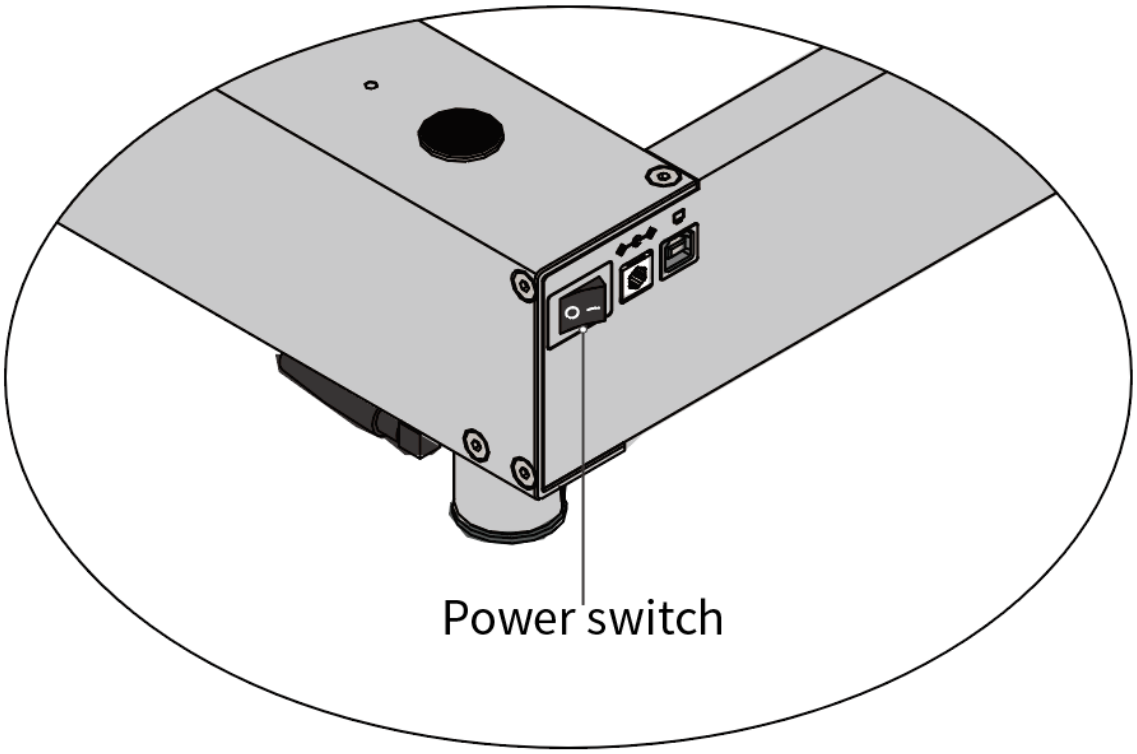
LightBurn for xTool D1 (User Guide)

Disclaimer

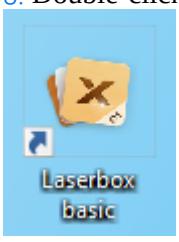
If you need to control xTool D1 through LightBurn, download the official release of the LightBurn software. LightBurn is third-party software, and therefore Makeblock Co., Ltd. shall bear no responsibility for any loss caused due to the operation of LightBurn.
The firmware of xTool D1 has been tested in detail by Makeblock Co., Ltd, but incompatibility with the software or hardware may still occur. If errors occur due to incompatibility, you can contact our after-sales service for technical support.

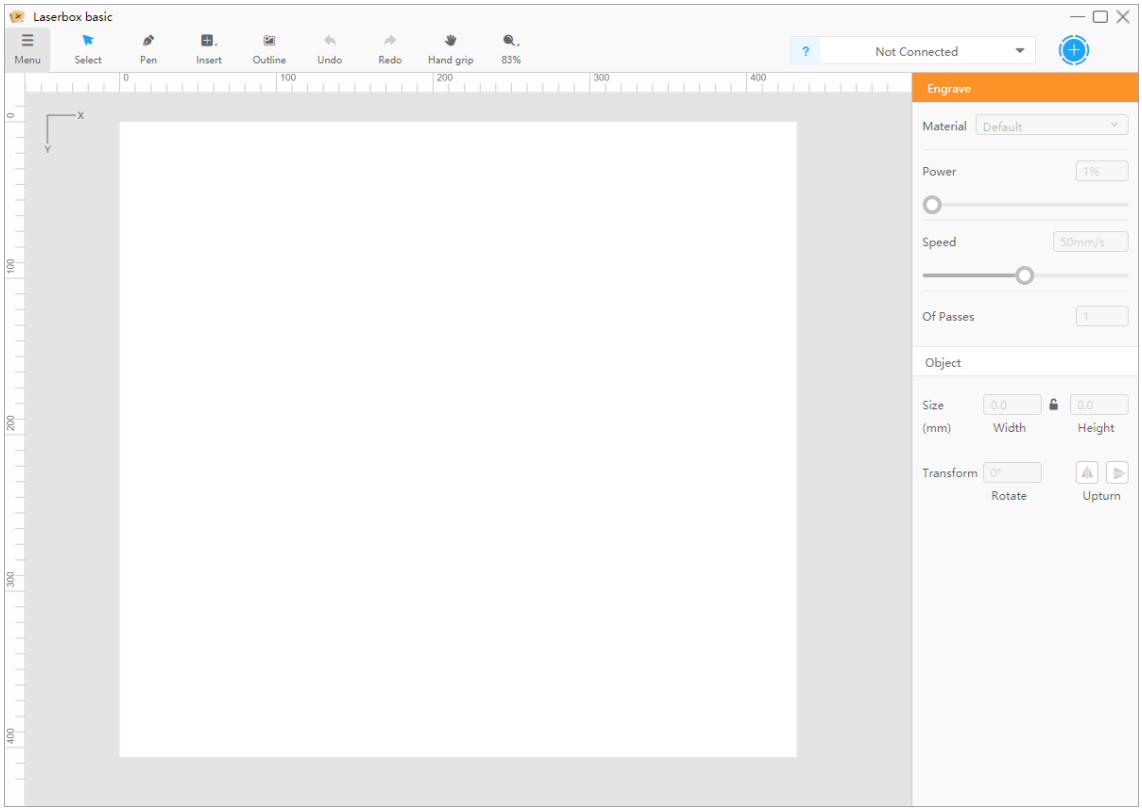
Update the firmware of xTool D1

To ensure the compatibility of xTool D1 with LightBurn, you need to update the firmware of xTool D1 to version **V1.1.0 B3** that supports LightBurn, and to update the firmware of xTool D1, you need to install Laserbox basic of version V1.1.1 or later.
Perform the following steps to update the firmware of xTool D1:
1. Turn on the power switch of xTool D1.



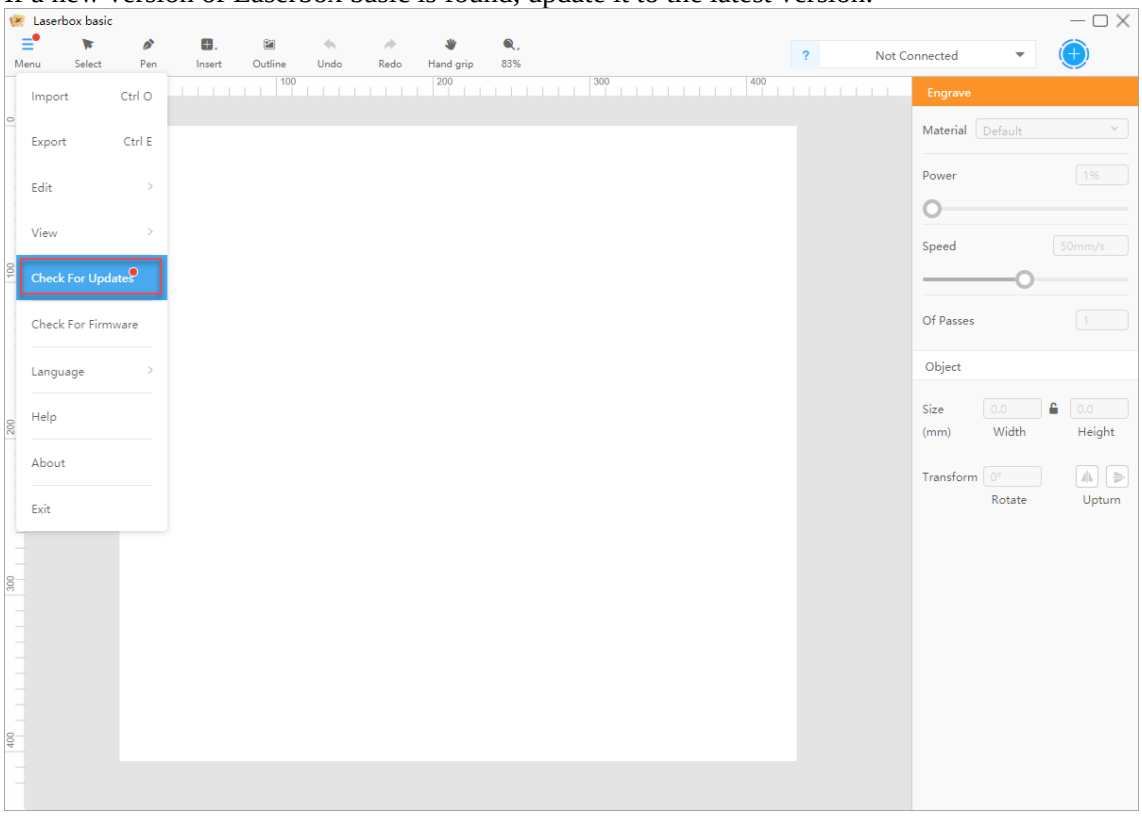
2. Use the USB cable to connect xTool D1 to your computer.
3. Double-click the Laserbox basic icon to open it.



