https://www.facebook.com/groups/161445505653986

ACMER P2
LASER ENGRAVER

USER MANUAL V1.0

Acmer 3D Electronlc Technology Co., Ltd.

Thank you!
Dear friends, thank you for purchasing ACMER P2 Laser Engraver. We appreciate your approval of our products and services, and we sincerely hope that you will enjoy this product and that it will bring you joy.
If you have any problem in using it, please feel free to let us know and we will do our best to help you. You can join our Facebook group to share your ideas and can get ideas and inspirations from others. Thank you again for your support and we will continue to provide quality products and services!

Facebook Group: https://www.facebook.com/groups/1614455505653986

Facebook : https://www.facebook.com/profile.php?id=100088576630671

1.CONTENTS

2.Disclaimer and Safety Guidelines

- Laser engraving machine will produce laser light, it is strictly prohibited to point the laser at any living body.

- When using the laser engraving machine, the operator and the personnel in its vicinity must wear laser safety glasses, please do not operate the laser without wearing protective glasses (laser goggles)!

- Minors (especially children over 14 years old) must use the machine under the supervision of an adult throughout!

- engraving machine work will produce a lot of smoke, please place the machine in a ventilated environment before work, and ensure that there is no other flammable materials near the engraving machine, it is recommended to place a metal mat under the machine.

- When the machine is running, please do not touch the laser beam to avoid personal injury.

- During the engraving and cutting process, please ensure that the machine is within the visual range of the operator.

- This machine is not recommended for commercial use.

3.Machine Parameters

Machine Size	600*650*170mm
Engraving Size	420*400mm
Machine Weight	6.5kg
Focal Length	5mm
Laser Power	10W/20W/30W
Laser Wavelength	450±5nm
Laser Type	Diode Laser
Power Input	DC 24V
Communication Method	USB / APP
Compatible Software	LaserGRBL / Lightburn
Compatible Systems	MAC, Windows
Engraving Material	wood, bamboo, paper, plastic, leather, PCB board, aluminium oxide, non-reflective coating and lacquered metal, ceramic
Engraving File Format	NC, DXF, BMP, JPG, PNG, etc
Engraving Accuracy	0.01mm
Fuselage Material	Aluminum profiles

Focal Length

5mm

10W

5mm

20W/30W
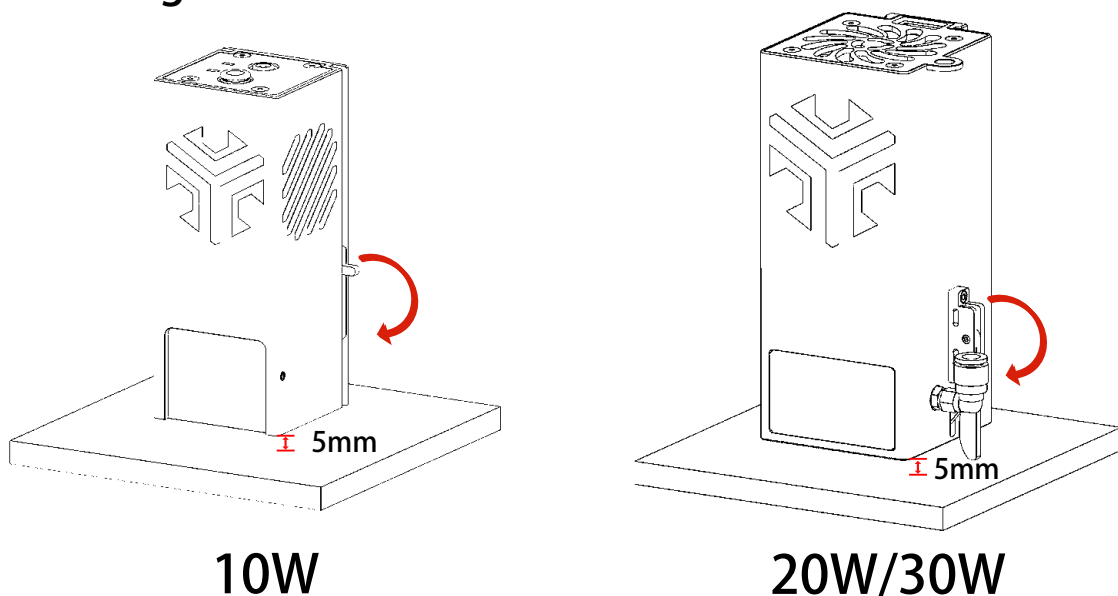
4.Machine Description
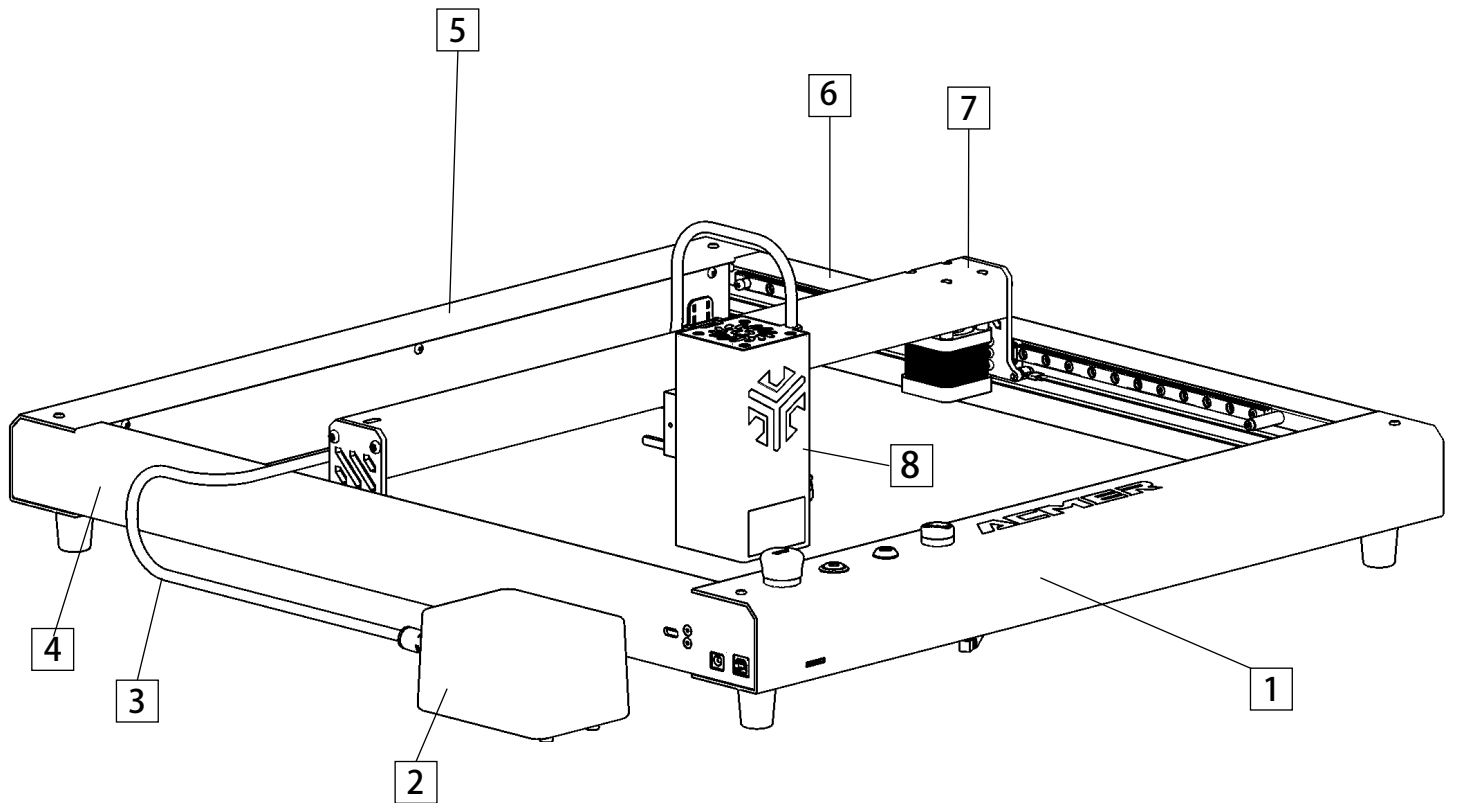
1. Front Component
2. Air Pump
3. Air Pipe
4. Left Component
5. Rear Component
6. Right Component
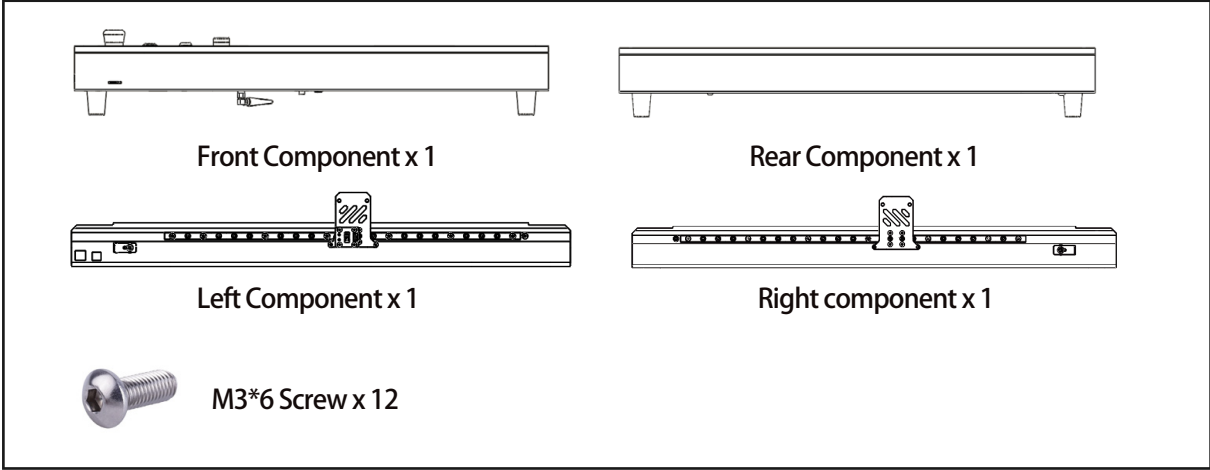7. X-axis Assembly
8. Laser Module

5.Machine List

Frame

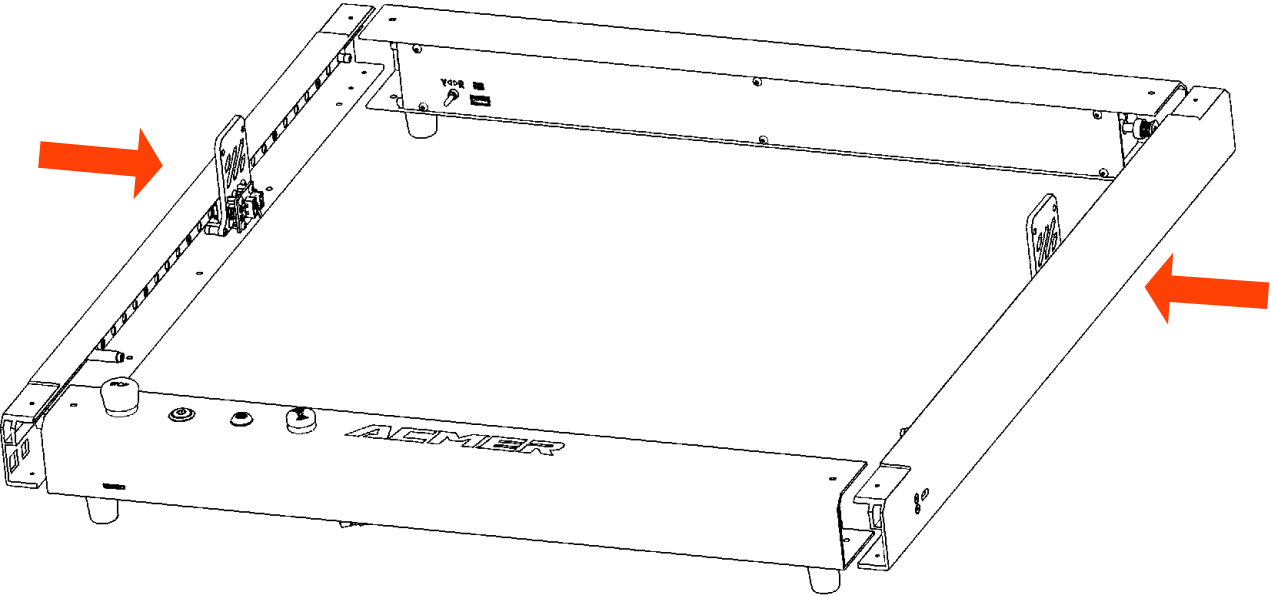|	
Front component x 1	Rear component x 1
Left component x 1	Right component x 1
X-axis assembly x 1	

Accessories

Laser Module x1	Air Pump x 1	Power Adapter x1	Belts x2
Machine Key x1	Laser Goggle x1	Card Reader+TF Card x1	USB Cable x1
Pipe Connector x1	Air Pipe x1	Circuit Group x1	Test Plank x2
Wrench x1	M3*6 Screw x12	M4*8 Screw x4	Screwdriver x4
Brushes x1			

