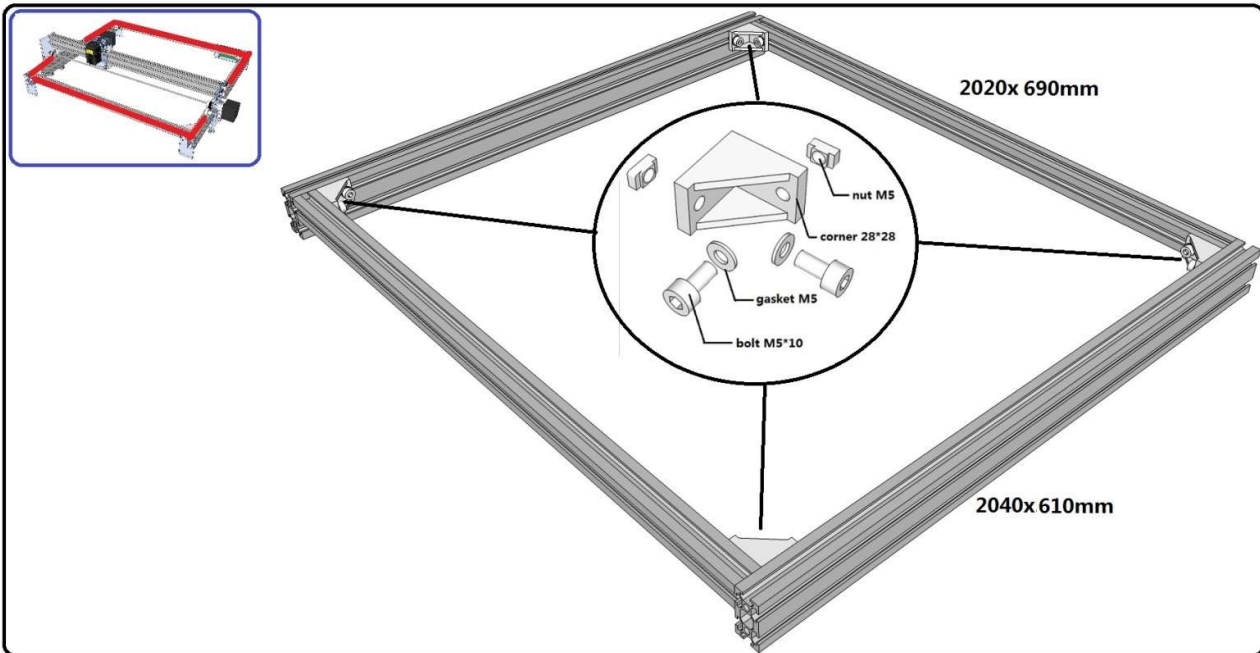




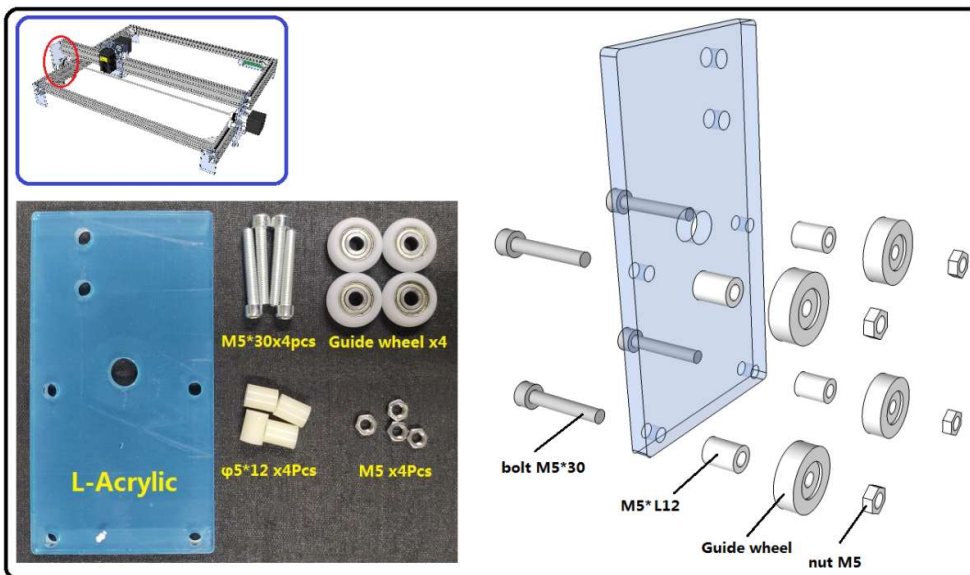
CNC2-6550

Part A:
V.10

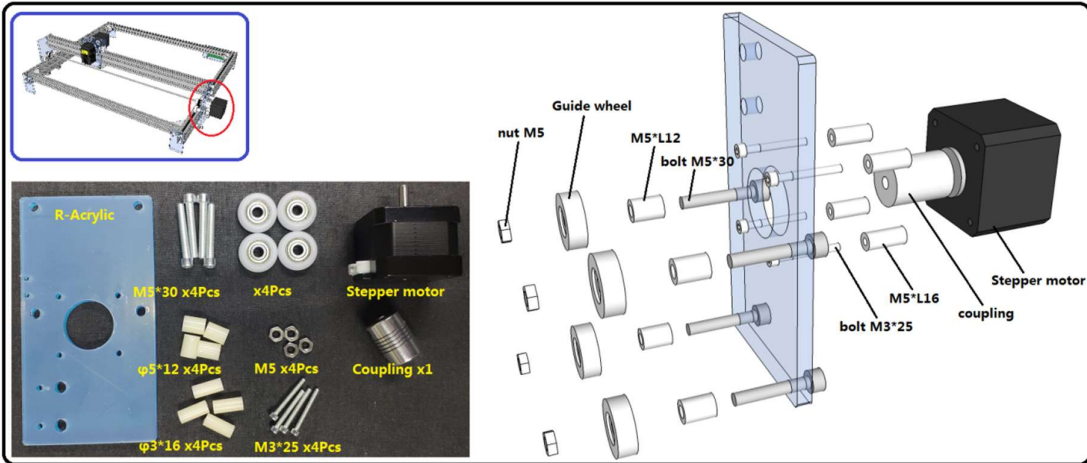
1.



