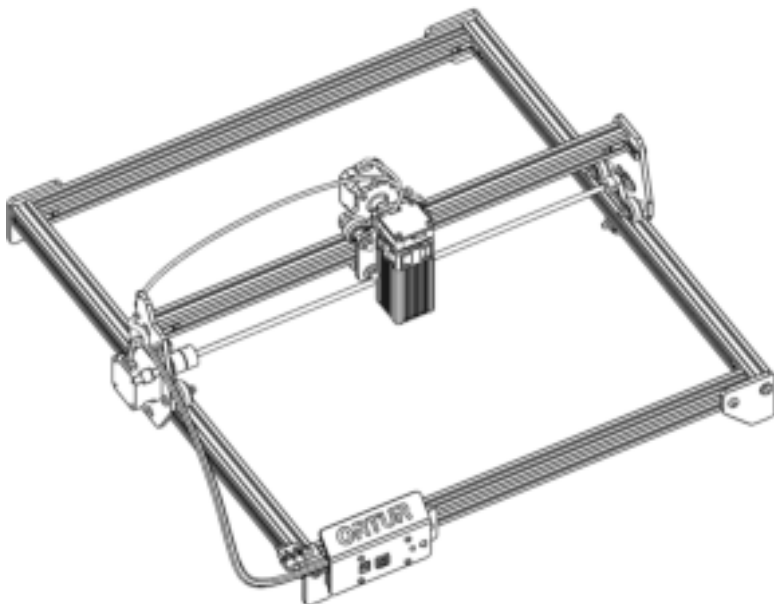


User Manual of Laser Master 2

Laser Engraver



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Warning: Non-professionals, DO NOT Operate This Laser Engraver!

Please Observe Safety Instructions!

Brief Introduction

- This Laser Master 2 laser engraver is a desktop laser engraver, **for PROFESSIONAL USE only, by skilled workers.**
- There is a G-sensor on the motherboard for active position protection. If the machine detects unauthorized movement, the laser beam will stop.
- Laser Beam Safety Guard, if your computer system halted or USB cable disconnected, led to that the laser engraver stop moving, the laser beam will stop, to prevent fire.
- Exposure Duration Detection and Limitation, if laser engraver under control, but user forget to operate and keep the laser beam working, extra safety will cut off in case motor stopped moving, to prevent fire.
- This laser engraver supports PWM mode.
- The Laser Master 7W is especially good at picture engraving.
- The Laser Master 15W is most cost effective, available for both of engraving and cutting.
- The Laser Master 20W is higher power and supports a faster engraving and cutting.

Attention

- Do NOT operate laser without eye protection (Laser goggles)
- Please set up laser engraver in the fireproofing area, with good ventilation.
- Please keep minors (especially kids younger than 14 yours old) away from this laser engraver. Minors of any age should not use this laser without direct Adult supervision and proper eye protection
- Please avoid strongly impact on the machine.
- Please do not touch the laser beam with your hands or any other objects you do not wish to engrave/burn/cut. Serious physical harm is possible if used improperly.
- Please do not touch the heat sink, when the laser engraver just stop working, it may scald your hands.
- Please take care the laser engraver when it is working.

Assembly Procedure

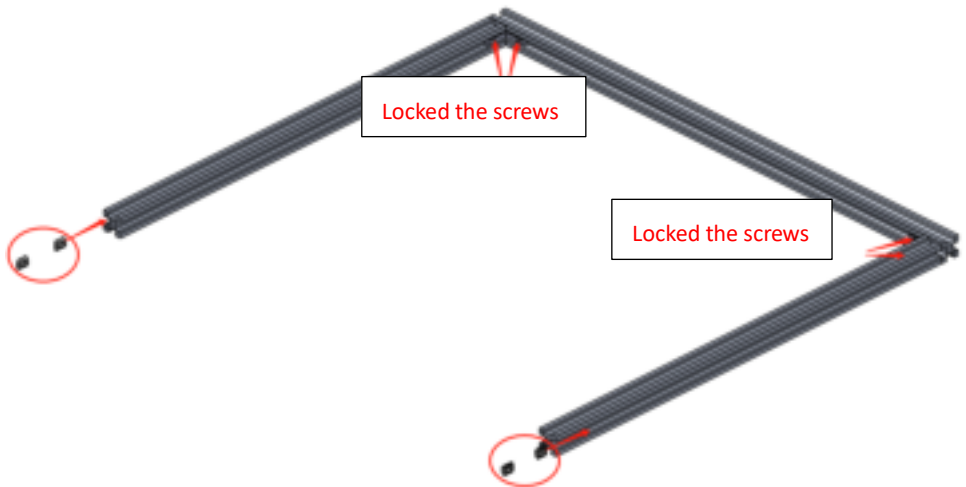
1. Take out 1 piece of aluminum profile with length of 540mm and put 2 corner connectors into the groove. Pay attention to the installation direction.