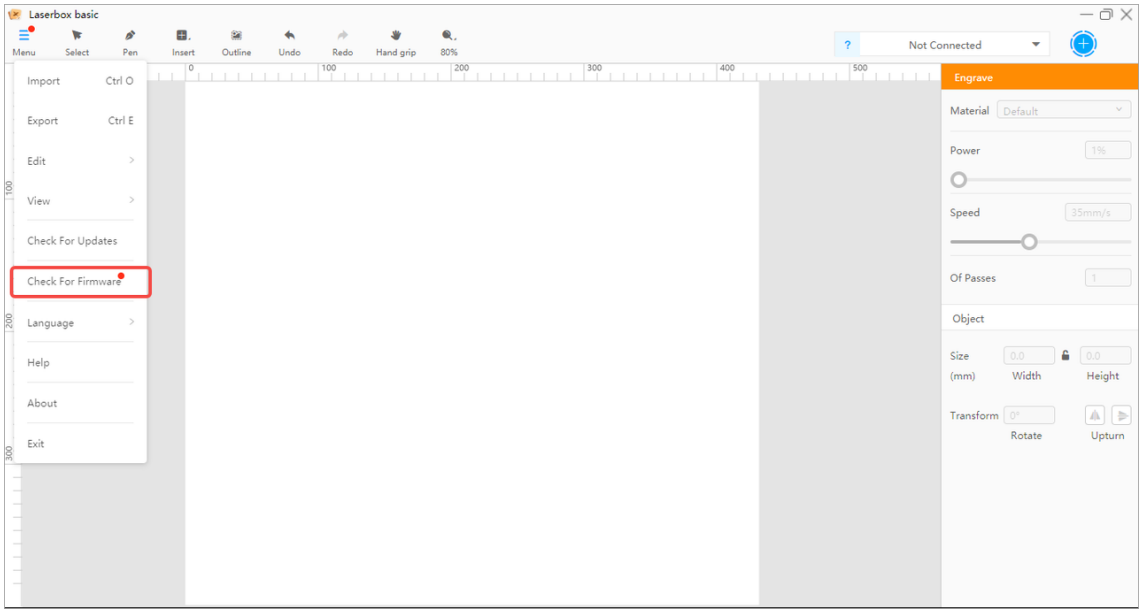


4. Choose **Menu** > **Check for Updates**.

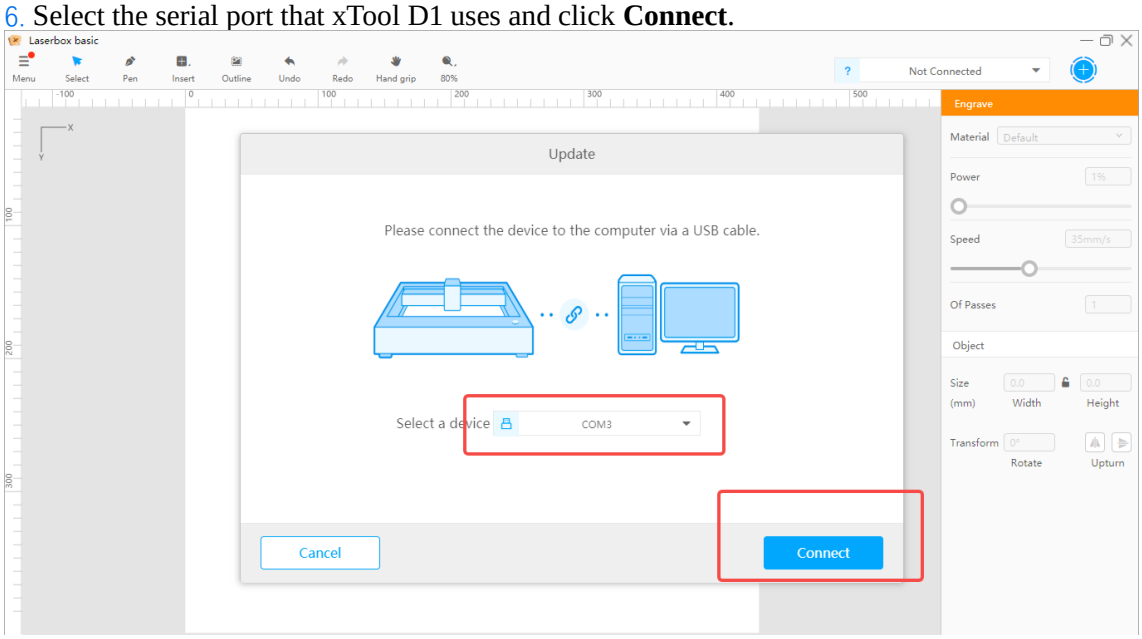
If a new version of Laserbox basic is found, update it to the latest version.



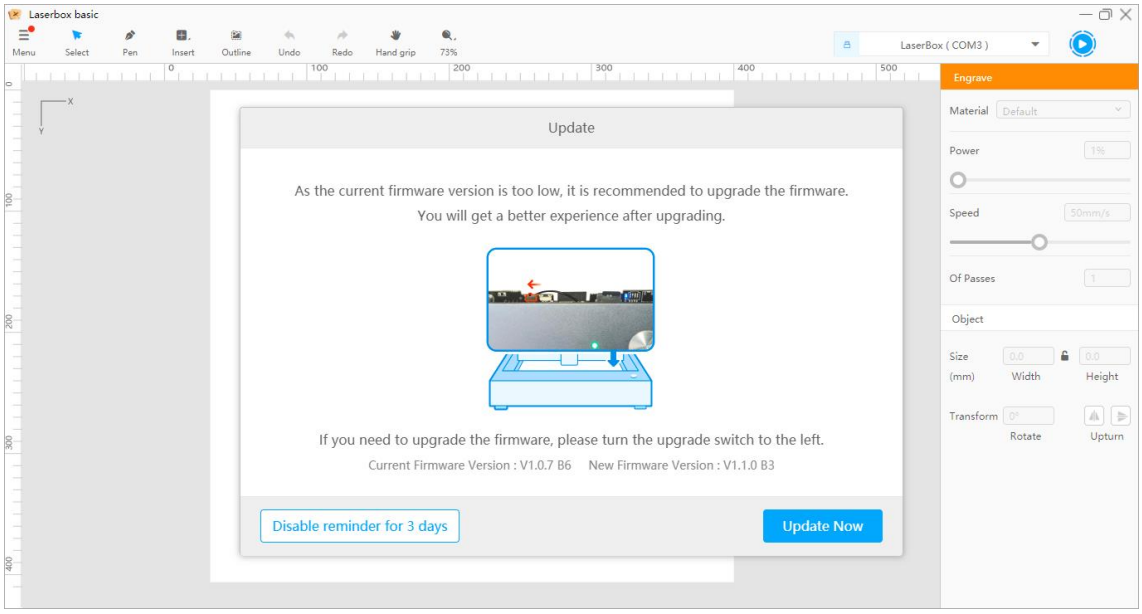
5. Choose **Menu** > **Check For Firmware**.



6. Select the serial port that xTool D1 uses and click **Connect**.

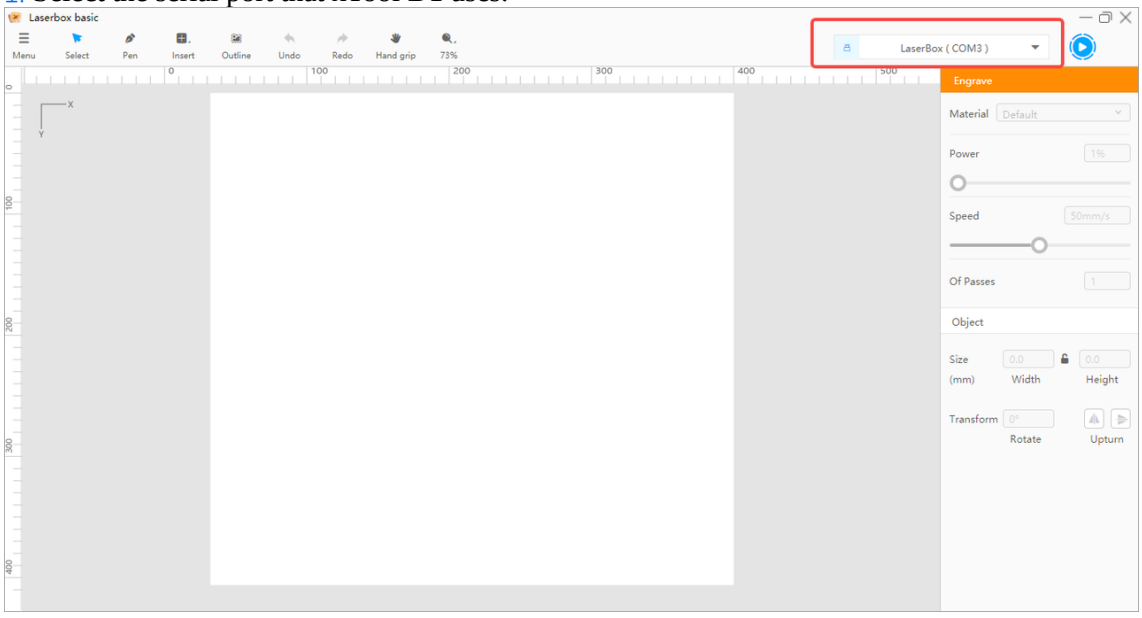


7. Click **Update Now**, and wait for the update to complete.

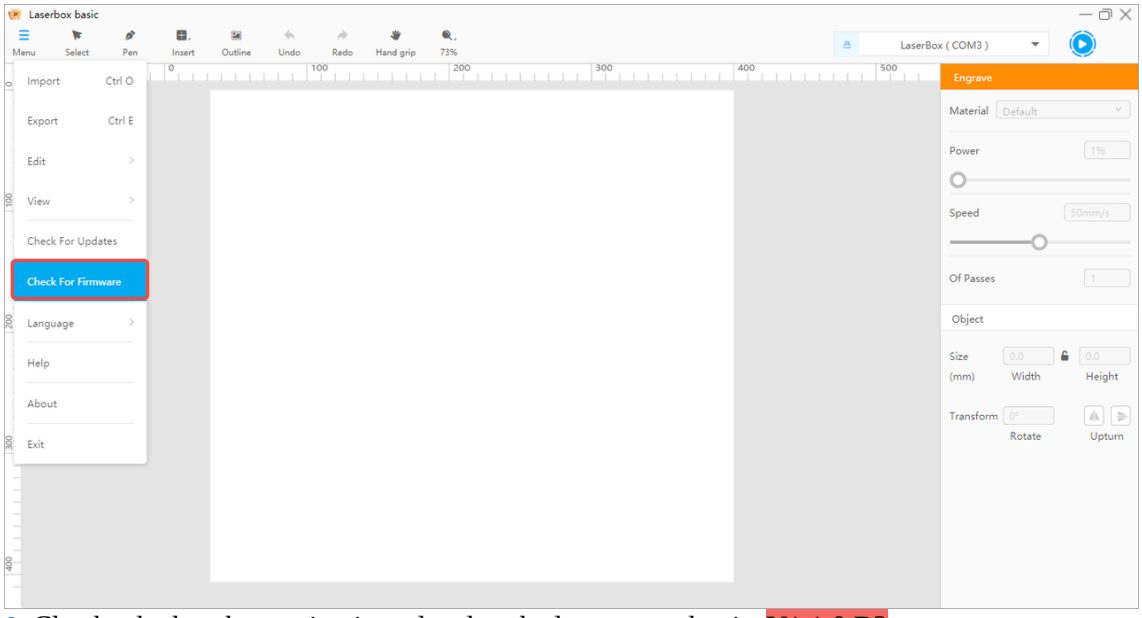


Check the firmware version

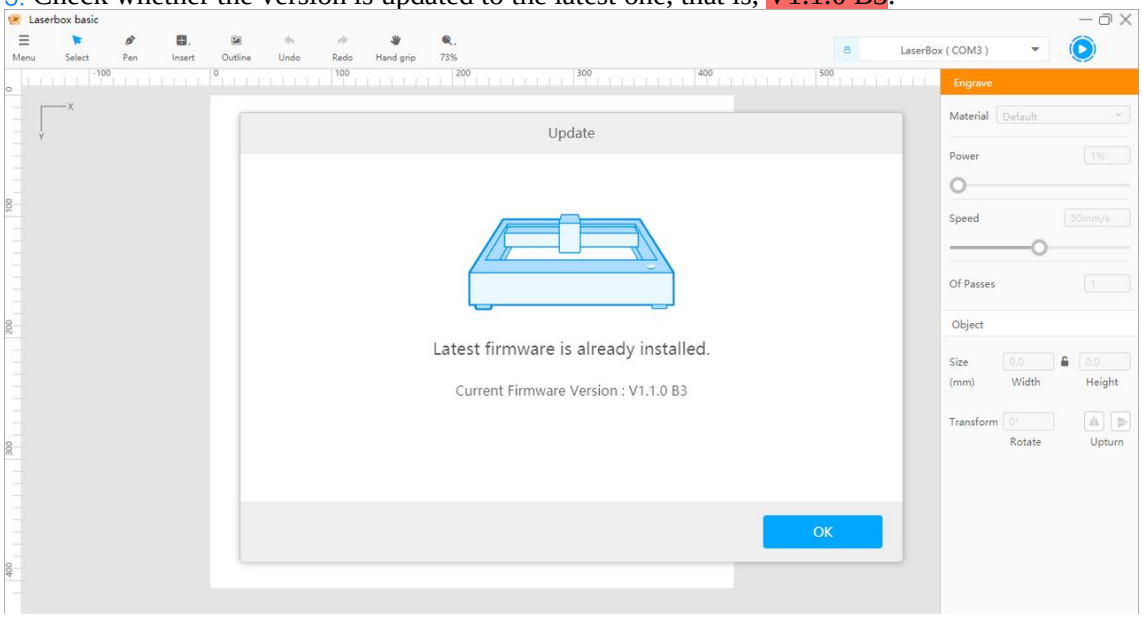
1. Select the serial port that xTool D1 uses.



