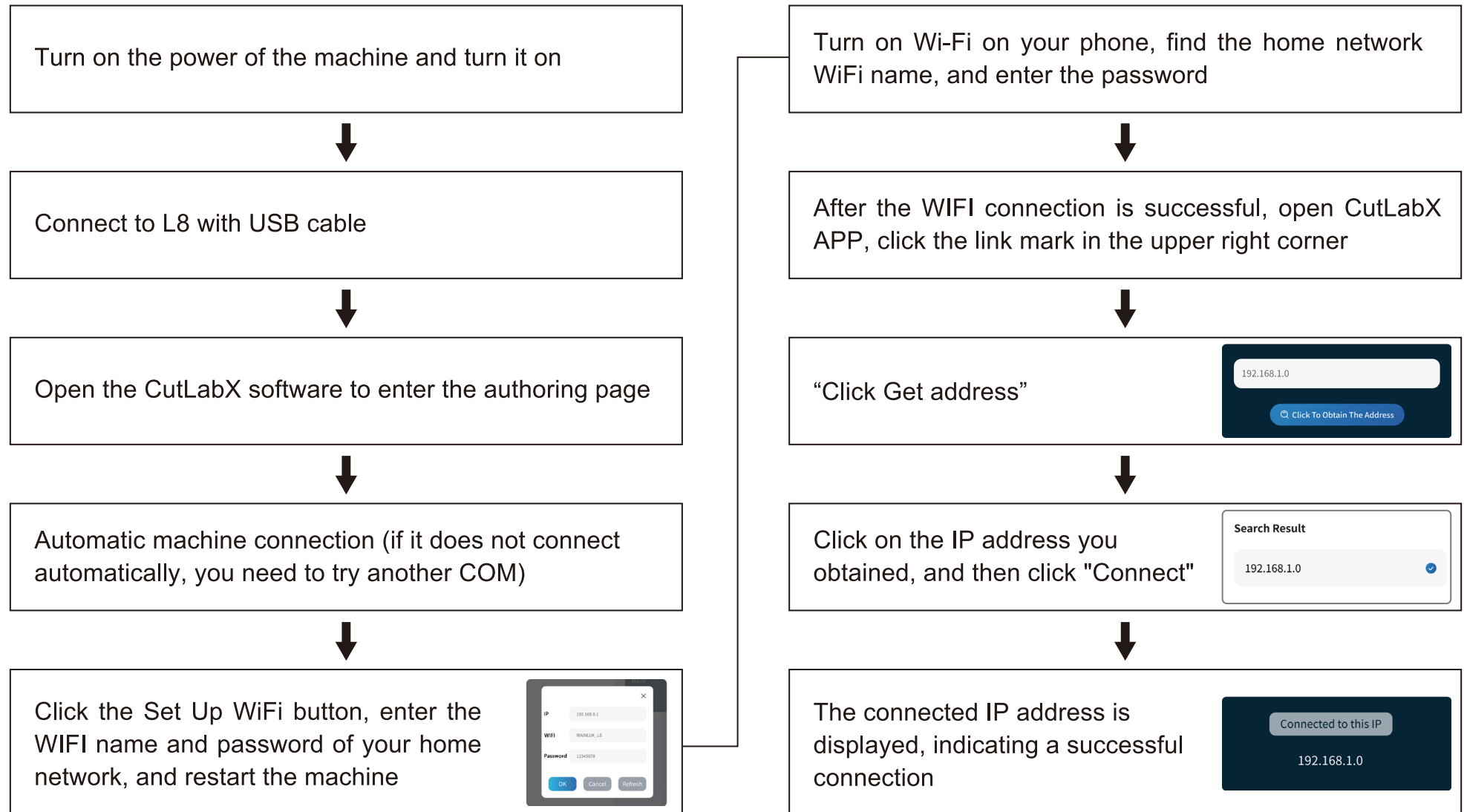
After the WIFI connection is successful, open CutLabX APP, click the link mark in the upper right corner, enter 192.168.0.1 in the IP address, and click Connect to complete the connection.



07 Mobile Phone Connection

Note: After the mobile phone successfully connects to the machine, the mobile phone can access the Internet normally.

2. Mobile phone connection machine instructions: home network.



07 Computer Connection

Note: Install the driver according to the computer system (please refer to the driver installation instructions).

