

BOSSLASER™

BossMod User Manual & Setup for LS & HP Machines

608 Trestle Point

Sanford, FL 32771

Toll-Free: (888) 652-1555

Local: (407) 878-0880

Fax: (407) 878-0837

WWW.BOSSLASER.COM

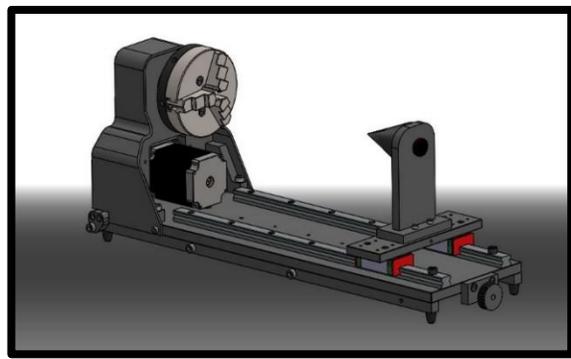
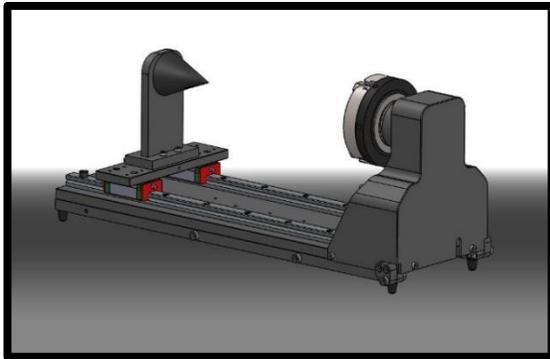
Table of Contents

- BossMod All-in-One Rotary Device.....1**
 - 1. Adjustable Angle Lift Platform..... 2
 - 2. Accessory Platform 3
 - 3. Chuck Mount 3
 - 4. Pre-Tapped Hole in Chuck Base..... 4
- Roller Adapter Combo5**
- Features of the Chuck Roller Converter6**
- Roller Scissor Lift Platform6**
- Setting Up the BossMod on the Machine8**
- Setting up in RDWorks v812**
- (LS Machines)12**
- Setting up in LaserCAD (HP Machines)14**

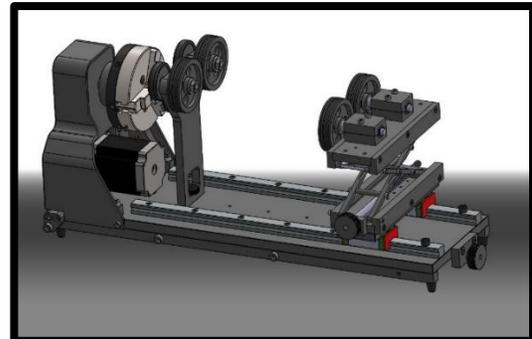
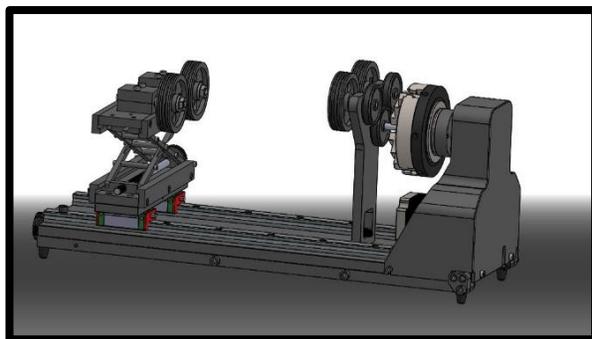
BossMod All-in-One Rotary Device

The BossMod is an all in one rotary accessory designed for our laser engraving machine. Currently, in the market, there are two types of rotary attachments for a laser machine, one called a Chuck (using a standard chuck head to secure a round item for laser processing) and one called a Roller (using a set of wheels where you rest the round item on top). The BossMod is an all in one device that allows you to use the chuck base as a chuck but also allows you to add various attachments, one of which is a roller combo adapter.

This is the overall look of the unit called the base chuck rotary (shown below).



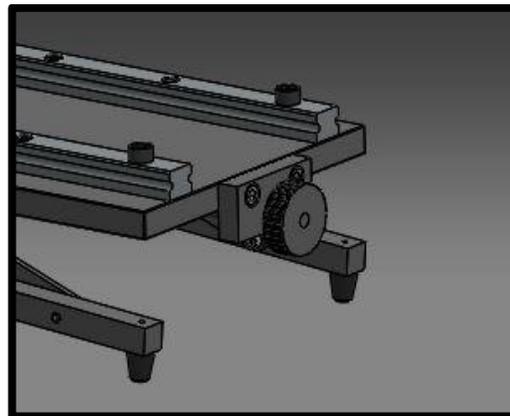
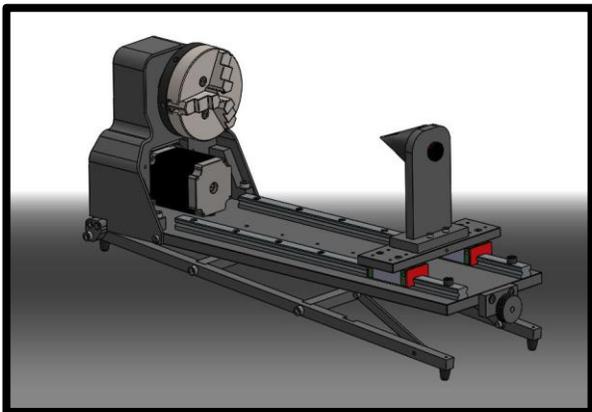
This is the overall look of the base chuck with the combo rotary attachment (shown below).