6.Installation Steps

6.1 You will need to prepare the following sections.

Front Component x 1

Rear Component x 1

Left Component x 1

Right component x 1

M3*6 Screw x 12

6.1.1 Install the box in the direction shown and place it on a horizontal table.

6.1.2 Use M3*6 socket head cap screws to fix the profile from the top.
(Note: There is no need to lock the screws in this step, lock the screws again in step
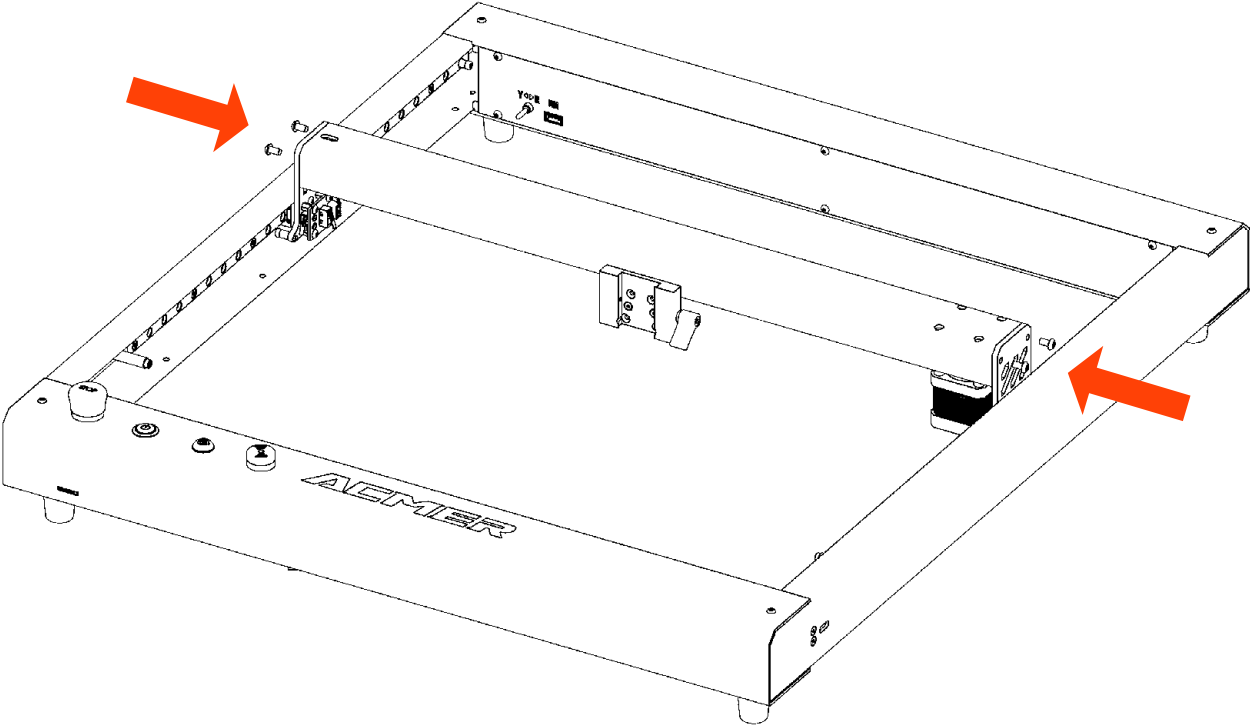6.3.3.)
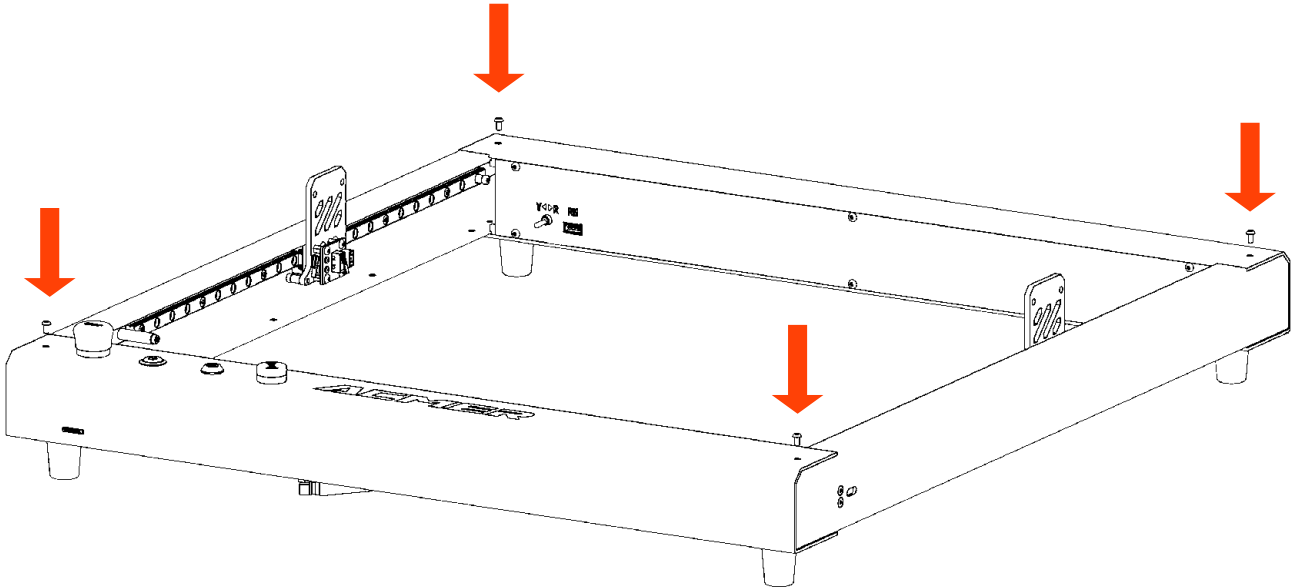
**6.1.3 Insert the right assembly to the rear assembly in the same way and
then also secure it with 3 M3X6 screws.**
(Note: There is no need to lock the screws in this step, lock the screws again in step
6.3.3.)

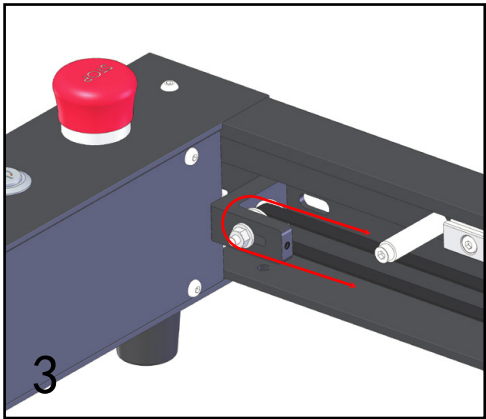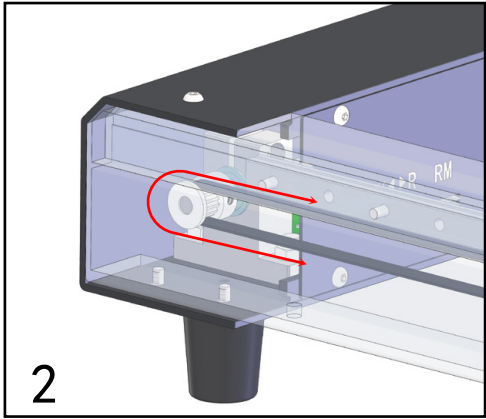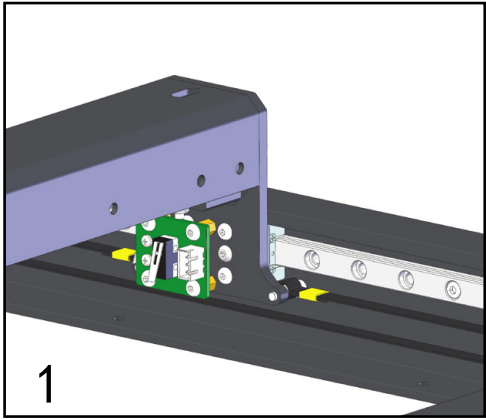## 6.2 You will need to prepare the following sections.
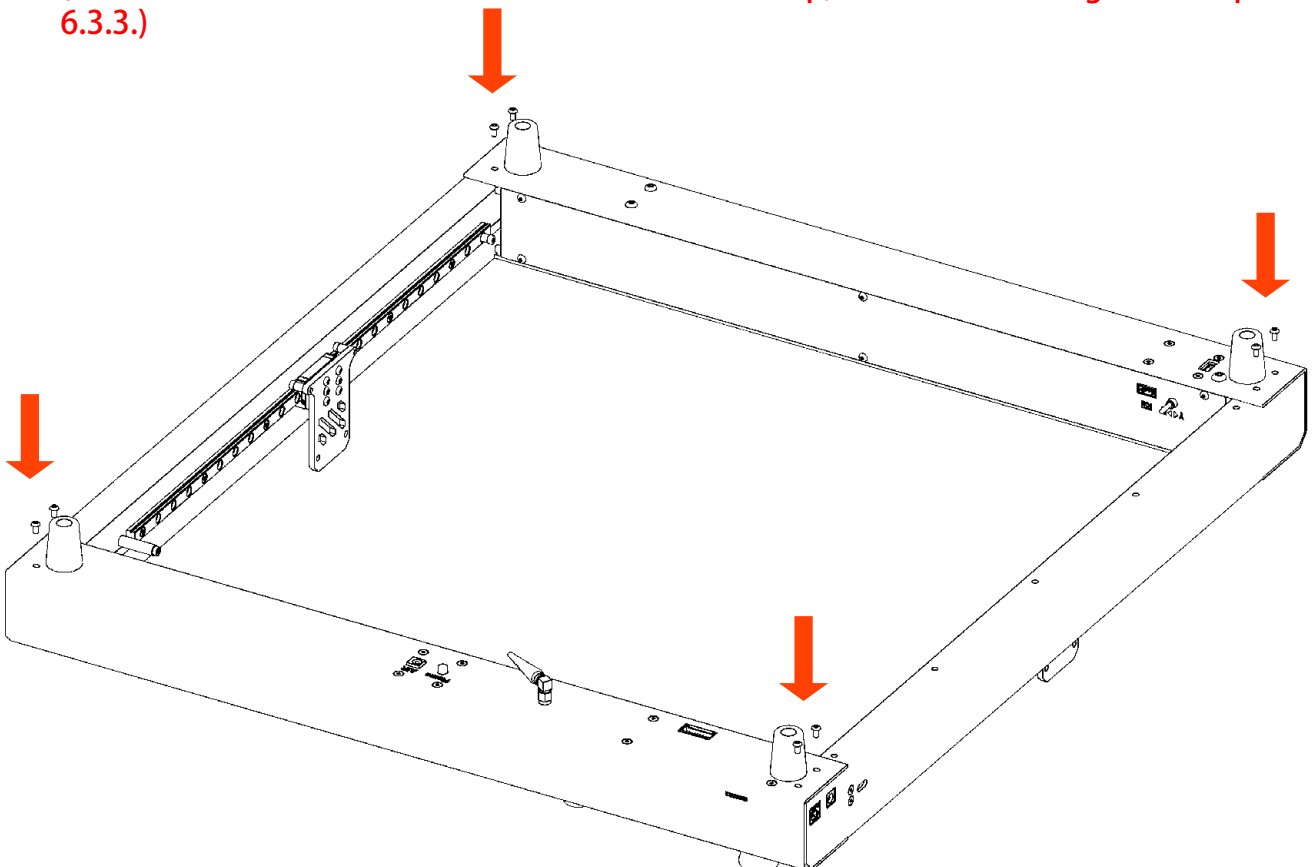
X-axis assembly x 1
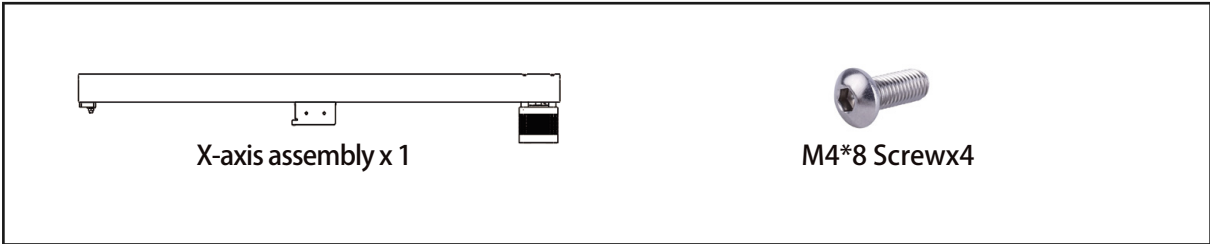
M4*8 Screwx4

6.2.1 Secure the X-axis assembly to the gantry frame using four M4*8 screws from each side.
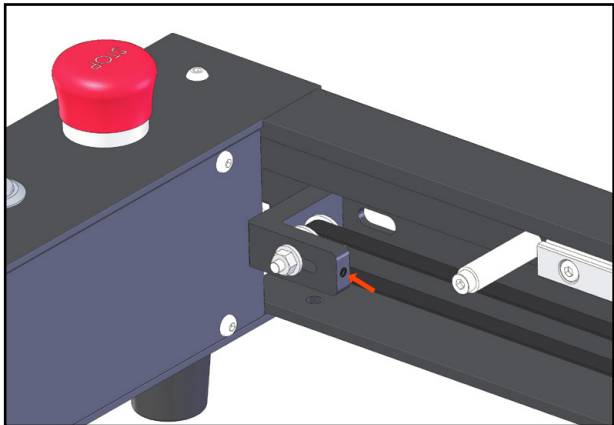
6.3 You will need to prepare the following sections.