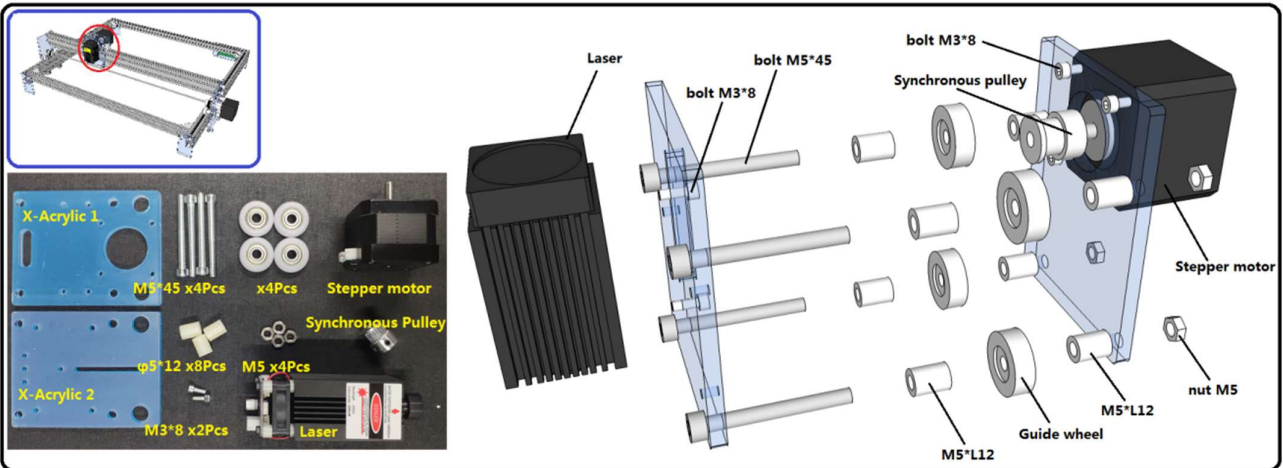
2.



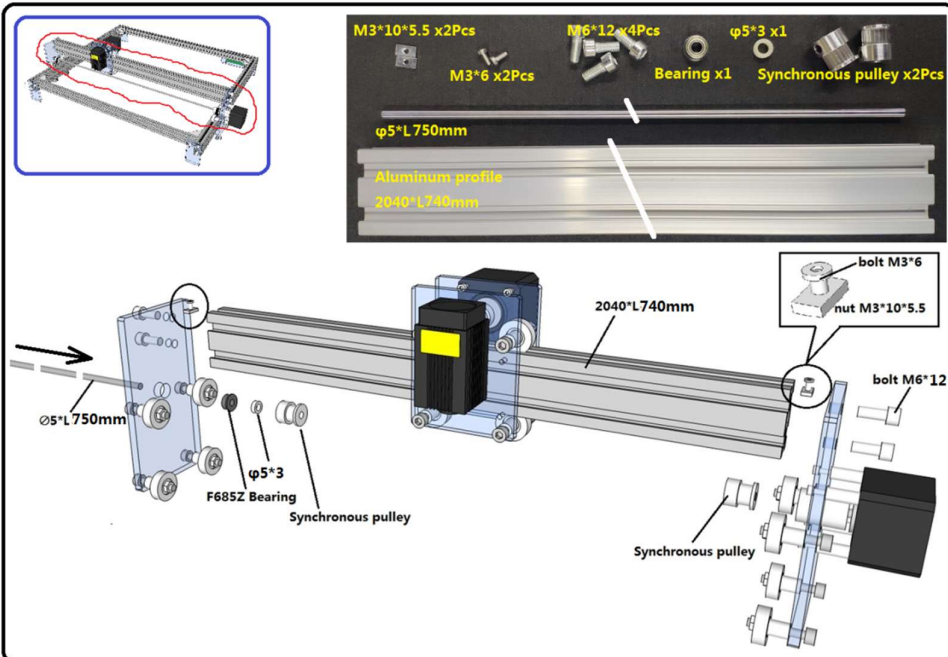
3.



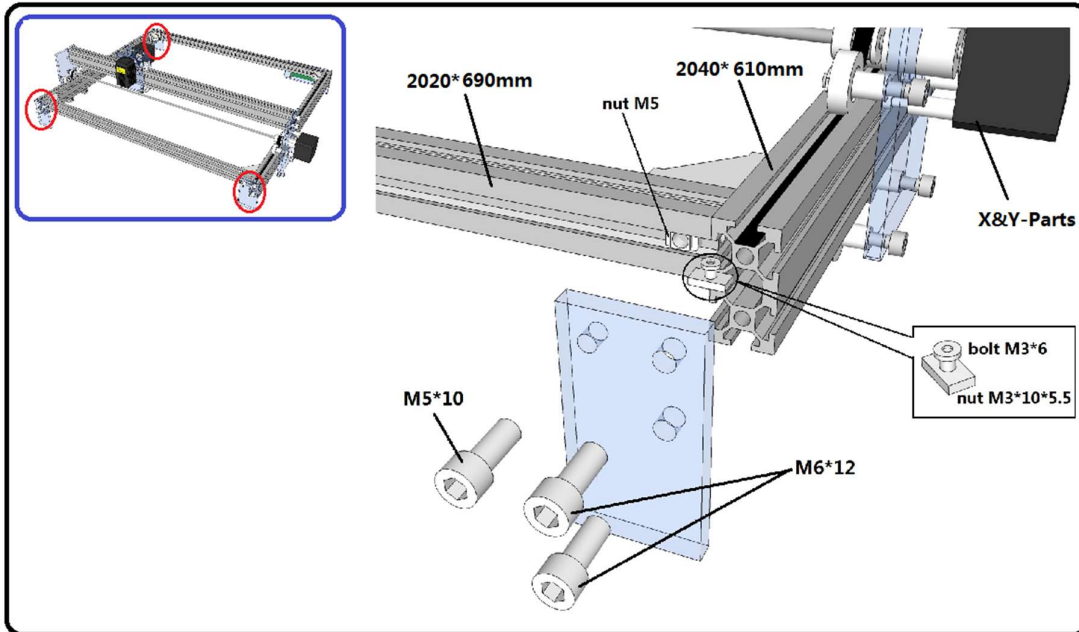
4.



