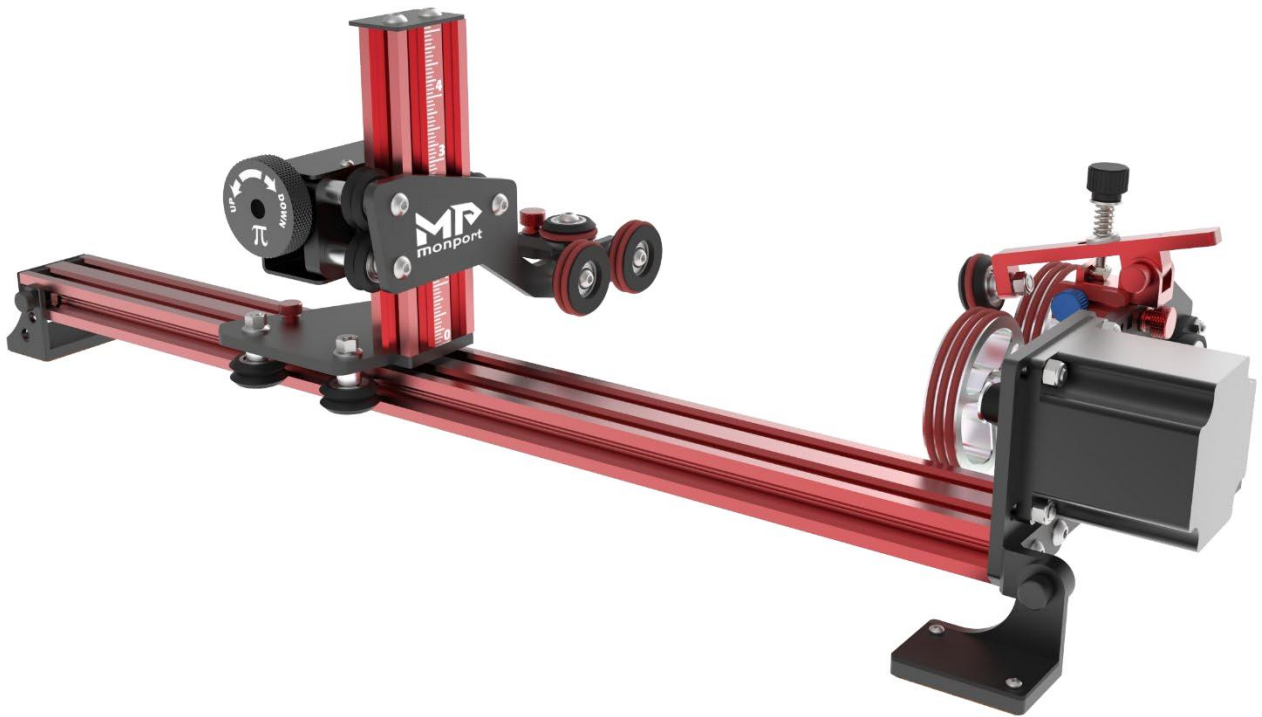




laser rotary attachment



User Manual

Note: This is a rotary attachment for laser cutters engravers that allows you to engrave cylindrical objects.

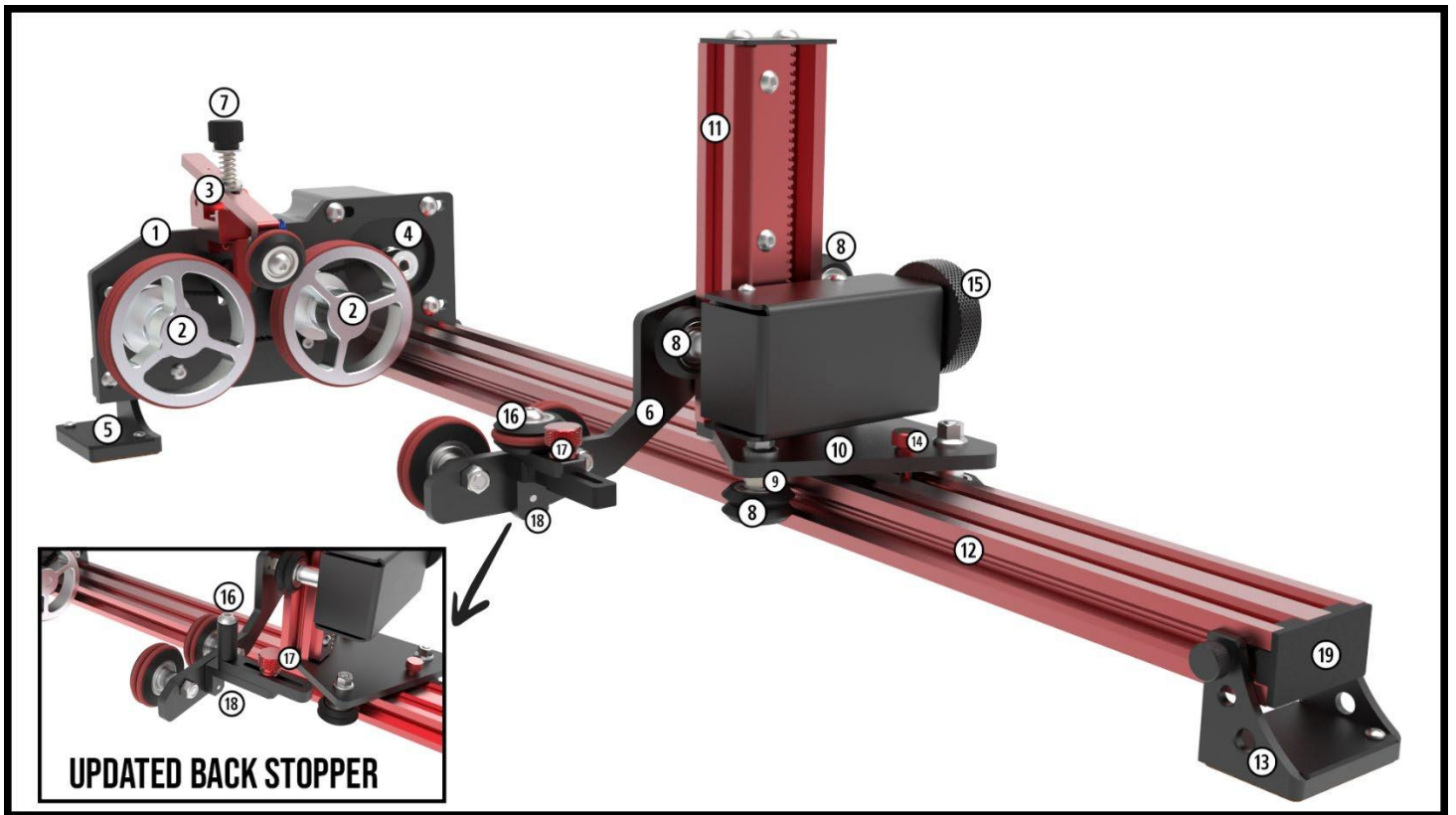
It's meant to temporary replace your Y-Axis and will work with most Ruida type controllers.

Note: Due to constant improvements to the design your rotary might look slightly different from the one pictured in this guide.