Belt x2

Laser Module x 1
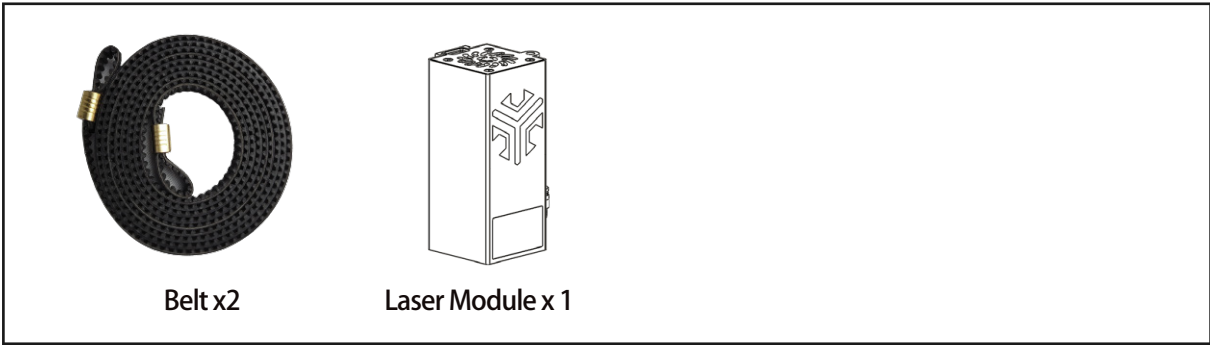
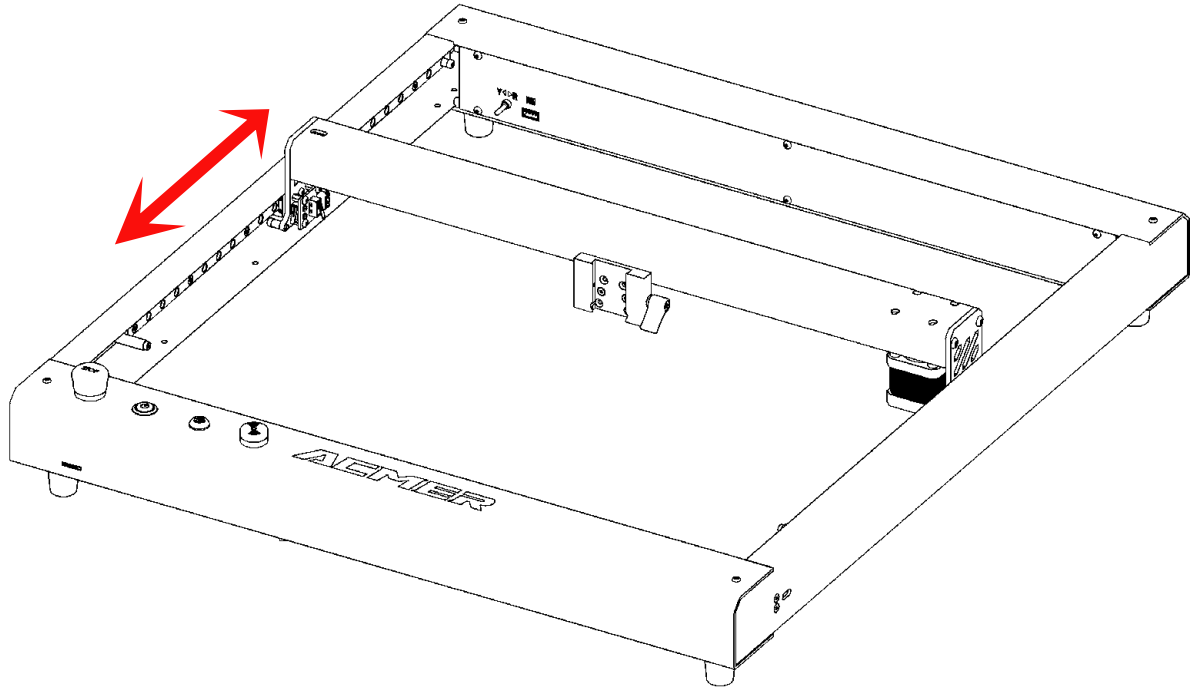## 6.3.1 Install the left and right belts.

1

2

3

4
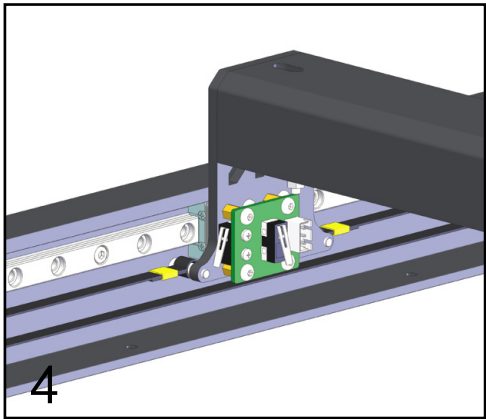
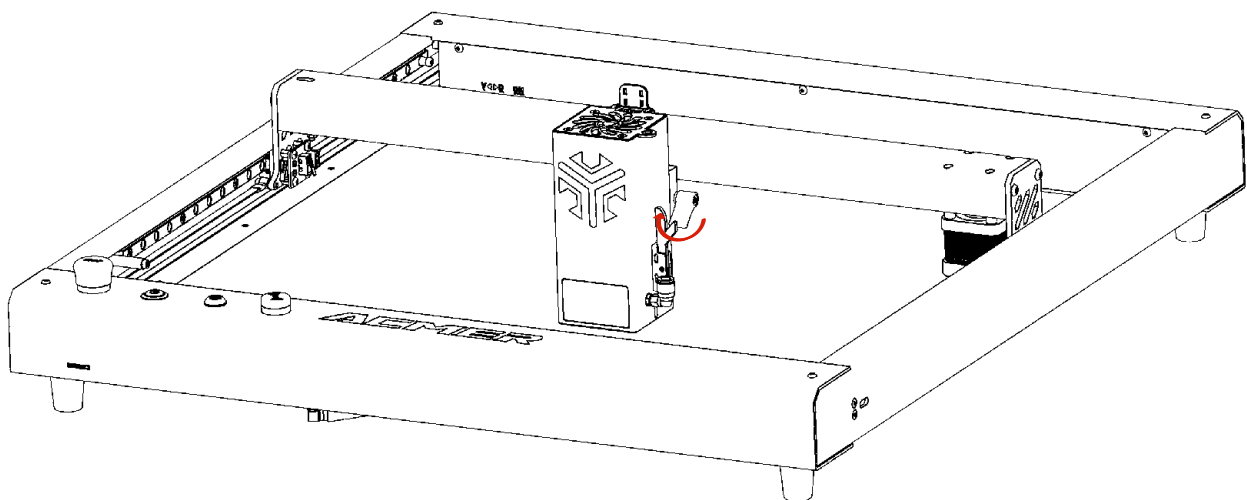## 6.3.2 Use an Allen wrench to adjust the belt tightness.

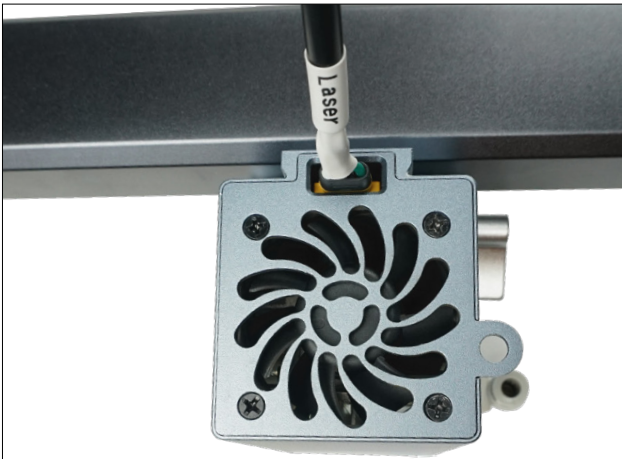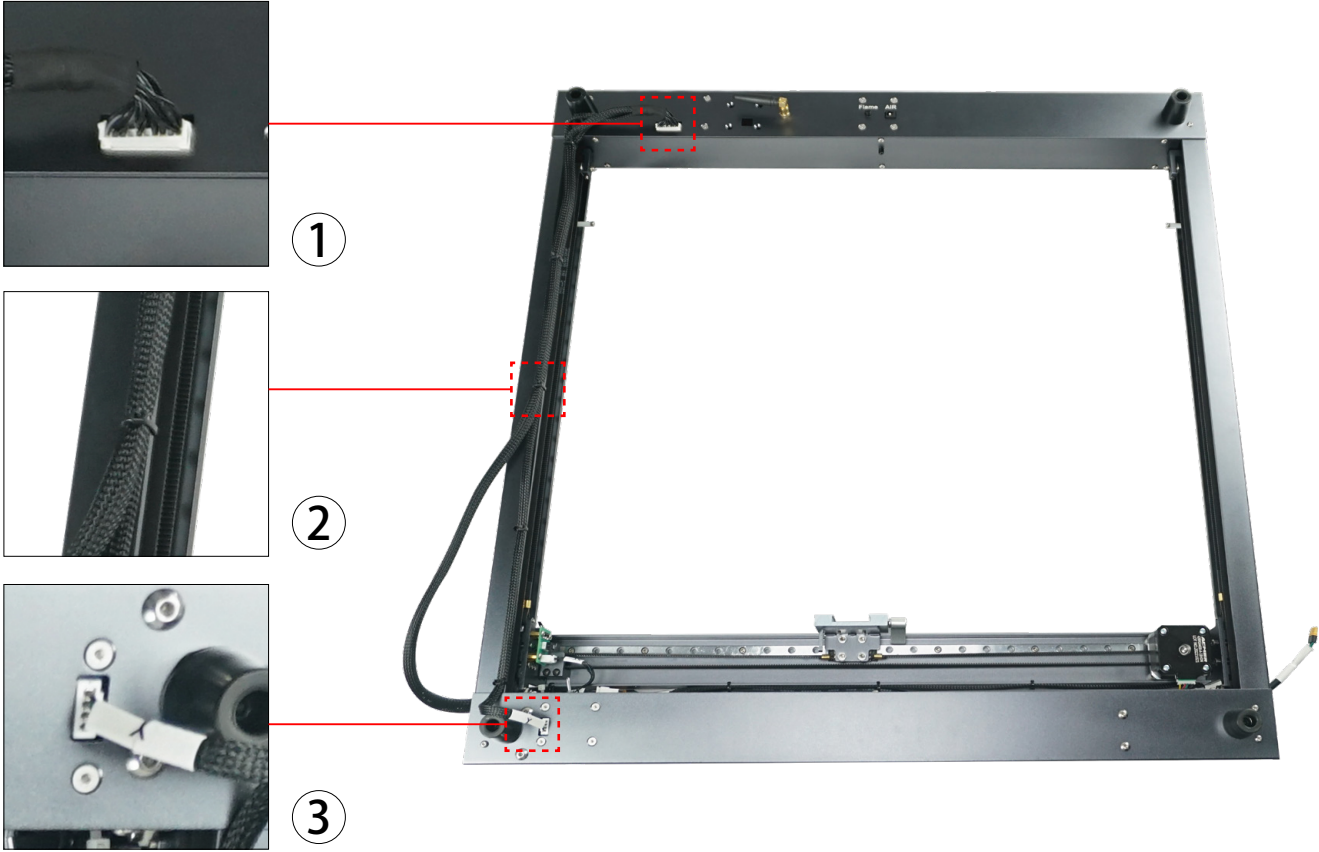Note: The left and right belt tightness needs to be consistent.

6.3.3 Slowly move the X-axis assembly back and forth to ensure smooth movement in the Y-axis direction and then lock the previously unlocked screws.

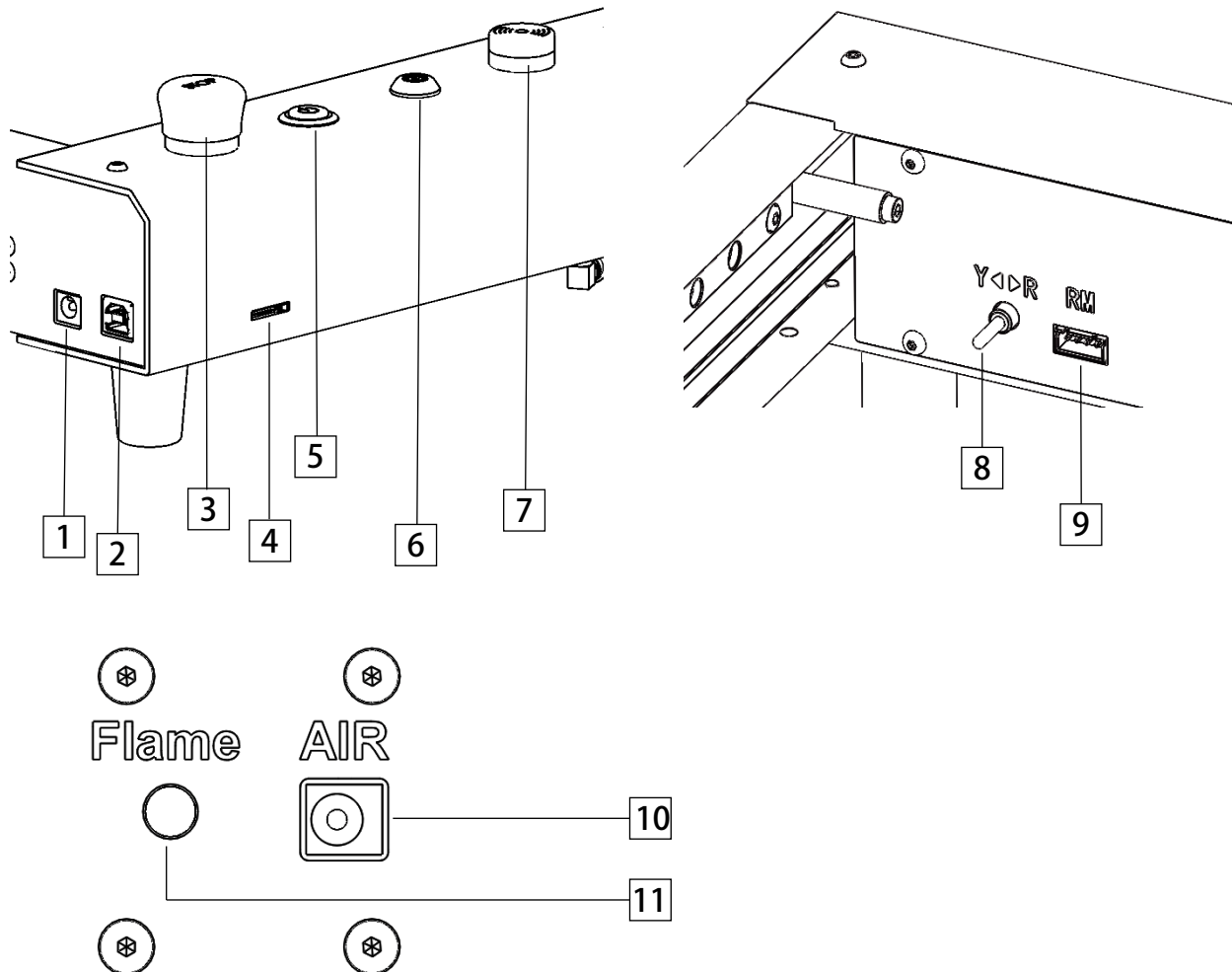6.3.4 Remove the laser module, slide it into the slide slot, and tighten the side screws to secure it.

6.4 Connecting wires

①

②

③

④

①

7.Port and Key Function Introduction

1. Power socket: input DC 24V power supply

2. USB port: communicate with computer through USB data

3. Emergency stop switch: press the emergency stop button, the machine stops working; rotate the emergency stop button clockwise, the machine resets

4. TF card holder: insert TF card, used for APP operation to store data

5. Power switch

6. Key switch: lock and unlock by key rotation

7. Buzzer: will sound and flash when open flame is detected.

8. Rotary module changeover switch: please toggle the switch to the right end when using the rotary module

9. Rotary module port: connect with rotary module

10. Air pump interface: air pump can be connected and controlled by software.

11. Flame sensor switch: turn on or off the flame detection function.

8.Software Tutorials

ACMER laser engraver supports the most popular engraving software LaserGRBL and Lightburn.