3. Instructions for connecting the computer to the machine via USB.

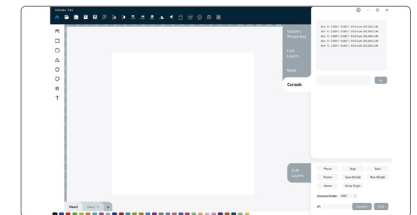
Turn on the power of the machine and turn it on.



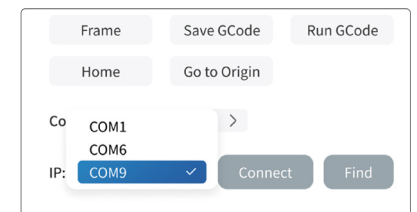
Connect to L8 with USB cable



Open the CutLabX software to enter the authoring page



Automatic machine connection (if it does not connect automatically, you need to try another COM)



08 Frequently Asked Questions

QUESTIONS TYPE	FAQ	SOLUTION	
Machine Related Questions	How large format can the L8 laser engraving machine engrave?	20W	40W
		400mm*400mm	390mm*390mm
	What type of laser source is the machine? What is the laser power?	Belongs to semiconductor lasers, the laser power is 20W/40W levels.	
	What will happen if the machine is powered off during work?	When the power is cut off during the engraving task the laser head will stay in place. When the power is turned on again, the machine will be initialized and will not continue to perform the original task.	
	Why can't the pattern be engraved at all (or the engraving is very shallow)?	The imported picture should be clear, and the color should not be too light; make sure that the focus is normal before engraving and the power, speed and times are set appropriately.	
	What should I do if the pattern engraving is incomplete (or the depth is inconsistent)?	Please ensure that the object to be carved is flat and that the machine is level, and that it has been adjusted normally according to the operating methods in the user manual.	
	How does the L8 laser engraving machine focus?	Place the material on the stage, lower the left knob to focus, and lock it after the focus is completed.	
	Is the working platform damaged during laser engraving?	During engraving or cutting, the laser may penetrate the object and leave marks on the work surface. Be sure to place an object that the laser cannot penetrate under the engraved object, such as: stainless steel plate, aluminum alloy plate, etc.	

08 Frequently Asked Questions

QUESTIONS TYPE	FAQ	SOLUTION
Machine Related Questions	When engraving offline, why can't engraving be started even after pressing the button on the control box?	<p>Make sure there are engraving files in the root directory of the TF card, and the TF card is inserted.</p> <p>Notice:</p> <ul style="list-style-type: none">a. The machine reads the engraving file with the latest modification date in the root directory of the TF card by default. It is recommended to delete other irrelevant files in the root directory.b. The file can only be generated by LightBurn software, and the compatible format is gcode. If gc is generated by default, please manually modify the file suffix to gcode.
	Why does the machine not respond after being powered on?	<ul style="list-style-type: none">a. Check whether the power plug at the machine end is inserted in place.b. Check the electrical status of the power socket.c. Check whether the power switch on the machine and the magnetic door are closed.
	Why can't the machine connect to the computer after it is powered on?	<ul style="list-style-type: none">a. Reinstall the driver, the driver display has been installed, which means the driver is OK. When the the driver display is pre-installed, you need to check whether it is the original wiring or not connected to the machine. Please use another port on the computer.b. Is the port selection correct? Some computers will have 2 ports when connected. Please ignore com1 and choose another com port. (The port number of MAC must start with Wchusbserial to work normally)

08 Frequently Asked Questions

QUESTIONS TYPE	FAQ	SOLUTION
Machine Related Questions	Why can't the machine connect to the computer after it is powered on?	c. Close other software that occupies the com port. When you use Lasergrbl to connect, you cannot connect when you open CutLabX. You need to close Lasergrbl to use it normally. Note: In Lightburn, the machine can store multiple machine information, please select the appropriate configuration information according to the model.
	Why can't I use the mobile phone after the machine is powered on?	a. Please use the mobile phone according to the manual. b. If the connection is abnormal due to the incompatibility of the newly released mobile phone or the upgraded system, please provide a screenshot of the mobile phone configuration and contact our customer service to get technical support as soon as possible.
Engraving/Cutting Related Questions	What non-transparent materials can L8 laser engraving machine engrave or cut?	Engraving: cardboard, wood, bamboo, rubber, leather, fabric, acrylic, painted metal, plastic, etc.; Cutting: cardboard, wood, bamboo, cloth, leather, fabric, acrylic (cannot cut clear acrylic), plastic, etc.
	Can it be engraved on curved surface materials?	Yes, but the radian of the material and the engraved graphic area should not be too large, otherwise there will be slight deformation.
	Can it be engraved on reflective/transparent materials such as ceramics/glass?	Yes, but before engraving, it is necessary to coat the surface of the material with anti-reflective material (such as laser color paper, black marker pen) to ensure the engraving effect and prevent the reflected light from damaging the laser module.