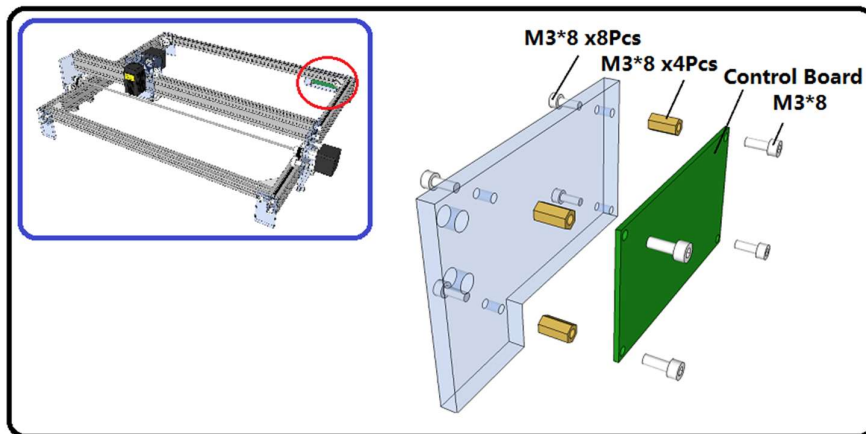
5.



6.



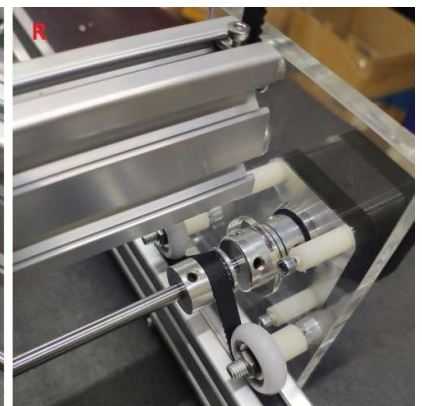
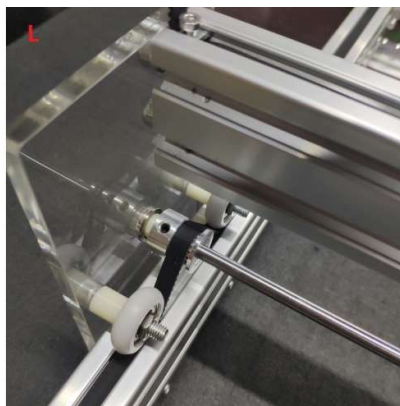
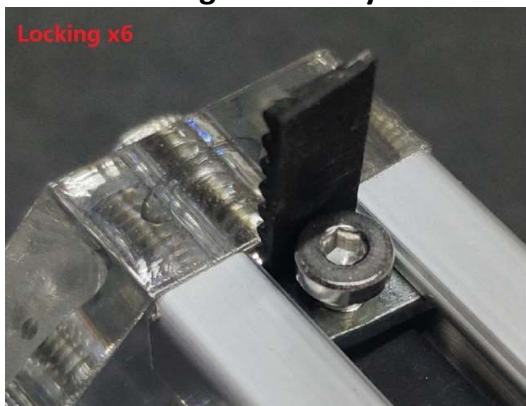
7.

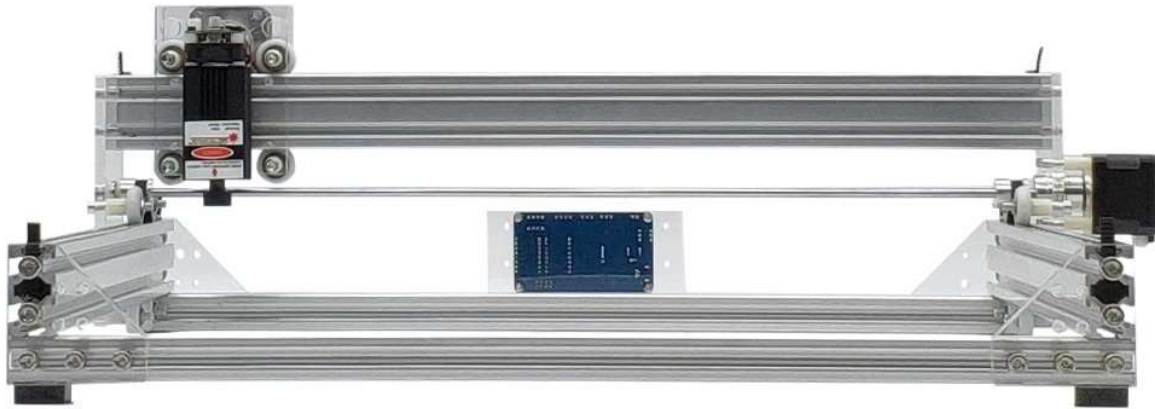


8.