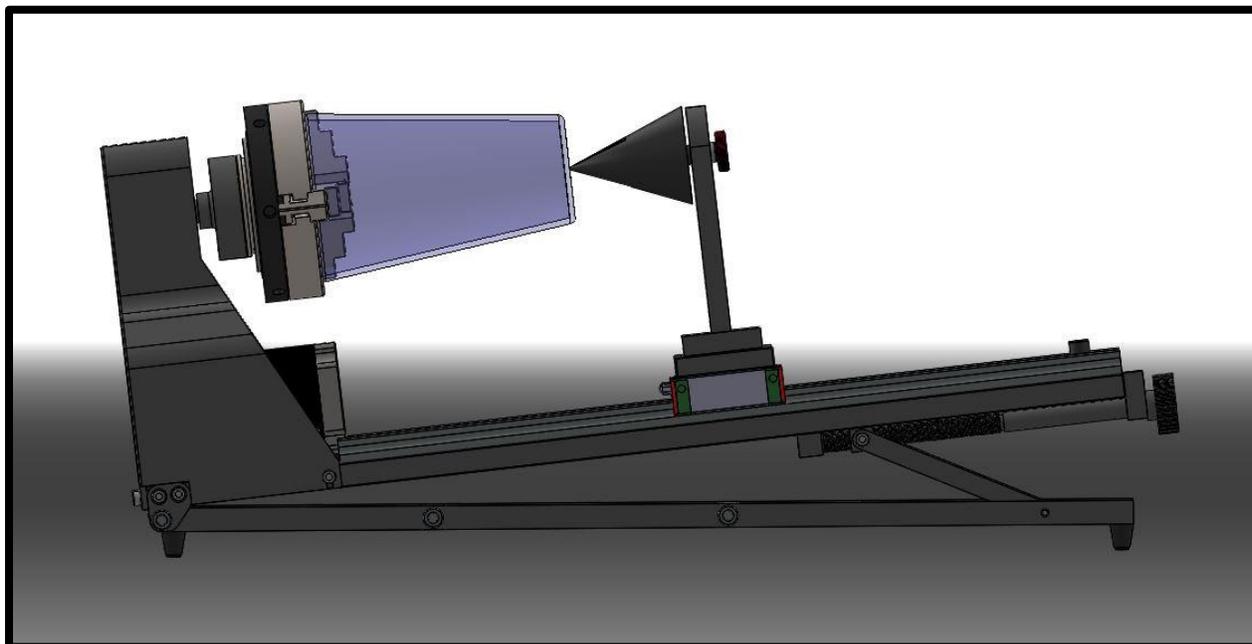
The combo roller attachment allows you to use your base chuck and convert it to a roller system without having to buy another full roller rotary device.

The base chuck was designed with 4 extra improved features.

1. Adjustable Angle Lift Platform

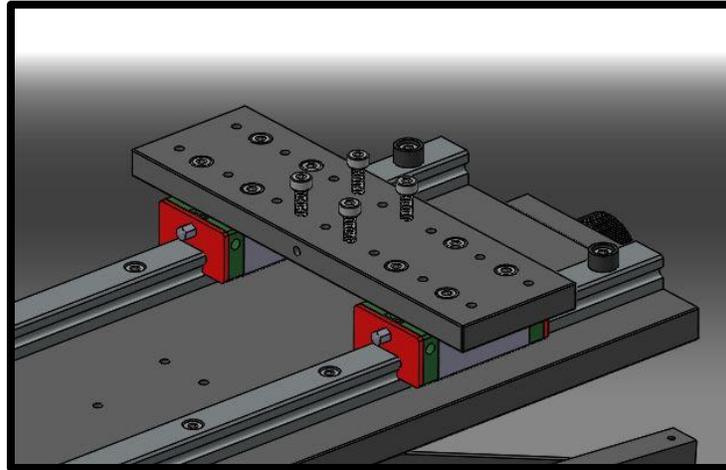


The lift platform is designed so when using the rotary device as a chuck, this platform allows you to tilt the device using a nob to accommodate for a tapered item that is clamped in it. This is crucial since the laser head is mounted on an X/Y gantry and mechanically cannot be adjusted (**illustrated below**).