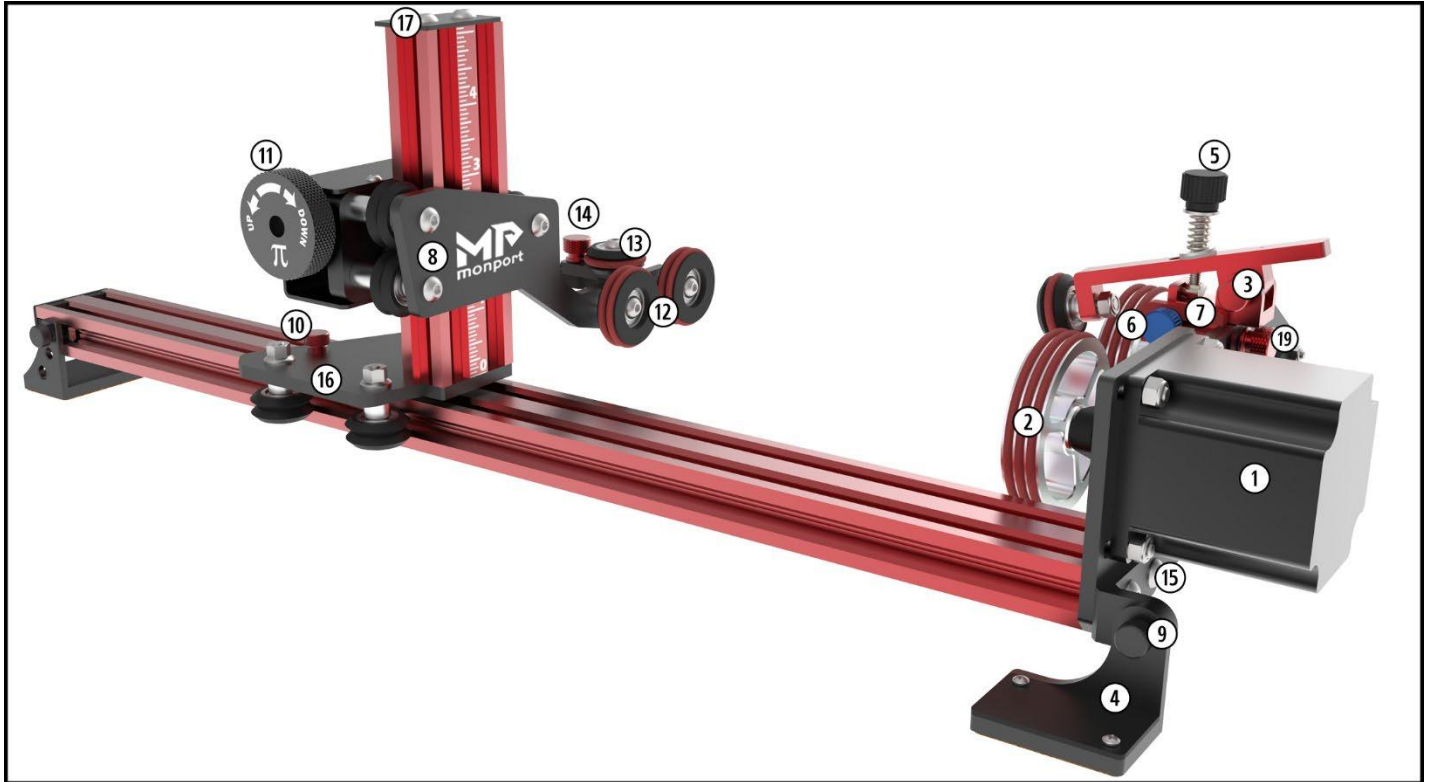
Table of Contents

Main Diagram	1
Dimensions.....	3
Before Using: Check for the Loose Items!.....	4
Chapter I: Installation	5
Plug in the rotary to your machine	5
Install the Rotary	6
Chapter II: Main Software Settings	7
Known “Steps Per Rotation” Values:	7
Chapter III: Configuring Software.....	9
Chapter IV: Fine Tuning and Testing	11
Chapter V: Basic Operations.....	13
Loading/Unloading object	13
Focusing and Beam Alignment	14
Chapter VI: Usage Guides and Suggestions.....	16
Rule #1 : BE SAFE!	16
Rule #2 : Rotate SLOW!	16
Y coordinates position.....	16
Slipping/Jumping Off	16
Sizing and Aligning your Artwork	17
1.Aligning	17
2.Sizing Artwork.....	17
Uneven Surfaces.....	17
Bottle Objects or Help my image is getting stretched!	17
Switching to regular laser operations.....	17
Chapter VII: Maintenance and Alignment	18
O-rings	18
Belt	18
V-Slots and Roller Wheels	18
Roller Alignment	18

Main Diagram

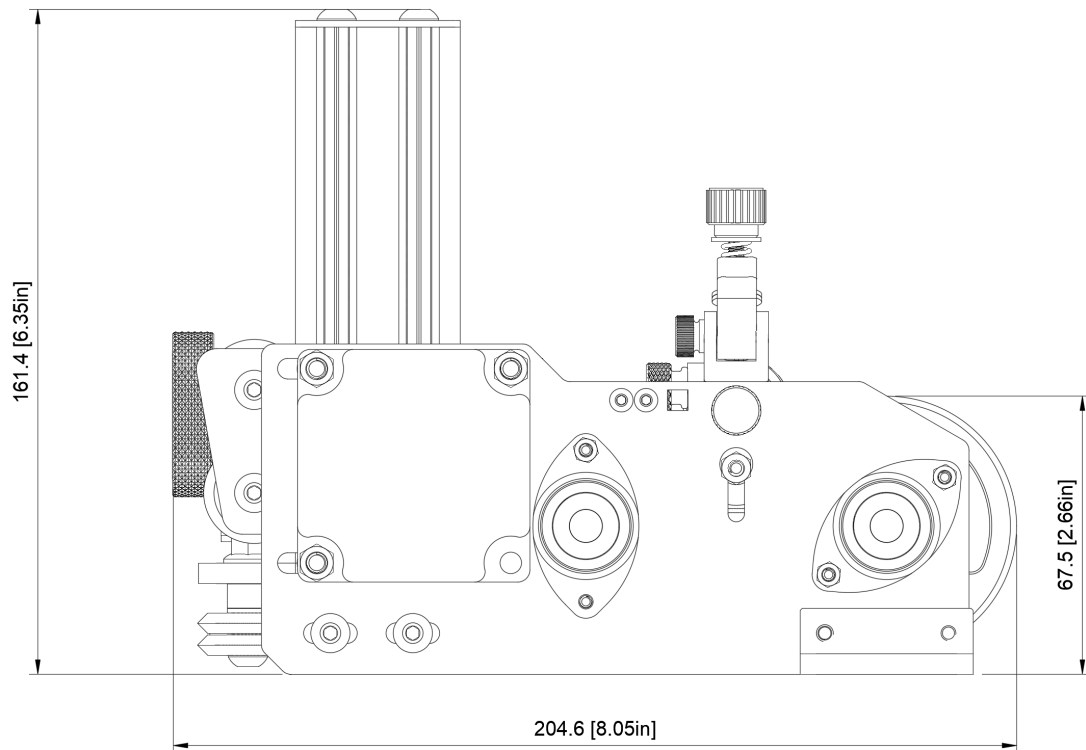
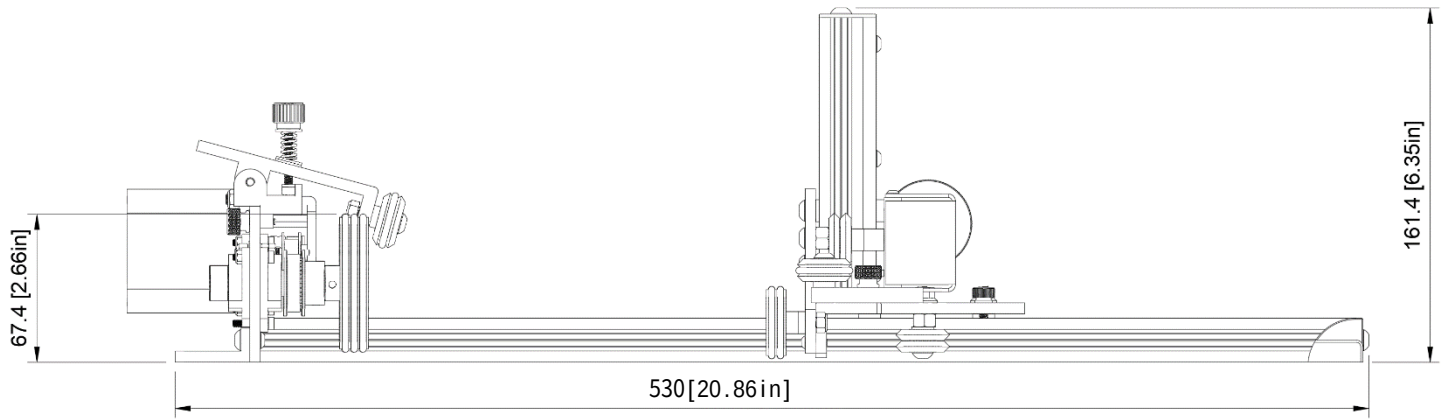


1. Headboard
2. Front Rollers/Wheels
3. Clamp
4. Motor Pulley
5. Magnetic Front Foot
6. Footboard
7. Clamp Lock Screw
8. V-Wheels
9. Eccentric Spacer
10. Carriage
11. Vertical V-slot rail
12. Horizontal V-slot rail
13. Magnetic Back Foot
14. Carriage Lock Thumbscrew
15. Vertical Adjustment Hand Wheel
16. Back End-stop Wheel (change to roller recently)
17. Back End-Stop Lock thumb screw
18. Back End-Stop platform
19. V-slot rail cap