LaserGRBL is an open source, easy to use and powerful software that is perfect for novice users to use, but LaserGRBL only supports Windows systems (Win XP/Win 7/ Win 8/XP/ Win 10). For Mac users, you can choose to operate LightBurn, which is also an excellent engraving software, but it costs $40 (with a free one-month trial for the first installation), and this software also supports Windows systems.

If you want to download and install LaserGRBL, you can get the data directly from the TF card, or you can visit the official website of Laser GRBL to download; for Lightburn users, you can Lightburn official website to download.

Note: If you are using this software for the first time, please get the driver file from the TF card "Software->Drivers" file and install it.
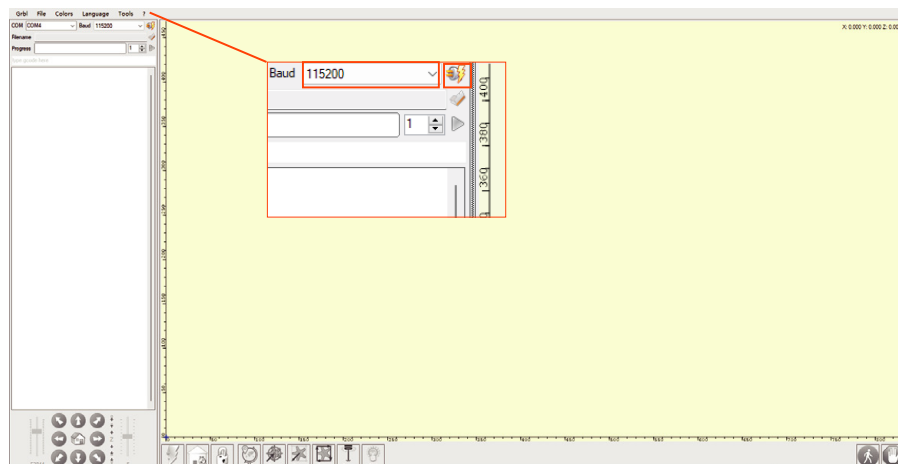

CH340SER

CH34x_Install_V
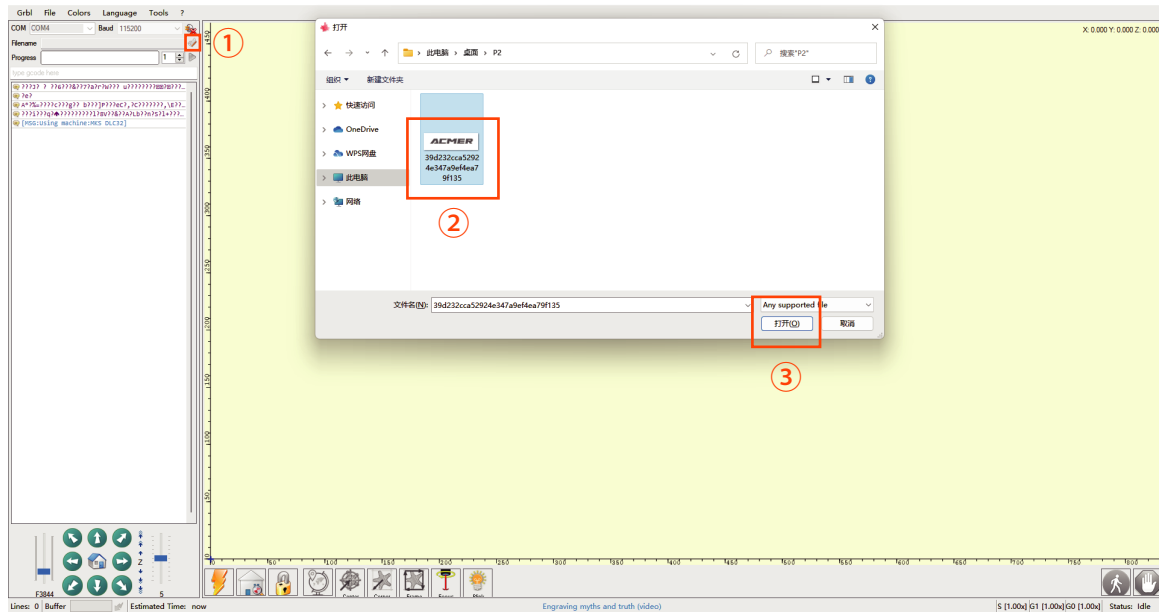1.5.pkg

8.1 LaserGRBL Tutorial

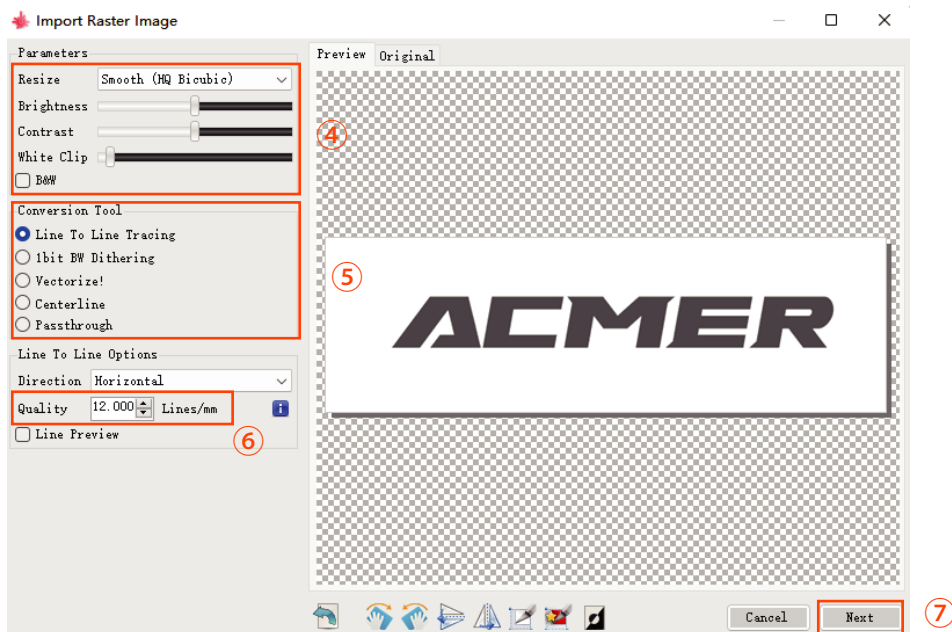### 8.1.1 Select "115200", and then click "Connect".
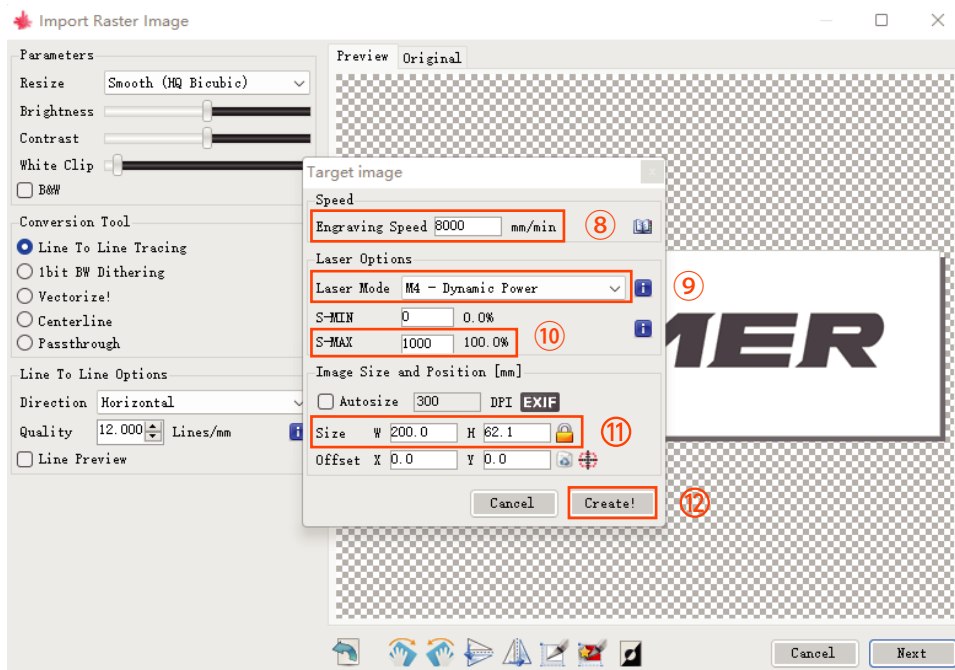

8.1.2 Click the Unlock button.

8.1.3 Start engraving


① Click the "Open File" button.

② Select the engraving file.

③ Click "OPEN".

④ Brightness, contrast, black and white limit adjustment.

⑤ Select the engraving mode.

⑥ Adjust the engraving quality (recommended quality setting is about 10).

⑦ Click "NEXT".

⑧ Select the engraving speed (suggest to refer to the engraving parameter table).

⑨ Select "Laser Mode", "M4" for engraving and "M3" for cutting.

⑩ Set the engraving power, 1000 is the maximum power.

⑪ Set the engraving size.

⑫ Click "Create".
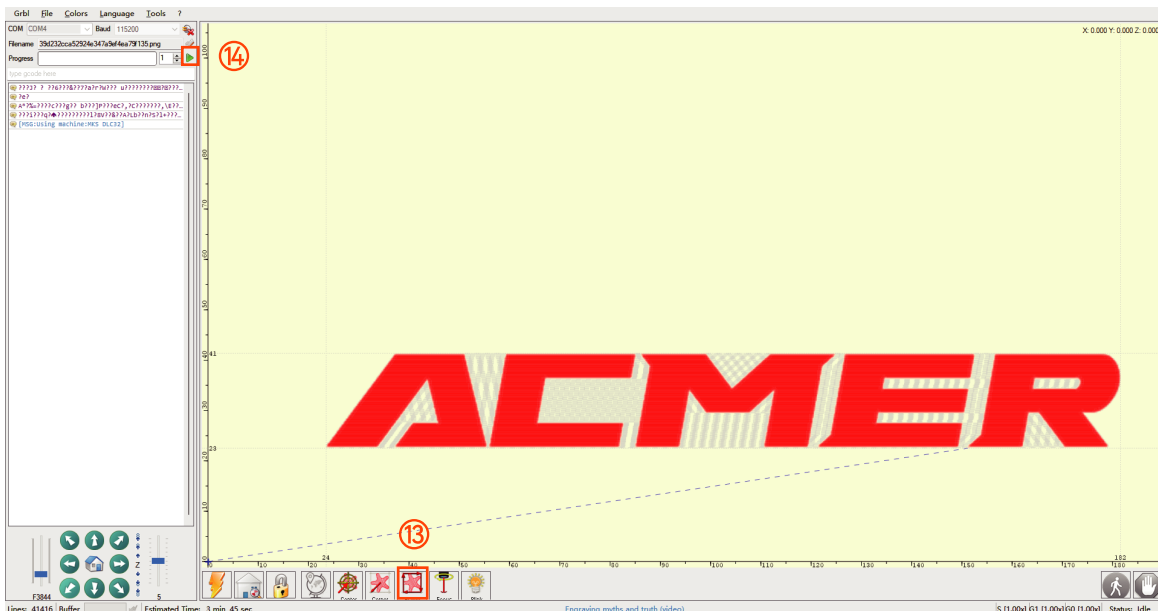
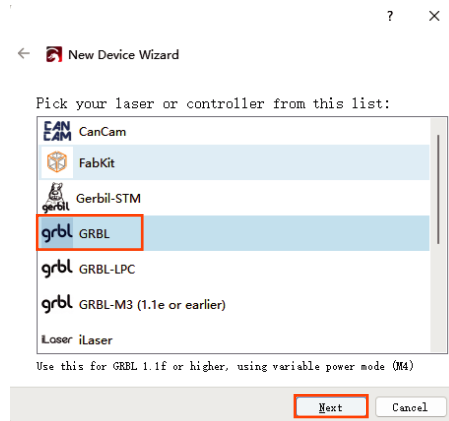⑬ Preview engraving range.

⑭ Click "Run Program" to start engraving.