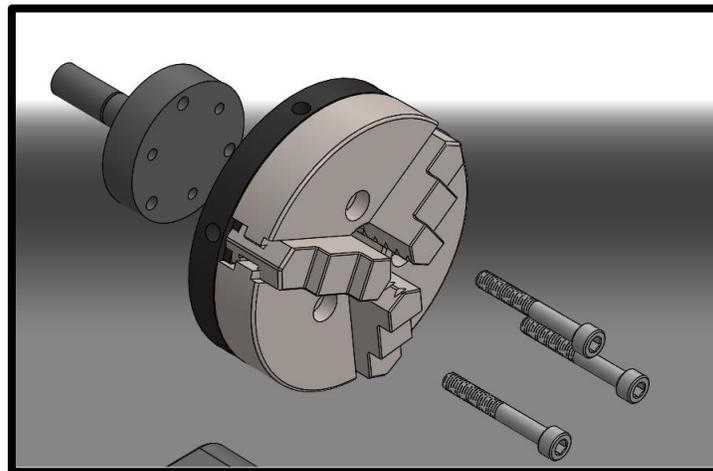
2. Accessory Platform

The accessory platform was designed to accommodate several different attachments that would suit different applications. The intent was to also allow the end-user to retrofit, customer-made attachments for custom applications. These attachments can be replaced very easily and rapidly.



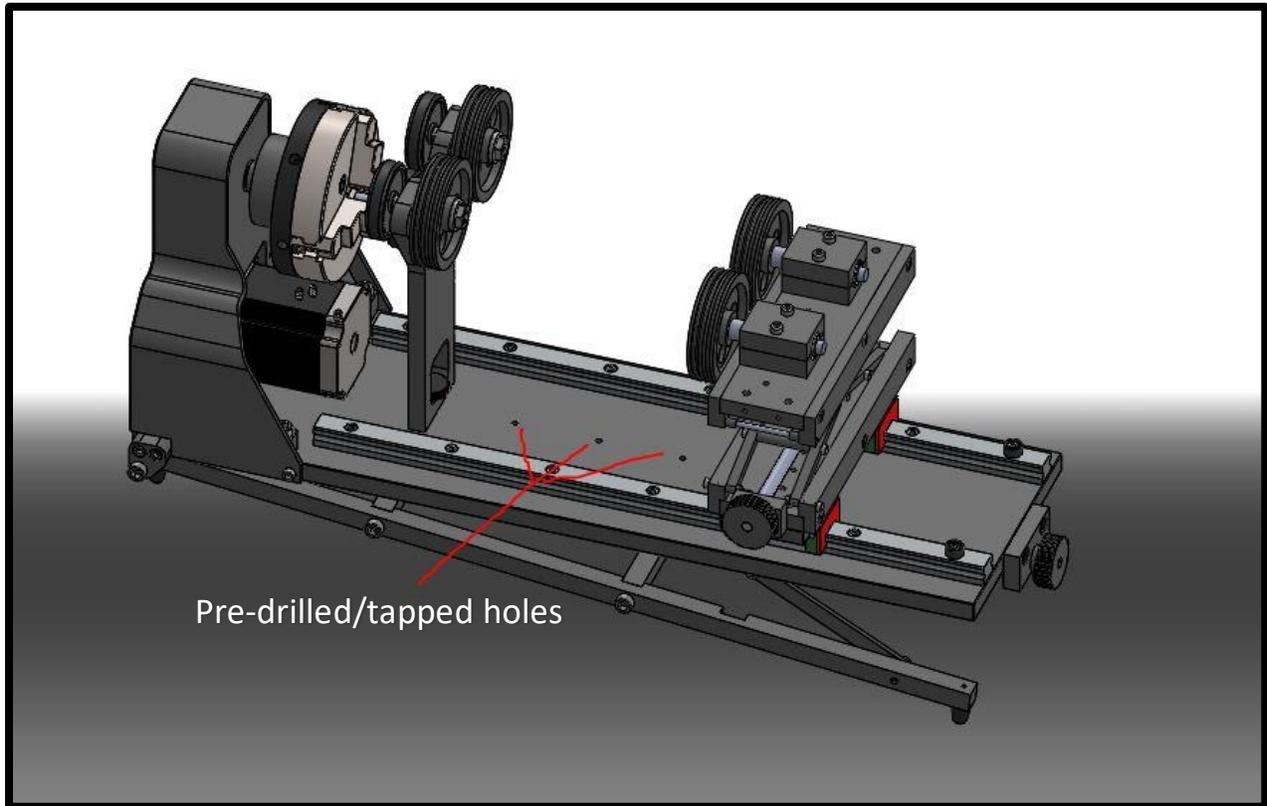
As you can see from the picture above, the plate was specifically pre-tapped in multiple locations to allow for all sorts of attachments. This platform is also mounted on precision sliding rails allowing to adjust for various length of objects.

3. Chuck Mount



The chuck mount is the piece located behind the chuck head and holds the chuck head in place. There are two different hole patterns built in the chuck mount. This was designed to accommodate various types of chuck heads. It is now possible to change your chuck head easily to fit different applications better.