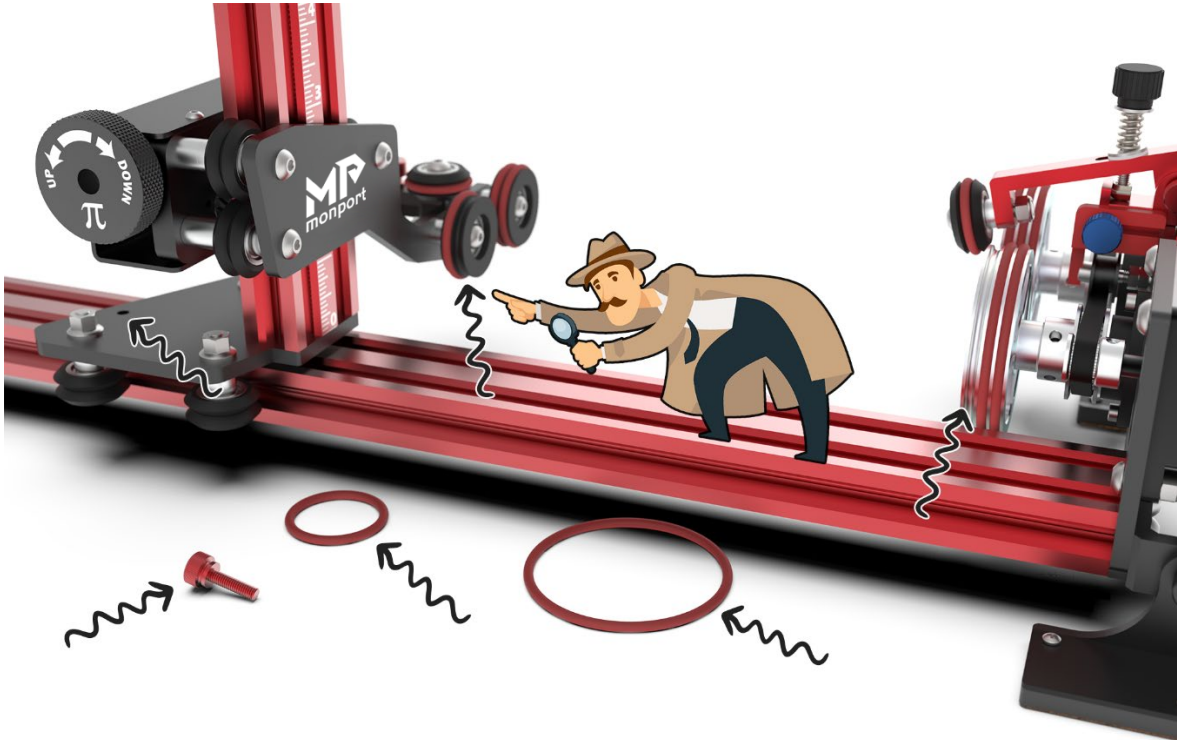


1. Motor (on Headboard)
2. Front Rollers/Wheels
3. Clamp
4. Magnetic front foot
5. Clamp Tension Screw
6. Front end-stop lock screw
7. Front end-stop
8. Footboard
9. Mag Foot lock thumb screw
10. Horizontal Adjustment lock thumb screw
11. Vertical Adjustment Hand Wheel
12. Back Rollers/Wheels
13. Back End-stop Wheel (change to roller recently)
14. Back End-Stop Lock thumb screw
15. Headboard Attachment/Adjustment screws
16. Carriage
17. Top Plate
19. Clamp Attachment Thumb Screw

Dimensions



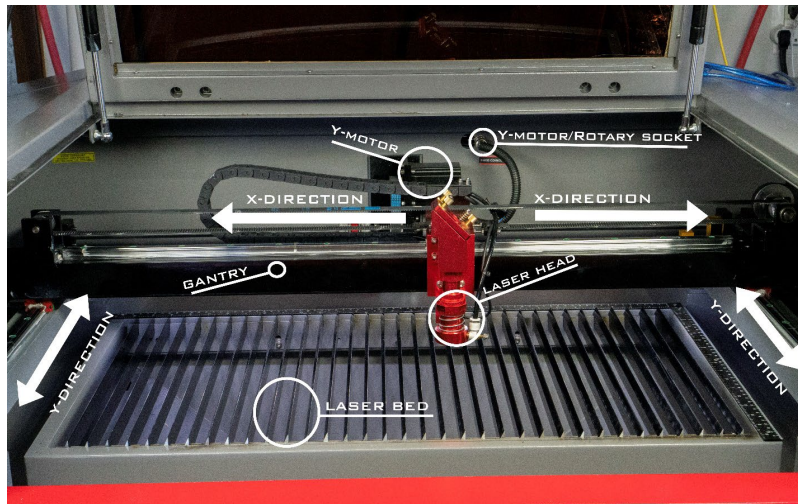
Before Using : Check for the Loose Items!



We triple check that everything is installed before packaging, however due to the nature of expanding foam packaging it's very common for red silicone O-rings to slip off the wheels, especially when you remove the rotary from the box. So, first thing you should do is look at two large front wheels and two smaller back wheels/rollers. Front wheels should have 3 large O-rings on each one and back wheels should have two smaller O-rings on each one. If you see one or more missing, immediately check inside box, packaging and in the area where your unpacked the rotary. It is less common, but occasionally Big Red stopper (size M4x12mm) Thumb Screw can also fall out due to extreme vibrations during shipping (especially for international destinations). Also check for "back stopper with wheel". If you don't see it attached, it's either fell off during shipping or was included separate in bubble bag that has flyer and various tools.



Chapter I: Installation



Plug in the rotary to your machine

NOTE: Different laser machines have different ways of connecting rotary attachment. Some (i.e. Boss Lasers made after 2020, Aeon Mira/Nova, Thunder laser) have dedicated rotary port and either manual switch or automatic relay to enable it. In machines that don't have dedicated rotary port (i.e. Boss Laser made before 2020, OMTECH and other generic), usually you will unplug your Y axis motor and plug in rotary instead.

For Machines without dedicated Rotary Port:

1. Locate Y-Axis plug. This is where your Y-motor is plugged in. Usually it's located in the "work chamber" and easily accessible once you lift main machine cover.



2. Lower your bed so the rotary can easily fit under laser nozzle
3. We also recommend that you move your laser head to the top right corner (or whenever your normal homing position is) via control panel arrows and save position (i.e. "Origin" button on control panel) before turning machine off. It's safer this way because laser head tends to move very fast to the position it was in last before machine was powered down. It can injure or surprise you when it does that.
4. Finally power down machine.

For Machines with Dedicated Rotary Port:

1. Power on your laser and let it auto home.
2. Locate Rotary port (note on some machines (i.e. Aeon Mira) you might have to lower z table to gain access to this port and plug in Rotary)
3. If your laser machine have Rotary switch, switch it to the rotary position.

Install the Rotary

1. When physically placing the rotary inside laser you have 3 options:

- a. Place it On top of Honeycomb Table
- b. Place it on the “knife blades”
- c. Place it directly on laser floor

If you have enough headroom space you can place the rotary directly on the honeycomb table. For the rotary with Magnetic Feet, it's best to use honeycomb made out of ferrous metal (i.e. NOT aluminum). However if you have aluminum table magnetic feet will still provide added benefit due to their cork pads.

You can also place the rotary directly on its feet on top of your knife blades or honeycomb table. If you have magnetic feet and folded them for extra space or if your blades are too wide to accommodate magnetic feet size, you will need to place it on some flat piece of material like plywood or acrylic. The rotary with simple feet can be also screwed into wooden surface for extra stability and you can even cut exact size plywood piece that can be placed against edge of your laser machine, thus giving exact alignment to the laser gantry.

When engraving larger objects, and if your laser machine allows, you can remove knife blades place rotary directly on the laser bed. If your laser bed has sloping walls, you can adjust angle of magnetic feet and attach it to those walls.

Please clean your walls first so feet have more grip.

2. Plug in your rotary as described above.
3. Carefully arrange wire, the rotary and supporting platform so it doesn't interfere with laser bed going up or down. We don't want wire to get pinched between moving parts.
4. Turn on your machine (if it wasn't on already).