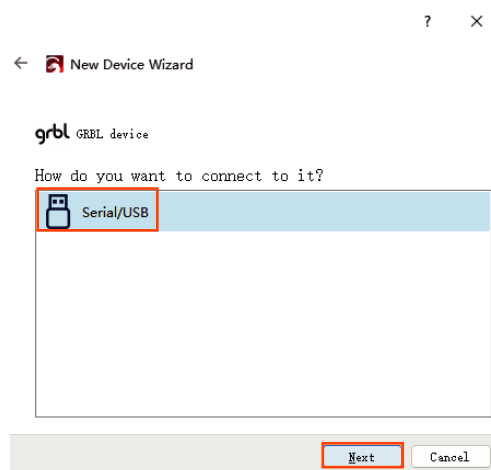## 8.2 Lightburn Tutorial

8.2.1 Connecting the machine

① Click "Devices", and then click "Create Manually".
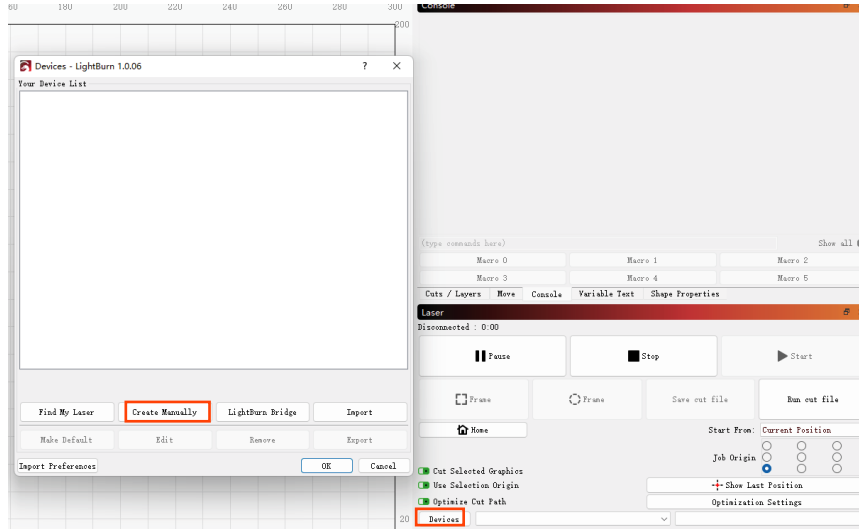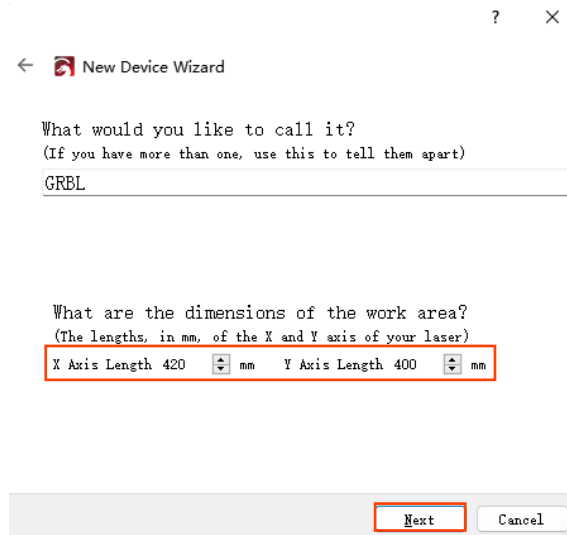

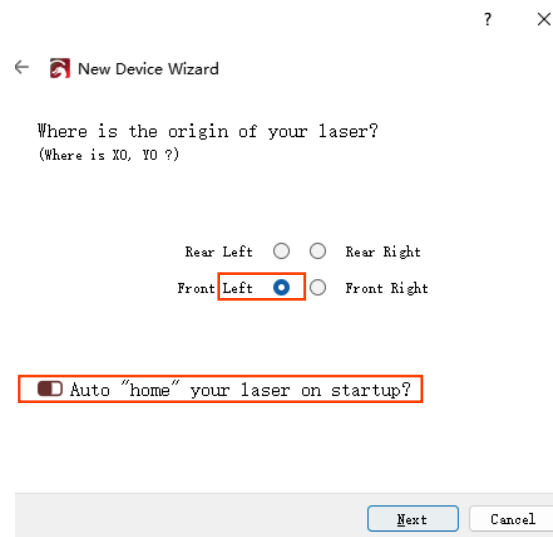② Select "GRBL" and click "NEXT".

③ Select "Serial/USB", and then click "NEXT".

④ Set the engraving range of the machine, and then click "NEXT".
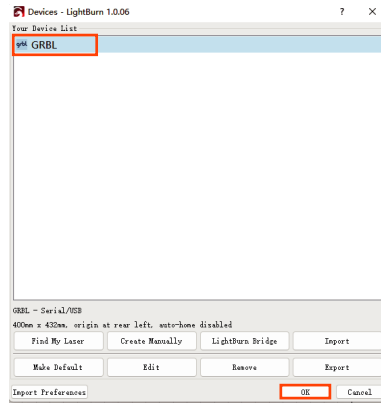

⑤ Select the origin of the machine, uncheck the box to return to zero automatically, and then click "NEXT".
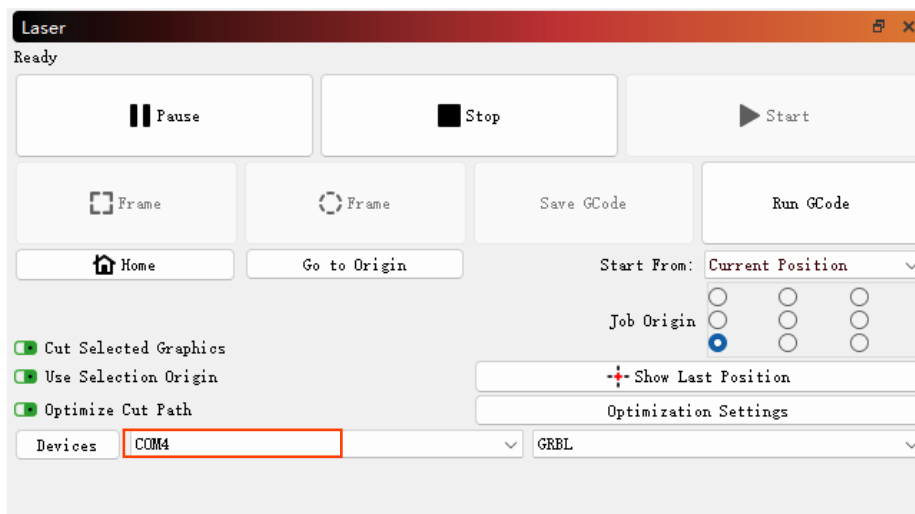

⑥ Click "Finish".

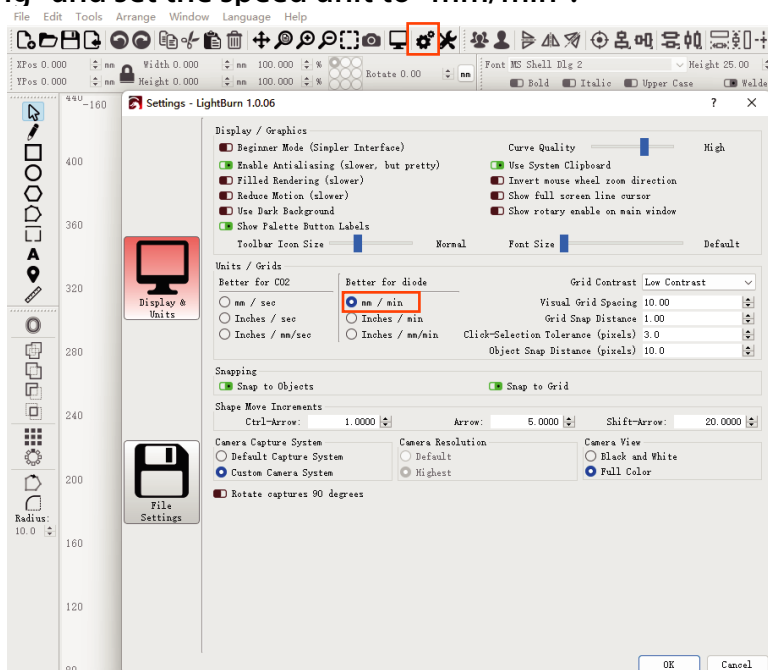⑦ Select "GRBL" and click "OK" after the meal.

⑧ Return to the main interface and select the correct port to complete the connection.
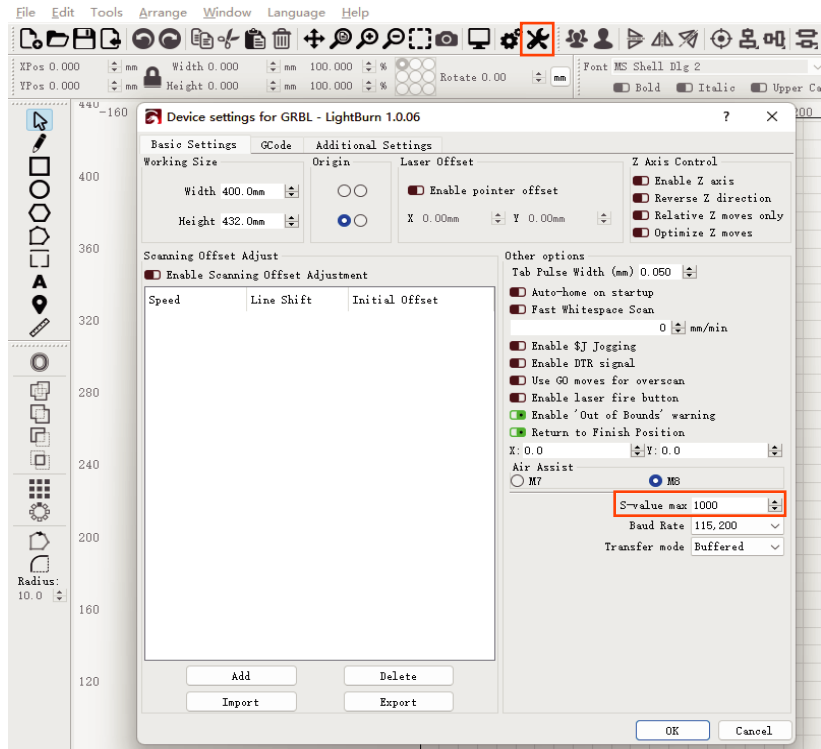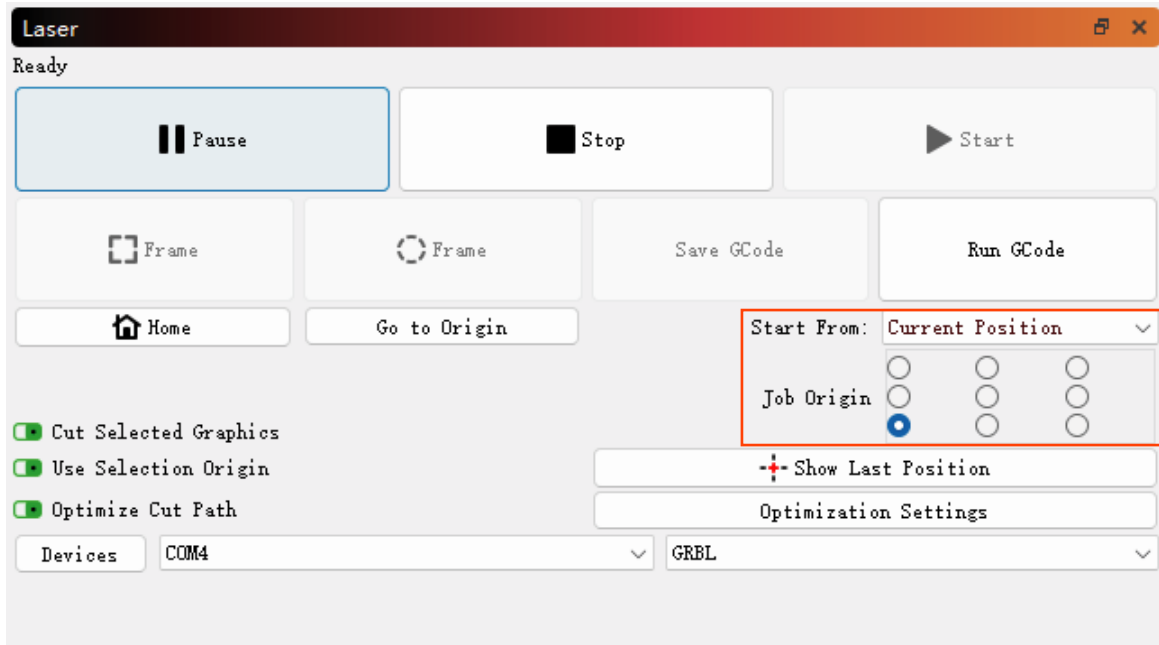

8.2.2 Software setup

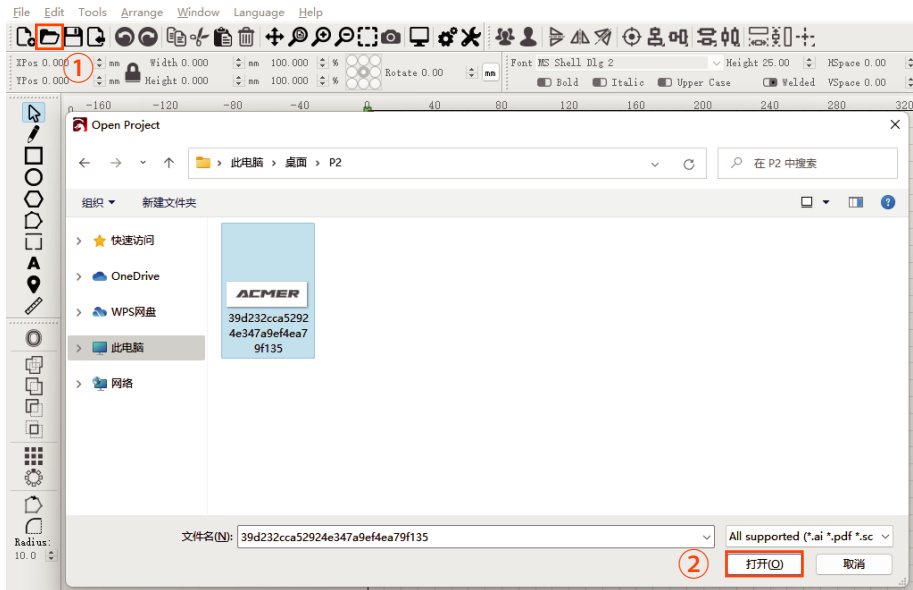① Click "Setting" and set the speed unit to "mm/min".

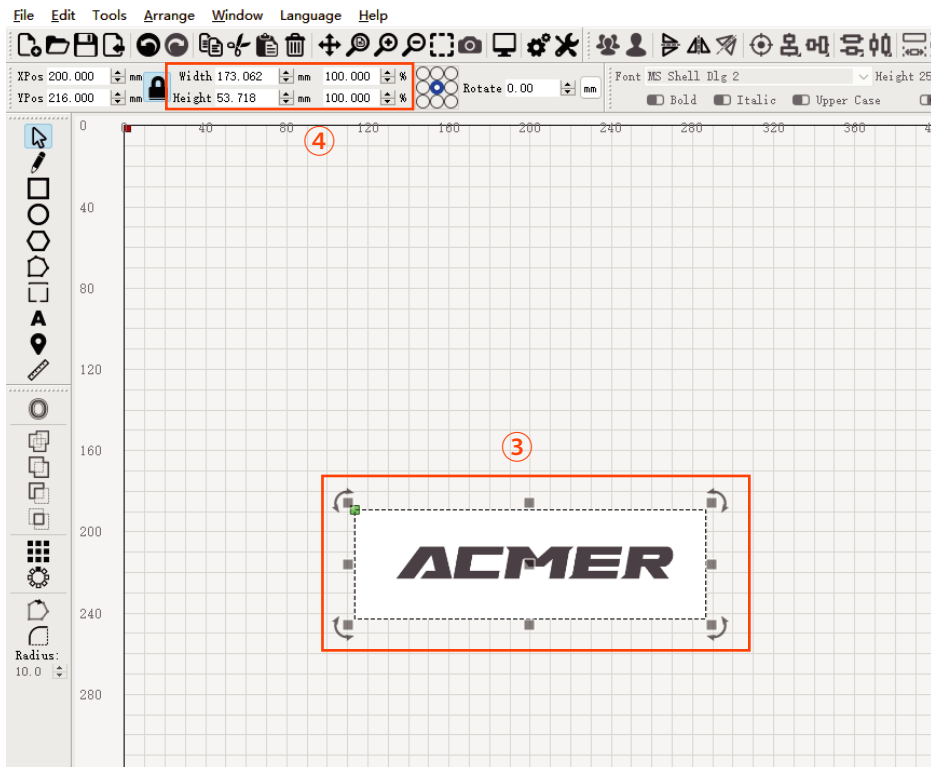② Click "Device Settings" and set the S-value max to "1000".