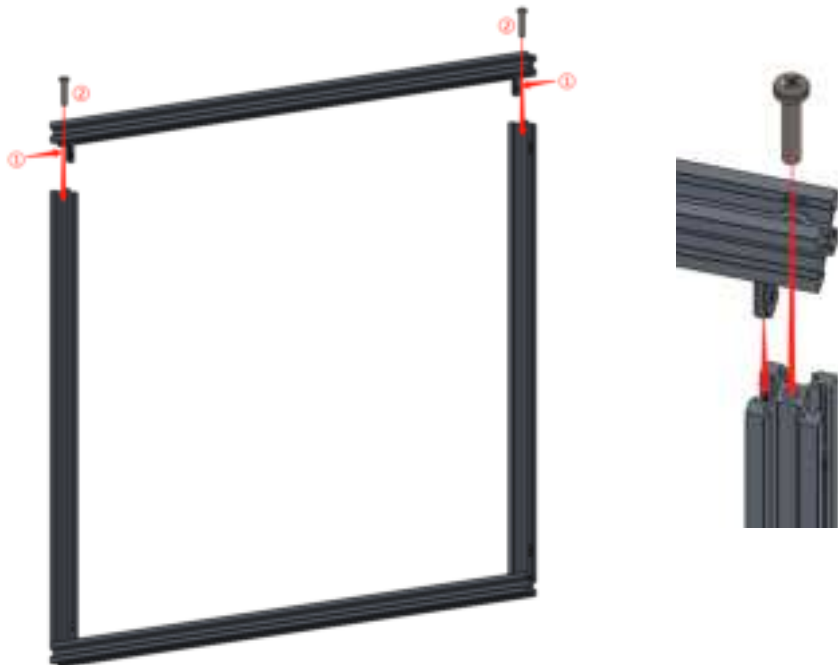
2. Take out 2 pieces of aluminum profile with length of 460mm, fixed with 2 pieces of M5*25.



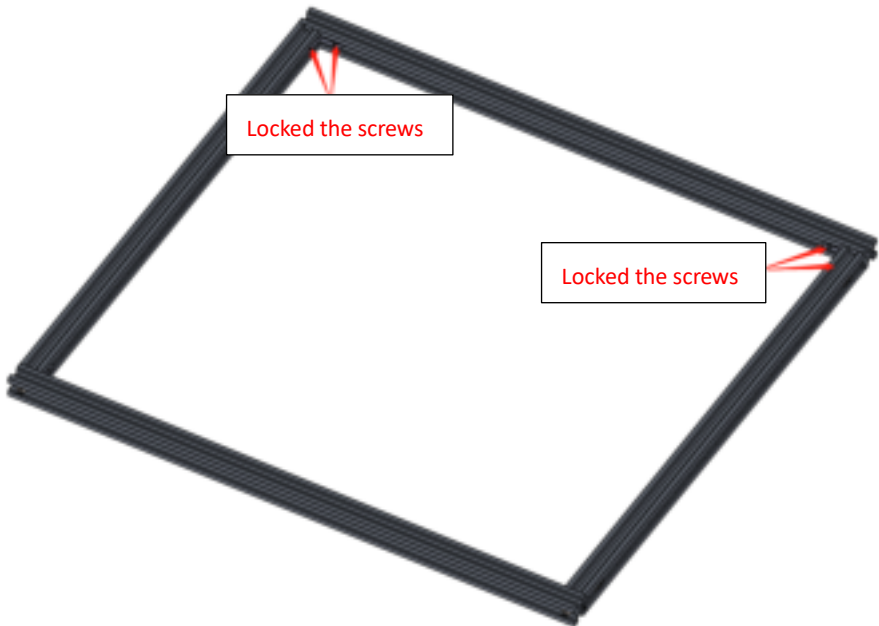
3. First lock the 4 screws on the corner connectors, then take out 4 pieces of M5 nuts and put 2 in the groove of each side of the frame.



4. First, take out 2 pieces of corner connectors and 1 pieces of aluminum profile with length of 540mm, load the corner connectors into the aluminum profile, and then take out 2 pieces of M5*25 screws to fix the aluminum profile.