- Y-L&R: Length of the synchronous belt: 765mm x2

- X: Length of the synchronous belt: 790mm x1



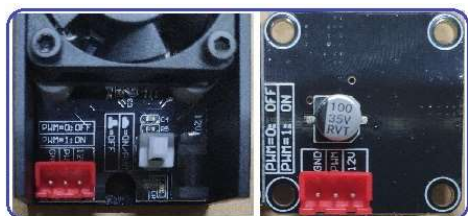


CNC-2Axis User Manual

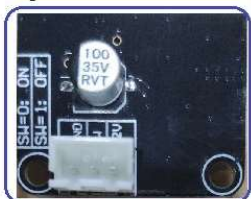


Part B: User Manual
Version .1

1. Control board description:



if your Laser interface is RED



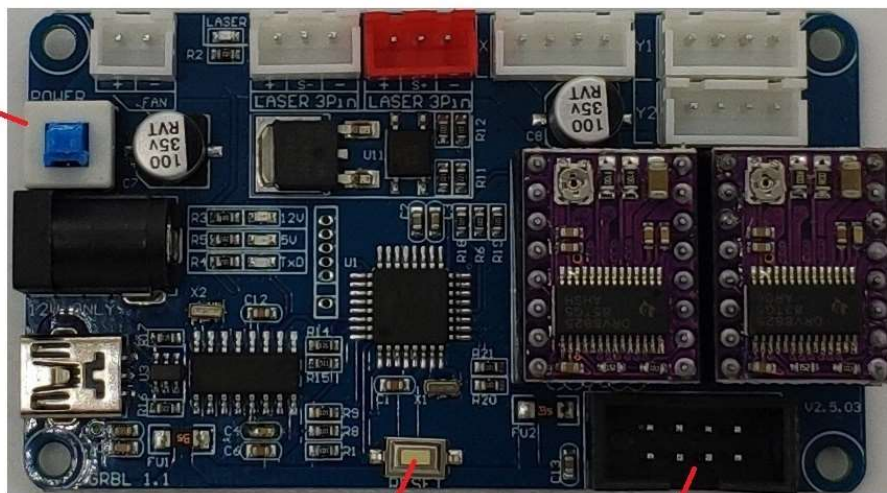
if your Laser interface is WHITE



Power SW

12V Only !

USB

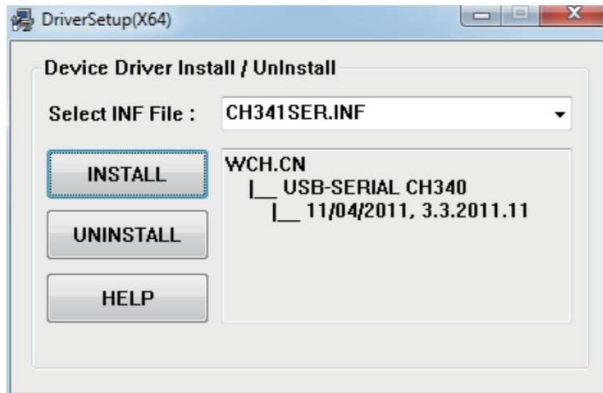


Reset

Offline controller

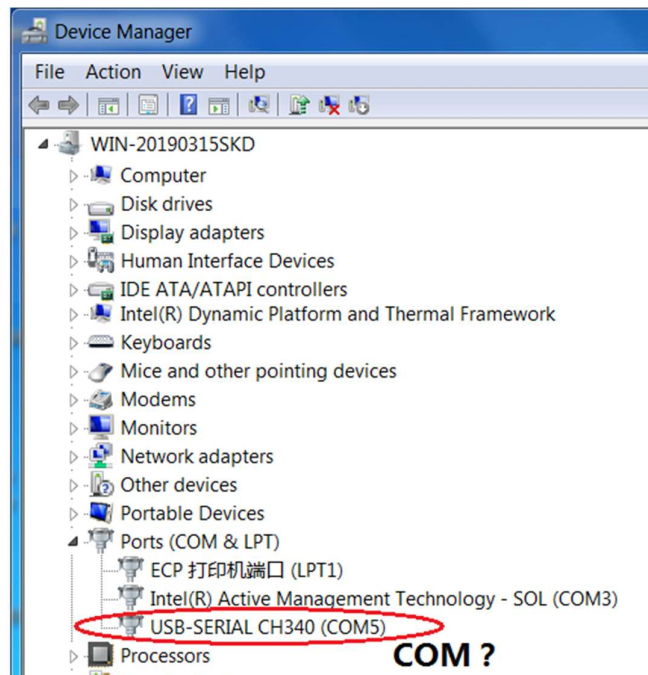
Notice :
The USB and Offline controller can not be used together

2. Install the driver (software --> Driver --> CH340SER.exe) :



3. To Determine your Machine's COM port:

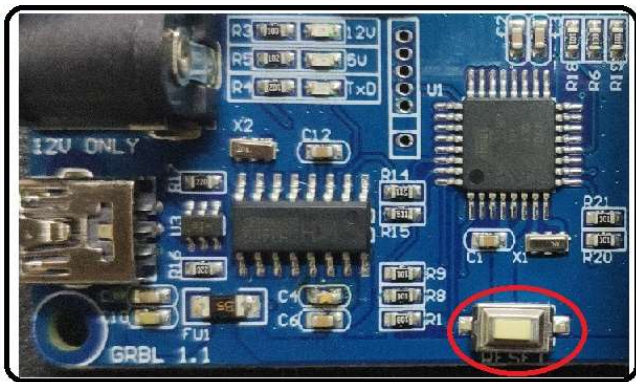
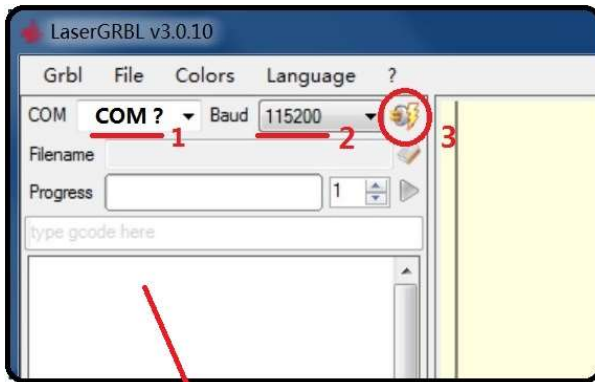
- Windows XP: Right click on "My Computer", select "Properties", select "Device Manager".
- Windows 7: Click "Start" -> Right click "Computer" -> Select "Device Manager" -> "Ports (COM & LPT)"
- Your machine will be the USB Serial Port (COMX), where the "X" represents the COM number, for example COM5.
- If there are multiple USB serial ports, right click each one and check the manufacturer, the machine will be "CH340".