Homing Machine with Rotary Attachment:

When you turn on your laser it needs to go perform a “homing” sequence, so it knows where it's start position is. This usually involves moving of the gantry and laser head into top right (or left on same machines) corner until it reaches end-stop limit switch. Then laser will move a little away from the limit switch and then back. Upon completion of the homing sequence laser head and gantry will want to move rapidly to the last known position where it was when you turned off the laser.

In many laser machines when you plug in rotary you are disabling Y gantry motor, so it won't be able to reach limit switch. In case like that you will need to move gantry by hand to simulate normal homing sequence. But sometimes you can't move gantry because its motor is still under power. In that case you should only plug in rotary after machine finished homing sequence.

To home gantry by hand, push whole gantry all the way back to trigger Y-axis limit switch.



- You'll notice that rollers on the rotary will start rotating to the opposite direction after you reach limit switch. That's because laser wants to move gantry back a little.
- Pull gantry towards yourself just a bit so it disengages limit switch and finally push it all the way back again.

At this point you manually finished performing initialization process that machine usually does automatically when Y-axis plugged in and it should all be set to continue with software setup part.

Chapter II: Main Software Settings

To correctly configure your the rotary with laser machine you will need to determine 2 settings.

First setting is “**Diameter (mm)**”. This one is easy; it’s always going to around **62-63 mm** no matter what object your engraving. Diameter refers to diameter of the front rollers of the rotary.

Second setting “**Steps Per Rotation** (a.k.a. **Circle Pulse**)” is a little bit trickier. This number tells your laser machine how many pulses/steps it needs to send to rotary’s motor to perform full 360-degree rotation. Or in practical terms it controls how far your engraving object is rotated. If you set this number incorrectly your engravings will be either squished or elongated. This number depends on the how your laser engraver was setup at factory.

Known “Steps Per Rotation” Values

for MONPORT CO₂ Laser Machine Is:5000(60w,80w,100w);12500(130w,150w)

For other brand machine

Boss Laser LS/HP-1630s, 2436s & 3655s value is: 12,500 ; Boss Laser LS1420/1416 value is: 6,000 (sometimes 8,000)

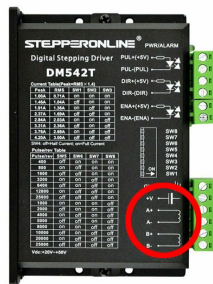
AEON Mira 7/9 and Nova value is: 25,000 ; Thunder Laser Nova: 8,000 ; OMTech: 5,000 (some 12,500)

For all others, it must be determined by looking at Stepper Driver DIP switches, as described below. **DO NOT CHANGE DIP SWITCH POSITION!** Only note them.

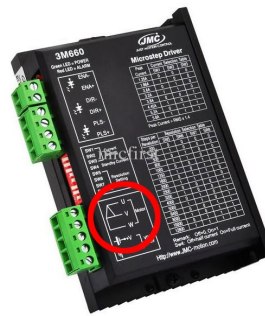
WARNING!

Your machine must be completely powered off, unplugged and discharged because you will have to go inside electronics compartment to visually inspect some switch settings.

1. Open door that leads you to the internal electronics compartment.
2. Locate Stepper Motor Driver that controls your Y motor. Stepper Driver looks similar one on the picture below.



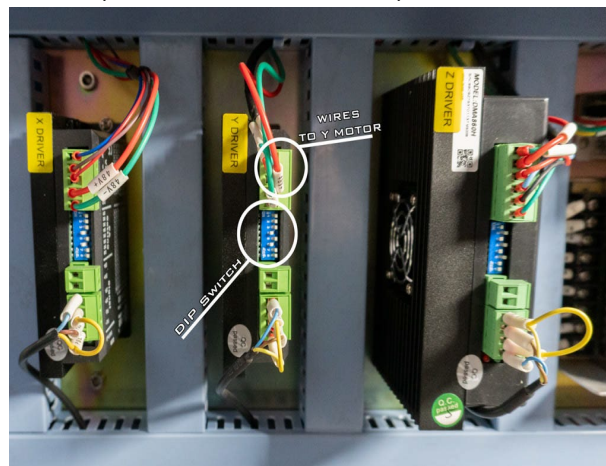
2-phase driver



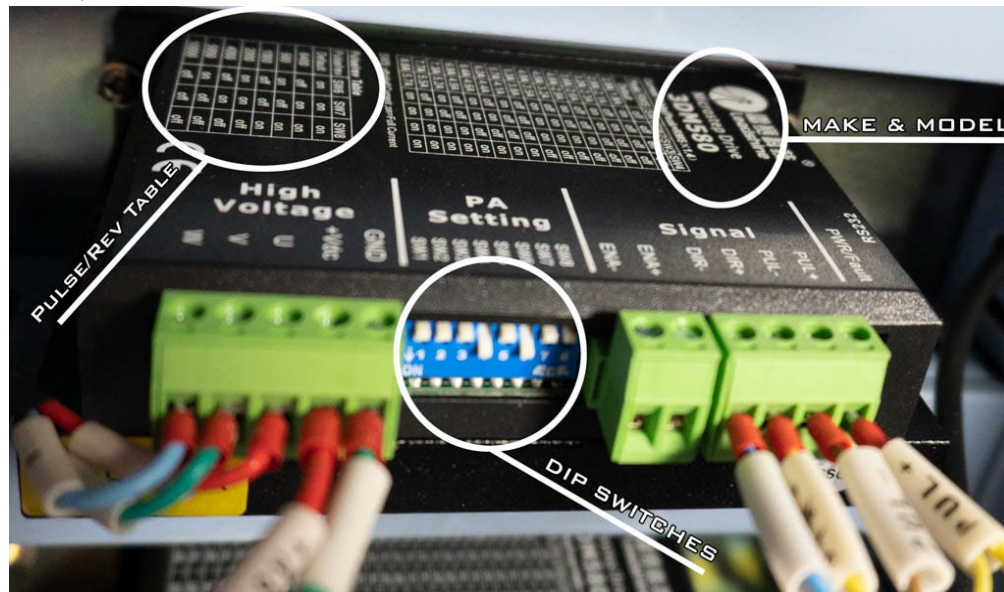
3-phase driver

3. There will be 2 or 3 of them inside your machine. One for X motor, one of Y motor and one for Z axis (if your machine equipped with motorized table). Y and X drivers should be identical to each other.

Here’s what it looks like inside machine (notice drivers are labeled):



4. If yours are not labeled try tracing wires from the plug where your motor was plugged in (and where we now connected the rotary).
5. Write down (or take photo) of:
 - a. **Make and Model Number** of the you **Stepper Driver**
 - b. Position of **"DIP" switches**. These are tiny switches on the back of the motor driver that can be flipped up or down. There's about 6-8 of them.
6. Find out to how many **"Pulse/Rev"** (Pulses per Revolution) is your Y driver set to.
 Position of **DIP switches** determines **"Pulse/Rev"** setting.
 Many stepper drivers will have **"Pulse/Rev"** table printed on them (*Close* look at stepper driver). If yours doesn't, search online and download manual for your stepper driver model. In the manual find **"Pulse/Rev"** table.
 Let's look at example below:



There are 8 **DIP switches** on this driver SW1 - SW8. Switches 4 (SW4) and 6 (SW6) are turned on (flipped down) while rest are off (flipped up).

This driver happens to have **Pulse/Rev** Table printed on it so we don't really need to know its manufacturer and model (no need to look at the manual).

Table refers only to SW6, SW7 and SW8 positions. In our case **SW6** is **ON**, **SW7** and **SW8** are **OFF**.

This combination shows that our **Pulse/rev** value is **5000**. That's the one you need to know for next step.

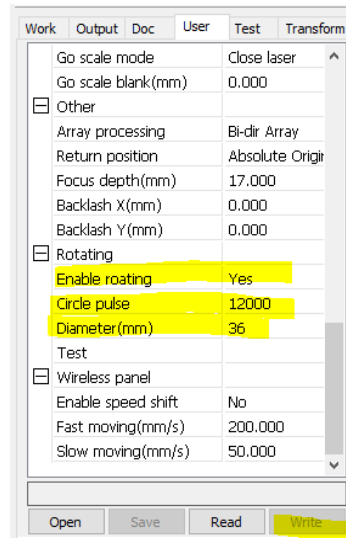
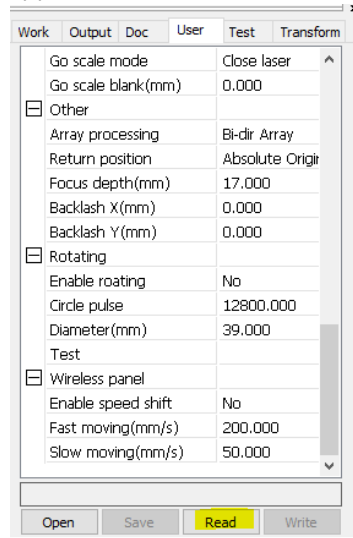
7. To find **"Steps Per Rotation"** setting take **"Pulse/Rev"** value (from previous step) and **multiply by 2.5** (that's the gear ratio of the laser if you are curious).

