CHUCK ROTARY

USER MANUAL

Full Spectrum LASER

Safety Warning:

Do not leave your machine unattended.

Avoid using materials made of carbon or that contain carbon components.

Always keep a fire extinguisher and first aid kit nearby.

Do not attempt to access any electrical areas while the machine is on. Unplug the machine and wait for an hour before accessing panels.

Never stare directly into the laser when running a project. Always wear the provided safety goggles.

Inspect your machine before each use. Do not use if the machine or its accessories are damaged in any way.

Always maintain a clean work area.

Looking for financing or eager to buy, contact Sales:

M-F 8AM-5PM PST
sales@fslaser.com
702-802-3101

Need help, visit us at our Help Center or contact Support:

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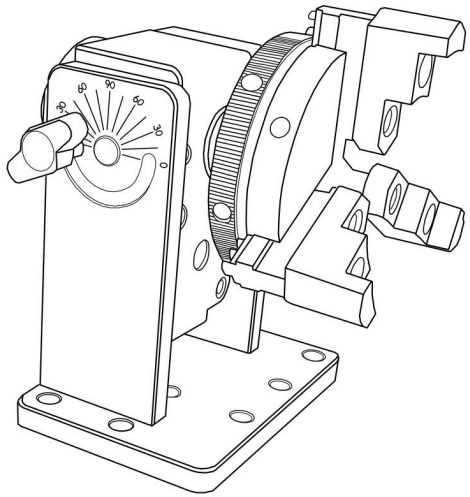
702-802-3103

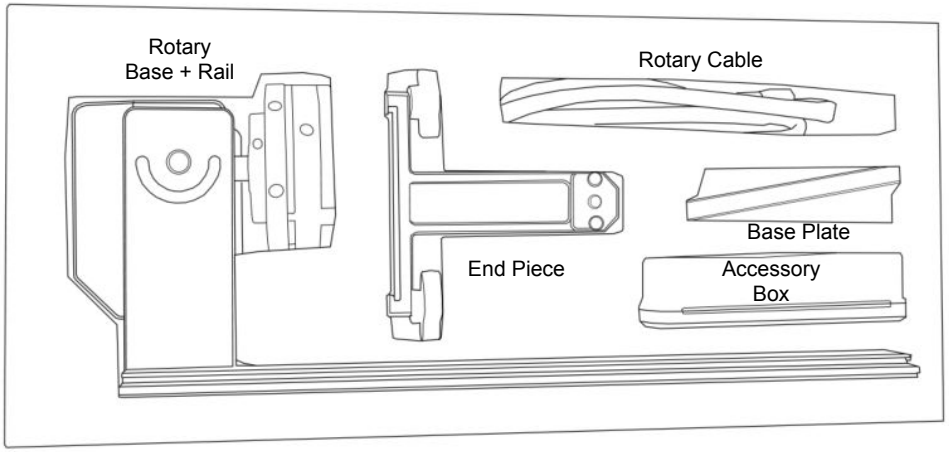
Specifications:



Material	Aluminum Alloy
Size	300 mm X 101 mm X 122 mm
Engraving Area	130 mm
Engraving Speed	6000 mm/min
Precision	0.1 mm
Clamping Weight	1.5 kg
Rotation Angel	180 °

Unboxing & Set-up:

1. Open the shipped box. Make sure the following items are included.



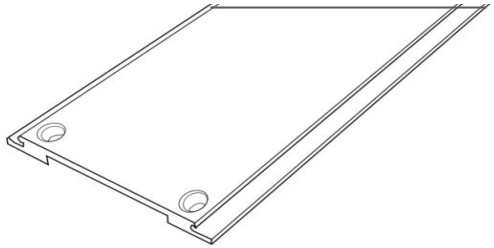
2. The machine can be set up in two ways:
   a. As a rail system - useful for engraving cylindrical object, such as tumblers

   b. As a chuck only base - useful for engraving smaller objects or for object to long for the rail system.

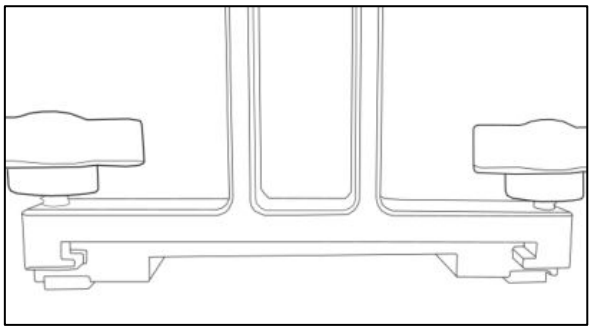
   In the following section we will go over how to set up the rail system and how to change it into the solo system if needed.