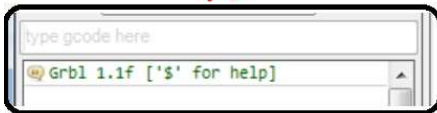


4.0. Open the software(LaserGRBL) c

4.1. Use the Usb cable for connecting computers.(Don't plug in the offline controller!)

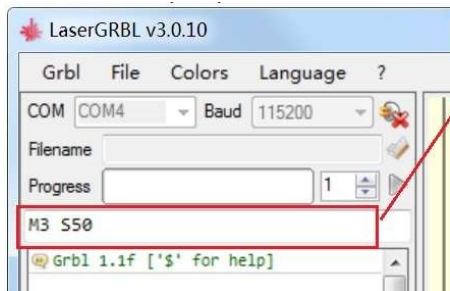


4. then press the button



- Console window print " Grbl 1.1f ['\$' for help]" If the connection is successful.
- If the port selection is wrong, no information will be returned.

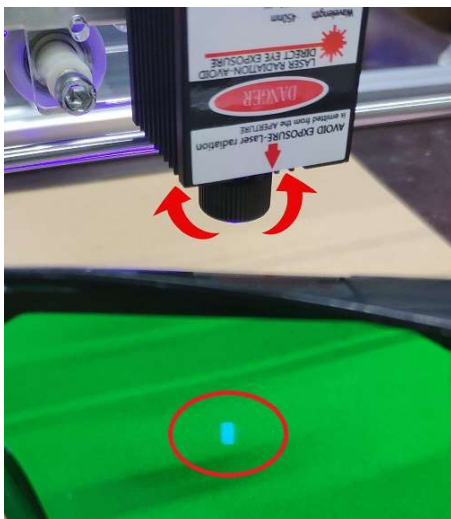
4.2. focusing



Input "M3 S50" .then press Enter.

(Or create a custom button if you want to be easy. Refer to "CUSTOM BUTTOM")

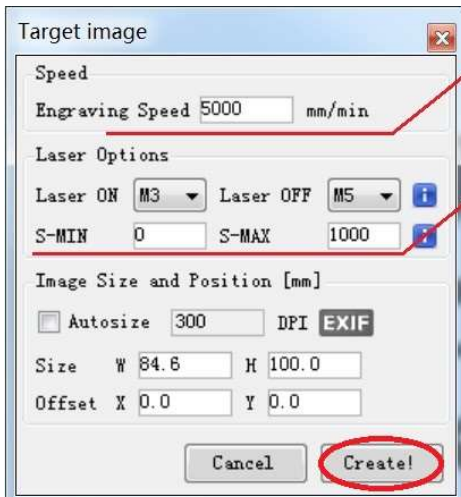
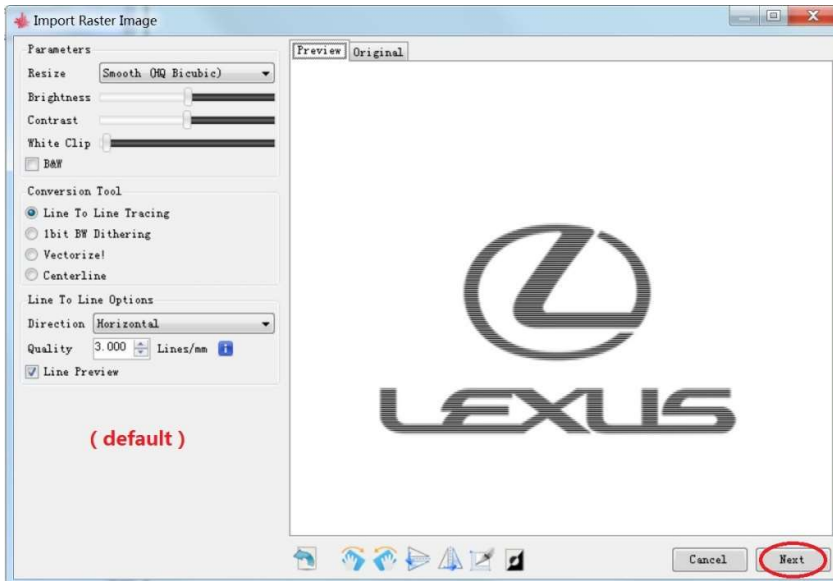
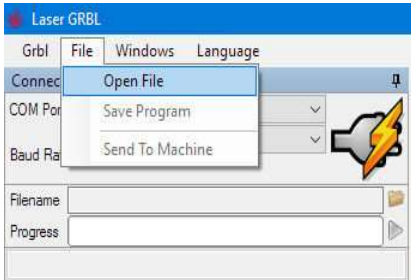
The laser will be turned on with low power model. Then Rotate the lens to minimize the spot.



4.3. RASTER IMAGE IMPORT

Raster import allows you to load an image of any kind in LaserGRBL and turn it GCode instructions without the need of other software. LaserGRBL supports photos, clip art, pencil drawings, logos, icons and try to do the best with any kind of image.

It can be recalled from “File, Open File” menu by selecting an image of type jpg, png or bmp.