③ Set the machine engraving starting point as "Current Position", and set "Job Origin" to the lower left corner.
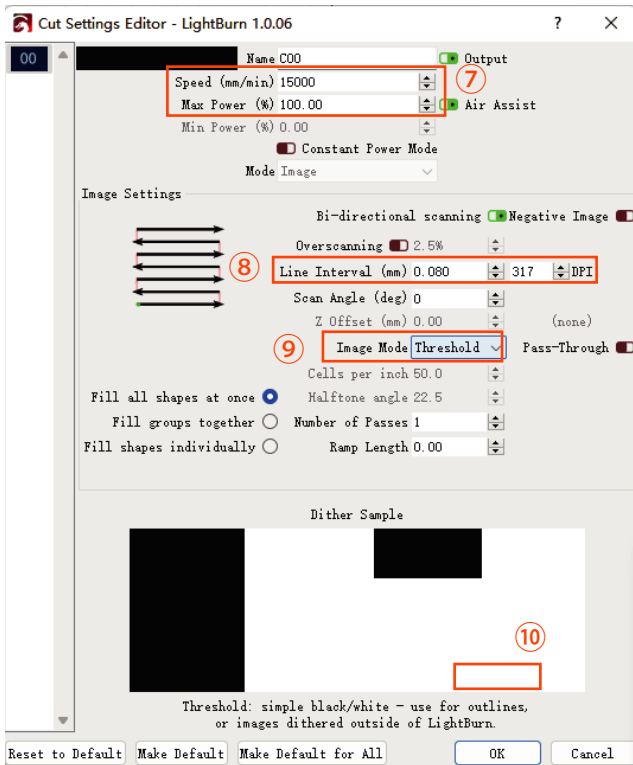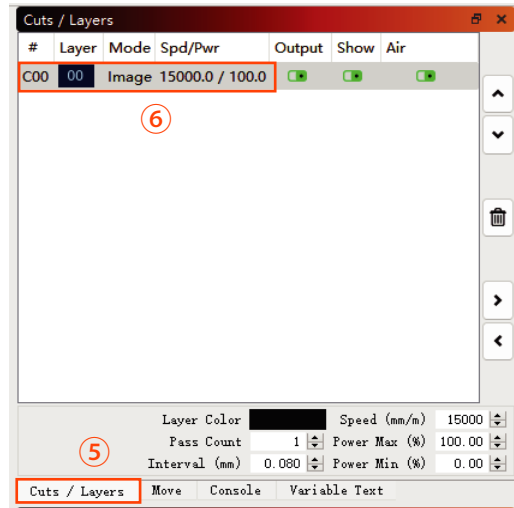
8.3.3 Start engraving

① Click "OPEN" to select the engraving file.
② Click "Open".

③ Click on the picture area.
④ Adjust the engraving size.

⑤ Select "Cuts/Layers".

⑥ Double-click the red box area.

⑦ Adjust the carving speed and carving power (suggest to refer to the carving parameter table).

⑧ Set the engraving quality.

⑨ Set the engraving mode.

⑩ Click "OK"

⑪ Click "Frame" to preview the engraving area.

⑫ Click "Start" to start engraving.
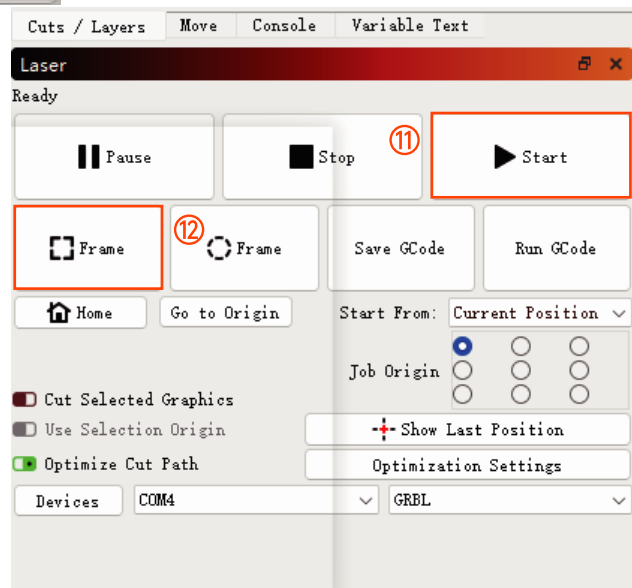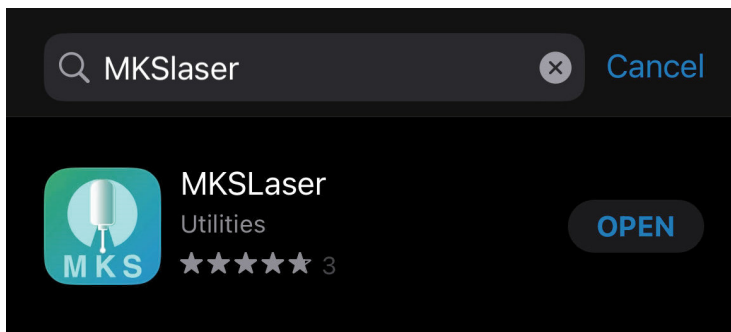
9.APP Tutorials

9.1 APP Download

Android user

- Android users can scan the QR code below or directly visit the ACMER website to download.
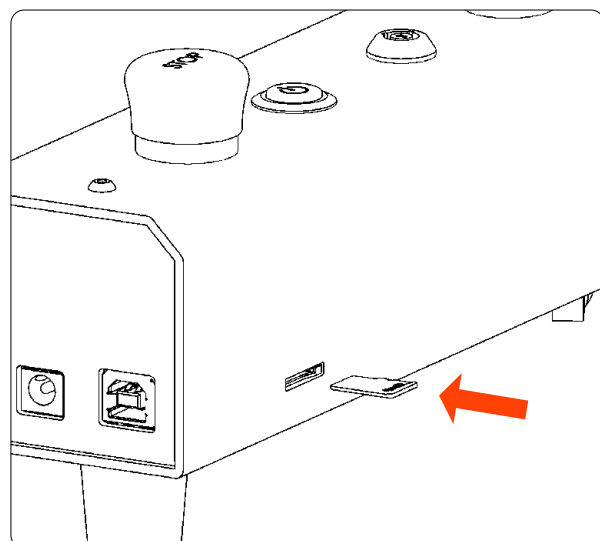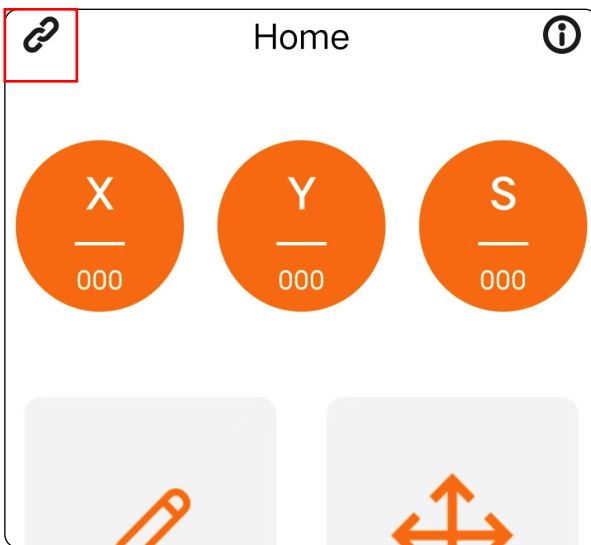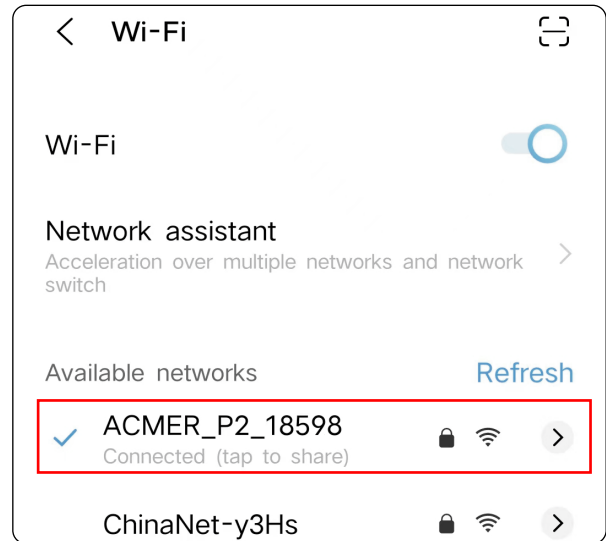

iPhone user

- Search for "MKSLaser" in App Store.

9.2 APP Connection

① Insert the TF card into the card slot.

② Power on the machine, search for the network name "ACMER_P2_" through the cell phone WIFI function, and enter the password to connect. **The initial password is: 12345678**

Wi-Fi

Wi-Fi ⬤

Network assistant
Acceleration over multiple networks and network switch ›

Available networks   Refresh

✓ ACMER_P2_18598   🔒 📶 ›
    Connected (tap to share)

    ChinaNet-y3Hs   🔒 📶 ›

Home ⓘ

X
—
000

Y
—
000

S
—
000

③ Open the mobile app and click the icon in the upper left corner.

④ Enter the IP address, and then click "CONNECT".
Note: The default IP address is "192.168.4.1", no need to change it.
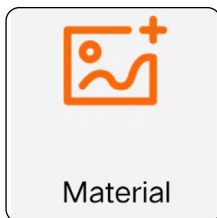
Connect

IP Address

192.168.4.1

CONNECT

SEARCH LASER

23
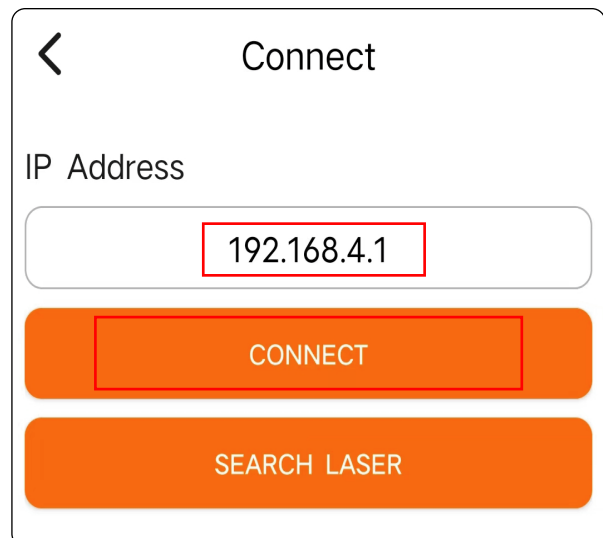
9.3 APP Function Introduction

Creation

● You can use this function for self-creation, such as doodling, writing, etc. You can also access your phone album or take photos for engraving.

Control

● This function can be used to control the machine movement and also to bring the machine back into position.
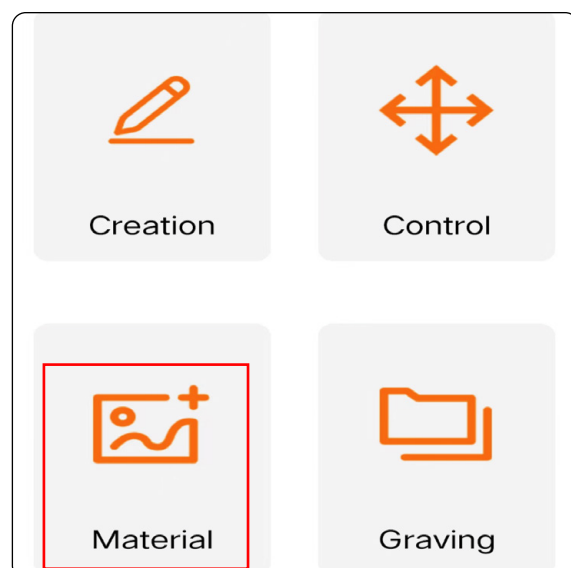
Material

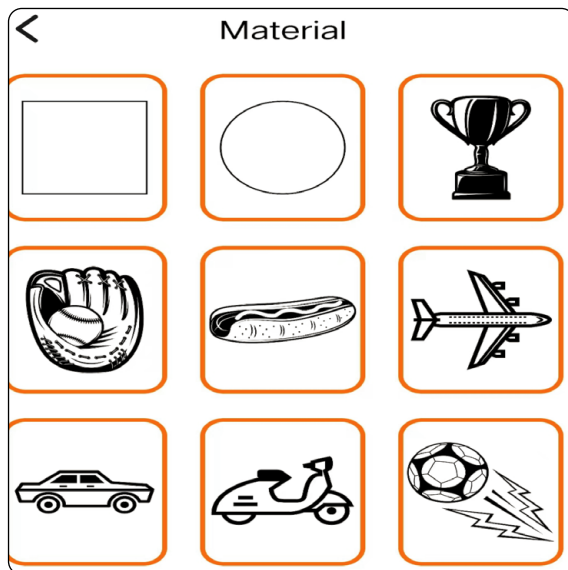● Get the material provided by ACMER for you to engrave.