5. Lock the 4 screws on the corner connectors, then installation of the bottom frame is done.



6. Take out the X-axis assembly and load it into the bottom frame.



7. Take out 2 timing belts, 2 base anchors, 2 spacers, 4 M5*10 screws to assemble the base anchors on both sides and secure one end of the timing belt.

8.



Front of Machine

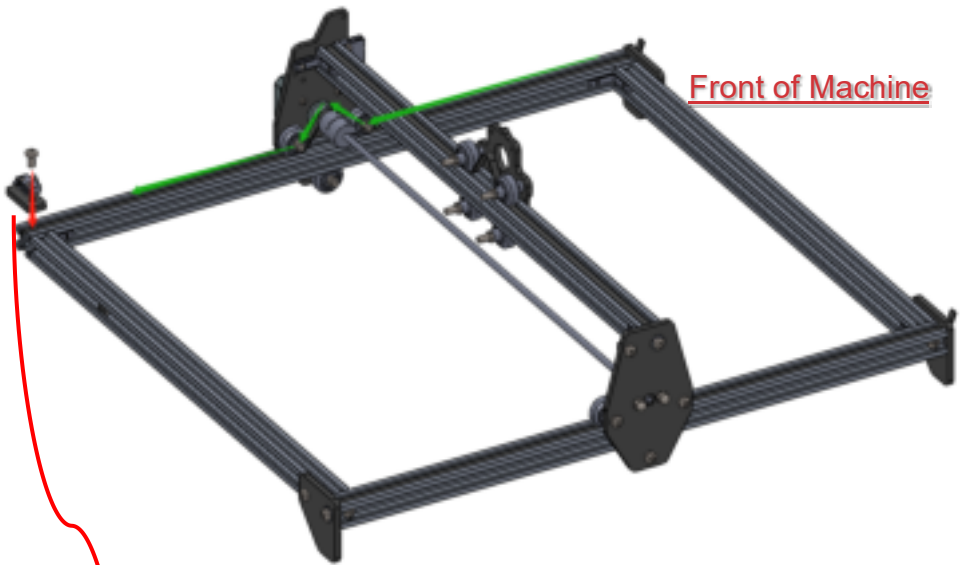


9. First, pass the timing belt through the rollers and timing pulley along the arrow in picture below, then take out 1 base anchor, 1 spacer, 2 M5*10 screws to assemble the base anchors and secure the other end of the timing belt.

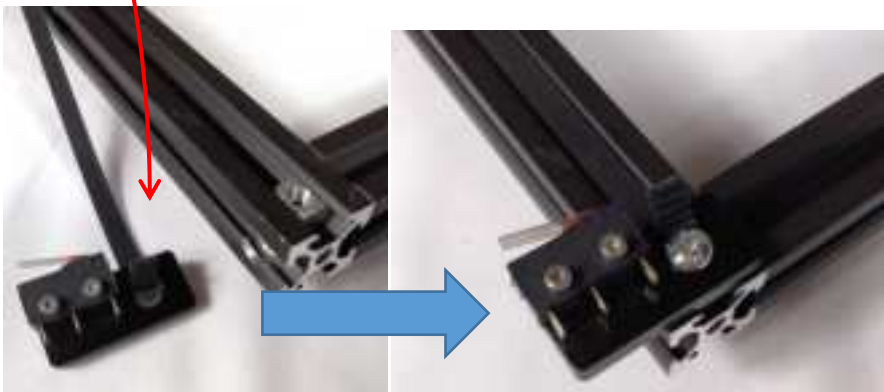
Front of Machine



10. First, pass the timing belt through the rollers and timing pulley along the arrow in picture below, then take out the Y limit switch, 1 M5*10 screw and 1 M5 nut, to assemble the limit switch and secure the other end of the timing belt. (Please tighten the timing belt when lock screws)



Front of Machine



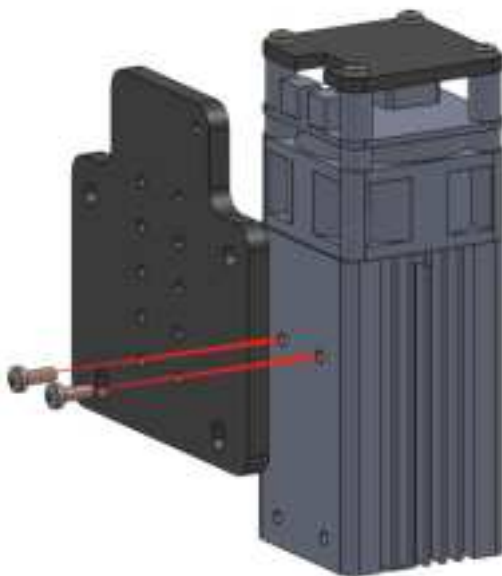
11. Please assemble the mainboard assembly on frame by 2 pieces of M5*10 screws.