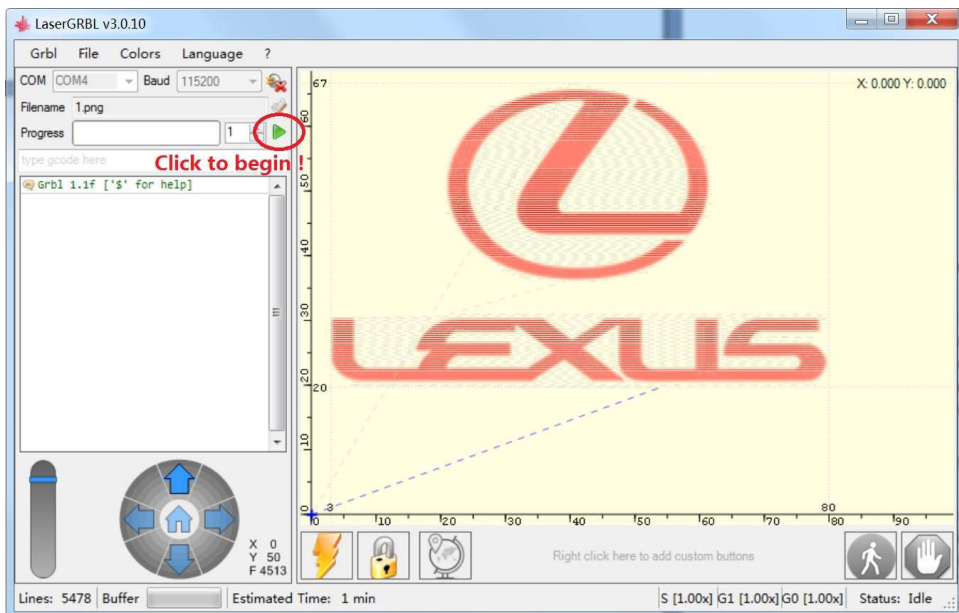


Reference speed : 5000

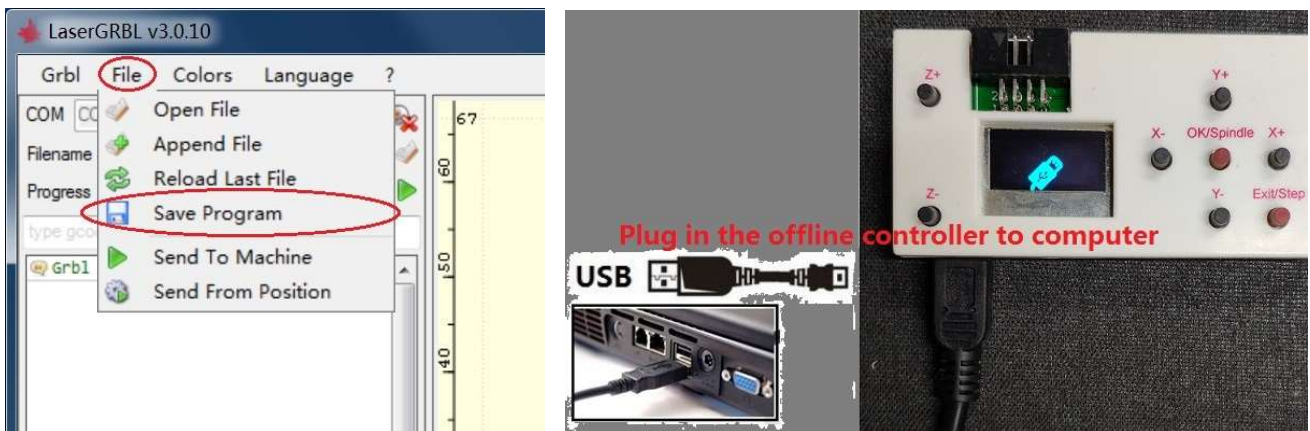
Power to laser
(Duty cycle of the PWM)

Notice: speed and S value are different with material.

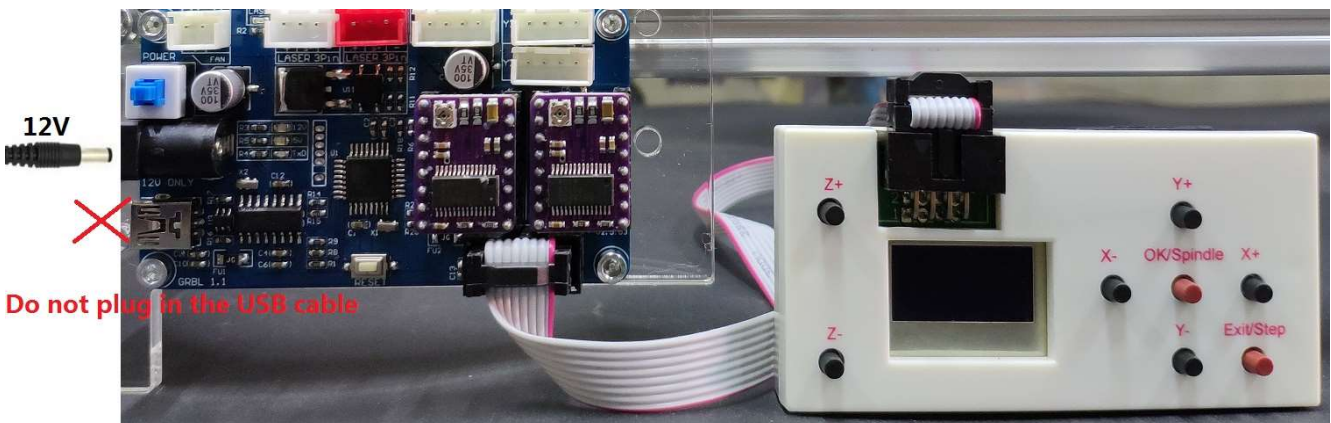
4.4. Click this button to begin if use the computer control.



4.5. Save program to "NC" file if use the offline controller.



- Offline controller can be used as card reader through USB cable.
- Then Plug in the offline controller to control board. (Don't plug in the USB cable to computer)



- Then. Refer to the "Offline Controller User Manual" to work begin.