08 Frequently Asked Questions

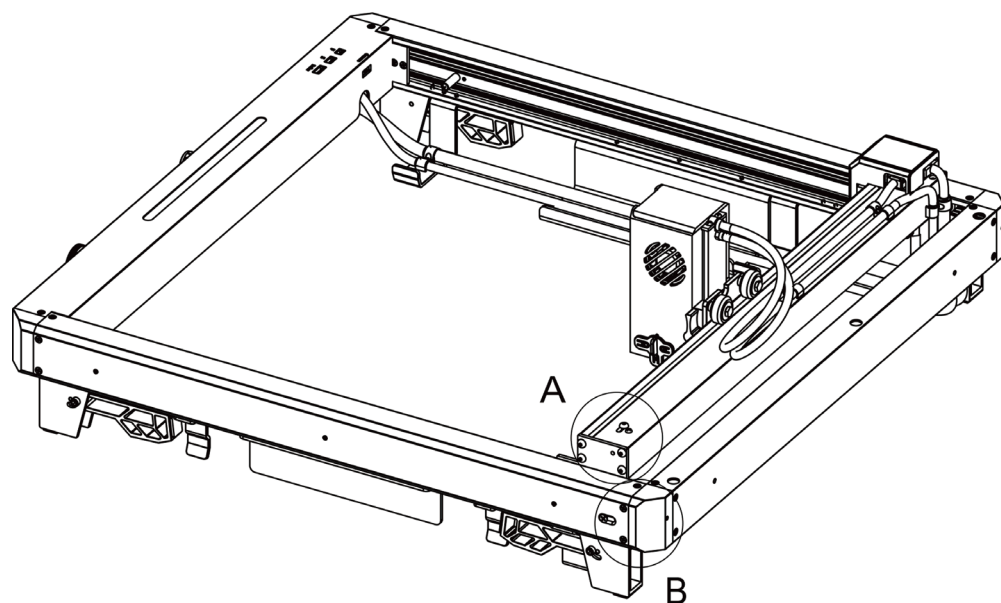
QUESTIONS TYPE	FAQ	SOLUTION
Engraving/Cutting Related Questions	Why is there a big difference in the processing effect of materials with the same material but different colors using the same G-code file?	Materials of different colors have different optical properties, and the absorption and reflection of laser energy are different. It is recommended to set different power and speed in the software when engraving materials of the same material but different colors.
	There is a lot of smoke and dust on the material after cutting, how to deal with it?	Please reduce the laser power appropriately and increase the speed.
Software Related Issues	Why can't the material be cut through?	<ol style="list-style-type: none">1. Make sure that the machine and engraving materials are parallel to the work surface;2. Make sure that the protective lens of the laser module is clean;3. Make sure to focus in the correct way;4. Confirm the material thickness again, and set it according to the recommended parameters in the random data;5. Gradually increase the number of cuts, or reduce the cutting speed appropriately.
	What software does the L8 laser engraving machine support?	LaserGRBL (Free) - Real time LightBurn (paid) - Real time/Offline 30-day trial CutLabX (Free) - Real time/Offline/Mobile When engraving in real time, pay attention to the computer not to freeze, and not to enter the standby state (do not lock the screen), so as not to affect the engraving.