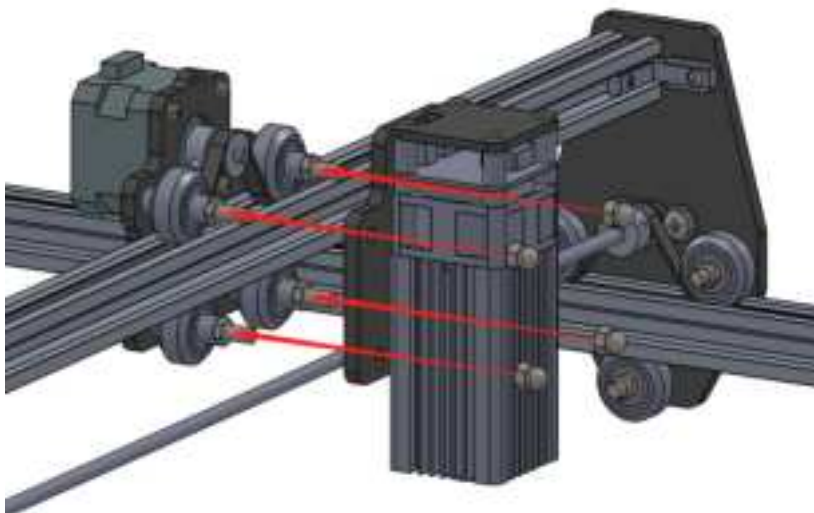
12. Please assemble the X motor by 4 pieces of M3*8 screws.



13. Please connect laser module and the backboard by 2 pieces of M3*8 screws.



14. Please assemble the laser assembly by 4 M5 cap nuts.



15. Connect all the wires, and secured by cable tie.

6Pin plug

Pass the cable tie through this hole to secure the wire

3Pin plug



Pass the cable tie through this hole to secure the wire



4Pin plug connect with laser

Pass the cable tie through this hole to secure the wire

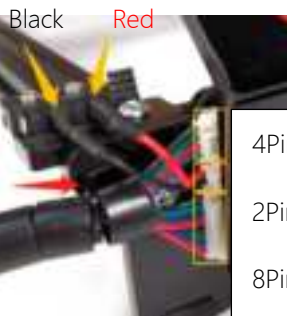


Pass the cable tie through this hole to secure the wire

1

6Pin plug

4Pin plug connect with mainboard



4Pin Plug

2Pin Plug

8Pin Plug

PS. For Ortur Laser Master 2 - 7W laser module version, it need to use the Split wire loom insertion tool to insert the laser module cables into the wiring tube. The extra tutorial video link: <https://www.youtube.com/watch?v=P1rwg8zTS4I>

16. Assembly finished.



Installation Program

1. Please download the Host Control Software "LaserGrbl" and the Drivers at:

<https://www.dropbox.com/s/1o76v7d1rkqcb2j/LaserMaster2.zip?dl=0>

Or: <https://tinyurl.com/rutsacm>

2. Please install the appropriate driver for your Windows system



VCP_xxx_Setup_x32.exe is for 32Bits computer system

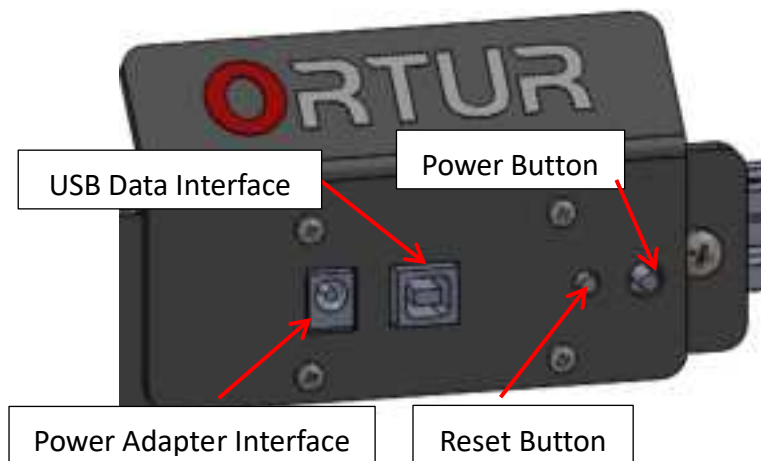
VCP_xxx_Setup_x64.exe is for 64Bits computer system