Rail Setup:

1. Remove the Chuck Base Assembly and the End Piece from the box.
2. Place the base assembly in a standing position. Have the open end facing you.



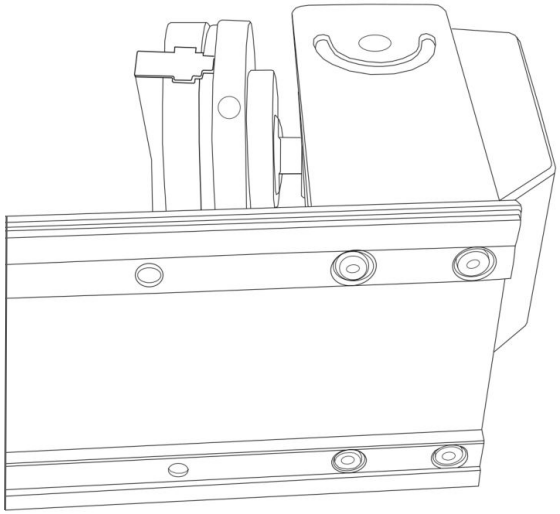
3. Grab the End Piece and slide it into the notches in the rail.



4. Make sure the End Piece is flush with the object you are trying to engrave before using the knobs to secure it in place.
5. You can now use you rotary.

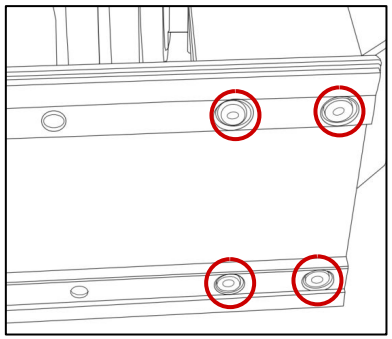
Chuck Base Setup (Galvo Only):

1. Remove the Chuck Base Assembly from the box and set it on it's side.



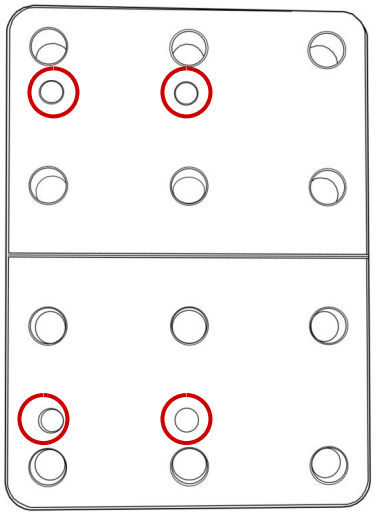
2. Open the accessory box and take out the provided Hex key.