08 Frequently Asked Questions

QUESTIONS TYPE	FAQ	SOLUTION
Software Related Issues	Where can I download this software?	LaserGRBL (https://lasergrbl.com/download/) LightBurn (https://lightburnsoftware.com/pages/trial-version-try-before-you-buy) CutLabX (www.cutlabx.com)
	What image formats does the software support?	LaserGRBL (bmp/png/jpg/gif/svg) LightBurn (bmp/png/jpg/jpeg/gif/tif/tiff/tga/ai/pdf/sc/dxf/hpgl/plt/rd/svg) CutLabX (AI, PDF, SVG, DXF, PLT, PNG, JPG, GIF, BMP)
	Where can I get software-related tutorials?	LaserGRBL (https://lasergrbl.com/usage/) LightBurn (https://lightburnsoftware.github.io/NewDocs/) CutLabX (In the attached U disk)

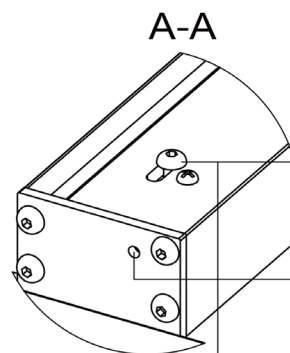
09 Maintenance and Care

X, Y Belt Adjustment



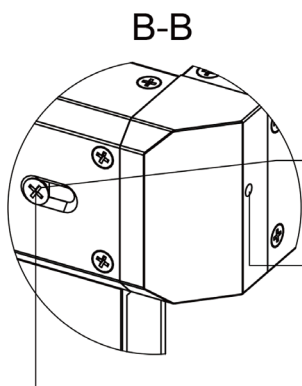
2.0 Allen wrench

2.5 Allen wrench



x-axis belt tightness adjustment:

1. Use a 2.5 hex wrench to loosen the screw counterclockwise.
2. Align the screws inside the holes and tighten the screws clockwise with a 2.0 hex wrench to make the belt reach the appropriate tightness.
3. After the belt reaches the appropriate tightness, tighten the screw clockwise.

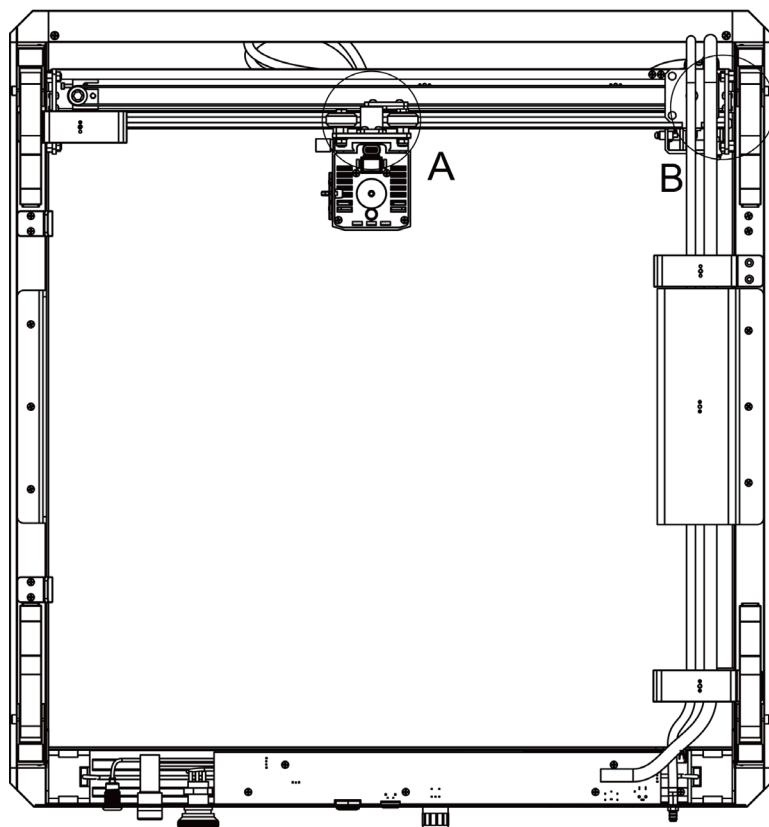


Y-axis left and right belt tightness adjustment:

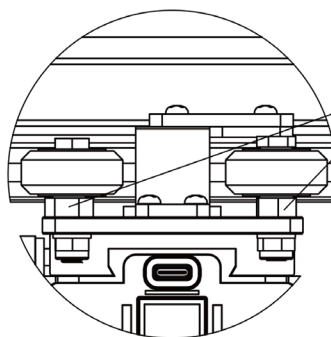
1. Use a Phillips screwdriver to loosen the screws counterclockwise.
2. Align the screws inside the holes and tighten the screws clockwise with a 2.0 hex wrench to make the belt reach the appropriate tightness.
3. After the belt reaches the appropriate tightness, tighten the screw clockwise.