3. Please install the host control software, the Control Software "LaserGRBL" in your Windows computer.

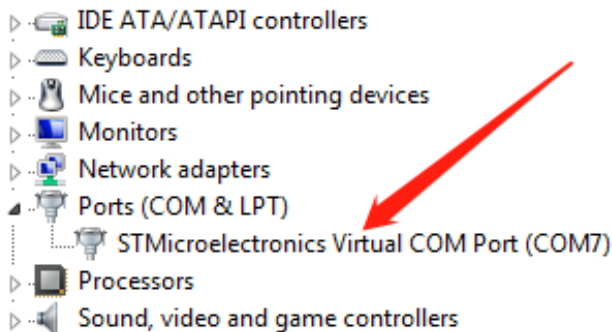


4. Please plug the cable of power adapter into the Power Adapter Interface, press the Power Switch button, and connect the laser engraver and computer via USB cable.

PS. Press the Power button, 0.5 second to power on, and press 2 seconds to power off. Press Reset Button for emergency stop.

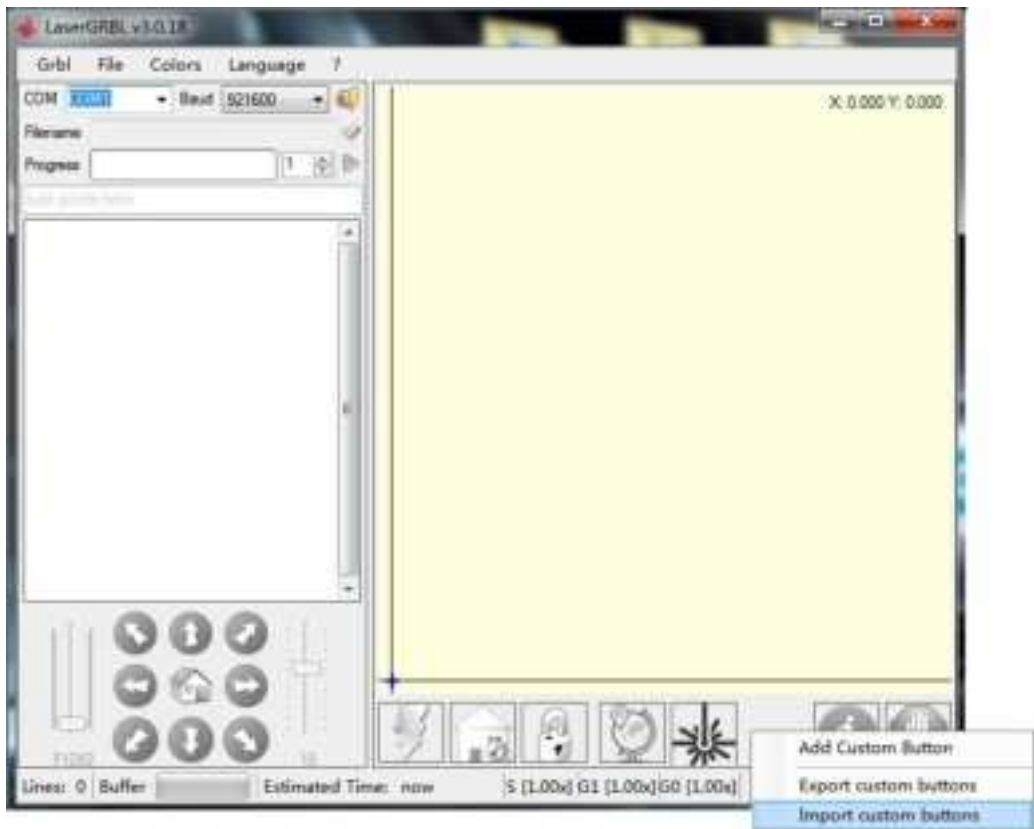


5. Go to “Device Manager”, If there is the STMicroelectronics Virtual COM Port, It means the laser engraver is connected with the computer successfully.