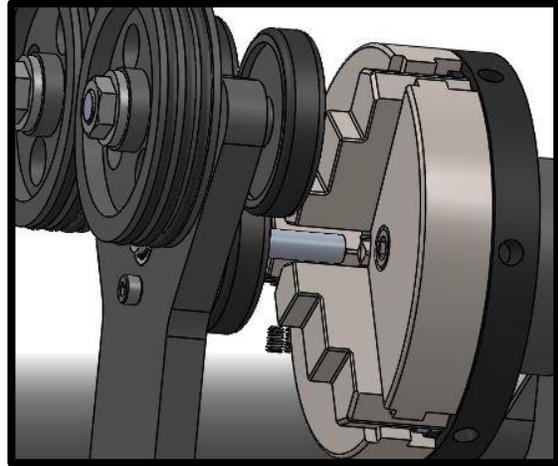
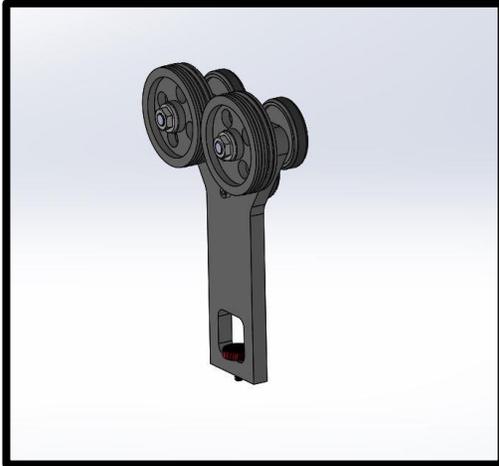
4. Pre-Tapped Hole in Chuck Base



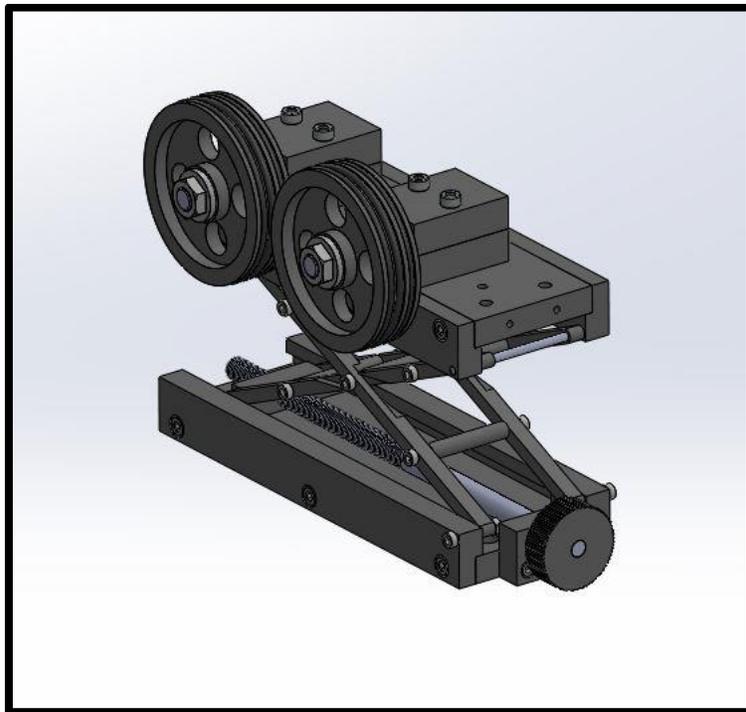
These holes are to accommodate attachment to further secure various size items

Roller Adapter Combo (attachment consists of two pieces)

The Chuck Roller Converter:



The Roller Scissor Lift Platform:



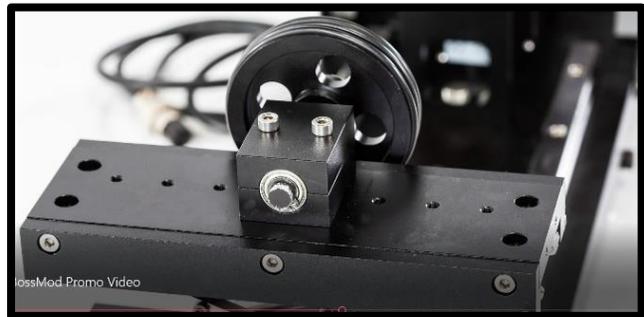
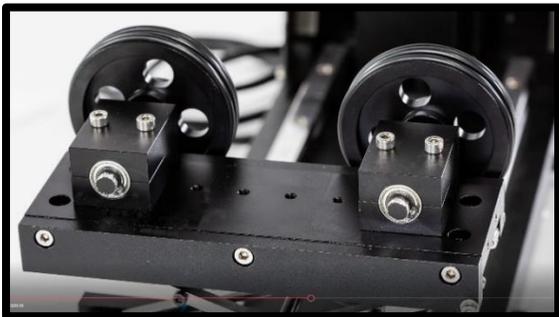
Features of the Chuck Roller Converter

The way the roller adapter attaches to the chuck base with a specific gear system allows the user to simply install it without repositioning or replacing the whole rotary system. The specific gearing allows you to not have to change the motor's direction in the control system when you switch from one to another. On our old system, the rotary device had to be flip 180° or the control system's motor direction had to be modified.

The pre-tapped hole on the Chuck Roller converter allows you to add a small clamping device to secure the round item even further.