09 Maintenance and Care

X, Y Synchronization Wheel Adjustment



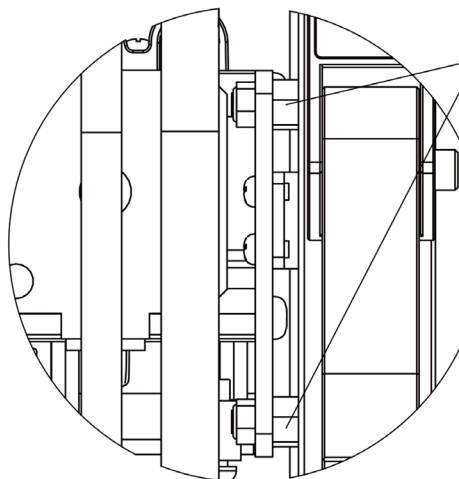
A-A



10mm open-end wrench

X-axis synchronization wheel tightness adjustment: After aligning the eccentric wheel with a 10mm open-end wrench, twist clockwise and counterclockwise until the synchronization wheel is tight and tight.

B-B

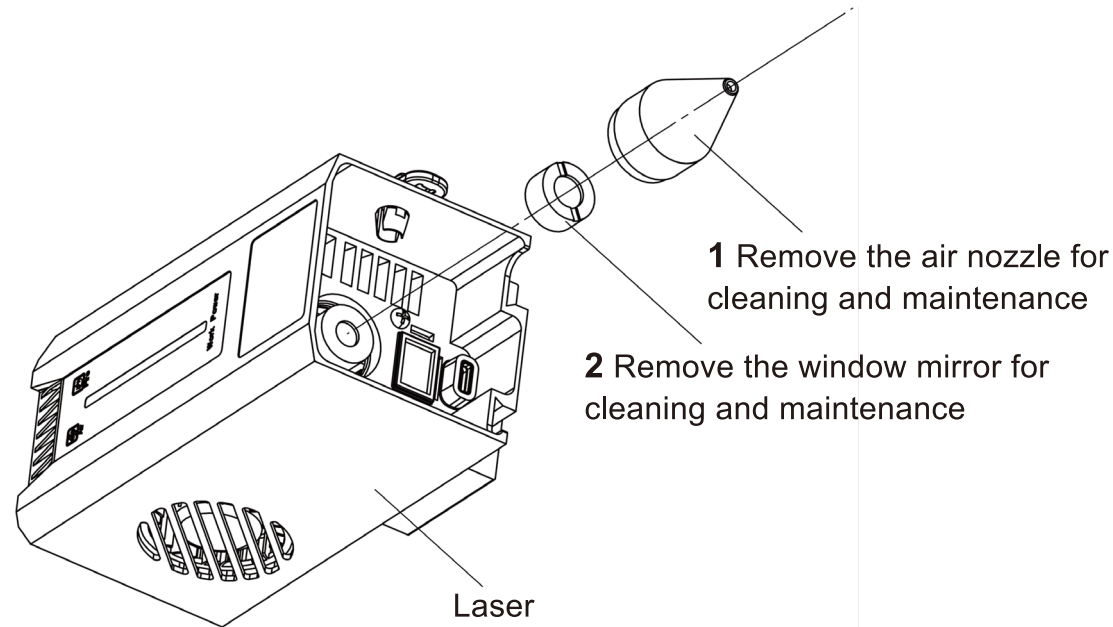


8mm open-end wrench

To adjust the tightness of the left and right synchronization wheels of the Y-axis, use an 8mm open-end wrench to match the eccentric wheel, and then twist clockwise and counterclockwise until the synchronization wheels are tight and tight.

09 Maintenance and Care

Laser Maintenance



1. Remove the air nozzle for cleaning and maintenance.
2. Remove the window mirror for cleaning and maintenance.
 - Maintain your machine here are some things you can do regularly to keep your L8 in good working order and reduce wear and tear on your engraving machine.
 - Clean the laser module lens over time, particles will be deposited on the outer lens of the laser module. This reduces the module's power output and heats the lens.
 - If you notice that your laser is having difficulty cutting materials that you previously had no problem with, it may be time to clean the lenses.
 - Remove the laser from the machine, turn the knob to the right, and gently clean the lens with a cotton swab or alcohol wipe dipped in alcohol.
 - When you are using it, please connect it to the air pump module and select the appropriate air volume level according to the required content.



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