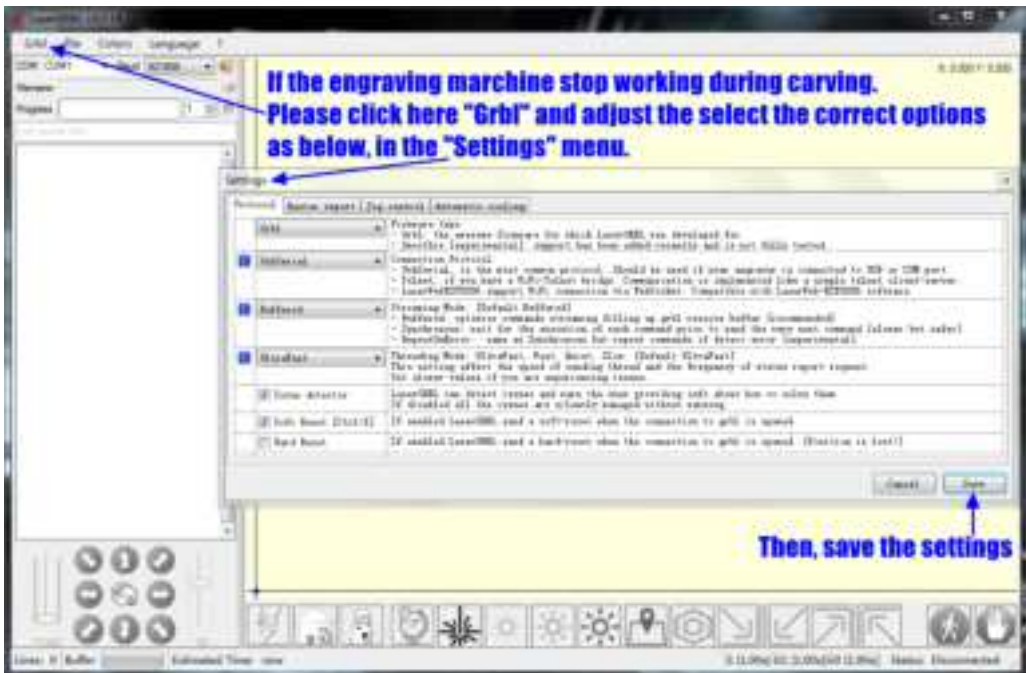
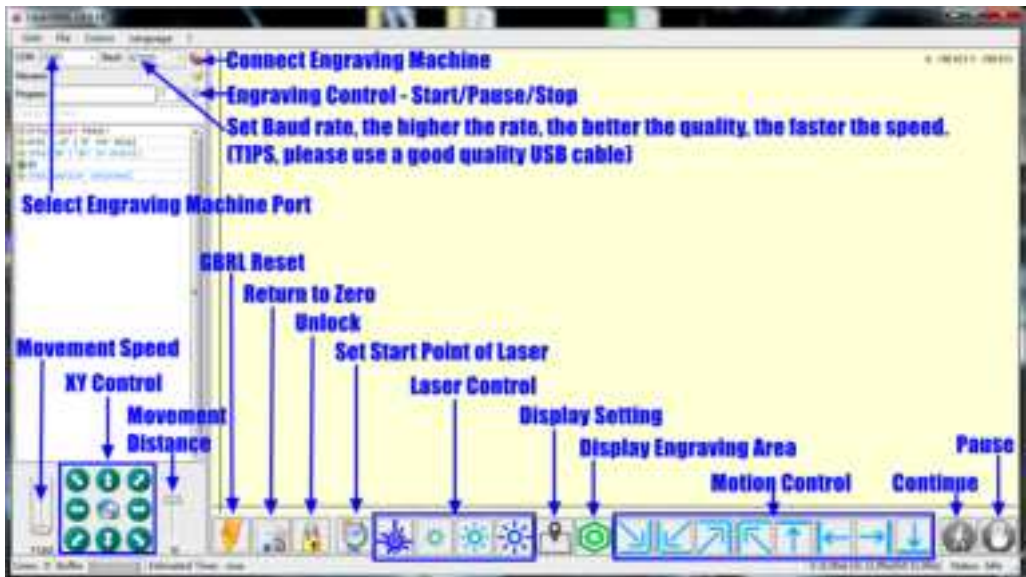


6. Please run the host control software “LaserGRBL”, and right click in the blank area of this lower section to get menu, then click ”Import custom buttons”, and select the profile file ”CustomButtons.gz” for advanced settings.

TIPS: When the profile file ”CustomButtons.gz” imported, you could use LaserGRBL directly for this Laser Engraver.



7. Advanced Settings Introduction



Step 1: Open Image File

Step 2: Engraving Settings
Adjust Sliders for Optimal

Adjust the Engraving Accuracy:
5=Low
10=Average
15=Medium
20=High

After Configuring the Settings, Click "Next"

The screenshot shows the Engrave software window. The 'Import Vector Image' dialog is open. The 'Parameters' section on the left has 'Accuracy' set to 10. The 'Engraving' section has 'Engraving' set to 'Engraving'. The 'Next' button is highlighted. A circular image of a dragon is shown in the preview area. The status bar at the bottom indicates 'Estimated Time: 0:00'.