2. Choose **Menu** > **Check For Firmware**.



3. Check whether the version is updated to the latest one, that is, V1.1.0 B3.



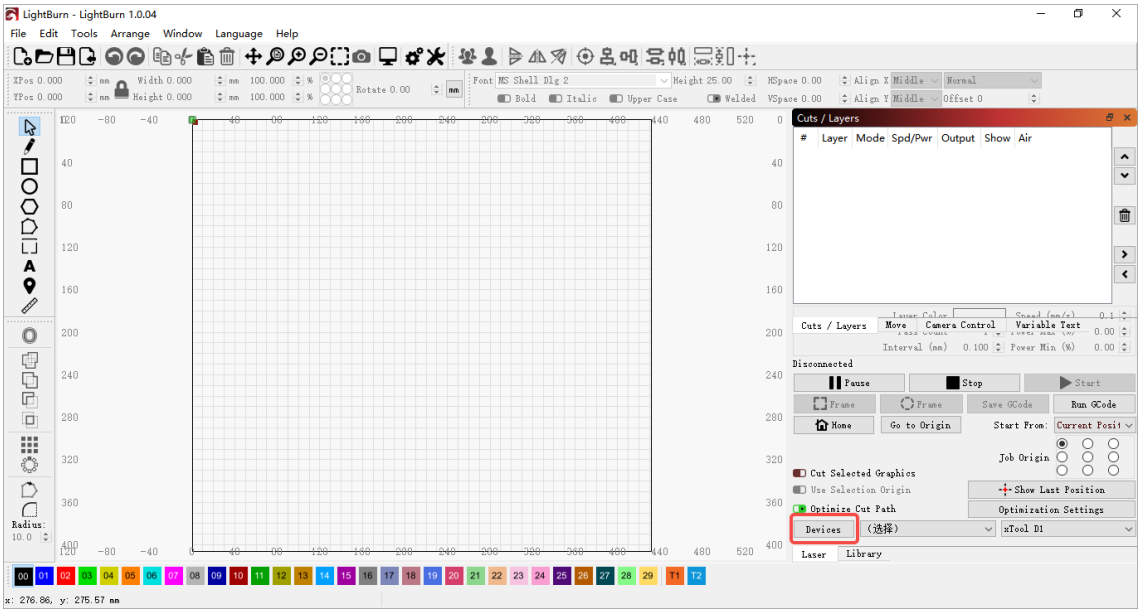
Obtain and install LightBurn

Go to https://lightburnsoftware.com/pages/trial-version-try-before-you-buy to download the latest version of LightBurn, and install it. If you are a new user, you have a 30-day free trial.
Note: Make sure you use the latest version of LightBurn. The version must be V1.0.0.4 or later.

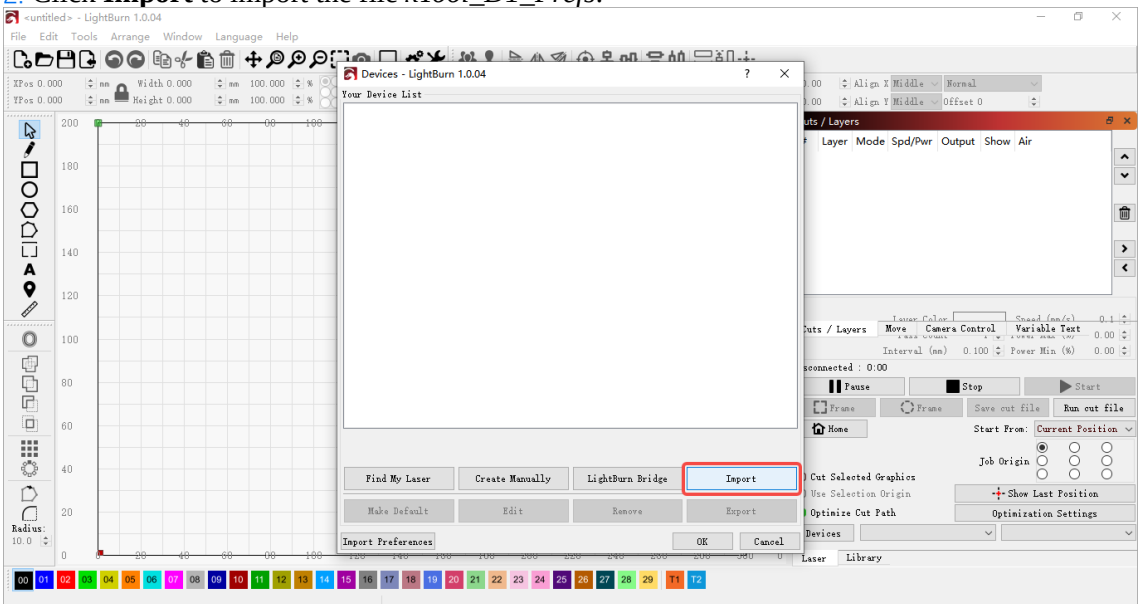
Configure xTool D1 on LightBurn

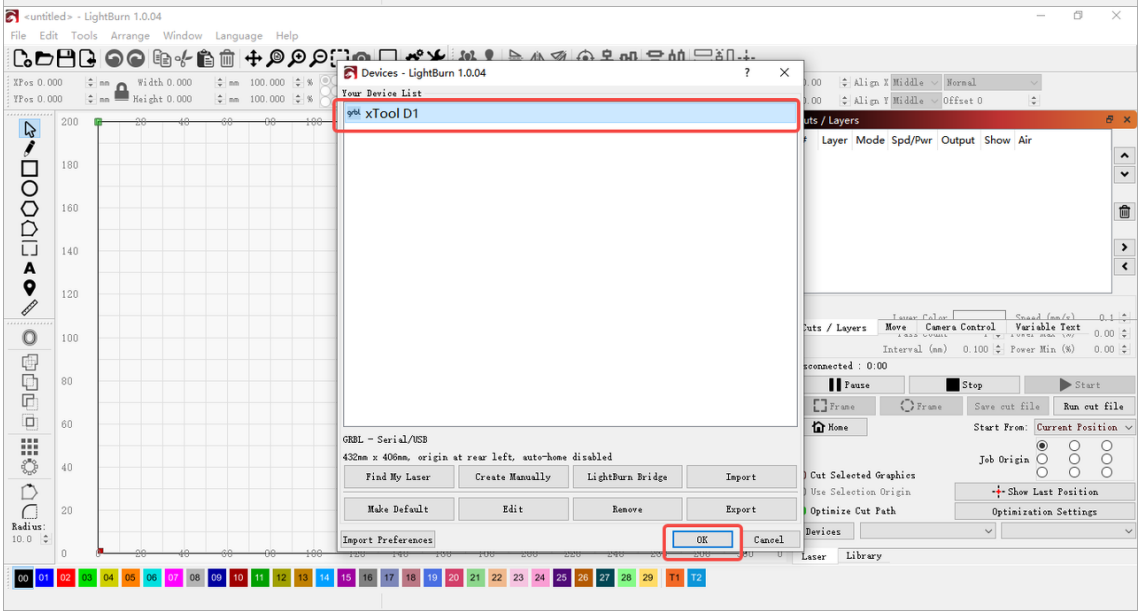
Before you configure xTool D1, download the configuration file first:

1. Open LightBurn, click **Devices** on the **Laser** panel.
Note: Make sure that you start to configure xTool D1 in this way instead of choosing **Import Prefs** from the menu. If you choose **Import Prefs**, the original configuration is overridden.

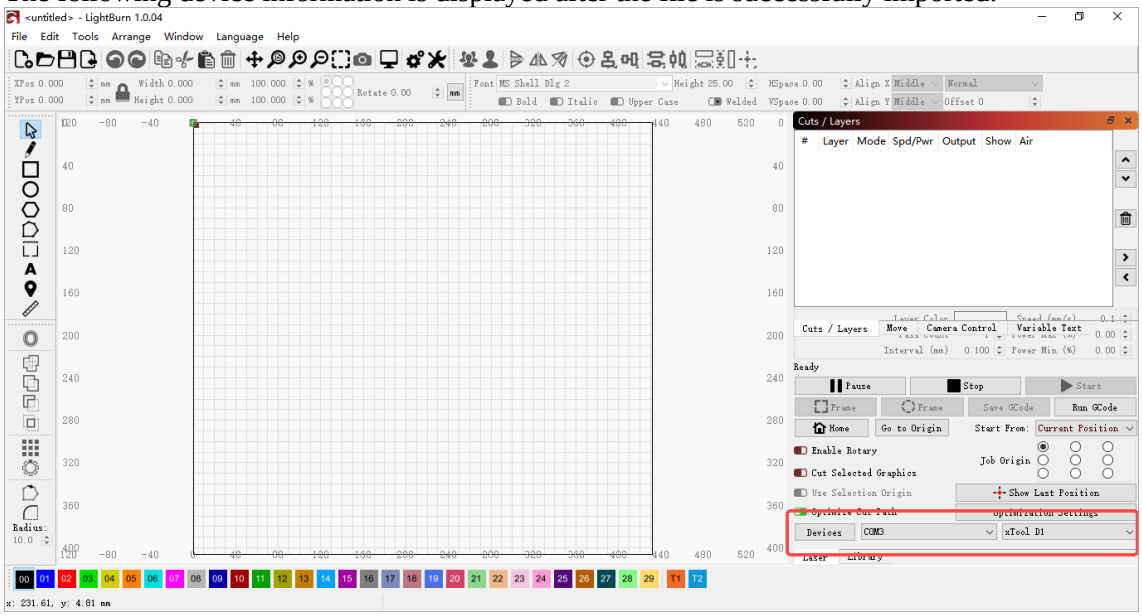


2. Click **Import** to import the file *xTool_D1_Prefs*.





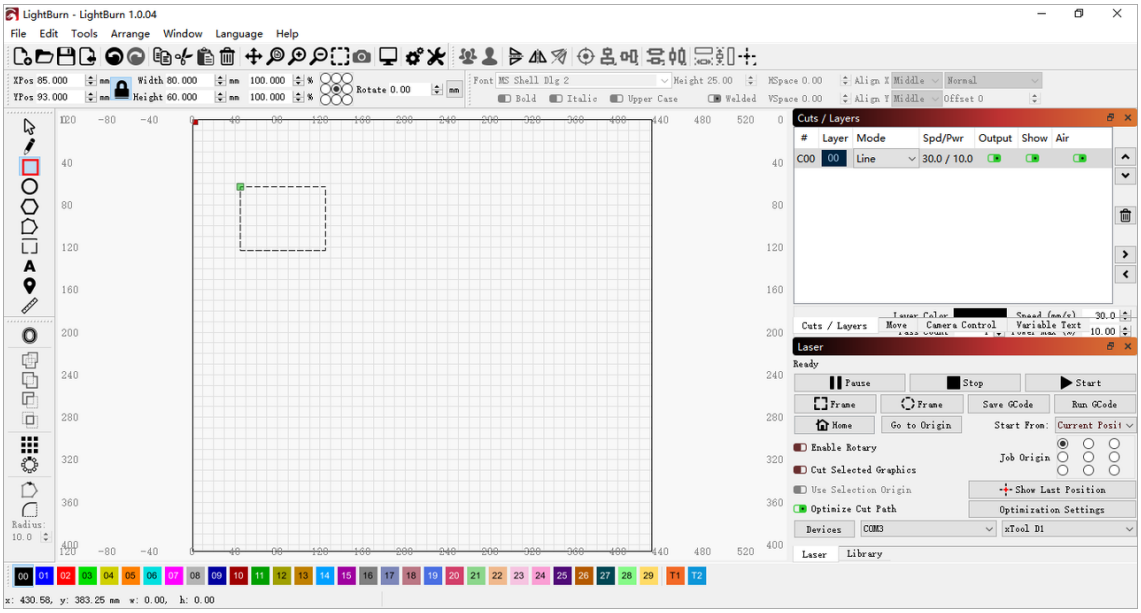
The following device information is displayed after the file is successfully imported.