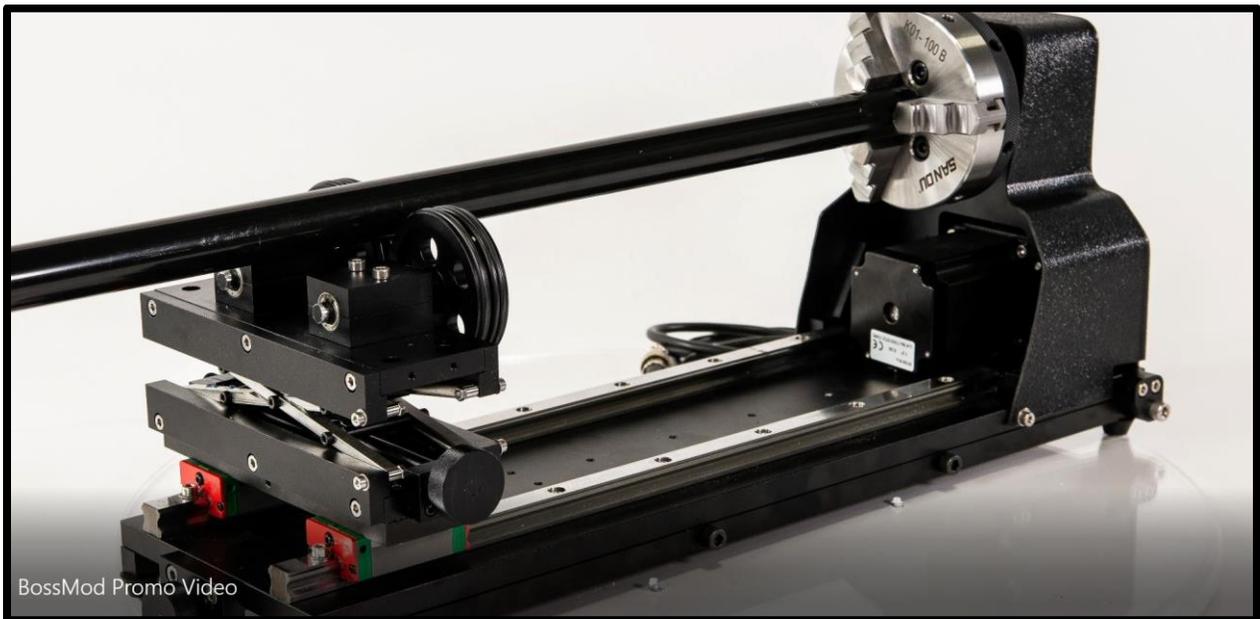
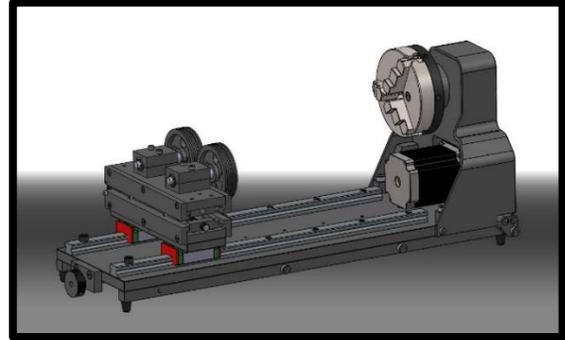
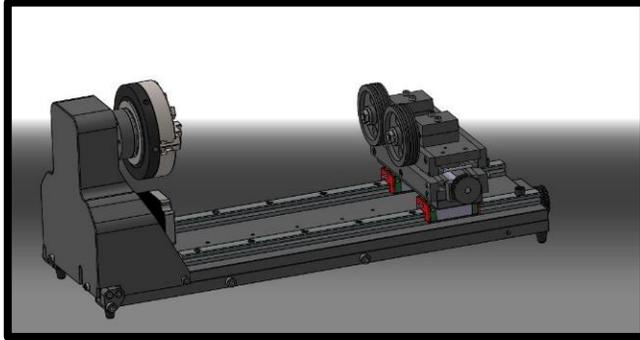
Roller Scissor Lift Platform

The platform is pre-tapped to allow the user to easily move the free-spinning wheels or even just use one to accommodate for a more stable setup (**configurations illustrated below**).



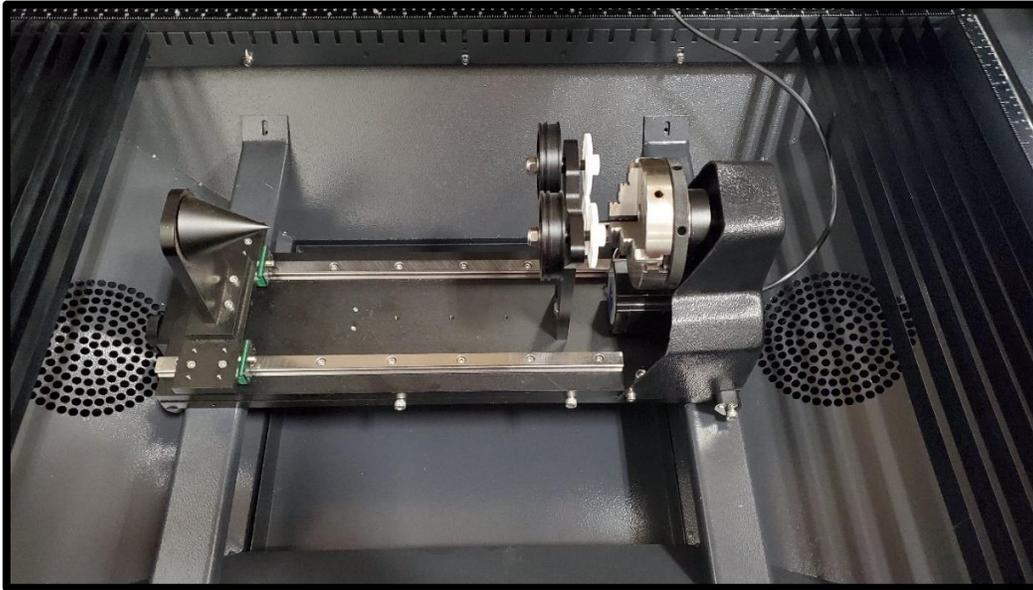
BOSSMOD USER MANUAL & SETUP FOR LS & HP MACHINES