Step3: Set the Engraving Speed and Power

M3 = Constant Power (Cutting or Straight Carving)

M4 = Automatic Power (Bitmap Carving)

M5=Laser off

Power Range: S0-S1000

S1= Laser Power/1000

Different Materials, Different Speed, Different Power.

Set Engraving Size

After Setting, Click "Create", then Click "Next"

9. Please adjust the laser focus. For your information:

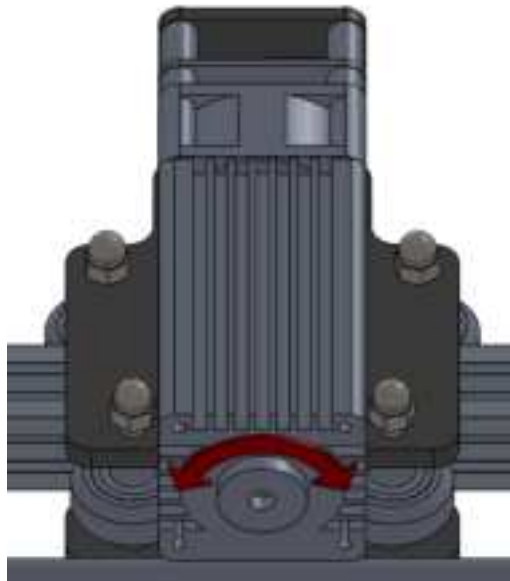
1st Please wear the safety goggles, then put the object under the laser lens.

2nd The best distance, from the upside of object to the bottom of heat sink (not lens), is 55mm. You could adjust the laser unit height at the acrylic holder plate.



3rd Click this icon, the laser unit would give a faint light beam (This faint light beam is safe, neither offending to the eye, nor burn the skin. But if the light beam is very dazzling, and could burn the objective, please stop any more operation, and contact with your vendor).

4th If need, you could adjust the lens focus ring to adjust the laser focus to be the smallest light spot.



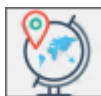
10. Please start the engraving. For your information:



1st Please click this icon, to home X、Y axis.

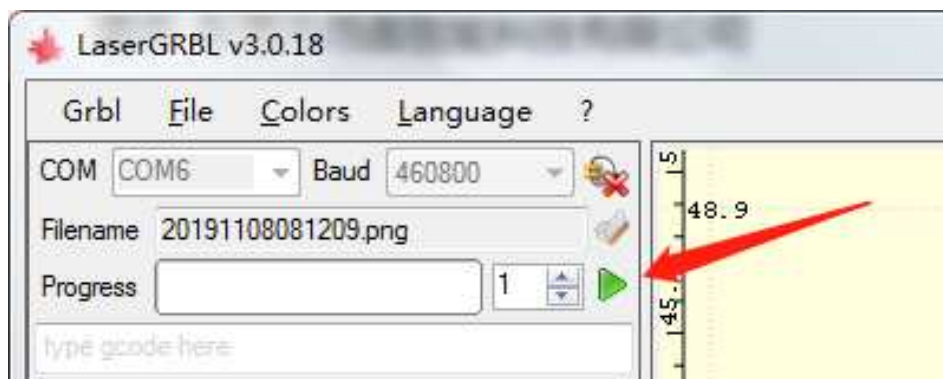


2nd Please click these icons, to move the laser unit to be the correct position you want.



3rd Please click this icon, to set up the current position as the starting point of the engraving.

4th Please click this icon to start engraving.