For example if your **Pulse/Rev = 5000**, your **Steps Per Rotation** will be: $5000 * 2.5 = 12,500$

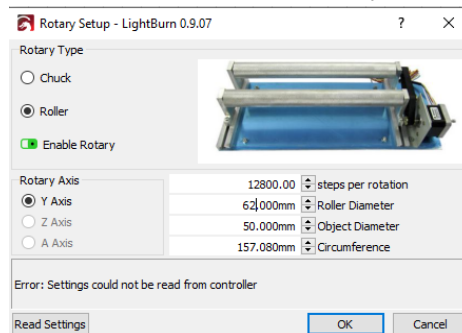
Chapter III: Configuring Software

Now that we know Diameter and Steps Per Rotation values let's use RDWorks or LightBurn to configure your laser to use your rotary.

1. Make sure your rotary is installed and plugged-in inside your laser engraver.
2. Turn on Laser machine and manually home-in Y axis
3. Connect your machine to the computer running RDWorks or Lightburn. Use either USB cable or network connection.
4. If you are using RDWorks (or LaserWorks which is same software)
 - a. Navigate to **User** tab and press **"Read"** button. If you don't see Read/Write buttons, resize window (dragborder) down until it appears.



- b. Scroll down until you see **"Rotating"** section (note in newer versions of RDWorks, **User** tab is separated into 3 sections. If you don't see **"Rotating"** option, click on **"Other"** radio button on top).
 - c. Change **"Enable Rotating"** to **"Yes"**
 - d. Enter **"Circle Pulse"** (a.k.a. **Steps Per Rotation**) value you determined from previous chapter.
 - e. Enter **"Diameter(mm)"** to be **63**
 - f. Click **"Write"** button
5. If you are using Lightburn, start it and go to **"Tools"** menu and select **"Rotary Setup"**
 - a. Change Rotary Type to **"Roller"**
 - b. Click on **"Enable Rotary"** switch to make it green.
 - c. Rotary Axes should be set to **"Y axis"**
 - d. Change **"Steps Per Rotation"** to a value you determined from previous chapter
 - e. Set **"Roller Diameter"** to 62 or 63 mm (due to slight variations in rubber O-rings this value might different for your specific rotary by about a millimeter).
 - f. Disregard **"Object Diameter"** and **"Circumference"** values, they do not affect anything



6. Lower idle and acceleration speed.

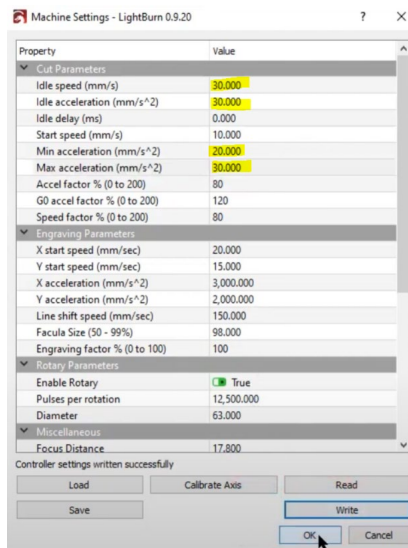
While this is not absolutely required, we strongly suggest your lower and acceleration speeds when using rotary attachment. That's the speed at which head moves between cut movements. When cutting or engraving flat materials you might have noticed that laser moves at the speed that you entered when it's firing, but when it's done with cutting/engraving it will move very fast to starting position. Rotary attachment is not meant to be rotated this fast and might cause object that you are engraving to fly off it after engraving is done or when doing "frame" operation.

To access parameters in Lightroom Open "Machine Settings "from "Edit" menu. In RDWorks these can be found under "User" Tab.

That's why it's highly recommended to lower this value when using rotary. Please do write down default values first, so you can change back them when not using rotary. You can backup all the default settings by hitting Read button and then **Save** Button and store this file on your computer.

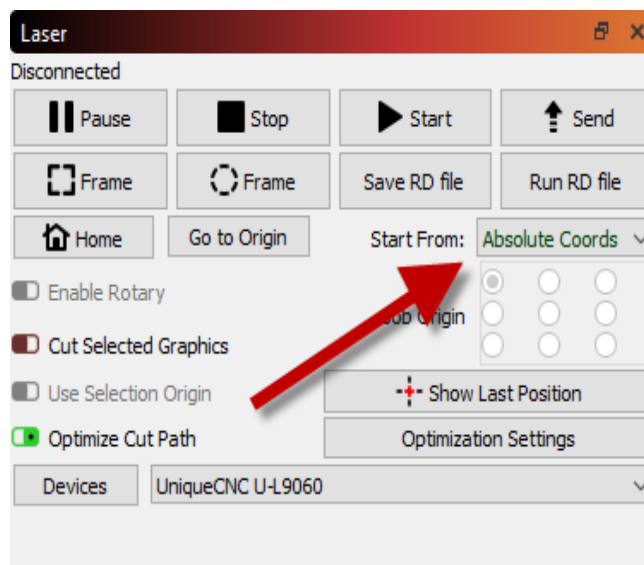
Change following values:

- Set "Idle Speed(mm/s)" to 30
- Set "Idle Acc(mm/s²)" to 30
- Set "Min Acc(mm/s²)" to 20
- Set "Max Acc(mm/s²)" to 30.



These are just suggested values, and you might have to adjust them according to your machine.

- Special Note about Thunder laser. Thunder Lasers use custom firmware for their controller. In order for the rotary to work with these machines, you have to change Origin in Lightburn to anything OTHER THAN "Absolute Coordinates". This is very important! With Absolute Coordinates selected Y gantry will move instead of Rotary turning.

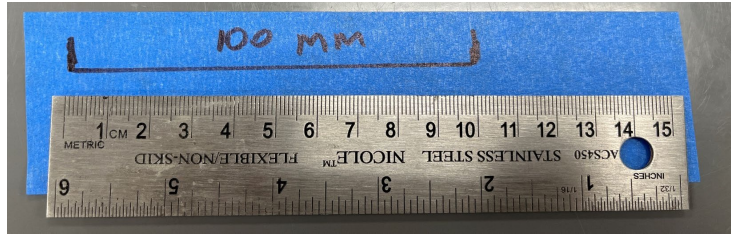


Chapter IV: Fine Tuning and Testing

Now we can finally start some testing! If your laser has beam combiner built in (i.e. red pointer laser dot) you don't even need to fire actual laser until you tuned in correct setting!

Find a cylindrical object you want to test.

Actual tumbler (preferably simple shape, without bottle like neck) would be a good choice. Cut a piece of masking tape and place it on the table. Using a ruler draw a 100 mm long line (or if you prefer imperial units, make it 4 inch) with start/end marks as shown on the picture and then wrap it around your tumbler



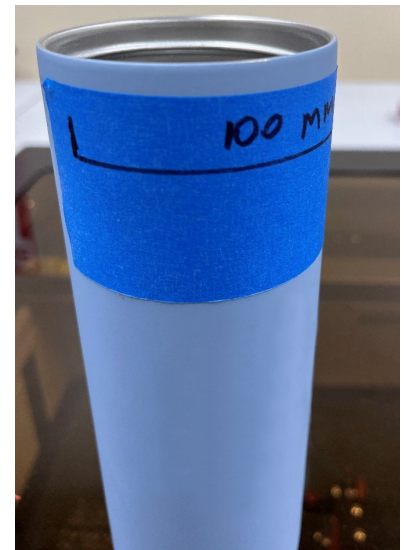
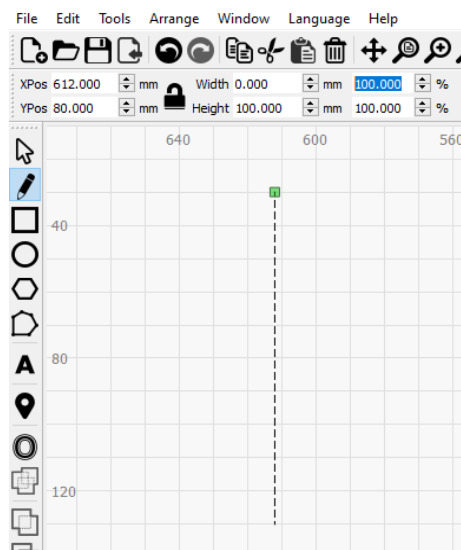
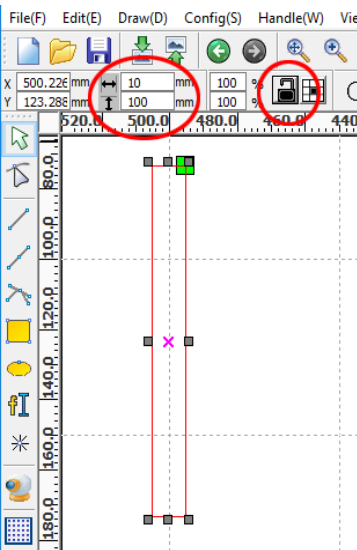
Open **RDWorks** or LightBurn and create a square shape or just a vertical line.