Lastly, this unique Rotary System can also be used with a “hybrid” combination of the chuck and roller to further accommodate more cylindrical objects. **(illustration below)**



Setting Up the BossMod on the Machine

There will be two rotary brackets located inside the worktable. You will need to remove the knife blades from the worktable to be able to gain access to these rotary brackets. Here, you can place the BossMod on the rotary brackets with the motor side facing the right side of the worktable (as shown below).



⚠ IMPORTANT: Make sure the machine is off before continuing

To install the BossMod to the machine, locate the Y-Axis 4-pin connector towards the back (inside), middle of the machine. There, you will find the Y-Axis motor connected to a 4-pin plug. Unplug this existing 4-pin connector and plug in the 4-pin connector from the BossMod (as shown below):



When you are done using the BossMod, unplug the 4-pin connector for the rotary device and plug back in the original 4-pin connector for the Y-Axis Motor.

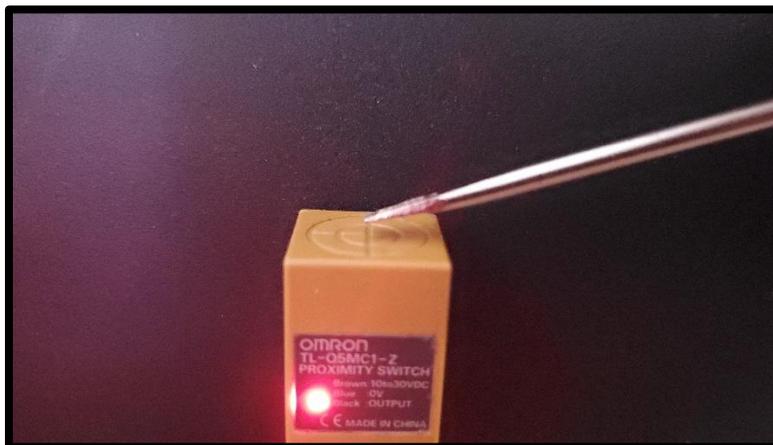
BOSSMOD USER MANUAL & SETUP FOR LS & HP MACHINES

Now turn the machine on and let the laser head return to the home position. Since you unplugged the Y-Axis connector with the rotary attachment, you'll notice that the laser head will only go to the right until it hits the X-Axis limit switch. This is normal and what it should be doing. The same motion needs to be done with the Y-Axis limit switch.

To do so, either grab an Allen key (or something that is metal) and hover over the top and touch the Y-Axis limit switch (orange proximity switch).



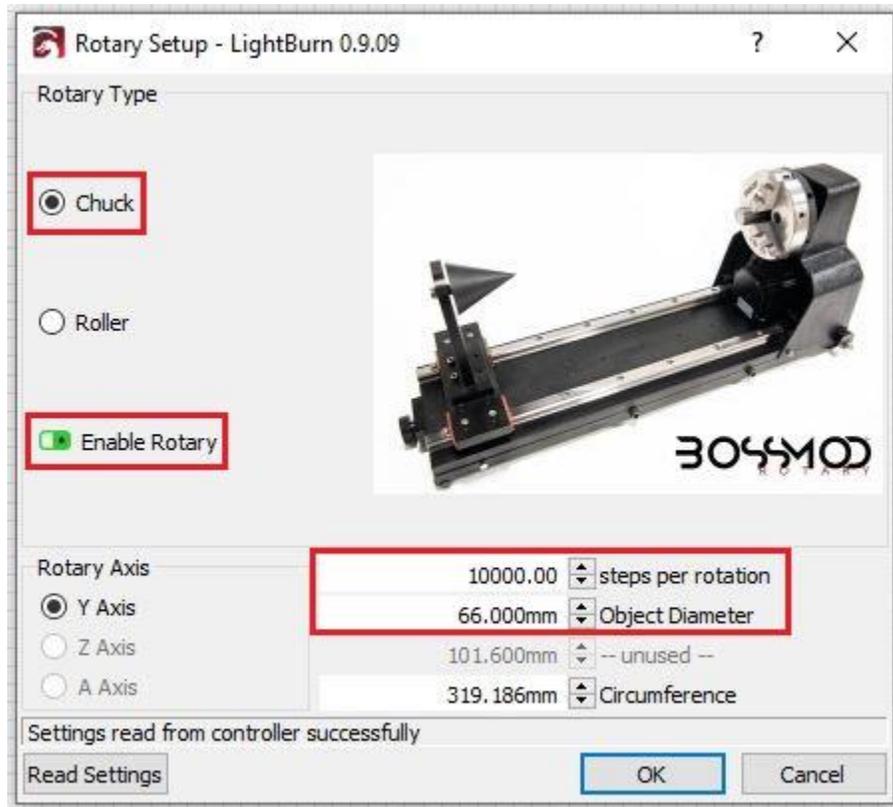
A red LED light should turn on from the front side of the limit switch (where the label is located). This will tell you that the switch is being activated. This will stop the rotary to stop moving for a quick second and try to slowing move again. Touch the limit switch again to properly DATUM (home) the Y-Axis. The rotary is now correctly adjusted with the corresponding coordinates of your worktable and now should be ready to be used.