Graving

● You can store the programs generated by the computer software to the TF card, and then access the files in the TF card for offline engraving through this function.
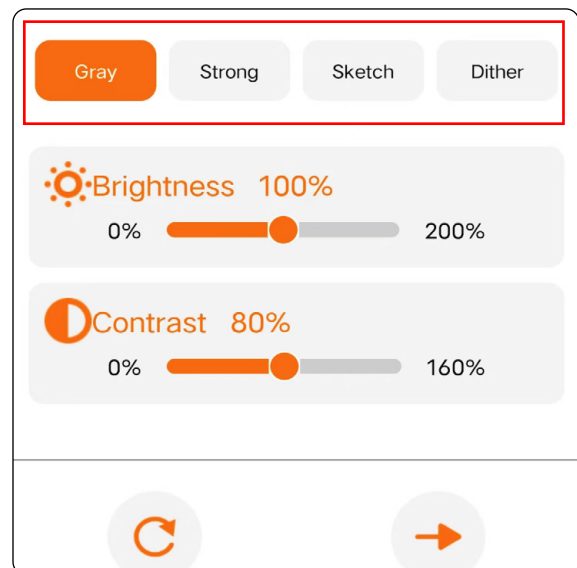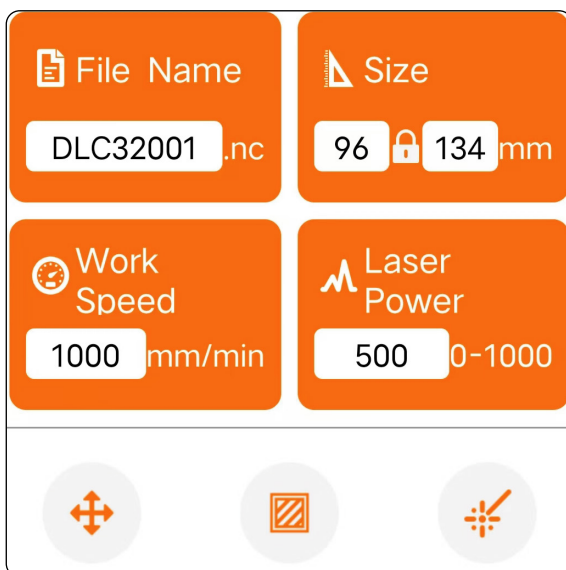
9.4 Operation Demo

① Select "Material".

Creation   Control

Material   Graving

Material

② Select the engraving pattern.

| Gray | Strong | Sketch | Dither |

Brightness 100%

0%　　　　　　　　　　200%

③ Select the engraving mode.

Contrast 80%

0%　　　　　　　　　　160%

📄 File　Name

DLC32001 .nc

📏 Size

96 🔒 134 mm

⌚ Work Speed

1000 mm/min

M Laser Power

500 0-1000

④ Adjust the engraving size and set the engraving parameters, then click the bottom right button to send the data.

💡 We suggest you set the engraving speed below 8000mm/min for better results!

Tips

Uploading54%

Cancel

⑤ Wait for sending to complete.

Tips

Upload successfully, grave it now?

Cancel Confirm
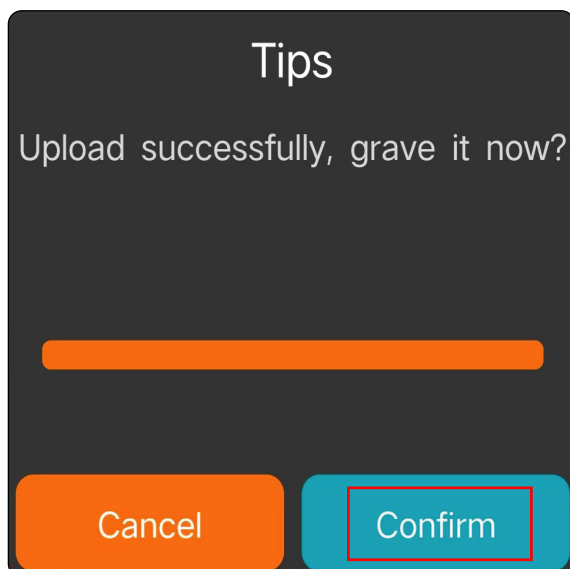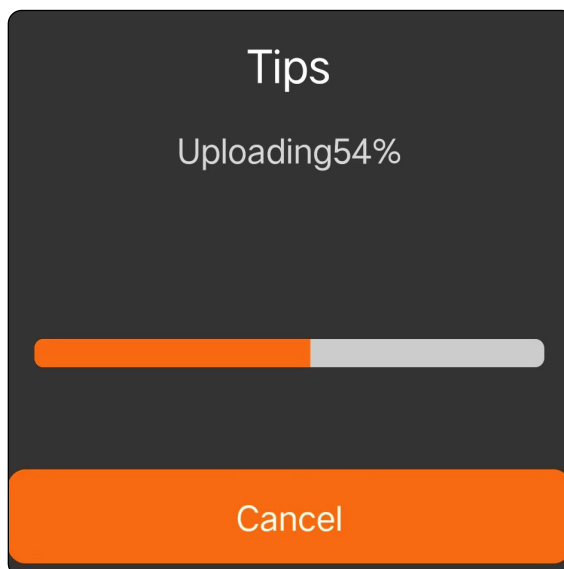
⑥ Click "Confirm" to start the engraving process.
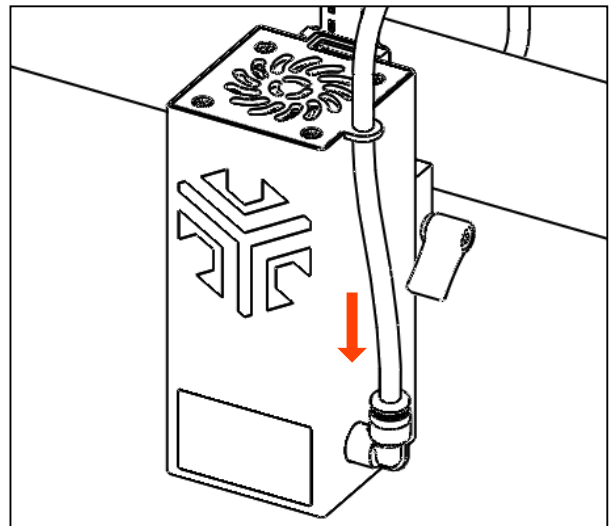
0%

DLC32001.nc
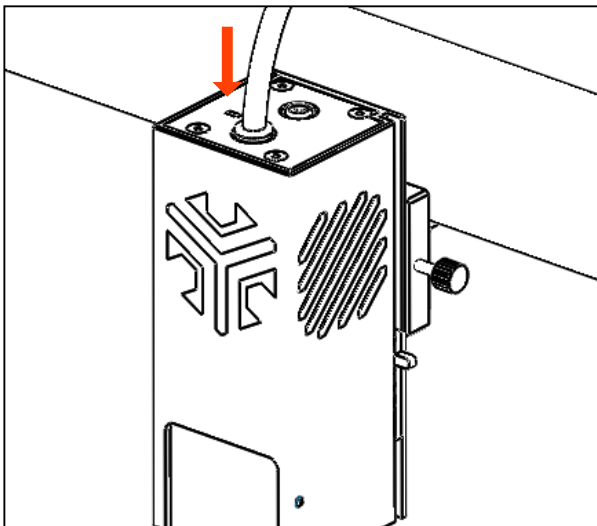
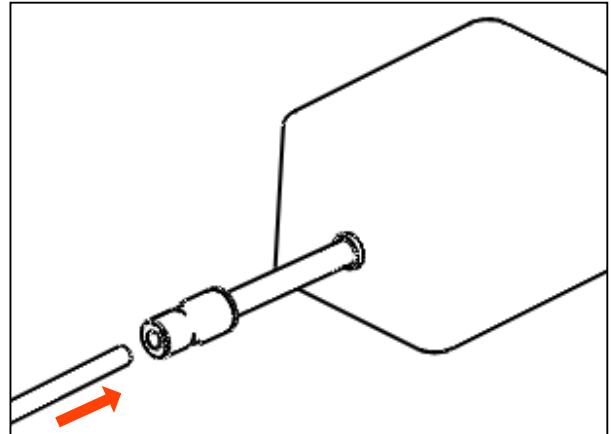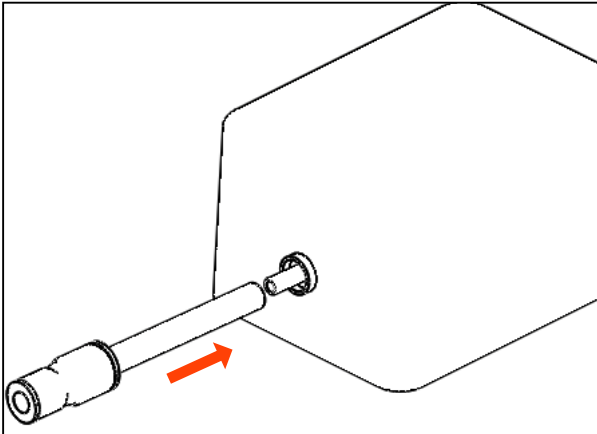X 36.260   Y 0.200

F 100%   S 100%

⑦ Wait for the carving to be completed.
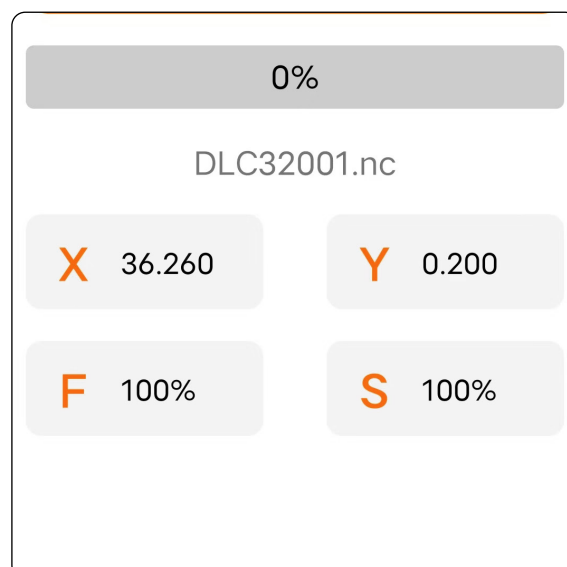
10.Air Assist

10.1 Connections

10.1.1 Connect the air pipe.

10.1.2 Connect the air pump conversion wire.
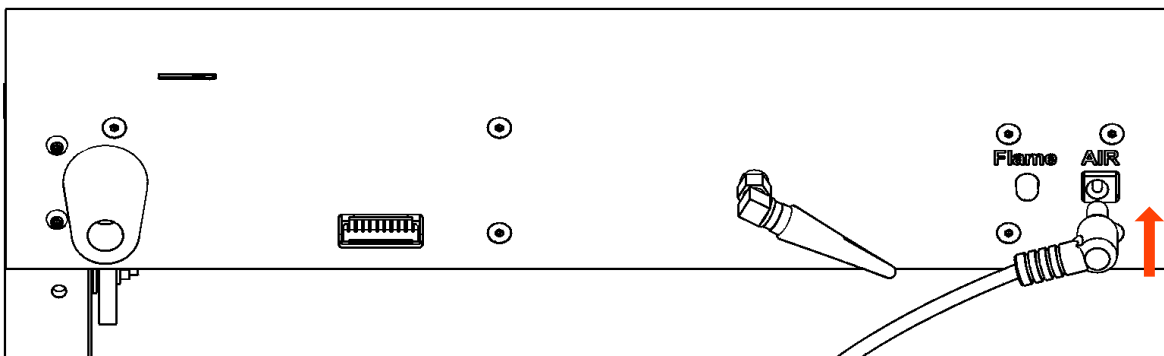
10.2 Software Control

10.2.1 Lightburn Control

① Check the "M7" option.
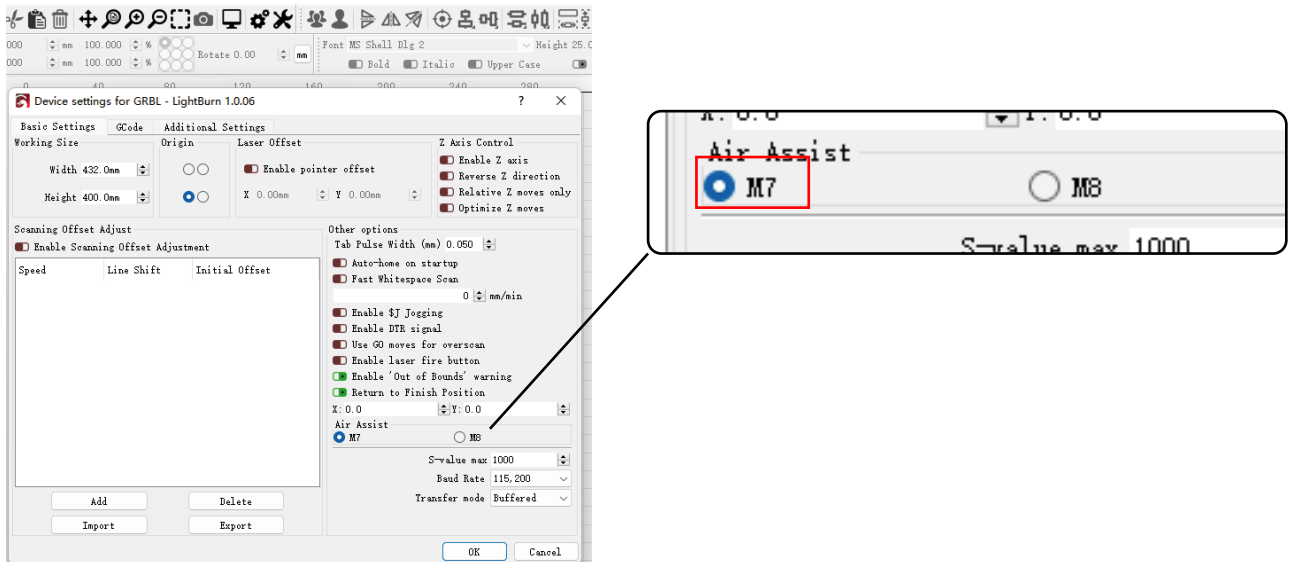
② You can control the air pump directly from the "Cuts/Layers" window by "unchecking/checking" it.
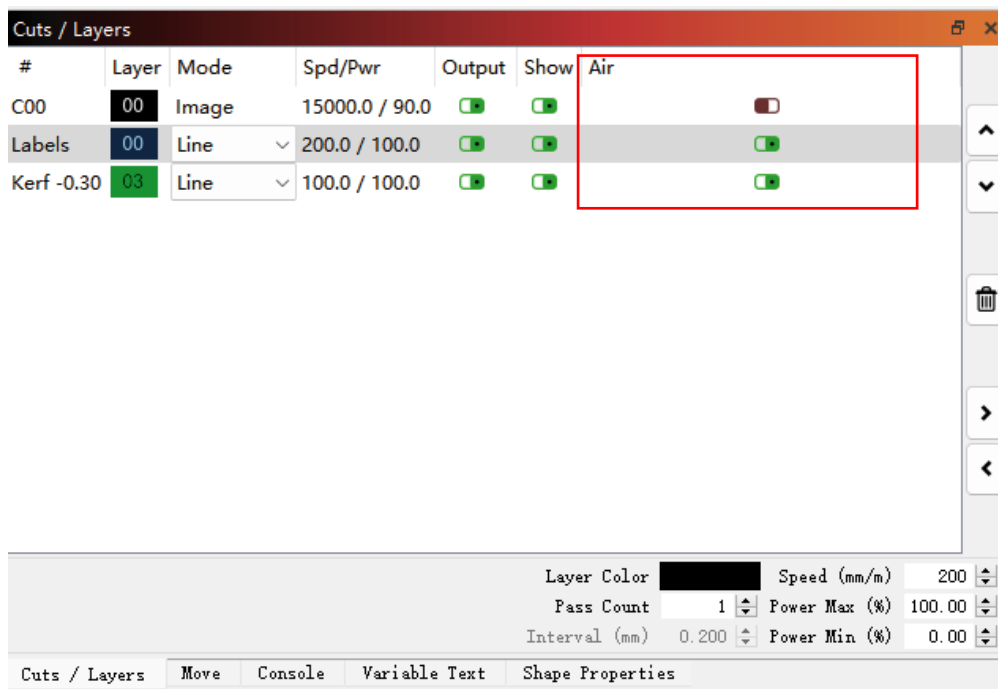
10.2.2 LaserGRBL Control

①Move your mouse to the blank area at the bottom right of the interface, then right-click and select "import custom buttons".