3. Use the hex key to remove the four retaining screws (shown below).



4. Remove the rail from the chuck base and set aside.

5. Pull out the Base Plate. Align the base plate so that the smaller holes align with the chuck (as shown below).

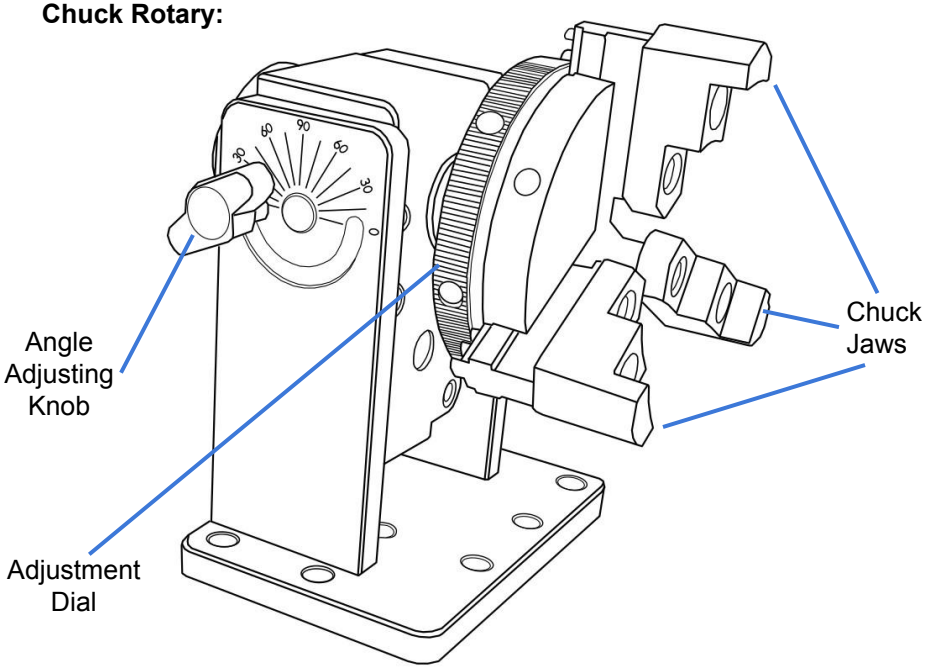


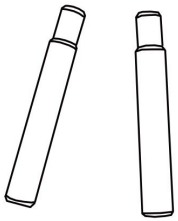
6. Make sure the chuck is properly aligned with the plate. Use the Hex key to tighten the screws in place.

7. Place the chuck assembly in the upright position. Use the retaining screws found in the accessory box to secure the chuck onto your machines work space.

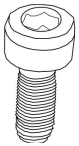
Diagrams:

Chuck Rotary:



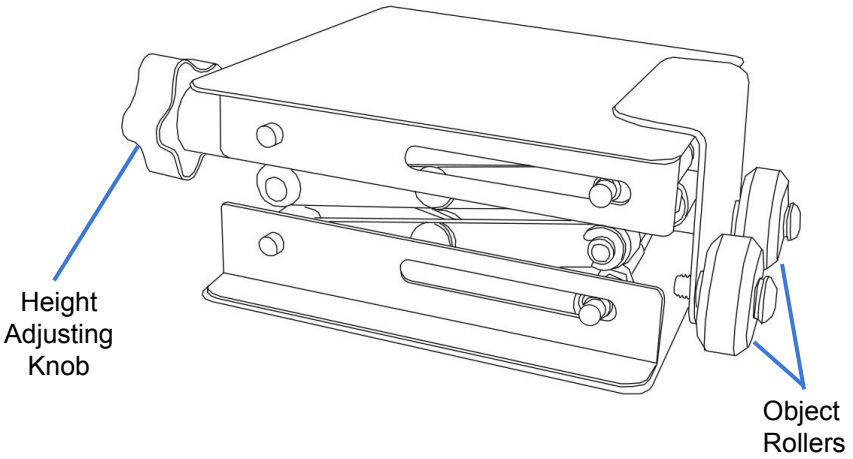


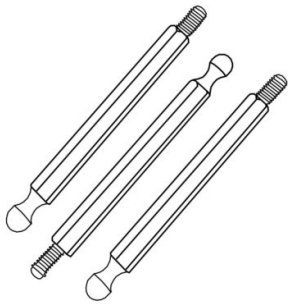
Dial
Tools



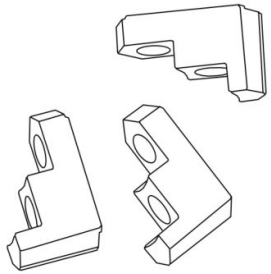
Chuck
retaining
Screws

Rotary Jack:



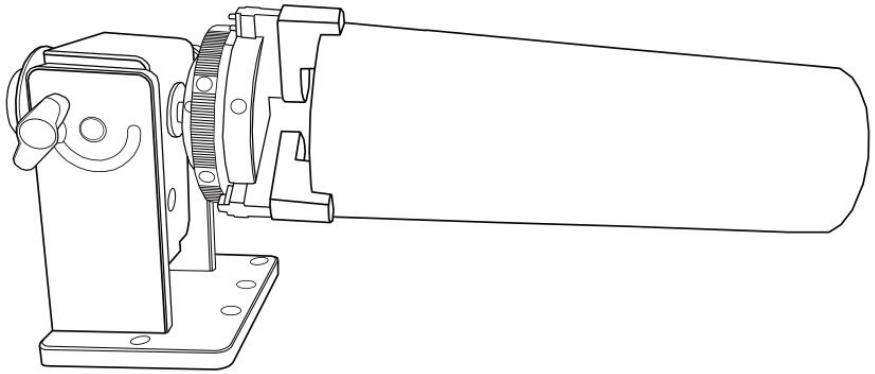


Rod Attachment

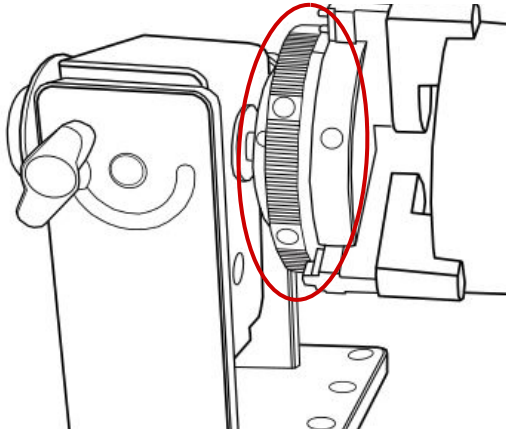


Jaw Attachment

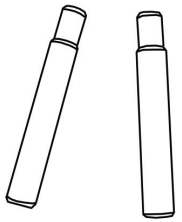
Using Rotary:



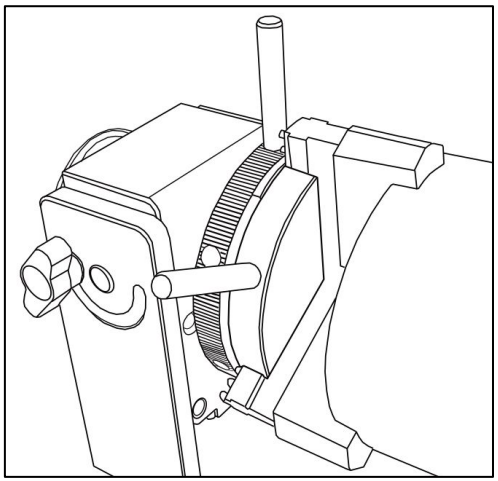
1. Position the chosen object inside the chuck jaws of the rotary (as seen above). Verify that the object is level by utilizing the included level prior to initiating the engraving process. To secure and stabilize longer or heavier objects, a jack is also included.



2. In order to adjust the jaws, use the following dial and rotate it.



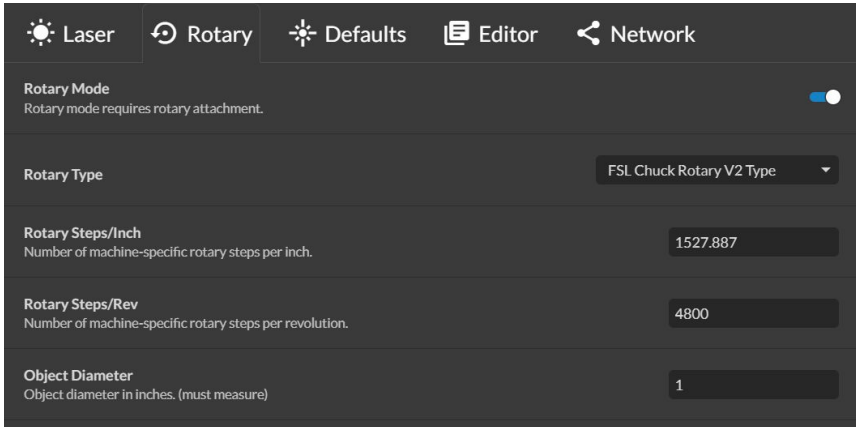
3. Secure the object in place by using these dial tools.



4. The dial tools are inserted into the dial holes (shown above) and then used to tighten the dial further.

The chuck rotary also offers different jaw options, making it possible to hold objects in many different ways. The jaws used will depend on the size of the object used. In order to determine the correct jaw size, measure the outer diameter of the object. If the object is tapered,measure the diameter of the area that will be marked.

Setting up the Rotary:



Settings:

1. Go to RE3 and enter the settings section.

2. Turn on the rotary mode and set the rotary type to **FSL Chuck Rotary V2**.

3. Save the changes and exit the settings page.

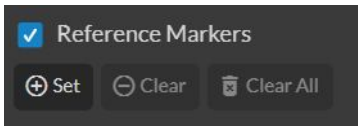
Setting Line Direction:

Make sure the machine is in focus before starting.