Make sure that little "padlock" icon is "unlocked".

Change square's width to about 10 mm and length to 100 mm (exactly). Or if using imperial units make it 4 inch long.

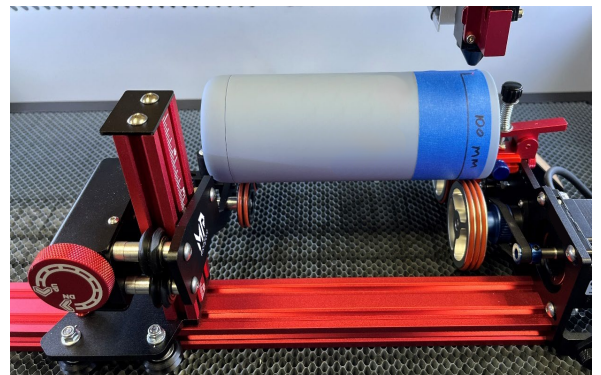
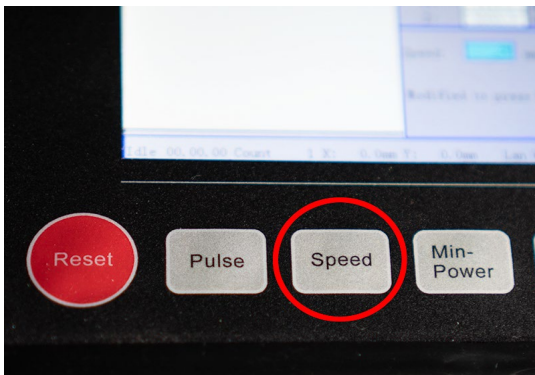
It doesn't really matter as long as you use

SAME exact "vertical" length as you the line you drew on the masking tape!



In layer settings change power to 1% (we don't want laser to fire), and speed to 20mm/sec. Upload this file to your laser machine, let's name it "square".

At laser machine's control panel change default speed to 20mm/sec (press "Speed" button).



Insert your test object into your rotary, adjust rollers for correct length and height and use clamp.

See Chapter V: Basic Operation if you unsure how to do this.

Move Y gantry until it's directly above your rotary. Move laser head in X direction using left/right arrows on control panel to position it above first mark.

You might need to rotate object using up/down arrows on control panel. Hit "Origin" button.

Move laser bed up or down to approximate focal distance. Doesn't really matter as long as you can see laser dot on the object clearly.

Load "**square**" file and press "**Frame**" button.



The rotary will rotate object in one direction, and then back. Note up to which point it stopped before returning to original position. If it went right up to the second mark, you are all set! Otherwise follow these steps:

1. If laser didn't reach end mark you will need to decrease "**diameter (mm)**" number. Increase it depending on how short it stopped to the mark. Follow guide in "Chapter III: Configuring Software" to adjust this value. No need to turn off or restart machine between these changes.
2. If laser went past end mark, you'll need to increase "**diameter (mm)**" number.
3. Finally save new setting and try "**Frame**" again.
4. Adjust again as needed until it stops right at the end mark.

TIP: You can also adjust "**Steps Per Rotation**" value instead of **diameter**, which might give you finer adjustment

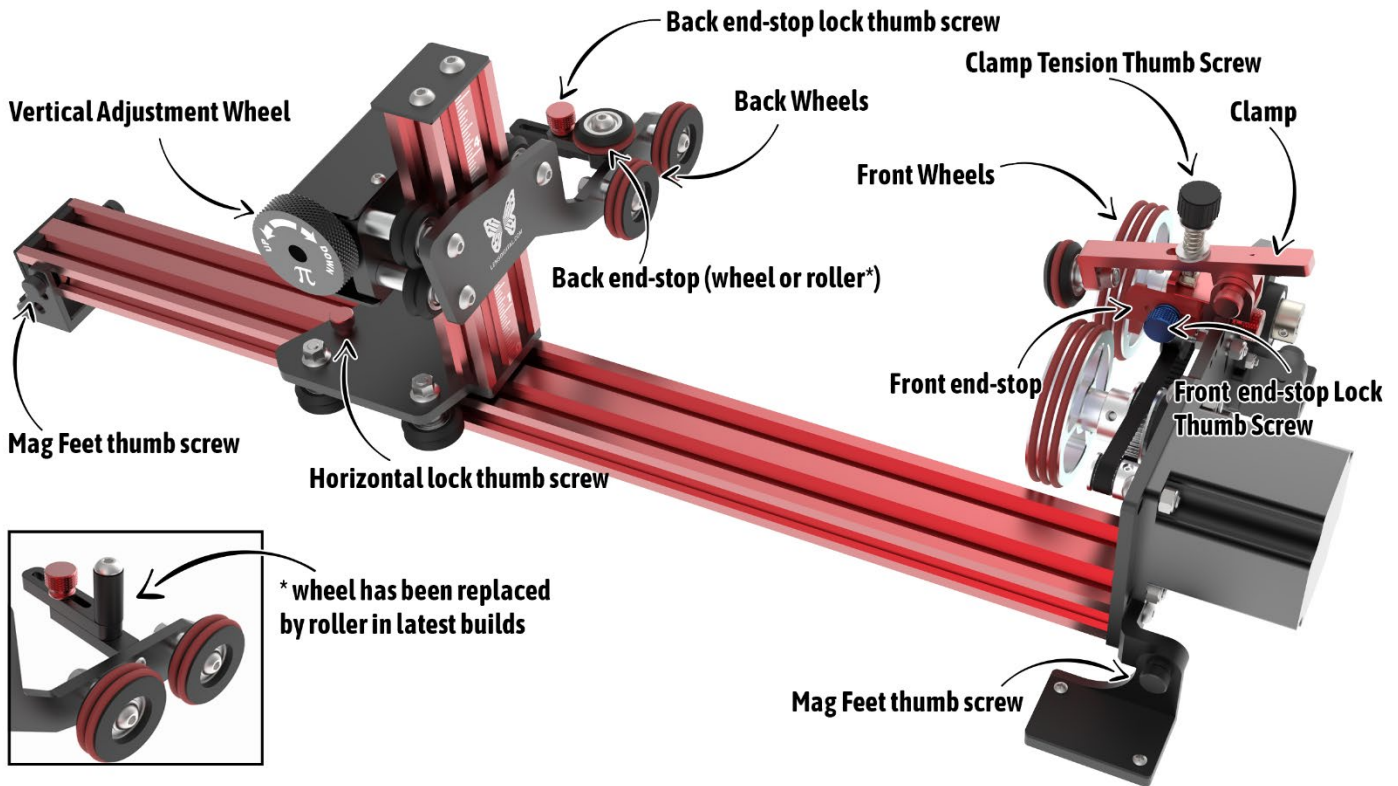
What if your machine doesn't have red "pointer" laser (beam combiner)? In this case you will need to actually burn in the line on the object. Adjust power of the line layer to the minimal at which your laser will fire. You only want to see where it ends up...

Note: If you get "SLOP Y Over" error, you position too close the laser's maximum or minimum coordinates on Y axis. Laser can't move below 0 or above max coordinate. You'll need to rotate rotary wheels (using arrow keys on control panel) until your Y reads somewhere between your max and min coordinates (for example 150 mm might be a good number), then reposition tumbler (with your hands) until start of the line is under red laser dot and don't forget to press the Origin button too.