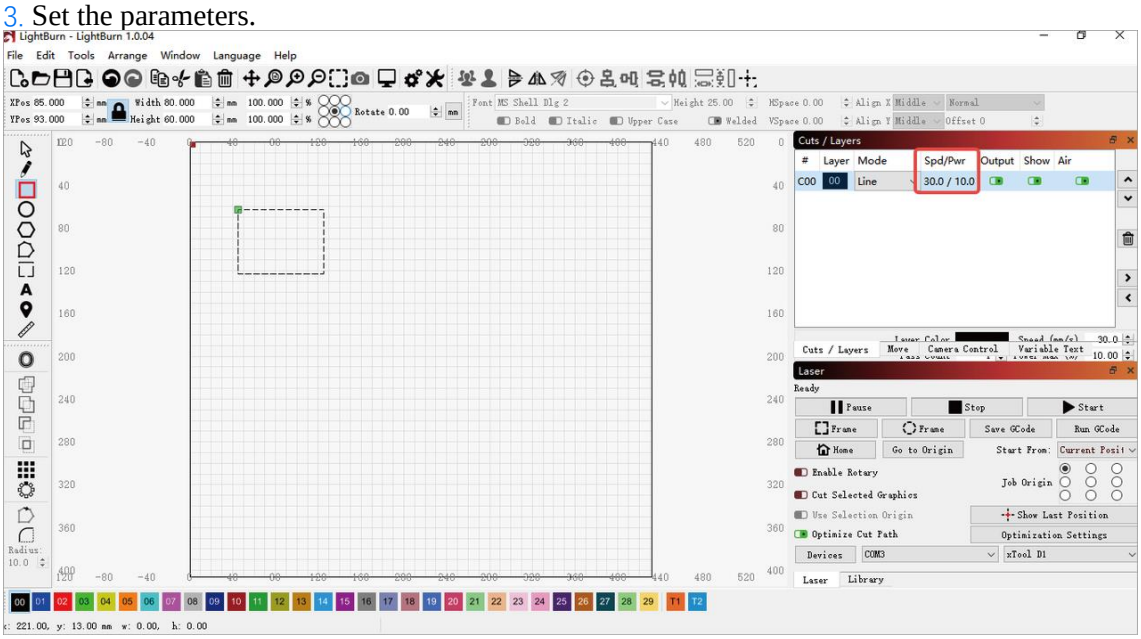
Operation guide--plane processing

1. Place a material to be engraved in the working area.
Put down the ranging rod to set the height of the laser head.
Note: The center point of the cross-shaped light beams is the start point for framing. You can move the laser head to place the center point in the position where you want to start engraving.

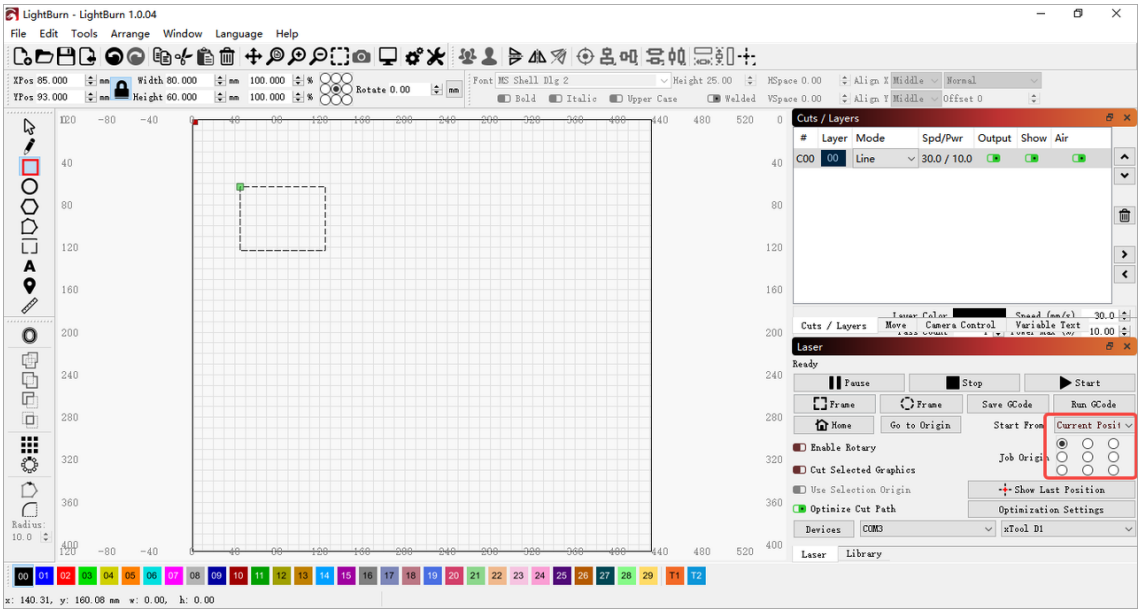
2. Draw a square on the canvas on LightBurn.



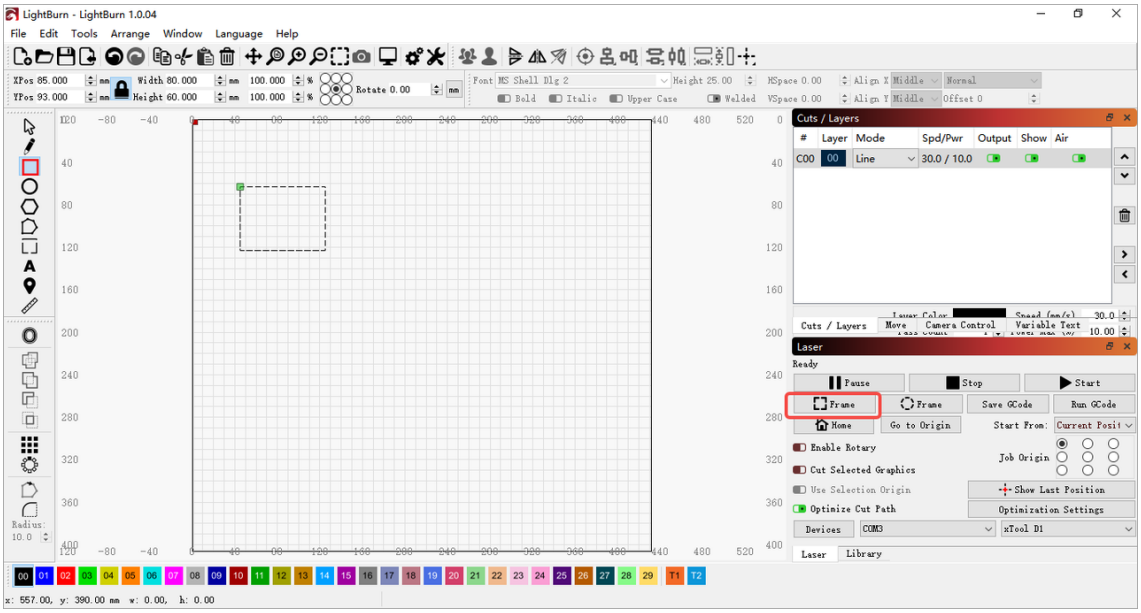
3. Set the parameters.



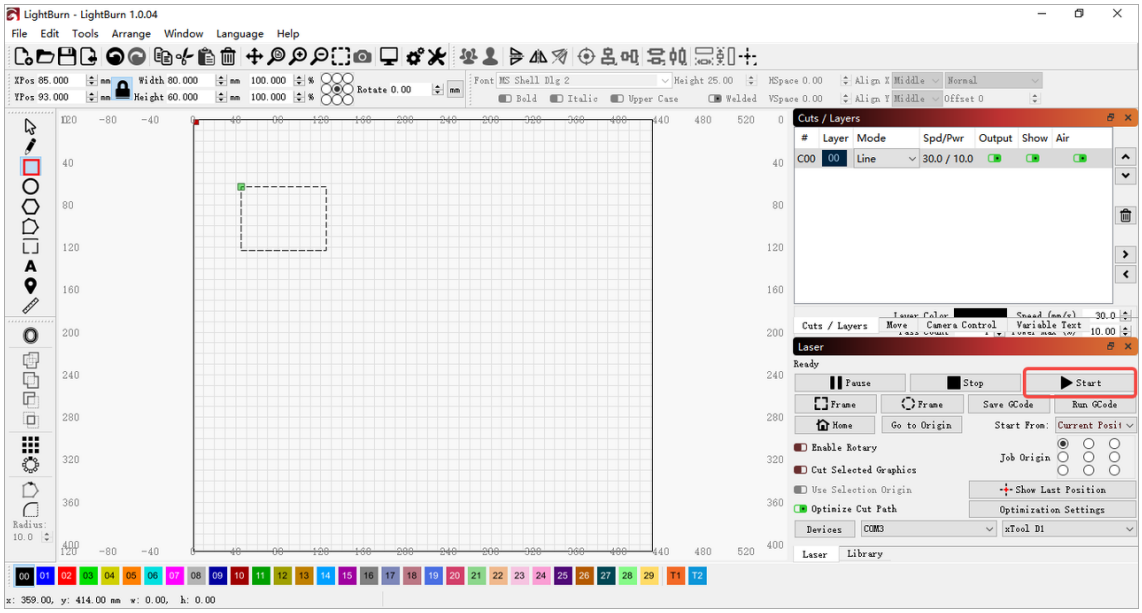
4. Set the start position.



5. Click **Frame** to see whether the pattern is to be engraved in the expected position of the material.



6. Click **Start**.



Operation guide--rotary processing

Install the rotary roller engraving module on xTool D1

1. Fit cylindrical spacer blocks to the supports of Laserbox D1.

To use the rotary roller engraving module, you need to fit cylindrical spacer blocks to the supports of Laserbox D1. Use the cylindrical spacer blocks supplied by Makeblock. Fit the cylindrical spacer blocks as follows:

(1) Remove the rubber ring from each support.