1. Enter Rotary mode if you have not done so already.

2. Select the Perimeter icon. A straight line will appear that serves as the rotation axis. Adjust the line direction if needed.

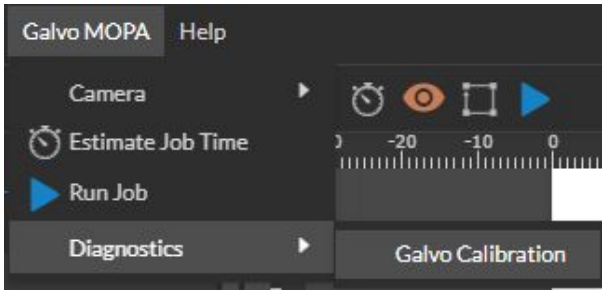
In order to adjust the line direction, turn off rotary mode. Then select on the reference markers option from the Jog Control tab.



Clear any reference markers in place before starting.

Use the directional arrow keys to jog the laser diode from one end of the object to the other. These set points will be used to define the new line.

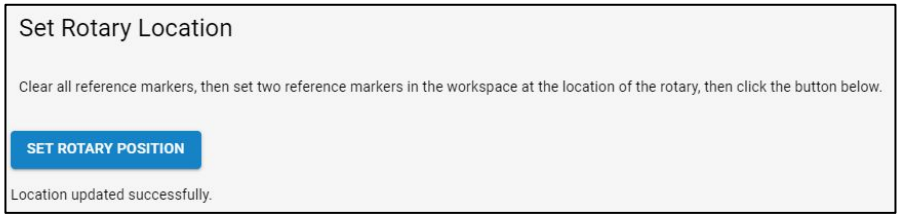
The rotary comes with a QR sticker attached near the jaws. Make sure the QR code is visible during the process as it will be needed for the realigning process.



Enter the Set-Up page by selecting the **MachineName => Diagnostics =>Machine Calibration** or by going to the web browser and entering the following format: IPAddress/setup.

Select the Home option on the side bar. Then scroll down to the until you see the **Set Rotary Location** window.

Select the **Set Rotary Position** icon. The machine will take a screenshot and then update the line location. A message will appear afterwards indicating the update was successful.

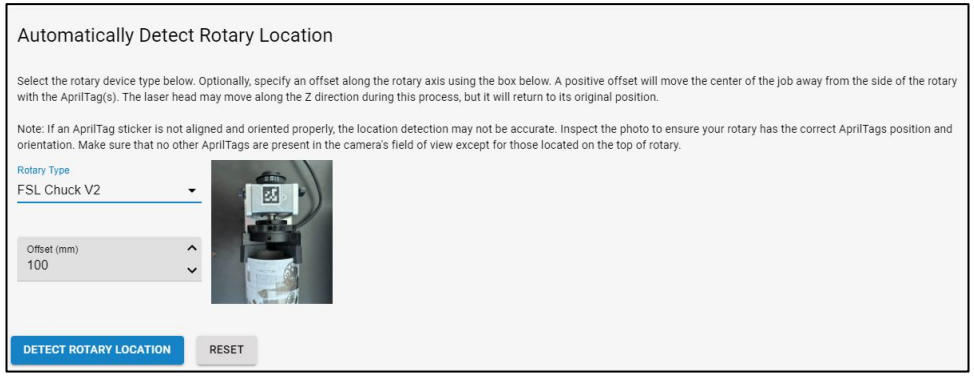


Adjusting the Rotary:

Reversing Rotary:

If your engraving ends up looking flipped, do not flip the image as it could alter the engraving results. Instead go to the Settings window and enter the rotary tab. Then select the **Reverse Rotary Direction** settings.

Setting the Line Direction Automatically:



Make sure your rotary is facing the vertically and that the QR stickers are not damaged before starting.

1. Enter the Setup page if you have not done so.
2. Locate the **Automatically Detect Rotary Location** window.
3. Make sure that the rotary type is correct and select **Detect Rotary Location**.