Chapter V: Basic Operations

Assuming that you already setup your machine to work with the rotary and connected rotary attachment here are basic operation guides.

Note: Due to constant improvements to the design your the rotary might look slightly different from the one pictured below.

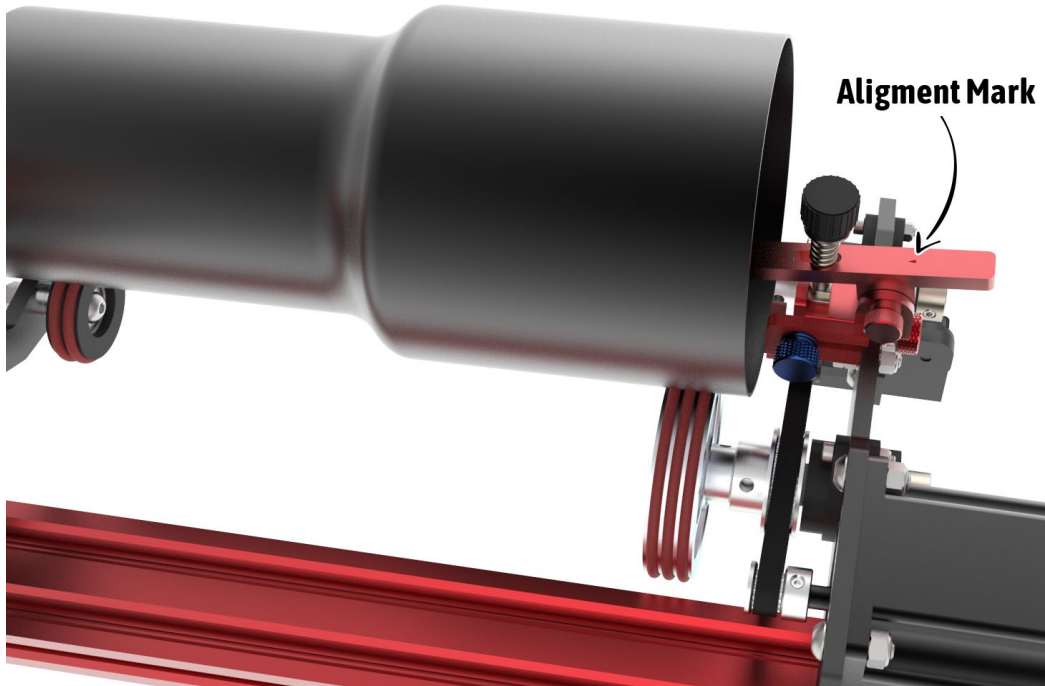


Loading/Unloading object

1. Remove lid from the object so you can fit clamp inside it. If it's impossible to use clamp, remove clamp arm and set aside (*see Clamp Operation*)
2. Loosen-up horizontal lock thumb screw so back wheels carriage can slide back and forth freely.
3. Loosen-up Back end-stop lock screw and move back end-stop wheel out of way.

Focusing and Beam Alignment

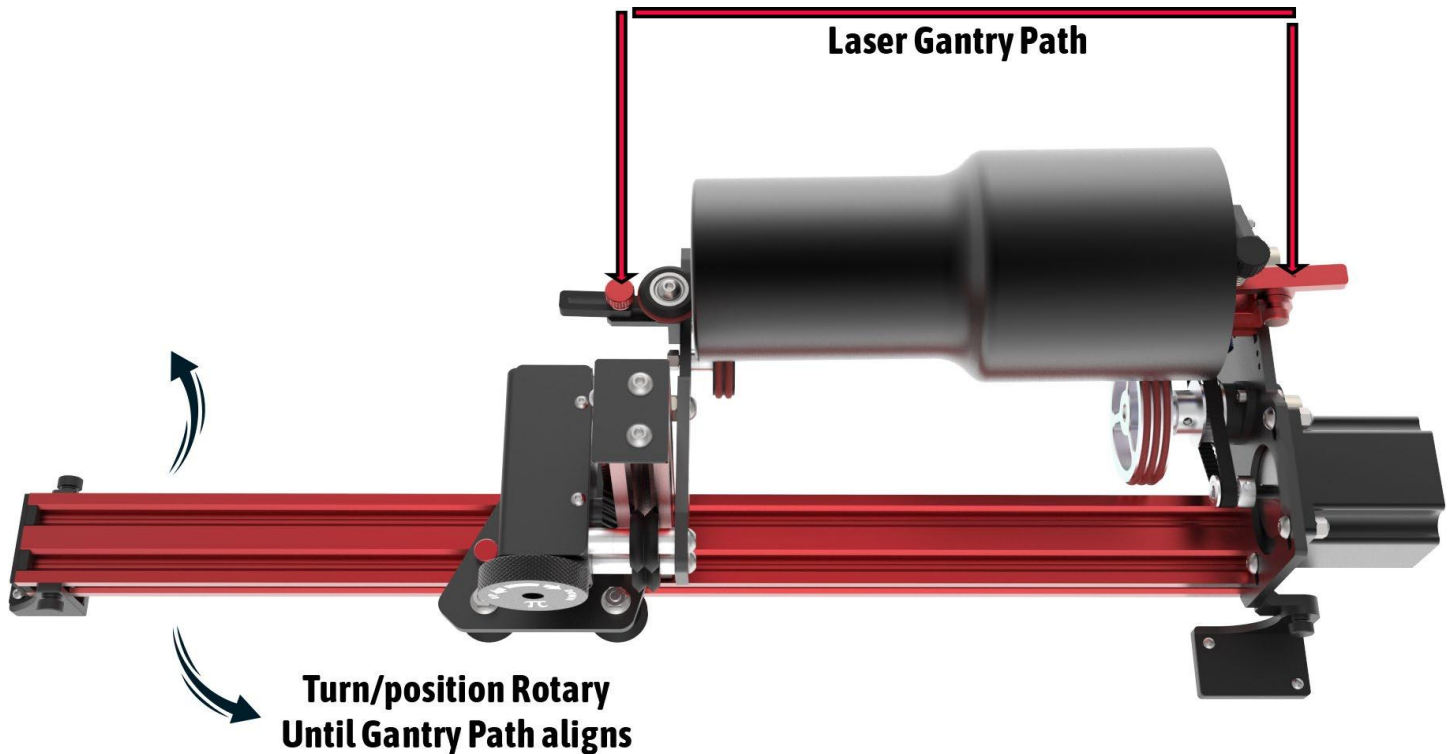
You'll always want to align your Y axis to be in the middle of the rotary. Easiest way to do this is to position Y gantry by hand above the rotary and move laser head from control panel left or right until it's above middle line of the clamp (your clamp will have a triangular alignment mark).



Then move laser head until it's directly over middle of the red thumb screw holding back stopper



Move/Rotate one of the rotary until your laser's gantry path is parallel to rotary's rail. In other words your the rotary is aligned when your red laser dot hits both alignment points of the rotary (mark on the clamp, and center of the thumb screw on the backstopper).



Focusing

If your laser has auto-focus you can use it as normal, just try focusing over **front** area of the object closest to the motor. Make sure you ready to hit emergency stop button too.

We've seen some users reporting malfunctioning autofocus bending stainless steel tumblers, and it could break the rotary . We never had this happened in our own tests, but better if you are aware.

Chapter VI: Usage Guides and Suggestions

Rule #1 : BE SAFE!

Do not operate your laser machine with cover opened, but if you must always wear protective goggles and never place your hand in the path of laser beam. Infrared Laser is invisible, and it hurts a lot when it touches you.

Rule #2 : Rotate SLOW!

Laser engraver/cutter machines are meant to move fast when not firing to save operator time. This includes movements to cutting position, framing, or moving back to start position at the end of engraving.

Rotary attachment is not designed to move this quickly! If it spins rapidly, any object on it will fly off and break (i.e. glass) in the worst case, or shift and slip in the best.

So, before you start, set your machine's default movement speed to about **20 mm/s** or lower. This can be done via control panel's "**Speed**" button. This setting doesn't affect lasering operations, only manual movements and "**Framing**" function (when you hit "**Frame**" button).

Lower your idle speed and acceleration as well. This function is performed via machine Settings in Lightburn and described in detail in Chapter III.

Y coordinates position

Rotary replaces Y axis of the laser machine, and it doesn't have limit as it rotates forever. Unfortunately, machine doesn't know that. It will not let you rotate past specific point because it will hit your physical limit of your machine's bed. This can cause machine refusing to engrave and giving a "Slope" Error.