(2) Fit the rubber ring to each cylindrical spacer block.

(3) Fit the cylindrical spacer blocks to the supports of Laserbox D1.

Note:

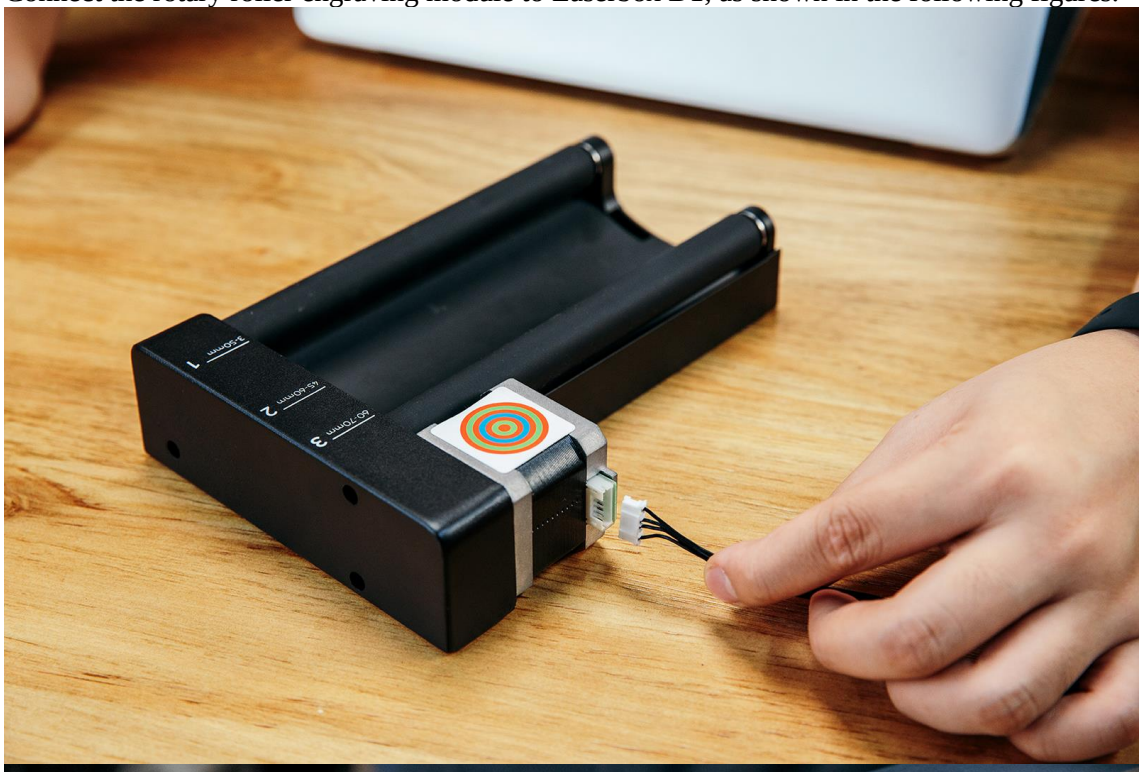
If one cylindrical spacer block is not high enough to engrave an object, you can add a second one, and so on.

2. Set the position of the movable roller on the rotary roller engraving module and connect it to Laserbox D1.

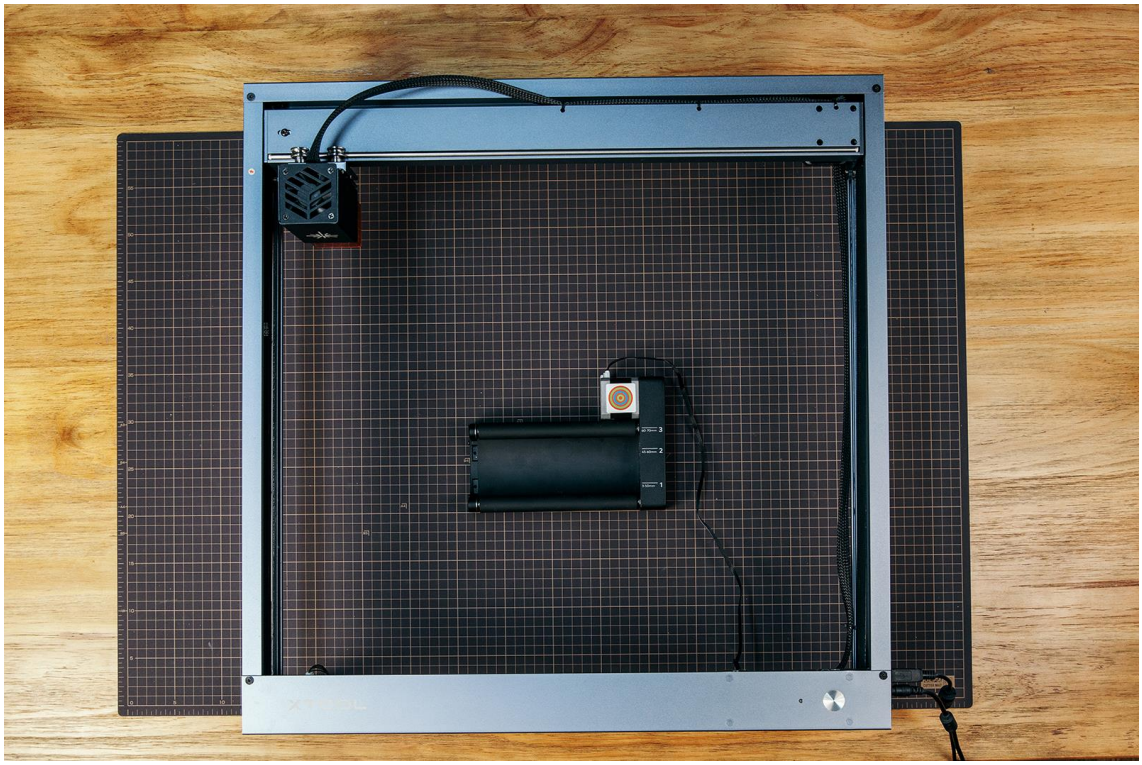
Use the engraving of a stainless-steel cup as an example.

For details about how to set the position of the movable roller, see "Setting the position of the movable roller."

Connect the rotary roller engraving module to Laserbox D1, as shown in the following figures.



3. Place the rotary roller engraving module in the middle of the working area of Laserbox D1.



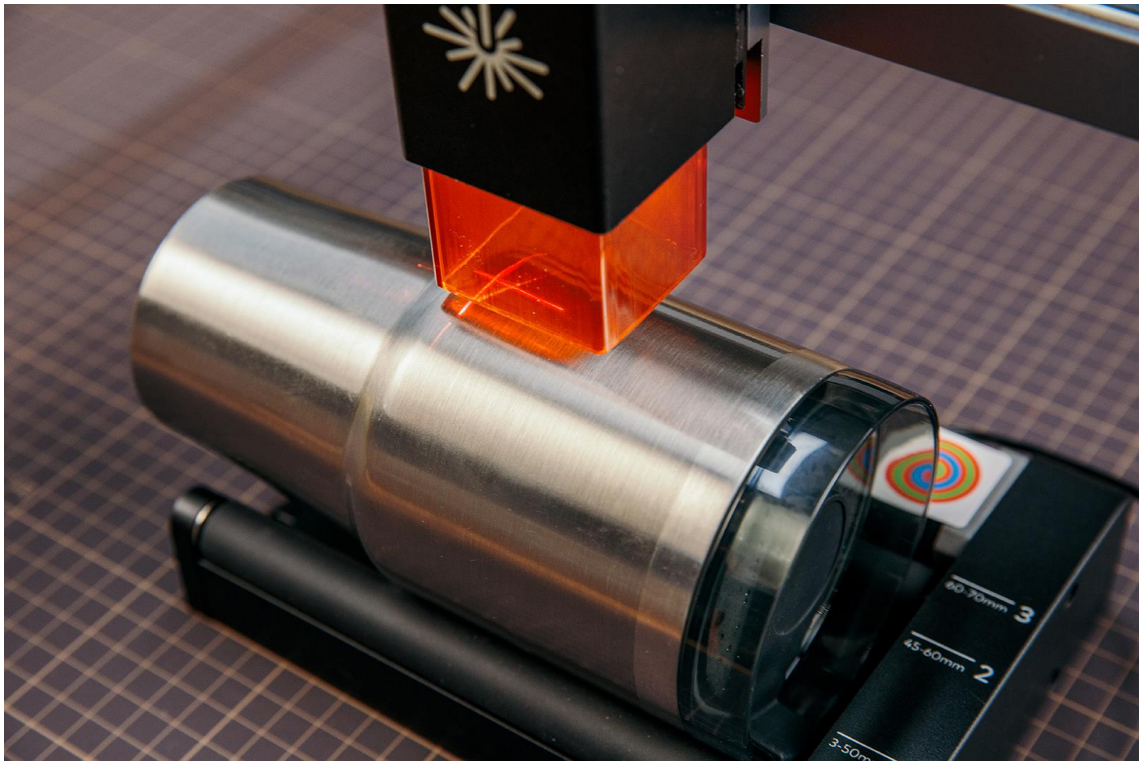
Note:

Ensure that you have placed the rotary roller engraving module parallel to the working area of Laserbox D1. Otherwise, the pattern to be engraved on the object may be deformed.

4. Focus the laser head.

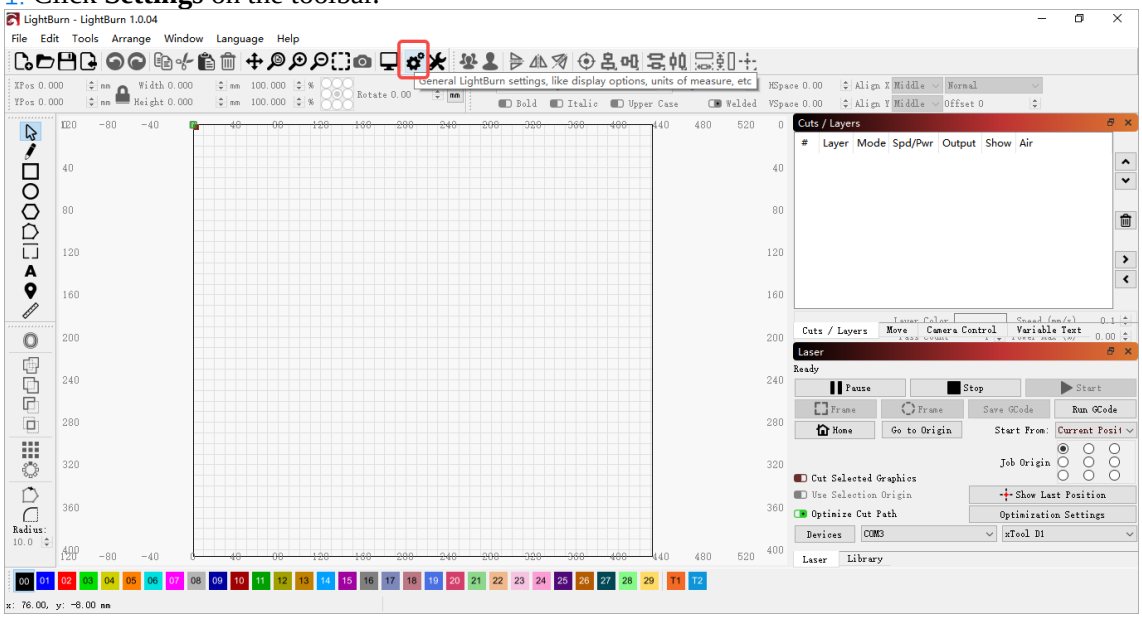
(1) Set the laser head to the proper height by using the ranging rod, and then move the laser head over the object to be engraved.