Before continuing to the software portion of the setup, plug in the USB cable located from the controller card of the machine into the PC. (**LS Machines** – The USB Cable is located at the back of the machine, in the cabinet where the machine components are located. **For HP Machines** – The USB Cable is located in your toolbox)

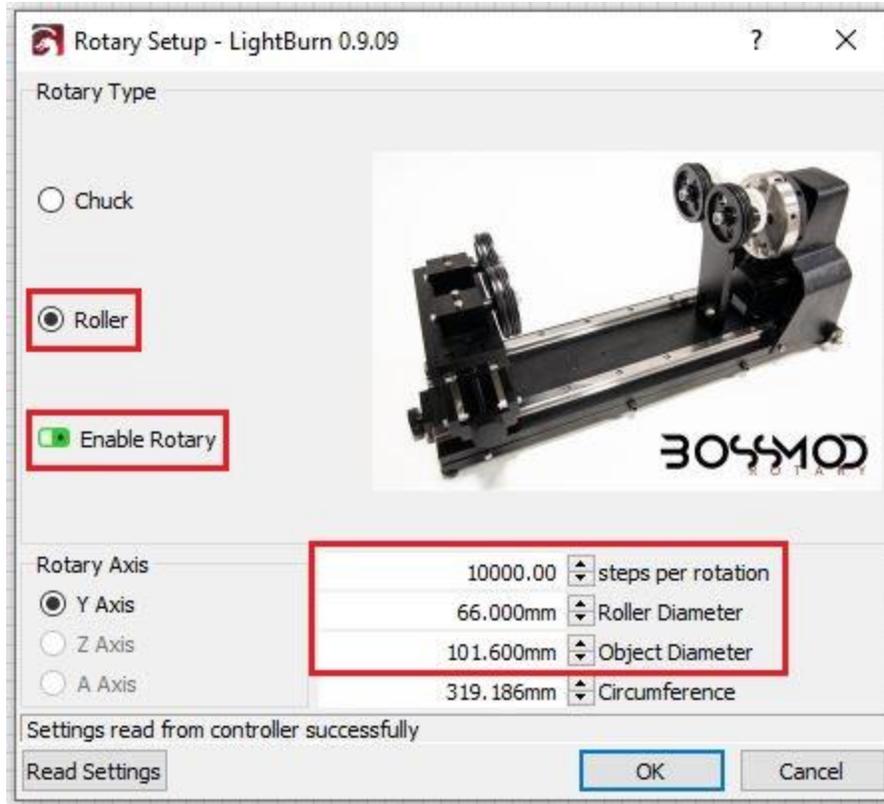
Setting up in LightBurn (LS Machines)

Open LightBurn and go to **Tools > Rotary Setup** and the following window will appear:



To use the **Chuck Rotary** of the BossMod:

- **Rotary Type** – Chuck
- **Enable Rotary** – Enabled (green = on)
- **Rotary Axis** – Y Axis
- **Steps Per Rotation** – 10000.00
- **Object Diameter** - Input the diameter of the engraving surface (not where it is clamped)



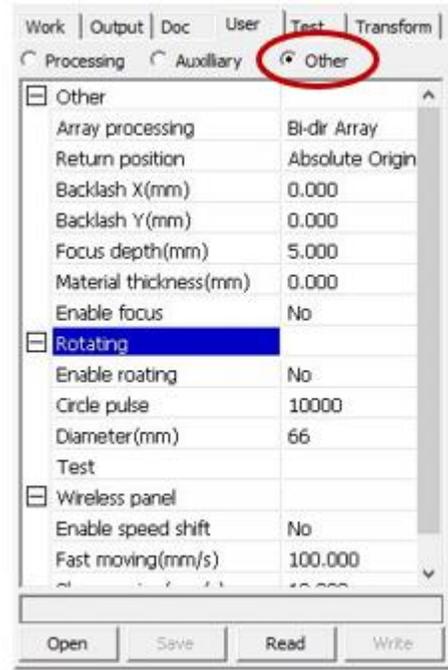
To use the **Roller Rotary** of the BossMod:

- **Rotary Type** – Roller
- **Enable Rotary** – Enabled (green = on)
- **Rotary Axis** – Y Axis
- **Steps Per Rotation** – 10000.00
- **Roller Diameter** – 66.000 mm
- **Object Diameter** – Input the diameter of the object (example illustrated above is a cup with a 4" diameter or 101.6 mm)