EXPERT MODE

- Expert mode lets users have more control over the machine. But Users should have some professional knowledge

1. M3 Constant Laser Power Mode.(Default Mode)

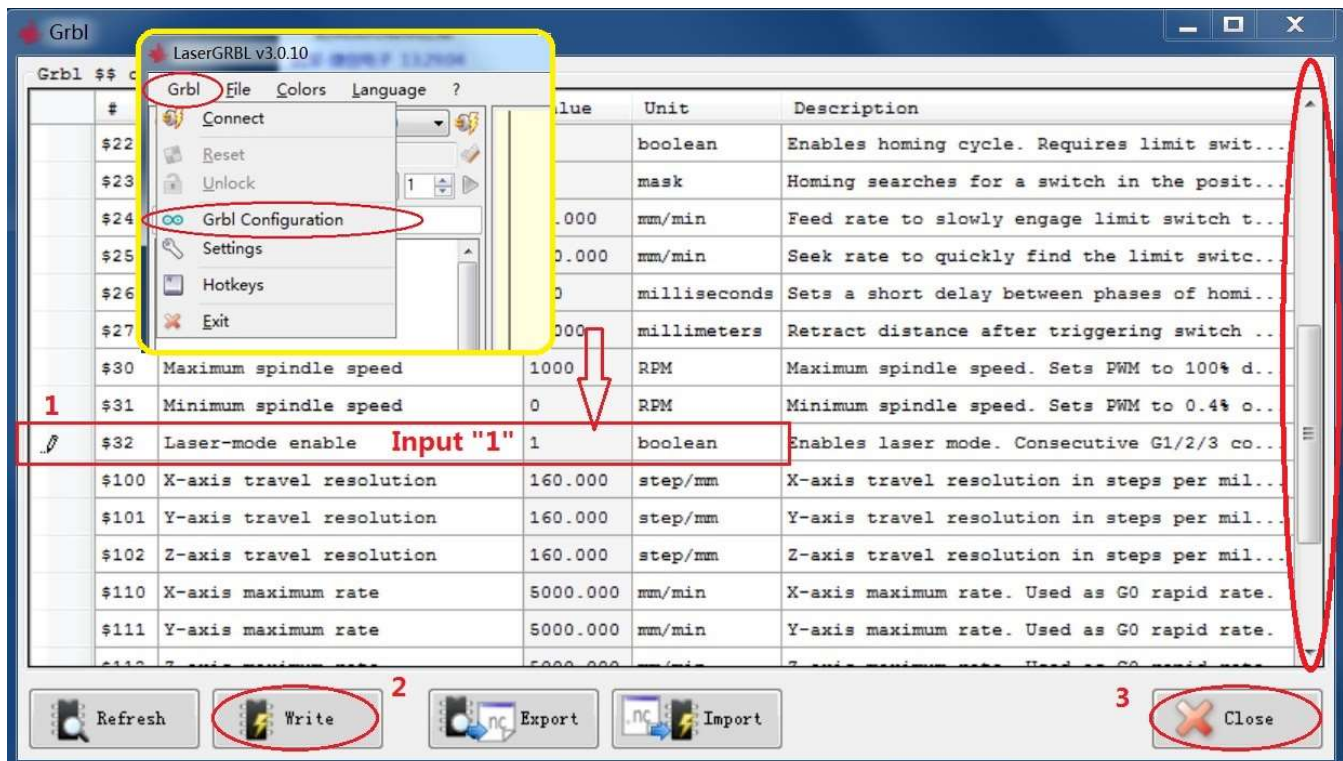
- Constant laser power mode simply keeps the laser power as programmed, regardless if the machine is moving, accelerating, or stopped. This provides better control of the laser state. With a good G-code program, this can lead to more consistent cuts in more difficult materials.
- NOTE: M3 can be used to keep the laser on for focusing.

2. M4 Dynamic Laser Power Mode

- Dynamic laser power mode will automatically adjust laser power based on the current speed relative to the programmed rate. It essentially ensures the amount of laser energy along a cut is consistent even though the machine may be stopped or actively accelerating. This is very useful for clean, precise engraving and cutting on simple materials across a large range of G-code generation methods by CAM programs. It will generally run faster and may be all you need to use.
- Grbl calculates laser power based on the assumption that laser power is linear with speed and the material. Often, this is not the case. Lasers can cut differently at varying power levels and some materials may not cut well at a particular speed and/power. In short, this means that dynamic power mode may not work for all situations. Always do a test piece prior to using this with a new material or machine.
- When not in motion, M4 dynamic mode turns off the laser. It only turns on when the machine moves. This generally makes the laser safer to operate, because, unlike M3, it will never burn a hole through your table, if you stop and forget to turn M3 off in time.

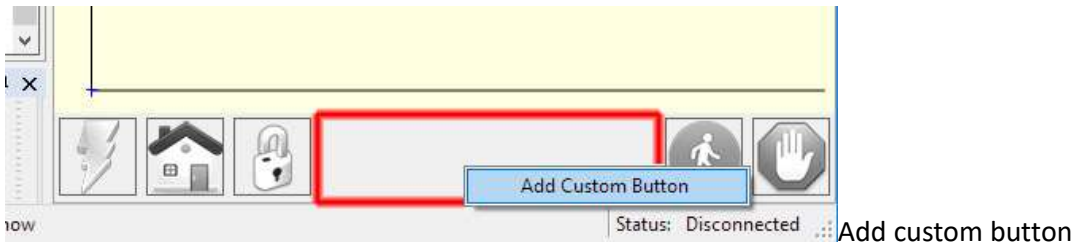
- Open the "M4 Dynamic Laser Power Mode" on the LaserGRBL software.

Notice: The laser will be turned on only when the machine is moving.



3. Custom button

LaserGRBL support custom buttons. Right-click in button area to add a new custom button.