(2) Move the laser head again to position the center of the cross-shaped light beams at the start point to be engraved.

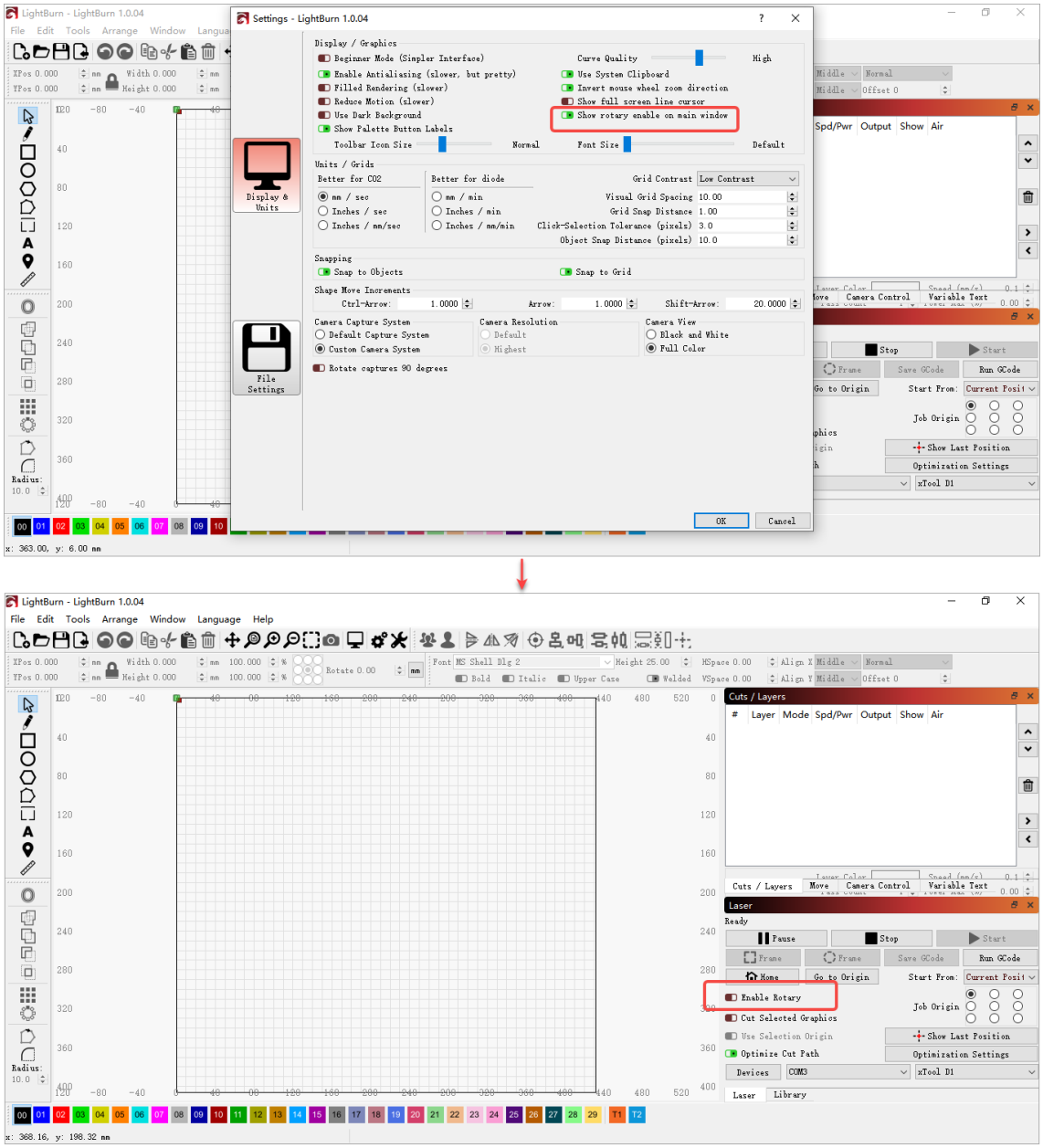


Use LightBurn

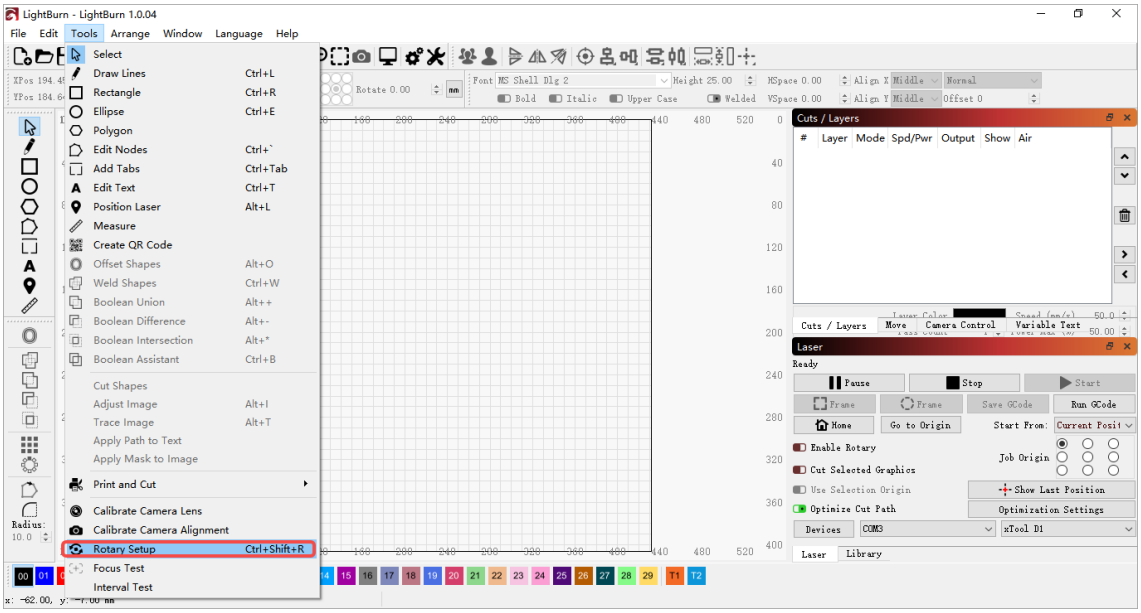
1. Click **Settings** on the toolbar.



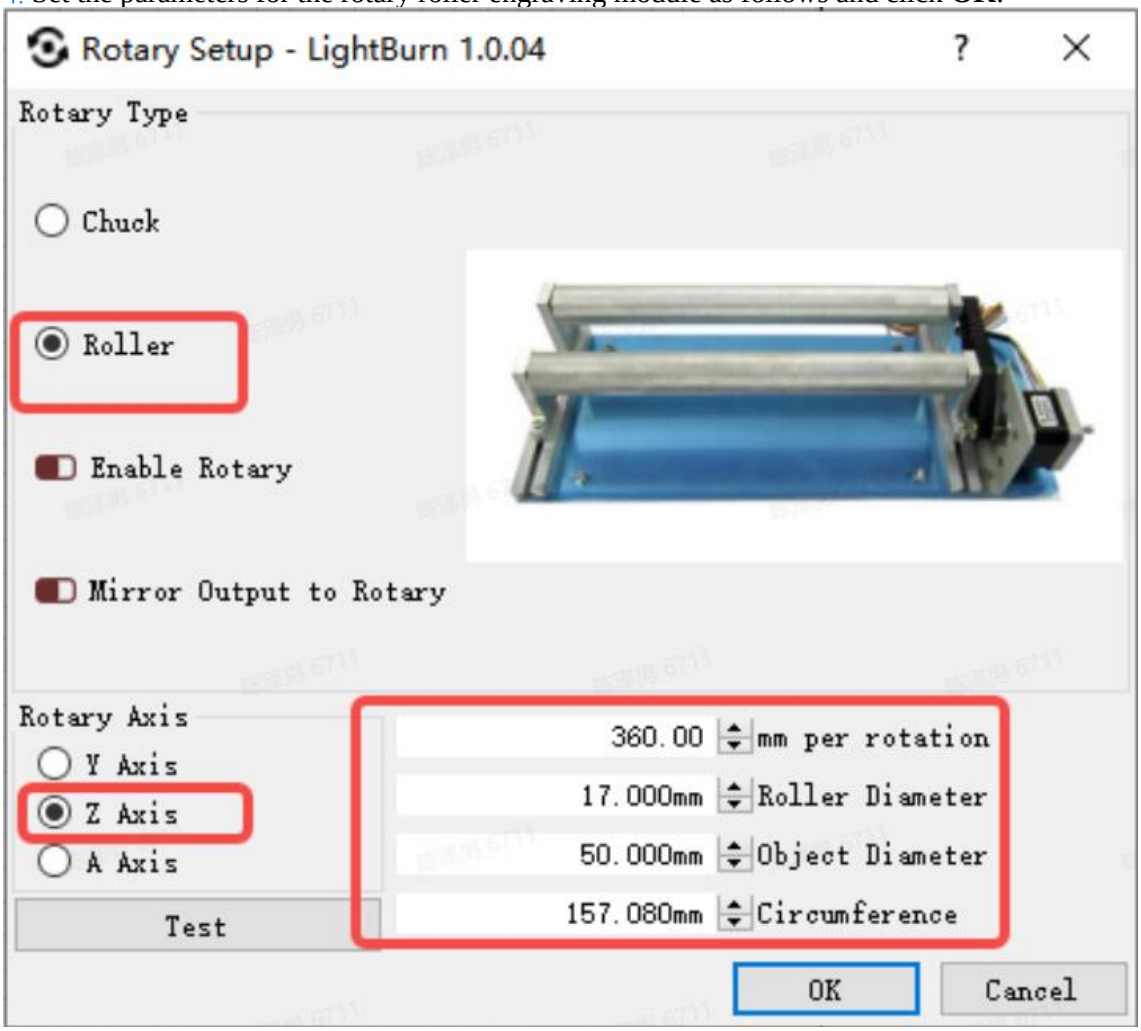
2. Enable **Show rotary enable on main window** in the Settings window that appears, and click **OK**.