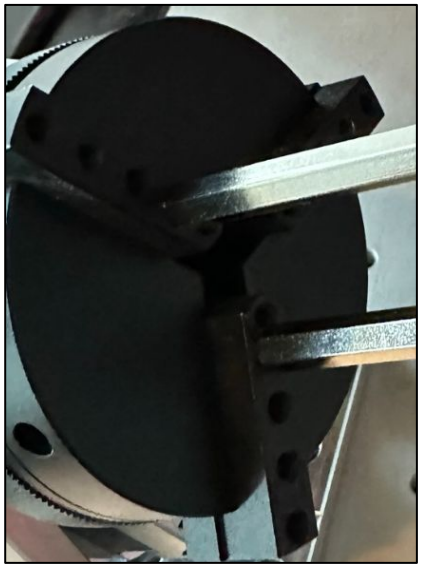
Adjusting Rotary Location Along the Axis:

To adjust the location of the rotary engraving along the axis, please switch back to rotary mode by using the slider. Then, focus the laser on the apex surface of the round rotary object using the two-dot focus, and proceed to set the engraving parameters, such as speed and power. To ensure the accuracy of the engraving location, please use the preview feature to view the image location on the rotary device. If necessary, adjust the image location along the rotary axis line by shifting it in the left to right direction.

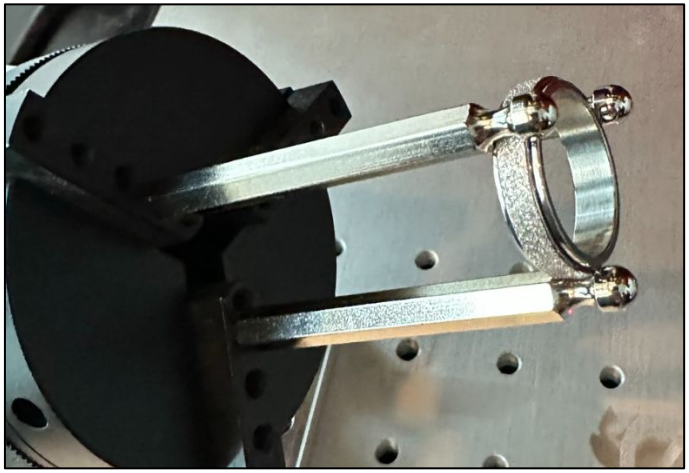
Installing rod attachment:

1. Remove the screws holding the jaw attachment in place.

2. Get the rod attachment and position hand screw them into the prepared slots (as shown below).



Marking inside rings:



Install the rod attachment onto the machine. Position the ring onto the curvatures of the attachment. Adjust the position of the rod attachment so that the ring off-center.

The object diameter must be set to be the inside diameter, which can be determined with a set of calipers. Then, run the preview feature and tilt the rotary so that the preview is displayed on the inside of the ring. To test the engraving before using the full power of the actual device, we recommend placing black painter's tape over the object before testing the laser at low power.

For more information on your machine refer to your user manual. For information on RE3, refer to the RE3 Guide found in our website.

Troubleshooting:

Q: What should I do if my laser isn't marking?

A: Check if the laser is properly focused. If the machine is not in focus, it won't engrave. Remember to refocus the laser head after changing to a new material.

Still having difficulties? Make sure that your material is compatible with your laser engraver.

Q: Why are my marks turning out incorrect?

A: Experiment with different settings to find the ones that work best for your requirements. Here are some initial guidelines to get started:

- To get darker/lighter engravings, adjust the power or speed.
- To get deeper engravings, decrease the speed or increase passes.
- For clearer engravings, use a picture with a high resolution.

Q: What should I do if my engravings are too shallow?

A: You may need to increase the power and/or decrease the speed. Multiple passes can also add more depth. You can also use a smaller lens to engrave in more detail. For precise engravings, ensure that the laser is fully focused by performing a laser focus test every time you switch to a new material.

Q: How can I solve issues with focusing my laser?

A: If using auto-focusing with the QR tag, ensure that the QR tag is visible in the camera during the entire process. If the tag goes off-screen, the machine won't focus. If it doesn't work, try manual focusing.

Q: What should I do if my engravings look wobbly and uneven?

A: If you've recently calibrated your camera, check that you did it on a flat, smooth, and level surface. Otherwise, recalibrate on a different surface. Another reason could be that your material is not flat while engraving, it can come out uneven. Flatten and/or weigh down your material before engraving to avoid this issue.

If your having an issue not listed here, visit our Help Center. We provides comprehensive videos, and useful resources for troubleshooting to helping you get the most out of your investment in our products.

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