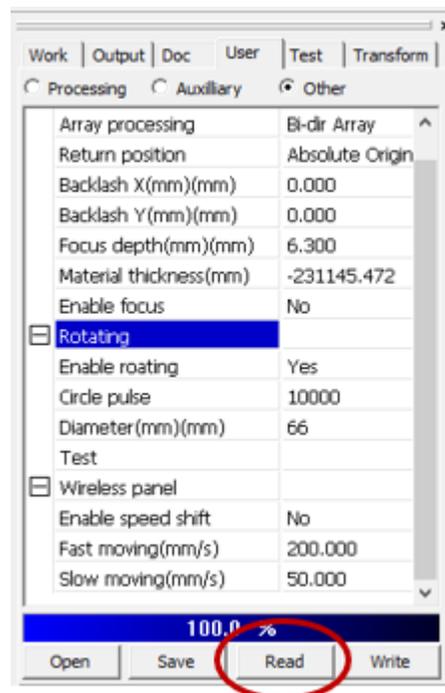
 **NOTE:** To go back to the worktable, disable the **Enable Rotary** by clicking the switch icon (black = off).

Setting up in RDWorks v8 (LS Machines)

Open RDWorks v8 (Laserworks v8) and locate the **User Tab** at the right side of the software. Click on the User Tab and then “Other” to show the list of parameters (as shown to the right).



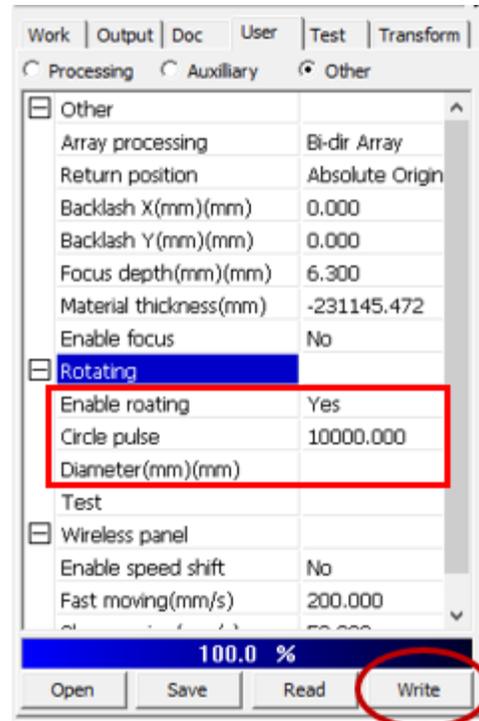
Next, press the **Read button** so it reads the current parameters on the controller card. When done correctly, a 100% progress bar will appear above the buttons (as shown to the right).



To use the **Chuck Rotary** of the BossMod:

- **Enable rotating** – Yes
- **Circle Pulse** – 10000
- **Diameter (mm or inches)** – Input the diameter of the engraving surface (not where it is clamped)

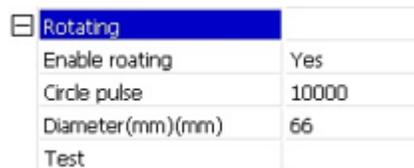
Once these parameters have been changed, press the **Write button** to save changes to the controller card.



To use the **Roller Rotary** of the BossMod:

- **Enable rotating** – Yes
- **Circle Pulse** – 10000
- **Diameter** – 66 mm or 2.598 inches
 - Millimeters = (mm)(mm)
 - Inches = (mm)(inch)

Once these parameters have been changed, press the **Write button** to save changes to the controller card.



NOTE: To go back to the worktable, press the **Read button** > **Change Enable rotating to "No"** > press the **Write button**. Make sure the machine is on and connected to the PC via USB Cable.

Setting up in LaserCAD (HP Machines)

On the AWC Control Panel, press the **Menu button**, then go to:

7. Common Parameter Settings > Press Enter > 4. Rotate Engraving&Cutting > Press Enter

The following picture shows that **four parameters** that need to be adjusted in order to use the BossMod.

Rotate Engraving&Cutting		0.1.1 0:06
➔	Rotate Fun	Open
	Rotate Axis	Y
	Pulse Count Per Rotate	010000
	Current Diameter (mm)	066.0

To use the **Chuck Rotary** of the BossMod:

- **Rotate Fun** – Open
- **Rotate Axis** – Y
- **Pulse Count Per Rotate** – 010000 (10,000)
- **Current Diameter (mm)** – Input the diameter of the engraving surface (not where it is clamped)

To use the **Roller Rotary** of the BossMod:

- **Rotate Fun** – Open
- **Rotate Axis** – Y
- **Pulse Count Per Rotate** – 010000 (10,000)
- **Current Diameter (mm)** – 066.0 (66 mm)

 **NOTE:** You will need to **RESET** the machine (Turning off/on the machine or pressing the **RESET button**) after you've made changes!

To go back to the worktable, change the **Rotate Fun** to **“Close,”** then press the **Enter button**.
Then **RESET** the machine to save changes to the machine.