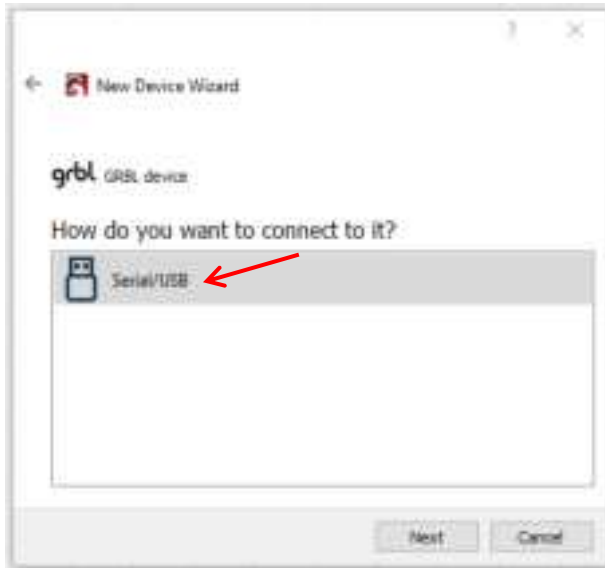


Installation Program - LaserBurn

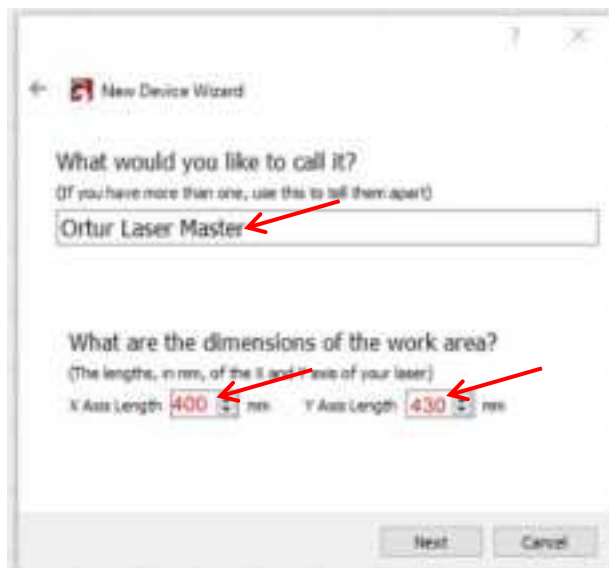
1. Please download the appropriate trial version of Laserburn from:
<https://lightburnsoftware.com/pages/trial-version-try-before-you-buy>
PS. If you think the trial version is good, you could pay for it.
2. Install the software in your computer and run it.
3. Launch the application from your computer (Windows, MAC, Linux).
4. If it's the first time you launch LightBurn you will be prompted for the New Device Wizard.
5. Select GRBL and press Next Button.



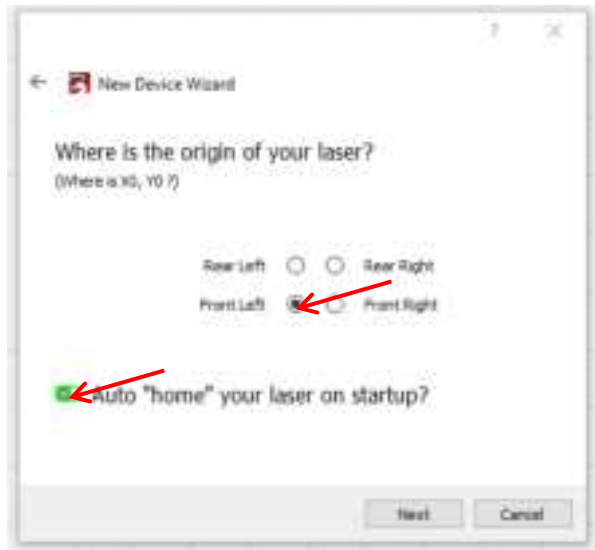
6. Select Serial/USB and press Next.



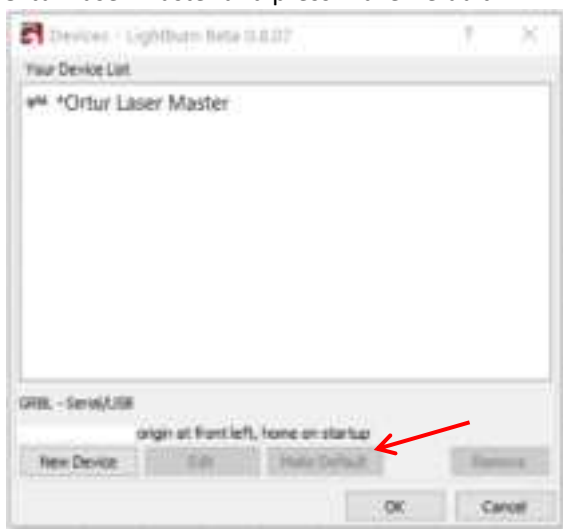
7. Fill your Device Name, as well as X and Y axis and press Enter
- Ortur Laser Master
 - X = 400
 - Y = 430



8. Select Front Left as your Origin X,Y and activate Auto “Home”, then press Next.



9. Click Finish.
10. Select Ortur Laser Master and press Make Default.



Your Ortur Laser Master is ready to be used in LightBurn software.