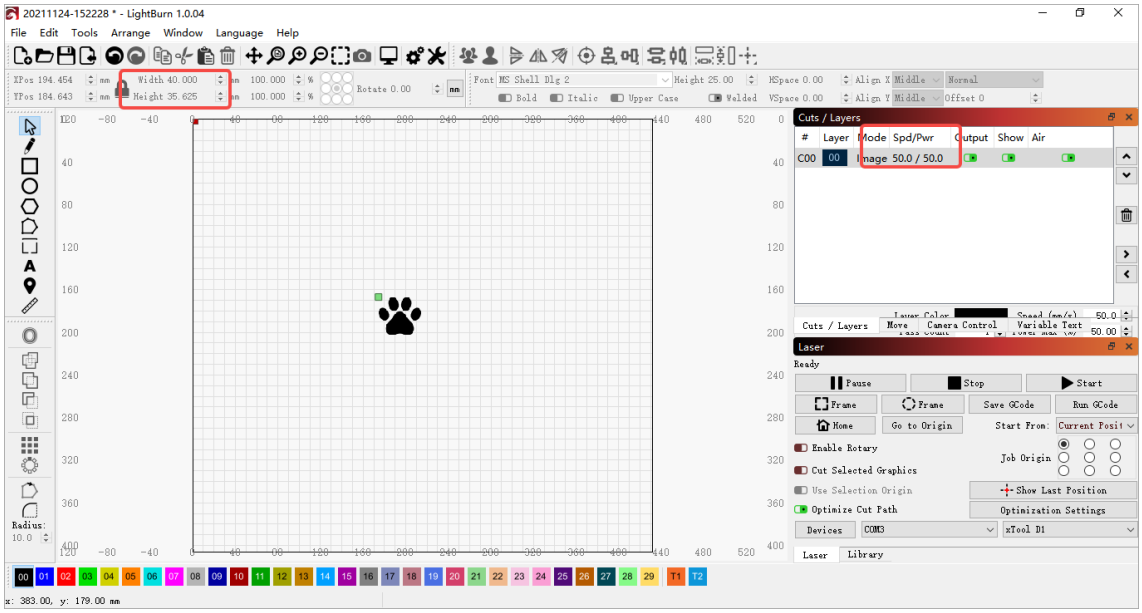
3. Choose **Tools** > **Rotary Setup**.



4. Set the parameters for the rotary roller engraving module as follows and click **OK**.



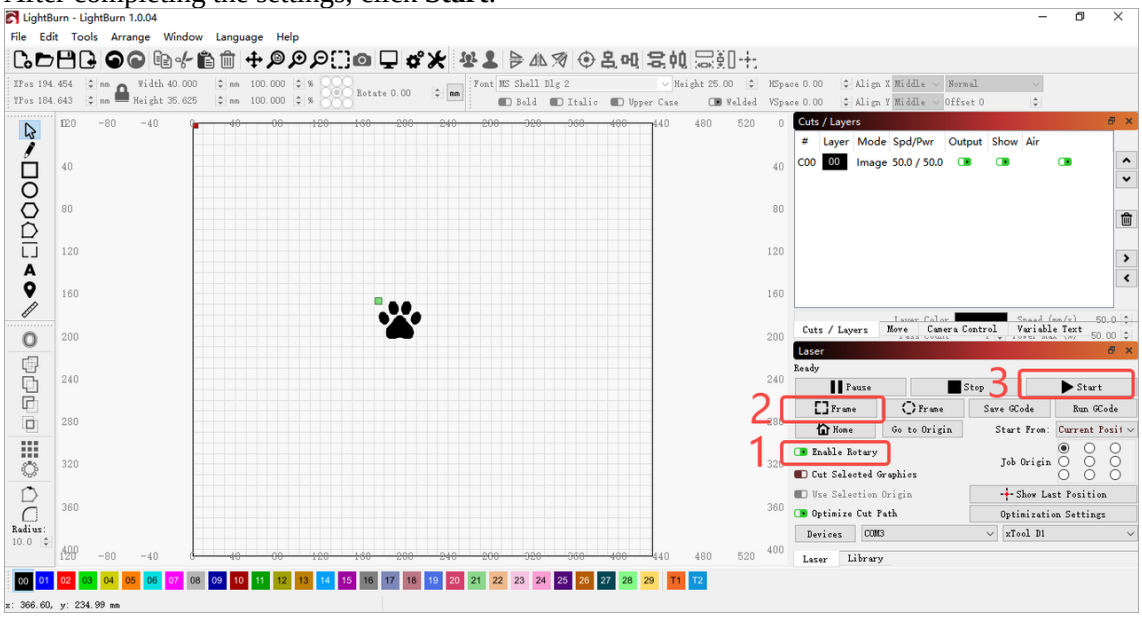
5. Import the pattern you want to engrave, set the size of the pattern, and set the engraving power and speed.



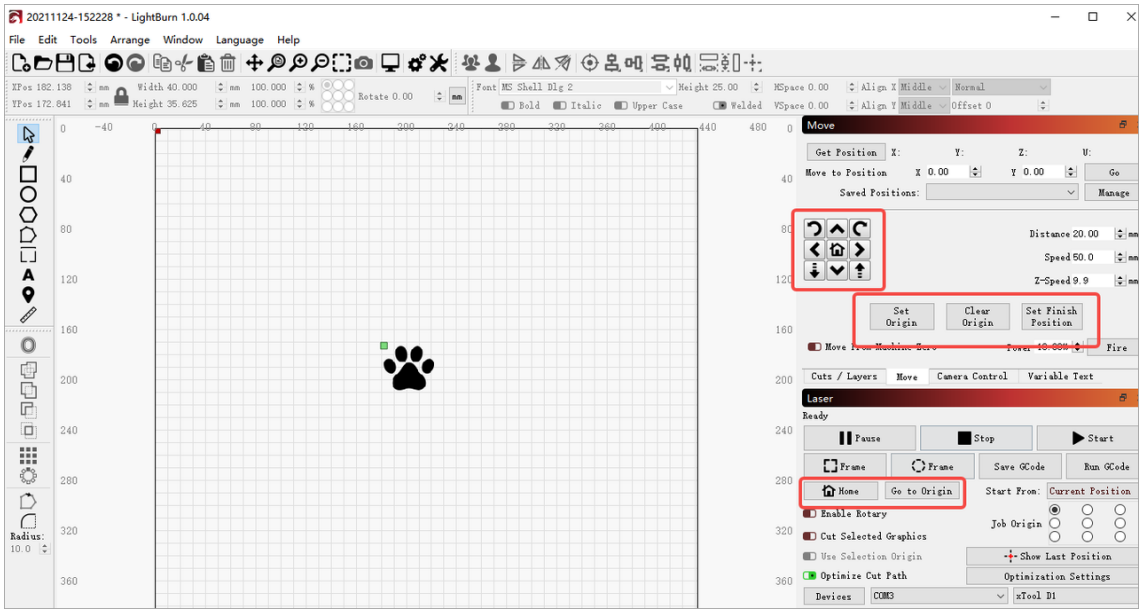
6. Enable **Enable Rotary**.

You can click Frame to preview the position where the pattern is to be engraved and then set the laser head to the expected position.

After completing the settings, click **Start**.



Note: Currently, the firmware supports only some functions of the rotary roller engraving module. **Start From** can be set only to **Current Position**. Settings on the **Move** tab are not available.



Setting the position of the movable roller

Set the engraving position. For example, you can change the position of the movable roller from 2 to 1 as follows:

(1) Remove the screw from the movable roller.

(2) Pull up the support of the movable roller. Rotate the movable roller to the target position.

(3) Put the support of the movable roller into the corresponding slot and press it into place. The side with a concave part faces away from the movable roller.

(4) Tighten the removed screw to fix the support of the movable roller in the target position.

Recommended settings for material parameters

xTool D1-5W (laser power of 5W)

	Material name	Power (%)	Speed (mm/m)	Speed (mm/s)	Number of times
Cutting	3.5mm Corrugated Paper	100%	300	5	1
	3mm Basswood	100%	240	4	1
	4mm Basswood	100%	120	2	1
	5mm Basswood	100%	120	2	1
	0.7mm Artificial Leather	100%	720	12	1

	Material name	Power (%)	Speed (mm/m)	Speed (mm/s)	Number of times
	Basswood	95%	4200	70	1

Engraving	3.5mm Corrugated Paper	60%	6000	100	1
	Artificial Leather	85%	6000	100	1
	Stainless Steel	100%	300	5	1
	Coated Metal	100%	3600	60	1

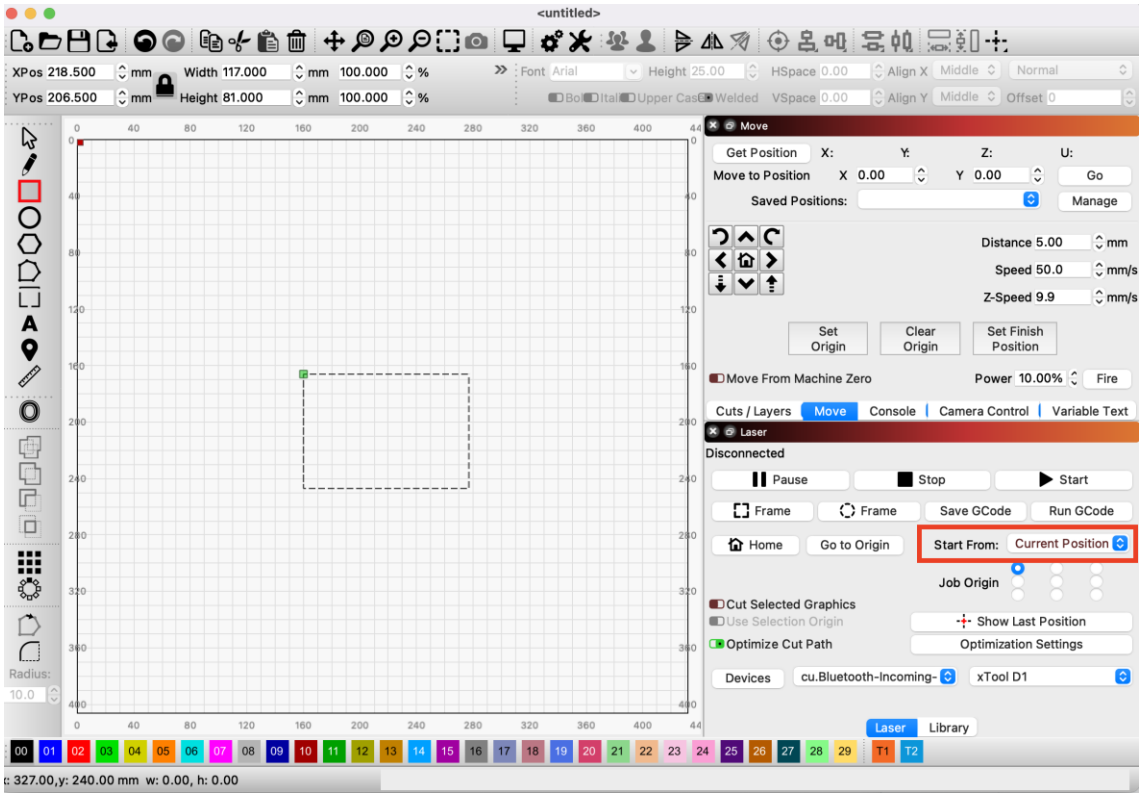
xTool D1-10W (laser power of 10W)

	Material name	**Power (%)**	**Speed (mm/m)**	**Speed (mm/s)**	**Number of times**
Cutting	3.5mm Corrugated Paper	100%	540	9	1
	3mm Basswood	100%	300	5	1
	4mm Basswood	100%	180	3	1
	5mm Basswood	100%	120	2	1
	0.7mm Artificial Leather	95%	1200	20	1