Let's say that your machine maximum cutting area in Y direction is 400 mm. You have engraving that's 100 mm wide. While positioning and rotating your tumbler your Y=350 mm mark (this can be seen on control panel's LCD screen). When try engraving from this point, you will get a "Slope" error because machine can't engrave at position above 400 mm (350+100=450).

That's really easy to fix.

1. Hold UP arrow key on control panel, until machine shows Y close to 0 mm.
2. Disengage clamp and rotate your tumbler by hand until it's at roughly starting position you want
3. You can fine tune its position now using UP/Down arrow keys as long as you don't go too far (i.e. above 300 mm limit as in our example).
4. Hit "Origin" Button to save this as start position.

Slipping/Jumping Off

Some very light objects might not have enough weight to stay on rollers despite front clamp. If you see object slipping from back rollers, try adding some weight to it. Place a small bag of rice or sand inside object to add weight to it.

Sizing and Aligning your Artwork

1.Aligning

Cool thing about the rotary is that its stepper motor is installed on the outside of the headboard. This means you don't have to invert your image or rotate the rotary in "unnatural" position.

Your artwork will engrave just like you see it on the screen. Meaning in most cases you'll just want to rotate it by -90 degrees because your bottle or tumbler is laying on its side inside rotary. Of course, if you want it to be engraved sideways you don't need to rotate artwork.

2.Sizing Artwork

Measure the object you trying to engrave. You'll need to know length of the area you want to engrave (X direction) and width (Y direction). Length is easy, but to find out width you'll need to calculate circumference of the service. Easiest way is to measure object's diameter and multiply by number π (3.1415926).

For example, you have tumbler that's has diameter of 6 inches (152 mm) at its widest point. And its length is 10 inches (254 mm). Maximum size of the artwork you'll be able to engrave is 152x254mm. But do leave some room for margins.

Uneven Surfaces

For best quality engraving distance from laser's head to the object must be same on thru the whole area. This is because laser beam is smallest and has highest power at lens' focal distance.

Unfortunately, that's not always possible with curved glasses, cups, etc. Try averaging focal distance by focusing on the area that's between highest and lower point. Engraving should still come out great!

If height difference is too much, design your artwork to be engraved in sections if possible, or simply size it so doesn't cover too large of the area lengthwise.

Bottle Objects or Help my image is getting stretched!

The most common issue we are seeing people reporting is their engraving is being stretched on the bottle like objects (i.e. large diameter body and smaller diameter neck). This happens because smaller diameter part of the object rotates less compared to the rest of the object. So, if neck of the bottle turned $\frac{1}{2}$ of the way, rest of the bottle might have turned $\frac{3}{4}$ of the way at the same time. When you set your steps per rotation and roller diameter, these settings ONLY affect part that's directly on the big drive wheels! So if you want to engrave neck of the bottle it will come out correctly. However now you have to take into account difference of the diameters. There are 3 choices you can take to address this problem:

1. Remove clamp arm and simply flip bottle around! No need to mess with settings, and usually uniform objects like that engrave fine without clamp.
2. Temporary adjust steps per rotation or roller diameter settings. You will have to find correct settings experimentally (we recommend doing 100mm test as described in this manual). Just don't forget to change settings back when you want to engrave normally shaped object.
3. Finally, you can just resize your artwork, "squishing" it's height until it comes out ok in the engraving.

It's important to keep in mind that some bottle tumblers have threads on the neck. These will force bottle to move back of forward on the rotary pushing it against front or back stopper so hard that it will prevent it from rotating correctly and skipping. For this you can laser cut an adapter that will go on your threaded neck and make it smooth. As a bonus if you make adapter same diameter as main body of the bottle then you won't have to worry about diameter differences!

Switching to regular laser operations

After you done with the rotary, don't forget to disable rotary function, or you will not be able to engrave/cut materials! In LightBurn you can go to Rotary setup and switch off enable rotary. But you'll also want to change acceleration values back. Best way to do this is it have two configuration files saved somewhere. One for Rotary and one for Flat work. Just load one you want via machine settings and write it to the controller memory.

Chapter VII: Maintenance and Alignment

There's very little maintenance needed to keep the rotary in top shape.

O-rings

If you are using metal marking sprays like Laserbond 100 or Cermark, some of the compound will be transferred to rubber O-rings. You can wipe off O-rings with paper towel and alcohol to make sure they are providing good traction to the engraving objects. O-rings can be easily removed and cleaned when needed. Please make sure when you put them back you don't twist them to keep rotation even and smooth. Spare O-rings can be purchased at our store when needed.

Belt

Transmission belt might lose tension with time.

Best way to check for correct belt tension is to power off or unplug your rotary (so motor turns freely), grab big wheel closest to the motor and try rotating it by hand. If it engages second big wheel your belt tension is good. If wheel skips belt teeth then you'll need to increase belt tension.

Tension can be adjusted in two ways.

Best way adjusts belt tensioner/idler pulley located above two front rollers by loosening M4 nut and moving idler up (or down). Some tension can be also achieved by moving stepper motor. Loosen 4 M5 screws holding stepper motor to the headboard and slide motor until belt has sufficient tension to grip pulleys. When finished tighten up M5 screws to secure motor. Don't tighten too much or you might crack plastic frame.

V-Slots and Roller Wheels

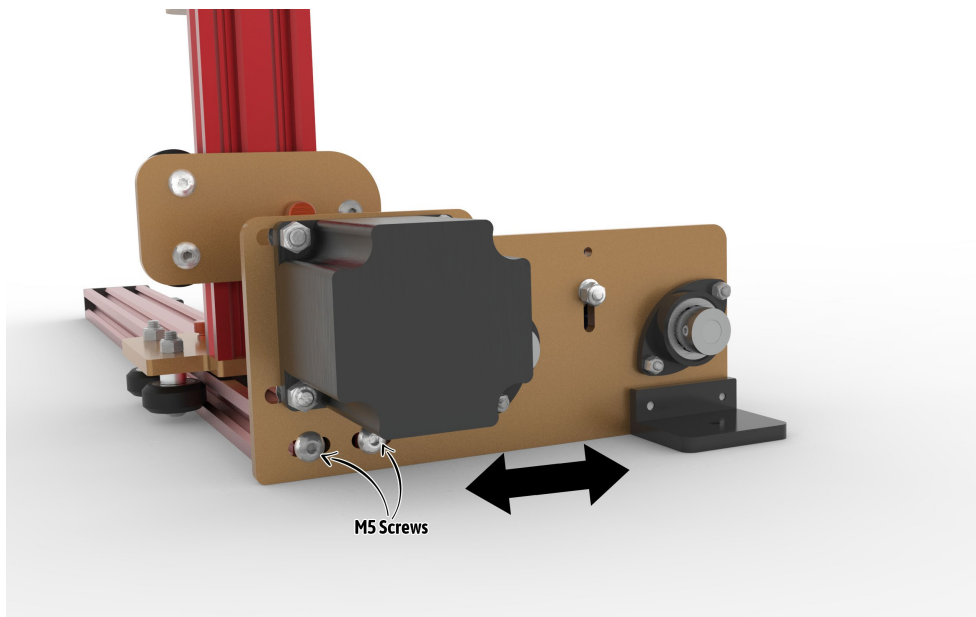
From time to time wipe clean V-slots of aluminum extrusion beams and V-wheels that travel in them. If carriage feels loose you can adjust wheel tension by slightly turning eccentric nut on v-wheel. There are 3 wheels on each axis of motion, one on one side and two on the other. Single v-wheel that's opposite from the other 2 is the one that has eccentric nut. Turning it makes wheel move closer to or further from v-slot extrusion beam.

Roller Alignment

You can check front to back roller alignment by moving carriage with back rollers as close as possible to the front rollers.

Lower footboard with roller wheels so you can see those wheels edges. Remove the clamp and looking from the front of rotary and slightly above (as shown on picture below) make sure that both back rollers are equally spaced in relation to larger front wheels.





Then start tightening M5 screws. Keep checking wheel alignment, as tightening screws might shift the headboard a little. Repeat adjustment if needed and then fully tighten both M5 screws.



Due to its modular design, the rotary is very easy to repair if any of its part sbreaks.

There are no rivets or hidden latches, almost everything can be taken apart in few minutes with Allen hex key and pliers.

If you do have any questions while reading the manual or setting up your machine, feel free to give us a call at +1 (213)554-8829or email support @monportlaser.com and a member of our technical supportSpecifications teamwould be happy to answer your questions.