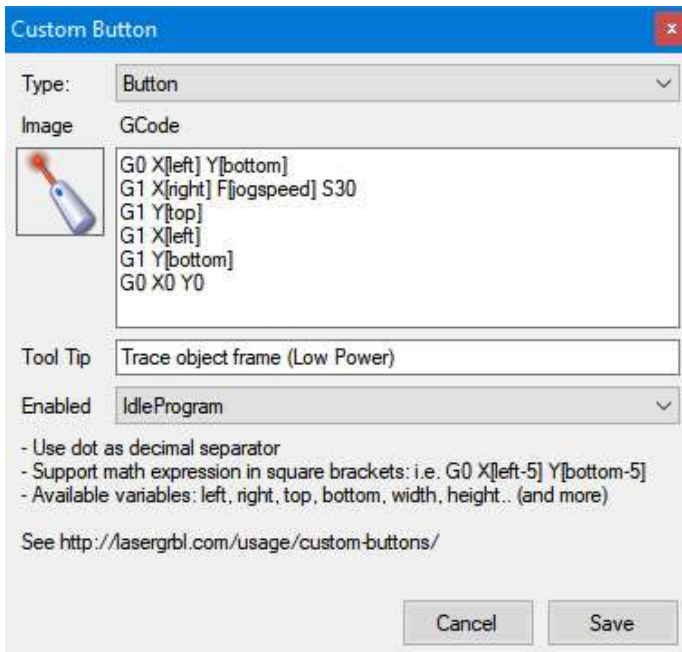


In custom button you can write a set of G-Code instruction to execute customized actions.

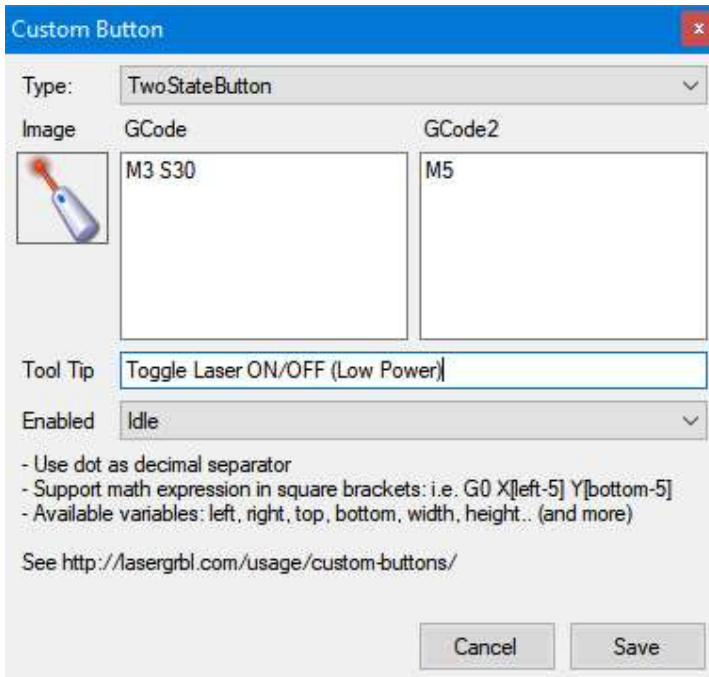
There is 3 types of custom buttons:

- Button
- TwoStateButton
- PushButton

Custom button of type “Button” contains a block of GCode to be executed on click. This could be used to launch a series of gcode instruction i.e. for trace a frame around an image or set a new zero position.



“TwoStateButton” contains two block of GCode. The first action is executed on a first click, then the second action is executed on a second click. This is very useful for action like toggling laser on-off to see its position



Toggle laser ON/OFF

“PushButton” is similar to “TwoStateButton” but the first action is executed on mouse down, the second is executed on mouse up.

Custom Buttons support a series of variables that can be used in expressions. Here is the full set of supported variables:

left	Left margin of loaded image (X)
right	Right margin of loaded image (X)
top	Top margin of loaded image (Y)
bottom	Bottom margin of loaded image (Y)
width	Width of loaded image
height	Height of loaded image
jogstep	Actual value of jog step cursor
jogspeed	Actual value of jog speed cursor
WCO.X	Actual value of WCO X (Work Coordinate Offset) use .X.Y.Z
MPos.X	Actual Machine position. Support .X.Y.Z
WPos.X	Actual Work position. Support .X.Y.Z

4. Default configuration

Grbl \$\$ configuration					
#	Parameter	Value	Unit		
\$0	Step pulse time	10	microseconds	X	
\$1	Step idle delay	25	milliseconds		
\$2	Step pulse invert	0	mask		
\$3	Step direction invert	5	mask		
\$4	Invert step enable pin	0	boolean		
\$5	Invert limit pins	0	boolean		
\$6	Invert probe pin	0	boolean		
\$10	Status report options	1	mask		
\$11	Junction deviation	0.010	millimeters		
\$12	Arc tolerance	0.002	millimeters		
\$13	Report in inches	0	boolean		
\$20	Soft limits enable	0	boolean		
\$21	Hard limits enable	0	boolean		
\$22	Homing cycle enable	0	boolean		
\$23	Homing direction invert	0	mask		
\$24	Homing locate feed rate	25.000	mm/min		
\$25	Homing search seek rate	500.000	mm/min		
\$26	Homing switch debounce delay	250	milliseconds		
\$27	Homing switch pull-off distance	1.000	millimeters		
\$30	Maximum spindle speed	1000	RPM		
\$31	Minimum spindle speed	0	RPM		
\$32	Laser-mode enable	0	boolean		
\$100	X-axis travel resolution	160.000	step/mm		X
\$101	Y-axis travel resolution	160.000	step/mm		
\$102	Z-axis travel resolution	160.000	step/mm		
\$110	X-axis maximum rate	10000.000	mm/min		
\$111	Y-axis maximum rate	10000.000	mm/min		
\$112	Z-axis maximum rate	10000.000	mm/min		
\$120	X-axis acceleration	500.000	mm/sec ²		
\$121	Y-axis acceleration	500.000	mm/sec ²		
\$122	Z-axis acceleration	500.000	mm/sec ²		
\$130	X-axis maximum travel	200.000	millimeters		
\$131	Y-axis maximum travel	200.000	millimeters		
\$132	Z-axis maximum travel	200.000	millimeters		

X: Do not change these settings unless you know what you're doing.