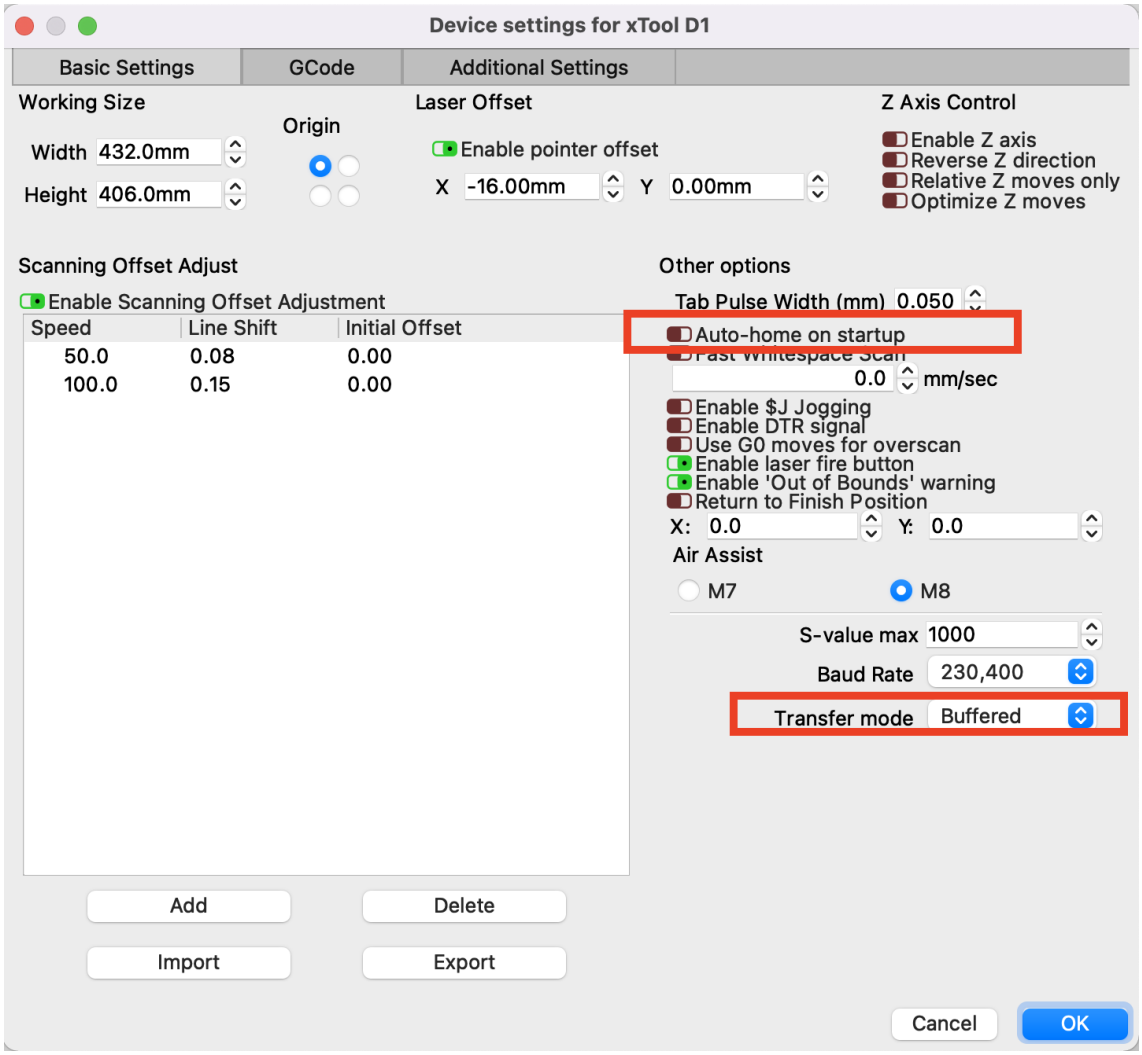
	Material name	**Power (%)**	**Speed (mm/m)**	**Speed (mm/s)**	**Number of times**
Engraving	Basswood	75%	6000	100	1
	3.5mm Corrugated Paper	40%	6000	100	1
	Artificial Leather	50%	6000	100	1
	Stainless Steel	100%	720	12	1
	Coated Metal	100%	4200	70	1

Precautions

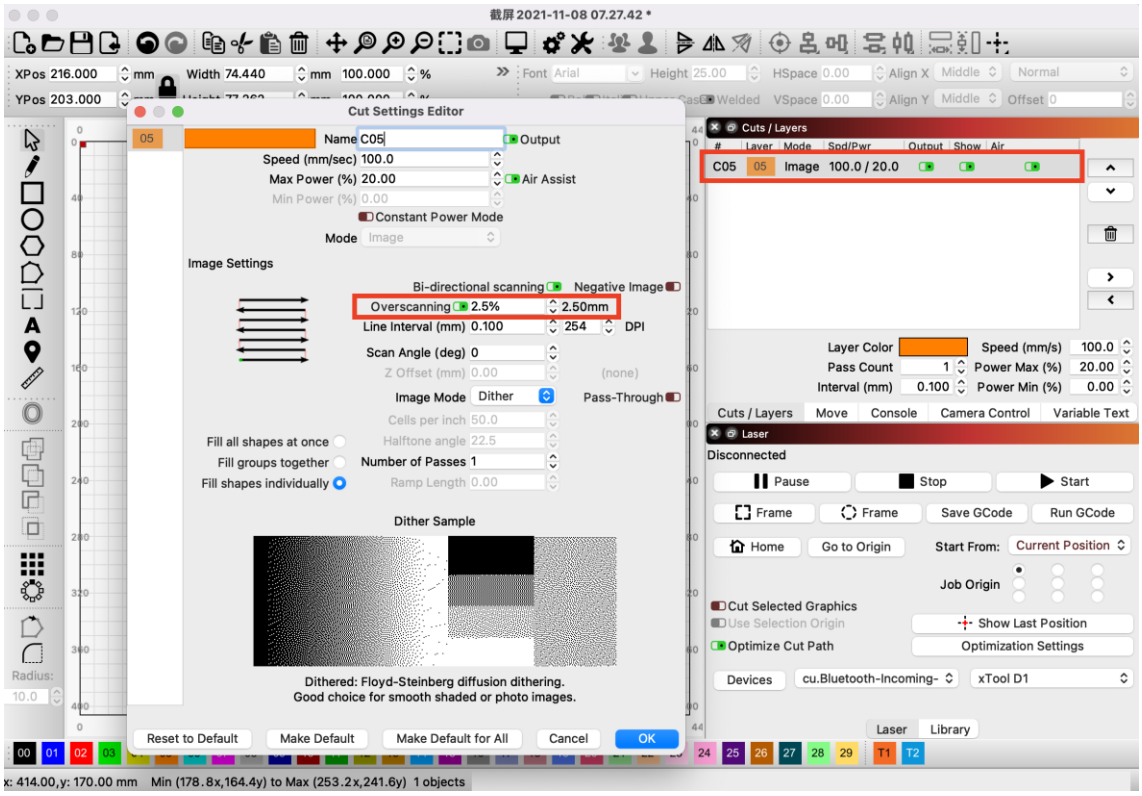
1. The start position is set to **Current Position** by default in the configuration file.



2. The start position is set to **Current Position** by default in the configuration file. The **Transfer mode** is set to **Buffered** by default. Do not change the transfer mode.

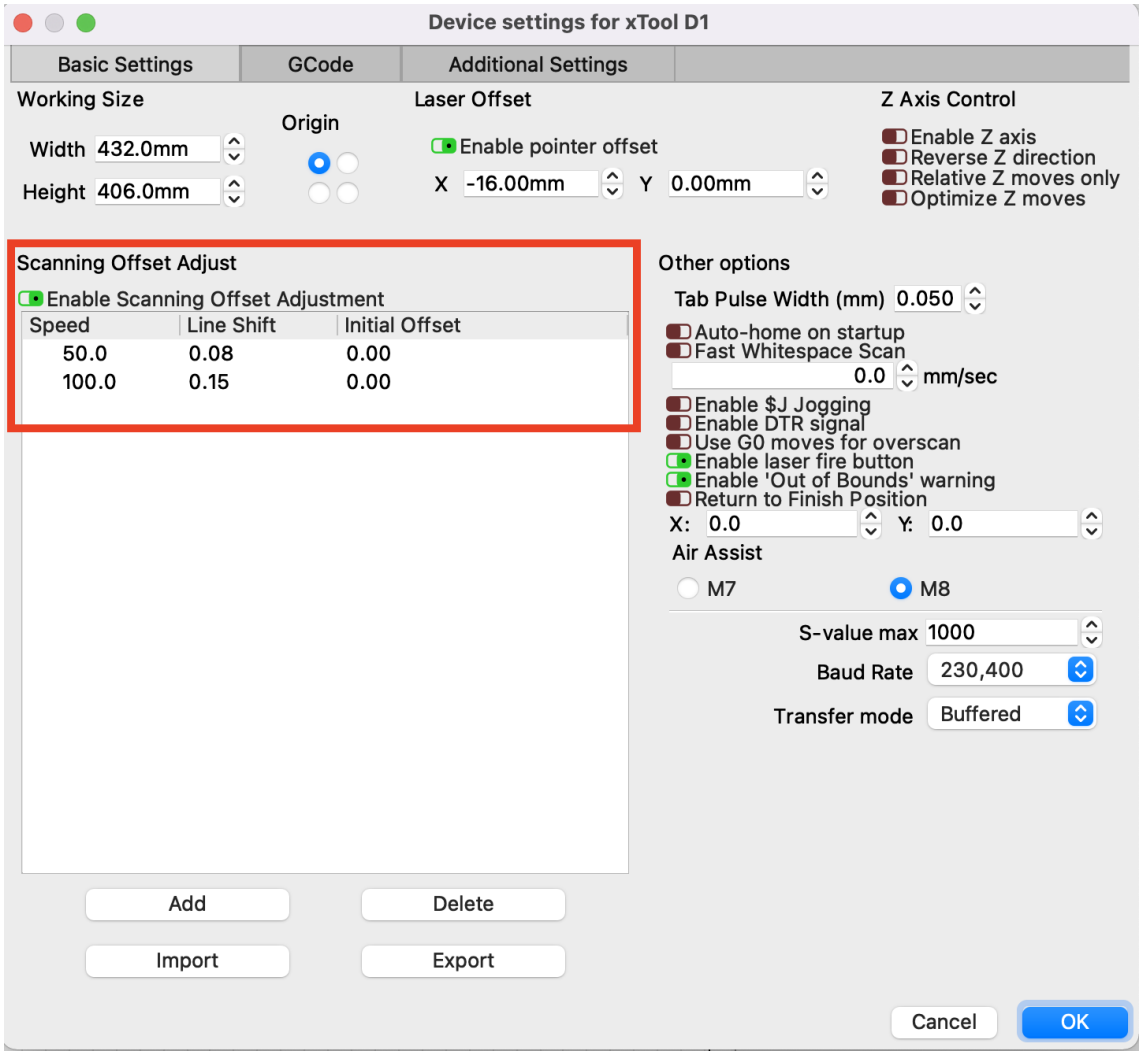


3. Enable **Overscanning** in the layer settings to prevent the edges from being burned black.



4. Currently, you can switch between Laserbox basic and LightBurn after turning on the power switch of xTool D1. To switch between Laserbox basic and LightBurn, you need to power off xTool D1 and then power on it again.

5. To use LightBurn to control xTool D1, you need to set the **Scanning Offset Adjust** parameters to ensure the engraving performance. These parameters are set by default in the *xTool_D1_Prefs* configuration file. If you have imported the configuration file, you don't need to set those parameters.



For the description of the **Scanning Offset Adjust** parameters, go to https://lightburnsoftware.github.io/NewDocs/ScanningOffsetAdjustment.html.

More information

For details about the functions of LightBurn, go to the following webpages:

- Tutorial video: https://lightburnsoftware.com/pages/tutorials
- LightBurn function description: https://lightburnsoftware.github.io/NewDocs/index.html

To read this user guide in another language, you can use Google Chrome to translate it to the target language.