②Select the "CustomButtons" file from the "Software" folder in the TF card.

③The air pump is controlled by clicking the "Air Pump" button.

11.FAQ

Q1. Engraving machine can not cut through the material

   1. Check if the laser module wiring is loose.

   2. Confirm whether there is correct focus, which can be assisted by focusing the gate for focusing.
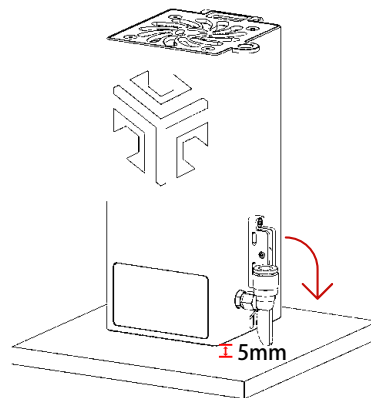
10W   **20W/30W**

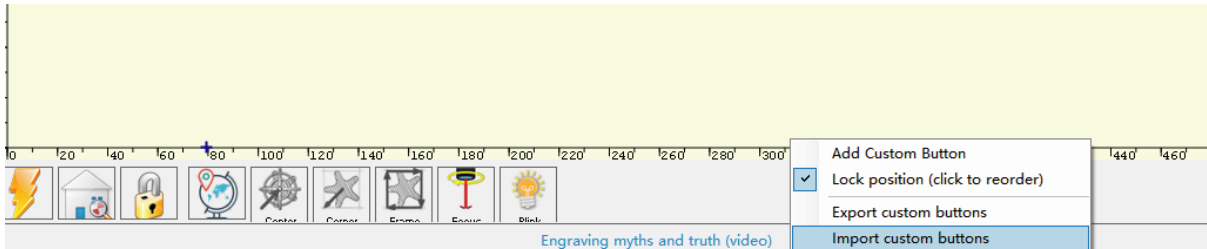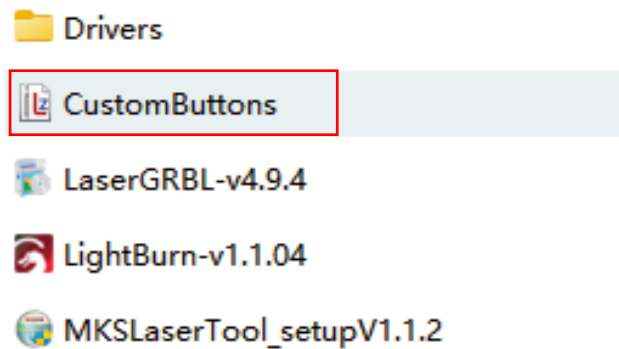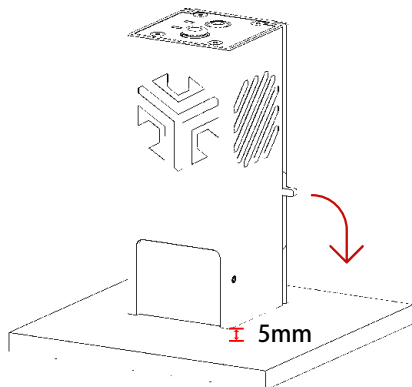   3. Ensure that the engraving plane is flat and free of concavity.

   4. Properly reduce the carving speed and increase the number of cuts, specific parameters can refer to the table of common carving parameters.

Q2. Engraving machine can not be connected to the computer side

   1. Check whether the CH340 driver is installed on the computer, if not, please get the
    driver file from the TF card for installation.

   2. Check if the correct port is selected.
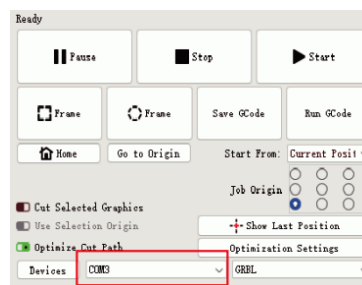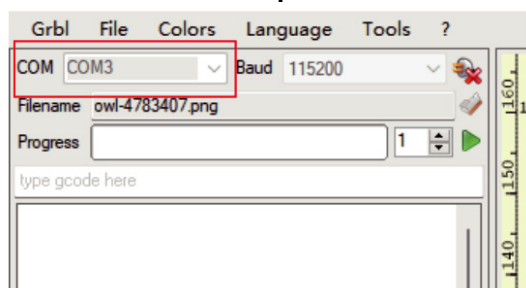
   3. Replace the USB cable and connect again.

   4. Replace another computer to try.

Q3. Noise during the operation of the machine

1. First of all, when the machine is running, the cooling fan of the laser set itself will have a certain noise.

2. Check whether the table is flat.

3. Check whether the machine screws are loose or fall off.

4. Check whether there are foreign objects on the guide rail, you can remove the belt and slide the guide rail by hand to observe whether there is a jamming phenomenon, and add the right amount of lubricant to the guide rail if possible.

Q4. Y-axis moving abnormally or not moving

1. Check whether the changeover switch is switched to "Y" axis position.

2. Check whether the Y-axis motor wiring is loose at both ends.

3. If possible, use a multimeter to measure the output voltage of the motor port on the main board.
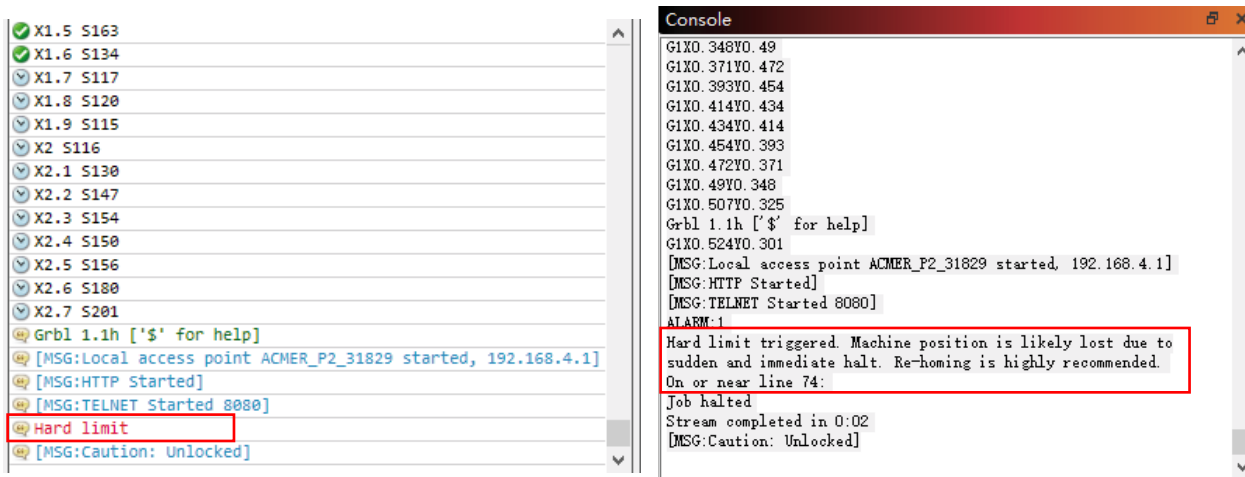
Q5. How to adjust the belt tightness

After installing the belt, twist the top wire on the tensioner to adjust the belt tightness, twist clockwise to tighten the belt, twist counterclockwise to loosen the belt, and keep the belt tightness on both sides of the Y axis.

Q6. What is the function of the switch at the back of the engraving machine?

This switch is a rotary module toggle switch, toggle to the left for normal engraving position, toggle to the right for rotary module position, rotary module can be directly connected to the socket with "RM" logo next to it.

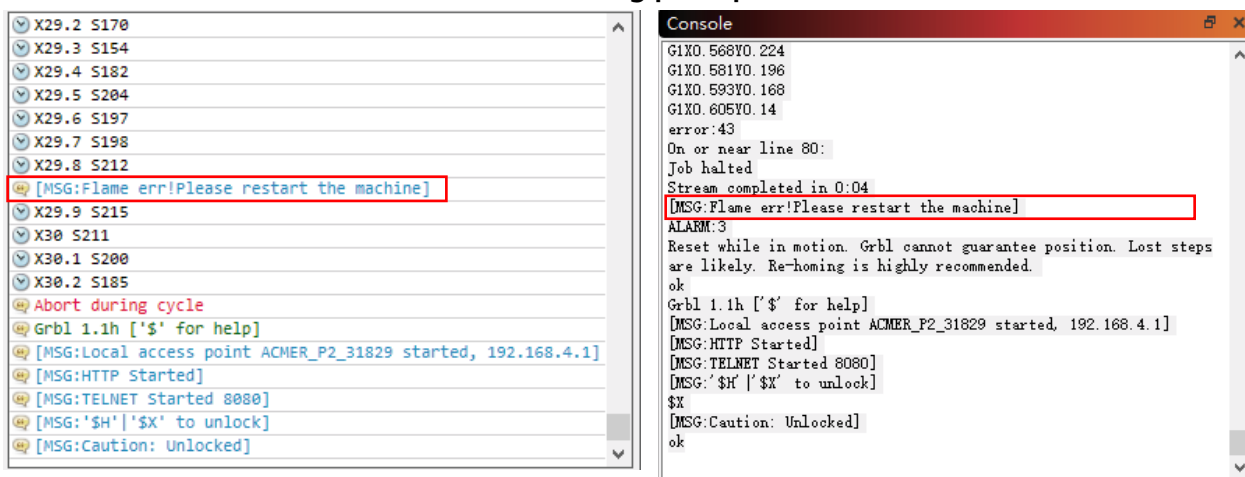## Q7. The machine stops engraving halfway through its work.

1. Check whether the machine power supply is properly connected.

2. Check if there is any abnormal obstruction to the limit switch, at this time the command bar will have the following prompt.

3. Check whether there is a flame generated during the carving process, at this time, the command bar will have the following prompt.

12.After Sale

Dear Customer,

Thank you for purchasing ACMER Laser Engraving Cutting Machine. We are dedicated to producing low price, high quality Laser Engraving Cutting Machine and hope you have as much fun using it as we did creating it!
If you have any issue/questions regarding the contents in the kit, please fill out a Service Ticket on our Support page.

https://www.facebook.com/groups/1614455505653986

Creating a Service Ticket will serve as your official requests for ACMER support. Our Customer Support Team will contact you within 48 hours.

The content of after-sales service is as follows:

1. REPLACEMENT PARTS

1.1 ACMER products are covered under a Replacement Part Program for a period of 12 months from the date of purchase.

1.2 Missing/Damaged/Defective Parts
1.2.1. Within 7 days of the delivery date, ACMER will replace any parts free of charge including shipping fees.
1.2.2. After 7 days of the delivery date, ACMER will replace any parts free of charge BUT the customer will be responsible for shipping fees.

1.3 Customer Damaged Parts
1.3.1. The customer shall pay for the cost of the parts and the shipping fees.

2. CARRIER LOSS, MISSING, DAMAGED, AND DEFECTIVE PARTS

2.1 Claims for lost or damaged shipments must be reported to the carrier within the carrier's claim window, the customer needs to inform ACMER within 7 days of the delivery date. For any parts lost or damaged during shipping, the customer shall take photos or video and submit them when filling out a Service.

2.2.1. Ticket. If a claim number was issued by the carrier, please include the claim number when creating your Service Ticket (Report a Problem / Carrier Lost Parts.)

2.2.2. Once the Carrier disupute is resolved, please provide ACMER with all communications with the carrier. It is the customer's responsibility to keep ACMER up to date with ALL communication with the carrier.

2.1.3. ACMER will work with the customer on replacing the parts in the claim.

2.2 For Missing Parts, refer to section 1.2, the customer shall fill out a Service Ticket (Report a Problem / Missing Parts.)

2.3 For Damaged Hardware Parts, refer to section 1.2, the customer shall take photos or video and submit them when filling out a Service Ticket (Report a Problem / Damaged Hardware Parts.)

2.4 For Defective Electronic Parts, refer to section 1.2, the customer shall take photos or video and submit them when filling out a Service Ticket (Report a Problem / Defective Electronic Parts.)

2.4.1 If the part is the LCD Panel, Power Supply or Mainboard, the customer shall ship the part back to ACMER and ACMER will send a new part.

3. GENERAL SUPPORT

For information and support on building and operating your ACMER Laser Engraving Cutting Machine, please visit the ACMER Owners Group.

https://www.facebook.com/groups/1614455505653986